

Service Manual

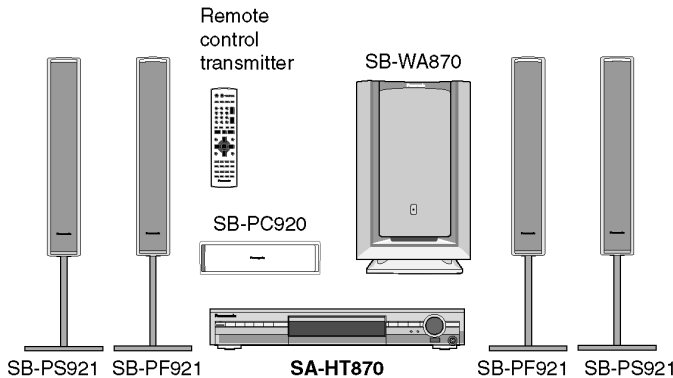
DVD Home Theater Sound System



SA-HT870E
SA-HT870EB
SA-HT870EG

Colour

(S).....Silver Type



Specifications

General

Power Source:

For (E, EG) areas: AC 230 V, 50 Hz
 For (EB) area: AC 230-240 V, 50 Hz

Power consumption: 25 W

Dimensions (W×H×D): 430×68×359.2 mm

Mass: 3.2 kg

Amplifier section

RMS Output Power: Dolby Digital Mode

Total RMS Dolby Digital

mode Power: 1000 W

At 1kHz and total harmonic of 10%

IFront: 170 W/ Channel (6Ω)

ICenter: 260 W/ Channel (4Ω)

ISurround: 70 W/ Channel (4Ω)

At 100Hz and total harmonic of 10%

IActive subwoofers: 260 W/ Channel (4Ω)

DIN Output Power: Dolby Digital Mode:

Total DIN Dolby Digital mode Power:

750 W

At 1kHz and total harmonic of 1%

IFront: 140 W/ Channel (6Ω)

ICenter: 180 W/ Channel (4Ω)

ISurround: 55 W/ Channel (4Ω)

At 100Hz and total harmonic of 1%

ISubwoofer: 180 W/ Channel (4Ω)

IFM tuner section

Frequency Range: 87.5-108.0MHz
 (50kHz in step)

Sensitivity: 2μV (IHF)

S/N 26dB 2μV

Antenna Terminal: 75Ω (non balance)

IAM tuner section (AM/MW)

Frequency Range: 522-1629kHz (9kHz in step)
 520-1630kHz (10kHz in step)

AM Sensitivity S/N 20dB at

999kHz: 560μV/m

Phone Jack:

Terminal: Stereo 3.5mm jack

IDisc section

Discs played [8 cm or 12 cm]:

- (1) DVD-RAM (DVD-VR compatible, JPEG formatted discs)
- (2) DVD-Audio
- (3) DVD-Video
- (4) DVD-R (DVD-Video compatible)
- (5) CD-Audio (CD-DA)
- (6) Video CD

- (7) SVCD (Conforming to IEC62107)
- (8) CD-R/CD-RW (CD-DA, Video-CD, SVCD, MP3, WMA, JPEG formatted discs)
- (9) MP3/WMA
- I Maximum number of recognizable audio and picture contents and groups:
- 4000 audio and picture contents and 400 groups
- I Compatible compression rate:
- MP3: between 32 kbps and 320 kbps
- WMA: between 48 kbps and 320 kbps
- (10) JPEG
- I Exif Ver 2.1 JPEG Baseline files
- I Picture resolution: between 320 x 240 and 6144 x 4096 pixels (sub sampling is 4:2:2 or 4:2:0)
- (11) HighMAT Level 2 (Audio and Image)

Pick up:

Source of light beam: Semiconductor Laser

Wavelength:

ICD: 785nm

IDVD: 662nm

Audio output (DISC):

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

Audio performance (measured at LINE OUT terminal):**Frequency response:**

DVD (linear audio): 4 Hz-22 kHz (48 kHz sampling)
4 Hz-44 kHz (96 kHz sampling)

DVD-Audio: 4 Hz-88 kHz (192 kHz sampling)

CD-Audio: 4 Hz-20 kHz

S/N ratio:

CD-Audio: 95 dB

Dynamic range:

DVD (linear audio): 95 dB

CD-Audio: 93 dB

Total harmonic distortion:

CD-Audio: 0.005 %

Video section**Video system:**

Signal system: PAL 625/50, PAL 525/60, NTSC

Composite video output:

Output level: 1 Vp-p (75 Ω)

Terminal: Pin jack (1 system)

S-video output:

Y output level: 1 Vp-p (75 Ω)

C output level: PAL; 0.3Vp-p (75 Ω)

NTSC; 0.286 Vp-p (75 Ω)

Terminal: S terminal (1 system)

Component video output (480P/480I):

Y output level: 1 Vp-p (75 Ω)

P_B output level: 0.7 Vp-p (75 Ω)

P_R output level: 0.7 Vp-p (75 Ω)

Terminal: Pin jack (Y: green, P_B: blue, P_R: red) (1 system)

Power consumption in standby mode:

approx 0.7W

Note:

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

Solder:

This model uses lead free solder (PbF).

system	SC-HT870
Main unit	SA-HT870
Front speakers	SB-PF921
Center speaker	SB-PC920
Surround speakers	SB-PS921
Active subwoofer	SB-WA870

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

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.



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

Built-in decoders

You can play discs with these symbols.



⚠ WARNING

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

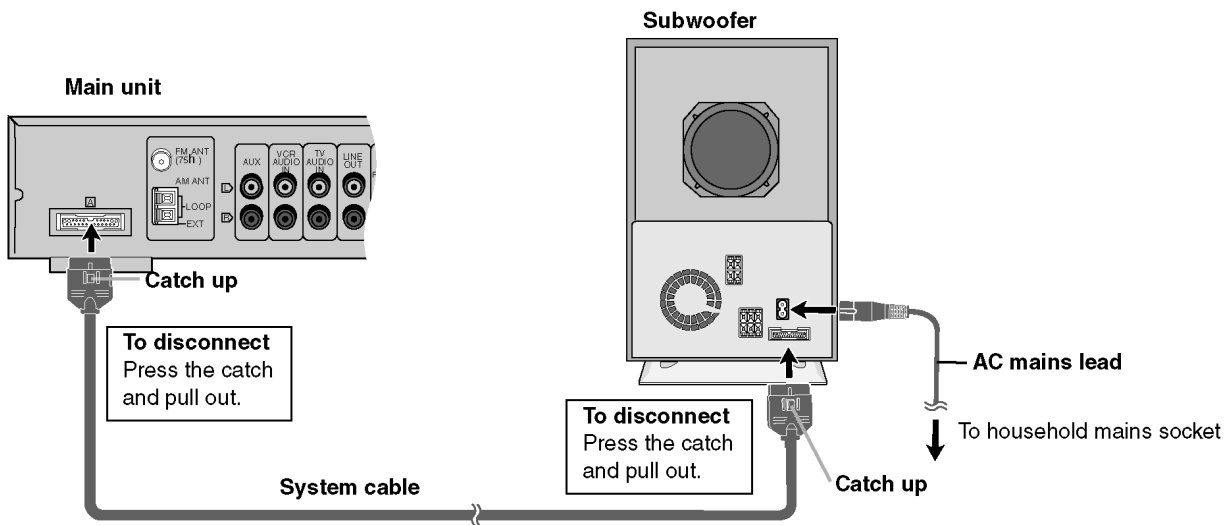
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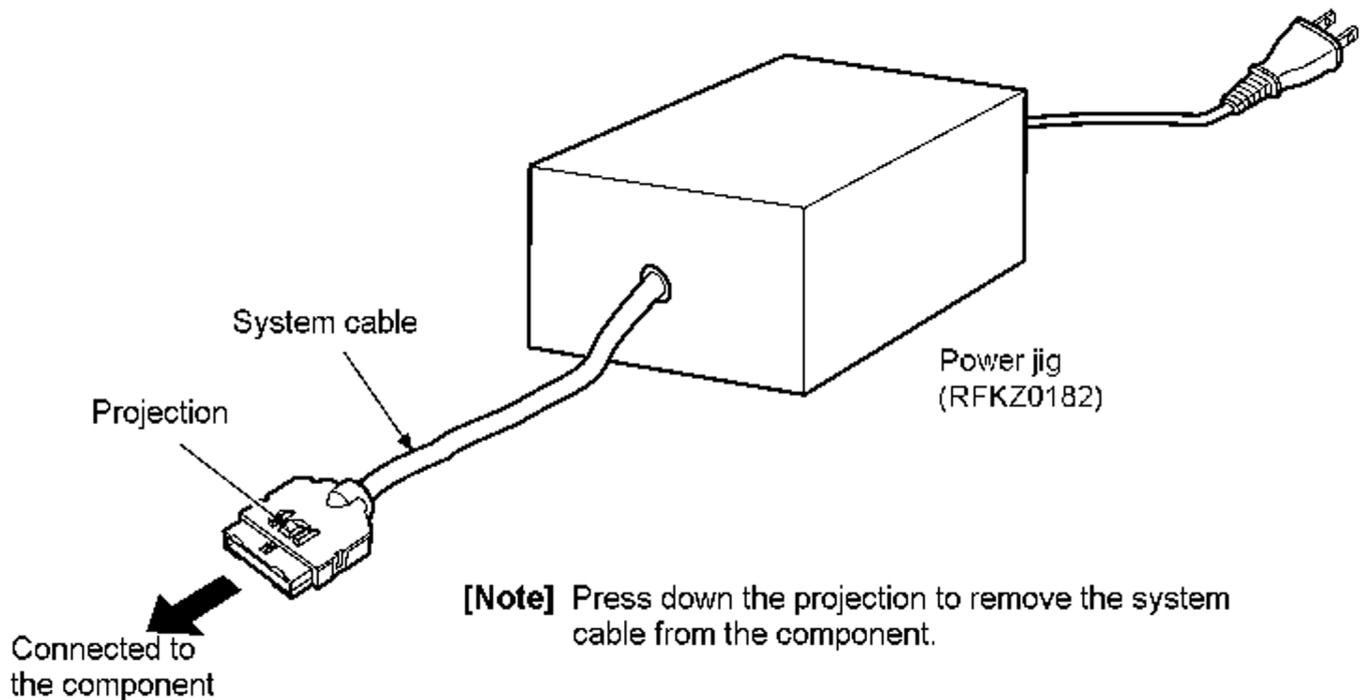
1 Use of Active Subwoofer

1.1. Checking Player when Active Subwoofer is not used

1. 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.



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



Jig product number: RFKZ0182 (110V, 127V, 220V, 230V-240V for overseas domestic use)

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 ∞ .

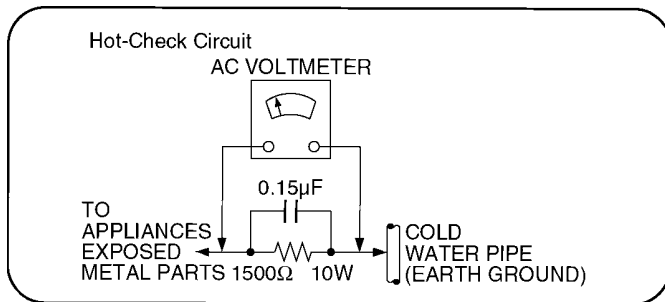


Figure 1

2.1.2. LEAKAGE CURRENT HOT CHECK (See Figure 1.)

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 $0.15\mu\text{F}$ capacitors, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
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 Prevention of Electro Static Discharge (ESD) to Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static 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 aluminum foil, to prevent electrostatic charge buildup 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 removal device. Some solder removal devices not classified as "anti-static (ESD protected)" can generate electrical charge sufficient 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, aluminum 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.

4 Before Repair and Adjustment (Using Active Subwoofer)

Disconnect AC power, discharge Power Supply Capacitors C546–C549 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 230-240 V, 50 Hz in NO SIGNAL mode should be ~ 1000 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 Precaution of Laser Diode

CAUTION: This product utilizes a laser diode with the unit turned “on”, invisible laser radiation is emitted from the pick-up lens.
Wave length: 662nm(DVD)/785nm(VCD/CD)
Maximum output radiation power from pick-up: 100 μ W/VDE

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

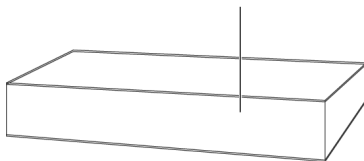
1. Do not disassemble the pick-up unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pick-up unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pick-up lens for a long time.

