JVC

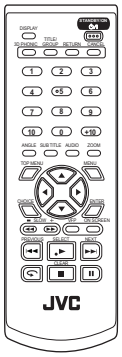
SERVICE MANUAL

DVD VIDEO PLAYER

XV-N30BK[MK2], XV-N33SL[MK2]

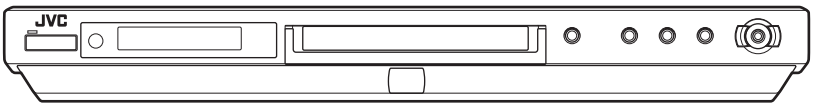
Area Suffix

J ---------- U.S.A.
C ---------- Canada
B ---------- U.K.
E ------ Continental Europe
EN ------- Northern Europe
EV --------- Eastern Europe
EE ---- Russian Federation



For only Europe

MPEG Multichannel



This illustration is XV-N30BK for U.S.A.

This service manual is a service manual of the model which changes a part of specification of the above-mentioned model which has already been put on the market.
Please refer to the following page for details.

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No.XA002
2003/5

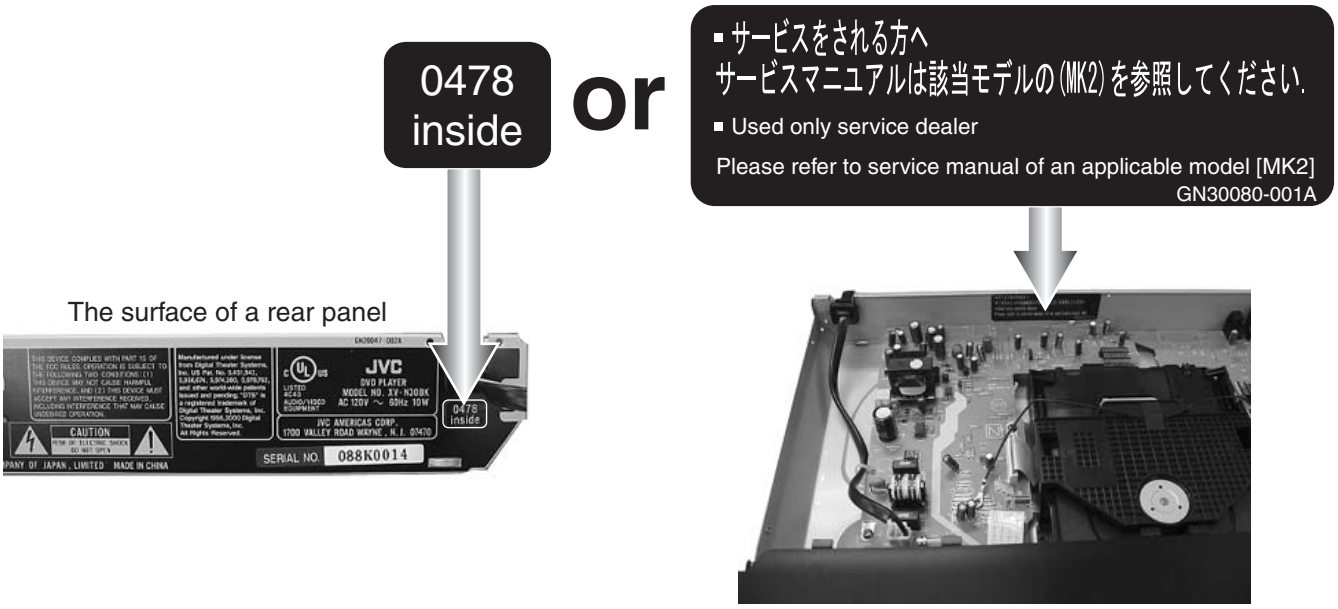
For this service manual

This service manual is a service manual of the model which changes a part of specification of the above-mentioned model which has already been put on the market.

<When the label in figure is pasted in the main body>

The specification is different from what the label of the same model does not paste because of the specification improvement, and refer to this service manual, please. Please already refer to the issued service manual when the label is not pasted.

* Please refer to this service manual for the model to which this label is pasted.
* Please refer to the service manual which has already been issued for the model to which this label is not pasted.
  (one that there is no description named [MK2] in cover of service manual.)



SPECIFICATION

(For U.S.A.)

General

Readable discs	DVD VIDEO, DVD-R (Video format), DVD-RW (Video format), +RW (Video format), SVCD, Video CD, Audio CD (CD-DA), MP3 format, CD-R/RW (CD-DA, SVCD, Video CD, MP3 format)
Video format	NTSC

Other

Power requirements	AC 120 V, 60 Hz
Power consumption	10 W (POWER ON) 0.7 W (STANDBY mode)
Mass	2.1 kg (4.7 lbs)
Dimensions (W x H x D)	435mm x 53mm x 248.4mm (17-3/16 inch x 2-1/8 inc x 9-13/16 inch)

Video outputs

COMPONENT (pin jacks)	Y Output: 1.0 Vp-p (75 ohm)
	Pb/Pr Output: 0.7Vp-p (75 ohm)
VIDEO OUT (pin jack)	1.0 Vp-p (75 ohm)
S-VIDEO OUT (S jack)	Y Output: 1.0 Vp-p (75 ohm)
	C Output: 286 mVp-p (75 ohm)
Horizontal resolution	500 lines or more

Audio outputs

ANALOG OUT (pin jack)	2.0 Vrms (10 kohm)
DIGITAL OUT (COAXIAL)	0.5 Vp-p (75 ohm termination)
DIGITAL OUT (OPTICAL)	-21 dBm to -15 dBm (peak)

Audio characteristics

Frequency response	CD (sampling frequency 44.1 kHz):2 Hz to 20 kHz
	DVD (sampling frequency 48 kHz):2 Hz to 22 kHz (4 Hz to 20 kHz for DTS and Dolby Digital bitstream signals)
	DVD (sampling frequency 96 kHz):2 Hz to 44 kHz
Dynamic range	16 bit: More than 98 dB
	20 bit: More than 100 dB
	24 bit: More than 100 dB
Wow and flutter	Unmeasurable (less than + 0.002%)
Total harmonic distortion	less than 0.006%

- Specifications and appearance are subject to change without prior notice.
- Manufactured under license from Dolby Laboratories. "Dolby" and the double-D symbol are trademarkes of Dolby Laboratories.
- Manufactured under license from Digital Theater Systems, Inc. "DTS" and "DTS Digital Surround" are registered trademarks of Digital Theater Systems, Inc.

SECTION 1
Important Safety Precautions

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.

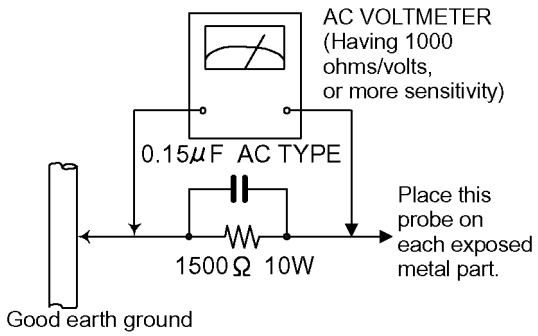
(2) Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturers warranty and will further relieve the manufacture of responsibility for personal injury or property damage 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 (⚠) 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, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500 ohm 10W resistor paralleled by a 0.15 F 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 preforming 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 "⚠" 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. (Except the JC version)

1.5 Preventing static electricity

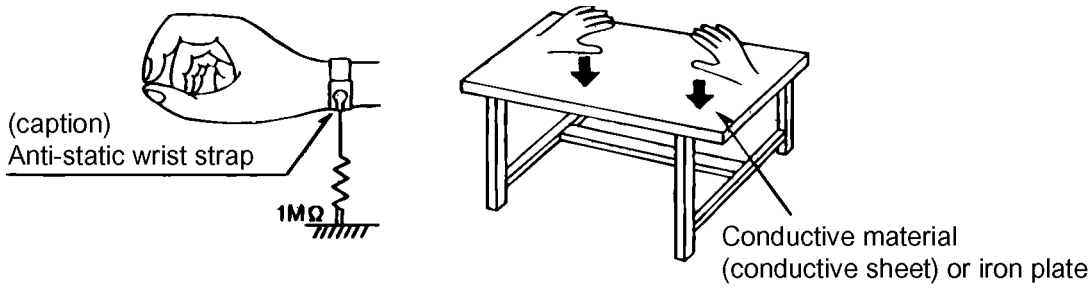
Electrostatic discharge (ESD), which occurs when static electricity stored in the body, fabric, etc. is discharged, can destroy the laser diode in the traverse unit (optical pickup). Take care to prevent this when performing repairs.

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.

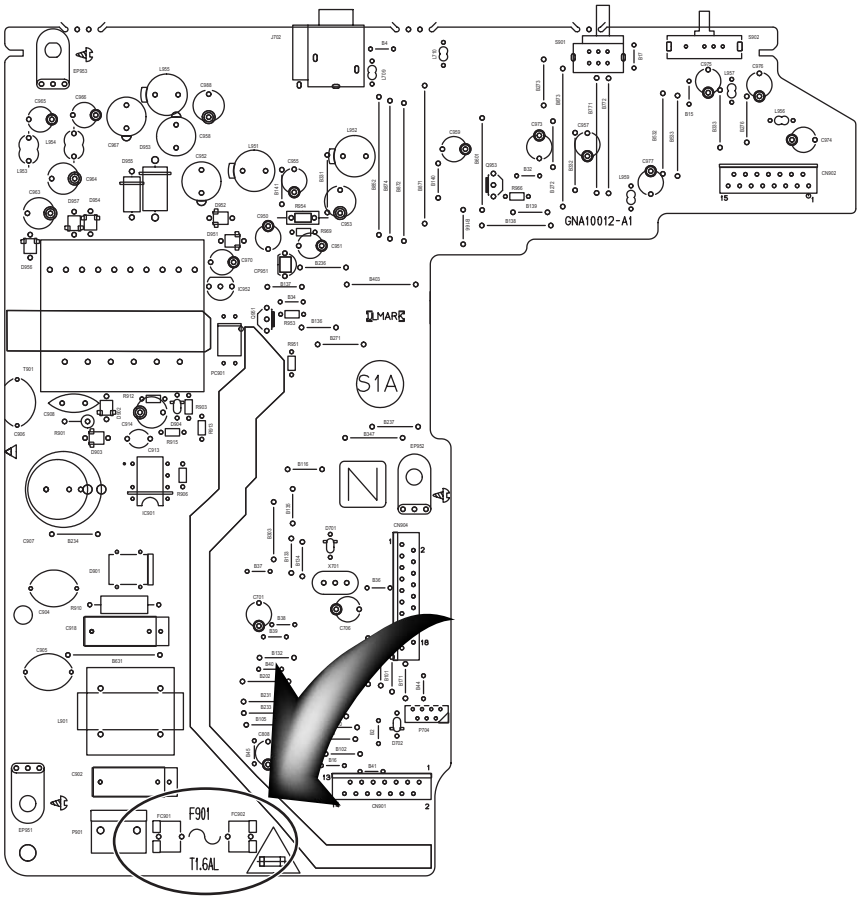
1.6 Handling the traverse unit (optical pickup)

(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) I t is not possible to adjust the semi-fixed resistor that adjusts the laser power. Do not turn it.

1.7 Precautions of the safe use of battery (Only XV-N30BK for U.S.A.)

- Store the battery in a place where children cannot reach.If a child accidentally swallows the battery, consult a doctorimmediately.
- Do not recharge, short, disassemble or heat the battery or dispose of it in a fire.
  Doing any of these things may cause the battery to give off heat, crack, or start a fire.
- Do not leave the battery with other metallic materials.Doing this may cause the battery to give off heat, crack, or start a fire.
- When throwing away or saving the battery, wrap it in tape and insulate; otherwise, the battery may start to give off heat, crack, or start a fire.
- Do not poke the battery with tweezers or similar tools.Doing this may cause the battery to give off heat, crack, or start a fire.
- Dispose of batteries in the proper manner, according to federal, state, and local regulations.

1.8 Importance admistering point on the safety



Full Fuse Replacement Marking	Marquage Pour Le Remplacement Complet De Fusible
Graphic symbol mark (This symbol means fast blow type fuse.)	Le symbole graphique (Ce symbole signifie fusible de type á fusion rapide.)
should be read as follows ;	doit être interprété comme suit ;
FUSE CAUTION	**PRECAUTIONS SUR LES FUSIBLES**
FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE AND RATING OF FUSES ;	**POUR UNE PROTECTION CONTINUE CONTRE DES RISQUES D'INCENDIE, REMPLACER SEULEMENT PAR UN FUSIBLE DU MEME TYPE ;**
F901 : 1.6 A / 125 V	**F901 : 1.6 A / 125 V**

1.9 Important for laser products

(1) CLASS 1 LASER PRODUCT
(2) DANGER : Invisible laser radiation when open and inter lock 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 compact disc 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 de feated.
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 herein may result in hazardous radiation exposure.

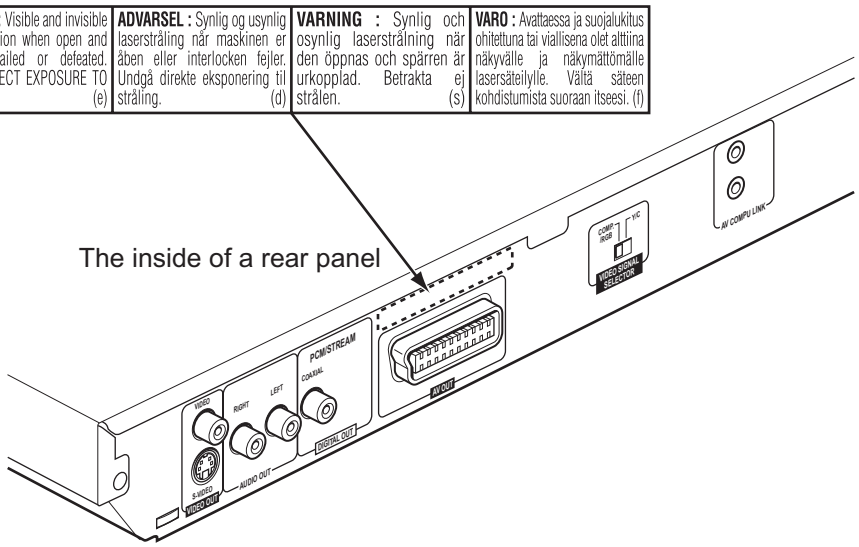
⚠CAUTION
Please use enough caution not to see the beam directly or touch it in case of anadjustment or operation check.

VARNING Osynlig laserstrålning är denna del är öppnad och spårren är urkopplad. Betrakta ej strålen.	**ADVARSEL** Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsasttelse for stråling.
VARO Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.	**ADVARSEL** Usynlig laserstråling ved åpning, når sikkerhetsbryteren er avslott. unngå utsettelse for stråling.

REPRODUCTION AND POSITION OF LABEL and PRINT

WARNING LABEL and PRINT

CAUTION : Visible and invisible laser radiation when open and interlock failed or defeated. AVOID DIRECT EXPOSURE TO BEAM. (e)	**ADVARSEL :** Synlig og usynlig laserstråling når maskinen er åben eller interlocken fejler. Undgå direkte eksponering til stråling. (d)	**VARNING :** Synlig och osynlig laserstrålning när den öppnas och spärren är urkopplad. Betrakta ej strålen. (s)	**VARO :** Avattaessa ja suojalukitus ohitettuna tai viallisena olet alttiina näkyvälle ja näkymättömälle lasersäteilylle. Vältä säteen kohdistumista suoraan itseesi. (f)



1.10 Precautions for Service

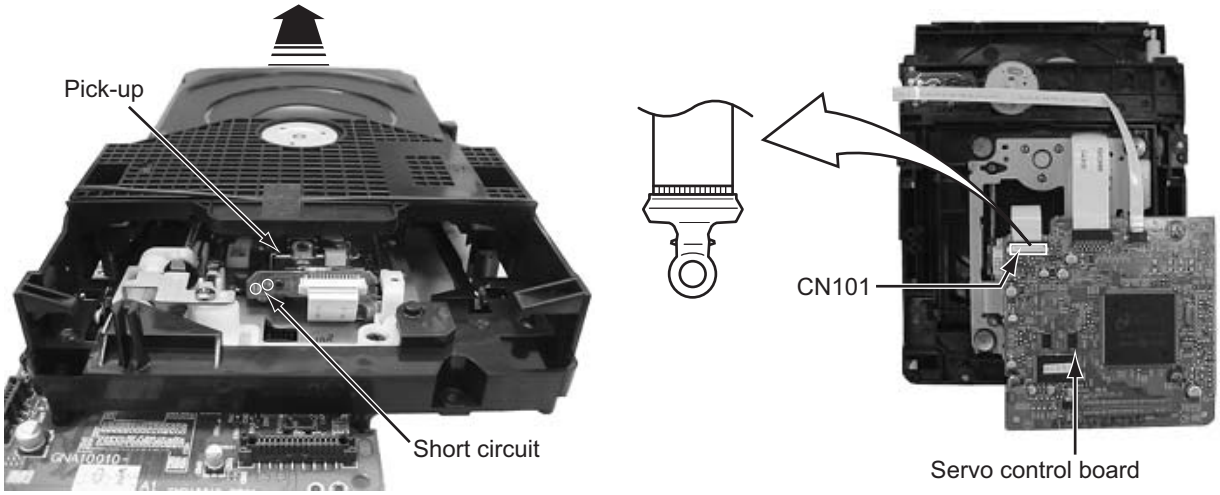
1.10.1 Handling of Traverse Unit and Laser Pickup

(1) Do not touch any peripheral element of the pickup or the actuator.
(2) The traverse unit and the pickup are precision devices and therefore must not be subjected to strong shock.
(3) Do not use a tester to examine the laser diode. (The diode can easily be destroyed by the internal power supply of the tester.)
(4) To replace the traverse unit, pull out the metal short pin for protection from charging.
(5) When replacing the pickup, after mounting a new pickup, remove the solder on the short land which is provided at the center of the flexible wire to open the circuit.
(6) Half-fixed resistors for laser power adjustment are adjusted in pairs at shipment to match the characteristics of the optical block. Do not change the setting of these half-fixed resistors for laser power adjustment.

1.10.2 Destruction of Traverse Unit and Laser Pickup by Static Electricity

Laser diodes are easily destroyed by static electricity charged on clothingor the human body. Before repairing peripheral elements of the traverse unit or pickup, be sure to take the following electrostatic protection:

(1) Wear an antistatic wrist wrap.
(2) With a conductive sheet or a steel plate on the workbench on which the traverse unit or the pick up is to be repaired, ground the sheet or the plate.
(3) It solders to two short circuit sections on the substrate of a pick-up.
(4) After removing the flexible wire from the connector (CN101), short-circuit the flexible wire by the metal clip.
(5) Short-circuit the laser diode by soldering the land which is provided at the center of the flexible wire for the pickup. After completing the repair, remove the solder to open the circuit.



* Please refer to the disassembly method for details.

SECTION 2
Disassembly method

There is a part different from the photograph according to the model and the destination though explains this disassembly method by using XV-N30BK for U.S.A.

2.1 Main body section

2.1.1 Removing the top cover (See Figure 1)

(1) Remove the two screws **A** attaching the top cover on both sides of the main body.
(2) Remove the three 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.

Fig.1

2.1.2 Removing the front panel assembly (See Figure 2, Figure 3, Figure 4)

- Prior to performing the following procedure, remove the top cover.
- There is no need to remove the mechanism assembly.

(1) Insert a kind of screwdriver in a hole located in the right side of mechanism assembly, and push a lever until it cannot be inserted any further.
(2) And then, a tray will come out. Remove the tray in an upper direction, with slightly opening the lower part of fitting in an outward direction.
(3) Disconnect the card wire from connector CN901 on the power supply board.
(4) Hook **a** and **b** are removed respectively, and the front panel assembly is removed.

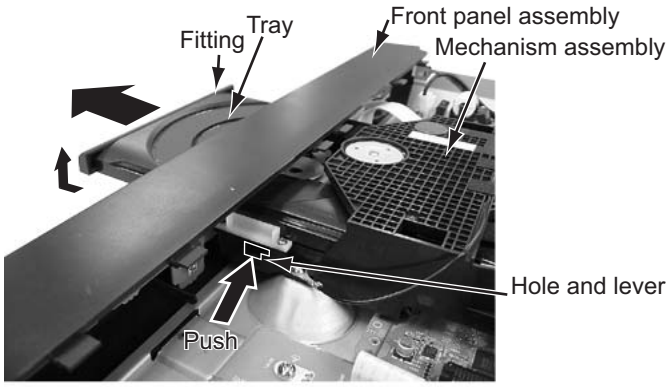


Fig.2

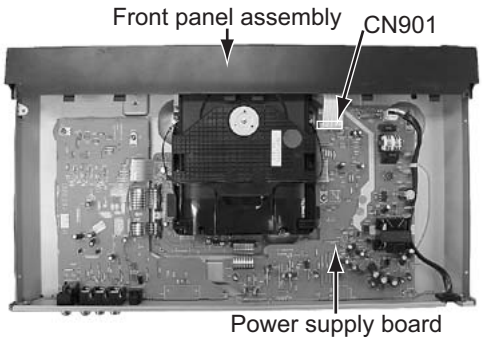


Fig.3

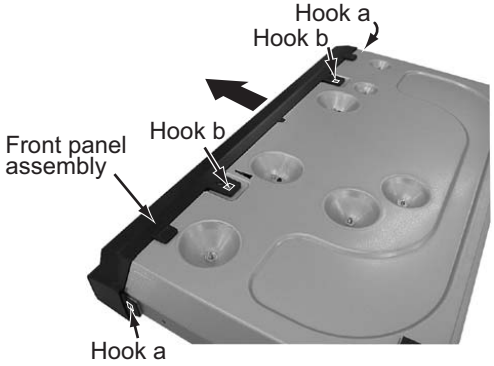


Fig.4

2.1.3 Removing the mechanism assembly (See Figure 2, Figure 5)

- Prior to performing the following procedure, remove the top cover.
- There is no need to remove the front panel assembly.
  (1) Insert a kind of screwdriver in a hole located in the right side of mechanism assembly, and push a lever until it cannot be inserted any further.
  (2) And then, a tray will come out. Remove the tray in an upper direction, with slightly opening the lower part of fitting in an outward direction.
  (3) Remove the three screws **C** attaching the mechanism assembly.
  (4) Disconnect the wire from connector CN501,CN502,CN503 on the servo control board respectively.
  (5) Remove the mechanism assembly by lifting the rear part of the mechanism assembly.

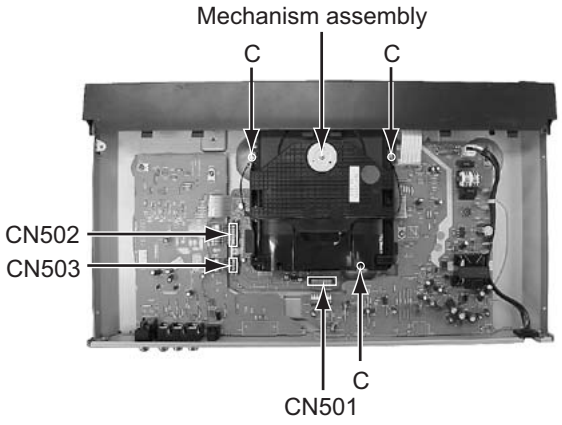


Fig.5

2.1.4 Removing the servo control board (See Figure 6, Figure 7)

- Prior to performing the following procedure, remove the mechanism assembly.
  (1) A tray is made to slide ahead.
  (2) A gear 1 is turned counterclockwise. Then, a pick-up unit moves back.
  (3) It solders to two c sections on the pick-up unit.
  (4) Remove the three screws **D** attaching the servo control board.
  (5) Disconnect the card wire from connector CN201,CN202 on the servo control board.
  (6) Disconnect the flexible wire from connector CN101 on the servo control board from pick-up unit.

ATTENTION:

Please extract the wire after short-circuited of two places on the wire in part **c** with solder. Please remove the solder two places of part **c** after connecting the wire with CN101 when reassembling.

CAUTION:

Be sure to solder the short land sections "**c**" on the pick-up unit before disconnecting the card wire from connector CN101 on the DVD servo control board.
If the card wire is disconnected without attaching solder, the pick-up unit may be destroyed by static electricity.

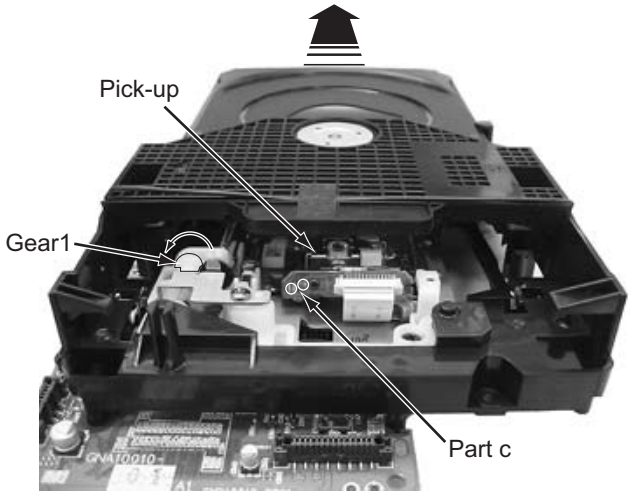


Fig.6

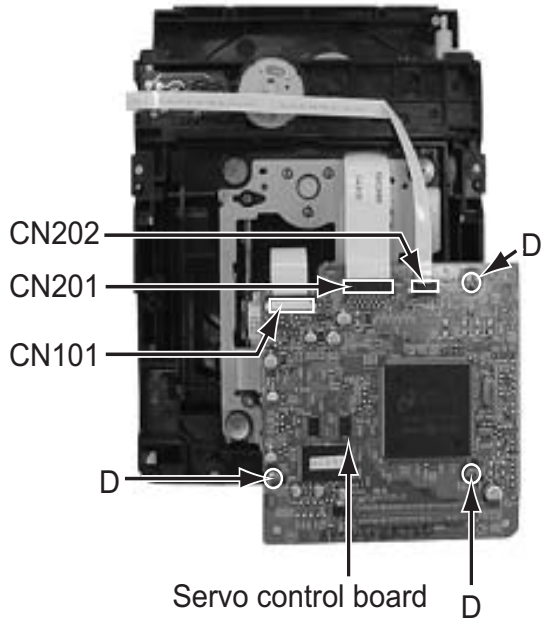


Fig.7

2.1.5 Removing the rear panel (See Figure 8, Figure 9)

- Prior to performing the following procedure, remove the top cover.
  (1) Remove the five screws **E** attaching the rear panel.
  (2) Disconnect the power cord from connector P901 on the power supply board
  (3) Remove tie band.

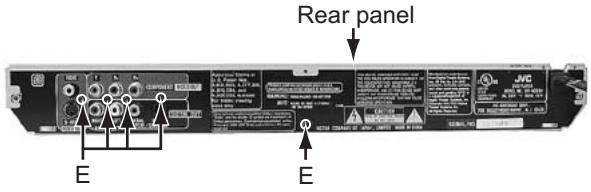


Fig.8

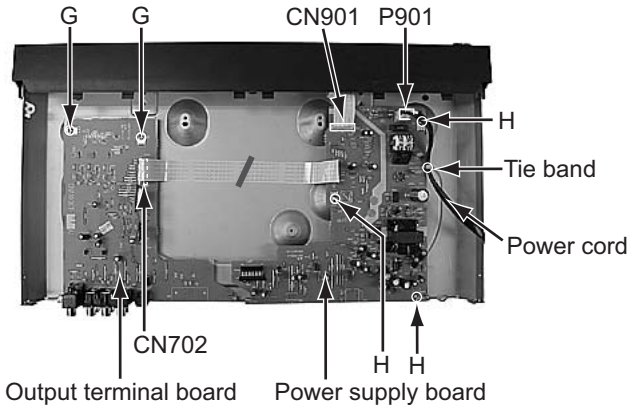


Fig.9

2.1.6 Removing the output terminal board and power supply board. (See Figure 9)

- Prior to performing the following procedure, remove the top cover/mechanism assembly/rear panel.
  (1) Remove the two screws **G** attaching the output terminal board.
  (2) Disconnect the card wire from connector CN702 on the output terminal board.
  (3) Remove the three screws **H** attaching the power supply board.
  (4) Disconnect the card wire from connector CN901 on the power supply board.

2.2 Loading mechanism assembly

2.2.1 Removing the tray (See Figure 1, Figure 2, Figure 3, Figure 4, Figure 5, Figure 6)

(1) Push **a** of the slide cam on the hole in the right side of the loading base by using a driver until it stops. (See Figure 1.)
(2) The tray comes out. Pull the tray in a front direction until it stops.
(3) Remove the two screws **A** attaching the slide bracket. (See Figure 2.)
(4) Tilt the tray in a direction of the arrow around the point in the left rear part of the tray. (See Figure 3.)
(5) The rail of the tray is removed from **b** of the loading base. Then, remove the tray upward. (See Figure 4.)

Attaching the tray:

Engage **c** of the loading base to the projection of the tray while tilting the tray to the left. Turn the tray in a direction of the arrow, and attach the slide bracket. (See Figure 5.)

Note:

Prior to the procedure above, move the slide cam in a direction of the arrow so that **d** of the slide cam can be inserted in **e** of the tray. (See Figure 6.)

