

# JVC

## SERVICE MANUAL

### DVD VIDEO PLAYER

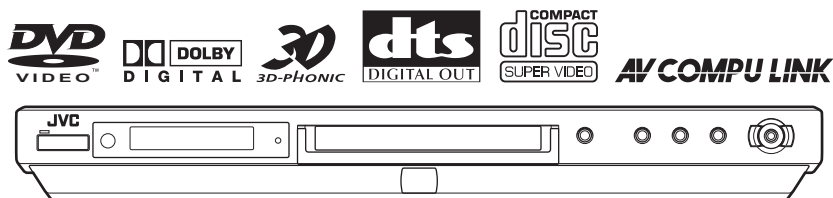
# XV-N40BK[MK2], XV-N44SL[MK2], XV-N4SL[MK2]

Area Suffix  
(XV-N40BK,XV-N44SL)

J ..... U.S.A.  
C ..... Canada

Area Suffix (XV-N4SL)

C ..... Canada



This illustration is XV-N40BK 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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## 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. )

0478  
inside

or

■ サービスをされる方へ  
サービスマニュアルは該当モデルの (MK2) を参照してください。

■ Used only service dealer

Please refer to service manual of an applicable model [MK2]

GN30080-001A

The surface of a rear panel



# SPECIFICATION

## General

|                |                                                                                                                                                                                  |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Readable discs | DVD VIDEO, DVD-R (Video format), DVDRW (Video format), +RW (Video format), SVCD, Video CD, Audio CD (CD-DA), MP3 format, JPEG, CD-R/RW (CD-DA, SVCD, Video CD, MP3 format, JPEG) |
| Video format   | NTSC, 480i (Interlaced scan)/480p (Progressive scan) selectable                                                                                                                  |

## 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 $\Omega$ )    |
|                       | Pb/Pr Output: 0.7Vp-p (75 $\Omega$ ) |
| VIDEO OUT (pin jack)  | 1.0 Vp-p (75 $\Omega$ )              |
| S-VIDEO OUT (S jack)  | Y Output: 1.0 Vp-p (75 $\Omega$ )    |
|                       | C Output: 286 mVp-p (75 $\Omega$ )   |
| Horizontal resolution | 500 lines or more                    |

## Audio outputs

|                       |                                    |
|-----------------------|------------------------------------|
| ANALOG OUT (pin jack) | 2.0 Vrms (10 k $\Omega$ )          |
| DIGITAL OUT (COAXIAL) | 0.5 Vp-p (75 $\Omega$ 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<br>(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 trademarks of Dolby Laboratories.
- Manufactured under license from Digital Theater Systems, Inc. "DTS" and "DTS Digital Surround" are registered trademarks of Digital Theater Systems, Inc.

## Digital output signal chart

| Disc type                                     | Output                                           |                         |                |
|-----------------------------------------------|--------------------------------------------------|-------------------------|----------------|
|                                               | PCM ONLY                                         | DOLBY DIGITAL/PCM       | STREAM/PCM     |
| DVD with 48/44.1 kHz, 16/20/24 bit linear PCM | 48/44.1 kHz, 16 bit, stereo linear PCM           |                         |                |
| DVD with 96 kHz, 16/22/24 bit linear PCM      | 48kHz, 16 bit, stereo linear PCM (Down sampling) |                         |                |
| DVD with DTS                                  | No output                                        |                         | DTS bitstream  |
| DVD with Dolby Digital                        | 48 kHz, 16 bit, stereo linear PCM                | Dolby Digital bitstream |                |
| DVD with MPEG Multichannel                    | 48 kHz, 16 bit, stereo linear PCM                |                         | MPEG bitstream |
| SVCD/Video CD/Audio CD                        | 44.1 kHz, 16 bit, stereo linear PCM              |                         |                |
| Audio CD with DTS                             | No output                                        |                         | DTS bitstream  |
| CD-R/RW with MP3                              | Linear PCM                                       |                         |                |

# 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 (  $\Delta$  ) 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.

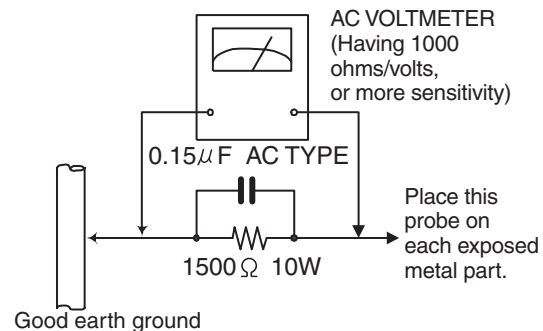
(5) Leakage shock hazard testing

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 $\Omega$  per volt or more sensitivity in the following manner. Connect a 1,500 $\Omega$  10W resistor paralleled by a 0.15 $\mu$ 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 $\mu$  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 pre-forming 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 (  $\blacksquare$  ), diode (  $\blacksquare$  ) and ICP (  $\bullet$  ) or identified by the "  $\Delta$  " mark nearby are critical for safety. When replacing them, be sure to use the parts of the same type and rating as specified by the manufacturer.

(This regulation dose not Except the J and C version)

## 1.5 Preventing static electricity

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

### 1.5.1 Grounding to prevent damage by static electricity

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

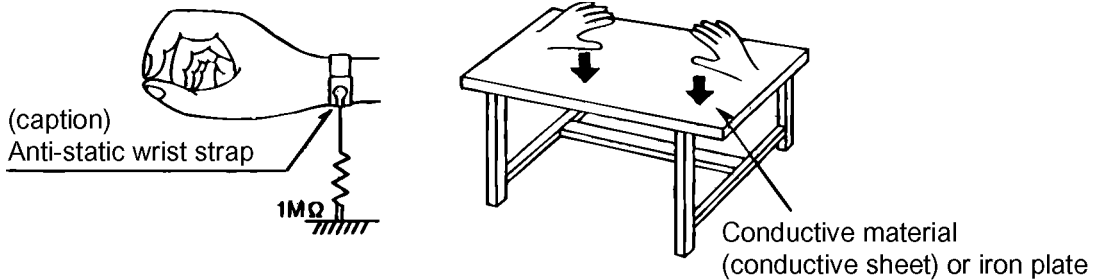
Be careful to use proper grounding in the area where repairs are being performed.

(1) Ground the workbench

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

(2) Ground yourself

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



(3) Handling the optical pickup

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

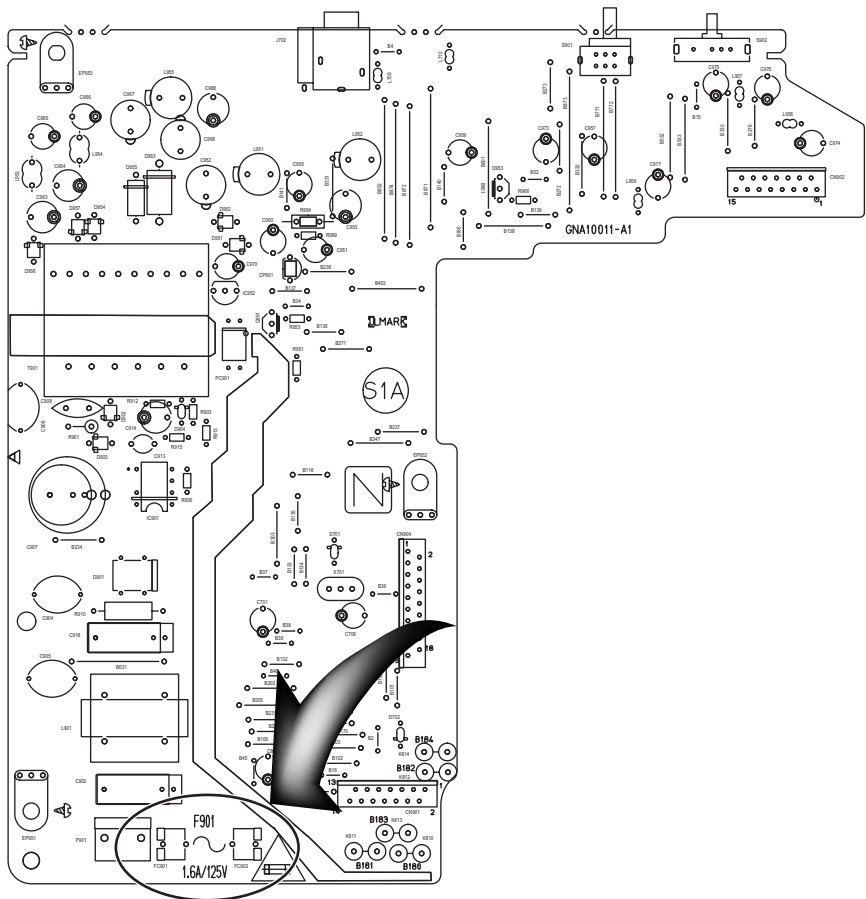
## 1.6 Handling the traverse unit (optical pickup)

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

## 1.7 Precautions of the safe use of battery (Only XV-N4SL)

- Store the battery in a place where children cannot reach. If a child accidentally swallows the battery, consult a doctor immediately.
- 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

Graphic symbol mark  
(This symbol means fast blow type fuse.)



should be read as follows ;

FUSE CAUTION

FOR CONTINUED PROTECTION AGAINST RISK  
OF FIRE, REPLACE ONLY WITH SAME TYPE  
AND RATING OF FUSES ;

**F901 : 1.6 A / 125 V**

Marquage Pour Le Remplacement  
Complet De Fusible

Le symbole graphique (Ce symbole signifie  
fusible de type à fusion rapide.)



doit être interprété comme suit ;

PRECAUTIONS SUR LES FUSIBLES

POUR UNE PROTECTION CONTINUE CONTRE  
DES RISQUES D'INCENDIE, REMPLACER  
SEULEMENT PAR UN FUSIBLE DU MEME TYPE ;

**F901 : 1.6 A / 125 V**

## 1.9 Precautions for Service

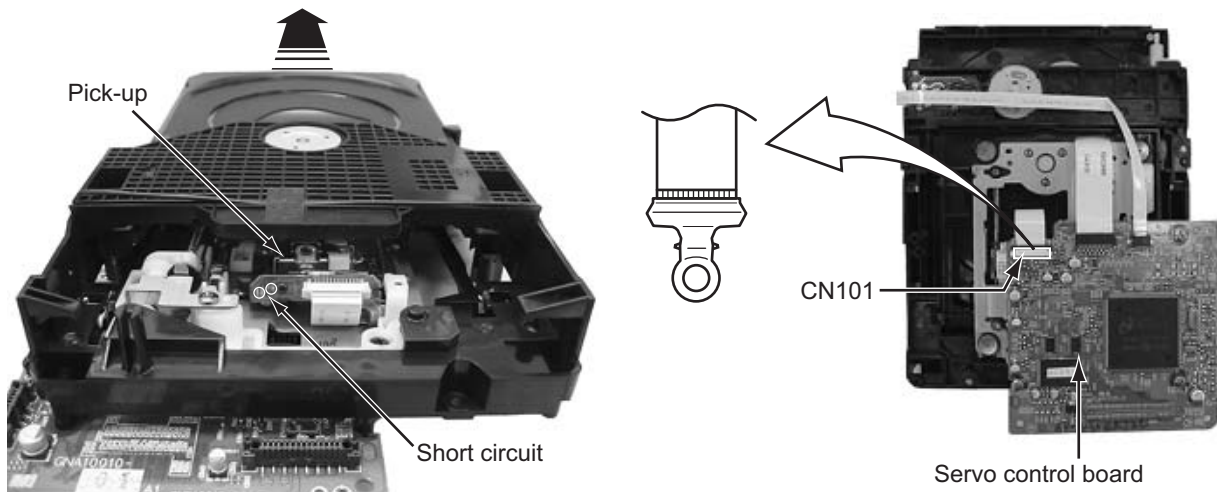
### 1.9.1 Handling of Traverse Unit and Laser Pickup

- (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.

### 1.9.2 Destruction of Traverse Unit and Laser Pickup by Static Electricity

Laser diodes are easily destroyed by static electricity charged on clothing or 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.

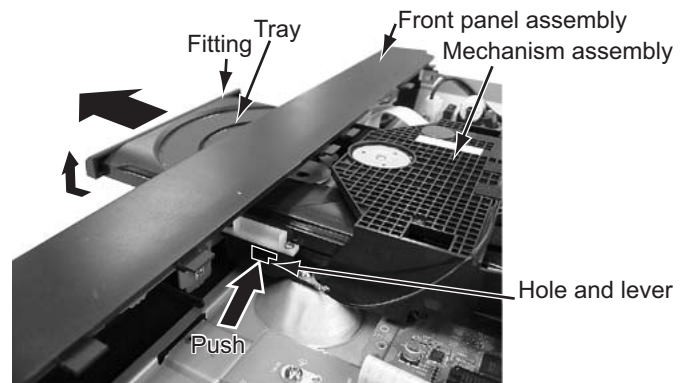


Fig.2

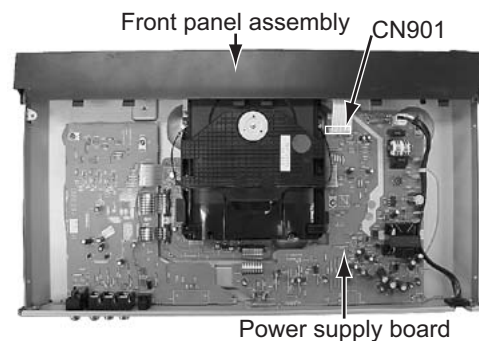


Fig.3

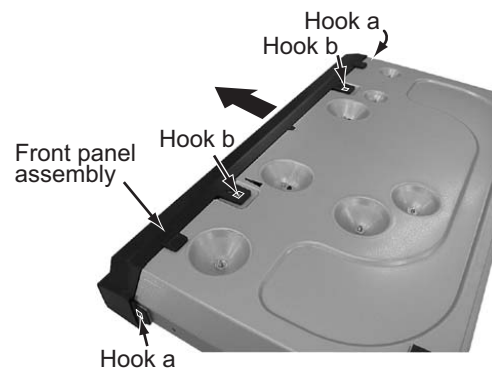


Fig.4

### 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.

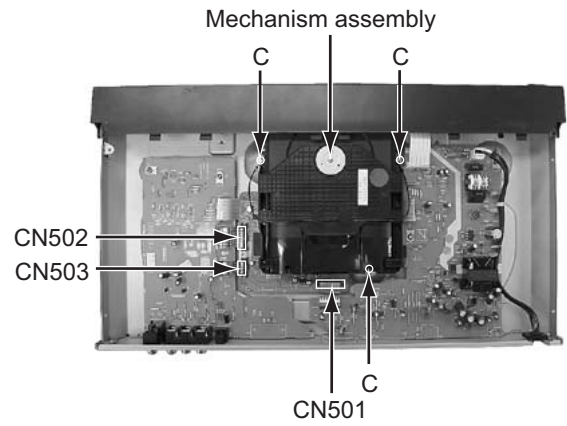


Fig.5

### 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.

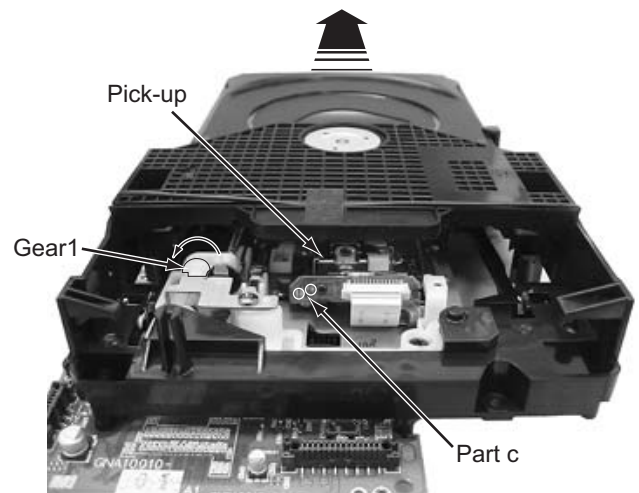


Fig.6

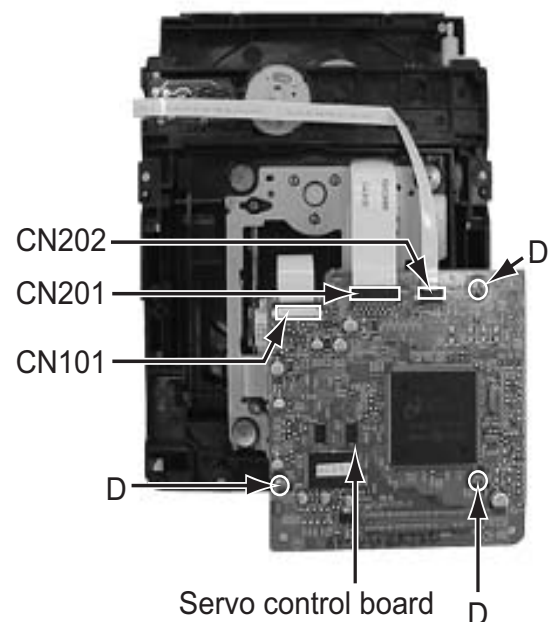


Fig.7

### 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 six screws **E** attaching the rear panel.
  - (2) Disconnect the power cord from connector P901 on the power supply board
  - (3) Remove tie band.