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

Wellenlänge: 662nm(DVD)/785nm(VCD/CD)
Maximale Strahlungsleistung der Lasereinheit: 100 μ W/VDE

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

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



(Back of product)

CAUTION	- LASER RADIATION WHEN OPEN. DO NOT STARE INTO BEAM. FDA 21 CFR / Class II
CAUTION	- VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM. IEC60825-1 / Class 3b
VARNING	- SYNLIIG OCH OSYNLIIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRÄKTA EJ STRÅLEN.
ADVARSEL	- SYNLIIG OG OSYNLIIG LASERSTRÅLING VED ÅBNING. UNDGÅ UDSETTELSE FOR STRÅLING.
ADVARSEL	- SYNLIIG OG OSYNLIIG LASERSTRÅLING NÄR DEKSEL ÅPNES. UNNGÅ EKSPONERING FOR STRÅLEN.
VARO!	- AVATTAESSA OLET ALTTIINA NÄKYVÄÄ JA NÄKYMÄTÖN LASERSÄTEILYLLÄ. ÄLÄ KATSO SÄTEESSEEN.
VORSICHT	- SICHTBARE UND UNSICHTBARE LASERSTRÄHLUNG. WENN ABDECKUNG GEÖFFNET, NICHT DEM STRAHL AUSSETZEN.
ATTENTION	- RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.
注意	- 打开时有可见及不可见激光辐射。避免激光辐射。
注意	- ここを開くと可視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。 ROLXS0054

(Inside of product)

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.

7 About Lead Free Solder (PbF)

Distinction of PbF PCB: PCBs (manufactured) using lead free solder will have a PbF stamp on the PCB.

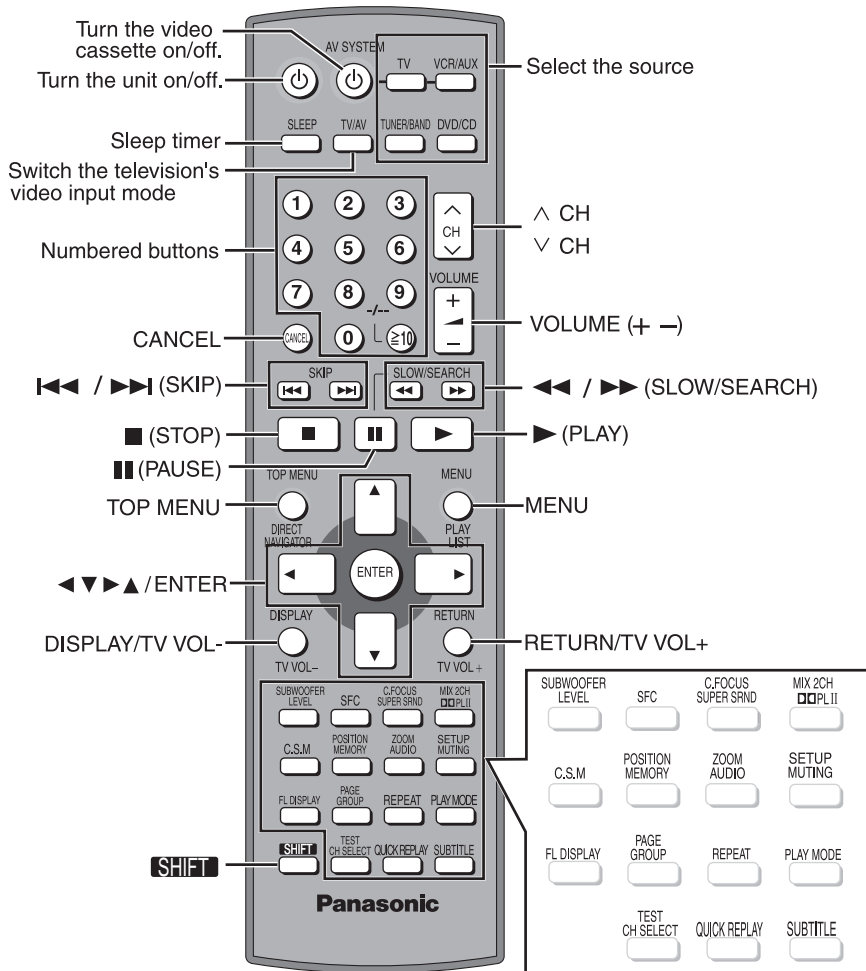
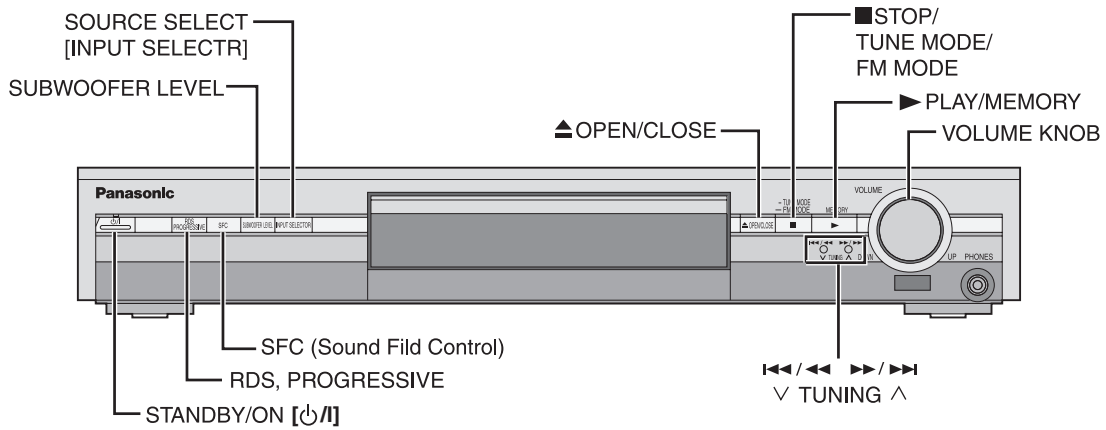
Caution:

- 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.








8 General Description

8.1. Operating instructions



8.2. Disc information

■ Discs that can be played

Disc	Logo	Indication in these operating instructions	Remarks
DVD-RAM		RAM	Recorded using Version 1.1 of the Video Recording Format (a unified video recording standard). <ul style="list-style-type: none"> Recorded with DVD-Video recorders, DVD-Video cameras, personal computers, etc. Remove discs from their cartridges before use.
		JPEG	Recorded using the DCF (Design rule for Camera File system) standard. <ul style="list-style-type: none"> Recorded with Panasonic DVD-Video recorders. To play JPEG files, select "Play as Data Disc" in Other Menu (→ page 22).
DVD-Audio		DVD-A	—
		DVD-V	Some DVD-Audio discs contain DVD-Video content. To play DVD-Video content, select "Play as DVD-Video" in Other Menu (→ page 22).
DVD-Video		DVD-V	—
DVD-R		DVD-V	Panasonic DVD-R recorded and finalized* on a Panasonic DVD-Video recorders or DVD-Video cameras are played as DVD-Video on this unit.
Video CD		VCD	—
SVCD			Conforming to IEC62107
CD		CD	This unit is compatible with HDCD. HDCD-encoded CDs sound better because they are encoded with 20 bits, as compared with 16 bits for all other CDs. <ul style="list-style-type: none"> During HDCD play, "HDCD" lights on the unit's display.
CD-R CD-RW	—	WMA MP3 JPEG CD VCD	<ul style="list-style-type: none"> This unit can play CD-R/RW (audio recording disc) recorded with the formats on the left. Close the sessions or finalize* the disc after recording. HighMAT discs WMA, MP3 or JPEG files only. To play without using the HighMAT function, select "Play as Data Disc" in Other Menu (→ page 22).

※ A process that allows play on compatible equipment.

● It may not be possible to play the above discs in all cases due to the type of disc or condition of the recording.

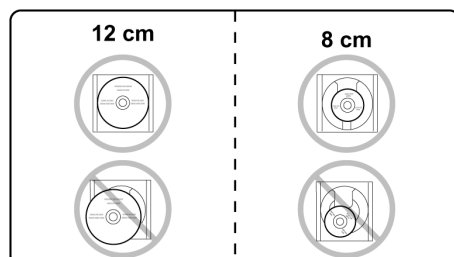
■ Discs that cannot be played

DVD-ROM, CD-ROM, CDV, CD-G, DVD+R, +RW, DVD-RW, SACD, Divx Video Discs and Photo CD, DVD-RAM that cannot be removed from their cartridge, 2.6-GB and 5.2-GB DVD-RAM and "Chaoji VCD" available on the market including CVD, DVCD and SVCD that do not conform to IEC62107.

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.

■ Inserting a disc correctly



- Insert the disc correctly in the position as indicated in the diagrams above.
- Place only one disc on a tray.
- Insert the disc with the label side facing up.

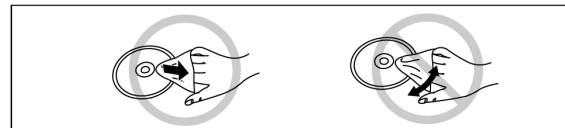
■ Playing PAL system DVD-Audio

This unit converts PAL to NTSC for play. The picture is compressed to show it in its entirety, but this may cause it to be stretched vertically.

■ To clean discs

DVD-A DVD-V VCD CD

Wipe with a damp cloth and then wipe dry.



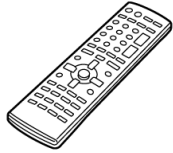
RAM DVD-R

- 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.
- Do not use irregularly shaped discs (e.g. heart-shaped), as these can damage the unit.
- Do not use discs that are badly warped or cracked.

9 Accessories



Remote control



AM loop antenna



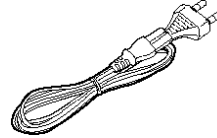
FM indoor antenna



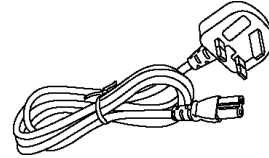
Video Cable



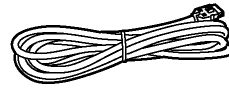
Speaker cable
(4m x 1)



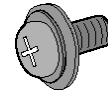
AC power supply cord
(For E, EG areas)



AC power supply cord
(For EB area)



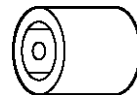
System cable



Large washer
screw



Small screw



Antenna plug adaptor
(For EB area only)

10 Caution for AC Main Lead

(For United Kingdom)

("EB" area code model only)

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.

A 5-ampere fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local dealer.

CAUTION!

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY. THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.

If in any doubt please consult a qualified electrician.

IMPORTANT


The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral, Brown: Live.

As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black or Blue.

The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Brown or Red.

WARNING: DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL WHICH IS MARKED WITH THE LETTER E, BY THE EARTH SYMBOL  OR COLOURED GREEN OR GREEN/YELLOW.

THIS PLUG IS NOT WATERPROOF—KEEP DRY.

Before use

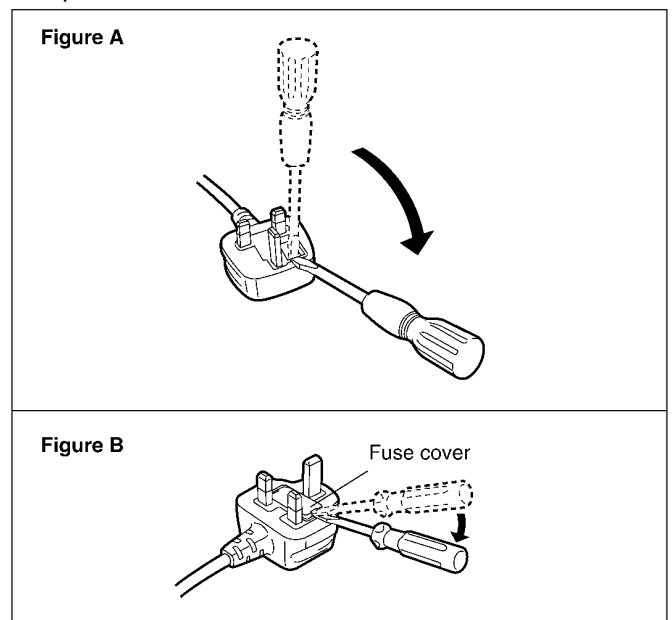
Remove the connector cover.