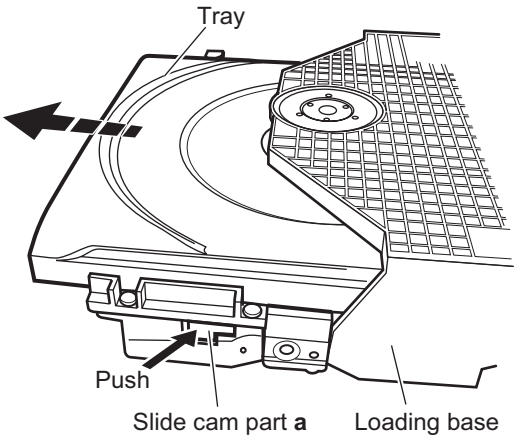


Fig.1

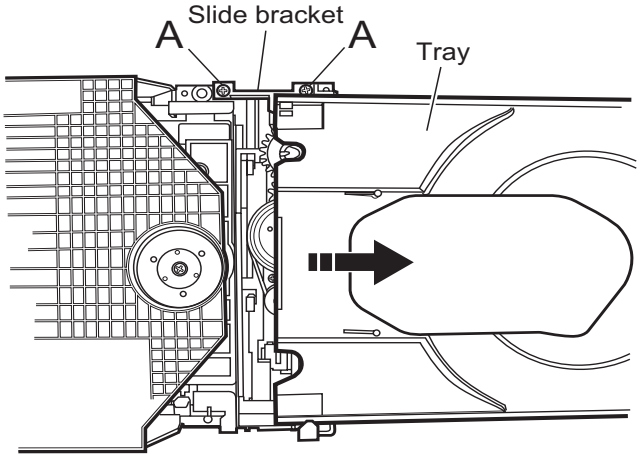


Fig.2

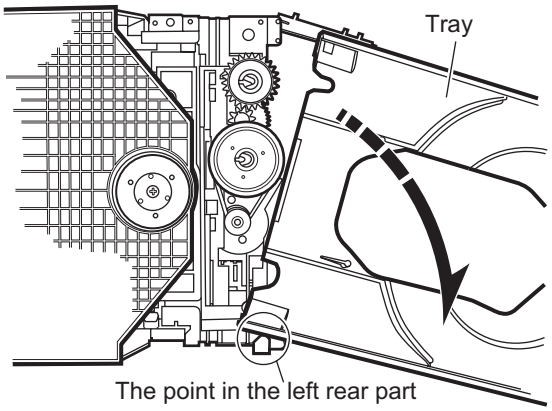


Fig.3

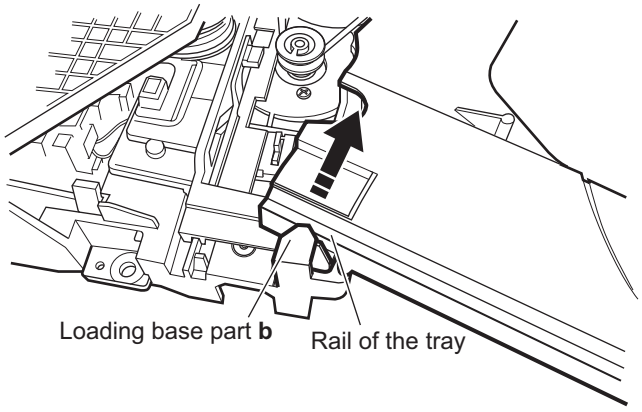


Fig.4

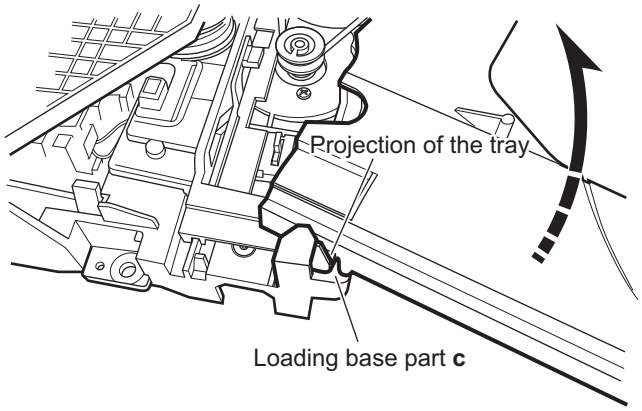


Fig.5

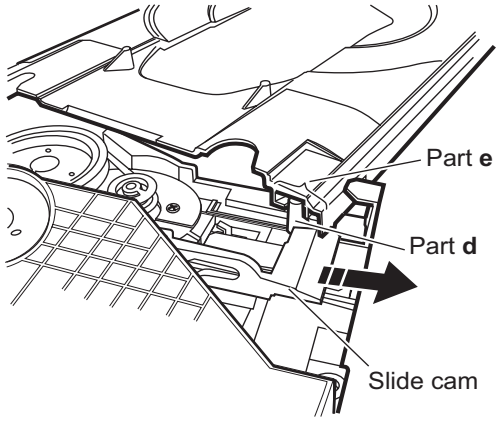


Fig.6

2.2.2 Removing the traverse mechanism assembly (See Figure 7)

Reverse the loading mechanism assembly. Remove the four screws **B** attaching the traverse mechanism assembly. Remove the traverse mechanism assembly upward.

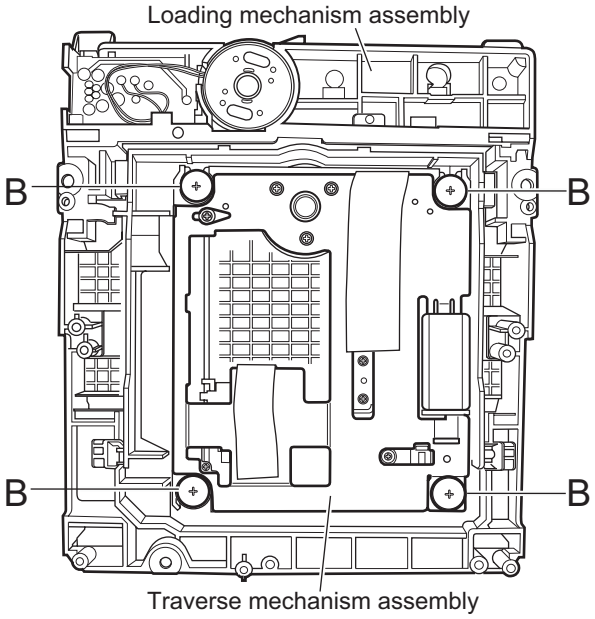


Fig.7

2.2.3 Removing the elevator (See Figure 8 and Figure 9)

- Prior to the following procedure, remove the traverse mechanism assembly.
  (1) Remove the two arms of the elevator from the two parts **f** by moving the arms in a direction of the arrow.
  (2) Pull out the elevator in a rear direction.

Attaching the elevator:

Engage the two holes **g** to the two shafts on the front part of the elevator. And then, attach the elevator.

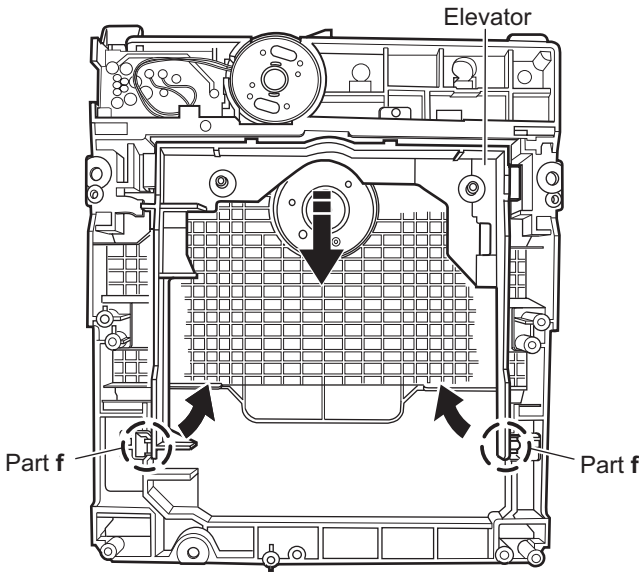


Fig.8

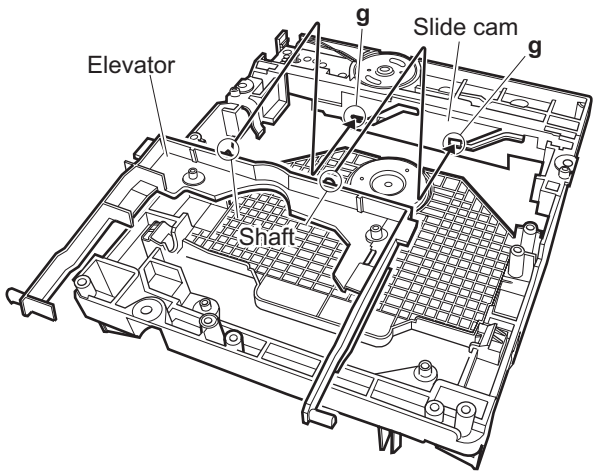


Fig.9

2.2.4 Removing the loading motor (See Figure 10 and Figure 11)

- Prior to the following procedure, remove the tray, the traverse mechanism assembly, and the elevator.
  (1) Remove the belt from the pulley.
  (2) Remove two screws **C** attaching the loading motor.
  (3) Remove two solders **h** on the switch board.

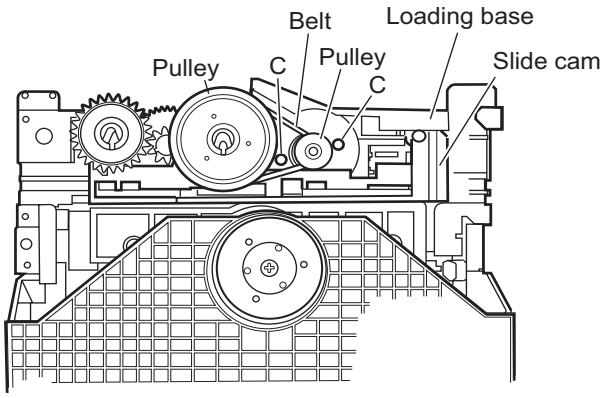


Fig.10

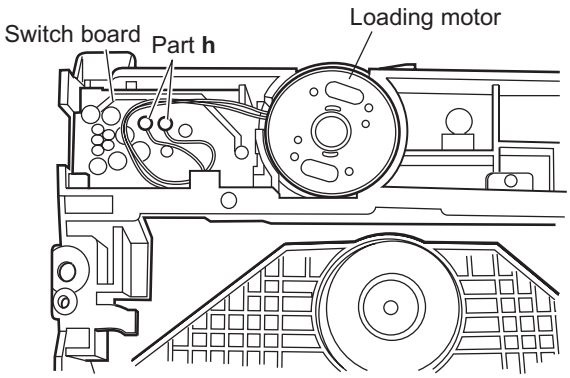


Fig.11

2.3 Traverse mechanism assembly

2.3.1 Removing the pickup (See Figure 12, Figure 13)

- Prior to the following procedure, remove the traverse mechanism assembly.
  (1) Remove one screw **D** attaching the plate.
  (2) Remove the plate and the leaf spring.
  (3) Lift **i** of the shaft **1**, and pull out the shaft **1** from **j**.
  (4) Remove **k** of the pickup from the shaft **2**.

Attaching the pickup:

(1) Engage **k** of the pickup to the shaft **2**.
(2) Insert the shaft **1** in **j**, and attach the shaft 1 to **i**.
(3) Attach the leaf spring, and then attach the plate. Fix the leaf spring and the plate by using the screw **D**.

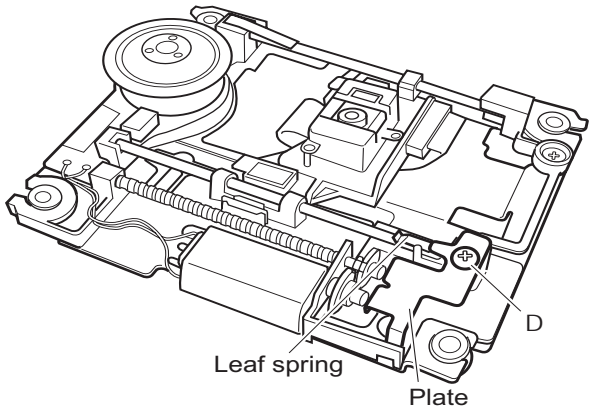


Fig.12

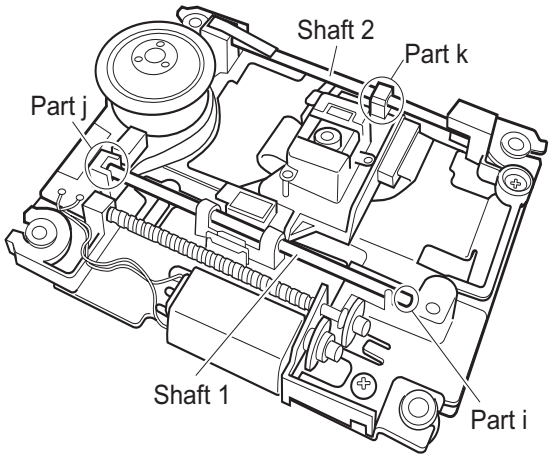


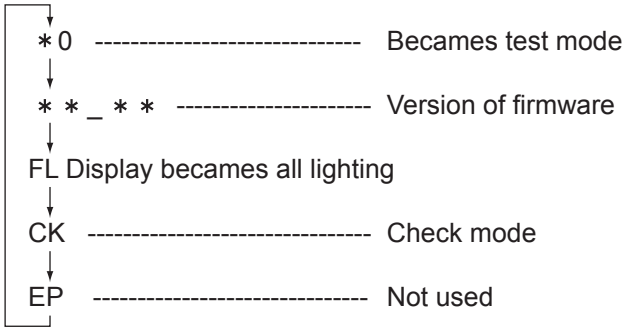
Fig.13

SECTION 3
Adjustment

3.1 Test mode setting method

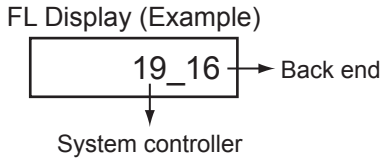
(1) Unplug the power plug.
(2) Insert power plug into outlet while pressing both "PLAY" key and "STOP" key of the main body.
(3) The FL display shows "∗0", and the main body turns to test mode. "∗" means the destination, and "0" means parameter adjustment status.
(4) To release test mode, press "POWER" key of the main body.

NOTE:
Each pressing of "CHOICE" key of the remote controller in test mode changes the mode as follows.



3.2 Method of displaying version of firmware

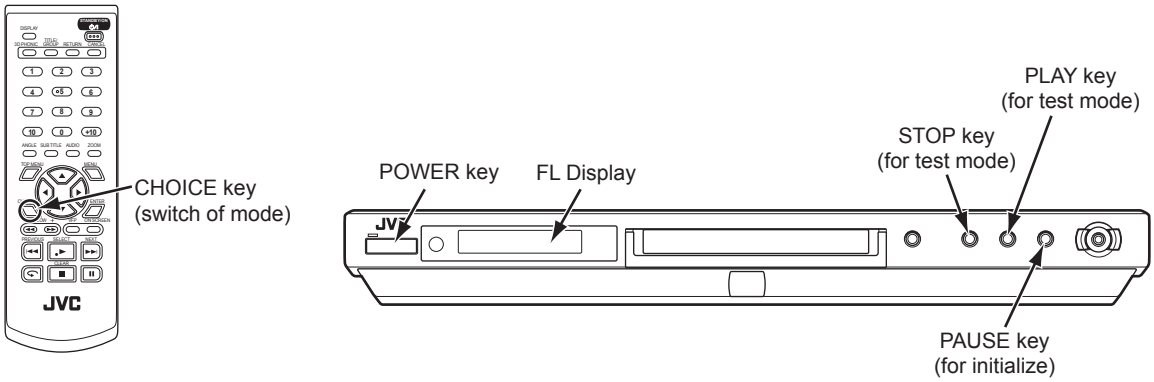
(1) Set the main body at test mode.
(2) Press "CHOICE" key of the remote controller once. Then, version number and alphabetical letter of the system controller and the back end are displayed in the FL display as follows:



3.3 Initialization method

Please initialize according to the following procedures in the following case:
- Just after you upgrade the firmware.
- After you confirm the symptoms that a customer points out. First Initialize, and then confirm whether the symptoms are improved or not.
- After servicing, before returning the main body to a customer. (Initialized main body should be returned to a customer.)

(1) Set the main body at test mode.
(2) Press "PAUSE" key of the main body.
(3) When initialization is completed, the FL display changes from "∗0" to "∗00".(The left "0" of "00" is not always "0". It shows parameter adjustment status.)



3.4 All-initialization method

Please perform all-initialization according to the following procedures in the following case:

- Just after you exchange the pick-up.
- Just after you exchange the spindle motor.
- Just after you exchange the traverse mechanism base.

NOTE:

Please perform all-initialization when you exchange the parts above and also when you remove the parts above.

- Just after the flap adjustment of the pick-up guide shaft

(1) Set the main body at test mode.
(2) Press and hold "BACKWARD SKIP" key of the main body for more than 2 seconds.
(3) When all-initialization is completed, the FL display changes from "∗0" to "∗33".

NOTE:

After all-initialization, be sure to perform optimization adjustment of Front End parameter.

3.5 Optimization adjustment of Front End parameter

Adjustment to optimize Front End parameter must be performed in each mechanism assembly of this model for high-speed starting.Please perform optimization according to the following procedures just after all-initialization is completed and when FL display shows anything except "∗0" (For example when FL display shows "∗1", "∗2", and "∗3") at test mode.

(1) Press "POWER" key of the main body to turn the main body on (not to set the main body at test mode).
(2) Insert the test disc VT-501 or commercial dual-layer DVD software.
(3) Remove the disc when the FL display changes from "READ" to disc information.
(4) Perform the same procedures as in (2) and (3) above by using the test disc CTS-1000 or commercial CD-DA software.
(5) Set the main body at test mode, and check that the FL display shows "∗0".

NOTE:

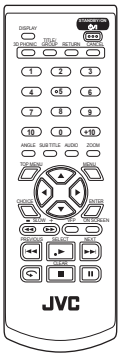
Status of this adjustment can be judged by the number displayed at test mode as follows:

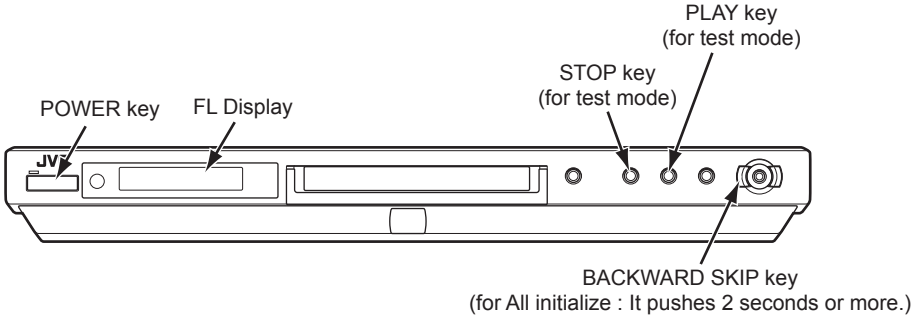
DVD adjustment	CD adjustment	FL display at test mode
Adjusted	Adjusted	∗0
Not adjusted	Adjusted	∗1
Adjusted	Not adjusted	∗2
Not adjusted	Not adjusted	∗3

NOTE:

As for a disc used for adjustment,

- Disc should be mounted. ("Mounting" means to display "READ" after the disc is inserted and then display the disc information.) Disc need not be played.
- If you do not have test disc either VT-501 (DVD) or CTS-1000 (CD-DA), use a commercial disc (for DVD, dual-layer software) after seeing and checking that the disc is neither curved nor foreseen that it may shake at the time of playback.If you use a disc with bad features, starting time may be slow or disc may not be read.





3.6 Display of current value of laser

(1) Set the main body at test mode.
(2) Press "CHOICE" key of the remote controller three times. Then, FL display is displayed "CK".
(3) The laser current value can be switched between the value of CD and that of DVD by pressing the following key of the remote controller.

FL Display (Example)

2530

Remote controller "4" key --- Laser of CD
Remote controller "5" key --- Laser of DVD

The number shown in the FL display shows mA of current value of laser.
The first two numbers ("25" in "2530") shows current value of laser at the time of adjustment after the latest all-initialization, 25mA in this example.
The last two numbers ("30" in "2530") shows the present current value of laser, 30mA in this example.
The first two numbers ("25" in "2530") usually shows current value of laser at the time of shipment, so you can see how the product has been deteriorated by comparing the first two numbers ("25" in "2530") and the last two numbers ("30" in "2530").

CD and DVD:

The laser current value of 80 mA or less is normal.The laser current value of over 81 mA is not normal. Laser diode of the pickup has been deteriorated.

To return to test mode, press "STOP" key of the main body.

3.7 Flap adjustment of the pick-up guide shaft

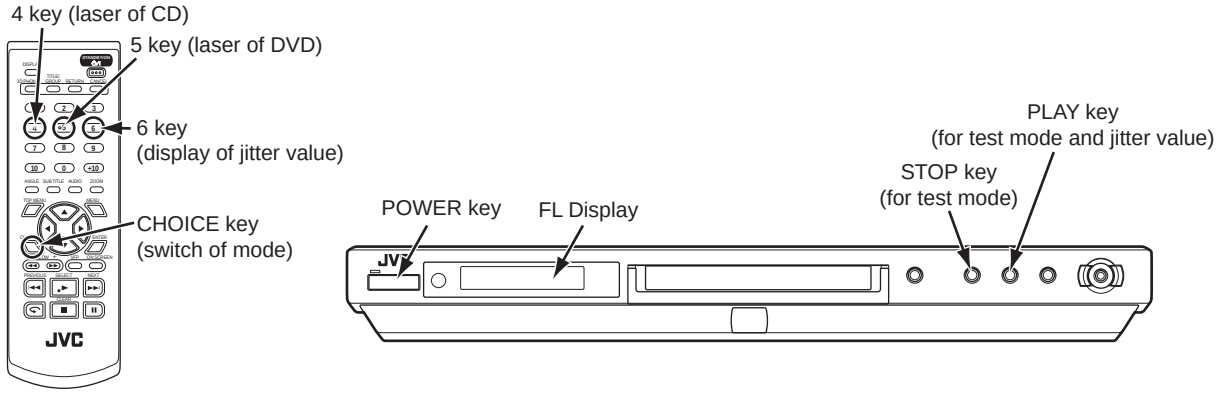
Please perform flap adjustment of the pick-up guide shaft in the following case:

- Just after you exchange the pick-up.
- Just after you exchange the spindle motor.
- Just after you exchange the traverse mechanism base.

NOTE:

Please perform flap adjustment of the pick-up guide shaft when you exchange the parts above and also when you remove the parts above.

- When the reading accuracy of the signal is bad (There is a block noise in the screen, Screen stops in the outer circumference of a disc, etc.)



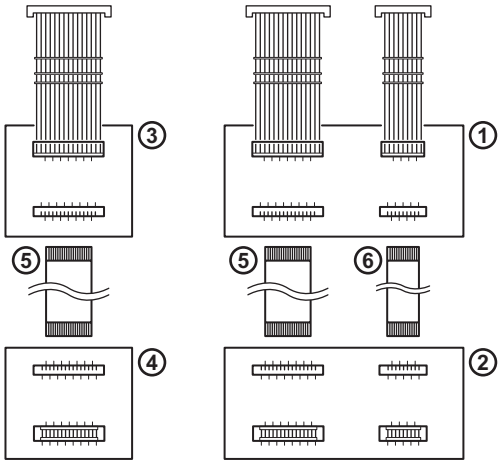
3.7.1 Tool for adjustment

*Stud: One set (four studs), Part number: JIGXVS40 (Note: One of the four studs is not used here.)

* Relay board and extension cord (One set) --- Parts number : EXTXVN30CB

-- Items --

① Relay board 1 : EXTXVN30CB-1
② Relay board 2 : EXTXVN30CB-2
③ Relay board 3 : EXTXVN30CB-3
④ Relay board 4 : EXTXVN30CB-4
⑤ Card wire : 15 pins 15 cm 2 pcs
⑥ Card wire : 9 pins 15 cm 1 pcs

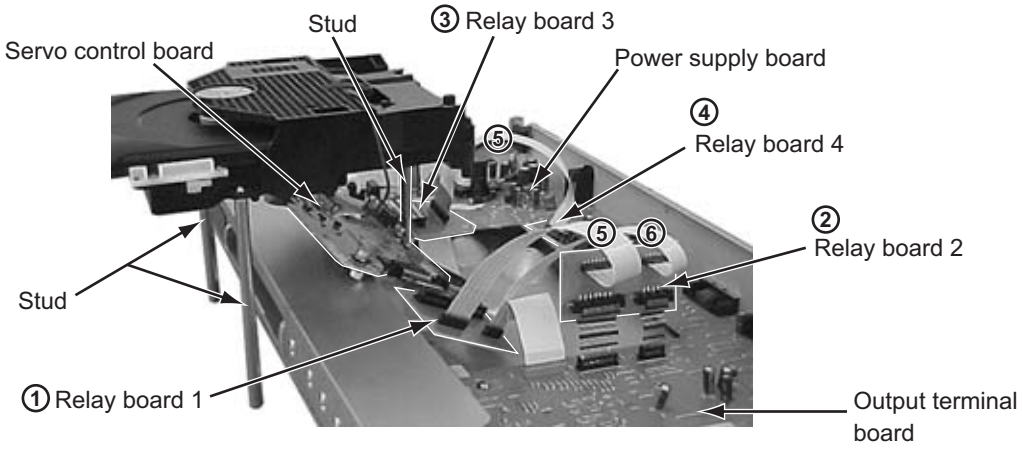


*The phillips screwdriver for adjustment --- goods on the market

*Test disc ---- Parts number : VT-501

3.7.2 Preparation for adjustment

(1) A mechanism assembly is removed with reference to the disassembly method of a service manual.
(2) When the card wire which has connected the power supply board and the output terminal board is extracted at this time, please connect again.
(3) Three stud is attached in a mechanism assembly, respectively.
(4) Remove the servo control board attached the mechanism assembly.
(If you disconnect the wires connected to the servo control board, connect them again.)
(5) The relay board 2 is connected to the connectors CN601 and CN701 on the output terminal board.
(6) The relay board 4 is connected to the connectors CN902 on the power supply board.
(7) The relay board 1 is connected to the connectors CN502 and CN503 on the servo control board.
(8) The relay board 3 is connected to the connectors CN501 on the servo control board.
(9) Between relay boards, an extension code is inserted, respectively and it connects.
(Be careful of direction of a card wire at this time.)

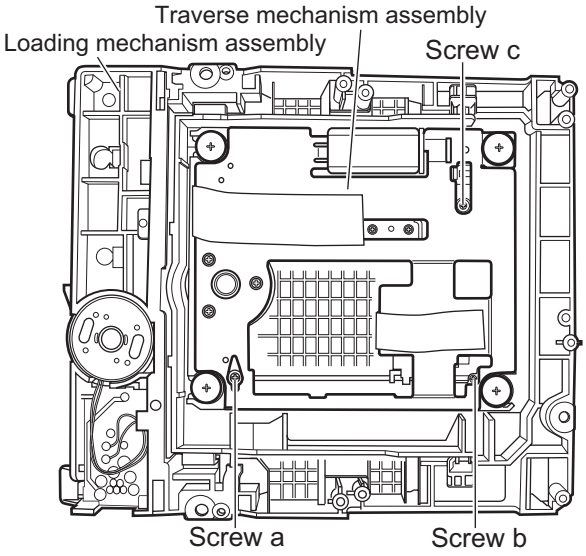


3.7.3 Adjustment

(1) Set the main body at test mode.
(2) Press the "CHOICE" key of the remote controller three times, and the FL display is displayed "CK".
(3) Insert a test disc (VT-501), and press the "PLAY" key of the main body.
(4) After a few seconds, press the numeric key "6" of the remote controller. Then, the FL display is displays a jitter value.
(5) Turn the adjustment screws on the underside of the traverse mechanism with phillips screw driver until the **maximum** jitter value is displayed on the FL display. (In this model, a bigger jitter value means a better result.)

NOTE:

- Reference values to judge whether the jitter is allowable or not are displayed, instead of actual jitter values.
- Please be sure to perform "all-initialization" and "optimization adjustment of front end parameter" after adjusting.



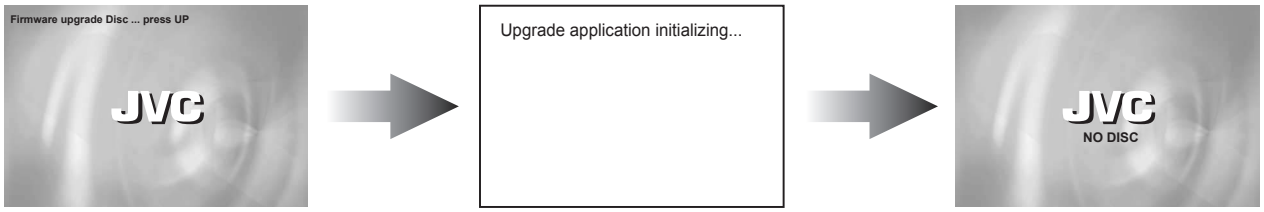
POINT:

Turn the adjustment screws **a** and **b** to the same angle in the right direction. And turn the adjustment screws **a** and **b** to the same angle in the left direction. Then, turn the screws **a** and **b** in either the right or the left direction to increase the number of jitter. Don't turn the adjustment screw **c**.

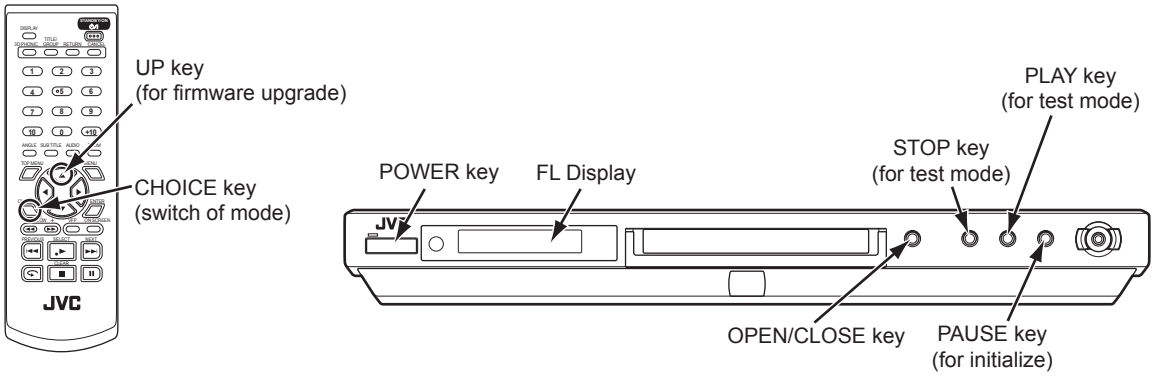
3.8 Upgrading of firmware

The latest firmware for upgrading is updated in "Optical disc CSG" page in JS-net.At the time of service, compare the version of the product and the latest version, and upgrade the old version into the latest version.

(1) Press "POWER" key of the main body to turn the main body on
(2) Insert the upgrade disc.
(3) When FL display of the main body changes from "READ" to "UP", press "cursor UP" key (▲) of the remote controller.
(4) The entire screen becomes blue, and upgrading starts.
(5) The tray opens automatically. Remove the upgrade disc.
(6) The screen returns to the normal screen. Then, press "POWER" key of the main body. When the stand-by indicator is lighted, upgrading is completed.
(7) Set the main body at test mode, and perform initialization. Then, confirm the version of the firmware.



After inserting the up-grade disc | While upgrading (blue screen) | When up-grade is completed



3.9 Confirm method of operation

Please confirm the operation of the undermentioned item after doing the repair and the upgrade of the firmware.

Initialize	Refer to the initialization method.
All-initialize	Refer to the All-initialization method.
Parameter adjustment status	Set the main body at test mode, and check that the FL display shows "∗0".
Opening picture check (Power ON)	It should be display "JVC"
Muting working	The noise must not be had to the performance beginning when you push "PLAY" button or at ON/STANDBY.
FL Display	The mark and the logo, etc. displayed by each operation must be displayed correctly. FL Display should light correctly without any unevenness.
All Function button	All function buttons should worked correctly with moderate click feeling.
Open and close movement of tray	When press OPEN/CLOSE button the tray should move smoothly without any noise.
Remote controller unit working	Check the correctly operation in use of remote controller unit.
Reading of TOC	Be not long in the malfunction.
Search	Both forward-searches and backward-searches should be able to be done.Do not stop be searching or after the search.
Skip	Both forward-skip and backward-skip should be able to be done.Do not stop be after the skip.
Playback	Do not find abnormality etc. of tone quality and the picture quality.
Most outside TITLE playback check	Play VT-501 TITLE 59 CHAPTER 1 , check normal playback.

