

Service Manual

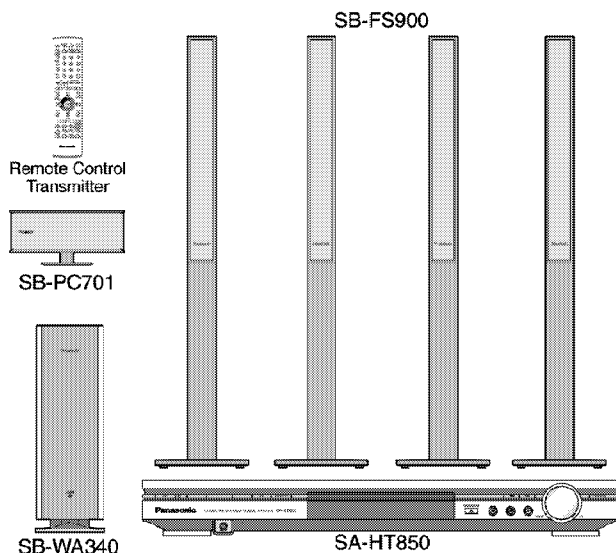
DVD Home Theater Sound System



SA-HT850GC

Colour

(S)...Silver Type



Specification

■ Amplifier Section

RMS Output Power:

Dolby Digital Mode, 10% Total

Harmonic Distortion

1 kHz Front CH 55 W per channel (6 Ω)

1 kHz Surround CH 55 W per channel (6 Ω)

1 kHz Center CH 160 W per channel (6 Ω)

100 Hz Subwoofer CH 220 W per channel (4 Ω)

Total RMS Dolby Digital Mode Power 600 W

PMPO Output Power 5200 W

Input sensitivity/Input impedance

AUX 350mV, 10 k Ω

■ FM Tuner Section

Frequency Range 87.50-108.00 MHz (50-kHz step)

Sensitivity 2.5 μ V (IHF)

S/N 26dB 2.2 μ V

Antenna terminals 75 Ω (unbalanced)

Preset station 15

■ AM Tuner Section

Frequency Range

522-1629 kHz (9-kHz step)

520-1630 kHz (10-kHz step)

AM Sensitivity S/N 20dB at 999 kHz

560 μ V/m

Preset station

15

■ Disc Section

Disc played

(one layer per side)

DVD-Audio/Video

8 cm/12 cm, single/double-sided, single/double-layer

DVD-RAM/R (DVD-Video formatted discs)

CD (CD-DA), Video-CD

CD/VCD/MP3/WMA

8cm/12cm, CD-R/RW

Video

Signal system

NTSC/PAL (depend on disc format)

Output level

Composite video 1 Vp-p (75 Ω)

S-video Y 1 Vp-p (75 Ω)

S-video C 0.3 Vp-p (75 Ω) (PAL)

0.286 Vp-p (75 Ω) (NTSC)

Audio

Panasonic

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Sampling frequency	
CD	44.1 kHz
MP3	44.1 kHz, 48 kHz
DVD	192 kHz (Audio) 48 kHz, 96 kHz (Video)
Bitrate	
MP3	32-320 kbps
Decoding	16/20/24 bit linear
Pick up	
Beam Source	Semiconductor Laser
Wavelength	
CD/VCD	780 nm
DVD	658 nm
Number of channels	5.1 ch (FL, FR, SL, SR, C, SW)
Frequency response	20 Hz-20 kHz (+1, -2dB)
Wow and flutter	Less than possible measurement data
Digital filter	8 fs
D/A converter	Delta sigma DAC

■ General

Power Supply	AC 110V/127V/220-230V/240V, 50/60 Hz
Power consumption	25 W (SA-HT850) 250 W (SB- WA340)
Dimensions (W x H x D)	430 x 52 x 390 mm
Mass	3.3 kg

■ System

SC-HT850 (GC)	Main unit: SA-HT850 (GC) Satellite speakers: SB-HT900 (P) Active subwoofer: SB-WA340 (GCS)
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Power consumption in standby mode (Subwoofer): 0.9 W

Note:

1. Specifications are subject to change without notice. Mass and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

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.

CONTENTS

Page

Page

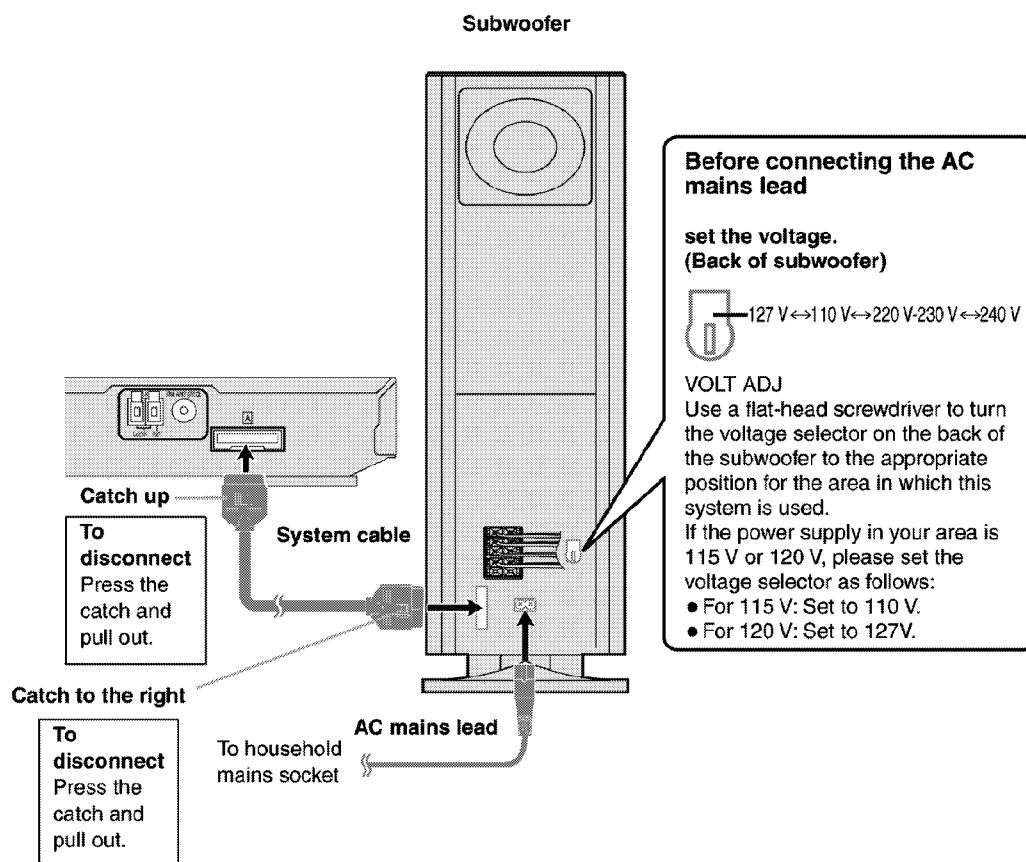
1 Powering Up of the Main Unit	4	12.3. The Top Cabinet	17
1.1. Checking Player with Active Subwoofer	4	12.4. The Rear Panel	17
1.2. Using of Power Jig	4	12.5. Replacement of Tuner Pack Unit and Interface PCB	18
2 SAFETY PRECAUTIONS	5	12.6. The DVD Module (2) PCB and B/E Bracket A & B	18
2.1. GENERAL GUIDELINES	5	12.7. The DVD Mecha Unit	19
3 Handling the Lead Solder	6	12.8. The Front Panel	20
3.1. About lead free solder (PbF)	6	12.9. Replacement of the Volume PCB and Sensor PCB	21
4 Before Repair and Adjustment	6	12.10. Replacement of the Main, Panel, Power Supply and TV/VCR PCB	21
5 Protection Circuitry	6	12.11. Checking the Panel PCB, DVD Module (1) PCB, DVD Module (2) PCB side A, Buffer-AMP PCB, Sensor PCB and Volume PCB	22
6 Accessories	7	12.12. Checking the Main, DVD Module (2) Side B, Power Supply and TV/VCR PCB	23
7 Control Reference	8	12.13. Disassembly and Assembly Mechanism Unit	24
8 Disc Information	9	13 Optical Pickup Self-Diagnosis and Replacement Procedure	31
9 Prevention of Electro Static Discharge (ESD) to Electrostatically Sensitive (ES) Devices	11	13.1. Self-diagnosis	31
10 Precaution of Laser Diode	12	13.2. Cautions to Be Taken During Replacement of Optical Pickup and Spindle Motor	32
11 Cautions to Be Taken When Handling Optical Pickup	13	14 Self-Diagnosis Function	33
11.1. Handling Optical Pickup	13	14.1. Automatic Displayed Error Codes	33
11.2. Cautions to Be Taken During Replacement of Optical Pickup	14	14.2. Memorized Error Codes	33
11.3. Grounding for Preventing Electrostatic Destruction	14	14.3. Mode Table 1	34
12 Disassembly and Main Component Replacement Procedures and Operational Check	15	14.4. DVD/CD Self-Diagnosis Error Code Description	34
12.1. Disassembly flow chart	16	14.5. Error Codes Stored During No Play	34
12.2. P.C.B. Positions	16		

14.6. Mode Table 2	35	18.1. IC801(C2CBHF000270):16bit 1-chip Micro Controller	44
14.7. Lock Function	38	18.2. IC3001(MN6775511):AV Decoder	44
14.8. Things to Do After Repair	38	18.3. IC5201(AN22030A-VT):Front End Processor	46
15 Cautions To Be Taken During Servicing	39	19 Block Diagram	48
15.1. Recovery Process after Repair of DVD Player	39	20 Schematic Diagram	55
15.2. DVD Player Firmware Version Upgrade Process	39	21 Printed Circuit Board	81
15.3. Firmware Version Upgrade Process by Using Disc and Recovery Process	39	22 Wiring Connection Diagram	91
15.4. Using Recovery Disc	39	23 Parts Location and Replacement Parts List	93
15.5. Total Usage Time Display	40	23.1. CD Loading Mechanism	94
16 Adjustment Procedure	41	23.2. Cabinet	97
16.1. Required Tools and Equipment	41	23.3. Component Parts List	99
17 Illustration of IC's, Transistors and Diodes	43	23.4. Packing Materials & Accessories Parts List	110
18 Terminal Function of IC's	44	23.5. Packaging	110

1 Powering Up of the Main Unit

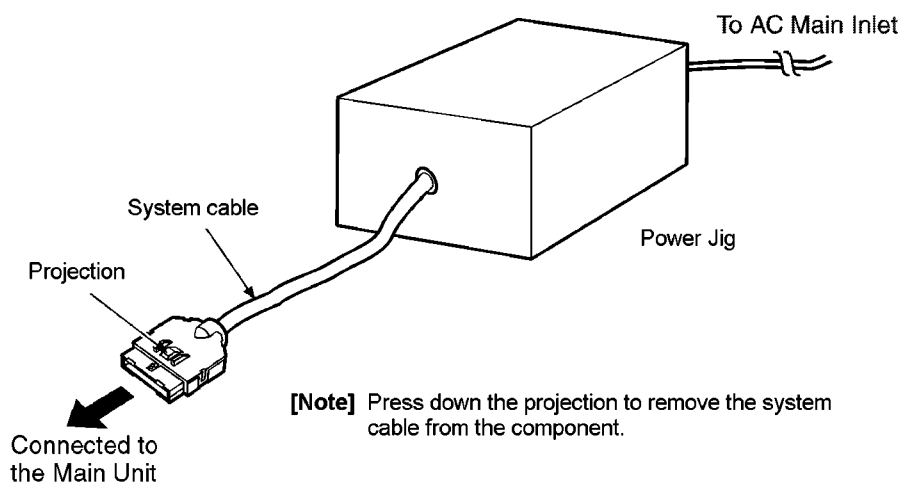
1.1. Checking Player with Active Subwoofer

- This unit uses the active subwoofer to supply the power of the component, and the active subwoofer should be connected to the component to check operational conditions of the component.



1.2. Using of Power Jig

- If the active subwoofer is not available due to repair of the unit, use the following equipment.



Power Jig number

RFKZ0182 (110V, 127V, 220V, 230V-240V for Overseas domestic use) [SPC]

2 SAFETY PRECAUTIONS

2.1. GENERAL GUIDELINES

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

2.1.1. LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between $1M\Omega$ and $5.2M\Omega$.
When the exposed metal does not have a return path to the chassis, the reading must be ∞ .

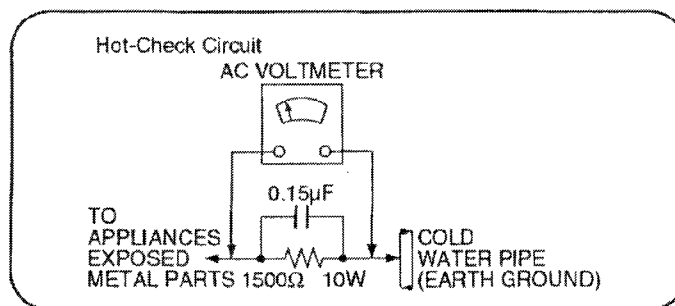


Fig. 2

2.1.2. LEAKAGE CURRENT HOT CHECK (See Figure 2.)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a $1.5k\Omega$, 10 watts resistor, in parallel with a $0.15\mu F$ capacitors, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 2.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

3 Handling the Lead Solder

3.1. About lead free solder (PbF)

Distinction of PbF P.C.B. :

P.C.B.s (manufactured) using lead free solder will have a PbF stamp on the P.C.B.

Caution:

- Pb free solder has a higher melting point than standard solder; Typically the melting point is 50 - 70°F (30 - 40°C) higher. Please use a high temperature soldering iron. In case of the soldering iron with temperature control, please set it to 700 ± 20°F (370 ± 10°C).
- Pb free solder will tend to splash when heated too high (about 1100°F/600°C).
- When soldering or unsoldering, please completely remove all of the solder on the pins or solder area, and be sure to heat the soldering points with the Pb free solder until it melts enough.

4 Before Repair and Adjustment

• For Main Unit

Disconnect AC power, discharge Power Supply Capacitors C12, C42 through a 10 Ω, 10 W resistor to ground.

DO NOT SHORT-CIRCUIT DIRECTLY (with a screwdriver blade, for instance), as this may destroy solid state devices.

After repairs are completed, restore power gradually using a variac, to avoid overcurrent.

Current consumption at AC 230V-240V, 50Hz in NO SIGNAL mode should be ~500 mA .

• For Active -subwoofer unit

Disconnect AC power, discharge Power Supply Capacitors C546, C547, C548 and C549 through a 10 Ω, 1 W resistor to ground.

DO NOT SHORT-CIRCUIT DIRECTLY (with a screwdriver blade, for instance), as this may destroy solid state devices.

After repairs are completed, restore power gradually using a variac, to avoid overcurrent.

Current consumption at AC 230V-240V, 50Hz in NO SIGNAL mode should be ~500 mA .

5 Protection Circuitry

The protection circuitry may have operated if either of the following conditions are noticed:

- No sound is heard when the power is turned on.
- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of the amplifier are used.

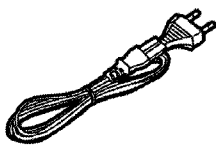
If this occurs, follow the procedure outlines below:

1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again after one minute.

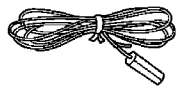
Note :

When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

6 Accessories



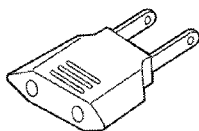
AC mains lead



FM indoor antenna



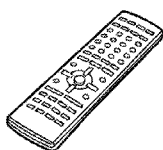
AM loop antenna



Power plug adaptor



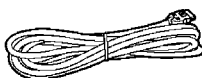
Video cable



Remote control



Speaker cables



System cable

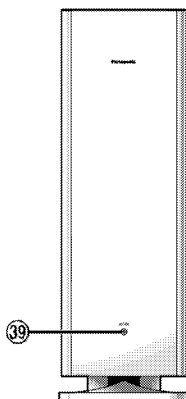
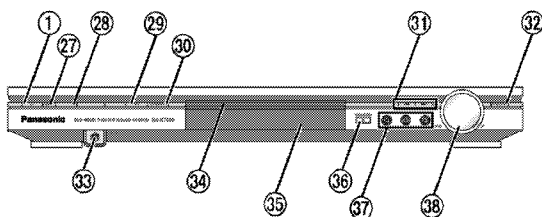
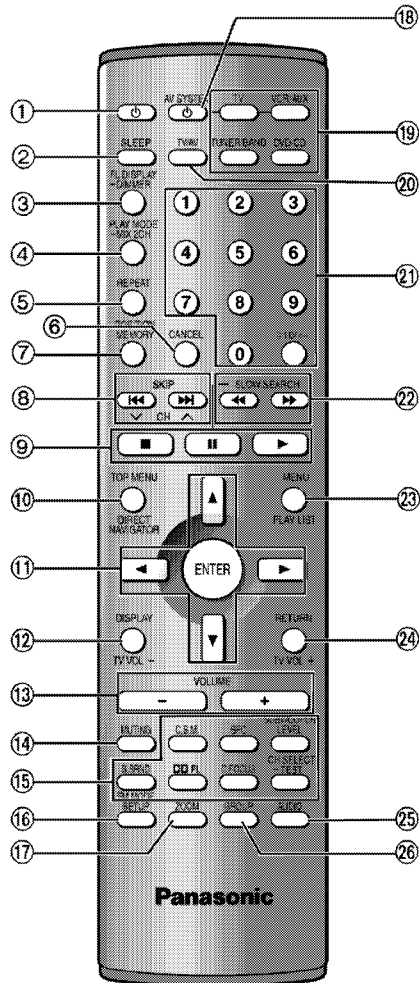


Silver and black screws



Clamper

7 Control Reference



Remote control

- ① Standby/on switch [⏻]
- ② Sleep button [SLEEP]
- ③ FL display, Dimmer button [FL DISPLAY, -DIMMER]
- ④ Play mode, Mix 2ch button [PLAY MODE, -MIX 2CH]
- ⑤ Repeat button [REPEAT]
- ⑥ Cancel button [CANCEL]
- ⑦ Position memory button [POSITION MEMORY]
- ⑧ Skip, Preset channel, TV channel buttons [◀◀ ▶▶, SKIP, √ CH ▲]
- ⑨ Basic operation buttons
- ⑩ Top menu, Direct navigator button [TOP MENU, DIRECT NAVIGATOR]
- ⑪ Cursor buttons [▲, ▼, ◀, ▶], Enter button [ENTER]
- ⑫ Display, TV volume down button [DISPLAY, TV VOL-]
- ⑬ Volume buttons [-, +, VOLUME]
- ⑭ Muting button [MUTING]
- ⑮ Sound field, sound quality buttons
- ⑯ FM mode, Setup button [FM MODE, SETUP]
- ⑰ Zoom button [ZOOM]
- ⑱ AV system standby/on button [⏻, AV SYSTEM]
- ⑲ Source select buttons
 - Face towards this unit to change the source.
 - Press [TV] or [VCR/AUX] first to operate a Panasonic television or video cassette recorder.
- ⑳ TV/AV button [TV/AV]
- ㉑ Numbered buttons [1-9, 0, ≡10/-/-]
- ㉒ Slow/search, Tuning buttons [◀◀ ▶▶ SLOW/SEARCH]
- ㉓ Menu, Play list button [MENU, PLAY LIST]
- ㉔ Return, TV volume up button [RETURN, TV VOL+]
- ㉕ Audio button [AUDIO]
- ㉖ Group button [GROUP]

Main unit

- ① Standby/on switch [⏻/⏻]
- Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.
- ㉗ Standby/on indicator
- When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.
- ㉘ Remote control signal sensor
- ㉙ SFC button [SFC]
- ㉚ Source select button [SELECTOR]
DVD/CD→FM→AM→TV→VCR/AUX
- ㉛ Skip, Preset channel buttons [◀◀ ▶▶]
- ㉜ Subwoofer level button [SUBWOOFER]
- ㉝ Headphone jack [PHONES]
- ㉞ Disc tray
- ㉟ Display
- ㊱ Open/close button [▲, OPEN/CLOSE]
- ㊲ Basic operation buttons
- ㊳ Volume control [VOLUME, DOWN, UP]

Subwoofer

- ㉟ AC supply indicator [AC IN]
- This indicator lights when the unit is connected to the AC mains supply.

8 Disc Information

■ Discs that can be played

Disc type	Logo	Indication used in instructions
DVD-RAM		RAM
DVD-Audio		DVD-A
DVD-Video		DVD-V
DVD-R		
Video CD		VCD
CD	 	CD Including CD text
CD-R/RW	—	WMA MP3

- Use discs with the above logos and that conform to specifications. The unit cannot play other discs correctly.
- Do not use irregularly shaped discs (e.g. heart-shaped), as these can damage the unit.

■ Discs that cannot be played

DVD-ROM, CD-ROM, CDV, CD-G, +RW, DVD-RW, CVD, SVCD, SACD, Divx Video Discs and Photo CD.

■ Disc structure

Disc structure and the labels given to the items on discs depend on the disc type.

- Track:** the smallest division on DVD-Audio, CDs and Video CDs, or a single WMA/MP3 file.
- Chapter:** the smallest division on DVD-Video.
- Group:** collections of tracks on DVD-Audio and equivalent to folders or albums on data discs.
- Title:** the largest division on DVD-Video, usually an entire movie.
- Program:** the division on DVD-RAM equivalent to a single recording.
- Play list:** a group of scenes on DVD-RAM.
- Scene:** DVD-RAM program sections specified and grouped into play lists on a DVD video recorder.

Playing DVDs and Video CDs

The producer of these discs can control how they are played so you may not always be able to control play as described in these operating instructions (for example if the play time is not displayed or if a Video CD has menus). Read the disc's instructions carefully.

■ CD-R and CD-RW discs

This unit can play CD-R/RW (audio recording disc) recorded with CD-DA, video CD, WMA or MP3. Finalize* the disc after recording.

■ DVD-R discs

Panasonic DVD-R recorded and finalized* on a Panasonic DVD video recorder are played as DVD-Video on this unit.

*A process that allows play on compatible equipment.

■ DVD-RAM discs

DVD-RAM discs must meet the following conditions for this unit to be able to play them.

Type	● Non-cartridge discs ● Discs that can be removed from their cartridges (TYPE 2 and 4)
Capacity	● 12 cm 9.4 GB (double-sided) and 4.7 GB (single-sided) ● 8 cm 2.8 GB (double-sided)
Recording format	Discs recorded with DVD video recorders, DVD video cameras, personal computers, etc., using Version 1.1 of the Video Recording Format (a unified video recording standard).

- Remove TYPE 2 and 4 discs from their cartridges before use, then return them when you are finished. Read the instructions for the disc carefully.
- Do not allow the disc to become dirty or scratched. Store discs in their cartridges and ensure the disc label and cartridge label face the same way.
- Some parts of the disc, for example where one program ends and another begins, may not play smoothly.

Note

It may not be possible to play CD-R, CD-RW, DVD-R and DVD-RAM in all cases due to the type of disc or condition of the recording.

■ Video systems

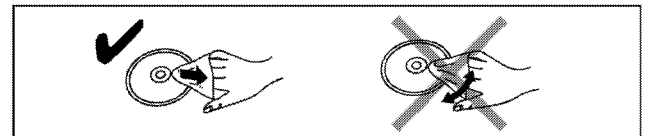
This unit can play both the PAL and NTSC video systems. To view PAL or NTSC, however, your television must match the system used on the disc.

PAL discs cannot be correctly viewed on an NTSC television. NTSC can be correctly viewed on a PAL television by converting the video signal to PAL 60

■ To clean discs

DVD-Audio, DVD-Video, Video CD, CD

Wipe with a damp cloth and then wipe dry.



DVD-RAM, DVD-R

- Clean with an optional DVD-RAM/PD disc cleaner (LF-K200DCA1, where available).
- Never use cloths or cleaners for CDs etc.

■ Handling precautions

- Do not write on the label side with a ball-point pen or other writing instrument.
- Do not use record cleaning sprays, benzine, thinner, static electricity prevention liquids or any other solvent.
- Do not attach labels or stickers to discs. (Do not use discs with exposed adhesive from tape or left over peeled-off stickers.)
- Do not use scratch-proof protectors or covers.
- Do not use discs printed with label printers available on the market.

WMA, MP3, and CD text information

- Discs must conform to ISO9660 level 1 or 2 (except for extended formats).
- This unit is compatible with multi-session but if there are a lot of sessions it takes more time for play to start. Keep the number of sessions to a minimum to avoid this.
- The order tracks appear in the menus may differ to the order shown on your computer.

WMA

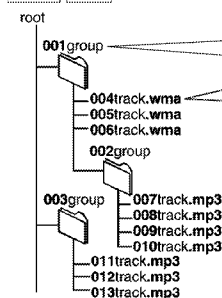
- Noise may occur when playing WMA files.
- You cannot play WMA files that are copy protected.

MP3

- This unit is not compatible with ID3 tags.
- If you play an MP3 track that includes still picture data, it will take some time before the music itself starts playing and the elapsed time will not be displayed during this time. Even after the track starts, the correct play time will not be displayed.

Order of play

WMA MP3



Naming folders and files

Prefix folder and file names with 3-digit numbers in the order you want to play them.

Extension

004track.wma (or .WMA)

The extension for MP3 is ".mp3" or ".MP3".

CD (CD text only)

When making your own CD text discs

The unit plays the tracks in the order you record them so you do not have to prefix the titles with numbers.

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.

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9 Prevention of Electro Static Discharge (ESD) to Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electro static discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminium foil, to prevent electrostatic charge build up or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder remover device. Some solder removal devices not classified as "anti-static (ESD protected)" can generate electrical charge to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminium foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

Caution

Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by $\triangle$ in the schematic diagrams, Exploded Views and replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

10 Precaution of Laser Diode

CAUTION :

This product utilizes a class 1 laser. Invisible laser radiation is emitted from the optical pick up lens.

When the unit is turned on:

Wavelength : 658nm/780nm

Maximum output radiation power from pick up : 100μW/VDE

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

1. Do not disassemble the optical 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.

CAUTION!

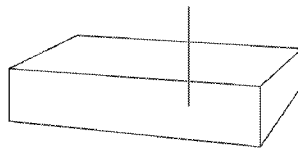
THIS PRODUCT UTILIZES A LASER.

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

■ Use of Caution Labels

CAUTION	- LASER RADIATION WHEN OPEN DO NOT STARE INTO BEAM. FDA 21 CFR / Class II
CAUTION	- VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM. IEC8265-1 / Class 2b
VARNING	- SYNLIQ OCH OSYNLIQ LASERSTRÅLNING NÄR DESSA DEL ÄR ÖPPNAD. BETRÄKTA EJ STRÅLEN.
ADVARSEL	- SYNLIQ OG USYNLIQ LASERSTRÅLING VED ÅBNING. UNDGÅ UDSÆTTELSE FOR STRÅLING.
ADVARSEL	- SYNLIQ OG USYNLIQ LASERSTRÅLING NÄR DEKSEL ÅPNER. UNDGÅ EKSPOSERING FÖR STRÅLEN.
VARO!	- AVATTIENNA OLET ALTIIDIN NÄKYVÄÄ JA NÄKYMÄTÖN LASERSÄTELYLLE. ÄLÄ KATSO SÄTEESEEN.
VORSICHT	- SICHTBARE UND UNSICHTBARE LASERSTRALUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHLE AUSSETZEN.
ATTENTION	- RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.
注意	- 打开时有可能及不可见激光辐射。避免激光照射。
注意	- ここを開くと可能及び不可視レーザー光が出ます。 ビームを見たり、触れたりしないで下さい。 ROLAS0054

(Inside of product)



(Back of product)

11 Cautions to Be Taken When Handling Optical Pickup

- The laser diode used inside optical pickup could be destroyed due to static electricity as a potential difference is caused by electrostatic load discharged from clothes and human body. Handle the parts carefully to avoid electrostatic destruction during repair.

11.1. Handling Optical Pickup

1. Do not impact on optical pickup as the unit structurally uses an extremely precise technology.
2. Short-circuit the flexible cable of optical pickup removed from the circuit board using a short-circuit pin or clip in order to prevent laser diode from electrostatic destruction. (Refer to Fig. 11-1 and Fig. 11-2.)
3. Do not handle flexible cables forcibly as this may cause snapping. Handle the parts carefully. (Refer to Fig. 11-1)
4. A new optical pickup is equipped with an anti-static flexible cable. After replacing and connecting to the flexible board, cut the anti-static flexible cable. (Refer to Fig. 11-1)

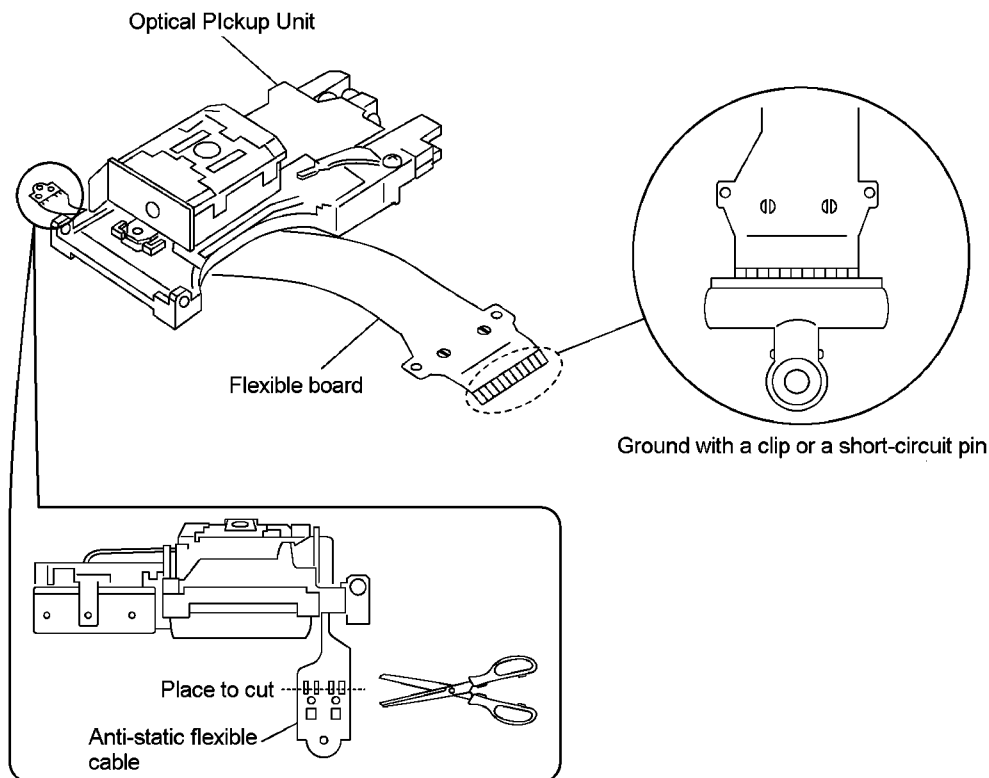
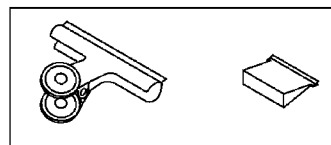


Fig. 11-1



Clip or short-circuit pin

Fig. 11-2

11.2. Cautions to Be Taken During Replacement of Optical Pickup

Supplied optical pickup is equipped with a short clip found its flexible cable in order to prevent electrostatic destruction of laser diode. Before connection, remove the short clip, and check that the short land is opened (remove solder if the part is short-circuited).

11.3. Grounding for Preventing Electrostatic Destruction

1. Human body grounding

Use an anti-static wrist strap to release static electricity accumulated in your body. (Refer to Fig. 11-3)

2. Workplace grounding

Place a conductive material (conductive sheet) or iron board where optical pickup is placed. (Refer to Fig. 11-3)

Note:

Keep your clothes away from optical pickup as wrist strap does not release the static electricity charged in clothes.

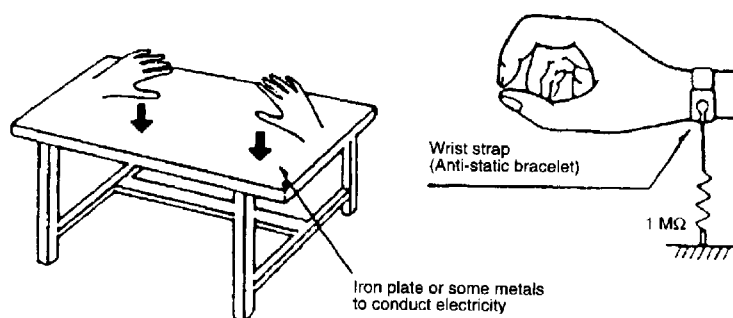


Fig. 11-3

12 Disassembly and Main Component Replacement Procedures and Operational Check

“ATTENTION SERVICER”

Some chassis components may have sharp edges.

Be careful when disassembling and servicing.

1. **This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.**
2. **For reassembly after operation checks or replacement, reverse the respective procedures.**
Special reassembly procedures are described only when required.
3. **Select items from the following index when checks or replacement are required.**

Contents

- Disassembly flow chart
- PCB Positions
- The Top Cabinet
- The Rear Panel
- Replacement of Tuner Pack Unit and Interface PCB
- The DVD Module (2) PCB and B/E Bracket A & B
- The DVD Mecha Unit
- The Front Panel
- Replacement of the Volume PCB and Sensor PCB
- Replacement of the Main, Panel, Power Supply and TV/VCR PCB
- Checking Panel, DVD Module (1), DVD Module (2) A side, Buffer-AMP, Sensor and Volume PCB
- Checking Main, DVD Module (2) B side, Power Supply and TV/VCR PCB
- Disassembly and assembly Mechanism Unit

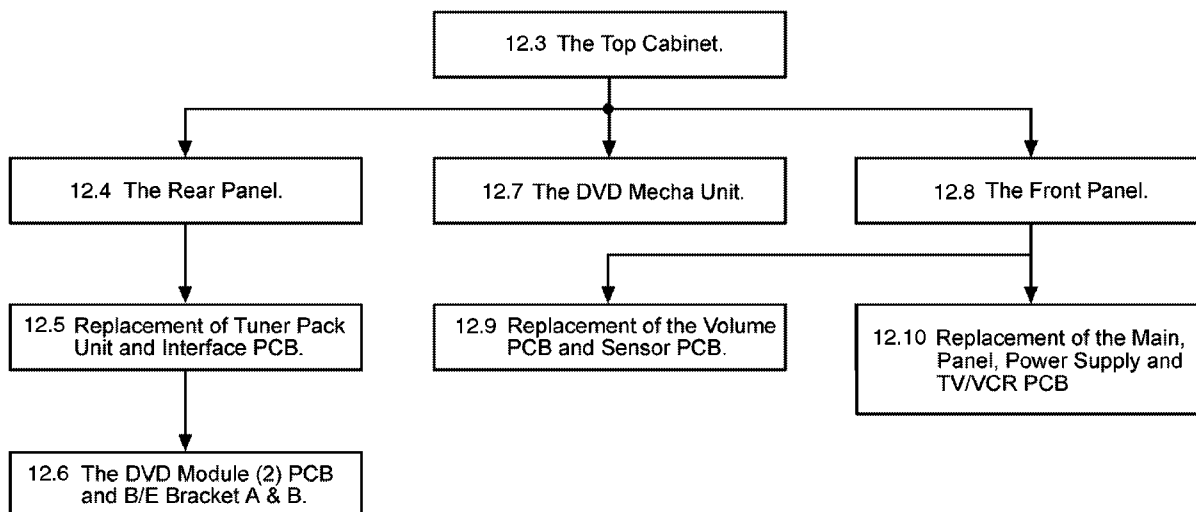
Warning:

This product uses a laser diode. Refer to caution statement Precaution of Laser Diode.

12.1. Disassembly flow chart

The following chart is the procedure for disassembling the casing and inside parts for internal inspection when carrying out the servicing

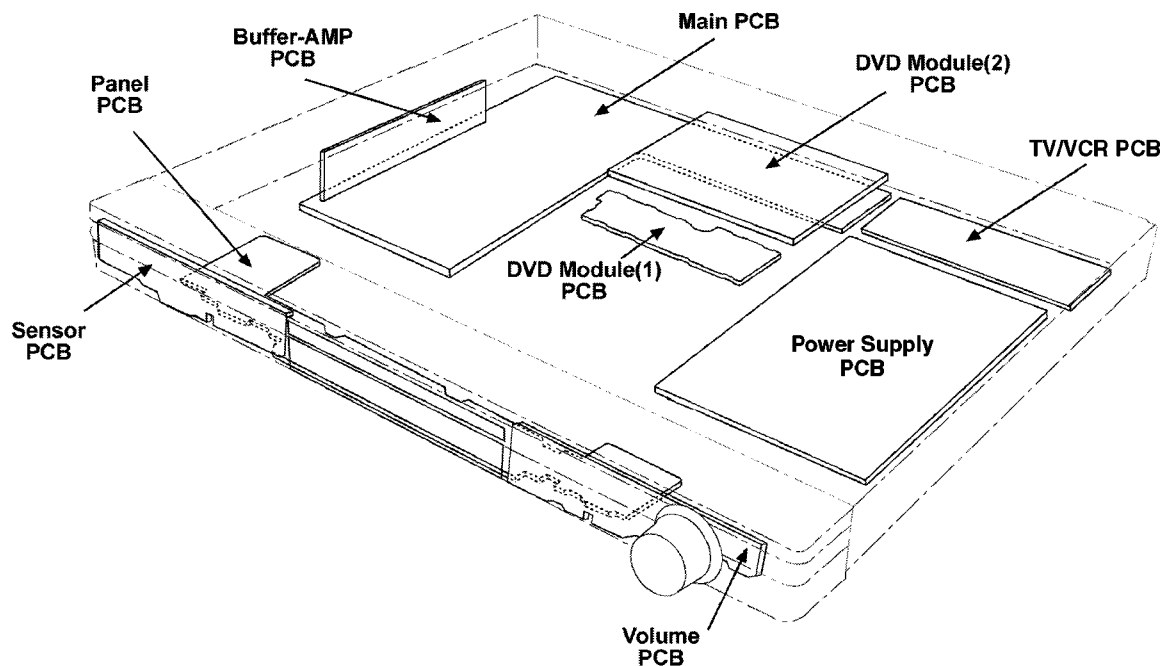
To assemble the unit, reverse the steps shown in the chart below.



12.2. P.C.B. Positions

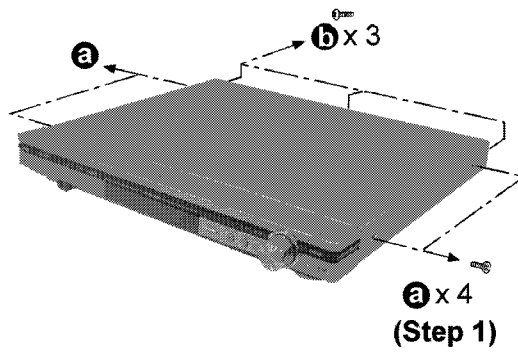
The following chart is the procedure for disassembling the casing and inside parts for internal inspection when carrying out the servicing

To assemble the unit, reverse the steps shown in the chart below.

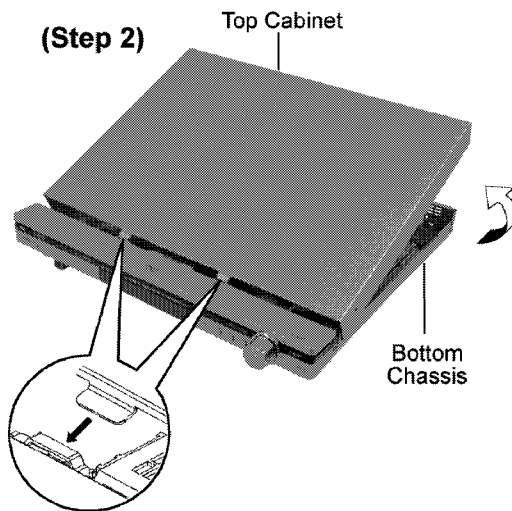


12.3. The Top Cabinet

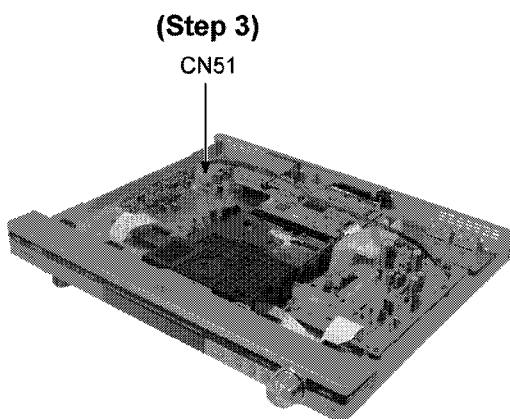
Step 1: Remove all the screws.



Step 2: Remove the Top Cabinet as arrow shown below.

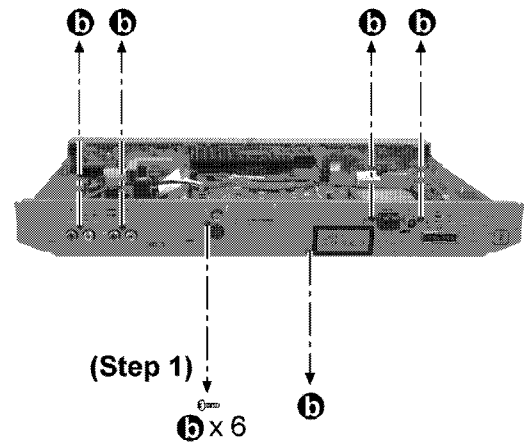


Step 3: Remove the Connector (CN51).

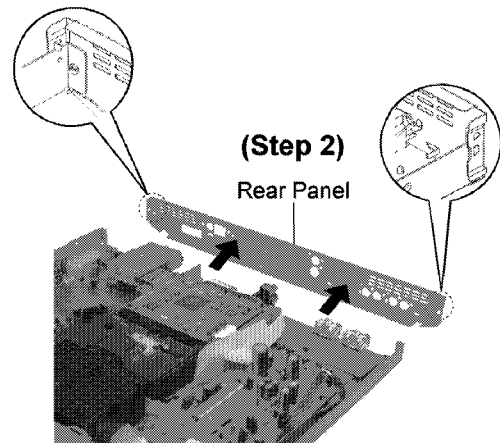


12.4. The Rear Panel

Step 1: Remove all the screws.

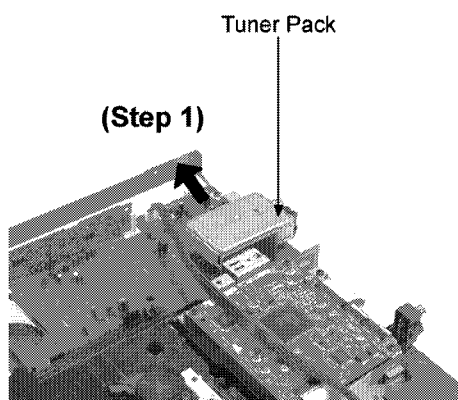


Step 2: Remove the Rear Panel as arrow shown below.

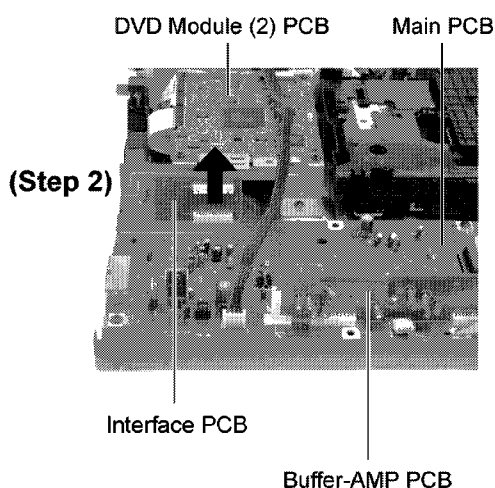


12.5. Replacement of Tuner Pack Unit and Interface PCB

Step 1: Remove the Tuner Pack as arrow shown below.

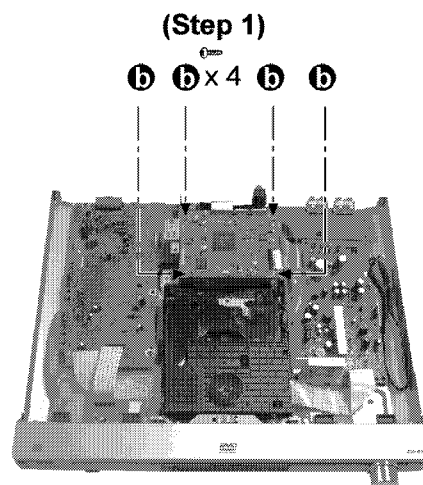


Step 2: Remove the Interface PCB as arrow shown below.

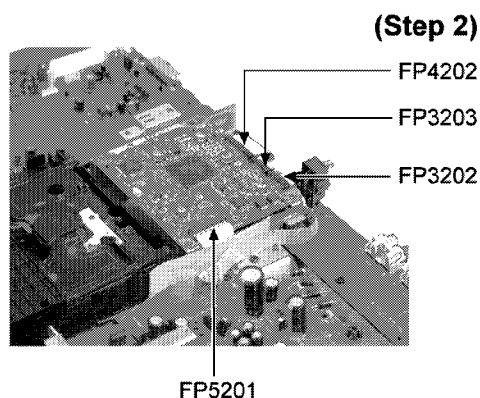


12.6. The DVD Module (2) PCB and B/E Bracket A & B

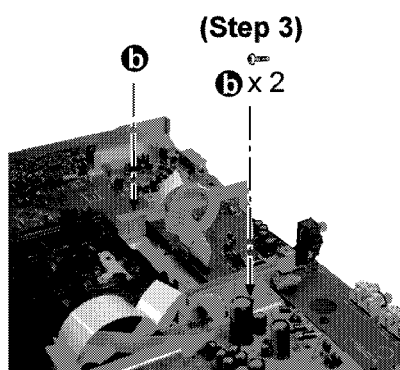
Step 1: Remove all the screws.



Step 2: Release all the FFC as shown below.



Step 3: Remove all the screws.

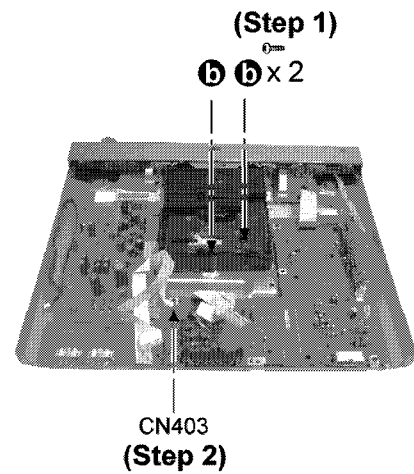
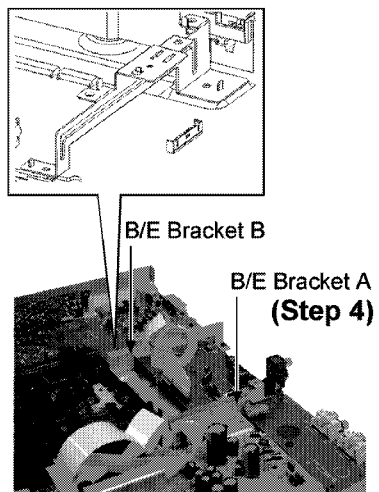


12.7. The DVD Mecha Unit

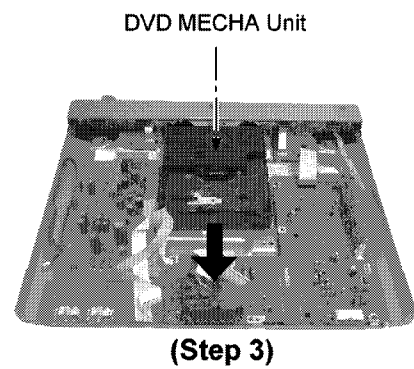
Step 1: Remove all the screws.

Step 2: Release the FFC.

Step 4: Remove the B/E Bracket A & B.

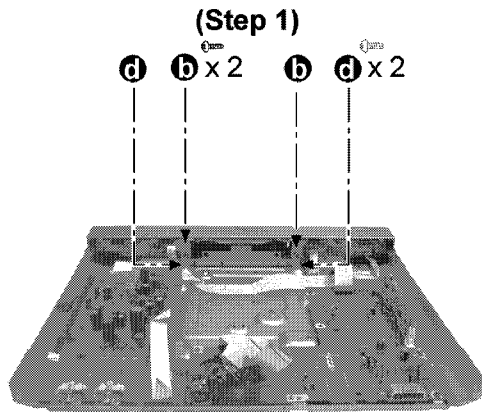


Step 3: Remove the DVD Mecha Unit as arrow shown.



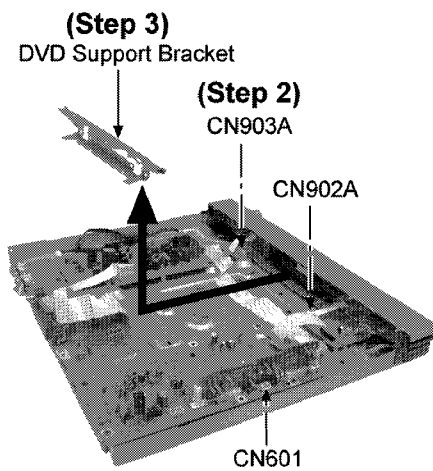
12.8. The Front Panel

Step 1: Remove all the screws.

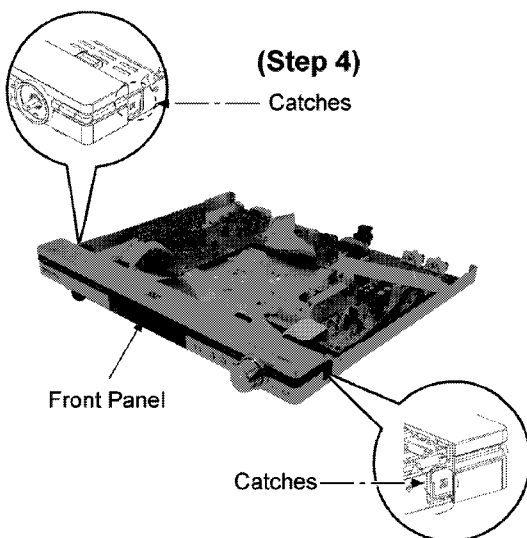


Step 2: Release all the FFC and Connector (CN601).

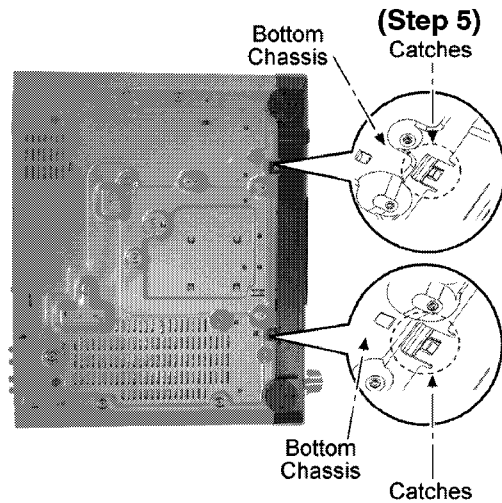
Step 3: Remove the DVD Support Bracket as shown below.



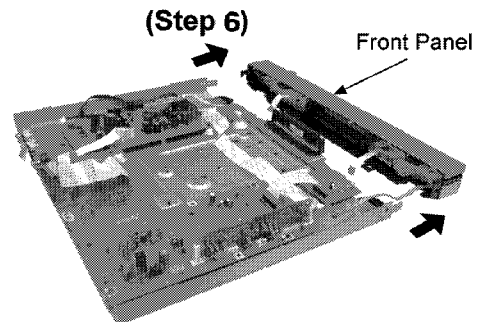
Step 4: Release the catches properly from left and right sides of the Front Panel.



Step 5: Release the catches properly from bottom chassis.

