HAP-S1

SERVICE MANUAL

Ver. 1.0 2013.10

US Model
Canadian Model
AEP Model
UK Model

Note:
Be sure to keep your PC used for service and checking of this unit always updated with the latest version of your anti-virus software.
In case a virus affected unit was found during service, contact your Service Headquarters.

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION (for the USA and Canada only):

With 4 ohm loads, both channels driven, from 20 - 20,000Hz; rated 32 watts per channel minimum RMS power, with no more than 10 % total harmonic distortion from 250 milliwatts to rated output.

Amplifier section

POWER OUTPUT: 40 W + 40 W (4 ohms, 1 kHz, THD 10%)
Rated Power Output: 35 W + 35 W (4 ohms, 1 kHz, THD 0.9%)
Speaker impedance match: 4 ohms - 16 ohms
S/N ratio: 100 dB (20 kHz LPF, A Network)
Frequency response: 10 Hz - 100 kHz (+0 dB, –3 dB) (4 ohms, LINE IN)

Network section

Wired LAN

1000BASE-T/100BASE-TX/10BASE-T

Wireless LAN

Compatible standards: IEEE 802.11 b/g/n
Frequency band/channel: 2.4 GHz band, channels 1-11 (models for the USA and Canada), channels 1-13 (models for Europe)

HDD section

Capacity

500 GB (*)

* Some portions of the capacity are used for data management. Therefore, the capacity a user can use is less than 500 GB.

Supported playback format

DSD (DSF, DSDIFF), LPCM (WAV, AIFF), FLAC, ALAC, ATRAC Advanced Lossless, ATRAC, MP3, AAC, WMA (2 channels)

Jack section

Input section

COAXIAL IN

Input impedance: 75 ohms
Supported playback format: LPCM 2ch

- Sampling frequency: 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz
- Quantization bits: 16 bits, 24 bits

OPTICAL IN

Supported playback format: LPCM 2ch

- Sampling frequency: 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz
- Quantization bits: 16 bits, 24 bits

LINE IN 1, 2

Input sensitivity: 500 mV
Input impedance: 100 kilohms

Output section

Output jacks

LINE OUT

Output impedance: 2.2 kilohms
2 Hz - 80 kHz (–3 dB)

PHONES (headphone jack)

Stereo jack: 8 ohms or higher

EXT port

Type A USB, Hi-Speed USB, for connecting an external hard disk drive

General and others

Power requirements

Models for the USA and Canada: AC 120 V 60 Hz
Models for Europe: AC 230 V 50/60 Hz

Power consumption

Models for the USA and Canada

On: 80 W
During standby mode (when [Network Standby] is set to [Off]): 0.3 W
During standby mode (when [Network Standby] is set to [On] and a wired LAN is used): 2.6 W
During standby mode (when [Network Standby] is set to [On] and a wireless LAN is used): 2.8 W

Models for Europe

On: 85 W
During standby mode (when [Network Standby] is set to [Off]): 0.3 W
During standby mode (when [Network Standby] is set to [On] and a wired LAN is used): 2.6 W
During standby mode (when [Network Standby] is set to [On] and a wireless LAN is used): 2.8 W

Dimensions (approx.) (w/h/d)

265 mm × 88 mm × 304 mm (10 1/2 in. × 3 1/2 in. × 12 in.) including projecting parts and controls

Mass (approx.)

5.8 kg (12 lbs 12 5/8 oz)

Supplied accessories

Remote control (1)
R03 (size-AAA) batteries (2)
AC power cord (mains lead) (1)
LAN cable (1)

Design and specifications are subject to change without notice.

HDD AUDIO PLAYER SYSTEM

9-893-833-01
2013J33-1

Sony Corporation
Published by Sony Techno Create Corporation

SONY®

NOTES ON CHIP COMPONENT REPLACEMENT

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

FLEXIBLE CIRCUIT BOARD REPAIRING

- Keep the temperature of soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage.
Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes.). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

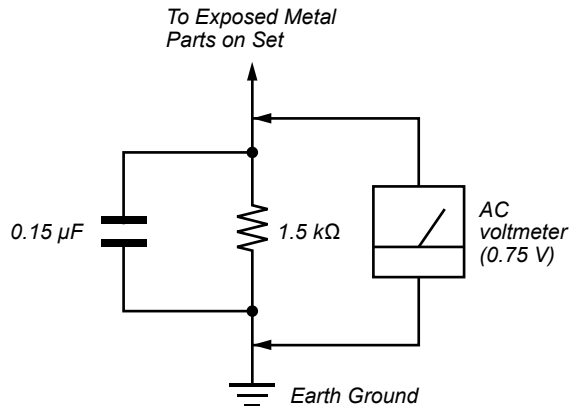

Fig. A. Using an AC voltmeter to check AC leakage.

SAFETY-RELATED COMPONENT WARNING!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

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Accessories are given in the last of the electrical parts list.

SECTION 1
SERVICING NOTES

UNLEADED SOLDER

Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead.
(**Caution:** Some printed circuit boards may not come printed with the lead free mark due to their particular size)

: LEAD FREE MARK

Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40 °C higher than ordinary solder.
  Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
  Soldering irons using a temperature regulator should be set to about 350 °C.
  Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
  Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
  It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

ABOUT THE ALLEGRO-ANT-L BOARD AND ALLEGRO-ANT-R BOARD

ALLEGRO-ANT-L and ALLEGRO-ANT-R boards are not covered in the servicing.

NOTE OF REPLACING THE IC101, IC301, IC302, IC501 AND IC602 ON THE MAIN BOARD

IC101, IC301, IC302, IC501 and IC602 on the MAIN board cannot exchange with single. When these parts are damaged, exchange the complete mounted board.

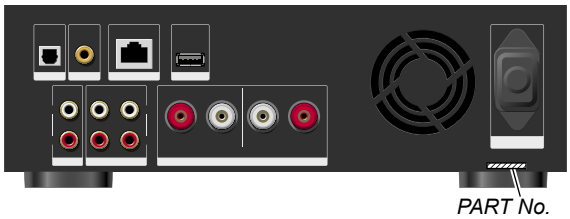
NOTE OF REPLACING THE IC001 AND IC702 ON THE FPGA DSP BOARD

IC001 and IC702 on the FPGA DSP board cannot exchange with single. When these parts are damaged, exchange the complete mounted board.

DESTINATION IDENTIFICATION

Distinguish by Part No. on the rear side of a main unit.

– Rear Panel –



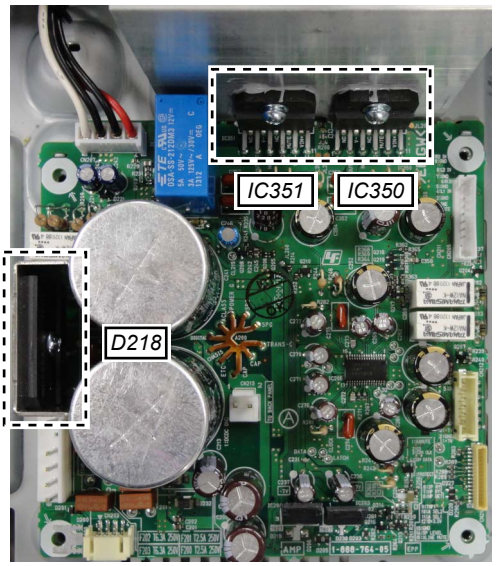
Destination	Part No.
US and Canadian models	4-464-753-1□
AEP and UK models	4-464-753-2□

NOTE OF REPLACING THE D218, IC350 AND IC351 ON THE AMP BOARD AND THE COMPLETE AMP BOARD

When D218, IC350 and IC351 on the AMP board and the complete AMP board are replaced, it is necessary to spread the compound between these parts and the heat sink.

Spread the compound (TB2955Q) referring to the figure below.

– AMP Board (Component Side) –



NOTE OF REPLACING THE HARD DISK DRIVE (Ref. No. HDD1)

When the hard disk drive (Ref. No. HDD1) is replaced, be sure to carry out the “Factory Reset” according to the following procedure.

Resetting to the factory default (Factory Reset)

You can reset the HDD AUDIO PLAYER to the factory default settings. All settings you have configured and all of the content stored on the internal hard disk drive will be deleted. (Sample tracks saved on the internal hard disk drive by default remain.)

1. Select [Settings] - [System Settings] in the Home screen.
2. Select [Factory Reset].
3. Select [Yes].
   The Factory Reset waiting screen appears.
4. When the Factory Reset complete screen appears, select [OK].
   When the Factory Reset is complete, the HDD AUDIO PLAYER restarts automatically.

Note

- If you perform the Factory Reset function while playing tracks, playback of the music files stops.
- If you perform the Factory Reset function while transferring music files, transfer of the music files stops.
- If you want to re-transfer music files that were transferred to the HDD AUDIO PLAYER before you performed the Factory Reset function, select the backup folder and check “Watch” in the Contents Settings window of HAP Music Transfer. Go to the Transfer Settings window and select [Clear] for [Transferred Files List] to delete the transfer history, and then automatically or manually transfer the files.

NOTE OF REPLACING THE COMPLETE MAIN BOARD

When the complete MAIN board is replaced, the following settings that is recorded on the MAIN board are cleared, and returned to their initial values.

- Network Settings
- Language, Brightness, Auto Standby, Sleep and Software Update Notification of System Settings
- DSEE and Volume Normalization of Audio Settings

Take the following step.

Procedure:

1. At the time of operation check after replacing the complete MAIN board, set the language same as the language settings that a customer was set, and returns the this unit to the customer.
2. Display the "1.Version Info" of the service DIAG mode on the liquid crystal display, and check that "3. Region" and "4. Model" accord with the customer's unit.
   (Refer to "4-1. Version Info" on page 31)
3. Check the version of the "1. uCON ver." and "2. MPU ver." of "1.Version Info" is displayed on the liquid crystal display, and when it is not the latest version, carry out the "Network Update" of the "Settings", and update to the latest version.

Note: After replacing the complete MAIN board, it is not necessary to carry out the "Factory Reset".
Be careful to carry out the "Factory Reset", and not to delete the contents in the hard disk drive (Ref. No. HDD1).

4. After replacing the complete MAIN board, an initial setting screen is displayed on the liquid crystal display at the time of the first start up, but is not displayed on the next time when it has been started up once.
   When returning the unit that repair was completed to the customer, print and cut out the following explanation, and hand it over with the unit.

-CUT-

The MAC address for the wired LAN has been changed by this repair.
Customers who use the MAC address filtering function of the connected access point equipment should set it again.

Also, the following settings have been cleared and returned to their initial values.
Please set the following settings again.

- Network Settings
- Language, Brightness, Auto Standby, Sleep and Software Update Notification of System Settings
- DSEE and Volume Normalization of Audio Settings

Note: There are two kinds of MAC addresses, wired and wireless. Only wired MAC addresses are changed by this repair.

-CUT-

CHECKING METHOD OF NETWORK CONNECTION

It is necessary to check the network connection, when replacing the complete MAIN board, WLAN/BT COMBO card (Ref. No. WBC1) or coaxial (U.FL connector) cable (Ref. No. WR1, WR2). Check the connection of wireless and wired LAN, according to the following method.

If the WLAN/BT COMBO card has been changed, when returning the unit to the customer, print and cut out the following explanation, and hand it over with the unit.

-CUT-

The MAC address for the wireless LAN has been changed by this repair.
Customers who use the MAC address filtering function of the connected access point equipment should set it again.

Note: There are two kinds of MAC addresses, wired and wireless. Only wireless MAC addresses are changed by this repair.

-CUT-

1. Checking Method of Wireless LAN Connection

Necessary Equipment:

- Access point supporting WPS

Procedure:

1. Press the [I/⏻] key to turn the power on.
2. Press the [HOME] key to the display the "Home" menu on the liquid crystal display.
3. Rotate the [PUSH ENTER] knob to select "Settings" and press the [PUSH ENTER] knob.
4. Rotate the [PUSH ENTER] knob to select "Network Settings" and press the [PUSH ENTER] knob.
5. Rotate the [PUSH ENTER] knob to select "Internet Settings" and press the [PUSH ENTER] knob.
6. Rotate the [PUSH ENTER] knob to select "Wireless Setup" and press the [PUSH ENTER] knob.
7. Rotate the [PUSH ENTER] knob to select "Wi-Fi Protected Setup (WPS)" and press the [PUSH ENTER] knob.
8. After "Start" is displayed on the liquid crystal display, and press the [PUSH ENTER] knob.
9. Press the [WPS] key on the access point.
10. After "Next" is displayed on the liquid crystal display, press the [PUSH ENTER] knob.
11. When check of wireless LAN connection is completed, "Wireless Connection: OK" and "Internet Access: OK"and is displayed on the liquid crystal display.
12. Press the [PUSH ENTER] knob, and press the [I/⏻] key to turn the power off.

Note: Refer to the help guide about details of the checking method.

2. Checking method of wired LAN connection

Necessary Equipment:

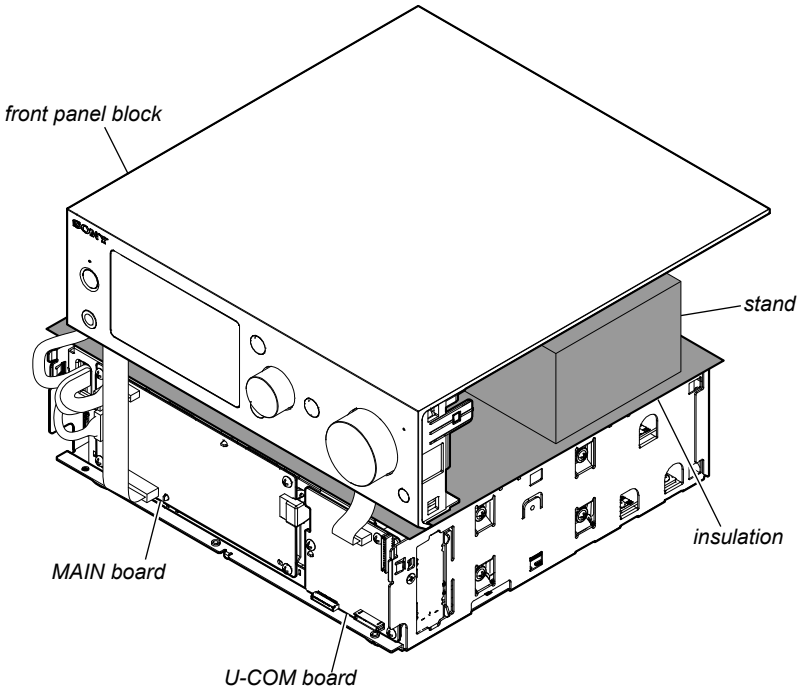
- Router
- LAN cable

Procedure:

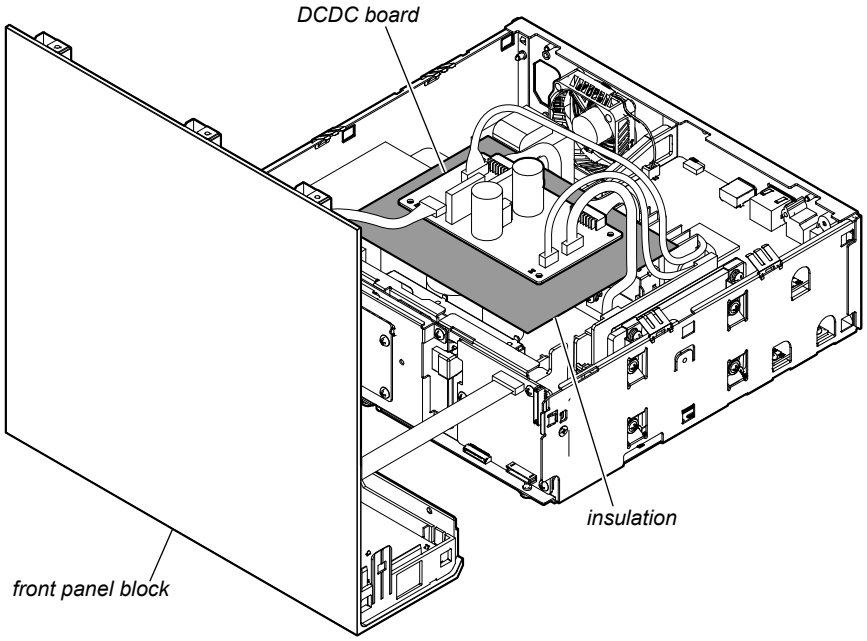
1. Connect the main unit to the router with the network LAN cable.
2. Press the [HOME] key to the display the "Home" menu on the liquid crystal display.
3. Rotate the [PUSH ENTER] knob to select "Settings" and press the [PUSH ENTER] knob.
4. Rotate the [PUSH ENTER] knob to select "Network Settings" and press the [PUSH ENTER] knob.
5. Rotate the [PUSH ENTER] knob to select "Internet Settings" and press the [PUSH ENTER] knob.
6. Rotate the [PUSH ENTER] knob to select "Wired Setup" and press the [PUSH ENTER] knob.
7. Rotate the [PUSH ENTER] knob to select "Auto" and press the [PUSH ENTER] knob.
8. After "Next" is displayed on the liquid crystal display, press the [PUSH ENTER] knob.
9. Rotate the [PUSH ENTER] knob to select "Save & Connect" and press the [PUSH ENTER] knob.
10. When wired LAN connection is completed, "Physical Connection: OK" and "Internet Access: OK"and is displayed on the liquid crystal display.
11. Press the [PUSH ENTER] knob, and press the [I/⏻] key to turn the power off.

Note: Refer to the help guide about details of the checking method.

MAIN BOARD SERVICE POSITION



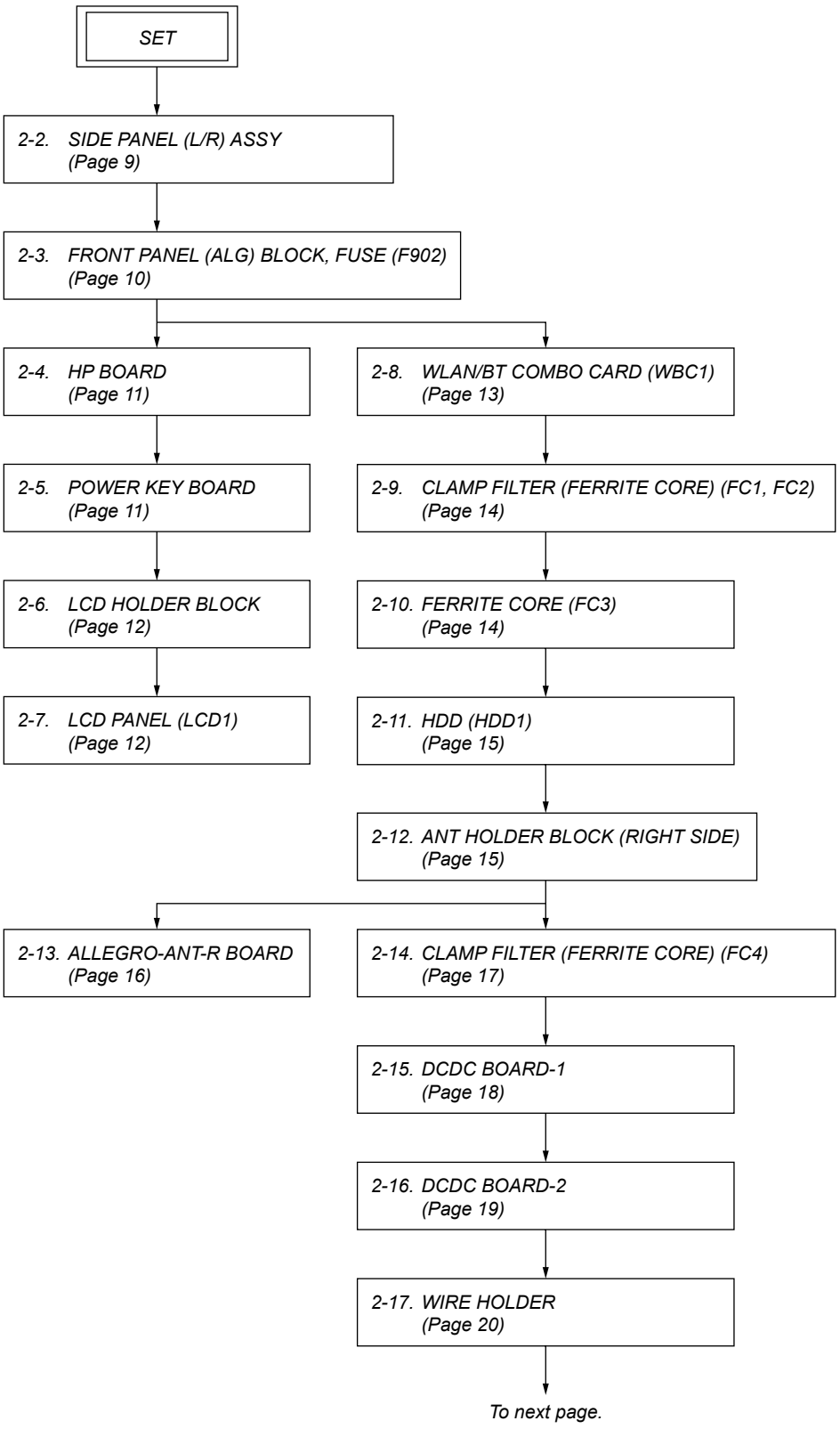
DCDC BOARD SERVICE POSITION

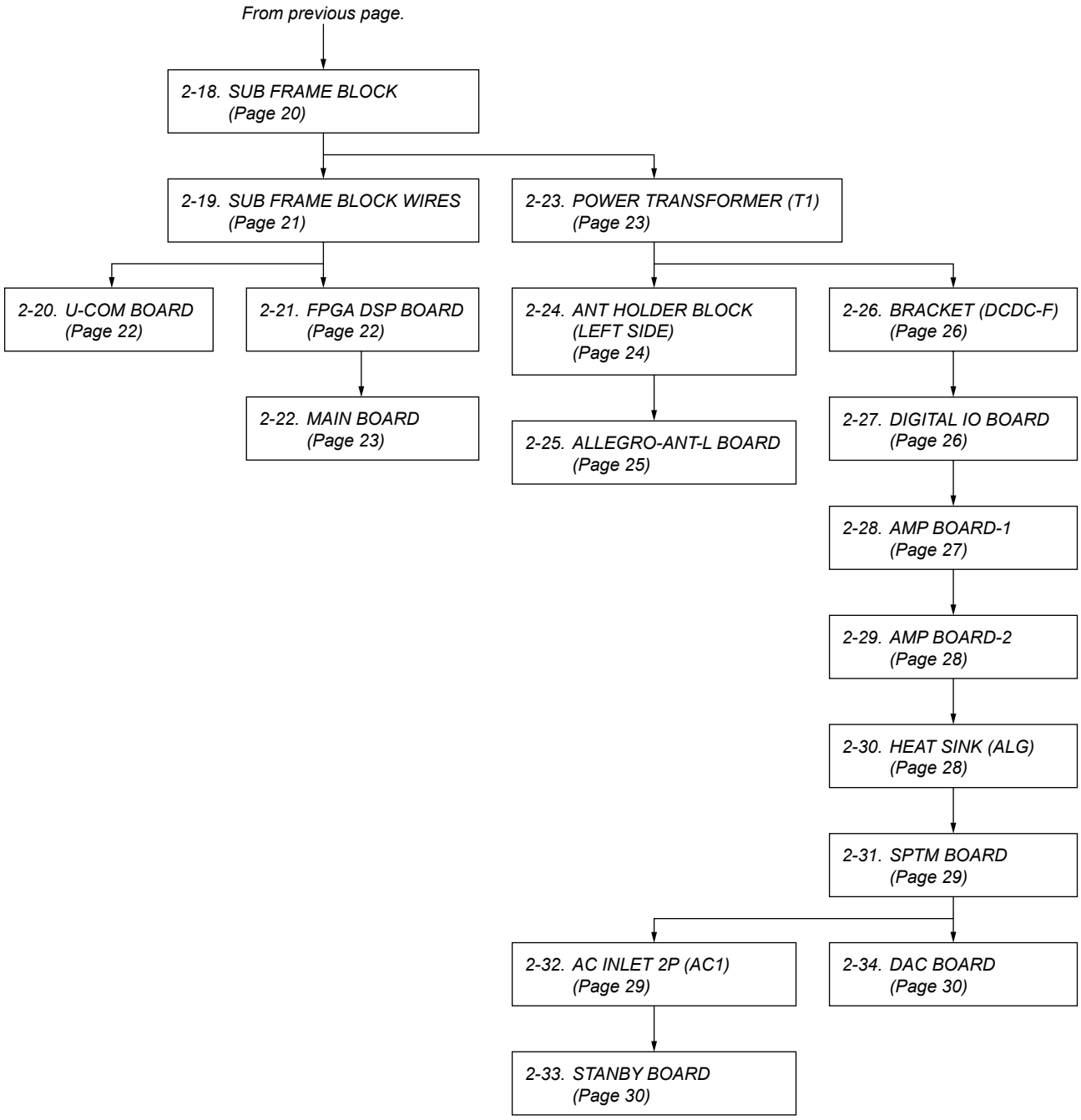


SECTION 2
DISASSEMBLY

- This set can be disassembled in the order shown below.

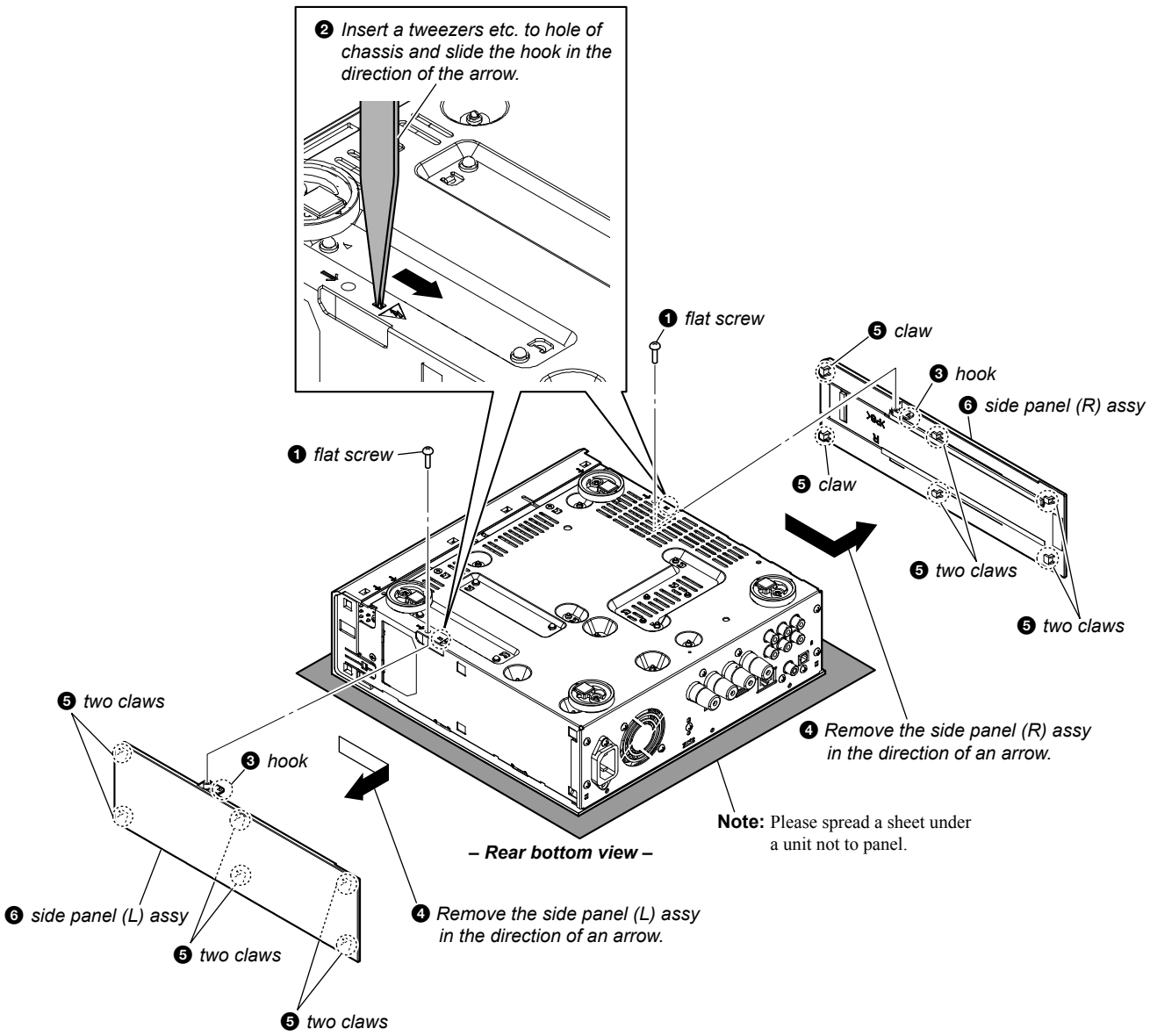
2-1. DISASSEMBLY FLOW



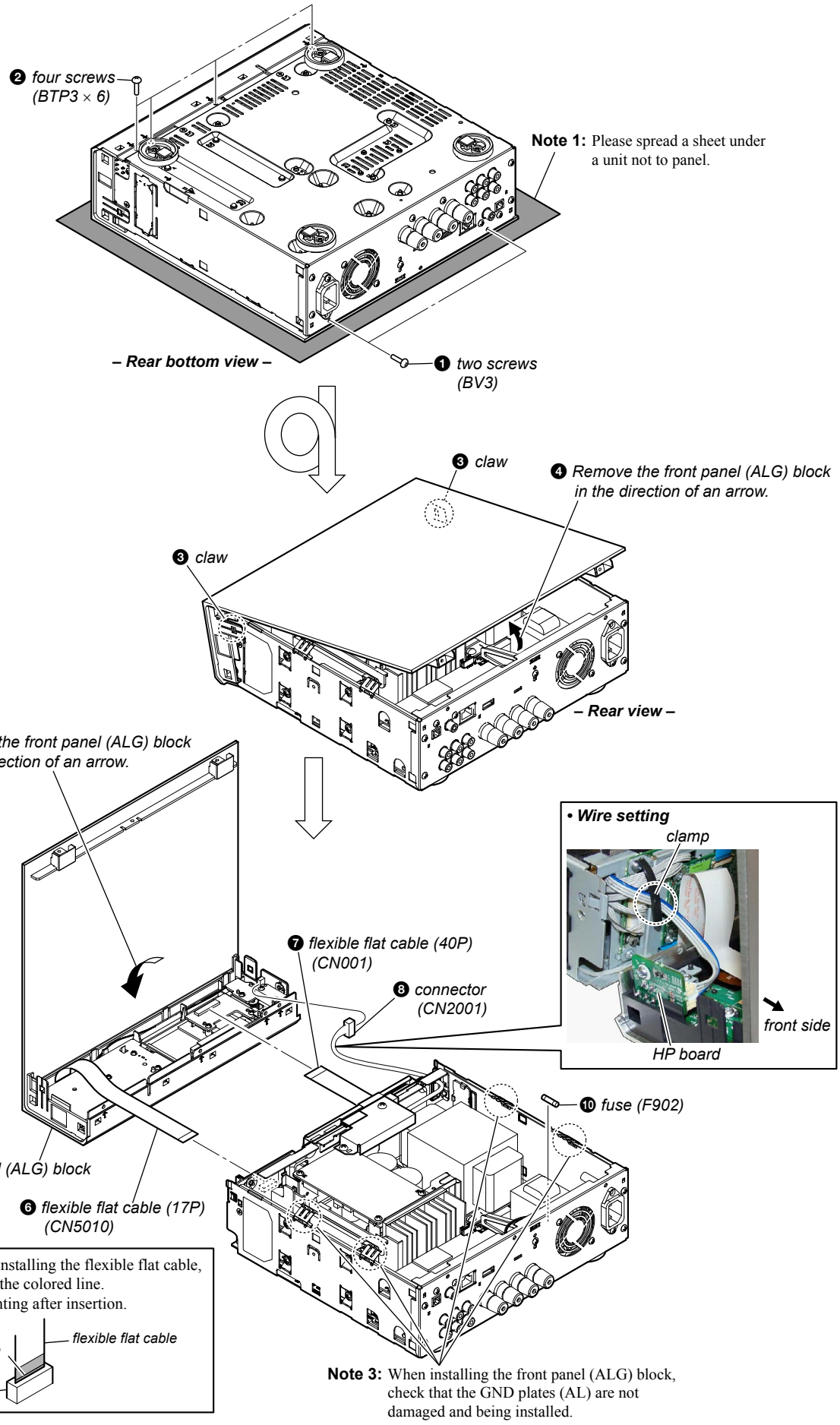

From previous page.
2-18. SUB FRAME BLOCK (Page 20)
2-19. SUB FRAME BLOCK WIRES (Page 21)
2-23. POWER TRANSFORMER (T1) (Page 23)
2-20. U-COM BOARD (Page 22)
2-21. FPGA DSP BOARD (Page 22)
2-24. ANT HOLDER BLOCK (LEFT SIDE) (Page 24)
2-26. BRACKET (DCDC-F) (Page 26)
2-22. MAIN BOARD (Page 23)
2-25. ALLEGRO-ANT-L BOARD (Page 25)
2-27. DIGITAL IO BOARD (Page 26)
2-28. AMP BOARD-1 (Page 27)
2-29. AMP BOARD-2 (Page 28)
2-30. HEAT SINK (ALG) (Page 28)
2-31. SPTM BOARD (Page 29)
2-32. AC INLET 2P (AC1) (Page 29)
2-34. DAC BOARD (Page 30)
2-33. STANBY BOARD (Page 30)

Note: Follow the disassembly procedure in the numerical order given.

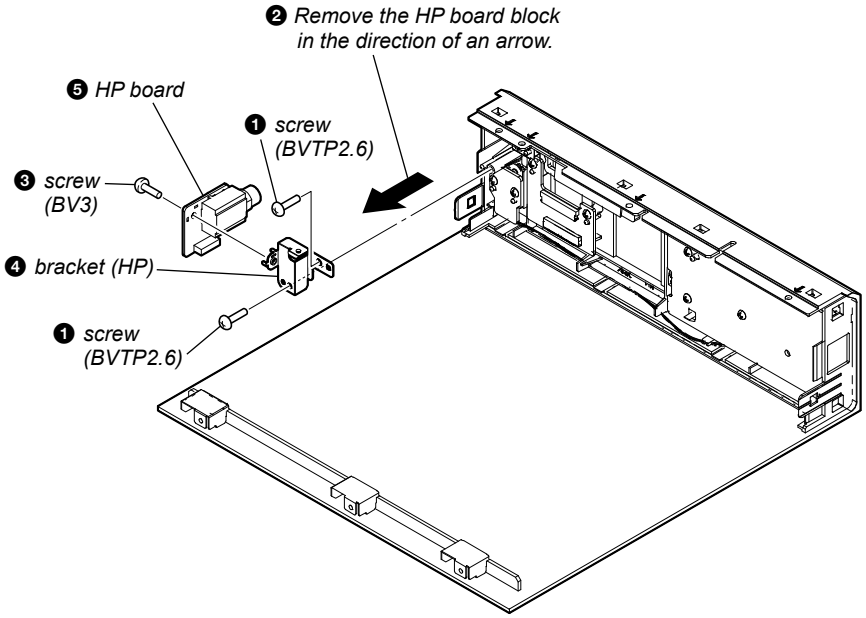
2-2. SIDE PANEL (L/R) ASSY



2-3. FRONT PANEL (ALG) BLOCK, FUSE (F902)

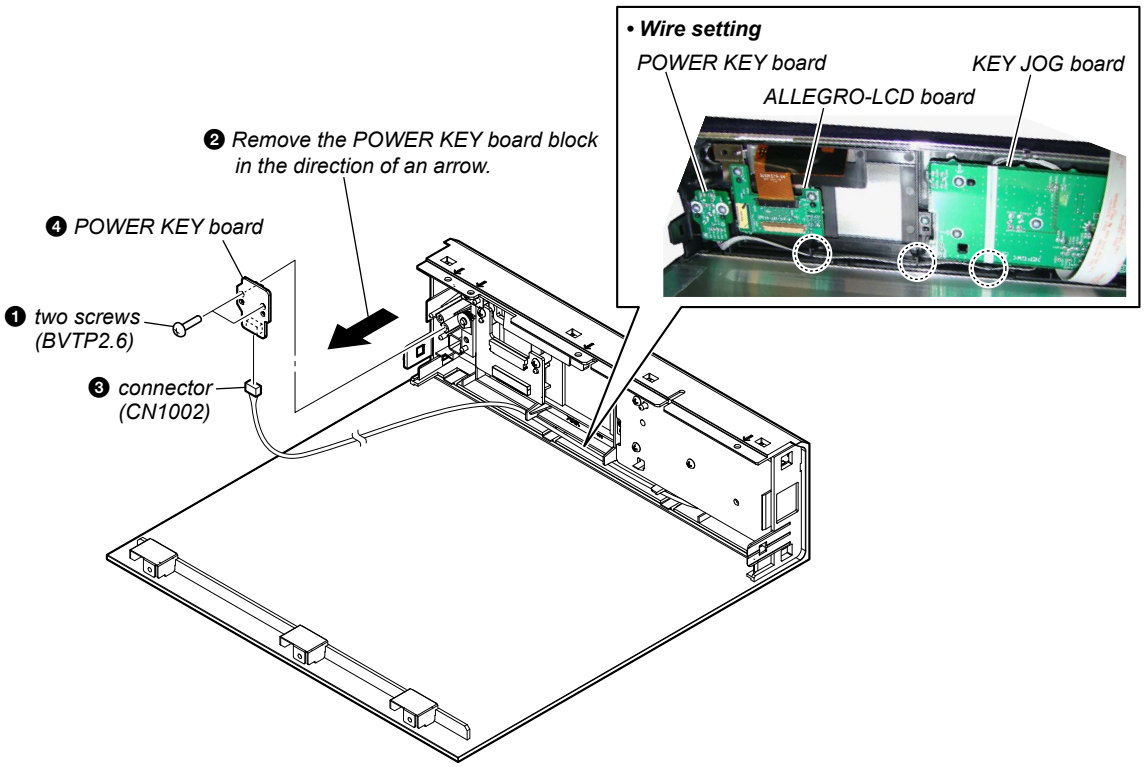


2-4. HP BOARD



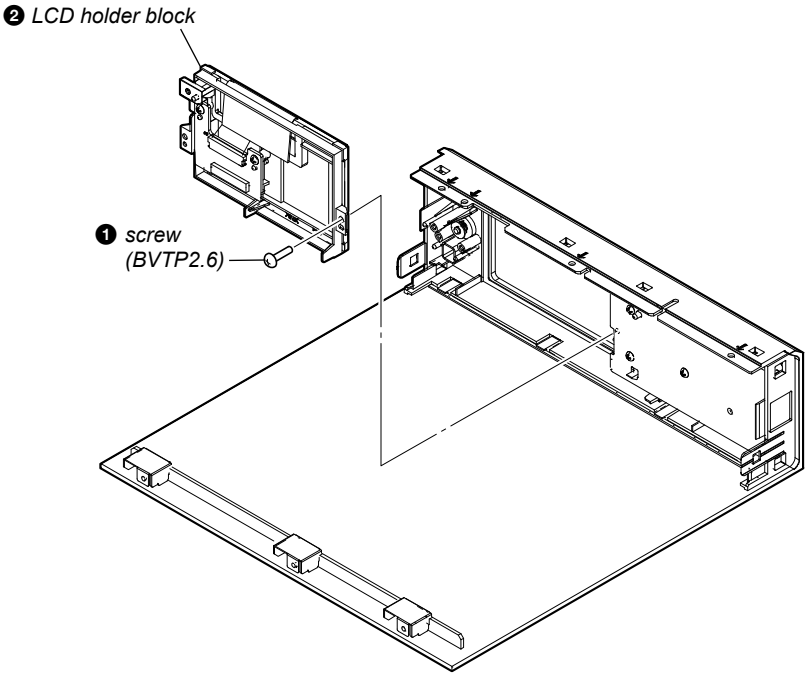
– Front panel (ALG) block rear bottom view –

2-5. POWER KEY BOARD



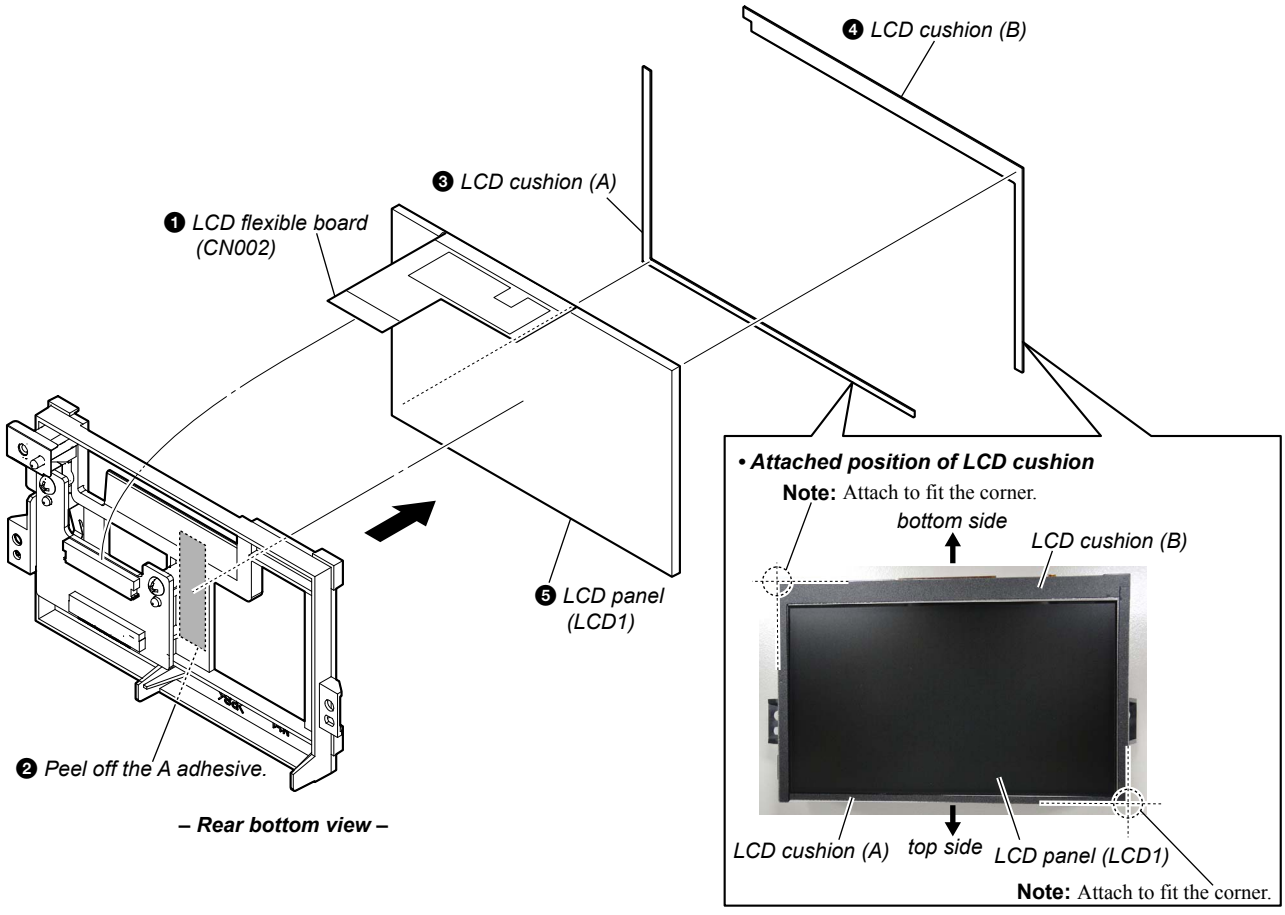
– Front panel (ALG) block rear bottom view –

2-6. LCD HOLDER BLOCK



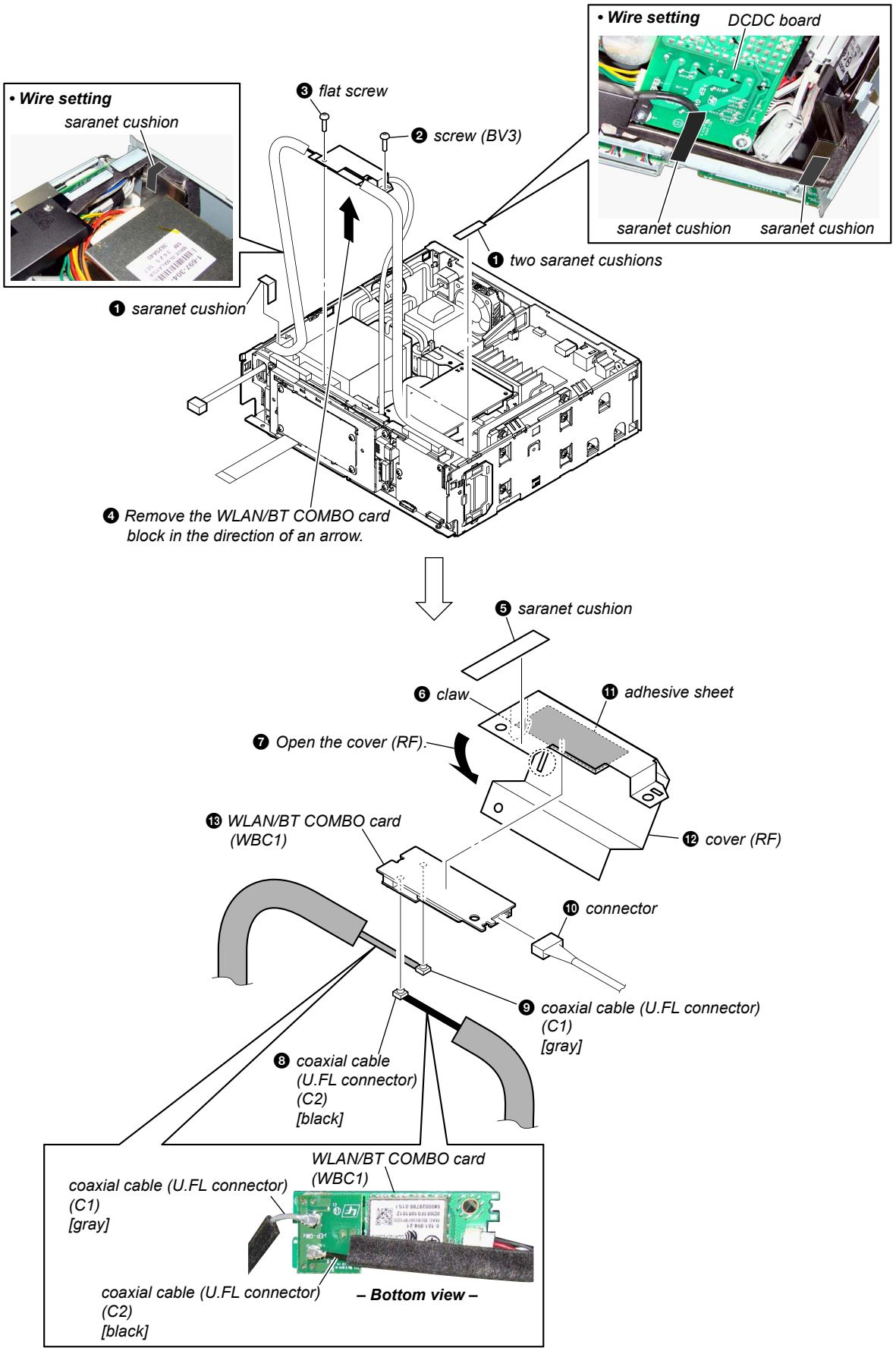
– Front panel (ALG) block rear bottom view –

2-7. LCD PANEL (LCD1)



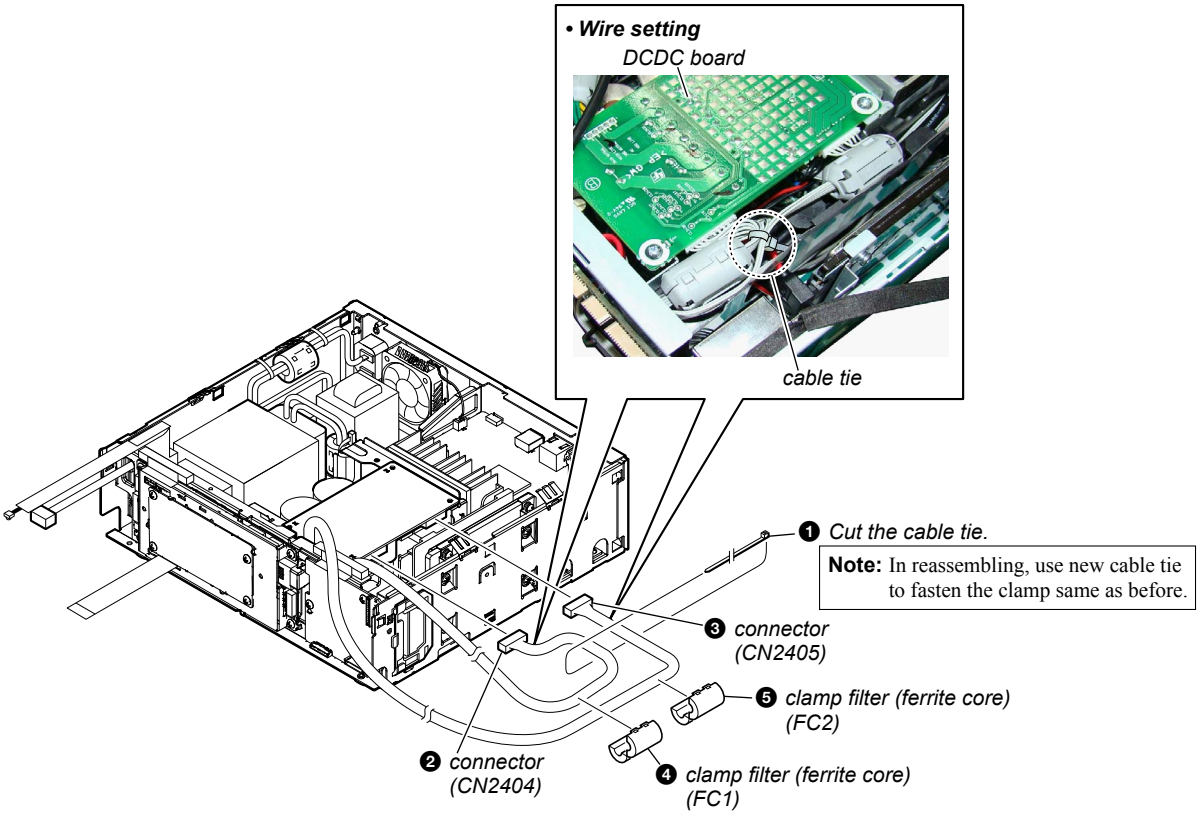
– Rear bottom view –

2-8. WLAN/BT COMBO CARD (WBC1)

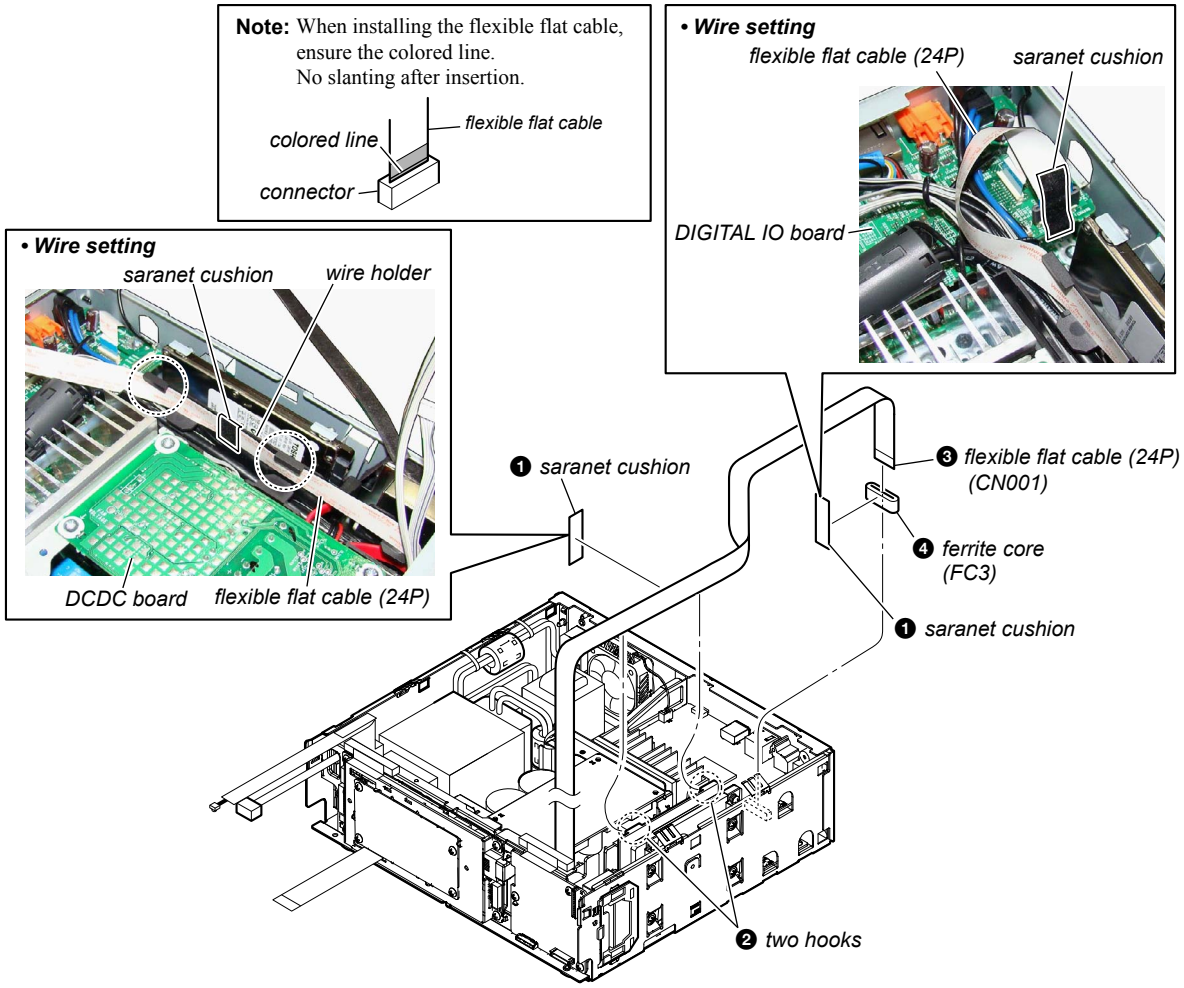


Note: When the WLAN/BT COMBO card (Ref. No. WBC1) is replaced, refer to "CHECKING METHOD OF NETWORK CONNECTION" on page 5.

2-9. CLAMP FILTER (FERRITE CORE) (FC1, FC2)

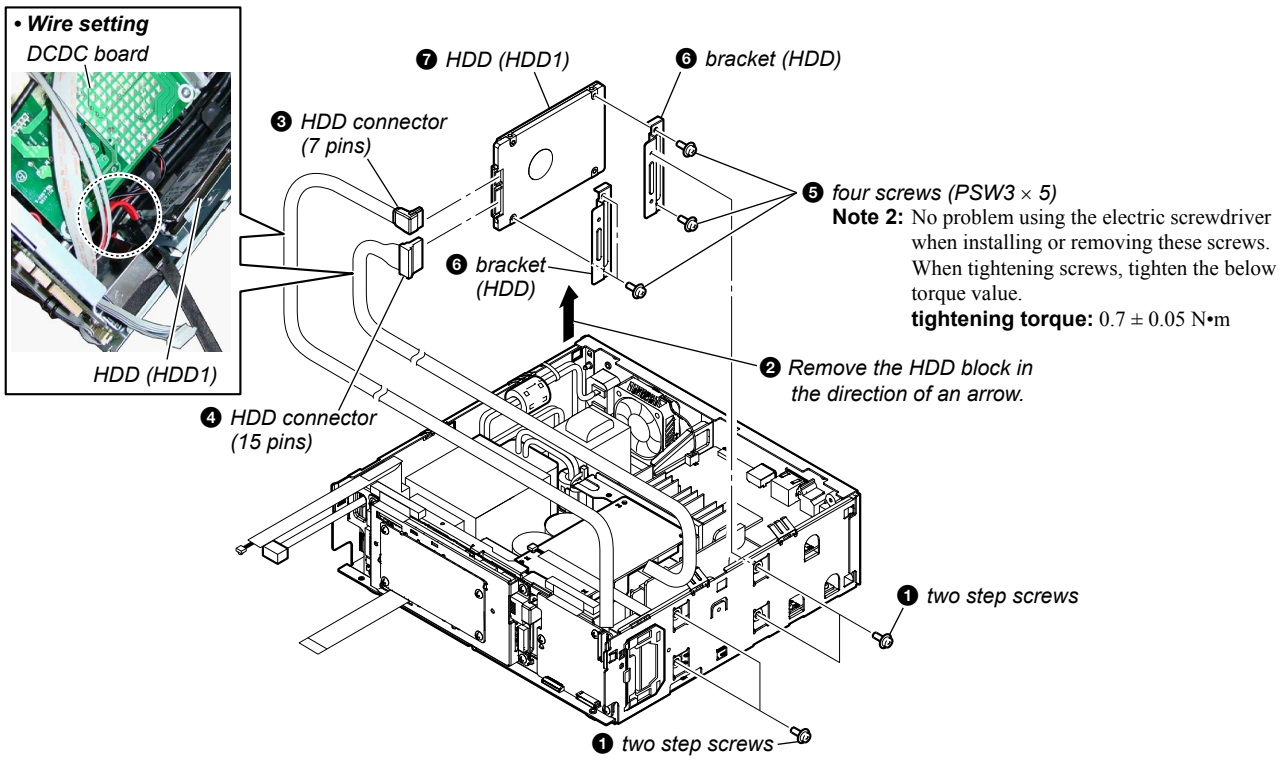


2-10. FERRITE CORE (FC3)

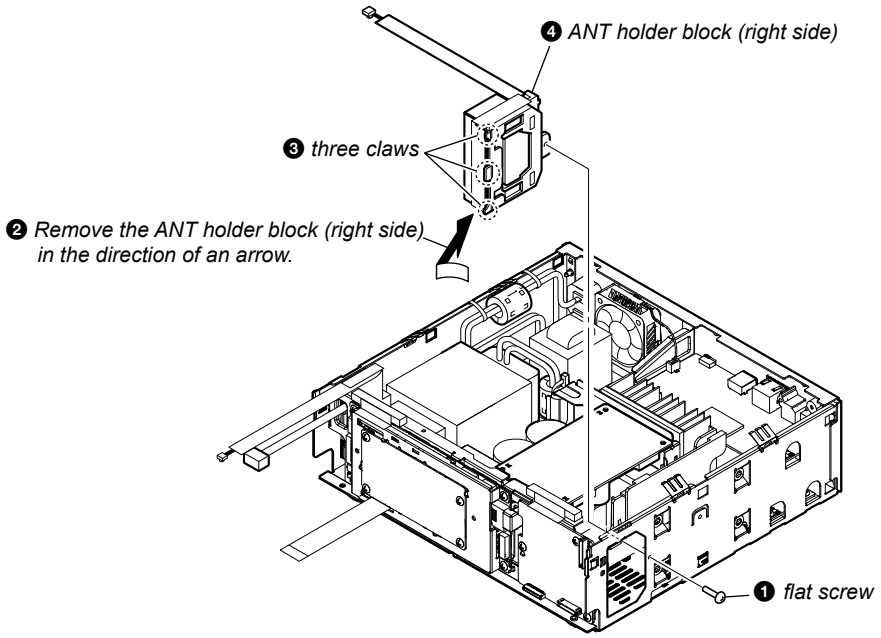


2-11. HDD (HDD1)

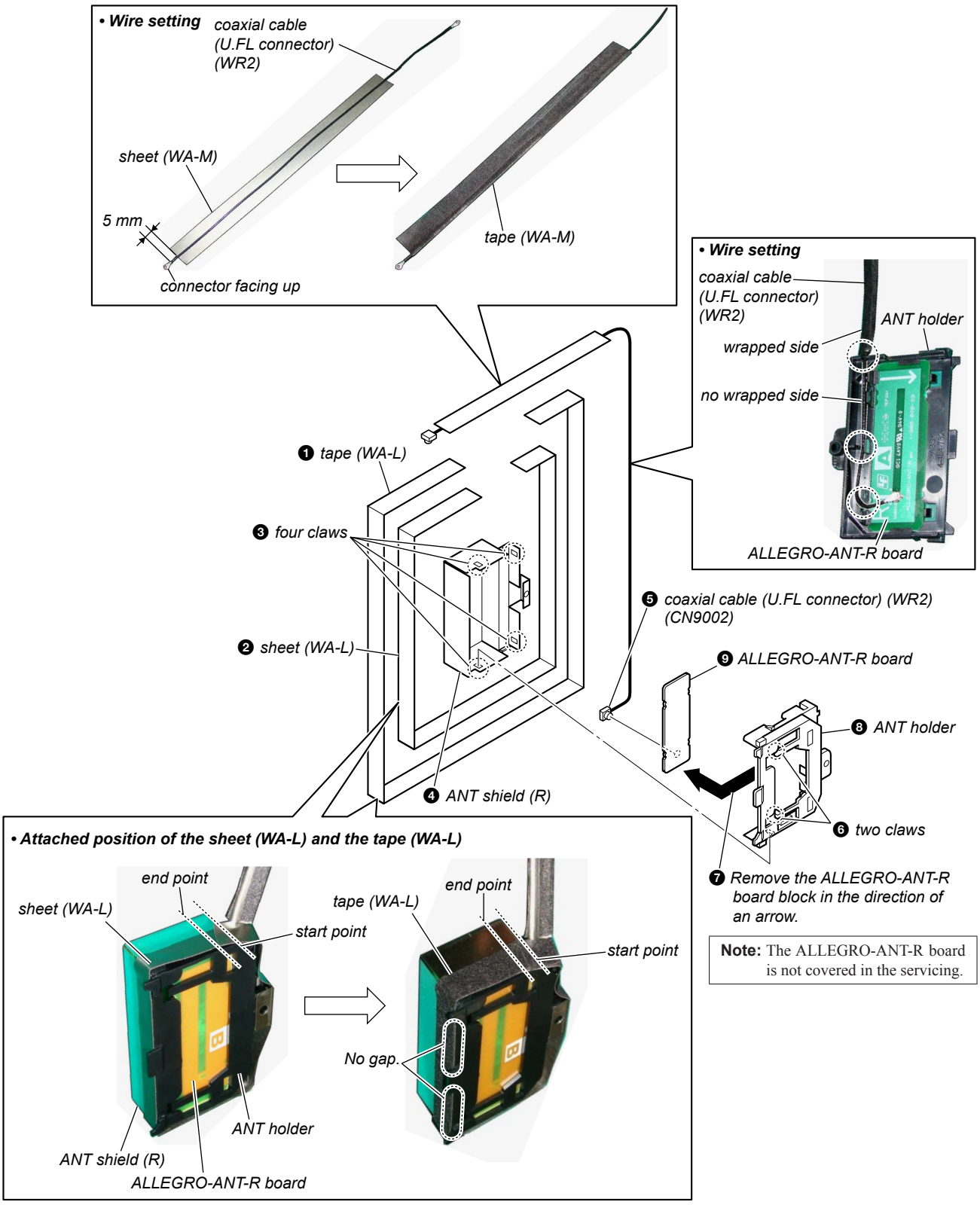
Note 1: When the hard disk drive (Ref. No. HDD1) is replaced, refer to "NOTE OF REPLACING THE HARD DISK DRIVE (Ref. No. HDD1)" on page 4.



2-12. ANT HOLDER BLOCK (RIGHT SIDE)

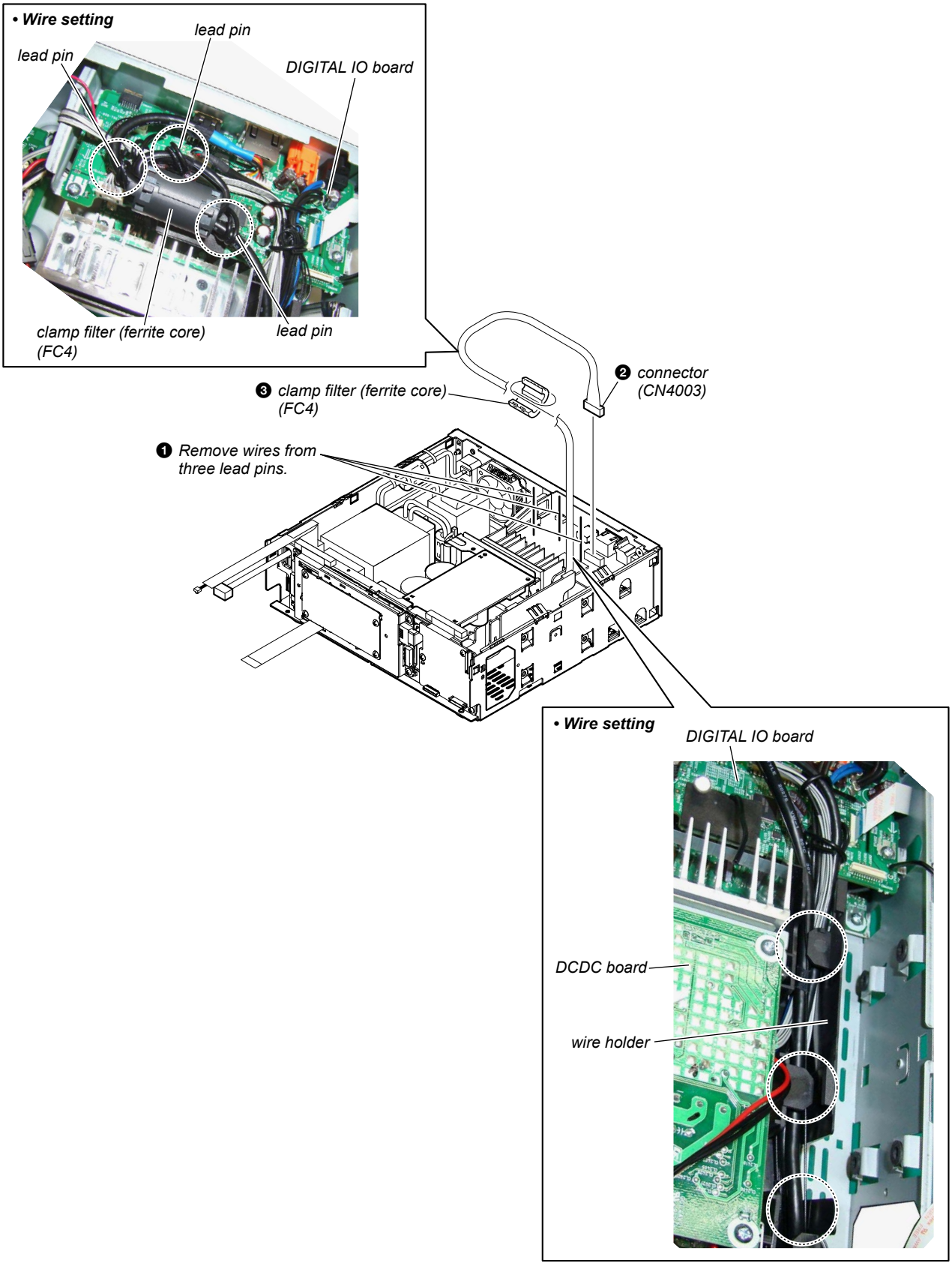


2-13. ALLEGRO-ANT-R BOARD

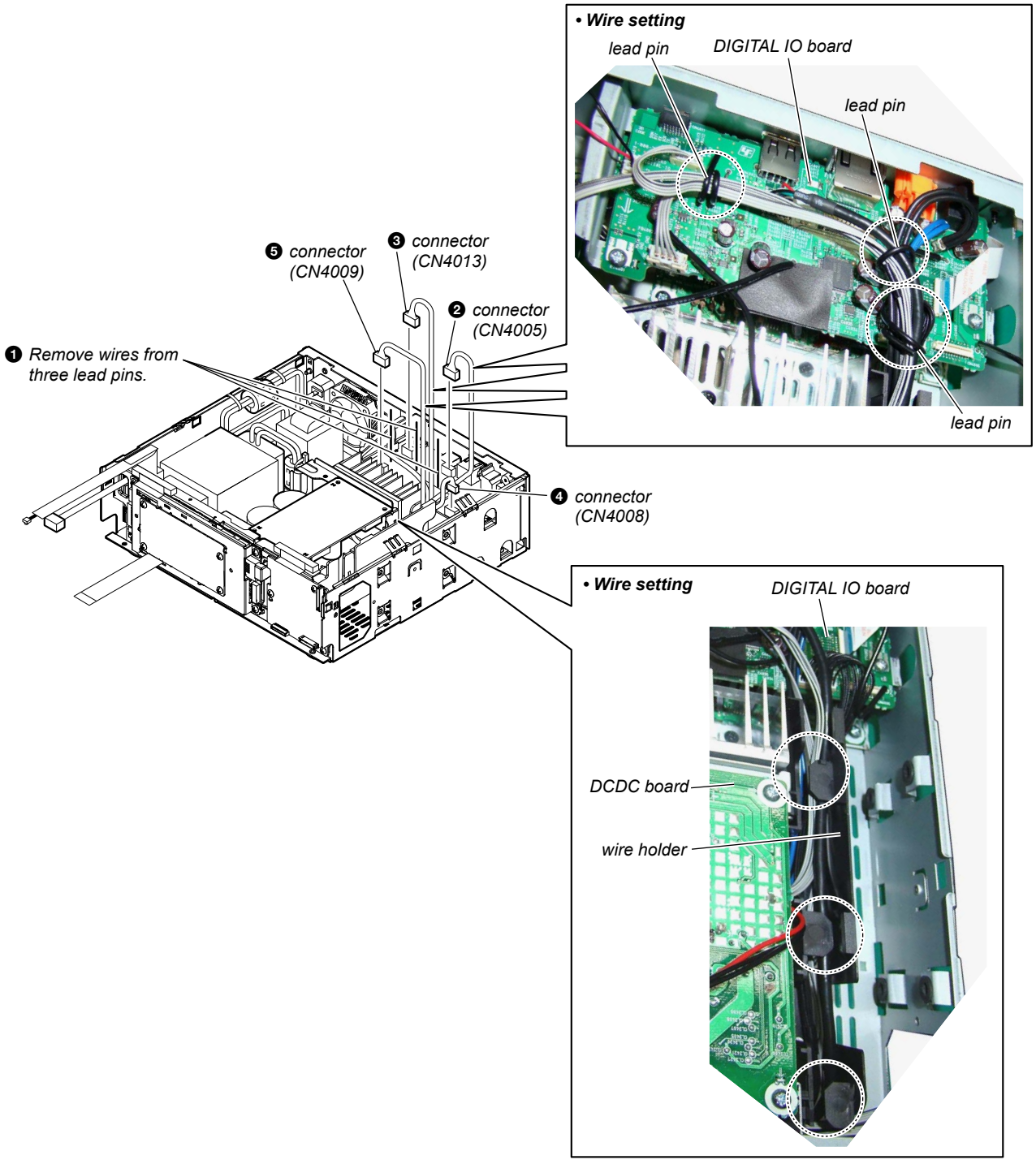


Note: The ALLEGRO-ANT-R board is not covered in the servicing.