3.10 Troubleshooting

3.10.1 Servo volume

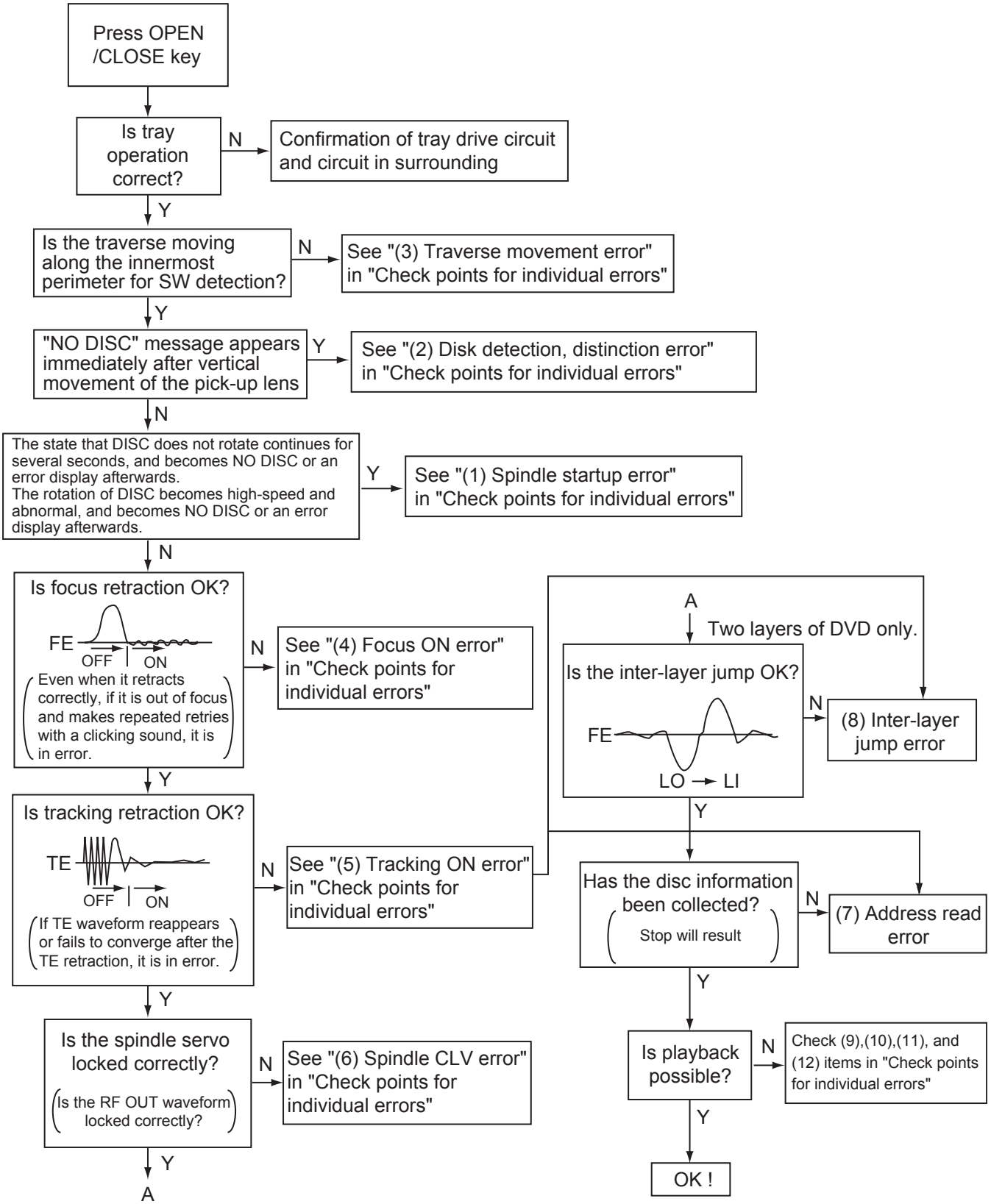


Fig.1

3.11 Check points for each error

3.11.1 Spindle start error

(1) Defective spindle motor

- Are there several ohms resistance between each pin of CN201 "1-2","2-3","1-3"?
  (The power supply is turned off and measured.)
- Is the sign wave of about 100mVp-p in the voltage had from each terminal?
  [CN201"10"(H1+),"11"(H1-),"7"(H2+),"8"(H2-),"5"(H3+),"6"(H3-)]

(2) Defective spindle motor driver (IC251)

- Has motor drive voltage of a sine wave or a rectangular wave gone out to each terminal(SM1~3)
  of CN201"1,2,3" and IC251"2,4,7"?
- Is FG pulse output from the terminal of IC251"24"(FG) according to the rotation of the motor?
- Is it "L(about 0.9V)" while terminal of IC251"15"(VH) is rotating the motor?

(3) Has the control signal come from servo IC or the microcomputer?

- Is it "L" while the terminal of IC251"18"(SBRK) is operating?
  Is it "H" while the terminal of IC251"23"(/SPMUTE) is operating?
- Is the control signal input to the terminal of IC251"22"(EC)?
  (changes from VHALF voltage while the motor is working.)
- Is the VHALF voltage input to the terminal of IC251"21"(ECR)?

(4) Is the FG signal input to the servo IC?

- Is FG pulse input to the terminal of IC301"69"(FG) according to the rotation of the motor?

3.11.2 Disc Detection, Distinction error (no disc, no RFENV)

- Laser is defective.
- Front End Processor is defective (IC101).
- APC circuit is defective. --- Q101,Q102.
- Pattern is defective. --- Lines for CN101 - All patterns which relate to pick-up and patterns between IC101
- IC101 --- For signal from IC101 to IC301, is signal output from IC101 "20" (ASOUT) and IC101 "41"(RFENV) and IC101 "22" (FEOUT)?

3.11.3 Traverse movement NG

(1) Defective traverse driver

- Has the voltage come between terminal of CN101 "2" and "4" ?

(2) Defective BTL driver (IC201)

- Has the motor drive voltage gone out to IC201"17" or "18"?

(3) Has the control signal come from servo IC or the microcomputer?

- Is it "H" while the terminal of IC201"9"(STBY1) ?
- TRSDRV Is the signal input? (IC301 "67")

(4) TRVSW is the signal input from microcomputer? (IC301 "56")

3.11.4 Focus ON NG

- Is FE output ? --- Pattern, IC101
- Is FODRV signal sent ? (R209) --- Pattern, IC301 "115"
- Is driving voltage sent ?IC201 "13", "14" --- If NG, pattern, driver, mechanical unit .
- Mechanical unit is defective.

3.11.5 Tracking ON NG

- When the tracking loop cannot be drawn in, TE shape of waves does not settle.
- Mechanical unit is defective.
  Because the self adjustment cannot be normally adjusted, the thing which cannot be normally drawn in is thought.
- Periphery of driver (IC201)
  Constant or IC it self is defective.
- Servo IC (IC301)
  When improperly adjusted due to defective IC.

3.11.6 Spindle CLV NG

- IC101 -- "30"(ARF-), "31(ARF+).
- Does not the input or the output of driver's spindle signal do the grip?
- Has the tracking been turned on?
- Spindle motor and driver is defective.
- Additionally, "IC101 and IC301" and "Mechanism is defective(jitter)", etc. are thought.

3.11.7 Address read NG

- Besides, the undermentioned cause is thought though specific of the cause is difficult because various factors are thought.
  Mechanism is defective. (jitter)
  IC301
  The disc is dirty or the wound has adhered.

3.11.8 Between layers jump NG (double-layer disc only)

Mechanism defective
Defect of driver's IC(IC201)
Defect of servo control IC(IC301)

3.11.9 Neither picture nor sound is output

(1) It is not possible search

- Has the tracking been turned on?
- To "(5) Tracking ON NG" in "Check points for each error" when the tracking is not normal.
- Is the feed operation normal?
  To "(3) traverse movement NG" in "Check points for each error" when it is not normal.Are not there caught of the feeding mechanism etc?

3.11.10 Picture is distorted or abnormal sound occurs at intervals of several seconds.

Is the feed operation normal?
Are not there caught of the feeding mechanism etc?

3.11.11Others

- The image is sometimes blocked, and the image stops.
- The image is blocked when going to outer though it is normal in suroundings in the disk and the stopping sympton increases.

  There is a possibility with bad jitter value for such a symptom.

3.11.12CD During normal playback operation

(1) Is TOC reading normal?

- Displays total time for CD-DA.
- Shifts to double-speed mode for V-CD

(2) Is playback afterwards possible?

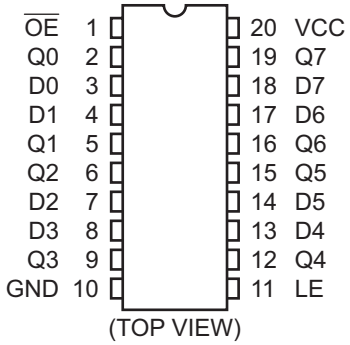
(3) When can not do a normal playback

- --:-- is displayed during FL search.
  According to [It is not possible to search] for DVD(9), check the feed and tracking systems.
- No sound is output although the time is displayed.(CA-DA)
  DAC, etc, other than servo.
- The passage of time is not stable, or picture is abnormal.(V-CD)
- The wound of the disc and dirt are confirmed.

SECTION 4
Description of major ICs

4.1 74LCX373MTC-X (IC512,IC513) : Octal D-type latch

• Pin layout



(TOP VIEW)

• Truth table

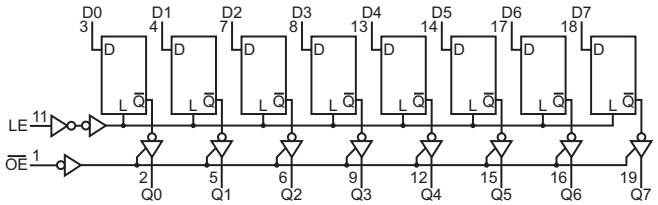
INPUTS			OUTPUT
LE	OE	Dn	Qn
X	H	X	Z
H	L	L	L
H	L	H	H
L	L	X	Q0

H = HIGH Voltage levelL = LOW Voltage levelZ = High impedanceX = ImmaterialQ0 = Previous Q0 before HIGH to LOW transition of latch enable

• Pin function

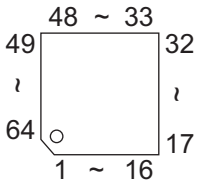
Symbol	Description
D0~D7	Data inputs
LE	Latch enable input
OE	Output enable input
Q0~Q7	3-State latch outputs

• Block diagram

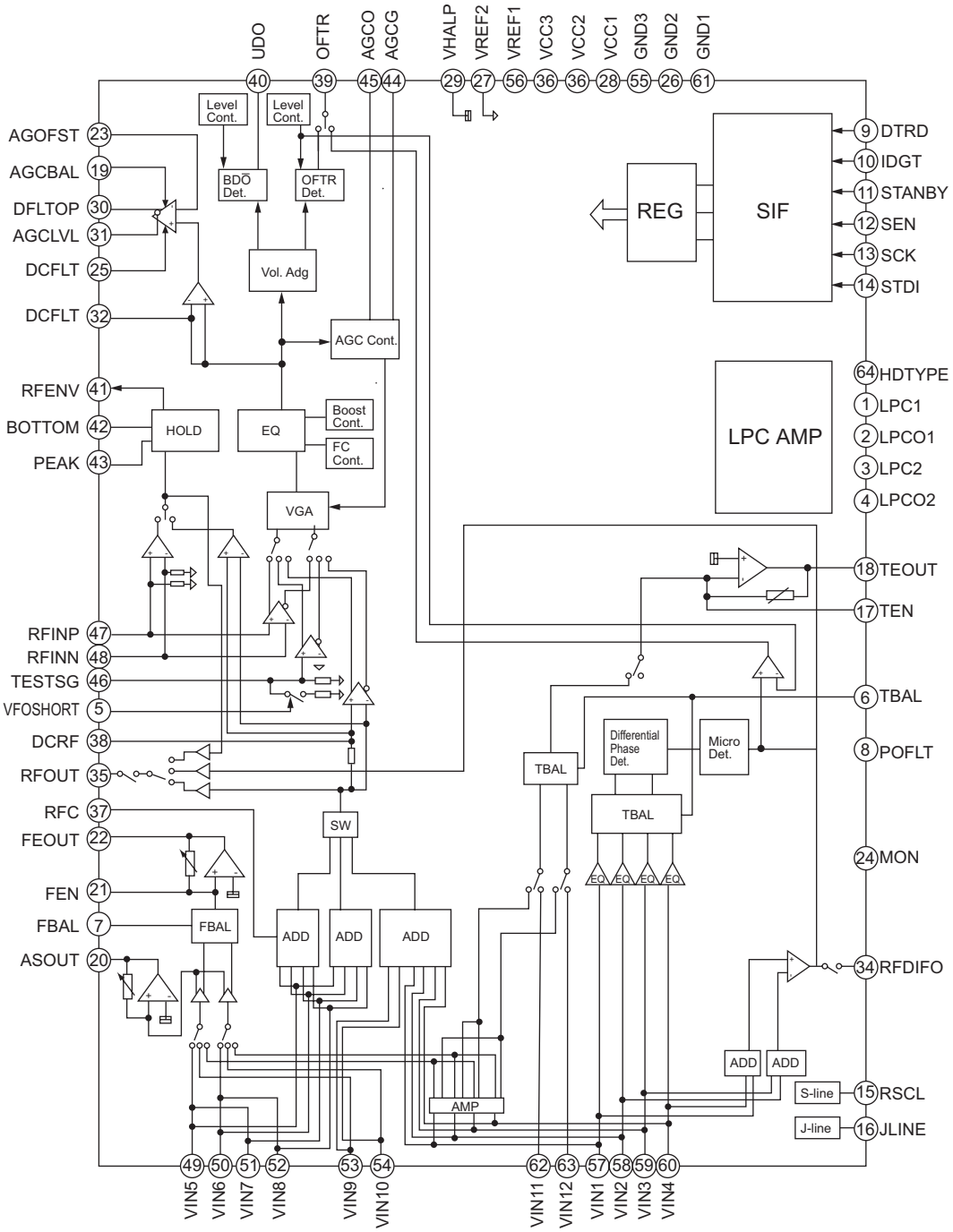


4.2 AN8703FH-V (IC101) : Frontend processor

• Pin layout



• Block diagram



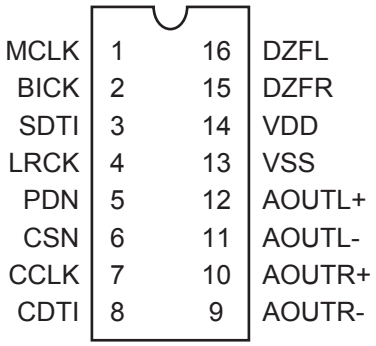
• Pin function

Pin No.	Symbol	Function
1	LPC1	Laser pin input (DVD head)
2	LPCO1	Laser drive output (DVD head)
3	LPC2	Laser in input (CD head)
4	LPCO2	Laser drive output (CD head)
5	VFOSHORT	VFOSHORT control
6	TBAL	Tracking balance control
7	FBAL	Focus balance control
8	POFLT	Track detection threshold level
9	DTRD	Data slice data read signal input (for RAM)
10	IDGT	Data slice address gate signal input (for RAM)
11	STANBY	Standby mode control
12	SEN	SEN (serial data input)
13	SCK	SCK(serial data input)
14	STDI	STDI(serial data I/O)
15	RSCL	Reference current setting
16	JLINE	J-line vurrent setting
17	TEN	Tracking error amplifier inverted input
18	TEOUT	Tracking error signal output
19	AGCBAL	Offset adjustment for DRC-1
20	ASOUT	Full addition signal output
21	FEN	Focus error amplifier inverted input
22	FEOUT	Focus error signal output
23	AGCOFST	Offeset adjustment for DRC-2
24	MON	Monitor
25	AGCLVL	Output amplitude adjustment for DRC
26	GND2	Ground 2
27	VREF2	VREF2 voltage output
28	VCC2	Power supply 2 (5V)
29	VHALF	VHALF voltage output
30	DFLTON	Filter amplifier inverted output
31	DFLTOP	Filter amplifier positive output
32	DCFLT	Filter output capacitance connection
33	GND3	Groud 3
34	RFDIFO	Raidal differntial output
35	RFOUT	RF full-addition amplifier output
36	VCC3	Power supply 3 (3.3V)
37	RFC	Filter for RF-group delay correction amplifier
38	DCRF	DC-cut filter for RF full-addition amplifier
39	OFTR	OFTR output
40	BDO	BDO output
41	RFENV	RF envelope output
42	BOTTOM	Bottom envelope detection filter
43	PEAK	Peak envelope detection filter
44	AGCG	AGC amplifier again control
45	AGCO	AGC amplifier level control

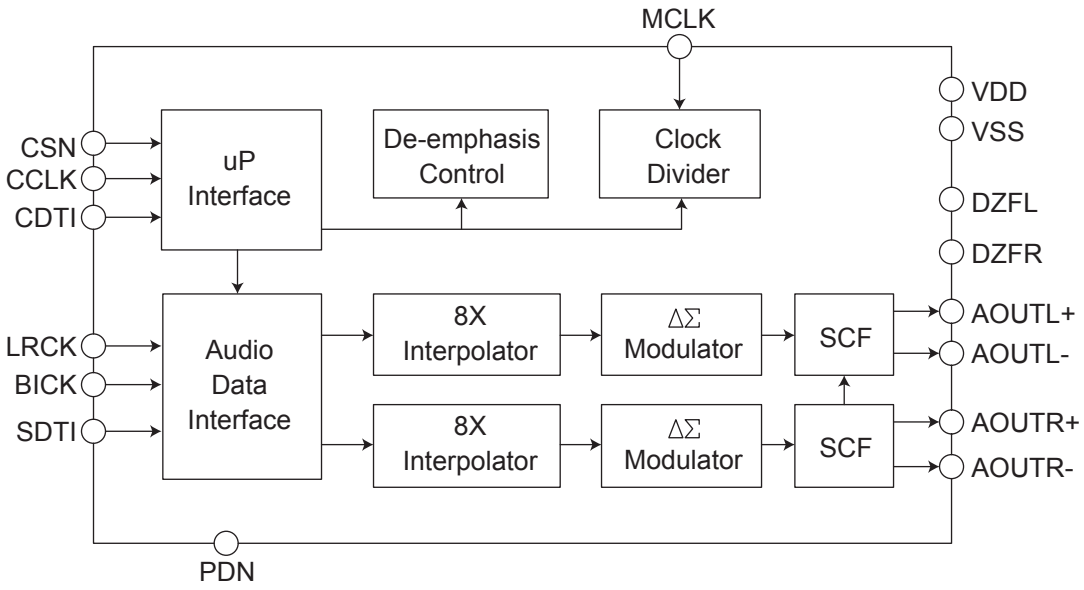
Pin No.	Symbol	Function
46	TESTSG	TEST signal input
47	REFINP	RF signal positive input
48	RFINN	RE signal inverterd input
49	VIN5	Internal four-partition (CD) RF input 1
50	VIN6	Internal four-partition (CD) RF input 2
51	VIN7	Internal four-partition (CD) RF input 3
52	VIN8	Internal four-partition (CD) RF input 4
53	VIN9	Internal four-partition (DVD) RF input 2
54	VIN10	Internal four-partition (DVD) RF input 1
55	VCC1	Power supply 1 (5V)
56	VREF1	VREF1 voltage output
57	VIN1	Internal four-partition (DVD) RF input 1
58	VIN2	Internal four-partition (DVD) RF input 2
59	VIN3	Internal four-partition (DVD) RF input 3
60	VIN4	Internal four-partition (DVD) RF input 4
61	GND1	Groud 1
62	VIN11	3-deam sub (CD) input 2
63	VIN12	3-deam sub (CD) input 1
64	HDTYPE	HD type selection

4.3 AK4381VT-X (IC402) : 2ch DAC

• Pin layout



• Block diagram

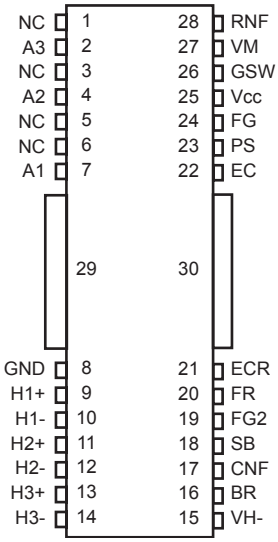


• Pin functions

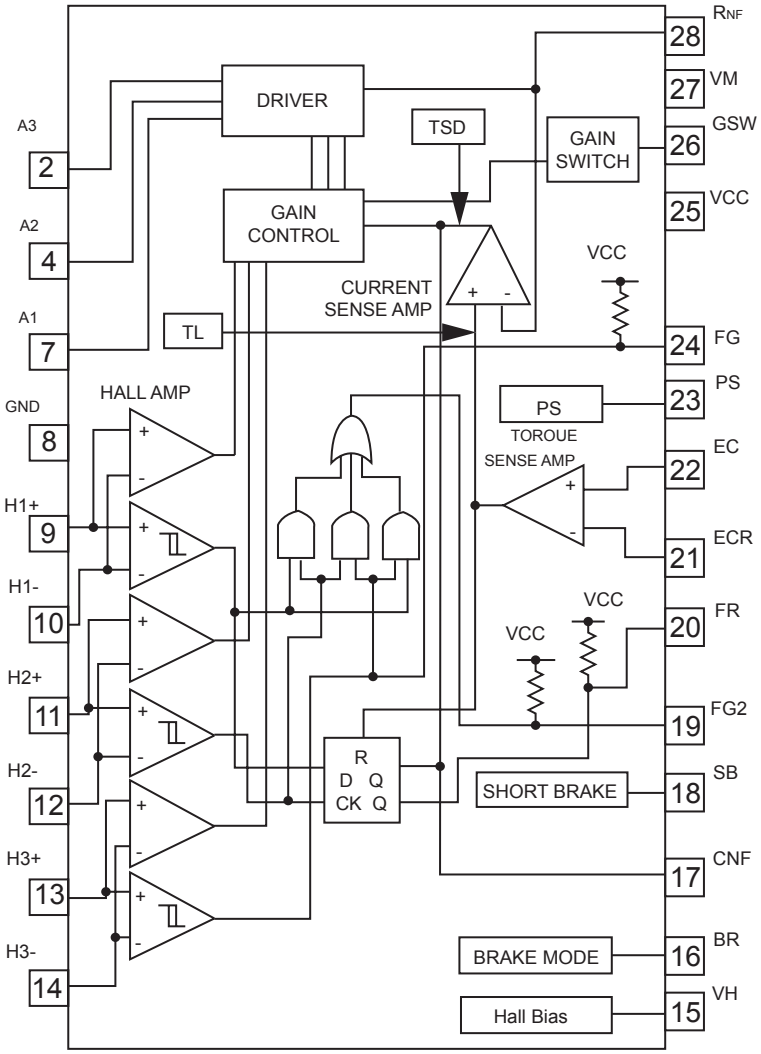
Pin No.	Symbol	I/O	Description
1	MCLK	I	Master clock input terminal
2	BICK	I	Audio serial data clock terminal
3	SDTI	I	Audio serial data input terminal
4	LRCK	I	L/R Clock terminal
5	PDN	I	Power down mode terminal
6	CSN	I	Chip select
7	CCLK	I	Control data input terminal
8	CDTI	I	Control data input terminal
9	AOUTR-	O	Rch negative analog output terminal
10	AOUTR+	O	Rch positive analog output terminal
11	AOUTL-	O	Lch negative analog output terminal
12	AOUTL+	O	Lch positive analog output terminal
13	VSS	-	Connect to ground
14	VDD	-	Power supply terminal
15	DZFR	O	Rch data zero input detection terminal
16	DZFL	O	Lch data zero input detection terminal

4.4 BA6664FM-X (IC251) : Spindle motor driver

• Pin layout



• Block diagram

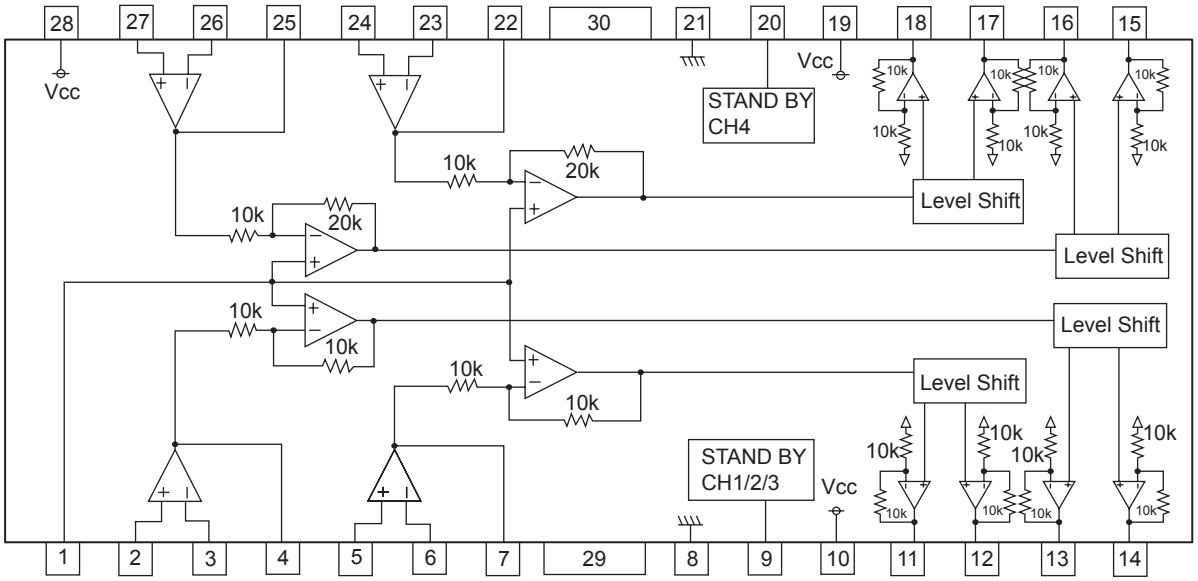


• Pin function (BA6664FM-X)

Pin No.	Symbol	I/O	Description
1	NC	-	Non connect
2	A3	O	Output 3 for spindle motor
3	NC	-	Non connect
4	A2	O	Output 2 for spindle motor
5	NC	-	Non connect
6	NC	-	Non connect
7	A1	O	Output 1 for spindle motor
8	GND	-	Connect to ground
9	H1+	I	Positive input for hall input AMP 1
10	H1-	I	Negative input for hall input AMP 1
11	H2+	I	Positive input for hall input AMP 2
12	H2-	I	Negative input for hall input AMP 2
13	H3+	I	Positive input for hall input AMP 3
14	H3-	I	Negative input for hall input AMP 3
15	VH	I	Hall bias terminal
16	BR	-	Non connect
17	CNF	-	Capacitor connection pin for phase compensation
18	SB	I	Short brake terminal
19	FG2	-	Non connect
20	FR	-	Non connect
21	ECR	I	Torque control standard voltage input terminal
22	EC	I	Torque control voltage input terminal
23	PS	O	Start/stop switch (power save terminal)
24	FG	O	FG signal output terminal
25	VCC	-	Power supply for signal division
26	GSW	O	Gain switch
27	VM	-	Power supply for driver division
28	RNF	O	Resistance connection pin for output current sense
29		-	Connect to ground
30		-	Connect to ground

4.5 BA5983FM-X (IC201) : 4-channel driver

• Block diagram



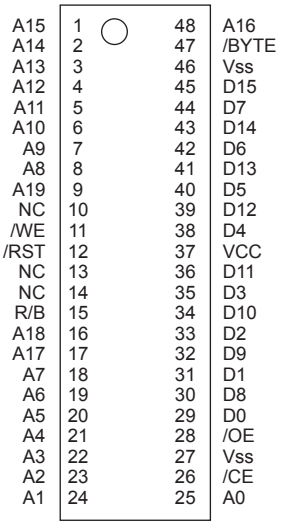
• Pin function

Pin No.	Symbol	I/O	Description
1	BIAS IN	I	Input for Bias-amplifier
2	OPIN1(+)	I	Non inverting input for CH1 OP-AMP
3	OPIN1(-)	I	Inverting input for CH1 OP-AMP
4	OPOUT1	O	Output for CH1 OP-AMP
5	OPIN2(+)	I	Non inverting input for CH2 OP-AMP
6	OPIN2(-)	I	Inverting input for CH2 OP-AMP
7	OPOUT2	O	Output for CH2 OP-AMP
8	GND	-	Substrate ground
9	STBY1	I	Input for CH1/2/3 stand by control
10	PowVcc1	-	Vcc for CH1/2 power block
11	VO2(-)	O	Inverted output of CH2
12	VO2(+)	O	Non inverted output of CH2
13	VO1(-)	O	Inverted output of CH1
14	VO1(+)	O	Non inverted output of CH1
15	VO4(+)	O	Non inverted output of CH4

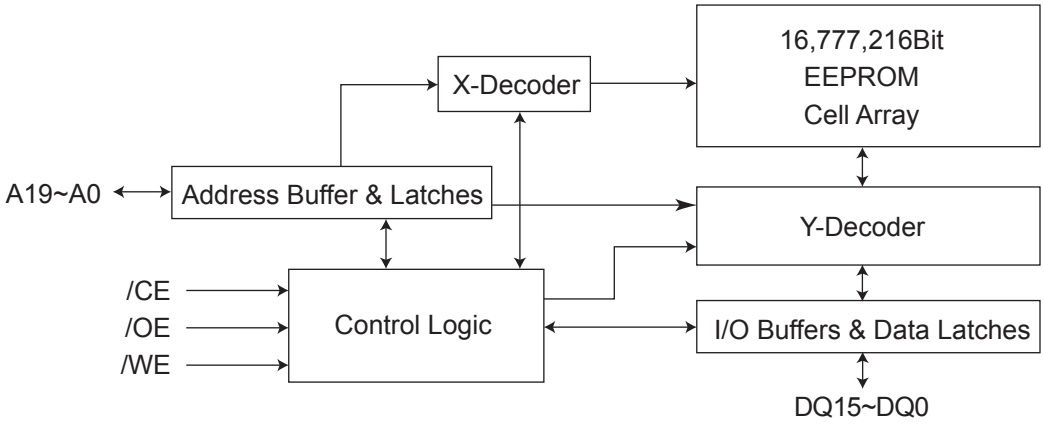
Pin No.	Symbol	I/O	Description
16	VO4(-)	O	Inverted output of CH4
17	VO3(+)	O	Non inverted output of CH3
18	VO3(-)	O	Inverted output of CH3
19	PowVcc2	-	Vcc for CH3/4 power block
20	STBY2	I	Input for Ch4 stand by control
21	GND	-	Substrate ground
22	OPOUT3	O	Output for CH3 OP-AMP
23	OPIN3(-)	I	Inverting input for CH3 OP-AMP
24	OPIN3(+)	I	Non inverting input for CH3 OP-AMP
25	OPOUT4	O	Output for CH4 OP-AMP
26	OPIN4(-)	I	Inverting input for CH4 OP-AMP
27	OPIN4(+)	I	Non inverting input for CH4 OP-AMP
28	PreVcc	-	Vcc for pre block
29		-	Connect to ground
30		-	Connect to ground

