

AV Surround Receiver

NR1607



- 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.

[Click here!](#)

On-line service parts list

<http://dmedia.dmglobal.com/Document/DocumentDetails/23028>

[Online Parts List](#) (P5 to P7)

WEB owner's manual

<http://manuals.marantz.com/NR1607/NA/EN/index.php>

<http://manuals.marantz.com/NR1607/EU/EN/index.php>

<http://manuals.marantz.com/NR1607/JP/JA/index.php>

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ELECTRICAL

MECHANICAL

REPAIR INFORMATION

UPDATING

Please refer to the MODIFICATION NOTICE.

Confidential

CAUTION IN SERVICING

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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. N INDICATES NANO 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.

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

INSTRUCTIONS FOR HANDLING SEMICONDUCTORS AND OPTICAL UNIT

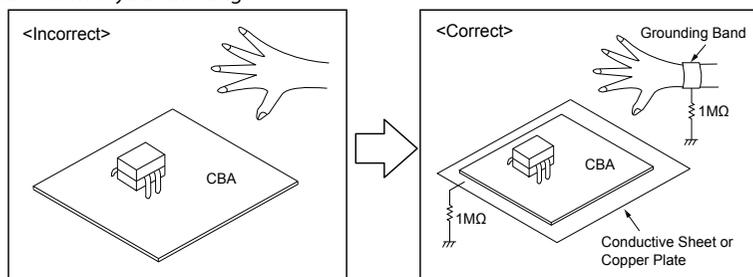
Electrostatic breakdown of the semi-conductors or optical pickup may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

1. Ground for Human Body

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

2. Ground for Workbench

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

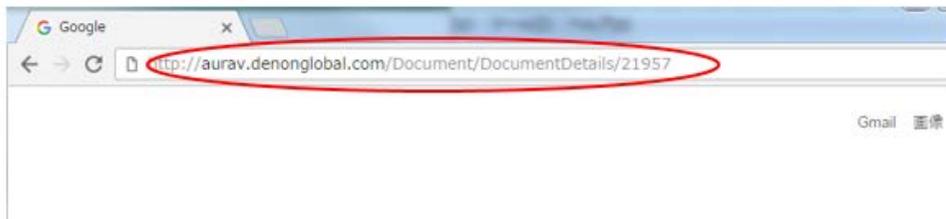


Accessing the Parts List

- (1) Click the URL link on the cover of the service manual.
Examples of display



NOTE: If the web browser does not open automatically, copy the URL and paste it into the address bar of the web browser and then press Enter.



- (2) When the login screen is displayed, enter your username and password.
- (3) Enter the 5 letters shown as the blue CAPTCHA code as single-byte characters.
If the text is unclear, click "**Refresh**" to change the CAPTCHA code, and enter it again.



- (4) Press the "**Login**" button.

Logging in to New SDI and Accessing the Parts List

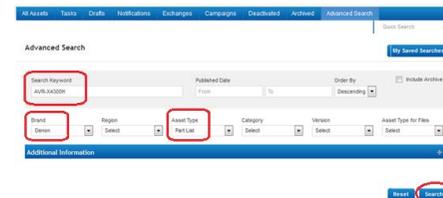
- (1) Access New SDI from the URL below.
<http://dmedia.dmglobal.com>
- (2) When the login screen is displayed, enter your username and password.
- (3) Enter the 5 letters shown as the blue CAPTCHA code as single-byte characters.
If the text is unclear, click "**Refresh**" to change the CAPTCHA code, and enter it again.



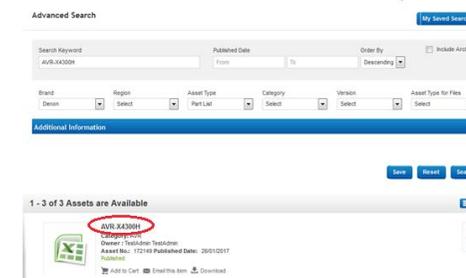
- (4) Press the "**Login**" button.
- (5) When the Home screen is displayed, click "**Advanced Search**".



- (6) Enter the following search conditions and click "**Search**".
Keyword : Model name Brand : brand name Asset Type : Part list

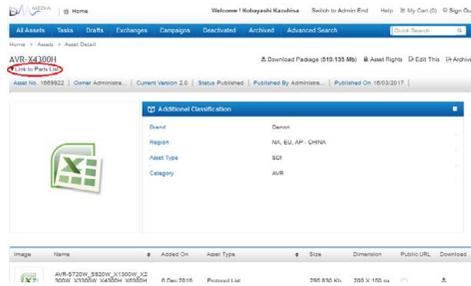


- (7) Click the model name when the search results are displayed.



Accessing the Part List from the Model Asset Screen

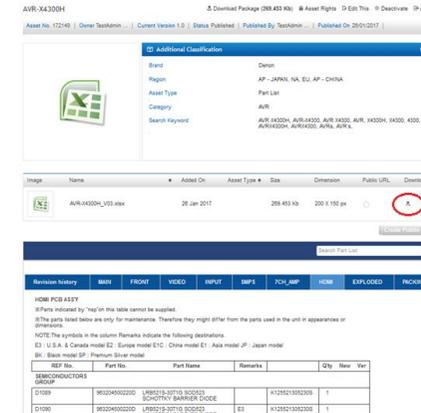
- (1) Display Model Asset from New SDI.
- (2) Click the section displayed as ▼ Link to Part Lists under the model name.



NOTE: If the ▼ Link to Parts List section is not displayed, download the parts table from the Asset list.

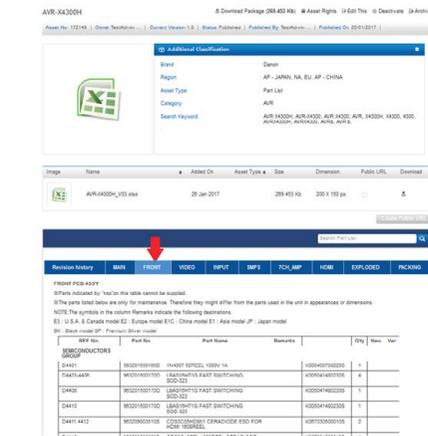
Downloading the Parts List as an Excel File

- (1) Displays the Parts List. Click the Download icon.



PRINTED CIRCUIT BOARDS Parts Table

- (1) Display the Parts List. Click the PCB name in the blue bar to display the parts list for the board.



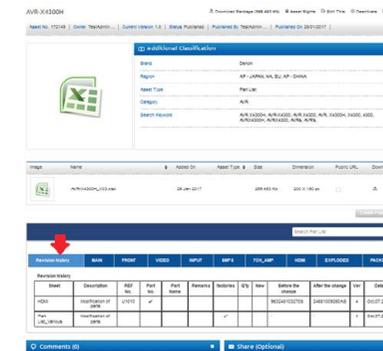
Left and right arrow icons are displayed if the circuit board name does not fit in the blue bar. Click these icons to display a different part of the name when necessary.



← Icons to move the circuit board name left and right in the blue bar

Revision History

- (1) Click "Revision history" in the blue bar.



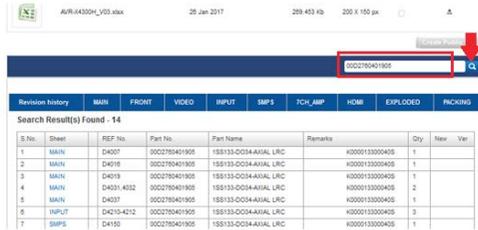
The following details are displayed.

- Sheet : Name of the changed sheet
- Description : Description of the changes
- Remarks : Destination, color information
- Factories : Factory number
- Ver : Version number after revision if changes were made to the parts list
- Date : Date of changes

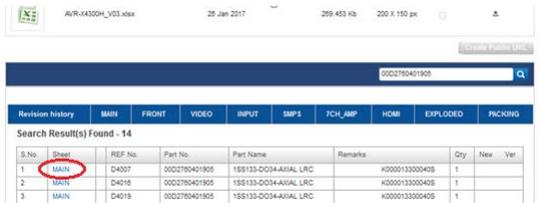
Searching Part Numbers or Ref. Numbers

You can search a Parts List for part numbers or Ref. numbers.

- (1) Enter the part number or Ref. number in the search window of the Parts List, and press the search button.
- (2) The search results are displayed.
The name of the sheet in which the search part is used and the part's line are displayed.



- (3) Next, click the "Sheet" section of the search results.



- (4) The Board Part Table opens and the line on which the searched part number appears is highlighted.



CAUTION IN SERVICING.

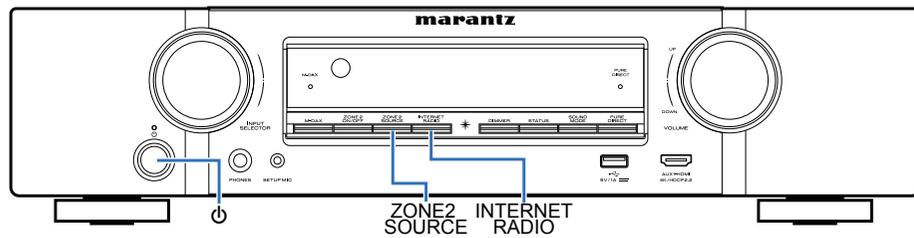
Initializing This Unit

Make sure to initialize this unit after replacing the microcomputer or any peripheral equipment, or the digital PCB.

1. Press the power button to turn off the power.
2. While holding down buttons "**ZONE2 SOURCE**" and "**INTERNET RADIO**" simultaneously, press the power button to turn on the power.
3. Release the buttons after confirming that the display flashes at 1-second intervals.
* The unit is initialized.

NOTE :

- If the unit fails to enter the service mode in step 3, repeat the procedure from step 1.
- Initializing the device restores the customized settings to the factory settings. Write down your settings in advance and reconfigure the settings after initialization.



JIG FOR SERVICING

Use the following jigs (extension cable kit) when repairing the PCBs.
Order with your dealer for the jigs your dealer if necessary.

8U-110084S : EXTENSION UNIT KIT : 1 Set
(See [JIG FOR SERVICING](#))

ELECTRICAL

SCHEMATIC DIAGRAMS

SCH01_HDMI SW1
SCH02_HDMI SW2
SCH03_NET_PHY
SCH04_CPU_LEVEL_CHG
SCH05_DIGITAL_CNT
SCH06_CPU
SCH07_FRONT HDMI
SCH08_ADV8003
SCH09_ADV8003 DDR
SCH10_D.SUPPLY
SCH11_HDMI TX
SCH12_DIR_A.PLD
SCH13_DSP
SCH14_MAIN DAC
SCH15_ADV7850
SCH16_SPK
SCH17_CNT
SCH18_INPUT
SCH19_VIDEO
SCH20_TUNER
SCH21_FRONT
SCH22_AMP1
SCH23_AMP2
SCH24_SMPS
SCH25_REG
SCH26_FRONT CNT

PRINTED CIRCUIT BOARDS

HDMI, F HDMI
AV
SPK, SIDE CNT, HDMI GUIDE A, HDMI GUIDE B
AMP, FRONT, MC HP, USB
REG, GUIDE L, TOP GUIDE, FRONT CNT, REG CNT, SMPS

LEVEL DIAGRAM

FRONT ch
CENTER ch
SUBWOOFER ch
SURROUND ch
SURR.BACK ch
ZONE2

BLOCK DIAGRAM

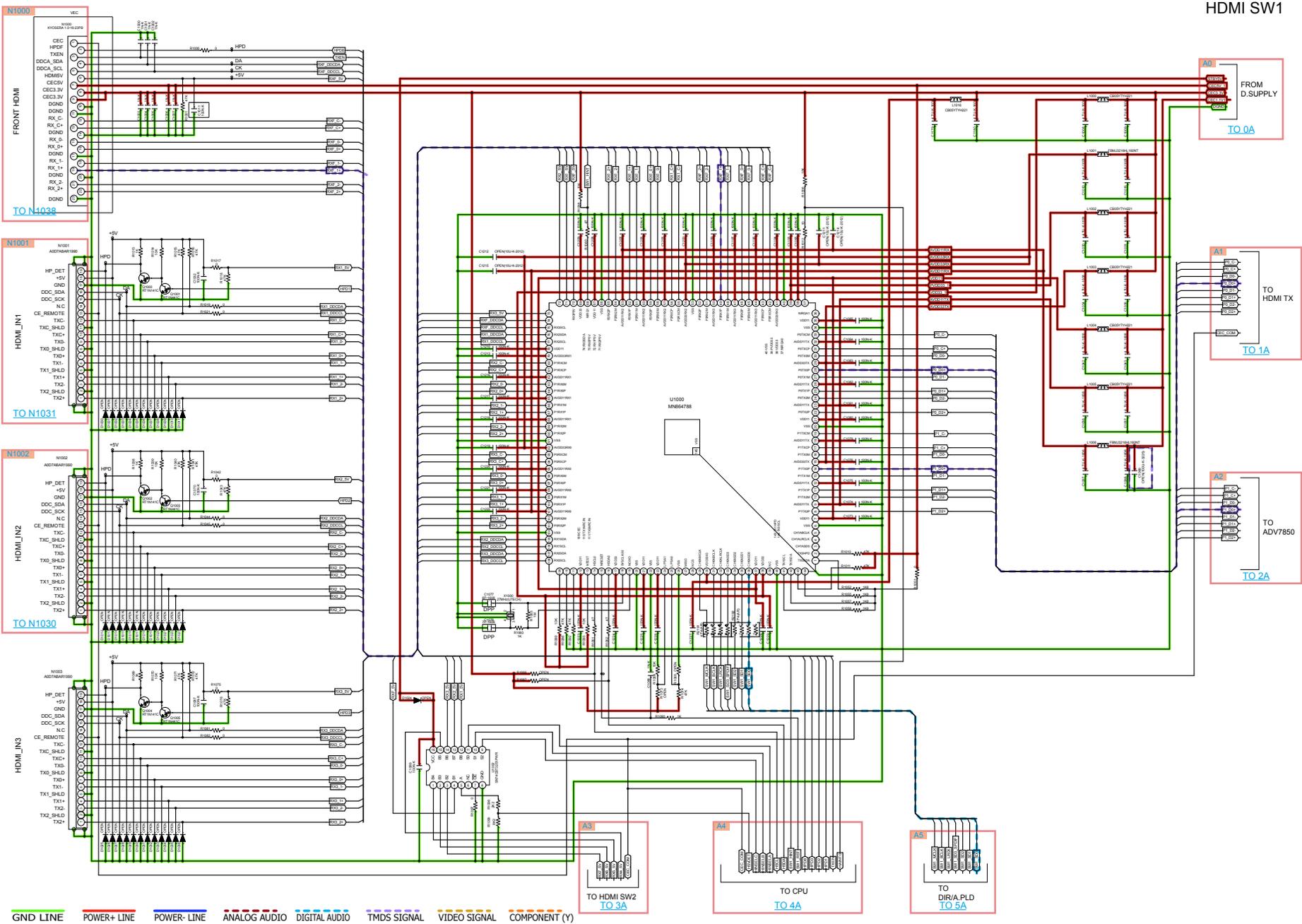
ANALOG AUDIO DIAGRAM
DIGITAL AUDIO DIAGRAM
VIDEO DIAGRAM

POWER DIAGRAM

WIRING DIAGRAM

SEMICONDUCTORS

1. IC's
2. FL DISPLAY



Caution in servicing

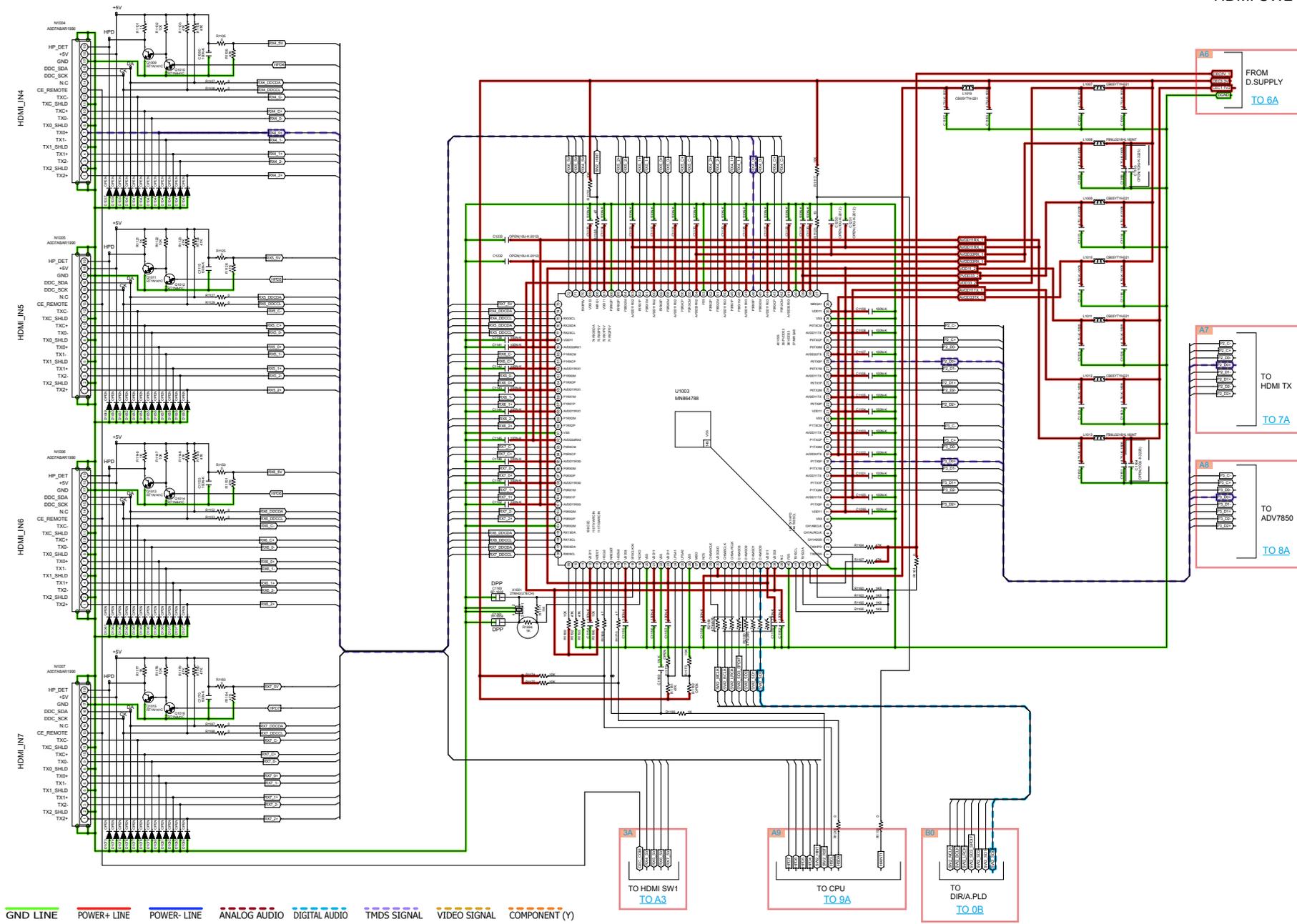
Electrical

Mechanical

Repair Information

Updating

HDMI SW2



Caution in servicing

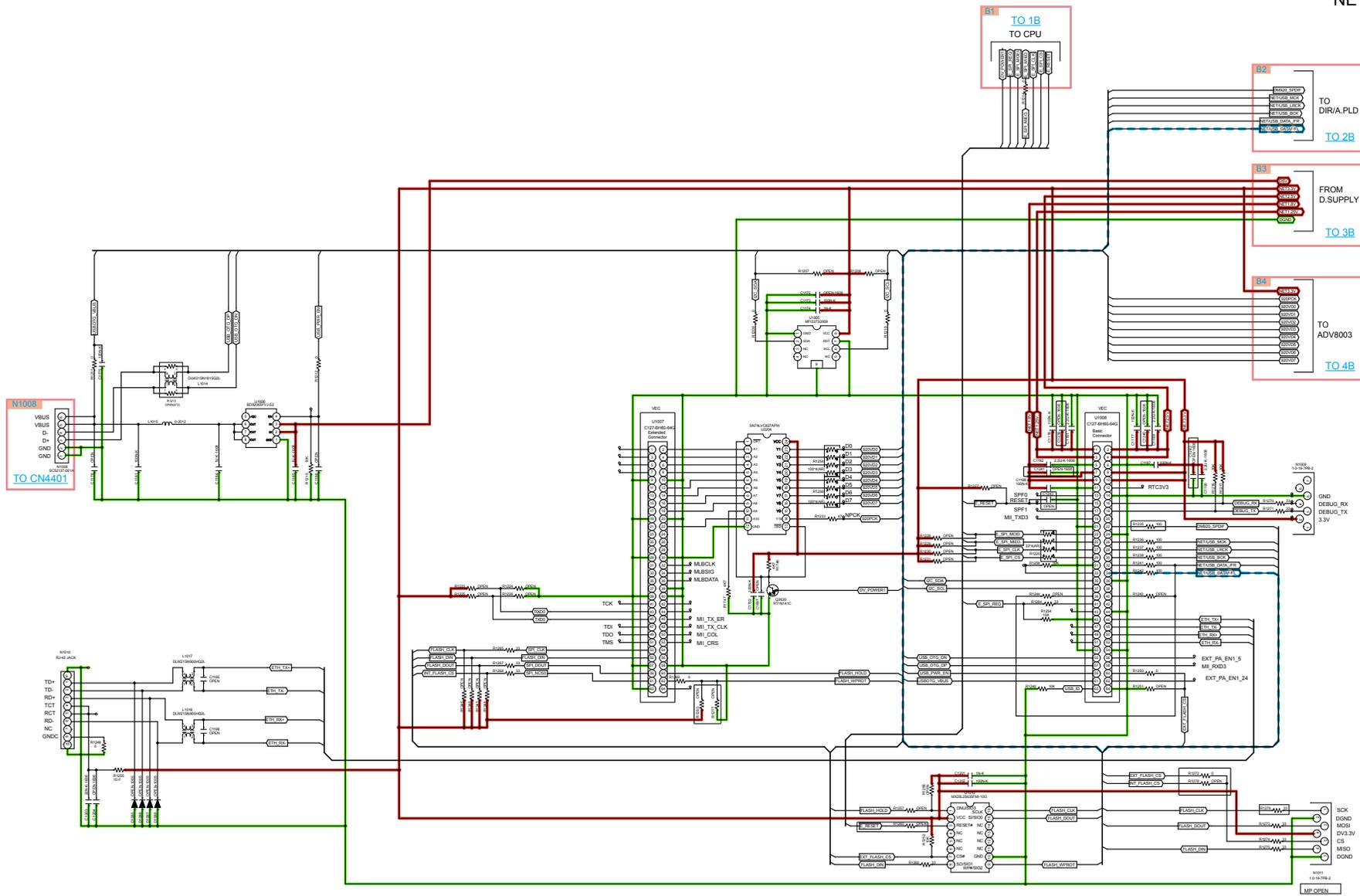
Electrical

Mechanical

Repair Information

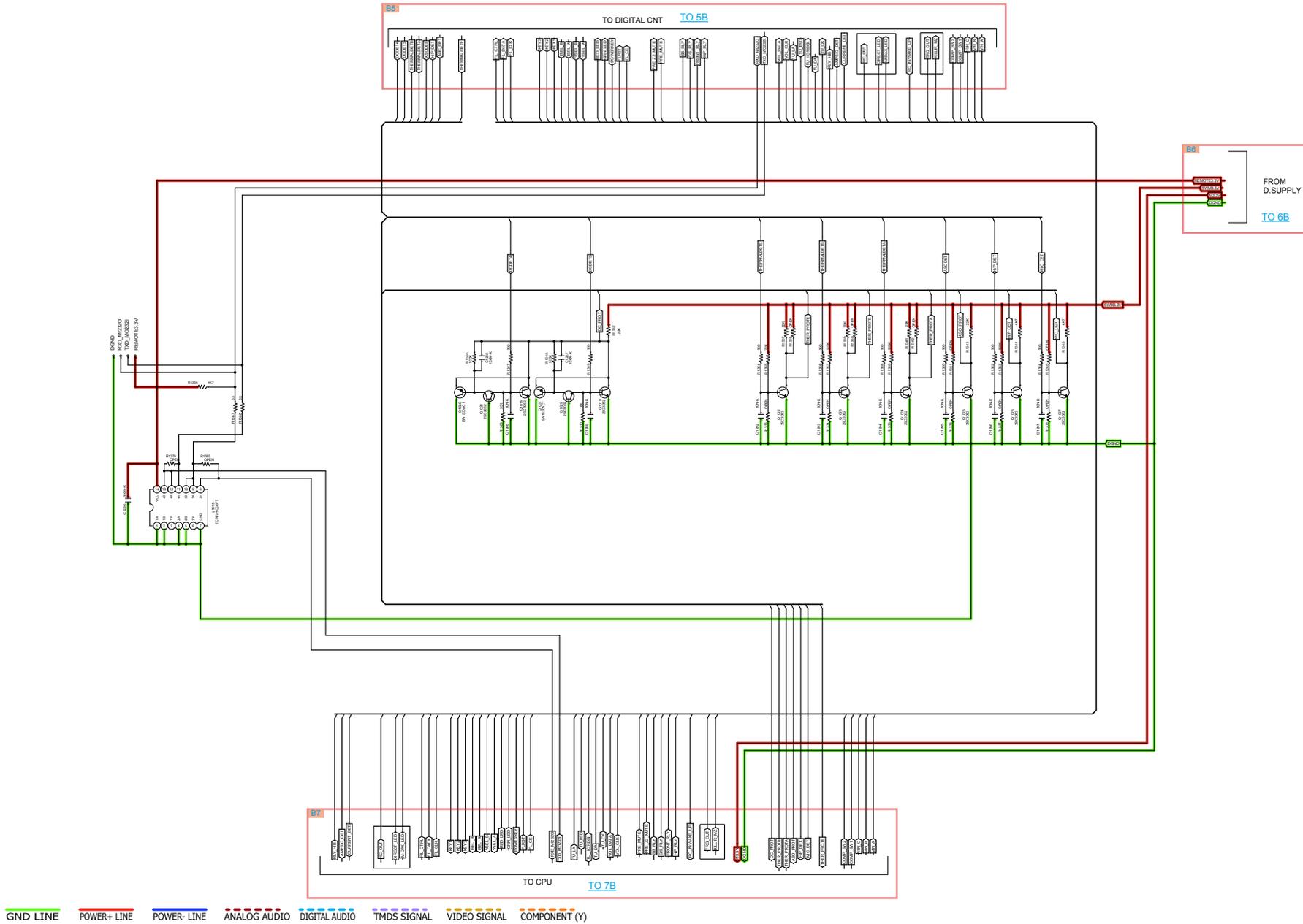
Updating

NET PHY



GND LINE POWER+ LINE POWER- LINE ANALOG AUDIO DIGITAL AUDIO TMDS SIGNAL VIDEO SIGNAL COMPONENT (Y)

CPU LEVEL CHG



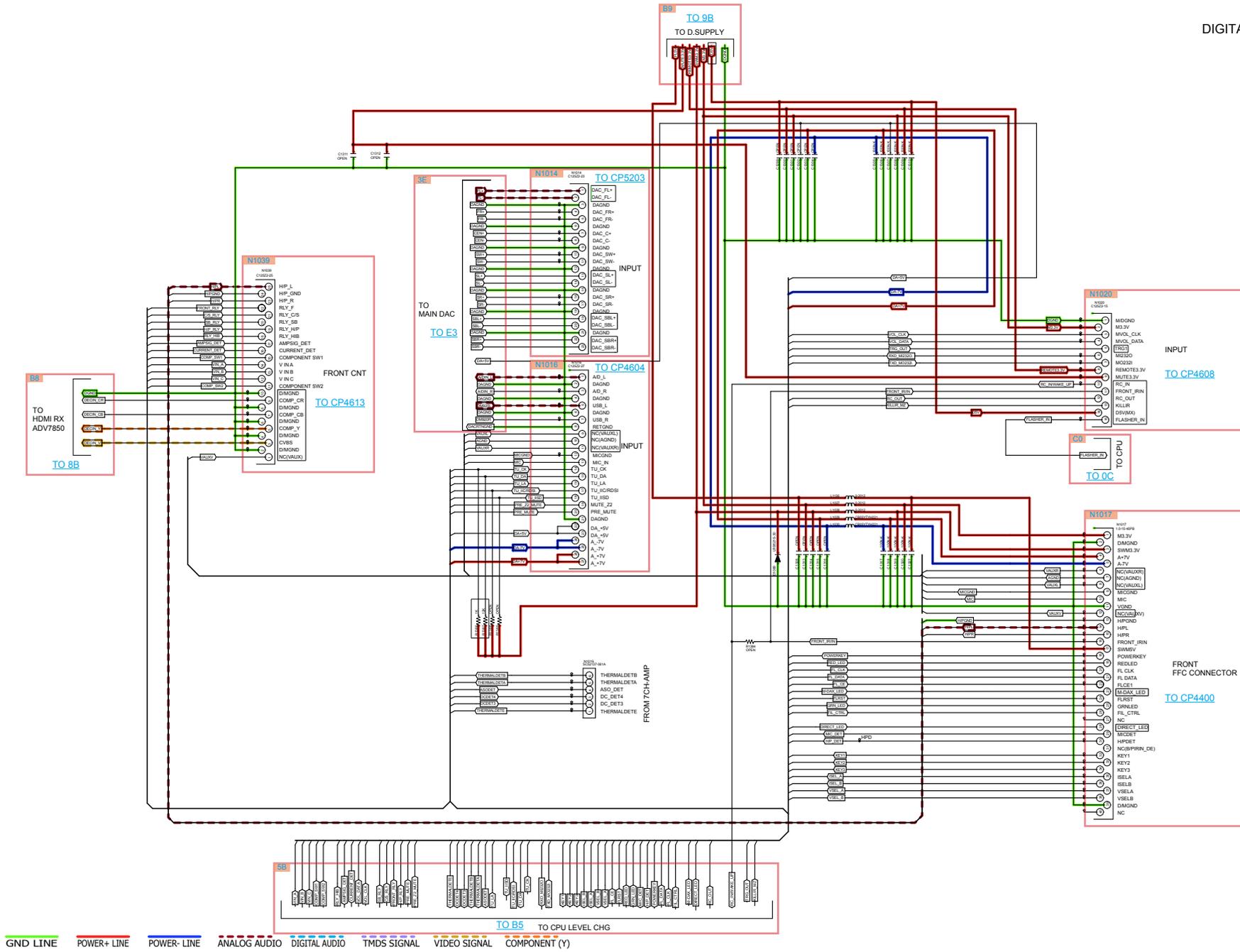
Caution in Servicing

Electrical

Mechanical

Repair Information

Updating



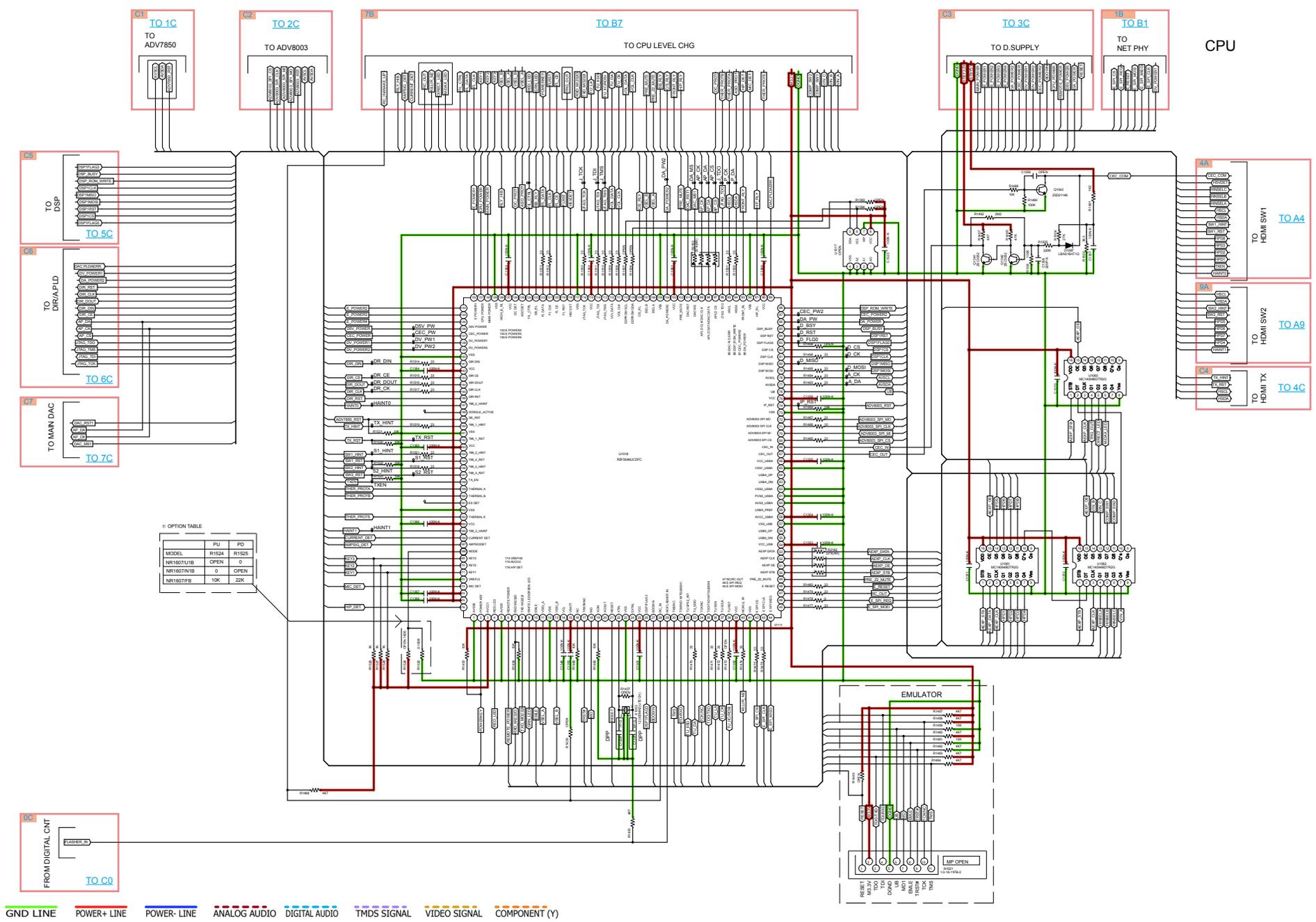
Caution in servicing

Electrical

Mechanical

Repair Information

Updating



OPTION TABLE

MODEL	PU	PD
NR1607L1B	R1524	R1525
NR1607N1B	0	OPEN
NR1607F1B	10K	22K

GND LINE POWER+ LINE POWER- LINE ANALOG AUDIO DIGITAL AUDIO TMDS SIGNAL VIDEO SIGNAL COMPONENT (Y)

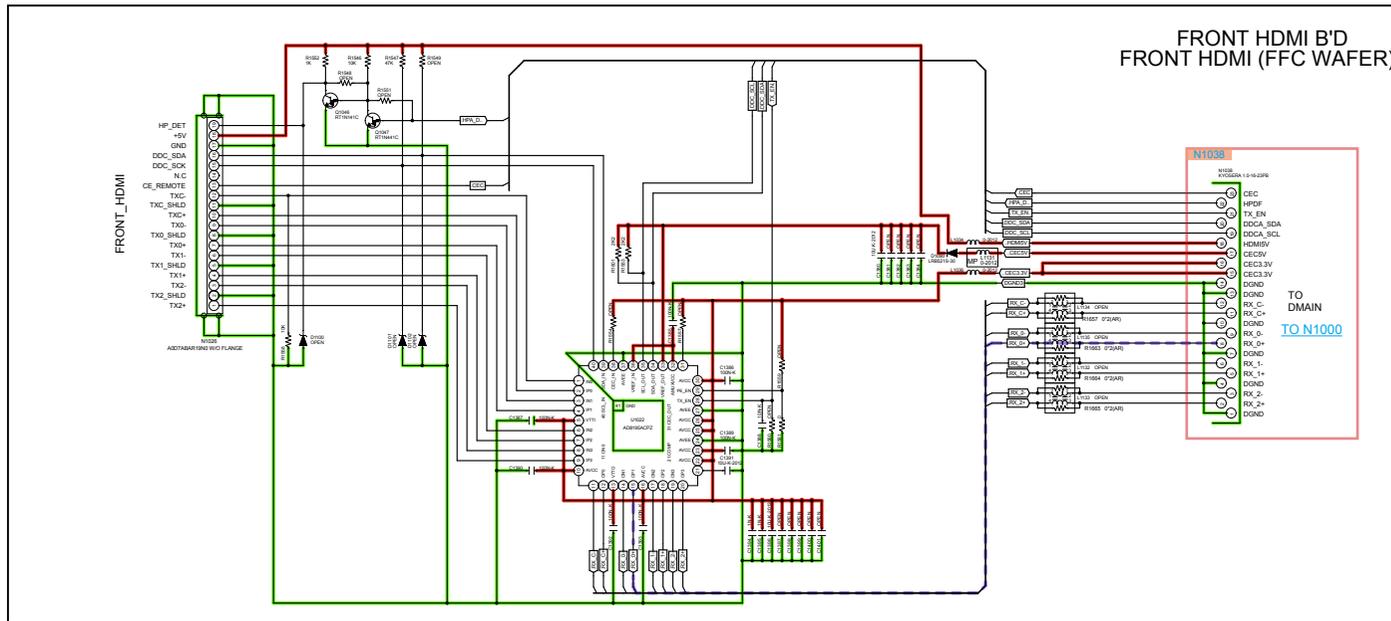
Caution in servicing

Electrical

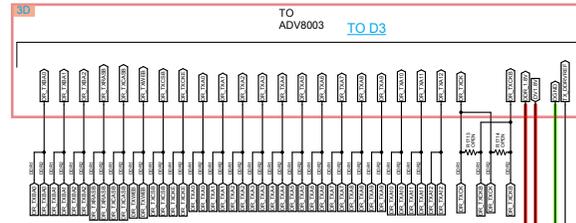
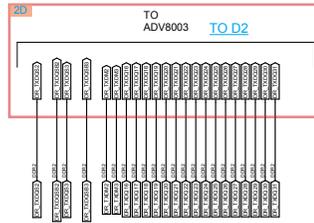
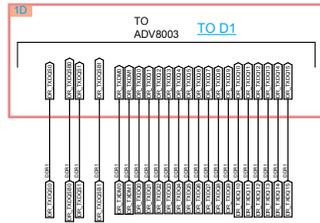
Mechanical

Repair Information

Updating

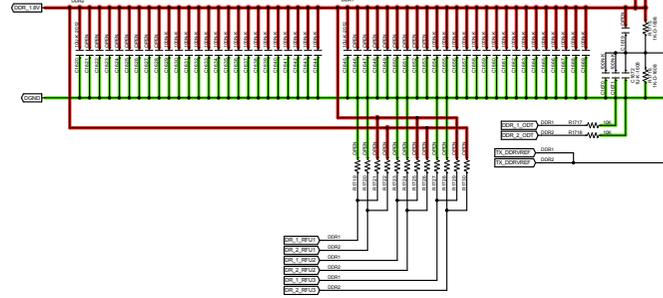


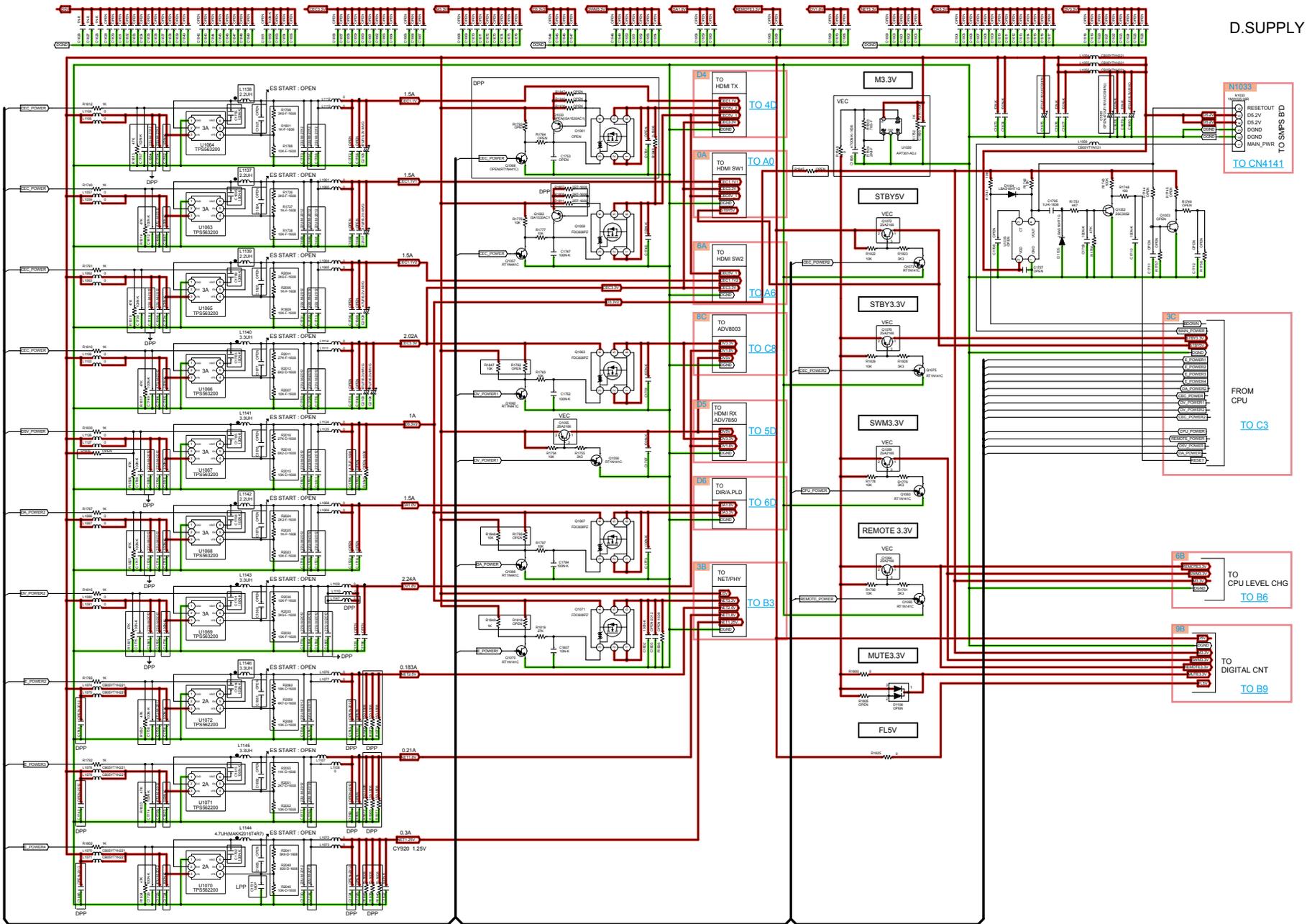
GND LINE POWER+ LINE POWER- LINE ANALOG AUDIO DIGITAL AUDIO TMDS SIGNAL VIDEO SIGNAL COMPONENT (Y)



		U1009 ADV8003 (SECTION)					
A1	A2	A3	A4	A5	A6	A7	A8
A1	DDR_1_BV	•	•	•	•	•	•
B1	CHR_1_D004	•	•	•	•	•	•
C1	DDR_1_BV	•	•	•	•	•	•
D1	CHR_1_D012	•	•	•	•	•	•
E1	DDR_1_BV	•	•	•	•	•	•
F1	CHR_1_D008	•	•	•	•	•	•
G1	DDR_1_BV	•	•	•	•	•	•
H1	CHR_1_D004	•	•	•	•	•	•
J1	DDR_1_BV	•	•	•	•	•	•
K1	CHR_1_D004	•	•	•	•	•	•
L1	CHR_1_D004	•	•	•	•	•	•
M1	CHR_1_D004	•	•	•	•	•	•
N1	DDR_1_BV	•	•	•	•	•	•
P1	CHR_1_D007	•	•	•	•	•	•
Q1	DDR_1_BV	•	•	•	•	•	•

		U1009 ADV8003 (SECTION)					
A1	A2	A3	A4	A5	A6	A7	A8
A1	DDR_1_BV	•	•	•	•	•	•
B1	CHR_1_D003	•	•	•	•	•	•
C1	DDR_1_BV	•	•	•	•	•	•
D1	CHR_1_D003	•	•	•	•	•	•
E1	DDR_1_BV	•	•	•	•	•	•
F1	CHR_1_D003	•	•	•	•	•	•
G1	DDR_1_BV	•	•	•	•	•	•
H1	CHR_1_D003	•	•	•	•	•	•
J1	DDR_1_BV	•	•	•	•	•	•
K1	CHR_1_D003	•	•	•	•	•	•
L1	CHR_1_D003	•	•	•	•	•	•
M1	CHR_1_D003	•	•	•	•	•	•
N1	DDR_1_BV	•	•	•	•	•	•
P1	CHR_1_D003	•	•	•	•	•	•
Q1	DDR_1_BV	•	•	•	•	•	•





D.SUPPLY

GND LINE POWER+ LINE POWER- LINE ANALOG AUDIO DIGITAL AUDIO TMDS SIGNAL VIDEO SIGNAL COMPONENT (Y)

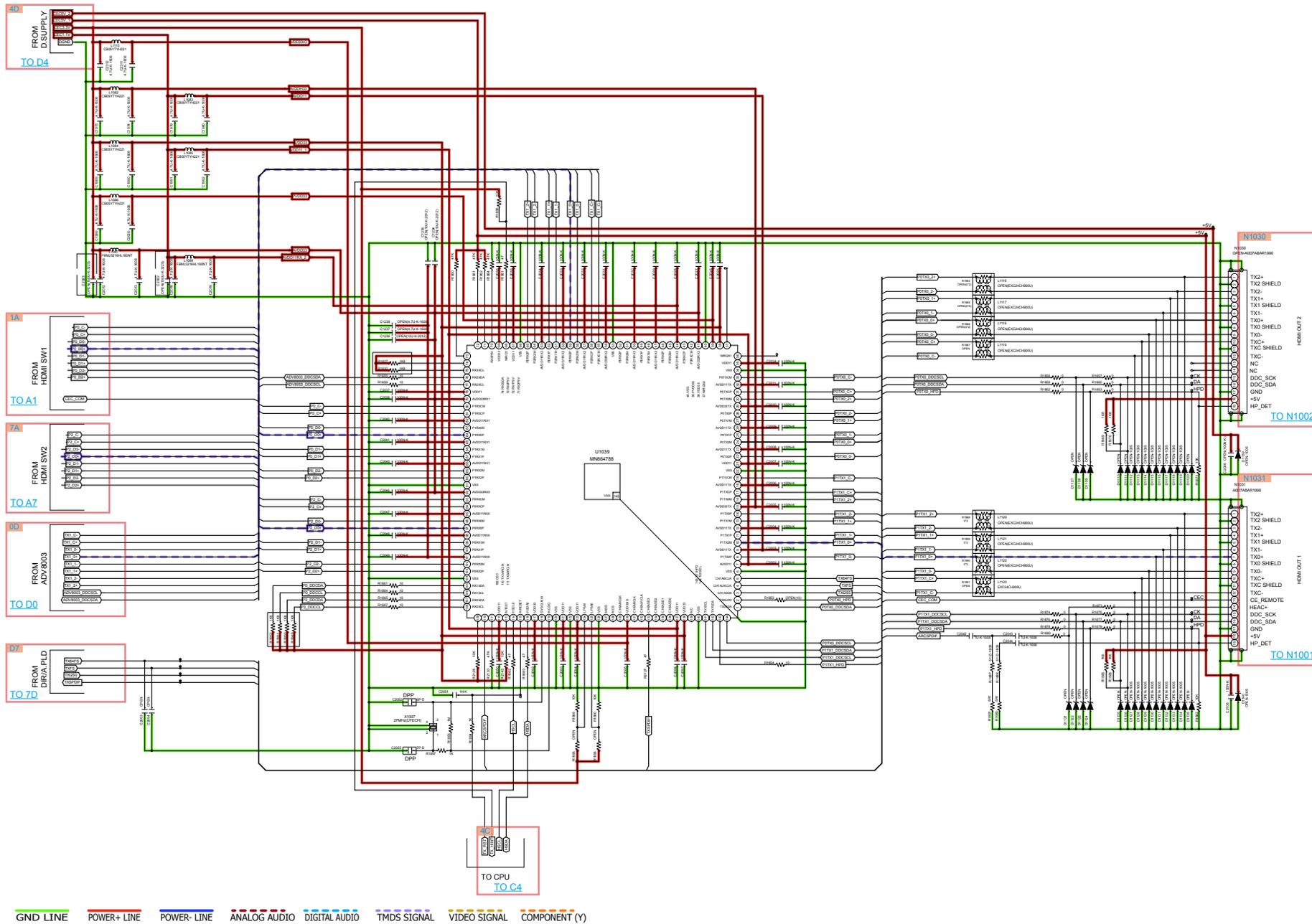
Caution in Servicing

Electrical

Mechanical

Repair Information

Updating



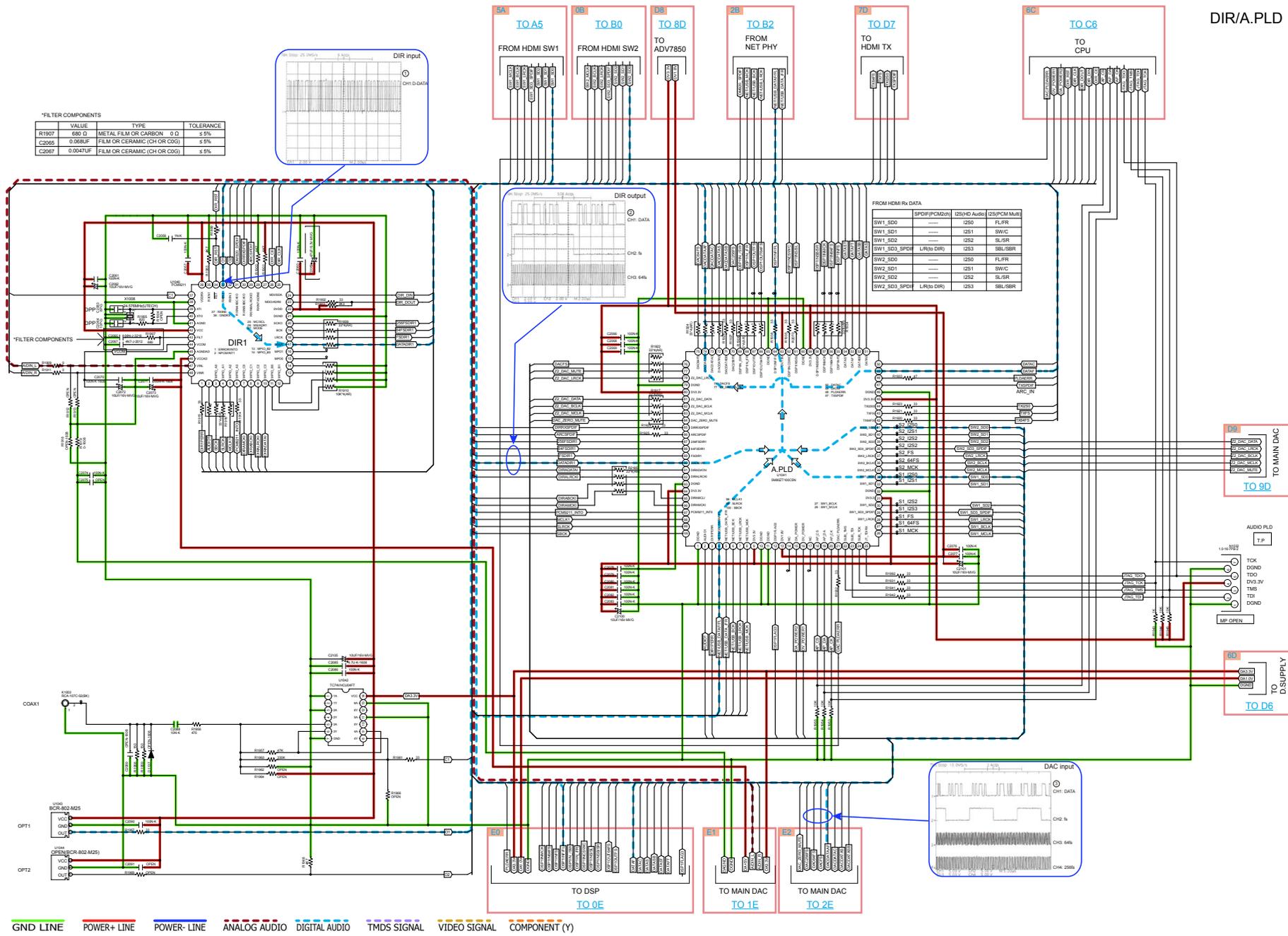
Caution in Servicing

Electrical

Mechanical

Repair Information

Updating



DIR/A.PLD

Caution in servicing

Electrical

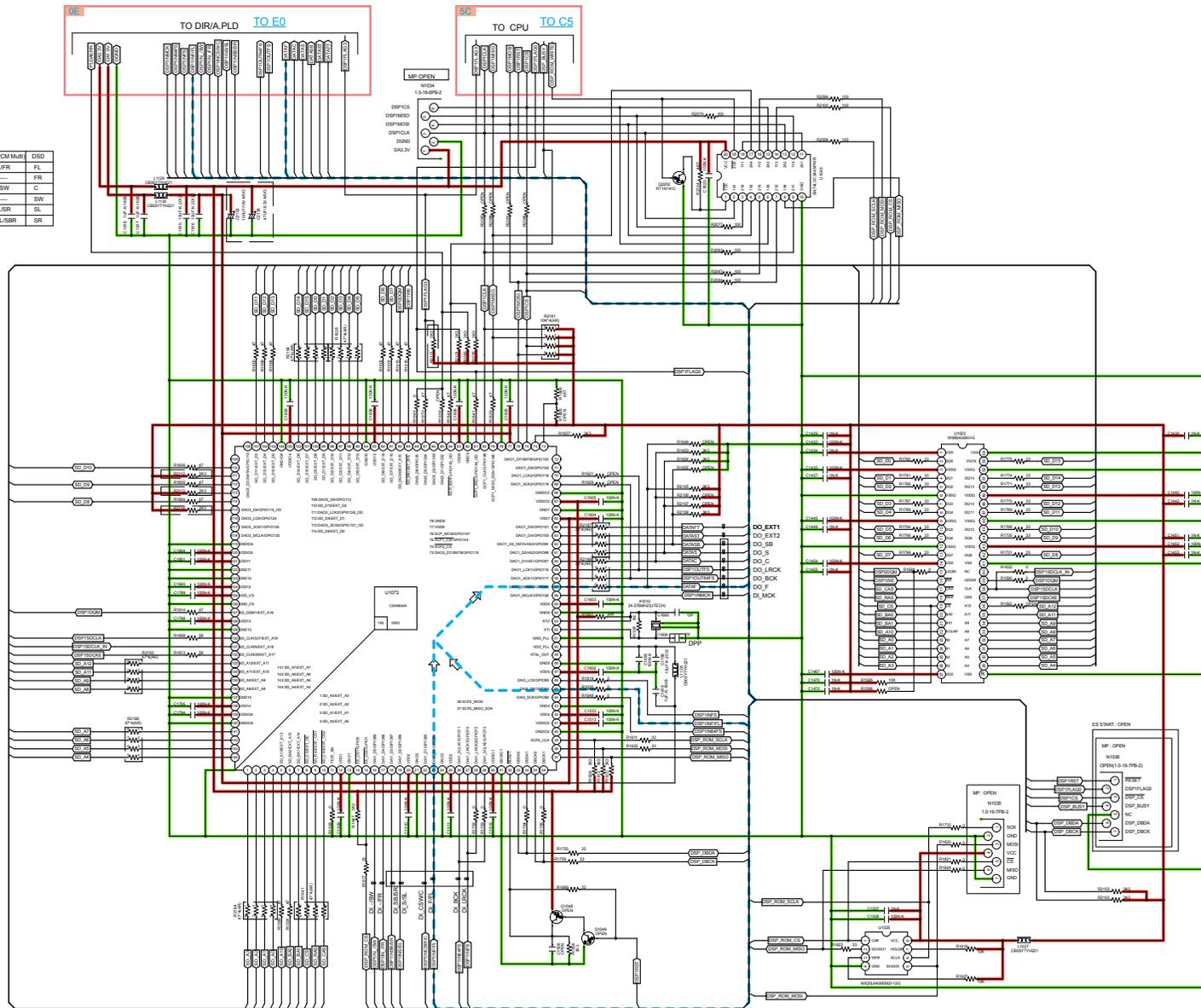
Mechanical

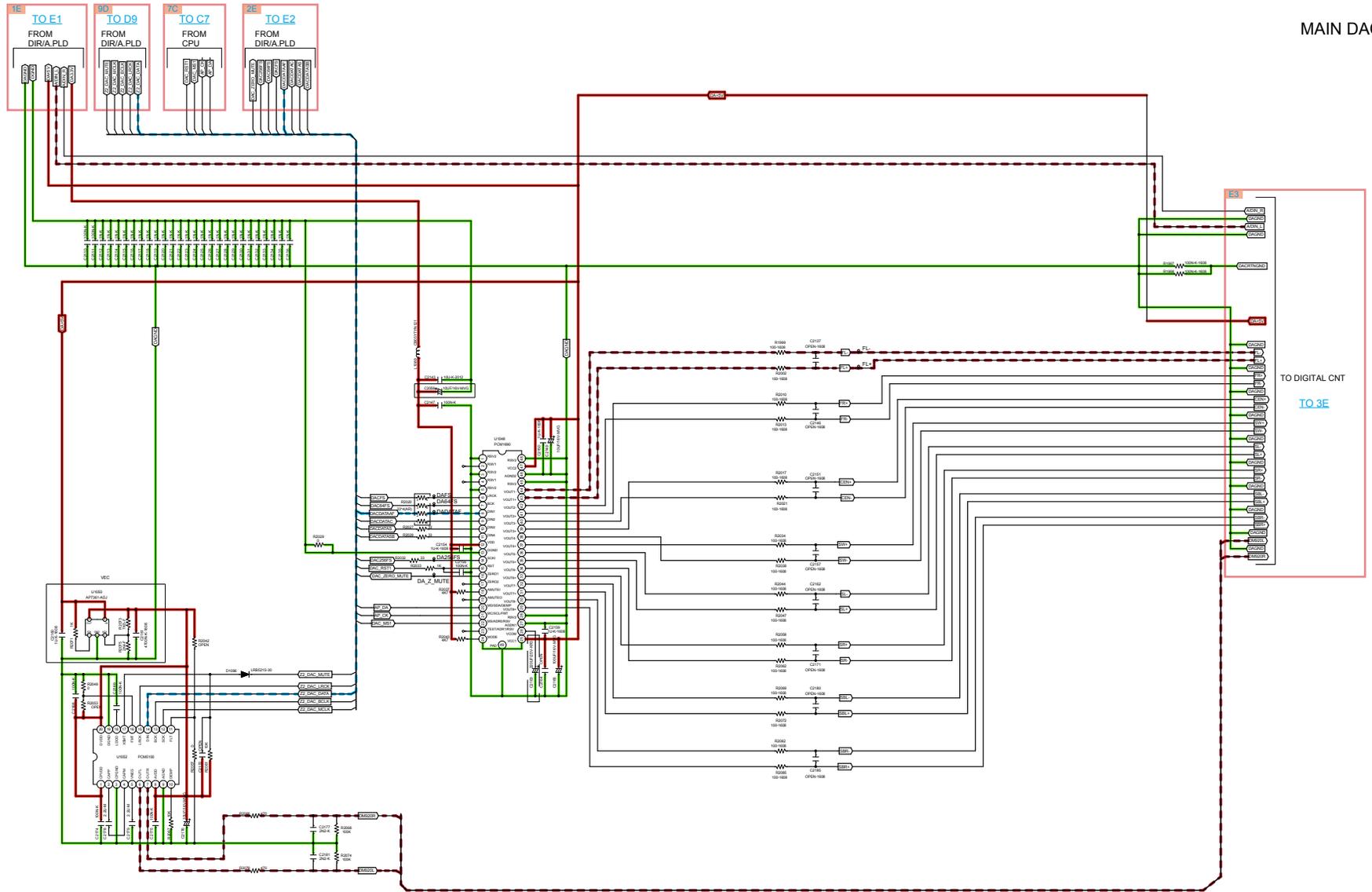
Repair Information

Updating

DSP Input DATA

DSP Input DATA	SPDIF/PCM2ch	I2SHD Audio	ZS/PCM Mult	DSD
DSP1NFIL	L/R from DIR	I2S0	FL/FR	FL
DSP1N_2F	FR
DSP1NC/SW/C	I2S2	C/SW	C
DSP1N_1SW	SW
DSP1NBSL	I2S0	SL/SR	SL
DSP1NBSR	I2S1	SBL/SBR	SR

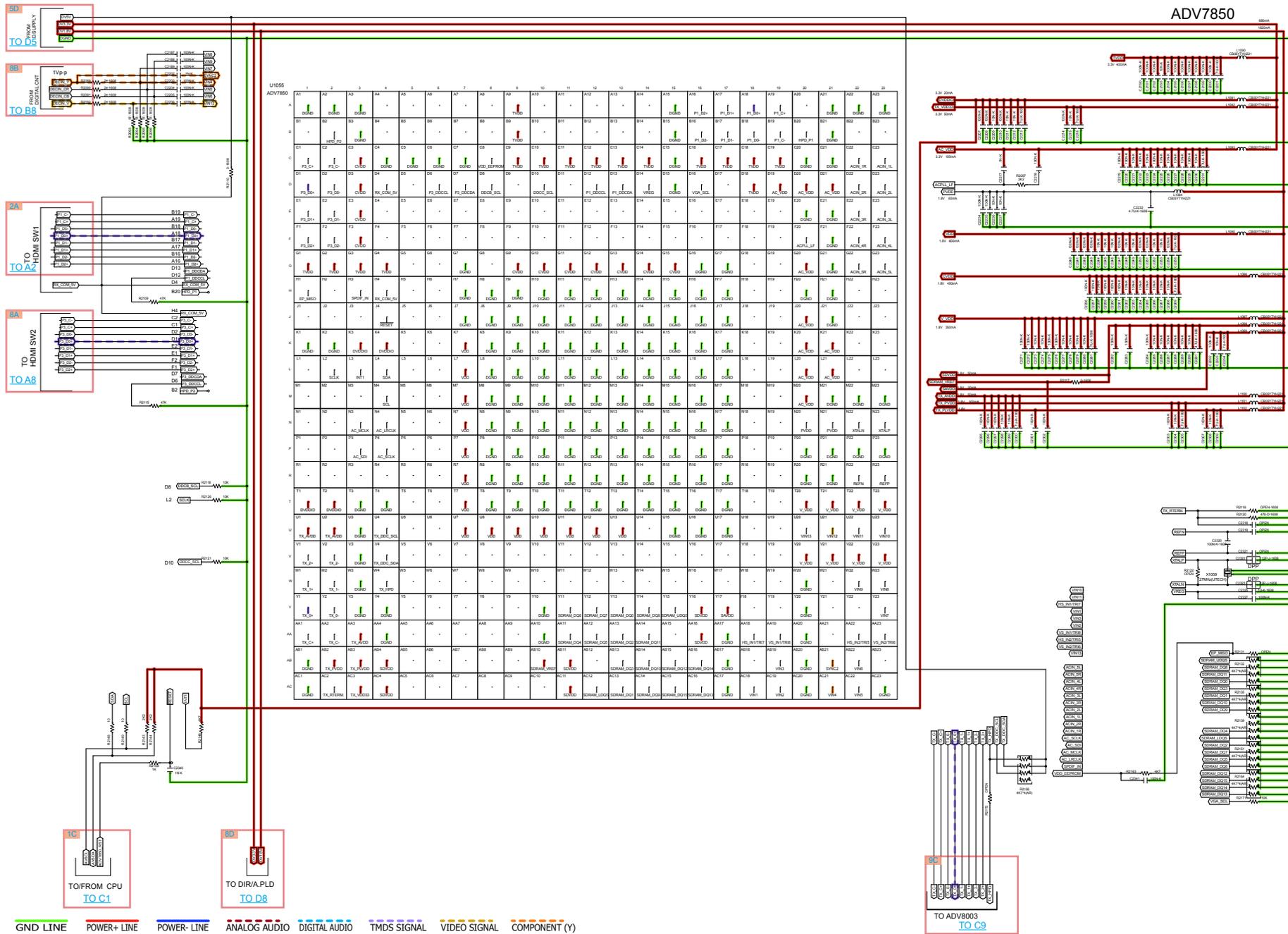




MAIN DAC

TO DIGITAL CNT
TO_3E

GND LINE POWER+ LINE POWER- LINE ANALOG AUDIO DIGITAL AUDIO TMDS SIGNAL VIDEO SIGNAL COMPONENT (Y)



GND LINE POWER+ LINE POWER- LINE ANALOG AUDIO DIGITAL AUDIO TMDs SIGNAL VIDEO SIGNAL COMPONENT (Y)