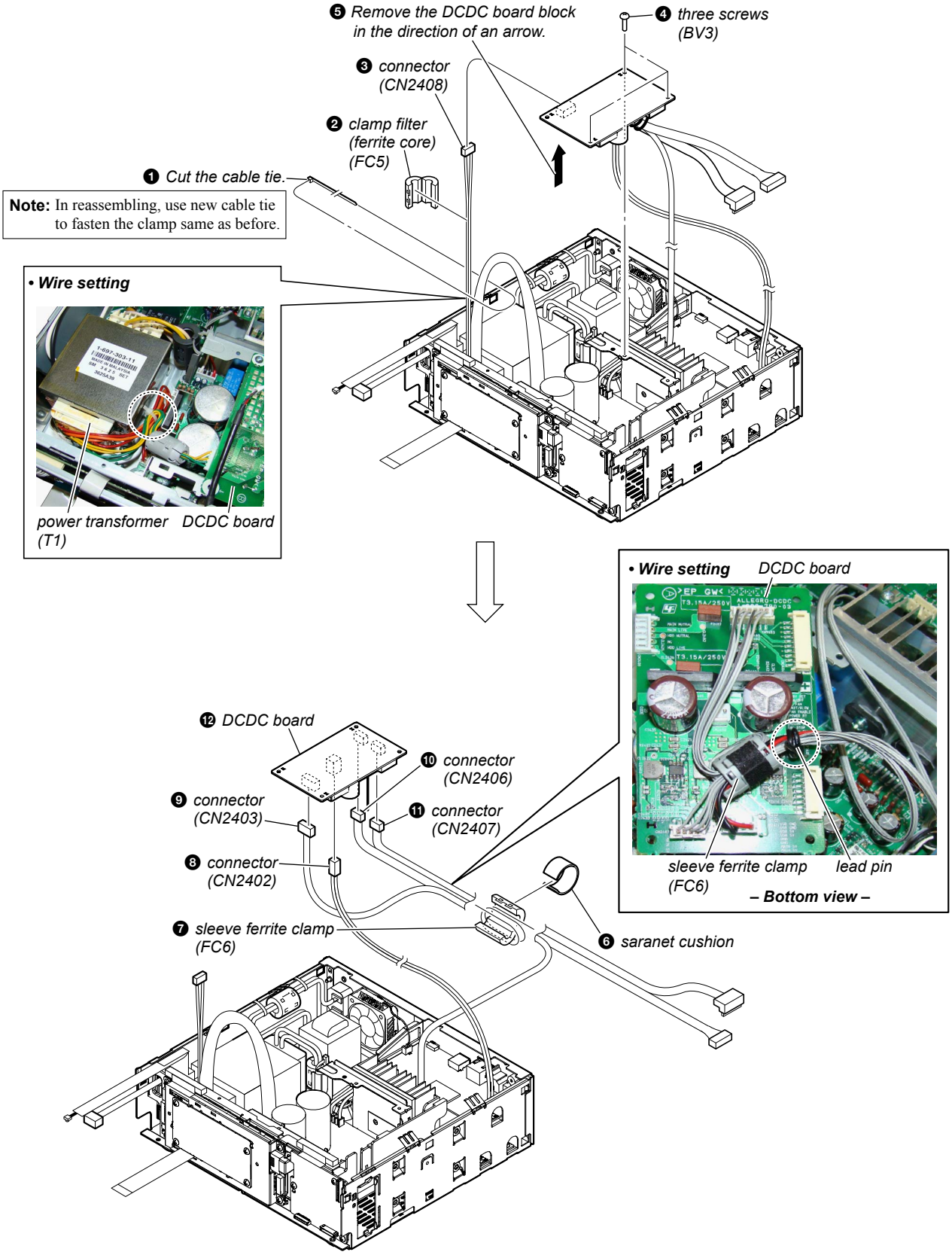
2-14. CLAMP FILTER (FERRITE CORE) (FC4)



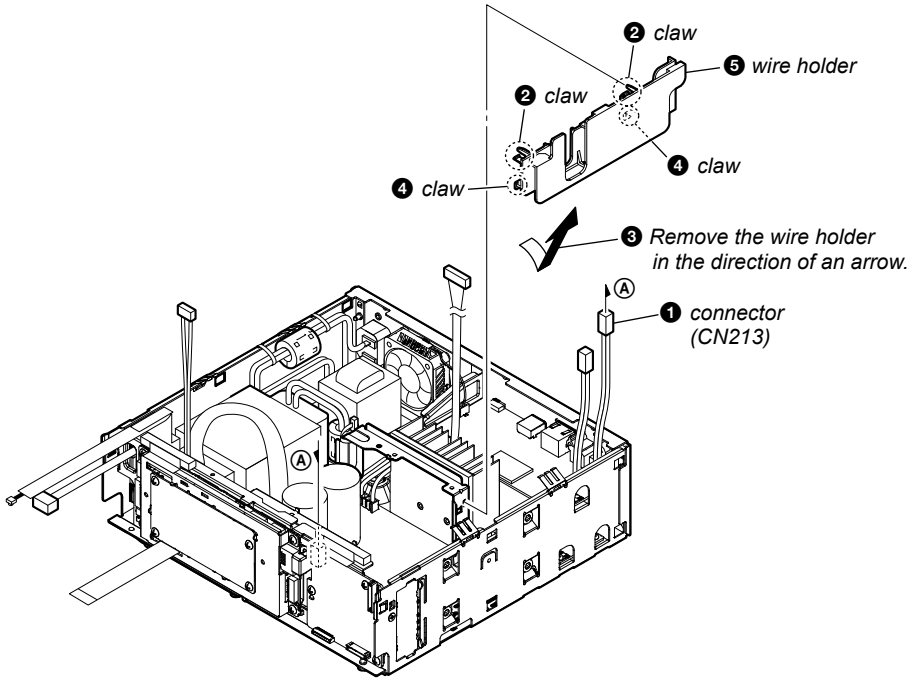
2-15. DCDC BOARD-1



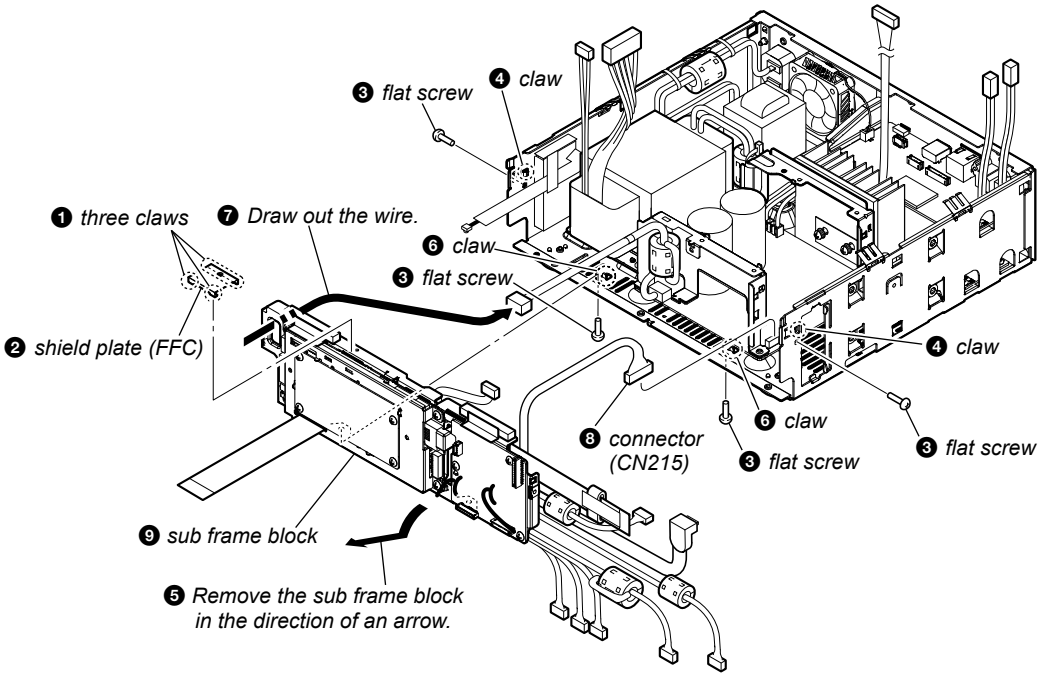
2-16. DCDC BOARD-2



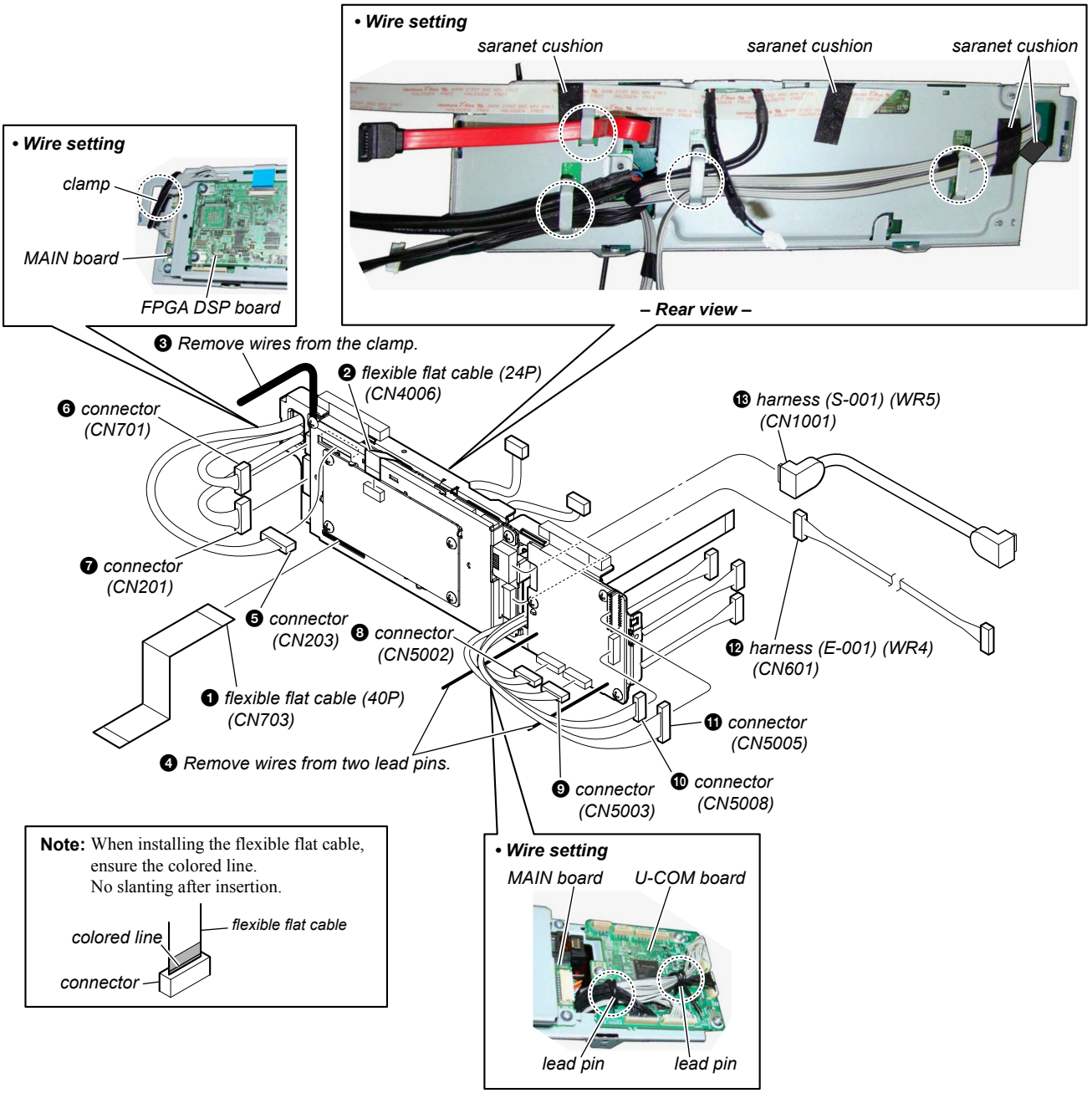
2-17. WIRE HOLDER



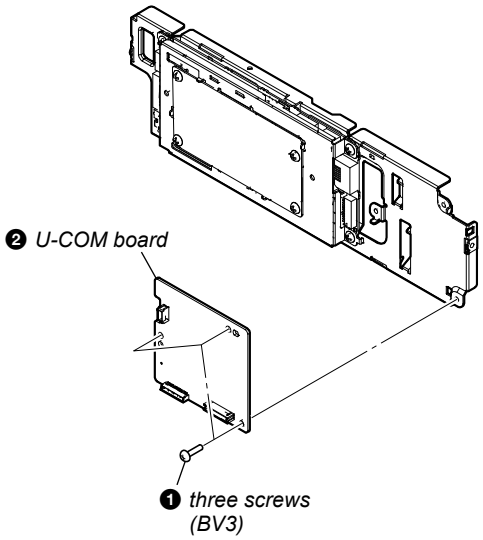
2-18. SUB FRAME BLOCK



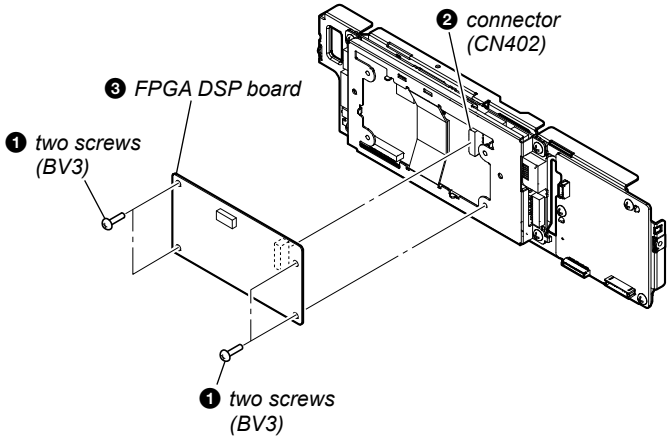
2-19. SUB FRAME BLOCK WIRES



2-20. U-COM BOARD

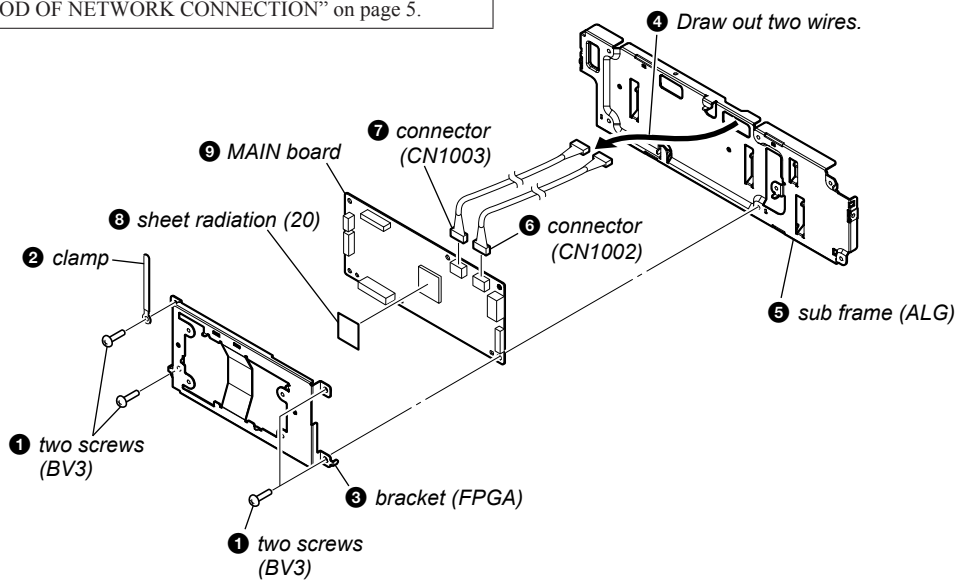


2-21. FPGA DSP BOARD

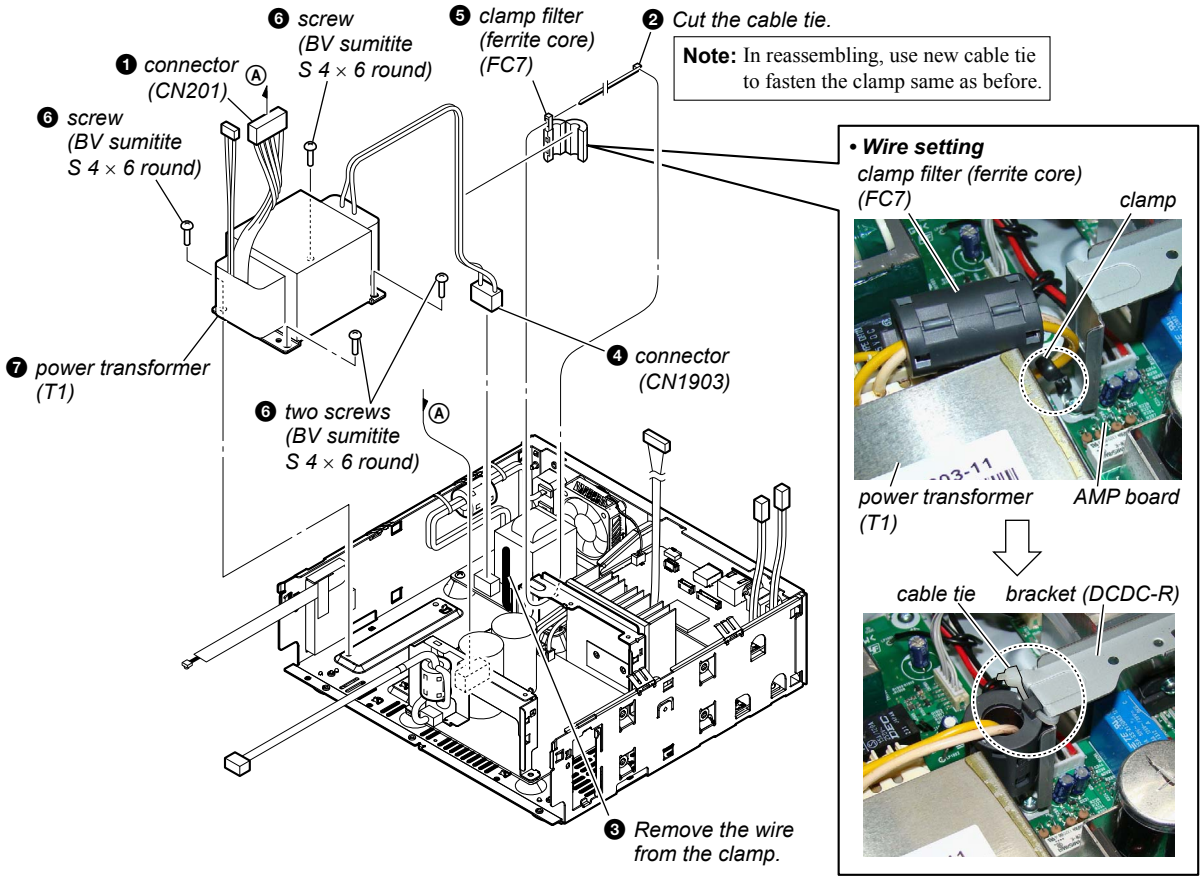


2-22. MAIN BOARD

Note: When the complete MAIN board is replaced, refer to "NOTE OF REPLACING THE COMPLETE MAIN BOARD" and "CHECKING METHOD OF NETWORK CONNECTION" on page 5.

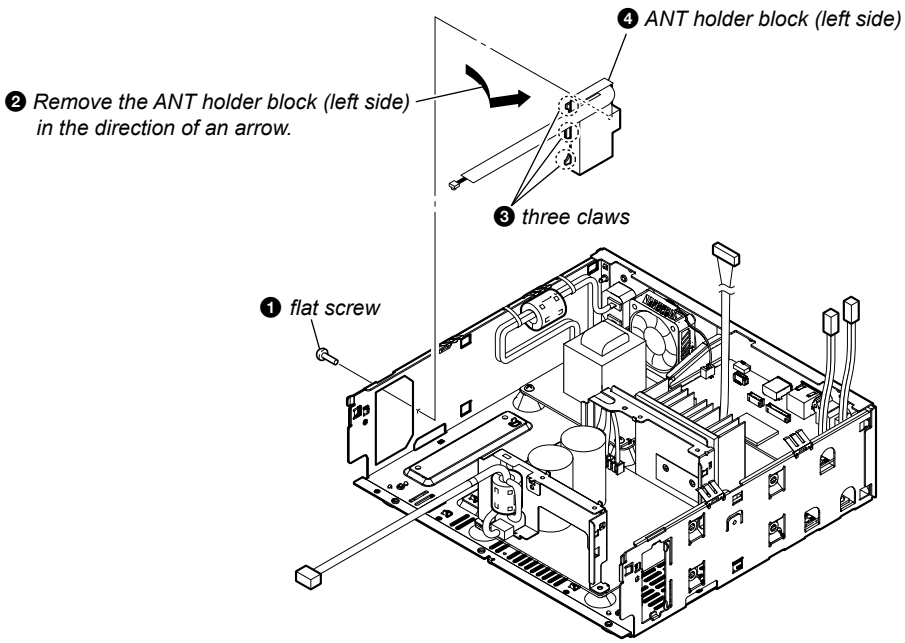


2-23. POWER TRANSFORMER (T1)

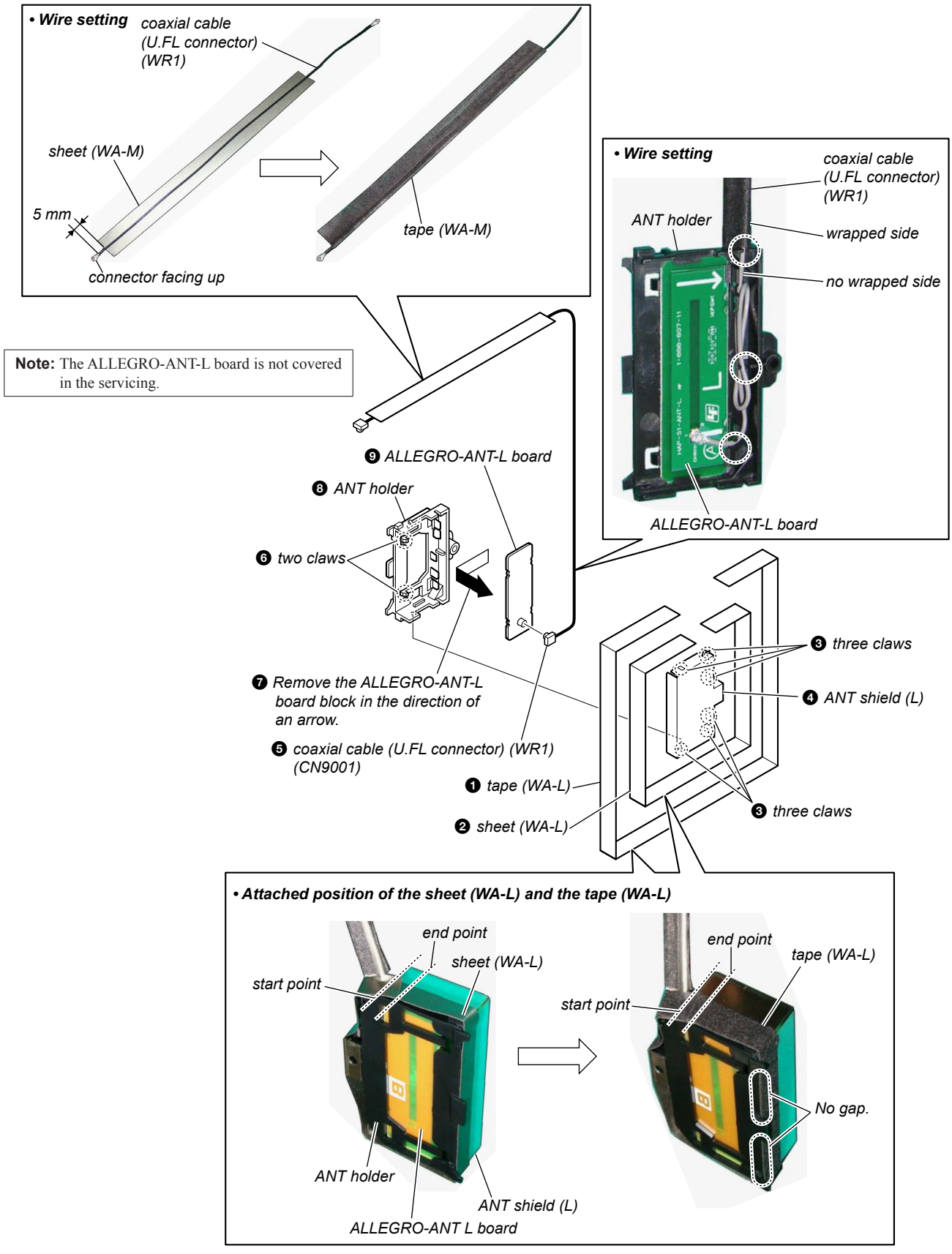


Note: In reassembling, use new cable tie to fasten the clamp same as before.

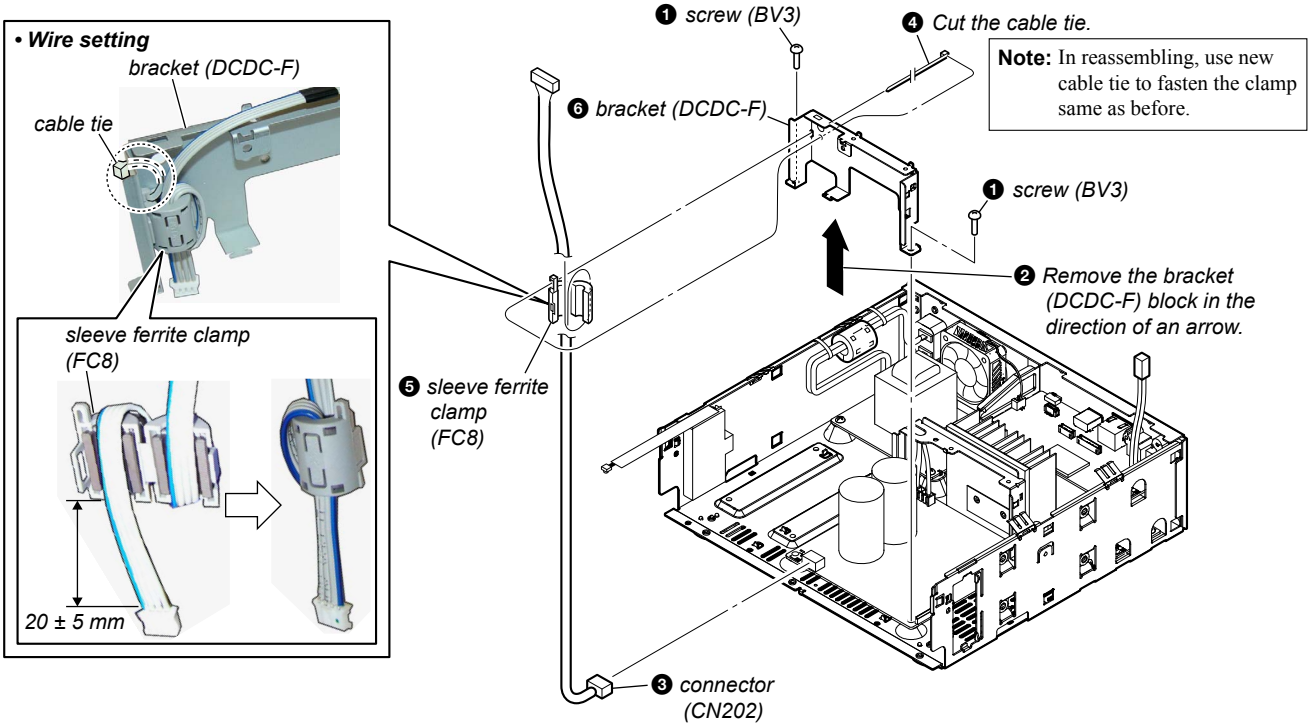
2-24. ANT HOLDER BLOCK (LEFT SIDE)



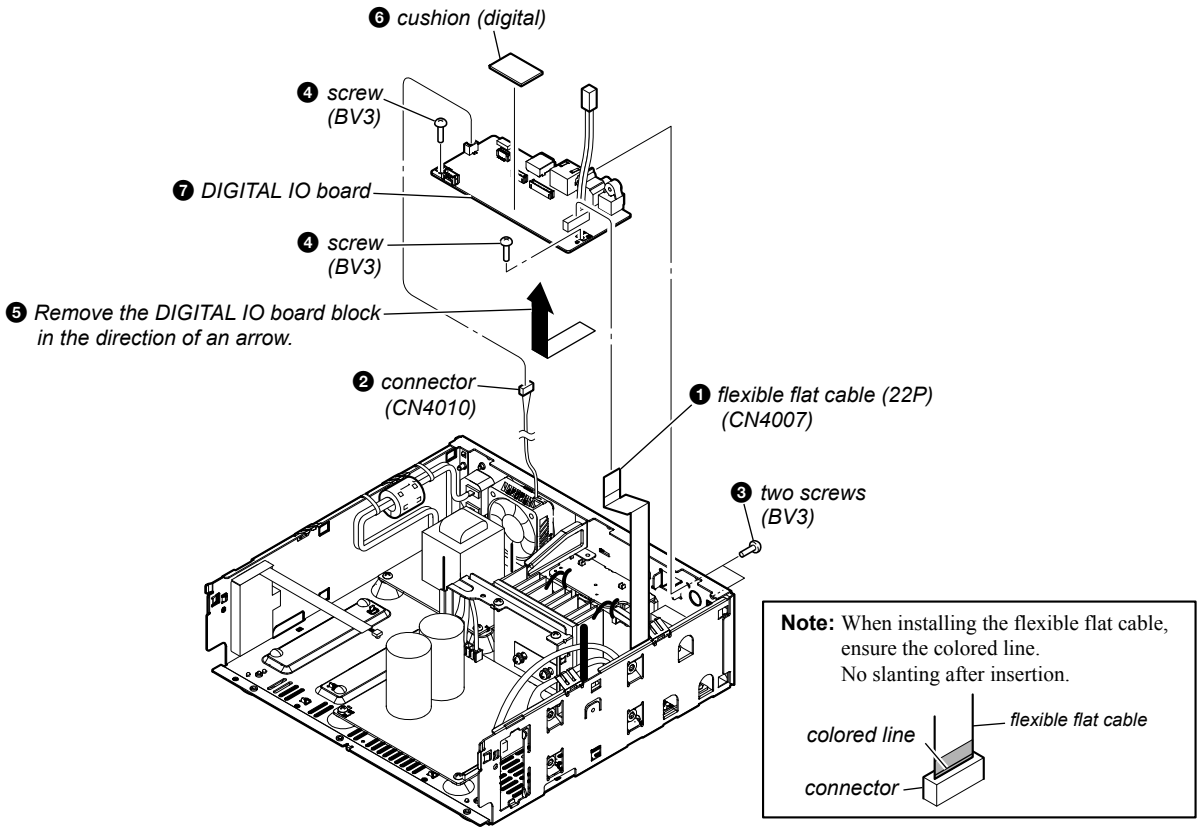
2-25. ALLEGRO-ANT-L BOARD



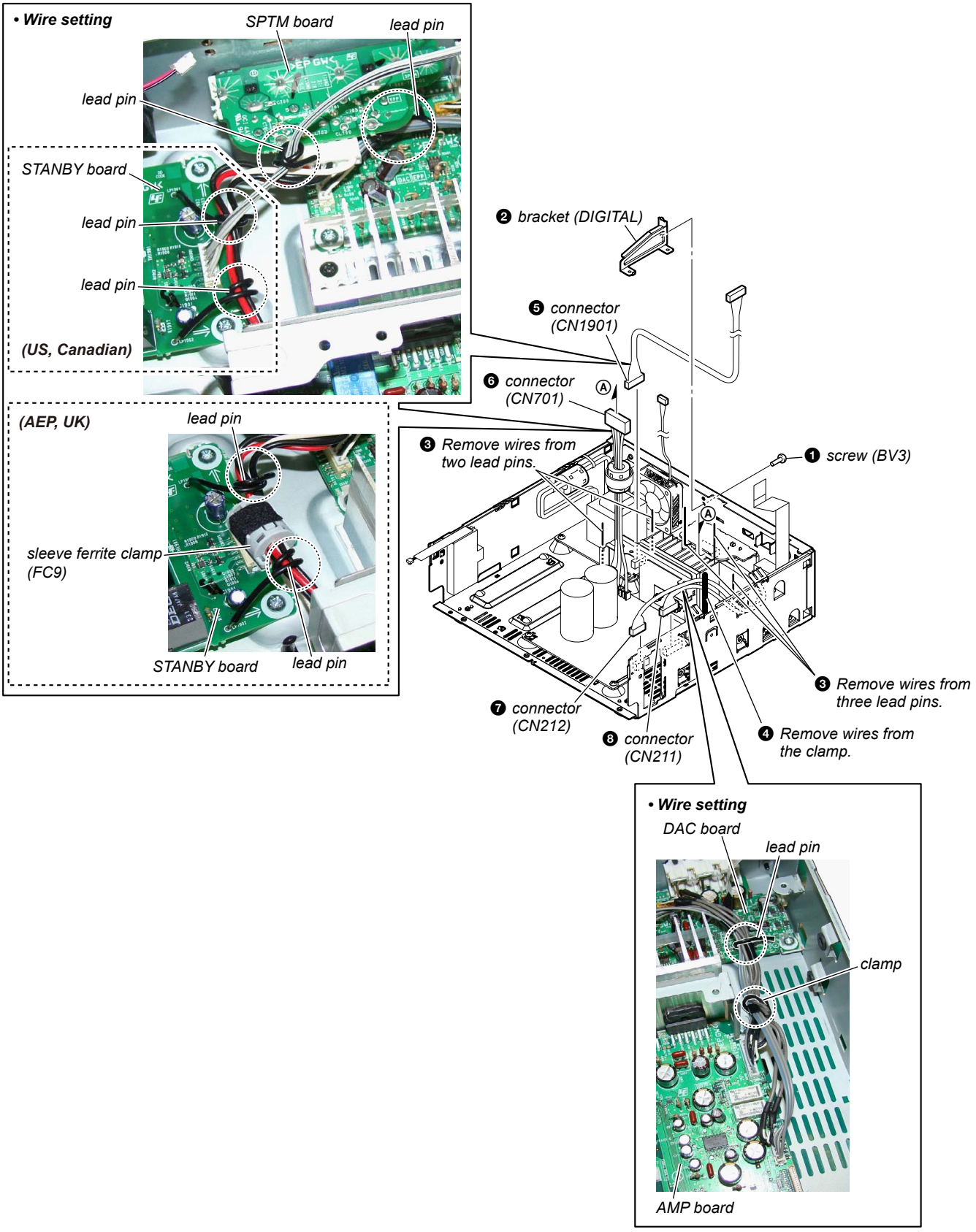
2-26. BRACKET (DCDC-F)



2-27. DIGITAL IO BOARD

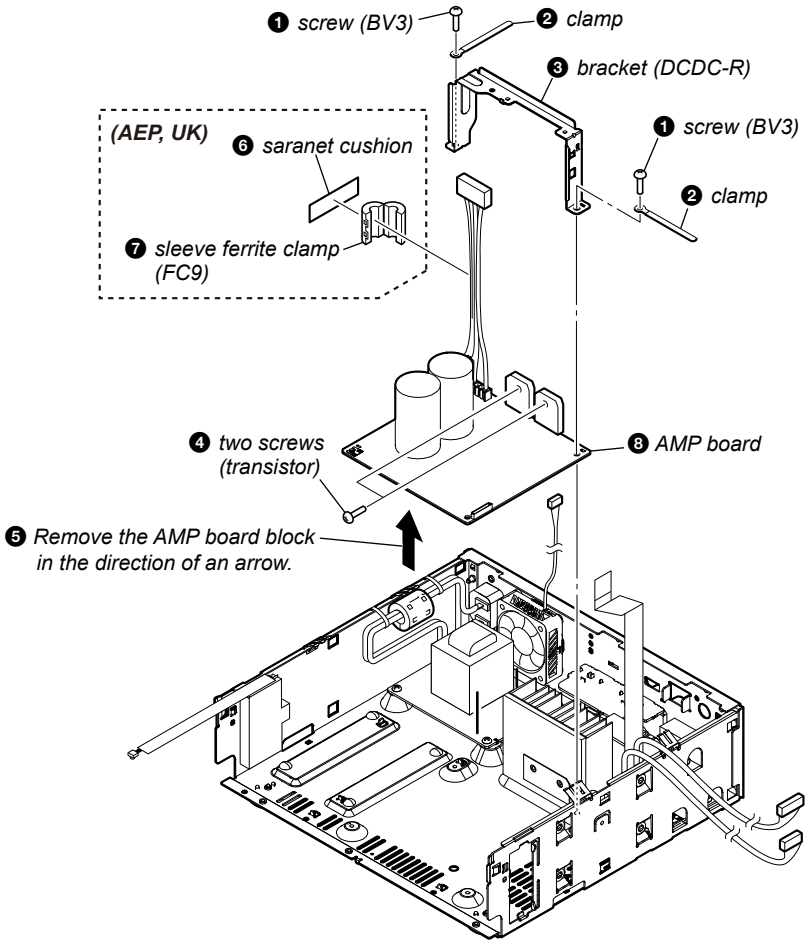


2-28. AMP BOARD-1

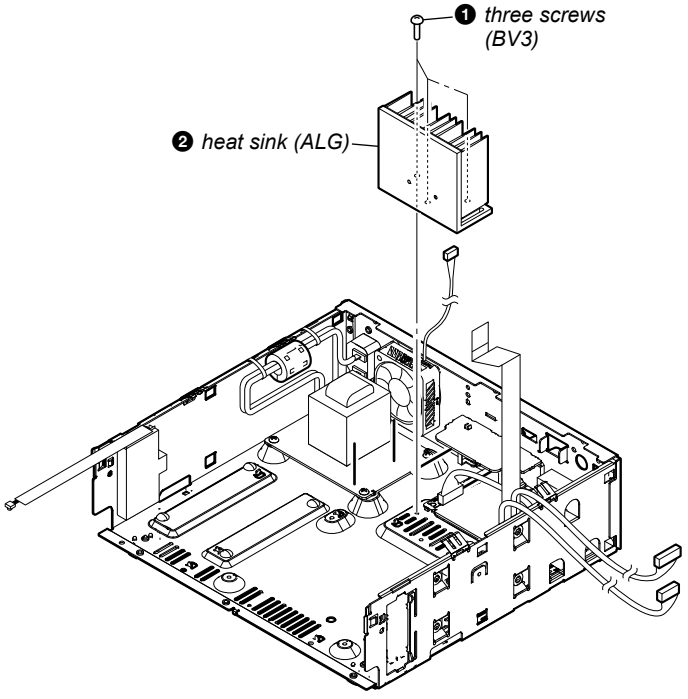


2-29. AMP BOARD-2

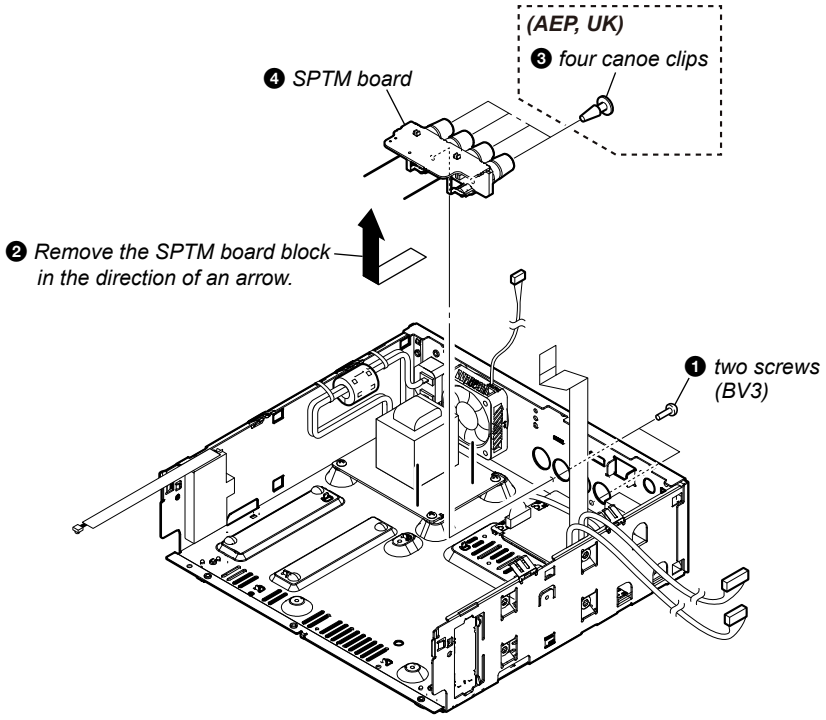
Note: When the complete AMP board is replaced, refer to "NOTE OF REPLACING THE D218, IC350 AND IC351 ON THE AMP BOARD AND THE COMPLETE AMP BOARD" on page 4.



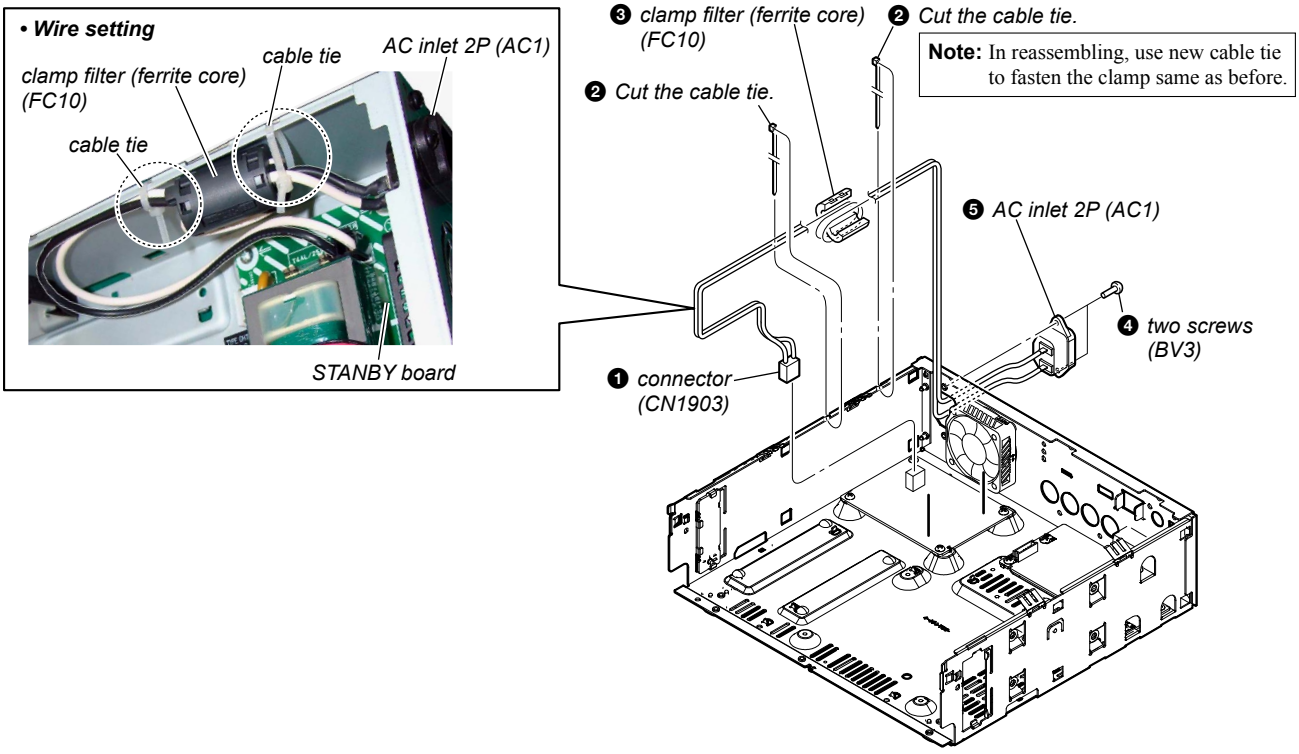
2-30. HEAT SINK (ALG)



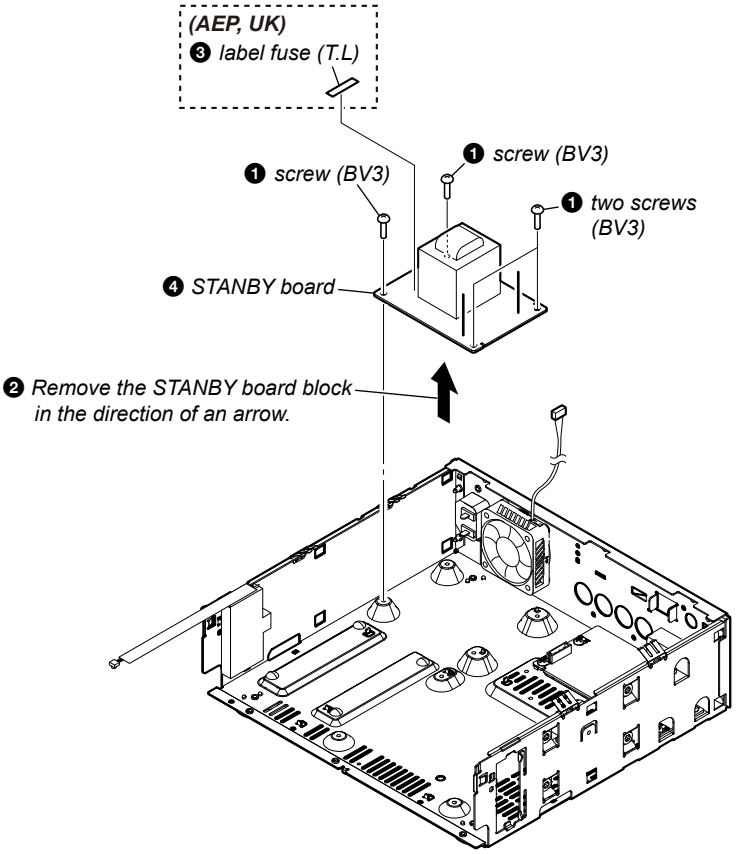
2-31. SPTM BOARD



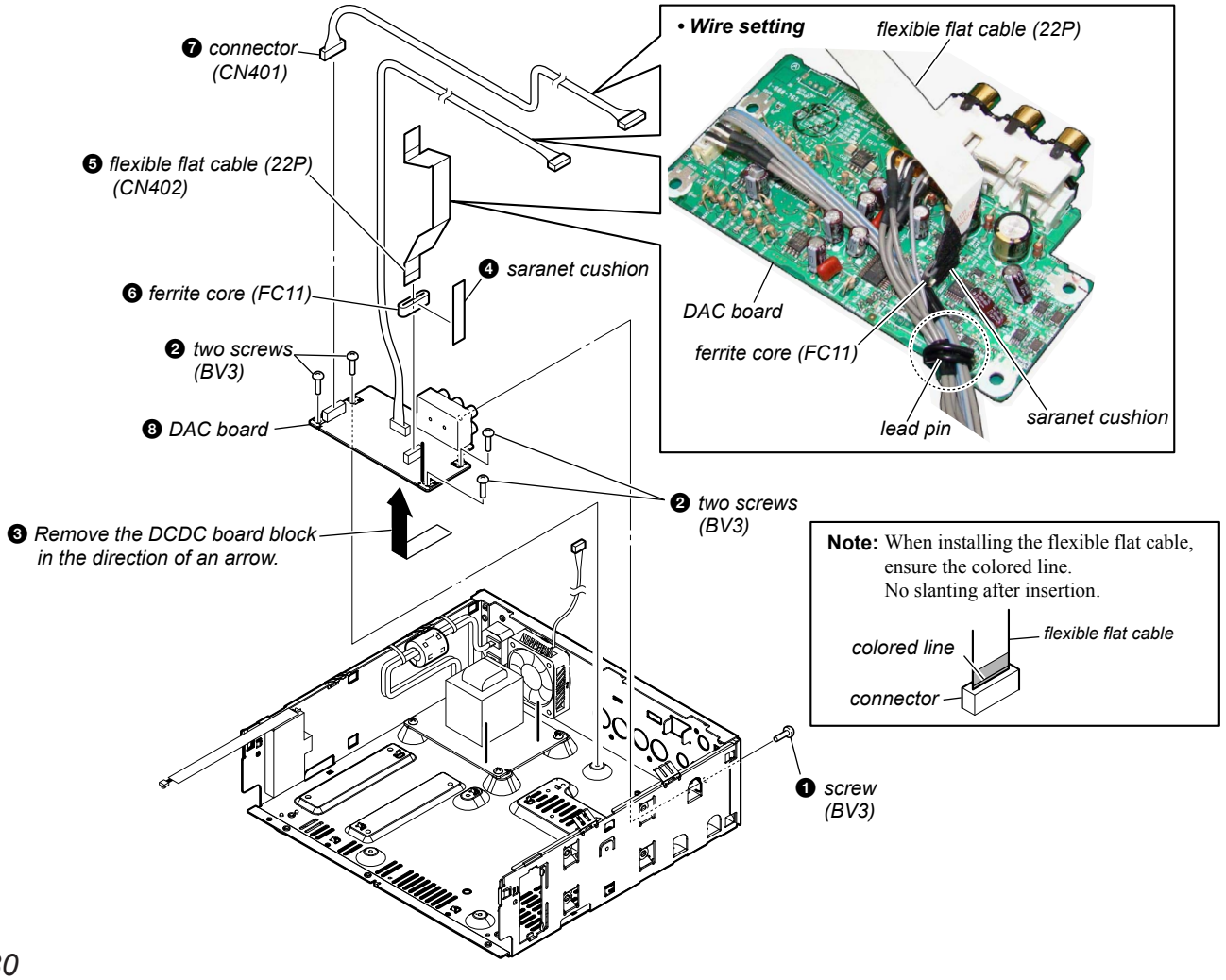
2-32. AC INLET 2P (AC1)



2-33. STANBY BOARD



2-34. DAC BOARD



SECTION 3
TEST MODE

1. Entering Method of The Service Diag Mode

Procedure:

1. Connect the power cord to an outlet.
2. After becoming the standby state, while holding down two keys of the [HOME] and [BACK], press two keys in order of the [▶II] → [I/⏻].
3. Enter the service DIAG mode, "Main Menu" is displayed on the liquid crystal display.

2. Operation Method of The Service DIAG Mode

It can operate the service DIAG mode with the key of the main unit or remote commander (RM-ANU183). A key having no particular description in the text, indicates the main unit key

Key Assign

Operation	Main unit key	Remote commander (RM-ANU183) key
Moves to the cursor and selects the item	PUSH ENTER (UP/DOWN)	I◀◀ /▶▶I
Enters the item	PUSH ENTER	▶II
Returns to the main menu	HOME	–
Returns to the previous menu	BACK	–

3. Releasing Method of The Service DIAG Mode

- Press the [I/⏻] button (Except the state of "3-3.KEY Check", "5-5.SMART Short Test" and "5-6.SMART Long Test").
- Select the "10. QUIT" on the main menu.

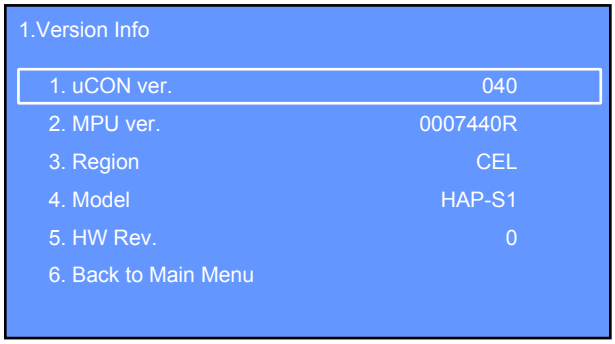
4. Operation of The Service DIAG Mode

4-1. Version Info

It can display the version information.

Procedure:

1. Enter the service DIAG mode.
   (Refer to "1. Entering Method of The Service DIAG Mode")
2. Rotate the [PUSH ENTER] knob to select the "1. Version Info".
3. Press the [PUSH ENTER] knob to enter the "1. Version Info" mode.



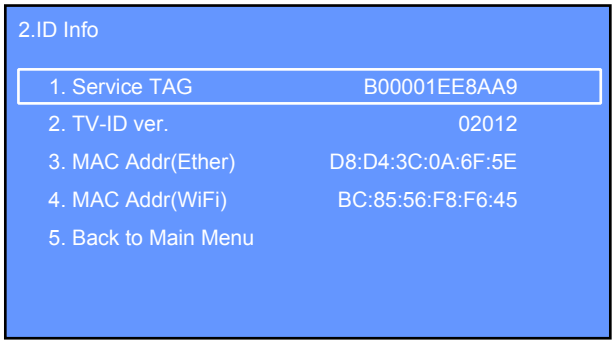
(Displayed characters/values in the above figure are example)

4-2. ID Info

It can display the ID information.

Procedure:

1. Enter the service DIAG mode.
   (Refer to "1. Entering Method of The Service DIAG Mode")
2. Rotate the [PUSH ENTER] knob to select the "2. ID Info".
3. Press the [PUSH ENTER] knob to enter the "2. ID Info" mode.

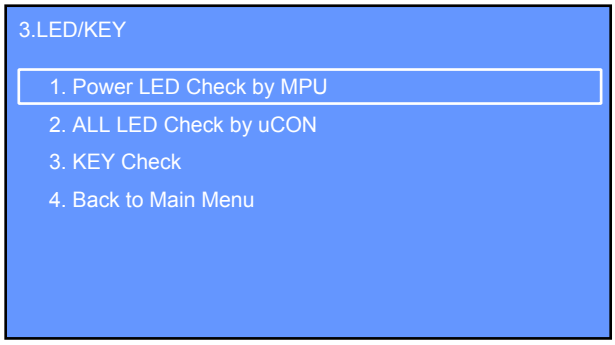


(Displayed characters/values in the above figure are example)

4-3. LED/KEY

Procedure:

1. Enter the service DIAG mode.
   (Refer to "1. Entering Method of The Service DIAG Mode" on page 31)
2. Rotate the [PUSH ENTER] knob to select the "3. LED/KEY".
3. Press the [PUSH ENTER] knob to enter the "3. LED/KEY" mode.



4-3-1. Power LED Check by MPU

It can check the [I/⏻] LED.

Procedure:

1. Enter the "3. LED/KEY" mode.
   (Refer to "4-3. LED/KEY")
2. Rotate the [PUSH ENTER] knob to select the "1. Power LED Check by MPU".
3. Press the [PUSH ENTER] knob to enter the "1. Power LED Check by MPU" mode.
4. The [I/⏻] LED continues blinking.

4-3-2. ALL LED Check by uCON

It can check two LEDs of the [I/⏻] and [DSEE].

Procedure:

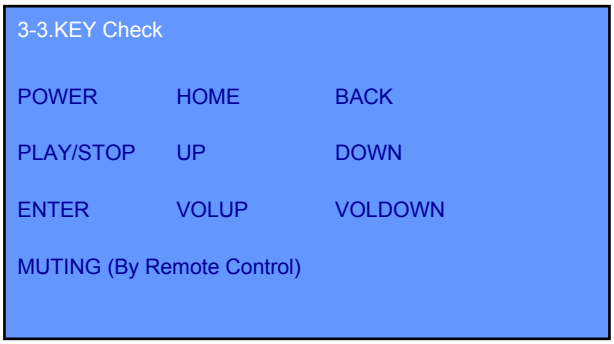
1. Enter the "3.LED/KEY" mode.
   (Refer to "4-3. LED/KEY")
2. Rotate the [PUSH ENTER] knob to select the "2. ALL LED Check by uCON".
3. Press the [PUSH ENTER] knob to enter the "2. ALL LED Check by uCON" mode.
4. Two LEDs of the [I/⏻] and [DSEE] continues blinking.

4-3-3. KEY Check

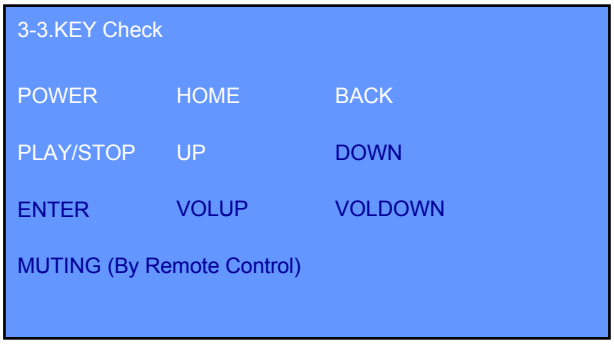
It can check the keys and knobs.

Procedure:

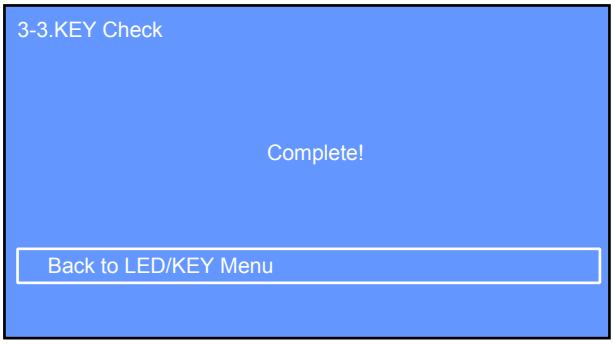
1. Enter the "3. LED/KEY" mode.
   (Refer to "4-3. LED/KEY")
2. Rotate the [PUSH ENTER] knob to select the "3. KEY Check".
3. Press the [PUSH ENTER] knob to enter the "3. KEY Check" mode.



4. Each time a key on the main unit or remote commander is pressed and each time a knob on the main unit is rotated, character on the liquid crystal display corresponding to the keys and knobs turns the white color.



5. When all character on the liquid crystal display corresponding to the keys and knobs turns the white color, following screen is displayed on the liquid crystal display.



4-4. LCD/Others

Procedure:

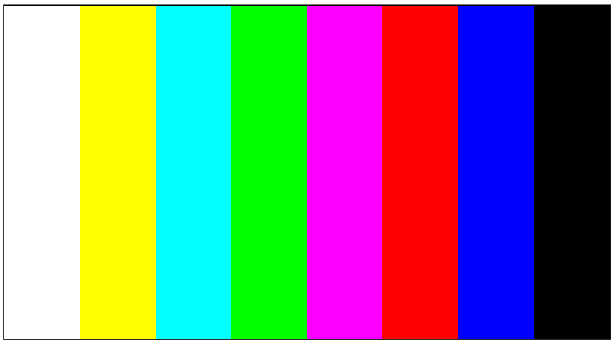
1. Enter the service DIAG mode.
   (Refer to "1. Entering Method of The Service DIAG Mode" on page 31)
2. Rotate the [PUSH ENTER] knob to select the "4. LCD/Others".
3. Press the [PUSH ENTER] knob to enter the "4. LCD/Others" mode.

4-4-1. LCD Color Bar

It can check the liquid crystal display.

Procedure:

1. Enter the "4. LCD/Others" mode.
   (Refer to "4-4. LCD/Others")
2. Rotate the [PUSH ENTER] knob to select the "1. LCD Color Bar".
3. Press the [PUSH ENTER] knob to enter the "1. LCD Color Bar" mode.
4. The color bar is displayed on the liquid crystal display.

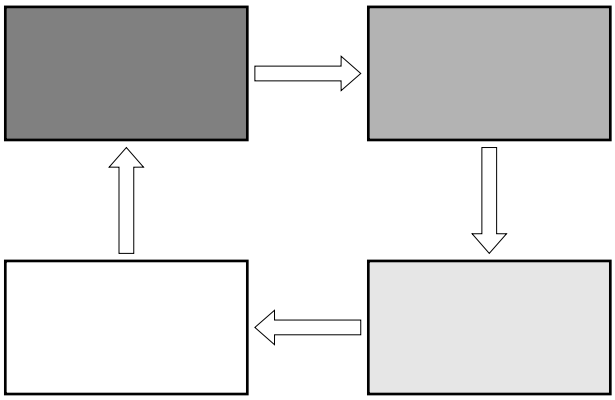


4-4-2. LCD Back light Check

It can check the liquid crystal display back light.

Procedure:

1. Enter the "4. LCD/Others" mode.
   (Refer to "4-4. LCD/Others")
2. Rotate the [PUSH ENTER] knob to select the "2. LCD Back light Check".
3. Press the [PUSH ENTER] knob to enter the "2. LCD Back light Check.
4. The back light continues changing on the white screen as follows.

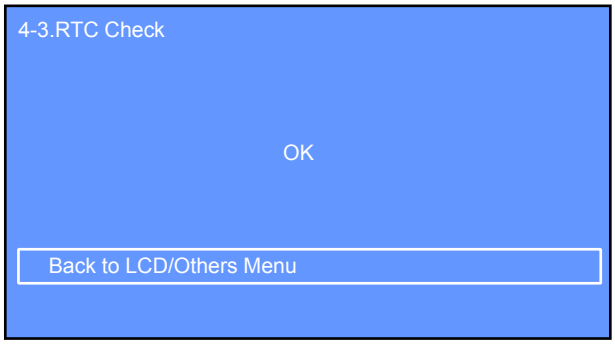


4-4-3. RTC Check

It can check the real time clock.

Procedure:

1. Enter the "4. LCD/Others" mode.
   (Refer to "4-4. LCD/Others")
2. Rotate the [PUSH ENTER] knob to select the "3. RTC Check".
3. Press the [PUSH ENTER] knob to enter the "3. RTC Check" mode.
4. The result of real time clock check "OK" or "NG" is displayed on the liquid crystal display.

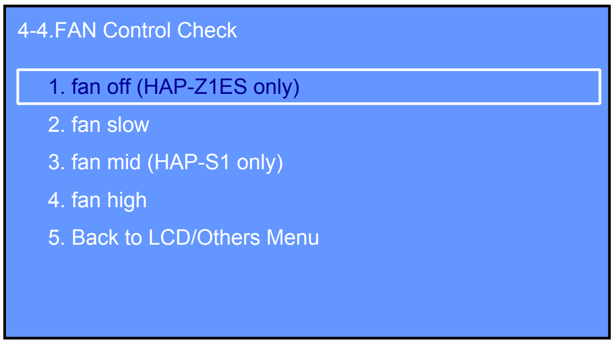


4-4-4. FAN Control Check

It can change the fan motor speed.

Procedure:

1. Enter the "4. LCD/Others" mode.
   (Refer to "4-4. LCD/Others" on page 33)
2. Rotate the [PUSH ENTER] knob to select the "4. FAN Control Check".
3. Press the [PUSH ENTER] knob to enter the "4. FAN Control Check" mode.



Note: "1. fan off (HAP-Z1ES only)" cannot use in this unit.

4. Rotate the [PUSH ENTER] knob to select the "2. fan slow" and press the [PUSH ENTER] knob.
5. The fan motor is changed to slow speed.
6. Rotate the [PUSH ENTER] knob to select the "3. fan mid (HAP-S1 only)" and press the [PUSH ENTER] knob.
7. The fan motor is changed to medium speed.
8. Rotate the [PUSH ENTER] knob to select the "4. fan high" and press the [PUSH ENTER] knob.
9. The fan motor is changed to high speed.

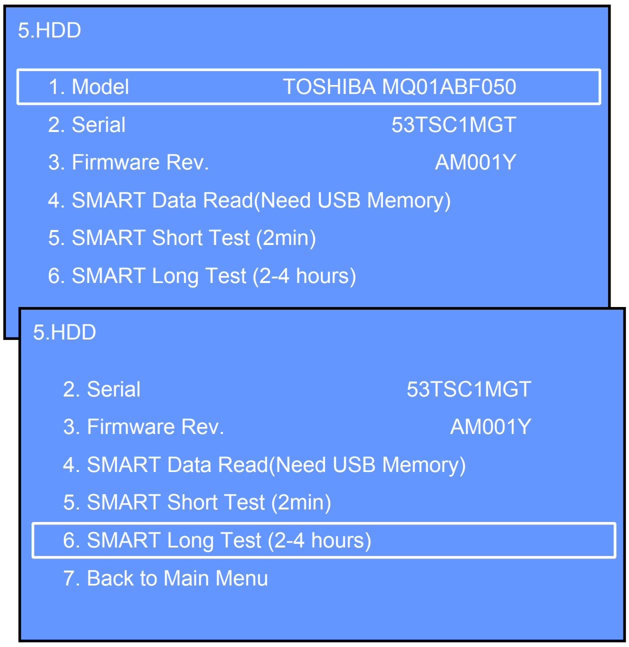
4-5. HDD

It can display the hard disk drive information.

Procedure:

1. Enter the service DIAG mode.
   (Refer to "1. Entering Method of The Service DIAG Mode" on page 31)
2. Rotate the [PUSH ENTER] knob to select the "5. HDD".
3. Press the [PUSH ENTER] knob to enter the "5. HDD" mode.

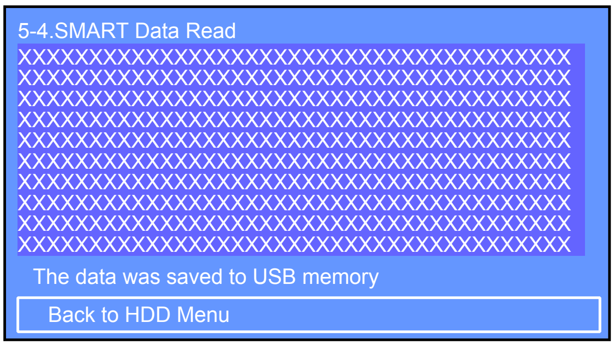
Note 1: When the hard disk drive is damaged, the information (model name, serial number and firmware revision) of hard disk drive is not displayed on the liquid crystal display.
In addition, when the cable connected to the hard disk drive is disconnected or broken, the information of hard disk drive is not displayed on the liquid crystal display.
When the information of hard disk drive is not displayed, check the cable connected to the hard disk drive. When the cable is broken, replace it and enter the "5. HDD" mode again.



(Displayed characters/values in the above figure are example)

Note 2: Refer to "HDD CHECK" for the "5. SMART Short Test (2min)" mode and "6. SMART Long Test (2-4 hours)" mode on page 38.

4. Connect a USB memory (FAT32 formatted) to the USB connector on the main unit.
5. Rotate the [PUSH ENTER] knob to select the "4. SMART Data Read(Need USB Memory)" and press the [PUSH ENTER] knob.
   (When a USB memory is not connected to the USB connector on the main unit, "Failed to save USB memory" is displayed on the liquid crystal display. But the SMART data is displayed on the liquid crystal display)

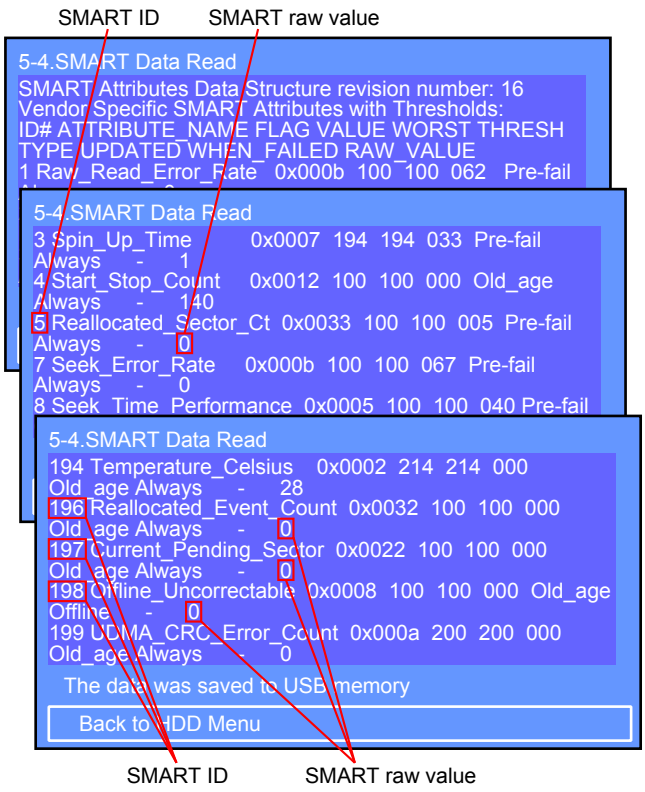


XXX...: SMART data

6. The SMART data is saved as a text file in the USB memory. (The file name is "hap_smart_data_xxxxx_yyyyy.log (xxxxx: hard disk drive model name, yyyyy: hard disk drive serial number))

Note 3: This file uses Linux newline code "LF". You should use "Internet Explorer" or "text editor" that supports "LF" to open this file.

7. Rotate the [PUSH ENTER] knob to scroll the SMART data on the liquid crystal display, and SMART ID is displayed on the liquid crystal display.



(Displayed characters/values in the above figure are example)

8. Check the SMART raw value of following SMART IDs is displayed on the liquid crystal display.

ID	Name
5	Reallocated sector count
196	Reallocated event count
197	Current pending sector count
198	Offline scan uncorrectable sector count

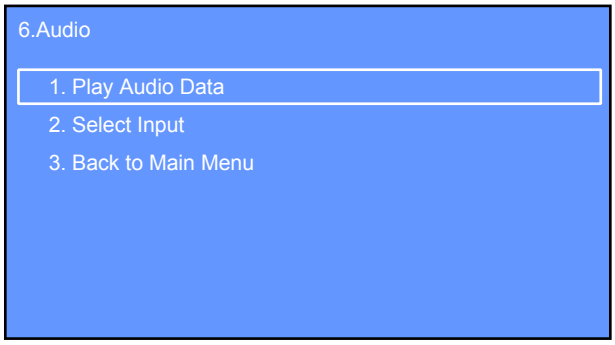
9. If at least one of these ID's SMART raw value is not "0", SMART data check is NG.

