

# Service Manual

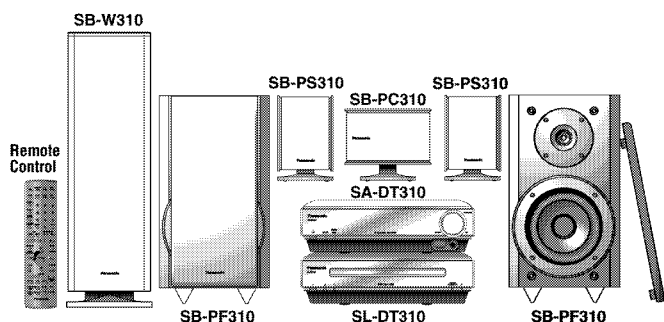
## DVD/CD Player



**SL-DT310EE**  
**SL-DT310EG**

Colour

(S).....Silver Type



Because of unique interconnecting cables, when a component requires service, send or bring in the entire system.

| System              | SC-DT310 |
|---------------------|----------|
| DVD/CD player       | SL-DT310 |
| AV control receiver | SA-DT310 |
| Front speakers*     | SB-PF310 |
| Center speaker*     | SB-PC310 |
| Surround speakers*  | SB-PS310 |
| Sub woofer*         | SB-W310  |

\* : Made in Singapore.

## Specifications

### Discs played

DVD-RAM (DVD-VR compatible), DVD-Audio,  
DVD-Video, DVD-R (DVD-Video compatible)  
CD (CD-DA), Video-CD,  
CD-R/RW (CD-DA, Video-CD formatted discs)  
MP3/WMA

- Maximum number of tracks and groups recognizable: 999 tracks and 99 groups
- Compatible compression rate:  
MP3: between 32 kbps and 320 kbps  
WMA: between 48 kbps and 192 kbps

### JPEG

- Exif Ver 2.1 JPEG Baseline files
- Maximum number of pictures and groups recognizable:  
3000 pictures and 300 groups
- Picture resolution: between 320x240 and 6144x4096 pixels (Sub sampling is 4:2:2 or 4:2:0)

### HighMAT Level 2 (Audio and Image)

#### Audio

Number of channels: 5.1 (FL, FR, SL, SR, C, SW)

#### Video

Signal system: PAL, PAL60/NTSC

Output terminal: RCA terminal (composite video)  
S terminal (Y, C)

#### Pickup

Beam source: Semiconductor laser

Wavelength: 658/790 nm

#### Pre amplifier section

Input terminal: VCR (EXT), TV (AUX)

Output terminal: VCR (EXT), DVD (OPT)

### General

Dimensions (WxHxD):

197x70.9x346 mm

Mass:

2.0 kg

**Notes:** Specifications are subject to change without notice.  
Mass and dimensions are approximate.

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Windows Media, and the Windows logo are trademarks, or registered trademarks of Microsoft Corporation in the United States and/or other countries.

WMA is a compression format developed by Microsoft Corporation. It achieves the same sound quality as MP3 with a file size that is smaller than that of MP3.

MPEG Layer-3 audio decoding technology licensed from Fraunhofer IIS and Thomson multimedia.

HighMAT and the HighMAT logo are either trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries.

# Panasonic

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## ⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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# 1 Note

Refer to the service manual for Model No. SA-DT310E, SA-DT310EB, SA-DT310EE, SA-DT310EG (Order No. AD0303070C2) for information on Accessories and Packaging.

## 2 Handling Precautions for Traverse Deck

The laser diode in the optical pick-up may break down due to potential difference caused by static electricity of clothes or human body.

So be careful of electrostatic breakdown during repair of the optical pick-up.

### 2.1. Handling of optical pick-up

1. Do not subject the optical pick-up to static electricity as it is extremely sensitive to electrical shock.
2. To prevent the breakdown of the laser diode, an antistatic shorting pin or similar object is inserted into the flexible board (FFC board). Refer to Fig. 2-1.  
When removing or connecting the shortpin, finish the job in as short time as possible.
3. Be careful not to apply excessive stress to the flexible board (FFC board).
4. A new optical pick-up has an antistatic flex. When the optical pick-up is replaced, connect the flexible cable (FFC) to the connector first, and then cut the antistatic flex. Refer to Fig. 2-1.
5. Do not turn the variable resistor (Laser power adjustment).

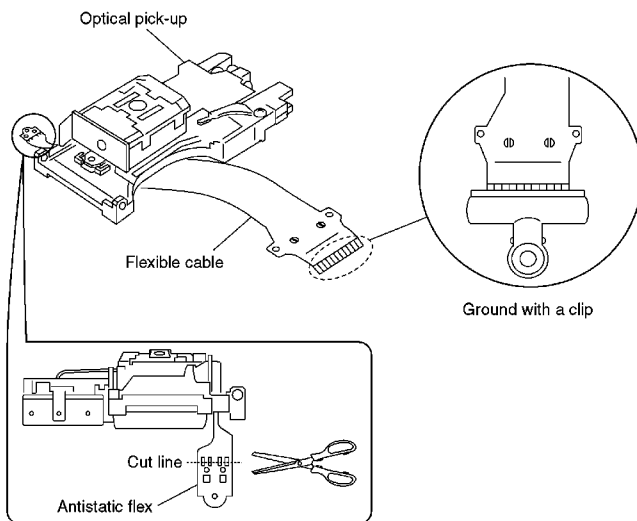


Fig. 2-1.

### 2.2. Grounding for electrostatic breakdown prevention

#### 2.2.1. Human body grounding

Use the antistatic wrist strap to discharge the static electricity from your body. Refer to Fig. 2-2.

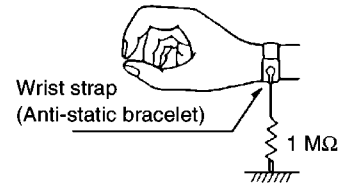


Fig. 2-2.

#### 2.2.2. Work table grounding

Put a conductive material (sheet) or steel sheet on the area where the optical pick-up is placed and ground the sheet. Refer to Fig. 2-3.

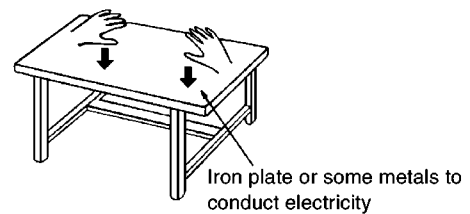


Fig. 2-3.

#### Caution:

The static electricity of your clothes will not be grounded through the wrist strap. So take care not to let your clothes touch the optical pick-up.

### 3 Precaution of Laser Diode

**CAUTION:**

THIS PRODUCT UTILIZES A LASER.

USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

**CAUTION:** This product utilizes a laser diode with the unit turned "on", invisible laser radiation is emitted from the pick-up lens.

Wave length: 658/790 nm

Maximum output radiation power from pick-up: 100  $\mu$ W/VDE

Laser radiation from the pick-up unit is safety level, but be sure the followings:

1. Do not disassemble the pick-up unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pick-up unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pick-up lens for a long time.

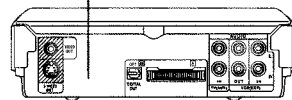
**ACHTUNG:** Dieses Produkt enthält eine Lasereinheit. Im eingeschalteten Zustand wird unsichtbare Laserstrahlung von der Lasereinheit abgestrahlt.

Wellenlänge: 658/790 nm

Maximale Strahlungsleistung der Lasereinheit: 100  $\mu$ W/VDE

Die strahlungen der Lasereinheit ist ungefährlich, wenn folgende Punkte beachtet werden:

1. Die Lasereinheit nicht zerlegen, da die Strahlung an der freigelegten Laserdiode gefährlich ist.
2. Den werkseitig justierten Einstellregler der Lasereinheit nicht verstellen.
3. Nicht mit optischen Instrumenten in die Fokussierlinse blicken.
4. Nicht über längere Zeit in die Fokussierlinse blicken.

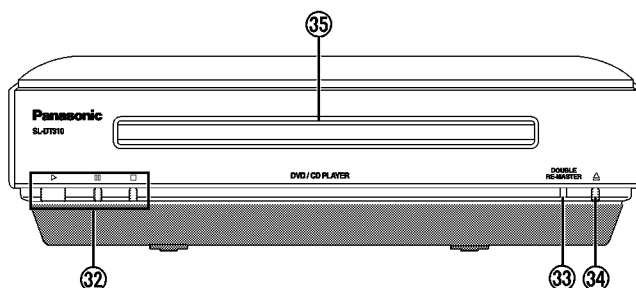


(Back of product)

|                                                                                                              |                       |
|--------------------------------------------------------------------------------------------------------------|-----------------------|
| CAUTION - LASER RADIATION WHEN OPEN.<br>DO NOT STARE INTO BEAM.                                              | FDA 21 CFR / Class II |
| CAUTION - VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN.<br>AVOID EXPOSURE TO BEAM.                        | IEC60825-1 / Class 3b |
| ATTENTION - RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE.<br>EXPOSITION DANGEREUSE AU FAISCEAU. |                       |
| ADVARSEL - SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING.<br>UNDGÅ UDSÆTTELSE FOR STRÅLING.                     |                       |
| VARO! - AVATTAESSA OLET ALTUUTIN NÄKYVÄÄ JA NÄKYMÄTÖN LASERSÄTELYLLÄ. ÄLÄ KATSO SÄTEESEEN.                   |                       |
| VARNING - SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRÄKTA EJ STRÅLEN.                    |                       |
| ADVARSEL - SYNLIG OG OSYNLIG LASERSTRÅLING NÄR DEKSEL ÅPNES.<br>UNNGÅ EKSPONERING FOR STRÅLEN.               |                       |
| VORSICHT - SICHTBARE UND UNSICHTBARE LASERSTRABUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.     |                       |
| 注意 - 打开时有可见及不可见激光辐射。避免激光束照射。<br>注意 - ここを開くと可視及び不可視レーザー光が出ます。<br>ビームを見たり、触ったりしないでください。                        | RQLS0275              |

(Inside of product)

### 4 Location of Controls



- ③② Basic operation buttons
- ③③ DOUBLE RE-MASTER indicator
- ③④ Open/close button [▲]
- ③⑤ Disc tray

## 5 Summary for HighMAT

### 5.1. What is HighMAT?

HighMAT is a new technology co-developed and supported by Microsoft® Corporation and Matsushita Electric Industrial Co. Ltd. (Panasonic) - HighMAT stands for High-Performance Media Access Technology. It is trademark of Microsoft® Corporation. HighMATlogo as shown below indicates the product is based on HighMAT standard.



Supported Level 1



Supported Level 2



Supported Level 3

HighMAT standardizes the format that user creates photo, audio and video data on the CD, improves the way of reading data on the CD, increases operability by consumer products (DVD player etc.) as well as the PC.

### 5.2. Why take advantage of HighMAT?

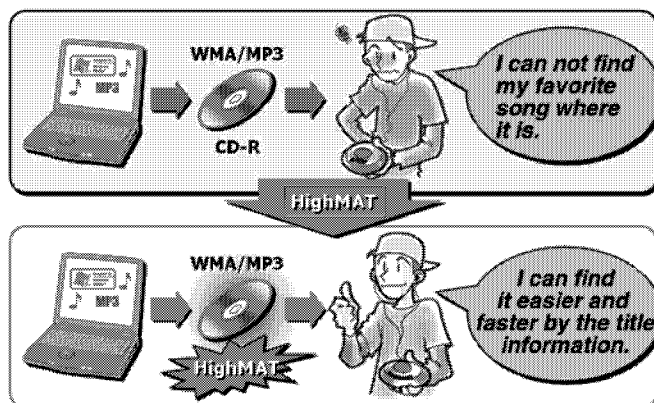
There are numerous, inconsistent ways that the consumer product such as DVD players read the data. For user, the playback experience can be confusing as shown below.

- There is no associated contents information unified playlists and metadata.
- The compressed media format is not compatible between playback devices.
- The large contents of CD-ROM may take several minutes to read and play back.
- Although the same disc plays back, the playback order is changed because the display and operations is not compatible between playback devices.

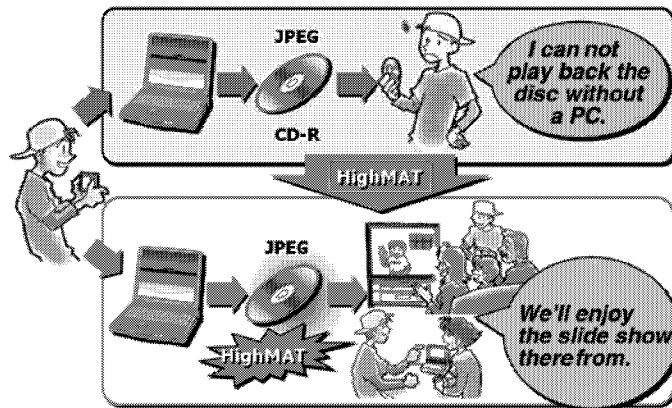
### 5.3. Advantage of HighMAT

HighMAT standard solves each of above problems and offers user a convenient.

- Implement a common user interface between the PC and consumer products.



- Provides user with a consistent to play back and easy navigation across a wide range of consumer products, including DVD and portable CD players, car stereos and mini compo.

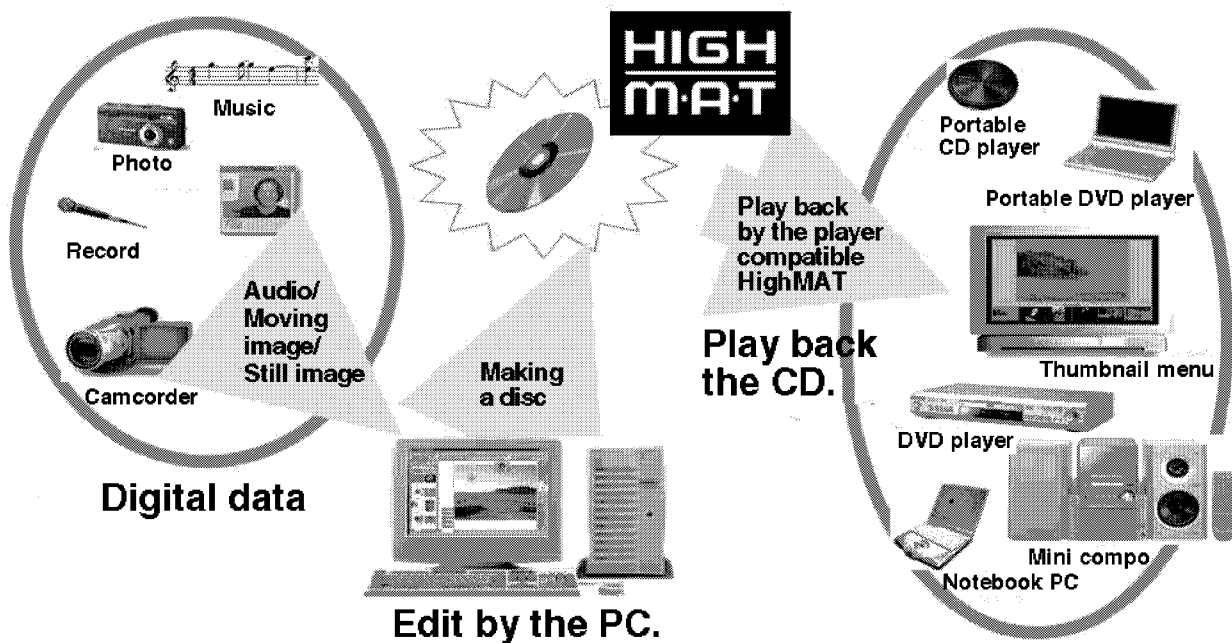


- The disc based on HighMAT can also play back by the traditional player that can play back CD-ROM.

## 5.4. Outline of HighMAT standard

### Recorded media

- CD-R/CD-RW
- Supported ISO9660 Level 1 Joliet extension
- Supported multi-session



### Supported data format

- Level 1 player: WMA, MP3
- Level 2 player: WMA, MP3, JPEG
- Level 3 player: WMA, MP3, JPEG, WMV, MPEG4(option)

### Limited data format

- WMA, MP3: 64 - 160.999 kbps, 44.1 kHz, stereo, fixed bitrate/variable bitrate
- WMA: V2 or later, except for Lossless/Voice/Pro
- JPEG: Max. 6 M pixels, Max. file size 3 MB

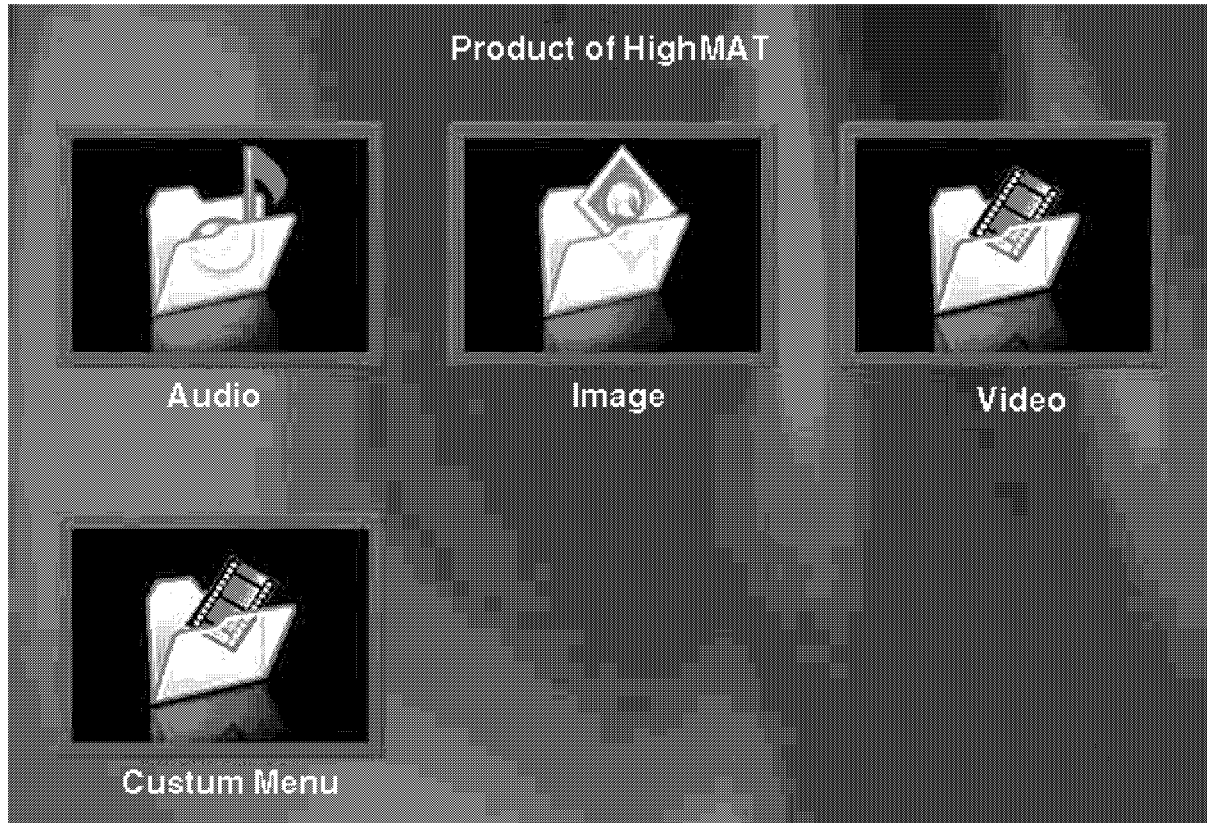
### Limited for number of files etc.

- Total number of audio file: Max. 450
- Total number of still image: Max. 999
- Total number of moving image: Max. 200
- Total number of directory: Max. 400

- Long file name: Max.108 letter (unicode)
- Total number of playlist: Max. 200
- Maximum number of contents in playlist: 999

**Construction of HighMAT disc**

- Menu: Show the classification to navigate HighMAT contents. When it is selected, it goes to the next menu which shows play lists or another menu.
- Playlist: Ordered list including for more than a digital content
- Group: Classified contents in detail of a playlist
- Content: Data for audio, still image and moving image



Sample of menu display

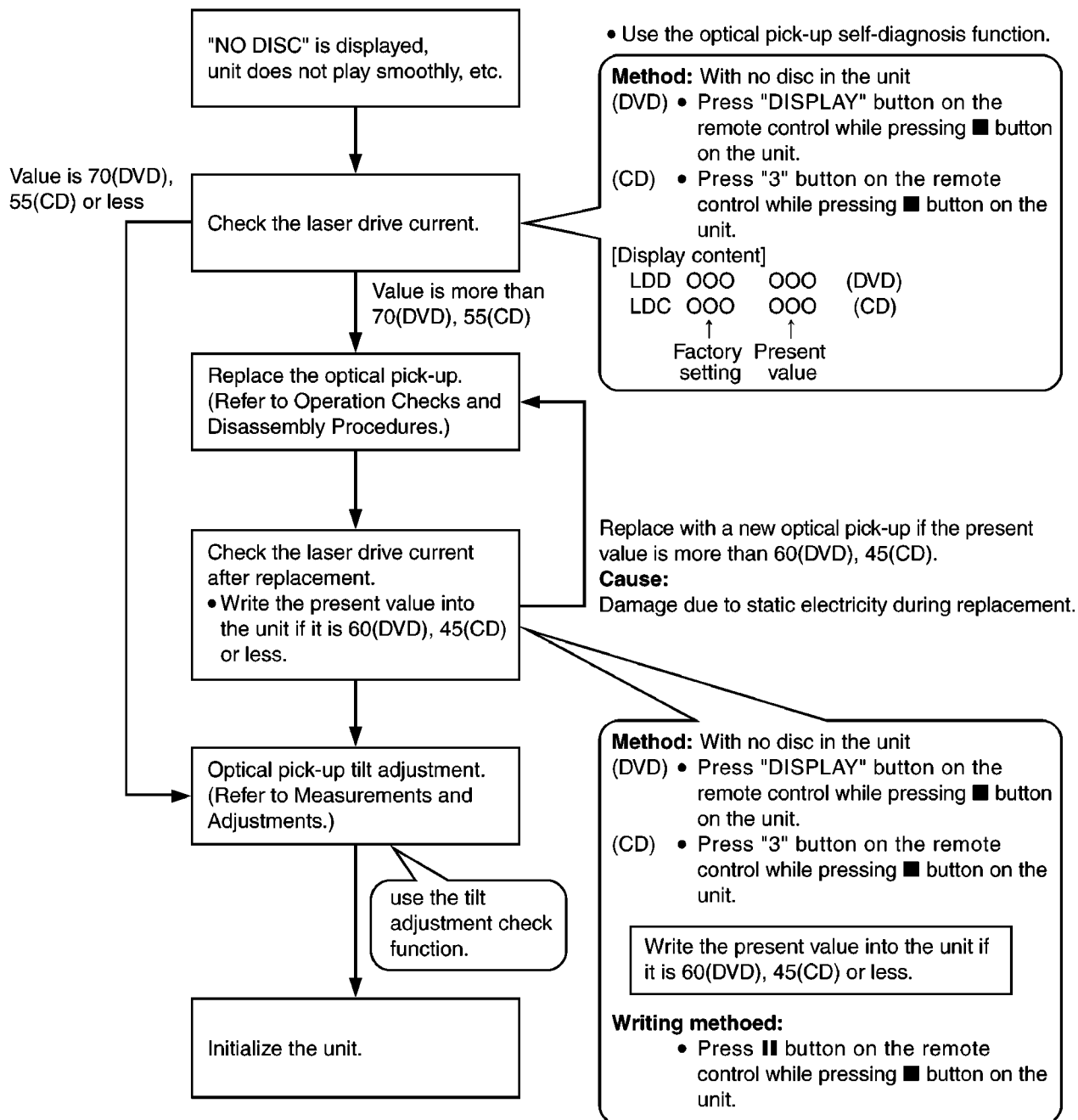
## 6 DVD Optical Pick-up Self-Diagnosis and Replacement Procedure

### 6.1. Self-diagnosis

The optical pick-up self-diagnosis function and tilt adjustment check function have been included in this unit. When repairing, use the following procedure for effective self-diagnosis and tilt adjustment. Be sure to use the self-diagnosis function before replacing the optical pick-up when "NO DISC" is displayed. As a guideline, you should replace the optical pick-up when the value of the laser drive current is more than 70(DVD), 55(CD).

#### Note:

Press the Standby/on button to turn on the power, and check the value within 3 minutes before the unit warms up. (Otherwise, the unit will be incorrect.)



## 6.2. Caution to be used before replacing the optical pick-up and spindle motor assembly

Before replacing the optical pick-up and spindle motor assembly, check the total using hours for each of them. The checking method is as follows:

| Item                                      | Play mode and button combination                                                                                                | Display                                                                                                                            |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Using hours of DVD and CD laser           | In STOP mode (no disc), while pressing ■ button on the unit, press ▲ button on the remotecontrol.                               | T1. xxxx yyyy. (. indicates a space.)<br>xxxx(DVD), yyyy(CD): Time is shown in 4 digits of decimal notation in a unit of 10 hours. |
| Using hours of spindle motor              | In STOP mode (no disc), while pressing ■ button on the unit, press ► button on the remotecontrol.                               | T2. xxxx.....<br>xxxx: Time is shown in 4 digits of decimal notation in a unit of 10 hours.                                        |
| Resetting using hours of DVD and CD laser | When displaying the using hours of DVD and CD laser, while pressing ■ button on the unit, press ▼ button on the remote control. | T1. 0000. 0000                                                                                                                     |
| Resetting using hours of spindle motor    | When displaying using hours of spindle motor, while pressing ■ button on the unit, press ◀ button on the remote control.        | T2. 0000.....                                                                                                                      |

### 6.2.1. Caution to be taken when replacing the optical pick-up

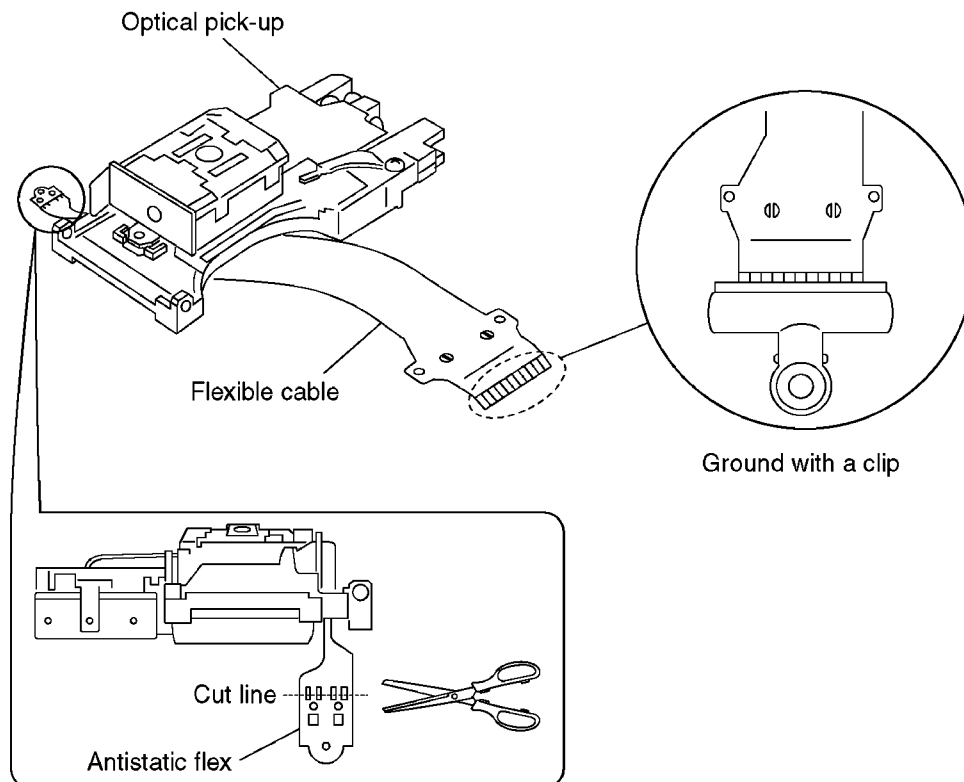
The optical pick-up may break down due to the static electricity of human body. Take proper protection measures against static electricity before repairing the parts around the optical pick-up. Refer to "Handling Precaution for TraverseDeck".

- Do not touch the area around the laser diode and actuator.
- Do not judge the laser diode with a tester.
- It is recommended to use an antistatic soldering iron for short-circuit or removing the laser diode.  
(Recommended soldering iron) HAKKO ESD Product
- Solder the land of the flexible cable in the optical pick-up.

**Note:**

When using a soldering iron which is not antistatic, short-circuit the terminal of the flexible cable first. After that, short the land.

- An antistatic flex is connected with the new optical pick-up. Cut the antistatic flex after the optical pick-up is replaced.



## 7 Self-Diagnostic Function

Each results of self-diagnostic function and service mode is displayed on the LCD of AV control receiver (SA-DT310).

When using these function, confirm the unit to be connected by system cable.

### 7.1. Self-diagnostic function for loading mechanism

#### 7.1.1. How to enter the mode and display

1. Turn on the power.
2. Press "SELECT" button on the AV control receiver (SA-DT310) to select DVD.
3. With no disc on the unit, hold down **■** button for at least 2 seconds, and then press **▶** (PLAY) button for at least 2 seconds.
4. A loading mechanism error code is displayed if any. (No error is detected, "T\_ \_ \_ \_ \_" is displayed. \_ indicates a space.) Refer to Table 7-1. If there are multiple error, they can be successively by pressing **■** button.

#### 7.1.2. Canceling self-diagnostic function

- Press "Standby/on" button to turn off. And then press "Standby/on" button again to turn it on again.
- The contents of self-diagnostic function are stored in memory. To redisplay, perform the procedures "How to enter the mode and display".

#### 7.1.3. Clearing self-diagnostic function

- After repairing, continue to press **■** button for at least 5 seconds. "CLEAR" is displayed on the LCD about 2 seconds. And "T\_ \_ \_ \_ \_" is displayed.  
(Clearing the contents of self-diagnostic function)
- Always be sure to clear memories after completing repair.