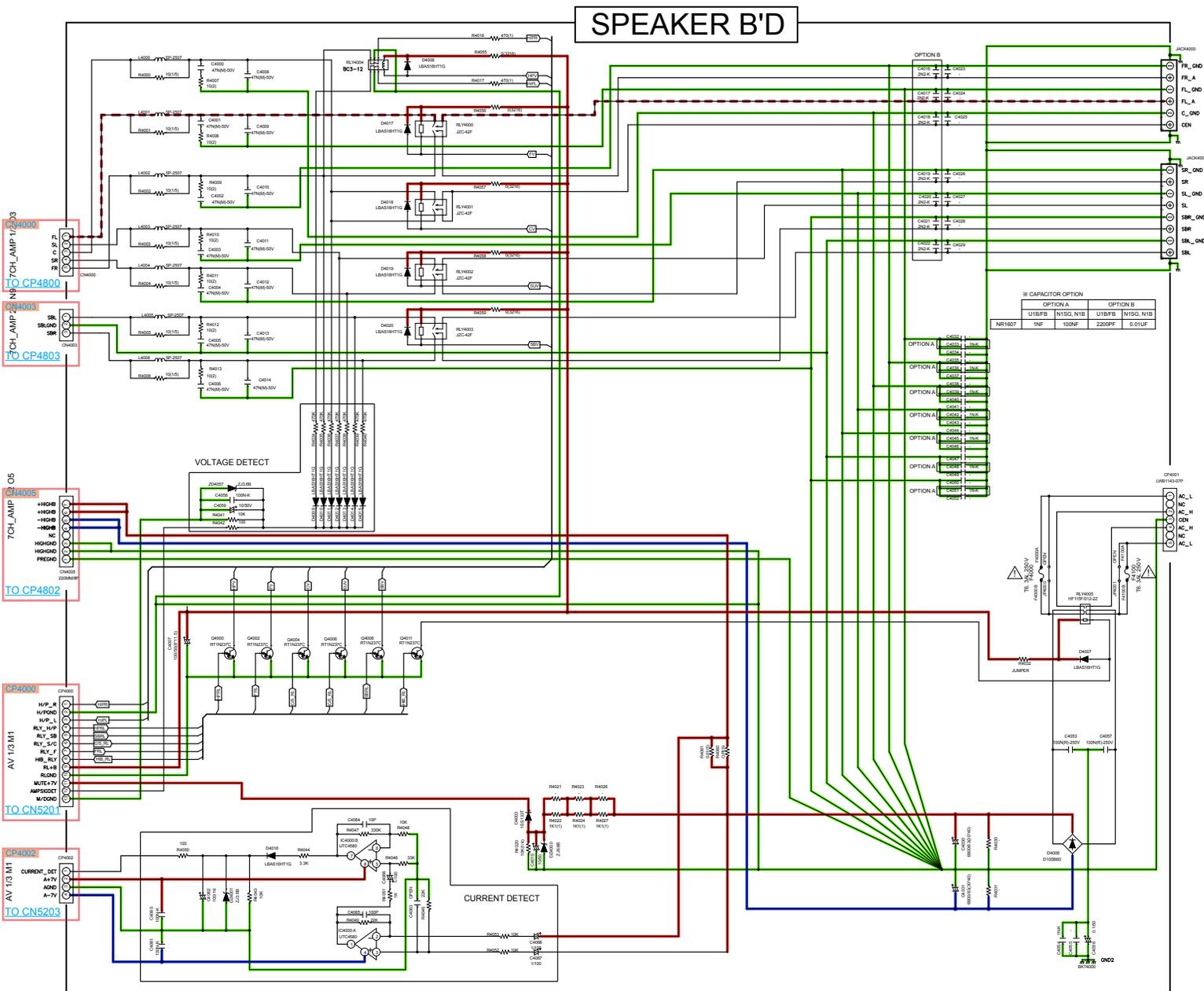
Caution in servicing

Electrical

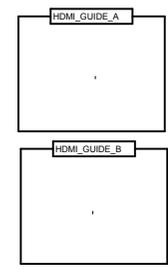
Mechanical

Repair Information

Updating



SPK_SCNT 1/2
MP

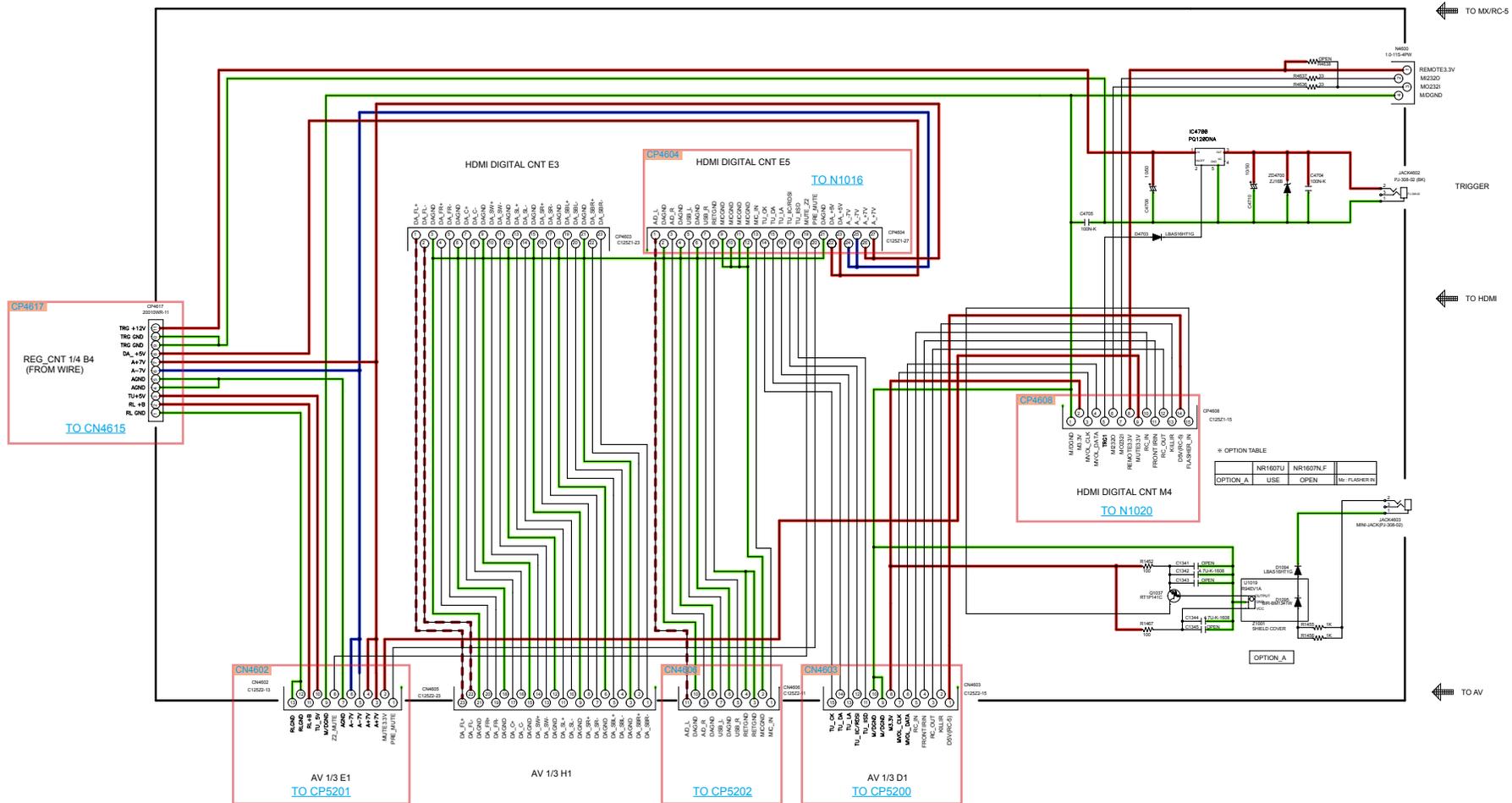


GND LINE POWER+ LINE POWER- LINE ANALOG AUDIO DIGITAL AUDIO TMDS SIGNAL VIDEO SIGNAL COMPONENT (Y)

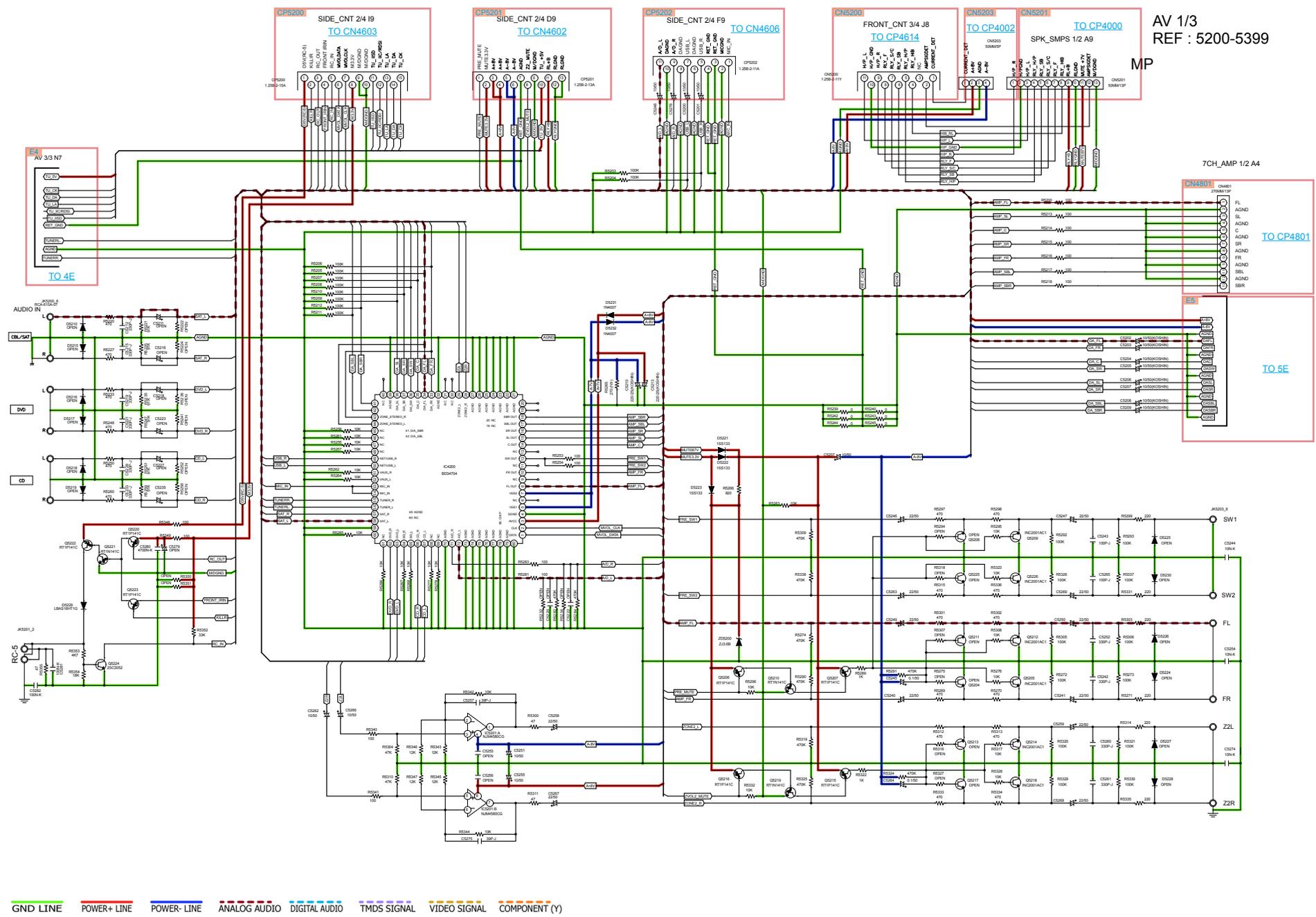
Caution in servicing Electrical Mechanical Repair Information Updating

SIDE CONNECTOR

SPK_SCNT 2/2
MP

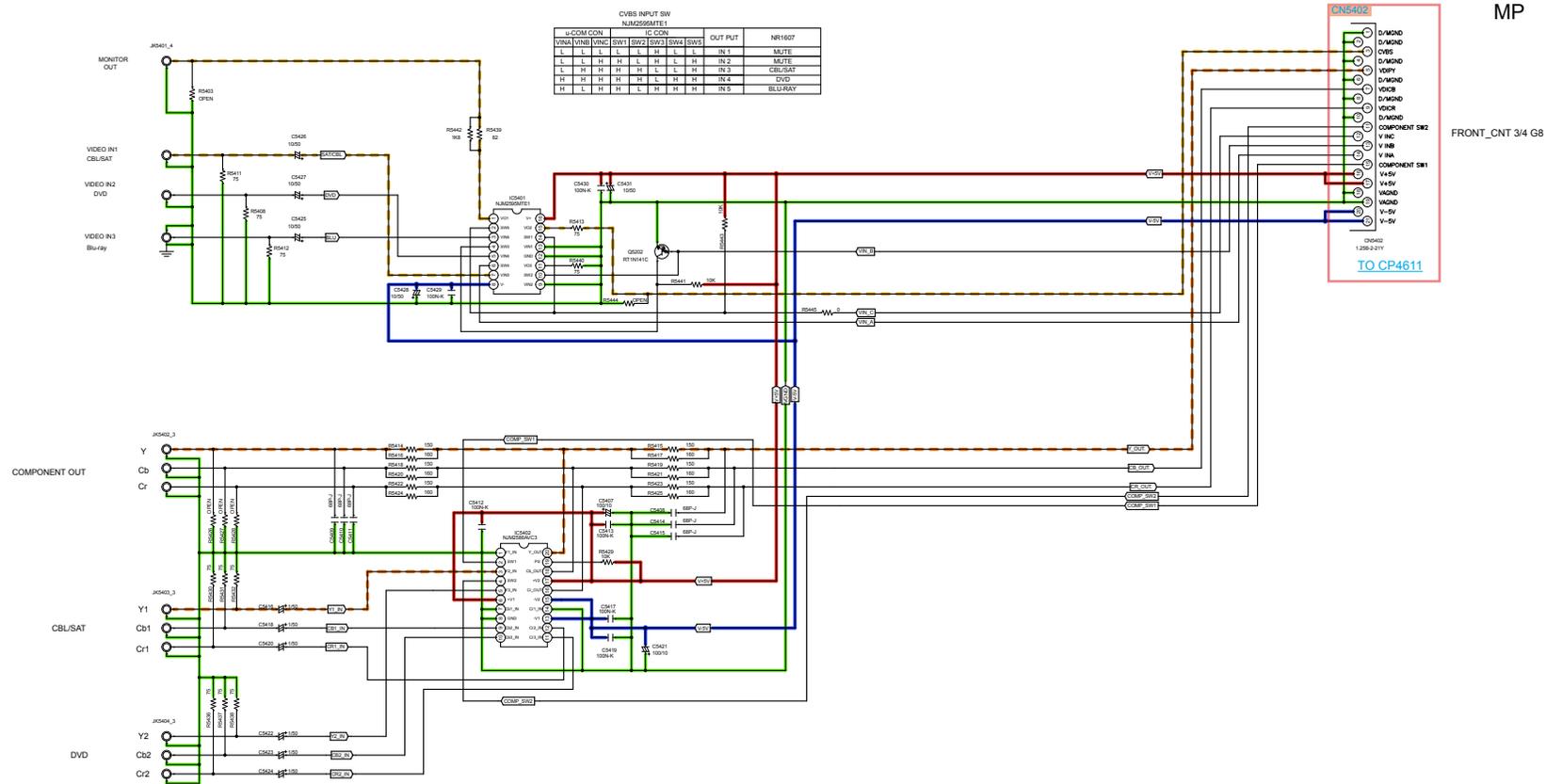


GND LINE POWER+ LINE POWER- LINE ANALOG AUDIO DIGITAL AUDIO TMDS SIGNAL VIDEO SIGNAL COMPONENT (Y)



AV 1/3
REF : 5200-5399
MP

MP

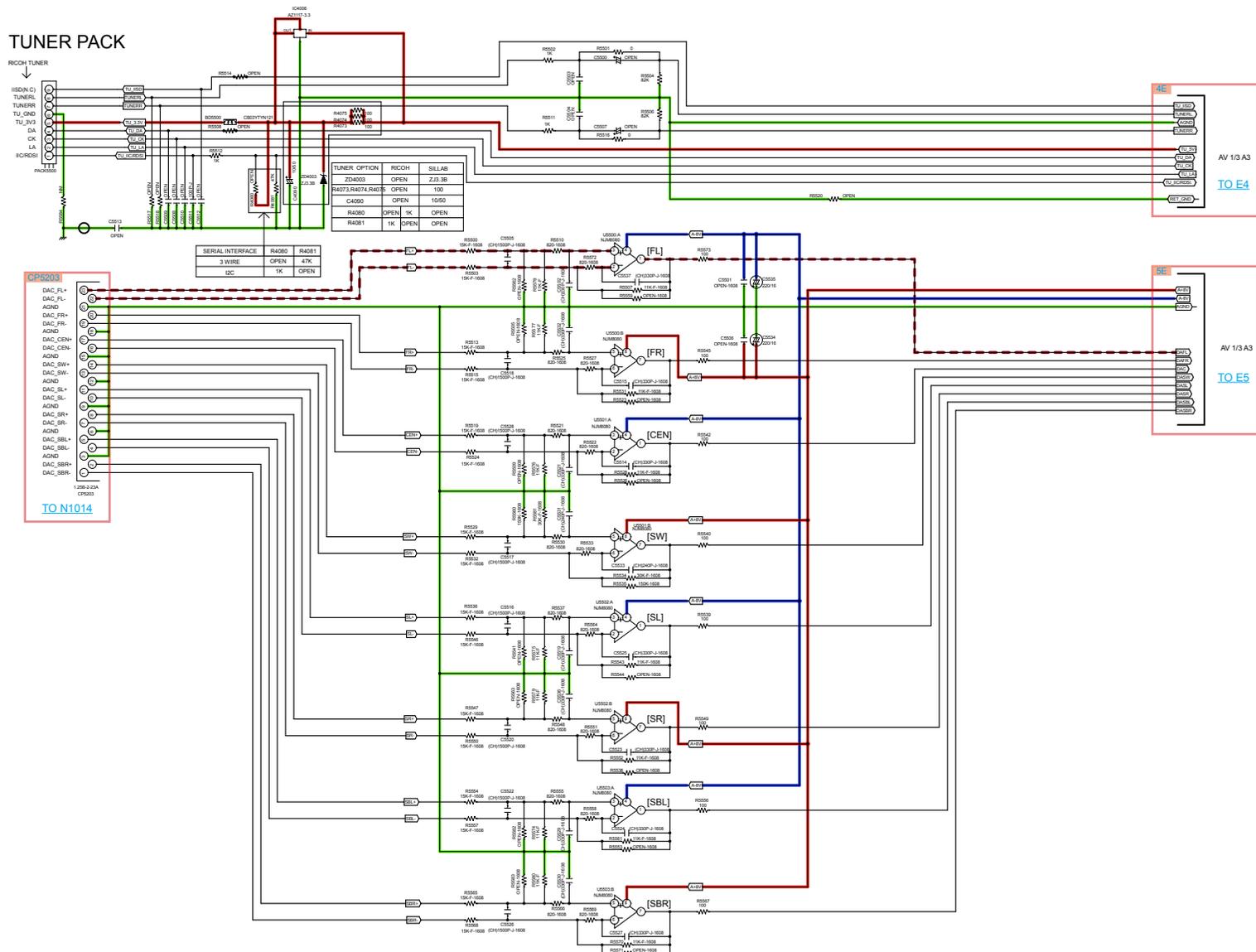


FRONT_CNT 3/4 G8

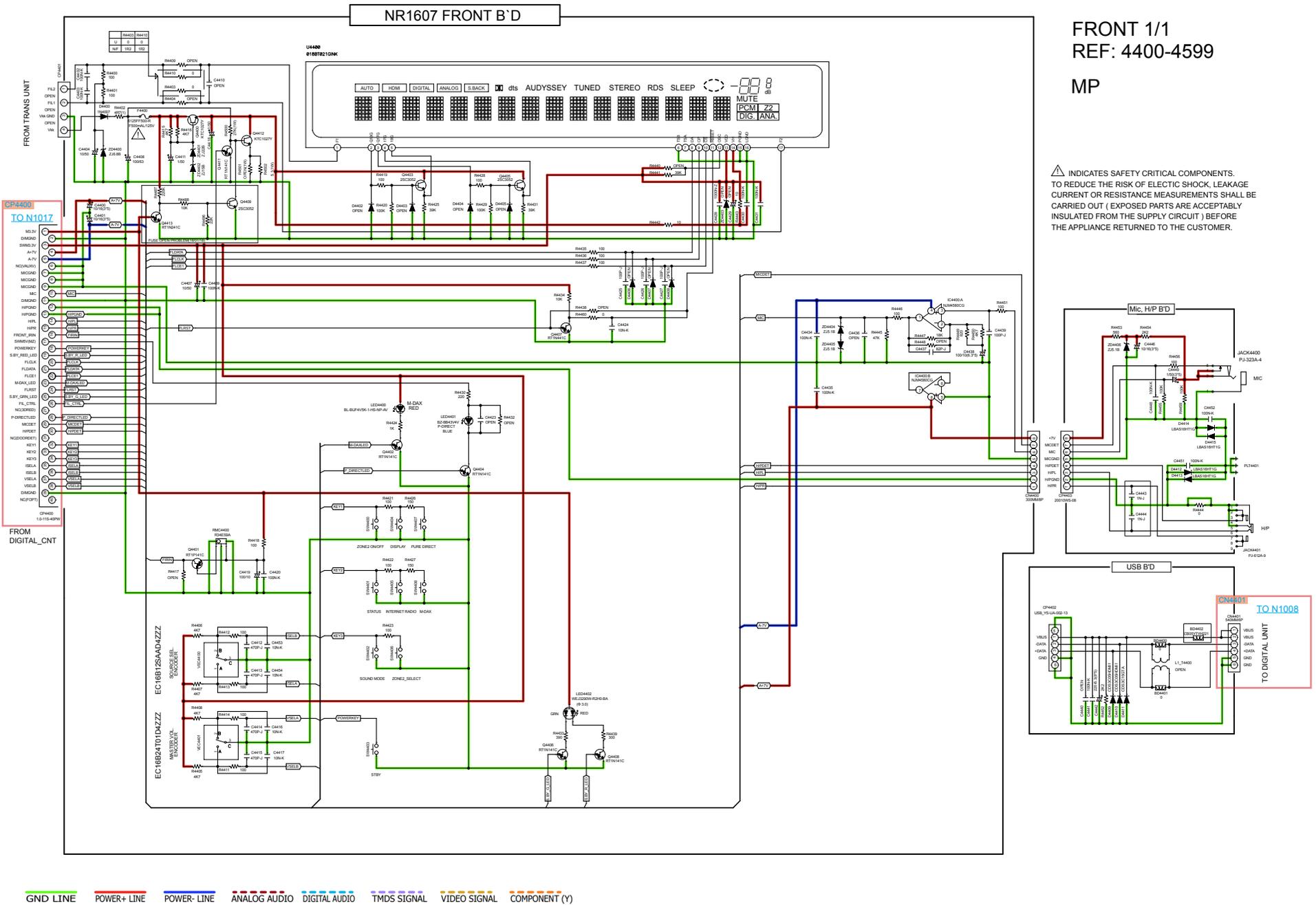
TO CP4611

GND LINE POWER+ LINE POWER- LINE ANALOG AUDIO DIGITAL AUDIO TMDS SIGNAL VIDEO SIGNAL COMPONENT (Y)

TUNER PACK



GND LINE POWER+ LINE POWER- LINE ANALOG AUDIO DIGITAL AUDIO TMDS SIGNAL VIDEO SIGNAL COMPONENT (Y)



FRONT 1/1
 REF: 4400-4599
 MP

⚠ INDICATES SAFETY CRITICAL COMPONENTS.
 TO REDUCE THE RISK OF ELECTRIC SHOCK, LEAKAGE CURRENT OR RESISTANCE MEASUREMENTS SHALL BE CARRIED OUT (EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT) BEFORE THE APPLIANCE RETURNED TO THE CUSTOMER.

Caution in servicing

Electrical

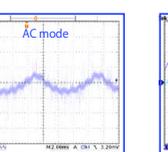
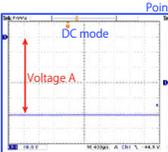
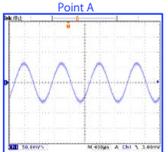
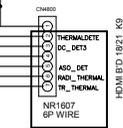
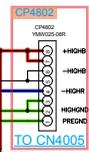
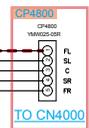
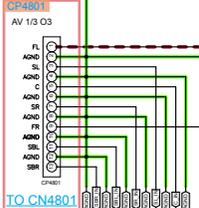
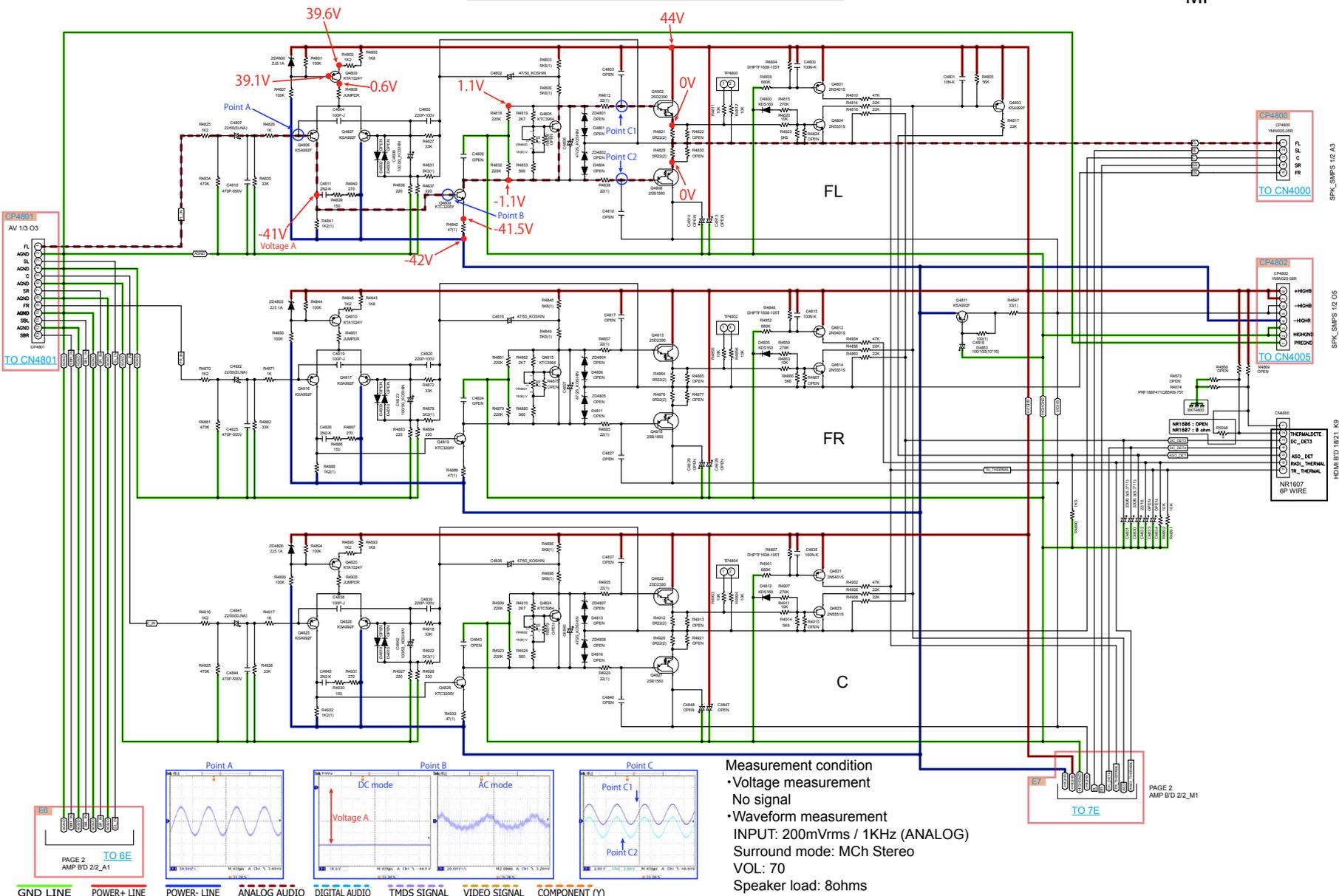
Mechanical

Repair Information

Updating

MP

NR1607 AMP B'D 1/2



Measurement condition
 • Voltage measurement
 No signal
 • Waveform measurement
 INPUT: 200mVrms / 1KHz (ANALOG)
 Surround mode: MCh Stereo
 VOL: 70
 Speaker load: 8ohms



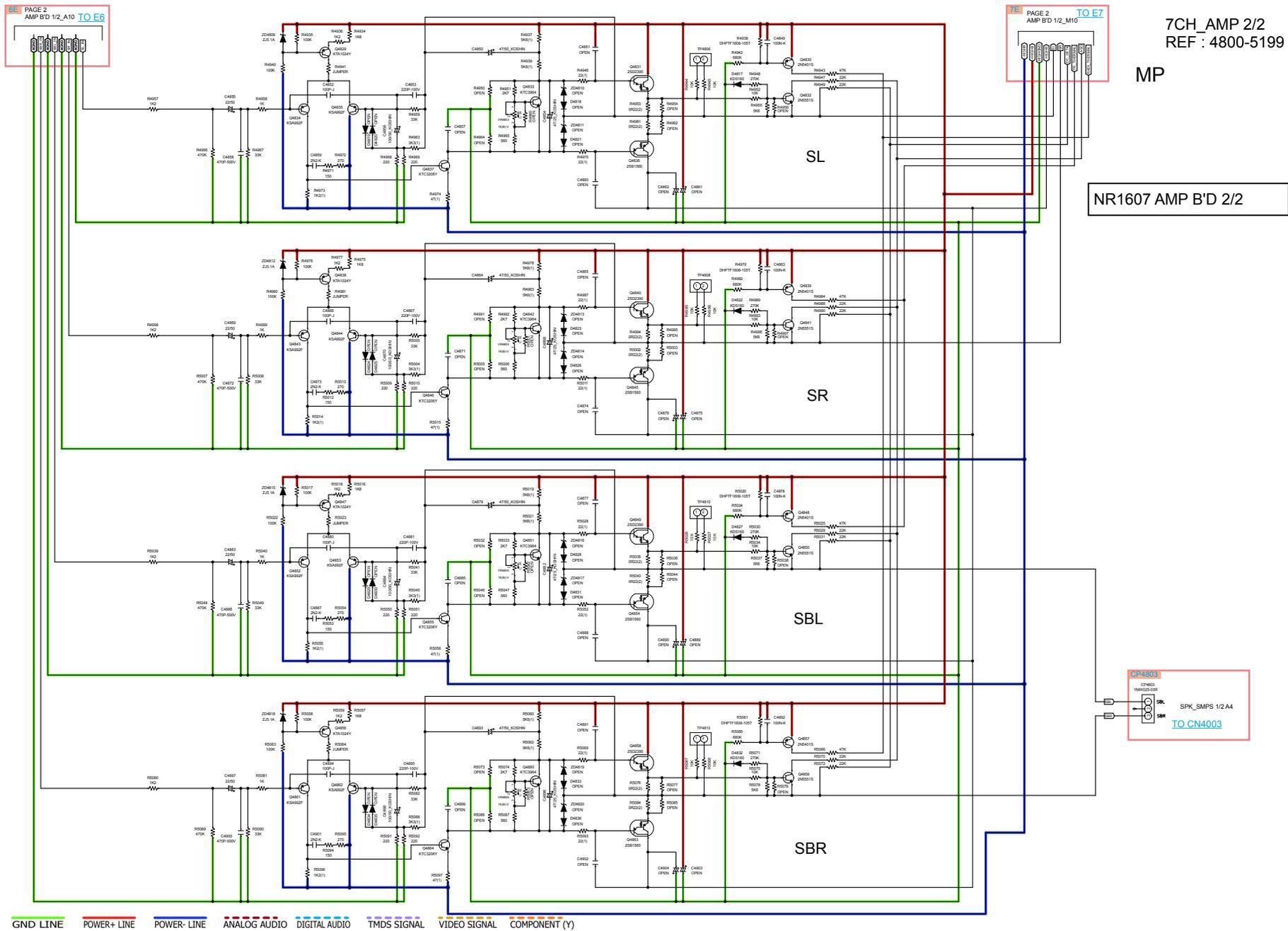
Caution in servicing

Electrical

Mechanical

Repair Information

Updating



Caution in servicing

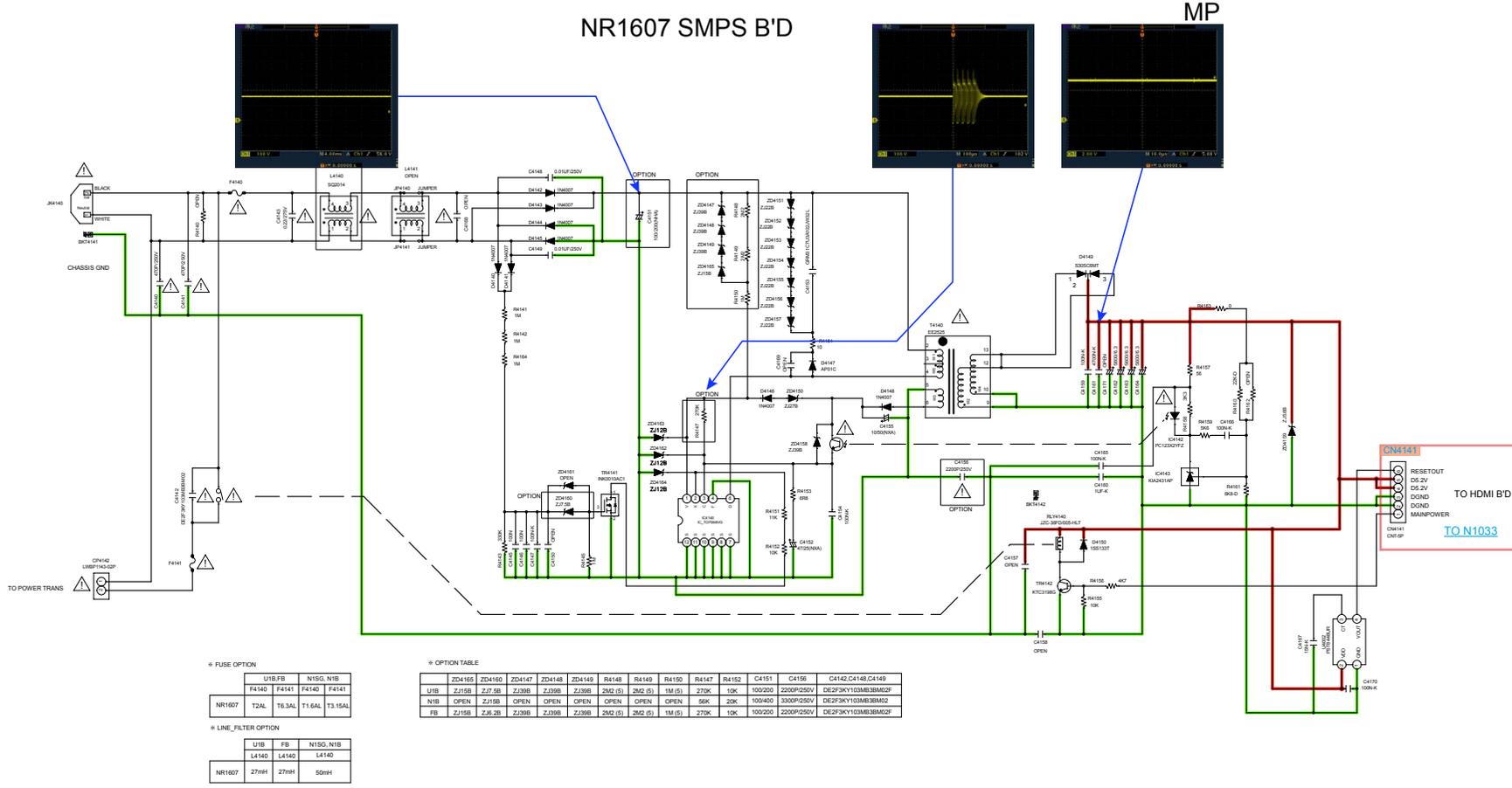
Electrical

Mechanical

Repair Information

Updating

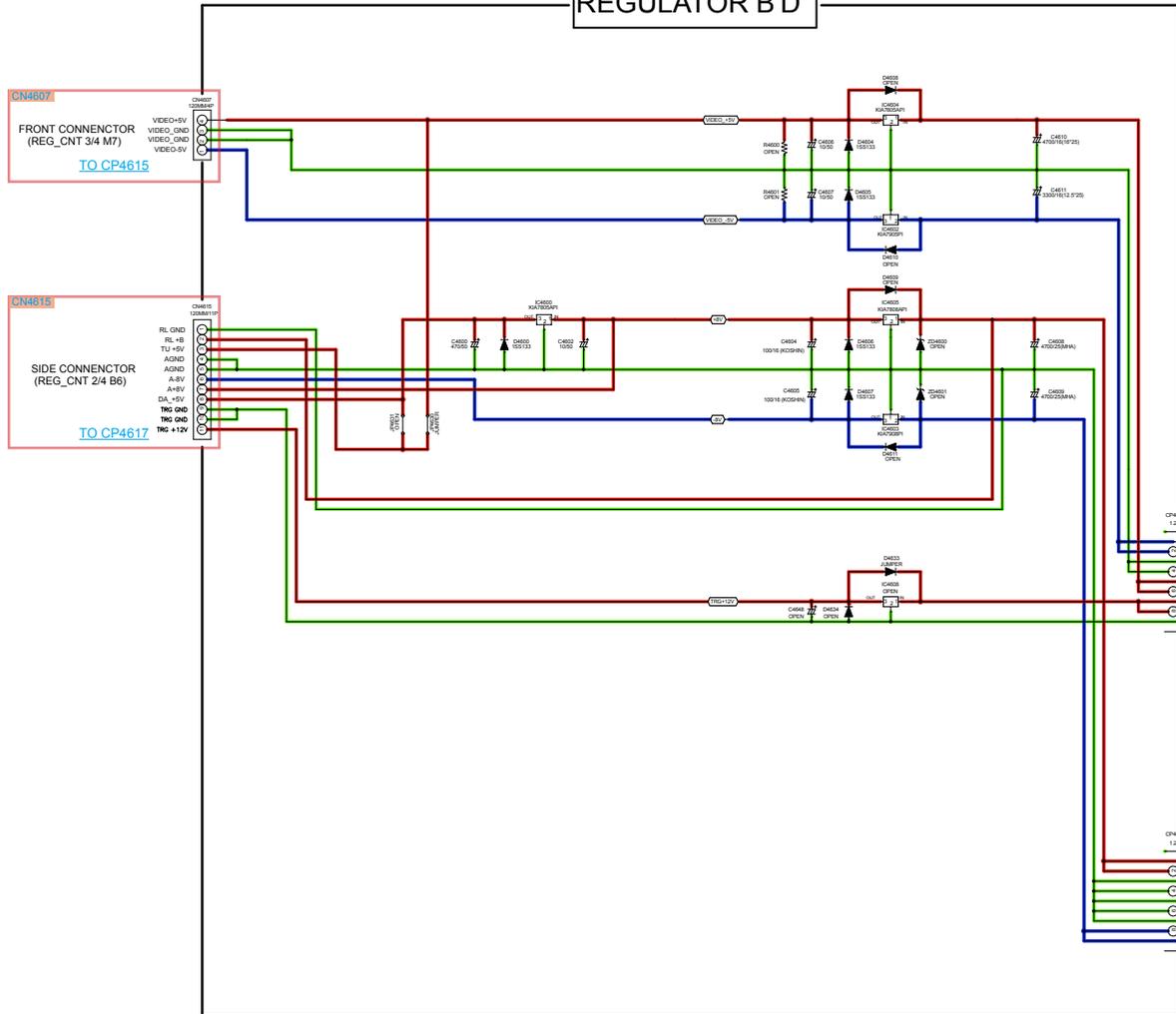
SMPS_REG_FCNT 1/3



△ INDICATES SAFETY CRITICAL COMPONENTS.
TO REDUCE THE RISK OF ELECTRIC SHOCK, LEAKAGE
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THE APPLIANCE RETURNED TO THE CUSTOMER.

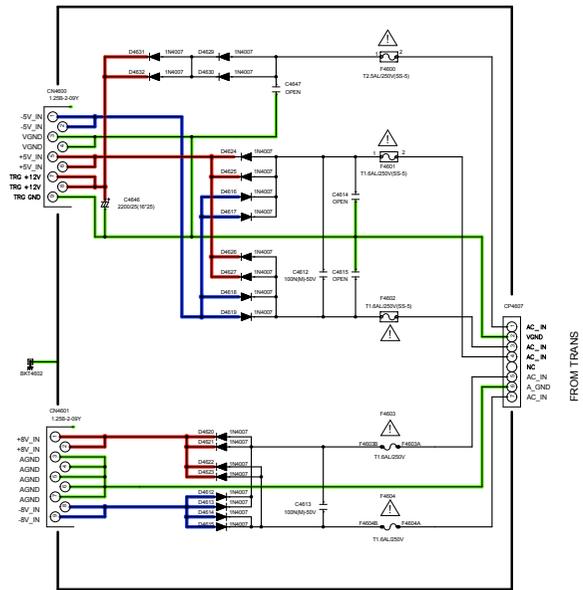
NR1607_REG

REGULATOR B'D



SMPS_REG_FCNT 2/3

MP

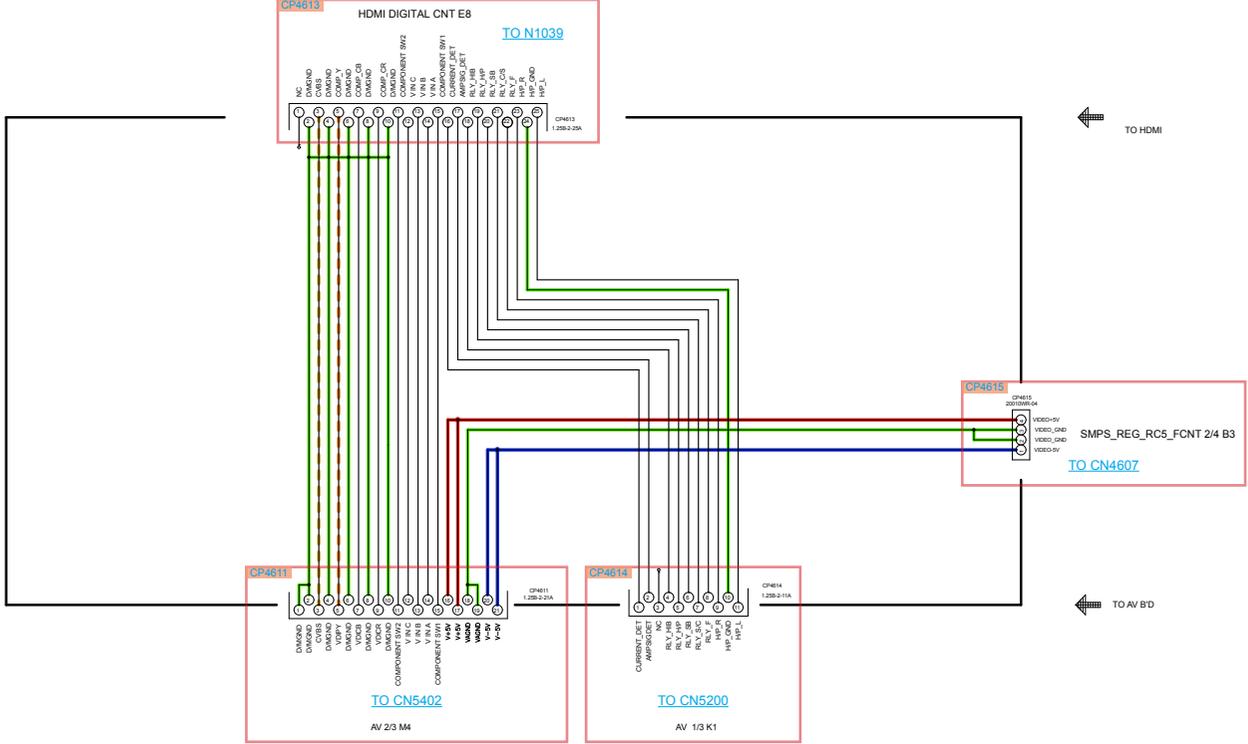


⚠ INDICATES SAFETY CRITICAL COMPONENTS.
 TO REDUCE THE RISK OF ELECTRIC SHOCK, LEAKAGE CURRENT OR RESISTANCE MEASUREMENTS SHALL BE CARRIED OUT (EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT) BEFORE THE APPLIANCE RETURNED TO THE CUSTOMER.

GND LINE POWER+ LINE POWER- LINE ANALOG AUDIO DIGITAL AUDIO TMDS SIGNAL VIDEO SIGNAL COMPONENT (Y)

FRONT CONNECTOR

SMPS_REG_FCNT 3/3
MP



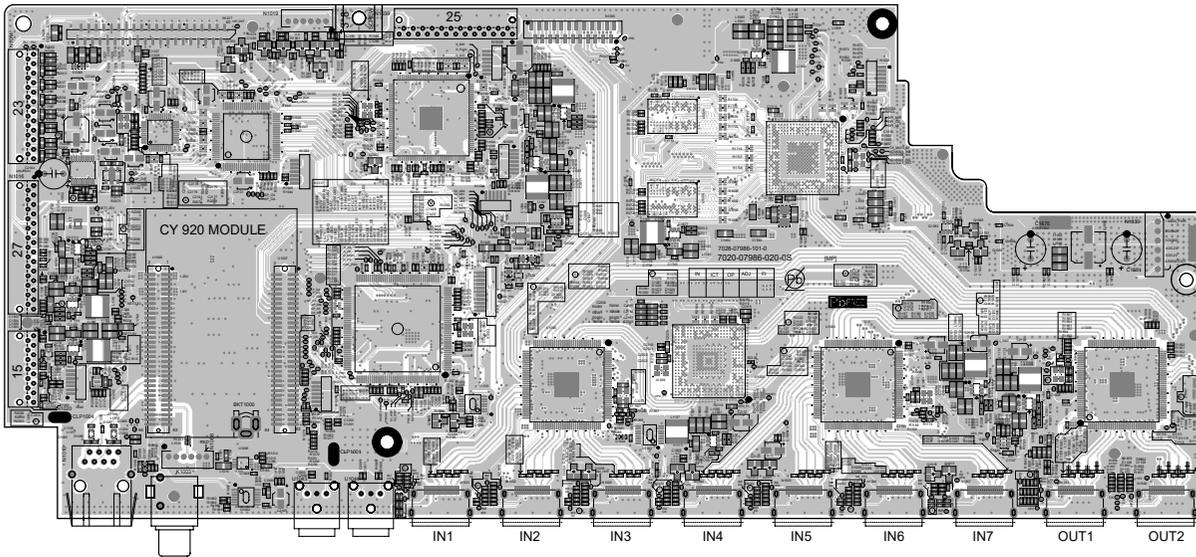
GND LINE POWER+ LINE POWER- LINE ANALOG AUDIO DIGITAL AUDIO TMDS SIGNAL VIDEO SIGNAL COMPONENT (Y)

PRINTED CIRCUIT BOARDS

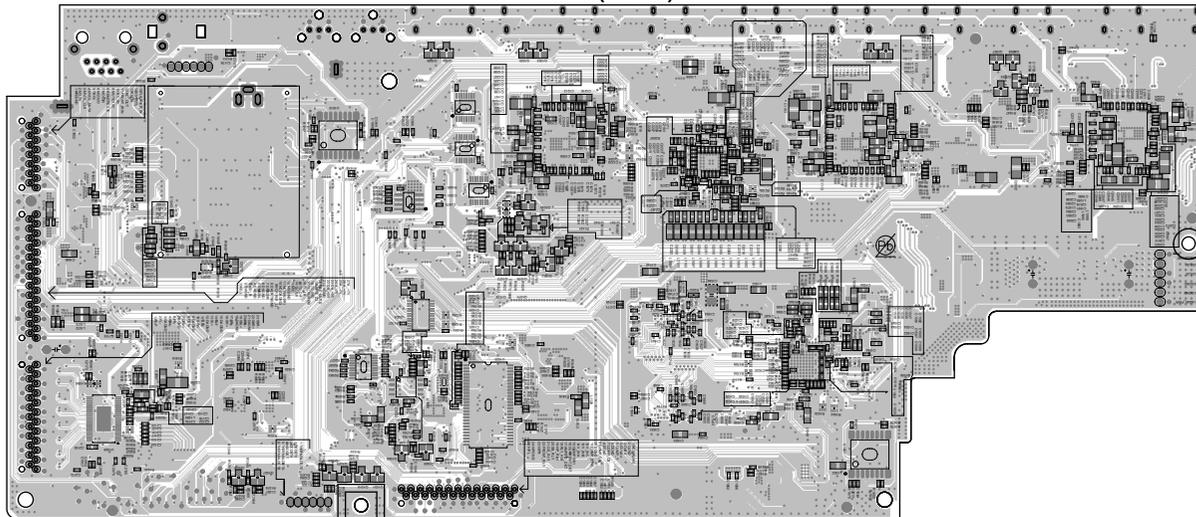
HDMI, F HDMI

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

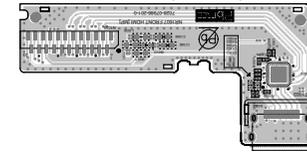
HDMI (A SIDE)



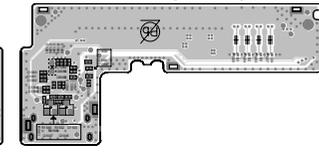
HDMI (B SIDE)



F HDMI (A SIDE)



F HDMI (B SIDE)



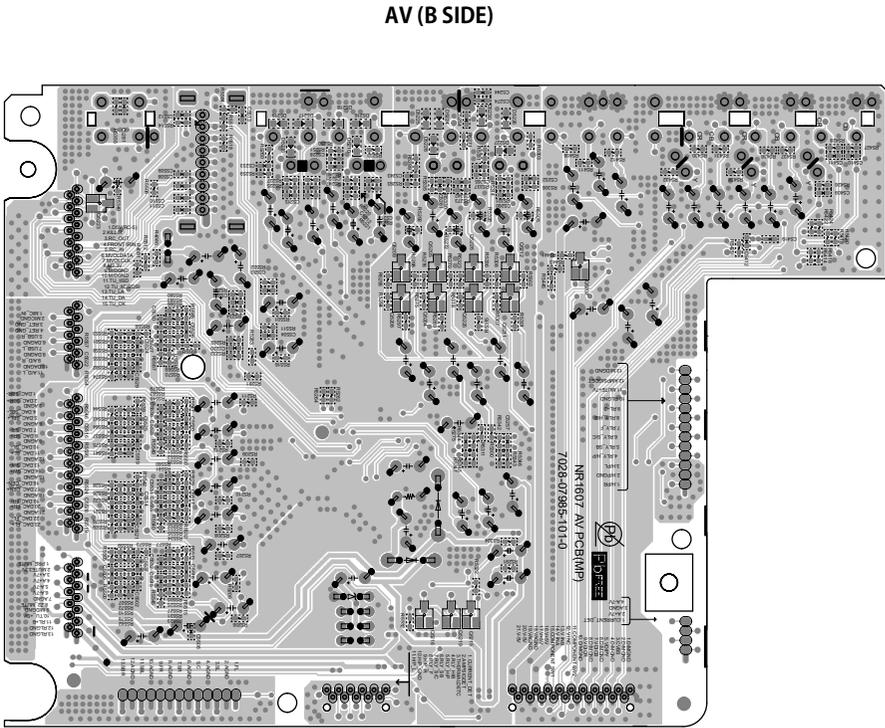
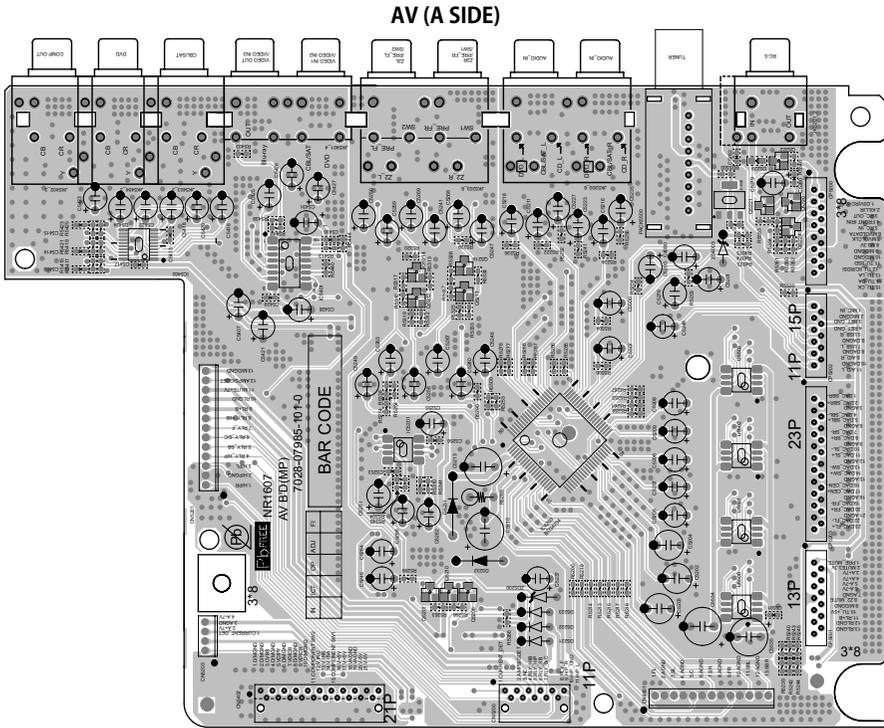
Caution in servicing

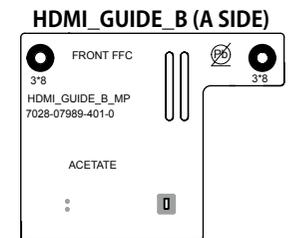
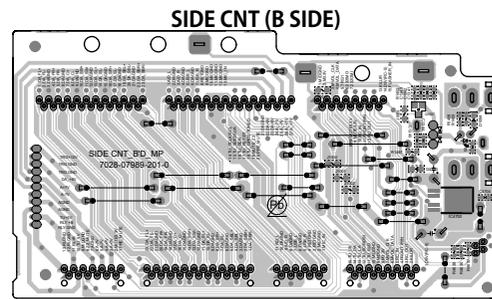
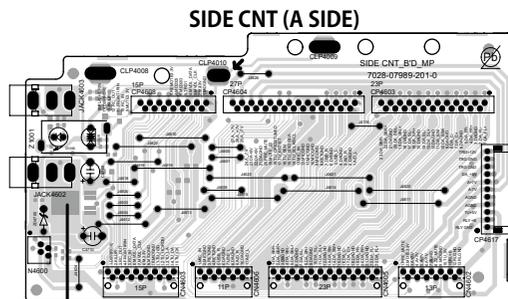
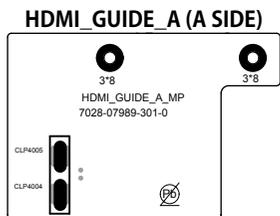
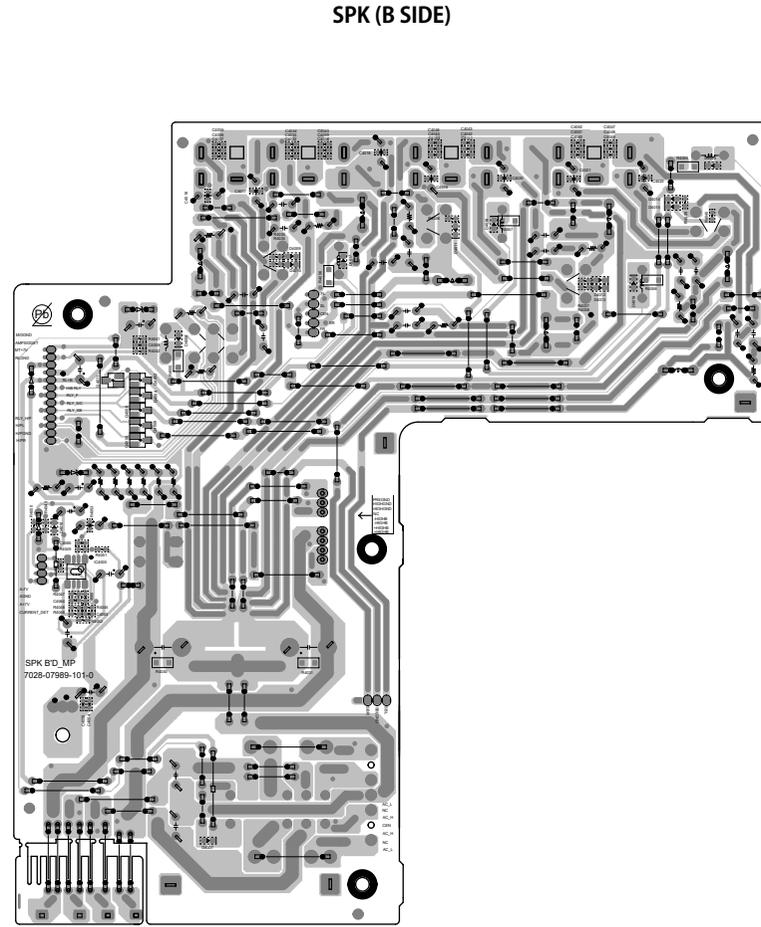
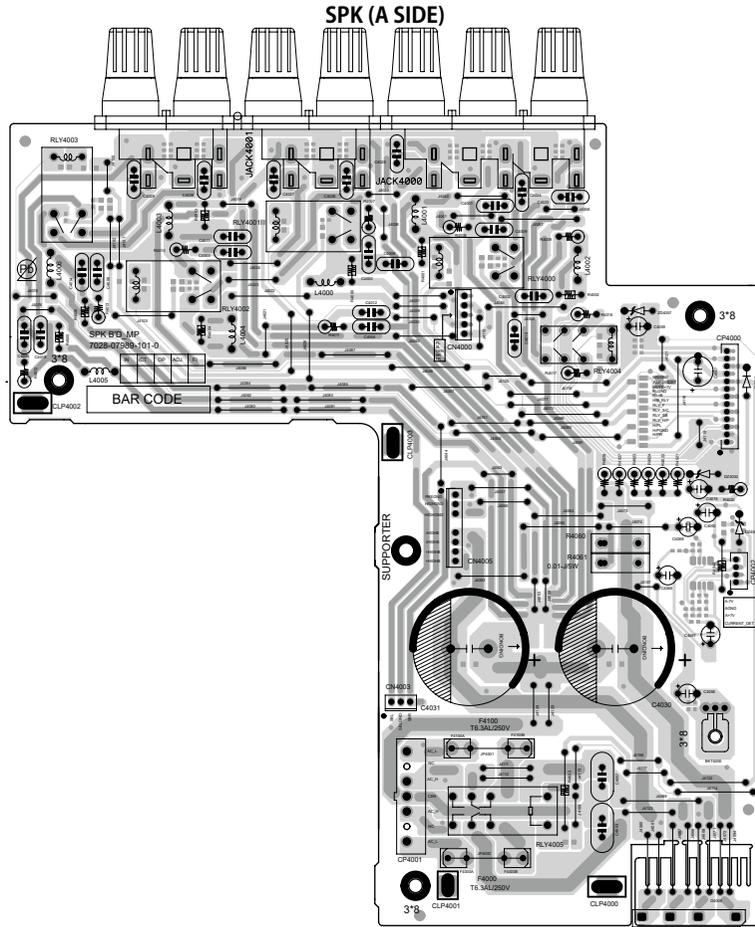
Electrical

Mechanical

Repair Information

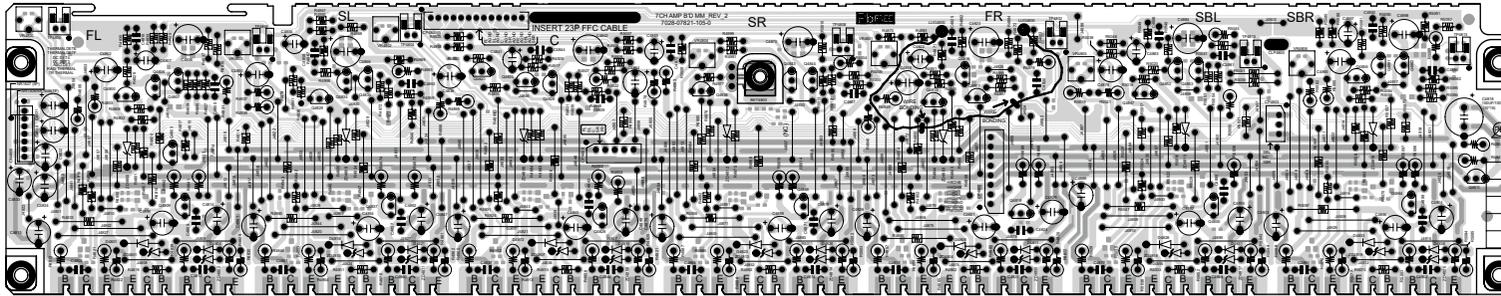
Updating



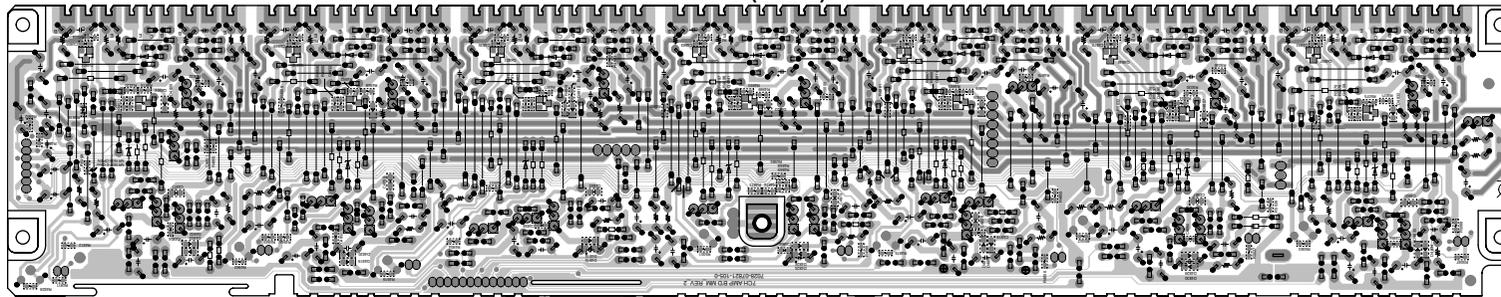


Caution in servicing
Electrical
Mechanical
Repair Information
Updating

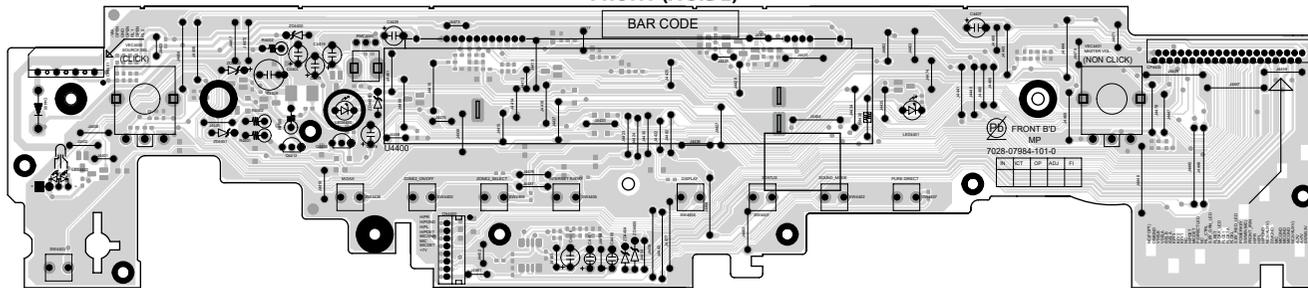
AMP (A SIDE)



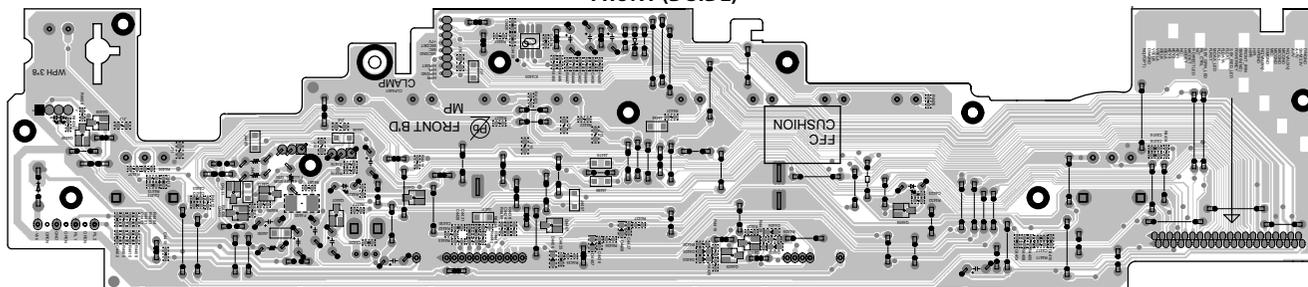
AMP (B SIDE)



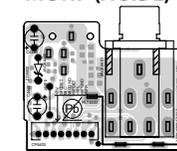
FRONT (A SIDE)



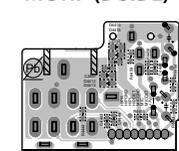
FRONT (B SIDE)



MC HP (A SIDE)



MC HP (B SIDE)

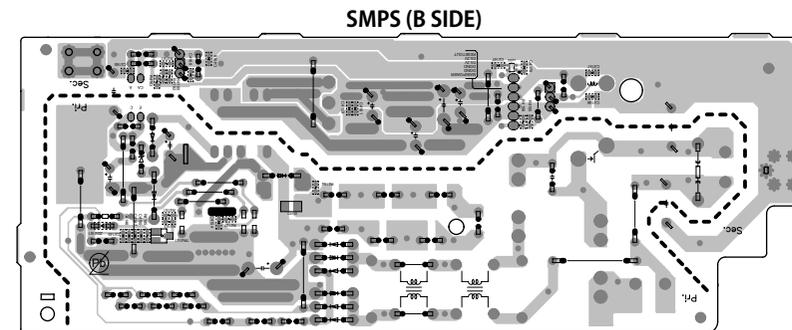
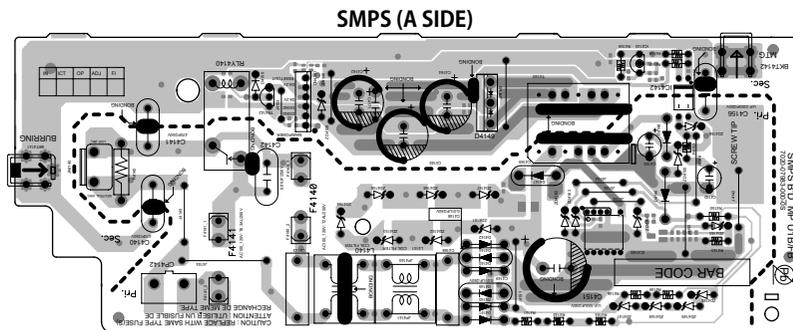
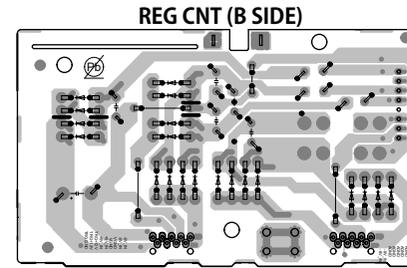
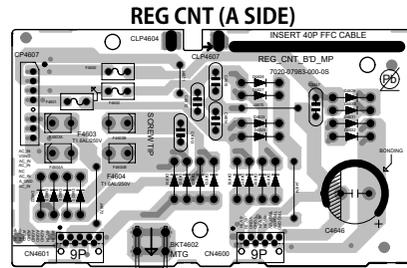
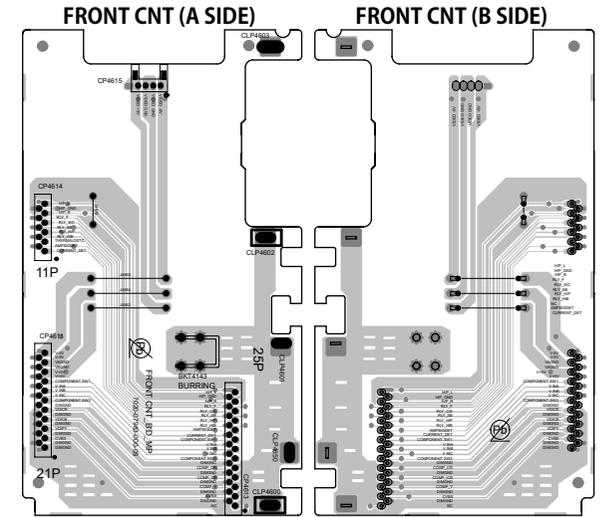
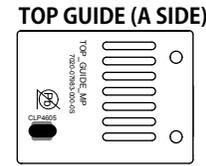
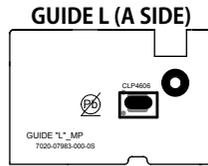
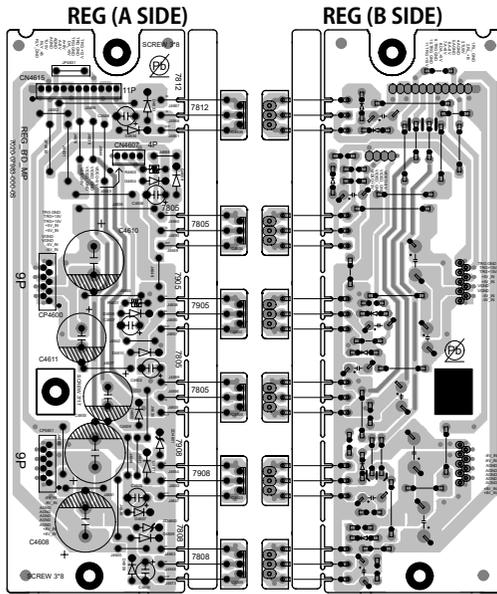