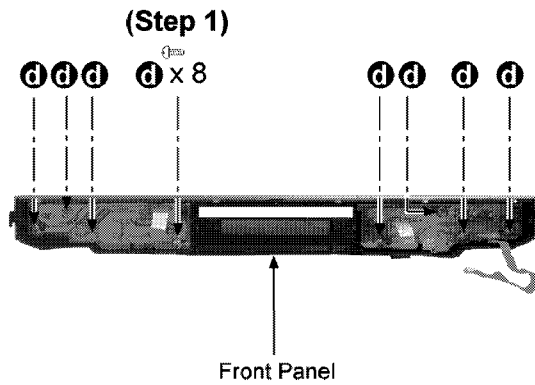


Step 6: Remove the Front Panel as arrow shown below.

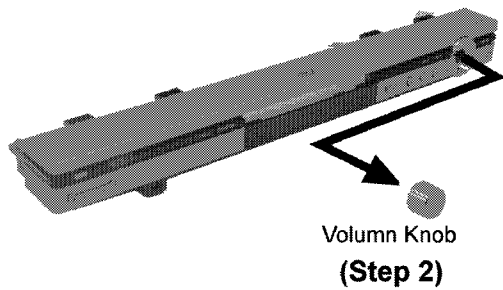


12.9. Replacement of the Volume PCB and Sensor PCB

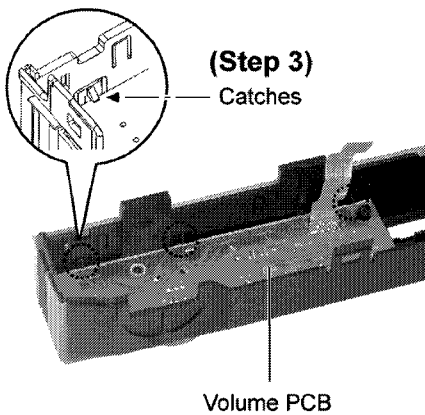
Step 1: Remove all the screws.



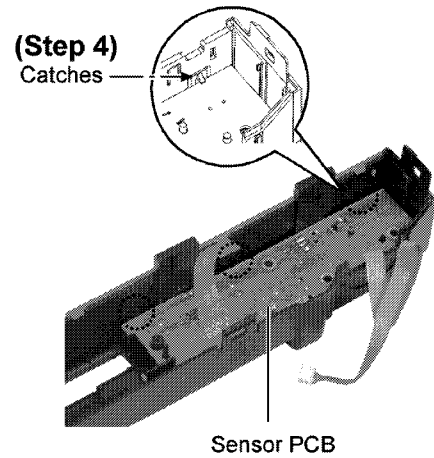
Step 2: Remove the Volume knob.



Step 3: Release all the catches properly before remove the Volume PCB.

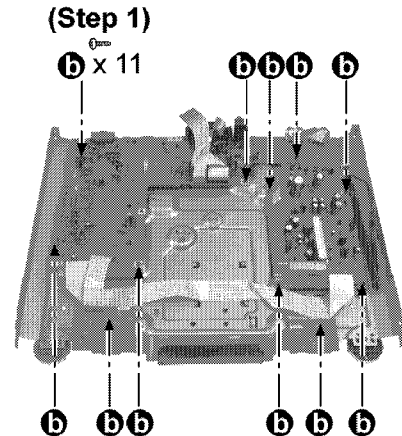


Step 4: Release all the catches properly before remove the Sensor PCB.



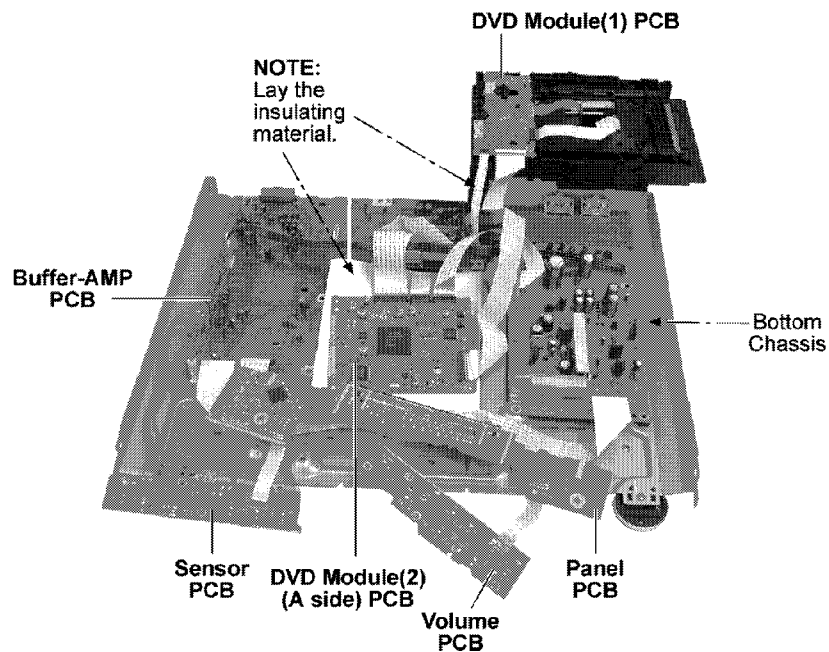
12.10. Replacement of the Main, Panel, Power Supply and TV/VCR PCB

Step 1: Remove all the screws.



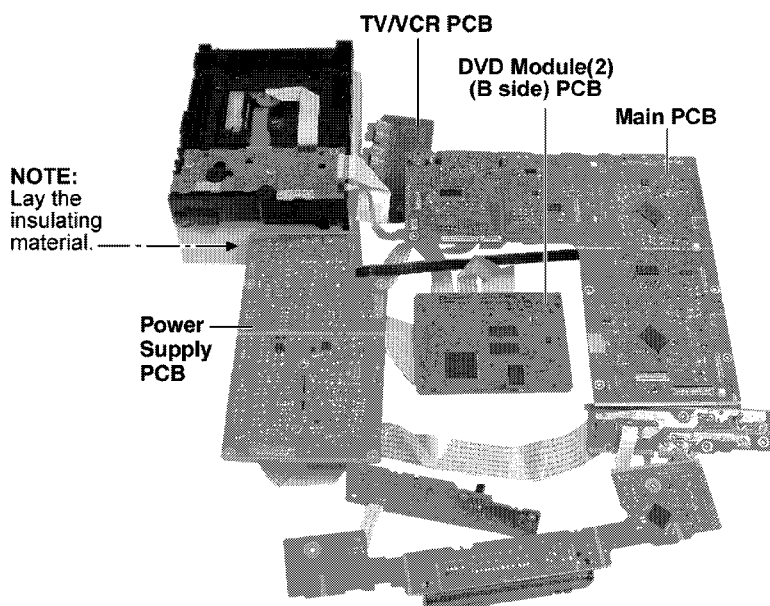
12.11. Checking the Panel PCB, DVD Module (1) PCB, DVD Module (2) PCB side A, Buffer-AMP PCB, Sensor PCB and Volume PCB

1. The Top Cabinet.
2. The Rear Panel.
3. Replacement of Tuner Pack Unit and Interface PCB.
4. The DVD Module (2) PCB and B/E Bracket A & B.
5. The DVD Mecha Unit.
6. The Front Panel.
7. Replacement of the Volume PCB and Sensor PCB.
8. Replacement of the Main, Panel, Power Supply and TV/VCR PCB.
9. Before checking please reconnect back all the connectors and FFC.



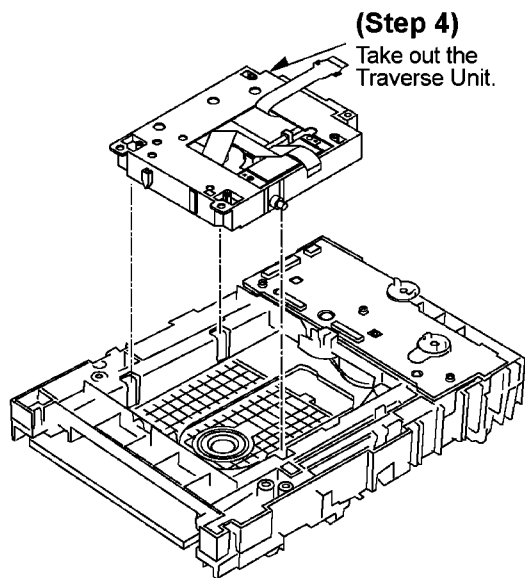
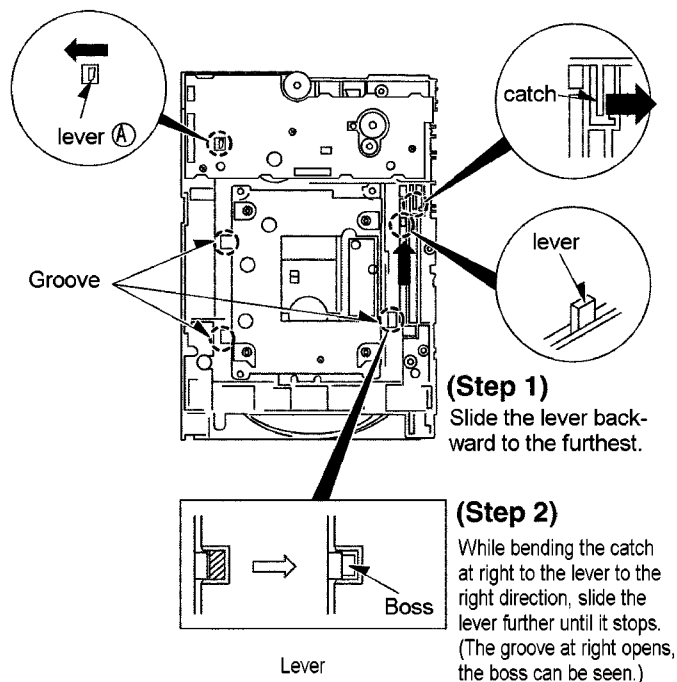
12.12. Checking the Main, DVD Module (2) Side B, Power Supply and TV/VCR PCB

1. The Top Cabinet.
2. The Rear Panel.
3. Replacement of Tuner Pack Unit and Interface PCB.
4. The DVD Module (2) PCB and B/E Bracket A & B.
5. The DVD Mecha Unit.
6. The Front Panel.
7. Replacement of the Volume PCB and Sensor PCB.
8. Replacement of the Main, Panel, Power Supply and TV/VCR PCB.
9. Before checking please reconnect back all the connectors and FFC.



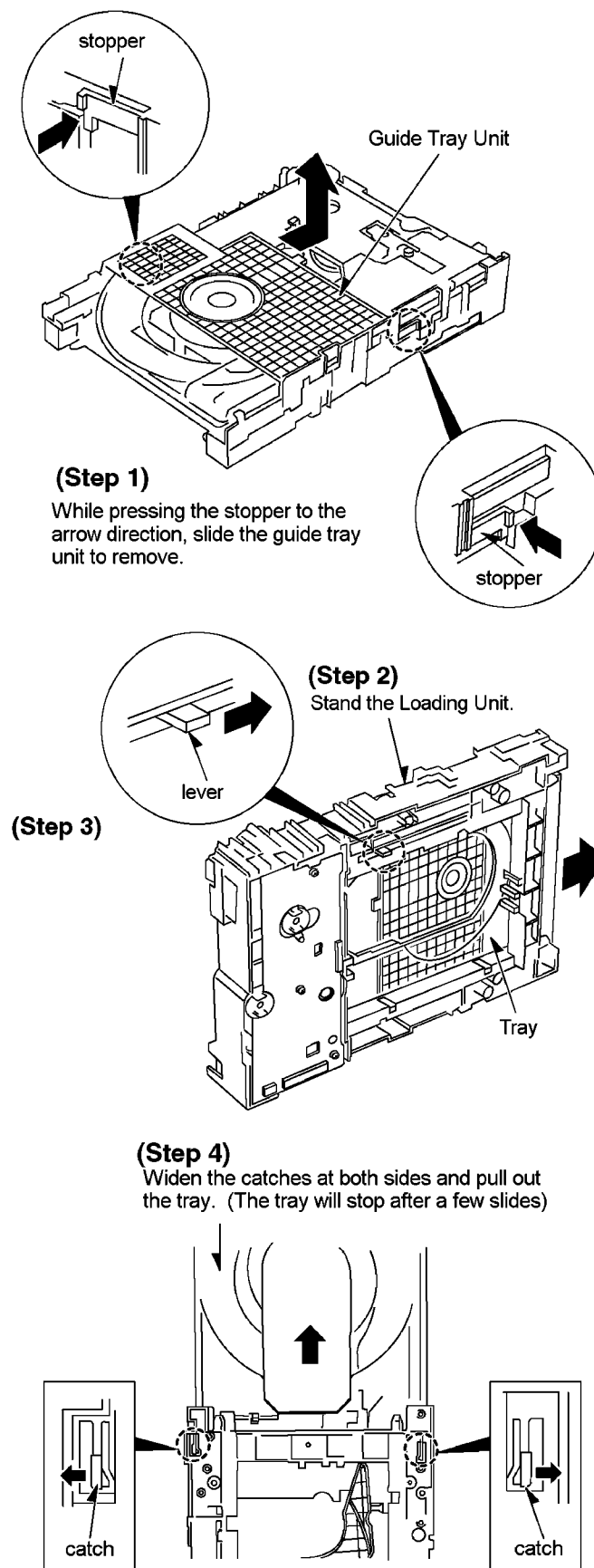
12.13. Disassembly and Assembly Mechanism Unit

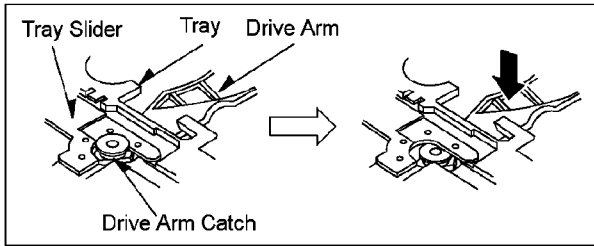
12.13.1. Replacement of Traverse Unit.



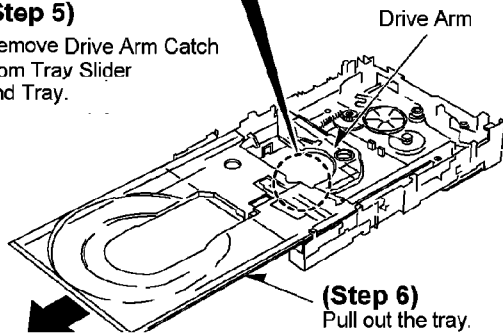
12.13.2. Replacement of Tray.

- Follow steps 1 to 4 described in Item 12.13.1.

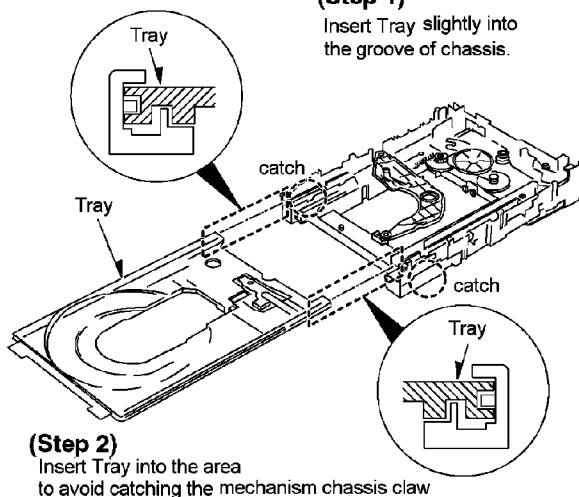


**(Step 5)**

Remove Drive Arm Catch from Tray Slider and Tray.

**(Step 6)**

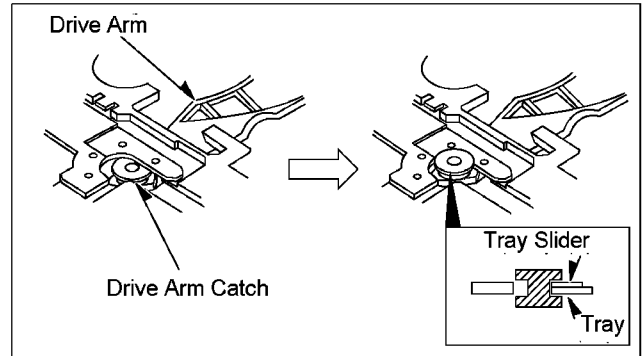
Pull out the tray.

Fixture the Tray**(Step 2)**

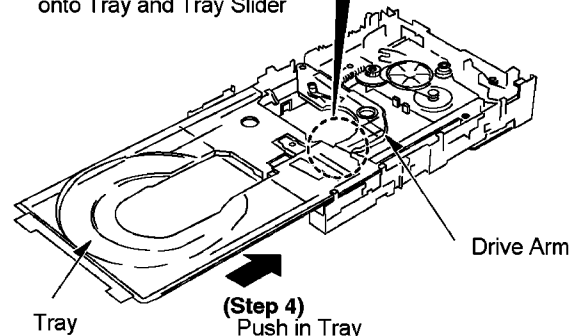
Insert Tray into the area to avoid catching the mechanism chassis claw

(Step 1)

Insert Tray slightly into the groove of chassis.

**(Step 3)**

Latch Drive Arm Catch onto Tray and Tray Slider

**(Step 4)**

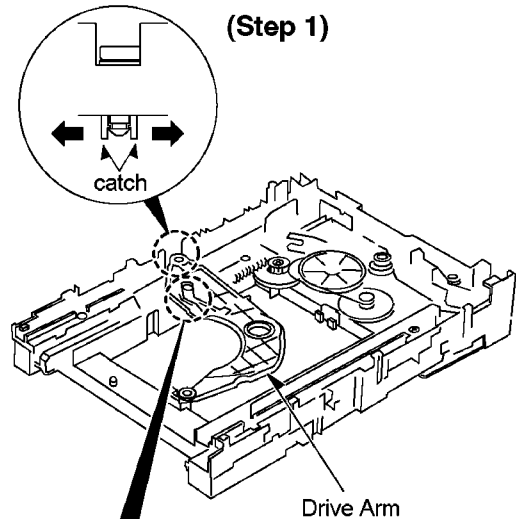
Push in Tray

(Step 5)

Check Tray and Drive Arm move smoothly.

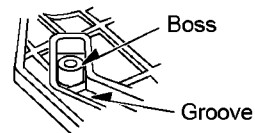
12.13.3. Disassembly of loading section.

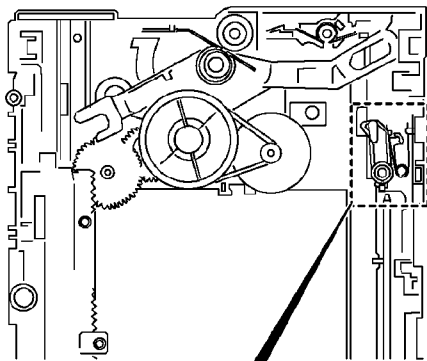
- Follow Steps 1 to 4 described in Item 12.13.1.
- Follow Steps 1 to 6 described in Item 12.13.2.

**(Step 1)**

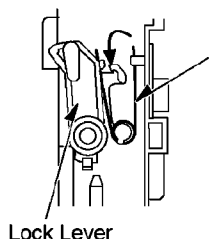
- Check when loading.

- Be sure to load Drive Rack Boss into the groove of Drive Arm



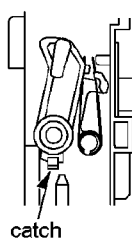


(Step 2)
Catch the spring of the
Lock Lever temporarily.



Lock Lever

(Step 3)
Remove a catch, and
take out the lock lever.

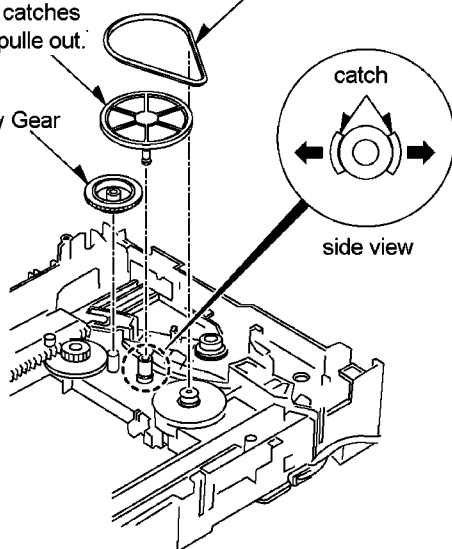


catch

(Step 4)
Remove a belt.

(Step 5)
Remove 2 catches
and pull a pulle out.

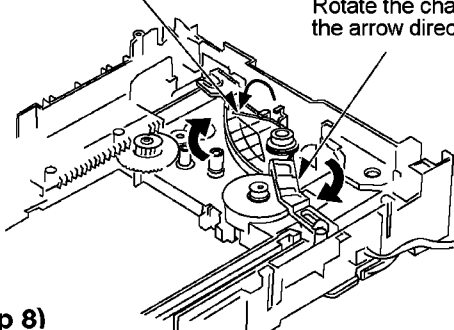
(Step 6)
Remove a Relay Gear



side view

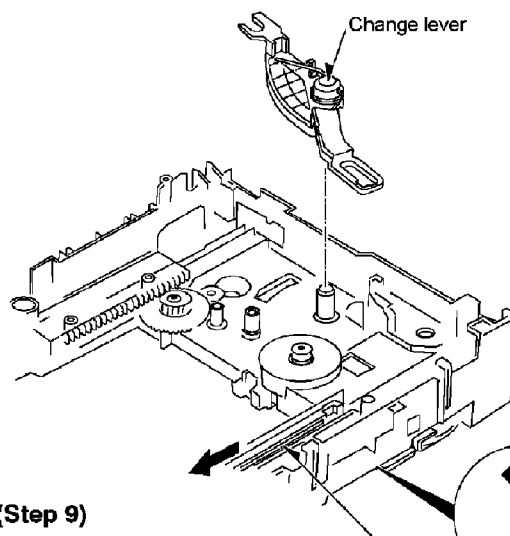
Change lever spring

(Step 7)
Rotate the change lever to
the arrow direction.



(Step 8)

Latch temporarily Change lever
spring onto the catch of the change lever



Change lever

(Step 9)

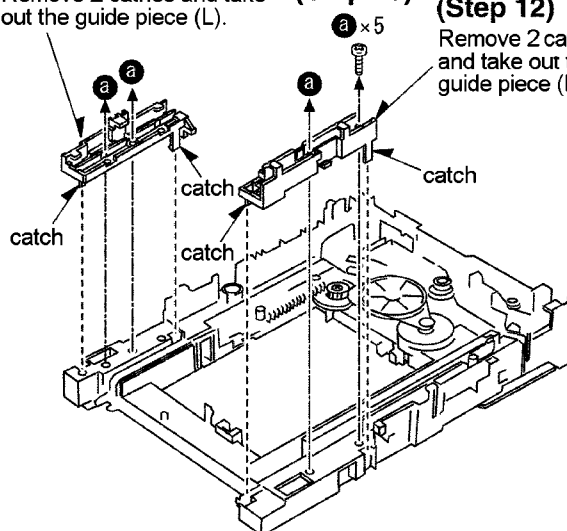
Open the Lever (A) (ref. 12.13) at the
reverse side, pull the sub rack, and
remove the Change lever.

catch (A)

(Step 11)
Remove 2 catches and take
out the guide piece (L).

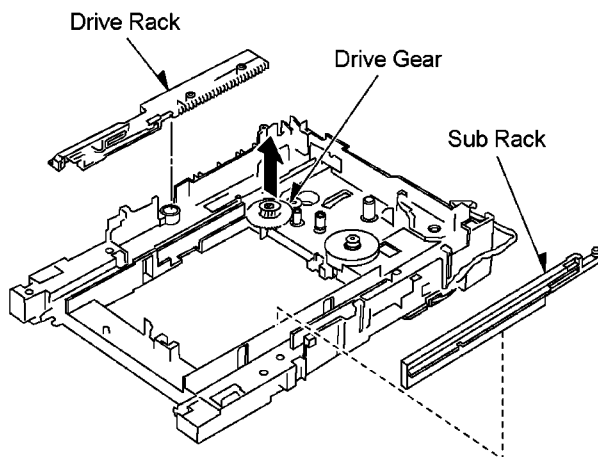
(Step 10)

(Step 12)
Remove 2 catches
and take out the
guide piece (R).



(Step 13)

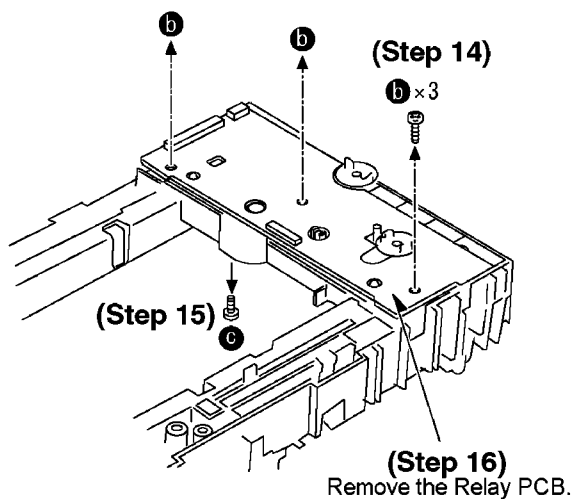
Remove the drive rack, the drive gear
and the sub rack.



Drive Rack

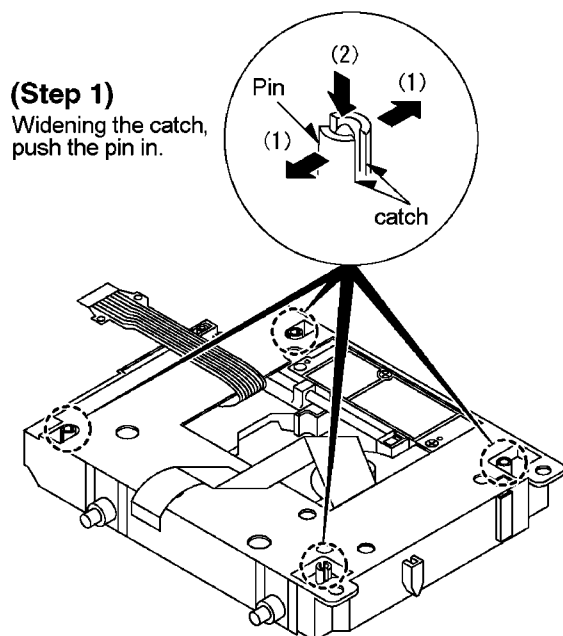
Drive Gear

Sub Rack

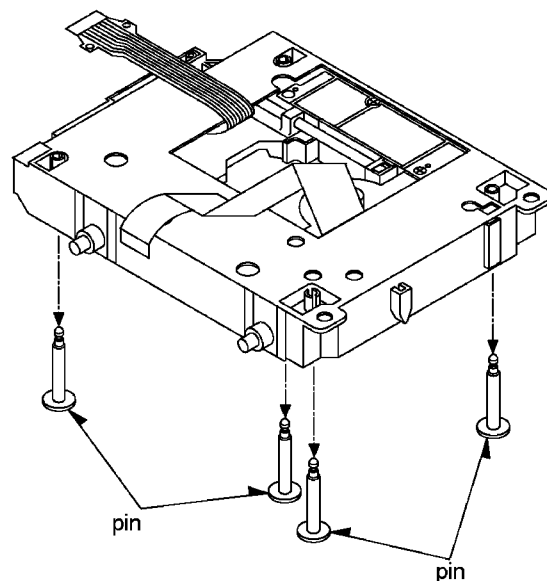


12.13.4. Replacement of optical Pickup Unit

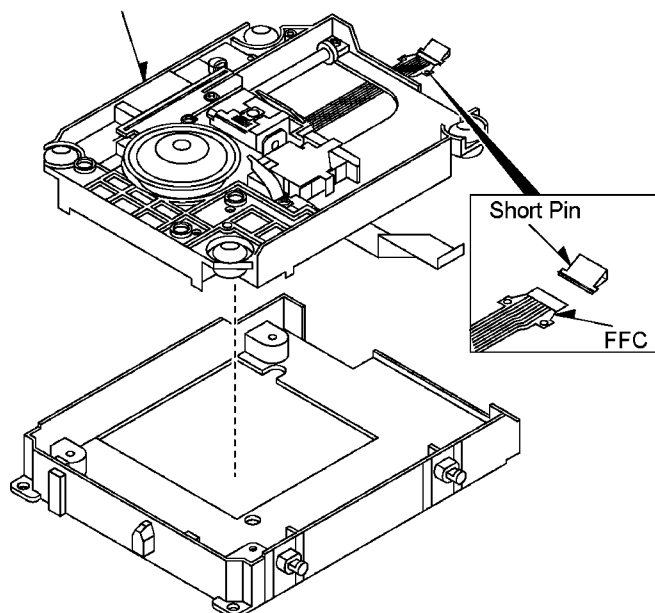
- Follow Steps 1 to 4 described in Item 12.13.1.
- Follow Steps 1 to 6 described in Item 12.13.2.
- Follow Steps 1 to 16 described in Item 12.13.3.



(Step 2)
Remove 4 pins.



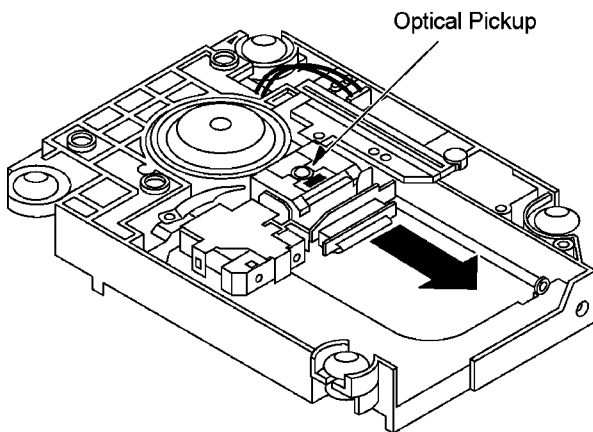
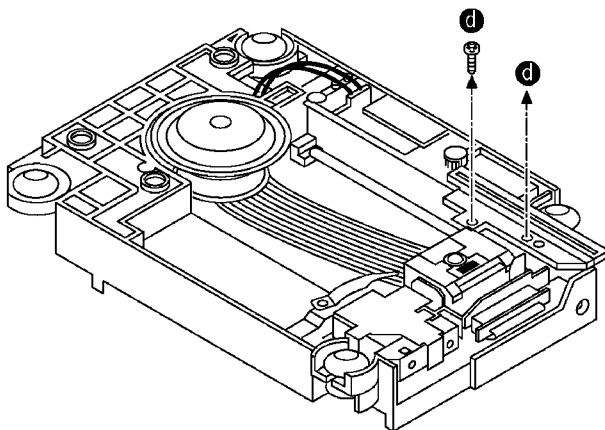
(Step 3)
Remove the Traverse Deck Unit.



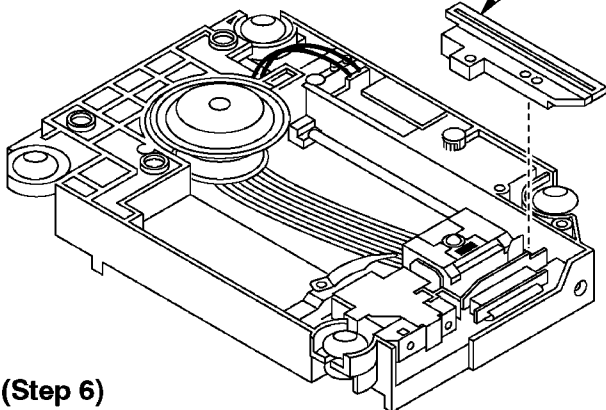
Note:
Insert a short pin into FFC of the optical pickup.
[See "Notice on handling of the optical pickup"]

(Step 4)

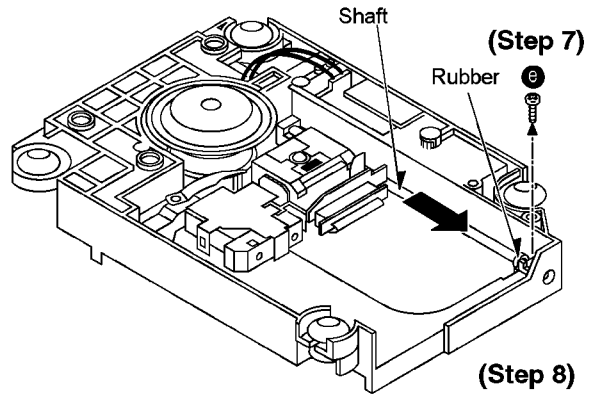
Shift the Optical Pickup to the furthest backward.

**(Step 5)**

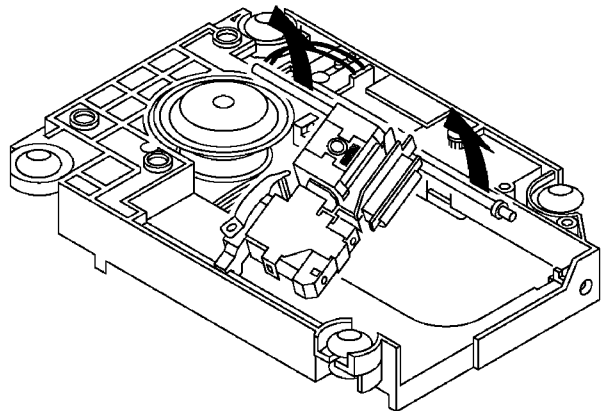
Drive Rack

**(Step 6)**

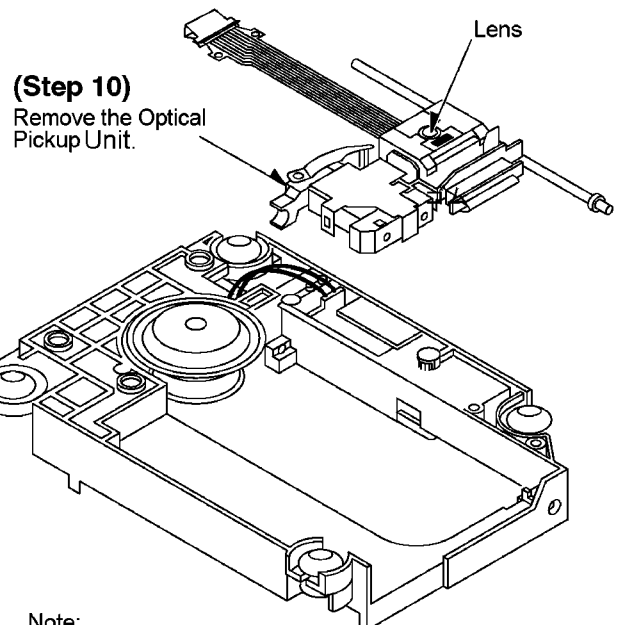
Remove the Drive Rack.

(Step 7)**(Step 8)**

Shift the shaft to the arrow direction.

**(Step 9)**

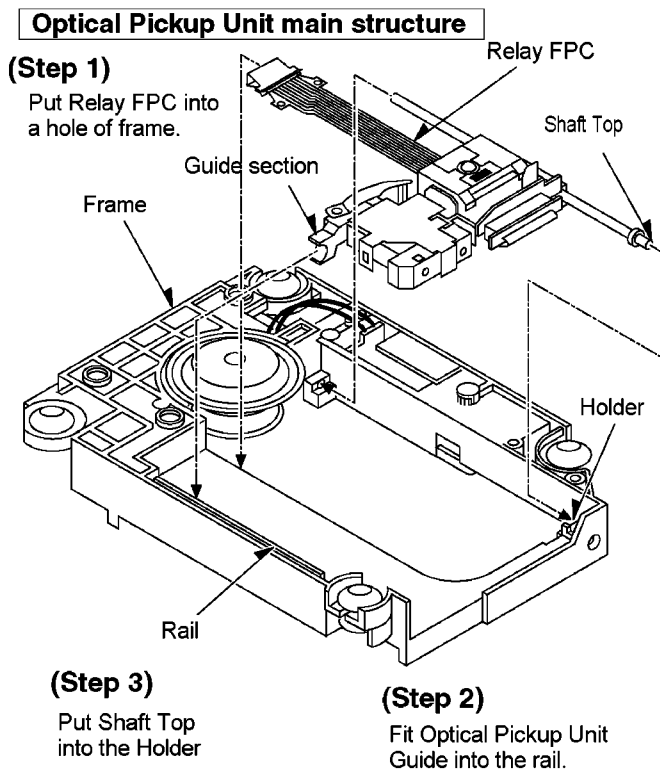
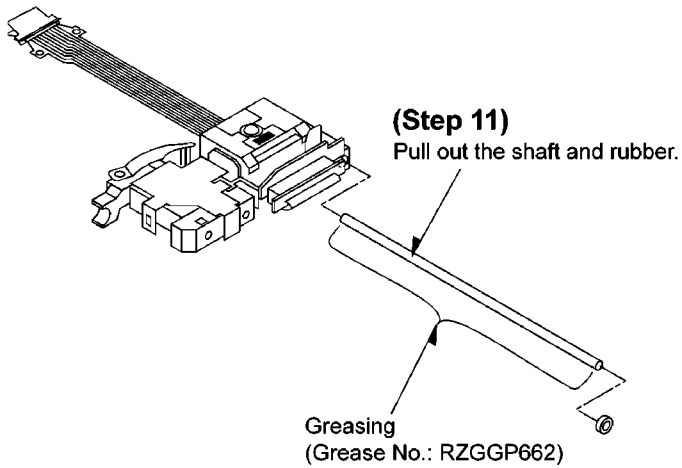
Lift the Optical Pickup Unit with shaft.

**(Step 10)**

Remove the Optical Pickup Unit.

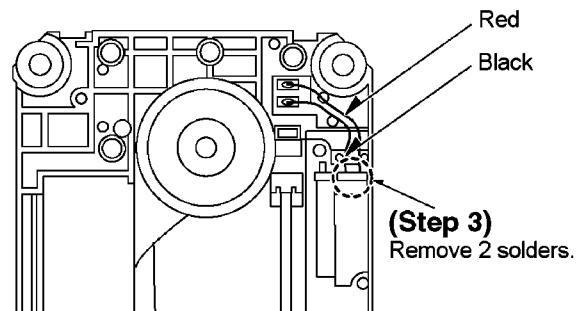
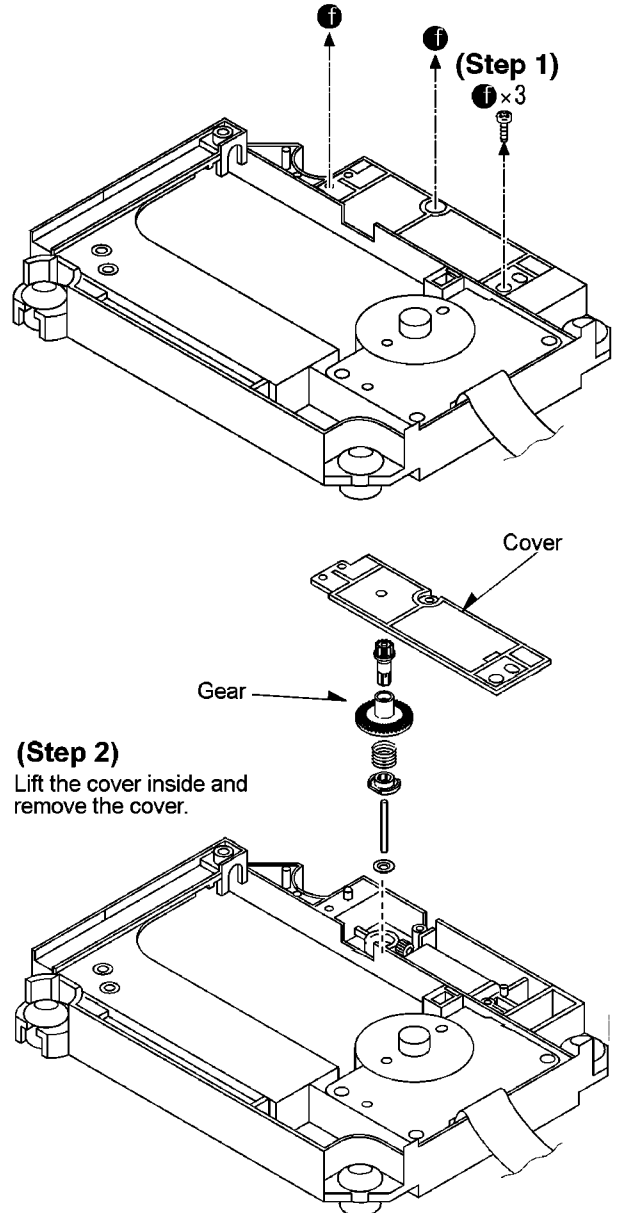
Note:

1. Do not subject optical pickup to static electricity as it is extremely sensitive to electrical shock.



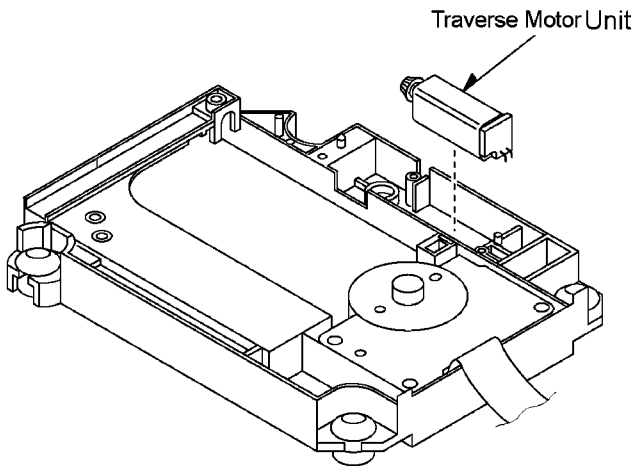
12.13.5. Disassembly of traverse motor (Unit) and spindle motor (Unit).

- Follow Steps 1 to 4 described in Item 12.13.1.
- Follow Steps 1 to 6 described in Item 12.13.2.
- Follow Steps 1 to 16 described in Item 12.13.3.
- Follow Steps 1 to 11 described in Item 12.13.4.

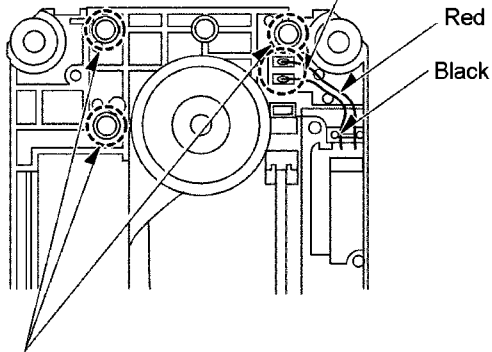


(Step 4)

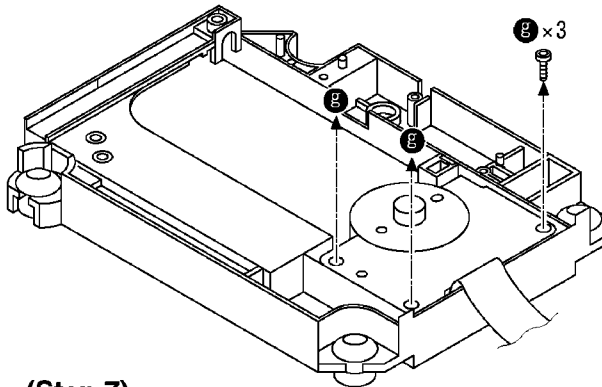
Remove the Traverse Motor Unit.

**(Step 5)**

Remove 2 solders.

**(Step 6)**

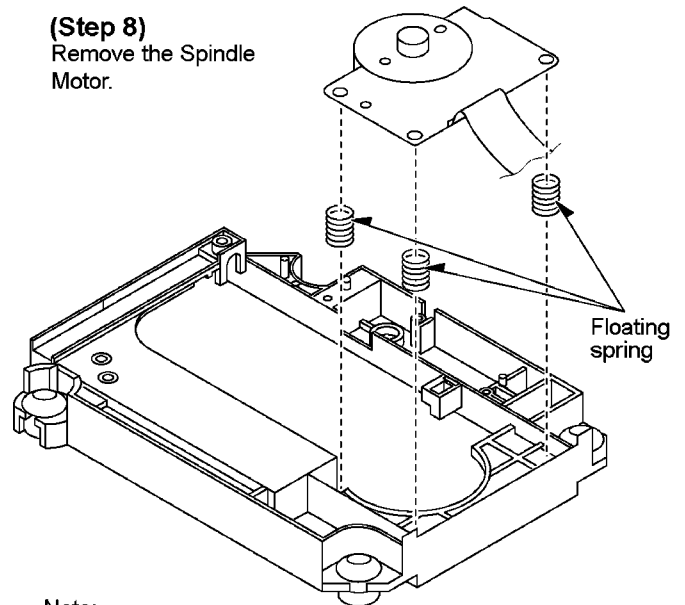
Remove 3 screw locks thoroughly.

**(Step 7)**

Remove ⑤ (3 pieces) with 1.8mm slotted screwdriver.

(Step 8)

Remove the Spindle Motor.



Note:

As floating springs (3 pieces) come off at the same time, be careful not to lose them.

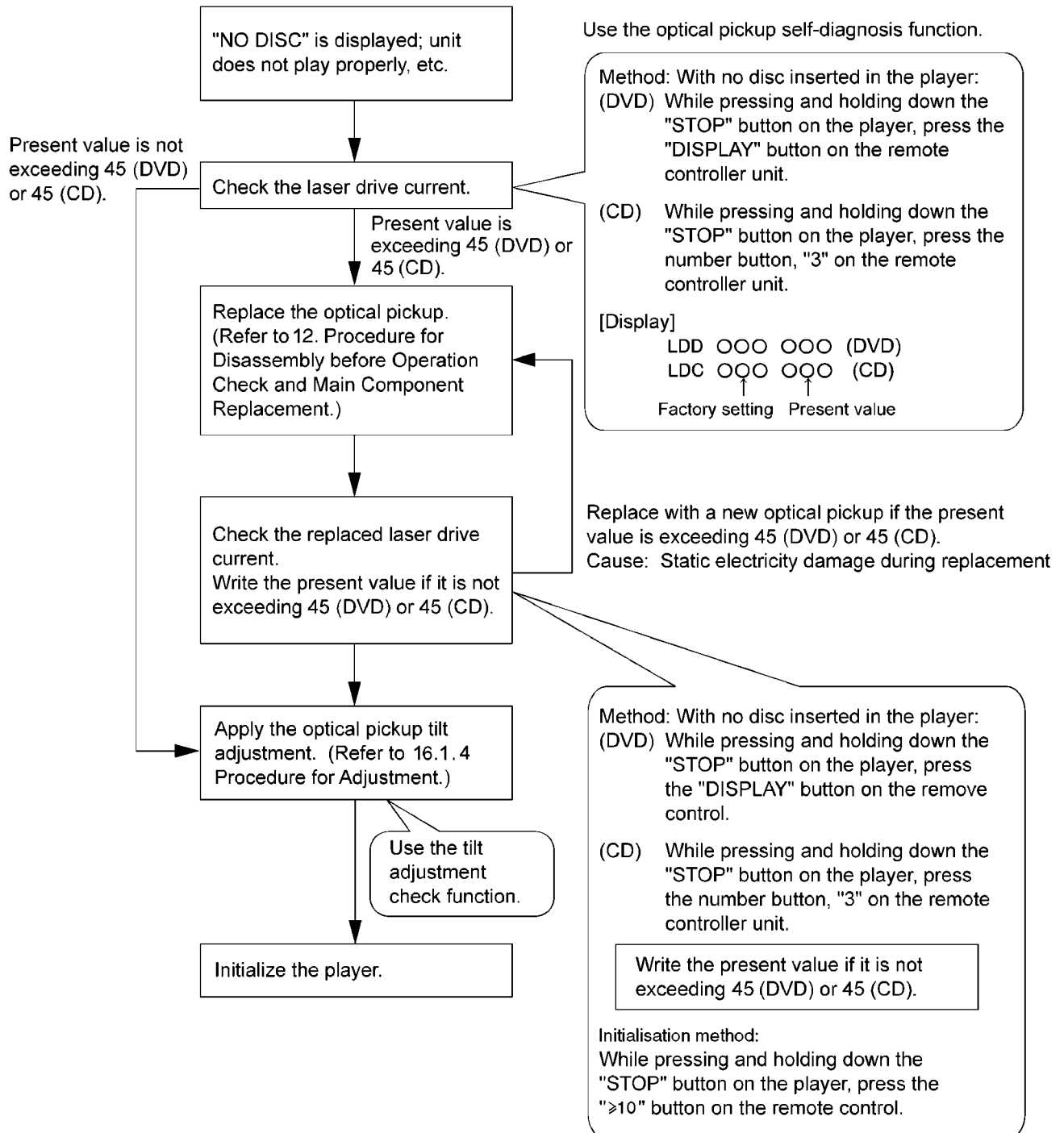
13 Optical Pickup Self-Diagnosis and Replacement Procedure

13.1. Self-diagnosis

This unit is equipped with the optical pickup self-diagnosis function and the tilt adjustment check function. Follow the procedure described below during repair in order to perform self-diagnosis and tilt adjustment effectively. Especially when "NO DISC" is displayed, be sure to apply the self-diagnosis function before replacing with an optical pickup. Replacement of optical pickup generally requires when the present value of laser drive exceeds 70 (DVD) or 55 (CD).

Note:

Start diagnosis within three minutes after turning on the power (as diagnosis fails when the unit becomes warm).



13.2. Cautions to Be Taken During Replacement of Optical Pickup and Spindle Motor

Before replacing the optical pickup and spindle motor, check a total usage time respectively. Follow the checking method described below.

Item	Status and Key Function	Display
Checking DVD, CD laser usage time	With the unit stopped and no disc inserted, press the ■ button on the player and the ▲ button on the remote controller unit.	T1_xxxx_yyyy xxxx(DVD), yyyy(CD): total time is displayed with a four-digit number by the ten hours.
Checking spindle motor usage time	With the unit stopped and no disc inserted, press the ■ button on the player and the ▶ button on the remote controller unit.	T1_xxxx xxxx: total time is displayed with a four-digit number by the ten hours.
Resetting DVD, CD laser usage time	While the DVD and CD laser usage times are displayed, press the ■ button on the player and the ▼ button on the remote controller unit.	T2_0000_0000
Resetting spindle motor usage time	While the spindle motor usage time is displayed, press the ■ button on the player and the ◀ button on the remote controller unit.	T2_0000

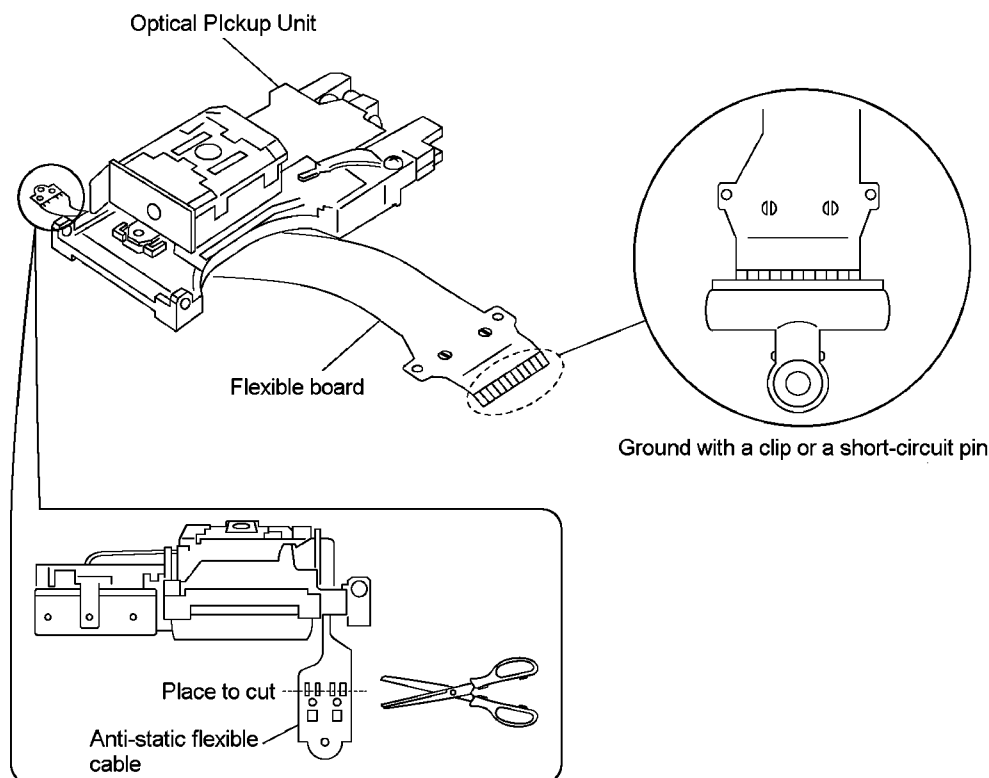
13.2.1. Cautions to be taken during replacement of optical pickup

Optical pickup could be damaged due to the static electricity discharged from human body. Wear proper protection gear against static electricity during optical pickup and its peripheral repair. (Refer to “Cautions to Be Taken When Handling Optical Pickup”.)

