RDR-AT100/AT105/AT107/ AT200/AT205
RMT-D249P/D250P

SERVICE MANUAL

Self Diagnosis Supported model

Ver. 1.2 2010.03

Photo: RDR-AT200
RMT-D249P

AEP Model
RDR-AT100/AT105/AT107/AT200/ AT205

UK Model
RDR-AT100

Russian Model
RDR-AT100/AT200

(AEP,UK)

SPECIFICATIONS

System
Laser: Semiconductor laser
Channel coverage:
PAL (B/G, D/K, I)/SECAM (L)
VHF: E2 to E12, R1 to R12, F2 to F10, Italian A to H, Ireland A to J, South Africa 4 to 11, 13
UHF: E21 to E69, R21 to R69, B21 to B69, F21 to F69
CATV: S01 to S05, S1 to S20, France B to Q
HYPER: S21 to S41

The above channel coverage merely ensures the channel reception within these ranges. It does not guarantee the ability to receive signals in all circumstances. The channels that can be received differ depending on the country/region.

Video reception: Frequency synthesizer system
Audio reception: Split carrier system
Aerial out: 75-ohm asymmetrical aerial socket
Timer: Clock: Quartz locked/Timer indication: 24-hour cycle (digital)
Video recording format: MPEG-2, MPEG-1
Audio recording format/applicable bit rate: Dolby Digital 2 ch 256 kbps/128 kbps (in EP, SLP, and SEP mode), PCM

Inputs and outputs
LINE 2 OUT
(AUDIO): Phono jack/2 Vrms/10 kilohms
(VIDEO): Phono jack/1.0 Vp-p
(S VIDEO): 4-pin mini DIN/Y: 1.0 Vp-p, C: 0.3 Vp-p (PAL)
LINE 2 IN
(AUDIO): Phono jack/2 Vrms/more than 22 kilohms
(VIDEO): Phono jack/1.0 Vp-p
(S VIDEO): 4-pin mini DIN/Y: 1.0 Vp-p, C: 0.3 Vp-p (PAL)
LINE 3 – TV: 21-pin
CVBS OUT
S-Video/RGB OUT (upstream)
LINE 1/DECODER: 21-pin
CVBS IN/OUT
S-Video/RGB IN
Decoder
DV IN: 4-pin/i.LINK S100
DIGITAL OUT (COAXIAL): Phono jack/0.5 Vp-p/75 ohms

COMPONENT VIDEO OUT (Y, P_B/C_B, P_R/C_R):
Phono jack/Y: 1.0 Vp-p,
P_B/C_B: 0.7 Vp-p, P_R/C_R: 0.7 Vp-p
G-LINK*1 : mini jack
HDMI OUT: HDMI™ Connector

USB:
USB jack Type A (For connecting digital still camera, Memory card reader, USB memory and HDD camcorder)
USB jack Type B (For connecting PictBridge-compatible printers)

General
Power requirements: 220-240 V AC, 50/60 Hz
Power consumption: 43W
Dimensions (approx.):
430 × 66.5 × 285.5 mm (width/height/depth) incl. projecting parts
Hard disk drive capacity:
RDR-AT100/AT105/AT107: 160GB
RDR-AT200/AT205: 250GB
Mass (approx.): 4.4kg
Operating temperature: 5ºC to 35ºC
Operating humidity: 25% to 80%
Supplied accessories:
Mains lead (1)
Aerial cable (1)
Remote commander (remote) (1)
Set top box controller (1)*1
R6 (size AA) batteries (2)
HDMI cord (1)*2

*1 RDR-AT105/AT107/AT205 only
*2 RDR-AT107 only

Specifications and design are subject to change without notice.

DVD RECORDER

SONY

Sony Corporation
Video Business Group

9-890-705-13

2010C3100-1

Published by Quality Assurance Dept.

WARNING!!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION, BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 25 cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.

CAUTION:
The use of optical instrument with this product will increase eye hazard.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

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.

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.

Special Component Notice
The components identified by mark 🔒 contain confidential information.
Strictly follow the instructions whenever the components are repaired and/or replaced.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair Point them out to the customer and recommend their replacement.
4. Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit Board Repairing
   - Keep the temperature of the 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.

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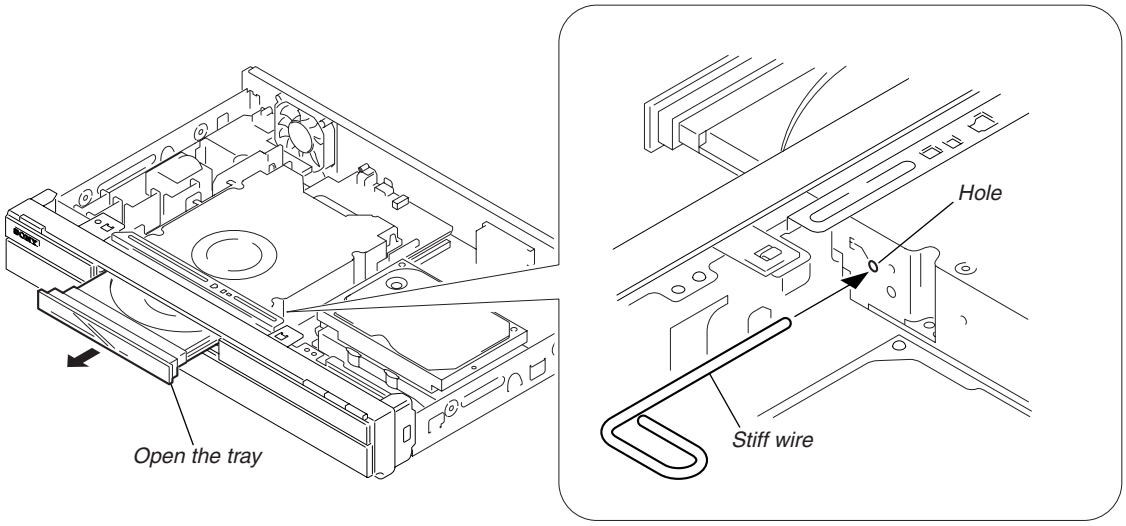
SECTION 1
SERVICE NOTE

1. DISK REMOVAL PROCEDURE IF THE TRAY CANNOT BE EJECTED (FORCED EJECTION)

1. Remove the upper case.
2. Insert the stiff wire in the hole and eject the tray.



NOTES DURING THE FORCED EJECTION

1. If the forced ejection is executed while a blank disc media (DVD±RW, ±R) exists on the tray
   - Insert a DVD-ROM (DVD test disc, DVD software available on the market, or the like) in the tray and then close the tray.

Note1: If you close the tray while it is empty, ejection of the tray becomes impossible.

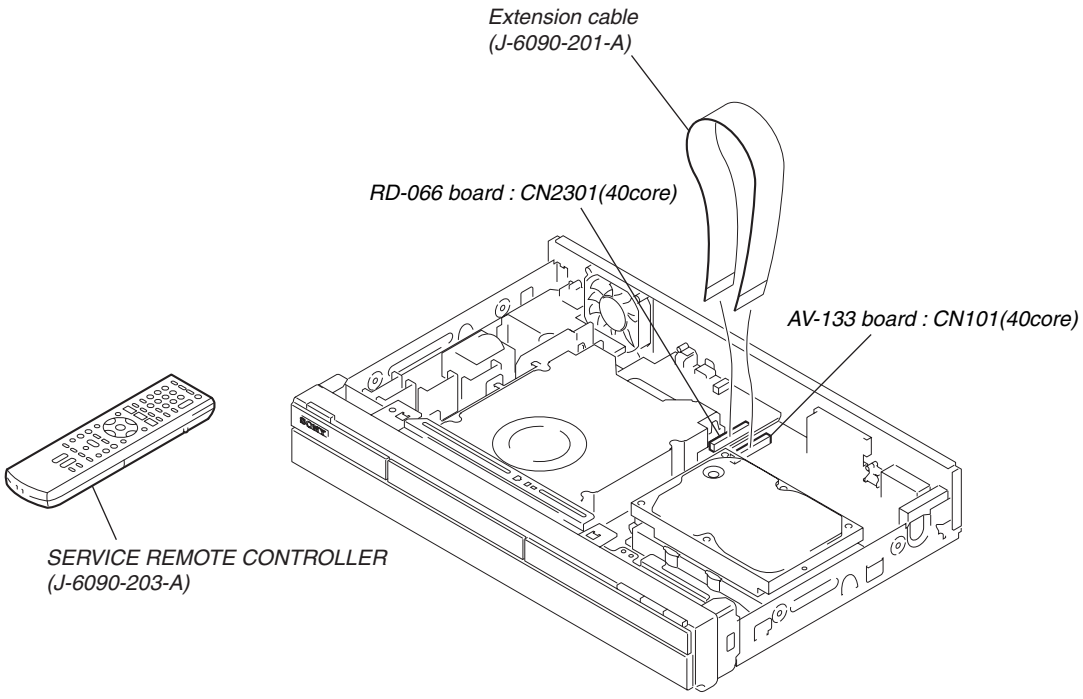
Note2: If you close the tray with a CD disc inserted in it, the CD can be ejected. However, if you close the tray while it is empty, there can be a case that ejection of the tray becomes impossible.

Note3: Even if you replace the DVD drive unit while the tray remains under the state as described above, the situation cannot be improved.

2. If the tray cannot be ejected while the disc is not inserted
   - Execute the forced ejection.
   - Insert a DVD-ROM (DVD test disc, DVD software available on the market, or the like) on the tray and try to close the tray. (There are cases that it recovers the trouble.)

3. Contents of forcedly ejected blank disc media (DVD±RW, ±R) can be damaged. (There can be a case that initialization is also impossible.)

2. BOARD CONNECTION, SERVICE REMOTE CONTROLLER



3. MODEL NAME SETTING METHOD WHEN ENGINE IS REPLACED

Be sure to upgrade with "sr08s400" softwar before MODEL NAME SETTING.
*For procedure of upgrading, refer to "6-3-1. Firmware Downloading" in 82 page.

Required equipment:

- Remote controller (RMT-D249P/D250P)
- Service remote controller (J-6090-203-A)
- Monitor

Model name delete method

1. Turn the main POWER ON.
2. Press the following buttons on the service remote controller in this order.:
   "ESC" ⇨ "CHAP" ⇨ "1"
   * Confirm that the above operation is performed in the state that the screen has exited all settings such as "Home Menu" or "Simple Setting".
3. Turn the main POWER OFF.
4. Turn the main POWER ON.
5. Find out the tentative model name from the Correspondence Table (Table 1) for the client machine. Then, enter the 4-digit "Input No." on the screen using the service remote controller.
6. The model name setting method is complete. (Screen disappears.)
   * Upon completion of the model name setting, be sure to press both "ENTER" and "3" simultaneously on the service remote controller without fail. It sets the remote control code "3".

Table1 Correspondence table between tentative model name and final product name

Model name		RDR-AT100	RDR-AT105	*RDR-AT107	DR-AT200	DR-AT205
Tentative model name	AEP1	MRX-1731/CEK	MRX-1736/EC1	MRX-1738/EC1	—	MRX-1746/EC1
	AEP2	MRX-1731/EC2	—	—	MRX-1741/EC2	—
	UK	MRX-1731/CEK	—	—	—	—
	RUS	MRX-1731/RU3	—	—	MRX-1741/RU3	—

*In case of RDR-AT107(EC1), choose RDR-AT105(0216: MRX-1736/EC1) from the model list screen due to same setting.

[Symptom]
If the following operation is performed, set won't be able to be restored.

[Remedy]
Must not be performed the following operation using service remote.
If it is performed, set won't be able to be restored.
And if set is broken by the operation, we can't guarantee the set when pressing in order of the following button.

* [ESC]--> [STEREO]
([ESC]--> [Any button which is not described in SM])

Service remote controller
(Part code: J-6090-203-A)

4. HOW TO DIAGNOSE HDD FAILURE

4-1. Defective HDD

There are four symptoms of defects in the HDD.

1. "E01" is displayed on the FLD.
   (The HDD is unauthorized.)
2. "E02" is displayed on the FLD.
3. When playing a video, MP3, or JPG, contents freeze.
4. Irregular noises from the HDD

4-2. HDD Recognition status

How to enter Recognition status and sub screen mode.

- While the GUI screen is not displayed, use the service remote controller and press "ESC" key followed by "DISP" key.
- While the first screen is displayed, press "DIG/ANA" key repeatedly until the desired subscreen is displayed.
  The subscreens change.

Service remote controller
(Part code: J-6090-203-A)


```
MRX-1635/EC1          VERSION : 1.01
     SYSCON  : RELEASE 104
               Rev. 1. 5895
   TUNERCON  : 1.178                  OK
      DRIVE  : DVD-RW  DVR-L12X       OK
               1.00                   OK
  PIC SERIAL  : 000800004940
    HDD INT  : XXXXXXXXXXXXXXX  250
    HDD USE  :                  250

  DEVICE  : E2R-FEx1.0     FLASH : 64M
  REGION  : 2                C : 0000400259
                          HDCP : 0000400259
```

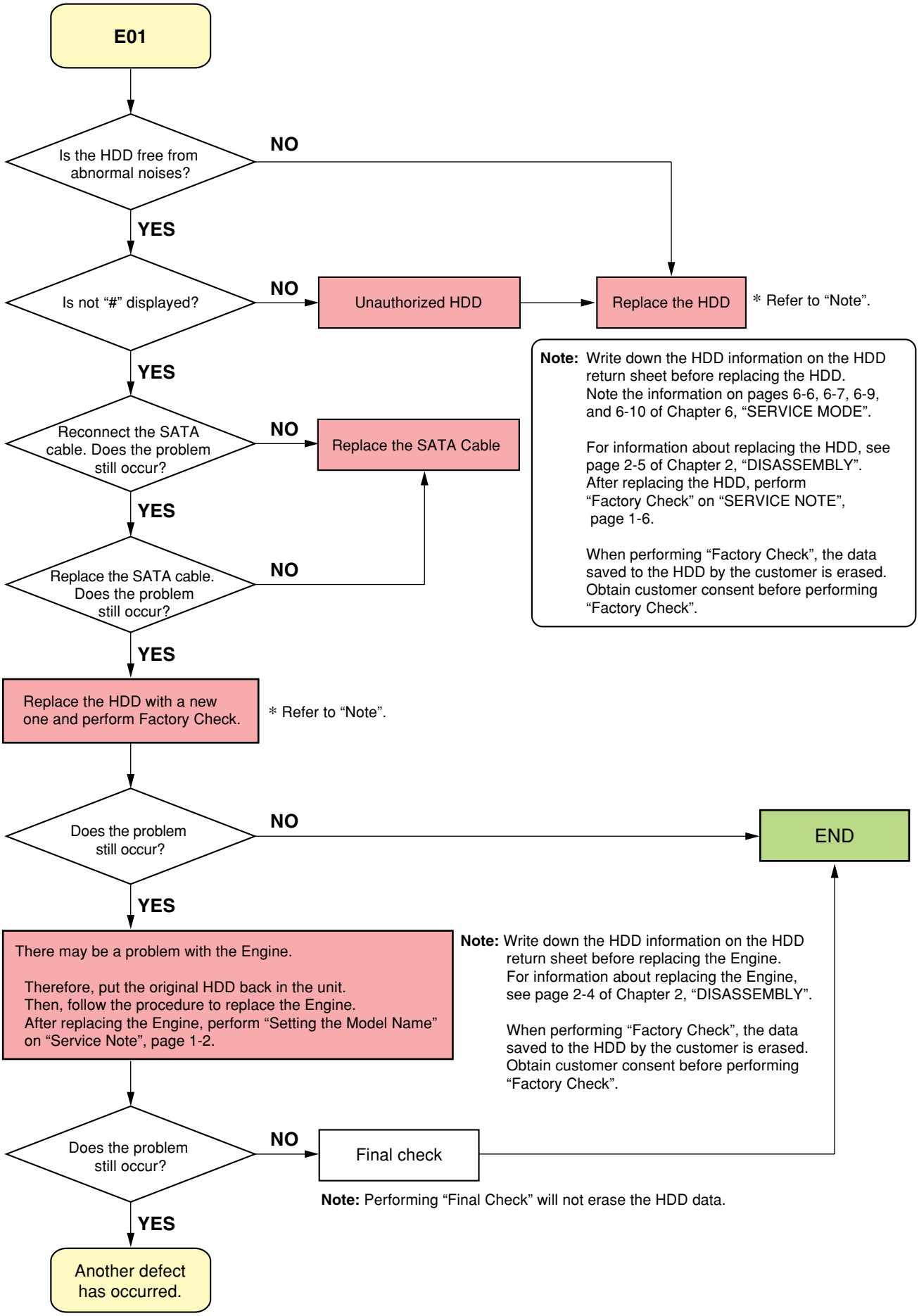
• Details on HDD data are described below:

Sample 1: (For the DVD recorder of 120GB)
HDD INT: XXXXXXXXXXXXXXX 160
HDD USE: 120
Sample 2: (For the DVD recorder of 160GB)
HDD INT: XXXXXXXXXXXXXXX 160
HDD USE: 160
Sample 3: (For the DVD recorder of 250GB)
HDD INT: XXXXXXXXXXXXXXX 250
HDD USE: 250
Sample 4: (For the DVD recorder of 500GB)
HDD INT: XXXXXXXXXXXXXXX 500
HDD USE: 500

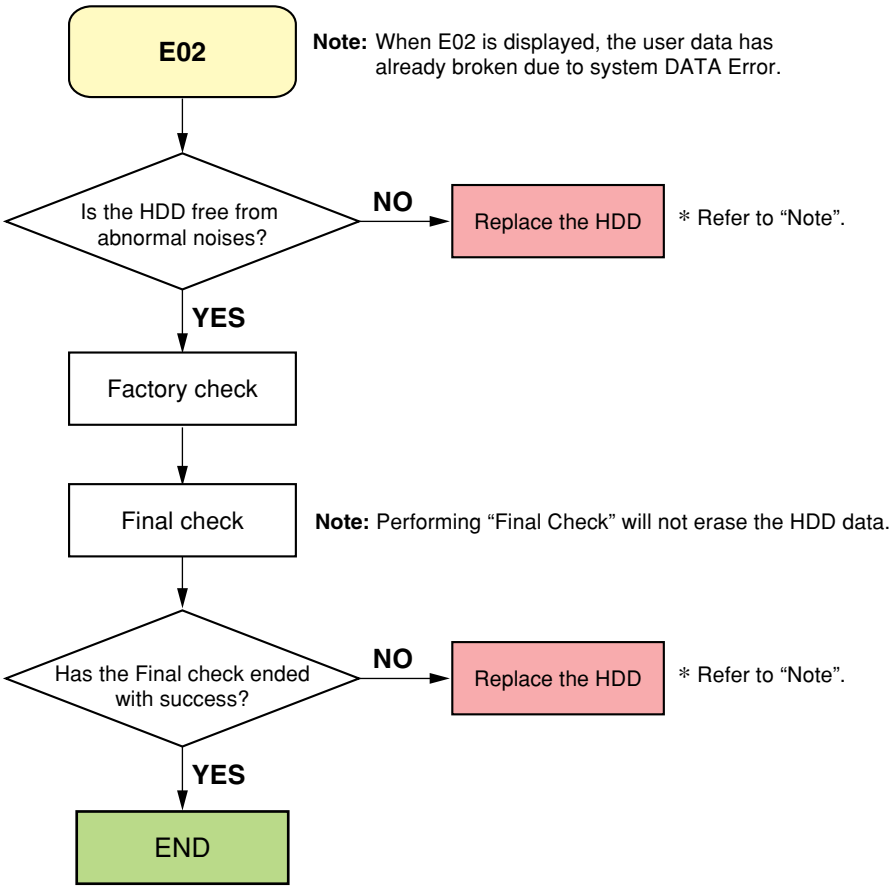
The item [HDD USE] indicates the HDD capasity of the DVD recorder specifications.
Check if the valeus match with the specifications of the DVD recorder.

FL Display	OS Display	HDD identification conditions	Details on HDD data are described below.	Remarks
REPAIR	"Repaining the HDD". ↓ "HDD repair is complete".			
E01	An error occurred. Please consult your nearest Sony dealer. Note that contents on the HDD may be erased when servicing this unit.	Failure to physically identify the HDD (no connection, defective HDD, interface error).	Blank space	Check the connection to the SATA cable and power cable. Replace the SATA cable or power cable. Replace the HDD. Replace the FE or part in the SATA/ATA communication.
		Physical identification of HDD possible, but not identified	WDC 10234564 # 160	"#" indicates that the HDD is unauthorized.
E02	The Hard Disk Drive info is incorrect. Use the Disk Setup menu to reformat.	Physical identification of HDD possible, HDD identified, but failure in logical formatting.	WDC 10234564 ! 160	"!" indicates an HDD authorization error. Initialize the HDD.
Normal		Physical identification of HDD possible, HDD identified, and correct logical formatting (HDD correctly identified).	WDC 10234564 160	

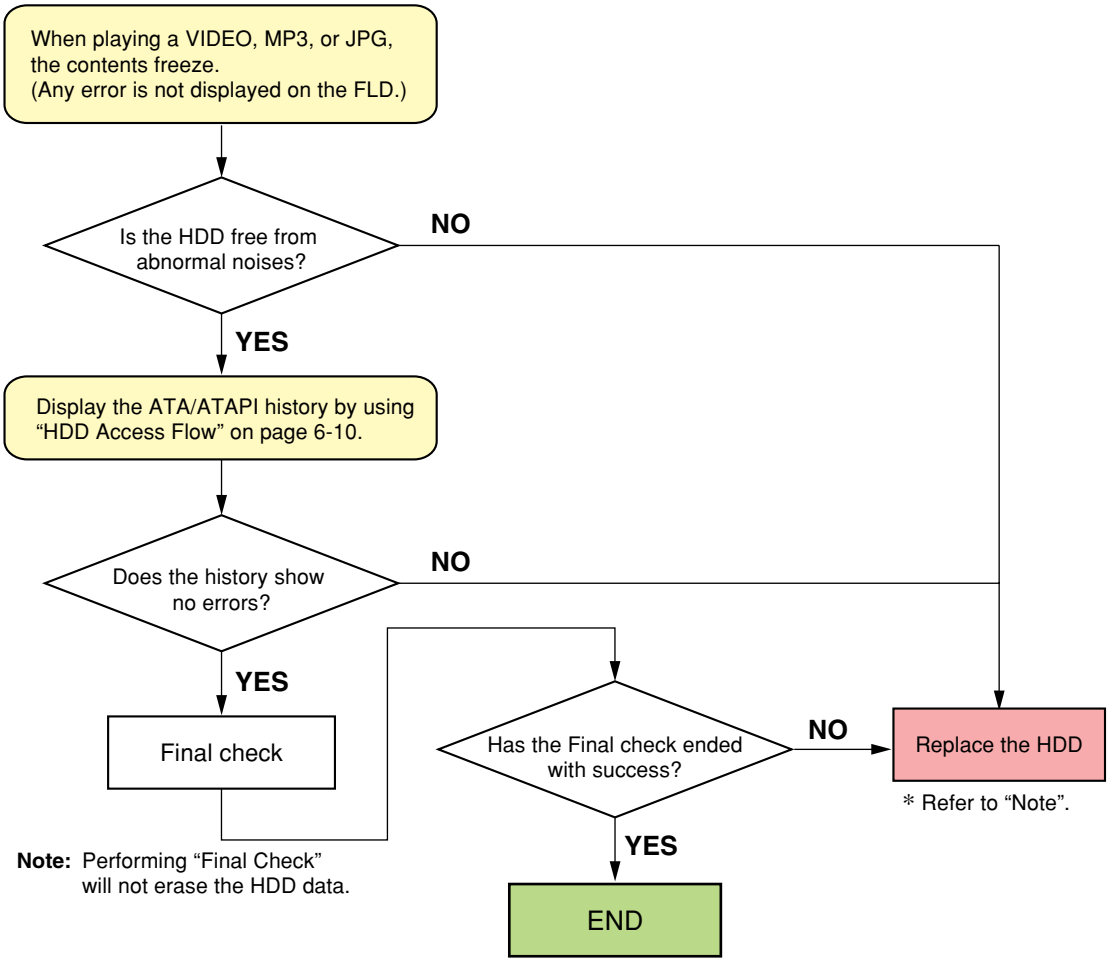
4-3. Display [E01] on FLD with unrecognized HDD



4-4. Display [E02] on FLD



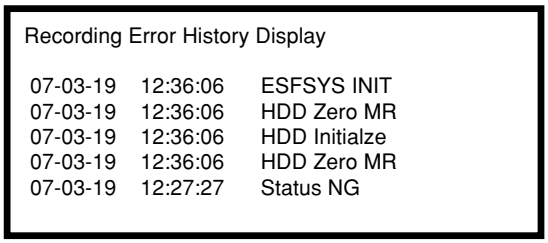
4-5. When playing a VIDEO, MP3, or JPG, the contents freeze



4-6. Factory Check

1. Pull out and then reconnect the AC cable.
2. Press “ESC” key followed by “P.RUN” key to start Formatting.
3. When “B COMPLETE” appears, the Factory Check is complete.
4. Press “Power” button. The unit starts normally.

When “Factory Check” has finished completely without error, reset “Recording Error History” and “ATA/ATAPI History Error” with the Clear key.



Note: Write down the HDD information on the HDD return sheet before replacing the HDD.
Note the information on pages 6-6, 6-7, 6-9, and 6-10 of Chapter 6, “SERVICE MODE”.

When performing “Factory Check”, the data saved to the HDD by the customer is erased.
Obtain customer consent before performing “Factory Check”.

“Recording Error History” and “ATA/ATAPI History Error”, see pages 6-9, 6-10 of Chapter 6, “SERVICE MODE”.

4-7. Final Check

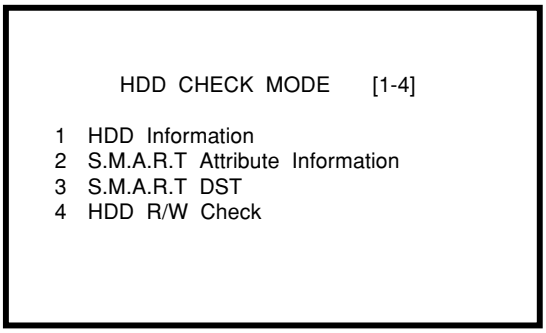
4-7-1. SELF TEST (SMART TEST)

This is a simplified diagnosis for the HDD.
A serious failure in the HDD can be detected with this test.
Time required for testing: Approx. 60 sec.

How to start/terminate the diagnostic program

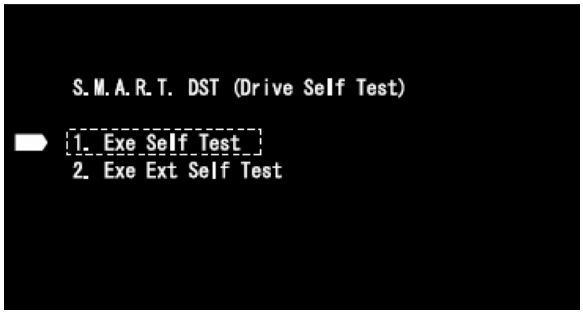
Use the remote control unit for servicing.

- How to start: Press the following keys in this order; “ESC”, “CX”, “0”, and “1” keys. (refer to 6-2-15)
- How to terminate: Press “ESC” key.

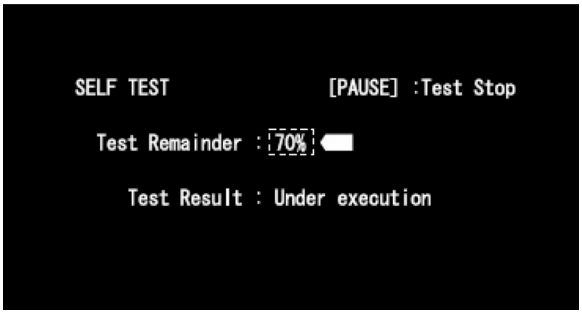


Execute Self-Test.

- Press “3” key on the remote control unit for servicing while the menu screen is displayed.
- When the following screen is displayed, press “1” key to start the Self-Test.



Note: “2. Exe Ext Self Test” is not used.



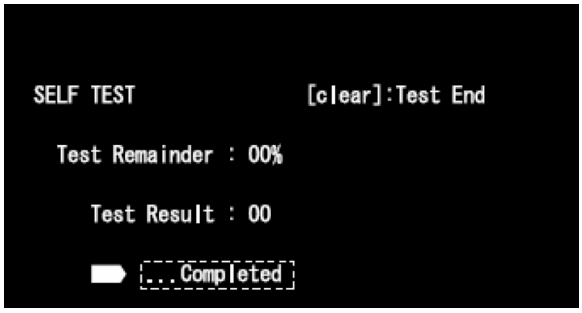
Note: Performing “Self Test” will not erase the HDD data.

Diagnosis results

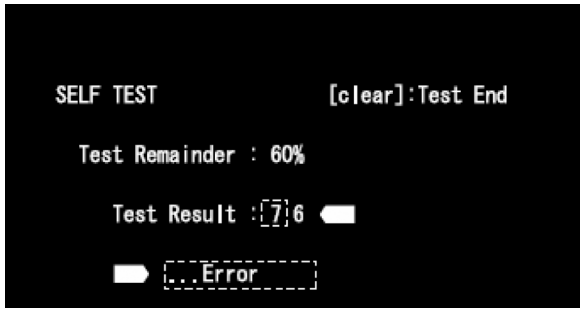
- Without an error: ". . . Completed" is displayed.
  Then, proceed to the Extended Self-Test.
- With an error: ". . . Error" is displayed. Look at the number in Test Result.
  If the place value for tens is 1 or 2, execute the Self-Test again.
  If it is from 3 to 7, the HDD must be replaced.

Note: If the result of the second test is the same, replacement of the HDD is required.

Example: No error



Example: With an error



4-7-2. Performance Check

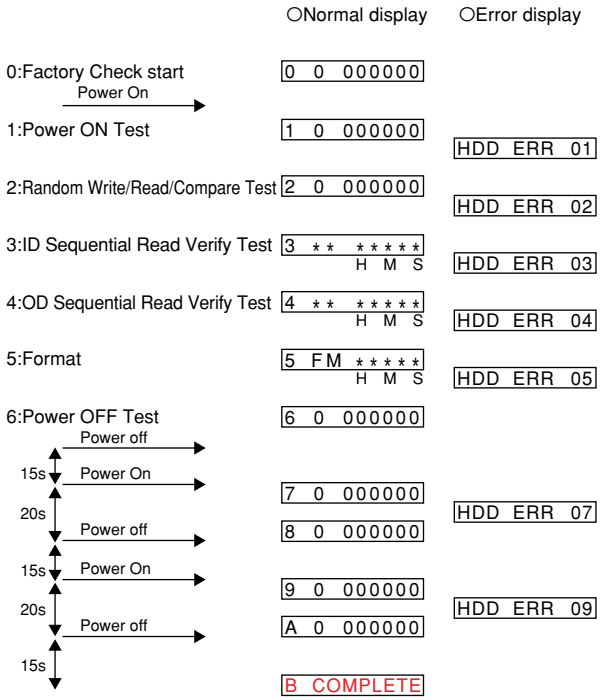
Press "ESC" key, then "A.MON" key.

This is a reading test across all sectors of the HDD.
Data recorded on the HDD will not be erased, because no writing operation is performed.
Time required for testing: Approx. 45 min/160 G
75 min/250 G

When "Performance Check" finishes completely without error, reset "ATA/ATAPI History Error" with the Clear key.

FL display specification

HDD factory Check



HDD performance Check

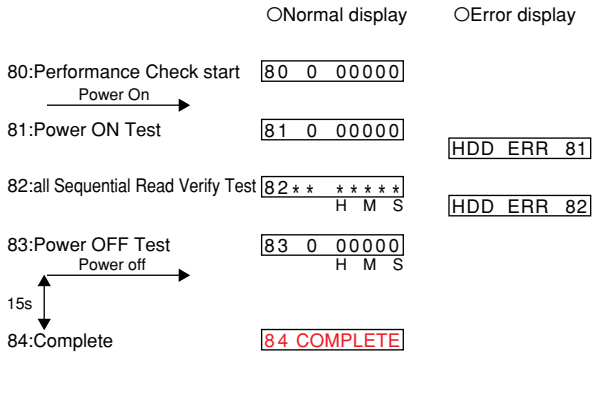
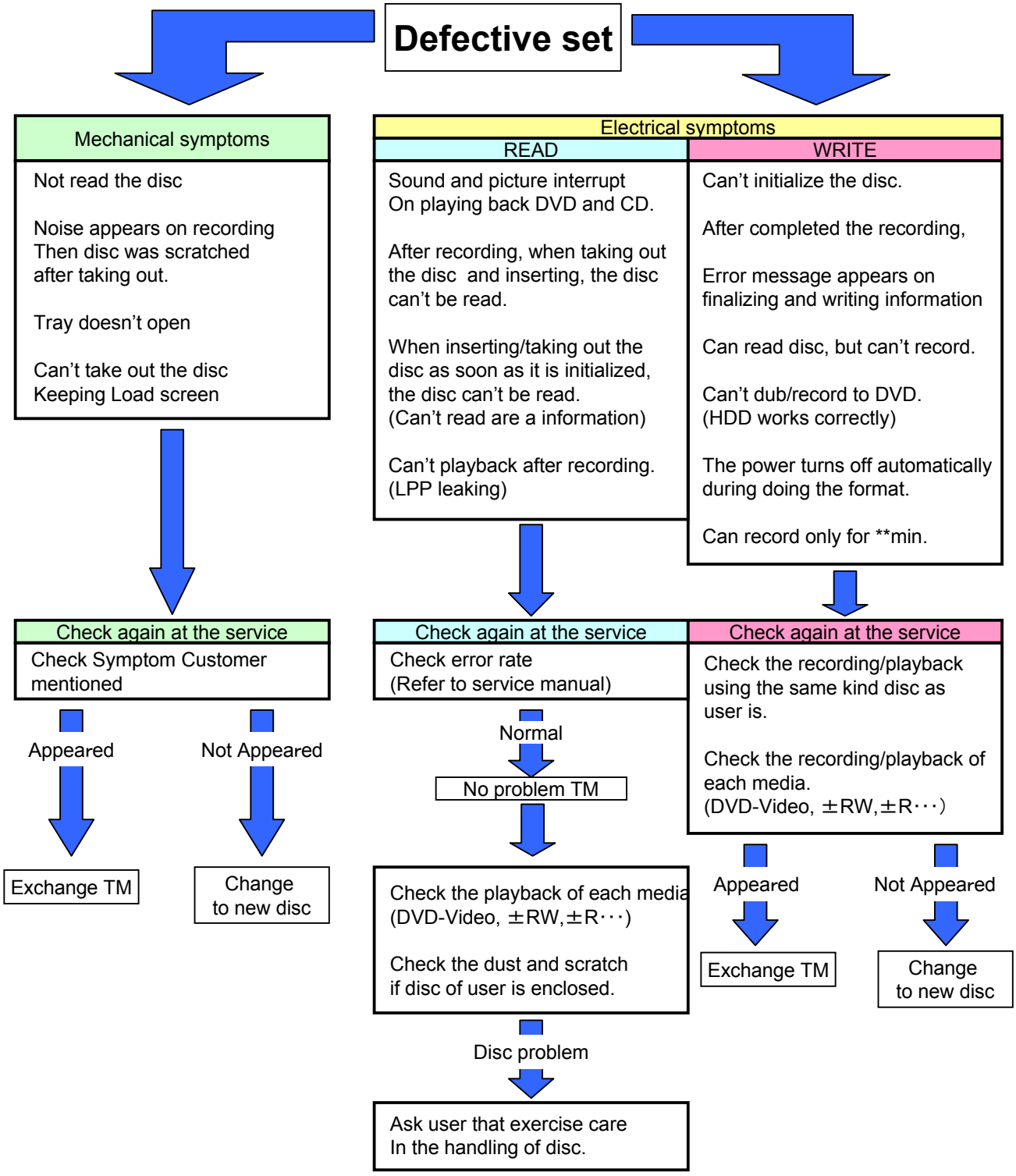


Fig 1. FL Display Flow

* The logo for "Factory Check" and "Performance Check" is recorded in "ATA/ATAPI History Error".

5. Notice of traverse mecha (TM) exchange.

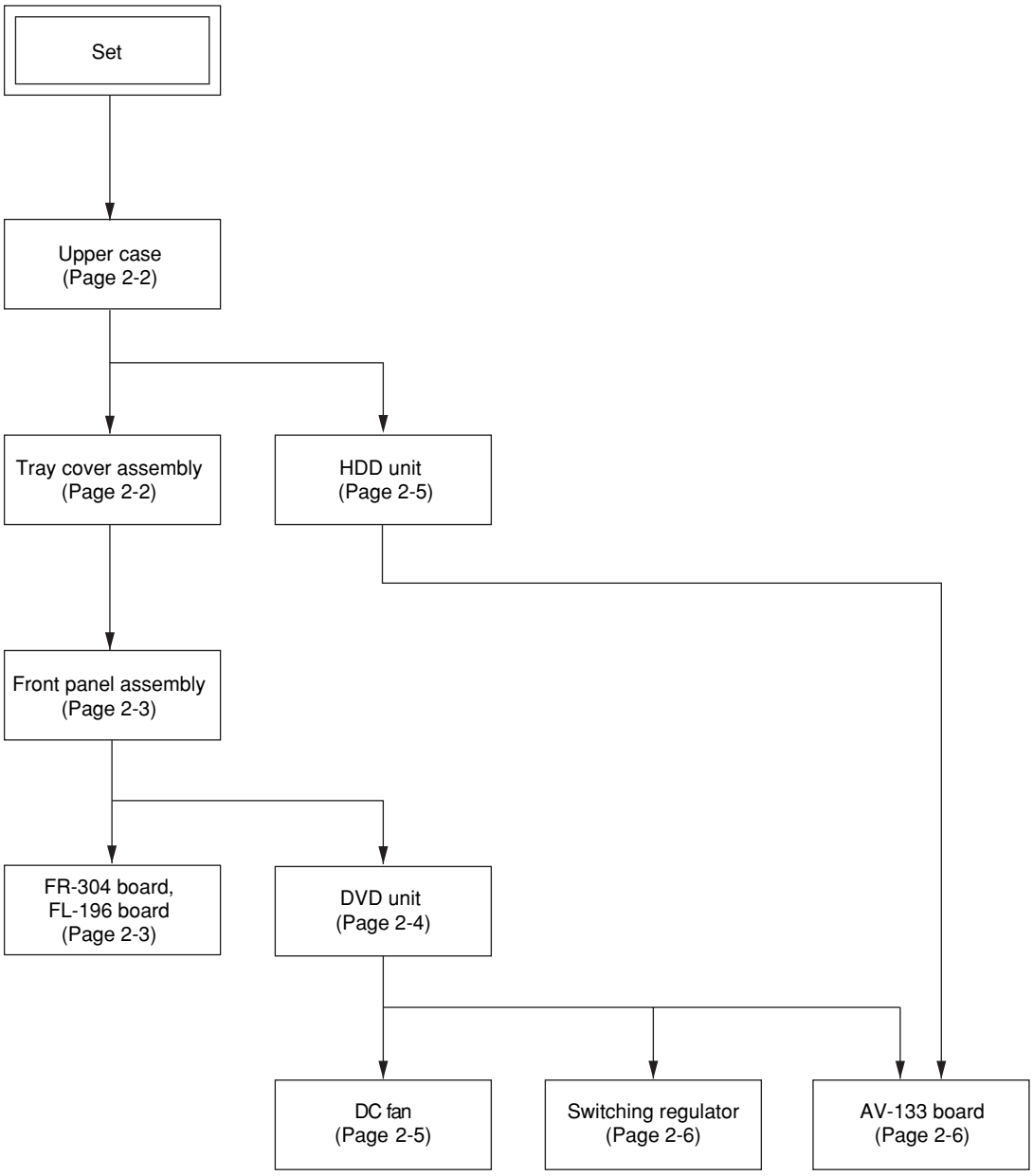
Distinguish the symptom according to the following procedure



For TM exchange, refer to SM below.
Service manual:RW6G/7G TRAVERSE MECHANISM REPAIR MANUAL(9-885-951-1*)
How to get it: 1.Open Service manual home page of ESI.
2.Input RW6G into "Model Name".
3.Click "Search" button.

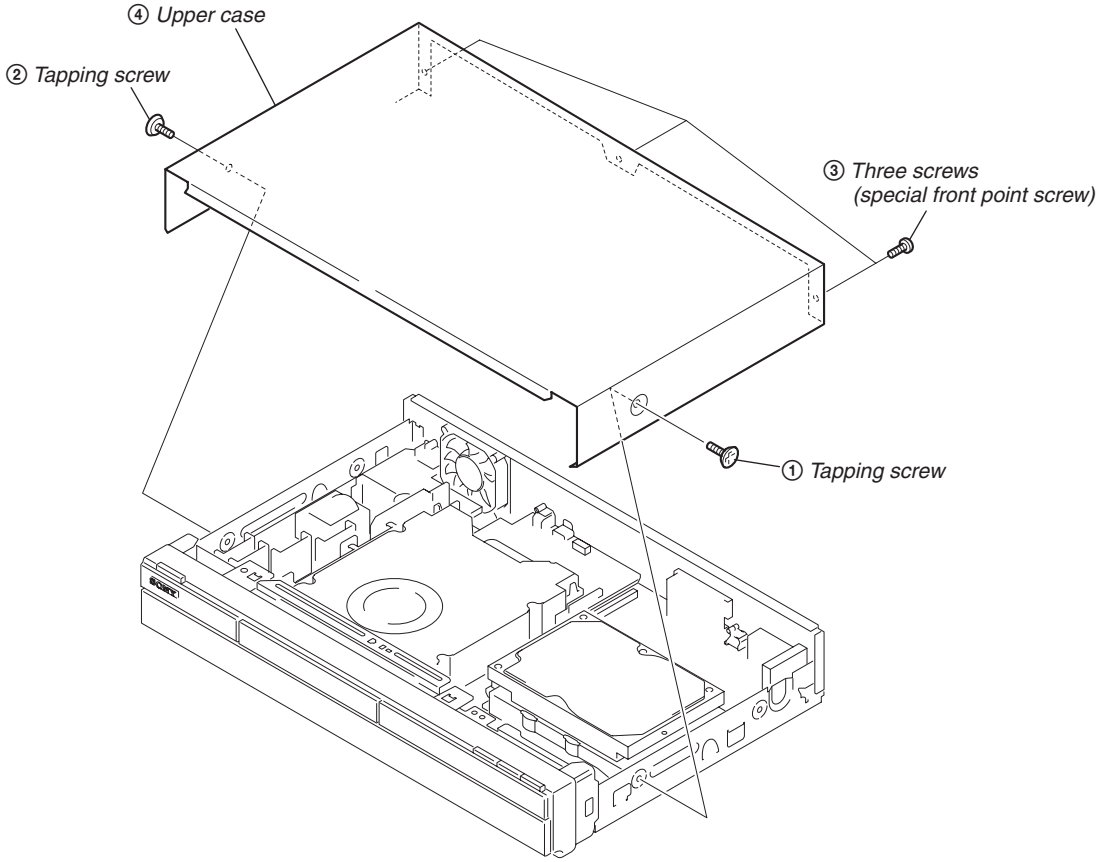
SECTION 2
DISASSEMBLY

NOTE: The following flow chart shows the disassembly procedure.

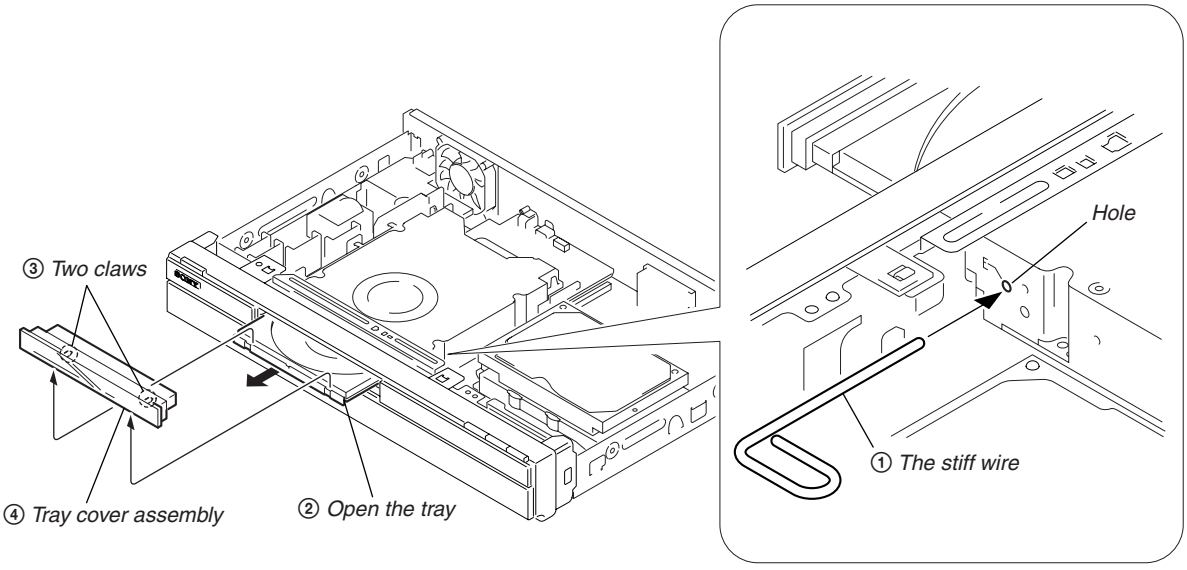


NOTE: Follow the disassembly procedure in the numerical order given.