USB (A SIDE)



USB (B SIDE)





Caution in Servicing

Electrical

Mechanical

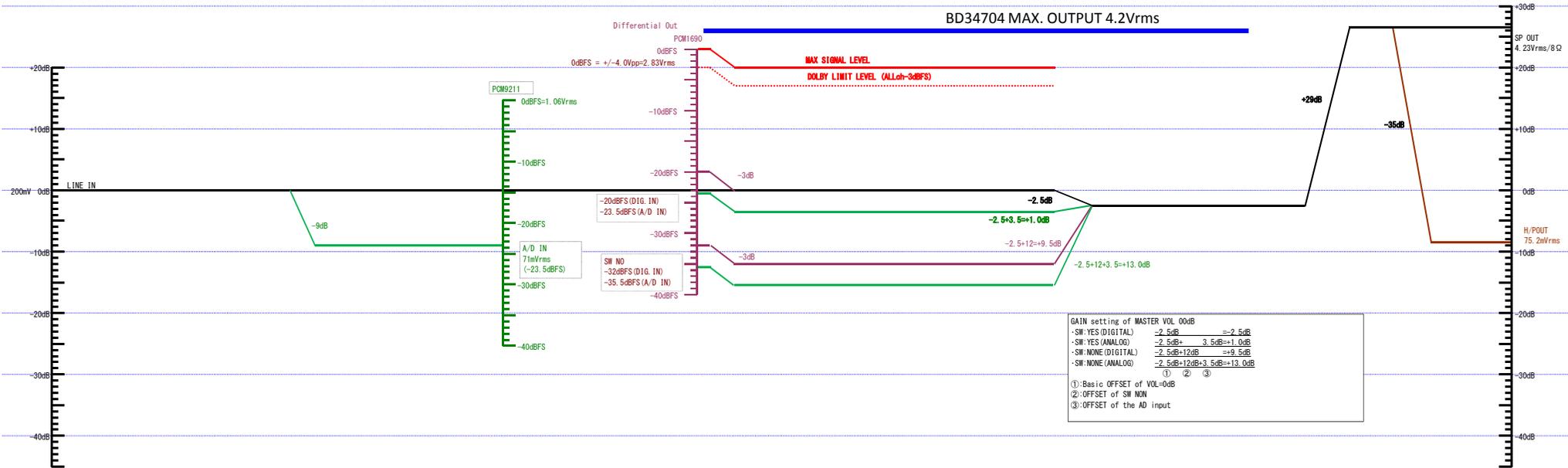
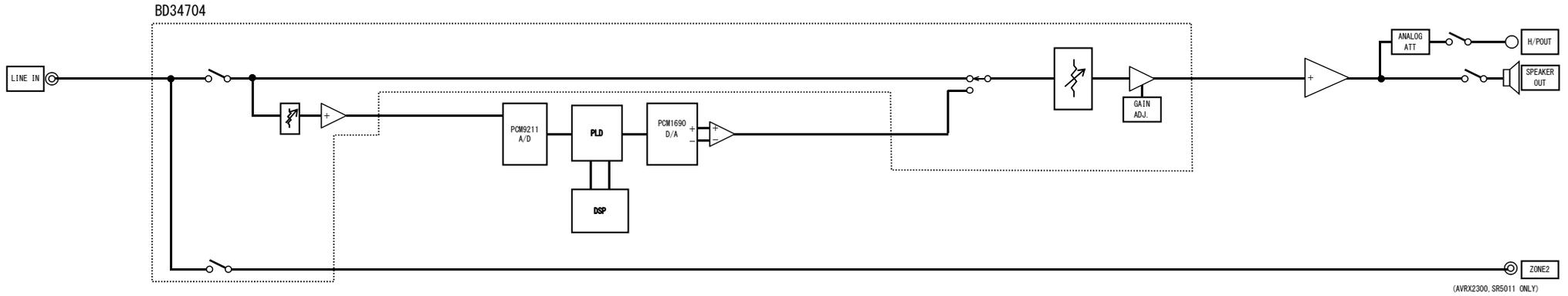
Repair Information

Updating

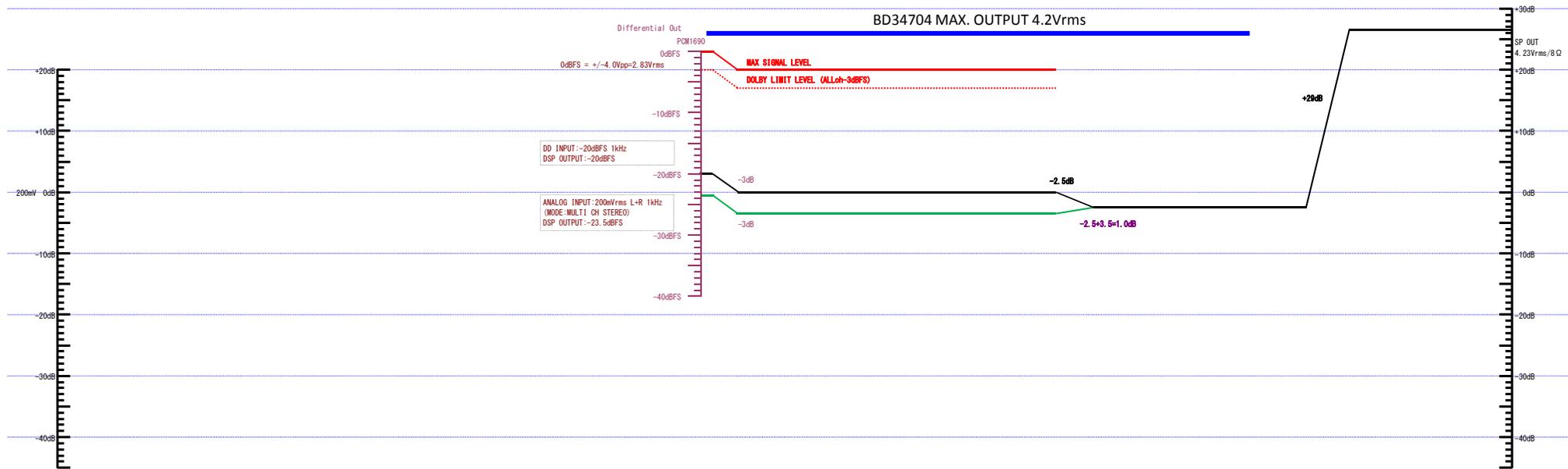
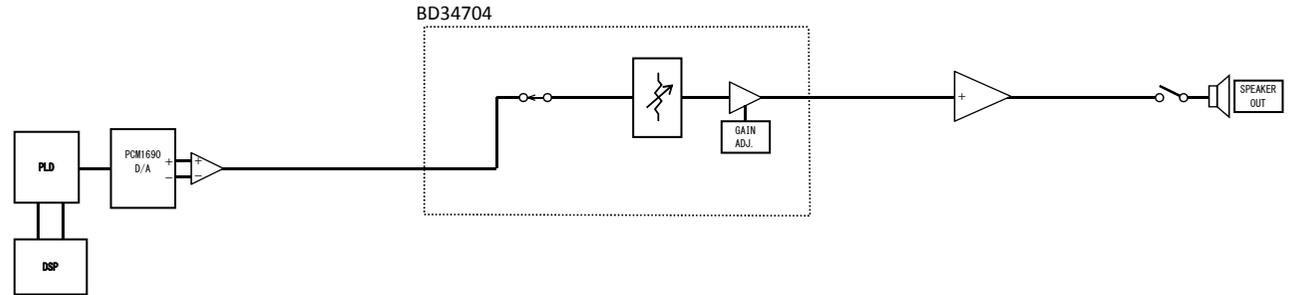
LEVEL DIAGRAM

FRONT ch

AVR-S920W / X2300W SR5011, NR1607 LEVEL DIAGRAM FRONT ch



AVR-S920W/X2300W
SR5011.NR1607
LEVEL DIAGRAM
CENTER ch



Caution in servicing

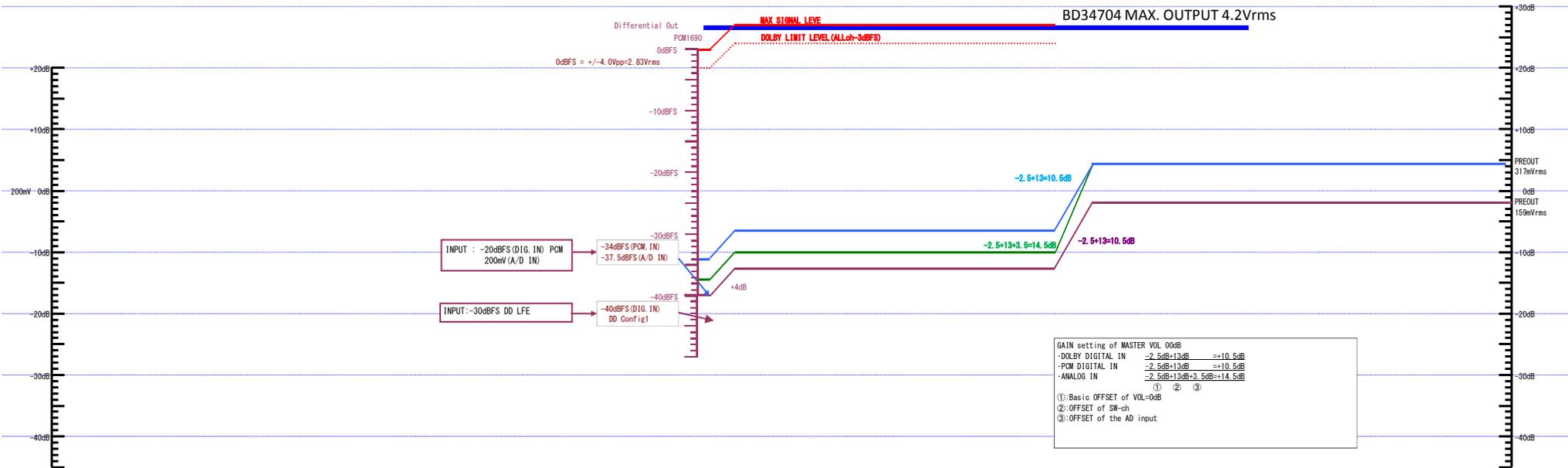
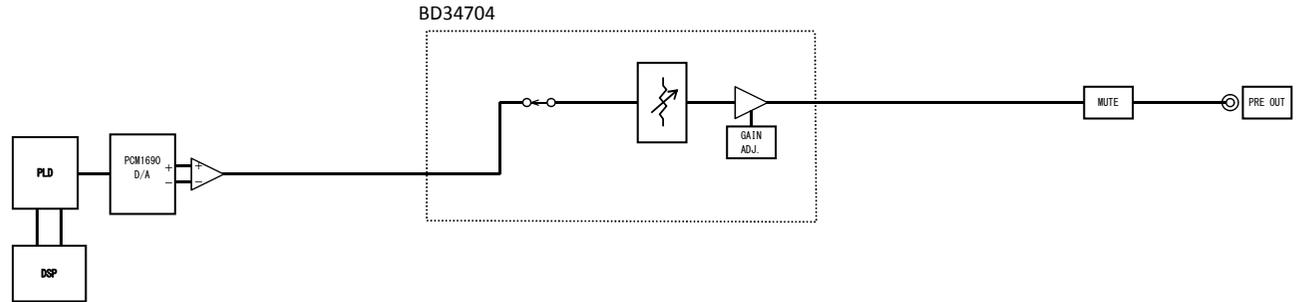
Electrical

Mechanical

Repair Information

Updating

AVR-S920W/X2300W
SR5011,NR1607
LEVEL DIAGRAM
SUBWOOFER ch



Caution in servicing

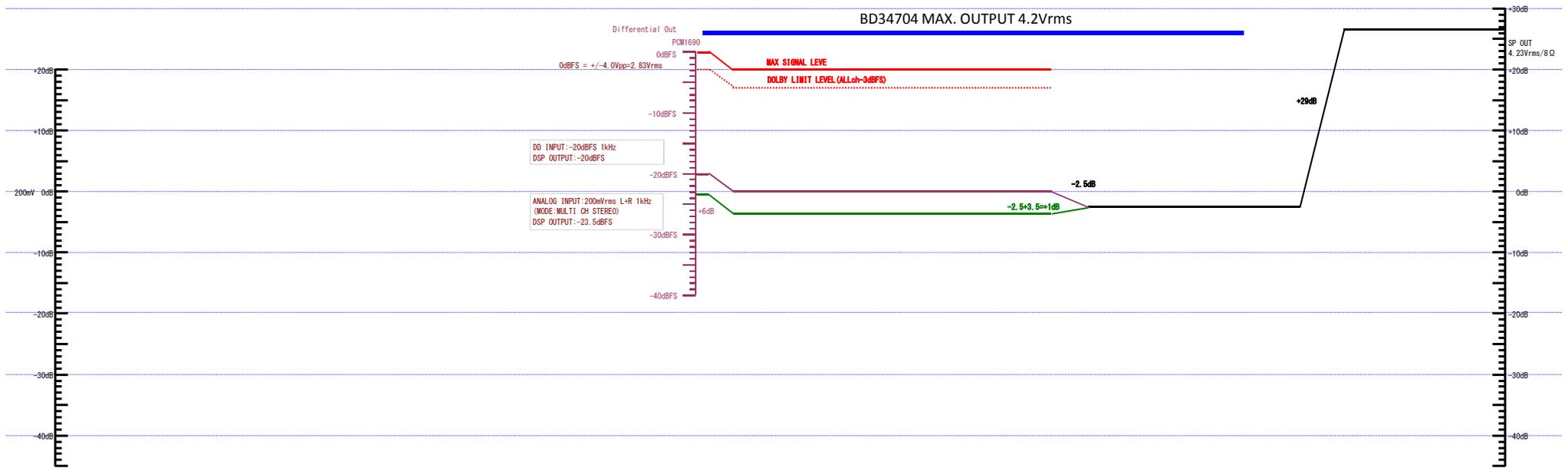
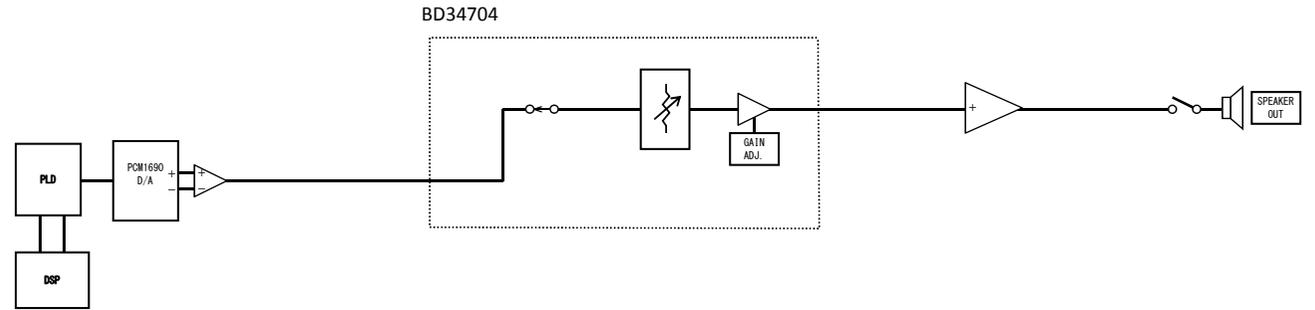
Electrical

Mechanical

Repair Information

Updating

AVR-S920W/X2300
SR5011,NR1607
LEVEL DIAGRAM
SURROUND ch



Caution in servicing

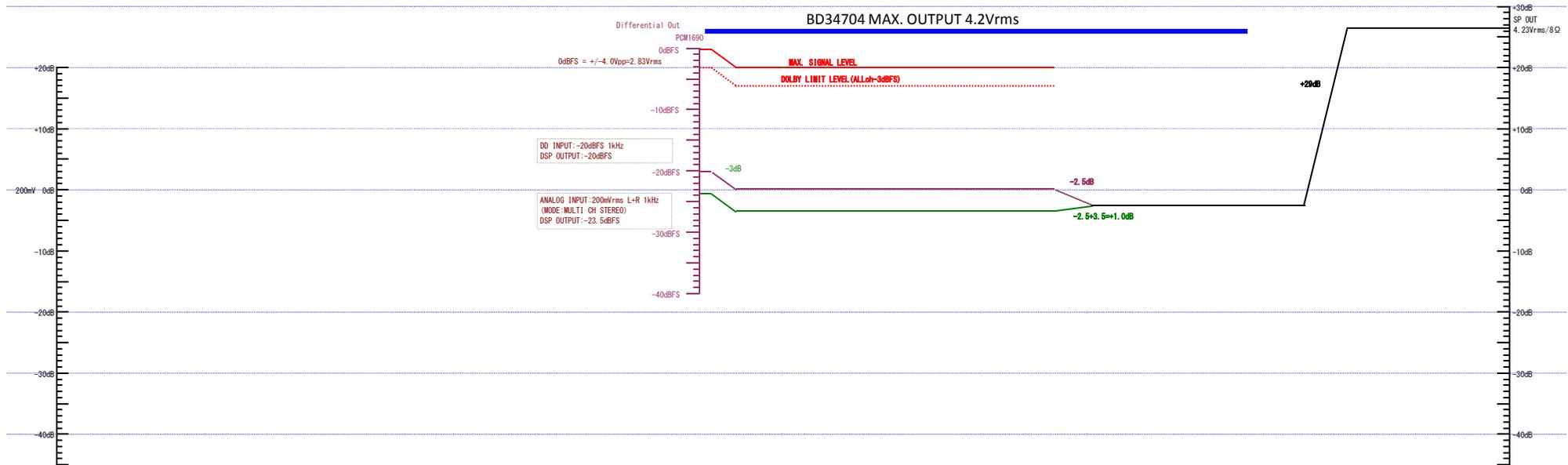
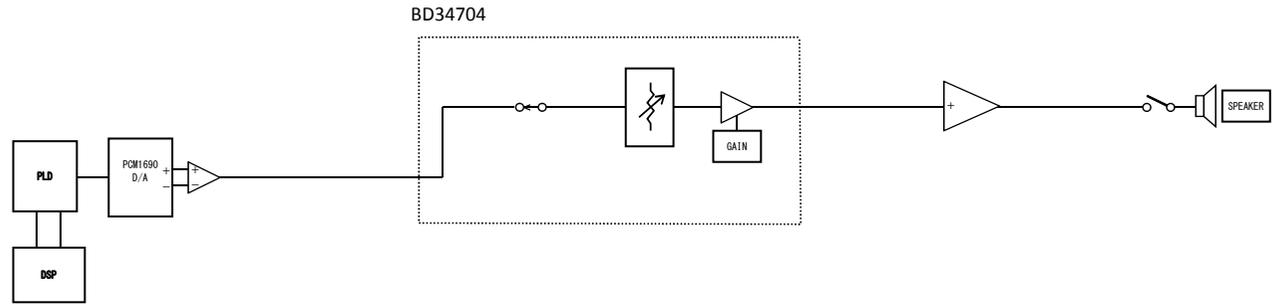
Electrical

Mechanical

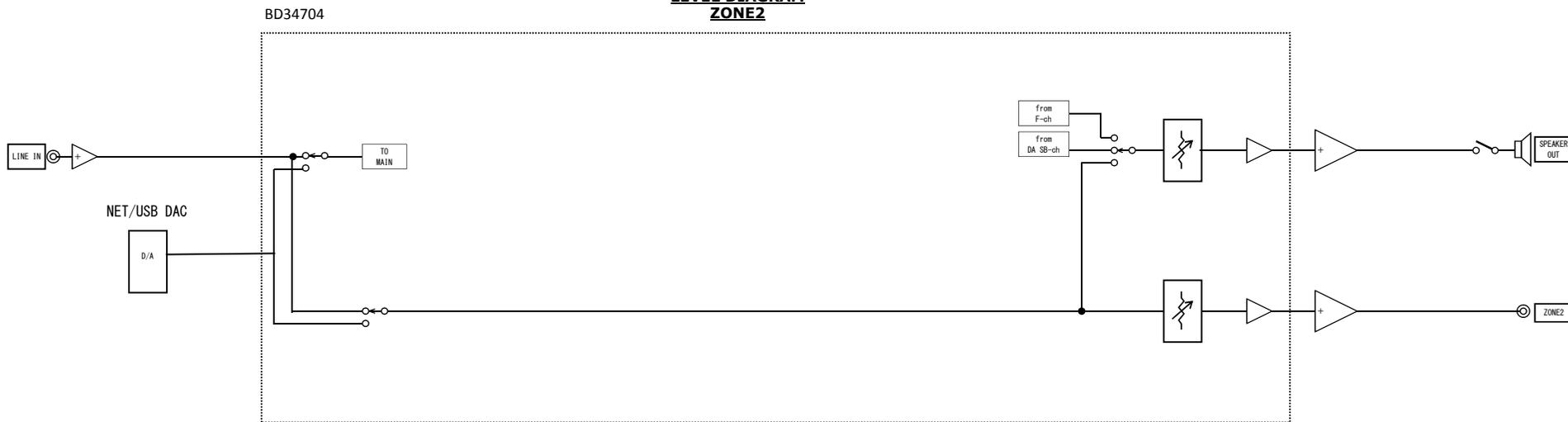
Repair Information

Updating

AVR-S920W/X2300W
SR5011,NR1607
LEVEL DIAGRAM
SURR.BACK ch



AVR-S920W/X2300W
SR5011.NR1607
LEVEL DIAGRAM
ZONE2



Caution in
servicing

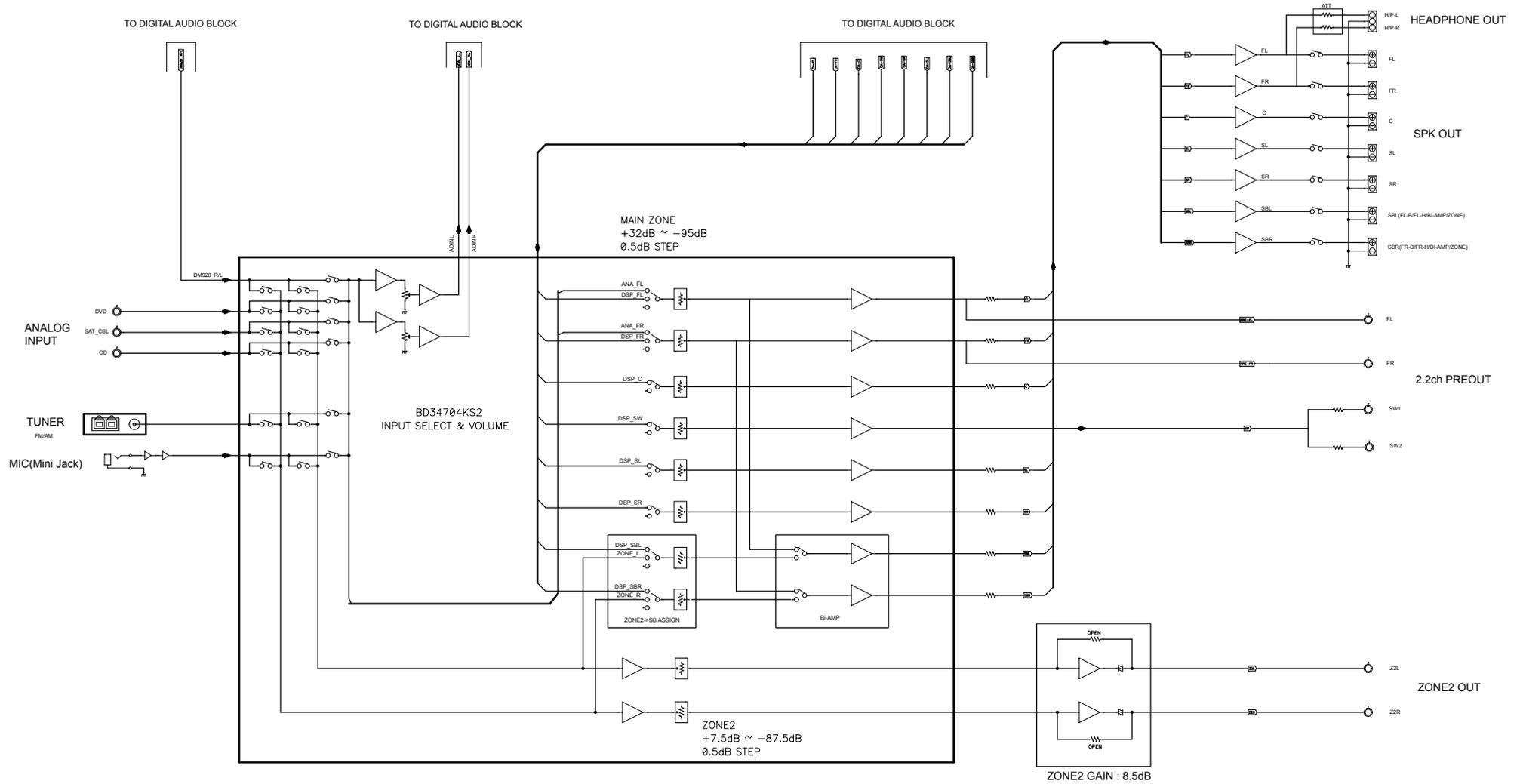
Electrical

Mechanical

Repair Information

Updating

ANALOG AUDIO DIAGRAM



Caution in servicing

Electrical

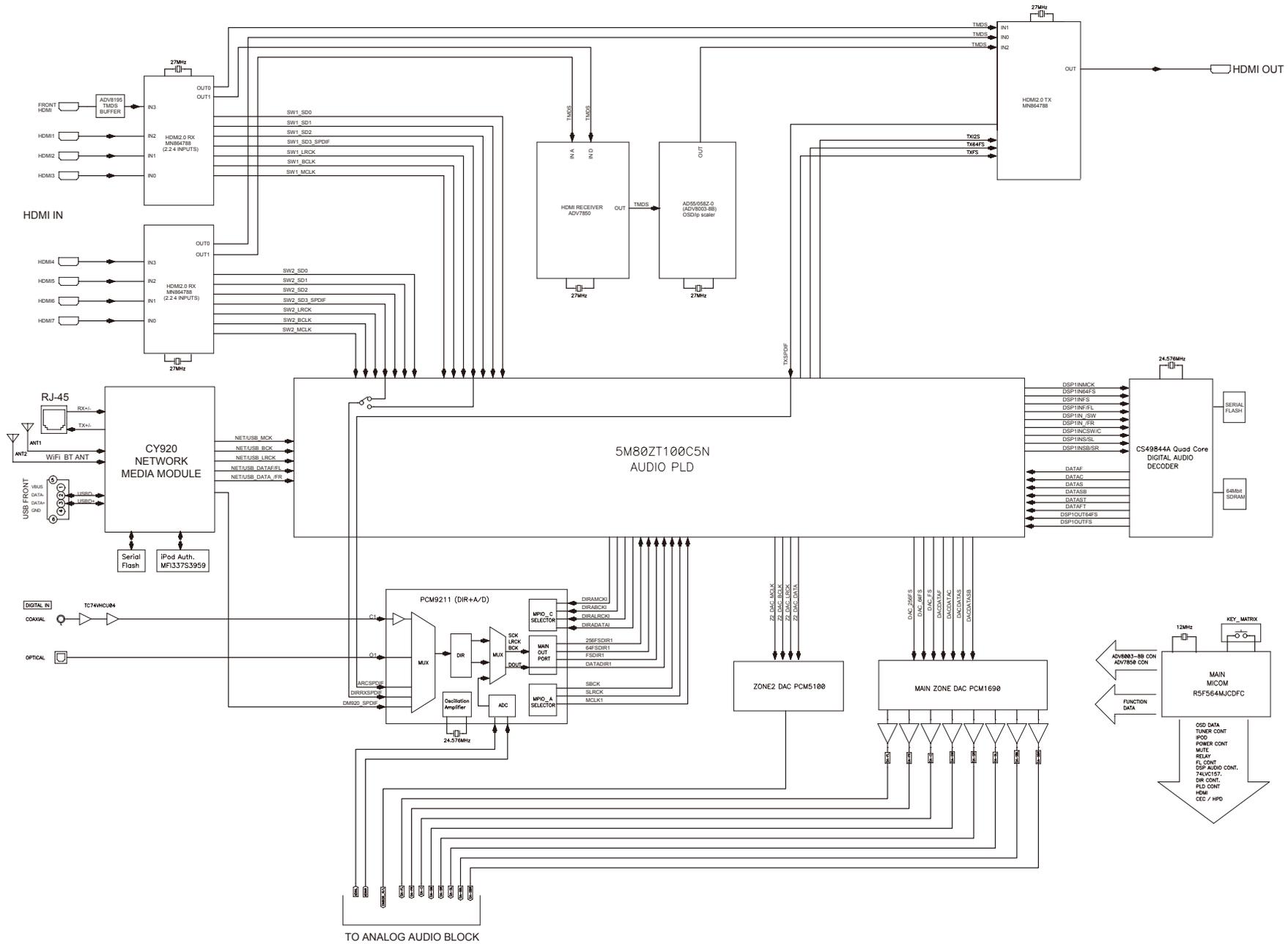
Mechanical

Repair Information

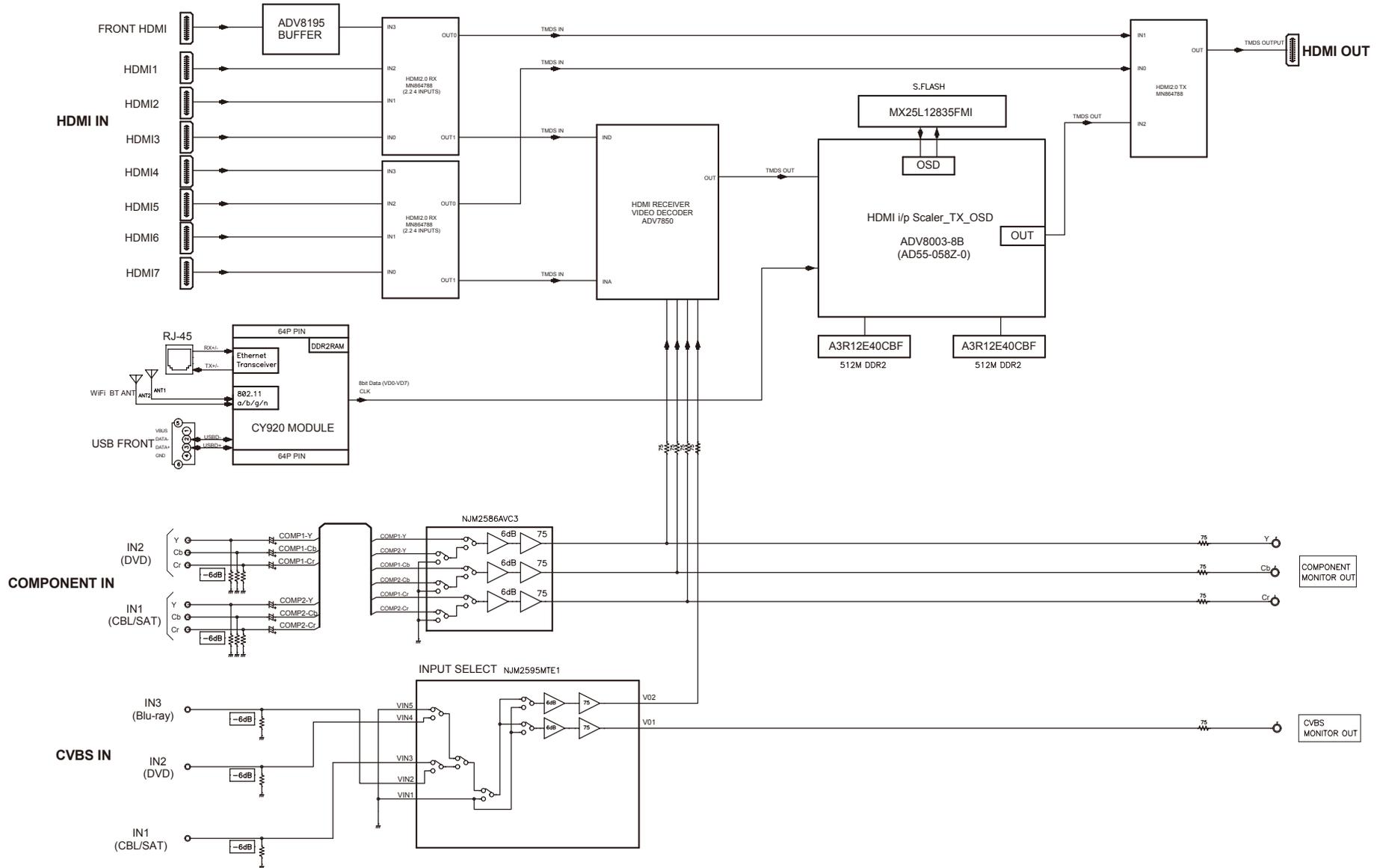
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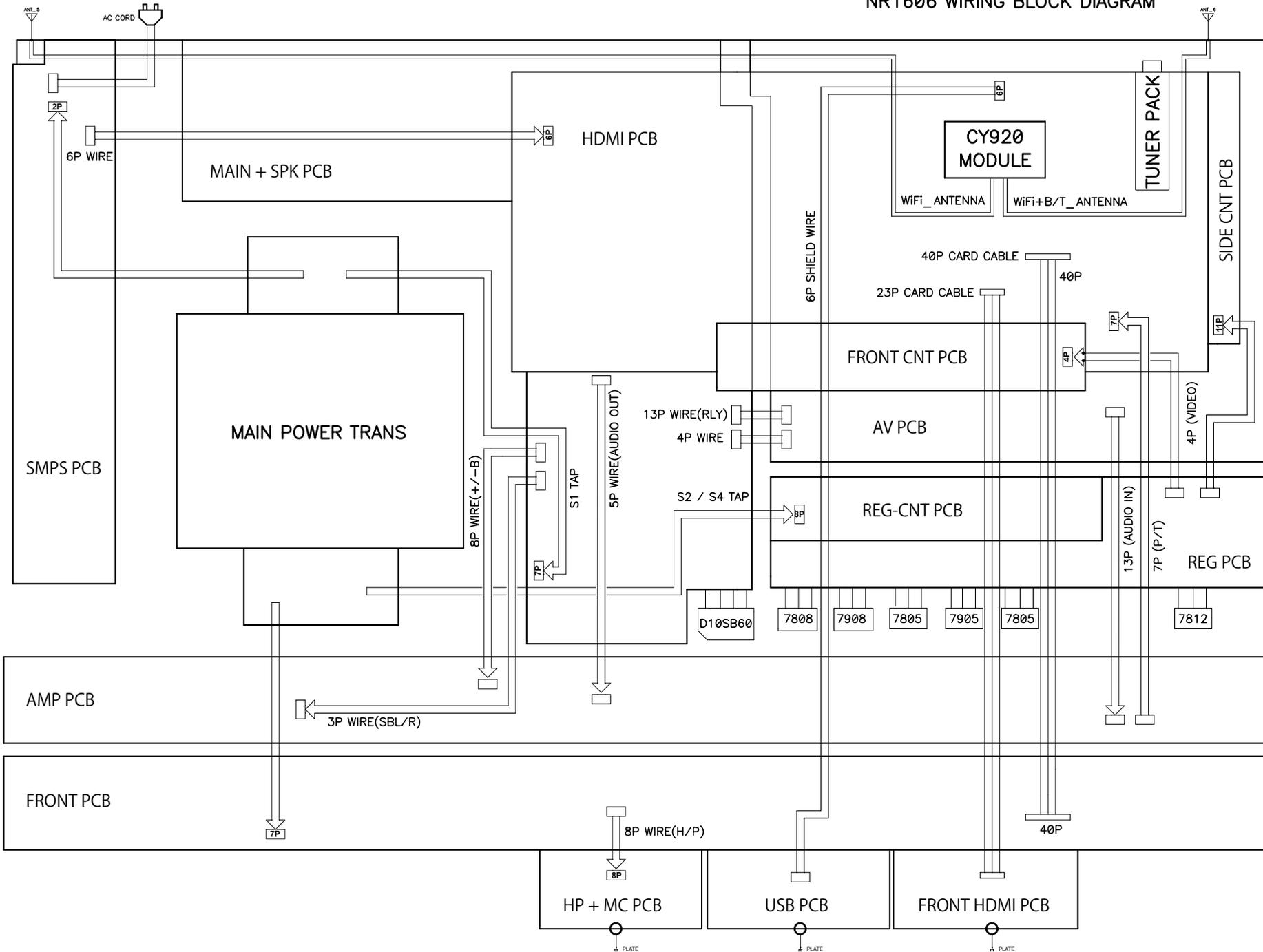
DIGITAL AUDIO DIAGRAM

DIGITAL AUDIO DIAGRAM



VIDEO DIAGRAM





Caution in servicing

Electrical

Mechanical

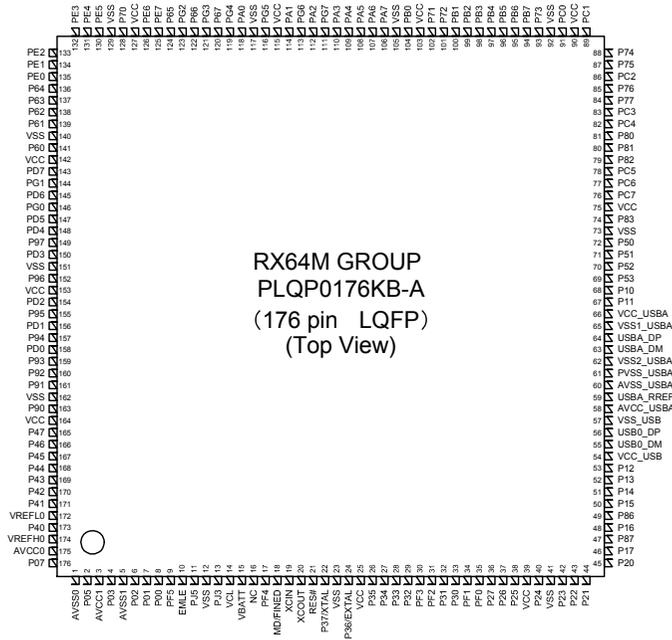
Repair Information

Updating

Only major semiconductors are shown, general semiconductors etc are omitted to list.
The semiconductor which described a detailed drawing in a schematic diagram are omitted to list.

1. IC's

R5F564MJCDFC (HDMI : U1018)



RX64M GROUP
PLQP0176KB-A
(176 pin LQFP)
(Top View)

R5F56108VNFPP Terminal Functions

Pin	Pin Name	Symbol	I/O	Pu/Pd	STBY	STOP	CEC STBY	Function
1	AVSS0	AVSS0	-	-	-	-	-	Ground pin
2	P05/IRQ13	POWER KEY	I	M3VPu	I	I	I	Detect Power switch (Release from Wait Mode,Set to interrupt)
3	AVCC1	AVCC1	-	-	-	-	-	Power supply pin
4	P03/IRQ11	RED LED	O	-	L/H	L	H	POWER/STANDBY LED control pin
5	AVSS1	AVSS1	-	-	-	-	-	Ground pin
6	P02/SCK6/IRQ10/AN120	REMOTE POWER(232C)(X2300(NA)/SR5011)/NC(X2300(EU)/CH/AP/JP/S920/NR1607)	O	-	L	L	L	232C power supply (REMOTE 3.3V) control pin
7	P01/RXD6/IRQ9/AN119	RXD MI232O	I	Pd	I	I	I	External data input port (for AMX/FW update via 232C) :Connector is FFC
8	P00/TXD6/IRQ8/AN118	TXD MO232I	O	-	L	L	L	External data output port (for AMX/FW update via 232C) :Connector is FFC

Pin	Pin Name	Symbol	I/O	Pu/Pd	STBY	STOP	CEC STBY	Function
9	PF5/IRQ4	WHITE LED(X2300(NA))/GREEN LED(X2300(EU)/CH/JP/S920/SR5011/NR1607)	O	-	L	L	L	POWER LED control pin
10	EMLE	EMLE	I	Pd	-	-	-	E20 Emulator control pin (On chip Emulator is used,this pin should be High. Not used,it should be Low)
11	PJ5	VSEL A	I	-	I	I	I	Master Volume (Rotary encoder) signal input pin
12	VSS	VSS	-	-	-	-	-	Ground pin
13	PJ3	VSEL B	I	-	I	I	I	Master volume (Rotary encoder) signal input pin
14	VCL	VCL	I	-	-	-	-	Smoothing capacitor connection pin
15	VBATT	VBATT	-	-	-	-	-	Power supply pin
16	NC	NC	I	Pd	-	-	-	NC(Pull down)
17	TRST#/PF4	TRST#/NC(NORMRAL)	I/I	Pd	I/I	I/I	I/I	E20 Emulator control pin/When normal operating mode,set to input.
18	MD/FINED	MD	I	M3VPu	I	I	I	Pins for setting the operating mode(select the Boot Mode or User Boot Mode,Single Chip Mode)
19	XCIN	XCIN	I	Pd	-	-	-	NC(Pull down)
20	XCOU	XCOU	I	-	-	-	-	NC(open)
21	RES#	RESET	I	-	-	-	-	Reset signal input pin
22	XTAL/P37	XTAL	I	-	-	-	-	Pins for a crystal resonator (Xin=12MHz × 10)
23	VSS	VSS	-	-	-	-	-	Ground pin
24	EXTAL/P36	EXTAL	-	-	-	-	-	Pins for a crystal resonator (Xin=12MHz × 10)
25	VCC	VCC	-	-	-	-	-	Power supply pin
26	UPSEL/P35(IN)/NMI	DSP FLAG3	I	Pd	I	I	I	DSP(CS49844A) interrupt signal input pin
27	P34/SCK6/SCK0/IRQ4	BDOWN	I	-	I	I	I	Detect power down
28	P33/TIOCD0/RXD6/RXD0/IRQ3-DS	RC IN	I	-	I	I	I	Remote input
29	P32/TIOCC0/TXD6/TXD0/IRQ2-DS	NC(S920/X2300/NR1607(EU)/JP)/FLASHER IN(NR1607(NA)/SR5011)	O/I	-	L/I	L/I	L/I	Flasher (Remote) input pin (When standby mode,set to interrupt)
30	TMS/PF3	TMS/NC(NORMRAL)	I/I	M3VPu	-/I	-/I	I	E20 Emulator control pin/When normal operating mode,set to input.
31	TDI/PF2/RXD1	TDI/RXD MITSUBISHI	I/O/I	M3VPu	-/I	-/I	I	E20 Emulator control pin/Mitsubishi writer control pin/When normal operating mode,set to input.
32	P31/IRQ1-DS	TU GPO2_INT	I	-	L	L	L	TUNER control
33	P30/RXD1	TU SDIO	I/O	SW3VPu	L	L	L	TUNER control
34	TCK/FINEC/PF1/SCK1	TCK/NC(NORMRAL)	I/I/I	M3VPu	-/I	-/I	I	E20 Emulator control pin/When normal operating mode,set to input.
35	TD0/TXD1/PF0	TDO/TXD MITSUBISHI	O/O/I	M3VPu	-/I	-/I	I	E20 Emulator control pin/Mitsubishi writer control pin/When normal operating mode,set to input.
36	P27/SCK1	TU SEN	O	-	L	L	L	TUNER control
37	P26/TXD1	TU SCLK	O	-	L	L	L	TUNER control
38	P25/RXD3	TU RST	O	SW3VPu	L	L	L	TUNER control
39	VCC	VCC	-	-	-	-	-	Power supply pin
40	P24/SCK3	NC(S920/X2300)/KILL IR(SR5011/NR1607)	O	-	L	L	L	Front IR disable control pin
41	VSS	VSS	-	-	-	-	-	Ground pin
42	P23/TXD3	E SPI CS	O	N3VPu	L	L	L	Ethernet(CY920) control pin
43	P22/SCK0	E SPI CLK	O	N3VPu	L	L	L	Ethernet(CY920) control pin

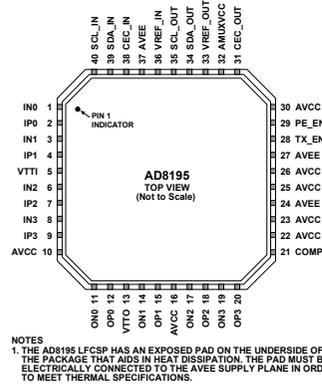
Pin	Pin Name	Symbol	I/O	Pu/Pd	STBY	STOP	CEC STBY	Function
44	P21/RXD0/IRQ9	E SPI MIEO	I	N3VPu	I	L	I	Ethernet(CY920) control pin
45	P20/TXD0/IRQ8	E SPI MOEI	O	N3VPu	L	L	L	Ethernet(CY920) control pin
46	P17/SCK1/TXD3/IRQ7	E SPI REQ	I	Pd	I	L	I	Ethernet(CY920) control pin
47	P87/TXD10/TIOCA2	NC(S920/X2300/RC OUT(SR5011/NR1607)	O		L/H	L/L	L/H	Remote code (RC-5) output pin
48	P16/TXD1/RXD3/IRQ6	E RESET	O(ODR)	N3VPu	L	L	L	Ethernet(CY920) RESET control pin (Set to NMOS open-drain output)
49	P86/RXD10	PRE Z2 MUTE(X2300/SR5011/NR1607)/NC(S920)	O		L	L	L	MUTE for ZONE2 preout control pin
50	P15/RXD1/SCK3/IRQ5	AEXP STB	O		L	L	L	Expander (MC14094) control pin
51	P14/IRQ4	AEXP OE	O		L	L	L	Expander (MC14094) control pin
52	P13/TXD2/IRQ3	AEXP CLK	O		L	L	L	Expander (MC14094) control pin
53	P12/RXD2/IRQ2	AEXP DATA	O		L	L	L	Expander (MC14094) control pin
54	VCC_USB	VCC_USB	-	-	-	-	-	Power supply pin
55	USB0_DM	USB0_DM	-	-	-	-	-	NC(open)
56	USB0_DP	USB0_DP	-	-	-	-	-	NC(open)
57	VSS_USB	VSS_USB	-	-	-	-	-	Ground pin
58	AVCC_USBA	AVCC_USBA	-	-	-	-	-	Power supply pin
59	USBA_PREF	USBA_PREF	-	-	-	-	-	NC(open)
60	AVSS_USBA	AVSS_USBA	-	-	-	-	-	Ground pin
61	PVSS_USBA	PVSS_USBA	-	-	-	-	-	Ground pin
62	VSS2_USBA	VSS2_USBA	-	-	-	-	-	Ground pin
63	USBA_DM	USBA_DM	-	-	-	-	-	NC(open)
64	USBA_DP	USBA_DP	-	-	-	-	-	NC(open)
65	VSS1_USBA	VSS1_USBA	-	-	-	-	-	Ground pin
66	VCC_USBA	VCC_USBA	-	-	-	-	-	Power supply pin
67	P11/SCK2/IRQ1	CEC_OUT	O		L	L	-	CEC-D control pin
68	P10/IRQ0	CEC_IN	I	SW3VPu	I	I	I	CEC-D control pin
69	P53	ADV8003 SPI CS	O		L	L	L	GUI control pin(ADV8003)
70	P52/RXD2	ADV8003 SPI MI	I		L	L	L	GUI control pin(ADV8003)
71	P51/SCK2	ADV8003 SPI CLK	O		L	L	L	GUI control pin(ADV8003)
72	P50/TXD2	ADV8003 SPI MO	O		L	L	L	GUI control pin(ADV8003)
73	VSS	VSS	-	-	-	-	-	Ground pin
74	P83/SCK10	IP_RST	O	Pd	I	I	L	Scaler w/ GUI (ADV8003) Reset control pin
75	VCC	VCC	-	-	-	-	-	Power supply pin
76	UB/PC7/TXD8/IRQ14	UB	I	Pd	-	-	-	Pins for setting the boot mode(select the Boot Mode or User Boot Mode)
77	PC6/RXD8/IRQ13	AVSDA	I_O	DV-3VPu	O/L	O/L	L	VIDEO I2C control pin for ADV8003/ ADV7850(except X2300/S920)
78	PC5/SCK8	AVSCL	I_O	DV-3VPu	O/L	O/L	L	VIDEO I2C control pin for ADV8003/ ADV7850(except X2300/S920)
79	P82/TXD10	DSP MOSI	O	DA3VPu	L	L	L	DSP(CS49844A) control pin
80	P81/RXD10	DSP MISO	I	DA3VPu	L	L	L	DSP(CS49844A) control pin
81	P80/SCK10	DSP CLK	O	DA3VPu	L	L	L	DSP(CS49844A) control pin
82	PC4/SCK5	DSP CS	O	DA3VPu	L	L	L	DSP(CS49844A) control pin
83	PC3/TXD5	DSP FLAG0	I	Pd	L	L	L	DSP(CS49844A) interrupt signal input pin
84	P77/TXD11	DSP RST	O		L	L	L	DSP(CS49844A) reset control pin

Pin	Pin Name	Symbol	I/O	Pu/Pd	STBY	STOP	CEC STBY	Function
85	P76/RXD11	DSP BUSY	I		L	L	L	DSP BUSY signal input
86	PC2/RXD5	DA_POWER	O		L	L	L	Digital audio power supply (DA3.3V,DA1.2V) control pin
87	P75/SCK11	CEC POWER2	O		L	L	L	CEC standby power control (for CEC Standby Mode 3)
88	P74	DSP ROM WRITE	O		L	L	L	DSP ROM writing control(When writing,set to High)
89	PC1/SCK5/IRQ12	DAC.PLD ERR	I		L	L	L	Detect PLD error (from Audio PLD)
90	VCC	VCC	-	-	-	-	-	Power supply pin
91	PC0/IRQ14	H/P RL	O	-	L	L	L	Headphone relay control pin
92	VSS	VSS	-	-	-	-	-	Ground pin
93	P73	FRONT RL	O	-	L	L	L	Speaker relay control pin
94	PB7/TXD9	HSDA	I/O	CE-C3VPu	L	L	L	HDMI I2C control pin for MN864788
95	PB6/RXD9	HSCL	I/O	CE-C3VPu	L	L	L	HDMI I2C control pin for MN864788
96	PB5/SCK9	JTAG TDO	I		L	L	L	JTAG I/F for PLD writing
97	PB4	APLD CS	O		L	L	L	Audio PLD (5M80ZT100C5N) control pin
98	PB3/SCK4/SCK6	APLD DATA/DAC DATA	O		L	L	L	Audio PLD (5M80ZT100C5N) control pin/DAC (PCM1690) control pin
99	PB2	APLD CLK/DAC CLK	O		L	L	L	Audio PLD (5M80ZT100C5N) control pin/DAC (PCM1690) control pin
100	PB1/TXD4/TXD6/IRQ4-DS	DAC MS	O		L	L	L	DAC (PCM1690) control pin
101	P72	DAC RST	O		L	L	L	DAC (PCM1690) control pin
102	P71	PRE MUTE	O	-	L	L	L	MUTE for preout control pin
103	VCC	VCC	-	-	-	-	-	Power supply pin
104	PB0/RXD4/RXD6/IRQ12	DA POWER2	O		L	L	L	Digital audio power supply (DA1.0V) control pin
105	VSS	VSS	-	-	-	-	-	Ground pin
106	PA7	ISEL A	I		I	I	I	Input selector (Rotary encoder) signal input pin
107	PA6	ISEL B	I		I	I	I	Input selector (Rotary encoder) signal input pin
108	PA5	C/S RL	O		L	L	L	Speaker relay control pin
109	PA4/TXD5/SSDA5/IRQ5-DS	(Debug pin for data flash)	O		L	L	L	NC (Debug pin for data flash of MCU.Write:High)
110	PA3/RXD5/SSCL5	NC	O		L	L	L	NC
111	TRDATA3/PG7	VOL CLK	O		L	L	L	Function w/ Volume control pin(BD34703KS2)
112	PA2/RXD5	VOL DATA	O		L	L	L	Function w/ Volume control pin(BD34703KS2)
113	TRDATA2/PG6	JTAG TMS	O	DA3.3Pu	L	L	L	JTAG I/F for PLD writing
114	PA1/SCK5/IRQ11	JTAG TDI	O	DA3.3Pu	L	L	L	JTAG I/F for PLD writing
115	VCC	VCC	-	-	-	-	-	Power supply pin
116	TRCLK/PG5	JTAG TCK	O	PD	L	L	L	JTAG I/F for PLD writing
117	VSS	VSS	-	-	-	-	-	Ground pin
118	PA0	H5V DET	I	-	I	I	I	HDMI IN 5V detect signal pin
119	TRSYNC/PG4	FL RST	O		L	L	L	FL display control pin
120	P67/IRQ15	FL CE	O		L	L	L	FL display control pin
121	TRDATA1/PG3	FL CLK	O		L	L	L	FL display control pin
122	P66	FL DATA	O		L	L	L	FL display control pin
123	TRDATA0/PG2	SB RL	O		L	L	L	Speaker relay control pin
124	P65	CPU_POWER 2(S920/X2300/NR1607)/FIL_CTRL(SR5011)	O		L	L	L	CPU power supply control pin(same as 131pin) / Filament Power control pin (for Portal FLD)
125	PE7/IRQ7/AN105	ASO DET	I	SW3VPu	I	L	I	Protection detect signal input pin (for ASO)
126	PE6/IRQ6/AN104	DC DET	I	SW3VPu	I	L	I	Protection detect signal input pin (for DC)
127	VCC	VCC	-	-	-	-	-	Power supply pin
128	P70	HIGH B RL	O		L	L	L	HIGH-B relay control pin
129	VSS	VSS	-	-	-	-	-	Ground pin
130	PE5/IRQ5/AN103	MAIN POWER	O		L	L	L	Power supply control pin

Pin	Pin Name	Symbol	I/O	Pu/Pd	STBY	STOP	CEC STBY	Function
131	PE4/AN102	CPU POWER	O		L	L	L	CPU power supply control pin
132	PE3/AN101	E POWER1	O		L	L	L	Ethernet(CY920) power supply control(for 3.3V)
133	PE2/RXD12/IRQ7-DS/AN100	E POWER2	O		L	L	L	Ethernet(CY920) power supply control(for 2.5V)
134	PE1/TXD12	E POWER3	O		L	L	L	Ethernet(CY920) power supply control(for 1.8V)
135	PE0/SCK12	E POWER4	O		L	L	L	Ethernet(CY920) power supply control(for 1.2V)
136	P64	D5V POWER	O		L	L	H	Digital 5V power supply control pin(3.3V and 1.8V generate from 5V)
137	P63	CEC_POWER	O		L	L	-	CEC standby power supply control(CEC5V,CEC3.3V,CEC1.8V)
138	P62	DV_POWER1	O		L	L	L	Digital video power supply (DV5V,DV3.3V) control pin
139	P61	DV_POWER2	O		L	L	L	Digital video power supply (DV1.8V) control pin
140	VSS	VSS	-		-	-	-	Ground pin
141	P60	DIR DIN	O		L	L	L	DIR (PCM9211) control pin
142	VCC	VCC	-		-	-	-	Power supply pin
143	PD7/IRQ7/AN107	DIR CE	O		L	L	L	DIR (PCM9211) control pin
144	PG1	DIR DOUT	I	DA3.3Pu	I	I	I	DIR (PCM9211) control pin
145	PD6/IRQ6/AN106	DIR CLK	O		L	L	L	DIR (PCM9211) control pin
146	PG0	DIR RST	O		L	L	L	DIR (PCM9211) control pin
147	PD5/IRQ5/AN113	788_2_HAINT	I	-	Z		-	HDMI Rx (MN864788) audio interrupt signal det
148	PD4/IRQ4/AN112	SW_SDA(X2300)/NC(NR1607/SR5011)	I,O/O	DV-3VPu	O/L	O/L	L	HDMI TMDs switch I2C ccontrol pin for TMDs261B
149	P97	DE_RST(NR1607/SR5011)/NC(X2300/S920)	O	Pd	Z		L	Video decoder (ADV7850) reset control pin
150	PD3/IRQ3/AN111	788_1_HINT	I	-	Z		-	HDMI Tx (MN864788) interrupt signal input pin
151	VSS	VSS	-		-	-	-	Ground pin
152	P96	788_1_RST	O	Pd	Z		-	HDMI Tx (MN864788) reset control pin
153	VCC	VCC	-		-	-	-	Power supply pin
154	PD2/IRQ2/AN110	788_2_HINT	I	-	Z		-	HDMI Rx (MN864788) interrupt signal input pin
155	P95	788_2_RST	O	Pd	Z		-	HDMI Rx (MN864788) reset control pin
156	PD1/IRQ1/AN109	788_3_HINT	I	-	Z		-	HDMI Rx (MN864788) interrupt signal input pin
157	P94	788_3_RST	O	Pd	Z		-	HDMI Rx (MN864788) reset control pin
158	PD0/IRQ0/AN108	TX EN	O		L	L	L	Front HDMI (AD8195) control
159	P93/AN117	THERMAL A	I	SW3VPu	I	L	I	Protection detect signal input pin (for power TR)
160	P92/RXD7/AN116	THERMAL B	I	SW3VPu	I	L	I	Protection detect signal input pin (for power TR)
161	P91/AN115	SW_SCL(X2300)/NC(NR1607/SR5011)	I,O/O	DV-3VPu	O/L	O/L	L	HDMI TMDs switch I2C control pin for TMDs261B
162	VSS	VSS	-		-	-	-	Ground pin
163	P90/TXD7/AN114	THERMAL E	I	SW3VPu	I	L	I	Protection detect signal input pin (for Heat sink)
164	VCC	VCC	-		-	-	-	Power supply pin
165	P47/IRQ15-DS/AN007	788_3_HAINT	I	-	Z		-	HDMI Rx (MN864788) audio interrupt signal det
166	P46/IRQ14-DS/AN006	CURRENT DET	I/O		I/L	L/L	I/L	Current level monitor pin (A/D converter)
167	P45/IRQ13-DS/AN005	AMPSIGDET	I		I	L	I	Signal level monitor pin (AD converter)
168	P44/IRQ12-DS/AN004	MODE	I		I	I	I	Region setting pin
169	P43/IRQ11-DS/AN003	KEY3	I	M3VPu	I	I	I	Key control signalinput pin (When standby mode,set to inturrupt)
170	P42/IRQ10-DS/AN002	KEY2	I	M3VPu	I	I	I	Key control signalinput pin (When standby mode,set to inturrupt)

Pin	Pin Name	Symbol	I/O	Pu/Pd	STBY	STOP	CEC STBY	Function
171	P41/IRQ9-DS/AN001	KEY1	I	M3VPu	I	I	I	Key control signalinput pin (When standby mode,set to inturrupt)
172	VREFL0	VREFL0	-		-	-	-	Ground pin
173	P40	MIC DET	I		I	I	I	Microphone insert detect pin (When insert a Microphone,this pin become high.)
174	VREFH0	VREFH0	-		-	-	-	Power supply pin
175	AVCC0	AVCC0	-		-	-	-	Power supply pin
176	P07/IRQ15	H/P DET	I		I	I	I	Headphone insert detect pin (When insert a Headphone,this pin become high.)

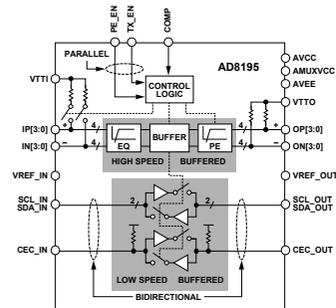
AD8195ACPZ (HDMI : U1022)



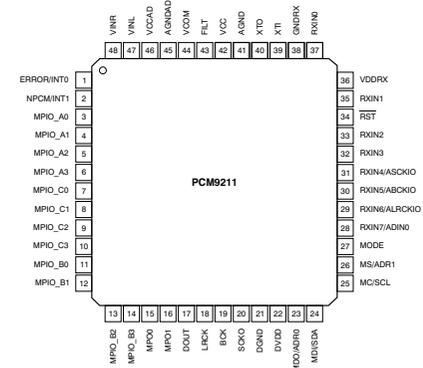
AD8195ACPZ Termini Function

Pin No.	Mnemonic	Type ¹	Description
1	IN0	HS I	High Speed Input Complement.
2	IP0	HS I	High Speed Input.
3	IN1	HS I	High Speed Input Complement.
4	IP1	HS I	High Speed Input.
5	VTI1	Power	Input Termination Supply. Nominally connected to AVCC.
6	IN2	HS I	High Speed Input Complement.
7	IP2	HS I	High Speed Input.
8	IN3	HS I	High Speed Input Complement.
9	IP3	HS I	High Speed Input.
10, 16, 22, 23, 25, 26, 30	AVCC	Power	Positive Analog Supply, 3.3 V nominal.
11	ON0	HS O	High Speed Output Complement.
12	OP0	HS O	High Speed Output.
13	VTTO	Power	Output Termination Supply. Nominally connected to AVCC.
14	ON1	HS O	High Speed Output Complement.
15	OP1	HS O	High Speed Output.
17	ON2	HS O	High Speed Output Complement.
18	OP2	HS O	High Speed Output.
19	ON3	HS O	High Speed Output Complement.
20	OP3	HS O	High Speed Output.
21	COMP	Control	Power-On Compensation Pin. Bypass to ground through a 10 μ F capacitor.
24, 27, 37, Exposed Pad	AVEE	Power	Negative Analog Supply, 0 V nominal.
28	TX_EN	Control	High Speed Output Enable Parallel Interface.
29	PE_EN	Control	High Speed Preemphasis Enable Parallel Interface.
31	CEC_OUT	LS I/O	CEC Output Side.
32	AMUXVCC	Power	Positive Auxiliary Buffer Supply, 5 V nominal.