How to replace the fuse

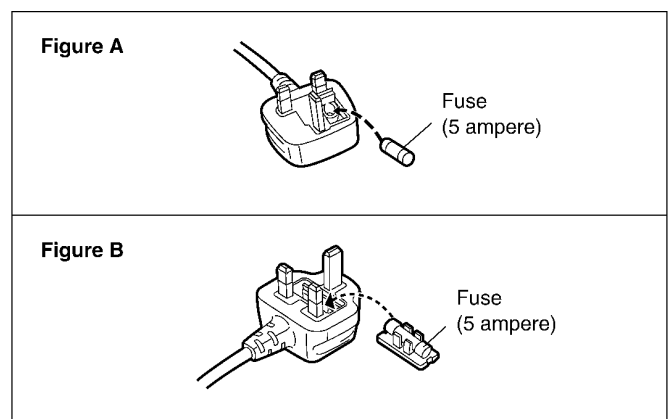
The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below.

Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.



2. Replace the fuse and close or attach the fuse cover.



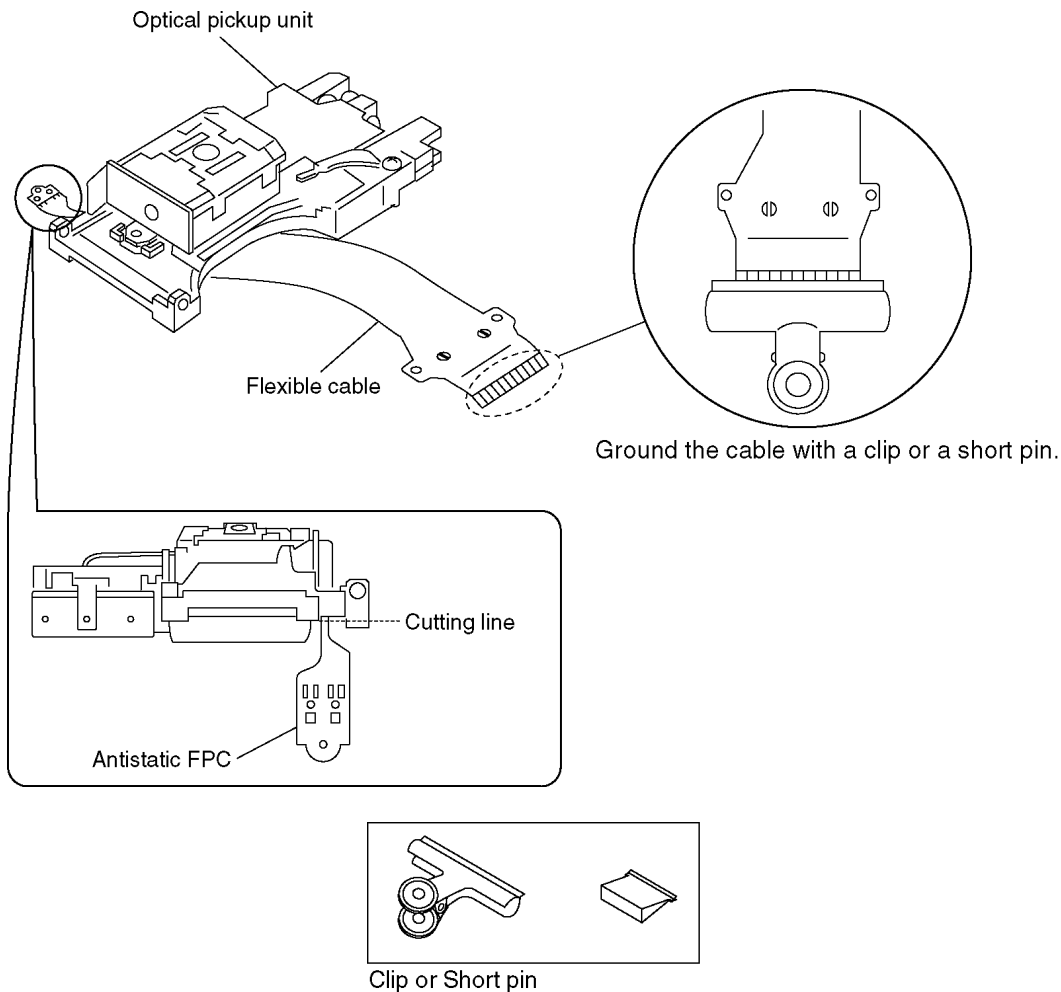
11 Handling Precautions for Optical Pickup Unit

The laser diode in the optical pickup unit may brake down due to static electricity of clothes or human body. Use due caution to electrostatic breakdown when servicing and handling the laser diode.

11.1. Cautions to Be Taken in Handling the Optical Pickup Unit

The laser diode in the optical pickup unit may be damaged due to electrostatic discharge generating from clothes or human body. Use due caution to electrostatic discharge damage when servicing the laser diode.

1. Do not give a considerable shock to the optical pickup unit as it has an extremely high-precise structure.
2. To prevent the laser diode from the electrostatic discharge damage, the flexible cable of the optical pickup unit removed from the PCB should be short-circuited with a short pin or a clip.
3. The flexible cable may be cut off if an excessive force is applied to it. Use caution when handling the flexible cable.
4. The antistatic FPC is connected to the new optical pickup unit. After replacing the optical pickup unit and connecting the flexible cable, cut off the antistatic FPC.



11.2. Cautions to Be Taken When Replacing the Optical Pickup

The flexible cable of the optical pickup unit which was supplied as a component is equipped with a short clip to prevent the laser diode from being damaged due to electrostatic discharge. Remove the short clip before connecting the flexible cable and make sure that the short land is open. (If the flexible cable is short-circuited, remove the solder.)

11.3. Grounding for electrostatic breakdown prevention

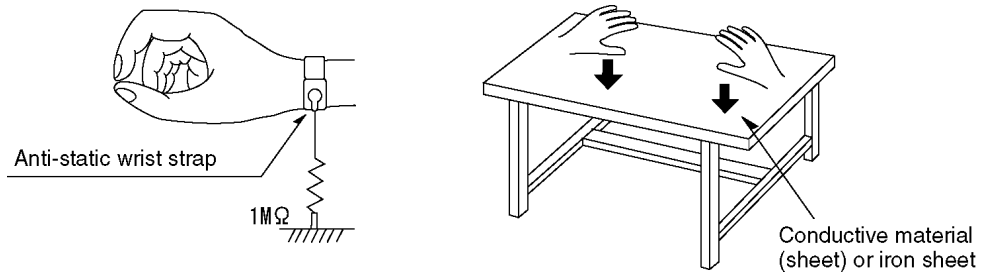
Some devices such as the DVD player use the optical pickup (laser diode) and the optical pickup will be damaged by static electricity in the working environment. Proceed servicing works under the working environment where grounding works is completed.