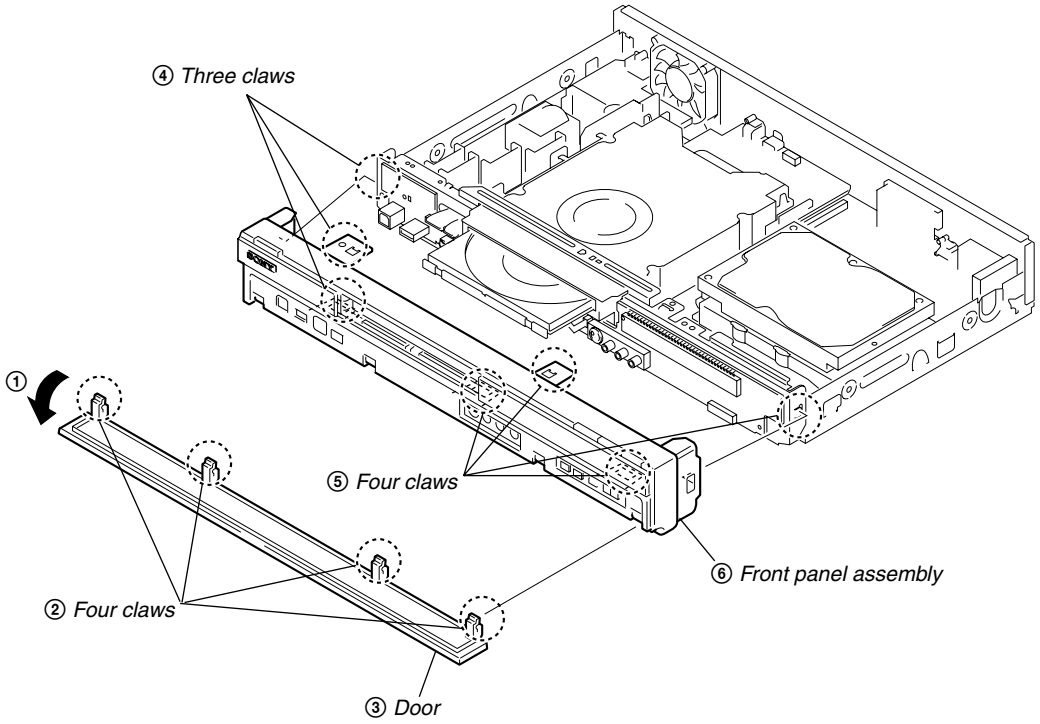
2-1. UPPER CASE



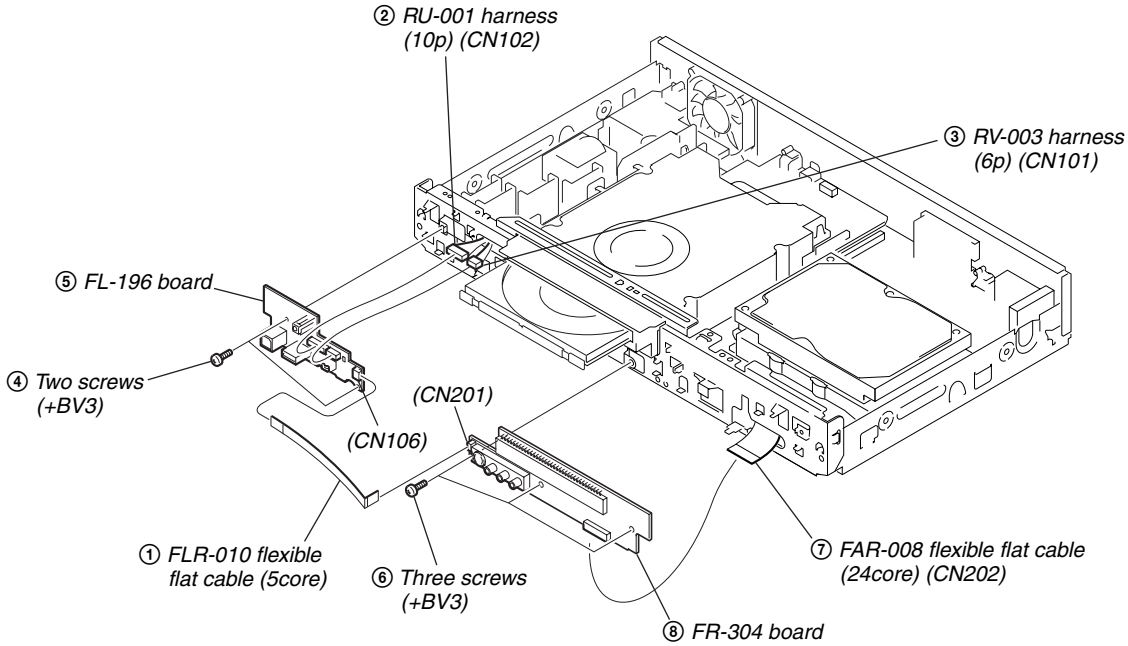
2-2. TRAY COVER ASSEMBLY



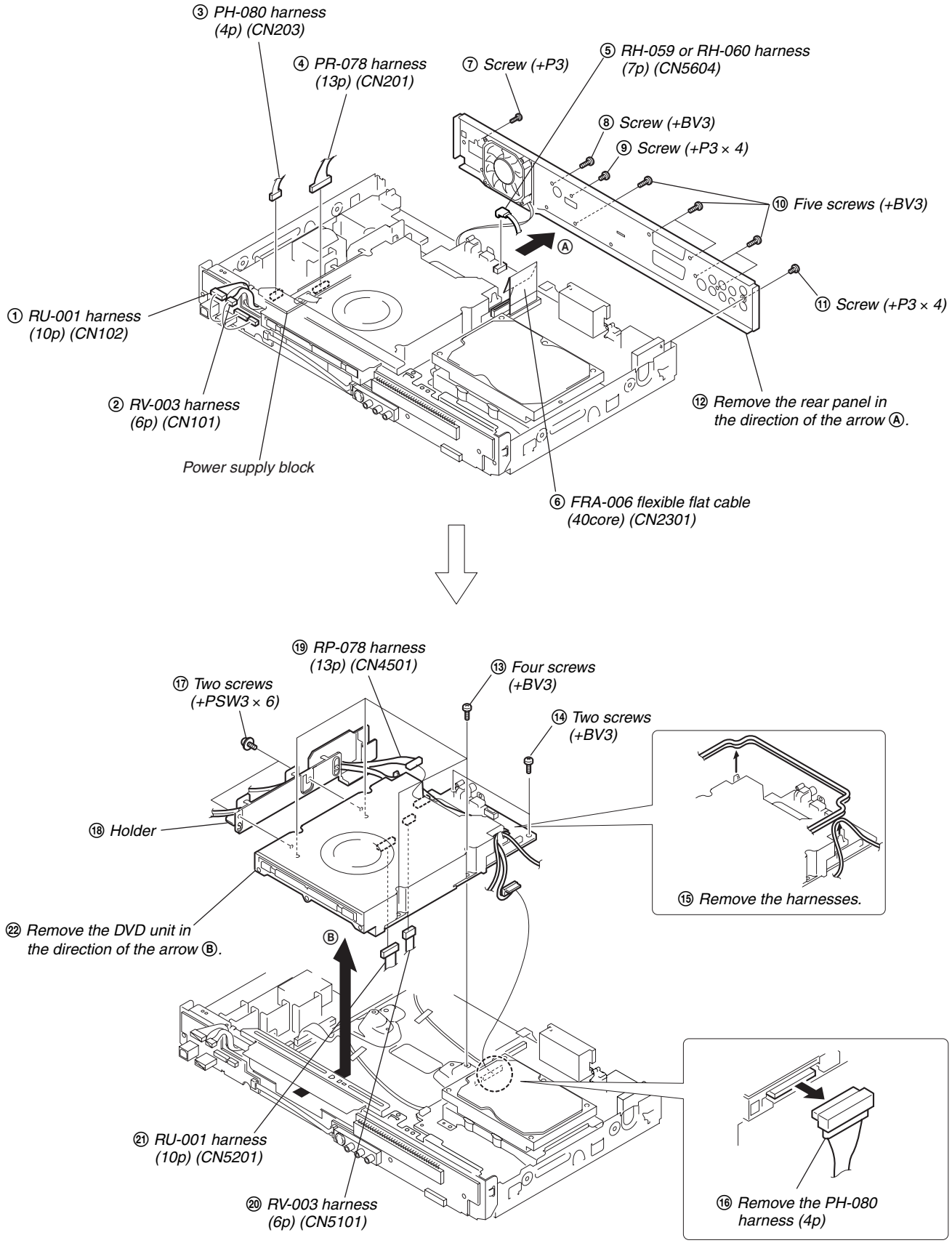
2-3. FRONT PANEL ASSEMBLY



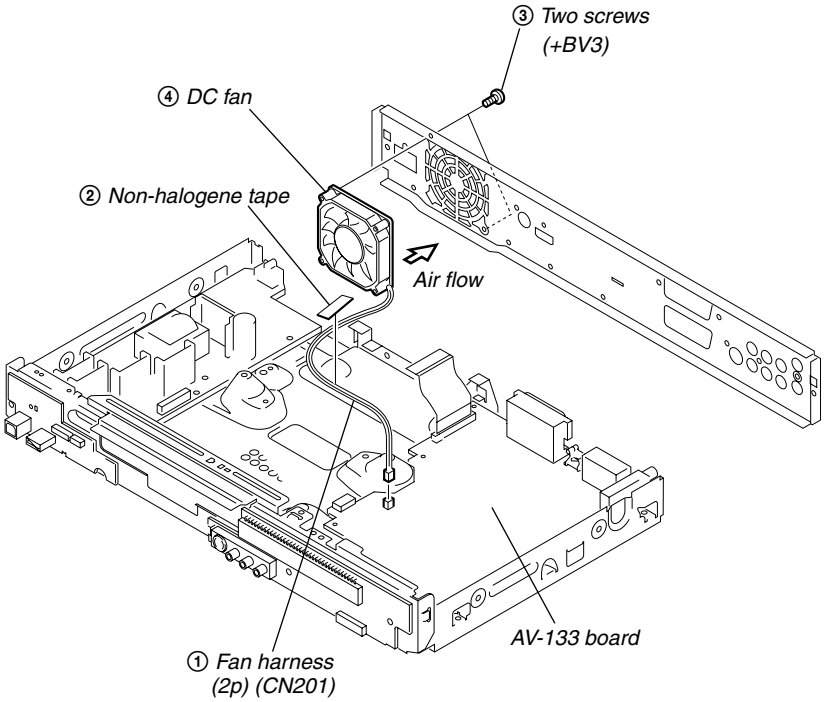
2-4. FR-304 BOARD, FL-196 BOARD



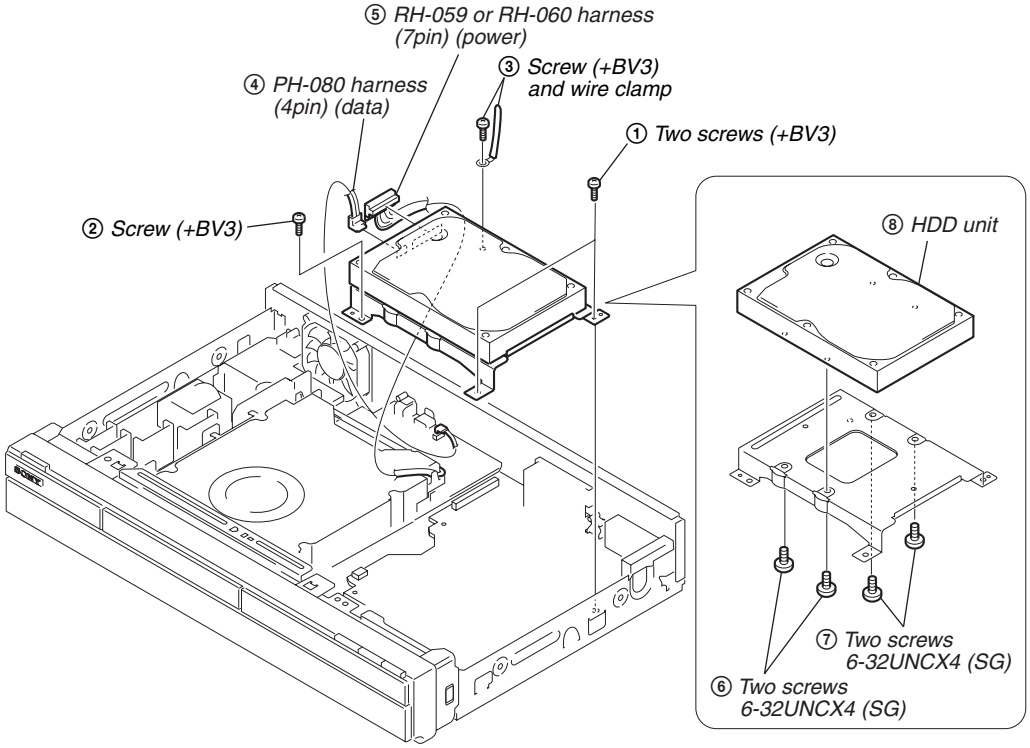
2-5. DVD UNIT


③ PH-080 harness (4p) (CN203)
④ PR-078 harness (13p) (CN201)
⑦ Screw (+P3)
⑤ RH-059 or RH-060 harness (7p) (CN5604)
⑧ Screw (+BV3)
⑨ Screw (+P3 × 4)
⑩ Five screws (+BV3)
Ⓐ
⑪ Screw (+P3 × 4)
① RU-001 harness (10p) (CN102)
② RV-003 harness (6p) (CN101)
Power supply block
⑫ Remove the rear panel in the direction of the arrow Ⓐ.
⑥ FRA-006 flexible flat cable (40core) (CN2301)
⑲ RP-078 harness (13p) (CN4501)
⑰ Two screws (+PSW3 × 6)
⑬ Four screws (+BV3)
⑭ Two screws (+BV3)
⑱ Holder
⑮ Remove the harnesses.
⑫ Remove the DVD unit in the direction of the arrow Ⓑ.
Ⓑ
㉑ RU-001 harness (10p) (CN5201)
⑳ RV-003 harness (6p) (CN5101)
⑯ Remove the PH-080 harness (4p)

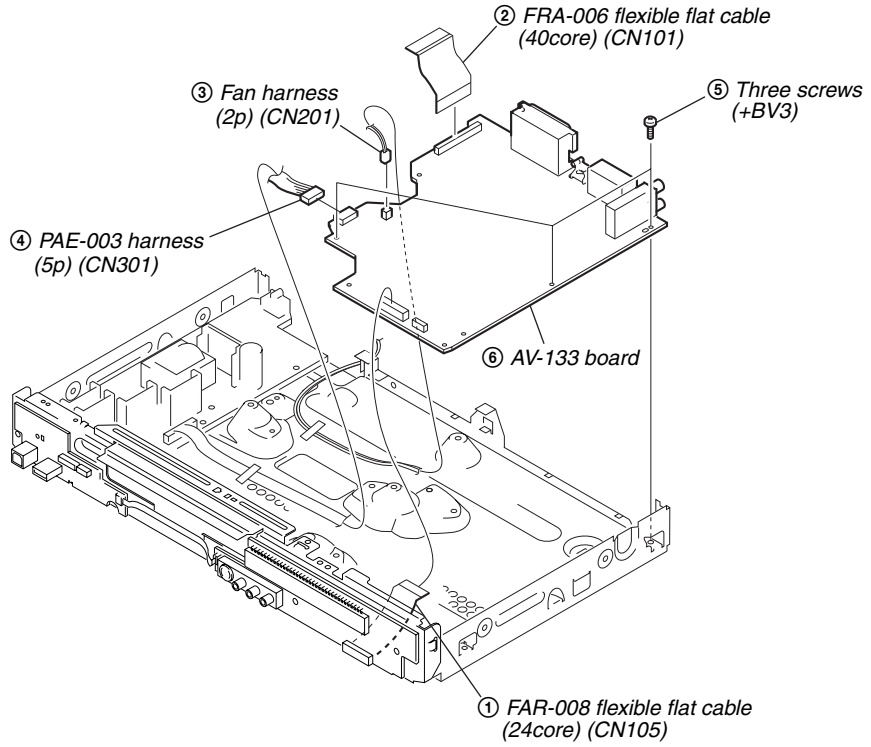
2-6. DC FAN



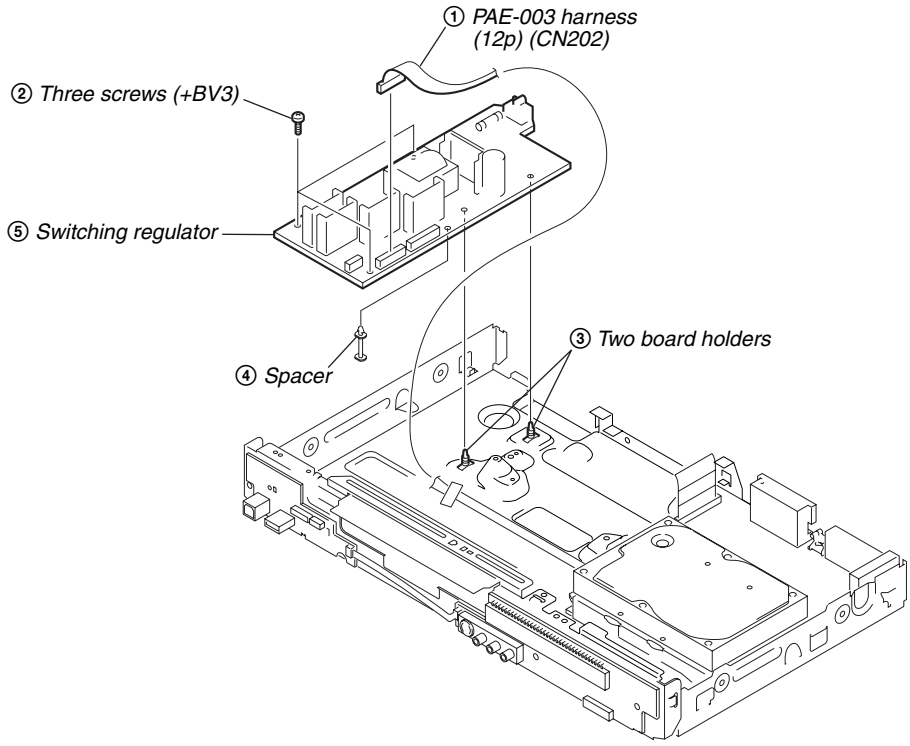
2-7. HDD UNIT



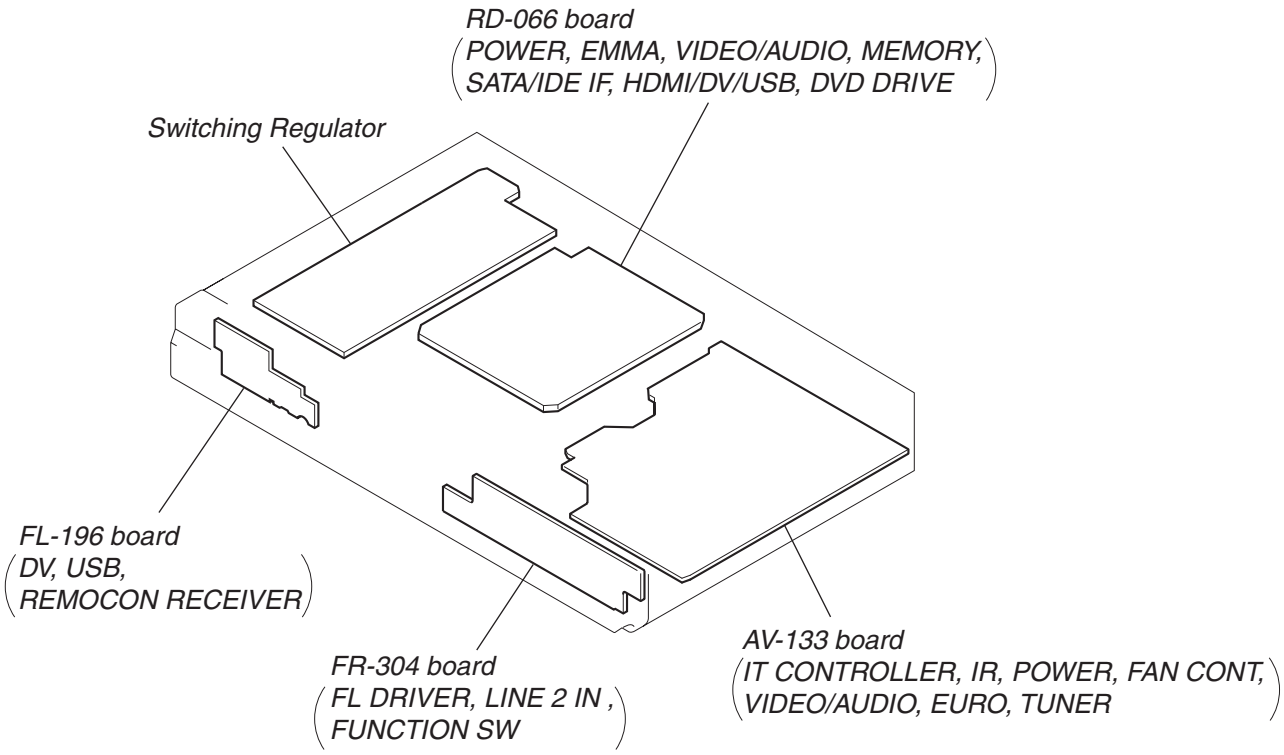
2-8. AV-133 BOARD



2-9. SWITCHING REGULATOR

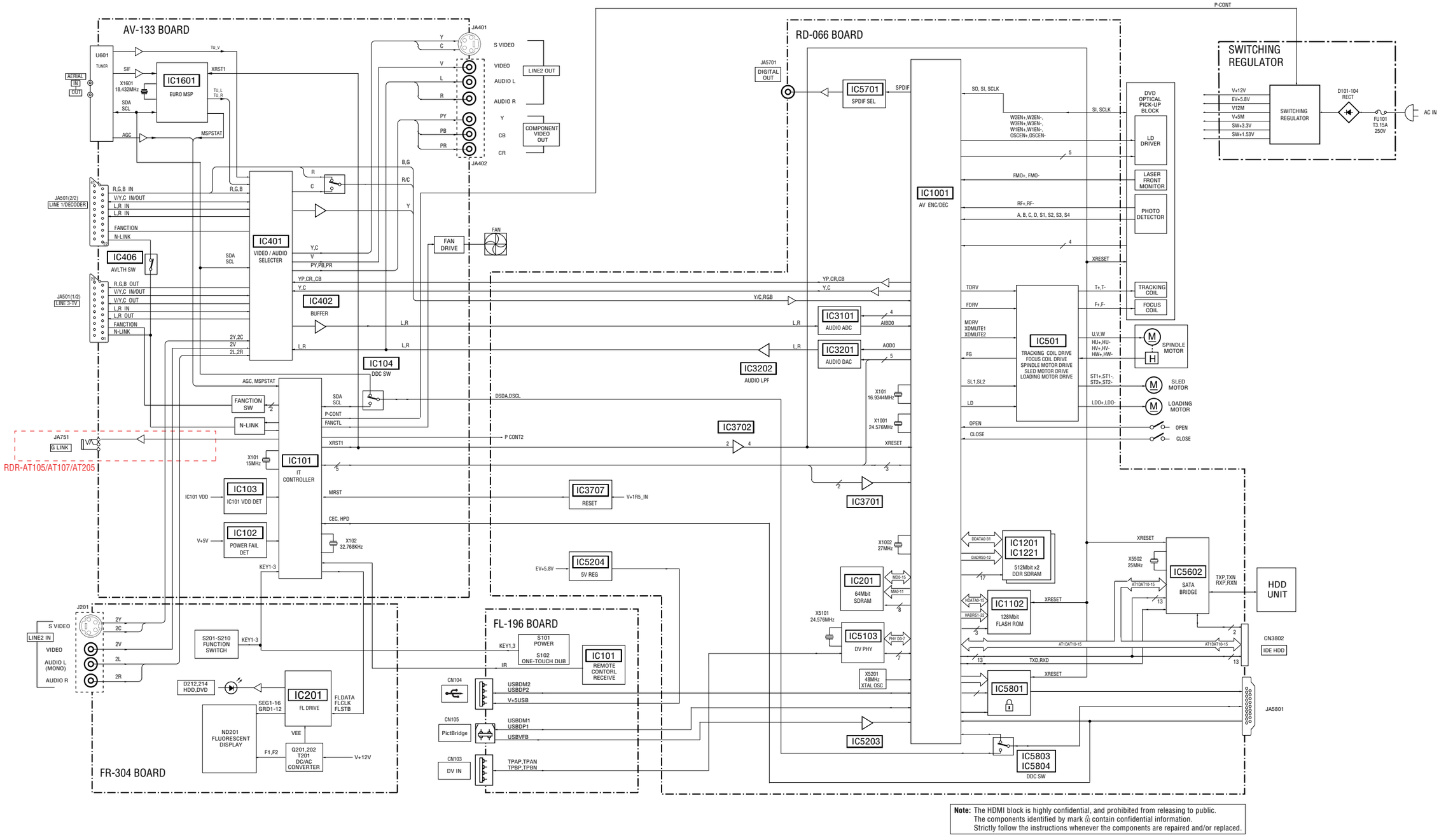


2-10. CIRCUIT BOARDS LOCATION



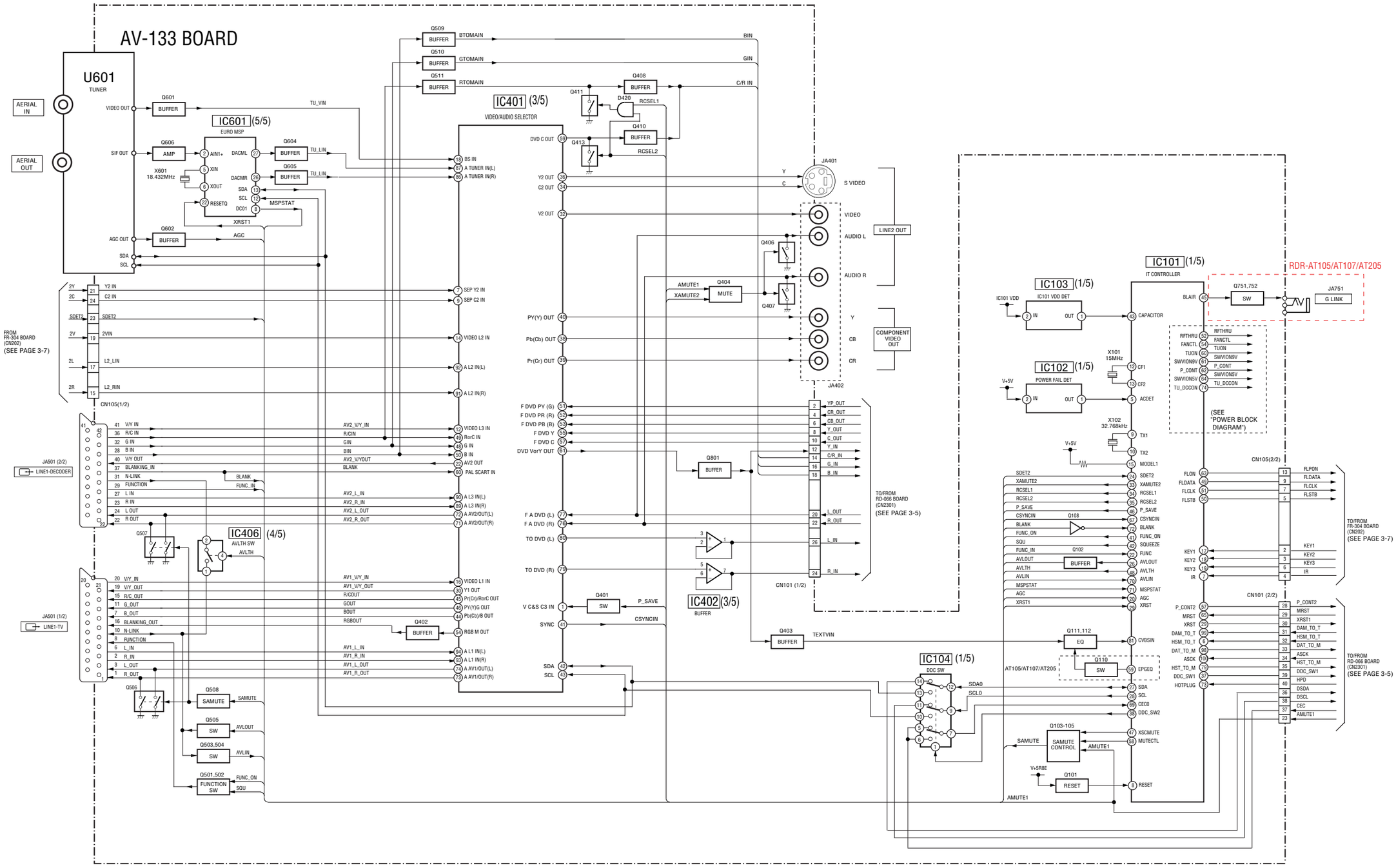
SECTION 3
BLOCK DIAGRAMS

3-1. OVERALL BLOCK DIAGRAM

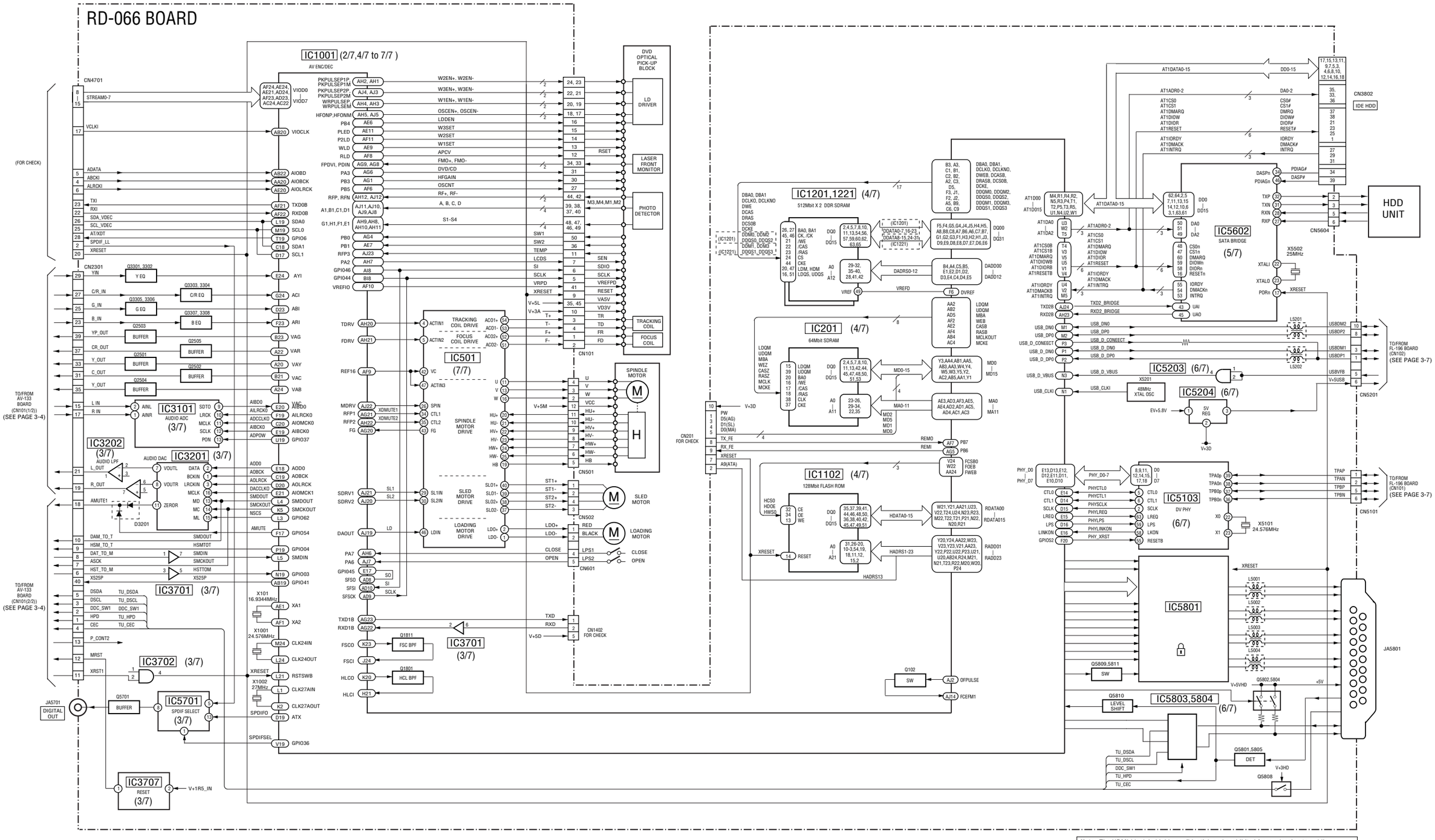


Note: The HDMI block is highly confidential, and prohibited from releasing to public.
The components identified by mark 🔒 contain confidential information.
Strictly follow the instructions whenever the components are repaired and/or replaced.

3-2. AV-133 BLOCK DIAGRAM

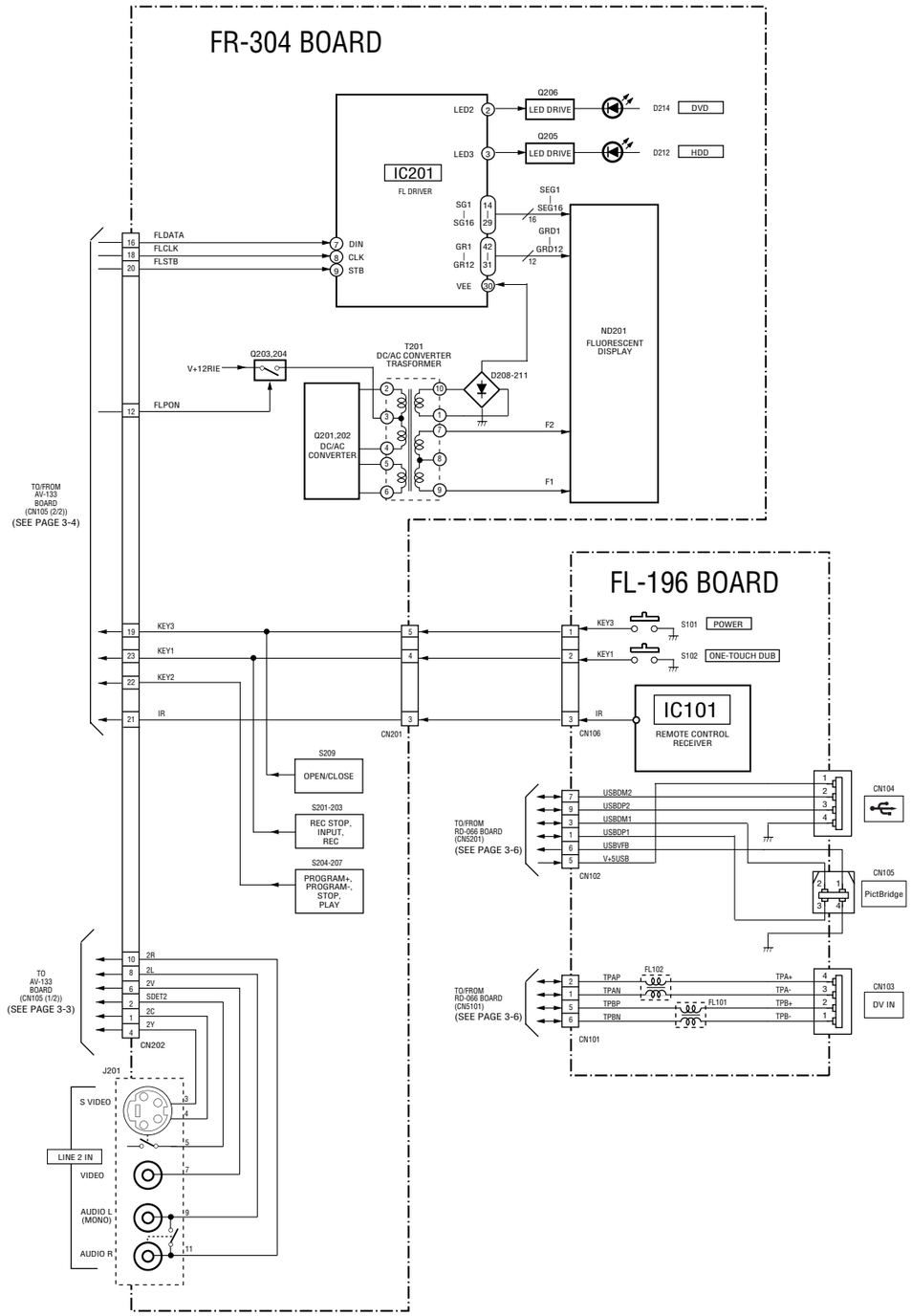


3-3. RD-066 BLOCK DIAGRAM

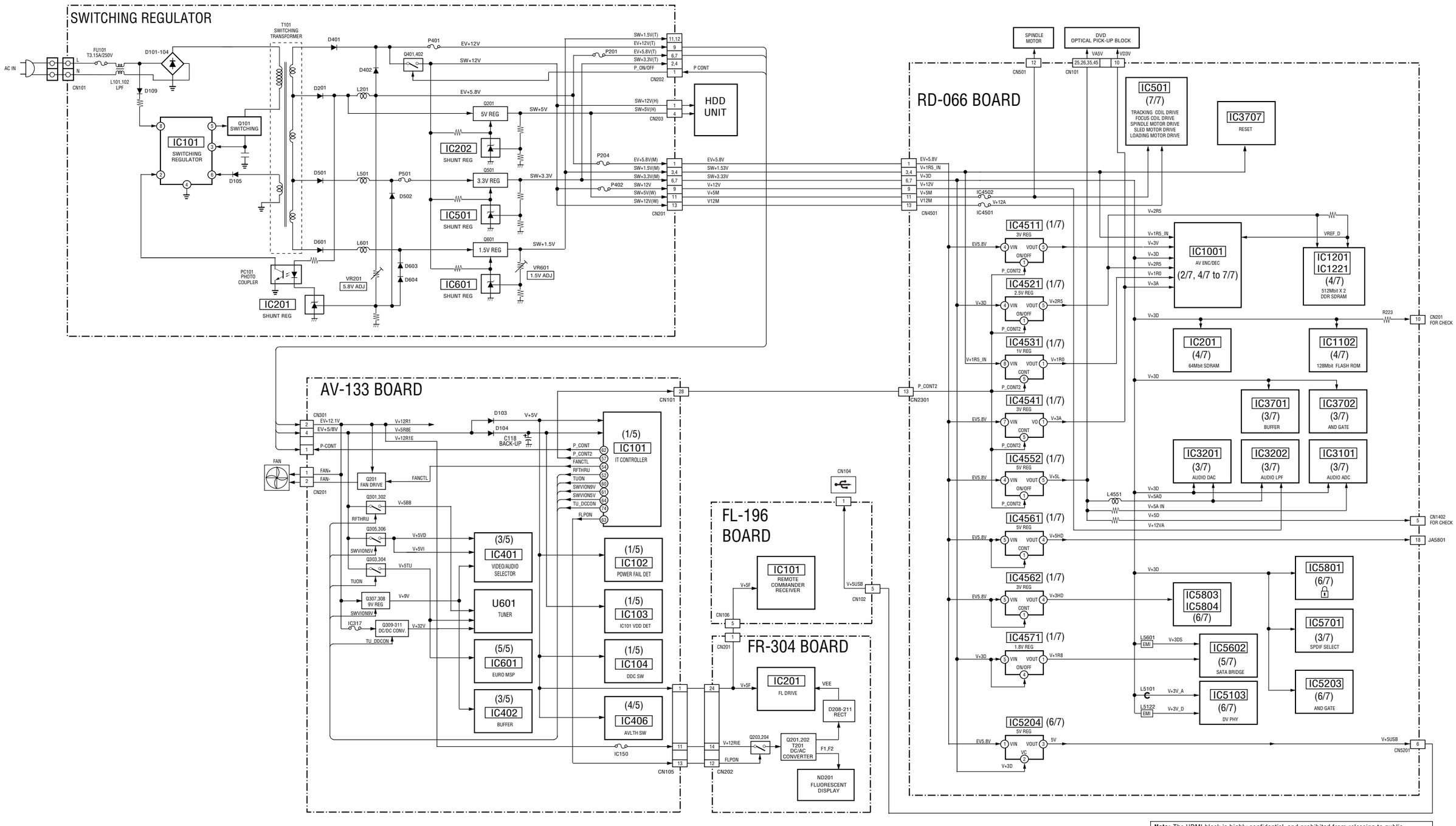


Note: The HDMI block is highly confidential, and prohibited from releasing to public.
The components identified by mark ⍓ contain confidential information.
Strictly follow the instructions whenever the components are repaired and/or replaced.

3-4. FR-304, FL-196 BLOCK DIAGRAM



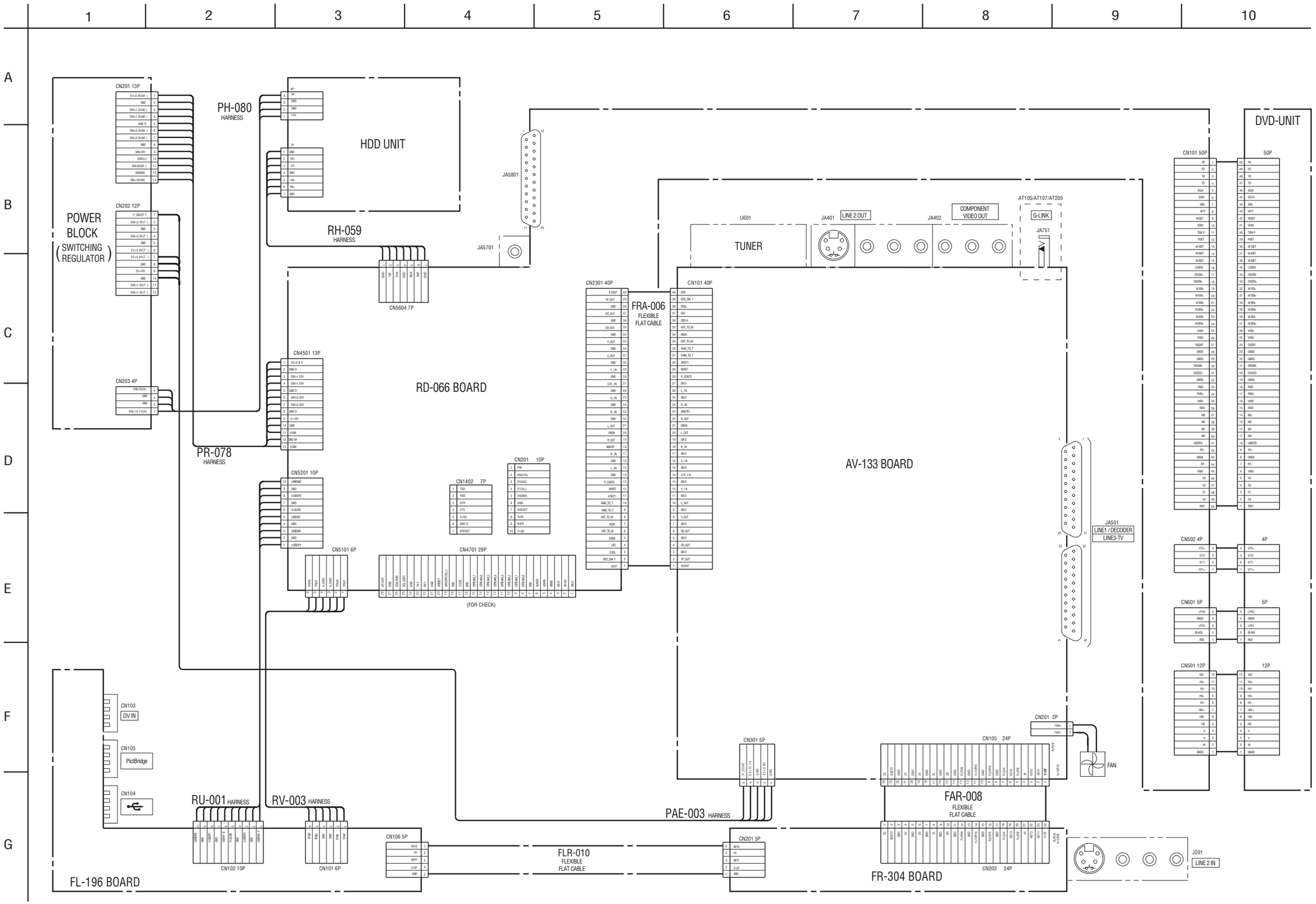
3-5. POWER BLOCK DIAGRAM



Note: The HDMI block is highly confidential, and prohibited from releasing to public.
The components identified by mark 🔒 contain confidential information.
Strictly follow the instructions whenever the components are repaired and/or replaced.

SECTION 4
SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

4-1. FRAME SCHEMATIC DIAGRAM



4-2. SCHEMATIC DIAGRAMS

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

(For printed wiring boards)
- : Uses unleaded solder.
- : Pattern from the side which enables seeing. (The other layers' patterns are not indicated)
- There are a few cases that the part printed on diagram isn't mounted in this model.
- : panel designation

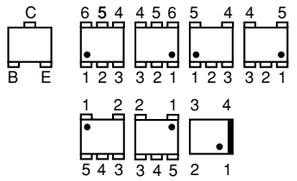
(For schematic diagrams)
- All capacitors are in μF unless otherwise noted. pF : μμF. 50V or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/4 W (Chip resistors : 1 /10 W) un-less otherwise specified. kΩ=1000Ω, MΩ=1000kΩ.
- Caution when replacing chip parts. New parts must be attached after removal of chip. Be careful not to heat the minus side of tantalum capacitor, be-cause it is damaged by the heat.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : non flammable resistor
- : fusible resistor
- : panel designation
- : internal component
- : adjustment for repair
- : IN/OUT direction of (+/–) B line
- : B+ Line
- : B– Line
- Circled numbers refer to waveforms.
- Voltages are dc between measurement point and ground.
- Readings are taken with a color-bar signals on DVD reference disc.
- Readings are taken with a digital multimeter (DC 10MΩ).
- Voltage variations may be noted due to normal production tol-erances.

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

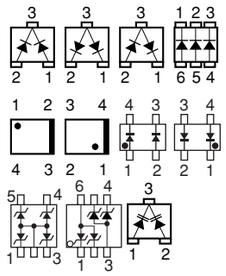
When indicating parts by reference number, please include the board name.

- Chip parts.

Transistor



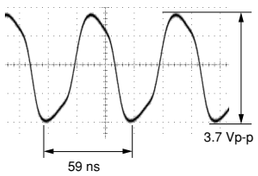
Diode



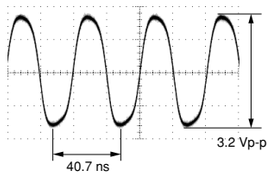
WAVEFORMS

RD-066 BOARD

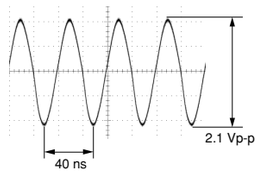
① IC1001 (AF1)



② IC5103 ㉓ (X5101)

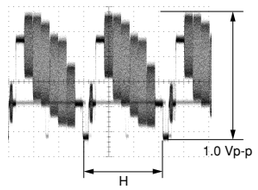


③ IC5602 ㉓ (X5502)



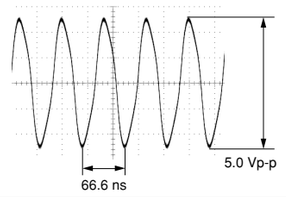
FR-304 BOARD

① J201 ⑦ VIDEO IN

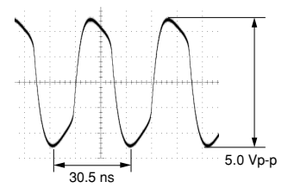


AV-133 BOARD

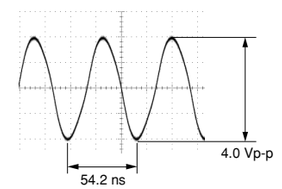
① IC101 ⑬ (X101)



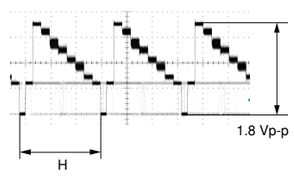
② IC101 ⑩ (X102)



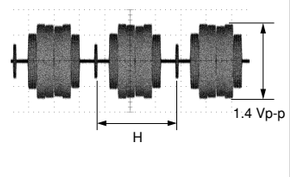
③ IC601 ⑥ (X601)



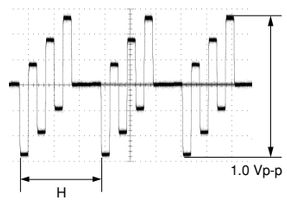
④ JA401 ③



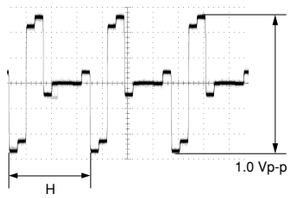
⑤ JA401 ④



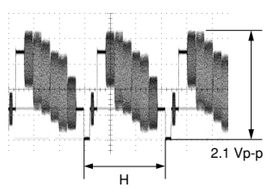
⑥ JA402 Pb OUT



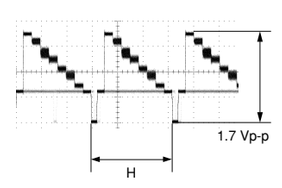
⑦ JA402 Pr OUT



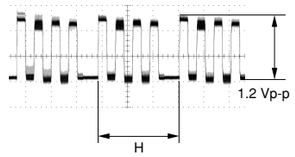
⑧ JA402 V OUT



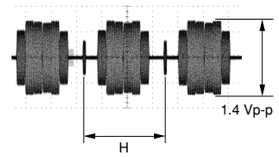
⑨ JA402 Y OUT



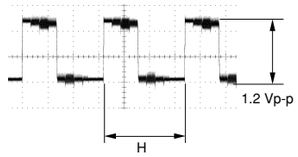
⑩ JA501 ⑦ B OUT



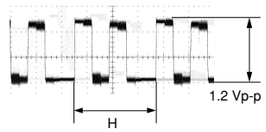
⑪ JA501 ⑮ C OUT



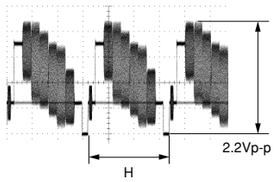
⑫ JA501 ⑪ G OUT



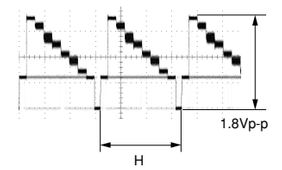
⑬ JA501 ⑮ R OUT



⑭ JA501 ⑲ V OUT



⑮ JA501 ⑲ Y OUT



For Schematic Diagram
- Refer to page 4-4 for waveforms.
- Refer to page 4-37 for printed wiring board.