Table 7-1

| Display code | Symptom                                        | Cause                                                               |
|--------------|------------------------------------------------|---------------------------------------------------------------------|
| H15          | When the disc tray opens, it closes by itself. | Disc tray open detect switch (S2501) fault.<br>(Check and replace)  |
| H16          | When the disc tray closes, it opens by itself. | Disc tray close detect switch (S2502) fault.<br>(Check and replace) |

### 7.2. Service mode table 1

Pressing various button combinations on the unit and remote control can activate the service modes.

| Unit button | Remote control button | Application                                                                                                                                        |
|-------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>■</b>    | 0                     | Displaying the error code. (Refer to the item 7.3. "DVD/CD error code display".)                                                                   |
|             | 5                     | Jitter check, optical pick-up tilt adjustment.                                                                                                     |
|             | 6                     | Checking the region numbers and broadcast system.                                                                                                  |
|             | 7                     | Checking the program version.                                                                                                                      |
|             | DISPLAY               | Checking DVD laser drive current measurement.                                                                                                      |
|             | 3                     | Checking CD laser drive current measurement.                                                                                                       |
|             | <b>  </b>             | Writing the laser drive current value after replacing the optical pick-up.<br>(Do not perform this mode except for replacing the optical pick-up.) |
|             | ≥10                   | Initialization (Restore factory preset settings)<br>Perform this mode when replacing the microcomputer, its peripheral parts and P.C.B..           |

### 7.3. DVD/CD error code display

| Error Code          | Error Content                                                          | Additional error explanation                                                                   | Defect 1 | Defect 2                  | Defect 3 | Defect 4    | Defect 5 |
|---------------------|------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|----------|---------------------------|----------|-------------|----------|
| U, H error          |                                                                        |                                                                                                |          |                           |          |             |          |
| U11                 | Focus error                                                            |                                                                                                |          |                           |          |             |          |
| H01                 | Tray loading error                                                     |                                                                                                |          |                           |          |             |          |
| H02                 | Spindle servo error                                                    | (Spindle servo, DSC motor, CLV servo error.)                                                   |          |                           |          |             |          |
| H03                 | Traverse motor error                                                   |                                                                                                |          |                           |          |             |          |
| H04                 | Tracking servo error                                                   |                                                                                                |          |                           |          |             |          |
| H05                 | Seek error                                                             |                                                                                                |          |                           |          |             |          |
| DSC related         |                                                                        |                                                                                                |          |                           |          |             |          |
| F500                | DSC error                                                              | DSC stops in the occurrence of servo error. (startup, focus error, etc.)                       | OPU      | ADSC                      | FEP      | servo drive |          |
| F501                | DSC not Ready error                                                    | DSC-system computer communication error (Communication failure caused by idling of DSC.)       | ADSC     | CPU                       |          |             |          |
| F502                | DSC Time out error                                                     | Similar disposal as F500.                                                                      | OPU      | ADSC                      | FEP      | servo drive |          |
| F503                | DSC communication Failure                                              | Communication error (result error occurred although communication command was sent.)           | ADSC     | FEP                       | EEPROM   |             |          |
| F505                | DSC Attention error                                                    | Similar disposal as F500.                                                                      | OPU      | ADSC                      | FEP      | servo drive |          |
| F506                | Invalid media                                                          | Disc is flipped over, TOC unreadable, incompatible disc.                                       | DISC     | FEP                       | ADSC     | ODC         |          |
| ODC related         |                                                                        |                                                                                                |          |                           |          |             |          |
| F600                | Access failure to management information caused by demodulation error. | Operation stopped because navigation data is not accessible caused by the demodulation defect. | ODC      | FEP                       | ADSC     |             |          |
| F601                | Indeterminate sector ID requested.                                     | Operation stopped caused by the request to access abnormal ID data.                            | ODC      | FEP                       | ADSC     |             |          |
| F602                | Access failure to LEAD-IN caused by demodulation error.                | LEAD IN data unreadable.                                                                       |          |                           |          |             |          |
| F603                | Access failure to KEYDET caused by demodulation error.                 | Access failure to CSS data of disc                                                             |          |                           |          |             |          |
| F610                | ODC abnormality                                                        | No permission for command execution                                                            | ODC      |                           |          |             |          |
| F611                | 6626 QCODE don't read error.                                           | Access failure to seek address in CD series                                                    | ODC      |                           |          |             |          |
| F612                | No CRC OK for a specific time                                          | Access failure to ID data in DVD series                                                        | ODC      |                           |          |             |          |
| Disc code           |                                                                        |                                                                                                |          |                           |          |             |          |
| F103                | Illegal highlight position                                             | Every possibility of disc specification violation during highlight display                     | DISC     |                           |          |             |          |
| IIC error           |                                                                        |                                                                                                |          |                           |          |             |          |
| F4FF                | Force initialize failure (time out)                                    |                                                                                                | EEPROM   | CPU                       | FEP      | ADSC        |          |
| Microcomputer error |                                                                        |                                                                                                |          |                           |          |             |          |
| F700                | MBX overflow                                                           | When replying message to disc manager.                                                         |          |                           |          |             |          |
| F701                | Message command does not end.                                          | Next message is sent before replying to disc manager.                                          |          |                           |          |             |          |
| F702                | Message command changes.                                               | Message is changed before it is sent as a reply to disc manager.                               |          |                           |          |             |          |
| F880                | Task number is not appropriate.                                        | Message coming from a non-existing task.                                                       |          |                           |          |             |          |
| F890                | Sending message when message is being sent to AV task.                 | Sending message to AV task.                                                                    |          |                           |          |             |          |
| F891                | Message could not be sent to AV task.                                  | Begin sending message to AV task.                                                              |          |                           |          |             |          |
| F893                | FROM falsification                                                     |                                                                                                | FROM     | CPU                       |          |             |          |
| F894                | EEPROM abnormality                                                     |                                                                                                | EEPROM   | Serial communication line |          |             |          |
| F8A0                | Message command is not appropriate.                                    | Begin sending message to AV task.                                                              |          |                           |          |             |          |

## 7.4. Last error code saved during NO PLAY

| Error code | Error Content                                                             | System computer           | Setting task | System computer internal error code |
|------------|---------------------------------------------------------------------------|---------------------------|--------------|-------------------------------------|
| F0BF       | 6) Cannot playback because physical layer is not recognizable.            | PCND_NOPLAY_PHYSICAL 0x50 | DriveManager | 0xD0BF                              |
| F0C0       | 8) DVD: Cannot playback because it is not DVD Video/Audio/VR.             | PCND_NOPLAY_VIDEO 0x70    | DiscManager  | 0xD0C0                              |
| F0C1       | 9) DVD: Prohibited by the restricted region code.                         | PCND_NOPLAY_RCD 0x80      | DiscManager  | 0xD0C1                              |
| F0C2       | A) DVD: PAL restricted playback.                                          | PCND_NOPLAY_PAL 0x90      | DiscManager  | 0xD0C2                              |
| F0C3       | B) DVD: Parental lock setting prohibits the playback of the entire title. | PCND_NOPLAY_PTL 0xA0      | DiscManager  | 0xD0C3                              |
| F0C4       | C) VCD: Prohibited because it is in PHOTO CD format.                      | PCND_NOPLAY_PHOTO CD 0xB0 | DiscManager  | 0xD0C4                              |
| F0C5       | D) VCD/CD: Prohibited because it is CD-ROM without CD-DA.                 | PCND_NOPLAY_CDROM 0xC0    | DiscManager  | 0xD0C5                              |

## 7.5. Service mode table 2

Pressing various button combinations on the unit and remote control can activate the service modes.

| Item                                   | Unit mode and button combination                                                                                                                                                                                                                   | Function                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Display                                                                                                                                                                                                                                                                                                                                                                            | Cancellation method                      |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| Jitter check                           | In STOP mode (no disc), press ■ button on the unit and "5" button on the remote control.                                                                                                                                                           | Jitter check<br>Jitter rate is measured and displayed. Measurement is repeatedly done in the cycle of one second. Read error counter starts from zero upon mode setting. When target block data failed to be readout, the counter advances by one increment. When the failure is caused by minor error, it may be corrected when retried to enable successful reading. In this case, the counter advances by one. When the error persists even after retry, the counter may jump by two or more. | J <sup>*1</sup> xxx <sup>*2</sup> . yyy <sup>*3</sup> . zz <sup>*4</sup> (. indicates a space.)<br><sup>*1</sup> : Jitter check display mode<br><sup>*2</sup> : Jitter rate<br><sup>*3</sup> : Read error counter<br><sup>*4</sup> : Focus drive value<br>Jitter rate is shown in decimal notation to one place of decimal.<br>Focus drive value is shown in hexadecimal notation. | Press ■ button.                          |
| Error code check                       | In STOP mode (no disc), press ■ button on the unit and "0" button on the remote control.<br><br>*With displaying error code, system controller switches serial number of history and sends out the command accordingly by pressing ▲ and ▼ button. | Error code check<br>The latest error code stored in EEPROM is displayed.                                                                                                                                                                                                                                                                                                                                                                                                                         | Error code (play_err) is expressed in the following convention.<br>Error code=0xDAXX is expressed→DVD. nn. UXX.<br>Error code=0xDBXX is expressed→DVD. nn. HXX.<br>Error code=0DXXX is expressed→DVD. nn. FXXX.<br>Error code=0x0000 is expressed→ DVD. nn. F---.<br>Error code except above→DVD. nn. XXXX.<br>*nn denotes the serial number of history.                           | Cancelled automatically 5 seconds later. |
| Initial setting of laser drive current | In STOP mode (no disc), press ■ button on the unit and ■ button on the remote control.                                                                                                                                                             | Initial setting of laser drive current<br>Initial current value for each of DVD and CD laser is separately saved in EEPROM.                                                                                                                                                                                                                                                                                                                                                                      | LD0 <sup>*1</sup> . 034 <sup>*2</sup> . 028 <sup>*3</sup> .<br><sup>*1</sup> : Laser current measurement mode<br><sup>*2</sup> : DVD laser current measurement<br><sup>*3</sup> : CD laser current measurement<br>The value denotes the current in decimal notation. The above example shows the initial current is 34 mA and 28 mA for DVD and CD laser.                          | Cancelled automatically 5 seconds later. |
| DVD laser drive current measurement    | In STOP mode (no disc), press ■ button on the unit and "DISPLAY" button on the remote control.                                                                                                                                                     | DVD laser drive current measurement<br>DVD laser drive current is measured and the result is displayed together with the initial value stored in EEPROM. After the measurement, DVD laser emission is kept on. It is turned off when Standby/on key is switched off. (It is also turned off when the primary power is switched off.)                                                                                                                                                             | LDD <sup>*1</sup> . 034 <sup>*2</sup> . 032 <sup>*3</sup> .<br><sup>*1</sup> : DVD laser current measurement mode<br><sup>*2</sup> : Initial current stored in EEPROM<br><sup>*3</sup> : Measured current<br>The value denotes the current in decimal notation.<br>The above example shows the initial current is 34 mA and the measured value is 32 mA.                           | Cancelled automatically 5 seconds later. |

| Item                                       | Unit mode and button combination                                                                | Function                                                                                                                                                                                                                                                                                                                          | Display                                                                                                                                                                                                                                                                                                                                                  | Cancellation method                      |
|--------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| ADSC internal RAM data check               | In STOP mode (no disc), press ■ button on the unit and "1" or "2" button on the remote control. | ADSC internal RAM data check<br>ADSC internal RAM data is read out and displayed.<br>Change the address with "CANCEL" key operation to show the data for 16 addresses.                                                                                                                                                            | A <sup>*1</sup> . 0FA <sup>*2</sup> . 6901 <sup>*3</sup> ..<br><sup>*1</sup> : ADSC internal RAM data check mode<br><sup>*2</sup> : Address<br><sup>*3</sup> : RAM data for specified address<br>The value is shown in hexadecimal notation. The above example shows the data in ADSC address 0FAh is 6901h.                                             | Press ■ button.                          |
| CD laser drive current measurement         | In STOP mode (no disc), press ■ button on the unit and "3" button on the remote control.        | CD laser drive current measurement<br>CD laser drive current is measured and the result is displayed together with the initial value stored in EEPROM. After the measurement, CD laser emission is kept on. It is turned off when Standby/on key is switched off. (It is also turned off when the primary power is switched off.) | LDC <sup>*1</sup> . 028 <sup>*2</sup> . 026 <sup>*3</sup> ..<br><sup>*1</sup> : CD laser current measurement mode<br><sup>*2</sup> : Initial current stored in EEPROM<br><sup>*3</sup> : Measured current<br>The value denotes the current in decimal notation.<br>The above example shows the initial current is 28 mA and the measured value is 26 mA. | Cancelled automatically 5 seconds later. |
| User initialization                        | In STOP mode (no disc), press ■ button on the unit and " ≥10 " button on the remote control.    | User initialization<br>User setting are cancelled and unit is initialized to factory preset settings.                                                                                                                                                                                                                             | "INITIALIZE.."                                                                                                                                                                                                                                                                                                                                           |                                          |
| Region display                             | In STOP mode (no disc), press ■ button on the unit and "6" button on the remote control.        | Region display                                                                                                                                                                                                                                                                                                                    | . x <sup>*1</sup> . yy <sup>*2</sup> . zzz <sup>*3</sup> ..<br><sup>*1</sup> : Region No.<br><sup>*2</sup> : Video output format<br>NN; NTSC<br>PN; PAL(When playing NTSC disc: NTSC)<br>P6; PAL(When playing NTSC disc: PAL60)<br><sup>*3</sup> : Model setting code                                                                                    | Cancelled automatically 5 seconds later. |
| Microcomputer and firmware version display | In STOP mode (no disc), press ■ button on the unit and "7" button on the remote control.        | Microcomputer and firmware version display                                                                                                                                                                                                                                                                                        | ww <sup>*1</sup> xx <sup>*2</sup> . yyy <sup>*3</sup> zzz <sup>*4</sup> ..<br><sup>*1</sup> : Mechanism control version<br><sup>*2</sup> : Operation control version<br><sup>*3</sup> : System controller model number<br><sup>*4</sup> : System controller version                                                                                      | Cancelled automatically 5 seconds later. |
| Region & firmware version display          | In STOP mode (no disc), press ■ button on the unit and "8" button on the remote control.        | Region & firmware version display                                                                                                                                                                                                                                                                                                 | . x <sup>*1</sup> . yy <sup>*2</sup> zzz <sup>*3</sup> ..<br><sup>*1</sup> : Region No.<br><sup>*2</sup> : System controller model number<br><sup>*3</sup> : System controller version                                                                                                                                                                   | Cancelled automatically 5 seconds later. |
| Timer 1 check                              | In STOP mode (no disc), press ■ button on the unit and ▲ button on the remote control.          | Timer 1 check<br>Laser operation timer. Operation time is measured separately for DVD and CD laser.                                                                                                                                                                                                                               | T1. 1234. 5678<br>Shown to the left is DVD laser time, and to the right is CD laser time.<br>Time is shown in 4 digits of decimal notation in a unit of 10 hours.<br>"0000" will follow "9999".                                                                                                                                                          | Cancelled automatically 5 seconds later. |
| Timer 1 reset                              | While displaying Timer 1 data, press ■ button on the unit and ▼ button on the remote control.   | Timer 1 reset<br>Laser operation timer. Operation time is reset all at once for DVD and CD laser.                                                                                                                                                                                                                                 | T1. 0000. 0000                                                                                                                                                                                                                                                                                                                                           | Cancelled automatically 5 seconds later. |
| Timer 2 check                              | In STOP mode (no disc), press ■ button on the unit and ► button on the remote control.          | Timer 2 check<br>Spindle motor operation timer.                                                                                                                                                                                                                                                                                   | T2. 1234....<br>Time is shown in 4 digits of decimal notation in a unit of 10 hours.<br>"0000" will follow "9999".                                                                                                                                                                                                                                       | Cancelled automatically 5 seconds later. |
| Timer 2 reset                              | While displaying Timer 2 data, press ■ button on the unit and ◀ button on the remote control.   | Timer 2 reset<br>Spindle motor operation timer.                                                                                                                                                                                                                                                                                   | T2. 0000....                                                                                                                                                                                                                                                                                                                                             | Cancelled automatically 5 seconds later. |
| Communication error display                | In STOP mode (no disc), press ■ button on the unit and "MENU" button on the remote control.     | Communication error display<br>Displaying the number of communication error times between DVD system control IC and panel control IC.                                                                                                                                                                                             | ERR. 02 <sup>*1</sup> . /30 <sup>*2</sup><br><sup>*1</sup> : Number of error times<br><sup>*2</sup> : Number of communication times(Fixed)                                                                                                                                                                                                               | Cancelled automatically 5 seconds later. |

## 7.6. Sales demonstration lock function

This function prevents discs from being lost when the unit is used for sales demonstration, disable to eject the disc and some operations for disc. When the unit is operated in this mode, "LOCKED....." is displayed on the LCD and prohibited operation is disabled.

### 7.6.1. Setting

#### • Setting for eject operation

1. Press "SELECT" button on the AV control receiver to select DVD.
2. Hold down  button on the unit, and then press  (PLAY) button on the remote control for at least 3 seconds. "LOCKED....." is displayed on the LCD for 3 seconds, and then start to play the disc on the unit. (This indicates the unit enters into sales demonstration lock function.)

#### Note:

When "Open/close  " is pressed, "LOCKED....." is displayed and disabled to open/close the disc tray.

#### • Setting for selector and some operations for disc

1. Press "SELECT" button on the AV control receiver to select DVD.
2. Hold down  button on the unit, and then press  (PLAY) button on the remote control for at least 3 seconds. "LOCKED....." is displayed on the LCD for 3 seconds, and then start to play the disc on the unit. (This indicates the unit enters into sales demonstration lock function.)

#### Note:

When buttons as shown below are pressed, "LOCKED....." is displayed and disabled to operate.

| Unit           | SELECTOR (on the AV control receiver), Open/close  ,  ,                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Remote control | 0-9, $\geq 10$ , CH SELECT, TEST, TV/AV, VCR/EXT, TV/AUX, TUNER/BAND,  ,  ,  ,  ,  ,  , REPEAT/MIX 2CH, PLAY MODE/P.MEMORY, DISPLAY/TV VOL-, FM MODE/SET UP, FL DISPLAY/RDS, RETURN/TVVOL+, DOUBLE RE-MASTER, SLEEP |

### 7.6.2. Cancellation

This function can be cancelled by the same procedures shown above.

("UNLOCKED...." is displayed for about 3 seconds and cancels the sales demonstration lock function.)

## 7.7. Handling after completing repairs

Perform the following procedures after completing repairs.

1. Close the disc tray to press "Open/close  " button.
2. Turn off the power to press "Standby/on" button.
3. Disconnect an AC mains lead from the outlet.

#### Note:

Do not disconnect an AC mains lead from the outlet with the disc tray is still opens, then close the disc tray manually.

## 8 Service Precautions

### 8.1 Recovery after the DVD player is repaired

- When a FROM or module P.C.B. is replaced, carry out the recovery processing to optimize the drive.  
Playback the recovery disc to process the recovery automatically.
- Recovery disc (Product number: **RFKZD5TR006 or RFKZD03R004** )
- Performing recovery
  1. Load the recovery disc (**RFKZD5TR006 or RFKZD03R004** ) on to the unit and run it.
  2. Recovery is performed automatically. When it is finished, a message appears on the screen.
  3. Remove the recovery disc.
  4. Turn off the power.

**Note:**

This unit requires no initialization process carried out after the traditional DVD players were repaired.

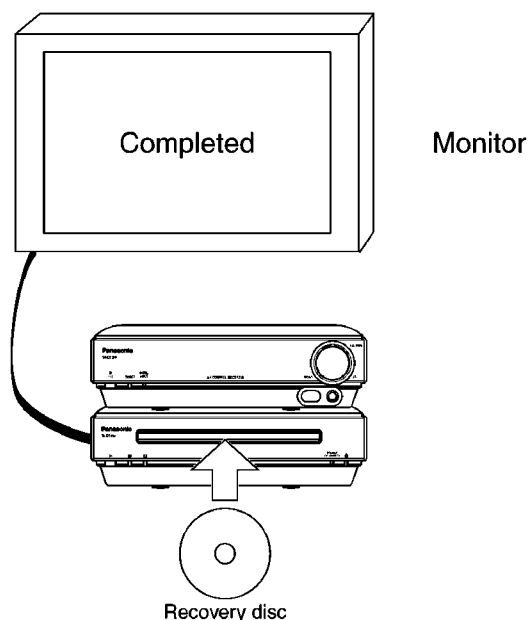
When the recovery measure are taken, the customer setting will return to the factory preset settings as same as the procedure described in item of "User initialization" in 7.5. is carried out. Write down the contents of the setting before recovery processing, and reset the unit.

### 8.2 Firmware version-up of the DVD player

- The firmware of the DVD player may be renewed to improve the quality including operability and playback ability to the substandard discs processing to optimize the drive.  
The recovery disc has also firmware version-up.
- After version-up, recovery processing is executed automatically.
- Part number of the recovery disc for version-up will be noticed when it is supplied.
- Updating firmware
  1. Load the recovery disc that is supplied to the unit and run it.
  2. Firmware version of the unit is automatically checked. Appropriate message appears whenever necessary.
  3. Using remote control cursor key, select whether version updating is to be done or not. (Selection of Yes/No)
  4. a. If Yes is selected, version updating is performed.
    - b. If No is selected, only recovery is performed.
  5. a. When updating is finished, remove the disc according to the message appearing on the screen.
    - b. Remove the disc according to the message appearing on the screen.
  6. Turn off the power.

**Note:**

If the AC power supply is shut down during version-up due to a power failure, the version-up is improperly carried out. In such a case, replace the FROM and carry out the version-up again.



### 8.3. Cumulative operation time display function

#### 1. Operation/display

T 1 \_ 0 1 2 3 \_ 0 1 2 3

DVD/CD laser operation time  
Unit: 10 hours in decimal notation

T 2 \_ 0 1 2 3 \_ \_ \_ \_ \_

Spindle motor operation time  
Unit: 10 hours in decimal notation

Key operations are as follows.

Laser operation time..... In STOP mode (no disc), while pressing ■ button on the unit, press ▲ button on the remote control

Spindle motor operation time..... In STOP mode (no disc), while pressing ■ button on the unit, press ► button on the remote control.

**To reset the timer, perform the following while displaying the time with above key operation.**

Laser operation time..... While pressing ■ button on the unit, press ▼ button on the remote control.

Spindle motor operation time..... While pressing ■ button on the unit, press ◀ button on the remote control.

#### 2. How to utilize

Reference information in fault diagnosis of laser or spindle motor system.

Review of faulty point in repeated repair.

## 9 Measurements and Adjustments

### 9.1. Service tool and equipment

| Applications    | Parts Name               | Parts Number                                       |
|-----------------|--------------------------|----------------------------------------------------|
| Tilt adjustment | DVD test disc            | DVDT-S15 or DVDT-S01                               |
|                 | Hexagonal wrench         | Commercially available (2mm)                       |
| Inspection      | Extension cable (22 pin) | JGS0116                                            |
|                 | Extension cable (26 pin) | JGS0098                                            |
| Others          | Screw lock               | RZZ0L01                                            |
|                 | Grease                   | RFKXGAK152, RFKXPG641                              |
| Confirmation    | CD test disc             | PVCD-K06 or any other commercially available disc. |
|                 | VCD test disc            |                                                    |
|                 | Recovery disc            | RFKZD5TR006 or RFKZD03R004                         |

### 9.2. Important points in adjustments

#### 9.2.1. Important points in optical adjustments

- Before starting optical adjustment, be sure to take an antistatic measures.
- Optical pick-up tilt adjustment is needed after replacement of the following components.

1. Optical pick-up
2. Spindle motor unit
3. Optical pick-up peripheral parts (such as rail)

**Remarks:**

Adjustment is generally unnecessary after replacing other parts of traverse unit. However, make an adjustment if there is noticeable degradation in picture quality. Optical adjustments cannot be made inside the optical pick-up. Adjustment is generally unnecessary after replacing the traverse unit.

### 9.3. Storing and handling test discs

Surface precision is vital for DVD test discs. Be sure to store and handling them carefully.

- Do not place discs directly onto the workbench etc., after use.
- Handle discs carefully in order to maintain their flatness. Place them into their case after use and store them vertically. Store discs in cool place where they are not exposed to direct sunlight or air from air conditioners.
- Accurate adjustment will not be possible if the disc is warped when placed on a surface made of glass etc.. If it is warped, use a new test disc to make optical adjustments.
- If adjustment is performed with a warped disc, the adjustment will be incorrect and some discs will not be playable.

## 9.4. Optical pick-up adjustment

### 9.4.1. Optical pick-up tilt adjustment

| Measurement point                          | Adjustment point                                     | Mode                                                    | Disc                 |
|--------------------------------------------|------------------------------------------------------|---------------------------------------------------------|----------------------|
|                                            | Tangential adjustment screw<br>Tilt adjustment screw | T1 (inner periphery) play<br>T43 (outer periphery) play | DVDT-S15 or DVDT-S01 |
| Measurement equipment                      |                                                      | Adjustment value                                        |                      |
| None (Use the LCD indication on SA-DT310.) |                                                      | Adjust the jitter value to the minimum level.           |                      |

#### 9.4.1.1. Adjustment procedures

1. In STOP mode (no disc), while pressing ■ button on the unit, press "5" button on the remote control.
2. Confirm that "J. xxx. yyy. zz" is shown on the display of the AV control receiver (SA-DT310).

##### For your reference:

"yyy" and "zz" shown to the right have nothing to do with jitter value. "yyy" is the error counter, while "zz" is the focus drive value.

##### Note:

Jitter value appears on the display of the AV control receiver (SA-DT310).

3. Play test disc T1 (inner periphery).
4. Adjust tangential adjustment screw so that the jitter value is minimized. Refer to Fig. 9-1.
5. Play test disc T43 (outer periphery).
6. Adjust tilt adjustment screw1 so that the jitter value is minimized. Refer to Fig. 9-1.
7. Play test disc T43 (outer periphery).
8. Adjust tilt adjustment screw2 so that the jitter value is minimized. Refer to Fig. 9-1.
9. Repeat adjusting tilt adjustment screw1 and 2 alternately until the jitter value is minimized.

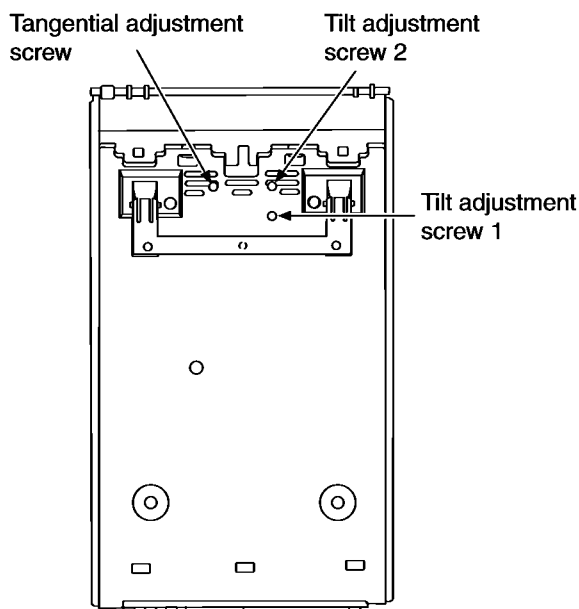
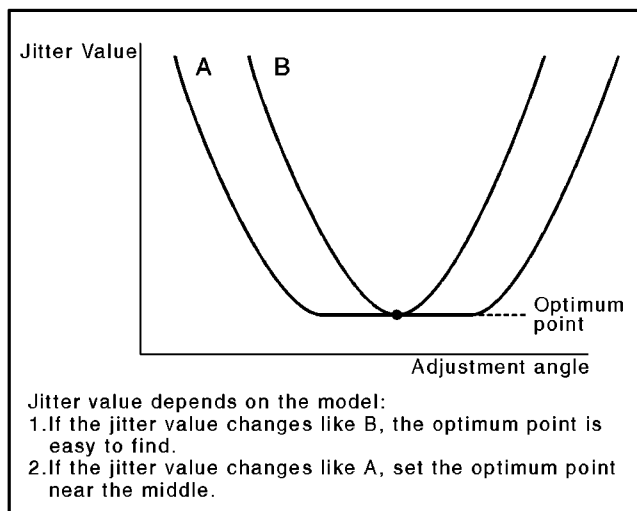


Fig. 9-1.

#### 9.4.1.2. Important point

1. Make tangential adjustment first, and then make tilt adjustment.
2. Repeat adjusting two or three times to find the optimum point.

3. Finish the procedure with tilt adjustment.



#### 9.4.1.3. Check after adjustment

Play test disc or any other disc to make sure there is no picture degradation in the inner, middle and outer peripheries, and no audio skipping. After adjustment is finished, lock each adjustment screws in position using screw lock.

#### 9.4.1.4. Procedure for screw lock

1. After the adjustment is performed, remove the traverse unit from the unit.
2. Lay the traverse unit upside down, fix adjustment screw with screw lock. Refer to Fig. 9-2.
3. After fixing, assemble the traverse unit to the unit.

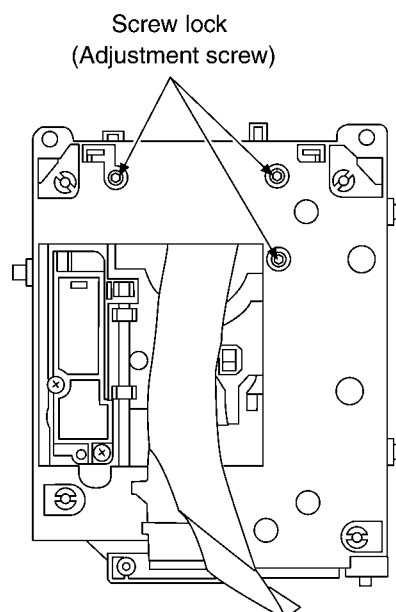
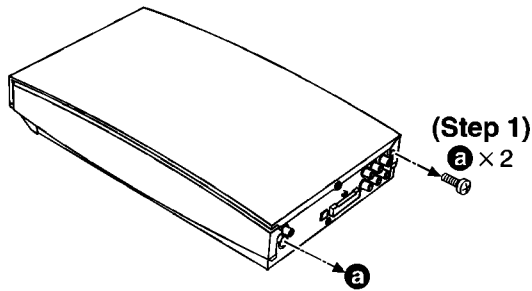


Fig. 9-2.

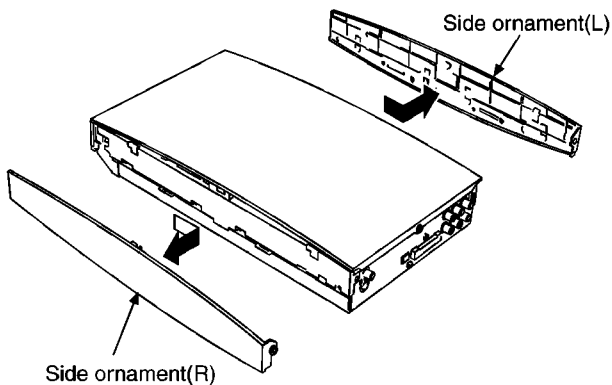
## 10 Operation Checks and Disassembly Procedures

- This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
- For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.

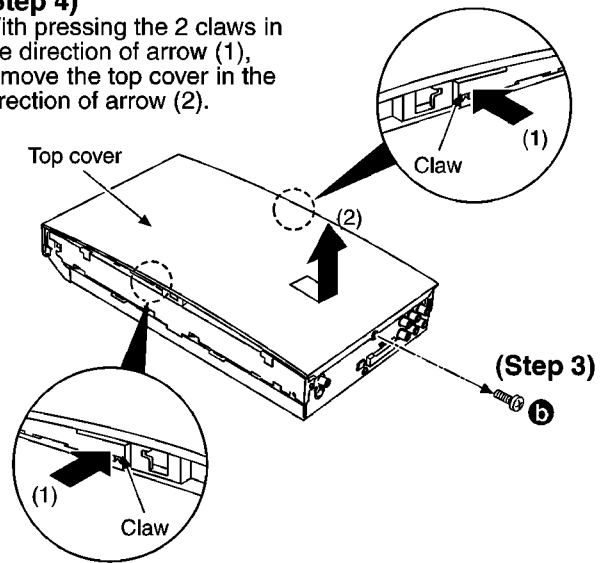
### 10.1. Checking for the DVD module P.C.B. and main P.C.B.



(Step 2)  
Remove the side ornament(L), (R) in the direction of arrow.

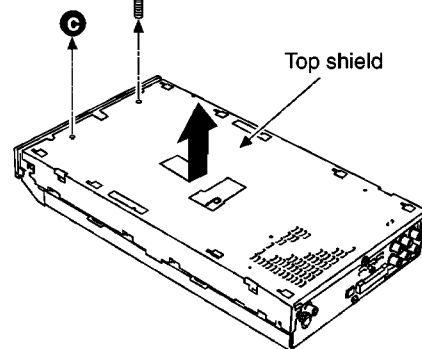


(Step 4)  
With pressing the 2 claws in the direction of arrow (1), remove the top cover in the direction of arrow (2).

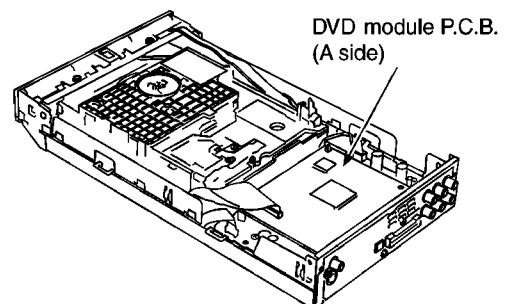


(Step 5)  
Remove 2 screws (c) from the top shield.

(Step 6)  
Remove the top shield in the direction of arrow.

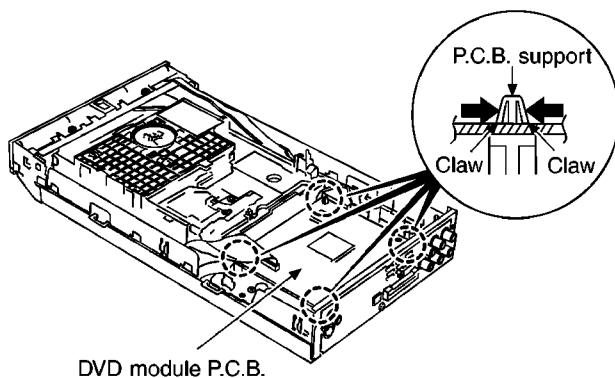


- Check the DVD module P.C.B. (A side) as shown below.



**(Step 7)**

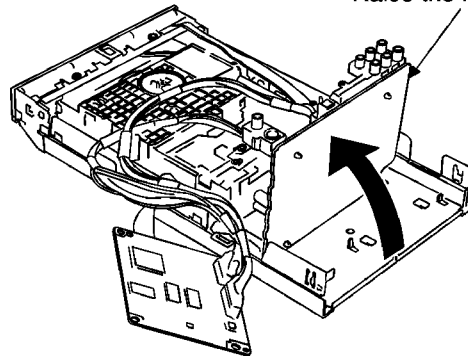
Release the 2 claws of P.C.B. support, and then remove the DVD module P.C.B..



- Check the main P.C.B. as shown below.

**(Step 12)**

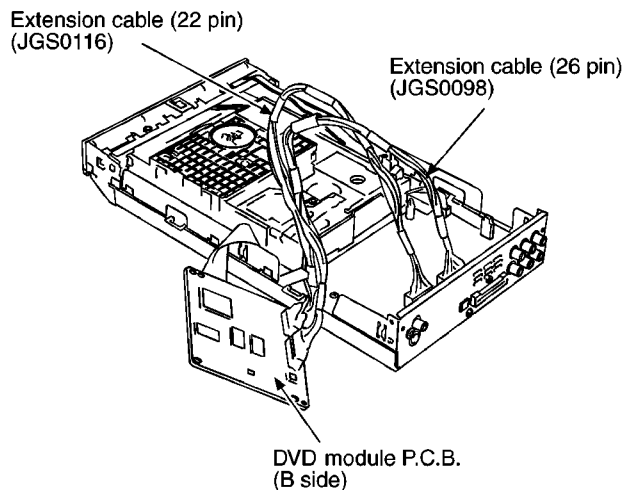
Raise the main P.C.B..



- Check the DVD module P.C.B. (B side) as shown below.

**(Step 8)**

Connect the connectors with extension cables (2 points).



## 10.2. Checking for the interface P.C.B.

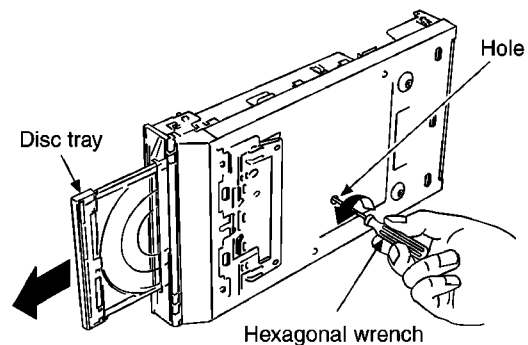
- Follow the (Step 1) - (Step 6) of item 10.1.

**(Step 1)**

Insert the gear with hexagonal wrench into the hole.

**(Step 2)**

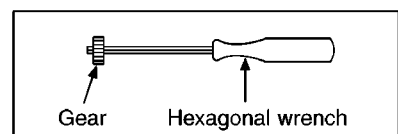
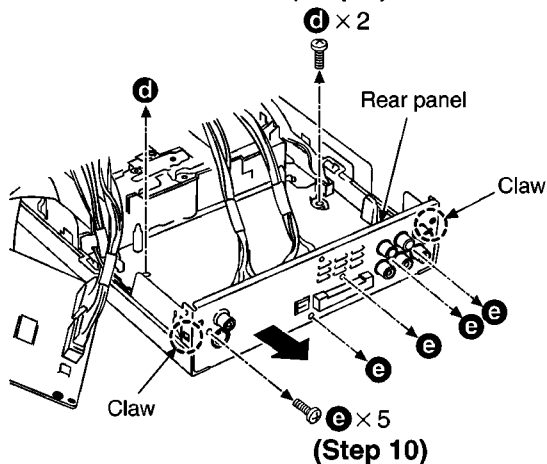
Rotate the hexagonal wrench in the direction of arrow, and then open the disc tray.