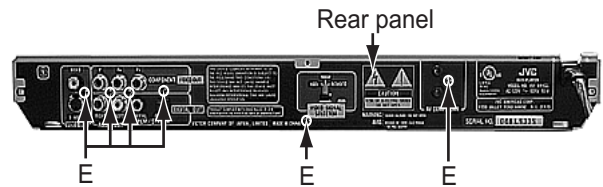


Fig.8

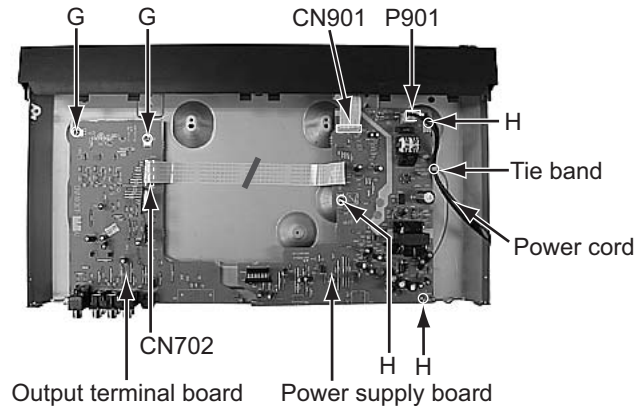


Fig.9

### 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.)

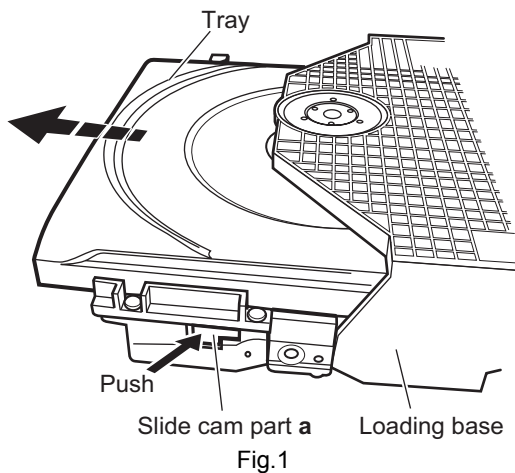


Fig.1

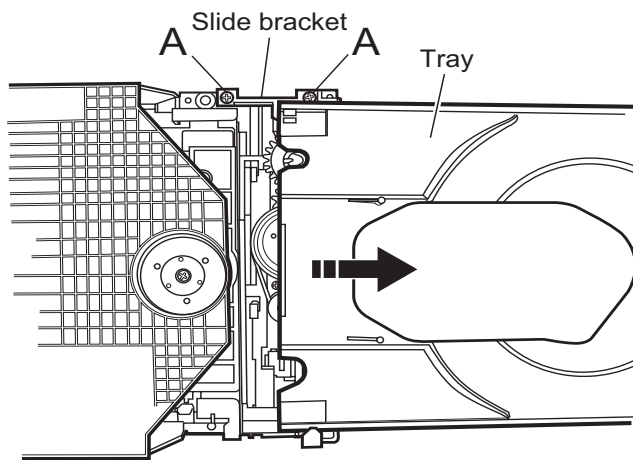


Fig.2

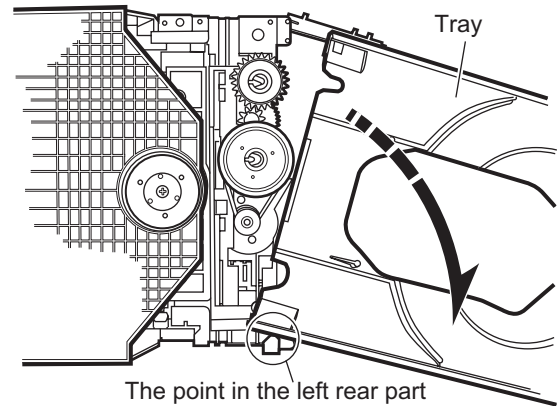


Fig.3

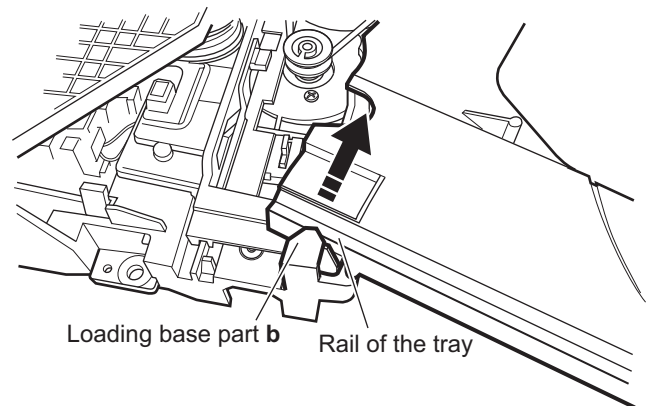


Fig.4

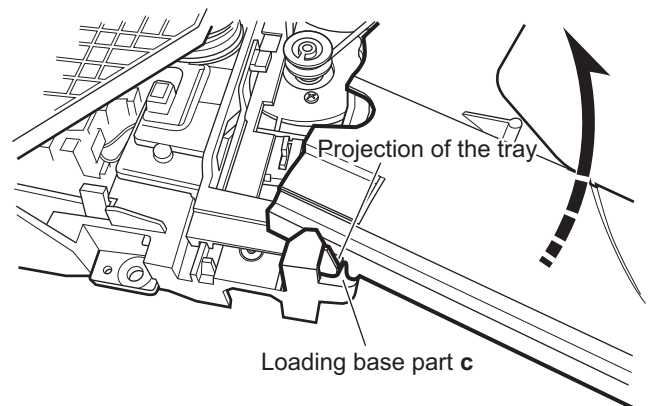


Fig.5

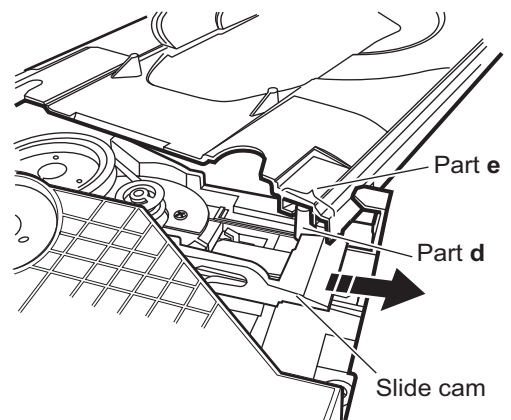


Fig.6

### 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.

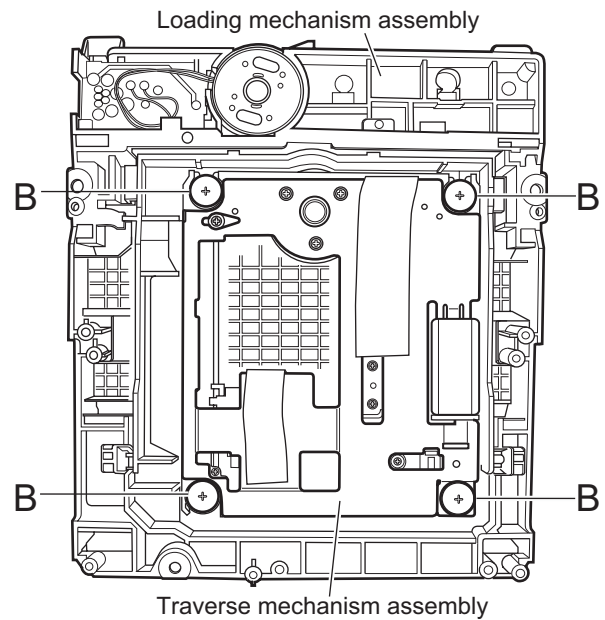


Fig.7

### 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.

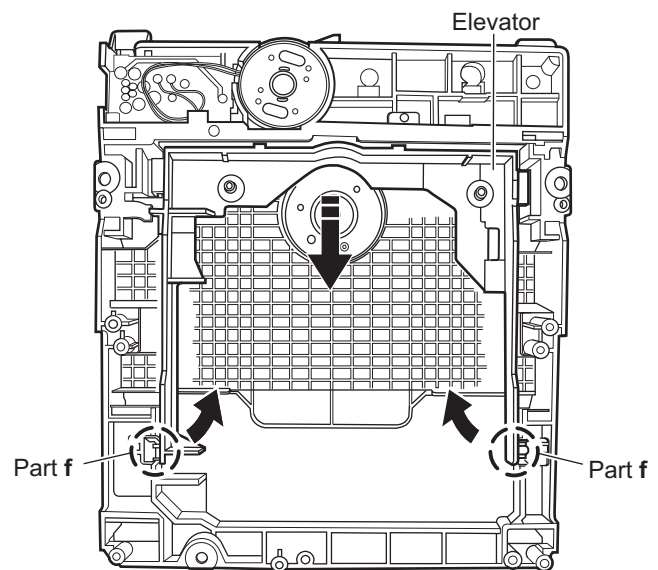


Fig.8

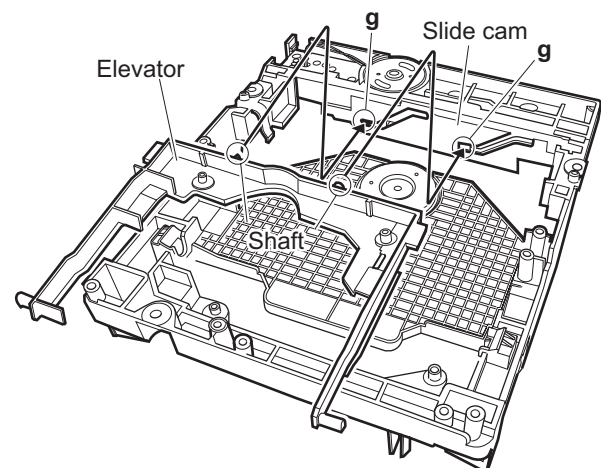


Fig.9

#### 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.

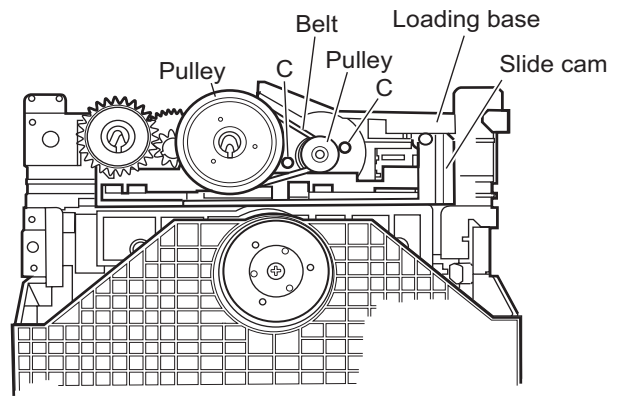


Fig.10

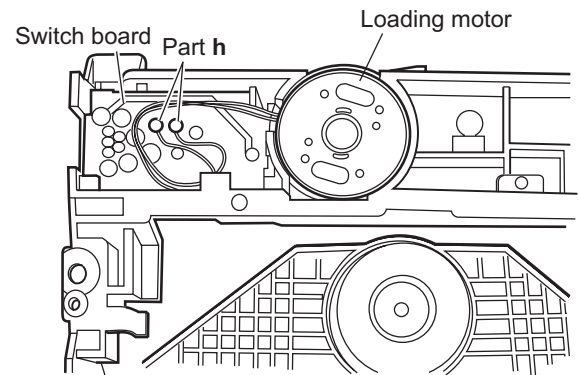


Fig.11

## 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**.

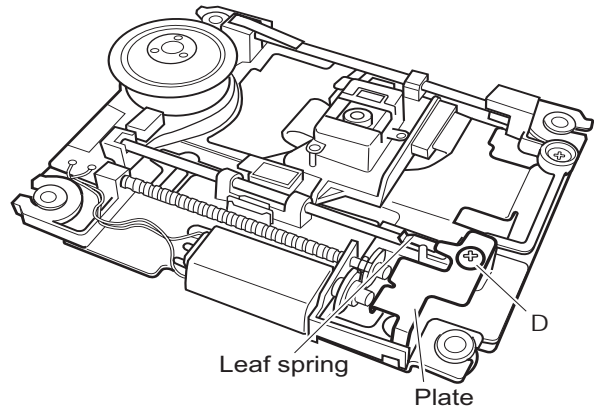


Fig.12

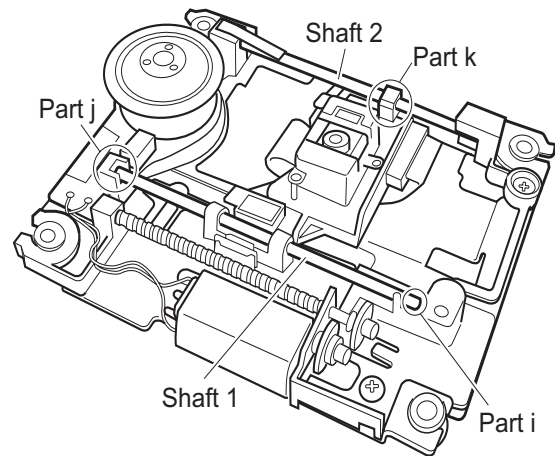


Fig.13

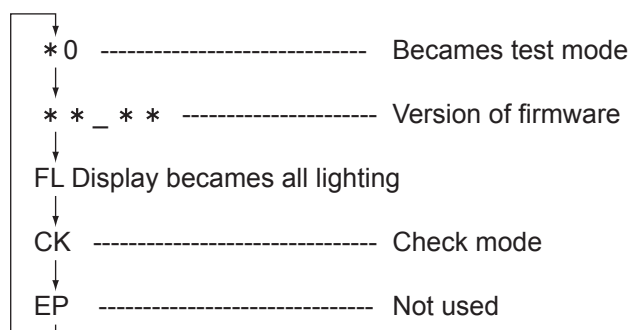
## SECTION 3 Adjustment

### 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.

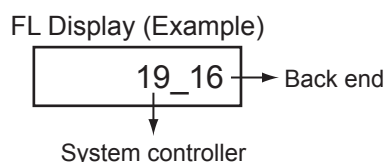
#### NOTE:

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

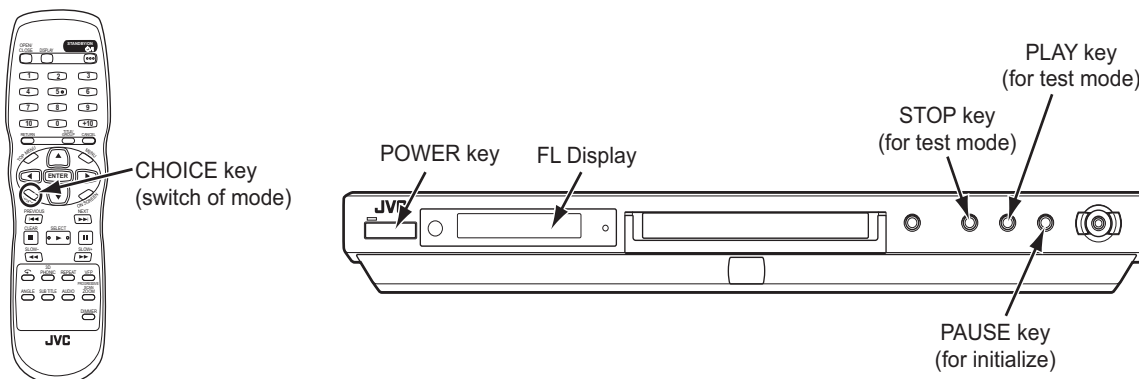
- (1) Set the main body at test mode.
- (2) Press "CHOICE" key of the remote controller once. Then, version number and alphabetical letter of the system controller and the back end are displayed in the FL display as follows:



### 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:

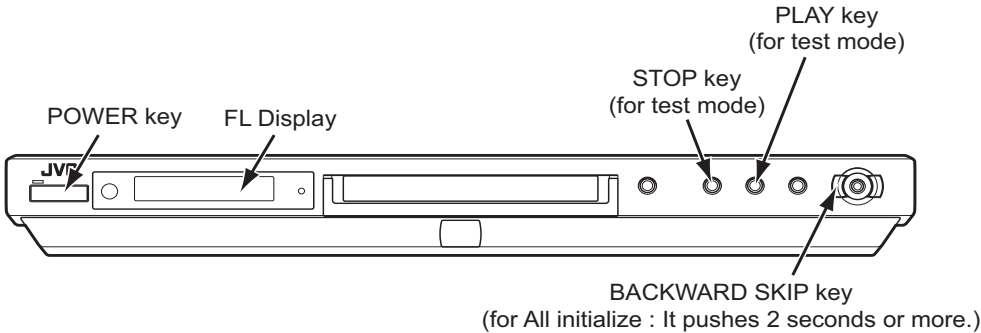
Status of this adjustment can be judged by the number displayed at test mode as follows:

| 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

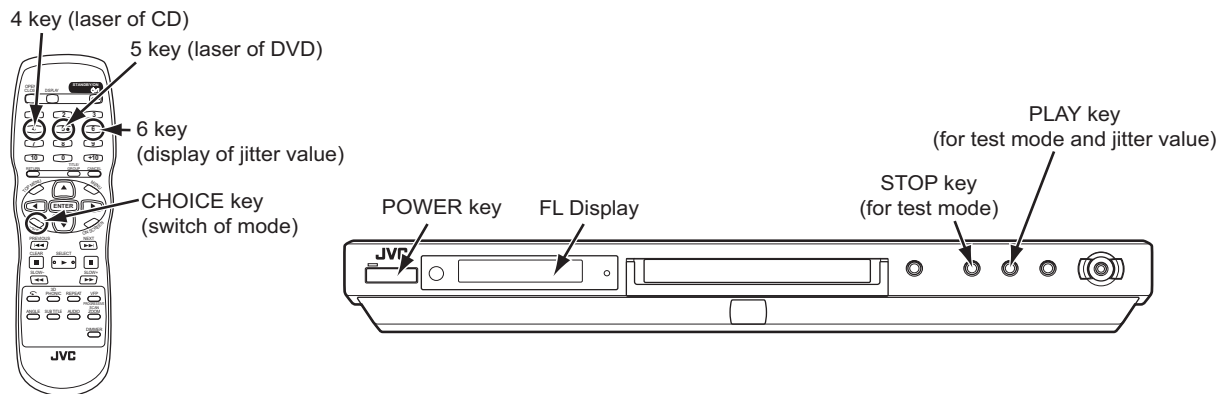
Please perform flap adjustment of the pick-up guide shaft in the following case:

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

#### NOTE:

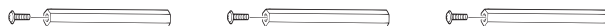
Please perform flap adjustment of the pick-up guide shaft when you exchange the parts above and also when you remove the parts above.

- 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

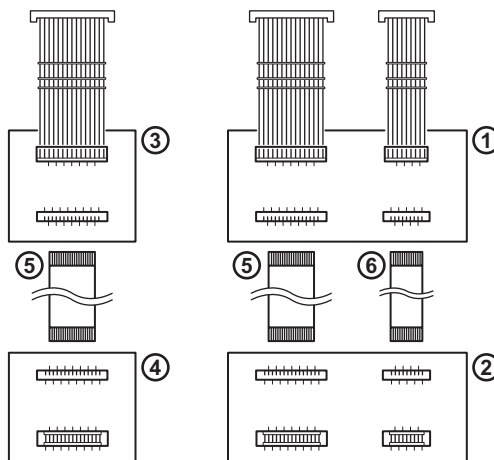
\*Stud: One set (four studs), Part number: JIGXVS40 (Note: One of the four studs is not used here.)



\* 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

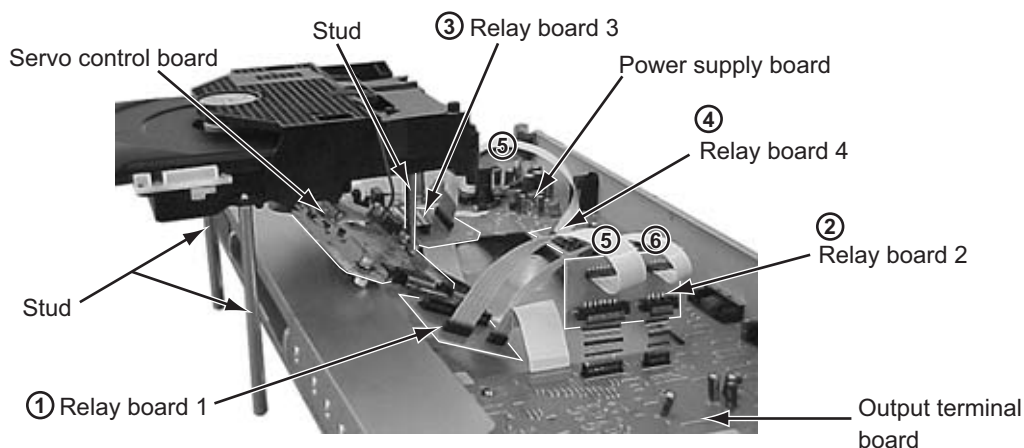


\*The phillips screwdriver for adjustment --- goods on the market

\*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.)

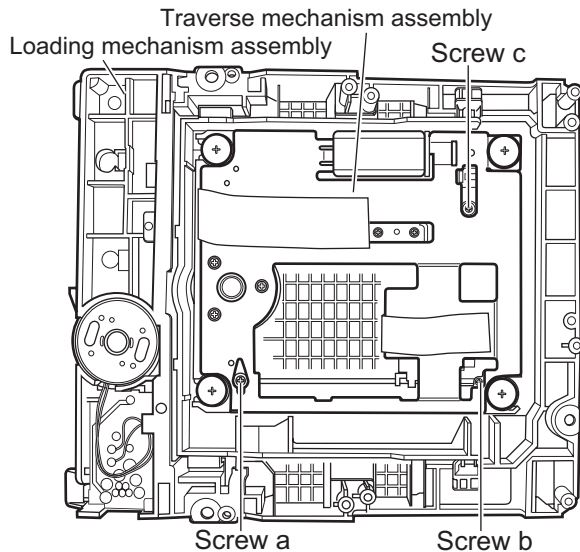


### 3.7.3 Adjustment

- (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**.

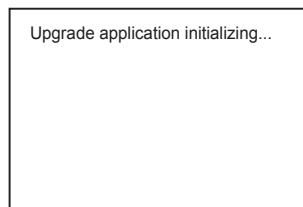
### 3.8 Upgrading of firmware

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.



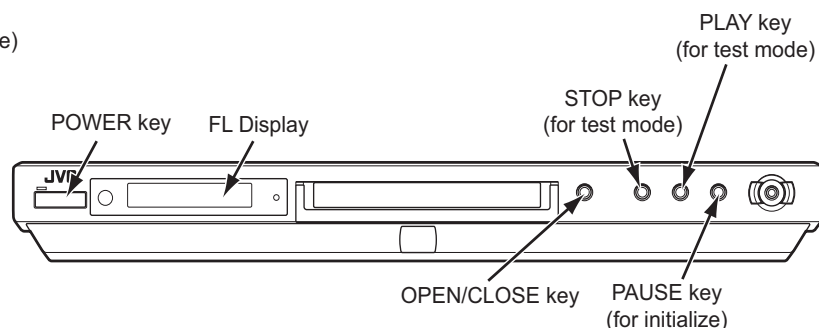
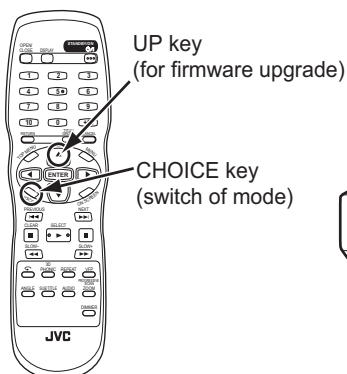
After inserting the up-grade disc



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.

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

### 3.10 Troubleshooting

#### 3.10.1 Servo volume

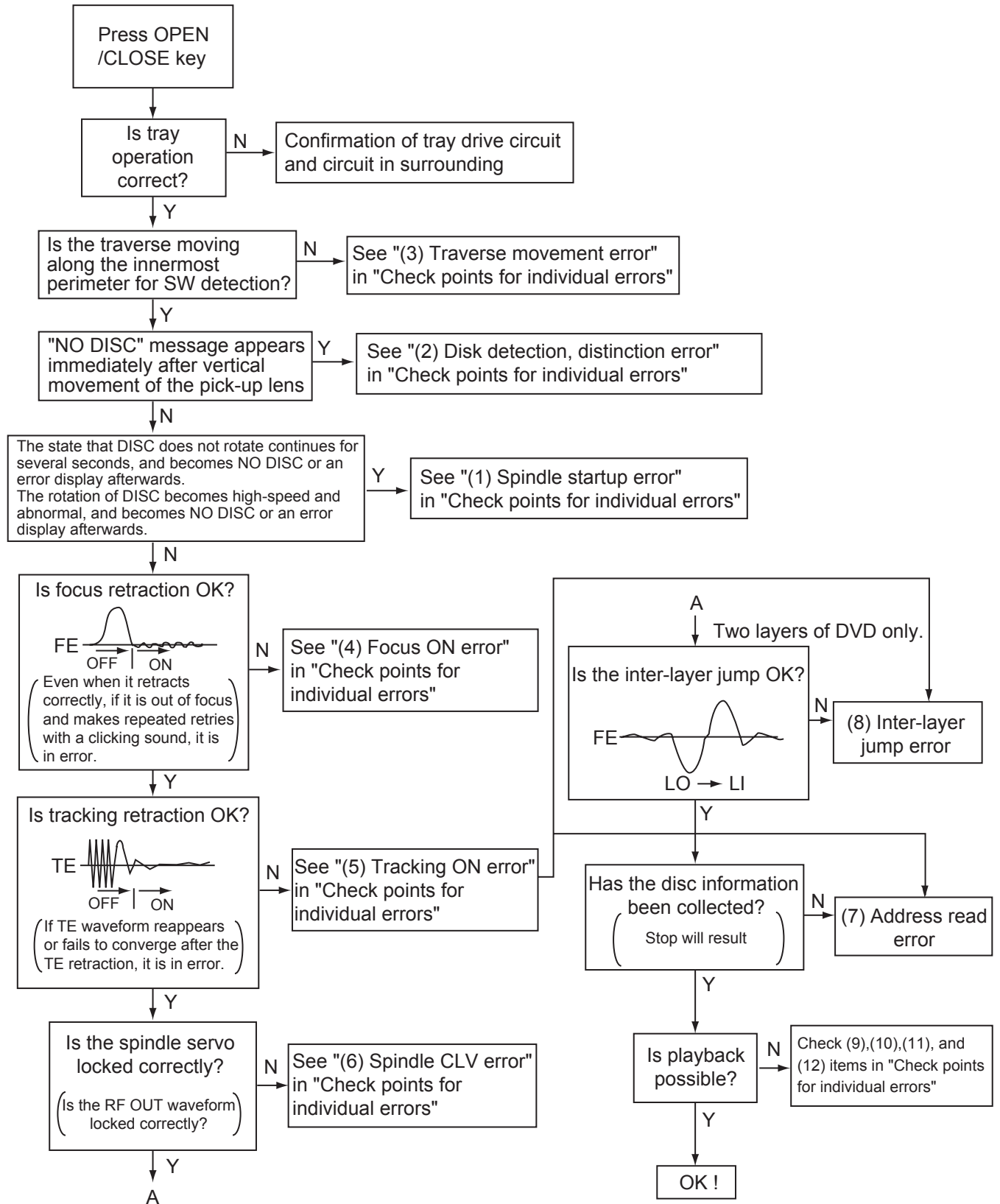


Fig.1

### 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 "Tracking ON NG" in "Check points for each error" when the tracking is not normal.
- Is the feed operation normal?  
To "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?

### 3.11.11 Others

- The image is sometimes blocked, and the image stops.
- The image is blocked when going to outer though it is normal in surroundings in the disk and the stopping symptom increases.  
**There is a possibility with bad jitter value for such a symptom.**

### 3.11.12 CD 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

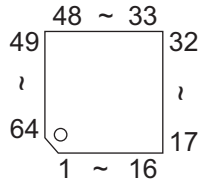
- --:-- is displayed during FL search.  
According to [It is not possible to search] for DVD, check the feed and tracking systems.
- No sound is output although the time is displayed.(CA-DA)  
DAC, etc, other than servo.
- The passage of time is not stable, or picture is abnormal.(V-CD)
- The wound of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

## SECTION 4

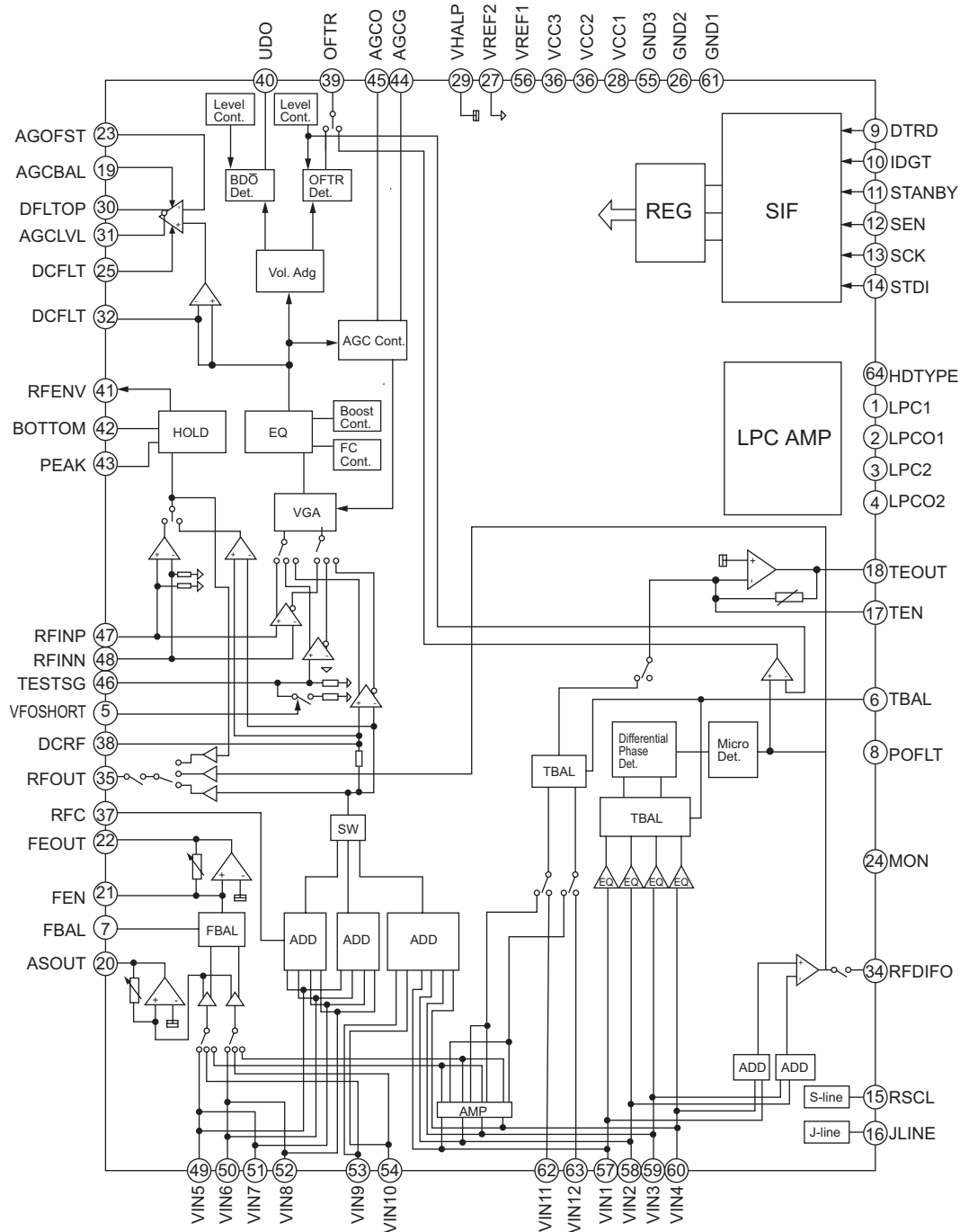
### Description of major ICs

#### 4.1 AN8703FH-V (IC101) : Frontend processor

- Pin layout



- Block diagram



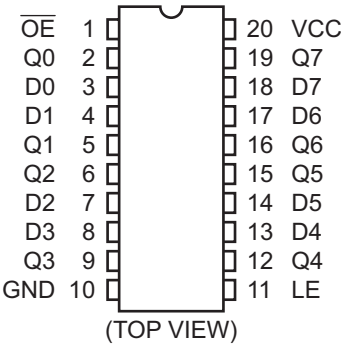
- Pin function

| 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                        |

4.2
74LCX373MTC-X (IC512,IC513) : Octal D-type latch

- Pin layout



- Pin function

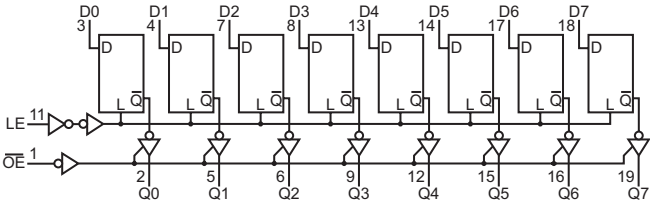
| Symbol | Description           |
|--------|-----------------------|
| D0~D7  | Data inputs           |
| LE     | Latch enable input    |
| OE     | Output enable input   |
| Q0~Q7  | 3-State latch outputs |