AD8195ACPZ Block diagram



PCM9211 (HDMI : U1040)



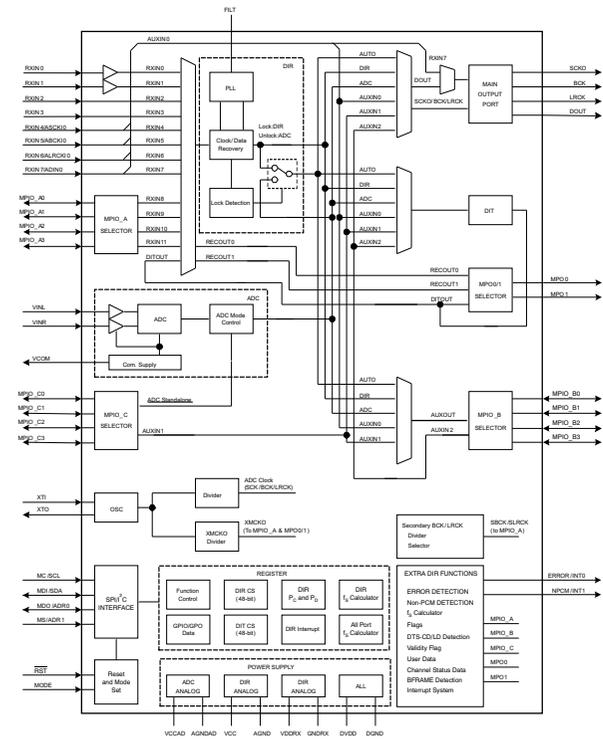
PIN Functions

NO.	PIN		5-V TOLERANT	DESCRIPTION
	NAME	I/O		
1	ERROR/INT0	O	No	DIR Error detection output / Interrupt0 output
2	NPCM/INT1	O	No	DIR Non-PCM detection output / Interrupt1 output
3	MPIO_A0	I/O	Yes	Multipurpose I/O, Group A(1)
4	MPIO_A1	I/O	Yes	Multipurpose I/O, Group A(1)
5	MPIO_A2	I/O	Yes	Multipurpose I/O, Group A(1)
6	MPIO_A3	I/O	Yes	Multipurpose I/O, Group A(1)
7	MPIO_C0	I/O	Yes	Multipurpose I/O, Group C(1)
8	MPIO_C1	I/O	Yes	Multipurpose I/O, Group C(1)
9	MPIO_C2	I/O	Yes	Multipurpose I/O, Group C(1)
10	MPIO_C3	I/O	Yes	Multipurpose I/O, Group C(1)
11	MPIO_B0	I/O	Yes	Multipurpose I/O, Group B(1)
12	MPIO_B1	I/O	Yes	Multipurpose I/O, Group B(1)
13	MPIO_B2	I/O	Yes	Multipurpose I/O, Group B(1)
14	MPIO_B3	I/O	Yes	Multipurpose I/O, Group B(1)
15	MPO0	O	No	Multipurpose output 0
16	MPO1	O	No	Multipurpose output 1
17	DOU0	O	No	Main output port, serial digital audio data output
18	LRCK	O	No	Main output port, LR clock output
19	BCK	O	No	Main output port, Bit clock output
20	SCKO	O	No	Main output port, System clock output
21	DGND	-	-	Ground, for digital
22	DVDD	-	-	Power supply, 3.3 V (typ.), for digital
23	MDO/ADR0	I/O	Yes	Software control I/F, SPI data output / I2C slave address setting0(2)

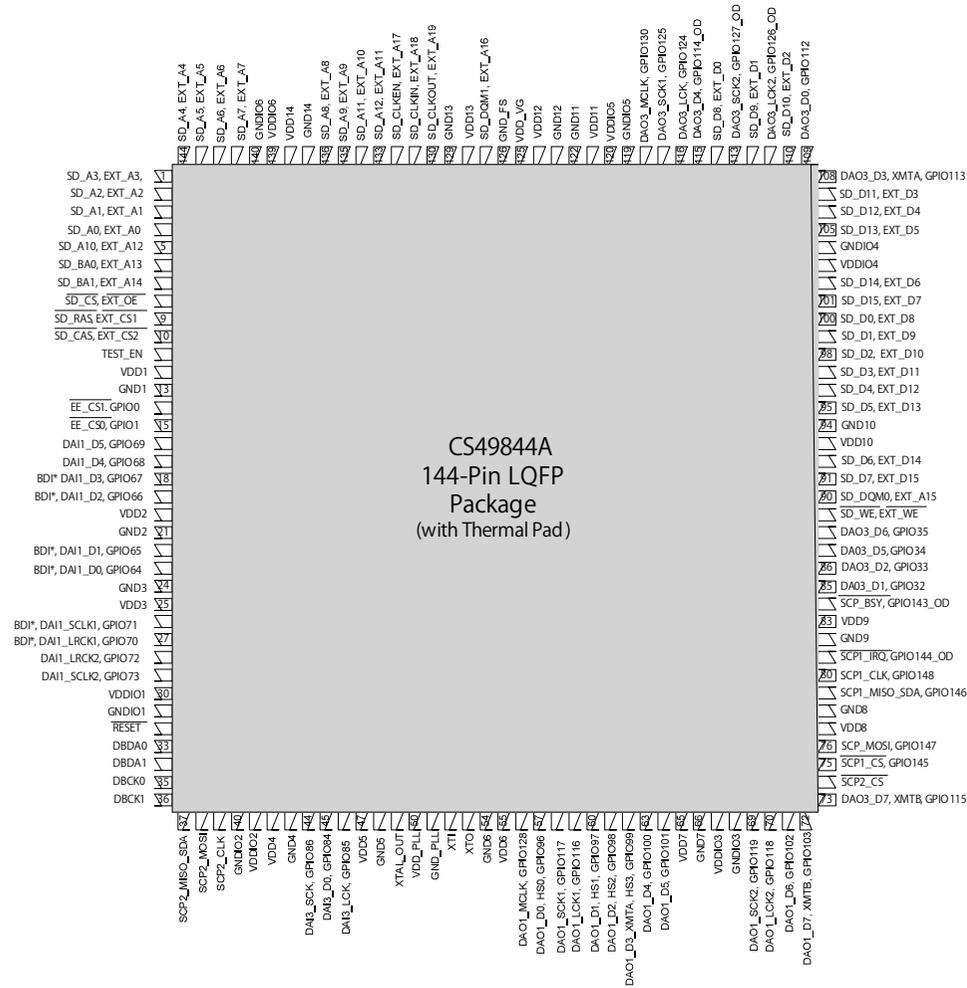
PIN				DESCRIPTION
NO.	NAME	I/O	5-V TOLERANT	
24	MDI/SDA	I/O	Yes	Software control I/F, SPI data input / I2C data input/output(2) (3)
25	MC/SCL	I	Yes	Software control I/F, SPI clock input / I2C clock input(2)
26	MS/ADR1	I	Yes	Software control I/F, SPI chip select / I2C slave address setting1(2)
27	MODE	I	No	Control mode setting, (see the Serial Control Mode section, Control Mode Pin Setting)
28	RXIN7/ADIN0	I	Yes	Biphase signal, input 7 / AUXIN0, serial audio data input(2)
29	RXIN6/ALRCKI0	I	Yes	Biphase signal, input 6 / AUXIN0, LR clock input(2)
30	RXIN5/ABCKI0	I	Yes	Biphase signal, input 5 / AUXIN0, bit clock input(2)
31	RXIN4/ASCKI0	I	Yes	Biphase signal, input 4 / AUXIN0, system clock input(2)
32	RXIN3	I	Yes	Biphase signal, input 3(2)
33	RXIN2	I	Yes	Biphase signal, input 2(2)
34	RST	I	Yes	Reset Input, active low(2) (4)
35	RXIN1	I	Yes	Biphase signal, input 1, built-in coaxial amplifier
36	VDDR _X	–	–	Power supply, 3.3 V (typ.), for RXIN0 and RXIN1.
37	RXIN0	I	Yes	Biphase signal, input 0, built-in coaxial amplifier
38	GND _{RX}	–	–	Ground, for RXIN
39	XTI	I	No	Oscillation circuit input for crystal resonator or external XTI clock source input(5)
40	XTO	O	No	Oscillation circuit output for crystal resonator
41	AGND	–	–	Ground, for PLL analog
42	VCC	–	–	Power supply, 3.3 V (typ.), for PLL analog
43	FILT	O	No	External PLL loop filter connection terminal; must connect recommended filter
44	VCOM	O	No	ADC common voltage output; must connect external decoupling capacitor
45	AGNDAD	–	–	Ground, for ADC analog
46	VCCAD	–	–	Power supply, 5.0 V (typ.), for ADC analog
47	VINL	I	No	ADC analog voltage input, left channel
48	VINR	I	No	ADC analog voltage input, right channel

- (1) Schmitt trigger input
- (2) Schmitt trigger input
- (3) Open-drain configuration in I2C mode
- (4) Onboard pull-down resistor (50 k Ω , typical)
- (5) CMOS Schmitt trigger input

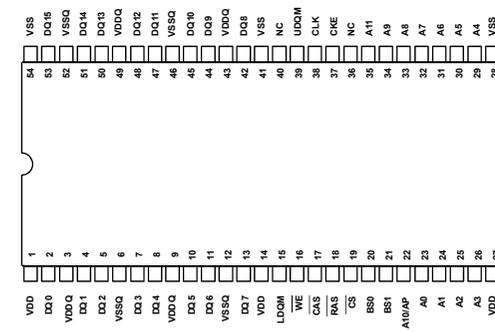
PCM9211 BLOCK DIAGRAM



CS49844A (HDMI : U1073)



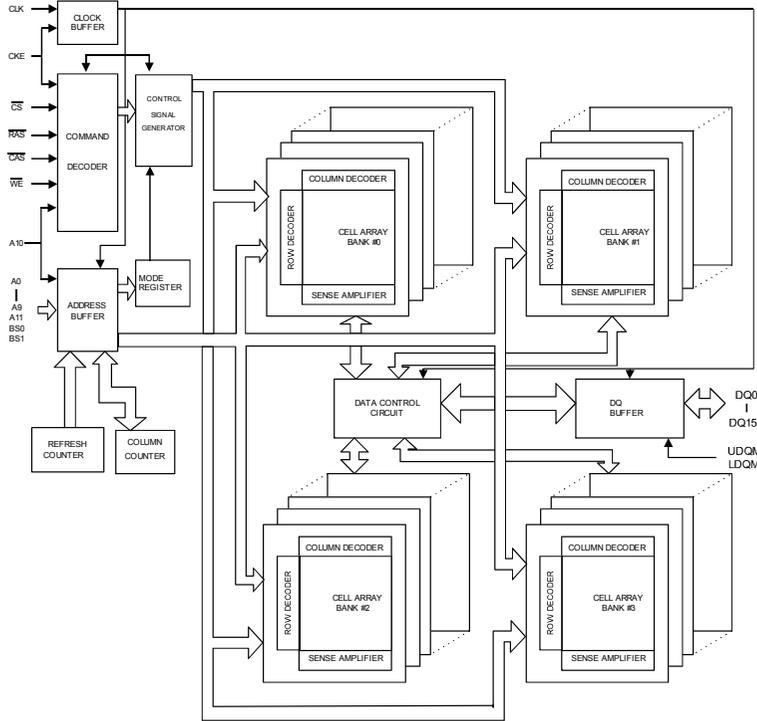
W9864G6KH-5 (HDMI : U1023)



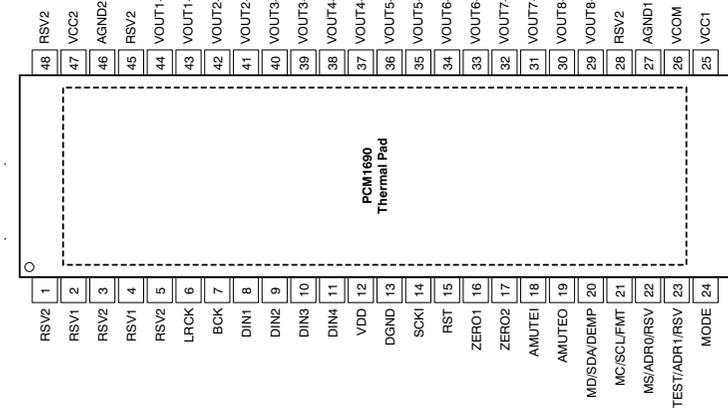
W9864G6KH-5 Pin description

PIN NUMBER	PIN NAME	FUNCTION	DESCRIPTION
23 ~ 26, 22, 29 ~ 35	A0–A11	Address	Multiplexed pins for row and column address. Row address: A0–A11. 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.
20, 21	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, 42, 44, 46, 47, 48, 50, 51, 53	DQ0–DQ15	Data Input/ Output	Multiplexed pins for data output and input.
19	\overline{CS}	Chip Select	Disable or enable the command decoder. When command decoder is disabled, new command is ignored and previous operation continues.
18	\overline{RAS}	Row Address Strobe	Command input. When sampled at the rising edge of the clock RAS, CAS and WE define the operation to be executed.
17	\overline{CAS}	Column Address Strobe	Referred to \overline{RAS}
16	\overline{WE}	Write Enable	Referred to \overline{RAS}
39, 15	UDQM LDQM	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.
38	CLK	Clock Inputs	System clock used to sample inputs on the rising edge of clock.
37	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, 14, 27	VDD	Power	Power for input buffers and logic circuit inside DRAM.
28, 41, 54	VSS	Ground	Ground for input buffers and logic circuit inside DRAM.
3, 9, 43, 49	VDDQ	Power for I/O buffer	Separated power from Vdd, to improve DQ noise immunity.
6, 12, 46, 52	VSSQ	Ground for I/O buffer	Separated ground from Vss, to improve DQ noise immunity.
36, 40	NC	No Connection	No connection.

W9864G6KH-5 Block diagram



PCM1690 (HDMI : U1048)



PCM1690 Pin Function

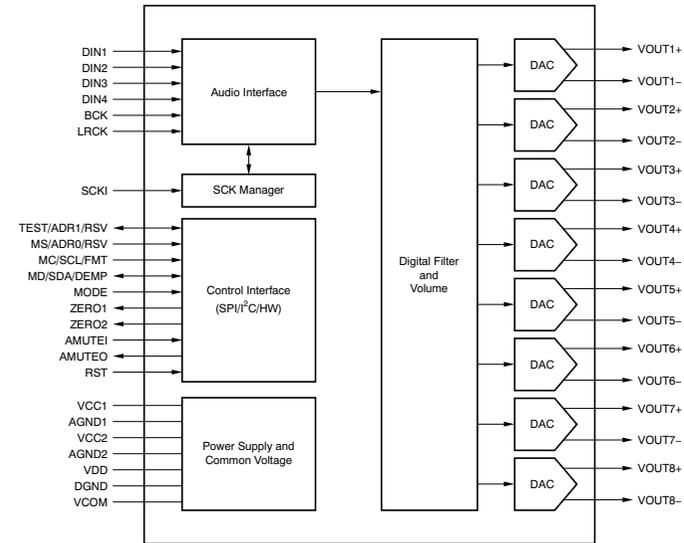
TERMINAL NAME	PIN	I/O	PULL-DOWN	5-V TOLERANT	DESCRIPTION
RSV2	1	—	—	—	Reserved, tied to analog ground
RSV1	2	—	—	—	Reserved, left open
RSV2	3	—	—	—	Reserved, tied to analog ground
RSV1	4	—	—	—	Reserved, left open
RSV2	5	—	—	—	Reserved, tied to analog ground
LRCK	6	I	Yes	No	Audio data word clock input
BCK	7	I	Yes	No	Audio data bit clock input
DIN1	8	I	No	No	Audio data input for DAC1 and DAC2
DIN2	9	I	No	No	Audio data input for DAC3 and DAC4
DIN3	10	I	No	No	Audio data input for DAC5 and DAC6
DIN4	11	I	No	No	Audio data input for DAC7 and DAC8
VDD	12	—	—	—	Digital power supply, +3.3 V
DGND	13	—	—	—	Digital ground
SCK1	14	I	No	Yes	System clock input
RST	15	I	Yes	Yes	Reset and power-down control input with active low
ZERO1	16	O	No	No	Zero detect flag output 1
ZERO2	17	O	No	No	Zero detect flag output 2
AMUTEI	18	I	No	Yes	Analog mute control input with active low
AMUTE0	19	O	No	Yes	Analog mute status output(1) with active low
MD/SDA/DEMP	20	I/O	No	Yes	Input data for SPI, data for I2C(1), de-emphasis control for hardware control mode
MC/SCL/FMT	21	I	No	Yes	Clock for SPI, clock for I2C, format select for hardware control mode
MS/ADR0/RSV	22	I	Yes	Yes	Chip Select for SPI, address select 0 for I2C, reserve (set low) for hardware control mode
TEST/ADR1/RSV	23	I/O	No	Yes	Test (factory use, left open) for SPI, address select 1 for I2C, reserve (set low) for hardware control mode

TERMINAL NAME	PIN	I/O	PULL-DOWN	5-V TOLERANT	DESCRIPTION
MODE	24	I	No	No	Control port mode selection. Tied to VDD: SPI, left open: H/W mode, tied to DGND: I2C
VCC1	25	—	—	—	Analog power supply 1, +5 V
VCOM	26	—	—	—	Voltage common decoupling
AGND1	27	—	—	—	Analog ground 1
RSV2	28	—	—	—	Reserved, tied to analog ground
VOUT8+	29	O	No	No	Positive analog output from DAC8
VOUT8-	30	O	No	No	Negative analog output from DAC8
VOUT7+	31	O	No	No	Positive analog output from DAC7
VOUT7-	32	O	No	No	Negative analog output from DAC7
VOUT6+	33	O	No	No	Positive analog output from DAC6
VOUT6-	34	O	No	No	Negative analog output from DAC6
VOUT5+	35	O	No	No	Positive analog output from DAC5
VOUT5-	36	O	No	No	Negative analog output from DAC5
VOUT4+	37	O	No	No	Positive analog output from DAC4
VOUT4-	38	O	No	No	Negative analog output from DAC4
VOUT3+	39	O	No	No	Positive analog output from DAC3
VOUT3-	40	O	No	No	Negative analog output from DAC3
VOUT2+	41	O	No	No	Positive analog output from DAC2
VOUT2-	42	O	No	No	Negative analog output from DAC2

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

(1) Open-drain configuration in out mode.

PCM1690 FUNCTIONAL BLOCK DIAGRAM



PCM5100 (HDMI : U1052)

PCM510X (top view)

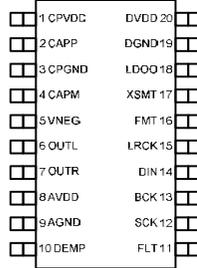


Table 2. TERMINAL FUNCTIONS, PCM510x

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

PCM5100 Block Diagram

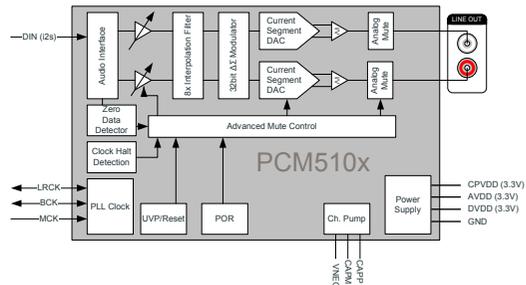
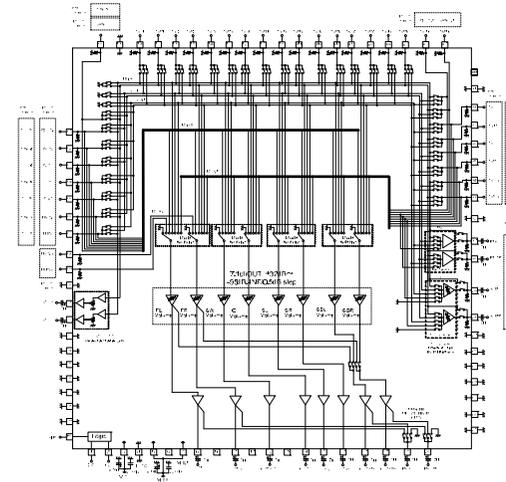


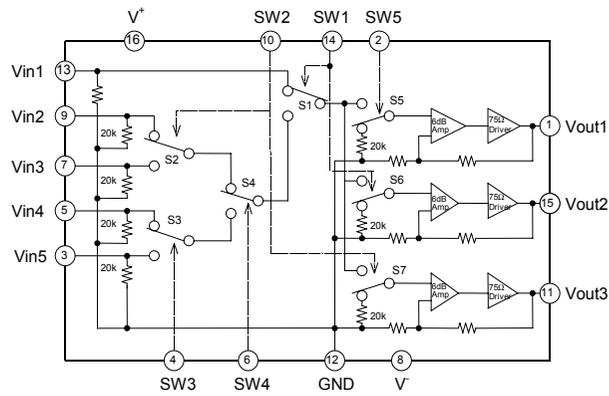
Figure 1. PCM510x Functional Block Diagram

BD34704KS2 (AV : IC4200)

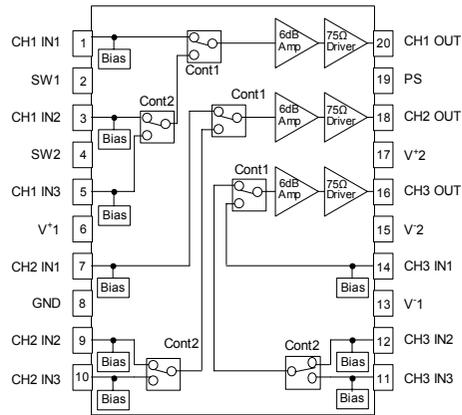


PIN No.	SYMBOL	PIN No.	SYMBOL	PIN No.	SYMBOL	PIN No.	SYMBOL
1	DA	21	GND	61	SBLIN	41	INR9(SBRIN2)
2	CL	22	GND	62	SRIN	42	INL9(SBLIN2)
3	VCC	23	GND	63	SLIN	43	INR8
4	DGND	24	GND	64	CIN	44	INL8
5	VEE1	25	GND	65	SWIN	45	INR7
6	N.C.	26	GND	66	FRIN	46	INL7
7	VEE2	27	GND	67	FLIN	47	INR6
8	OUTFL	28	SUBR	68	FRIN3	48	INL6
9	N.C.	29	SUBL	69	FLIN3	49	INR5
10	OUTFR	30	RECR	70	GND	50	INL5
11	N.C.	31	RECL	71	ADCR	51	INR4
12	OUTSW	32	GND	72	ADCL	52	INL4
13	N.C.	33	INR12(FRIN2)	73	GND	53	INR3
14	OUTC	34	INL12(FLIN2)	74	GND	54	INL3
15	OUTSL	35	INR11(CIN2)	75	GND	55	INR2
16	OUTSR	36	INL11(SWIN2)	76	GND	56	INL2
17	OUTSBL	37	INR10(SRIN2)	77	GND	57	INR1
18	OUTSBR	38	INL10(SLIN2)	78	GND	58	INL1
19	OUTPL	39	GND	79	GND	59	GND
20	OUTPR	40	N.C.	80	CHIP	60	SBRIN

NJM2595MTE1 (AV : IC5001)



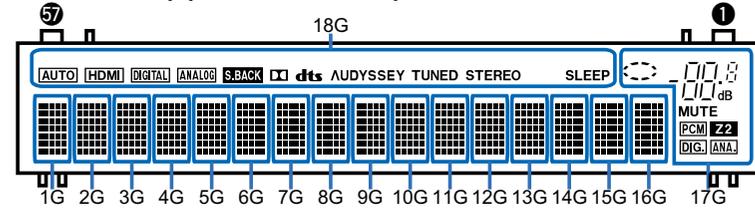
NJM2586AVC3(AV : IC5402)



SSOP20-C3

2. FL DISPLAY

FLD (018BT021GINK) (FRONT : U4400)



PIN CONNECTION

CONNECTION	PIN NO.
F2	57
NP	56
NP	55
NP	54
LGND	53
PGND	52
VH	51

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

NOTE

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

DISASSEMBLY

Flowchart

1. COVER

2. FRONT PANEL ASSY

3. RADIATOR ASSY

4. HDMI PCB

5. SPK PCB

6. TRANS

7. SMPS PCB

8. REG PCB

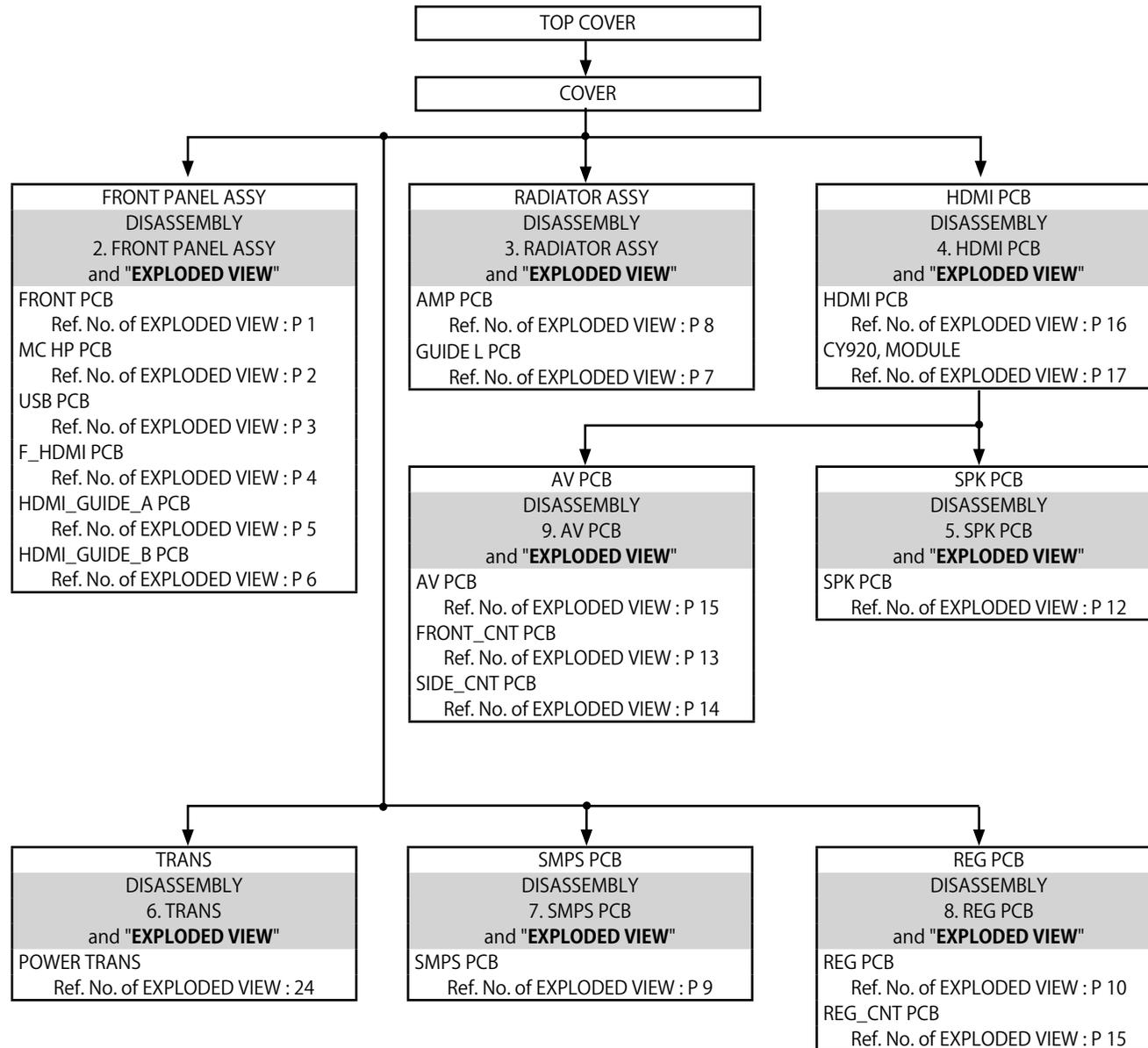
9. AV PCB

EXPLODED VIEW

PACKING VIEW

Flowchart

- Remove each part following the flow below.
- Reassemble the removed parts in the reverse order.
- Read "[SAFETY PRECAUTIONS](#)" before reassembling the removed parts.
- If wire bundles are removed or moved during adjustment or part replacement, reshape the wires after completing the work. Failure to shape the wires correctly may cause problems such as noise.
- See "[EXPLODED VIEW](#)"

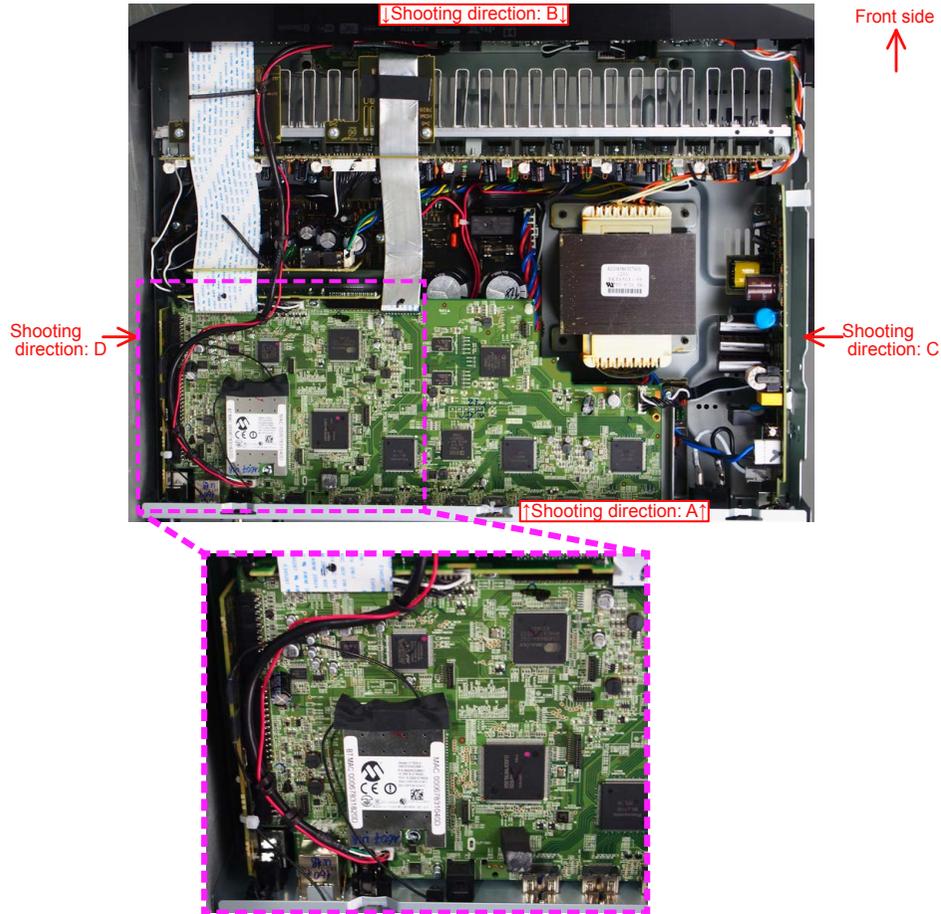


Explanatory Photos for DISASSEMBLY

- For the shooting direction of each photos used in this manual, see the photo below.
- **A, B, C and D** in the photo below indicate the shooting directions of photos.
- The photographs with no shooting direction indicated were taken from the top of the unit.
- Photos of NR1607 U are used in this manual.

The viewpoint of each photograph

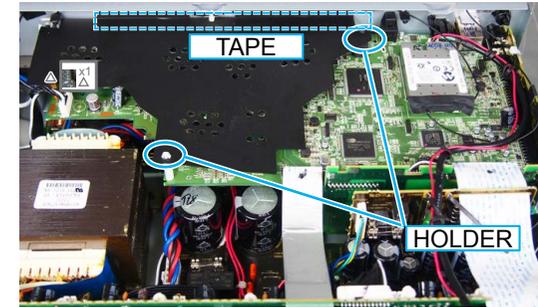
(Shooting direction : X) [View from the top]



1. COVER

Proceeding : **TOP COVER** → **COVER**

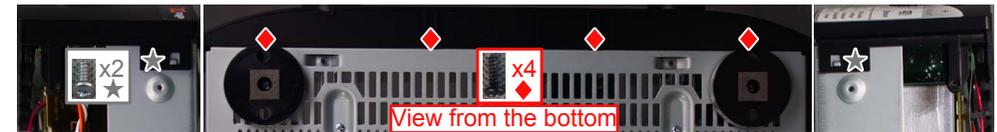
- (1) Remove the PCB HOLDER. Remove the screws. Remove the TAPE.



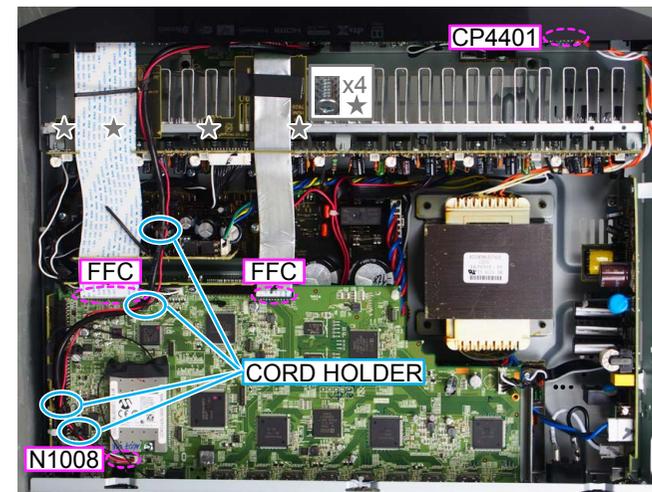
2. FRONT PANEL ASSY

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

- (1) Remove the screws.



- (2) Remove the screws. Remove the CORD HOLDER and connectors. Remove the FFC.



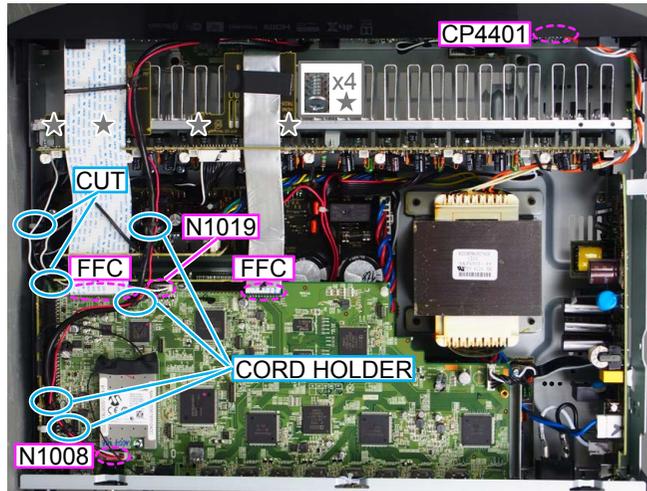
3. RADIATOR ASSY

Proceeding : TOP COVER → COVER → RADIATOR ASSY

(1) Remove the screws.



(2) Cut the wire clamps, then remove the CORD HOLDERS and connectors. Remove the screws. Remove the FFC.



(3) Remove the CORD HOLDERS and connectors.



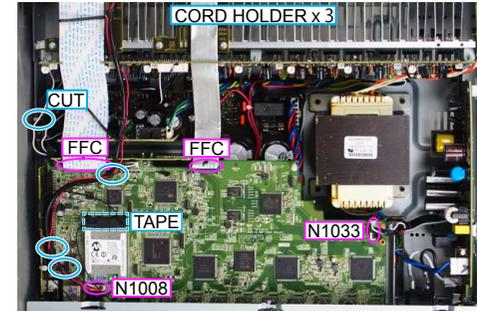
4. HDMI PCB

Proceeding : TOP COVER → COVER → HDMI PCB

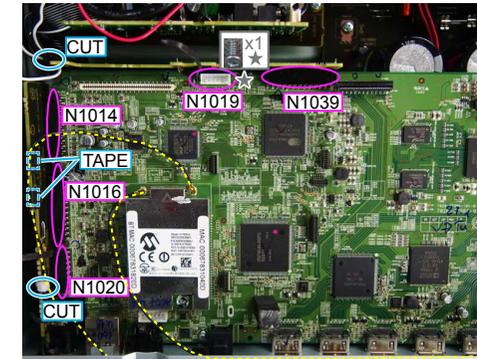
(1) Remove the screws.



(2) Cut the wire clamps, then remove the CORD HOLDERS and connectors. Remove the TAPE. Remove the FFC.



(3) Cut the wire clamp, then remove the connector. Remove the TAPE. Remove the screws.



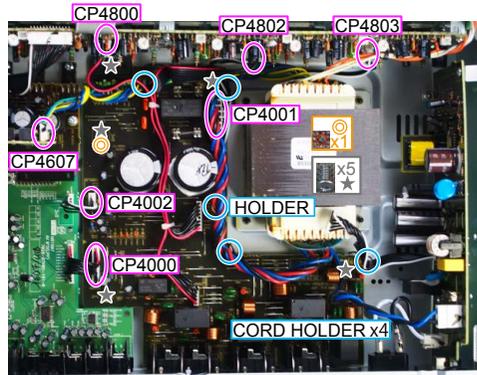
5. SPK PCB

Proceeding : **TOP COVER** → **COVER** → **HDMI PCB** → **SPK PCB**

(1) Remove the screws.



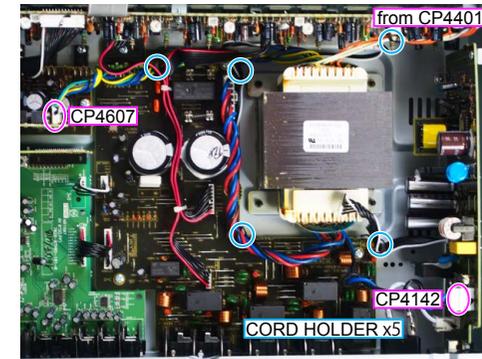
(2) Remove the screws. Remove the CORD HOLDER and connectors. Remove the HOLDER.



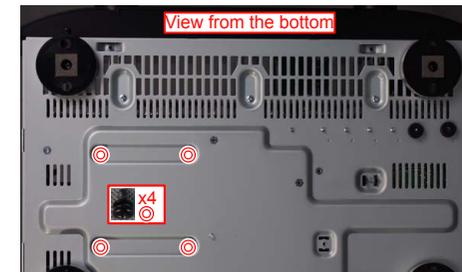
6. TRANS

Proceeding : **TOP COVER** → **COVER** → **HDMI PCB** → **TRANS**

(1) Remove the CORD HOLDERS and connector wires.



(2) Remove the screws.



NOTE : It will separate and TRANS will fall from SET, if screws is removed.

7. SMPS PCB

Proceeding : **TOP COVER** → **SMPS PCB**

See "[EXPLODED VIEW](#)" for instructions on removing the SMPS PCB.

8. REG PCB

Proceeding : **TOP COVER** → **REG PCB**

See "[EXPLODED VIEW](#)" for instructions on removing the REG PCB.

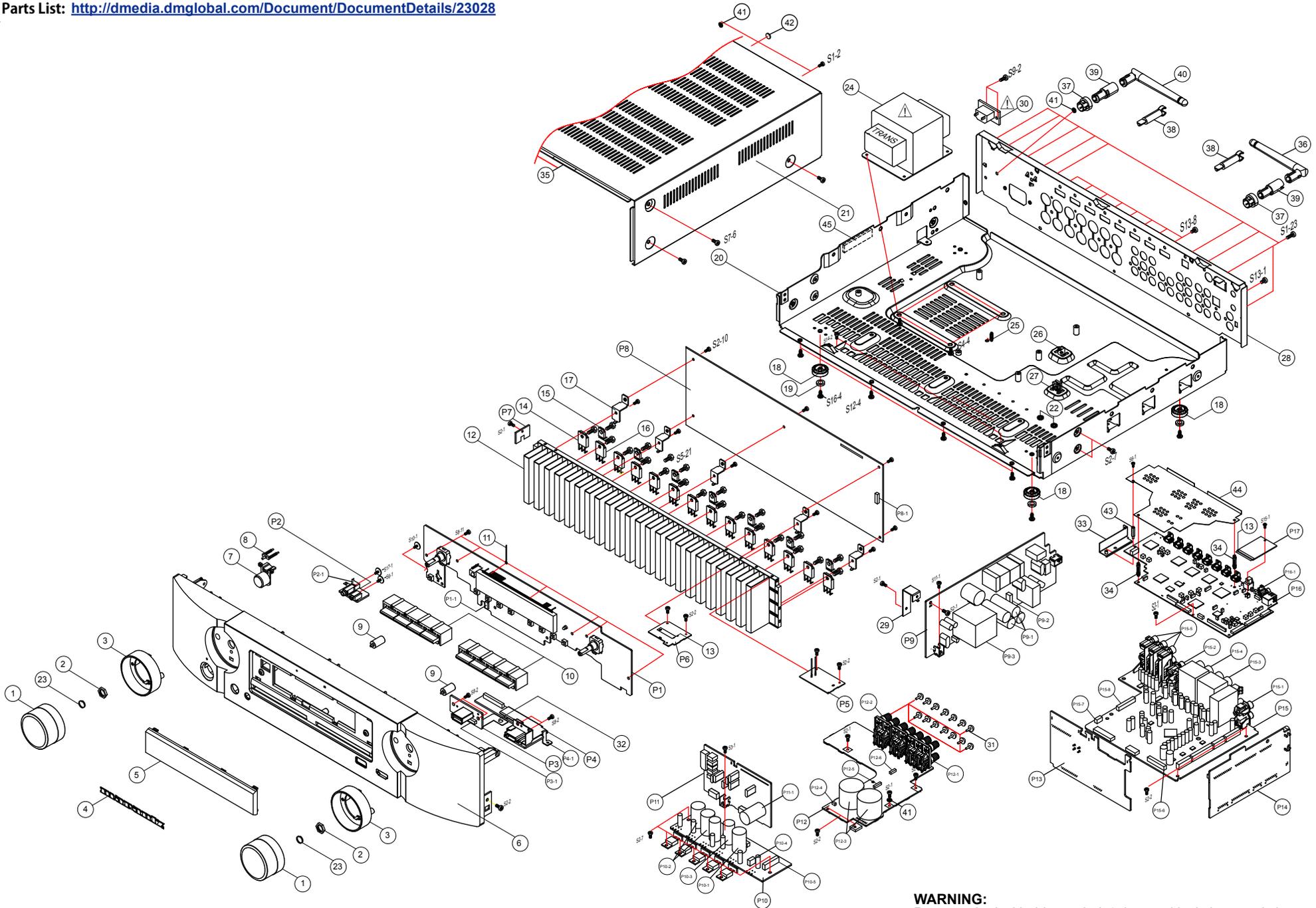
9. AV PCB

Proceeding : **TOP COVER** → **COVER** → **HDMI PCB** → **AV PCB**

See "[EXPLODED VIEW](#)" for instructions on removing the AV PCB.

EXPLODED VIEW

Parts List: <http://dmedia.dmglobal.com/Document/DocumentDetails/23028>



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

Caution in
servicing

Electrical

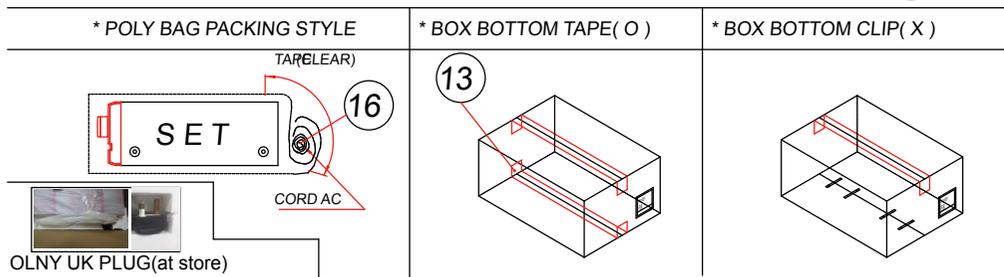
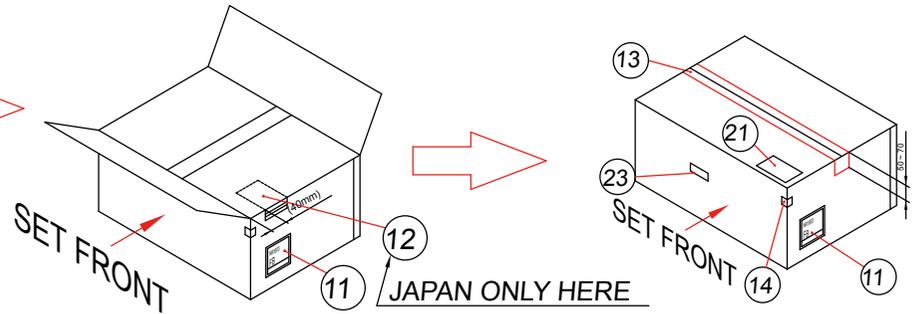
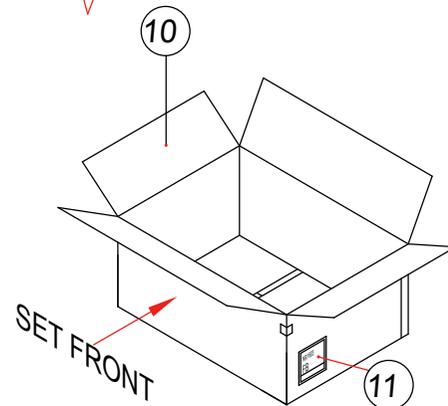
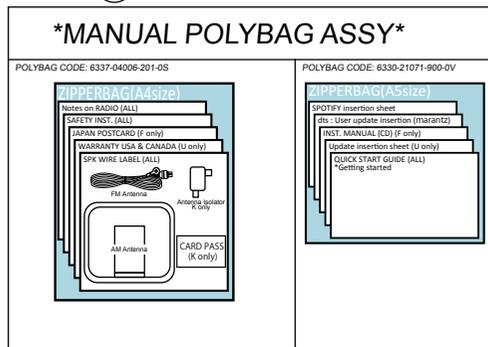
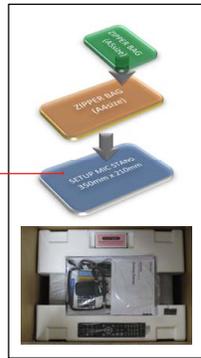
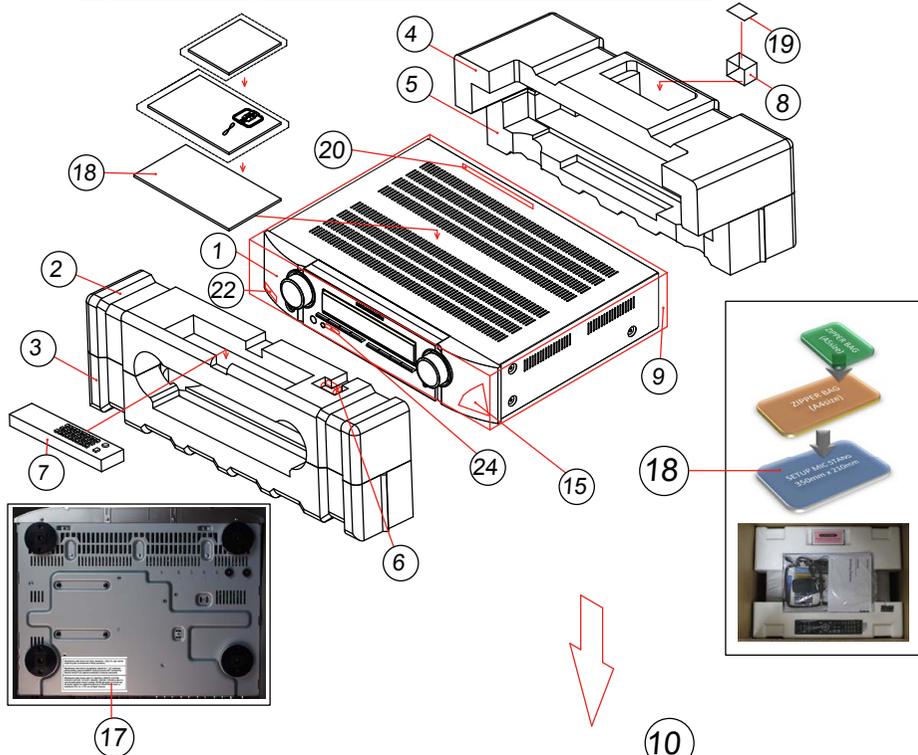
Mechanical

Repair Information

Updating

PACKING VIEW

Parts List: <http://dmedia.dmglobal.com/Document/DocumentDetails/23028>



Caution in servicing
Electrical
Mechanical
Repair Information
Updating

REPAIR INFORMATION

TROUBLE SHOOTING

1. POWER
2. Analog video
3. HDMI/DVI
4. AUDIO
5. Network / Bluetooth / USB
6. SMPS

HDMI "Rx/Tx" Failure Detection

1. Prior checking
2. Preparations for checking HDMI Switcher reception/transmission register
3. Starting detecting the point of failure
4. Device implementation location

CLOCK FLOW & WAVE FORM IN DIGITAL BLOCK

SPECIAL MODE

Special mode setting button

1. Version Display Mode
2. PANEL / REMOTE LOCK Selection Mode
- 3-1. Selecting the Mode for Service-related
- 3-2. Protection History Display Mode
- 3-3. Operation Info Mode
- 3-4. TUNER STEP mode (U / N only)
4. Protection Pass Mode
5. CY920 Reboot Mode
6. CY920 Initialization Mode
7. Clearing the Operation Info

DIAGNOSTIC MODE

Service Path Check Mode
DIAGNOSTIC PATH DIAGRAM

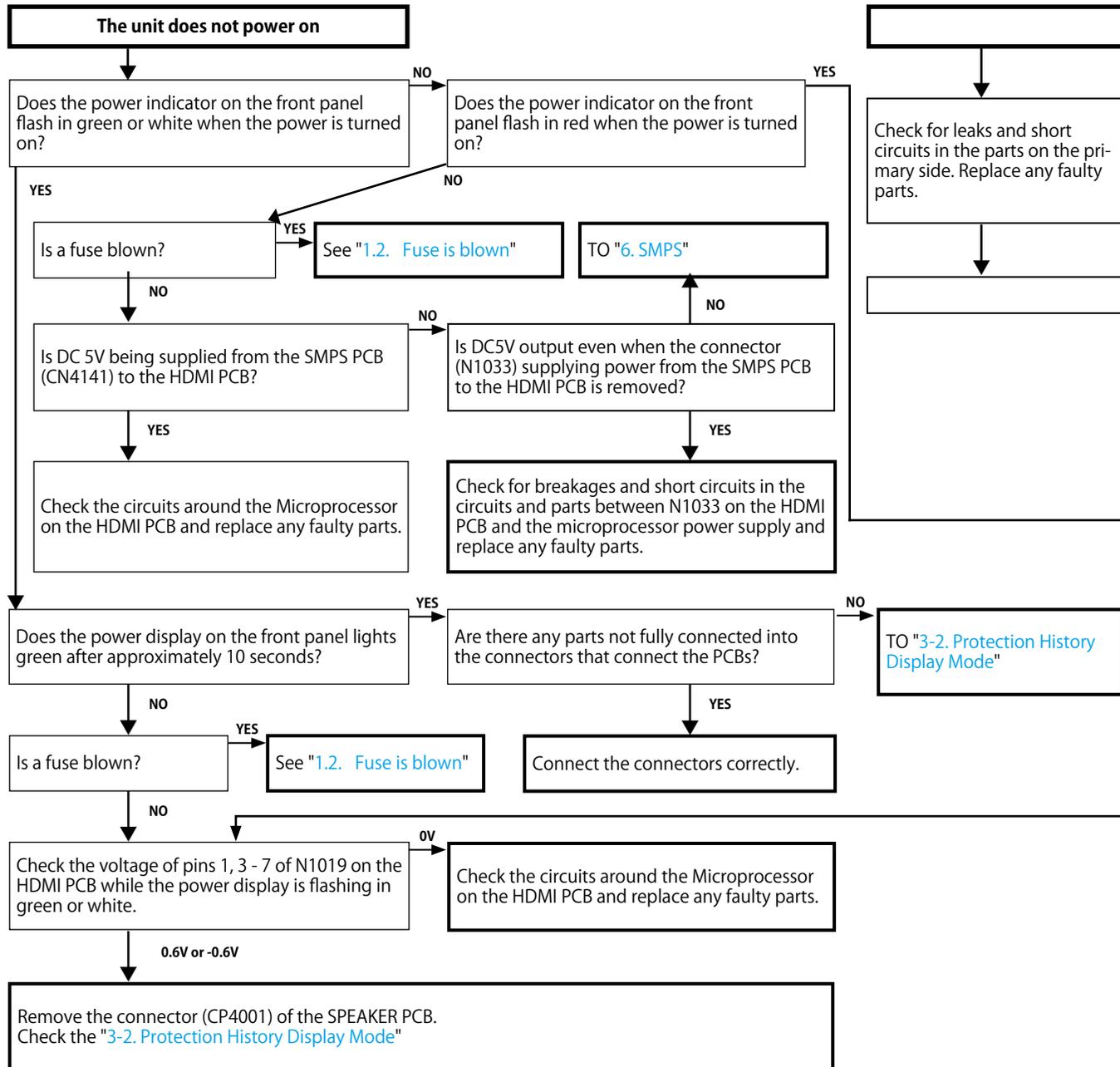
JIG FOR SERVICING

ADJUSTMENT

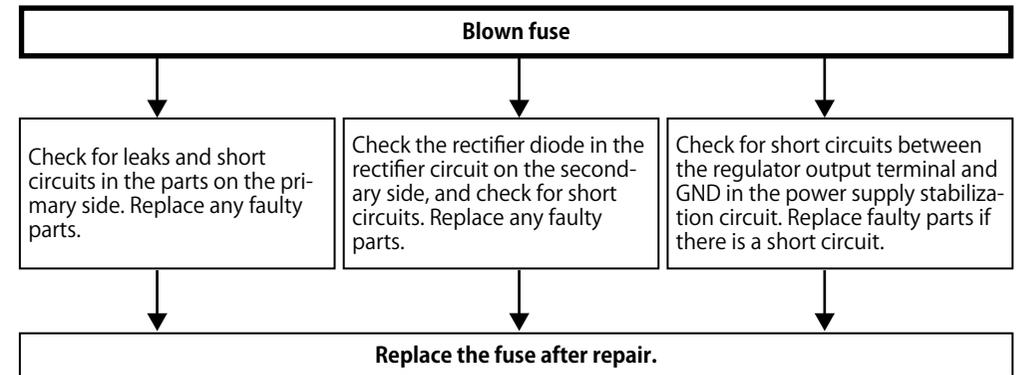
TROUBLE SHOOTING

1. POWER

1.1. The unit does not power on



1.2. Fuse is blown



Caution in servicing

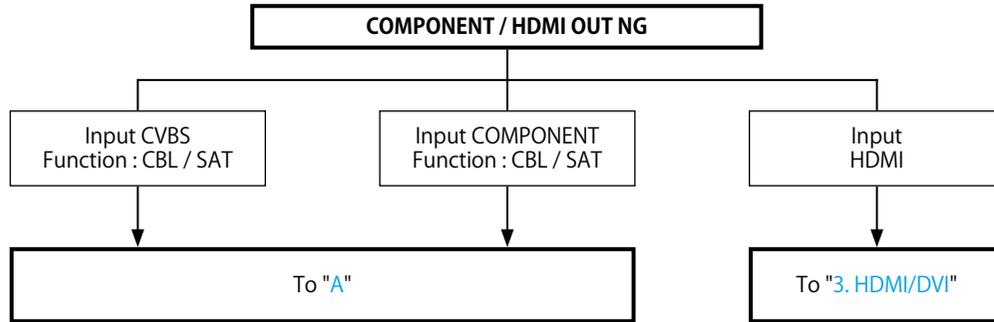
Electrical

Mechanical

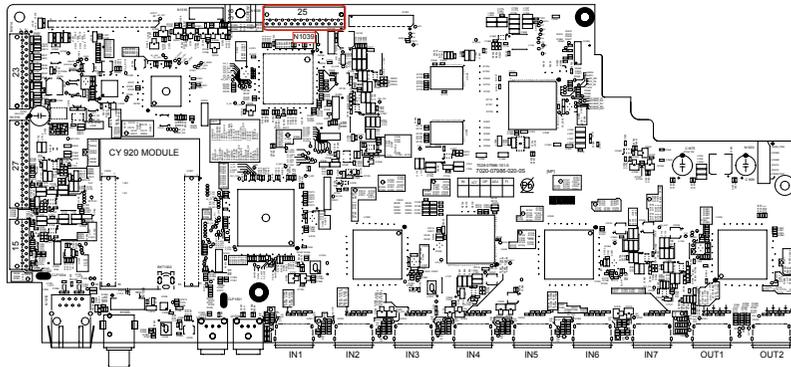
Repair Information

Updating

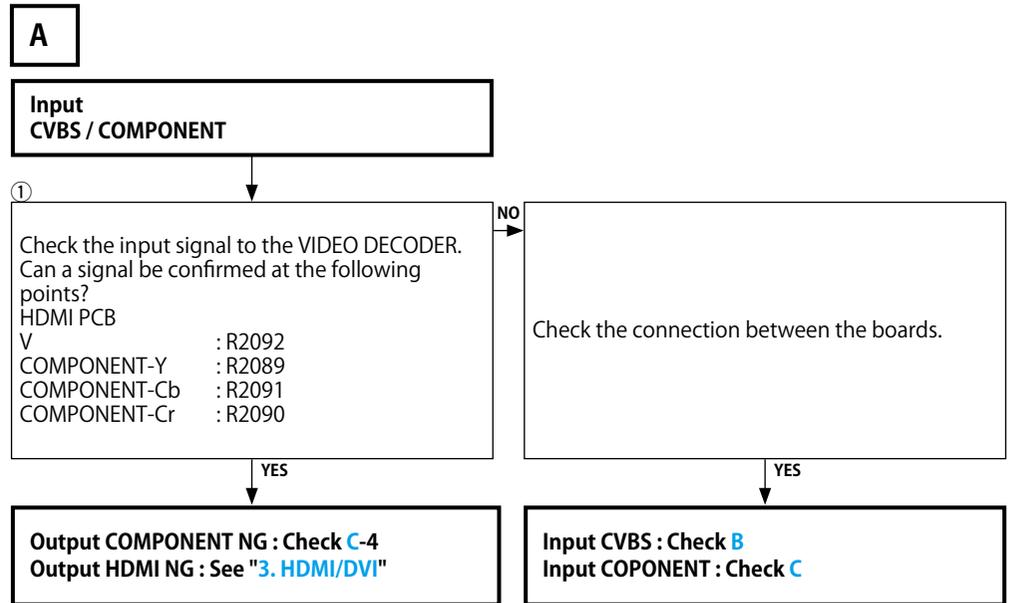
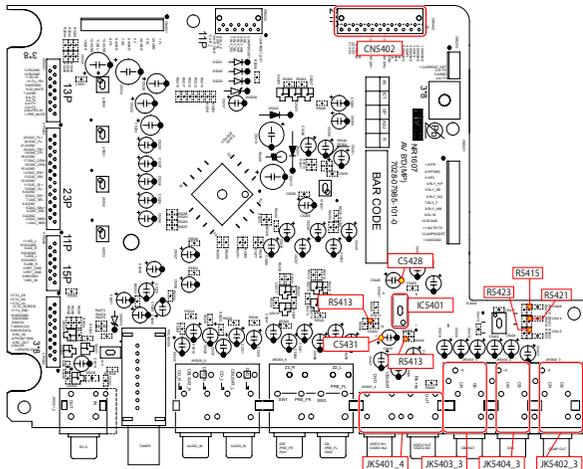
2. Analog video

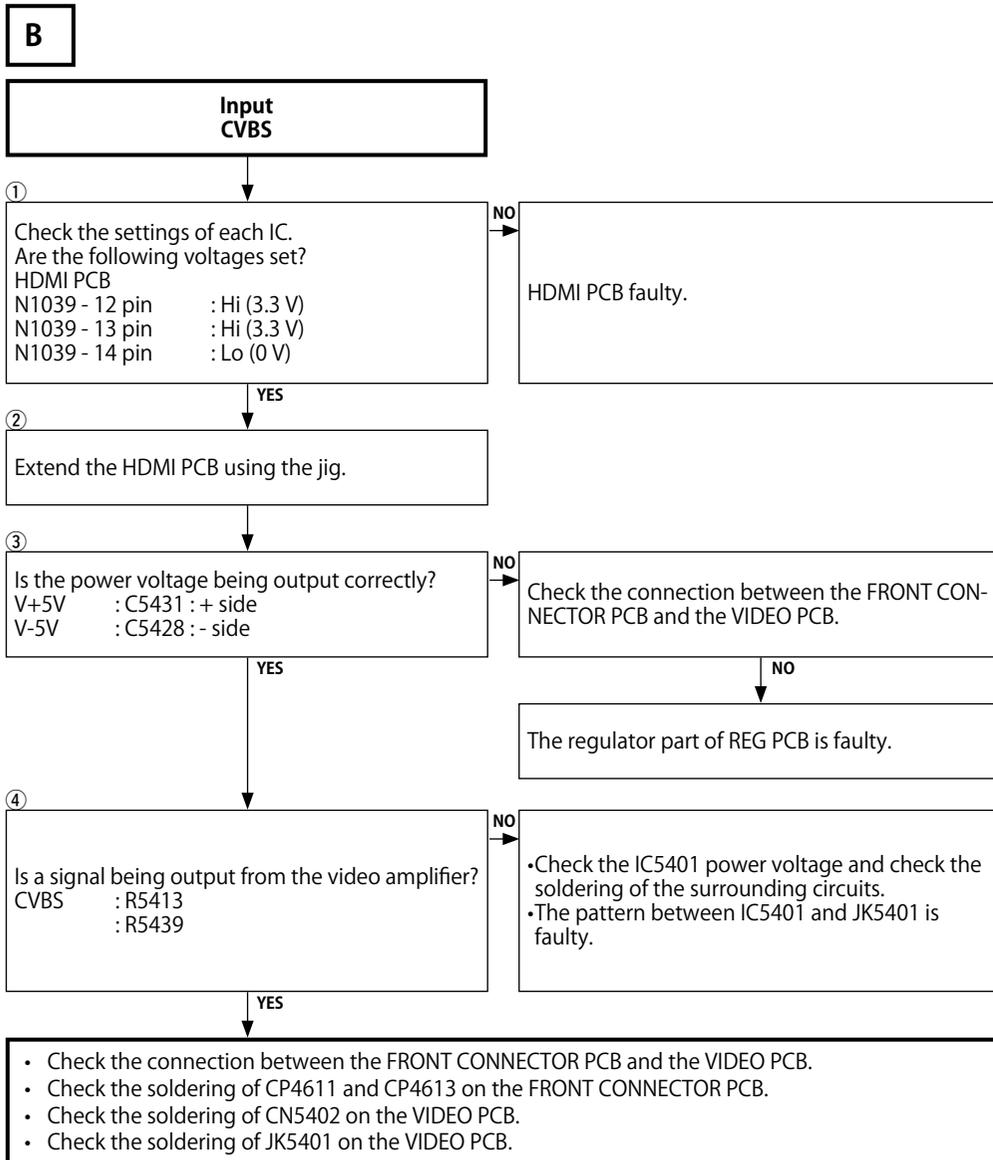


HDMI test point

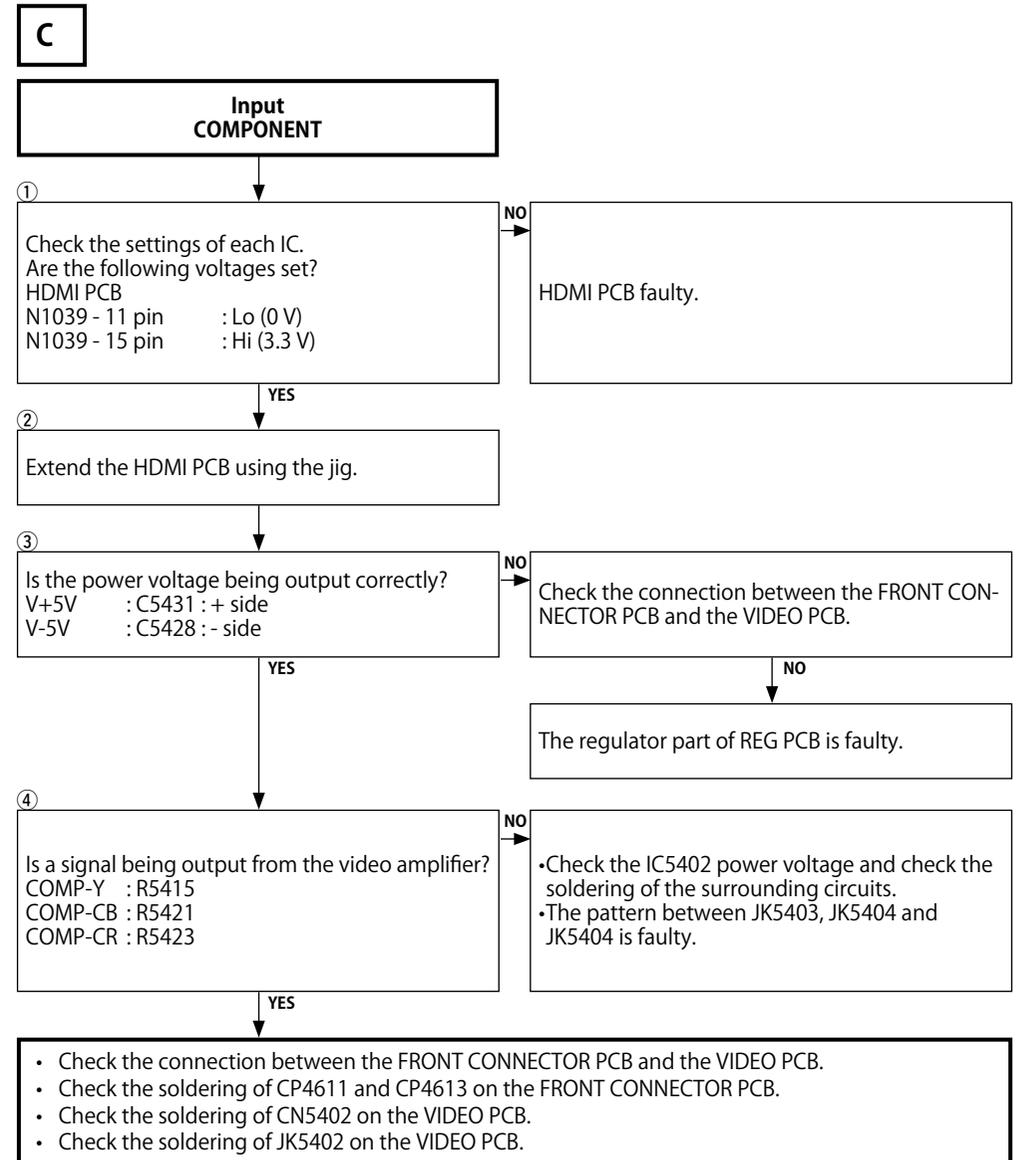


VIDEO test point





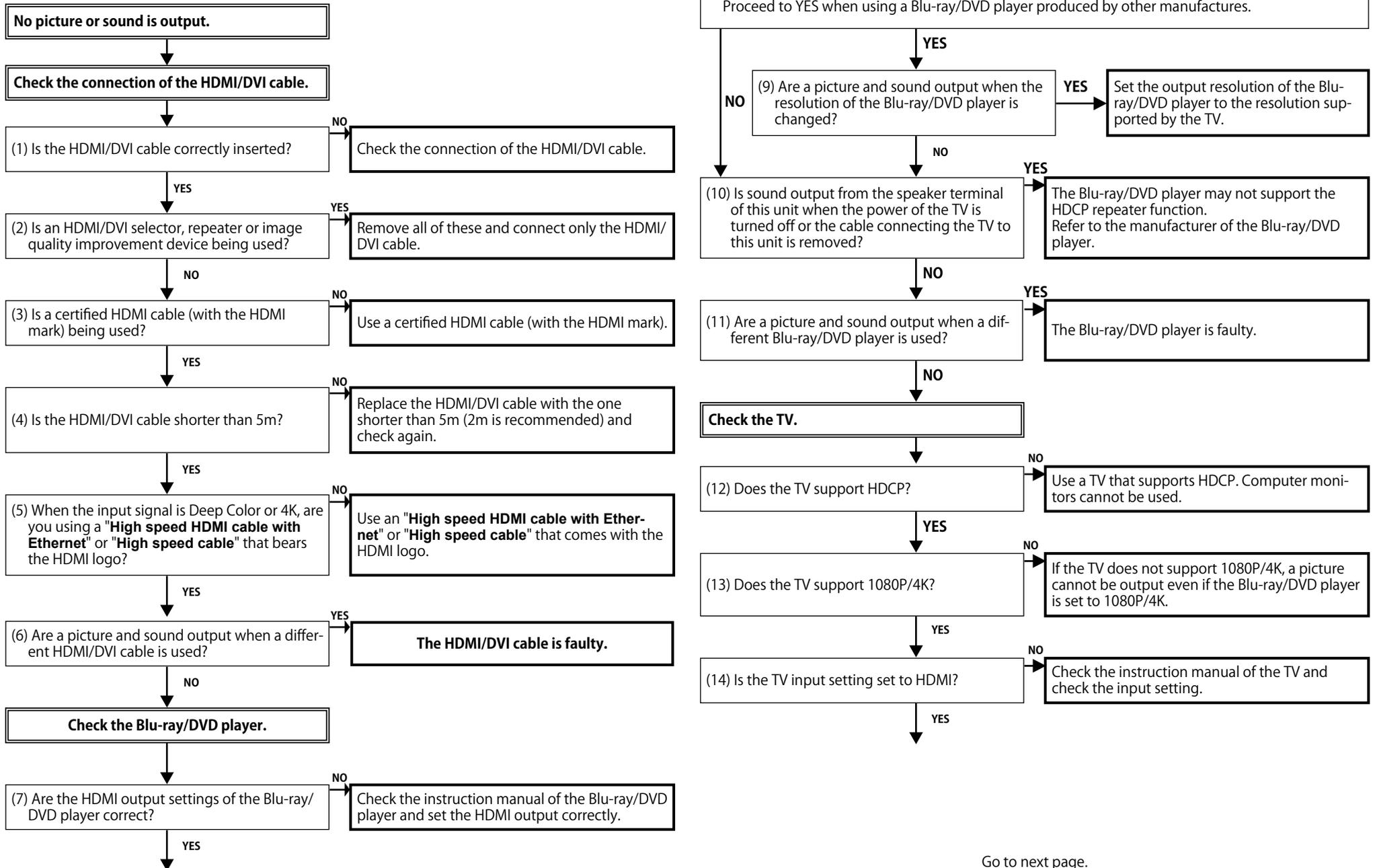
※ These instructions refer to the VIDEO PCB unless otherwise specified.



