

JVC

SERVICE MANUAL

DVD VIDEO RECORDER

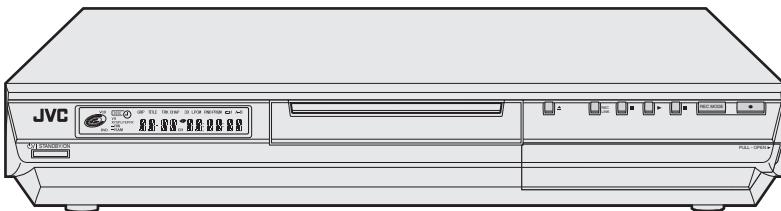
DR-M10SAA, DR-M10SAG DR-M10SAX

Area Suffix

AA	Australia
AG	Universal Asia
AX	Middle East



G-CODE / SHOWVIEW™



DR-M10SAA, DR-M10SAG, DR-M10SAX [D4R10]

Since the whole mechanism assembly unit is replaced, the DVD recorder mechanism of this unit need not be adjusted.

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SPECIFICATION

	DR-M10SAA	DR-M10SAG,DR-M10SAX
GENERAL		
Power requirement	AC 220 V - 240 V~, 50 Hz/60 Hz	AC 110 V -240V~, 50/60 Hz
Power consumption	Power on : 33 W Power off : 17.6 W	
Temperature	Operating : 5°C to 40°C Storage : -20°C to 60°C	
Operating position	Horizontal only	
Dimensions (W × H × D)	435 mm × 70 mm × 350 mm	
Weight	4.3 kg	
VIDEO/AUDIO		
Recordable disc	DVD-RAM	12 cm : (4.7 GB/9.4 GB)
	DVD-RAM	8 cm : (1.4 GB/2.8 GB)
	DVD-R	12 cm:(4.7 GB, 8 cm: 1.4 GB for General Ver. 2.0)
	DVD-RW	4.7 GB for Ver. 1.0/1.1
Recording format	DVD-RAM	DVD Video Recording format
	DVD-R	DVD-Video format
	DVD-RW	DVD-Video format, DVD Video Recording format
Recording time	Maximum 8 hours (with 4.7 GB disc) (XP) : Approx. 1 hour, (SP) : Approx. 2 hours, (LP) : Approx. 4 hours, (EP) : Approx. 6 hours, (FR) : Approx. 1 hour - 8 hours	
Playable disc	DVD-RAM	12 cm : (4.7 GB/9.4 GB)
	DVD-RAM	8 cm : (1.4 GB/2.8 GB)
	DVD-R	12 cm:(4.7 GB, 8 cm: 1.4 GB for General Ver. 2.0)
	DVD VIDEO, DVD-RW	4.7 GB
		Music CD (CD-DA)
Audio recording system		
Video recording compression system		
Input/Output		
S-video input	Y : 0.8 - 1.2 Vp-p, 75 Ω C : 0.2 - 0.4 Vp-p, 75 Ω	
S-video output	Y : 1.0 Vp-p, 75 Ω C : 0.3 Vp-p, 75 Ω	
Video input	0.5 - 2.0 Vp-p, 75 Ω (pin jack)	
Video output	1.0 Vp-p, 75 Ω (pin jack)	
Audio input	-8 dB, 50 kΩ (pin jack) Corresponding to mono (left)	
Audio output	-8 dB, 1 kΩ (pin jack)	
i.Link	4-pin for DV input	
Component video output	Y : 1.0 Vp-p, 75 Ω PB/PR : 0.7 Vp-p, 75 Ω Corresponding to copy protection	
Optical	-18 dBm, 660 nm	
Coaxial	0.5Vp-p,75ohms Corresponding to Dolby Digital and DTS Digital Surround Bit stream Selectable in digital audio output setting menu	
TUNER/TIMER		
Signal system	PAL-type colour signal and CCIR monochrome signal, 625 lines 50 fields	
TV channel storage capacity	99 positions (+AUX position)	
Tuning system	Frequency synthesized tuner	
Channel coverage	(low) 42 MHz - 175 MHz/(high) 175 MHz - 470 MHz UHF 470 MHz - 870 MHz(Adjustable E28 - E60)	
Memory backup time	Approx. 60 min.	
ACCESSORIES		
Provided accessories	RF cable, Audio/video cable,Input Cable Adapter,Output Cable Adapter, Infrared remote control unit, "R6" battery × 2	RF cable, Audio/video cable,Input Cable Adapter,Output Cable Adapter, Infrared remote control unit, "R6" battery × 2,Conversion plug

Specifications shown are for SP mode unless otherwise specified.

E.& O.E. Design and specifications subject to change without notice.

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- The G-CODE/SHOWVIEW system is manufactured under license from Gemstar Development Corporation.
- G-CODE and SHOWVIEW are different trademarks used to represent the same easy recording feature. However, for simplicity, only the term G-CODE will be used in the instructions. If you use SHOWVIEW system, follow the same steps listed for the G-CODE system.
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SECTION 1

PRECAUTION

1.1 Safety Precautions

- (1) This design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
- (2) Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturers warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
- (3) Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (Δ) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
- (4) The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after reassembling.

(5) Leakage shock hazard testing

After reassembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock. Do not use a line isolation transformer during this check.

- Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.).

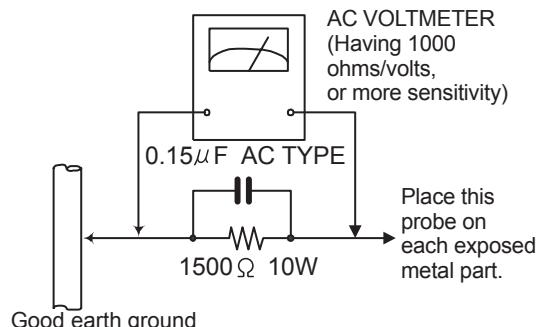
• Alternate check method

Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000Ω per volt or more sensitivity in the following manner. Connect a 1,500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground.

Measure the AC voltage across the resistor with the AC

voltmeter.

Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Voltage measured any must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



1.2 Warning

- (1) This equipment has been designed and manufactured to meet international safety standards.
- (2) It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
- (3) Repairs must be made in accordance with the relevant safety standards.
- (4) It is essential that safety critical components are replaced by approved parts.
- (5) If mains voltage selector is provided, check setting for local voltage.

1.3 Caution

Burrs formed during molding may be left over on some parts of the chassis.

Therefore, pay attention to such burrs in the case of performing repair of this system.

1.4 Critical parts for safety

In regard with component parts appearing on the silk-screen printed side (parts side) of the PWB diagrams, the parts that are printed over with black such as the resistor (■), diode (■) and ICP (●) or identified by the "Δ" mark nearby are critical for safety. When replacing them, be sure to use the parts of the same type and rating as specified by the manufacturer. (This regulation dose not Except the J and C version)

1.5 Preventing static electricity

Electrostatic discharge (ESD), which occurs when static electricity stored in the body, fabric, etc. is discharged, can destroy the laser diode in the traverse unit (optical pickup). Take care to prevent this when performing repairs.

1.5.1 Grounding to prevent damage by static electricity

Static electricity in the work area can destroy the optical pickup (laser diode) in devices such as DVD players.

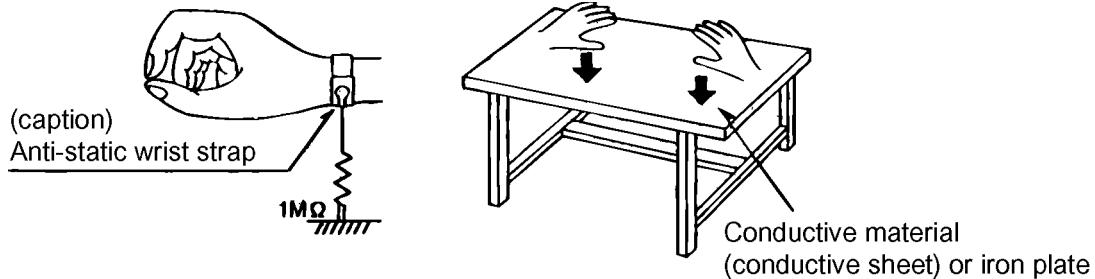
Be careful to use proper grounding in the area where repairs are being performed.

(1) Ground the workbench

Ground the workbench by laying conductive material (such as a conductive sheet) or an iron plate over it before placing the traverse unit (optical pickup) on it.

(2) Ground yourself

Use an anti-static wrist strap to release any static electricity built up in your body.



(3) Handling the optical pickup

- In order to maintain quality during transport and before installation, both sides of the laser diode on the replacement optical pickup are shorted. After replacement, return the shorted parts to their original condition.
(Refer to the text.)
- Do not use a tester to check the condition of the laser diode in the optical pickup. The tester's internal power source can easily destroy the laser diode.

1.6 Handling the traverse unit (optical pickup)

- (1) Do not subject the traverse unit (optical pickup) to strong shocks, as it is a sensitive, complex unit.
- (2) Cut off the shorted part of the flexible cable using nippers, etc. after replacing the optical pickup. For specific details, refer to the replacement procedure in the text. Remove the anti-static pin when replacing the traverse unit. Be careful not to take too long a time when attaching it to the connector.
- (3) Handle the flexible cable carefully as it may break when subjected to strong force.
- (4) It is not possible to adjust the semi-fixed resistor that adjusts the laser power. Do not turn it.

1.7 Important for laser products

1.CLASS 1 LASER PRODUCT

2.DANGER : Invisible laser radiation when open and interlock failed or defeated. Avoid direct exposure to beam.

3.CAUTION : There are no serviceable parts inside the Laser Unit. Do not disassemble the Laser Unit. Replace the complete Laser Unit if it malfunctions.

4.CAUTION : The CD,MD and DVD player uses invisible laser radiation and is equipped with safety switches which prevent emission of radiation when the drawer is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.

5.CAUTION : If safety switches malfunction, the laser is able to function.

6.CAUTION : Use of controls, adjustments or performance of procedures other than those specified here in may result in hazardous radiation exposure.



CAUTION Please use enough caution not to see the beam directly or touch it in case of an adjustment or operation check.

CAUTION : Visible and invisible laser radiation when open and interlock failed or defeated.

AVOID DIRECT EXPOSURE TO BEAM.

ADVARSEL : Synlig og usynlig laserstråling når maskinen er åben eller interlocken fejler. Undgå direkte eksponering til stråling.

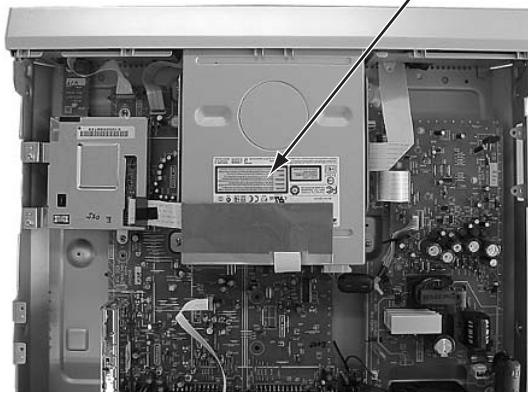
VARNING : Synlig och osynlig laserstråling när den öppnas och spärren är urkopplad. Betrakta ej strålen.

VARO : Avattaessa ja suojalukitus ohitettuna tai viallisena olet alittiina näkyvälle ja näkymättömälle lasersäteilylle. Vältä säteen kohdistumista suoraan itseesi.

REPRODUCTION AND POSITION OF LABEL and PRINT

WARNING LABEL and PRINT

On mechaism assembly



CAUTION

VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM. DO NOT STARE INTO BEAM OR VIEW DIRECTLY WITH OPTICAL INSTRUMENTS.

ADVARSEL

SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UDSAETTELSE FOR STRÅLEN SE IKKE IND I STRÅLEN - HELLER IKKE MED OPTISKE INSTRUMENTER.

ADVARSEL

SYNLIG OG USYNLIG LASERSTRÅLING NÄR DEKSEL ÅPNES. UNDGÅ EKSPONERING FOR STRÅLEN STIRR IKKE INN I STRÅLEN ELLER SE DIREKTE MED OPTISKE INSTRUMENTER.

VARO!

AVATTESA OLET ALTIINA NÄKYVÄÄ JA NÄKYMÄTÖN LASERSÄTEILYLLÉ.

VARNING

ÅLÄ TUJOTSA SÄTEESEN ÄLÄKÄ KATSO SITÄ OPTISEN LAITTEEN LÄPI.

SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. STRÅLEN ÄR FARLIG

STIRRA EJ IN I STRÅLEN OCH BETRAKTA EJ STRÅLEN MED OPTISKA INSTRUMENT.

SECTION 2

SPECIFIC SERVICE INSTRUCTIONS

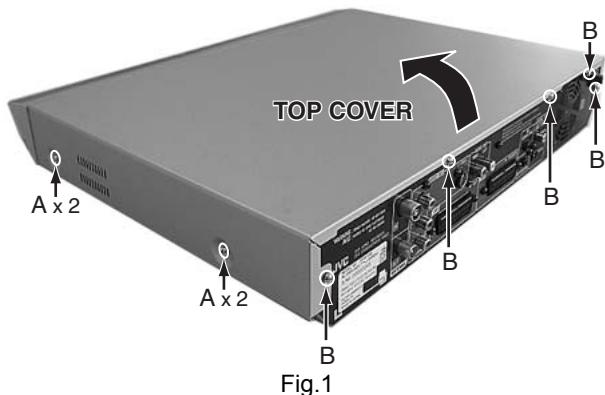
This service manual does not describe SPECIFIC SERVICE INSTRUCTIONS.

SECTION 3 DISASSEMBLY

3.1 Main body section

3.1.1 Remove the top cover (See figure 1)

- (1) Remove the four screws **A** attaching the top cover on both sides of the main body.
- (2) Remove the five screws **B** attaching the top cover on the back of the main body.
- (3) Raise the both sides and lower part of the rear of the top cover, with opening them slightly in an outward direction. And the top cover will be removed.

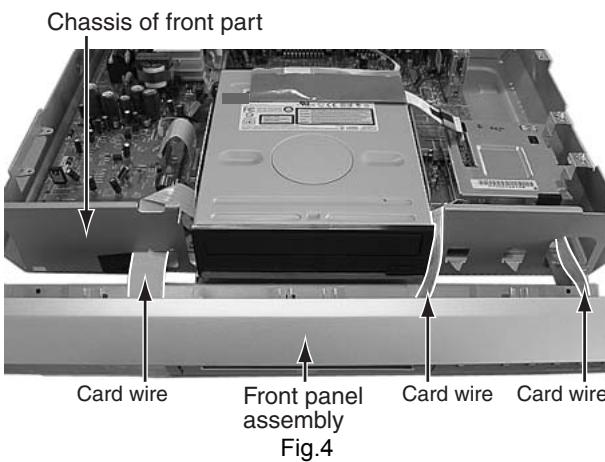
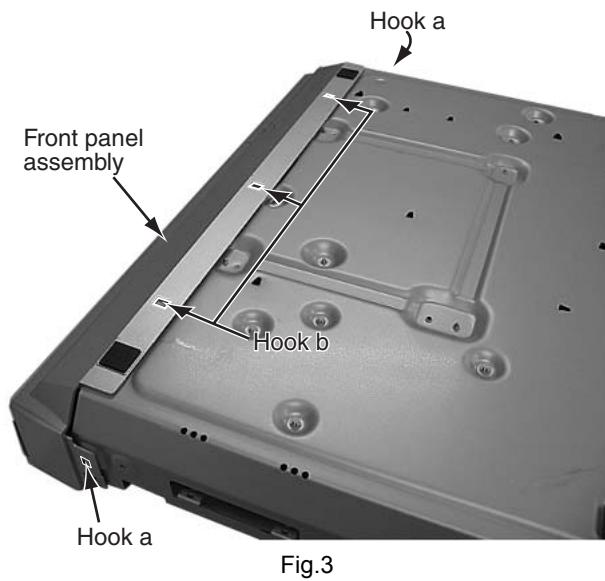
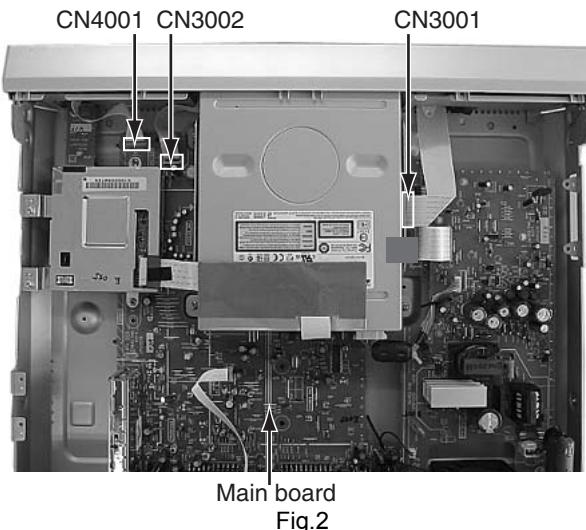


3.1.2 Remove the front panel assembly (See figure 2, figure 3, and figure 4)

- Prior to performing the following procedure, remove the top cover.
 - There is no need to remove the mechanism assembly.
- (1) Disconnect the card wires from connector [CN3001](#), [CN3002](#), [CN4001](#) on the main board.
 - (2) Hooks **a** and **b** are removed respectively, and the front panel assembly is removed.

NOTE:

In case of attach a front panel assembly, please let a card wire pass in the hole in the front part of a chassis, respectively, and connect.



3.1.3 Remove the mechanism assembly (See figure 5)

- Prior to performing the following procedure, remove the top cover.
- There is no need to remove the front panel assembly.
- (1) Disconnect the socket wire from connector [CN5303](#) on the switching regulator board.
- (2) Disconnect the card wire from connector [CN2201](#) on the digital board.
- (3) Remove the four screws **C** attaching the mechanism assembly.

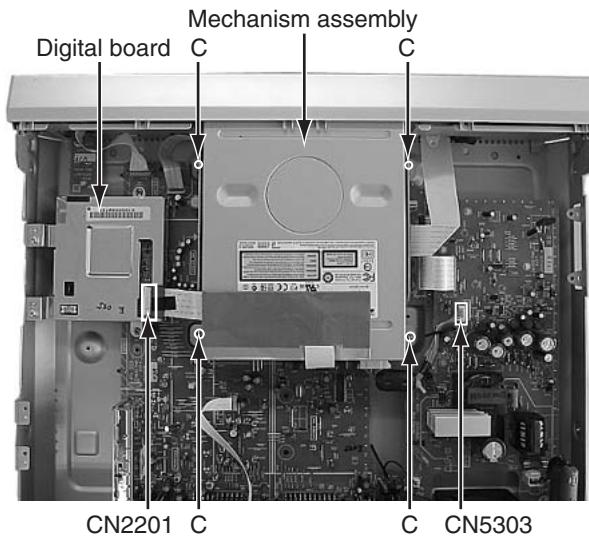


Fig.5

3.1.4 Remove the digital board (See figure 6, figure 7)

- Prior to performing the following procedure, remove the top cover.
- (1) Disconnect the card wire from connector [CN2201](#) on the digital board.
- (2) Remove the four screws **D** and **E** attaching the digital board.
- (3) Remove the one screw **F** attaching the jack board.
- (4) Lift the digital board up, and remove it. Then, the digital board is removed from the connectors [CN4101](#), [CN4102](#) on the main board. In attaching the digital board, insert the connector on the digital board in these connectors securely.