Note 4: When the SMART data check is NG, replace the hard disk drive.

4-6. Audio

Procedure:

1. Enter the service DIAG mode. (Refer to "1. Entering Method of The Service DIAG Mode" on page 31)
2. Rotate the [PUSH ENTER] knob to select the "6. Audio".
3. Press the [PUSH ENTER] knob to enter the "6. Audio" mode.

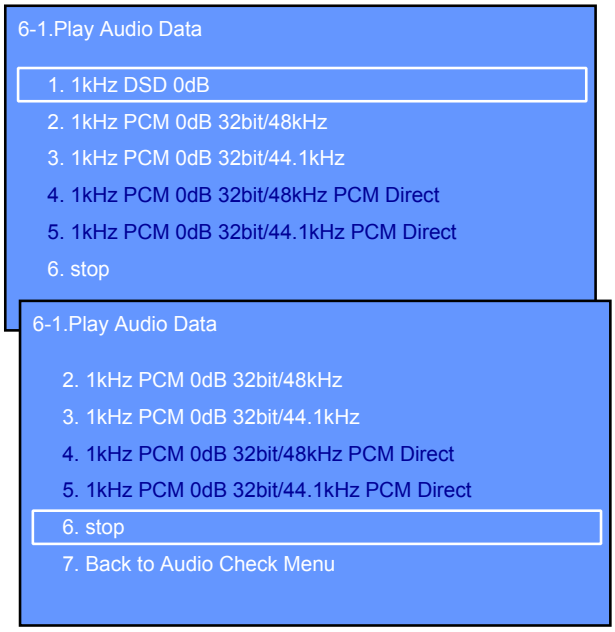


4-6-1. Play Audio Data

It can play back various audio data.

Procedure:

1. Enter the "6. Audio" mode. (Refer to "4-6. Audio")
2. Rotate the [PUSH ENTER] knob to select the "1. Play Audio Data".
3. Press the [PUSH ENTER] knob to enter the "1. Play Audio Data" mode. (The volume control and muting function is available in this mode)



4. Select the audio data by rotating the [PUSH ENTER] knob and press the [PUSH ENTER] knob.

Note 1: "1. kHz DSD 0dB" does not play back continuously, and stops once after a few seconds.

Note 2: "4. 1kHz PCM 0dB 32bit/48kHz PCM Direct" and "5. 1kHz PCM 0dB 32bit/44.1kHz PCM Direct" cannot use in this unit.

5. The selected audio data is played back.
6. To stop the audio data, rotate the [PUSH ENTER] knob to select the "6. stop" and press the [PUSH ENTER] knob.

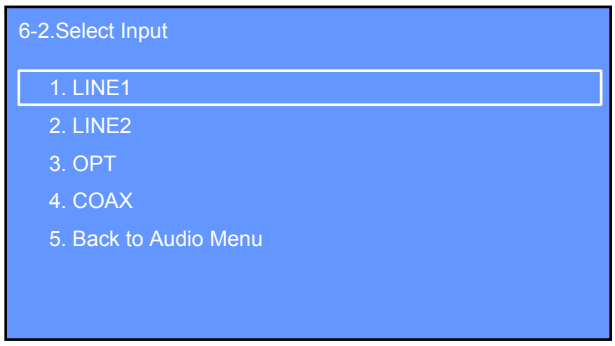
Note 3: When checking for the "3. OPT" or "4. COAX" in the "6-2. Select Input" after playing back the "1. kHz DSD 0dB", play back the "2. 1kHz PCM 0dB 32bit/44.1kHz" once, and then enter the "6-2. Select Input" mode.

4-6-2. Select Input

It can select the external audio input terminal.

Procedure:

1. Enter the “6. Audio” mode.
   (Refer to “4-6. Audio” on page 35)
2. Rotate the [PUSH ENTER] knob to select the “2. Select Input”.
3. Press the [PUSH ENTER] knob to enter the “2. Select Input” mode.
   (The volume control and muting function is available in this mode)

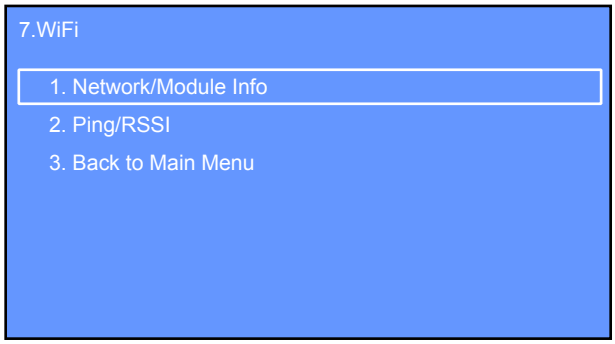


4. Select the external audio input terminal by rotating the [PUSH ENTER] knob and press the [PUSH ENTER] knob.
5. The audio data that input from selected external audio input terminal is output.

4-7. WiFi

Procedure:

1. Set the SSID and KEY of the connecting access point with “SONY_HAP_TEST”.
2. Enter the service DIAG mode.
   (Refer to “1. Entering Method of The Service DIAG Mode” on page 31)
3. Rotate the [PUSH ENTER] knob to select the “7. WiFi”.
4. Press the [PUSH ENTER] knob to enter the “7. WiFi” mode.



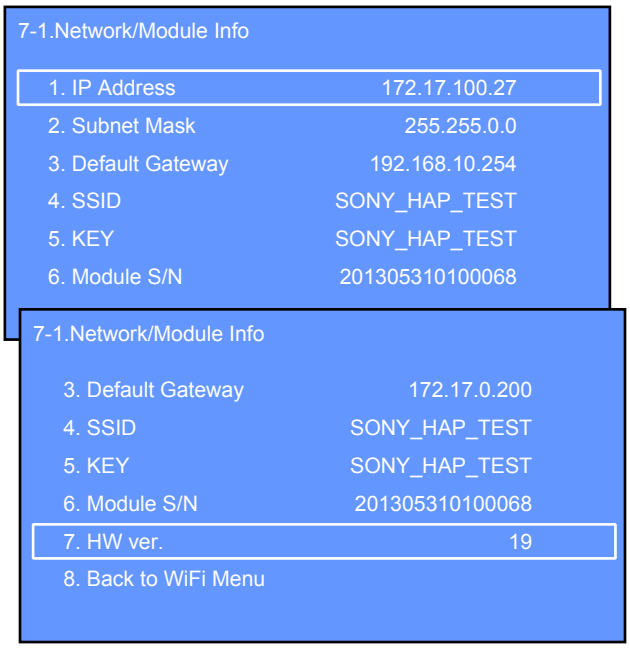
4-7-1. Network/Module Info

It can display the wireless network and module information.

Procedure:

1. Enter the “7. WiFi” mode.
   (Refer to “4-7. WiFi”)
2. Rotate the [PUSH ENTER] knob to select the “1. Network/module Info”.
3. Press the [PUSH ENTER] knob to enter the “1. Network/module Info” mode.

Note: “1. IP Address”, “2. Subnet Mask” and “3. Default Gateway” supports only DHCP.



(Displayed characters/values in the above figure are example)

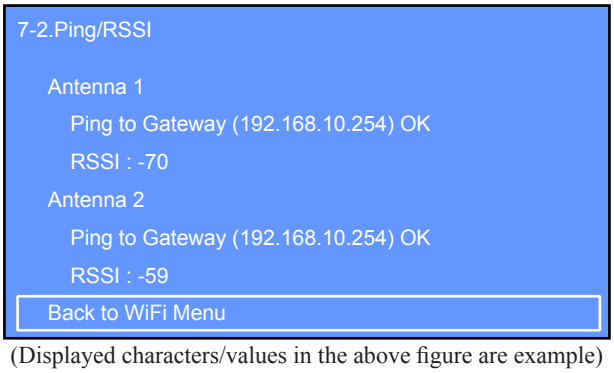
4-7-2. Ping/RSSI

It can display the results indicating whether or not the gateway responded to the PING and RSSI value.

Note: This mode supports only DHCP.

Procedure:

1. Enter the “7. WiFi” mode.
   (Refer to “4-7. WiFi”)
2. Rotate the [PUSH ENTER] knob to select the “2. Ping/RSSI”.
3. Press the [PUSH ENTER] knob to enter the “2. Ping/RSSI” mode.
4. The results indicating whether or not the gateway responded to the PING and RSSI value is displayed on the liquid crystal display.
   (When the gateway does not respond to the PING, “Error!! Can’t get gateway-ip” is displayed on the liquid crystal display)

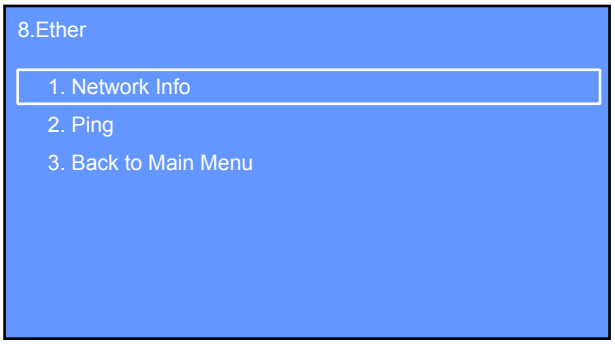


(Displayed characters/values in the above figure are example)

4-8. Ether

Procedure:

1. Connect the main unit to the router with the network LAN cable.
2. Enter the service DIAG mode.
   (Refer to "1. Entering Method of The Service DIAG Mode" on page 31)
3. Rotate the [PUSH ENTER] knob to select the "8. Ether".
4. Press the [PUSH ENTER] knob to enter the "8. Ether" mode.



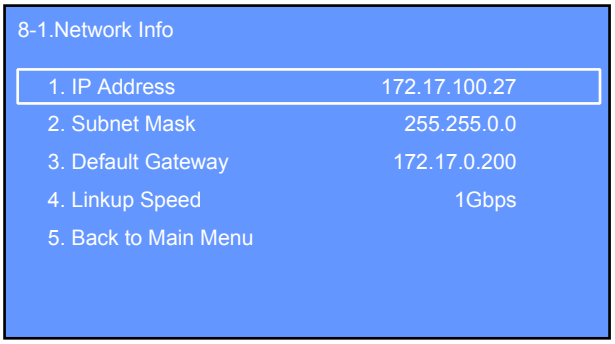
4-8-1. Network Info

It can display the wired network information.

Procedure:

1. Enter the "8. Ether" mode.
   (Refer to "4-8. Ether")
2. Rotate the [PUSH ENTER] knob to select the "1. Network Info".
3. Press the [PUSH ENTER] knob to enter the "1. Network Info" mode.

Note: "1. IP Address", "2. Subnet Mask" and "3. Default Gateway" supports only DHCP.



(Displayed characters/values in the above figure are example)

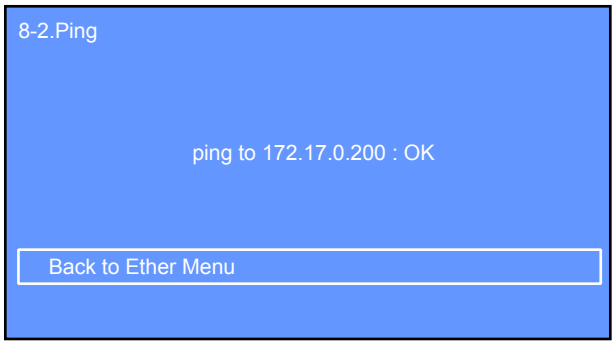
4-8-2. Ping

It can display the results indicating whether or not the gateway responded to the PING.

Note: This mode supports only DHCP.

Procedure:

1. Enter the "8. Ether" mode.
   (Refer to "4-8. Ether")
2. Rotate the [PUSH ENTER] knob to select the "2. Ping".
3. Press the [PUSH ENTER] knob to enter the "2. Ping" mode.
4. The results indicating whether or not the gateway responded to the PING is displayed on the liquid crystal display.
   (When the gateway does not respond to the PING, "Error!! Can't get gateway-ip" is displayed on the liquid crystal display)



(Displayed characters/values in the above figure are example)

4-9. IR Learning

This item cannot use in this unit.

4-10. Quit

Rotate the [PUSH ENTER] knob to select the "10. Quit" and press the [PUSH ENTER] knob, service DIAG mode is released.

SECTION 4
ELECTRICAL CHECK

HDD CHECK

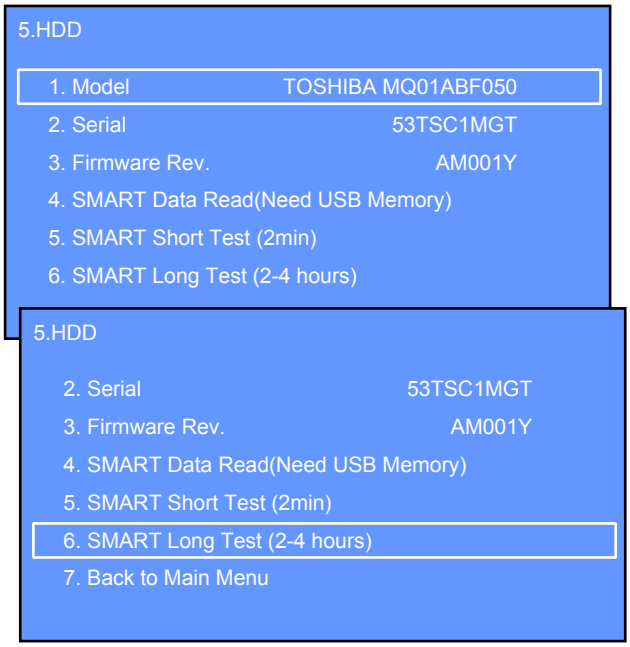
It can check the result of hard disk drive test.

1. Operation of The SMART Long Test

The SMART long test is mode to perform the overall test of hard disk drive.
When checking the hard disk drive, perform the SMART long test.

Procedure:

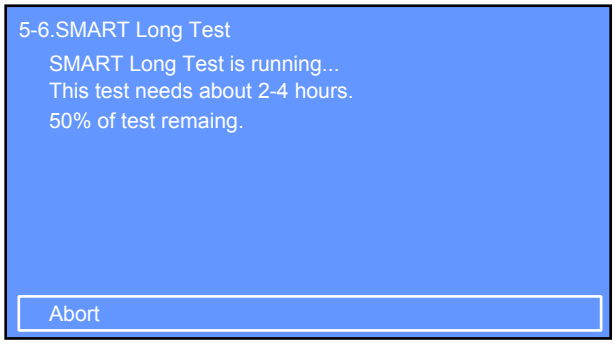
1. Enter the service DIAG mode.
   (Refer to "1. Entering method of the service DIAG mode" on page 31)
2. Rotate the [PUSH ENTER] knob to select the "5. HDD".
3. Press the [PUSH ENTER] knob to enter the "5. HDD" mode.



(Displayed characters/values in the above figure are example)

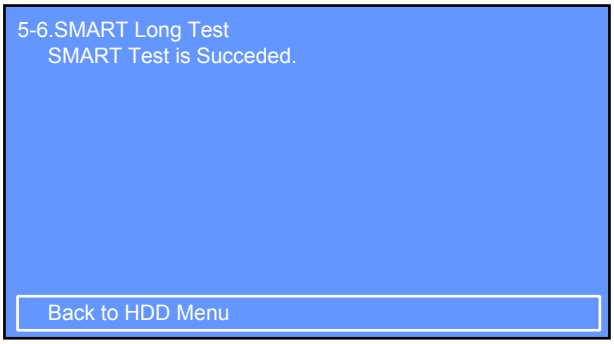
4. Rotate the [PUSH ENTER] knob to select the "6. SMART Long Test (2-4 hours)".
5. Press the [PUSH ENTER] knob to enter the "6. SMART Long Test (2-4 hours)" mode.

Note 1: Two keys of the [HOME] and [BACK] is invalid during SMART long test.



(Displayed characters/values in the above figure are example)

6. Press the [PUSH ENTER] knob to abort the SMART long test.
7. When the result of test is OK, following screen is displayed on the liquid crystal display.



Note 2: When "SMART Test is Failed." is displayed on the liquid crystal display, refer to "3. Checking Method of The SMART Test Result" on page 39.

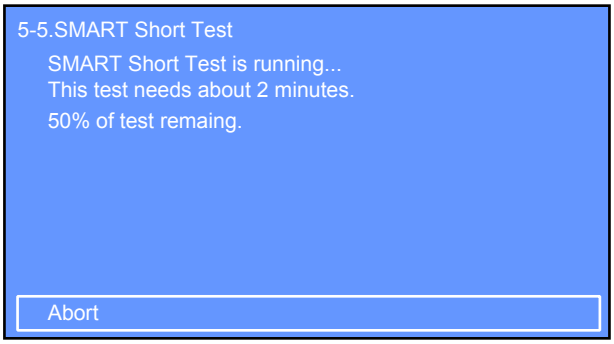
2. Operation of The SMART Short Test

The SMART short test is mode to perform the simple test of hard disk drive in a short time.

Procedure:

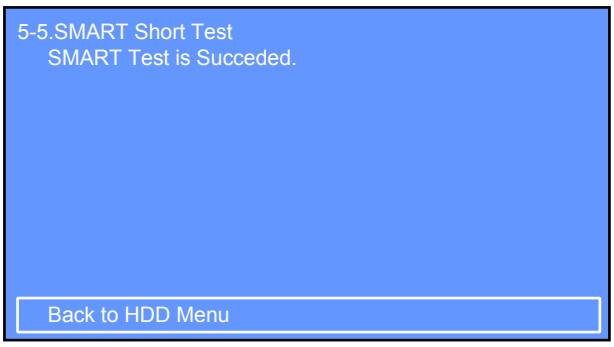
1. Enter the "5. HDD" mode.
   (Refer to "1. Operation of The SMART Long Test")
2. Rotate the [PUSH ENTER] knob to select the "5. SMART Short Test (2min)".
3. Press the [PUSH ENTER] knob to enter the "5. SMART Short Test (2min)" mode.

Note 1: Two keys of the [HOME] and [BACK] is invalid during SMART short test.



(Displayed characters/values in the above figure are example)

4. Press the [PUSH ENTER] knob to abort the SMART short test.
5. When the result of test is OK, following screen is displayed on the liquid crystal display.

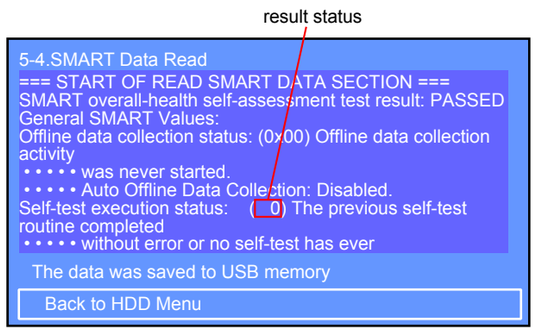


Note 2: When "SMART Test is Failed." is displayed on the liquid crystal display, refer to "3. Checking Method of The SMART Test Result" on page 39.

3. Checking Method of The SMART Test Result

Procedure:

1. After the SMART test is completed, press the [PUSH ENTER] knob or [BACK] key to return to the “5. HDD” menu.
2. Rotate the [PUSH ENTER] knob to select the “4. SMART Data Read(Need USB Memory)” and press the [PUSH ENTER] knob.
3. Rotate the [PUSH ENTER] knob to scroll the SMART data on the liquid crystal display, and “START OF READ SMART DATA SECTION” is displayed on the liquid crystal display.



(Displayed characters/values in the above figure are example)

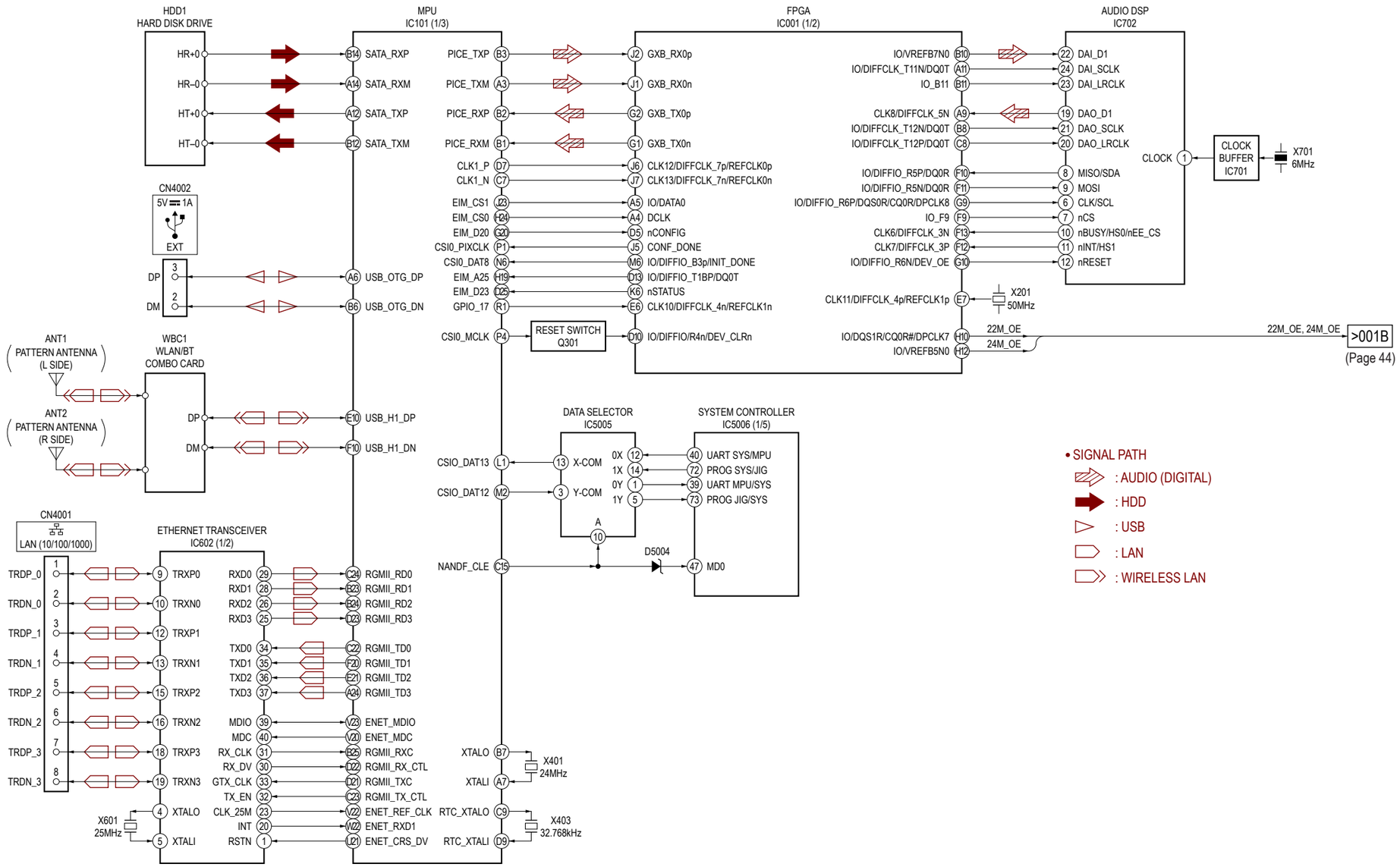
4. Read the result status value is displayed on the liquid crystal display, and check the error contents at the following table.

- Result status = XXh

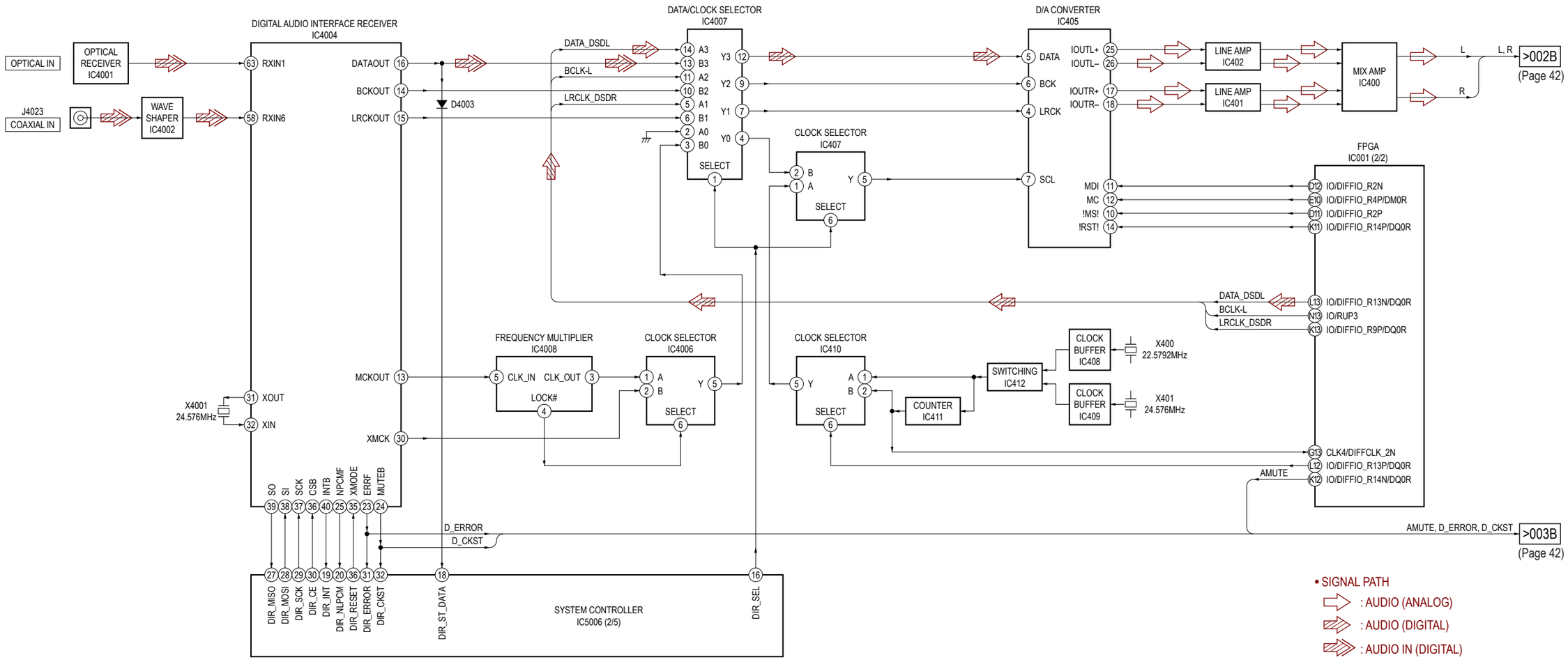
Result status	Description
0Xh	The previous self-test routine completed without error or no self-test has ever been run
1Xh	The self-test routine was aborted by the host
2Xh	The self-test routine was interrupted by the host with a hardware or software reset
3Xh	A fatal error or unknown test error occurred while the device was executing its self-test routine and the device was unable to complete the self-test routine
4Xh	The previous self-test completed having a test element that failed and the test element that failed is not known.
5Xh	The previous self-test completed having the electrical element of the test failed
6Xh	The previous self-test completed having the servo and/or seek test element of the test failed
7Xh	The previous self-test completed having the read element of the test failed
8Xh	The previous self-test completed having a test element that failed and the device is suspected of having handling damage
9Xh – EXh	Reserved
FXh	Self-test routine in progress

SECTION 5
DIAGRAMS

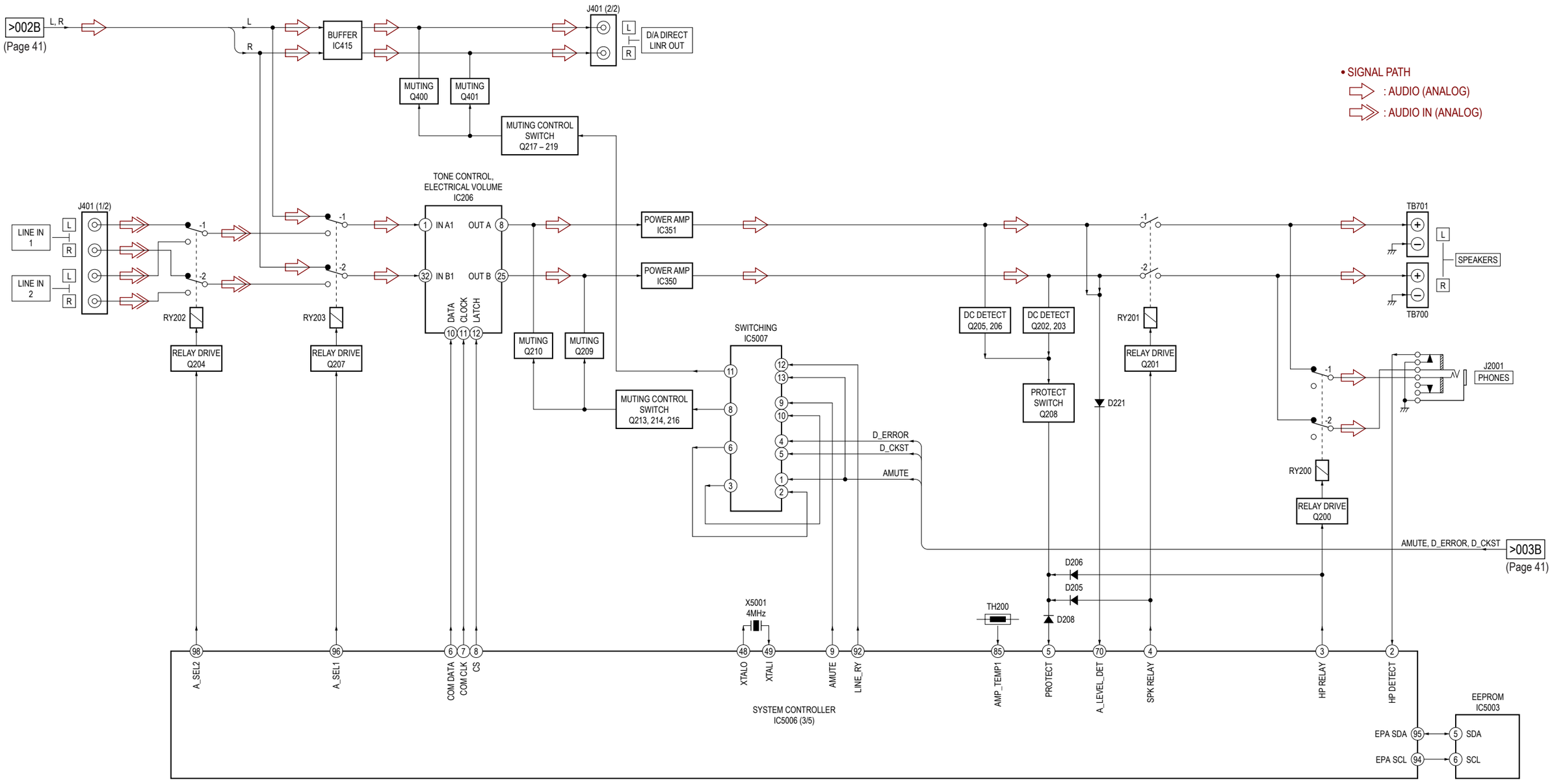
5-1. BLOCK DIAGRAM - HDD/USB/LAN/FPGA/DSP Section -



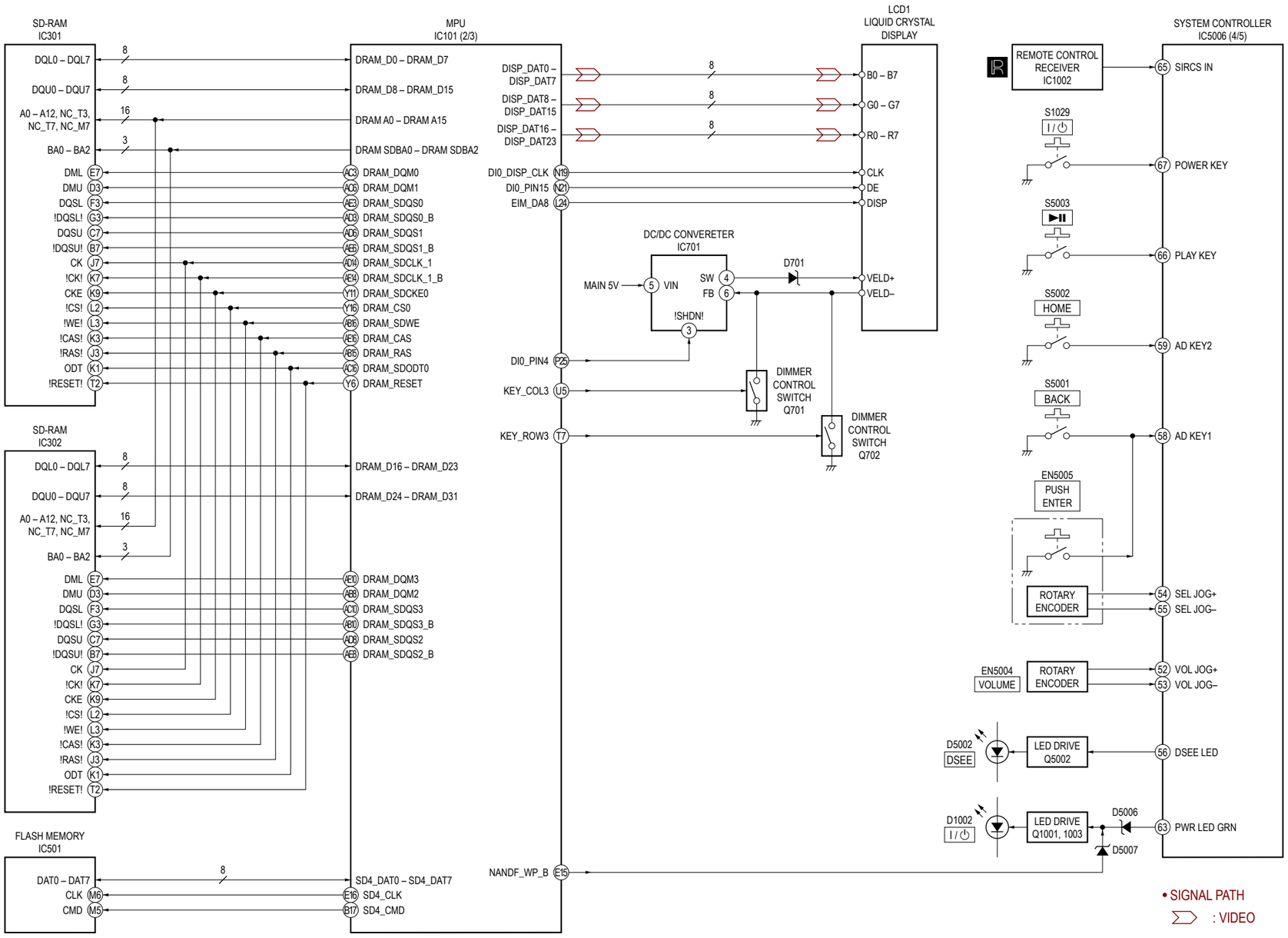
5-2. BLOCK DIAGRAM - DIGITAL AUDIO INPUT Section -



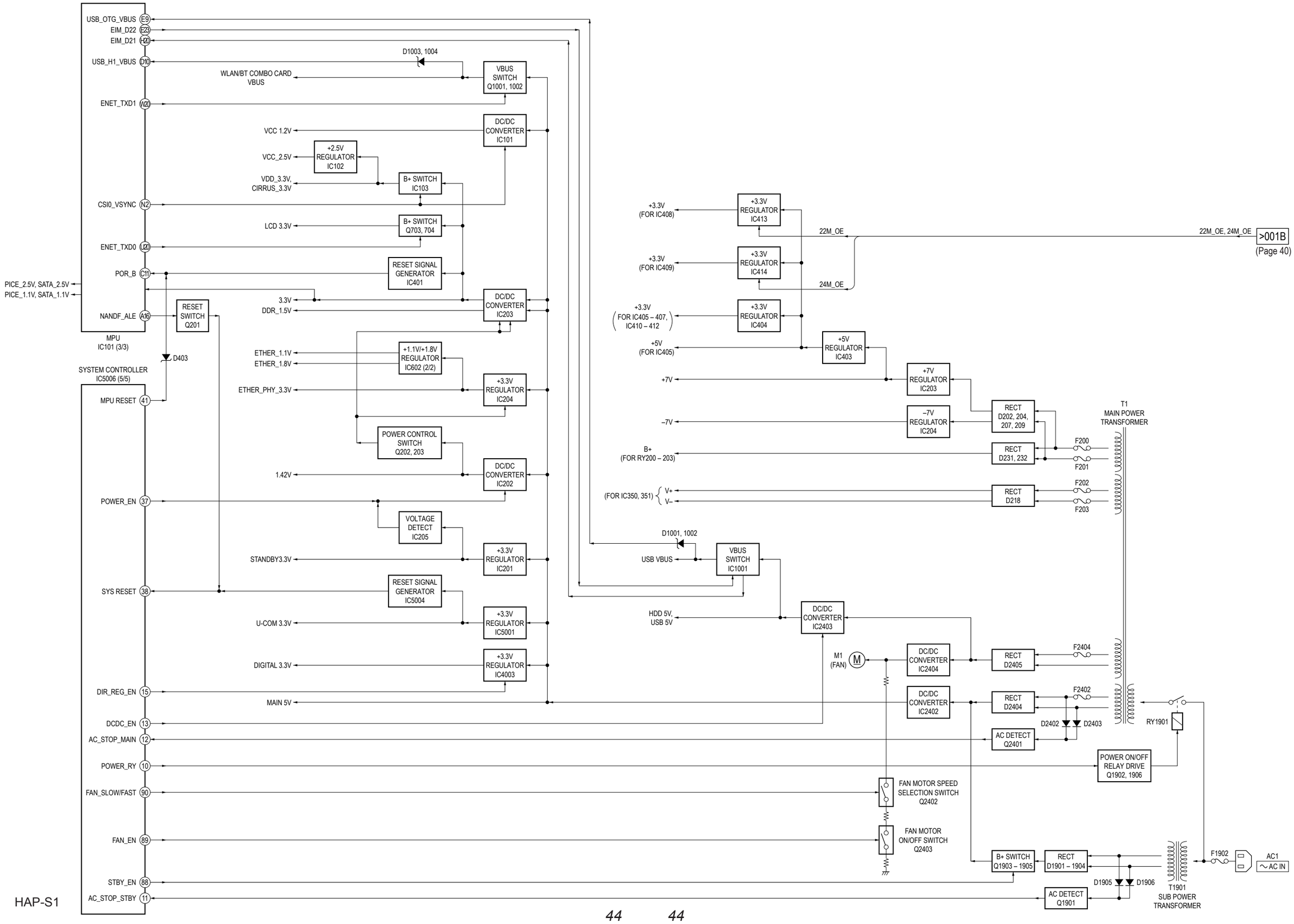
5-3. BLOCK DIAGRAM - ANALOG AUDIO INPUT/OUTPUT Section -



5-4. BLOCK DIAGRAM - MEMORY/PANEL Section -



5-5. BLOCK DIAGRAM - POWER SUPPLY Section -



THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS. (In addition to this, the necessary note is printed in each block.)

For Printed Wiring Boards.

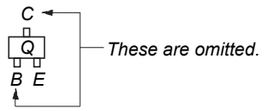
Note:

- o——: Parts extracted from the component side.
- ——: Parts extracted from the conductor side.
- △ : Internal component.
- : Pattern from the side which enables seeing. (The other layers' patterns are not indicated.)

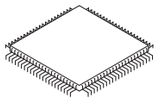
Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side)	Parts on the parts face side seen from the parts face are indicated.

Caution:	
Pattern face side: (SIDE B)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (SIDE A)	Parts on the parts face side seen from the parts face are indicated.

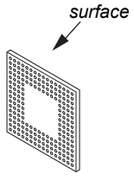
- FPGA DSP and MAIN boards are multi-layer printed board. However, the patterns of intermediate layers have not been included in diagrams.
- Indication of transistor.



- Lead layouts



Lead layout of conventional IC



CSP (Chip Size Package)

- Abbreviation
  CND : Canadian model

Note 1: When the complete MAIN board is replaced, refer to "NOTE OF REPLACING THE COMPLETE MAIN BOARD" and "CHECKING METHOD OF NETWORK CONNECTION" on page 5.

Note 2: When the complete AMP board is replaced, refer to "NOTE OF REPLACING THE D218, IC350 AND IC351 ON THE AMP BOARD AND THE COMPLETE AMP BOARD" on page 4.

For Schematic Diagrams.

Note:

- All capacitors are in µF unless otherwise noted. (p: pF) 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : Internal component.
- : Nonflammable resistor.
- : Panel designation.

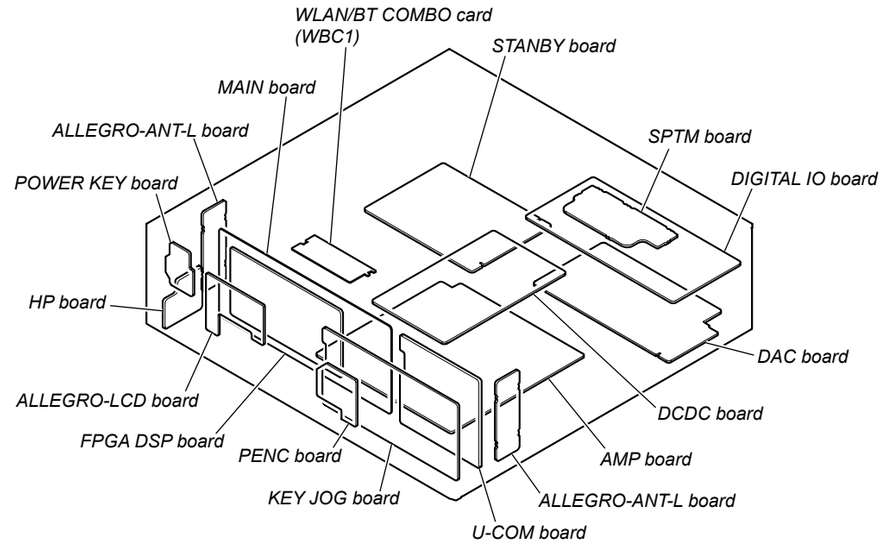
Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- : B+ Line.
- : B– Line.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark: POWER ON
- Voltages are taken with VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  : AUDIO (ANALOG)
  : AUDIO (DIGITAL)
  : AUDIO IN (ANALOG)
  : AUDIO IN (DIGITAL)
  : HDD
  : USB
  : LAN
  : WIRELESS LAN
  : VIDEO
- The voltage and waveform of CSP (chip size package) cannot be measured, because its lead layout is different from that of conventional IC.
- Abbreviation
  CND : Canadian model

Note 1: When the complete MAIN board is replaced, refer to "NOTE OF REPLACING THE COMPLETE MAIN BOARD" and "CHECKING METHOD OF NETWORK CONNECTION" on page 5.

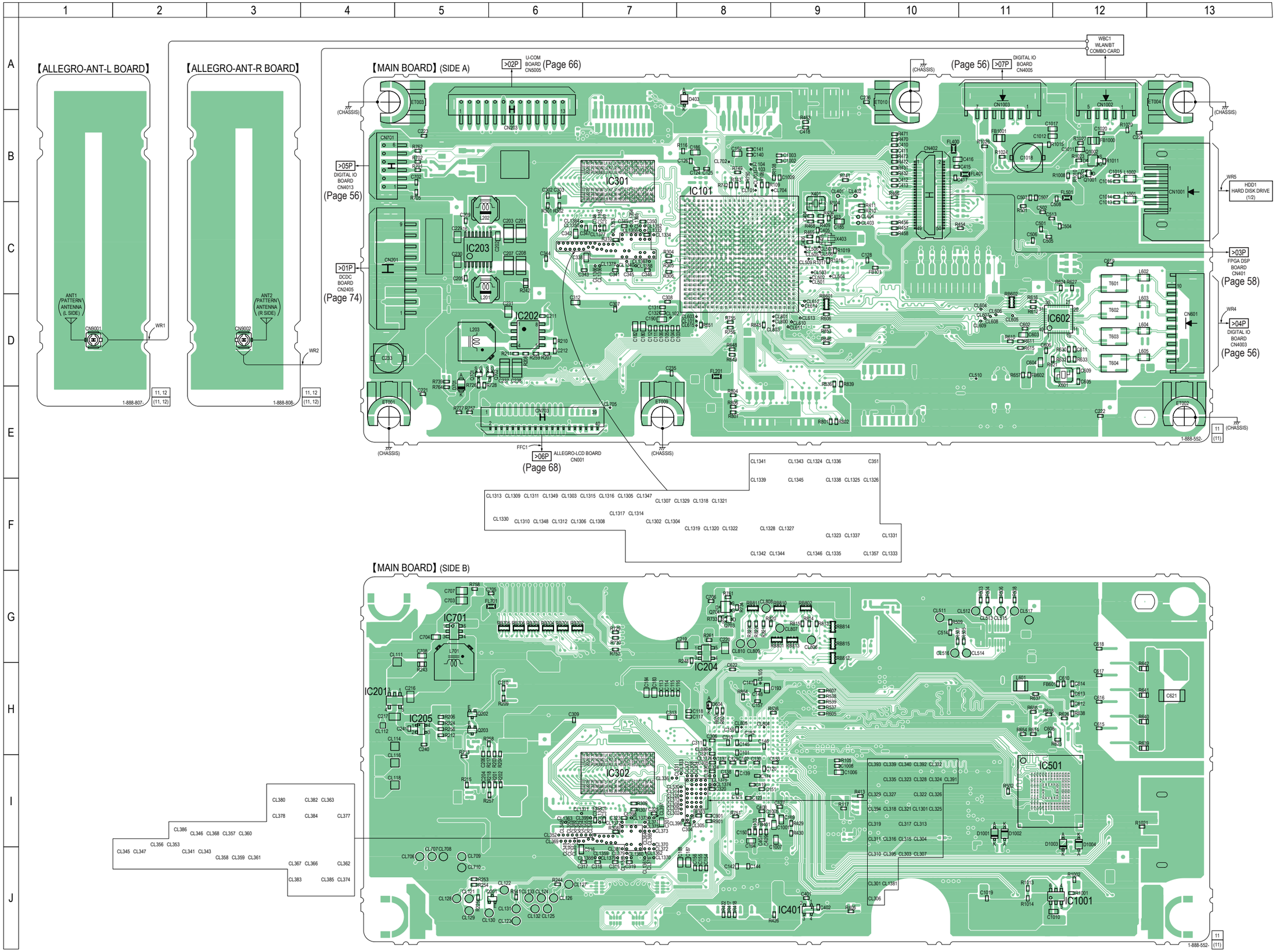
Note 2: When the complete AMP board is replaced, refer to "NOTE OF REPLACING THE D218, IC350 AND IC351 ON THE AMP BOARD AND THE COMPLETE AMP BOARD" on page 4.

- **Circuit Boards Location**



5-6. PRINTED WIRING BOARDS - MAIN Section -

• See page 45 for Circuit Boards Location. • : Uses unleaded solder.



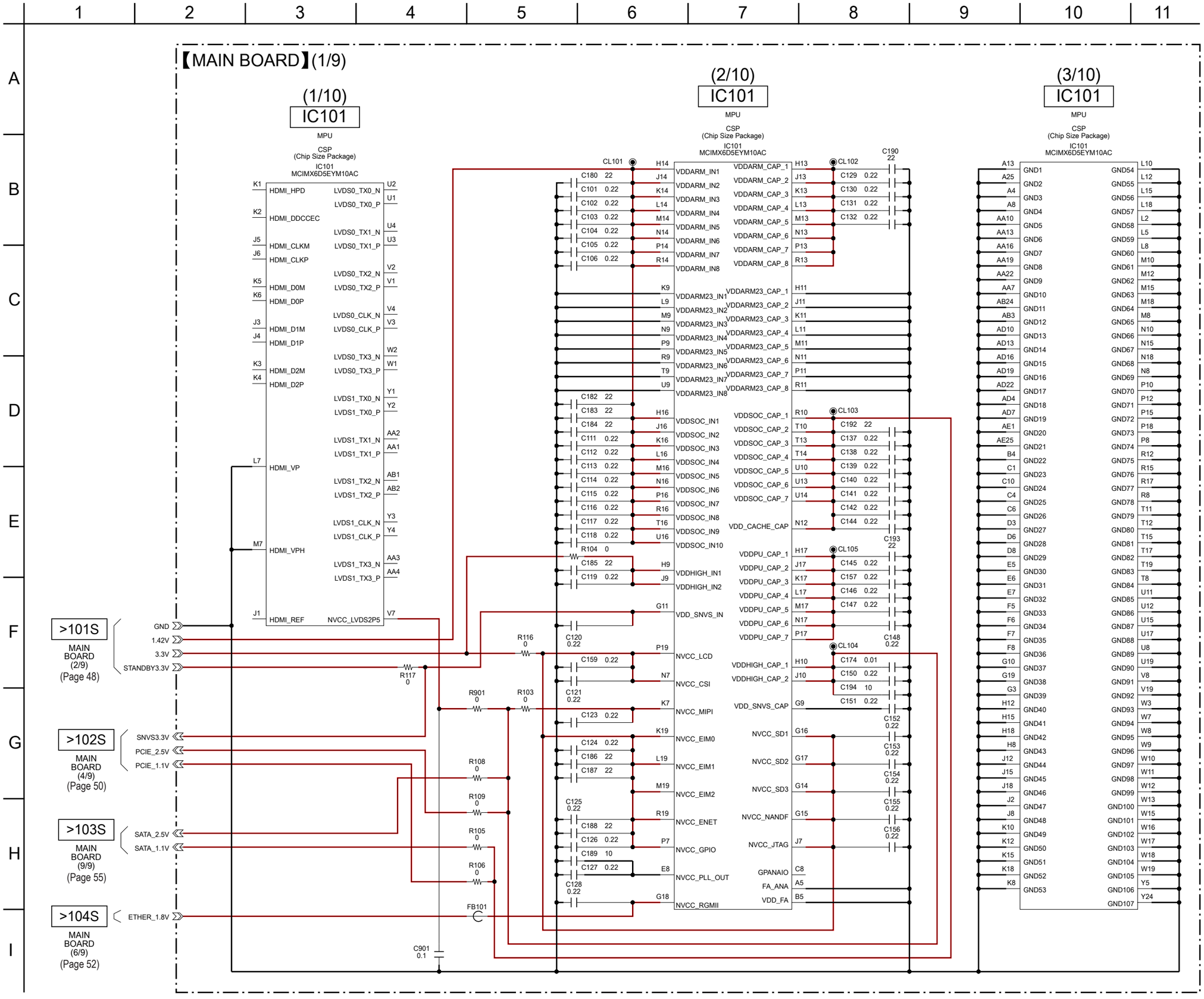
Note 1: The ALLEGRO-ANT-L and ALLEGRO-ANT-R boards are not covered in the servicing.

Note 2: IC101 on the MAIN board cannot exchange with single. When this part is damaged, exchange the complete mounted board.

Note 3: When the WLAN/BT COMBO card (Ref. No. WBC1) and coaxial (U.FL connector) cables (Ref. No. WR1, WR2) are replaced, refer to "CHECKING METHOD OF NETWORK CONNECTION" on page 5.

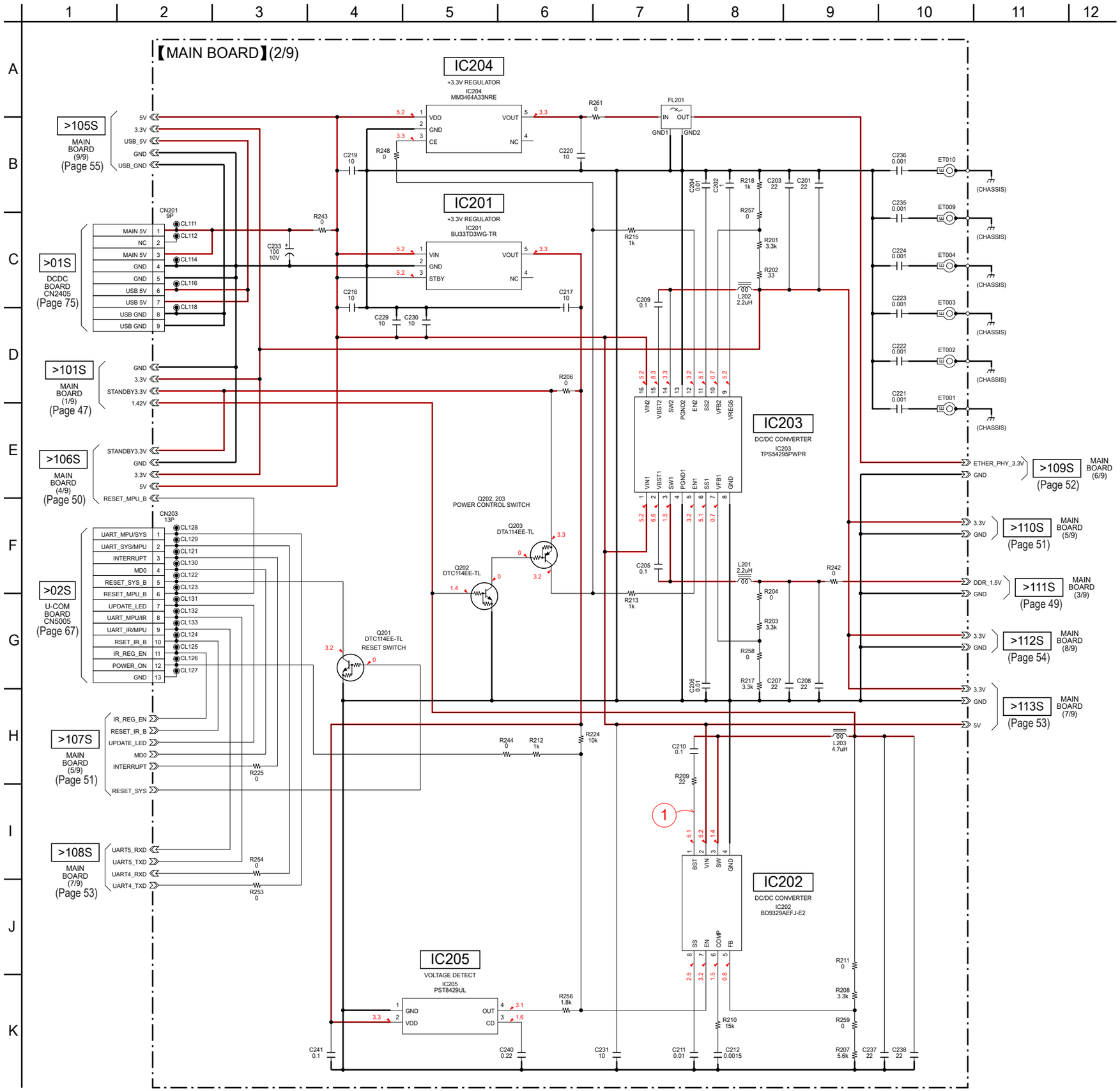
Note 4: When the hard disk drive (Ref. No. HDD1) is replaced, refer to "NOTE OF REPLACING THE HARD DISK DRIVE (Ref. No. HDD1)" on page 4.

5-7. SCHEMATIC DIAGRAM - MAIN Section (1/9) - • See page 86 for IC Pin Function Description.

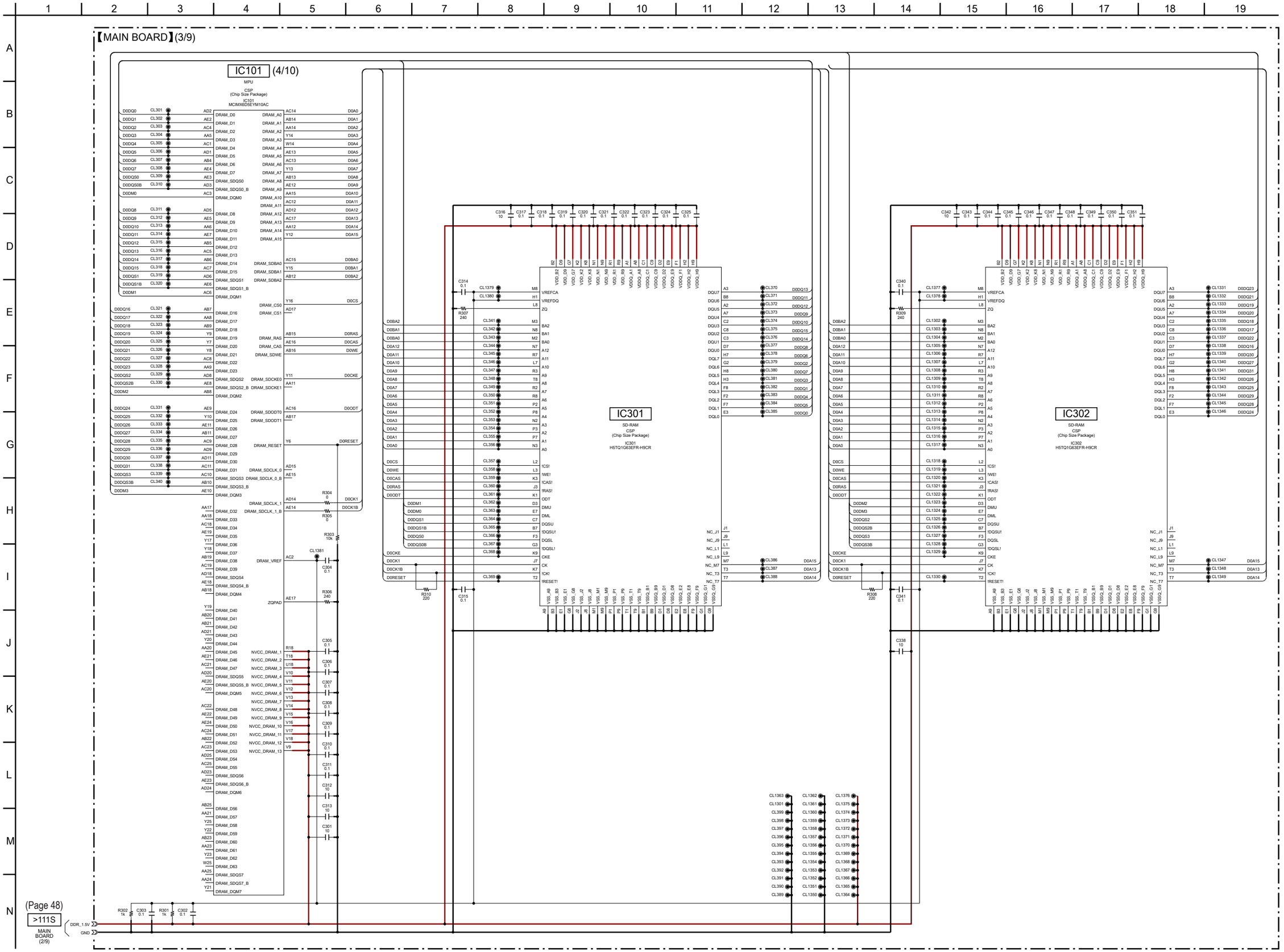


Note: IC101 on the MAIN board cannot exchange with single. When this part is damaged, exchange the complete mounted board.

5-8. SCHEMATIC DIAGRAM - MAIN Section (2/9) - • See page 73 for Waveforms. • See page 78 for IC Block Diagrams.

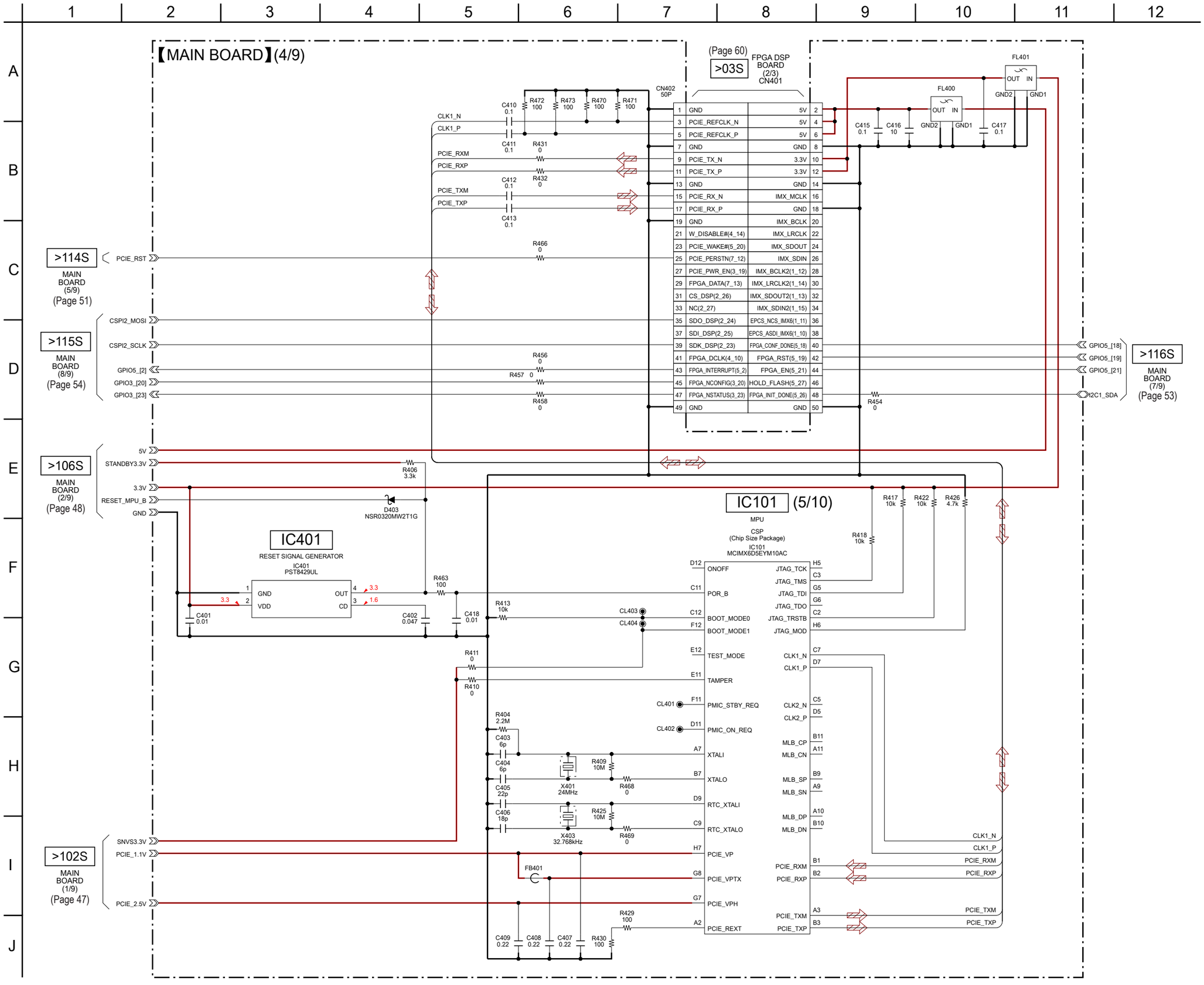


5-9. SCHEMATIC DIAGRAM - MAIN Section (3/9) - • See page 86 for IC Pin Function Description.



Note: IC101, IC301 and IC302 on the MAIN board cannot exchange with single. When these parts are damaged, exchange the complete mounted board.

5-10. SCHEMATIC DIAGRAM - MAIN Section (4/9) - See page 78 for IC Block Diagrams. • See page 86 for IC Pin Function Description.



Note: IC101 on the MAIN board cannot exchange with single. When this part is damaged, exchange the complete mounted board.

5-11. SCHEMATIC DIAGRAM - MAIN Section (5/9) - • See page 86 for IC Pin Function Description.

【MAIN BOARD】(5/9)

>110S
MAIN BOARD (2/9) (Page 48)

IC501
FLASH MEMORY
CSP (Chip Size Package)
IC501
KLM4G1FE3B-B001T03

(6/10)
IC101
MPU
CSP (Chip Size Package)
IC101
MCIMX6D5EYM10AC

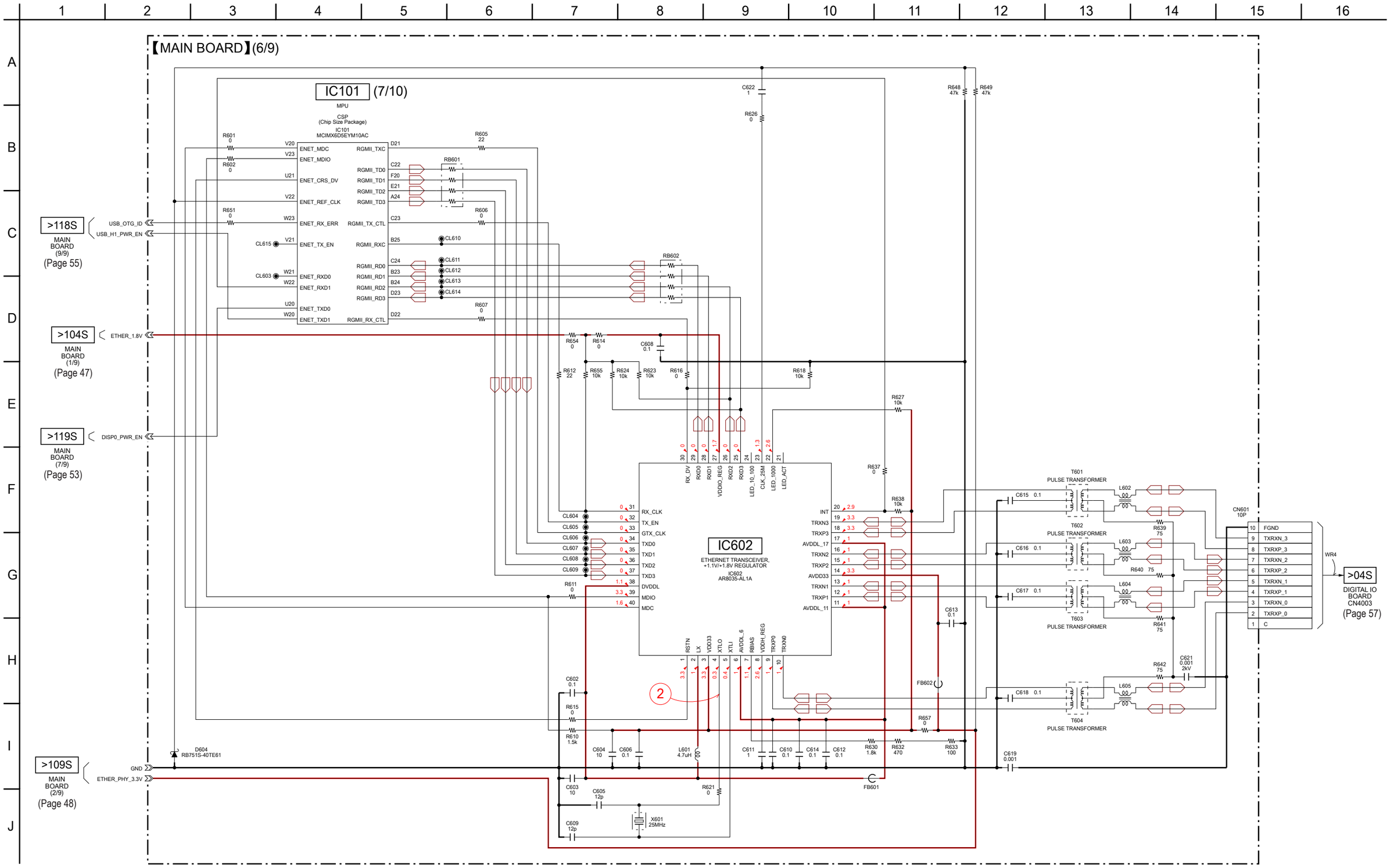
>117S
MAIN BOARD (7/9) (Page 53)

>114S
MAIN BOARD (4/9) (Page 50)

>107S
MAIN BOARD (2/9) (Page 48)

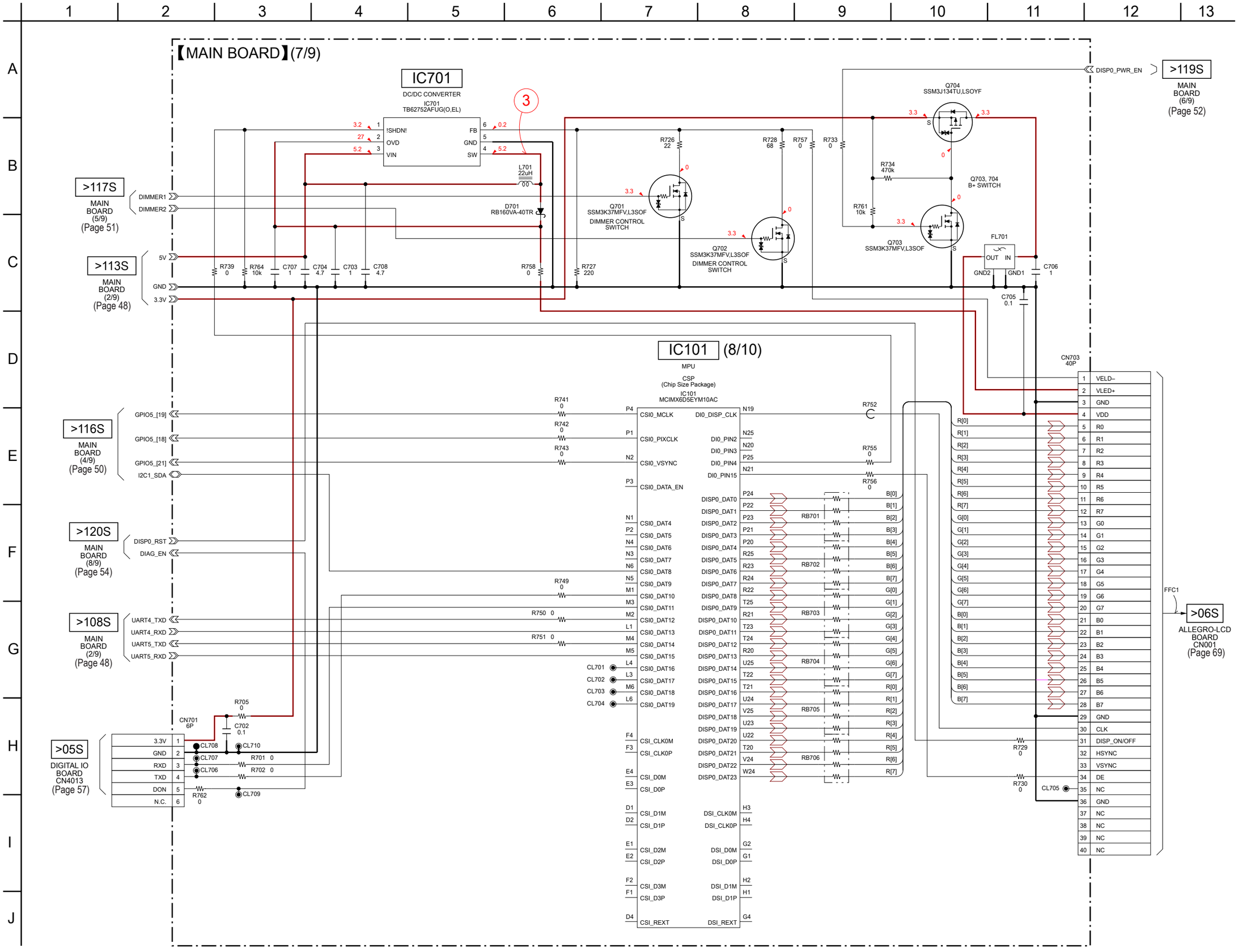
Note: IC101 and IC501 on the MAIN board cannot exchange with single. When these parts are damaged, exchange the complete mounted board.