AV-133 BOARD(1/5)

IT CONTROLLER, IR

-REF.NO.: 10,000 SERIES-

NO MARK: REC/PB MODE

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

SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡	➡	⇨
PB	⇨	⇨		⇨

IC101
IT CONTROLLER
IC101
LC87F0G82A-F59P6-E

IC102
VOLTAGE DETECTOR
IC102
BD46482G-TR

IC103
IC101 VDD DET
IC103
BU4200G-TR

IC104
DDC SW
IC104
TC7MB325/FK(EL)

Q101 DTC124EUA-T106 RESET
Q102 2SC4081T106R RESET
Q103 UMD2N-TR
Q104 UMD2N-TR
Q103 - Q105 SAMUTE CONTROL
Q105 2SD2114K1146
Q108 DTC124EUA-T106 BLANK
Q110 DTA143EVA-T106 EPGEQ
Q111 2SC4081T106R CVI I/F
Q112 2SC4081T106R CVI I/F
Q751 2SA1576A-T106-QR IR I/F SW
Q752 2SC4081T106R IR I/F SW

D101 1SS355TE-17
D102 1SS355TE-17
D103 1SS355TE-17
D104 1SR154-400TE-25
D106 1SS355TE-17
D108 DAP202UT106

X101 19MHz
X102 32.768kHz

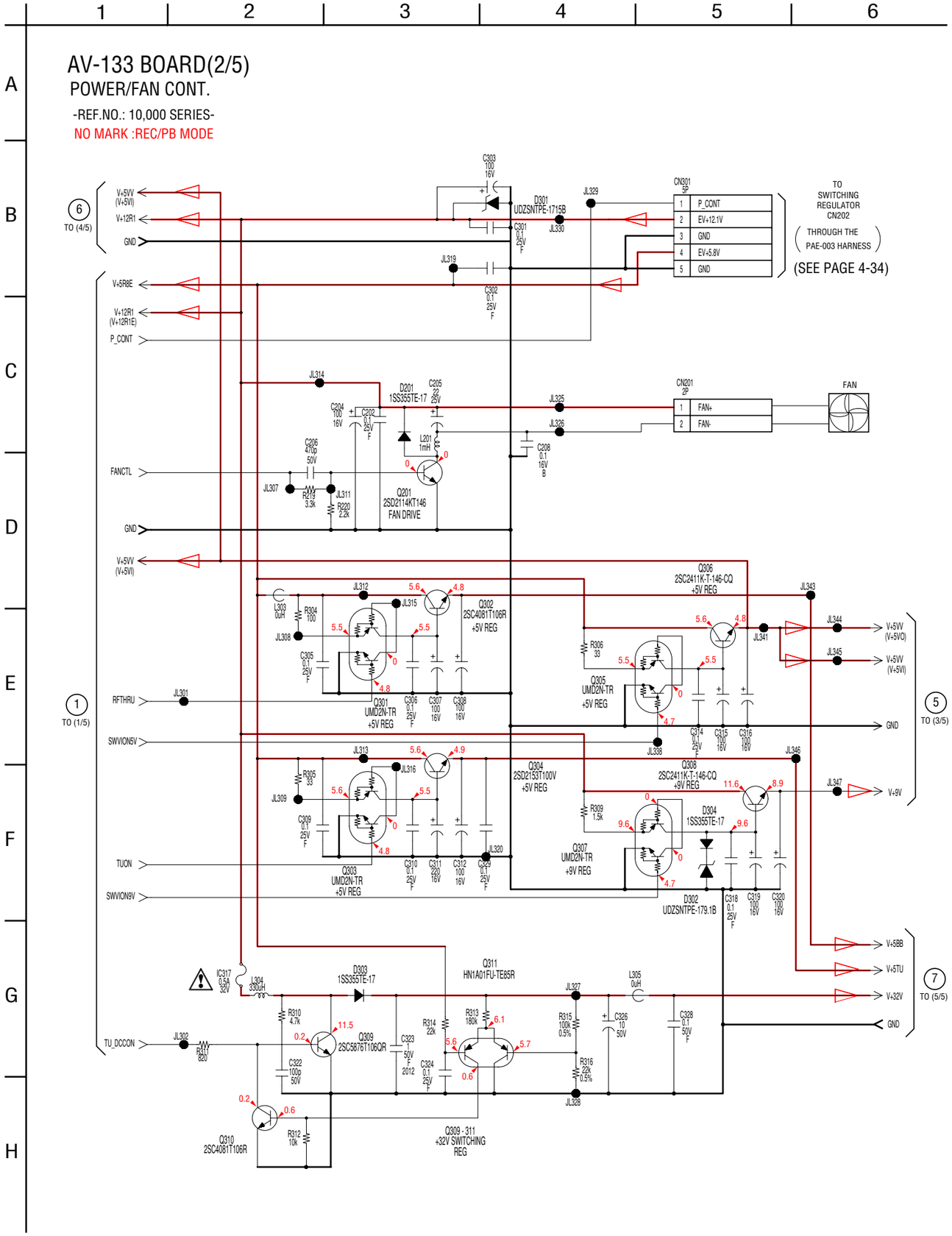
CN105 24P
CN101 40P

TO FR-304 BOARD CN202 (THROUGH THE FAR-008 FFC)
(SEE PAGE 4-16)

TO RD-066 BOARD(3/7) CN2301 (THROUGH THE FAR-006 FFC)
(SEE PAGE 4-24)

IT CONTROLLER, IR
AV-133 (1/5)

For Schematic Diagram
• Refer to page 4-37 for printed wiring board.



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

POWER/FAN CONT.
AV-133 (2/5)

For Schematic Diagram
- Refer to page 4-4 for waveforms.
- Refer to page 4-37 for printed wiring board.

AV-133 BOARD(3/5)

VIDEO/AUDIO

-REF.NO.: 10,000 SERIES-

NO MARK : REC/PB MODE

IC402
BUFFER

IC402
BA4558F-E2

IC401
VIDEO/AUDIO
SELECTOR

IC401
HA118326APFR-E

Q410
2SC4081T106R
BUFFER

Q411
UMD2N-TR
SW

Q408
2SC4081T106R
BUFFER

Q413
DTC124EUA-T106
SW

Q801
2SC4081T106R
BUFFER

Q403
2SA1576A-T106-QR
BUFFER

Q402
2SD2114KT146
BUFFER

Q401
DTC124EUA-T106
SW

Q406
2SD2114KT146
SW

Q407
2SD2114KT146
SW

Q404
UMD2N-TR
MUTE

D420
DAP202UT106

D421
UMZ6.8N-T106

D801
UMZ6.8N-T106

D409
UMZ6.8N-T106

D410
UMZ6.8N-T106

D413
UMZ6.8N-T106

D414
UMZ6.8N-T106

D415
UMZ6.8N-T106

D416
UMZ6.8N-T106

D419
1SS355TE-17

D418
1SS355TE-17

D401
NNCD5.6F-T1B

D402
NNCD3.9F-T1B

D402
UDZSNPTE-176.8B

D401
UDZSNPTE-1711B

TO (4/5)

TO (5/5)

TO (1/5)

TO (2/5)

SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡	➡	⇨
PB	⇨	⇨	⇨	⇨

S VIDEO

LINE 2 OUT

VIDEO

Pb/Cb

AUDIO L

Pr/Cr

AUDIO R

Y

COMPONENT VIDEO OUT

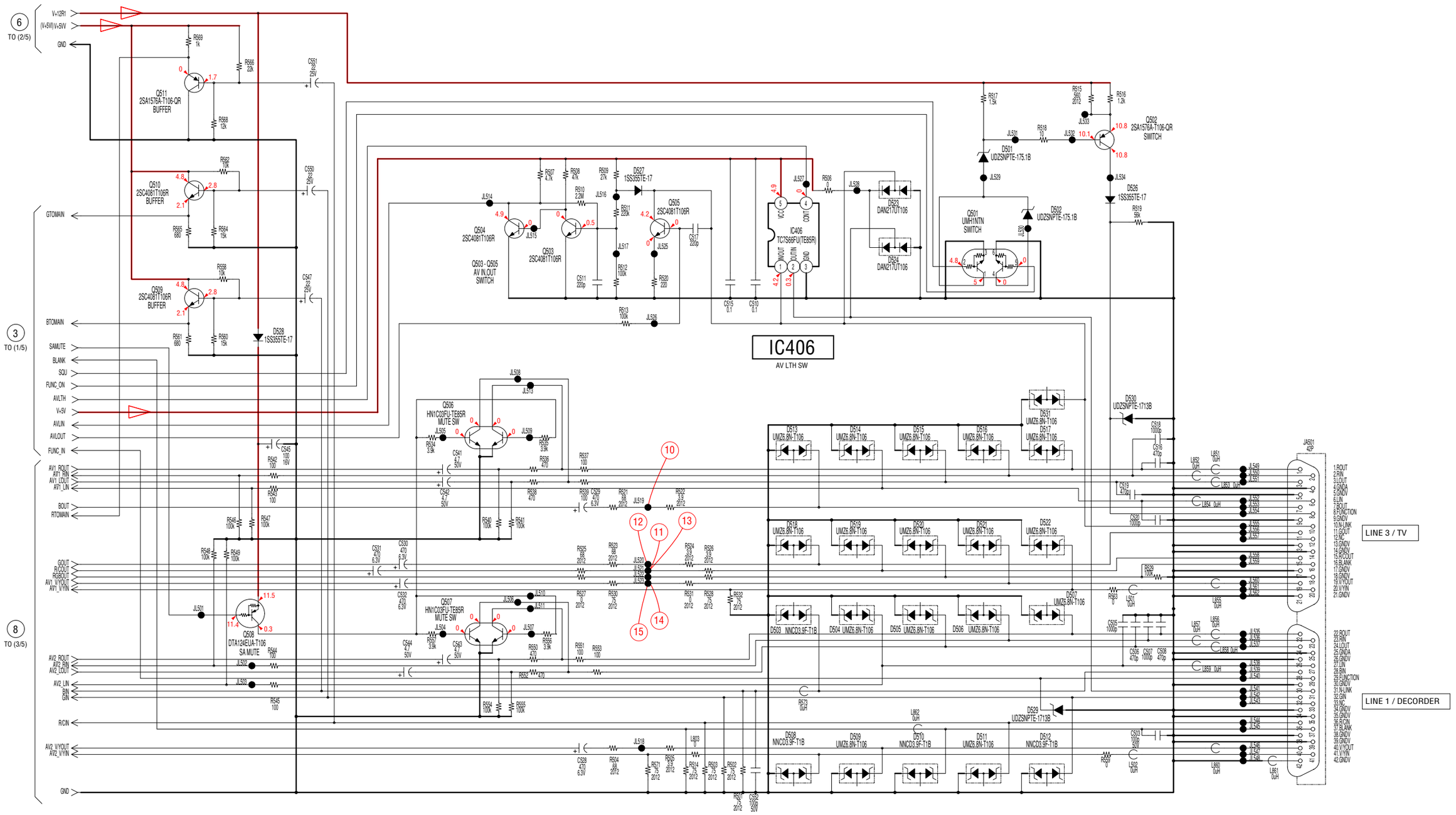
For Schematic Diagram
- Refer to page 4-4 for waveforms.
- Refer to page 4-37 for printed wiring board.

AV-133 BOARD(4/5)

EURO

-REF.NO.: 10,000 SERIES-

NO MARK : REC/PB MODE



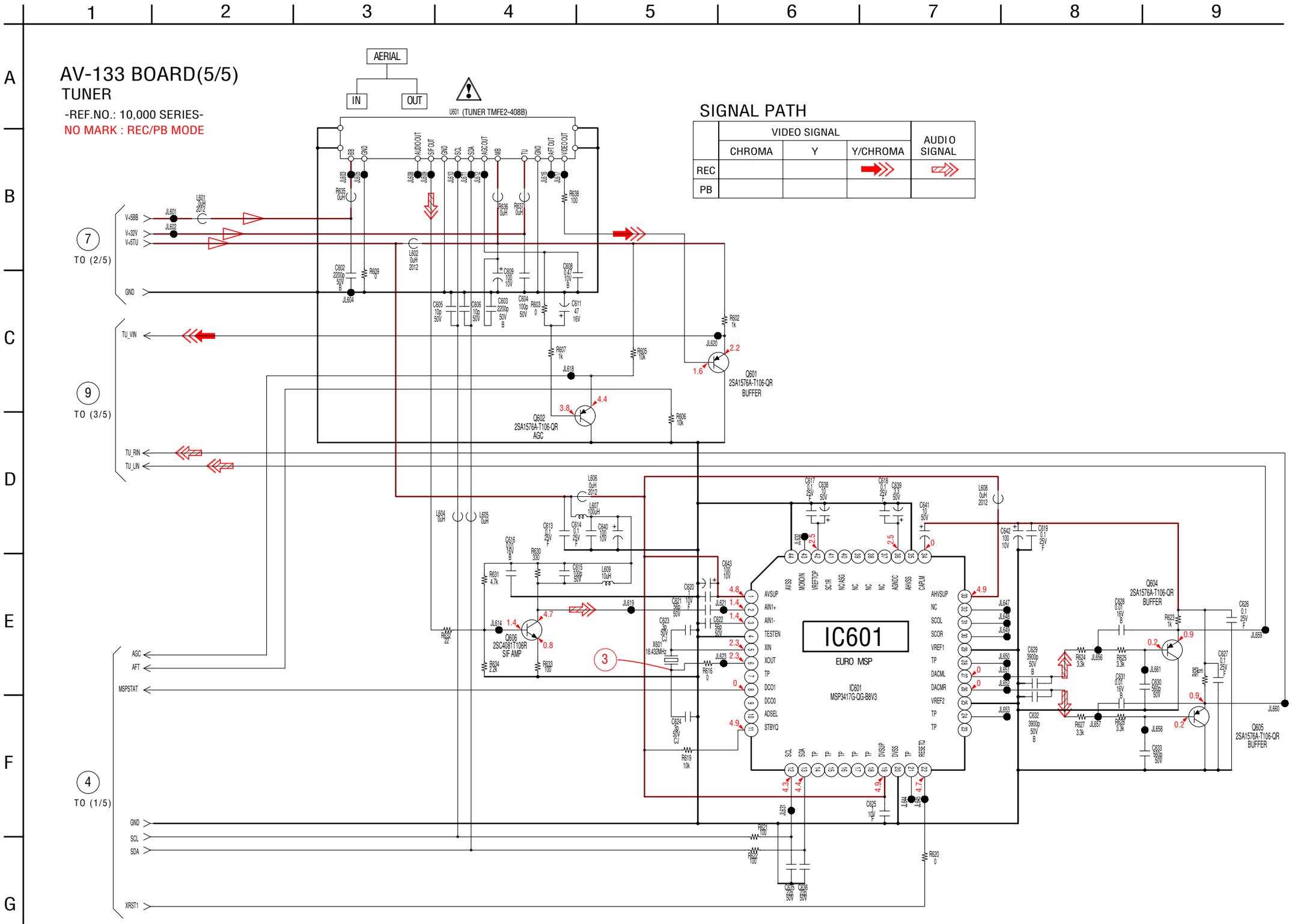
For Schematic Diagram
- Refer to page 4-4 for waveforms.
- Refer to page 4-37 for printed wiring board.

AV-133 BOARD(5/5)

TUNER

-REF.NO.: 10,000 SERIES-

NO MARK : REC/PB MODE



SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC			➡	⇨
PB				

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

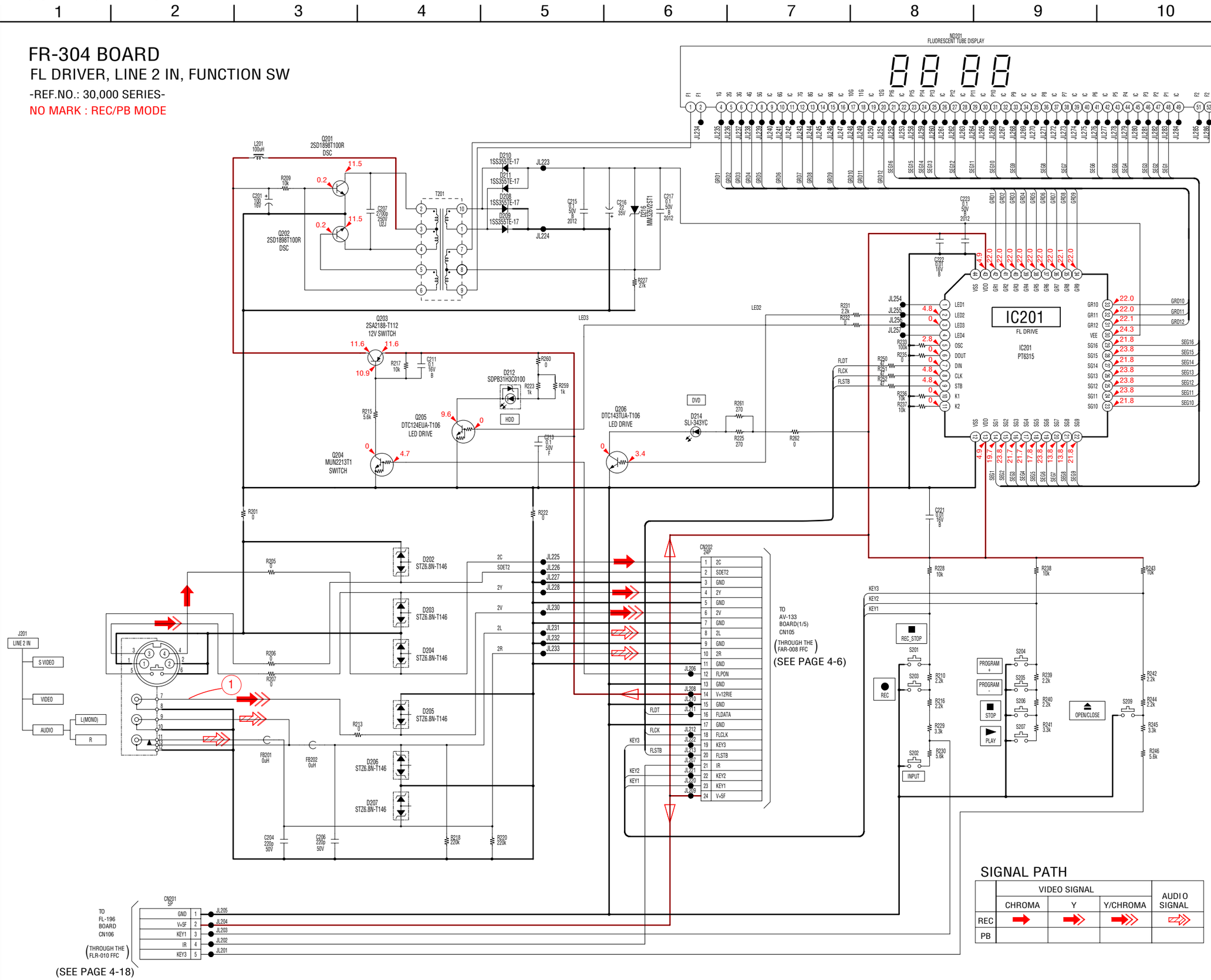
For Schematic Diagram
- Refer to page 4-3 for waveforms.
- Refer to page 4-35 for printed wiring board.

FR-304 BOARD

FL DRIVER, LINE 2 IN, FUNCTION SW

-REF.NO.: 30,000 SERIES-

NO MARK : REC/PB MODE

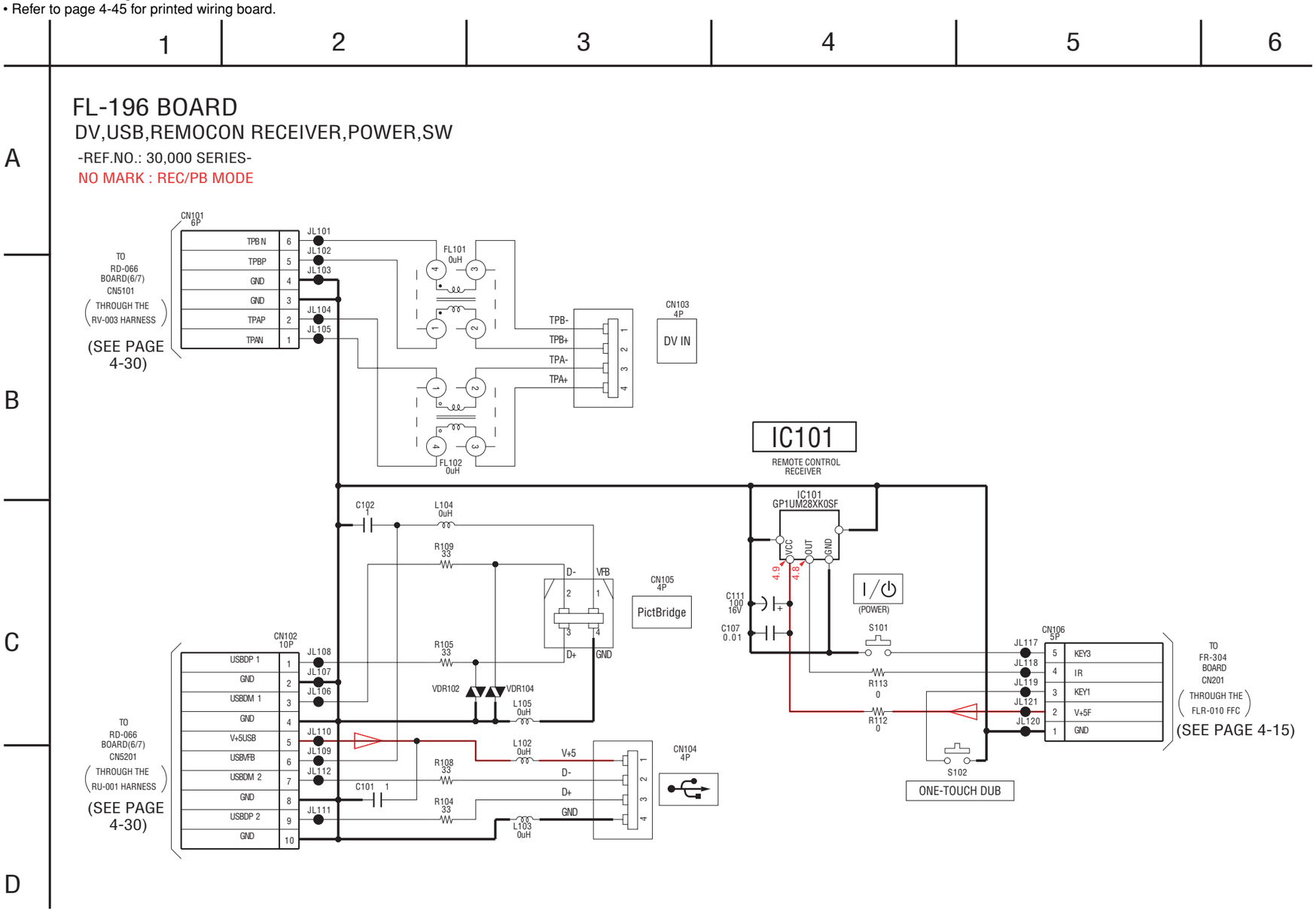


SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡	➡	⇨
PB				

For Schematic Diagram

• Refer to page 4-45 for printed wiring board.



For Schematic Diagram

• Refer to page 4-41 for printed wiring board.

RD-066 BOARD(1/7)

POWER BLOCK

-REF.NO.: 20,000 SERIES-

NO MARK : REC/PB MODE

TO SWITCHING REGULATOR CN201 THROUGH THE PR-078 HARNESS

(SEE PAGE 4-34)

CN501 13P: EV+5.8V 1, GNDD 2, SW+1.53V 3, SW+1.53V 4, GNDD 5, SW+3.33V 6, SW+3.33V 7, GNDD 8, V+12V 9, GND 10, V-9M 11, GNDM 12, V12M 13

IC4511 3.3V REG

IC4521 2.5V REG

IC4531 1.0V REG

IC4541 3V REG

IC4552 5V REG

IC4561 5V REG

IC4562 3.3V REG

IC4571 1.8V REG

TO (2/7) (1)

TO (3/7) (2)

TO (4/7) (3)

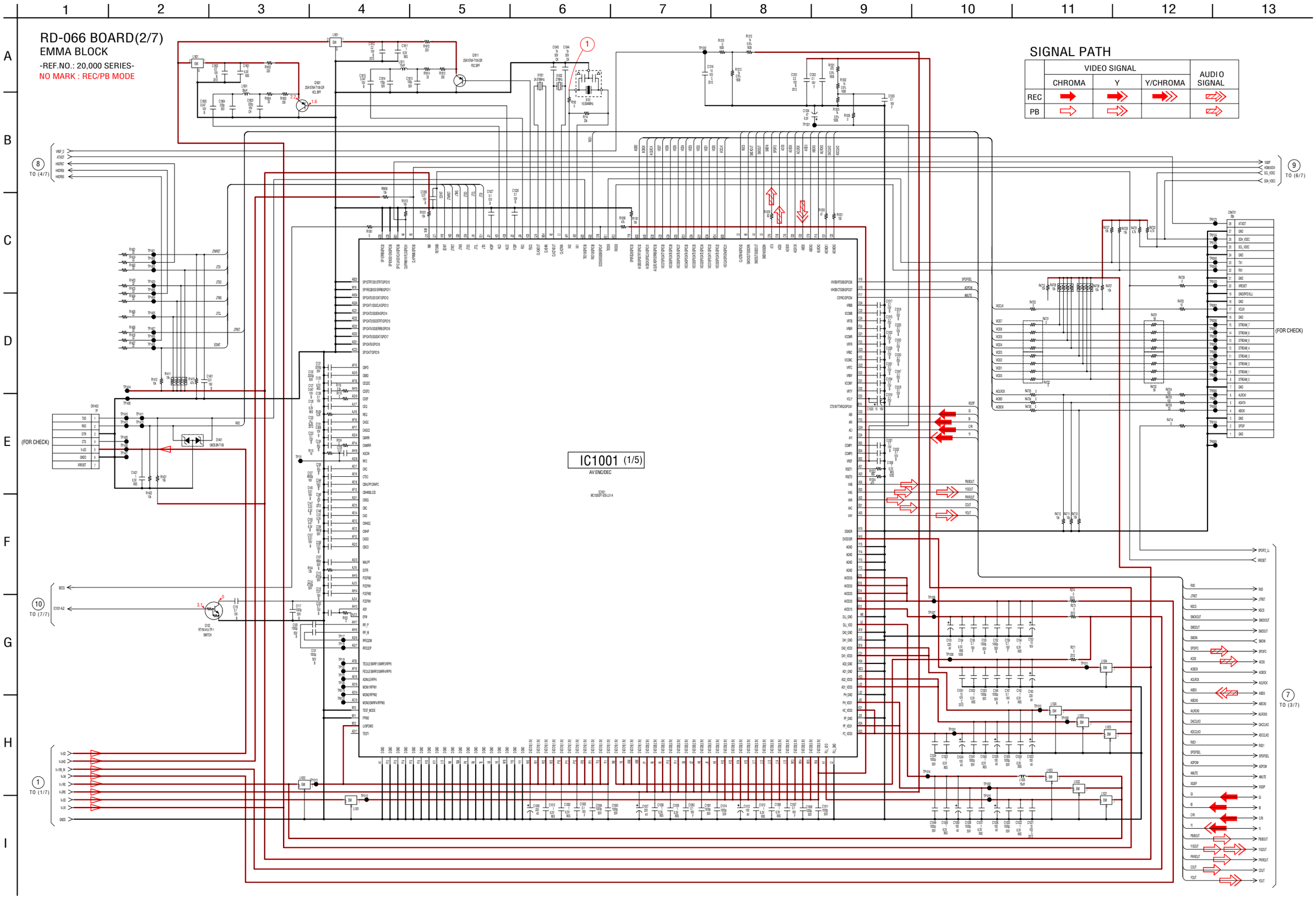
TO (5/7) (4)

TO (6/7) (5)

TO (7/7) (6)

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

For Schematic Diagram
- Refer to page 4-3 for waveforms.
- Refer to page 4-41 for printed wiring board.



EMMA BLOCK
RD-066 (2/7)

For Schematic Diagram

• Refer to page 4-41 for printed wiring board.

RD-066 BOARD(3/7)

VIDEO/AUDIO BLOCK

-REF.NO.: 20,000 SERIES-

NO MARK : REC/PB MODE

IC3201 AUDIO DAC

IC3202 AUDIO LPF

IC3101 AUDIO ADC

IC3701 BUFFER

IC3702 AND GATE

IC3707 RESET

IC5701 SELECT

Q2501 - Q2505 VIDEO BUFFER

Q2501 2SA1576A-T106-QR

Q2502 2SA1576A-T106-QR

Q2503 2SA1576A-T106-QR

Q2504 2SA1576A-T106-QR

Q2505 2SA1576A-T106-QR

Q2301 2SA1576A-T106-QR Y EQ

Q2302 2SC4081T106R Y EQ

Q2303 2SA1576A-T106-QR

Q2304 2SC4081T106R

Q2305 2SA1576A-T106-QR

Q2306 2SC4081T106R

Q2307 2SA1576A-T106-QR

Q2308 2SC4081T106R

Q5701 2SC4081T106R DIGITAL OUT

JA5701 DIGITAL OUT COAXIAL

TO AV-133 BOARD (1/5) CN101 THROUGH THE FRA-006 FFC

(SEE PAGE 4-6)

TO (1/7)

TO (6/7)

TO (4/7)

TO (2/7)

TO (5/7,7/7)

SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡		⇨
PB	⇨	⇨		⇨

For Schematic Diagram

• Refer to page 4-41 for printed wiring board.

RD-066 BOARD(4/7)

MEMORY BLOCK

-REF.NO.: 20,000 SERIES-

NO MARK : REC/PB MODE

IC1001 (2/5)

AV ENC/DEC

IC201

FLASH ROM

IC1102

FLASH ROM

IC1201

DDR SDRAM

IC1221

DDR SDRAM

(FOR CHECK)

TO (2/7)

TO (3/7)

TO (1/7)

TO (6/7)

TO (7/7)

MEMORY BLOCK

RD-066 (4/7)

For Schematic Diagram
- Refer to page 4-3 for waveforms.
- Refer to page 4-41 for printed wiring board.

RD-066 BOARD(5/7)
SATA/IDE IF

-REF.NO.: 20,000 SERIES-
NO MARK : REC/PB MODE

IC1001 (3/5)
AV ENC/DEC

IC1001
MC10350F1-505-LU1-A

IC5602
SATA BRIDGE

IC5602
88SA8040-TDC1C000

SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC			➡	⇨
PB			⇨	⇨

(FOR CHECK)

4 TO (1/7)

3

12 TO (3/7,7/7)

HDD UNIT

For Schematic Diagram

- Refer to page 4-3 for waveforms.
- Refer to page 4-41 for printed wiring board.

RD-066 BOARD(6/7)

HDMI/DV/USB BLOCK

-REF.NO.: 20,000 SERIES-

NO MARK : REC/PB MODE

IC1001 (4/5)

AV ENCODEC

IC1001
MC10582F1-5D5-LU1-A

Note: The HDMI block is highly confidential, and prohibited from releasing to public.
The components identified by mark ⓐ contain confidential information.
Strictly follow the instructions whenever the components are repaired and/or replaced.

IC5801

IC5803
DDC/SW
IC5803
TC7WB23SFK(TE85R)

IC5804
DDC/SW
IC5804
TC7WB125FK(TE85R)

IC5203
AND GATE
IC5203
TC7SH08FU(TE85R,F)

IC5204
5V REG
IC5204
PQ05DN04J2PH

IC5103
DV PHY
IC5103
UPD720552M3-BEU-A

JA801 29P

CN5201 10P

CN5101 6P

TO FL-196 BOARD CN102 THROUGH THE RU-001 HARNESS (SEE PAGE 4-17)

TO FL-196 BOARD CN101 THROUGH THE RV-003 HARNESS (SEE PAGE 4-17)

9 TO (2/7)

15 TO (4/7)

13 TO (3/7)

5 TO (1/7)

For Schematic Diagram

• Refer to page 4-41 for printed wiring board.

RD-066 BOARD(7/7)

DVD DRIVE

-REF.NO.: 20,000 SERIES-

NO MARK : REC/PB MODE

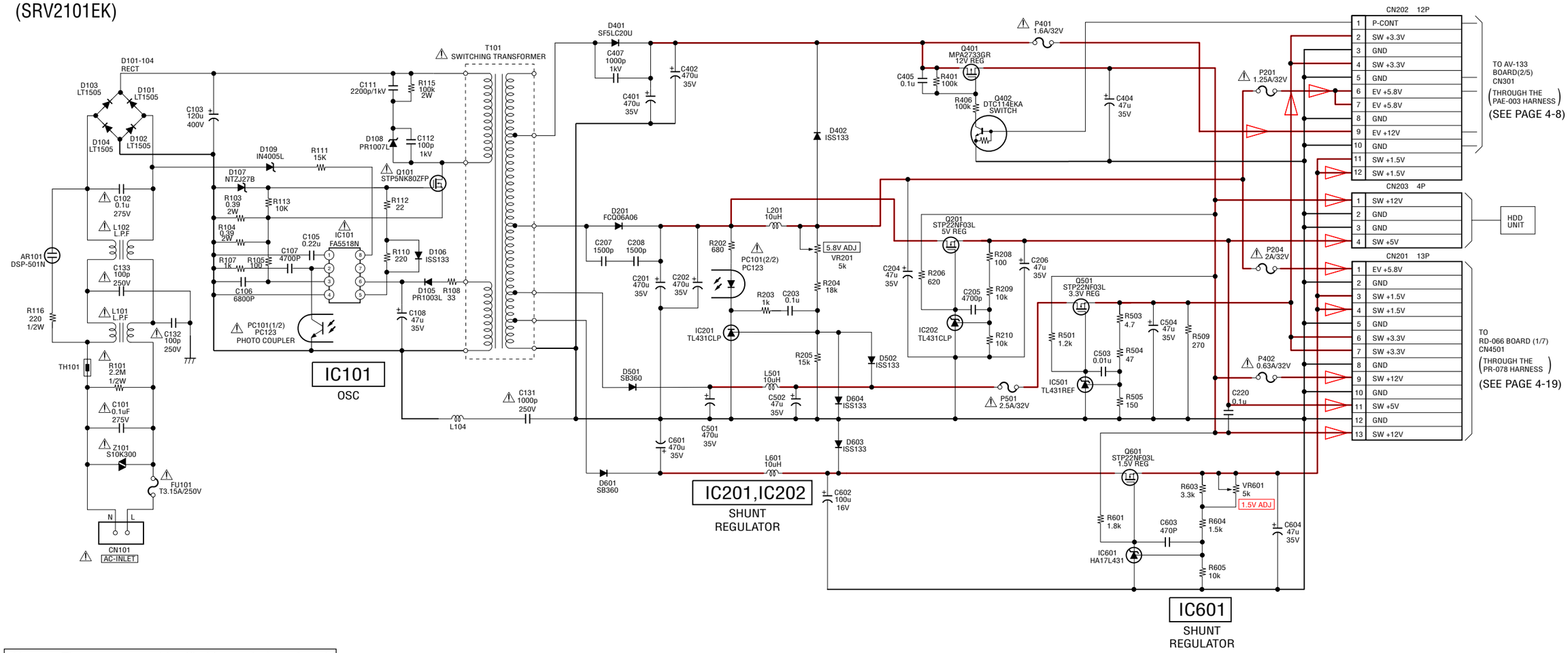
IC501

DVD DRIVER

IC1001 (5/5)

AV ENC/DEC

⚠ SWITCHING REGULATOR (SRV2101EK)

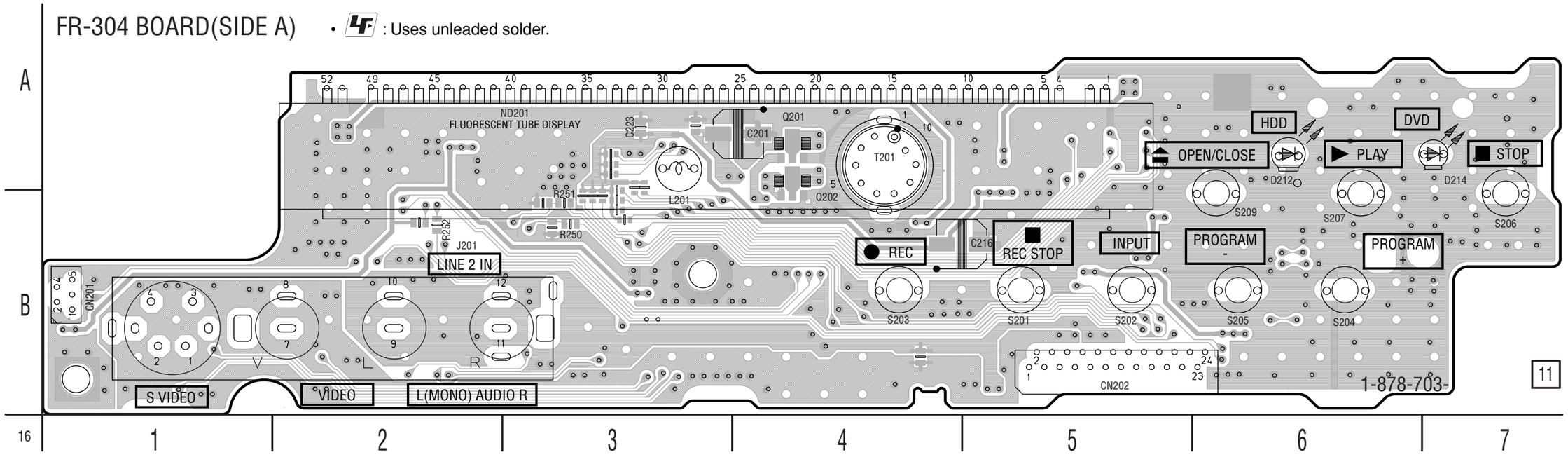


Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

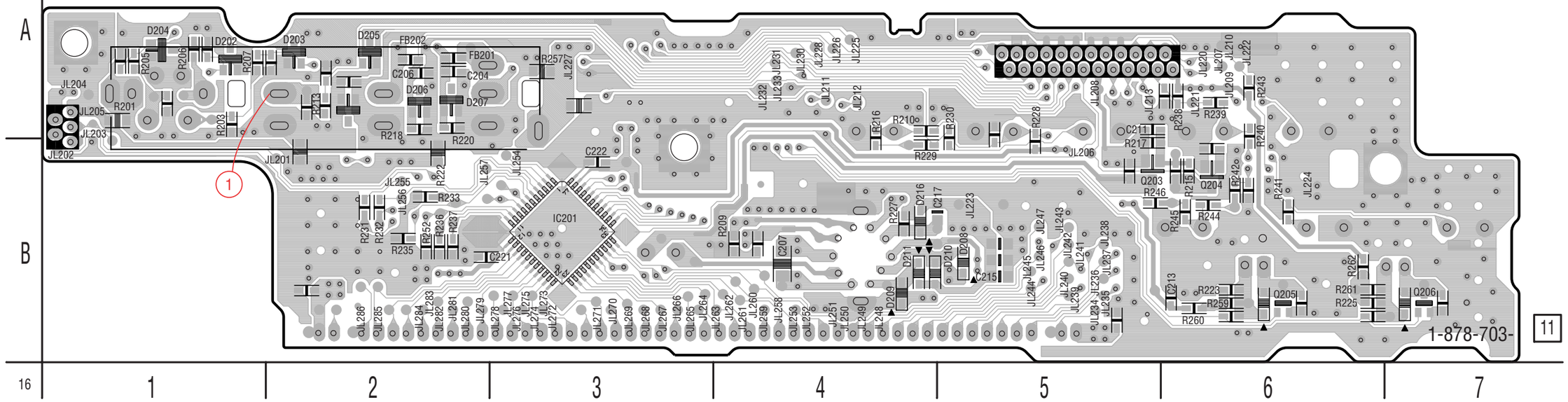
4-3. PRINTED WIRING BOARDS

FR-304 BOARD(SIDE A)

• : Uses unleaded solder.



FR-304 BOARD(SIDE B)



FR-304 BOARD (SIDE A)

CN201	B-1	Q201	B-4
CN202	B-5	Q202	B-4
D212	A-6		
D214	A-7		

FR-304 BOARD (SIDE B)

D202	A-1	D211	B-4
D203	A-2	D216	B-4
D204	A-1		
D205	A-2	IC201	B-3
D206	A-2		
D207	A-2	Q203	B-5
D208	B-5	Q204	B-6
D209	B-4	Q205	B-6
D210	B-4	Q206	B-7

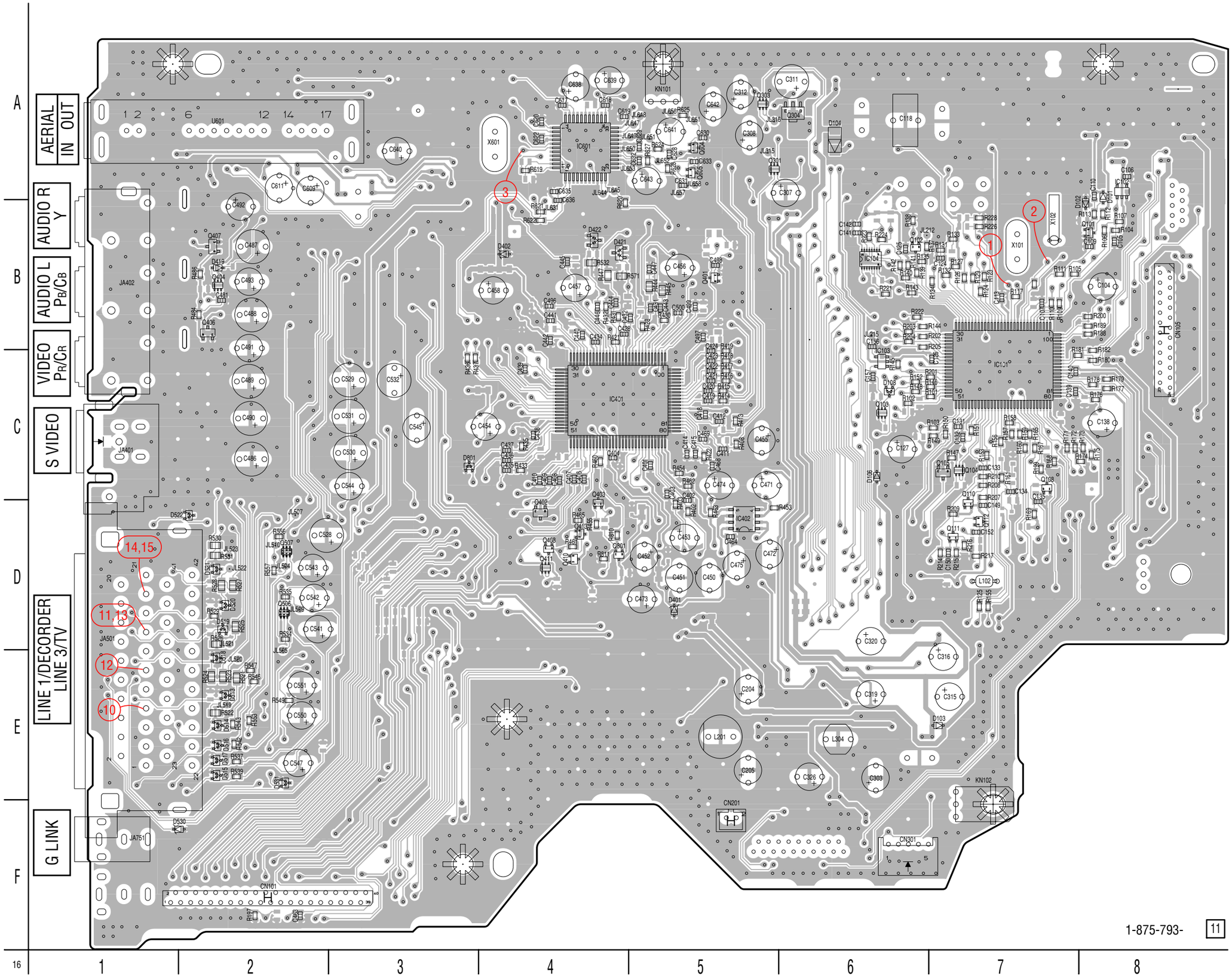
FL DRIVER, LINE 2 IN, FUNCTION SW
FR-304

AV-133 BOARD(SIDE A)

• : Uses unleaded solder.

AV-133 BOARD (SIDE A)

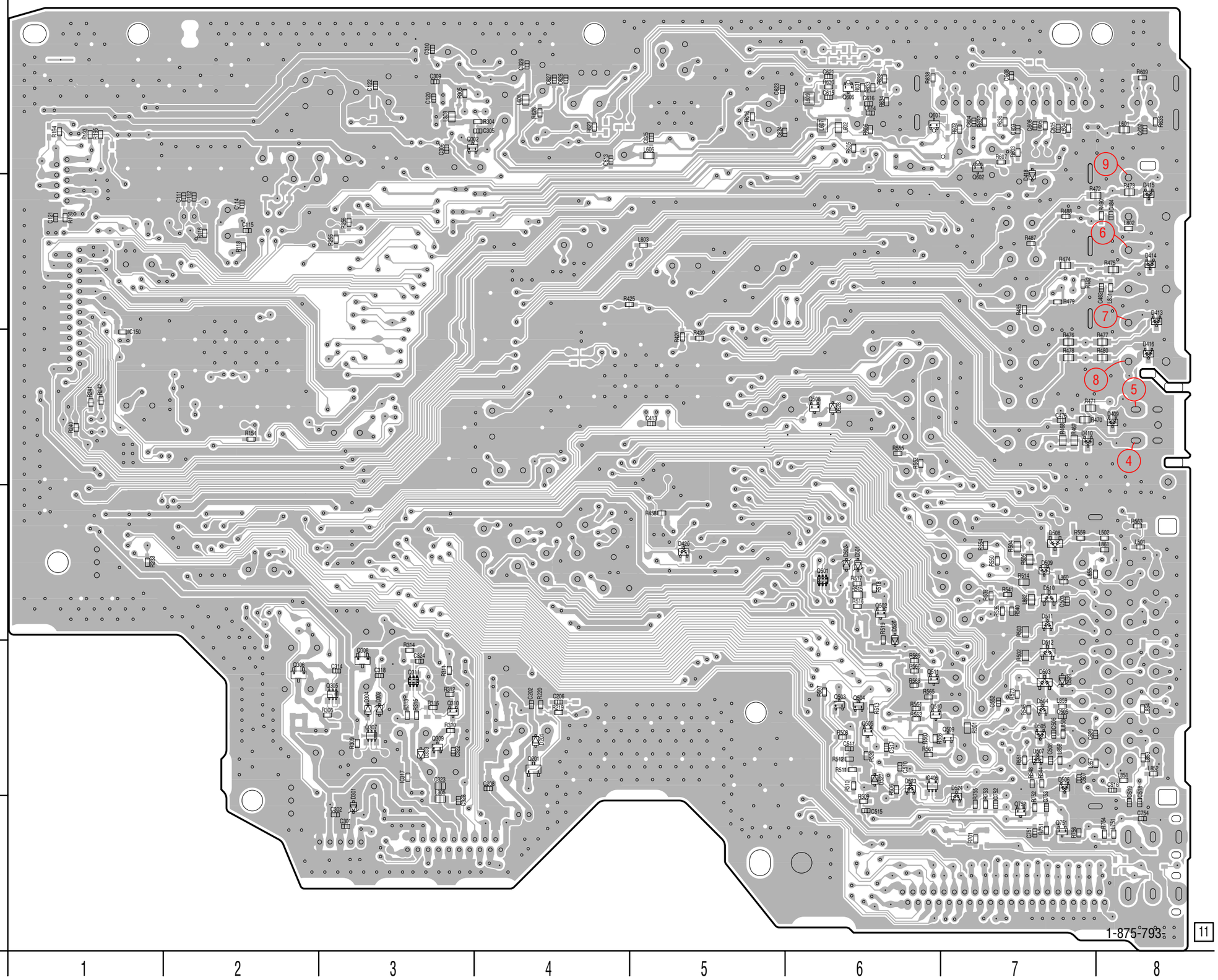
CN101	F-2
CN105	B-8
CN201	F-5
CN301	F-6
D101	B-8
D102	B-8
D103	E-7
D104	A-6
D106	C-6
D108	C-6
D401	D-5
D402	B-4
D419	B-2
D421	B-4
D422	B-4
D513	E-2
D514	E-2
D515	E-2
D516	E-2
D517	E-2
D518	E-2
D519	D-2
D520	D-2
D521	D-2
D522	D-2
D530	F-2
D531	E-2
D801	C-3
IC101	C-7
IC102	A-1
IC103	C-6
IC104	B-6
IC401	C-5
IC402	D-5
IC601	A-4
Q101	B-8
Q102	B-6
Q103	C-6
Q104	C-7
Q105	C-7
Q108	C-7
Q110	D-7
Q111	D-7
Q112	D-7
Q301	A-5
Q303	A-5
Q304	A-6
Q401	B-5
Q402	D-4
Q403	D-4
Q404	B-2
Q406	B-2
Q407	B-2
Q408	D-4
Q410	D-4
Q411	D-4
Q413	D-4
Q506	D-2
Q507	D-2
Q604	A-5
Q605	A-5
Q801	D-5



1-875-793- 11

AV-133 BOARD(SIDE B)

• : Uses unleaded solder.