11.3.1. Worktable grounding

1. Put a conductive material (sheet) or iron sheet on the area where the optical pickup is placed, and ground the sheet.

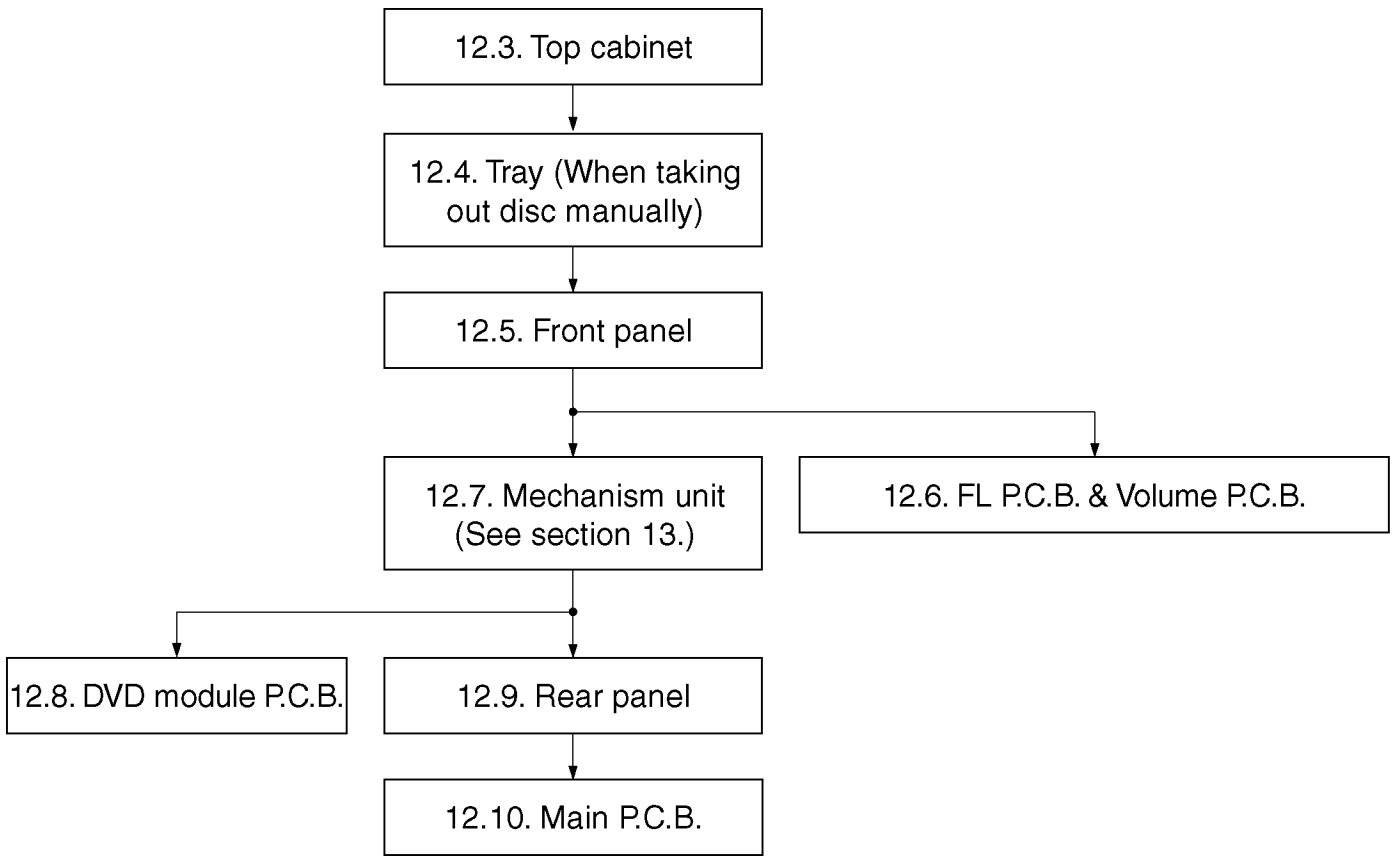
11.3.2. Human body grounding

1. Use the anti-static wrist strap to discharge the static electricity form your body.

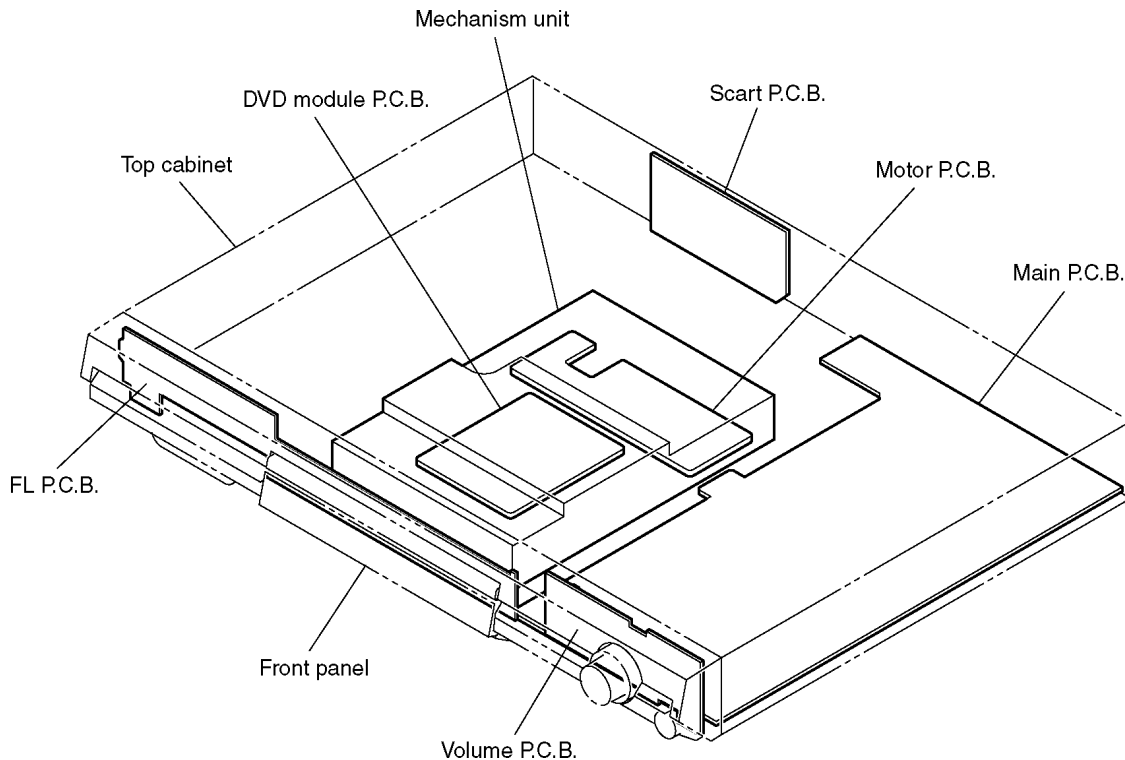


12 DISASSEMBLING THE CASING AND CHECKING P.C.B.S

12.1. Disassembly Procedure

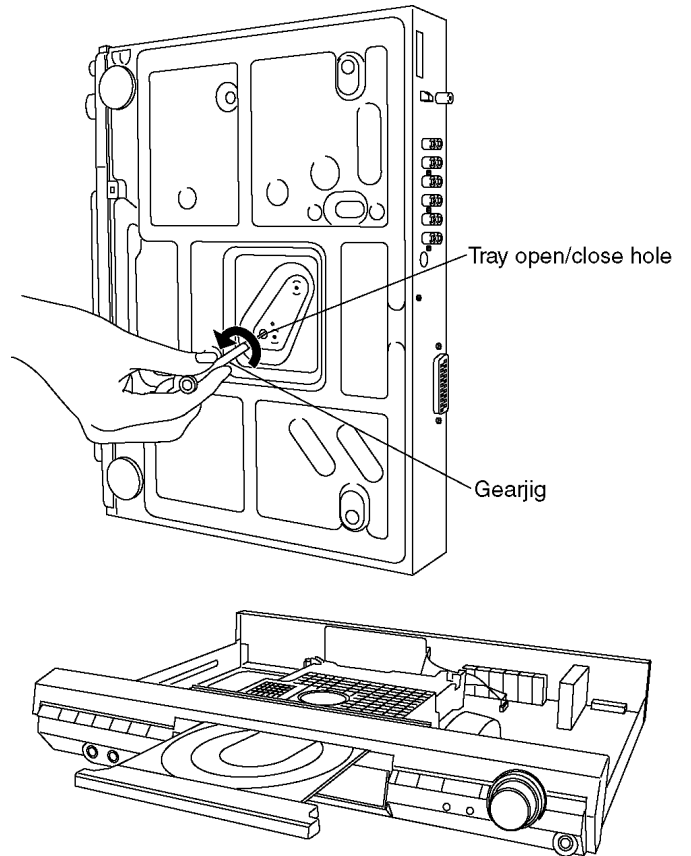
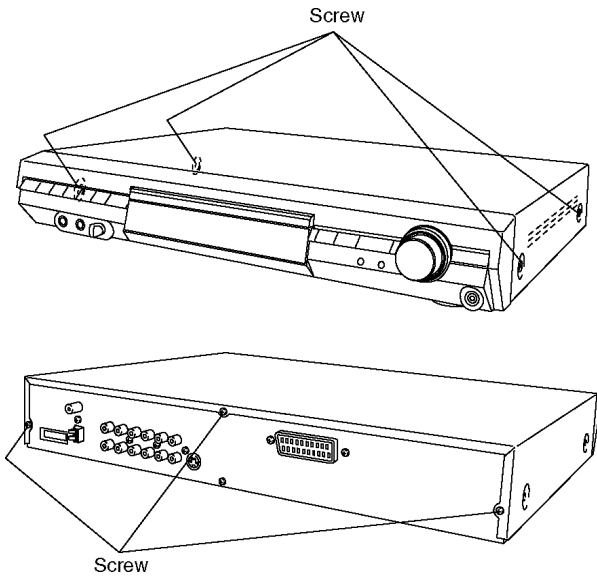


12.2. Casing Parts and P.C.B. Positions



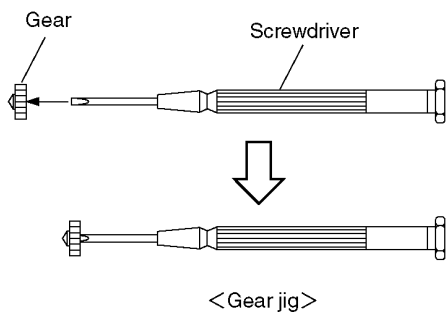
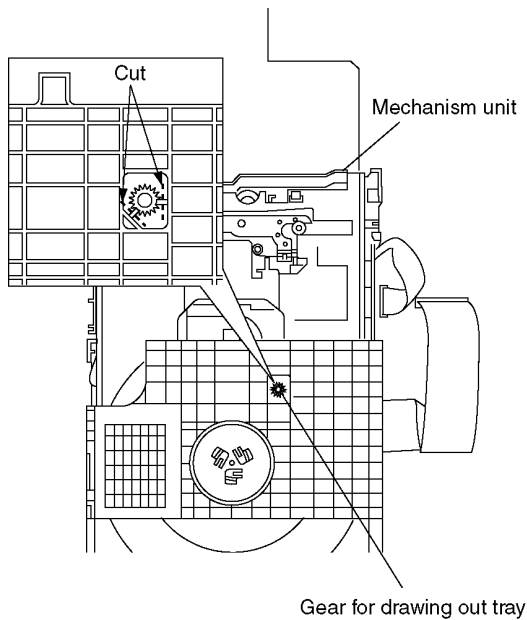
12.3. Top Cabinet

1. Unscrew the screws.



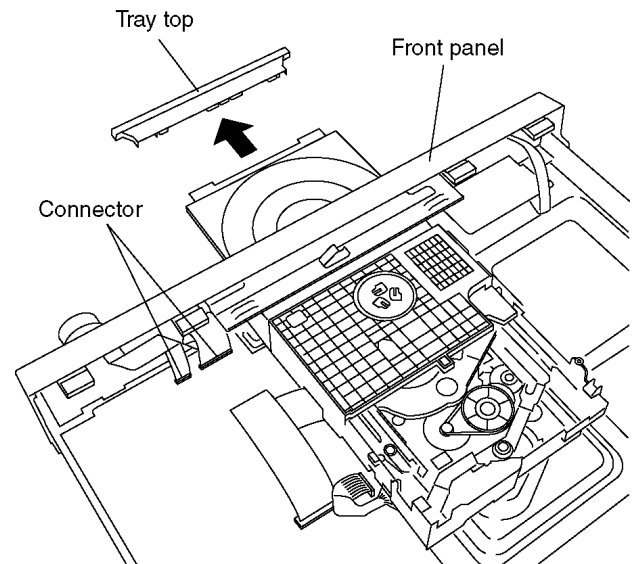
12.4. Tray (When taking out disc manually)

1. Separates the gear for drawing out tray from the mechanism unit. It inserts a screwdriver in the gear. (The gear jig)
2. Insert the gear jig into the tray open/ close hole.
3. Turn the gear jig counterclockwise to open the tray.

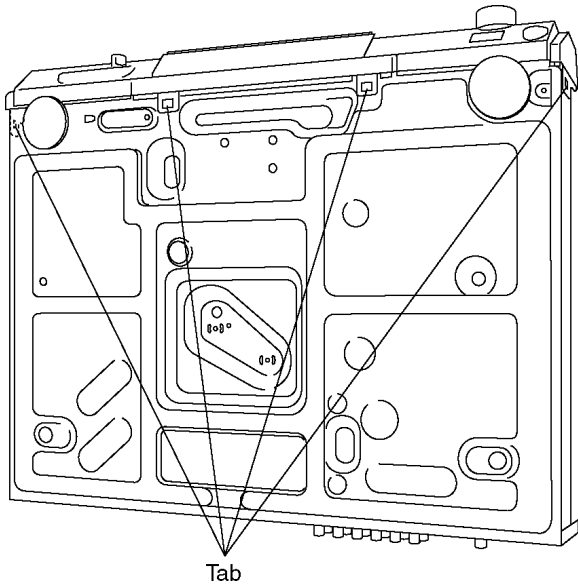


12.5. Front Panel

1. Remove the tray top from the tray section.
2. Remove the connectors.

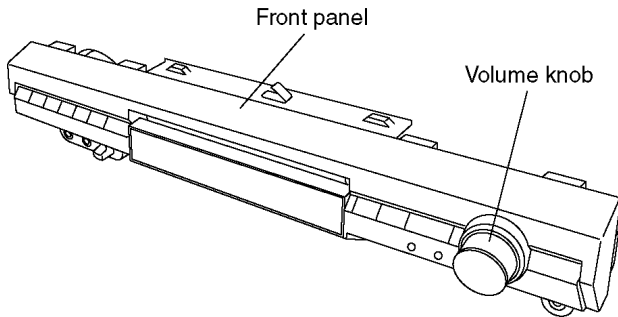


3. Release the tabs.

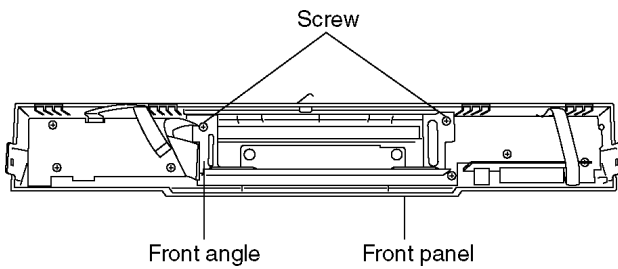


12.6. FL P.C.B. and Volume P.C.B.

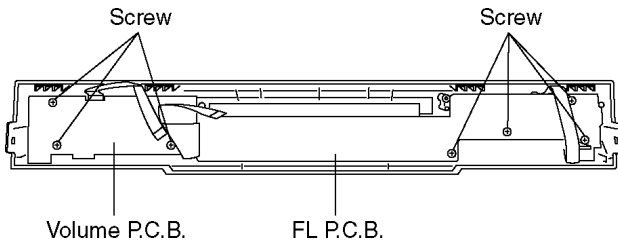
1. Remove the volume knob.



2. Unscrew the screws.
3. Remove the front angle.

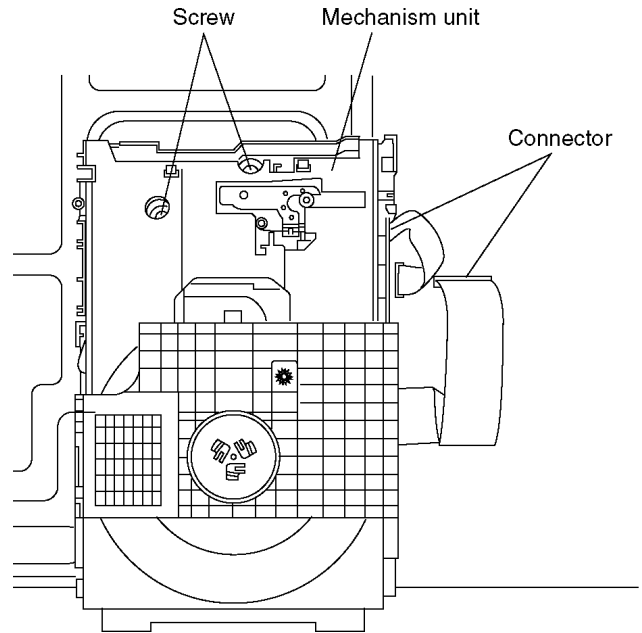


4. Unscrew the screws.



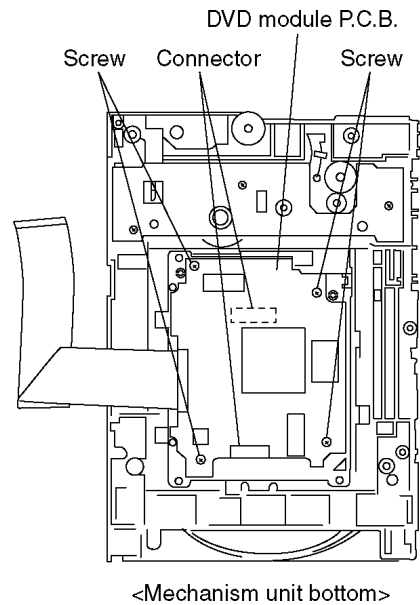
12.7. Mechanism Unit

1. Turn the gear jig clockwise to close the tray, turn until the gear jig not to turn.
2. Unscrew the screws.
3. Remove the connectors.
4. Pull out the mechanism unit vertically.