5-12. SCHEMATIC DIAGRAM - MAIN Section (6/9) - • See page 73 for Waveforms. • See page 86 for IC Pin Function Description.



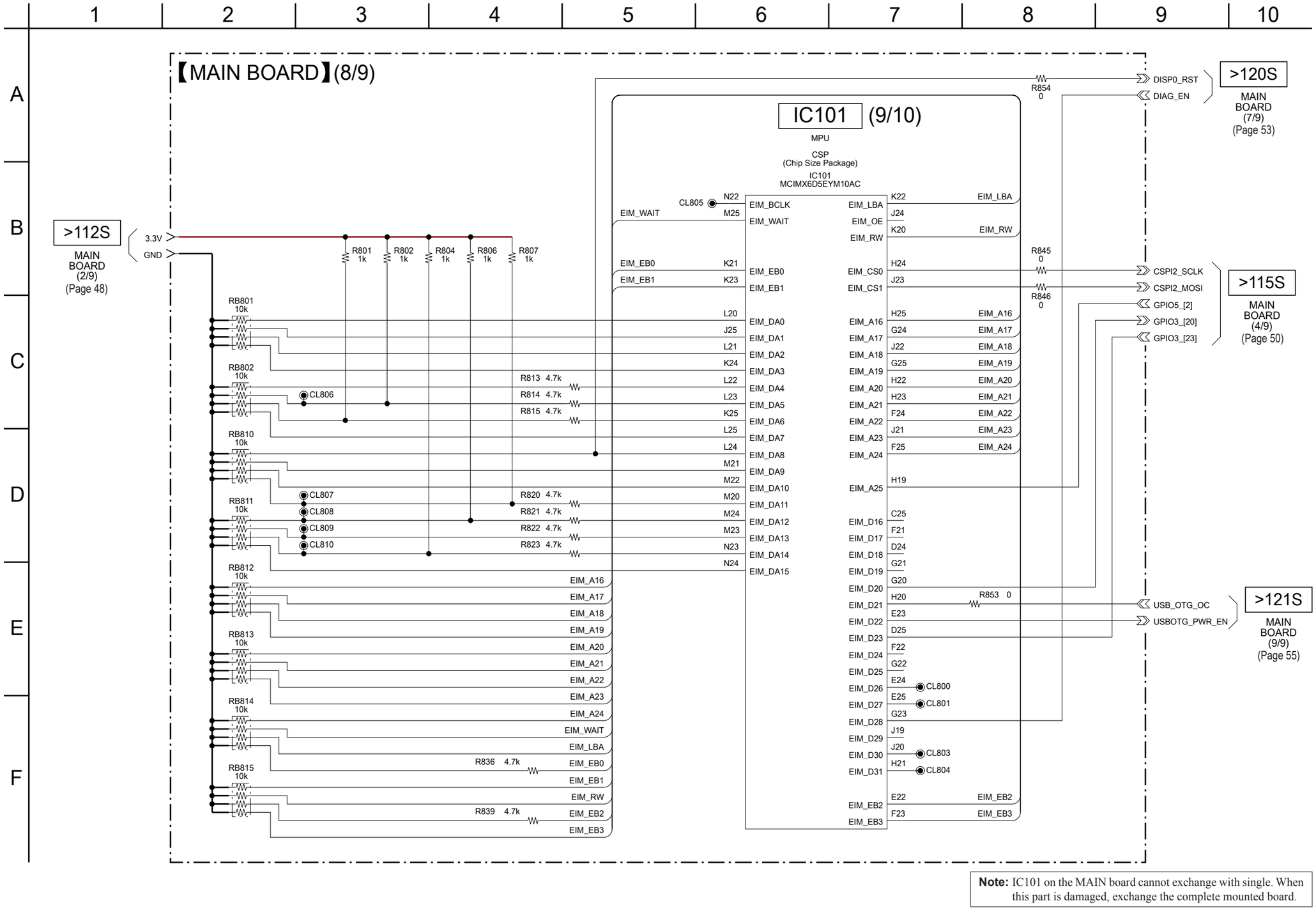
Note: IC101 and IC602 on the MAIN board cannot exchange with single. When these parts are damaged, exchange the complete mounted board.

5-13. SCHEMATIC DIAGRAM - MAIN Section (7/9) - • See page 73 for Waveforms. • See page 86 for IC Pin Function Description.



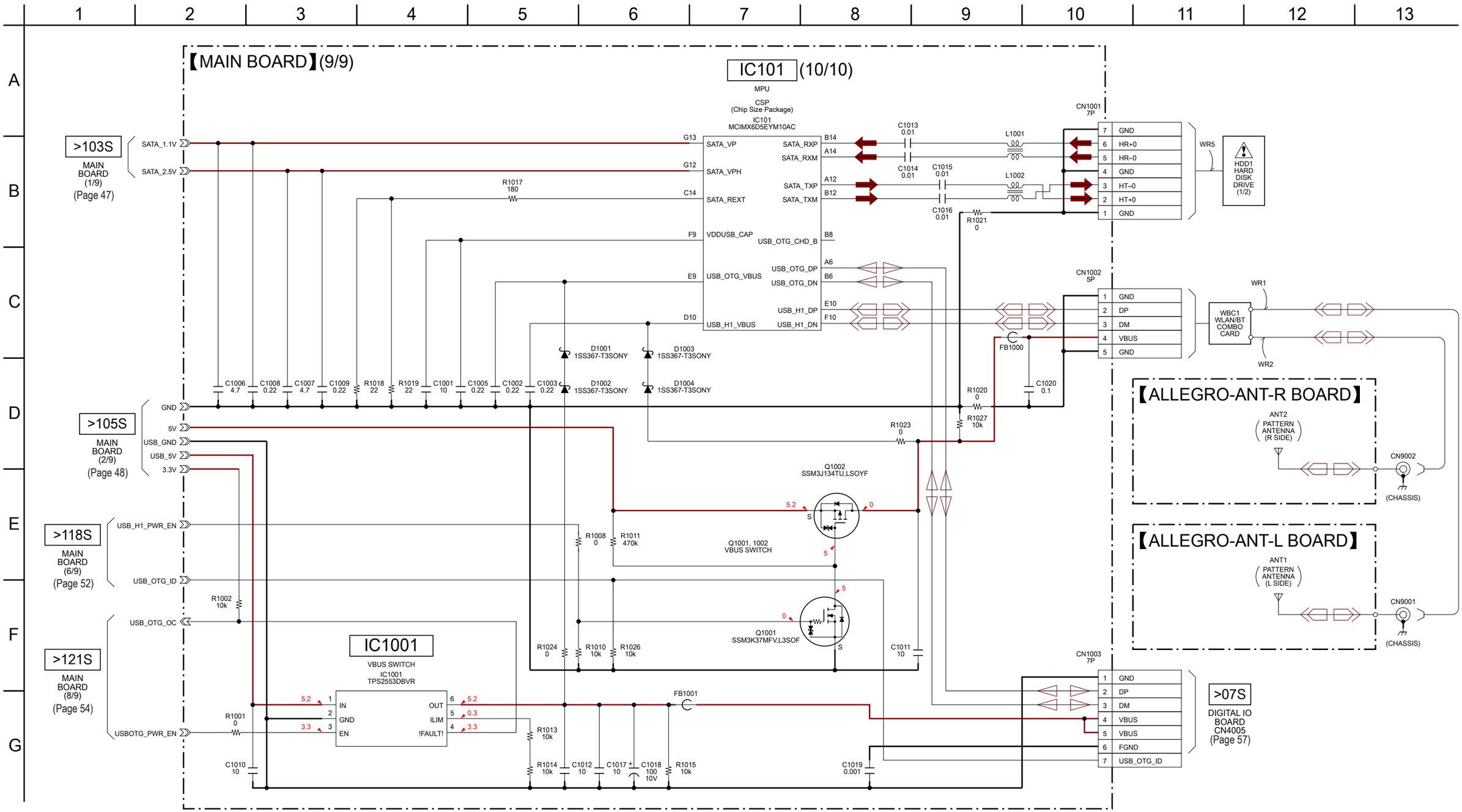
Note: IC101 on the MAIN board cannot exchange with single. When this part is damaged, exchange the complete mounted board.

5-14. SCHEMATIC DIAGRAM - MAIN Section (8/9) - • See page 86 for IC Pin Function Description.



Note: IC101 on the MAIN board cannot exchange with single. When this part is damaged, exchange the complete mounted board.

5-15. SCHEMATIC DIAGRAM - MAIN Section (9/9) - • See page 78 for IC Block Diagrams. • See page 86 for IC Pin Function Description.



Note 1: The ALLEGRO-ANT-L and ALLEGRO-ANT-R boards are not covered in the servicing.

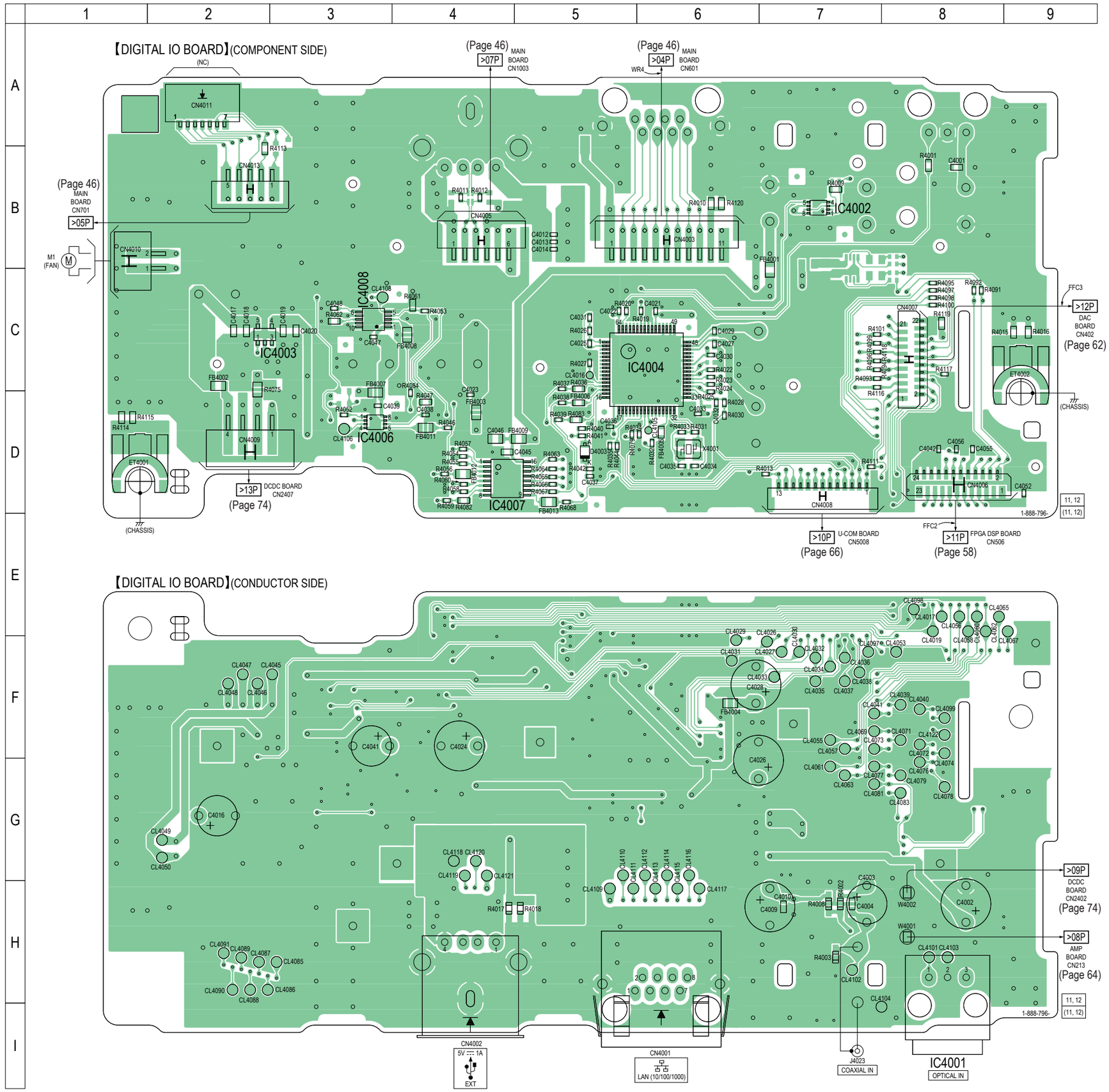
Note 2: IC101 on the MAIN board cannot exchange with single. When this part is damaged, exchange the complete mounted board.

Note 3: When the WLAN/BT COMBO card (Ref. No. WBC1) and coaxial (U.FL connector) cables (Ref. No. WR1, WR2) are replaced, refer to "CHECKING METHOD OF NETWORK CONNECTION" on page 5.

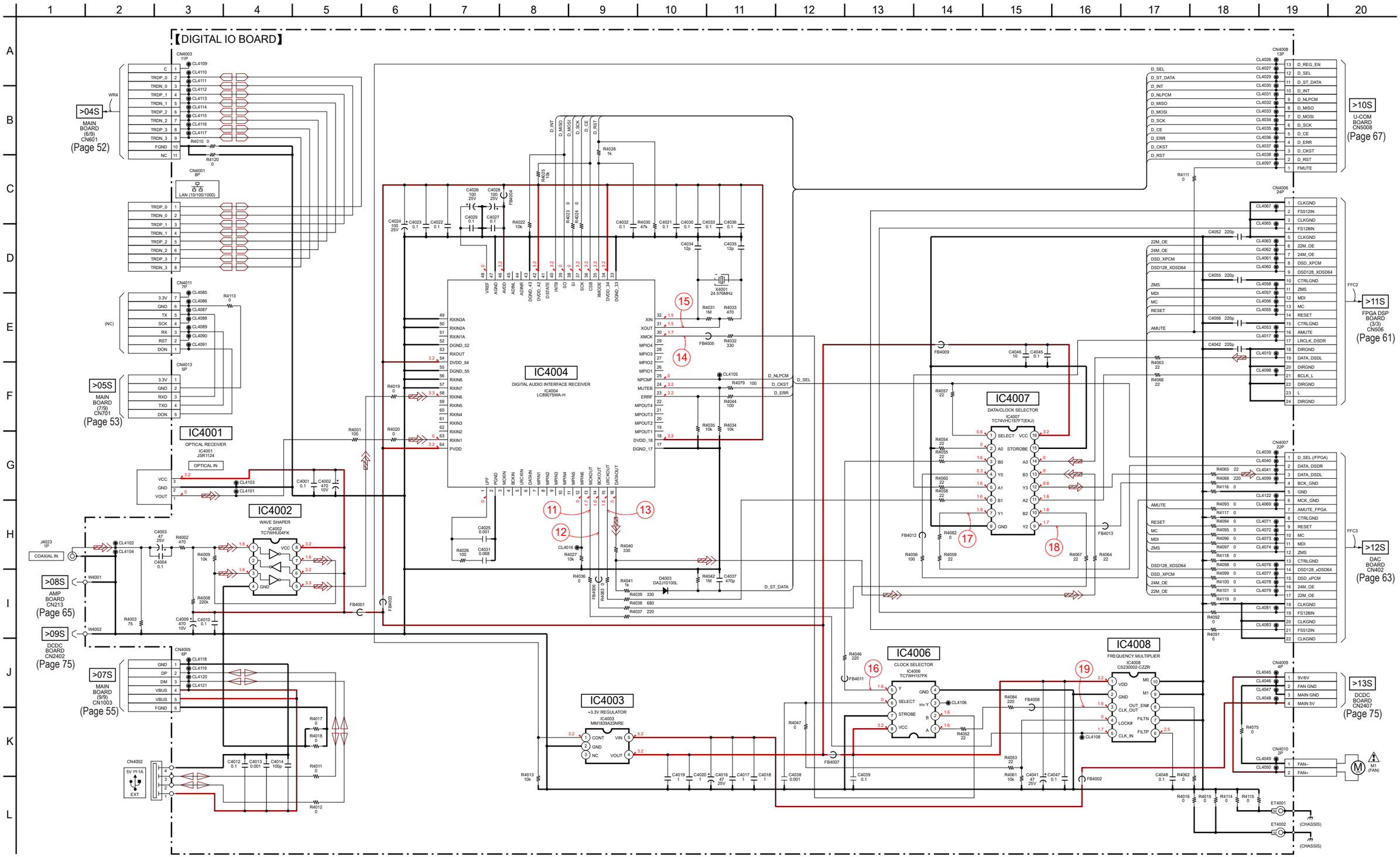
Note 4: When the hard disk drive (Ref. No. HDD1) is replaced, refer to "NOTE OF REPLACING THE HARD DISK DRIVE (Ref. No. HDD1)" on page 4.

5-16. PRINTED WIRING BOARD - DIGITAL IO Board -

• See page 45 for Circuit Boards Location. • : Uses unleaded solder.



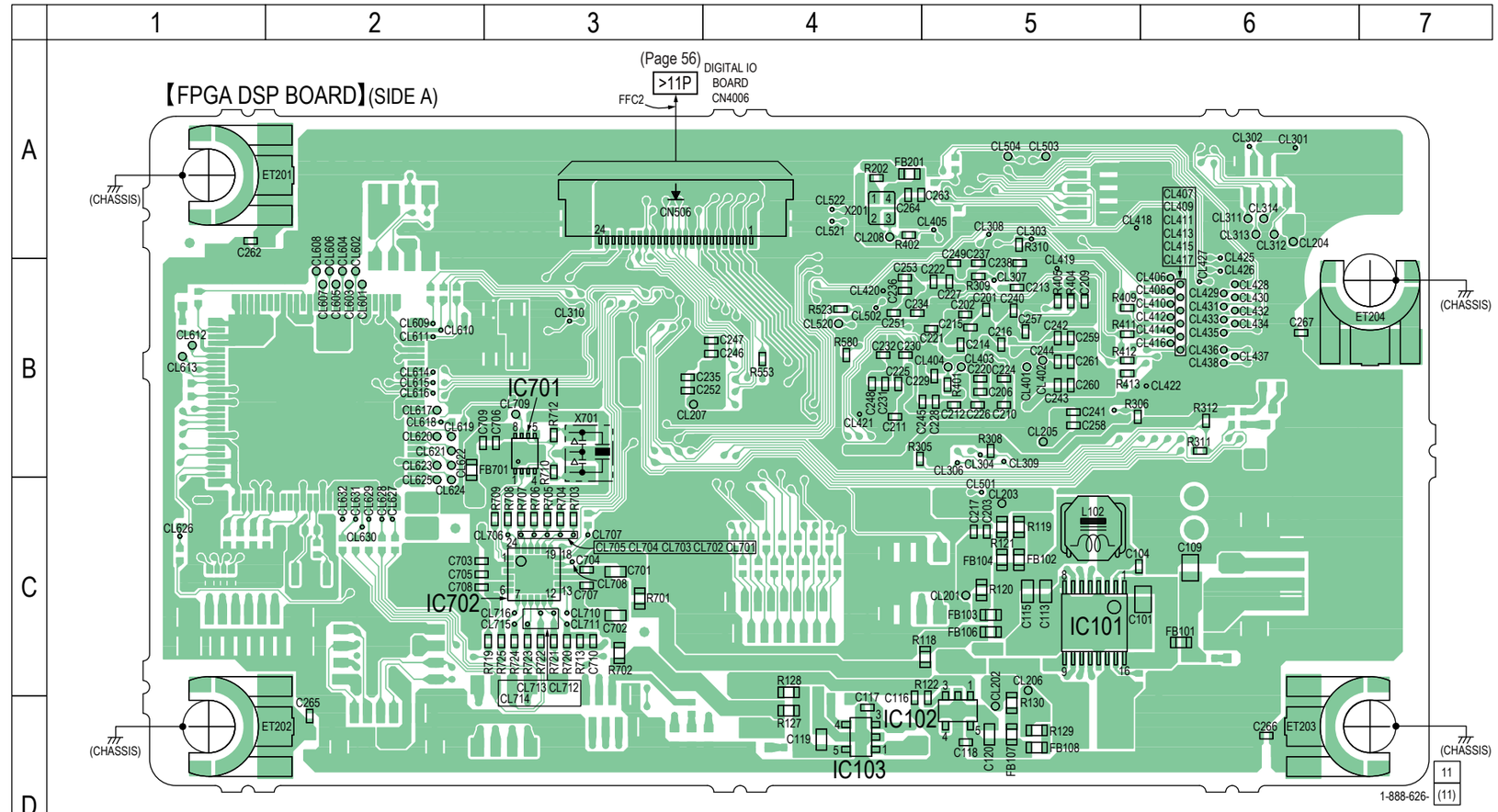
5-17. SCHEMATIC DIAGRAM - DIGITAL IO Board - • See page 73 for Waveforms. • See page 78 for IC Block Diagrams.



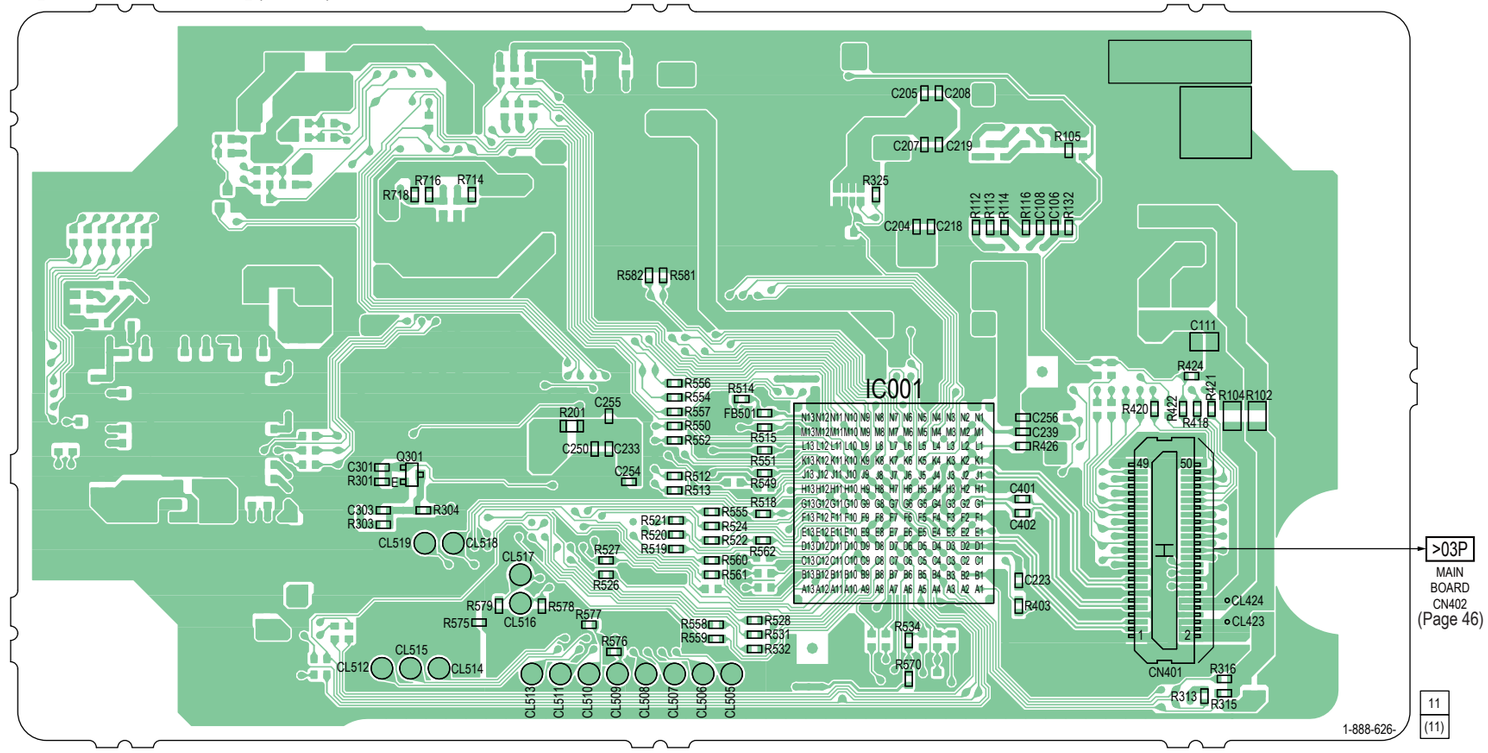
5-18. PRINTED WIRING BOARD - FPGA DSP Board -

• See page 45 for Circuit Boards Location. • : Uses unleaded solder.

【FPGA DSP BOARD】(SIDE A)

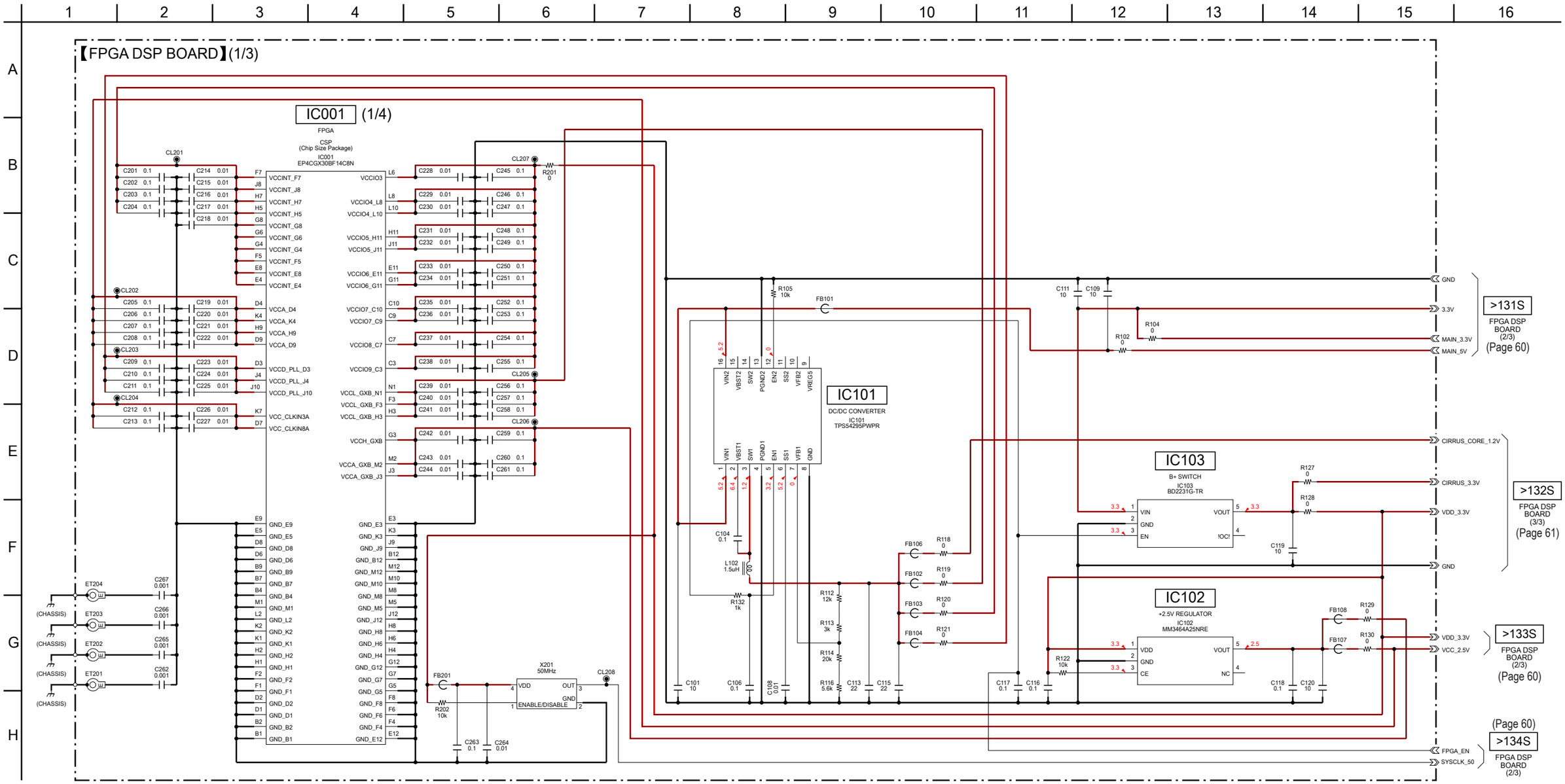


【FPGA DSP BOARD】(SIDE B)



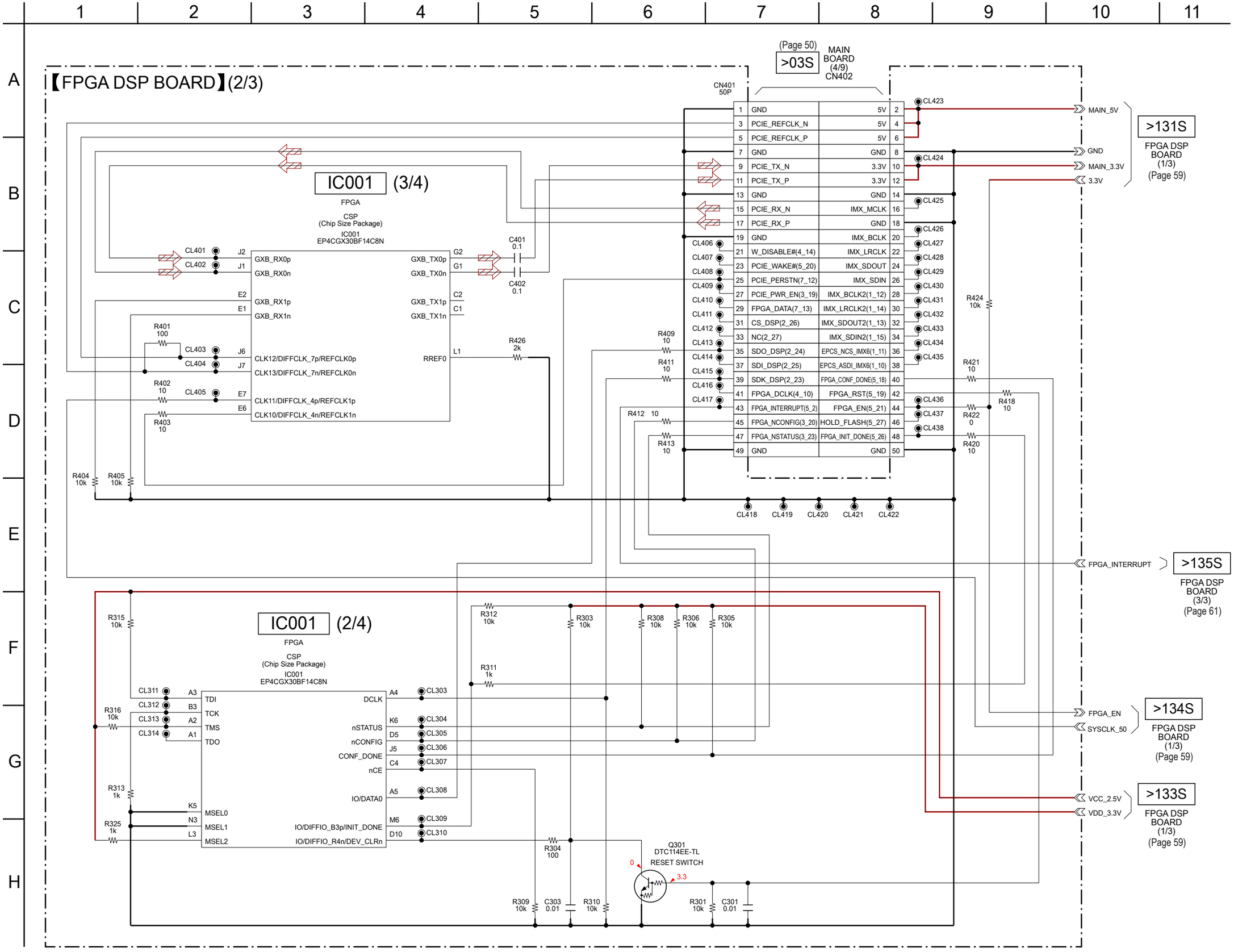
Note: IC001 and IC702 on the FPGA DSP board cannot exchange with single. When these parts are damaged, exchange the complete mounted board.

5-19. SCHEMATIC DIAGRAM - FPGA DSP Board (1/3) - • See page 78 for IC Block Diagrams. • See page 86 for IC Pin Function Description.



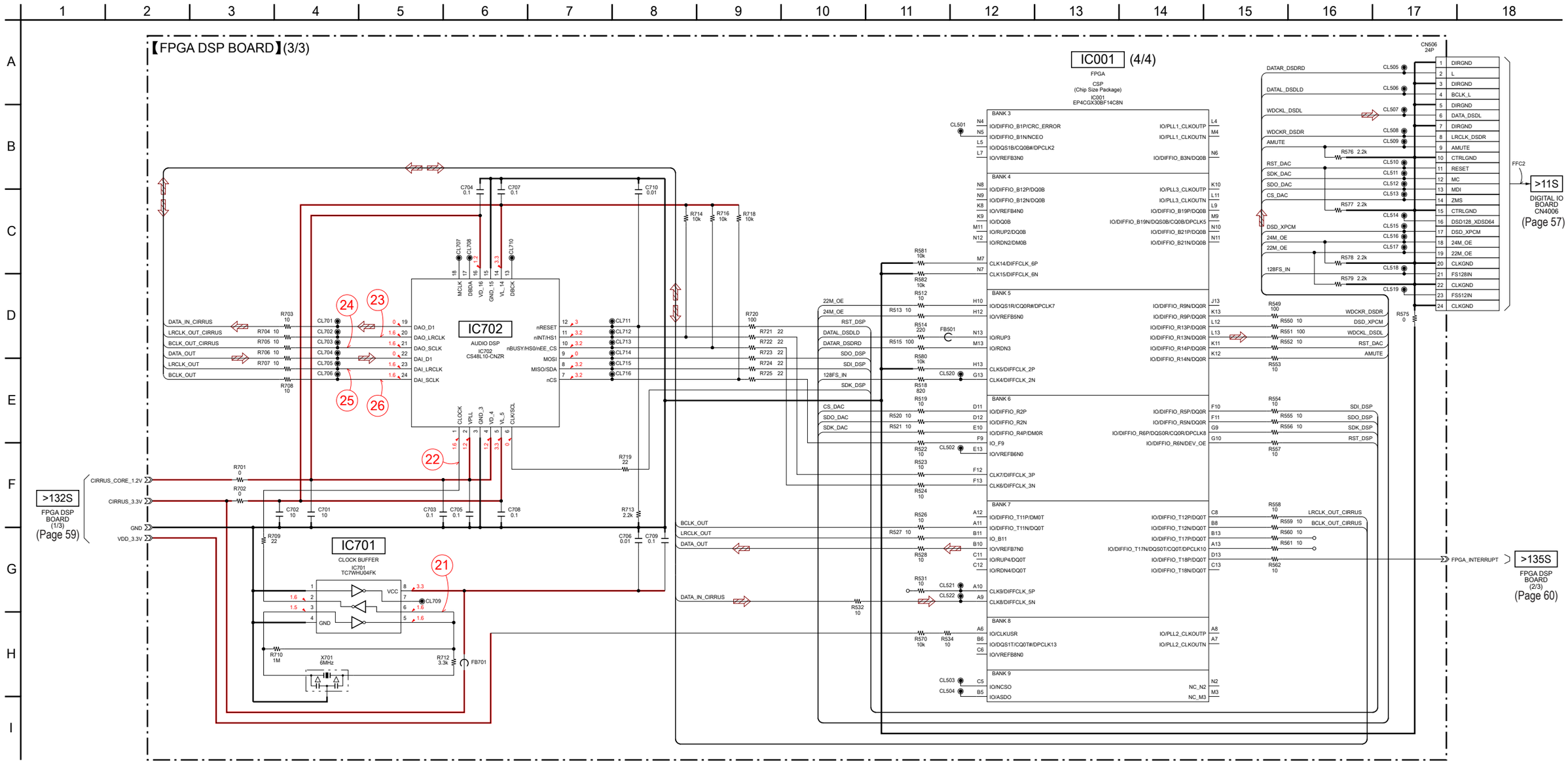
Note: IC001 on the FPGA DSP board cannot exchange with single. When this part is damaged, exchange the complete mounted board.

5-20. SCHEMATIC DIAGRAM - FPGA DSP Board (2/3) - • See page 86 for IC Pin Function Description.



Note: IC001 on the FPGA DSP board cannot exchange with single. When this part is damaged, exchange the complete mounted board.

5-21. SCHEMATIC DIAGRAM - FPGA DSP Board (3/3) - • See page 73 for Waveforms. • See page 86 for IC Pin Function Description.

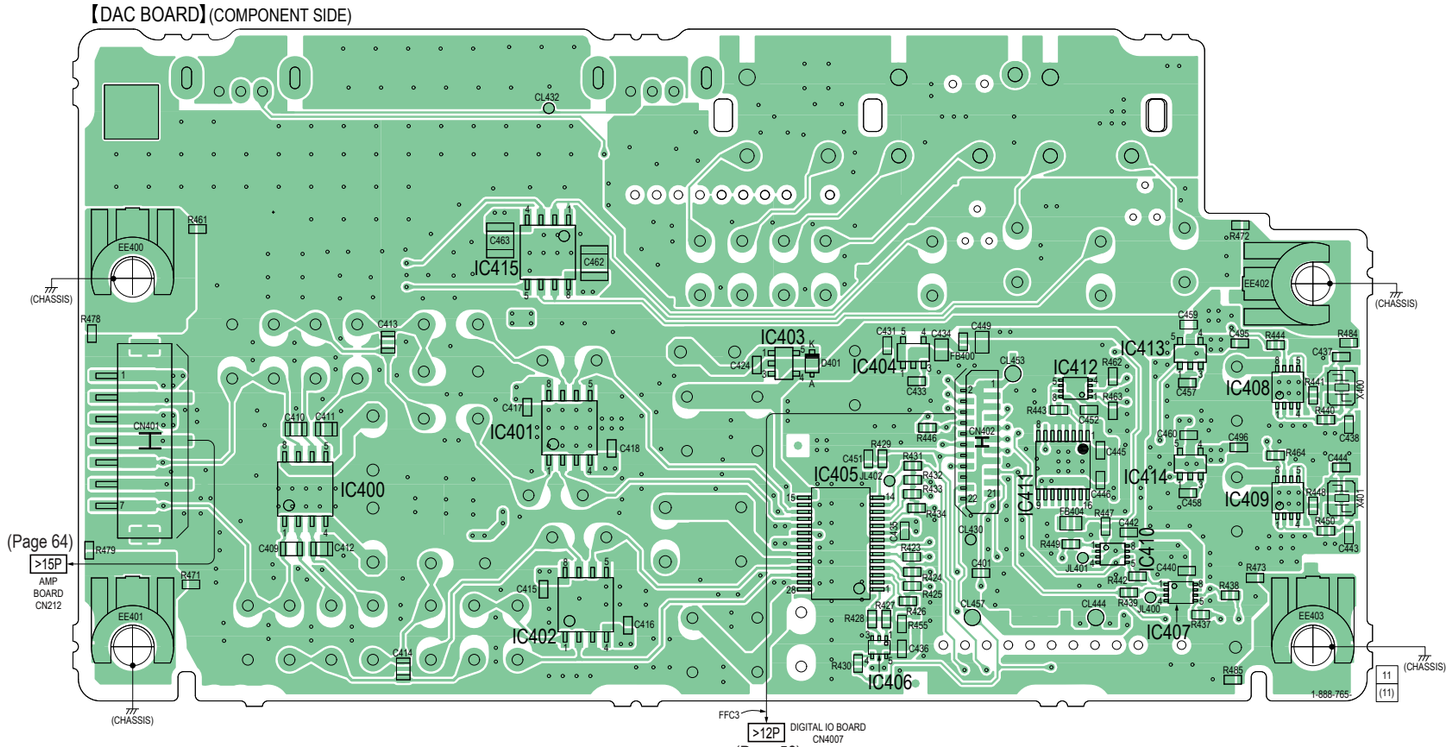


Note: IC001 and IC702 on the FPGA DSP board cannot exchange with single. When these parts are damaged, exchange the complete mounted board.

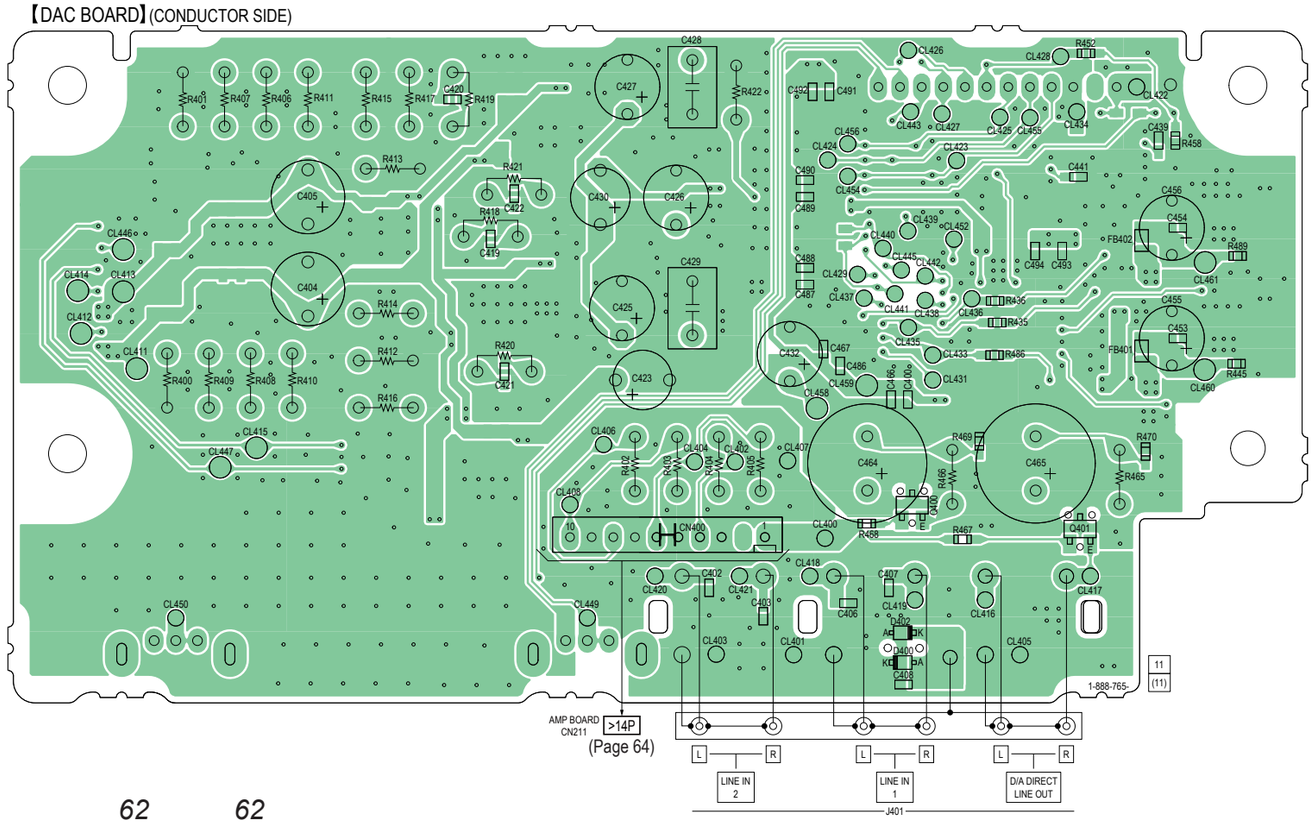
5-22. PRINTED WIRING BOARD - DAC Board -

• See page 45 for Circuit Boards Location. • : Uses unleaded solder.

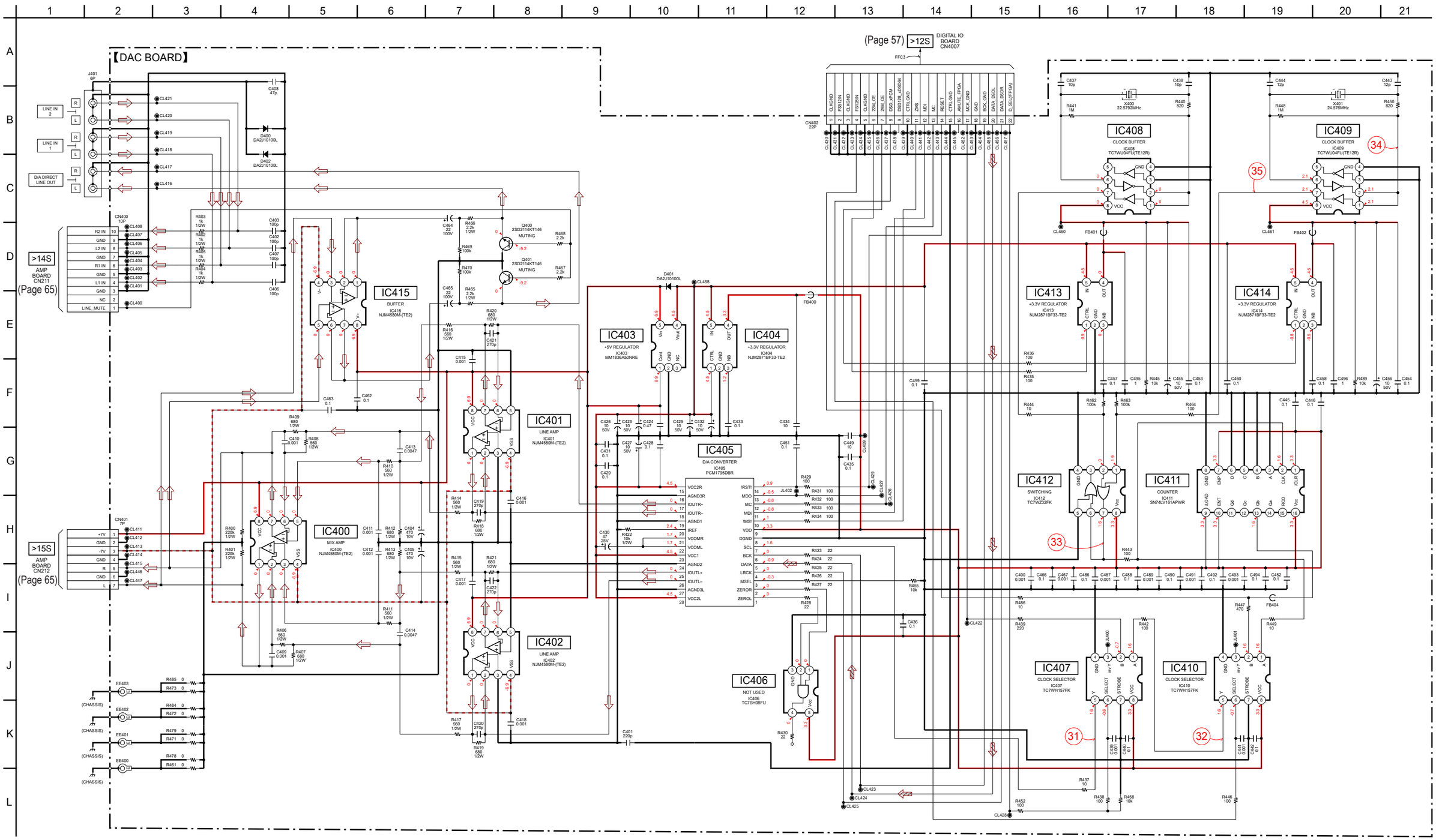
【DAC BOARD】(COMPONENT SIDE)



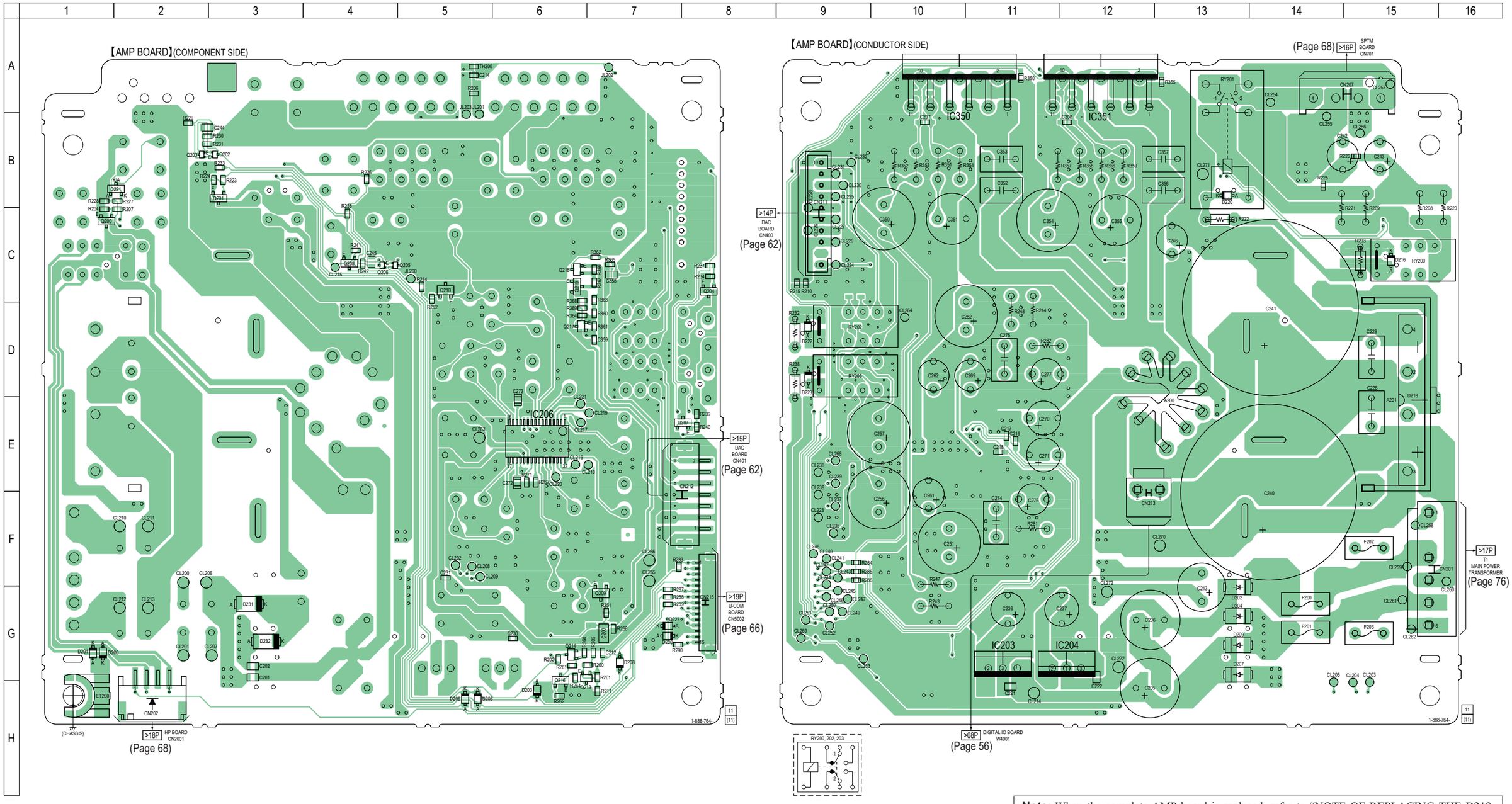
【DAC BOARD】(CONDUCTOR SIDE)



5-23. SCHEMATIC DIAGRAM - DAC Board - • See page 73 for Waveforms. • See page 78 for IC Block Diagrams.

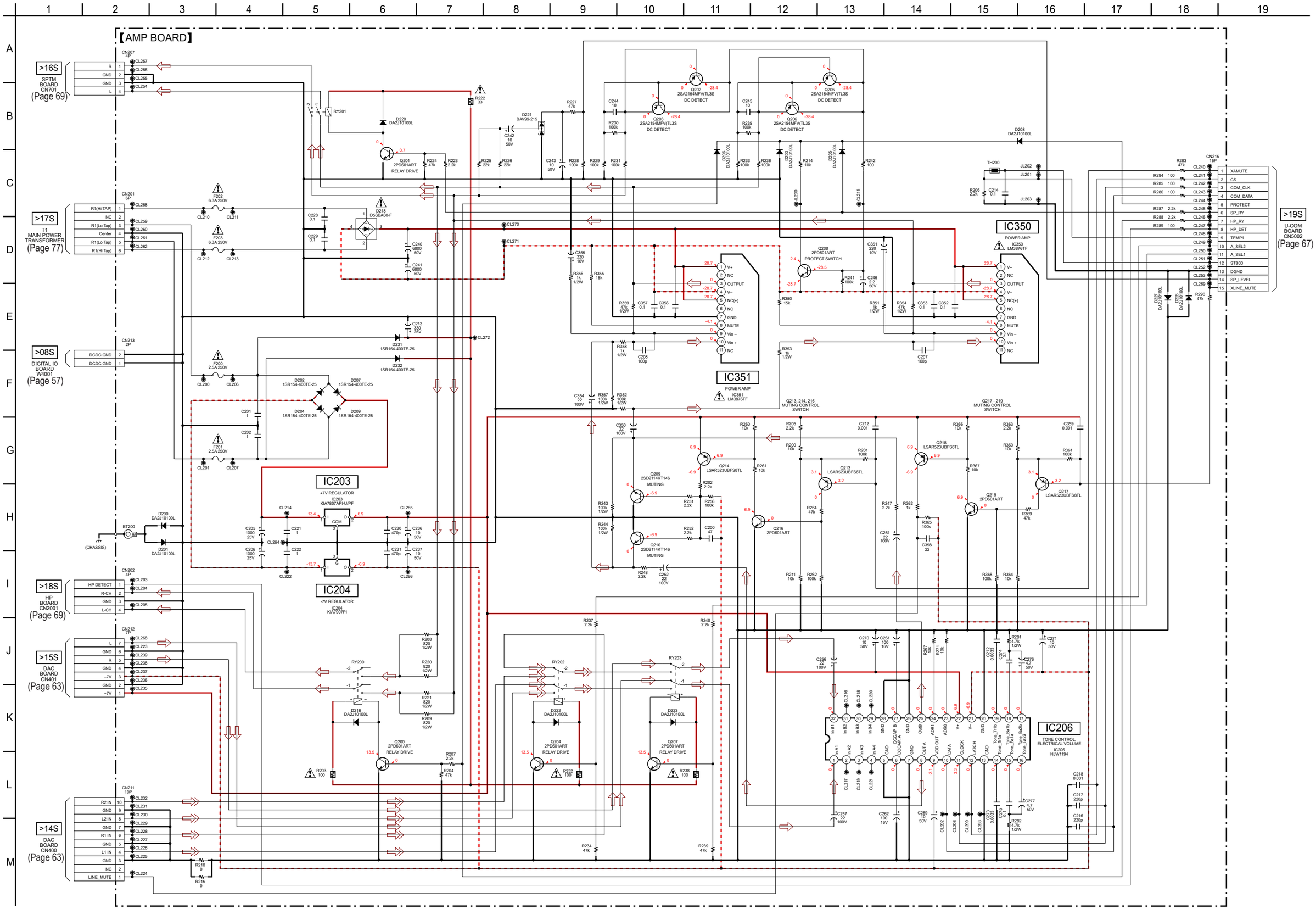


5-24. PRINTED WIRING BOARD - AMP Board - • See page 45 for Circuit Boards Location. • : Uses unleaded solder.



Note: When the complete AMP board is replaced, refer to "NOTE OF REPLACING THE D218, IC350 AND IC351 ON THE AMP BOARD AND THE COMPLETE AMP BOARD" on page 4.

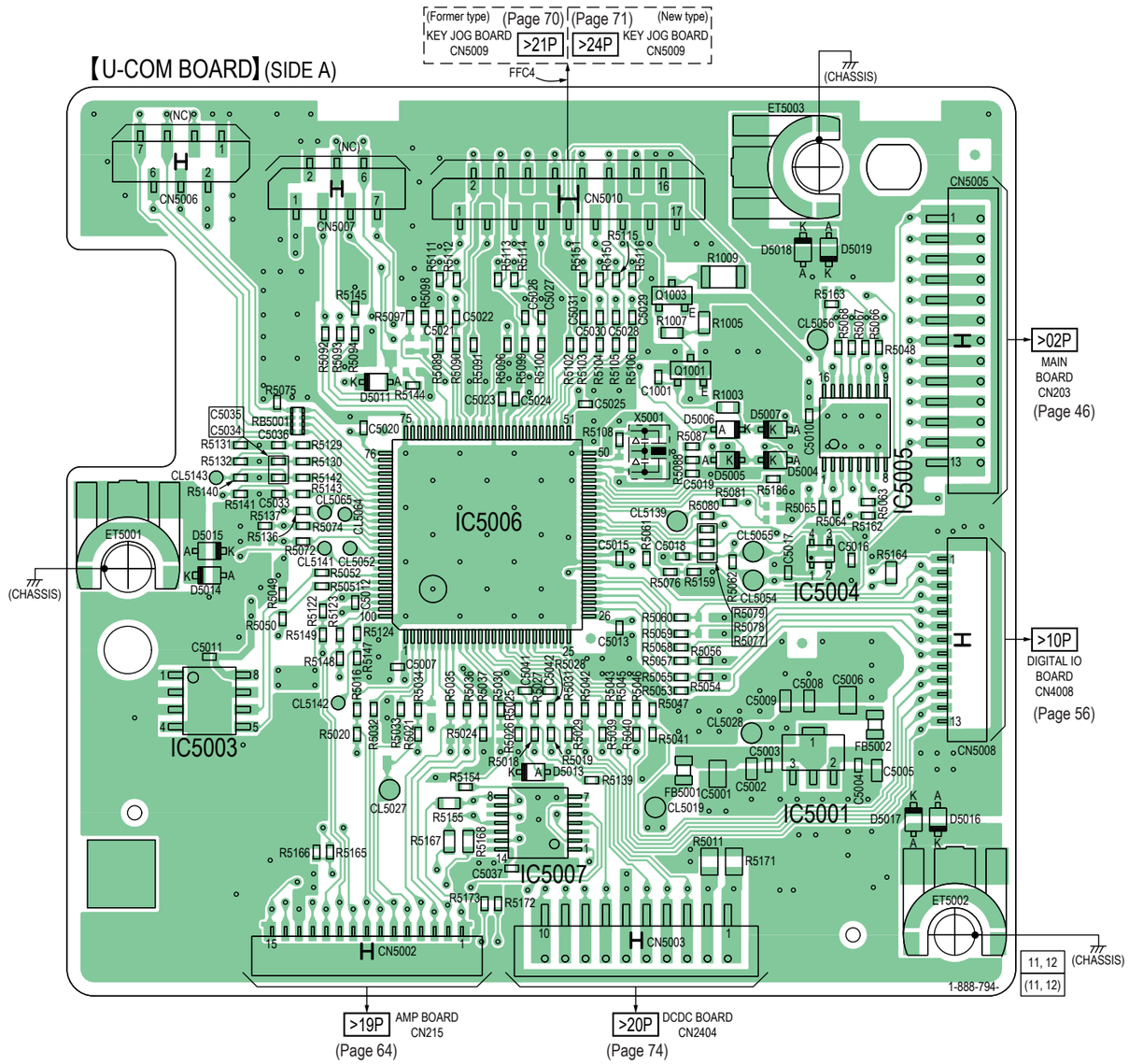
5-25. SCHEMATIC DIAGRAM - AMP Board - • See page 78 for IC Block Diagrams.



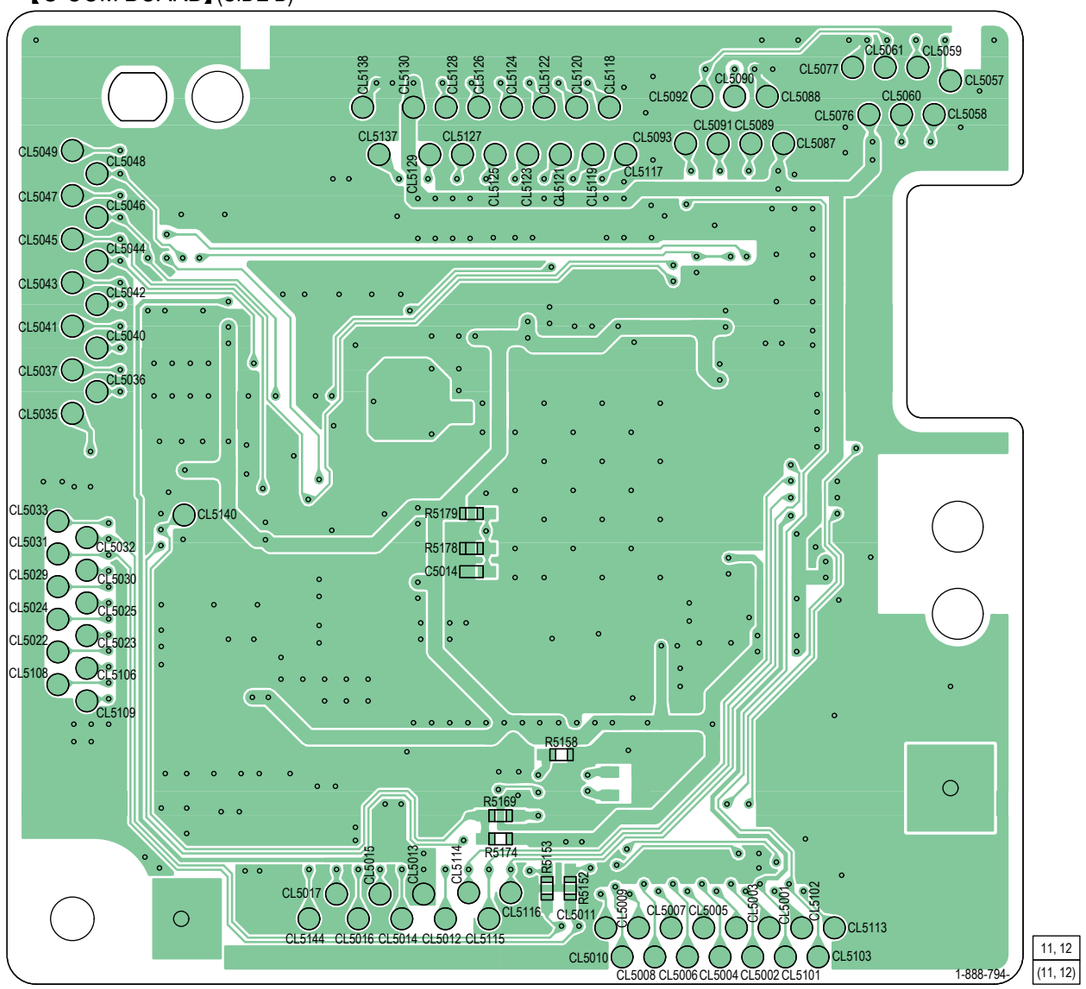
Note: When the complete AMP board is replaced, refer to "NOTE OF REPLACING THE D218, IC350 AND IC351 ON THE AMP BOARD AND THE COMPLETE AMP BOARD" on page 4.

5-26. PRINTED WIRING BOARD - U-COM Board - • See page 45 for Circuit Boards Location. • : Uses unleaded solder.

【U-COM BOARD】(SIDE A)

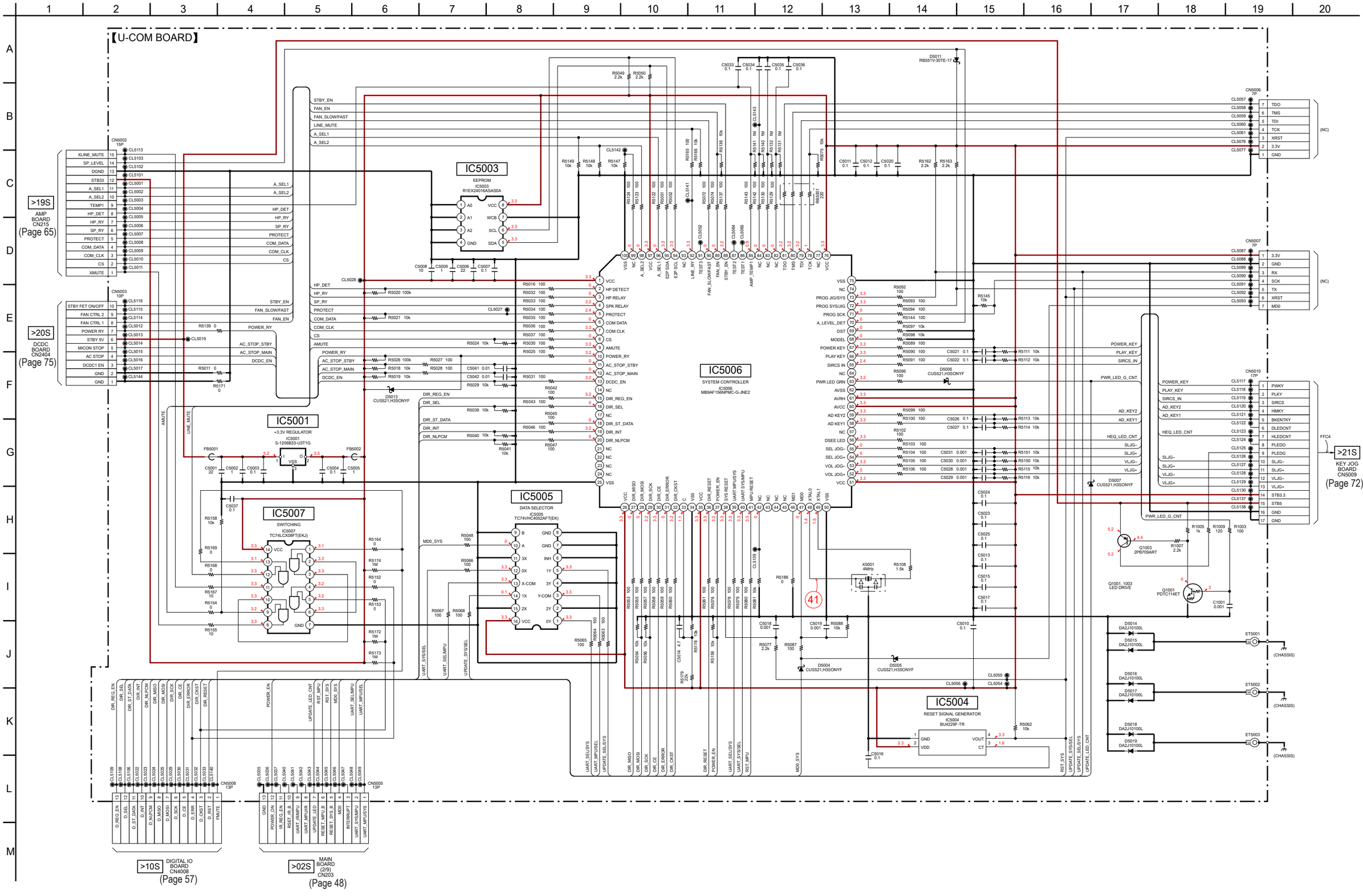


【U-COM BOARD】(SIDE B)



Note: Refer to the "KEY JOG AND POWER KEY BOARDS DISCRIMINATION" on page 71 for how to distinguish Former type and New type of KEY JOG and POWER KEY boards.

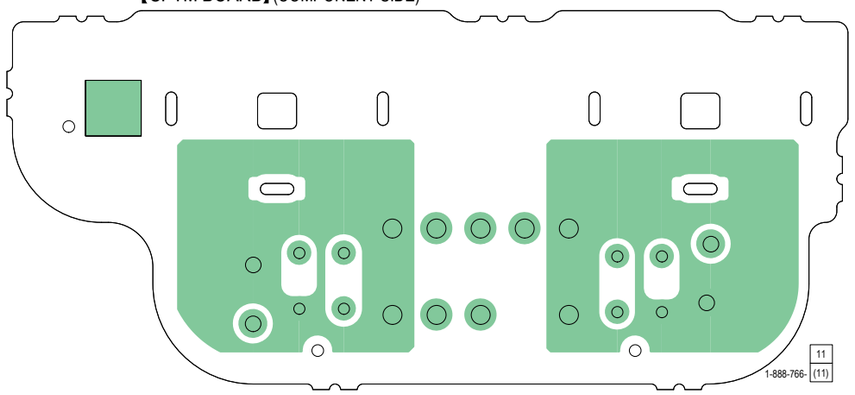
5-27. SCHEMATIC DIAGRAM - U-COM Board - • See page 73 for Waveforms. • See page 78 for IC Block Diagrams. • See page 86 for IC Pin Function Description.



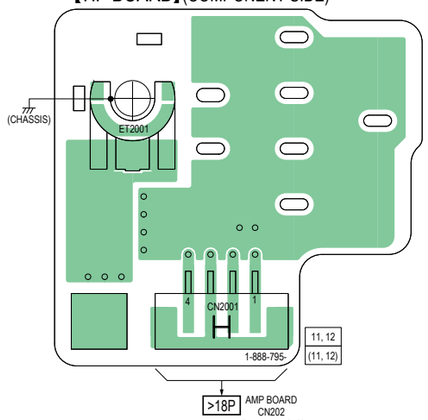
5-28. PRINTED WIRING BOARDS - OUTPUT/LCD Section -

• See page 45 for Circuit Boards Location. • : Uses unleaded solder.