**(Step 11)**

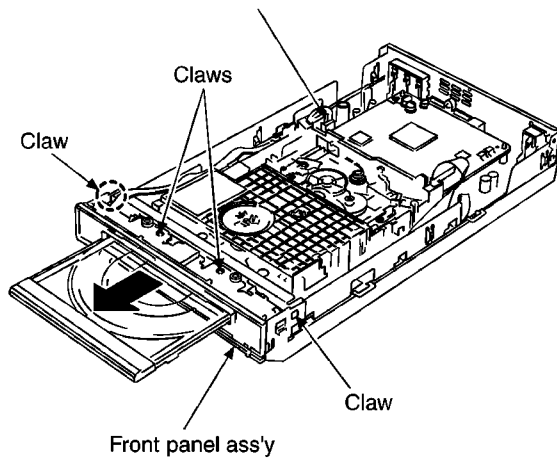
Release the 2 claws, and then remove the rear panel.

**(Step 9)**

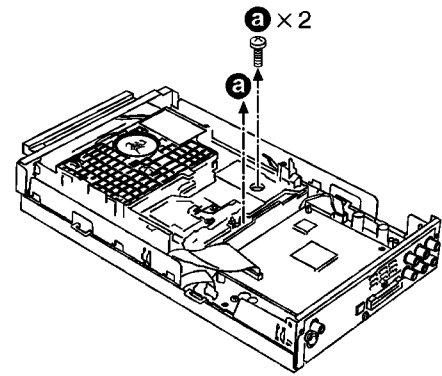
d × 2



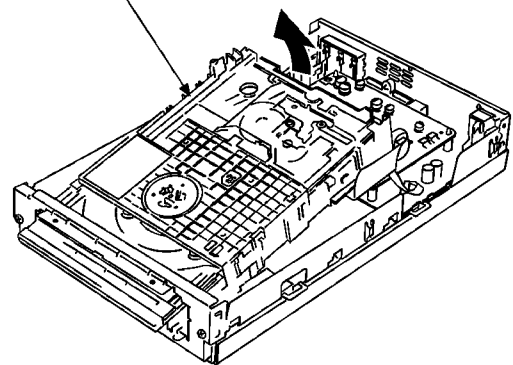
**(Step 3)**  
Remove the flat cable from  
connector(CN601).



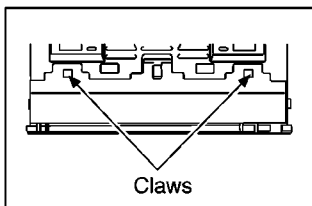
**(Step 7)**



**(Step 8)**  
Remove the loading unit.

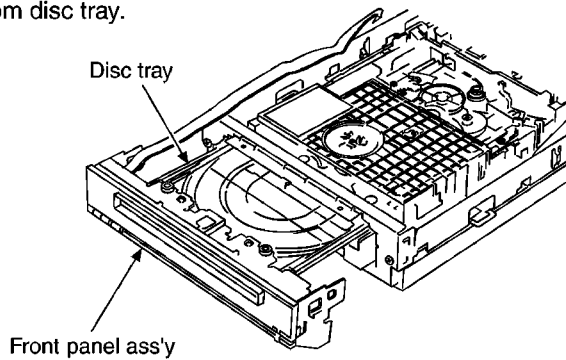


**(Step 4)**  
Release the 6 claws, and  
then remove the front panel  
ass'y.

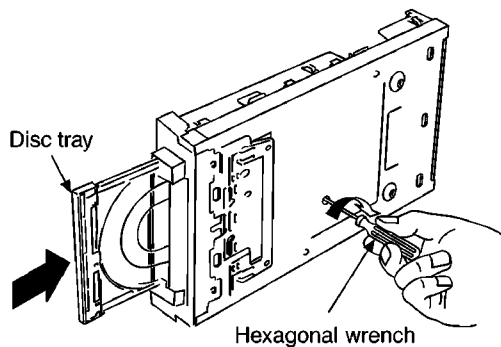


(Bottom side)

**(Step 5)**  
Remove the front panel ass'y  
from disc tray.

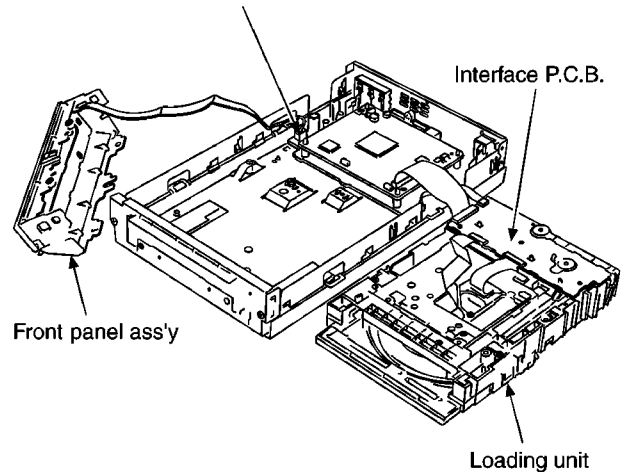


**(Step 6)**  
Rotate the hexagonal wrench in the direction  
of arrow, and then close the disc tray fully.



• Check the interface P.C.B. as shown below.

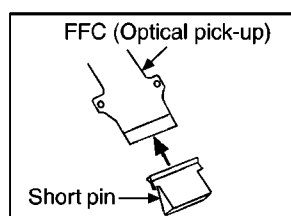
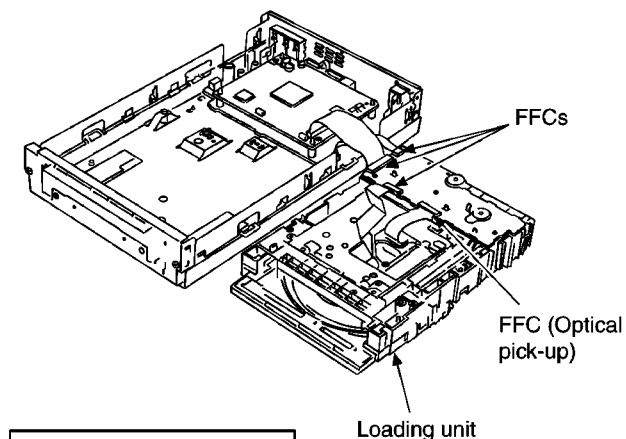
**(Step 9)**  
Connect the flat cable to connector(CN601).



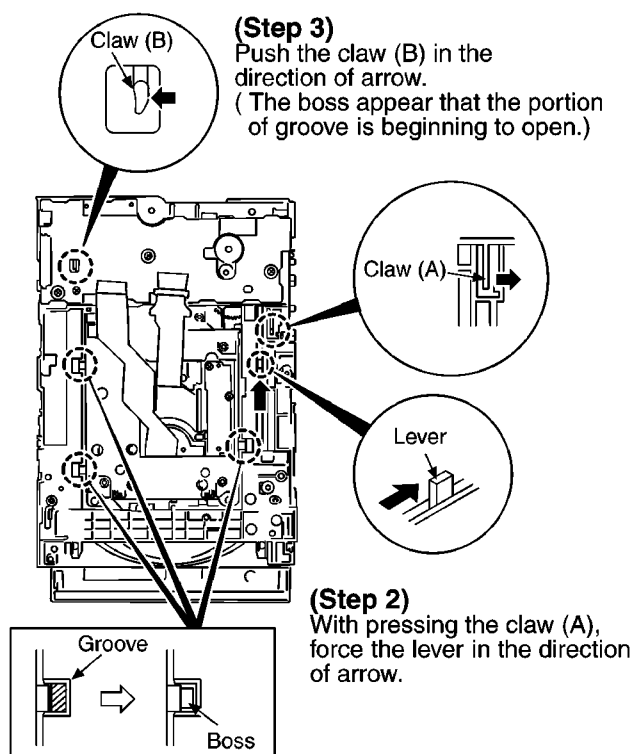
## 10.3. Replacement for the traverse unit

- Follow the (Step 1) - (Step 6) of item 10.1.
- Follow the (Step 1) - (Step 8) of item 10.2.

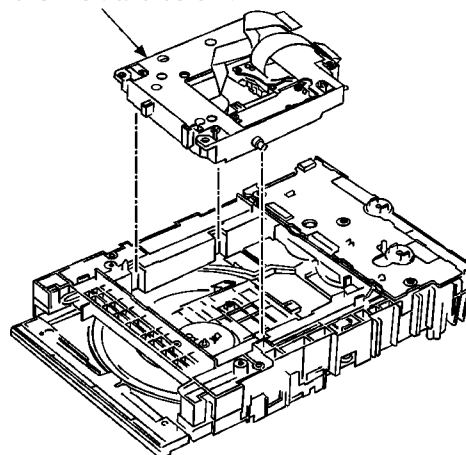
**(Step 1)**  
Remove the 4 FFCs.



**NOTE:**  
Insert a short pin into the FFC.

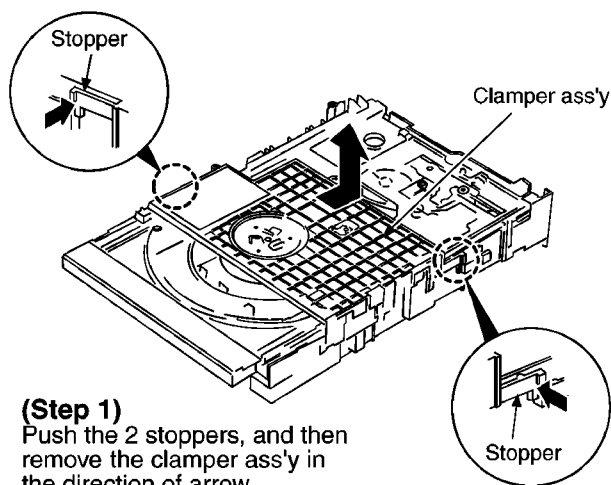


**(Step 4)**  
Remove the traverse unit.



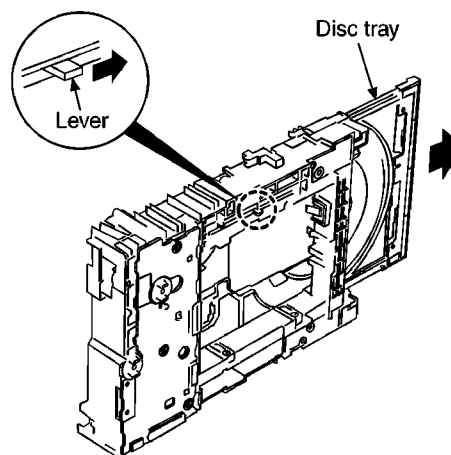
## 10.4. Replacement for the disc tray

- Follow the (Step 1) - (Step 6) of item 10.1.
- Follow the (Step 1) - (Step 8) of item 10.2.
- Follow the (Step 1) - (Step 4) of item 10.3.



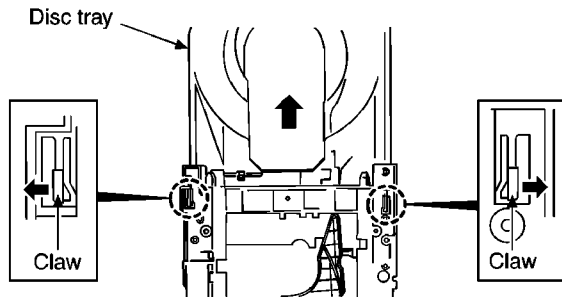
**(Step 1)**  
Push the 2 stoppers, and then remove the clamber ass'y in the direction of arrow.

**(Step 2)**  
Force the lever in the direction of arrow and open the disc tray.

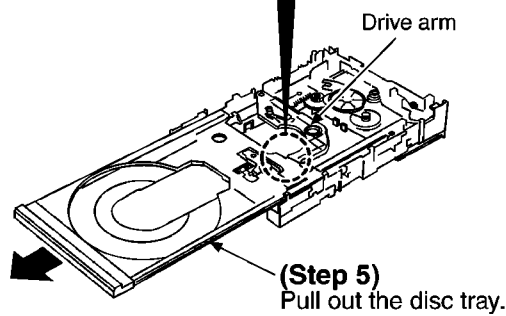
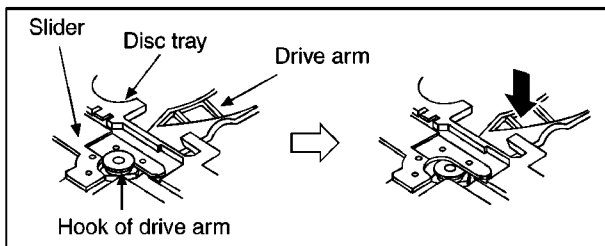


**(Step 3)**

With pressing the 2 claws, draw the disc tray.

**(Step 4)**

Release the hook of drive arm.

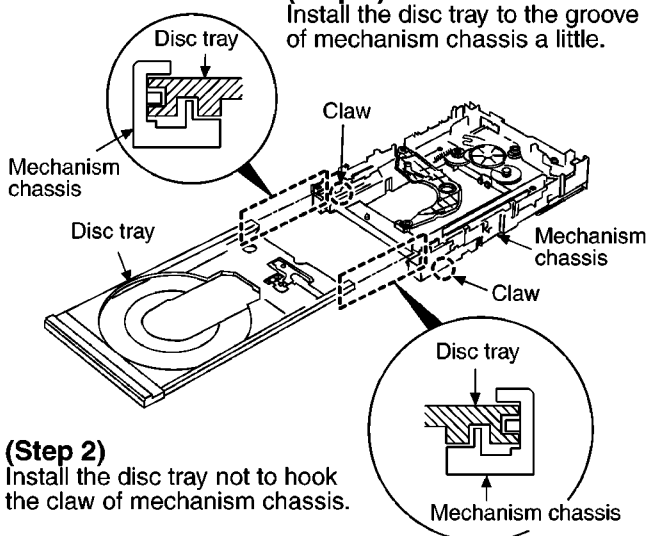


**(Step 5)**  
Pull out the disc tray.

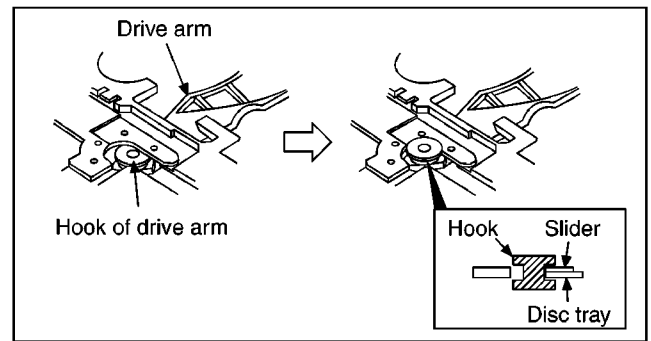
### Installation of the disc tray

**(Step 1)**

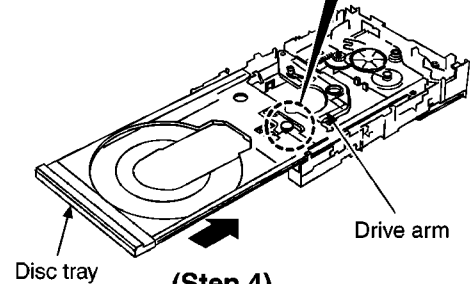
Install the disc tray to the groove of mechanism chassis a little.

**(Step 2)**

Install the disc tray not to hook the claw of mechanism chassis.

**(Step 3)**

Hook the hook of drive arm to the slider.

**(Step 4)**

Push the disc tray.

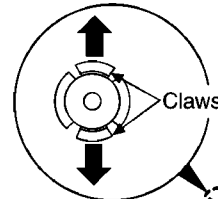
**(Step 5)**

Confirm that the disc tray and drive arm are smooth to move.

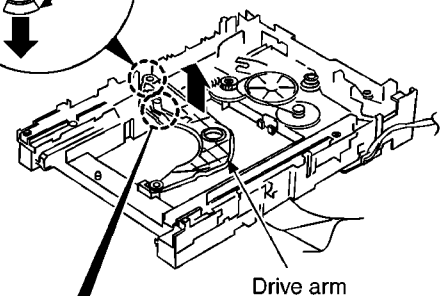
## 10.5. Disassembly for the loading unit

- Follow the **(Step 1)** - **(Step 6)** of item 10.1.
- Follow the **(Step 1)** - **(Step 8)** of item 10.2.
- Follow the **(Step 1)** - **(Step 4)** of item 10.3.
- Follow the **(Step 1)** - **(Step 5)** of item 10.4.

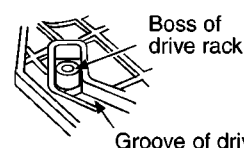
(Bottom side)

**(Step 1)**

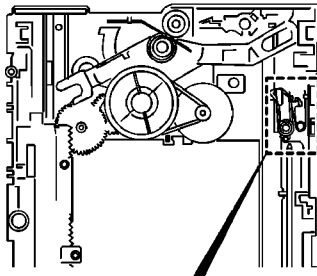
Release the 2 claws, and then remove the drive arm.



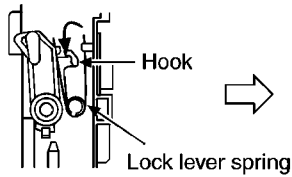
### ■ Notice for installation of drive arm



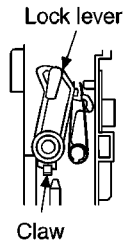
- Make sure the groove of drive arm are fit in the boss of drive rack.



**(Step 2)**  
Install the lock lever spring to the hook temporarily.

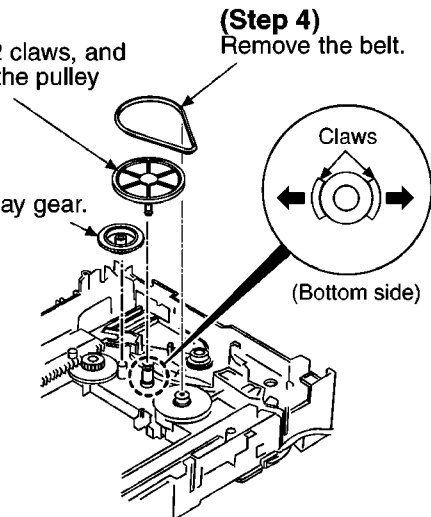


**(Step 3)**  
Release the claw, and then remove the lock lever.

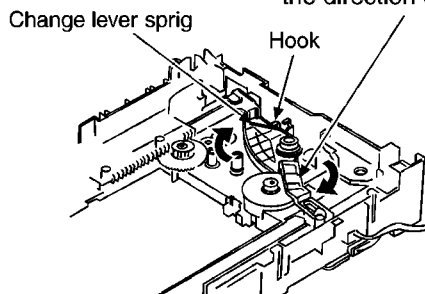


**(Step 5)**  
Release the 2 claws, and then remove the pulley gear.

**(Step 6)**  
Remove the relay gear.



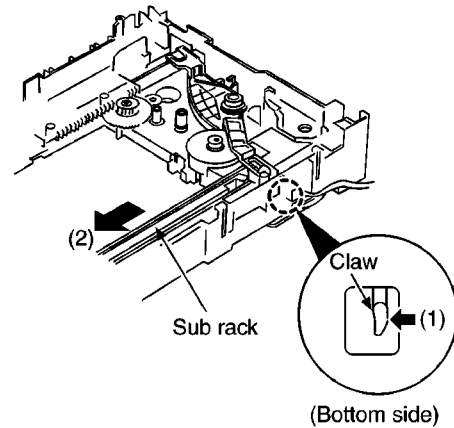
**(Step 7)**  
Rotate the change lever in the direction of arrow.



**(Step 8)**  
Install the change lever spring to the hook temporarily.

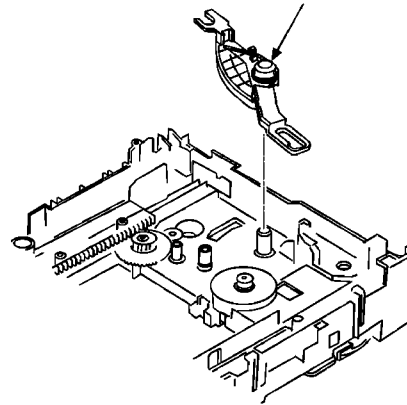
**(Step 9)**

With pressing the claw in the direction of arrow(1), force the sub rack in the direction of arrow(2).



**(Step 10)**

Remove the change lever.

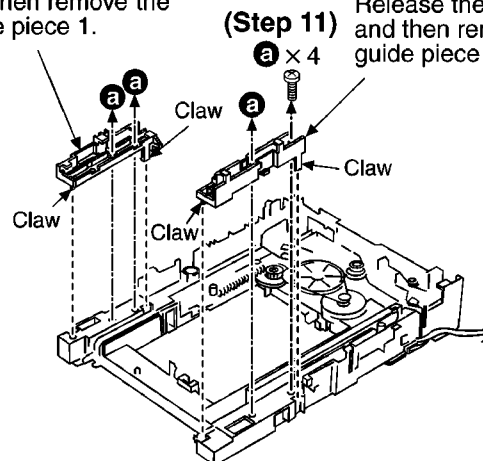


**(Step 12)**

Release the 2 claws, and then remove the guide piece 1.

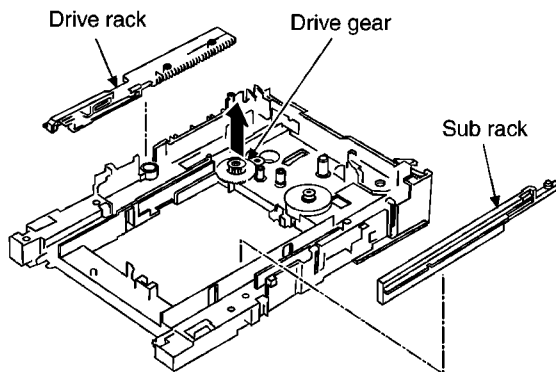
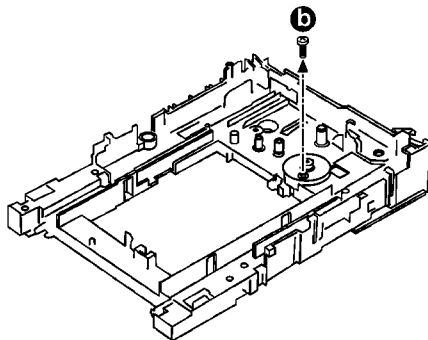
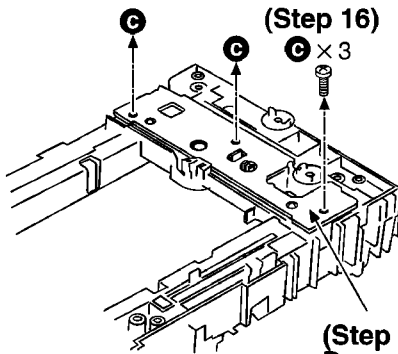
**(Step 13)**

Release the 2 claws, and then remove the guide piece 2.



**(Step 14)**

Remove the drive rack, sub rack and drive gear.

**(Step 15)****(Step 16)**

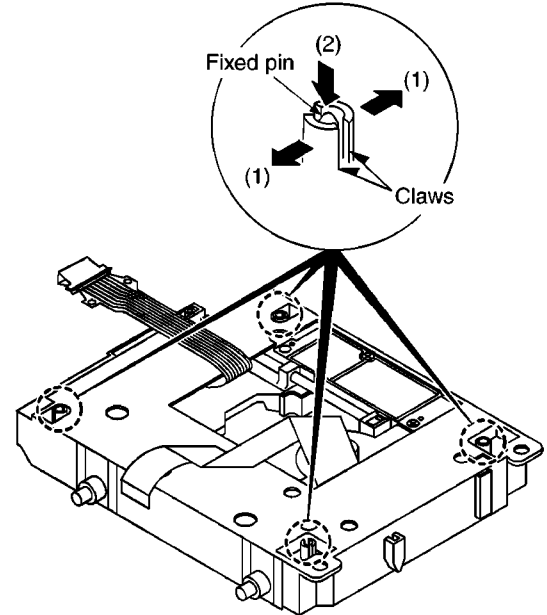
**(Step 17)**  
Remove the loading motor P.C.B..

## 10.6. Replacement for the optical pick-up

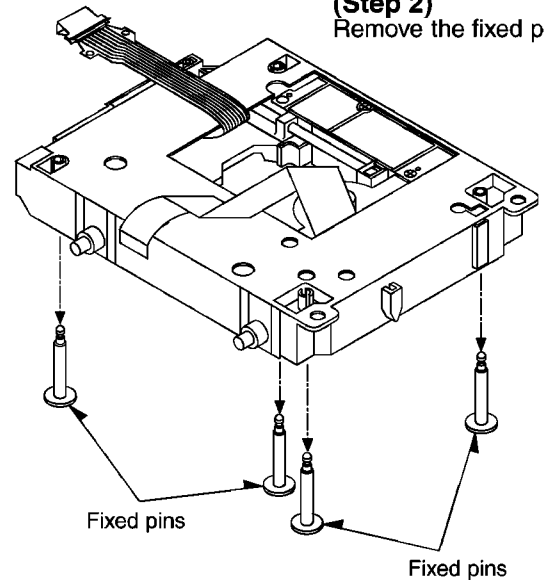
- Follow the **(Step 1)** - **(Step 6)** of item 10.1.
- Follow the **(Step 1)** - **(Step 8)** of item 10.2.
- Follow the **(Step 1)** - **(Step 4)** of item 10.3.

**(Step 1)**

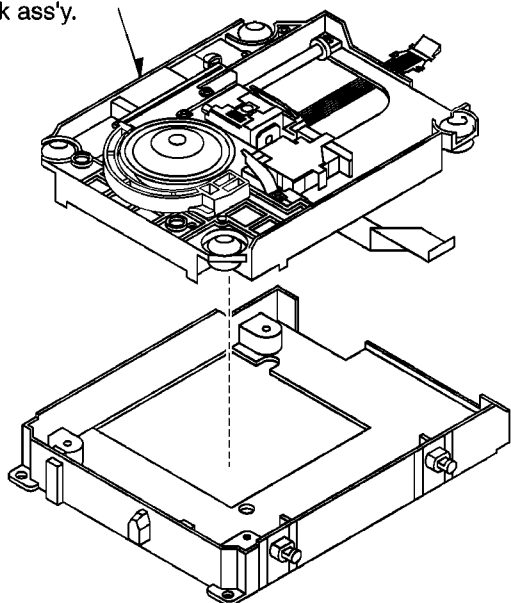
Release the 2 claws, and then push the fixed pin in the direction of arrow.

**(Step 2)**

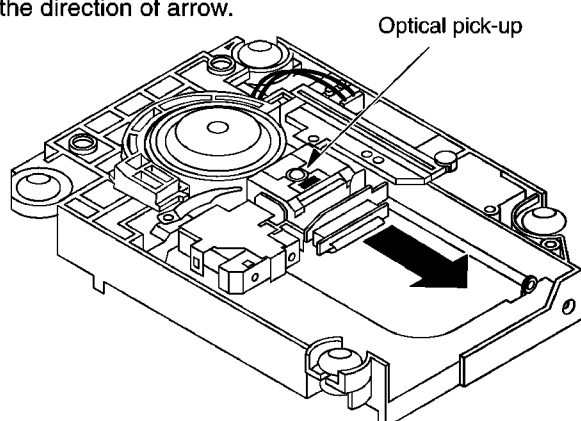
Remove the fixed pin.



**(Step 3)**  
Remove the traverse  
deck ass'y.



**(Step 4)**  
Move the optical pick-up  
in the direction of arrow.

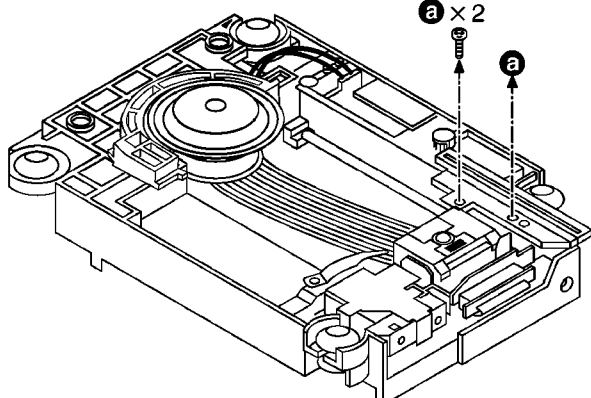


Optical pick-up

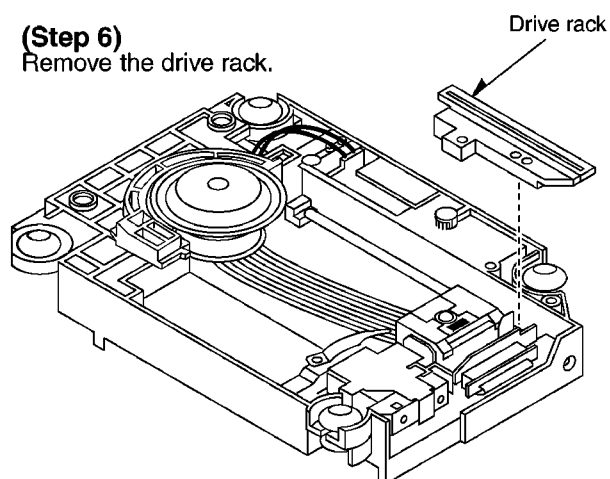
**(Step 5)**

**a** × 2

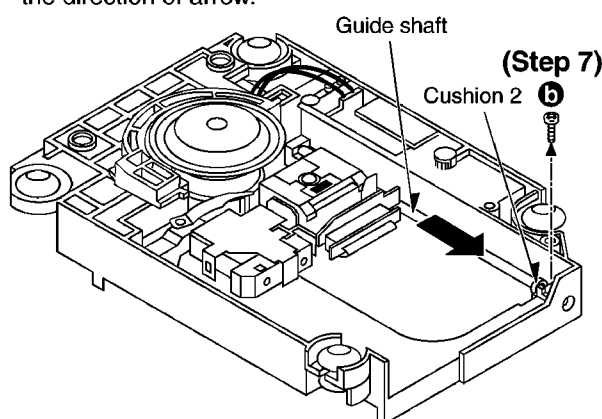
**a**



**(Step 6)**  
Remove the drive rack.



**(Step 8)**  
Move the guide shaft in  
the direction of arrow.

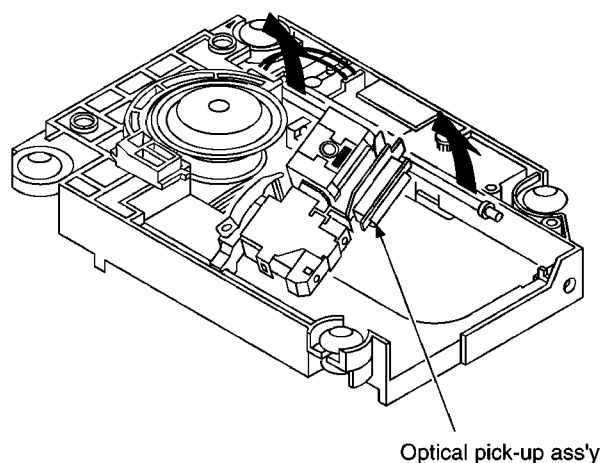


Guide shaft

**(Step 7)**

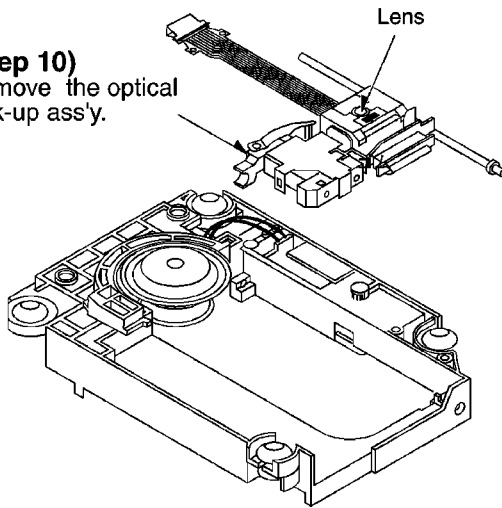
Cushion 2 **b**

**(Step 9)**  
Lift up the optical pick-up ass'y.



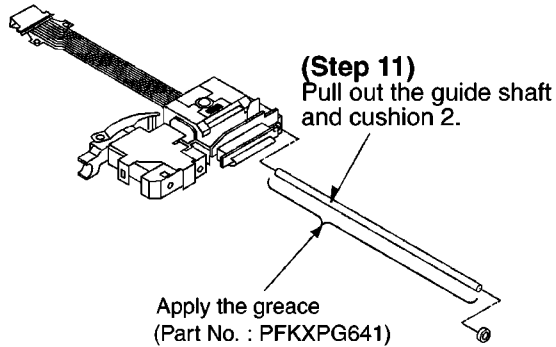
Optical pick-up ass'y

**(Step 10)**  
Remove the optical  
pick-up ass'y.



**NOTE:**

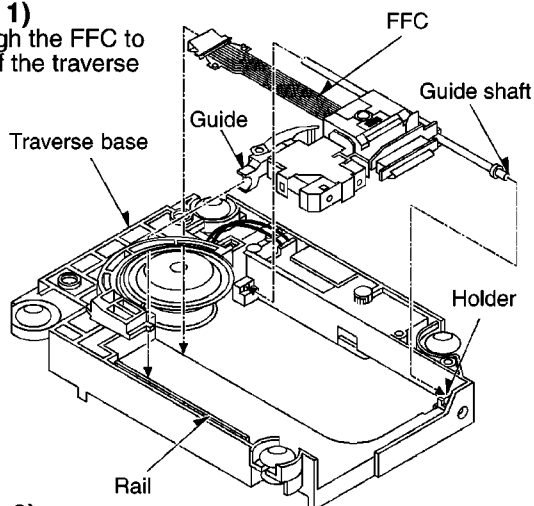
1. Use care to prevent damage the optical pick-up, due to the precision construction.
2. Do not touch the lens of the optical pick-up.



**Installation of the optical pick-up ass'y**

**(Step 1)**

Through the FFC to  
hole of the traverse  
base.