- Do not touch laser diode, actuator and their peripherals.
- Do not check laser diode with a tester and such. (The tester will be destroyed.)
- For short-circuiting or removing laser diode, the use of an anti-static soldering iron is recommended. (Recommended model: HAKKO ESD product)
- Solder the land of the flexible cable in the optical pickup.

Note:

If an anti-static soldering iron is not available, short-circuit the terminal surface of the flexible cable and then the land using a clip or equivalent device.



14 Self-Diagnosis Function

This unit is equipped with the self-diagnosis function, which displays an error when it occurs, for use during servicing.

14.1. Automatic Displayed Error Codes

14.1.1. Automatic Display Function

For a power unit error, the code is automatically displayed.

F61: Automatically displayed on the LCD of the player.

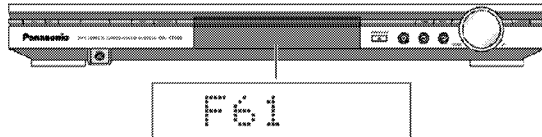


Fig. 14-1

14.1.2. Re-Display

• For F61 Display

- When the code, F61 is displayed, the power is automatically turned off.
- The code, F61 is displayed for three seconds, and then the current time appears.
- To retrieve the code, turn on the power button so that the code F61 appears, however, is switched to time display after three seconds, and the power is automatically turned off.

14.1.3. Description of Error Code

14.1.3.1. F61

• State, Condition

When the power is turned on, the unit is automatically turned off. The power does not turn on.

• Cause, Troubleshooting

Power circuit system failure and/or direct current flown to speaker terminal

Identify the cause and replace with new parts.

14.2. Memorized Error Codes

14.2.1. Activating Self-Diagnosis Function and Displaying Method

1. Turn on the power.
 2. Select DVD/CD function. With no DVD/CD inserted in the player, press and hold down the **■** button for at least two seconds, and press the F_SKIP **▶▶▶** button for at least two seconds in order to display “T_____”.
 3. Press the **■** button. If a memorized error is detected, the result of self diagnosis is displayed. (Ex.: T H15) (See table below)
- If several errors are detected, press the **■** button to display each.

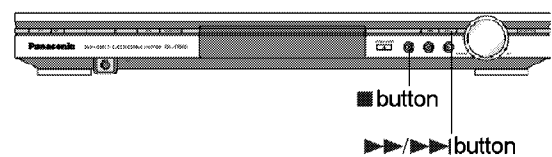


Fig. 14-2

14.2.2. Re-Display

- Press the power button to turn off the power, and then turn on the power.
- The details of self diagnosis are stored in the unit memory. To retrieve them, follow the procedure described the above, “Activating Self-Diagnosis Function and Displaying Method”.

14.2.3. Deleting Details of Self Diagnosis

- After repair, press and hold down the **■** button for at least five seconds, “T___ --- ” appears for a second and then “T_____” appears. (Deleting the details of self diagnosis)
- After repairing errors, be sure to delete the details of self diagnosis.

Table

Error Code	State, Conditon	Cause, Troubleshooting
H15	The disc tray cannot be opened: it closes spontaneously.	Disc tray open/close detection switch (S1001) failure. (Check and replace)
H16	The disc tray cannot be closed: it opens spontaneously.	

14.3. Mode Table 1

Following modes are available with combinations of the pressed buttons on the player and on the remote controller unit.

Player	Remote controller unit	Usage
■ button	0	Error code display (Refer to the item, 14.4. DVD Error Code Description)
	5	Tilt adjustment
	6	Area number and broadcasting system check
	7	Built-in program version check
	DISPLAY	DVD laser drive current check
	3	CD laser drive current check
	PAUSE	Writing of laser drive current value after replacement of optical pickup (Do use this function only when optical pickup is replaced.)
	≧10	Initialization of the player (factory setting is restored.) Used after replacement of micro-computer and its peripherals and printed circuit board.

14.4. DVD/CD Self-Diagnosis Error Code Description

Error Code	Meaning	Details
U. H. Error		
U11	Focus servo failure	
H01	Tray loading failure	
H02	Spindle servo failure	(Spindle servo, DSC, SP motor, CLV servo failure)
H03	Traverse motor failure	
H04	Tracking servo error	
H05	Seek timeout failure	
DSC system		
F500	DSC failure	DSC stops due to servo failure. (Startup, focus failure, etc.)
F501	DSC not Ready failure	Communication failure between DSC and system computer (No communication because DSC does not move)
F502	DSC Time out failure	See F500.
F503	DSC communication failure	Communication failure (Result failure occurs after communication command is transmitted.)
F505	DSC Attention Error	See F500.
F506	Invalid media	Disc is placed upside down; TOC is unreadable or invalid disc is inserted.
ODC system		
F600	Unable to obtain control information due to form recovery failure	Operation stops because navigation data cannot be obtained due to form recovery system failure.
F601	Illegal sector ID requested	Operation stops because access of illegal ID data is requested.
F602	Unable to obtain LEAD IN due to form recovery failure	Unable to read LEAD IN data
F603	Unable to obtain KEY DET due to form recovery failure	Unable to obtain CSS data
F610	ODC failure	No permission of command issue
F611	No CRC OK appearing for a certain time	Unable to obtain seek address at CD system
F612	No CRC OK appearing for a certain time	Unable to obtain ID data at DVD system
Disc Code		
F103	Illegal highlight position	Disc standard is possibly illegal when highlight is displayed.
IIC Error		
F4FF	Forced initialization failure (Time out)	
Micro-computer Error		
F700	MBX overflow	When replying a message to Disc Manager
F701	Unable to complete a message command	A message is issued before replying to Disc Manager.
F702	Change in a message command	A message is issued before replying to Disc Manager.
F880	Unsuitable task number	When a message arrives from not existing task
F890	A message is sent during AV task transmission	During transmission of a message to AV task
F891	Unable to transmit a message to AV task	When transmission of a message to AV task starts
F893	FROM altered	
F894	EEPROM failure	
F8A0	Unsuitable message command	When transmission of a message to AV task starts

14.5. Error Codes Stored During No Play

Error Code	Meaning	System Computer Item	Setting Task	Internal error in system computer
F0BF	6) Unable to replay due to physical layer identification failure	PCND_NOPLAY_PHYSICAL 0x50	Drive Manager	0xD0BF

Error Code	Meaning	System Computer Item	Setting Task	Internal error in system computer
F0C0	8) DVD: Unable to replay due to no DVD Video/Audio/VR	PCND_NOPLAY_VIDEO 0x70	Disc Manager	0xD0C0
F0C1	9) DVD: Prohibited due to illegal regional code	PCND_NOPLAY_RCD 0x80	Disc Manager	0xD0C1
F0C2	A) DVD: No replay due to PAL system	PCND_NOPLAY_PAL 0x90	Disc Manager	0xD0C2
F0C3	B) DVD: All title replay prohibited in parental setting	PCND_NOPLAY_PTL 0xA0	Disc Manager	0xD0C3
F0C4	C) VCD: Prohibited due to PHOTO CD format	PCND_NOPLAY_PHOTOCD 0xB0	Disc Manager	0xD0C4
F0C5	D) VCD/CD: Prohibited due to CD-ROM without CD-DA	PCND_NOPLAY_CDROM 0xC0	Disc Manager	0xD0C5

14.6. Mode Table 2

Following modes are available with combinations of the pressed buttons on the player and on the remote controller unit.

Item	Operational Condition and Key Function	Details	Display	To Exit Mode
Jitter display	While the player is stopped and no disc is inserted, press and hold down the  button on the player and the number button, "5" on the remote controller unit.	Jitter display Measures and displays jitter. Measurement is repeated every second. Read error counter starts at 0 at the mode setting, and increased by one as data read fails at target block. A small defect is allowed to correct by retry. Any possibility is counted as one increment. Repetitive errors after retry increase by two levels or more.	J ^{*1} xxx ^{*2} _yyy ^{*3} _zz ^{*4} * ¹ : Jitter display mode * ² : Jitter measurement value * ³ : Read error counter * ⁴ : Focus driving value Values are shown to one decimal place in the decimal digit. Focus driving value is displayed in the hexadecimal digit.	Press the STOP or OPEN button.
Error code display	While the player is stopped and no disc is inserted, press and hold down the  button on the player and the number button, "0" on the remote controller unit.	Error code display Displays the latest error code stored in EEPROM.	DVDnn_F--- *nn: Error history *--: Error number	Automatically exits the mode after five seconds.
Measurement of laser current electricity initialization value	While the player is stopped and no disc is inserted, press and hold down the  button on the player and the  button on the remote controller unit.	Measurement of laser current electricity initialization value Memorizes each initialization value of DVD and CD in EEPROM.	LDO ^{*1} _034 ^{*2} _028 ^{*3} * ¹ : Laser current electricity measurement mode * ² : DVD current electricity value * ³ : CD current electricity value Values are shown in the decimal digit. The above example indicates that the current electricity initialization value is 34mA at DVD laser and 28mA at CD laser when laser is turned on.	Automatically exits the mode after five seconds.
Measurement of DVD laser current electricity	While the player is stopped and no disc is inserted, press and hold down the  button on the player and the DISPLAY button on the remote controller unit.	Measurement of DVD laser current electricity Measures DVD laser current electricity and displays the result together with the initialization value stored in EEPROM. After measurement, DVD laser is lit till the power is turned off (or goes off when the primary power is turned off).	LDD ^{*1} _034 ^{*2} _032 ^{*3} * ¹ : DVD laser current electricity measurement mode * ² : Current electricity initialization value stored in EEPROM * ³ : Present value of current electricity Values are shown in the decimal digit. The above example indicates that the current electricity initialization value is 34mA and its present value is 32mA.	Automatically exits the mode after five seconds.
ADSC internal RAM display	While the player is stopped and no disc is inserted, press and hold down the  button on the player and the number button "1" or "2" on the remote controller unit.	ADSC internal RAM display Reads and displays the RAM value inside ADSC. The address is renewed when the CLEAR key is pressed so that the values at eleven points appear.	A ^{*1} _0FA ^{*2} _6901 ^{*3} * ¹ : ADSC internal RAM display mode * ² : Address * ³ : RAM value at displayed address Values are shown in the hexadecimal digit. The above example indicates that ADSC value at the address, 0FAh is 6901h.	Press the STOP or OPEN button.

Item	Operational Condition and Key Function	Details	Display	To Exit Mode
Measurement of CD laser current electricity	While the player is stopped and no disc is inserted, press and hold down the  button on the player and the number button "3" on the remote controller unit.	Measurement of CD laser current electricity Measures CD laser current electricity and displays the result together with the initialization value stored in EEPROM. After measurement, CD laser is lit till the power is turned off (or goes off when the primary power is turned off).	LDC ^{*1} _028 ^{*2} _026 ^{*3} ^{*1} : CD laser current electricity measurement mode ^{*2} : Current electricity initialization value stored in EEPROM ^{*3} : Present value of current electricity Values are shown in the decimal digit. The above example indicates the current electricity initialization value is 28mA and its present value is 26mA when laser is turned on.	Automatically exits the mode after five seconds.
User initialization	While the player is stopped and no disc is inserted, press and hold down the  button on the player and the number button ≥ 10 on the remote controller unit.	User initialization The user setting recovers the factory setting.	"INITIALIZED"	None
Region display	While the player is stopped and no disc is inserted, press and hold down the  button on the player and the number button, "6" on the remote controller unit.	Region display	__w ^{*1} _x ^{*2} y ^{*3} _zzz ^{*4} ^{*1} : Region number ^{*2} : N; no PAL/P; PAL ^{*3} : N; NTSC/6; PAL60 ^{*4} : Panel computer jumper information	Automatically exits the mode after five seconds.
Firm version display	While the player is stopped and no disc is inserted, press and hold down the  button on the player and the number button, "7" on the remote controller unit.	Firm version display	rrr ^{*1} _xx ^{*2} y ^{*3} zzz ^{*4} ^{*1} : Panel computer release number ^{*2} : System computer generation ^{*3} : System computer model type ^{*4} : System computer release number	Automatically exits the mode after five seconds.
Region and firm version display	While the player is stopped and no disc is inserted, press and hold down the  button on the player and the number button, "8" on the remote controller unit.	Region and firm version display	_r ^{*1} _xx ^{*2} y ^{*3} zzz ^{*4} ^{*1} : Region number ^{*2} : System computer generation ^{*3} : System computer model type ^{*4} : System computer release number	Automatically exits the mode after five seconds.
Usage time 1	While the player is stopped and no disc is inserted, press and hold down the  button on the player and the  button on the remote controller unit.	Usage time 1 Laser usage time Measures each for DVD and CD respectively.	T1_1234_5678 The numbers in the left show usage time for DVD laser and those in the right for CD laser. The four-digit number is shown by the ten hours in the decimal digit. The number after 0000 is 9999.	Automatically exits the mode after five seconds.
Usage time 1 reset	While the usage time 1 is displayed, press and hold down the  button on the player and the  button on the remote controller unit.	Usage time 1 reset Laser usage time' Resets both for DVD and CD at once.	T1_0000_0000	Automatically exits the mode after five seconds.
Usage time 2	While the player is stopped and no disc is inserted, press and hold down the  button on the player and the  button on the remote controller unit.	Usage time 2 Spindle motor usage time	T2_1234 The four-digit number is shown by the ten hours in the decimal digit. The number after 0000 is 9999.	Automatically exits the mode after five seconds.
Usage time 2 reset	While the usage time 2 is displayed, press and hold down the  button on the player and the  button on the remote controller unit.	Usage time 2 reset Spindle motor usage time	T2_0000	Automatically exits the mode after five seconds.

Item	Operational Condition and Key Function	Details	Display	To Exit Mode
Communication error display	While the player is stopped and no disc is inserted, press and hold down the ■ button on the player and the MENU button on the remote controller unit.	Displays frequency of communication errors between system computer firm IC and mechanical computer IC during DVD module.	ERR_00_/30	Automatically exits the mode after five seconds.

14.7. Lock Function

This function prohibits removal of disc and some disc operations to prevent loss of disc at a shop during sales promotion or equivalent occasions.

While this function is activated, the player displays "___LOCKED_" if any button is touched.

The lock function can be used in two ways.

14.7.1. Setting

• LOCK MODE A/LOCK MODE B

1. While the player is set to SELECTOR DVD/CD and POWER ON, press and hold down the  button on the player and the [POWER] button on the remote controller for at least three seconds so that the player displays "___LOCKED_" for three seconds to indicate that LOCK MODE A is activated and the currently loaded disc is played.

2. The following button is invalid during LOCK MODE A.

OPEN/CLOSE  button are invalid and the player displays "___LOCKED_" while the lock function mode is entered.

3. While LOCK MODE A is activated and the player is locked, press and hold down the  button on the player and the [POWER] button on the remote controller for at least three seconds so that the player displays "_UNLOCKED_" to indicate the function is deactivated.

4. While the player is set to SELECTOR DVD/CD and POWER ON, press and hold down the  button on the player and the [POWER] button on the remote controller for at least three seconds so that the player displays "___LOCKED_" for three seconds to indicate that LOCK MODE B is activated and the currently loaded disc is played.

5. The following buttons are invalid, based on the "selector or disc related", during LOCK MODE B.

Player	 ,  ,  , SELECTOR,  ,  , VOL. JOG
Remote controller unit	SLEEP, REPEAT, D.MIX (REPEAT holding down), 0~9, ≥ 10 , RETURN, FL DISPLAY, TEST (FL DISPLAY holding down), DISPLAY, SCREEN, CH SELECT,  ,  ,  ,  ,  ,  , SET UP, GROUP, MUTING, P MEMORY, TUNER/BAND, TV, VCR/AUX

6. The keys prohibited during PLAY and LOCK MODE B need not to correspond each other. The keys related to sound quality and shown on the DVD screen are not prohibited. Following buttons are always valid:

Player	POWER, DVD/CD>, PROGRESSIVE, VOL. JOG
Remote controller unit	POWER, PLAY MODE, CANCEL, SFC, B. B LEVEL, VOL-, VOL+, DVD/CD>, MENU, TOP MENU,  ,  ,  ,  , ENTER, DPL, SSS,C.F, CSM, ZOOM

7. While LOCK MODE B is activated and the player is locked, press and hold down the  button on the player and the [POWER] button on the remote controller for at least three seconds so that the player displays "_UNLOCKED_" for three seconds to indicate that the function is deactivated.

8. The tray lock function is deactivated by "AC Prohibition".

9. LOCK MODE A or B is an exclusive control over whichever is activated first.

10. While the player is set to a lock mode and POWER OFF, the auto power on function can be controlled by the DVD/CD button on the remote controller. The auto power on function is invalid by the other selector buttons (such as TUNER/BAND button).

11. While a lock mode is turned on and the prohibition button is pressed, "___LOCKED_" appears on FL.

12. While a lock mode is turned on and set to POWER OFF, the OPEN/CLOSE button is invalid to control the auto power on function.

14.8. Things to Do After Repair

Follow the procedure described below after repair.

1. While the power is on, press the  button to close the tray.
2. Press the power button to turn off the power.
3. Unplug the power cable.

Note:

It is prohibited to unplug the power cable while the tray is opened and to close the tray manually.

15 Cautions To Be Taken During Servicing

15.1. Recovery Process after Repair of DVD Player

- Recovery disc (product number=RFKZD5TR006 or RFKZD03R004)

Note:

Previously required initialization after repair of DVD player is no longer necessary. After completing the recovery process, the user's setting is replaced with factory setting like user initialization. Therefore, record the user's setting before repair in order to restore it after applying the recovery process.

15.2. DVD Player Firmware Version Upgrade Process

Firmware of DVD player may upgrade to conform to improvement of its performance and quality including operational range, playability of non-standardized discs, etc. The version upgrade disc contains the recovery function, and the recovery disc is not necessary.

Note:

Version upgrade process cannot be complete if the AC power is cut off due to power failure and other occasions during the process. If this occurs, replace FROM and restart version upgrade. Version upgrade disc number is informed when ordered.

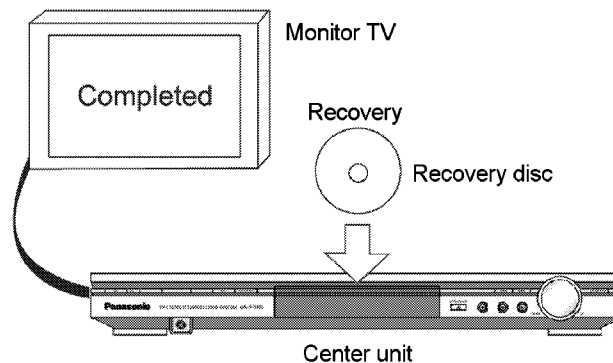
15.3. Firmware Version Upgrade Process by Using Disc and Recovery Process

- Recovery process
- Firmware version upgrade process

Both of the above procedures automatically start when the recovery disc is replayed. General CD-R disc allows version upgrade process and recovery process, making version upgrade through disc simple.

Recovery process: Optimization process of player after replacement of FLASH ROM, EEPROM, or module circuit board (DVD MODULE (2))

Version upgrade process: Renewal of firmware for improvement of operational range and performance



15.3.1. Self-Diagnosis Function

- Total usage time display (spindle motor, DVD/CD laser)
- ADSC internal RAM display
- Others: Last error count.....20 items

Efficiency of failure diagnosis is expected to improve by using the above functions together with the repair process.

[Purpose of Use]

Total usage time display: used for estimating a failure due to exhausted spindle motor, laser, or other parts.

ADSC internal RAM display: used for deciding servo system failure according to servo learning values.

15.4. Using Recovery Disc

15.4.1. Recovery Process

1. Insert the recovery disc (RFKZD5TR006 or RFKZD03R004) to the player to replay.
2. The recovery process automatically starts, and a message of completion prompts on the screen.

3. Remove the disc.
4. Turn off the power.

15.4.2. Version Upgrade Process

1. Insert the recovery disc to the player to replay.
2. The version of player is automatically checked and prompts if necessary.
3. Select version upgrade process using the cursor keys on the remote controller unit. (Select YES or NO)
4. a. If YES is selected, the process starts.
b. If NO is selected, only the recovery process is applied.
5. a. When the version upgrade process is complete, a message of completion appears on the screen. Remove the disc.
b. Follow the instruction appearing on the screen, and remove the disc.
6. Turn off the power.

15.5. Total Usage Time Display

1. Details of Operation/Display

1 2 3 4 5 6 7 8	Total usage time of DVD/CD lasers Time is shown by the ten hours in the decimal digit.
T 2 1 2 3 4	Total usage time of spindle motor Time is shown by the ten hours in the decimal digit.

Keys for Operation:

Laser usage time: While the player is stopped and no disc is inserted, press both the  button on the player and the  button on the remote controller unit.

Spindle motor usage time: While the player is stopped and no disc is inserted, press both the  button on the player and the  button on the remote controller unit.

To reset the usage time, **while the usage time is displayed:**

Laser usage time: press both the  button on the player and the  button on the remote controller unit.

Spindle motor usage time: press both the  button on the player and the  button on the remote controller unit.

2. Purpose of Use

To obtain reference data of laser and spindle motor systems during failure diagnosis.

To check faulty parts during re-repair.

16 Adjustment Procedure

16.1. Required Tools and Equipment

16.1.1. Usage Equipment

Purpose of Use	Tools/Equipment	Model/Product Number
Tilt adjustment	DVD test disc	DVDT-S15 or DVDT-S01
	Hexagonal wrench*	Available on the market (2mm)
Others	Screw lock	RZZ0L01
	Grease	RFKXGAK152, RFKXPG641
Checking	CD test disc	PVCD-K06 and any commercially available disc
	VCD test disc	
	Recovery disc	RFKZD5TR006 or RFKZD03R004

16.1.2. Necessity of Adjustment

16.1.2.1. Necessity of Optical Adjustment

- Before starting optical system adjustment, be sure to wear proper protection gear against static electricity.
- Optical adjustment (optical pickup tilt adjustment) is required after following parts are replaced:
 1. Optical pickup
 2. Spindle motor assembly
 3. Optical pickup peripherals such as a rail, etc.

Note:

Optical adjustment is not necessary after replacement of other parts inside traverse, however, may require when picture deterioration is detected. Optical adjustment cannot be applied to the inside of optical pickup. When a traverse unit is replaced, the adjustment is not necessary.

16.1.3. Storing and Handling Test Discs

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

- Do not leave the discs uncovered on the work desk or other places after use.
- Handle the discs carefully to prevent scratches. Put each disc in its case and place it in the standing position. Store the discs in a cool place and avoid direct sunlight or air conditioner.
- Accurate adjustment cannot be expected with a disc warped against a flat surface. Obtain a new test disc for optical adjustment.
- If a warped disc is used, adjustment would result incorrectly, and other discs could not be used.

16.1.4. Optical Adjustment (Optical Pickup Tilt Adjustment)

Measurement point	Adjustment point	Mode	Disc
	Tangential adjustment screw Tilt adjustment screw	T1 (inner track) replay T43 (outer track) replay	DVDT-S15 or DVDT-S01
Measuring equipment		Adjustment value	
None (LCD display of the player is used.)		Adjust that jitter value becomes minimum.	

16.1.4.1. Adjustment Procedure

1. While the player is stopped and no disc is inserted, select the DVD function. Press and hold down the  button on the player and the number button, "5" on the remote controller unit.
2. Check that "J_xxx_yyy_zz" is appearing on the display.

For your information:

The values, "yyy" and "zz" are not associated to jitter value.

"yyy" indicates the frequency of error occurrence.

"zz" indicates the focus drive value.

Note:

Jitter value appears on the display.

3. Replay T01 (inner track) of the test disc.
4. Adjust till the jitter value becomes minimum, using a tangential adjustment screw. <Fig. 16-1>
5. Replay T43 (outer track) of the test disc.
6. Adjust till the jitter value becomes minimum, using a tilt adjustment screw 1. <Fig. 16-1>
7. Replay T43 (outer track) of the test disc.
8. Adjust till the jitter value becomes minimum, using a tilt adjustment screw 2. <Fig. 16-1>
9. Adjust till the jitter value becomes, using the tilt adjustment screws 1 and 2 alternatively.

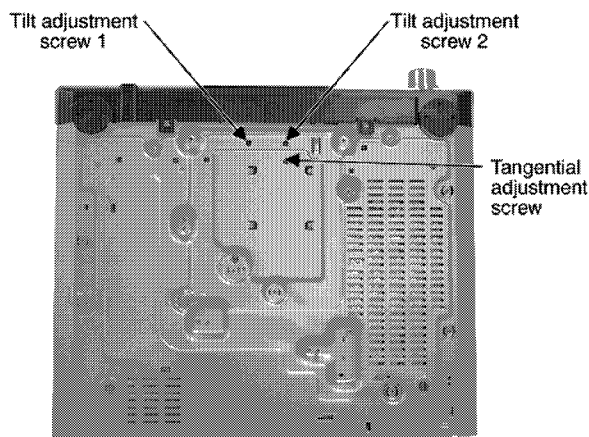
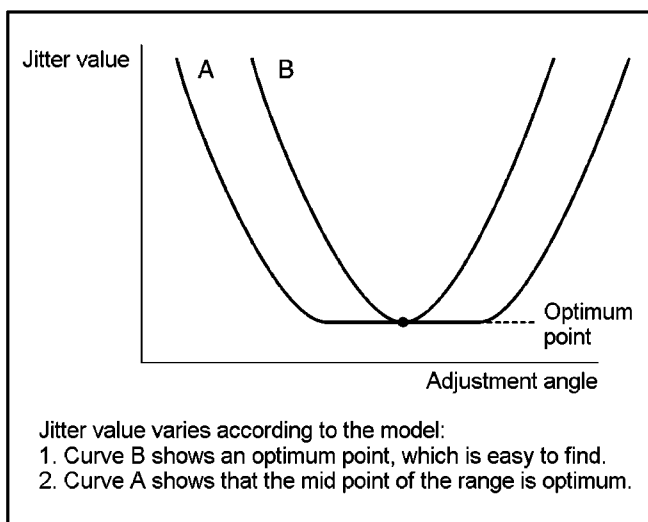


Fig. 16-1

16.1.4.2. Tips

1. Apply the tangential adjustment first and then the tilt adjustment.
2. Repeat the adjustment a couple of times to find the optimum point.
3. Complete with the tilt adjustment.



16.1.4.3. Check After Adjustment

Replay test discs or other commercial discs in order to confirm that no picture deterioration or sound skipping is detected in the inner, middle, and outer tracks. After this, fasten each adjustment screw securely using a screw lock.

16.1.4.4. Procedure for Screw Lock

1. After adjustment, remove the top cover, clamper base, disc tray and then traverse unit.
2. Place the traverse unit upside down, and fasten the adjustment screws with a screw lock. <Fig. 16-2>
3. After fastening the screws, assemble in order of the traverse unit, disc tray, clamper base, and then top cover.

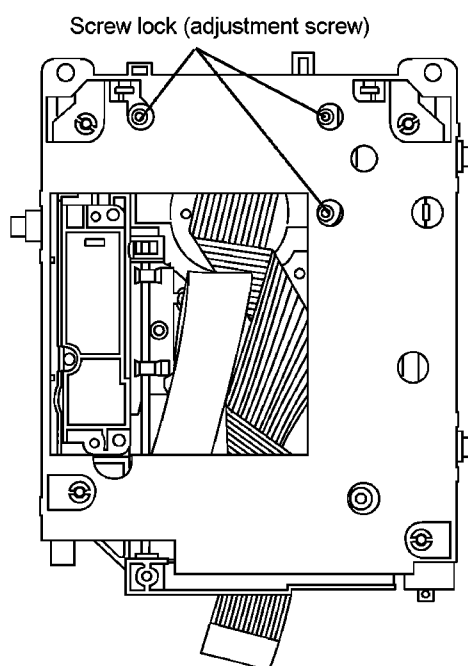
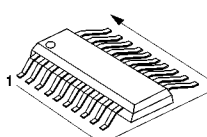
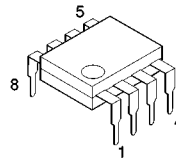
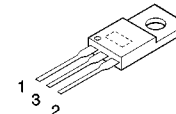
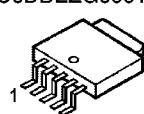
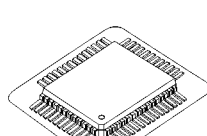
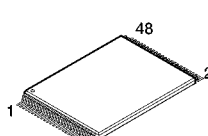
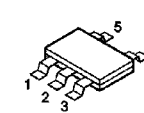
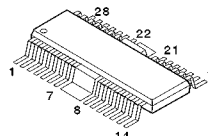
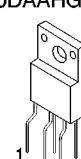
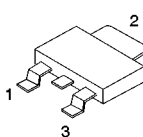
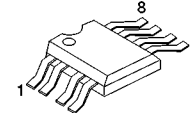
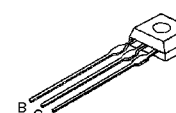
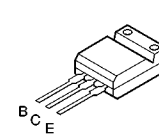
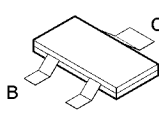
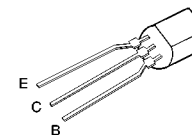
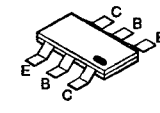
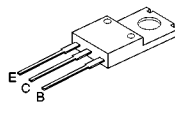
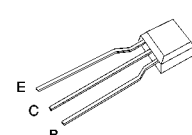
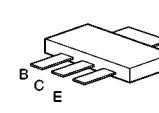
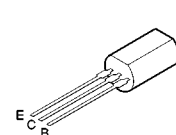
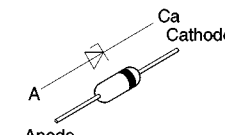
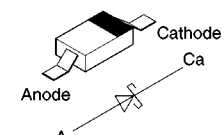
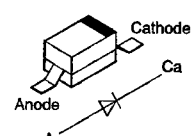
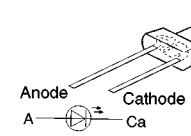
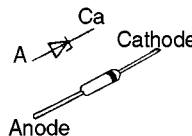
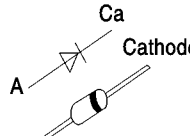
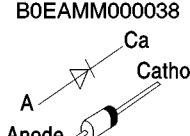
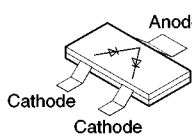
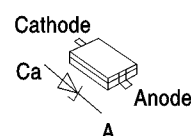
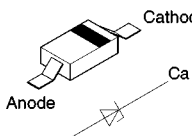
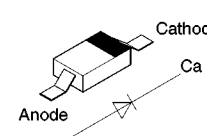
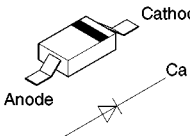


Fig. 16 -2

17 Illustration of IC's, Transistors and Diodes

C0JBAR000292 (16p) C1DB00000582 (16p) C3ABPG000068 (54p) M62456FPE1 (24p) M62444FPE1 (16p) C0JZAS000004 (30p) C0GBF0000004 (16p) C9ZB00000432 (34p)		C0AABB000085 	C0CAADG00019 	C0DBAJG00002 C0DBFFG00004 C0DBCGE00002 C0DBEZG00011 
C2HBZC000013 (80p) MN103S26EGA (176p) C0FBBK000036 (48p) MN102H60GFD (100p) C0HBB0000033 (64p) AN22030A-VT (64p) MN6775511 (208p) C2CBHF000247 (100p)		RFKFMA66F320 	C0JBAS000116 C0JBAA000001 C0EBE0000070 	C0GBG0000033 
C0DAAHG00012 	C0CBAHE00002 	C0ABCB000052 C0ABBB000067 	KTC3199GRTA B1ACCF000039 	2SB14170JA 
2SD1819A0L 2SB1218ARL UNR521200L UNR521100L UNR212100L 2SA1576A106R B1ABGC000001 B1GDCFJJ0002 B1ADCF000001	B1ABCF000011 B1GBCFJA0002 B1GDCFJA0001 	2SB0621AHA 	B1GFGCAA0001 	KTA1046 KTC2026 
B1GACFJN0005 B1GBCFJN0004 	B1BDBF000004 	2SC3940ARA 	B0BA7R200003 B0BA02300017 	MA2J72800L MA2J72900L 
B0JCPC000004 	LNJ201LPQJA 	B0BA8R700009 	B0AACK000004 	RL1N4003N02 B0EAKM000085 B0EAMM000038 
B0ADCC000002 	B0BC5R000009 B0BC5R600003 	B0ACCK000005 	1SS380TE-17 B0BC4R300002 	B0ECKM000003 

18 Terminal Function of IC's

18.1. IC801(C2CBHF000270):16bit 1-chip Micro Controller

PIN No.	Mark	I/O	Function
1	VSEL_B	O	Picture input SELECTOR B
2	VSEL_A	O	Picture input SELECTOR A
3	VMUTE2	O	Picture mute output 2 (L: Mute ON)
4	VMUTE1	O	Picture mute output 1 (L: Mute ON)
5	WIDE1	O	WIDE 1 setting
6	DWIDE1	O	DWIDE1 setting
7	DWIDE2	O	DWIDE2 setting
8	BYTE	-	Connected to GND
9	Vss	-	Connected to GND at 10k ohm
10	NC	-	Not in use/Open
11	NC	-	Not in use/Open
12	RESET	I	Reset signal input
13	Xout	O	Main clock output (10MHz)
14	Vss	-	Connected to GND
15	XIN	I	Main clock input (10MHz)
16	Vcc	-	Power supply terminal (+5V)
17	NMI	I	Connected to power supply terminal (+5V)
18	AC IN	I	Power failure detect input
19	RMT	I	Remote control signal input
20	NC	-	Not in use/Open
21	DRV_1	I/O	Tray control terminal 1
22	DRV_2	I/O	Tray control terminal2
23	DRV_MUTE	I/O	Tray control terminal3
24	CLOSE_SW	I/O	Loading mechanism close switch (L: Switch ON)
25	OPEN_SW	I/O	Loading mechanism open switch (L: Switch ON)
26	TRY/TRV	I/O	Tray/traverse switch
27	DVD_MUTE	I	DVD mute input
28	DVD_CK	I	DVD clock input
29	DVD_STA	I	DVD status input
30	DVD_CMD	O	DVD command output
31	FL_DA	O	FL driver IC data output
32	FL_CS	O	FL driver IC CS output
33	FL_CK	O	FL driver IC clock output
34	FL-RST	I/O	FL driver IC reset signal
35	M_SO	O	AAC microcomputer communication serial data output
36	M_SI	I	AAC microcomputer communication serial data input
37	M_CK	O	AAC microcomputer communication clock output
38	M_RST	O	AAC microcomputer communication reset output
39	JOG_B	I	Volume JOG input B
40	JOG_A	I	Volume JOG input A
41	/EPM	I/O	Connected to GND via resistance
42	SW1	I/O	Shuttle JOG switch 1
43	SW2	I/O	Shuttle JOG switch2
44	SW3	I/O	Shuttle JOG switch3
45	SW4	I/O	Shuttle JOG switch4
46	CE	I/O	Connected to GND via resistance
47	PHONE SW	I	PHONE DET input (L: No PHONE)
48	SEL_ST	O	Analog switch store output
49	SEL_DA	O	Analog switch data output
50	SEL_CK	O	Analog switch clock output
51	VOL_LA	I/O	4ch volume latch
52	VOL_DA	I/O	4ch volume data
53	VOL_CK	I/O	4ch volume clock
54	HP_MUTE	I/O	Headphone mute

PIN No.	Mark	I/O	Function
55	ECS	O	EEPROM CS output
56	EDA	I/O	EEPROM data input/output
57	ECK	O	EEPROM clock output
58	NC	-	Not in use/Open
59	AAC_PWRCNT	I/O	Power supply switch to AAC module (H: AAC module active)
60	LED_CNT	I/O	LED lamp control (L: ON, H: OFF)
61	CF_1/2	I/O	Center focus1/2
62	Vcc	-	Power supply terminal (+5V)
63	CF_ON/ OFF	I/O	Center focus ON/OFF
64	Vss	-	Connected to GND
65	BS_L	I/O	OPT IN MUTE
66	PCNT	O	PCNT output
67	DVD_PWCNT	O	DVD module power control signal
68	NC	-	Not in use/Open
69	VR_ATT	I/O	Volume ATT
70	MUTE_SW	O	Mute SW ch output
71	MUTE_C&S	O	Mute C ch output
72	MUTE_F&SW	O	Mute F ch output
73	HP_CNT	I/O	Power amplifier mute (H: Mute ON)
74	DSP_RST	O	DSP reset output
75	DSP_DA	O	DSP data output
76	DSP_CK	O	DSP clock output
77	DSP_CS	O	DSPCS output
78	DC DET	I	DC DET input
79	TUN_CE	O	PLL CE output
80	TUN_CK	O	PLL clock output
81	TUN_DI	I	Tuner DO/ST input
82	TUN_DO	O	PLL data output
83	TUN_SD	I	Tuner DET input
84	RDS_RDY	I	RDS READY input
85	RDS_DO	I	RDS data input
86	RDS_CK	O	RDS clock output
87	AAC_RQM	O	Request signal output to AAC microcomputer communication
88	AAC_RQS	O	Request signal output to AAC microcomputer communication
89	AAC_MUTE	I	Mute signal input to AAC microcomputer communication
90	NC	-	Not in use/Open
91	MT1/ST1	I/O	MT1/SC1 switch (H: MT1, L: ST1)
92	PROG/INT	I/O	Progressive/Inter race switch (H: Progressive, L: Inter race)
93	DES3	I/O	Model setting3
94	DES2	I/O	Model setting2
95	DES1	I/O	Model setting1
96	AVss	-	GROUND
97	KEY	I	KEY input
98	VREF	-	Reference voltage (+5V)
99	AVcc	-	Analog power supply terminal (+5)
100	525P	I/O	Progressive ON/OFF switch (H: ON, L: OFF)

18.2. IC3001(MN6775511): AV Decoder

PIN No.	Mark	I/O	Function
1	VSS	-	Digital GND
2	MDQ9	I/O	SRAM data bass 9
3	MDQ5	I/O	SRAM data bass 5
4	MDQ10	I/O	SRAM data bass 10
5	VDD	-	Digital power supply (3.3V)

PIN No.	Mark	I/O	Function
6	MDQ4	I/O	SRAM data bass 4
7	MDQ11	I/O	SRAM data bass 11
8	MDQ3	I/O	SRAM data bass 3
9	MDQ12	I/O	SRAM data bass 12
10	VSS	-	Digital GND
11	MDQ2	I/O	SRAM data bass 2
12	LVDD	-	Internal digital logic power supply (1.5V)
13	MDQ13	I/O	SRAM data bass 13
14	MDQ1	I/O	SRAM data bass 1
15	VDD	-	Digital power supply (3.3V)
16	MDQ14	I/O	SRAM data bass 14
17	MDQ0	I/O	SRAM data bass 0
18	MDQ15	I/O	SRAM data bass 15
19	VSS	-	Digital GND
20	HMD	I	HCLK polarity selection signal
21	XRST	I	System reset terminal
22	XHINT	O	Interruption input to host (low active)
23	XHINT2	O	Interruption input to host (low active)
24	XDK	O	Data acknowledge output to host
25	XWRH	I	Write enable from host (low active)
26	VDD	-	Digital power supply (3.3V)
27	XWR	I	Write enable from host (low active)
28	XRD	I	Read enable from host (low active)
29	XCS	I	Chip select from host (low active)
30	LVDD	-	Internal digital logic power supply (1.5V)
31	HCLK	I	CLK input from host
32	HA1	I	Address input 1 from host
33	HA2	I	Address input 2 from host
34	VSS	-	Digital GND
35	HA3	I	Address input 3 from host
36	HA4	I	Address input 4 from host
37	HA5	I	Address input 5 from host
38	HA6	I	Address input 6 from host
39	VDD	-	Digital power supply (3.3V)
40	HA7	I	Address input 7 from host
41	HA8	I	Address input 8 from host
42	HA9	I	Address input 9 from host
43	HA10	I	Address input 10 from host
44	VSS	-	Digital GND
45	HA11	I	Address input 11 from host
46	HA12	I	Address input 12 from host
47	HA13	-	Address input 13 from host
48	LVDD	-	Internal digital logic power supply (1.5V)
49	HA14	I	Address input 14 from host
50	HA15	I	Address input 15 from host
51	HA16	I	Address input 16 from host
52	VDD	-	Digital power supply (3.3V)
53	VSS	-	Digital GND
54	HA17	I	Address input 17 from host
55	HD0	I/O	host data bass 0
56	HD1	I/O	Data input 1 from host
57	HD2	I/O	Data input 2 from host
58	VDD	-	Digital power supply (3.3V)
59	HD3	I/O	Data input 3 from host
60	HD4	I/O	Data input 4 from host
61	HD5	I/O	Data input 5 from host
62	VSS	-	Digital GND
63	HD6	I/O	Data input 6 from host
64	HD7	I/O	Data input 7 from host
65	HD8	I/O	Data input 8 from host
66	VDD	-	Digital power supply (3.3V)
67	HD9	I/O	Data input 9 from host
68	HD10	I/O	Data input 10 from host

PIN No.	Mark	I/O	Function
69	LVDD	-	Internal digital logic power supply (1.5V)
70	HD11	I/O	Data input 11 from host
71	VSS	-	Digital GND
72	HD12	I/O	Data input 12 from host
73	HD13	I/O	Data input 13 from host
74	HD14	I/O	Data input 14 from host
75	VDD	-	Digital power supply (3.3V)
76	HD15	I/O	Data input 15 from host
77	DVALID	I	Valid signal of bit stream input data
78	DSTR	I	CLK signal for bit stream
79	STRQ	O	Request of program stream
80	VSS	-	Digital GND
81	STD7	I	Bit stream parallel input7
82	STD6	I	Bit stream parallel input6
83	STD5	I	Bit stream parallel input5
84	STD4	I	Bit stream parallel input4
85	STD3	I	Bit stream parallel input3
86	STD2	I	Bit stream parallel input2
87	STD1	I	Bit stream parallel input1
88	STD0	I	Bit stream parallel input0
89	VDD	-	Digital power supply (3.3V)
90	IECOUT	O	IEC958 format data output
91	ADOUT0	O	Audio data output (CH1/CH2)
92	ADOUT1	O	Audio data output (CH3/CH4)
93	ADOUT2	O	Audio data output (CH5/CH6)
94	ADOUT3	O	Audio data output (CH7/CH8)
95	VSS	-	Digital GND
96	SRCK	O	bit clock output
97	LRCK	O	LR clock output
98	LVDD	-	Internal digital logic power supply (1.5V)
99	PHCOPMO	O	Audio-PLL phase comparison output
100	EXTCK	I	Audio CLK input
101	CLK121	I	CLK test input terminal (L or H fix)
102	PCLK	I	Main-PLL system clock input (27MHz or 54MHz)
103	VDD	-	Digital power supply (3.3V)
104	VSS	-	Digital GND
105	PLLA VDD	-	Main-PLL power supply
106	TCPOUT	O	Main-PLL test output terminal (Used as open.)
107	PLLA VSS	-	Main-PLL GND
108	DAC3OUT	O	DAC output 3
109	DAC1OUT	O	DAC output 1
110	COMP2	I	DAC stabilization volume connection terminal 2
111	IREF2	I	Resistance terminal 2 for DAC bias current electricity setting
112	AVDD	-	DAC analog power supply (3.3V)
113	AVSS	-	DAC analog GND
114	DAC2OUT	O	DAC output 2
115	VREF	I	DAC gain adjustment terminal
116	DAC4OUT	O	DAC output 4
117	COMP1	I	DAC stabilization volume connection terminal 1
118	AVDD	-	DAC analog power supply (3.3V)
119	IREF1	I	Resistance terminal 1 for DAC bias current electricity setting
120	DAC5OUT	O	DAC output 5
121	AVSS	-	DAC analog GND
122	VSS	-	Digital GND
123	DCTEST	I	DC test mode terminal (Used as open)
124	TESTSEL2	I	Test mode terminal 2 (L fix)
125	TESTSEL1	I	Test mode terminal 1 (L fix)
126	TESTSEL0	I	Test mode terminal 0 (DAC CLK selection signal)
127	LVDD	-	Internal digital logic power supply (1.5V)

PIN No.	Mark	I/O	Function
128	VCLK	I	Digital video data CLK (27MHz)
129	VDIN7	I	Digital video data input 7
130	VDIN6	I	Digital video data input 6
131	VDD	-	Digital power supply (3.3V)
132	VDIN5	I	Digital video data input 5
133	VDIN4	I	Digital video data input 4
134	VDIN3	I	Digital video data input 3
135	LVDD	-	Internal digital logic power supply (1.5V)
136	VDIN2	I	Digital video data input 2
137	VDIN1	I	Digital video data input 1
138	VDIN0	I	Digital video data input 0
139	VSS	-	Digital GND
140	VDOUT0	O	Digital video data output 0
141	VDOUT1	O	Digital video data output 1
142	VDOUT2	O	Digital video data output 2
143	VDOUT3	O	Digital video data output 3
144	VDD	-	Digital power supply (3.3V)
145	VDOUT4	O	Digital video data output 4
146	VDOUT5	O	Digital video data output 5
147	VDOUT6	O	Digital video data output 6
148	VSS	-	Digital GND
149	VDOUT7	O	Digital video data output 7
150	MDQ24	I/O	SDRAM data bass 24
151	MDQ23	I/O	SSDRAM data bass 23
152	VDD	-	Digital power supply (3.3V)
153	MDQ25	I/O	SDRAM data bass 25
154	MDQ22	I/O	SDRAM data bass 22
155	MDQ26	I/O	SDRAM data bass 26
156	VSS	-	Digital GND
157	VDD	-	Digital power supply (3.3V)
158	MDQ21	I/O	SDRAM data bass 21
159	MDQ27	I/O	SDRAM data bass 27
160	MDQ20	I/O	SDRAM data bass 20
161	VSS	-	Digital GND
162	MDQ28	I/O	SDRAM data bass 28
163	MDQ19	I/O	SDRAM data bass 19
164	MDQ29	I/O	SDRAM data bass 29
165	VDD	-	Digital power supply (3.3V)
166	MDQ18	I/O	SDRAM data bass 18
167	MDQ30	I/O	SDRAM data bass 30
168	MDQ17	I/O	SDRAM data bass 17
169	MDQ31	I/O	SDRAM data bass 31
170	VSS	-	Digital GND
171	MDQ16	I/O	SDRAM data bass 16
172	LVDD	-	Internal digital logic power supply (1.5V)
173	DQM3	-	SRAM data byte (mask signal 3)
174	DQM2	-	SRAM data byte (mask signal 2)
175	VDD	-	Digital power supply (3.3V)
176	MA3	O	SDRAM address 3
177	MA4	O	SDRAM address 4
178	MA2	O	SDRAM address 2
179	MA5	O	SDRAM address 5
180	VSS	-	Digital GND
181	MA1	O	SDRAM address 1
182	MA6	O	SDRAM address 6
183	MA0	O	SDRAM address 0
184	VDD	-	Digital power supply (3.3V)
185	MCKI	I	CLK input terminal from data input from SRAM
186	LVDD	-	Internal digital logic power supply (1.5V)
187	MCK	O	CLK output to SRAM
188	MA7	O	SDRAM address 7
189	MA10	O	SDRAM address 10
190	VSS	-	Digital GND
191	MA8	O	SDRAM address 8

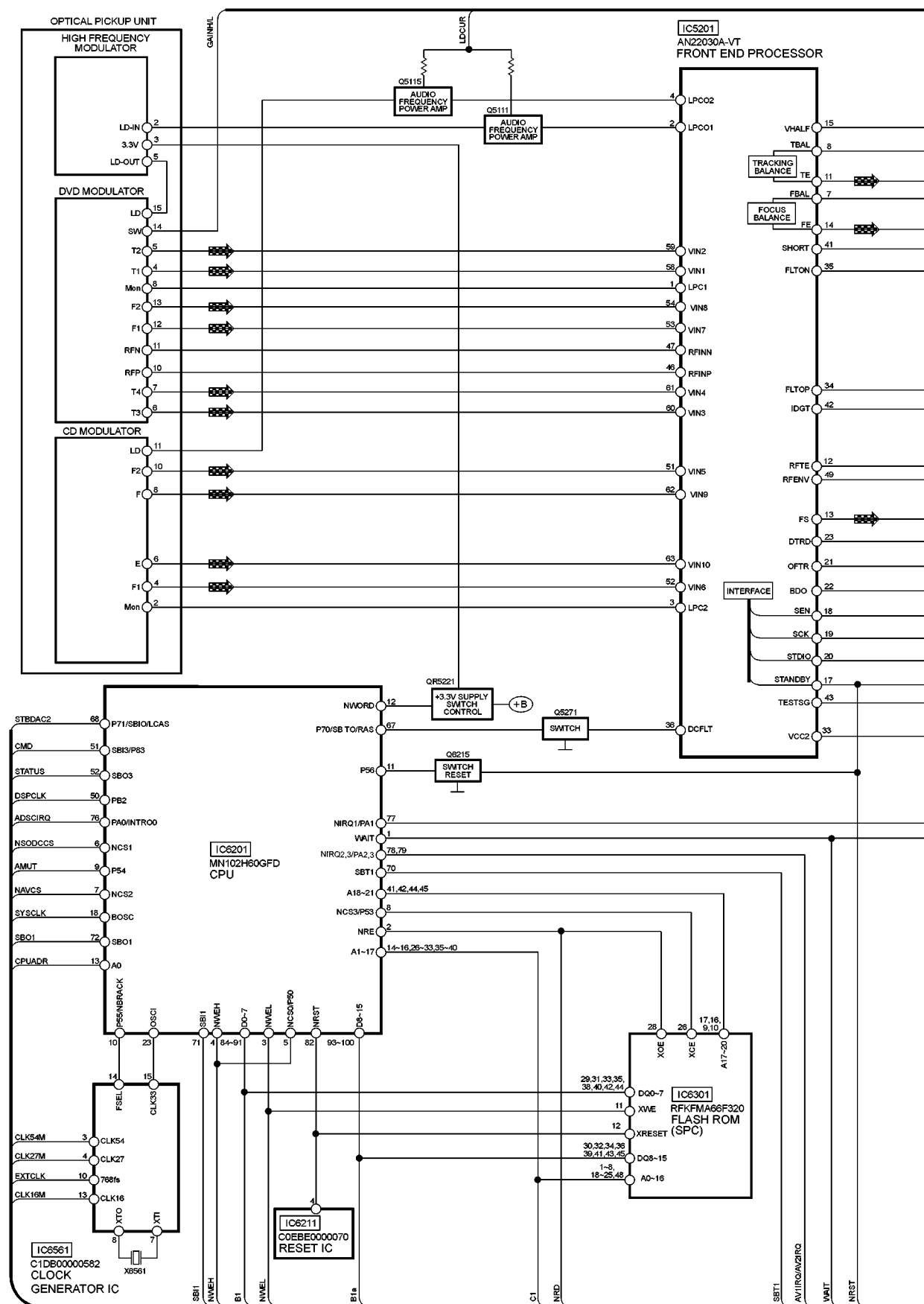
PIN No.	Mark	I/O	Function
192	MA11	O	SDRAM address 11
193	XWE	O	SRAM write enable signal
194	VDD	-	Digital power supply (3.3V)
195	BA0	-	SDRAM bank 0
196	MA9	O	SDRAM address 9
197	BA1	-	SDRAM bank 1
198	XCSM	O	Chip select signal for main SDRAM
199	VSS	-	Digital GND
200	XRAS	O	RAS signal for SRAM
201	XCAS	O	CAS signal for SRAM
202	DQM0	-	Data byte for SRAM (mask signal 0)
203	VDD	-	Digital power supply (3.3V)
204	DQM1	-	Data byte for SRAM (mask signal 1)
205	MDQ7	I/O	SRAM data bank 7
206	MDQ8	I/O	SRAM data bank 8
207	MDQ6	I/O	SRAM data bank 6
208	VSS	-	Digital GND