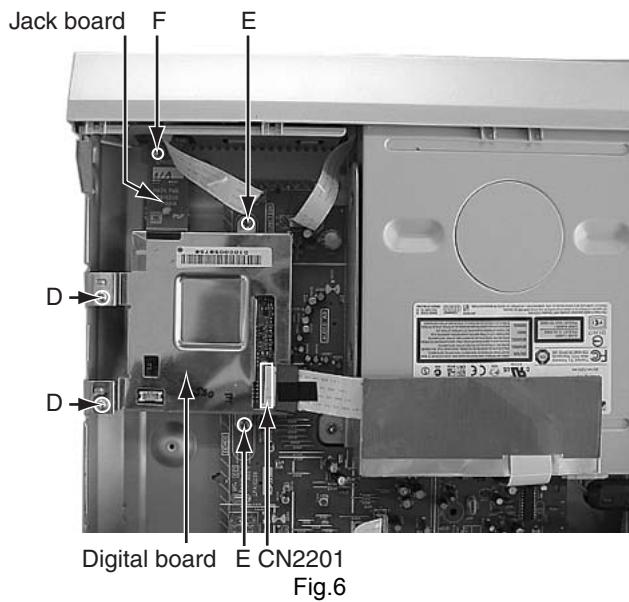
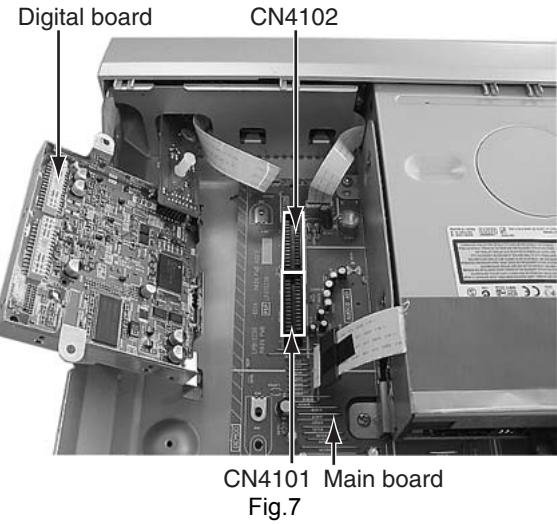


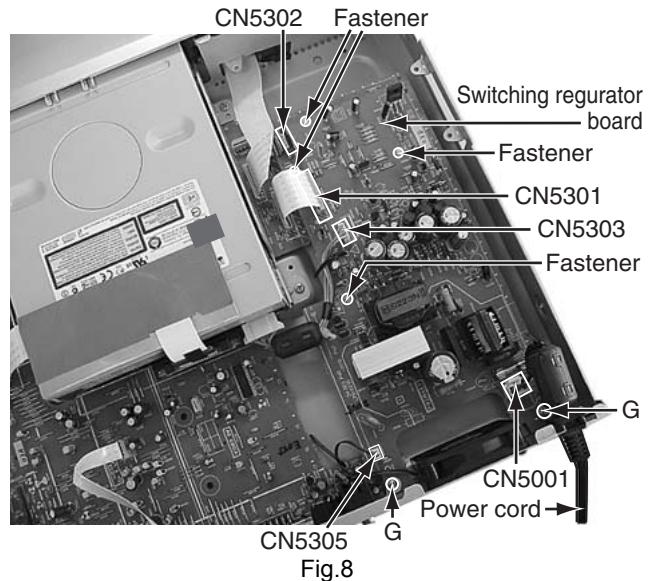
Fig.6



CN4101 Main board
Fig.7

3.1.5 Remove the switching reguator board (See figure 8)

- Prior to performing the following procedure, remove the top cover.
- (1) Disconnect the card wire from connector [CN5301](#) on the switching reguator board.
- (2) Disconnect the socket wire from connector [CN5302](#), [CN5303](#), [CN5305](#) on the switching reguator board.
- (3) Disconnect the power cord from connector [CN5001](#) on the switching reguator board.
- (4) Remove the two screws **G** attaching the switching reguator board.
- (5) Four fasteners are removed.



3.1.6 Remove the main board (See figure 9, figure 10)

- Prior to performing the following procedure, remove the top cover, mechanism assembly, module board.
- (1) Disconnect the card wire from connector [CN3001](#), [CN3002](#), [CN4001](#), [CN5101](#), [CN7301](#) on the main board
- (2) Disconnect the socket wire from connector [CN5302](#) on the switching reguator board.
- (3) Remove the two screws **H** attaching the main board.
- (4) Remove the seven screws **I** attaching the rear panel with main board.

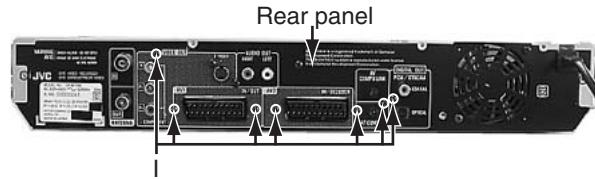
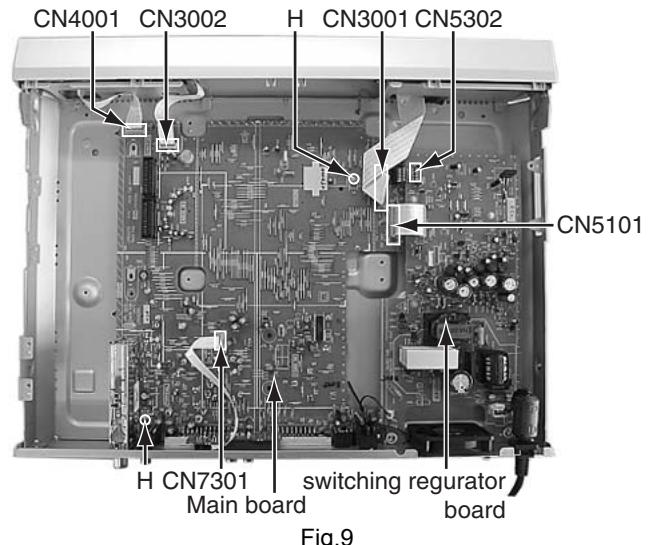


Fig.10

SECTION 4 ADJUSTMENT

4.1 Timer clock adjustment

If an error comes to arise for a clock, the following procedure will adjust.

Signal	(A1)	No signal
Mode	(B)	EE
Equipment	(C)	Frequency counter
Measuring point	(D1)	IC3001 pin 61
	(D2)	IC3001 pin 17
	(D3)	C3026 + and -
Adjustment part	(F)	C3025 (TIMER CLOCK)
Specified value	(G1)	1024.008 ±0.001 Hz (976.5549 ±0.0010 usec)

- (1) Connect the frequency counter to the measuring point (D1).
- (2) Connect the short wire between the short point (D2) and Vcc (5V).
- (3) Short the leads of capacitor (D3) once in order to reset the microprocessor of the system controller.
- (4) Disconnect the short wire between the short point (D2) and Vcc then connect it again.
- (5) Adjust the Adjustment part (F) so that the output frequency becomes the specified value (G).

SECTION 5

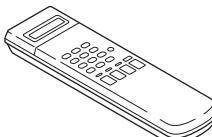
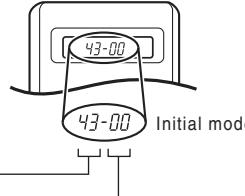
TROUBLESHOOTING

5.1 JIG Mode

The following remote control units are required to set and cancel JIG mode.

For setting : a remote control unit attached to product.

For cancellation : JIG remote control unit (part number : PTU94023B)

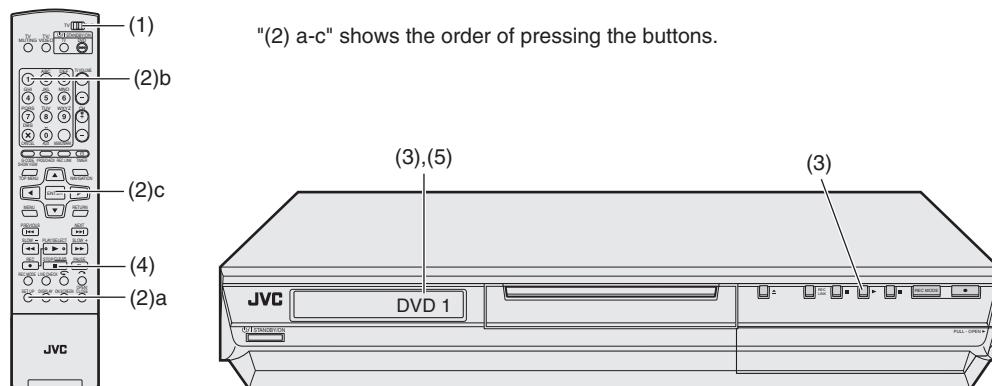
Remote control unit attached to product	JIG remote control unit
	 <p>JIG remote control unit [Data transmission] Set the data code, and then press the " " [3] button.</p> <div style="float: right; margin-top: -100px;">  </div>

When the main body is set to JIG mode and when the main body is under JIG mode, the remote control unit attached to product operates only in "Remote Control Code 1". Since main body is in "Remote Control Code 3" when it is shipped and just after its batteries are changed, "Remote Control Code 3" needs to be changed to "Remote Control Code 1."

< Changing Remote Control Code >

- (1) If power save mode is turned ON, please turn OFF.
- (2) Switch TV/DVD Switch to "DVD"
- (3) Press the numeric button "1" of the remote control unit while pressing the "SET UP" button of the remote control unit. Then, press the "ENTER" button, and then release the "SET UP" button.
- (4) Press the "PLAY" button of the main body for five seconds or longer while the main body is in stand-by mode, and a current remote control code of the main body is displayed in FL indicator of the main body.
- (5) While keeping the state of (3), press the "STOP" button of the remote control unit toward the main body.
- (6) The code currently set on the remote blinks on the FL display for approximately 5 seconds, and applied to the unit.

When FL indicator displays "DVD1," it means that the Remote Control Code has been changed to "1."

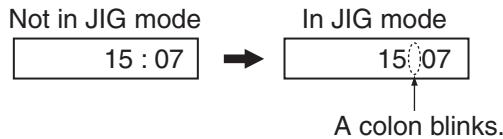


5.1.1 Setting JIG mode

To display SYSTEM INFO or to upgrade firmware, the main body needs to be set to JIG mode.

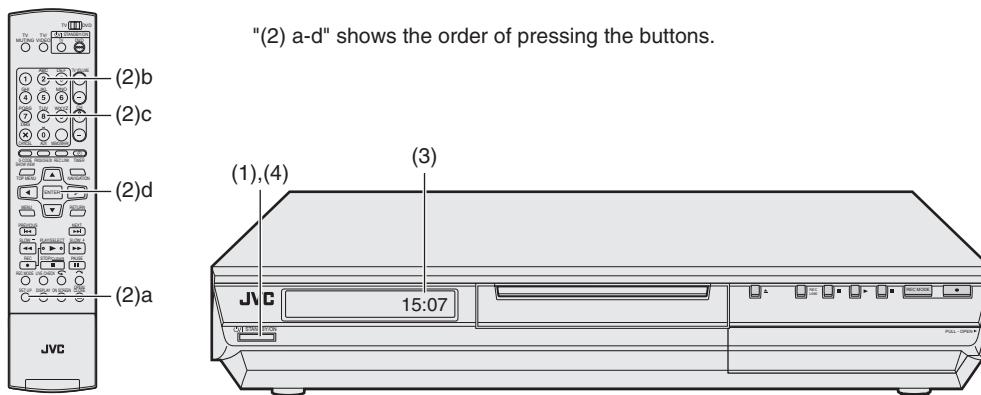
- (1) Turn the main body ON.
- (2) Press the buttons of the remote control unit attached to product in the following order : "SET UP" → "2" → "8" → "ENTER"
- (3) When a colon ":" between "hour" and "minute" of a clock in FL indicator blink, it means that the main body has been set to JIG mode properly.

[Example]



- (4) Turn the main body OFF, and then turn it ON again.

*Once the main body is set to JIG mode, the JIG mode cannot be cancelled even if the power cord is pulled out from the wall socket.



5.1.2 Canceling JIG mode

- (1) Transmit "43-9D" to the main body by using JIG remote control unit.
- (2) A colon ":" between "hour" and "minute" of a clock in FL indicator light.
- (3) Turn the main body OFF, and then turn it ON again.

NOTE:

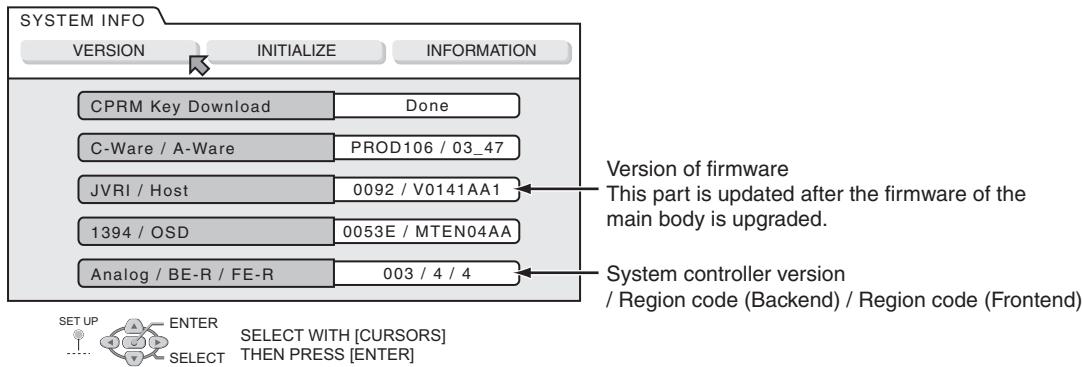
After repair work, be sure to cancel JIG mode. Before returning product to a user, confirm that a colon ":" between "hour" and "minute" of a clock in FL indicator light.

5.1.3 Displaying SYSTEM INFO

SYSTEM INFO contains information on firmware version of the main body and the mechanism drive, and an initialize execution menu.

- (1) Set the main body to JIG mode.
- (2) Transmit "43-8B" to the main body by using JIG remote control unit.
- (3) SYSTEM INFO menu is displayed in the television screen.
- (4) To move cursor in SYSTEM INFO, use the "▲", "▼", "◀", and "▶" buttons of a remote control unit attached to product.

< VERSION >



NOTE :

Items other than the ones described above are not used in service work.

- (5) To quit the SYSTEM INFO menu, transmit "43-8B" to the main body by using JIG remote control unit.
- (6) Cancel JIG mode.

5.1.4 Updating firmware of the main body

- Firmware update disk supports CD-R media.

- (1) Download a compressed file of the latest firmware in "Digital Video Storage" page in JS-NET.
- (2) Decompress the file, and a file "fwupdate.bin" is generated.
- (3) Write "fwupdate.bin" in CD-R in ISO9660 format.(Don't use Packet Write software. Write in UDF format.)
- (4) Set the main body to JIG mode.
- (5) Transmit "43-70" to the main body by using JIG remote control unit.
- (6) "UPDATE" appears in FL indicator. Load disk for update on the tray, and close the tray.
- (7) Update processing is started automatically.
- (8) Then, "FW UPDATE" appears in FL indicator. It takes approx. **6 minutes** at maximum to update firmware.
- (9) The tray is ejected. Then, take out the disk and close the tray.
- (10) Turn the main body OFF, and pull out the power cord from the wall socket. Then, plug the power cord into the wall socket.
- (11) "LOADING" of FL indicator disappears. Then, turn the main body ON.
- (12) Display the SYSTEM INFO menu, and check the version of the firmware.
- (13) Cancel JIG mode.

ATTENTION :

Firmware may sometimes not be updated successfully.

If firmware is not updated successfully, the tray opens, and "ERROR" appears in FL indicator.

If firmware is updated successfully, the tray opens, and "OPEN" appears in FL indicator.

If the power cord is pulled out from the wall socket while "ERROR" appears, data in the flash memory is destroyed and the main body cannot start: the flash memory needs to be replaced.

After updating procedure, pay enough attention to FL indicator when the tray opens.

When "ERROR" appears, update firmware again in the following way to restore the firmware.

- (1) Transmit "43-70" to the main body by using JIG remote control unit while the tray opens.
- (2) When "UPDATE" appears in FL indicator, close the tray and make the main body read the disk. Updating starts.
- (3) After (2), perform updating procedure (4) - (10) of 5.1.4 Updating firmware of the main body above.

5.2 The setting method of a region code

A region code should be set after a DVD recorder mechanism unit is replaced.

While a DVD recorder mechanism unit is in a warehouse as a stock, a region code of the drive unit is not determined.

Only replacement of a DVD recorder mechanism unit may cause abnormal playback of Disc.

Set a region code of a DVD recorder mechanism unit in the following procedure.

- (1) Replace a DVD recorder mechanism unit.
- (2) Turn POWER switch of the unit ON.
- (3) Set the main body to JIG mode.
- (4) Insert a DVD-RAM disc in the unit to make the unit read the DVD-RAM disc.(The DVD-RAM disk used in this procedure is not a disk for upgrade. If it is a DVD-RAM disk, it is good anything.)
- (5) Send "43-F2" to the unit by using JIG remote control unit.
- (6) "REGION 2" is displayed on FL display.
- (7) Set the unit to STANDBY.
- (8) Turn the POWER switch ON.
- (9) To cancel JIG MODE, send "43-9D" to the unit by using JIG remote control unit.
- (10) Colon is displayed on a clock on FL display.
- (11) Setting is completed in the procedure above.

5.3 Taking out a disc

5.3.1 Method 1

- (1) AC Plug is pulled out at once and inserted again.
- (2) It is displayed on FL display as "LOADING", and while it blinks, pushing the EJECT button of a main body is continued.
- (3) After a while, a tray opens (About 20 seconds).
- (4) A disk is removed, the EJECT button of a main body is pushed, and a tray is made to close.
- (5) The "LOADING" blink display of FL display disappears and it will be in a standby state.
- (6) If the POWER button is pushed, it will usually be operating.

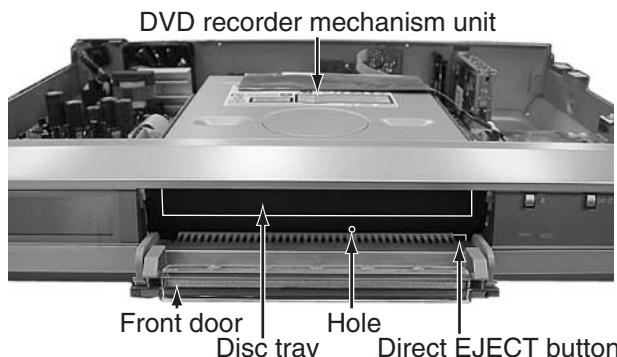
5.3.2 Method 2

When a disk is not able to be taken out by operation of "Method 1", a front door is opened manually, and the EJECT button in the lower right of a DVD recorder mechanism is pushed directly.

5.3.3 Method 3

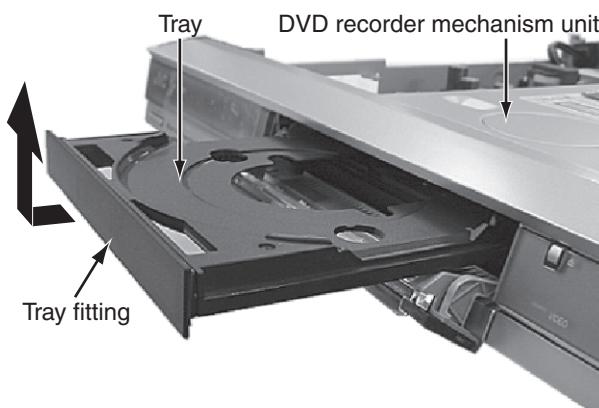
A Disc can be taken out manually even when the main body is turned off.

- (1) Open the front door.
- (2) Pass a thin wire through a hole in the DVD recorder mechanism unit.
- (3) The disc tray comes out slightly. Take out the disc tray manually.



5.4 The exchange method of a tray fitting

When DVD recorder mechanism unit is exchanged, please transplant a tray fitting from an old drive, or change for a new tray fitting. A tray is pulled out manually, as shown in a figure, it carries out, and a tray fitting is removed.



The JVC logo consists of the letters "JVC" in a bold, black, sans-serif font. The "J" and "V" are connected vertically, while the "C" is separate.

Victor Company of Japan, Limited

AV & MULTIMEDIA COMPANY DIGITAL VIDEO STORAGE CATEGORY 12, 3-chome, Moriya-cho, Kanagawa-ku, Yokohama, Kanagawa-prefecture, 221-8528, Japan

(No.YD025)



Printed in Japan
WPC

JVC

SCHEMATIC DIAGRAMS

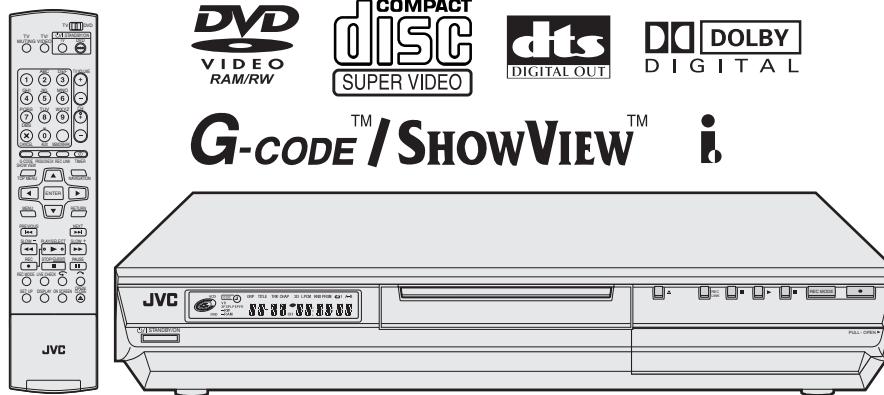
DVD VIDEO RECORDER

DR-M10SAA, DR-M10SAG DR-M10SAX

CD-ROM No.SML200406

Area Suffix

- | | |
|----------|----------------|
| AA ----- | Australia |
| AG ----- | Universal Asia |
| AX ----- | Middle East |



DR-M10SAA, DR-M10SAG, DR-M10SAX [D4R10]

Since the whole mechanism assembly unit is replaced, the DVD recorder mechanism of this unit need not be adjusted.

CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions

The Components indentified by the symbol  are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

Unless otherwise specified.

- 1) All resistance values are in ohm. 1/6 W, 1/8 W (refer to parts list).
Chip resistors are 1/16 W.
K: KΩ(1000Ω), M: MΩ (1000KΩ)
- 2) All capacitance values are in μF , (P: PF).
- 3) All inductance values are in μH , (m: mH).
- 4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

Note: The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only.
When replacing the parts, refer to the Parts List.

2. Indications of control voltage

AUX : Active at high.

 or AUX(L) : Active at low.

3. Interpreting Connector indications



Removable connector



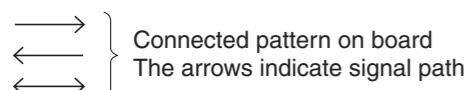
Wire soldered directly on board



Non-removable Board connector



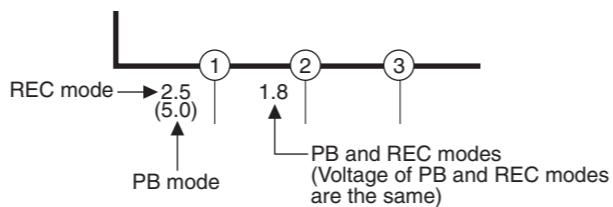
Board to Board



Note: For the destination of each signal and further line connections that are cut off from the diagram, refer to "BOARD INTERCONNECTIONS"

4. Voltage measurement

- 1) Regulator (DC/DC CONV) circuits
REC : Colour bar signal.
PB : Alignment tape (Colour bar).
— : Unmeasurable or unnecessary to measure.
- 2) Indication on schematic diagram
Voltage indications for REC and PB mode on the schematic diagram are as shown below.



Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

6. Indication of the parts for adjustments

The parts for the adjustments are surrounded with the circle as shown below.



7. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.



CIRCUIT BOARD NOTES

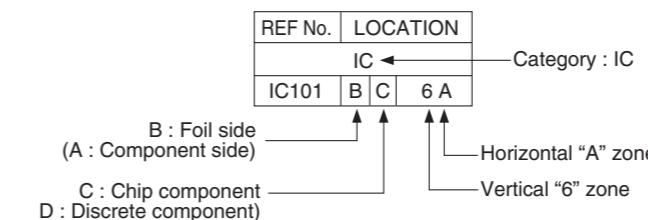
1. Foil and Component sides

- 1) Foil side (B side) :
Parts on the foil side seen from foil face (pattern face) are indicated.

- 2) Component side (A side) :
Parts on the component side seen from component face (parts face) indicated.
Parts location are indicated by guide scale on the circuit board.

2. Parts location guides

Parts location are indicated by guide scale on the circuit board.



Note: For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

Wiring diagram

5

4

3

2

1

A

B

C

D

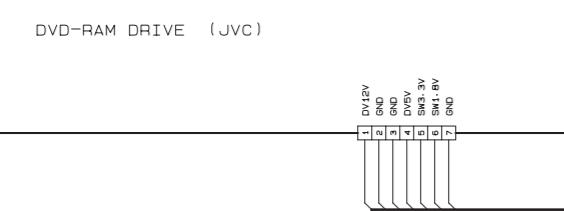
E

F

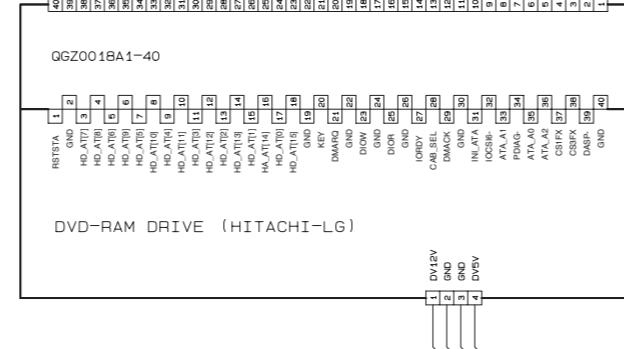
G

9 6	SR
7 6	BS
3 6	JACK
2 9	AV OUT
2 8	S/W DISPLAY
2 7	OPERATION
0 3	MAIN
0 2	DIGITAL
0 1	S/W/REG
NO	NAME

DVD-RAM DRIVE (JVC)

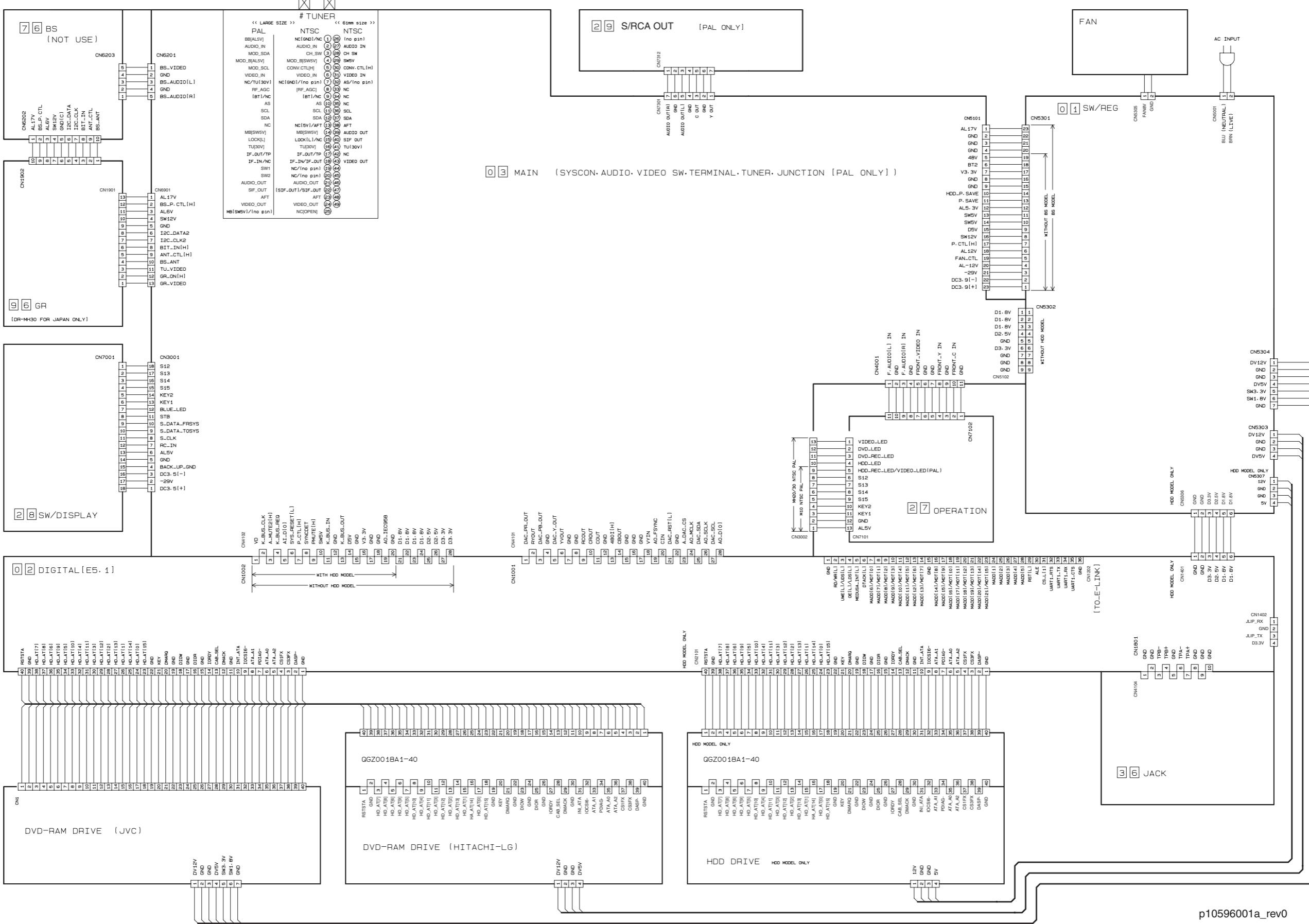
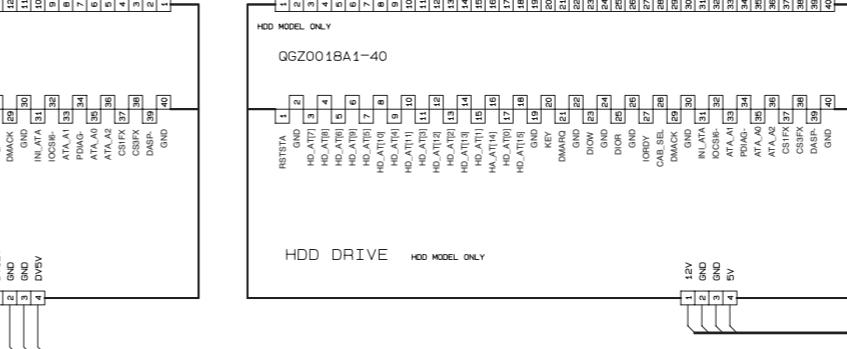


DVD-RAM DRIVE (HITACHI-LG)



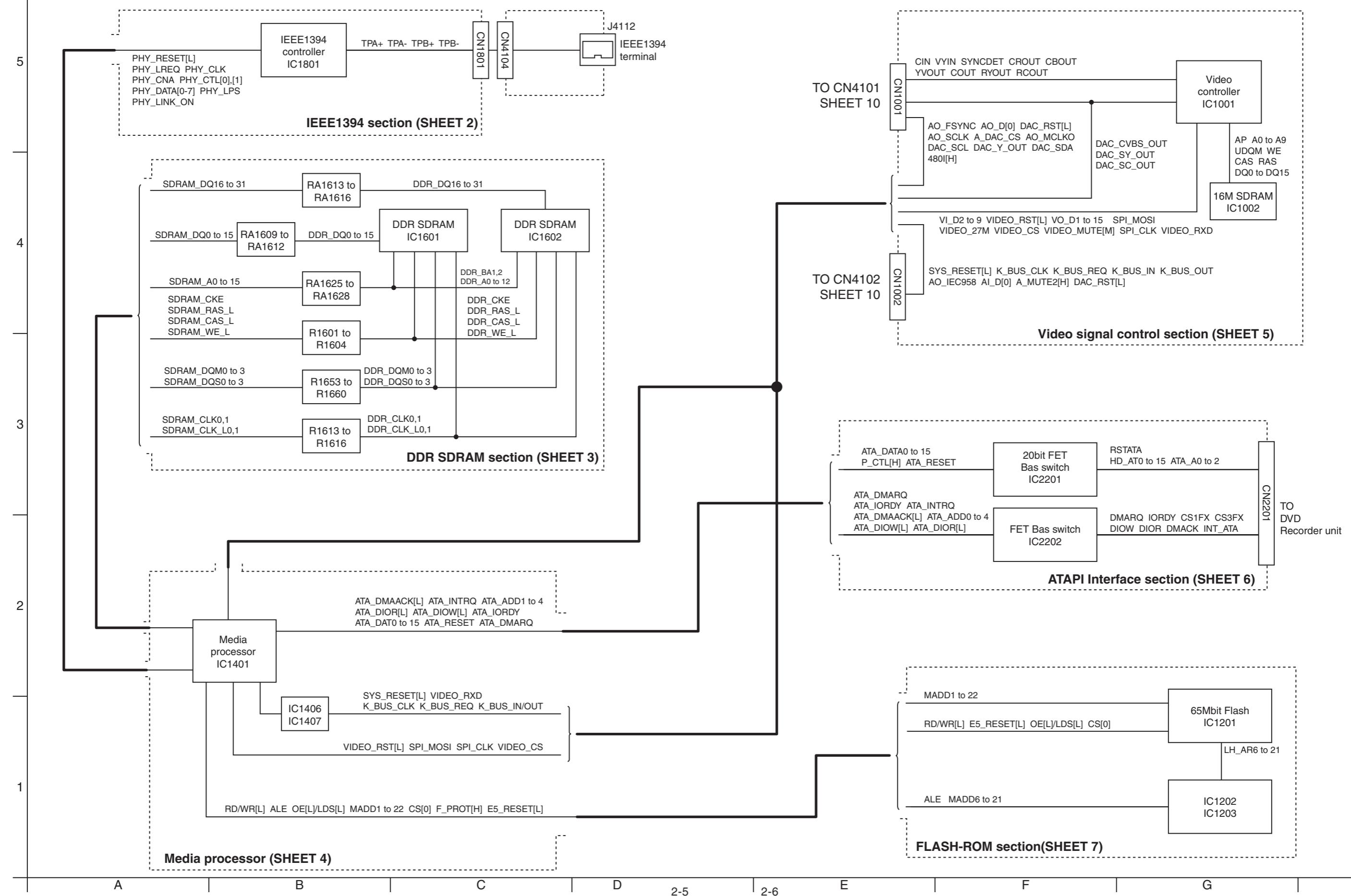
HDD DRIVE

HDD MODEL ONLY

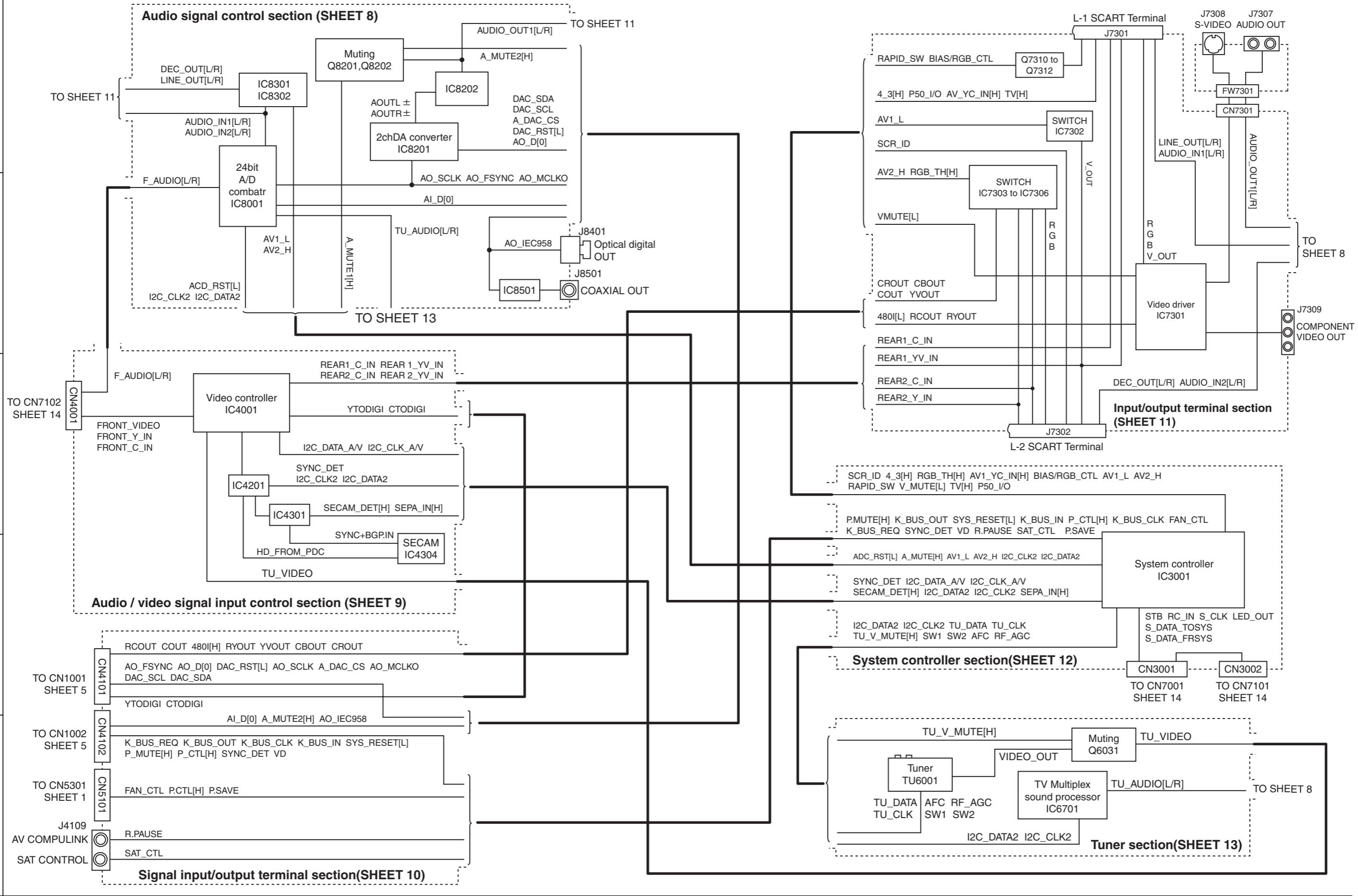


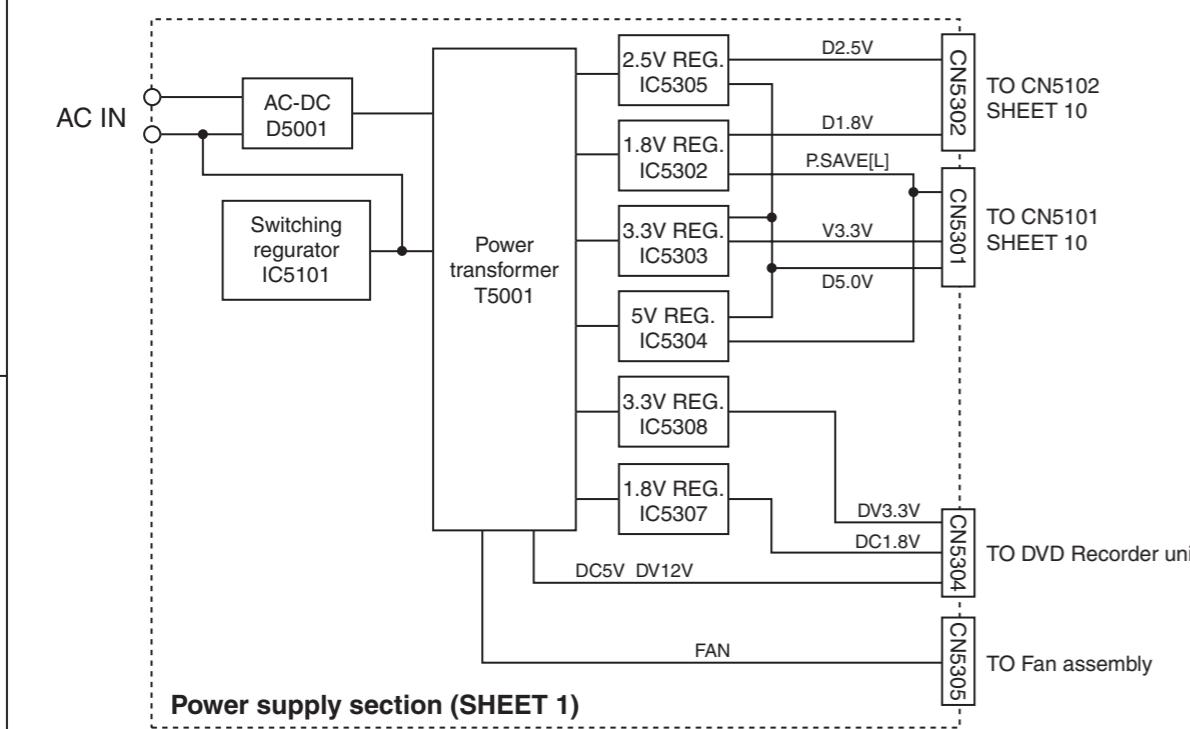
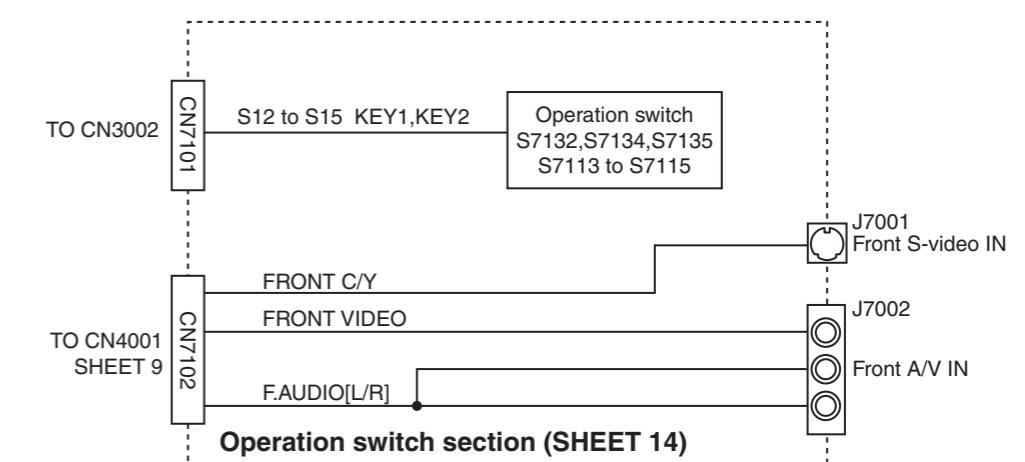
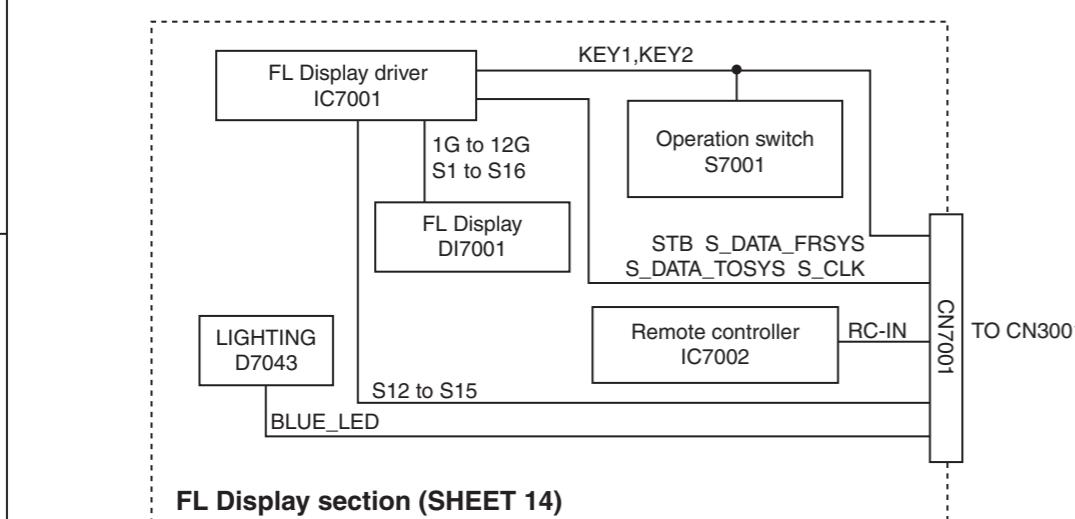
Block diagrams