**(Step 2)**

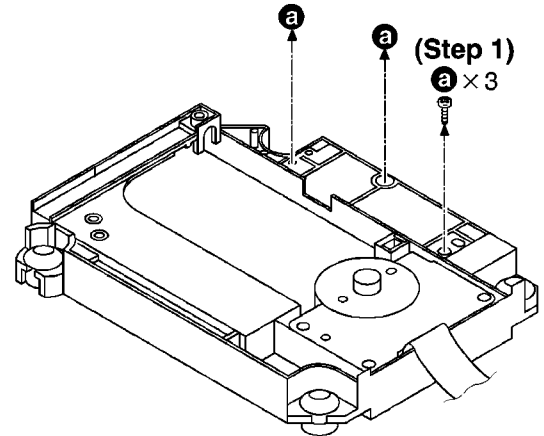
Put on the guide of optical  
pick-up to the rail.

**(Step 3)**

Install the guide shaft  
to the holder.

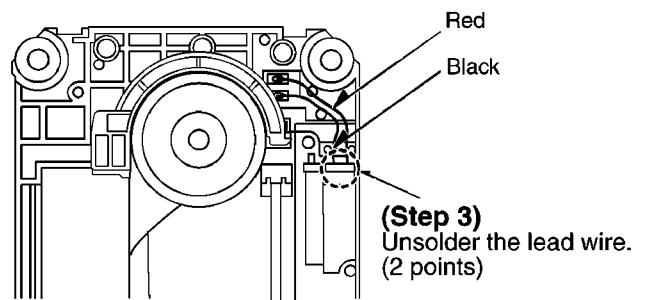
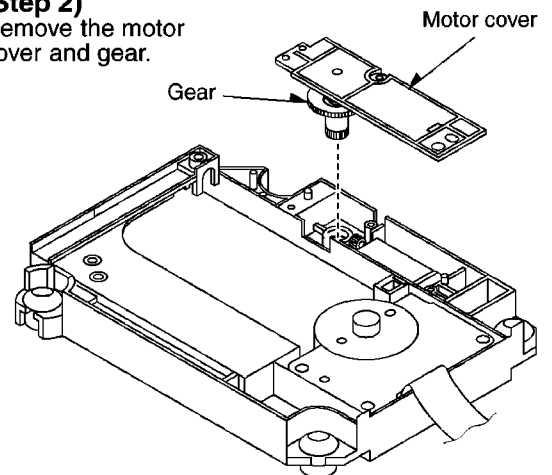
## 10.7. Replacement for the traverse motor

- Follow the (Step 1) - (Step 6) of item 10.1.
- Follow the (Step 1) - (Step 8) of item 10.2.
- Follow the (Step 1) - (Step 4) of item 10.3.
- Follow the (Step 1) - (Step 10) of item 10.6.

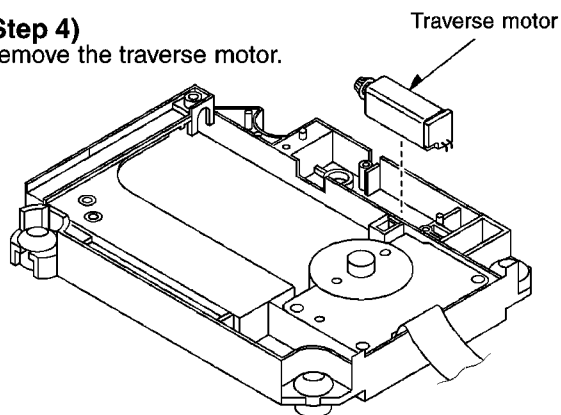


**(Step 2)**

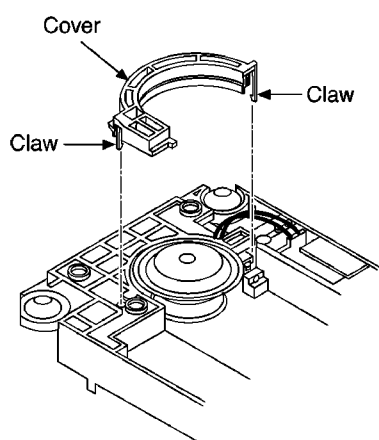
Remove the motor  
cover and gear.



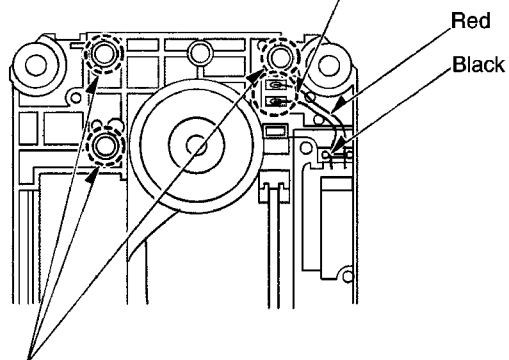
**(Step 4)**  
Remove the traverse motor.



**(Step 5)**  
Release the 2 claws, and then remove the cover.

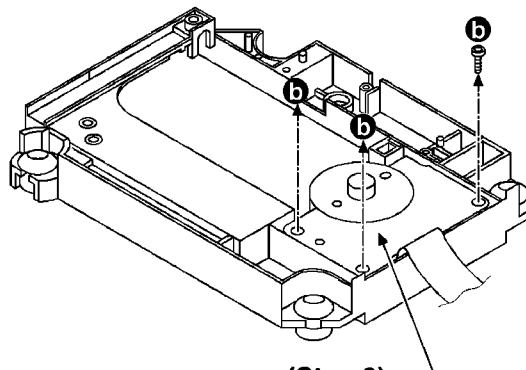


**(Step 6)**  
Unsolder the lead wire.  
(2 points)

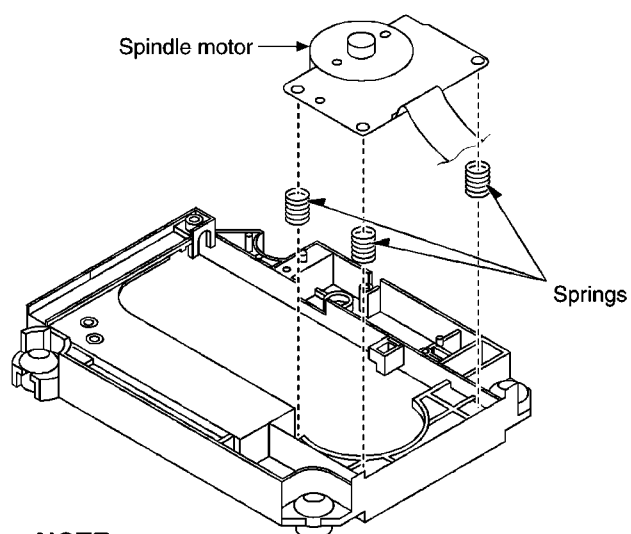


**(Step 7)**  
Remove the screw lock.  
(3 points)

**(Step 8)**  
Remove the screws (b) × 3 with  
minus screwdriver (1.8 mm).



**(Step 9)**  
Remove the spindle motor.



**NOTE:**  
Be careful not to lose the 3 springs  
because those will also be removed  
on removal of the spindle motor.

## 11 To Supply Power Source

This unit is designed to operate on power supplied from system connected.

When a component requires service, use the system connections to supply power source.

For system connections, refer to Fig. 11-1.

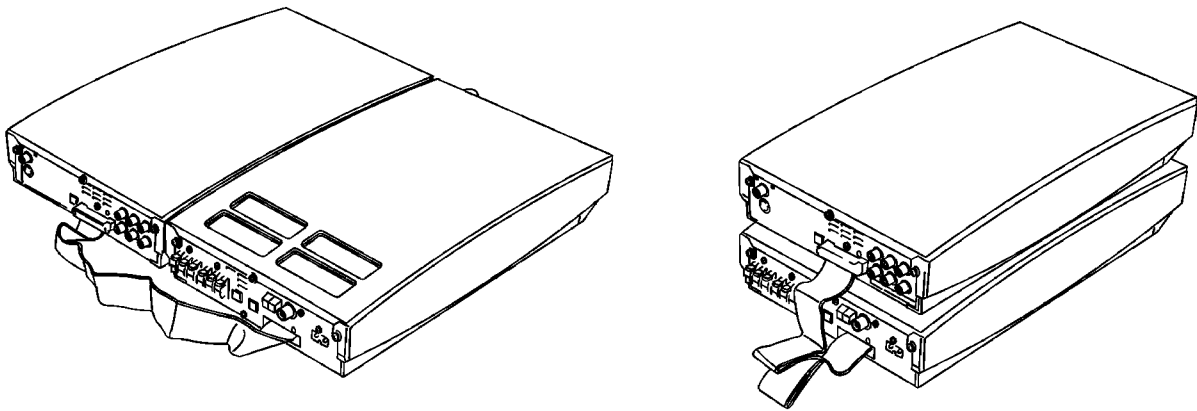


Fig. 11-1.

## 12 Schematic Diagram Notes

- This schematic diagram may be modified at any time with the development of new technology.

### Notes:

- S601:** Play switch ( ▶ )
- S602:** Pause switch ( || )
- S603:** Stop switch ( ■ )
- S605:** Open/close switch ( ▲ )
- S2501:** Tray open detect switch in OFF position
- S2502:** Tray close detect switch in OFF position

- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.

- No mark : Stop
- ( ) : Play

- Important safety notice:

Components identified by ⚠ mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

- The supply part number is described alone in the replacement parts.
- Voltage and signal line

- ▶— : Positive voltage line
- ▶--- : Negative voltage line
- ▶ : Audio signal line

- ▶ : Video signal line
- ▶ : Audio & video signal line
- ▶ : Center sp. signal line
- ▢▶ : Surround sp. signal line
- ▶ : Sub woofer signal line
- ◻▶ : Tuner signal line

### Caution!

IC and LSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

Cover the parts boxes made of plastics with aluminum foil. Ground the soldering iron.

Put a conductive mat on the work table.

Do not touch the legs of IC or LSI with the fingers directly.

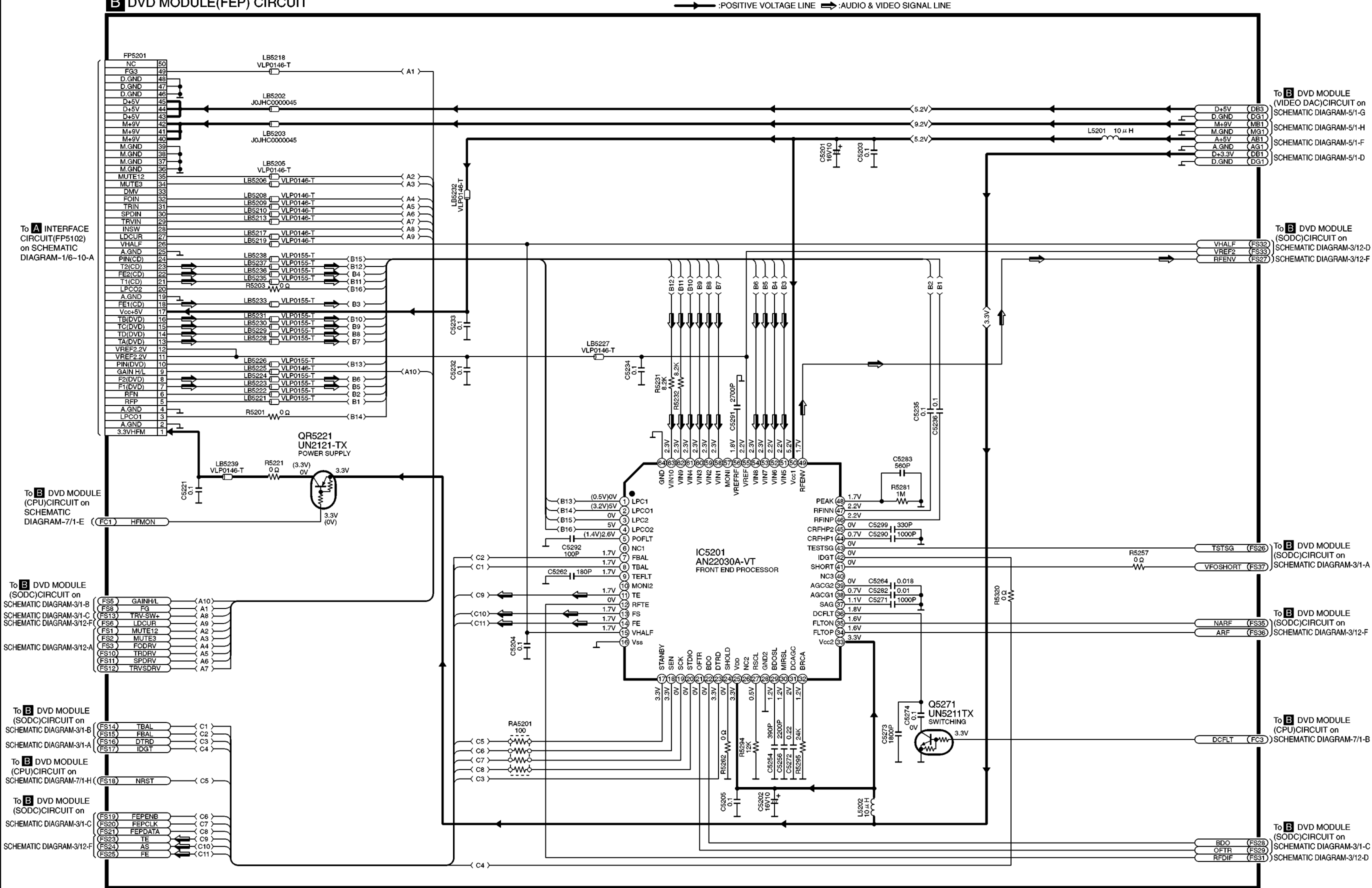


## A INTERFACE CIRCUIT

➡:POSITIVE VOLTAGE LINE   ➡➡ :AUDIO & VIDEO SIGNAL LINE



SCHEMATIC DIAGRAM-2  
B DVD MODULE(FEP) CIRCUIT

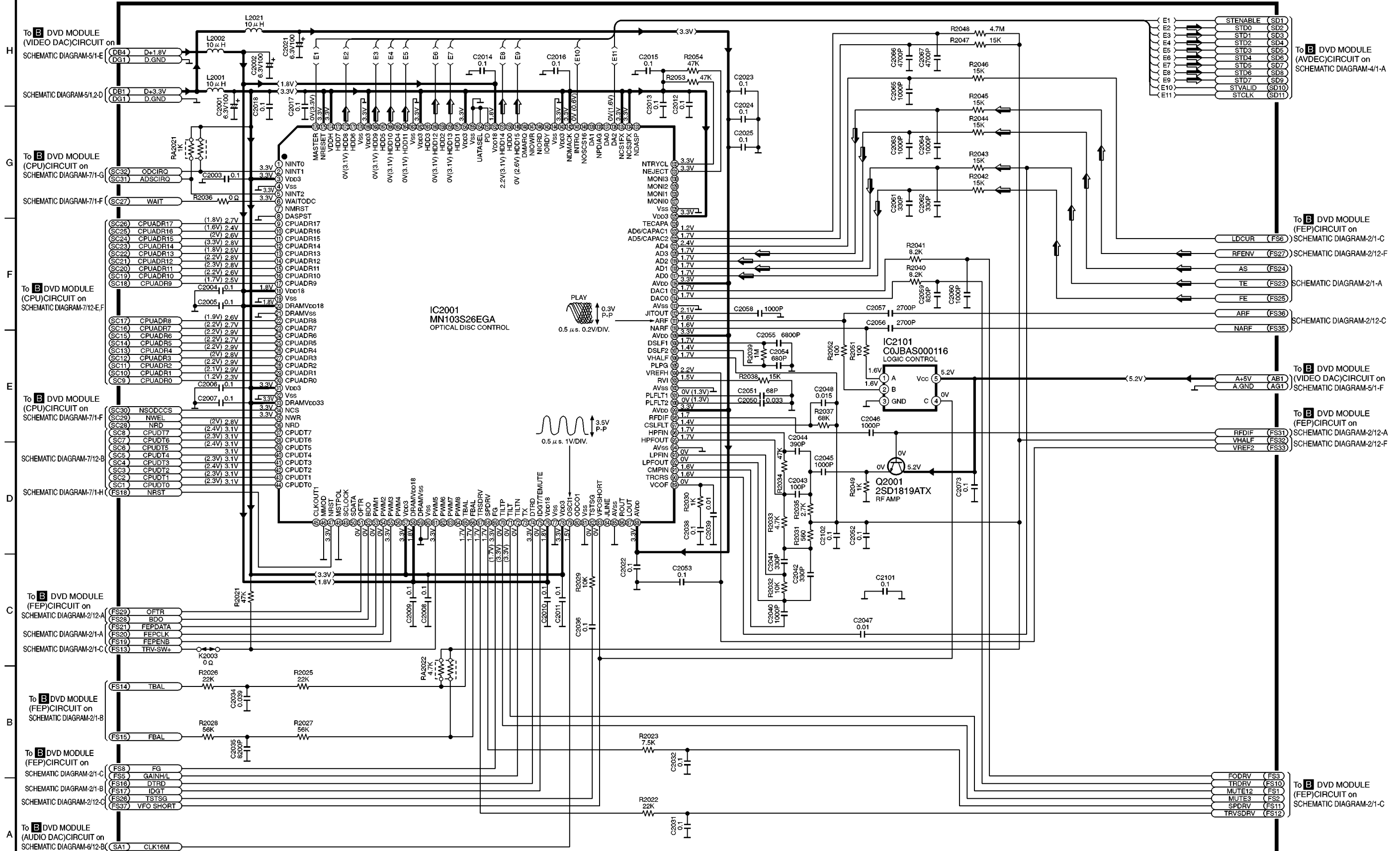


SL-DT310(EG,EE) DVD MODULE(FEP) CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM-3

**B DVD MODULE(SODC) CIRCUIT**

→ : POSITIVE VOLTAGE LINE    ⇨ : AUDIO & VIDEO SIGNAL LINE

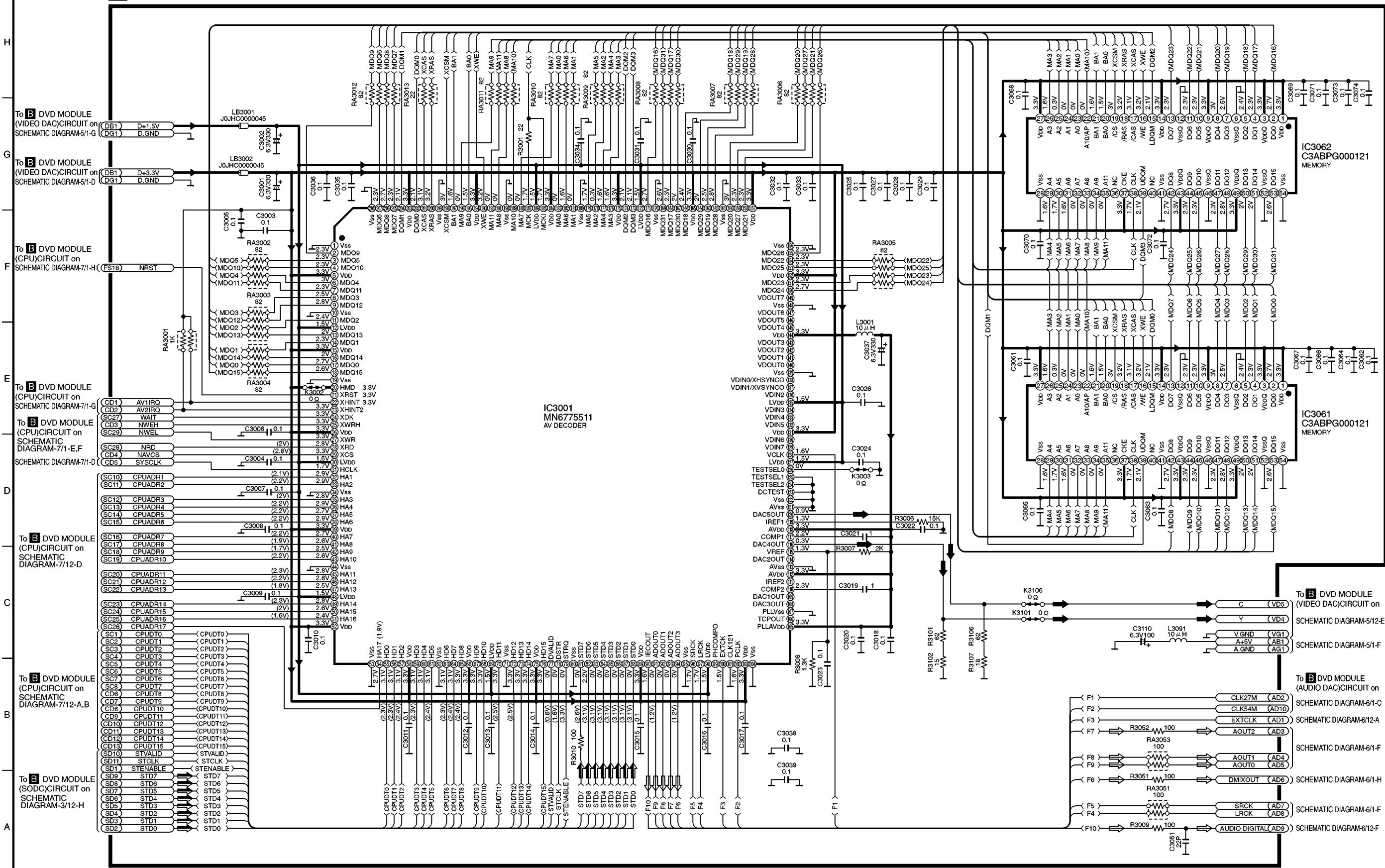


SL-DT310(EG,EE) DVD MODULE(SODC) CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM-4

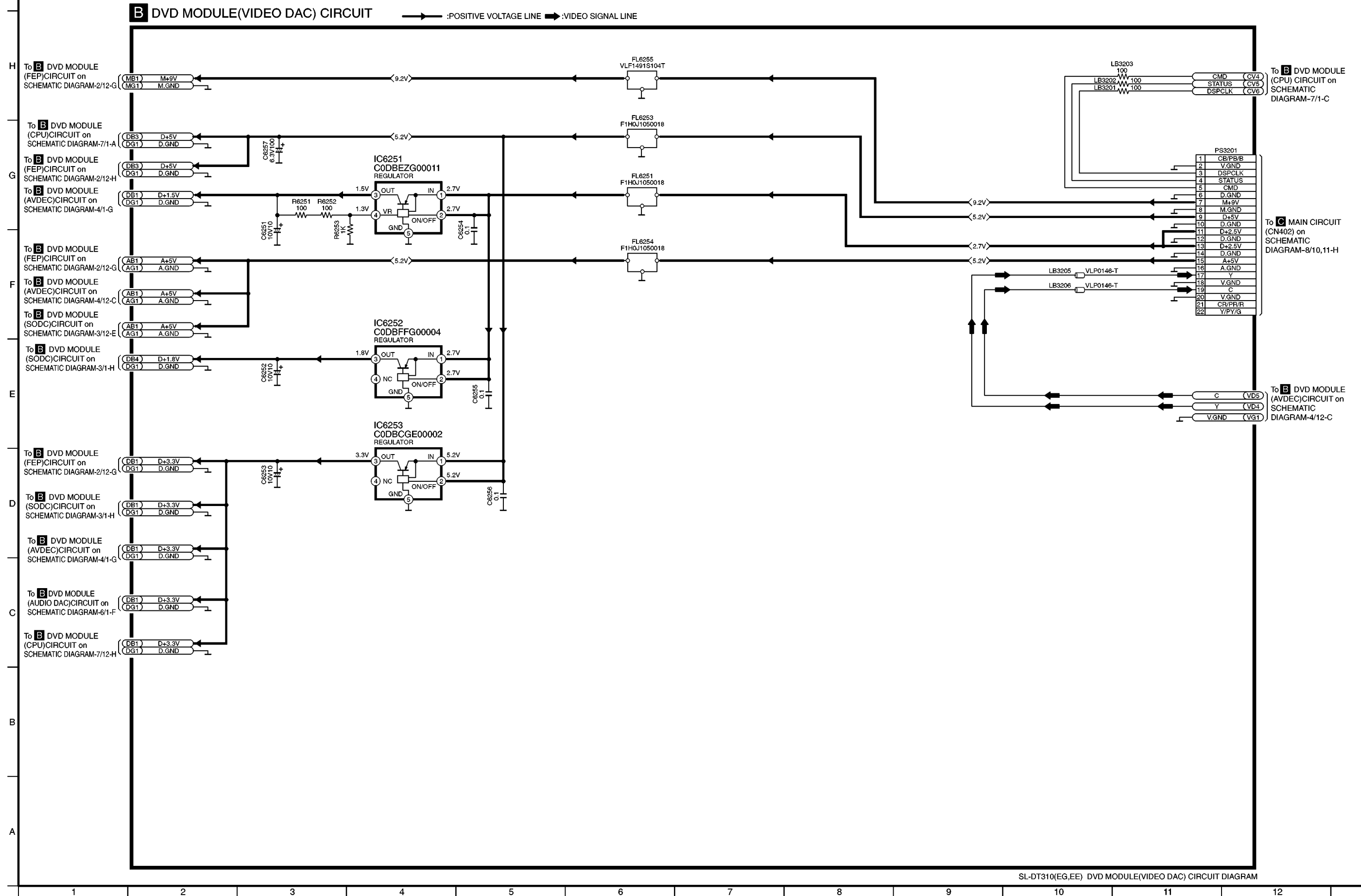
B DVD MODULE(AVDEC) CIRCUIT

→:POSITIVE VOLTAGE LINE    →:AUDIO & VIDEO SIGNAL LINE    ⇨:AUDIO SIGNAL LINE    →:VIDEO SIGNAL LINE



SL-DT310(EG,EE) DVD MODULE(AVDEC) CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM-5



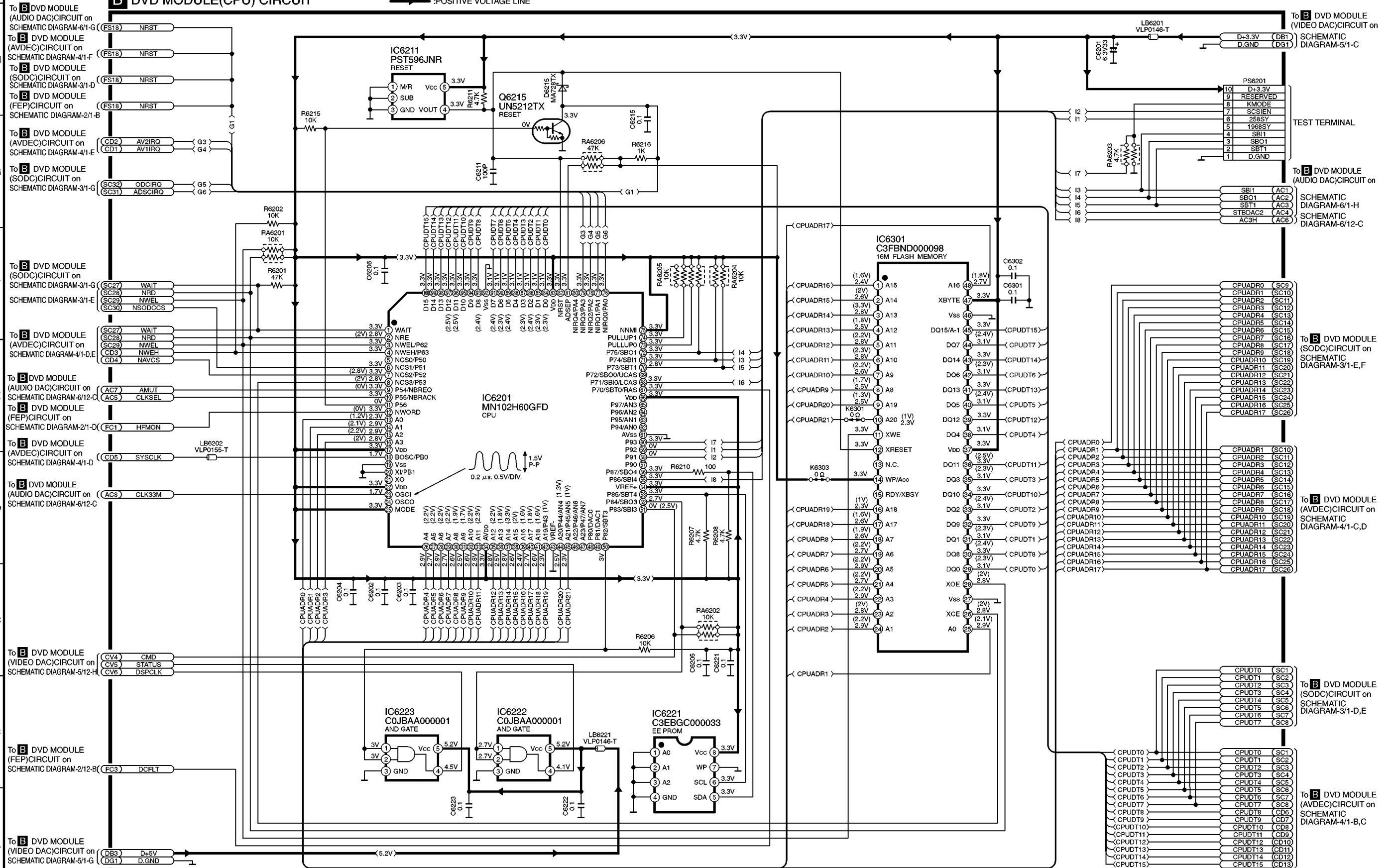
SL-DT310(EG,EE) DVD MODULE(VIDEO DAC) CIRCUIT DIAGRAM