4.6 SST39VF160-7DD (IC509) : 16M EEPROM

• Pin layout



• Block diagram

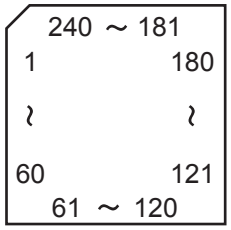


• Pin function

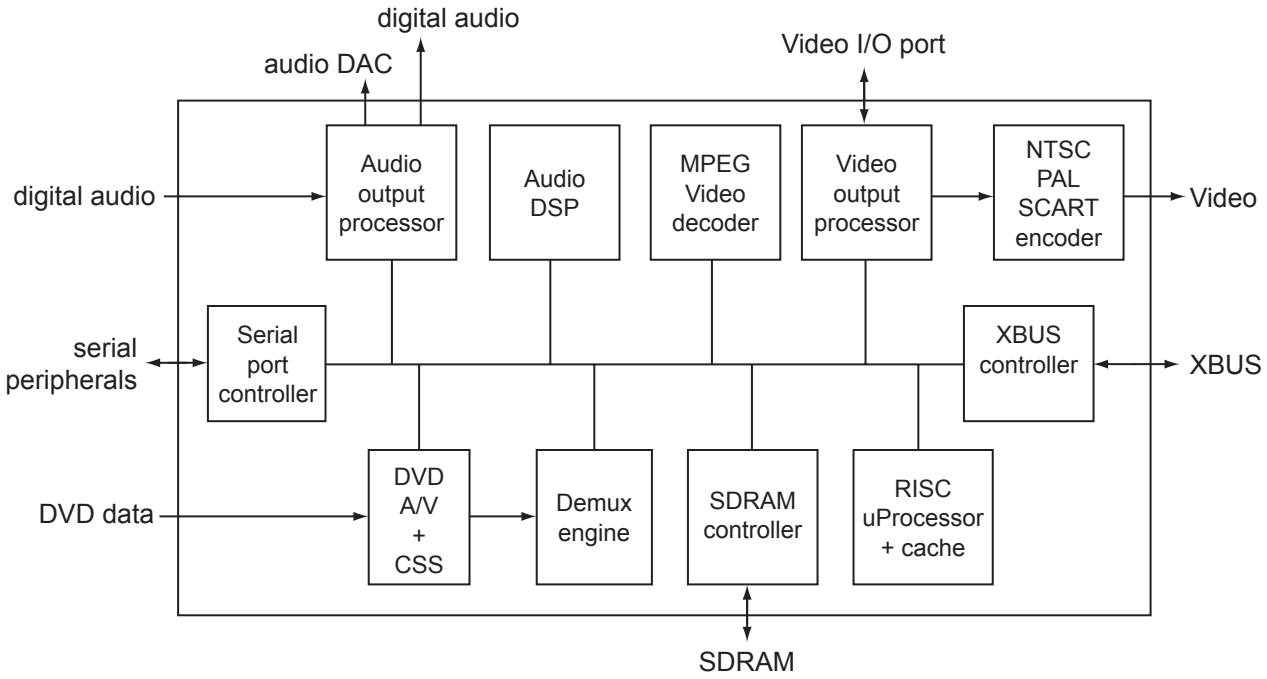
Symbol	Pin name	Function
A19~A0	Address Inputs	To provide memory addresses. During sector erase A19~A11 address lines will select the sector. During block erase A19~A15 address lines will select the block.
DQ15~DQ0	Data Input/Output	To output data during read cycles and receive input data during write cycles. Data is internally latched during a write cycle. The outputs are in tri-state when /OE or /CE is high.
/CE	Chip Enable	To activate the device when /CE is low.
/OE	Output Enable	To gate the data output buffers.
/WE	Write Enable	To control the write operations.
VCC	Power Supply	To provide 3-volt supply (2.7V-3.6V).
Vss	Ground	Connect to ground
NC	No Connection	

4.7 JCE8044 (IC501) : AV Decoder

• Pin layout



• Block diagram



• Pin function

Pin No.	Symbol	I/O	Description
1	VDDio	-	Power supply terminal 3.3V
2,3	MD10,11	I/O	SDRAM Data bus terminal
4	VDD	-	Power supply terminal 1.8V
5	MD12	I/O	SDRAM Data bus terminal
6	VSSio	-	Connect to ground
7~9	MD13~15	I/O	SDRAM Data bus terminal
10	VDDio	-	Power supply terminal 3.3V
11	DQM1	O	SDRAM Data byte enable
12,13	MA9,8	O	SDRAM Address bus terminal
14	VSSio	-	Connect to ground
15,16	MA7,6	O	SDRAM Address bus terminal
17	VSS	-	Connect to ground
18	MA5	O	SDRAM Address bus terminal
19	VDDio	-	Power supply terminal 3.3V
20,21	MA4,3	O	SDRAM Address bus terminal
22	MCLK	O	SDRAM Clock output
23	VSSio	-	Connect to ground
24	CKE	O	SDRAM Clock enable output

Pin No.	Symbol	I/O	Description
25,26	MA2,1	O	SDRAM Address bus terminal
27	VDDio	-	Power supply terminal 3.3V
28	MA0	O	SDRAM Address bus terminal
29	MA10	O	SDRAM Address bus terminal
30	MA11	-	Non connect
31	VSSio	-	Connect to ground
32,33	MA12,13	O	SDRAM Address bus, reserved for terminal compatibility with 64Mb SDRAM
34	VDD	-	Power supply terminal 1.8V
35	CS0	O	SDRAM Primary bank chip select
36	VDDio	-	Power supply terminal 3.3V
37	RAS	O	SDRAM Command bit
38	CAS	O	SDRAM Command bit
39	WE	O	SDRAM Command bit
40	VSSio	-	Connect to ground
41	DQM0	O	SDRAM Data byte enable
42	DQM2	O	SDRAM Data byte enable
43	MD16	I/O	SDRAM Data bus terminal
44	VDDio	-	Power supply terminal 3.3V
45,46	MD17,18	I/O	SDRAM Data bus terminal
47	VSS	-	Connect to ground
48	MD19	I/O	SDRAM Data bus terminal
49	VSSio	-	Connect to ground
50~52	MD20~22	I/O	SDRAM Data bus terminal
53	VDDio	-	Power supply terminal 3.3V
54~56	MD23~25	I/O	SDRAM Data bus terminal
57	VSSio	-	Connect to ground
58~61	MD26~29	I/O	SDRAM Data bus terminal
62	VDDio	-	Power supply terminal 3.3V
63,64	MD30,31	I/O	SDRAM Data bus terminal
65	DQM3	O	SDRAM Data byte enable
66	CS1	O	SDRAM Extension bank chip select
67	VSSD	-	Connect to ground
68	SPDIF	O	S/PDIF Digital audio output terminal
69	VSSio	-	Connect to ground
70	ADC	I	Digital audio input for digital micro; can be used as GPIO
71	AOUT3	O	Serial audio output data to audio DAC for left and right channels for down-mix
72	AOUT2	O	Serial audio output data to audio DAC for surround left and right channels
73	AOUT1	O	Serial audio output data to audio DAC for center and LFE channels
74	AOUT0	O	Serial audio output data to audio DAC for left and right channels
75	VDDio	-	Power supply terminal 3.3V
76	PCMCLK	O	Audio DAC PCM sampling clock frequency, common clock for DACs and ADC
77	VDD	-	Power supply terminal 1.8V
78	ACLK	O	Audio interface serial data clock, common clock for DACs and AD converter
79	LRCLK	O	Left / right channel clock, common clock for DACs and ADC
80	SRST	O	Active low RESET signal for peripheral reset
81	RSTP	I	RESET_Power : from system, used to reset frequency synthesizer and rest of chip

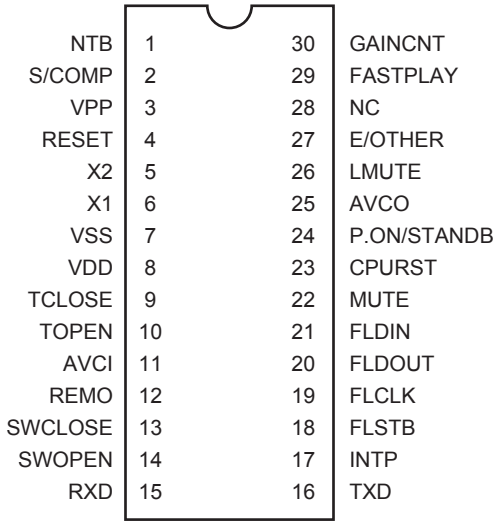
Pin No.	Symbol	I/O	Description
82	VSSio	-	Connect to ground
83	RXD1	I	UART1 Serial data input from external serial device, used for IR receiver
84	SSPIN1	I/O	SSP1 Data in or 16X clock for USART function in UART1
85	VSS	-	Connect to ground
86	SSPOUT1	I/O	SSP1 Data out or UART1 data-terminal-ready signal
87	SSPCLK1	I/O	SSP1 Clock or UART1 clear-to -send signal
88	SSPCLK0	I/O	SSP0 Clock or request-to-send function in UART1
89	VDD	-	Power supply terminal 1.8V
90	SSPIN0	I/O	SSP0 Data in or 16X clock for USART function in UART0
91	VDDio	-	Power supply terminal 3.3V
92	SSPOUT0	I/O	SSP0 Data out or UART0 data-terminal-ready signal
93	TXD0	I/O	UART0 Serial data output to an external serial device
94	RXD0	I	UART0 Serial data input from external serial device
95	CTS0	I/O	UART0 Clear-to-send signal
96	RTS0	I/O	UART0 Request-to-send signal
97	VSSio	-	Connect to ground
98	CXI	I	Crystal input terminal for on-chip oscillator or system input clock
99	CXO	O	Crystal output terminal for on-chip oscillator
100	OSCVSS	-	Connect to ground for oscillator
101	OSCVDD	-	Power supply terminal for oscillator 1.8V
102	MVCKVDD	-	Power supply terminal for main and video clock PLL 3.3V
103	SCEN	I	Scan chain test enable
104	MVCKVSS	-	Connect to ground for main and video clock PLL
105	ACLKVSS	-	Connect to ground for audio clock PLL
106	SCMD	I	Scan chain test mode
107	ACLKVDD	-	Power supply terminal for audio clock PLL 3.3V
108	VDDDAK	-	Power supply terminal for DAC digital 1.8V
109	VSSDAC	-	Connect to ground for DAC digital
110	Cr/R	O	Video signal output (Cr output : composite/component Red output)
111	IOM	O	Cascaded DAC differential output used to dump current into external resistor for power
112	C/Cb/B	O	Video signal output (Chrominance output for NTSC/PAL S-Video Cb output for component Blue output)
113	VAA3	-	Power supply terminal for DAC analog 3.3V
114	Y/G	O	Video signal output (Luminance for S-Video and component Green output)
115	VSSA	-	Connect to ground for DAC analog
116	VREF	-	Non connect
117	VAA	-	
118	CVBS/C	O	Video signal output (Composite video Chrominance output for S-Video)
119	RSET	O	Current setting resistor of output DACs
120	COMP	O	Compensation capacitor connection
121	VSS	-	Connect to ground
122	VCLK	-	Non connect
123	DISCSTP	-	Non connect
124	DISCSET	-	Non connect
125	VDDio	-	Power supply terminal 3.3V
126	SLEEP	-	Non connect

Pin No.	Symbol	I/O	Description
127	TRVSW	-	Non connect
128	HFMON	-	Non connect
129	SBAK	-	Non connect
130	HAGUP	-	Non connect
131	VI02	-	Non connect
132	VSSio	-	Connect to ground
133	DRVMUTE	-	Non connect
134	SPMUTE	-	Non connect
135	VDD	-	Power supply terminal 1.8V
136~139	AD31~28	I/O	Multiplexed address / data bus terminal
140	VDDio	-	Power supply terminal
141~144	AD27~24	I/O	Multiplexed address / data bus terminal
145	PWE3	I/O	Byte write enable for FLASH,EEPROM,SRAM or peripherals terminal
146	AD23	I/O	Multiplexed address / data bus terminal
147	VSSio	-	Connect to ground
148~153	AD22~17	I/O	Multiplexed address / data bus terminal
154	VDDio	-	Power supply terminal 3.3V
155	AD16	I/O	Multiplexed address / data bus terminal
156	PWE2	I/O	Byte write enable for FLASH,EEPROM,SRAM or peripherals terminal
157158	AD15,14	I/O	Multiplexed address / data bus terminal
159	VDD	-	Power supply terminal 1.8V
160	SCLK	O	External bus clock used for programmable host peripherals
161	ACK	I/O	Programmable WAIT/ACK/RDY control
162	VSSio	-	Connect to ground
163~168	AD13~8	I/O	Multiplexed address / data bus terminal
169	VDDio	-	Power supply terminal 3.3V
170	PWE1	I/O	Byte write enable for FLASH,EEPROM,SRAM or peripherals terminal
171	VSS	-	Connect to ground
172~176	AD7~3	I/O	Multiplexed address / data bus terminal
177	VSSio	-	Connect to ground
178~180	AD2~0	I/O	Multiplexed address / data bus terminal
181	VDDio	-	Power supply terminal 3.3V
182	PWE0	I/O	Byte write enable for FLASH,EEPROM,SRAM or peripherals terminal
183	ALE	I/O	Address latch enable
184~187	LA0~3	I/O	Latched address 0~3
188	VSSio	-	Connect to ground
189	RD	I/O	Read terminal
190	LHLDA	O	Bus hold acknowledge in slave mode
191	LHLD	I	Bus hold request from external master in slave mode
192	VDD	-	Power supply terminal 1.8V
193	PCS0	O	Peripheral chip select 0, generally used for enabling the program store ROM/FLASH
194195	XI01,02	I/O	Programmable general purpose external input/output
196	VDDio	-	Power supply terminal 3.3V
197~200	XI03~06	I/O	Programmable general purpose external input/output
201	VSS	-	Connect to ground
202	SODCCS	I	SODC Chip select

Pin No.	Symbol	I/O	Description
203	ADSCIRQ	I	Interrupt input
204	VSSio	-	Connect to ground
205	XI09	I/O	Programmable general purpose external input/output
206~208	XID10~12	I/O	Programmable general purpose external input/output
209	ODCIRQ	I	Interrupt input
210	VDDio	-	Power supply terminal 3.3V
211	ODCIRQ2	I	Interrupt input
212	VDD	-	Power supply terminal 1.8V
213	DSYNC	I	DVD Parallel mode sector sync
214	ODCIRQ2	I	Interrupt input
215	DCLK	I	Data sampling clock
216	DSTB	I	Parallel mode data valid, serial mode left/right clock
217	DVD0	I	DVD Drive parallel data port
218	VSSio	-	Connect to ground
219~223	DVD1~5	I	DVD Drive parallel data port
224	VDDio	-	Power supply terminal 3.3V
225226	DVD6,7	I	DVD Drive parallel data port
227	MD0	I/O	SDRAM Data bus terminal
228	VSSio	-	Connect to ground
229	MD1	I/O	SDRAM Data bus terminal
230	VSS	-	Connect to ground
231232	MD2,3	I/O	SDRAM Data bus terminal
233	VDDio	-	Power supply terminal 3.3V
234~236	MD4~6	I/O	SDRAM Data bus terminal
237	VSSio	-	Connect to ground
238~240	MD7~9	I/O	SDRAM Data bus terminal

4.8 UPD789074MC-024 (IC701) : System controller

• Pin layout

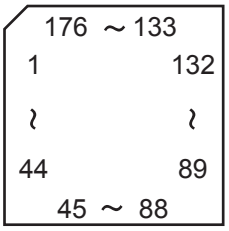


• Pin function

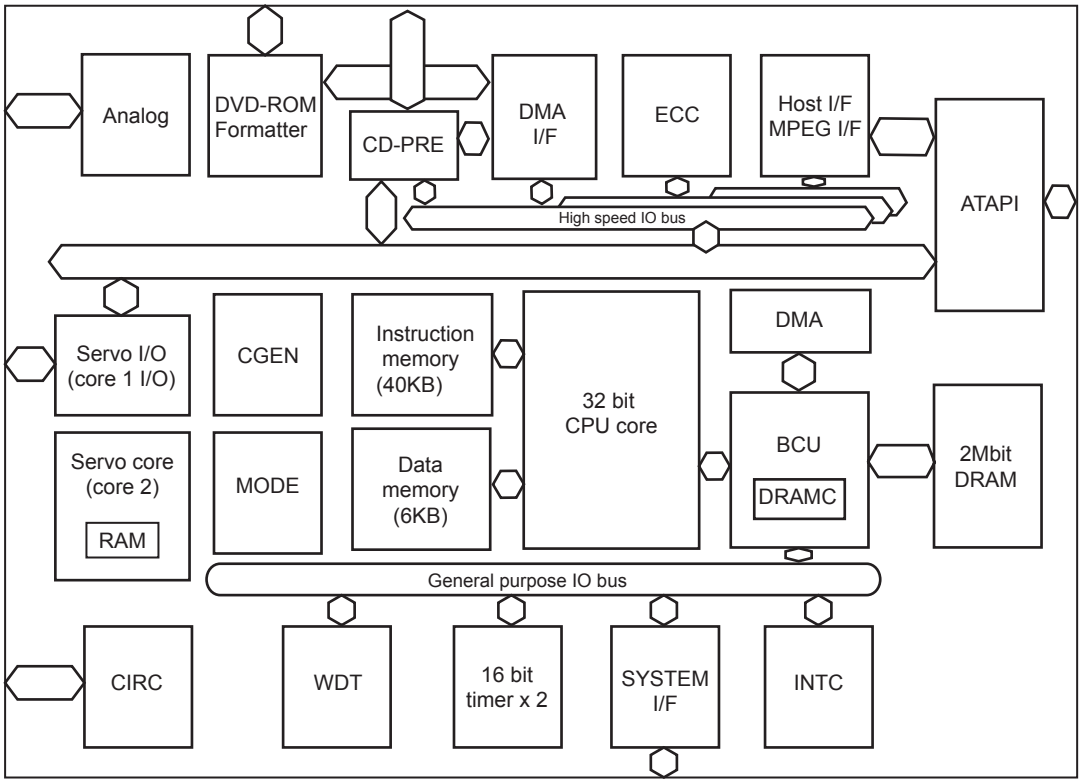
Pin No.	Symbol	I/O	Description
1	NTB	I	NTSC(L)/PAL(H) switching signal input
2	S/COMP	I	S(L)/COMPORNENT(H) output switching signal input
3	VPP	-	The power supply for on board to writing
4	RESET	I	Reset input (L:reset)
5	X2	-	Clock (5MHz)
6	X1	-	Clock (5MHz)
7	VSS	-	Connect to ground
8	VDD	-	Power supply terminal +3.3V
9	TCLOSE	O	PWM signal output for tray close
10	TOPEN	O	PWM signal output for tray open
11	AVCI	I	AV Compulink control data input
12	REMO	I	Remote control signal input
13	SWCLOSE	I	Tray switch signal input 1 L:Full open L:Movement H:Full close
14	SWOPEN	I	Tray switch signal input 2 L:Full open H:Movement H:Full close
15	RXD	I	Decoder serial communication data input
16	TXD	O	Decoder serial communication data output
17	INTP	O	Decoder serial communication interruption signal output
18	FLSTB	O	FL Driver strobe output
19	FLCLK	O	FL Driver clock output
20	FLDOUT	I	Data input from FL Driver
21	FLDIN	O	Data output to FL Driver
22	MUTE	O	Audio muting output H:muting
23	CPURST	O	LSI Reset output L:reset
24	P.ON/STANDB	O	Power ON output
25	AVCO	O	AV Compulink control data output
26	LMUTE	O	Motor driver muting output H:mute
27	E/OTHER	I	Europe specification (H)/except Europe specification switching signal input
28	NC	O	Not use
29	FASTPLAY	O	Quick playback LED (green) signal output
30	GAINCNT	O	The signal output for KARAOKE switching L:At normal H:At KARAOKE

4.9 MN103S26EDC-H (IC301) : Super optical disc controller

• Terminal layout



• Block diagram



• Pin function

Pin No.	Symbol	I/O	Description
1,2	NINT0,1	O	Interruption of system control 0,1
3	VDD3	-	Power supply terminal for I/O(3.3V)
4	VSS	-	Connect to ground
5	NINT2	O	Interruption of system control 2
6	WAITDOC	O	Wait control of system control
7	NMPST	O	Reset of system control (Non connect)
8	DASPST	I	Setting of initial value of DASP signal
9~17	CPUADR17~9	I	System control address
18	VDD18	-	Power supply terminal for I/O (1.8V)
19	VSS	-	Connect to ground
20	DRAMVDD18	-	Power supply terminal for DRAM (1.8V)
21	DRAMVSS	-	Connect to ground for DRAM
22~30	CPUADR8~0	I	System control address
31	VDD3	-	Power supply terminal for I/O (3.3V)
32	VSS	-	Connect to ground
33	DRAMVDD3	-	Power supply terminal for DRAM (3.3V)

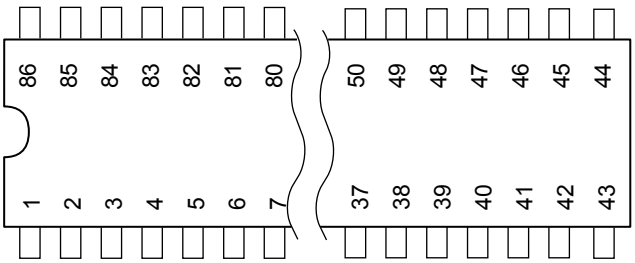
Pin No.	Symbol	I/O	Description
34	NCS	I	System control chip select
35	NWR	I	Writing system control
36	NRD	I	Read signal input from system controller
37~44	CPUDT7~0	I/O	System control data
45	CLKOUT1	-	Non connect
46	MMOD	I	Test mode switch signal
47	NRST	I	System reset
48	MSTPOL	I	Master terminal polarity switch input
49	SCLOCK	-	Non connect
50	SDATA	-	Non connect
51	OFTR	I	Off track signal input
52	BDO	I	Drop out signal input
53	SDOUT	I/O	Serial data input/output terminal
54	CPSCK	O	Clock output for serial data
55	FEPEN	O	Front end processor serial enable signal output
56	PWM4	I	Traverse mechanism inner circumference detect switch
57	VDD3	-	Power supply terminal for I/O (3.3V)
58	DRAMVDD18	-	Power supply terminal for DRAM (1.8V)
59	DRAMVSS	-	Connect to ground for DRAM
60	VSS	-	Connect to ground
61	WOBBLEFIL	-	Non connect
62	PWM6	O	Connect to pick up unit
63	PWM7	O	Short brake terminal
64	PWM8	-	Non connect
65	TBAL	O	Tracking balance adjustment output
66	FBAL	O	Focus balance adjustment output
67	TRSDRV	O	Traverse drive output
68	SPDRV	O	Spindle drive output
69	FG	I	Motor FG input
70	TILTP	-	Non connect
71	TILT	-	Non connect
72	TILTN	-	Non connect
73	TX	O	Digital output signal
74	DTRD	-	Non connect
75	IDGT	-	Non connect
76	VDD18	-	Power supply terminal for I/O (1.8V)
77	VSS	-	Connect to ground
78	VDD3	-	Power supply terminal for I/O (3.3V)
79	OSCI1	I	Oscillation input 16.9MHz
80	OSCO1	O	Oscillation output 16.9MHz
81	VSS	-	Connect to ground
82	TSTSG	O	Calibration signal
83	VFOSHORT	O	VFO short output
84	JLINE	O	J-line setting output
85	AVSS	-	Connect to ground for analog circuit
86	ROUT	-	Non connect

Pin No.	Symbol	I/O	Description
87	LOUT	-	Non connect
88	AVDD	-	Power supply terminal for analog circuit (3.3V)
89	VCOF	I	JFVCO control voltage
90	TRCRS	I	Input signal for track cross formation
91	CMPIN	-	Non connect
92	LPFOUT	-	Non connect
93	LPFIN	I	Pull-up to VHALF
94	AVSS	-	Connect to ground for analog circuit
95	HPFOUT	-	Non connect
96	HPFIN	I	HPF input
97	CSLFLT	I	Pull-up to VHALF
98	RFDIF	-	Non connect
99	AVDD	-	Power supply terminal for analog circuit (3.3V)
100	PLFLT2	I	Connect to capacitor 2 for PLL
101	PLFLT1	I	Connect to capacitor 1 for PLL
102	AVSS	-	Connect to ground for analog circuit
103	RVI	I	Connect to resistor for VREF reference current source
104	VREFH	I	Reference voltage input (2.2V)
105	PLPG	-	Non connect
106	VHALF	I	Reference voltage input (1.65V)
107,108	DSLF2,1	I	Connect to capacitor 2,1 for DSL
109	AVDD	-	Power supply terminal for analog circuit (3.3V)
110	NARF	I	Equivalence RF-
111	ARF	I	Equivalence RF+
112	JITOUT	O	Output for jitter signal monitor
113	AVSS	-	Connect to ground for analog circuit
114	DAC0	O	Tracking drive output
115	DAC1	O	Focus drive output
116	AVDD	-	Power supply terminal for analog circuit (3.3V)
117	AD0	I	Focus error input
118	AD1	I	Phase difference/3 beams tracking error
119	AD2	I	AS : Full adder signal
120	AD3	I	RF envelope input
121	AD4	I	DVD laser current control terminal
122	AD5	I	
123	AD6	I	CD laser current control terminal
124	TECAPA	-	Non connect
125	VDD3	-	Power supply terminal for I/O (3.3V)
126	VSS	-	Connect to ground
127	MONI0	-	Connect to TP306
128	MONI1	-	Connect to TP307
129	MONI2	-	Connect to TP308
130	MONI3	-	Connect to TP309
131	NEJECT	I/O	Eject detection
132	NTRYCTL	I/O	Tray close detection
133	NDASP	I/O	ATAPI drive active / slave connect I/O

Pin No.	Symbol	I/O	Description
134	NCS3FX	I	ATAPI host chip select
135	NCS1FX	I	ATAPI host chip select
136	DA2	O	Data sampling clock output
137	DA0	I/O	ATAPI host address 0
138	NPDIAG	I/O	ATAPI slave master diagnosis input
139	DA1	I/O	ATAPI host address 1
140	NIOCS16	-	Non connect
141	INTRQ	O	ATAPI host interruption output
142	NDMACK	I	ATAPI host DMA characteristic
143	VDD3	-	Power supply terminal I/O (3.3V)
144	VSS	-	Connect to ground
145	IORDY	-	NOn connect
146	NIORD	I/O	ATAPI host read
147	NIOWR	-	Non connect
148	DMARQ	-	Non connect
149	HDD15	I/O	ATAPI host data 15
150	HDD0	I/O	ATAPI host data 0
151	HDD14	I/O	ATAPI host data 14
152	VDD18	-	Power supply terminal for I/O (1.8V)
153	PO	I	Connect to ground
154	UATASEL	I	Connect to ground
155	VSS	-	Connect to ground
156	VDD3	-	Power supply terminal for I/O (3.3V)
157	HDD1	I/O	ATAPI host data 1
158	HDD13	I/O	ATAPI host data 13
159	HDD2	I/O	ATAPI host data 2
160	HDD12	I/O	ATAPI host data 12
161	HDD3	I/O	ATAPI host data 3
162	VDD3	-	Power supply terminal for I/O (3.3V)
163	VSS	-	Connect to ground
164	HDD11	I/O	ATAPI host data 11
165	HDD4	I/O	ATAPI host data 4
166	HDD10	I/O	ATAPI host data 10
167	HDD5	I/O	ATAPI host data 5
168	HDD9	I/O	ATAPI host data 9
169	VDD3	-	Power supply terminal for I/O (3.3V)
170	VSS	-	Connect to ground
171~173	HDD6~8	I/O	ATAPI host data 6~8
174	VDDH	-	Reference power supply for ATAPI (5.0V)
175	NRESET	I	ATAPI host reset input
176	MASTER	I	ATAPI master / slave select

4.10 W986432DH-7 (IC505) : 32 Bits SDRAM

• Pin layout

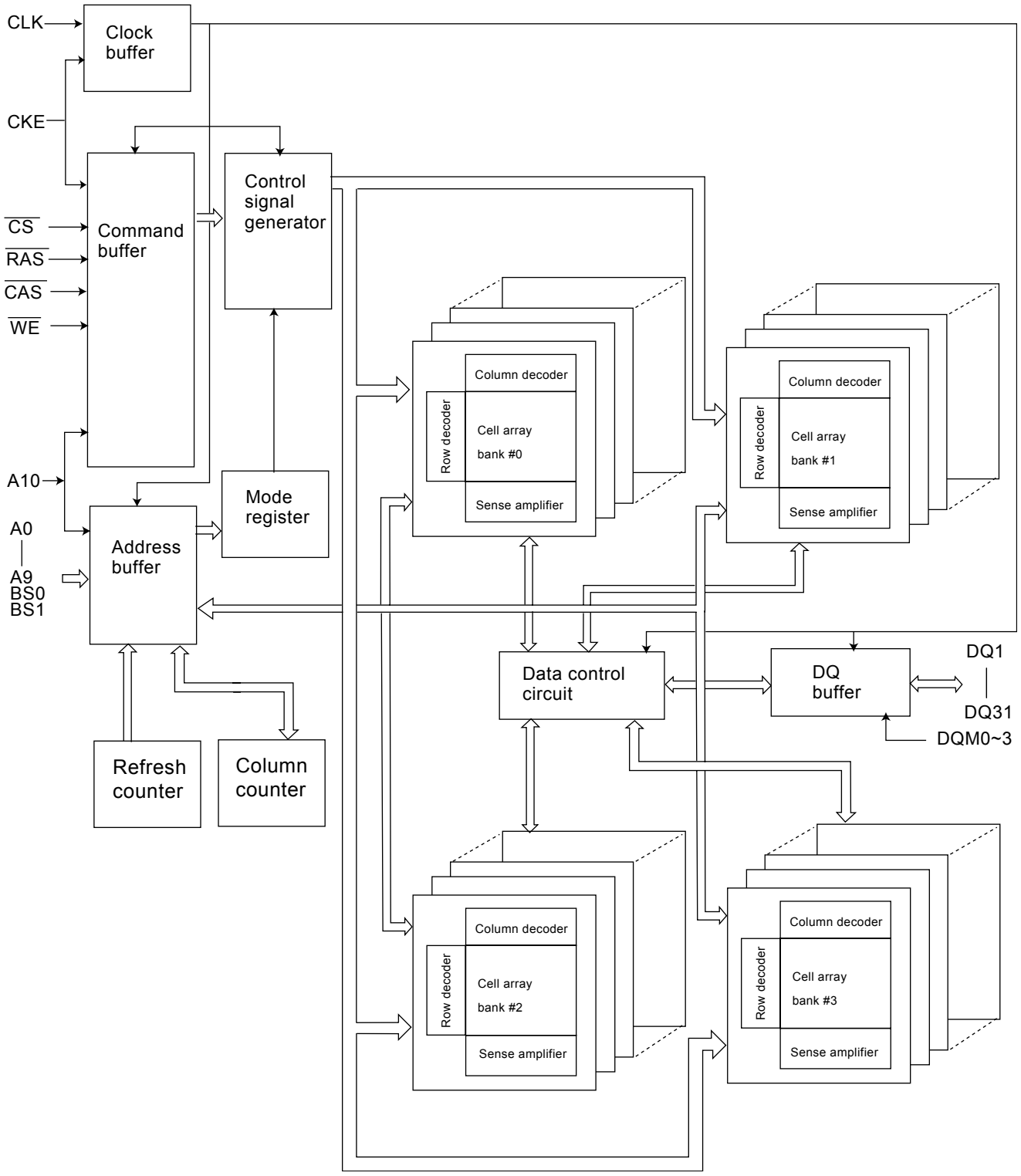


• Pin function

Pin No.	I/O	Symbol	Function
1	-	Vcc	Power for input buffers and logic circuit inside DRAM. (+3.3V)
2	I/O	DQ0	Multiplexed pins for data out put and input.
3	I/O	VccQ	Separated power from VCC, to improve DQ noise immunity. (+3.3V)
4-5	I/O	DQ1~DQ2	Multiplexed pins for data out put and input.
6	I/O	VssQ	Separated power from VSS, to improve DQ noise immunity.
7-8	I/O	DQ3~DQ4	Multiplexed pins for data out put and input.
9	I/O	VccQ	Separated power from VCC, to improve DQ noise immunity.
10~11	I/O	DQ5~DQ6	Multiplexed pins for data out put and input.
12	I/O	VssQ	Separated power from VSS, to improve DQ noise immunity.
13	I/O	DQ7	Multiplexed pins for data out put and input.
14	-	NC	No connection
15	-	Vcc	Power for input buffers and logic circuit inside DRAM. (+3.3V)
16	I/O	DQM0	The output buffer is placed at Hi-Z (with latency of 2) when DQM is sampled high in read cycle. In write cycle sampling DQM high will block the write operation with zero latency.
17	-	$\overline{WE}$	Referred to $\overline{RAS}$
18	-	$\overline{CAS}$	Referred to $\overline{RAS}$
19	-	$\overline{RAS}$	Command input. When sampled at the rising edge of the clock $\overline{RAS}$,$\overline{CAS}$ and $\overline{WE}$ define the operation to be executed.
20	-	$\overline{CS}$	Disable or enable the command decoder. When command decoder is disabled ,new command is ignored and previous operation continues.
21	-	NC	No connection
22-23	- -	BS0 BS1	Select bank to activate dining row address latch time, or bank to read / write during address latch time, or bank to read / write during address latch time.
24-27	-	A0~A10	Multiplexed pins for row and column address. Row address: A0-A10. Column address:A0-A7.A10 is sampled during a recharge command to determine if all banks are to be recharged or bank selected by BS0, BS1.
28	I/O	DQM2	The output buffer is placed at Hi-Z (with latency of 2) when DQM is sampled high in read cycle. In write cycle, sampling DQM high will block the write operation with zero latency.
29	-	Vcc	Power for input buffers and logic circuit inside DRAM. (+3.3V)
30	-	NC	No connection
31	I/O	DQ16	Multiplexed pins for data out put and input.
32	I/O	VssQ	Separated power from VSS, to improve DQ noise immunity.
33-34	I/O	DQ17~18	Multiplexed pins for data out put and input.
35	I/O	VssQ	Separated power from VCC, to improve DQ noise immunity.
36-37	I/O	DQ19~20	Multiplexed pins for data out put and input.
38	I/O	VssQ	Separated power from VSS, to improve DQ noise immunity.