DIGITAL [0]2



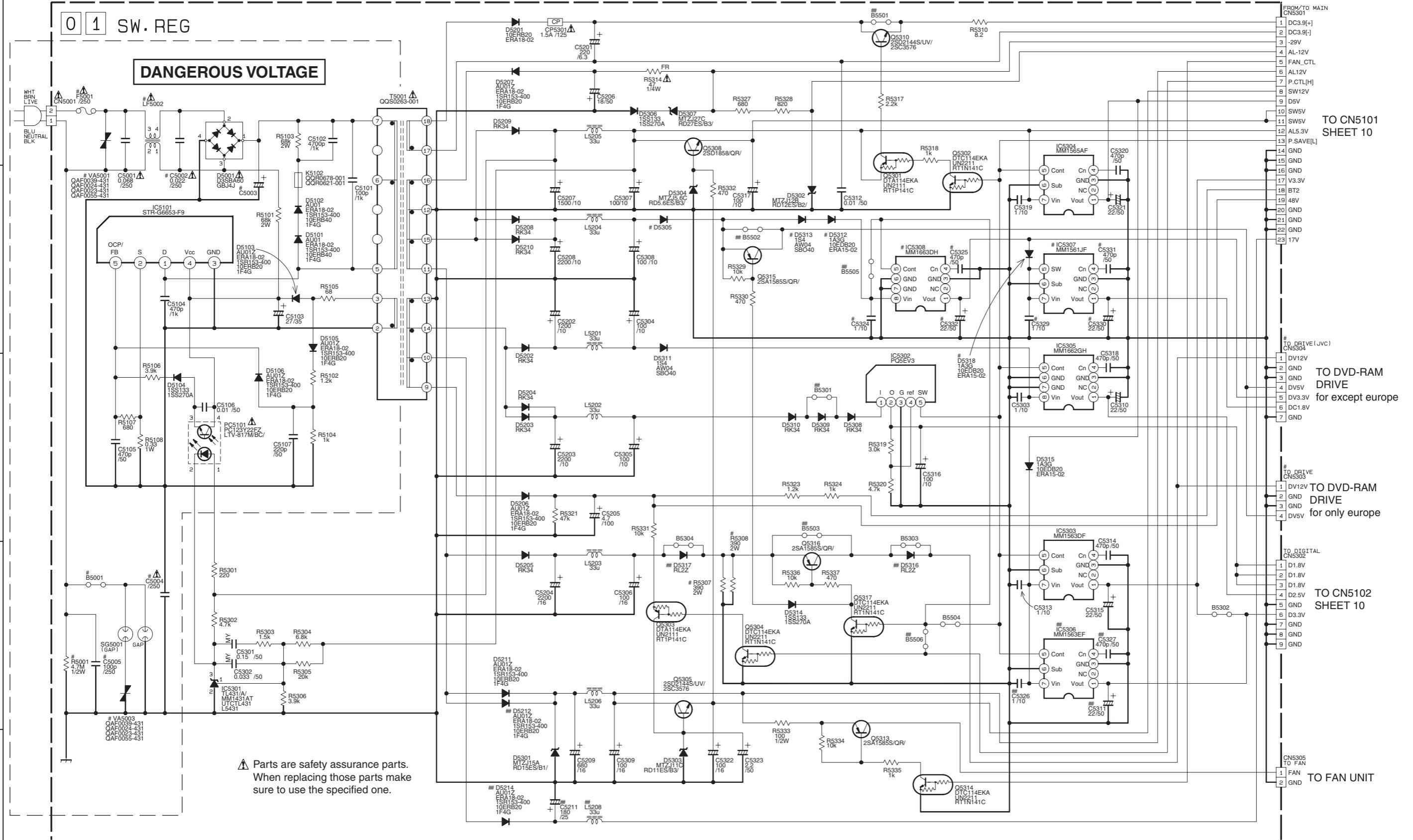
■ MAIN 03



■ SW.REG [0]1**■ OPERATE [2]7****■ SW/DISPLAY [2]8**

Standard schematic diagrams

■ Power supply section



A

B

C

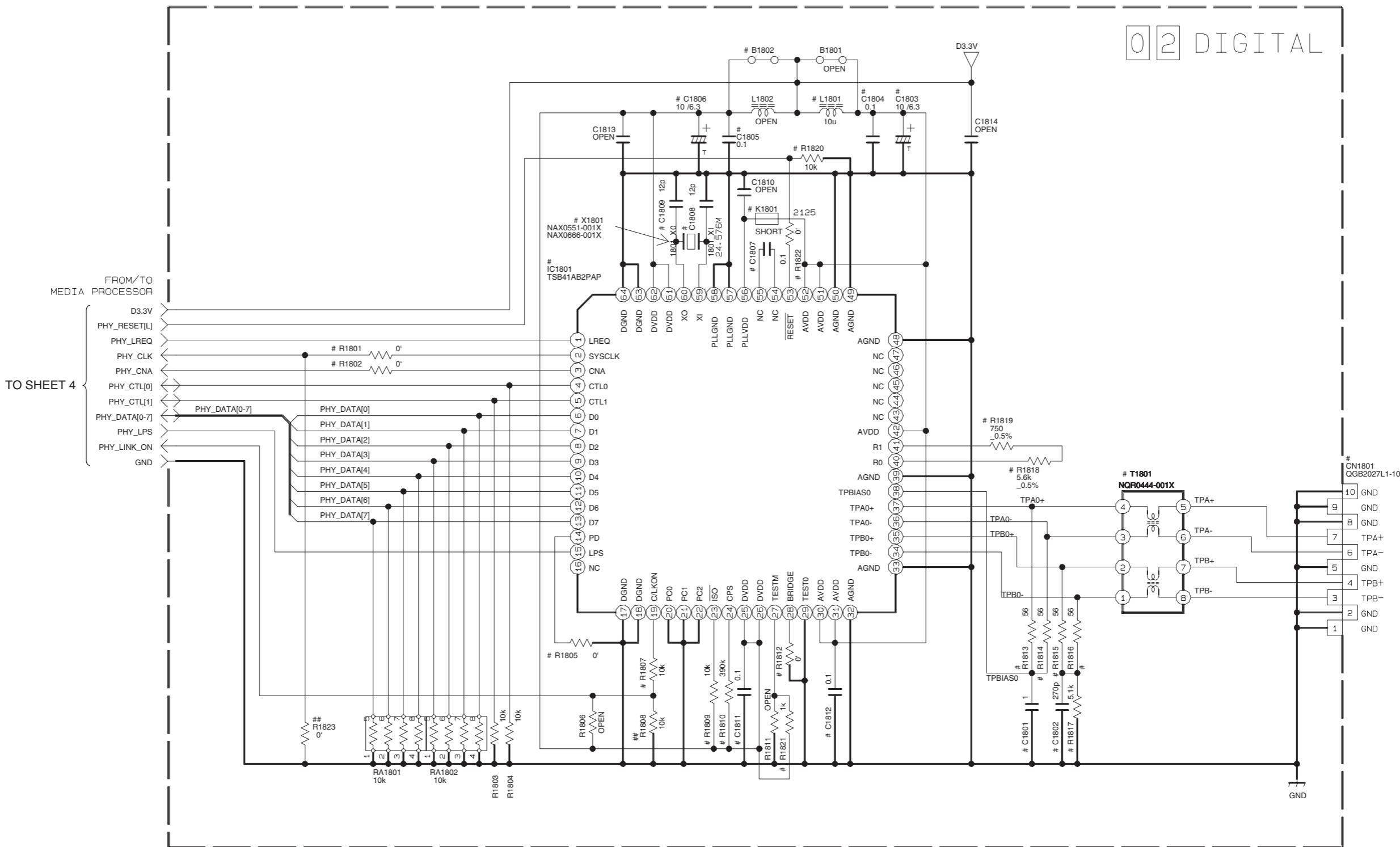
D

E

F

G

■ IEEE1394 section



NOTES: UNLESS OTHERWISE SPECIFIED.

ALL RESISTANCE VALUES ARE IN OHMS.

ALL INDUCTANCE VALUES ARE IN H.

ALL CAPACITANCE VALUES ARE IN μ F.

ELECTROLYTIC

CERAMIC

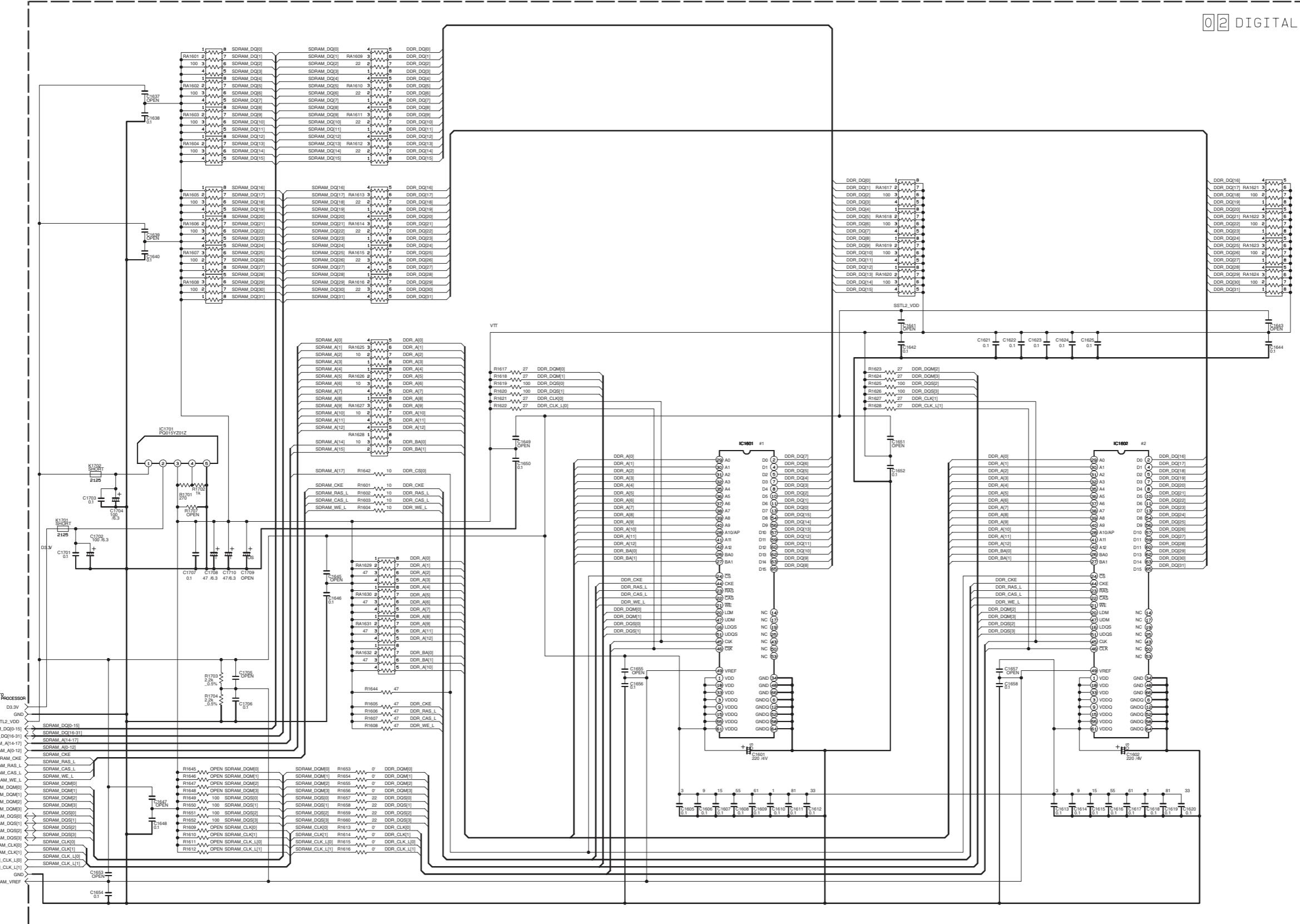
ORGANIC SEMICONDUCTOR

TANTAL

DIFFERENCE TABLE

DV IN	# MARK	# # MARK

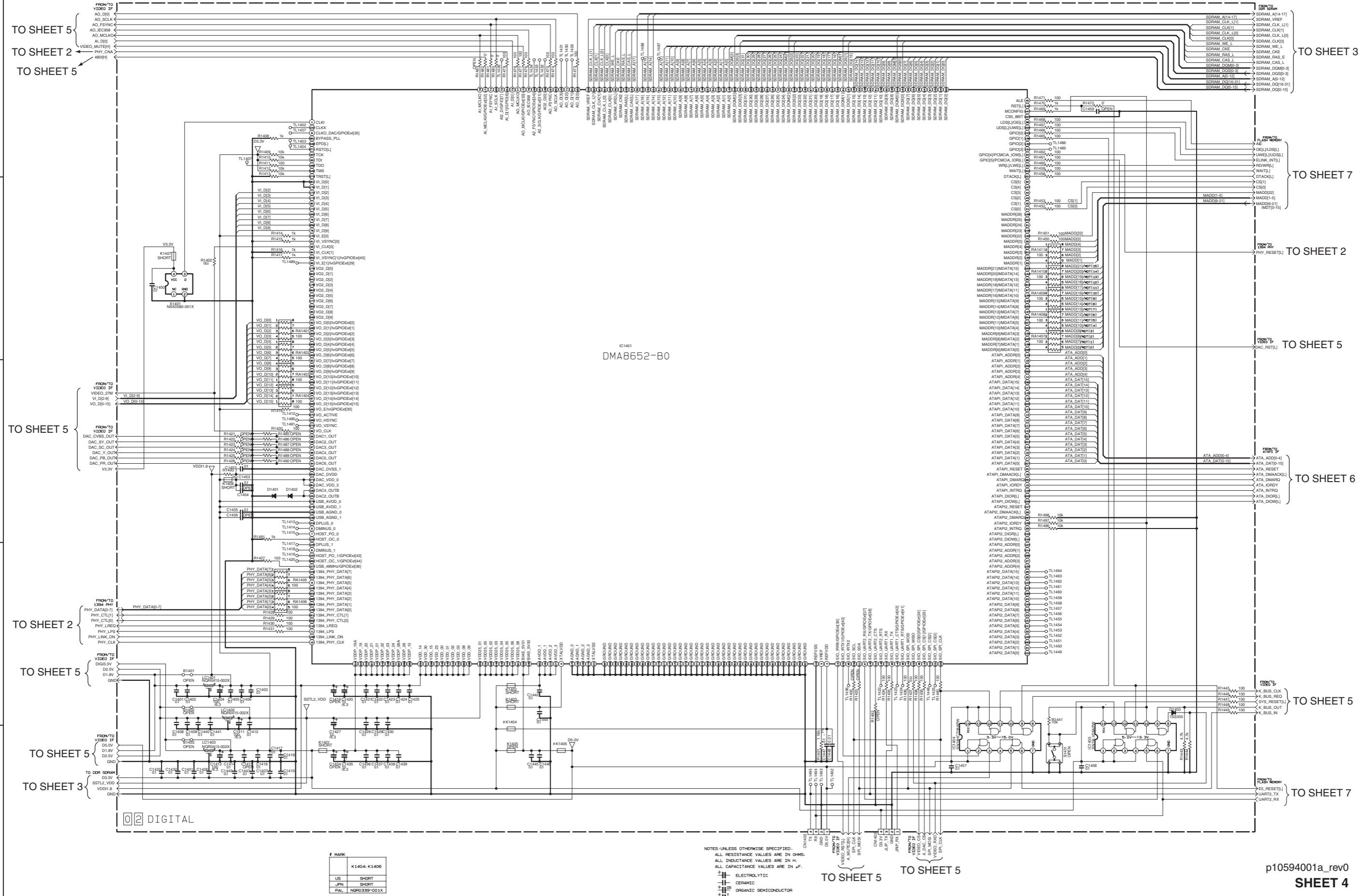
■ DDR SDRAM section



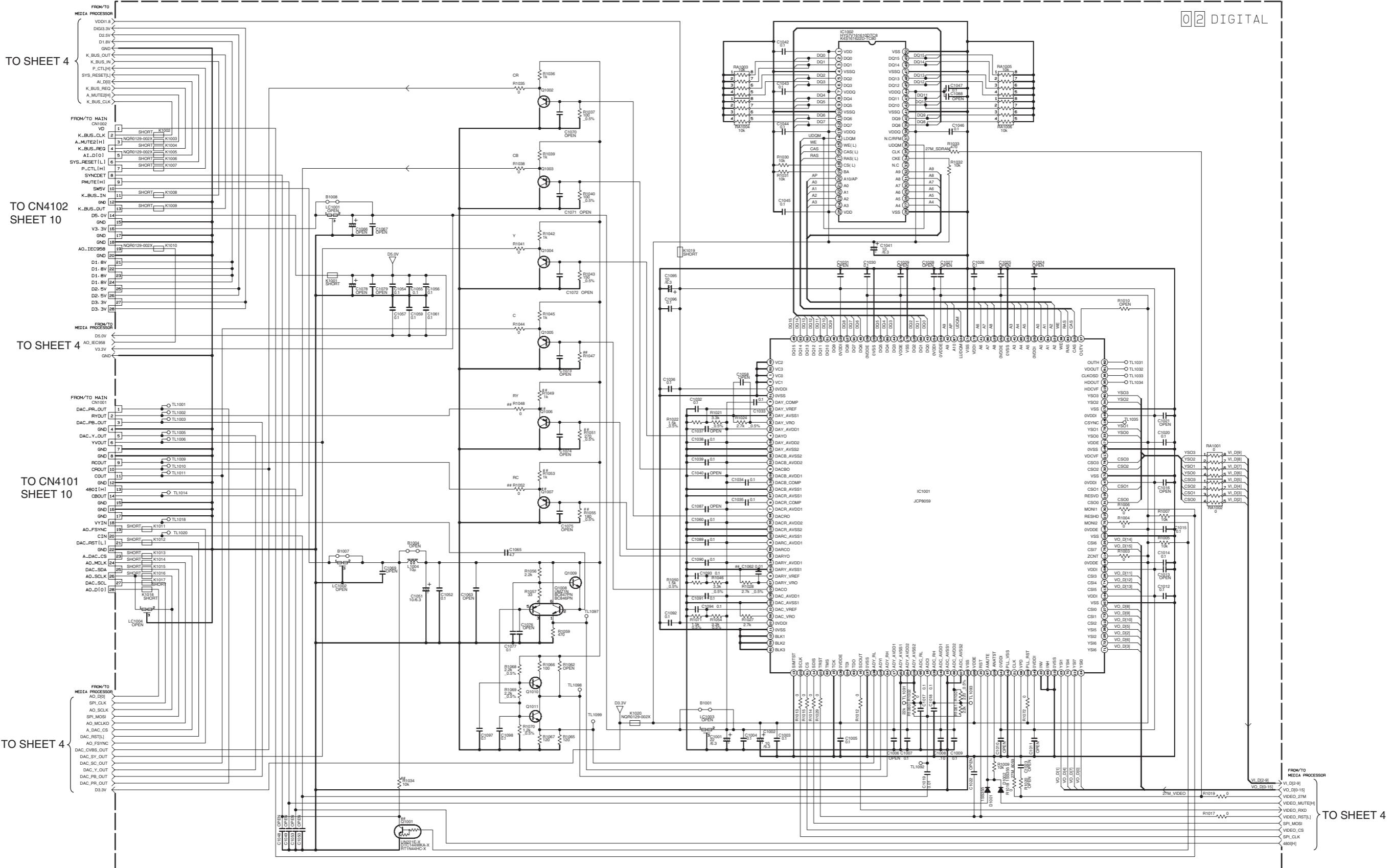
NOTES: UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μ F.