## SCHEMATIC DIAGRAM-7

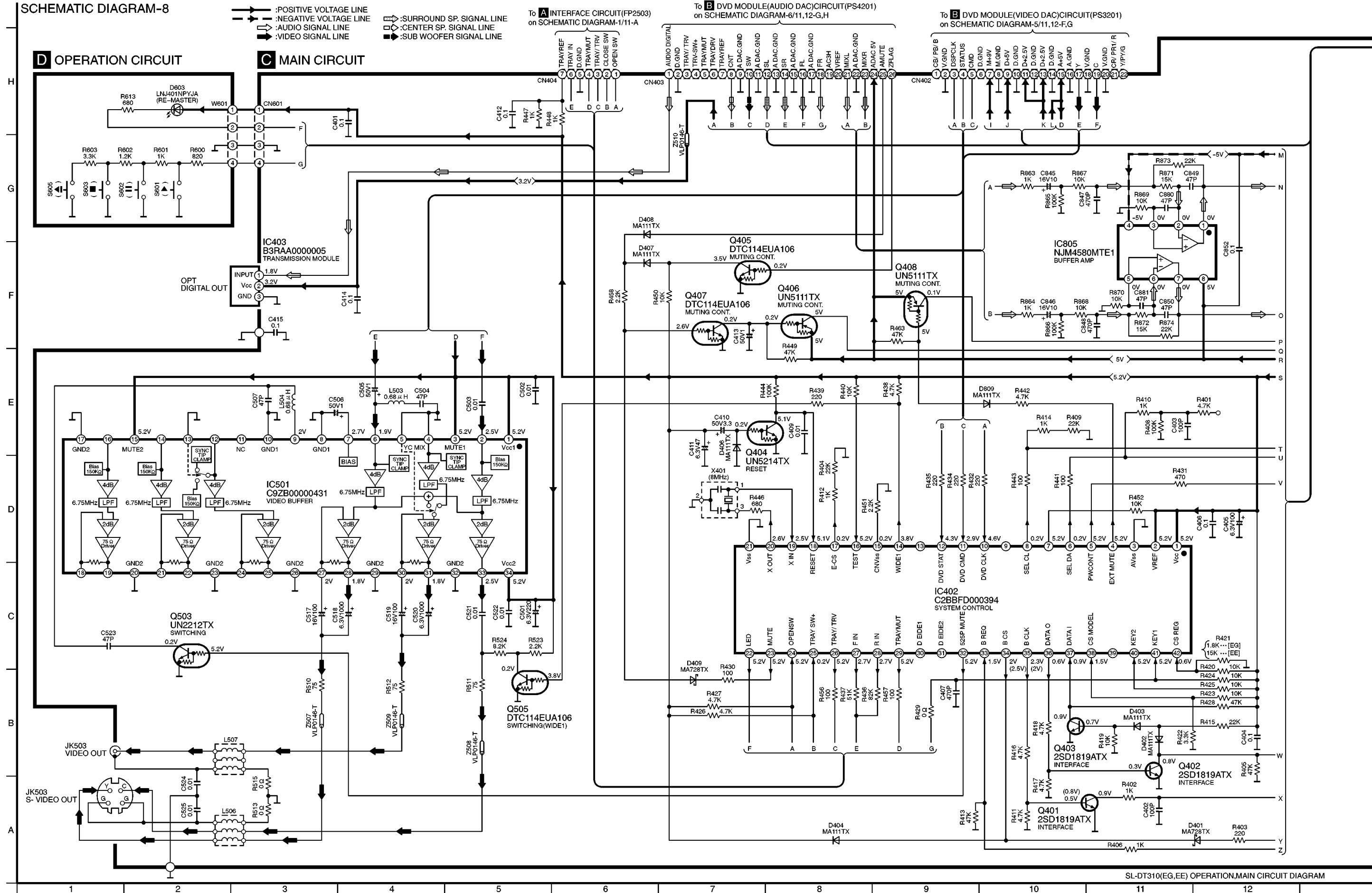
## B DVD MODULE(CPU) CIRCUIT

→ : POSITIVE VOLTAGE LINE



SL-DT310(EG,EE) DVD MODULE(CPU) CIRCUIT DIAGRAM

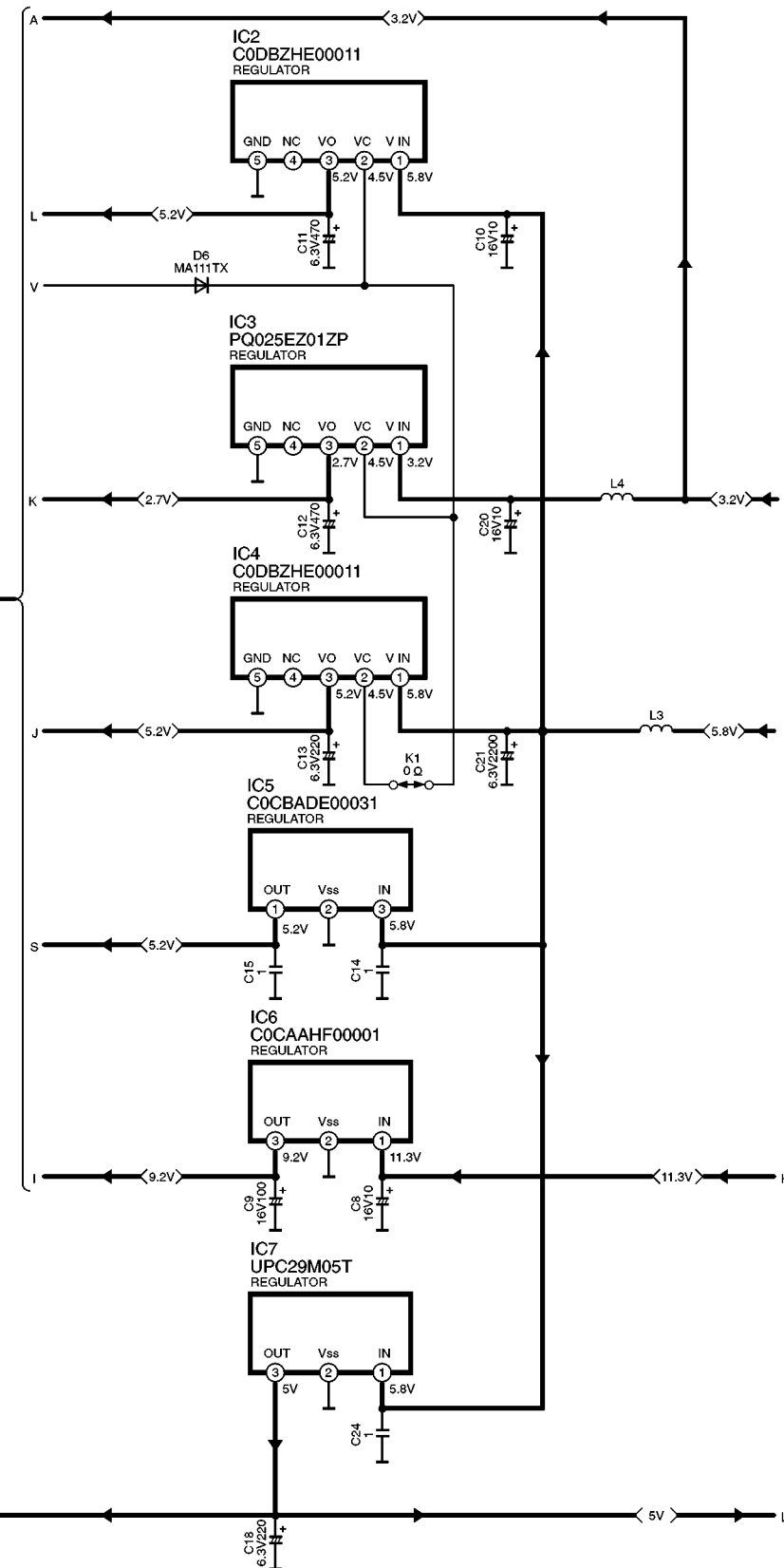
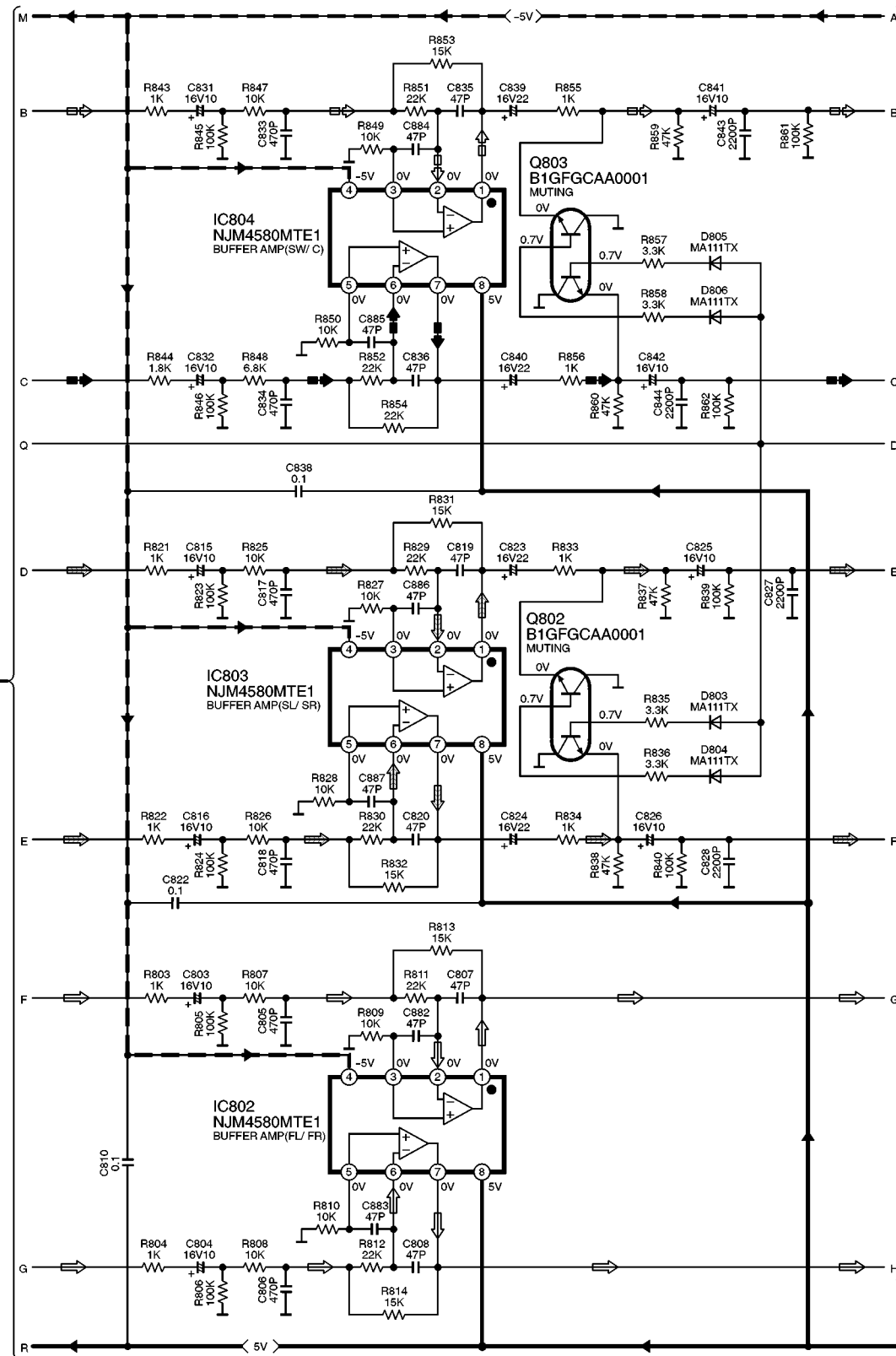
### SCHEMATIC DIAGRAM-8



## SCHEMATIC DIAGRAM-9

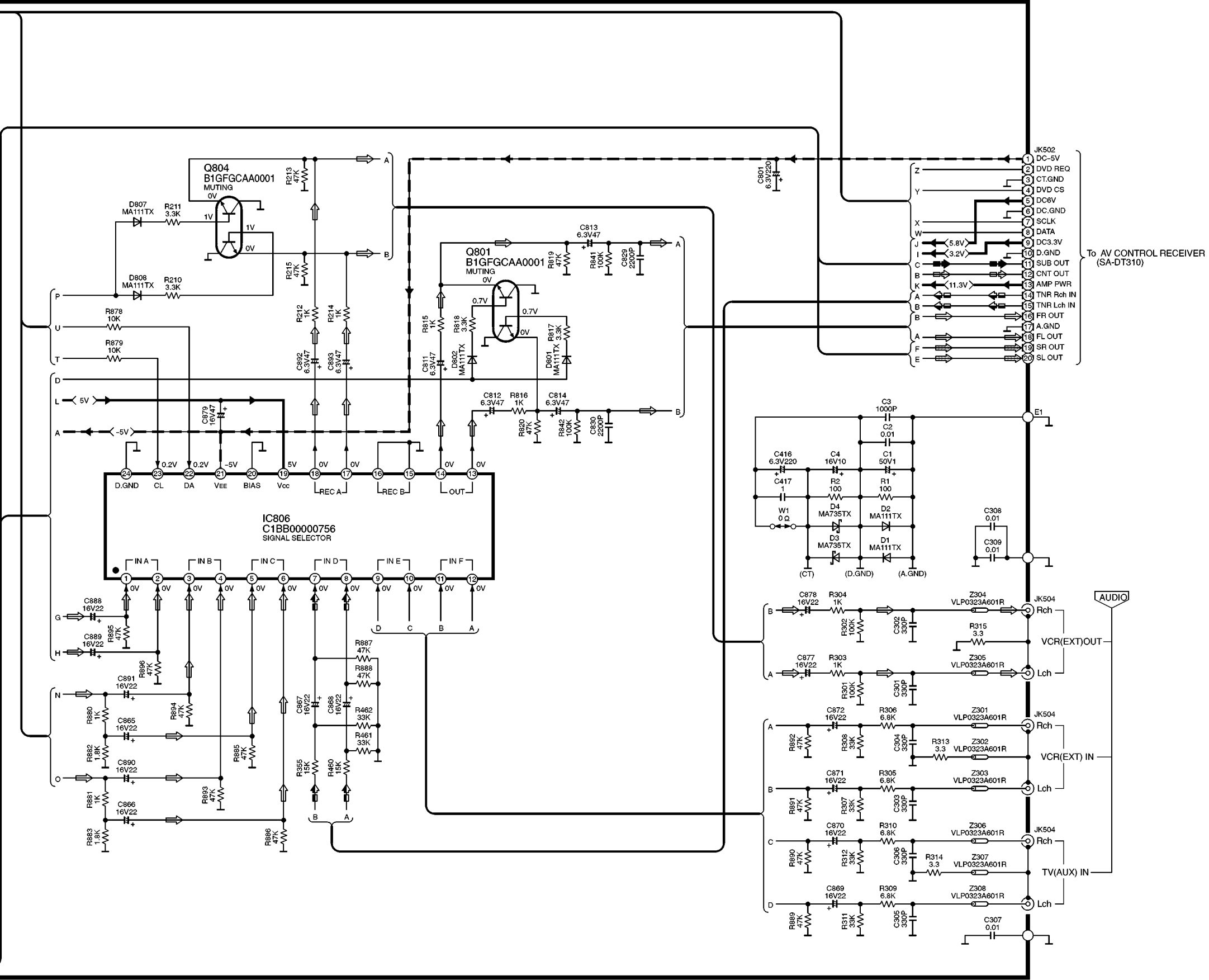
## C MAIN CIRCUIT

——— : POSITIVE VOLTAGE LINE    ——— : AUDIO SIGNAL LINE    □ : CENTER SP. SIGNAL LINE  
 - - - : NEGATIVE VOLTAGE LINE    ——— : SURROUND SP. SIGNAL LINE    ■ : SUB WOOFER SIGNAL LINE



SCHEMATIC DIAGRAM-10  
C MAIN CIRCUIT

→ : POSITIVE VOLTAGE LINE    → : AUDIO SIGNAL LINE    ⇄ : CENTER SP. SIGNAL LINE  
- - - : NEGATIVE VOLTAGE LINE    ⇄ : SURROUND SP. SIGNAL LINE    → : SUB WOOFER SIGNAL LINE    → : TUNER SIGNAL LINE

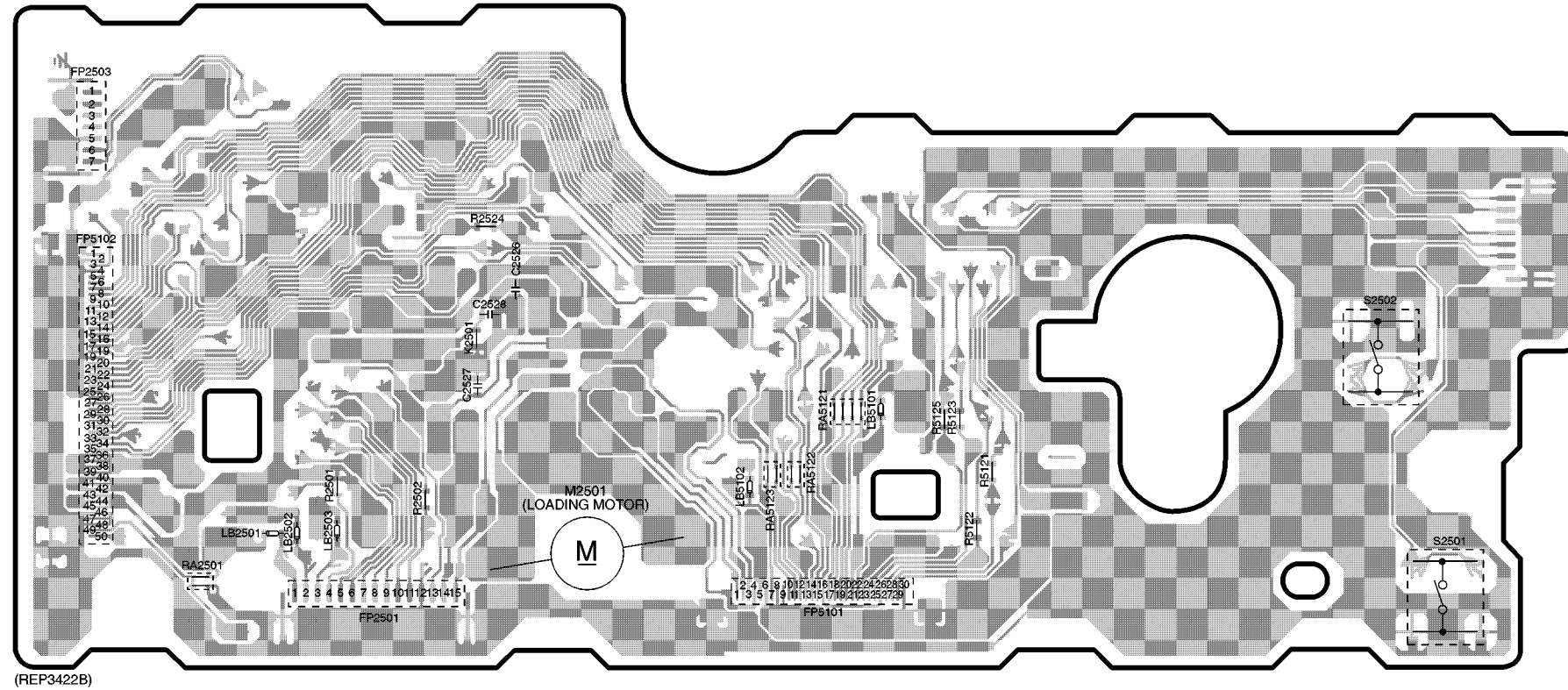


SL-DT310(EG,EE) MAIN CIRCUIT DIAGRAM

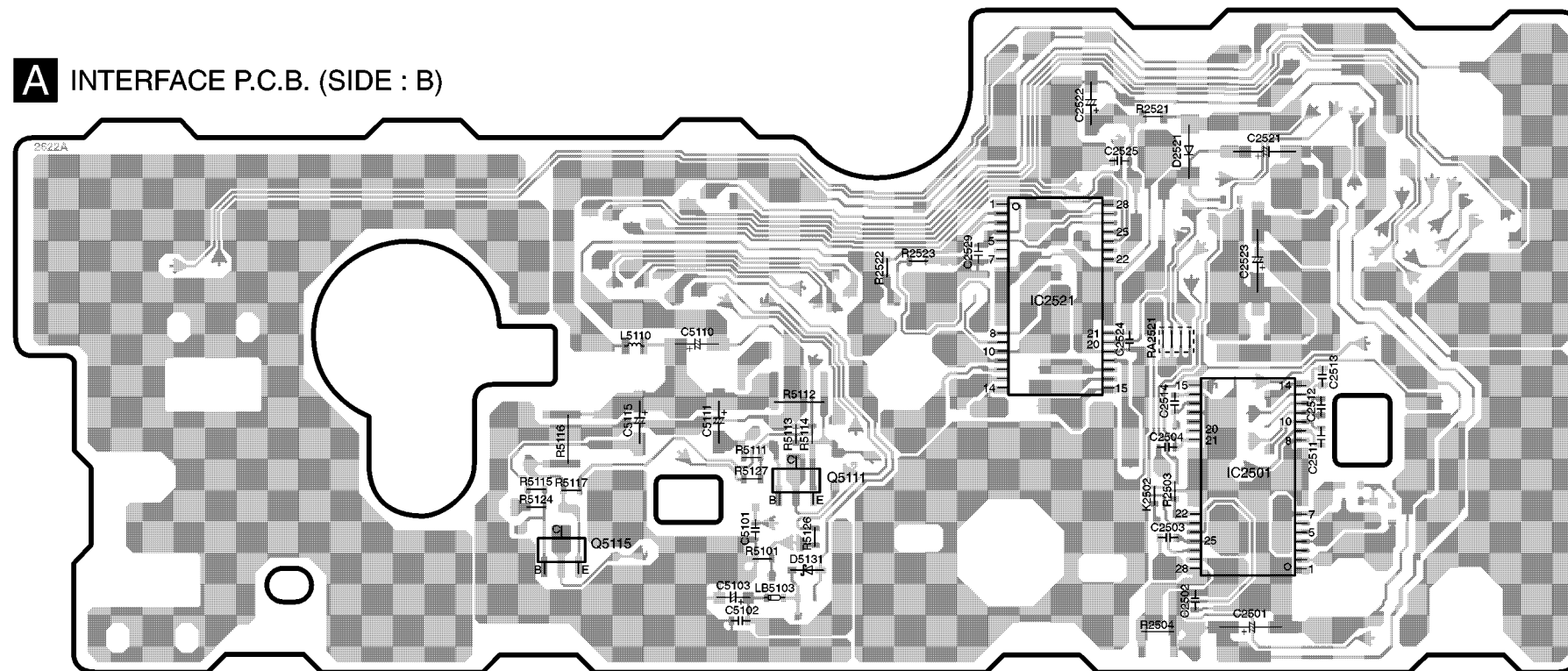
## 14 Printed Circuit Board Diagram

Note: This printed circuit board diagram may be modified at any time with the development of new technology.

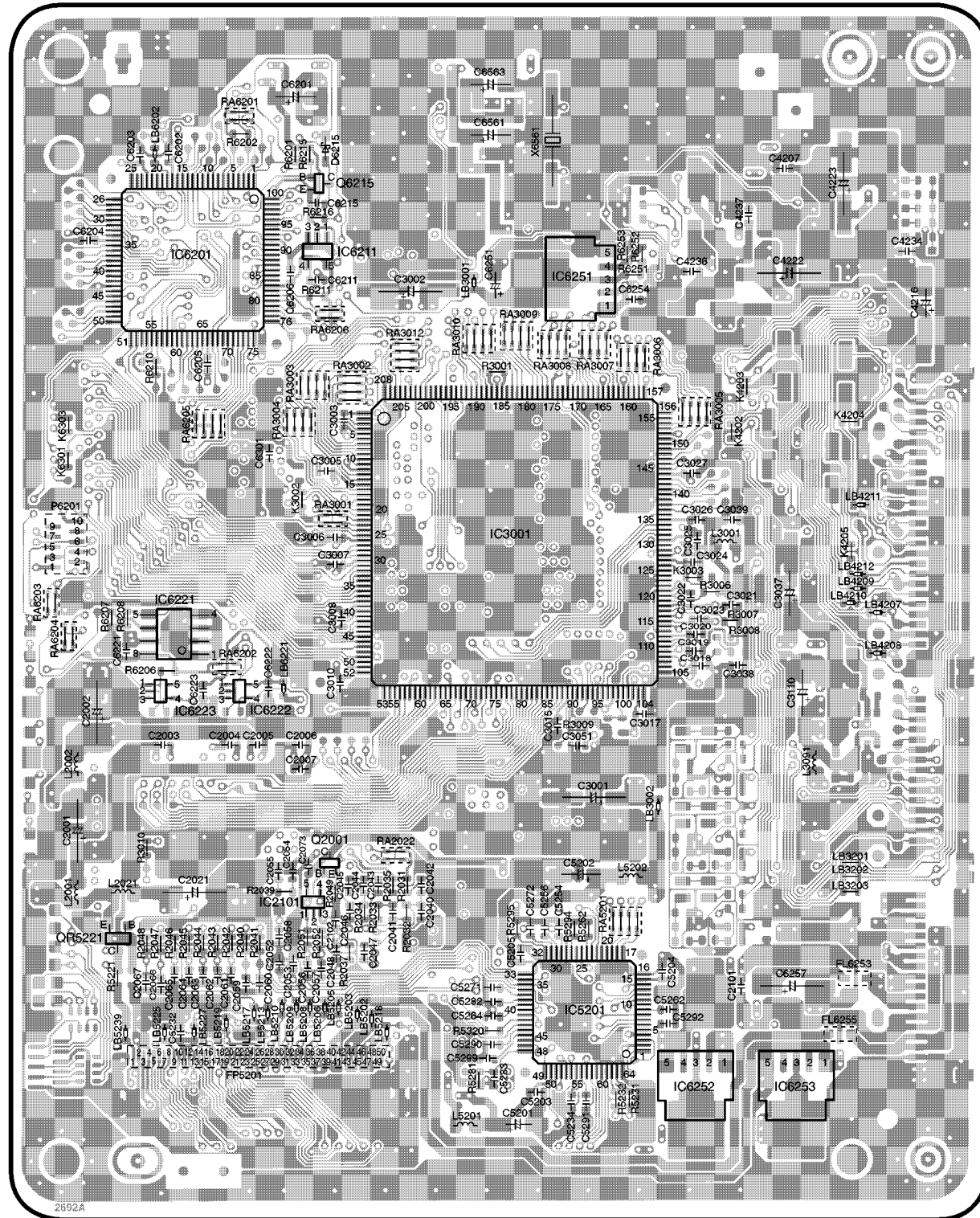
## A INTERFACE P.C.B. (SIDE : A)



## A INTERFACE P.C.B. (SIDE : B)

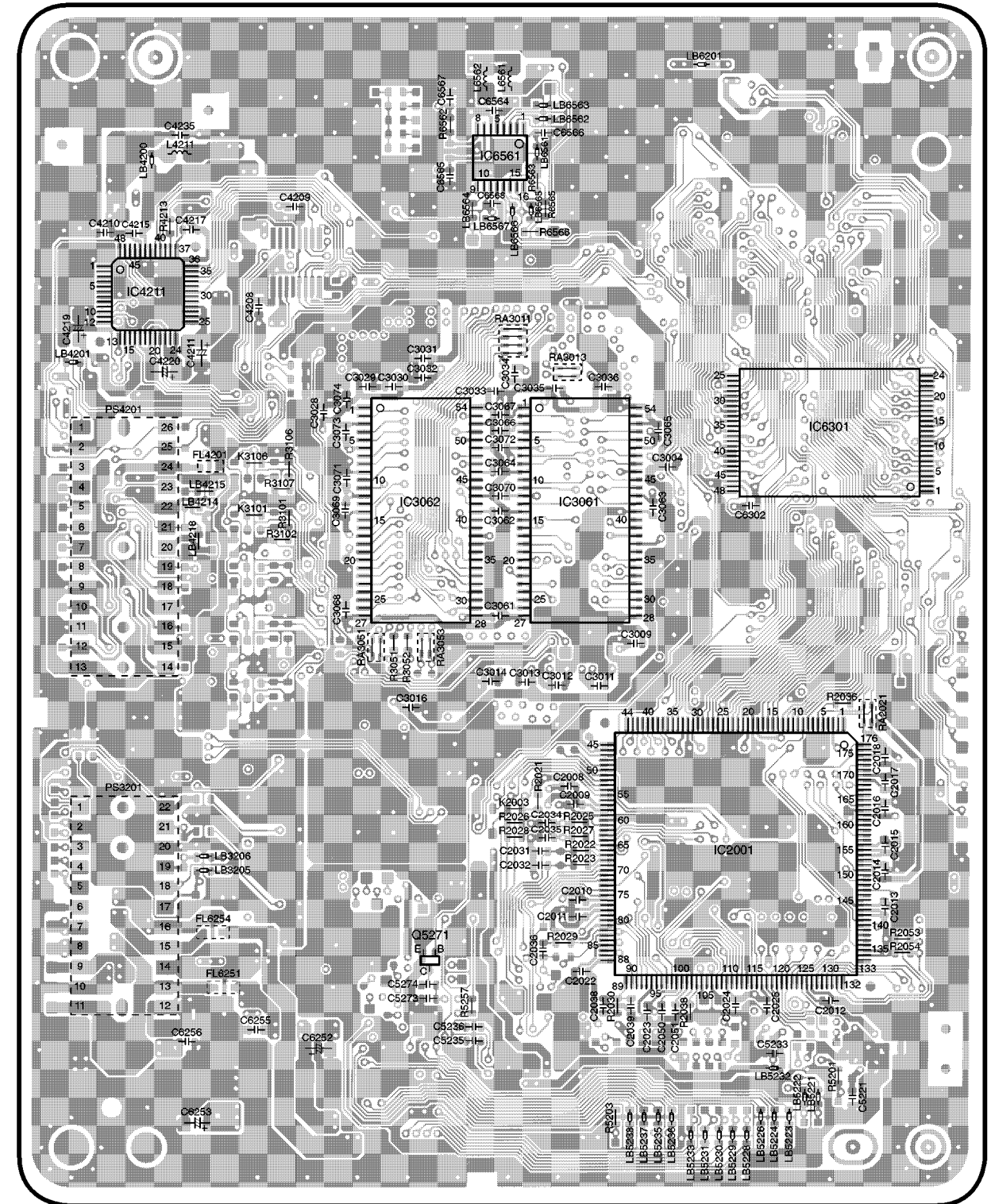


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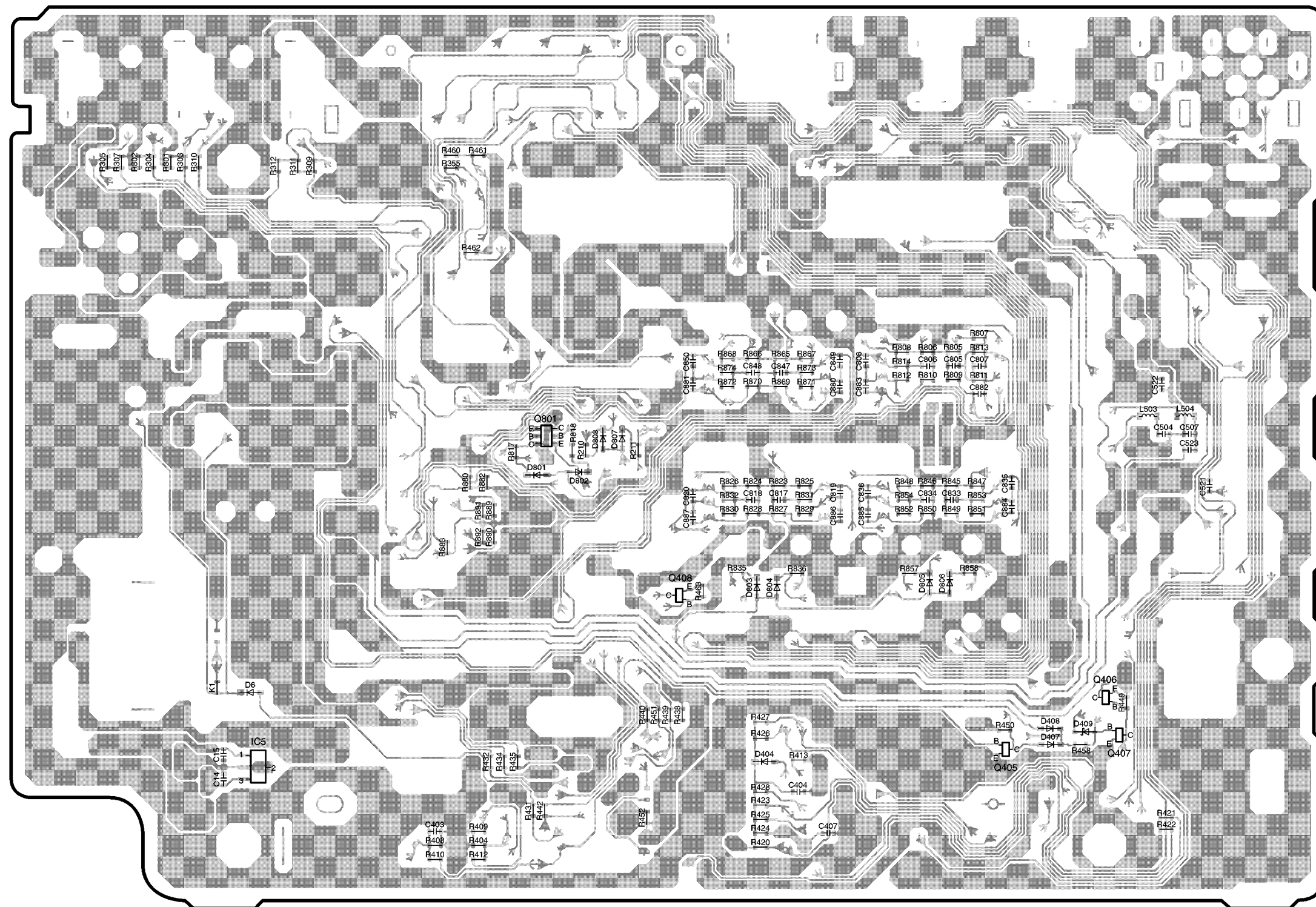


(REP3479J-N)

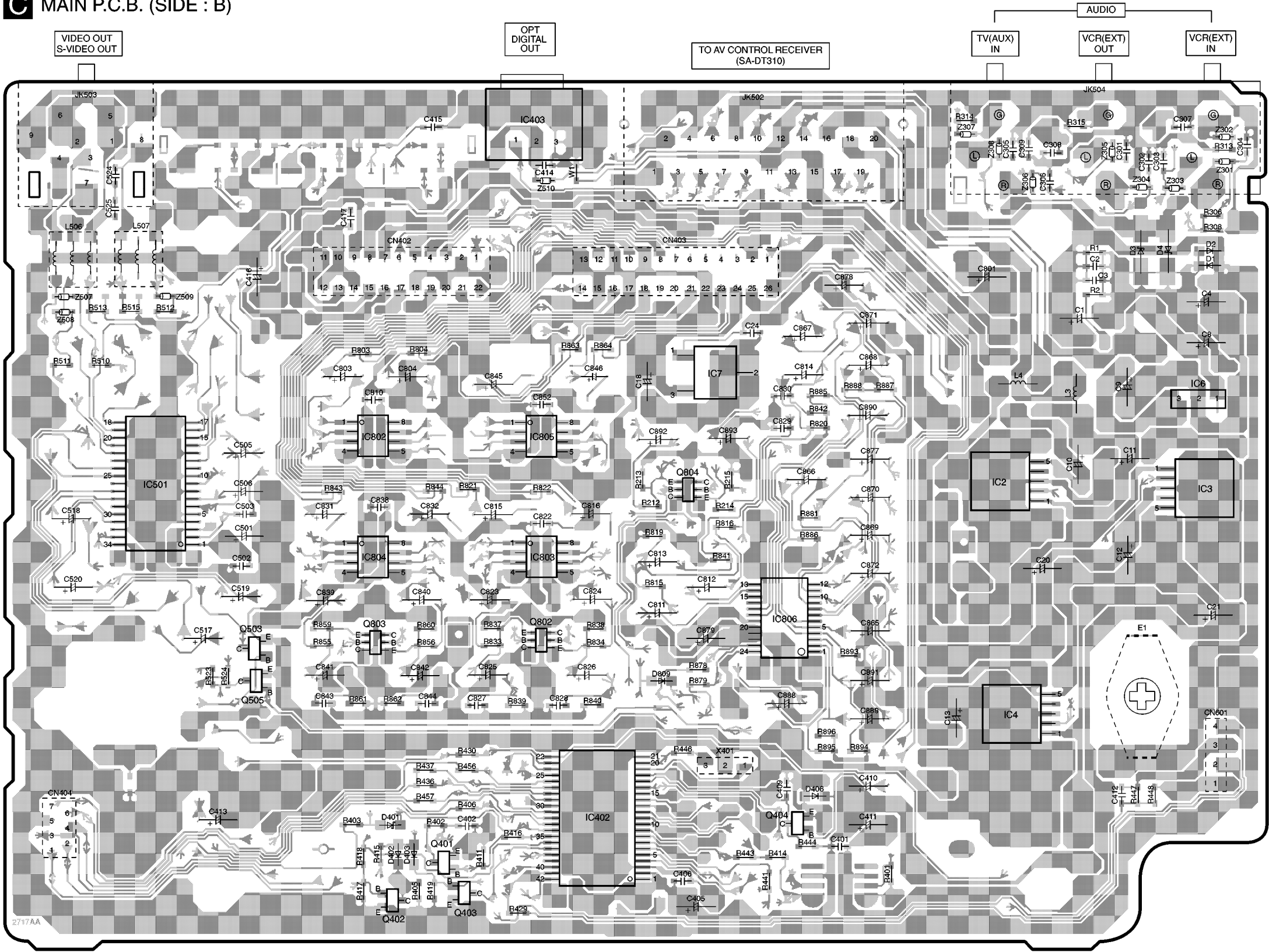
## B DVD MODULE P.C.B. (SIDE: B)