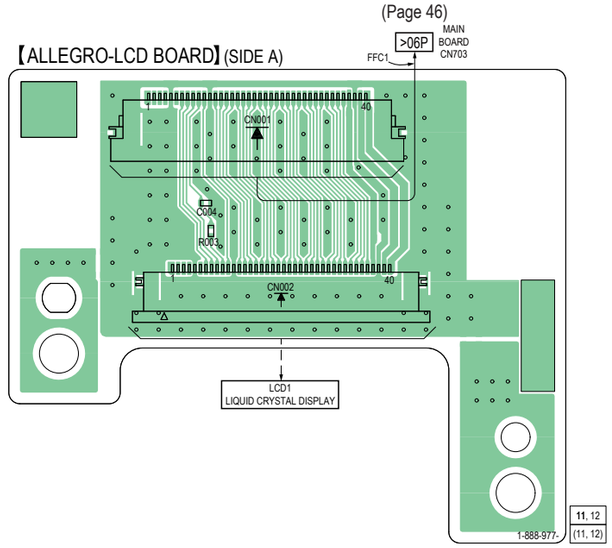
【SPTM BOARD】(COMPONENT SIDE)



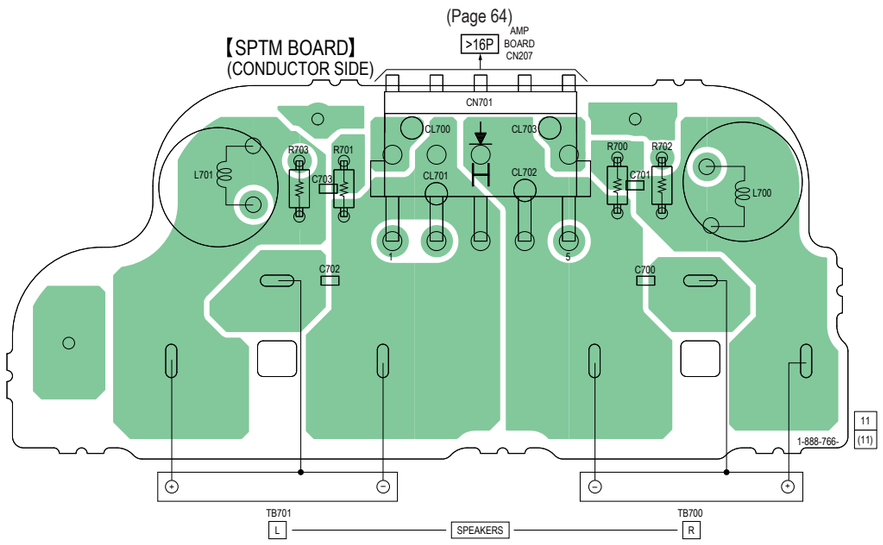
【HP BOARD】(COMPONENT SIDE)



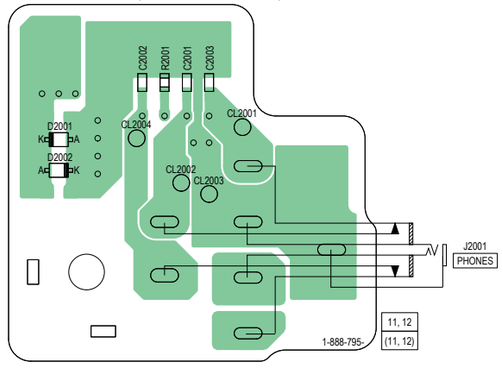
【ALLEGRO-LCD BOARD】(SIDE A)



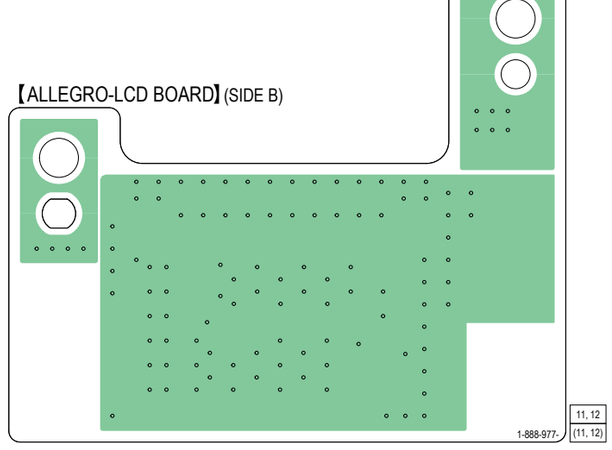
【SPTM BOARD】(CONDUCTOR SIDE)



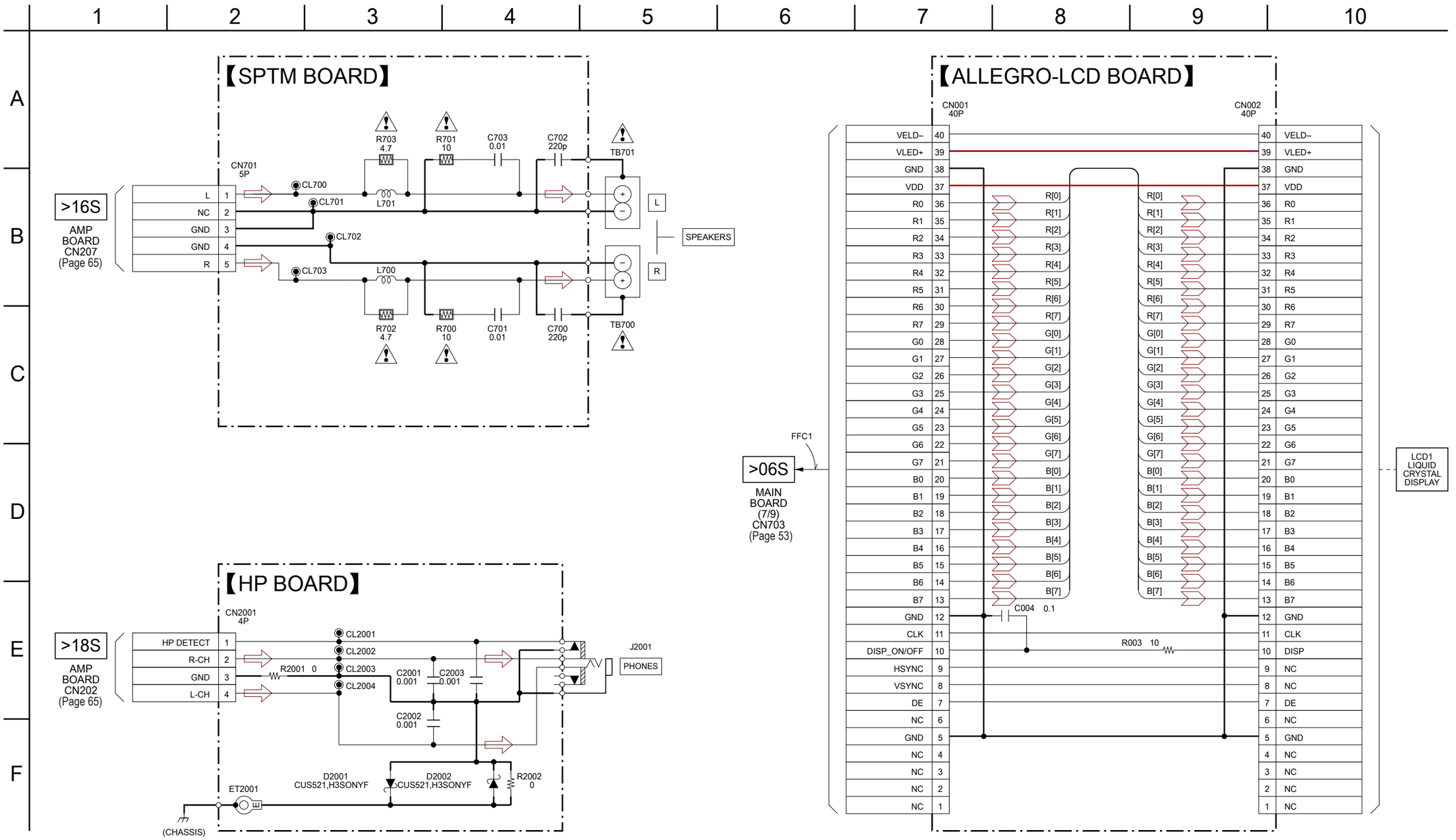
【HP BOARD】(CONDUCTOR SIDE)



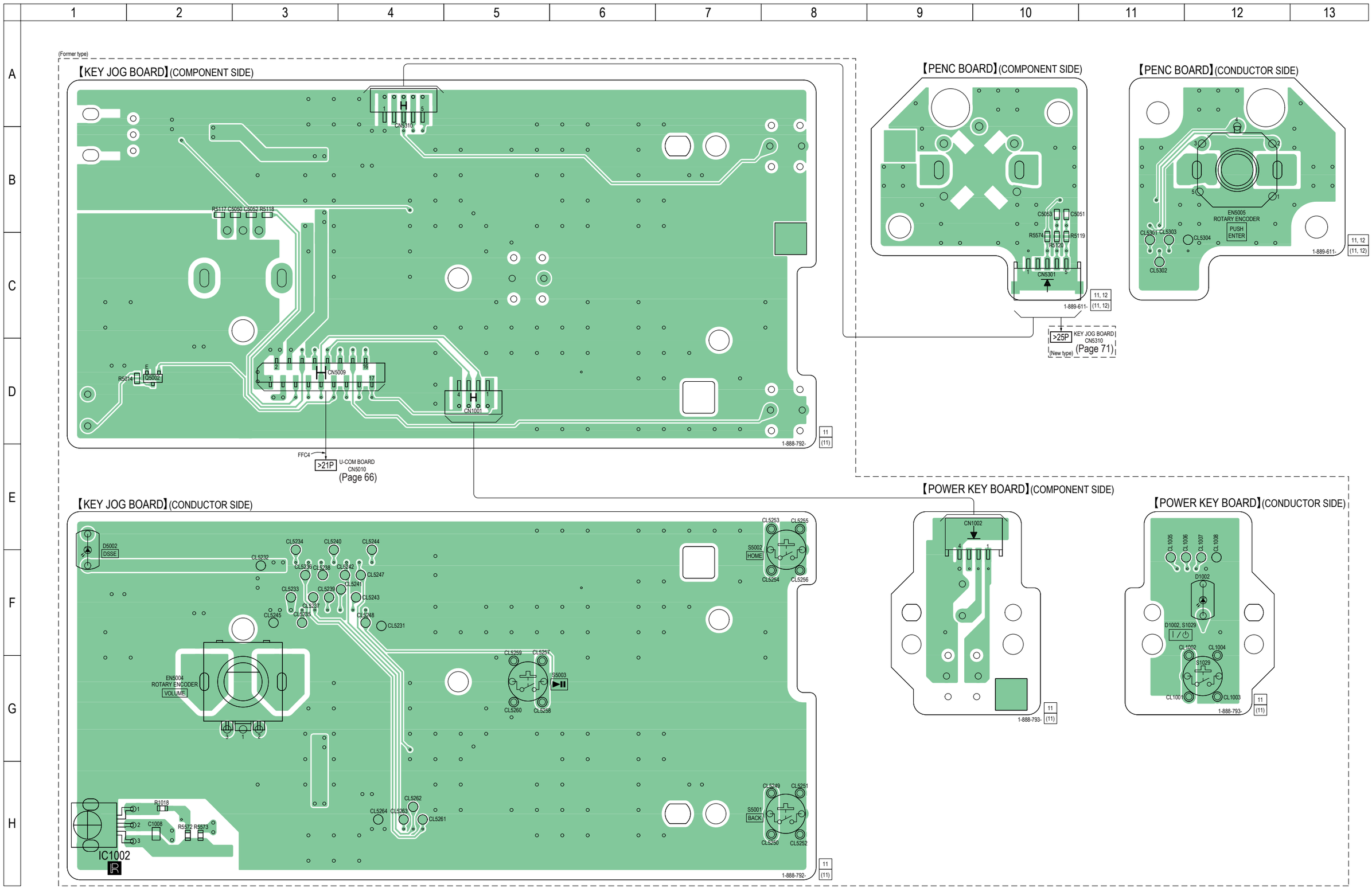
【ALLEGRO-LCD BOARD】(SIDE B)



5-29. SCHEMATIC DIAGRAM - OUTPUT/LCD Section -



5-30. PRINTED WIRING BOARDS - KEY Section (1/2) - • See page 45 for Circuit Boards Location. • : Uses unleaded solder.



Note: Refer to the "KEY JOG AND POWER KEY BOARDS DISCRIMINATION" on page 71 for how to distinguish Former type and New type of KEY JOG and POWER KEY boards.

5-31. PRINTED WIRING BOARDS - KEY Section (2/2) -

• See page 45 for Circuit Boards Location. • : Uses unleaded solder.

(New type)

【KEY JOG BOARD】(COMPONENT SIDE)

(Page 70)

>25P PENC BOARD CN5301

CN5310

R5117 C5050 C5052 R5118

R5014 Q5002

CN5009

CN1001

FFC4

>24P U-COM BOARD CN5010

(Page 66)

1-888-792-

12 (12)

【KEY JOG BOARD】(CONDUCTOR SIDE)

D5002 DSSE

CL5234 CL5240 CL5244 CL5232 CL5235 CL5238 CL5242 CL5247 CL5233 CL5239 CL5241 CL5243 CL5237 CL5245 CL5236 CL5248 CL5231

EN5004 ROTARY ENCODER VOLUME

S5003

S5002 HOME

S6001 BACK

R1018 C1008 R5572 R5573

IC1002

CL5262 CL5264 CL5263 CL5261

1-888-792-

12 (12)

KEY JOG AND POWER KEY BOARDS DISCRIMINATION

In this unit, the KEY JOG and POWER KEY boards have been changed in the midway of production. Repair after distinguishing each type unit to doing the repair referring to the following.

– KEY JOG Board (Component Side) –

Former : 1-888-792-11
New : 1-888-792-12

– POWER KEY Board (Component Side) –

Former : 1-888-793-11
New : 1-888-793-12

【POWER KEY BOARD】(COMPONENT SIDE)

CN1002

1-888-793-

12 (12)

【POWER KEY BOARD】(CONDUCTOR SIDE)

CL1005 CL1006 CL1007 CL1008

D1002

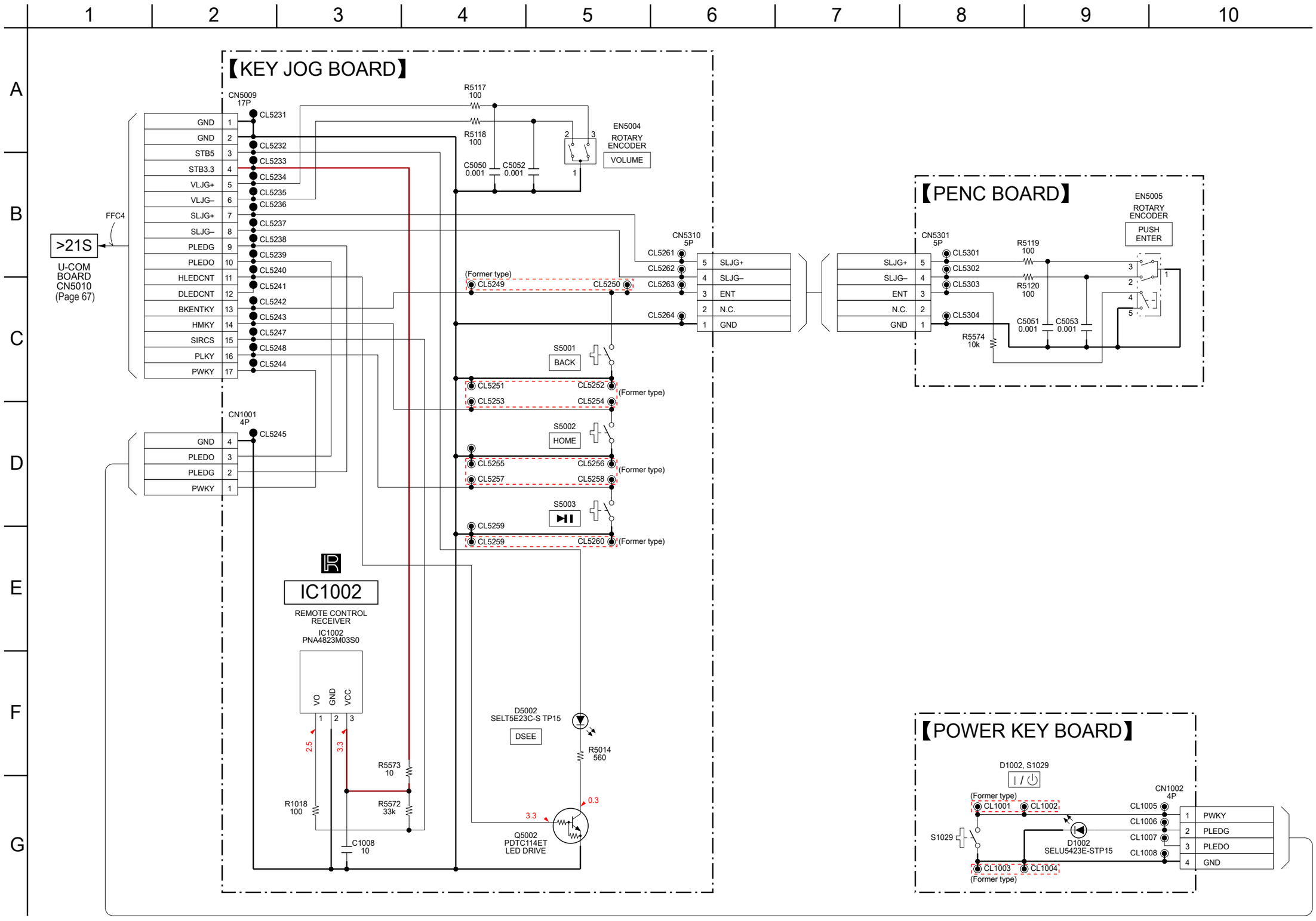
D1002, S1029

S1029

1-888-793-

12 (12)

5-32. SCHEMATIC DIAGRAM - KEY Section -

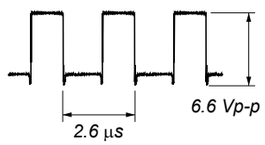


Note: Refer to the "KEY JOG AND POWER KEY BOARDS DISCRIMINATION" on page 71 for how to distinguish Former type and New type of KEY JOG and POWER KEY boards.

• **Waveforms**

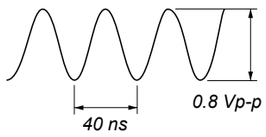
– MAIN Board –

① IC202 ① (BST)



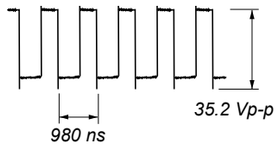
2 V/DIV, 1 µs/DIV

② IC602 ④ (XTLO)



500 mV/DIV, 10 ns/DIV

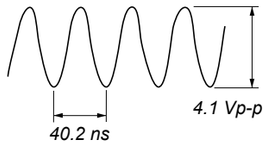
③ IC701 ④ (SW)



10 V/DIV, 500 ns/DIV

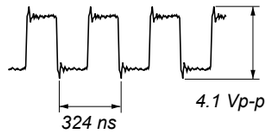
– DIGITAL IO Board –

⑪ IC4004 ⑬ (MCKOUT)



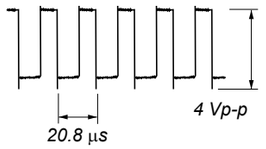
2 V/DIV, 20 ns/DIV

⑫ IC4004 ⑭ (BCKOUT)



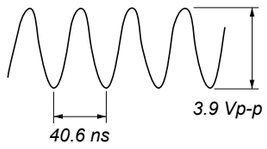
2 V/DIV, 100 ns/DIV

⑬ IC4004 ⑮ (LRCKOUT)



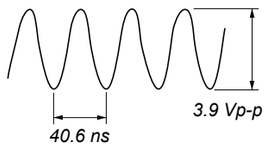
2 V/DIV, 10 µs/DIV

⑭ IC4004 ㉚ (XMCK)



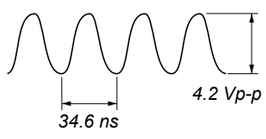
2 V/DIV, 20 ns/DIV

⑮ IC4004 ㉛ (XOUT)



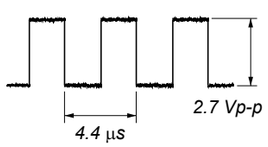
2 V/DIV, 20 ns/DIV

⑯ IC4006 ⑤ (Y)



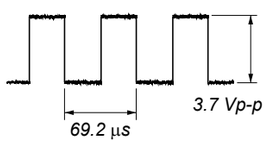
2 V/DIV, 20 ns/DIV

⑰ IC4007 ⑦ (Y1)



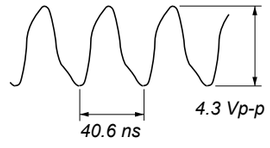
2 V/DIV, 2 µs/DIV

⑱ IC4007 ⑨ (Y2)



2 V/DIV, 20 µs/DIV

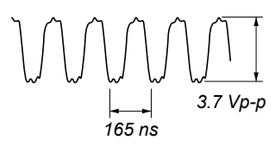
⑲ IC4008 ③ (CLK_OUT)



2 V/DIV, 20 ns/DIV

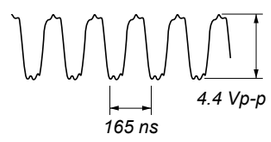
– FPGA DSP Board –

㉑ IC701 ⑤, ⑥



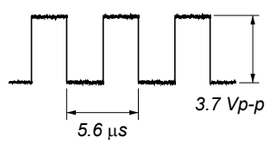
2 V/DIV, 100 ns/DIV

㉒ IC702 ① (CLOCK)



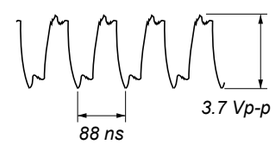
2 V/DIV, 100 ns/DIV

㉓ IC702 ⑳ (DAO_LRCLK)



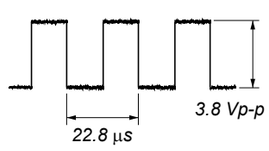
2 V/DIV, 2 µs/DIV

㉔ IC702 ㉑ (DAO_SCLK)



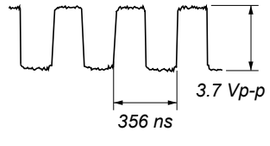
2 V/DIV, 50 ns/DIV

㉕ IC702 ㉓ (DAI_LRCLK)



2 V/DIV, 10 µs/DIV

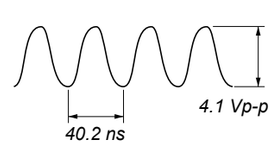
㉖ IC702 ㉔ (DAI_SCLK)



2 V/DIV, 200 ns/DIV

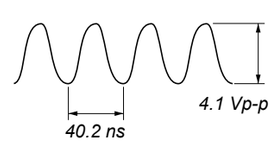
– DAC Board –

㉛ IC407 ⑤ (Y)



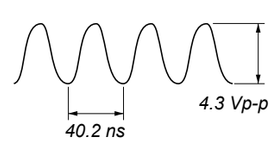
2 V/DIV, 20 ns/DIV

㉜ IC410 ⑤ (Y)



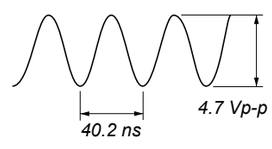
2 V/DIV, 20 ns/DIV

㉝ IC412 ⑥, ⑦



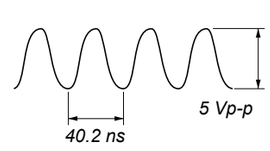
2 V/DIV, 20 ns/DIV

㉞ IC409 ①, ②



2 V/DIV, 20 ns/DIV

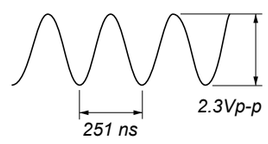
㉟ IC409 ⑦



2 V/DIV, 20 ns/DIV

– U-COM Board –

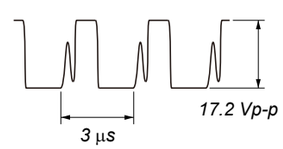
㊶ IC5006 ㊽ (XTALO)



1 V/DIV, 100 ns/DIV

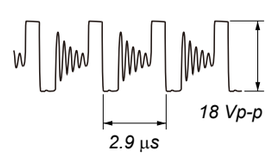
– DCDC Board –

㊶ IC2402 ① (BOOT)



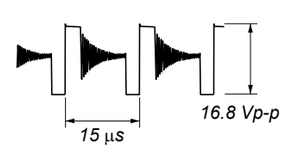
10 V/DIV, 2 µs/DIV

㊷ IC2403 ① (BOOT)



10 V/DIV, 2 µs/DIV

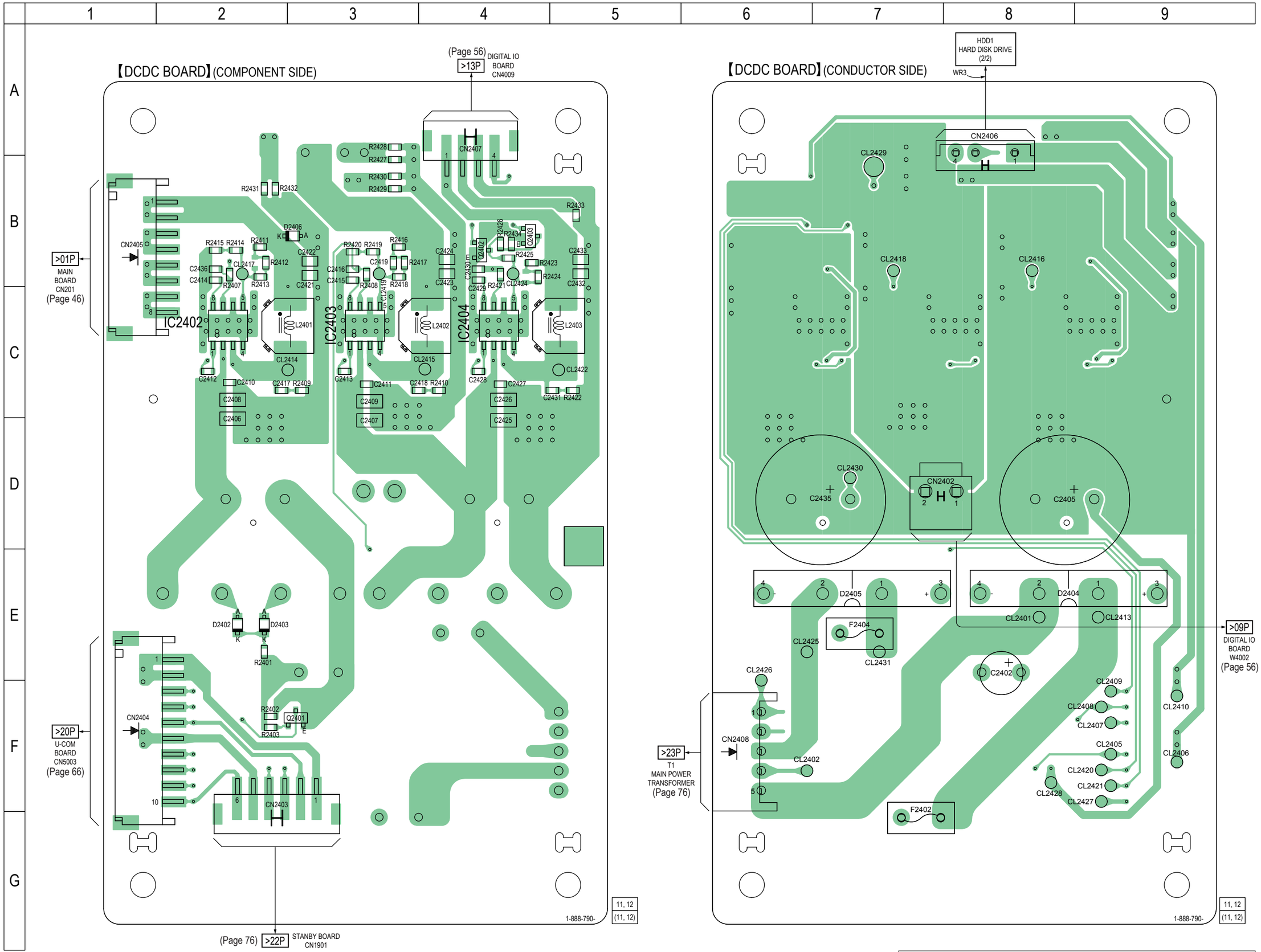
㊸ IC2404 ① (BOOT)



10 V/DIV, 5 µs/DIV

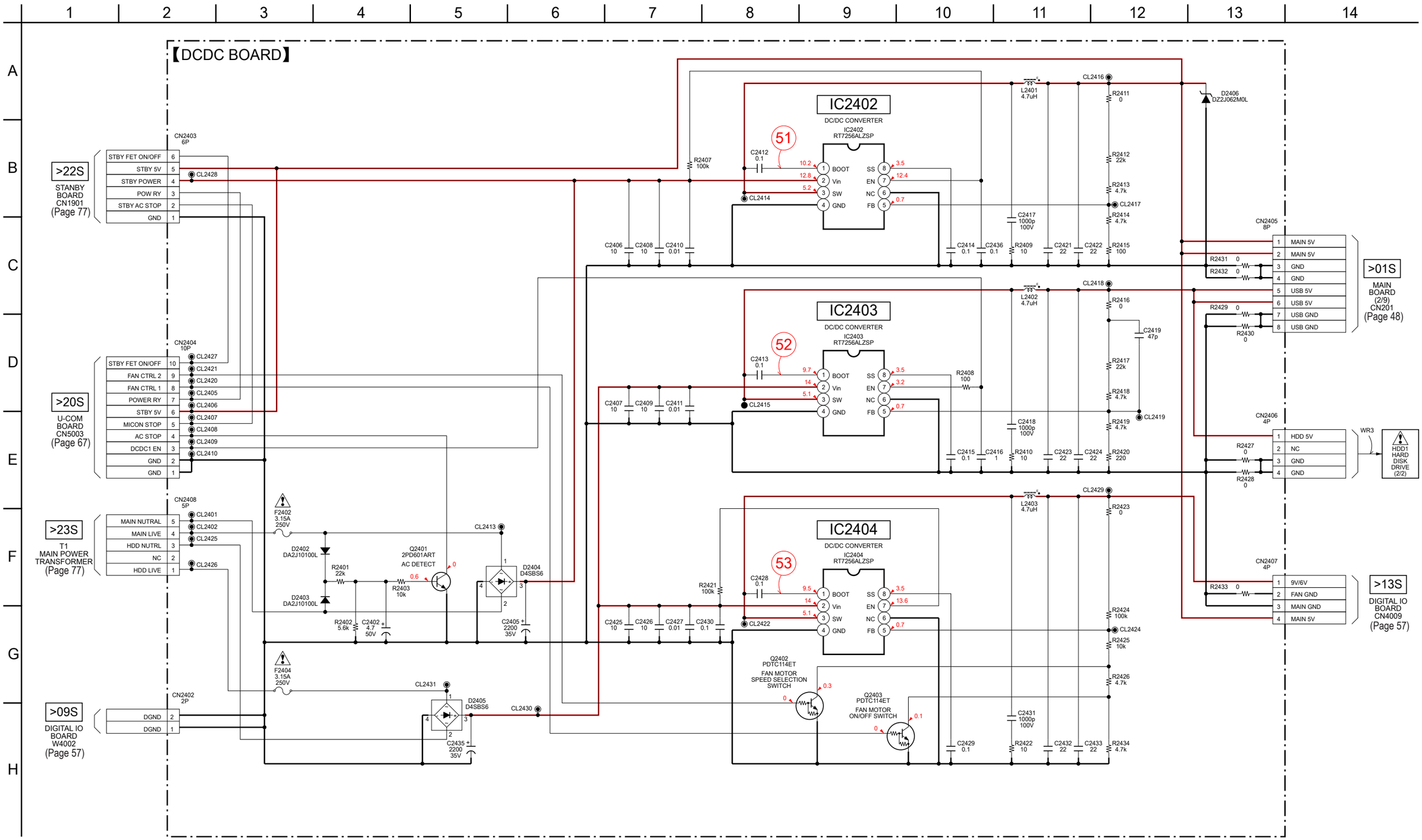
5-33. PRINTED WIRING BOARD - DCDC Board -

• See page 45 for Circuit Boards Location. • : Uses unleaded solder.



Note: When the hard disk drive (Ref. No. HDD1) is replaced, refer to "NOTE OF REPLACING THE HARD DISK DRIVE (Ref. No. HDD1)" on page 4.

5-34. SCHEMATIC DIAGRAM - DCDC Board - • See page 73 for Waveforms. • See page 78 for IC Block Diagrams.

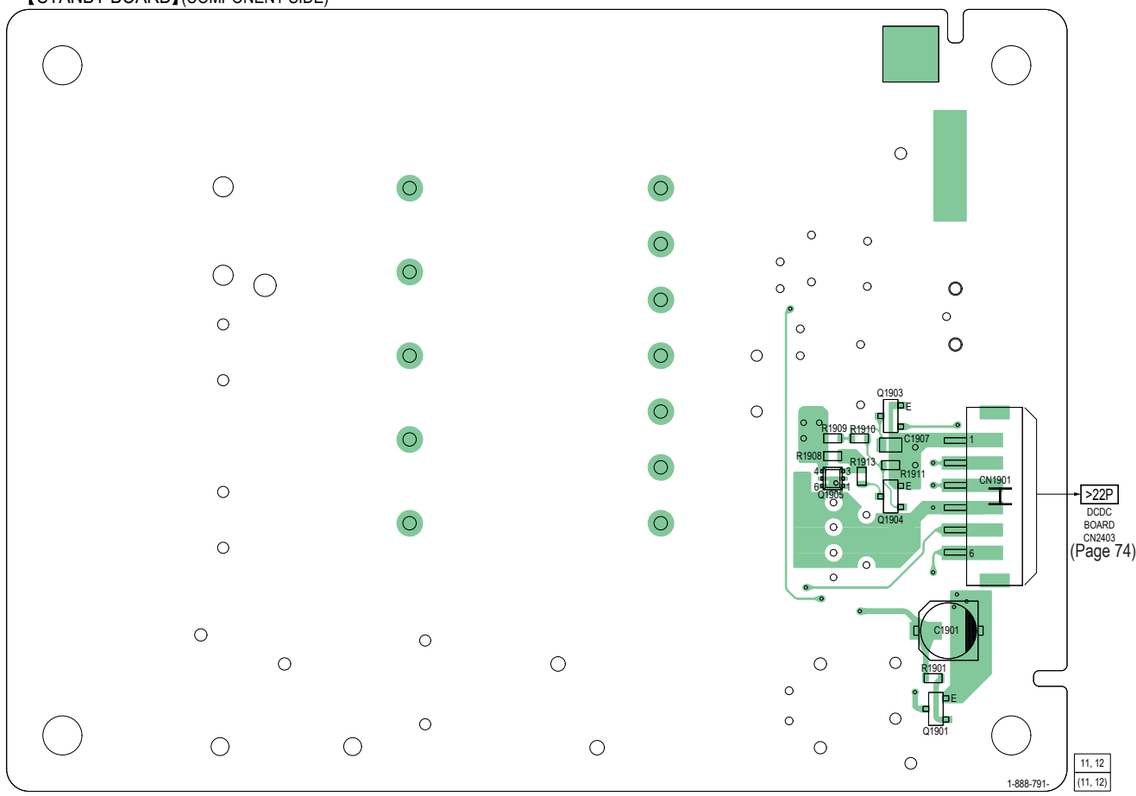


Note: When the hard disk drive (Ref. No. HDD1) is replaced, refer to "NOTE OF REPLACING THE HARD DISK DRIVE (Ref. No. HDD1)" on page 4.

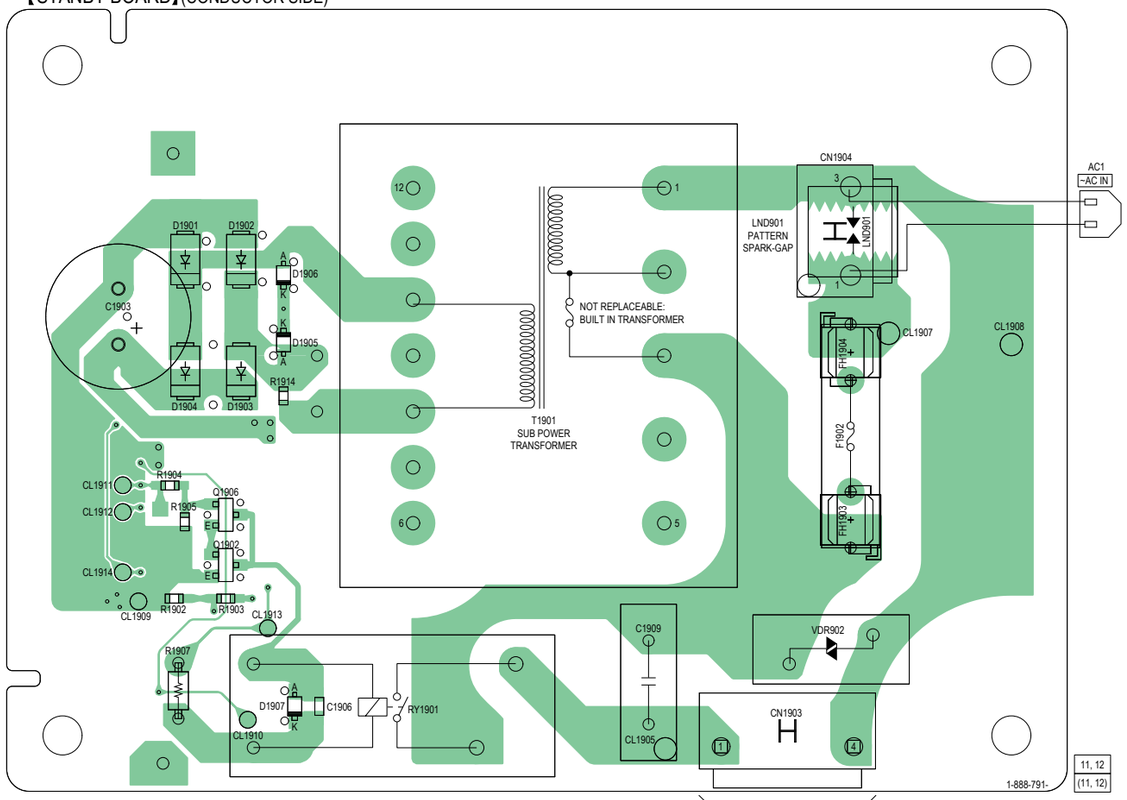
5-35. PRINTED WIRING BOARD - STANBY Board -

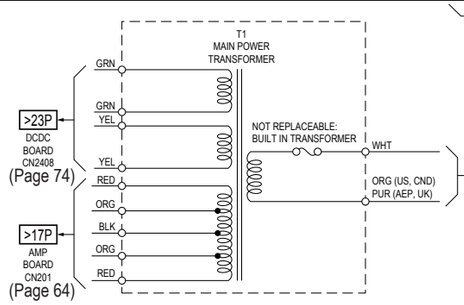
• See page 45 for Circuit Boards Location. • : Uses unleaded solder.

【STANBY BOARD】(COMPONENT SIDE)

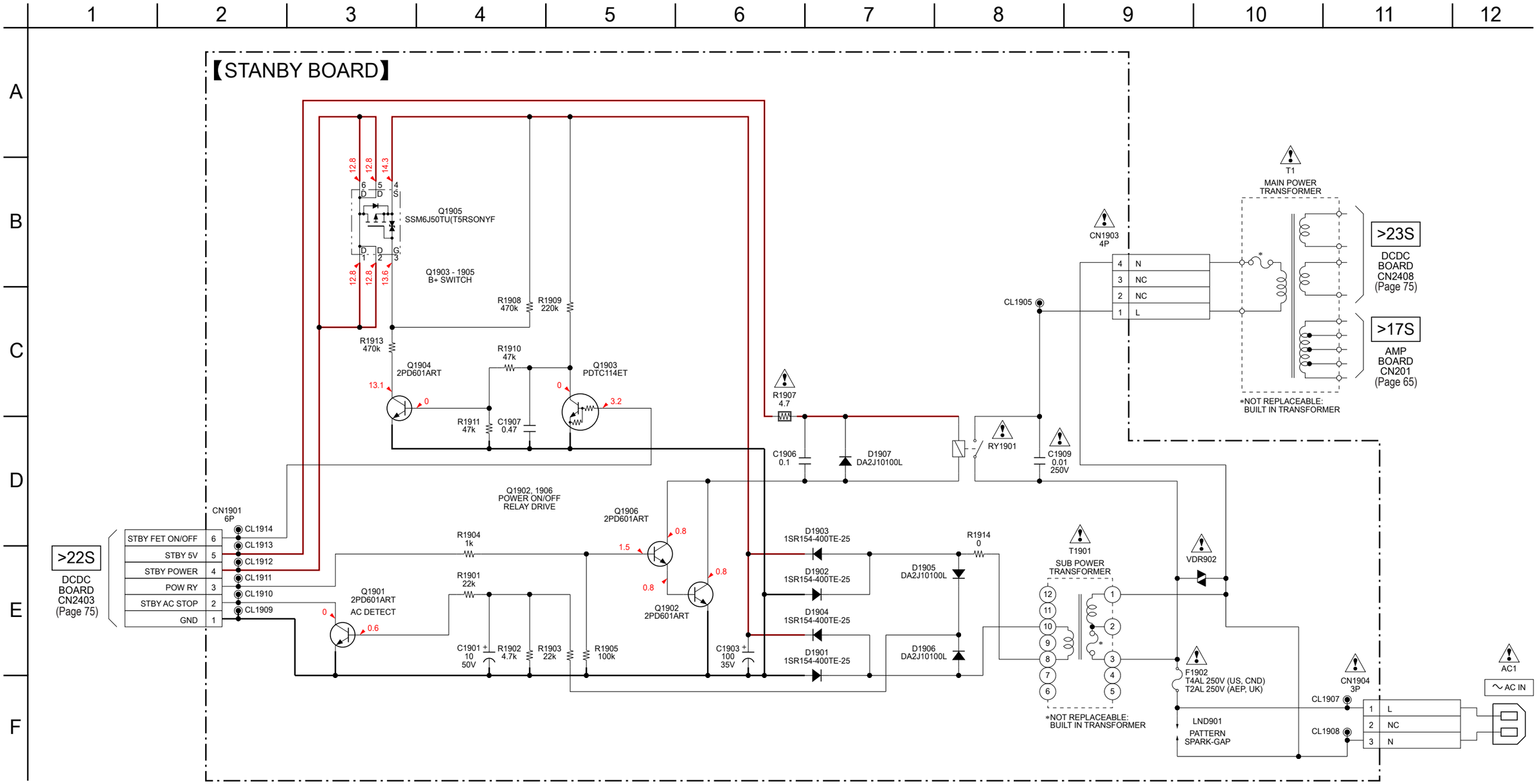


【STANBY BOARD】(CONDUCTOR SIDE)





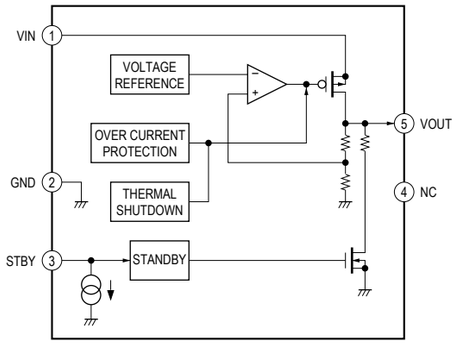
5-36. SCHEMATIC DIAGRAM - STANBY Board -



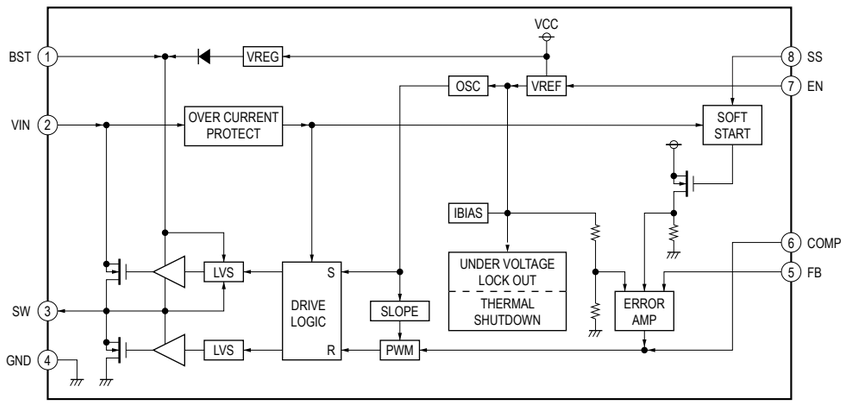
- **IC Block Diagrams**

– MAIN Board –

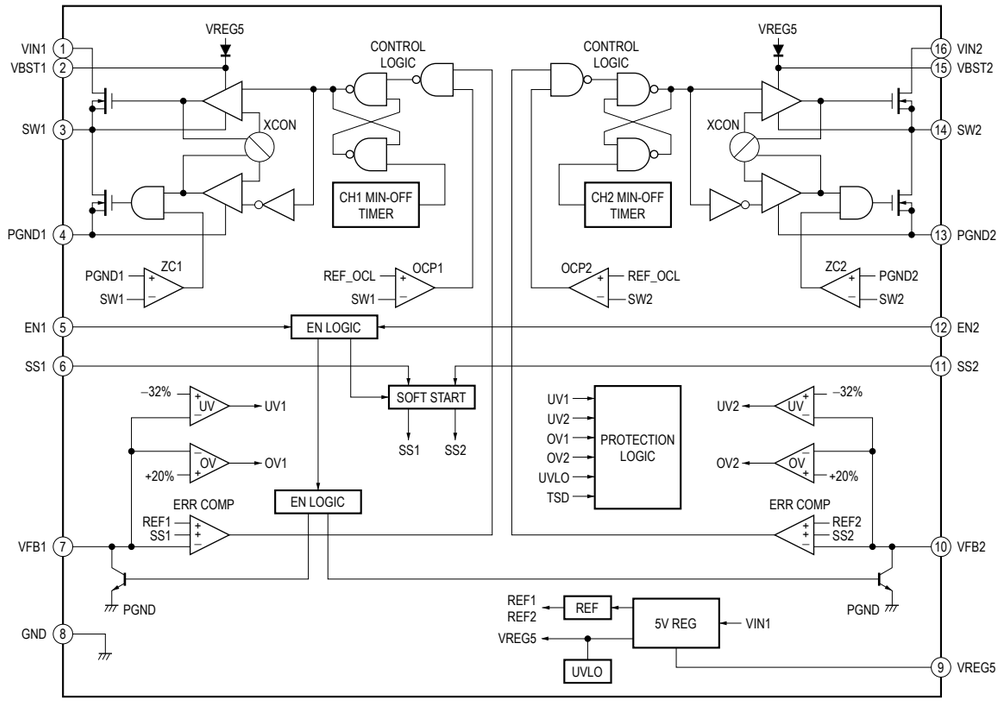
IC201 BU33TD3WG-TR



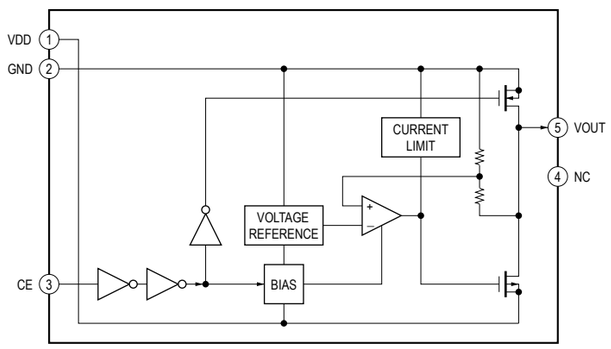
IC202 BD9329AEFJ-E2



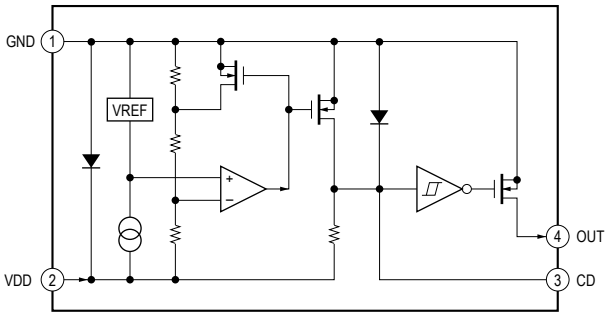
IC203 TPS54295PWPR



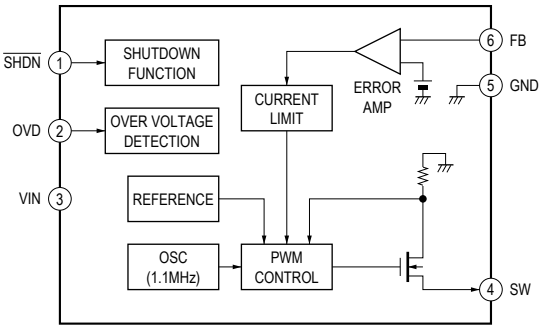
IC204 MM3464A33NRE



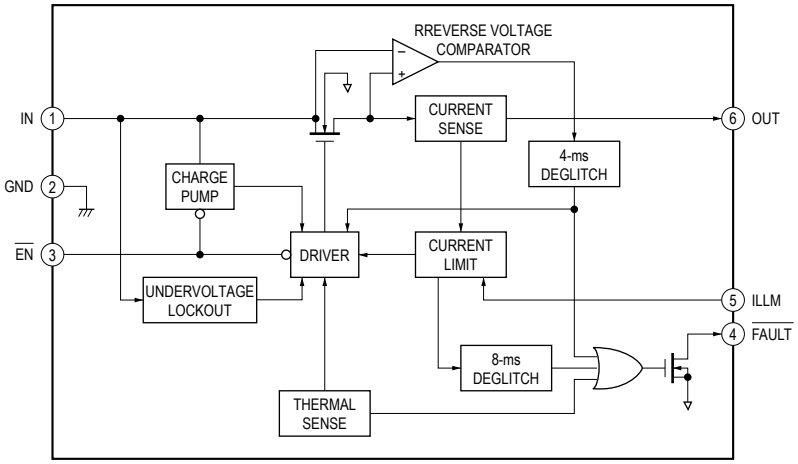
IC205, 401 PST8429UL



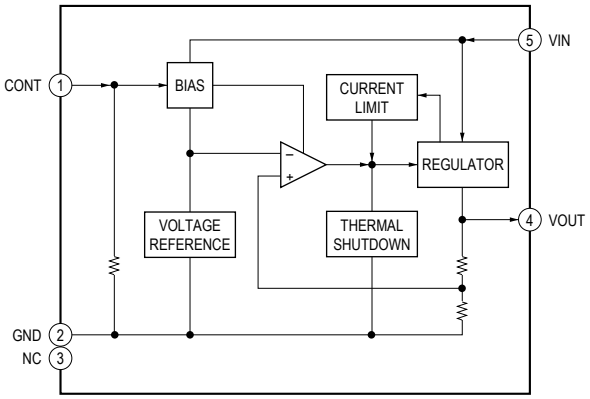
IC701 TB62752AFUG (O, EL)



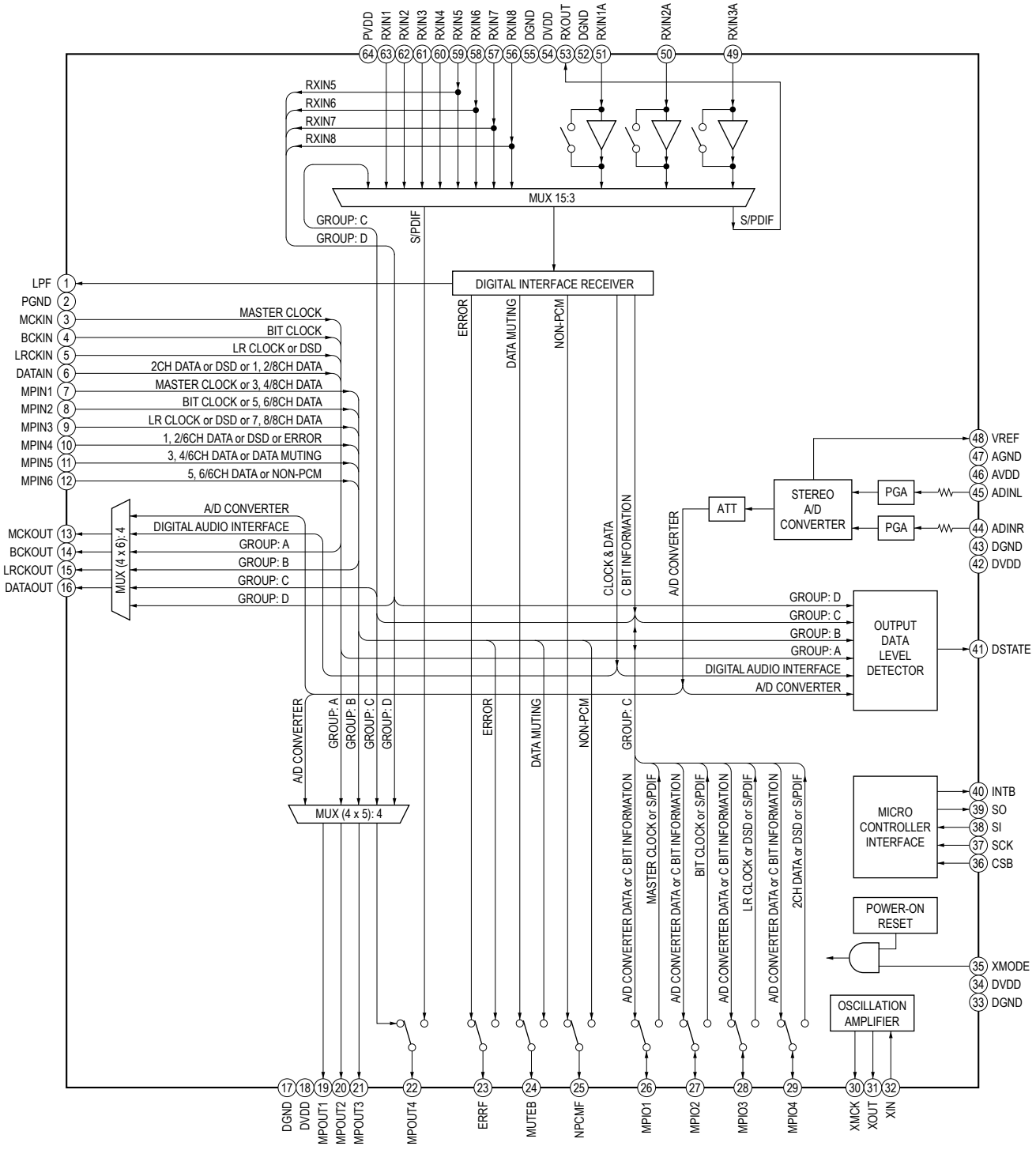
IC1001 TPS2553DBVR



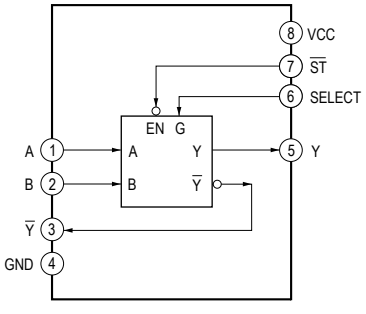
– DIGITAL IO Board –
IC4003 MM1839A33NRE



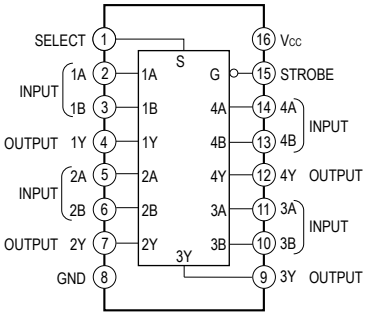
IC4004 LC89075WA-H



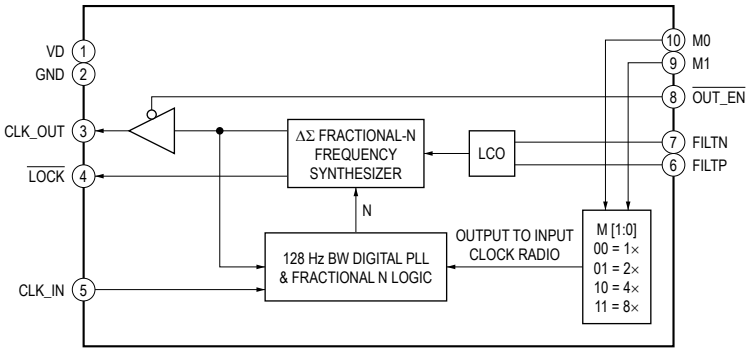
IC4006 TC7WH157FK



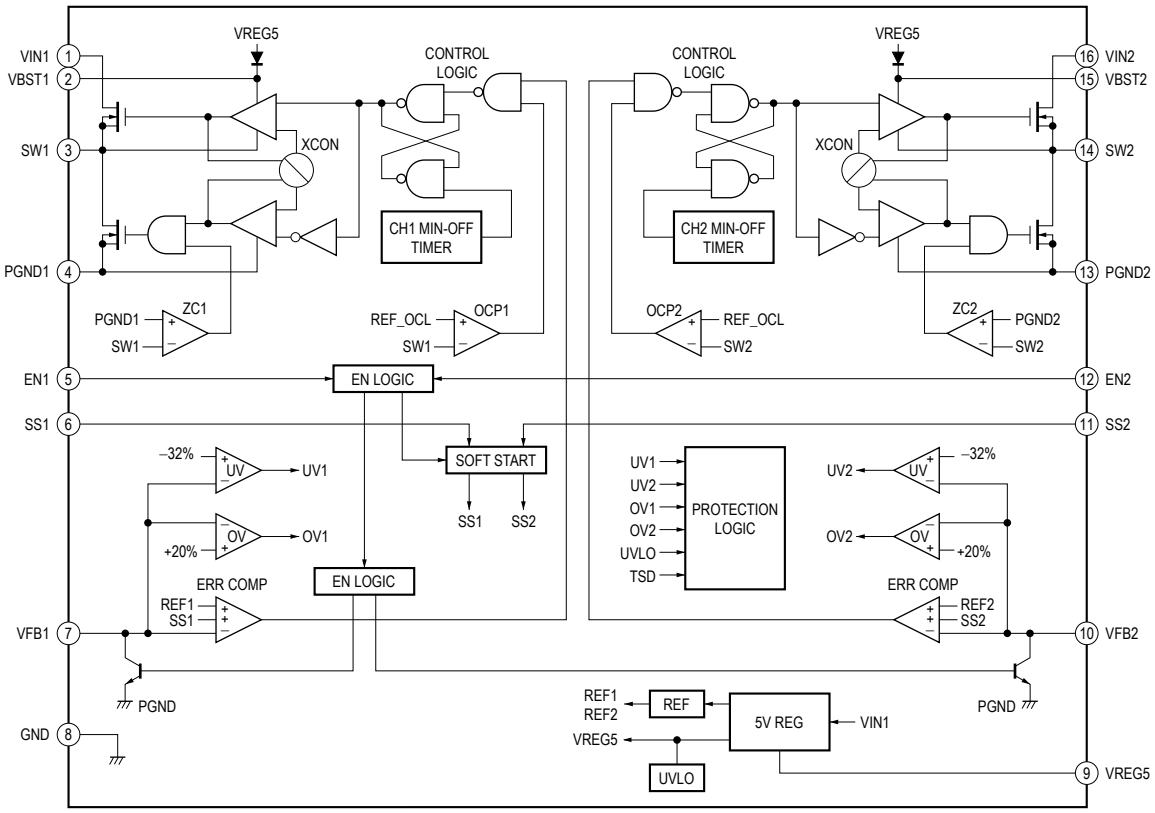
IC4007 TC74VHC157FT (EKJ)



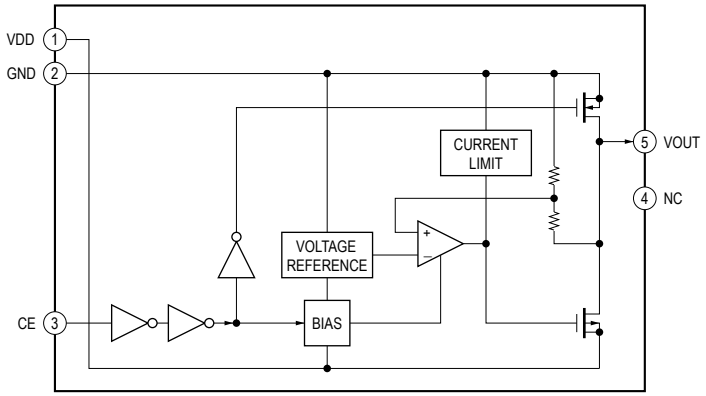
IC4008 CS230002-CZZR



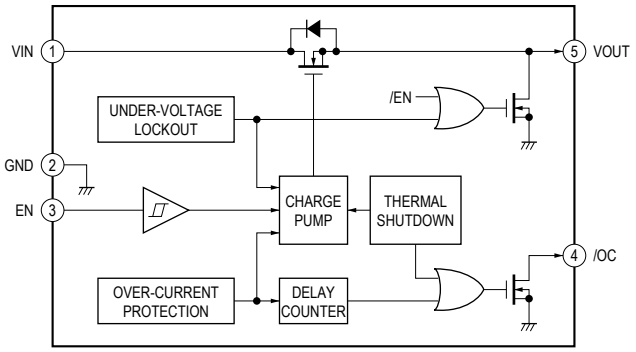
– FPGA DSP Board –
IC101 TPS54295PWPR



IC102 MM3464A25NRE

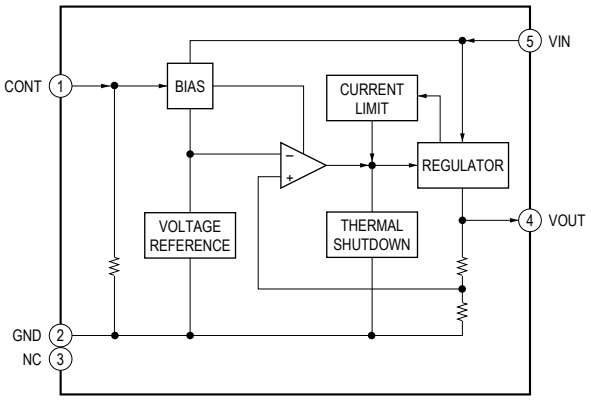


IC103 BD2231G-TR

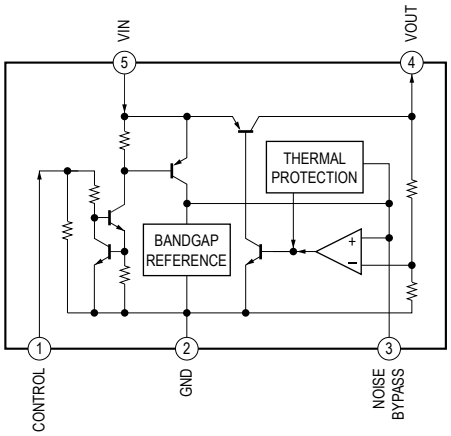


– DAC Board –

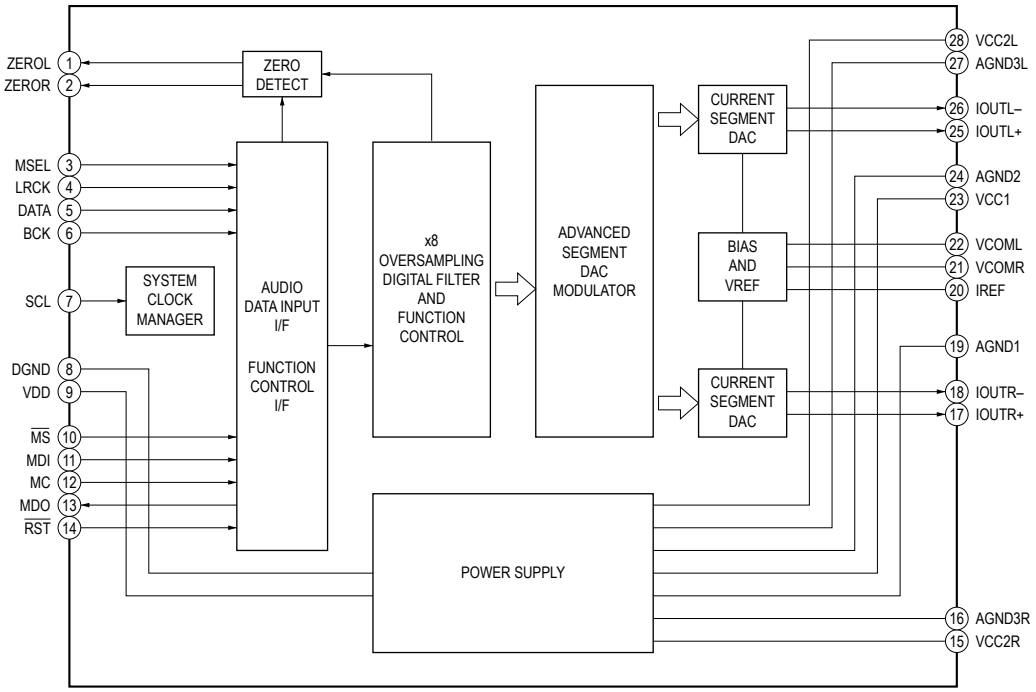
IC403 MM1836A50NRE



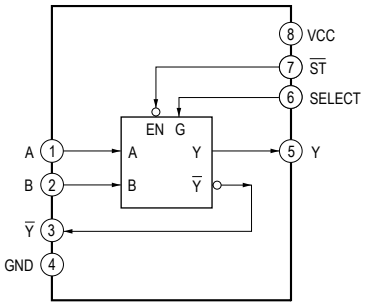
IC404, 413, 414 NJM2871BF33-TE2



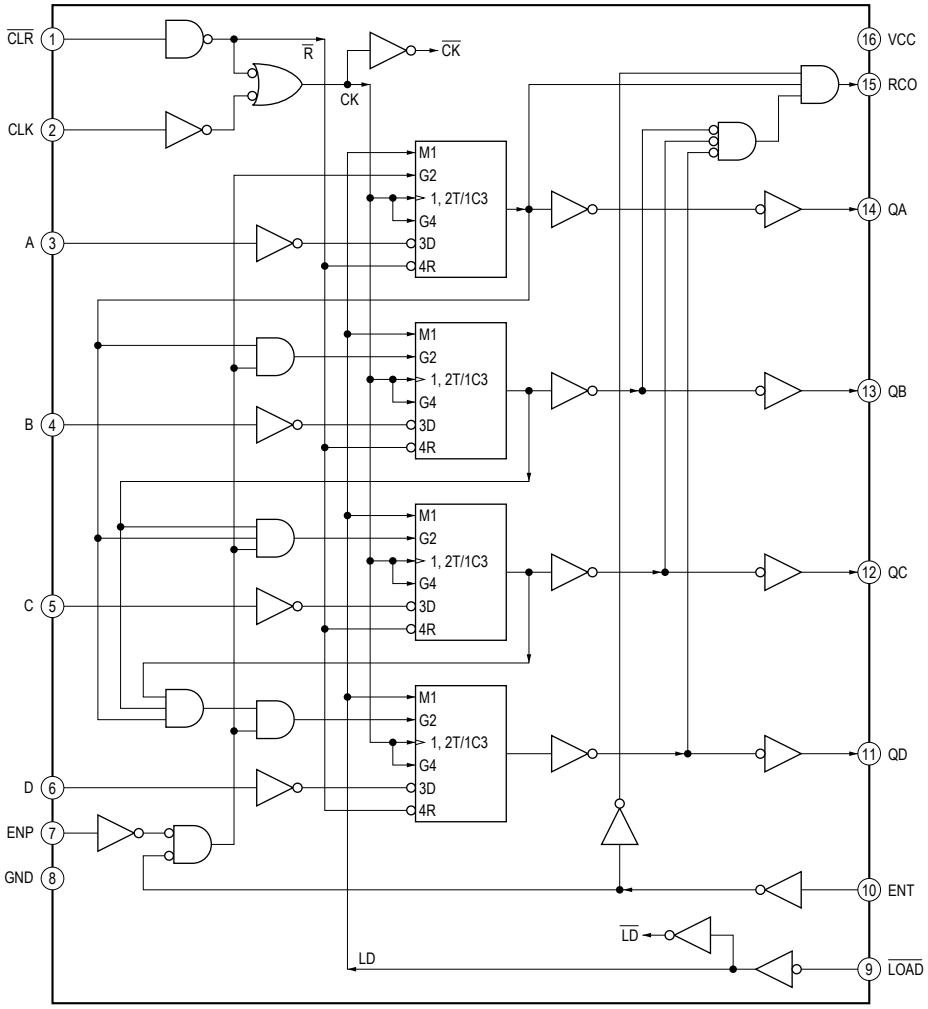
IC405 PCM1795DBR



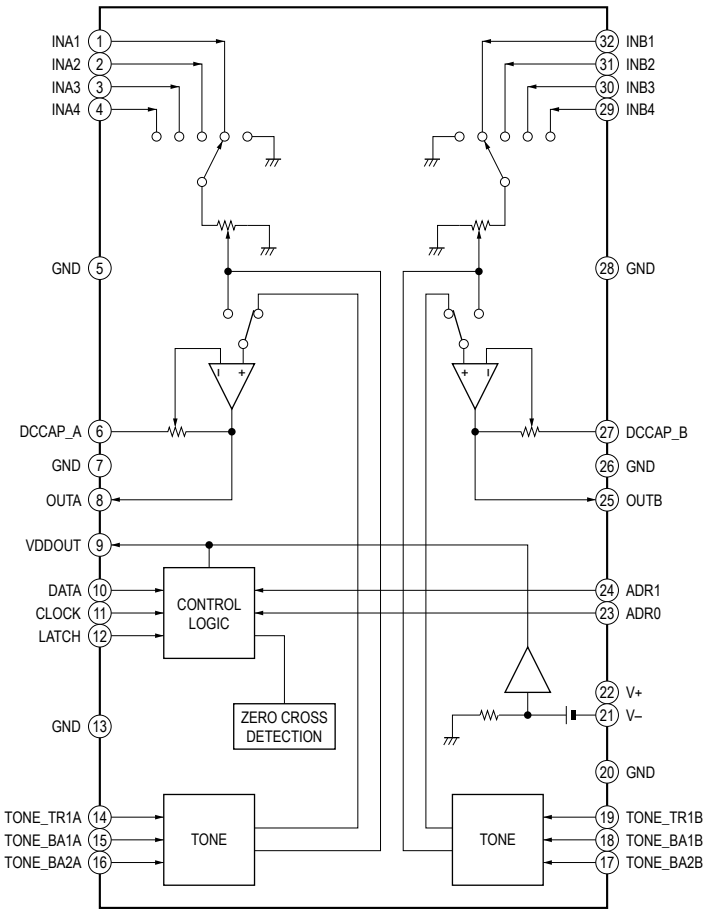
IC407, 410 TC7WH157FK



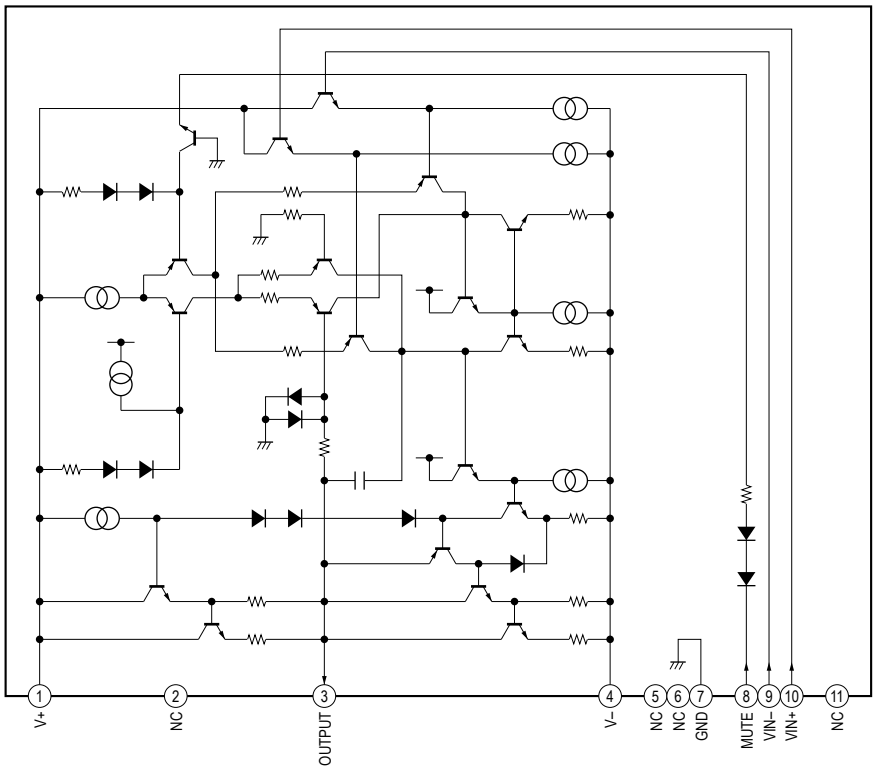
IC411 HD74LV161ATELL



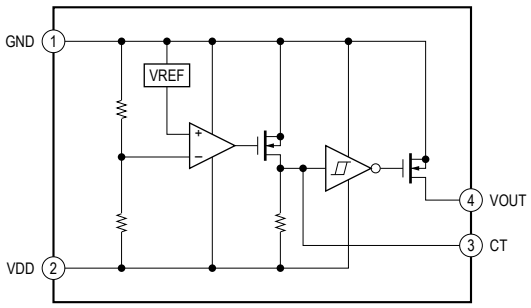
– AMP Board –
IC206 NJW1194



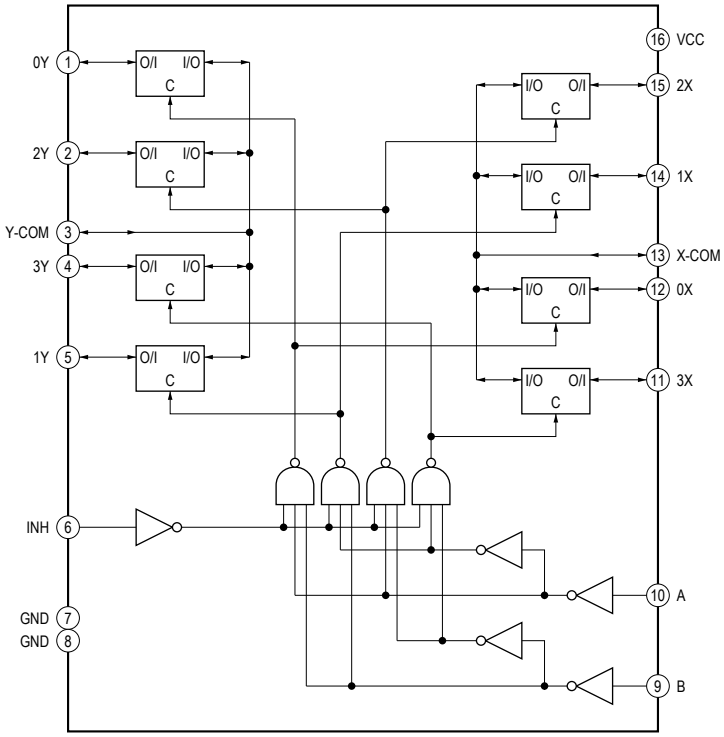
IC350, 351 LM3876TF



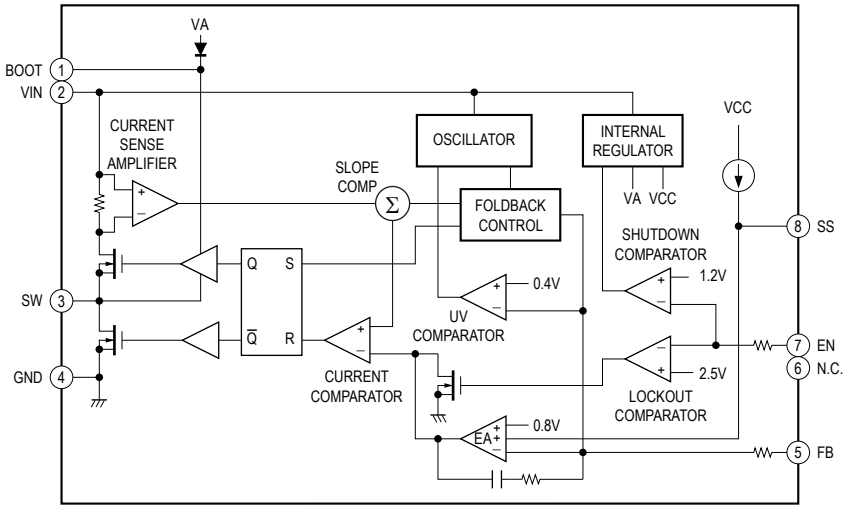
– U-COM Board –
IC5004 BU4229F-TR



IC5005 TC74VHC4052AFT (EK)