※ These instructions refer to the VIDEO PCB unless otherwise specified.

3. HDMI/DVI

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



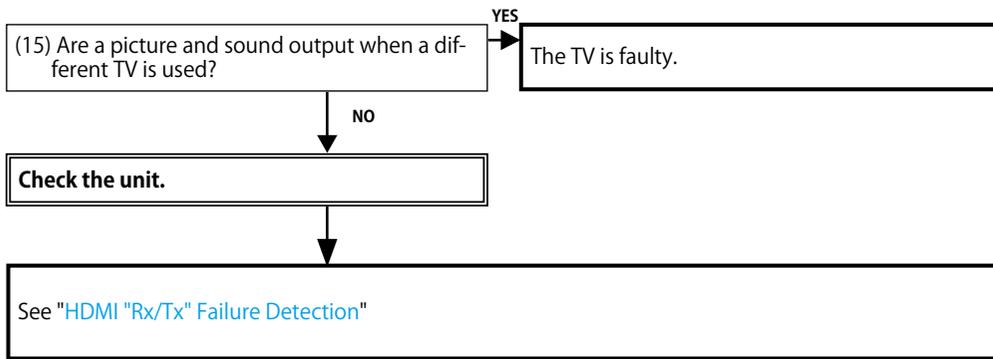
Caution in servicing

Electrical

Mechanical

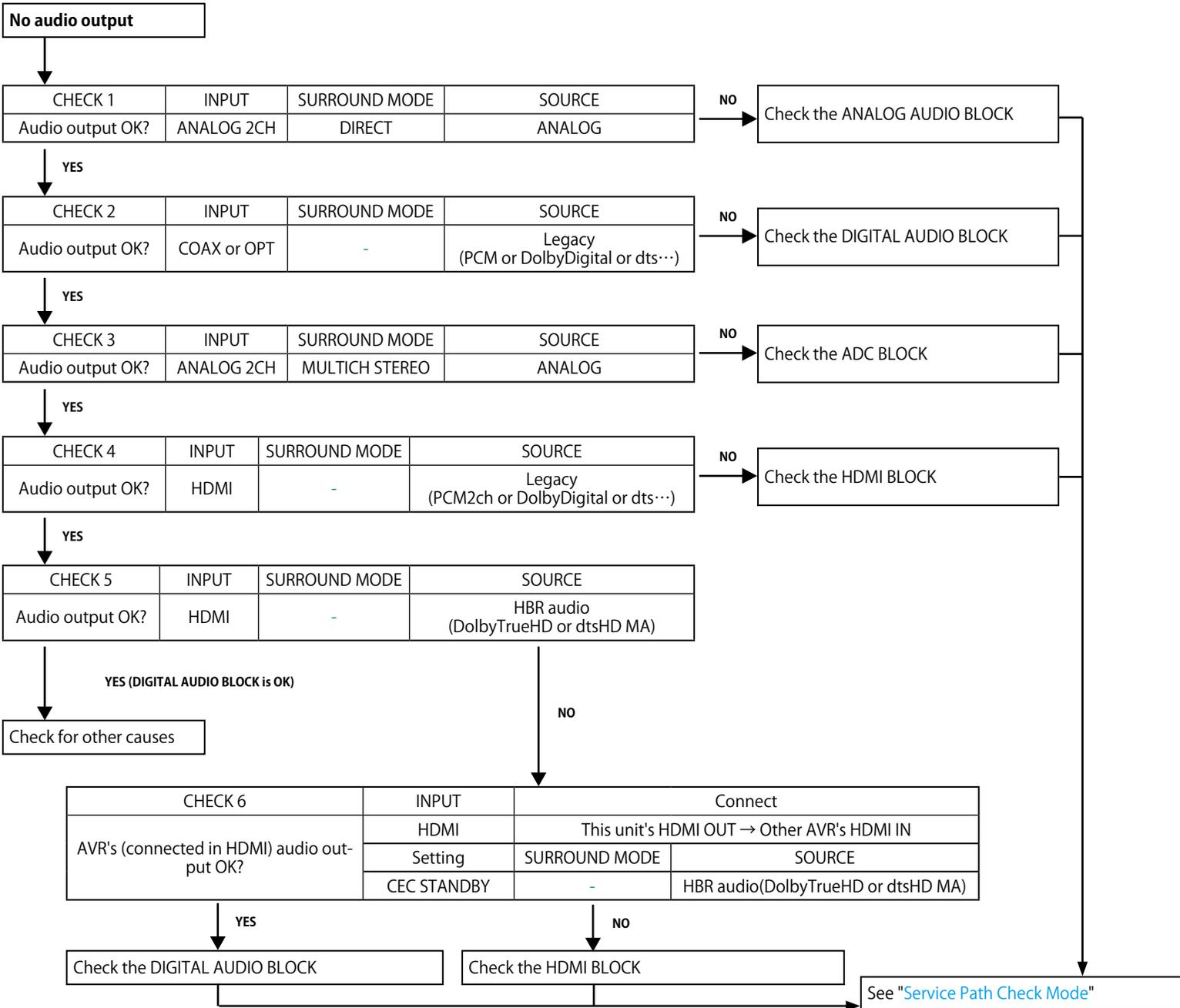
Repair Information

Updating

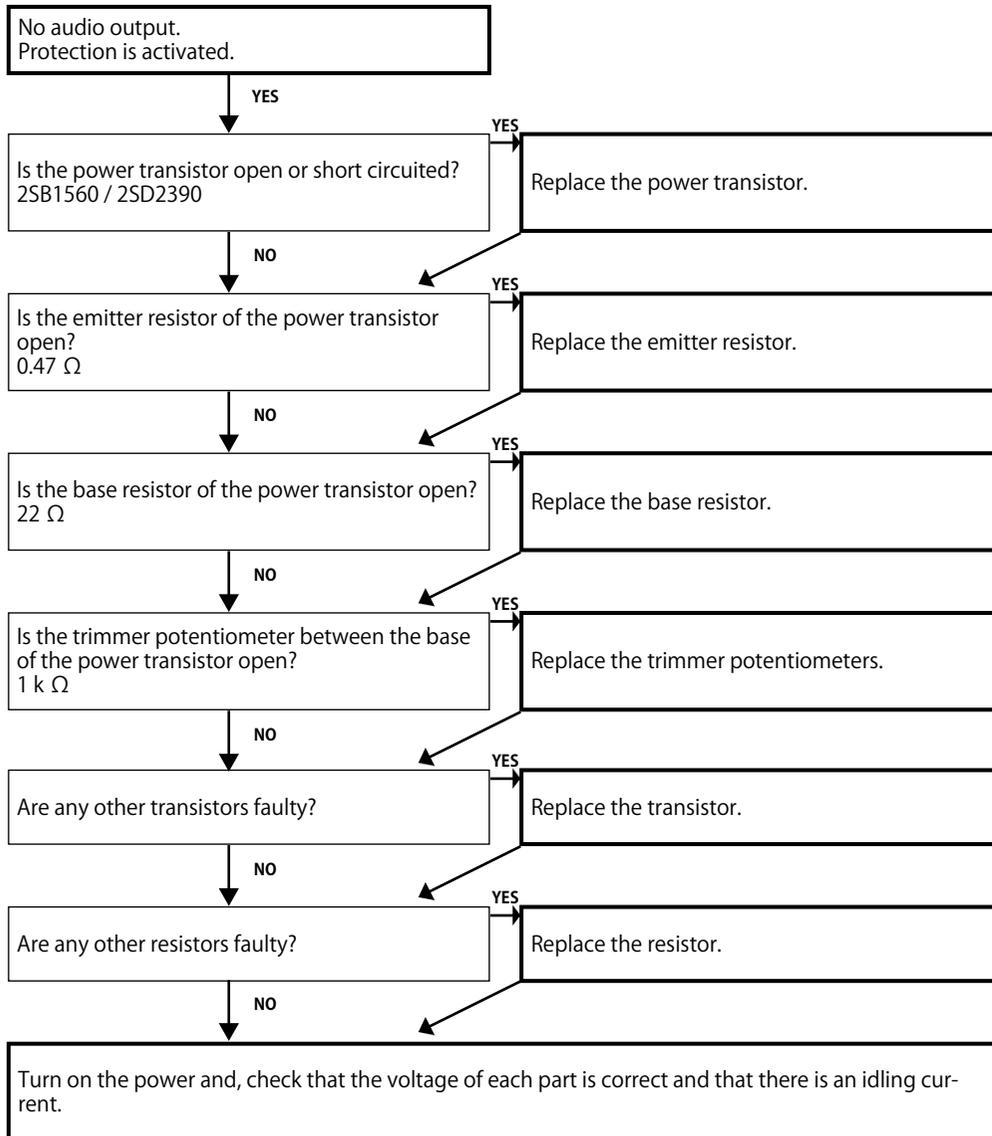


4. AUDIO

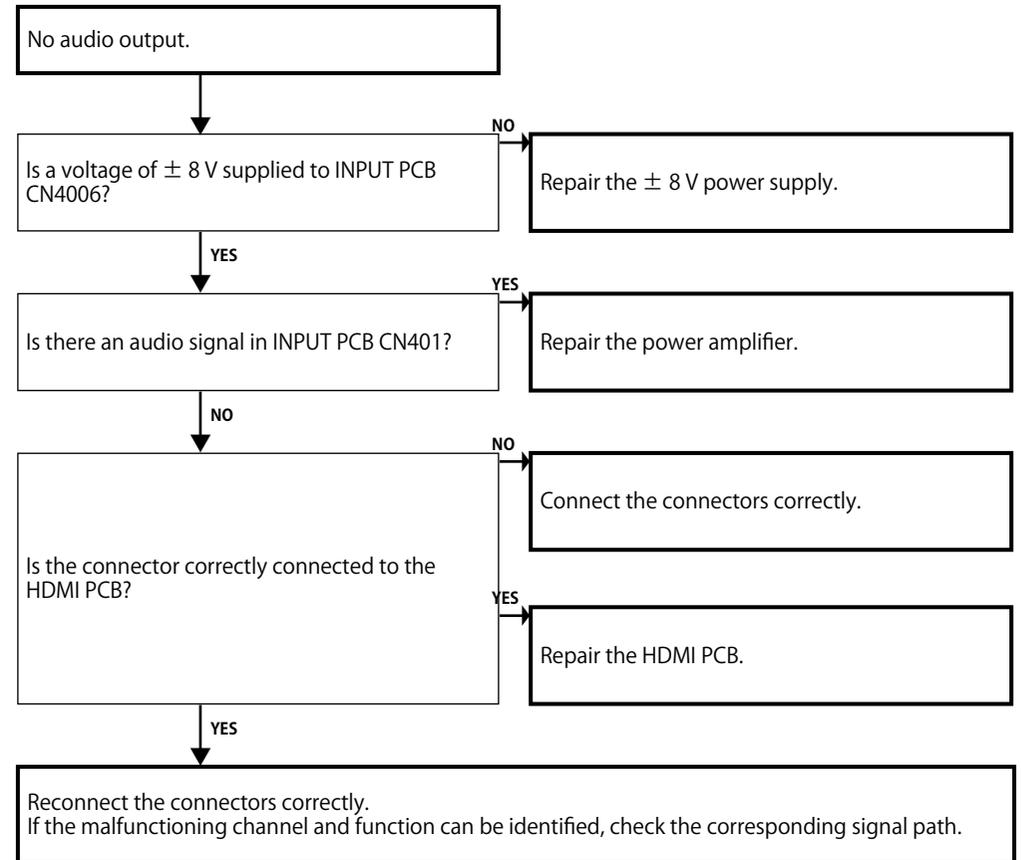
4.1. AUDIO CHECK



4.2. Power AMP (AMP PCB)

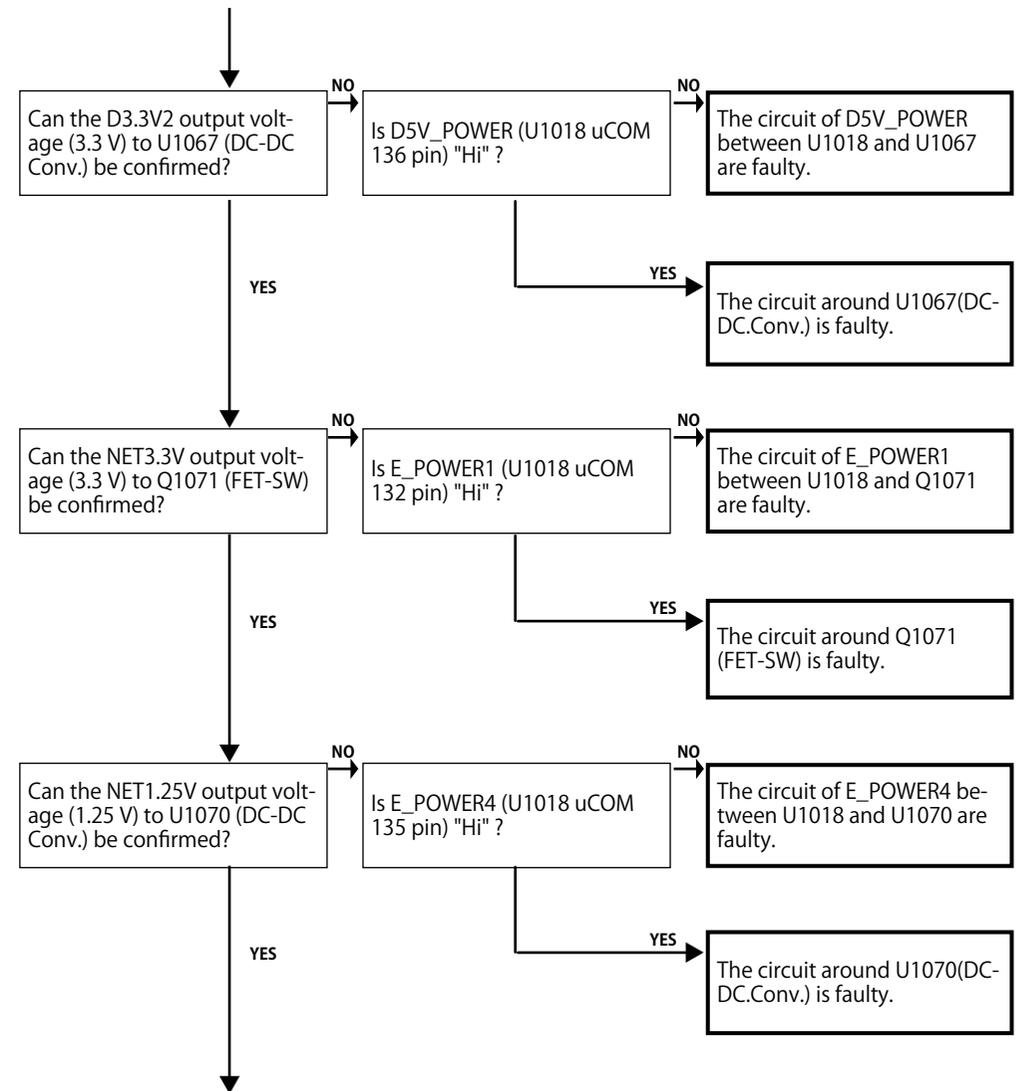
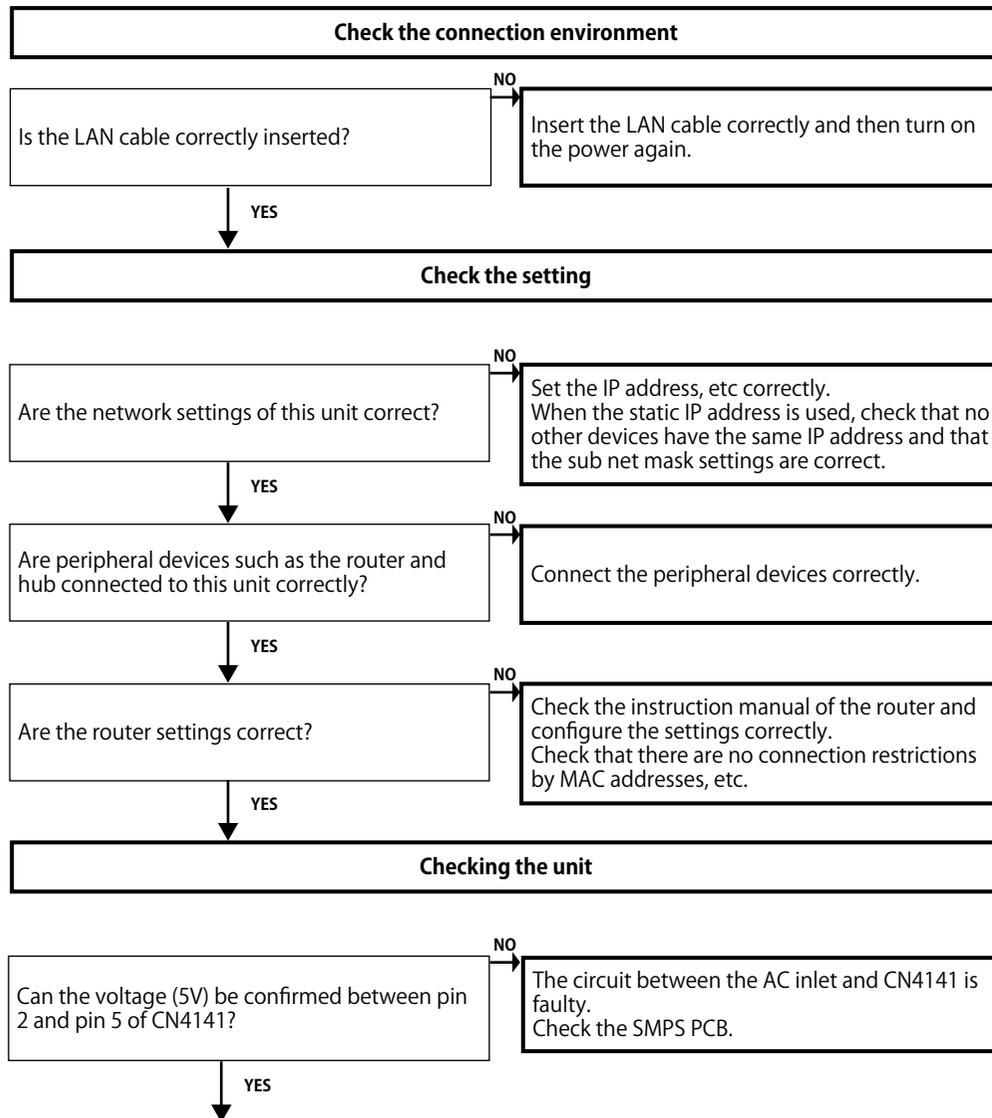


4.3. Analog audio

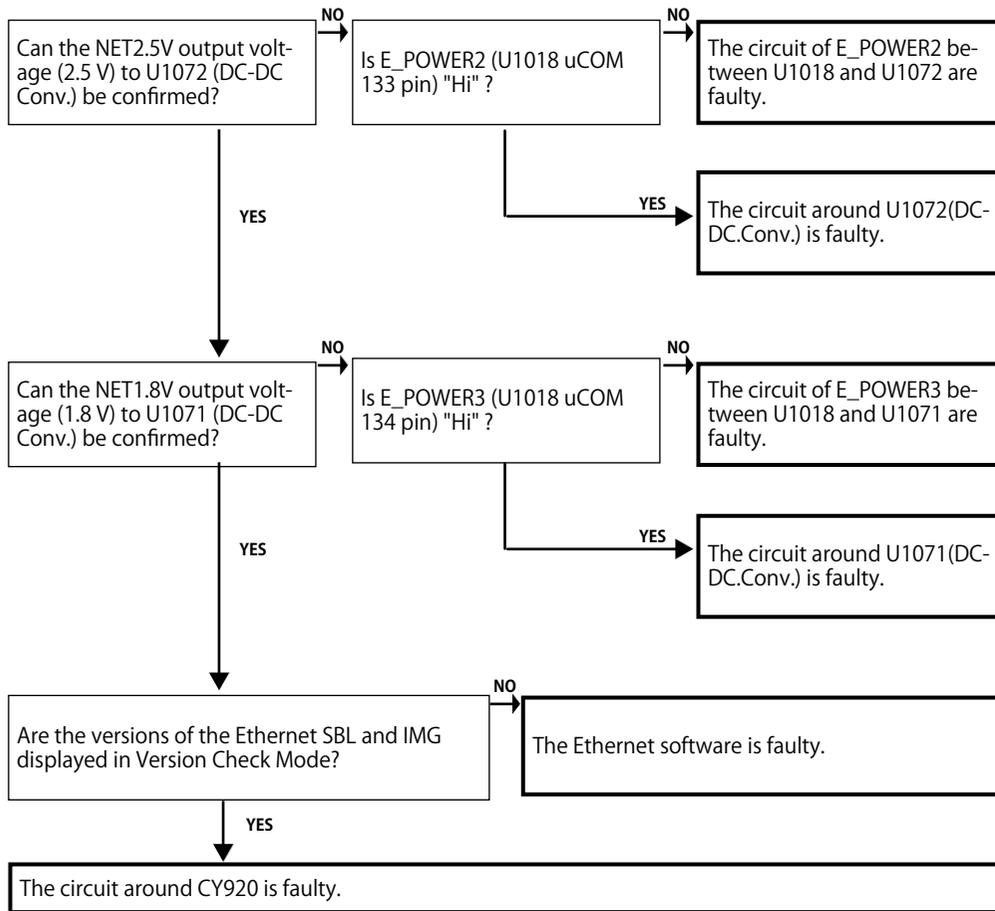


5. Network / Bluetooth / USB

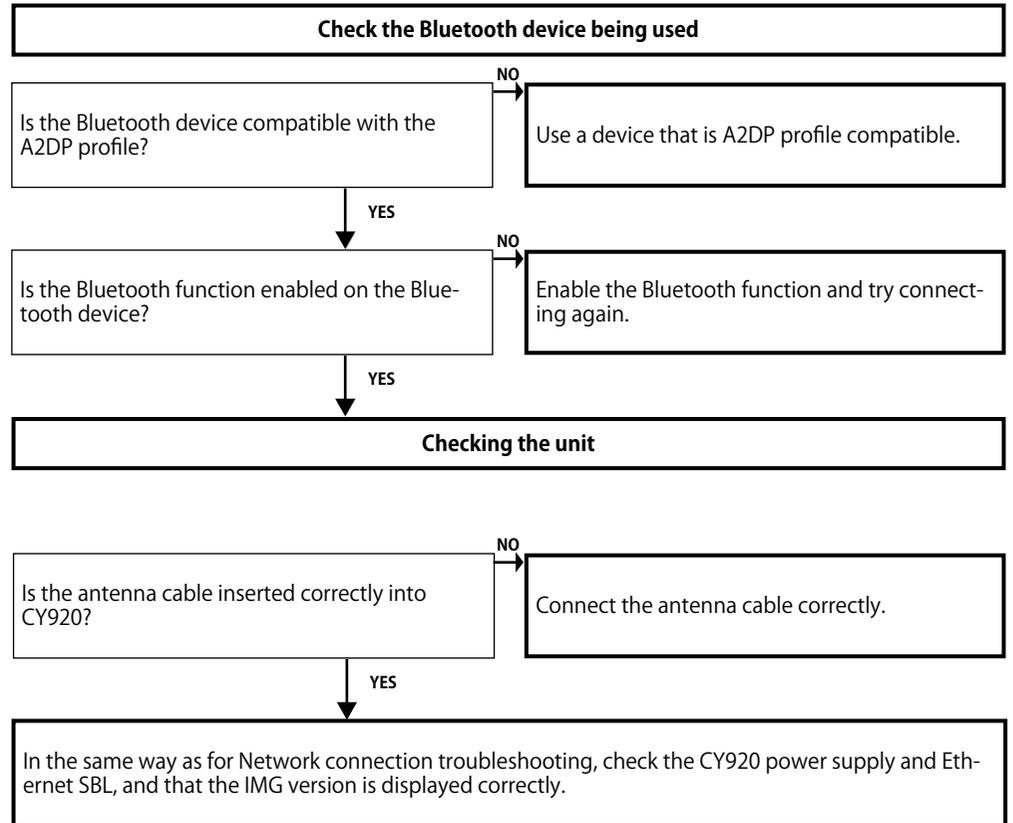
5.1. Cannot connect to the network



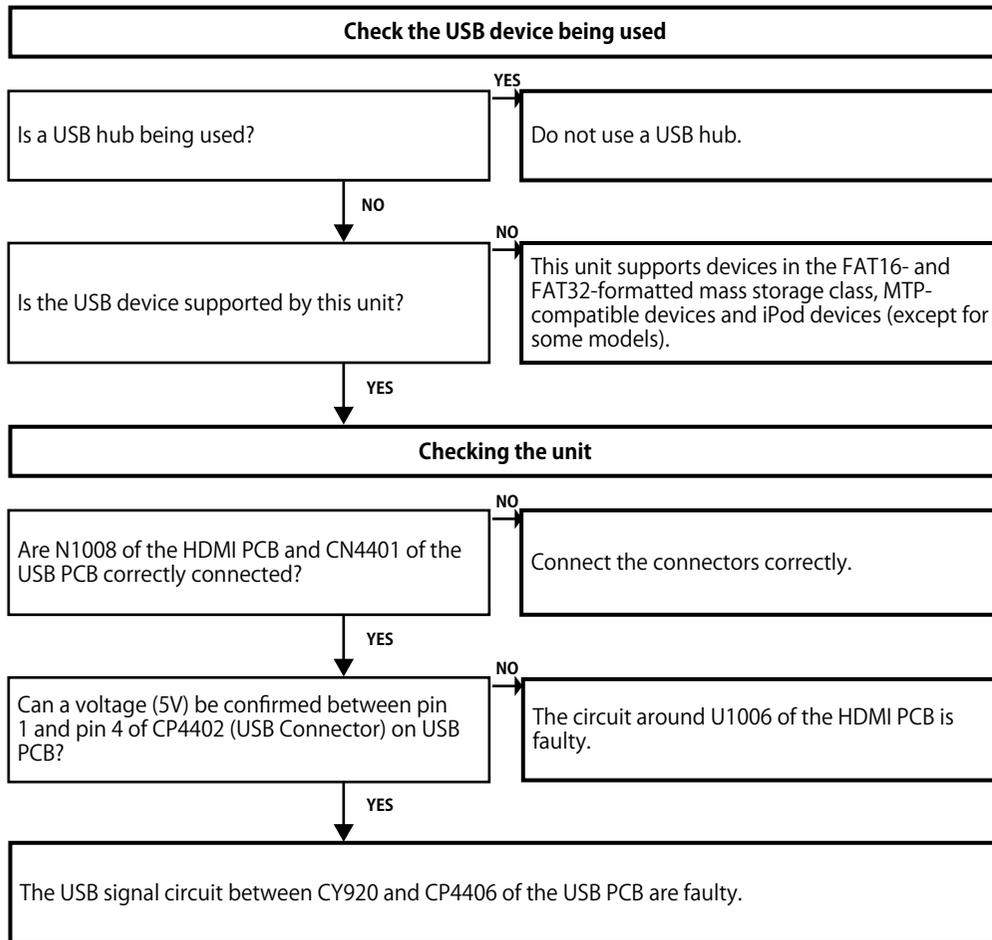
Go to next page.



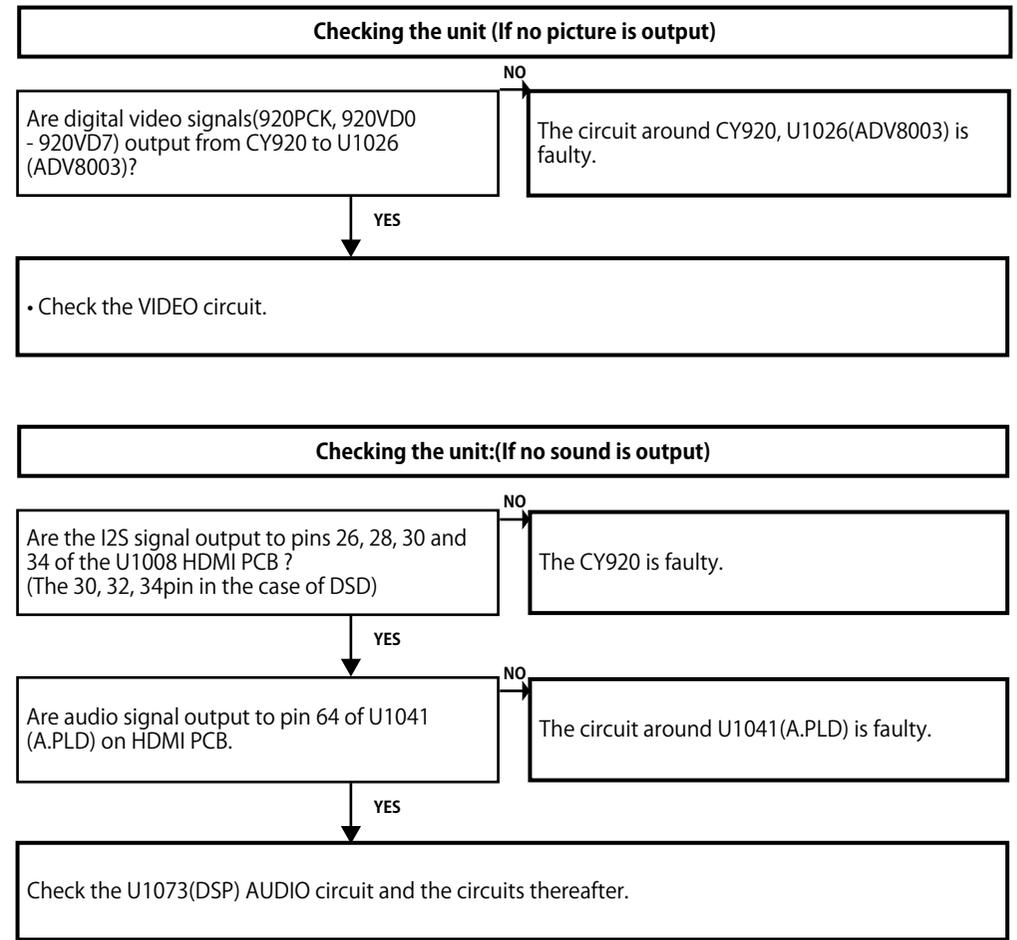
5.2. Cannot establish a Bluetooth connection



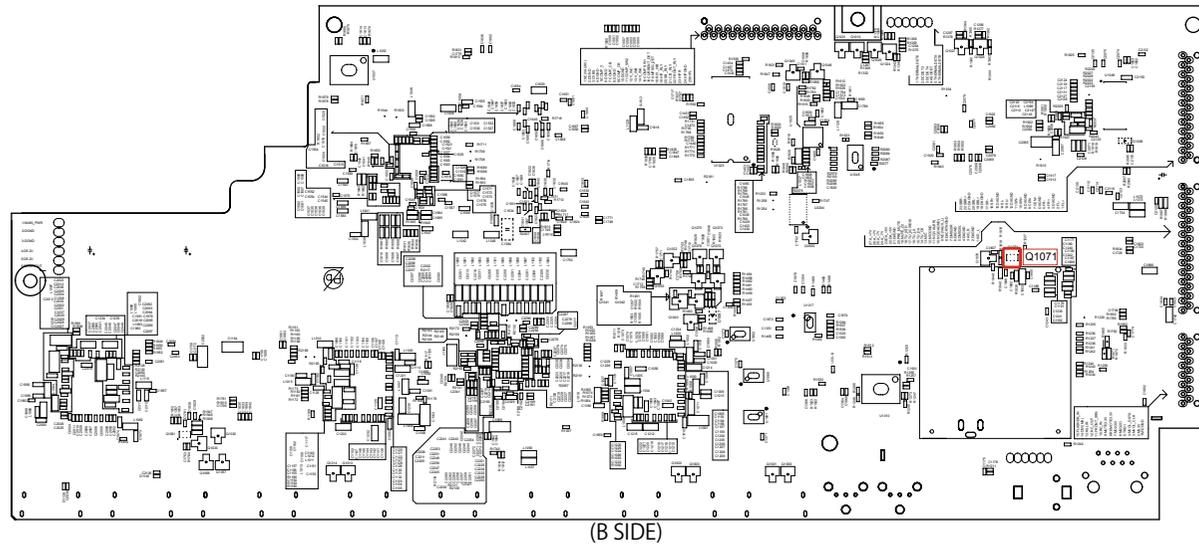
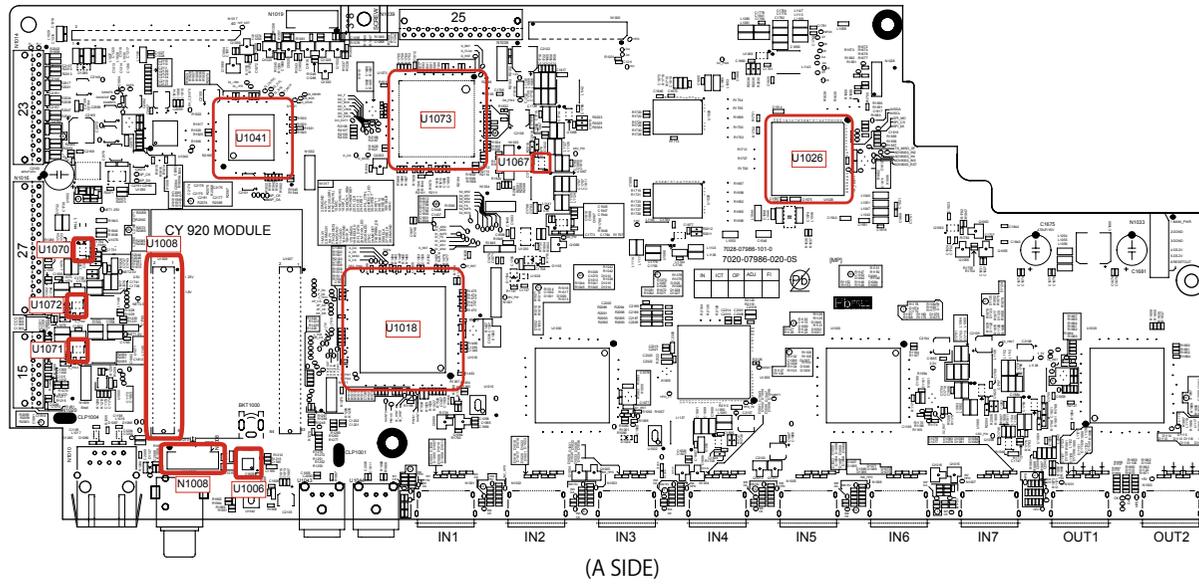
5.3. Cannot recognize the connected USB device



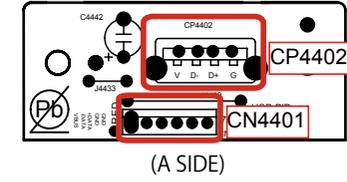
5.4. No picture or sound is output



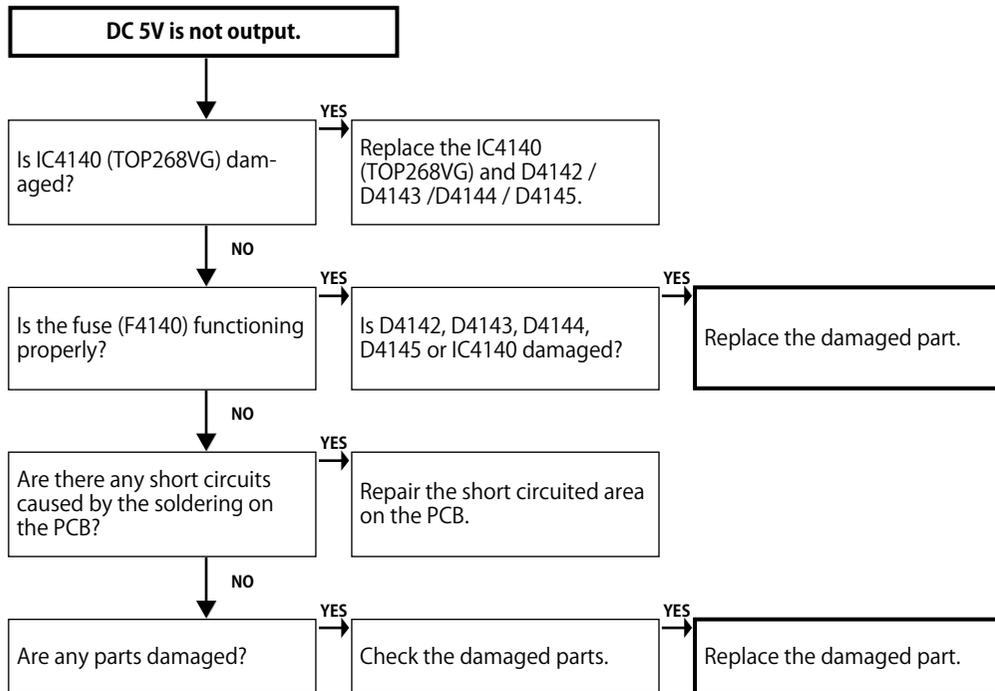
HDMI test point



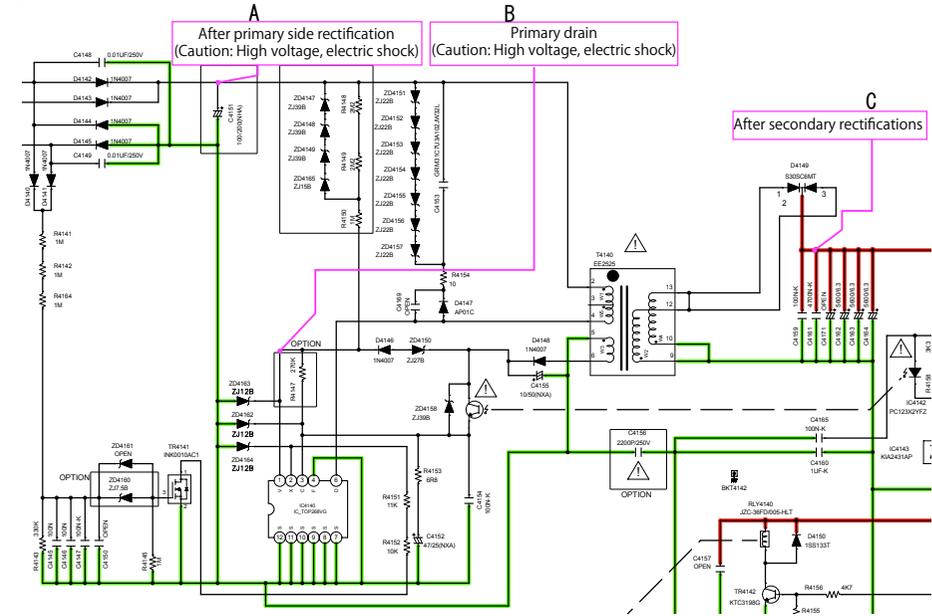
USB test point



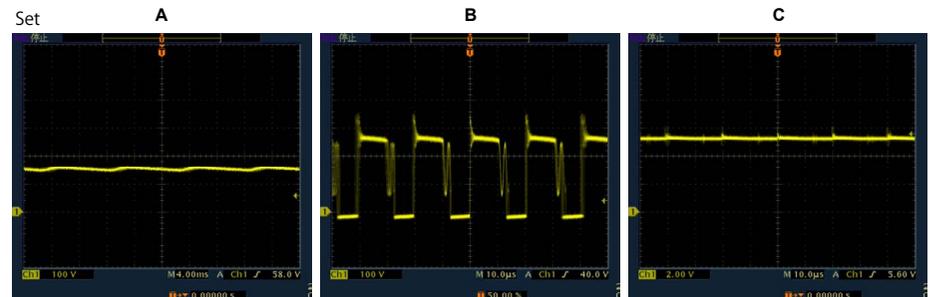
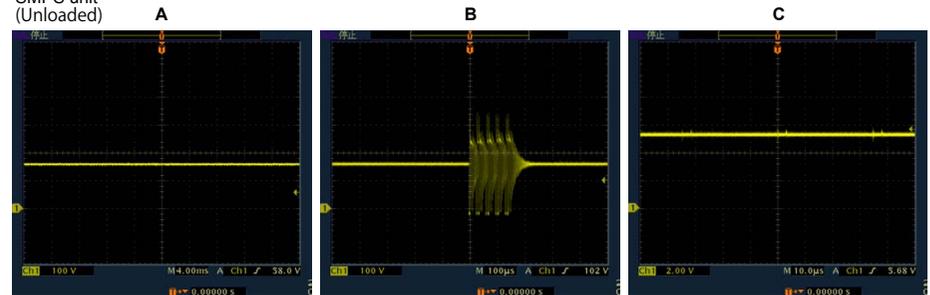
6. SMPS



Operation waveform for each part



SMPS unit (Unloaded)



Caution in servicing

Electrical

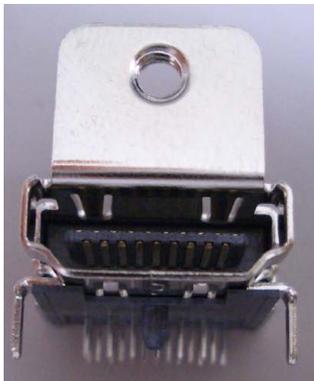
Mechanical

Repair Information

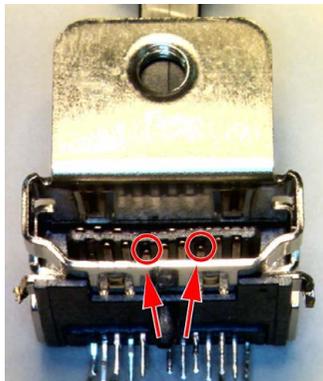
Updating

1. Prior checking

Check item (0) : Checking the HDMI connector
Checking the condition of the HDMI pin (rear/front).



OK



NG

Check for deformed pins.

None of the pins are deformed.

There are deformed pins.

Replace the HDMI connector.

3. Check by following the flow chart for starting detection of the points of failure.

2. Preparations for checking HDMI Switcher reception/transmission register

2-1. Necessary devices

- 1) Check the product settings.
- 2-a) Player with an HDMI terminal
- 2-b) TV with an HDMI terminal (* NOTE : Do not use a computer monitor.)
- 3) Windows PC
- 4) Serial communication software "termite.exe"
(Download the software from http://www.compuphase.com/software_termite.htm and install it.)
- 5) HDMI cable
- 6) RS-232C Straight cable
- 7) 8U-2120100S WRITING KIT
- 8) oscilloscope

2-2. Device Connection Method

Connect the TV and the AVR to the player using an HDMI cable and connect the AVR to the PC through an RS-232C cable as shown in Figure 1.

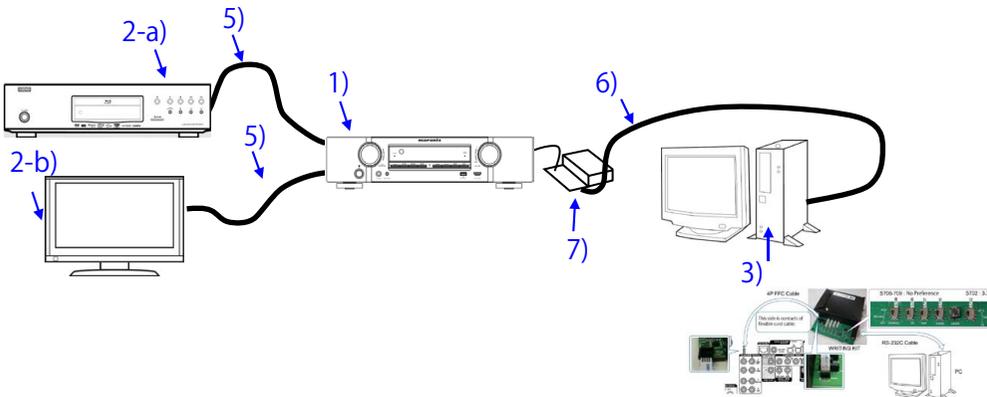


Figure 1 Device Connection Method (NR1607)

2-3. Device configuration method

PC settings : Execute the serial communication program, Termite.exe.

After executing Termite.exe, click [Settings].

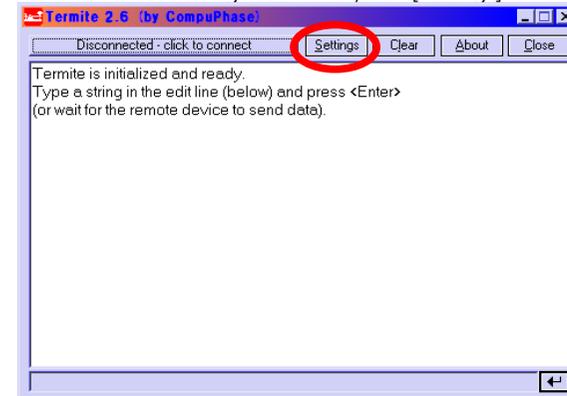


Figure 2 Screen After Executing Termite.exe

The serial port setup screen will be displayed.

Configure the settings as shown in Figure 3 and click the [OK] button.

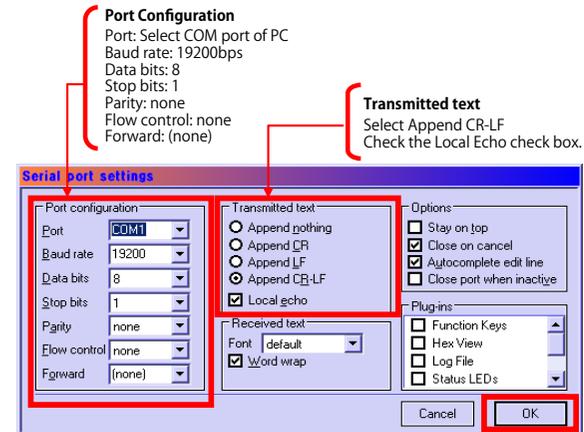


Figure 3 Serial Port Setup Screen

Click the [click to connect] button to start communication.
 After a connection is established successfully, the display of the button name will change as shown in Figure 4.

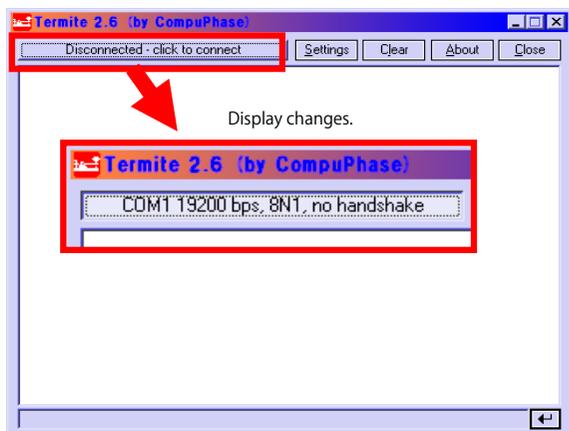


Figure 4 Change of the Display of the Communication Start Button Name

TV settings : Switch to the HDMI input in the AVR connection.

Player settings : Turn the unit power on and configure it to play disks.

⚠ AVR settings : While the power is on, hold down buttons "M-DAX" and "ZONE2 SOURCE" for at least 3 seconds.

(Continue to press and hold the buttons until all segments of the FLD volume illuminate.)

※ When the power is turned on after initialization, "Setup Assistant" will be displayed.

After exiting "Setup Assistant," execute the above.

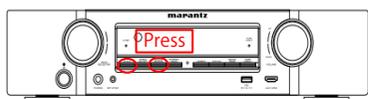


Figure 6-1. AVR settings (NR1607)

for Volume 7 segment



All the indicator Lights

Figure 6 FLD Display When Set

When the settings are correct, the following message will be displayed in the window of Termite.

[00]Start Sub CPU Log Mode

(**** is a version of Sub CPU.)

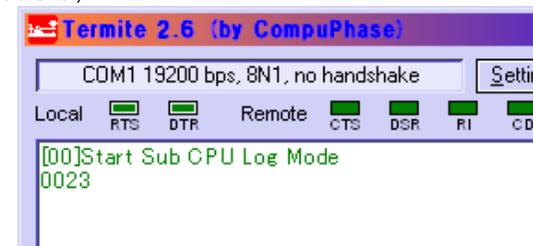


Figure 7 Display of Termite When AVR is Set

The setup is now complete.

Method for sending commands

Enter the command in the transmission command entry section, click the [Send] button and send the command.

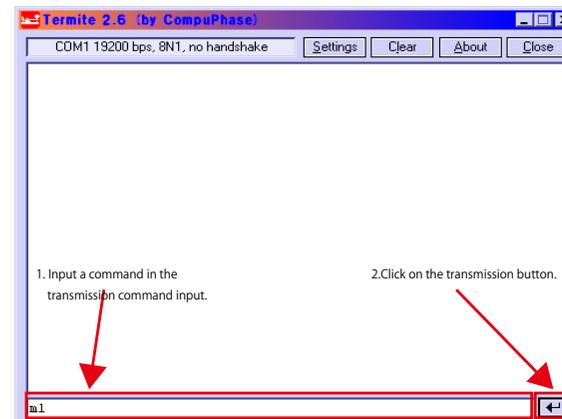


Figure 8 Method for Sending Termite Commands

3. Starting detecting the point of failure

3-1 Check the "HDMI/DVI" item in troubleshooting.

Check item(1).
Check that the version of the AVR can be read correctly.
Is the GUI version readable correctly?

NO Is the GUI version readable correctly?
Go to [check item \(42\)](#)
GUI IC (ADV8003) failure detection procedure 1

YES

Check item(2).
Are all versions readable correctly without displaying IP SCALER ERR 01 or IP SCALER ERR 02?

NO Check soldering of IP SCALER (U1026), DDR2 (U1028/U1029) and its peripheral circuits.
Check soldering of the resistors (R1688/1689/1692/1695 to 1700/1703 to 1711) between IP SCALER and DDR2.
If there is no problem with soldering, U1026, U1028 or U1029 is defective. Replace their IC. Or replace the substrate.

YES

Check item(3). : Check operation of the HDMI input terminal.



When the HDMI input terminal of this device is connected to the player correctly, is sound heard from the speaker?
※ When checking, turn the AV amplifier on and off after checking the connection terminal with the player. (To set the same conditions during verification of operation)

NO Check that sound is heard from the input terminal of the HDMI 1-7.
Use any of Dolby TrueHD/DTSHD MA/PCM 8ch for the playback audio format.

NO Is the "DIG" indicator illuminated on the FLD?
When the "DIG" indicator is illuminated, the digital audio block is faulty.
If the "DIG" indicator is not illuminated, go to [check item \(7\)](#).
(HDMI RX IC (MN864788) failure detection procedure)

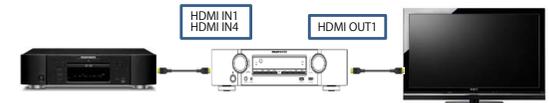
YES

Check that sound is heard from the input terminal of the HDMI 8.

NO Go to [check item \(20\)](#)
(Front HDMI Buffer IC (AD8195) failure detection procedure)

YES

Check item(4). :
(2)-1 Turn Video Conversion "OFF" on the setup menu.
(Setup Menu - Video - Output Settings - Video Conversion)
(2)-2 Does a video signal come from HDMI OUT1 to TV correctly?



When the player is connected to the HDMI input terminals 1 and 4 in order, are the images on the player displayed on the TV?

NO Go to [check item \(28\)](#)
HDMI transmission IC (MN864788) failure detection procedure

YES

Check item(5). : Check operation of the HDMI output terminal.

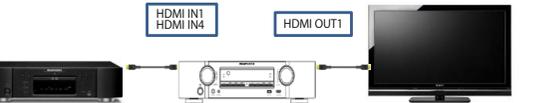


When the "SETUP" button on a remote control is pressed, is "MENU" displayed on TV which is connected to the HDMI output terminal on the AVR?

NO Go to [check item \(51\)](#)
(GUI IC (ADV8003) failure detection procedure 2)

YES

Check item (6) :
(4)-1 Turn Video Conversion "ON" on the setup menu.
(Setup Menu - Video - Output Settings - Video Conversion)
(4)-2 Does a video signal come from HDMI OUT1 to TV correctly?



When the player is connected to the HDMI input terminals in order, are the images on the player displayed on the TV in both cases?

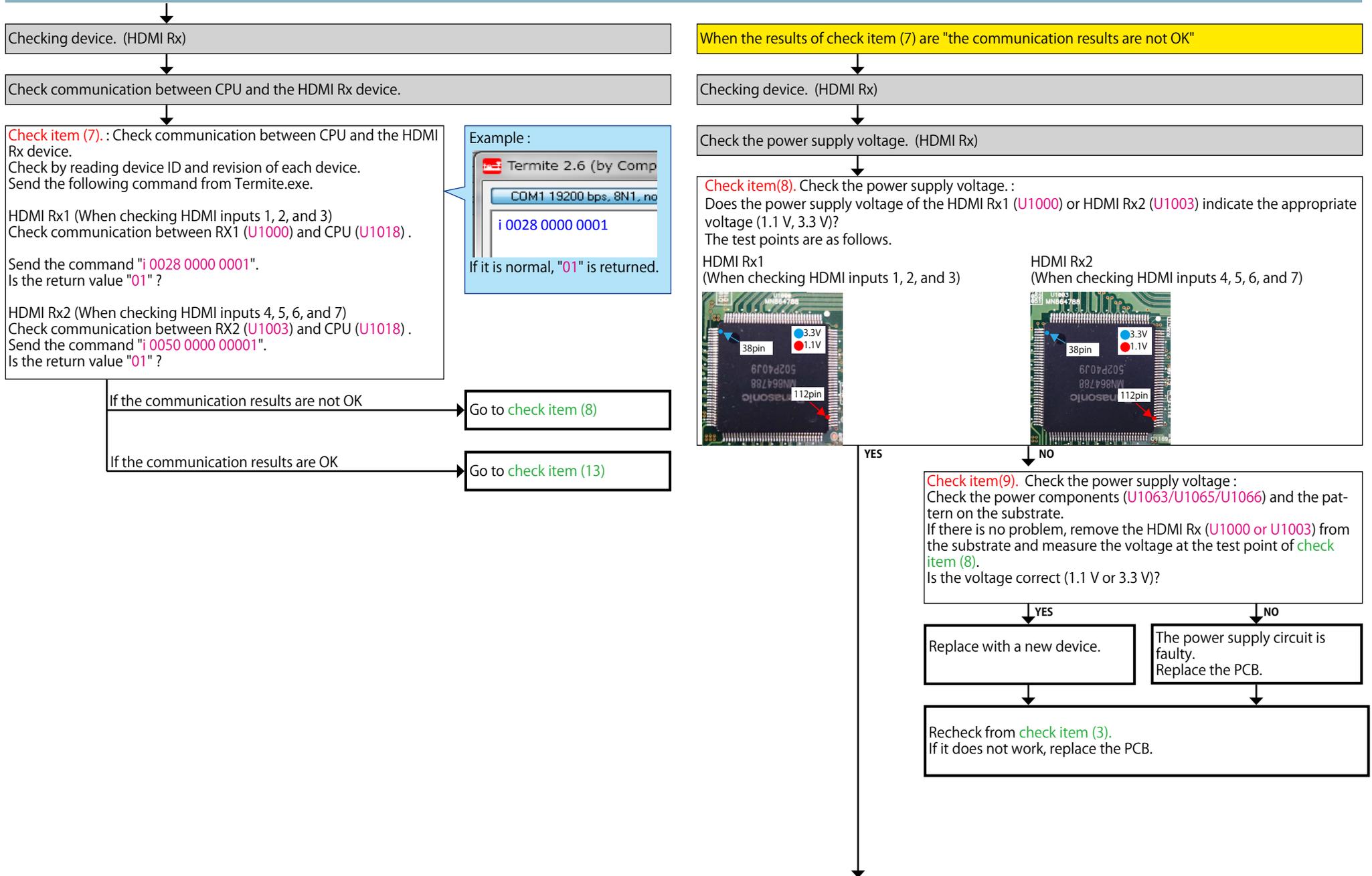
NO Go to [check item \(53\)](#)
(HDMI SW IC (ADV7850) failure detection procedure)

YES

There is no problem with Rx, Tx, and GUI of HDMI as well as IC of SW.

Caution in servicing
Electrical
Mechanical
Repair Information
Updating

3-2 HDMI Rx (MN864788) failure detection procedure



Caution in servicing

Electrical

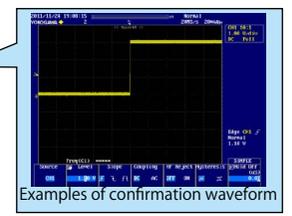
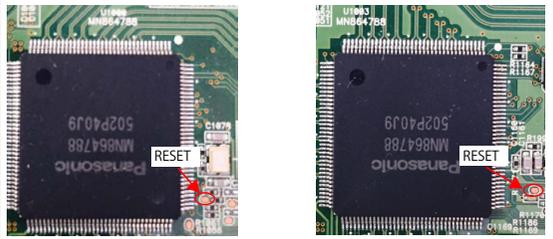
Mechanical

Repair Information

Updating

Checking the reset waveform (HDMI Rx)

Check item(10). Checking the reset waveform :
Check the waveform.
Is the waveform of the TP near the HDMI Rx (U1000 or U1003) correct (like the one shown in the diagram) when the power is turned on?
HDMI Rx1 (When checking HDMI inputs 1, 2, and 3)
HDMI Rx2 (When checking HDMI inputs 4, 5, 6, and 7)

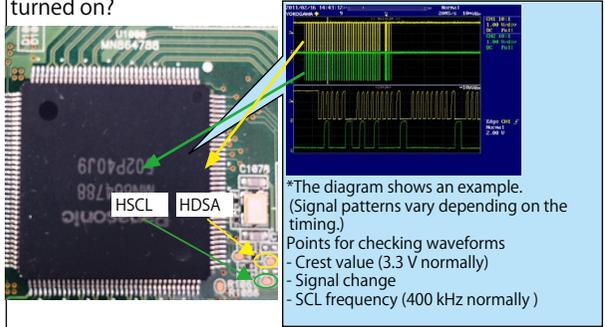


Examples of confirmation waveform

NO
Check the reset circuit between CPU (U1018) and HDMI Rx (U1000 or U1003).
If there is no problem, the HDMI Rx (U1000 or U1003) is faulty. Replace with a new device. Recheck from check item (3). If it does not work, replace the PCB.

Check the I2C communication line. (HDMI Rx)

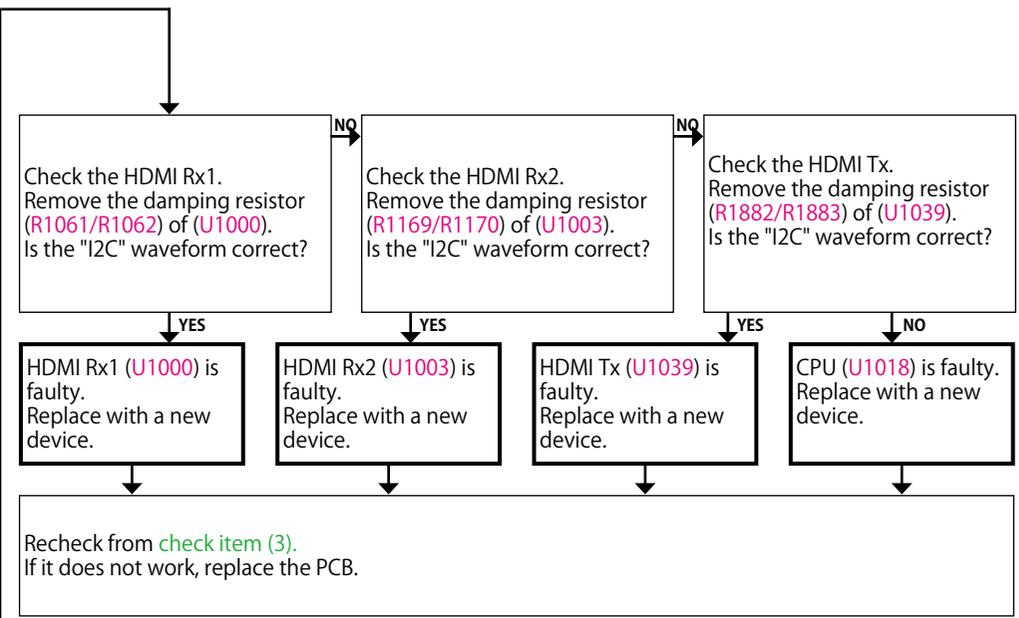
Check item(11). Check the I2C communication line :
Check the CPU.
Is the "I2C" waveform of the TP near the HDMI Rx (U1000) correct (like the one shown in the diagram) when the power is turned on?



NO
Check item(12). Check the I2C communication line :
Check HDMI Rx (U1000 or U1003), HDMI Tx (U1039) and CPU (U1018) patterns as well as soldering.
If there is no problem, go to the next step.

YES
HDMI Rx (U1000 or U1003) is faulty. Replace with a new IC.

YES
Recheck from check item (3).
If it does not work, replace the PCB.



When the results of check item (7) are "the communication results are OK"

Checking operation between the HDMI (Rx) device and the player



※ In order to check, connect the player to the HDMI terminal and configure the player as AVR source. Check the sound output while turning on the player.

Checking the +5V/DDC status register

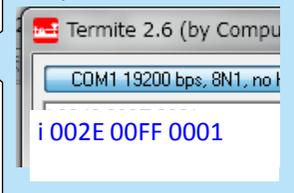
Check item(13). Checking the +5V status register :
Send the following command from Termite.exe.

HDMI Rx1 (When checking HDMI inputs 1, 2, and 3)
Send the command "i 002E 00FF 0001".

HDMI Rx2 (When checking HDMI inputs 4, 5, 6, and 7)
Send the command "i 0056 00FF 0001".

Move to the branch destination according to the value returned.

Example



HDMI in 1 ~ 7 "00"
(Detection of 5V is not OK.)

Go to **check item (15)**

HDMI in1 "44 or 40" HDMI In2 "22 or 20" HDMI In3 "11 or 10"
HDMI In4 "88 or 80" HDMI In5 "44 or 40" HDMI In6 "22 or 20"
HDMI In7 "11 or 10"
(Detection of 5V is OK)

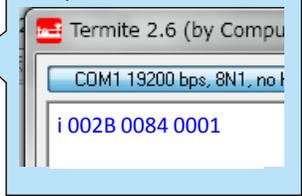
Check item(14). Checking the +5V/DDC status register :
Send the following command from Termite.exe.

HDMI Rx1 (When checking HDMI inputs 1, 2, and 3)
Case of HDMI IN1
Send the command "i 002B 0084 0001".
Case of HDMI IN2
Send the command "i 002B 0054 0001".
Case of HDMI IN3
Send the command "i 002B 0024 0001".

HDMI Rx2 (When checking HDMI inputs 4, 5, 6, and 7)
Case of HDMI IN4
Send the command "i 0053 0084 0001".
Case of HDMI IN5
Send the command "i 0053 0084 0001".
Case of HDMI IN6
Send the command "i 0053 0054 0001".
Case of HDMI IN7
Send the command "i 0053 0024 0001".

Move to the branch destination according to the value returned.

Example



"00 or 04"
(Detection of DDC is not OK.)

Go to **check item (16)**

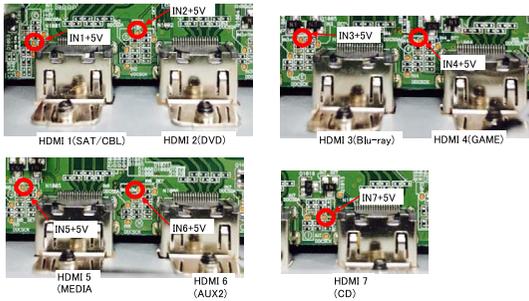
"22"
(Detection of DDC is OK)

Go to **check item (17)**

When the results of check item (13) are "00"
(Detection of 5V is not OK)

Check the +5V voltage. (HDMI Rx)

Check item(15). Check the +5V voltage :
Does "+5 V" at the following test point indicate 5 V?



YES

NO

HDMI Rx (U1000 or U1003) is faulty.
Replace with a new device.

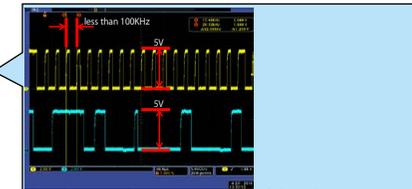
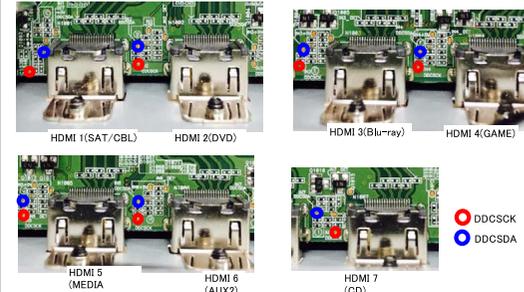
Check for a short circuit in the 5 V line and the 5 V Switch IC (U1002).
If there is no problem, the HDMI Rx (U1000 or U1003) or the 5 V Switch IC (U1002) is faulty
Replace with a new device.

Recheck from check item (3).
If it does not work, replace the PCB.

When the results of check item (14) are "00 or 04"
(Detection of DDC is not OK.)

Check the DDC line. (HDMI Rx)

Check item(16). Check the DDC line :
Are waveforms of "DDCSCK" and "DDCSDA" observed at the test point near the HDMI input terminal?



This diagram shows an example of the DDC communication waveform.
-The high level voltage is 5V.
-The frequency of the DDC CLK is 100 KHz or less.
Check at each test point.

YES

NO

HDMI Rx (U1000 or U1003) is faulty.
Replace with a new device.

Check for a short circuit in the DDC line.
If there is no problem, the HDMI Rx1 (U1000) or HDMI Rx2 (U1003) is faulty.
Replace with a new device.

Recheck from check item (3).
If it does not work, replace the PCB.

When the results of check item (14) are "22"
(Detection of DDC is OK.)