- + ELECTROLYTIC
- CERAMIC
- + ORGANIC SEMICONDUCTOR
- + TANTAL

■ Media processor section



■ Video signal controller section



ALL PNP TYPE TRANSISTORS ARE 2SA1037AK/GR/-X
or 2SA1530A/GR/-X
or 2SB709A/GR/-X

■ ATAPI Interface section

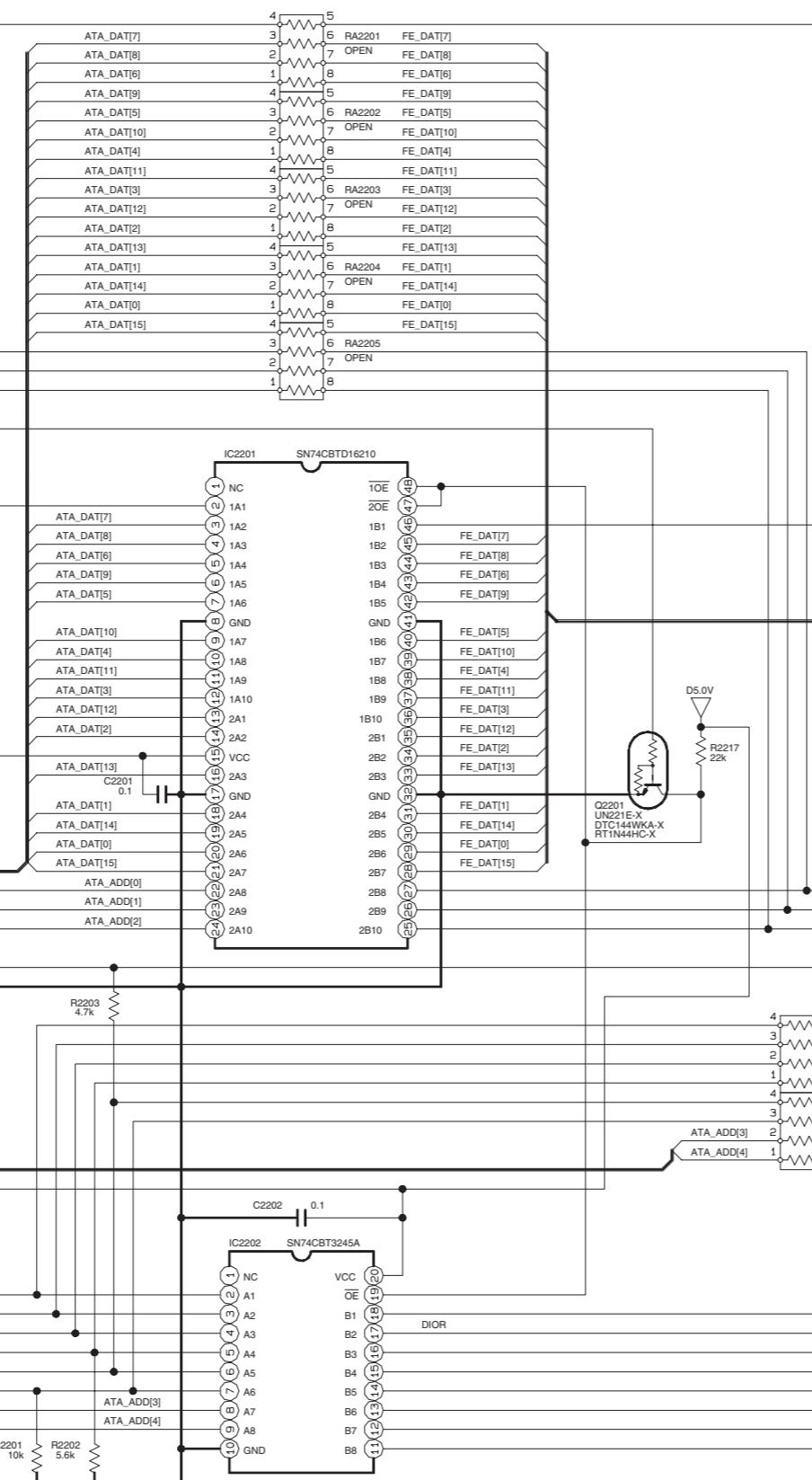
02 DIGITAL

5

4

3

TO SHEET 4



2

TO SHEET 4

#	MARK
	K2201~K2221
US	NQR0129-002X
JPN	SHORT
PAL	NQR0129-002X

NOTES: UNLESS OTHERWISE SPECIFIED.

ALL RESISTANCE VALUES ARE IN OHMS.

ALL INDUCTANCE VALUES ARE IN H.

ALL CAPACITANCE VALUES ARE IN μ F.