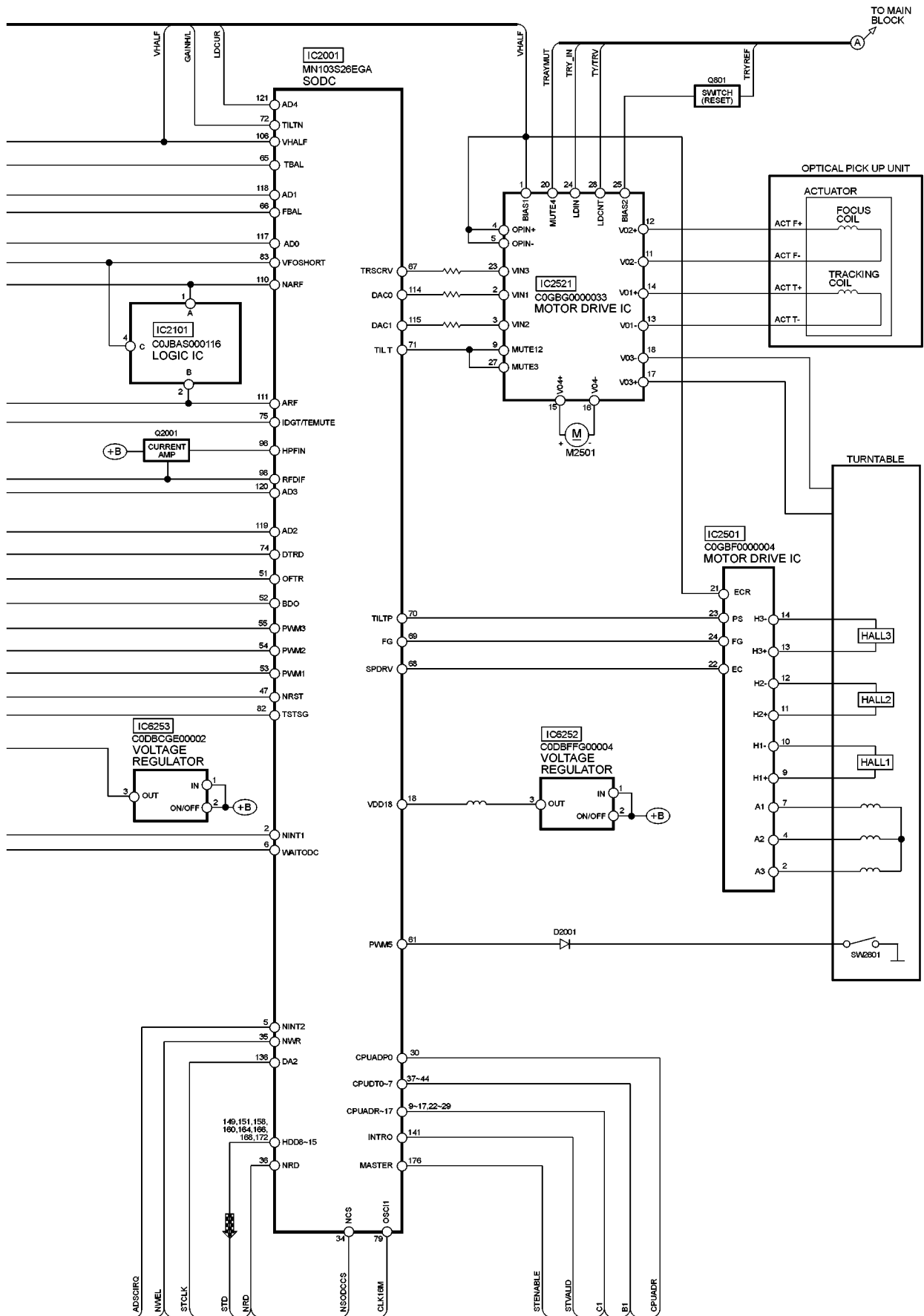
18.3. IC5201(AN22030A-VT): Front End Processor

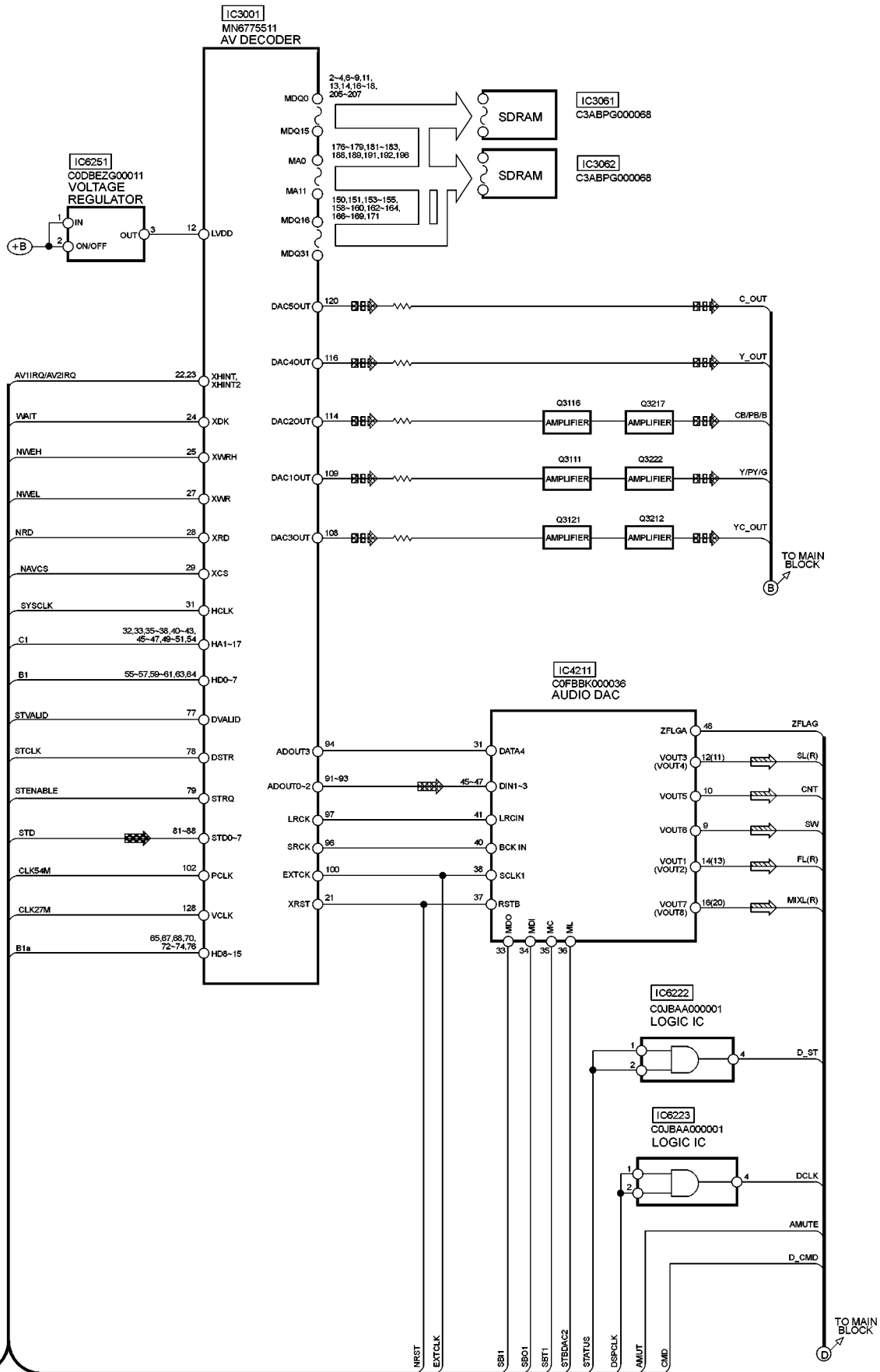
PIN No.	Mark	I/O	Function
1	LPC1		MD connection terminal for DVD
2	LPCO1		TR connection terminal of LD drive for DVD
3	LPC2		MD connection terminal for CD
4	LPCO2		TR connection terminal of LD drive for CD
5	POFLT	O	Track detection threshold level terminal
6	NC1	-	Not in use/Open
7	FBAL		Focus balance control terminal
8	TBAL		Tracking balance control terminal
9	TEFLT	O	Tracking error detect filter terminal
10	MONI2	O	IC forwarding detection monitor output terminal 2 (Not in use/Open)
11	TE	O	Tracking error signal output terminal 2
12	RFTE	O	Radial differential motion output terminal
13	FS	O	Focus total addition signal output terminal
14	FE	O	Focus error signal output terminal
15	VHALF	O	VHAL voltage output terminal
16	VSS	-	CMOS ground terminal
17	STANBY		Standby mode control terminal
18	SEN	I	Serial data transmission enable input terminal
19	SCK	I	Serial data transmission clock input terminal
20	STDIO	I	Serial data transmission data input terminal
21	OFTR	O	Mirror detect/phase differential off track detect signal output terminal
22	BDO	O	BD0 detect +BCA detect output terminal
23	DTRD	I	RAM replay data read switch input terminal
24	SHOLD		SAG cancel hold control terminal
25	VDD	-	CMOS power supply terminal (3.3V)
26	NC2	-	Not in use/Open
27	RSCL		Reference current electricity setting terminal
28	GND2		Ground terminal 2 (3.3V)
29	BDOSL		BD0 detect slow envelope detecting terminal
30	MIRSL		Mirror detect slow envelope detecting terminal
31	DCAGC		Filter output DC cut filter terminal

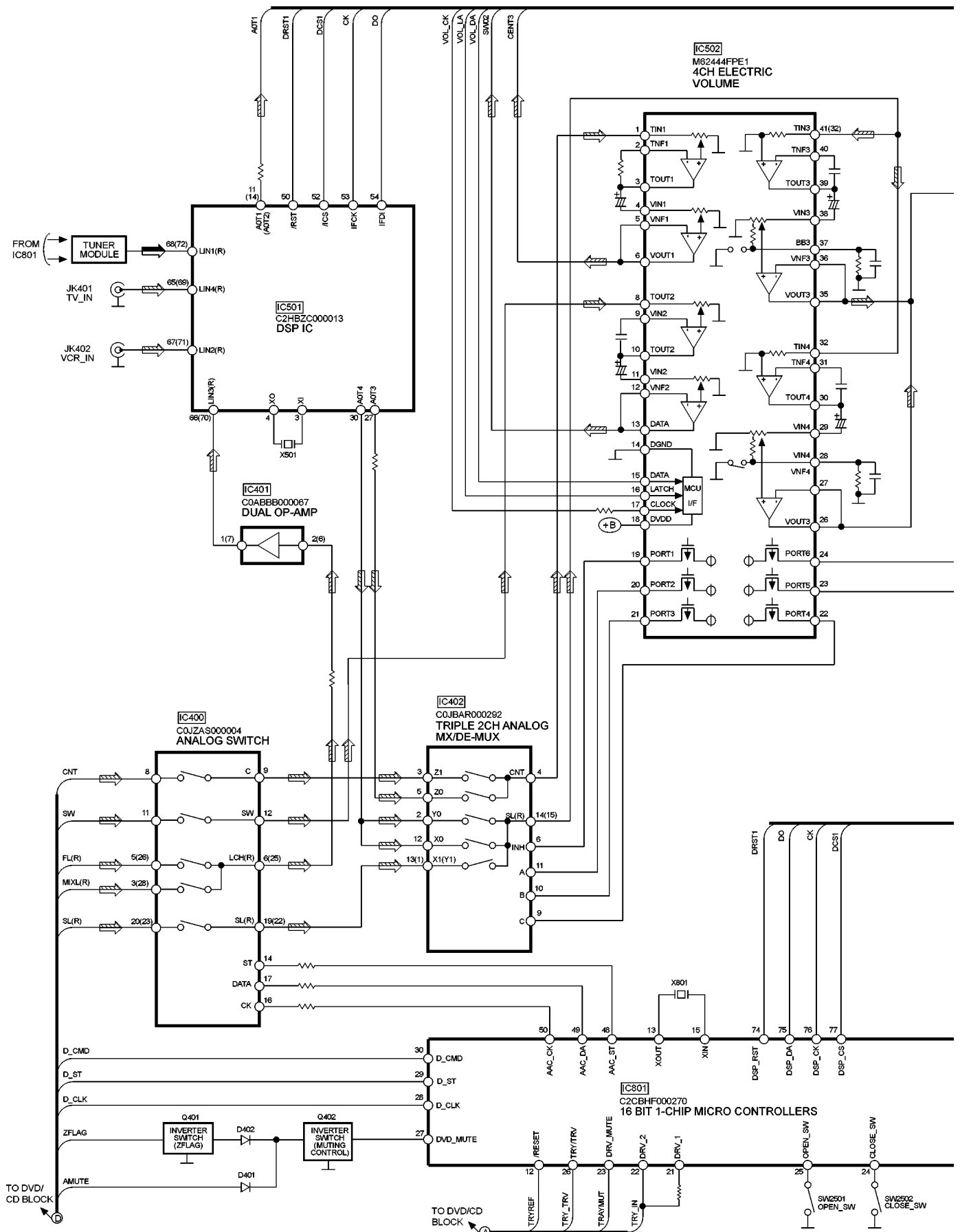
PIN No.	Mark	I/O	Function
32	RBCA		BCA detect terminal
33	VCC2	-	Power supply terminal 2 (3.3V)
34	FLTOP	O	Filter amplifier forward output terminal
35	FLTON	O	Filter amplifier reverse output terminal
36	DCFLT		RF output DC cut filter terminal
37	SAG		SAG cancel filter terminal
38	AGCG1		GC amplifier gain control terminal 1
39	AGCG2		GC amplifier gain control terminal 2
40	NC3	-	Not in use/Open
41	SHORT		VFOSHORT control terminal
42	IDGT		RAM replay address read switch terminal
43	TESTSG	I	Test signal input terminal
44	CRFHP1	O	RF high-pass filter terminal 1
45	CRFHP2	O	RF high-pass filter terminal 2
46	RFINP	I	RF signal forward input terminal
47	RFINN	I	RF signal reverse input terminal
48	PEAK	O	Peak envelope detect filter terminal
49	RFENV	O	RF envelope output terminal
50	VCC1	-	Power supply terminal (5V)
51	VIN5	I	CD-FE astigmatism input terminal 1
52	VIN6	I	CD-FE astigmatism input terminal 2
53	VIN7	I	DVD-FE SSD input terminal 1
54	VIN8	I	DVD-FE SSD input terminal 2
55	VREF	O	VREF voltage output terminal
56	VREFRF	O	VREFRF voltage output terminal
57	MONI	O	IC forwarding detection monitor output terminal 1 (Not in use/Open)
58	VIN1	I	DVD-TE4 split RF input terminal 1
59	VIN2	I	DVD-TE4 split RF input terminal 2
60	VIN3	I	DVD-TE4 split RF input terminal 3
61	VIN4	I	DVD-TE4 split RF input terminal 4
62	VIN9	I	CD-TE3 beam detection input terminal 1
63	VIN10	I	CD-TE3 beam detection input terminal 2
64	GND1	-	Ground terminal 1 (5V)

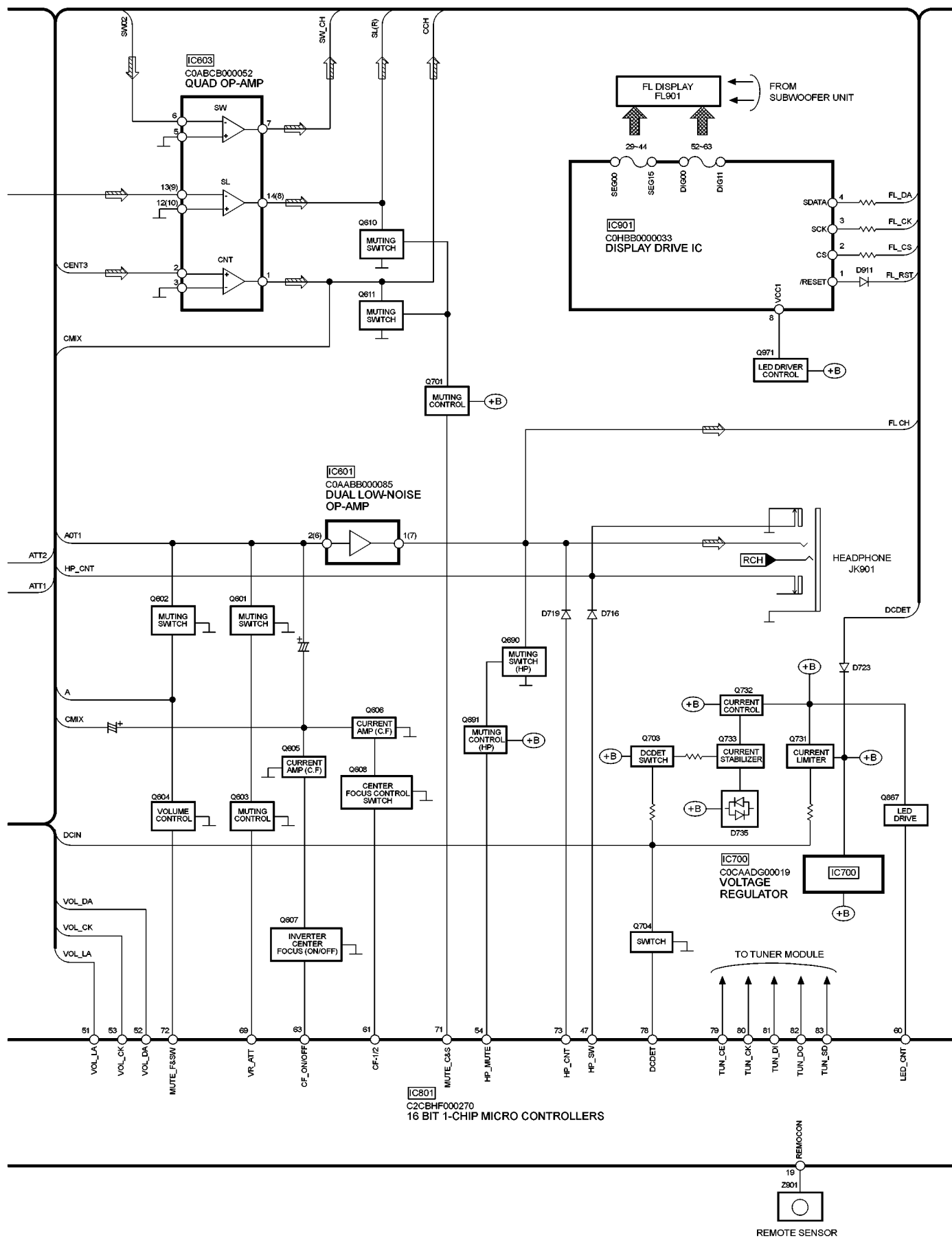
19 Block Diagram

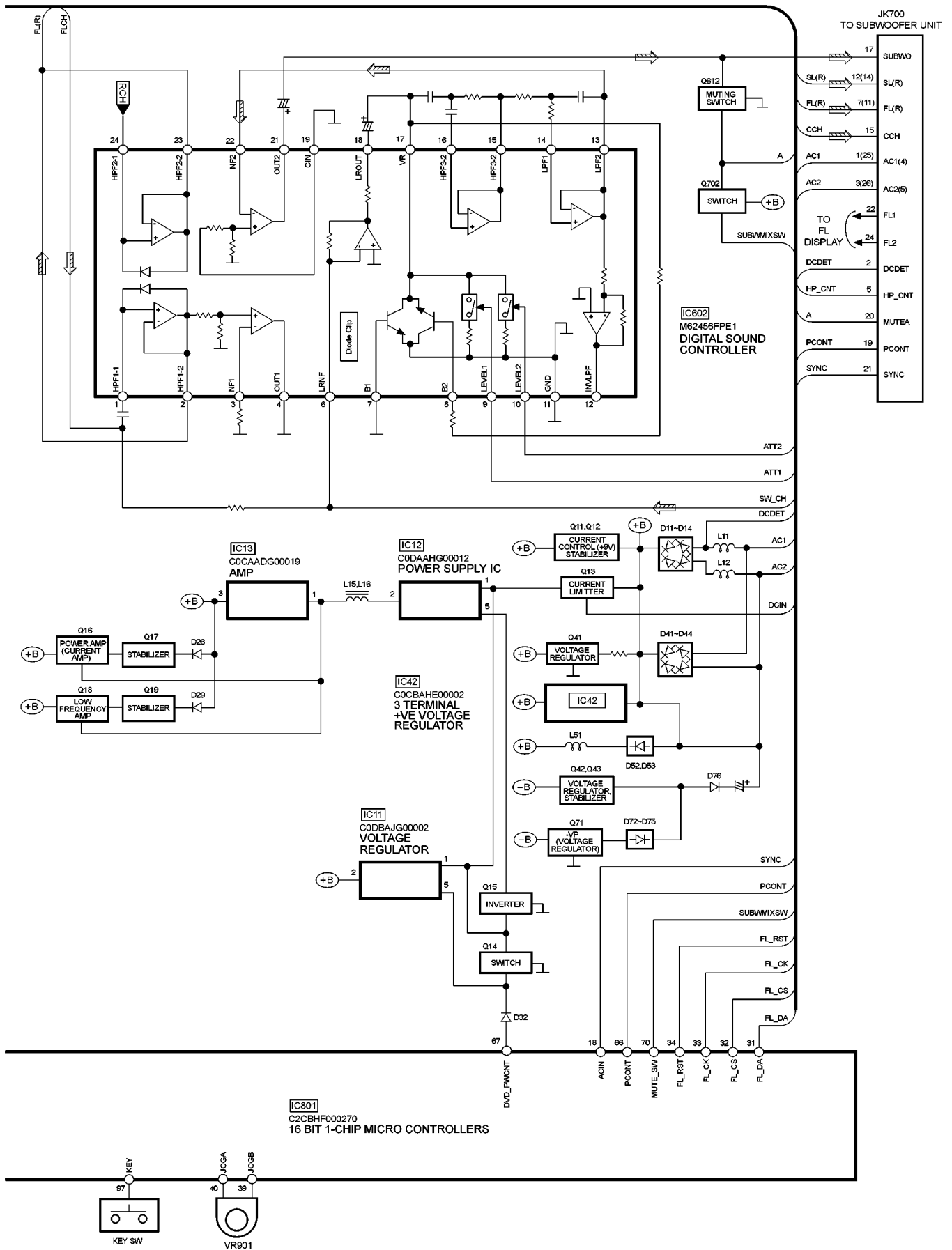






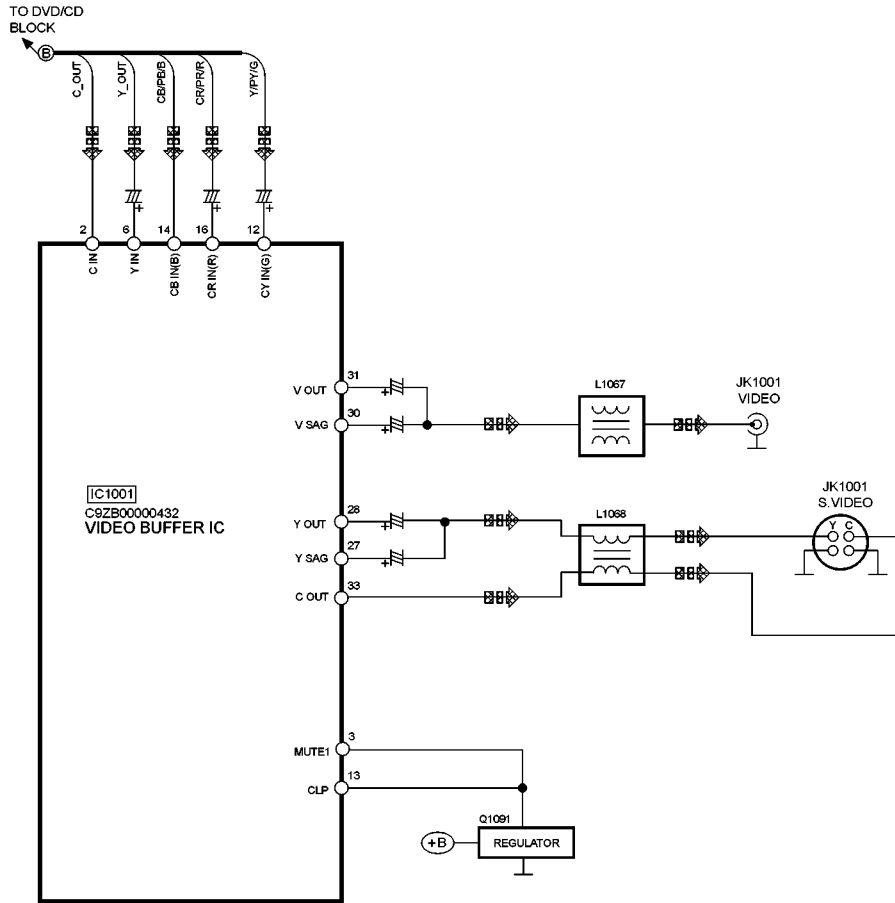






SIGNAL LINES

	: MAIN SIGNAL LINE		: CD SIGNAL LINE
	: DVD VIDEO SIGNAL LINE		: CD-DA (AUDIO /VIDEO) SIGNAL LINE
			: FM /AM SIGNAL LINE
() Indicates the Pin No. of Right Channel. NOTE : Signal Lines are applicable to the Left Channel only.			



20 Schematic Diagram

(All schematic diagrams may be modified at any time with the development of the new technology)

Note:

S931	: POWER switch
S932	: OPEN/CLOSE switch
S933	: F.SKIP switch
S934	: PLAY switch
S935	: PAUSE switch
S936	: STOP switch
S937	: R.SKIP switch
S938	: SELECTOR switch
S940	: SFC switch
S941	: S.Woofer switch
SW2501	: OPEN switch
SW2502	: CLOSE switch

- The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis. Accordingly, there may arise some error in voltage values

and waveforms depending upon the internal impedance of the tester or the measuring unit.

• Importance safety notice :

Components identified by $\triangle$ 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.

Caution !

IC, LSI and VLSI are sensitive to static electricity.

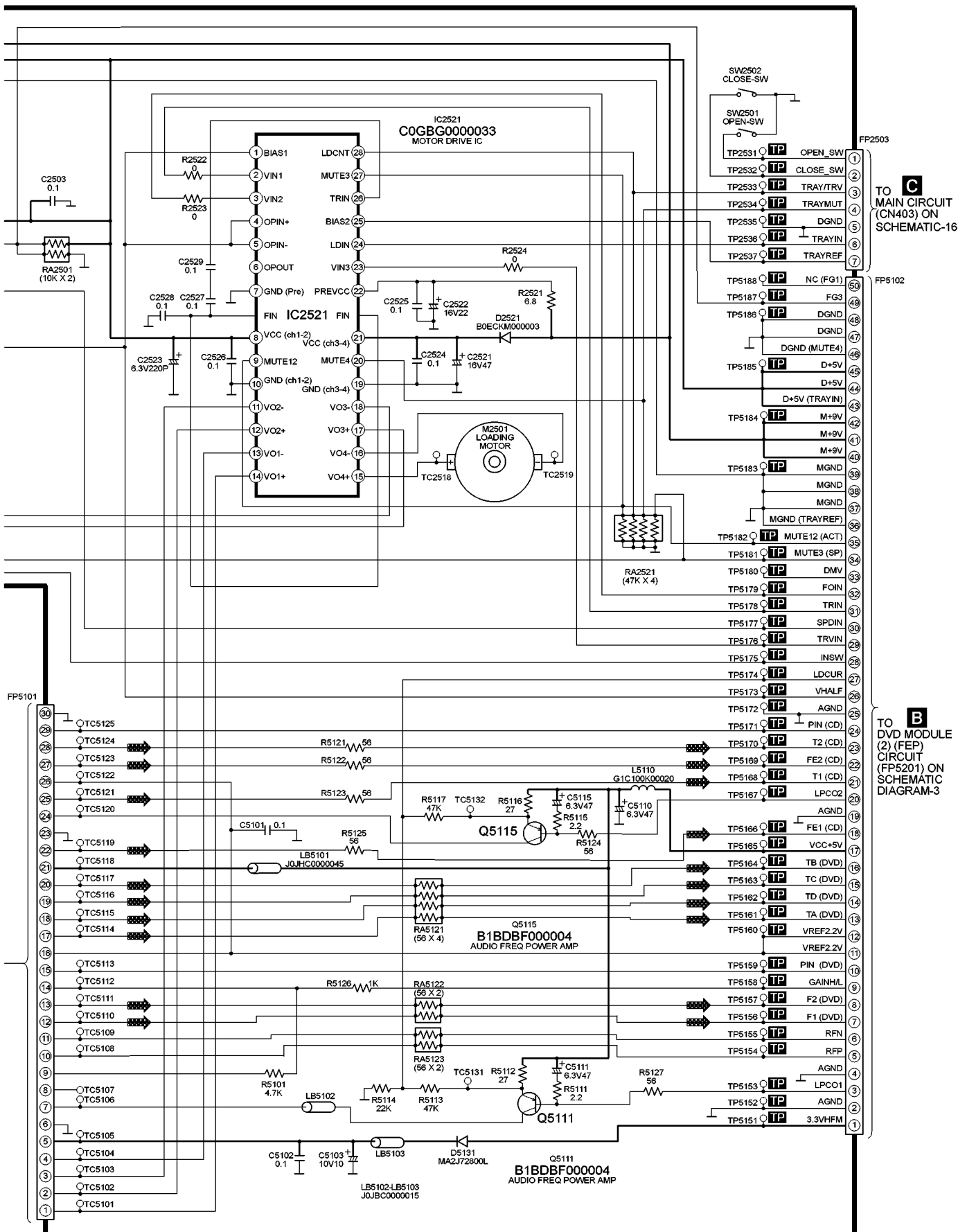
Secondary trouble can be prevented by taking care during repair.

- Cover the parts boxes made of plastics with aluminium foil.
- Put a conductive mat on the work table.
- Ground the soldering iron.
- Do not touch the pins of IC, LSI or VLSI with fingers directly.