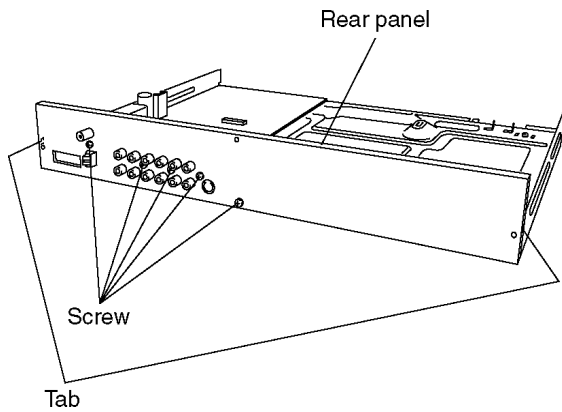
12.8. DVD Module P.C.B.

1. Unscrew the screws.
2. Remove the connectors.

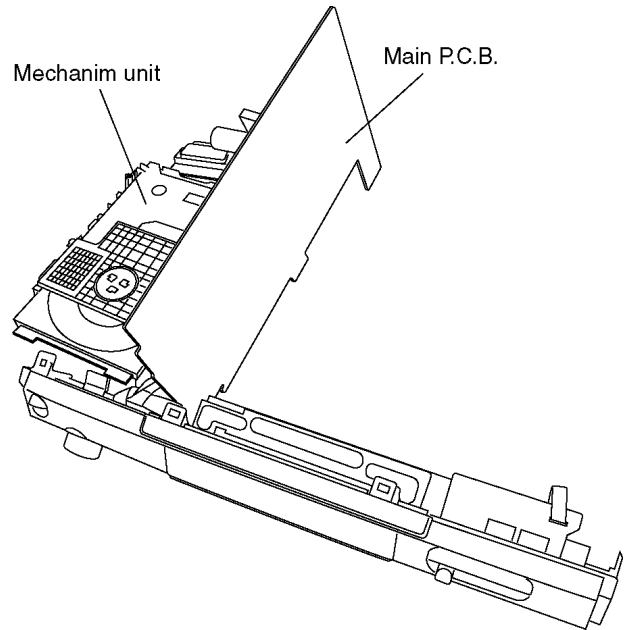


12.9. Rear panel

1. Unscrew the screws.
2. Release the tabs.

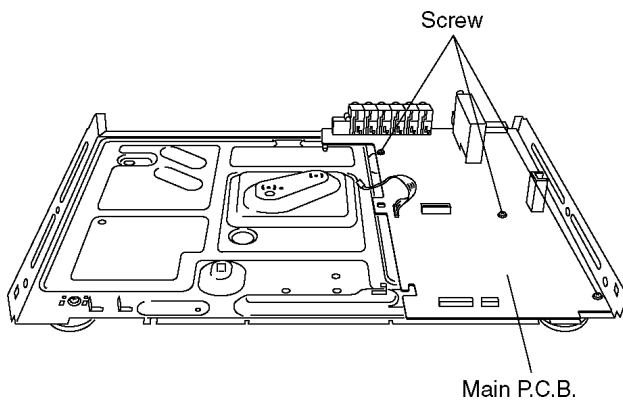


12.11.2. Servicing position of the Main P.C.B.



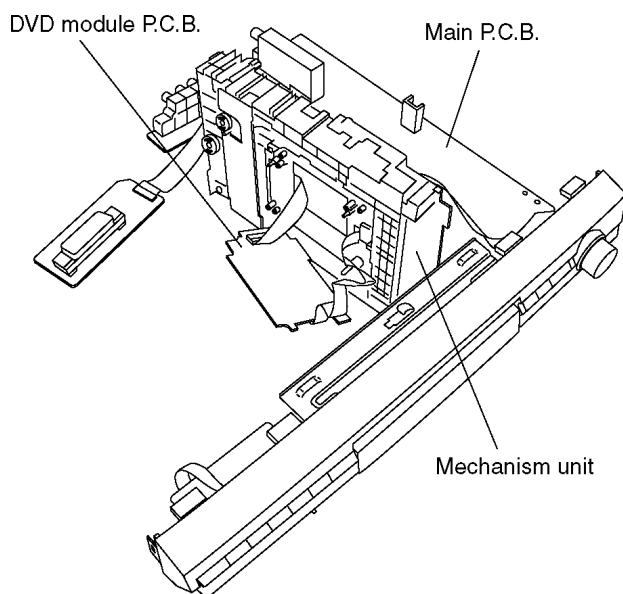
12.10. Main P.C.B.

1. Unscrew the screws.



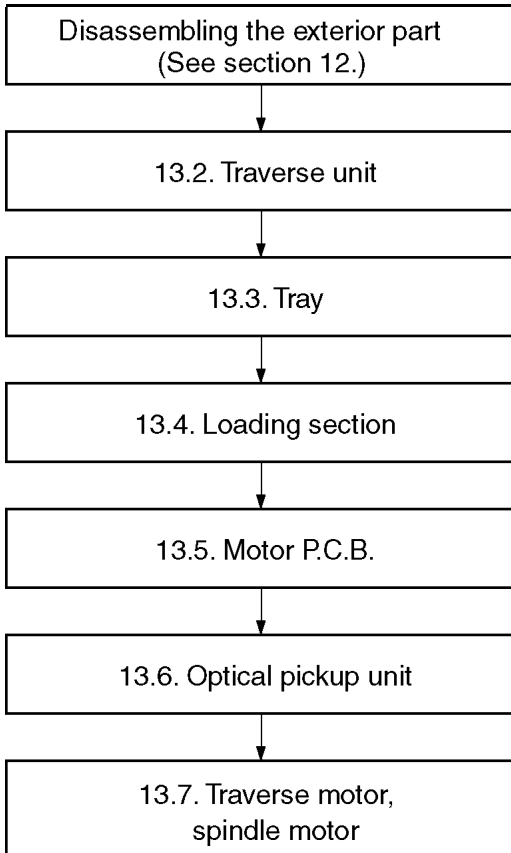
12.11. Service Position

12.11.1. Servicing position of the DVD Module P.C.B.



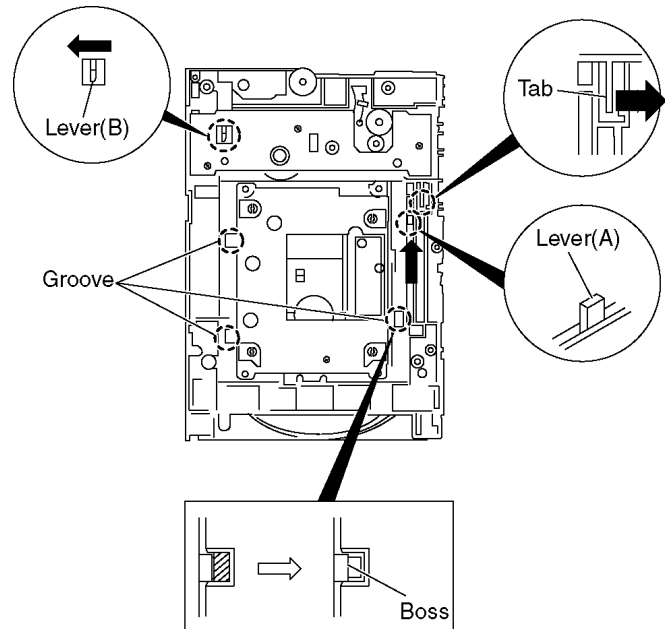
13 ASSEMBLING AND DISASSEMBLING THE MECHANISM UNIT

13.1. Disassembly Procedure

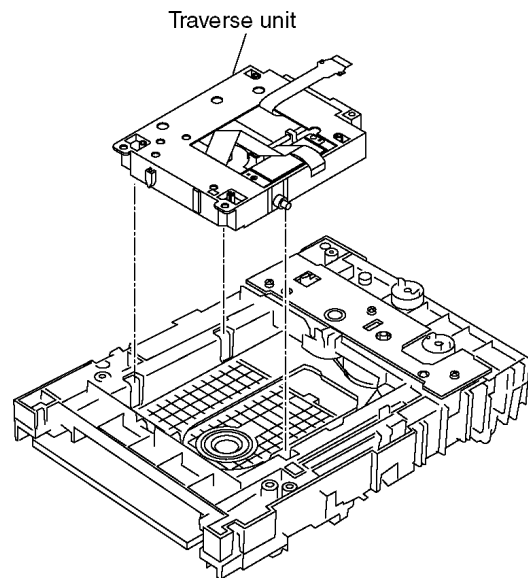


13.2. Traverse Unit

1. Slide the lever (A) in the arrow direction (to the opposite side) till it stops.
2. Slide the lever (A) further by bending the tab at the right side of the lever A in the right direction. (The right groove opens and the boss becomes seen.)
3. Open the lever (B) to left. (The 2 grooves at the left side open.)

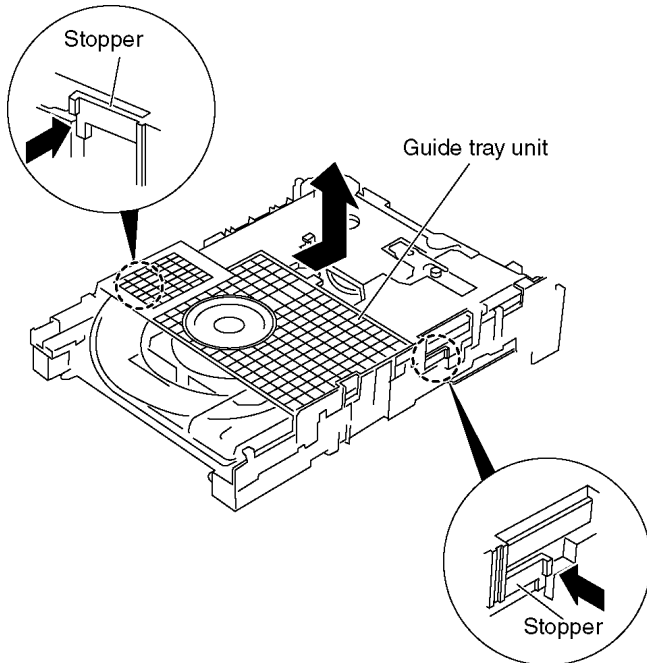


4. Remove the traverse unit

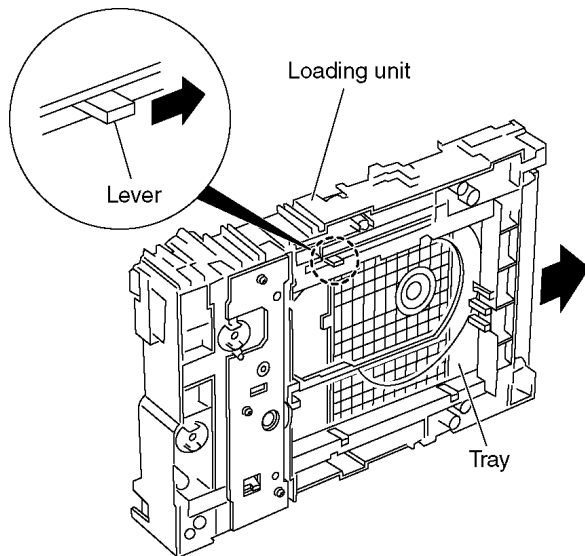


13.3. Tray

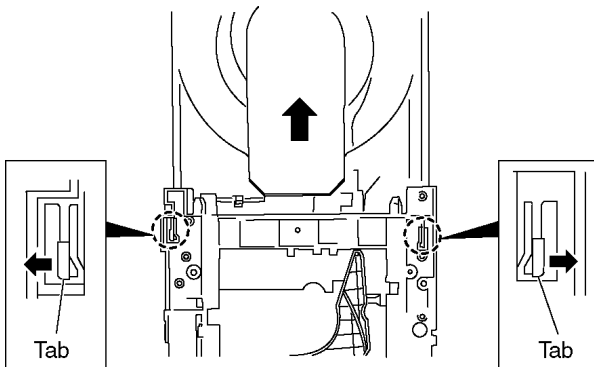
- Slide the guide tray unit while pressing the stopper in the arrow direction, and remove the guide tray unit.