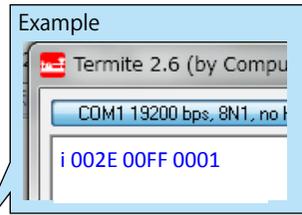
Checking the TMDS status register

Check item(17). Checking register of the TMDS CLK detection status register:
Send the following command from Termit.exe.

HDMI Rx1 (When checking HDMI inputs 1, 2, and 3)
Send the command "i 002E 00FF 0001".
Rx2 (When checking HDMI inputs 4, 5, 6, and 7)
Send the command "i 0056 00FF 0001".

When the following value is returned, go to Yes.
HDMI In1 "44" HDMI In2 "22" HDMI In3 "11" HDMI In4 "88" HDMI In5 "44" HDMI In6 "22" HDMI In7 "11"

When the following value is returned, go to No.
HDMI In1 "40" HDMI In2 "20" HDMI In3 "10" HDMI In4 "80" HDMI In5 "40" HDMI In6 "20" HDMI In7 "10"

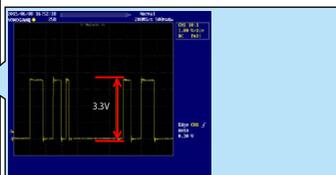


NO

YES

Check item(19). Checking the audio signal output:
Check the audio signal waveform at the following test point.
Is the waveform like the sample?

HDMI Rx1 (U1000)
(When checking HDMI inputs 1, 2, and 3)
HDMI Rx2 (U1003)
(When checking HDMI inputs 4, 5, 6, and 7)



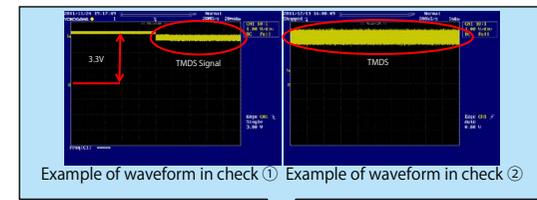
The diagram shows an example of the waveform of pin 129. (I2S0 Data)
Waveform check points
- Crest value (3.3 V normally)
- Signal change
Check the waveform of each pin.

YES

The digital audio block is faulty.
Check the digital audio device.
Check "AUDIO" in troubleshooting.
If it does not work, replace the PCB.

NO

HDMI Rx (U1000 or U1003) is faulty.
Replace with a new device.



Check item (18). Checking the TMDS input waveform.:
Check the TMDS waveform at the following test point.
Is the waveform like the sample?

HDMI Rx1 (U1000)
(When checking HDMI inputs 1, 2, and 3)
HDMI Rx2 (U1003)
(When checking HDMI inputs 4, 5, 6, and 7)



YES

HDMI Rx (U1000 or U1003) is faulty.
Replace with a new device.

NO

Check for a short circuit in the pattern of the TMDS line of the HDMI Rx (U1000 or U1003) from the HDMI input terminal.
If there is no problem, the HDMI Rx (U1000 or U1003) is faulty. Replace with a new device.

Recheck from **check item (3)**.
If it does not work, replace the PCB.

3-3 Front HDMI Buffer IC (AD8195) failure detection procedure

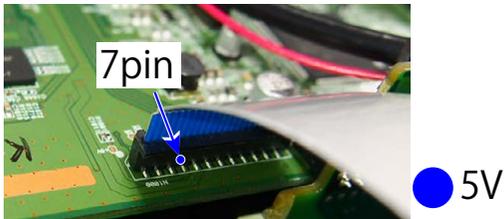
Checking operation between the HDMI (Front HDMI Buffer) and the player



※ In order to check, connect the player to the HDMI terminal and configure the player as AVR source. Check the sound output while turning on the player.

Check the power supply voltage. (HDMI Rx)

Check item(20). Check the power supply voltage : Does the power supply voltage of the Front HDMI FFC base (N1000) indicate the correct voltage (5V)? The test points are as follows.



YES **Check item(21).** Check the power supply voltage : Check the FETSW (Q1058) and peripheral pattern. If there is no problem, remove the Front HDMI FFC from the substrate and measure the voltage at the test point of **check item (20)**. Is the power supply voltage correct (5 V)?

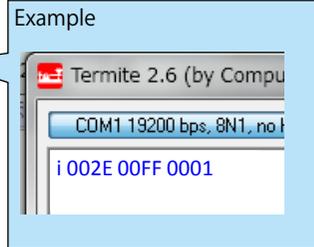
YES
Front HDMI Buffer (U1022) is faulty. Replace with a new device.

NO
Replace the FET SW (Q1058) and recheck from **check item (20)**. If it does not work, replace the PCB.

Recheck from **check item (3)**. If it does not work, replace the PCB.

Checking the +5V/DDC status register (Front HDMI Buffer)

Check item(22). Checking the 5 V status of the register : Send the following command from Termit.exe.
Send the command "i 002E 00FF 0001".
Move to the branch destination according to the value returned.

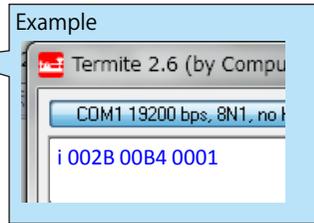


"00"
(Detection of 5V is not OK.)

Go to **check item (24)**

"88 or 80"
(Detection of 5V is OK)

Check item(23). Checking the status of the register : Send the following command from Termit.exe.
Send the command "i 002B 00B4 0001".
Move to the branch destination according to the value returned.



"00 or 04"
(Detection of DDC is not OK.)

Go to **check item (25)**

"22"
(Detection of DDC is OK)

Go to **check item (26)**

Caution in servicing

Electrical

Mechanical

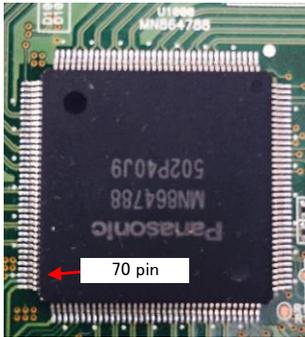
Repair Information

Updating

When the results of check item (22) are "00"
(Detection of 5V is not OK.)

Check the +5V voltage. (Front HDMI Buffer)

Check item(24). Check the +5V voltage :
Does "+5 V" at the following test point indicate 5 V?
The test points are as follows.



NO
Check for a short circuit in the 5 V line, the Front HDMI FFC, and the 5 V Switch (U1002).
If there is no problem, the HDMI Rx (U1000) or the 5 V Switch (U1002) is faulty.
Replace with a new device.

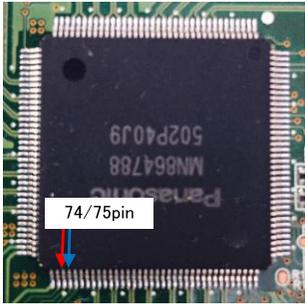
YES
HDMI Rx1 (U1000) is faulty.
Replace with a new device.

Recheck from **check item (3)**.
If it does not work, replace the PCB.

When the results of check item (23) are "00 or 04"
(If the DDC are not OK)

Check the DDC line. (Front HDMI Buffer)

Check item(25). Check the DDC line :
Does "DDCCL / DDCDA" signal of the RX1 (U1000) indicate 5 V?
The test points are as follows.

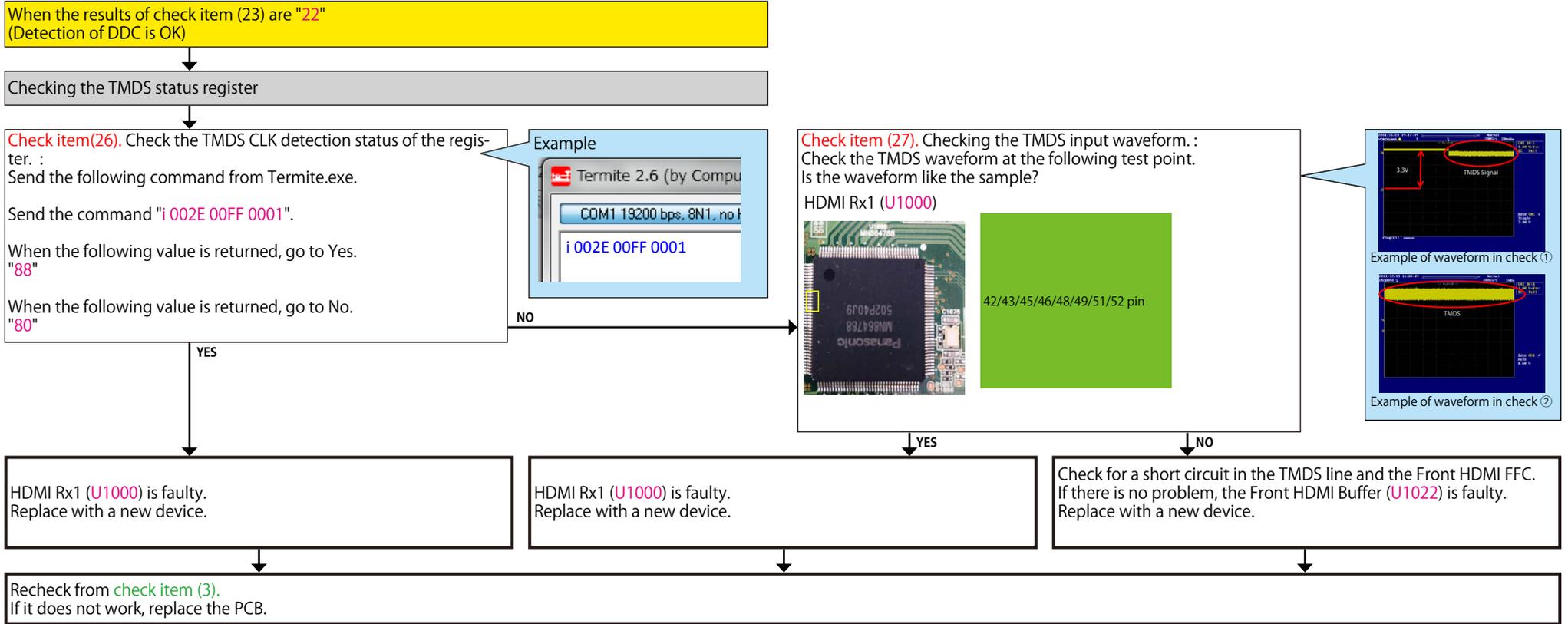


This diagram shows an example of the DDC communication waveform.
-The high level voltage is 5V.
-The frequency of the DDC CLK is 100 KHz or less.
Check at each test point.

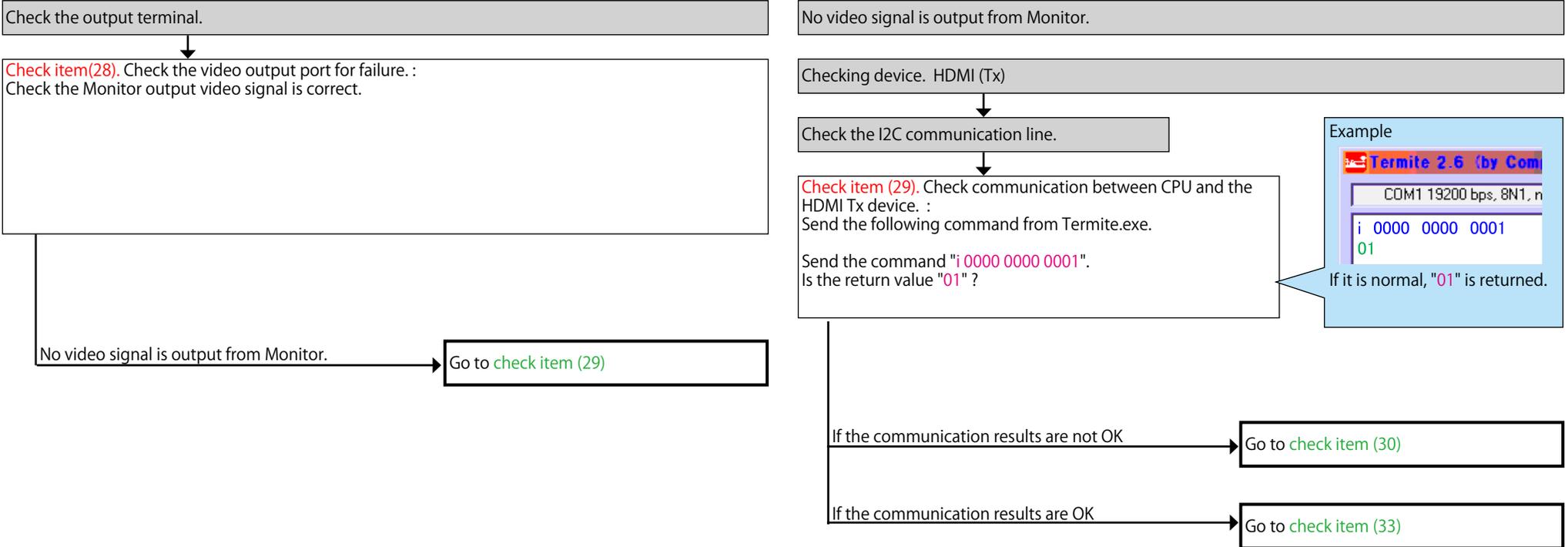
NO
Check for a short circuit in the DDC line and check the Front HDMI FFC.
If there is no problem, the Front HDMI Buffer(U1022) is faulty.
Replace with a new device.

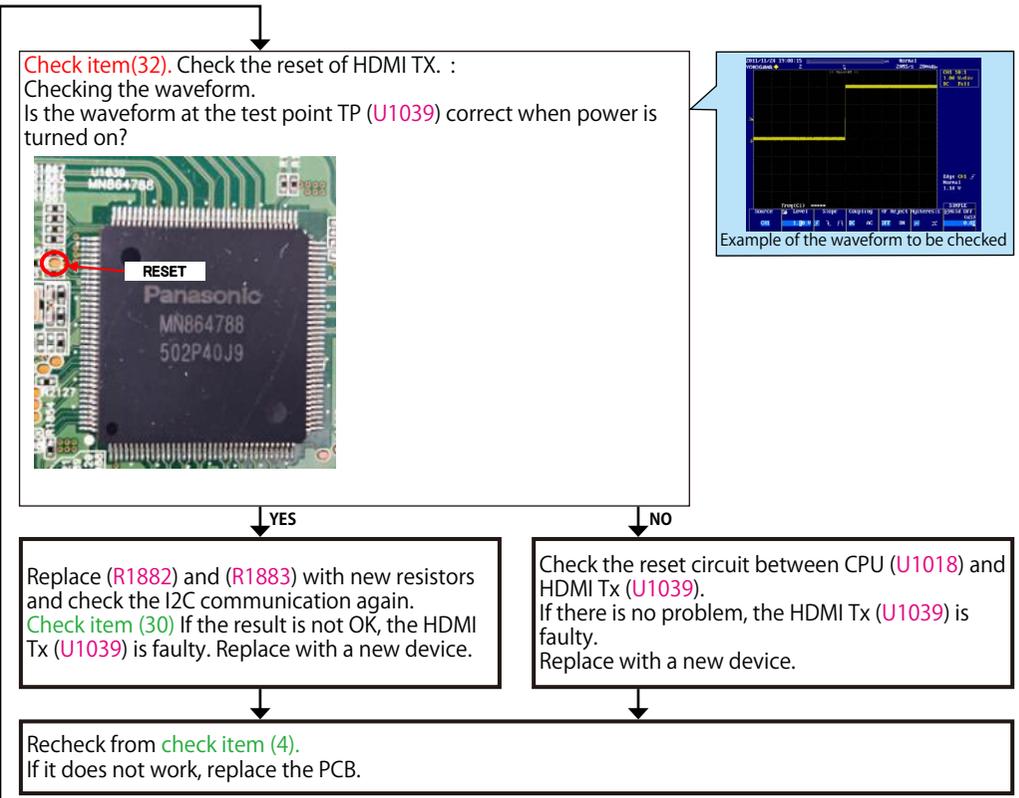
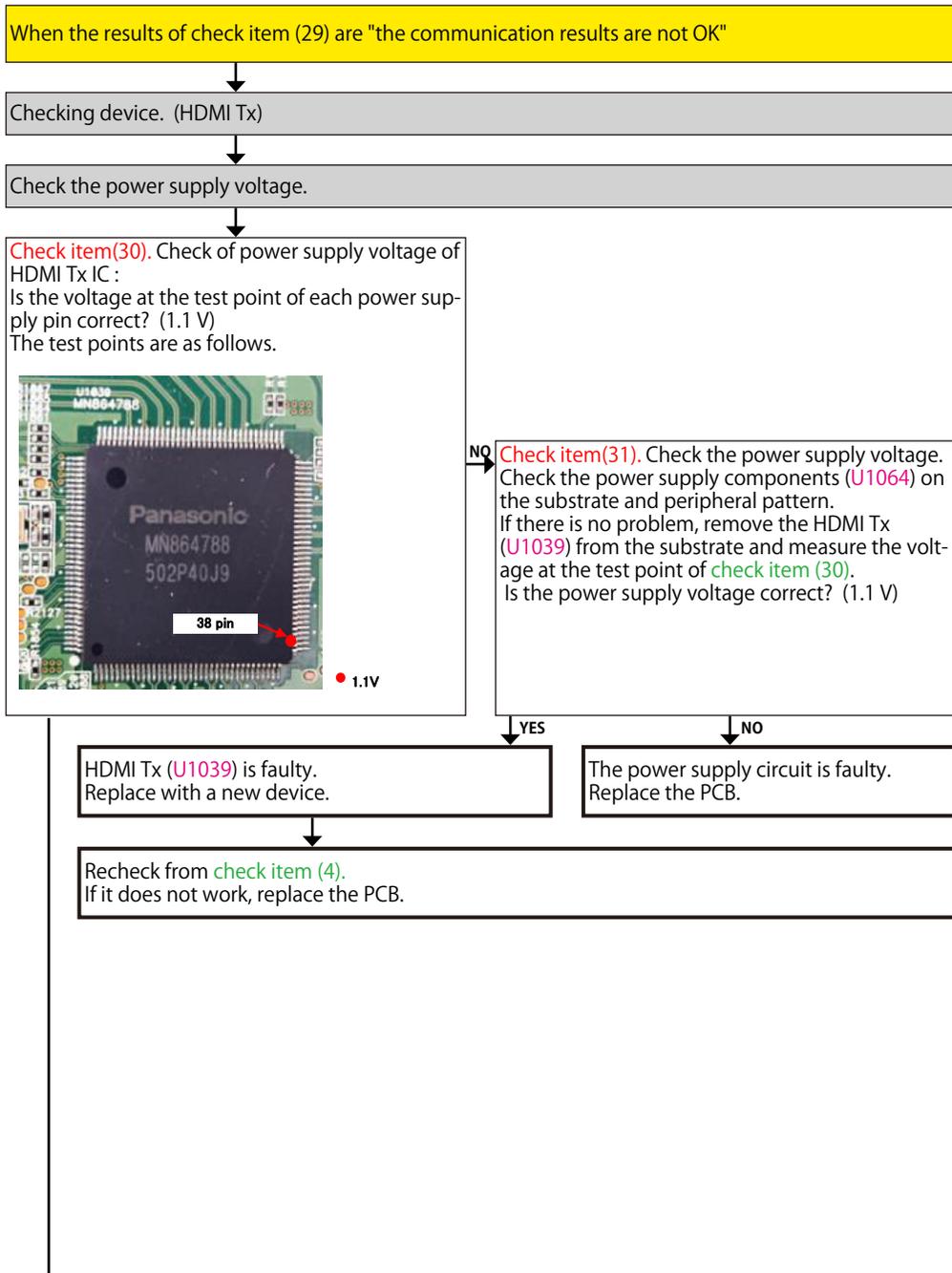
YES
HDMI Rx1 (U1000) is faulty.
Replace with a new device.

Recheck from **check item (3)**.
If it does not work, replace the PCB.



3-4 HDMI transmission IC (MN864788) failure detection procedure





When the results of check item (29) are "the communication results are OK"

Checking operation between the HDMI (Rx) device and the HDMI device (Tx).
Checking operation between the HDMI (Tx) device and TV.



Checking the TMDS status register (HDMI Rx -> HDMI Tx)

Check item(33). Check the TMDS CLK detection status of the register. :
Send the following command from Termite.exe.
Send the command "i 0006 00FF 0001".
When checking the signal path from HDMI1 to HDMI OUT1
"72" : Go to Yes.
"74" : Go to No.
When checking the signal path from HDMI4 IN to HDMI OUT1
"71" : Go to Yes.
"74" : Go to No.

Example

YES
Checking between Monitor and the TV.
Go to **check item (35)**

NO
Check item (34). Checking the TMDS input :
TMDS waveform at the following points.

Between HDMI Rx1 and HDMI Tx
80/81/83/84/86/87/89/90 pin
Between HDMI Rx2 and HDMI Tx
93/94/96/97/99/100/102/103 pin

NO
HDMI Tx (U1039) is faulty.
Replace with a new device.

YES
Recheck from **check item (4)**.
If it does not work, replace the PCB.

NO
If it is NO between HDMI Rx1 and HDMI Tx.
HDMI Rx1(U1000) is faulty.
Replace with a new device.

NO
If it is NO between HDMI Rx2 and HDMI Tx.
HDMI Rx2 (U1003) is faulty.
Replace with a new device.

Checking between Monitor and the TV.
Connect Monitor to the TV and check the following items with the TV turned on.

Checking the HPD/RXSENSE status register. (HDMI TX -> Monitor)

Check item(35). Check the HPD and RXSENSE register value of the HDMI TX device.
Send the following command from Termite.exe.
Send the command "i 0000 0040 0001".
Move to the branch destination according to the value returned.

Example

"30"
(Detection of HPD is OK / Detection of RXSENSE is OK)
Go to **check item (36)**

"10"
(Detection of HPD is OK / Detection of RXSENSE is not OK)
Go to **check item (39)**

"20"
(Detection of HPD is not OK / Detection of RXSENSE is OK)
Go to **check item (40)**

"00"
(Detection of HPD is not OK / Detection of RXSENSE is not OK)
Go to **check item (41)**

When the results of check item (35) are "30"
(Detection of HPD is OK / Detection of RXSENSE is OK)

Checking the EDID register (Monitor)

Check item(36). Check the Monitor EDID :
 ① Unplug the AC cord. Plug the AC cord into a power outlet.
 ② Send the transmission command "m_1" from Termite.exe.
 Are the first eight bytes of the returned value "00FFFFFFFFF00"?

Example

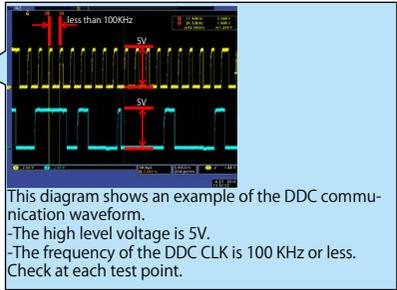
```

    m_1
    00FFFFFFFFF000D1177945540000
    3213010380351E782E6085A6564A9C25
    125054A56B808180810081C0A9C08140
    D1C61C0B300023A8018713B2D40582C
    4500132B2100001E000000FF00394339
    
```

The first eight bytes are normally "00FFFFFFFFF00".
 *If the AVR and the TV are not connected via HDMI, the correct register value cannot be verified.

Check item(37). Checking the TMDS. :
 Check the TMDS waveform at the following test point.

Check item(38). Check the communication :
 Are waveforms of "DDCSCK" and "DDCSDA" observed at the test point near the HDMI output terminal (N1031)?



YES → Check for a short circuit in the TMDS line.
 If there is no problem, the HDMI Tx (U1039) is faulty.
 Replace with a new device.

NO → Check for a short circuit in the DDC line.
 If there is no problem, the HDMI Tx (U1039) is faulty.
 Replace with a new device.

YES → Check for a short circuit in the DDC line.
 If there is no problem, the HDMI Tx (U1039) is faulty.
 Replace with a new device.

NO → Check for a short circuit in the TMDS line.
 If there is no problem, the HDMI Tx (U1039) is faulty.
 Replace with a new device.

HDMI Tx (U1039) is faulty.
 Replace with a new device.

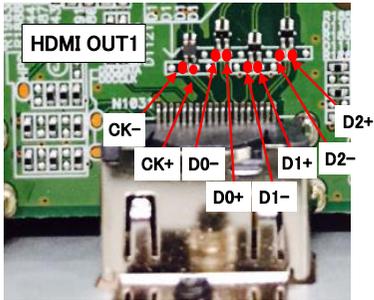
HDMI Tx (U1039) is faulty.
 Replace with a new device.

Recheck from **check item (4)**.
 If it does not work, replace the PCB.

When the results of check item (35) are "10"
(Detection of HPD is OK / Detection of RXSENSE is not OK)

Checking the RXSENSE (Monitor)

Check item(39). Checking the RXSENSE. :
Does the test point of RXSENSE close to the HDMI output terminal (N1031) indicate the 3.3 V?



YES NO

Check for a short circuit in the TMDS line.
If there is no problem, the HDMI Tx (U1039) is faulty.
Replace with a new device.

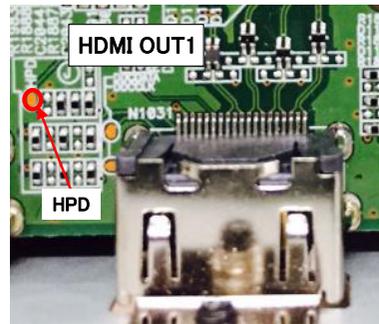
HDMI Tx (U1039) is faulty.
Replace with a new device.

Recheck from check item (4).
If it does not work, replace the PCB.

When the results of check item (35) are "20"
(Detection of HPD is not OK / Detection of RXSENSE is OK)

Checking the HPD. (Monitor)

Check item(40). Checking the HPD. :
Does the test point of HPD close to the HDMI output terminal (N1031) indicate the Hi(3-5V)?



YES NO

Check for a short circuit in the HPD line.
If there is no problem, the HDMI Tx (U1039) is faulty.
Replace with a new device.

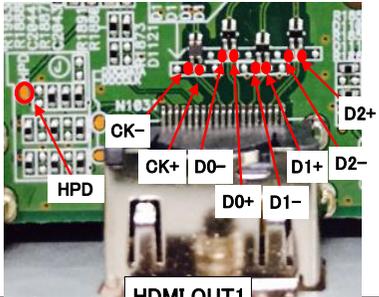
HDMI Tx (U1039) is faulty.
Replace with a new device.

Recheck from check item (4).
If it does not work, replace the PCB.

When the results of check item (35) are "00"
(Detection of HPD is not OK / Detection of RXSENSE is not OK)

Check the RXSENSE/HPD. (Monitor1)

Check item(41). Checking the HPD and RXSENSE. :
Does the test point of RXSENSE close to the HDMI output terminal (N1031) indicate the 3.3 V?
Does the test point of HPD close to the HDMI output terminal (N1031) indicate the Hi(3-5V) V?



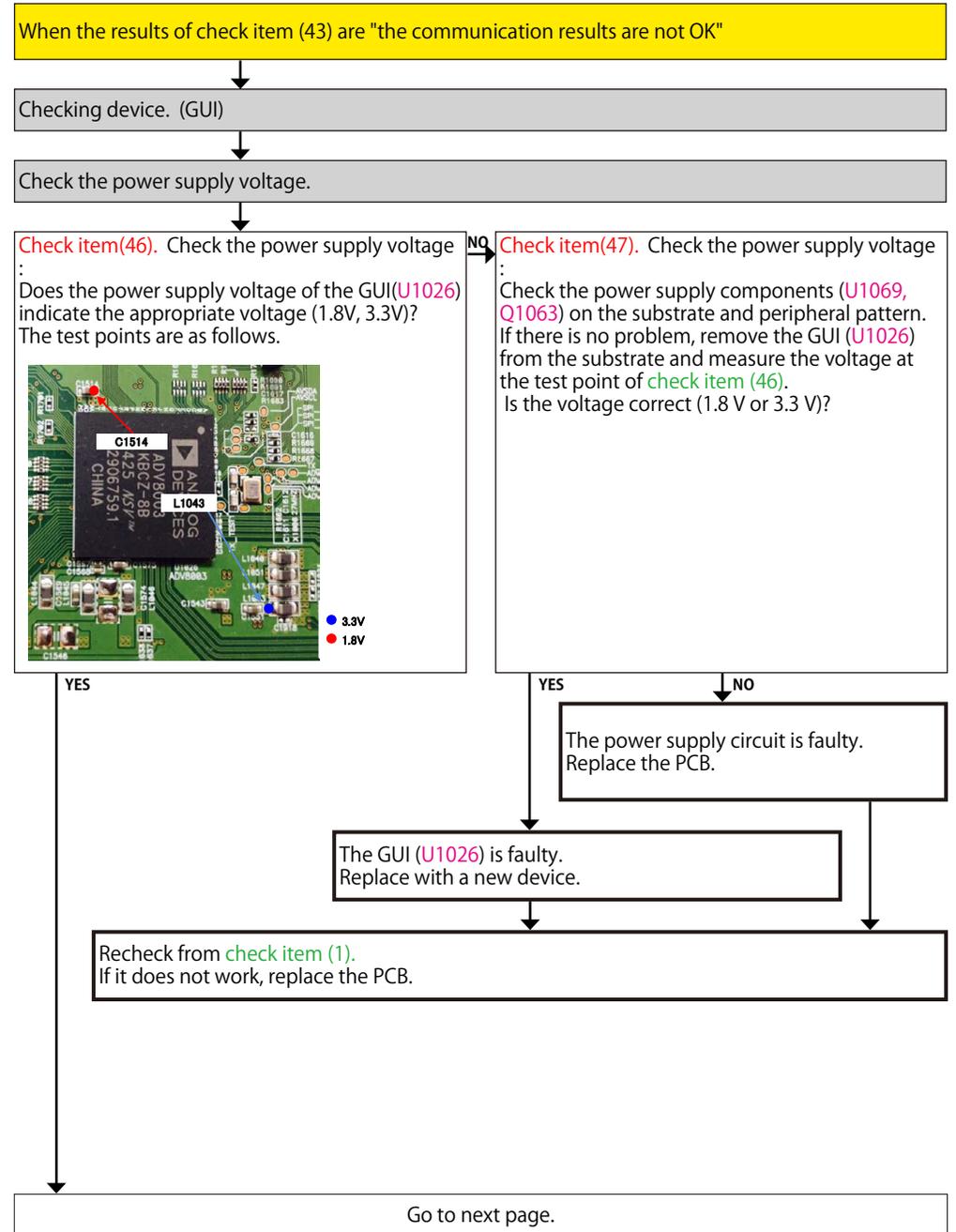
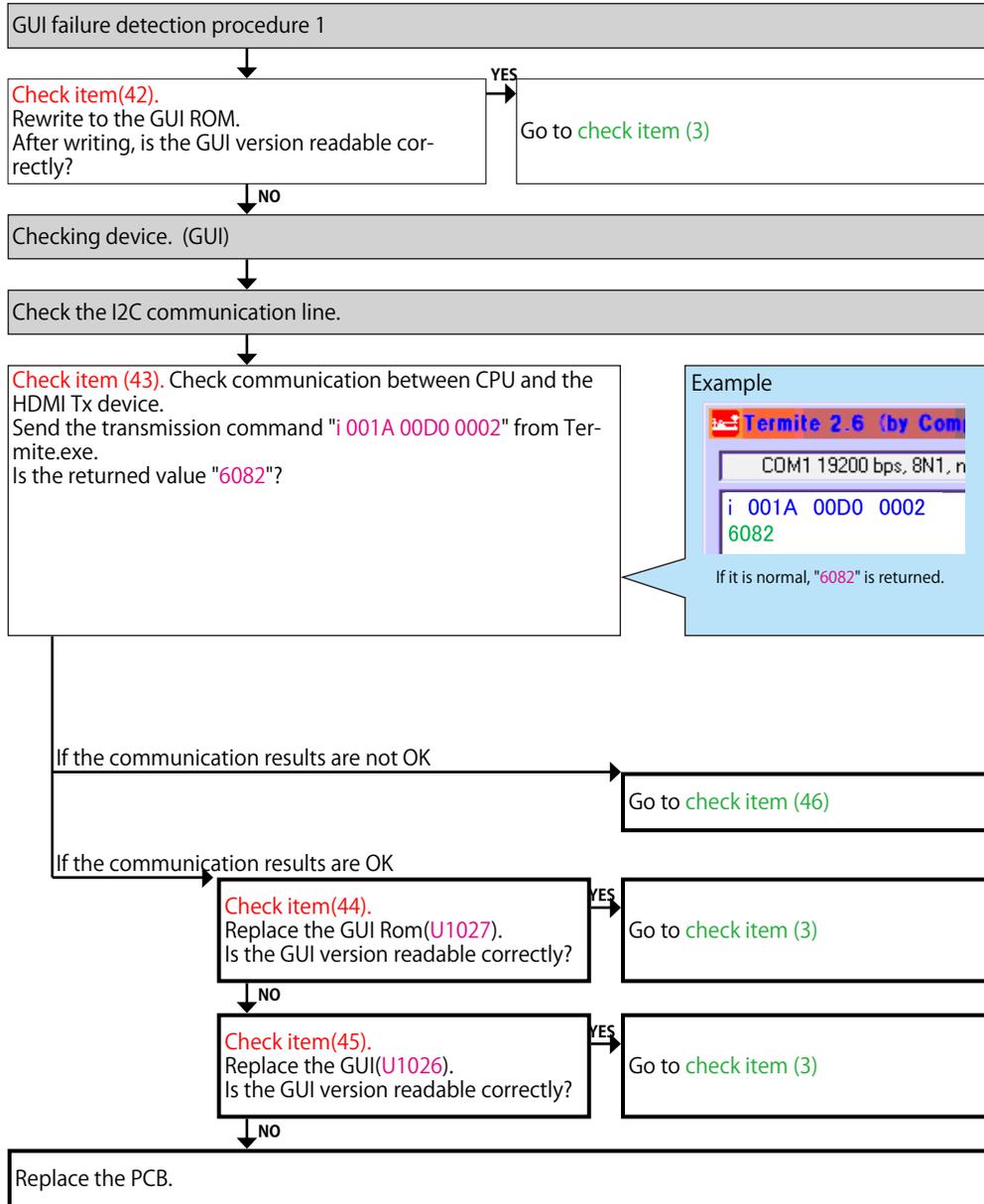
YES
NO

Check for a short circuit in the TMDS/ HPD line.
If there is no problem, the HDMI Tx (U1039) is faulty.
Replace with a new device.

HDMI Tx (U1039) is faulty.
Replace with a new device.

Recheck from **check item (4)**.
If it does not work, replace the PCB.

3-5 GUI IC (ADV8003) failure detection procedure



Caution in servicing

Electrical

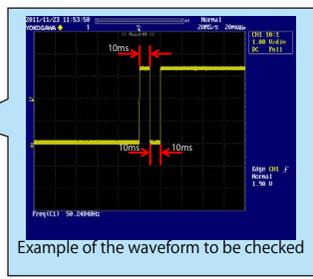
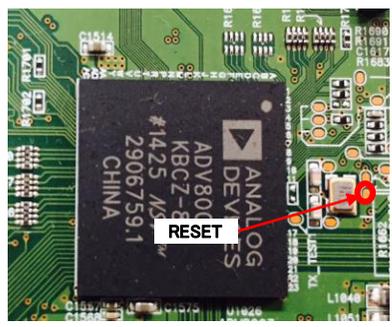
Mechanical

Repair Information

Updating

Checking the reset waveform.

Check item(48). Checking the reset. :
Check the CPU.
Is the waveform of the TP near the GUI(U1026) correct (like the one shown in the diagram) when the power is turned on?



YES NO

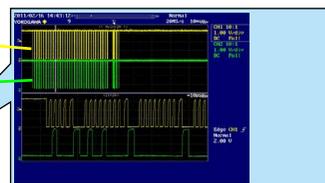
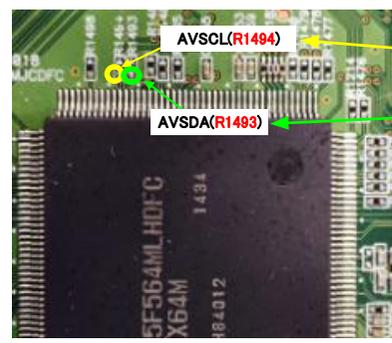
Check the reset circuit between CPU (U1018) and GUI (U1026).
If there is no problem, the GUI (U1026) is faulty.
Replace with a new device.

Recheck from **check item (1)**.
If it does not work, replace the PCB.

Check the I2C communication line.

YES

Check item(49). Check the I2C communication line :
Check the CPU.
Is the "I2C" waveform of the TP near the CPU(U1018) correct (like the one shown in the diagram) when the power is turned on?



*The diagram shows an example.
(Signal patterns vary depending on the timing.)
Points for checking waveforms
- Crest value (3.3 V normally)
- Signal change
- SCL frequency (400 kHz normally)

YES NO

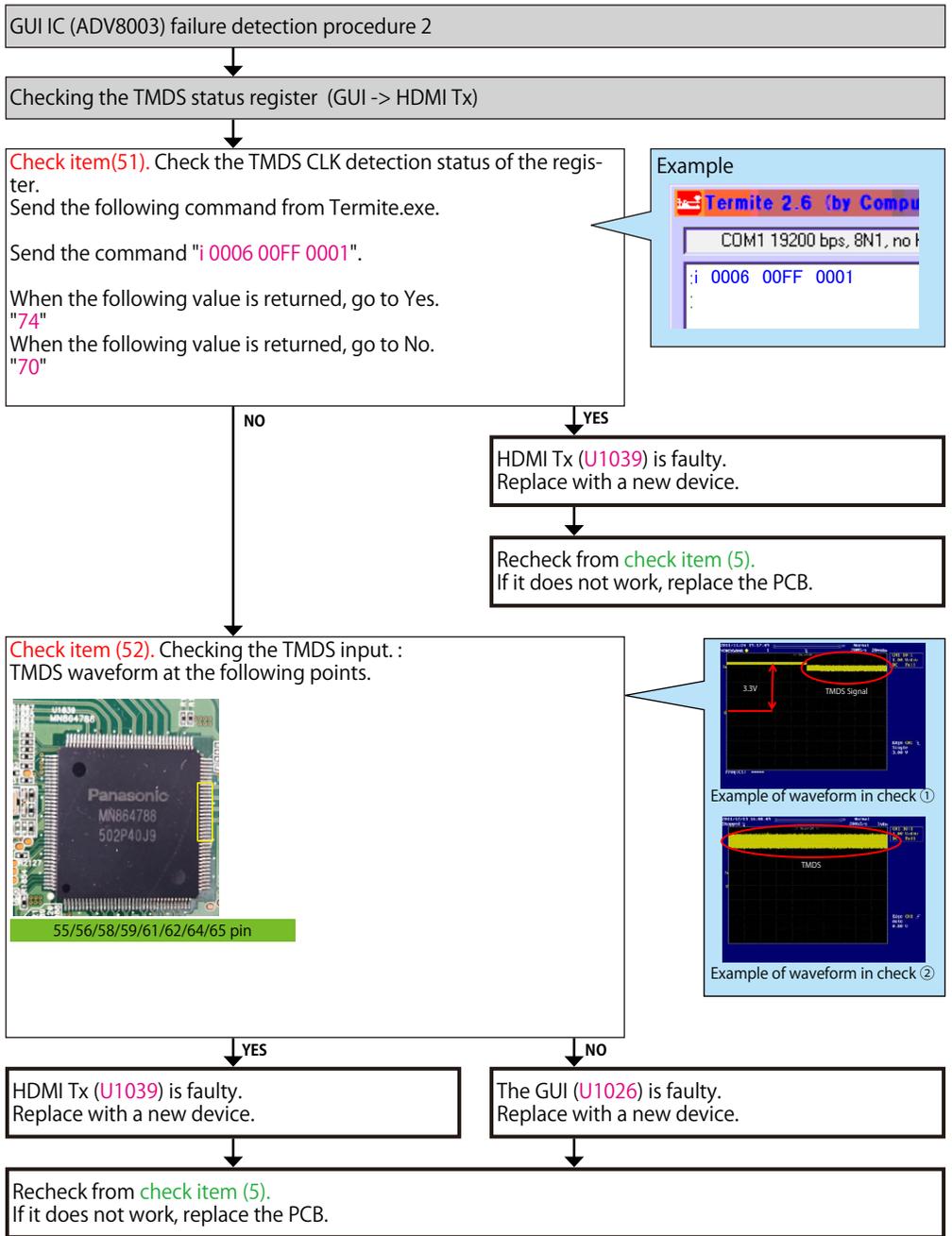
Check item(50). Check the I2C communication line :
Check GUI (U1026), HDMI SW(U1055) and CPU(U1018) patterns as well as soldering.
If there is no problem, go to the next step.

Check the CPU.
Remove the damping resistor (R1493/R1494) of (U1018).
Is the "I2C" waveform correct?

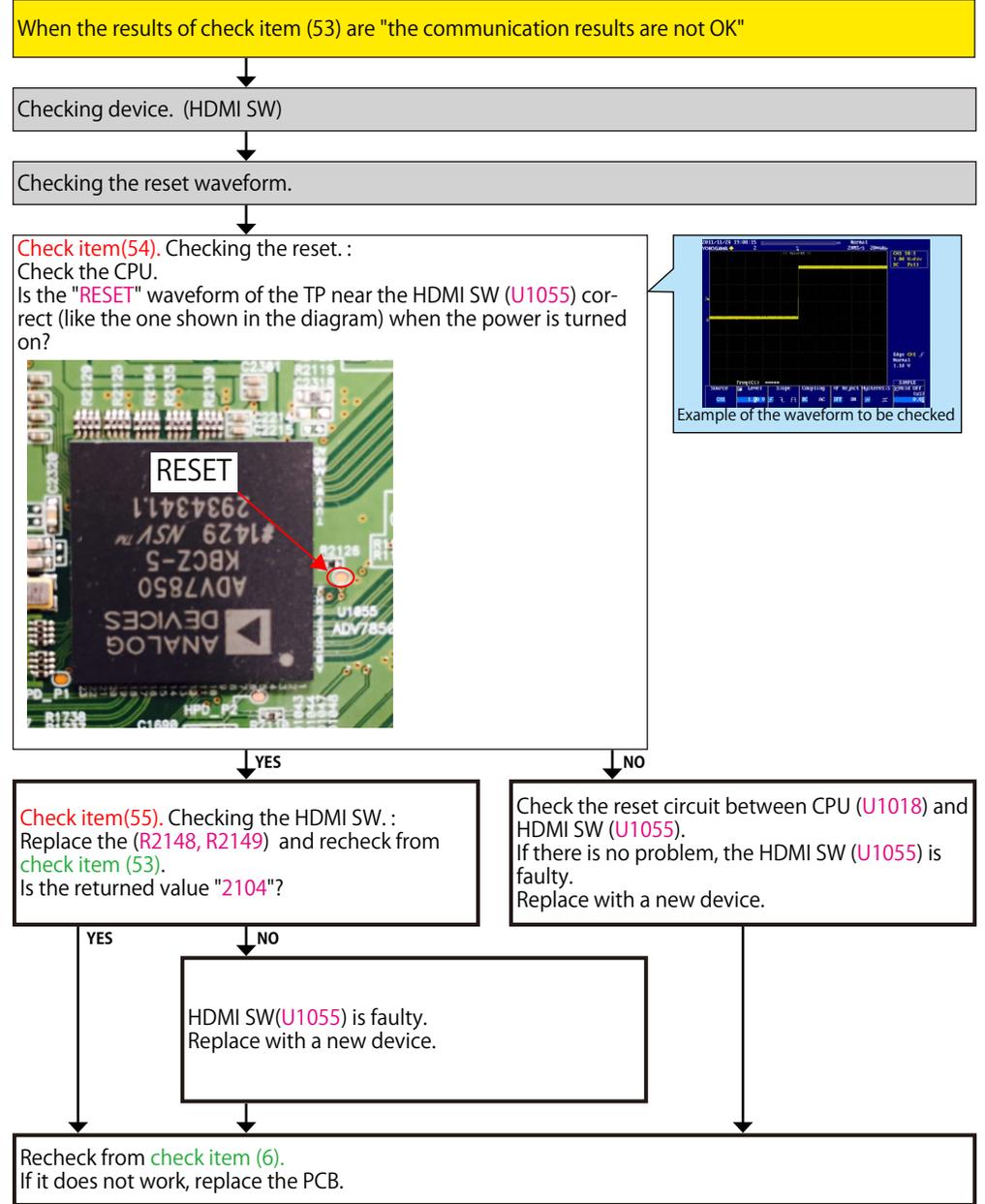
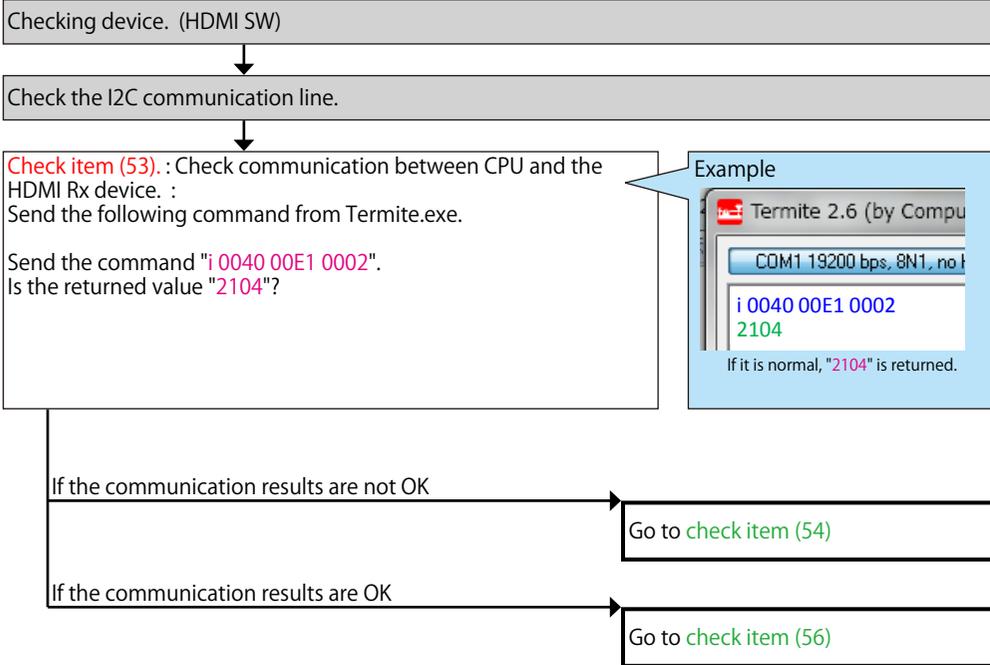
NO
The CPU(U1018) is faulty.
Replace with a new device.

YES
The GUI (U1026) is faulty.
Replace with a new device.

The GUI (U1026) is faulty.
Replace with a new device.



3-6 HDMI SW IC (ADV7850) failure detection procedure



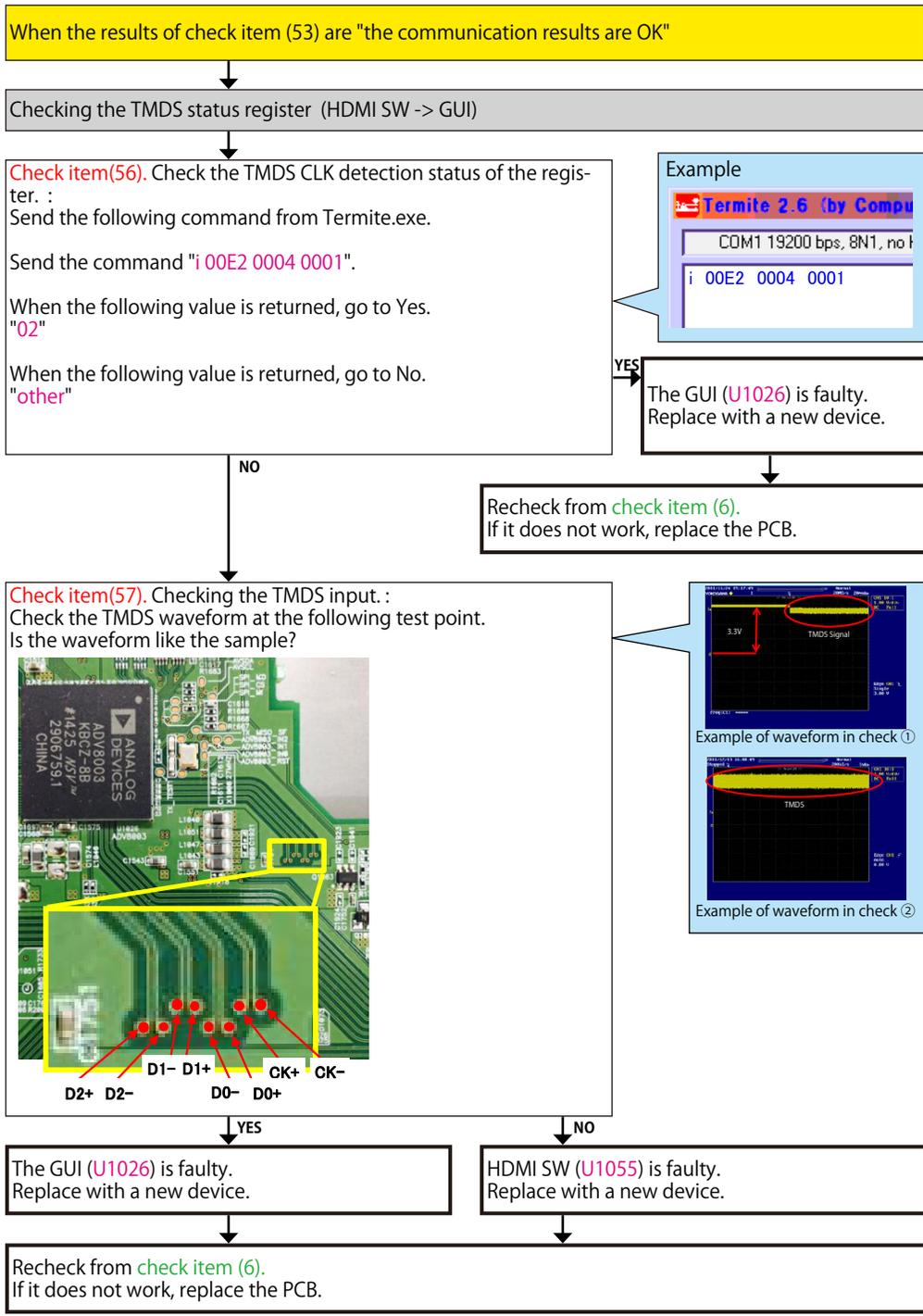
Caution in servicing

Electrical

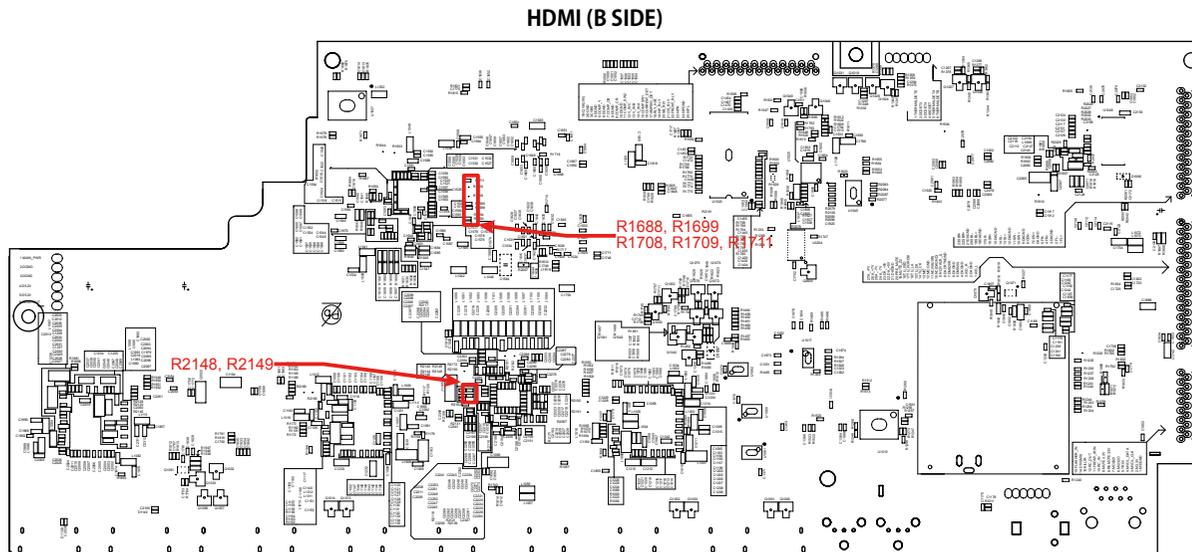
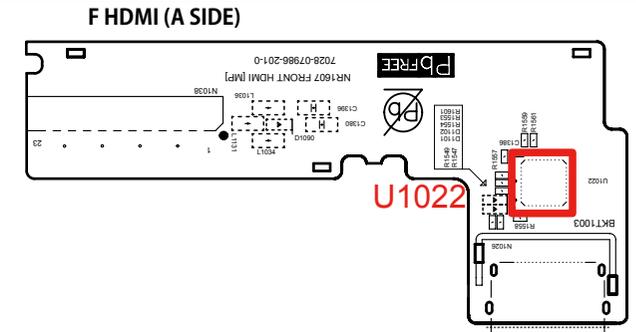
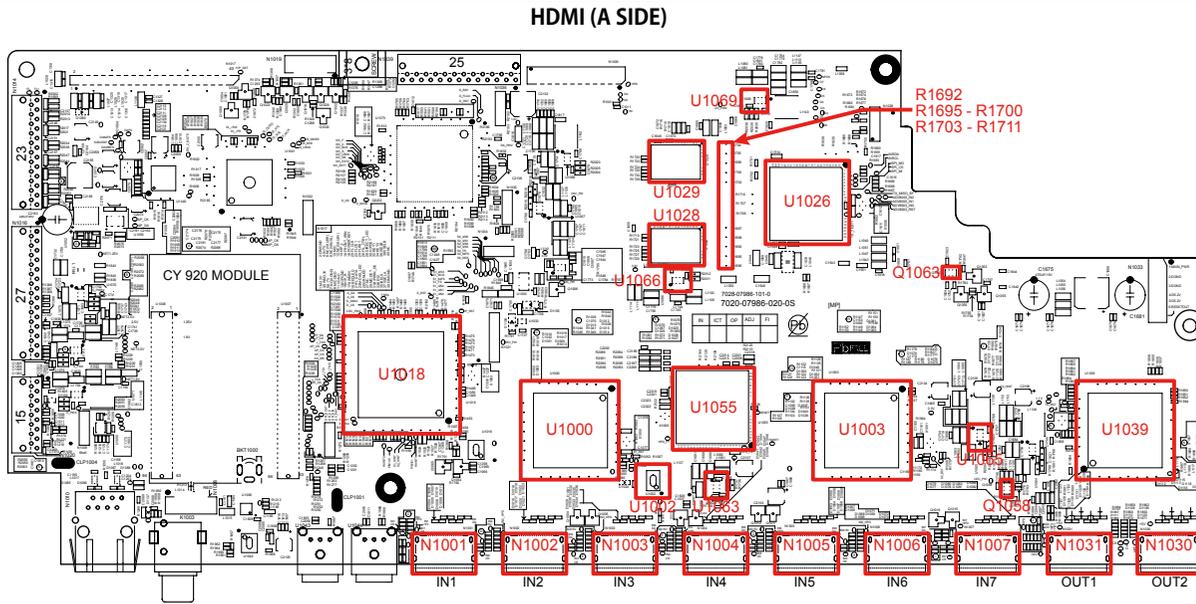
Mechanical

Repair Information

Updating



4. Device implementation location



Caution in servicing

Electrical

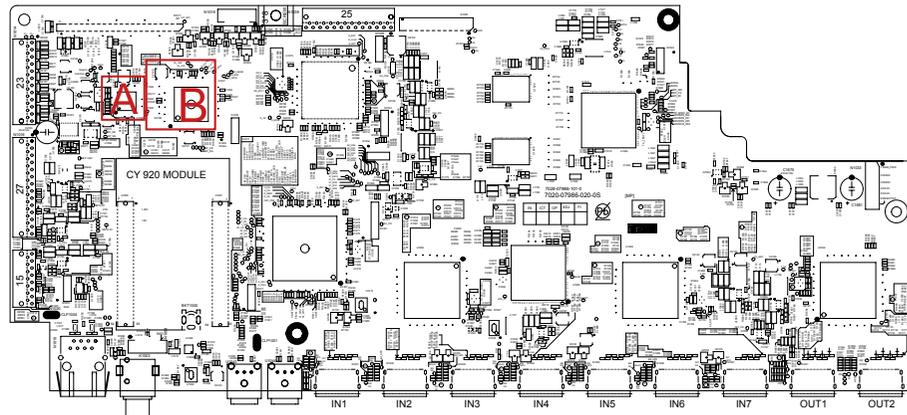
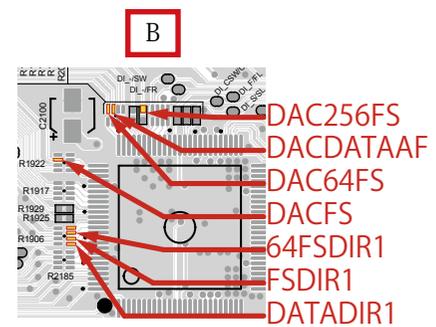
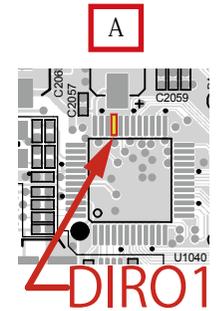
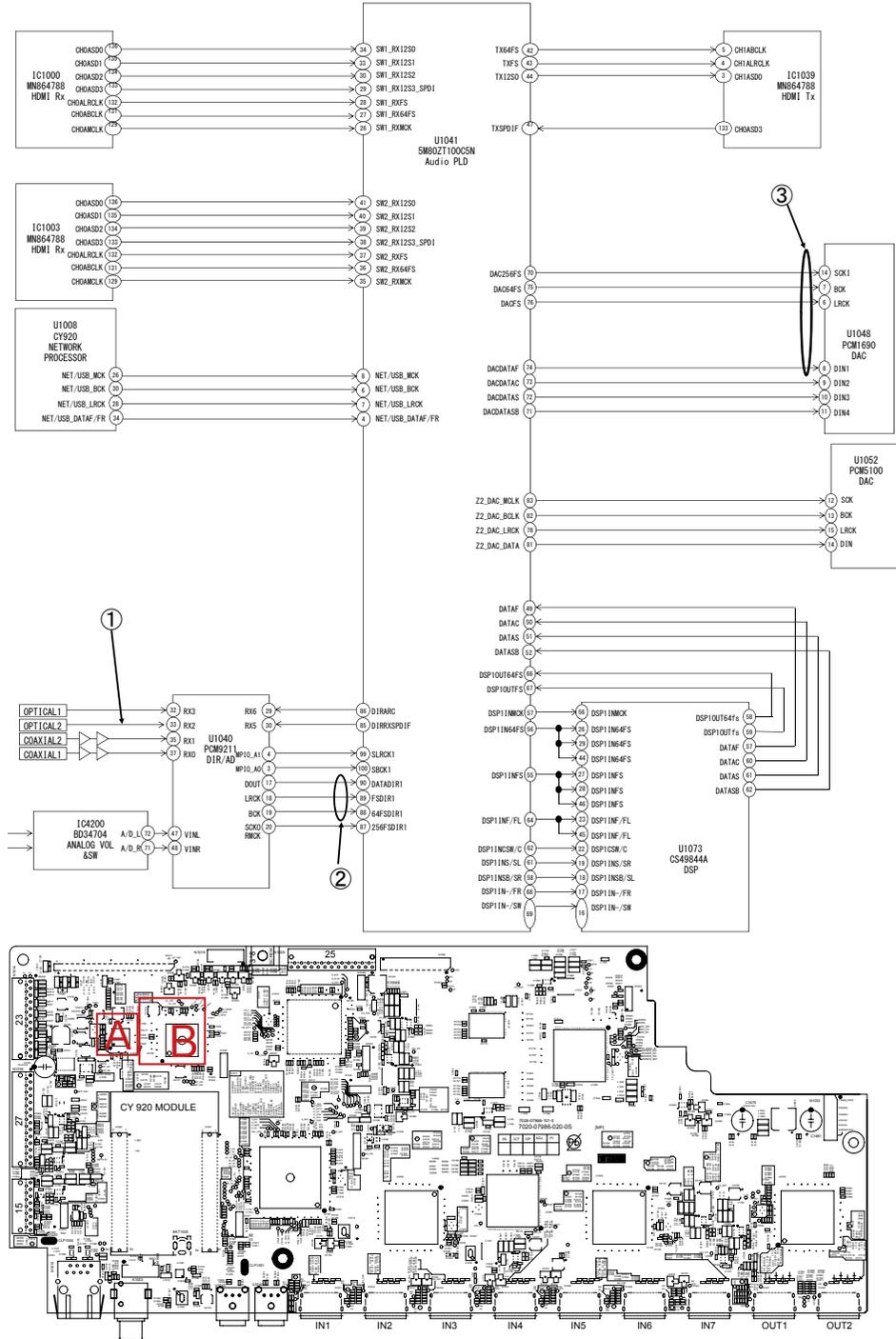
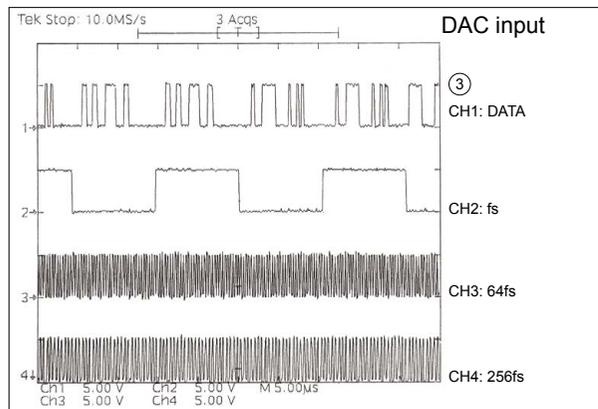
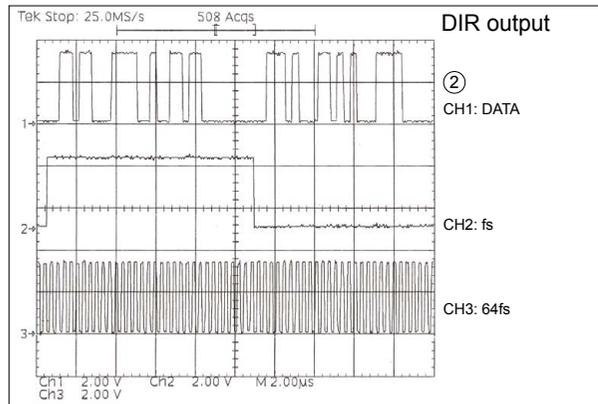
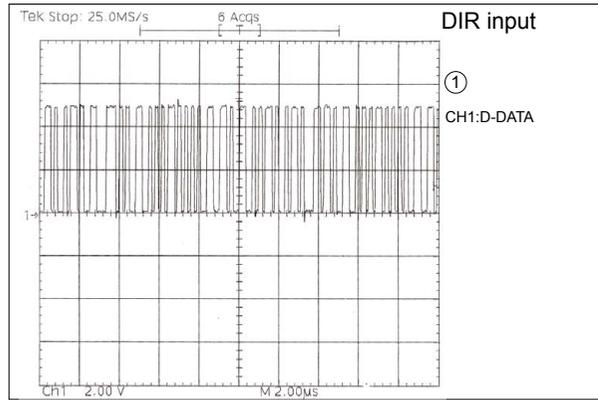
Mechanical

Repair Information

Updating

CLOCK FLOW & WAVE FORM IN DIGITAL BLOCK

WAVE FORM



Caution in servicing

Electrical

Mechanical

Repair Information

Updating

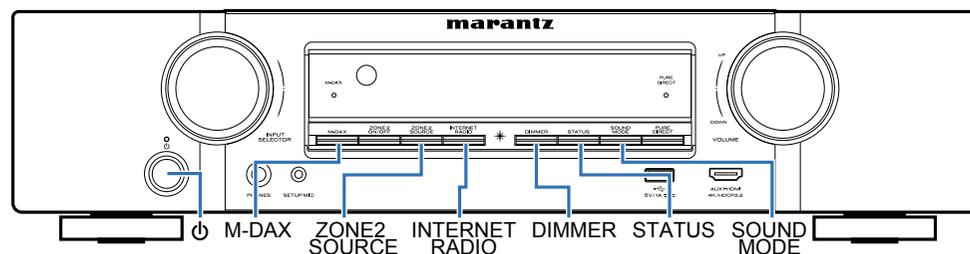
SPECIAL MODE

Special mode setting button

※ No. 1 - 8 : While holding down buttons "A", "B" and "C" simultaneously, press the power button to turn on the power.

※ No. 9 : While holding down buttons "A", "B" and "C" simultaneously, insert the AC plug into the wall outlet to turn on the power.

No.	Mode	Button A	Button B	Button C	Descriptions
1	Version Display (u-COM / DSP Error Display)	DIMMER	STATUS	-	Displays the version of firmware such as the main firmware or DSP. Errors that have occurred are displayed. (See 1. Version Display Mode)
2	PANEL / REMOTE LOCK Selection Mode	M-DAX	DIMMER	-	Start this unit in the PANEL/REMOTE LOCK selection mode so that PANEL LOCK and Remote Lock can be switched between On and Off. (See 2. PANEL / REMOTE LOCK Selection Mode) PANEL LOCK MODE : No. 2 - 1 - No. 2 - 3
2-1	PANEL LOCK Mode (with Volume)	↑	↑	-	Disables reception from all keys and encoders on the front panel except the power button (including the volume).
2-2	PANEL LOCK Mode (without Volume)	↑	↑	-	Disables reception from all keys and encoders on the front panel except the power button and volume encoder.
2-3	PANEL LOCK mode is turned off	↑	↑	-	Releases the PANEL LOCK.
3	Selecting the Mode for Service-related	ZONE2 SOURCE	STATUS	-	This is a display for turning on each service-related mode. Service-related modes: No. 3-1 - No. 3-4 (See 3-1. Selecting the Mode for Service-related)
3-1	Check the Video/Audio path Mode	↑	↑	-	This is a special mode for service confirmation used during repair work to simplify the confirmation work for the Audio channel / video channel. (See Service Path Check Mode)
3-2	Protection history display mode	↑	↑	-	Displays the protection occurrence history. (See 3-2. Protection History Display Mode)
3-3	Operation Info Mode	↑	↑	-	Displays the accumulated operating time of the unit, the number of times the power was switched on, and the number of occurrences of each protection. (See 3-3. Operation Info Mode)
3-4	TUNER STEP Mode (U and N model only)	↑	↑	-	Enables reception STEP of the ANALOG TUNER to be changed. (See 3-4. TUNER STEP mode (U / N only))
4	Protection Pass Mode	DIMMER	STATUS	SOUND MODE	Enables the power to be turned on when protection detection is disabled. (See 4. Protection Pass Mode)
5	User Initialization Mode	M-DAX	ZONE2 SOURCE	-	Initializes backup data. (Settings for the Installer Setup are not initialized) (Reboot the CY920)
6	Factory Initialization Mode	ZONE2 SOURCE	INTERNET RADIO	-	Initializes backup data. (Settings for the Installer Setup are initialized) (CY920 is not Reboot) (See Initializing This Unit)
7	Clearing the Operation Info	DIMMER	INTERNET RADIO	-	Clear the accumulated operating time of the unit, the number of times the power was switched on, and the number of occurrences of each protection. (See 7. Clearing the Operation Info)
8	USB Update mode	DIMMER	SOUND MODE	-	Switches this unit to USB Update mode. (See 2. Updating via USB)
9	Forced USB All Device Write Mode	DIMMER	SOUND MODE	-	Mode used when this unit cannot be recovered. Forcibly switches this unit to USB update mode. (See 2.9. Forced USB All Device Write Mode)



1. Version Display Mode

1.1. Actions

Version information is displayed when the device is started in this mode.