– DCDC Board –
IC2402 – 2404 RT7256ALZSP



• **IC Pin Function Description**

MAIN BOARD IC101 MCIMX6D5EYM10AC (MPU)

Pin No.	Pin Name	I/O	Description
A2	PCIE_REXT	-	Terminal for the Impedance calibration
A3	PCIE_TXM	O	Transmit data (negative) output to the FPGA
A4	GND3	-	Ground terminal
A5	FA_ANA	-	Not used
A6	USB_OTG_DP	I/O	Two-way USB data (positive) with the USB connector
A7	XTALI	I	System clock input terminal (24 MHz)
A8	GND4	-	Ground terminal
A9	MLB_SN	-	Not used
A10	MLB_DP	-	Not used
A11	MLB_CN	-	Not used
A12	SATA_TXP	O	Transmit data (positive) output to the hard disk drive
A13	GND1	-	Ground terminal
A14	SATA_RXM	I	Receive data (negative) input from the hard disk drive
A15	SD3_DAT2	I/O	Two-way data bus terminal Not used
A16	NANDF_ALE	O	Reset signal output to the system controller “H”: reset
A17	NANDF_CS2	-	Not used
A18	NANDF_D0	I/O	Two-way data bus terminal Not used
A19	NANDF_D4	-	Not used
A20	SD4_DAT3	I/O	Two-way data bus with the flash memory
A21	SD1_DAT0	I/O	Two-way data bus terminal Not used
A22, A23	SD2_DAT0, SD2_DAT2	-	Not used
A24	RGMII_TD3	O	RGMII transmit data output to the ethernet transceiver
A25	GND2	-	Ground terminal
B1	PCIE_RXM	I	Receive data (negative) input from the FPGA
B2	PCIE_RXP	I	Receive data (positive) input from the FPGA
B3	PCIE_TXP	O	Transmit data (positive) output to the FPGA
B4	GND22	-	Ground terminal
B5	VDD_FA	-	Not used
B6	USB_OTG_DN	I/O	Two-way USB data (negative) with the USB connector
B7	XTALO	O	System clock output terminal (24 MHz)
B8	USB_OTG_CHD_B	-	Not used
B9	MLB_SP	-	Not used
B10	MLB_DN	-	Not used
B11	MLB_CP	-	Not used
B12	SATA_TXM	O	Transmit data (negative) output to the hard disk drive
B13	SD3_CMD	-	Not used
B14	SATA_RXP	I	Receive data (positive) input from the hard disk drive
B15	SD3_DAT3	-	Not used
B16	NANDF_RB0	O	Interrupt signal output terminal Not used
B17	SD4_CMD	O	Command signal output to the flash memory
B18	NANDF_D5	-	Not used
B19, B20	SD4_DAT1, SD4_DAT6	I/O	Two-way data bus with the flash memory
B21	SD1_CMD	-	Not used
B22	SD2_DAT3	-	Not used
B23, B24	RGMII_RD1, RGMII_RD2	I	RGMII receive data input from the ethernet transceiver
B25	RGMII_RXC	I	RGMII receive clock signal input from the ethernet transceiver
C1	GND23	-	Ground terminal
C2	JTAG_TRSTB	-	Not used
C3	JTAG_TMS	-	Not used
C4	GND25	-	Ground terminal
C5	CLK2_N	-	Not used
C6	GND26	-	Ground terminal
C7	CLK1_N	O	Clock signal (negative) output to the FPGA
C8	GPANAIO	-	Not used

Pin No.	Pin Name	I/O	Description
C9	RTC_XTALO	O	Real time clock output terminal (32.768 kHz)
C10	GND24	-	Ground terminal
C11	POR_B	I	Reset signal input from reset signal generator and system controller "L": reset
C12	BOOT_MODE0	I	Boot mode setting terminal Fixed at "L"
C13	SD3_DAT5	-	Not used
C14	SATA_REXT	-	Terminal for the impedance calibration
C15	NANDF_CLE	O	Update signal output to the system controller "H": update
C16	NANDF_CS1	O	Reset signal output terminal Not used
C17	NANDF_D1	I/O	Two-way data bus terminal Not used
C18	NANDF_D7	-	Not used
C19	SD4_DAT5	I/O	Two-way data bus with the flash memory
C20	SD1_DAT1	I/O	Two-way data bus terminal Not used
C21	SD2_CLK	-	Not used
C22	RGMII_TD0	O	RGMII transmit data output to the ethernet transceiver
C23	RGMII_TX_CTL	O	RGMII transmit data enable signal output to the ethernet transceiver
C24	RGMII_RD0	I	RGMII receive data input from the ethernet transceiver
C25	EIM_D16	-	Not used
D1	CSI_D1M	-	Not used
D2	CSI_D1P	-	Not used
D3	GND27	-	Ground terminal
D4	CSI_REXT	-	Not used
D5	CLK2_P	-	Not used
D6	GND28	-	Ground terminal
D7	CLK1_P	O	Clock signal (positive) output to the FPGA
D8	GND29	-	Ground terminal
D9	RTC_XTALI	I	Real time clock input terminal (32.768 kHz)
D10	USB_H1_VBUS	I	Power supply of the USB interface for the WLAN/BT COMBO card
D11	PMIC_ON_REQ	O	Not used
D12	ONOFF	-	Not used
D13	SD3_DAT4	-	Not used
D14	SD3_CLK	-	Not used
D15	SD3_RST	-	Not used
D16	NANDF_CS3	-	Not used
D17	NANDF_D3	-	Not used
D18, D19	SD4_DAT0, SD4_DAT7	I/O	Two-way data bus with the flash memory
D20	SD1_CLK	O	Clock signal output terminal Not used
D21	RGMII_TXC	O	RGMII transmit clock signal output to the ethernet transceiver
D22	RGMII_RX_CTL	I	RGMII receive data valid signal input from the ethernet transceiver
D23	RGMII_RD3	I	RGMII receive data input from the ethernet transceiver
D24	EIM_D18	-	Not used
D25	EIM_D23	I	Status signal input from the FPGA
E1	CSI_D2M	-	Not used
E2	CSI_D2P	-	Not used
E3	CSI_D0P	-	Not used
E4	CSI_D0M	-	Not used
E5 to E7	GND30 to GND32	-	Ground terminal
E8	NVCC_PLL_OUT	-	Power supply terminal for the PLL output Not used
E9	USB_OTG_VBUS	I	Power supply of the USB interface for the USB connector
E10	USB_H1_DP	I/O	Two-way USB data (positive) with the WLAN/BT COMBO card
E11	TAMPER	I	Mode setting terminal Fixed at "H"
E12	TEST_MODE	I	Mode setting terminal Not used
E13	SD3_DAT6	-	Not used
E14	SD3_DAT0	-	Not used
E15	NANDF_WP_B	O	LED drive signal output terminal "H": LED on
E16	SD4_CLK	O	Clock signal output to the flash memory
E17	NANDF_D6	-	Not used
E18	SD4_DAT4	I/O	Two-way data bus with the flash memory
E19	SD1_DAT2	I/O	Two-way data bus terminal Not used
E20	SD2_DAT1	-	Not used

Pin No.	Pin Name	I/O	Description
E21	RGMII_TD2	O	RGMII transmit data output to the ethernet transceiver
E22	EIM_EB2	I	Boot mode setting terminal Fixed at “L”
E23	EIM_D22	O	VBUS power on/off control signal output terminal for the USB connector “H”: power on
E24, E25	EIM_D26, EIM_D27	-	Not used
F1	CSI_D3P	-	Not used
F2	CSI_D3M	-	Not used
F3	CSI_CLK0P	-	Not used
F4	CSI_CLK0M	-	Not used
F5 to F8	GND33 to GND36	-	Ground terminal
F9	VDDUSB_CAP1	O	Internal regulator output terminal
F10	USB_H1_DN	I/O	Two-way USB data (negative) with the WLAN/BT COMBO card
F11	PMIC_STBY_REQ	O	Not used
F12	BOOT_MODE1	I	Boot mode setting terminal Fixed at “H”
F13	SD3_DAT7	-	Not used
F14	SD3_DAT1	-	Not used
F15	NANDF_CS0	-	Not used
F16	NANDF_D2	-	Not used
F17	SD4_DAT2	I/O	Two-way data bus with the flash memory
F18	SD1_DAT3	-	Not used
F19	SD2_CMD	-	Not used
F20	RGMII_TD1	O	RGMII transmit data output to the ethernet transceiver
F21, F22	EIM_D17, EIM_D24	-	Not used
F23	EIM_EB3	I	Boot mode setting terminal Fixed at “L”
F24, F25	EIM_A22, EIM_A24	I	Boot mode setting terminal Fixed at “L”
G1	DSI_D0P	-	Not used
G2	DSI_D0M	-	Not used
G3	GND39	-	Ground terminal
G4	DSI_REXT	-	Not used
G5	JTAG_TDI	-	Not used
G6	JTAG_TDO	-	Not used
G7	PCIE_VPH	-	Power supply terminal for the PCIe interface (+2.5V)
G8	PCIE_VPTX	-	Power supply terminal for the PCIe interface (+1.1V)
G9	VDD_SNVS_CAP	O	Internal regulator output terminal
G10	GND37	-	Ground terminal
G11	VDD_SNVS_IN	-	Power supply terminal for the SNVS Regulator (+3.3V)
G12	SATA_VPH	-	Power supply terminal for the SATA interface (+2.5V)
G13	SATA_VP	-	Power supply terminal for the SATA interface (+1.1V)
G14	NVCC_SD3	O	Internal regulator output terminal
G15	NVCC_NANDF	O	Internal regulator output terminal
G16, G17	NVCC_SD1, NVCC_SD2	O	Internal regulator output terminal
G18	NVCC_RGMII	-	Power supply terminal for the ENET interface (+1.8V)
G19	GND38	-	Ground terminal
G20	EIM_D20	O	Configuration signal output to the FPGA
G21, G22	EIM_D19, EIM_D25	-	Not used
G23	EIM_D28	I	Diag mode enable signal input terminal
G24, G25	EIM_A17, EIM_A19	I	Boot mode setting terminal Fixed at “L”
H1	DSI_D1P	-	Not used
H2	DSI_D1M	-	Not used
H3	DSI_CLK0M	-	Not used
H4	DSI_CLK0P	-	Not used
H5	JTAG_TCK	-	Not used
H6	JTAG_MOD	-	Not used
H7	PCIE_VP	-	Power supply terminal for the PCIe interface (+1.1V)
H8	GND43	-	Ground terminal
H9	VDDHIGH_IN1	-	Power supply terminal for the +2.5V regulator (+3.3V)
H10	VDDHIGH_CAP1	O	Internal regulator output terminal (+2.5V)
H11	VDDARM23_CAP1	O	Internal regulator output terminal Not used

Pin No.	Pin Name	I/O	Description
H12	GND40	-	Ground terminal
H13	VDDARM_CAP1	O	Internal regulator output terminal
H14	VDDARM_IN1	-	Power supply terminal for the cores regulator (+1.42V)
H15	GND41	-	Ground terminal
H16	VDDSOC_IN1	-	Power supply terminal for the SOC and PU regulators (+1.42V)
H17	VDDPU_CAP1	O	Internal regulator output terminal
H18	GND42	-	Ground terminal
H19	EIM_A25	I	Interrupt signal input from the FPGA
H20	EIM_D21	I	VBUS power over current detection signal input terminal for the USB connector
H21	EIM_D31	-	Not used
H22, H23	EIM_A20, EIM_A21	I	Boot mode setting terminal Fixed at “L”
H24	EIM_CS0	O	Serial data transfer clock signal output to the FPGA
H25	EIM_A16	I	Boot mode setting terminal Fixed at “L”
J1	HDMI_REF	-	Not used
J2	GND47	-	Ground terminal
J3	HDMI_D1M	-	Not used
J4	HDMI_D1P	-	Not used
J5	HDMI_CLKM	-	Not used
J6	HDMI_CLKP	-	Not used
J7	NVCC_JTAG	O	Internal regulator output terminal
J8	GND48	-	Ground terminal
J9	VDDHIGH_IN2	-	Power supply terminal for the +2.5V regulator (+3.3V)
J10	VDDHIGH_CAP2	O	Internal regulator output terminal (+2.5V)
J11	VDDARM23_CAP2	O	Internal regulator output terminal Not used
J12	GND44	-	Ground terminal
J13	VDDARM_CAP2	O	Internal regulator output terminal
J14	VDDARM_IN2	-	Power supply terminal for the cores regulator (+1.42V)
J15	GND45	-	Ground terminal
J16	VDDSOC_IN2	-	Power supply terminal for the SOC and PU regulators (+1.42V)
J17	VDDPU_CAP2	O	Internal regulator output terminal
J18	GND46	-	Ground terminal
J19, J20	EIM_D29, EIM_D30	-	Not used
J21, J22	EIM_A23, EIM_A18	I	Boot mode setting terminal Fixed at “L”
J23	EIM_CS1	O	Configuration data output to the FPGA
J24	EIM_OE	-	Not used
J25	EIM_DA1	I	Boot mode setting terminal Fixed at “L”
K1	HDMI_HPD	-	Not used
K2	HDMI_DDCCEC	-	Not used
K3	HDMI_D2M	-	Not used
K4	HDMI_D2P	-	Not used
K5	HDMI_D0M	-	Not used
K6	HDMI_D0P	-	Not used
K7	NVCC_MIPI	-	Power supply terminal for the MIPI interface (+2.5V)
K8	GND53	-	Ground terminal
K9	VDDARM23_IN1	-	Power supply terminal for the cores regulator Not used
K10	GND49	-	Ground terminal
K11	VDDARM23_CAP3	O	Internal regulator output terminal Not used
K12	GND50	-	Ground terminal
K13	VDDARM_CAP3	O	Internal regulator output terminal
K14	VDDARM_IN3	-	Power supply terminal for the cores regulator (+1.42V)
K15	GND51	-	Ground terminal
K16	VDDSOC_IN3	-	Power supply terminal for the SOC and PU regulators (+1.42V)
K17	VDDPU_CAP3	O	Internal regulator output terminal
K18	GND52	-	Ground terminal
K19	NVCC_EIM0	-	Power supply terminal for the EMI interface (+3.3V)
K20	EIM_RW	I	Boot mode setting terminal Fixed at “L”
K21	EIM_EB0	I	Boot mode setting terminal Fixed at “L”
K22	EIM_LBA	I	Boot mode setting terminal Fixed at “L”
K23	EIM_EB1	I	Boot mode setting terminal Fixed at “L”

Pin No.	Pin Name	I/O	Description
K24	EIM_DA3	I	Boot mode setting terminal Fixed at “L”
K25	EIM_DA6	I	Boot mode setting terminal Fixed at “H”
L1	CSI0_DAT13	I	Serial data or program data input from the system controller
L2	GND58	-	Ground terminal
L3, L4	CSI0_DAT17, CSI0_DAT16	-	Not used
L5	GND59	-	Ground terminal
L6	CSI0_DAT19	-	Not used
L7	HDMI_VP	-	Power supply terminal for the HDMI interface Not used
L8	GND60	-	Ground terminal
L9	VDDARM23_IN2	-	Power supply terminal for the cores regulator Not used
L10	GND54	-	Ground terminal
L11	VDDARM23_CAP4	O	Internal regulator output terminal Not used
L12	GND55	-	Ground terminal
L13	VDDARM_CAP4	O	Internal regulator output terminal
L14	VDDARM_IN4	-	Power supply terminal for the cores regulator (+1.42V)
L15	GND56	-	Ground terminal
L16	VDDSOC_IN4	-	Power supply terminal for the SOC and PU regulators (+1.42V)
L17	VDDPU_CAP4	O	Internal regulator output terminal
L18	GND57	-	Ground terminal
L19	NVCC_EIM1	-	Power supply terminal for the EMI interface (+3.3V)
L20 to L22	EIM_DA0, EIM_DA2, EIM_DA4	I	Boot mode setting terminal Fixed at “L”
L23	EIM_DA5	I	Boot mode setting terminal Fixed at “H”
L24	EIM_DA8	O	Reset signal output to the liquid crystal display “L”: reset
L25	EIM_DA7	I	Boot mode setting terminal Fixed at “L”
M1	CSI0_DAT10	O	Transmit data output terminal
M2	CSI0_DAT12	O	Serial data or program data output to the system controller
M3	CSI0_DAT11	I	Receive data input terminal
M4	CSI0_DAT14	O	Transmit data output terminal Not used
M5	CSI0_DAT15	I	Receive data input terminal Not used
M6	CSI0_DAT18	-	Not used
M7	HDMI_VPH	-	Power supply terminal for the HDMI interface Not used
M8	GND65	-	Ground terminal
M9	VDDARM23_IN3	-	Power supply terminal for the cores regulator Not used
M10	GND61	-	Ground terminal
M11	VDDARM23_CAP5	O	Internal regulator output terminal Not used
M12	GND62	-	Ground terminal
M13	VDDARM_CAP5	O	Internal regulator output terminal
M14	VDDARM_IN5	-	Power supply terminal for the cores regulator (+1.42V)
M15	GND63	-	Ground terminal
M16	VDDSOC_IN5	-	Power supply terminal for the SOC and PU regulators (+1.42V)
M17	VDDPU_CAP5	O	Internal regulator output terminal
M18	GND64	-	Ground terminal
M19	NVCC_EIM2	-	Power supply terminal for the EMI interface (+3.3V)
M20	EIM_DA11	I	Boot mode setting terminal Fixed at “H”
M21 to M23	EIM_DA9, EIM_DA10, EIM_DA13	I	Boot mode setting terminal Fixed at “L”
M24	EIM_DA12	I	Boot mode setting terminal Fixed at “H”
M25	EIM_WAIT	I	Boot mode setting terminal Fixed at “L”
N1	CSI0_DAT4	-	Not used
N2	CSI0_VSYNC	O	Power on/off control signal output terminal for the FPGA power “H”: power on
N3 to N5	CSI0_DAT7, CSI0_DAT6, CSI0_DAT9	-	Not used
N6	CSI0_DAT8	I	INIT_DONE signal input from the FPGA
N7	NVCC_CSI	I	Power supply terminal for the camera sensor interface (+3.3V)
N8	GND69	-	Ground terminal
N9	VDDARM23_IN4	-	Power supply terminal for the cores regulator Not used
N10	GND66	-	Ground terminal

Pin No.	Pin Name	I/O	Description
N11	VDDARM23_CAP6	O	Internal regulator output terminal Not used
N12	VDD_CACHE_CAP	O	Internal regulator output terminal (+1.1V)
N13	VDDARM_CAP6	O	Internal regulator output terminal
N14	VDDARM_IN6	-	Power supply terminal for the cores regulator (+1.42V)
N15	GND67	-	Ground terminal
N16	VDDSOC_IN6	-	Power supply terminal for the SOC and PU regulators (+1.42V)
N17	VDDPU_CAP6	O	Internal regulator output terminal
N18	GND68	-	Ground terminal
N19	DI0_DISP_CLK	O	Clock signal output to the liquid crystal display
N20	DI0_PIN3	-	Not used
N21	DI0_PIN15	O	Data enable signal output to the liquid crystal display
N22	EIM_BCLK	-	Not used
N23	EIM_DA14	I	Boot mode setting terminal Fixed at “L”
N24	EIM_DA15	I	Boot mode setting terminal Fixed at “H”
N25	DI0_PIN2	-	Not used
P1	CSI0_PIXCLK	I	CONF_DONE signal input from the FPGA
P2	CSI0_DAT5	-	Not used
P3	CSI0_DATA_EN	-	Not used
P4	CSI0_MCLK	O	Reset signal output to the FPGA “L”: reset
P5, P6	GPIO_19, GPIO_18	-	Not used
P7	NVCC_GPIO	-	Power supply terminal for the GPIO interface (+3.3V)
P8	GND74	-	Ground terminal
P9	VDDARM23_IN5	-	Power supply terminal for the cores regulator Not used
P10	GND70	-	Ground terminal
P11	VDDARM23_CAP7	O	Internal regulator output terminal Not used
P12	GND71	-	Ground terminal
P13	VDDARM_CAP7	O	Internal regulator output terminal
P14	VDDARM_IN7	-	Power supply terminal for the cores regulator (+1.42V)
P15	GND72	-	Ground terminal
P16	VDDSOC_IN7	-	Power supply terminal for the SOC and PU regulators (+1.42V)
P17	VDDPU_CAP7	O	Internal regulator output terminal
P18	GND73	-	Ground terminal
P19	NVCC_LCD	-	Power supply terminal for the LCD interface (+3.3V)
P20 to P24	DISP0_DAT4, DISP0_DAT3, DISP0_DAT1, DISP0_DAT2, DISP0_DAT0	O	RGB signal (blue) output to the liquid crystal display
P25	DI0_PIN4	O	Liquid crystal display backlight on/off control signal output terminal “H”: backlight on
R1	GPIO_17	O	Reset signal output to the PCIe transceiver “L”: reset
R2 to R7	GPIO_16, GPIO_7, GPIO_5, GPIO_8, GPIO_4, GPIO_3	-	Not used
R8	GND78	-	Ground terminal
R9	VDDARM23_IN6	-	Power supply terminal for the cores regulator Not used
R10	VSSSOC_CAP1	O	Internal regulator output terminal (+1.1V)
R11	VDDARM23_CAP8	O	Internal regulator output terminal Not used
R12	GND75	-	Ground terminal
R13	VDDARM_CAP8	O	Internal regulator output terminal
R14	VDDARM_IN8	-	Power supply terminal for the cores regulator (+1.42V)
R15	GND76	-	Ground terminal
R16	VDDSOC_IN8	-	Power supply terminal for the SOC and PU regulators (+1.42V)
R17	GND77	-	Ground terminal
R18	NVCC_DRAM1	-	Power supply terminal for the DDR interface (+1.5V)
R19	NVCC_ENET	-	Power supply terminal for the ENET interface (+3.3V)
R20 to R22	DISP0_DAT13, DISP0_DAT10, DISP0_DAT8	O	RGB signal (green) output to the liquid crystal display
R23 to R25	DISP0_DAT6, DISP0_DAT7, DISP0_DAT5	O	RGB signal (blue) output to the liquid crystal display

Pin No.	Pin Name	I/O	Description
T1 to T5	GPIO_2, GPIO_9, GPIO_6, GPIO_1, GPIO_0	-	Not used
T6	KEY_COL4	-	Not used
T7	KEY_ROW3	O	Liquid crystal display dimmer control signal output terminal
T8	GND84	-	Ground terminal
T9	VDDARM23_IN7	-	Power supply terminal for the cores regulator Not used
T10	VSSSOC_CAP2	O	Internal regulator output terminal (+1.1V)
T11, T12	GND79, GND80	-	Ground terminal
T13, T14	VSSSOC_CAP3, VSSSOC_CAP4	O	Internal regulator output terminal (+1.1V)
T15	GND81	-	Ground terminal
T16	VDDSOC_IN9	-	Power supply terminal for the SOC and PU regulators (+1.42V)
T17	GND82	-	Ground terminal
T18	NVCC_DRAM2	-	Power supply terminal for the DDR interface (+1.5V)
T19	GND83	-	Ground terminal
T20, T21	DISP0_DAT21, DISP0_DAT16	O	RGB signal (red) output to the liquid crystal display
T22 to T25	DISP0_DAT15, DISP0_DAT11, DISP0_DAT12, DISP0_DAT9	O	RGB signal (green) output to the liquid crystal display
U1	LVDS0_TX0_P	-	Not used
U2	LVDS0_TX0_N	-	Not used
U3	LVDS0_TX1_P	-	Not used
U4	LVDS0_TX1_N	-	Not used
U5	KEY_COL3	O	Liquid crystal display dimmer control signal output terminal
U6	KEY_ROW1	-	Not used
U7	KEY_COL1	-	Not used
U8	GND89	-	Ground terminal
U9	VDDARM23_IN8	-	Power supply terminal for the cores regulator Not used
U10	VSSSOC_CAP5	O	Internal regulator output terminal (+1.1V)
U11, U12	GND85, GND86	-	Ground terminal
U13, U14	VSSSOC_CAP6, VSSSOC_CAP7	O	Internal regulator output terminal (+1.1V)
U15	GND87	-	Ground terminal
U16	VDDSOC_IN10	-	Power supply terminal for the SOC and PU regulators (+1.42V)
U17	GND88	-	Ground terminal
U18	NVCC_DRAM3	-	Power supply terminal for the DDR interface (+1.5V)
U19	GND90	-	Ground terminal
U20	ENET_TXD0	O	Power on/off control signal output terminal for the liquid crystal display “H”: power on
U21	ENET_CRS_DV	O	Reset signal output to the ethernet transceiver “L”: reset
U22 to U24	DISP0_DAT20, DISP0_DAT19, DISP0_DAT17	O	RGB signal (red) output to the liquid crystal display
U25	DISP0_DAT14	O	RGB signal (green) output to the liquid crystal display
V1	LVDS0_TX2_P	-	Not used
V2	LVDS0_TX2_N	-	Not used
V3	LVDS0_CLK_P	-	Not used
V4	LVDS0_CLK_N	-	Not used
V5, V6	KEY_ROW4, KEY_ROW0	-	Not used
V7	NVCC_LVDS2P5	-	Power supply terminal for the LVDS display interface (+2.5V)
V8	GND91	-	Ground terminal
V9 to V18	NVCC_DRAM13, NVCC_DRAM4 to NVCC_DRAM12	-	Power supply terminal for the DDR interface (+1.5V)
V19	GND92	-	Ground terminal
V20	ENET_MDC	O	Management data clock signal output to the ethernet transceiver
V21	ENET_TX_EN	-	Not used
V22	ENET_REF_CLK	I	25 MHz clock signal input from the ethernet transceiver
V23	ENET_MDIO	I/O	Two-way management data bus with the ethernet transceiver

Pin No.	Pin Name	I/O	Description
V24, V25	DISP0_DAT22, DISP0_DAT18	O	RGB signal (red) output to the liquid crystal display
W1	LVDS0_TX3_P	-	Not used
W2	LVDS0_TX3_N	-	Not used
W3	GND93	-	Ground terminal
W4	KEY_ROW2	-	Not used
W5, W6	KEY_COL0, KEY_COL2	-	Not used
W7 to W13	GND94 to GND100	-	Ground terminal
W14	DRAM_A4	O	Address signal output to the SD-RAM
W15 to W19	GND101 to GND105	-	Ground terminal
W20	ENET_TXD1	O	VBUS power on/off control signal output terminal for the WLAN/BT COMBO card “H”: power on
W21	ENET_RXD0	-	Not used
W22	ENET_RXD1	I	Interrupt signal input from the ethernet transceiver
W23	ENET_RX_ER	O	ID signal output terminal for the USB OTG Not used
W24	DISP0_DAT23	O	RGB signal (red) output to the liquid crystal display
W25	DRAM_D63	-	Not used
Y1	LVDS1_TX0_N	-	Not used
Y2	LVDS1_TX0_P	-	Not used
Y3	LVDS1_CLK_N	-	Not used
Y4	LVDS1_CLK_P	-	Not used
Y5	GND106	-	Ground terminal
Y6	DRAM_RESET	O	Reset signal output to the SD-RAM “L”: reset
Y7 to Y10	DRAM_D20, DRAM_D21, DRAM_D19, DRAM_D25	I/O	Two-way data bus with the SD-RAM
Y11	DRAM_SDCKE0	O	Clock enable signal output to the SD-RAM
Y12 to Y14	DRAM_A15, DRAM_A7, DRAM_A3	O	Address signal output to the SD-RAM
Y15	DRAM_SDBA1	O	Bank address signal output to the SD-RAM
Y16	DRAM_CS0	O	Chip select signal output to the SD-RAM
Y17 to Y20	DRAM_D36, DRAM_D37, DRAM_D40, DRAM_D44	-	Not used
Y21	DRAM_DQM7	-	Not used
Y22, Y23	DRAM_D59, DRAM_D62	-	Not used
Y24	GND107	-	Ground terminal
Y25	DRAM_D58	-	Not used
AA1	LVDS1_TX1_P	-	Not used
AA2	LVDS1_TX1_N	-	Not used
AA3	LVDS1_TX3_N	-	Not used
AA4	LVDS1_TX3_P	-	Not used
AA5, AA6	DRAM_D3, DRAM_D10	I/O	Two-way data bus with the SD-RAM
AA7	GND10	-	Ground terminal
AA8, AA9	DRAM_D17, DRAM_D23	I/O	Two-way data bus with the SD-RAM
AA10	GND5	-	Ground terminal
AA11	DRAM_SDCKE1	-	Not used
AA12	DRAM_A14	O	Address signal output to the SD-RAM
AA13	GND6	-	Ground terminal
AA14, AA15	DRAM_A2, DRAM_A10	O	Address signal output to the SD-RAM
AA16	GND7	-	Ground terminal
AA17, AA18	DRAM_D32, DRAM_D33	-	Not used

Pin No.	Pin Name	I/O	Description
AA19	GND8	-	Ground terminal
AA20, AA21	DRAM_D45, DRAM_D57	-	Not used
AA22	GND9	-	Ground terminal
AA23	DRAM_D61	-	Not used
AA24	DRAM_SDQS7_B	-	Not used
AA25	DRAM_SDQS7	-	Not used
AB1	LVDS1_TX2_N	-	Not used
AB2	LVDS1_TX2_P	-	Not used
AB3	GND12	-	Ground terminal
AB4 to AB7	DRAM_D6, DRAM_D12, DRAM_D14, DRAM_D16	I/O	Two-way data bus with the SD-RAM
AB8	DRAM_DQM2	O	Data mask (upper byte) signal output to the SD-RAM
AB9	DRAM_D18	I/O	Two-way data bus with the SD-RAM
AB10	DRAM_SDQS3_B	O	Data strobe signal (lower byte) output to the SD-RAM
AB11	DRAM_D27	I/O	Two-way data bus with the SD-RAM
AB12	DRAM_SDBA2	O	Bank address signal output to the SD-RAM
AB13, AB14	DRAM_A8, DRAM_A1	O	Address signal output to the SD-RAM
AB15	DRAM_RAS	O	Row address signal output to the SD-RAM
AB16	DRAM_SDWE	O	Write enable signal output to the SD-RAM
AB17	DRAM_SDODT1	-	Not used
AB18	DRAM_DQM4	-	Not used
AB19 to AB23	DRAM_D38, DRAM_D41, DRAM_D42, DRAM_D52, DRAM_D60	-	Not used
AB24	GND11	-	Ground terminal
AB25	DRAM_D56	-	Not used
AC1	DRAM_D4	I/O	Two-way data bus with the SD-RAM
AC2	DRAM_VREF	I	Reference voltage input terminal
AC3	DRAM_DQM0	O	Data mask (lower byte) signal output to the SD-RAM
AC4, AC5	DRAM_D2, DRAM_D13	I/O	Two-way data bus with the SD-RAM
AC6	DRAM_DQM1	O	Data mask (upper byte) signal output to the SD-RAM
AC7 to AC9	DRAM_D15, DRAM_D22, DRAM_D28	I/O	Two-way data bus with the SD-RAM
AC10	DRAM_SDQS3	O	Data strobe signal (lower byte) output to the SD-RAM
AC11	DRAM_D31	I/O	Two-way data bus with the SD-RAM
AC12 to AC14	DRAM_A11, DRAM_A6, DRAM_A0	O	Address signal output to the SD-RAM
AC15	DRAM_SDBA0	O	Bank address signal output to the SD-RAM
AC16	DRAM_SDODT0	O	On die termination signal output to the SD-RAM
AC17	DRAM_A13	O	Address signal output to the SD-RAM
AC18, AC19	DRAM_D34, DRAM_D39	-	Not used
AC20	DRAM_DQM5	-	Not used
AC21 to AC25	DRAM_D47, DRAM_D48, DRAM_D53, DRAM_D51, DRAM_D55	-	Not used
AD1, AD2	DRAM_D5, DRAM_D0	I/O	Two-way data bus with the SD-RAM
AD3	DRAM_SDQS0_B	O	Data strobe signal (lower byte) output to the SD-RAM
AD4	GND18	-	Ground terminal
AD5	DRAM_D8	I/O	Two-way data bus with the SD-RAM
AD6	DRAM_SDQS1	O	Data strobe signal (upper byte) output to the SD-RAM

Pin No.	Pin Name	I/O	Description
AD7	GND19	-	Ground terminal
AD8	DRAM_SDQS2	O	Data strobe signal (upper byte) output to the SD-RAM
AD9	DRAM_D29	I/O	Two-way data bus with the SD-RAM
AD10	GND13	-	Ground terminal
AD11	DRAM_D30	I/O	Two-way data bus with the SD-RAM
AD12	DRAM_A12	O	Address signal output to the SD-RAM
AD13	GND14	-	Ground terminal
AD14	DRAM_SDCLK_1	O	Clock signal output to the SD-RAM
AD15	DRAM_SDCLK_0	-	Not used
AD16	GND15	-	Ground terminal
AD17	DRAM_CS1	-	Not used
AD18	DRAM_SDQS4	-	Not used
AD19	GND16	-	Ground terminal
AD20	DRAM_SDQS5	-	Not used
AD21	DRAM_D43	-	Not used
AD22	GND17	-	Ground terminal
AD23	DRAM_SDQS6	-	Not used
AD24	DRAM_DQM6	-	Not used
AD25	DRAM_D54	-	Not used
AE1	GND20	-	Ground terminal
AE2	DRAM_D1	I/O	Two-way data bus with the SD-RAM
AE3	DRAM_SDQS0	O	Data strobe signal (lower byte) output to the SD-RAM
AE4, AE5	DRAM_D7, DRAM_D9	I/O	Two-way data bus with the SD-RAM
AE6	DRAM_SDQS1_B	O	Data strobe signal (upper byte) output to the SD-RAM
AE7	DRAM_D11	I/O	Two-way data bus with the SD-RAM
AE8	DRAM_SDQS2_B	O	Data strobe signal (upper byte) output to the SD-RAM
AE9	DRAM_D24	I/O	Two-way data bus with the SD-RAM
AE10	DRAM_DQM3	O	Data mask (lower byte) signal output to the SD-RAM
AE11	DRAM_D26	I/O	Two-way data bus with the SD-RAM
AE12, AE13	DRAM_A9, DRAM_A5	O	Address signal output to the SD-RAM
AE14	DRAM_SDCLK_1_B	O	Clock signal output to the SD-RAM
AE15	DRAM_SDCLK_0_B	-	Not used
AE16	DRAM_CAS	O	Column address signal output to the SD-RAM
AE17	ZQPAD	I	External calibration resistor connection terminal
AE18	DRAM_SDQS4_B	-	Not used
AE19	DRAM_D35	-	Not used
AE20	DRAM_SDQS5_B	-	Not used
AE21, AE22	DRAM_D46, DRAM_D49	-	Not used
AE23	DRAM_SDQS6_B	-	Not used
AE24	DRAM_D50	-	Not used
AE25	GND21	-	Ground terminal

MAIN BOARD IC602 AR8035-AL1A (ETHERNET TRANSCEIVER, +1.1V/+1.8V REGULATOR)

Pin No.	Pin Name	I/O	Description
1	RSTN	I	Reset signal input from the MPU "L": reset
2	LX	O	Internal regulator output terminal (+1.1V)
3	VDD33	-	Power supply terminal (+3.3V)
4	XTALO	O	System clock output terminal (25 MHz)
5	XTALI	I	System clock input terminal (25 MHz)
6	AVDDL_6	-	Power supply terminal (+1.1V)
7	RBIAS	O	Bias current setting terminal
8	VDDH_REG	O	Internal regulator output terminal (+2.5V)
9	TRXP0	I/O	Two-way data (positive) bus with the LAN jack
10	TRXN0	I/O	Two-way data (negative) bus with the LAN jack
11	AVDDL_11	-	Power supply terminal (+1.1V)
12	TRXP1	I/O	Two-way data (positive) bus with the LAN jack
13	TRXN1	I/O	Two-way data (negative) bus with the LAN jack
14	AVDD33	-	Power supply terminal (+3.3V)
15	TRXP2	I/O	Two-way data (positive) bus with the LAN jack
16	TRXN2	I/O	Two-way data (negative) bus with the LAN jack
17	AVDDL_17	-	Power supply terminal (+1.1V)
18	TRXP3	I/O	Two-way data (positive) bus with the LAN jack
19	TRXN3	I/O	Two-way data (negative) bus with the LAN jack
20	INT	O	Interrupt signal output to the MPU
21	LED_ACT	O	LED drive signal output terminal Not used
22	LED_1000	O	LED drive signal output terminal Not used
23	CLK_25M	O	25 MHz clock signal output to the MPU
24	LED_10_100	O	LED drive signal output terminal Not used
25, 26	RXD3, RXD2	O	RGMII receive data output to the MPU
27	VDDIO_REG	O	Internal regulator output terminal (+1.8V)
28, 29	RXD1, RXD0	O	RGMII receive data output to the MPU
30	RX_DV	O	RGMII receive data valid signal output to the MPU
31	RX_CLK	O	RGMII receive clock signal output to the MPU
32	TX_EN	I	RGMII transmit data enable signal input from the MPU
33	GTX_CLK	I	RGMII transmit clock signal input from the MPU
34 to 37	TXD0 toTXD3	I	RGMII transmit data input from the MPU
38	DVDDL	-	Power supply terminal (+1.1V)
39	MDIO	I/O	Two-way management data bus with the MPU
40	MDC	I	Management data clock signal input from the MPU

FPGA DSP BOARD IC001 EP4CGX30BF14C8N (FPGA)

Pin No.	Pin Name	I/O	Description
A1	TDO	O	Data output terminal for the JTAG Not used
A2	TMS	I	Mode selection signal input terminal for the JTAG Not used
A3	TDI	I	Data input terminal for the JTAG Not used
A4	DCLK	I	Serial data transfer clock signal input from the MPU
A5	IO/DATA0	I	Configuration data input from the MPU
A6	IO/CLKUSR	I	Not used
A7	IO/PLL2_CLKOUTN	O	Not used
A8	IO/PLL2_CLKOUTP	O	Not used
A9	CLK8/DIFFCLK_5N	I	Audio data input from the audio DSP
A10	CLK9/DIFFCLK_5p	I	Not used
A11	IO/DIFFCLK_T11N/ DQ0T	O	Bit clock signal output to the audio DSP
A12	IO/DIFFCLK_T11P/ DQ0T	O	Not used
A13	IO/DIFFIO_T17N/ DQS0T/CQ0T/ DPCLK10	O	Not used
B1, B2	GND_B1, GND_B2	-	Ground terminal
B3	TCK	I	Clock signal input terminal for the JTAG Not used
B4	GND_B4	-	Ground terminal
B5	IO/ASDO	O	Not used
B6	IO/DQS1T/CQ0T#/ DPCLK13	O	Not used
B7	GND_B7	-	Ground terminal
B8	IO/DIFFCLK_T12N/ DQ0T	O	Bit clock signal output to the audio DSP
B9	GND_B9	-	Ground terminal
B10	IO/VREFB7N0	O	Audio data output to the audio DSP
B11	IO_B11	O	L/R sampling clock signal output to the audio DSP
B12	GND_B12	-	Ground terminal
B13	IO/DIFFIO_T17P/ DQ0T	O	Not used
C1	GXB_TX1n	O	Not used
C2	GXB_TX1p	O	Not used
C3	VCCIO9_C3	-	Power supply terminal (+3.3V)
C4	nCE	I	Chip enable signal input terminal Not used
C5	IO/NSCO	O	Not used
C6	IO/VREFB8N0	O	Not used
C7	VCCIO8_C7	-	Power supply terminal (+3.3V)
C8	IO/DIFFCLK_T12P/ DQ0T	O	L/R sampling clock signal output to the audio DSP
C9, C10	VCCIO7_C9, VCCIO7_C10	-	Power supply terminal (+3.3V)
C11	IO/PUP4/DQ0T	O	Not used
C12	IO/PDN4/DQ0T	O	Not used
C13	IO/DiFFIO_T1BN/ DQ0T	O	Not used
D1, D2	GND_D1, GND_D2	-	Ground terminal
D3	VCCD_PLL_D3	-	Power supply terminal (+1.2V)
D4	VCCA_D4	-	Power supply terminal (+2.5V)
D5	nCONFIG	I	Configuration signal input from the MPU
D6	GND_D6	-	Ground terminal
D7	VCC_CLKIN8A	-	Power supply terminal (+2.5V)
D8	GND_D8	-	Ground terminal
D9	VCCA_D9	-	Power supply terminal (+2.5V)
D10	IO/DIFFIO_R4n/ DEV_CLRn	I	Reset signal input from the MPU “L”: reset
D11	IO/DIFFIO_R2P	O	Chip select signal output to the D/A converter
D12	IO/DIFFIO_R2N	O	Serial data output to the D/A converter
D13	IO/DIFFIO_T1BP/ DQ0T	O	Interrupt signal output to the MPU

Pin No.	Pin Name	I/O	Description
E1	GXB_RX1p	O	Not used
E2	GXB_RX1n	O	Not used
E3	GND_E3	-	Ground terminal
E4	VCCINT_E4	-	Power supply terminal (+1.2V)
E5	GND_E5	-	Ground terminal
E6	CLK10/DIFFCLK_4n/ REFCLK1n	I	Reset signal input from the MPU "L": reset
E7	CLK11/DIFFCLK_4p/ REFCLK1p	I	50 MHz clock signal input terminal
E8	VCCINT_E8	-	Power supply terminal (+1.2V)
E9	GND_E9	-	Ground terminal
E10	IO/DIFFIO_R4P/ DM0R	O	Serial data transfer clock signal output to the D/A converter
E11	VCCIO6_E11	-	Power supply terminal (+3.3V)
E12	GND_E12	-	Ground terminal
E13	IO/VREFB6N0	O	Not used
F1, F2	GND_F1, GND_F2	-	Ground terminal
F3	VCCL_GXB_F3	-	Power supply terminal (+1.2V)
F4	GND_F4	-	Ground terminal
F5	VCCINT_F5	-	Power supply terminal (+1.2V)
F6	GND_F6	-	Ground terminal
F7	VCCINT_F7	-	Power supply terminal (+1.2V)
F8	GND_F8	-	Ground terminal
F9	IO_F9	O	Chip select signal output to the audio DSP
F10	IO/DIFFIO_R5P/ DQ0R	I	Serial data input from the audio DSP
F11	IO/DIFFIO_R5N/ DQ0R	O	Serial data output to the audio DSP
F12	CLK7/DIFFCLK_3P	I	Interrupt signal input from the audio DSP
F13	CLK6/DIFFCLK_3N	I	Busy signal input from the audio DSP
G1	GXB_TX0n	O	Receive data (negative) output to the FPGA
G2	GXB_TX0p	O	Receive data (positive) output to the FPGA
G3	VCCH_GXB	-	Power supply terminal (+2.5V)
G4	VCCINT_G4	-	Power supply terminal (+1.2V)
G5	GND_G5	-	Ground terminal
G6	VCCINT_G6	-	Power supply terminal (+1.2V)
G7	GND_G7	-	Ground terminal
G8	VCCINT_G8	-	Power supply terminal (+1.2V)
G9	IO/DIFFIO_R6P/ DQS0R/CQ0R/ DPCLK8	O	Serial data transfer clock signal output to the audio DSP
G10	IO/DIFFIO_R6N/ DEV_OE	O	Reset signal output to the audio DSP "L": reset
G11	VCCIO6_G11	-	Power supply terminal (+3.3V)
G12	GND_G12	-	Ground terminal
G13	CLK4/DIFFCLK_2N	I	5.6448 MHz clock or 6.144 MHz clock signal input terminal
H1, H2	GND_H1, GND_H2	-	Ground terminal
H3	VCCL_GXB_H3	-	Power supply terminal (+1.2V)
H4	GND_H4	-	Ground terminal
H5	VCCINT_H5	-	Power supply terminal (+1.2V)
H6	GND_H6	-	Ground terminal
H7	VCCINT_H7	-	Power supply terminal (+1.2V)
H8	GND_H8	-	Ground terminal
H9	VCCA_H9	-	Power supply terminal (+2.5V)
H10	IO/DIQS1R/CQ0R#/ DPCLK7	O	Power on/off control signal output terminal for the 22.5792 MHz clock "H": power on
H11	VCCIO5_H11	-	Power supply terminal (+3.3V)
H12	IO/VREFB5N0	O	Power on/off control signal output terminal for the 24.576 MHz clock "H": power on
H13	CLK5/DIFFCLK_2P	I	Not used
J1	GXB_RX0n	I	Transmit data (negative) input from the MPU
J2	GXB_RX0P	I	Transmit data (positive) input from the MPU

Pin No.	Pin Name	I/O	Description
J3	VCCA_GXB_J3	-	Power supply terminal (+2.5V)
J4	VCCD_PLL_J4	-	Power supply terminal (+1.2V)
J5	CONF_DONE	O	CONF_DONE signal output to the MPU
J6	CLK12/DIFFCLK_7p/ REFCLK0p	I	Clock signal (positive) input from the MPU
J7	CLK13/DIFFCLK_7n/ REFCLK0n	I	Clock signal (negative) input from the MPU
J8	VCCINT_J8	-	Power supply terminal (+1.2V)
J9	GND_J9	-	Ground terminal
J10	VCCD_PLL_J10	-	Power supply terminal (+1.2V)
J11	VCCIO5_J11	-	Power supply terminal (+3.3V)
J12	GND_J12	-	Ground terminal
J13	IO/DIFFIO_R9N/ DQ0R	O	Not used
K1, K2	GND_K1, GND_K2	-	Ground terminal
K3	GND_K3	-	Ground terminal
K4	VCCA_K4	-	Power supply terminal (+2.5V)
K5	MSEL0	I	Fixed at “L”
K6	nSTATUS	O	Status signal output to the MPU
K7	VCC_CLKIN3A	-	Power supply terminal (+2.5V)
K8	IO/VREFB4N0	O	Not used
K9	IO/DQ0B	O	Not used
K10	IO/PLL3_CLKOUTP	O	Not used
K11	IO/DIFFIO_R14P/ DQ0R	O	Reset signal output to the D/A converter “L”: reset
K12	IO/DIFFIO_R14N/ DQ0R	O	Audio muting on/off control signal output terminal “L”: muting on
K13	IO/DIFFIO_R9P/ DQ0R	O	L/R sampling clock signal output to the D/A converter
L1	RREF0	I	External reference resistor connection terminal
L2	GND_L2	-	Ground terminal
L3	MSEL2	I	Fixed at “H”
L4	IO/PLL1_CLKOUTP	O	Not used
L5	IO/DQS1B/CQ0B#/ DPCLK2	O	Not used
L6	VCCIO3	-	Power supply terminal (+3.3V)
L7	IO/VREFB3N0	O	Not used
L8	VCCIO4_L8	-	Power supply terminal (+3.3V)
L9	IO/DIFFIO_B19P/ DQ0B	O	Not used
L10	VCCIO4_L10	-	Power supply terminal (+3.3V)
L11	IO/PLL3_CLKOUTN	O	Not used
L12	IO/DIFFIO_R13P/ DQ0R	O	Clock selection signal output terminal
L13	IO/DIFFIO_R13N/ DQ0R	O	Audio data output to the D/A converter
M1	GND_M1	-	Ground terminal
M2	VCCA_GXB_M2	-	Power supply terminal (+2.5V)
M3	NC_M3	O	Not used
M4	IO/PLL1_CLKOUTN	O	Not used
M5	GND_M5	-	Ground terminal
M6	IO/DIFFIO_B3p/ INIT_DONE	O	INIT_DONE signal output to the MPU
M7	CLK14/DIFFCLK_6P	I	Not used
M8	GND_M8	-	Ground terminal
M9	IO/DIFFIO_B19N/ DQS0B/CQ0B/ DPCLK5	O	Not used
M10	GND_M10	-	Ground terminal
M11	IO/RUP2/DQ0B	O	Not used
M12	GND_M12	-	Ground terminal
M13	IO/RDN3	O	Not used

Pin No.	Pin Name	I/O	Description
N1	VCCL_GXB_N1	-	Power supply terminal (+1.2V)
N2	NC_N2	O	Not used
N3	MSEL1	I	Fixed at “L”
N4	IO/DIFFIO_B1P/ CRC_ERROR	O	Not used
N5	IO/DIFFIO_B1N/ NCEO	O	Not used
N6	IO/DIFFIO_B3N/ DQ0B	O	Not used
N7	CLK15/DIFFCLK_6N	I	Not used
N8	IO/DIFFIO_B12P/ DQ0B	O	Not used
N9	IO/DIFFIO_B12N/ DQ0B	O	Not used
N10	IO/DIFFIO_B21P/ DQ0B	O	Not used
N11	IO/DIFFIO_B21N/ DQ0B	O	Not used
N12	IO/RDN2/DM0B	O	Not used
N13	IO/RUP3	O	Bit clock signal output to the D/A converter

FPGA DSP BOARD IC702 CS48L10-CNZR (AUDIO DSP)

Pin No.	Pin Name	I/O	Description
1	CLOCK	I	6 MHz clock signal input terminal
2	VPLL	-	Power supply terminal for the PLL (+1.2V)
3	GND_3	-	Ground terminal
4	VD_4	-	Power supply terminal for the digital core and memory (+1.2V)
5	VL_5	-	Power supply terminal for the digital interface (+3.3V)
6	CLK/SCL	I	Serial data transfer clock signal input from the FPGA
7	nCS	I	Chip select signal input from the FPGA
8	MISO/SDA	O	Serial data output to the FPGA
9	MOSI	I	Serial data input from the FPGA
10	nBUSY/HS0/ nEE_CS	O	Busy signal output to the FPGA
11	nINT/HS1	O	Interrupt signal output to the FPGA
12	nRESET	I	Reset signal input from the FPGA “L”: reset
13	DBCK	-	Not used
14	VL_14	-	Power supply terminal for the digital interface (+3.3V)
15	GND_15	-	Ground terminal
16	VD_16	-	Power supply terminal for the digital core and memory (+1.2V)
17	DBDA	-	Not used
18	MCLK	I	Master clock signal input terminal Not used
19	DAO_D1	O	Audio data output to the FPGA
20	DAO_LRCLK	I	L/R sampling clock signal input from the FPGA
21	DAO_SCLK	I	Bit clock signal input from the FPGA
22	DAI_D1	I	Audio data input from the FPGA
23	DAI_LRCLK	I	L/R sampling clock signal input from the FPGA
24	DAI_SCLK	I	Bit clock signal input from the FPGA

U-COM BOARD IC5006 MB9AF156NPMC-G-JNE2 (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Description
1	VCC	-	Power supply terminal (+3.3V)
2	HP DETECT	I	Headphone insert detection signal input terminal "L": headphone is inserted
3	HP RELAY	O	Relay drive signal (for headphone) output terminal "H": relay on
4	SPK RELAY	O	Relay drive signal (for speaker) output terminal "H": relay on
5	PROTECT	I	Protect detection signal input terminal "L": protect is detected
6	COM DATA	O	Serial data output to the electrical volume
7	COM CLK	O	Serial data transfer clock signal output to the electrical volume
8	CS	O	Chip select signal output to the electrical volume
9	AMUTE	O	Audio muting on/off control signal output terminal "L": muting on
10	POWER_RY	O	Relay drive signal (for main power) output terminal "H": relay on
11	AC_STOP_STBY	I	AC cut detection signal (for sub power) input terminal "H": AC cut is detected
12	AC_STOP_MAIN	I	AC cut detection signal (for main power) input terminal "H": AC cut is detected
13	DCDC_EN	O	DC/DC converter on/off control signal output terminal for the hard disk drive and VBUS power "H": DC/DC converter on
14	NC	-	Not used
15	DIR_REG_EN	O	Regulator on/off control signal output terminal for the digital circuit "H": Regulator on
16	DIR_SEL	O	Audio selection signal output terminal "L": FPGA audio, "H": digital audio interface receiver audio
17	NC	-	Not used
18	DIR_ST_DATA	I	Audio data input from the digital audio interface receiver
19	DIR_INT	I	Interrupt signal input from the digital audio interface receiver
20	DIR_NPCLM	I	No-LPCM signal input from the digital audio interface receiver
21 to 24	NC	-	Not used
25	VSS	-	Ground terminal
26	VCC	-	Power supply terminal (+3.3V)
27	DIR_MISO	I	Serial data input from the digital audio interface receiver
28	DIR_MOSI	O	Serial data output to the digital audio interface receiver
29	DIR_SCK	O	Serial data transfer clock signal output to the digital audio interface receiver
30	DIR_CE	O	Chip enable signal output to the digital audio interface receiver
31	DIR_ERROR	I	Error signal input from the digital audio interface receiver "L": error
32	DIR_CKST	I	Data muting on/off control signal input from the digital audio interface receiver "L": muting on
33	C	-	Regulator stabilization capacitor connection terminal
34	VSS	-	Ground terminal
35	VCC	-	Power supply terminal (+3.3V)
36	DIR_RESET	O	Reset signal output to the digital audio interface receiver "L": reset
37	POWER_EN	O	Power on/off control signal output terminal for the MPU power "H": power on
38	SYS RESET	I	System reset signal input from the MPU and reset signal generator "L": reset For several hundreds msec. after the power supply rises, "L" is input, then it change to "H"
39	UART MPU/SYS	I	Serial data input from the MPU
40	UART SYS/MPU	O	Serial data output to the MPU
41	MPU RESET	O	Reset signal output to the MPU "L": reset
42 to 45	NC	-	Not used
46	MD1	I	Fixed at "L"
47	MD0	I	Update signal input from the MPU "H": update
48	XTALO	O	System clock output terminal (4 MHz)
49	XTALI	I	System clock input terminal (4 MHz)
50	VSS	-	Ground terminal
51	VCC	-	Power supply terminal (+3.3V)
52	VOL JOG+	I	Jog dial pulse (positive) input from the rotary encoder (for VOLUME)
53	VOL JOG–	I	Jog dial pulse (negative) input from the rotary encoder (for VOLUME)
54	SEL JOG+	I	Jog dial pulse (positive) input from the rotary encoder (for selector)
55	SEL JOG–	I	Jog dial pulse (negative) input from the rotary encoder (for selector)
56	DSEE LED	O	LED drive signal output terminal for the DSEE indicator "H": LED on
57	NC	-	Not used
58	AD KEY1	I	BACK and ENTER key input terminal (A/D input)
59	AD KEY2	I	HOME key input terminal (A/D input)
60	AVCC	-	Power supply terminal (+3.3V)
61	AVRH	I	Reference voltage (+3.3V) input terminal

Pin No.	Pin Name	I/O	Description
62	AVSS	-	Ground terminal
63	PWR LED GRN	O	LED drive signal output terminal for the power indicator "H": LED on
64	NC	-	Not used
65	SIRCS IN	I	SIRCS signal input from the remote control receiver
66	PLAY KEY	I	Play key input terminal (A/D input)
67	POWER KEY	I	Power key input terminal (A/D input)
68	MODEL	I	Model setting terminal Fixed at "L" in this unit
69	DST	I	Destination setting terminal Fixed at "L"
70	A_LEVEL_DET	I	Speaker level detection signal input terminal
71	PROG SCK	O	Program clock signal output terminal
72	PROG SYS/JIG	O	Program data output to the MPU
73	PROG JIG/SYS	I	Program data input from the MPU
74	NC	-	Not used
75	VSS	-	Ground terminal
76	VCC	-	Power supply terminal (+3.3V)
77	NC	-	Not used
78	TCK	I	Clock signal input terminal for the JTAG
79	TMS	O	Mode selection signal output terminal for the JTAG
80	TDO	O	Data output terminal for the JTAG
81	TDI	I	Data input terminal for the JTAG
82 to 84	NC	-	Not used
85	AMP_TEMP1	I	Temperature sensor input terminal
86, 87	TEST1, TEST2	-	Not used
88	STBY_EN	O	Power cut on/off control signal output terminal for the sub power "H": sub power cut on
89	FAN_EN	O	Fan motor on/off control signal output terminal "H": fan motor on
90	FAN_SLOW/FAST	O	Fan motor speed selection signal output terminal "L": slow, "H": fast
91	TEST3	-	Not used
92	LINE_RY	O	Line muting on/off control signal output terminal "L": muting on
93	NC	-	Not used
94	E2P SCL	O	Serial data transfer clock signal output to the EEPROM
95	E2P SDA	I/O	Two-way data bus the EEPROM
96	A_SEL1	O	Analog audio selection signal output terminal "L": D/A converter audio, "H": LINE IN audio
97	VCC	-	Power supply terminal (+3.3V)
98	A_SEL2	O	Analog audio selection signal output terminal "L":LINE IN 1 audio, "H": LINE IN 2 audio
99	NC	-	Not used
100	VSS	-	Ground terminal

SECTION 6
EXPLODED VIEWS

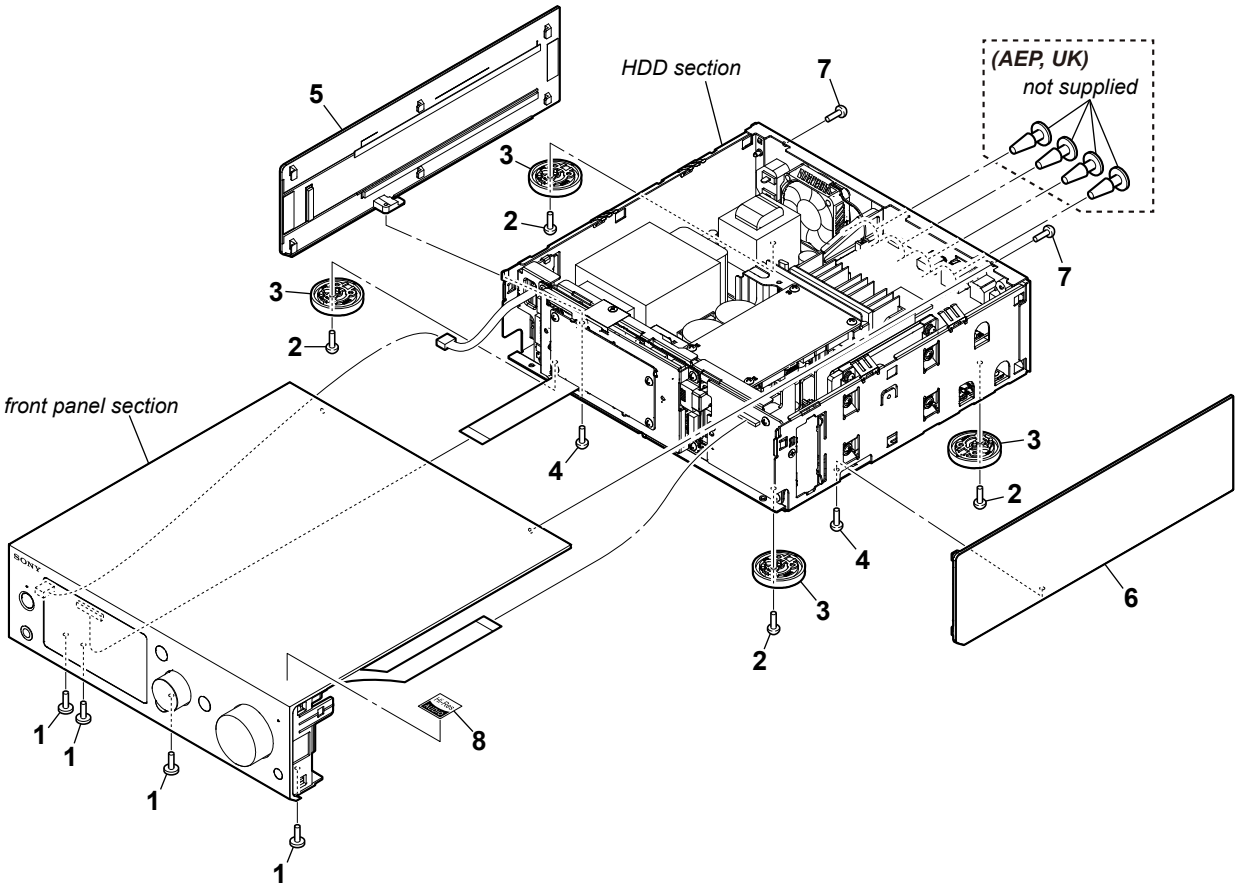
Note:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ Parts Color ↑ Cabinet's Color
- Abbreviation
  CND : Canadian model
- Color variations
  Silver, Black

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

6-1. SIDE PANEL SECTION

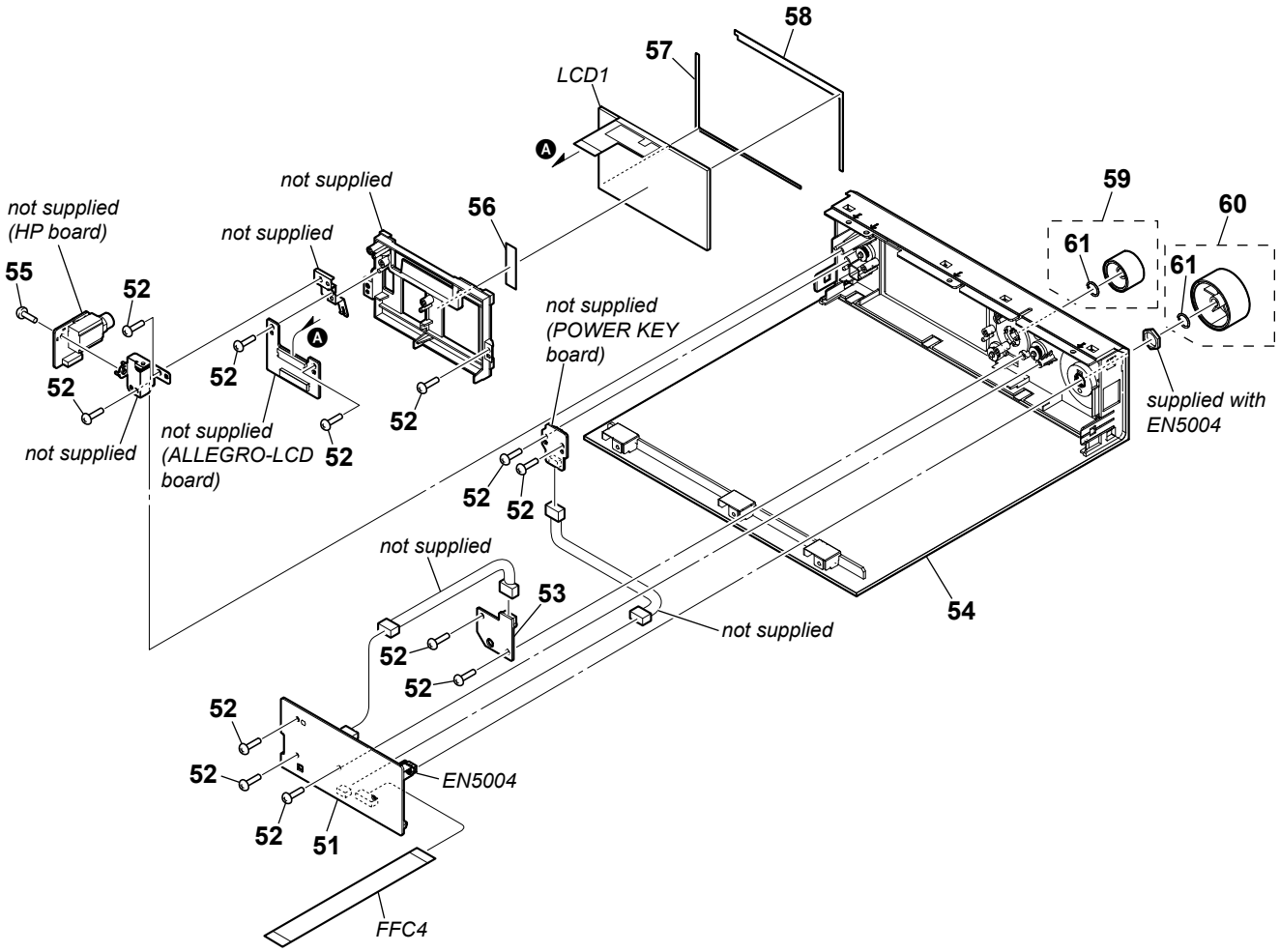


Ref. No.	Part No.	Description	Remark
1	4-227-843-03	SCREW (TP), FLAT HEAD (for BLACK)	
1	4-227-843-31	SCREW (TP), FLAT HEAD (for SILVER)	
2	3-077-331-62	+BV3 (3-CR)	
3	X-2587-364-1	FOOT ASSY (ALG)	
4	4-474-331-01	FLAT SCREW	
5	X-2587-441-1	SIDE PANEL ASSY (L) (for L-ch) (SILVER)	

Ref. No.	Part No.	Description	Remark
5	X-2588-154-1	SIDE PANEL ASSY (L-B) (for L-ch) (BLACK)	
6	X-2587-442-1	SIDE PANEL ASSY (R) (for R-ch) (SILVER)	
6	X-2588-155-1	SIDE PANEL ASSY (R-B) (for R-ch) (BLACK)	
7	3-077-331-41	+BV3 (3-CR)	
8	4-477-465-31	HI-RES LABEL	

6-2. FRONT PANEL SECTION

• Rear bottom view

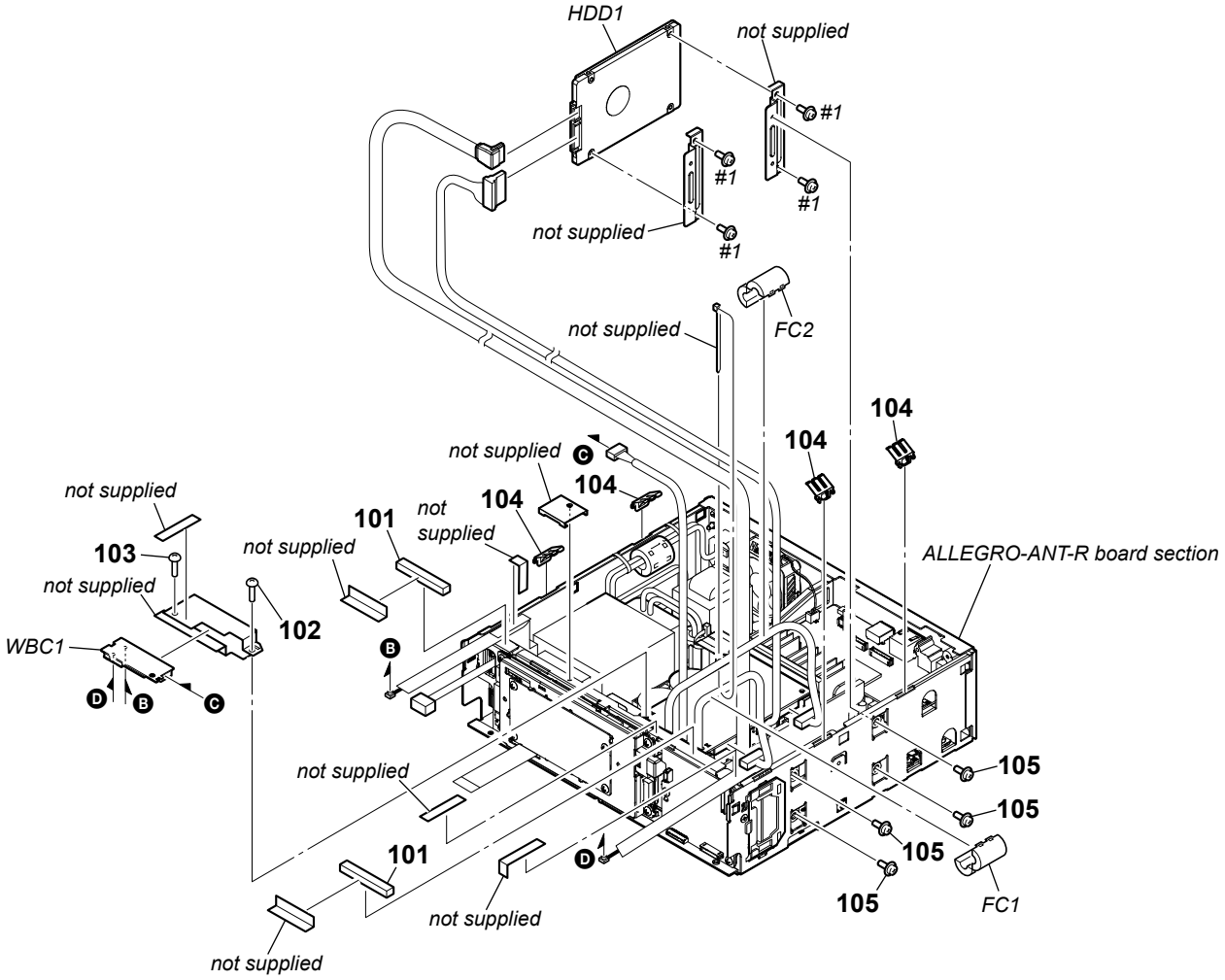


Note: Wires (flat type) for service is straight.
When replacing wire (flat type), install it after bending it in the same form as that before replacement.