- 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 level  
L = LOW Voltage level  
Z = High impedance  
X = Immaterial  
Q0 = Previous Q0 before HIGH to LOW transition of latch enable

- Block diagram

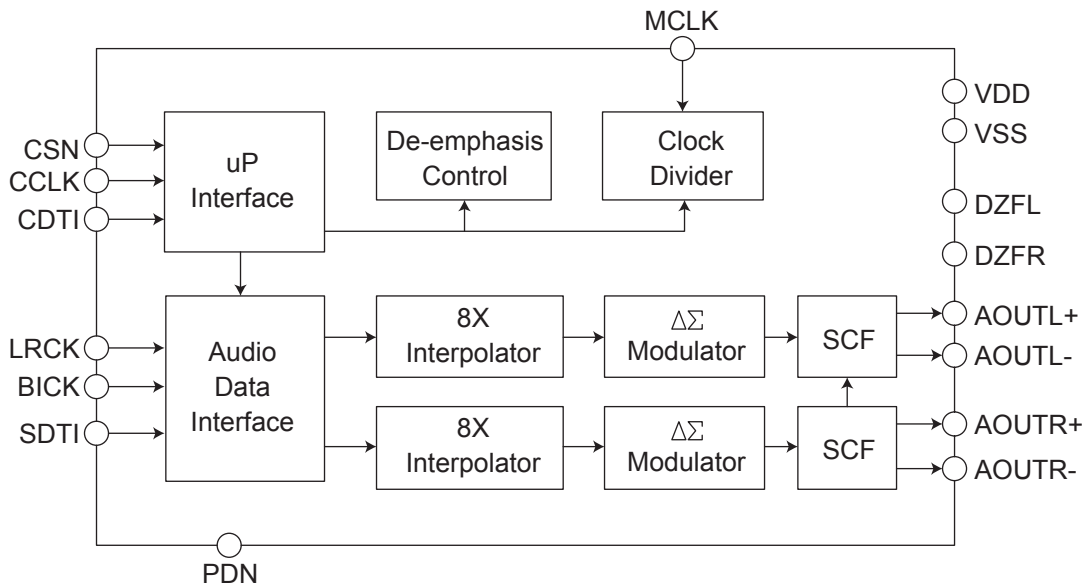


### 4.3 AK4381VT-X (IC402) : 2ch DAC

- Pin layout

|      |   |    |        |
|------|---|----|--------|
| MCLK | 1 | 16 | DZFL   |
| BICK | 2 | 15 | DZFR   |
| SDTI | 3 | 14 | VDD    |
| LRCK | 4 | 13 | VSS    |
| PDN  | 5 | 12 | AOUTL+ |
| CSN  | 6 | 11 | AOUTL- |
| CCLK | 7 | 10 | AOUTR+ |
| CDTI | 8 | 9  | AOUTR- |

- Block diagram

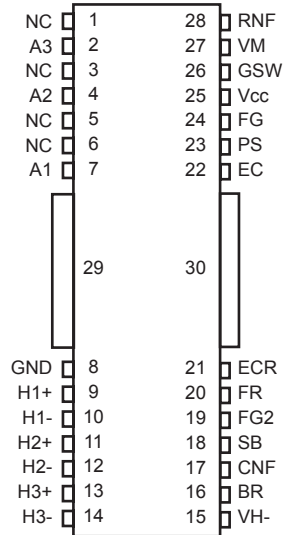


- Pin functions

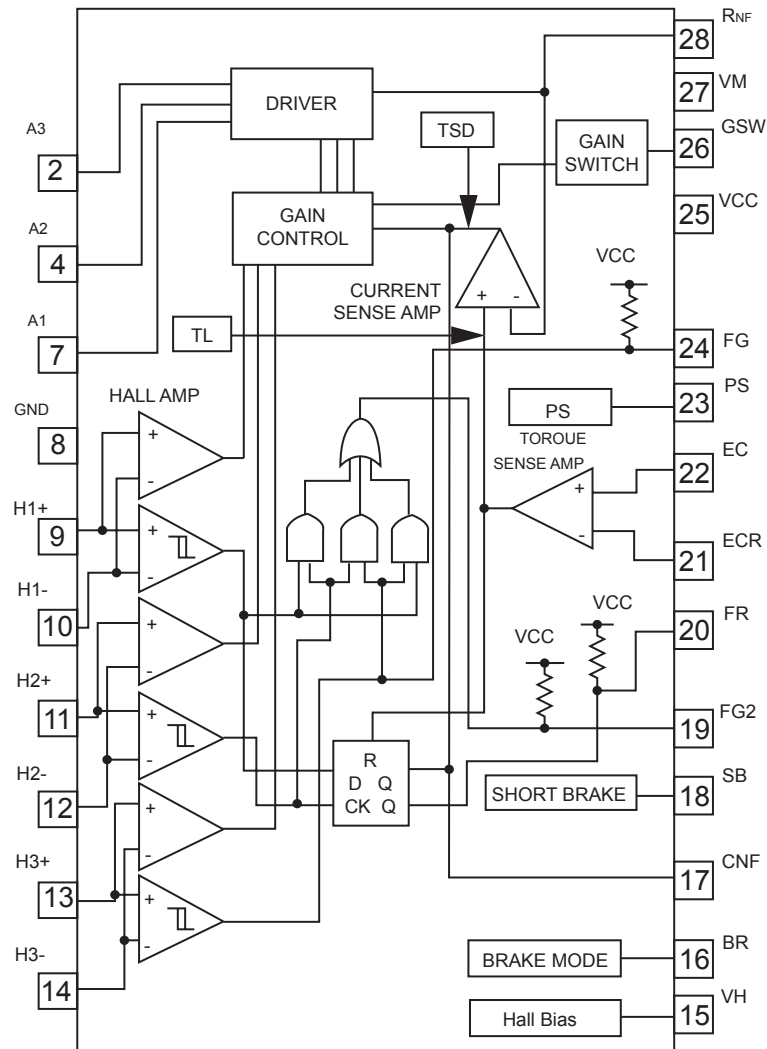
| Pin No. | Symbol | I/O | Description                            |
|---------|--------|-----|----------------------------------------|
| 1       | MCLK   | I   | Master clock input terminal            |
| 2       | BICK   | I   | Audio serial data clock terminal       |
| 3       | SDTI   | I   | Audio 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

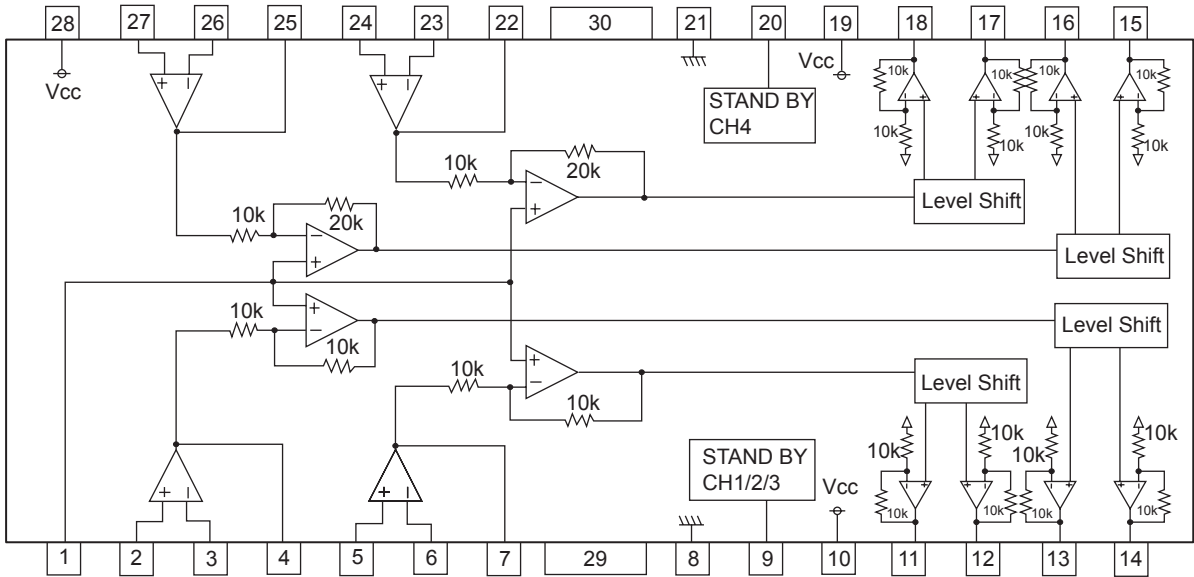


• Pin function (BA6664FM-X)

| 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         |

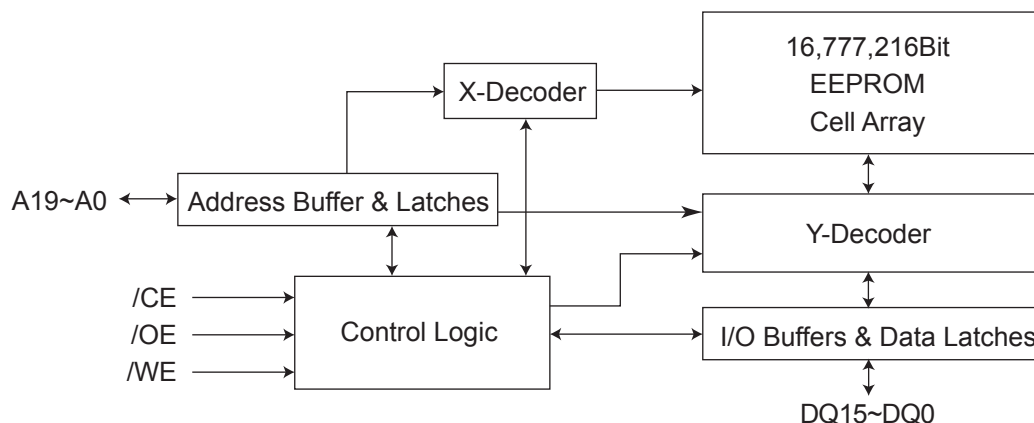
| Pin No. | Symbol   | I/O | Description                        |
|---------|----------|-----|------------------------------------|
| 16      | VO4(-)   | O   | Inverted output of CH4             |
| 17      | VO3(+)   | O   | Non inverted output of CH3         |
| 18      | VO3(-)   | O   | Inverted 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 SST39VF160-9DD (IC509) : 16M EEPROM

- Pin layout

|      |    |    |       |
|------|----|----|-------|
| A15  | 1  | 48 | A16   |
| A14  | 2  | 47 | /BYTE |
| A13  | 3  | 46 | Vss   |
| A12  | 4  | 45 | D15   |
| A11  | 5  | 44 | D7    |
| A10  | 6  | 43 | D14   |
| A9   | 7  | 42 | D6    |
| A8   | 8  | 41 | D13   |
| A19  | 9  | 40 | D5    |
| NC   | 10 | 39 | D12   |
| /WE  | 11 | 38 | D4    |
| /RST | 12 | 37 | VCC   |
| NC   | 13 | 36 | D11   |
| NC   | 14 | 35 | D3    |
| R/B  | 15 | 34 | D10   |
| A18  | 16 | 33 | D2    |
| A17  | 17 | 32 | D9    |
| A7   | 18 | 31 | D1    |
| A6   | 19 | 30 | D8    |
| A5   | 20 | 29 | D0    |
| A4   | 21 | 28 | /OE   |
| A3   | 22 | 27 | Vss   |
| A2   | 23 | 26 | /CE   |
| A1   | 24 | 25 | A0    |

- Block diagram

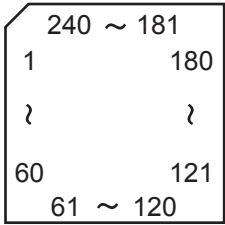


- Pin function

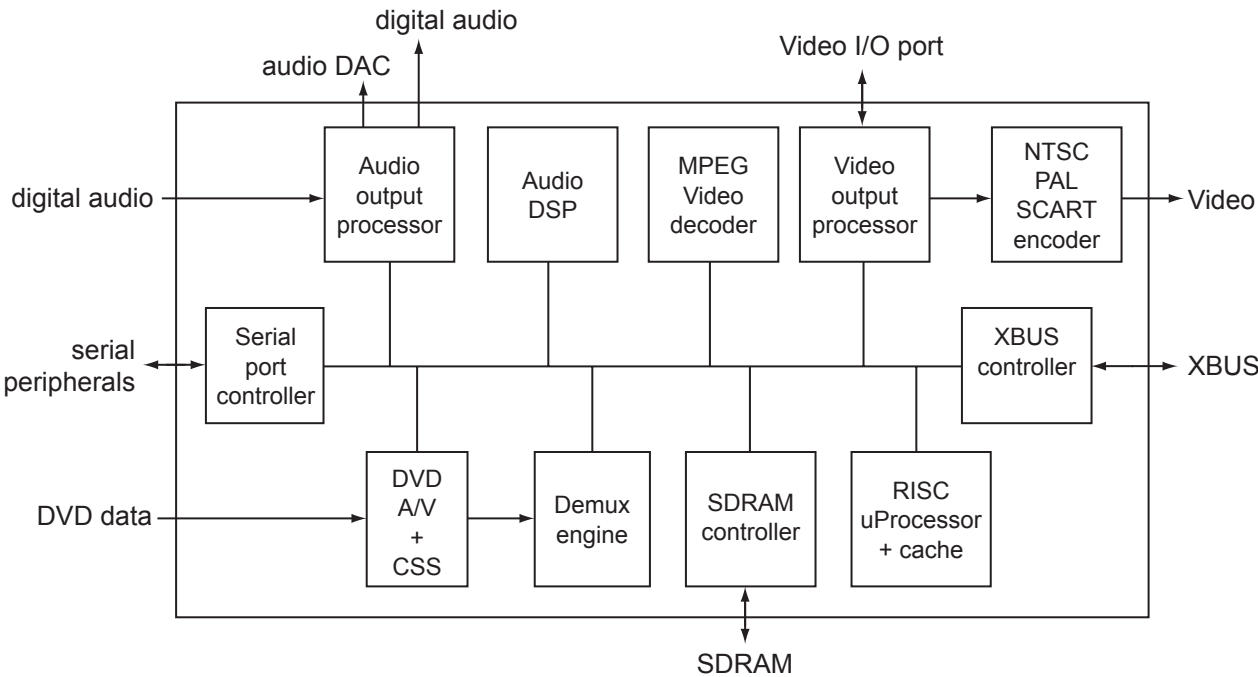
| Symbol   | Pin name          | Function                                                                                                                                                                             |
|----------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 JCE8045 (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                                                                                       |
| 127     | TRVSW   | -   | Non connect                                                                                       |

| Pin No. | Symbol   | I/O | Description                                                                       |
|---------|----------|-----|-----------------------------------------------------------------------------------|
| 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                   |
| 157~158 | 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 |
| 194~195 | 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                                                                  |
| 203     | ADSCIRQ  | I   | Interrupt input                                                                   |

| Pin No. | Symbol   | I/O | Description                                            |
|---------|----------|-----|--------------------------------------------------------|
| 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-025 (IC701) : System controller

- Pin layout

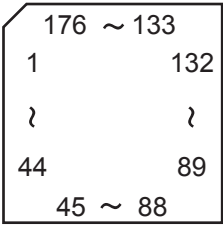
|         |    |    |             |
|---------|----|----|-------------|
| INT     | 1  | 30 | PROG        |
| S/COMP  | 2  | 29 | FASTPLAY    |
| VPP     | 3  | 28 | PROGRN      |
| RESET   | 4  | 27 | PRORED      |
| X2      | 5  | 26 | LMUTE       |
| X1      | 6  | 25 | AVCO        |
| VSS     | 7  | 24 | P.ON/STANDB |
| VDD     | 8  | 23 | CPURST      |
| TCLOSE  | 9  | 22 | MUTE        |
| TOPEN   | 10 | 21 | FLDIN       |
| AVCI    | 11 | 20 | FLDOUT      |
| REMO    | 12 | 19 | FLCLK       |
| SWCLOSE | 13 | 18 | FLSTB       |
| SWOPEN  | 14 | 17 | INTP        |
| RXD     | 15 | 16 | TXD         |

- Pin function

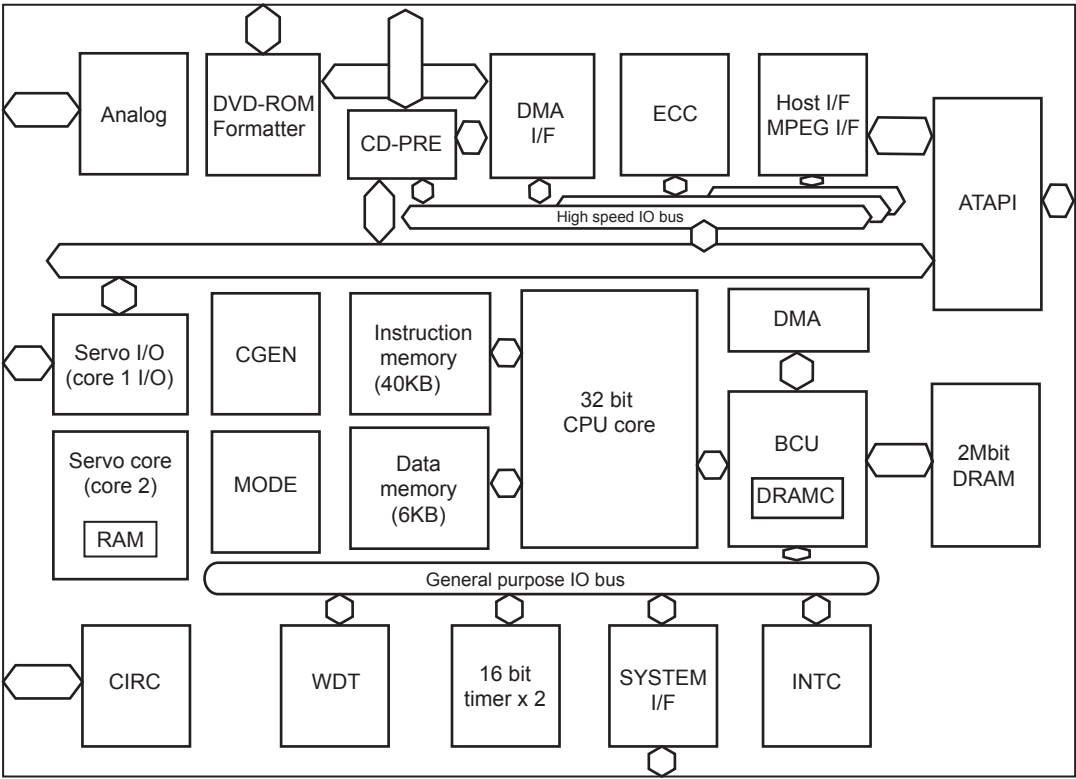
| Pin No. | Symbol      | I/O | Description                                                    |
|---------|-------------|-----|----------------------------------------------------------------|
| 1       | INT         | I   | INT/PROG Change signal input terminal H:Interlace              |
| 2       | S/COMP      | I   | S(L)/COMPONENT(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      | PRORED      | I   | Progressive LED control signal output (RED)                    |
| 28      | PROGRN      | I   | Progressive LED control signal output (GREEN)                  |
| 29      | FASTPLAY    | O   | Quick playback LED (green) signal output                       |
| 30      | PROG        | I   | INT/PROG Change signal input terminal H:Progressive            |

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)   |

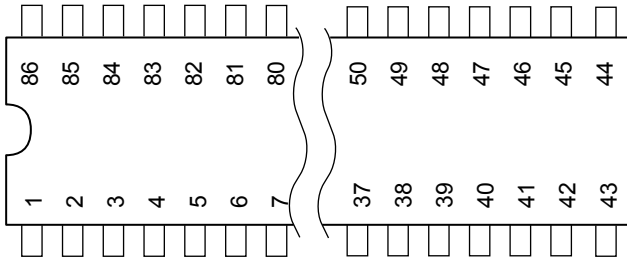
| Pin No. | Symbol    | I/O | Description                                          |
|---------|-----------|-----|------------------------------------------------------|
| 34      | NCS       | I   | System control chip select                           |
| 35      | NWR       | I   | Writing system control                               |
| 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 | DSL2,1  | 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     | NIRD    | 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

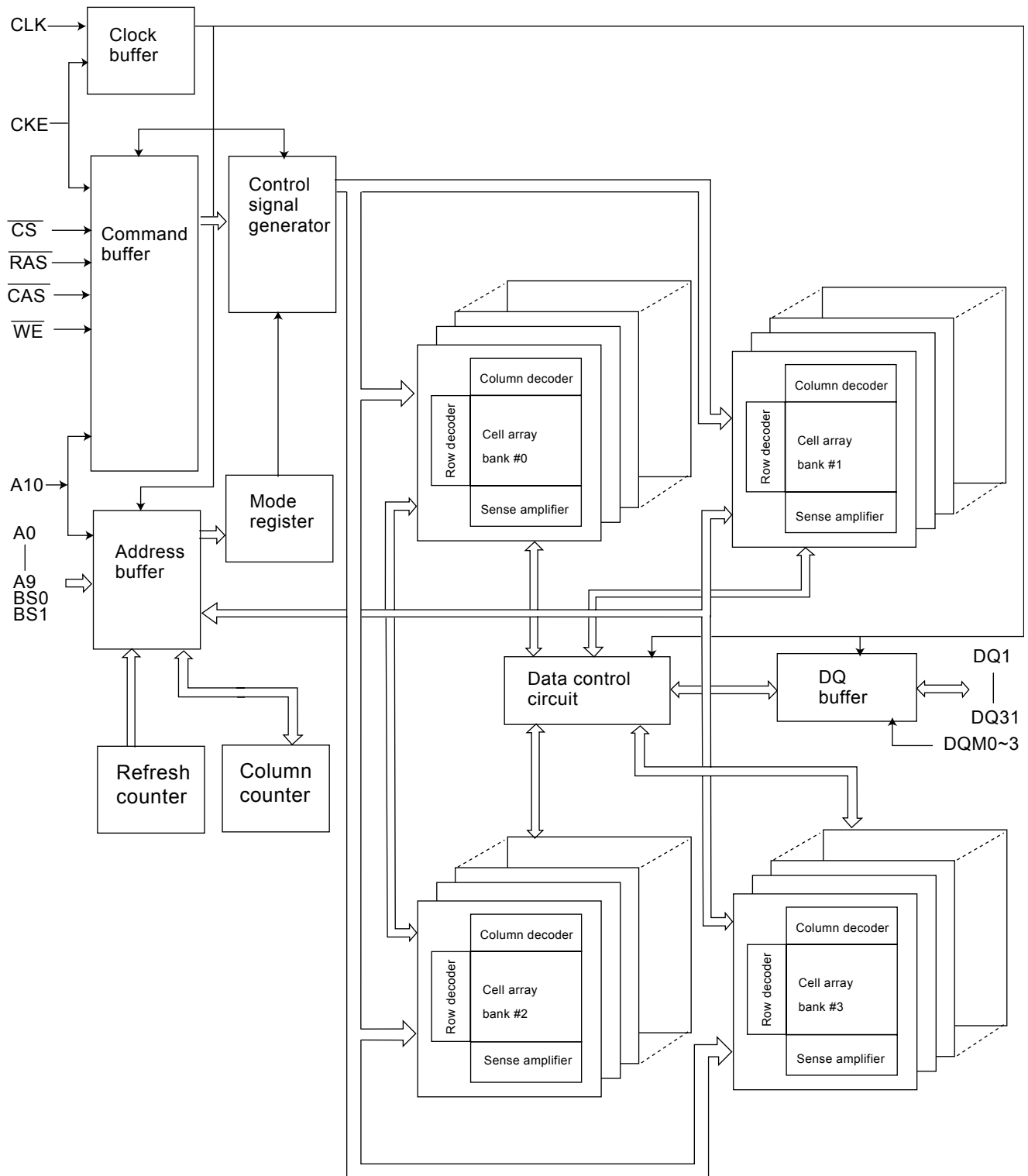


- Pin function

| 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      | -      | $\overline{\text{WE}}$  | Referred to $\overline{\text{RAS}}$                                                                                                                                                                         |
| 18      | -      | $\overline{\text{CAS}}$ | Referred to $\overline{\text{RAS}}$                                                                                                                                                                         |
| 19      | -      | $\overline{\text{RAS}}$ | Command input. When sampled at the rising edge of the clock $\overline{\text{RAS}}$ , $\overline{\text{CAS}}$ and $\overline{\text{WE}}$ define the operation to be executed.                               |
| 20      | -      | $\overline{\text{CS}}$  | 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   | -<br>- | BS0<br>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