1.2. Starting up

While holding down buttons "DIMMER" and "STATUS" simultaneously, press the power button to turn on the power.

Then press the "STATUS" button to display the information in section 1.3 on the display.

※ The version list is also displayed on GUI while the version is displayed on the display.

1.3. Display Order

Error information (See "1.4. Error display") → ① Model destination information → ② Firmware Package

→ ③ Main μ -com → ④ Main 1st Boot Loader → ⑤ DSP ROM → ⑥ Audio PLD → ⑦ GUI SFLASH → ⑧

Ethernet 1st Boot Loader, Hardware ID

→ ⑨ Ethernet 2nd Boot Loader, Rhapsody Flag → ⑩ Ethernet IMAGE

→ ⑪ Network MAC ADDRESS information → ⑫ Bluetooth MAC Address information

① Model destination information :

```
NR1607 \
      \ : Region (U, N, K, F)
```

② Firmware Package :

```
Package :****
```

③ Main μ -com :

```
Main :%%%###*
      % : Main version, # : Sub version
```

④ Main 1st Boot Loader :

```
Main FBL :**,**
```

⑤ DSP ROM :

```
DSP :**,**
```

⑥ Audio PLD :

```
Audio PLD:**,**
```

⑦ GUI SFLASH :

```
GUI :@Q$~****
```

@ : Model code, \$: Brand code (Non=0, De=1, Mz=2, Mc=3),

~ : Region code (U=1, N=2, K=5, F=4, ALL=0), * : version

⑧ Ethernet 1st Boot Loader, Hardware ID :

```
Ethernet FBL
↓Press "STATUS" button.
*****~**
```

⑨ Ethernet 2nd Boot Loader, Rhapsody Flag :

```
Ethernet SBL
↓Press "STATUS" button.
B*****~0A
```

⑩ Ethernet IMAGE :

```
Ethernet IMG
↓Press "STATUS" button.
I*****
```

⑪ Network MAC ADDRESS information :

```
*NET MAC Address
↓Press "STATUS" button.
*****~*****
```

⑫ Bluetooth MAC ADDRESS information :

```
*BT MAC Address
↓Press "STATUS" button.
*****~*****
```

1.4. Error display

See the table below for descriptions of the displayed errors and countermeasures for these.

If multiple errors occur, only one item is displayed.

The priority order is ②, ③, ④, ⑤, ⑥, ①.

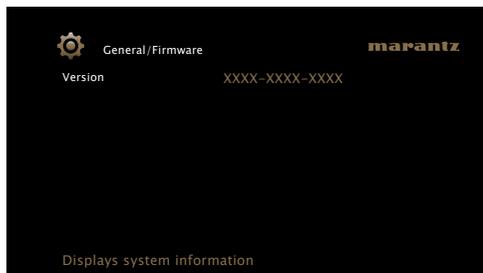
Condition	States	Display	TROUBLE SHOOTING
① Firm Check NG	The model name, brand name and region information written in the firmware are compared to the region settings in the PCB. This error is displayed if the information does not match. "▲" is displayed as the first character if the firmware is not correct (see the illustrations on the right). 	FIRM ERROR ▲Main :***** ▲DSP :**.* ▲Audio PLD:**.* ▲GUI :*****	•Check the resistor for setting the region(R1524 / 1525 HDMI PCB). •Write the firmware for the correct region.
② IP SCALER NG	An error occurs in Loop back Test of the DDR memory which is performed during the initial setting of i/p Scaler(ADV8003). During the initial setting of i/p Scaler (ADV8003) , there is not the reply of the Loop back Test result of the DDR memory .	IP SCALER ERR 01 IP SCALER ERR 02	•Check the circuits around the IP SCALER (U1026, HDMI PCB) and DDR2 (U1028/1029). If there appear to be no problems, U1026 or U1028/1029 is faulty.
③ GUI Serial Flash NG	If the Main CPU version is not supported by the GUI Serial Flash (ADV8003). "▼" is displayed as the first character of the GUI firmware version.	▼GUI VER. ERROR ▼GUI :*****	•Check the firmware version.
④ DIR NG	This error is displayed if there is no response from the DIR.	DIR ERROR 01	•Check the DIR (U1040, HDMI PCB) and surrounding circuits.
⑤ DSP NG	The DSP FLAG0 port does not enter "Hi" status while booting a DSP code even after resetting DSP. The DSP FLAG0 port does not enter "Hi" status before issuing a DSP command. Setting WRITE to "Lo" does not set ACK to "Hi" during DSP data reading. Setting REQ to "Lo" does not set ACK to "Lo" during DSP data reading. Setting WRITE to "Hi" does not set ACK to "Hi" during DSP data writing. Setting REQ to "Lo" does not set ACK to "Lo" during DSP data writing.	DSP ERROR 01 DSP ERROR 02 DSP ERROR 03 DSP ERROR 04 DSP ERROR 05 DSP ERROR 06	•Check the DSP (U1073, HDMI PCB) and surrounding circuits.
⑥ EEPROM NG	An error occurred in a checksum of the EEPROM(*** is a block address number).	BACKUP ERROR	

1.5. Version Display in the Setup Menu

Follow the steps below to display the firmware information.

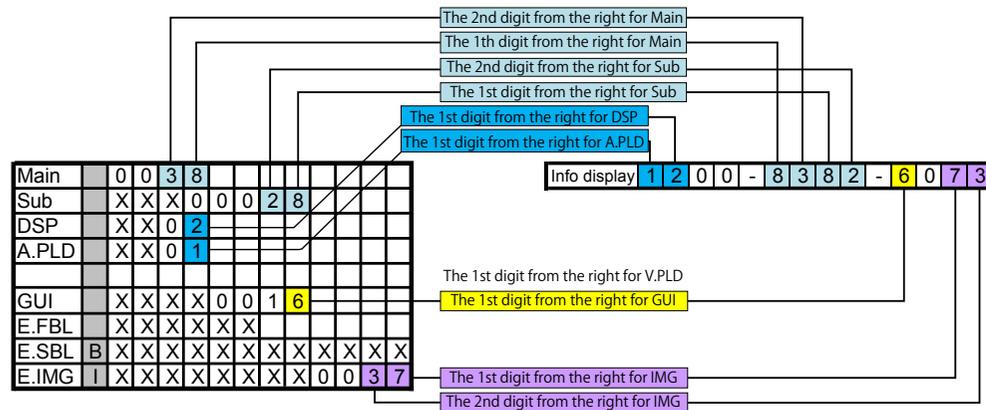
- (1) Press the "SETUP" button on the remote control.
- (2) Select "General - Information - Firmware".

The version information is displayed as a 12-digit number as shown in the screenshot below.



GUI Image

This 12-digit number comprises a part of the version number of each device and module. These version numbers correspond to the 12-digit number as shown below.



※ The firmware version numbers and this 12-digit version information are written in the Service Information.

2. PANEL / REMOTE LOCK Selection Mode

2.1. Actions

Switch the PANEL LOCK and REMOTE LOCK modes between on and off.

2.2. Starting up

While holding down buttons "**M-DAX**" and "**DIMMER**" simultaneously, press the power button to turn on the power.

Select the desired mode using the "**INTERNET RADIO**" button, then press the "**STATUS**" button to confirm.

2.3. Displaying and Selecting Each Mode

The information shown on the display switches each time the "**INTERNET RADIO**" button is pressed.

Press the "**STATUS**" button to set the currently displayed mode and restart the device.

The setting with "*" is selected for each mode.

①

FP/VOL LOCK*On

The buttons on the unit and the master volume knob does not function.



②

FP LOCK On

The buttons on the unit does not function.



③

FP LOCK Off

The PANEL LOCK mode is turned off.



④

RC LOCK On

The device cannot be operated by the remote control.



⑤

RC LOCK *Off

The REMOTE LOCK mode is turned off.

3-1. Selecting the Mode for Service-related

3-1.1. Actions

Select diagnostic mode (service path check mode), protection history display mode, or 232C standby clear mode.

3-1.2. Starting up

While holding down buttons "ZONE2 SOURCE" and "STATUS" simultaneously, press the power button to turn on the power.

Select the desired mode using the "INTERNET RADIO" button, then press the "STATUS" button to confirm.

3-1.3. Displaying and Selecting Each Mode

The information shown on the display switches each time the "INTERNET RADIO" button is pressed. Press the "STATUS" button to set the currently displayed mode and restart the device.

①

1. SERVICE CHECK

Service Path Check Mode : See "[DIAGNOSTIC MODE](#)"

The Video and Audio paths can be checked.

This function is convenient for confirming problem paths in the product and checking the paths after repairing.



②

2. PROTECTION

The protection history can be checked.



③

4. OP INFO

Operation Info for the unit can be checked.



④

5. TUNER FRQ SET

Enables reception STEP of the ANALOG TUNER to be changed.

3-1.4. Canceling the selected mode

Press the power button to turn off the power.

3-2. Protection History Display Mode

3-2.1. Actions

This mode enables the unit to record and display the event when the THERMAL, ASO or DC protection is activated.

If protections have been activated multiple times, the latest protection operation is recorded.

3-2.2. Starting up

While holding down buttons "ZONE2 SOURCE" and "STATUS" simultaneously, press the power button to turn on the power.

Select the "2. PROTECTION" using the "INTERNET RADIO" button, then press the "STATUS" button then to confirm.

3-2.3. Protection information and displays

- Press the "STATUS" button in Protection History Display Mode.
- The protection history can be checked.

- (a) If no protections has occurred.

NO PROTECT

- (b) ASO (if the last protection is ASO)

PRT:ASO

Cause A short circuit occurred between the speaker terminals, or speakers with an impedance outside the rating were connected.

Note : Short circuits in speaker terminals or speakers can be identified.

If the power is turned on in the abnormal state, protection is activated after around 6 seconds and the power is turned off.

- (c) DC (if the last protection is DC)

PRT:DC

Cause : DC output of the power amplifier is abnormal.

If the power is turned on in the abnormal state, protection is activated after around 6 seconds and the power is turned off.

- (d) THERMAL (if the last protection is THERMAL(A) or THERMAL(B) or THERMAL(E))

PRT:THERMAL A

PRT:THERMAL B

PRT:THERMAL E

Cause : Abnormal heat sink temperature.

If the power is turned on under abnormal conditions, the protection function works immediately and the power is turned off.

- (e) Case of CURRENT (when the last protection incident is CURRENT protection)

: CURRENT

Cause : An over current flowed in power amp.

If the power is turned on in the abnormal state, protection is activated after around 90 seconds and the power is turned off.

Caution : These protections may also be activated due to other factors such as disconnection of connectors or operations around the microcomputer.

After viewing the above protection history, press the "STATUS" button to return to the normal display.

3-2.4. Clearing the Protection History

There are two ways to clear the protection history.

- (a) Activate Protection History Display Mode. Press the "STATUS" button to display the protection history. Press and hold the "DIMMER" button for 3 seconds.

PRT:DC

Press and hold the "DIMMER" button for 3 seconds.



PRT: CLEAR

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



NO PROTECT

- (b) Initialize this unit. (See "[Initializing This Unit](#)")

※ Use the method in 3-2.4. (a) if you do not want to erase your settings from this unit.

Warning Displays by POWER LED

If the power is turned Off while a protection is being detected, the POWER LED flashes in red to warn you depending on the protection status as follows.

- (a) ASO/DC protection: Flashes at 0.5-second intervals (0.25 seconds lit, 0.25 seconds unlit)
- (b) THERMAL (A/B) protection: Flashes at 2-second intervals (1 seconds lit, 1 seconds unlit)
- (c) CURRENT protection: Flashes at 4-second intervals (2 seconds lit, 2 seconds unlit)

3-3. Operation Info Mode

3-3.1. Actions

This mode enables the unit to display the accumulated operating time, power On count and each protection count.

3-3.2. Starting up

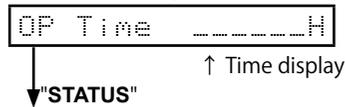
While holding down buttons "ZONE2 SOURCE" and "STATUS" simultaneously, press the power button to turn on the power.

Select the "4. OP INFO" using the "INTERNET RADIO" button, then press the "STATUS" button then to confirm.

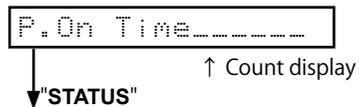
3-3.3. Operations

Press the "STATUS" button after starting up this device in Operation Info mode. The following information is displayed in the following order.

(a) Accumulated operating time



(b) Power On count



(c) DC / ASO Protection count



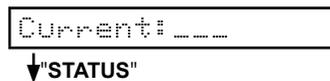
(d) Thermal Protection (A/B) count



(e) Thermal Protection (E/F) count



(f) Current Protection count



(Returns to normal display)

3-4. TUNER STEP mode (U / N only)

3-4.1. Actions

This is a special mode for enabling reception STEP of the ANALOG TUNER to be changed.

3-4.2. Starting up

While holding down buttons "ZONE2 SOURCE" and "STATUS" simultaneously, press the power button to turn on the power.

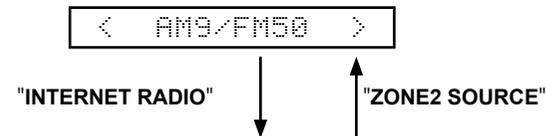
Select the "5. TUNER FRQ SET" using the "INTERNET RADIO" button, then press the "STATUS" button then to confirm.

3-4.3. Displays

Start up this unit in TUNER STEP mode, select the desired option using the "INTERNET RADIO" button, then enter using the "STATUS" button.

The following information is displayed in the following order.

(a) AM9 kHz / FM50 kHz is selected



(b) AM10 kHz / FM200 kHz is selected



(c) Press the power button to turn off the power.

(d) Press the power button to turn on the power.

4. Protection Pass Mode

4.1. Actions

- This mode allows the power to be turned on without activating protections.
- This mode functions in the same way as normal power-on, except that protections are not activated.

4.2. Operations

While holding down buttons "**DIMMER**", "**STATUS**" and "**SOUND MODE**" simultaneously, press the power button to turn on the power.

The device returns to the normal display message after the following is displayed.



Protection Pass

This is displayed for 5 seconds before returning to the normal display.

5. CY920 Reboot Mode

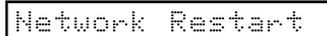
5.1. Actions

- The CY920 is restarted after CY920 hang up.
- The CY920 can be restarted even in the network standby setting.
("Setup menu" – "Network" – "IP Control" – "Always On")

5.2. Operations

- (1) Turn the "**MAIN ZONE**" button On and set the input source to NETWORK.
- (2) While the power is On, hold down buttons "**DIMMER**" and "**SOUND MODE**" for at least 3 seconds.

Display during CY920 reboot



Network Restart

- (4) Returns to the normal display.

NOTE :

- After rebooting CY920, the same operation is not accepted for 1 minute.
- Reception is prohibited during update, save and load.

6. CY920 Initialization Mode

6.1. Actions

The following items are initialized.

- (1) Favorites
- (2) Quick Select
- (3) Presets
- (4) Internet Radio Recently Played
- (5) Flickr contacts
- (6) User ID
- (7) Resume Playback station

6.2. Operations

While the power is on, hold down buttons "**ZONE2 SOURCE**" and "**DIMMER**" for at least 3 seconds.

Initializing Display



Initializing



Initializing.



Initializing..



Initializing...

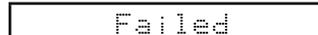
Complete Display



Completed

This is displayed for 5 seconds before returning to the normal display.

Failed Display



Failed

7. Clearing the Operation Info

7.1. Actions

• Displays the accumulated operating time of the unit, the number of times the power was switched on, and the number of occurrences of each protection.

7.2. Operations

Remove all input/output terminals and the AC plug.

Connect the AC plug again and place the product in standby mode.

While holding down buttons "**DIMMER**" and "**INTERNET RADIO**" simultaneously, press the power button to turn on the power.

PRODUCT MODE

When "**PRODUCT MODE**" appears on the display, release the button and press the "**power**" button and "**ZONE2 ON/OFF**" to place the product in standby mode.

Service Path Check Mode

1.1. Actions

This function is convenient for confirming problem paths in the product and checking the paths after repairing.
The Video and Audio paths can be checked.
The backup data is not rewritten.

1.2. Starting up

While holding down buttons "ZONE2 SOURCE" and "STATUS" simultaneously, press the power button to turn on the power.
Select the "1. SERVICE CHECK" using the "INTERNET RADIO" button, then press the "STATUS" button then to confirm.
The "TUNED", "STEREO" and "RDS" segments are lit in this mode.

1.3. Canceling diagnostic mode

Press the power button to turn off the power.

1.4. Selecting items to check

Press the ① button to switch between video items and audio items.
Press the ② or ③ button to select the previous or next item.

Actions	The unit			Remote control unit		
	①	②	③	①	②	③
	Audio ⇄ Video	PREVIOUS	NEXT	Audio ⇄ Video	PREVIOUS	NEXT
Button	DIMMER	M-DAX	INTERNET RADIO	SLEEP	CURSOR ◀	CURSOR ▶

1.5. Audio system confirmation items

See the block diagram fig.XXth.

Paths to be confirmed		Display	Settings	What to confirm
1	Analog	fig.01 A01:ANALOG PASS	Input Source : CBL/SAT Input Mode : Analog (fixed) Sound mode : DIRECT Amp assign : Surround Back MAIN ZONE : On ZONE2 : Off	• Analog input ⇒ Speaker output (Front L/R) (※ The input source can be switched to any source except CBL/SAT.)
2	DIGITAL (MAIN)	fig.02a fig.02b A02:DIGITAL	Input Source : CBL/SAT Input Mode : DIGITAL (fixed) Sound mode : MULTI CH STEREO Amp assign : Surround Back Speaker Config ALL Speaker = Small / SW = Yes(2ch) MAIN ZONE : On ZONE2 : Off	• Digital input ⇒ Speaker output (Front L/R, Center, Surround L/R, Surround Back L/R) • Digital input ⇒ Pre output (Front L/R, Center, Surround L/R, Surround Back L/R, Subwoofer) (※ The input source can be switched to any source except CBL/SAT.)
3	DIGITAL (ZONE2)	fig.03a fig.03b A03:DIGITAL-Z2	Input Source : NETWORK Input Mode : Auto Sound mode : STEREO Amp assign : ZONE2 MAIN ZONE : On ZONE2 : On	• Digital(PCM) input ⇒ Speaker output (Surround Back (ZONE2) L/R) • Digital(PCM) input ⇒ Pre OUT output (ZONE2 L/R)

Paths to be confirmed			Display	Settings	What to confirm
4	HDMI	fig.04a fig.04b	#05: HDMI	Input Source : CBL/SAT Input Mode : HDMI (fixed) Sound mode : STEREO Amp assign : Surround Back MAIN ZONE : On ZONE2 : Off	<ul style="list-style-type: none"> • HDMI input ⇒ Speaker output (Front L/R) (※ The input source can be switched to any source except CBL/SAT.)
5	Analog AD (MAIN)	fig.05a fig.05b	#06: AD	Input Source : CBL/SAT Input Mode : Analog (fixed) Sound mode : MULTI CH STEREO Vol 60dB Amp assign : Surround Back Speaker Config ALL Speaker = Small / SW = Yes(2ch) MAIN ZONE : On ZONE2 : Off	<ul style="list-style-type: none"> • Analog input ⇒ Speaker output (Front L/R, Center, Surround L/R, Surround Back L/R) • Analog input ⇒ Speaker output, SW(20Hz) (Front L/R, Center, Surround L/R, Surround Back L/R, Subwoofer) (※ The input source can be switched to any source except CBL/SAT.) (※ Volume 60 is the value when Absolute settings are used. The value is -20dB when Relative settings are used)
6	Analog Amp Assign (Amp Assign : ZONE2)	fig.06	#07: ASSIGN-Z2	Input Source : CBL/SAT Input Mode : Auto Sound mode : STEREO Z2 Source : Source Vol 60dB Amp assign : ZONE2 MAIN ZONE : On ZONE2 : On	<ul style="list-style-type: none"> • Analog input ⇒ Speaker output (Surround Back (ZONE2) L/R) • Analog input ⇒ Pre OUT output (ZONE2 L/R) (※ The input source can be switched to any source except CBL/SAT.) (※ Volume 60 is the value when Absolute settings are used. The value is -20dB when Relative settings are used)

1.6. Confirmation items for the video system

See the block diagram fig.XXth.

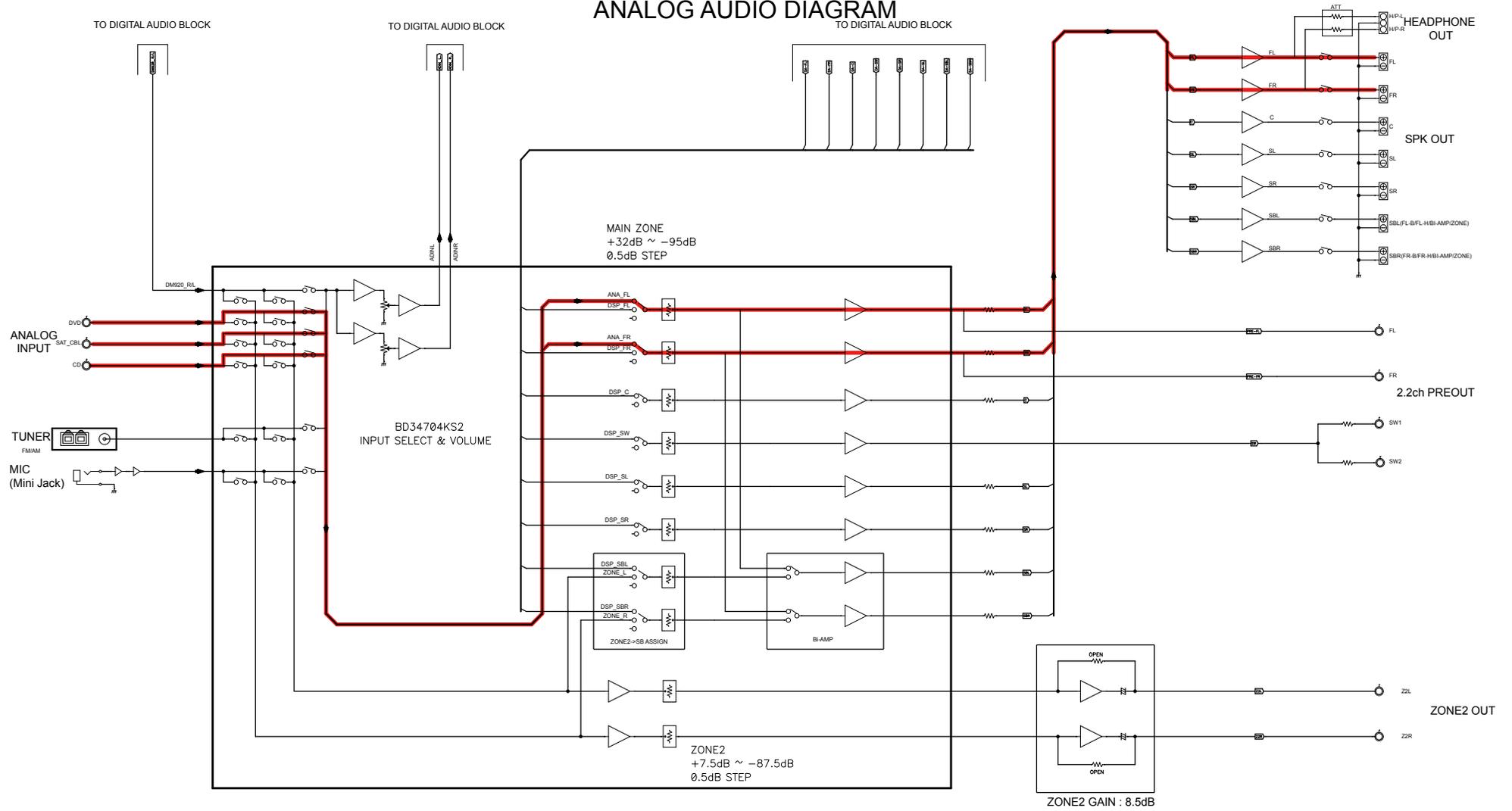
Paths to be confirmed			Display	Settings	What to confirm
1	Analog Video pass	fig.07	U01: VIDEO PASS	Input Source : CBL/SAT Video Conversion (IP Scaler) : OFF, All sources MAIN ZONE : On ZONE2 : On	<ul style="list-style-type: none"> • CVBS input ⇒ CVBS output • Component input ⇒ Component output (※ The input source can be switched to any source except CBL/SAT.)
2	Video Convert (Analog or HDMI ⇒ HDMI)	fig.08	U02: V. CONVERT	Input Source : CBL/SAT Video Conversion (IP Scaler) : ON, All sources IP Scaler : "Analog & HDMI", All sources Resolution : "Auto", All sources MAIN ZONE : On ZONE2 : Off	<ul style="list-style-type: none"> • CVBS input ⇒ IP Scaler ⇒ HDMI output. • Component input ⇒ IP Scaler ⇒ HDMI output. • HDMI input ⇒ IP Scaler ⇒ HDMI output. • ETHERNET input ⇒ IP Scaler ⇒ HDMI output. (※ The input source can be switched to any source except CBL/SAT.)
3	HDMI pass (MAIN ZONE)	fig.09	U03: HDMI PASS	Input Source : CBL/SAT Video Conversion (IP Scaler) : OFF, All sources MAIN ZONE : On ZONE2 : Off	<ul style="list-style-type: none"> • HDMI input (MAIN function) ⇒ HDMI output (MAIN) (※ The input source can be switched to any source except CBL/SAT.)
4	HDMI CEC (Control Monitor : HDMI Monitor1)	fig.10	U04: HDMI CEC	Input Source : CBL/SAT HDMI Control : On Control Monitor : Monitor1 (if checking the HDMI Monitor Out1) MAIN ZONE : On ZONE2 : Off	<ul style="list-style-type: none"> • 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. (※ The input source can be switched to any source except CBL/SAT.) • The ARC path can also be checked (check this using the TV input source).

Paths to be confirmed		Display	Settings	What to confirm
5	HDMI Audio (Audio : AVR)	fig.11a fig.11b	U05:H.AUDIO-AVR Input Source : CBL/SAT HDMI Control : Off HDMI Audio : AVR (if checking the audio output from AVR)	<ul style="list-style-type: none"> • HDMI input (PCM, DolbyDigital, DTS) ⇒ Speaker output. • HDMI input(HD audio) ⇒ Speaker output. (※ The input source can be switched to any source except CBL/SAT.)
6	HDMI Audio (Audio : TV)	fig.12	U06:H.AUDIO-TV HDMI Audio : TV (if checking the audio output from TV)	<ul style="list-style-type: none"> • HDMI input (PCM, DolbyDigital, DTS) ⇒ HDMI output (audio output from connected TV) (※ The input source can be switched to any source except CBL/SAT.)
7	GUI	fig.13	U07:GUI MENU ON Input Source : CBL/SAT Video Conversion (IP Scaler) : ON, All sources IP Scaler : "Analog & HDMI", All sources Resolution : "AUTO", All sources Setup Menu : On MAIN ZONE : On ZONE2 : Off	<ul style="list-style-type: none"> • GUI display ⇒ HDMI output. (※ The input source can be switched to any source except CBL/SAT.)

DIAGNOSTIC PATH DIAGRAM

fig.01

ANALOG AUDIO DIAGRAM



Caution in servicing

Electrical

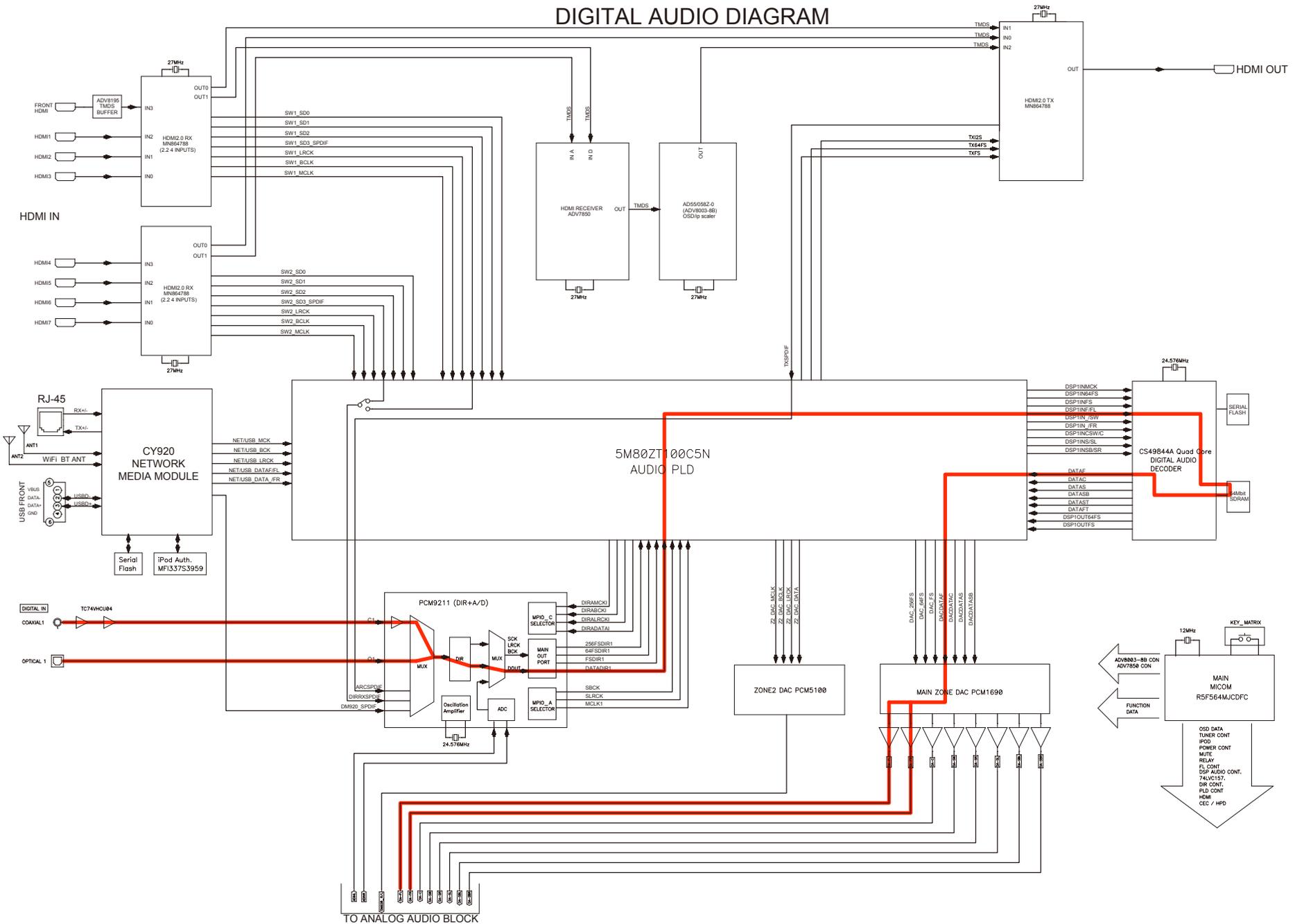
Mechanical

Repair Information

Updating

fig.02a

DIGITAL AUDIO DIAGRAM



Caution in servicing
Electrical
Mechanical
Repair Information
Updating

fig.02b

ANALOG AUDIO DIAGRAM

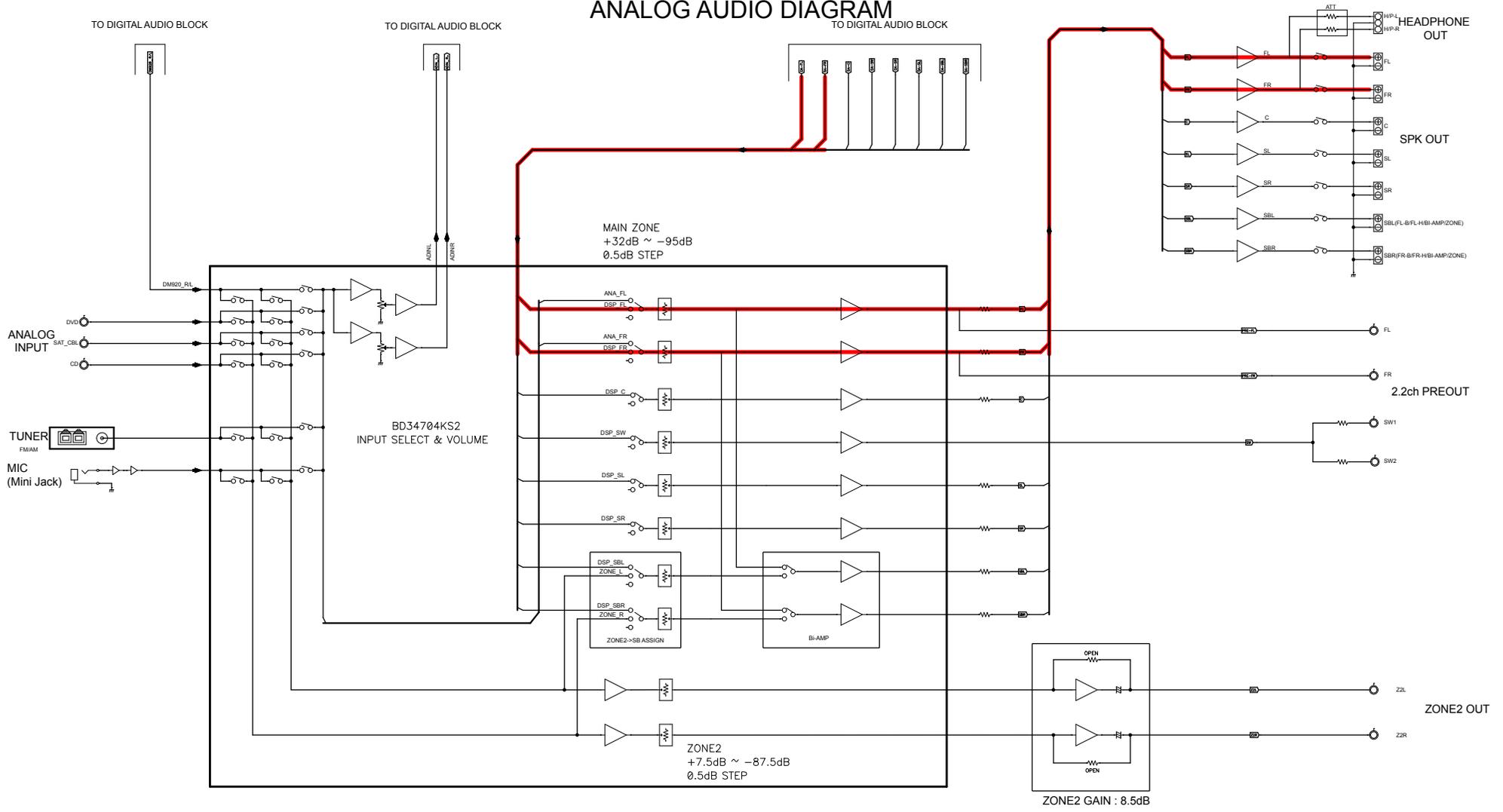
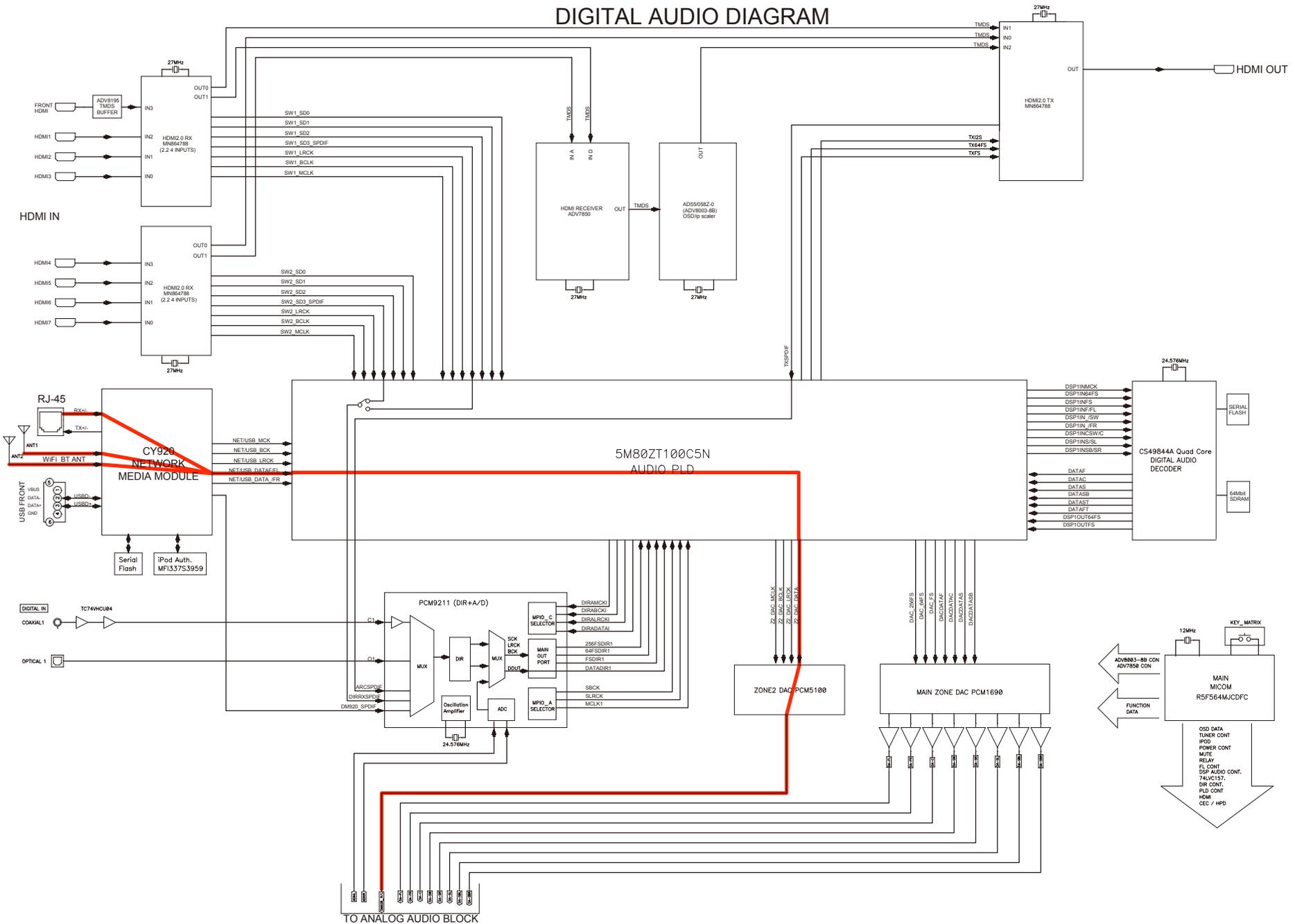


fig.03a

DIGITAL AUDIO DIAGRAM



Caution in servicing

Electrical

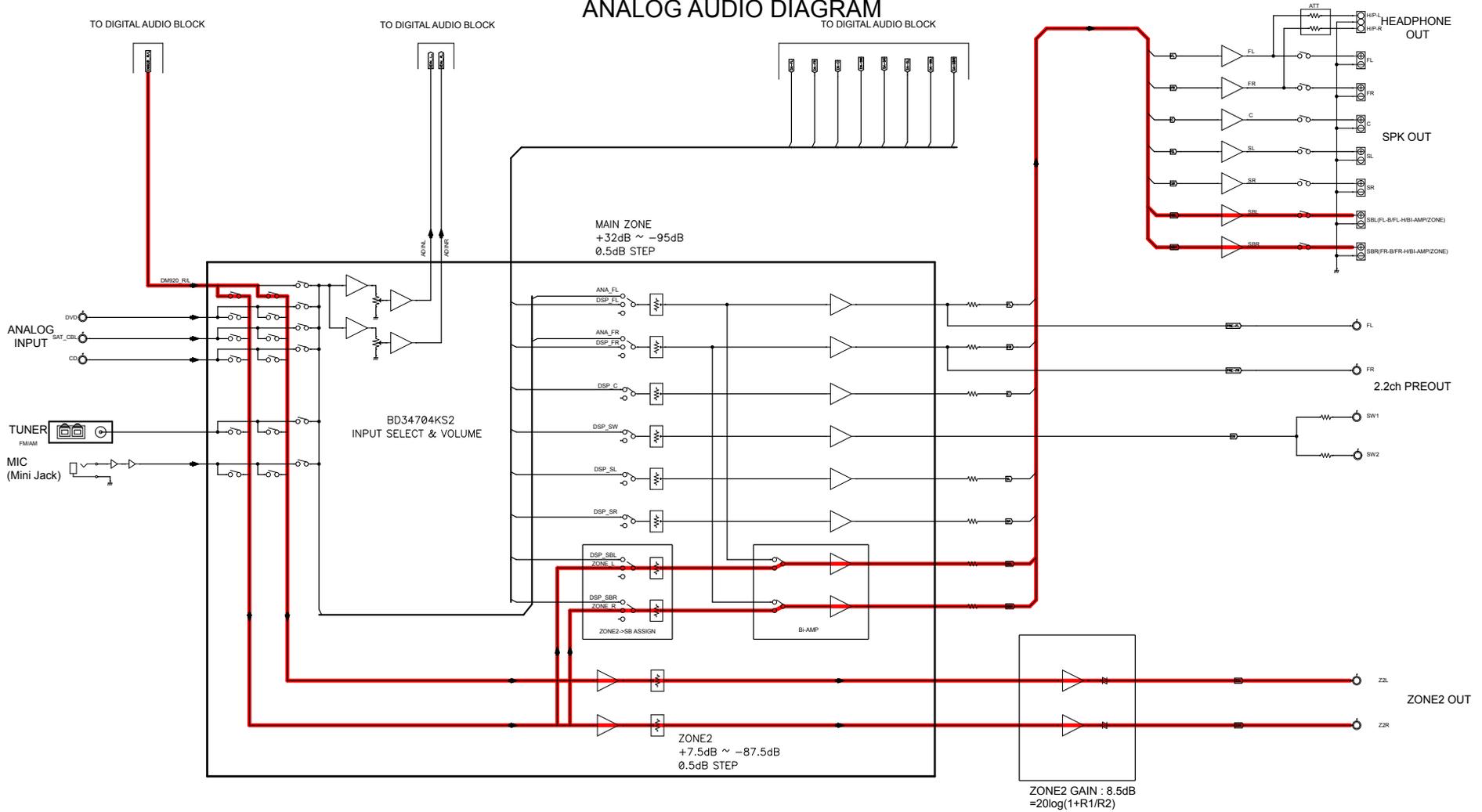
Mechanical

Repair Information

Updating

fig.03b

ANALOG AUDIO DIAGRAM



Caution in servicing

Electrical

Mechanical

Repair Information

Updating

fig.04a

DIGITAL AUDIO DIAGRAM

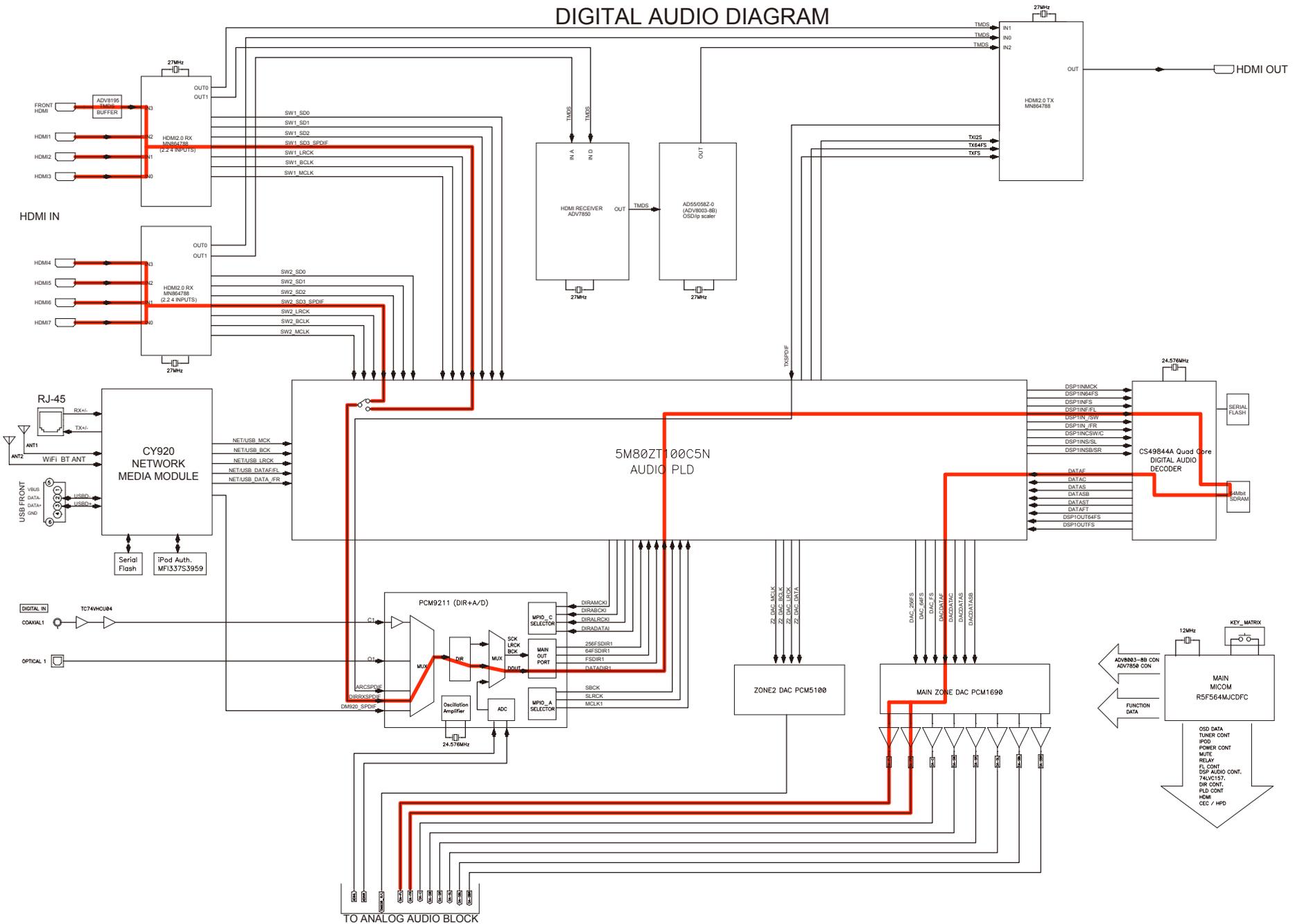


fig.04b

ANALOG AUDIO DIAGRAM

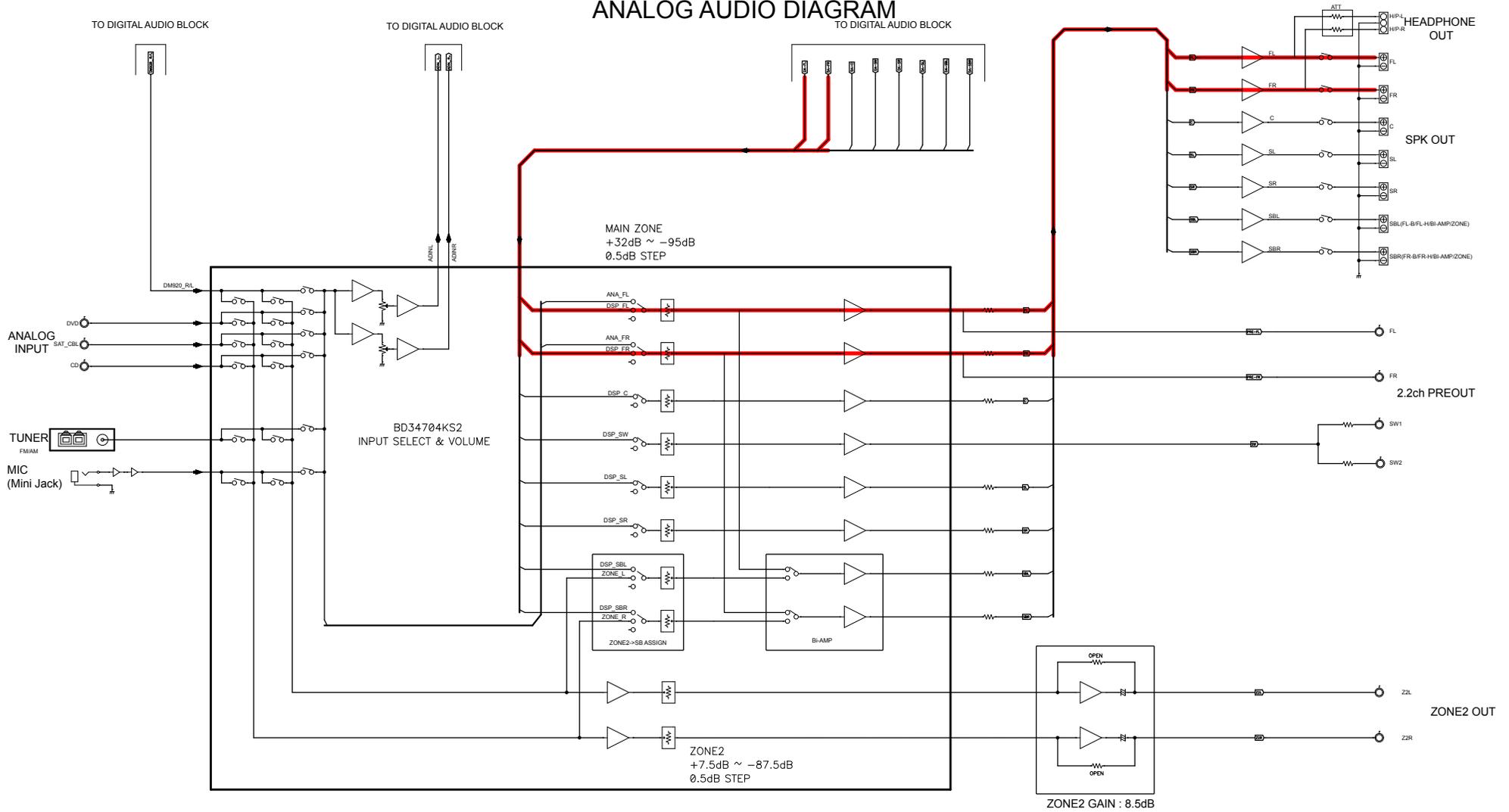


fig.05a

DIGITAL AUDIO DIAGRAM

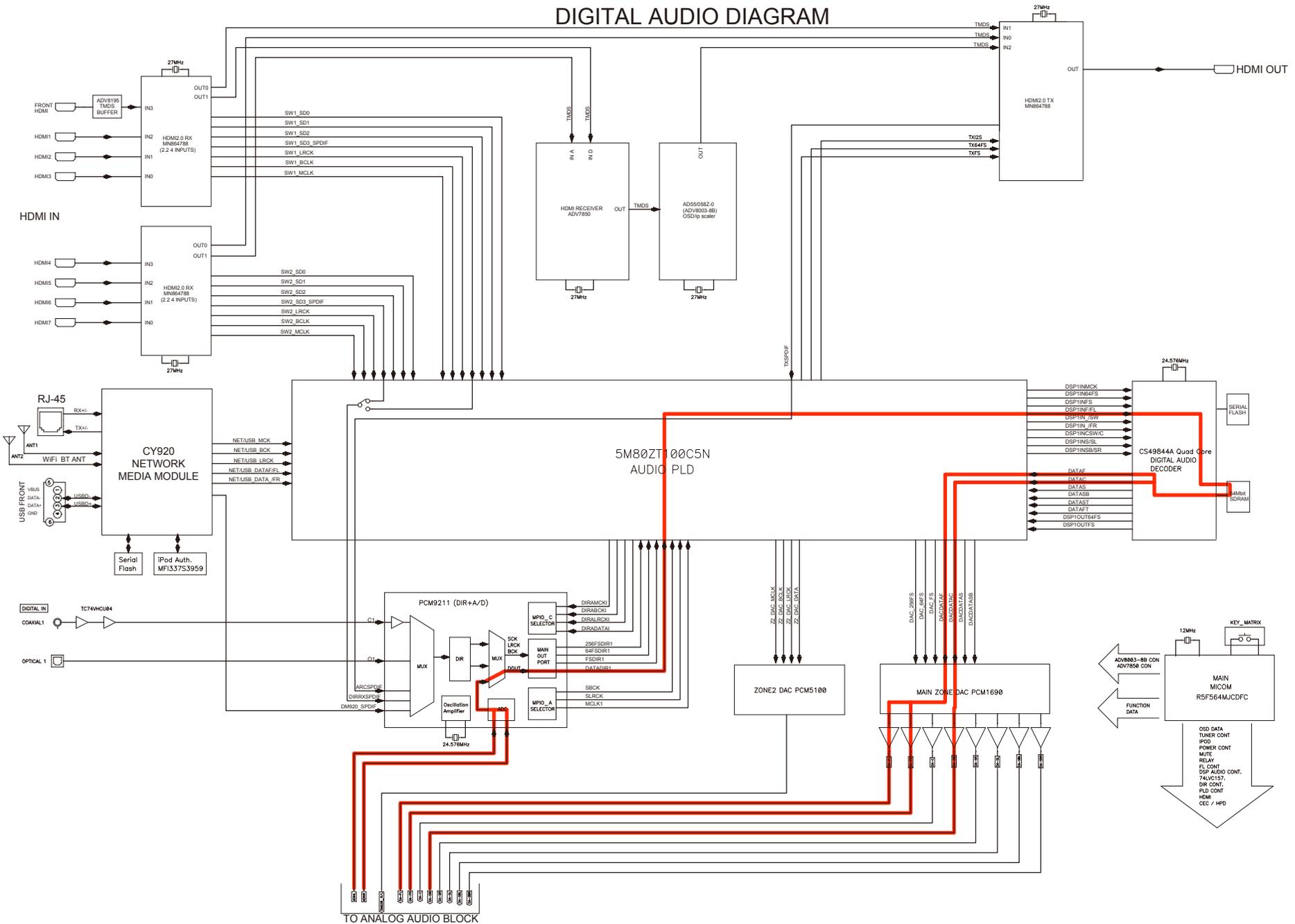


fig.05b

ANALOG AUDIO DIAGRAM

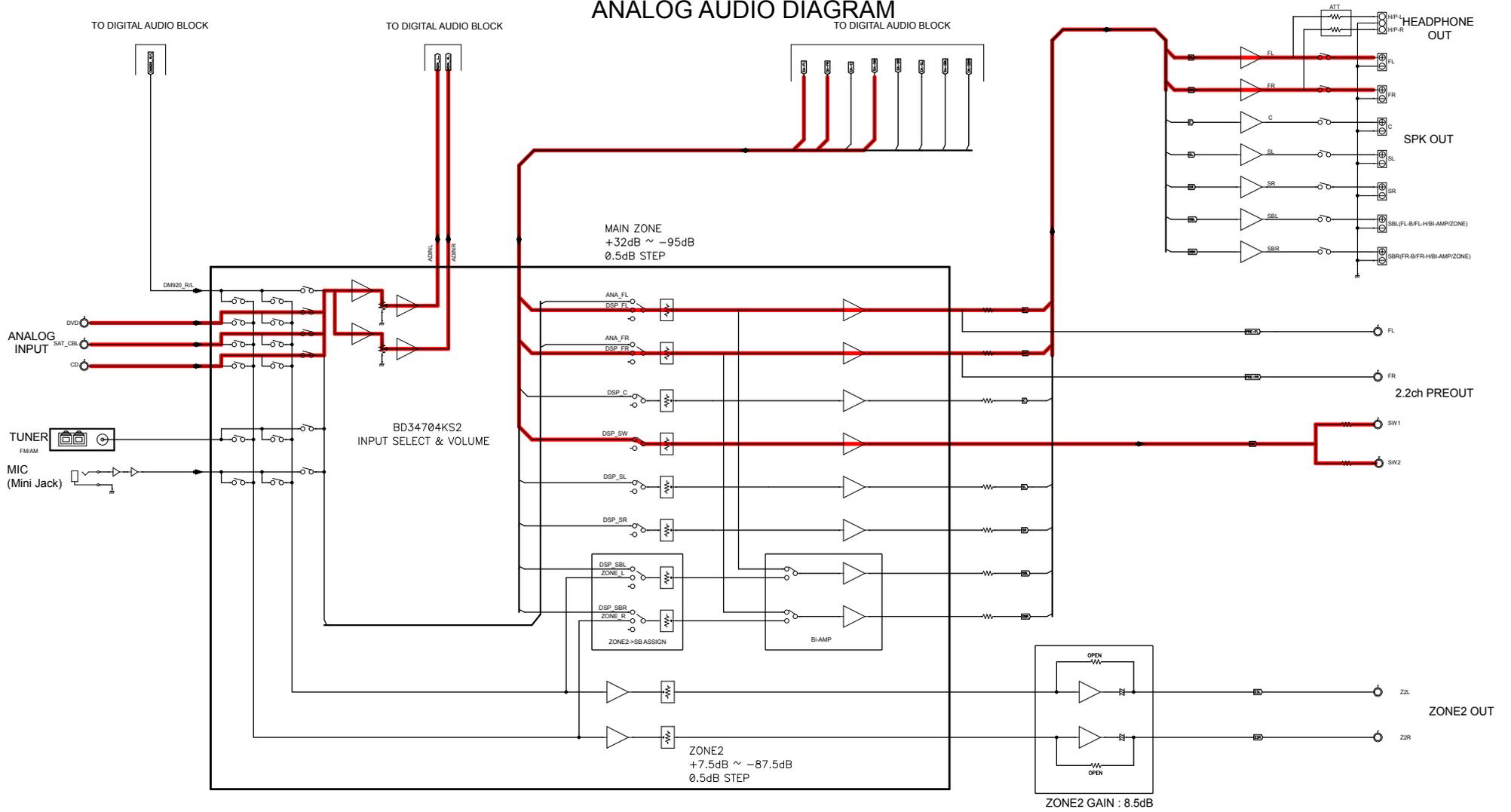
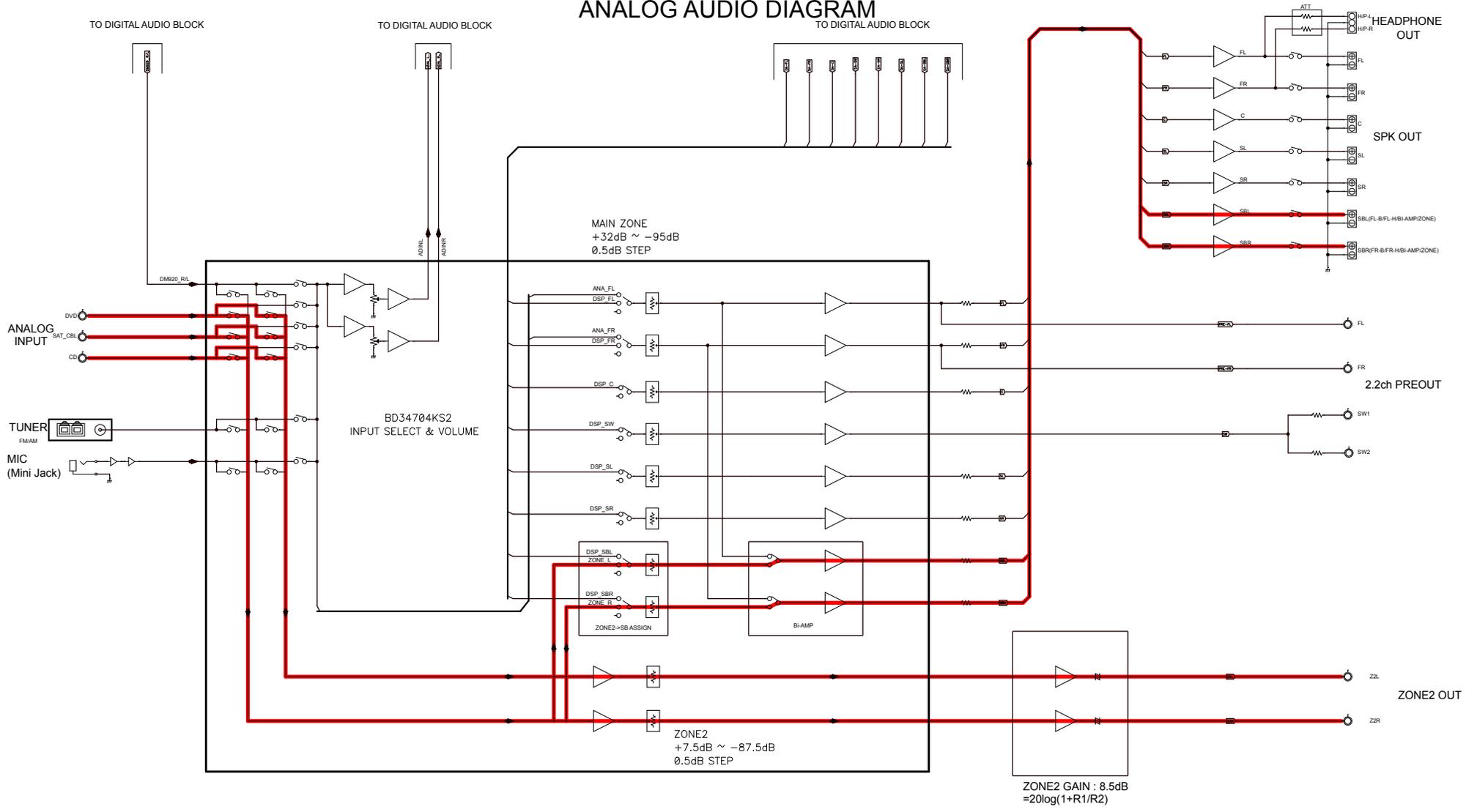