SCHEMATIC DIAGRAM-2

A DVD MODULE (1) CIRCUIT

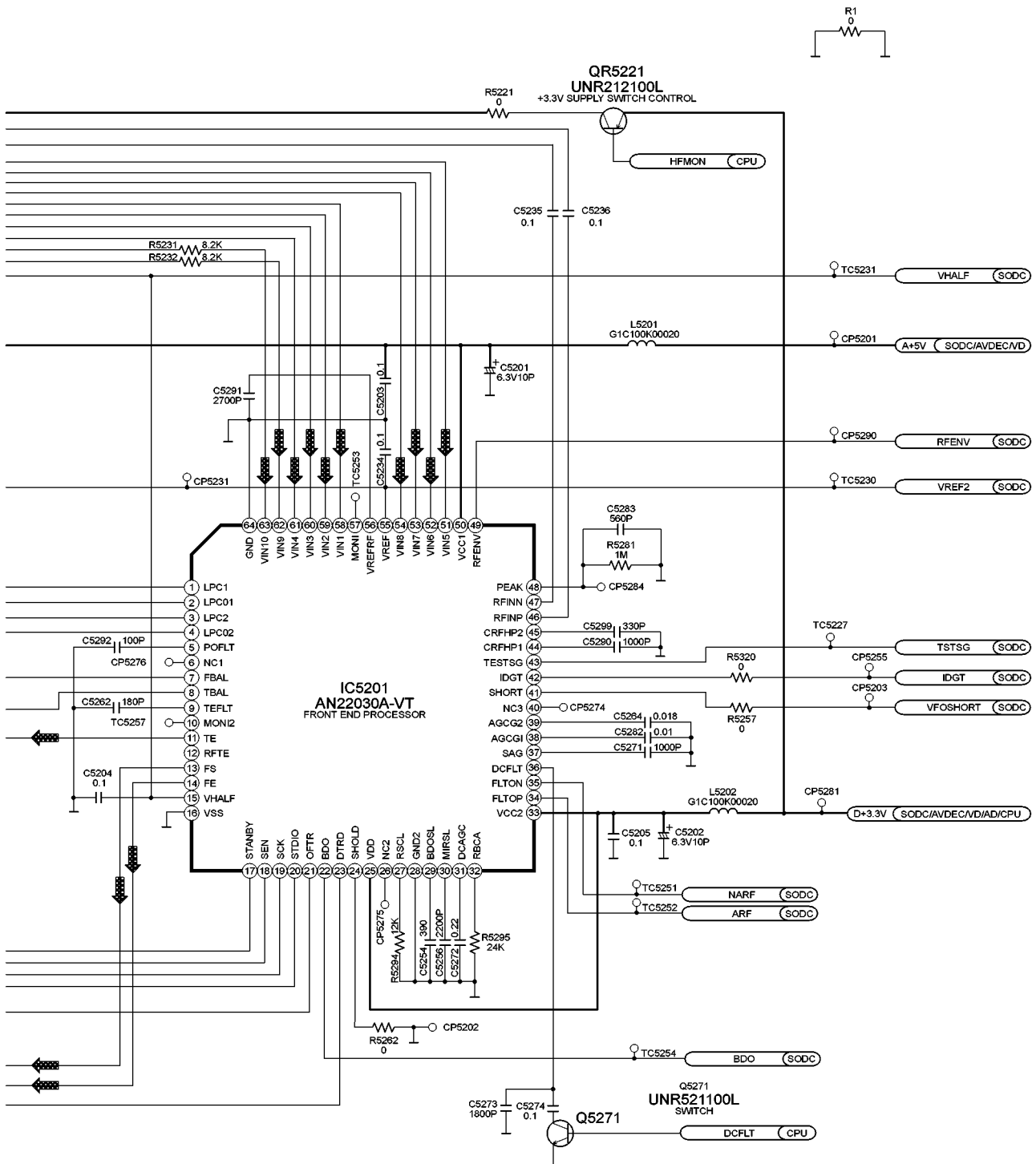
 : +B SIGNAL LINE
 : CD-DA SIGNAL LINE



SCHEMATIC DIAGRAM-4

B DVD MODULE (2) (FEP) CIRCUIT

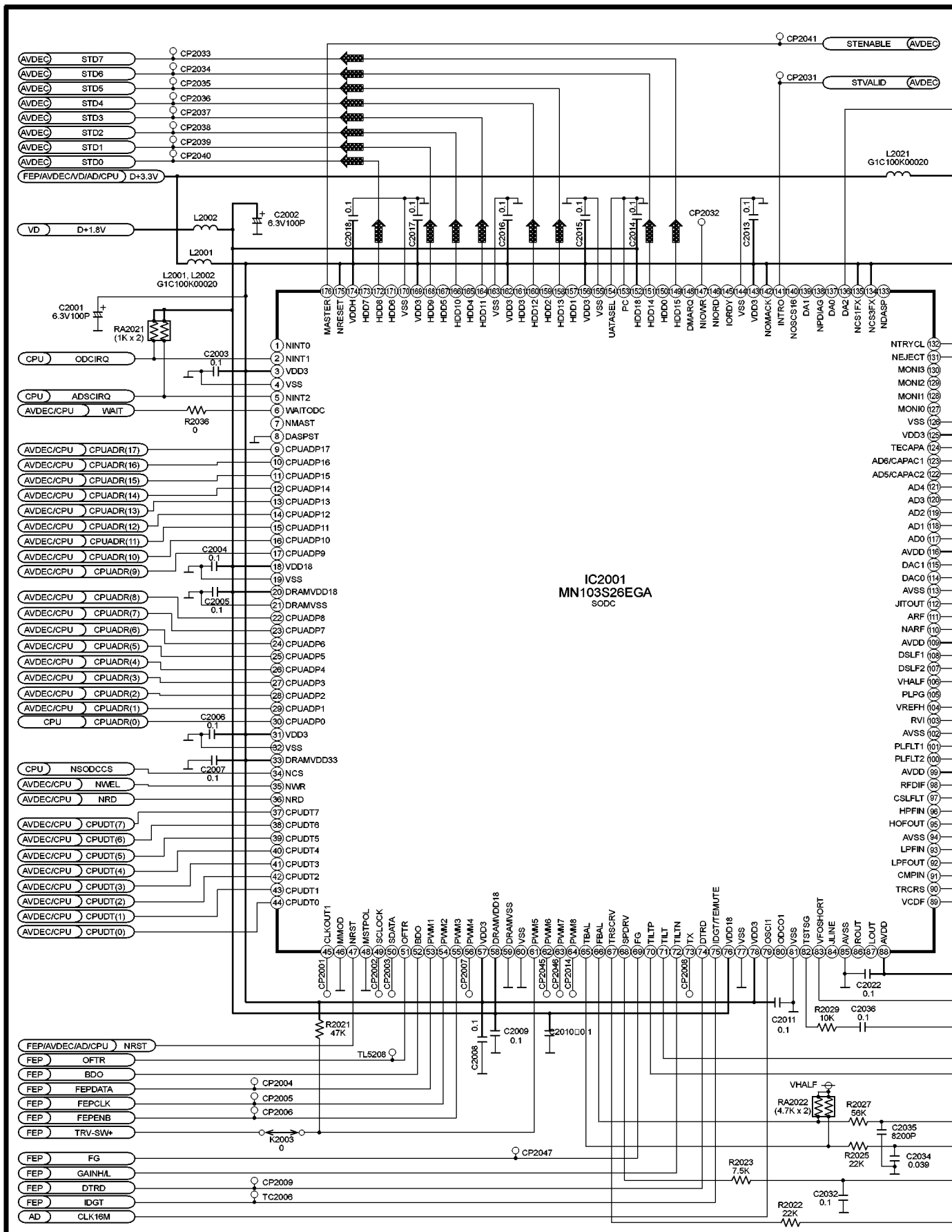
— : +B SIGNAL LINE
 : CD-DA SIGNAL LINE



SCHEMATIC DIAGRAM-5

B DVD MODULE (2) (SODC) CIRCUIT

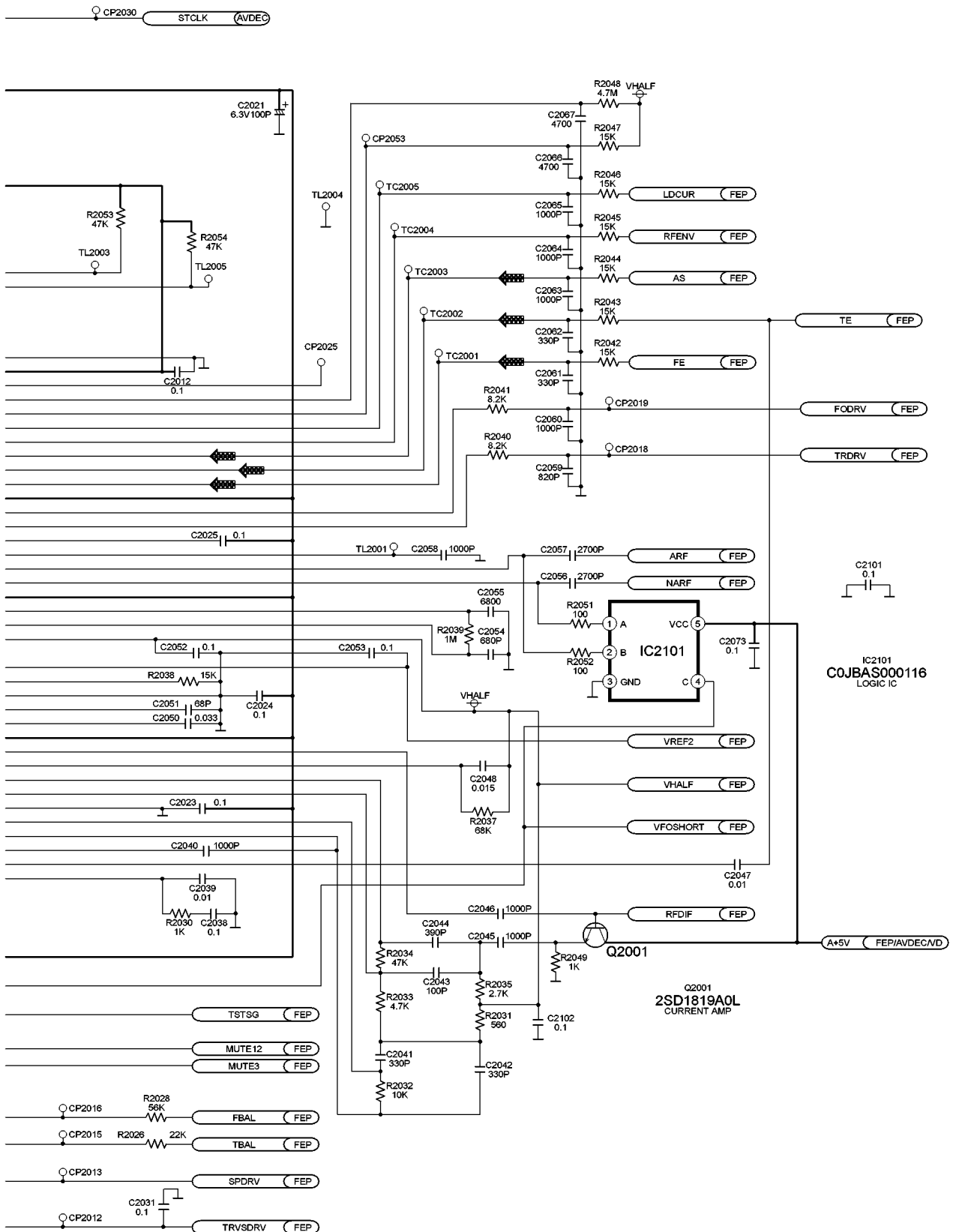
— : +B SIGNAL LINE
 : CD-DA SIGNAL LINE



SCHEMATIC DIAGRAM-6

B DVD MODULE (2) (SODC) CIRCUIT

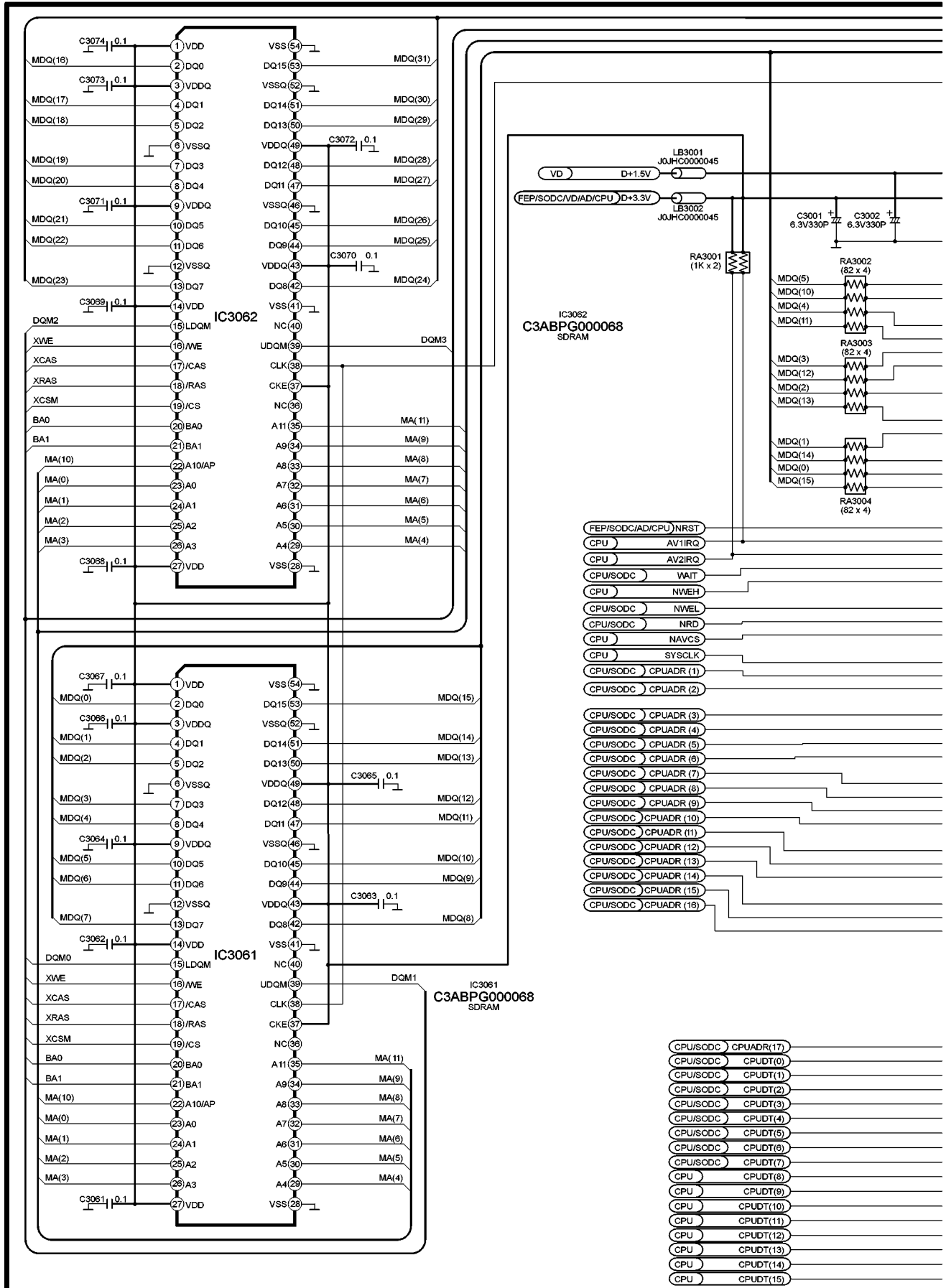
 : +B SIGNAL LINE
 : CD-DA SIGNAL LINE



SCHEMATIC DIAGRAM-7

B DVD MODULE (2) (AVDEC) CIRCUIT

— : +B SIGNAL LINE



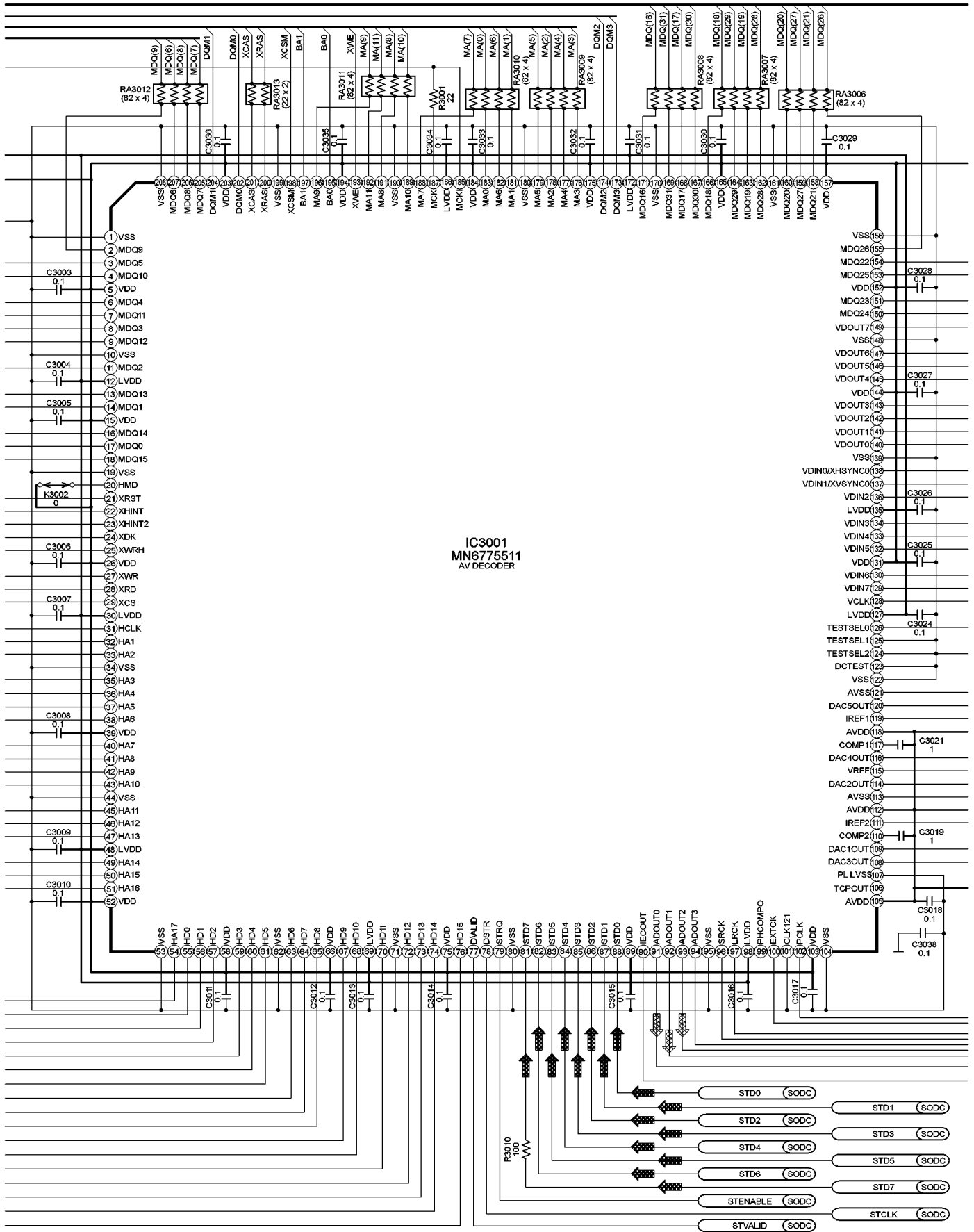
SCHEMATIC DIAGRAM-8

B DVD MODULE (2) (AVDEC) CIRCUIT

CD-DA SIGNAL LINE

+B SIGNAL LINE

DVD AUDIO SIGNAL



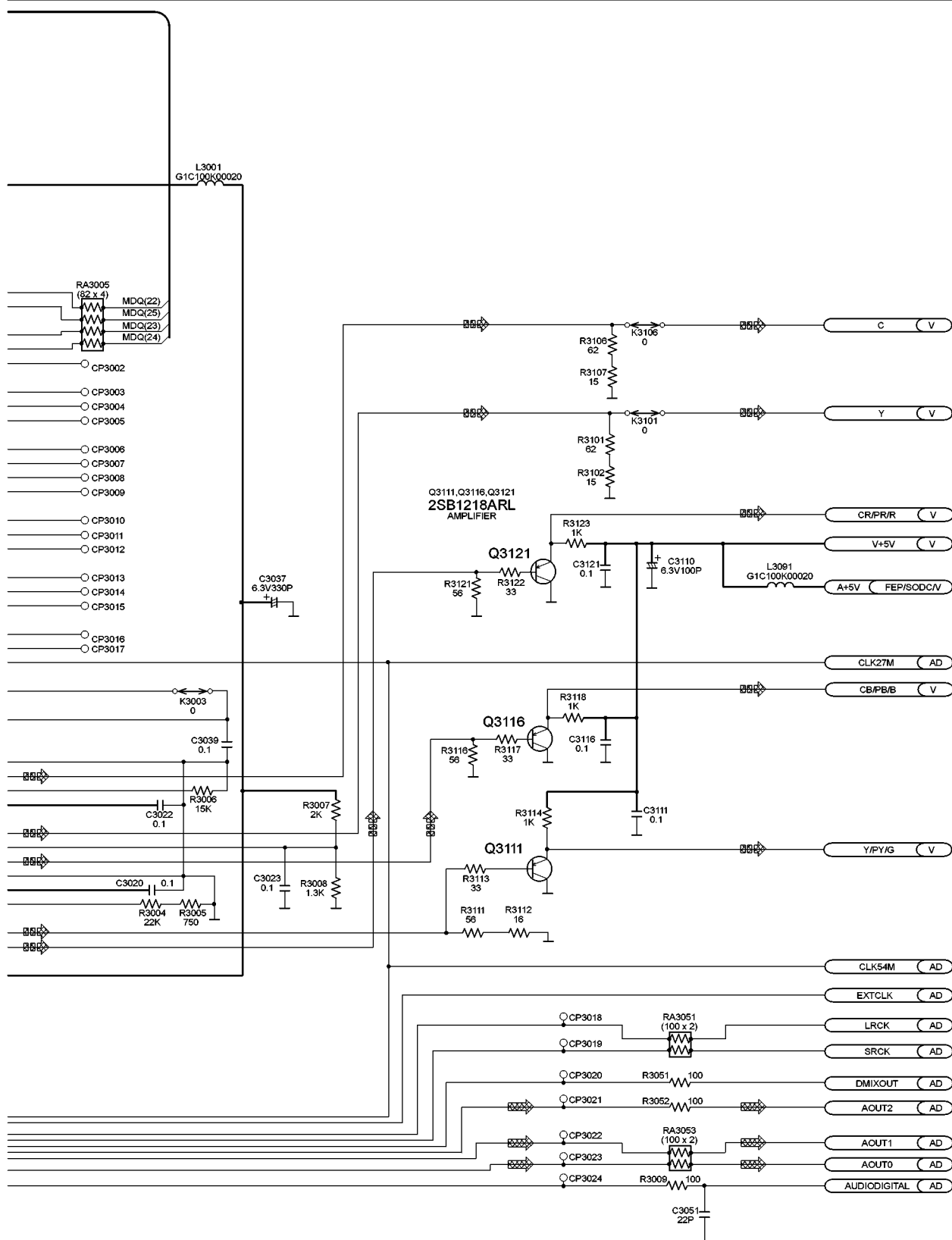
SCHEMATIC DIAGRAM-9

B DVD MODULE (2) (AVDEC) CIRCUIT

DVD VIDEO SIGNAL

: +B SIGNAL LINE

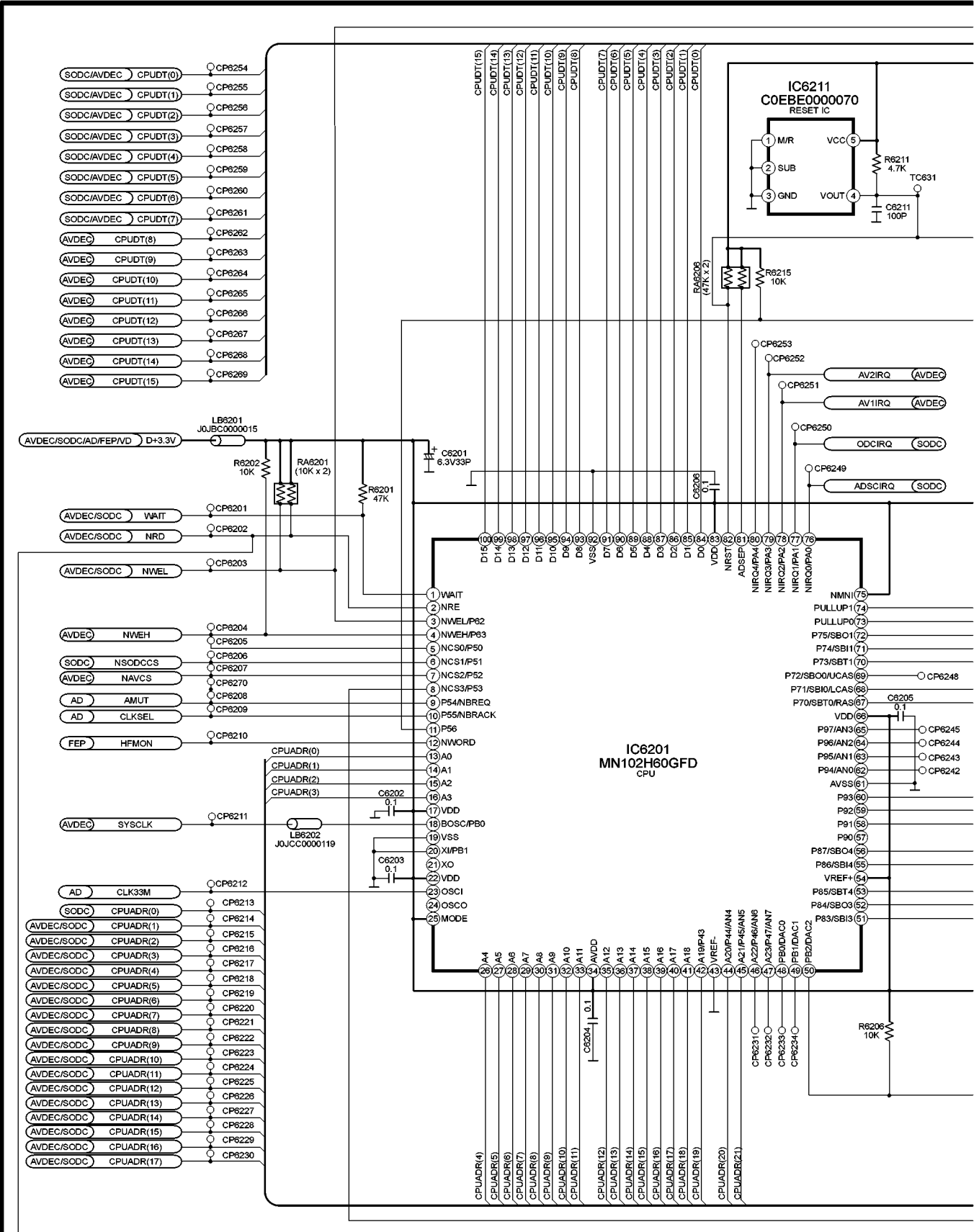
DVD AUDIO SIGNAL



SCHEMATIC DIAGRAM-10

B DVD MODULE (2) (CPU) CIRCUIT

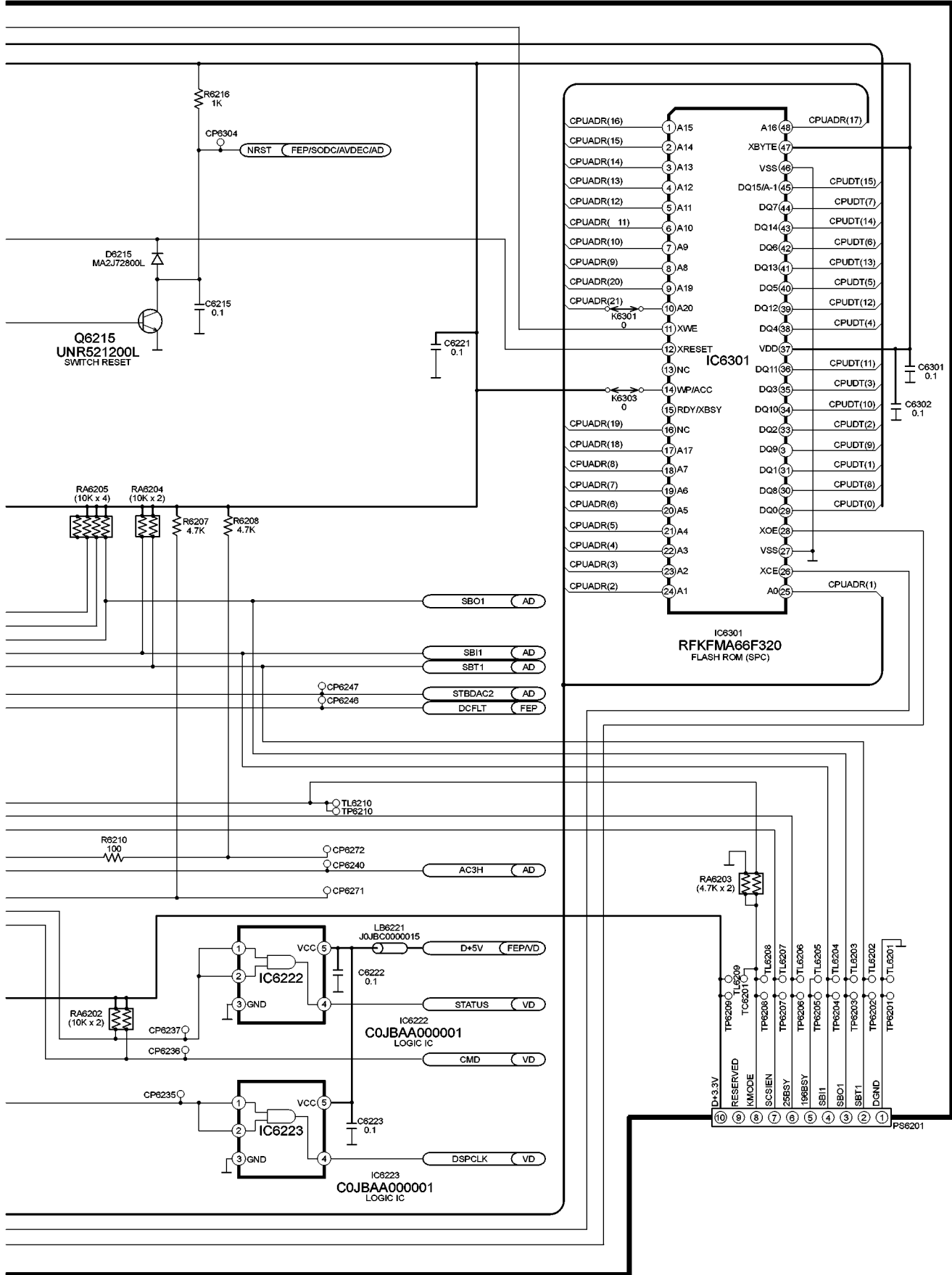
———— : +B SIGNAL LINE



SCHEMATIC DIAGRAM-11

B DVD MODULE (2) (CPU) CIRCUIT

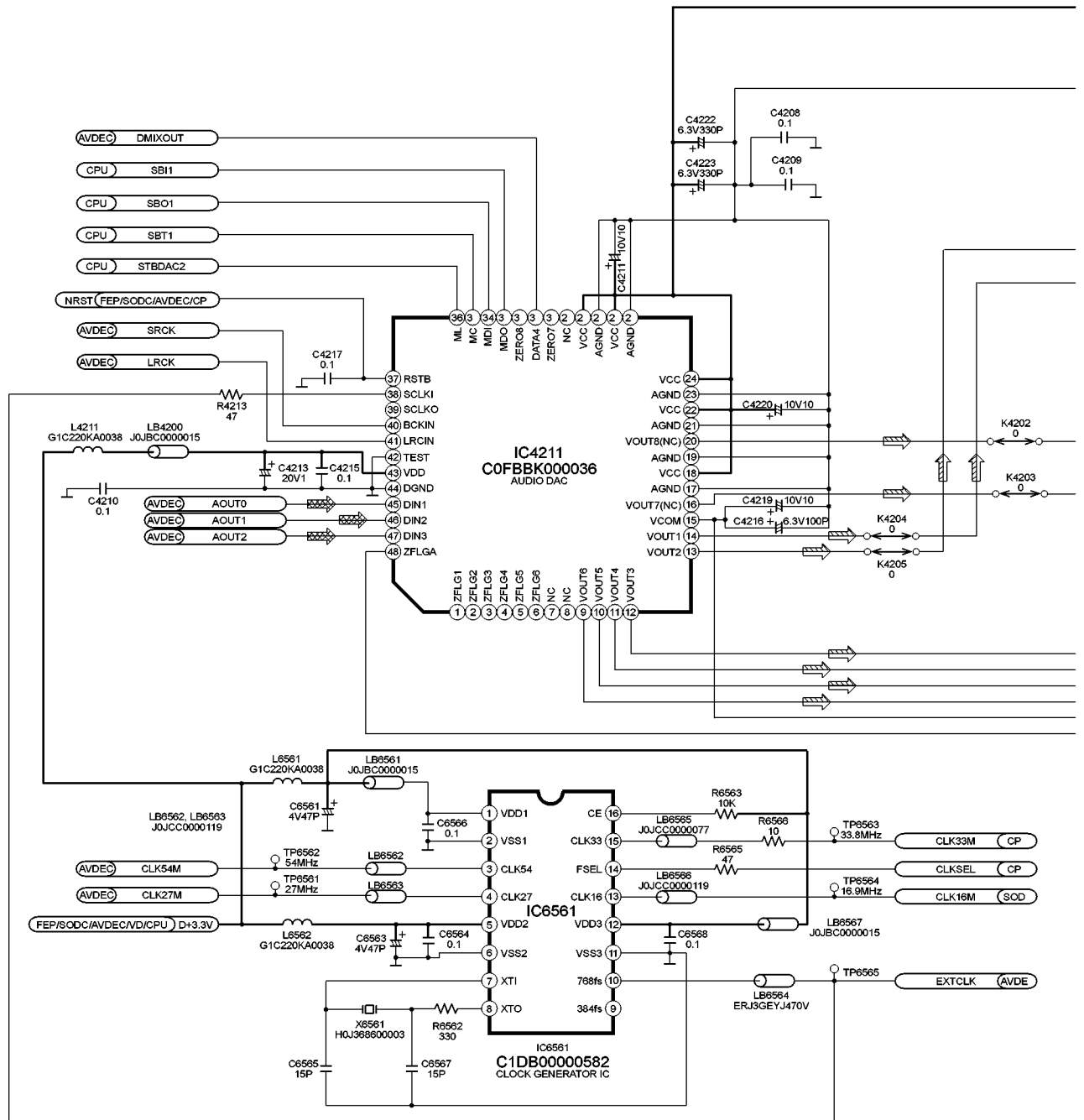
— : +B SIGNAL LINE



SCHEMATIC DIAGRAM-12

B DVD MODULE (2) (AUDIO DAC) CIRCUIT

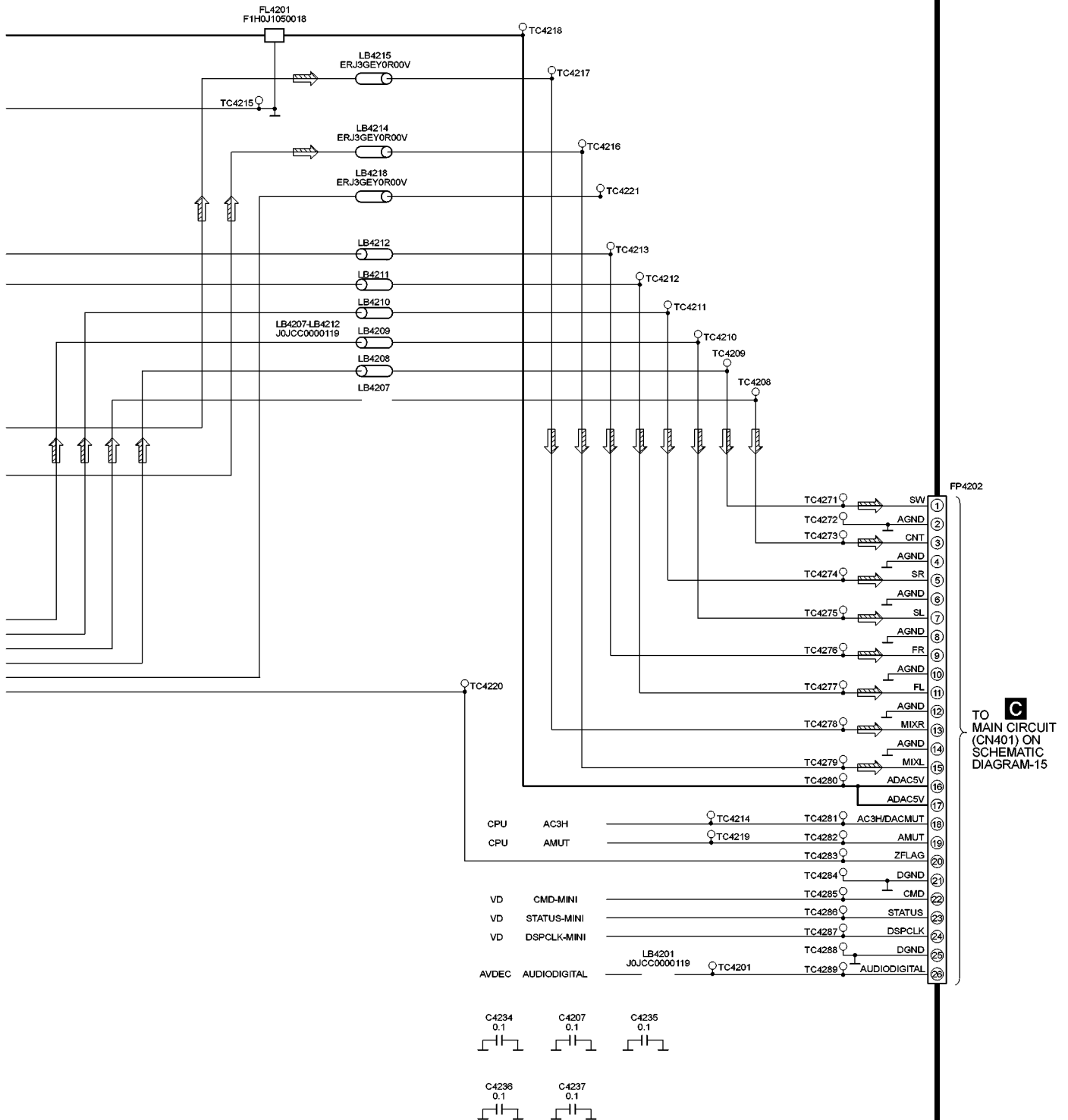
— : +B SIGNAL LINE
 : MAIN SIGNAL LINE
 : DVD AUDIO SIGNAL LINE



SCHEMATIC DIAGRAM-13

B DVD MODULE (2) (AUDIO DAC) CIRCUIT

— : +B SIGNAL LINE
 : MAIN SIGNAL LINE

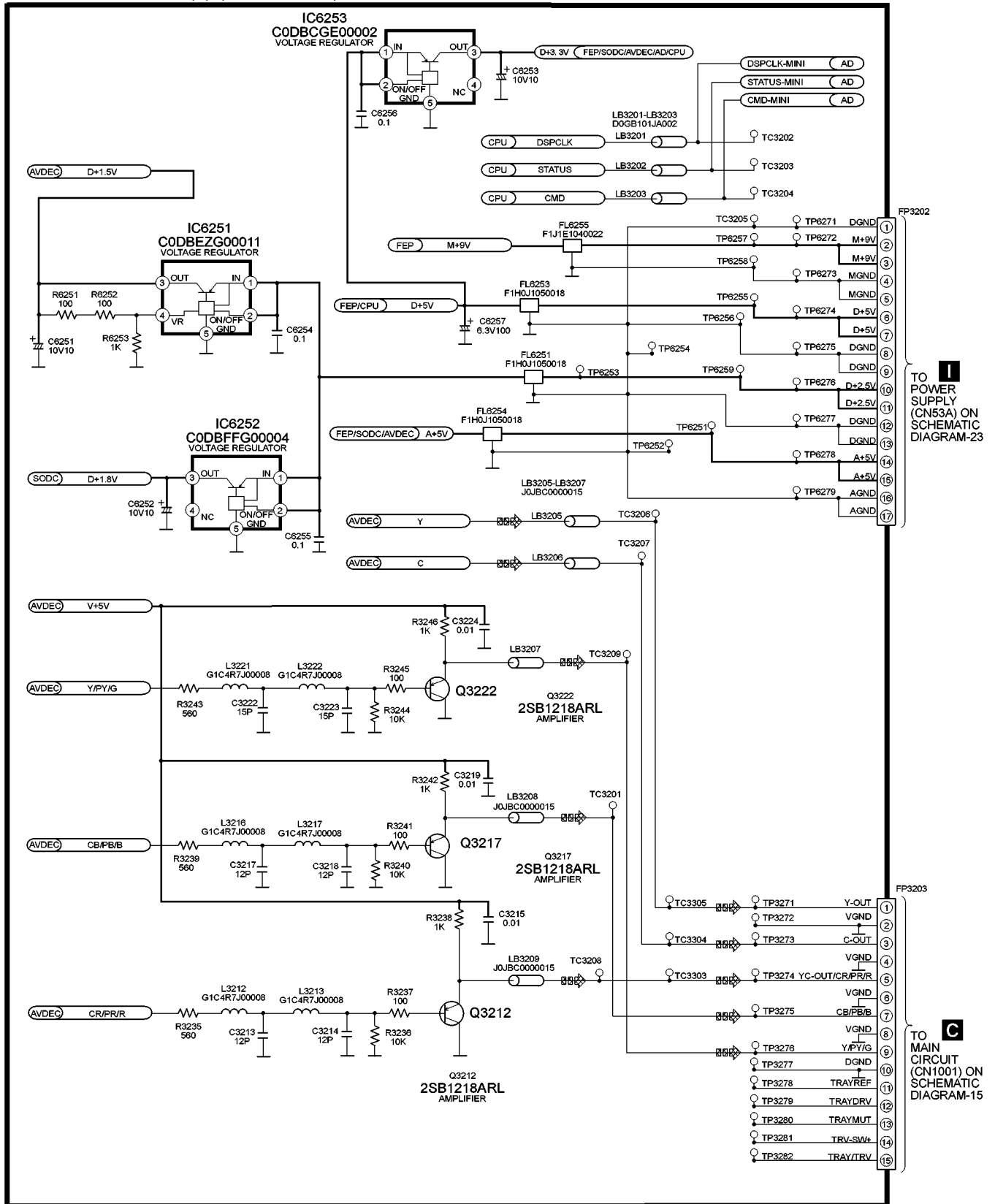


SCHEMATIC DIAGRAM-14

B DVD MODULE (2) (VIDEO DAC) CIRCUIT

— : +B SIGNAL LINE

⏏ : DVD VIDEO SIGNAL LINE



SCHEMATIC DIAGRAM-15

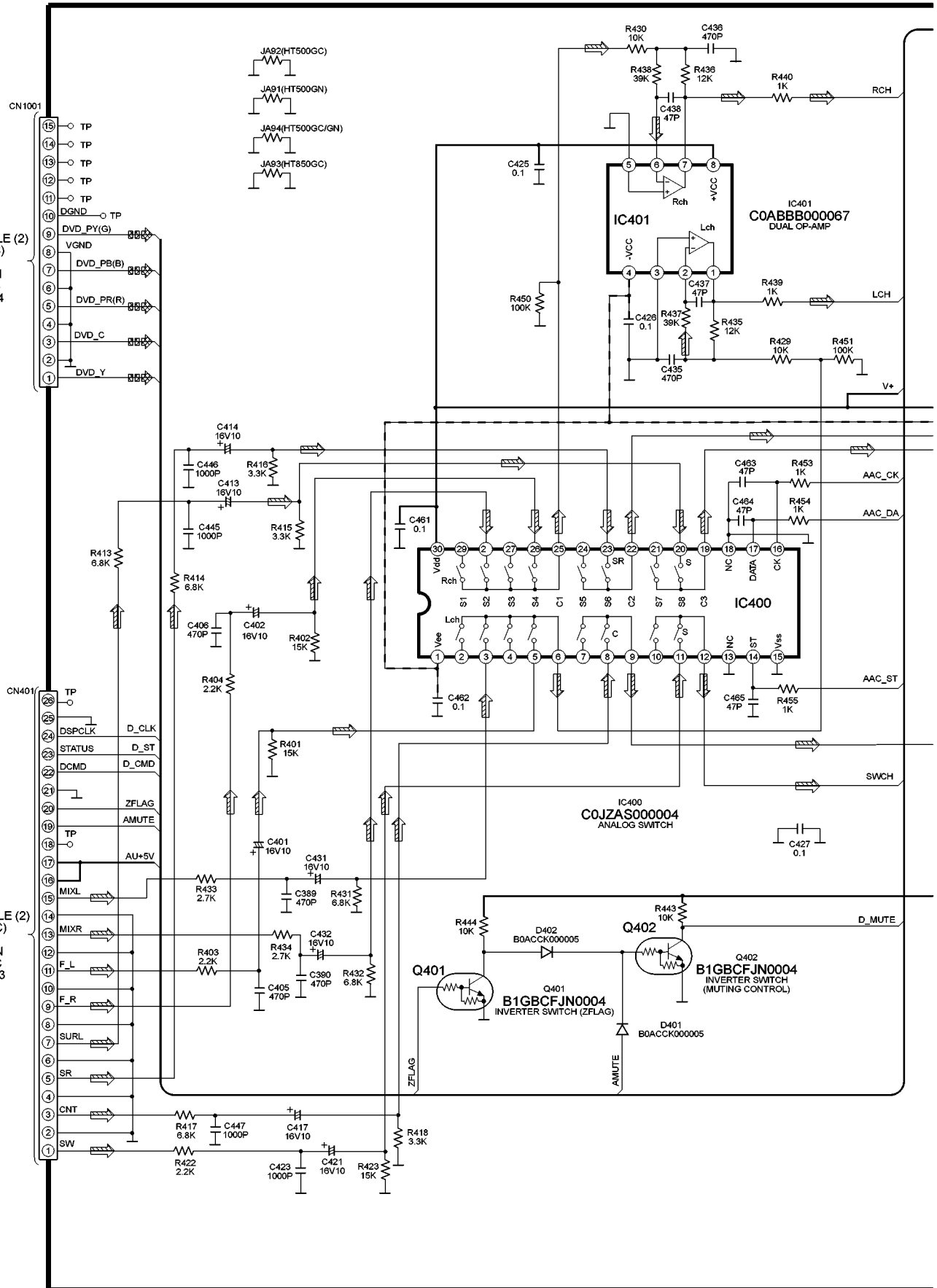
C MAIN CIRCUIT

--- : -B SIGNAL LINE
 — : +B SIGNAL LINE

 : DVD VIDEO SIGNAL LINE
 : MAIN SIGNAL LINE

B
 TO DVD MODULE (2)
 (VIDEO DAC)
 CIRCUIT
 (FP3203) ON
 SCHEMATIC
 DIAGRAM-14

B
 TO DVD MODULE (2)
 (AUDIO DAC)
 CIRCUIT
 (FP4202) ON
 SCHEMATIC
 DIAGRAM-13



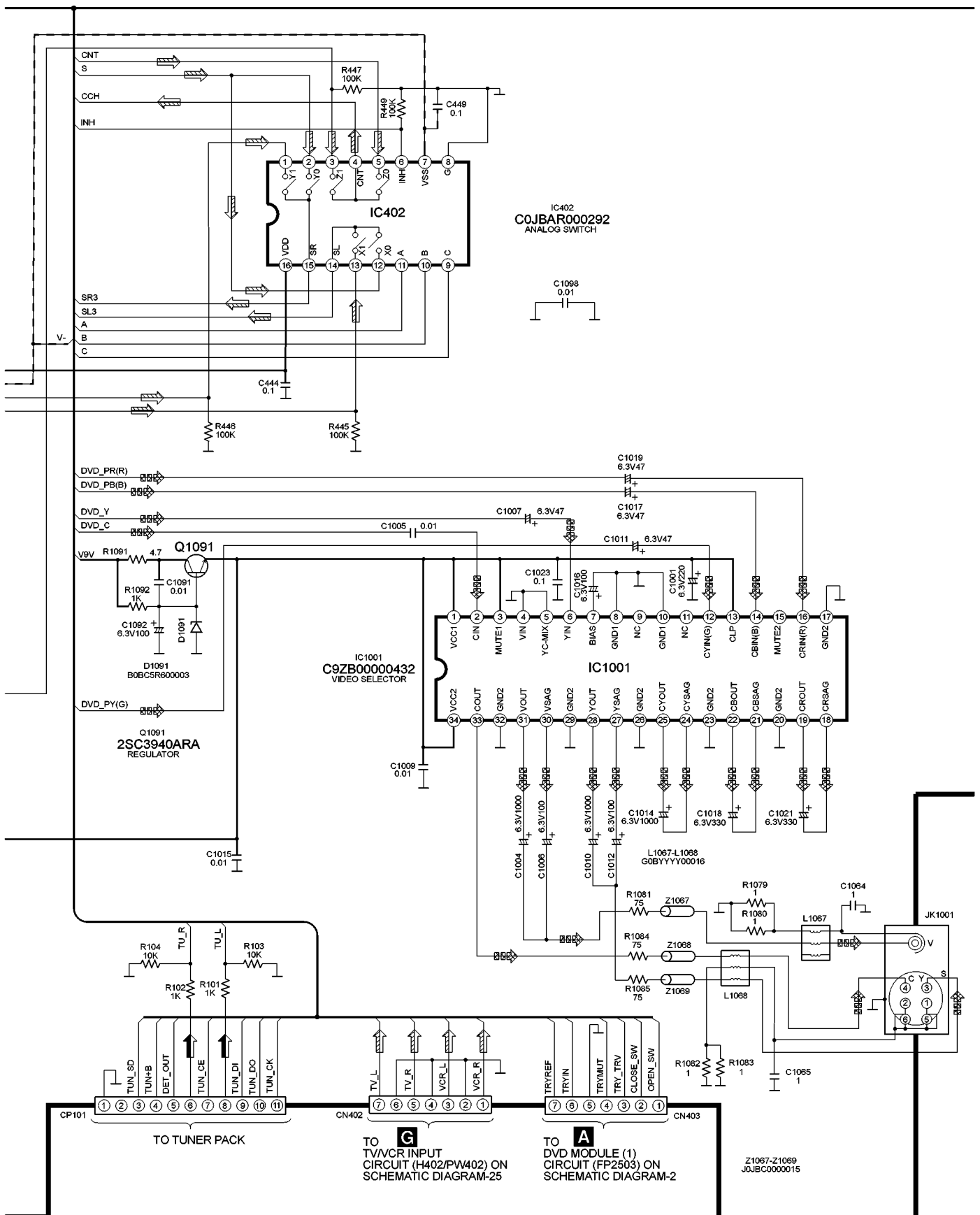
SCHEMATIC DIAGRAM-16

C MAIN CIRCUIT

- - - : -B SIGNAL LINE
 ——— : +B SIGNAL LINE

 : DVD VIDEO SIGNAL LINE
 : MAIN SIGNAL LINE

➡ : FM/AM SIGNAL LINE



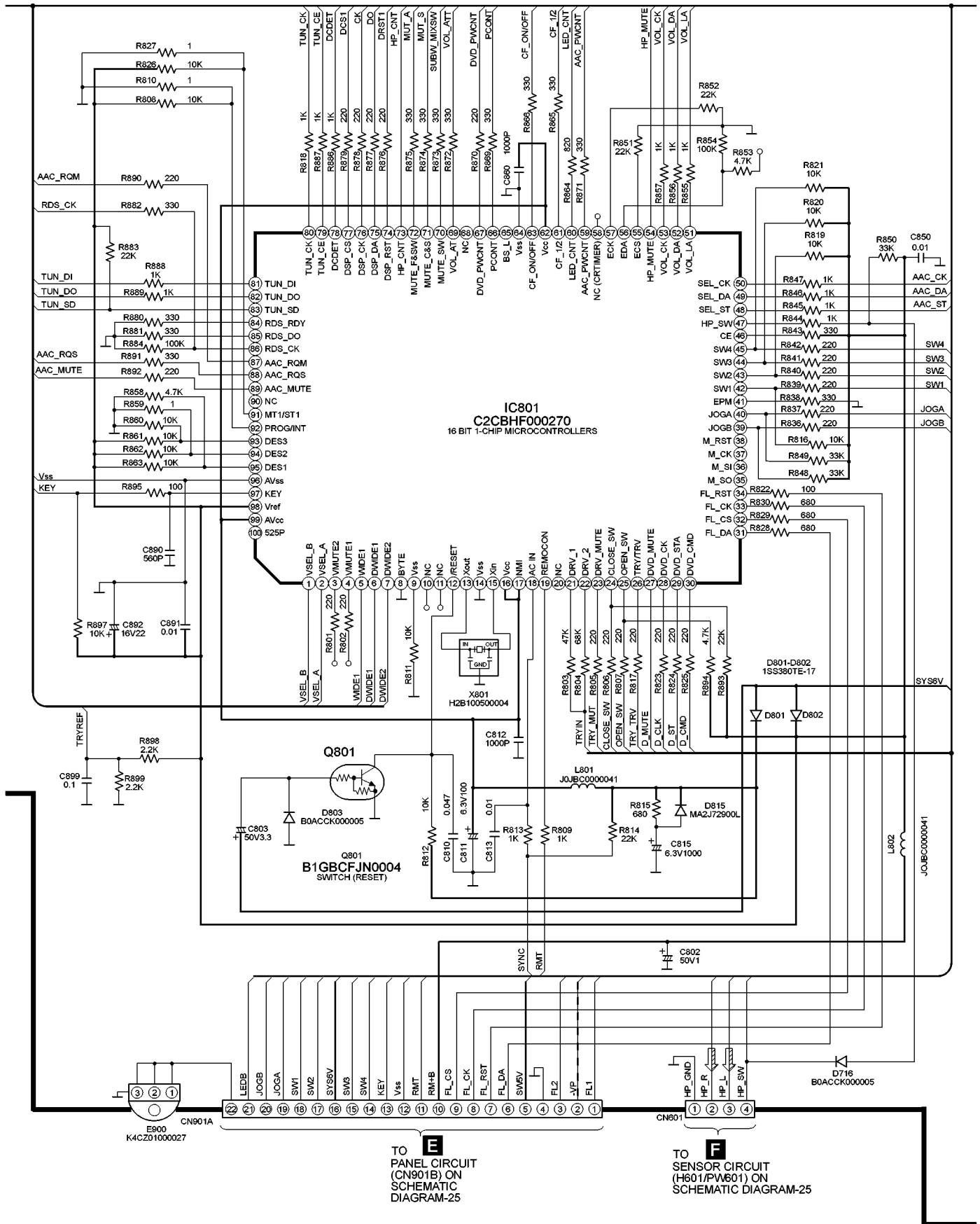
SCHEMATIC DIAGRAM-17

C MAIN CIRCUIT

- - - : -B SIGNAL LINE

— : +B SIGNAL LINE

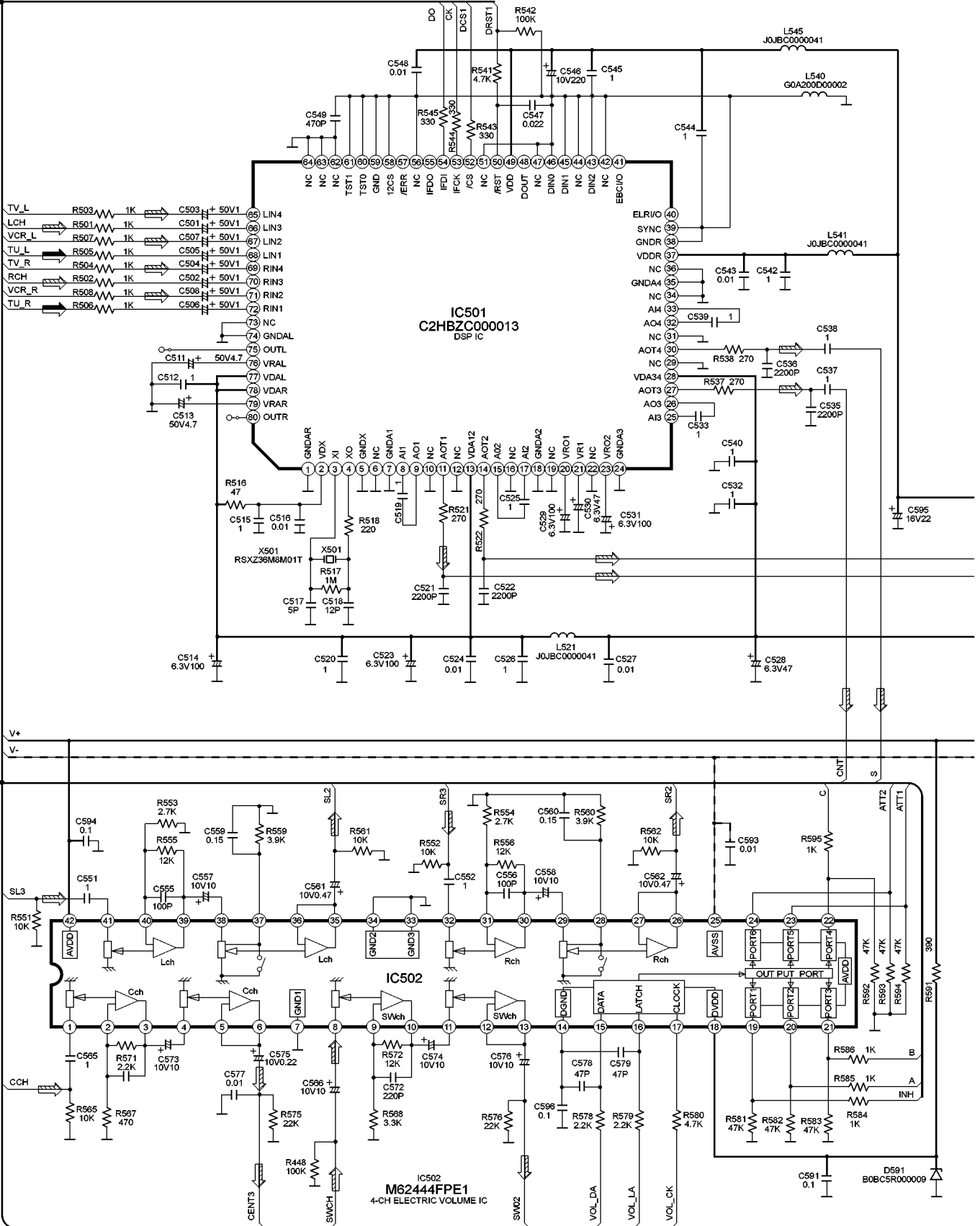
⇒ : MAIN SIGNAL LINE



SCHEMATIC DIAGRAM-18

C MAIN CIRCUIT

--- : -B SIGNAL LINE ➡ : FM/AM SIGNAL LINE
 --- : +B SIGNAL LINE ➡ : MAIN SIGNAL LINE



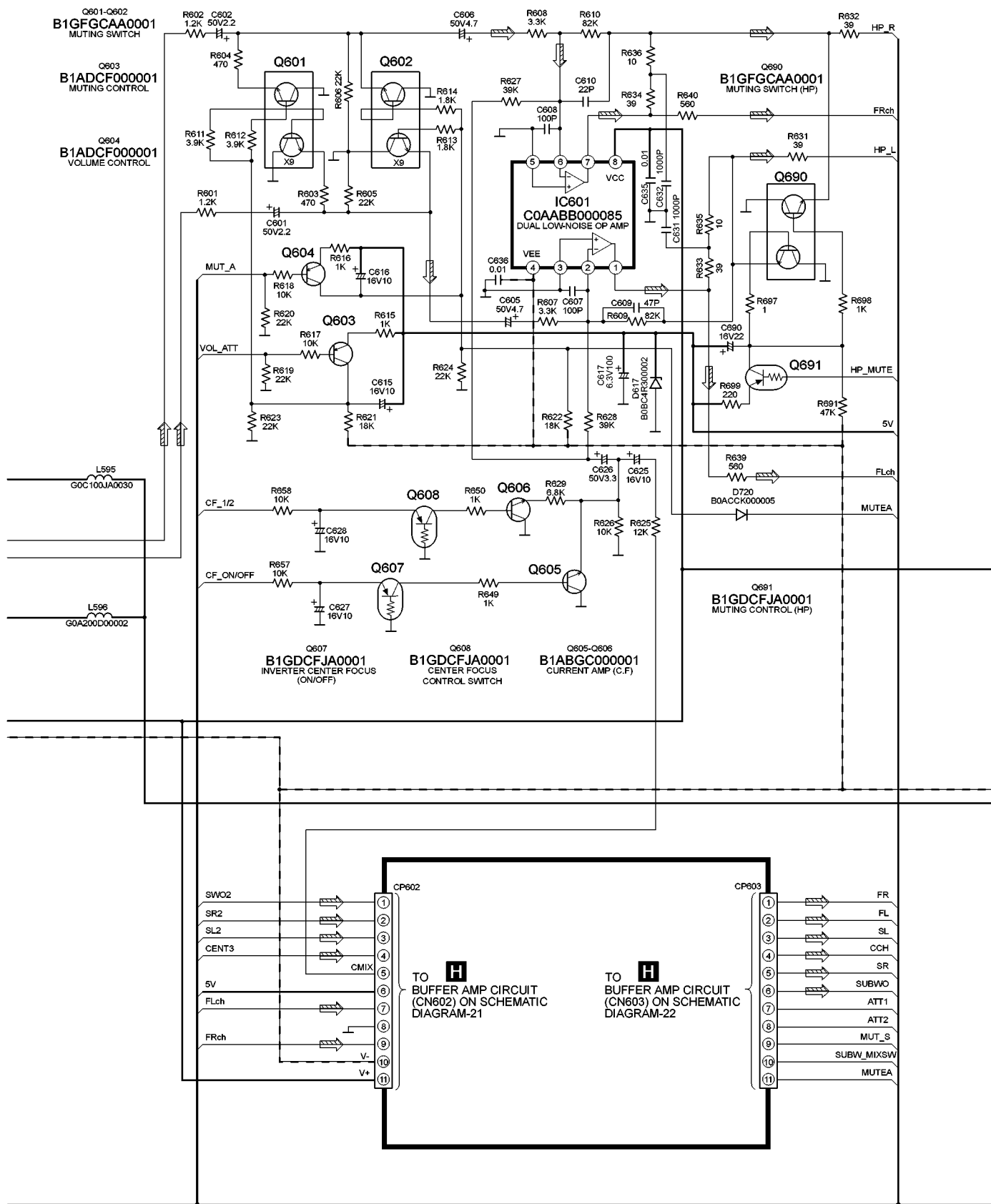
SCHEMATIC DIAGRAM-19

C MAIN CIRCUIT

- - - : -B SIGNAL LINE

— : +B SIGNAL LINE

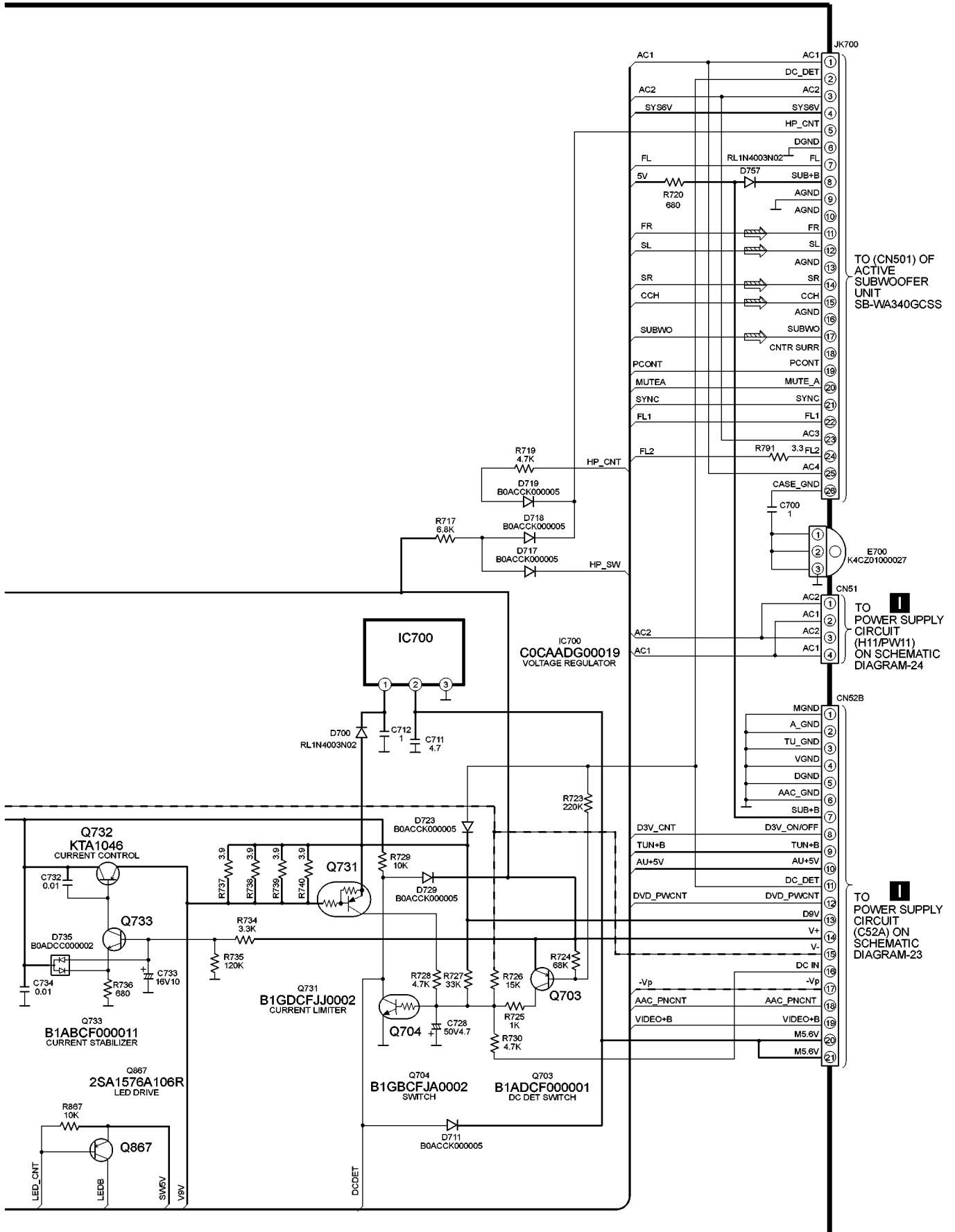
⇒ : MAIN SIGNAL LINE



SCHEMATIC DIAGRAM-20

 MAIN CIRCUIT

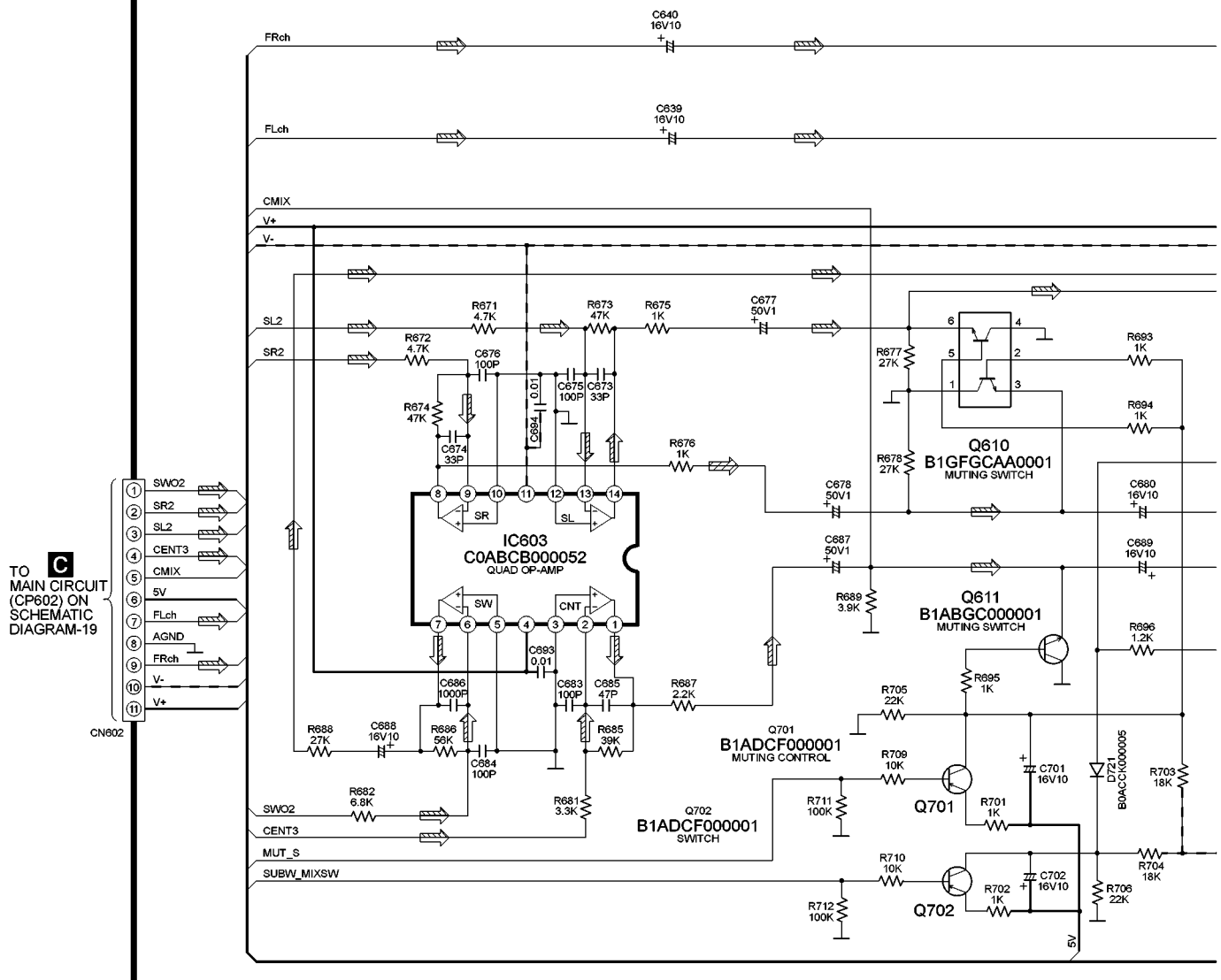
--- : -B SIGNAL LINE
 --- : +B SIGNAL LINE ➡ : MAIN SIGNAL LINE