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(No.XA003)



Printed in Japan  
WPC

# PARTS LIST

[XV-N40BK,XV-N44SL,XV-N4SL]  
**[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 (XV-N40BK,XV-N44SL)

J ..... U.S.A.  
 C ..... Canada

## Area Suffix (XV-N4SL)

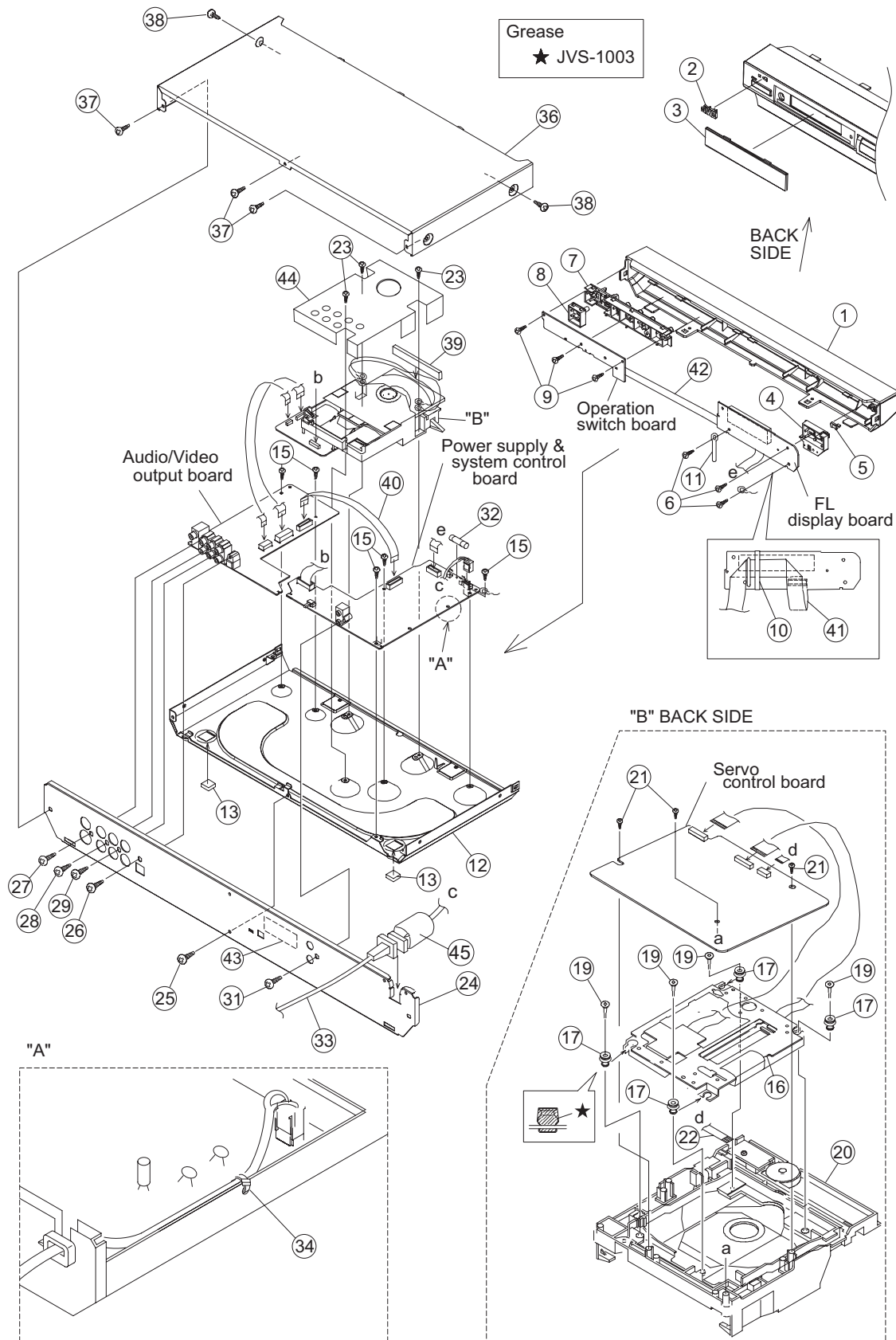
C ..... Canada

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| DVD Loading mechanism assembly and parts list .....    | 3-6  |
| Electrical parts list .....                            | 3-8  |
| Packing materials and accessories parts list .....     | 3-12 |

# 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            | GN10037-007A    | FRONT PANEL        |                     | 40C,40J         |
| 1            | GN10037-011A    | FRONT PANEL        |                     | 44C,44J         |
| 1            | GN10037-012A    | FRONT PANEL        |                     | 4C              |
| 2            | GN40020-001A    | JVC MARK           |                     | 40C,40J         |
| 2            | GN40020-002A    | JVC MARK           |                     | 44C,44J,4C      |
| 3            | GN20041-002A    | WINDOW SCREEN      |                     |                 |
| 4            | GN20040-003A    | PUSH BUTTON        | POWER               | 40C,40J         |
| 4            | GN20040-002A    | PUSH BUTTON        | POWER               | 44C,44J,4C      |
| 5            | GN30049-001A    | INDICATOR          |                     |                 |
| 6            | QYSDSF2608Z     | SCREW              | POWER SW.CB.(x3)    |                 |
| 7            | GN20043-005A    | PUSH BUTTON        | PLAY                | 40C,40J         |
| 7            | GN20043-002A    | PUSH BUTTON        | PLAY                | 44C,44J,4C      |
| 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       |                     | 40C,40J         |
| 12           | GN10038-001A    | CHASSIS BASE       |                     | 44C,44J,4C      |
| 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           | GN20047-023A    | REAR PANEL         |                     | 40C,40J         |
| 24           | GN20047-038A    | REAR PANEL         |                     | 44C,44J         |
| 24           | GN20047-051A    | REAR PANEL         |                     | 4C              |
| 25           | QYSBSGY3008M    | SPECIAL SCREW      | REAR+CHASSIS        |                 |
| 26           | QYSBSGY3008M    | SPECIAL SCREW      | OPT OUT             | 40C,40J,44C,44J |
| 27           | QYSBSGY3008M    | SPECIAL SCREW      | COAXIAL             |                 |
| 28           | QYSBSGY3008M    | SPECIAL SCREW      | AUDIO OUT           |                 |
| 29           | QYSBSGY3008M    | SPECIAL SCREW      | VIDEO OUT           |                 |
| 31           | QYSBSGY3008M    | SPECIAL SCREW      | COMPU LINK          |                 |
| △ 32         | QMF51U1-1R6-J8  | FUSE               | 1.6A AC125V         |                 |
| △ 33         | QMPD450-200-JN  | POWER CORD(US/CA)  | 2m BLACK            |                 |
| 34           | QZW0004-001     | WIRE CLAMP         |                     |                 |
| 36           | GN20046-001A/S/ | METAL COVER        |                     | 40C,40J         |
| 36           | GN20046-002A/S/ | METAL COVER        |                     | 44C,44J,4C      |
| 37           | QYSBSGG3008E    | TAPPING SCREW      | METAL REAR(x3)      |                 |
| 38           | QYSDSG3008M     | SCREW              | METAL SIDE(x2)      | 40C,40J         |
| 38           | QYSDSG3008N     | TAPPING SCREW      | METAL SIDE(x2)      | 44C,44J,4C      |
| 39           | GN20042-002A    | FITTING            |                     | 40C,40J         |
| 39           | GN20042-005A    | FITTING            |                     | 44C,44J,4C      |
| 40           | QUQ412-1923BJ   | FFC WIRE           |                     |                 |
| 41           | QUQ412-1417BJ   | FFC WIRE           |                     |                 |
| 42           | QUQ412-0817AJ   | FFC WIRE           |                     |                 |
| 43           | GN30080-001A    | SERVICE LABEL      |                     |                 |
| 44           | GN30081-002A    | SHIELD             |                     |                 |
| 45           | QQR0491-001     | FERRITE CORE       |                     |                 |

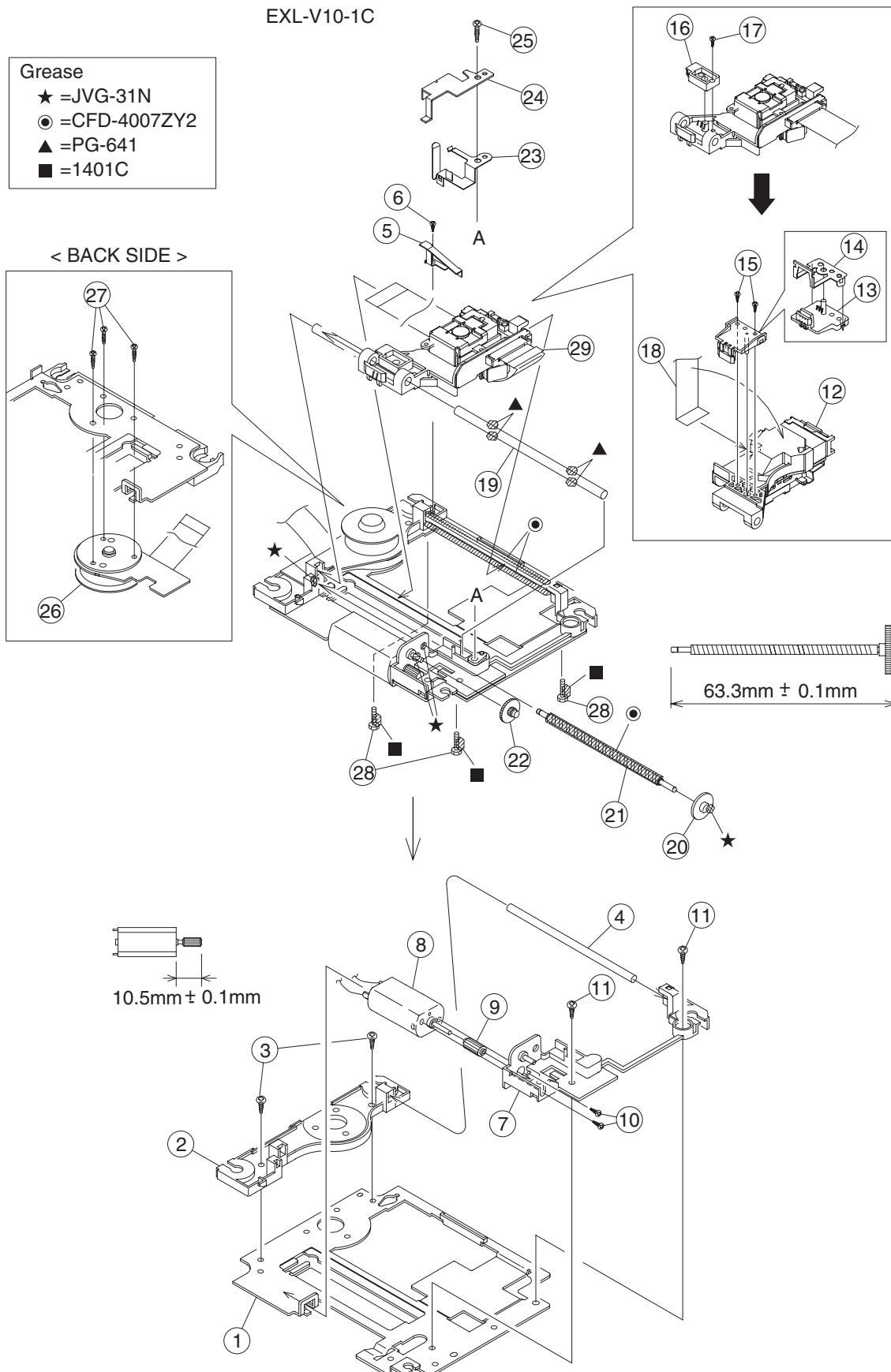
&lt;Local area&gt;

XV-N40BK J:40J C:40C

XV-N44SL J:44J C:44C XV-N4SL C:4C

# DVD Traverse mechanism assembly and parts list

Block No.M2MM



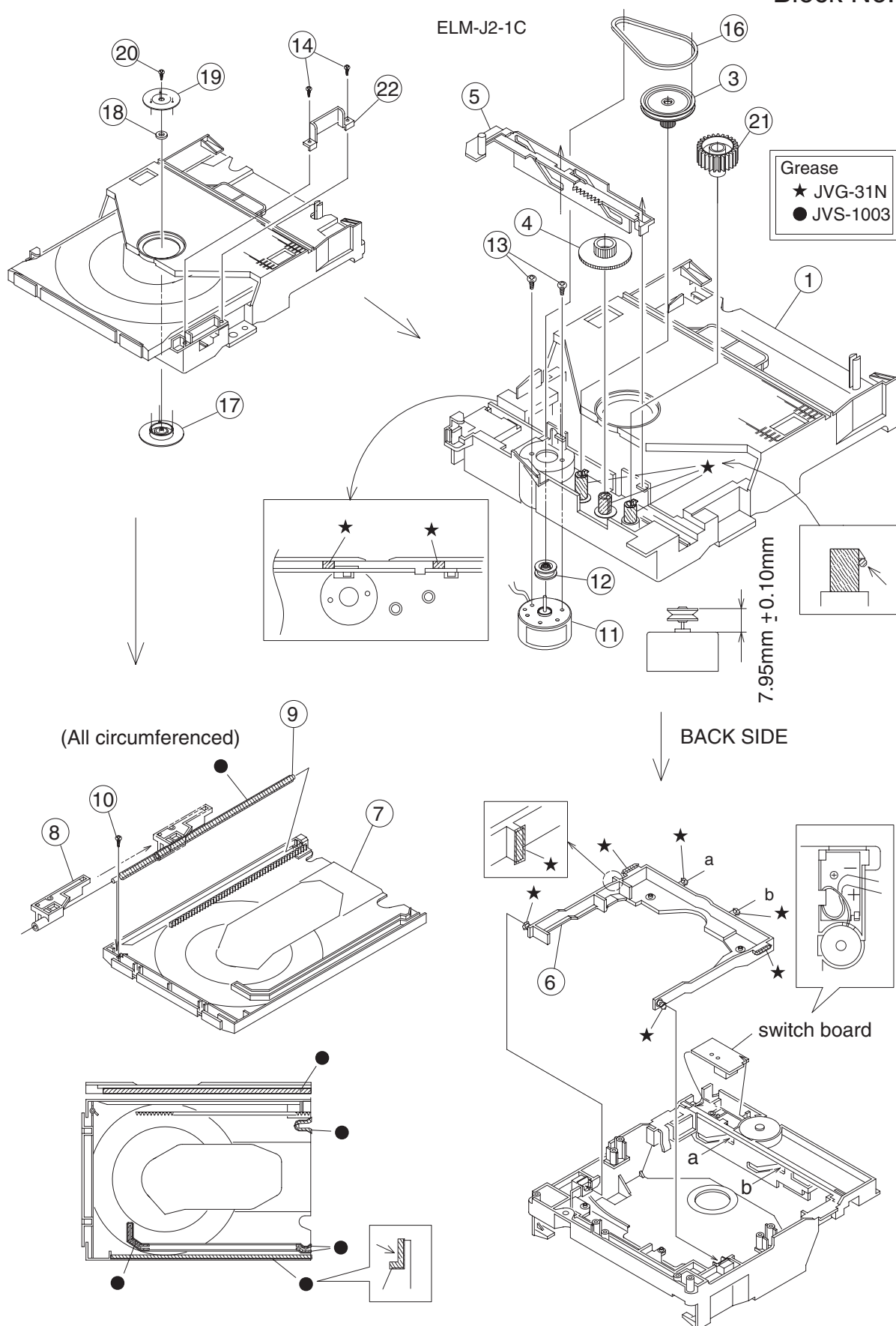
# DVD Traverse mechanism

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   |                 |       |

# 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          | △ Symbol No. | Part No.     | Part Name   | Description   | Local |
|--------------|-------------------|-----------------|----------------------------|----------------|--------------|--------------|-------------|---------------|-------|
| IC101        | AN8703FH-V        | IC              | Frontend processor for DVD |                | C301         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| IC201        | BA5983FM-X        | IC              | 4-channel driver           |                | C302         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| IC251        | BA6664FM-X        | IC              | Motor driver               |                | C303         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| IC301        | MN103S26EDC-H     | IC              |                            |                | C304         | NEA70GM-476X | E CAPACITOR | 47uF 4V M     |       |
| IC402        | AK4381VT-X        | IC              | 2ch DAC                    |                | C306         | NEA70GM-476X | E CAPACITOR | 47uF 4V M     |       |
| IC501        | JCE8045           | IC              |                            |                | C308         | NEA70GM-476X | E CAPACITOR | 47uF 4V M     |       |
| IC505        | or HY57643220CT55 | IC              |                            | 44J            | C310         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| IC505        | or W986432DH-7    | IC              | Bits SDRAM                 |                | C311         | NCB31HK-561X | C CAPACITOR | 560pF 50V K   |       |
| IC505        | HY57643220CT55    | IC              |                            | 40C,40J,44C,4C | C312         | NCB31HK-561X | C CAPACITOR | 560pF 50V K   |       |
| IC509        | SST39VF160H0891   | IC              |                            | except XV-N4SL | C313         | NCB31HK-561X | C CAPACITOR | 560pF 50V K   |       |
| IC509        | SST39VF160H0961   | IC              |                            | only XV-N4SL   | C314         | NCB31HK-331X | C CAPACITOR | 330pF 50V K   |       |
| IC511        | LM1117MP1.8-X     | IC              | Regulator                  |                | C315         | NCB31HK-471X | C CAPACITOR | 470pF 50V K   |       |
| IC512        | 74LCX373MTC-X     | IC(DIGITAL)     | Octal D-type latch         |                | C316         | NCB31HK-271X | C CAPACITOR | 270pF 50V K   |       |
| IC513        | 74LCX373MTC-X     | IC(DIGITAL)     | Octal D-type latch         |                | C317         | NCS31HJ-121X | C CAPACITOR | 120pF 50V J   |       |
| Q101         | 2SB1424/QR/-W     | TRANSISTOR      |                            |                | C318         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| Q102         | 2SB1424/QR/-W     | TRANSISTOR      |                            |                | C319         | NCB31HK-102X | C CAPACITOR | 1000pF 50V K  |       |
| Q103         | DTA144EE-X        | DIGI TRANSISTOR |                            |                | C320         | NCB31HK-102X | C CAPACITOR | 1000pF 50V K  |       |
| Q801         | UN2111-X          | TRANSISTOR      |                            | 4C             | C321         | NCB31HK-102X | C CAPACITOR | 1000pF 50V K  |       |
| Q802         | UN2111-X          | TRANSISTOR      |                            | 4C             | C322         | NCB31HK-562X | C CAPACITOR | 5600pF 50V K  |       |
| D101         | RB521S-30-X       | SB DIODE        |                            |                | C323         | NCB31HK-102X | C CAPACITOR | 1000pF 50V K  |       |
| D301         | RB521S-30-X       | SB DIODE        |                            |                | C324         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| C105         | NEA70JM-476X      | E CAPACITOR     | 47uF 6.3V M                |                | C325         | NCS31HJ-470X | C CAPACITOR | 47pF 50V J    |       |
| C106         | NEA70JM-476X      | E CAPACITOR     | 47uF 6.3V M                |                | C326         | NCB31CK-183X | C CAPACITOR | 0.018uF 16V K |       |
| C109         | NCB31CK-104X      | C CAPACITOR     | 0.1uF 16V K                |                | C327         | NCB31HK-102X | C CAPACITOR | 1000pF 50V K  |       |
| C110         | NCS31HJ-221X      | C CAPACITOR     | 220pF 50V J                |                | C328         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| C111         | NCF31CZ-104X      | C CAPACITOR     | 0.1uF 16V Z                |                | C329         | NCB31CK-103X | C CAPACITOR | 0.01uF 16V K  |       |
| C112         | NCF31CZ-104X      | C CAPACITOR     | 0.1uF 16V Z                |                | C330         | NCB31CK-104X | C CAPACITOR | 0.1uF 16V K   |       |
| C116         | NCB31CK-104X      | C CAPACITOR     | 0.1uF 16V K                |                | C331         | NCB31CK-103X | C CAPACITOR | 0.01uF 16V K  |       |
| C117         | NCB31CK-473X      | C CAPACITOR     | 0.047uF 16V K              |                | C332         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| C118         | NCB31CK-273X      | C CAPACITOR     | 0.027uF 16V K              |                | C333         | NCB31CK-104X | C CAPACITOR | 0.1uF 16V K   |       |
| C119         | NCB31HK-561X      | C CAPACITOR     | 560pF 50V K                |                | C334         | NCB31CK-104X | C CAPACITOR | 0.1uF 16V K   |       |
| C120         | NCB31HK-561X      | C CAPACITOR     | 560pF 50V K                |                | C337         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| C121         | NCB31CK-104X      | C CAPACITOR     | 0.1uF 16V K                |                | C338         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| C122         | NCS31HJ-120X      | C CAPACITOR     | 12pF 50V J                 |                | C339         | NCB31CK-104X | C CAPACITOR | 0.1uF 16V K   |       |
| C123         | NCF31CZ-104X      | C CAPACITOR     | 0.1uF 16V Z                |                | C340         | NCB31CK-104X | C CAPACITOR | 0.1uF 16V K   |       |
| C124         | NCS31HJ-470X      | C CAPACITOR     | 47pF 50V J                 |                | C341         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| C125         | NCB31HK-271X      | C CAPACITOR     | 270pF 50V K                |                | C343         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| C126         | NCF31CZ-104X      | C CAPACITOR     | 0.1uF 16V Z                |                | C345         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| C127         | NCF31CZ-104X      | C CAPACITOR     | 0.1uF 16V Z                |                | C346         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| C128         | NCF31CZ-104X      | C CAPACITOR     | 0.1uF 16V Z                |                | C347         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| C129         | NCB31HK-472X      | C CAPACITOR     | 4700pF 50V K               |                | C348         | NCB31CK-104X | C CAPACITOR | 0.1uF 16V K   |       |
| C135         | NEA70JM-476X      | E CAPACITOR     | 47uF 6.3V M                |                | C349         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| C137         | NEA70GM-476X      | E CAPACITOR     | 47uF 4V M                  |                | C350         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| C138         | NCF31CZ-104X      | C CAPACITOR     | 0.1uF 16V Z                |                | C360         | NEA70GM-476X | E CAPACITOR | 47uF 4V M     |       |
| C141         | NCF31CZ-104X      | C CAPACITOR     | 0.1uF 16V Z                |                | C400         | NCB31HK-102X | C CAPACITOR | 1000pF 50V K  |       |
| C142         | NCF31CZ-104X      | C CAPACITOR     | 0.1uF 16V Z                |                | C407         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| C144         | NCB31CK-103X      | C CAPACITOR     | 0.01uF 16V K               |                | C408         | NEA70JM-227X | E CAPACITOR | 220uF 6.3V M  |       |
| C204         | NCF31CZ-104X      | C CAPACITOR     | 0.1uF 16V Z                |                | C409         | NEA70JM-227X | E CAPACITOR | 220uF 6.3V M  |       |
| C205         | NCS31HJ-121X      | C CAPACITOR     | 120pF 50V J                |                | C501         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| C207         | NCB31HK-391X      | C CAPACITOR     | 390pF 50V K                |                | C506         | NDC31HJ-150X | C CAPACITOR | 15pF 50V J    |       |
| C208         | NCB31HK-391X      | C CAPACITOR     | 390pF 50V K                |                | C507         | NDC31HJ-180X | C CAPACITOR | 18pF 50V J    |       |
| C211         | NCB31HK-223X      | C CAPACITOR     | 0.022uF 50V K              |                | C512         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| C212         | NCB31CK-103X      | C CAPACITOR     | 0.01uF 16V K               |                | C517         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| C216         | NCB30JK-105X      | C CAPACITOR     | 1uF 6.3V K                 |                | C518         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| C217         | NCF31CZ-104X      | C CAPACITOR     | 0.1uF 16V Z                |                | C519         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| C218         | NCB30JK-105X      | C CAPACITOR     | 1uF 6.3V K                 |                | C521         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| C251         | NCF31CZ-104X      | C CAPACITOR     | 0.1uF 16V Z                |                | C523         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| C253         | NCF31CZ-104X      | C CAPACITOR     | 0.1uF 16V Z                |                | C524         | NEA70GM-476X | E CAPACITOR | 47uF 4V M     |       |
| C255         | NCB31CK-153X      | C CAPACITOR     | 0.015uF 16V K              |                | C527         | NEA70GM-476X | E CAPACITOR | 47uF 4V M     |       |
| C256         | NCB31CK-104X      | C CAPACITOR     | 0.1uF 16V K                |                | C531         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| C257         | NCF31CZ-104X      | C CAPACITOR     | 0.1uF 16V Z                |                | C532         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| C258         | NCF31CZ-104X      | C CAPACITOR     | 0.1uF 16V Z                |                | C533         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| C259         | NCF31CZ-104X      | C CAPACITOR     | 0.1uF 16V Z                |                | C534         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| C260         | NCF31CZ-104X      | C CAPACITOR     | 0.1uF 16V Z                |                | C540         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| C261         | NCF31CZ-104X      | C CAPACITOR     | 0.1uF 16V Z                |                | C541         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| C262         | NCF31CZ-104X      | C CAPACITOR     | 0.1uF 16V Z                |                | C542         | NCB31CK-104X | C CAPACITOR | 0.1uF 16V K   |       |
| C263         | NCF31CZ-104X      | C CAPACITOR     | 0.1uF 16V Z                |                | C543         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |
| C264         | NCB31CK-103X      | C CAPACITOR     | 0.01uF 16V K               |                | 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   |       |
|              |                   |                 |                            |                | C551         | NCB31CK-103X | C CAPACITOR | 0.01uF 16V K  |       |
|              |                   |                 |                            |                | C554         | NCF31CZ-104X | C CAPACITOR | 0.1uF 16V Z   |       |