**C** MAIN P.C.B. (SIDE : A)

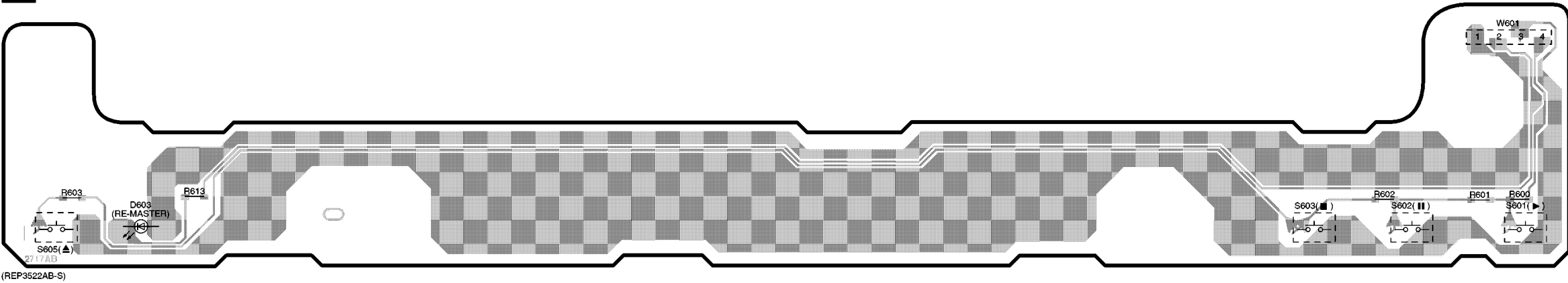


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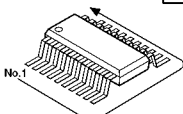
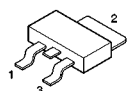
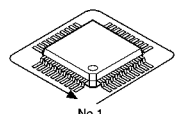
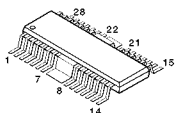
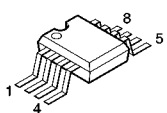
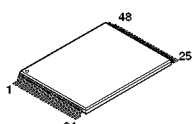
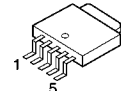
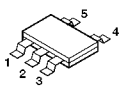
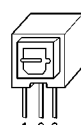
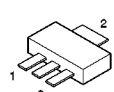
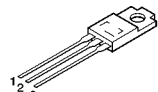
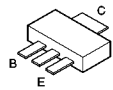
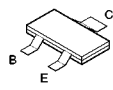
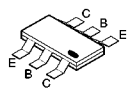
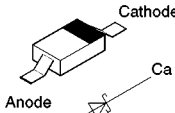
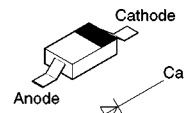
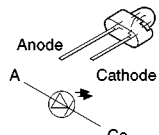
(REP3522AA-S...[EG])  
(REP3522BA-S...[EE])

**D** OPERATION P.C.B.

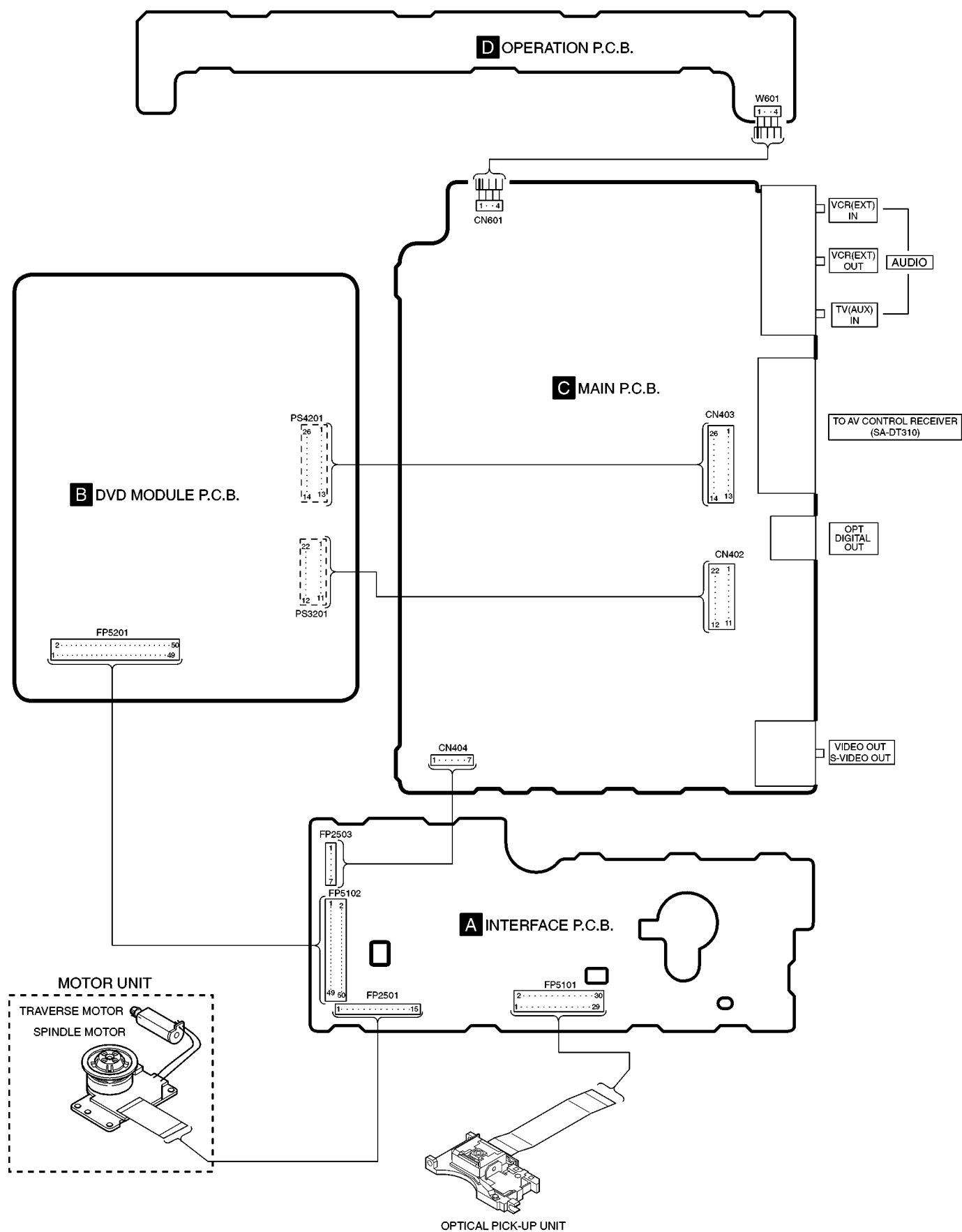




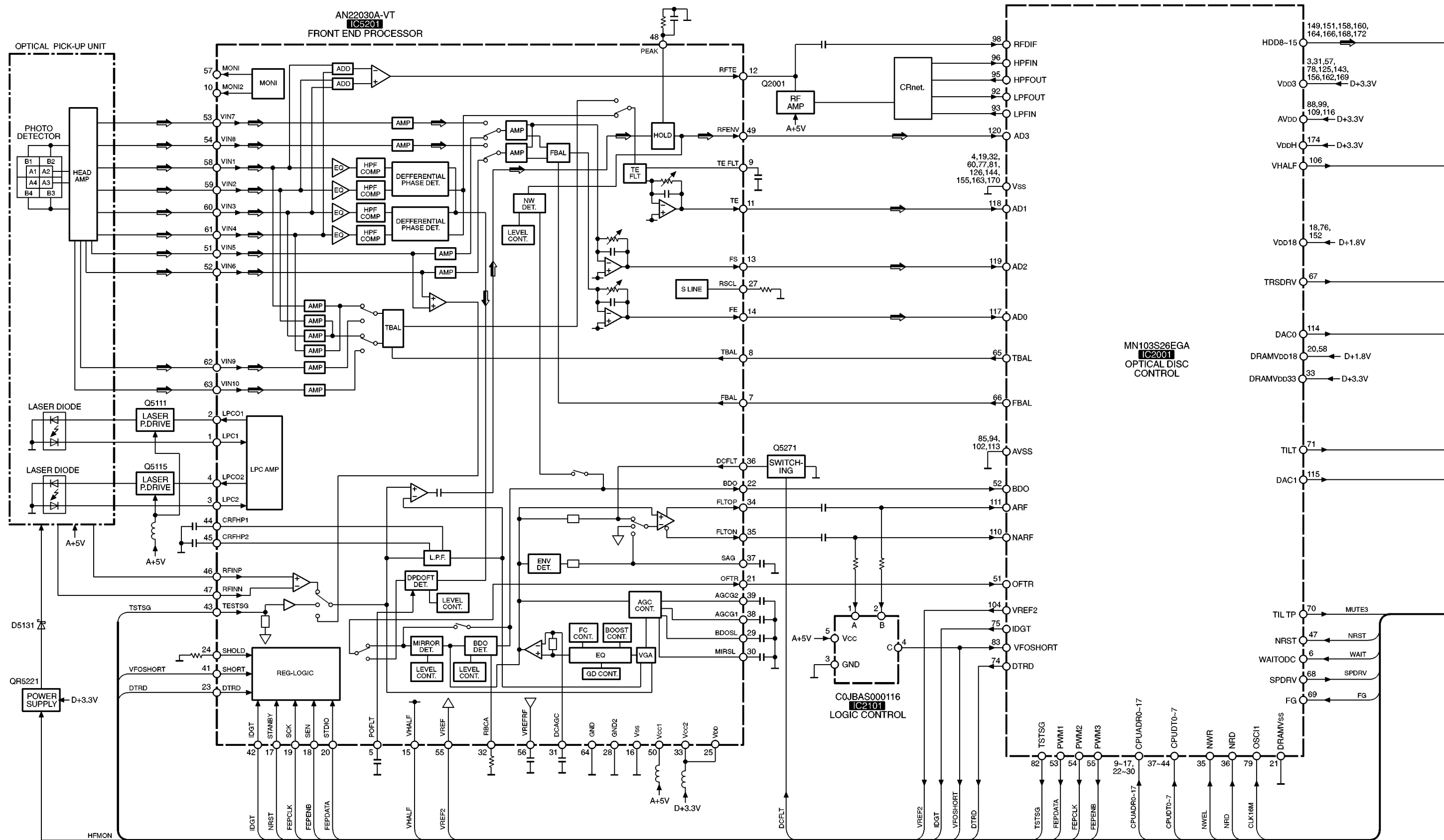
# 15 Type Illustration of ICs, Transistors and Diodes

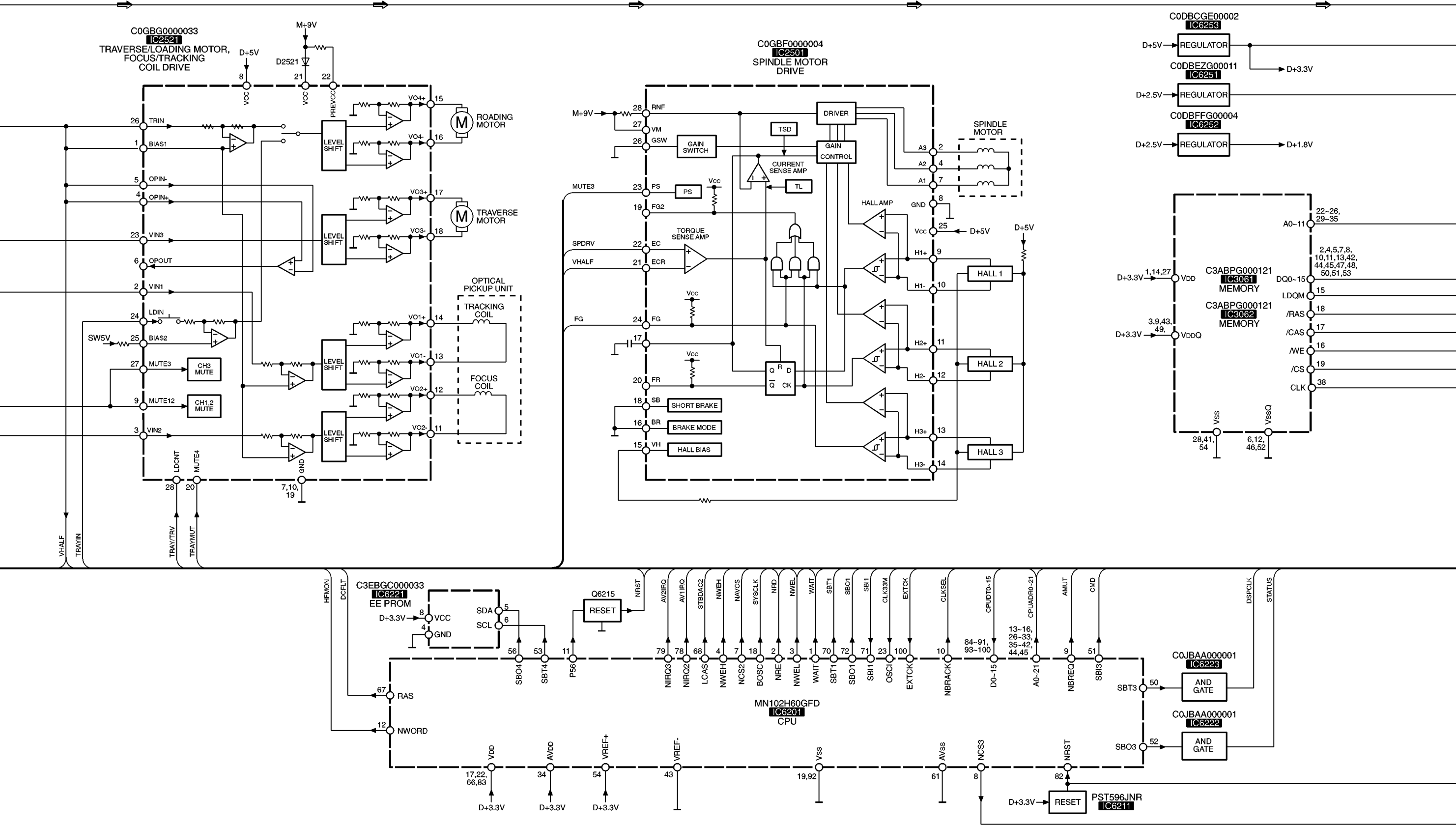
|                                                                                                                        |        |                                                                                                                                                                                                                                                            |       |                                                                                                                    |       |                                                                                                                                                                          |       |                                                                                                                                        |       |                                                                                   |      |              |       |              |       |                                                                                                    |  |                                                                                                                                                                                                                                                                                                                              |  |             |       |             |        |           |        |              |       |             |        |
|------------------------------------------------------------------------------------------------------------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------------------------------------------------------------------------------------------------------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------------------------------------------------------------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------|------|--------------|-------|--------------|-------|----------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------|-------|-------------|--------|-----------|--------|--------------|-------|-------------|--------|
|                                       |        | <table><tr><td>C1DB00000582</td><td>16PIN</td><td>C1BB00000756</td><td>24PIN</td></tr><tr><td>C3ABPG000121</td><td>54PIN</td><td>NJM4580MTE1</td><td>8PIN</td></tr><tr><td>C9ZB00000431</td><td>34PIN</td><td>C2BBFD000394</td><td>42PIN</td></tr></table> |       | C1DB00000582                                                                                                       | 16PIN | C1BB00000756                                                                                                                                                             | 24PIN | C3ABPG000121                                                                                                                           | 54PIN | NJM4580MTE1                                                                       | 8PIN | C9ZB00000431 | 34PIN | C2BBFD000394 | 42PIN | <p>UPC29M05T</p>  |  | <table><tr><td>AN22030A-VT</td><td>64PIN</td></tr><tr><td>MN102H60GFD</td><td>100PIN</td></tr><tr><td>MN6775511</td><td>208PIN</td></tr><tr><td>C0FBBK000036</td><td>48PIN</td></tr><tr><td>MN103S26EGA</td><td>176PIN</td></tr></table>  |  | AN22030A-VT | 64PIN | MN102H60GFD | 100PIN | MN6775511 | 208PIN | C0FBBK000036 | 48PIN | MN103S26EGA | 176PIN |
| C1DB00000582                                                                                                           | 16PIN  | C1BB00000756                                                                                                                                                                                                                                               | 24PIN |                                                                                                                    |       |                                                                                                                                                                          |       |                                                                                                                                        |       |                                                                                   |      |              |       |              |       |                                                                                                    |  |                                                                                                                                                                                                                                                                                                                              |  |             |       |             |        |           |        |              |       |             |        |
| C3ABPG000121                                                                                                           | 54PIN  | NJM4580MTE1                                                                                                                                                                                                                                                | 8PIN  |                                                                                                                    |       |                                                                                                                                                                          |       |                                                                                                                                        |       |                                                                                   |      |              |       |              |       |                                                                                                    |  |                                                                                                                                                                                                                                                                                                                              |  |             |       |             |        |           |        |              |       |             |        |
| C9ZB00000431                                                                                                           | 34PIN  | C2BBFD000394                                                                                                                                                                                                                                               | 42PIN |                                                                                                                    |       |                                                                                                                                                                          |       |                                                                                                                                        |       |                                                                                   |      |              |       |              |       |                                                                                                    |  |                                                                                                                                                                                                                                                                                                                              |  |             |       |             |        |           |        |              |       |             |        |
| AN22030A-VT                                                                                                            | 64PIN  |                                                                                                                                                                                                                                                            |       |                                                                                                                    |       |                                                                                                                                                                          |       |                                                                                                                                        |       |                                                                                   |      |              |       |              |       |                                                                                                    |  |                                                                                                                                                                                                                                                                                                                              |  |             |       |             |        |           |        |              |       |             |        |
| MN102H60GFD                                                                                                            | 100PIN |                                                                                                                                                                                                                                                            |       |                                                                                                                    |       |                                                                                                                                                                          |       |                                                                                                                                        |       |                                                                                   |      |              |       |              |       |                                                                                                    |  |                                                                                                                                                                                                                                                                                                                              |  |             |       |             |        |           |        |              |       |             |        |
| MN6775511                                                                                                              | 208PIN |                                                                                                                                                                                                                                                            |       |                                                                                                                    |       |                                                                                                                                                                          |       |                                                                                                                                        |       |                                                                                   |      |              |       |              |       |                                                                                                    |  |                                                                                                                                                                                                                                                                                                                              |  |             |       |             |        |           |        |              |       |             |        |
| C0FBBK000036                                                                                                           | 48PIN  |                                                                                                                                                                                                                                                            |       |                                                                                                                    |       |                                                                                                                                                                          |       |                                                                                                                                        |       |                                                                                   |      |              |       |              |       |                                                                                                    |  |                                                                                                                                                                                                                                                                                                                              |  |             |       |             |        |           |        |              |       |             |        |
| MN103S26EGA                                                                                                            | 176PIN |                                                                                                                                                                                                                                                            |       |                                                                                                                    |       |                                                                                                                                                                          |       |                                                                                                                                        |       |                                                                                   |      |              |       |              |       |                                                                                                    |  |                                                                                                                                                                                                                                                                                                                              |  |             |       |             |        |           |        |              |       |             |        |
| <p>C0GBF0000004<br/>C0GBG0000033</p>  |        | <p>C3EBGC000033</p>                                                                                                                                                       |       | <p>C3FBND000098</p>               |       | <p>C0DBCGE00002<br/>C0DBEZG00011<br/>C0DBFFG00004<br/>C0DBZHE00011<br/>PQ025EZ01ZP</p>  |       | <p>PST596JNR<br/>C0JBAA000001<br/>C0JBAS000116</p>  |       |                                                                                   |      |              |       |              |       |                                                                                                    |  |                                                                                                                                                                                                                                                                                                                              |  |             |       |             |        |           |        |              |       |             |        |
| <p>B3RAA0000005</p>                   |        | <p>C0CBADE00031</p>                                                                                                                                                       |       | <p>C0CAAHF00001</p>               |       | <p>2SB1115-T</p>                                                                        |       | <p>2SD1819ATX<br/>DTC114EUA106</p>                  |       | <p>UN2212TX<br/>UN5214TX<br/>UN2121-TX<br/>UN5212TX<br/>UN5211TX<br/>UN5111TX</p> |      |              |       |              |       |                                                                                                    |  |                                                                                                                                                                                                                                                                                                                              |  |             |       |             |        |           |        |              |       |             |        |
| <p>B1GFGCAA0001</p>                  |        | <p>MA728TX<br/>MA735TX</p>                                                                                                                                               |       | <p>MA111TX<br/>B0ECKM000003</p>  |       | <p>LNJ401NPYJA</p>                                                                     |       |                                                                                                                                        |       |                                                                                   |      |              |       |              |       |                                                                                                    |  |                                                                                                                                                                                                                                                                                                                              |  |             |       |             |        |           |        |              |       |             |        |

# 16 Wiring Connection Diagram

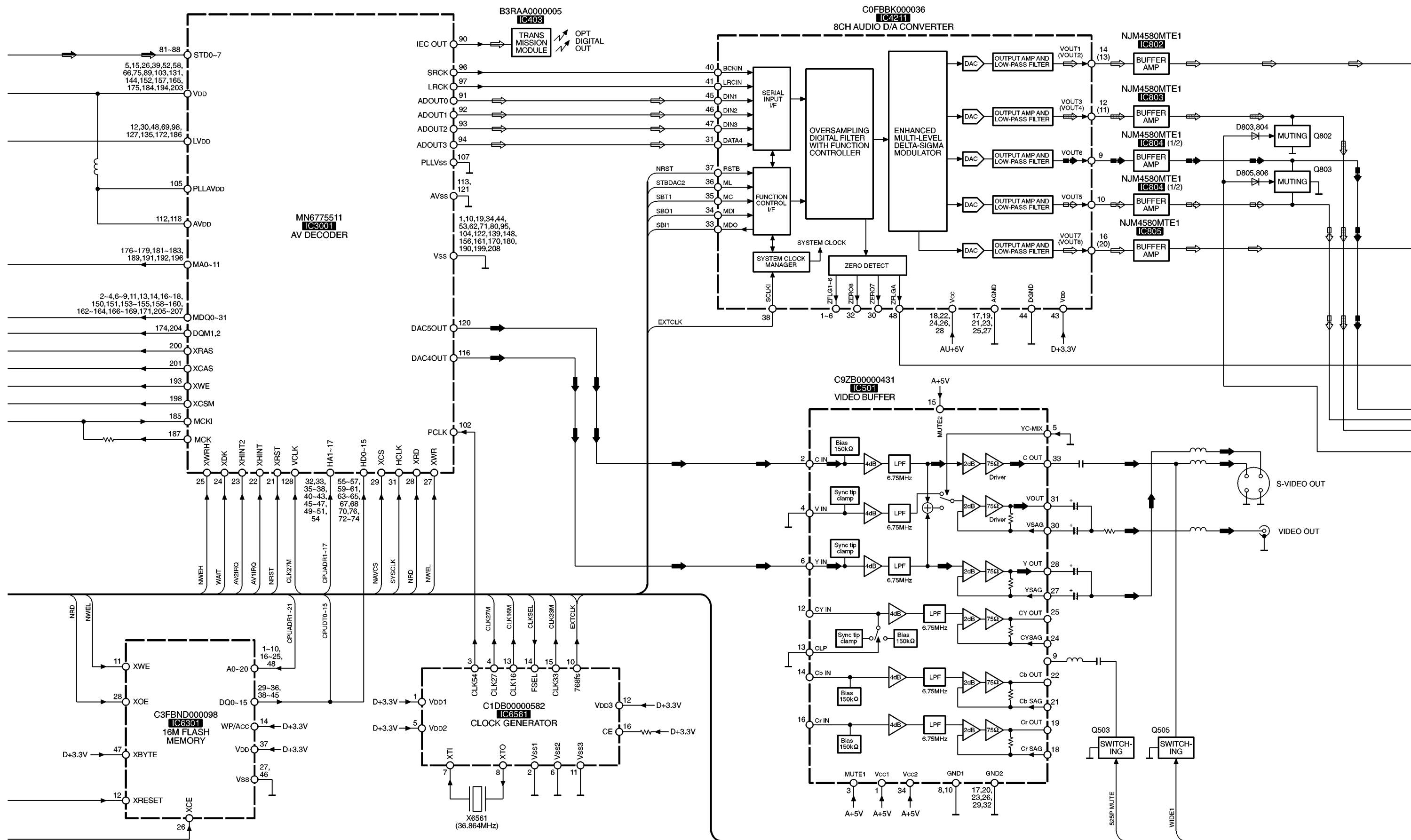


# 17 Block Diagram

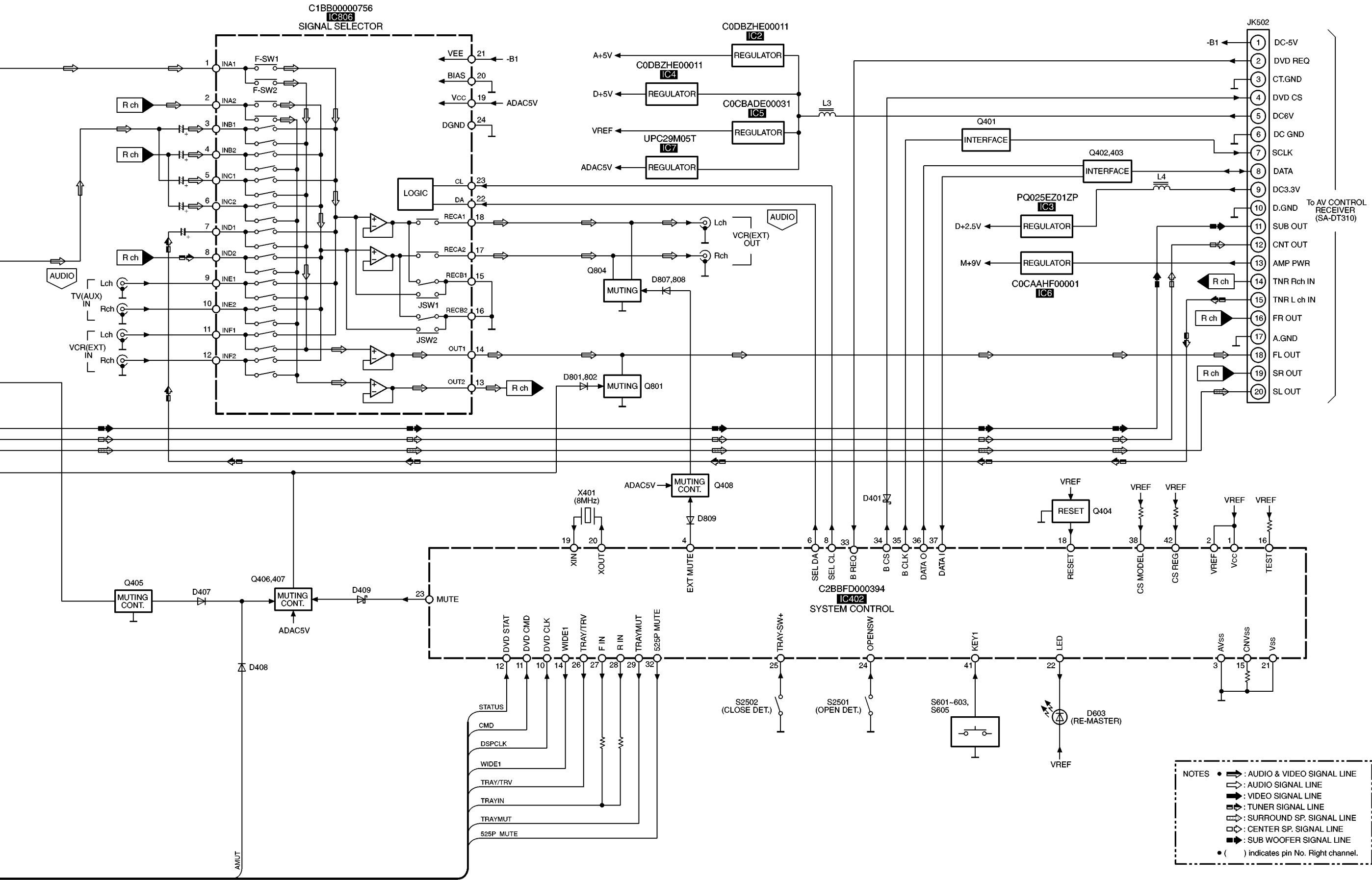




SL-DT310(EG,EE) BLOCK DIAGRAM



SL-DT310(EG,EE) BLOCK DIAGRAM



SL-DT310(EG,EE) BLOCK DIAGRAM

## 18 Terminal Function of ICs

### 18.1. IC402 (C2BBFD000394): System Control

| Pin No. | Signal Name       | I/O | Description                                                                  |
|---------|-------------------|-----|------------------------------------------------------------------------------|
| 1       | V <sub>CC</sub>   | I   | Power supply terminal                                                        |
| 2       | VREF              | I   | Reference voltage input                                                      |
| 3       | AV <sub>SS</sub>  | -   | GND                                                                          |
| 4       | EXT MUTE          | O   | EXT OUT muting signal output                                                 |
| 5       | PWCONT            | o   | DVD module power supply control signal output                                |
| 6       | SEL DA            | O   | Serial control signal output to IC806                                        |
| 7       | NC                | I   | Not used, connected to V <sub>CC</sub> via resistor                          |
| 8       | LCLK              | O   | Serial control signal output to IC806                                        |
| 9       | NC                | O   | Not used, open                                                               |
| 10      | DVD CLK           | I   | Communication clock signal input from DVD system control                     |
| 11      | DVD CMD           | I   | Communication command signal input from DVD system control                   |
| 12      | DVD STAT          | I   | Communication status signal input from DVD system control                    |
| 13      | NC                | -   | Not used, open                                                               |
| 14      | WIDE1             | O   | Wide screen circuit change control output                                    |
| 15      | CNV <sub>SS</sub> | -   | GND                                                                          |
| 16      | TEST              | I   | Test mode input                                                              |
| 17      | E-CS              | -   | Not used, connected to GND                                                   |
| 18      | RESET             | I   | System reset signal input                                                    |
| 19      | X IN              | I   | Oscillation connect terminal (F=8MHz)                                        |
| 20      | X OUT             | O   |                                                                              |
| 21      | V <sub>SS</sub>   | -   | GND                                                                          |
| 22      | LED               | O   | LED (DOUBLE RE-MASTER) drive signal output                                   |
| 23      | MUTE              | O   | Mute control output                                                          |
| 24      | OPENSF            | I   | Disc tray open switch signal input                                           |
| 25      | TRAY SW+          | I   | Disc tray close switch signal input                                          |
| 26      | TRAY/TRV          | O   | Disc tray/traverse drive change signal output                                |
| 27      | F IN              | O   | Motor driver control output                                                  |
| 28      | R IN              | O   | Motor driver control output                                                  |
| 29      | TRAYMUT           | O   | Motor driver mute signal output                                              |
| 30      | D WIDE1           | -   | Not used, open                                                               |
| 31      | D WIDE2           | -   | Not used, open                                                               |
| 32      | 525P MUTE         | O   | Interlace/progressive change signal output                                   |
| 33      | B REQ             | I   | Serial communication request signal input from system control (SA-DT310)     |
| 34      | B CS              | O   | Serial communication chip select signal output for system control (SA-DT310) |
| 35      | B CLK             | O   | Serial communication clock signal output for system control (SA-DT310)       |
| 36      | DATA O            | O   | Serial communication data signal output for system control (SA-DT310)        |
| 37      | DATA I            | I   | Serial communication data signal input from system control(SA-DT310)         |
| 38      | CS MODEL          | I   | Model change signal input                                                    |
| 39      | NC                | -   | Not used, open                                                               |
| 40      | KEY2              | I   | Not used, connected to GND                                                   |
| 41      | KEY1              | I   | Operation key signal input                                                   |
| 42      | CSREG             | I   | Chip select signal input (Area select)                                       |