AV-133 BOARD (SIDE B)

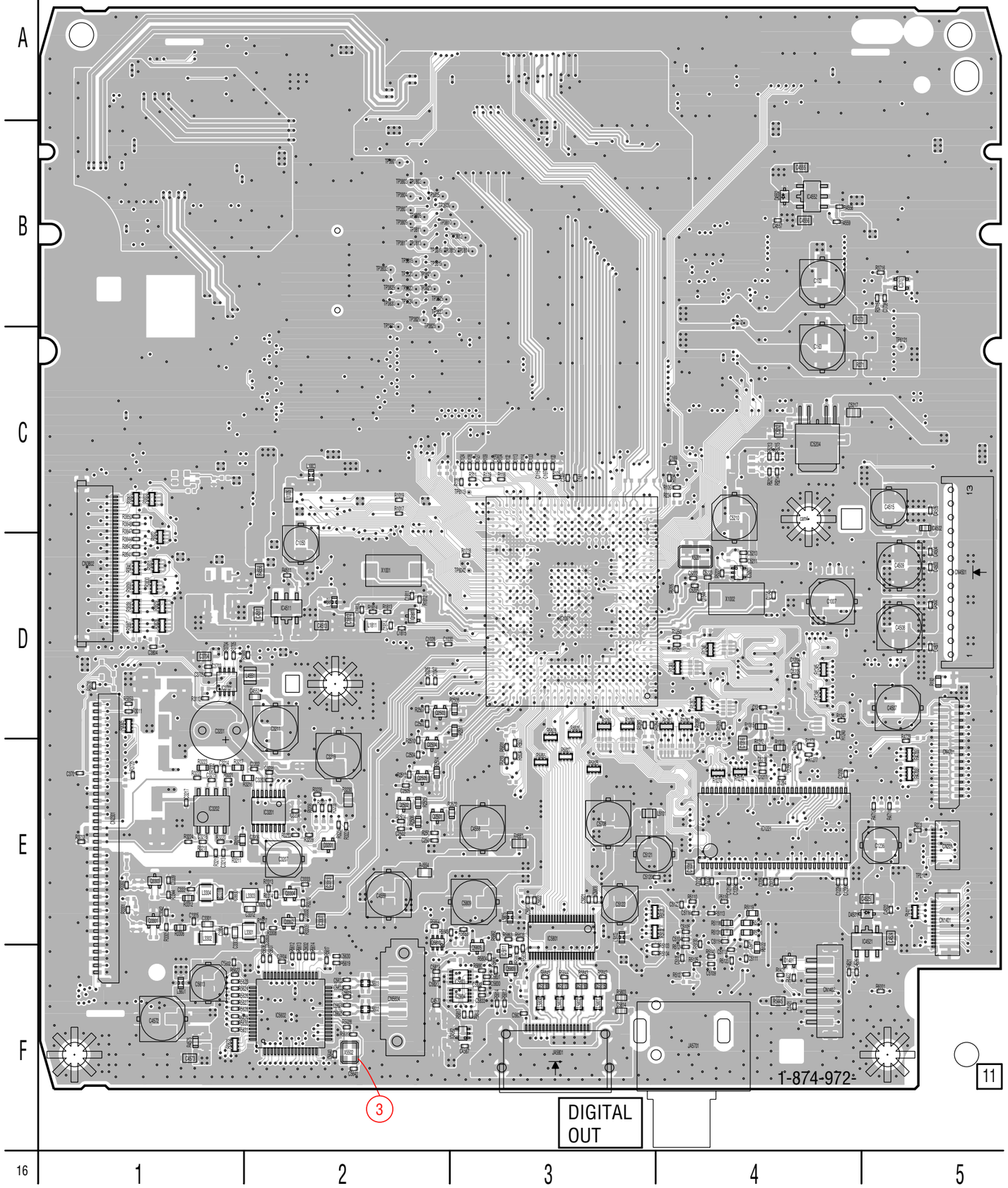
D201	E-4
D301	F-3
D302	E-3
D303	E-3
D304	E-3
D409	C-8
D410	C-7
D413	B-8
D414	B-8
D415	B-8
D416	C-8
D418	B-7
D420	D-5
D501	D-6
D502	D-6
D503	E-7
D504	E-7
D505	E-7
D506	E-7
D507	E-7
D508	D-7
D509	D-7
D510	D-7
D511	D-7
D512	E-7
D523	E-6
D524	F-7
D526	D-6
D527	E-6
D528	C-6
D529	E-7
IC150	C-1
IC317	E-3
IC406	E-6
Q201	E-4
Q302	A-3
Q305	E-3
Q306	E-2
Q307	E-3
Q308	E-3
Q309	E-3
Q310	E-3
Q311	E-3
Q501	D-6
Q502	D-6
Q503	E-6
Q504	E-6
Q505	E-6
Q508	C-6
Q509	E-7
Q510	E-6
Q511	E-6
Q601	A-6
Q602	A-7
Q606	A-6
Q751	F-7
Q752	F-7

RD-066 BOARD (SIDE A)

CN1401	E-5
CN1402	F-4
CN201	E-5
CN2301	E-1
CN3802	D-1
CN4501	D-5
CN4701	E-5
CN5604	F-2
D1401	F-4
D3201	E-2
D4521	E-5
D4552	B-4
IC1001	D-3
IC1221	E-4
IC3201	E-2
IC3202	E-1
IC3701	D-1
IC3707	B-5
IC4502	C-5
IC4511	D-2
IC4521	E-5
IC4552	B-4
IC4562	F-3
IC5203	D-4
IC5204	C-4
IC5602	F-2
IC5801	E-3
IC5803	F-3
IC5804	F-3
Q1811	D-2
Q2501	E-2
Q2502	E-2
Q2503	D-2
Q2504	E-2
Q2505	E-2
Q3301	E-1
Q3302	E-2
Q3303	E-1
Q3304	E-2
Q5805	F-3
Q5809	F-3
Q5810	E-2
Q5811	F-3

RD-066 BOARD(SIDE A)

• : Uses unleaded solder.

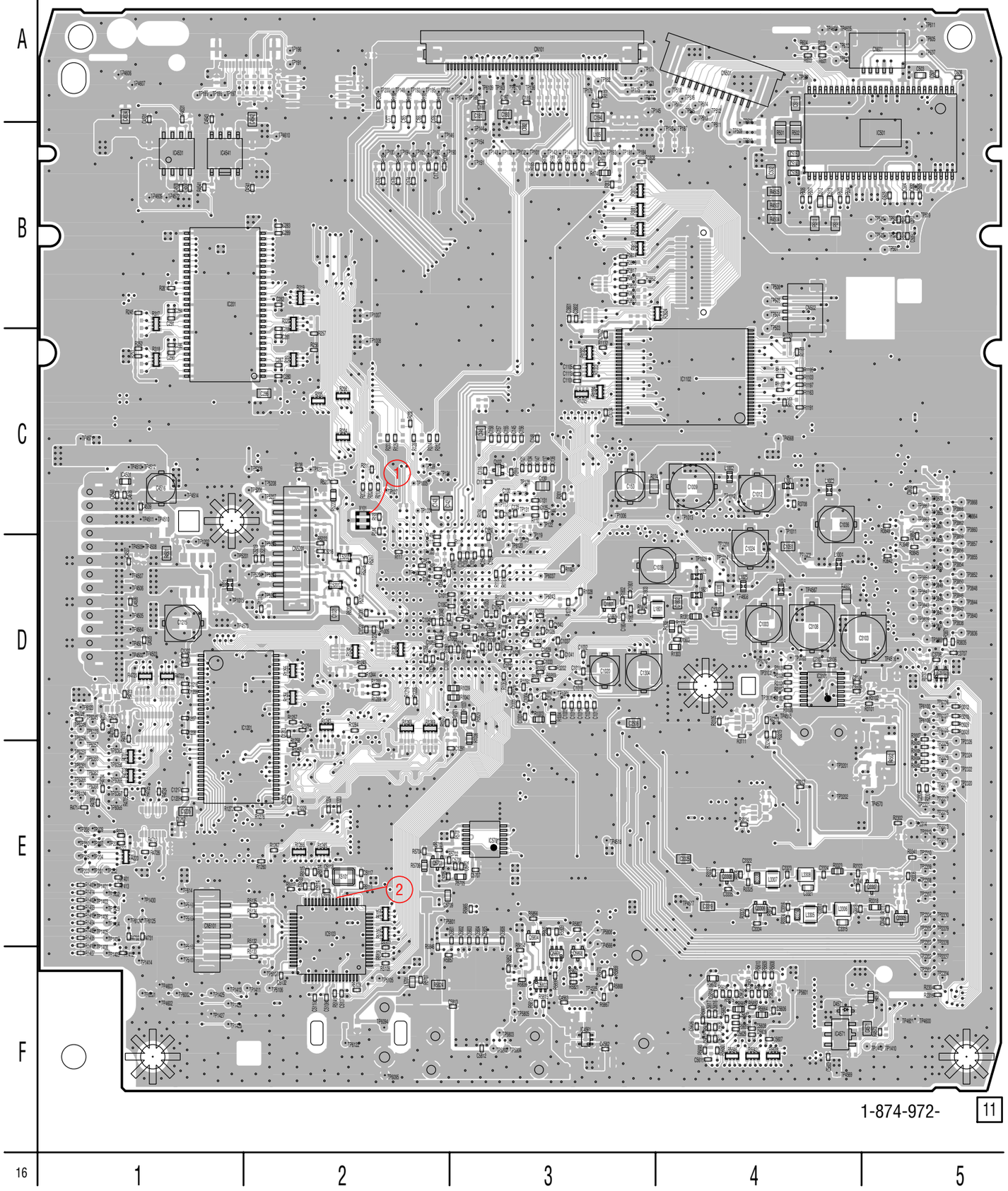


POWER BLOCK, EMMA BLOCK, VIDEO/AUDIO BLOCK, MEMORY BLOCK, SATA/IDE IF, HDMI/DV/USB BLOCK, DVD DRIVE

RD-066

RD-066 BOARD(SIDE B)

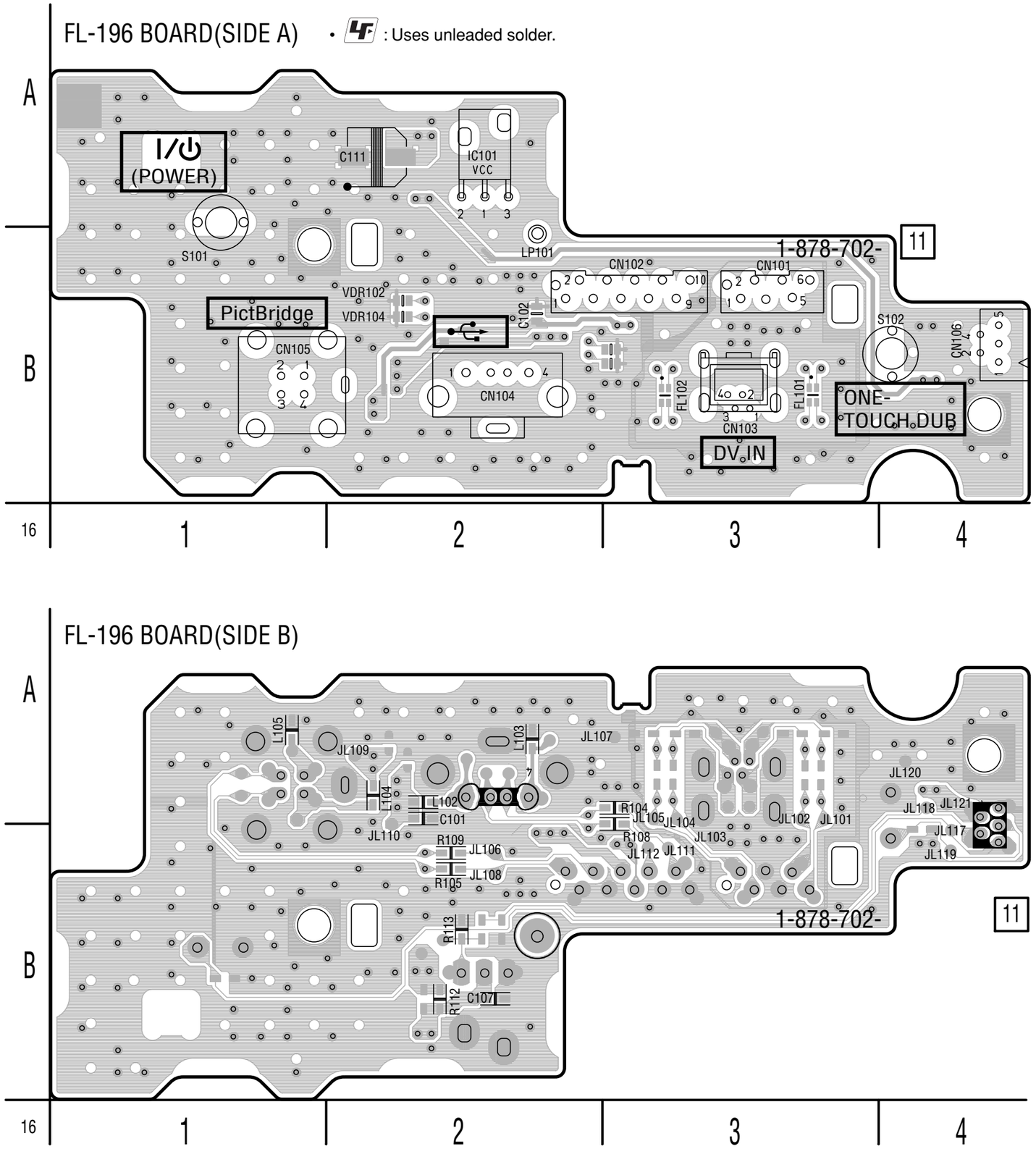
• : Uses unleaded solder.



RD-066 BOARD (SIDE B)

CN101	A-3
CN501	A-4
CN502	B-4
CN5101	E-1
CN5201	D-2
CN601	A-5
D4571	F-4
IC1102	C-4
IC1201	D-1
IC201	B-1
IC3101	D-4
IC3702	D-5
IC4501	C-1
IC4531	B-1
IC4541	B-1
IC4561	F-3
IC4571	F-4
IC501	B-5
IC5103	E-2
IC5701	E-3
Q102	C-3
Q1801	D-3
Q3305	E-5
Q3306	E-4
Q3307	E-5
Q3308	E-4
Q5701	E-2
Q5801	F-3
Q5802	F-3
Q5804	E-3
Q5808	F-3

FL-196 BOARD(SIDE A) • : Uses unleaded solder.



FL-196 BOARD (SIDE A)

CN101	B-3
CN102	B-3
CN103	B-3
CN104	B-2
CN105	B-1
CN106	B-4
IC101	A-2

SECTION 5
IC PIN FUNCTION DESCRIPTION

5-1. IT CONTROL IC (IC101:LC87F06J2A-F59P6-E (AV-133 BOARD))

Pin No.	Pin Name	I/O	Function
1	NC	—	Not used
2	NC	—	Not used
3	NC	—	Not used
4	WDT	—	Fixed at “H”
5	ACDET	I	Input of IC’s VDD detect signal
6	HSM_TO_T	I	Input of ROM/GIO address signal for IC1001 (RD-066 board)
7	IR	I	Input of remote control receive signal
8	RESET	I	Input of system reset signal
9	TX1	I	Input of sub-clock (32.768KHz)
10	TX2	O	Output of sub-clock (32.768KHz)
11	GND	—	Analog GND
12	CF1	I	Input of main-clock (15MHz)
13	CF2	O	Output of main-clock (15MHz)
14	VDD1	—	Power supply input
15	MODEL1	—	Fixed at “L”
16	MODEL2	—	Fixed at “GND”
17	KEY1	I	Input of function key signal [1]
18	KEY2	I	Input of function key signal [2]
19	KEY3	I	Input of function key signal [3]
20	AGC	I	Input of auto gain control signal
21	BATTDET	—	Fixed at “H”
22	FUNC	I	Input of detection signal for euro-scart
23	SDET3	I	Fixed at “H”
24	SDET2	I	Input of line 2 S-video detection signal
25	SDET1	I	Fixed at “H”
26	AVLOUT	O	Output of n-link switch signal
27	SDA	I/O	Input/output of IIC data signal
28	SCL	O	Output of IIC clock signal
29	XRST	O	Output of system reset signal for EURO MSP
30	NC	—	Not used
31	AFT	I	Input of tuner AFT control signal
32	NC	—	Not used
33	XAMUTE2	I	Input of audio muting signal
34	RCSEL1	O	Output of R/C select signal [1]
35	RCSEL2	O	Output of R/C select signal [2]
36	NC	—	Not used
37	DDCSW1	O	Output of DDC IC switching signal [1]
38	DDCSW2	O	Output of DDC IC switching signal [2]
39	GND	—	Analog GND
40	VDD4	—	Power supply input
41	FUNC ON	O	Output of detection signal for euro-scart
42	SQUEEZE	O	Output of detection signal for euro-scart
43	CAPACTIOR	I	Input of IC’s VDD detect signal
44	NC	—	Not used
45	BLAIR	O	Output of transmission pulse for G-Link
46	P_SAVE	O	Output of power save signal for AV select IC’s
47	XSCMUTE	O	Output of SA mute control signal
48	AVLTH	O	Output of n-link switch drive signal
49	FLDATA	O	Output of data signal for FLD driver
50	FLSTB	O	Output of strove signal for FLD driver

Pin No.	Pin Name	I/O	Function
51	FLCLK	O	Output of clock signal for FLD driver
52	RFTHRU	O	Output of tuner power supply control signal
53	NC	—	Not used
54	FANCTL	O	Output of fan direction speed switching signal
55	VDD2	—	Power supply input
56	GND	—	Analog GND
57	P_CONT2	O	Output of system power supply control signal [2]
58	MUTECTL	O	Output of SA mute control signal
59	EPGEQ	O	Output of equalizer switching signal
60	TUON	O	Output of tuner block power supply control signal
61	SWVION9V	O	Output of system power supply control signal
62	P_CONT	O	Output of switching regulator control signal
63	FLON	O	Output of FLD grid power supply on signal
64	SWVION5V	O	Output of system power supply control signal
65	MRST	I	Input of system reset signal
66	NC(IN)	—	Fixed at “L”
67	CSYNCIN	I	Input of C-synchronization/composite video signal
68	XCHECKER	—	Not used
69	CEC	I	Input of CEC signal
70	AVLIN	I	Input of n-link switching signal
71	MSPSTAT	I	Input of starting signal for euro SMP IC’s
72	BLANK	I	Input of blanking signal for euro scart
73	HOTPLUG	I	Input of hot plug detect signal
74	TU_DCCON	O	Output of tuner power supply control signal
75	TXD1	O	Output of serial TXD signal [1] (Not used)
76	RXD1	O	Output of serial RXD signal [1] (Not used)
77	TXD2	—	Not used
78	RXD2	—	Fixed at “L”
79	HST_TO_M	O	Output of ROM/GID address signal to IC1001 (RD-066 board)
80	VDDODA	—	Power supply input
81	CVBSIN	I	Input of composite video signal
82	GND	—	Analog GND
83	FILTSLC	—	Fixed at “L”
84	VDDVCO	—	Power supply input
85	DTBON	—	Not used
86	ANT5V_SW	O	Not used
87	DET_ANT	—	Fixed at “L”
88	GND	—	Analog GND
89	VDD3	—	Power supply input
90	DBGP2	I	Checking terminal [2]
91	DBGP1	I	Checking terminal [1]
92	DGBP0	I	Checking terminal [0]
93	LED_PLTB	—	Not used
94	LED_DIVX	—	Not used
95	LED_D_TV	—	Not used
96	LED_A_TV	—	Not used
97	LED_HDD2	—	Not used
98	DAT_TO_M	O	Output of serial data signal to IC3701(RD-066 board)
99	DAM_TO_T	I	Input of serial data signal from IC3201(RD-066 board)
100	ASCK	I	Input of serial clock signal from IC3201(RD-066 board)

5-2. AV ENCODER/DECODER IC (IC1001:MC10050F1-505-LU1-A (RD-066 BOARD))

Pin No.	Pin Name	I/O	Function
A1	DGND	—	Digital GND
A2	DRASB	O	Output of RAS signal
A3	DBA1	O	Output of bank address [1]
A4	DADD01	O	Output of DDRSDRAM address [1]
A5	DDQM1	O	Output of data mask [1]
A6	DQ13	I/O	Input/output of DDRSDRAM data [13]
A7	DQ11	I/O	Input/output of DDRSDRAM data [11]
A8	DQ08	I/O	Input/output of DDRSDRAM data [8]
A9	DIHM	—	Fixed at “L”
A10	Not open to public	O	Output of power down
A11	Not open to public	O	Output of data [10]
A12	Not open to public	O	Output of data [7]
A13	Not open to public	O	Output of clock
A14	Not open to public	O	Output of data [3]
A15	Not open to public	O	Output of data [0]
A16	Not open to public	O	Output of vertical synchronization
A17	Not open to public	I/O	Input/output of DDC data
A18	SS0DOUT	O	Output of serial data
A19	DA2_GND	—	GND (for DAC)
A20	VAY	O	Output of DA converter for analog video signal Y
A21	RSET1	—	Fixed at “L”
A22	VAR	O	Output of DA converter for analog video signal red
A23	RSET0	—	Fixed at “L”
A24	VAB	O	Output of DA converter for analog video signal blue
AA1	MD14	I/O	Input/output of buffer memory interface data bus [14]
AA2	LDQM	O	Output of lower byte data I/O mask control
AA3	MD5	I/O	Input/output of buffer memory interface data bus [5]
AA4	MD1	I/O	Input/output of buffer memory interface data bus [1]
AA5	MD3	I/O	Input/output of buffer memory interface data bus [3]
AA6	DVDD15(1.5V)	—	Power supply input
AA19	FB	—	Fixed at “L”
AA20	AIOBCK	I/O	Input/output of audio data clock
AA21	RDATA02	I/O	Input/output of ROM/GIO data [2]
AA22	RADD03	O	Output of ROM/GIO address [3]
AA23	RADD08	O	Output of ROM/GIO address [8]
AA24	FWEB/GWEB	O	Output of ROM/GIO write enable
AB1	MD2	I/O	Input/output of buffer memory interface data bus [2]
AB2	UDQM	O	Output of upper byte data I/O mask control
AB3	MD4	I/O	Input/output of buffer memory interface data bus [4]
AB4	MCLKOUT	O	Output of clock for SDRAM
AB5	MD13	I/O	Input/output of buffer memory interface data bus [13]
AB6	DVDD15(1.5V)	—	Power supply input
AB19	CTS1B	I	Input of clear to send
AB20	VIOCLK	O	Output of video pixel clock
AB21	SP1CLK	—	Fixed at GND
AB22	AIOBD	I/O	Input/output of audio bitstream data
AB23	SP1STRT	—	Fixed at GND
AB24	RADD15	O	Output of ROM/GIO address [15]
AC1	MA9	O	Output of buffer memory interface address bus [9]
AC2	MD12	I/O	Input/output of buffer memory interface data bus [12]
AC3	MA10	O	Output of buffer memory interface address bus [10]
AC4	MCKE	O	Output of SDRAM clock enable control
AC5	MA7	O	Output of buffer memory interface address bus [7]

Pin No.	Pin Name	I/O	Function
AC6	PDIAGB	—	Not used
AC19	MONI3	—	Not used
AC20	SP1EN	—	Fixed at GND
AC21	SP1DAT2	—	Fixed at GND
AC22	VIOD7	I/O	Input/output of digital video data [7]
AC23	SP1DAT7	—	Fixed at GND
AC24	VIOD6	I/O	Input/output of digital video data [6]
AD1	MA6	O	Output of buffer memory interface address bus [6]
AD2	MA5	O	Output of buffer memory interface address bus [5]
AD3	MA1	O	Output of buffer memory interface address bus [1]
AD4	MA8	O	Output of buffer memory interface address bus [8]
AD5	MBA	O	Output of buffer memory interface bank address
AD6	DASPB	—	Not used
AD7	HIOCS16B	—	Not used
AD8	SFSO	O	Output of serial flash interface data
AD9	SFSCK	O	Output of serial flash interface clock
AD10	SFSI	I	Input of serial flash interface data
AD11	SFCS0B	O	Output of serial flash command (address)
AD12	AVDD15	—	Power supply input (Analog 1.5V)
AD13	AVDD33	—	Power supply input (Analog 3.0V)
AD14	AVDD33	—	Power supply input (Analog 3.0V)
AD15	AVDD33	—	Power supply input (Analog 3.0V)
AD16	AVDD33	—	Power supply input (Analog 3.0V)
AD17	TEST1	—	Non connect
AD18	MONI1	—	Not used
AD19	MONI2	—	Not used
AD20	SP1ERRB	—	Fixed at GND
AD21	SP1DAT6	—	Fixed at GND
AD22	SP1DAT5	—	Fixed at GND
AD23	VIOD5	I/O	Input/output of digital video data [5]
AD24	VIOD3	I/O	Input/output of digital video data [3]
AE1	XA1	I	Input of clock 16.9344MHz
AE2	CASB	O	Output of buffer memory interface column address strove control
AE3	MA0	O	Output of buffer memory interface address bus [0]
AE4	MA4	O	Output of buffer memory interface address bus [4]
AE5	MA3	O	Output of buffer memory interface address bus [3]
AE6	PB4	O	Output of LDD signal
AE7	PB1	I	Input of 3 value control switch
AE8	RLDM	I	Input of laser driver control amplifier (-) for read
AE9	WLD	O	Output of laser driver control for write
AE10	WLDM	I	Input of laser driver control amplifier (-) for write
AE11	PLED	O	Output of peak power signal
AE12	CWAGC	—	Fixed at “L”
AE13	CWHP	—	Fixed at “L”
AE14	CAD	—	Fixed at “L”
AE15	CBC	—	Fixed at “L”
AE16	CTEC	—	Fixed at “L”
AE17	CRC	—	Fixed at “L”
AE18	CBHLPP/CRAPC	—	Fixed at “L”
AE19	ADIN	—	Not used
AE20	AIOLRCK	I/O	Input/output of audio L/R clock
AE21	VIOD2	I/O	Input/output of digital video data [2]
AE22	SP1DAT3	—	Fixed at GND

Pin No.	Pin Name	I/O	Function
AE23	SP1DAT4	—	Fixed at GND
AE24	VIOD1	I/O	Input/output of digital video data [1]
AF1	XA2	I/O	Input/output of clock 16.9344MHz
AF2	WEB	O	Output of buffer memory interface write enable
AF3	MA2	O	Output of buffer memory interface address bus [2]
AF4	RSAB	O	Output of buffer memory interface row address strove control
AF5	(PB2)	O	Output of buffer memory interface bank address [MA11]
AF6	PB5	O	Output of DDO
AF7	PB7	I	Input of DMS
AF8	RLD	O	Output of laser driver control for read
AF9	REF16	O	Output of internal reference voltage
AF10	VREFIO	O	Output of pick-up reference voltage
AF11	P2LD	O	Output of peak power signal 2
AF12	CADO	—	Fixed at “L”
AF13	CBHWBL/CID	—	Fixed at “L”
AF14	CAMIRR	—	Fixed at “L”
AF15	CBPD	—	Fixed at “L”
AF16	CAGC	—	Fixed at “L”
AF17	CAGC2	—	Fixed at “L”
AF18	CEQDC	—	Fixed at “L”
AF19	FE0	—	Not used
AF20	TE0	—	Not used
AF21	TXD0B	O	Output of transfer data [0]
AF22	RXD0B	I	Input of receive data [0]
AF23	VIOD4	I/O	Input/output of digital video data [4]
AF24	VIOD0	I/O	Input/output of digital video data [0]
AG1	PB3	O	Output of RAMWR signal
AG2	PA0	O	Output of data carrier detect signal to D18
AG3	PA4	—	Fixed at “L”
AG4	PB0	I	Input of 3 value control switch
AG5	PB6	I	Input of RXDA2 signal
AG6	PA3	O	Output of RCCK signal
AG7	PA5	—	Fixed at “L”
AG8	PDIN	I	Input of laser moniter signal
AG9	FPDVI	I	Input of reference voltage for front moniter
AG10	FPDVO	—	Fixed at “L”
AG11	CREG	—	Fixed at “L”
AG12	CBCO	—	Fixed at “L”
AG13	WALPF	—	Fixed at “L”
AG14	CMIRR	—	Fixed at “L”
AG15	CBBD	—	Fixed at “L”
AG16	REFQOM	O	Output of differential RF signal (-) to AH16 pin
AG17	REFQOP	O	Output of differential RF signal (+) to AH17 pin
AG18	RFO	—	Fixed at “L”
AG19	CDEF	—	Fixed at “L”
AG20	FG	I	Input of FG signal
AG21	RFP1	O	Output of RF digital signal
AG22	RXD1B	I	Input of receive data [1]
AG23	TXD1B	O	Output of transfer data [1]
AG24	SP1DAT1	—	Fixed at GND
AH1	PKPULSE1M	O	Output of peak pulse (laser drive control signal for write)
AH2	PKPULSE1P	O	Output of peak pulse (laser drive control signal for write)
AH3	WRPULSEM	O	Output of write pulse (laser drive control signal for write)

Pin No.	Pin Name	I/O	Function
AH4	WRPULSEP	O	Output of write pulse (laser driver control signal for write)
AH5	HFONP	O	Output of laser driver high frequency superposition control signal
AH6	PA7	I	Input of RXDA2 signal
AH7	PA2	O	Output of RCDT signal
AH8	H1	I	Input of sub beam signal H1
AH9	G1/FOP	I	Input of sub beam signal G1
AH10	F1	I	Input of sub beam signal F1
AH11	E1	I	Input of sub beam signal E1
AH12	RFP	I	Input of RF differential signal (+)
AH13	ASY	—	Fixed at “L”
AH14	FCEFM2	—	Fixed at “L”
AH15	PCEFM2	—	Fixed at “L”
AH16	RFI_M	I	Input of differential RF signal (-) from AG16 pin
AH17	RFI_P	I	Input of differential RF signal (+) from AG17 pin
AH18	AGCIN	—	Fixed at “L”
AH19	CDEF2	—	Fixed at “L”
AH20	TDRV	O	Output of tracking drive signal (D/A converter)
AH21	FDRV	O	Output of Focuse drive signal (D/A converter)
AH22	RFP2	O	Output of RF digital signal
AH23	RXD2B	I	Input of receive data
AH24	SP1DAT0	—	Fixed at GND
AJ1	OFPULSE	—	Not used
AJ2	OFPULSE	O	Output of off pulse signal
AJ3	PKPULSE2	O	Output of peak pulse [-]
AJ4	PKPULSE2	O	Output of peak pulse [+]
AJ5	HFONM	O	Output of laser drive high frequency superposition control signal
AJ6	PA1	O	Fixed at “L”
AJ7	PA6	I	Input of RCDT signal
AJ8	D1	I	Input of main beam signal D1
AJ9	C1	I	Input of main beam signal C1
AJ10	B1	I	Input of main beam signal B1
AJ11	A1	I	Input of main beam signal A1
AJ12	RFN	I	Input of RF differential signal (-)
AJ13	EFM	—	Fixed at “L”
AJ14	FCEFM1	—	Read channel frequency comparator
AJ15	PCEFM1	—	Fixed at “L”
AJ16	EXTR	—	Fixed at “L”
AJ17	CEQ	—	Fixed at “L”
AJ18	REQ	—	Fixed at “L”
AJ19	DAOUT	O	Output of general-purpose D/A converter
AJ20	SDRV2	O	Output of sled motor drive signal (D/A converter)
AJ21	SDRV1	O	Output of sled motor drive signal (D/A converter)
AJ22	MDRV	O	Output of spindle motor drive signal (D/A converter)
AJ23	RFP3	I	Input of RF digital I/O port3 signal
AJ24	TXD2B	O	Output of transfer data
B1	DCLKB	O	Output of negative clock for DDRSDRAM
B2	DCASB	O	Output of CAS signal
B3	DBA0	O	Output of bank address [0]
B4	DADD00	O	Output of DDRSDRAM address [0]
B5	DADD03	O	Output of DDRSDRAM address [3]
B6	DQ12	I/O	Input/output of DDRSDRAM data [12]
B7	DQ15	I/O	Input/output of DDRSDRAM data [15]
B8	DQ09	I/O	Input/output of DDRSDRAM data [9]

Pin No.	Pin Name	I/O	Function
B9	DDQM3	O	Output of data mask [3]
B10	Not open to public	I	Input of monitor sense
B11	Not open to public	O	Output of data [11]
B12	Not open to public	O	Output of data [8]
B13	Not open to public	O	Output of data [5]
B14	Not open to public	O	Output of data [2]
B15	Not open to public	O	Output of data enable
B16	Not open to public	O	Output of CTL signal [3]
B17	Not open to public	I/O	Input/output of DDC clock
B18	SS0CKIN	I	Input of serial clock signal
B19	DA2_VDD3	—	Power supply input (3.0V for DAC)
B20	COMP1	—	Fixed at “L”
B21	VAC	O	Output of DA converter for video signal chrominance
B22	VREF	I	Input of reference voltage
B23	VAG	O	Output of DA converter for analog video signal green/Y
B24	COMP0	—	Fixed at “L”
C1	DCLK	O	Output of positive clock for DDRSDRAM
C2	DWEB	O	Output of command write enable
C3	DCS0B	O	Output of DDRSDRAM chip select [0]
C4	DADD10	O	Output of DDRSDRAM address [10]
C5	DADD02	O	Output of DDRSDRAM address [2]
C6	DDQS1	I/O	Input/output of data strobe [1]
C7	DQ14	I/O	Input/output of DDRSDRAM data [14]
C8	DQ10	I/O	Input/output of DDRSDRAM data [10]
C9	DDQS3	I/O	Input/output of data strobe [3]
C10	DILM	—	Fixed at “H”
C11	Not open to public	O	Output of CTL signal [2]
C12	Not open to public	O	Output of data [9]
C13	Not open to public	O	Output of data [6]
C14	Not open to public	O	Output of data [4]
C15	Not open to public	O	Output of data [1]
C16	Not open to public	O	Output of horizontal synchronization
C17	Not open to public	I	Input of hot plug detect
C18	SDA1	I/O	Input/output of serial data [1]
C19	AOBCK	O	Output of audio data clock
C20	AIOMCK0	I/O	Input/output of audio master clock [0]
C21	DA1_VDD3	—	Power supply input (3.0V for DAC)
C22	DA1_GND	—	GND (for DAC)
C23	VCOMB	—	Fixed at “L”
C24	VRTB	—	Fixed at “L”
D1	DADD06	O	Output of DDRSDRAM address [6]
D2	DADD07	O	Output of DDRSDRAM address [7]
D3	DADD08	O	Output of DDRSDRAM address [8]
D4	DADD11	O	Output of DDRSDRAM address [11]
D5	DCKE	O	Output of clock enable
D6	DQ30	I/O	Input/output of DDRSDRAM data [30]
D7	DQ28	I/O	Input/output of DDRSDRAM data [28]
D8	DQ26	I/O	Input/output of DDRSDRAM data [26]
D9	DQ24	I/O	Input/output of DDRSDRAM data [24]
D10	PHY_D7	I/O	Input/output of PHY-link data [7] for PHY
D11	PHY_D5	I/O	Input/output of PHY-link data [5] for PHY
D12	PHY_D3	I/O	Input/output of PHY-link data [3] for PHY
D13	PHY_D1	I/O	Input/output of PHY-link data [1] for PHY

Pin No.	Pin Name	I/O	Function
D14	CTL1	I/O	Input/output of PHY/link control [1] for PHY
D15	SCLK	I	Input of link control clock for PHY
D16	LPS	O	Output of link power status
D17	SCL1	I/O	Input/output of serial clock [1]
D18	DCD0B	I	Input of data carrier detect from AG2 pin
D19	ATX	O	Output of digital audio
D20	AOLRCK	O	Output of audio L/R clock
D21	VCOMY	—	Fixed at “L”
D22	VRTY	—	Fixed at “L”
D23	ABI	I	Input of AD converter for analog video signal green
D24	VRBB	—	Fixed at “L”
E1	DADD04	O	Output of DDRSDRAM address [4]
E2	DADD05	O	Output of DDRSDRAM address [5]
E3	DCS1B	—	Not connected
E4	DADD09	O	Output of DDRSDRAM address [9]
E5	DADD12	O	Output of DDRSDRAM address [12]
E6	DQ31	I/O	Input/output of DDRSDRAM data [31]
E7	DQ29	I/O	Input/output of DDRSDRAM data [29]
E8	DQ27	I/O	Input/output of DDRSDRAM data [27]
E9	DQ25	I/O	Input/output of DDRSDRAM data [25]
E10	PHY_D6	I/O	Input/output of PHY-link data [6] for PHY
E11	PHY_D4	I/O	Input/output of PHY-link data [4] for PHY
E12	PHY_D2	I/O	Input/output of PHY-link data [2] for PHY
E13	PHY_D0	I/O	Input/output of PHY-link data [0] for PHY
E14	CTL0	I/O	Input/output of PHY/link control [0] for PHY
E15	LREQ	O	Output of link request for PHY
E16	LINKON	I	Input of link on for PHY
E17	SS0DIN	I	Input of serial data
E18	AOD0	O	Output of audio bitstream data L/R
E19	AIBCK0	I	Input of audio data clock [0]
E20	AIBD0	I	Input of audio bitstream data [0]
E21	AIOMCK1	I/O	Input/output of audio master clock [1]
E22	VRBY	—	Fixed at “L”
E23	VCLY	—	Fixed at “L”
E24	AYI	I	Input of AD converter for analog video signal Y
F1	DQ19	I/O	Input/output of DDRSDRAM data [19]
F2	DDQS0	I/O	Input/output of data strobe [0]
F3	DDQM0	O	Output of data mask [0]
F4	DQ01	I/O	Input/output of DDRSDRAM data [1]
F5	DQ00	I/O	Input/output of DDRSDRAM data [0]
F6	DVREF	—	Input of reference voltage from DDRSDRAM
F7	DVDD25(2.5V)	—	Power supply input
F8	DVDD25(2.5V)	—	Power supply input
F9	DVDD25(2.5V)	—	Power supply input
F10	DVDD25(2.5V)	—	Power supply input
F11	DVDD25(2.5V)	—	Power supply input
F12	DGND	—	Digital GND
F13	DGND	—	Digital GND
F14	DGND	—	Digital GND
F15	DGND	—	Digital GND
F16	DGND	—	Digital GND
F17	GPIO54	O	Output of audio mute
F18	IR_OUT	O	Output of IR transmitter

Pin No.	Pin Name	I/O	Function
F19	AILRCK0	I	Input of audio L/R clock [0]
F20	IR_IN	I	Input of IR receiver
F21	JTDI	I	Input of EJTAG data
F22	VRTR	—	Fixed at “L”
F23	ARI	I	Input of AD converter for analog video signal blue
F24	VRBR	—	Fixed at “L”
G1	DQ16	I/O	Input/output of DDRSDRAM data [16]
G2	DQ17	I/O	Input/output of DDRSDRAM data [17]
G3	DQ18	I/O	Input/output of DDRSDRAM data [18]
G4	DQ03	I/O	Input/output of DDRSDRAM data [3]
G5	DQ02	I/O	Input/output of DDRSDRAM data [2]
G6	DVDD25(2.5V)	—	Power supply input
G7	DVDD25(2.5V)	—	Power supply input
G19	JTDO	O	Output of EJTAG data
G20	JTMS	I	Input of EJTAG mode set
G21	VCOMR	—	Fixed at “L”
G22	VRTC	—	Fixed at “L”
G23	VRBC	—	Fixed at “L”
G24	ACI	I	Input of AD converter for video signal chrominance or red
H1	DQ22	I/O	Input/output of DDRSDRAM data [22]
H2	DQ21	I/O	Input/output of DDRSDRAM data [21]
H3	DQ20	I/O	Input/output of DDRSDRAM data [20]
H4	DQ06	I/O	Input/output of DDRSDRAM data [6]
H5	DQ07	I/O	Input/output of DDRSDRAM data [7]
H6	DVDD25(2.5V)	—	Power supply input
H19	EDINT	I	Input of EJTAG DINT
H20	JTRST	I	Input of EJTAG reset
H21	HLCI	I	Input of H lock clock for video decoder
H22	VCOMC	—	Fixed at “L”
H23	AD2_VDD3	—	Power supply input (3.0V for ADC)
H24	AD2_GND	—	GND (for ADC)
J1	DDQM2	O	Output of data mask [2]
J2	DDQS2	I/O	Input/output of data strobe [2]
J3	DQ23	I/O	Input/output of DDRSDRAM data [23]
J4	DQ04	I/O	Input/output of DDRSDRAM data [4]
J5	DQ05	I/O	Input/output of DDRSDRAM data [5]
J6	DVDD25(2.5V)	—	Power supply input
J19	JTCL	I	Input of EJTAG clock
J20	PH_VDD1	—	Power supply input (1.0V for V DEC)
J21	HCBP	—	Fixed at “L”
J22	FCBP	—	Fixed at “L”
J23	PF_GND	—	GND (for V DEC)
J24	FSCI	I	Input of FSC for video decoder
K1	PLL_VDD	—	Power supply input (1.0V for PLL)
K2	CLK27AOUT	O	Output of 27MHz clock A
K3	CLKPWM0	O	Output of PWM for 27MHz VCXO [0]
K4	CLKPWM1	O	Output of PWM for 27MHz VCXO [1]
K5	SMCKOUT	O	Output of serial clock
K6	DVDD25(2.5V)	—	Power supply input
K10	DGND	—	Digital GND
K11	DGND	—	Digital GND
K12	DVDD33(3.3V)	—	Power supply input
K13	DVDD33(3.3V)	—	Power supply input

Pin No.	Pin Name	I/O	Function
K14	DVDD33(3.3V)	—	Power supply input
K15	DVDD33(3.3V)	—	Power supply input
K19	DGNDR	—	GND (for RF)
K20	HLCO	O	Output of H lock clock for video decoder
K21	HC_VDD3	—	Power supply input (3.0V for V DEC)
K22	FC_VDD3	—	Power supply input (3.0V for V DEC)
K23	FSCO	O	Output of FSC for video decoder
K24	PF_VDD1	—	Power supply input (1.0V for V DEC)
L1	CLK27AIN	I	Input of 27MHz clock A
L2	PLL_GND	—	GND (for PLL)
L3	CLK27BIN	I	Input of 27MHz clock B
L4	SMDOUT	O	Output of serial data
L5	SMDIN	I	Input of serial data
L6	DLL_VDD	—	Power supply input (1.0V for DLL)
L10	DGND	—	Digital GND
L11	DVDD33(3.3V)	—	Power supply input
L12	DVDD33(3.3V)	—	Power supply input
L13	DVDD33(3.3V)	—	Power supply input
L14	DVDD33(3.3V)	—	Power supply input
L15	DVDD33(3.3V)	—	Power supply input
L19	SDA0	I/O	Input/output of serial data [0]
L20	NMI	—	Fixed at “H”
L21	RSTSWB	I	Input of system reset
L22	PH_GND	—	GND (for V DEC)
L23	AD1_VDD3	—	Power supply input (3.0V for ADC)
L24	CLK24OUT	O	Output of 24MHz clock
M1	USB_DN0	I/O	Input/output of USB D-
M2	USB_DP0	I/O	Input/output of USB D+
M3	USB_H_OCI0	I	Input of USB over-current status
M4	AT1D00	I/O	Input/output of IDE I/F data [0]
M5	AT1INTRQ	I	Input of IRQ signal
M6	DLL_GND	—	GND (for DLL)
M10	TEST_MODE	—	Fixed at GND
M11	FPIND	—	Fixed at GND
M12	LVSPOWD	—	Fixed at “H”
M13	DVDD33(3.3V)	—	Power supply input
M14	DVDD33(3.3V)	—	Power supply input
M15	DVDD33(3.3V)	—	Power supply input
M19	SCL0	I	Input of serial clock [0]
M20	RADD23	—	Fixed at “L”
M21	RADD17	O	Output of ROM/GIO address [17]
M22	RDATA09	I/O	Input/output of ROM/GIO data [9]
M23	AD1_GND	—	GND (for ADC)
M24	CLK24IN	I	Input of 24MHz clock
N1	USB_CLKI	I	Input of USB clock
N2	USB_H_PPON0	O	Output of USB power control
N3	USB_D_VBUS	I	Input of USB VBUS
N4	AT1D13	I/O	Input/output of IDE I/F data [13]
N5	AT1D04	I/O	Input/output of IDE I/F data [4]
N6	DGND	—	Digital GND
N10	DVDD10(1.0V)	—	Power supply input
N11	DVDD10(1.0V)	—	Power supply input
N12	DVDD10(1.0V)	—	Power supply input