SCHEMATIC DIAGRAM-21

H BUFFER AMP CIRCUIT

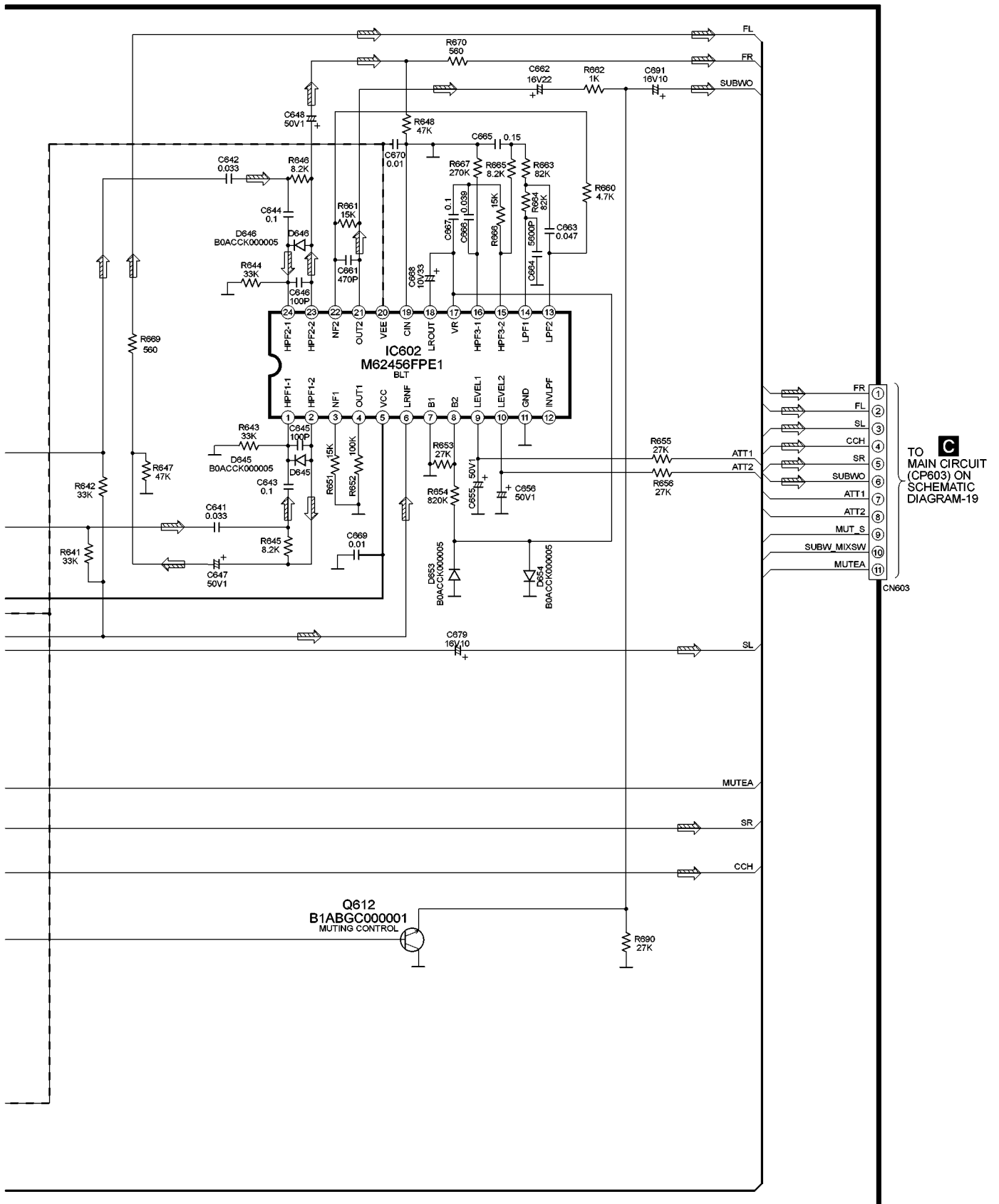
--- : -B SIGNAL LINE  : MAIN SIGNAL LINE
 — : +B SIGNAL LINE



SCHEMATIC DIAGRAM-22

H BUFFER AMP CIRCUIT

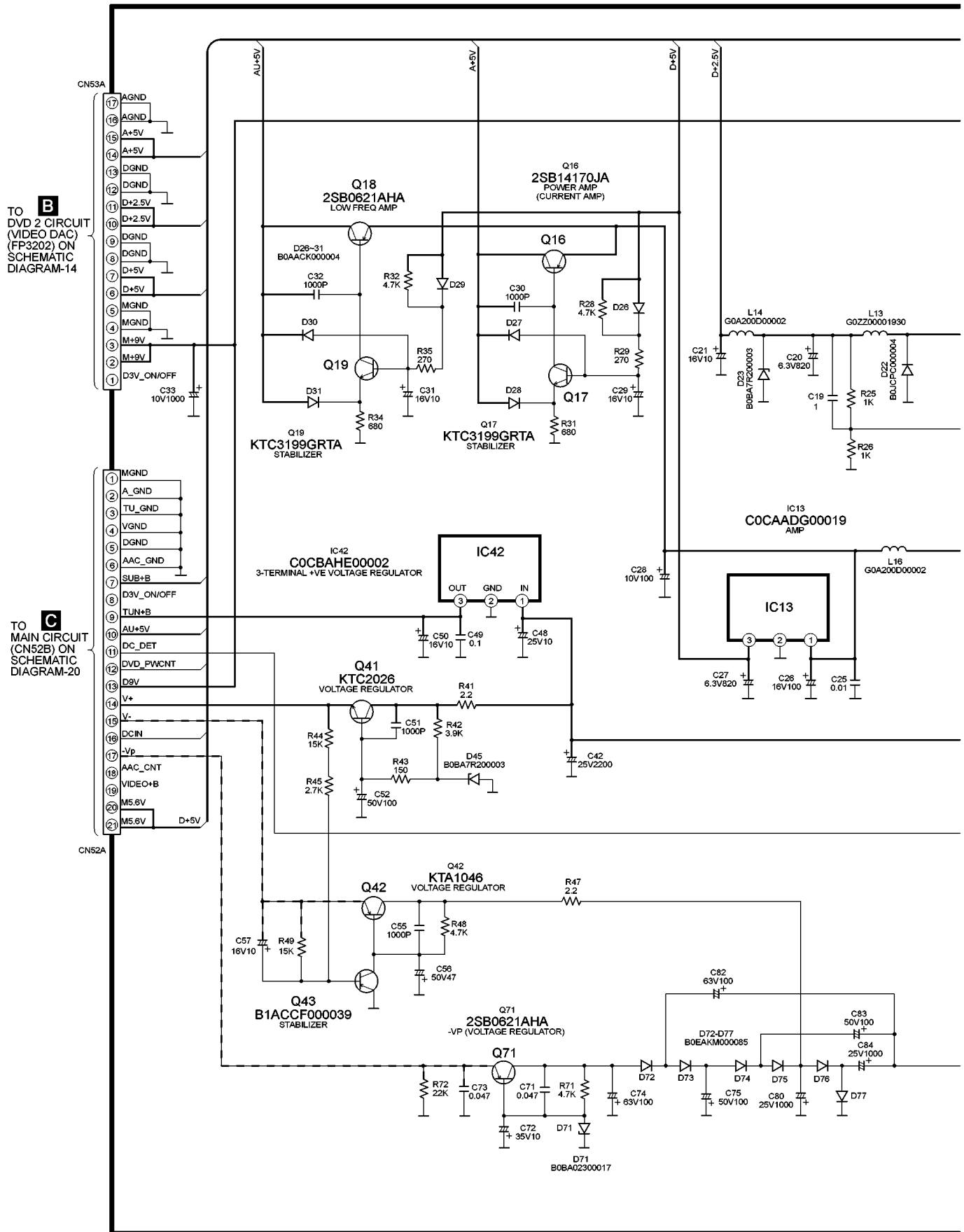
--- : -B SIGNAL LINE $\Rightarrow$: MAIN SIGNAL LINE
 — : +B SIGNAL LINE



SCHEMATIC DIAGRAM-23

POWER SUPPLY CIRCUIT

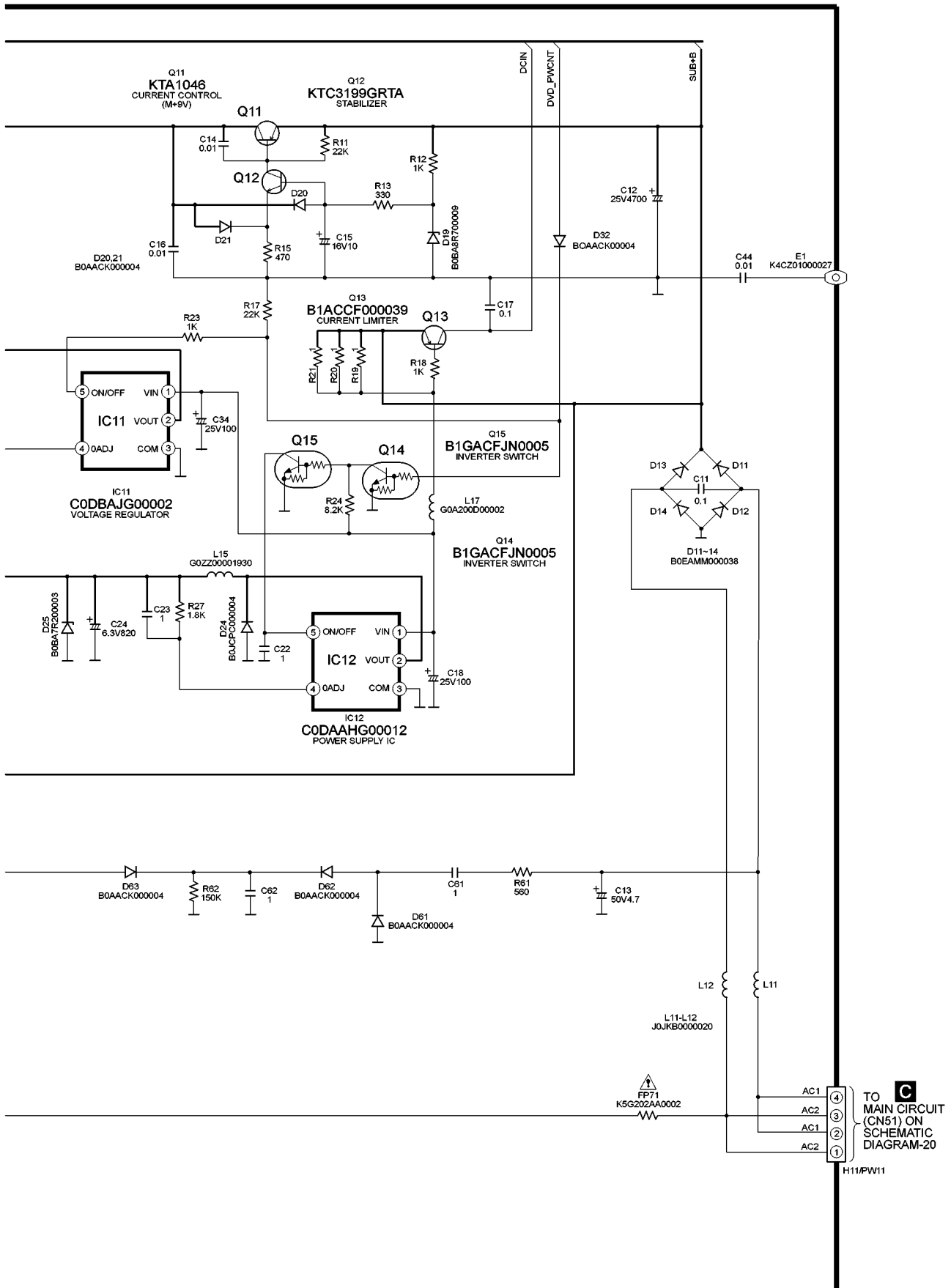
--- : -B SIGNAL LINE
 — : +B SIGNAL LINE



SCHEMATIC DIAGRAM-24

POWER SUPPLY CIRCUIT

— : +B SIGNAL LINE

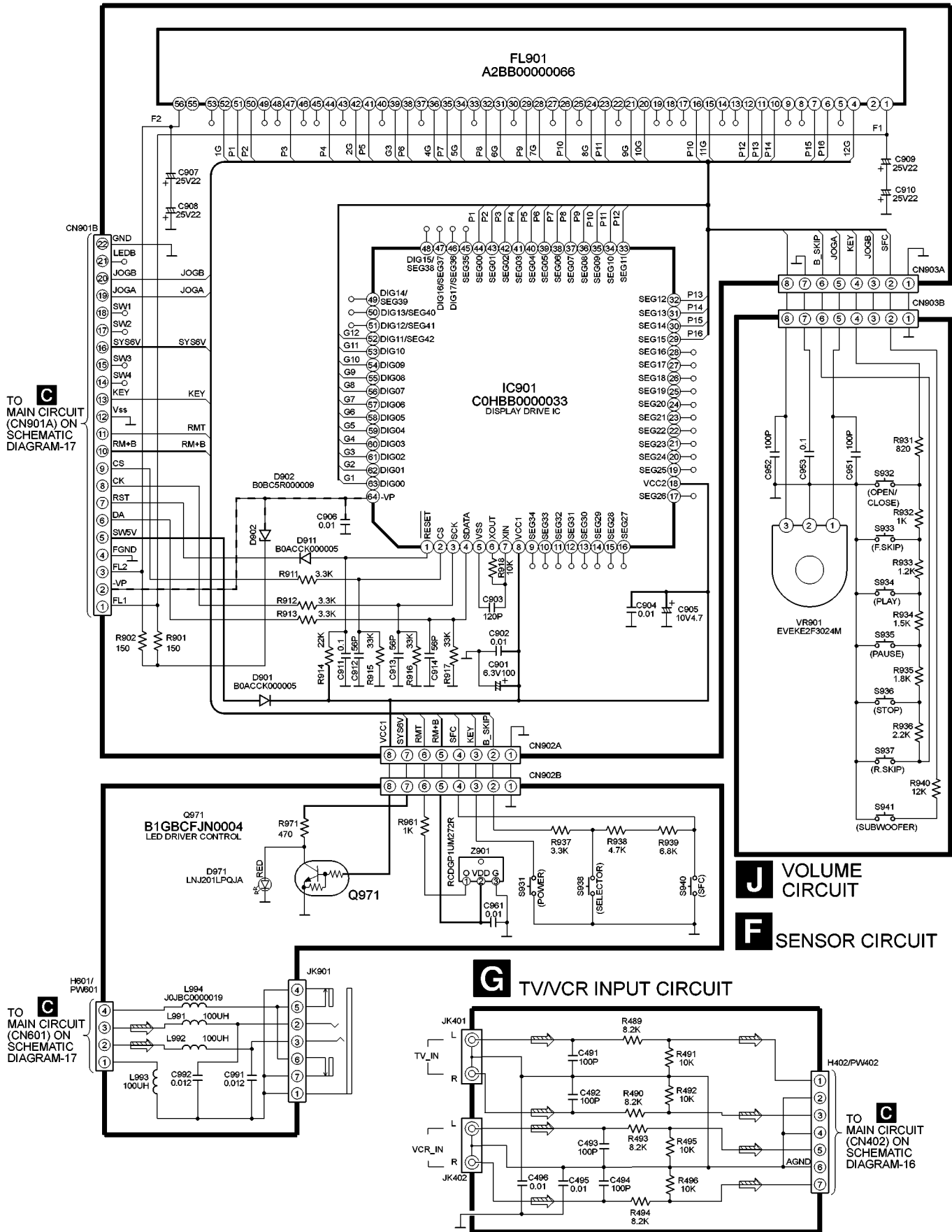


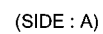
SCHEMATIC DIAGRAM-25

E

PANEL CIRCUIT

--- : -B SIGNAL LINE ➡ : MAIN SIGNAL LINE
 — : +B SIGNAL LINE

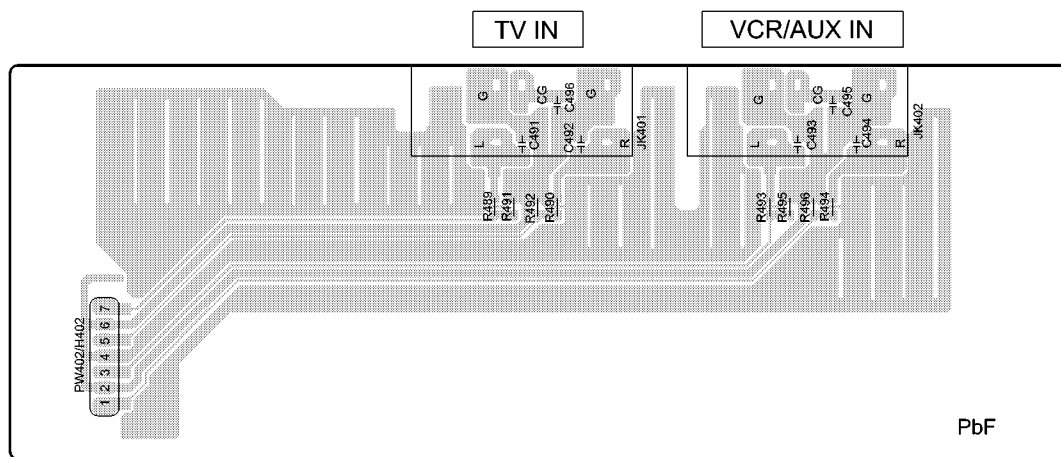
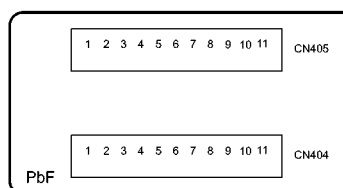




84

[illegible]

G TV/VCR P.C.B. (REP3499E)

[illegible]

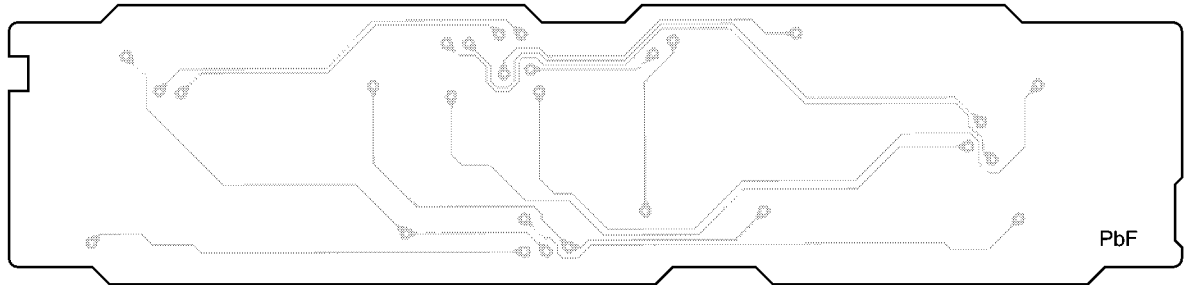
D INTERFACE P.C.B. (REP3499E)

A B C D E F G

1

H BUFFER-AMP P.C.B (REP3499E)

2



(SIDE : B)

3

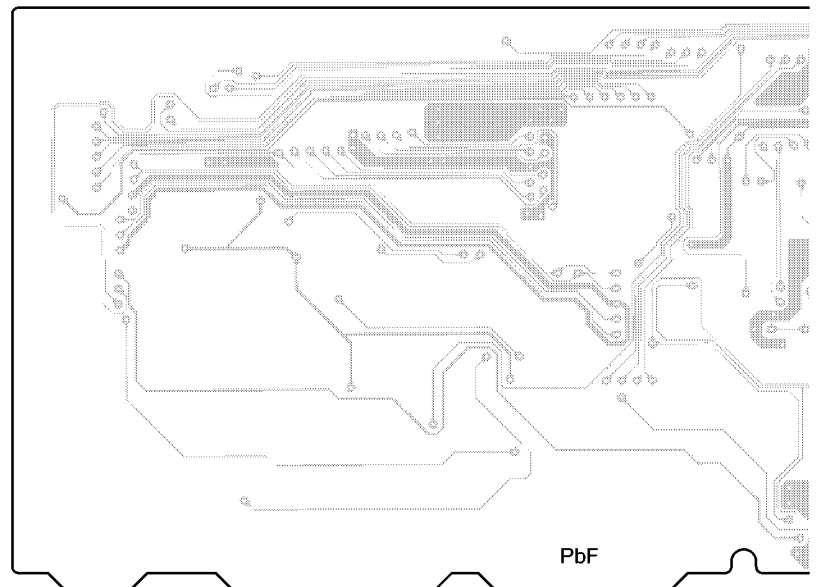
4

5

6

C MAIN P.C.B. (REP3499E)

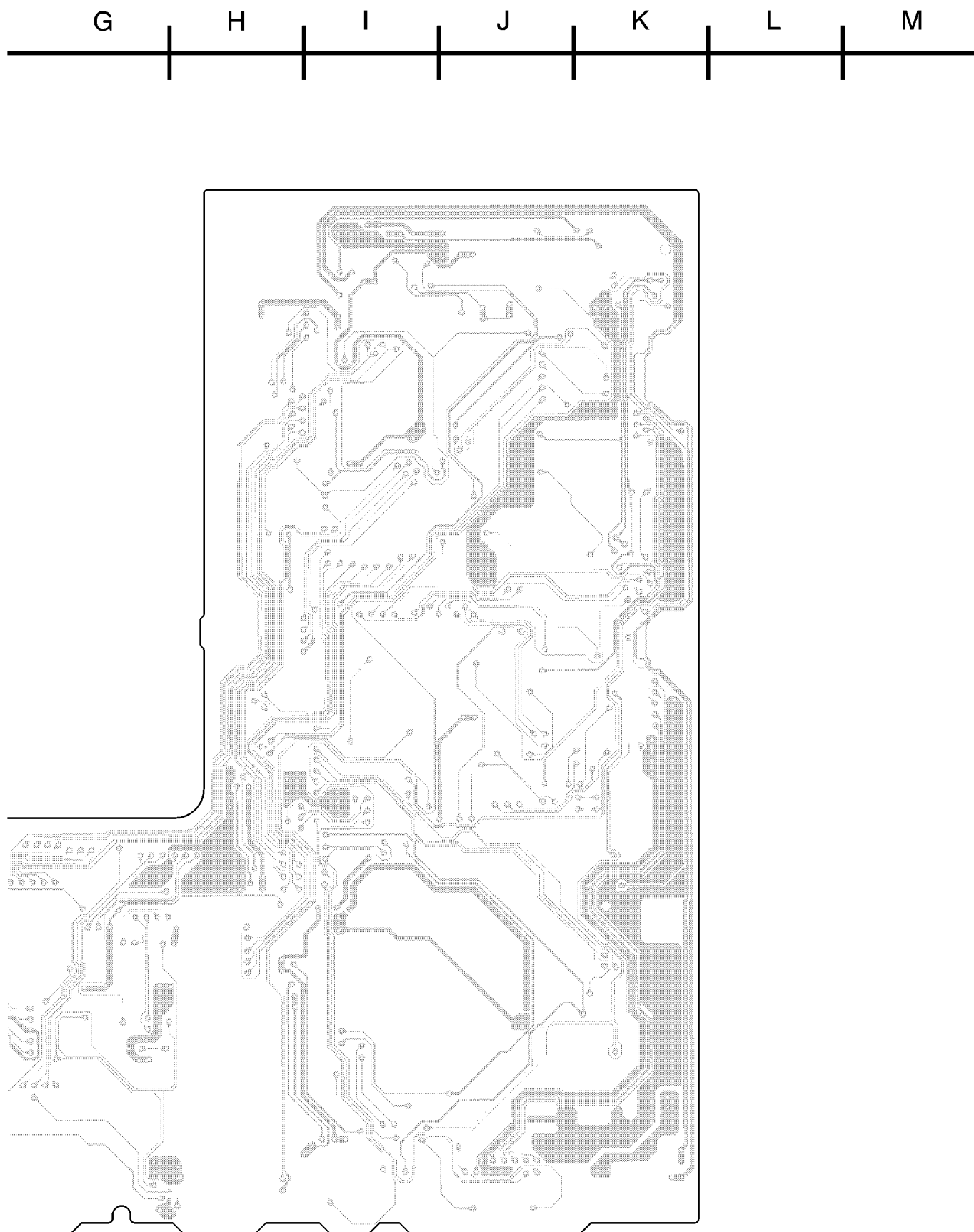
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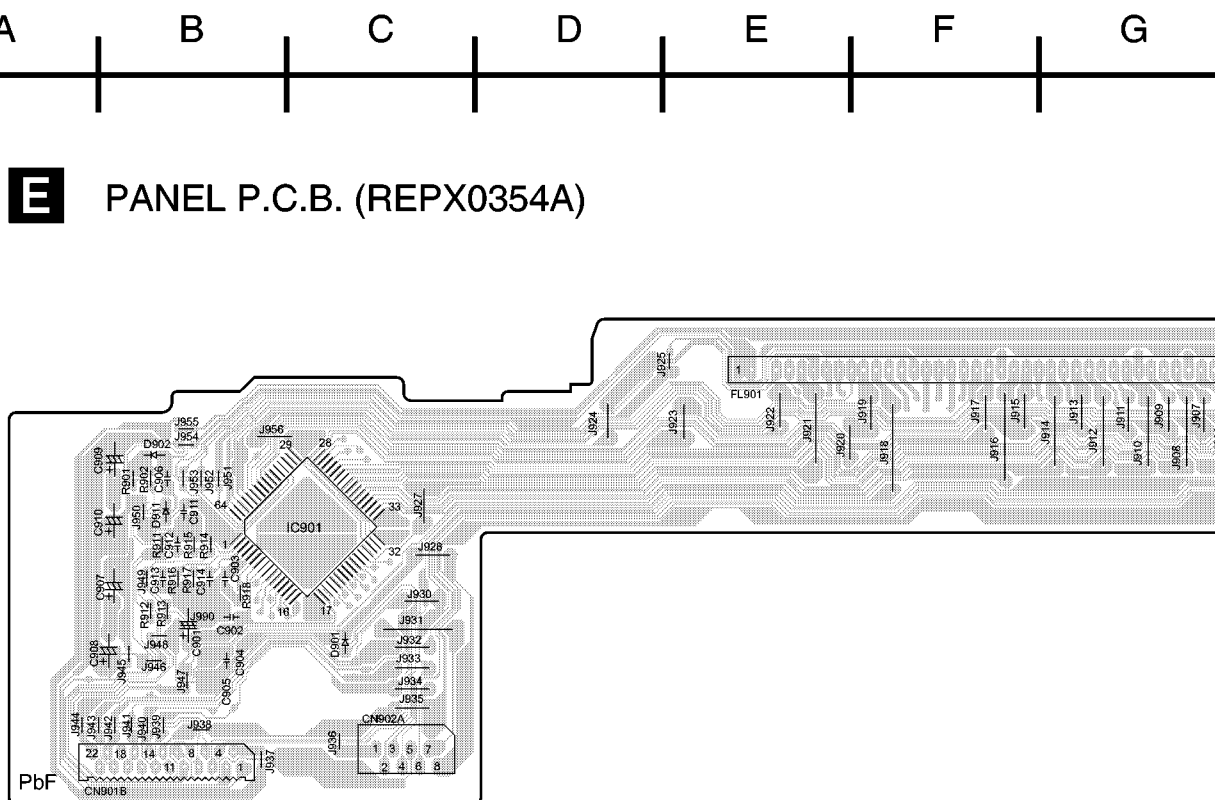


8

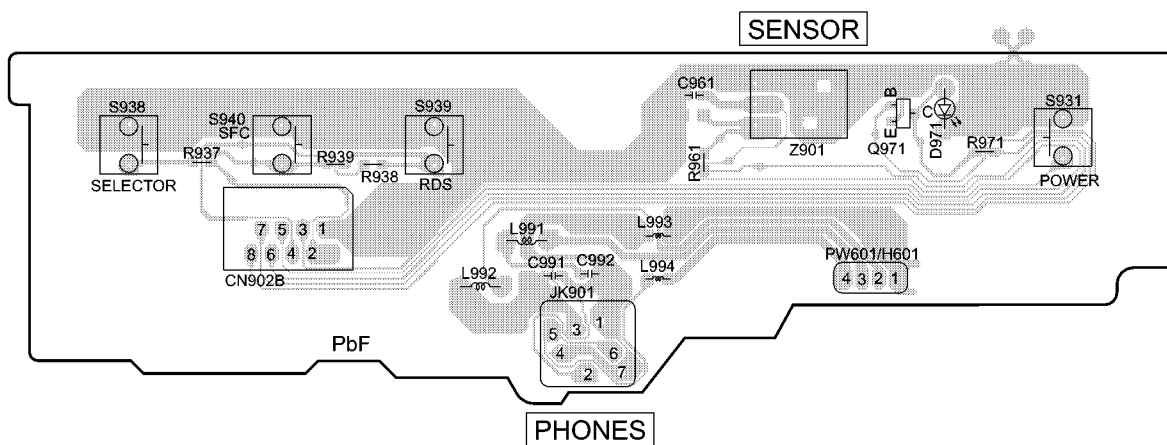
9

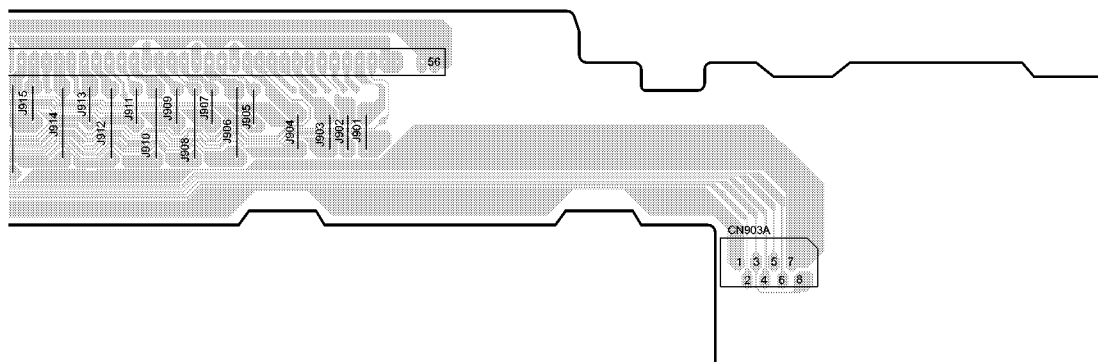
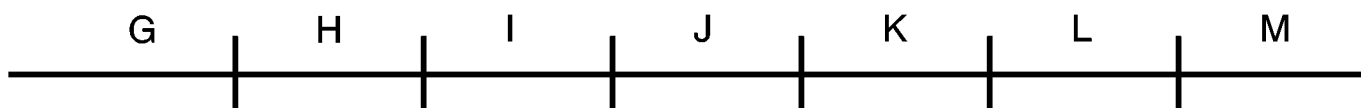
(SIDE : B)



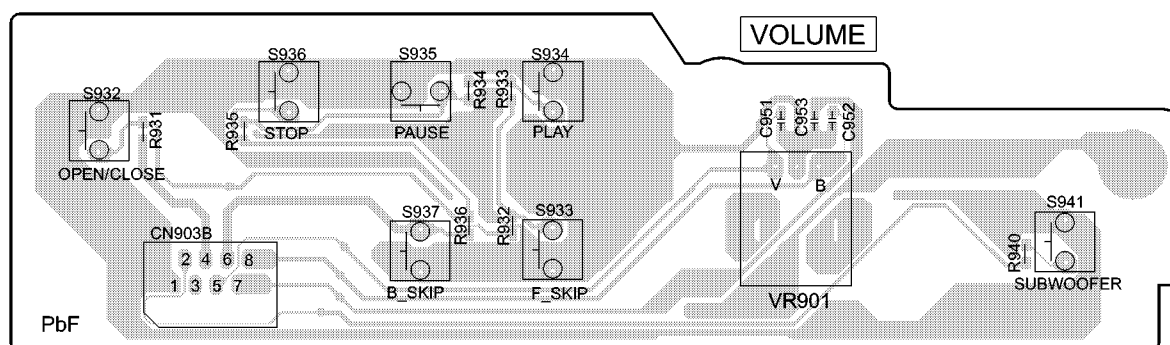


F SENSOR P.C.B. (REPX0354A)

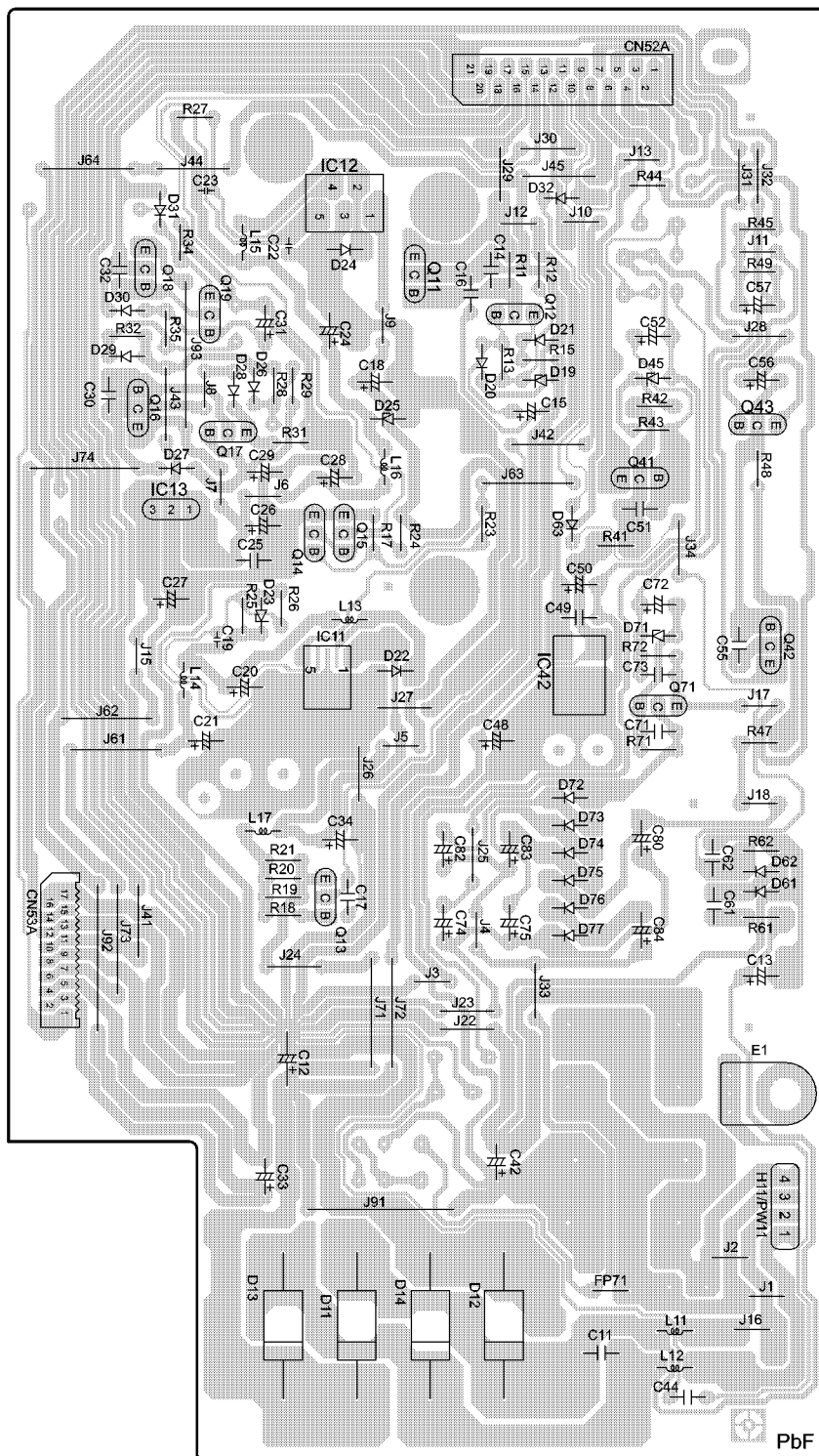




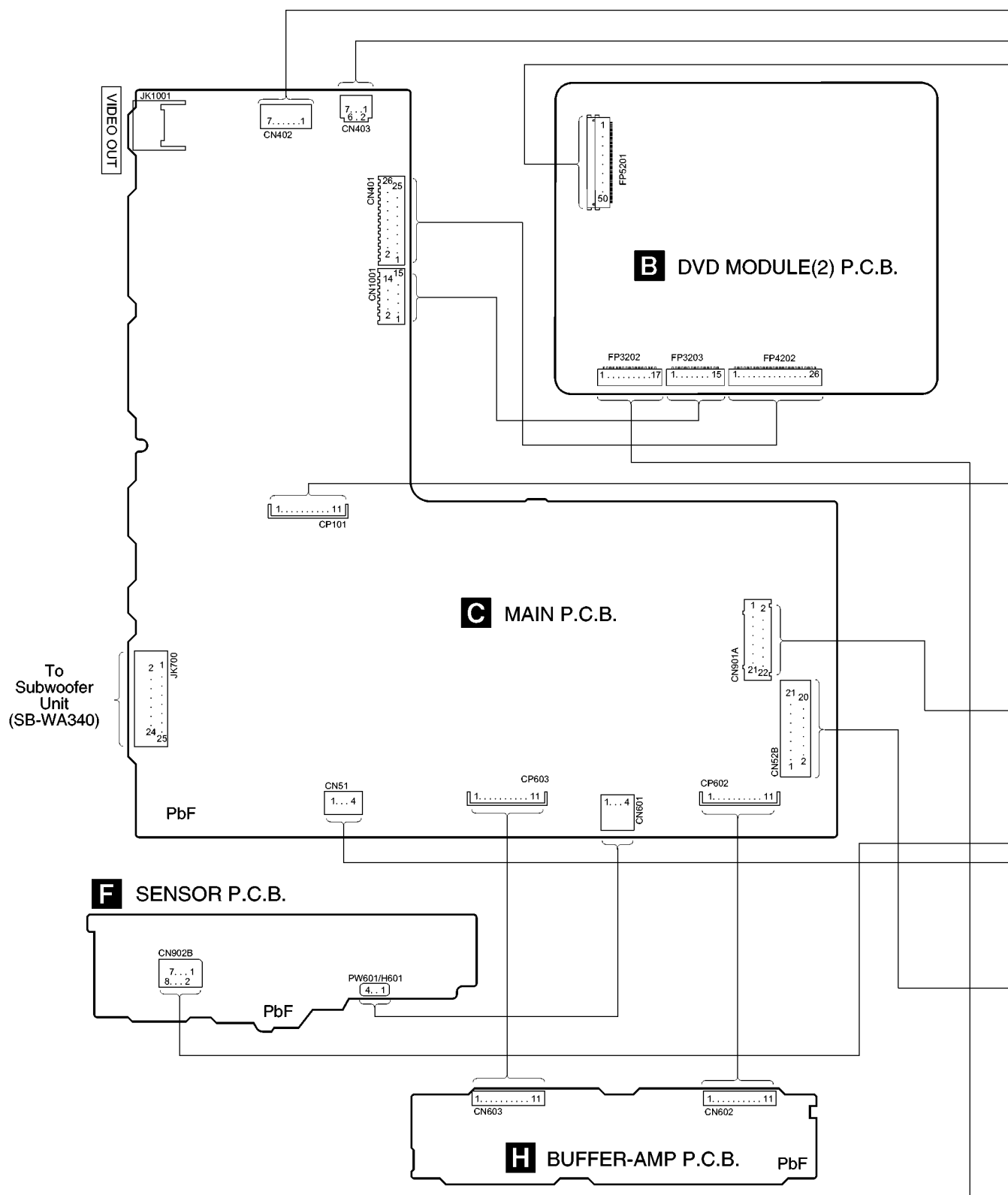
J VOLUME P.C.B. (REPX0354A)

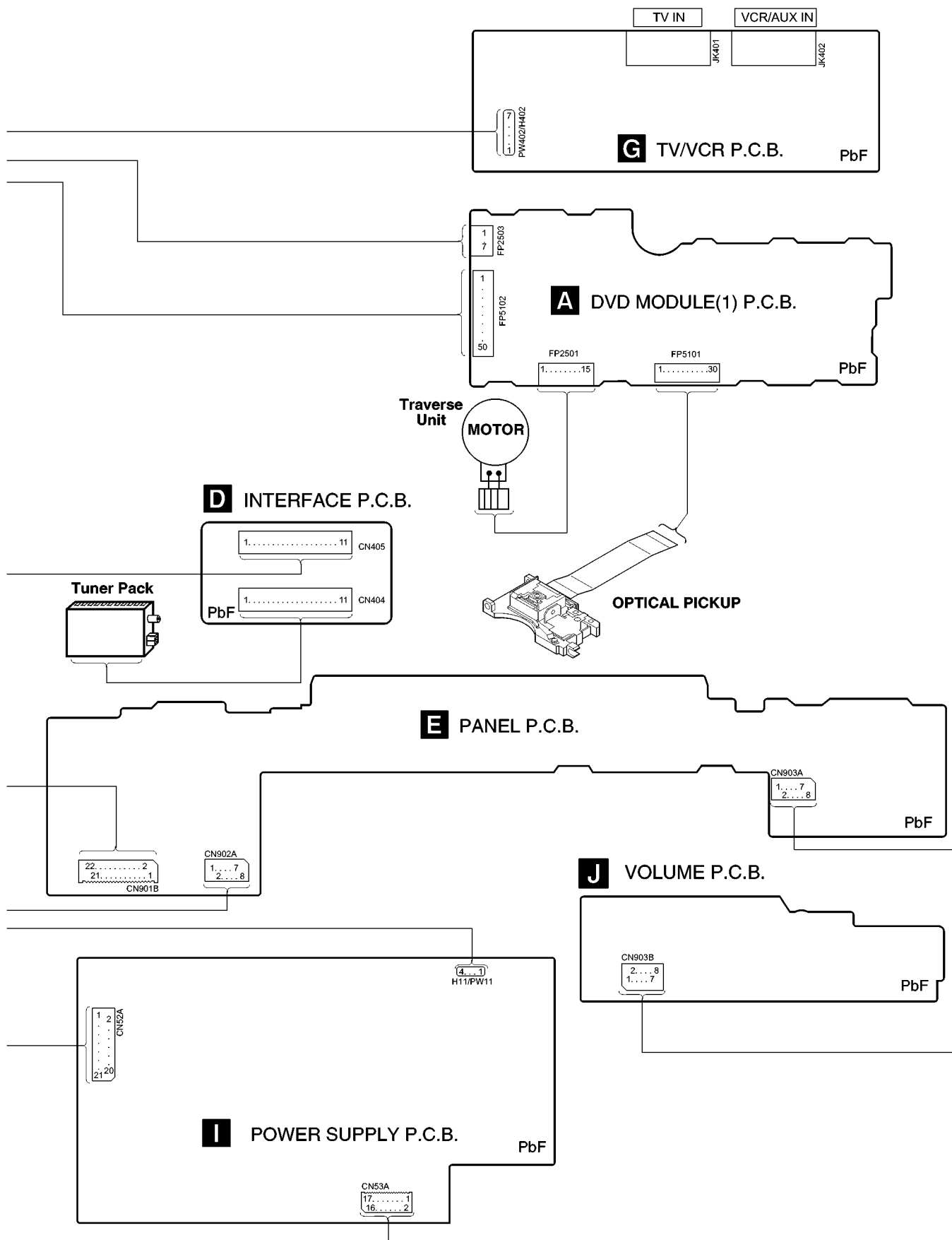


A B C D E F G

1
2
3
4
5
6
7
8
9
I POWER SUPPLY P.C.B. (REP3432E)

22 Wiring Connection Diagram





23 Parts Location and Replacement Parts List

Notes:

- Important safety notice:

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

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

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

- The parenthesized indications in the Remarks columns specify the areas or colour. (Refer to the cover page for area or colour)

Parts without these indications can be used for all areas.

- Warning: This product uses a laser diode. Refer to caution statements on "Precaution of Laser Diode".

- Capacitor values are in microfarads (μ F) unless specified otherwise, P= Pico-farads (pF), F= Farads.

- Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM).

- The marking (RTL) indicates that the Retention Time is limited for this items. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of a availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

- [M] Indicates in the Remarks columns indicates parts supplied by **PAVCSG**.

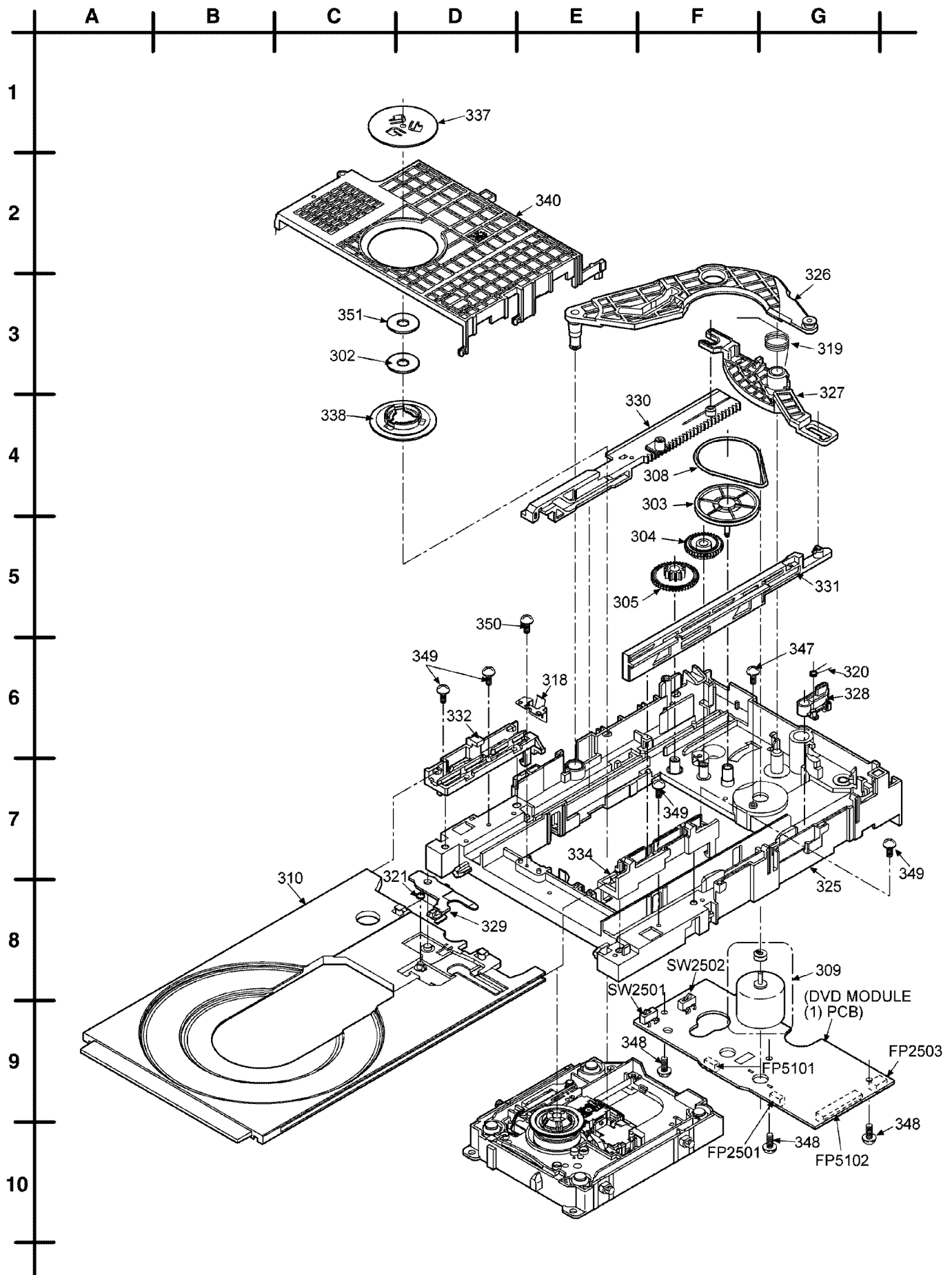
- The "(SF)" mark denotes the standard part.