Pin No.	I/O	Symbol	Function
39-40	I/O	DQ21~22	Multiplexed pins for data out put and input.
41	-	VccQ	Separated power from VCC, to improve DQ noise immunity. (+3.3V)
42	I/O	DQ23	Multiplexed pins for data out put and input.
43	-	Vcc	Power for input buffers and logic circuit inside DRAM. (+3.3V)
44	-	Vss	Ground for input buffers and logic circuit inside DRAM.
45	I/O	DQ24	Multiplexed pins for data out put and input.
46	I/O	VssQ	Separated power from VSS, to improve DQ noise immunity.
47-48	I/O	DQ25~26	Multiplexed pins for data out put and input.
49	-	VccQ	Separated power from VCC, to im prove DQ noise immunity. (+3.3V)
50-51	I/O	DQ27~28	Multiplexed pins for data out put and input.
52	I/O	VssQ	Separated power from VSS, to improve DQ noise immunity.
53-54	I/O	DQ29~30	Multiplexed pins for data out put and input.
55	-	VccQ	Separated power from VCC, to improve DQ noise immunity. (+3.3V)
56	I/O	DQ31	Multiplexed pins for data out put and input.
57	-	NC	No connection
58	-	Vss	Ground for input buffers and logic circuit inside DRAM.
59	I/O	DQM3	The output buffer is placed at Hi-Z (with latency of 2) when DQM is sampled high in read cycle. In write cycle sampling DQM high will block the write operation with zero latency.
60-66	-	A3~A9	Multiplexed pins for row and column address. Row address: Ao-A10. Column address:A0-A7.A10 is sampled during a recharge command to determine if all banks are to be recharged or bank selected by BS0, BS1.
67	-	CKE	CKE controls the clock activation and deactivation. When CKE is low, Power Down rising edge of clock.
68	I	CLK	System clock used to sample inputs on the rising edge of clock.
69-70	-	NC	No connection
71	I/O	DQM1	The output buffer is placed at Hi-Z (with latency of 2) when DQM is sampled high in read cycle. In write cycle, sampling DQM high will block the write operation with zero latency.
72	-	Vss	Ground for input buffers and logic circuit inside DRAM.
73	I/O	NC	No connection
74	I/O	DQ8	Multiplexed pins for data out put and input.
75	I/O	VccQ	Separated power from VCC, to improve DQ noise immunity. (+3.3V)
76-77	I/O	DQ9~10	Multiplexed pins for data out put and input.
78	I/O	VssQ	Separated power from VSS, to improve DQ noise immunity.
79-80	I/O	DQ11~12	Multiplexed pins for data out put and input.
81	I/O	VccQ	Separated power from VCC, to improve DQ noise immunity. (+3.3V)
82-83	I/O	DQ13~14	Multiplexed pins for data out put and input.
84	I/O	VssQ	Separated power from VSS, to improve DQ noise immunity.
85	I/O	DQ15	Multiplexed pins for data out put and input.
86	-	Vss	Ground for input buffers and logic circuit inside DRAM.

• Block diagram



NOTE:

The cell array configuration is 2048 * 256 * 32

JVC
VICTOR COMPANY OF JAPAN, LIMITED
AV & MULTIMEDIA COMPANY OPTICAL DISC CATEGORY 1644, Shimotsuruma, Yamato, Kanagawa 242-8514, Japan

(No.XA002)

Printed in Japan
WPC

JVC

SCHEMATIC DIAGRAMS

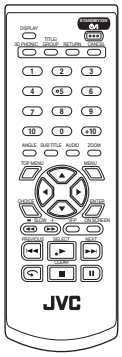
DVD VIDEO PLAYER

XV-N30BK[MK2], XV-N33SL[MK2]

CD-ROM No.SML200306

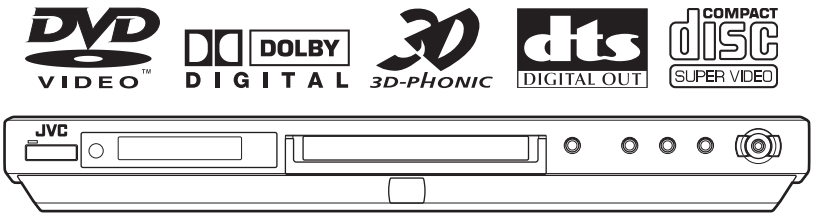
Area Suffix

J ---------- U.S.A.
C ---------- Canada
B ---------- U.K.
E ------ Continental Europe
EN ------- Northern Europe
EV --------- Eastern Europe
EE ---- Russian Federation



For only Europe

MPEG Multichannel



This illustration is XV-N30BK for U.S.A.

This service manual is a service manual of the model which changes a part of specification of the above-mentioned model which has already been put on the market.
Please refer to the following page for details.

Contents

Safety precaution ---------- 2-2
For this service manual ---------- 2-2
Block diagrams ---------- 2-3
Standard schematic diagrams -------- 2-7
Printed circuit boards ---------- 2-14

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No.XA002SCH
2003/06

Safety precaution

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 "⚠" 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. (Except the JC version)

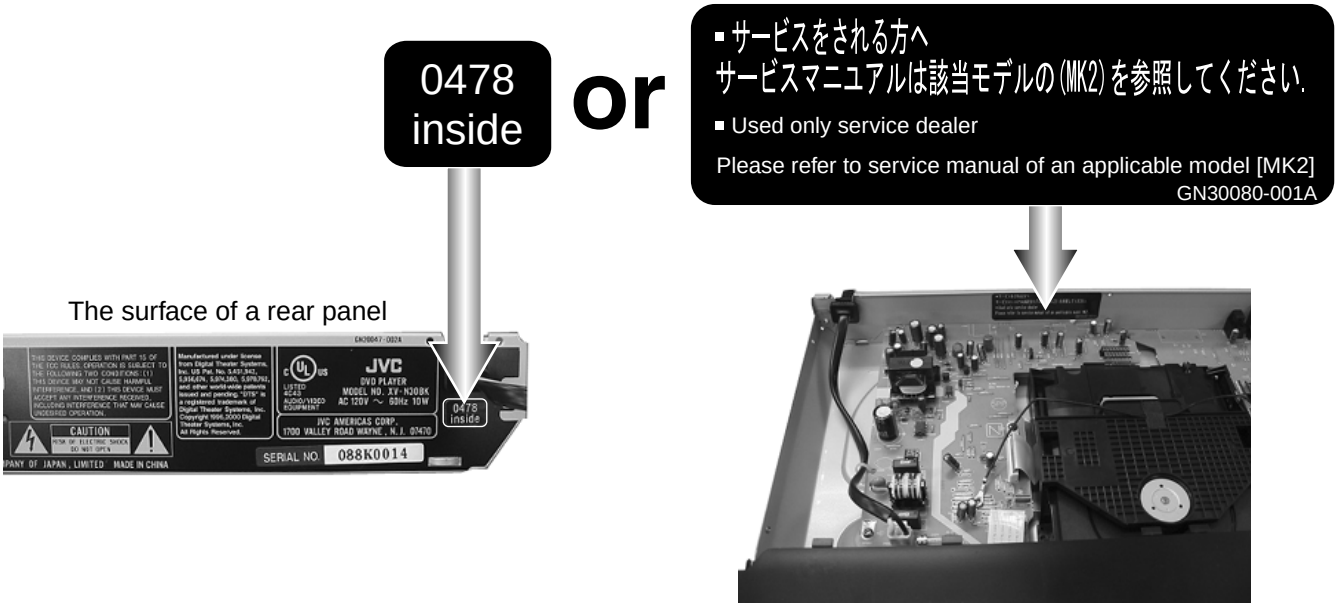
For this service manual

This service manual is a service manual of the model which changes a part of specification of the above-mentioned model which has already been put on the market.

< When the label in figure is pasted in the main body >

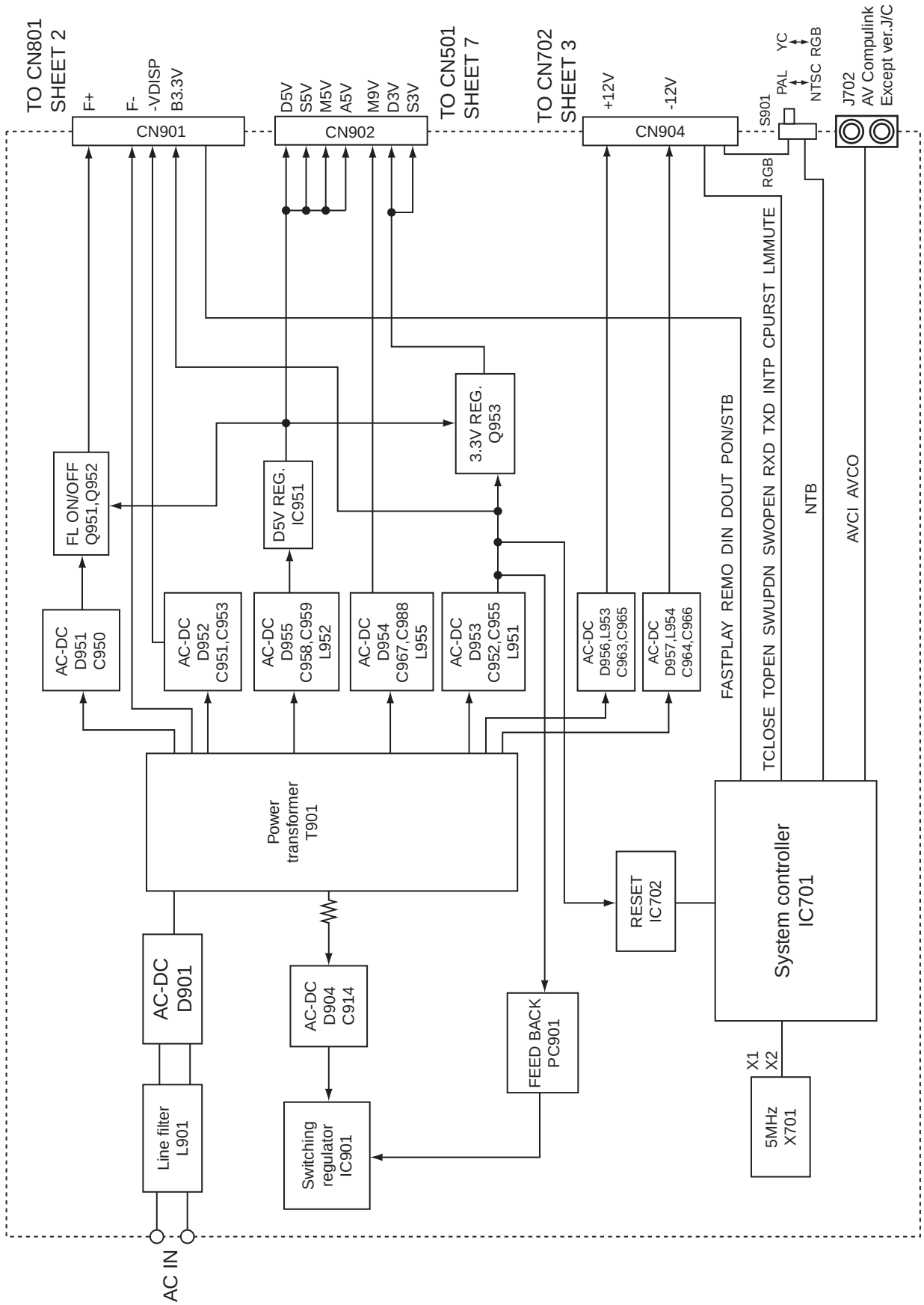
The specification is different from what the label of the same model does not paste because of the specification improvement, and refer to this service manual, please.
Please already refer to the issued service manual when the label is not pasted.

* Please refer to this service manual for the model to which this label is pasted.
* Please refer to the service manual which has already been issued for the model to which this label is not pasted.
  (one that there is no description named [MK2] in cover of service manual.)

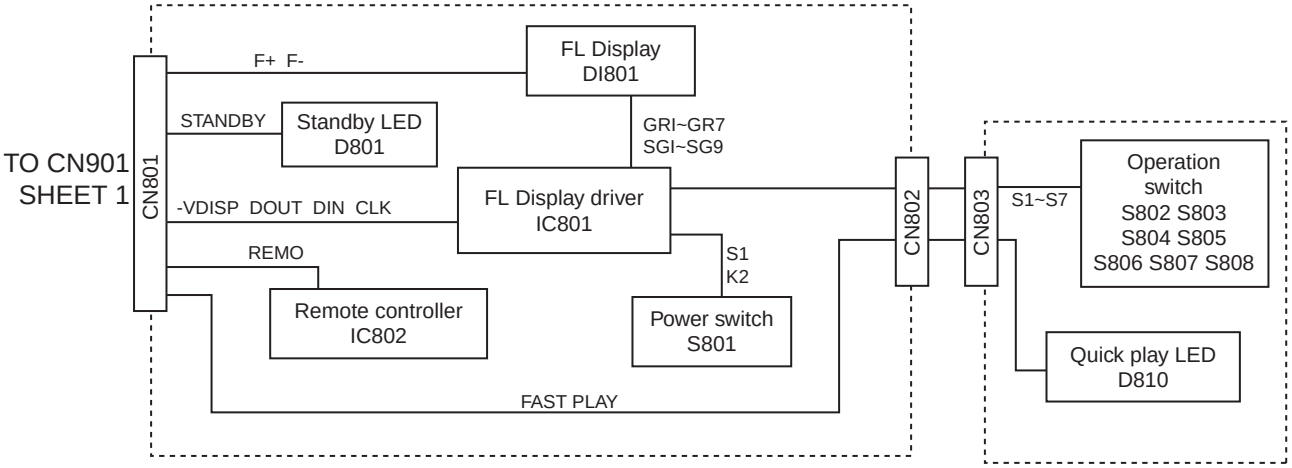


Block diagrams

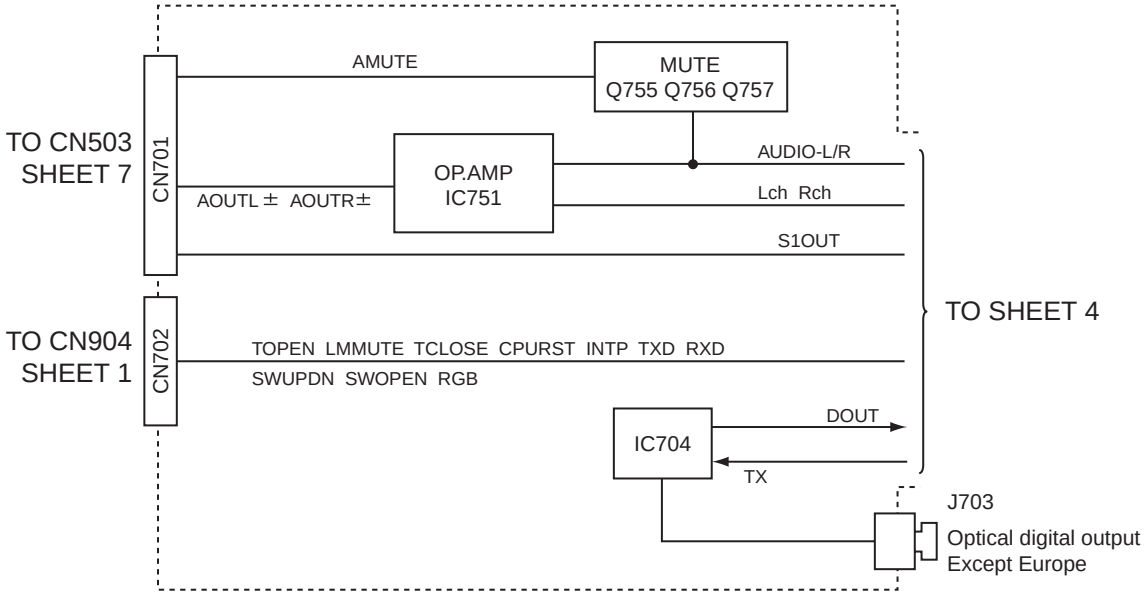
■ Power supply & system controller section (SHEET 1)



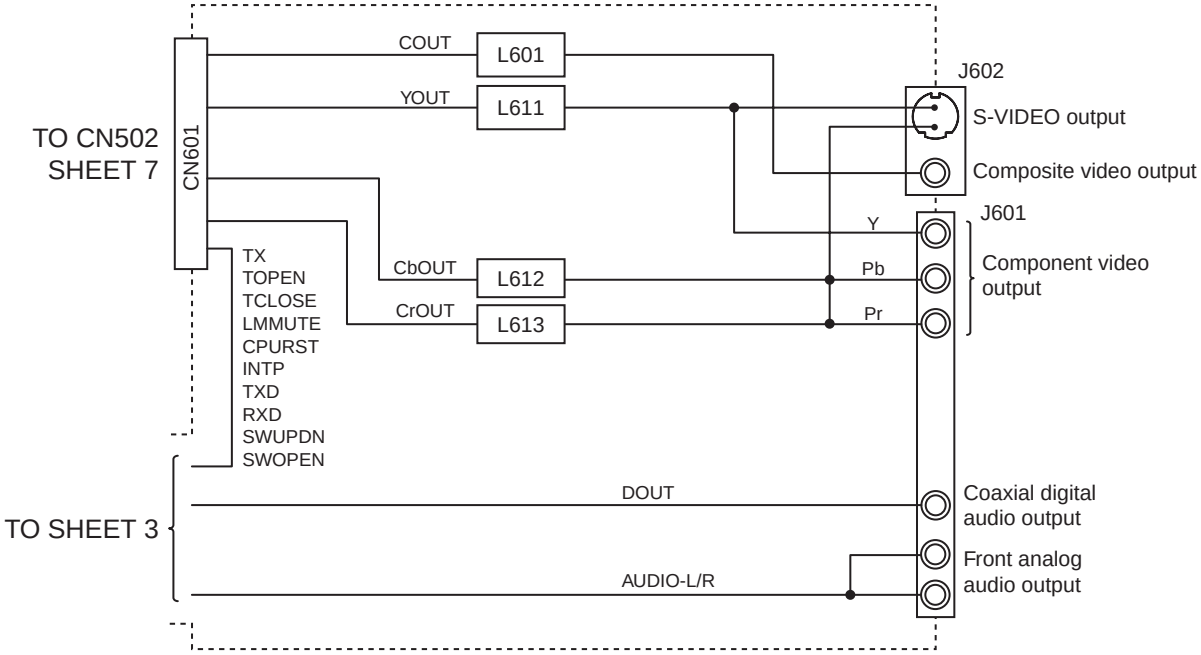
■ FL Display section (SHEET 2)



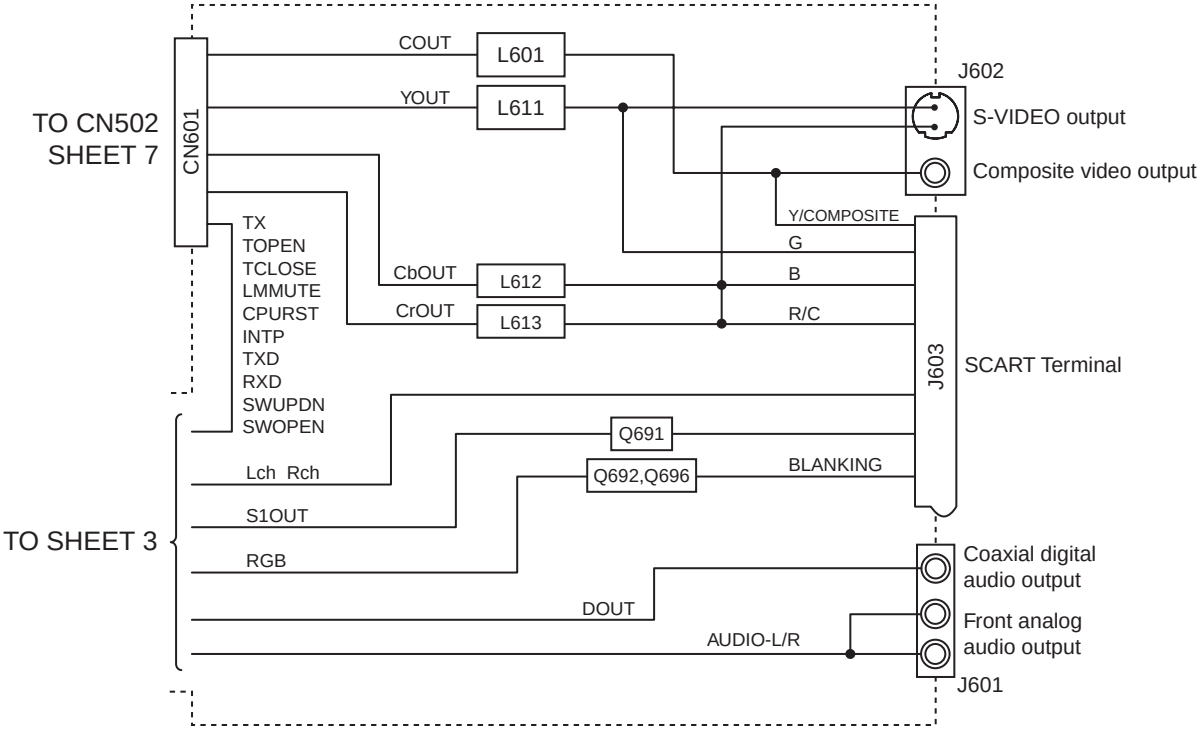
■ Audio amplifier section (SHEET 3)



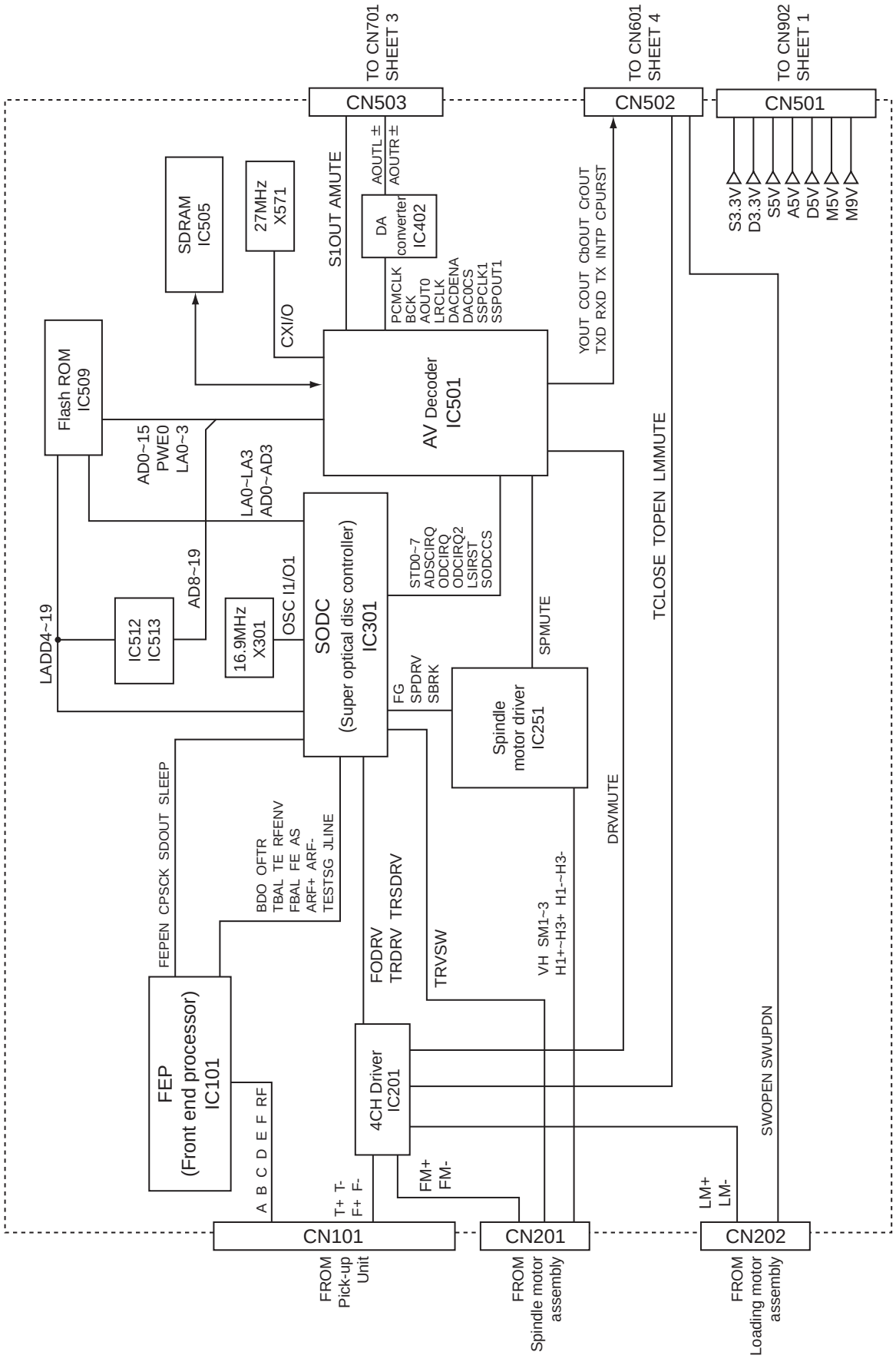
■ Audio/Video signal output terminal section (SHEET 4) for except Europe



■ Audio/Video signal output terminal section (SHEET 4) for only Europe

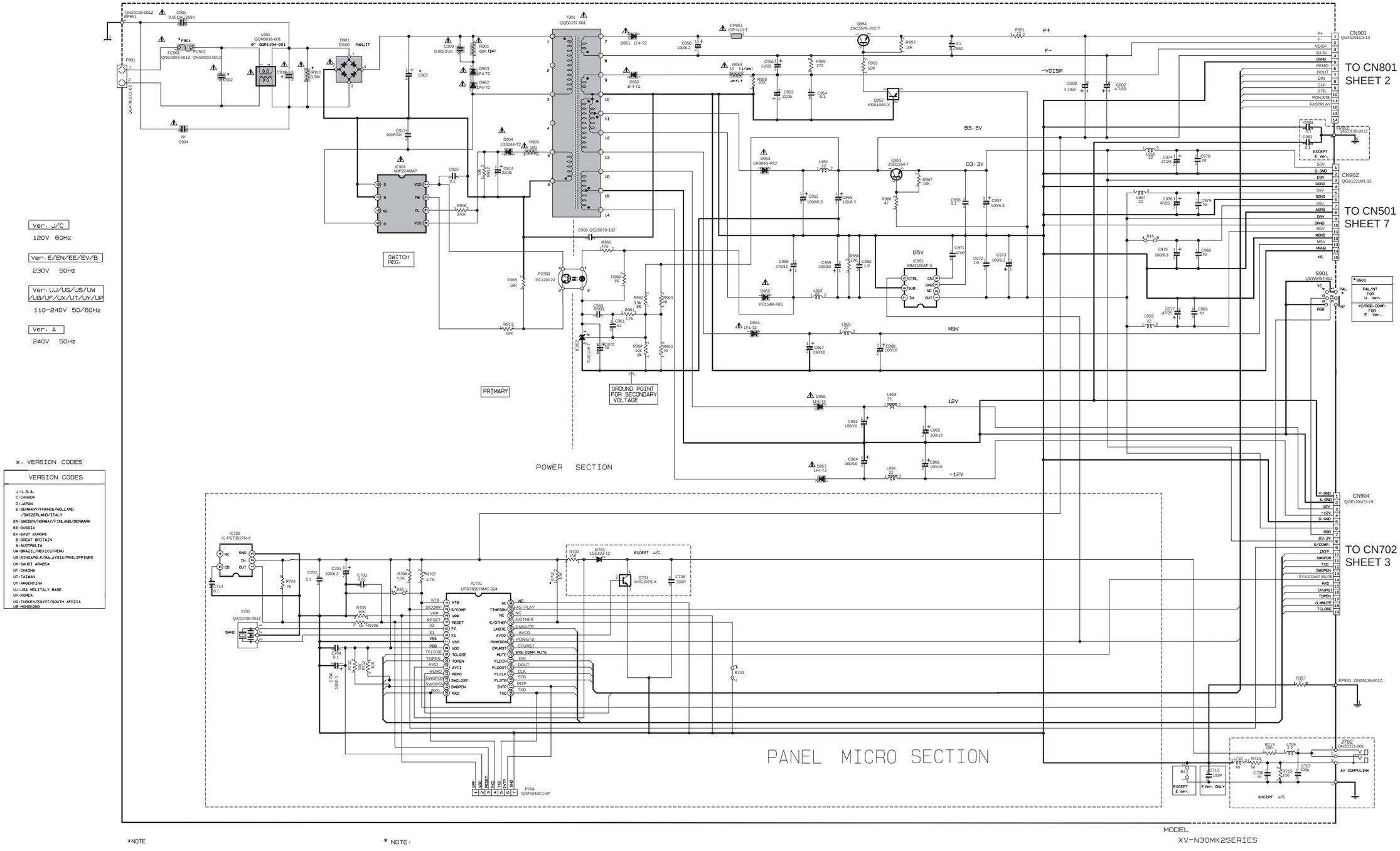


■ DVD Servo control & AV decoder section (SHEET 5,6,7)