Pin No.	Pin Name	I/O	Function
N13	DVDD10(1.0V)	—	Power supply input
N14	DVDD33(3.3V)	—	Power supply input
N15	AVDD33R	—	Power supply input (3.0V for RF)
N19	RADD24	I	Input of ROM/GIO address [24]
N20	RDATA14	I/O	Input/output of ROM/GIO data [14]
N21	RADD18	O	Output of ROM/GIO address [18]
N22	RDATA13	I/O	Input/output of ROM/GIO data [13]
N23	RDATA07	I/O	Input/output of ROM/GIO data [7]
N24	DGND	—	Digital GND
P1	USB_D_DN0	I/O	Input/output of USB D-
P2	USB_D_DP0	I/O	Input/output of USB D+
P3	USB_D_CONNECT	O	Connection control of the pull-up resistance of D+
P4	AT1D06	I/O	Input/output of IDE I/F data [6]
P5	AT1D09	I/O	Input/output of IDE I/F data [9]
P6	DGND	—	Digital GND
P10	DVDD10(1.0V)	—	Power supply input
P11	DVDD10(1.0V)	—	Power supply input
P12	DVDD10(1.0V)	—	Power supply input
P13	AT0D06	O	Output of data [06] for IDE I/F
P14	AT0DIOWB	O	Output of DIOW signal for IDE I/F
P15	AT0D10	O	Output of data [10] for IDE I/F
P19	RADD25	O	Output of ROM/GIO address [25]
P20	RADD00	—	Fixed at “L”
P21	RDATA12	I/O	Input/output of ROM/GIO data [12]
P22	RADD10	O	Output of ROM/GIO address [10]
P23	RADD12	O	Output of ROM/GIO address [12]
P24	RADD22	O	Output of ROM/GIO address [22]
R1	AT1D01	I/O	Input/output of IDE I/F data [1]
R2	AT1D03	I/O	Input/output of IDE I/F data [3]
R3	AT1D05	I/O	Input/output of IDE I/F data [5]
R4	AT1D02	I/O	Input/output of IDE I/F data [2]
R5	AT1D11	I/O	Input/output of IDE I/F data [11]
R6	DGND	—	Digital GND
R10	DVDD10(1.0V)	—	Power supply input
R11	DVDD10(1.0V)	—	Power supply input
R12	AT0DIORB	O	Output of DIOR signal for IDE I/F
R13	AT0D08	O	Output of data [08] for IDE I/F
R14	AT0D12	O	Output of data [12] for IDE I/F
R15	AT0D07	O	Output of data [07] for IDE I/F
R19	GCSB2	O	Output of GIO chip select [2]
R20	GRDYB	I	Input of GIO READY
R21	RDATA15	I/O	Input/output of ROM/GIO data [15]
R22	RADD20	O	Output of ROM/GIO address [20]
R23	RDATA08	I/O	Input/output of ROM/GIO data [8]
R24	RADD16	O	Output of ROM/GIO address [16]
T1	AT1D07	I/O	Input/output of IDE I/F data [7]
T2	AT1D08	I/O	Input/output of IDE I/F data [8]
T3	AT1D10	I/O	Input/output of IDE I/F data [10]
T4	AT1CS0B	O	Output of chip select [0] for HDD
T5	AT1DA2	O	Output of IDE I/F address [2]
T6	DGND	—	Digital GND
T10	DVDD10(1.0V)	—	Power supply input
T11	DVDD10(1.0V)	—	Power supply input

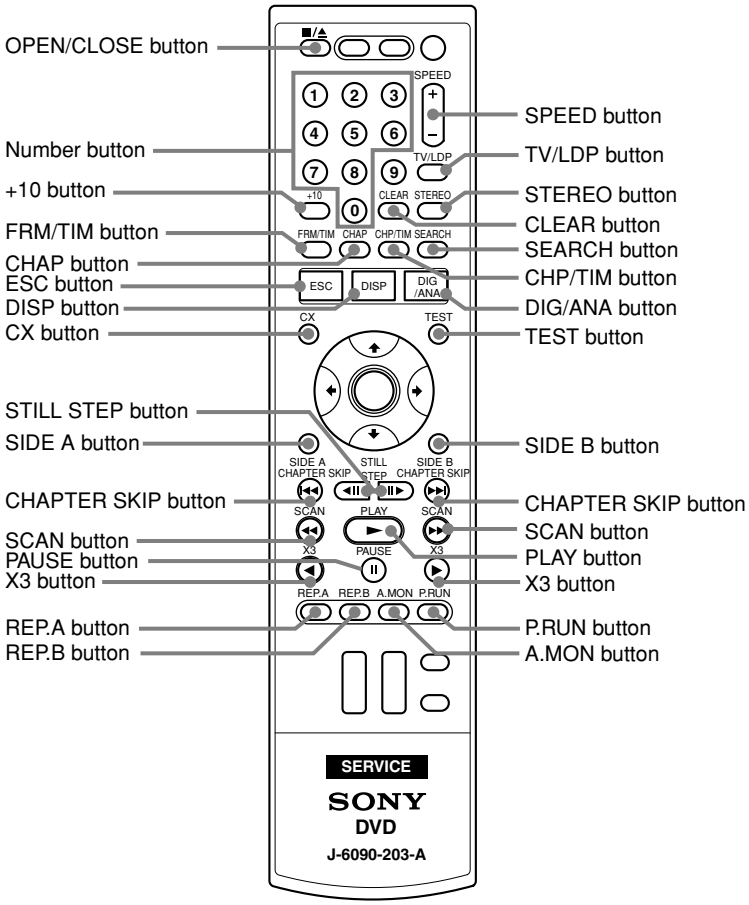
Pin No.	Pin Name	I/O	Function
T12	AT0D05	O	Output of data [05] for IDE I/F
T13	AT0IORDY	O	Output of IORDY signal for IDE I/F
T14	AT0D15	O	Output of data [15] for IDE I/F
T15	AT0DMARQ	O	Output of DMARQ signal for IDE I/F
T19	GCSB3	O	Output of GIO chip select [3]
T20	GCSB1	—	Not used
T21	RDATA11	I/O	Input/output of ROM/GIO data [11]
T22	RDATA10	I/O	Input/output of ROM/GIO data [10]
T23	RADD19	O	Output of ROM/GIO address [19]
T24	RDATA05	I/O	Input/output of ROM/GIO data [5]
U1	AT1D12	I/O	Input/output of IDE I/F data [12]
U2	AT1D14	I/O	Input/output of IDE I/F data [14]
U3	AT1DA0	O	Output of IDE I/F address [0]
U4	AT1IORDY	I	Input of I/O ready
U5	AT1DIOWB	O	Output of IDE I/F I/O write for HDD
U6	DGND	—	Digital GND
U10	AT0DA1	O	Output of address [1] for IDE I/F
U11	AT0D01	O	Output of data [01] for IDE I/F
U12	AT0D02	O	Output of data [02] for IDE I/F
U13	AT0D11	O	Output of data [11] for IDE I/F
U14	AT0DA2	O	Output of address [2] for IDE I/F
U15	AT0D13	O	Output of data [13] for IDE I/F
U19	VIHSB	I	Input of clear to send
U20	RADD14	O	Output of ROM/GIO address [14]
U21	RADD13	O	Output of ROM/GIO address [13]
U22	RADD11	O	Output of ROM/GIO address [11]
U23	RDATA03	I/O	Input/output of ROM/GIO data [3]
U24	RDATA06	I/O	Input/output of ROM/GIO data [6]
V1	AT1DIORB	O	Output of IDE I/F I/O read for HDD
V2	AT1DMACKB	O	Output of ACK signal
V3	AT1CS1B	O	Output of chip select [1] for HDD
V4	AT1RESETB	O	Output of HDD I/F reset
V5	AT1DMARQ	I	Input of IRQ signal
V6	DGND	—	Digital GND
V10	AT0D09	O	Output of data [09] for IDE I/F
V11	AT0D04	O	Output of data [04] for IDE I/F
V12	AT0INTRQ	O	Output of INTRQ signal for IDE I/F
V13	AT0RESETB	O	Output of reset signal for IDE I/F
V14	AT0D00	O	Output of data [00] for IDE I/F
V15	AT0DMACKB	O	Output of DMC ACK signal for IDE I/F
V19	VIVSB	O	Output of select signal for SPDIF
V20	GCSB0	—	Not used
V21	RADD07	O	Output of ROM/GIO address [7]
V22	RDATA04	I/O	Input/output of ROM/GIO data [4]
V23	RADD05	O	Output of ROM/GIO address [5]
V24	FCSB0	O	Output of ROM chip select
W1	AT1D15	I/O	Input/output of IDE I/F data [15]
W2	AT1DA1	O	Output of IDE I/F address [1]
W3	MD9	I/O	Input/output of buffer memory interface data bus [9]
W4	MD6	I/O	Input/output of buffer memory interface data bus [6]
W5	MD8	I/O	Input/output of buffer memory interface data bus [8]
W6	DVDD15(1.5V)	—	Power supply input
W10	DGND	—	Digital GND

Pin No.	Pin Name	I/O	Function
W11	AT0CS1B	O	Output of chip select signal [1] for IDE I/F
W12	AT0CS0B	O	Output of chip select signal [0] for IDE I/F
W13	AT0D14	O	Output of data [14] for IDE I/F
W14	AT0DA0	O	Output of address [0] for IDE I/F
W15	AT0D03	O	Output of data [03] for IDE I/F
W19	SP1REQB	—	Fixed at GND
W20	RADD21	O	Output of ROM/GIO address [21]
W21	RDATA00	I/O	Input/output of ROM/GIO data [0]
W22	FOEB/GOEB	O	Output of ROM/GIO enable
W23	RADD04	O	Output of ROM/GIO address [4]
W24	FCSB1	—	Not used
Y1	MD15	I/O	Input/output of buffer memory interface data bus [15]
Y2	MD11	I/O	Input/output of buffer memory interface data bus [11]
Y3	MD0	I/O	Input/output of buffer memory interface data bus [0]
Y4	MD7	I/O	Input/output of buffer memory interface data bus [7]
Y5	MD10	I/O	Input/output of buffer memory interface data bus [10]
Y6	DVDD15(1.5V)	—	Power supply input
Y10	DGND	—	Digital GND
Y11	DGND	—	Digital GND
Y12	AGND	—	GND (Analog)
Y13	AGND	—	GND (Analog)
Y14	AGND	—	GND (Analog)
Y15	AGND	—	GND (Analog)
Y19	SP0REQB	—	Fixed at “L”
Y20	RADD01	O	Output of ROM/GIO address [1]
Y21	RDATA01	I/O	Input/output of ROM/GIO data [1]
Y22	RADD09	O	Output of ROM/GIO address [9]
Y23	RADD06	O	Output of ROM/GIO address [6]
Y24	RADD02	O	Output of ROM/GIO address [2]

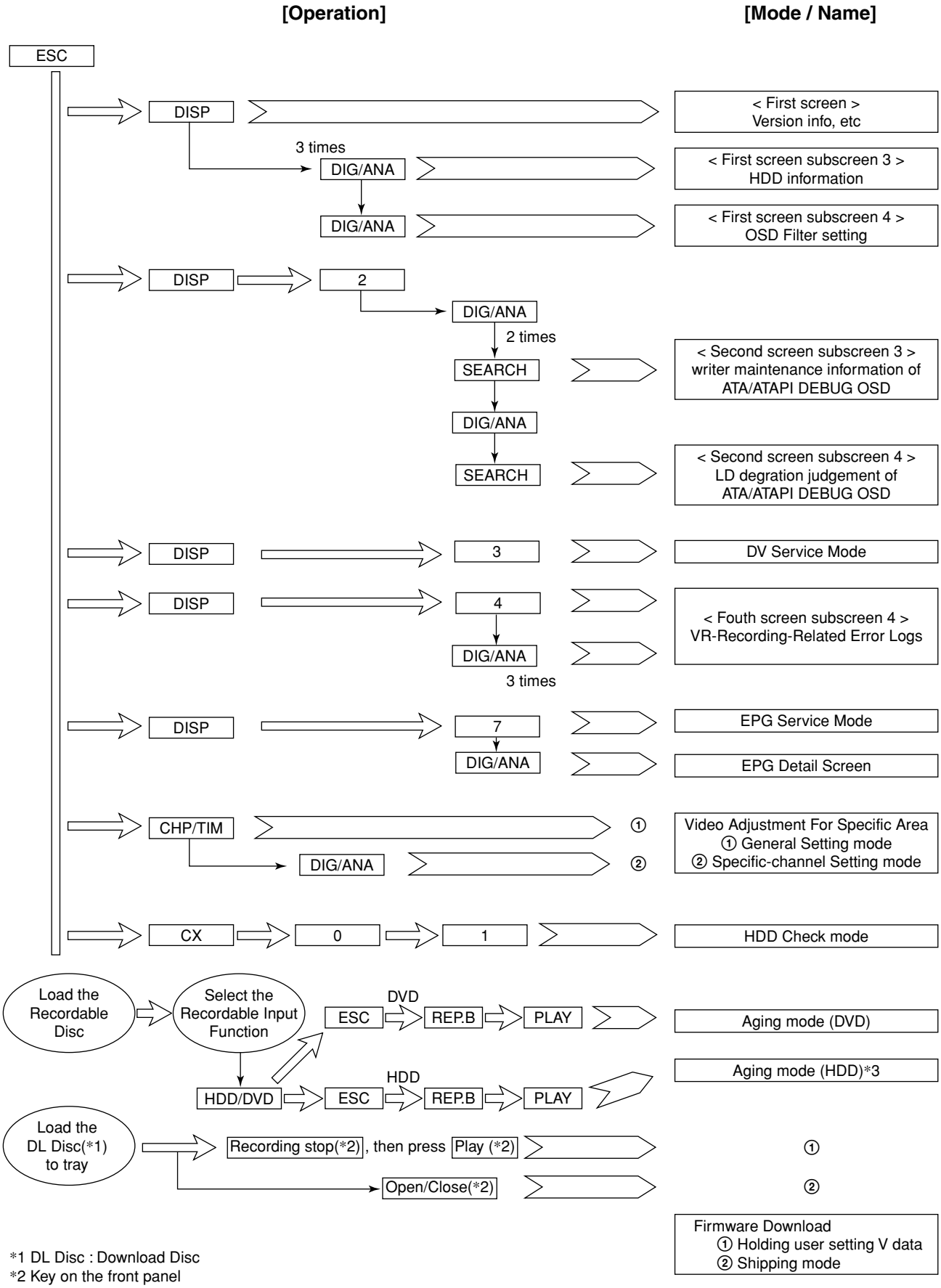
SECTION 6
SERVICE MODE

Prepairing for Service tool

- Color monitor
- Service remote controller
  (Part code: J-6090-203-A)



6-1. SERVICE MODE MAP

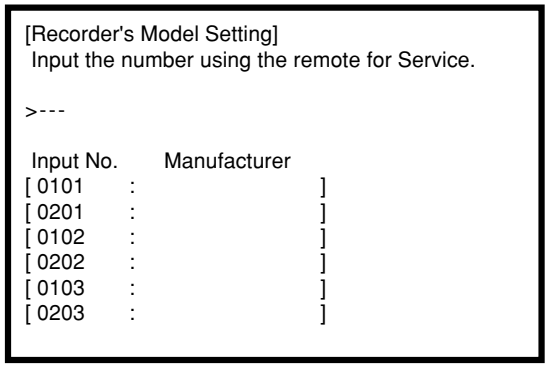


*1 DL Disc : Download Disc
*2 Key on the front panel

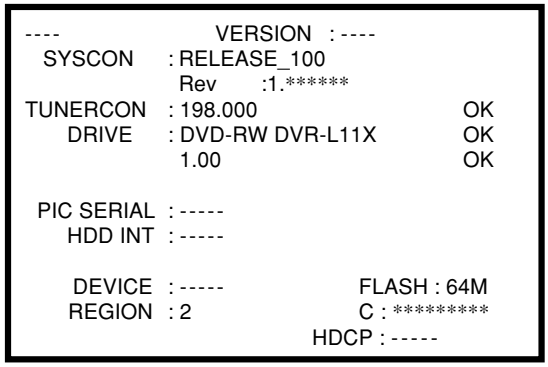
6-2. Diagnostic Mode

6-2-1. Model Setting

1) Turn of the main power ON.
2) On the screen after exiting all menu screen's, press the following buttons "ESC" ⇨ "CHAP" ⇨ "1" on the service remote controller.
3) Turn of the main power OFF.
4) Turn of the main power ON.
5) Press four digits properly (Refer to page 5 service remote controller.) by using the according to the screen information.
6) Press the following buttons "ESC" ⇨ "CHAP" ⇨ "1" on the service remote controller.



7) Disconnect then reconnect the AC power cord of the unit. Be careful not to impart vibration to the unit immediately after the AC power cord is disconnected.
8) Reset the recorder to all its factory settings.
(Make sure that the recorder is on. Press and hold "■" (STOP) key and press "⏻" (STANDBY/ON) key on the front panel.)
The recorder turns off with all settings reset.
9) Turn of the main power ON.
10) Press "ESC" then "DISP" keys by using the service remote controller and then confirm each Model Name.



11) Press "ESC". (Returns to the original screen)

6-2-2. Service Mode

1) Turn of the main power ON.
2) On the screen after exiting all menu screen's, press "ESC" on the service remote controller.
3) Press "DISP".
4) Press "DIG/ANA".

Overview and purposes

To be used to check the status of the product and to collect the information for failure diagnosis.
The following information to be used for servicing is displayed:
[1] First screen : Version, HDD information, etc.
[2] Second screen : ATA/ATAPI debug screen (Writer information)
[4] Fourth screen : VR-recording-related error logs

Each screen has sublevel screens.

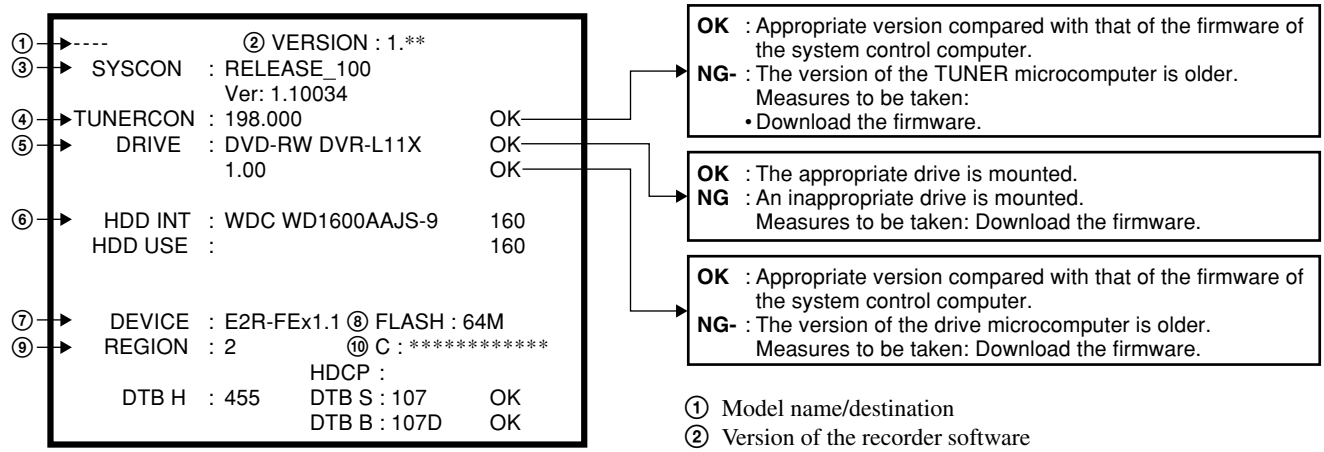
Note: After entering any Service mode screen, to shift to another Service mode screen, first quit that Service mode screen then enter another Service mode screen.

5) Press "ESC". (Returns to the original screen)

6-2-3. Version Information and Other Information (First screen)

1) Turn of the main power ON.
2) On the screen after exiting all menu screens, press "ESC" on the service remote controller.
3) Press "DISP".

* Checking the respective software version numbers and other HDD information.

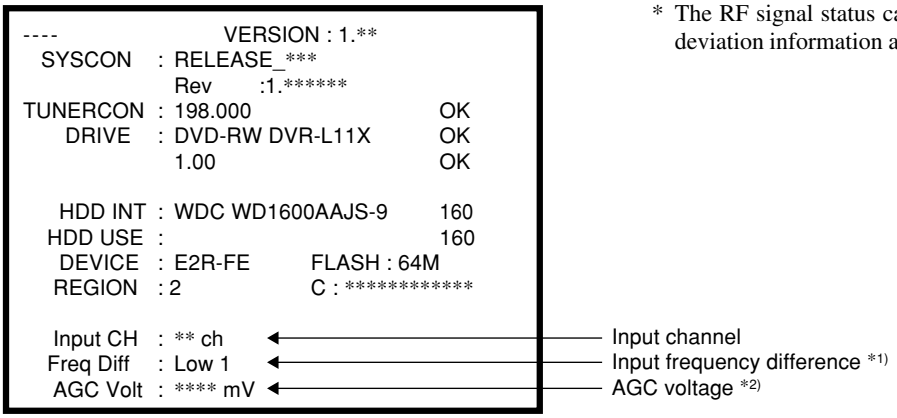


① Model name/destination
② Version of the recorder software
③ Revision No. of the system-control computer software
④ Version No. of the tuner microcomputer
Result of the combination check with system microcomputer
⑤ Information on the built-in drive
(Model name, version No., model type)
⑥ Data of the built-in HDD, capacity of the HDD
⑦ DEVICE information (EMMA type, ES No.)
⑧ FLASH ROM information
⑨ Region No.
⑩ CPRM information (CPRM key No.)

4) Press "ESC". (Returns to the original screen)

6-2-4. RF Level Simplified Diagnosis (Subscreen1)

1) Turn of the main power ON.
2) On the screen after exiting all menu screens, press “ESC” on the service remote controller.
3) Press “DISP”.
4) Press “DIG/ANA”.



* The RF signal status can be obtained from the input frequency deviation information and the AGC voltage.

***1) Frequency Difference (Freg Diff)**

How much tuning is off is monitored, as shown below:

Input Frequency	Display
Faraway	High 7
High (within 200kHz)	High 1-5
Just Tune	Center
Low (within 200kHz)	Low 1-5
Low (over 200kHz)	Low 7

***2) AGC voltage (AGC Volt)**

The gain controlled by the tuner is monitored to infer the input electric field intensity.
(The accuracy of inference differs depending on the product.)

	Field Intensity	AGC Volt
Intense field area (Clear image)	70 dBμ or more	3100 mV or less
Less intense field area (Noise may be generated.)	50 dBμ or more 70 dBμ or less	3100 – 4400mV
Weak field area (Much noise. EPG/VPS/PDC sometimes cannot be obtained.)	30 dBμ or more 50 dBμ of less	4400 mV or more (It is unable to discriminate under the weak field area.)
Very weak field area (Image damaged. EPG/VPS/PDC cannot be obtained.)	30 dBμ or less	4400 mV or more (It is unable to discriminate.)

[Tips]

For good reception, the field intensity must be 50 dBμ or more (AGC Volt 4400 mV or less).
For accurate measurement, use a field intensity meter.

5) Press “ESC”. (Returns to the original screen)

6-2-5. HDD Information for the HDD return sheet (Simplified measurement mode)

HDD Information

• How to start/terminate the diagnostic program

Use the remote control unit for servicing.
How to start: Press the following keys in this order; “ESC”, “CX”, “0”, and “1” keys: (refer to 6-2-15).
How to terminate: Press “ESC” key.
Do not perform other operations on the unit while HDD diagnosis is in progress.
Although the diagnostic program is designed to function independently from the unit’s functions, operations on the unit during a diagnosis may cause a malfunction.
The following status is recommended during diagnosis: All stop, no timer recording (including auto-recording)

A) Display the menu on the screen.

The menu shown below is displayed when the diagnostic program is started.
To enter each mode, press the corresponding key “1” – “4” on the remote control unit for servicing.

```
HDD CHECK MODE      [1-4]

1  HDD Information
2  S.M.A.R.T Attribute Information
3  S.M.A.R.T DST
4  HDD R/W Check
```

Tests to be executed

① **HDD Information:**
Checks the HDD information.
② **S.M.A.R.T. DST:**
Executes a simplified test or a reading test for all data.
③ **HDD R/W Check:**
Executes a writing/reading test for all data.
All data on the HDD will be erased if this test is executed.

Note: “2. S.M.A.R.T. Attribute....” is not used.

B) Check the HDD information.

Press “1” key on the remote control unit for servicing.
Check the following data:
Model: Is the correct model name of the HDD displayed ?
Recog. No: Is a positive value displayed ?
SMART threshold: Is “not exceeded” displayed ?

```
   HDD Information<SND_MS>[clear]
   Cylinders   : 0x3FFF   Heads: 0x0010
   Sec/Track   : 0x003F
A → Model      : Maxtor 4R080L0
   Firmware    : RAMC1TU0
D → SN         : R22RRL2SE
   Major No    : ATA/ATAPI-7
E → Life Time  : 7h 18m 45s
B → Recog. No  : 1
C → SMART threshold : not exceeded
```

Detailed description

① **Model:**
For the correct model name, refer to the display of the unit.
② **Recog No:**
Positive value : The HDD has been recognized.
Negative value : The HDD has not been recognized.
③ **SMART threshold:**
exceeded : The has come near the end of its service life.
not exceeded : The HDD has not reached the end of its service life.
④ Check HDD SN.

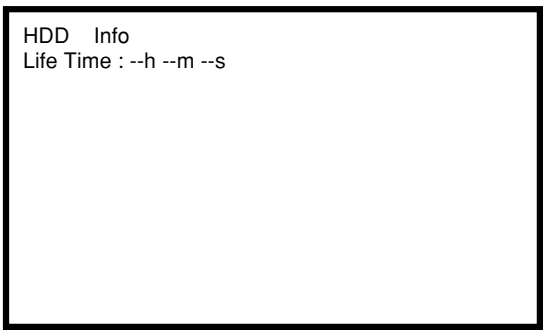
To return to the menu screen, press “Clear” key.

C) How to check the HDD return sheet.

	Symptom ************************************	⇨ **Enter a symptom.**
①	MODEL :***************** not recognize or recognize	⇨ Enter a model name. Refer to “**A**” of the above screen. When the model name is recognized, circle “recognize”.
②	RECOG NO:Positive or Negative	⇨ Check whether “Recog No” is positive or negative. Refer to “**B**” of the above screen.
③	SMART threshold: exceeded or not exceeded	⇨ Check whether “SMART threshold” is “exceeded” or “not exceeded”. Refer to “**C**” of the above screen. **Note:** If the HDD model name and serial number cannot be read, check the HDD label.
④	Check HDD SN:************ not recognize or recognize	⇨ Enter the HDD SN. Refer to “**D**” of the above screen. Check whether the HDD SN is recognized.
⑤	HDD Life Time: ****h** m ** s	⇨ Enter the Life Time. Refer to “**E**” of the above screen. **Note:** If the HDD life time is not found, check it on page 6-7 of Chapter 6, “SERVICE MODE”.
⑥	HDD Status: # / ! / Blank / No Model Name	⇨ Check “HDD Status”. Refer to “SERVICE NOTE”, page 7.
⑦	FL Display E01 / E02 / No Problem	⇨ Check “FL Display”.
⑧	Recording Error history :*************************	⇨ Refer to “SERVICE MODE”, page 6-9.
⑨	ATA/ATAPI History ERR :*********************	⇨ Refer to “SERVICE MODE”, page 6-10.

HDD Information (Simplified measurement mode)

1) Turn on the main power.
2) Press “ESC”.
3) Press “DISP”.
4) Press “DIG/ANA” three times.



* Checks the HDD power-on time.

[Tips]

• How the cumulative HDD-on time data is processed in memory

Storage place:
FLASH ROM

Timing for referring to the cumulative HDD-on time data:
If the power attempts to turn on but fails, the unit refers to the FLASH ROM.

Timing for updating the cumulative HDD-on time data:
While the HDD is on, the cumulative HDD-on time data in the RAM is updated every 3 seconds, and the data is stored in the Backup SRAM every update. When the power is turned off, the data is stored in the FLASH ROM.

• How to clear the cumulative HDD-on time data

FLASH ROM:
When the HDD Identification Setting is configured, the cumulative HDD-on time data is automatically cleared.
The HDD Identification Setting is automatically configured when the CPRM setting is configured on the CPRM setting screen.
(To display the CPRM setting screen, press the “ESC” key, then the “STEREO” key.)

Note: The cumulative HDD-on time data is not cleared when resetting to default values.
The cumulative HDD-on time data is not cleared when the system-control computer software is downloaded.

5) Press “ESC”. (Returns to the original screen)

6-2-6. Cautions for handling the HDD

(1) Cautions for handling the HDD

- The HDD is very sensitive to shocks and vibrations. Care must be taken especially during operation (when the power is on).
- The HDD is very sensitive to electrostatic charges.
- Rapid change in temperature or humidity may cause deterioration of the HDD.

Note: After receiving damage caused by any above-mentioned factors, the HDD may operate normally for dozens or hundreds of hours, but then suddenly crash. If you are certain you have damaged a new repair part (HDD) while making repairs, do not use the part.

Reference: Main specifications for damage to the HDD

	During operation	During nonoperation
Shock G (acceleration)	Approx. 20 G or more	Approx. 200 G or more
Temperature change	15 °C/hour or more	
Moisture change	20%/hour or more	

← The HDD is about 10 times as sensitive to shock during operation compared to nonoperation.

Reference: Estimated value of falling distance vs. shock (G) when the HDD is dropped without protection

Falling distance \ Landing surface	Granite surface	Concrete floor	Synthetic-resin-coated table	Antistatic sponge
0.5 inch / 12.7 mm	387	217	200	26
1.0 inch / 25.4 mm	595	457	310	37
2.0 inch / 50.8 mm	1133	600	680	70
4.0 inch / 101.6 mm	1795	1040	1050	267

(2) Cautions for handling and examples of dangerous handling for the product that the HDD is mounted on or the HDD repair part

[Cautions for handling the product that the HDD is mounted on]

- The HDD is always in operation while the unit is turned on. Do NOT to apply shock to the unit.

Examples of dangerous handling: while the power is on

- Bumping the case
- Dropping an object, such as a small screwdriver or remote control unit, onto the case or bumping an object against the cabinet
- Physically dragging the unit
- Stacking another product on the unit

  Note: Do NOT to apply shock, such as bumping or hitting a screwdriver against the HDD, during diagnosis with the case open.

Examples of dangerous handling: while the power is off

- Applying strong shock, although the HDD is more resistant to shock when the power is off
- Dropping the unit from a height of several centimeters, or lifting one side of the unit and letting it drop
- Do NOT move the unit immediately after the power is turned off. Wait at least 30 seconds after the indication on the FL display changes from POWER OFF to the clock indication before moving the unit.
  If the AC power cable is accidentally disconnected before turning the unit off, wait at least for one minute before moving the unit.
  In this case, damage to the HDD caused by sudden shutoff may be small because the emergency relief mechanism is activated.
  However, if sudden shutoff occurrs during recording or playback, recorded data may be damaged. Be sure to check the operations.

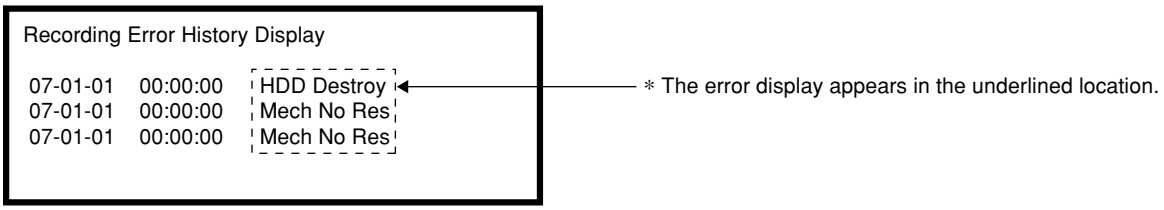
[Caution for handling the HDD repair part]

1. Handle the HDD in a safe environment:
   - Handle the HDD over an antistatic pad that can also absorb shock.
   - Wear wrist bands to prevent electrostatic charges generated in your body from affecting the HDD.

2. Observe the following rules when handling the HDD:
   - Handle one HDD at a time. Do NOT hold several HDDs at the same time.
   - Grip the HDD on both sides so that you do not touch its terminals or circuit boards.
   - Do NOT stack one HDD onto another HDD (even if the HDDs are protected by antistatic bags).
   - Do NOT bump the HDDs against one another.
   - Do NOT bump any tool, such as a screwdriver, or other hard object against the HDD.
   - When a repair part (HDD) is transported and there is a large temperature difference between the outside and inside temperature, leave the HDD in its package for about half a day after it is moved inside to gradually cool or warm it to room temperature before unpacking.

6-2-7. HDD Error Logging

Use the following operations to display “Recording Error History”.
Press “ESC”, “DSP”, and “4” keys, followed by “DIG/ANA” key three times.



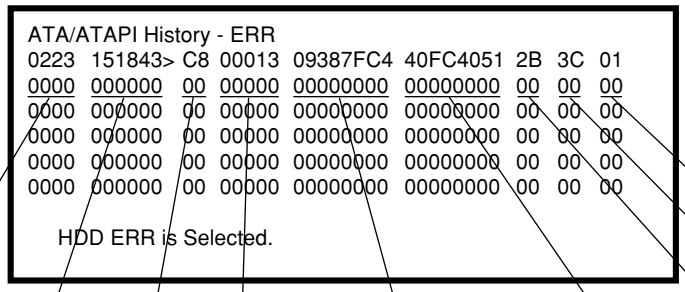
Recording Error History Display

Error related to HDD	
Error Message	**Description**
Buf over flow	Overflow of the Stream Buffer
ESFSYS CORUPT	easyfsys error
ESFSYS INIT	easyfsys initializing
HDD Aging NG	HDD Aging Command failed
HDD DEF DONE	HDD defrag finished
HDD DEF ERR	HDD defrag error
HDD DEL OC TT	Title imported to the HDD deleted
HDD DEL PL	Dubbing list deleted by HDD recovery
HDD DEL TT	Title deleted by HDD recovery
HDD Destroy	HDD is not recognized on the bus
HDD INFO BAD	Incorrect HDD Management Data
HDD Initialize	HDD initialized
HDD IRRG POFF	Abnormal power off
HDD MBR NG	Incorrect MBR data
HDD SIG NG	Incorrect HDD Management Data Magic
HDD SMART NG	Incorrect HDD SMART
HDD unauthor	Incorrect HDD serial No.
HDD Zero WR	Incorrect MBR data
HDD Reset Done	HDD Reset executed
irr astion	Incorrect action
Mech No Res	No response from the mechanical-control computer
STATUS NG	Abnormal status change
Task No Activ	Task has not been activated
TT Rec Over	Title recording time full

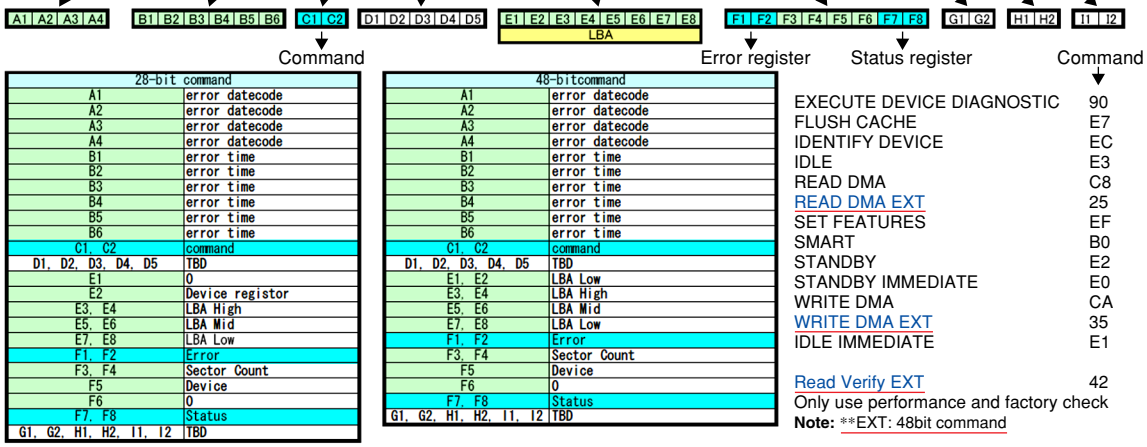
Note: Not only the HDD error history, but also the error recovery history are logged in “Recording Error History”.

6-2-8. ATA/ATAPI History - ERR

Use the following operations to display “ATA/ATAPI Error History”.
Press “ESC” key, followed by “DSP”, “2”, “DIG/ANA”, and “FRM/TIM” key.



■ ATA/ATAPI ERR History display specification



28-bit command	
A1	error datecode
A2	error datecode
A3	error datecode
A4	error datecode
B1	error time
B2	error time
B3	error time
B4	error time
B5	error time
B6	error time
C1, C2	command
D1, D2, D3, D4, D5	TBD
E1	0
E2	Device registor
E3, E4	LBA High
E5, E6	LBA Mid
E7, E8	LBA Low
F1, F2	Error
F3, F4	Sector Count
F5	Device
F6	0
F7, F8	Status
G1, G2, H1, H2, I1, I2	TBD

48-bitcommand	
A1	error datecode
A2	error datecode
A3	error datecode
A4	error datecode
B1	error time
B2	error time
B3	error time
B4	error time
B5	error time
B6	error time
C1, C2	command
D1, D2, D3, D4, D5	TBD
E1, E2	LBA Low
E3, E4	LBA High
E5, E6	LBA Mid
E7, E8	LBA Low
F1, F2	Error
F3, F4	Sector Count
F5	Device
F6	0
F7, F8	Status
G1, G2, H1, H2, I1, I2	TBD

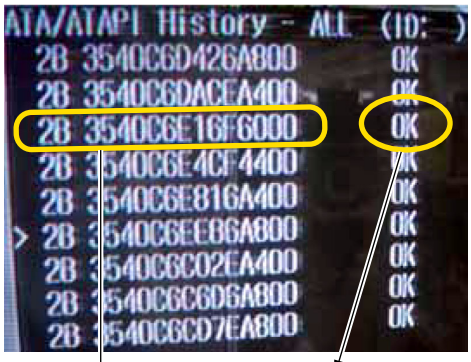
	Command
EXECUTE DEVICE DIAGNOSTIC	90
FLUSH CACHE	E7
IDENTIFY DEVICE	EC
IDLE	E3
READ DMA	C8
READ DMA EXT	25
SET FEATURES	EF
SMART	B0
STANDBY	E2
STANDBY IMMEDIATE	E0
WRITE DMA	CA
WRITE DMA EXT	35
IDLE IMMEDIATE	E1
Read Verify EXT	42

Only use performance and factory check
Note: **EXT: 48bit command

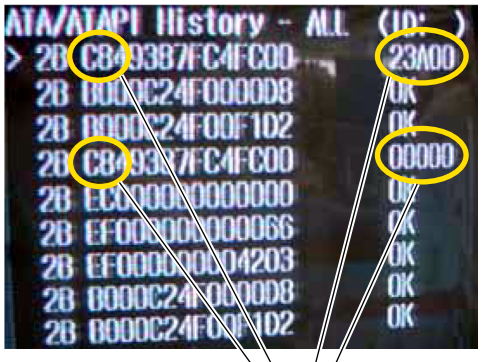
6-2-9. How to confirm HDD Access Flow

Use the following operations to display “ATA/ATAPI History - All”.
Press “ESC” key, followed by “DSP”, “2”, and “FRM/TIM” key.
Confirm whether the result is OK or NG in the screen below. If it is NG, check the error in the command table to the lower right.

OK



NG



No problem

READ DMA Error Occurred (NG)

2B 3540C6E16F6000

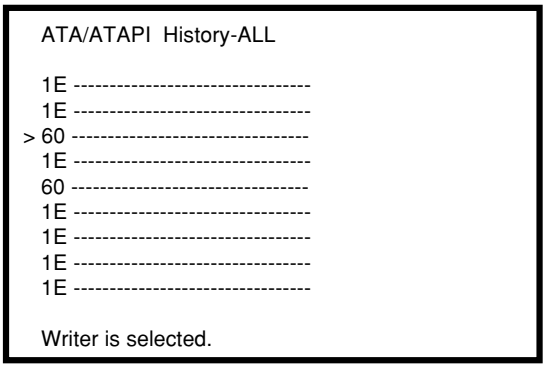
Command

	Command
EXECUTE DEVICE DIAGNOSTIC	90
FLUSH CACHE	E7
IDENTIFY DEVICE	EC
IDLE	E3
READ DMA	C8
READ DMA EXT	25
SET FEATURES	EF
SMART	B0
STANDBY	E2
STANDBY IMMEDIATE	E0
WRITE DMA	CA
WRITE DMA EXT	35
IDLE IMMEDIATE	E1

6-2-10. ATA/ATAPI Debugging Screen (Second Screen) and LD Deterioration Judgment (for writer)

1. Writer maintenance information of ATA/ATAPI DEBUG OSD (Subscreen3)

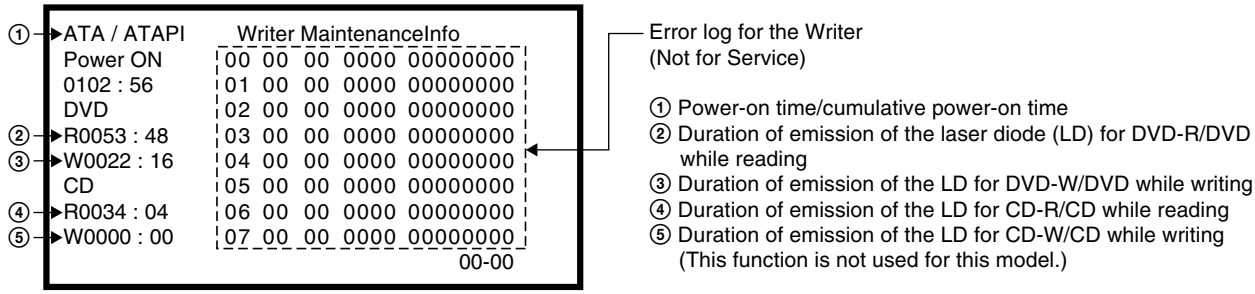
1) Turn of the main power ON.
2) On the screen after exiting all menu screens, press "ESC" on the service remote controller.
3) Press "DISP".
4) Press "2".



* Simplified judgment method of optical pickup quality
1. Stains on pickup lens
2. Deterioration of CD-R/DVD-RW laser diode

* Screens are switched when "DIG/ANA" is pressed two times or three times to select the desired menu. Press "SEARCH" to start measurement.

Update the display by pressing the "SEARCH" key while subscreen 3 is displayed.



② If the total hours of duration of emission of the laser diode (LD) for DVDs while reading ② and that of emission of the LD for DVDs while writing ③ exceed 4,700 hours, the LDs may be degraded.
Perform an LD degradation judgment, using subscreen 4.

[Tips]

MTTF hours for each LD
DVD : 4,700 hours
CD : 11,000 hours
The ATA/ATAPI Writer Maintenance Info is obtained each time the power is turned on. Thereafter, the data on the subscreen is updated each time the "SEARCH" key is pressed (the updating command is sent) while this subscreen is displayed. Care must be taken when updating this subscreen, because an undesired command is inserted if it is executed while recording, etc.

[Note on lighting time data for each LD]

Since data on lighting time of each laser diode (LD) are stored in the flash ROM on the MAIN Assy, after the MAIN Assy is replaced, the data will be cleared. However, after the LOADER Assy is replaced, data on lighting time of each LD will be retained in the MAIN Assy. Therefore, before either the MAIN Assy or LOADER Assy is to be replaced, it is recommended that you write down the lighting time data.

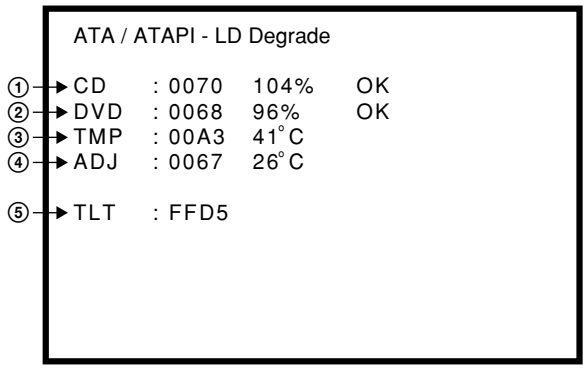
5) Press "ESC". (Returns to the original screen)

2. LD degration judgment of ATA/ATAPI DEBUG OSD (Subscreen 4)

1) While the User Operation screen is being displayed, press “ESC” on the service remote controller.
2) Press “DISP” on the service remote controller.
3) Press “2” on the service remote controller.
4) Press “DIG/ANA” three times.

Note: For correct measurement of items ① to ④ indicated in the display below, leave the unit at room temperature (25°C) for a while before turning it on, and do not load a disc.

To update the value for each item, press the “SEARCH” key while subscreen 4 is displayed.
For details on each item and the conditions of updating the values, see table below.



Description of each item and conditions for updating data

No.	Item	Description	Conditions for updating by pressing the SEARCH key
①	CD	Degradation judgment of LD for CD. Regarded as NG when the value is 120% or higher (same standard as for the PC drive)	No disc inserted in the disc tray
②	DVD	Degradation judgment of LD for DVD. Regarded as NG when the value is 120% or higher (same standard as for the PC drive)	No disc inserted in the disc tray
③	TMP	Current temperature inside the Writer	No disc inserted in the disc tray
④	ADJ	Temperature (approx. 25°C) inside the Writer during adjustment	No disc inserted in the disc tray
⑤	TLT	Writer adjustment data for straight (non-HDD) model (FFFF is diplayed when the writer is not adjusted.)	No condition

If the results of degradation of the LDs for CDs and DVDs are both NG, replace the drive.

5) Press “ESC”. (Returns to the original screen)

6-2-11. History of VR Recording-related Errors

1) Turn of the main power ON.
2) On the screen after exiting all menu screens, press “ESC” on the service remote controller.
3) Press “DISP”.
4) Press “4”.

```
RunFnc : ----  Ecl : STDBY  Rate : 21      VID : 1000
enVobu : -----      Rem Sec : -----    ChgAtr : -----
WorkSt : -----      EmgTyp : ------    ProtF : ------
Rec Err : -----         TrmStp : Normal
                        LastRecMsg : PARAMCHG

LyrOrem : ------       LyrBndLSN : SglLayer
Drv Err : -------    ErrAdr : ----   Pause : -----
DscSt1 : -------     DscSt2 : -------     DscSt3 : -------
LastLSN : ------     NWA : ---------     WrtSpd : -------
BrdNum : --- DV : --- RzNum : --- Format : --- tvSys : PAL
RemMemo : -----  RMDn : ------  LstErr : ------
```

* Used for broadly dividing the poorly-reproducible trouble phenomena.

* Press “DIG/ANA” three times to browse the error log.

5) Press “ESC”. (Returns to the original screen)

Error Message Check Method

1) Turn of the main power ON.
2) On the screen after exiting all menu screens, press “ESC” on the service remote controller.
3) Press “DISP”.
4) Press “4”.
5) Press “DIG/ANA” 12 times. (Select the desired screen.)

```
RunFnc : ---- Ecl : STDBY  Rate : 21      VID : 1000
                ---------------------------------
                ---------------------------------
                ---------------------------------
                ---------------------------------
                ---------------------------------
```

Recording-related errors are displayed.

* Used for localizing the cause of trouble to an approximate area from the error message information.

Press “DIG/ANA” three times on the above screen to select the desired screen.

```
① Recording Error History Display

01-06-01   20:05   30   No SysHdr IN
01-06-02   00:22   10   Write Error
```

Error message display screen

① There are two error-log screens, and up to 9 logs are displayed per screen.
(generation time [year-month-day, hour: minute: second], error data in simplified description.)

[Tips]

- The two error-log screens can be switched by pressing the “SPEED+” or “SPEED–” key.
- For details on error messages, see table “Description of VR-recording-related errors” (page 6-14 to 6-16).

6) Subscreen 5 to 11 (These subscreens are not for service use.)
7) Press “ESC”. (Returns to the original screen)

Description of VR-recording-related errors

Error Message Contents

Abbreviations
ECC : 4-byte Code for Error Correction
UDF : Universal Disc Format
PCA : Power Calibration Area
OPC : Optical Power Control
NWA : Next Writable Address
VMG : Video Manager
RMA : Recording Management Area
MKB : Media Key Block
TMP_VMGI : Temporary Video Manager Information
Border : from Lead-in to Lead-out

MPEG Encoder-Related Errors

ERROR MESSAGE	DESCRIPTION
AVEnc Hang	AVEncoder failed
IN Encode*	Changes cannot be made in process of encoding
No SysHdr IN	System packet is not input periodically
Stm Start NG	Failure to start encoding (reasons not clear)
Stream NG	Inappropriate input stream data
Strm Start NG	Timeout waiting for system packet input at the beginning

Note: Any error message with "*" is displayed "RecErr: – – – – – – – –" on the Subscreen1 of the forth screen.