&lt;Local area&gt;

XV-N40BK J:40J C:40C

XV-N44SL J:44J C:44C XV-N4SL C:4C

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

&lt;Local area&gt;

XV-N40BK J:40J C:40C

XV-N44SL J:44J C:44C XV-N4SL C:4C

(No.XA003)3-9

Main board

| Block No. [0][2] |                           |           |                  |                  | △ Symbol No. | Part No.     | Part Name    | Description      | Local            |
|------------------|---------------------------|-----------|------------------|------------------|--------------|--------------|--------------|------------------|------------------|
| △ Symbol No.     | Part No.                  | Part Name | Description      | Local            | C755         | NCS31HJ-471X | C CAPACITOR  | 470pF 50V J      |                  |
| IC701            | UPD789074MC-025 IC        |           |                  |                  | C756         | NCS31HJ-471X | C CAPACITOR  | 470pF 50V J      |                  |
| IC702            | IC-PST3527N-X IC          |           |                  |                  | C757         | QETN1EM-226Z | E CAPACITOR  | 22uF 25V M       |                  |
| IC704            | 74VHC08ASJ-X IC           |           | 2-input AND gate |                  | C758         | QETN1EM-226Z | E CAPACITOR  | 22uF 25V M       |                  |
| IC751            | NJM14558M-W IC            |           |                  |                  | C759         | NCB31HK-222X | C CAPACITOR  | 2200pF 50V K     |                  |
| IC801            | PT6315-S IC               |           |                  |                  | C760         | NCB31HK-222X | C CAPACITOR  | 2200pF 50V K     |                  |
| IC802            | RPM7238-H9 IR DETECT UINT |           |                  |                  | C763         | NCB31HK-152X | C CAPACITOR  | 1500pF 50V K     |                  |
| △ IC901          | MIP2C40MP IC              |           |                  |                  | C764         | QETN1CM-107Z | E CAPACITOR  | 100uF 16V M      |                  |
| IC951            | MM1565AF-X IC             |           | Regulator        |                  | C765         | QETN1CM-107Z | E CAPACITOR  | 100uF 16V M      |                  |
| IC952            | TL431/A-T IC              |           |                  |                  | C791         | QETN1EM-475Z | E CAPACITOR  | 4.7uF 25V M      |                  |
| Q701             | KRC107S-X DIGI TRANSISTOR |           |                  |                  | C793         | QETN1AM-107Z | E CAPACITOR  | 100uF 10V M      | 40C,40J,44C, 44J |
| Q751             | 2SC3576-JVC-T TRANSISTOR  |           |                  |                  | C794         | NCB31CK-104X | C CAPACITOR  | 0.1uF 16V K      | 40C,40J,44C, 44J |
| Q752             | 2SC3576-JVC-T TRANSISTOR  |           |                  |                  | C795         | QETN1EM-476Z | E CAPACITOR  | 47uF 25V M       |                  |
| Q755             | UN221E-X TRANSISTOR       |           |                  |                  | C797         | NDC31HJ-151X | C CAPACITOR  | 150pF 50V J      |                  |
| Q756             | UN2111-X TRANSISTOR       |           |                  |                  | C798         | NCB31CK-104X | C CAPACITOR  | 0.1uF 16V K      |                  |
| Q757             | 2SD601A-X TRANSISTOR      |           |                  |                  | C801         | QER60JM-106Z | E CAPACITOR  | 10uF 6.3V M      |                  |
| Q801             | KRA102S-X DIGI TRANSISTOR |           |                  | 40C,40J,44C, 44J | C802         | QETN1HM-475Z | E CAPACITOR  | 4.7uF 50V M      |                  |
| Q802             | KRA102S-X DIGI TRANSISTOR |           |                  | 40C,40J,44C, 44J | C803         | NCB31CK-104X | C CAPACITOR  | 0.1uF 16V K      |                  |
| Q951             | 2SC3576-JVC-T TRANSISTOR  |           |                  |                  | C804         | QER60JM-476Z | E CAPACITOR  | 47uF 6.3V M      |                  |
| Q952             | UN2113-X TRANSISTOR       |           |                  |                  | C805         | NCB31CK-104X | C CAPACITOR  | 0.1uF 16V K      |                  |
| Q953             | 2SD2264/R-T TRANSISTOR    |           |                  |                  | C808         | QETN1HM-475Z | E CAPACITOR  | 4.7uF 50V M      |                  |
| D701             | 1SS133-T2 DIODE           |           |                  |                  | C809         | QEK31HM-476Z | E CAPACITOR  | 47uF 50V M       |                  |
| D801             | SLR-342VC-T LED           |           |                  |                  | C810         | NCB31HK-102X | C CAPACITOR  | 1000pF 50V K     |                  |
| D802             | SPR-325MVWL/-T LED        |           | GREEN-RED        |                  | C811         | NCB31CK-104X | C CAPACITOR  | 0.1uF 16V K      |                  |
| D803             | 1SS133-T2 DIODE           |           |                  |                  | △ C902       | QFZ9073-473  | MM CAPACITOR | 0.047uF AC250V M |                  |
| D804             | 1SS133-T2 DIODE           |           |                  |                  | △ C905       | QCZ9079-102  | C CAPACITOR  | 1000pF AC250V M  |                  |
| D805             | 1SS133-T2 DIODE           |           |                  |                  | C906         | QCZ9079-102  | C CAPACITOR  | 1000pF AC250V M  |                  |
| D806             | 1SS133-T2 DIODE           |           |                  |                  | C907         | QETM2DM-476  | E CAPACITOR  | 47uF 200V M      |                  |
| D810             | SLR-342MC-T LED           |           |                  |                  | △ C908       | QCZ0136-332Z | C CAPACITOR  | 3300pF 1kV K     |                  |
| △ D901           | D1106 BRIDGE DIODE        |           |                  |                  | C913         | QCZ0136-101Z | C CAPACITOR  | 100pF 1kV K      |                  |
| △ D902           | 1F4-T2 FR DIODE           |           |                  |                  | C914         | QEZ0598-226Z | E CAPACITOR  | 22uF             |                  |
| △ D903           | 1F4-T2 FR DIODE           |           |                  |                  | C915         | NCB31CK-104X | C CAPACITOR  | 0.1uF 16V K      |                  |
| △ D904           | 1SS244-T2 SI DIODE        |           |                  |                  | △ C918       | QFZ9073-473  | MM CAPACITOR | 0.047uF AC250V M |                  |
| △ D951           | 1F4-T2 FR DIODE           |           |                  |                  | C950         | QEZ0592-107Z | E CAPACITOR  | 100uF            |                  |
| △ D952           | 1F4-T2 FR DIODE           |           |                  |                  | C951         | QETN1EM-226Z | E CAPACITOR  | 22uF 25V M       |                  |
| △ D953           | UF304G-F82 FR DIOAE       |           |                  |                  | C952         | QEZ0592-108Z | E CAPACITOR  | 1000uF           |                  |
| △ D954           | 1F4-T2 FR DIODE           |           |                  |                  | C953         | QETN1HM-226Z | E CAPACITOR  | 22uF 50V M       |                  |
| △ D955           | PS154R-F83 DIODE          |           |                  |                  | C954         | NCB31CK-104X | C CAPACITOR  | 0.1uF 16V K      |                  |
| △ D956           | 1F4-T2 FR DIODE           |           |                  |                  | C955         | QETN0JM-107Z | E CAPACITOR  | 100uF 6.3V M     |                  |
| △ D957           | 1F4-T2 FR DIODE           |           |                  |                  | C956         | NCB31CK-104X | C CAPACITOR  | 0.1uF 16V K      |                  |
| PC901            | PC123Y22 PHOTO COUPLER    |           |                  |                  | C957         | QETN0JM-107Z | E CAPACITOR  | 100uF 6.3V M     |                  |
| C602             | NCS31HJ-221X C CAPACITOR  |           | 220pF 50V J      |                  | C958         | QEZ0529-477Z | E CAPACITOR  | 470uF 10V M      |                  |
| C603             | NCS31HJ-331X C CAPACITOR  |           | 330pF 50V J      |                  | C959         | QETN1AM-107Z | E CAPACITOR  | 100uF 10V M      |                  |
| C604             | NCS31HJ-220X C CAPACITOR  |           | 22pF 50V J       |                  | C960         | NCF31AZ-105X | C CAPACITOR  | 1uF 10V Z        |                  |
| C612             | NCS31HJ-101X C CAPACITOR  |           | 100pF 50V J      |                  | C963         | QEZ0594-107Z | E CAPACITOR  | 100uF            |                  |
| C613             | NCS31HJ-151X C CAPACITOR  |           | 150pF 50V J      |                  | C964         | QEZ0594-107Z | E CAPACITOR  | 100uF            |                  |
| C614             | NCS31HJ-220X C CAPACITOR  |           | 22pF 50V J       |                  | C965         | QETN1CM-107Z | E CAPACITOR  | 100uF 16V M      |                  |
| C622             | NCS31HJ-101X C CAPACITOR  |           | 100pF 50V J      |                  | C966         | QETN1CM-107Z | E CAPACITOR  | 100uF 16V M      |                  |
| C623             | NCS31HJ-151X C CAPACITOR  |           | 150pF 50V J      |                  | C967         | QEZ0594-337Z | E CAPACITOR  | 330uF            |                  |
| C624             | NCS31HJ-220X C CAPACITOR  |           | 22pF 50V J       |                  | C969         | NCF31AZ-333X | C CAPACITOR  | 0.033uF 10V Z    |                  |
| C632             | NCS31HJ-101X C CAPACITOR  |           | 100pF 50V J      |                  | C971         | NCS31HJ-471X | C CAPACITOR  | 470pF 50V J      |                  |
| C633             | NCS31HJ-151X C CAPACITOR  |           | 150pF 50V J      |                  | C972         | NCB30JK-105X | C CAPACITOR  | 1uF 6.3V K       |                  |
| C634             | NCS31HJ-220X C CAPACITOR  |           | 22pF 50V J       |                  | C973         | QETN0JM-107Z | E CAPACITOR  | 100uF 6.3V M     |                  |
| C639             | NCB31CK-104X C CAPACITOR  |           | 0.1uF 16V K      |                  | C974         | QETN1EM-476Z | E CAPACITOR  | 47uF 25V M       |                  |
| C683             | NCS31HJ-331X C CAPACITOR  |           | 330pF 50V J      |                  | C975         | QETN0JM-107Z | E CAPACITOR  | 100uF 6.3V M     |                  |
| C685             | NCB31HK-221X C CAPACITOR  |           | 220pF 50V K      |                  | C976         | QETN1EM-476Z | E CAPACITOR  | 47uF 25V M       |                  |
| C686             | NCB31HK-221X C CAPACITOR  |           | 220pF 50V K      |                  | C977         | QETN1EM-476Z | E CAPACITOR  | 47uF 25V M       |                  |
| C701             | QETN0JM-107Z E CAPACITOR  |           | 100uF 6.3V M     |                  | C982         | NCB31CK-104X | C CAPACITOR  | 0.1uF 16V K      |                  |
| C702             | NCB31CK-104X C CAPACITOR  |           | 0.1uF 16V K      |                  | C983         | NCB31CK-104X | C CAPACITOR  | 0.1uF 16V K      |                  |
| C703             | NCB31CK-103X C CAPACITOR  |           | 0.01uF 16V K     |                  | C984         | NCB31CK-104X | C CAPACITOR  | 0.1uF 16V K      |                  |
| C704             | NCB31CK-104X C CAPACITOR  |           | 0.1uF 16V K      |                  | C988         | QETN1CM-107Z | E CAPACITOR  | 100uF 16V M      |                  |
| C705             | NCS31HJ-331X C CAPACITOR  |           | 330pF 50V J      |                  | R2           | NRSA63J-0R0X | MG RESISTOR  | 0Ω 1/16W J       |                  |
| C706             | QETN0JM-107Z E CAPACITOR  |           | 100uF 6.3V M     |                  | R682         | NRSA63J-100X | MG RESISTOR  | 10Ω 1/16W J      |                  |
| C707             | NCS31HJ-101X C CAPACITOR  |           | 100pF 50V J      |                  | R683         | NRSA63J-100X | MG RESISTOR  | 10Ω 1/16W J      |                  |
| C714             | NCB31CK-104X C CAPACITOR  |           | 0.1uF 16V K      |                  | R701         | NRSA63J-103X | MG RESISTOR  | 10kΩ 1/16W J     |                  |
| C751             | NCB31CK-332X C CAPACITOR  |           | 3300pF 16V K     |                  | R702         | NRSA63J-103X | MG RESISTOR  | 10kΩ 1/16W J     |                  |
| C752             | NCB31CK-332X C CAPACITOR  |           | 3300pF 16V K     |                  | R703         | NRSA63J-103X | MG RESISTOR  | 10kΩ 1/16W J     |                  |
| C753             | NCS31HJ-471X C CAPACITOR  |           | 470pF 50V J      |                  | R705         | NRSA63J-103X | MG RESISTOR  | 10kΩ 1/16W J     |                  |
| C754             | NCS31HJ-471X C CAPACITOR  |           | 470pF 50V J      |                  | R706         | NRSA63J-102X | MG RESISTOR  | 1kΩ 1/16W J      |                  |
|                  |                           |           |                  |                  | R707         | NRSA63J-103X | MG RESISTOR  | 10kΩ 1/16W J     |                  |
|                  |                           |           |                  |                  | R708         | NRSA63J-472X | MG RESISTOR  | 4.7kΩ 1/16W J    |                  |
|                  |                           |           |                  |                  | 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     |                  |
|                  |                           |           |                  |                  | R715         | NRSA63J-101X | MG RESISTOR  | 100Ω 1/16W J     |                  |

| △ Symbol No. | Part No.     | Part Name    | Description   | Local | △ Symbol No. | Part No.       | Part Name       | Description    | Local           |
|--------------|--------------|--------------|---------------|-------|--------------|----------------|-----------------|----------------|-----------------|
| R751         | NRSA63J-392X | MG RESISTOR  | 3.9kΩ 1/16W J |       | T901         | QQS0197-001    | SW TRANSF       |                |                 |
| R752         | NRSA63J-392X | MG RESISTOR  | 3.9kΩ 1/16W J |       | BK801        | GN30053-001A   | VFD HOLDER      |                |                 |
| R755         | NRSA63J-392X | MG RESISTOR  | 3.9kΩ 1/16W J |       | CN601        | QGB1231M1-15   | CONNECTOR       | B-B (1-15)     |                 |
| R756         | NRSA63J-392X | MG RESISTOR  | 3.9kΩ 1/16W J |       | CN701        | QGB1231M1-09   | CONNECTOR       | B-B (1-9)      |                 |
| R759         | NRSA63J-472X | MG RESISTOR  | 4.7kΩ 1/16W J |       | CN702        | QGF1201C3-19   | CONNECTOR       | FFC/FPC (1-19) |                 |
| R760         | NRSA63J-472X | MG RESISTOR  | 4.7kΩ 1/16W J |       | CN801        | QGF1201F3-14   | CONNECTOR       | FFC/FPC (1-14) |                 |
| R761         | NRSA63J-201X | MG RESISTOR  | 200Ω 1/16W J  |       | CN802        | QGF1201F3-08   | CONNECTOR       | FFC/FPC (1-8)  |                 |
| R762         | NRSA63J-201X | MG RESISTOR  | 200Ω 1/16W J  |       | CN803        | QGF1201F3-08   | CONNECTOR       | FFC/FPC (1-8)  |                 |
| R763         | NRSA63J-201X | MG RESISTOR  | 200Ω 1/16W J  |       | CN901        | QGF1201C3-14   | CONNECTOR       | FFC/FPC (1-14) |                 |
| R764         | NRSA63J-201X | MG RESISTOR  | 200Ω 1/16W J  |       | CN902        | QGB1231M1-15   | CONNECTOR       | B-B (1-15)     |                 |
| R765         | NRSA63J-472X | MG RESISTOR  | 4.7kΩ 1/16W J |       | CN904        | QGF1201C3-19   | CONNECTOR       | FFC/FPC (1-19) |                 |
| R766         | NRSA63J-472X | MG RESISTOR  | 4.7kΩ 1/16W J |       | △ CP951      | ICP-N10-T      | IC PROTECTOR    | 400mA          |                 |
| R767         | NRSA63J-561X | MG RESISTOR  | 560Ω 1/16W J  |       | DI801        | QLF0112-001    | FL TUBE         |                |                 |
| R768         | NRSA63J-561X | MG RESISTOR  | 560Ω 1/16W J  |       | DI801        | or QLF0122-001 | FL TUBE         |                |                 |
| R769         | NRSA63J-273X | MG RESISTOR  | 27kΩ 1/16W J  |       | EP951        | QNZ0136-001Z   | EARTH PLATE     |                |                 |
| R770         | NRSA63J-273X | MG RESISTOR  | 27kΩ 1/16W J  |       | EP952        | QNZ0136-001Z   | EARTH PLATE     |                |                 |
| R771         | NRSA63J-103X | MG RESISTOR  | 10kΩ 1/16W J  |       | EP953        | QNZ0136-001Z   | EARTH PLATE     |                |                 |
| R772         | NRSA63J-103X | MG RESISTOR  | 10kΩ 1/16W J  |       | FC901        | QNG0003-001Z   | FUSE CLIP       |                |                 |
| R773         | NRSA63J-101X | MG RESISTOR  | 100Ω 1/16W J  |       | FC902        | QNG0003-001Z   | FUSE CLIP       |                |                 |
| R774         | NRSA63J-101X | MG RESISTOR  | 100Ω 1/16W J  |       | J601         | QNN0590-001    | PIN JACK        |                |                 |
| R782         | NRSA63J-473X | MG RESISTOR  | 47kΩ 1/16W J  |       | J602         | QNN0564-001    | PIN JACK        |                |                 |
| R783         | NRSA63J-221X | MG RESISTOR  | 220Ω 1/16W J  |       | J702         | QNS0221-001    | 3.5 JACK        |                |                 |
| R784         | NRSA63J-221X | MG RESISTOR  | 220Ω 1/16W J  |       | J703         | GP1FA352TZ     | OPT TRANSMITTER |                | 40C,40J,44C,44J |
| R785         | NRSA63J-473X | MG RESISTOR  | 47kΩ 1/16W J  |       | K682         | NQR0227-004X   | FERRITE BEADS   |                |                 |
| R786         | NRSA63J-103X | MG RESISTOR  | 10kΩ 1/16W J  |       | K792         | NQR0227-004X   | FERRITE BEADS   |                |                 |
| R787         | NRSA63J-104X | MG RESISTOR  | 100kΩ 1/16W J |       | K815         | NRSA63J-0R0X   | MG RESISTOR     | 0Ω 1/16W J     |                 |
| R788         | NRSA63J-473X | MG RESISTOR  | 47kΩ 1/16W J  |       | K816         | NRSA63J-0R0X   | MG RESISTOR     | 0Ω 1/16W J     |                 |
| R790         | NRSA63J-100X | MG RESISTOR  | 10Ω 1/16W J   |       | K817         | NRSA63J-0R0X   | MG RESISTOR     | 0Ω 1/16W J     |                 |
| R791         | NRSA63J-301X | MG RESISTOR  | 300Ω 1/16W J  |       | K818         | NRSA63J-0R0X   | MG RESISTOR     | 0Ω 1/16W J     |                 |
| R792         | NRSA63J-301X | MG RESISTOR  | 300Ω 1/16W J  |       | K819         | NRSA63J-0R0X   | MG RESISTOR     | 0Ω 1/16W J     |                 |
| R794         | NRSA63J-820X | MG RESISTOR  | 82Ω 1/16W J   |       | K820         | NRSA63J-0R0X   | MG RESISTOR     | 0Ω 1/16W J     |                 |
| R802         | NRSA63J-181X | MG RESISTOR  | 180Ω 1/16W J  |       | K821         | NRSA63J-0R0X   | MG RESISTOR     | 0Ω 1/16W J     |                 |
| R804         | NRSA63J-104X | MG RESISTOR  | 100kΩ 1/16W J |       | K822         | NRSA63J-0R0X   | MG RESISTOR     | 0Ω 1/16W J     |                 |
| R807         | NRSA63J-103X | MG RESISTOR  | 10kΩ 1/16W J  |       | K823         | NRSA63J-0R0X   | MG RESISTOR     | 0Ω 1/16W J     |                 |
| R808         | NRSA63J-103X | MG RESISTOR  | 10kΩ 1/16W J  |       | P901         | QGA7901C1-02   | CONNECTOR       | W-B (1-2)      |                 |
| R809         | NRSA63J-103X | MG RESISTOR  | 10kΩ 1/16W J  |       | S801         | QSW0651-001Z   | TACT SWITCH     |                |                 |
| R810         | NRSA63J-151X | MG RESISTOR  | 150Ω 1/16W J  |       | S802         | QSW0651-001Z   | TACT SWITCH     |                |                 |
| R811         | NRSA63J-0R0X | MG RESISTOR  | 0Ω 1/16W J    |       | S803         | QSW0651-001Z   | TACT SWITCH     |                |                 |
| R812         | NRSA63J-0R0X | MG RESISTOR  | 0Ω 1/16W J    |       | S804         | QSW0651-001Z   | TACT SWITCH     |                |                 |
| R813         | NRSA63J-820X | MG RESISTOR  | 82Ω 1/16W J   |       | S805         | QSW0651-001Z   | TACT SWITCH     |                |                 |
| R814         | NRSA63J-221X | MG RESISTOR  | 220Ω 1/16W J  |       | S806         | QSW0651-001Z   | TACT SWITCH     |                |                 |
| △ R901       | QRL01DJ-683X | OMF RESISTOR | 68kΩ 1W J     |       | S807         | QSW0651-001Z   | TACT SWITCH     |                |                 |
| △ R903       | QRE141J-181Y | C RESISTOR   | 180Ω 1/4W J   |       | S808         | QSW0651-001Z   | TACT SWITCH     |                |                 |
| R906         | QRE141J-274Y | C RESISTOR   | 270kΩ 1/4W J  |       | S902         | QSW0986-001    | SLIDE SWITCH    |                |                 |
| R912         | QRE141J-103Y | C RESISTOR   | 10kΩ 1/4W J   |       | X701         | QAX0756-001Z   | C RESONATOR     | 4.915MHz       |                 |
| R913         | QRE141J-103Y | C RESISTOR   | 10kΩ 1/4W J   |       | OT1          | GN30006-007A   | VFD SPACER      |                |                 |
| 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-1R0Y | COIL         | 1uH K         |       |              |                |                 |                |                 |
| L612         | QQL231K-1R0Y | COIL         | 1uH K         |       |              |                |                 |                |                 |
| L613         | QQL231K-1R0Y | COIL         | 1uH K         |       |              |                |                 |                |                 |
| L681         | QQL231K-1R0Y | COIL         | 1uH K         |       |              |                |                 |                |                 |
| L709         | QQL231K-2R2Y | COIL         | 2.2uH K       |       |              |                |                 |                |                 |
| △ 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        |       |              |                |                 |                |                 |

&lt;Local area&gt;