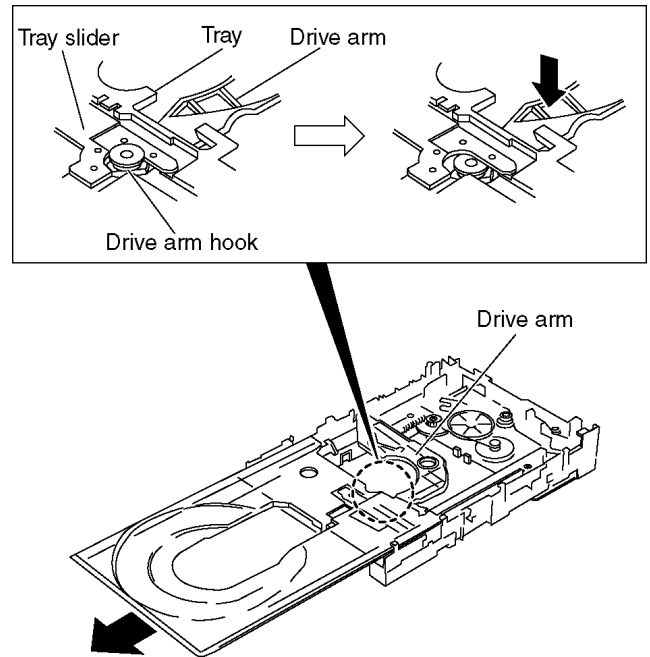
- Raise the loading unit.
- Slide the lever in the arrow direction till it stops and pull the tray out.



- Spread the tabs at the both sides and pull the tray out. (The tray slides a little forward and stops.)

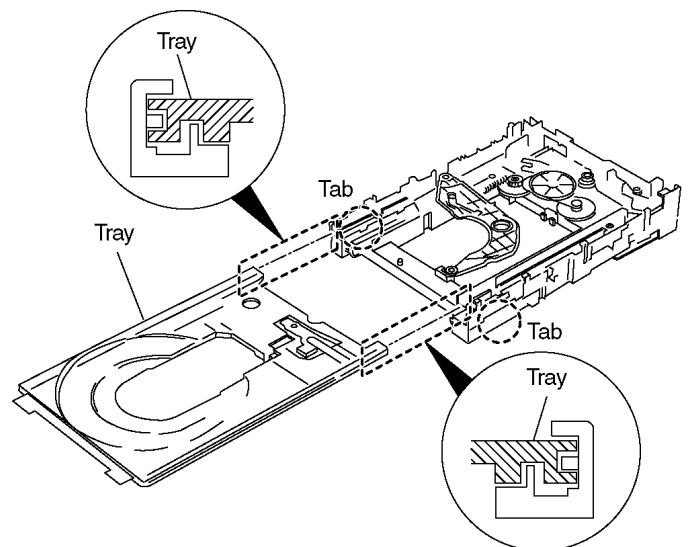


- Remove the drive arm concave phase from the tray slider and tray.

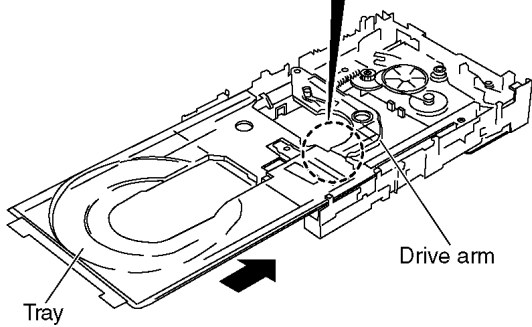
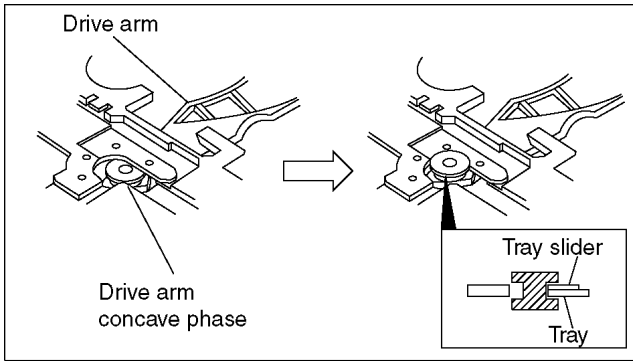


<Assembling the tray unit>

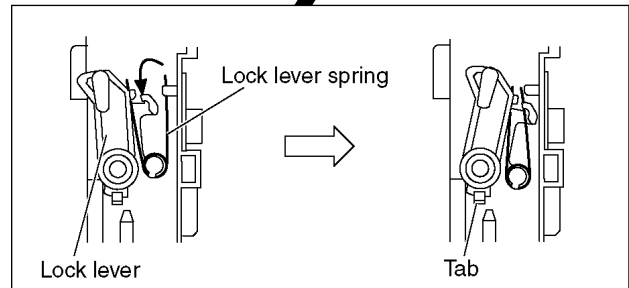
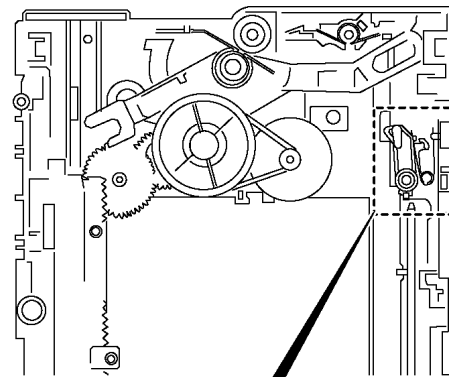
- Insert a part of the tray into the unit sliding over the groove on the mechanical chassis unit.
- Insert the tray to the point before the tab of the mechanical chassis unit.



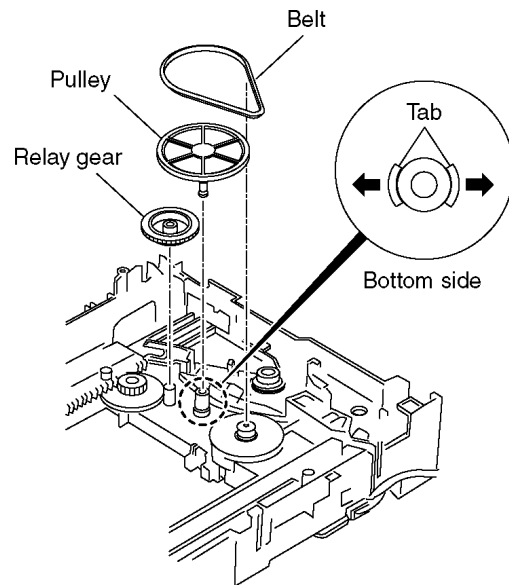
3. Hook the drive arm concave phase over the tray and the tray slider.
4. Press in the tray.
5. Make sure that the tray and the drive arm move smoothly.



2. Hook the lock lever spring on the lock lever projection part temporarily.
3. Unlock the tab and remove the lock lever.

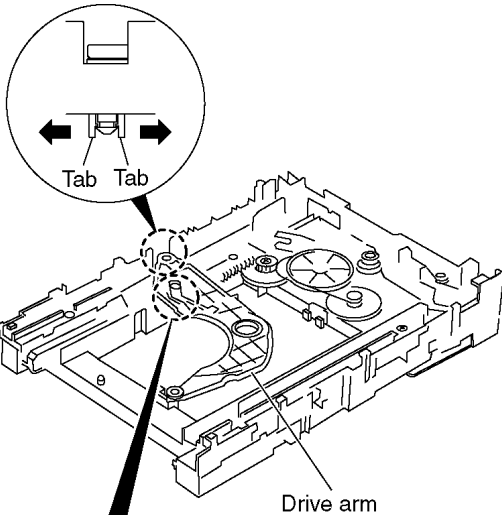


4. Remove the belt.
5. Unlock the tab and remove the pulley.
6. Remove the relay gear.

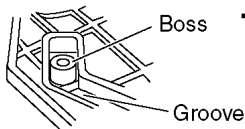


13.4. Loading section

1. Spread the tabs at the both sides and push out the drive arm shaft.

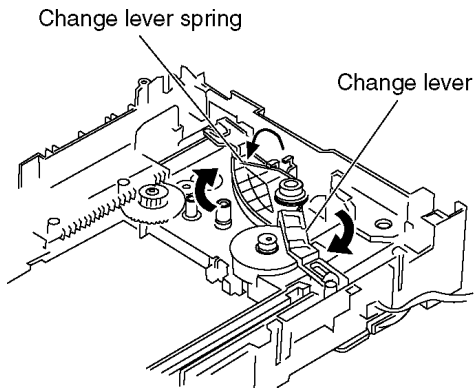


■ Important point in installing the drive rack

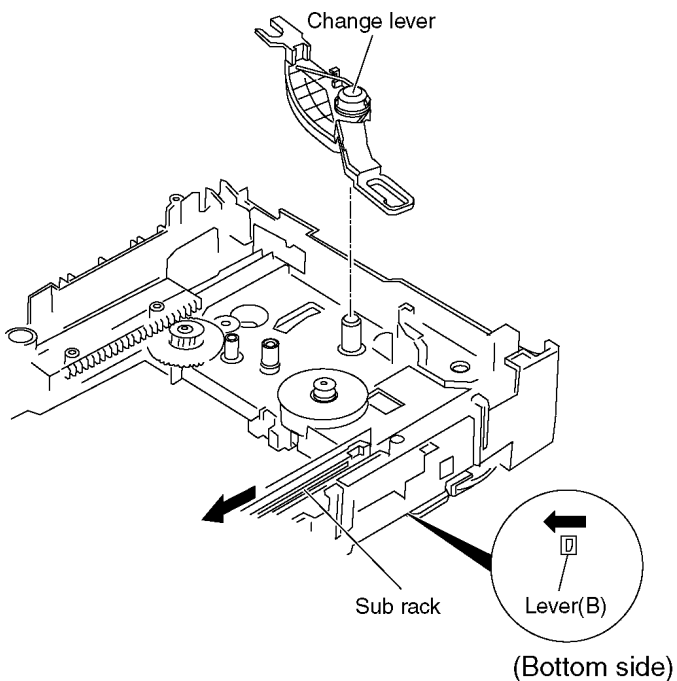


- Install the boss the drive rack into the drive arm groove securely.

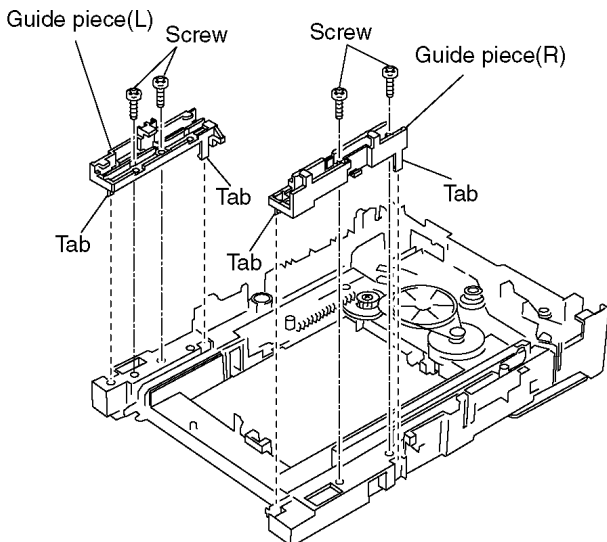
7. Turn the change lever in the arrow direction till it stops.
8. Hook the change lever spring on the change lever project part temporarily.



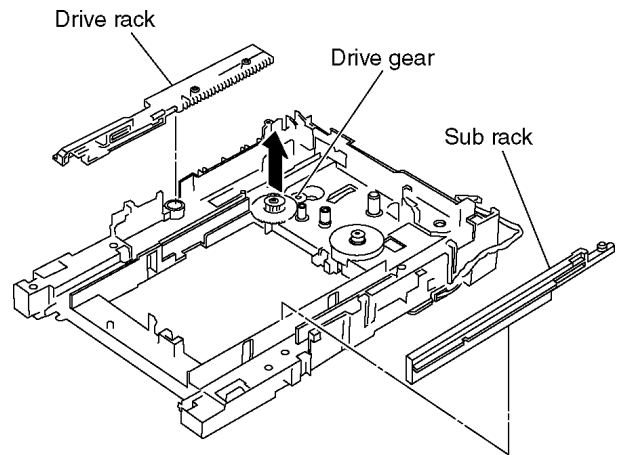
9. Pull the lever (B) in the bottom side to your side and remove the change lever.



10. Unscrew the screws.
11. Unlock the tabs and remove the guide piece (L).
12. Unlock the tabs and remove the guide piece (R).