Drive System-Related Errors

ERROR MESSAGE	DESCRIPTION
Bdr Cls NG	Close Border failed
Bdr Opn NG	Open Border failed
BUF Overflow	Overflow of the Stream Buffer
CLS Rzon Fail	Video mode Close Rzone failure
Drive Hang	The Drive is hang up
Drv Err	General error of the Drive
Drv Hard Err	Abnoemality in the drive hardware or filmware
Drv Timeout	Timeout waiting for drive operation
Fail Repair	Repair failed
Format NG	Format failed
Mey Be V mode	Although TMP_VMGI is not written, it may be Video mode disc
Mech No Res	No response from the mechanical-control computer
MKB invalid	Media Key Block reading error
NWA Exhaust	Next Writable Address surpassed and impossible to use
OPC NG	Optical Power Control failed
PCA Full	Power Calibration Area has been used up.
Read Err	Reading failed, ECC (4 byte Code for Error Correction) failed, etc
Read Only Disc*	Because some data are invalid , data cannot be written
RMA Full	Recording Management Area has been used up
Rzn Cls NG	Close Rzone failed
Rzn Rpr NG	Repair Rzone failed
Rzn Rsv NG	Reserve RZone failed
TMP-VMG WrErr	Video mode TMP VMGI Write Error
VTSI_B Wr Err	Video mode VTSI BUP Write Error
VTSI_B2 Wr Err	Video mode VTSI BUP Write Error (After Layer Change)
VTSI Wr Err	Video mod VTSI Write Error
VTSI2 Wr Err	Video mod VTSI Write Error (After Layer Change)
Write Err	The Drive failed to write and could not be recovered
May Be PVR	May be +VR disc, but no RSAT
V Final fail	Abnormal process occurred when finalizing Video mode
DLVR trace NG	Close Rzone failed at dual layer disc

Dubbing-Related Errors

ERROR MESSAGE	DESCRIPTION
H2D CP SomeNG	Other NG HDD → DVD copy
Mem get NG	Video Mode Copy Memory has noe ensured
Strm TransfNG	Video Mode Copy Stream Transefer NG
Tracon Tm NG	Video Mode Copy Tracon tranfer has not been completed
VC Cell Max	Maximum number for Video Mode Copy Cells exceeded
VC CopyCancel	Video Mode Copy Copy Cancel
VC FlushC NG	Video Mode Copy Flush Cache NG
VC HDD C Err	Obtaining Video Mode Copy HDD Cell information failed
VC HDD Inf NG	No information on Video Mode Copy HDD
VC HDD Info NG	Format failed
VC Idling NG	Video Mode Copy idling NG
VC Pck Anl NG	Analizing Video Mode Copy Pack failed
VC Transf Stp	Video Mode Copy Transfer Stop
VC TSO BLK NG	Video Mode Copy TSOBlock transfer has not benn completed
VC VOBU SizeE	Video Mode Copy VOBU Size NG
V Rsv RzoneNG	Video Mode Copy Reserve Rzone failed
V2H APP FL NG	VR→HDD APP FLG is OFF
V2H Aud Ch NG	VR→HDD Audio Channel NG
V2H Aud Md NG	VR→HDD Audio mode NG
V2H Aud Stm N	VR→HDD Audio Stream Number NG
V2H SRC Prot	VR→HDD Copy prohibitted material
V2H Unknown	VR→HDD Other NG
V2H VOBU TMNG	VR→HDD Play back time of each VOBU is different
V2H V Reso NG	VR→HDD Video resolution NG
H2D CP NoSpec	HDD→DVD insufficient free space for copy
H2D TO HDDRD	HDD→DVD(VR) Timeout at HDD playing side
H2D TO SPRP	HDD→DVD(VR) Timeout at internal processing
H2D TO DVDWR	HDD→DVD(VR) Timeout at HDD recording side
C2H LOG (XXX)	HDD CAM→HDD opration log (XXX indicates process code.)
C2H NG (XXX)	HDD CAM→NG (XXX indicates process code.)

HDD-Related Errors

ERROR MESSAGE	DESCRIPTION
Do nothing	Do nothing for demand
ESFSYS CORUPT	easyfsys error
ESFSYS INIT	easyfsys initializing
HDD Buff High	High-level process executed for the HDD Buffer
HDD DEF DONE	HDD deflag finished
HDD DEF ERR	HDD deflag error
HDD Destroy	HDD is not recognized on bus
HDD INFO BAD	Inconsintent HDD Management Data
HDD Initialize	HDD initialized
HDD IRRG POFF	Abnormal Power off
HDD MBR NG	Inconsistent MBR data
HDDReset Done	HDD Reset executed
HDD ROMSUM NG	Rom-code check sum NG
HDD SIG NG	Inconsistent HDD Management Data magic
HDD SMART NG	Inappropriate HDD SMART
HDD Trans Err	DMA error in HDD copy transfer
HDD unauthor	Inconsistent HDD serial No
HDD Zero WR	MBR was written
Task No Activ	Task has not been activated
TT Rec Over	Title recording time full
HDD WRONG TGT	Invalid HDD target No is directed
extHDD lgnore	External HDD is dismounted
HDD PFile NG	Program file installed in HDD is NG
HDD DEL TT	Delete the title by HDD recovery
HDD DEL PT	Delete the dubbing list by HDD recovery
HDD Del OC TT	Delete the title moving on the way inside HDD

Other Errors

ERROR MESSAGE	DESCRIPTION
Abort	Cancellation
Already open	Extension file is already opened
BK BATT Down	Backup RAM Data has been erased
BK FSYS Dirty	Backup RAM Data has not been written on the File Sys
BUG	some Bugs
BusReset Done	Bus Reset has been excecuted
Cell Close NG	Cell Close NG
CPRM IC NG	Inappropriate CPRM IC
Dir Depth Err	Tree of Directory is too deep
Disc Fll*	No further data can be written because the disc is full
DRAM CLR Err	Video Mode DRAM (Stream Buffer) Clear failure
DRAM NG	Abnormality in access to the Work DRAM
Drive Destroy	The Drive has crashed
EncModul Hang	Encorder routine is hung up
F Alrdy Exst	Extension file is already exist
File cansel	Extension file is canseled
FileNot Exist	Extension file is not exist
Format Excec	Formatting has been executed
Invalid Disc*	The disc cannot be recognized
Invalid Param*	Invalid parameter
Invalid TMVMG	Invalid TMP VMGI content
Invalid UDF*	Invalid UDF content
Invalid VMG*	Invalid VMG content
Invalid VTSI	VTSI information of +VR is unusual
Irr Action*	Incorrect action
MKB REVOKED	Error is gaining data
limit Over*	Standard maximum limit exceeded
No More Info*	No more space in the internal work-management area
No Permission*	No permossopn to write to the disc
No Video	No Video input (not locked)
Now busy*	In the process of the emergency processing
NV Pck DMA Er	Inappropriate NaviPack DMA
NV Pck MK Err	Error in creating NaviPack
Ourob Strm NG	Inappropriate Stream data to the Ouroboros input
Over Heat	Abnormal temperature
PARAM NO ACCP	Recording parameter is not matched
Process Over	Process is overfull
Protect Scr*	Source to be recorded is copy-protected
Rec Pause*	No operation permitted during recording pause
Relocation Do	VR-recording data was relocated
Repair Excec	Repairing has been executed
Something*	Undetermined error
SRAM NG	Abnormality in access to the backup Work SRAM
Status NG*	Abnormality in change of statuses
SW PVR	Switch to +VR playback process
SW Vpb mode*	Switching to video playback routine is required
SW Vrec mode*	Switching to video recording routine is required
Unmatch Stamp*	Impossible to modify because of nonmatching time stamp
VBR-SRAM NG	Abnormality in VBR SRAM
V Categ ID NG	Inappropriate category ID
V Cate Inf NG	Inappropriate category information
V Ext MAX Ovr	Count Max exceeded
V ExtToo Big	The extension file is too large
V Ext TY NG	Type NG
Virgin Disc	Virgin Disc
VOBU Info NG	Inapporopriate VOBU information
WaterMark Det	Watermark detected
WM Cracked	WM Cracked
Param Short	Editting Error (Clear A-B)
Invalid VRMI	Information of +VR is NG (VRMI)
Heap Mem NG	Failed acquive memory
Heap Mem RETY	Retry has occurred during acquisition of memory

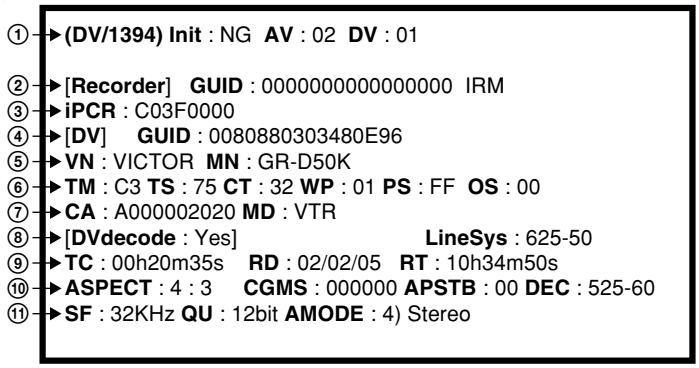
No Error

ERROR MESSAGE	DESCRIPTION
Non Err*	Normal

6-2-12. DV Service Mode

1. DV debug

1) Turn of the main power ON.
2) On the screen after exiting all menu screens, press “ESC” on the service remote controller.
3) Press “DISP”.
4) Press “3”.



* Used when an error exists in connection with the DV equipment.

Boldface alphanumerics : Fixed indications
Nonboldface alphanumerics : Variable indications

No.	Item	Description	Remarks
1	InitDV	Whether the initialization of UPD72893B (1394 LINK and DV codec IC) has been completed (OK) or not (NG).	If NG is displayed, it is considered the communication failure to UPD72893B.
	InitVE	Whether the initialization of ADV7172 (Video Encoder for DV specific) has been completed (OK) or not (NG).	If NG is displayed, it is considered the communication failure to ADV7172.
	AV	Number of AV devices recognizing connection	Identification number of AV devices including D-VHS, Digital Tuner, etc other than DV devices.
	DV	Number of DV devices recognizing connection	If the number does not become 01 even if a DV device is connected, identification of that device fails.
2	GUID	GUID set in ConfigROM of the unit.	GUID : Global Unique ID (Specific ID for DV devices) If the unit is ROOT (IRM), IRM is displayed at the side position of GUID display.
③	iPCR	iPCR value of the unit	
	oPCR	oPCR value of the unit	
④	GUID	GUID set in ConfigROM of the connected DV device.	Data are displayed only if one DV device is identified. If the connected DV device is ROOT (IRM), IRM is displayed at the side position of GUID display.
⑤	VN	Vendor name set in ConfigROM of the connected DV device.	Data are displayed only if one DV device is identified. (Depending on the device, the vendor name may not be set in ConfigROM.)
	MN	Model name set in ConfigROM of the connected DV device.	Data are displayed only if one DV device is identified. (Depending on the device, the model name may not be set in ConfigROM.)
⑥	TM	Transport Mode data obtained from the DV device.	Data are displayed only if one DV device is identified.
	TS	Transport State data obtained from the DV device.	
	CT	Cassette Type data obtained from the DV device.	
	WP	Write-protection data obtained from the DV device.	
	PS	Power-state data obtained from the DV device.	
	OS	Output signal mode data obtained from the DV device.	
⑦	CA	Connect AV data obtained from the DV device.	Data are displayed only if one DV device is identified.
	CV	Camera/Vtr mode data obtained from the DV device.	
	MD	DV device mode	Camera or VTR is displayed only if one DV device is identified.
⑧	[DVdecode: XXX]	Whether Yes (in the process of requesting DV input) or No is indicated in XXX.	Normally, Yes is indicated only when CH is set to DV.
	LineSys	Input Line System setting	
⑨	TC	Time-code data of the DVdecode Stream, or response data of the Time Code command	Stream time-code data are obtained when the tape is played in forward direction. Otherwise, time-code data are obtained through an AV/C command.
	RD	Rec Date of DVdecode Stream	
	RT	Rec Time of DVdecode Stream	
⑩	ASPECT	Aspect Ratio of DVdecode Stream	
	CGMS	CGMS of DVdecode Stream (from left to right, CGMS data of bits 5-4: Audio ch 2, bits 3-2: Audio ch 1, and bits 1-0: Video)	*CGMS (Copy Generation Management System): The two-digit codes added to broadcast programs represent the following: 00: Copy freely, 10: Once copy, 11 : Never copy
	APSTB	APS trigger bit of DV decode stream	
	DEC	With/without DVdecode stream input	With input: Signal type (525-60, 625-50, 1125-60, 1250-50, or Invalid) is indicated, Without input: “No” is indicated.
⑪	SF	Sampling Frequency of DVdecode Stream	If SF is 44 kHz, it is considered that 44.1-kHz audio is input, and sound is muted on the unit.
	QU	QUANTIZATION of DVdecode Stream	
	AMODE	AUDIO MODE of DVdecode Stream	

5) Press “ESC”. (Returns to the original screen)

2. Simple Diagnosis of DV

Symptoms		Location in the Debug Screen	Items to be Checked, and Conditions	Possible causes
No operation for DV input	1	DV①	Check the initDV indication: OK: Initialization of DV related LSI (IC102, IC108) appropriately completed. NG: Initialization of DV related LSI (IC102, IC108) has not been completed properly. Defective communication with DV related LSI (IC102, IC108) and Host u-com. (IC1001)	Defective IC102 (1394Link & DVcodec)/ IC108 (1394PHY), improper connection between IC102 / IC108, defective soldering, defective power supply, etc.
	2	DV①	Check the number of DV devices when one DV device is connected to the recorder: 01 : The connected DV device is correctly identified. Other than 01 : The connected DV device is not correctly identified.	Defective DV terminals, improper connection of the DV-terminal board, defective IC108 (1394PHY), defective cables, an IEEE 1394 device other than the DV device connected.
No picture nor sound for DV input	1	DV⑧	Check of DV decoding when the recorder channel is set to DV: Yes : The recorder is in the process of a DV input operation. No : The recorder is not executing a DV input operation.	Defective IC102 (1394Link & DVcodec), defective soldering, defective power supply, etc.
	2	DV⑩	Check DEC: 525-60 : An NTSC DV signal is input from the DV device. 625-50 : A PAL DV signal is input from the DV device. No : No DV signal is input from the DV device.	Defective DV terminals, improper connection of the DV-terminal board, defective source device defective IC102 (1394Link & DVcodec), IC108 (1394PHY) **Note:** As to a model having the Input Line System setting, if the setting and the actual input signal system do not match, no picture appears.
DV input recording impossible	1	DV⑩	Check CGMS:	Recording cannot be performed for a copy-protected source.
No sound for DV input	1	DV⑪	Check SF: 32 kHz: An audio signal with 32-kHz sampling frequency is being input. 48 kHz: An audio signal with 48-kHz sampling frequency is being input. 44 kHz: An audio signal with 44.1-kHz sampling frequency is being input.	An audio signal with 44.1-kHz sampling frequency is muted.
No picture for DV input	1	DV①	Check the initVE indication: OK: Initialization of DV specific VideoEncoder (IC101) appropriately completed. NG: Defective communication with DV specific VideoEncoder (IC101) and HOST u-com (IC1001). Initialization of DV specific VideoEncoder (IC101) has not been completed properly.	Defective IC101 (DV specific VideoEncoder), defective soldering, defective power supply, etc.

6-2-13. EPG Service Mode

1. Summary screen

1) Turn of the main power ON.
2) On the screen after exiting all menu screens, press “ESC” on the service remote controller.
3) Press “DISP”.
4) Press “7”.

```
    0         1         2         3         4
    01234567890123456789012345678901234567890123456789
00  (EPG EURO)
01  Next Data Download Time : 14:00
02            Duration      : 01h30m
03  Gemstar Data Fail Count : 00
04
05
06
07  EPG Data Receive Err Summary
08  Data  Start  END   MD  CH  RcvPkt  TotalErr
09  03/31 13:00  13:30 DL  03  001853  000000
10  03/31 09:00  11:00 DL  03  001192  000000
11  03/31 08:00  08:05 HS  --  000654  000000
12  03/31 00:00  00:00          000000  000000
13  03/31 00:00  00:00          000000  000000
14  03/31 00:00  00:00          000000  000000
```

* Used when the EPG data cannot be acquired.
* The detailed screen appears every time when “DIG/ANA” is pressed.

Lines 01-02	The next download starting time for the EPG data is displayed. Next Data Download Time: Starting time Duration: Duration required for acquiring the EPG data	
Lines 03	The Gemster EPG data cannot be found. Number times of Host Scan and Schedule Download, DT models only (Always 00 except DT model)	
Lines 09-14	The 6 latest error logs when EPG data were received are displayed, with the latest one at the top.	
	Data	: Month/day when reception started
	Start	: Time when reception started
	End	: Time when reception ended
	MD	: Method for acquiring the EPG data (HS: Host scanning process, DL:Downloading process of the EPG data)
	CH	: Data-receiving channel
	RcvPkt	: Total number of received packages. A number 999,999 or greater is displayed as “999999”.
	Total Err	: Total errors during reception. The sum of Hamming Err, Trans Err InvLine Err numbers indicated on the Detail screen. A number 999,999 or greater is displayed as “999999”.

[Tips]

In a case where only “HS” is displayed in the MD column of the logs, the host channel has not been found.
It is necessary to check the country and postal-code settings in the user settings.

5) Press “ESC”. (Returns to the original screen)

2. Detail screens

1) Press the “DIG/ANA” key while the Summary screen is being displayed. (Refer to page 6-19)
2) Each time the “DIG/ANA” key is pressed, the Detail screen scrolls maximum six-Detail screens (1 to 6).
   Each Detail screen of 1 to 6 corresponds to the EPG reception error logs from the top of the Summary screen.

```
    0         1         2         3         4
    01234567890123456789012345678901234567890123456
00  (EPG EURO)
01  EPG Data Receive Err Details - 1
02
03  Data : 03/31
04  Start Time  : 13:00     END Time   : 13:30
05  Host CH     : 03        P-ON Kind  : Download
06
07  Data Receive Info     Total Err : 000000
08  Pkt Rcv Num : 001853 Pkt Snd Num : 001853
09  Inv Line Err : 000000
10  Slice Cont : Auto      EQ : OFF      LV : -h
11
12  Temporary Buffer Information
13  Pool Num    : 000000    Max Store  : 000000
14  Discard Pkt : 000000
```

Line	Display item	Description	Remarks
Line 01	EPG Data Receive Err Details-X	The rightmost figure represents the number of the current detail screen. This number corresponds to the order of the EPG reception error log from the top.	
Lines 03-05, Reception conditions	Data Start Time END Time Host CH P-ON Kind	: Month/day when reception started : Time when reception started : Time when reception ended : Data-receiving channel : Methods for acquiring the EPG data (host scanning and downloaing)	Only during initialization, host scanning is automatically executed to find the host broadcast.
Lines 07-10, details on errors during reception	Total Err	: Total numbers of errors during reception. The total number of Hamming Err, Trans Err and InvLine Err indicated on the Detail screen. A number 999,999 or greater is displayed as “999999”.	Total Errors: If the total number of errors reaches two digits or greater, it is likely that EPG data acquisition failed. Display subscreen 1 of the first screen and check the electric field intensity from the AGC level.
	Pkt Rcv Num Pkt Snd Num	: Total number of received packages. A number 999,999 or greater is displayed as “999999”. : Total number of packages that were sent to the application program among all the received packages. A number 999,999 or greater is displayed as “999999”.	If the total numbr of received packages is 0, it is likely that the country and postal-code settings are wrong.
	InvLine Err	: Total number of errors that were generated by receiving data from invalid lines. A number 999,999 or greater is displayed as “999999”.	
	Slice Cont	: Slice level control Auto-Tu Con, Manual - Syscon.	
	EQ	: Equalizer setting (ON, OFF)	
	LV	: Slice level (10-30 hex) (Only when the slice Cont is Manual.)	

Note: The data on lines 12-14 are for software development, not for service use.

5) Press “ESC”. (Returns to the original screen)

6-2-14. Aging Mode

1. Aging for the DVD-RW/DVD-R

1) Turn of the main power ON.
2) Press the “DVD” key to switch to DVD.
3) Load a recordable disc.
4) Select the input function of a recordable source.
5) After disc detection is confirmed, exit all menu screens.
6) Press “ESC” on the service remote controller.
7) Press “REP.B” on the service remote controller.
8) Press “PLAY” to enter the Aging mode.

If symptoms regarding recording/playback of discs and/or the HDD that your customer claimed are difficult to reproduce, they can be reproduced with a long-time test in Aging mode.

Note: • When aging for the DVD-RW/+RW/-RAM and HDD is executed, a recorded data on them will be erased.
• Commands from the remote control unit are accepted during Aging mode.
• If Aging mode is quit using the “ESC” key, indications on the FL display will return to normal display.
• Cancel timer settings before entering Aging mode.
• Set the recording rate beforehand. It cannot be changed during Aging mode.

Aging for the DVD-RW/+RW/-RAM	Aging for the DVD-R/+R
During Aging mode, the following operations are repeated in the order shown below. ① The tray opens. ② The tray closes. ③ Initialization ④ Recording for 60 minutes ⑤ Playback for 45 minutes <DVD-RW> The initialization process in step 3 follows the setting specified in “Setting of the main unit--Recording--Auto initialization of a DVD-RW”. <DVD+RW> The initialization process in step 3 is the same as that described in “Disc setting--Initialization--Initialization of a DVD+RW”. <DVD-RAM> In the initialization process in step 3, physical formatting is performed, if required. During Aging, the number of loops is indicated on the FL display, as shown below. [AGING 0001] If an error is generated, the aging operation stops. **Note:** Indications on the FL display are retained, and this information is also retained as an OSD.	During Aging mode, the following operations are repeated in the order shown below. ① The tray opens. ② The tray closes. ③ Recording for 1 minute ④ Recording pause for 6 minutes ⑤ Recording stops. ⑥ Playback for 1 minute ⑦ Playback pause for 6 minutes ⑧ Playback stops. **Note:** A continuous test of the above operations is possible for approximately 23 hours. After ② the tray closes, disc detection is performed, <DVD-R> In step 2, if the disc is judged to have recorded up to 99 titles, the operation stops at that point. <DVD+R> If the disc is judged to have recorded up to 49 titles, the operation stops at that point. On the FL display, the number of loops is retained. On the OSD display, the error indication is retained. During Aging, the number of loops is indicated on the FL display, as shown below. [AGING 0001] If an error is generated, the aging operation stops. **Note:** Indications on the FL display are retained, and this information is also retained as an OSD. **Note:** Recording time depends on the recording rate set. For example, if the recording rate is MN32, only up to 60 titles can be registered. Check the setting for recording rate before performing aging.

9) Press the “ESC” key on the service remote controller to quit Aging mode and return to Normal mode.

Note: • If during recording: Recording is stopped.
• If during playback: Playback is paused.
• If during initialization: The unit stops after initialization is finished. (aging for ±RW/-RAM only)
• If the tray is being opened/closed: The unit stops after the tray is opened/closed.

2. Aging for the HDD

Caution: Take caution as the all recorded data of HDD is deleted.

1) Turn of the main power ON.
2) Press the “HDD” key to switch to HDD.
3) Press “ESC” on the service remote controller.
4) Press “REP.B” on the service remote controller.
5) Press “PLAY” to the Aging mode.

During Aging mode, the following operations are repeated in the order shown below.

① Erasure of all the memory data from the HDD
② Recording for 60 minutes
③ Playback for 60 minutes

[Tips]

During Aging, the number of loops is indicated on the FL display, as shown below.

[AGING 0001]

If an error is generated, the aging operation stops.

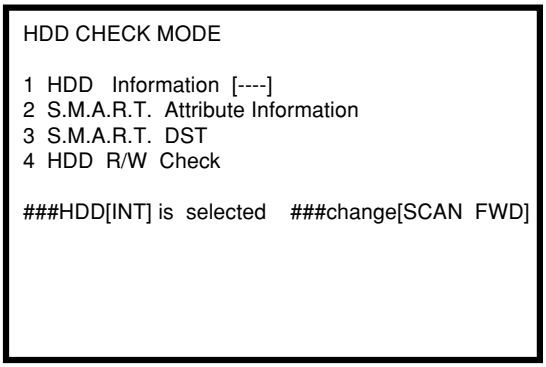
Note: Indications on the FL display are retained, and this information is also retained as an OSD.

6) Press the “ESC” key on the service remote controller to quit Aging mode and return to Normal mode.

Note: • If during recording: Recording is stopped.
• If during playback: Playback is paused.
• If during erasure of all memory data from the HDD, the unit stops after all memory data have been erased.

6-2-15. HDD Check Mode

1) Turn of the main power ON.
2) On the screen after exiting all menu screens, press “ESC” on the service remote controller.
3) Press “CX”.
4) Press “0”.
5) Press “1”.



* Used to check if the HDD has an error or not.
* Press the number of the item you want to check.

6) Press “ESC”. (Returns to the original screen)

6-3. Setup Related Menu

6-3-1. Firmware Downloading

In case of any event as described below, be sure to download the software using the Version Upgrade CD Disc by following the Software Download Method shown below.

1. When engine (RD board or drive) is replaced, or when the AV board is replaced.
2. When HDD is replaced.
3. When the message “NG” is displayed on the Version Information in the Service Mode.

Software Download Method

1) Eject the tray.
2) Place the Version Upgrade disc on the tray.
3) Press “Rec Stop” and “EJECT” key at the same time to start version upgrade.

6-3-2. Area-Specific Channel Setting

When the following trouble symptom is displayed, set the broadcast reception channels as described below.

- When flickering is visible as if horizontal synchronization or vertical synchronization is lost on the broadcast reception screen.

[Entry]

Entry from the normal operating mode <Record/Play, Stop>

1) Turn of the main power ON.
2) Press “ESC” on the service remote controller.
3) Press “CHP/TIM”.

Setting screen

```
VDEC  Specific  Area  Mode  Ver 2.00

        Input -  [LINE]
        Sync  ACC       : ON
        H  Threshold  Level   : 12
        V  Threshold  Level   : 10
```

4) Press “ESC”. (Returns to the original screen)

[Entry from the individual setting mode]

1) Upon completion of the above operation, press “DIG/ANA”.

Setting screen

```
VDEC  Specific  Area  Mode  Ver 2.00

        Input -   [LINE]
        Sync  ACC       : ON
        H  Threshold  Level   : 12
        V  Threshold  Level   : 10

Individual  setting  state

        Input  Channell - [L2]
        Sync  AGC      : --
        H  Threshold  Level   : --
        V  Threshold  Level   : --
```

2) Press “ESC”. (Returns to the original screen)

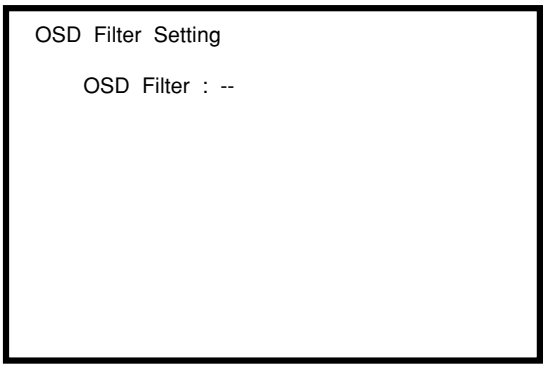
6-3-3. OSD Filter Setting (Subscreen 4)

When the following trouble symptom occurs, correct it by setting the OSD filter as described below.

- Characters on the OSD screen flicker depending on the monitor connected.

[Entry]

1) Turn of the main power ON.
2) Press “ESC” on the service remote controller.
3) Press “DISP”.
4) Press “DIG/ANA” four times.



5) Press “ESC”. (Returns to the original screen)

[Tips]

As the setting value becomes greater, jitter is reduced on a CRT display. However, as lines for characters appear thick, complex characters may become difficult to read. On the contrary, as the setting value becomes smaller, jitter increases on a CRT display.
However, as lines for characters become sharper, complex characters become more legible.

Note1: A new setting becomes active as soon as it is made. As a new setting is stored in nonvolatile memory, it will be retrieved when the unit it turned on the next time.

Note2: After the factory-preset values are downloaded, the setting value for the OSD Filter will be the default Value (4).

[Key operation of OSD Filter setting]

Key	Operation	Satting value	Remarks
“Rev x 3”, “SPEED+” “ x 3 Fwd”, “SPEED–”	Changing the setting value for the OSD Filter	0 – 4 (Default value: 4)	“Rev x 3”, “SPEED+” : The setting value increases by1. “ x 3 Fwd”, “SPEED–” : The setting value decreases by1.
“CLEAR”	The setting value is reset to default.	—	
“ESC”	To exit the OSD Filter Setting and clear the screen (Appears the tuner screen.)	—	—

SECTION 7
ADJUSTMENTS

7-1. Video System Adjustment

Preparing for Adjustment

1. Equipments

• Oscilloscope
• Reference Disk
HLX-507 (PAL single layer disc) J-6090-077-A
HLX-506 (PAL dual layer disc) J-6090-078-A

1. Video Output Level Check

<Purpose>

This check is made to satisfy the PALsignal standard, If it is adjusted incorrectly, brightness will be too bright or too dark.

Mode	PLAY
Signal	100% Color bars
Test point	Output (VIDEO) connector (terminated in 75Ω)
Instrument	Oscilloscope
Specification	1.0 V± 0.07 Vp-p

Check method:

1) Insert the PAL reference disc and play back the 100% color bars.
2) Confirm that the video level is 1.0 V±0.07 Vp-p.

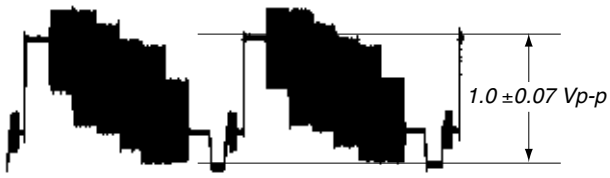


Fig. 7-1

2. S-Video Output S-Y Check

<Purpose>

This check confirms that the S-video Y-signal output has the rated amplitude. If it adjusted incorrectly, the playback video signal will not be displayed corrected even when the S-video cable is connected.

Mode	PLAY
Signal	100% Color bars
Test point	S-VIDEO OUTPUT (S-Y) connector (terminated in 75Ω)
Instrument	Oscilloscope
Specification	1.0 V±0.07 Vp-p

Check method:

1) Insert the PAL reference disc and play back the 100% color bars.
2) Confirm that the video level is 1.0 V±0.07 Vp-p.

Fig. 7-2

3. S-Video Output S-C Check

<Purpose>

This check confirms that the S-video output S-C conforms to the PAL standard. If it adjusted incorrectly, the playback color will not be too dark or too thin.

Mode	PLAY
Signal	100% Color bars
Test point	S-VIDEO OUTPUT (S-C) connector (terminated in 75Ω)
Instrument	Oscilloscope
Specification	PAL: 300 mV±30 mVp-p

Check method:

1) Insert the PAL reference disc and play back the 100% color bars.
2) Confirm that the burst signal level is 300 mV±30 mVp-p.

Fig. 7-3

4. Component Video Output Y Check

<Purpose>

This check confirms that the component Y signal output has the rated amplitude. If this signal level is not correct, brightness of the video signal will not be too dark or too thin when the COMPONENT connector output signal is connected to a projector having COMPONENT input.

Mode	PLAY
Signal	100% Color bars
Test point	COMPONENT VIDEO OUT (Y) connector (terminated in 75Ω)
Instrument	Oscilloscope
Specification	1.0 V±0.07Vp-p

Check method:

Note 1: Do not set RGB OUT to ON.
Note 2: Do not connect the HDMI OUT.

1) Insert the PAL reference disc and play back the 100% color bars.
2) Confirm that the Y signal level is 1.0 V±0.07 Vp-p.

Fig. 7-4

5. Component Video Output B-Y (Pb) Check

<Purpose>

This check confirms that the B-Y signal of the component video conforms to the PAL standard. If this signal level is not correct, color of the video signal will have different color when the COMPONENT connector output signal is connected to a projector having COMPONENT input.

Mode	PLAY
Signal	100% Color bars
Test point	COMPONENT VIDEO OUT (Pb) connector (terminated in 75Ω)
Instrument	Oscilloscope
Specification	700 mV±50 mVp-p

Check method:

Note 1: Do not set RGB OUT to ON.
Note 2: Do not connect the HDMI OUT.

1) Insert the PAL reference disc and play back the 100% color bars.
2) Confirm that the burst signal level is 700 mV±50 mVp-p.

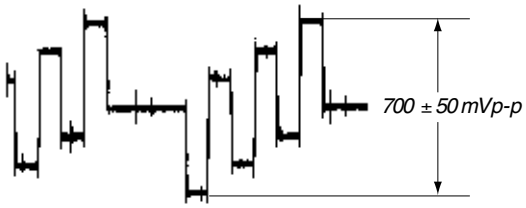


Fig. 7-5

6. Component Video Output R-Y (Pr) Check

<Purpose>

This check confirms that the R-Y signal of the component video conforms to the PAL standard. If this signal level is not correct, color of the video signal will have different color when the COMPONENT connector output signal is connected to a projector having COMPONENT input.

Mode	PLAY
Signal	100% Color bars
Test point	COMPONENT VIDEO OUT (Pr) connector (terminated in 75Ω)
Instrument	Oscilloscope
Specification	700 mV±50 mVp-p

Check method:

Note 1: Do not set RGB OUT to ON.
Note 2: Do not connect the HDMI OUT.

1) Insert the PAL reference disc and play back the 100% color bars.
2) Confirm that the burst signal level is 700 mV±50 mVp-p.

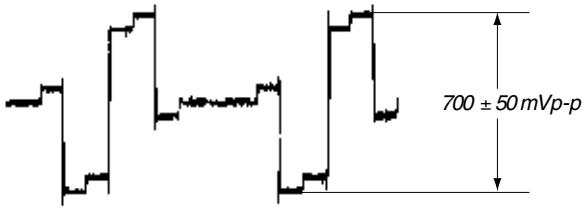


Fig. 7-6

7. Scart Video Output Level Check

<Purpose>

This check is made to satisfy the PAL signal standard, If it is adjusted incorrectly, brightness will be too bright or too dark.

Mode	PLAY
Signal	100% Color bars
Test point	Scart Video output connector pin-⑲ (terminated in 75Ω)
Instrument	Oscilloscope
Specification	1.0 V± 0.07 Vp-p

Check method:

Note: SCART OUT should be set to "Video".

1) Insert the PAL reference disc and play back the 100% color bars.
2) Confirm that the video level is 1.0 V±0.07 Vp-p.

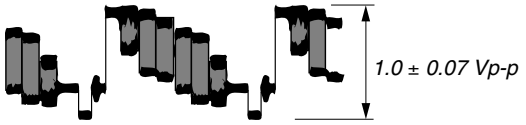


Fig. 7-7

8. Scart Video Output S-Y Check

<Purpose>

This check confirms that the Scart Y-signal output has the rated amplitude. If it adjusted incorrectly, the playback video signal will not be displayed corrected even when the Scart cable is connected.

Mode	PLAY
Signal	100% Color bars
Test point	Scart Video output connector pin-⑲ (terminated in 75Ω)
Instrument	Oscilloscope
Specification	1.0 V±0.07 Vp-p

Check method:

Note: SCART OUT should be set to "S-Video".

1) Insert the PAL reference disc and play back the 100% color bars.
2) Confirm that the video level is 1.0 V±0.07 Vp-p.

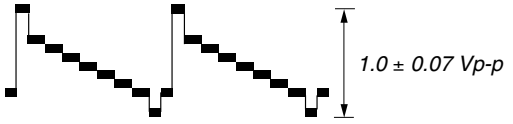


Fig. 7-8

9. Scart Video Output S-C Check

<Purpose>

This check confirms that the Scart output S-C conforms to the PAL standard. If it adjusted incorrectly, the playback color will not be too dark or too thin.

Mode	PLAY
Signal	100% Color bars
Test point	Scart Video output connector pin-⑮ (terminated in 75Ω)
Instrument	Oscilloscope
Specification	300 mV±30 mVp-p

Check method:

Note: SCART OUT should be set to "S-Video".

1) Insert the PAL reference disc and play back the 100% color bars.
2) Confirm that the burst signal level is 300 mV±30 mVp-p.

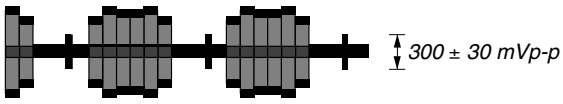


Fig. 7-9

10. Scart Video RGB Output R Check

<Purpose>

This check confirms that the RGB R signal output has the rated amplitude. If this signal level is not correct, brightness of the video signal will not be too dark or too thin when the Scart connector output signal is connected to a projector having Scart input.

Mode	PLAY
Signal	100% Color bars
Test point	Scart Video output R connector pin-⑮ (terminated in 75Ω)
Instrument	Oscilloscope
Specification	700 mV±50 mVp-p

Check method:

Note 1: RGB OUT should be set to ON.

Note 2: Do not connect the HDMI OUT.

1) Insert the PAL reference disc and play back the 100% color bars.
2) Confirm that the R signal level is 700 mV±50 mVp-p.

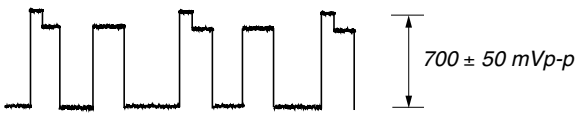


Fig. 7-10

11. Scart Video RGB Output G Check

<Purpose>

This check confirms that G signal of the RGB video conforms to the PAL standard. If this signal level is not correct, color of the video signal will have different color when the Scart connector output signal is connected to a projector having Scart input.

Mode	PLAY
Signal	100% Color bars
Test point	Scart Video output G connector pin-⑪ (terminated in 75Ω)
Instrument	Oscilloscope
Specification	700 mV±50 mVp-p

Check method:

Note 1: RGB OUT should be set to ON.

Note 2: Do not connect the HDMI OUT.

1) Insert the PAL reference disc and play back the 100% color bars.
2) Confirm that the G signal level is 700 mV±50 mVp-p.

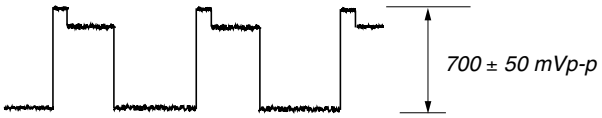


Fig. 7-11

12. Scart Video RGB Output B Check

<Purpose>

This check confirms that the B signal of the RGB video conforms to the PAL standard. If this signal level is not correct, color of the video signal will have different color when the Scart connector output signal is connected to a projector having Scart input.

Mode	PLAY
Signal	100% Color bars
Test point	Scart Video output B connector pin-⑦ (terminated in 75Ω)
Instrument	Oscilloscope
Specification	700 mV±50 mVp-p

Check method:

Note 1: RGB OUT should be set to ON.

Note 2: Do not connect the HDMI OUT.

1) Insert the PAL reference disc and play back the 100% color bars.
2) Confirm that the B signal level is 700 mV±50 mVp-p.

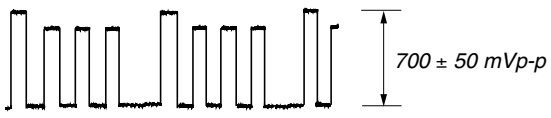


Fig. 7-12

SECTION 8
REPAIR PARTS LIST

8-1. EXPLODED VIEWS

NOTE:

- -XX, -X mean standardized parts, so they may have some differences 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

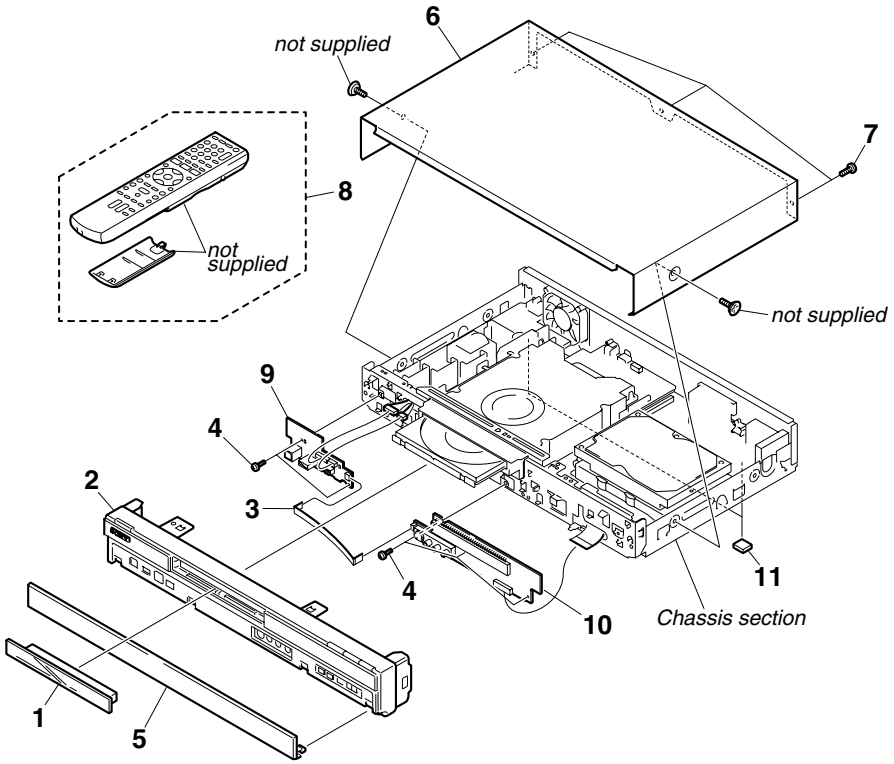
Example:
KNOB, BALANCE (WHITE) . . . (RED)
↑ ↑
Parts Color Cabinet's Color

- Abbreviation
RUS : Russian model

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

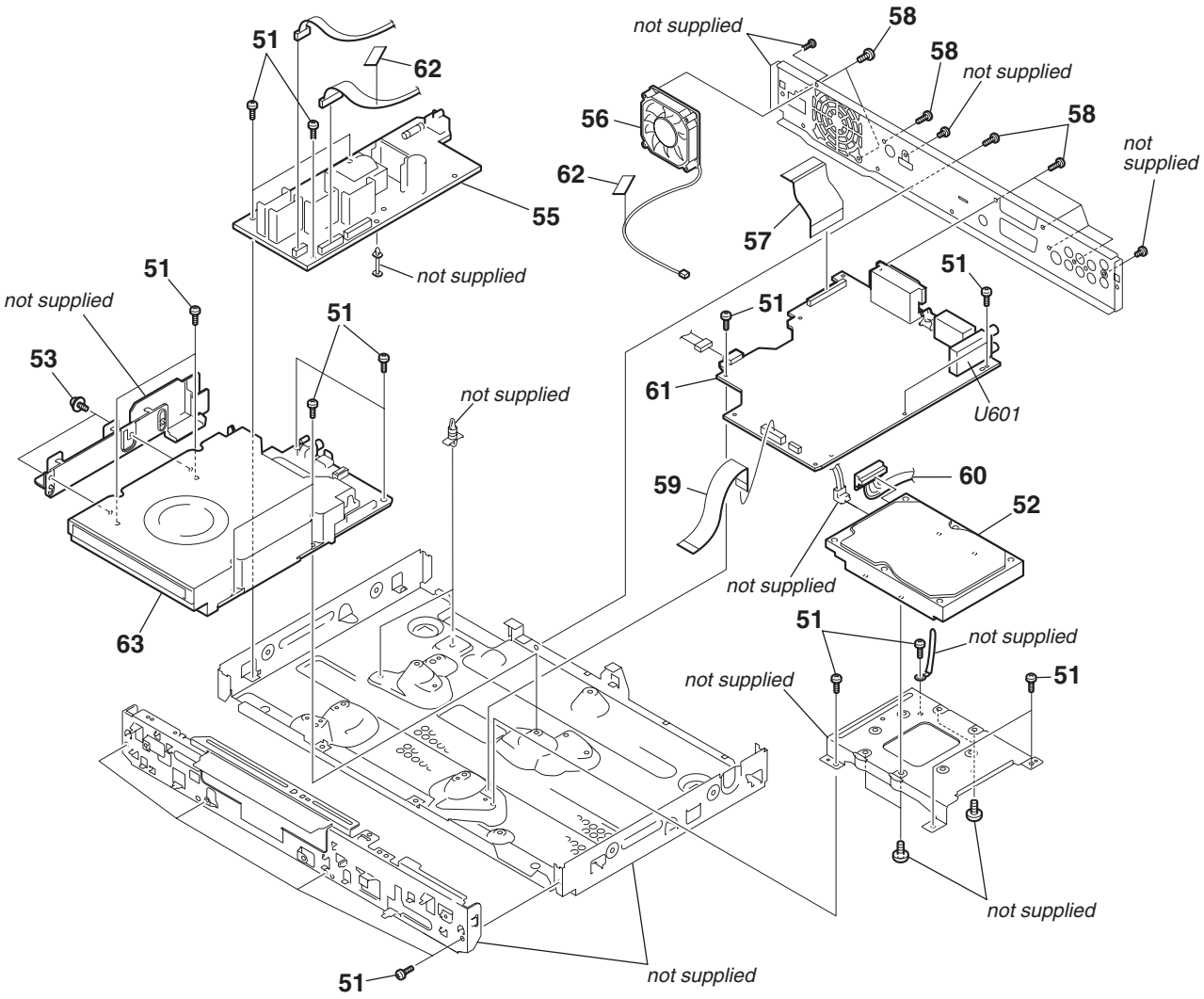
The components identified by mark 🔒 contain confidential information.
Strictly follow the instructions whenever the components are repaired and/or replaced.

8-1-1. OVERALL SECTION



Ref. No.	Part No.	Description	Remarks
1	X-2345-020-1	COVER ASSY, TRAY	
2	X-2345-019-1	PANEL ASSY, FRONT	
3	1-834-076-21	CABLE, FLEXIBLE FLAT (FLR-010)	
4	3-077-331-01	+BV3 (3-CR)	
5	4-129-933-01	DOOR (AT100)	
5	4-129-933-11	DOOR (AT200)	
5	4-129-933-21	DOOR (AT105)	
5	4-129-933-31	DOOR (AT205)	
5	4-129-933-41	DOOR (AT107)	
6	2-899-645-01	CASE, UPPER	
7	3-076-563-11	SCREW, SPECIAL FRONT POINT	
8	1-480-697-11	REMOTE COMMANDER (RMT-D250P)	(AT105/AT107/AT205)
8	1-480-701-11	REMOTE COMMANDER (RMT-D249P)	(AT100/AT200)
9	A-1700-065-A	FL-196 BOARD, COMPLETE	
10	A-1700-067-A	FR-304 BOARD, COMPLETE	
11	3-087-319-01	CUSHION FOOT	

8-1-2. CHASSIS SECTION



Ref. No.	Part No.	Description	Remarks
51	3-077-331-01	+BV3 (3-CR)	
52	A-1727-576-A	HDD (SG-GARBO-S (160GB) -E) ASSY	(AT100/AT105/AT107)
52	A-1727-577-A	HDD (HG-SATURN-C-S (250GB) -E) AS	(AT200/AT205)
53	7-682-947-01	SCREW +PSW 3X6	
⚠55	1-474-048-21	REGULATOR, SWITCHING (SRV2101EK)	
56	1-787-625-41	FAN, DC	
57	1-834-075-21	CABLE, FLEXIBLE FLAT (FRA-006)	
58	3-077-331-31	+BV3 (3-CR)	
* 59	1-835-081-11	CABLE, FLEXIBLE FLAT (FAR-008)	
60	1-965-191-21	HARNESS (RH-059)	

Ref. No.	Part No.	Description	Remarks
61	A-1520-882-A	AV-133 (AG) BOARD, COMPLETE	(AT100/AT200)
61	A-1520-884-A	AV-133 (BG) BOARD, COMPLETE	(AT105/AT107/AT205)
* 62	3-087-220-01	TAPE, NON-HALOGENE	
🔒 63	A-1543-920-A	DVR-U13HDD ASSY S COMP (Note)	
⚠U601	1-693-753-21	TUNER (TMFE2-408B)	

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

The components identified by mark 🔒 contain confidential information.
Strictly follow the instructions whenever the components are repaired and/or replaced.