Standard schematic diagrams

■ Power supply & system controller section



*NOTE

Ver. / REF NO	J/C	B/E/EN/EV/EE/A	US/UF/UG/UX/UT UW/UY/UP/UJ/UB	D
F901	QMF51U1-1R6-JB 1.6A-125V	QMF51E2-1R6-J1 T1.6A-250V	QMF51E2-1R6-J1 T1.6A-250V	QMF51U1-1R6-JB 1.6A-125V
C907	47U/200	33U/400	47U/400	56U/200
R910	NONE	USE	USE	NONE
C902	0.074/AC250V	0.068/AC250V	0.068/AC250V	0.074/AC250V
C918	0.074/AC250V	0.068/AC250V	0.068/AC250V	0.074/AC250V

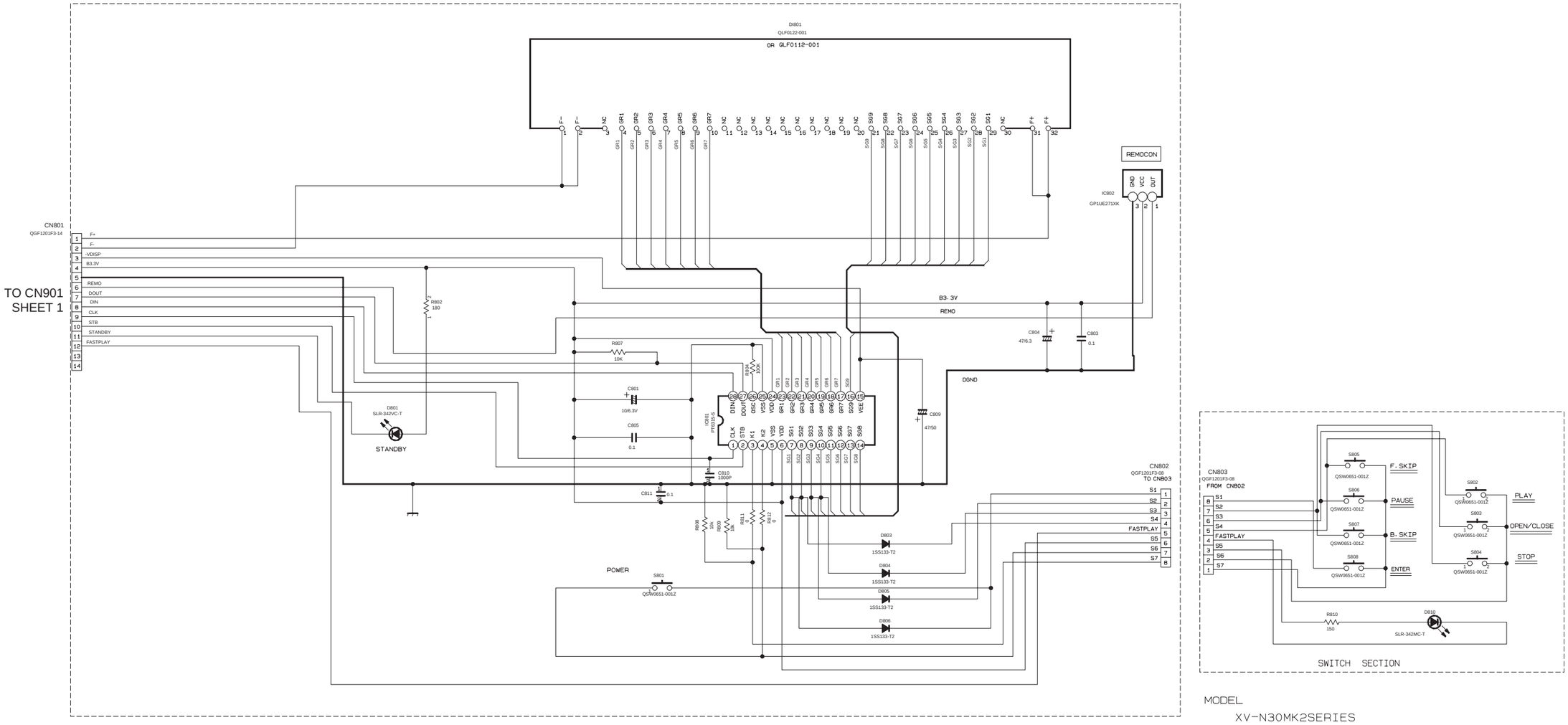
* NOTE:

Ver. / REF NO	J/C/D	B/E/EN/EV/EE/A	US/UF/US/UX/UT UW/UY/UP/UJ/UB
R707	NONE	USE	USE
R710	USE	NONE	USE
B38	USE	NONE	NONE
B143	NONE	USE	NONE

⚠ Parts are safety assurance parts. When replacing those parts make sure to use the specified one.

SHEET 1

■ FL Display section

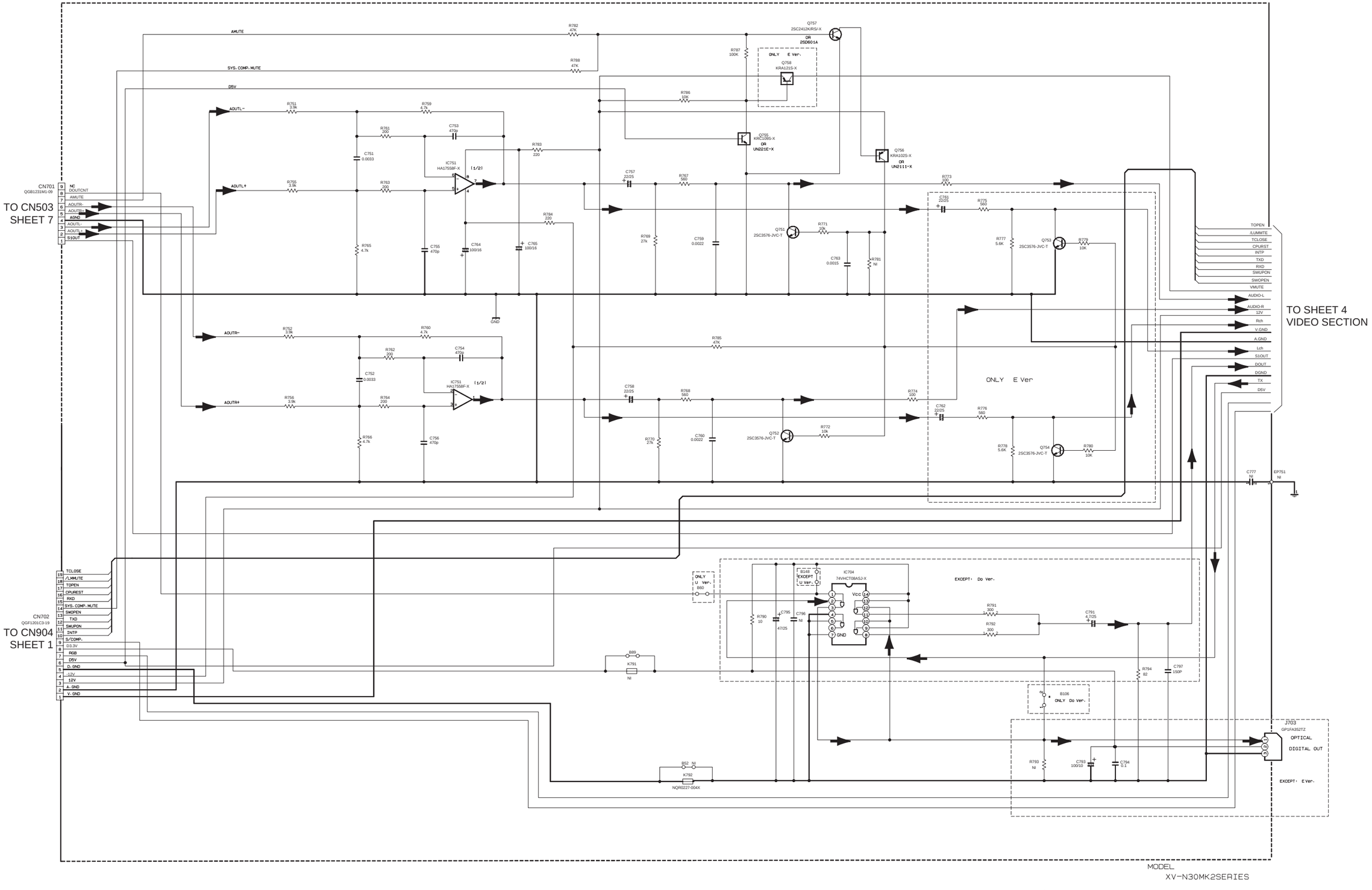


MODEL

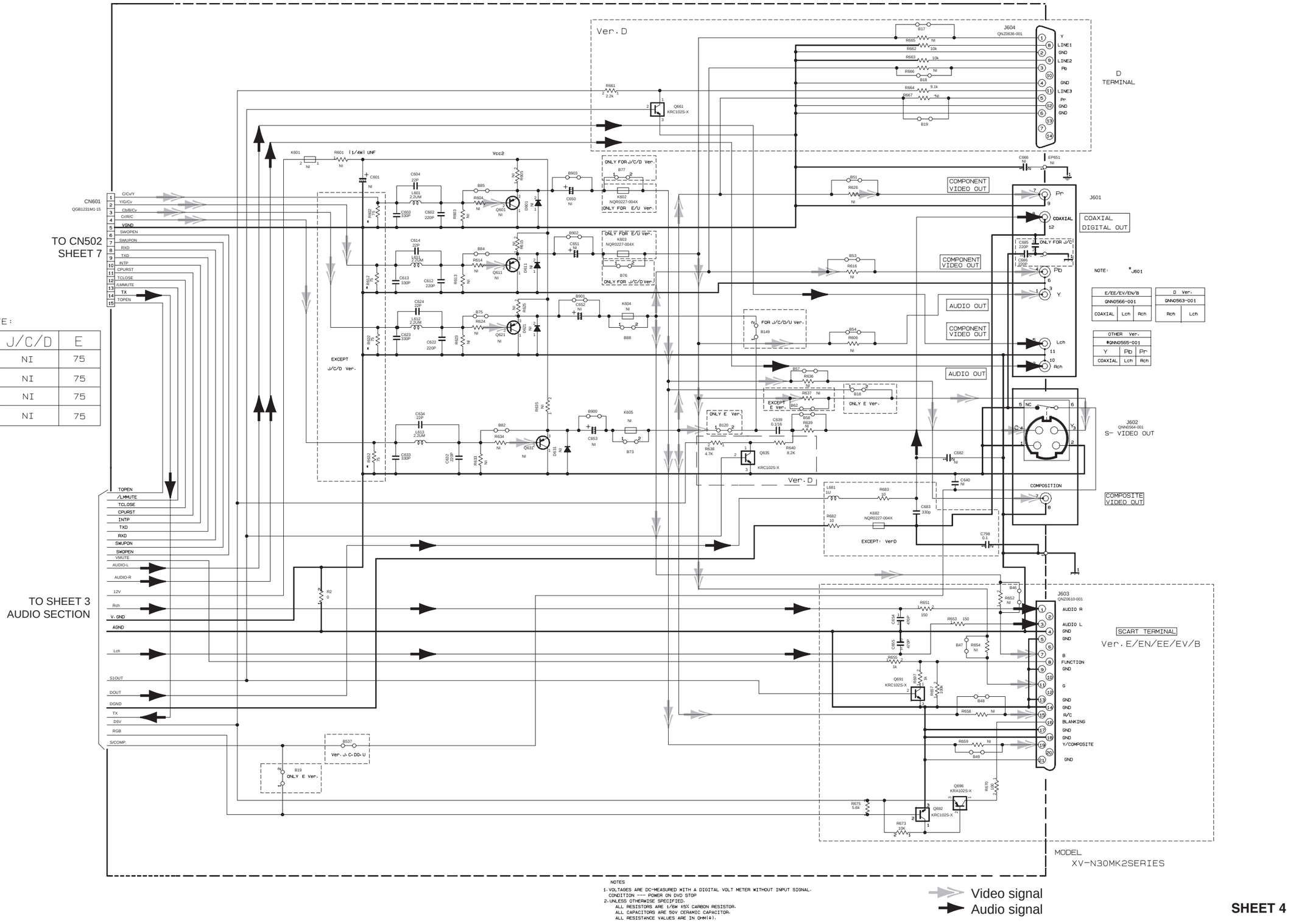
XV-N30MK2SERIES

SHEET 2

■ Audio amplifier section



■ Audio/video signal output terminal section



* NOTE:

	J/C/D	E
R602	NI	75
R612	NI	75
R622	NI	75
R632	NI	75

NOTES
1-VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
CONDITION ~~~ POWER ON DVD STOP
2-UNLESS OTHERWISE SPECIFIED.
ALL RESISTORS ARE 1/6W ±5% CARBON RESISTOR.
ALL CAPACITORS ARE 50V CERAMIC CAPACITOR.
ALL RESISTANCE VALUES ARE IN OHM(Ω).

Video signal
Audio signal

SHEET 4

■ Servo control section

TO Pick-up unit

TO Spindle motor assembly

TO Loading motor assembly

IC101 AN8703FH-V FRONT END PROCESSOR

IC201 BA5983FM-X DRIVER

IC251 BA6664FM-X SP MOTOR DRIVER

IC301 MN103S26EGB-H SODC

	MN103S26ESA (V5.0)	MN103S26EGB-H (V5.1)
R350	0	NU
C360	NU	47/4

X301 NAX0566-001X 16.9MHz

LADD4–LADD17 → TO SHEET 7

ACK, RD-, PWEO, LA0–LA3, AD0–AD7, SRST → TO SHEET 7

ODCIRQ2, ODCIRQ, ADSCIRQ, SODCCS → TO SHEET 6

AVRTM, STCLK, STVALID, STEN, STD0–STD7 → TO SHEET 6

TOPEN, TCLOSE, /LMMUTE, SWOPEN, SWUPDN → TO SHEET 7

/SPMUTE, /DRVMUTE → TO SHEET 6

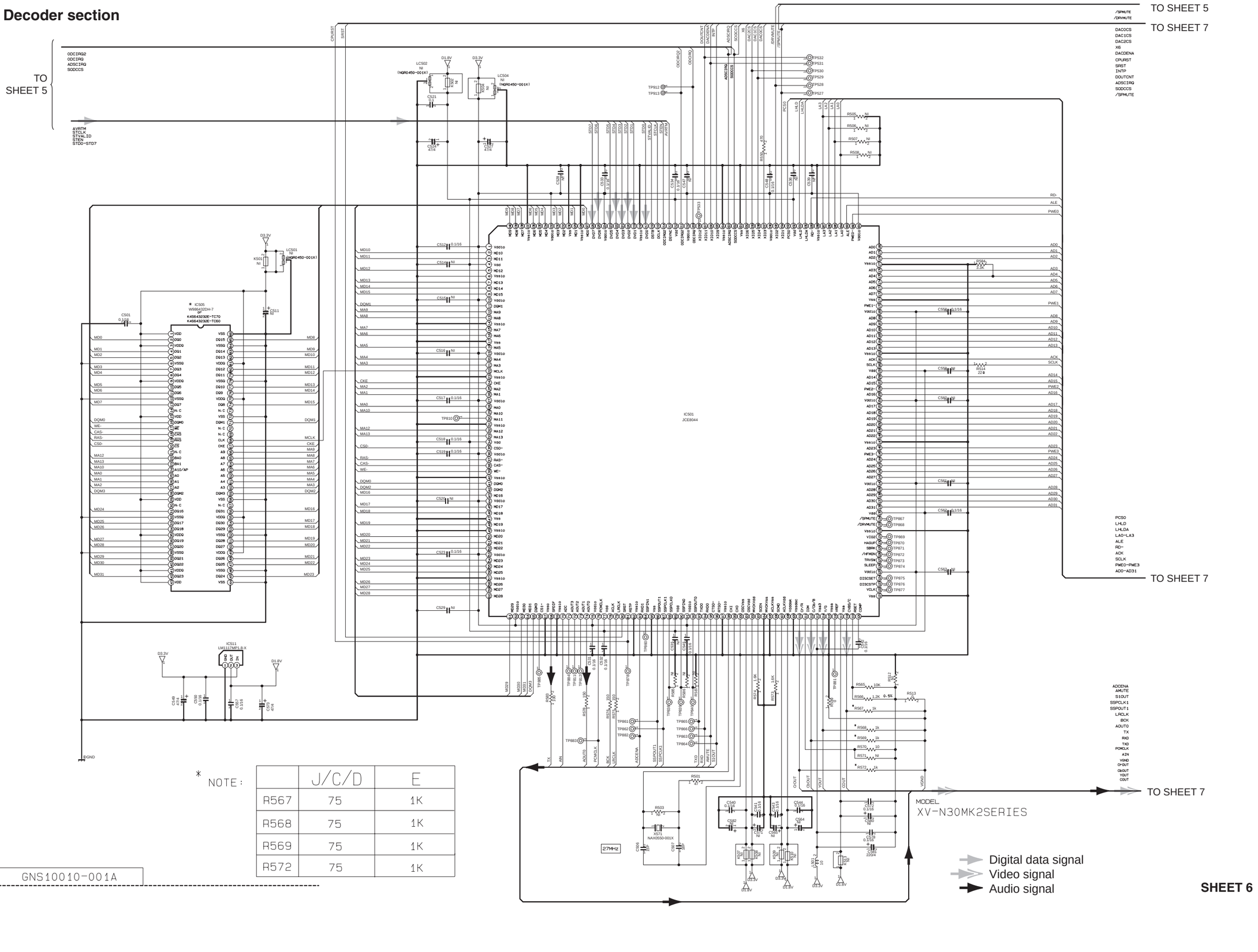
MODEL XV-N30MK2SERIES

Digital data signal

GNA10010-001A

SHEET 5

■ AV Decoder section

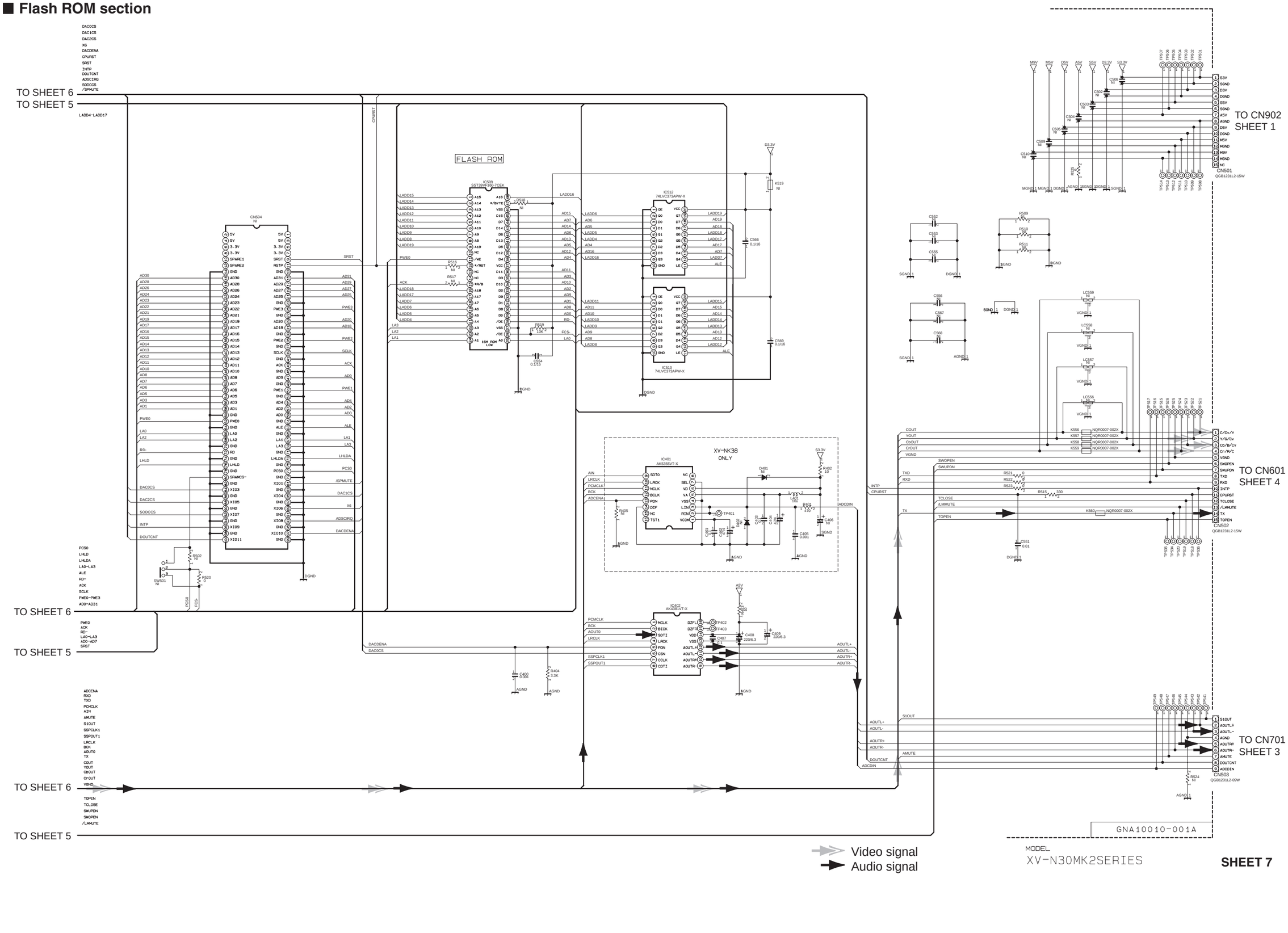


* NOTE:

	J/C/D	E
R567	75	1K
R568	75	1K
R569	75	1K
R572	75	1K

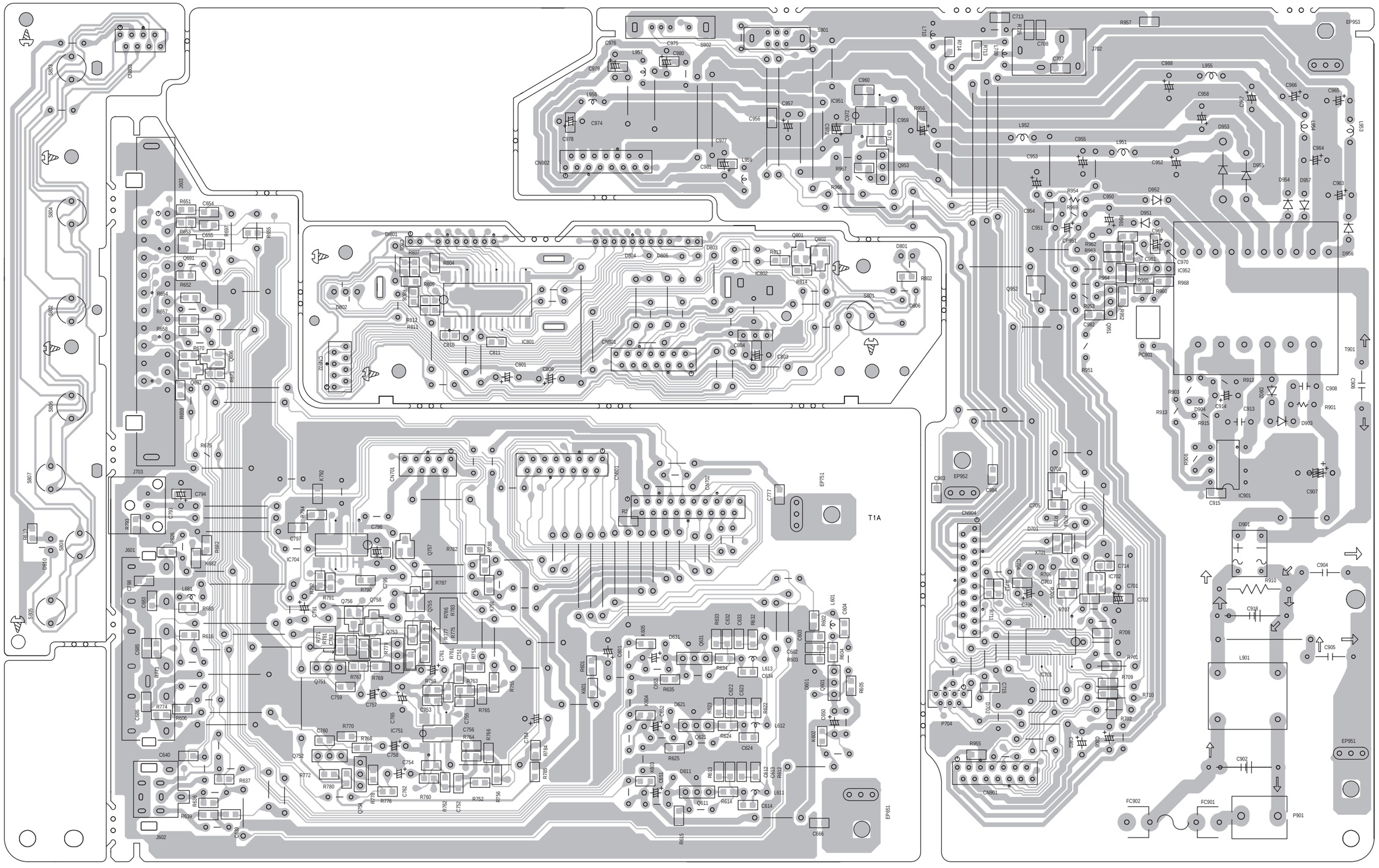
GNS10010-001A

■ Flash ROM section



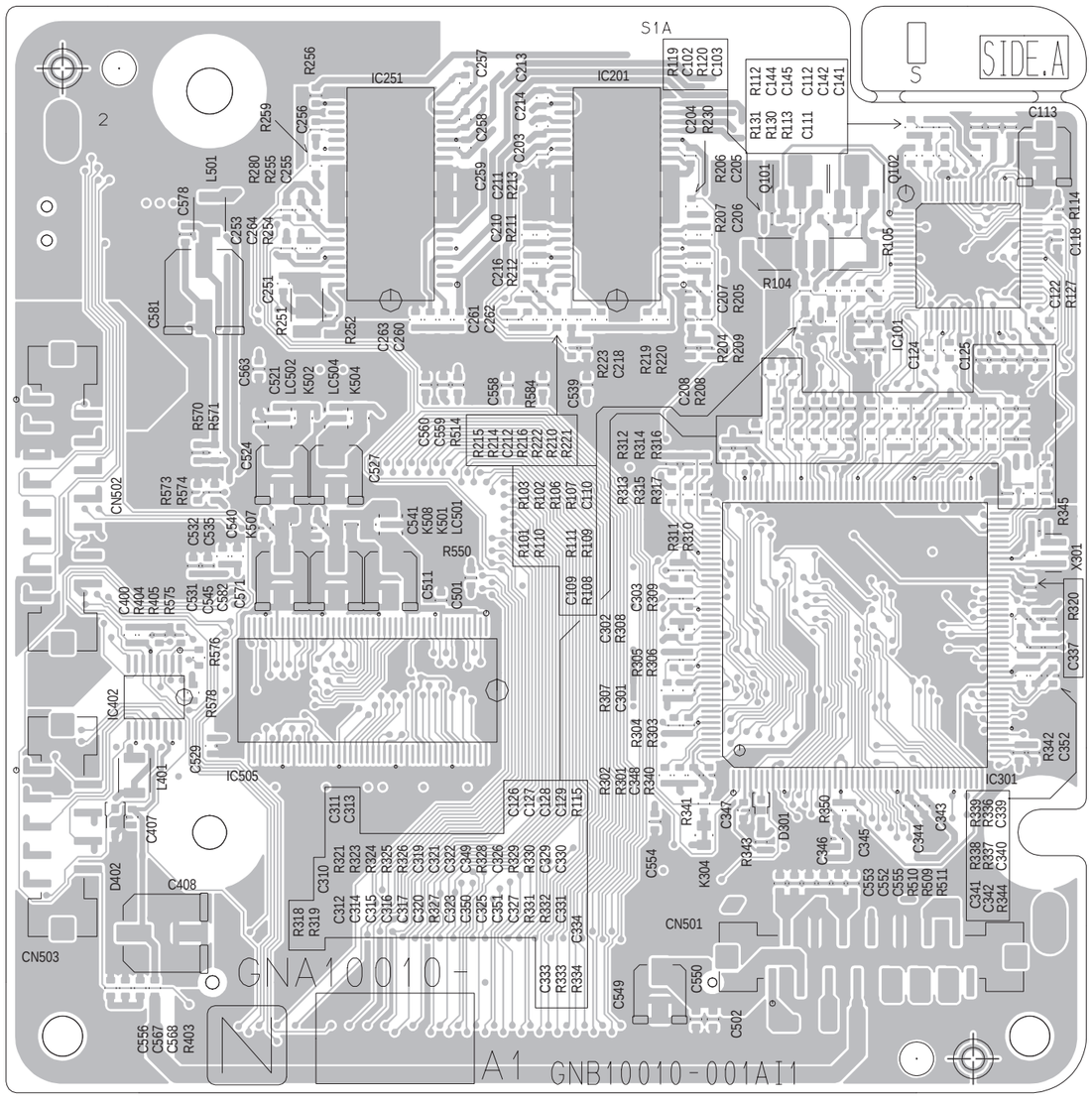
Printed circuit boards

■ Main board

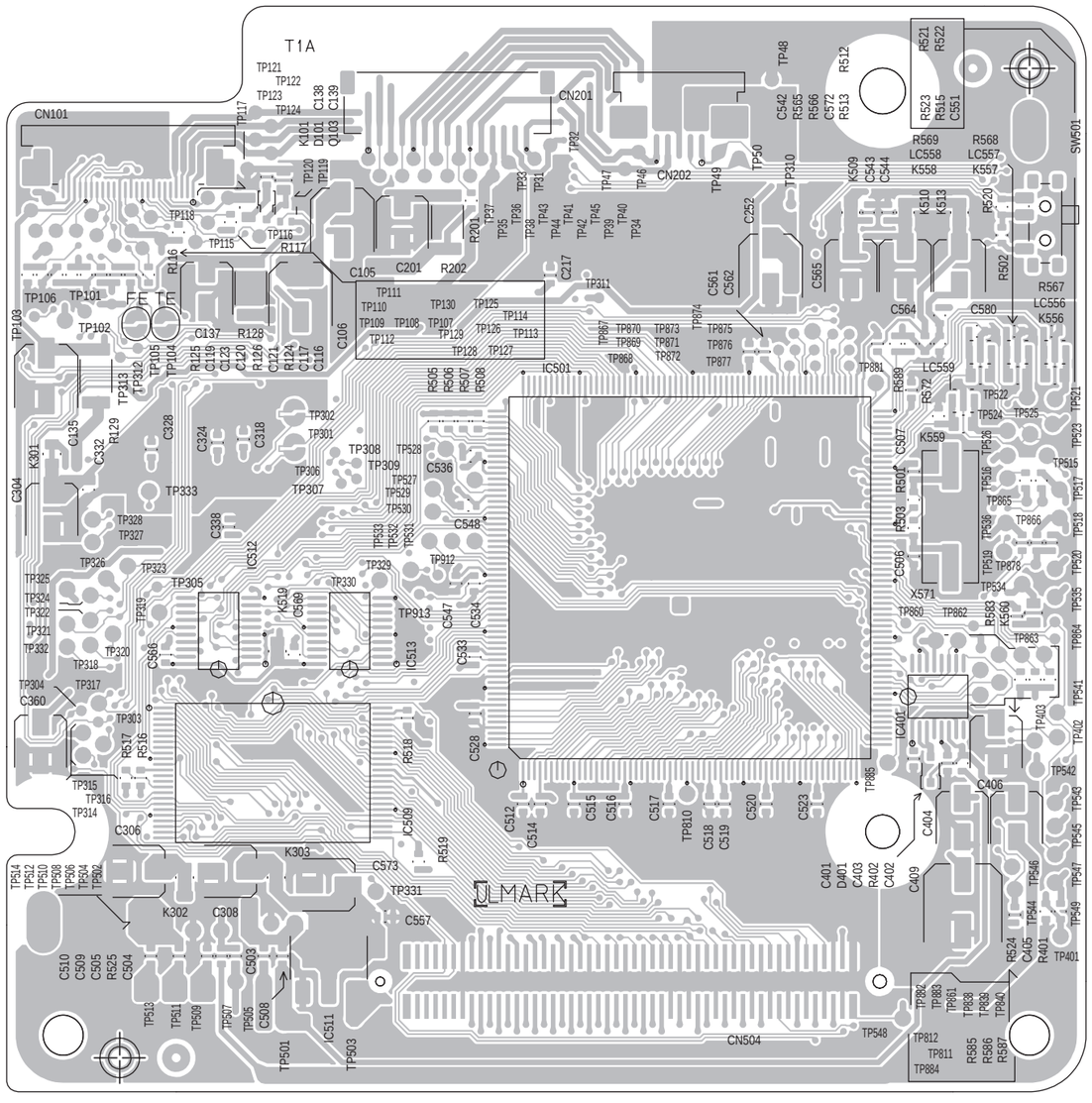


■ Servo control board

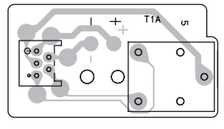
Forward side



Reverse side



■ Loading motor board



<< MEMO >>

<< MEMO >>

<< MEMO >>

JVC

VICTOR COMPANY OF JAPAN, LIMITED
AV & MULTIMEDIA COMPANY OPTICAL DISC CATEGORY 1644, Shimotsuruma, Yamato, Kanagawa 242-8514, Japan