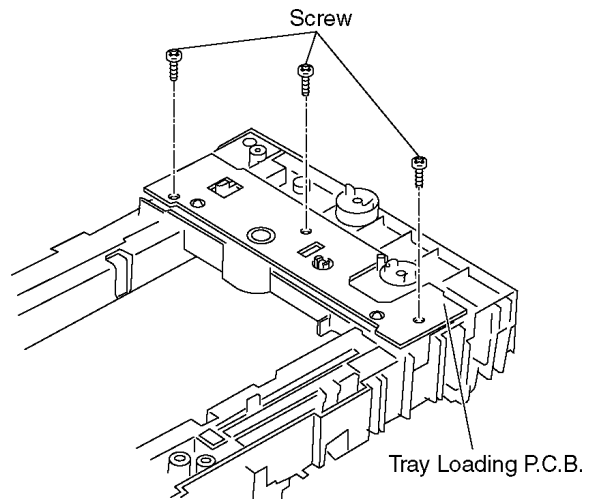


13. Remove the drive rack, the sub rack and the drive gear.



13.5. Tray Loading P.C.B.

1. Unscrew the screws

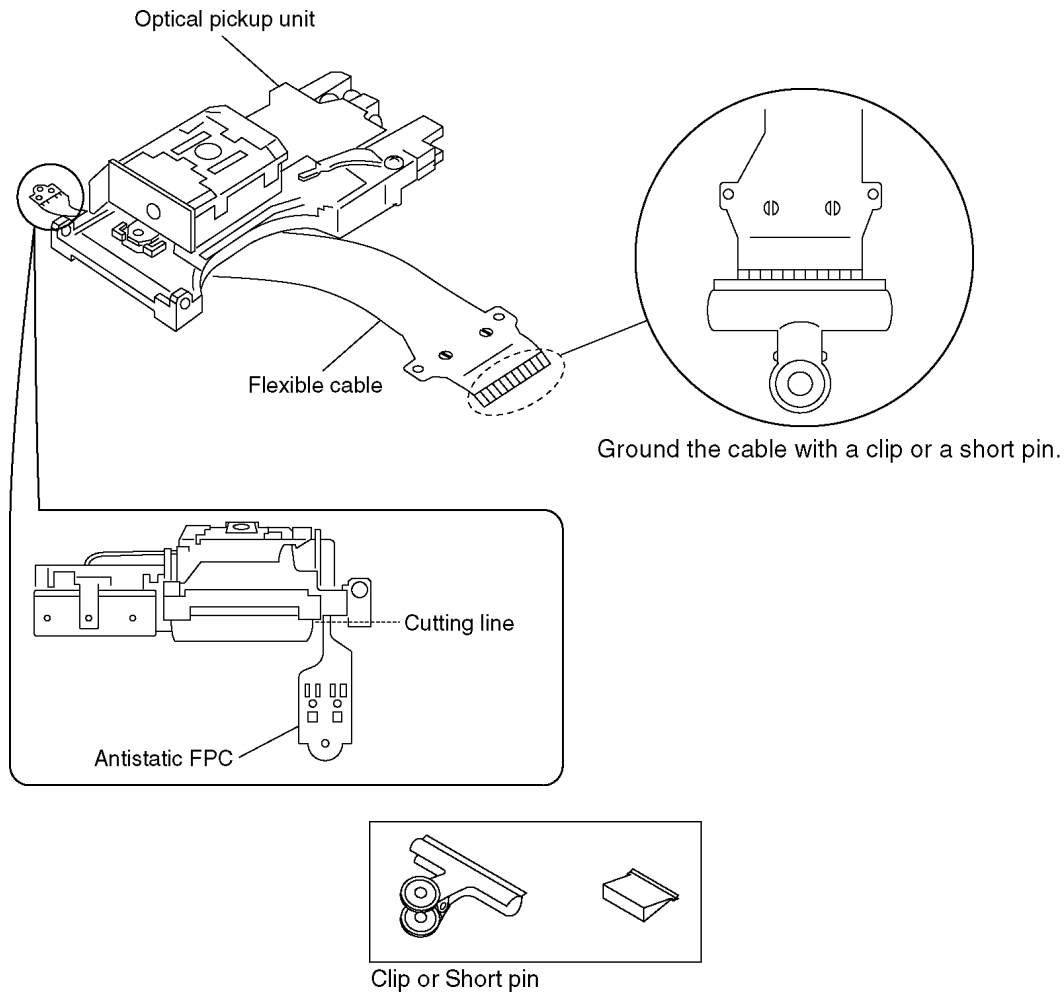


13.6. Optical Pickup Unit

13.6.1. Cautions to Be Taken in Handling the Optical Pickup Unit

The laser diode in the optical pickup unit may be damaged due to electrostatic discharge generating from clothes or human body. Use due caution to electrostatic discharge damage when servicing the laser diode.

1. Do not give a considerable shock to the optical pickup unit as it has an extremely high-precise structure.
2. To prevent the laser diode from the electrostatic discharge damage, the flexible cable of the optical pickup unit removed from the PCB should be short-circuited with a short pin or a clip.
3. The flexible cable may be cut off if an excessive force is applied to it. Use caution when handling the flexible cable.
4. The antistatic FPC is connected to the new optical pickup unit. After replacing the optical pickup unit and connecting the flexible cable, cut off the antistatic FPC.

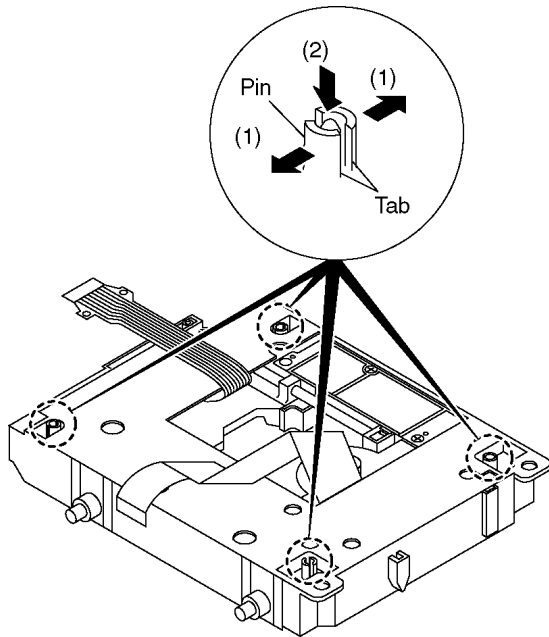


13.6.2. Cautions to Be Taken When Replacing the Optical Pickup

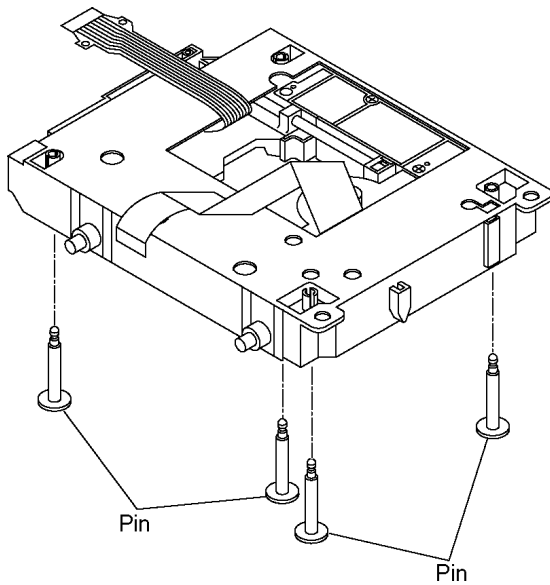
The flexible cable of the optical pickup unit which was supplied as a component is equipped with a short clip to prevent the laser diode from being damaged due to electrostatic discharge. Remove the short clip before connecting the flexible cable and make sure that the short land is open. (If the flexible cable is short-circuited, remove the solder.)

13.6.3. Procedure for Disassembling the Optical Pickup Unit

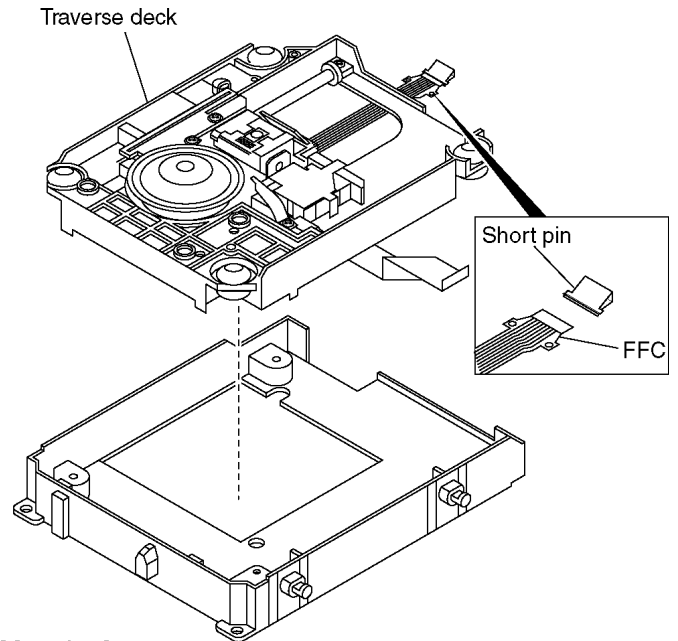
1. Spread the tabs to push in the pin.



2. Remove the pins.



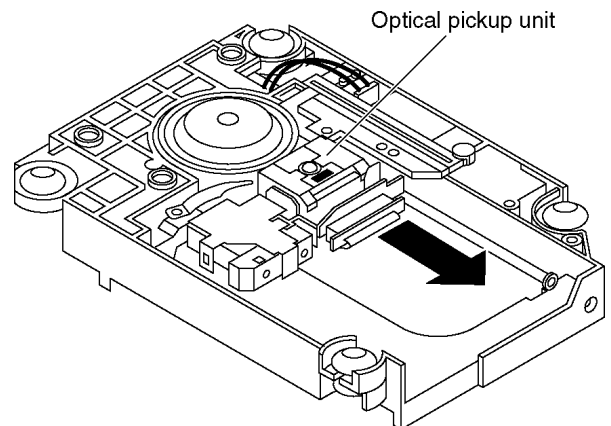
3. Remove the traverse deck.



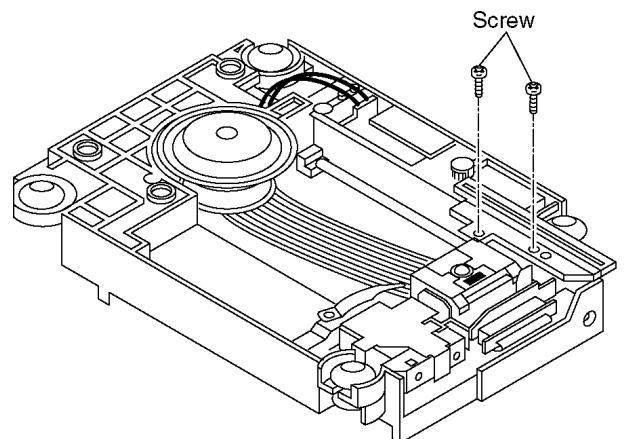
[Caution]

Insert the short pin into the FFC of the optical pickup unit.
[See "Caution to be taken in handling the optical pickup unit"]

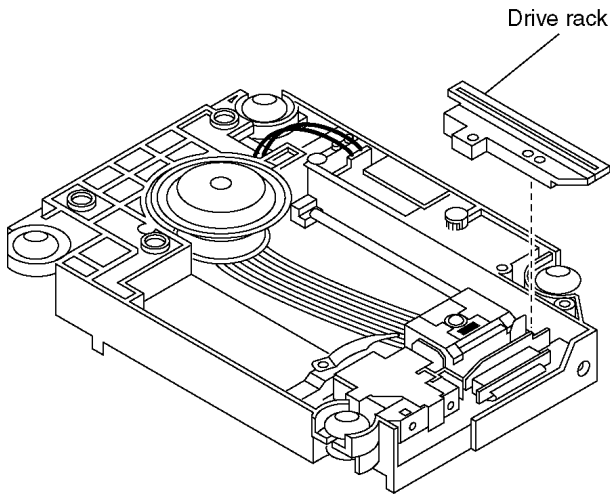
4. Move the optical pickup unit in the arrow direction till it stops.