Ref. No.	Part No.	Description	Remark
51	A-1945-086-A	KEY JOG BOARD, COMPLETE	
52	3-087-053-01	+BVTP2.6 (3CR)	
53	A-1974-810-A	PENC BOARD, COMPLETE	
54	X-2587-367-2	FRONT PANEL ASSY (ALG) (SILVER)	
54	X-2588-153-2	FRONT PANEL ASSY (ALG-B) (BLACK)	
55	3-077-331-62	+BV3 (3-CR)	
56	4-420-224-01	ADHESIVE, A	
57	4-464-775-01	CUSHION, LCD (A)	
58	4-464-776-01	CUSHION, LCD (B)	

Ref. No.	Part No.	Description	Remark
59	X-2587-366-2	SEL KNOB ASSY (SILVER)	
59	X-2588-152-2	SEL KNOB ASSY (B) (BLACK)	
60	X-2587-365-1	VOL KNOB ASSY (SILVER)	
60	X-2588-151-1	VOL KNOB ASSY (B) (BLACK)	
61	3-350-426-01	SPRING, RING	
EN5004	1-418-725-41	ENCODER, ROTARY (12 TYPE) (VOLUME)	
FFC4	1-828-002-51	WIRE (FLAT TYPE) (17 CORE) (See Note)	
LCD1	1-811-873-11	PANEL, LCD	

6-3. HDD SECTION

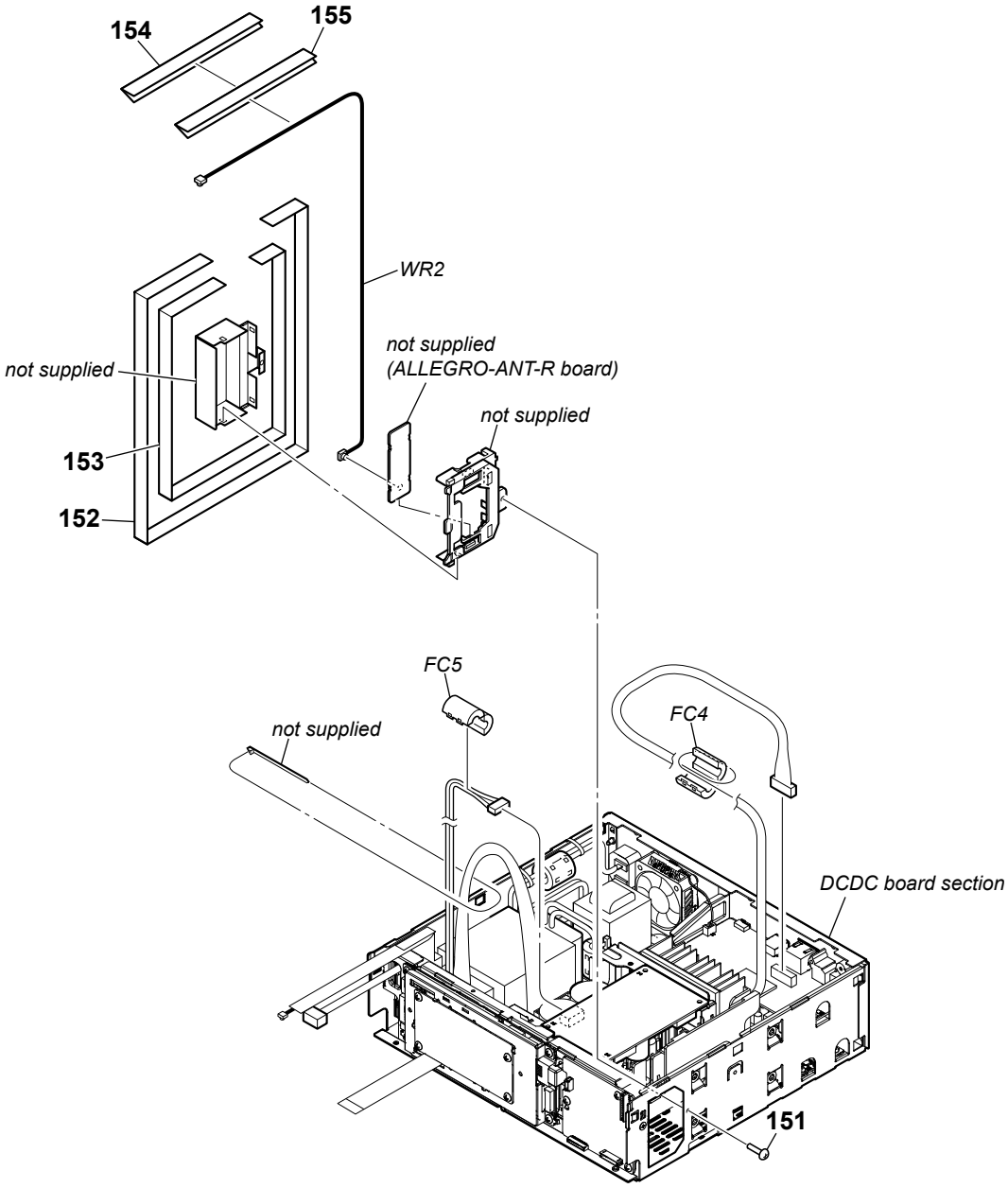


Note 1: When the WLAN/BT COMBO card (Ref. No. WBC1) is replaced, refer to "CHECKING METHOD OF NETWORK CONNECTION" on page 5.

Note 2: When the hard disk drive (Ref. No. HDD1) is replaced, refer to "NOTE OF REPLACING THE HARD DISK DRIVE (Ref. No. HDD1)" on page 4.

Ref. No.	Part No.	Description	Remark
101	4-486-366-01	GASKET (6X6)	
102	3-077-331-62	+BV3 (3-CR)	
103	4-474-331-01	FLAT SCREW	
104	4-469-024-01	GND PLATE (AL)	
105	4-467-898-01	STEP SCREW	
FC1	1-481-528-11	FILTER, CLAMP (FERRITE CORE)	
FC2	1-481-528-11	FILTER, CLAMP (FERRITE CORE)	
⚠ HDD1	1-458-715-11	HDD/TSB-AQUARIUS-SLIM (500GB) (Hard Disk Drive) (See Note 2)	
WBC1	1-458-601-31	CARD, WLAN/BT COMBO (See Note 1)	
#1	7-682-946-09	SCREW +PSW 3X5	

6-4. ALLEGRO-ANT-R BOARD SECTION

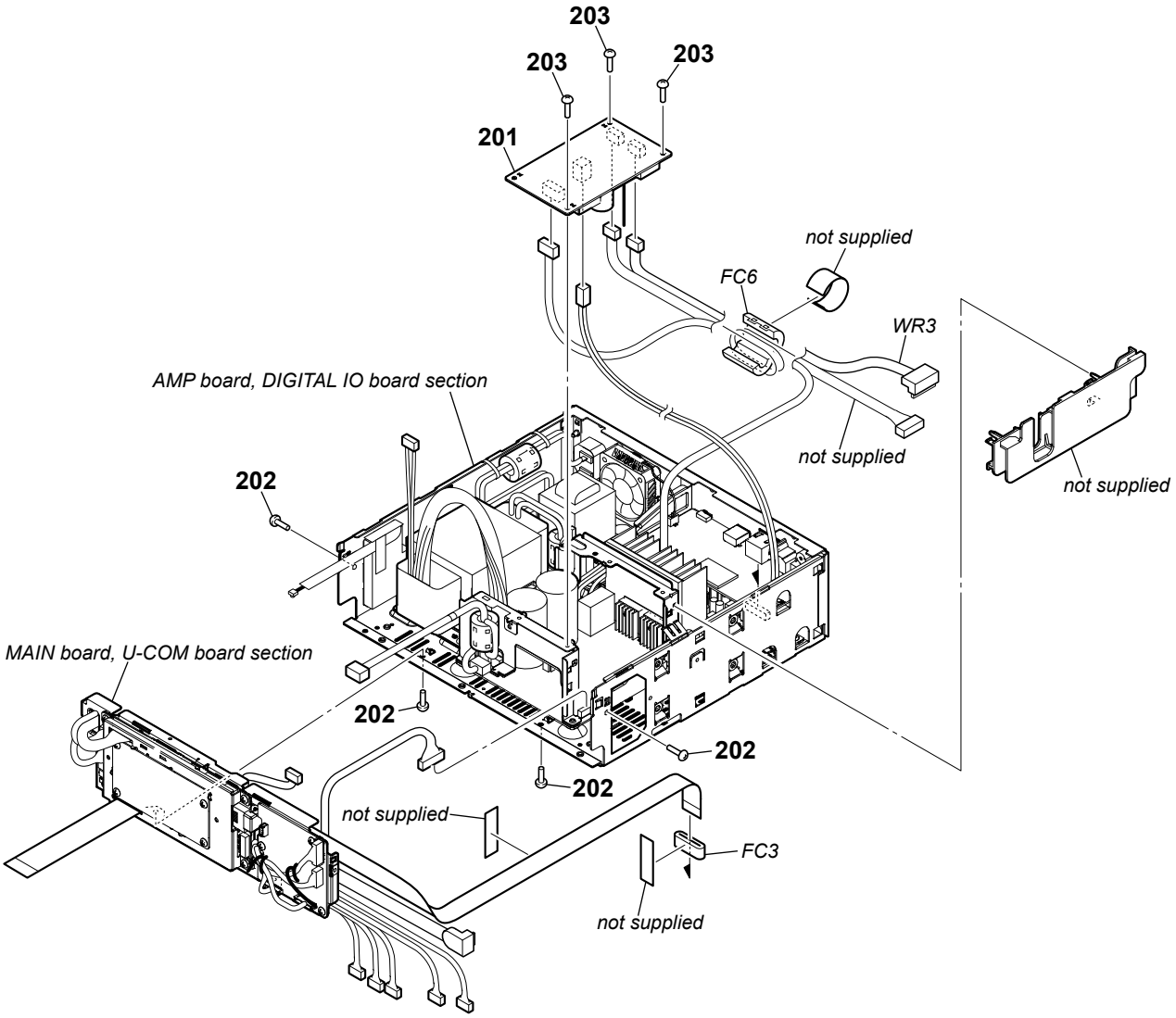


Note: When the coaxial (U.FL connector) cable (Ref. No. WR2) is replaced, refer to "CHECKING METHOD OF NETWORK CONNECTION" on page 5.

Ref. No.	Part No.	Description	Remark
151	4-474-331-01	FLAT SCREW	
152	4-485-976-01	TAPE (WA-L)	
153	4-484-735-01	SHEET (WA-L)	
154	4-485-977-01	TAPE (WA-M) (for R-ch coaxial cable)	
155	4-485-586-01	SHEET (WA-M) (for R-ch coaxial cable)	

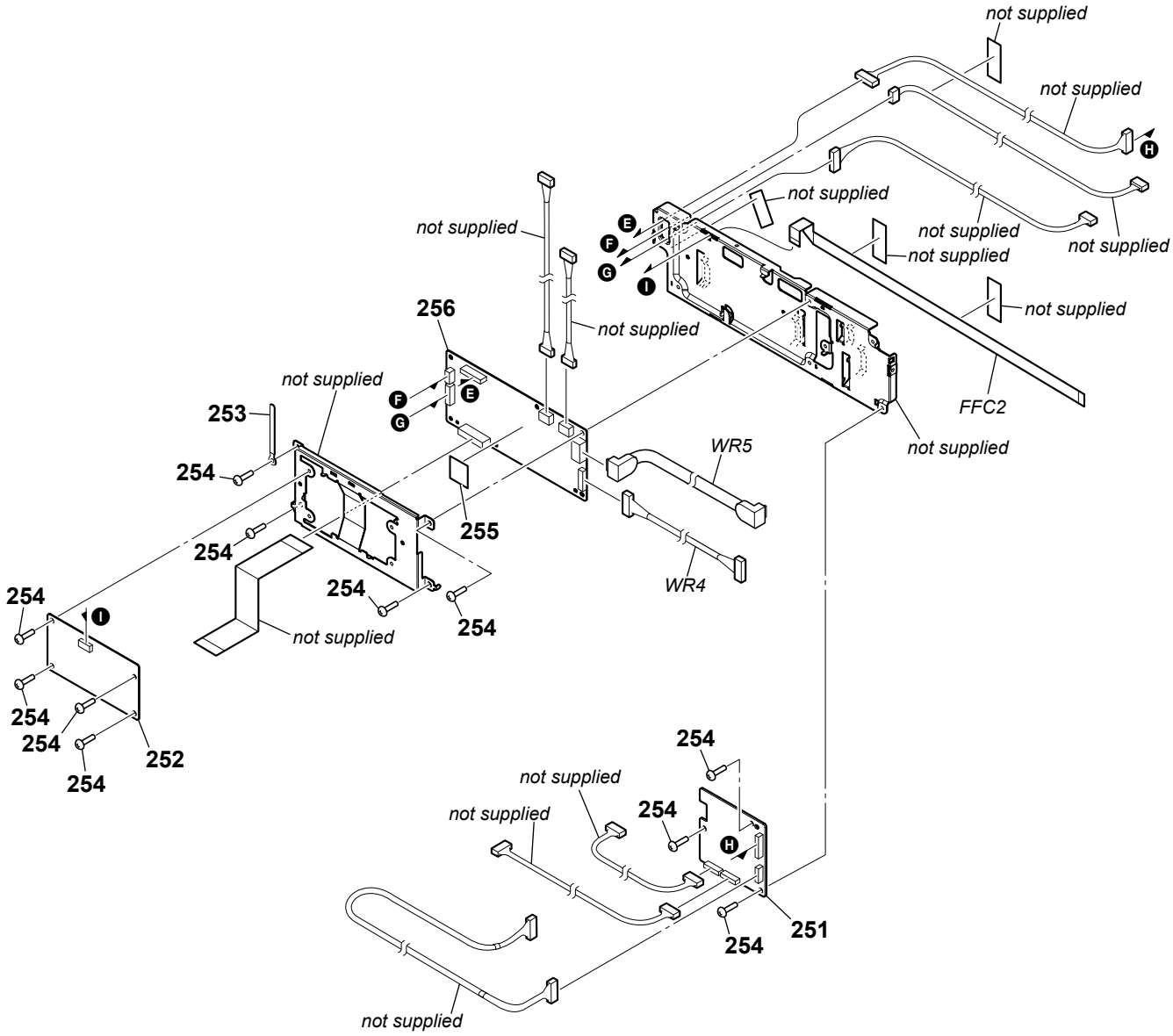
Ref. No.	Part No.	Description	Remark
FC4	1-500-386-11	FILTER, CLAMP (FERRITE CORE)	
FC5	1-481-528-11	FILTER, CLAMP (FERRITE CORE)	
WR2	1-846-781-11	CABLE, COAXIAL (U.FL CONNECTOR) (for R-ch)	(See Note)

6-5. DCDC BOARD SECTION



Ref. No.	Part No.	Description	Remark
201	A-1945-082-A	DCDC BOARD, COMPLETE	
202	4-474-331-01	FLAT SCREW	
203	3-077-331-62	+BV3 (3-CR)	
FC3	1-400-640-11	CORE, FERRITE	
FC6	1-500-082-11	CLAMP, SLEEVE FERRITE	
WR3	1-969-717-11	HARNESS (S-003)	

6-6. MAIN BOARD, U-COM BOARD SECTION



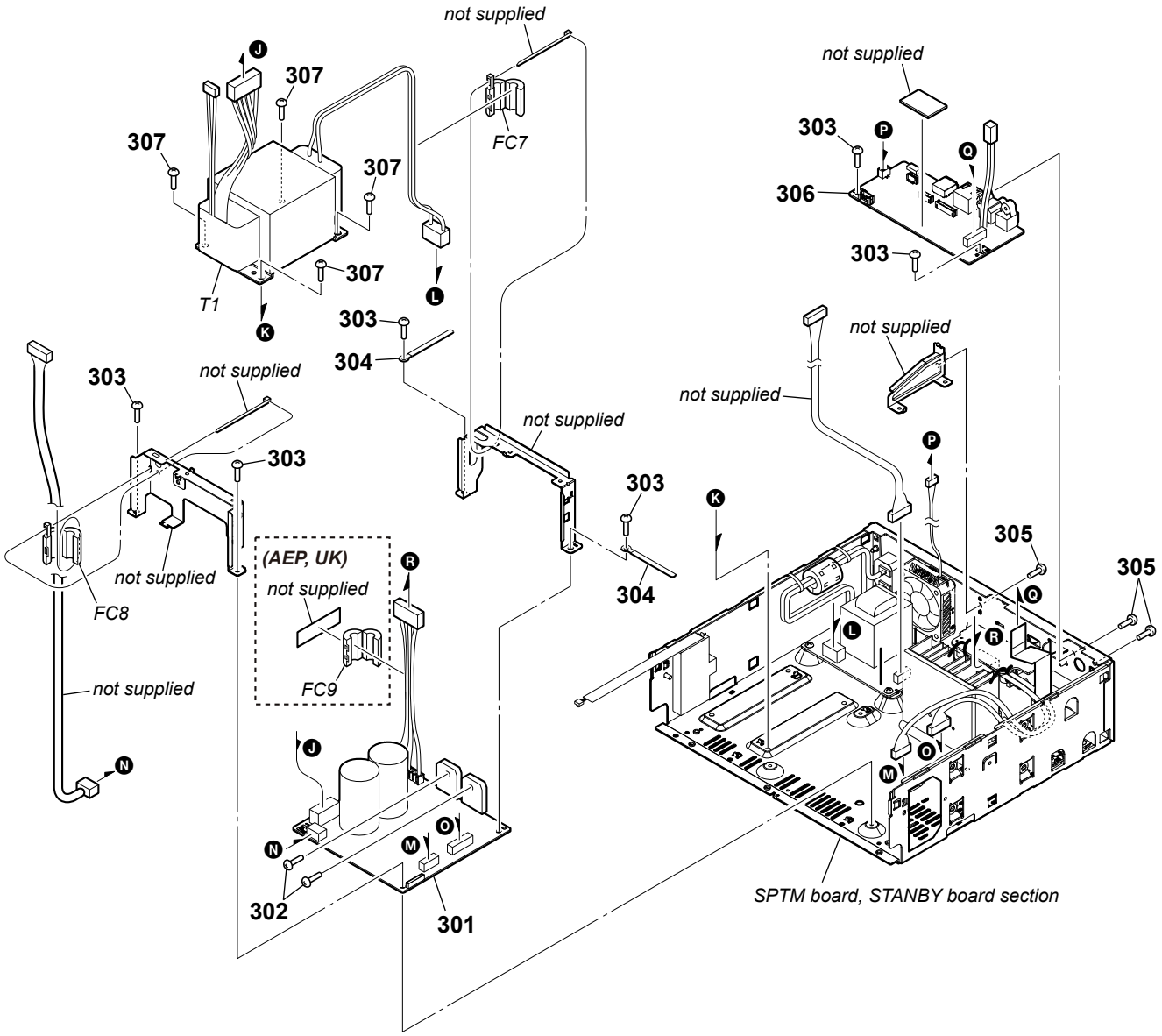
Note 1: When the complete MAIN board is replaced, refer to "NOTE OF REPLACING THE COMPLETE MAIN BOARD" and "CHECKING METHOD OF NETWORK CONNECTION" on page 5.

Note 2: Wires (flat type) for service is straight.
When replacing wire (flat type), install it after bending it in the same form as that before replacement.

Ref. No.	Part No.	Description	Remark
251	A-1945-088-A	U-COM BOARD, COMPLETE	
252	A-1945-063-A	FPGA DSP BOARD, COMPLETE	
* 253	3-703-150-11	CLAMP	
254	3-077-331-62	+BV3 (3-CR)	
255	4-478-826-01	SHEET RADIATION (20)	
256	A-1989-167-A	MAIN BOARD, COMPLETE (for SERVICE) (US, CND) (See Note 1)	

Ref. No.	Part No.	Description	Remark
256	A-1989-168-A	MAIN BOARD, COMPLETE (for SERVICE) (AEP, UK) (See Note 1)	
FFC2	1-828-774-51	WIRE (FLAT TYPE) (24 CORE) (See Note 2)	
WR4	1-969-719-11	HARNESS (E-001)	
WR5	1-969-715-11	HARNESS (S-001)	

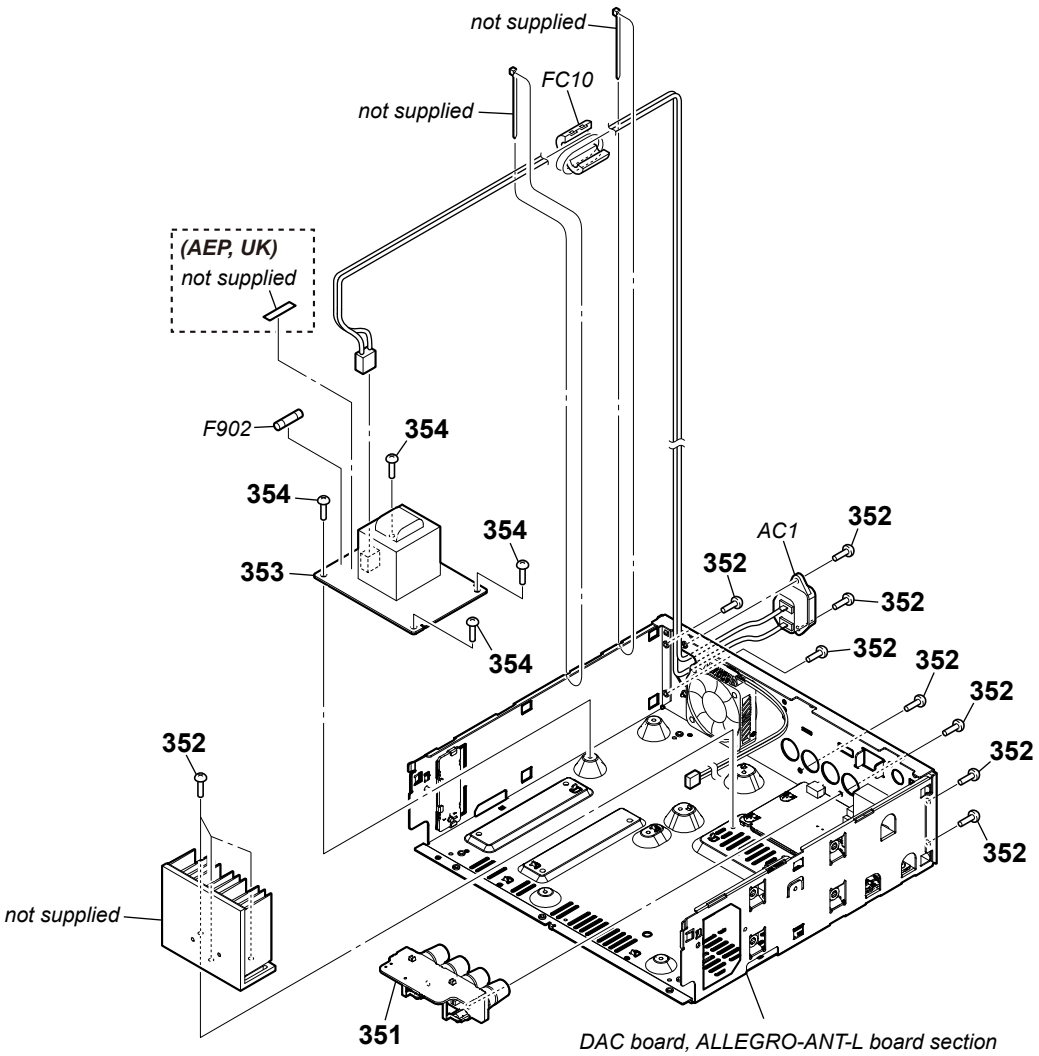
6-7. AMP BOARD, DIGITAL IO BOARD SECTION



Note: When the complete AMP board is replaced, refer to "NOTE OF REPLACING THE D218, IC350 AND IC351 ON THE AMP BOARD AND THE COMPLETE AMP BOARD" on page 4.

Ref. No.	Part No.	Description	Remark
301	A-1945-071-A	AMP BOARD, COMPLETE (AEP, UK) (See Note)	
301	A-1945-072-A	AMP BOARD, COMPLETE (US, CND) (See Note)	
302	3-905-609-01	SCREW (TRANSISTOR)	
303	3-077-331-62	+BV3 (3-CR)	
* 304	3-703-150-11	CLAMP	
305	3-077-331-41	+BV3 (3-CR)	
306	A-1945-092-A	DIGITAL IO BOARD, COMPLETE	
307	4-249-675-02	+BV SUMITITE S 4X6 ROUND	
FC7	1-500-386-11	FILTER, CLAMP (FERRITE CORE)	
FC8	1-500-082-11	CLAMP, SLEEVE FERRITE	
FC9	1-500-082-11	CLAMP, SLEEVE FERRITE (AEP, UK)	
⚠ T1	1-697-296-11	TRANSFORMER, POWER (US, CND)	
⚠ T1	1-697-304-11	TRANSFORMER, POWER (AEP, UK)	

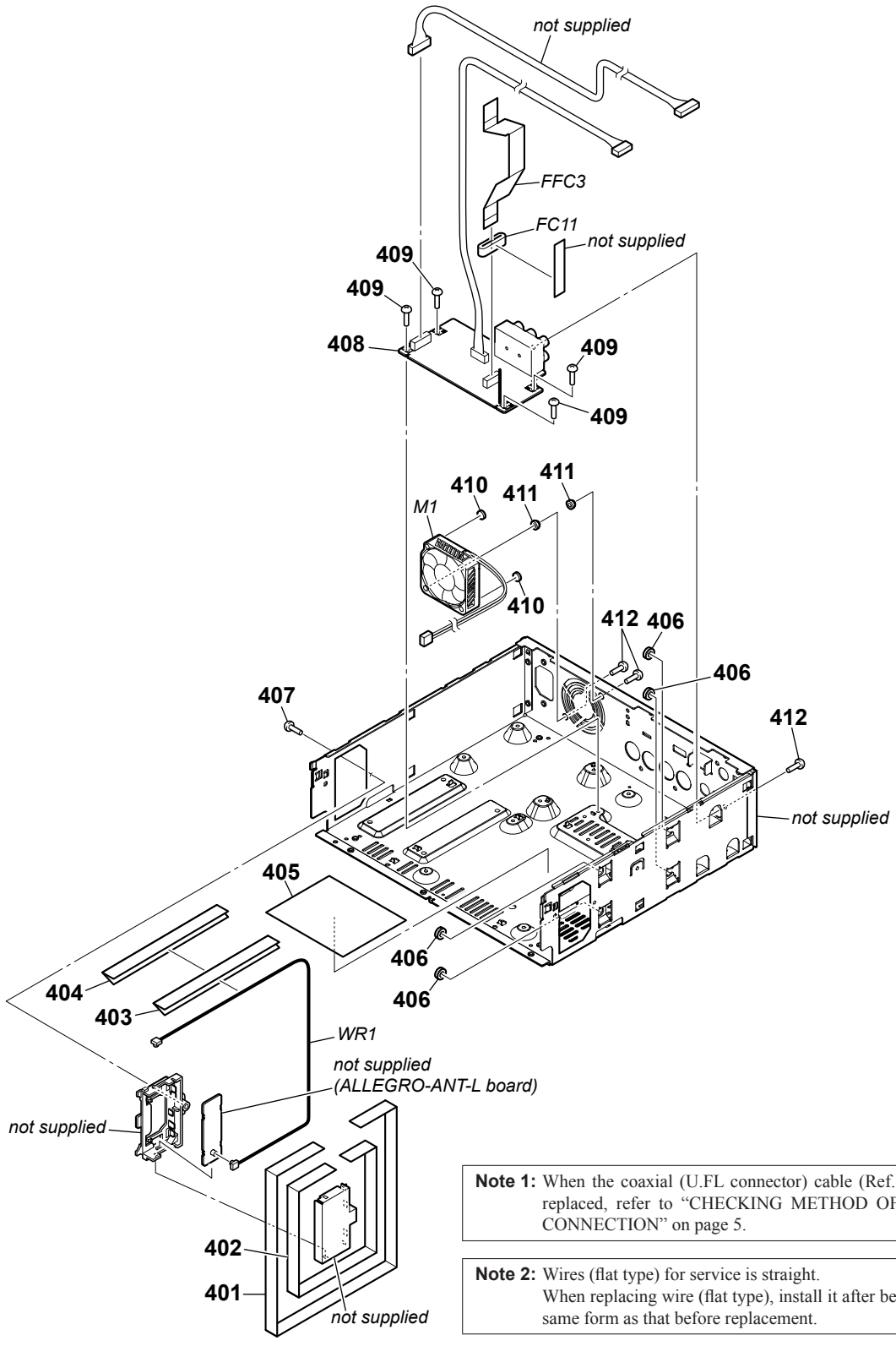
6-8. SPTM BOARD, STANBY BOARD SECTION



Ref. No.	Part No.	Description	Remark
351	A-1945-077-A	SPTM BOARD, COMPLETE (AEP, UK)	
351	A-1945-078-A	SPTM BOARD, COMPLETE (US, CND)	
352	3-077-331-41	+BV3 (3-CR)	
353	A-1945-084-A	STANBY BOARD, COMPLETE (AEP, UK)	
353	A-1945-085-A	STANBY BOARD, COMPLETE (US, CND)	

Ref. No.	Part No.	Description	Remark
354	3-077-331-62	+BV3 (3-CR)	
⚠ AC1	1-821-082-21	INLET, AC 2P	
⚠ F902	1-532-388-33	FUSE (T 2 AL/250 V) (AEP, UK)	
⚠ F902	1-532-504-33	FUSE (T 4 AL/250 V) (US, CND)	
FC10	1-500-386-11	FILTER, CLAMP (FERRITE CORE)	

6-9. DAC BOARD, ALLEGRO-ANT-L BOARD SECTION



Note 1: When the coaxial (U.FL connector) cable (Ref. No. WR1) is replaced, refer to "CHECKING METHOD OF NETWORK CONNECTION" on page 5.

Note 2: Wires (flat type) for service is straight.
When replacing wire (flat type), install it after bending it in the same form as that before replacement.

Ref. No.	Part No.	Description	Remark
401	4-485-976-01	TAPE (WA-L)	
402	4-484-735-01	SHEET (WA-L)	
403	4-484-736-01	SHEET (WA-S) (for L-ch coaxial cable)	
404	4-485-978-01	TAPE (WA-S) (for L-ch coaxial cable)	
405	4-485-979-01	SHEET (AMP)	
406	4-467-899-01	DAMPER (HDD)	
407	4-474-331-01	FLAT SCREW	
408	A-1945-074-A	DAC BOARD, COMPLETE (AEP, UK)	
408	A-1945-075-A	DAC BOARD, COMPLETE (US, CND)	
409	3-077-331-62	+BV3 (3-CR)	

Ref. No.	Part No.	Description	Remark
410	4-471-459-01	CUSHION_F	
411	4-468-810-01	BUSH (FAN)	
412	3-077-331-41	+BV3 (3-CR)	
FC11	1-400-640-11	CORE, FERRITE	
FFC3	1-828-760-51	WIRE (FLAT TYPE) (22 CORE) (See Note 2)	
⚠ M1	1-855-324-11	DC FAN	
WR1	1-846-782-11	CABLE, COAXIAL (U.FL CONNECTOR) (for L-ch) (See Note 1)	

SECTION 7
ELECTRICAL PARTS LIST

ALLEGRO-ANT-L
ALLEGRO-ANT-R
ALLEGRO-LCD **AMP**

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Note:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- CAPACITORS
  uF: µF
- COILS
  uH: µH
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . , uPA. . , µPA. . ,
  uPB. . : µPB. . , uPC. . , µPC. . ,
  uPD. . : µPD. .
- Abbreviation
  CND : Canadian model

Ref. No.	Part No.	Description			Remark
		ALLEGRO-ANT-L BOARD			
		**********			
The ALLEGRO-ANT-L board is not covered in the servicing.					
**********					
		ALLEGRO-ANT-R BOARD			
		**********			
The ALLEGRO-ANT-R board is not covered in the servicing.					
**********					
		ALLEGRO-LCD BOARD			
		**********			
		< CAPACITOR >			
C004	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
		< CONNECTOR >			
CN001	1-815-231-61	CONNECTOR, FFC/FPC (ZIF) 40P			
CN002	1-843-774-81	CONNECTOR, FFC/FPC (ZIF) 40P			
		< RESISTOR >			
R003	1-218-929-11	METAL CHIP	10	5%	1/16W
**********					
	A-1945-071-A	AMP BOARD, COMPLETE (AEP, UK) (See Note)			
	A-1945-072-A	AMP BOARD, COMPLETE (US, CND) (See Note)			
		**********			
	3-077-331-41	+BV3 (3-CR)			
		< CAPACITOR >			
C200	1-116-707-11	CERAMIC CHIP	47uF	20%	10V
C201	1-118-044-11	CERAMIC CHIP	1uF	10%	50V
C202	1-118-044-11	CERAMIC CHIP	1uF	10%	50V
C205	1-112-092-11	ELECT	1000uF	20%	25V
C206	1-112-092-11	ELECT	1000uF	20%	25V
C207	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C208	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C212	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
C213	1-126-940-11	ELECT	330uF	20%	25V
C214	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C216	1-116-299-91	CERAMIC CHIP	220PF	1%	50V
C217	1-116-299-91	CERAMIC CHIP	220PF	1%	50V
C218	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
C221	1-118-044-11	CERAMIC CHIP	1uF	10%	50V
C222	1-118-044-11	CERAMIC CHIP	1uF	10%	50V

Ref. No.	Part No.	Description			Remark
C228	1-136-165-00	FILM	0.1uF	5%	50V
C229	1-136-165-00	FILM	0.1uF	5%	50V
C230	1-100-155-91	CERAMIC CHIP	470PF	5%	100V
C231	1-100-155-91	CERAMIC CHIP	470PF	5%	100V
C236	1-124-721-11	ELECT	10uF	20%	50V
C237	1-124-721-11	ELECT	10uF	20%	50V
C240	1-118-647-11	ELECT (BLOCK)	6800uF	20%	50V
C241	1-118-647-11	ELECT (BLOCK)	6800uF	20%	50V
C242	1-126-964-11	ELECT	10uF	20%	50V
C243	1-126-964-11	ELECT	10uF	20%	50V
C244	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
C245	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
C246	1-126-961-11	ELECT	2.2uF	20%	50V
C251	1-124-748-11	ELECT	22uF	20%	100V
C252	1-124-748-11	ELECT	22uF	20%	100V
C256	1-124-748-11	ELECT	22uF	20%	100V
C257	1-124-748-11	ELECT	22uF	20%	100V
C261	1-112-083-11	ELECT	100uF	20%	16V
C262	1-112-083-11	ELECT	100uF	20%	16V
C269	1-112-100-11	ELECT	10uF	20%	50V
C270	1-124-721-11	ELECT	10uF	20%	50V
C271	1-124-721-11	ELECT	10uF	20%	50V
C272	1-127-947-21	FILM CHIP	0.0033uF	5%	16V
C273	1-127-947-21	FILM CHIP	0.0033uF	5%	16V
C274	1-136-165-00	FILM	0.1uF	5%	50V
C275	1-136-165-00	FILM	0.1uF	5%	50V
C276	1-112-099-11	ELECT	4.7uF	20%	50V
C277	1-112-099-11	ELECT	4.7uF	20%	50V
C350	1-124-748-11	ELECT	22uF	20%	100V
C351	1-124-699-11	ELECT	220uF	20%	25V
C352	1-136-165-00	FILM	0.1uF	5%	50V
C353	1-136-165-00	FILM	0.1uF	5%	50V
C354	1-124-748-11	ELECT	22uF	20%	100V
C355	1-124-699-11	ELECT	220uF	20%	25V
C356	1-136-165-00	FILM	0.1uF	5%	50V
C357	1-136-165-00	FILM	0.1uF	5%	50V
C358	1-116-713-11	CERAMIC CHIP	22uF	20%	10V
C359	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
		< CONNECTOR >			
CN201	1-785-103-11	PIN, CONNECTOR (3.96 mm PITCH) 5P			
* CN202	1-750-005-11	PIN, CONNECTOR (PC BOARD) 4P			
CN211	1-779-799-11	PIN, CONNECTOR 9P			
CN212	1-785-728-21	PIN (PC BOARD), CONNECTOR 7P			
CN213	1-564-320-00	PIN, CONNECTOR (3.96 mm PITCH) 2P			

Note: When the complete AMP board is replaced, refer to "NOTE OF REPLACING THE D218, IC350 AND IC351 ON THE AMP BOARD AND THE COMPLETE AMP BOARD" on page 4.

AMP

Ref. No.	Part No.	Description	Remark
CN215	1-816-113-21	CONNECTOR 15P	
		< DIODE >	
D200	6-502-961-01	DIODE DA2J10100L	
D201	6-502-961-01	DIODE DA2J10100L	
D202	8-719-053-18	DIODE 1SR154-400TE-25	
D203	6-502-961-01	DIODE DA2J10100L	
D204	8-719-053-18	DIODE 1SR154-400TE-25	
D205	6-502-961-01	DIODE DA2J10100L	
D206	6-502-961-01	DIODE DA2J10100L	
D207	8-719-053-18	DIODE 1SR154-400TE-25	
D208	6-502-961-01	DIODE DA2J10100L	
D209	8-719-053-18	DIODE 1SR154-400TE-25	
D216	6-502-961-01	DIODE DA2J10100L	
⚠ D218	8-719-061-07	DIODE D5SBA60-F (See Note)	
D220	6-502-961-01	DIODE DA2J10100L	
D221	6-500-400-01	DIODE BAV99-215	
D222	6-502-961-01	DIODE DA2J10100L	
D223	6-502-961-01	DIODE DA2J10100L	
D227	6-502-961-01	DIODE DA2J10100L	
D228	6-502-961-01	DIODE DA2J10100L	
D231	8-719-053-18	DIODE 1SR154-400TE-25	
D232	8-719-053-18	DIODE 1SR154-400TE-25	
		< LUG TERMINAL >	
* ET200	1-780-408-11	TERMINAL, LUG	
		< FUSE >	
⚠ F200	1-523-085-11	FUSE (2.5 A/250 V)	
⚠ F201	1-523-085-11	FUSE (2.5 A/250 V)	
⚠ F202	1-523-080-11	FUSE (6.3 A/250 V)	
⚠ F203	1-523-080-11	FUSE (6.3 A/250 V)	
		< IC >	
IC203	6-712-294-01	IC KIA7807API-U/PF	
IC204	6-712-295-01	IC KIA7907PI	
IC206	6-720-687-01	IC NJW1194	
⚠ IC350	8-759-331-41	IC LM3876TF (See Note)	
⚠ IC351	8-759-331-41	IC LM3876TF (See Note)	
		< TRANSISTOR >	
Q200	6-553-266-01	TRANSISTOR 2PD601ART	
Q201	6-553-266-01	TRANSISTOR 2PD601ART	
* Q202	6-551-623-01	TRANSISTOR 2SA2154MFV (TL3S	
* Q203	6-551-623-01	TRANSISTOR 2SA2154MFV (TL3S	
Q204	6-553-266-01	TRANSISTOR 2PD601ART	
* Q205	6-551-623-01	TRANSISTOR 2SA2154MFV (TL3S	
* Q206	6-551-623-01	TRANSISTOR 2SA2154MFV (TL3S	
Q207	6-553-266-01	TRANSISTOR 2PD601ART	
Q208	6-553-266-01	TRANSISTOR 2PD601ART	
Q209	8-729-023-22	TRANSISTOR 2SD2114K	
Q210	8-729-023-22	TRANSISTOR 2SD2114K	
Q213	6-552-891-01	TRANSISTOR LSAR523UBFS8TL	
Q214	6-552-891-01	TRANSISTOR LSAR523UBFS8TL	
Q216	6-553-266-01	TRANSISTOR 2PD601ART	
Q217	6-552-891-01	TRANSISTOR LSAR523UBFS8TL	
Q218	6-552-891-01	TRANSISTOR LSAR523UBFS8TL	
Q219	6-553-266-01	TRANSISTOR 2PD601ART	

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R200	1-216-833-11	METAL CHIP	10K	5%	1/10W
R201	1-216-845-11	METAL CHIP	100K	5%	1/10W
R202	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
⚠ R203	1-249-405-91	CARBON	100	5%	1/4W F
R204	1-216-841-11	METAL CHIP	47K	5%	1/10W
R205	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R206	1-250-624-11	METAL CHIP	2.2K	1%	1/10W
R207	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R208	1-257-502-11	CARBON	820	5%	1/2W
R209	1-257-502-11	CARBON	820	5%	1/2W
R210	1-216-864-11	SHORT CHIP	0		
R211	1-216-833-11	METAL CHIP	10K	5%	1/10W
R214	1-216-833-11	METAL CHIP	10K	5%	1/10W
R215	1-216-864-11	SHORT CHIP	0		
R220	1-257-502-11	CARBON	820	5%	1/2W
R221	1-257-502-11	CARBON	820	5%	1/2W
⚠ R222	1-249-399-91	CARBON	33	5%	1/4W F
R223	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R224	1-216-841-11	METAL CHIP	47K	5%	1/10W
R225	1-216-837-11	METAL CHIP	22K	5%	1/10W
R226	1-216-837-11	METAL CHIP	22K	5%	1/10W
R227	1-216-841-11	METAL CHIP	47K	5%	1/10W
R228	1-216-845-11	METAL CHIP	100K	5%	1/10W
R229	1-216-845-11	METAL CHIP	100K	5%	1/10W
R230	1-216-845-11	METAL CHIP	100K	5%	1/10W
R231	1-216-845-11	METAL CHIP	100K	5%	1/10W
⚠ R232	1-249-405-91	CARBON	100	5%	1/4W F
R233	1-216-845-11	METAL CHIP	100K	5%	1/10W
R234	1-216-841-11	METAL CHIP	47K	5%	1/10W
R235	1-216-845-11	METAL CHIP	100K	5%	1/10W
R236	1-216-845-11	METAL CHIP	100K	5%	1/10W
R237	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
⚠ R238	1-249-405-91	CARBON	100	5%	1/4W F
R239	1-216-841-11	METAL CHIP	47K	5%	1/10W
R240	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R241	1-216-845-11	METAL CHIP	100K	5%	1/10W
R242	1-216-809-11	METAL CHIP	100	5%	1/10W
R243	1-257-451-11	CARBON	100K	5%	1/2W
R244	1-257-451-11	CARBON	100K	5%	1/2W
R247	1-257-372-11	CARBON	2.2K	5%	1/2W
R248	1-257-372-11	CARBON	2.2K	5%	1/2W
R251	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R252	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R256	1-216-845-11	METAL CHIP	100K	5%	1/10W
R260	1-216-833-11	METAL CHIP	10K	5%	1/10W
R261	1-216-833-11	METAL CHIP	10K	5%	1/10W
R262	1-216-845-11	METAL CHIP	100K	5%	1/10W
R264	1-216-841-11	METAL CHIP	47K	5%	1/10W
R267	1-216-833-11	METAL CHIP	10K	5%	1/10W
R271	1-216-833-11	METAL CHIP	10K	5%	1/10W
R281	1-257-434-11	CARBON	4.7K	5%	1/2W
R282	1-257-434-11	CARBON	4.7K	5%	1/2W
R283	1-216-841-11	METAL CHIP	47K	5%	1/10W
R284	1-216-809-11	METAL CHIP	100	5%	1/10W
R285	1-216-809-11	METAL CHIP	100	5%	1/10W
R286	1-216-809-11	METAL CHIP	100	5%	1/10W
R287	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R288	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R289	1-216-809-11	METAL CHIP	100	5%	1/10W

Note: When the D218, IC350 and IC351 on the AMP board is replaced, refer to "NOTE OF REPLACING THE D218, IC350 AND IC351 ON THE AMP BOARD AND THE COMPLETE AMP BOARD" on page 4.

Ref. No.	Part No.	Description			Remark
R290	1-216-841-11	METAL CHIP	47K	5%	1/10W
R350	1-216-835-11	METAL CHIP	15K	5%	1/10W
R351	1-257-371-11	CARBON	1K	5%	1/2W
R352	1-257-451-11	CARBON	100K	5%	1/2W
R353	1-257-371-11	CARBON	1K	5%	1/2W
R354	1-257-448-11	CARBON	47K	5%	1/2W
R355	1-216-835-11	METAL CHIP	15K	5%	1/10W
R356	1-257-371-11	CARBON	1K	5%	1/2W
R357	1-257-451-11	CARBON	100K	5%	1/2W
R358	1-257-371-11	CARBON	1K	5%	1/2W
R359	1-257-448-11	CARBON	47K	5%	1/2W
R360	1-216-833-11	METAL CHIP	10K	5%	1/10W
R361	1-216-845-11	METAL CHIP	100K	5%	1/10W
R362	1-216-821-11	METAL CHIP	1K	5%	1/10W
R363	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R364	1-216-833-11	METAL CHIP	10K	5%	1/10W
R365	1-216-845-11	METAL CHIP	100K	5%	1/10W
R366	1-216-833-11	METAL CHIP	10K	5%	1/10W
R367	1-216-833-11	METAL CHIP	10K	5%	1/10W
R368	1-216-845-11	METAL CHIP	100K	5%	1/10W
R369	1-216-841-11	METAL CHIP	47K	5%	1/10W
		< RELAY >			
RY200	1-755-486-11	RELAY			
RY201	1-755-170-11	RELAY			
RY202	1-755-486-11	RELAY			
RY203	1-755-486-11	RELAY			
		< THERMISTOR >			
TH200	1-804-045-11	THERMISTOR			
**********					
	A-1945-074-A	DAC BOARD, COMPLETE (AEP, UK)			
	A-1945-075-A	DAC BOARD, COMPLETE (US, CND)			
		**********			
		< CAPACITOR >			
C400	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
C401	1-116-299-91	CERAMIC CHIP	220PF	1%	50V
C402	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C403	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C404	1-112-080-11	ELECT	470uF	20%	10V
C405	1-112-080-11	ELECT	470uF	20%	10V
C406	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C407	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C408	1-100-155-91	CERAMIC CHIP	470PF	5%	100V
C409	1-135-820-21	FILM CHIP	0.001uF	2%	50V
C410	1-135-820-21	FILM CHIP	0.001uF	2%	50V
C411	1-135-820-21	FILM CHIP	0.001uF	2%	50V
C412	1-135-820-21	FILM CHIP	0.001uF	2%	50V
C413	1-135-825-21	FILM CHIP	0.0047uF	2%	16V
C414	1-135-825-21	FILM CHIP	0.0047uF	2%	16V
C415	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
C416	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
C417	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
C418	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
C419	1-127-803-91	CERAMIC CHIP	270PF	1%	50V
C420	1-127-803-91	CERAMIC CHIP	270PF	1%	50V
C421	1-127-803-91	CERAMIC CHIP	270PF	1%	50V
C422	1-127-803-91	CERAMIC CHIP	270PF	1%	50V
C423	1-112-100-11	ELECT	10uF	20%	50V

Ref. No.	Part No.	Description			Remark
C424	1-116-740-11	CERAMIC CHIP	0.47uF	10%	16V
C425	1-124-721-11	ELECT	10uF	20%	50V
C426	1-124-721-11	ELECT	10uF	20%	50V
C427	1-124-721-11	ELECT	10uF	20%	50V
C428	1-136-165-00	FILM	0.1uF	5%	50V
C429	1-136-165-00	FILM	0.1uF	5%	50V
C430	1-112-089-11	ELECT	47uF	20%	25V
C431	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C432	1-124-721-11	ELECT	10uF	20%	50V
C433	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C434	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
C435	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C436	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C437	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C438	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C439	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
C440	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C441	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
C442	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C443	1-162-916-11	CERAMIC CHIP	12PF	5%	50V
C444	1-162-916-11	CERAMIC CHIP	12PF	5%	50V
C445	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C446	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C449	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
C451	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C452	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C453	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C454	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C455	1-124-721-11	ELECT	10uF	20%	50V
C456	1-124-721-11	ELECT	10uF	20%	50V
C457	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C458	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C459	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C460	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C462	1-127-956-21	FILM CHIP	0.1uF	5%	16V
C463	1-127-956-21	FILM CHIP	0.1uF	5%	16V
C464	1-124-748-11	ELECT	22uF	20%	100V
C465	1-124-748-11	ELECT	22uF	20%	100V
C466	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C467	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
C486	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C487	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
C488	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C489	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
C490	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C491	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
C492	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C493	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
C494	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C495	1-116-734-11	CERAMIC CHIP	1uF	20%	16V
C496	1-116-734-11	CERAMIC CHIP	1uF	20%	16V
		< CONNECTOR >			
CN401	1-785-728-21	PIN (PC BOARD), CONNECTOR 7P			
CN402	1-820-840-31	CONNECTOR, FFC/FPC (LIF) 22P			
		< DIODE >			
D400	6-502-961-01	DIODE DA2J10100L			
D401	6-502-961-01	DIODE DA2J10100L			
D402	6-502-961-01	DIODE DA2J10100L			

DAC

Ref. No.	Part No.	Description			Remark
		< LUG TERMINAL >			
* EE400	1-780-408-11	TERMINAL, LUG			
* EE401	1-780-408-11	TERMINAL, LUG			
* EE402	1-780-408-11	TERMINAL, LUG			
* EE403	1-780-408-11	TERMINAL, LUG			
		< FERRITE BEAD >			
FB400	1-414-760-21	FERRITE, EMI (SMD) (1608)			
FB401	1-469-152-11	FERRITE, EMI (SMD) (2012)			
FB402	1-469-152-11	FERRITE, EMI (SMD) (2012)			
FB404	1-469-139-21	FERRITE, EMI (SMD) (2012)			
		< IC >			
IC400	8-759-832-29	IC NJM4580M- (TE2)			
IC401	8-759-832-29	IC NJM4580M- (TE2)			
IC402	8-759-832-29	IC NJM4580M- (TE2)			
IC403	6-716-834-01	IC MM1836A50NRE			
IC404	6-708-637-01	IC NJM2871BF33-TE2			
IC405	6-720-672-01	IC PCM1795DBR			
IC406	6-706-487-01	IC TC7SH08FU			
IC407	8-759-680-48	IC TC7WH157FK			
IC408	8-759-096-87	IC TC7WU04FU (TE12R)			
IC409	8-759-096-87	IC TC7WU04FU (TE12R)			
IC410	8-759-680-48	IC TC7WH157FK			
IC411	6-700-067-01	IC HD74LV161ATELL			
IC412	6-600-060-01	IC TC7WZ32FK			
IC413	6-708-637-01	IC NJM2871BF33-TE2			
IC414	6-708-637-01	IC NJM2871BF33-TE2			
IC415	8-759-832-29	IC NJM4580M- (TE2)			
		< JACK >			
J401	1-794-984-11	JACK, PIN 6P (D/A DIRECT LINE OUT, LINE IN 1, LINE IN 2)			
		< TRANSISTOR >			
Q400	8-729-023-22	TRANSISTOR	2SD2114K		
Q401	8-729-023-22	TRANSISTOR	2SD2114K		
		< RESISTOR >			
R400	1-257-470-11	CARBON	220K	5%	1/2W
R401	1-257-470-11	CARBON	220K	5%	1/2W
R402	1-257-371-11	CARBON	1K	5%	1/2W
R403	1-257-371-11	CARBON	1K	5%	1/2W
R404	1-257-371-11	CARBON	1K	5%	1/2W
R405	1-257-371-11	CARBON	1K	5%	1/2W
R406	1-257-428-11	CARBON	560	5%	1/2W
R407	1-257-429-11	CARBON	680	5%	1/2W
R408	1-257-428-11	CARBON	560	5%	1/2W
R409	1-257-429-11	CARBON	680	5%	1/2W
R410	1-257-428-11	CARBON	560	5%	1/2W
R411	1-257-428-11	CARBON	560	5%	1/2W
R412	1-257-429-11	CARBON	680	5%	1/2W
R413	1-257-429-11	CARBON	680	5%	1/2W
R414	1-257-428-11	CARBON	560	5%	1/2W
R415	1-257-428-11	CARBON	560	5%	1/2W
R416	1-257-428-11	CARBON	560	5%	1/2W
R417	1-257-428-11	CARBON	560	5%	1/2W
R418	1-257-429-11	CARBON	680	5%	1/2W
R419	1-257-429-11	CARBON	680	5%	1/2W

Ref. No.	Part No.	Description			Remark
R420	1-257-429-11	CARBON	680	5%	1/2W
R421	1-257-429-11	CARBON	680	5%	1/2W
R422	1-257-441-11	CARBON	10K	5%	1/2W
R423	1-216-801-11	METAL CHIP	22	5%	1/10W
R424	1-216-801-11	METAL CHIP	22	5%	1/10W
R425	1-216-801-11	METAL CHIP	22	5%	1/10W
R426	1-216-801-11	METAL CHIP	22	5%	1/10W
R427	1-216-801-11	METAL CHIP	22	5%	1/10W
R428	1-216-801-11	METAL CHIP	22	5%	1/10W
R429	1-216-809-11	METAL CHIP	100	5%	1/10W
R430	1-216-801-11	METAL CHIP	22	5%	1/10W
R431	1-216-809-11	METAL CHIP	100	5%	1/10W
R432	1-216-809-11	METAL CHIP	100	5%	1/10W
R433	1-216-809-11	METAL CHIP	100	5%	1/10W
R434	1-216-809-11	METAL CHIP	100	5%	1/10W
R435	1-216-809-11	METAL CHIP	100	5%	1/10W
R436	1-216-809-11	METAL CHIP	100	5%	1/10W
R437	1-216-797-11	METAL CHIP	10	5%	1/10W
R438	1-216-809-11	METAL CHIP	100	5%	1/10W
R439	1-216-797-11	METAL CHIP	10	5%	1/10W
R440	1-218-845-11	METAL CHIP	820	0.5%	1/10W
R441	1-216-857-11	METAL CHIP	1M	5%	1/10W
R442	1-216-809-11	METAL CHIP	100	5%	1/10W
R443	1-216-809-11	METAL CHIP	100	5%	1/10W
R444	1-216-809-11	METAL CHIP	100	5%	1/10W
R445	1-216-833-11	METAL CHIP	10K	5%	1/10W
R446	1-216-809-11	METAL CHIP	100	5%	1/10W
R447	1-216-817-11	METAL CHIP	470	5%	1/10W
R448	1-216-857-11	METAL CHIP	1M	5%	1/10W
R449	1-216-797-11	METAL CHIP	10	5%	1/10W
R450	1-218-845-11	METAL CHIP	820	0.5%	1/10W
R452	1-216-809-11	METAL CHIP	100	5%	1/10W
R455	1-216-833-11	METAL CHIP	10K	5%	1/10W
R458	1-216-833-11	METAL CHIP	10K	5%	1/10W
R461	1-216-864-11	SHORT CHIP	0		
R462	1-216-845-11	METAL CHIP	100K	5%	1/10W
R463	1-216-845-11	METAL CHIP	100K	5%	1/10W
R464	1-216-809-11	METAL CHIP	100	5%	1/10W
R465	1-257-372-11	CARBON	2.2K	5%	1/2W
R466	1-257-372-11	CARBON	2.2K	5%	1/2W
R467	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R468	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R469	1-216-845-11	METAL CHIP	100K	5%	1/10W
R470	1-216-845-11	METAL CHIP	100K	5%	1/10W
R471	1-216-864-11	SHORT CHIP	0		
R472	1-216-864-11	SHORT CHIP	0		
R473	1-216-864-11	SHORT CHIP	0		
R478	1-216-864-11	SHORT CHIP	0		
R479	1-216-864-11	SHORT CHIP	0		
R484	1-216-864-11	SHORT CHIP	0		
R485	1-216-864-11	SHORT CHIP	0		
R486	1-216-813-11	METAL CHIP	220	5%	1/10W
R489	1-216-833-11	METAL CHIP	10K	5%	1/10W
		< VIBRATOR >			
X400	1-795-779-21	VIBRATOR, CRYSTAL (22.5792 MHz)			
X401	1-814-344-11	QUARTZ CRYSTAL UNIT (24.576 MHz)			

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Ref. No.	Part No.	Description			Remark
	A-1945-082-A	DCDC BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C2402	1-112-099-11	ELECT	4.7uF	20%	50V
C2405	1-114-994-11	ELECT	2200uF	20%	35V
C2406	1-116-865-11	CERAMIC CHIP	10uF	10%	25V
C2407	1-116-865-11	CERAMIC CHIP	10uF	10%	25V
C2408	1-116-865-11	CERAMIC CHIP	10uF	10%	25V
C2409	1-116-865-11	CERAMIC CHIP	10uF	10%	25V
C2410	1-118-373-11	CERAMIC CHIP	0.01uF	10%	50V
C2411	1-118-373-11	CERAMIC CHIP	0.01uF	10%	50V
C2412	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C2413	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C2414	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C2415	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C2416	1-116-734-11	CERAMIC CHIP	1uF	20%	16V
C2417	1-100-158-91	CERAMIC CHIP	1000PF	5%	100V
C2418	1-100-158-91	CERAMIC CHIP	1000PF	5%	100V
C2419	1-118-435-11	CERAMIC CHIP	47PF	5%	50V
C2421	1-118-418-11	CERAMIC CHIP	22uF	20%	6.3V
C2422	1-118-418-11	CERAMIC CHIP	22uF	20%	6.3V
C2423	1-118-418-11	CERAMIC CHIP	22uF	20%	6.3V
C2424	1-118-418-11	CERAMIC CHIP	22uF	20%	6.3V
C2425	1-116-865-11	CERAMIC CHIP	10uF	10%	25V
C2426	1-116-865-11	CERAMIC CHIP	10uF	10%	25V
C2427	1-118-373-11	CERAMIC CHIP	0.01uF	10%	50V
C2428	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C2429	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C2430	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
C2431	1-100-158-91	CERAMIC CHIP	1000PF	5%	100V
C2432	1-118-418-11	CERAMIC CHIP	22uF	20%	6.3V
C2433	1-118-418-11	CERAMIC CHIP	22uF	20%	6.3V
C2435	1-114-994-11	ELECT	2200uF	20%	35V
C2436	1-118-347-11	CERAMIC CHIP	0.1uF	10%	25V
		< CONNECTOR >			
CN2402	1-564-320-00	PIN, CONNECTOR (3.96 mm PITCH) 2P			
CN2403	1-770-470-21	PIN, CONNECTOR (PC BOARD) 6P			
CN2404	1-774-729-21	PIN, CONNECTOR (PC BOARD) 10P			
CN2405	1-774-863-11	PIN, CONNECTOR (PC BOARD) 8P			
CN2406	1-691-765-11	PLUG (MICRO CONNECTOR) 3P			
CN2407	1-764-250-21	PIN, CONNECTOR (PC BOARD) 4P			
* CN2408	1-564-520-11	PLUG, CONNECTOR 5P			
		< DIODE >			
D2402	6-502-961-01	DIODE DA2J10100L			
D2403	6-502-961-01	DIODE DA2J10100L			
D2404	8-719-060-88	DIODE D4SBS6			
D2405	8-719-060-88	DIODE D4SBS6			
D2406	6-502-968-01	DIODE DZ2J062M0L			
		< FUSE >			
⚠ F2402	1-523-086-11	FUSE (3.15 A/250 V)			
⚠ F2404	1-523-086-11	FUSE (3.15 A/250 V)			
		< IC >			
IC2402	6-719-190-01	IC RT7256ALZSP			
IC2403	6-719-190-01	IC RT7256ALZSP			
IC2404	6-719-190-01	IC RT7256ALZSP			

Ref. No.	Part No.	Description			Remark
		< COIL >			
L2401	1-460-576-11	COIL, CHOKE	4.7uH		
L2402	1-460-576-11	COIL, CHOKE	4.7uH		
L2403	1-460-576-11	COIL, CHOKE	4.7uH		
		< TRANSISTOR >			
Q2401	6-553-266-01	TRANSISTOR	2PD601ART		
Q2402	6-553-268-01	TRANSISTOR	PDTC114ET		
Q2403	6-553-268-01	TRANSISTOR	PDTC114ET		
		< RESISTOR >			
R2401	1-218-879-11	METAL CHIP	22K	0.5%	1/10W
R2402	1-218-865-11	METAL CHIP	5.6K	0.5%	1/10W
R2403	1-250-640-11	METAL CHIP	10K	1%	1/10W
R2407	1-216-845-11	METAL CHIP	100K	5%	1/10W
R2408	1-250-592-11	METAL CHIP	100	1%	1/10W
R2409	1-216-797-11	METAL CHIP	10	5%	1/10W
R2410	1-216-797-11	METAL CHIP	10	5%	1/10W
R2411	1-216-864-11	SHORT CHIP	0		
R2412	1-218-879-11	METAL CHIP	22K	0.5%	1/10W
R2413	1-218-863-11	METAL CHIP	4.7K	0.5%	1/10W
R2414	1-218-863-11	METAL CHIP	4.7K	0.5%	1/10W
R2415	1-250-592-11	METAL CHIP	100	1%	1/10W
R2416	1-216-864-11	SHORT CHIP	0		
R2417	1-218-879-11	METAL CHIP	22K	0.5%	1/10W
R2418	1-218-863-11	METAL CHIP	4.7K	0.5%	1/10W
R2419	1-218-863-11	METAL CHIP	4.7K	0.5%	1/10W
R2420	1-218-831-11	METAL CHIP	220	0.5%	1/10W
R2421	1-216-845-11	METAL CHIP	100K	5%	1/10W
R2422	1-216-797-11	METAL CHIP	10	5%	1/10W
R2423	1-216-864-11	SHORT CHIP	0		
R2424	1-216-845-11	METAL CHIP	100K	5%	1/10W
R2425	1-250-640-11	METAL CHIP	10K	1%	1/10W
R2426	1-218-863-11	METAL CHIP	4.7K	0.5%	1/10W
R2427	1-216-864-11	SHORT CHIP	0		
R2428	1-216-864-11	SHORT CHIP	0		
R2429	1-216-864-11	SHORT CHIP	0		
R2430	1-216-864-11	SHORT CHIP	0		
R2431	1-216-864-11	SHORT CHIP	0		
R2432	1-216-864-11	SHORT CHIP	0		
R2433	1-216-864-11	SHORT CHIP	0		
R2434	1-218-863-11	METAL CHIP	4.7K	0.5%	1/10W
**********					
	A-1945-092-A	DIGITAL IO BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C4001	1-118-361-11	CERAMIC CHIP	0.1uF	10%	50V
C4002	1-112-080-11	ELECT	470uF	20%	10V
C4003	1-112-089-11	ELECT	47uF	20%	25V
C4004	1-118-361-11	CERAMIC CHIP	0.1uF	10%	50V
C4009	1-112-080-11	ELECT	470uF	20%	10V
C4010	1-118-361-11	CERAMIC CHIP	0.1uF	10%	50V
C4012	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C4013	1-116-151-11	CERAMIC CHIP	0.001uF	2%	50V
C4014	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C4016	1-112-089-11	ELECT	47uF	20%	25V
C4017	1-116-734-11	CERAMIC CHIP	1uF	20%	16V
C4018	1-116-734-11	CERAMIC CHIP	1uF	20%	16V

DIGITAL IO

	Ref. No.	Part No.	Description			Remark
	C4019	1-116-734-11	CERAMIC CHIP	1uF	20%	16V
	C4020	1-116-734-11	CERAMIC CHIP	1uF	20%	16V
	C4021	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C4022	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C4023	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C4024	1-112-090-11	ELECT	100uF	20%	25V
	C4025	1-116-151-11	CERAMIC CHIP	0.001uF	2%	50V
	C4026	1-112-090-11	ELECT	100uF	20%	25V
	C4027	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C4028	1-112-090-11	ELECT	100uF	20%	25V
	C4029	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C4030	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
*	C4031	1-118-387-11	CERAMIC CHIP	0.068uF	10%	16V
	C4032	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C4033	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C4034	1-164-852-11	CERAMIC CHIP	12PF	5%	50V
	C4035	1-164-852-11	CERAMIC CHIP	12PF	5%	50V
	C4036	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
*	C4037	1-118-407-11	CERAMIC CHIP	470PF	10%	50V
	C4038	1-116-151-11	CERAMIC CHIP	0.001uF	2%	50V
	C4039	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C4041	1-112-089-11	ELECT	47uF	20%	25V
	C4042	1-118-412-11	CERAMIC CHIP	220PF	10%	50V
	C4045	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
	C4046	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
	C4047	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C4048	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C4052	1-118-412-11	CERAMIC CHIP	220PF	10%	50V
	C4055	1-118-412-11	CERAMIC CHIP	220PF	10%	50V
	C4056	1-118-412-11	CERAMIC CHIP	220PF	10%	50V
			< JACK/CONNECTOR >			
	CN4001	1-842-235-11	JACK, MODULAR (品 LAN (10/100/1000))			
	CN4002	1-822-423-11	CONNECTOR, USB (A) (5V ⎓ 1A ψ EXT)			
*	CN4003	1-779-268-21	PIN, CONNECTOR (1.5 mm) (SMD) 11P			
	CN4005	1-573-806-21	PIN, CONNECTOR (1.5 mm) (SMD) 6P			
	CN4006	1-815-763-32	CONNECTOR, FFC/FPC 24P			
	CN4007	1-820-840-31	CONNECTOR, FFC/FPC (LIF) 22P			
	CN4008	1-779-772-11	CONNECTOR 13P			
	CN4009	1-764-250-21	PIN, CONNECTOR (PC BOARD) 4P			
	CN4010	1-770-469-21	PIN, CONNECTOR (PC BOARD) 2P			
	CN4011	1-784-859-51	CONNECTOR, FFC (LIF (NON-ZIF)) 7P			
	CN4013	1-573-768-21	PIN, CONNECTOR (1.5 mm) (SMD) 5P			
			< DIODE >			
	D4003	6-502-961-01	DIODE DA2J10100L			
			< LUG TERMINAL >			
*	ET4001	1-780-408-11	TERMINAL, LUG			
*	ET4002	1-780-408-11	TERMINAL, LUG			
			< FERRITE BEAD >			
	FB4001	1-469-152-11	FERRITE, EMI (SMD) (2012)			
	FB4002	1-469-152-11	FERRITE, EMI (SMD) (2012)			
	FB4003	1-500-445-21	FERRITE, EMI (SMD) (2012)			
	FB4004	1-500-445-21	FERRITE, EMI (SMD) (2012)			
	FB4005	1-469-125-21	FERRITE, EMI (SMD) (1608)			
	FB4006	1-469-125-21	FERRITE, EMI (SMD) (1608)			
	FB4007	1-469-152-11	FERRITE, EMI (SMD) (2012)			