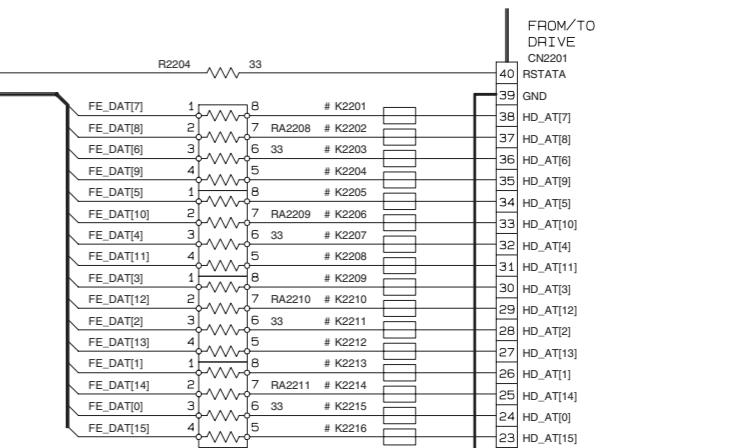
ELECTROLYTIC
 CERAMIC
 OS ORGANIC SEMICONDUCTOR
 TANTAL

1

2-21

2-22

E



TO DVD-RAM
DRIVE

p20403001a_rev0

SHEET 6

A

B

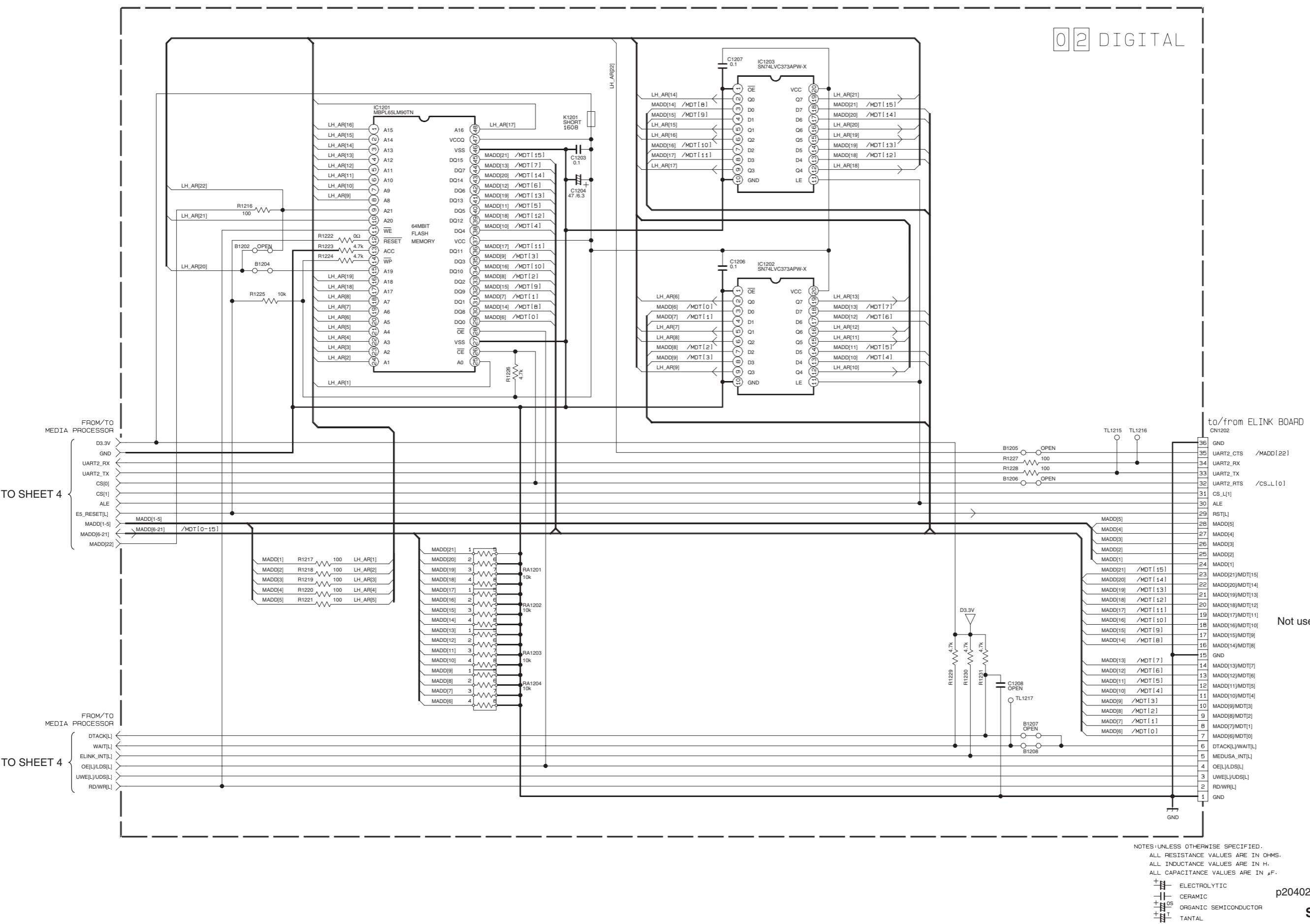
C

D

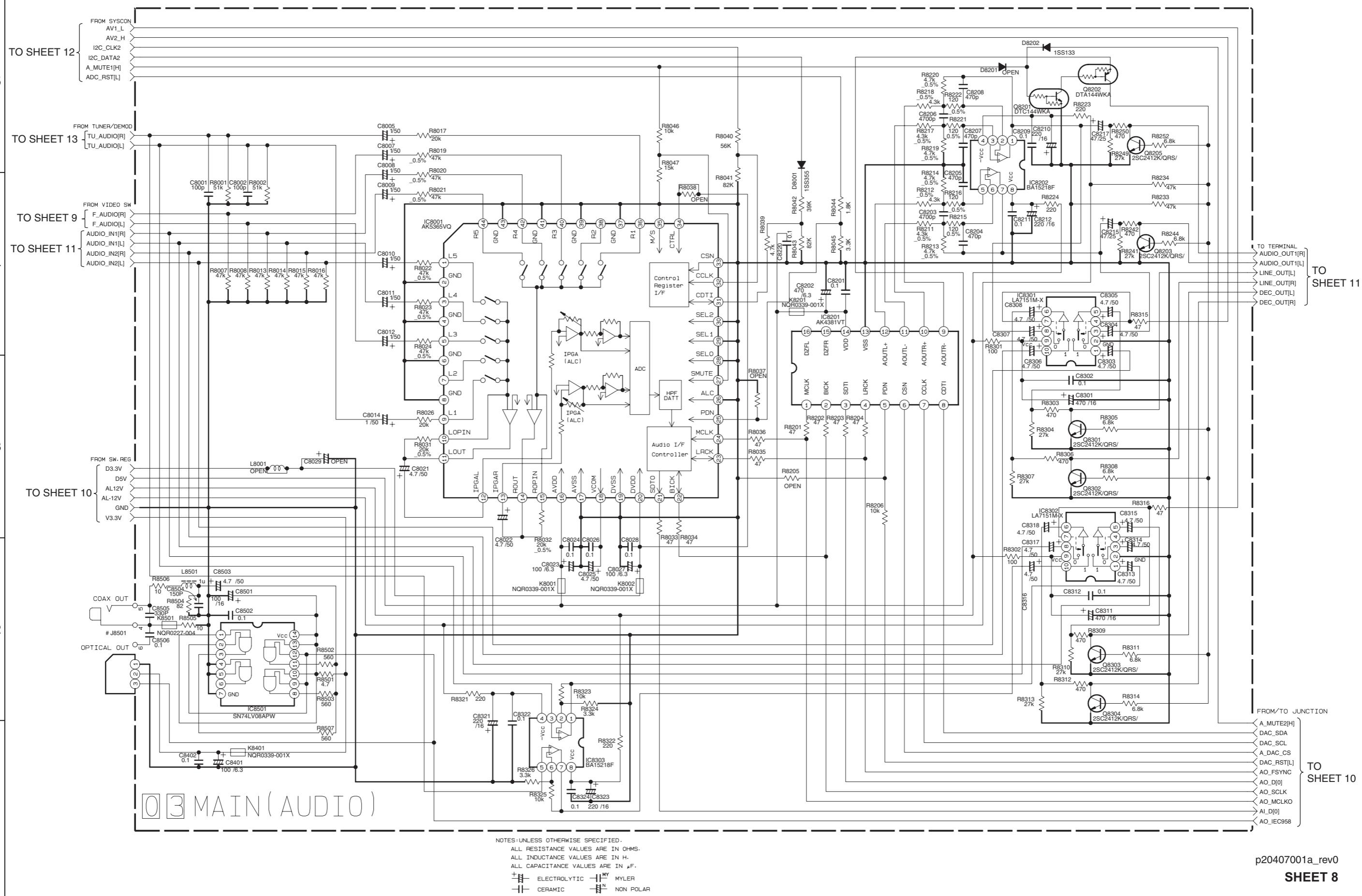
F

G

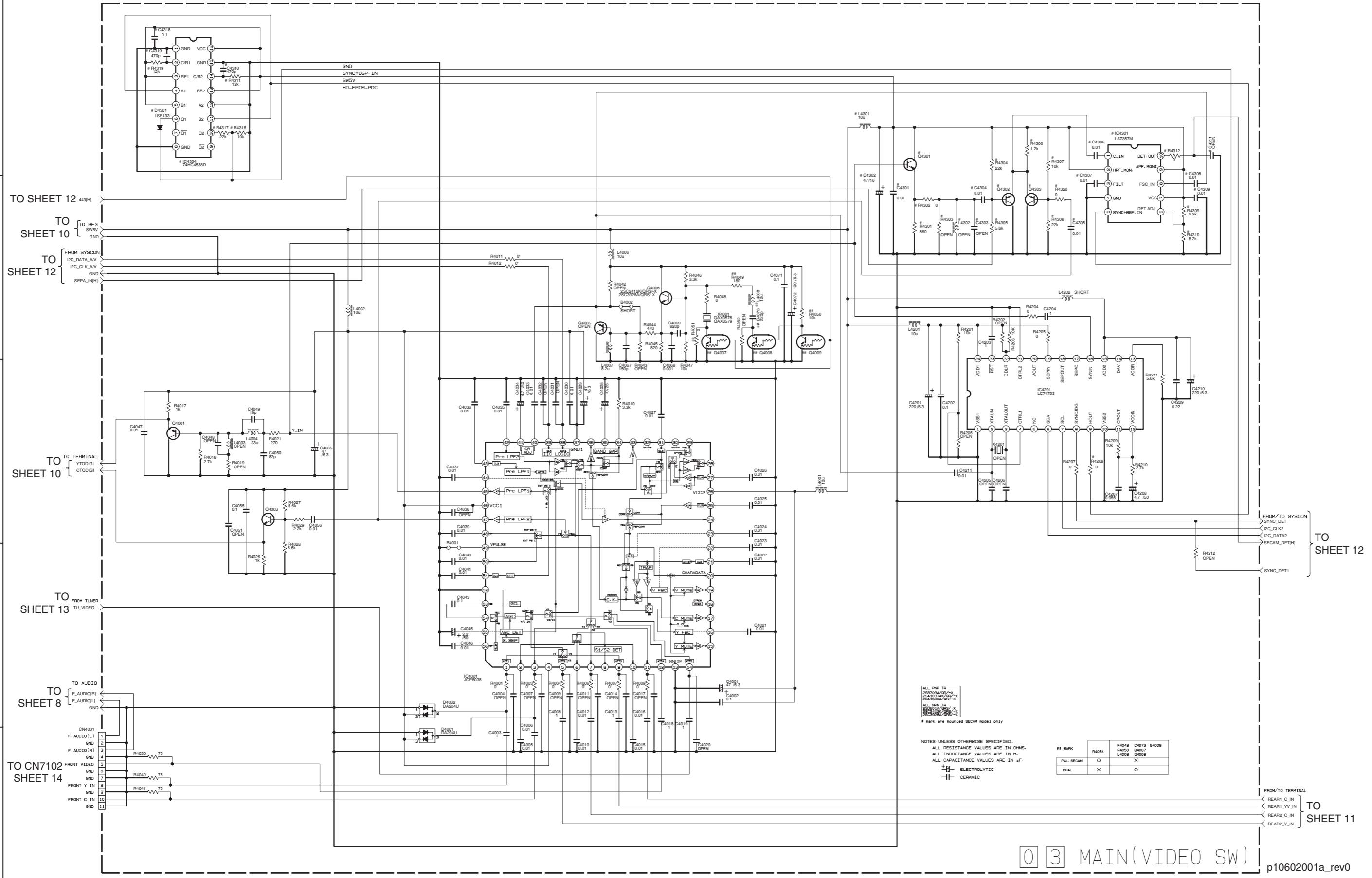
■ FLASH-ROM section



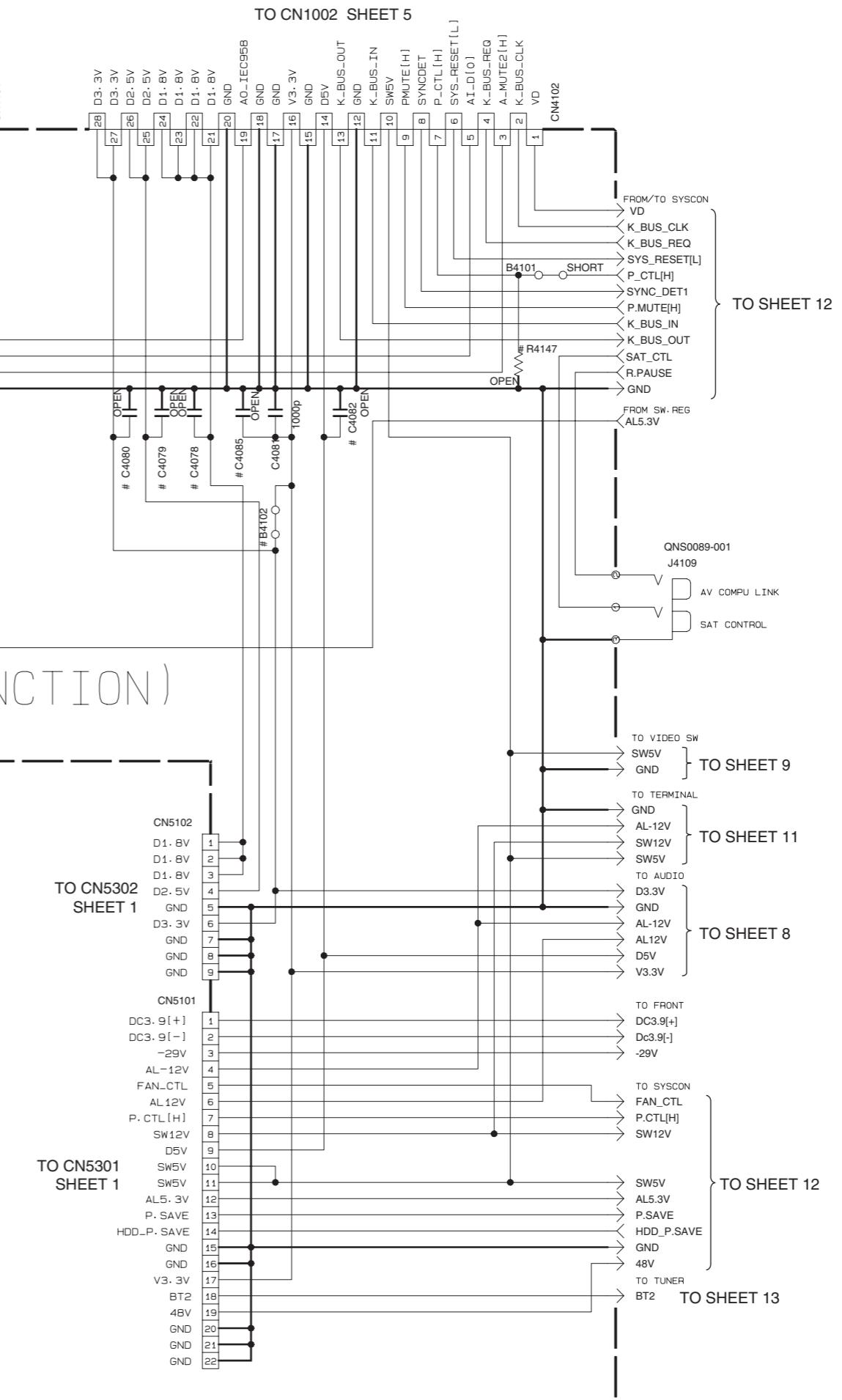
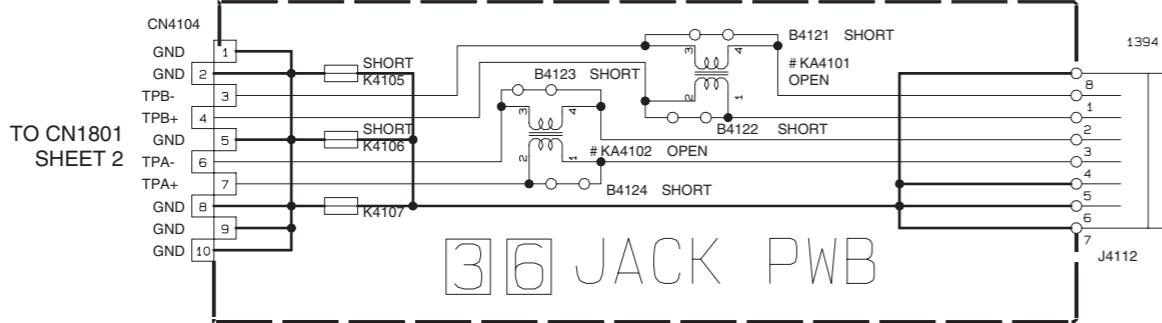
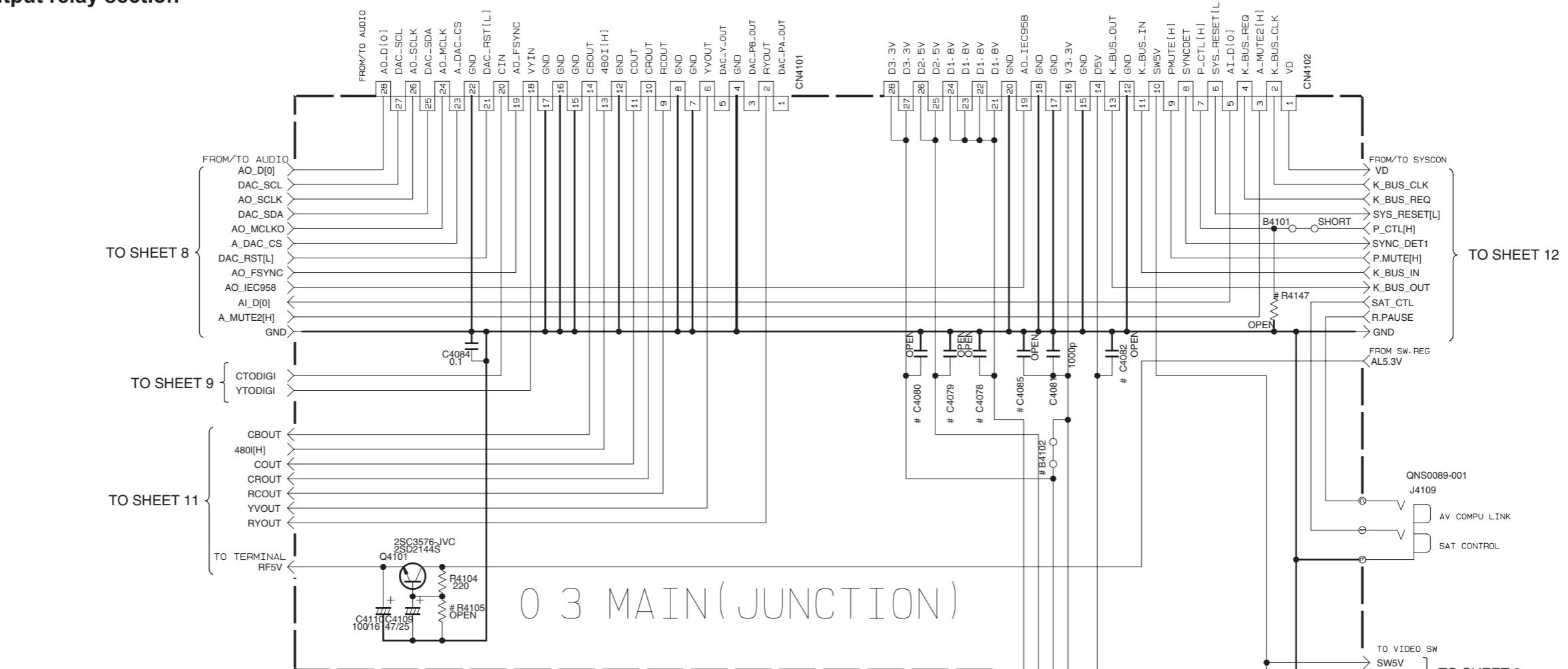
■ Audio signal control section



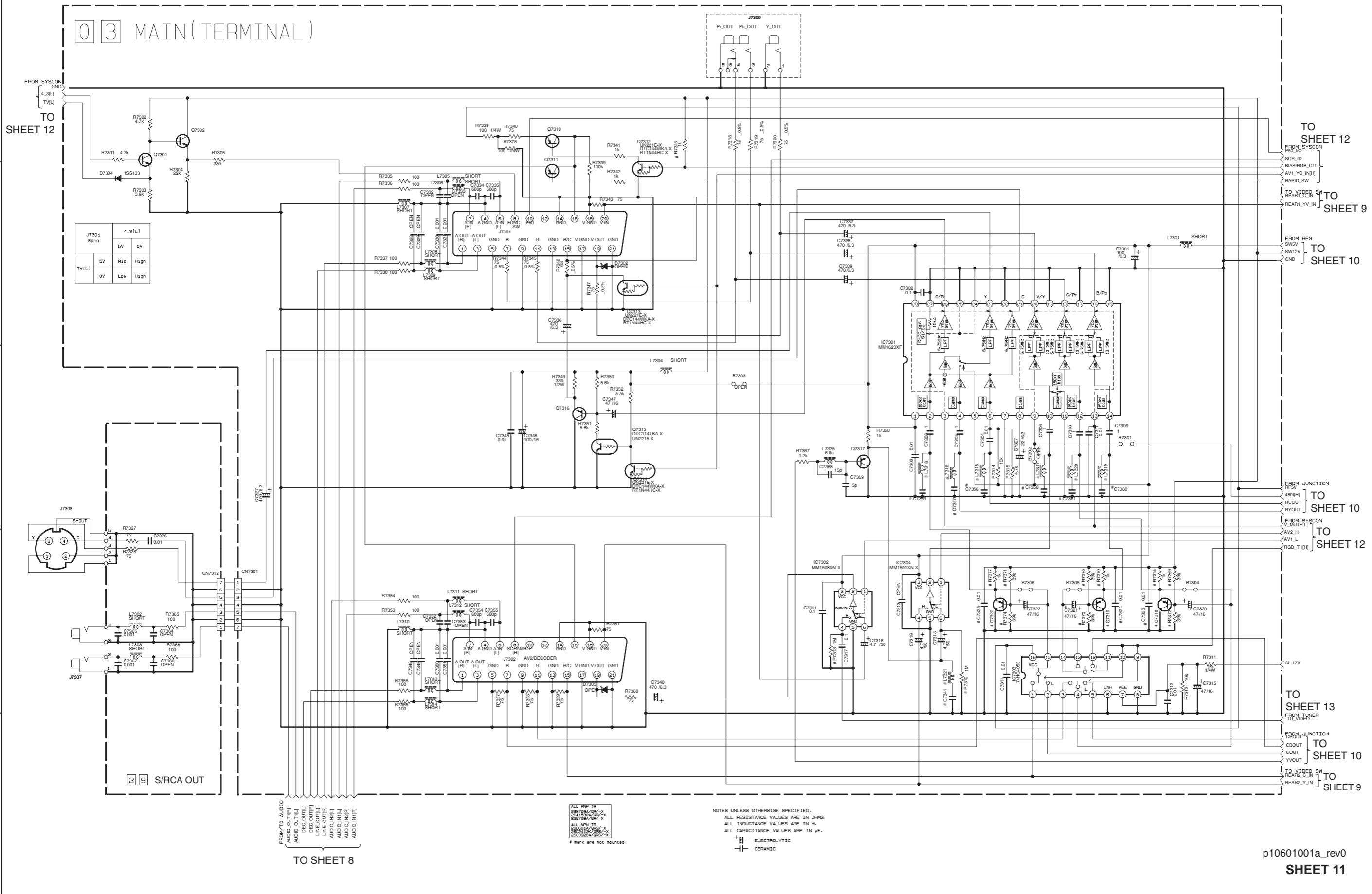
■ Audio/Video signal input control section



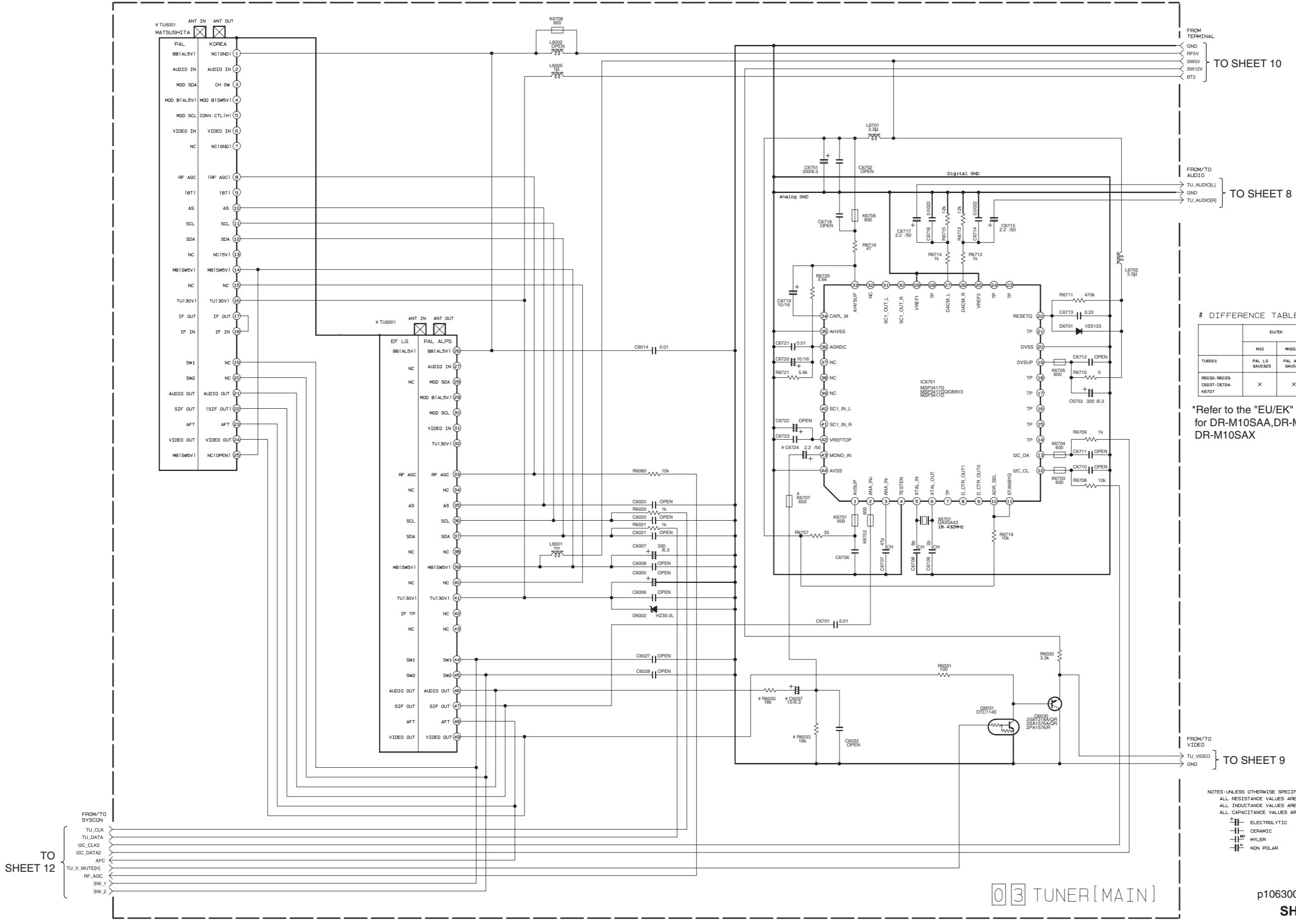
■ Input/Output relay section



■ Input/Output terminal section



■ Tuner section



	# DIFFERENCE TABLE		
	EU/EK	EF	
M10	MH20/30	M10-MH20/30	
TU6001	PAL ALPS GAU0323	PAL ALPS GAU0261	EF LG GAU0299
	R6032-R6033- C6037-C6724- K6707	X	X

*Refer to the "EU/EK" in a table for DR-M10SAA, DR-M10SAG, DR-M10SAX

NOTES: UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μ F.
 ELECTROLYTIC
 CERAMIC
 MYLAR
 NON POLAR

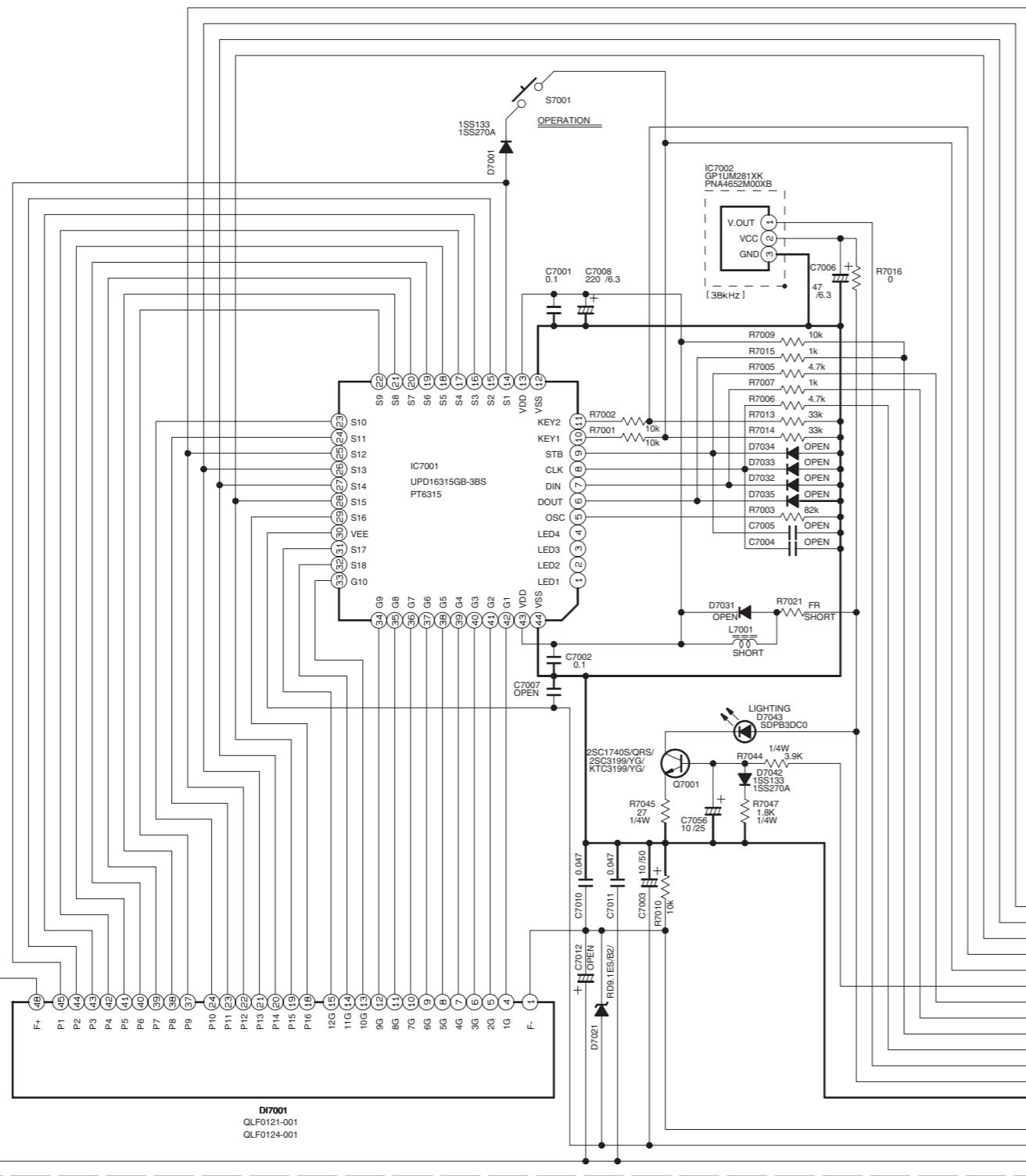
03 TUNER[MAIN]

p10630001a_rev0
SHEET 13

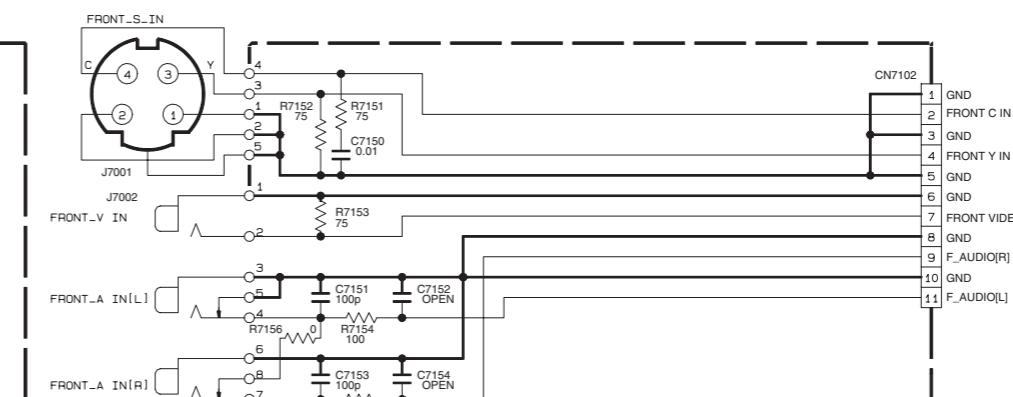
■ FL Display and operation switch section

28 SW/DISPLAY

5

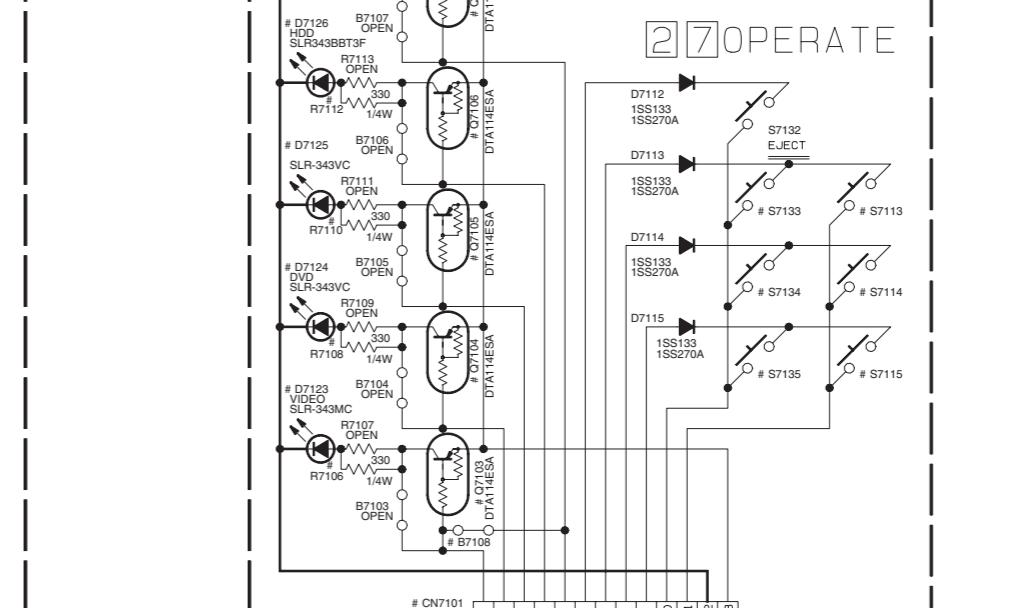


4



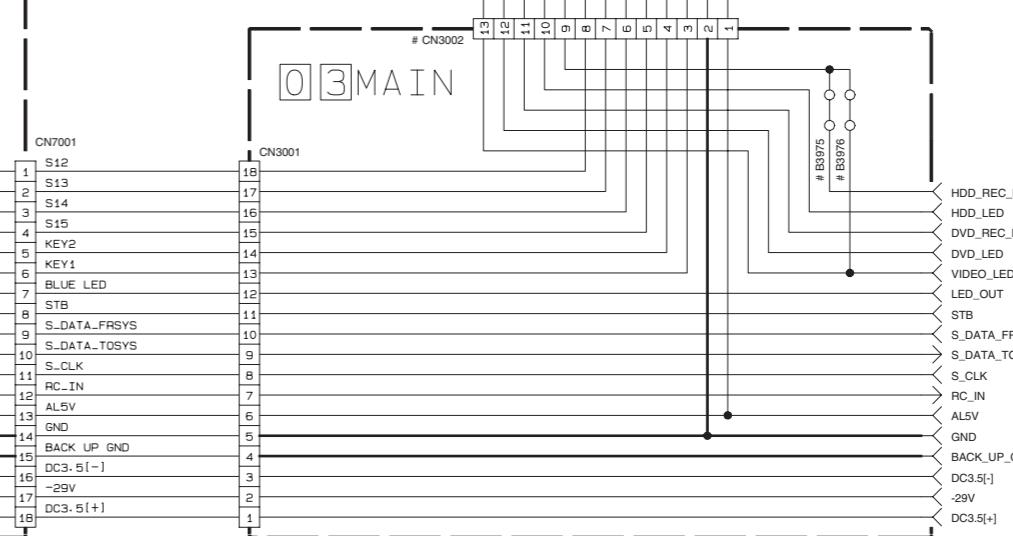
TO CN4001
SHEET 9

3



27 OPERATE

2



TO SHEET 12

1

NOTES: UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μ F.