XV-N40BK J:40J C:40C

XV-N44SL J:44J C:44C XV-N4SL C:4C

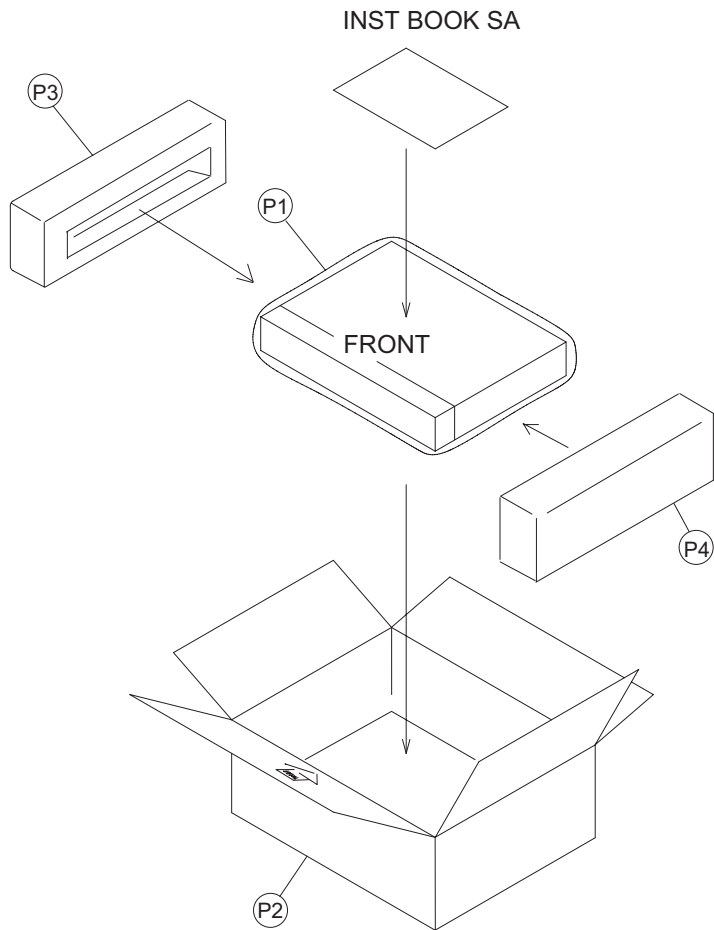
## Switch board

Block No. [0][3]

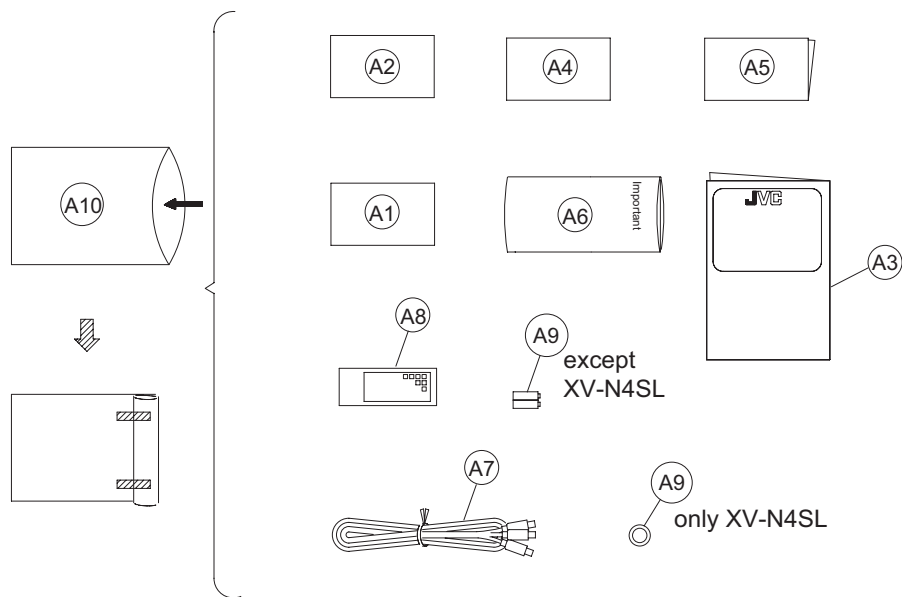
| △ Symbol No. | Part No.     | Part Name     | Description   | Local |
|--------------|--------------|---------------|---------------|-------|
| CN1          | QGF1016F3-05 | CONNECTOR     | FFC/FPC (1-5) |       |
| S1           | QSW1007-001  | DETECT SWITCH | DET SW        |       |

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          | LE40932-002A | INSERT SHEET    |                      |                 |
| A 2          | GNT0027-002C | INST BOOK       | English French       | 40C,44C         |
| A 2          | GNT0027-001C | INST BOOK       | English              | 40J,44J         |
| A 2          | GNT0033-001A | INST BOOK       | English              | 4C              |
| A 3          | BT-52006-1   | WARRANTY CARD   |                      | 40C,44C,4C      |
| A 4          | BT-20071B    | SVC CENTER LIST |                      | 40C,44C,4C      |
| A 5          | BT-51028-2   | J=REGIST CARD   |                      | 40J,44J         |
| A 6          | YU20333      | SAFETY INST.    |                      | 40J,44J         |
| A 7          | QAM0328-001  | AV CORD 3P      |                      |                 |
| A 8          | RM-SXV037J   | REMOCON UNIT    |                      | 40C,40J,44C,44J |
| A 8          | RM-SXV053J   | REMOCON UNIT    |                      | 4C              |
| A 9          | -----        | BATTERY         | (x2)                 | 40C,40J,44C,44J |
| A 9          | -----        | BATTERY         | CR2032/1FE 3V 225mAh | 4C              |
| A10          | QPC02504015P | POLY BAG        | FOR ACC INST         |                 |
| P 1          | QPC06005515P | POLY BAG        | FOR SET              |                 |
| P 2          | GN10039-004A | PACKING CASE    |                      | 40C,40J         |
| P 2          | GN10039-005A | PACKING CASE    |                      | 44C,44J         |
| P 2          | GN10039-007A | PACKING CASE    |                      | 4C              |
| P 3          | GN20048-001A | PACKING PAD(L)  | LEFT                 |                 |
| P 4          | GN20049-001A | PACKING PAD(R)  | RIGHT                |                 |

&lt;Local area&gt;

XV-N40BK J:40J C:40C

XV-N44SL J:44J C:44C XV-N4SL C:4C

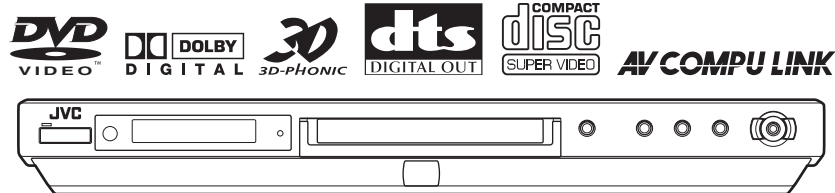
# JVC

## SCHEMATIC DIAGRAMS

### DVD VIDEO PLAYER

# XV-N40BK[MK2], XV-N44SL[MK2], XV-N4SL[MK2]

CD-ROM No.SML200306



**Area Suffix  
(XV-N40BK,XV-N44SL)**

J ..... U.S.A.  
C ..... Canada

**Area Suffix (XV-N4SL)**

C ..... Canada

**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

|                                   |      |
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| Safety precaution .....           | 2-2  |
| For this service manual .....     | 2-2  |
| Block diagrams .....              | 2-3  |
| Standard schematic diagrams ..... | 2-6  |
| Printed circuit boards .....      | 2-20 |

## 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 "A" 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. )

0478  
inside

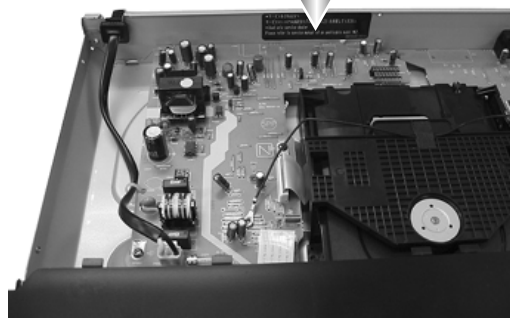
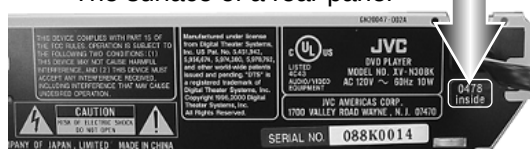
or

■ サービスをされる方へ  
サービスマニュアルは該当モデルの (MK2) を参照してください。

■ Used only service dealer

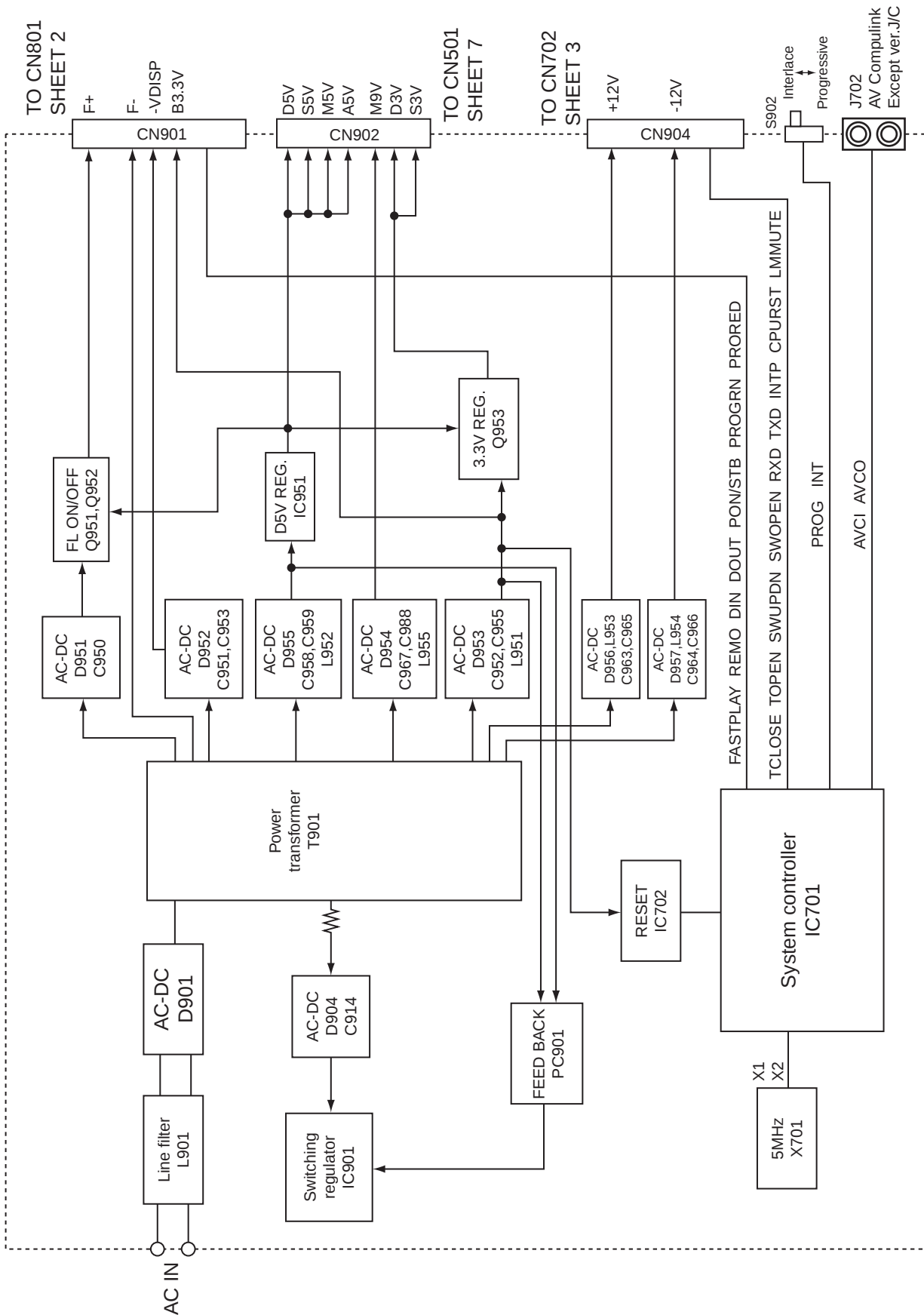
Please refer to service manual of an applicable model [MK2]  
GN30080-001A

The surface of a rear panel

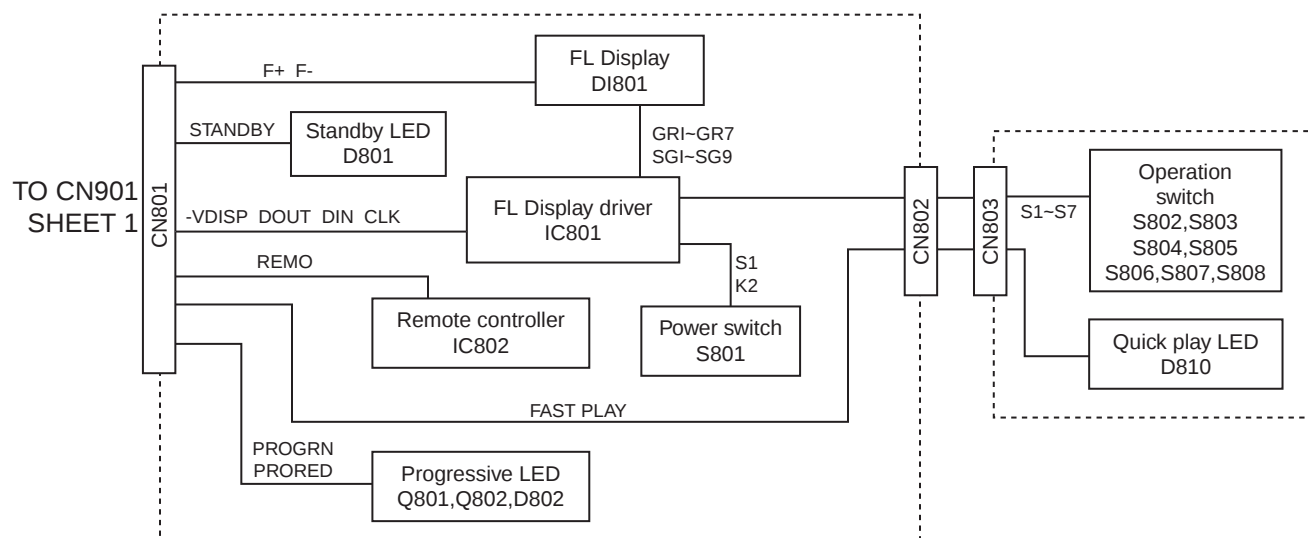


# Block diagrams

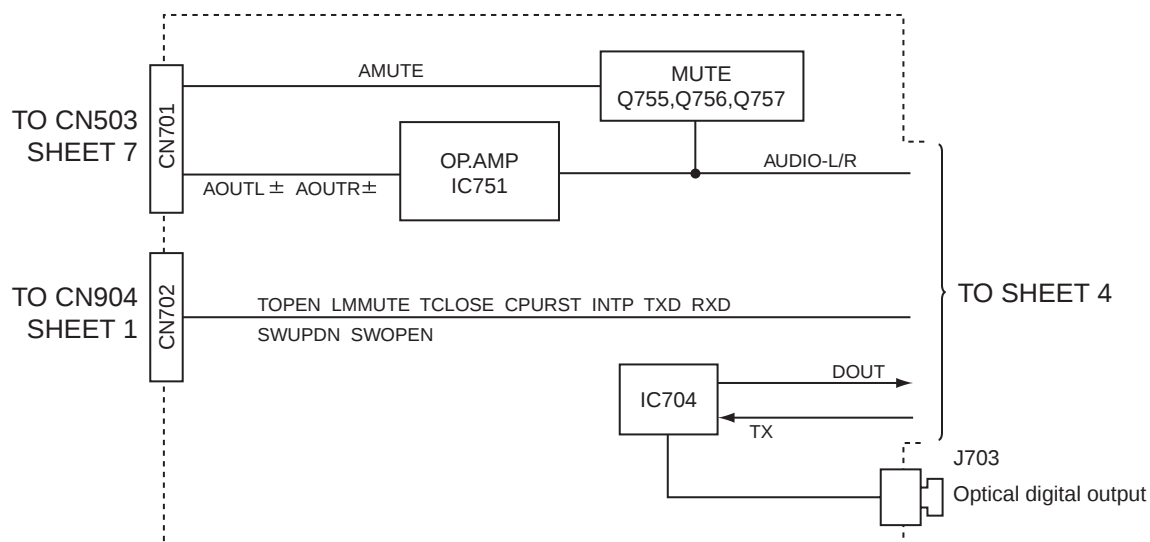
## ■ Power supply & system controller section (SHEET 1)



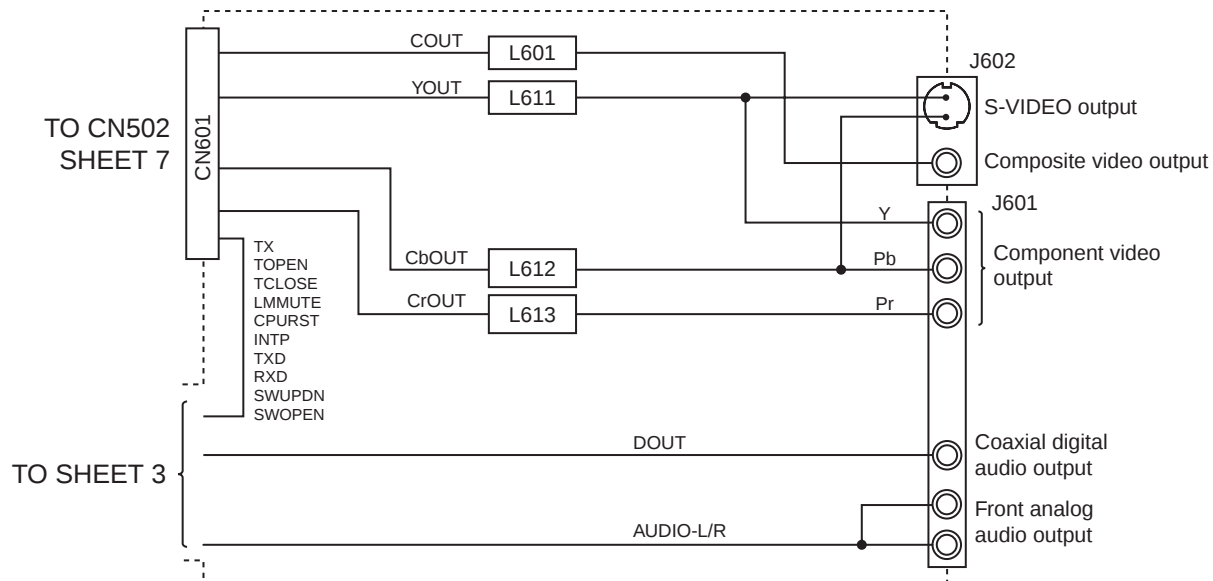
## ■ FL Display section (SHEET 2)



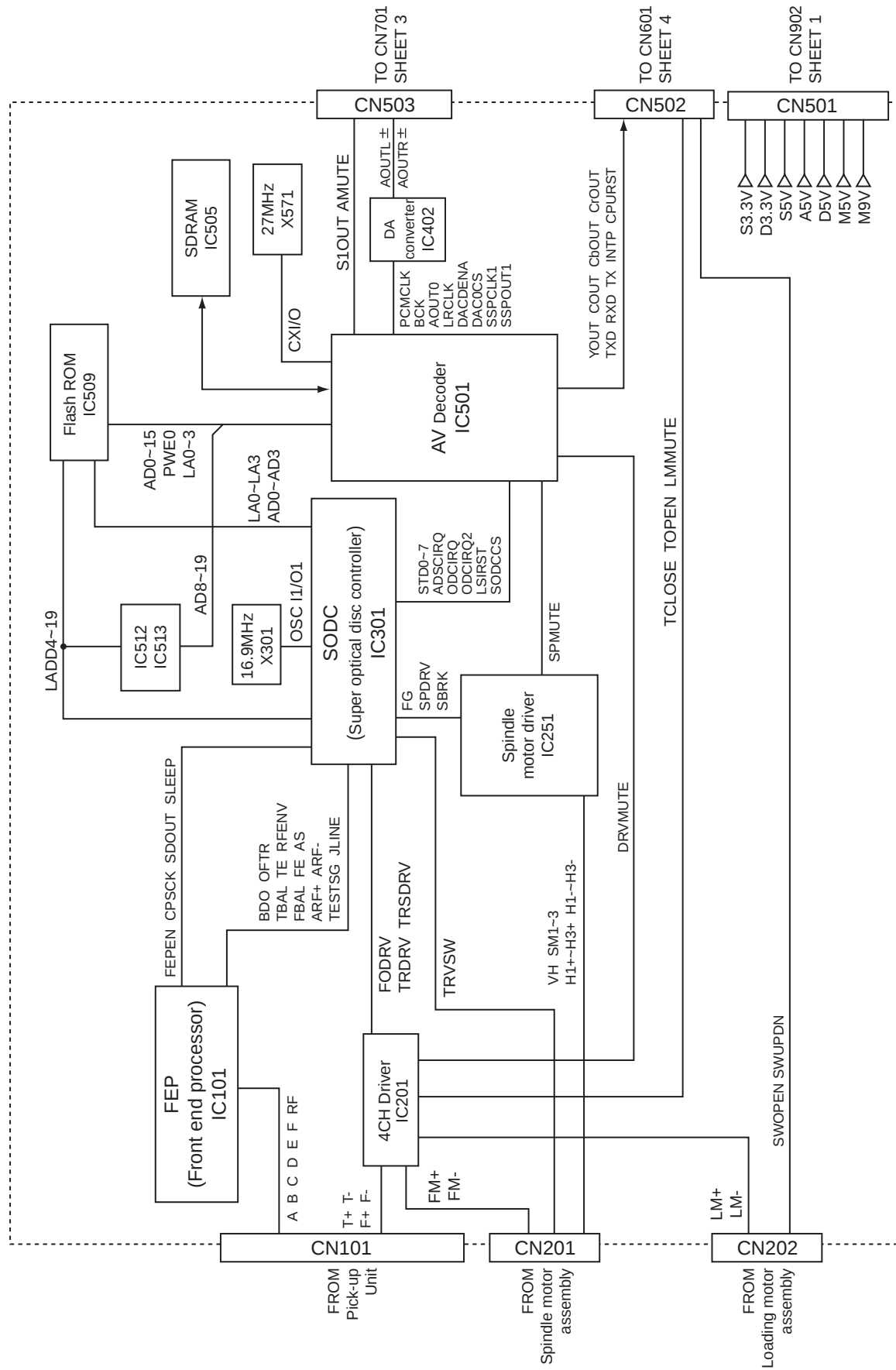
## ■ Audio amplifier section (SHEET 3)



## ■ Audio/Video signal output terminal section (SHEET 4)



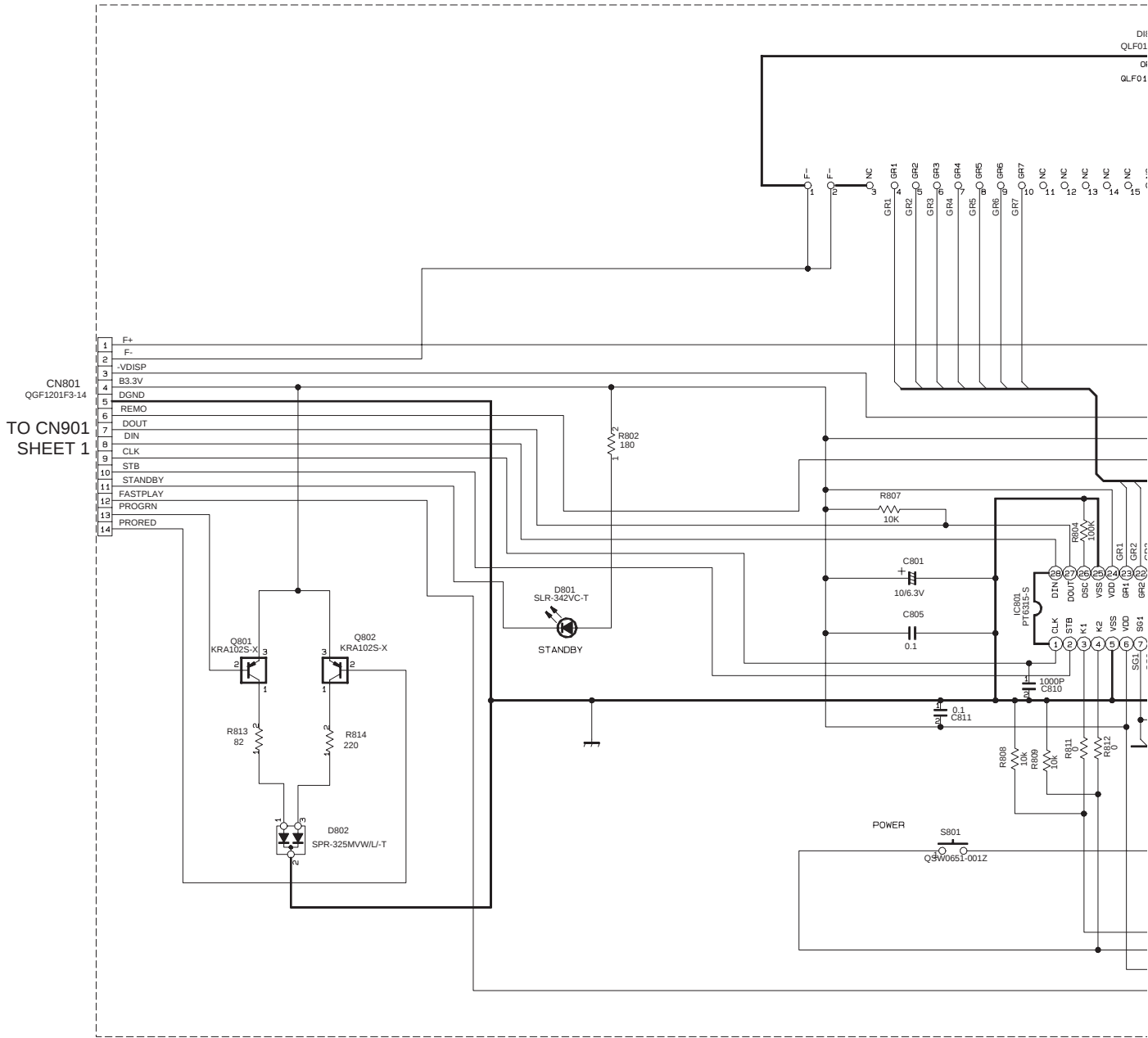
# ■ DVD Servo control & AV decoder section (SHEET 5,6,7)