Note:
When exchanging Traverse Mechanism in Ref. No.63 please refer to the SERVICE MANUAL of " RW6G/7G TRAVERSE MECHANISM REPAIR MANUAL " (9-885-951-17)

8-2. ELECTRICAL PARTS LIST

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, -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.
- CAPACITORS:
  uF: μF
- COILS
  uH: μH
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA...: μA... , uPA... , μPA... ,
  uPB... , μPB... , uPC... , μPC... ,
  uPD..., μPD...
- Abbreviation
  RUS : Russian model

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.

Ref. No.	Part No.	Description			Remarks
	A-1520-882-A	AV-133 (AG) BOARD, COMPLETE (AT100/AT200)			
	A-1520-884-A	AV-133 (BG) BOARD, COMPLETE (AT105/AT107/AT205)			
		(REF.NO. ; 10,000 SERIES)			
		**********			
		< CAPACITOR >			
C104	1-104-662-91	ELECT	22uF	20%	25V
C105	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C106	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C107	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C109	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C110	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C111	1-162-913-11	CERAMIC CHIP	8PF	0.5PF	50V
C112	1-162-914-11	CERAMIC CHIP	9PF	0.5PF	50V
C113	1-115-156-11	CERAMIC CHIP	1uF		10V
C114	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C115	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C118	1-115-456-21	DOUBLE LAYER	0.22F		5.5V
C120	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C121	1-115-156-11	CERAMIC CHIP	1uF		10V
C122	1-115-156-11	CERAMIC CHIP	1uF		10V
C124	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C125	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C126	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C127	1-126-933-11	ELECT	100uF	20%	16V
C131	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C132	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C133	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C134	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C135	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C138	1-126-961-11	ELECT	2.2uF	20%	50V
C139	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C140	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C141	1-115-156-11	CERAMIC CHIP	1uF		10V
C142	1-100-831-91	CERAMIC CHIP	0.001uF	2%	50V
C149	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C150	1-115-156-11	CERAMIC CHIP	1uF		10V
C152	1-115-156-11	CERAMIC CHIP	1uF		10V
C156	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C157	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C202	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C204	1-126-933-11	ELECT	100uF	20%	16V
C205	1-104-662-91	ELECT	22uF	20%	25V
C206	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C208	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C301	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C302	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C303	1-126-933-11	ELECT	100uF	20%	16V
C305	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C306	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C307	1-126-933-11	ELECT	100uF	20%	16V
C308	1-126-933-11	ELECT	100uF	20%	16V
C309	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C310	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C311	1-126-934-11	ELECT	220uF	20%	16V
C312	1-126-933-11	ELECT	100uF	20%	16V
C314	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C315	1-126-933-11	ELECT	100uF	20%	16V
C316	1-126-933-11	ELECT	100uF	20%	16V
C318	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C319	1-126-933-11	ELECT	100uF	20%	16V
C320	1-126-933-11	ELECT	100uF	20%	16V
C322	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C323	1-100-162-91	CERAMIC CHIP	1uF		50V
C324	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C326	1-126-964-11	ELECT	10uF	20%	50V
C328	1-165-621-91	CERAMIC CHIP	0.1uF		50V
C329	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C401	1-115-156-11	CERAMIC CHIP	1uF		10V
C402	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C403	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C404	1-115-156-11	CERAMIC CHIP	1uF		10V
C406	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C407	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C408	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C409	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C410	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C411	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C412	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C413	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C414	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C415	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C418	1-115-156-11	CERAMIC CHIP	1uF		10V
C419	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C420	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C421	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C422	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C423	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C424	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C428	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C431	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V

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Ref. No.	Part No.	Description			Remarks
C432	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C434	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C435	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C436	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C437	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C438	1-115-156-11	CERAMIC CHIP	1uF		10V
C439	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C440	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C441	1-115-156-11	CERAMIC CHIP	1uF		10V
C442	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C443	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C444	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C445	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C446	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C447	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C450	1-107-713-11	ELECT	4.7uF	20%	50V
C451	1-107-713-11	ELECT	4.7uF	20%	50V
C452	1-104-658-91	ELECT	100uF	20%	10V
C453	1-104-658-91	ELECT	100uF	20%	10V
C454	1-104-658-91	ELECT	100uF	20%	10V
C455	1-126-963-11	ELECT	4.7uF	20%	50V
C456	1-126-960-11	ELECT	1uF	20%	50V
C457	1-126-964-11	ELECT	10uF	20%	50V
C458	1-104-658-91	ELECT	100uF	20%	10V
C463	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C464	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C468	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C469	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C471	1-126-964-11	ELECT	10uF	20%	50V
C472	1-126-964-11	ELECT	10uF	20%	50V
C473	1-126-933-11	ELECT	100uF	20%	16V
C474	1-126-964-11	ELECT	10uF	20%	50V
C475	1-126-964-11	ELECT	10uF	20%	50V
C476	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C481	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C482	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C484	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C486	1-104-655-91	ELECT	470uF	20%	6.3V
C487	1-104-655-91	ELECT	470uF	20%	6.3V
C488	1-104-655-91	ELECT	470uF	20%	6.3V
C489	1-104-655-91	ELECT	470uF	20%	6.3V
C490	1-104-655-91	ELECT	470uF	20%	6.3V
C491	1-126-947-11	ELECT	47uF	20%	35V
C492	1-126-923-91	ELECT	220uF	20%	10V
C493	1-126-947-11	ELECT	47uF	20%	35V
C496	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C497	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C498	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C499	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C500	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C503	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C505	1-100-831-91	CERAMIC CHIP	0.001uF	2%	50V
C506	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C507	1-100-831-91	CERAMIC CHIP	0.001uF	2%	50V
C508	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C510	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C511	1-164-230-11	CERAMIC CHIP	220PF	5%	50V
C515	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C516	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C517	1-164-230-11	CERAMIC CHIP	220PF	5%	50V

Ref. No.	Part No.	Description			Remarks
C518	1-100-831-91	CERAMIC CHIP	0.001uF	2%	50V
C519	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C520	1-100-831-91	CERAMIC CHIP	0.001uF	2%	50V
C528	1-104-655-91	ELECT	470uF	20%	6.3V
C529	1-104-655-91	ELECT	470uF	20%	6.3V
C530	1-104-655-91	ELECT	470uF	20%	6.3V
C531	1-104-655-91	ELECT	470uF	20%	6.3V
C532	1-104-655-91	ELECT	470uF	20%	6.3V
C541	1-126-963-11	ELECT	4.7uF	20%	50V
C542	1-126-963-11	ELECT	4.7uF	20%	50V
C543	1-126-963-11	ELECT	4.7uF	20%	50V
C544	1-126-963-11	ELECT	4.7uF	20%	50V
C545	1-126-933-11	ELECT	100uF	20%	16V
C547	1-104-662-91	ELECT	22uF	20%	25V
C550	1-104-662-91	ELECT	22uF	20%	25V
C551	1-104-662-91	ELECT	22uF	20%	25V
C552	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C602	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C603	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C604	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C605	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C606	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C608	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C609	1-104-658-91	ELECT	100uF	20%	10V
C611	1-126-947-11	ELECT	47uF	20%	35V
C613	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C614	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C615	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C616	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C617	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C618	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C619	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C620	1-115-156-11	CERAMIC CHIP	1uF		10V
C621	1-162-924-11	CERAMIC CHIP	56PF	5%	50V
C622	1-162-924-11	CERAMIC CHIP	56PF	5%	50V
C623	1-162-908-11	CERAMIC CHIP	3PF	0.25PF	50V
C624	1-162-908-11	CERAMIC CHIP	3PF	0.25PF	50V
C625	1-115-156-11	CERAMIC CHIP	1uF		10V
C626	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C627	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C628	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C629	1-164-173-11	CERAMIC CHIP	0.0039uF	10%	50V
C630	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C631	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C632	1-164-173-11	CERAMIC CHIP	0.0039uF	10%	50V
C633	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C635	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C636	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C638	1-126-964-11	ELECT	10uF	20%	50V
C639	1-126-962-11	ELECT	3.3uF	20%	50V
C640	1-104-658-91	ELECT	100uF	20%	10V
C641	1-126-964-11	ELECT	10uF	20%	50V
C642	1-104-658-91	ELECT	100uF	20%	10V
C643	1-104-658-91	ELECT	100uF	20%	10V
C751	1-164-156-11	CERAMIC CHIP	0.1uF		25V

(AT105/AT107/AT205)

Ref. No.	Part No.	Description	Remarks
C752	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	(AT105/AT107/AT205)
C753	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	(AT105/AT107/AT205)
C754	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	(AT105/AT107/AT205)
		< CONNECTOR >	
CN201	1-564-704-41	PIN, CONNECTOR (SMALL TYPE) 2P	
CN301	1-564-721-11	PIN, CONNECTOR (SMALL TYPE) 5P	
		< DIODE >	
D101	8-719-081-97	DIODE MMDL914T1	
D102	8-719-081-97	DIODE MMDL914T1	
D103	8-719-081-97	DIODE MMDL914T1	
D104	8-719-053-18	DIODE 1SR154-400TE-25	
D106	8-719-081-97	DIODE MMDL914T1	
D108	8-719-941-09	DIODE DAP202U	
D201	8-719-081-97	DIODE MMDL914T1	
D301	8-719-083-83	DIODE UDZSNPTE-1715B	
D302	6-500-028-01	DIODE MM3Z9V1ST1	
D303	8-719-081-97	DIODE MMDL914T1	
D304	8-719-081-97	DIODE MMDL914T1	
D409	8-719-081-42	DIODE UMZ6.8N-T106	
D410	8-719-081-42	DIODE UMZ6.8N-T106	
D413	8-719-081-42	DIODE UMZ6.8N-T106	
D414	8-719-081-42	DIODE UMZ6.8N-T106	
D415	8-719-081-42	DIODE UMZ6.8N-T106	
D416	8-719-081-42	DIODE UMZ6.8N-T106	
D418	8-719-081-97	DIODE MMDL914T1	
D419	8-719-081-97	DIODE MMDL914T1	
D420	8-719-941-09	DIODE DAP202UT106	
D421	6-501-486-01	DIODE NNCD3.9F-T1B	
D422	6-501-486-01	DIODE NNCD3.9F-T1B	
D501	8-719-976-99	DIODE DTZ5.1B	
D502	8-719-976-99	DIODE DTZ5.1B	
D503	6-501-486-01	DIODE NNCD3.9F-T1B	
D504	8-719-081-42	DIODE UMZ6.8N-T106	
D505	8-719-081-42	DIODE UMZ6.8N-T106	
D506	8-719-081-42	DIODE UMZ6.8N-T106	
D507	8-719-081-42	DIODE UMZ6.8N-T106	
D508	6-501-486-01	DIODE NNCD3.9F-T1B	
D509	8-719-081-42	DIODE UMZ6.8N-T106	
D510	6-501-486-01	DIODE NNCD3.9F-T1B	
D511	8-719-081-42	DIODE UMZ6.8N-T106	
D512	6-501-486-01	DIODE NNCD3.9F-T1B	
D513	8-719-081-42	DIODE UMZ6.8N-T106	
D514	8-719-081-42	DIODE UMZ6.8N-T106	
D515	8-719-081-42	DIODE UMZ6.8N-T106	
D516	8-719-081-42	DIODE UMZ6.8N-T106	
D517	8-719-081-42	DIODE UMZ6.8N-T106	
D518	8-719-081-42	DIODE UMZ6.8N-T106	
D519	8-719-081-42	DIODE UMZ6.8N-T106	
D520	8-719-081-42	DIODE UMZ6.8N-T106	
D521	8-719-081-42	DIODE UMZ6.8N-T106	
D522	8-719-081-42	DIODE UMZ6.8N-T106	
D523	6-500-319-01	DIODE BAV99WT1	
D524	6-500-319-01	DIODE BAV99WT1	
D526	8-719-081-97	DIODE MMDL914T1	
D527	8-719-081-97	DIODE MMDL914T1	
D528	8-719-081-97	DIODE MMDL914T1	
D529	8-719-083-63	DIODE UDZSNPTE-1713B	
D530	8-719-083-63	DIODE UDZSNPTE-1713B	
D531	8-719-081-42	DIODE UMZ6.8N-T106	
D801	8-719-081-42	DIODE UMZ6.8N-T106	
		< FUSE >	
⚠IC150	1-576-796-11	FUSE 0.5A /32V	
⚠IC317	1-576-796-11	FUSE 0.5A /32V	
		< IC >	
IC101	6-712-674-01	IC LC87F06J2A-F59P6-E	
* IC102	6-711-071-01	IC BD4846G-TR	
* IC103	6-711-072-01	IC BU4220G-TR	
* IC104	6-711-188-01	IC TC7MB3257FK (EL)	
* IC401	6-711-073-01	IC HA118326APFR-E	
IC402	8-759-909-71	IC BA4558F	
IC406	8-759-082-60	IC TC7S66FU	
IC601	6-702-714-01	IC MSP3417G-QG-B8V3	
		< JACK >	
JA401	1-794-198-11	CONNECTOR, S TERMINAL (LINE2 OUT)	
JA751	1-764-188-31	JACK (SMALL TYPE) (DIA. 3.5)	(AT105/AT107/AT205)
		< TERMINAL >	
KN101	1-537-771-21	TERMINAL BOARD, GROUND	
KN102	1-537-771-21	TERMINAL BOARD, GROUND	
		< COIL >	
L102	1-410-517-11	INDUCTOR 47uH	
L201	1-412-549-31	INDUCTOR 1mH	
L303	1-500-245-11	INDUCTOR, FERRITE BEAD	
L304	1-408-621-31	INDUCTOR 330uH	
L305	1-500-245-11	INDUCTOR, FERRITE BEAD	
L501	1-414-594-11	INDUCTOR, FERRITE BEAD	
L502	1-414-594-11	INDUCTOR, FERRITE BEAD	
L601	1-500-245-11	INDUCTOR, FERRITE BEAD	
L602	1-500-245-11	INDUCTOR, FERRITE BEAD	
L604	1-414-760-21	INDUCTOR, FERRITE BEAD	
L605	1-414-760-21	INDUCTOR, FERRITE BEAD	
L606	1-500-245-11	INDUCTOR, FERRITE BEAD	
L607	1-412-963-11	INDUCTOR 100uH	
L608	1-500-245-11	INDUCTOR, FERRITE BEAD	
L609	1-412-951-11	INDUCTOR 10uH	
L751	1-414-760-21	INDUCTOR, FERRITE BEAD	(AT105/AT107/AT205)
L801	1-414-228-11	INDUCTOR, FERRITE BEAD	
L802	1-414-228-11	INDUCTOR, FERRITE BEAD	
L803	1-216-864-11	SHORT CHIP 0	
L851	1-414-228-11	INDUCTOR, FERRITE BEAD	

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

Ref. No.	Part No.	Description	Remarks
L852	1-414-228-11	INDUCTOR, FERRITE BEAD	
L853	1-414-228-11	INDUCTOR, FERRITE BEAD	
L854	1-414-228-11	INDUCTOR, FERRITE BEAD	
L855	1-500-283-11	INDUCTOR, FERRITE BEAD	
L856	1-414-228-11	INDUCTOR, FERRITE BEAD	
L857	1-414-228-11	INDUCTOR, FERRITE BEAD	
L858	1-414-228-11	INDUCTOR, FERRITE BEAD	
L859	1-414-228-11	INDUCTOR, FERRITE BEAD	
L860	1-500-283-11	INDUCTOR, FERRITE BEAD	
L861	1-469-876-11	INDUCTOR, FERRITE BEAD	
L862	1-469-796-21	FERRITE, CHIP	
		< TRANSISTOR >	
Q101	8-729-029-06	TRANSISTOR DTC124EUA-T106	
Q102	8-729-620-13	TRANSISTOR 2SC4154TP-1EF	
Q103	6-550-375-01	TRANSISTOR UMD2N-TR	
Q104	6-550-375-01	TRANSISTOR UMD2N-TR	
Q105	8-729-023-22	TRANSISTOR 2SD2114K	
Q108	8-729-029-06	TRANSISTOR DTC124EUA-T106	
Q110	8-729-028-86	TRANSISTOR DTA143EUA-T106	(AT105/AT107/AT205)
Q111	8-729-620-13	TRANSISTOR 2SC4154TP-1EF	
Q112	8-729-620-13	TRANSISTOR 2SC4154TP-1EF	
Q201	8-729-023-22	TRANSISTOR 2SD2114K	
Q301	6-550-375-01	TRANSISTOR UMD2N-TR	
Q302	8-729-620-13	TRANSISTOR 2SC4154TP-1EF	
Q303	6-550-375-01	TRANSISTOR UMD2N-TR	
Q304	8-729-044-09	TRANSISTOR 2SD2153T100V	
Q305	6-550-375-01	TRANSISTOR UMD2N-TR	
Q306	8-729-901-87	TRANSISTOR 2SC2411K-CQ	
Q307	6-550-375-01	TRANSISTOR UMD2N-TR	
Q308	8-729-901-87	TRANSISTOR 2SC2411K-CQ	
* Q309	6-551-719-01	TRANSISTOR 2SC5876T106QR	
Q310	8-729-620-13	TRANSISTOR 2SC4154TP-1EF	
Q311	8-729-013-22	TRANSISTOR HN1A01FU-TE85R	
Q401	8-729-029-06	TRANSISTOR DTC124EUA-T106	
Q402	8-729-023-22	TRANSISTOR 2SD2114K	
Q403	6-551-699-01	TRANSISTOR ISA1602AM1TP-1EF	
Q404	6-550-375-01	TRANSISTOR UMD2N-TR	
Q406	8-729-023-22	TRANSISTOR 2SD2114K	
Q407	8-729-023-22	TRANSISTOR 2SD2114K	
Q408	8-729-620-13	TRANSISTOR 2SC4154TP-1EF	
Q410	8-729-620-13	TRANSISTOR 2SC4154TP-1EF	
Q411	6-550-375-01	TRANSISTOR UMD2N-TR	
Q413	8-729-029-06	TRANSISTOR DTC124EUA-T106	
Q501	6-551-718-01	TRANSISTOR UMH1NTN	
Q502	6-551-699-01	TRANSISTOR ISA1602AM1TP-1EF	
Q503	8-729-620-13	TRANSISTOR 2SC4154TP-1EF	
Q504	8-729-620-13	TRANSISTOR 2SC4154TP-1EF	
Q505	8-729-620-13	TRANSISTOR 2SC4154TP-1EF	
Q506	8-729-013-26	TRANSISTOR HN1C03FU-TE85R	
Q507	8-729-013-26	TRANSISTOR HN1C03FU-TE85R	
Q508	8-729-028-83	TRANSISTOR DTA124EUA-T106	
Q509	8-729-620-13	TRANSISTOR 2SC4154TP-1EF	
Q510	8-729-620-13	TRANSISTOR 2SC4154TP-1EF	
Q511	6-551-699-01	TRANSISTOR ISA1602AM1TP-1EF	
Q601	6-551-699-01	TRANSISTOR ISA1602AM1TP-1EF	
Q602	6-551-699-01	TRANSISTOR ISA1602AM1TP-1EF	
Q604	6-551-699-01	TRANSISTOR ISA1602AM1TP-1EF	
Q605	6-551-699-01	TRANSISTOR ISA1602AM1TP-1EF	
Q606	8-729-620-13	TRANSISTOR 2SC4154TP-1EF	
Q751	6-551-699-01	TRANSISTOR ISA1602AM1TP-1EF	(AT105/AT107/AT205)
Q752	8-729-620-13	TRANSISTOR 2SC4154TP-1EF	(AT105/AT107/AT205)
Q801	8-729-620-13	TRANSISTOR 2SC4154TP-1EF	
		< RESISTOR >	
R101	1-216-809-11	METAL CHIP 100 5% 1/10W	
R102	1-216-809-11	METAL CHIP 100 5% 1/10W	
R103	1-216-809-11	METAL CHIP 100 5% 1/10W	
R104	1-216-841-11	METAL CHIP 47K 5% 1/10W	
R105	1-216-809-11	METAL CHIP 100 5% 1/10W	
R106	1-216-864-11	SHORT CHIP 0	
R107	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R109	1-216-815-11	METAL CHIP 330 5% 1/10W	
R110	1-216-809-11	METAL CHIP 100 5% 1/10W	
R111	1-216-809-11	METAL CHIP 100 5% 1/10W	
R112	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R113	1-216-864-11	SHORT CHIP 0	
R116	1-216-864-11	SHORT CHIP 0	
R117	1-216-857-11	METAL CHIP 1M 5% 1/10W	
R118	1-216-864-11	SHORT CHIP 0	
R123	1-216-815-11	METAL CHIP 330 5% 1/10W	
R124	1-216-815-11	METAL CHIP 330 5% 1/10W	
R125	1-216-809-11	METAL CHIP 100 5% 1/10W	
R126	1-216-809-11	METAL CHIP 100 5% 1/10W	
R127	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R129	1-216-815-11	METAL CHIP 330 5% 1/10W	
R130	1-216-864-11	SHORT CHIP 0	
R131	1-216-829-11	METAL CHIP 4.7K 5% 1/10W	
R132	1-218-867-11	METAL CHIP 6.8K 0.5% 1/10W	
R133	1-216-845-11	METAL CHIP 100K 5% 1/10W	
R134	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R135	1-216-845-11	METAL CHIP 100K 5% 1/10W	
R137	1-216-809-11	METAL CHIP 100 5% 1/10W	
R138	1-216-817-11	METAL CHIP 470 5% 1/10W	
R139	1-218-867-11	METAL CHIP 6.8K 0.5% 1/10W	
R140	1-216-864-11	SHORT CHIP 0	
R141	1-218-867-11	METAL CHIP 6.8K 0.5% 1/10W	
R142	1-216-864-11	SHORT CHIP 0	
R143	1-216-809-11	METAL CHIP 100 5% 1/10W	
R144	1-216-864-11	SHORT CHIP 0	
R145	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R146	1-216-809-11	METAL CHIP 100 5% 1/10W	
R147	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R148	1-216-809-11	METAL CHIP 100 5% 1/10W	
R149	1-216-864-11	SHORT CHIP 0	
R150	1-216-864-11	SHORT CHIP 0	
R151	1-216-864-11	SHORT CHIP 0	
R152	1-216-864-11	SHORT CHIP 0	
R153	1-216-809-11	METAL CHIP 100 5% 1/10W	
R154	1-216-809-11	METAL CHIP 100 5% 1/10W	
R155	1-216-809-11	METAL CHIP 100 5% 1/10W	
R156	1-216-809-11	METAL CHIP 100 5% 1/10W	
R157	1-216-845-11	METAL CHIP 100K 5% 1/10W	
R158	1-216-845-11	METAL CHIP 100K 5% 1/10W	
R159	1-216-864-11	SHORT CHIP 0	

Ref. No.	Part No.	Description			Remarks
R160	1-216-809-11	METAL CHIP	100	5%	1/10W
R161	1-216-864-11	SHORT CHIP	0		
R165	1-216-864-11	SHORT CHIP	0		
R167	1-216-809-11	METAL CHIP	100	5%	1/10W
R168	1-216-812-11	METAL CHIP	180	5%	1/10W
R169	1-216-833-11	METAL CHIP	10K	5%	1/10W
R171	1-216-809-11	METAL CHIP	100	5%	1/10W
R172	1-216-809-11	METAL CHIP	100	5%	1/10W
R173	1-216-845-11	METAL CHIP	100K	5%	1/10W
R174	1-216-845-11	METAL CHIP	100K	5%	1/10W
R175	1-216-815-11	METAL CHIP	330	5%	1/10W
R176	1-216-821-11	METAL CHIP	1K	5%	1/10W
R177	1-216-809-11	METAL CHIP	100	5%	1/10W
R178	1-216-809-11	METAL CHIP	100	5%	1/10W
R179	1-216-809-11	METAL CHIP	100	5%	1/10W
R180	1-216-809-11	METAL CHIP	100	5%	1/10W
R181	1-216-809-11	METAL CHIP	100	5%	1/10W
R182	1-216-809-11	METAL CHIP	100	5%	1/10W
R188	1-216-815-11	METAL CHIP	330	5%	1/10W
R189	1-216-817-11	METAL CHIP	470	5%	1/10W
R193	1-216-845-11	METAL CHIP	100K	5%	1/10W
R194	1-216-845-11	METAL CHIP	100K	5%	1/10W
R195	1-216-845-11	METAL CHIP	100K	5%	1/10W
R197	1-216-864-11	SHORT CHIP	0		
R199	1-216-809-11	METAL CHIP	100	5%	1/10W
R200	1-216-815-11	METAL CHIP	330	5%	1/10W
R201	1-216-864-11	SHORT CHIP	0	(AT105/AT107/AT205)	
R202	1-216-864-11	SHORT CHIP	0		
R203	1-216-864-11	SHORT CHIP	0		
R204	1-216-809-11	METAL CHIP	100	5%	1/10W
R205	1-216-809-11	METAL CHIP	100	5%	1/10W
R207	1-216-817-11	METAL CHIP	470	5%	1/10W
R208	1-216-864-11	SHORT CHIP	0	(AT105/AT107/AT205)	
R209	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R210	1-218-845-11	METAL CHIP	820	0.5%	1/10W
R214	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R215	1-216-819-11	METAL CHIP	680	5%	1/10W
R216	1-218-844-11	METAL CHIP	750	0.5%	1/10W
R217	1-216-821-11	METAL CHIP	1K	5%	1/10W
R219	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R220	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R221	1-216-809-11	METAL CHIP	100	5%	1/10W
R222	1-216-864-11	SHORT CHIP	0		
R223	1-216-864-11	SHORT CHIP	0		
R224	1-216-864-11	SHORT CHIP	0		
R226	1-216-835-11	METAL CHIP	15K	5%	1/10W
R228	1-216-864-11	SHORT CHIP	0		
R233	1-216-845-11	METAL CHIP	100K	5%	1/10W
R240	1-216-864-11	SHORT CHIP	0		
R241	1-216-864-11	SHORT CHIP	0		
R242	1-216-864-11	SHORT CHIP	0		
R255	1-216-809-11	METAL CHIP	100	5%	1/10W
R256	1-216-809-11	METAL CHIP	100	5%	1/10W
R304	1-216-809-11	METAL CHIP	100	5%	1/10W
R305	1-216-803-11	METAL CHIP	33	5%	1/10W
R306	1-216-803-11	METAL CHIP	33	5%	1/10W
R309	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R310	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R311	1-216-820-11	METAL CHIP	820	5%	1/10W
R312	1-216-833-11	METAL CHIP	10K	5%	1/10W
R313	1-216-848-11	METAL CHIP	180K	5%	1/10W
R314	1-216-837-11	METAL CHIP	22K	5%	1/10W
R315	1-218-895-11	METAL CHIP	100K	0.5%	1/10W
R316	1-218-879-11	METAL CHIP	22K	0.5%	1/10W
R402	1-216-818-11	METAL CHIP	560	5%	1/10W
R403	1-216-818-11	METAL CHIP	560	5%	1/10W
R408	1-216-817-11	METAL CHIP	470	5%	1/10W
R413	1-216-817-11	METAL CHIP	470	5%	1/10W
R414	1-216-817-11	METAL CHIP	470	5%	1/10W
R415	1-216-817-11	METAL CHIP	470	5%	1/10W
R416	1-216-817-11	METAL CHIP	470	5%	1/10W
R417	1-216-817-11	METAL CHIP	470	5%	1/10W
R418	1-216-817-11	METAL CHIP	470	5%	1/10W
R419	1-216-817-11	METAL CHIP	470	5%	1/10W
R420	1-216-860-11	METAL CHIP	1.8M	5%	1/10W
R421	1-216-860-11	METAL CHIP	1.8M	5%	1/10W
R422	1-216-833-11	METAL CHIP	10K	5%	1/10W
R425	1-216-845-11	METAL CHIP	100K	5%	1/10W
R428	1-216-864-11	SHORT CHIP	0		
R430	1-216-857-11	METAL CHIP	1M	5%	1/10W
R431	1-216-857-11	METAL CHIP	1M	5%	1/10W
R432	1-216-857-11	METAL CHIP	1M	5%	1/10W
R433	1-216-857-11	METAL CHIP	1M	5%	1/10W
R435	1-216-857-11	METAL CHIP	1M	5%	1/10W
R436	1-216-809-11	METAL CHIP	100	5%	1/10W
R437	1-216-809-11	METAL CHIP	100	5%	1/10W
R439	1-216-860-11	METAL CHIP	1.8M	5%	1/10W
R444	1-208-755-11	METAL CHIP	75	0.5%	1/10W
R445	1-208-755-11	METAL CHIP	75	0.5%	1/10W
R447	1-208-755-11	METAL CHIP	75	0.5%	1/10W
R453	1-218-869-11	METAL CHIP	8.2K	0.5%	1/10W
R454	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R455	1-216-805-11	METAL CHIP	47	5%	1/10W
R458	1-216-817-11	METAL CHIP	470	5%	1/10W
R460	1-216-864-11	SHORT CHIP	0		
R461	1-216-819-11	METAL CHIP	680	5%	1/10W
R462	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R463	1-218-869-11	METAL CHIP	8.2K	0.5%	1/10W
R465	1-216-817-11	METAL CHIP	470	5%	1/10W
R468	1-208-754-11	METAL CHIP	68	0.5%	1/10W
R469	1-216-306-11	RES-CHIP	3.9	5%	1/10W
R470	1-208-755-11	METAL CHIP	75	0.5%	1/10W
R471	1-216-295-91	SHORT CHIP	0		
R472	1-208-754-11	METAL CHIP	68	0.5%	1/10W
R473	1-216-306-11	RES-CHIP	3.9	5%	1/10W
R474	1-208-754-11	METAL CHIP	68	0.5%	1/10W
R475	1-216-306-11	RES-CHIP	3.9	5%	1/10W
R476	1-208-754-11	METAL CHIP	68	0.5%	1/10W
R477	1-216-306-11	RES-CHIP	3.9	5%	1/10W
R478	1-208-754-11	METAL CHIP	68	0.5%	1/10W
R479	1-216-817-11	METAL CHIP	470	5%	1/10W
R480	1-216-306-11	RES-CHIP	3.9	5%	1/10W
R482	1-216-809-11	METAL CHIP	100	5%	1/10W
R484	1-216-821-11	METAL CHIP	1K	5%	1/10W
R485	1-216-837-11	METAL CHIP	22K	5%	1/10W
R486	1-216-821-11	METAL CHIP	1K	5%	1/10W
R487	1-216-837-11	METAL CHIP	22K	5%	1/10W
R488	1-216-817-11	METAL CHIP	470	5%	1/10W
R490	1-216-809-11	METAL CHIP	100	5%	1/10W
R501	1-208-755-11	METAL CHIP	75	0.5%	1/10W

Ref. No.	Part No.	Description			Remarks
R502	1-208-755-11	METAL CHIP	75	0.5%	1/10W
R503	1-208-755-11	METAL CHIP	75	0.5%	1/10W
R504	1-208-754-11	METAL CHIP	68	0.5%	1/10W
R505	1-216-306-11	RES-CHIP	3.9	5%	1/10W
R506	1-216-864-11	SHORT CHIP	0		
R507	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R508	1-216-841-11	METAL CHIP	47K	5%	1/10W
R509	1-216-838-11	METAL CHIP	27K	5%	1/10W
R510	1-216-861-11	METAL CHIP	2.2M	5%	1/10W
R511	1-216-849-11	METAL CHIP	220K	5%	1/10W
R512	1-216-845-11	METAL CHIP	100K	5%	1/10W
R513	1-216-845-11	METAL CHIP	100K	5%	1/10W
R514	1-208-755-11	METAL CHIP	75	0.5%	1/10W
R515	1-216-043-91	RES-CHIP	560	5%	1/10W
R516	1-216-822-11	METAL CHIP	1.2K	5%	1/10W
R517	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R518	1-216-797-11	METAL CHIP	10	5%	1/10W
R519	1-216-842-11	METAL CHIP	56K	5%	1/10W
R520	1-216-813-11	METAL CHIP	220	5%	1/10W
R521	1-208-754-11	METAL CHIP	68	0.5%	1/10W
R522	1-216-306-11	RES-CHIP	3.9	5%	1/10W
R523	1-208-754-11	METAL CHIP	68	0.5%	1/10W
R524	1-216-306-11	RES-CHIP	3.9	5%	1/10W
R525	1-208-754-11	METAL CHIP	68	0.5%	1/10W
R526	1-216-306-11	RES-CHIP	3.9	5%	1/10W
R527	1-216-295-91	SHORT CHIP	0		
R528	1-208-755-11	METAL CHIP	75	0.5%	1/10W
R529	1-216-845-11	METAL CHIP	100K	5%	1/10W
R530	1-208-755-11	METAL CHIP	75	0.5%	1/10W
R531	1-216-295-91	SHORT CHIP	0		
R532	1-208-755-11	METAL CHIP	75	0.5%	1/10W
R534	1-216-828-11	METAL CHIP	3.9K	5%	1/10W
R535	1-216-828-11	METAL CHIP	3.9K	5%	1/10W
R536	1-216-817-11	METAL CHIP	470	5%	1/10W
R537	1-216-809-11	METAL CHIP	100	5%	1/10W
R538	1-216-817-11	METAL CHIP	470	5%	1/10W
R539	1-216-809-11	METAL CHIP	100	5%	1/10W
R540	1-216-845-11	METAL CHIP	100K	5%	1/10W
R541	1-216-845-11	METAL CHIP	100K	5%	1/10W
R542	1-216-809-11	METAL CHIP	100	5%	1/10W
R543	1-216-809-11	METAL CHIP	100	5%	1/10W
R544	1-216-809-11	METAL CHIP	100	5%	1/10W
R545	1-216-809-11	METAL CHIP	100	5%	1/10W
R546	1-216-845-11	METAL CHIP	100K	5%	1/10W
R547	1-216-845-11	METAL CHIP	100K	5%	1/10W
R548	1-216-845-11	METAL CHIP	100K	5%	1/10W
R549	1-216-845-11	METAL CHIP	100K	5%	1/10W
R550	1-216-817-11	METAL CHIP	470	5%	1/10W
R551	1-216-809-11	METAL CHIP	100	5%	1/10W
R552	1-216-817-11	METAL CHIP	470	5%	1/10W
R553	1-216-809-11	METAL CHIP	100	5%	1/10W
R554	1-216-845-11	METAL CHIP	100K	5%	1/10W
R555	1-216-845-11	METAL CHIP	100K	5%	1/10W
R556	1-216-828-11	METAL CHIP	3.9K	5%	1/10W
R557	1-216-828-11	METAL CHIP	3.9K	5%	1/10W
R558	1-216-833-11	METAL CHIP	10K	5%	1/10W
R559	1-216-864-11	SHORT CHIP	0		
R560	1-216-835-11	METAL CHIP	15K	5%	1/10W
R561	1-216-819-11	METAL CHIP	680	5%	1/10W
R562	1-216-833-11	METAL CHIP	10K	5%	1/10W
R563	1-216-864-11	SHORT CHIP	0		
R564	1-216-835-11	METAL CHIP	15K	5%	1/10W
R565	1-216-819-11	METAL CHIP	680	5%	1/10W
R566	1-216-837-11	METAL CHIP	22K	5%	1/10W
R568	1-216-834-11	METAL CHIP	12K	5%	1/10W
R569	1-216-821-11	METAL CHIP	1K	5%	1/10W
R571	1-208-755-11	METAL CHIP	75	0.5%	1/10W
R573	1-500-283-11	INDUCTOR, FERRITE BEAD			
R602	1-216-821-11	METAL CHIP	1K	5%	1/10W
R603	1-216-864-11	SHORT CHIP	0		
R605	1-216-833-11	METAL CHIP	10K	5%	1/10W
R606	1-216-833-11	METAL CHIP	10K	5%	1/10W
R607	1-216-821-11	METAL CHIP	1K	5%	1/10W
R609	1-216-864-11	SHORT CHIP	0		
R616	1-216-864-11	SHORT CHIP	0		
R619	1-216-833-11	METAL CHIP	10K	5%	1/10W
R620	1-216-864-11	SHORT CHIP	0		
R621	1-216-809-11	METAL CHIP	100	5%	1/10W
R622	1-216-809-11	METAL CHIP	100	5%	1/10W
R623	1-216-821-11	METAL CHIP	1K	5%	1/10W
R624	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R625	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R626	1-216-821-11	METAL CHIP	1K	5%	1/10W
R627	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R628	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R630	1-216-815-11	METAL CHIP	330	5%	1/10W
R631	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R632	1-216-801-11	METAL CHIP	22	5%	1/10W
R633	1-216-809-11	METAL CHIP	100	5%	1/10W
R634	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R635	1-400-330-21	FERRITE	0uH		
R636	1-400-330-21	FERRITE	0uH		
R637	1-400-330-21	FERRITE	0uH		
R638	1-216-809-11	METAL CHIP	100	5%	1/10W
R701	1-216-849-11	METAL CHIP	220K	5%	1/10W
R751	1-216-821-11	METAL CHIP	1K	5%	1/10W (AT105/AT107/AT205)
R752	1-216-829-11	METAL CHIP	4.7K	5%	1/10W (AT105/AT107/AT205)
R753	1-216-829-11	METAL CHIP	4.7K	5%	1/10W (AT105/AT107/AT205)
R754	1-216-811-11	METAL CHIP	150	5%	1/10W (AT105/AT107/AT205)
R755	1-216-829-11	METAL CHIP	4.7K	5%	1/10W (AT105/AT107/AT205)
R756	1-216-821-11	METAL CHIP	1K	5%	1/10W (AT105/AT107/AT205)
R810	1-216-805-11	METAL CHIP	47	5%	1/10W
R811	1-216-817-11	METAL CHIP	470	5%	1/10W

Ref. No.	Part No.	Description			Remarks
		< TUNER >			
⚠U601	1-693-753-21	TUNER(TMFE2-408B)			
		< VIBRATOR >			
* X101	1-813-965-31	VIBRATOR, CRYSTAL (15MHz)			
X102	1-795-950-11	VIBRATOR, CRYSTAL (32.768kHz)			
* X601	1-813-713-21	VIBRATOR, CRYSTAL (18.432MHZ)			
**********					
	A-1700-065-A	FL-196 BOARD, COMPLETE (REF.NO. ; 30,000 SERIES)			
		**********			
		< CAPACITOR >			
C101	1-115-156-11	CERAMIC CHIP	1uF		10V
C102	1-115-156-11	CERAMIC CHIP	1uF		10V
C107	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C111	1-117-681-11	ELECT CHIP	100uF	20%	16V
		< CONNECTOR >			
CN104	1-819-866-11	CONNECTOR, USB (A) (⇜)			
CN105	1-817-693-11	CONNECTOR, USB (B) (PictBridge)			
		< CHOKE COIL >			
FL101	1-456-390-21	INDUCTOR	0uH		
FL102	1-456-390-21	INDUCTOR	0uH		
		< IC >			
IC101	6-600-500-01	IC GP1UM28XK0SF			
		< COIL >			
L102	1-400-180-21	FERRITE	0uH		
L103	1-400-180-21	FERRITE	0uH		
L104	1-400-180-21	FERRITE	0uH		
L105	1-400-180-21	FERRITE	0uH		
		< RESISTOR >			
R104	1-216-803-11	METAL CHIP	33	5%	1/10W
R105	1-216-803-11	METAL CHIP	33	5%	1/10W
R108	1-216-803-11	METAL CHIP	33	5%	1/10W
R109	1-216-803-11	METAL CHIP	33	5%	1/10W
R112	1-216-864-11	SHORT CHIP	0		
R113	1-216-864-11	SHORT CHIP	0		
		< SWITCH >			
S101	1-786-726-11	SWITCH, TACTILE (POWER)			
S102	1-786-726-11	SWITCH, TACTILE (ONE-TOUCH DUB)			
		< VARISTOR >			
VDR102	1-802-071-21	VARISTOR, CHIP			
VDR104	1-802-071-21	VARISTOR, CHIP			
**********					

Ref. No.	Part No.	Description			Remarks
	A-1700-067-A	FR-304 BOARD, COMPLETE (REF.NO. ; 30,000 SERIES)			
		**********			
*	4-129-980-01	SPACER, FL			
		< CAPACITOR >			
C201	1-117-681-11	ELECT CHIP	100uF	20%	16V
C204	1-164-230-11	CERAMIC CHIP	220PF	5%	50V
C206	1-164-230-11	CERAMIC CHIP	220PF	5%	50V
C211	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C213	1-165-621-91	CERAMIC CHIP	0.1uF		50V
C215	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C216	1-126-400-11	ELECT CHIP	22uF	20%	35V
C217	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C221	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C222	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C223	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
		< CONNECTOR >			
CN201	1-815-381-11	CONNECTOR, FPC/FFC 5P			
CN202	1-816-497-11	CONNECTOR, FFC/FPC 24P			
		< DIODE >			
D202	8-719-067-40	DIODE STZ6.8N-T146			
D203	8-719-067-40	DIODE STZ6.8N-T146			
D204	8-719-067-40	DIODE STZ6.8N-T146			
D205	8-719-067-40	DIODE STZ6.8N-T146			
D206	8-719-067-40	DIODE STZ6.8N-T146			
D207	8-719-067-40	DIODE STZ6.8N-T146			
D208	8-719-081-97	DIODE MMDL914T1			
D209	8-719-081-97	DIODE MMDL914T1			
D210	8-719-081-97	DIODE MMDL914T1			
D211	8-719-081-97	DIODE MMDL914T1			
* D212	6-501-884-01	DIODE SDPB31H3C0100			
D214	6-501-437-01	DIODE SLI-343YC3F			
D216	8-719-056-82	DIODE MM3Z6V2ST1			
		< FERRITE BEAD >			
FB201	1-414-228-11	FERRITE	0uH		
FB202	1-414-228-11	FERRITE	0uH		
		< IC >			
IC201	6-701-729-01	IC PT6315			
		< COIL >			
L201	1-411-919-11	INDUCTOR	100uH		
		< FLUORESCENT INDICATOR TUBE >			
ND201	1-519-964-21	INDICATOR TUBE, FLUORESCENT			

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

Ref. No.	Part No.	Description			Remarks
		< TRANSISTOR >			
Q201	8-729-052-91	TRANSISTOR	2SD1898T100R		
Q202	8-729-052-91	TRANSISTOR	2SD1898T100R		
Q203	6-552-221-01	TRANSISTOR	2SA2188-T112-1F		
Q204	8-729-421-19	TRANSISTOR	UN2213		
Q205	8-729-029-06	TRANSISTOR	DTC124EUA-T106		
Q206	8-729-029-10	TRANSISTOR	DTC143TUA-T106		
		< RESISTOR >			
R201	1-216-295-91	SHORT CHIP	0		
R205	1-216-864-11	SHORT CHIP	0		
R206	1-216-864-11	SHORT CHIP	0		
R207	1-216-864-11	SHORT CHIP	0		
R209	1-216-833-11	METAL CHIP	10K	5%	1/10W
R210	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R213	1-216-864-11	SHORT CHIP	0		
R215	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R216	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R217	1-216-833-11	METAL CHIP	10K	5%	1/10W
R218	1-216-849-11	METAL CHIP	220K	5%	1/10W
R220	1-216-849-11	METAL CHIP	220K	5%	1/10W
R222	1-216-295-91	SHORT CHIP	0		
R223	1-216-821-11	METAL CHIP	1K	5%	1/10W
R225	1-216-814-11	METAL CHIP	270	5%	1/10W
R227	1-216-838-11	METAL CHIP	27K	5%	1/10W
R228	1-216-833-11	METAL CHIP	10K	5%	1/10W
R229	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R230	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R231	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R232	1-216-864-11	SHORT CHIP	0		
R233	1-216-845-11	METAL CHIP	100K	5%	1/10W
R235	1-216-864-11	SHORT CHIP	0		
R236	1-216-833-11	METAL CHIP	10K	5%	1/10W
R237	1-216-833-11	METAL CHIP	10K	5%	1/10W
R238	1-216-833-11	METAL CHIP	10K	5%	1/10W
R239	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R240	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R241	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R242	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R243	1-216-833-11	METAL CHIP	10K	5%	1/10W
R244	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R245	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R246	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R250	1-216-805-11	METAL CHIP	47	5%	1/10W
R251	1-216-805-11	METAL CHIP	47	5%	1/10W
R252	1-216-805-11	METAL CHIP	47	5%	1/10W
R259	1-216-821-11	METAL CHIP	1K	5%	1/10W
R260	1-216-864-11	SHORT CHIP	0		
R261	1-216-814-11	METAL CHIP	270	5%	1/10W
R262	1-216-864-11	SHORT CHIP	0		
		< SWITCH >			
S201	1-786-726-11	SWITCH, TACTILE (REC STOP)			
S202	1-786-726-11	SWITCH, TACTILE (INPUT)			
S203	1-786-726-11	SWITCH, TACTILE (REC)			
S204	1-786-726-11	SWITCH, TACTILE (PROGRAM+)			
S205	1-786-726-11	SWITCH, TACTILE (PROGRAM-)			
S206	1-786-726-11	SWITCH, TACTILE (STOP)			
S207	1-786-726-11	SWITCH, TACTILE (PLAY)			
S209	1-786-726-11	SWITCH, TACTILE (OPEN/CLOSE)			
		< TRANSFORMER >			
* T201	1-445-207-11	TRANSFORMER, DC-DC CONVERTER			
**********					
		RD-066 (AS) BOARD (not supplied)			
		(REF.NO. ; 20,000 SERIES)			
		**********			
		< CAPACITOR >			
C100	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C101	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C103	1-126-210-21	ELECT CHIP	220uF	20%	4V
C104	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C105	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C107	1-164-936-11	CERAMIC CHIP	680PF	10%	50V
C113	1-100-581-81	CERAMIC CHIP	0.0047uF	10%	50V
C114	1-100-581-81	CERAMIC CHIP	0.0047uF	10%	50V
C115	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C116	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C117	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C120	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C121	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C122	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C124	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C125	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C127	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C128	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C129	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C130	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C131	1-137-987-81	CERAMIC CHIP	0.068uF	10%	10V
C133	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C134	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C135	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C136	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C137	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
C142	1-100-966-91	CERAMIC CHIP	10uF	20%	10V
C143	1-100-966-91	CERAMIC CHIP	10uF	20%	10V
C144	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C145	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C146	1-100-966-91	CERAMIC CHIP	10uF	20%	10V
C149	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C152	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C153	1-124-779-00	ELECT CHIP	10uF	20%	16V
C154	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C157	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C158	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C162	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C163	1-126-210-21	ELECT CHIP	220uF	20%	4V
C164	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C165	1-164-858-11	CERAMIC CHIP	22PF	5%	50V
C166	1-164-858-11	CERAMIC CHIP	22PF	5%	50V
C169	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C170	1-164-866-11	CERAMIC CHIP	47PF	5%	50V
C171	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V

Ref. No.	Part No.	Description			Remarks
C172	1-164-866-11	CERAMIC CHIP	47PF	5%	50V
C173	1-164-866-11	CERAMIC CHIP	47PF	5%	50V
C174	1-164-866-11	CERAMIC CHIP	47PF	5%	50V
C176	1-164-858-11	CERAMIC CHIP	22PF	5%	50V
C177	1-164-858-11	CERAMIC CHIP	22PF	5%	50V
C180	1-100-966-91	CERAMIC CHIP	10uF	20%	10V
C181	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C182	1-100-966-91	CERAMIC CHIP	10uF	20%	10V
C187	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C188	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C189	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C194	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C197	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C280	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C281	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C282	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C283	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C284	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C285	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C286	1-100-966-91	CERAMIC CHIP	10uF	20%	10V
C287	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C289	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C291	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C502	1-114-419-21	CERAMIC CHIP	10uF	10%	16V
C503	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C504	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C505	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C508	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C509	1-164-862-11	CERAMIC CHIP	33PF	5%	50V
C510	1-164-870-11	CERAMIC CHIP	68PF	5%	50V
C511	1-127-573-11	CERAMIC CHIP	1uF	10%	16V
C512	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C513	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C514	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C515	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C516	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C532	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1001	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1002	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1003	1-126-209-11	ELECT CHIP	100uF	20%	4V
C1004	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1005	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C1006	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1007	1-126-210-21	ELECT CHIP	220uF	20%	4V
C1008	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1009	1-126-210-21	ELECT CHIP	220uF	20%	4V
C1010	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1011	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C1012	1-126-209-11	ELECT CHIP	100uF	20%	4V
C1013	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1014	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C1015	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1016	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1017	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1018	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1019	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1020	1-124-779-00	ELECT CHIP	10uF	20%	16V
C1021	1-100-966-91	CERAMIC CHIP	10uF	20%	10V
C1022	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1023	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V