# 19 Abbreviations

| INITIAL/LOGO | ABBREVIATIONS                           |
|--------------|-----------------------------------------|
| A            | A0-UP ADDRESS                           |
|              | ACLK AUDIO CLOCK                        |
|              | AD0-UP ADDRESS BUS                      |
|              | ADATA AUDIO PES PACKET DATA             |
|              | ALE ADDRESS LATCH ENABLE                |
|              | AMUTE AUDIO MUTE                        |
|              | AREQ AUDIO PES PACKET REQUEST           |
|              | ARF AUDIO RF                            |
|              | ASI SERVO AMP INVERTED INPUT            |
|              | ASO SERVOAMP OUTPUT                     |
| B            | ASYNCAUDIO WORD DISTINCTION SYNC        |
|              | BCK BIT CLOCK (PCM)                     |
|              | BCKIN BIT CLOCK INPUT                   |
|              | BDO BLACK DROP OUT                      |
|              | BLKCK SUB CODE BLOCK CLOCK              |
|              | BOTTOMCAP. FOR BOTTOM HOLD              |
|              | BYP BYPATH                              |
|              | BYTCK BYTE CLOCK                        |
|              | CAV CONSTANT ANGULAR VELOCITY           |
|              | CBDO CAP. BLACK DROP OUT                |
| C            | CD COMPACT DISC                         |
|              | CDSCK CD SERIAL DATA CLOCK              |
|              | CDSRDATA CD SERIAL DATA                 |
|              | CDRF CD RF (EFM) SIGNAL                 |
|              | CDV COMPACT DISC-VIDEO                  |
|              | CHNDATA CHANNEL DATA                    |
|              | CKSL SYSTEMCLOCK SELECT                 |
|              | CLV CONSTANT LINEAR VELOCITY            |
|              | COFTR CAP. OFF TRACK                    |
|              | CPA CPU ADDRESS                         |
|              | CPCS CPU CHIP SELECT                    |
|              | CPDT CPU DATA                           |
|              | CPUADR CPU ADDRESS LATCH                |
|              | CPUADT CPU ADDRESS DATA BUS             |
|              | CPUIRQ CPU INTERRUPT REQUEST            |
|              | CPRD CPU READ ENABLE                    |
|              | CPWR CPU WRITE ENABLE                   |
|              | CS CHIPSELECT                           |
|              | CSYNCAIN COMPOSITE SYNC IN              |
|              | CSYNCAOUT COMPOSITE SYNC OUT            |
| D            | DACCK D/A CONVERTER CLOCK               |
|              | DEEMP DEEMPHASIS BIT ON/OFF             |
|              | DEMPH DEEMPHASIS SWITCHING              |
|              | DIG0-UP FL DIGIT OUTPUT                 |
|              | DIN DATA INPUT                          |
|              | DMSRCK DM SERIAL DATA READ CLOCK        |
|              | DMUTE DIGITAL MUTE CONTROL              |
|              | DO DROPOUT                              |
|              | DOUT0-UP DATA OUTPUT                    |
|              | DRF DATA SLICE RF (BIAS)                |
|              | DRPOUT DROP OUT SIGNAL                  |
|              | DREQ DATA REQUEST                       |
|              | DRESP DATA RESPONSE                     |
|              | DSC DIGITAL SERVO CONTROLLER            |
|              | DSLFDATA SLICE LOOP FILTER              |
|              | DVD DIGITAL VIDEO DISC                  |
| E            | EC ERROR TORQUE CONTROL                 |
|              | ECR ERROR TORQUE CONTROL REFERENCE      |
|              | ENCSEL ENCODER SELECT                   |
|              | ETMCLK EXTERNAL M CLOCK (81MHz/40.5MHz) |
|              | ETSCLK EXTERNAL S CLOCK (54MHz)         |
| F            | FBAL FOCUS BALANCE                      |
|              | FCLK FRAME CLOCK                        |
|              | FE FOCUS ERROR                          |
|              | FFI FOCUS ERROR AMP INVERTED INPUT      |
|              | FEO FOCUS ERROR AMP OUTPUT              |
|              | FG FREQUENCY GENERATOR                  |
|              | FSC FREQUENCY SUB CARRIER               |
|              | FSCK FS (384 OVERSAMPLING) CLOCK        |
| G            | GND COMMON GROUNDING (EARTH)            |

| INITIAL/LOGO | ABBREVIATIONS                      |
|--------------|------------------------------------|
| H            | HA0-UP HOST ADDRESS                |
|              | HD0-UP HOST DATA                   |
|              | HINT HOST INTERRUPT                |
|              | HRXW HOST READ/WRITE               |
| I            | IECOUT IEC958 FORMAT DATA OUTPUT   |
|              | IPFLAG INTERPOLATION FLAG          |
|              | IREF I (CURRENT) REFERENCE         |
|              | ISEL INTERFACE MODE SELECT         |
| L            | LDON LASER DIODE CONTROL           |
|              | LPC LASER POWER CONTROL            |
|              | LRCK L CH/R CH DISTINCTION CLOCK   |
| M            | MA0-UP MEMORY ADDRESS              |
|              | MCK MEMORY CLOCK                   |
|              | MCKI MEMORY CLOCK INPUT            |
|              | MCLK MEMORY SERIAL COMMAND CLOCK   |
|              | MDATA MEMORY SERIAL COMMAND DATA   |
|              | MDQ0-UP MEMORY DATA INPUT/OUTPUT   |
|              | MDQM MEMORY DATA I/OMASK           |
|              | MLD MEMORY SERIAL COMMAND LOAD     |
|              | MPEG MOVING PICTURE EXPERTS GROUP  |
| O            | ODC OPTICAL DISC CONTROLLER        |
|              | OFTR OFF TRACKING                  |
|              | OSCI OSCILLATOR INPUT              |
|              | OSCO OSCILLATOR OUTPUT             |
|              | OSD ON SCREEN DISPLAY              |
| P            | P1-UP PORT                         |
|              | PCD CD TRACKING PHASE DIFFERENCE   |
|              | PCK PLL CLOCK                      |
|              | PDVD DVD TRACKING PHASE DIFFERENCE |
|              | PEAK CAP. FOR PEAK HOLD            |
|              | PLLCLK CHANNEL PLL CLOCK           |
|              | PLLOK PLL LOCK                     |
|              | PWMCTL PWM OUTPUT CONTROL          |
|              | PWMDA PULSEWAVE MOTOR DRIVE A      |
|              | PWMOA, B PULSE WAVE MOTOR OUT A, B |
| R            | RE READ ENABLE                     |
|              | RFENV RF ENVELOPE                  |
|              | RFO RF PHASE DIFFERENCE OUTPUT     |
|              | RS (CD-ROM) REGISTER SELECT        |
|              | RSEL RF POLARITY SELECT            |
|              | RST RESET                          |
|              | RSV RESERVE                        |

| INITIAL/LOGO | ABBREVIATIONS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| S            | SBCK SUB CODE CLOCK<br>SBI0, 1 SERIAL DATA INPUT<br>SB00 SERIAL DATA OUTPUT<br>SBT0, 1 SERIAL CLOCK<br>SCK SERIAL DATA CLOCK<br>SCKR AUDIO SERIAL CLOCK<br>RECEIVER<br>SCL SERIAL CLOCK<br>SCLK SERIAL CLOCK<br>SDA SERIALDATA<br>SEG0-UP FL SEGMENT OUTPUT<br>SELCLK SELECT CLOCK<br>SEN SERIAL PORT ENABLE<br>SIN1, 2 SERIAL DATA IN<br>SOUT1, 2 SERIAL DATA OUT<br>SPDI SERIAL PORT DATA INPUT<br>SPDO SERIAL PORT DATA OUTPUT<br>SPEN SERIAL PORT R/W ENABLE<br>SPRCLK SERIAL PORT READ CLOCK<br>SPWCLK SERIALPORT WRITE CLOCK<br>SQCK SUB CODE Q CLOCK<br>SQCX SUB CODE Q DATA READ<br>CLOCK<br>SRDATA SERIAL DATA<br>SRMADR SRAM ADDRESS BUS<br>SRMDT0-7 SRAM DATA BUS 0-7<br>SS START/STOP<br>STAT STATUS<br>STCLK STREAM DATA CLOCK<br>STD0-UP STREAM DATA<br>STENABLE STREAM DATA INPUT<br>ENABLE<br>STSEL STREAMDATA POLARITY<br>SELECT<br>STVALID STREAM DATA VALIDITY<br>SUBC SUB CODE SERIAL<br>SUBQ SUB CODE Q DATA<br>SYSCLK SYSTEM CLOCK |
| T            | TE TRACKING ERROR<br>TIBAL BALANCE CONTROL<br>TID BALANCE OUTPUT 1<br>TIN BALANCE INPUT<br>TIP BALANCE INPUT<br>TIS BALANCE OUTPUT 2<br>TPSN OP AMP INPUT<br>TPSON OP AMP OUTPUT<br>TPSP OP AMP INVERTED INPUT<br>TRCRS TRACKCROSS SIGNAL<br>TRON TRACKING ON<br>TRSON TRAVERSE SERVO ON                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| V            | VBLANK V BLANKING<br>VCC COLLECTOR POWER SUPPLY<br>VOLTAGE<br>VCDCONT VIDEO CD CONTROL<br>(TRACKING BALANCE)<br>VDD DRAIN POWER SUPPLY<br>VOLTAGE<br>VFB VIDEO FEED BACK<br>VREF VOLTAGE REFERENCE<br>VSS SOURCEPOWER SUPPLY<br>VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| W            | WAIT BUS CYCLE WAIT<br>WDCK WORD CLOCK<br>WEH WRITE ENABLE HIGH<br>WSR WORD SELECT RECEIVER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| INITIAL/LOGO | ABBREVIATIONS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X            | X X<br>XALE X ADDRESS LATCH ENABLE<br>XAREQ X AUDIO DATA REQUEST<br>XCDROM X CD ROM CHIP SELECT<br>XCS X CHIP SELECT<br>XCSYNC X COMPOSITE SYNC<br>XDS X DATA STROBE<br>XHSYNCO X HORIZONTAL SYNC OUTPUT<br>XHINT XH INTERRUPTREQUEST<br>XI X' TAL OSCILLATOR INPUT<br>XINT X INTERRUPT<br>XMW X MEMORY WRITE ENABLE<br>XO X' TAL OSCILLATOR OUTPUT<br>XRE X READ ENABLE<br>XSRMCE X SRAM CHIP ENABLE<br>XSRMOE X SRAM OUTPUT ENABLE<br>XSRMWE X SRAM WRITE ENABLE<br>XVCS X V-DEC CHIPSELECT<br>XVDS X V-DEC CONTROL BUS<br>STROBE<br>XVSYNCO X VERTICAL SYNC OUTPUT |

# 20 Replacement Parts List

## Notes:

- Important safety notice:

Components identified by  $\Delta$  mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.

- The parenthesized indications in the Remarks columns specify the areas.

(EE): SL-DT310EE

(EG): SL-DT310EG

- The marking [RTL] indicates that retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.
- All of other parts are supplied by SPC.

| Ref. No. | Part No.     | Part Name & Description | Pcs | Remarks  |
|----------|--------------|-------------------------|-----|----------|
| 1        | REZ1533      | FFC                     | 1   |          |
| 2        | REZ1534      | FFC                     | 1   |          |
| 3        | RGK1634-S    | DVD LID                 | 1   |          |
| 4        | RQLS0275     | LASER CAUTION LABEL     | 1   |          |
| 5        | XTB3+8J      | SCREW                   | 6   |          |
| 6        | RKA0150-K    | LEG 1                   | 1   |          |
| 7        | RKA0155-K    | LEG 2                   | 6   |          |
| 8        | RKS0379A-H   | BOTTOM COVER            | 1   |          |
| 9        | XTBS3+8JFZ1  | SCREW                   | 10  |          |
| 10       | RGU2193-S    | BUTTON, OPERATION       | 1   |          |
| 11       | RGL0624-Q    | LENS                    | 1   |          |
| 12       | XTBS26+8J    | SCREW                   | 4   |          |
| 13       | RKM0488-S    | TOP COVER               | 1   |          |
| 14       | XTBS3+10JFZ1 | SCREW                   | 2   |          |
| 15       | RSC0679      | SHIELD COVER            | 1   |          |
| 16       | RYQ0460-S    | ORNAMENT 1              | 1   |          |
| 17       | RYQ0461-S    | ORNAMENT 2              | 1   |          |
| 18       | RYP1213-S    | FRONT PANEL             | 1   |          |
| 301      | RMG0598-A    | FLOATING RUBBER         | 4   |          |
| 302      | BML3E1CRL    | SP MOTOR                | 1   |          |
| 303      | REU33K028S   | WIRE (BLACK)            | 1   |          |
| 304      | REU33R032S   | WIRE (RED)              | 1   |          |
| 305      | RHD17042     | SCREW                   | 2   |          |
| 306      | RHD17046     | SCREW                   | 3   |          |
| 307      | RMB0713-1    | SPRING                  | 1   |          |
| 308      | RMB0714      | SPRING                  | 3   |          |
| 309      | RMG0618-H    | RUBBER                  | 1   |          |
| 310      | RMS0798      | SHAFT                   | 1   |          |
| 311      | RMX0247      | WASHER                  | 1   |          |
| 312      | VHD1224      | SCREW                   | 4   |          |
| 313      | RDG0557      | SHAFT                   | 1   |          |
| 314      | RDG0558      | BEVEL RING              | 1   |          |
| 315      | RMM0252      | DRIVE RACK              | 1   |          |
| 316      | RMQ1112      | COVER                   | 1   |          |
| 317      | RMRL466-K    | TRAVERSE BASE           | 1   |          |
| 318      | RMX0233      | WASHER                  | 1   |          |
| 319      | RXQ0946      | TRV MOTOR ASS'Y         | 1   |          |
| 320      | RAF3023A-1   | OPTICAL PICK-UP         | 1   | $\Delta$ |
| 321      | RHD14095     | SCREW                   | 1   |          |
| 322      | RJB2621A     | FFC                     | 1   |          |
| 323      | RMG0617-H    | RUBBER                  | 1   |          |
| 324      | RMS0788      | GUIDE SHAFT             | 1   |          |
| 325      | RMRL467-K    | CHASSIS                 | 1   |          |
| 326      | RMS0789      | FIXED PIN               | 4   |          |
| 327      | RMX0246      | BLOCK WALL              | 1   |          |
| 501      | XTN26+6G     | SCREW                   | 3   |          |

| Ref. No. | Part No.     | Part Name & Description | Pcs | Remarks      |
|----------|--------------|-------------------------|-----|--------------|
| 502      | RDG0547      | PULLEY GEAR             | 1   |              |
| 503      | RDG0548      | GEAR                    | 1   |              |
| 504      | RDG0549      | GEAR                    | 1   |              |
| 505      | RDV0070      | BELT                    | 1   |              |
| 506      | RMC0387      | SPRING                  | 1   |              |
| 507      | RME0350      | SPRING                  | 1   |              |
| 508      | RME0351      | SPRING                  | 1   |              |
| 509      | RMK0537      | CHASSIS                 | 1   |              |
| 510      | RML0627      | DRIVE ARM               | 1   |              |
| 511      | RML0628      | CHANGE LEVER            | 1   |              |
| 512      | RML0629      | LOCK LEVER              | 1   |              |
| 513      | RMM0247      | DRIVE RACK              | 1   |              |
| 514      | RMM0248      | SUB RACK                | 1   |              |
| 515      | RMM0250      | GUIDE PIECE 1           | 1   |              |
| 516      | RMM0253      | GUIDE PIECE 2           | 1   |              |
| 517      | XQN17+C25FZ  | SCREW                   | 1   |              |
| 518      | XTN26+8G     | SCREW                   | 4   |              |
| 519      | XTV2+6G      | SCREW                   | 1   |              |
| 520      | REM0102      | MOTOR ASS'Y             | 1   |              |
| 521      | JSM0048      | MAGNET                  | 1   |              |
| 522      | RMRL446-X    | CLAMPER                 | 1   |              |
| 523      | RMRL447-X    | MAGNET HOLDER           | 1   |              |
| 524      | RMRL468-K    | CLAMP PLATE             | 1   |              |
| 525      | XWG6FFY      | WASHER                  | 1   |              |
| 526      | RGQ0338-Q    | DISC TRAY               | 1   |              |
| 527      | RME0353      | SPRING                  | 1   |              |
| 528      | RML0631      | SLIDER                  | 1   |              |
| 529      | RJB2621A     | FFC                     | 1   |              |
| 530      | BML3E1CRL    | FFC (WITH MOTOR ASS'Y)  | 1   |              |
| C1       | ECA1HAK010XI | 50V 1U                  | 1   |              |
| C2       | F1H1H103A219 | 50V 0.01U               | 1   |              |
| C3       | F1H1H102A219 | 50V 1000P               | 1   |              |
| C4       | ECA1CAK100XB | 16V 10U                 | 1   |              |
| C8       | ECA1CAK100XB | 16V 10U                 | 1   |              |
| C9       | ECA1CAK101XB | 16V 100U                | 1   |              |
| C10      | ECA1CAK100XB | 16V 10U                 | 1   |              |
| C11,12   | ECA0JAM471XB | 6.3V 470U               | 2   |              |
| C13      | ECA0JAK221XH | 6.3V 220U               | 1   |              |
| C14,15   | ECJ1VF1A105Z | 10V 1U                  | 2   |              |
| C18      | ECA0JAK221XH | 6.3V 220U               | 1   |              |
| C20      | ECA1CAK100XB | 16V 10U                 | 1   |              |
| C21      | ECA0JM222    | 6.3V 2200U              | 1   |              |
| C24      | ECJ1VF1A105Z | 10V 1U                  | 1   |              |
| C301-06  | ECUV1H331KBV | 50V 330P                | 6   | ECJ1VB1H331K |
| C307-09  | F1H1H103A219 | 50V 0.01U               | 3   |              |
| C401     | F1H1C104A056 | 16V 0.1U                | 1   |              |
| C402,03  | F1H1H101A231 | 50V 100P                | 2   |              |
| C404     | F1H1C104A056 | 16V 0.1U                | 1   |              |
| C405     | EEAPC0J101B  | 6.3V 100U               | 1   |              |
| C406     | F1H1C104A056 | 16V 0.1U                | 1   |              |
| C407     | ECUX1H471JCV | 50V 470P                | 1   | ECUV1H471JCV |
| C409     | F1H1H103A219 | 50V 0.01U               | 1   |              |
| C410     | ECA1HAK3R3XB | 50V 3.3U                | 1   |              |
| C411     | ECA0JAK470XH | 6.3V 47U                | 1   |              |
| C412     | F1H1C104A056 | 16V 0.1U                | 1   |              |
| C413     | ECA1HAK010XI | 50V 1U                  | 1   |              |
| C414,15  | F1H1C104A056 | 16V 0.1U                | 2   |              |
| C416     | ECA0JAK221XH | 6.3V 220U               | 1   |              |
| C417     | ECJ1VF1A105Z | 10V 1U                  | 1   |              |
| C501     | ECA0JAK221XH | 6.3V 220U               | 1   |              |
| C502,03  | F1H1H103A219 | 50V 0.01U               | 2   |              |
| C504     | ECUV1H470JCV | 50V 47P                 | 1   | ECJ1VC1H470J |
| C505,06  | ECA1HAK010XI | 50V 1U                  | 2   |              |
| C507     | ECUV1H470JCV | 50V 47P                 | 1   | ECJ1VC1H470J |
| C517     | ECA1CAK101XB | 16V 100U                | 1   |              |
| C518     | ECA0JAM102XB | 6.3V 1000U              | 1   |              |
| C519     | ECA1CAK101XB | 16V 100U                | 1   |              |
| C520     | ECA0JAM102XB | 6.3V 1000U              | 1   |              |
| C521,22  | F1H1H103A219 | 50V 0.01U               | 2   |              |

| Ref. No. | Part No.     | Part Name & Description | Pcs | Remarks      |
|----------|--------------|-------------------------|-----|--------------|
| C523     | ECUV1H470JCV | 50V 47P                 | 1   | ECJ1VC1H470J |
| C524,25  | FIH1H103A219 | 50V 0.01U               | 2   |              |
| C801     | ECA0JAK221XH | 6.3V 220U               | 1   |              |
| C803,04  | ECA1CAK100XB | 16V 10U                 | 2   |              |
| C805,06  | ECUX1H471JCV | 50V 470P                | 2   | ECUV1H471JCV |
| C807,08  | ECUV1H470JCV | 50V 47P                 | 2   | ECJ1VC1H470J |
| C810     | FIH1C104A056 | 16V 0.1U                | 1   |              |
| C811-14  | ECA0JAK470XH | 6.3V 47U                | 4   |              |
| C815,16  | ECA1CAK100XB | 16V 10U                 | 2   |              |
| C817,18  | ECUX1H471JCV | 50V 470P                | 2   | ECUV1H471JCV |
| C819,20  | ECUV1H470JCV | 50V 47P                 | 2   | ECJ1VC1H470J |
| C822     | FIH1C104A056 | 16V 0.1U                | 1   |              |
| C823,24  | ECA1CAK220XB | 16V 22U                 | 2   |              |
| C825,26  | ECA1CAK100XB | 16V 10U                 | 2   |              |
| C827-30  | ECJ1VB1H222K | 50V 2200P               | 4   |              |
| C831,32  | ECA1CAK100XB | 16V 10U                 | 2   |              |
| C833,24  | ECUX1H471JCV | 50V 470P                | 2   | ECUV1H471JCV |
| C835,36  | ECUV1H470JCV | 50V 47P                 | 2   | ECJ1VC1H470J |
| C838     | FIH1C104A056 | 16V 0.1U                | 1   |              |
| C839,40  | ECA1CAK220XB | 16V 22U                 | 2   |              |
| C841,42  | ECA1CAK100XB | 16V 10U                 | 2   |              |
| C843,44  | ECJ1VB1H222K | 50V 2200P               | 2   |              |
| C845,46  | ECA1CAK100XB | 16V 10U                 | 2   |              |
| C847,48  | ECUX1H471JCV | 50V 470P                | 2   | ECUV1H471JCV |
| C849,50  | ECUV1H470JCV | 50V 47P                 | 2   | ECJ1VC1H470J |
| C852     | FIH1C104A056 | 16V 0.1U                | 1   |              |
| C865-72  | ECA1CAK220XB | 16V 22U                 | 8   |              |
| C877,78  | ECA1CAK220XB | 16V 22U                 | 2   |              |
| C879     | ECA1CAK470XB | 16V 47U                 | 1   |              |
| C880-87  | ECUV1H470JCV | 50V 47P                 | 8   | ECJ1VC1H470J |
| C888-91  | ECA1CAK220XB | 16V 22U                 | 4   |              |
| C892,93  | ECA0JAK470XH | 6.3V 47U                | 2   |              |
| C2001,02 | EEE0JA101SP  | 6.3V 100U               | 2   |              |
| C2003-18 | ECJ1ZF1C104Z | 16V 0.1U                | 16  |              |
| C2021    | EEE0JA101SP  | 6.3V 100U               | 1   |              |
| C2022-25 | ECJ1ZF1C104Z | 16V 0.1U                | 4   |              |
| C2031,32 | ECJ1VB1C104K | 16V 0.1U                | 2   |              |
| C2034    | ECJ1VB1C393K | 16V 0.039U              | 1   |              |
| C2035    | ECJ1VB1H822K | 50V 8200P               | 1   |              |
| C2036    | ECJ1VB1C104K | 16V 0.1U                | 1   |              |
| C2038    | ECJ1VB1C104K | 16V 0.1U                | 1   |              |
| C2039    | ECJ1VB1H103K | 50V 0.01U               | 1   |              |
| C2040    | ECJ1VC1H102J | 50V 1000P               | 1   |              |
| C2041,42 | ECJ1VC1H331J | 50V 330P                | 2   |              |
| C2043    | ECJ1VC1H101J | 50V 100P                | 1   |              |
| C2044    | ECJ1VC1H391J | 50V 390P                | 1   |              |
| C2045,46 | ECJ1VC1H102J | 50V 1000P               | 2   |              |
| C2047    | ECJ1VB1H103K | 50V 0.01U               | 1   |              |
| C2048    | ECUV1C153KBV | 16V 0.015U              | 1   | ECJ1VB1C153K |
| C2050    | ECJ1VB1C333K | 16V 0.033U              | 1   |              |
| C2051    | ECUV1H680JCV | 50V 68P                 | 1   | ECJ1VC1H680J |
| C2052,53 | ECJ1ZF1C104Z | 16V 0.1U                | 2   |              |
| C2054    | ECUX1H681JCV | 50V 680P                | 1   |              |
| C2055    | ECJ1VB1H682K | 50V 6800P               | 1   |              |
| C2056,57 | ECJ1VB1H272K | 50V 2700P               | 2   |              |
| C2058    | ECJ1VC1H102J | 50V 1000P               | 1   |              |
| C2059    | ECUV1H821JCV | 50V 820P                | 1   | ECJ1VC1H821J |
| C2060    | ECJ1VC1H102J | 50V 1000P               | 1   |              |
| C2061,62 | ECJ1VC1H331J | 50V 330P                | 2   |              |
| C2063-65 | ECJ1VC1H102J | 50V 1000P               | 3   |              |
| C2066,67 | ECJ1VB1H472K | 50V 4700P               | 2   |              |
| C2073    | ECJ1ZF1C104Z | 16V 0.1U                | 1   |              |
| C2101,02 | ECJ1ZF1C104Z | 16V 0.1U                | 2   |              |
| C2501    | EEV1CA101WP  | 16V 100U                | 1   |              |
| C2502-04 | ECUVNC104ZFY | 16V 0.1U                | 3   | ECJ1VF1C104Z |
| C2511-13 | ECUVNH103KBV | 50V 0.01U               | 3   | FIH1H103A748 |
| C2514    | ECJ1VB1C104K | 16V 0.1U                | 1   |              |
| C2521    | EEVFC1C470P  | 16V 47U                 | 1   |              |
| C2522    | EEV1CA220WR  | 16V 22U                 | 1   |              |
| C2523    | EEVFC0J221P  | 6.3V 220U               | 1   |              |
| C2524-29 | ECUVNC104ZFY | 16V 0.1U                | 6   | ECJ1VF1C104Z |
| C3001,02 | F2G0J331A015 | 6.3V 330U               | 2   |              |
| C3003-18 | ECJ1ZF1C104Z | 16V 0.1U                | 16  |              |

| Ref. No. | Part No.     | Part Name & Description | Pcs | Remarks      |
|----------|--------------|-------------------------|-----|--------------|
| C3019    | FIH0J1050013 | 6.3V 1U                 | 1   |              |
| C3020    | ECJ1ZF1C104Z | 16V 0.1U                | 1   |              |
| C3021    | FIH0J1050013 | 6.3V 1U                 | 1   |              |
| C3022-36 | ECJ1ZF1C104Z | 16V 0.1U                | 15  |              |
| C3037    | F2G0J331A015 | 6.3V 330U               | 1   |              |
| C3038,39 | ECJ1ZF1C104Z | 16V 0.1U                | 2   |              |
| C3051    | ECJ1VC1H220J | 50V 22P                 | 1   |              |
| C3061-74 | ECJ1ZF1C104Z | 16V 0.1U                | 14  |              |
| C3110    | EEE0JA101SP  | 6.3V 100U               | 1   |              |
| C4207-10 | ECJ1ZF1C104Z | 16V 0.1U                | 4   |              |
| C4211    | F3F1A1060002 | 10V 10U                 | 1   |              |
| C4215    | ECJ1ZF1C104Z | 16V 0.1U                | 1   |              |
| C4216    | F2G0J101A015 | 6.3V 100U               | 1   |              |
| C4217    | ECJ1ZF1C104Z | 16V 0.1U                | 1   |              |
| C4219,20 | F3F1A1060002 | 10V 10U                 | 2   |              |
| C4222,23 | F2G0J331A015 | 6.3V 330U               | 2   |              |
| C4234-37 | ECJ1ZF1C104Z | 16V 0.1U                | 4   |              |
| C5101,02 | ECUVNC104ZFY | 16V 0.1U                | 2   | ECJ1VF1C104Z |
| C5103    | F3F1A106A001 | 10V 10U                 | 1   |              |
| C5110,11 | EEV0JA470WR  | 6.3V 47U                | 2   |              |
| C5115    | EEV0JA470WR  | 6.3V 47U                | 1   |              |
| C5201,02 | EEE1CA100SR  | 16V 10U                 | 2   |              |
| C5203-05 | ECJ1ZF1C104Z | 16V 0.1U                | 3   |              |
| C5221    | ECJ1ZF1C104Z | 16V 0.1U                | 1   |              |
| C5232-34 | ECJ1ZF1C104Z | 16V 0.1U                | 3   |              |
| C5235,36 | ECJ1VB1C104K | 16V 0.1U                | 2   |              |
| C5254    | ECUV1H391KBV | 50V 390P                | 1   | ECJ1VB1H391K |
| C5256    | ECJ1VB1H222K | 50V 2200P               | 1   |              |
| C5262    | ECJ1VC1H181J | 50V 180P                | 1   |              |
| C5264    | ECJ1VB1C183K | 16V 0.018U              | 1   |              |
| C5271    | ECJ1VB1H102K | 50V 1000P               | 1   |              |
| C5272    | ECJ1VB1A224K | 10V 0.22U               | 1   |              |
| C5273    | ECJ1VB1H182K | 50V 1800P               | 1   |              |
| C5274    | ECJ1VB1C104K | 16V 0.1U                | 1   |              |
| C5282    | ECJ1VB1H103K | 50V 0.01U               | 1   |              |
| C5283    | ECJ1VC1H561J | 50V 560P                | 1   |              |
| C5290    | ECJ1VB1H102K | 50V 1000P               | 1   |              |
| C5291    | ECJ1VB1H272K | 50V 2700P               | 1   |              |
| C5292    | ECJ1VC1H101J | 50V 100P                | 1   |              |
| C5299    | ECJ1VC1H331J | 50V 330P                | 1   |              |
| C6201    | EEE0JA330WR  | 6.3V 33U                | 1   |              |
| C6202-06 | ECJ1ZF1C104Z | 16V 0.1U                | 5   |              |
| C6211    | ECJ1VC1H101J | 50V 100P                | 1   |              |
| C6215    | ECJ1VB1C104K | 16V 0.1U                | 1   |              |
| C6221-23 | ECJ1ZF1C104Z | 16V 0.1U                | 3   |              |
| C6251-53 | F3F1A1060002 | 10V 10U                 | 3   |              |
| C6254,55 | ECJ1ZF1C104Z | 16V 0.1U                | 2   |              |
| C6256    | ECJ1VB1C104K | 16V 0.1U                | 1   |              |
| C6257    | EEE0JA101SP  | 6.3V 100U               | 1   |              |
| C6301,02 | ECJ1ZF1C104Z | 16V 0.1U                | 2   |              |
| C6561    | EEE0GA470SR  | 4V 47U                  | 1   |              |
| C6563    | EEE0GA470SR  | 4V 47U                  | 1   |              |
| C6564    | ECJ1ZF1C104Z | 16V 0.1U                | 1   |              |
| C6565    | ECJ1VC1H150J | 50V 15P                 | 1   |              |
| C6566    | ECJ1ZF1C104Z | 16V 0.1U                | 1   |              |
| C6567    | ECJ1VC1H150J | 50V 15P                 | 1   |              |
| C6568    | ECJ1ZF1C104Z | 16V 0.1U                | 1   |              |
| CN402    | K1KA22A00044 | CONNECTOR (22P)         | 1   |              |
| CN403    | K1KA26A00089 | CONNECTOR (26P)         | 1   |              |
| CN404    | K1MN07A00005 | CONNECTOR (7P)          | 1   |              |
| CN601    | RJS1A6604T1  | CONNECTOR (4P)          | 1   | K1MP04A00008 |
| D1,D2    | MA2J11100L   | DIODE                   | 2   |              |
| D3,D4    | MA735TX      | DIODE                   | 2   | MA2Q73500L   |
| D6       | MA2J11100L   | DIODE                   | 1   |              |
| D401     | MA2J72800L   | DIODE                   | 1   |              |
| D402-04  | MA2J11100L   | DIODE                   | 3   |              |
| D406-08  | MA2J11100L   | DIODE                   | 3   |              |
| D409     | MA2J72800L   | DIODE                   | 1   |              |
| D603     | LNJ401NPFJA  | LED                     | 1   |              |
| D801-09  | MA2J11100L   | DIODE                   | 9   |              |
| D2521    | BOECKM000003 | DIODE                   | 1   |              |

| Ref. No.   | Part No.     | Part Name & Description | Pcs | Remarks      |
|------------|--------------|-------------------------|-----|--------------|
| D5131      | MA2J72800L   | DIODE                   | 1   |              |
| D6215      | MA2J72800L   | DIODE                   | 1   |              |
| FL4201     | F1H0J1050018 | FILTER                  | 1   |              |
| FL6251     | F1H0J1050018 | FILTER                  | 1   |              |
| FL6253, 54 | F1H0J1050018 | FILTER                  | 2   |              |
| FL6255     | VLF1491S104T | FILTER                  | 1   | FIJ1E1040022 |
| FP2501     | JJSHFW15R1E1 | CONNECTOR (15P)         | 1   | K1MN15B00041 |
| FP2503     | K1MN07B00080 | CONNECTOR (7P)          | 1   |              |
| FP5101     | K1MN30B00031 | CONNECTOR (30P)         | 1   |              |
| FP5102     | K1MN50B00021 | CONNECTOR (50P)         | 1   |              |
| FP5201     | K1MN50A00005 | CONNECTOR (50P)         | 1   |              |
| IC2        | C0DBZHE00011 | IC                      | 1   |              |
| IC3        | C0DBCFG00003 | IC                      | 1   |              |
| IC4        | C0DBZHE00011 | IC                      | 1   |              |
| IC5        | C0CBADE00031 | IC                      | 1   |              |
| IC6        | C0CAAHF00001 | IC                      | 1   |              |
| IC7        | UPC29M05T    | IC                      | 1   | C0CBADE00007 |
| IC402      | C2BBFD000394 | IC                      | 1   |              |
| IC403      | B3RAA0000005 | IC                      | 1   |              |
| IC501      | C9ZB00000431 | IC                      | 1   |              |
| IC802-05   | NJM4580MTE1  | IC                      | 4   | C0ABEB000127 |
| IC806      | C1BB00000756 | IC                      | 1   |              |
| IC2001     | MN103S26EGA  | IC                      | 1   |              |
| IC2101     | C0JBAS000116 | IC                      | 1   |              |
| IC2501     | C0GBF0000004 | IC                      | 1   |              |
| IC2521     | C0GBG0000033 | IC                      | 1   |              |
| IC3001     | MN6775511    | IC                      | 1   |              |
| IC3061, 62 | C3ABPG000102 | IC                      | 2   |              |
| IC4211     | C0FBBK000036 | IC                      | 1   |              |
| IC5201     | AN22030A-VT  | IC                      | 1   |              |
| IC6201     | MN102H60GFD  | IC                      | 1   |              |
| IC6211     | PST596JNR    | IC                      | 1   | C0EBE0000070 |
| IC6221     | C3EBGC000033 | IC                      | 1   |              |
| IC6222, 23 | C0JBAA000001 | IC                      | 2   |              |
| IC6251     | C0DBEZG00011 | IC                      | 1   |              |
| IC6252     | C0DBFFG00004 | IC                      | 1   |              |
| IC6253     | C0DBCGE00002 | IC                      | 1   |              |
| IC6301     | RFKFMA66P320 | IC                      | 1   |              |
| IC6561     | C1DB00000582 | IC                      | 1   |              |
| JK502      | RJT065K20    | SYSTEM CONNECTOR (20P)  | 1   | K1FA220B0006 |
| JK503      | K1U208B00003 | JK, VIDEO/S-VIDEO OUT   | 1   |              |
| JK504      | K2HA311B0004 | JK, VCR IN/OUT. TV IN   | 1   |              |
| K1         | ERJ3GEY0R00V | 1/16W 0                 | 1   |              |
| K2003      | ERJ3GEY0R00Z | CHIP JUMPER             | 1   |              |
| K2501, 02  | ERJ3GEY0R00V | 1/16W 0                 | 2   |              |
| K3002, 03  | ERJ3GEY0R00Z | CHIP JUMPER             | 2   |              |
| K3101      | ERJ3GEY0R00Z | CHIP JUMPER             | 1   |              |
| K3106      | ERJ3GEY0R00Z | CHIP JUMPER             | 1   |              |
| K4202-05   | ERJ3GEY0R00Z | CHIP JUMPER             | 4   |              |
| K6301      | ERJ3GEY0R00Z | CHIP JUMPER             | 1   |              |
| K6303      | ERJ3GEY0R00Z | CHIP JUMPER             | 1   |              |
| L3, L4     | G0A200D00002 | COIL                    | 2   |              |
| L503, 04   | ELJFCR68KF   | COIL                    | 2   |              |
| L506, 07   | G0BYYYY00016 | COIL                    | 2   |              |
| L2001, 02  | G1C100K00020 | COIL                    | 2   |              |
| L2021      | G1C100K00020 | COIL                    | 1   |              |
| L3001      | G1C100K00020 | COIL                    | 1   |              |
| L3091      | G1C100K00020 | COIL                    | 1   |              |
| L4211      | G1C220KA0038 | COIL                    | 1   |              |
| L5110      | G1C100K00020 | COIL                    | 1   |              |
| L5201, 02  | G1C100K00020 | COIL                    | 2   |              |
| L6561, 62  | G1C220KA0038 | COIL                    | 2   |              |