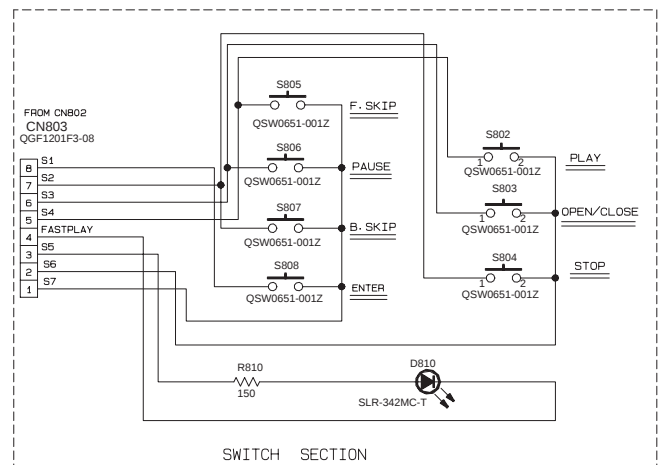
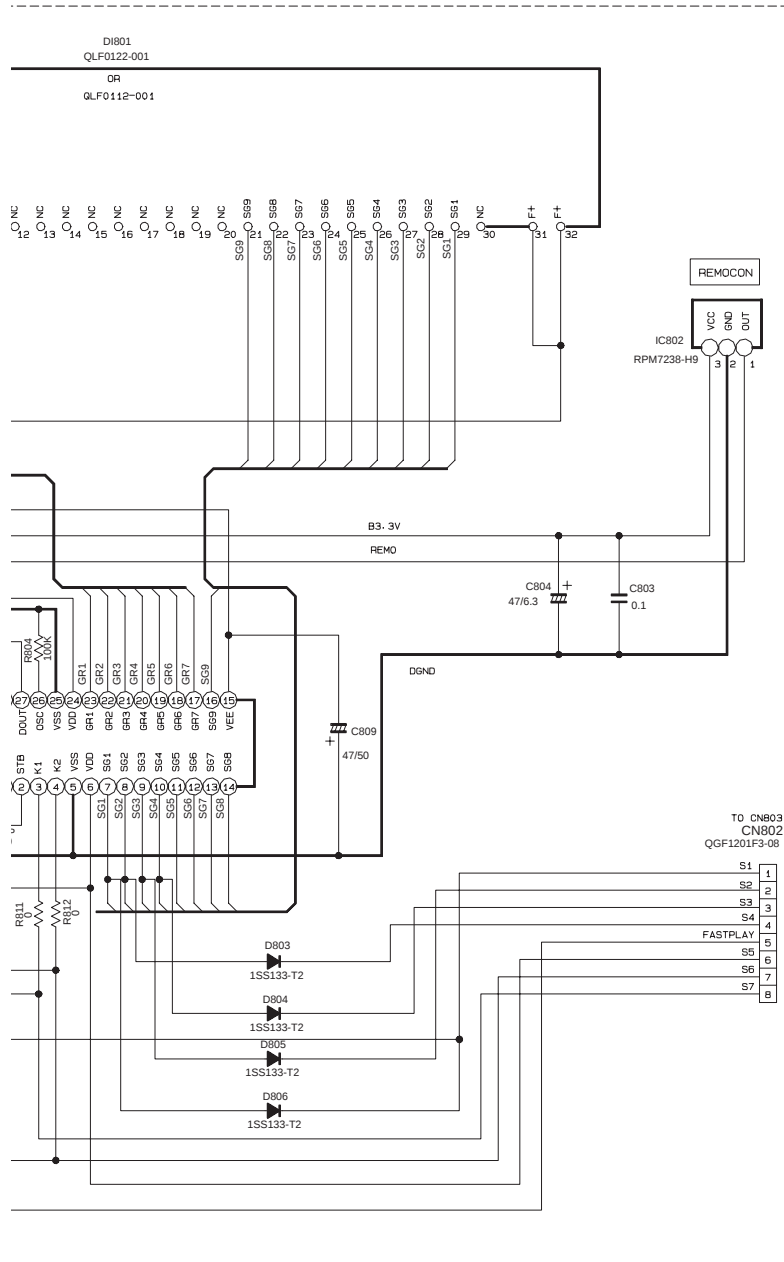






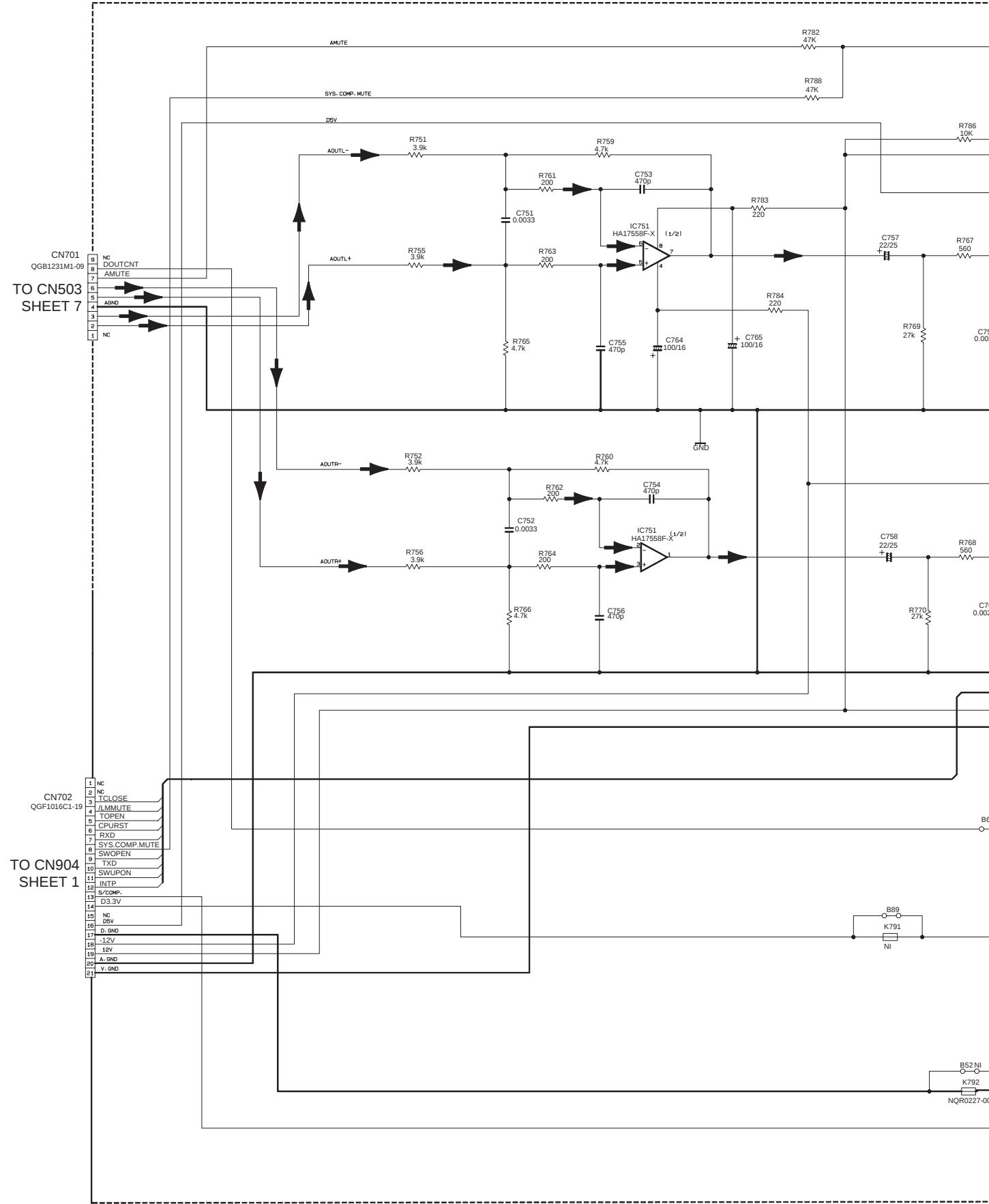
FL Display section

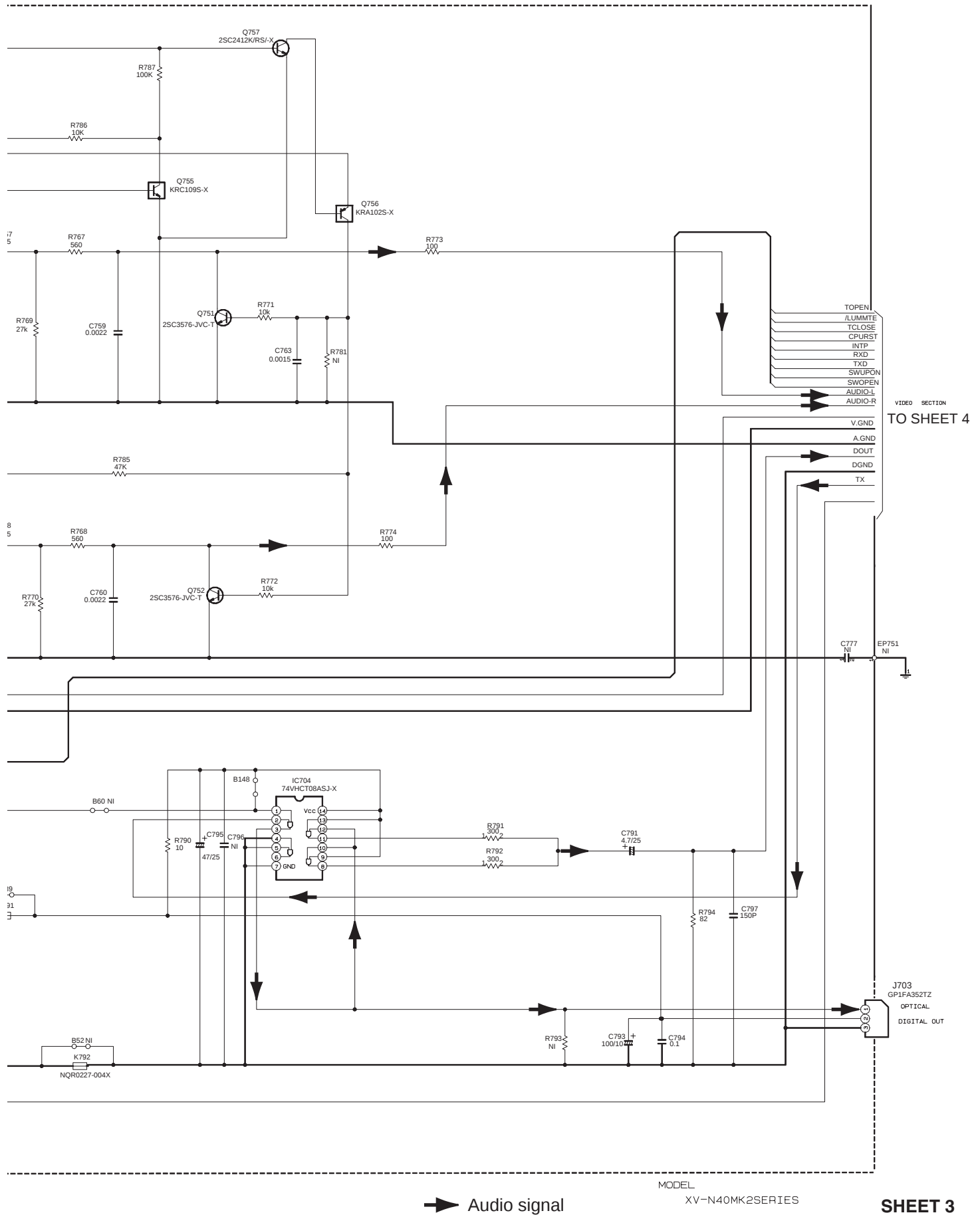




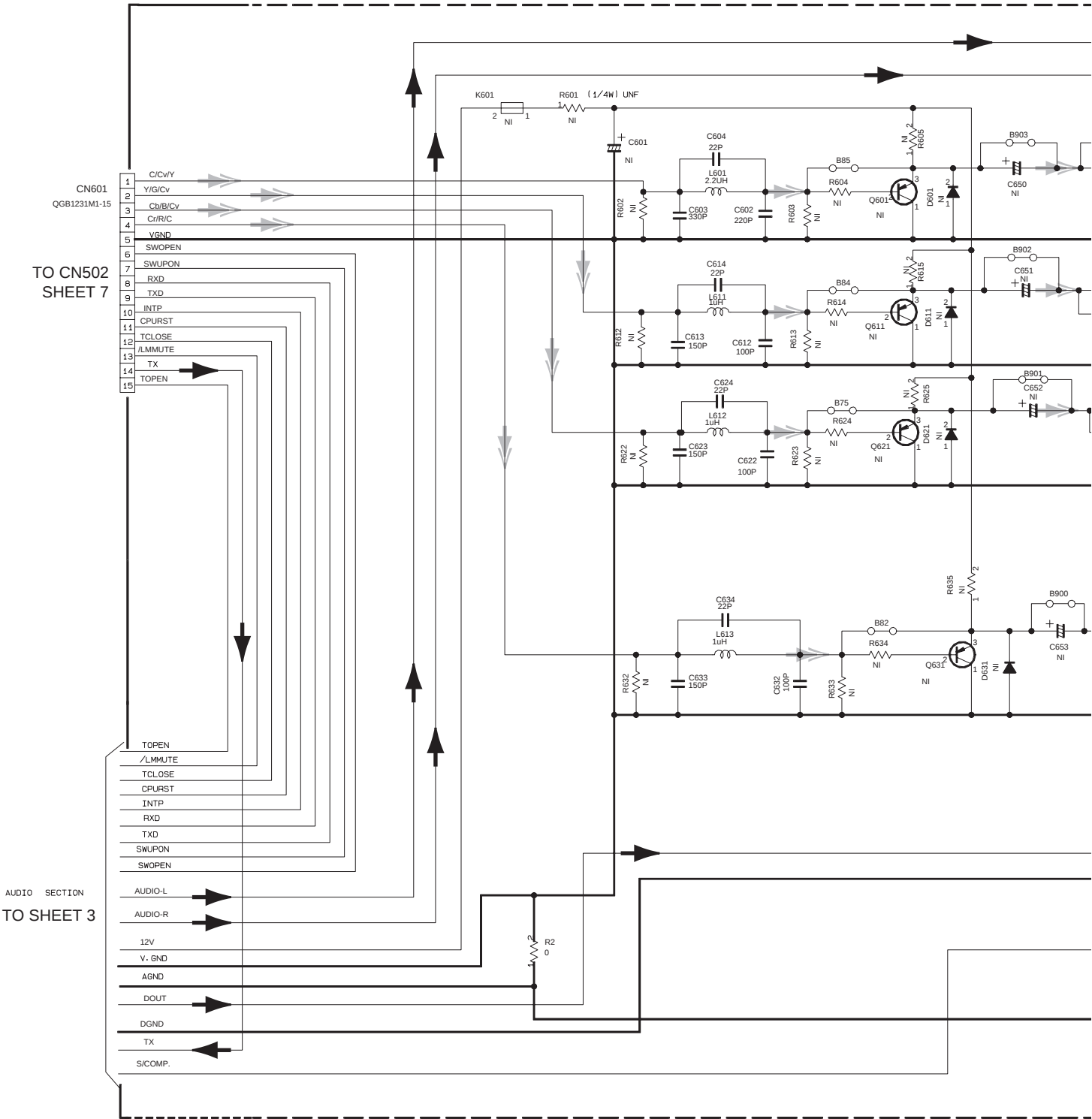
MODEL  
XV-N40MK2SERIES

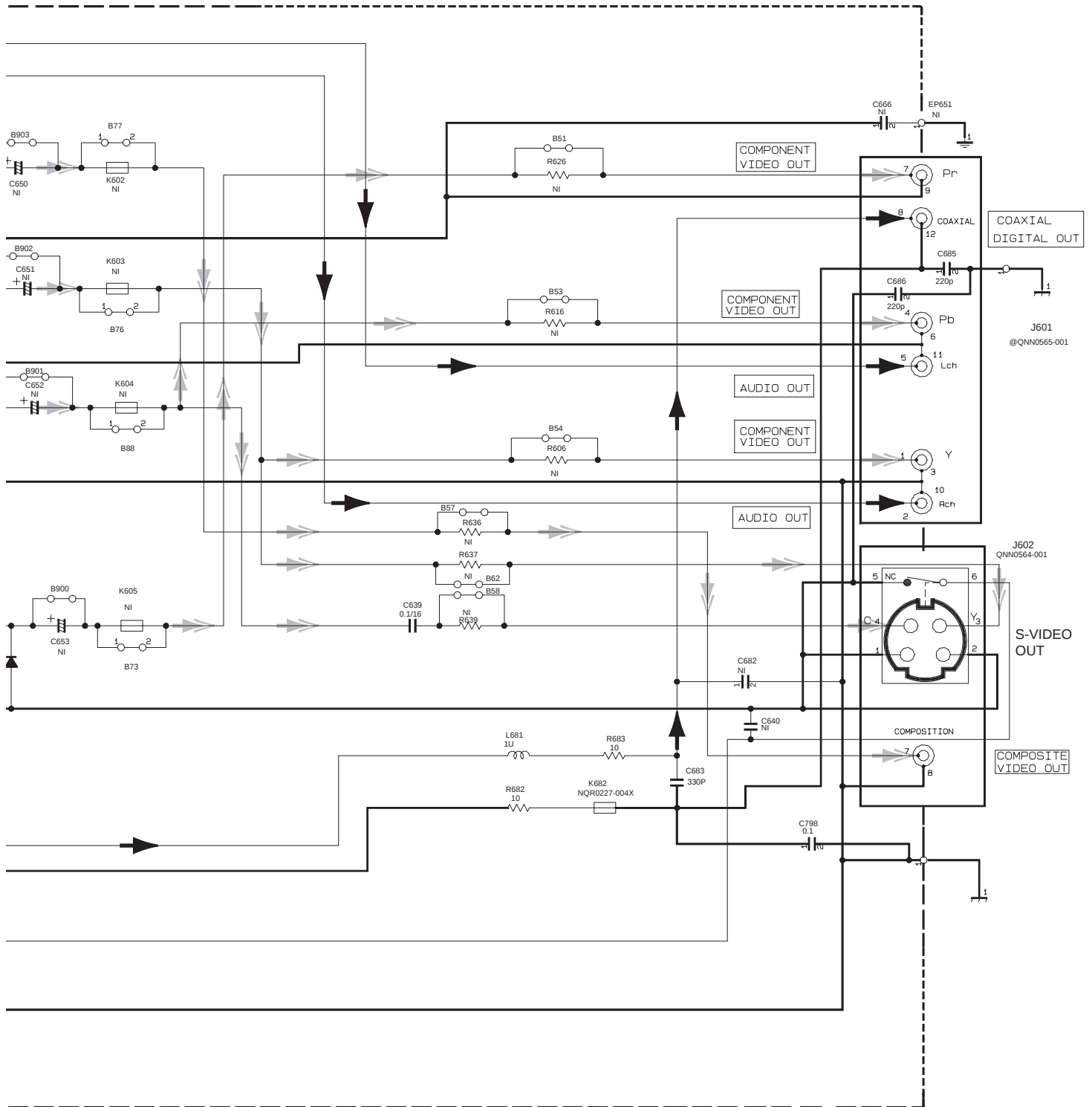
Audio amplifier section





■ Audio / Video signal output terminal section





## NOTES

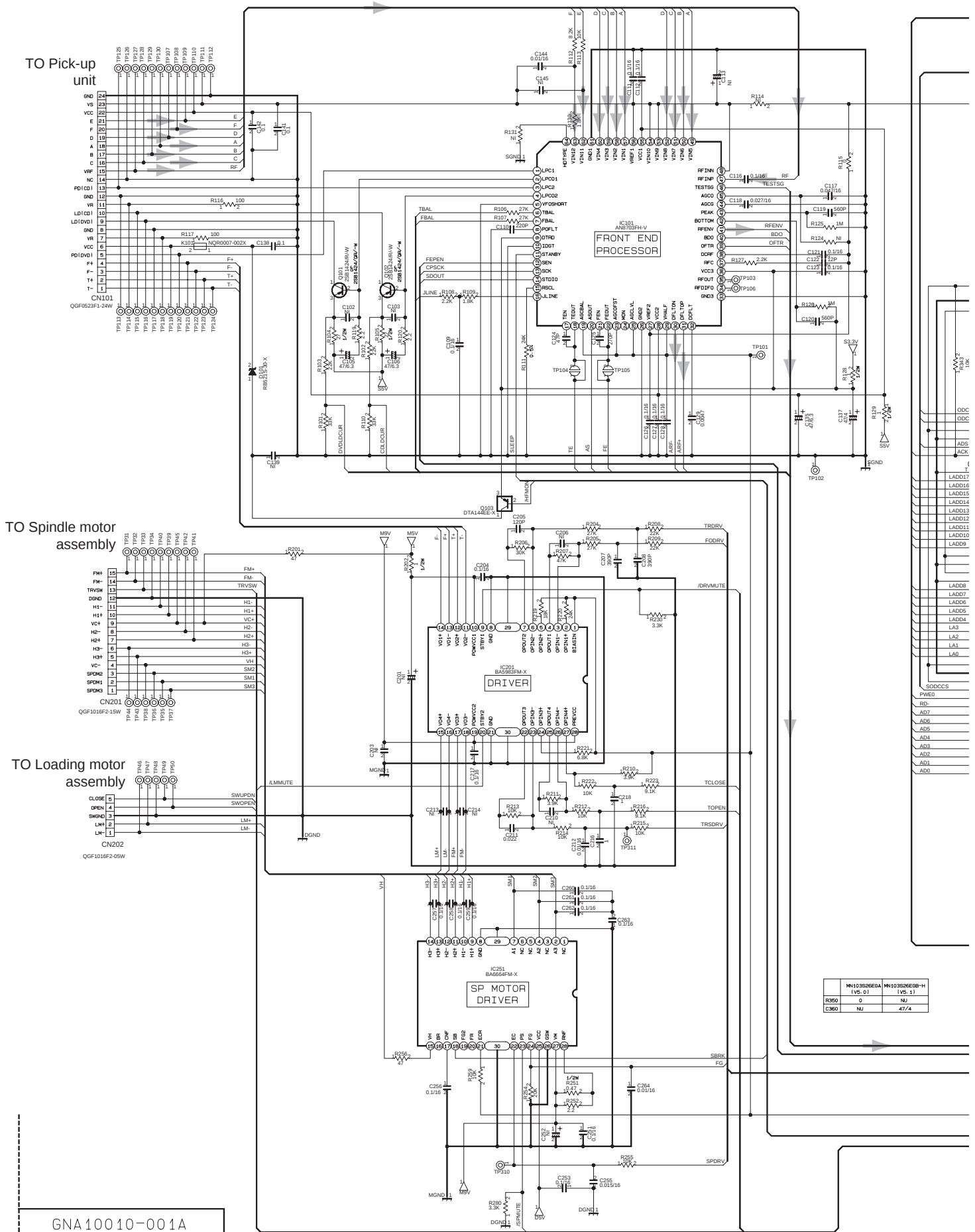
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.  
CONDITION --- POWER ON DVD STOP
2. UNLESS OTHERWISE SPECIFIED.  
ALL RESISTORS ARE 1/6W ±5% CARBON RESISTOR.  
ALL CAPACITORS ARE 50V CERAMIC CAPACITOR.  
ALL RESISTANCE VALUES ARE IN OHM(Ω).