$\text{+} \text{-}$ ELECTROLYTIC
 --- CERAMIC
 $\text{+} \text{-}$ MYLER
 --- NON POLAR

LAST NO.	VACANT NO.
R 7047 7156	7004-7009-7011-7012-7017-7020-7022-7043-7046
C 7056 7154	7009-7013-7055
D 7043 7127	7002-7020-7022-7030-7036-7041
Q 7001 7107	7101-7105-7116-7150
L 7001	7149
IC 7002	7101-7111-7116-7122
DI 7001	7102
S 7001 7135	7101-7112-7116-7131
CN 7001 7102	

p20404001a_rev0

SHEET 14

A

B

C

D

2-37

2-38

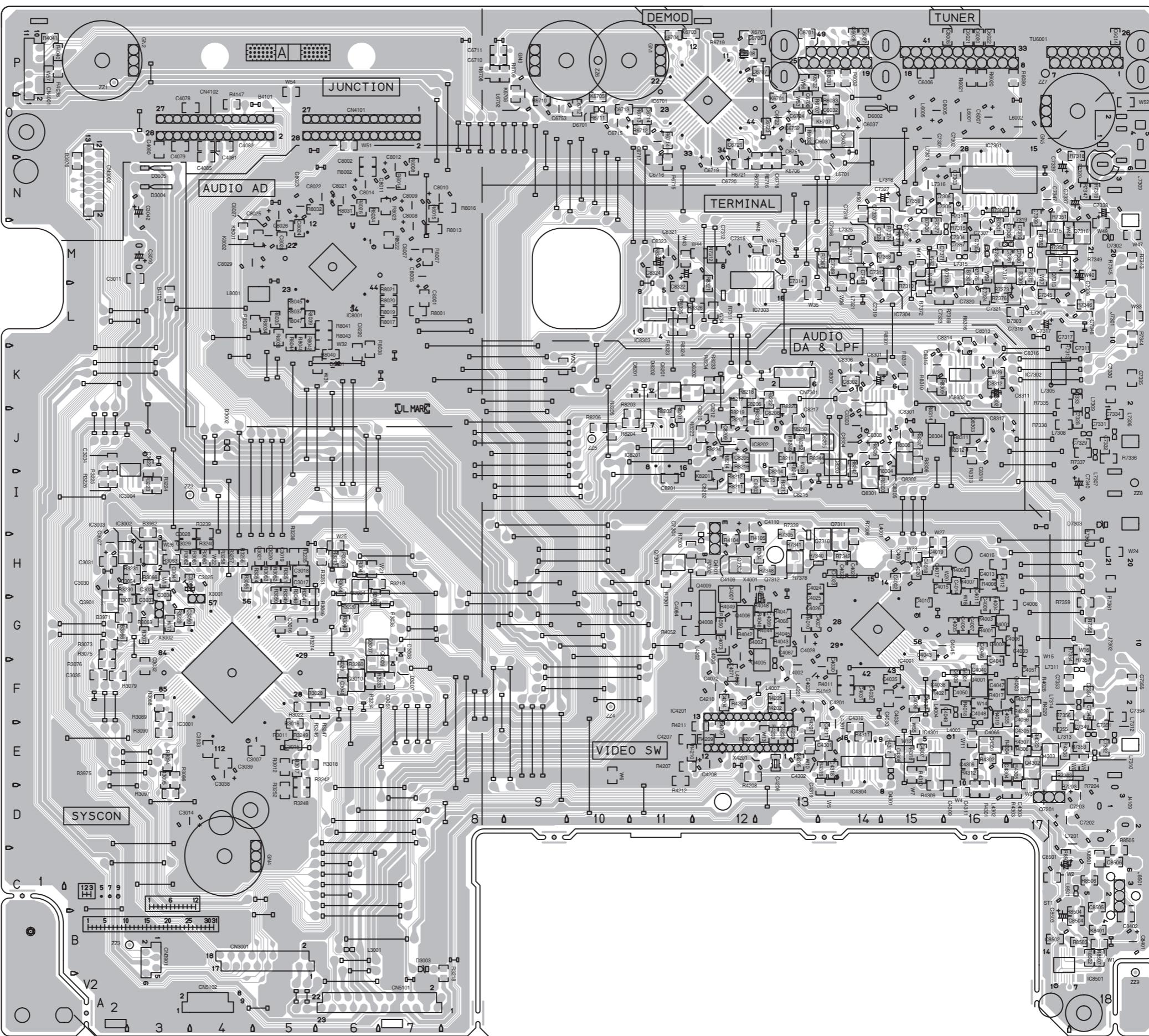
E

F

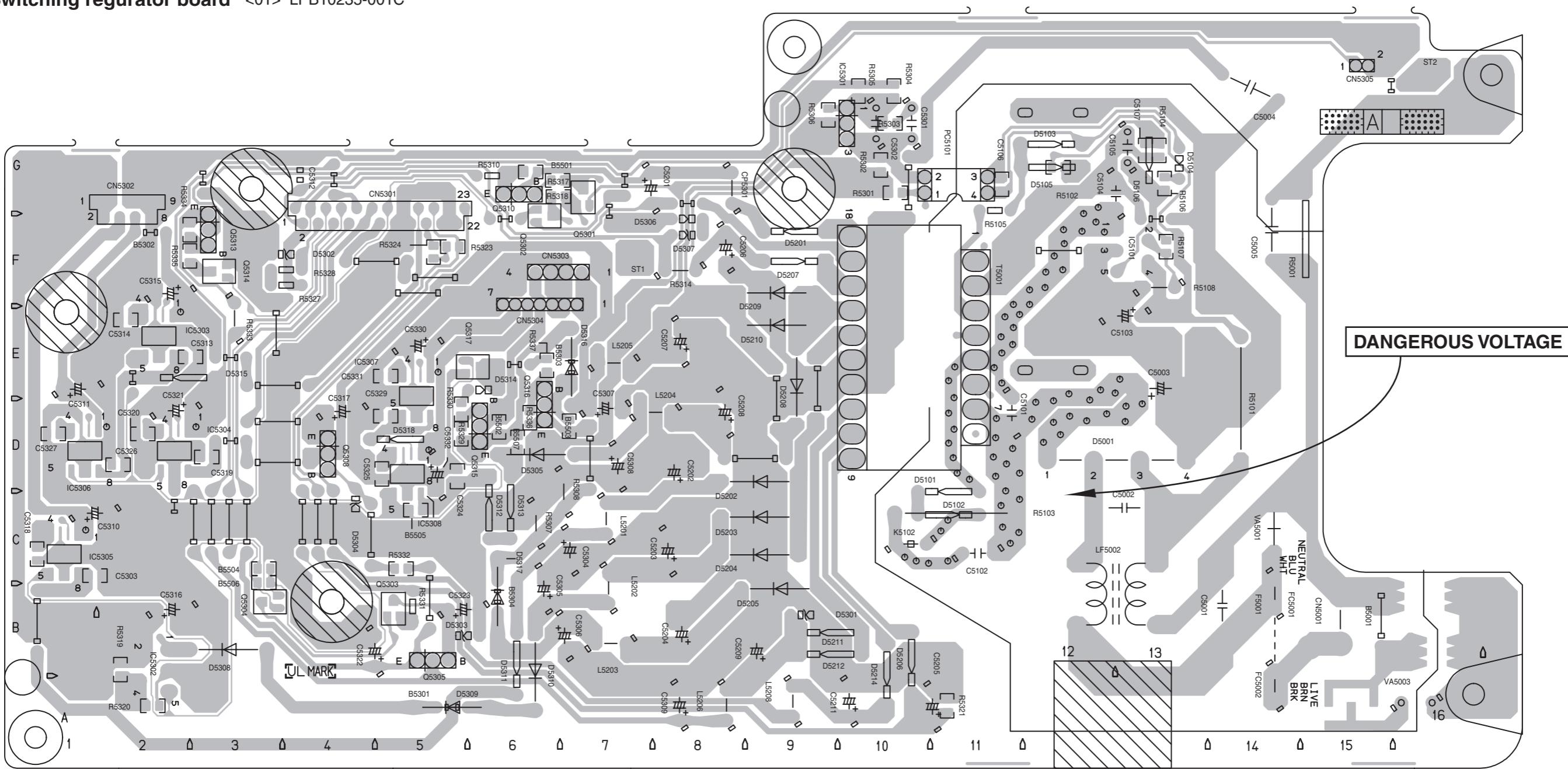
G

Printed circuit boards

■ Main board <03> LPB10239-001C



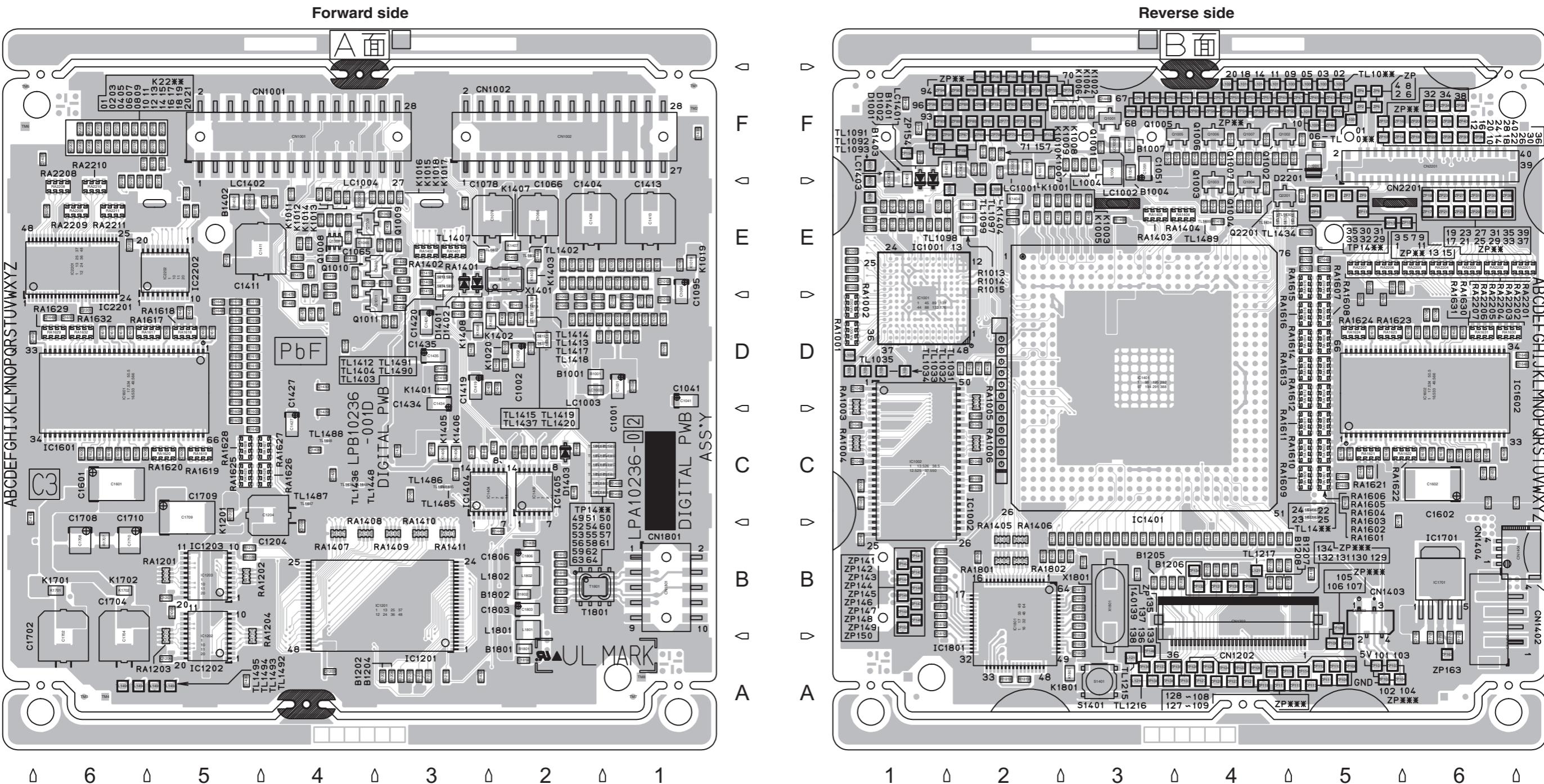
■ Switching regulator board <01> LPB10235-001C



COMPONENT PARTS LOCATION GUIDE <SWITCHING REGULATOR> LPB10235-001C

REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION
CAPACITOR													
C5001	A D 14B	C5302	A D 7D	CN5302	A D 1F	D5304	A D 4C	L5202	A D 7B	R5106	B C 13G	R5336	B C 6D
C5002	A D 12C	C5303	A D 7D	CN5303	A D 7F	D5305	A D 7D	L5203	A D 7B	R5107	B C 13F	R5337	B C 6E
C5003	A D 13D	C5310	A D 1C	CN5305	A D 15H	D5306	A D 8F	L5204	A D 7D	R5108	A D 13F		
C5004	A D 14H	C5311	A D 1D	D5307	A D 8F	L5205	A D 7E	R5301	B C 10G				
C5005	A D 14F	C5312	A D 4G	D5308	A D 8A	L5206	A D 8A	R5302	B C 10G	CP5301	A D 8F		
C5101	A D 11D	C5313	B C 3E	D5001	A D 12D	D5310	A D 6B	R5303	B C 10G	F5001	A D 14B		
C5102	A D 11C	C5314	B C 2E	D5101	A D 11C	D5311	A D 6B	L5208	A D 9A	R5303	B C 10H	FC5001	A D 14B
C5103	A D 13E	C5315	A D 2E	D5102	A D 10C	D5312	A D 6C	L5209	A D 10C	R5304	B C 10H	FC5002	A D 14A
C5104	A D 13F	C5316	A D 2B	D5103	A D 11G	D5313	A D 6C	LF5002	A D 13C	R5305	B C 9G	K5102	A D 10C
C5105	A D 13G	C5317	A D 4D	D5104	A D 13G	D5314	A D 6D	Q5301	B C 7G	R5307	A D 6C	PC0220	A D 15B
C5106	B C 11G	C5318	B C 1C	D5105	A D 13G	D5315	A D 3E	Q5302	B C 6F	R5308	A D 7C	PC0221	A D 15B
C5107	B C 13G	C5319	B C 3D	D5106	A D 13G	D5316	A D 7D	Q5303	B C 5B	R5310	A D 6G	PC101	A D 10G
C5201	A D 7G	C5320	B C 2D	D5201	A D 9F	D5317	A D 6B	Q5304	B C 3B	R5314	A D 8F	S5001	B C 15A
C5202	A D 8C	C5321	A D 3D	D5202	A D 9C	D5318	A D 5D	Q5305	B C 5A	R5317	B C 6G	T5001	A D 11F
C5203	A D 8C	C5322	A D 5A	D5203	A D 9C	D5319	A D 6G	Q5308	A D 4D	R5318	B C 6G	VA5001	A D 14C
C5204	A D 8B	C5323	A D 5B	D5204	A D 9C	D5320	A D 6G	Q5310	A D 6G	R5319	B C 2A	VA5003	A D 16A
C5205	A D 11A	C5324	B C 6C	D5205	A D 9B	IC5101	A D 13F	Q5313	A D 3F	R5320	B C 2A		
C5206	A D 8F	C5325	B C 5C	D5206	A D 10B	IC5102	A D 10G	Q5314	B C 3F	R5321	B C 11A		
C5207	A D 8E	C5326	B C 2D	D5207	A D 9F	IC5301	A D 10B	Q5315	A D 6D	R5323	B C 5F		
C5208	A D 8D	C5327	B C 1D	D5208	A D 9E	IC5302	A D 2B	Q5316	A D 6D	R5324	B C 5F		
C5209	A D 9A	C5329	B C 5D	D5209	A D 9E	IC5303	B C 1D	Q5317	B C 6E	R5327	A D 4F		
C5211	A D 10A	C5330	A D 5E	D5210	A D 10B	IC5304	B C 2D	Q5318	B C 1C	R5328	A D 4F		
C5301	A D 10G	C5331	B C 5E	D5211	A D 10B	IC5305	B C 1C	Q5319	B C 1C	R5329	B C 5D		
C5302	A D 10G	C5332	A D 5D	D5212	A D 10B	IC5306	B C 1D	Q5320	B C 1D	R5330	B C 5D		
C5303	B C 1B			D5214	A D 10B	IC5307	B C 5D	Q5321	B C 5D	R5331	A D 5B		
C5304	A D 7C			D5214	A D 10B	IC5308	B C 5D	Q5322	B C 5D	R5332	B C 5B		
C5305	A D 6B	CN5001	A D 15B	D5301	A D 9B	R5102	B C 12G	Q5323	B C 5B	R5333	A D 3E		
C5306	A D 7B	CN5301	A D 4F	D5303	A D 6B	L5201	A D 7C	Q5324	B C 3F	R5334	B C 3F		

■ Digital board <02> LPB10236-001D



JVC

Victor Company of Japan, Limited

AV & MULTIMEDIA COMPANY DIGITAL VIDEO STORAGE CATEGORY 12, 3-chome, Moriya-cho, kanagawa-ku, Yokohama, kanagawa-prefecture, 221-8528, Japan

No.YD025SCH



Printed in Japan
WPC

PARTS LIST

[DR-M10SAA, DR-M10SAG, DR-M10SAX]

- * All printed circuit boards and its assemblies are not available as service parts.
- * (x_) in a description column shows the number of the used part.