No.XA002SCH

Printed in japan
200306(V)

PARTS LIST

[XV-N30BK,XV-N33SL]

[MK2]

* 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

J ---------- U.S.A.
C ---------- Canada
B ---------- U.K.
E ------ Continental Europe
EN ------- Northern Europe
EV --------- Eastern Europe
EE ---- Russian Federation

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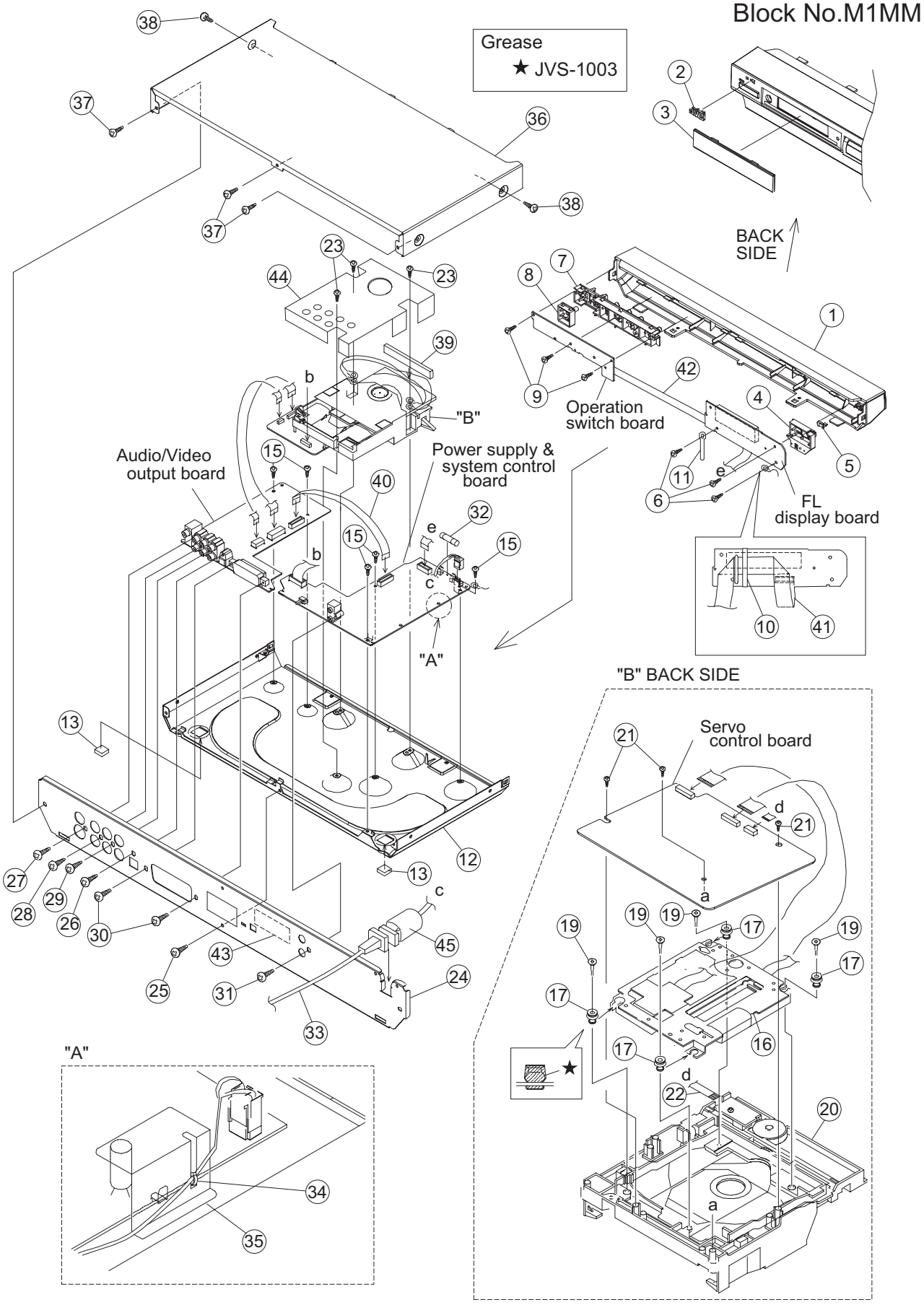
DVD Traverse mechanism assembly and parts list ---------- 3-4
DVD Loading mechanism assembly and parts list ---------- 3-6
Electrical parts list ---------- 3-8
Packing materials and accessories parts list ---------- 3-13

Exploded view of general assembly and parts list

Block No.M1MM



General assembly

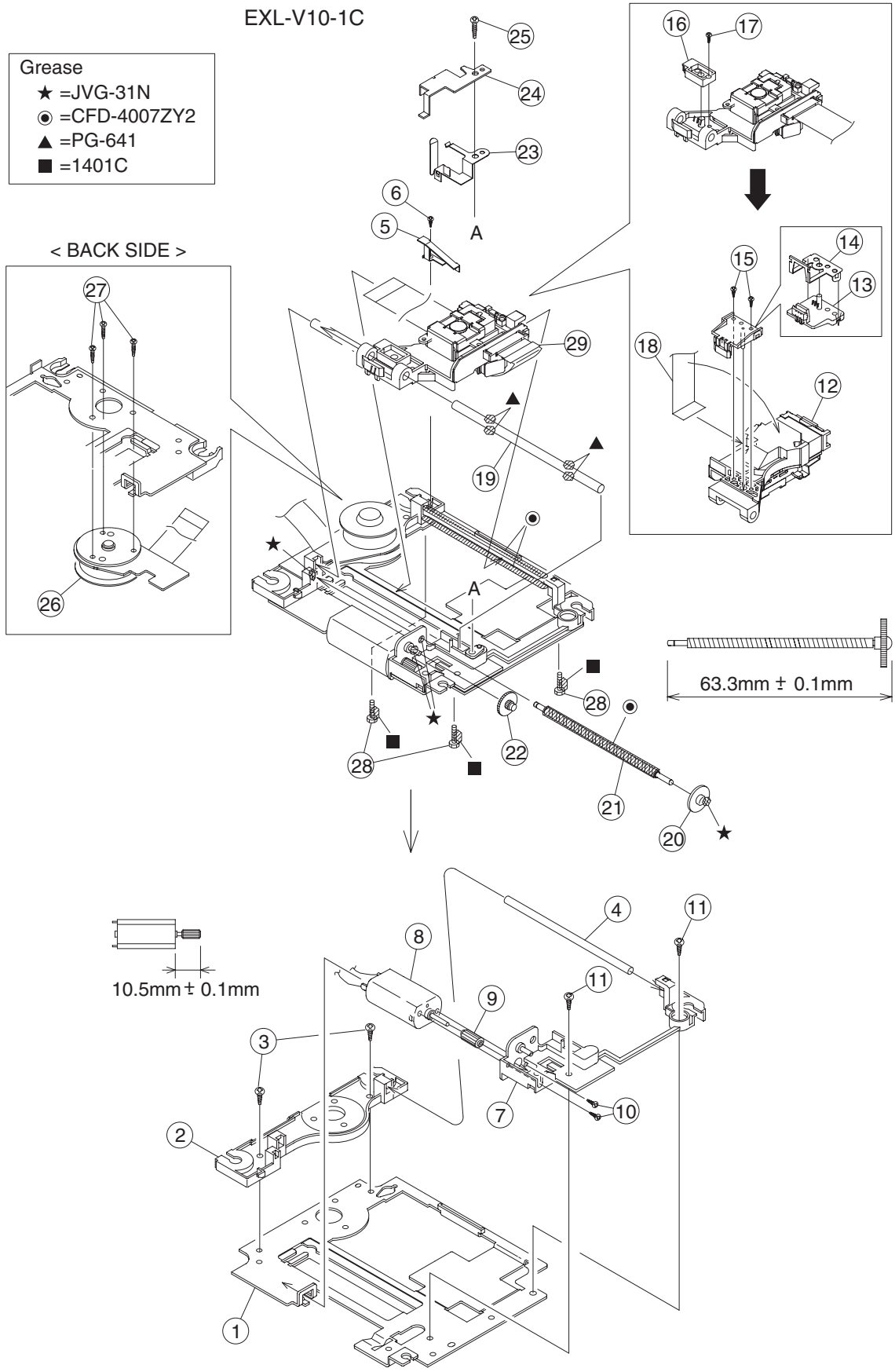
Block No. [M][1][M][M]

⚠ Symbol No.	Part No.	Part Name	Description	Local
1	GN10037-003A	FRONT PANEL		XV-N30BK for Europe
1	GN10037-004A	FRONT PANEL		XV-N30BK for ver.J/C
1	GN10037-009A	FRONT PANEL		XV-N33SL for Europe
1	GN10037-010A	FRONT PANEL		XV-N33SL for ver.J/C
2	GN40020-001A	JVC MARK		only XV-N30BK
2	GN40020-002A	JVC MARK		only XV-N33SL
3	GN20041-001A	WINDOW SCREEN		
4	GN20040-003A	PUSH BUTTON	POWER	only XV-N30BK
4	GN20040-002A	PUSH BUTTON	POWER	only XV-N33SL
5	GN30049-001A	INDICATOR		
6	QYSDSF2608Z	SCREW	2.6mm x 8mm(x3)	
7	GN20043-005A	PUSH BUTTON	PLAY	only XV-N30BK
7	GN20043-002A	PUSH BUTTON	PLAY	only XV-N33SL
8	GN20044-002A	PUSH BUTTON	SEARCH	
9	QYSDSF2608Z	SCREW	PLAY SW.CB.(x3)	
10	GN30006-012A	SPACER		
11	VKZ4001-110	WIRE HOLDER		
12	GN10038-002A	CHASSIS BASE		only XV-N30BK
12	GN10038-001A	CHASSIS BASE		only XV-N33SL
13	E75896-002	FELT SPACER	(x2)	
15	QYSBSG3008Z	TAPPING SCREW	MAIN CB+CHASSIS(x5)	
16	----------	TRAVERSE MECHANISM		
17	LE40900-003A	INSULATOR	(x4)	
19	LE40901-001A	SPECIAL SCREW	FOR INSULATOR(x4)	
20	----------	LOADING MECHANISM		
21	QYSDSF2608Z	SCREW	FOR CLAMPER BAS(x3)	
22	QUQ210-0518BJ	FFC WIRE		
23	QYSBSG3008Z	TAPPING SCREW	MECHA+CHASSIS(x3)	
24	GN20047-006A	REAR PANEL		30EE
24	GN20047-005A	REAR PANEL		30B,30E,30EN,30EV
24	GN20047-002A	REAR PANEL		XV-N30BK for ver.J/C
24	GN20047-028A	REAR PANEL		33EE
24	GN20047-027A	REAR PANEL		33B,33E,33EN,33EV
24	GN20047-025A	REAR PANEL		XV-N33SL for ver.J/C
25	QYSBSGY3008M	SPECIAL SCREW	REAR+CHASSIS	
26	QYSBSGY3008M	SPECIAL SCREW	OPT OUT	only ver.J/C
27	QYSBSGY3008M	SPECIAL SCREW	COAXIAL	
28	QYSBSGY3008M	SPECIAL SCREW	AUDIO OUT	
29	QYSBSGY3008M	SPECIAL SCREW	VIDEO OUT	
30	QYSBSGY3008M	SPECIAL SCREW	21P OUT(x2)	only Europe
31	QYSBSGY3008M	SPECIAL SCREW	COMPU LINK	only Europe
⚠ 32	QMF51E2-1R6-J1	FUSE	1.6A AC250V	only Europe
⚠ 32	QMF51U1-1R6-J8	FUSE	1.6A AC125V	only ver.J/C
⚠ 33	QMPN220-200-JD	POWER CORD(EK)	2m BLACK	30B,33B
⚠ 33	QMPK280-200-JN	POWER CORD	2m BLACK	only ver.E/EN/EV/EE
⚠ 33	QMPD450-200-JN	POWER CORD(US/CA)	2m BLACK	only ver.J/C
34	QZW0004-001	WIRE CLAMP		
35	GN30071-001A	PROTECT SHEET		only Europe
36	GN20046-001A/S/	METAL COVER		30B,30C,30E,30EE,30J
36	GN20046-002A/S/	METAL COVER		only XV-N33SL
37	QYSBSGG3008E	TAPPING SCREW	METAL REAR(x3)	
38	QYSDSG3008M	SCREW	METAL SIDE(x2)	only XV-N30BK
38	QYSDSG3008N	TAPPING SCREW	METAL SIDE(x2)	only XV-N33SL
39	GN20042-001A	FITTING		only XV-N30BK
39	GN20042-003A	FITTING		only XV-N33SL
40	QUQ412-1923BJ	FFC WIRE		
41	QUQ412-1417BJ	FFC WIRE		
42	QUQ412-0817AJ	FFC WIRE		
43	GN30080-001A	SERVICE LABEL		
44	GN30081-002A	SHIELD		only ver.J/C
45	QQR0491-001	FERRITE CORE		only ver.J/C

<Local area>
XV-N30BK J:30J C:30C B:30B E:30E EN:30EN EV:30EV EE:30EE
XV-N33SL J:33J C:33C B:33B E:33E EN:33EN EV:33EV EE:33EE

DVD Traverse mechanism assembly and parts list

Block No.M2MM



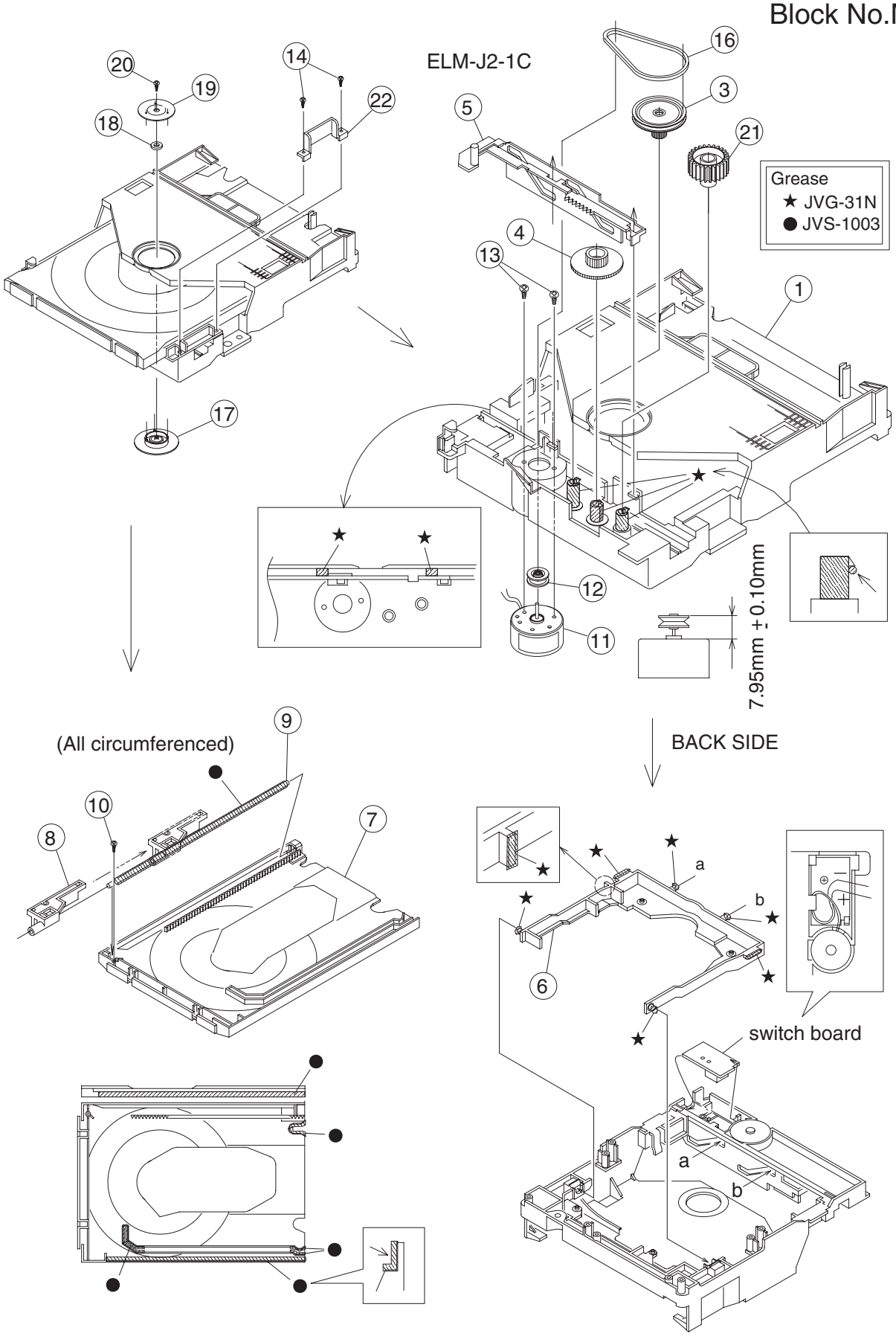
DVD Traverse mechanism

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

⚠ Symbol No.	Part No.	Part Name	Description	Local
1	LE20697-002A	MECHA BASE		
2	LE20699-001A	SPINDLE BASE		
3	QYSDST2604M	TAPPING SCREW	2.6mm x 4mm(x2)	
4	LE40931-001A	SHAFT		
5	LV33991-001A	ADJUST SPRING		
6	QYSPSFU2040M	TAPPING SCREW	M2 x 4mm	
7	LE20698-001A	FEED HOLDER		
8	QAR0215-001	FEED MOTOR		
9	LV41510-001A	FEED GEAR T		
10	QYSPSPU2040M	TAPPING SCREW	M2 x 4mm(x2)	
11	QYSDST2604M	TAPPING SCREW	2.6mm x 4mm(x2)	
12	QAL0478-001	PICK UP		
13	LE20700-001A	SW ACTUATOR		
14	LE31067-002A	LEAD SPRING		
15	QYSPSFU1740Z	TAPPING SCREW	M1.7 x 4mm(x2)	
16	LE40929-001A	SW.LEVER		
17	QYSPSFU1740Z	TAPPING SCREW	M1.7 x 4mm	
18	QUQ105-2409AC	FFC		
19	LE40931-001A	SHAFT		
20	LE40855-001A	FEED GEAR E		
21	LE40918-001A	LEAD SCREW		
22	LE40930-001A	FEED GEAR M		
23	LE40928-001A	THURUST SPRING		
24	LE40927-001A	PLATE		
25	QYSDST2614Z	TAPPING SCREW	M2.6 x 14mm	
26	QAR0284-001	SPINDLE MOTOR		
26	QAR0285-001	SPINDLE MOTOR		
27	QYSPSPU1740Z	TAPPING SCREW	M1.7 x 4mm(x3)	
28	LE40858-002A	SPECIAL SCREW	(x3)	
29	QQR1426-001C	FERRITE CORE		only ver.J/C

DVD Loading mechanism assembly and parts list

Block No.M3MM



DVD Loading mechanism

Block No. [M][3][M][M]

⚠ Symbol No.	Part No.	Part Name	Description	Local
1	LE10275-002A	LOADER BASE		
3	LE31043-001A	PULLEY GEAR		
4	LE31042-001A	MIDDLE GEAR		
5	LE20665-001A	SLIDE CAM		
6	LE20666-001A	ELEVATOR		
7	LE10276-002A	TRAY		
8	LE31045-001A	BUSHING		
9	LE40898-001A	SHAFT		
10	QYSSSF2008Z	TAP SCREW	M2 x 8mm	
11	QAR0197-001	MOTOR		
12	LV42087-002A	MOTOR PULLEY		
13	QYSPSPU1730Z	SCREW	FOR MOTOR(x2)	
14	QYSDSF2008Z	TAP SCREW	M2 x 8mm(x2)	
16	LE40897-001A	BELT		
17	LE31046-001A	CLAMPER		
18	LV42930-003A	MAGNET		
18 or	LV41118-003A	MAGNET		
19	LE40899-001A	YOKE		
20	LE40906-001A	SPECIAL SCREW		
21	LE31044-001A	IDLE GEAR		
22	LE40937-001A	LEAF SPRING		

Electrical parts list

Servo control board

Block No. [0][1]

⚠ Symbol No.	Part No.	Part Name	Description	Local
IC101	AN8703FH-V	IC	Frontend processor for DVD	
IC201	BA5983FM-X	IC	4-channel driver	
IC251	BA6664FM-X	IC	Motor driver	
IC301	MN103S26EDC-H	IC		
IC402	AK4381VT-X	IC	2ch DAC	
IC501	JCE8044	IC	AV Decoder	
IC501	NDV8602VWA	IC		
IC505	HY57643220CT55	IC		30EN
IC505 or	W986432DH-7	IC	Bits SDRAM	
IC505 or	HY57643220CT55	IC		30B,30EE,30J ,33B,33EE,33 EN,33EV,33J
IC509	SST39VF160H0861	IC		only ver.J,C
IC509	SST39VF160H0881	IC		only ver.B,E,EN,EV
IC509	SST39VF160H0951	IC		only ver.EE
IC511	LM1117MP1.8-X	IC	Regulator	
IC512	74LCX373MTC-X	IC(DIGITAL)	Octal D-type latch	
IC513	74LCX373MTC-X	IC(DIGITAL)	Octal D-type latch	
Q101	2SB1424/QR/-W	TRANSISTOR		
Q102	2SB1424/QR/-W	TRANSISTOR		
Q103	DTA144EE-X	DIGI TRANSISTOR		
D101	RB521S-30-X	SB DIODE		
D301	RB521S-30-X	SB DIODE		
C105	NEA70JM-476X	E CAPACITOR	47uF 6.3V M	
C106	NEA70JM-476X	E CAPACITOR	47uF 6.3V M	
C109	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C110	NCS31HJ-221X	C CAPACITOR	220pF 50V J	
C111	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C112	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C116	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C117	NCB31CK-473X	C CAPACITOR	0.047uF 16V K	
C118	NCB31CK-273X	C CAPACITOR	0.027uF 16V K	
C119	NCB31HK-561X	C CAPACITOR	560pF 50V K	
C120	NCB31HK-561X	C CAPACITOR	560pF 50V K	
C121	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C122	NCS31HJ-120X	C CAPACITOR	12pF 50V J	
C123	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C124	NCS31HJ-470X	C CAPACITOR	47pF 50V J	
C125	NCB31HK-271X	C CAPACITOR	270pF 50V K	
C126	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C127	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C128	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C129	NCB31HK-472X	C CAPACITOR	4700pF 50V K	
C135	NEA70JM-476X	E CAPACITOR	47uF 6.3V M	
C137	NEA70GM-476X	E CAPACITOR	47uF 4V M	
C138	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C141	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C142	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C144	NCB31CK-103X	C CAPACITOR	0.01uF 16V K	
C204	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C205	NCS31HJ-121X	C CAPACITOR	120pF 50V J	
C207	NCB31HK-391X	C CAPACITOR	390pF 50V K	
C208	NCB31HK-391X	C CAPACITOR	390pF 50V K	
C211	NCB31HK-223X	C CAPACITOR	0.022uF 50V K	
C212	NCB31CK-103X	C CAPACITOR	0.01uF 16V K	
C216	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C217	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C218	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C251	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C253	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C255	NCB31CK-153X	C CAPACITOR	0.015uF 16V K	
C256	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C257	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C258	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C259	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C260	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C261	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C262	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C263	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C264	NCB31CK-103X	C CAPACITOR	0.01uF 16V K	
C301	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C302	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C303	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C304	NEA70GM-476X	E CAPACITOR	47uF 4V M	
C306	NEA70GM-476X	E CAPACITOR	47uF 4V M	
C308	NEA70GM-476X	E CAPACITOR	47uF 4V M	
C310	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C311	NCB31HK-561X	C CAPACITOR	560pF 50V K	
C312	NCB31HK-561X	C CAPACITOR	560pF 50V K	
C313	NCB31HK-561X	C CAPACITOR	560pF 50V K	
C314	NCB31HK-331X	C CAPACITOR	330pF 50V K	
C315	NCB31HK-471X	C CAPACITOR	470pF 50V K	
C316	NCB31HK-271X	C CAPACITOR	270pF 50V K	
C317	NCS31HJ-121X	C CAPACITOR	120pF 50V J	
C318	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C319	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C320	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C321	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C322	NCB31HK-562X	C CAPACITOR	5600pF 50V K	
C323	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C324	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C325	NCS31HJ-470X	C CAPACITOR	47pF 50V J	
C326	NCB31CK-183X	C CAPACITOR	0.018uF 16V K	
C327	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C328	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C329	NCB31CK-103X	C CAPACITOR	0.01uF 16V K	
C330	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C331	NCB31CK-103X	C CAPACITOR	0.01uF 16V K	
C332	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C333	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C334	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C337	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C338	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C339	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C340	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C341	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C343	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C345	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C346	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C347	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C348	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C349	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C350	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C360	NEA70GM-476X	E CAPACITOR	47uF 4V M	
C400	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C407	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C408	NEA70JM-227X	E CAPACITOR	220uF 6.3V M	
C409	NEA70JM-227X	E CAPACITOR	220uF 6.3V M	
C501	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C506	NDC31HJ-150X	C CAPACITOR	15pF 50V J	
C507	NDC31HJ-180X	C CAPACITOR	18pF 50V J	
C512	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C517	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C518	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C519	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C521	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C523	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C524	NEA70GM-476X	E CAPACITOR	47uF 4V M	
C527	NEA70GM-476X	E CAPACITOR	47uF 4V M	
C531	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C532	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C533	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C534	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C540	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C541	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C542	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C543	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C544	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C545	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C548	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C549	NEA70GM-476X	E CAPACITOR	47uF 4V M	
C550	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	

<Local area>
XV-N30BK J:30J C:30C B:30B E:30E EN:30EN EV:30EV EE:30EE
XV-N33SL J:33J C:33C B:33B E:33E EN:33EN EV:33EV EE:33EE