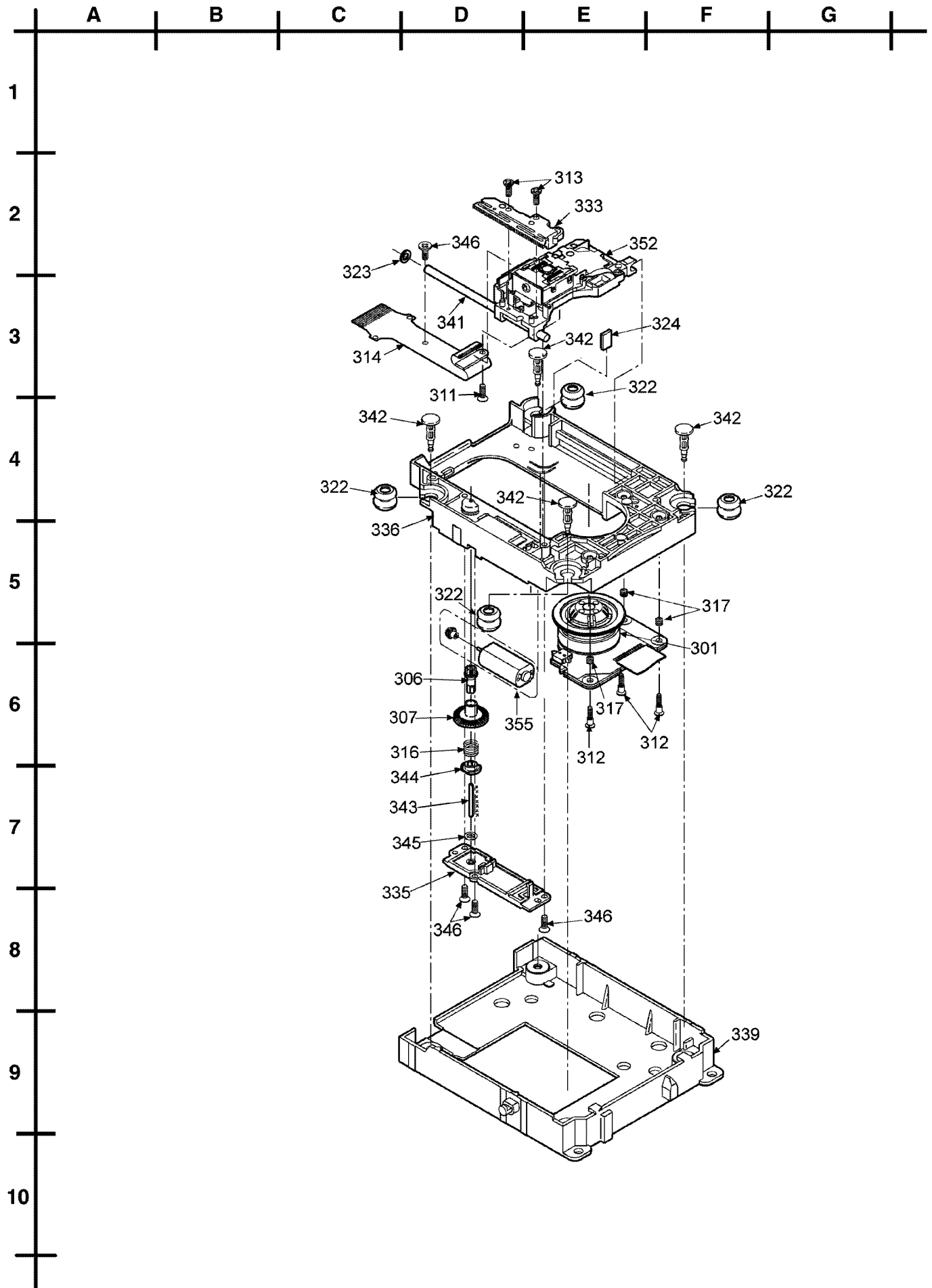
- Reference for O/I book languages are as follows:

Ar :	Arabic	Du :	Dutch	It :	Italian	Sp :	Spanish
Cf :	Canadian French	En :	English	Ko :	Korean	Sw :	Swedish
Cz :	Czech	Fr :	French	Po :	Polish	Co :	Traditional Chinese
Da :	Danish	Ge :	German	Ru :	Russian	Cn :	Simplified Chinese

23.1. CD Loading Mechanism

23.1.1. CD Loading Mechanism Parts Location



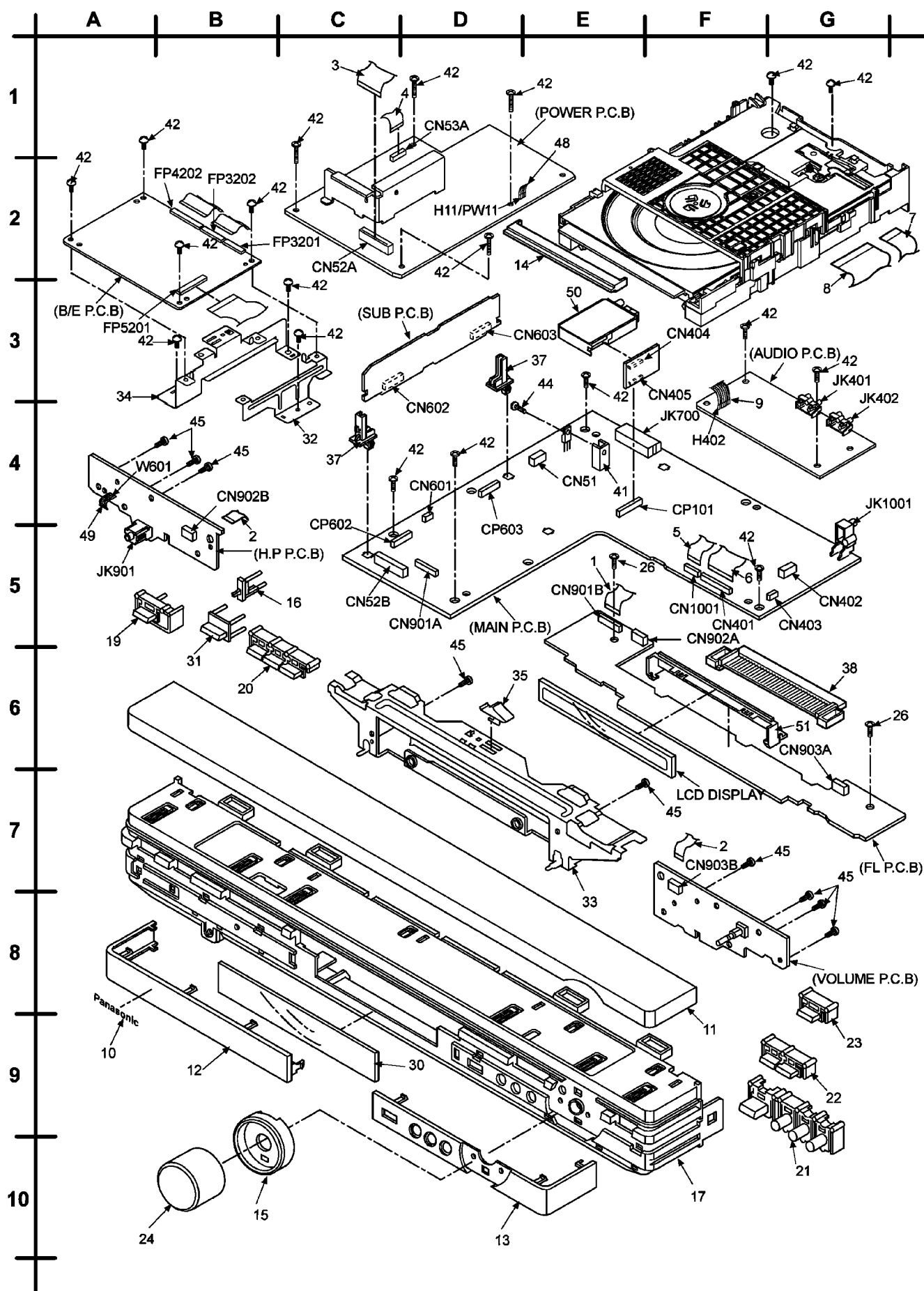


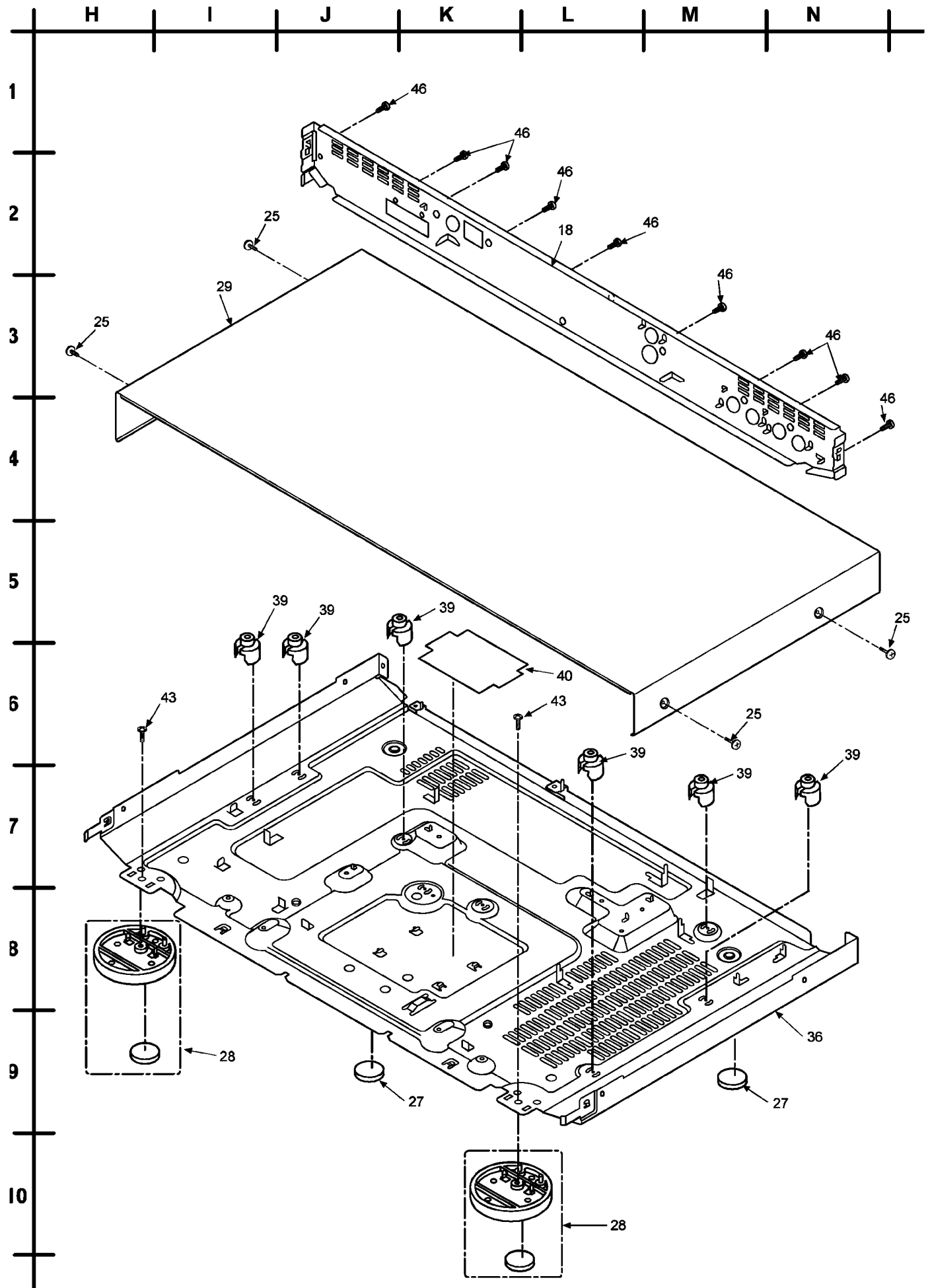
23.1.2. DVD Loading Mechanism Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		TRAVERSE DECK	
301	BML3E1CRL	SPINDLE MOTOR	[M]
302	JSM0048	MAGNET	[M]
303	RDG0547	PULLEY GEAR	[M]
304	RDG0548	RELAY GEAR	[M]
305	RDG0549	DRIVE GEAR	[M]
306	RDG0557	PINON SHAFT	[M]
307	RDG0558	BEVEL RING	[M]
308	RDV0070	BELT	[M]
309	REM0102	MOTOR UNIT	[M]
310	RGQ0338-Q	TRAY	[M]
311	RHD14095	FPC SCREW	[M]
312	RHD17042	TILT ADJUST SCREW	[M]
313	RHD17046	RACK SCREW	[M]
314	RJB2621A	RELAY FPC	[M]
316	RMB0713-1	THRUST SPRING	[M]
317	RMB0714	TILT SPRING	[M]
318	RMC0387	SUPPORT SPRING	[M]
319	RME0350	CHANGE LEVER SPRING	[M]
320	RME0351	LOCK LEVER SPRING	[M]
321	RME0353	TRAY SLIDER SPRING	[M]
322	RMG0598-A	FLOATING RUBBER	[M]
323	RMG0617-H	CUSHION RUBBER A	[M]
324	RMG0618-H	CUSHION RUBBER B	[M]
325	RMK0537	MECHA CHASSIS	[M]
326	RML0627-2	DRIVE ARM	[M]
327	RML0628	CHANGE LEVER	[M]
328	RML0629	LOCK LEVER	[M]
329	RML0631	TRAY SLIDER	[M]
330	RMM0247	DRIVE RACK	[M]
331	RMM0248	SUB RACK	[M]
332	RMM0250	GUIDE PIECE (L)	[M]
333	RMM0252	OPU DRIVE RACK	[M]
334	RMM0253	GUIDE PIECE R	[M]
335	RMQ1112	MOTOR COVER	[M]
336	RMR1466-K	TRAVERSE BASE	[M]
337	RMR1447-X	MAGNET HOLDER	[M]
338	RMR1446-X	CLAMPER	[M]
339	RMR1467-K	MIDDLE CHASSIS	[M]
340	RMR1468-K	CLAMP PLATE	[M]
341	RMS0788	GUIDE SHAFT	[M]
342	RMS0789	FIXED PIN	[M]
343	RMS0798	GEAR SHAFT	[M]
344	RMX0233	THRUST WASHER	[M]
345	RMX0247	WASHER	[M]
346	VHD1224	ADJ SPRING HOLDER SC	[M]
347	XQN17+C25FZ	MOTOR SCREW	[M]
348	XTN26+6G	SCREW	[M]
349	XTN26+8G	SCREW	[M]
350	XTV2+6G	PCB SCREW	[M]
351	XWG6FFY	WASHER	[M]
352	RAF3023A-2S	OPU	[M]
355	RXQ0946	TRV MOTOR SUB ASS'Y	[M]

23.2. Cabinet

23.2.1. Cabinet Parts Location





23.2.2. Cabinet Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	REEX0221	22P FFC (FL-MAIN)	[M]
2	REEX0222	8P FFC (PANEL-FL)	[M]
3	REEX0223	21P FFC (MAIN-POWER)	[M]
4	REEX0227	17P FFC (POWER-B/E)	[M]
5	REEX0228	15P FFC (MAIN-B/E)	[M]
6	REEX0229	26P FFC (MAIN-B/E)	[M]
7	REEX0230	7P FFC (MAIN-DVD)	[M]
8	REEX0231-1	50P FFC (B/E-DVD)	[M]
9	REZ1502	SEL WIRE	[M]
10	RGBX0011-S	PANA BADGE	[M]
11	RGKX0177A-S	TOP ORNAMENT	[M]
12	RGKX0178A-S	FRONT ORNAMENT (L)	[M]
13	RGKX0179-S1	FRONT ORNAMENT (R)	[M]
14	RGKX0180-K	DVD LID	[M]
15	RGKX0195-S	VOLUME RING	[M]
16	RGLX0060-Q	LIGHTING CHIP	[M]
17	RGPX0098-K	FRONT PANEL	[M]
18	RGRX0025A-C	REAR PANEL	[M]
19	RGUX0509-K1	POWER BUTTON	[M]
20	RGUX0510A-K	SELECTOR BUTTON	[M]
21	RGUX0512-S	CONTROL BUTTON	[M]
22	RGUX0513-K	REV/FWD SKIP BUTTON	[M]
23	RGUX0514-K	SUBWOOFER BUTTON	[M]
24	RGWX0076-S	VOLUME KNOB	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
25	RHD30007-S	SCREW	[M]
26	RHD30102	SCREW	[M]
27	RKA0145-K	CUSHION	[M]
28	RKAX0009-S	FOOT BASE ASS'Y	[M]
29	RKMX0087-S	TOP CABINET	[M]
30	RKWX0198-Q	FL WINDOW	[M]
31	RKWX0199-K	SENSOR PANEL	[M]
32	RMAX0056-1	B/E PCB SUPPORT A	[M]
33	RMAX0058	DVD BRACKET	[M]
34	RMAX0061-1	B/E SUPPORT B	[M]
35	RMCX0023	TOP SPRING	[M]
36	RMKX0072-1	BOTTOM CHASSIS	[M]
37	RMN0203	PCB HOLDER	[M]
38	RMNX0086	FL HOLDER	[M]
39	RMNX0109	PCB SPACER	[M]
40	RMQX0065-Q	BARRIER SHEET	[M]
41	RMY0285	SMALL HEAT SINK	[M]
42	XTB3+10JFZ	SCREW	[M]
43	XTB3+6J	SCREW	[M]
44	XTB3+8JFZ	SCREW	[M]
45	XTBS26+10J	SCREW	[M]
46	XTBS3+8JFZ1	SCREW	[M]
48	REXX0330	4P WIRE	[M]
49	REXX0353	4P WIRE (H.P. -MAIN)	[M]
50	ENG06701Q	FM TUNER PACK	[M]
51	RMN0087-1	FL SUPPORT	[M]