| Ref. No.   | Part No.     | Part Name & Description | Pcs | Remarks      |
|------------|--------------|-------------------------|-----|--------------|
| LB2501-03  | J0JHC0000045 | COIL                    | 3   |              |
| LB3001, 02 | J0JHC0000045 | COIL                    | 2   |              |
| LB3201-03  | ERJ3GEYJ101  | 1/16W 100               | 3   | D0GB101JA002 |
| LB3205, 06 | J0JBC0000015 | COIL                    | 2   |              |
| LB4200     | J0JBC0000015 | COIL                    | 1   |              |
| LB4201     | VLP0155-T    | COIL                    | 1   | J0JCC0000119 |
| LB4207-12  | VLP0155-T    | COIL                    | 6   | J0JCC0000119 |
| LB4214, 15 | ERJ3GEY0R00Z | CHIP JUMPER             | 2   |              |
| LB4218     | ERJ3GEY0R00Z | CHIP JUMPER             | 1   |              |
| LB5101     | J0JHC0000045 | COIL                    | 1   |              |
| LB5102, 03 | J0JBC0000015 | COIL                    | 2   |              |
| LB5202, 03 | J0JHC0000045 | COIL                    | 2   |              |
| LB5205, 06 | J0JBC0000015 | COIL                    | 2   |              |
| LB5208-10  | J0JBC0000015 | COIL                    | 3   |              |
| LB5213     | J0JBC0000015 | COIL                    | 1   |              |
| LB5217-19  | J0JBC0000015 | COIL                    | 3   |              |
| LB5221-24  | VLP0155-T    | COIL                    | 4   | J0JCC0000119 |
| LB5225     | J0JBC0000015 | COIL                    | 1   |              |
| LB5226     | VLP0155-T    | COIL                    | 1   | J0JCC0000119 |
| LB5227     | J0JBC0000015 | COIL                    | 1   |              |
| LB5228-31  | VLP0155-T    | COIL                    | 4   | J0JCC0000119 |
| LB5232     | J0JBC0000015 | COIL                    | 1   |              |
| LB5233     | VLP0155-T    | COIL                    | 1   | J0JCC0000119 |
| LB5235-38  | VLP0155-T    | COIL                    | 4   | J0JCC0000119 |
| LB5239     | J0JBC0000015 | COIL                    | 1   |              |
| LB6201     | J0JBC0000015 | COIL                    | 1   |              |
| LB6202     | VLP0155-T    | COIL                    | 1   | J0JCC0000119 |
| LB6221     | J0JBC0000015 | COIL                    | 1   |              |
| LB6561     | J0JBC0000015 | COIL                    | 1   |              |
| LB6562, 63 | VLP0155-T    | COIL                    | 2   | J0JCC0000119 |
| LB6564     | ERJ3GEYJ470V | 1/16W 47                | 1   |              |
| LB6565     | J0JCC0000077 | COIL                    | 1   |              |
| LB6566     | VLP0155-T    | COIL                    | 1   | J0JCC0000119 |
| LB6567     | J0JBC0000015 | COIL                    | 1   |              |
| PCB1       | REP3479J-N   | DVD MODULE PCB ASS'Y    | 1   | [RTL]        |
| PCB2       | REP3522AA-S  | MAIN PCB ASS'Y          | 1   | [RTL] (EG)   |
| PCB2       | REP3522BA-S  | MAIN PCB ASS'Y          | 1   | [RTL] (EE)   |
| PCB3       | REP3522AB-S  | PANEL PCB ASS'Y         | 1   | [RTL]        |
| PCB101     | REP3422B     | SERVO PCB               | 1   | [RTL]        |
| PS3201     | K1KB22A00025 | CONNECTOR (22P)         | 1   |              |
| PS4201     | K1KB26A00027 | CONNECTOR (26P)         | 1   |              |
| PS6201     | VJS4047C010  | CONNECTOR (10P)         | 1   | K1MN10A00030 |
| Q401-03    | 2SD1819A0L   | TRANSISTOR              | 3   |              |
| Q404       | UN5214TX     | TRANSISTOR              | 1   | UNR521400L   |
| Q405       | DTC114EUA106 | TRANSISTOR              | 1   | B1GBCFJJ0007 |
| Q406       | UN5111TX     | TRANSISTOR              | 1   | UNR511100L   |
| Q407       | DTC114EUA106 | TRANSISTOR              | 1   | B1GBCFJJ0007 |
| Q408       | UN5111TX     | TRANSISTOR              | 1   | UNR511100L   |
| Q503       | UN2212       | TRANSISTOR              | 1   | UNR2212      |
| Q505       | DTC114EUA106 | TRANSISTOR              | 1   | B1GBCFJJ0007 |
| Q801-04    | B1GFGCAA0001 | TRANSISTOR              | 4   |              |
| Q2001      | 2SD1819A0L   | TRANSISTOR              | 1   |              |
| Q5111      | 2SB1115-T    | TRANSISTOR              | 1   | B1BDBF000004 |
| Q5115      | 2SB1115-T    | TRANSISTOR              | 1   | B1BDBF000004 |
| Q5271      | UN5211TX     | TRANSISTOR              | 1   | UNR521100L   |
| Q6215      | UN5212TX     | TRANSISTOR              | 1   | UNR521200L   |

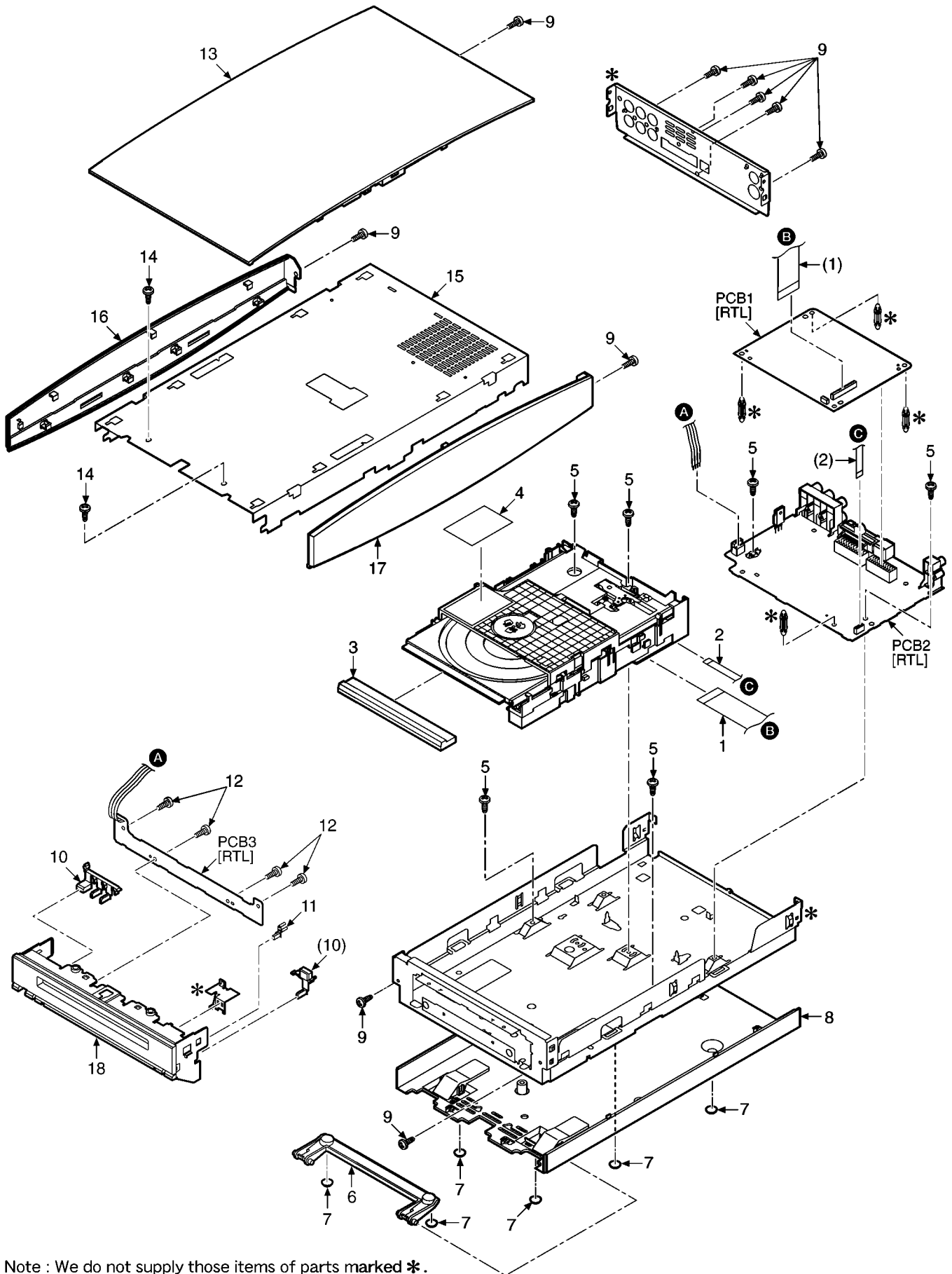
| Ref. No. | Part No.     | Part Name & Description | Pcs | Remarks           |
|----------|--------------|-------------------------|-----|-------------------|
| QR5221   | UN2121       | TRANSISTOR              | 1   |                   |
| R1,R2    | ERJ3GEYJ101  | 1/16W 100               | 2   | D0GB101JA002      |
| R210,11  | ERJ3GEYJ332V | 1/16W 3.3K              | 2   | D0GB332JA002      |
| R212     | ERJ3GEYJ102V | 1/16W 1K                | 1   |                   |
| R213     | ERJ3GEYJ473V | 1/16W 47K               | 1   | D0GB473JA002      |
| R214     | ERJ3GEYJ102V | 1/16W 1K                | 1   |                   |
| R215     | ERJ3GEYJ473V | 1/16W 47K               | 1   | D0GB473JA002      |
| R301,02  | ERJ3GEYJ104  | 1/16W 100K              | 2   |                   |
| R303,04  | ERJ3GEYJ102V | 1/16W 1K                | 2   |                   |
| R305,06  | ERJ3GEYJ682V | 1/16W 6.8K              | 2   | D0GB682JA002      |
| R307,08  | ERJ3GEYJ333V | 1/16W 33K               | 2   | D0GB333JA002      |
| R309,10  | ERJ3GEYJ682V | 1/16W 6.8K              | 2   | D0GB682JA002      |
| R311,12  | ERJ3GEYJ333V | 1/16W 33K               | 2   | D0GB333JA002      |
| R313-15  | ERJ3GEYJ3R3V | 1/16W 3.3               | 3   |                   |
| R355     | ERJ3GEYD153V | 1/16W 15K               | 1   | D0HB153ZA002      |
| R401     | ERJ3GEYJ472V | 1/16W 4.7K              | 1   |                   |
| R402     | ERJ3GEYJ102V | 1/16W 1K                | 1   |                   |
| R403     | ERJ3GEYJ221V | 1/16W 220               | 1   |                   |
| R404     | ERJ3GEYJ223V | 1/16W 22K               | 1   | D0GB223JA002      |
| R405     | ERJ3GEYJ473V | 1/16W 47K               | 1   | D0GB473JA002      |
| R406     | ERJ3GEYJ102V | 1/16W 1K                | 1   |                   |
| R408     | ERJ3GEYJ104  | 1/16W 100K              | 1   |                   |
| R409     | ERJ3GEYJ223V | 1/16W 22K               | 1   | D0GB223JA002      |
| R410     | ERJ3GEYJ102V | 1/16W 1K                | 1   |                   |
| R411     | ERJ3GEYJ472V | 1/16W 4.7K              | 1   |                   |
| R412     | ERJ3GEYJ102V | 1/16W 1K                | 1   |                   |
| R413     | ERJ3GEYJ473V | 1/16W 47K               | 1   | D0GB473JA002      |
| R414     | ERJ3GEYJ102V | 1/16W 1K                | 1   |                   |
| R415     | ERJ3GEYJ223V | 1/16W 22K               | 1   | D0GB223JA002      |
| R416-18  | ERJ3GEYJ472V | 1/16W 4.7K              | 3   |                   |
| R419,20  | ERJ3GEYJ103V | 1/16W 10K               | 2   | D0GB103JA002      |
| R421     | ERJ3GEYD153V | 1/16W 15K               | 1   | D0HB153ZA002 (EE) |
| R421     | ERJ3GEYJ182V | 1/16W 1.8K              | 1   | (EG)              |
| R422     | ERJ3GEYJ332V | 1/16W 3.3K              | 1   | D0GB332JA002      |
| R423-25  | ERJ3GEYJ103V | 1/16W 10K               | 3   | D0GB103JA002      |
| R426,27  | ERJ3GEYJ472V | 1/16W 4.7K              | 2   |                   |
| R428     | ERJ3GEYJ473V | 1/16W 47K               | 1   | D0GB473JA002      |
| R429     | ERJ3GEYOR00V | 1/16W 0                 | 1   |                   |
| R430     | ERJ3GEYJ101  | 1/16W 100               | 1   | D0GB101JA002      |
| R431     | ERJ3GEYJ471V | 1/16W 470               | 1   |                   |
| R432     | ERJ3GEYJ221V | 1/16W 220               | 1   |                   |
| R434,35  | ERJ3GEYJ221V | 1/16W 220               | 2   |                   |
| R436     | ERJ3GEYJ823V | 1/16W 82K               | 1   | D0GB823JA002      |
| R437     | ERJ3GEYJ513V | 1/16W 51K               | 1   |                   |
| R438     | ERJ3GEYJ472V | 1/16W 4.7K              | 1   |                   |
| R439     | ERJ3GEYJ221V | 1/16W 220               | 1   |                   |
| R440     | ERJ3GEYJ103V | 1/16W 10K               | 1   | D0GB103JA002      |
| R441     | ERJ3GEYJ101  | 1/16W 100               | 1   | D0GB101JA002      |
| R442     | ERJ3GEYJ472V | 1/16W 4.7K              | 1   |                   |
| R443     | ERJ3GEYJ101  | 1/16W 100               | 1   | D0GB101JA002      |
| R444     | ERJ3GEYJ104  | 1/16W 100K              | 1   |                   |
| R446     | ERJ3GEYJ681V | 1/16W 680               | 1   | D0GB681JA002      |
| R447,48  | ERJ3GEYJ102V | 1/16W 1K                | 2   |                   |
| R449     | ERJ3GEYJ473V | 1/16W 47K               | 1   | D0GB473JA002      |
| R450     | ERJ3GEYJ103V | 1/16W 10K               | 1   | D0GB103JA002      |
| R451     | ERJ3GEYJ222V | 1/16W 2.2K              | 1   |                   |
| R452     | ERJ3GEYJ103V | 1/16W 10K               | 1   | D0GB103JA002      |
| R456,57  | ERJ3GEYJ101  | 1/16W 100               | 2   | D0GB101JA002      |
| R458     | ERJ3GEYJ222V | 1/16W 2.2K              | 1   |                   |
| R460     | ERJ3GEYD153V | 1/16W 15K               | 1   | D0HB153ZA002      |
| R461,62  | ERJ3GEYJ333V | 1/16W 33K               | 2   | D0GB333JA002      |
| R463     | ERJ3GEYJ473V | 1/16W 47K               | 1   | D0GB473JA002      |
| R510-12  | ERJ3EKF75R0  | 1/16W 75                | 3   |                   |
| R513     | ERJ3GEYOR00V | 1/16W 0                 | 1   |                   |
| R515     | ERJ3GEYOR00V | 1/16W 0                 | 1   |                   |
| R523     | ERJ3GEYJ222V | 1/16W 2.2K              | 1   |                   |
| R524     | ERJ3GEYJ822V | 1/16W 8.2K              | 1   | D0GB822JA002      |
| R600     | ERJ3GEYJ821V | 1/16W 820               | 1   |                   |
| R601     | ERJ3GEYJ102V | 1/16W 1K                | 1   |                   |
| R602     | ERJ3GEYJ122  | 1/16W 1.2K              | 1   | ERJ3GEYJ122V      |

| Ref. No. | Part No.     | Part Name & Description | Pcs | Remarks      |
|----------|--------------|-------------------------|-----|--------------|
| R603     | ERJ3GEYJ332V | 1/16W 3.3K              | 1   | D0GB332JA002 |
| R613     | ERJ3GEYJ681V | 1/16W 680               | 1   | D0GB681JA002 |
| R803,04  | ERJ3GEYJ102V | 1/16W 1K                | 2   |              |
| R805,06  | ERJ3GEYJ104  | 1/16W 100K              | 2   |              |
| R807-10  | ERJ3GEYJ103V | 1/16W 10K               | 4   | D0GB103JA002 |
| R811,12  | ERJ3GEYJ223V | 1/16W 22K               | 2   | D0GB223JA002 |
| R813,14  | ERJ3GEYD153V | 1/16W 15K               | 2   | D0HB153ZA002 |
| R815,16  | ERJ3GEYJ102V | 1/16W 1K                | 2   |              |
| R817,18  | ERJ3GEYJ332V | 1/16W 3.3K              | 2   | D0GB332JA002 |
| R819,20  | ERJ3GEYJ473V | 1/16W 47K               | 2   | D0GB473JA002 |
| R821,22  | ERJ3GEYJ102V | 1/16W 1K                | 2   |              |
| R823,24  | ERJ3GEYJ104  | 1/16W 100K              | 2   |              |
| R825-28  | ERJ3GEYJ103V | 1/16W 10K               | 4   | D0GB103JA002 |
| R829,30  | ERJ3GEYJ223V | 1/16W 22K               | 2   | D0GB223JA002 |
| R831,32  | ERJ3GEYD153V | 1/16W 15K               | 2   | D0HB153ZA002 |
| R833,34  | ERJ3GEYJ102V | 1/16W 1K                | 2   |              |
| R835,36  | ERJ3GEYJ332V | 1/16W 3.3K              | 2   | D0GB332JA002 |
| R837,38  | ERJ3GEYJ473V | 1/16W 47K               | 2   | D0GB473JA002 |
| R839-42  | ERJ3GEYJ104  | 1/16W 100K              | 4   |              |
| R843     | ERJ3GEYJ102V | 1/16W 1K                | 1   |              |
| R844     | ERJ3GEYJ182V | 1/16W 1.8K              | 1   |              |
| R845,46  | ERJ3GEYJ104  | 1/16W 100K              | 2   |              |
| R847     | ERJ3GEYJ103V | 1/16W 10K               | 1   | D0GB103JA002 |
| R848     | ERJ3GEYJ682V | 1/16W 6.8K              | 1   | D0GB682JA002 |
| R849,50  | ERJ3GEYJ103V | 1/16W 10K               | 2   | D0GB103JA002 |
| R851,52  | ERJ3GEYJ223V | 1/16W 22K               | 2   | D0GB223JA002 |
| R853     | ERJ3GEYD153V | 1/16W 15K               | 1   | D0HB153ZA002 |
| R854     | ERJ3GEYJ223V | 1/16W 22K               | 1   | D0GB223JA002 |
| R855,56  | ERJ3GEYJ102V | 1/16W 1K                | 2   |              |
| R857,58  | ERJ3GEYJ332V | 1/16W 3.3K              | 2   | D0GB332JA002 |
| R859,60  | ERJ3GEYJ473V | 1/16W 47K               | 2   | D0GB473JA002 |
| R861,62  | ERJ3GEYJ104  | 1/16W 100K              | 2   |              |
| R863,64  | ERJ3GEYJ102V | 1/16W 1K                | 2   |              |
| R865,66  | ERJ3GEYJ104  | 1/16W 100K              | 2   |              |
| R867-70  | ERJ3GEYJ103V | 1/16W 10K               | 4   | D0GB103JA002 |
| R871,72  | ERJ3GEYD153V | 1/16W 15K               | 2   | D0HB153ZA002 |
| R873,74  | ERJ3GEYJ223V | 1/16W 22K               | 2   | D0GB223JA002 |
| R878,79  | ERJ3GEYJ103V | 1/16W 10K               | 2   | D0GB103JA002 |
| R880,81  | ERJ3GEYJ102V | 1/16W 1K                | 2   |              |
| R882,83  | ERJ3GEYJ182V | 1/16W 1.8K              | 2   |              |
| R885-96  | ERJ3GEYJ473V | 1/16W 47K               | 12  | D0GB473JA002 |
| R2021    | ERJ3GEYJ473V | 1/16W 47K               | 1   | D0GB473JA002 |
| R2022    | ERJ3GEYJ223V | 1/16W 22K               | 1   | D0GB223JA002 |
| R2023    | ERJ3GEYJ752V | 1/16W 7.5K              | 1   |              |
| R2025,26 | ERJ3GEYJ223V | 1/16W 22K               | 2   | D0GB223JA002 |
| R2027,28 | ERJ3GEYJ563V | 1/16W 56K               | 2   |              |
| R2029    | ERJ3GEYJ103V | 1/16W 10K               | 1   | D0GB103JA002 |
| R2030    | ERJ3GEYJ102V | 1/16W 1K                | 1   |              |
| R2031    | MCR03PZHJ561 | 1/16W 560               | 1   |              |
| R2032    | ERJ3GEYJ103V | 1/16W 10K               | 1   | D0GB103JA002 |
| R2033    | ERJ3GEYJ472V | 1/16W 4.7K              | 1   |              |
| R2034    | ERJ3GEYJ473V | 1/16W 47K               | 1   | D0GB473JA002 |
| R2035    | ERJ3GEYJ272V | 1/16W 2.7K              | 1   |              |
| R2036    | ERJ3GEYOR00Z | CHIP JUMPER             | 1   |              |
| R2037    | ERJ3GEYJ683V | 1/16W 68K               | 1   | D0GB683JA002 |
| R2038    | ERJ3GEYD153V | 1/16W 15K               | 1   | D0HB153ZA002 |
| R2039    | ERJ3GEYJ105V | 1/16W 1M                | 1   |              |
| R2040,41 | ERJ3GEYJ822V | 1/16W 8.2K              | 2   | D0GB822JA002 |
| R2042-47 | ERJ3GEYD153V | 1/16W 15K               | 6   | D0HB153ZA002 |
| R2048    | ERJ3GEYJ475V | 1/16W 4.7M              | 1   |              |
| R2049    | ERJ3GEYJ102V | 1/16W 1K                | 1   |              |
| R2051,52 | ERJ3GEYJ101  | 1/16W 100               | 2   | D0GB101JA002 |
| R2053,54 | ERJ3GEYJ473V | 1/16W 47K               | 2   | D0GB473JA002 |
| R2501,02 | ERJ3GEYJ101  | 1/16W 100               | 2   | D0GB101JA002 |
| R2503    | ERJ3GEYOR00V | 1/16W 0                 | 1   |              |
| R2504    | ERJ14YKR39H  | 1/4W 0.39               | 1   |              |
| R2521    | D0GF6R8JA017 | 6.8                     | 1   |              |
| R2522-24 | ERJ3GEYOR00V | 1/16W 0                 | 3   |              |
| R3001    | ERJ3GEYJ220V | 1/16W 22                | 1   |              |
| R3006    | ERJ3RBD153   | 1/16W 15K               | 1   |              |
| R3007    | ERJ3RBD202   | 1/16W 2K                | 1   |              |
| R3008    | ERJ3RBD132V  | 1/16W 1.3K              | 1   |              |
| R3009,10 | ERJ3GEYJ101  | 1/16W 100               | 2   | D0GB101JA002 |

| Ref. No.   | Part No.     | Part Name & Description | Pcs | Remarks      |
|------------|--------------|-------------------------|-----|--------------|
| R3051, 52  | ERJ3GEYJ101  | 1/16W 100               | 2   | D0GB101JA002 |
| R3101      | ERJ3RED620V  | 1/16W 62                | 1   |              |
| R3102      | ERJ3RED150V  | 1/16W 15                | 1   |              |
| R3106      | ERJ3RED620V  | 1/16W 62                | 1   |              |
| R3107      | ERJ3RED180   | 1/16W 18                | 1   |              |
| R4213      | ERJ3GEYJ470V | 1/16W 47                | 1   |              |
| R5101      | ERJ3GEYJ472V | 1/16W 4.7K              | 1   |              |
| R5111      | ERJ3GEYJ2R2V | 1/16W 2.2               | 1   | D0GB2R2JA002 |
| R5112      | ERJ12YJ270H  | 1/2W 27                 | 1   |              |
| R5113      | ERJ3GEYJ473V | 1/16W 47K               | 1   | D0GB473JA002 |
| R5114      | ERJ3GEYJ223V | 1/16W 22K               | 1   | D0GB223JA002 |
| R5115      | ERJ3GEYJ2R2V | 1/16W 2.2               | 1   | D0GB2R2JA002 |
| R5116      | ERJ12YJ270H  | 1/2W 27                 | 1   |              |
| R5117      | ERJ3GEYJ473V | 1/16W 47K               | 1   | D0GB473JA002 |
| R5121-25   | D0GB560JA002 | 56                      | 5   |              |
| R5126      | ERJ3GEYJ102V | 1/16W 1K                | 1   |              |
| R5127      | D0GB560JA002 | 56                      | 1   |              |
| R5201      | ERJ3GEY0R00Z | CHIP JUMPER             | 1   |              |
| R5203      | ERJ3GEY0R00Z | CHIP JUMPER             | 1   |              |
| R5221      | ERJ3GEY0R00Z | CHIP JUMPER             | 1   |              |
| R5231, 32  | ERJ3GEYJ822V | 1/16W 8.2K              | 2   | D0GB822JA002 |
| R5257      | ERJ3GEY0R00Z | CHIP JUMPER             | 1   |              |
| R5262      | ERJ3GEY0R00Z | CHIP JUMPER             | 1   |              |
| R5281      | ERJ3GEYJ105V | 1/16W 1M                | 1   |              |
| R5294      | ERJ3GEYJ123V | 1/16W 12K               | 1   |              |
| R5295      | ERJ3GEYJ243V | 1/16W 24K               | 1   | D0GB243JA002 |
| R5320      | ERJ3GEY0R00Z | CHIP JUMPER             | 1   |              |
| R6201      | ERJ3GEYJ473V | 1/16W 47K               | 1   | D0GB473JA002 |
| R6202      | ERJ3GEYJ103V | 1/16W 10K               | 1   | D0GB103JA002 |
| R6206      | ERJ3GEYJ103V | 1/16W 10K               | 1   | D0GB103JA002 |
| R6207, 08  | ERJ3GEYJ472V | 1/16W 4.7K              | 2   |              |
| R6210      | ERJ3GEYJ101  | 1/16W 100               | 1   | D0GB101JA002 |
| R6211      | ERJ3GEYJ472V | 1/16W 4.7K              | 1   |              |
| R6215      | ERJ3GEYJ103V | 1/16W 10K               | 1   | D0GB103JA002 |
| R6216      | ERJ3GEYJ102V | 1/16W 1K                | 1   |              |
| R6251, 52  | ERJ3RBD101   | 1/16W 100               | 2   | ERJ3RBD101V  |
| R6253      | ERJ3RBD102V  | 1/16W 1K                | 1   |              |
| R6562      | ERJ3RBD331   | 1/16W 330               | 1   |              |
| R6563      | ERJ3GEYJ103V | 1/16W 10K               | 1   | D0GB103JA002 |
| R6565      | ERJ3GEYJ470V | 1/16W 47                | 1   |              |
| R6566      | ERJ3GEYJ100  | 1/16W 10                | 1   |              |
|            |              |                         |     |              |
| RA2021     | EXBV4V102JV  | 1/32W 1K                | 1   |              |
| RA2022     | EXBV4V472JV  | 1/32W 4.7K              | 1   |              |
| RA2501     | EXBV4V103JV  | 1/32W 10K               | 1   |              |
| RA2521     | EXBV8V473JV  | 1/16W 47K               | 1   |              |
| RA3001     | EXBV4V102JV  | 1/32W 1K                | 1   |              |
| RA3002-12  | EXBV8V820JV  | 1/16W 82                | 11  |              |
| RA3013     | EXBV4V220JV  | 1/32W 22                | 1   |              |
| RA3051     | EXBV4V101JV  | 1/32W 100               | 1   |              |
| RA3053     | EXBV4V101JV  | 1/32W 100               | 1   |              |
| RA5121     | EXBV8V560JV  | 1/16W 56                | 1   |              |
| RA5122, 23 | EXBV4V560J   | 1/32W 56                | 2   |              |
| RA5201     | EXBV8V101JV  | 1/16W 100               | 1   |              |
| RA6201, 02 | EXBV4V103JV  | 1/32W 10K               | 2   |              |
| RA6203     | EXBV4V472JV  | 1/32W 4.7K              | 1   |              |
| RA6204     | EXBV4V103JV  | 1/32W 10K               | 1   |              |
| RA6205     | EXBV8V103J   | 1/16W 10K               | 1   | D0GZ103J0001 |
| RA6206     | EXBV4V473JV  | 1/32W 47K               | 1   |              |
|            |              |                         |     |              |
| S601-03    | EVQ11G05R    | SW, PLAY/PAUSE          | 3   |              |
| S605       | EVQ11G05R    | SW, EJECT               | 1   |              |
| S2501, 02  | RSH1A044-1A  | SW, OP/CL DET.          | 2   | K0L1BA000044 |
|            |              |                         |     |              |
| W1         | ERJ3GEY0R00V | 1/16W 0                 | 1   |              |
| W601       | REZ1538      | FLAT CABLE              | 1   |              |
|            |              |                         |     |              |
| X401       | RSXY8M00D01T | OSCILLATOR              | 1   | H2B800400005 |
| X6561      | H0J368600005 | OSCILLATOR              | 1   |              |
|            |              |                         |     |              |
| Z301-08    | VLP0323A601R | COIL                    | 8   | J0JCC0000062 |

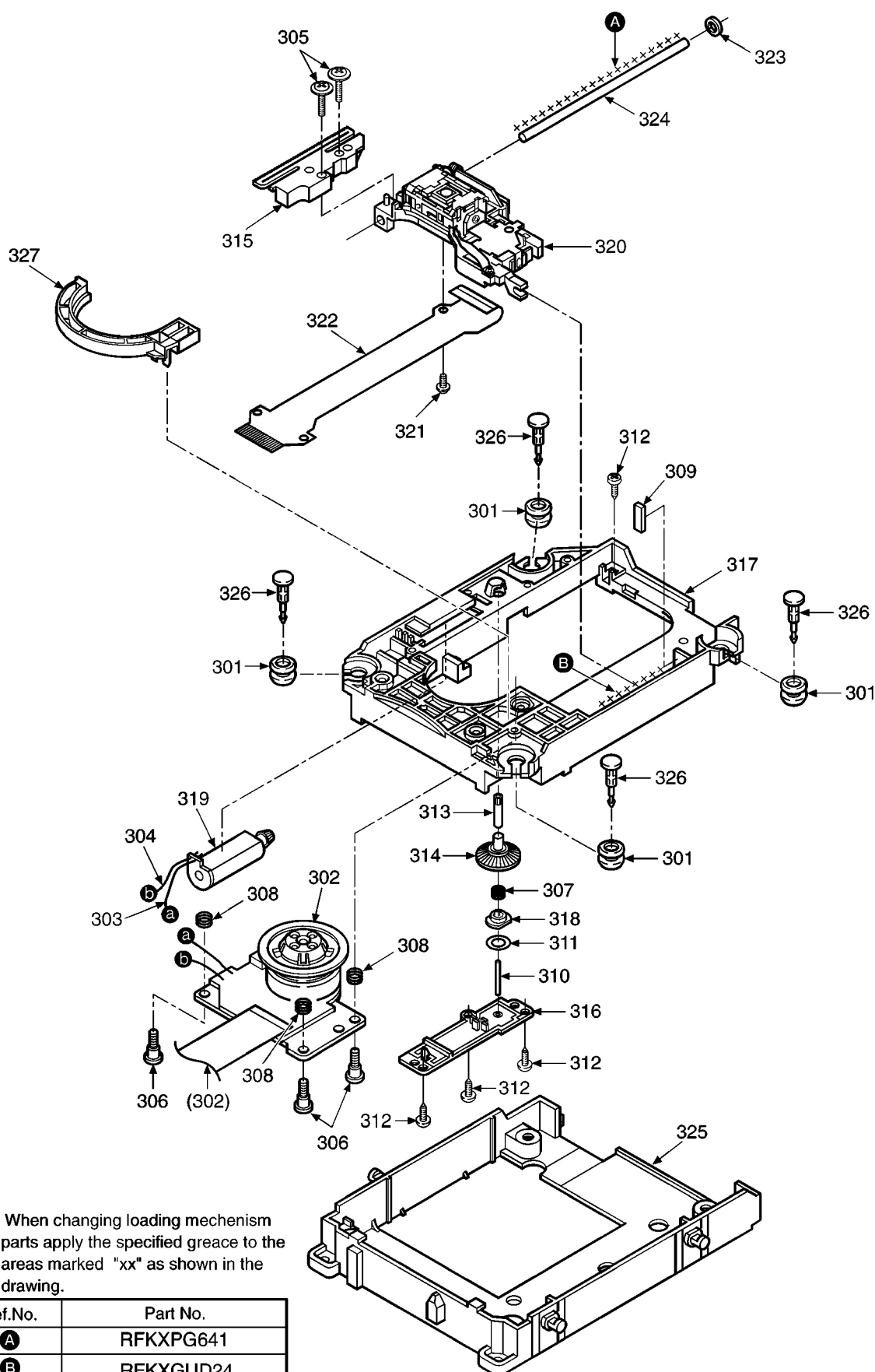
| Ref. No. | Part No.     | Part Name & Description | Pcs | Remarks |
|----------|--------------|-------------------------|-----|---------|
| Z507-10  | J0JBC0000015 | COIL                    | 4   |         |
|          |              |                         |     |         |

## 21 Cabinet Parts Location



Note : We do not supply those items of parts marked \*.

## 22 Traverse Unit Parts Location



## 23 Loading Unit Parts Location