⚠ Symbol No.	Part No.	Part Name	Description	Local
C551	NCB31CK-103X	C CAPACITOR	0.01uF 16V K	
C554	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C557	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C558	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C562	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C566	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C569	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C572	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C573	NEA70GM-476X	E CAPACITOR	47uF 4V M	
C578	NCF31CZ-104X	C CAPACITOR	0.1uF 16V Z	
C581	NEA70GM-227X	E CAPACITOR	220uF 4V M	
R101	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	
R102	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R103	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R104	NRS125J-270X	MG RESISTOR	27Ω 1/2W J	
R105	NRS125J-270X	MG RESISTOR	27Ω 1/2W J	
R106	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
R107	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
R108	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R109	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	
R110	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	
R111	NRVA63D-243X	CMF RESISTOR	24kΩ 1/16W D	
R112	NRSA63J-822X	MG RESISTOR	8.2kΩ 1/16W J	
R113	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R115	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R116	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R117	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R119	NRSA63J-2R2X	MG RESISTOR	2.2Ω 1/16W J	
R120	NRSA63J-2R2X	MG RESISTOR	2.2Ω 1/16W J	
R125	NRSA63J-105X	MG RESISTOR	1MΩ 1/16W J	
R126	NRSA63J-105X	MG RESISTOR	1MΩ 1/16W J	
R127	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R128	NRS125J-1R0X	MG RESISTOR	1Ω 1/2W J	
R129	NRS125J-1R0X	MG RESISTOR	1Ω 1/2W J	
R130	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	
R201	NRSA63J-470X	MG RESISTOR	47Ω 1/16W J	
R202	NRS125J-1R0X	MG RESISTOR	1Ω 1/2W J	
R204	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
R205	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
R206	NRSA63J-303X	MG RESISTOR	30kΩ 1/16W J	
R207	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R208	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R209	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R210	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J	
R211	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J	
R212	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R213	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R214	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R215	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R216	NRSA63J-912X	MG RESISTOR	9.1kΩ 1/16W J	
R219	NRSA63J-183X	MG RESISTOR	18kΩ 1/16W J	
R220	NRSA63J-243X	MG RESISTOR	24kΩ 1/16W J	
R221	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	
R222	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R223	NRSA63J-912X	MG RESISTOR	9.1kΩ 1/16W J	
R230	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
R251	NRS125J-R47X	MG RESISTOR	0.47Ω 1/2W J	
R252	NRSA63J-2R2X	MG RESISTOR	2.2Ω 1/16W J	
R254	NRSA63J-203X	MG RESISTOR	20kΩ 1/16W J	
R255	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R256	NRSA63J-470X	MG RESISTOR	47Ω 1/16W J	
R259	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R280	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
R301	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R302	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R303	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R304	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R305	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R306	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R307	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R308	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R309	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R313	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R317	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R320	NRSA63J-105X	MG RESISTOR	1MΩ 1/16W J	
R321	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R323	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R324	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R325	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	
R326	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R327	NRSA63J-105X	MG RESISTOR	1MΩ 1/16W J	
R328	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	
R329	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R330	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R331	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R332	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R333	NRSA63J-183X	MG RESISTOR	18kΩ 1/16W J	
R334	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R336	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
R337	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
R338	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R339	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R340	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R341	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J	
R342	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R343	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R344	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R345	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J	
R403	NRSA63J-100X	MG RESISTOR	10Ω 1/16W J	
R404	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
R501	NRSA63J-470X	MG RESISTOR	47Ω 1/16W J	
R513	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R514	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R515	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	
R519	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R520	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R521	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R522	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R523	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R525	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R550	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R565	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R566	NRVA63D-122X	CMF RESISTOR	1.2kΩ 1/16W D	
R567	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	only Europe
R567	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J	only ver.J/C
R568	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	only Europe
R568	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J	only ver.J/C
R569	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	only Europe
R569	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J	only ver.J/C
R570	NRSA63J-100X	MG RESISTOR	10Ω 1/16W J	
R572	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	only Europe
R572	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J	only ver.J/C
R573	NRSA63J-162X	MG RESISTOR	1.6kΩ 1/16W J	
R574	NRSA63J-162X	MG RESISTOR	1.6kΩ 1/16W J	
R575	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R576	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R578	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R583	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R584	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
R589	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
L501	NQL044K-100X	COIL	10uH K	
CN101	QGF0523F1-24W	CONNECTOR	FFC/FPC (1-24)	
CN201	QGF1016F2-15W	CONNECTOR	FFC/FPC (1-15)	
CN202	QGF1016F2-05W	CONNECTOR	FFC/FPC (1-5)	
CN501	QGB1231L2-15W	CONNECTOR	B-B (1-15)	
CN502	QGB1231L2-15W	CONNECTOR	B-B (1-15)	
CN503	QGB1231L2-09W	CONNECTOR	B-B (1-9)	
K101	NQR0007-002X	FERRITE BEADS		
K556	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	only Europe
K556	NQR0007-002X	FERRITE BEADS		only ver.J/C
K557	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	only Europe
K557	NQR0007-002X	FERRITE BEADS		only ver.J/C
K558	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	only Europe
K558	NQR0007-002X	FERRITE BEADS		only ver.J/C
K559	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	only Europe
K559	NQR0007-002X	FERRITE BEADS		only ver.J/C
K560	NQR0007-002X	FERRITE BEADS		
X301	NAX0566-001X	C RESONATOR	16.934MHz	
X571	NAX0550-001X	CRYSTAL	27.000MHz	

<Local area>
XV-N30BK J:30J C:30C B:30B E:30E EN:30EN EV:30EV EE:30EE
XV-N33SL J:33J C:33C B:33B E:33E EN:33EN EV:33EV EE:33EE

Main board

Block No. [0][2]

⚠ Symbol No.	Part No.	Part Name	Description	Local
IC701	UPD789074MC-024	IC		
IC702	IC-PST3527N-X	IC		
IC704	74VHCT08ASJ-X	IC	2-input AND gate	
IC751	NJM14558M-W	IC		
IC801	PT6315-S	IC		
IC802	RPM7238-H9	IR DETECT UINT		
⚠ IC901	MIP2C40MP	IC		
IC951	MM1565AF-X	IC	Regulator	
IC952	TL431/A/-T	IC		
Q691	KRC102S-X	DIGI TRANSISTOR		only Europe
Q692	KRC102S-X	DIGI TRANSISTOR		only Europe
Q696	UN2111-X	TRANSISTOR		only Europe
Q701	KRC107S-X	DIGI TRANSISTOR		only Europe
Q751	2SC3576-JVC-T	TRANSISTOR		
Q752	2SC3576-JVC-T	TRANSISTOR		
Q753	2SC3576-JVC-T	TRANSISTOR		only Europe
Q754	2SC3576-JVC-T	TRANSISTOR		only Europe
Q755	UN221E-X	TRANSTSTOR		
Q756	UN2111-X	TRANSISTOR		
Q757	2SD601A-X	TRANSISTOR		
Q758	KRA121S-X	DIGI TRANSISTOR		only Europe
Q951	2SC3576-JVC-T	TRANSISTOR		
Q952	UN2113-X	TRANSISTOR		
Q953	2SD2264/R/-T	TRANSISTOR		
D701	1SS133-T2	DIODE		only Europe
D801	SLR-342VC-T	LED		
D803	1SS133-T2	DIODE		
D804	1SS133-T2	DIODE		
D805	1SS133-T2	DIODE		
D806	1SS133-T2	DIODE		
D810	SLR-342MC-T	LED		
⚠ D901	DI106	BRIDGE DIODE		
⚠ D902	1F4-T2	FR DIODE		
⚠ D903	1F4-T2	FR DIODE		
⚠ D904	1SS244-T2	SI DIODE		
⚠ D951	1F4-T2	FR DIODE		
⚠ D952	1F4-T2	FR DIODE		
⚠ D953	UF304G-F82	FR DIOAE		
⚠ D954	1F4-T2	FR DIODE		
⚠ D955	PS154R-F83	DIODE		
⚠ D956	1F4-T2	FR DIODE		
⚠ D957	1F4-T2	FR DIODE		
PC901	PC123Y22	PHOTO COUPLER		
C602	NCS31HJ-221X	C CAPACITOR	220pF 50V J	
C603	NCS31HJ-331X	C CAPACITOR	330pF 50V J	
C604	NCS31HJ-220X	C CAPACITOR	22pF 50V J	
C612	NCS31HJ-221X	C CAPACITOR	220pF 50V J	
C613	NCS31HJ-331X	C CAPACITOR	330pF 50V J	
C614	NCS31HJ-220X	C CAPACITOR	22pF 50V J	
C622	NCS31HJ-221X	C CAPACITOR	220pF 50V J	
C623	NCS31HJ-331X	C CAPACITOR	330pF 50V J	
C624	NCS31HJ-220X	C CAPACITOR	22pF 50V J	
C632	NCS31HJ-221X	C CAPACITOR	220pF 50V J	
C633	NCS31HJ-331X	C CAPACITOR	330pF 50V J	
C634	NCS31HJ-220X	C CAPACITOR	22pF 50V J	
C639	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C654	NCS21HJ-471X	C CAPACITOR	470pF 50V J	only Europe
C655	NCS21HJ-471X	C CAPACITOR	470pF 50V J	only Europe
C683	NCS31HJ-331X	C CAPACITOR	330pF 50V J	
C685	NCB31HK-221X	C CAPACITOR	220pF 50V K	only ver.J/C
C686	NCB31HK-221X	C CAPACITOR	220pF 50V K	only ver.J/C
C701	QETN0JM-107Z	E CAPACITOR	100uF 6.3V M	
C702	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C703	NCB31CK-103X	C CAPACITOR	0.01uF 16V K	
C704	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C705	NCS31HJ-331X	C CAPACITOR	330pF 50V J	only Europe
C706	QETN0JM-107Z	E CAPACITOR	100uF 6.3V M	
C707	NCS31HJ-101X	C CAPACITOR	100pF 50V J	only Europe
C713	NCB31CK-102X	C CAPACITOR	1000pF 16V K	only Europe
C714	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	

⚠ Symbol No.	Part No.	Part Name	Description	Local
C751	NCB31CK-332X	C CAPACITOR	3300pF 16V K	
C752	NCB31CK-332X	C CAPACITOR	3300pF 16V K	
C753	NCS31HJ-471X	C CAPACITOR	470pF 50V J	
C754	NCS31HJ-471X	C CAPACITOR	470pF 50V J	
C755	NCS31HJ-471X	C CAPACITOR	470pF 50V J	
C756	NCS31HJ-471X	C CAPACITOR	470pF 50V J	
C757	QETN1EM-226Z	E CAPACITOR	22uF 25V M	
C758	QETN1EM-226Z	E CAPACITOR	22uF 25V M	
C759	NCB31HK-222X	C CAPACITOR	2200pF 50V K	
C760	NCB31HK-222X	C CAPACITOR	2200pF 50V K	
C761	QETN1EM-226Z	E CAPACITOR	22uF 25V M	only Europe
C762	QETN1EM-226Z	E CAPACITOR	22uF 25V M	only Europe
C763	NCB31HK-152X	C CAPACITOR	1500pF 50V K	
C764	QETN1CM-107Z	E CAPACITOR	100uF 16V M	
C765	QETN1CM-107Z	E CAPACITOR	100uF 16V M	
C791	QETN1EM-475Z	E CAPACITOR	4.7uF 25V M	
C793	QETN1AM-107Z	E CAPACITOR	100uF 10V M	only ver.J/C
C794	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	only ver.J/C
C795	QETN1EM-476Z	E CAPACITOR	47uF 25V M	
C797	NDC31HJ-151X	C CAPACITOR	150pF 50V J	
C798	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C801	QER60JM-106Z	E CAPACITOR	10uF 6.3V M	
C802	QETN1HM-475Z	E CAPACITOR	4.7uF 50V M	
C803	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C804	QER60JM-476Z	E CAPACITOR	47uF 6.3V M	
C805	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C808	QETN1HM-475Z	E CAPACITOR	4.7uF 50V M	
C809	QEKC1HM-476Z	E CAPACITOR	47uF 50V M	
C810	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C811	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
⚠ C902	QFZ9073-683	MM CAPACITOR	0.068uF AC250V M	only Europe
⚠ C902	QFZ9073-473	MM CAPACITOR	0.047uF AC250V M	only ver.J/C
⚠ C905	QCZ9079-102	C CAPACITOR	1000pF AC250V M	
C906	QCZ9079-102	C CAPACITOR	1000pF AC250V M	
C907	QETM2GM-336	E CAPACITOR	33uF 400V M	only Europe
C907	QETM2DM-476	E CAPACITOR	47uF 200V M	only ver.J/C
⚠ C908	QCZ0136-332Z	C CAPACITOR	3300pF 1kV K	
C913	QCZ0136-101Z	C CAPACITOR	100pF 1kV K	
C914	QEZ0598-226Z	E CAPACITOR	22uF	
C915	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
⚠ C918	QFZ9073-683	MM CAPACITOR	0.068uF AC250V M	only Europe
⚠ C918	QFZ9073-473	MM CAPACITOR	0.047uF AC250V M	only ver.J/C
C950	QEZ0592-107Z	E CAPACITOR	100uF	
C951	QETN1EM-226Z	E CAPACITOR	22uF 25V M	
C952	QEZ0592-108Z	E CAPACITOR	1000uF	
C953	QETN1HM-226Z	E CAPACITOR	22uF 50V M	
C954	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C955	QETN0JM-107Z	E CAPACITOR	100uF 6.3V M	
C956	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C957	QETN0JM-107Z	E CAPACITOR	100uF 6.3V M	
C958	QEZ0529-477Z	E CAPACITOR	470uF 10V M	
C959	QETN1AM-107Z	E CAPACITOR	100uF 10V M	
C960	NCF31AZ-105X	C CAPACITOR	1uF 10V Z	
C963	QEZ0594-107Z	E CAPACITOR	100uF	
C964	QEZ0594-107Z	E CAPACITOR	100uF	
C965	QETN1CM-107Z	E CAPACITOR	100uF 16V M	
C966	QETN1CM-107Z	E CAPACITOR	100uF 16V M	
C967	QEZ0594-337Z	E CAPACITOR	330uF	
C969	NCF31AZ-333X	C CAPACITOR	0.033uF 10V Z	
C971	NCS31HJ-471X	C CAPACITOR	470pF 50V J	
C972	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C973	QETN0JM-107Z	E CAPACITOR	100uF 6.3V M	
C974	QETN1EM-476Z	E CAPACITOR	47uF 25V M	
C975	QETN0JM-107Z	E CAPACITOR	100uF 6.3V M	
C976	QETN1EM-476Z	E CAPACITOR	47uF 25V M	
C977	QETN1EM-476Z	E CAPACITOR	47uF 25V M	
C982	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C983	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	only ver.J/C
C984	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	only ver.J/C
C988	QETN1CM-107Z	E CAPACITOR	100uF 16V M	
R2	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R602	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J	only Europe
R612	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J	only Europe
R622	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J	only Europe
R632	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J	only Europe
R651	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	only Europe
R653	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	only Europe

<Local area>
XV-N30BK J:30J C:30C B:30B E:30E EN:30EN EV:30EV EE:30EE
XV-N33SL J:33J C:33C B:33B E:33E EN:33EN EV:33EV EE:33EE

⚠ Symbol No.	Part No.	Part Name	Description	Local
R655	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	only Europe
R657	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	only Europe
R670	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	only Europe
R673	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	only Europe
R675	QRE141J-562Y	C RESISTOR	5.6kΩ 1/4W J	only Europe
R682	NRSA63J-100X	MG RESISTOR	10Ω 1/16W J	
R683	NRSA63J-100X	MG RESISTOR	10Ω 1/16W J	
R697	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	only Europe
R703	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	only Europe
R705	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R706	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R707	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	only Europe
R708	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R710	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	only ver.J/C
R711	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R712	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R713	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	only Europe
R715	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	only Europe
R751	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J	
R752	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J	
R755	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J	
R756	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J	
R759	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R760	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R761	NRSA63J-201X	MG RESISTOR	200Ω 1/16W J	
R762	NRSA63J-201X	MG RESISTOR	200Ω 1/16W J	
R763	NRSA63J-201X	MG RESISTOR	200Ω 1/16W J	
R764	NRSA63J-201X	MG RESISTOR	200Ω 1/16W J	
R765	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R766	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R767	NRSA63J-561X	MG RESISTOR	560Ω 1/16W J	
R768	NRSA63J-561X	MG RESISTOR	560Ω 1/16W J	
R769	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
R770	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
R771	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R772	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R773	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R774	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R775	NRSA63J-561X	MG RESISTOR	560Ω 1/16W J	only Europe
R776	NRSA63J-561X	MG RESISTOR	560Ω 1/16W J	only Europe
R777	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J	only Europe
R778	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J	only Europe
R779	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	only Europe
R780	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	only Europe
R782	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R783	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R784	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R785	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R786	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R787	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
R788	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R790	NRSA63J-100X	MG RESISTOR	10Ω 1/16W J	
R791	NRSA63J-301X	MG RESISTOR	300Ω 1/16W J	
R792	NRSA63J-301X	MG RESISTOR	300Ω 1/16W J	
R794	NRSA63J-820X	MG RESISTOR	82Ω 1/16W J	
R802	NRSA63J-181X	MG RESISTOR	180Ω 1/16W J	
R804	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
R807	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R808	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R809	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R810	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R811	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R812	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
⚠ R901	QRL01DJ-683X	OMF RESISTOR	68kΩ 1W J	
⚠ R903	QRE141J-181Y	C RESISTOR	180Ω 1/4W J	
R906	QRE141J-274Y	C RESISTOR	270kΩ 1/4W J	
⚠ R910	QRZ9037-335	COMP RESISTOR	3.3MΩ 1/2W K	only Europe
R912	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J	
R913	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J	
R915	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J	
R951	QRE141J-100Y	C RESISTOR	10Ω 1/4W J	
R952	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R953	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J	
⚠ R954	QRZ9005-100X	F.RESISTOR	10Ω	
R955	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R956	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R957	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R960	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R961	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R962	NRSA63F-392X	MG RESISTOR	3.9kΩ 1/16W F	
R964	NRSA63F-103X	MG RESISTOR	10kΩ 1/16W F	
R966	QRE141J-470Y	C RESISTOR	47Ω 1/4W J	
R967	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R968	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R969	QRE141J-271Y	C RESISTOR	270Ω 1/4W J	
L601	QQL231K-2R2Y	COIL	2.2uH K	
L611	QQL231K-2R2Y	COIL	2.2uH K	
L612	QQL231K-2R2Y	COIL	2.2uH K	
L613	QQL231K-2R2Y	COIL	2.2uH K	
L681	QQL231K-1R0Y	COIL	1uH K	
L709	QQL231K-2R2Y	COIL	2.2uH K	only Europe
⚠ L901	QQR0816-001	LINE FILTER		
L951	QQR1291-001Z	CHOKE COIL		
L952	QQR1291-001Z	CHOKE COIL		
L953	QQL531J-220Y	COIL	22uH J	
L954	QQL531J-220Y	COIL	22uH J	
L955	QQR1291-001Z	CHOKE COIL		
L956	QQL531J-220Y	COIL	22uH J	
L957	QQL231K-220Y	COIL	22uH K	
L959	QQL231K-220Y	COIL	22uH K	
⚠ T901	QQS0197-001	SW TRANSF		
BK801	GN30053-001A	VFD HOLDER		
CN601	QGB1231M1-15	CONNECTOR	B-B (1-15)	
CN701	QGB1231M1-09	CONNECTOR	B-B (1-9)	
CN702	QGF1201C3-19	CONNECTOR	FFC/FPC (1-19)	
CN801	QGF1201F3-14	CONNECTOR	FFC/FPC (1-14)	
CN802	QGF1201F3-08	CONNECTOR	FFC/FPC (1-8)	
CN803	QGF1201F3-08	CONNECTOR	FFC/FPC (1-8)	
CN901	QGF1201C3-14	CONNECTOR	FFC/FPC (1-14)	
CN902	QGB1231M1-15	CONNECTOR	B-B (1-15)	
CN904	QGF1201C3-19	CONNECTOR	FFC/FPC (1-19)	
⚠ CP951	ICP-N10-T	IC PROTECTOR	400mA	
DI801	QLF0112-001	FL TUBE		
DI801	or QLF0122-001	FL TUBE		
EP951	QNZ0136-001Z	EARTH PLATE		
EP952	QNZ0136-001Z	EARTH PLATE		only ver.J/C
EP953	QNZ0136-001Z	EARTH PLATE		
FC901	QNG0003-001Z	FUSE CLIP		
FC902	QNG0003-001Z	FUSE CLIP		
J601	QNN0566-001	PIN JACK		only Europe
J601	QNN0590-001	PIN JACK		only ver.J/C
J602	QNN0564-001	PIN JACK		
J603	QNZ0610-001	RGB CONNECTOR		only Europe
J702	QNS0221-001	3.5 JACK		only Europe
J703	GP1FA352TZ	OPT TRANSMITTER		only ver.J/C
K602	NQR0227-004X	FERRITE BEADS		only Europe
K603	NQR0227-004X	FERRITE BEADS		only Europe
K682	NQR0227-004X	FERRITE BEADS		
K792	NQR0227-004X	FERRITE BEADS		
K815	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	only ver.J/C
K816	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	only ver.J/C
K817	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	only ver.J/C
K818	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	only ver.J/C
K819	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	only ver.J/C
K820	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	only ver.J/C
K821	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	only ver.J/C
K822	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	only ver.J/C
K823	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	only ver.J/C
P901	QGA7901C1-02	CONNECTOR	W-B (1-2)	
S801	QSW0651-001Z	TACT SWITCH		
S802	QSW0651-001Z	TACT SWITCH		
S803	QSW0651-001Z	TACT SWITCH		
S804	QSW0651-001Z	TACT SWITCH		
S805	QSW0651-001Z	TACT SWITCH		
S806	QSW0651-001Z	TACT SWITCH		
S807	QSW0651-001Z	TACT SWITCH		
S808	QSW0651-001Z	TACT SWITCH		
S901	QSW0454-001	SW		only Europe
X701	QAX0756-001Z	C RESONATOR	4.915MHz	
OT1	GN30006-007A	VFD SPACER		

<Local area>
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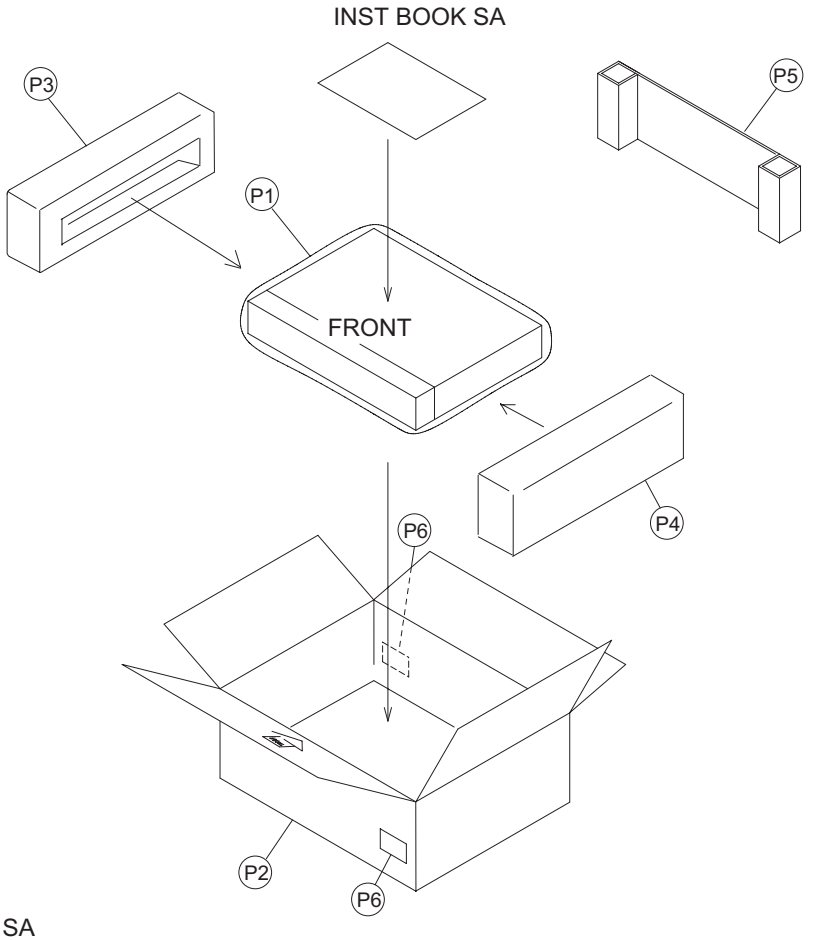
Switch board

Block No. [0][3]

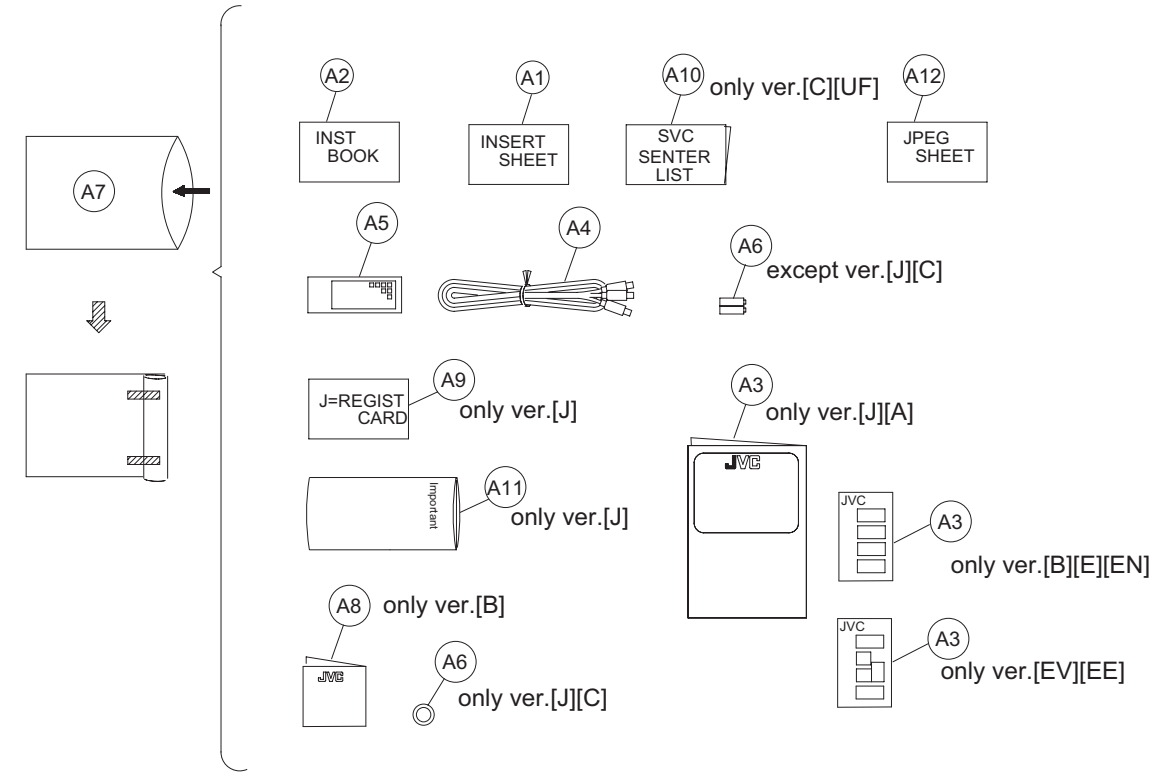
⚠ Symbol No.	Part No.	Part Name	Description	Local
CN1	QGF1016F3-05	CONNECTOR	FFC/FPC (1-5)	
S1	QSW1007-001	DETECT SWITCH	DET SW	

Packing materials and accessories parts list

Block No.M4MM



INST BOOK SA



Packing and accessories

Block No. [M][4][M][M]

⚠ Symbol No.	Part No.	Part Name	Description	Local
A 1	LE40932-003A	INSERT SHEET		only ver.B/E/EN
A 1	LE40932-004A	INSERT SHEET		only ver.EV/EE
A 1	LE40932-002A	INSERT SHEET		only ver.J/C
A 2	GNT0024-001B	INST BOOK	English	30J
A 2	GNT0024-003B	INST BOOK	English	only ver.B
A 2	GNT0024-002B	INST BOOK	English,French	only ver.C
A 2	GNT0024-020B	INST BOOK	Dutch	only ver.E
A 2	GNT0024-008A	INST BOOK	Russian	only ver.EE
A 2	GNT0024-018B	INST BOOK	German	only ver.E/EN
A 2	GNT0024-019B	INST BOOK	French	only ver.E/EN
A 2	GNT0024-021B	INST BOOK	Spanish	only ver.EN
A 2	GNT0024-022B	INST BOOK	Italian	only ver.EN
A 2	GNT0024-023B	INST BOOK	Swedish	only ver.EN
A 2	GNT0024-024B	INST BOOK	Finnish	only ver.EN
A 2	GNT0024-025B	INST BOOK	Dutch	only ver.EN
A 2	GNT0024-007B	INST BOOK	Polish	only ver.EV
A 2	GNT0024-026B	INST BOOK	Hungarian	only ver.EV
A 2	GNT0024-027B	INST BOOK	Czech	only ver.EV
A 2	GNT0024-001C	INST BOOK	English	33J
A 3	BT-52006-1	WARRANTY CARD		30C,33C
A 3	BT-54008-2	WARRANTY CARD		only ver.B/E/EN
A 3	BT-54012-1	WARRANTY CARD		only ver.EV/EE
A 4	QAM0328-001	AV CORD 3P		
A 5	RM-SXV032A	REMOCON UNIT		XV-N30BK for Europe
A 5	RM-SXV033E	REMOCON UNIT		XV-N33SL for Europe
A 5	RM-SXV031J	REMOCON UNIT		only ver.J/C
A 6	----------	BATTERY	(x2)	only Europe
A 6	----------	LITHIUM BATTERY	CR2032/1FE 3V 225mAh	only ver.J/C
A 7	QPC02504015P	POLY BAG	FOR ACC INST	
A 8	VNA3000-204	REGIST.CARD		only ver.B
A 9	BT-51028-2	J=REGIST CARD		only ver.J
A10	BT-20071B	SVC CENTER LIST		only ver.C
A11	YU20333	SAFETY INST.		only ver.J
A12	LE31082-001A	JPEG SHEET		only ver.B
A12	LE31082-004A	JPEG SHEET		only ver.E
A12	LE31082-013A	JPEG SHEET		only ver.EE
A12	LE31082-002A	JPEG SHEET		only ver.E/EN
A12	LE31082-003A	JPEG SHEET		only ver.E/EN
A12	LE31082-005A	JPEG SHEET		only ver.EN
A12	LE31082-006A	JPEG SHEET		only ver.EN
A12	LE31082-007A	JPEG SHEET		only ver.EN
A12	LE31082-008A	JPEG SHEET		only ver.EN
A12	LE31082-009A	JPEG SHEET		only ver.EN
A12	LE31082-010A	JPEG SHEET		only ver.EV
A12	LE31082-011A	JPEG SHEET		only ver.EV
A12	LE31082-012A	JPEG SHEET		only ver.EV
P 1	QPC06005515P	POLY BAG	FOR SET	
P 2	GN10043-011A	PACKING CASE		30B
P 2	GN10042-016A	PACKING CASE		30EE
P 2	GN10042-015A	PACKING CASE		30E,30EN,30EV
P 2	GN10039-003A	PACKING CASE		30C,30J
P 2	GN10043-009A	PACKING CASE		33B
P 2	GN10042-014A	PACKING CASE		33EE
P 2	GN10042-010A	PACKING CASE		33E,33EN,33EV
P 2	GN10039-001A	PACKING CASE		33C,33J
P 3	GN20052-001A	PACKING PAD(L)	LEFT	only Europe
P 3	GN20048-001A	PACKING PAD(L)	LEFT	only ver.J/C
P 4	GN20053-001A	PACKING PAD(R)	RIGHT	only Europe
P 4	GN20049-001A	PACKING PAD(R)	RIGHT	only ver.J/C
P 5	GN30055-001A	SHEET ASSY		30B,33B
P 6	GN30078-001A	JPEG LABEL	(x2)	only Europe

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XV-N33SL J:33J C:33C B:33B E:33E EN:33EN EV:33EV EE:33EE