MODEL

XV-N40MK2SERIES

➡➡ Video signal  
➡➡ Audio signal

## ■ Servo control section





MODEL  
XV-N40MK2SERIES

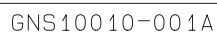
2-15

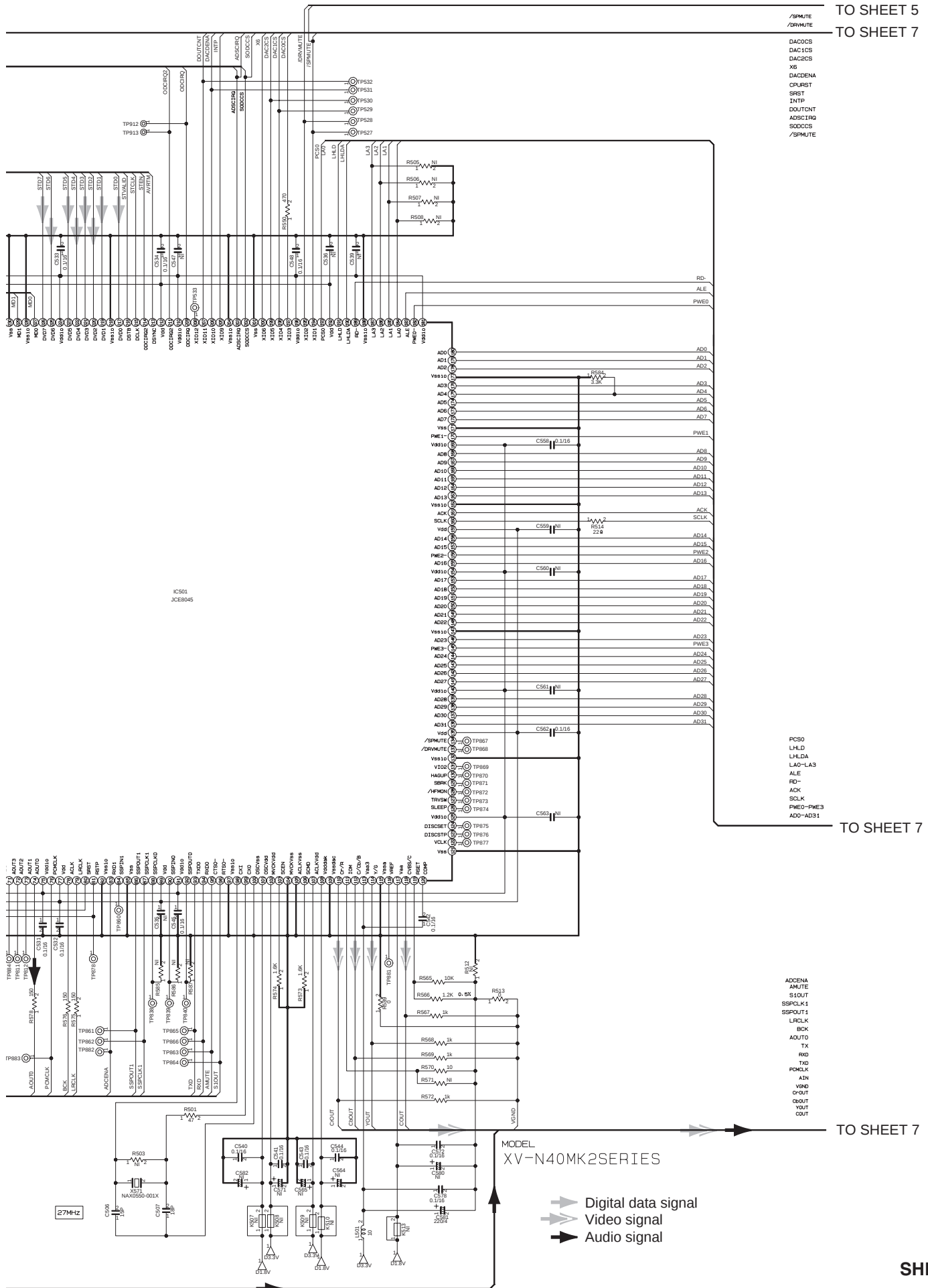
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ODCIRQ2
ODCIRQ
ADSCIRQ
SODCCS

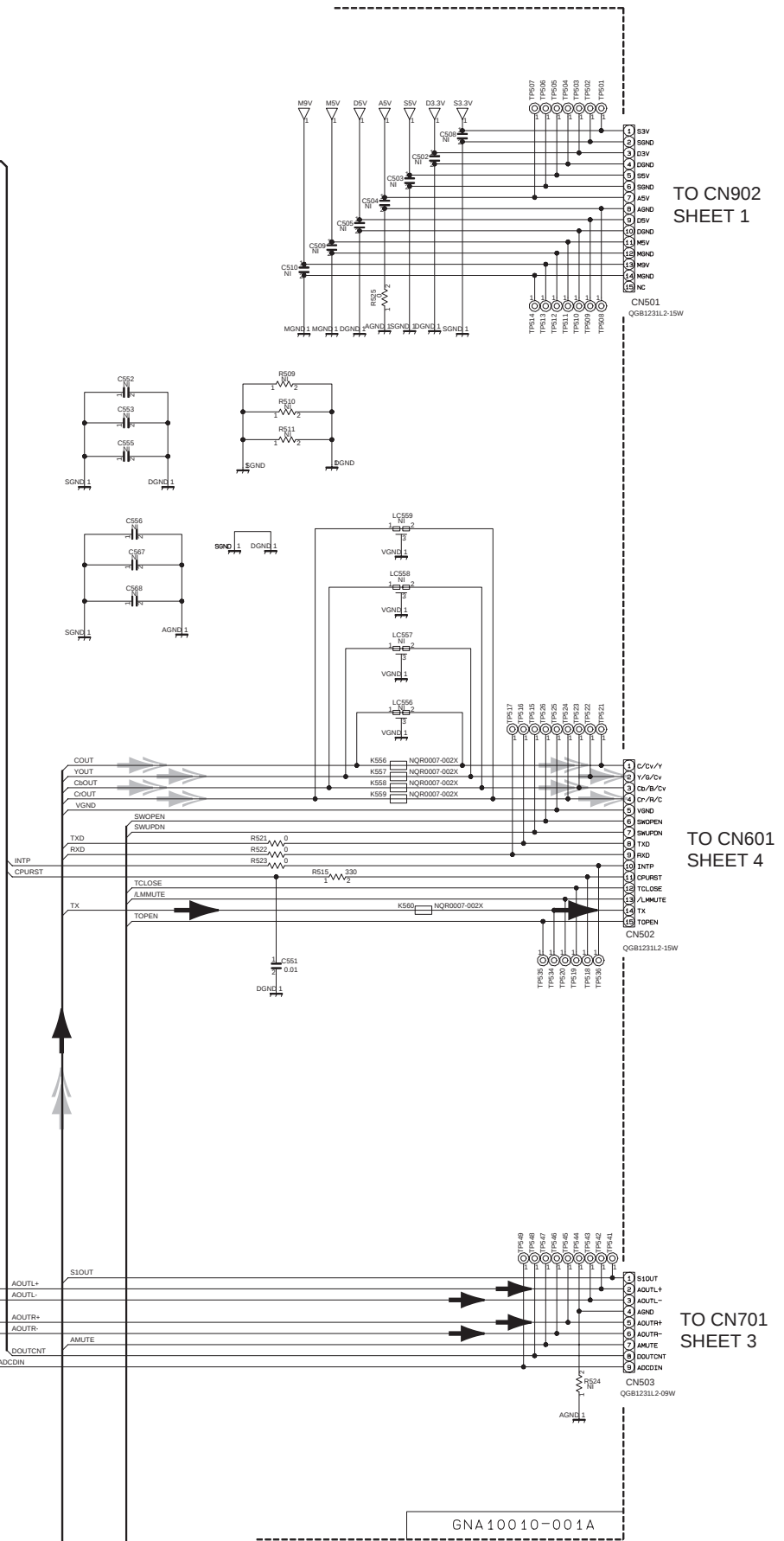
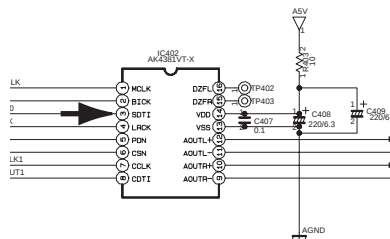
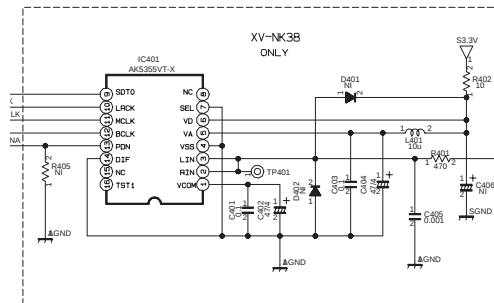
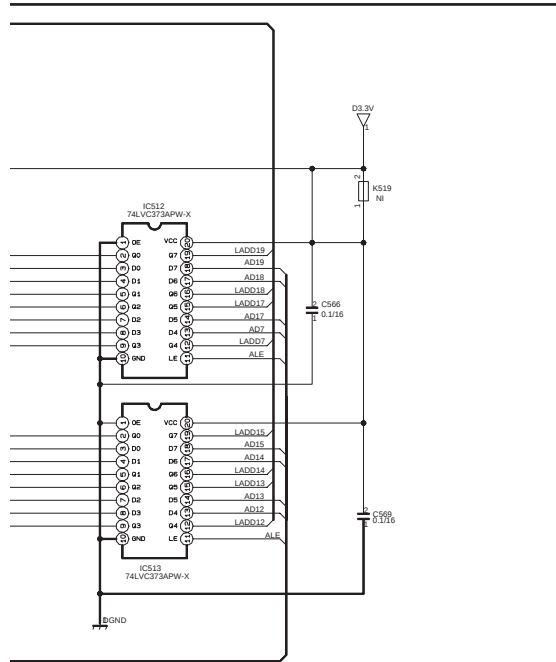
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AVRTM  
STCLK  
STVALID  
STEN  
STD0-STD7









TO CN902  
SHEET 1

TO CN601  
SHEET 4

TO CN701  
SHEET 3

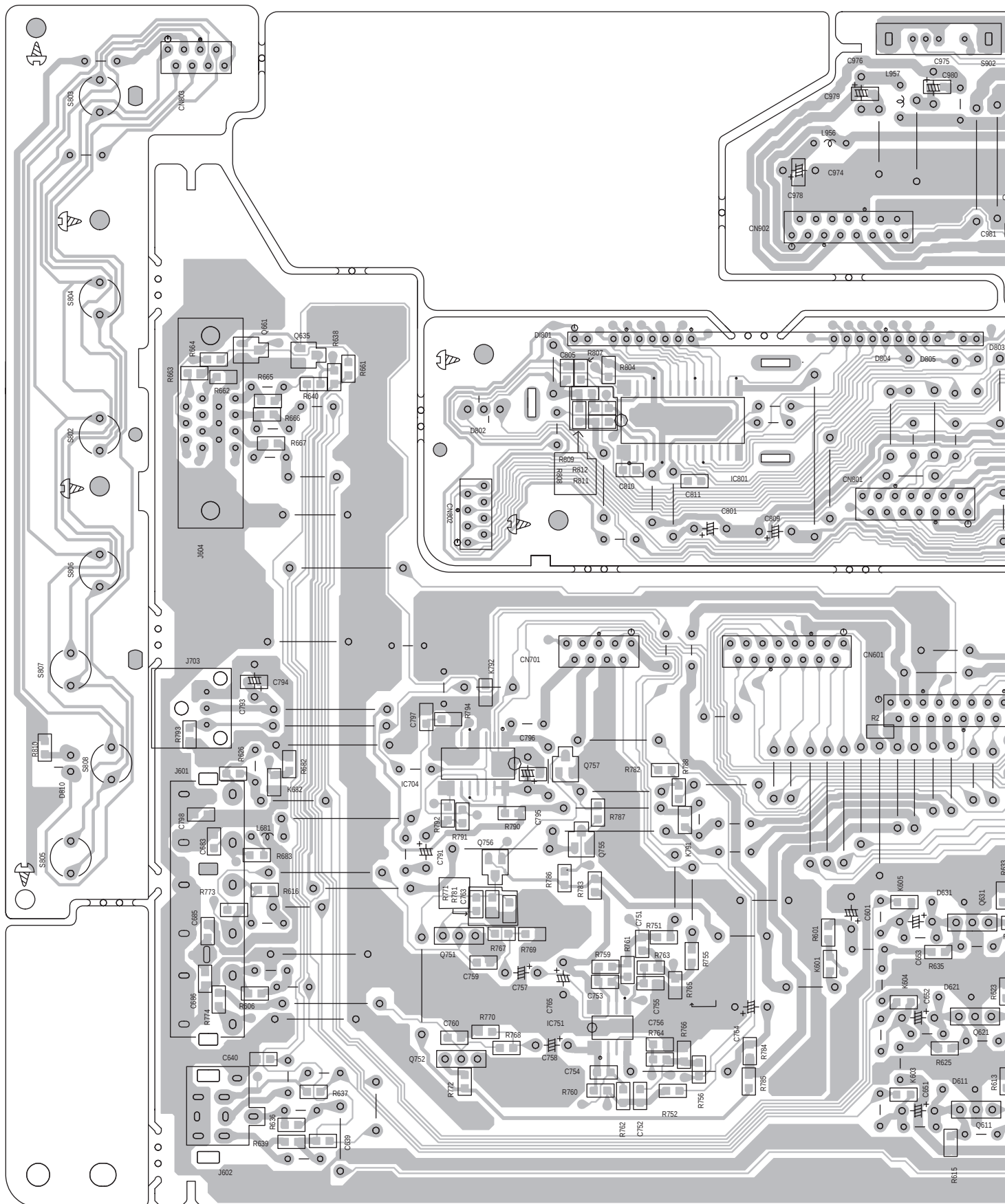
MODEL  
XV-N40MK2SERIES

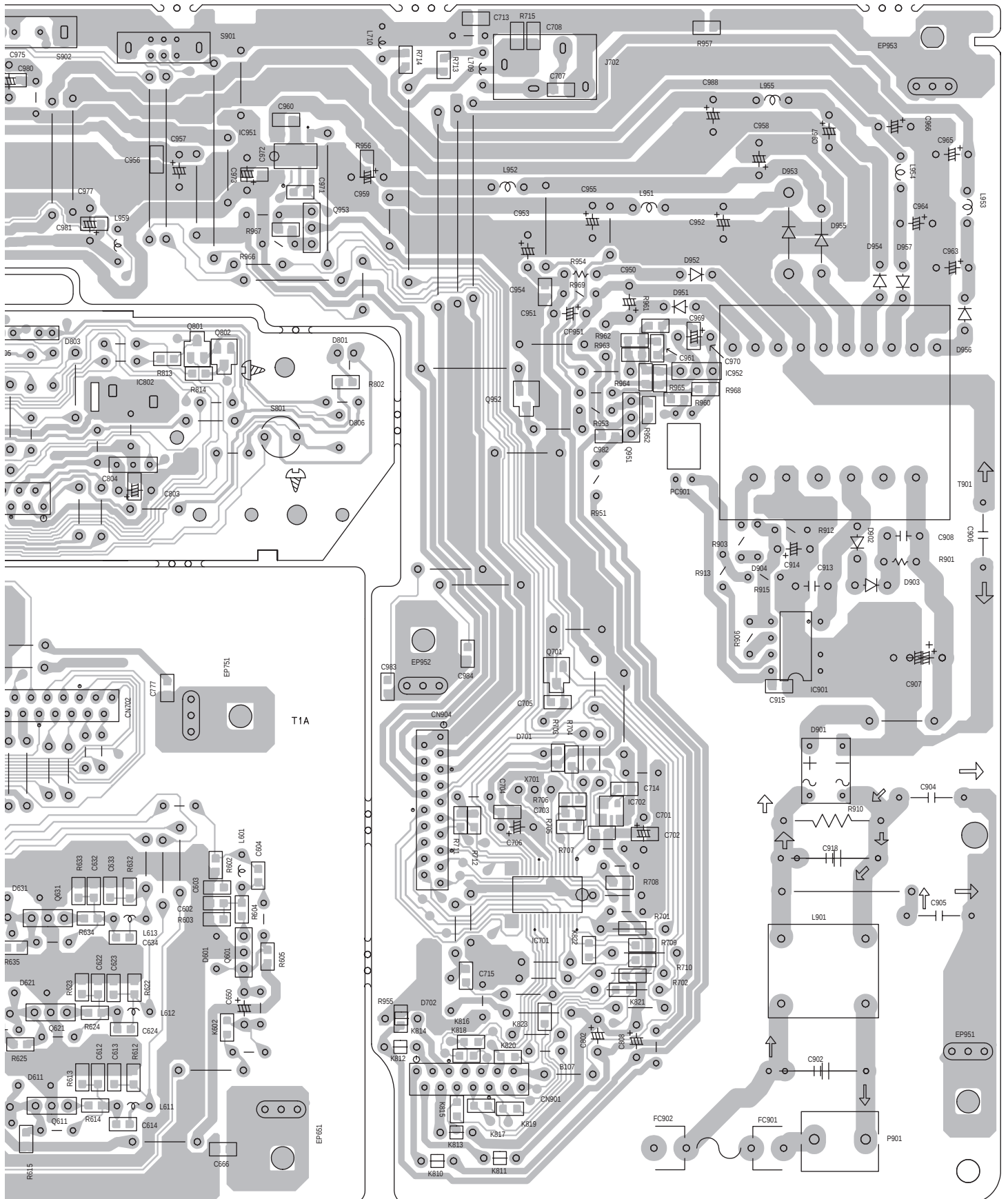
Video signal  
Audio signal

SHEET 7

## Printed circuit boards

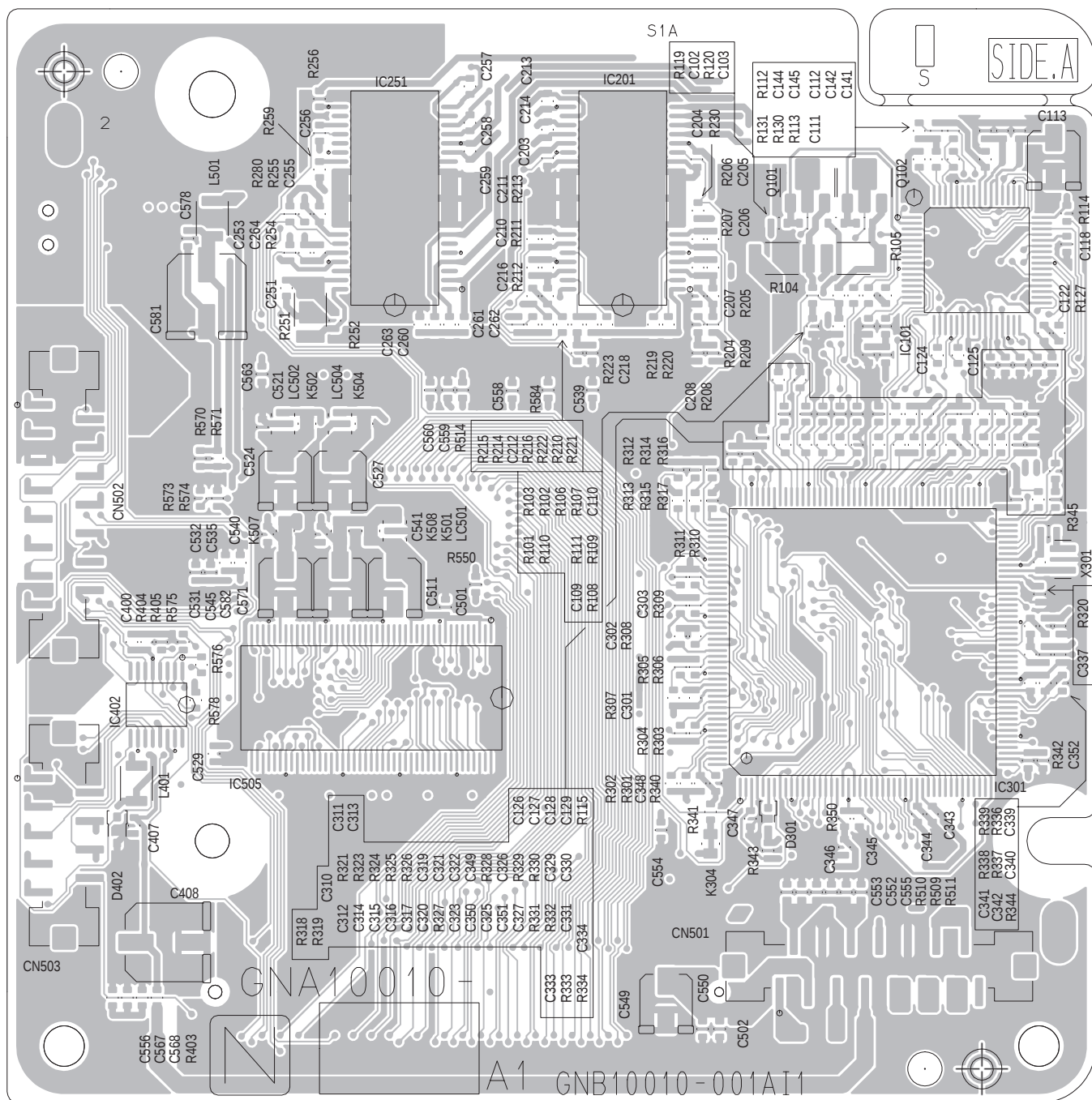
■ **Main board**



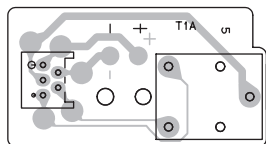


## ■ Servo control board

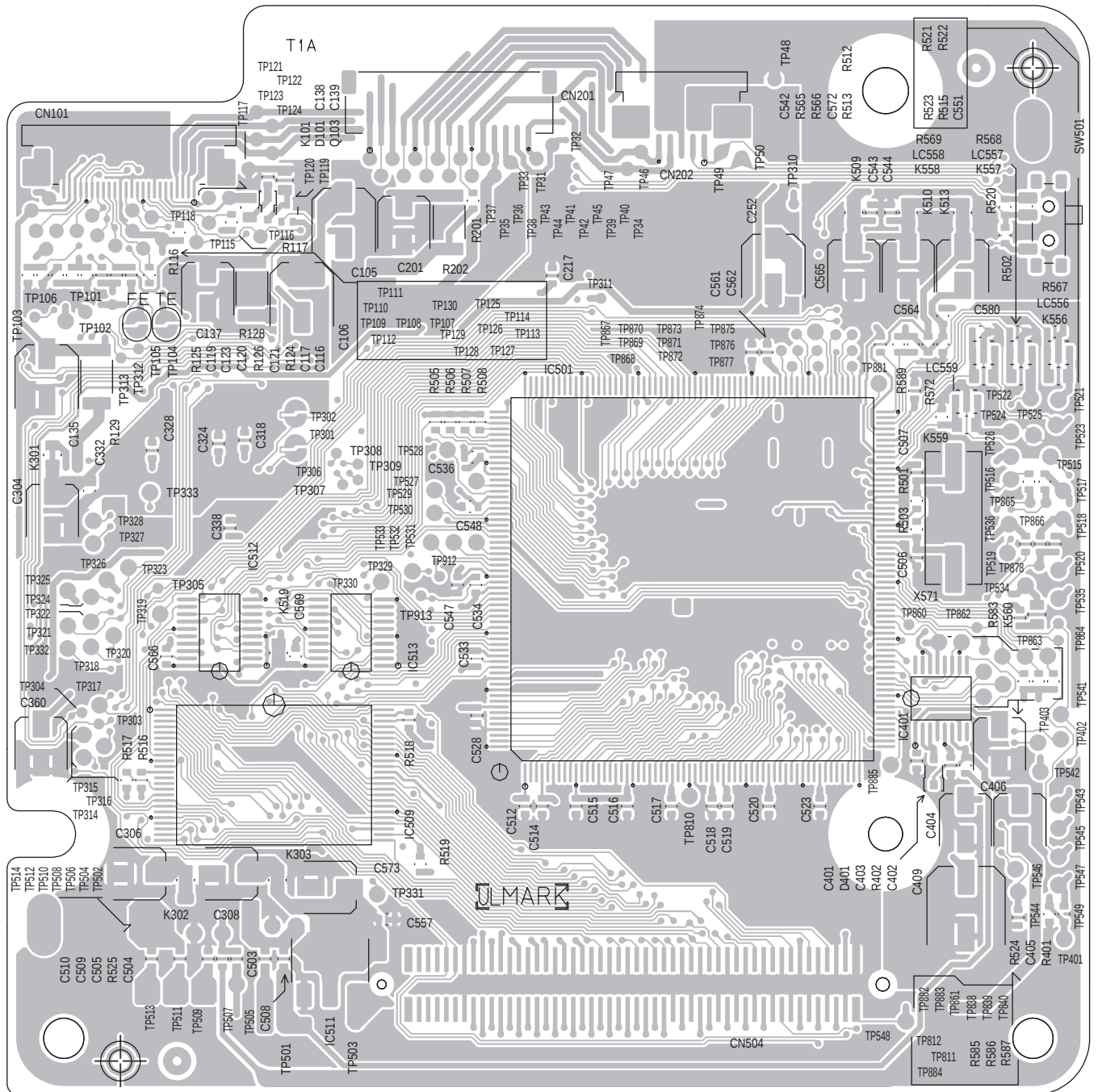
Forward side



## ■ Loading motor board



## Reverse side



**XV-N40BK,XV-N44SL,  
XV-N4SL**

**JVC**

**VICTOR COMPANY OF JAPAN, LIMITED**

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