Ref. No.	Part No.	Description	Remark
FB4008	1-469-139-21	FERRITE, EMI (SMD) (2012)	
FB4009	1-469-152-11	FERRITE, EMI (SMD) (2012)	
FB4011	1-469-139-21	FERRITE, EMI (SMD) (2012)	
FB4012	1-469-139-21	FERRITE, EMI (SMD) (2012)	
FB4013	1-469-139-21	FERRITE, EMI (SMD) (2012)	
		< IC >	
IC4001	6-600-827-01	IC JSR1124 (OPTICAL IN)	
IC4002	6-709-888-01	IC TC7WHU04FK	
IC4003	6-719-061-01	IC MM1839A33NRE	
IC4004	6-717-987-11	IC LC89075WA-H	
IC4006	8-759-680-48	IC TC7WH157FK	
IC4007	6-707-870-01	IC TC74VHC157FT (EKJ)	
IC4008	6-715-699-01	IC CS230002-CZZR	
		< JACK >	
J4023	1-818-300-21	JACK, PIN 1P (COAXIAL IN)	
		< RESISTOR >	

	Ref. No.	Part No.	Description			Remark
	R4001	1-216-809-11	METAL CHIP	100	5%	1/10W
	R4002	1-218-839-11	METAL CHIP	470	0.5%	1/10W
*	R4003	1-250-589-11	METAL CHIP	75	1%	1/10W
	R4008	1-218-903-11	METAL CHIP	220K	0.5%	1/10W
	R4009	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
	R4010	1-216-864-11	SHORT CHIP	0		
	R4011	1-218-990-81	SHORT CHIP	0		
	R4012	1-218-990-81	SHORT CHIP	0		
	R4013	1-218-965-11	METAL CHIP	10K	5%	1/16W
	R4015	1-216-864-11	SHORT CHIP	0		
	R4016	1-216-864-11	SHORT CHIP	0		
	R4017	1-216-864-11	SHORT CHIP	0		
	R4018	1-216-864-11	SHORT CHIP	0		
	R4019	1-218-990-81	SHORT CHIP	0		
	R4020	1-218-990-81	SHORT CHIP	0		
	R4022	1-218-965-11	METAL CHIP	10K	5%	1/16W
	R4023	1-218-990-81	SHORT CHIP	0		
	R4024	1-218-990-81	SHORT CHIP	0		
	R4025	1-218-965-11	METAL CHIP	10K	5%	1/16W
	R4026	1-218-941-81	METAL CHIP	100	5%	1/16W
	R4027	1-218-965-11	METAL CHIP	10K	5%	1/16W
	R4028	1-218-953-11	METAL CHIP	1K	5%	1/16W
	R4030	1-218-973-11	METAL CHIP	47K	5%	1/16W
	R4031	1-218-989-11	METAL CHIP	1M	5%	1/16W
	R4032	1-218-947-11	METAL CHIP	330	5%	1/16W
	R4033	1-208-675-11	METAL CHIP	470	0.5%	1/16W
	R4034	1-218-965-11	METAL CHIP	10K	5%	1/16W
	R4035	1-218-965-11	METAL CHIP	10K	5%	1/16W
	R4036	1-216-864-11	SHORT CHIP	0		
	R4037	1-218-945-11	METAL CHIP	220	5%	1/16W
	R4038	1-218-951-11	METAL CHIP	680	5%	1/16W
	R4039	1-218-947-11	METAL CHIP	330	5%	1/16W
	R4040	1-218-947-11	METAL CHIP	330	5%	1/16W
	R4041	1-218-953-11	METAL CHIP	1K	5%	1/16W
	R4042	1-218-989-11	METAL CHIP	1M	5%	1/16W
	R4044	1-218-941-81	METAL CHIP	100	5%	1/16W
	R4046	1-218-945-11	METAL CHIP	220	5%	1/16W
	R4047	1-216-864-11	SHORT CHIP	0		
	R4052	1-218-933-11	METAL CHIP	22	5%	1/16W
	R4053	1-218-933-11	METAL CHIP	22	5%	1/16W

Ref. No.	Part No.	Description			Remark
R4054	1-218-933-11	METAL CHIP	22	5%	1/16W
R4055	1-218-933-11	METAL CHIP	22	5%	1/16W
R4056	1-218-941-81	METAL CHIP	100	5%	1/16W
R4057	1-218-933-11	METAL CHIP	22	5%	1/16W
R4058	1-218-933-11	METAL CHIP	22	5%	1/16W
R4059	1-218-933-11	METAL CHIP	22	5%	1/16W
R4060	1-218-933-11	METAL CHIP	22	5%	1/16W
R4061	1-216-833-11	METAL CHIP	10K	5%	1/10W
R4062	1-216-864-11	SHORT CHIP	0		
R4063	1-218-933-11	METAL CHIP	22	5%	1/16W
R4064	1-218-933-11	METAL CHIP	22	5%	1/16W
R4065	1-218-933-11	METAL CHIP	22	5%	1/16W
R4066	1-218-933-11	METAL CHIP	22	5%	1/16W
R4067	1-218-933-11	METAL CHIP	22	5%	1/16W
R4068	1-218-945-11	METAL CHIP	220	5%	1/16W
R4075	1-216-295-91	SHORT CHIP	0		
R4079	1-218-941-81	METAL CHIP	100	5%	1/16W
R4082	1-216-864-11	SHORT CHIP	0		
R4083	1-216-864-11	SHORT CHIP	0		
R4084	1-218-945-11	METAL CHIP	220	5%	1/16W
R4091	1-218-990-81	SHORT CHIP	0		
R4092	1-218-990-81	SHORT CHIP	0		
R4093	1-218-990-81	SHORT CHIP	0		
R4094	1-218-990-81	SHORT CHIP	0		
R4095	1-218-990-81	SHORT CHIP	0		
R4096	1-218-990-81	SHORT CHIP	0		
R4097	1-218-990-81	SHORT CHIP	0		
R4098	1-218-990-81	SHORT CHIP	0		
R4099	1-218-990-81	SHORT CHIP	0		
R4100	1-218-990-81	SHORT CHIP	0		
R4101	1-218-990-81	SHORT CHIP	0		
R4111	1-218-990-81	SHORT CHIP	0		
R4113	1-216-864-11	SHORT CHIP	0		
R4114	1-216-864-11	SHORT CHIP	0		
R4115	1-216-864-11	SHORT CHIP	0		
R4116	1-218-990-81	SHORT CHIP	0		
R4117	1-218-990-81	SHORT CHIP	0		
R4118	1-218-990-81	SHORT CHIP	0		
R4119	1-216-864-11	SHORT CHIP	0		
R4120	1-216-864-11	SHORT CHIP	0		
		< VIBRATOR >			
X4001	1-814-344-11	QUARTZ CRYSTAL UNIT (24.576 MHz)			
**********					
	A-1945-063-A	FPGA DSP BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
C104	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C106	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C108	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C109	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
C111	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
C113	1-116-749-11	CERAMIC CHIP	22uF	20%	6.3V
C115	1-116-749-11	CERAMIC CHIP	22uF	20%	6.3V
C116	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C117	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C118	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
* C119	1-116-720-11	CERAMIC CHIP	10uF	20%	6.3V

Ref. No.	Part No.	Description			Remark
* C120	1-116-720-11	CERAMIC CHIP	10uF	20%	6.3V
C201	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C202	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C203	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C204	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C205	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C206	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C207	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C208	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C209	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C210	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C211	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C212	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C213	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C214	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C215	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C216	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C217	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C218	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C219	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C220	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C221	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C222	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C223	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C224	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C225	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C226	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C227	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C228	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C229	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C230	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C231	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C232	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C233	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C234	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C235	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C236	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C237	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C238	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C239	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C240	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C241	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C242	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C243	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C244	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C245	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C246	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C247	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C248	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C249	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C250	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C251	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C252	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C253	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C254	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C255	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C256	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C257	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C258	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C259	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V

FPGA DSP

	Ref. No.	Part No.	Description			Remark
	C260	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C261	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C262	1-116-151-11	CERAMIC CHIP	0.001uF	2%	50V
	C263	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C264	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
	C265	1-116-151-11	CERAMIC CHIP	0.001uF	2%	50V
	C266	1-116-151-11	CERAMIC CHIP	0.001uF	2%	50V
	C267	1-116-151-11	CERAMIC CHIP	0.001uF	2%	50V
	C301	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
	C303	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
	C401	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C402	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
*	C701	1-116-720-11	CERAMIC CHIP	10uF	20%	6.3V
*	C702	1-116-720-11	CERAMIC CHIP	10uF	20%	6.3V
	C703	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C704	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C705	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C706	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
	C707	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C708	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C709	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C710	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
			< CONNECTOR >			
	CN401	1-815-136-21	CONNECTOR, BOARD TO BOARD			
	CN506	1-778-172-61	CONNECTOR, FFC/FPC (ZIF) 24P			
			< LUG TERMINAL >			
*	ET201	1-780-408-11	TERMINAL, LUG			
*	ET202	1-780-408-11	TERMINAL, LUG			
*	ET203	1-780-408-11	TERMINAL, LUG			
*	ET204	1-780-408-11	TERMINAL, LUG			
			< FERRITE BEAD >			
	FB101	1-469-094-21	FERRITE, EMI (SMD) (1608)			
	FB102	1-469-094-21	FERRITE, EMI (SMD) (1608)			
	FB103	1-469-094-21	FERRITE, EMI (SMD) (1608)			
	FB104	1-469-094-21	FERRITE, EMI (SMD) (1608)			
	FB106	1-469-094-21	FERRITE, EMI (SMD) (1608)			
	FB107	1-469-094-21	FERRITE, EMI (SMD) (1608)			
	FB108	1-469-094-21	FERRITE, EMI (SMD) (1608)			
	FB201	1-469-094-21	FERRITE, EMI (SMD) (1608)			
	FB501	1-400-822-21	BEAD, FERRITE (1005)			
	FB701	1-469-094-21	FERRITE, EMI (SMD) (1608)			
			< IC >			
	IC001	(Not supplied)	IC EP4CGX30BF14C8N (See Note)			
	IC101	6-718-705-01	IC TPS54295PWPR			
	IC102	6-715-866-01	IC MM3464A25NRE			
*	IC103	6-718-253-01	IC BD2231G-TR			
	IC701	6-709-888-01	IC TC7WHU04FK			
	IC702	(Not supplied)	IC CS48L10-CNZR (See Note)			
			< COIL >			
	L102	1-457-870-11	CHOKE COIL	1.5uH		
			< TRANSISTOR >			
	Q301	8-729-928-90	TRANSISTOR	DTC114EE		

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R102	1-216-295-91	SHORT CHIP	0		
R104	1-216-295-91	SHORT CHIP	0		
R105	1-218-965-11	METAL CHIP	10K	5%	1/16W
R112	1-208-709-11	METAL CHIP	12K	0.5%	1/16W
R113	1-208-898-11	METAL CHIP	3K	0.5%	1/16W
R114	1-208-918-11	METAL CHIP	20K	0.5%	1/16W
R116	1-208-905-11	METAL CHIP	5.6K	0.5%	1/16W
R118	1-216-864-11	SHORT CHIP	0		
R119	1-216-864-11	SHORT CHIP	0		
R120	1-216-864-11	SHORT CHIP	0		
R121	1-216-864-11	SHORT CHIP	0		
R122	1-218-965-11	METAL CHIP	10K	5%	1/16W
R127	1-216-864-11	SHORT CHIP	0		
R128	1-216-864-11	SHORT CHIP	0		
R129	1-216-864-11	SHORT CHIP	0		
R130	1-216-864-11	SHORT CHIP	0		
R132	1-250-495-11	METAL CHIP	1K	1%	1/16W
R201	1-216-864-11	SHORT CHIP	0		
R202	1-218-965-11	METAL CHIP	10K	5%	1/16W
R301	1-218-965-11	METAL CHIP	10K	5%	1/16W
R303	1-218-965-11	METAL CHIP	10K	5%	1/16W
R304	1-218-941-81	METAL CHIP	100	5%	1/16W
R305	1-218-965-11	METAL CHIP	10K	5%	1/16W
R306	1-218-965-11	METAL CHIP	10K	5%	1/16W
R308	1-218-965-11	METAL CHIP	10K	5%	1/16W
R309	1-218-965-11	METAL CHIP	10K	5%	1/16W
R310	1-218-965-11	METAL CHIP	10K	5%	1/16W
R311	1-218-953-11	METAL CHIP	1K	5%	1/16W
R312	1-218-965-11	METAL CHIP	10K	5%	1/16W
R313	1-218-953-11	METAL CHIP	1K	5%	1/16W
R315	1-218-965-11	METAL CHIP	10K	5%	1/16W
R316	1-218-965-11	METAL CHIP	10K	5%	1/16W
R325	1-218-953-11	METAL CHIP	1K	5%	1/16W
R401	1-218-941-81	METAL CHIP	100	5%	1/16W
R402	1-218-929-11	METAL CHIP	10	5%	1/16W
R403	1-218-929-11	METAL CHIP	10	5%	1/16W
R404	1-218-965-11	METAL CHIP	10K	5%	1/16W
R405	1-218-965-11	METAL CHIP	10K	5%	1/16W
R409	1-218-929-11	METAL CHIP	10	5%	1/16W
R411	1-218-929-11	METAL CHIP	10	5%	1/16W
R412	1-218-929-11	METAL CHIP	10	5%	1/16W
R413	1-218-929-11	METAL CHIP	10	5%	1/16W
R418	1-218-929-11	METAL CHIP	10	5%	1/16W
R420	1-218-929-11	METAL CHIP	10	5%	1/16W
R421	1-218-929-11	METAL CHIP	10	5%	1/16W
R422	1-218-990-81	SHORT CHIP	0		
R424	1-218-965-11	METAL CHIP	10K	5%	1/16W
R426	1-208-894-81	METAL CHIP	2K	0.5%	1/16W
R512	1-218-929-11	METAL CHIP	10	5%	1/16W
R513	1-218-929-11	METAL CHIP	10	5%	1/16W
R514	1-218-945-11	METAL CHIP	220	5%	1/16W
R515	1-218-941-81	METAL CHIP	100	5%	1/16W
R518	1-218-952-11	METAL CHIP	820	5%	1/16W
R519	1-218-929-11	METAL CHIP	10	5%	1/16W
R520	1-218-929-11	METAL CHIP	10	5%	1/16W
R521	1-218-929-11	METAL CHIP	10	5%	1/16W
R522	1-218-929-11	METAL CHIP	10	5%	1/16W
R523	1-218-929-11	METAL CHIP	10	5%	1/16W
R524	1-218-929-11	METAL CHIP	10	5%	1/16W

Note: IC001 and IC702 on the FPGA DSP board cannot exchange with single. When these parts are damaged, exchange the complete mounted board.

Ref. No.	Part No.	Description			Remark
R526	1-218-929-11	METAL CHIP	10	5%	1/16W
R527	1-218-929-11	METAL CHIP	10	5%	1/16W
R528	1-218-929-11	METAL CHIP	10	5%	1/16W
R531	1-218-929-11	METAL CHIP	10	5%	1/16W
R532	1-218-929-11	METAL CHIP	10	5%	1/16W
R534	1-218-929-11	METAL CHIP	10	5%	1/16W
R549	1-218-941-81	METAL CHIP	100	5%	1/16W
R550	1-218-929-11	METAL CHIP	10	5%	1/16W
R551	1-218-941-81	METAL CHIP	100	5%	1/16W
R552	1-218-929-11	METAL CHIP	10	5%	1/16W
R553	1-218-929-11	METAL CHIP	10	5%	1/16W
R554	1-218-929-11	METAL CHIP	10	5%	1/16W
R555	1-218-929-11	METAL CHIP	10	5%	1/16W
R556	1-218-929-11	METAL CHIP	10	5%	1/16W
R557	1-218-929-11	METAL CHIP	10	5%	1/16W
R558	1-218-929-11	METAL CHIP	10	5%	1/16W
R559	1-218-929-11	METAL CHIP	10	5%	1/16W
R560	1-218-929-11	METAL CHIP	10	5%	1/16W
R561	1-218-929-11	METAL CHIP	10	5%	1/16W
R562	1-218-929-11	METAL CHIP	10	5%	1/16W
R570	1-218-965-11	METAL CHIP	10K	5%	1/16W
R575	1-218-990-81	SHORT CHIP	0		
R576	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R577	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R578	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R579	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R580	1-218-965-11	METAL CHIP	10K	5%	1/16W
R581	1-218-965-11	METAL CHIP	10K	5%	1/16W
R582	1-218-965-11	METAL CHIP	10K	5%	1/16W
R701	1-216-864-11	SHORT CHIP	0		
R702	1-216-864-11	SHORT CHIP	0		
R703	1-218-929-11	METAL CHIP	10	5%	1/16W
R704	1-218-929-11	METAL CHIP	10	5%	1/16W
R705	1-218-929-11	METAL CHIP	10	5%	1/16W
R706	1-218-929-11	METAL CHIP	10	5%	1/16W
R707	1-218-929-11	METAL CHIP	10	5%	1/16W
R708	1-218-929-11	METAL CHIP	10	5%	1/16W
R709	1-218-933-11	METAL CHIP	22	5%	1/16W
R710	1-218-989-11	METAL CHIP	1M	5%	1/16W
R712	1-218-959-11	METAL CHIP	3.3K	5%	1/16W
R713	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R714	1-218-965-11	METAL CHIP	10K	5%	1/16W
R716	1-218-965-11	METAL CHIP	10K	5%	1/16W
R718	1-218-965-11	METAL CHIP	10K	5%	1/16W
R719	1-218-933-11	METAL CHIP	22	5%	1/16W
R720	1-218-941-81	METAL CHIP	100	5%	1/16W
R721	1-218-933-11	METAL CHIP	22	5%	1/16W
R722	1-218-933-11	METAL CHIP	22	5%	1/16W
R723	1-218-933-11	METAL CHIP	22	5%	1/16W
R724	1-218-933-11	METAL CHIP	22	5%	1/16W
R725	1-218-933-11	METAL CHIP	22	5%	1/16W
		< VIBRATOR >			
X201	1-814-147-11	QUARTZ CRYSTAL OSCILLATOR (50 MHz)			
X701	1-795-374-21	VIBRATOR, CERAMIC (6 MHz)			

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Ref. No.	Part No.	Description			Remark
		HP BOARD			
		*********			
		< CAPACITOR >			
C2001	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
C2002	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
C2003	1-118-290-11	CERAMIC CHIP	0.001uF	10%	50V
		< CONNECTOR >			
CN2001	1-764-250-21	PIN, CONNECTOR (PC BOARD) 4P			
		< DIODE >			
D2001	6-503-704-01	DIODE CUS521, H3SONYF			
D2002	6-503-704-01	DIODE CUS521, H3SONYF			
		< LUG TERMINAL >			
* ET2001	1-780-408-11	TERMINAL, LUG			
		< JACK >			
J2001	1-822-967-12	JACK (PHONES)			
		< JUMPER RESISTOR >			
R2001	1-216-864-11	SHORT CHIP	0		

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	A-1945-086-A	KEY JOG BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C1008	1-118-047-11	CERAMIC CHIP	10uF	10%	16V
C5050	1-118-385-11	CERAMIC CHIP	0.001uF	10%	50V
C5052	1-118-385-11	CERAMIC CHIP	0.001uF	10%	50V
		< CONNECTOR >			
CN1001	1-573-290-21	PIN, CONNECTOR (1.5 mm) (SMD) 4P			
CN5009	1-820-116-51	CONNECTOR, FFC/FPC 17P			
CN5310	1-573-768-21	PIN, CONNECTOR (1.5 mm) (SMD) 5P			
		< LED >			
D5002	6-502-413-01	LED SELT5E23C-S TP15 (DSEE)			
		< ROTARY ENCODER >			
EN5004	1-418-725-41	ENCODER, ROTARY (12 TYPE) (VOLUME)			
		< IC >			
IC1002	6-600-768-01	IC PNA4823M03S0 (R)			
		< TRANSISTOR >			
Q5002	6-553-268-01	TRANSISTOR	PDTC114ET		
		< RESISTOR >			
R1018	1-216-809-11	METAL CHIP	100	5%	1/10W
R5014	1-216-818-11	METAL CHIP	560	5%	1/10W
R5117	1-216-809-11	METAL CHIP	100	5%	1/10W
R5118	1-216-809-11	METAL CHIP	100	5%	1/10W
R5572	1-216-839-11	METAL CHIP	33K	5%	1/10W
R5573	1-216-797-11	METAL CHIP	10	5%	1/10W

KEY JOG **MAIN**

Ref. No.	Part No.	Description			Remark
		< SWITCH >			
S5001	1-762-875-21	SWITCH, KEYBOARD (BACK)			
S5002	1-762-875-21	SWITCH, KEYBOARD (HOME)			
S5003	1-762-875-21	SWITCH, KEYBOARD (►II)			
**********					
	A-1989-167-A	MAIN BOARD, COMPLETE (for SERVICE) (US, CND) (See Note)			
	A-1989-168-A	MAIN BOARD, COMPLETE (for SERVICE) (AEP, UK) (See Note)			
		**********			
		< CAPACITOR >			
C101	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C102	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C103	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C104	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C105	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C106	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C111	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C112	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C113	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C114	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C115	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C116	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C117	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C118	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C119	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C120	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C121	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C123	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C124	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C125	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C126	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C127	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C128	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C129	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C130	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C131	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C132	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C137	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C138	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C139	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C140	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C141	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C142	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C144	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C145	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C146	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C147	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C148	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C150	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C151	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C152	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C153	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C154	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C155	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C156	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C157	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C159	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C174	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V

Ref. No.	Part No.	Description			Remark
C180	1-116-749-11	CERAMIC CHIP	22uF	20%	6.3V
C182	1-116-749-11	CERAMIC CHIP	22uF	20%	6.3V
C183	1-116-749-11	CERAMIC CHIP	22uF	20%	6.3V
C184	1-116-749-11	CERAMIC CHIP	22uF	20%	6.3V
C185	1-116-749-11	CERAMIC CHIP	22uF	20%	6.3V
C186	1-116-749-11	CERAMIC CHIP	22uF	20%	6.3V
C187	1-116-749-11	CERAMIC CHIP	22uF	20%	6.3V
C188	1-116-749-11	CERAMIC CHIP	22uF	20%	6.3V
* C189	1-116-720-11	CERAMIC CHIP	10uF	20%	6.3V
C190	1-116-749-11	CERAMIC CHIP	22uF	20%	6.3V
C192	1-116-749-11	CERAMIC CHIP	22uF	20%	6.3V
C193	1-116-749-11	CERAMIC CHIP	22uF	20%	6.3V
* C194	1-116-720-11	CERAMIC CHIP	10uF	20%	6.3V
C201	1-116-711-11	CERAMIC CHIP	22uF	20%	16V
* C202	1-116-735-11	CERAMIC CHIP	1uF	10%	16V
C203	1-116-711-11	CERAMIC CHIP	22uF	20%	16V
C204	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C205	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C206	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C207	1-116-711-11	CERAMIC CHIP	22uF	20%	16V
C208	1-116-711-11	CERAMIC CHIP	22uF	20%	16V
C209	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C210	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C211	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
* C212	1-118-401-11	CERAMIC CHIP	0.0015uF	10%	50V
C216	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
C217	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
C219	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
C220	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
C221	1-116-151-11	CERAMIC CHIP	0.001uF	2%	50V
C222	1-116-151-11	CERAMIC CHIP	0.001uF	2%	50V
C223	1-116-151-11	CERAMIC CHIP	0.001uF	2%	50V
C224	1-116-151-11	CERAMIC CHIP	0.001uF	2%	50V
C229	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
C230	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
C231	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
C233	1-165-492-21	ELECT CHIP	100uF	20%	10V
C235	1-116-151-11	CERAMIC CHIP	0.001uF	2%	50V
C236	1-116-151-11	CERAMIC CHIP	0.001uF	2%	50V
C237	1-116-711-11	CERAMIC CHIP	22uF	20%	16V
C238	1-116-711-11	CERAMIC CHIP	22uF	20%	16V
C240	1-116-745-11	CERAMIC CHIP	0.22uF	10%	6.3V
C241	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
* C301	1-116-720-11	CERAMIC CHIP	10uF	20%	6.3V
C302	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C303	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C304	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C305	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C306	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C307	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C308	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C309	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C310	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C311	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
* C312	1-116-720-11	CERAMIC CHIP	10uF	20%	6.3V
* C313	1-116-720-11	CERAMIC CHIP	10uF	20%	6.3V
C314	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
C315	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
* C316	1-116-720-11	CERAMIC CHIP	10uF	20%	6.3V
C317	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V

Note: When the complete MAIN board is replaced, refer to "NOTE OF REPLACING THE COMPLETE MAIN BOARD" and "CHECKING METHOD OF NETWORK CONNECTION" on page 5.

	Ref. No.	Part No.	Description			Remark
	C318	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C319	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C320	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C321	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C322	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C323	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C324	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C325	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
*	C338	1-116-720-11	CERAMIC CHIP	10uF	20%	6.3V
	C340	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C341	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
*	C342	1-116-720-11	CERAMIC CHIP	10uF	20%	6.3V
	C343	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C344	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C345	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C346	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C347	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C348	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C349	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C350	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C351	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C401	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
	C402	1-118-388-11	CERAMIC CHIP	0.047uF	10%	25V
	C403	1-164-846-11	CERAMIC CHIP	6PF	0.5PF	50V
	C404	1-164-846-11	CERAMIC CHIP	6PF	0.5PF	50V
	C405	1-164-858-11	CERAMIC CHIP	22PF	5%	50V
	C406	1-164-856-81	CERAMIC CHIP	18PF	5%	50V
	C407	1-116-744-11	CERAMIC CHIP	0.22uF	10%	10V
	C408	1-116-744-11	CERAMIC CHIP	0.22uF	10%	10V
	C409	1-116-744-11	CERAMIC CHIP	0.22uF	10%	10V
	C410	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C411	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C412	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C413	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C415	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
*	C416	1-116-720-11	CERAMIC CHIP	10uF	20%	6.3V
	C417	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C418	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
	C501	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C502	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C503	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C504	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C505	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C506	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C507	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C508	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C513	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C514	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C602	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
*	C603	1-116-720-11	CERAMIC CHIP	10uF	20%	6.3V
*	C604	1-116-720-11	CERAMIC CHIP	10uF	20%	6.3V
	C605	1-164-852-11	CERAMIC CHIP	12PF	5%	50V
	C606	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C608	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C609	1-164-852-11	CERAMIC CHIP	12PF	5%	50V
	C610	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
*	C611	1-116-738-11	CERAMIC CHIP	1uF	10%	6.3V
	C612	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C613	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C614	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C615	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C616	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C617	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C618	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C619	1-116-151-11	CERAMIC CHIP	0.001uF	2%	50V
	C621	1-114-472-91	CERAMIC CHIP	0.001uF	10%	2KV
*	C622	1-116-738-11	CERAMIC CHIP	1uF	10%	6.3V
	C702	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
	C703	1-116-078-11	CERAMIC CHIP	1uF	10%	50V
	C704	1-116-724-11	CERAMIC CHIP	4.7uF	20%	6.3V
	C705	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
*	C706	1-116-738-11	CERAMIC CHIP	1uF	10%	6.3V
	C707	1-116-078-11	CERAMIC CHIP	1uF	10%	50V
	C708	1-116-724-11	CERAMIC CHIP	4.7uF	20%	6.3V
	C901	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V
*	C1001	1-116-720-11	CERAMIC CHIP	10uF	20%	6.3V
	C1002	1-116-744-11	CERAMIC CHIP	0.22uF	10%	10V
	C1003	1-116-744-11	CERAMIC CHIP	0.22uF	10%	10V
	C1005	1-116-744-11	CERAMIC CHIP	0.22uF	10%	10V
	C1006	1-116-724-11	CERAMIC CHIP	4.7uF	20%	6.3V
	C1007	1-116-724-11	CERAMIC CHIP	4.7uF	20%	6.3V
	C1008	1-116-744-11	CERAMIC CHIP	0.22uF	10%	10V
	C1009	1-116-744-11	CERAMIC CHIP	0.22uF	10%	10V
*	C1010	1-116-720-11	CERAMIC CHIP	10uF	20%	6.3V
*	C1011	1-116-720-11	CERAMIC CHIP	10uF	20%	6.3V
*	C1012	1-116-720-11	CERAMIC CHIP	10uF	20%	6.3V
	C1013	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
	C1014	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
	C1015	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
	C1016	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
*	C1017	1-116-720-11	CERAMIC CHIP	10uF	20%	6.3V
	C1018	1-165-492-21	ELECT CHIP	100uF	20%	10V
	C1019	1-116-151-11	CERAMIC CHIP	0.001uF	2%	50V
	C1020	1-118-386-11	CERAMIC CHIP	0.1uF	10%	16V

< CONNECTOR >

CN201	1-816-296-21	PIN, CONNECTOR (PC BOARD) 9P
CN203	1-817-097-21	PIN, CONNECTOR (1.5 mm) (SMD) 13P
CN402	1-785-910-21	CONNECTOR, BOARD TO BOARD 50P
CN601	1-695-223-21	PIN, CONNECTOR (SMD) 10P
CN701	1-573-806-21	PIN, CONNECTOR (1.5 mm) (SMD) 6P
CN703	1-818-857-51	CONNECTOR, FFC/FPC 40P
CN1001	1-821-796-11	CONNECTOR, SATA SMT (7P)
CN1002	1-569-775-21	PIN, CONNECTOR (SMD) 5P
CN1003	1-580-756-21	PIN, CONNECTOR (SMD) 7P

< DIODE >

D403	6-501-199-01	DIODE NSR0320MW2T1G
D604	6-500-275-01	DIODE RB751S-40TE61
D701	6-502-454-01	DIODE RB160VA-40TR
D1001	8-719-049-09	DIODE 1SS367-T3SONY
D1002	8-719-049-09	DIODE 1SS367-T3SONY
D1003	8-719-049-09	DIODE 1SS367-T3SONY
D1004	8-719-049-09	DIODE 1SS367-T3SONY

< LUG TERMINAL >

*	ET001	1-780-408-11	TERMINAL, LUG
*	ET002	1-780-408-11	TERMINAL, LUG
*	ET003	1-780-408-11	TERMINAL, LUG
*	ET004	1-780-408-11	TERMINAL, LUG

MAIN

	Ref. No.	Part No.	Description	Remark
*	ET009	1-780-408-11	TERMINAL, LUG	
*	ET010	1-780-408-11	TERMINAL, LUG	
			< FERRITE BEAD >	
	FB101	1-400-462-21	FERRITE, EMI (SMD) (1005)	
	FB401	1-400-462-21	FERRITE, EMI (SMD) (1005)	
	FB601	1-400-462-21	FERRITE, EMI (SMD) (1005)	
	FB602	1-400-462-21	FERRITE, EMI (SMD) (1005)	
	FB1000	1-469-379-11	FERRITE, EMI (SMD) (2012)	
	FB1001	1-469-379-11	FERRITE, EMI (SMD) (2012)	
			< FILTER >	
	FL201	1-234-939-21	FILTER, EMI REMOVAL (SMD)	
	FL400	1-234-939-21	FILTER, EMI REMOVAL (SMD)	
	FL401	1-234-939-21	FILTER, EMI REMOVAL (SMD)	
	FL501	1-234-939-21	FILTER, EMI REMOVAL (SMD)	
	FL701	1-234-939-21	FILTER, EMI REMOVAL (SMD)	
			< IC >	
	IC101	(Not supplied)	IC MCIMX6D5EYM10AC (See Note)	
	IC201	6-717-694-01	IC BU33TD3WG-TR	
	IC202	6-716-554-11	IC BD9329AEFJ-E2	
	IC203	6-718-705-01	IC TPS54295PWPR	
	IC204	6-715-874-01	IC MM3464A33NRE	
	IC205	6-713-333-01	IC PST8429UL	
	IC301	(Not supplied)	IC H5TQ1G63EFR-H9CR (See Note)	
	IC302	(Not supplied)	IC H5TQ1G63EFR-H9CR (See Note)	
	IC401	6-713-333-01	IC PST8429UL	
	IC501	(Not supplied)	IC KLM4G1FE3B-B001T03 (See Note)	
	IC602	(Not supplied)	IC AR8035-AL1A (See Note)	
	IC701	6-717-669-01	IC TB62752AFUG (O, EL)	
	IC1001	6-715-164-01	IC TPS2553DBVR	
			< COIL >	
	L201	1-457-871-11	CHOKE COIL 2.2uH	
	L202	1-457-871-11	CHOKE COIL 2.2uH	
	L203	1-460-576-11	COIL, CHOKE 4.7uH	
	L601	1-400-790-21	INDUCTOR 4.7uH	
	L602	1-460-653-21	COIL, COMMON MODE CHOKE	
	L603	1-460-653-21	COIL, COMMON MODE CHOKE	
	L604	1-460-653-21	COIL, COMMON MODE CHOKE	
	L605	1-460-653-21	COIL, COMMON MODE CHOKE	
	L701	1-460-586-11	COIL, CHOKE 22uH	
	L1001	1-460-652-21	COIL, COMMON MODE CHOKE	
	L1002	1-460-652-21	COIL, COMMON MODE CHOKE	
			< TRANSISTOR >	
	Q201	8-729-928-90	TRANSISTOR DTC114EE	
	Q202	8-729-928-90	TRANSISTOR DTC114EE	
	Q203	8-729-928-36	TRANSISTOR DTA114EE	
	Q701	6-552-621-01	FET SSM3K37MFV, L3SOF	
	Q702	6-552-621-01	FET SSM3K37MFV, L3SOF	
	Q703	6-552-621-01	FET SSM3K37MFV, L3SOF	
	Q704	6-552-029-01	FET MCH3377-S-TL-E	
	Q1001	6-552-621-01	FET SSM3K37MFV, L3SOF	
	Q1002	6-552-029-01	FET MCH3377-S-TL-E	
			< RESISTOR/FERRITE BEAD >	
	R103	1-218-990-81	SHORT CHIP 0	
	R104	1-218-990-81	SHORT CHIP 0	
	R105	1-218-990-81	SHORT CHIP 0	
	R106	1-218-990-81	SHORT CHIP 0	
	R108	1-218-990-81	SHORT CHIP 0	
	R109	1-218-990-81	SHORT CHIP 0	
	R116	1-218-990-81	SHORT CHIP 0	
	R117	1-218-990-81	SHORT CHIP 0	
	R201	1-208-695-11	METAL CHIP 3.3K 0.5% 1/16W	
	R202	1-208-647-11	METAL CHIP 33 0.5% 1/16W	
	R203	1-208-695-11	METAL CHIP 3.3K 0.5% 1/16W	
	R204	1-218-990-81	SHORT CHIP 0	
	R206	1-218-990-81	SHORT CHIP 0	
	R207	1-208-905-11	METAL CHIP 5.6K 0.5% 1/16W	
	R208	1-208-695-11	METAL CHIP 3.3K 0.5% 1/16W	
	R209	1-250-455-11	METAL CHIP 22 1% 1/16W	
*	R210	1-250-523-11	METAL CHIP 15K 1% 1/16W	
	R211	1-218-990-81	SHORT CHIP 0	
	R212	1-250-495-11	METAL CHIP 1K 1% 1/16W	
	R213	1-250-495-11	METAL CHIP 1K 1% 1/16W	
	R215	1-250-495-11	METAL CHIP 1K 1% 1/16W	
	R217	1-208-695-11	METAL CHIP 3.3K 0.5% 1/16W	
	R218	1-208-683-11	METAL CHIP 1K 0.5% 1/16W	
	R224	1-250-519-11	METAL CHIP 10K 1% 1/16W	
	R225	1-218-990-81	SHORT CHIP 0	
	R242	1-216-864-11	SHORT CHIP 0	
	R243	1-216-864-11	SHORT CHIP 0	
	R244	1-218-990-81	SHORT CHIP 0	
	R248	1-218-990-81	SHORT CHIP 0	
	R253	1-218-990-81	SHORT CHIP 0	
	R254	1-218-990-81	SHORT CHIP 0	
*	R256	1-250-501-11	METAL CHIP 1.8K 1% 1/16W	
	R257	1-218-990-81	SHORT CHIP 0	
	R258	1-218-990-81	SHORT CHIP 0	
	R259	1-218-990-81	SHORT CHIP 0	
	R261	1-218-990-81	SHORT CHIP 0	
	R301	1-250-495-11	METAL CHIP 1K 1% 1/16W	
	R302	1-250-495-11	METAL CHIP 1K 1% 1/16W	
	R303	1-218-965-11	METAL CHIP 10K 5% 1/16W	
	R304	1-218-990-81	SHORT CHIP 0	
	R305	1-218-990-81	SHORT CHIP 0	
*	R306	1-250-480-11	METAL CHIP 240 1% 1/16W	
*	R307	1-250-480-11	METAL CHIP 240 1% 1/16W	
	R308	1-218-945-11	METAL CHIP 220 5% 1/16W	
*	R309	1-250-480-11	METAL CHIP 240 1% 1/16W	
	R310	1-218-945-11	METAL CHIP 220 5% 1/16W	
	R404	1-220-804-11	METAL CHIP 2.2M 5% 1/16W	
	R406	1-218-959-11	METAL CHIP 3.3K 5% 1/16W	
	R409	1-245-604-11	METAL CHIP 10M 5% 1/16W	
	R410	1-218-990-81	SHORT CHIP 0	
	R411	1-218-990-81	SHORT CHIP 0	
	R413	1-218-965-11	METAL CHIP 10K 5% 1/16W	
	R417	1-218-965-11	METAL CHIP 10K 5% 1/16W	
	R418	1-218-965-11	METAL CHIP 10K 5% 1/16W	
	R422	1-218-965-11	METAL CHIP 10K 5% 1/16W	
	R425	1-245-604-11	METAL CHIP 10M 5% 1/16W	
	R426	1-218-961-11	METAL CHIP 4.7K 5% 1/16W	
	R429	1-250-471-11	METAL CHIP 100 1% 1/16W	
	R430	1-250-471-11	METAL CHIP 100 1% 1/16W	
	R431	1-218-990-81	SHORT CHIP 0	
	R432	1-218-990-81	SHORT CHIP 0	

Note: IC101, IC301, IC302, IC501 and IC602 on the MAIN board cannot exchange with single. When these parts are damaged, exchange the complete mounted board.

	Ref. No.	Part No.	Description			Remark
	R454	1-218-990-81	SHORT CHIP	0		
	R456	1-218-990-81	SHORT CHIP	0		
	R457	1-218-990-81	SHORT CHIP	0		
	R458	1-218-990-81	SHORT CHIP	0		
	R463	1-250-471-11	METAL CHIP	100	1%	1/16W
	R466	1-218-990-81	SHORT CHIP	0		
	R468	1-218-990-81	SHORT CHIP	0		
	R469	1-218-990-81	SHORT CHIP	0		
	R470	1-250-471-11	METAL CHIP	100	1%	1/16W
	R471	1-250-471-11	METAL CHIP	100	1%	1/16W
	R472	1-250-471-11	METAL CHIP	100	1%	1/16W
	R473	1-250-471-11	METAL CHIP	100	1%	1/16W
	R501	1-218-965-11	METAL CHIP	10K	5%	1/16W
	R502	1-218-934-11	METAL CHIP	27	5%	1/16W
	R503	1-250-455-11	METAL CHIP	22	1%	1/16W
	R504	1-250-455-11	METAL CHIP	22	1%	1/16W
	R505	1-250-455-11	METAL CHIP	22	1%	1/16W
	R506	1-250-455-11	METAL CHIP	22	1%	1/16W
	R507	1-250-455-11	METAL CHIP	22	1%	1/16W
	R508	1-250-455-11	METAL CHIP	22	1%	1/16W
	R509	1-218-990-81	SHORT CHIP	0		
	R536	1-218-990-81	SHORT CHIP	0		
	R537	1-218-990-81	SHORT CHIP	0		
	R538	1-218-990-81	SHORT CHIP	0		
	R539	1-218-990-81	SHORT CHIP	0		
	R541	1-218-990-81	SHORT CHIP	0		
	R601	1-218-990-81	SHORT CHIP	0		
	R602	1-218-990-81	SHORT CHIP	0		
	R605	1-218-933-11	METAL CHIP	22	5%	1/16W
	R606	1-218-990-81	SHORT CHIP	0		
	R607	1-218-990-81	SHORT CHIP	0		
	R610	1-218-955-11	METAL CHIP	1.5K	5%	1/16W
	R611	1-218-990-81	SHORT CHIP	0		
	R612	1-218-933-11	METAL CHIP	22	5%	1/16W
	R614	1-218-990-81	SHORT CHIP	0		
	R615	1-218-990-81	SHORT CHIP	0		
	R616	1-218-990-81	SHORT CHIP	0		
	R618	1-218-965-11	METAL CHIP	10K	5%	1/16W
	R621	1-218-990-81	SHORT CHIP	0		
	R623	1-218-965-11	METAL CHIP	10K	5%	1/16W
	R624	1-218-965-11	METAL CHIP	10K	5%	1/16W
	R626	1-218-990-81	SHORT CHIP	0		
	R627	1-218-965-11	METAL CHIP	10K	5%	1/16W
*	R630	1-250-501-11	METAL CHIP	1.8K	1%	1/16W
	R632	1-250-487-11	METAL CHIP	470	1%	1/16W
	R633	1-250-471-11	METAL CHIP	100	1%	1/16W
	R637	1-218-990-81	SHORT CHIP	0		
	R638	1-218-965-11	METAL CHIP	10K	5%	1/16W
*	R639	1-250-589-11	METAL CHIP	75	1%	1/10W
*	R640	1-250-589-11	METAL CHIP	75	1%	1/10W
*	R641	1-250-589-11	METAL CHIP	75	1%	1/10W
*	R642	1-250-589-11	METAL CHIP	75	1%	1/10W
	R648	1-250-535-11	METAL CHIP	47K	1%	1/16W
	R649	1-250-535-11	METAL CHIP	47K	1%	1/16W
	R651	1-218-990-81	SHORT CHIP	0		
	R654	1-218-990-81	SHORT CHIP	0		
	R655	1-218-965-11	METAL CHIP	10K	5%	1/16W
	R657	1-218-990-81	SHORT CHIP	0		
	R701	1-218-990-81	SHORT CHIP	0		
	R702	1-218-990-81	SHORT CHIP	0		

	Ref. No.	Part No.	Description			Remark
	R705	1-218-990-81	SHORT CHIP	0		
	R726	1-250-455-11	METAL CHIP	22	1%	1/16W
*	R727	1-250-479-11	METAL CHIP	220	1%	1/16W
	R728	1-250-467-11	METAL CHIP	68	1%	1/16W
	R729	1-218-990-81	SHORT CHIP	0		
	R730	1-218-990-81	SHORT CHIP	0		
	R733	1-218-990-81	SHORT CHIP	0		
	R734	1-218-985-11	METAL CHIP	470K	5%	1/16W
	R739	1-218-990-81	SHORT CHIP	0		
	R741	1-218-990-81	SHORT CHIP	0		
	R742	1-218-990-81	SHORT CHIP	0		
	R743	1-218-990-81	SHORT CHIP	0		
	R749	1-218-990-81	SHORT CHIP	0		
	R750	1-218-990-81	SHORT CHIP	0		
	R751	1-218-990-81	SHORT CHIP	0		
	R752	1-400-462-21	FERRITE, EMI (SMD) (1005)			
	R755	1-218-990-81	SHORT CHIP	0		
	R756	1-218-990-81	SHORT CHIP	0		
	R757	1-218-990-81	SHORT CHIP	0		
	R758	1-218-990-81	SHORT CHIP	0		
	R761	1-218-965-11	METAL CHIP	10K	5%	1/16W
	R762	1-218-990-81	SHORT CHIP	0		
	R764	1-218-965-11	METAL CHIP	10K	5%	1/16W
	R801	1-250-495-11	METAL CHIP	1K	1%	1/16W
	R802	1-250-495-11	METAL CHIP	1K	1%	1/16W
	R804	1-250-495-11	METAL CHIP	1K	1%	1/16W
	R806	1-250-495-11	METAL CHIP	1K	1%	1/16W
	R807	1-250-495-11	METAL CHIP	1K	1%	1/16W
	R813	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
	R814	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
	R815	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
	R820	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
	R821	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
	R822	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
	R823	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
	R836	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
	R839	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
	R845	1-218-990-81	SHORT CHIP	0		
	R846	1-218-990-81	SHORT CHIP	0		
	R853	1-218-990-81	SHORT CHIP	0		
	R854	1-218-990-81	SHORT CHIP	0		
	R901	1-218-990-81	SHORT CHIP	0		
	R1001	1-218-990-81	SHORT CHIP	0		
	R1002	1-218-965-11	METAL CHIP	10K	5%	1/16W
	R1008	1-218-990-81	SHORT CHIP	0		
	R1010	1-218-965-11	METAL CHIP	10K	5%	1/16W
	R1011	1-218-985-11	METAL CHIP	470K	5%	1/16W
	R1013	1-250-519-11	METAL CHIP	10K	1%	1/16W
	R1014	1-250-519-11	METAL CHIP	10K	1%	1/16W
	R1015	1-218-965-11	METAL CHIP	10K	5%	1/16W
*	R1017	1-250-477-11	METAL CHIP	180	1%	1/16W
	R1018	1-250-455-11	METAL CHIP	22	1%	1/16W
	R1019	1-250-455-11	METAL CHIP	22	1%	1/16W
	R1020	1-218-990-81	SHORT CHIP	0		
	R1021	1-218-990-81	SHORT CHIP	0		
	R1023	1-218-990-81	SHORT CHIP	0		
	R1024	1-218-990-81	SHORT CHIP	0		
	R1026	1-218-965-11	METAL CHIP	10K	5%	1/16W
	R1027	1-218-965-11	METAL CHIP	10K	5%	1/16W

MAIN **PENC** **POWER KEY** **SPTM** **STANBY**

Ref. No.	Part No.	Description	Remark
		< COMPOSITION CIRCUIT BLOCK >	
RB601	1-234-400-21	CONDUCTOR, NETWORK (1005X4)	
RB602	1-234-400-21	CONDUCTOR, NETWORK (1005X4)	
RB701	1-234-400-21	CONDUCTOR, NETWORK (1005X4)	
RB702	1-234-400-21	CONDUCTOR, NETWORK (1005X4)	
RB703	1-234-400-21	CONDUCTOR, NETWORK (1005X4)	
RB704	1-234-400-21	CONDUCTOR, NETWORK (1005X4)	
RB705	1-234-400-21	CONDUCTOR, NETWORK (1005X4)	
RB706	1-234-400-21	CONDUCTOR, NETWORK (1005X4)	
RB801	1-234-378-21	RES, NETWORK 10K (1005X4)	
RB802	1-234-378-21	RES, NETWORK 10K (1005X4)	
RB810	1-234-378-21	RES, NETWORK 10K (1005X4)	
RB811	1-234-378-21	RES, NETWORK 10K (1005X4)	
RB812	1-234-378-21	RES, NETWORK 10K (1005X4)	
RB813	1-234-378-21	RES, NETWORK 10K (1005X4)	
RB814	1-234-378-21	RES, NETWORK 10K (1005X4)	
RB815	1-234-378-21	RES, NETWORK 10K (1005X4)	
		< TRANSFORMER >	
T601	1-697-310-11	PULSE TRANSFORMER	
T602	1-697-310-11	PULSE TRANSFORMER	
T603	1-697-310-11	PULSE TRANSFORMER	
T604	1-697-310-11	PULSE TRANSFORMER	
		< VIBRATOR >	
X401	1-814-404-11	QUARTZ CRYSTAL UNITS (24 MHz)	
X403	1-814-273-11	QUARTZ CRYSTAL UNIT (32.768 kHz)	
X601	1-814-242-11	VIBRATOR, CRYSTAL (25 MHz)	
**********			
	A-1974-810-A	PENC BOARD, COMPLETE	
		**********	
		< CAPACITOR >	
C5051	1-118-385-11	CERAMIC CHIP 0.001uF 10% 50V	
C5053	1-118-385-11	CERAMIC CHIP 0.001uF 10% 50V	
		< CONNECTOR >	
CN5301	1-569-775-21	PIN, CONNECTOR (SMD) 5P	
		< ROTARY ENCODER >	
EN5005	1-487-023-22	ROTARY ENCODER (PUSH ENTER)	
		< RESISTOR >	
R5119	1-216-809-11	METAL CHIP 100 5% 1/10W	
R5120	1-216-809-11	METAL CHIP 100 5% 1/10W	
R5574	1-216-833-11	METAL CHIP 10K 5% 1/10W	
**********			
		POWER KEY BOARD	
		**********	
		< CONNECTOR >	
CN1002	1-580-057-11	PIN, CONNECTOR (SMD) 4P	
		< LED >	
D1002	6-503-970-01	LED SELU5423E-STP15 (I/⏻)	

Ref. No.	Part No.	Description	Remark
		< SWITCH >	
S1029	1-762-875-21	SWITCH, KEYBOARD (I/⏻)	
**********			
	A-1945-077-A	SPTM BOARD, COMPLETE (AEP, UK)	
	A-1945-078-A	SPTM BOARD, COMPLETE (US, CND)	
		**********	
		< CAPACITOR >	
C700	1-100-153-91	CERAMIC CHIP 220PF 5% 100V	
C701	1-118-345-11	CERAMIC CHIP 0.01uF 10% 25V	
C702	1-100-153-91	CERAMIC CHIP 220PF 5% 100V	
C703	1-118-345-11	CERAMIC CHIP 0.01uF 10% 25V	
		< CONNECTOR >	
* CN701	1-564-216-00	PIN, CONNECTOR (3.96 mm PITCH) 5P	
		< COIL >	
L700	1-411-906-11	COIL, AIR-CORE	
L701	1-411-906-11	COIL, AIR-CORE	
		< RESISTOR >	
⚠ R700	1-249-393-91	CARBON 10 5% 1/4W F	
⚠ R701	1-249-393-91	CARBON 10 5% 1/4W F	
⚠ R702	1-249-389-91	CARBON 4.7 5% 1/4W F	
⚠ R703	1-249-389-91	CARBON 4.7 5% 1/4W F	
		< TERMINAL >	
⚠ TB700	1-854-056-11	TERMINAL BOARD, SPEAKER 2P (SPEAKERS R)	
⚠ TB701	1-854-057-11	TERMINAL BOARD, SPEAKER 2P (SPEAKERS L)	
**********			
	A-1945-084-A	STANBY BOARD, COMPLETE (AEP, UK)	
	A-1945-085-A	STANBY BOARD, COMPLETE (US, CND)	
		**********	
		< CAPACITOR >	
C1901	1-128-991-21	ELECT CHIP 10uF 20% 50V	
C1903	1-126-948-11	ELECT 100uF 20% 35V	
C1906	1-118-361-11	CERAMIC CHIP 0.1uF 10% 50V	
C1907	1-114-329-11	CERAMIC CHIP 0.47uF 10% 50V	
⚠ C1909	1-118-661-11	CERAMIC 0.01uF 20% 250V	
		< CONNECTOR >	
CN1901	1-770-470-21	PIN, CONNECTOR (PC BOARD) 6P	
⚠ *CN1903	1-565-792-11	PIN, CONNECTOR (3.96 mm PITCH) 2P	
⚠ *CN1904	1-793-660-11	PIN, CONNECTOR (PC BOARD) 3P	
		< DIODE >	
D1901	8-719-053-18	DIODE 1SR154-400TE-25	
D1902	8-719-053-18	DIODE 1SR154-400TE-25	
D1903	8-719-053-18	DIODE 1SR154-400TE-25	
D1904	8-719-053-18	DIODE 1SR154-400TE-25	
D1905	6-502-961-01	DIODE DA2J10100L	
D1906	6-502-961-01	DIODE DA2J10100L	
D1907	6-502-961-01	DIODE DA2J10100L	
		< FUSE HOLDER >	
⚠ FH1903	1-533-313-11	FUSE HOLDER	
⚠ FH1904	1-533-313-11	FUSE HOLDER	

Ref. No.	Part No.	Description				Remark
		< TRANSISTOR >				
Q1901	6-553-266-01	TRANSISTOR	2PD601ART			
Q1902	6-553-266-01	TRANSISTOR	2PD601ART			
Q1903	6-553-268-01	TRANSISTOR	PDTC114ET			
Q1904	6-553-266-01	TRANSISTOR	2PD601ART			
* Q1905	6-551-721-01	FET	SSM6J50TU (T5RSONYF			
Q1906	6-553-266-01	TRANSISTOR	2PD601ART			
		< RESISTOR >				
R1901	1-218-879-11	METAL CHIP	22K	0.5%	1/10W	
R1902	1-218-863-11	METAL CHIP	4.7K	0.5%	1/10W	
R1903	1-218-879-11	METAL CHIP	22K	0.5%	1/10W	
R1904	1-216-821-11	METAL CHIP	1K	5%	1/10W	
R1905	1-250-664-11	METAL CHIP	100K	1%	1/10W	
⚠ R1907	1-249-389-91	CARBON	4.7	5%	1/4W	F
R1908	1-216-853-11	METAL CHIP	470K	5%	1/10W	
R1909	1-216-849-11	METAL CHIP	220K	5%	1/10W	
R1910	1-216-841-11	METAL CHIP	47K	5%	1/10W	
R1911	1-216-841-11	METAL CHIP	47K	5%	1/10W	
R1913	1-216-853-11	METAL CHIP	470K	5%	1/10W	
R1914	1-216-864-11	SHORT CHIP	0			
		< RELAY >				
⚠ RY1901	1-755-266-11	RELAY, AC POWER				
		< TRANSFORMER >				
⚠ T1901	1-492-498-11	STANDBY TRANSFORMER (AEP, UK)				
⚠ T1901	1-492-499-11	STANDBY TRANSFORMER (US, CND)				
		< VARISTOR >				
⚠ VDR902	1-811-165-31	VARISTOR (TVR10471-D)				
**********						
	A-1945-088-A	U-COM BOARD, COMPLETE				
		**********				
		< CAPACITOR >				
C1001	1-116-151-11	CERAMIC CHIP	0.001uF	2%	50V	
C5001	1-118-418-11	CERAMIC CHIP	22uF	20%	6.3V	
C5002	1-116-734-11	CERAMIC CHIP	1uF	20%	16V	
C5003	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V	
C5004	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V	
C5005	1-116-734-11	CERAMIC CHIP	1uF	20%	16V	
C5006	1-118-418-11	CERAMIC CHIP	22uF	20%	6.3V	
C5007	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V	
* C5008	1-116-720-11	CERAMIC CHIP	10uF	20%	6.3V	
C5009	1-116-734-11	CERAMIC CHIP	1uF	20%	16V	
C5010	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V	
C5011	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V	
C5012	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V	
C5013	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V	
C5014	1-118-041-11	CERAMIC CHIP	4.7uF	10%	10V	
C5015	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V	
C5016	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V	
C5017	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V	
C5018	1-116-151-11	CERAMIC CHIP	0.001uF	2%	50V	
C5019	1-116-151-11	CERAMIC CHIP	0.001uF	2%	50V	
C5020	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V	
C5021	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V	

Ref. No.	Part No.	Description			Remark
C5022	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C5023	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C5024	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C5025	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C5026	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C5027	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C5028	1-116-151-11	CERAMIC CHIP	0.001uF	2%	50V
C5029	1-116-151-11	CERAMIC CHIP	0.001uF	2%	50V
C5030	1-116-151-11	CERAMIC CHIP	0.001uF	2%	50V
C5031	1-116-151-11	CERAMIC CHIP	0.001uF	2%	50V
C5033	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C5034	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C5035	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C5036	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C5037	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C5041	1-118-391-11	CERAMIC CHIP	0.01uF	10%	50V
C5042	1-118-391-11	CERAMIC CHIP	0.01uF	10%	50V
		< CONNECTOR >			
CN5002	1-816-113-21	CONNECTOR 15P			
CN5003	1-766-382-21	PIN, CONNECTOR (1.5 mm) (SMD) 10P			
CN5005	1-817-097-21	PIN, CONNECTOR (1.5 mm) (SMD) 13P			
CN5006	1-785-466-51	CONNECTOR, FFC/FPC 7P			
CN5007	1-785-466-51	CONNECTOR, FFC/FPC 7P			
CN5008	1-779-772-11	CONNECTOR 13P			
CN5010	1-820-116-51	CONNECTOR, FFC/FPC 17P			
		< DIODE >			
D5004	6-503-704-01	DIODE CUS521, H3SONYF			
D5005	6-503-704-01	DIODE CUS521, H3SONYF			
D5006	6-503-704-01	DIODE CUS521, H3SONYF			
D5007	6-503-704-01	DIODE CUS521, H3SONYF			
D5011	8-719-073-35	DIODE RB551V-30TE-17			
D5013	6-503-704-01	DIODE CUS521, H3SONYF			
D5014	6-502-961-01	DIODE DA2J10100L			
D5015	6-502-961-01	DIODE DA2J10100L			
D5016	6-502-961-01	DIODE DA2J10100L			
D5017	6-502-961-01	DIODE DA2J10100L			
D5018	6-502-961-01	DIODE DA2J10100L			
D5019	6-502-961-01	DIODE DA2J10100L			
		< LUG TERMINAL >			
* ET5001	1-780-408-11	TERMINAL, LUG			
* ET5002	1-780-408-11	TERMINAL, LUG			
* ET5003	1-780-408-11	TERMINAL, LUG			
		< FERRITE BEAD >			
FB5001	1-400-862-11	BEAD, FERRITE			
FB5002	1-400-862-11	BEAD, FERRITE			
		< IC >			
IC5001	6-711-653-01	IC S-1206B33-U3T1G			
IC5003	6-714-351-01	IC R1EX24016ASAS0A			
IC5004	6-719-856-01	IC BU4229F-TR			
IC5005	6-712-384-01	IC TC74VHC4052AFT (EK)			
IC5006	A-1945-130-A	IC MB9AF156NPMC-G-JNE2 (for SERVICE)			
IC5007	6-707-842-01	IC TC74LCX08FT (EKJ)			

U-COM

Ref. No.	Part No.	Description			Remark
		< TRANSISTOR >			
Q1001	6-553-268-01	TRANSISTOR	PDTC114ET		
Q1003	6-553-267-01	TRANSISTOR	2PB709ART		
		< RESISTOR >			
R1003	1-216-809-11	METAL CHIP	100	5%	1/10W
R1005	1-216-821-11	METAL CHIP	1K	5%	1/10W
R1007	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R1009	1-216-176-11	METAL CHIP	120	5%	1/8W
R5011	1-216-295-91	SHORT CHIP	0		
R5016	1-218-941-81	METAL CHIP	100	5%	1/16W
R5018	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5019	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5020	1-218-977-11	METAL CHIP	100K	5%	1/16W
R5021	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5024	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5025	1-218-941-81	METAL CHIP	100	5%	1/16W
R5026	1-218-977-11	METAL CHIP	100K	5%	1/16W
R5027	1-218-941-81	METAL CHIP	100	5%	1/16W
R5028	1-218-941-81	METAL CHIP	100	5%	1/16W
R5029	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5030	1-218-941-81	METAL CHIP	100	5%	1/16W
R5031	1-218-941-81	METAL CHIP	100	5%	1/16W
R5032	1-218-941-81	METAL CHIP	100	5%	1/16W
R5033	1-218-941-81	METAL CHIP	100	5%	1/16W
R5034	1-218-941-81	METAL CHIP	100	5%	1/16W
R5035	1-218-941-81	METAL CHIP	100	5%	1/16W
R5036	1-218-941-81	METAL CHIP	100	5%	1/16W
R5037	1-218-941-81	METAL CHIP	100	5%	1/16W
R5039	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5040	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5041	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5042	1-218-941-81	METAL CHIP	100	5%	1/16W
R5043	1-218-941-81	METAL CHIP	100	5%	1/16W
R5045	1-218-941-81	METAL CHIP	100	5%	1/16W
R5046	1-218-941-81	METAL CHIP	100	5%	1/16W
R5047	1-218-941-81	METAL CHIP	100	5%	1/16W
R5048	1-218-941-81	METAL CHIP	100	5%	1/16W
R5049	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R5050	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R5051	1-218-941-81	METAL CHIP	100	5%	1/16W
R5052	1-218-941-81	METAL CHIP	100	5%	1/16W
R5053	1-218-941-81	METAL CHIP	100	5%	1/16W
R5054	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5055	1-218-941-81	METAL CHIP	100	5%	1/16W
R5056	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5057	1-218-941-81	METAL CHIP	100	5%	1/16W
R5058	1-218-941-81	METAL CHIP	100	5%	1/16W
R5059	1-218-941-81	METAL CHIP	100	5%	1/16W
R5060	1-218-941-81	METAL CHIP	100	5%	1/16W
R5061	1-218-941-81	METAL CHIP	100	5%	1/16W
R5062	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5063	1-218-941-81	METAL CHIP	100	5%	1/16W
R5064	1-218-941-81	METAL CHIP	100	5%	1/16W
R5065	1-218-941-81	METAL CHIP	100	5%	1/16W
R5066	1-218-941-81	METAL CHIP	100	5%	1/16W
R5067	1-218-941-81	METAL CHIP	100	5%	1/16W
R5068	1-218-941-81	METAL CHIP	100	5%	1/16W
R5072	1-218-941-81	METAL CHIP	100	5%	1/16W
R5074	1-218-941-81	METAL CHIP	100	5%	1/16W

Ref. No.	Part No.	Description			Remark
R5075	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5076	1-218-941-81	METAL CHIP	100	5%	1/16W
R5077	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R5078	1-218-941-81	METAL CHIP	100	5%	1/16W
R5079	1-218-941-81	METAL CHIP	100	5%	1/16W
R5080	1-218-941-81	METAL CHIP	100	5%	1/16W
R5081	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5087	1-218-941-81	METAL CHIP	100	5%	1/16W
R5088	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5089	1-218-941-81	METAL CHIP	100	5%	1/16W
R5090	1-218-941-81	METAL CHIP	100	5%	1/16W
R5091	1-218-941-81	METAL CHIP	100	5%	1/16W
R5092	1-218-941-81	METAL CHIP	100	5%	1/16W
R5093	1-218-941-81	METAL CHIP	100	5%	1/16W
R5094	1-218-941-81	METAL CHIP	100	5%	1/16W
R5096	1-218-941-81	METAL CHIP	100	5%	1/16W
R5097	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5098	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5099	1-218-941-81	METAL CHIP	100	5%	1/16W
R5100	1-218-941-81	METAL CHIP	100	5%	1/16W
R5102	1-218-941-81	METAL CHIP	100	5%	1/16W
R5103	1-218-941-81	METAL CHIP	100	5%	1/16W
R5104	1-218-941-81	METAL CHIP	100	5%	1/16W
R5105	1-218-941-81	METAL CHIP	100	5%	1/16W
R5106	1-218-941-81	METAL CHIP	100	5%	1/16W
R5108	1-218-955-11	METAL CHIP	1.5K	5%	1/16W
R5111	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5112	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5113	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5114	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5115	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5116	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5122	1-218-941-81	METAL CHIP	100	5%	1/16W
R5123	1-218-941-81	METAL CHIP	100	5%	1/16W
R5124	1-218-941-81	METAL CHIP	100	5%	1/16W
R5129	1-218-941-81	METAL CHIP	100	5%	1/16W
R5130	1-218-941-81	METAL CHIP	100	5%	1/16W
R5131	1-218-989-11	METAL CHIP	1M	5%	1/16W
R5132	1-218-989-11	METAL CHIP	1M	5%	1/16W
R5136	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5137	1-218-941-81	METAL CHIP	100	5%	1/16W
R5139	1-218-990-81	SHORT CHIP	0		
R5140	1-218-989-11	METAL CHIP	1M	5%	1/16W
R5141	1-218-989-11	METAL CHIP	1M	5%	1/16W
R5142	1-218-941-81	METAL CHIP	100	5%	1/16W
R5143	1-218-941-81	METAL CHIP	100	5%	1/16W
R5144	1-218-941-81	METAL CHIP	100	5%	1/16W
R5145	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5147	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5148	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5149	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5150	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5151	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5152	1-216-864-11	SHORT CHIP	0		
R5153	1-216-864-11	SHORT CHIP	0		
R5154	1-218-990-81	SHORT CHIP	0		
R5155	1-216-797-11	METAL CHIP	10	5%	1/10W
R5158	1-216-833-11	METAL CHIP	10K	5%	1/10W
R5159	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5162	1-218-957-11	METAL CHIP	2.2K	5%	1/16W

Ref. No.	Part No.	Description			Remark
R5163	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R5164	1-216-864-11	SHORT CHIP	0		
R5165	1-218-941-81	METAL CHIP	100	5%	1/16W
R5166	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5167	1-216-797-11	METAL CHIP	10	5%	1/10W
R5168	1-216-864-11	SHORT CHIP	0		
R5169	1-216-864-11	SHORT CHIP	0		
R5171	1-216-295-91	SHORT CHIP	0		
R5172	1-218-989-11	METAL CHIP	1M	5%	1/16W
R5173	1-218-989-11	METAL CHIP	1M	5%	1/16W
R5174	1-216-857-11	METAL CHIP	1M	5%	1/10W
R5178	1-216-833-11	METAL CHIP	10K	5%	1/10W
R5179	1-216-837-11	METAL CHIP	22K	5%	1/10W
R5186	1-218-990-81	SHORT CHIP	0		
		< COMPOSITION CIRCUIT BLOCK >			
RB5001	1-234-373-21	RES, NETWORK 220 (1005X4)			
		< VIBRATOR >			
X5001	1-781-646-21	VIBRATOR, CERAMIC (4 MHz)			

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		MISCELLANEOUS
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⚠ AC1	1-821-082-21	INLET, AC 2P
⚠ F902	1-532-388-33	FUSE (T 2 AL/250 V) (AEP, UK)
⚠ F902	1-532-504-33	FUSE (T 4 AL/250 V) (US, CND)
FC1	1-481-528-11	FILTER, CLAMP (FERRITE CORE)
FC2	1-481-528-11	FILTER, CLAMP (FERRITE CORE)
FC3	1-400-640-11	CORE, FERRITE
FC4	1-500-386-11	FILTER, CLAMP (FERRITE CORE)
FC5	1-481-528-11	FILTER, CLAMP (FERRITE CORE)
FC6	1-500-082-11	CLAMP, SLEEVE FERRITE
FC7	1-500-386-11	FILTER, CLAMP (FERRITE CORE)
FC8	1-500-082-11	CLAMP, SLEEVE FERRITE
FC9	1-500-082-11	CLAMP, SLEEVE FERRITE (AEP, UK)
FC10	1-500-386-11	FILTER, CLAMP (FERRITE CORE)
FC11	1-400-640-11	CORE, FERRITE
FFC2	1-828-774-51	WIRE (FLAT TYPE) (24 CORE) (See Note 3)
FFC3	1-828-760-51	WIRE (FLAT TYPE) (22 CORE) (See Note 3)
FFC4	1-828-002-51	WIRE (FLAT TYPE) (17 CORE) (See Note 3)
⚠ HDD1	1-458-715-11	HDD/TSB-AQUARIUS-SLIM (500GB) (Hard Disk Drive) (See Note 2)
LCD1	1-811-873-11	PANEL, LCD
⚠ M1	1-855-324-11	DC FAN
⚠ T1	1-697-296-11	TRANSFORMER, POWER (US, CND)
⚠ T1	1-697-304-11	TRANSFORMER, POWER (AEP, UK)
WBC1	1-458-601-31	CARD, WLAN/BT COMBO (See Note 1)
WR1	1-846-782-11	CABLE, COAXIAL (U.FL CONNECTOR) (for L-ch) (See Note 1)
WR2	1-846-781-11	CABLE, COAXIAL (U.FL CONNECTOR) (for R-ch) (See Note 1)
WR3	1-969-717-11	HARNESS (S-003)
WR4	1-969-719-11	HARNESS (E-001)
WR5	1-969-715-11	HARNESS (S-001)

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Ref. No.	Part No.	Description	Remark
		ACCESSORIES	
		**********	
	1-492-558-11	REMOTE COMMANDER RM-ANU183 (S)	(SILVER)
	1-492-558-21	REMOTE COMMANDER RM-ANU183 (B)	(BLACK)
	1-837-633-12	POWER-SUPPLY CORD (AC power cord)	(US, CND)
	1-839-699-12	CORD, POWER (AC power cord) (AEP)	
	1-846-946-11	CABLE, ETHERNET (LAN cable)	

Note 1: When the WLAN/BT COMBO card (Ref. No. WBC1) and coaxial (U.FL connector) cables (Ref. No. WR1, WR2) are replaced, refer to "CHECKING METHOD OF NETWORK CONNECTION" on page 5.

Note 2: When the hard disk drive (Ref. No. HDD1) is replaced, refer to "NOTE OF REPLACING THE HARD DISK DRIVE (Ref. No. HDD1)" on page 4.

Note 3: Wires (flat type) for service is straight.
When replacing wire (flat type), install it after bending it in the same form as that before replacement.

REVISION HISTORY

Ver.	Date	Description of Revision
1.0	2013.10	New

How to search for a contact point of signal lines or the like in DIAGRAMS SECTION

If a contact point of a BLOCK DIAGRAM, PRINTED WIRING BOARD or SCHEMATIC DIAGRAM is shown in a different page, use the PDF file search function to find one.

e.g.) If a contact point is shown as >001Z, follow the procedure below.

Procedure:

1. Press the [F] key while pressing the [Ctrl] key.
2. Input ">001Z" in the search box and press the [Enter] key.
3. The relevant part (page), where the contact point is shown, appears.

Note: If you still see the original page, press the [Enter] key again.