23.3. Component Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		PRINTED CIRCUIT BOARD	
	REP3499E	MAIN P.C.B. / BUFFER-AMP P.C.B. / TV/VCR P.C.B. / INTERFACE P.C.B.	[M] [RTL]
	REP3422B	DVD MODULE(1) P.C.B.	[M] [RTL]
	REP3479E	DVD MODULE(2) P.C.B.	[M] [RTL]
	REPX0354A	PANEL P.C.B. / SENSOR P.C.B. / VOLUME P.C.B.	[M] [RTL]
	REP3432E	POWER SUPPLY P.C.B.	[M] [RTL]
		INTEGRATED CIRCUITS	
IC11	C0DBAJG00002	IC REGULATOR	[M]
IC12	C0DAAHG00012	IC POWER SUPPLY	[M]
IC13	C0CAADG00019	IC AMP	[M]
IC42	C0CBAHE00002	IC REGULATOR	[M]
IC400	C0JZAS000004	IC ANALOG SWITCH	[M]
IC401	C0ABBB000067	IC DUAL OP-AMP	[M]
IC402	C0JBAR000292	IC ANALOG SWITCH	[M]
IC501	C2HBZC000013	IC DSP	[M]
IC502	M62444FPE1	IC 4CH VOLUME	[M]
IC601	C0AABB000085	IC OP AMP	[M]
IC602	M62456FPE1	IC BLT	[M]
IC603	C0ABCB000052	IC QUAD OP-AMP	[M]
IC700	C0CAADG00019	IC AMP	[M]
IC801	C2CBHF000270	IC 16 BIT MICRO-CONTROLLER	[M]
IC901	C0HBB0000033	IC DISPLAY DRIVER	[M]
IC1001	C9ZB00000432	IC VIDEO SELECTOR	[M]
IC2001	MN103S26EGA	IC SDC	[M]
IC2101	C0JBAS000116	IC LOGIC	[M]
IC2501	C0GBF0000004	IC MOTOR DRIVE	[M]
IC2521	C0BG00000033	IC MOTOR DRIVE	[M]
IC3001	MN6775511	IC AV RECORDER	[M]
IC3061	C3ABPG000068	IC 64 SDRAM	[M]
IC3062	C3ABPG000068	IC 64 SDRAM	[M]
IC4211	C0FBK0000036	IC AUDIO DAC	[M]
IC5201	AN22030A-VT	IC FEP	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
IC6201	MN102H60GFD	IC CPU	[M]
IC6211	C0EBE0000070	IC RESET	[M]
IC6222	C0JBAA000001	IC LOGIC	[M]
IC6223	C0JBAA000001	IC LOGIC	[M]
IC6251	C0DBEZG00011	IC REGULATOR	[M]
IC6252	C0DBFFG00004	IC REGULATOR	[M]
IC6253	C0DBCCE00002	IC REGULATOR	[M]
IC6301	RPKFMA66F320	IC FLASH ROM	SPC
IC6561	C1DB00000582	IC CLK GENERATOR	[M]
		TRANSISTORS	
Q11	KTA1046	TRANSISTOR	[M]
Q12	KTC3199GRTA	TRANSISTOR	[M]
Q13	BLACCF000039	TRANSISTOR	[M]
Q14	BLGACFJN0005	TRANSISTOR	[M]
Q15	BLGACFJN0005	TRANSISTOR	[M]
Q16	2SB14170JA	TRANSISTOR	[M]
Q17	KTC3199GRTA	TRANSISTOR	[M]
Q18	2SB0621AHA	TRANSISTOR	[M]
Q19	KTC3199GRTA	TRANSISTOR	[M]
Q41	KTC2026	TRANSISTOR	[M]
Q42	KTA1046	TRANSISTOR	[M]
Q43	BLACCF000039	TRANSISTOR	[M]
Q71	2SB0621AHA	TRANSISTOR	[M]
Q401	BLGBCFJN0004	TRANSISTOR	[M]
Q402	BLGBCFJN0004	TRANSISTOR	[M]
Q601	BLGFGCAA0001	TRANSISTOR	[M]
Q602	BLGFGCAA0001	TRANSISTOR	[M]
Q603	BLADCF000001	TRANSISTOR	[M]
Q604	BLADCF000001	TRANSISTOR	[M]
Q605	BLABGC000001	TRANSISTOR	[M]
Q606	BLABGC000001	TRANSISTOR	[M]
Q607	BLGDCFJA0001	TRANSISTOR	[M]
Q608	BLGDCFJA0001	TRANSISTOR	[M]
Q610	BLGFGCAA0001	TRANSISTOR	[M]
Q611	BLABGC000001	TRANSISTOR	[M]
Q612	BLABGC000001	TRANSISTOR	[M]
Q690	BLGFGCAA0001	TRANSISTOR	[M]
Q691	BLGDCFJA0001	TRANSISTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
Q701	B1ADCF000001	TRANSISTOR	[M]
Q702	B1ADCF000001	TRANSISTOR	[M]
Q703	B1ADCF000001	TRANSISTOR	[M]
Q704	B1GBCFJA0002	TRANSISTOR	[M]
Q731	B1GDCFJJ0002	TRANSISTOR	[M]
Q732	KTAL046	TRANSISTOR	[M]
Q733	B1ABCF000011	TRANSISTOR	[M]
Q801	B1GBCFJN0004	TRANSISTOR	[M]
Q867	2SA1576A106R	TRANSISTOR	[M]
Q971	B1GBCFJN0004	TRANSISTOR	[M]
Q1091	2SC3940ARA	TRANSISTOR	[M]
Q2001	2SD1819A0L	TRANSISTOR	[M]
Q3111	2SB1218ARL	TRANSISTOR	[M]
Q3116	2SB1218ARL	TRANSISTOR	[M]
Q3121	2SB1218ARL	TRANSISTOR	[M]
Q3212	2SB1218ARL	TRANSISTOR	[M]
Q3217	2SB1218ARL	TRANSISTOR	[M]
Q3222	2SB1218ARL	TRANSISTOR	[M]
Q5111	B1BDBF000004	TRANSISTOR	[M]
Q5115	B1BDBF000004	TRANSISTOR	[M]
Q5271	UNR521100L	TRANSISTOR	[M]
Q6215	UNR521200L	TRANSISTOR	[M]
QR5221	UNR212100L	CHIP TRANSISTOR	[M]
		DIODES	
D11	B0EAMM000038	DIODE	[M]
D12	B0EAMM000038	DIODE	[M]
D13	B0EAMM000038	DIODE	[M]
D14	B0EAMM000038	DIODE	[M]
D19	B0BA8R700009	DIODE	[M]
D20	B0AACK000004	DIODE	[M]
D21	B0AACK000004	DIODE	[M]
D22	B0JCPC000004	DIODE	[M]
D23	B0BA7R200003	DIODE	[M]
D24	B0JCPC000004	DIODE	[M]
D25	B0BA7R200003	DIODE	[M]
D26	B0AACK000004	DIODE	[M]
D27	B0AACK000004	DIODE	[M]
D28	B0AACK000004	DIODE	[M]
D29	B0AACK000004	DIODE	[M]
D30	B0AACK000004	DIODE	[M]
D31	B0AACK000004	DIODE	[M]
D32	B0AACK000004	DIODE	[M]
D45	B0BA7R200003	DIODE	[M]
D61	B0AACK000004	DIODE	[M]
D62	B0AACK000004	DIODE	[M]
D63	B0AACK000004	DIODE	[M]
D71	B0BA02300017	DIODE	[M]
D72	B0EAKM000085	DIODE	[M]
D73	B0EAKM000085	DIODE	[M]
D74	B0EAKM000085	DIODE	[M]
D75	B0EAKM000085	DIODE	[M]
D76	B0EAKM000085	DIODE	[M]
D77	B0EAKM000085	DIODE	[M]
D401	B0ACCK000005	DIODE	[M]
D402	B0ACCK000005	DIODE	[M]
D591	B0BC5R000009	DIODE	[M]
D617	B0BC4R300002	DIODE	[M]
D645	B0ACCK000005	DIODE	[M]
D646	B0ACCK000005	DIODE	[M]
D653	B0ACCK000005	DIODE	[M]
D654	B0ACCK000005	DIODE	[M]
D701	RL1N4003N02	DIODE	[M]
D711	B0ACCK000005	DIODE	[M]
D716	B0ACCK000005	DIODE	[M]
D717	B0ACCK000005	DIODE	[M]
D718	B0ACCK000005	DIODE	[M]
D719	B0ACCK000005	DIODE	[M]
D720	B0ACCK000005	DIODE	[M]
D721	B0ACCK000005	DIODE	[M]
D723	B0ACCK000005	DIODE	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
D729	B0ACCK000005	DIODE	[M]
D735	B0ADCC000002	DIODE	[M]
D757	RL1N4003N02	DIODE	[M]
D801	1SS380TE-17	DIODE	[M]
D802	1SS380TE-17	DIODE	[M]
D803	B0ACCK000005	DIODE	[M]
D815	MA2J72900L	DIODE	[M]
D901	B0ACCK000005	DIODE	[M]
D902	B0BC5R000009	DIODE	[M]
D911	B0ACCK000005	DIODE	[M]
D971	LNJ201LPQJA	DIODE	[M]
D1091	B0BC5R600003	DIODE	[M]
D2521	B0ECKM000003	DIODE	[M]
D5131	MA2J72800L	DIODE	[M]
D6215	MA2J72800L	DIODE	[M]
		CHIP BEADS & INDUCTORS	
LB2501	J0JHC0000045	CHIP BEADS	[M]
LB2502	J0JHC0000045	CHIP BEADS	[M]
LB2503	J0JHC0000045	CHIP BEADS	[M]
LB3001	J0JHC0000045	CHIP BEADS	[M]
LB3002	J0JHC0000045	CHIP BEADS	[M]
LB3201	D0GB101JA002	100 1/16W	[M]
LB3202	D0GB101JA002	100 1/16W	[M]
LB3203	D0GB101JA002	100 1/16W	[M]
LB3205	J0JBC0000015	CHIP INDUCTOR	[M]
LB3206	J0JBC0000015	CHIP INDUCTOR	[M]
LB3207	J0JBC0000015	CHIP INDUCTOR	[M]
LB3208	J0JBC0000015	CHIP INDUCTOR	[M]
LB3209	J0JBC0000015	CHIP INDUCTOR	[M]
LB4200	J0JBC0000015	CHIP INDUCTOR	[M]
LB4201	J0JCC0000119	CHIP INDUCTOR	[M]
LB4207	J0JCC0000119	CHIP INDUCTOR	[M]
LB4208	J0JCC0000119	CHIP INDUCTOR	[M]
LB4209	J0JCC0000119	CHIP INDUCTOR	[M]
LB4210	J0JCC0000119	CHIP INDUCTOR	[M]
LB4211	J0JCC0000119	CHIP INDUCTOR	[M]
LB4212	J0JCC0000119	CHIP INDUCTOR	[M]
LB4214	ERJ3GEY0R00V	0 1/16W	[M]
LB4215	ERJ3GEY0R00V	0 1/16W	[M]
LB4218	ERJ3GEY0R00V	0 1/16W	[M]
LB5101	J0JHC0000045	CHIP BEADS	[M]
LB5102	J0JBC0000015	CHIP INDUCTOR	[M]
LB5103	J0JBC0000015	CHIP INDUCTOR	[M]
LB5202	J0JHC0000045	CHIP BEADS	[M]
LB5203	J0JHC0000045	CHIP BEADS	[M]
LB5205	J0JBC0000015	CHIP INDUCTOR	[M]
LB5206	J0JBC0000015	CHIP INDUCTOR	[M]
LB5208	J0JBC0000015	CHIP INDUCTOR	[M]
LB5209	J0JBC0000015	CHIP INDUCTOR	[M]
LB5210	J0JBC0000015	CHIP INDUCTOR	[M]
LB5213	J0JBC0000015	CHIP INDUCTOR	[M]
LB5217	J0JBC0000015	CHIP INDUCTOR	[M]
LB5218	J0JBC0000015	CHIP INDUCTOR	[M]
LB5219	J0JBC0000015	CHIP INDUCTOR	[M]
LB5221	J0JCC0000119	CHIP INDUCTOR	[M]
LB5222	J0JCC0000119	CHIP INDUCTOR	[M]
LB5223	J0JCC0000119	CHIP INDUCTOR	[M]
LB5224	J0JCC0000119	CHIP INDUCTOR	[M]
LB5225	J0JBC0000015	CHIP INDUCTOR	[M]
LB5226	J0JCC0000119	CHIP INDUCTOR	[M]
LB5227	J0JBC0000015	CHIP INDUCTOR	[M]
LB5228	J0JCC0000119	CHIP INDUCTOR	[M]
LB5229	J0JCC0000119	CHIP INDUCTOR	[M]
LB5230	J0JCC0000119	CHIP INDUCTOR	[M]
LB5231	J0JCC0000119	CHIP INDUCTOR	[M]
LB5232	J0JBC0000015	CHIP INDUCTOR	[M]
LB5233	J0JCC0000119	CHIP INDUCTOR	[M]
LB5235	J0JCC0000119	CHIP INDUCTOR	[M]
LB5236	J0JCC0000119	CHIP INDUCTOR	[M]
LB5237	J0JCC0000119	CHIP INDUCTOR	[M]
LB5238	J0JCC0000119	CHIP INDUCTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
LB5239	J0JBC0000015	CHIP INDUCTOR	[M]
LB6201	J0JBC0000015	CHIP INDUCTOR	[M]
LB6202	J0JCC0000119	CHIP INDUCTOR	[M]
LB6221	J0JBC0000015	CHIP INDUCTOR	[M]
LB6561	J0JBC0000015	CHIP INDUCTOR	[M]
LB6562	J0JCC0000119	CHIP INDUCTOR	[M]
LB6563	J0JCC0000119	CHIP INDUCTOR	[M]
LB6564	ERJ3GEYJ470V	47 1/16W	[M]
LB6565	J0JCC0000077	CHIP BEEZ	[M]
LB6566	J0JCC0000119	CHIP INDUCTOR	[M]
LB6567	J0JBC0000015	CHIP INDUCTOR	[M]
		VARIABLE RESISTORS	
VR901	EVEKE2F3024M	VOLUME JOG	[M]
		SWITCHES	
S931	EVQ21405R	SW POWER	[M]
S932	EVQ21405R	SW OPEN/CLOSE	[M]
S933	EVQ21405R	SW F. SKIP	[M]
S934	EVQ21405R	SW PLAY	[M]
S935	EVQ21405R	SW PAUSE	[M]
S936	EVQ21405R	SW STOP	[M]
S937	EVQ21405R	SW R. SKIP	[M]
S938	EVQ21405R	SW SELECTOR	[M]
S940	EVQ21405R	SW SFC	[M]
S941	EVQ21405R	SW W.WOOFER	[M]
SW2501	RSH1A044-1A	SW OPEN	[M]
SW2502	RSH1A044-1A	SW CLOSE	[M]
		CONNECTORS	
CN51	K1KA04A00105	4P CONNECTOR	[M]
CN52A	K1MN21A00011	21P CONNECTOR	[M]
CN52B	K1MN21A00011	21P CONNECTOR	[M]
CN53A	K1MN17A00025	17P CONNECTOR	[M]
CN401	K1MN26A00022	26P CONNECTOR	[M]
CN402	K1MP07A00005	7P CONNECTOR	[M]
CN403	RJS2A5607	7P FFC CONNECTOR	[M]
CN404	K1KA11A00093	11P CONNECTOR	[M]
CN405	K1KB11A00020	11P CONNECTOR	[M]
CN601	K1KA04B00057	4P CONNECTOR	[M]
CN602	K1KB11A00020	11P CONNECTOR	[M]
CN602	RJU100W11	11P CONNECTOR	[M]
CN603	K1KB11A00020	11P CONNECTOR	[M]
CN603	RJU100W11	11P CONNECTOR	[M]
CN901A	K1MN22A00027	22P FFC CONNECTOR	[M]
CN901B	K1MN22A00027	22P FFC CONNECTOR	[M]
CN902A	K1MN08A00017	8P CONNECTOR	[M]
CN902B	K1MN08C00001	8P CONNECTOR	[M]
CN903A	K1MN08A00017	8P CONNECTOR	[M]
CN903B	K1MN08C00001	8P CONNECTOR	[M]
CN1001	K1MN15A00018	15P CONNECTOR	[M]
CP101	K1KA11A00093	11P CONNECTOR	[M]
CP602	K1KA11A00093	11P CONNECTOR	[M]
CP603	K1KA11A00093	11P CONNECTOR	[M]
FP2501	K1MN15B00041	15P CONNECTOR	[M]
FP2503	K1MN07B00080	7P CONNECTOR	[M]
FP3202	K1MN17B00041	17P CONNECTOR	[M]
FP3203	K1MN15B00037	15P CONNECTOR	[M]
FP4202	K1MN26B00037	26P CONNECTOR	[M]
FP5101	K1MN30B00031	30P CONNECTOR	[M]
FP5102	K1MN50B00021	50P CONNECTOR	[M]
FP5201	K1MN50B00010	50P CONNECTOR	[M]
		COILS	
L11	J0JKB0000020	EMI BEAD CORE	[M]
L12	J0JKB0000020	EMI BEAD CORE	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
L13	G0ZZ00001930	COIL	[M]
L14	G0A200D00002	COIL	[M]
L15	G0ZZ00001930	COIL	[M]
L16	G0A200D00002	COIL	[M]
L17	G0A200D00002	COIL	[M]
L521	J0JBC0000041	CHIP INDUCTOR	[M]
L540	G0A200D00002	COIL	[M]
L541	J0JBC0000041	CHIP INDUCTOR	[M]
L545	J0JBC0000041	CHIP INDUCTOR	[M]
L595	G0C100JA0030	INDUCTOR	[M]
L596	G0A200D00002	COIL	[M]
L801	J0JBC0000041	CHIP INDUCTOR	[M]
L802	J0JBC0000041	CHIP INDUCTOR	[M]
L991	RLQB101KTA-Y	CHOKE COIL	[M]
L992	RLQB101KTA-Y	CHOKE COIL	[M]
L993	J0JBC0000019	CHIP INDUCTOR	[M]
L994	J0JBC0000019	CHIP INDUCTOR	[M]
L1067	G0BYYYY00016	COMMON MODE CHOKE	[M]
L1068	G0BYYYY00016	COMMON MODE CHOKE	[M]
L2001	G1C100K00020	CHIP INDUCTOR	[M]
L2002	G1C100K00020	CHIP INDUCTOR	[M]
L2021	G1C100K00020	CHIP INDUCTOR	[M]
L3001	G1C100K00020	CHIP INDUCTOR	[M]
L3091	G1C100K00020	CHIP INDUCTOR	[M]
L3212	G1C4R7J00008	CONDENSOR	[M]
L3213	G1C4R7J00008	CONDENSOR	[M]
L3216	G1C4R7J00008	CONDENSOR	[M]
L3217	G1C4R7J00008	CONDENSOR	[M]
L3221	G1C4R7J00008	CONDENSOR	[M]
L3222	G1C4R7J00008	CONDENSOR	[M]
L4211	G1C220KA0038	CHIP BEADS	[M]
L5110	G1C100K00020	CHIP INDUCTOR	[M]
L5201	G1C100K00020	CHIP INDUCTOR	[M]
L5202	G1C100K00020	CHIP INDUCTOR	[M]
L6561	G1C220KA0038	CHIP BEADS	[M]
L6562	G1C220KA0038	CHIP BEADS	[M]
		COMPONENT COMBINATION	
Z901	RCDGP1UM272R	INFRARED RAY	[M]
Z1067	J0JBC0000015	CHIP INDUCTOR	[M]
Z1068	J0JBC0000015	CHIP INDUCTOR	[M]
Z1069	J0JBC0000015	CHIP INDUCTOR	[M]
		OSCILLATORS	
X501	RSXZ36M8M01T	RESONATOR	[M]
X801	H2B100500004	CERAMIC RESONATORS	[M]
X6561	H0J368600003	CRYSTAL OSCILLATOR	[M]
		DISPLAY TUBE	
FL901	A2BD00000066	FLUORESCENT CHARACTE	[M]
FL4201	FIH0J1050018	1 6.3V	[M]
FL6251	FIH0J1050018	1 6.3V	[M]
FL6253	FIH0J1050018	1 6.3V	[M]
FL6254	FIH0J1050018	1 6.3V	[M]
FL6255	FIJ1E1040022	0.1 25V	[M]
		FUSE PROTECTOR	
FP71	K5G202AA0002	FUSE PROTECTOR	[M] △
		HEAT SINK	
H7	RMV0313	HEAT SINK	[M]
		JACKS	
JK401	K2HA202B0037	JK	[M]
JK402	K2HA202B0037	JK	[M]
JK700	K1FB125B0097	JK SYSTEM CONNECTOR	[M]
JK901	K2HC103A0023	JK SMALL SIGN	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
JK1001	K1U208B00003	8P WIRE HOLDER	[M]
		EARTH TERMINAL	
E1	K4CZ01000027	TERMINALS	[M]
E700	K4CZ01000027	TERMINALS	[M]
E900	K4CZ01000027	TERMINALS	[M]
		HOLDER	
H11	K1YF04000001	CABLE HOLDER	[M]
H601	RMR0313	4P CABLE HOLDER	[M]
PW402	RMR0316	7P CABLE HOLDER	[M]
		RESISTORS	
R1	ERJ3GEY0R00V	0 1/16W	[M]
R2	ERJ3GEY0R00V	0 1/16W	[M]
R3	ERJ3GEY0R00V	0 1/16W	[M]
R4	ERJ3GEY0R00V	0 1/16W	[M]
R11	ERDS2TJ223T	22K 1/4W	[M]
R12	ERDS2TJ102T	1K 1/4W	[M]
R13	ERDS2TJ331T	330 1/4W	[M]
R15	ERDS2TJ471T	470 1/4W	[M]
R17	ERDS2TJ223T	22K 1/4W	[M]
R18	ERDS2TJ102T	1K 1/4W	[M]
R19	ERDS2TJ1R0T	1 1/4W	[M]
R20	ERDS2TJ1R0T	1 1/4W	[M]
R21	ERDS2TJ1R0T	1 1/4W	[M]
R23	ERDS2TJ102T	1K 1/4W	[M]
R24	ERDS2TJ822T	8.2K 1/4W	[M]
R25	ERDS2TJ102T	1K 1/4W	[M]
R26	ERDS2TJ102T	1K 1/4W	[M]
R27	ERDS2TJ182T	1.8K 1/4W	[M]
R28	ERDS2TJ472T	4.7K 1/4W	[M]
R29	ERDS2TJ271T	270 1/4W	[M]
R31	ERDS2TJ681T	680 1/4W	[M]
R32	ERDS2TJ472T	4.7K 1/4W	[M]
R34	ERDS2TJ681T	680 1/4W	[M]
R35	ERDS2TJ271T	270 1/4W	[M]
R41	ERDS1FVJ2R2T	2.2 1/2W	[M]
R42	ERDS1FVJ392T	3.9K 1/2W	[M]
R43	ERDS2TJ151T	150 1/4W	[M]
R44	ERDS2TJ153T	15K 1/4W	[M]
R45	ERDS2TJ272T	2.7K 1/4W	[M]
R47	ERDS1FVJ2R2T	2.2 1/2W	[M]
R48	ERDS2TJ472T	4.7K 1/4W	[M]
R49	ERDS2TJ153T	15K 1/4W	[M]
R50	ERDS2TJ152T	1.5K 1/4W	[M]
R61	ERDS1FVJ561T	560 1/2W	[M]
R62	ERDS2TJ154T	150K 1/4W	[M]
R71	ERDS2TJ472T	4.7K 1/4W	[M]
R72	ERDS2TJ223T	22K 1/4W	[M]
R101	ERJ3GEYJ102V	1K 1/16W	[M]
R102	ERJ3GEYJ102V	1K 1/16W	[M]
R103	ERJ3GEYJ103V	10K 1/16W	[M]
R104	ERJ3GEYJ103V	10K 1/16W	[M]
R401	ERJ3GEYJ153V	15K 1/16W	[M]
R402	ERJ3GEYJ153V	15K 1/16W	[M]
R403	ERJ3GEYJ222V	2.2K 1/16W	[M]
R404	ERJ3GEYJ222V	2.2K 1/16W	[M]
R413	ERJ3GEYJ682V	6.8K 1/16W	[M]
R414	ERJ3GEYJ682V	6.8K 1/16W	[M]
R415	D0GB332JA002	3.3K 1/16W	[M]
R416	D0GB332JA002	3.3K 1/16W	[M]
R417	ERJ3GEYJ682V	6.8K 1/16W	[M]
R418	D0GB332JA002	3.3K 1/16W	[M]
R422	ERJ3GEYJ222V	2.2K 1/16W	[M]
R423	ERJ3GEYJ153V	15K 1/16W	[M]
R429	ERJ3GEYJ103V	10K 1/16W	[M]
R430	ERJ3GEYJ103V	10K 1/16W	[M]
R431	ERJ3GEYJ682V	6.8K 1/16W	[M]
R432	ERJ3GEYJ682V	6.8K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R433	D0GB272JA002	2.7K 1/16W	[M]
R434	D0GB272JA002	2.7K 1/16W	[M]
R435	ERJ3GEYJ123V	12K 1/16W	[M]
R436	ERJ3GEYJ123V	12K 1/16W	[M]
R437	D0GB393JA002	39K 1/16W	[M]
R438	D0GB393JA002	39K 1/16W	[M]
R439	ERJ3GEYJ102V	1K 1/16W	[M]
R440	ERJ3GEYJ102V	1K 1/16W	[M]
R443	ERJ3GEYJ103V	10K 1/16W	[M]
R444	ERJ3GEYJ103V	10K 1/16W	[M]
R445	ERJ3GEYJ104V	100K 1/16W	[M]
R446	ERJ3GEYJ104V	100K 1/16W	[M]
R447	ERJ3GEYJ104V	100K 1/16W	[M]
R448	ERJ3GEYJ104V	100K 1/16W	[M]
R449	ERJ3GEYJ104V	100K 1/16W	[M]
R450	ERJ3GEYJ104V	100K 1/16W	[M]
R451	ERJ3GEYJ104V	100K 1/16W	[M]
R453	ERJ3GEYJ102V	1K 1/16W	[M]
R454	ERJ3GEYJ102V	1K 1/16W	[M]
R455	ERJ3GEYJ102V	1K 1/16W	[M]
R489	ERJ3GEYJ822V	8.2K 1/16W	[M]
R490	ERJ3GEYJ822V	8.2K 1/16W	[M]
R491	ERJ3GEYJ103V	10K 1/16W	[M]
R492	ERJ3GEYJ103V	10K 1/16W	[M]
R493	ERJ3GEYJ822V	8.2K 1/16W	[M]
R494	ERJ3GEYJ822V	8.2K 1/16W	[M]
R495	ERJ3GEYJ103V	10K 1/16W	[M]
R496	ERJ3GEYJ103V	10K 1/16W	[M]
R501	ERJ3GEYJ102V	1K 1/16W	[M]
R502	ERJ3GEYJ102V	1K 1/16W	[M]
R503	ERJ3GEYJ102V	1K 1/16W	[M]
R504	ERJ3GEYJ102V	1K 1/16W	[M]
R505	ERJ3GEYJ102V	1K 1/16W	[M]
R506	ERJ3GEYJ102V	1K 1/16W	[M]
R507	ERJ3GEYJ102V	1K 1/16W	[M]
R508	ERJ3GEYJ102V	1K 1/16W	[M]
R516	ERJ3GEYJ470V	47 1/16W	[M]
R517	D0GB105JA002	1M 1/16W	[M]
R518	ERJ3GEYJ221V	220 1/16W	[M]
R521	D0GB271JA002	270 1/16W	[M]
R522	D0GB271JA002	270 1/16W	[M]
R537	D0GB271JA002	270 1/16W	[M]
R538	D0GB271JA002	270 1/16W	[M]
R541	ERJ3GEYJ472V	4.7K 1/16W	[M]
R542	ERJ3GEYJ104V	100K 1/16W	[M]
R543	ERJ3GEYJ331V	330 1/16W	[M]
R544	ERJ3GEYJ331V	330 1/16W	[M]
R545	ERJ3GEYJ331V	330 1/16W	[M]
R551	ERJ3GEYJ103V	10K 1/16W	[M]
R552	ERJ3GEYJ103V	10K 1/16W	[M]
R553	D0GB272JA002	2.7K 1/16W	[M]
R554	D0GB272JA002	2.7K 1/16W	[M]
R555	ERJ3GEYJ123V	12K 1/16W	[M]
R556	ERJ3GEYJ123V	12K 1/16W	[M]
R559	D0GB392JA002	3.9K 1/16W	[M]
R560	D0GB392JA002	3.9K 1/16W	[M]
R561	ERJ3GEYJ103V	10K 1/16W	[M]
R562	ERJ3GEYJ103V	10K 1/16W	[M]
R565	ERJ3GEYJ103V	10K 1/16W	[M]
R567	ERJ3GEYJ471V	470 1/16W	[M]
R568	D0GB332JA002	3.3K 1/16W	[M]
R571	ERJ3GEYJ222V	2.2K 1/16W	[M]
R572	ERJ3GEYJ123V	12K 1/16W	[M]
R575	ERJ3GEYJ223V	22K 1/16W	[M]
R576	ERJ3GEYJ223V	22K 1/16W	[M]
R578	ERJ3GEYJ222V	2.2K 1/16W	[M]
R579	ERJ3GEYJ222V	2.2K 1/16W	[M]
R580	ERJ3GEYJ472V	4.7K 1/16W	[M]
R581	ERJ3GEYJ473V	47K 1/16W	[M]
R582	ERJ3GEYJ473V	47K 1/16W	[M]
R583	ERJ3GEYJ473V	47K 1/16W	[M]
R584	ERJ3GEYJ102V	1K 1/16W	[M]
R585	ERJ3GEYJ102V	1K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R586	ERJ3GEYJ102V	1K 1/16W	[M]
R591	ERJ3GEYJ391V	390 1/16W	[M]
R592	ERJ3GEYJ473V	47K 1/16W	[M]
R593	ERJ3GEYJ473V	47K 1/16W	[M]
R594	ERJ3GEYJ473V	47K 1/16W	[M]
R595	ERJ3GEYJ102V	1K 1/16W	[M]
R601	D0GB122JA019	1.2K 1/16W	[M]
R602	D0GB122JA019	1.2K 1/16W	[M]
R603	ERJ3GEYJ471V	470 1/16W	[M]
R604	ERJ3GEYJ471V	470 1/16W	[M]
R605	ERJ3GEYJ223V	22K 1/16W	[M]
R606	ERJ3GEYJ223V	22K 1/16W	[M]
R607	D0GB332JA002	3.3K 1/16W	[M]
R608	D0GB332JA002	3.3K 1/16W	[M]
R609	ERJ3GEYJ823V	82K 1/16W	[M]
R610	ERJ3GEYJ823V	82K 1/16W	[M]
R611	D0GB392JA002	3.9K 1/16W	[M]
R612	D0GB392JA002	3.9K 1/16W	[M]
R613	ERJ3GEYJ182V	1.8K 1/16W	[M]
R614	ERJ3GEYJ182V	1.8K 1/16W	[M]
R615	ERJ3GEYJ102V	1K 1/16W	[M]
R616	ERJ3GEYJ102V	1K 1/16W	[M]
R617	ERJ3GEYJ103V	10K 1/16W	[M]
R618	ERJ3GEYJ103V	10K 1/16W	[M]
R619	ERJ3GEYJ223V	22K 1/16W	[M]
R620	ERJ3GEYJ223V	22K 1/16W	[M]
R621	D0GB183JA002	18K 1/16W	[M]
R622	D0GB183JA002	18K 1/16W	[M]
R623	ERJ3GEYJ223V	22K 1/16W	[M]
R624	ERJ3GEYJ223V	22K 1/16W	[M]
R625	ERJ3GEYJ123V	12K 1/16W	[M]
R626	ERJ3GEYJ103V	10K 1/16W	[M]
R627	D0GB393JA002	39K 1/16W	[M]
R628	D0GB393JA002	39K 1/16W	[M]
R629	ERJ3GEYJ682V	6.8K 1/16W	[M]
R631	D0GB390JA002	39 1/16W	[M]
R632	D0GB390JA002	39 1/16W	[M]
R633	D0GB390JA002	39 1/16W	[M]
R634	D0GB390JA002	39 1/16W	[M]
R635	D0GB100JA002	10 1/16W	[M]
R636	D0GB100JA002	10 1/16W	[M]
R639	ERJ3GEYJ561V	560 1/16W	[M]
R640	ERJ3GEYJ561V	560 1/16W	[M]
R641	D0GB333JA002	33K 1/16W	[M]
R642	D0GB333JA002	33K 1/16W	[M]
R643	D0GB333JA002	33K 1/16W	[M]
R644	D0GB333JA002	33K 1/16W	[M]
R645	ERJ3GEYJ822V	8.2K 1/16W	[M]
R646	ERJ3GEYJ822V	8.2K 1/16W	[M]
R647	ERJ3GEYJ473V	47K 1/16W	[M]
R648	ERJ3GEYJ473V	47K 1/16W	[M]
R649	ERJ3GEYJ102V	1K 1/16W	[M]
R650	ERJ3GEYJ102V	1K 1/16W	[M]
R651	ERJ3GEYJ153V	15K 1/16W	[M]
R652	ERJ3GEYJ104V	100K 1/16W	[M]
R653	D0GB273JA002	27K 1/16W	[M]
R654	ERJ3GEYJ824V	820K 1/16W	[M]
R655	D0GB273JA002	27K 1/16W	[M]
R656	D0GB273JA002	27K 1/16W	[M]
R657	ERJ3GEYJ103V	10K 1/16W	[M]
R658	ERJ3GEYJ103V	10K 1/16W	[M]
R660	ERJ3GEYJ472V	4.7K 1/16W	[M]
R661	ERJ3GEYJ153V	15K 1/16W	[M]
R662	ERJ3GEYJ102V	1K 1/16W	[M]
R663	ERJ3GEYJ823V	82K 1/16W	[M]
R664	ERJ3GEYJ823V	82K 1/16W	[M]
R665	ERJ3GEYJ822V	8.2K 1/16W	[M]
R666	ERJ3GEYJ153V	15K 1/16W	[M]
R667	D0GB274JA002	270K 1/16W	[M]
R669	ERJ3GEYJ561V	560 1/16W	[M]
R670	ERJ3GEYJ561V	560 1/16W	[M]
R671	ERJ3GEYJ472V	4.7K 1/16W	[M]
R672	ERJ3GEYJ472V	4.7K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R673	ERJ3GEYJ473V	47K 1/16W	[M]
R674	ERJ3GEYJ473V	47K 1/16W	[M]
R675	ERJ3GEYJ102V	1K 1/16W	[M]
R676	ERJ3GEYJ102V	1K 1/16W	[M]
R677	D0GB273JA002	27K 1/16W	[M]
R678	D0GB273JA002	27K 1/16W	[M]
R681	D0GB332JA002	3.3K 1/16W	[M]
R682	ERJ3GEYJ682V	6.8K 1/16W	[M]
R685	D0GB393JA002	39K 1/16W	[M]
R686	D0GB563JA002	56K 1/16W	[M]
R687	ERJ3GEYJ222V	2.2K 1/16W	[M]
R688	D0GB273JA002	27K 1/16W	[M]
R689	D0GB392JA002	3.9K 1/16W	[M]
R690	D0GB273JA002	27K 1/16W	[M]
R691	ERJ3GEYJ473V	47K 1/16W	[M]
R693	ERJ3GEYJ102V	1K 1/16W	[M]
R694	ERJ3GEYJ102V	1K 1/16W	[M]
R695	ERJ3GEYJ102V	1K 1/16W	[M]
R696	D0GB122JA019	1.2K 1/16W	[M]
R697	ERJ3GEYJ102V	1K 1/16W	[M]
R698	ERJ3GEYJ102V	1K 1/16W	[M]
R699	ERJ3GEYJ221V	220 1/16W	[M]
R701	ERJ3GEYJ102V	1K 1/16W	[M]
R702	ERJ3GEYJ102V	1K 1/16W	[M]
R703	D0GB183JA002	18K 1/16W	[M]
R704	D0GB183JA002	18K 1/16W	[M]
R705	ERJ3GEYJ223V	22K 1/16W	[M]
R706	ERJ3GEYJ223V	22K 1/16W	[M]
R709	ERJ3GEYJ103V	10K 1/16W	[M]
R710	ERJ3GEYJ103V	10K 1/16W	[M]
R711	ERJ3GEYJ104V	100K 1/16W	[M]
R712	ERJ3GEYJ104V	100K 1/16W	[M]
R717	ERJ3GEYJ682V	6.8K 1/16W	[M]
R719	ERJ3GEYJ472V	4.7K 1/16W	[M]
R720	ERDS1FVJ681T	680 1/2W	[M]
R723	ERJ3GEYJ224V	220K 1/16W	[M]
R724	D0GB683JA002	68K 1/16W	[M]
R725	ERJ3GEYJ102V	1K 1/16W	[M]
R726	ERJ3GEYJ153V	15K 1/16W	[M]
R727	D0GB333JA002	33K 1/16W	[M]
R728	ERJ3GEYJ472V	4.7K 1/16W	[M]
R729	ERJ3GEYJ103V	10K 1/16W	[M]
R730	ERJ3GEYJ472V	4.7K 1/16W	[M]
R734	D0GB332JA002	3.3K 1/16W	[M]
R735	D0GB124JA002	120K 1/16W	[M]
R736	ERJ3GEYJ681V	680 1/16W	[M]
R737	ERJ3GEYJ3R9V	3.9 1/16W	[M]
R738	ERJ3GEYJ3R9V	3.9 1/16W	[M]
R739	ERJ3GEYJ3R9V	3.9 1/16W	[M]
R740	ERJ3GEYJ3R9V	3.9 1/16W	[M]
R791	ERDS1FVJ5R6T	5.6 1/2W	[M]
R797	ERJ3GEYJ103V	10K 1/16W	[M]
R798	D0GB272JA002	2.7K 1/16W	[M]
R799	ERJ3GEYJ472V	4.7K 1/16W	[M]
R801	ERJ3GEYJ221V	220 1/16W	[M]
R802	ERJ3GEYJ221V	220 1/16W	[M]
R803	ERJ3GEYJ473V	47K 1/16W	[M]
R804	D0GB683JA002	68K 1/16W	[M]
R805	ERJ3GEYJ221V	220 1/16W	[M]
R806	ERJ3GEYJ221V	220 1/16W	[M]
R807	ERJ3GEYJ221V	220 1/16W	[M]
R808	ERJ3GEYJ103V	10K 1/16W	[M]
R809	ERJ3GEYJ102V	1K 1/16W	[M]
R811	ERJ3GEYJ103V	10K 1/16W	[M]
R812	ERJ3GEYJ103V	10K 1/16W	[M]
R813	ERJ3GEYJ102V	1K 1/16W	[M]
R814	ERJ3GEYJ223V	22K 1/16W	[M]
R815	ERJ3GEYJ681V	680 1/16W	[M]
R816	ERJ3GEYJ103V	10K 1/16W	[M]
R817	ERJ3GEYJ221V	220 1/16W	[M]
R818	ERJ3GEYJ102V	1K 1/16W	[M]
R819	ERJ3GEYJ103V	10K 1/16W	[M]
R820	ERJ3GEYJ103V	10K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R821	ERJ3GEYJ103V	10K 1/16W	[M]
R822	D0GB101JA002	100 1/16W	[M]
R823	ERJ3GEYJ221V	220 1/16W	[M]
R824	ERJ3GEYJ221V	220 1/16W	[M]
R825	ERJ3GEYJ221V	220 1/16W	[M]
R826	ERJ3GEYJ103V	10K 1/16W	[M]
R828	ERJ3GEYJ681V	680 1/16W	[M]
R829	ERJ3GEYJ681V	680 1/16W	[M]
R830	ERJ3GEYJ681V	680 1/16W	[M]
R831	ERJ3GEYJ221V	220 1/16W	[M]
R832	ERJ3GEYJ221V	220 1/16W	[M]
R833	ERJ3GEYJ221V	220 1/16W	[M]
R834	ERJ3GEYJ221V	220 1/16W	[M]
R836	ERJ3GEYJ221V	220 1/16W	[M]
R837	ERJ3GEYJ221V	220 1/16W	[M]
R838	ERJ3GEYJ331V	330 1/16W	[M]
R839	ERJ3GEYJ221V	220 1/16W	[M]
R840	ERJ3GEYJ221V	220 1/16W	[M]
R841	ERJ3GEYJ221V	220 1/16W	[M]
R842	ERJ3GEYJ221V	220 1/16W	[M]
R843	ERJ3GEYJ331V	330 1/16W	[M]
R844	ERJ3GEYJ102V	1K 1/16W	[M]
R845	ERJ3GEYJ102V	1K 1/16W	[M]
R846	ERJ3GEYJ102V	1K 1/16W	[M]
R847	ERJ3GEYJ102V	1K 1/16W	[M]
R848	D0GB333JA002	33K 1/16W	[M]
R849	D0GB333JA002	33K 1/16W	[M]
R850	D0GB333JA002	33K 1/16W	[M]
R851	ERJ3GEYJ223V	22K 1/16W	[M]
R852	ERJ3GEYJ223V	22K 1/16W	[M]
R853	ERJ3GEYJ472V	4.7K 1/16W	[M]
R854	ERJ3GEYJ104V	100K 1/16W	[M]
R855	ERJ3GEYJ102V	1K 1/16W	[M]
R856	ERJ3GEYJ102V	1K 1/16W	[M]
R857	ERJ3GEYJ102V	1K 1/16W	[M]
R858	ERJ3GEYJ472V	4.7K 1/16W	[M]
R859	D0GB1R0JA002	1 1/16W	[M]
R860	ERJ3GEYJ103V	10K 1/16W	[M]
R861	ERJ3GEYJ103V	10K 1/16W	[M]
R863	ERJ3GEYJ103V	10K 1/16W	[M]
R864	D0GB821JA002	820 1/16W	[M]
R865	ERJ3GEYJ331V	330 1/16W	[M]
R866	ERJ3GEYJ331V	330 1/16W	[M]
R867	ERJ3GEYJ103V	10K 1/16W	[M]
R868	ERJ3GEYJ331V	330 1/16W	[M]
R869	ERJ3GEYJ331V	330 1/16W	[M]
R870	ERJ3GEYJ221V	220 1/16W	[M]
R872	ERJ3GEYJ331V	330 1/16W	[M]
R873	ERJ3GEYJ331V	330 1/16W	[M]
R874	ERJ3GEYJ331V	330 1/16W	[M]
R875	ERJ3GEYJ331V	330 1/16W	[M]
R876	ERJ3GEYJ221V	220 1/16W	[M]
R877	ERJ3GEYJ221V	220 1/16W	[M]
R878	ERJ3GEYJ221V	220 1/16W	[M]
R879	ERJ3GEYJ221V	220 1/16W	[M]
R880	ERJ3GEYJ331V	330 1/16W	[M]
R881	ERJ3GEYJ331V	330 1/16W	[M]
R882	ERJ3GEYJ331V	330 1/16W	[M]
R883	ERJ3GEYJ223V	22K 1/16W	[M]
R884	ERJ3GEYJ104V	100K 1/16W	[M]
R886	ERJ3GEYJ102V	1K 1/16W	[M]
R887	ERJ3GEYJ102V	1K 1/16W	[M]
R888	ERJ3GEYJ102V	1K 1/16W	[M]
R889	ERJ3GEYJ102V	1K 1/16W	[M]
R890	ERJ3GEYJ221V	220 1/16W	[M]
R891	ERJ3GEYJ221V	220 1/16W	[M]
R892	ERJ3GEYJ221V	220 1/16W	[M]
R893	ERJ3GEYJ223V	22K 1/16W	[M]
R894	ERJ3GEYJ472V	4.7K 1/16W	[M]
R895	D0GB101JA002	100 1/16W	[M]
R896	ERJ3GEYJ221V	220 1/16W	[M]
R897	ERJ3GEYJ103V	10K 1/16W	[M]
R898	ERJ3GEYJ222V	2.2K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R899	ERJ3GEYJ222V	2.2K 1/16W	[M]
R901	D0GB151JA008	150 1/16W	[M]
R902	D0GB151JA008	150 1/16W	[M]
R911	D0GB332JA002	3.3K 1/16W	[M]
R912	D0GB332JA002	3.3K 1/16W	[M]
R913	D0GB332JA002	3.3K 1/16W	[M]
R914	ERJ3GEYJ223V	22K 1/16W	[M]
R915	D0GB333JA002	33K 1/16W	[M]
R916	D0GB333JA002	33K 1/16W	[M]
R917	D0GB333JA002	33K 1/16W	[M]
R918	ERJ3GEYJ103V	10K 1/16W	[M]
R931	D0GB821JA002	820 1/16W	[M]
R932	ERJ3GEYJ102V	1K 1/16W	[M]
R933	D0GB122JA019	1.2K 1/16W	[M]
R934	D0GB152JA002	1.5K 1/16W	[M]
R935	ERJ3GEYJ182V	1.8K 1/16W	[M]
R936	ERJ3GEYJ222V	2.2K 1/16W	[M]
R937	D0GB332JA002	3.3K 1/16W	[M]
R938	ERJ3GEYJ472V	4.7K 1/16W	[M]
R939	ERJ3GEYJ682V	6.8K 1/16W	[M]
R940	ERJ3GEYJ123V	12K 1/16W	[M]
R961	ERJ3GEYJ102V	1K 1/16W	[M]
R971	ERJ3GEYJ471V	470 1/16W	[M]
R1005	ERJ3GEYJ222V	2.2K 1/16W	[M]
R1079	D0GB1R0JA002	1 1/16W	[M]
R1080	D0GB1R0JA002	1 1/16W	[M]
R1081	ERJ3EKF75R0V	75 3W	[M]
R1082	D0GB1R0JA002	1 1/16W	[M]
R1083	D0GB1R0JA002	1 1/16W	[M]
R1084	ERJ3EKF75R0V	75 3W	[M]
R1085	ERJ3EKF75R0V	75 3W	[M]
R1091	ERDS1FVJ4R7T	4.7 1/2W	[M]
R1092	ERJ3GEYJ102V	1K 1/16W	[M]
R1100	ERJ3GEYJ103V	10K 1/16W	[M]
R2021	ERJ3GEYJ473V	47K 1/16W	[M]
R2022	ERJ3GEYJ223V	22K 1/16W	[M]
R2023	D0GB752JA008	7.5K 1/16W	[M]
R2025	ERJ3GEYJ223V	22K 1/16W	[M]
R2026	ERJ3GEYJ223V	22K 1/16W	[M]
R2027	D0GB563JA002	56K 1/16W	[M]
R2028	D0GB563JA002	56K 1/16W	[M]
R2029	ERJ3GEYJ103V	10K 1/16W	[M]
R2030	ERJ3GEYJ102V	1K 1/16W	[M]
R2031	ERJ3GEYJ561V	560 1/16W	[M]
R2032	ERJ3GEYJ103V	10K 1/16W	[M]
R2033	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2034	ERJ3GEYJ473V	47K 1/16W	[M]
R2035	D0GB272JA002	2.7K 1/16W	[M]
R2036	ERJ3GEY0R00V	0 1/16W	[M]
R2037	D0GB683JA002	68K 1/16W	[M]
R2038	ERJ3GEYJ153V	15K 1/16W	[M]
R2039	D0GB105JA002	1M 1/16W	[M]
R2040	ERJ3GEYJ822V	8.2K 1/16W	[M]
R2041	ERJ3GEYJ822V	8.2K 1/16W	[M]
R2042	ERJ3GEYJ153V	15K 1/16W	[M]
R2043	ERJ3GEYJ153V	15K 1/16W	[M]
R2044	ERJ3GEYJ153V	15K 1/16W	[M]
R2045	ERJ3GEYJ153V	15K 1/16W	[M]
R2046	ERJ3GEYJ153V	15K 1/16W	[M]
R2047	ERJ3GEYJ153V	15K 1/16W	[M]
R2048	D0GB475JA008	4.7M 1/16W	[M]
R2049	ERJ3GEYJ102V	1K 1/16W	[M]
R2051	D0GB101JA002	100 1/16W	[M]
R2052	D0GB101JA002	100 1/16W	[M]
R2053	ERJ3GEYJ473V	47K 1/16W	[M]
R2054	ERJ3GEYJ473V	47K 1/16W	[M]
R2501	D0GB101JA002	100 1/16W	[M]
R2502	D0GB101JA002	100 1/16W	[M]
R2503	ERJ3GEY0R00V	0 1/16W	[M]
R2504	ERJ14YKR39H	0.39 1/4W	[M]
R2521	D0GF6R8JA017	6.8 1/16W	[M]
R2522	ERJ3GEY0R00V	0 1/16W	[M]
R2523	ERJ3GEY0R00V	0 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R2524	ERJ3GEY0R00V	0 1/16W	[M]
R3001	D0GB220JA002	22 1/16W	[M]
R3004	ERJ3RBD223V	22K 3W	[M]
R3005	ERJ3RBD751V	750 3W	[M]
R3006	ERJ3RBD153V	15K 3W	[M]
R3007	ERJ3RBD202V	2K 3W	[M]
R3008	ERJ3RBD132V	1.3K 3W	[M]
R3009	D0GB101JA002	100 1/16W	[M]
R3010	D0GB101JA002	100 1/16W	[M]
R3051	D0GB101JA002	100 1/16W	[M]
R3052	D0GB101JA002	100 1/16W	[M]
R3101	ERJ3RED620V	62 3W	[M]
R3102	ERJ3RED150V	15 3W	[M]
R3106	ERJ3RED620V	62 3W	[M]
R3107	ERJ3RED150V	15 3W	[M]
R3111	ERJ3RED560V	56 3W	[M]
R3112	ERJ3RED160V	16 3W	[M]
R3113	ERJ3GEYJ330V	33 1/16W	[M]
R3114	ERJ3GEYJ102V	1K 1/16W	[M]
R3116	ERJ3RED560V	56 3W	[M]
R3117	ERJ3GEYJ330V	33 1/16W	[M]
R3118	ERJ3GEYJ102V	1K 1/16W	[M]
R3121	ERJ3RED560V	56 3W	[M]
R3122	ERJ3GEYJ330V	33 1/16W	[M]
R3123	ERJ3GEYJ102V	1K 1/16W	[M]
R3235	ERJ3GEYJ561V	560 1/16W	[M]
R3236	ERJ3GEYJ103V	10K 1/16W	[M]
R3237	D0GB101JA002	100 1/16W	[M]
R3238	ERJ3GEYJ102V	1K 1/16W	[M]
R3239	ERJ3GEYJ561V	560 1/16W	[M]
R3240	ERJ3GEYJ103V	10K 1/16W	[M]
R3241	D0GB101JA002	100 1/16W	[M]
R3242	ERJ3GEYJ102V	1K 1/16W	[M]
R3243	ERJ3GEYJ561V	560 1/16W	[M]
R3244	ERJ3GEYJ103V	10K 1/16W	[M]
R3245	D0GB101JA002	100 1/16W	[M]
R3246	ERJ3GEYJ102V	1K 1/16W	[M]
R4213	ERJ3GEYJ470V	47 1/16W	[M]
R5101	ERJ3GEYJ472V	4.7K 1/16W	[M]
R5111	D0GB2R2JA002	2.2 1/16W	[M]
R5112	ERJ12YJ270H	27 1/2W	[M]
R5113	ERJ3GEYJ473V	47K 1/16W	[M]
R5114	ERJ3GEYJ223V	22K 1/16W	[M]
R5115	D0GB2R2JA002	2.2 1/16W	[M]
R5116	ERJ12YJ270H	27 1/2W	[M]
R5117	ERJ3GEYJ473V	47K 1/16W	[M]
R5121	D0GB560JA002	56 1/16W	[M]
R5122	D0GB560JA002	56 1/16W	[M]
R5123	D0GB560JA002	56 1/16W	[M]
R5124	D0GB560JA002	56 1/16W	[M]
R5125	D0GB560JA002	56 1/16W	[M]
R5126	ERJ3GEYJ102V	1K 1/16W	[M]
R5127	D0GB560JA002	56 1/16W	[M]
R5201	ERJ3GEY0R00V	0 1/16W	[M]
R5203	ERJ3GEY0R00V	0 1/16W	[M]
R5221	ERJ3GEY0R00V	0 1/16W	[M]
R5231	ERJ3GEYJ822V	8.2K 1/16W	[M]
R5232	ERJ3GEYJ822V	8.2K 1/16W	[M]
R5257	ERJ3GEY0R00V	0 1/16W	[M]
R5262	ERJ3GEY0R00V	0 1/16W	[M]
R5281	D0GB105JA002	1M 1/16W	[M]
R5294	ERJ3GEYJ123V	12K 1/16W	[M]
R5295	ERJ3GEYJ243V	24K 1/16W	[M]
R5320	ERJ3GEY0R00V	0 1/16W	[M]
R6201	ERJ3GEYJ473V	47K 1/16W	[M]
R6202	ERJ3GEYJ103V	10K 1/16W	[M]
R6206	ERJ3GEYJ103V	10K 1/16W	[M]
R6207	ERJ3GEYJ472V	4.7K 1/16W	[M]
R6208	ERJ3GEYJ472V	4.7K 1/16W	[M]
R6210	D0GB101JA002	100 1/16W	[M]
R6211	ERJ3GEYJ472V	4.7K 1/16W	[M]
R6215	ERJ3GEYJ103V	10K 1/16W	[M]
R6216	ERJ3GEYJ102V	1K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R6251	ERJ3RBD101V	100 3W	[M]
R6252	ERJ3RBD101V	100 3W	[M]
R6253	ERJ3RBD102V	1K 3W	[M]
R6562	ERJ3RBD331V	330 3W	[M]
R6563	ERJ3GEYJ103V	10K 1/16W	[M]
R6565	ERJ3GEYJ470V	47 1/16W	[M]
R6566	D0GB100JA002	10 1/16W	[M]
JA1	ERJ3GEY0R00V	0 1/16W	[M]
JA2	ERJ3GEY0R00V	0 1/16W	[M]
JA3	ERJ3GEY0R00V	0 1/16W	[M]
JA4	ERJ3GEY0R00V	0 1/16W	[M]
JA5	ERJ3GEY0R00V	0 1/16W	[M]
JA6	ERJ3GEY0R00V	0 1/16W	[M]
JA7	ERJ3GEY0R00V	0 1/16W	[M]
JA9	ERJ3GEY0R00V	0 1/16W	[M]
JA10	ERJ3GEY0R00V	0 1/16W	[M]
JA11	ERJ3GEY0R00V	0 1/16W	[M]
JA13	ERJ3GEY0R00V	0 1/16W	[M]
JA51	ERJ3GEY0R00V	0 1/16W	[M]
JA92	ERJ3GEY0R00V	0 1/16W	[M]
JA93	ERJ3GEY0R00V	0 1/16W	[M]
K2003	ERJ3GEY0R00V	0 1/16W	[M]
K2501	ERJ3GEY0R00V	0 1/16W	[M]
K2502	ERJ3GEY0R00V	0 1/16W	[M]
K3002	ERJ3GEY0R00V	0 1/16W	[M]
K3003	ERJ3GEY0R00V	0 1/16W	[M]
K3101	ERJ3GEY0R00V	0 1/16W	[M]
K3106	ERJ3GEY0R00V	0 1/16W	[M]
K4202	ERJ3GEY0R00V	0 1/16W	[M]
K4203	ERJ3GEY0R00V	0 1/16W	[M]
K4204	ERJ3GEY0R00V	0 1/16W	[M]
K4205	ERJ3GEY0R00V	0 1/16W	[M]
K6301	ERJ3GEY0R00V	0 1/16W	[M]
K6303	ERJ3GEY0R00V	0 1/16W	[M]
JB1	ERJ6GEY0R00V	0 1/10W	[M]
JB2	ERJ6GEY0R00V	0 1/10W	[M]
JB3	ERJ6GEY0R00V	0 1/10W	[M]
JB11	ERJ6GEY0R00V	0 1/10W	[M]
JB12	ERJ6GEY0R00V	0 1/10W	[M]
JB13	ERJ6GEY0R00V	0 1/10W	[M]
JB14	ERJ6GEY0R00V	0 1/10W	[M]
JB15	ERJ6GEY0R00V	0 1/10W	[M]
JB16	ERJ6GEY0R00V	0 1/10W	[M]
JB17	ERJ6GEY0R00V	0 1/10W	[M]
JB18	ERJ6GEY0R00V	0 1/10W	[M]
JB19	ERJ6GEY0R00V	0 1/10W	[M]
JB20	ERJ6GEY0R00V	0 1/10W	[M]
JB21	ERJ6GEY0R00V	0 1/10W	[M]
JB23	ERJ6GEY0R00V	0 1/10W	[M]
JB24	ERJ6GEY0R00V	0 1/10W	[M]
JB25	ERJ6GEY0R00V	0 1/10W	[M]
JB30	ERJ6GEY0R00V	0 1/10W	[M]
JB31	ERJ6GEY0R00V	0 1/10W	[M]
JB32	ERJ6GEY0R00V	0 1/10W	[M]
JB33	ERJ6GEY0R00V	0 1/10W	[M]
JB34	ERJ6GEY0R00V	0 1/10W	[M]
JB41	ERJ6GEY0R00V	0 1/10W	[M]
JB42	ERJ6GEY0R00V	0 1/10W	[M]
JB43	ERJ6GEY0R00V	0 1/10W	[M]
JB51	ERJ6GEY0R00V	0 1/10W	[M]
JB52	ERJ6GEY0R00V	0 1/10W	[M]
JB53	ERJ6GEY0R00V	0 1/10W	[M]
RA2021	EXBV4V102JV	1K 1/16W	[M]
RA2022	EXBV4V472JV	4.7K 1/16W	[M]
RA2501	EXBV4V103JV	10K 1/16W	[M]
RA2521	EXBV8V473JV	47K 1/16W	[M]
RA3001	EXBV4V102JV	1K 1/16W	[M]
RA3002	EXBV8V820JV	82 1/16W	[M]
RA3003	EXBV8V820JV	82 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
RA3004	EXBV8V820JV	82 1/16W	[M]
RA3005	EXBV8V820JV	82 1/16W	[M]
RA3006	EXBV8V820JV	82 1/16W	[M]
RA3007	EXBV8V820JV	82 1/16W	[M]
RA3008	EXBV8V820JV	82 1/16W	[M]
RA3009	EXBV8V820JV	82 1/16W	[M]
RA3010	EXBV8V820JV	82 1/16W	[M]
RA3011	EXBV8V820JV	82 1/16W	[M]
RA3012	EXBV8V820JV	82 1/16W	[M]
RA3013	EXBV4V220JV	22 1/16W	[M]
RA3051	EXBV4V101JV	100 1/16W	[M]
RA3053	EXBV4V101JV	100 1/16W	[M]
RA5121	EXBV8V560JV	56 1/16W	[M]
RA5122	EXBV4V560JV	56 1/16W	[M]
RA5123	EXBV4V560JV	56 1/16W	[M]
RA5201	EXBV8V101JV	100 1/16W	[M]
RA6201	EXBV4V103JV	10K 1/16W	[M]
RA6202	EXBV4V103JV	10K 1/16W	[M]
RA6203	EXBV4V472JV	4.7K 1/16W	[M]
RA6204	EXBV4V103JV	10K 1/16W	[M]
RA6205	EXBV8V103JV	10K 1/16W	[M]
RA6206	EXBV4V473JV	47K 1/16W	[M]
		CAPACITORS	
C11	ECQE1104KF3	0.1 100V	[M]
C12	ECA1EM472B	4700 25V	[M]
C13	ECA1HAK4R7XB	4.7 50V	[M]
C14	ECBT1H103KB5	0.01 50V	[M]
C15	ECA1CAK100XB	10 16V	[M]
C16	ECBT1H103KB5	0.01 50V	[M]
C17	F1D1H1040002	0.1 50V	[M]
C18	ECA1EM101B	100 25V	[M]
C19	F1H1A105A038	1 10V	[M]
C20	EEUFC0J821B	820P 6.3V	[M]
C21	ECA1CAK100XB	10 16V	[M]
C22	F1H1A105A038	1 10V	[M]
C23	F1H1A105A038	1 10V	[M]
C24	EEUFC0J821B	820P 6.3V	[M]
C25	ECBT1H103KB5	0.01 50V	[M]
C26	ECA1CAK101XB	100 16V	[M]
C27	EEUFC0J821B	820P 6.3V	[M]
C28	ECEA1AKA101B	100 10V	[M]
C29	ECA1CAK100XB	10 16V	[M]
C30	ECBT1H102KB5	1000P 50V	[M]
C31	ECA1CAK100XB	10 16V	[M]
C32	ECBT1H102KB5	1000P 50V	[M]
C33	ECA1AM102B	1000 10V	[M]
C34	ECA1EM101B	100 25V	[M]
C42	ECA1EM222B	2200 25V	[M]
C44	ECBT1C103NS5	0.01 16V	[M]
C48	ECA1EAK100XB	10 25V	[M]
C49	F1D1H1040002	0.1 50V	[M]
C50	ECA1CAK100XB	10 16V	[M]
C51	ECBT1H102KB5	1000P 50V	[M]
C52	F2A1H101A153	100P 50V	[M]
C55	ECBT1H102KB5	1000P 50V	[M]
C56	ECA1HM470B	47 50V	[M]
C57	ECA1CAK100XB	10 16V	[M]
C61	ECJ3YB1E105K	1 25V	[M]
C62	ECJ3YB1E105K	1 25V	[M]
C71	F1D1H473A012	0.047 50V	[M]
C72	ECEA1VKA100B	10 35V	[M]
C73	F1D1H473A012	0.047 50V	[M]
C74	ECA1JM101B	100 63V	[M]
C75	F2A1H101A153	100P 50V	[M]
C80	ECA1EM102B	1000 25V	[M]
C82	ECA1JM101B	100 63V	[M]
C83	F2A1H101A153	100P 50V	[M]
C84	ECA1EM102B	1000 25V	[M]
C401	ECA1CAK100XB	10 16V	[M]
C402	ECA1CAK100XB	10 16V	[M]
C405	ECJ1VB1H471K	470P 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C406	ECJ1VB1H471K	470P 50V	[M]
C413	ECA1CAK100XB	10 16V	[M]
C414	ECA1CAK100XB	10 16V	[M]
C417	ECA1CAK100XB	10 16V	[M]
C421	ECA1CAK100XB	10 16V	[M]
C423	ECJ1VB1H102K	1000P 50V	[M]
C425	ECJ2VB1C104K	0.1 16V	[M]
C426	ECJ2VB1C104K	0.1 16V	[M]
C427	ECJ2VB1C104K	0.1 16V	[M]
C431	ECA1CAK100XB	10 16V	[M]
C432	ECA1CAK100XB	10 16V	[M]
C435	ECJ1VB1H471K	470P 50V	[M]
C436	ECJ1VB1H471K	470P 50V	[M]
C437	ECJ1VC1H470J	47P 50V	[M]
C438	ECJ1VC1H470J	47P 50V	[M]
C444	ECJ2VB1C104K	0.1 16V	[M]
C445	ECJ1VB1H102K	1000P 50V	[M]
C446	ECJ1VB1H102K	1000P 50V	[M]
C447	ECJ1VB1H102K	1000P 50V	[M]
C449	ECJ2VB1C104K	0.1 16V	[M]
C461	ECJ2VB1C104K	0.1 16V	[M]
C462	ECJ2VB1C104K	0.1 16V	[M]
C463	ECJ1VC1H470J	47P 50V	[M]
C464	ECJ1VC1H470J	47P 50V	[M]
C465	ECJ1VC1H470J	47P 50V	[M]
C491	ECJ1VC1H101J	100P 50V	[M]
C492	ECJ1VC1H101J	100P 50V	[M]
C493	ECJ1VC1H101J	100P 50V	[M]
C494	ECJ1VC1H101J	100P 50V	[M]
C495	ECJ1VB1H103K	0.01 50V	[M]
C496	ECJ1VB1H103K	0.01 50V	[M]
C501	ECA1HAK010XB	1 50V	[M]
C502	ECA1HAK010XB	1 50V	[M]
C503	ECA1HAK010XB	1 50V	[M]
C504	ECA1HAK010XB	1 50V	[M]
C505	ECA1HAK010XB	1 50V	[M]
C506	ECA1HAK010XB	1 50V	[M]
C507	ECA1HAK010XB	1 50V	[M]
C508	ECA1HAK010XB	1 50V	[M]
C511	ECEA1HKA4R7B	4.7 50V	[M]
C512	ECUVNA105KBV	1 10V	[M]
C513	ECEA1HKA4R7B	4.7 50V	[M]
C514	ECEA0JKA101B	100 6.3V	[M]
C515	ECUVNA105KBV	1 10V	[M]
C516	ECJ1VB1H103K	0.01 50V	[M]
C517	F1H1H5R0A759	5P 50V	[M]
C518	ECJ1VC1H120J	12P 50V	[M]
C519	ECUVNA105KBV	1 10V	[M]
C520	ECUVNA105KBV	1 10V	[M]
C521	ECJ1VB1H222K	2200P 50V	[M]
C522	ECJ1VB1H222K	2200P 50V	[M]
C523	EEAFC0J101B	100P 6.3V	[M]
C524	ECJ1VB1H103K	0.01 50V	[M]
C525	ECUVNA105KBV	1 10V	[M]
C526	ECUVNA105KBV	1 10V	[M]
C527	ECJ1VB1H103K	0.01 50V	[M]
C528	F2A0J470A245	47P 6.3V	[M]
C529	EEAFC0J101B	100P 6.3V	[M]
C530	F2A0J470A245	47P 6.3V	[M]
C531	ECEA0JKA101B	100 6.3V	[M]
C532	ECUVNA105KBV	1 10V	[M]
C533	ECUVNA105KBV	1 10V	[M]
C535	ECJ1VB1H222K	2200P 50V	[M]
C536	ECJ1VB1H222K	2200P 50V	[M]
C537	ECUVNA105KBV	1 10V	[M]
C538	ECUVNA105KBV	1 10V	[M]
C539	ECUVNA105KBV	1 10V	[M]
C540	ECUVNA105KBV	1 10V	[M]
C542	ECUVNA105KBV	1 10V	[M]
C543	ECJ1VB1H103K	0.01 50V	[M]
C544	ECUVNA105KBV	1 10V	[M]
C545	ECUVNA105KBV	1 10V	[M]
C546	ECEA1AKA221B	220 10V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C547	ECJ1VB1E223K	0.022 25V	[M]
C548	ECJ1VB1H103K	0.01 50V	[M]
C549	ECJ1VB1H471K	470P 50V	[M]
C551	ECUVNA105KBV	1 10V	[M]
C552	ECUVNA105KBV	1 10V	[M]
C555	ECJ1VC1H101J	100P 50V	[M]
C556	ECJ1VC1H101J	100P 50V	[M]
C557	TCSCS1A106KA	10 10V	[M]
C558	TCSCS1A106KA	10 10V	[M]
C559	FIH1A154A028	0.15 10V	[M]
C560	FIH1A154A028	0.15 10V	[M]
C561	FIH1A474A025	0.47 10V	[M]
C562	FIH1A474A025	0.47 10V	[M]
C565	ECUVNA105KBV	1 10V	[M]
C566	TCSCS1A106KA	10 10V	[M]
C571	ECJ1VB1H221K	220P 50V	[M]
C572	ECJ1VB1H221K	220P 50V	[M]
C573	TCSCS1A106KA	10 10V	[M]
C574	TCSCS1A106KA	10 10V	[M]
C575	ECJ1VB1A224K	0.22 10V	[M]
C576	TCSCS1A106KA	10 10V	[M]
C577	ECJ1VB1H103K	0.01 50V	[M]
C578	ECJ1VC1H470J	47P 50V	[M]
C579	ECJ1VC1H470J	47P 50V	[M]
C591	ECJ2VB1C104K	0.1 16V	[M]
C593	ECJ1VB1H103K	0.01 50V	[M]
C594	ECJ2VB1C104K	0.1 16V	[M]
C595	ECA1CAK220XB	22 16V	[M]
C596	ECJ2VB1C104K	0.1 16V	[M]
C601	ECA1HAK2R2XB	2.2 50V	[M]
C602	ECA1HAK2R2XB	2.2 50V	[M]
C605	ECEA1HKA4R7B	4.7 50V	[M]
C606	ECEA1HKA4R7B	4.7 50V	[M]
C607	ECJ1VC1H101J	100P 50V	[M]
C608	ECJ1VC1H101J	100P 50V	[M]
C609	ECJ1VC1H220J	22P 50V	[M]
C610	ECJ1VC1H220J	22P 50V	[M]
C615	ECA1CAK100XB	10 16V	[M]
C616	ECA1CAK100XB	10 16V	[M]
C617	F2A0J101A245	100P 6.3V	[M]
C625	ECA1CAK100XB	10 16V	[M]
C626	ECA1HAK3R3XB	3.3 50V	[M]
C627	ECA1CAK100XB	10 16V	[M]
C628	ECA1CAK100XB	10 16V	[M]
C631	ECJ1VB1H102K	1000P 50V	[M]
C632	ECJ1VB1H102K	1000P 50V	[M]
C635	ECJ1VB1H103K	0.01 50V	[M]
C636	ECJ1VB1H103K	0.01 50V	[M]
C639	ECA1CAK100XB	10 16V	[M]
C640	ECA1CAK100XB	10 16V	[M]
C641	ECUV1C333KBV	0.033 16V	[M]
C642	ECUV1C333KBV	0.033 16V	[M]
C643	ECUVNC104KBV	0.1 16V	[M]
C644	ECUVNC104KBV	0.1 16V	[M]
C645	ECJ2VC1H101J	100P 50V	[M]
C646	ECJ1VC1H101J	100P 50V	[M]
C647	ECA1HAK010XB	1 50V	[M]
C648	ECA1HAK010XB	1 50V	[M]
C655	ECA1HAK010XB	1 50V	[M]
C656	ECA1HAK010XB	1 50V	[M]
C661	ECJ1VB1H471K	470P 50V	[M]
C662	ECA1CAK220XB	22 16V	[M]
C663	ECUVNC473KBV	0.047 16V	[M]
C664	ECJ1VB1H562K	5600P 50V	[M]
C665	FIH1A154A028	0.15 10V	[M]
C666	ECJ1VB1C393K	0.039 16V	[M]
C667	ECUV1C104KBV	0.1 16V	[M]
C668	ECEA1AKA330B	33 10V	[M]
C669	ECJ1VB1H103K	0.01 50V	[M]
C670	ECJ1VB1H103K	0.01 50V	[M]
C673	ECJ1VC1H330J	33P 50V	[M]
C674	ECJ1VC1H330J	33P 50V	[M]
C675	ECJ1VC1H101J	100P 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C676	ECJ1VC1H101J	100P 50V	[M]
C677	ECA1HAK010XB	1 50V	[M]
C678	ECA1HAK010XB	1 50V	[M]
C679	ECA1CAK100XB	10 16V	[M]
C680	ECA1CAK100XB	10 16V	[M]
C683	ECJ1VC1H101J	100P 50V	[M]
C684	ECJ1VC1H101J	100P 50V	[M]
C685	ECJ1VC1H470J	47P 50V	[M]
C686	ECJ1VB1H102K	1000P 50V	[M]
C687	ECA1HAK010XB	1 50V	[M]
C688	ECA1CAK100XB	10 16V	[M]
C689	ECA1CAK100XB	10 16V	[M]
C690	ECA1CAK220XB	22 16V	[M]
C691	ECA1CAK100XB	10 16V	[M]
C693	ECJ1VB1H103K	0.01 50V	[M]
C694	ECJ1VB1H103K	0.01 50V	[M]
C700	ECUVNA105KBV	1 10V	[M]
C701	ECA1CAK100XB	10 16V	[M]
C702	ECA1CAK100XB	10 16V	[M]
C711	ECEA1HKA4R7B	4.7 50V	[M]
C712	ECUVNA105KBV	1 10V	[M]
C728	ECEA1HKA4R7B	4.7 50V	[M]
C732	ECJ1VB1H103K	0.01 50V	[M]
C733	ECA1CAK100XB	10 16V	[M]
C734	ECJ1VB1H103K	0.01 50V	[M]
C802	ECA1HAK010XB	1 50V	[M]
C803	ECA1HAK3R3XB	3.3 50V	[M]
C810	FIH1C473A088	0.047 16V	[M]
C811	ECEA0JKA101B	100 6.3V	[M]
C812	ECJ1VB1H102K	1000P 50V	[M]
C813	ECJ1VB1H103K	0.01 50V	[M]
C815	ECA0JAM102XB	1000 6.3V	[M]
C850	ECJ1VB1H103K	0.01 50V	[M]
C860	ECJ1VB1H102K	1000P 50V	[M]
C890	ECJ1VB1H561K	560P 50V	[M]
C891	ECJ1VB1H103K	0.01 50V	[M]
C892	ECA1CAK220XB	22 16V	[M]
C899	ECJ2VB1C104K	0.1 16V	[M]
C901	EBAFC0J101B	100P 6.3V	[M]
C902	ECJ1VB1H103K	0.01 50V	[M]
C903	ECJ1VC1H121J	120P 50V	[M]
C904	ECJ1VB1H103K	0.01 50V	[M]
C905	F3FLA475A001	47 10V	[M]
C906	ECJ1VB1H103K	0.01 50V	[M]
C907	ECEA1EKS220B	22 25V	[M]
C908	ECEA1EKS220B	22 25V	[M]
C909	ECEA1EKS220B	22 25V	[M]
C910	ECEA1EKS220B	22 25V	[M]
C911	ECJ2VB1C104K	0.1 16V	[M]
C912	ECJ1VC1H560J	56P 50V	[M]
C913	ECJ1VC1H560J	56P 50V	[M]
C914	ECJ1VC1H560J	56P 50V	[M]
C951	ECJ1VC1H101K	100P 50V	[M]
C952	ECJ1VC1H101K	100P 50V	[M]
C953	ECJ2VB1C104K	0.1 16V	[M]
C961	ECJ1VB1H103K	0.01 50V	[M]
C991	ECJ1VB1H123K	0.012 50V	[M]
C992	ECJ1VB1H123K	0.012 50V	[M]
C1001	F2A0J221A245	220P 6.3V	[M]
C1002	ECJ1VB1H103K	0.01 50V	[M]
C1004	ECA0JAM102XB	1000 6.3V	[M]
C1005	ECJ1VB1H103K	0.01 50V	[M]
C1006	F2A0J101A245	100P 6.3V	[M]
C1007	F2A0J470A245	47P 6.3V	[M]
C1009	ECJ1VB1H103K	0.01 50V	[M]
C1010	ECA0JAM102XB	1000 6.3V	[M]
C1011	F2A0J470A245	47P 6.3V	[M]
C1012	F2A0J101A245	100P 6.3V	[M]
C1014	ECA0JAM102XB	1000 6.3V	[M]
C1015	ECJ1VB1H103K	0.01 50V	[M]
C1016	F2A0J101A245	100P 6.3V	[M]
C1017	F2A0J470A245	47P 6.3V	[M]
C1018	ECA0JAK331XB	330 6.3V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C1019	F2A0J470A245	47P 6.3V	[M]
C1021	ECA0JAK331XB	330 6.3V	[M]
C1023	F1H1H104A783	0.1 50V	[M]
C1064	ECUVNA105KBV	1 10V	[M]
C1065	ECUVNA105KBV	1 10V	[M]
C1091	ECJ1VB1H103K	0.01 50V	[M]
C1092	F2A0J101A245	100P 6.3V	[M]
C1098	ECJ1VB1H103K	0.01 50V	[M]
C2001	EEE0JA101SP	100P 6.3V	[M]
C2002	EEE0JA101SP	100P 6.3V	[M]
C2003	ECUVNC104ZFV	0.1 16V	[M]
C2004	ECUVNC104ZFV	0.1 16V	[M]
C2005	ECUVNC104ZFV	0.1 16V	[M]
C2006	ECUVNC104ZFV	0.1 16V	[M]
C2007	ECUVNC104ZFV	0.1 16V	[M]
C2008	ECUVNC104ZFV	0.1 16V	[M]
C2009	ECUVNC104ZFV	0.1 16V	[M]
C2010	ECUVNC104ZFV	0.1 16V	[M]
C2011	ECUVNC104ZFV	0.1 16V	[M]
C2012	ECUVNC104ZFV	0.1 16V	[M]
C2013	ECUVNC104ZFV	0.1 16V	[M]
C2014	ECUVNC104ZFV	0.1 16V	[M]
C2015	ECUVNC104ZFV	0.1 16V	[M]
C2016	ECUVNC104ZFV	0.1 16V	[M]
C2017	ECUVNC104ZFV	0.1 16V	[M]
C2018	ECUVNC104ZFV	0.1 16V	[M]
C2021	EEE0JA101SP	100P 6.3V	[M]
C2022	ECUVNC104ZFV	0.1 16V	[M]
C2023	ECUVNC104ZFV	0.1 16V	[M]
C2024	ECUVNC104ZFV	0.1 16V	[M]
C2025	ECUVNC104ZFV	0.1 16V	[M]
C2031	ECUV1C104KBV	0.1 16V	[M]
C2032	ECUV1C104KBV	0.1 16V	[M]
C2034	F1H1C393A089	0.039 16V	[M]
C2035	ECJ1VB1H822K	8200P 50V	[M]
C2036	ECUV1C104KBV	0.1 16V	[M]
C2038	ECUV1C104KBV	0.1 16V	[M]
C2039	ECJ1VB1H103K	0.01 50V	[M]
C2040	ECJ1VC1H102J	1000P 50V	[M]
C2041	F1H1H331A765	330P 50V	[M]
C2042	F1H1H331A765	330P 50V	[M]
C2043	ECUV1H101JCV	100P 50V	[M]
C2044	F1H1H391A765	390P 50V	[M]
C2045	ECJ1VC1H102J	1000P 50V	[M]
C2046	ECJ1VC1H102J	1000P 50V	[M]
C2047	ECJ1VB1H103K	0.01 50V	[M]
C2048	ECUV1C153KBV	0.015 16V	[M]
C2050	ECUV1C333KBV	0.033 16V	[M]
C2051	ECUV1H680JCV	68P 50V	[M]
C2052	ECUVNC104ZFV	0.1 16V	[M]
C2053	ECUVNC104ZFV	0.1 16V	[M]
C2054	F1H1H681A796	680P 50V	[M]
C2055	ECJ1VB1H682K	6800P 50V	[M]
C2056	ECJ1VB1H272K	2700P 50V	[M]
C2057	ECJ1VB1H272K	2700P 50V	[M]
C2058	ECJ1VC1H102J	1000P 50V	[M]
C2059	ECUV1H821JCV	820P 50V	[M]
C2060	ECJ1VC1H102J	1000P 50V	[M]
C2061	F1H1H331A765	330P 50V	[M]
C2062	F1H1H331A765	330P 50V	[M]
C2063	ECJ1VC1H102J	1000P 50V	[M]
C2064	ECJ1VC1H102J	1000P 50V	[M]
C2065	ECJ1VC1H102J	1000P 50V	[M]
C2066	ECJ1VB1H472K	4700P 50V	[M]
C2067	ECJ1VB1H472K	4700P 50V	[M]
C2073	ECUVNC104ZFV	0.1 16V	[M]
C2101	ECUVNC104ZFV	0.1 16V	[M]
C2102	ECUVNC104ZFV	0.1 16V	[M]
C2501	ECEV1CA101WP	100 16V	[M]
C2502	ECUVNC104ZFV	0.1 16V	[M]
C2503	ECUVNC104ZFV	0.1 16V	[M]
C2504	ECUVNC104ZFV	0.1 16V	[M]
C2511	ECUVNH103KBV	0.01 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C2512	ECUVNH103KBV	0.01 50V	[M]
C2513	ECUVNH103KBV	0.01 50V	[M]
C2514	ECJ1VB1C104K	0.1 16V	[M]
C2521	EEVFC1C470P	47P 16V	[M]
C2522	ECEV1CA220WR	22 16V	[M]
C2523	EEVFC0J221P	220P 6.3V	[M]
C2524	ECUVNC104ZFV	0.1 16V	[M]
C2525	ECUVNC104ZFV	0.1 16V	[M]
C2526	ECUVNC104ZFV	0.1 16V	[M]
C2527	ECUVNC104ZFV	0.1 16V	[M]
C2528	ECUVNC104ZFV	0.1 16V	[M]
C2529	ECUVNC104ZFV	0.1 16V	[M]
C3001	F2G0J331A015	330P 6.3V	[M]
C3002	F2G0J331A015	330P 6.3V	[M]
C3003	ECUVNC104ZFV	0.1 16V	[M]
C3004	ECUVNC104ZFV	0.1 16V	[M]
C3005	ECUVNC104ZFV	0.1 16V	[M]
C3006	ECUVNC104ZFV	0.1 16V	[M]
C3007	ECUVNC104ZFV	0.1 16V	[M]
C3008	ECUVNC104ZFV	0.1 16V	[M]
C3009	ECUVNC104ZFV	0.1 16V	[M]
C3010	ECUVNC104ZFV	0.1 16V	[M]
C3011	ECUVNC104ZFV	0.1 16V	[M]
C3012	ECUVNC104ZFV	0.1 16V	[M]
C3013	ECUVNC104ZFV	0.1 16V	[M]
C3014	ECUVNC104ZFV	0.1 16V	[M]
C3015	ECUVNC104ZFV	0.1 16V	[M]
C3016	ECUVNC104ZFV	0.1 16V	[M]
C3017	ECUVNC104ZFV	0.1 16V	[M]
C3018	ECUVNC104ZFV	0.1 16V	[M]
C3019	F1H0J1050013	1 6.3V	[M]
C3020	ECUVNC104ZFV	0.1 16V	[M]
C3021	F1H0J1050013	1 6.3V	[M]
C3022	ECUVNC104ZFV	0.1 16V	[M]
C3023	ECUVNC104ZFV	0.1 16V	[M]
C3024	ECUVNC104ZFV	0.1 16V	[M]
C3025	ECUVNC104ZFV	0.1 16V	[M]
C3026	ECUVNC104ZFV	0.1 16V	[M]
C3027	ECUVNC104ZFV	0.1 16V	[M]
C3028	ECUVNC104ZFV	0.1 16V	[M]
C3029	ECUVNC104ZFV	0.1 16V	[M]
C3030	ECUVNC104ZFV	0.1 16V	[M]
C3031	ECUVNC104ZFV	0.1 16V	[M]
C3032	ECUVNC104ZFV	0.1 16V	[M]
C3033	ECUVNC104ZFV	0.1 16V	[M]
C3034	ECUVNC104ZFV	0.1 16V	[M]
C3035	ECUVNC104ZFV	0.1 16V	[M]
C3036	ECUVNC104ZFV	0.1 16V	[M]
C3037	F2G0J331A015	330P 6.3V	[M]
C3038	ECUVNC104ZFV	0.1 16V	[M]
C3039	ECUVNC104ZFV	0.1 16V	[M]
C3051	ECJ1VC1H220J	22P 50V	[M]
C3061	ECUVNC104ZFV	0.1 16V	[M]
C3062	ECUVNC104ZFV	0.1 16V	[M]
C3063	ECUVNC104ZFV	0.1 16V	[M]
C3064	ECUVNC104ZFV	0.1 16V	[M]
C3065	ECUVNC104ZFV	0.1 16V	[M]
C3066	ECUVNC104ZFV	0.1 16V	[M]
C3067	ECUVNC104ZFV	0.1 16V	[M]
C3068	ECUVNC104ZFV	0.1 16V	[M]
C3069	ECUVNC104ZFV	0.1 16V	[M]
C3070	ECUVNC104ZFV	0.1 16V	[M]
C3071	ECUVNC104ZFV	0.1 16V	[M]
C3072	ECUVNC104ZFV	0.1 16V	[M]
C3073	ECUVNC104ZFV	0.1 16V	[M]
C3074	ECUVNC104ZFV	0.1 16V	[M]
C3110	EEE0JA101SP	100P 6.3V	[M]
C3111	ECUVNC104ZFV	0.1 16V	[M]
C3116	ECUVNC104ZFV	0.1 16V	[M]
C3121	ECUVNC104ZFV	0.1 16V	[M]
C3213	ECUV1H120JCV	12P 50V	[M]
C3214	ECUV1H120JCV	12P 50V	[M]
C3215	ECJ1VB1H103K	0.01 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C3217	ECUV1H120JCV	12P 50V	[M]
C3218	ECUV1H120JCV	12P 50V	[M]
C3219	ECJ1VB1H103K	0.01 50V	[M]
C3222	ECJ1VC1H150J	15P 50V	[M]
C3223	ECJ1VC1H150J	15P 50V	[M]
C3224	ECJ1VB1H103K	0.01 50V	[M]
C4207	ECUVNC104ZFB	0.1 16V	[M]
C4208	ECUVNC104ZFB	0.1 16V	[M]
C4209	ECUVNC104ZFB	0.1 16V	[M]
C4210	ECUVNC104ZFB	0.1 16V	[M]
C4211	F3F1A106A001	10 10V	[M]
C4213	TCSCS1D105KA	10 20V	[M]
C4215	ECUVNC104ZFB	0.1 16V	[M]
C4216	F2G0J101A015	100P 6.3V	[M]
C4217	ECUVNC104ZFB	0.1 16V	[M]
C4219	F3F1A106A001	10 10V	[M]
C4220	F3F1A106A001	10 10V	[M]
C4222	F2G0J331A015	330P 6.3V	[M]
C4223	F2G0J331A015	330P 6.3V	[M]
C4234	ECUVNC104ZFB	0.1 16V	[M]
C4235	ECUVNC104ZFB	0.1 16V	[M]
C4236	ECUVNC104ZFB	0.1 16V	[M]
C4237	ECUVNC104ZFB	0.1 16V	[M]
C5101	ECUVNC104ZFB	0.1 16V	[M]
C5102	ECUVNC104ZFB	0.1 16V	[M]
C5103	F3F1A106A001	10 10V	[M]
C5110	ECEV0JA470WR	47 6.3V	[M]
C5111	ECEV0JA470WR	47 6.3V	[M]
C5115	ECEV0JA470WR	47 6.3V	[M]
C5201	EEB1CA100SR	10P 16V	[M]
C5202	EEB1CA100SR	10P 16V	[M]
C5203	ECUVNC104ZFB	0.1 16V	[M]
C5204	ECUVNC104ZFB	0.1 16V	[M]
C5205	ECUVNC104ZFB	0.1 16V	[M]
C5221	ECUVNC104ZFB	0.1 16V	[M]
C5232	ECUVNC104ZFB	0.1 16V	[M]
C5233	ECUVNC104ZFB	0.1 16V	[M]
C5234	ECUVNC104ZFB	0.1 16V	[M]
C5235	ECUV1C104KBV	0.1 16V	[M]
C5236	ECUV1C104KBV	0.1 16V	[M]
C5254	ECJ1VB1H391K	390P 50V	[M]
C5256	ECJ1VB1H222K	2200P 50V	[M]
C5262	ECUV1H181JCV	180P 50V	[M]
C5264	F1H1C183A089	0.018 16V	[M]
C5271	ECJ1VB1H102K	1000P 50V	[M]
C5272	ECJ1VB1A224K	0.22 10V	[M]
C5273	ECJ1VB1H182K	1800P 50V	[M]
C5274	ECUV1C104KBV	0.1 16V	[M]
C5282	ECJ1VB1H103K	0.01 50V	[M]
C5283	F1H1H561A765	560P 50V	[M]
C5290	ECJ1VB1H102K	1000P 50V	[M]
C5291	ECJ1VB1H272K	2700P 50V	[M]
C5292	ECUV1H101JCV	100P 50V	[M]
C5299	F1H1H331A765	330P 50V	[M]
C6201	EEB0JA330WR	33P 6.3V	[M]
C6202	ECUVNC104ZFB	0.1 16V	[M]
C6203	ECUVNC104ZFB	0.1 16V	[M]
C6204	ECUVNC104ZFB	0.1 16V	[M]
C6205	ECUVNC104ZFB	0.1 16V	[M]
C6206	ECUVNC104ZFB	0.1 16V	[M]
C6211	ECUV1H101JCV	100P 50V	[M]
C6215	ECUV1C104KBV	0.1 16V	[M]
C6221	ECUVNC104ZFB	0.1 16V	[M]
C6222	ECUVNC104ZFB	0.1 16V	[M]
C6223	ECUVNC104ZFB	0.1 16V	[M]
C6251	F3F1A106A001	10 10V	[M]
C6252	F3F1A106A001	10 10V	[M]
C6253	F3F1A106A001	10 10V	[M]
C6254	ECUVNC104ZFB	0.1 16V	[M]
C6255	ECUVNC104ZFB	0.1 16V	[M]
C6256	ECUV1C104KBV	0.1 16V	[M]
C6257	EEB0JA101SP	100P 6.3V	[M]
C6301	ECUVNC104ZFB	0.1 16V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C6302	ECUVNC104ZFB	0.1 16V	[M]
C6561	EEB0GA470SR	47P 4V	[M]
C6563	EEB0GA470SR	47P 4V	[M]
C6564	ECUVNC104ZFB	0.1 16V	[M]
C6565	ECJ1VC1H150J	15P 50V	[M]
C6566	ECUVNC104ZFB	0.1 16V	[M]
C6567	ECJ1VC1H150J	15P 50V	[M]
C6568	ECUVNC104ZFB	0.1 16V	[M]

23.4. Packing Materials & Accessories Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		PACKING MATERIALS	
P1	RPGX1139	PACKING CASE	[M]
P2	RPNX0194	POLYFOAM	[M]
P3	RPF0058	MIRAMAT SHEET	[M]
		ACCESSORIES	
A1	EUR7623X40	REMOTE CONTROL	[M]
A1-1	UR76EC2303B	R/C BATTERY COVER	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
A2	RJA0019-2A	AC CORD (SF)	[M] △
A3	RQT7065-G	O/I BOOK (En/Ar)	[M]
A4	RSA0007-J	FM ANTENNA	[M]
A5	RJL1P016B15A	VIDEO CABLE	[M]
A6	K1HA25HA0001	SYSTEM CABLE	[M]
A7	N1DAAA00001	LINEAR ANTENNA	[M]
A8	QWBG002AA	CLAMPER	[M]
A9	XSN5+16FN	SCREW	[M]
A10	SJP5213-2	AC CORD ADAPTOR	[M]

23.5. Packaging

ACCESSORIES CASE

A1: Remote Control

A1-1: RC Battery Cover

A2: AC Cord

A3: O/I Book

A4: FM Antenna

A5: Video Cable

A6: System Cable

A7: Linear Antenna

A8: Clamper

A9: Screw

A10: AC Cord Adaptor