Area Suffix

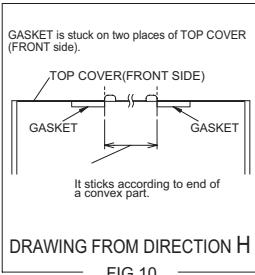
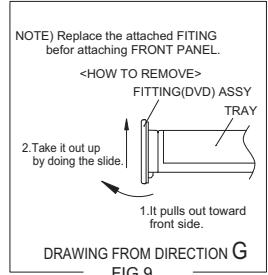
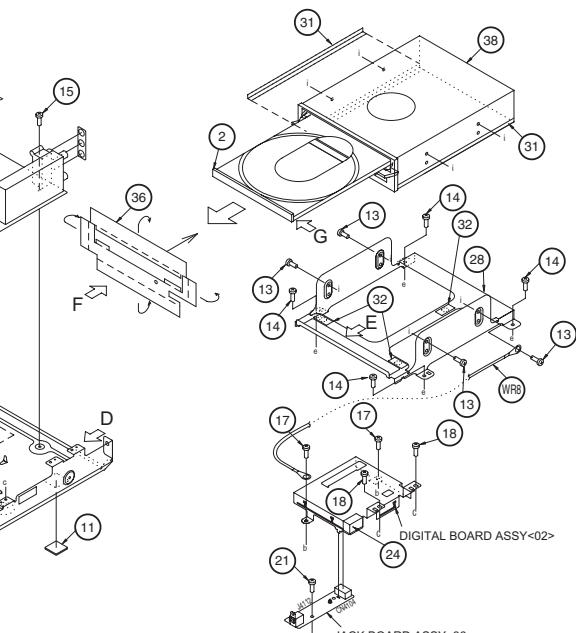
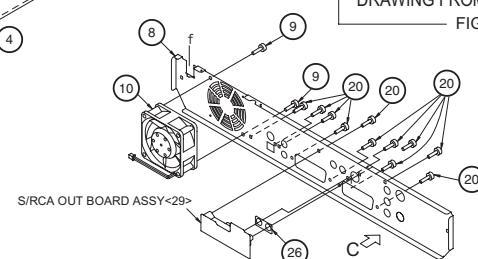
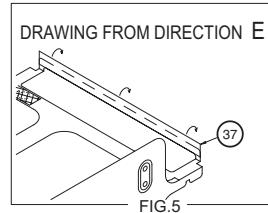
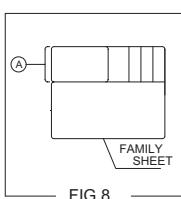
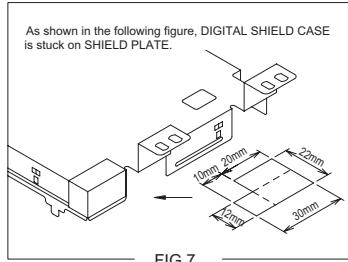
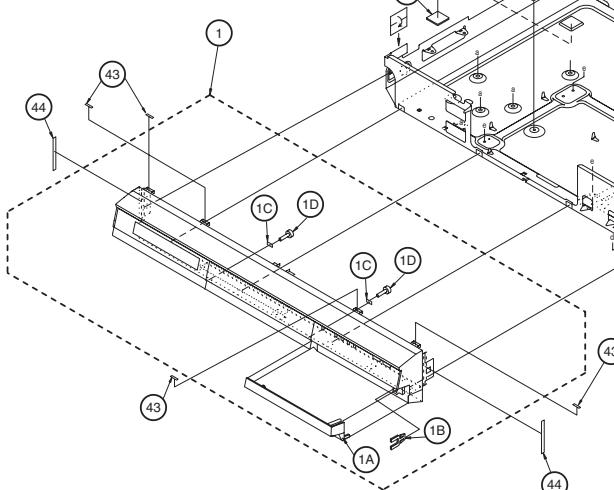
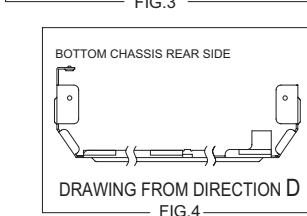
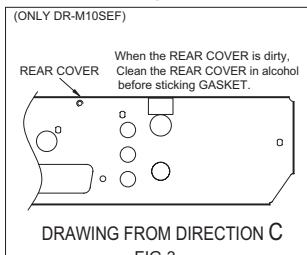
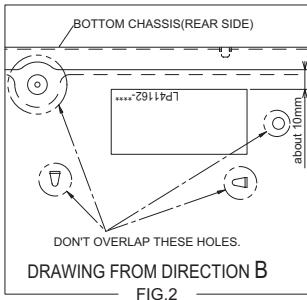
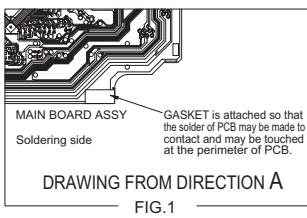
AA	-----	Australia
AG	-----	Universal Asia
AX	-----	Middle East

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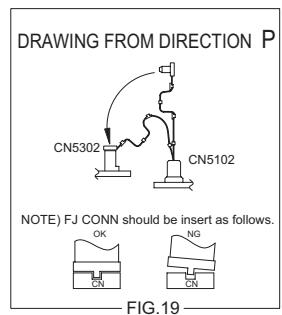
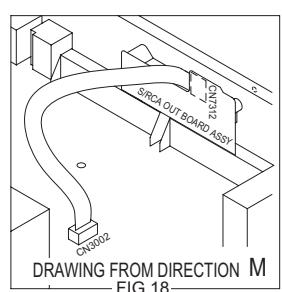
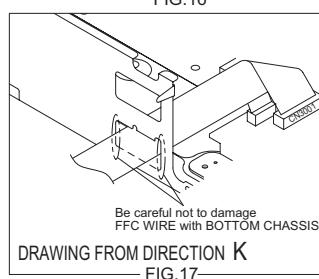
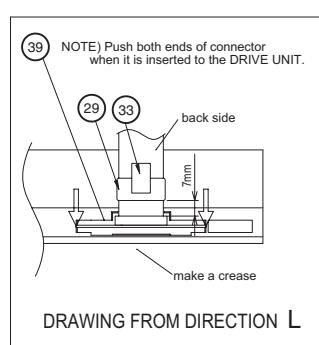
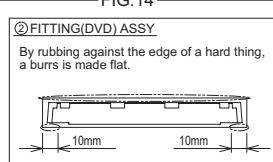
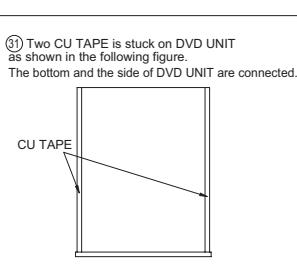
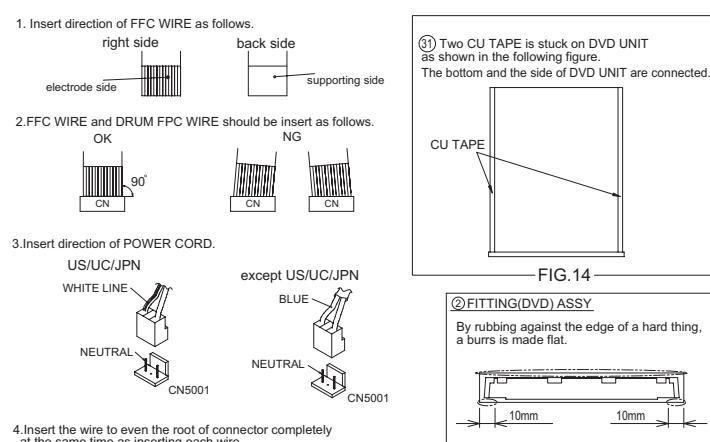
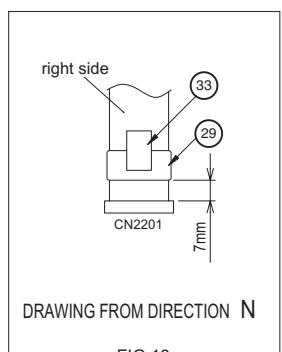
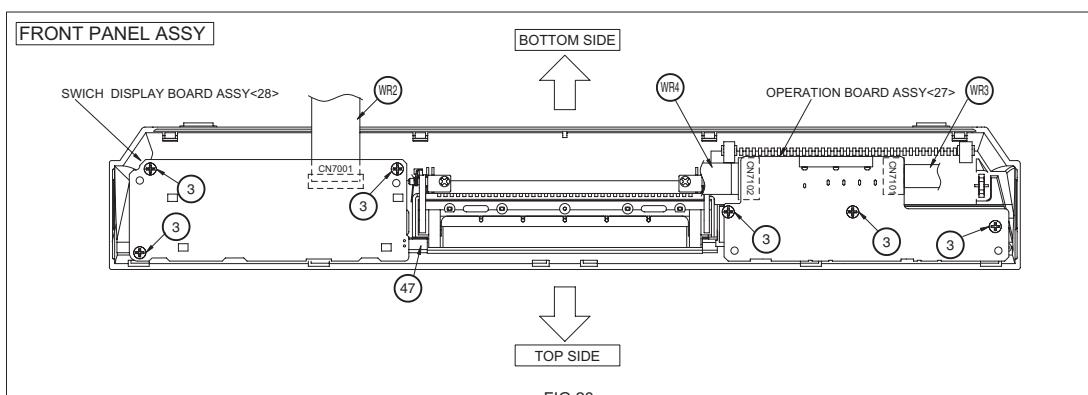
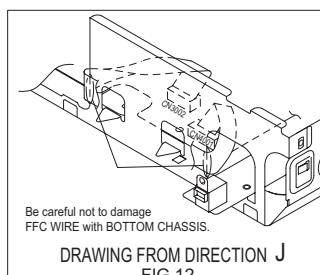
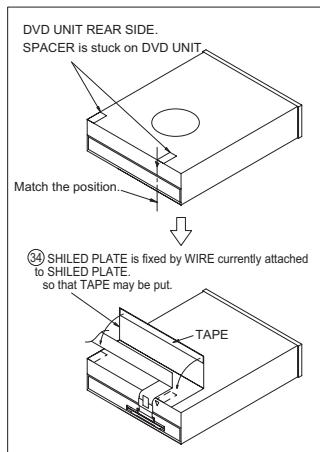
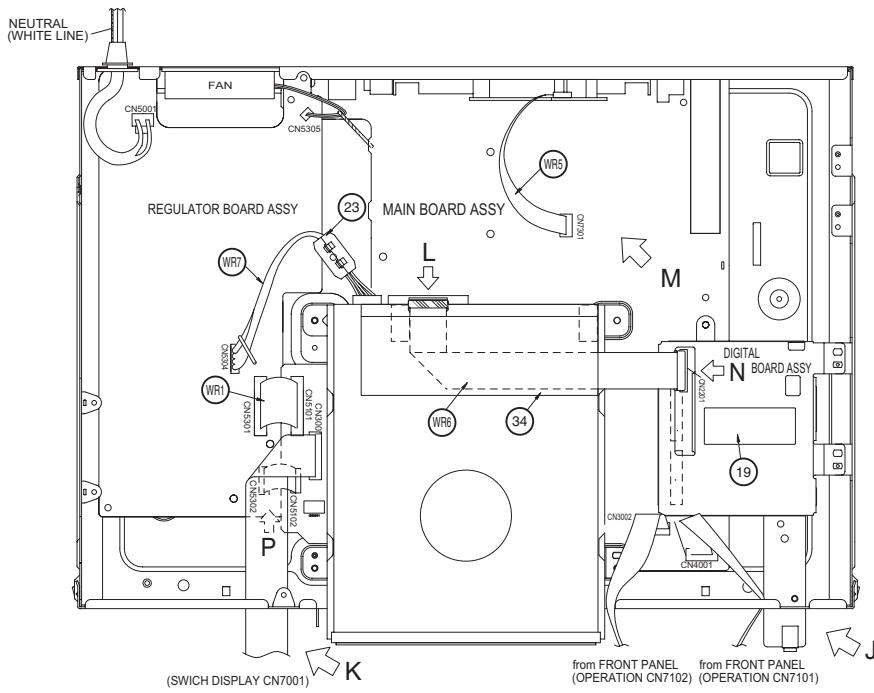
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Exploded view of general assembly and parts list

Block No.M1MM



Block No.M1MM



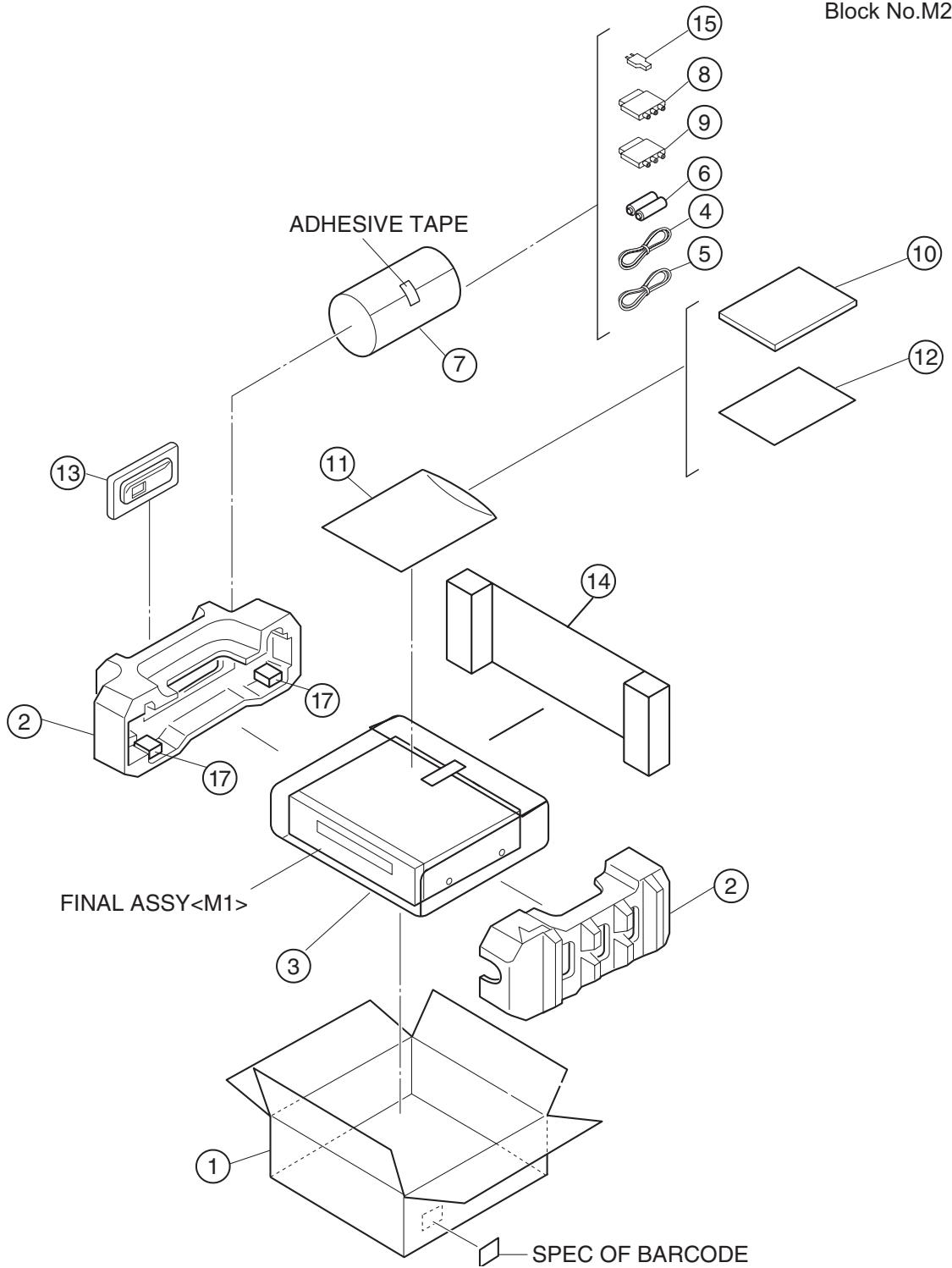
General assembly

Block No. [M][1][M][M]

△ Symbol No.	Part No.	Part Name	Description	Local
△ 1	LP10533-016A	FRONT PANEL ASSY		
1A	LP21252-001A	DOOR		
1B	PU60109	CATCHER		
1C	LP31382-001A	STOPPER	(x2)	
1D	QYTDSF2608ZA	TAP SCREW	M2.6 x 8mm(x2)	
2	LP31372-002A	FITTING(DVD) AY		
3	QYTDSF2608ZA	TAP SCREW	M2.6 x 8mm FRONT BOARD(x6)	
4	QYSBSG3006NA	TAP SCREW	M3 x 6mm TOP SIDE(x4)	
5	QYSBSG3006NA	TAP SCREW	M3 x 6mm TOP REAR(x5)	
△ 6	LP21256-006A	METAL COVER		
△ 7	LP10538-004A	BOTTOM CHASSIS		
△ 8	LP21257-010A	REAR PANEL		
△ 8	LP21257-018A	REAR PANEL		M10SAA M10SAG,M10SAX
9	QYTDSF3008MA	TAP SCREW	M3 x 8mm FAN(x2)	
10	QAR0326-001	FAN MOTOR		
11	LP31348-002A	FOOT	(x2)	
12	PEME0946-08	SPACER	(x4)	
13	QYTDSF3006ZA	TAP SCREW	M3 x 6mm DVD UNIT(x4)	
14	LP31391-001A	SPECIAL SCREW	BRACKET(DVD)(x4)	
15	LP31391-001A	SPECIAL SCREW	MAIN(x2)	
16	LP31391-001A	SPECIAL SCREW	REGULATOR(x2)	
17	QYSPSGG3006ZA	TAP SCREW	M3 x 6mm DIGITAL(x2)	
18	QYSPSGG3006ZA	TAP SCREW	M3 x 6mm DIGITAL(x2)	
19	LP31023-001A	BARCODE LABEL		
20	QYSBSGY3008MA	TAP SCREW	M3 x 8mm REAR JACK(x11)	M10SAA
20	QYSBSGY3008MA	TAP SCREW	M3 x 8mm REAR JACK(x10)	M10SAG,M10SAX
21	LP31391-001A	SPECIAL SCREW	JACK BOARD	
△ 22	QMPG130-170-JC	POWER CORD	1.7m BLACK	M10SAA
△ 22	QMP4A10-170-K	POWER CORD	1.7m BLACK	M10SAG,M10SAX
23	QQR0917-002	CORE FILTER		
24	LP41163-001A	SHIELD PLATE		
25	PU43192-4	BINDER		
26	LP41165-002A	GASKET		
28	LP21156-003A	BKT(DVD DRIVE)		
29	QQR1439-003	FERRITE CORE	(x2)	
30	QQR0491-001	FERRITE CORE		
31	LP41168-001A	CU TAPE	(x2)	
32	LP30002-0F9A	SPACER	(x3)	
33	LP30002-0F6A	SPACER	(x2)	
34	LP31418-001A	SHIELD PLATE		
35	LP41162-001A	LABEL		M10SAA
36	LP31417-001A	SHIELD PLATE		
37	LP30002-0G4A	SPACER		
△ 38	QAL0551-002	DRIVE UNIT		
39	QGZ0018A1-40	CONNECTOR	(1-40)	
43	LP30002-0G2A	SPACER	(x4)	
44	LP30002-0G3A	SPACER	(x2)	
47	LP41170-001A	SPACER(BLIND)		
WR1	QUQ112-1907CJ	FFC WIRE	REGULATOR CN5301-MAIN CN5101	
WR2	QUQ112-1818CJ	FFC WIRE	SWICH DISPLAY CN7001-MAIN CN3001	
WR3	QUQ112-0912CG	FFC WIRE	OPERATION CN7101-MAIN CN3002	
WR4	QUQ112-1112CG	FFC WIRE	OPERATION CN7102-MAIN CN4001	
WR5	QUQ112-0714CG	FFC WIRE	S/RCA OUT CN7312-MAIN CN7301	
WR6	QUQ605-4022AH	FFC WIRE	DIGITAL CN2201-DVD UNIT	
WR7	QJJ032-041214	SIN CR C-C WIRE	REGULATOR CN5304-DVD UNIT	
WR8	QUB130-12DMMD	SIN TWIST WIRE	DIGITAL-BRACKET	

Packing materials and accessories parts list

Block No.M2MM



Packing and accessories

Block No. [M][2][M][M]

△ Symbol No.	Part No.	Part Name	Description	Local
1	LP31384-021A	PACKING CASE		M10SAA
1	LP31384-023A	PACKING CASE		M10SAG
1	LP31384-027A	PACKING CASE		M10SAX
2	LP31387-001B	CUSHION ASSY		
3	PQM30021-93	POLY BAG		
4	QAM0525-002	RF CABLE		
5	QAM0522-001	A/V CABLE		
6	-----	BATTERY	R6TYPE(x2)	
7	QPC02202230P	POLY BAG	22cm x 22cm	
8	QAM0092-001	ADAPTOR PLUG	INPUT	
9	QAM0093-001	ADAPTOR PLUG	OUTPUT	
△ 10	LPT0941-001A	INST.BOOK	(ENGLISH)	M10SAA
△ 10	LPT0963-002A	INST.BOOK	(CHINESE)	M10SAG
△ 10	LPT0963-001A	INST.BOOK	(ENGLISH)	M10SAG,M10SAX
△ 10	LPT0963-003A	INST.BOOK	(ARABIC)	M10SAX
11	QPC02503530P	POLY BAG	25cm x 35cm	
12	BT-56012-1	WARRANTY CARD		M10SAA
13	RM-SDR014A	REMOCON		
14	LP31399-001A	SHEET ASSY		
△ 15	QAM0060-002	CONVERSION PLUG		M10SAA
17	LP41169-001A	SPACER	(x2)	M10SAG,M10SAX M10SAA