Ref. No.	Part No.	Description			Remarks
C1024	1-126-209-11	ELECT CHIP	100uF	20%	4V
C1025	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1026	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C1027	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1028	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1029	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1030	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1031	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1032	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1033	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1034	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1035	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1036	1-126-209-11	ELECT CHIP	100uF	20%	4V
C1037	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1038	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C1039	1-126-209-11	ELECT CHIP	100uF	20%	4V
C1040	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1041	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C1044	1-164-840-11	CERAMIC CHIP	1PF	0.25PF	50V
C1045	1-164-840-11	CERAMIC CHIP	1PF	0.25PF	50V
C1047	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1048	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1049	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C1050	1-126-209-11	ELECT CHIP	100uF	20%	4V
C1051	1-100-966-91	CERAMIC CHIP	10uF	20%	10V
C1052	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1053	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C1056	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1058	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C1059	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1061	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C1062	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1064	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C1065	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C1066	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1068	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C1101	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C1102	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1104	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1113	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1202	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1204	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1205	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C1206	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C1207	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C1208	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1209	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C1210	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C1215	1-126-209-11	ELECT CHIP	100uF	20%	4V
C1216	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1217	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1218	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1219	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1220	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1221	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1223	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1224	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C1225	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C1226	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C1227	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V

Ref. No.	Part No.	Description			Remarks
C1228	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C1229	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C1231	1-100-966-91	CERAMIC CHIP	10uF	20%	10V
C1235	1-100-966-91	CERAMIC CHIP	10uF	20%	10V
C1236	1-126-209-11	ELECT CHIP	100uF	20%	4V
C1301	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C1304	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C1316	1-100-966-91	CERAMIC CHIP	10uF	20%	10V
C1401	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C1421	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1801	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1802	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C1803	1-164-882-11	CERAMIC CHIP	220PF	5%	16V
C1804	1-164-934-11	CERAMIC CHIP	330PF	10%	50V
C1805	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C1811	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C1812	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C1813	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C1814	1-164-878-11	CERAMIC CHIP	150PF	5%	50V
C1815	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C2305	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C2501	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C2502	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C2503	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C2504	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C2505	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C2506	1-100-966-91	CERAMIC CHIP	10uF	20%	10V
C3103	1-117-681-11	ELECT CHIP	100uF	20%	16V
C3104	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C3106	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C3107	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C3108	1-126-210-21	ELECT CHIP	220uF	20%	4V
C3201	1-126-916-11	ELECT	1000uF	20%	6.3V
C3203	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C3204	1-164-934-11	CERAMIC CHIP	330PF	10%	50V
C3207	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C3211	1-117-681-11	ELECT CHIP	100uF	20%	16V
* C3213	1-100-741-81	CERAMIC CHIP	560PF	5%	50V
* C3214	1-100-741-81	CERAMIC CHIP	560PF	5%	50V
C3215	1-164-872-11	CERAMIC CHIP	82PF	5%	50V
C3216	1-164-872-11	CERAMIC CHIP	82PF	5%	50V
C3219	1-126-210-21	ELECT CHIP	220uF	20%	4V
C3220	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C3301	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V
C3302	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V
C3303	1-164-845-11	CERAMIC CHIP	5PF	0.25PF	50V
C3304	1-164-870-11	CERAMIC CHIP	68PF	5%	50V
C3305	1-164-854-11	CERAMIC CHIP	15PF	5%	50V
C3307	1-100-966-91	CERAMIC CHIP	10uF	20%	10V
C3311	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V
C3312	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V
C3313	1-100-966-91	CERAMIC CHIP	10uF	20%	10V
C3314	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V
C3315	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V
C3316	1-164-845-11	CERAMIC CHIP	5PF	0.25PF	50V
C3317	1-164-870-11	CERAMIC CHIP	68PF	5%	50V
C3318	1-164-854-11	CERAMIC CHIP	15PF	5%	50V
C3319	1-100-966-91	CERAMIC CHIP	10uF	20%	10V
C3320	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V
C3321	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V
C3322	1-164-845-11	CERAMIC CHIP	5PF	0.25PF	50V
C3323	1-164-870-11	CERAMIC CHIP	68PF	5%	50V
C3324	1-164-854-11	CERAMIC CHIP	15PF	5%	50V
C3325	1-100-966-91	CERAMIC CHIP	10uF	20%	10V
C3329	1-164-845-11	CERAMIC CHIP	5PF	0.25PF	50V
C3330	1-164-870-11	CERAMIC CHIP	68PF	5%	50V
C3331	1-164-854-11	CERAMIC CHIP	15PF	5%	50V
C3332	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C3333	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C3334	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C3335	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C3339	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C3340	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C3341	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C3342	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C3701	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C3703	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C3704	1-100-966-91	CERAMIC CHIP	10uF	20%	10V
C3705	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C3706	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C3707	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C3738	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C3801	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C3802	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C3803	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C3804	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C4501	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C4502	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C4503	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C4505	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C4507	1-117-681-11	ELECT CHIP	100uF	20%	16V
C4508	1-126-210-21	ELECT CHIP	220uF	20%	4V
C4509	1-126-210-21	ELECT CHIP	220uF	20%	4V
C4511	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4513	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4515	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C4516	1-124-779-00	ELECT CHIP	10uF	20%	16V
C4522	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C4524	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4525	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4526	1-218-967-11	RES-CHIP	15K	5%	1/16W
C4531	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C4532	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C4533	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C4534	1-100-966-91	CERAMIC CHIP	10uF	20%	10V
C4535	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C4536	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C4537	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C4539	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C4540	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C4541	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C4542	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C4543	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C4553	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C4555	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4556	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4557	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C4558	1-117-681-11	ELECT CHIP	100uF	20%	16V
C4559	1-117-681-11	ELECT CHIP	100uF	20%	16V
C4562	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V

Ref. No.	Part No.	Description			Remarks
C4563	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C4567	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C4570	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C4571	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4572	1-126-210-21	ELECT CHIP	220uF	20%	4V
C4573	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C5105	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C5106	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C5107	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C5108	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C5110	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C5111	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C5112	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C5115	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C5116	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C5117	1-164-852-11	CERAMIC CHIP	12PF	5%	50V
C5118	1-164-852-11	CERAMIC CHIP	12PF	5%	50V
C5119	1-100-574-81	CERAMIC CHIP	270PF	10%	50V
C5120	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C5121	1-126-209-11	ELECT CHIP	100uF	20%	4V
C5122	1-126-209-11	ELECT CHIP	100uF	20%	4V
C5123	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C5132	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C5133	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C5205	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C5210	1-117-681-11	ELECT CHIP	100uF	20%	16V
C5211	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C5212	1-114-419-21	CERAMIC CHIP	10uF	10%	16V
C5213	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C5216	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C5217	1-114-419-21	CERAMIC CHIP	10uF	10%	16V
C5219	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C5223	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C5601	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C5602	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C5604	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C5605	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C5606	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C5607	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C5608	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C5609	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C5610	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C5611	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C5612	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5613	1-126-209-11	ELECT CHIP	100uF	20%	4V
C5614	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C5615	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5616	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5617	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C5622	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C5623	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C5624	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C5625	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C5626	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C5627	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C5628	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C5629	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C5630	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C5631	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C5632	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V

Ref. No.	Part No.	Description			Remarks
C5640	1-164-854-11	CERAMIC CHIP	15PF	5%	50V
C5641	1-164-854-11	CERAMIC CHIP	15PF	5%	50V
C5702	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C5705	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C5706	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C5707	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C5708	1-126-210-21	ELECT CHIP	220uF	20%	4V
C5709	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C5801	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C5802	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C5803	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C5804	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C5805	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C5806	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C5807	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C5808	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C5809	1-126-210-21	ELECT CHIP	220uF	20%	4V
C5814	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C5815	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C5816	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C5817	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C5818	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C5819	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C5820	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C5821	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C5822	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C5830	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C5831	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V
C5832	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C5833	1-114-130-11	CERAMIC CHIP	1uF	10%	6.3V

< CONNECTOR >

CN201	1-816-643-51	FFC/FPC CONNECTOR (LIF) 10P	
CN501	1-766-767-51	CONNECTOR, FPC 12P	
CN601	1-784-857-51	CONNECTOR, FFC (LIF (NON-ZIF)) 5P	
CN1402	1-764-177-11	PIN, CONNECTOR (SMD) (1.5MM) 7P	
* CN4501	1-564-729-11	PIN, CONNECTOR (SMALL TYPE) 13P	
CN5101	1-573-806-21	PIN, CONNECTOR (1.5MM) (SMD) 6P	
CN5201	1-766-382-21	PIN, CONNECTOR (1.5MM) (SMD) 10P	
CN5604	1-819-876-21	CONNECTOR, SMTA SMT (7P)	

< DIODE >

D1401	8-719-081-42	DIODE UMZ6.8N-T106
D3201	8-719-941-86	DIODE DAN202U
D4521	8-719-058-24	DIODE RB501V-40TE-17
D4552	8-719-058-24	DIODE RB501V-40TE-17
D4571	8-719-058-24	DIODE RB501V-40TE-17

< IC >

IC201	6-712-191-01	IC W9864G6GH-6-ER10 (T&R)
IC1102	6-708-914-01	IC S29GL128N90TFIR20
IC1201	6-708-812-01	IC HYB25DC512160CE-6
IC1221	6-708-812-01	IC HYB25DC512160CE-6
IC3101	6-710-840-01	IC AK5358AET-E2
IC3202	8-759-100-96	IC uPC4558G2
IC3701	8-759-679-05	IC TC7WH34FU (TE12R)
IC3702	6-706-487-01	IC TC7SH08FU (T5RSOYJF)
IC3707	6-707-472-01	IC PST3813UL
IC4541	6-702-362-01	IC MM1563DFBE

Ref. No.	Part No.	Description	Remarks
IC4552	6-711-050-01	IC S-1170B50UC-OUJTFG	
IC4561	6-711-116-01	IC NJM2878F3-05 (TE2)	
IC4562	6-711-237-01	IC NJM2878F3-33 (TE2)	
IC4571	6-711-047-01	IC S-1132B18-u5T1G	
IC5103	6-706-365-01	IC uPD72852AGB-8EU-A	
IC5203	6-706-487-01	IC TC7SH08FU (T5RSOYJF)	
IC5602	6-806-103-01	IC 88SA8040-TBC1C000	
IC5701	6-707-858-01	IC TC74VHC00FT (EKJ)	
IC5804	8-759-680-49	IC TC7WB125FK (TE85R)	
		< JACK >	
JA5801	1-821-450-12	CONNECTOR, HDMI	
		< COIL >	
L105	1-469-967-21	INDUCTOR 10uH	
L1005	1-412-008-31	INDUCTOR 15uH	
L1801	1-412-958-21	INDUCTOR 39uH	
L1811	1-412-953-11	INDUCTOR 15uH	
L3301	1-412-954-11	INDUCTOR 18uH	
L3302	1-412-951-11	INDUCTOR 10uH	
L3303	1-412-954-11	INDUCTOR 18uH	
L3304	1-412-951-11	INDUCTOR 10uH	
L3305	1-412-954-11	INDUCTOR 18uH	
L3306	1-412-951-11	INDUCTOR 10uH	
L3307	1-412-954-11	INDUCTOR 18uH	
L3308	1-412-951-11	INDUCTOR 10uH	
L4551	1-469-967-21	INDUCTOR 10uH	
L5101	1-414-235-22	INDUCTOR, FERRITE BEAD	
L5201	1-456-799-11	COIL, COMMON MODE CHOKE	
L5202	1-456-799-11	COIL, COMMON MODE CHOKE	
L5701	1-400-330-21	INDUCTOR, FERRITE BEAD (1608)	
L5801	1-457-374-21	COMMOM MODE CHOKE COIL	
L5802	1-457-374-21	COMMOM MODE CHOKE COIL	
L5803	1-457-374-21	COMMOM MODE CHOKE COIL	
L5804	1-457-374-21	COMMOM MODE CHOKE COIL	
		< TRANSISTOR >	
Q1801	8-729-026-53	TRANSISTOR 2SA1576A-T106-QR	
Q1811	8-729-026-53	TRANSISTOR 2SA1576A-T106-QR	
Q2501	8-729-026-53	TRANSISTOR 2SA1576A-T106-QR	
Q2502	8-729-026-53	TRANSISTOR 2SA1576A-T106-QR	
Q2503	8-729-026-53	TRANSISTOR 2SA1576A-T106-QR	
Q2504	8-729-026-53	TRANSISTOR 2SA1576A-T106-QR	
Q2505	8-729-026-53	TRANSISTOR 2SA1576A-T106-QR	
Q3301	8-729-026-53	TRANSISTOR 2SA1576A-T106-QR	
Q3302	8-729-905-35	TRANSISTOR 2SC4081-R	
Q3303	8-729-026-53	TRANSISTOR 2SA1576A-T106-QR	
Q3304	8-729-905-35	TRANSISTOR 2SC4081-R	
Q3305	8-729-026-53	TRANSISTOR 2SA1576A-T106-QR	
Q3306	8-729-905-35	TRANSISTOR 2SC4081-R	
Q3307	8-729-026-53	TRANSISTOR 2SA1576A-T106-QR	
Q3308	8-729-905-35	TRANSISTOR 2SC4081-R	
Q5701	8-729-905-35	TRANSISTOR 2SC4081-R	
Q5801	6-550-376-01	TRANSISTOR UMX1N-TN	
Q5804	8-729-029-06	TRANSISTOR DTC124EUA-T106	
Q5805	8-729-026-53	TRANSISTOR 2SA1576A-T106-QR	
Q5808	8-729-031-34	TRANSISTOR 2SK2034	
Q5809	8-729-029-06	TRANSISTOR DTC124EUA-T106	
Q5811	8-729-028-83	TRANSISTOR DTA124EUA-T106	

Ref. No.	Part No.	Description			Remarks
		< RESISTOR >			
R104	1-218-966-11	RES-CHIP	12K	5%	1/16W
R105	1-218-990-81	SHORT CHIP	0		
R107	1-218-973-11	RES-CHIP	47K	5%	1/16W
R108	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R109	1-208-702-11	METAL CHIP	6.2K	0.5%	1/16W
R110	1-218-953-11	RES-CHIP	1K	5%	1/16W
R111	1-218-985-11	RES-CHIP	470K	5%	1/16W
R112	1-218-985-11	RES-CHIP	470K	5%	1/16W
R114	1-218-971-11	RES-CHIP	33K	5%	1/16W
R115	1-218-990-81	SHORT CHIP	0		
R116	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R117	1-218-939-11	RES-CHIP	68	5%	1/16W
R119	1-218-990-81	SHORT CHIP	0		
R124	1-218-990-81	SHORT CHIP	0		
R128	1-218-990-81	SHORT CHIP	0		
R129	1-218-990-81	SHORT CHIP	0		
R130	1-218-945-11	RES-CHIP	220	5%	1/16W
R131	1-218-945-11	RES-CHIP	220	5%	1/16W
R132	1-218-945-11	RES-CHIP	220	5%	1/16W
R133	1-218-945-11	RES-CHIP	220	5%	1/16W
R134	1-218-973-11	RES-CHIP	47K	5%	1/16W
R135	1-218-945-11	RES-CHIP	220	5%	1/16W
R136	1-218-945-11	RES-CHIP	220	5%	1/16W
R137	1-218-945-11	RES-CHIP	220	5%	1/16W
R138	1-218-973-11	RES-CHIP	47K	5%	1/16W
R139	1-218-945-11	RES-CHIP	220	5%	1/16W
R165	1-218-952-11	RES-CHIP	820	5%	1/16W
R166	1-218-952-11	RES-CHIP	820	5%	1/16W
R167	1-218-952-11	RES-CHIP	820	5%	1/16W
R168	1-218-990-81	SHORT CHIP	0		
R170	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R171	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R172	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R174	1-218-863-11	METAL CHIP	4.7K	0.5%	1/10W
R192	1-216-833-11	METAL CHIP	10K	5%	1/10W
R193	1-218-990-81	SHORT CHIP	0		
R202	1-218-935-11	RES-CHIP	33	5%	1/16W
R203	1-218-935-11	RES-CHIP	33	5%	1/16W
R204	1-242-963-21	RES, NETWORK	33 (1005X4)		
R205	1-242-963-21	RES, NETWORK	33 (1005X4)		
R206	1-242-963-21	RES, NETWORK	33 (1005X4)		
R210	1-218-935-11	RES-CHIP	33	5%	1/16W
R211	1-218-990-81	SHORT CHIP	0		
R219	1-234-377-21	RES, NETWORK	4.7K (1005X4)		
R220	1-234-377-21	RES, NETWORK	4.7K (1005X4)		
R221	1-218-973-11	RES-CHIP	47K	5%	1/16W
R222	1-218-973-11	RES-CHIP	47K	5%	1/16W
R223	1-218-933-11	RES-CHIP	22	5%	1/16W
R230	1-218-990-81	SHORT CHIP	0		
R233	1-218-990-81	SHORT CHIP	0		
R234	1-218-990-81	SHORT CHIP	0		
R248	1-218-965-11	RES-CHIP	10K	5%	1/16W
R252	1-218-965-11	RES-CHIP	10K	5%	1/16W
R253	1-218-965-11	RES-CHIP	10K	5%	1/16W
R256	1-218-965-11	RES-CHIP	10K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R257	1-218-965-11	RES-CHIP	10K	5%	1/16W
R271	1-216-295-91	SHORT CHIP	0		
R273	1-216-295-91	SHORT CHIP	0		
R274	1-216-295-91	SHORT CHIP	0		
R281	1-218-990-81	SHORT CHIP	0		
R301	1-218-973-11	RES-CHIP	47K	5%	1/16W
R306	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R307	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R310	1-218-953-11	RES-CHIP	1K	5%	1/16W
R311	1-218-953-11	RES-CHIP	1K	5%	1/16W
R312	1-218-953-11	RES-CHIP	1K	5%	1/16W
R313	1-218-973-11	RES-CHIP	47K	5%	1/16W
R314	1-218-953-11	RES-CHIP	1K	5%	1/16W
R317	1-242-963-21	RES, NETWORK	33 (1005X4)		
R318	1-242-963-21	RES, NETWORK	33 (1005X4)		
R319	1-242-963-21	RES, NETWORK	33 (1005X4)		
R320	1-242-963-21	RES, NETWORK	33 (1005X4)		
R503	1-218-953-11	RES-CHIP	1K	5%	1/16W
R504	1-218-953-11	RES-CHIP	1K	5%	1/16W
R505	1-218-966-11	RES-CHIP	12K	5%	1/16W
R506	1-218-953-11	RES-CHIP	1K	5%	1/16W
R507	1-218-953-11	RES-CHIP	1K	5%	1/16W
R510	1-217-907-11	RES-CHIP	1.8	5%	1/10W
R511	1-217-907-11	RES-CHIP	1.8	5%	1/10W
R515	1-218-971-11	RES-CHIP	33K	5%	1/16W
R516	1-218-966-11	RES-CHIP	12K	5%	1/16W
R601	1-218-965-11	RES-CHIP	10K	5%	1/16W
R602	1-218-965-11	RES-CHIP	10K	5%	1/16W
R603	1-218-953-11	RES-CHIP	1K	5%	1/16W
R604	1-218-953-11	RES-CHIP	1K	5%	1/16W
R1001	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1003	1-218-843-11	METAL CHIP	680	0.5%	1/10W
R1004	1-218-839-11	METAL CHIP	470	0.5%	1/10W
R1005	1-218-967-11	RES-CHIP	15K	5%	1/16W
R1006	1-218-967-11	RES-CHIP	15K	5%	1/16W
R1013	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1016	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1017	1-218-990-81	SHORT CHIP	0		
R1018	1-218-990-81	SHORT CHIP	0		
R1019	1-218-990-81	SHORT CHIP	0		
R1021	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1027	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1028	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1029	1-218-940-11	RES-CHIP	82	5%	1/16W
R1030	1-218-937-11	RES-CHIP	47	5%	1/16W
R1031	1-218-943-11	RES-CHIP	150	5%	1/16W
R1032	1-234-378-21	RES, NETWORK	10K (1005X4)		
R1033	1-234-378-21	RES, NETWORK	10K (1005X4)		
R1034	1-234-378-21	RES, NETWORK	10K (1005X4)		
R1035	1-234-378-21	RES, NETWORK	10K (1005X4)		
R1036	1-211-984-11	METAL CHIP	43	0.5%	1/10W
R1037	1-218-823-11	METAL CHIP	100	0.5%	1/10W
R1039	1-211-984-11	METAL CHIP	43	0.5%	1/10W
R1040	1-218-823-11	METAL CHIP	100	0.5%	1/10W
R1060	1-218-990-81	SHORT CHIP	0		
R1061	1-218-990-81	SHORT CHIP	0		
R1062	1-218-990-81	SHORT CHIP	0		
R1063	1-218-990-81	SHORT CHIP	0		
R1067	1-218-973-11	RES-CHIP	47K	5%	1/16W
R1068	1-218-973-11	RES-CHIP	47K	5%	1/16W
R1069	1-218-973-11	RES-CHIP	47K	5%	1/16W
R1071	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1103	1-218-990-81	SHORT CHIP	0		
R1107	1-218-990-81	SHORT CHIP	0		
R1110	1-218-990-81	SHORT CHIP	0		
R1111	1-218-977-11	RES-CHIP	100K	5%	1/16W
R1132	1-218-937-11	RES-CHIP	47	5%	1/16W
R1153	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R1161	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R1163	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R1165	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R1181	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1182	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1191	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R1195	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R1197	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R1199	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1205	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1219	1-218-990-81	SHORT CHIP	0		
R1240	1-218-933-11	RES-CHIP	22	5%	1/16W
R1241	1-234-400-21	CONDUCTOR, NETWORK	(1005X4)		
R1242	1-234-400-21	CONDUCTOR, NETWORK	(1005X4)		
R1243	1-218-990-81	SHORT CHIP	0		
R1244	1-218-935-11	RES-CHIP	33	5%	1/16W
R1245	1-234-370-21	RES, NETWORK	22 (1005X4)		
R1246	1-234-370-21	RES, NETWORK	22 (1005X4)		
R1247	1-218-933-11	RES-CHIP	22	5%	1/16W
R1248	1-234-400-21	CONDUCTOR, NETWORK	(1005X4)		
R1249	1-234-400-21	CONDUCTOR, NETWORK	(1005X4)		
R1250	1-218-990-81	SHORT CHIP	0		
R1251	1-218-935-11	RES-CHIP	33	5%	1/16W
R1252	1-218-935-11	RES-CHIP	33	5%	1/16W
R1255	1-234-370-21	RES, NETWORK	22 (1005X4)		
R1256	1-234-370-21	RES, NETWORK	22 (1005X4)		
R1257	1-218-933-11	RES-CHIP	22	5%	1/16W
R1258	1-218-933-11	RES-CHIP	22	5%	1/16W
R1260	1-218-933-11	RES-CHIP	22	5%	1/16W
R1261	1-234-400-21	CONDUCTOR, NETWORK	(1005X4)		
R1262	1-234-400-21	CONDUCTOR, NETWORK	(1005X4)		
R1263	1-218-990-81	SHORT CHIP	0		
R1264	1-218-935-11	RES-CHIP	33	5%	1/16W
R1265	1-234-370-21	RES, NETWORK	22 (1005X4)		
R1266	1-234-370-21	RES, NETWORK	22 (1005X4)		
R1267	1-218-933-11	RES-CHIP	22	5%	1/16W
R1268	1-234-400-21	CONDUCTOR, NETWORK	(1005X4)		
R1269	1-234-400-21	CONDUCTOR, NETWORK	(1005X4)		
R1270	1-218-990-81	SHORT CHIP	0		
R1271	1-218-935-11	RES-CHIP	33	5%	1/16W
R1272	1-218-935-11	RES-CHIP	33	5%	1/16W
R1273	1-234-370-21	RES, NETWORK	22 (1005X4)		
R1274	1-234-370-21	RES, NETWORK	22 (1005X4)		
R1275	1-218-933-11	RES-CHIP	22	5%	1/16W
R1276	1-218-933-11	RES-CHIP	22	5%	1/16W
R1277	1-218-990-81	SHORT CHIP	0		
R1278	1-218-990-81	SHORT CHIP	0		
R1279	1-218-940-11	RES-CHIP	82	5%	1/16W
R1281	1-234-371-21	RES, NETWORK	47 (1005X4)		
R1282	1-234-371-21	RES, NETWORK	47 (1005X4)		
R1283	1-234-371-21	RES, NETWORK	47 (1005X4)		
R1284	1-218-937-11	RES-CHIP	47	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R1285	1-218-937-11	RES-CHIP	47	5%	1/16W
R1286	1-218-937-11	RES-CHIP	47	5%	1/16W
R1287	1-234-371-21	RES, NETWORK	47 (1005X4)		
R1288	1-218-933-11	RES-CHIP	22	5%	1/16W
R1289	1-218-933-11	RES-CHIP	22	5%	1/16W
R1301	1-218-839-11	METAL CHIP	470	0.5%	1/10W
R1302	1-218-847-11	METAL CHIP	1K	0.5%	1/10W
R1303	1-218-847-11	METAL CHIP	1K	0.5%	1/10W
R1305	1-218-990-81	SHORT CHIP	0		
R1312	1-218-847-11	METAL CHIP	1K	0.5%	1/10W
R1313	1-218-847-11	METAL CHIP	1K	0.5%	1/10W
R1315	1-216-864-11	SHORT CHIP	0		
R1401	1-218-933-11	RES-CHIP	22	5%	1/16W
R1402	1-218-933-11	RES-CHIP	22	5%	1/16W
R1403	1-218-933-11	RES-CHIP	22	5%	1/16W
R1404	1-218-933-11	RES-CHIP	22	5%	1/16W
R1405	1-218-933-11	RES-CHIP	22	5%	1/16W
R1406	1-218-933-11	RES-CHIP	22	5%	1/16W
R1407	1-218-933-11	RES-CHIP	22	5%	1/16W
R1411	1-234-378-21	RES, NETWORK	10K (1005X4)		
R1412	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1413	1-218-973-11	RES-CHIP	47K	5%	1/16W
R1414	1-218-933-11	RES-CHIP	22	5%	1/16W
R1415	1-218-933-11	RES-CHIP	22	5%	1/16W
R1416	1-218-933-11	RES-CHIP	22	5%	1/16W
R1421	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1422	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1802	1-218-945-11	RES-CHIP	220	5%	1/16W
R1803	1-218-947-11	RES-CHIP	330	5%	1/16W
R1804	1-218-935-11	RES-CHIP	33	5%	1/16W
R1812	1-218-945-11	RES-CHIP	220	5%	1/16W
R1813	1-218-947-11	RES-CHIP	330	5%	1/16W
R1814	1-218-935-11	RES-CHIP	33	5%	1/16W
R2301	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R2302	1-218-990-81	SHORT CHIP	0		
R2304	1-218-990-81	SHORT CHIP	0		
R2316	1-218-965-11	RES-CHIP	10K	5%	1/16W
R2501	1-218-951-11	RES-CHIP	680	5%	1/16W
R2502	1-218-827-11	METAL CHIP	150	0.5%	1/10W
R2504	1-218-951-11	RES-CHIP	680	5%	1/16W
R2505	1-218-827-11	METAL CHIP	150	0.5%	1/10W
R2506	1-216-864-11	SHORT CHIP	0		
R2507	1-218-951-11	RES-CHIP	680	5%	1/16W
R2508	1-218-827-11	METAL CHIP	150	0.5%	1/10W
R2510	1-218-951-11	RES-CHIP	680	5%	1/16W
R2511	1-218-827-11	METAL CHIP	150	0.5%	1/10W
R2513	1-218-951-11	RES-CHIP	680	5%	1/16W
R2514	1-218-827-11	METAL CHIP	150	0.5%	1/10W
R3002	1-218-939-11	RES-CHIP	68	5%	1/16W
R3003	1-218-940-11	RES-CHIP	82	5%	1/16W
R3004	1-218-940-11	RES-CHIP	82	5%	1/16W
R3005	1-234-378-21	RES, NETWORK	10K (1005X4)		
R3006	1-218-990-81	SHORT CHIP	0		
R3007	1-218-990-81	SHORT CHIP	0		
R3008	1-218-990-81	SHORT CHIP	0		
R3009	1-218-990-81	SHORT CHIP	0		
R3010	1-218-990-81	SHORT CHIP	0		
R3011	1-218-990-81	SHORT CHIP	0		
R3012	1-218-990-81	SHORT CHIP	0		
R3101	1-218-990-81	SHORT CHIP	0		

Ref. No.	Part No.	Description			Remarks
R3102	1-218-990-81	SHORT CHIP	0		
R3103	1-218-990-81	SHORT CHIP	0		
R3104	1-218-990-81	SHORT CHIP	0		
R3105	1-218-989-11	RES-CHIP	1M	5%	1/16W
R3106	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3107	1-218-937-11	RES-CHIP	47	5%	1/16W
R3108	1-218-937-11	RES-CHIP	47	5%	1/16W
R3109	1-218-937-11	RES-CHIP	47	5%	1/16W
R3111	1-218-990-81	SHORT CHIP	0		
R3113	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3201	1-218-937-11	RES-CHIP	47	5%	1/16W
R3202	1-218-937-11	RES-CHIP	47	5%	1/16W
R3203	1-218-937-11	RES-CHIP	47	5%	1/16W
R3204	1-218-990-81	SHORT CHIP	0		
R3206	1-218-937-11	RES-CHIP	47	5%	1/16W
R3207	1-218-937-11	RES-CHIP	47	5%	1/16W
R3208	1-218-937-11	RES-CHIP	47	5%	1/16W
R3209	1-218-977-11	RES-CHIP	100K	5%	1/16W
R3210	1-218-849-11	METAL CHIP	1.2K	0.5%	1/10W
R3211	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R3213	1-218-951-11	RES-CHIP	680	5%	1/16W
R3214	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R3215	1-218-969-11	RES-CHIP	22K	5%	1/16W
R3216	1-218-849-11	METAL CHIP	1.2K	0.5%	1/10W
R3217	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R3218	1-218-879-11	METAL CHIP	22K	0.5%	1/10W
R3219	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R3220	1-218-941-81	RES-CHIP	100	5%	1/16W
R3221	1-218-941-81	RES-CHIP	100	5%	1/16W
R3222	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R3223	1-218-879-11	METAL CHIP	22K	0.5%	1/10W
R3224	1-218-941-81	RES-CHIP	100	5%	1/16W
R3227	1-218-941-81	RES-CHIP	100	5%	1/16W
R3228	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3229	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3230	1-216-295-91	SHORT CHIP	0		
R3232	1-218-990-81	SHORT CHIP	0		
R3233	1-218-990-81	SHORT CHIP	0		
R3234	1-218-990-81	SHORT CHIP	0		
R3301	1-218-937-11	RES-CHIP	47	5%	1/16W
R3302	1-218-937-11	RES-CHIP	47	5%	1/16W
R3305	1-218-947-11	RES-CHIP	330	5%	1/16W
R3306	1-218-839-11	METAL CHIP	470	0.5%	1/10W
R3307	1-208-905-11	METAL CHIP	5.6K	0.5%	1/16W
R3308	1-218-929-11	RES-CHIP	10	5%	1/16W
R3309	1-218-951-11	RES-CHIP	680	5%	1/16W
R3312	1-218-839-11	METAL CHIP	470	0.5%	1/10W
R3313	1-208-905-11	METAL CHIP	5.6K	0.5%	1/16W
R3314	1-218-929-11	RES-CHIP	10	5%	1/16W
R3315	1-218-951-11	RES-CHIP	680	5%	1/16W
R3317	1-218-947-11	RES-CHIP	330	5%	1/16W
R3318	1-218-839-11	METAL CHIP	470	0.5%	1/10W
R3319	1-218-929-11	RES-CHIP	10	5%	1/16W
R3320	1-218-951-11	RES-CHIP	680	5%	1/16W
R3322	1-218-947-11	RES-CHIP	330	5%	1/16W
R3323	1-218-839-11	METAL CHIP	470	0.5%	1/10W
R3324	1-208-905-11	METAL CHIP	5.6K	0.5%	1/16W
R3325	1-208-905-11	METAL CHIP	5.6K	0.5%	1/16W
R3326	1-218-929-11	RES-CHIP	10	5%	1/16W
R3327	1-218-951-11	RES-CHIP	680	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R3336	1-218-937-11	RES-CHIP	47	5%	1/16W
R3341	1-218-937-11	RES-CHIP	47	5%	1/16W
R3344	1-218-947-11	RES-CHIP	330	5%	1/16W
R3703	1-218-941-81	RES-CHIP	100	5%	1/16W
R3704	1-218-941-81	RES-CHIP	100	5%	1/16W
R3705	1-218-941-81	RES-CHIP	100	5%	1/16W
R3708	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3715	1-218-990-81	SHORT CHIP	0		
R3716	1-218-935-11	RES-CHIP	33	5%	1/16W
R3720	1-218-990-81	SHORT CHIP	0		
R3737	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3738	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3808	1-218-941-81	RES-CHIP	100	5%	1/16W
R3810	1-242-963-21	RES, NETWORK	33 (1005X4)		
R3811	1-242-963-21	RES, NETWORK	33 (1005X4)		
R3812	1-242-963-21	RES, NETWORK	33 (1005X4)		
R3813	1-242-963-21	RES, NETWORK	33 (1005X4)		
R3814	1-218-933-11	RES-CHIP	22	5%	1/16W
R3816	1-218-940-11	RES-CHIP	82	5%	1/16W
R3817	1-218-940-11	RES-CHIP	82	5%	1/16W
R3818	1-218-933-11	RES-CHIP	22	5%	1/16W
R3820	1-218-940-11	RES-CHIP	82	5%	1/16W
R3821	1-218-933-11	RES-CHIP	22	5%	1/16W
R3823	1-218-940-11	RES-CHIP	82	5%	1/16W
R3824	1-242-962-21	RES, NETWORK	82 (1005X4)		
R3828	1-234-380-21	RES, NETWORK	47K (1005X4)		
R3829	1-234-380-21	RES, NETWORK	47K (1005X4)		
R3830	1-234-380-21	RES, NETWORK	47K (1005X4)		
R3831	1-234-380-21	RES, NETWORK	47K (1005X4)		
R3832	1-234-379-21	RES, NETWORK	22K (1005X4)		
R3833	1-234-379-21	RES, NETWORK	22K (1005X4)		
R3835	1-218-935-11	RES-CHIP	33	5%	1/16W
R3837	1-242-963-21	RES, NETWORK	33 (1005X4)		
R3838	1-242-963-21	RES, NETWORK	33 (1005X4)		
R3839	1-242-963-21	RES, NETWORK	33 (1005X4)		
R3840	1-242-963-21	RES, NETWORK	33 (1005X4)		
R3841	1-218-940-11	RES-CHIP	82	5%	1/16W
R3842	1-218-962-11	RES-CHIP	5.6K	5%	1/16W
R3843	1-218-933-11	RES-CHIP	22	5%	1/16W
R3844	1-218-933-11	RES-CHIP	22	5%	1/16W
R3845	1-218-940-11	RES-CHIP	82	5%	1/16W
R3846	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3847	1-218-933-11	RES-CHIP	22	5%	1/16W
R3848	1-218-940-11	RES-CHIP	82	5%	1/16W
R3849	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3850	1-218-935-11	RES-CHIP	33	5%	1/16W
R3851	1-242-963-21	RES, NETWORK	33 (1005X4)		
R3857	1-218-990-81	SHORT CHIP	0		
R3862	1-218-990-81	SHORT CHIP	0		
R3871	1-218-969-11	RES-CHIP	22K	5%	1/16W
R4501	1-216-295-91	SHORT CHIP	0		
R4504	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R4505	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R4507	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R4511	1-218-990-81	SHORT CHIP	0		
R4521	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R4531	1-218-990-81	SHORT CHIP	0		
R4541	1-218-990-81	SHORT CHIP	0		
R4552	1-216-295-91	SHORT CHIP	0		
R4553	1-216-295-91	SHORT CHIP	0		
R4554	1-216-295-91	SHORT CHIP	0		
R4556	1-216-295-91	SHORT CHIP	0		
R4558	1-218-969-11	RES-CHIP	22K	5%	1/16W
R4559	1-218-990-81	SHORT CHIP	0		
R4573	1-218-990-81	SHORT CHIP	0		
R4574	1-216-864-11	SHORT CHIP	0		
R4575	1-216-864-11	SHORT CHIP	0		
R4582	1-216-295-91	SHORT CHIP	0		
* R4701	1-234-714-11	RES, NETWORK	56 (1005X4)		
* R4702	1-234-714-11	RES, NETWORK	56 (1005X4)		
R4703	1-218-929-11	RES-CHIP	10	5%	1/16W
R4704	1-218-941-81	RES-CHIP	100	5%	1/16W
R4705	1-218-941-81	RES-CHIP	100	5%	1/16W
R4706	1-218-935-11	RES-CHIP	33	5%	1/16W
R4707	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4708	1-234-378-21	RES, NETWORK	10K (1005X4)		
R4709	1-234-378-21	RES, NETWORK	10K (1005X4)		
R4710	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4711	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4712	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4713	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4714	1-218-990-81	SHORT CHIP	0		
R4721	1-234-400-21	CONDUCTOR, NETWORK	(1005X4)		
R4722	1-234-400-21	CONDUCTOR, NETWORK	(1005X4)		
R4723	1-218-990-81	SHORT CHIP	0		
R4724	1-218-990-81	SHORT CHIP	0		
R4725	1-218-990-81	SHORT CHIP	0		
R4726	1-218-990-81	SHORT CHIP	0		
R4727	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4728	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4729	1-218-990-81	SHORT CHIP	0		
R4731	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R4732	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R5101	1-234-381-11	RES, NETWORK	100K (1005X4)		
R5102	1-234-381-11	RES, NETWORK	100K (1005X4)		
R5103	1-218-977-11	RES-CHIP	100K	5%	1/16W
R5104	1-218-977-11	RES-CHIP	100K	5%	1/16W
R5105	1-234-702-11	RES, NETWORK	68 (1005X4)		
R5106	1-234-702-11	RES, NETWORK	68 (1005X4)		
R5107	1-218-939-11	RES-CHIP	68	5%	1/16W
R5108	1-218-939-11	RES-CHIP	68	5%	1/16W
R5109	1-218-937-11	RES-CHIP	47	5%	1/16W
R5110	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5111	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5113	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5114	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5115	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5116	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5117	1-218-977-11	RES-CHIP	100K	5%	1/16W
R5118	1-218-870-11	METAL CHIP	9.1K	0.5%	1/10W
R5119	1-211-987-11	METAL CHIP	56	0.5%	1/10W
R5120	1-211-987-11	METAL CHIP	56	0.5%	1/10W
R5121	1-211-987-11	METAL CHIP	56	0.5%	1/10W
R5122	1-211-987-11	METAL CHIP	56	0.5%	1/10W
R5123	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5124	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5125	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5127	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5129	1-218-940-11	RES-CHIP	82	5%	1/16W
R5130	1-218-990-81	SHORT CHIP	0		

Ref. No.	Part No.	Description			Remarks
R5131	1-218-864-11	METAL CHIP	5.1K	0.5%	1/10W
R5132	1-218-990-81	SHORT CHIP	0		
R5133	1-218-990-81	SHORT CHIP	0		
R5134	1-218-990-81	SHORT CHIP	0		
R5135	1-218-990-81	SHORT CHIP	0		
R5140	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5141	1-218-990-81	SHORT CHIP	0		
R5201	1-218-990-81	SHORT CHIP	0		
R5202	1-218-990-81	SHORT CHIP	0		
R5205	1-218-939-11	RES-CHIP	68	5%	1/16W
R5207	1-218-990-81	SHORT CHIP	0		
R5212	1-218-990-81	SHORT CHIP	0		
R5213	1-218-990-81	SHORT CHIP	0		
R5214	1-218-973-11	RES-CHIP	47K	5%	1/16W
R5215	1-218-973-11	RES-CHIP	47K	5%	1/16W
R5216	1-218-990-81	SHORT CHIP	0		
R5217	1-218-990-81	SHORT CHIP	0		
R5220	1-218-851-11	METAL CHIP	1.5K	0.5%	1/10W
R5221	1-218-973-11	RES-CHIP	47K	5%	1/16W
R5222	1-218-929-11	RES-CHIP	10	5%	1/16W
R5445	1-216-295-91	SHORT CHIP	0		
R5606	1-218-940-11	RES-CHIP	82	5%	1/16W
R5607	1-218-940-11	RES-CHIP	82	5%	1/16W
R5608	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5609	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5610	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5612	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5613	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5614	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5615	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5617	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5618	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5619	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5622	1-218-940-11	RES-CHIP	82	5%	1/16W
R5623	1-218-940-11	RES-CHIP	82	5%	1/16W
R5624	1-218-940-11	RES-CHIP	82	5%	1/16W
R5626	1-218-933-11	RES-CHIP	22	5%	1/16W
R5627	1-218-940-11	RES-CHIP	82	5%	1/16W
R5628	1-218-933-11	RES-CHIP	22	5%	1/16W
R5629	1-218-940-11	RES-CHIP	82	5%	1/16W
R5630	1-218-940-11	RES-CHIP	82	5%	1/16W
R5631	1-218-933-11	RES-CHIP	22	5%	1/16W
R5632	1-242-963-21	RES, NETWORK	33 (1005X4)		
R5638	1-242-963-21	RES, NETWORK	33 (1005X4)		
R5642	1-242-963-21	RES, NETWORK	33 (1005X4)		
R5646	1-242-963-21	RES, NETWORK	33 (1005X4)		
R5650	1-218-940-11	RES-CHIP	82	5%	1/16W
R5651	1-218-873-11	METAL CHIP	12K	0.5%	1/10W
R5652	1-218-941-81	RES-CHIP	100	5%	1/16W
R5657	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5658	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5659	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5661	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5664	1-216-864-11	SHORT CHIP	0		
R5672	1-216-864-11	SHORT CHIP	0		
R5688	1-218-989-11	RES-CHIP	1M	5%	1/16W
R5689	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5690	1-218-990-81	SHORT CHIP	0		
R5692	1-218-990-81	SHORT CHIP	0		
R5693	1-218-990-81	SHORT CHIP	0		

Ref. No.	Part No.	Description			Remarks
R5701	1-218-949-11	RES-CHIP	470	5%	1/16W
R5702	1-218-949-11	RES-CHIP	470	5%	1/16W
R5703	1-218-951-11	RES-CHIP	680	5%	1/16W
R5704	1-218-943-11	RES-CHIP	150	5%	1/16W
R5705	1-216-864-11	SHORT CHIP	0		
R5706	1-211-990-11	METAL CHIP	75	0.5%	1/10W
R5707	1-218-977-11	RES-CHIP	100K	5%	1/16W
R5803	1-164-360-11	CERAMIC CHIP	0.1uF		16V
R5804	1-218-973-11	RES-CHIP	47K	5%	1/16W
R5805	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R5806	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5807	1-218-962-11	RES-CHIP	5.6K	5%	1/16W
R5808	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R5809	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R5812	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R5813	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R5814	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R5815	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R5817	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R5818	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R5821	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R5822	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R5824	1-163-038-91	CERAMIC CHIP	0.1uF		25V
R5825	1-234-370-21	RES, NETWORK	22 (1005X4)		
R5826	1-234-370-21	RES, NETWORK	22 (1005X4)		
R5827	1-234-370-21	RES, NETWORK	22 (1005X4)		
R5828	1-234-370-21	RES, NETWORK	22 (1005X4)		
R5829	1-218-938-11	RES-CHIP	56	5%	1/16W
R5831	1-218-990-81	SHORT CHIP	0		
R5833	1-218-933-11	RES-CHIP	22	5%	1/16W
R5834	1-218-933-11	RES-CHIP	22	5%	1/16W
R5836	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5837	1-218-990-81	SHORT CHIP	0		
R5838	1-218-935-11	RES-CHIP	33	5%	1/16W
R5839	1-218-949-11	RES-CHIP	470	5%	1/16W
R5842	1-218-947-11	RES-CHIP	330	5%	1/16W
R5843	1-218-947-11	RES-CHIP	330	5%	1/16W
R5844	1-218-947-11	RES-CHIP	330	5%	1/16W
R5845	1-218-947-11	RES-CHIP	330	5%	1/16W
R5846	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R5848	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R5852	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5853	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5854	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5855	1-234-369-21	RES, NETWORK	10 (1005X4)		
R5856	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5857	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5859	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5861	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5862	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R5863	1-218-951-11	RES-CHIP	680	5%	1/16W
R5864	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5865	1-218-990-81	SHORT CHIP	0		
R5867	1-218-950-11	RES-CHIP	560	5%	1/16W
R5868	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R5869	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R5870	1-218-970-11	RES-CHIP	27K	5%	1/16W
R5880	1-218-977-11	RES-CHIP	100K	5%	1/16W
R6001	1-218-990-81	SHORT CHIP	0		

Ref. No.	Part No.	Description	Remarks
		< VIBRATOR >	
X5101	1-813-049-21	VIBRATOR, CRYSTAL (24.576MHz)	
X5201	1-795-904-21	OSCILLATOR, CRYSTAL (48MHz)	
X5502	1-813-052-21	VIBRATOR, CRYSTAL (25MHz)	
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		ACCESSORIES	
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	1-480-697-11	REMOTE COMMANDER (RMT-D250P)	(AT105/AT107/AT205)
	1-480-701-11	REMOTE COMMANDER (RMT-D249P)	(AT100/AT200)
⚠	1-575-131-82	CORD, POWER (AEP/RUS)	
	1-759-586-41	CONTROLLER, VIDEO (AV MOUSE)	(AT105/AT107/AT205)
	1-769-451-21	CABLE, COAXIAL	
	1-696-593-11	CORD, CONNECTION	
⚠	1-827-269-12	CORD, POWER (UK)	
	1-834-488-11	CABLE, HDMI (1.5m) (AT-107)	
*	4-128-703-11	MANUAL, INSTRUCTION (ENGLISH) (UK)	
*	4-128-703-21	MANUAL, INSTRUCTION (FRENCH) (AEP1)	
*	4-128-703-31	MANUAL, INSTRUCTION (GERMAN) (AEP1)	
*	4-128-703-41	MANUAL, INSTRUCTION (ITALIAN) (AEP1)	
*	4-128-703-51	MANUAL, INSTRUCTION (DUTCH) (AEP1)	
*	4-128-703-61	MANUAL, INSTRUCTION (SPANISH) (AEP1)	
*	4-128-704-11	MANUAL, INSTRUCTION (PORTUGUESE)	(AEP2)
*	4-128-704-21	MANUAL, INSTRUCTION (DANISH) (AEP2)	
*	4-128-704-31	MANUAL, INSTRUCTION (SWEDISH) (AEP2)	
*	4-128-704-41	MANUAL, INSTRUCTION (FINNISH) (AEP2)	
*	4-128-704-51	MANUAL, INSTRUCTION (RUSSIAN) (RUS)	
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Ref. No.	Part No.	Description	Remarks

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

Revision History

Ver.	Date	History	Contents	S.M. Rev. issued
1.0	2009.03	Official Release	—	—
1.1	2010.01	Ver.1.1	Addition of Note (Page 1-8)	Yes
1.2	2010.03	Ver.1.2	Addition of Note (Page 5)	Yes