fig.06

ANALOG AUDIO DIAGRAM



Caution in servicing

Electrical

Mechanical

Repair Information

Updating

fig.07

VIDEO DIAGRAM

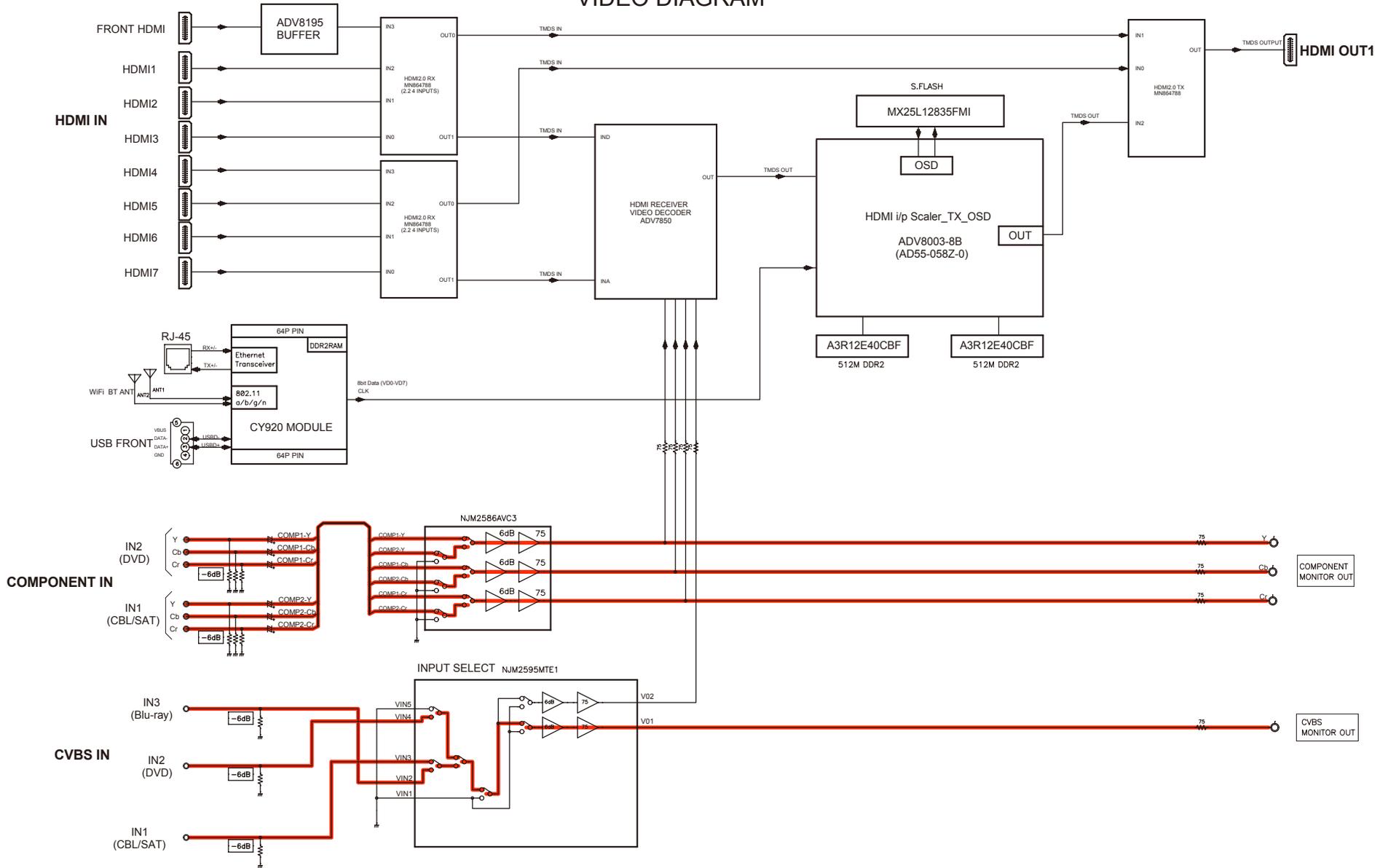
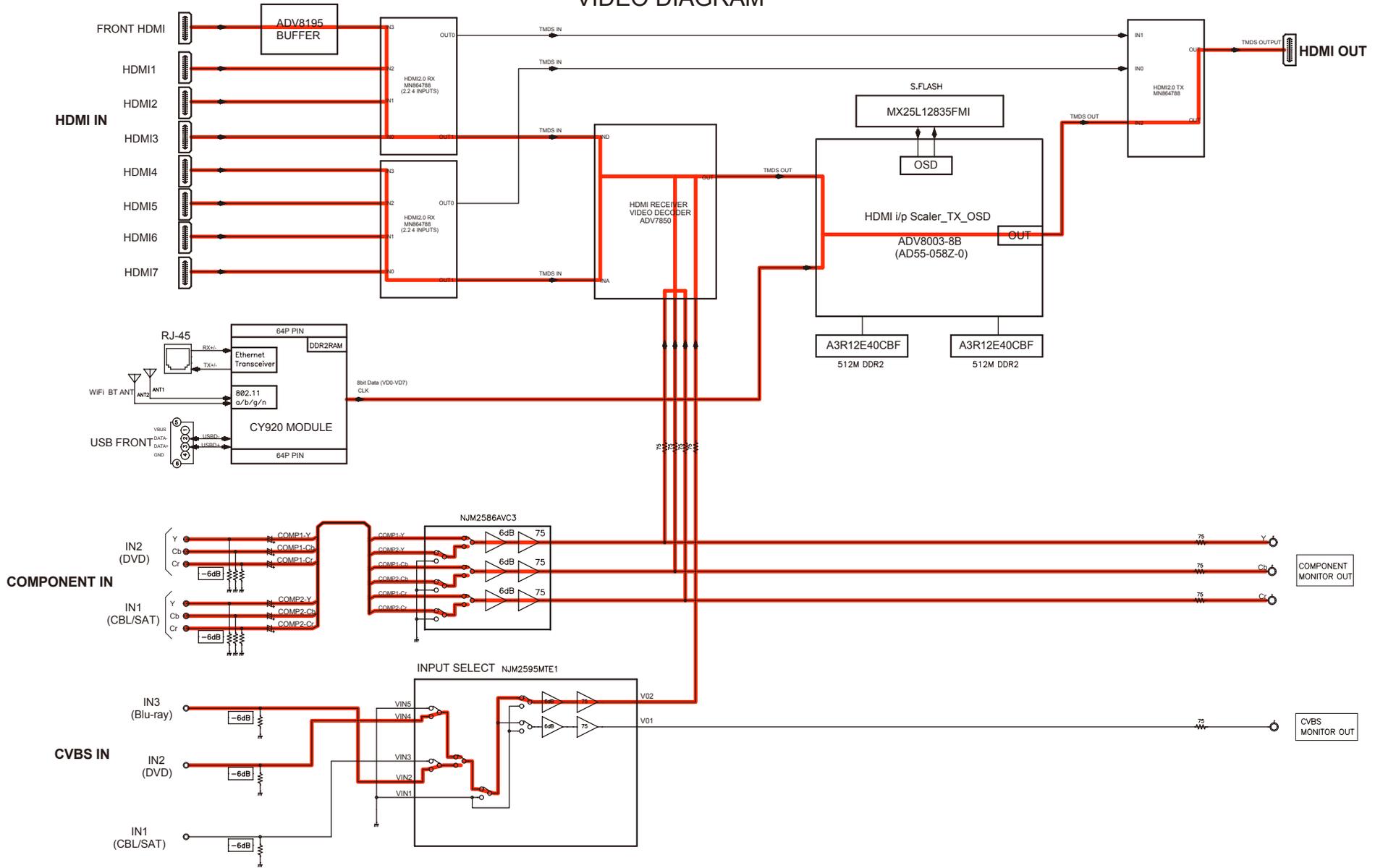


fig.08

VIDEO DIAGRAM



Caution in servicing

Electrical

Mechanical

Repair Information

Updating

fig.09

VIDEO DIAGRAM

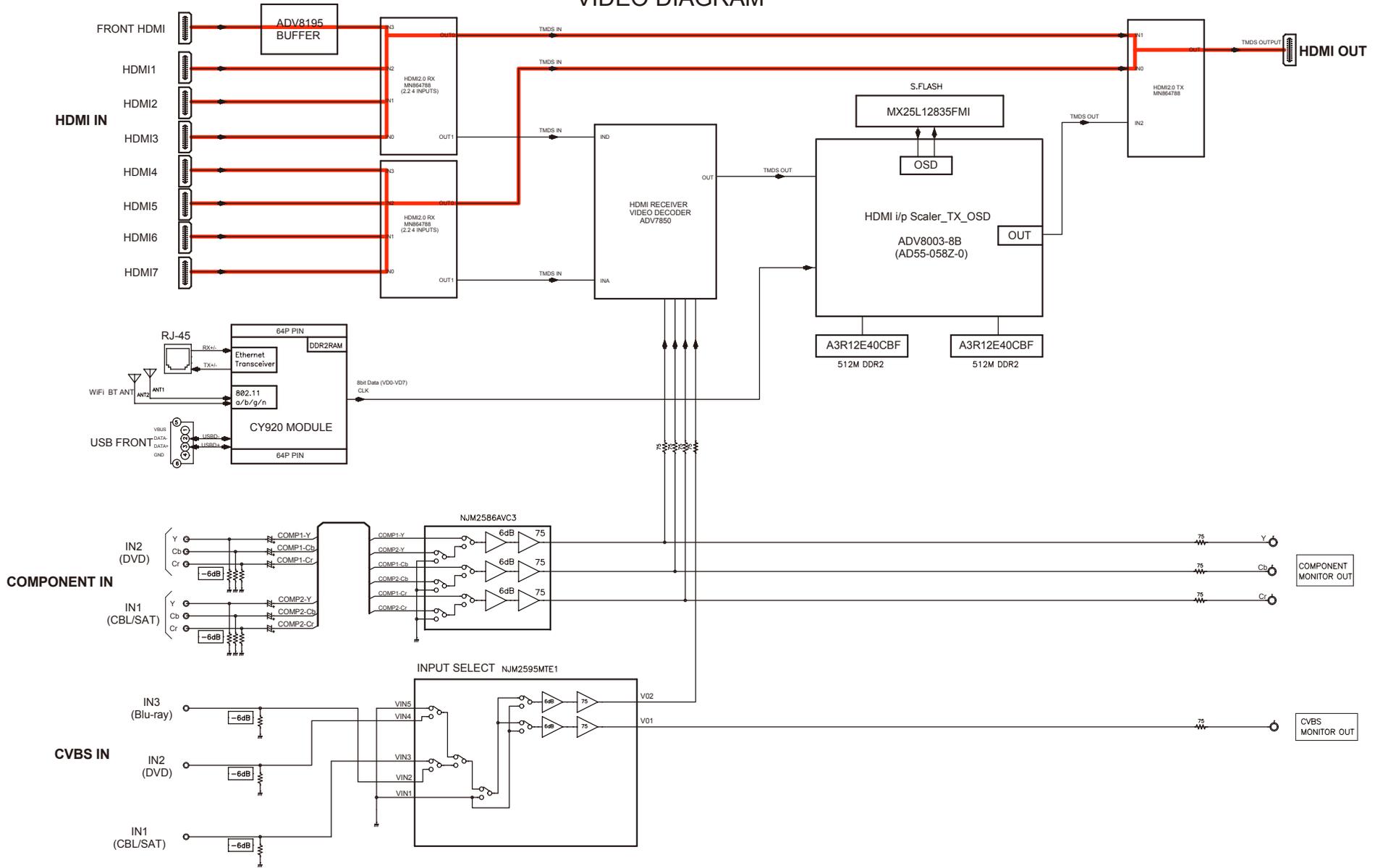
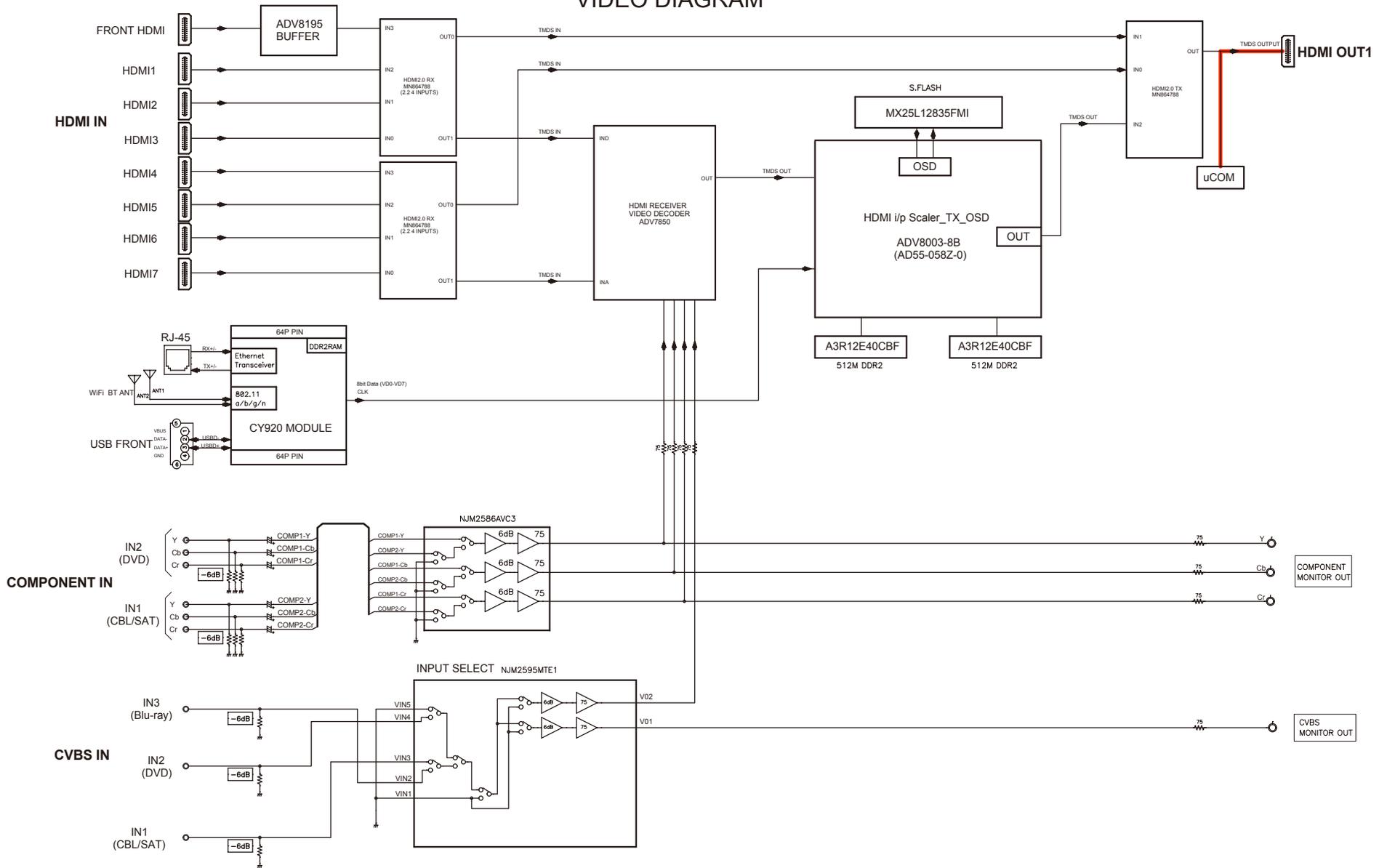


fig.10

VIDEO DIAGRAM



Caution in servicing

Electrical

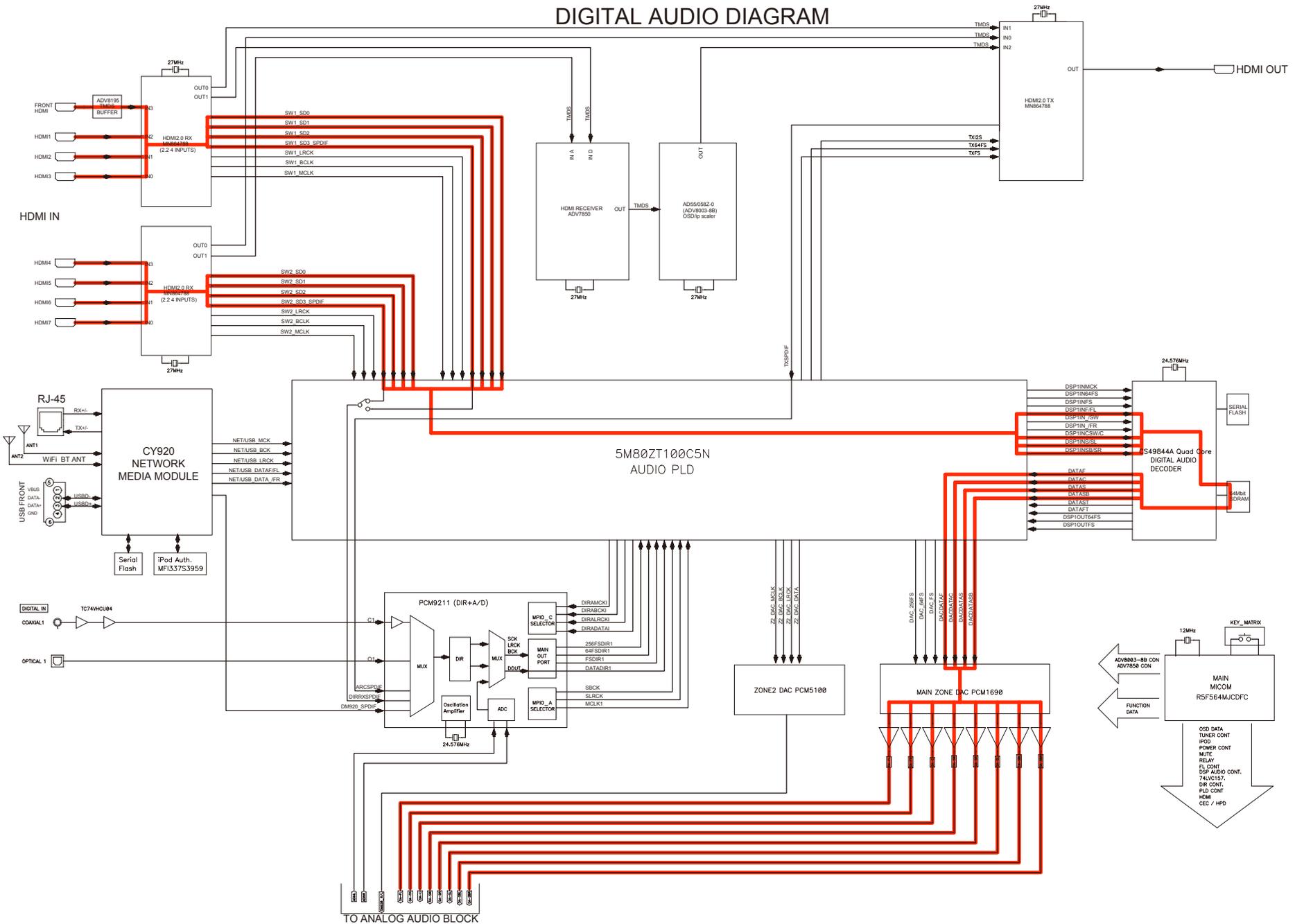
Mechanical

Repair Information

Updating

fig.11a

DIGITAL AUDIO DIAGRAM



Caution in servicing
 Electrical
 Mechanical
 Repair Information
 Updating

fig.11b

ANALOG AUDIO DIAGRAM

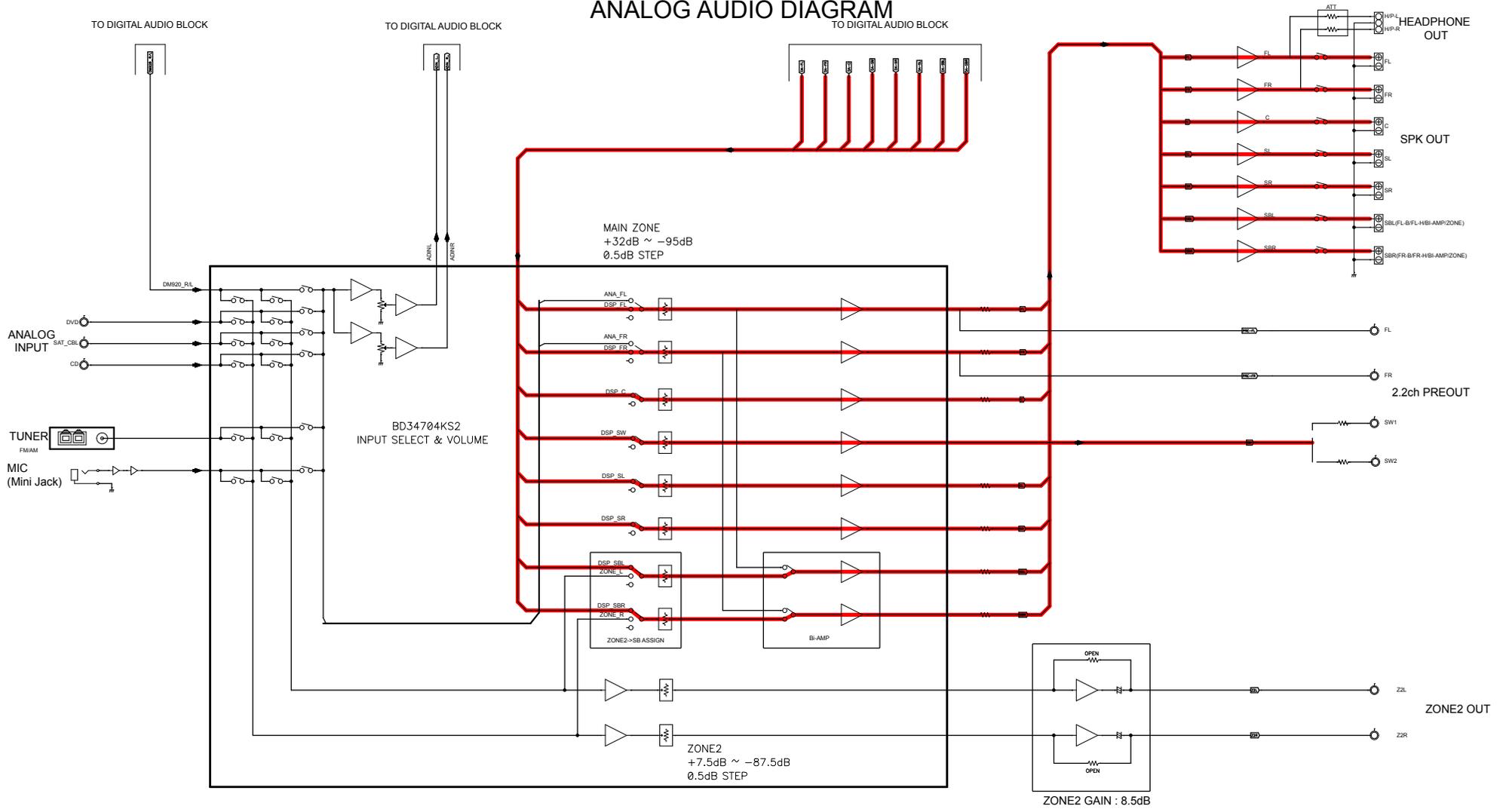


fig.12

DIGITAL AUDIO DIAGRAM

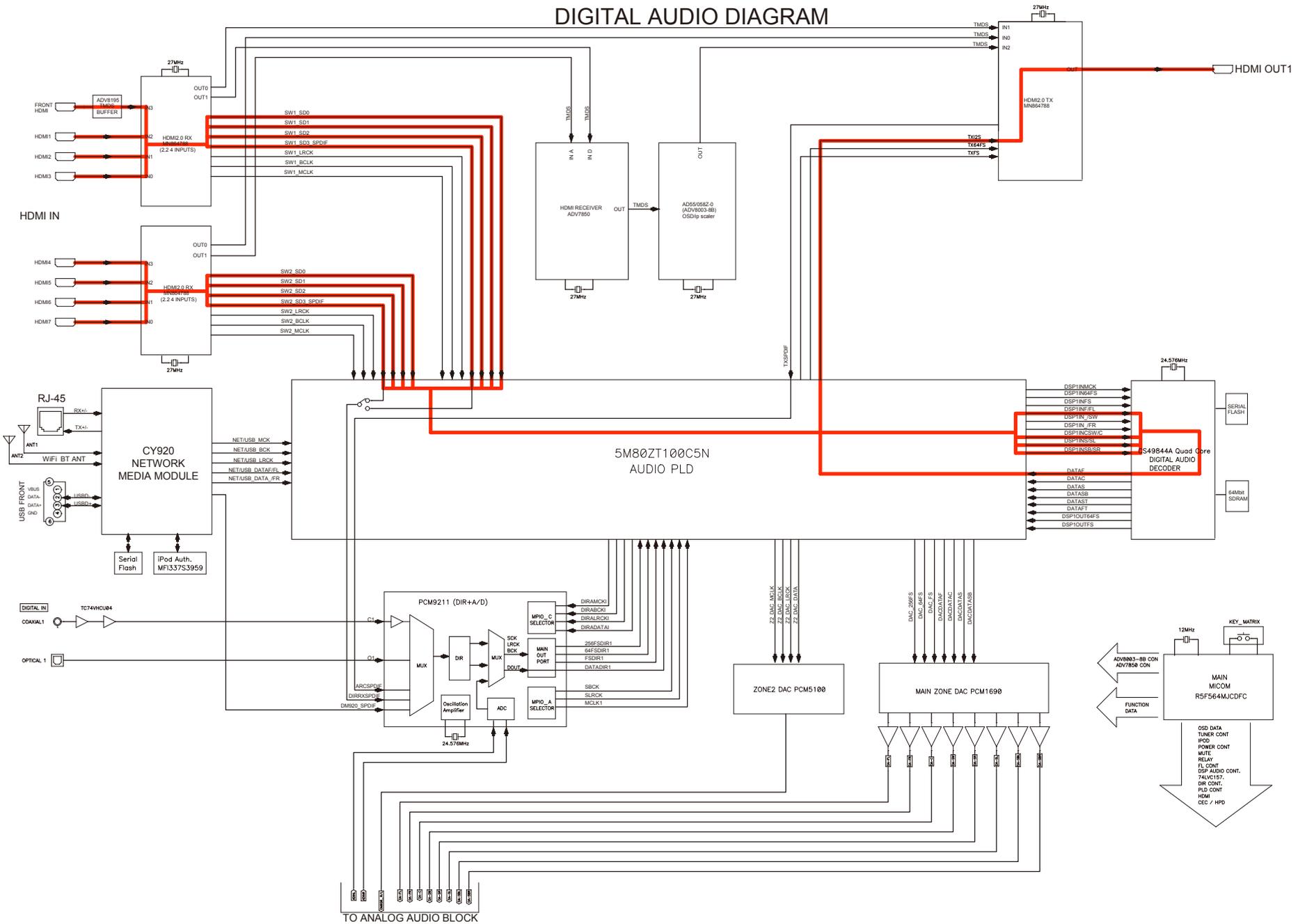
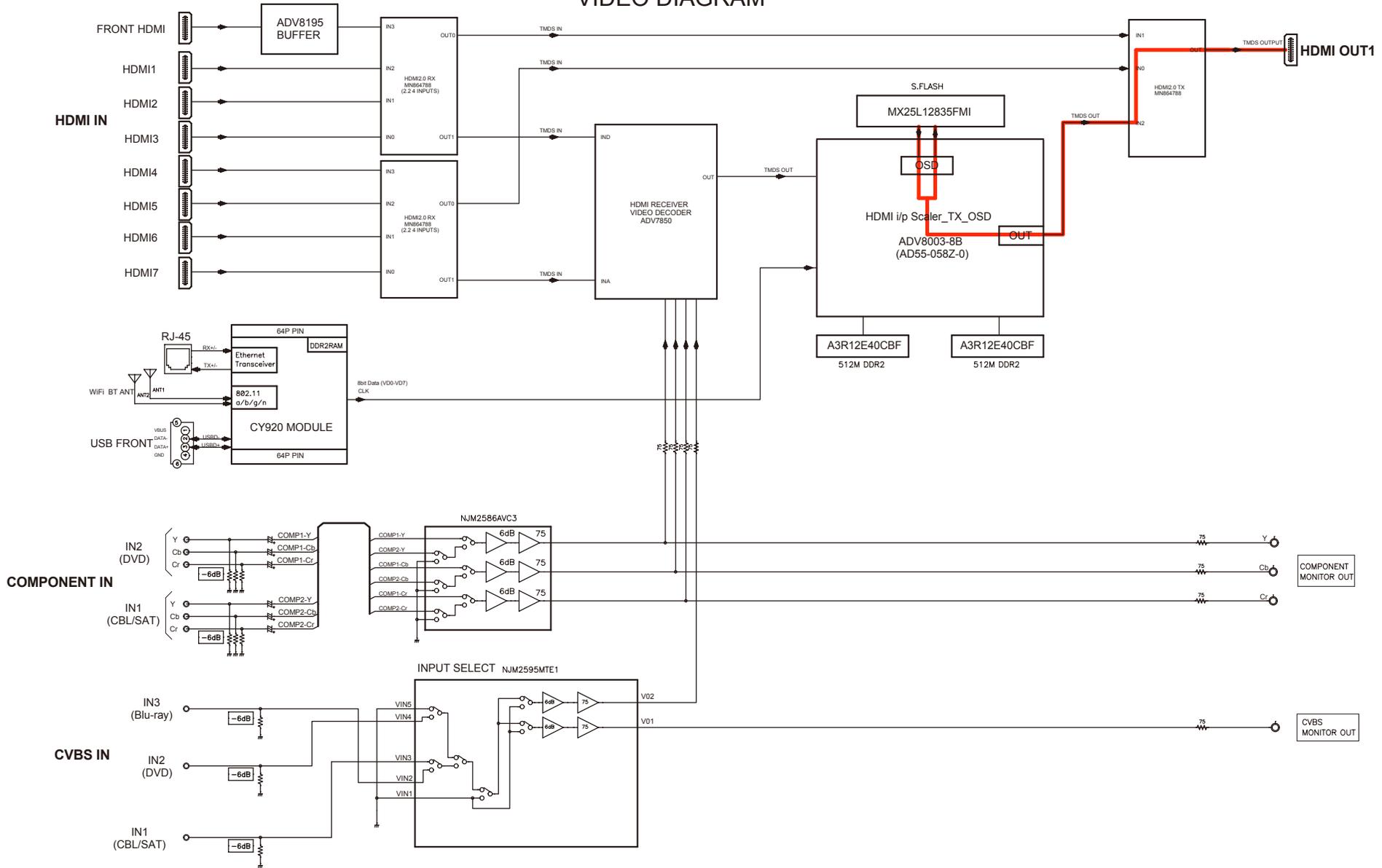


fig.13

VIDEO DIAGRAM



Caution in servicing

Electrical

Mechanical

Repair Information

Updating

JIG FOR SERVICING

Use the following jigs (extension cable kit) when repairing the PCBs.
Order with your dealer for the jigs your dealer if necessary.

CAUTION : Incorrect connections may cause malfunction.

Connection of Jig for HDMI PCB

---Items to Be Prepared---

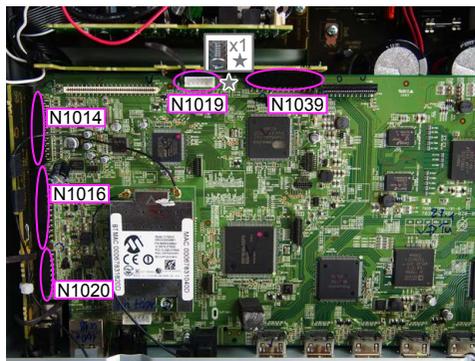
8U-110084S : EXTENSION UNIT KIT : 1Set
Insulation sheet (Not supplied) : 1 sheet
Ground lead (Not supplied) : 2 pc

-Proceeding-

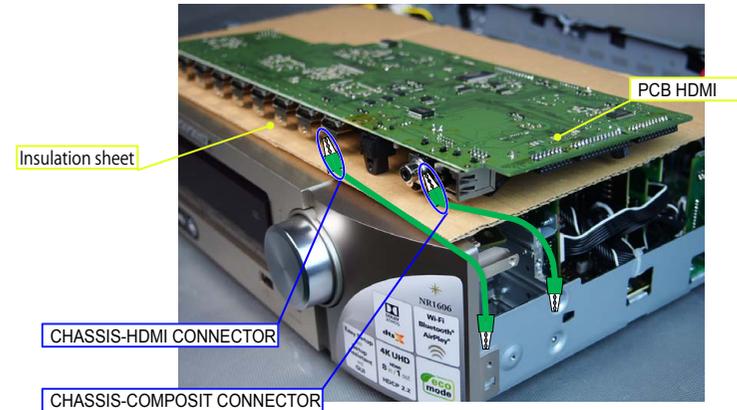
(1) Remove the screws.



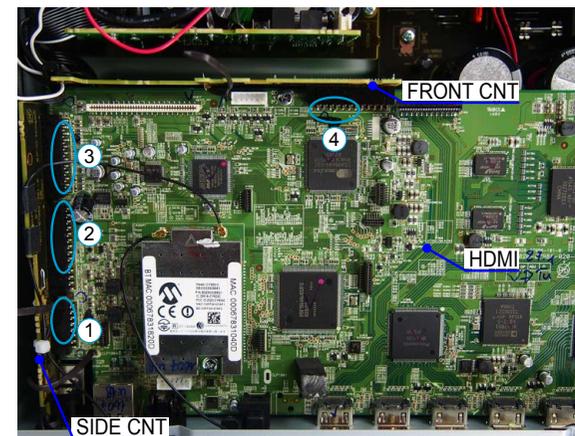
(2) Remove the connector PCB.



(3) Remove the HDMI PCB from the chassis and turn it over.
Place an insulation sheet larger than the PCB underneath the HDMI PCB.
※ Connect the earth of the PCB to the chassis using an earth wire, etc.



(4) Connect the expansion cables.



Board-to-Board Connections

No.	Pin	Ref. No.	PCB		Ref. No.	PCB
①	15pin	CP4608	SIDE CNT	↔	N1020	HDMI
②	27pin	CP4604	SIDE CNT	↔	N1016	HDMI
③	23pin	CP4603	SIDE CNT	↔	N1014	HDMI
④	25pin	CP4613	FRONT CNT	↔	N1039	HDMI

Adjusting Idling Current

1. Preparation

- (1) Prepare a DC voltmeter.
- (2) Place the unit under normal usage conditions, away from highly ventilated areas such as next to an air conditioning machine or electric fan.
The set requires an ambient temperature of 15°C to 30°C and standard humidity.
- (3) Settings of This Unit
 - POWER (Power source switch) STANDBY
 - SPEAKER (Speaker terminal) No load
 (Do not connect equipment such as speakers or dummy resistors.)

2. Adjustment Procedure

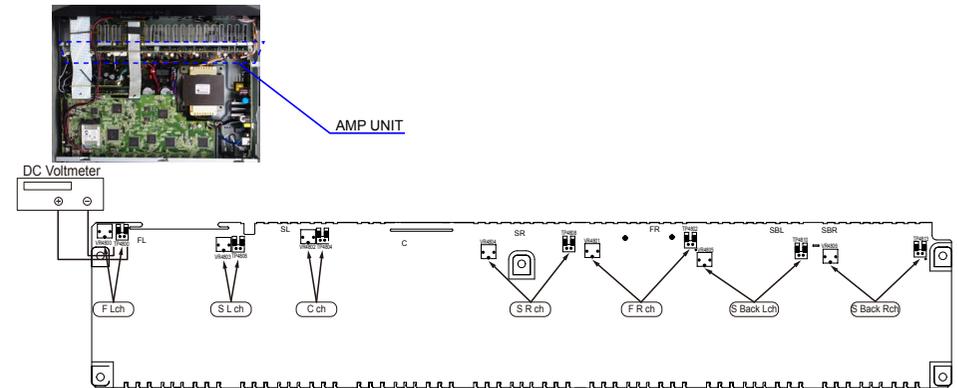
- (1) Remove the top cover and turn VR4800 (ALL Channel) of the AMP PCB counterclockwise(↺) as far as possible.
- (2) Connect the DC Voltmeter to the test points.

FRONT-Lch	: TP4800	: VR4800
FRONT-Rch	: TP4802	: VR4801
CENTER ch	: TP4804	: VR4802
SURROUND-Lch	: TP4806	: VR4803
SURROUND-Rch	: TP4808	: VR4804
SURROUND-BACK Lch	: TP4810	: VR4805
SURROUND-BACK Rch	: TP4813	: VR4806
- (3) Connect the power cord to an outlet. Next, press the power button to turn on the power.
- (4) Set this unit as follows.

MASTER VOLUME	: "----" (↺ min.)	: turn counterclockwise to the lowest position.
SPEAKER (Speaker terminal)	: No load	

 (Do not connect equipment such as speakers or dummy resistors.)

MODE	: MCH STEREO
FUNCTION	: DVD
- (5) Turn VR4800 clockwise (↻) and adjust the voltage of the test point to "**2.0mV ± 0.5mV DC**" within 2 minutes.
- (6) 10 minutes after the preliminary adjustment, turn VR4800 and set the voltage to "**3.0mV ± 0.5mV DC**".
- (7) Adjust the variable resistance of each channel using the same method.



UPDATING

PROCEDURE AFTER REPLACING THE PCB.

PROCEDURE AFTER REPLACING THE U-COM, ETC.

FIRMWARE UPDATE PROCEDURE

1. Items necessary for update
2. Updating via USB
3. Updating via DPMS

PROCEDURE AFTER REPLACING THE PCB.

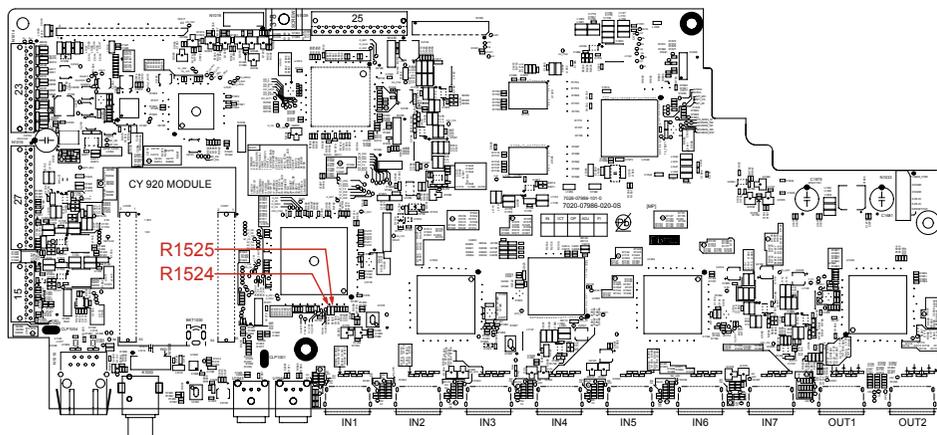
The procedure after replacing the printed circuit boards is as follows.

(1) Change the resistor for setting the region.

Model Area	HDMI PCB	
	R1524	R1525
North America (U)	OPEN	0
Europe (N)	0	OPEN
Japan (F)	10k	22k

See the PCB below.

(2) Be sure to replace the software with the latest version.



PROCEDURE AFTER REPLACING THE U-COM, ETC.

The procedure after replacing the u-COM (microprocessor), flash ROM, etc. is as follows.

PCB Name	Ref. No.	Description	Procedure after Replacement	Remark
HDMI	U1018	R5F564MJCDFC 32BIT	B	SOFTWARE : Main
HDMI	U1025	MX25L6406EM2I-12G 64M	B	SOFTWARE : DSP ROM
HDMI	U1027	MX25L12835FMI-10G 128M	B	SOFTWARE : GUI ROM
HDMI	U1041	5M80ZT100C5N TQFP100	B	SOFTWARE : AUDIO PLD
MODULE	P17	CY920 MODULE (CY920 Model)	D	SOFTWARE : SBL.bcd / IMG.bcd ※1
HDMI	U1010	MX25L25635FMI-10G (CY920 Model)	C	SOFTWARE : IMG.bcd ※1

※1 The firmware for the CY920 MODULE is written to the INTERNAL ROM of the CY920 and the U1010 (EXTERNAL ROM) of the HDMI PCB.

"**CY920 Error**" appears in the display if the HDMI PCB or the CY920 is replaced, as this results in the version of the INTERNAL ROM differing from that of the EXTERNAL ROM.

In this case, see "[2.10. Update Procedure in the Event of a CY920 Error](#)".

(This does not require special operations such as pushing multiple buttons at the same time. The firmware also cannot be updated via DPMS.)

Procedure after Replacement

- A** : The software has been written. The software is not written at the time of replacement.
- B** : The software has been written. The software may need to be rewritten by version updates. Check the version.
- C** : The software has not been written. The software needs to be written after replacement. See "[FIRMWARE UPDATE PROCEDURE](#)" for information on writing the software.
- D** : The software has been written. Be sure to rewrite with the latest software for your service region. See "[FIRMWARE UPDATE PROCEDURE](#)" for information on writing the software.

FIRMWARE UPDATE PROCEDURE

1. Items necessary for update

Items necessary for update are as follows.

Update Type	Needed Part for Update	Requirement	Offered / not Offered		
			Standard Service Equipment Not offered by D&M	Purchase from D&M Article code	Download from SDI
Via USB	USB Stick (USB 2.0 : Min 1GB)	Formatting FAT 32	X	-	2.3. File structure on USB Memory
Via DPMS	Internet Connection by Broadband Circuit		X	-	
	Modem		X	-	
	Router		X	-	
	Ethernet cable (CAT-5 or greater is recommended)		X	-	

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Updating

2. Updating via USB

The latest firmware can be downloaded to a USB memory for updates.

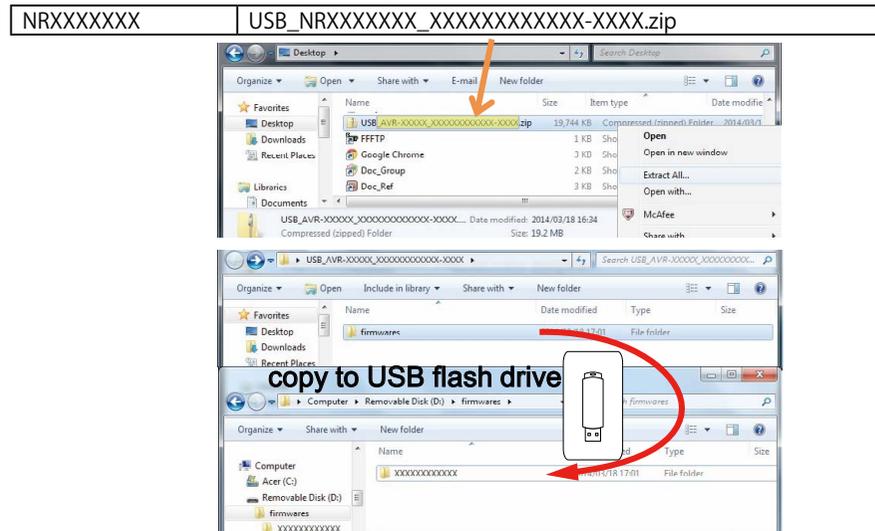
2.1. Connecting to the USB Memory

(1) Preparation

- Use a memory that supports USB2.0.
- USB format : Prepare a USB memory formatted in FAT16 or FAT32.
- Do not run the USB memory through a hub.
- Do not connect a computer to the USB port of this unit using a USB cable.
- Do not use an extension cable when connecting the USB unit.
- If a USB memory device cannot be updated, replace it with a different USB memory device and perform the update again.

2.2. Unzipping the Downloaded File

Unzip the downloaded file on your computer.



The "**firmwares**" folder is created upon unzipping the file.

Copy that folder to USB flash drive.

The "**firmwares**" folder must be in the root directly of the USB flash drive (memory).

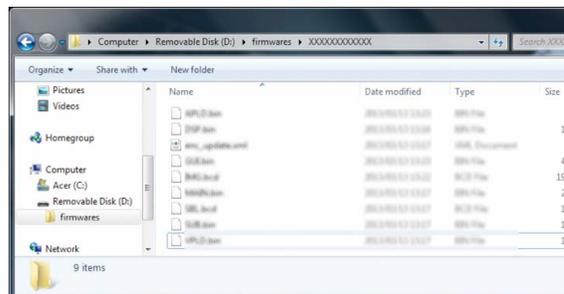
2.3. File structure on USB Memory

Copy the update files to the USB memory with the following structure.

USB memory root

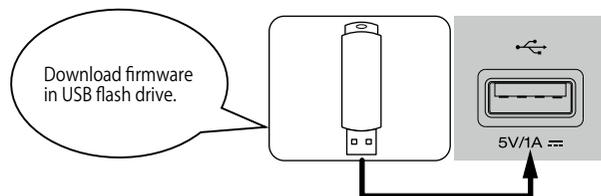
Model Name	Model Area	Product ID
NR1607 U	North America (U)	100100480100
NR1607 N	Europe (N)	100100480200
NR1607 F	Japan (F)	100100480400

- + firmwares
- + 100100XXXXXX
- + APLD.bin
- + DSP.bin
- + enc_update.xml
- + GUI.bin
- + IMG.bcd
- + MAIN.bin
- + SBL.bcd



2.4. Insert the USB memory into the USB port.

NOTE : Remove the LAN cable from this unit when performing updates.



2.5. Start the update.

While holding down buttons "DIMMER" and "SOUND MODE" simultaneously, press the power button to turn on the power.

2.6. Display during USB update

After around half minutes, display shows the following message.

USB Update Start

2.7. Press the "ENTER" key on the remote control unit or this unit.

Then start Firmware Update.

UpdateFileCheck

2.8. The firmware update finishes.

When the update is completed, the following message appears on the display, then the unit returns to the normal status.

UpdatingComplete

---Cautions on Firmware Update---

- Never remove the USB memory before the update is finished.
- Do not turn off the power until updating is completed.
- It takes around 1 hour to complete the update.

Once an update is started, normal operations cannot be performed until it is completed. The GUI menu settings and image adjustment settings of this unit may be initialized. Note down the settings before updating, and set them again after updating.

2.9. Forced USB All Device Write Mode

2.9.1. Actions

Mode used when this unit cannot be recovered.
Forcibly switches this unit to USB update mode.

2.9.2. Operations

While holding down buttons the "DIMMER" and "SOUND MODE" buttons simultaneously, insert the AC plug to turn the power on.

```
USB AllUpdate
USB AllUpdate.
USB AllUpdate..
USB AllUpdate...
```

2.9.3. The firmware update finishes.

Returns to the normal status after update is completed.

2.10. Update Procedure in the Event of a CY920 Error

2.10.1. Actions

Perform the following update procedure if "CY920 Error" appears in the display when the power is turned on after replacing the HDMI PCB or the CY920.

2.10.2. Operations

- (1) Remove the AC power plug and turn off the power.
- (2) Copy the update file to a USB memory device and insert the USB memory device in the USB port.
- (3) Insert the AC plug and turn on the power.
- (4) The update starts automatically after "CY920 Error" appears in the display.

```
UpdateFileCheck
```

- (5) The firmware update finishes.

```
Update Complete
```

The unit restarts after the update is finished.

- (6) After the update, check that "CY920 Error" is no longer displayed, and check the version of the new firmware.
See "1. Version Display Mode"

2.11. About the error codes

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

The error code is displayed as four digits made up of the Device ID below together with **YY (** : Device ID, YY : Error Code).

Device ID	Device Name
00	n/a(※ 1)
01	Main CPU
11	DSP
12	DSP2(※ 2)
13	DSP3(※ 2)
19	DSP4(※ 2)
15	Audio PLD
22	Video PLD
2A	GUI Serial Flash
02	CY920 2nd BootLoader
03	CY920 Image

※ 1 Used when there are no device related errors

※ 2 For SR6011

Error Code	USB Update Error Display	Details of Error code	Remedies
01	Update Error**01	Unable to detect USB.	Reinsert or Try a new USB device and try again.
02	Update Error**02	No Firmware File in USB.	Check the file and try again.
03	Update Error**03	The Firmware File in the USB does not support your model and area.	Make sure the model name and area of the Firmware File and try again.
04	Update Error**04	Failed to obtain the Firmware information (Device Information)	Try a new USB device and try again.
05	Update Error**05	Time Out while obtaining the Firmware information (Device Information)	Start the USB Update again.
06	Update Error**06	Failed to obtain the Firmware information (Package Version)	Try a new USB device and try again.
07	Update Error**07	Time Out while obtaining the Firmware information (Package Version)	Start the USB Update again.
08	Update Error**08	Error notification received while requesting the Firmware Info.	Try a new USB device, Unplug and reconnect the AC plug, and try again.

Error Code	USB Update Error Display	Details of Error code	Remedies
09	Update Error**09	Time Out while obtaining Firmware information.	Unplug and reconnect the AC plug, and try again.
0A	Update Error**0A	Unable to detect USB for Firmware Download.	Reinsert or try a new USB device, Unplug and reconnect the AC plug, and try again.
0B	Update Error**0B	No Firmware File for Firmware Download.	Check the file, Unplug and reconnect the AC plug, and try again.
0C	Update Error**0C	Received value with the invalid Package Version.	Unplug and reconnect the AC plug, and try again.
10	Update Error**10	No Update Packet received from CY920 (Time Out).	Unplug and reconnect the AC plug, and try again.
11	Update Error**11	Abnormal data in Update Packet received from CY920 (CRC Error).	Unplug and reconnect the AC plug, and try again.
12	Update Error**12	Abnormal data in Update Packet received from CY920 (Packet No Error).	Unplug and reconnect the AC plug, and try again.
13	Update Error**13	Failed in Block Erase before rewriting Main.	Unplug and reconnect the AC plug, and try again.
14	Update Error**14	Failed in Block Write while rewriting Main	Unplug and reconnect the AC plug, and try again.
15	Update Error**15	Error in Verify after rewriting Main (Check Sum Error).	Unplug and reconnect the AC plug, and try again.
16	Update Error**16	Setup failure of the XModem transfer method.	Unplug and reconnect the AC plug, and try again. If the same error occurs even when it is retried, the device may be malfunctioning.
20	Update Error**20	Unable to detect USB after SBL Mode.	Reinsert or try a new USB device, Unplug and reconnect the AC plug, and try again.
21	Update Error**21	No Firmware File in USB after SBL Mode.	Check the file, Unplug and reconnect the AC plug, and try again.
22	Update Error**22	After SBL Mode, the Firmware File in the USB does not support your model and area.	Make sure the model name and area of the Firmware File, Unplug and reconnect the AC plug, and try again.

Error Code	USB Update Error Display	Details of Error code	Remedies
23	Update Error**23	Failed to obtain the entire Firmware information after SBL Mode.	Try a new USB device, Unplug and reconnect the AC plug, and try again.
24	Update Error**24	Time Out while obtaining the entire Firmware information after SBL Mode.	Unplug and reconnect the AC plug, and try again.
25	Update Error**25	Failed to transit to SBL Mode	Unplug and reconnect the AC plug, and try again.
26	Update Error**26	Time Out in Download (writing to SDRAM) for Firmware Download.	Unplug and reconnect the AC plug, and try again.
27	Update Error**27	Failed to write to EEPROM after SBL Mode.	Unplug and reconnect the AC plug, and try again.
36	Update Error**36	Unable to detect USB.	Reinsert or try a new USB device, Unplug and reconnect the AC plug, and try again.
37	Update Error**37	No Firmware File in USB.	Check the file, Unplug and reconnect the AC plug, and try again.
38	Update Error**38	The Firmware File in the USB does not support your model and area.	Make sure the model name and area of the Firmware File, Unplug and reconnect the AC plug, and try again.
39	Update Error**39	Time Out in USB Check.	Unplug and reconnect the AC plug, and try again.
3A	Update Error**3A	Unable to detect USB for Firmware Download.	Reinsert or try a new USB device, Unplug and reconnect the AC plug, and try again.
3B	Update Error**3B	No Firmware File for Firmware Download.	Check the file, Unplug and reconnect the AC plug, and try again.
3C	Update Error**3C	Error notification received while requesting the Firmware Info.	Try a new USB device, Unplug and reconnect the AC plug, and try again.
3D	Update Error**3D	Time Out while obtaining Firmware information.	Try a new USB device, Unplug and reconnect the AC plug, and try again.
3F	Update Error**3F	Failed to transit to SBL Mode.	Unplug and reconnect the AC plug, and try again.

Error Code	USB Update Error Display	Details of Error code	Remedies
50	Update Error**50	Unable to detect USB.	Reinsert or try a new USB device, Unplug and reconnect the AC plug, and try again.
51	Update Error**51	No Firmware File in USB.	Check the file, Unplug and reconnect the AC plug, and try again.
52	Update Error**52	The Firmware File in the USB does not support your model and area.	Make sure the model name and area of the Firmware File, Unplug and reconnect the AC plug, and try again.
54	Update Error**54	Error notification received while requesting the Firmware Info.	Try a new USB device, Unplug and reconnect the AC plug, and try again.
55	Update Error**55	Time Out while obtaining Firmware information.	Unplug and reconnect the AC plug, and try again.
56	Update Error**56	Unable to detect USB for Firmware Download.	Reinsert or try a new USB device, Unplug and reconnect the AC plug, and try again.
57	Update Error**57	No Firmware File for Firmware Download.	Check the file, Unplug and reconnect the AC plug, and try again.
5A	Update Error**5A	Invalid Device ID in response or no response from Sub for the "C" command.	Unplug and reconnect the AC plug, and try again. If the same error occurs even when it is retried, the device may be malfunctioning.
5B	Update Error**5B	NACK received in response or no response from Sub for the "L" command.	Unplug and reconnect the AC plug, and try again. If the same error occurs even when it is retried, the device may be malfunctioning.
5C	Update Error**5C	No Update Packet received from CY920 (Time Out).	Unplug and reconnect the AC plug, and try again.
5D	Update Error**5D	Abnormal data in Update Packet received from CY920 (CRC Error).	Unplug and reconnect the AC plug, and try again.
5E	Update Error**5E	Abnormal data in Update Packet received from CY920 (Packet No Error).	Unplug and reconnect the AC plug, and try again.
5F	Update Error**5F	Setup failure of the XModem transfer method.	Unplug and reconnect the AC plug, and try again. If the same error occurs even when it is retried, the device may be malfunctioning.

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Error Code	USB Update Error Display	Details of Error code	Remedies
60	Update Error**60	NACK received in response or no response from Sub for the "P" command.	Unplug and reconnect the AC plug, and try again. If the same error occurs even when it is retried, the device may be malfunctioning.
61	Update Error**61	Mismatched Check Sum in response or no response from Sub for the "I" command.	Unplug and reconnect the AC plug, and try again. If the same error occurs even when it is retried, the device may be malfunctioning.
62	Update Error**62	Failed to start up Sub in Power On sequence during Update.	Unplug and reconnect the AC plug, and try again.
63	Update Error**63	Failed to transit to Application Mode.	Unplug and reconnect the AC plug, and try again.
64	Update Error**64	Failed to transit to Boot Loader Mode.	Unplug and reconnect the AC plug, and try again.
80	Update Error**80	Write Enable Latch Bit not set in Read after issuing the "WREN" command.	Unplug and reconnect the AC plug, and try again. If the same error occurs even when it is retried, the device may be malfunctioning.
81	Update Error**81	Block Erase failed in Read after issuing the "BE" command.	Unplug and reconnect the AC plug, and try again. If the same error occurs even when it is retried, the device may be malfunctioning.
82	Update Error**82	No Update Packet received from CY920 (Time Out).	Unplug and reconnect the AC plug, and try again.
83	Update Error**83	Abnormal data in Update Packet received from CY920 (CRC Error).	Unplug and reconnect the AC plug, and try again.
84	Update Error**84	Abnormal data in Update Packet received from CY920 (Packet No Error).	Unplug and reconnect the AC plug, and try again.
85	Update Error**85	Setup failure of the XModem transfer method	Unplug and reconnect the AC plug, and try again. If the same error occurs even when it is retried, the device may be malfunctioning.
86	Update Error**86	Mismatched Check Sum in Check Sum comparison after rewriting.	Unplug and reconnect the AC plug, and try again.

Error Code	USB Update Error Display	Details of Error code	Remedies
A2	Update Error**A2	Unable to detect USB.	Reinsert or try a new USB device, Unplug and reconnect the AC plug, and try again.
A3	Update Error**A3	No Firmware File in USB.	Check the file, Unplug and reconnect the AC plug, and try again.
A4	Update Error**A4	The Firmware File in the USB does not support your model and area.	Make sure the model name and area of the Firmware File, Unplug and reconnect the AC plug, and try again.
A6	Update Error**A6	Error notification received while requesting the Firmware Info.	Try a new USB device, Unplug and reconnect the AC plug, and try again.
A7	Update Error**A7	Time Out while obtaining Firmware information.	Unplug and reconnect the AC plug, and try again.
AE	Update Error**AE	Unable to detect USB for Firmware Download.	Reinsert or try a new USB device, Unplug and reconnect the AC plug, and try again.
AF	Update Error**AF	No Firmware File for Firmware Download.	Check the file, Unplug and reconnect the AC plug, and try again.
B1	Update Error**B1	Time Out in Download (writing to SDRAM) for Firmware Download.	Unplug and reconnect the AC plug, and try again.
B2	Update Error**B2	Error notification received after rewriting the CY920 Firm.	Unplug and reconnect the AC plug, and try again.
B3	Update Error**B3	Error in Firmware Update (Time Out).	Unplug and reconnect the AC plug, and try again.
B4	Update Error**B4	Failed to transit to Boot Loader Mode.	Unplug and reconnect the AC plug, and try again.
B5	Update Error**B5	Failed to transit to Application Mode.	Unplug and reconnect the AC plug, and try again.

---Checking the Firmware Version After the Update---

After updating the firmware, check the version.

See "1. Version Display Mode"

3. Updating via DPMS

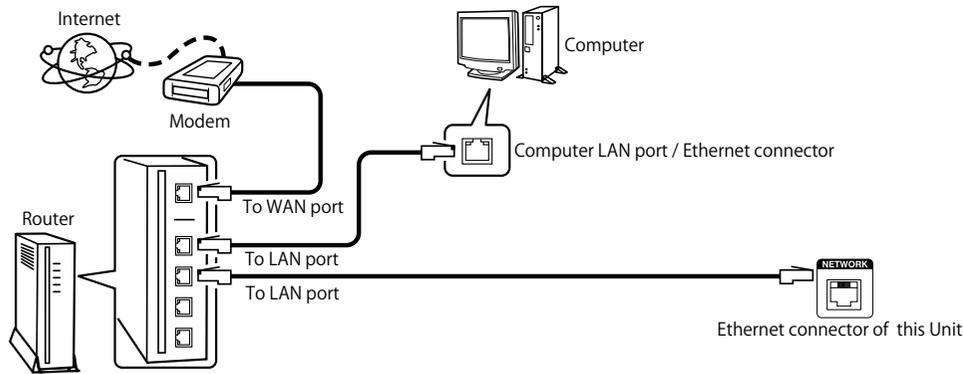
Download the latest firmware from our website and update the firmware.

3.1. Network Connection

(1) System Requirements

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

(2) Setting



3.2. Check and update the firmware

Check if there is a firmware update available. It is also possible to check approximately how long the update will take.

- (1) Press the **"SETUP"** button on the remote control to display the GUI menu.
- (2) Press the cursor button to select **"General"** → **"Firmware"** → **"Update"** → **"Check for Update"**.
- (3) Press the **"ENTER"** button.
 - The latest version of the firmware uploaded to the web is displayed.
 - If the latest firmware version is on the web, proceed to (4).
 - If the latest firmware is already installed, press the **"SETUP"** button to exit the menu.
- (4) Select **"Start"** using the cursor buttons, and then press **"ENTER"**.
 - The power display lights in red and the GUI screen display disappears during the update. The remaining time of the update is shown on the display of the unit.
 - Returns to the normal status after update is completed.

---Cautions on Firmware Update---

- For the update procedure, a proper broadband Internet connection environment and settings are required.
- Do not turn off the power until updating is completed.
- It takes around 1 hour to complete the update.

Once an update is started, normal operations cannot be performed until it is completed.

The GUI menu settings and image adjustment settings of this unit may be initialized.

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

3.3. About the error codes

See the following table for details on the error code display, details of the error code, remedies when updating the firmware via DPMS. (DPMS : D&M Product Management Server)

The error code is displayed as four digits made up of the Device ID below together with **YY (** : Device ID, YY : Error Code).

Device ID	Device Name
00	n/a(※ 1)
01	Main CPU
11	DSP
12	DSP2(※ 2)
13	DSP3(※ 2)
19	DSP4(※ 2)
15	Audio PLD
22	Video PLD
2A	GUI Serial Flash
02	CY920 2nd BootLoader
03	CY920 Image

※ 1 Used when there are no device related errors

※ 2 For SR6011

Error Code	DPMS Update Error Display	Details of Error code	Remedies
01	Update Error**01	Connection to DPMS failed.	Check the network connection, then try again.
03	Update Error**03	Connection to DPMS failed.	Check the network connection, then try again.
04	Update Error**04	Failed to obtain the Firmware information (Device Information)	Check the network connection, then try again.
05	Update Error**05	Time Out while obtaining the Firmware information (Device Information)	Check the network connection, then try again.
06	Update Error**06	Failed to obtain the Firmware information (Package Version)	Check the network connection, then try again.
07	Update Error**07	Time Out while obtaining the Firmware information (Package Version)	Check the network connection, then try again.
08	Update Error**08	Error notification received while requesting the Firmware Info.	Check the network connection, Unplug and reconnect the AC plug, and try again.
09	Update Error**09	Time Out while obtaining Firmware information.	Unplug and reconnect the AC plug, and try again.

Error Code	DPMS Update Error Display	Details of Error code	Remedies
0A	Update Error**0A	Error(NG) notification received while requesting Firmware Download.	Check the network connection, Unplug and reconnect the AC plug, and try again.
0C	Update Error**0C	Error(Connect failure) notification received while requesting Firmware Download.	Check the network connection, Unplug and reconnect the AC plug, and try again.
0D	Update Error**0D	Received value with the invalid Package Version.	Unplug and reconnect the AC plug, and try again.
0E	Update Error**0E	Connection to DPMS failed. (Cannot get NTP)	Check the network connection, then try again.
10	Update Error**10	No Update Packet received from CY920 (Time Out).	Unplug and reconnect the AC plug, and try again.
11	Update Error**11	Abnormal data in Update Packet received from CY920 (CRC Error).	Unplug and reconnect the AC plug, and try again.
12	Update Error**12	Abnormal data in Update Packet received from CY920 (Packet No Error).	Unplug and reconnect the AC plug, and try again.
13	Update Error**13	Failed in Block Erase before rewriting Main.	Unplug and reconnect the AC plug, and try again.
14	Update Error**14	Failed in Block Write while rewriting Main	Unplug and reconnect the AC plug, and try again.
15	Update Error**15	Error in Verify after rewriting Main (Check Sum Error).	Unplug and reconnect the AC plug, and try again.
16	Update Error**16	Setup failure of the XModem transfer method.	Unplug and reconnect the AC plug, and try again. If the same error occurs even when it is retried, the device may be malfunctioning.
20	Update Error**20	After SBL Mode IP Address acquisition failure (AutoIP).	Check the network connection, Unplug and reconnect the AC plug, and try again.
21	Update Error**21	After SBL Mode IP Address acquisition failure (Time Out).	Check the network connection, Unplug and reconnect the AC plug, and try again.
22	Update Error**22	DPMS login incorrect notification after SBL.	Check the network connection, Unplug and reconnect the AC plug, and try again.

Error Code	DPMS Update Error Display	Details of Error code	Remedies
24	Update Error**24	DPMS connection failure notification after SBL.	Check the network connection, Unplug and reconnect the AC plug, and try again.
25	Update Error**25	Failed to transit to SBL Mode.	Unplug and reconnect the AC plug, and try again.
26	Update Error**26	Error in Firmware Download (Time Out).	Unplug and reconnect the AC plug, and try again.
27	Update Error**27	Failed to write to EEPROM after SBL Mode.	Unplug and reconnect the AC plug, and try again.
36	Update Error**36	DPMS login incorrect notification.	Check the network connection, Unplug and reconnect the AC plug, and try again.
38	Update Error**38	DPMS connection failure notification.	Check the network connection, Unplug and reconnect the AC plug, and try again.
39	Update Error**39	DPMS connection Time Out Error.	Unplug and reconnect the AC plug, and try again.
3A	Update Error**3A	Error(NG) notification received while requesting Firmware Download.	Check the network connection, Unplug and reconnect the AC plug, and try again.
3C	Update Error**3C	Error(Connect failure) notification received while requesting Firmware Download.	Check the network connection, Unplug and reconnect the AC plug, and try again.
3D	Update Error**3D	After SBL Mode IP Address acquisition failure (AutoIP).	Check the network connection, Unplug and reconnect the AC plug, and try again.
3E	Update Error**3E	After SBL Mode IP Address acquisition failure (Time Out).	Unplug and reconnect the AC plug, and try again.
3F	Update Error**3F	Failed to transit to SBL Mode.	Unplug and reconnect the AC plug, and try again.
50	Update Error**50	DPMS login incorrect notification.	Check the network connection, Unplug and reconnect the AC plug, and try again.
52	Update Error**52	DPMS connection failure notification.	Check the network connection, Unplug and reconnect the AC plug, and try again.

Error Code	DPMS Update Error Display	Details of Error code	Remedies
54	Update Error**54	Error notification received while requesting the Firmware Info.	Check the network connection, Unplug and reconnect the AC plug, and try again.
55	Update Error**55	Time Out while obtaining Firmware information.	Unplug and reconnect the AC plug, and try again.
56	Update Error**56	Error(NG) notification received while requesting Firmware Download.	Check the network connection, Unplug and reconnect the AC plug, and try again.
58	Update Error**58	Error(Connect failure) notification received while requesting Firmware Download.	Check the network connection, Unplug and reconnect the AC plug, and try again.
5A	Update Error**5A	Invalid Device ID in response or no response from Sub for the "C" command.	Unplug and reconnect the AC plug, and try again. If the same error occurs even when it is retried, the device may be malfunctioning.
5B	Update Error**5B	NACK received in response or no response from Sub for the "L" command.	Unplug and reconnect the AC plug, and try again. If the same error occurs even when it is retried, the device may be malfunctioning.
5C	Update Error**5C	No Update Packet received from CY920 (Time Out).	Unplug and reconnect the AC plug, and try again.
5D	Update Error**5D	Abnormal data in Update Packet received from CY920 (CRC Error).	Unplug and reconnect the AC plug, and try again.
5E	Update Error**5E	Abnormal data in Update Packet received from CY920 (Packet No Error).	Unplug and reconnect the AC plug, and try again.
5F	Update Error**5F	Setup failure of the XModem transfer method.	Unplug and reconnect the AC plug, and try again. If the same error occurs even when it is retried, the device may be malfunctioning.
60	Update Error**60	NACK received in response or no response from Sub for the "P" command.	Unplug and reconnect the AC plug, and try again. If the same error occurs even when it is retried, the device may be malfunctioning.
61	Update Error**61	Mismatched Check Sum in response or no response from Sub for the "I" command.	Unplug and reconnect the AC plug, and try again. If the same error occurs even when it is retried, the device may be malfunctioning.

Caution in servicing

Electrical

Mechanical

Repair Information

Updating

Error Code	DPMS Update Error Display	Details of Error code	Remedies
62	Update Error**62	Failed to start up Sub in Power On sequence during Update.	Unplug and reconnect the AC plug, and try again.
80	Update Error**80	Write Enable Latch Bit not set in Read after issuing the "WREN" command.	Unplug and reconnect the AC plug, and try again. If the same error occurs even when it is retried, the device may be malfunctioning.
81	Update Error**81	Block Erase failed in Read after issuing the "BE" command.	Unplug and reconnect the AC plug, and try again. If the same error occurs even when it is retried, the device may be malfunctioning.
82	Update Error**82	No Update Packet received from CY920 (Time Out).	Unplug and reconnect the AC plug, and try again.
83	Update Error**83	Abnormal data in Update Packet received from CY920 (CRC Error).	Unplug and reconnect the AC plug, and try again.
84	Update Error**84	Abnormal data in Update Packet received from CY920 (PacketNoError).	Unplug and reconnect the AC plug, and try again.
85	Update Error**85	Setup failure of the XModem transfer method.	Unplug and reconnect the AC plug, and try again. If the same error occurs even when it is retried, the device may be malfunctioning.
86	Update Error**86	Mismatched Check Sum in Check Sum comparison after rewriting.	Unplug and reconnect the AC plug, and try again.
A0	Update Error**A0	IP Address acquisition failure (AutoIP).	Check the network connection, Unplug and reconnect the AC plug, and try again.
A1	Update Error**A1	IP Address acquisition failure (Time Out).	Unplug and reconnect the AC plug, and try again.
A2	Update Error**A2	DPMS login incorrect notification.	Check the network connection, Unplug and reconnect the AC plug, and try again.
A4	Update Error**A4	DPMS connection failure notification.	Check the network connection, Unplug and reconnect the AC plug, and try again.
A6	Update Error**A6	Error notification received while requesting the Firmware Info.	Check the network connection, Unplug and reconnect the AC plug, and try again.

Error Code	DPMS Update Error Display	Details of Error code	Remedies
A7	Update Error**A7	Time Out while obtaining Firmware information.	Unplug and reconnect the AC plug, and try again.
AE	Update Error**AE	Error(NG) notification received while requesting Firmware Download.	Check the network connection, Unplug and reconnect the AC plug, and try again.
B0	Update Error**B0	Error(Connect failure) notification received while requesting Firmware Download.	Check the network connection, Unplug and reconnect the AC plug, and try again.
B1	Update Error**B1	Error in Firmware Download (Time Out).	Check the network connection, Unplug and reconnect the AC plug, and try again.
B2	Update Error**B2	Error notification received after rewriting the CY920 Firm.	Unplug and reconnect the AC plug, and try again.
B3	Update Error**B3	Error in Firmware Update (Time Out).	Unplug and reconnect the AC plug, and try again.
B4	Update Error**B4	Failed to transit to Boot Loader Mode.	Unplug and reconnect the AC plug, and try again.
B5	Update Error**B5	Failed to transit to Application Mode.	Unplug and reconnect the AC plug, and try again.

---Checking the Firmware Version After the Update---

After updating the firmware, check the version.

See "1. Version Display Mode"

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