5. Unscrew the screws.

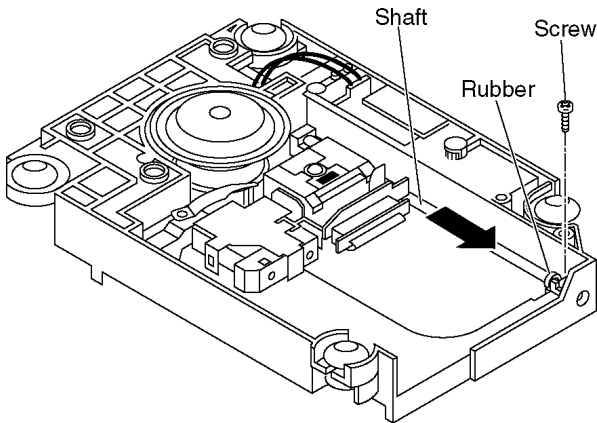


6. Remove the drive rack.

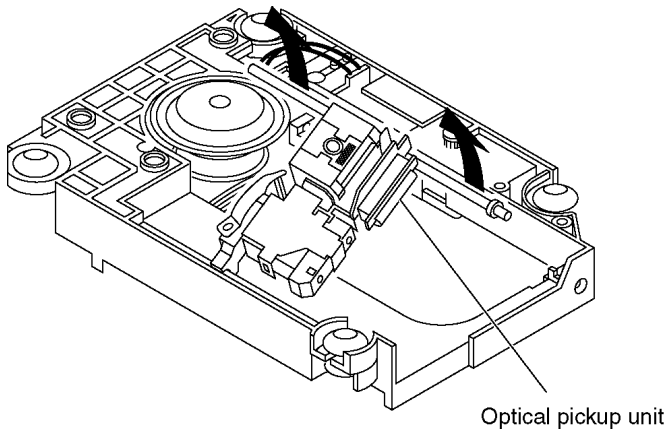


7. Unscrew the screw

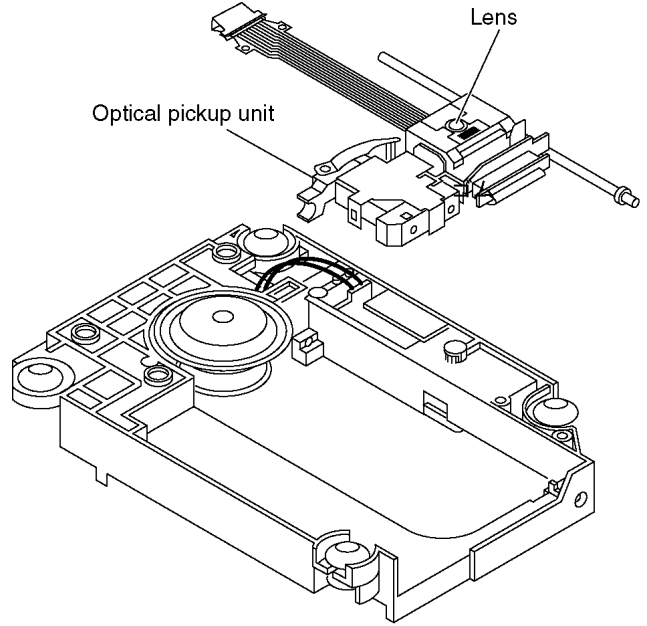
8. Slide the shaft in the arrow direction.



9. Lift the optical pickup unit with the shaft.



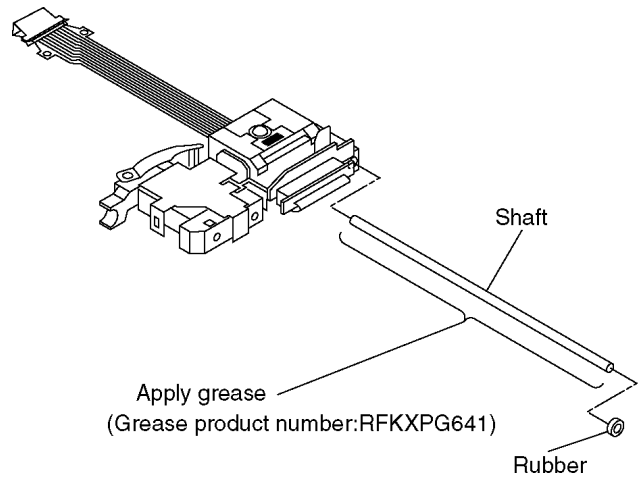
10. Remove the optical pickup unit.



[Caution]

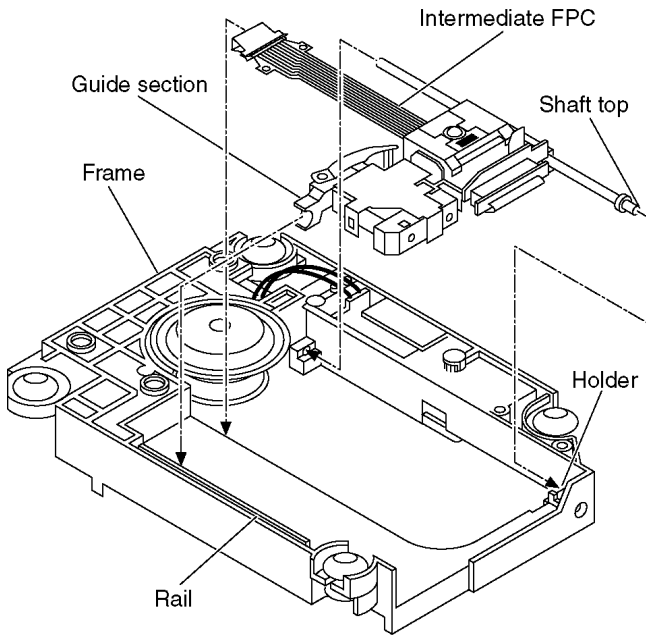
1. Do not give a considerable shock to the optical pickup unit as it has an extremely high-precise structure.
2. Do not touch the lens in the optical pickup unit.

11. Pull the shaft and the rubber out.

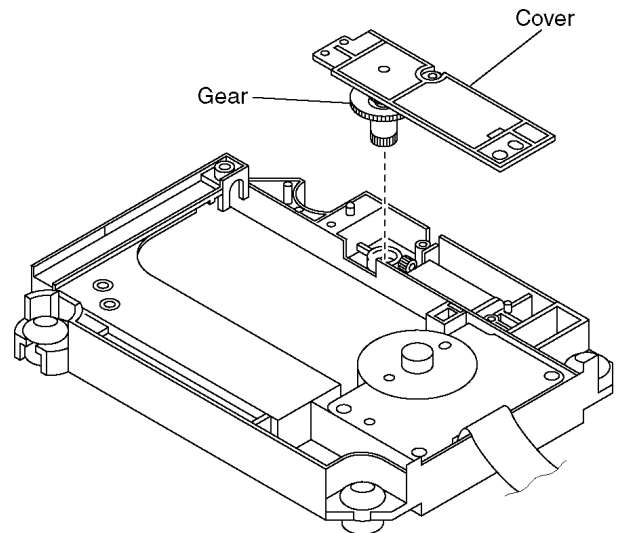


<Assembling the optical pickup unit>

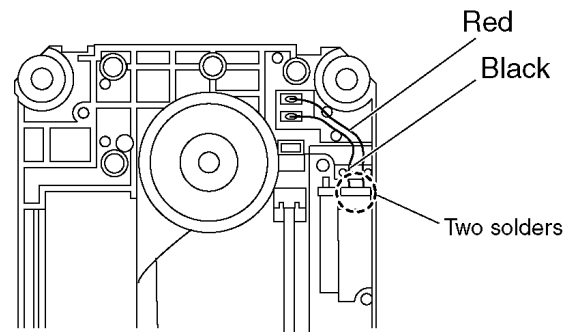
1. Pass the intermediate FPC through the frame hole.
2. Align the guide section of the optical pickup unit with the rail.
3. Install the shaft top to the holder.



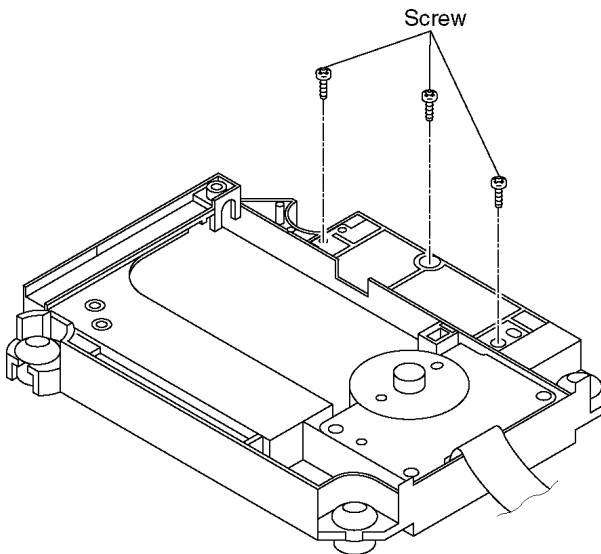
2. Remove the cover while lifting the inner gear.



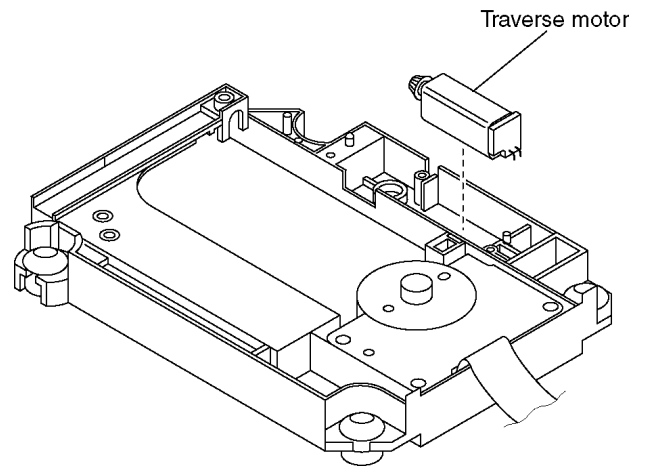
3. Remove the solders.

**13.7. Traverse Motor and Spindle Motor**

1. Unscrew the screws.

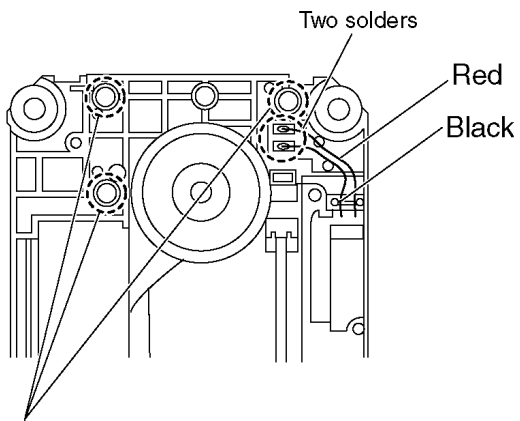


4. Remove the traverse motor.



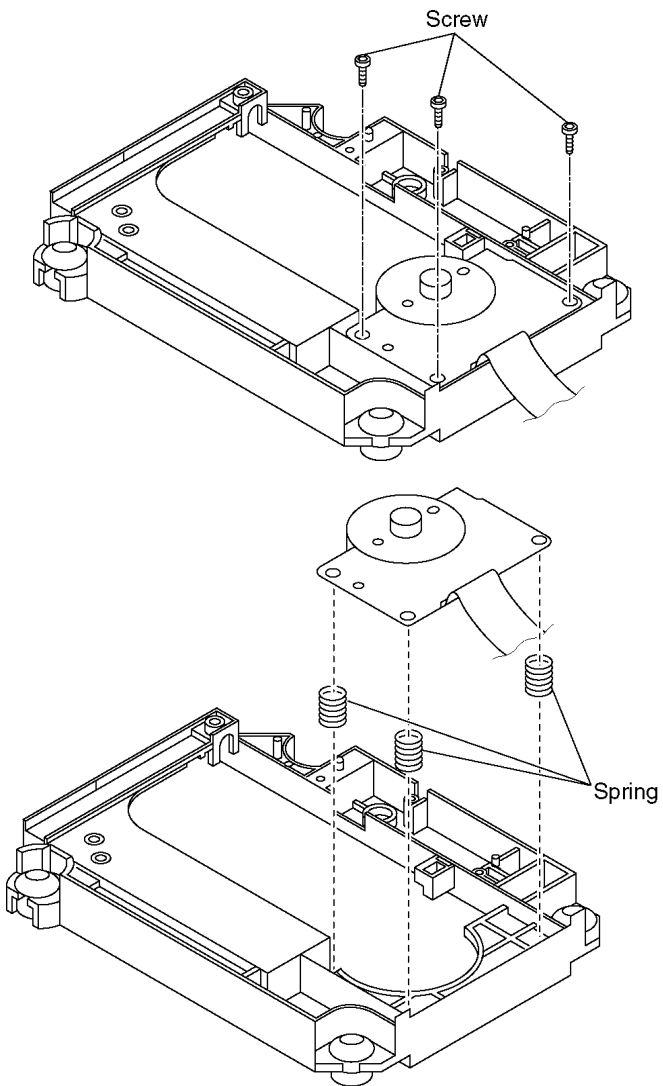
5. Remove the solders.

6. Remove the screw lock as carefully as you can.



7. Unscrew the screws with torx screw driver (T6).

8. Remove the spindle motor.



[Caution]

The three springs are removed at the same time when the spindle motor is removed. Use caution not to lose them.

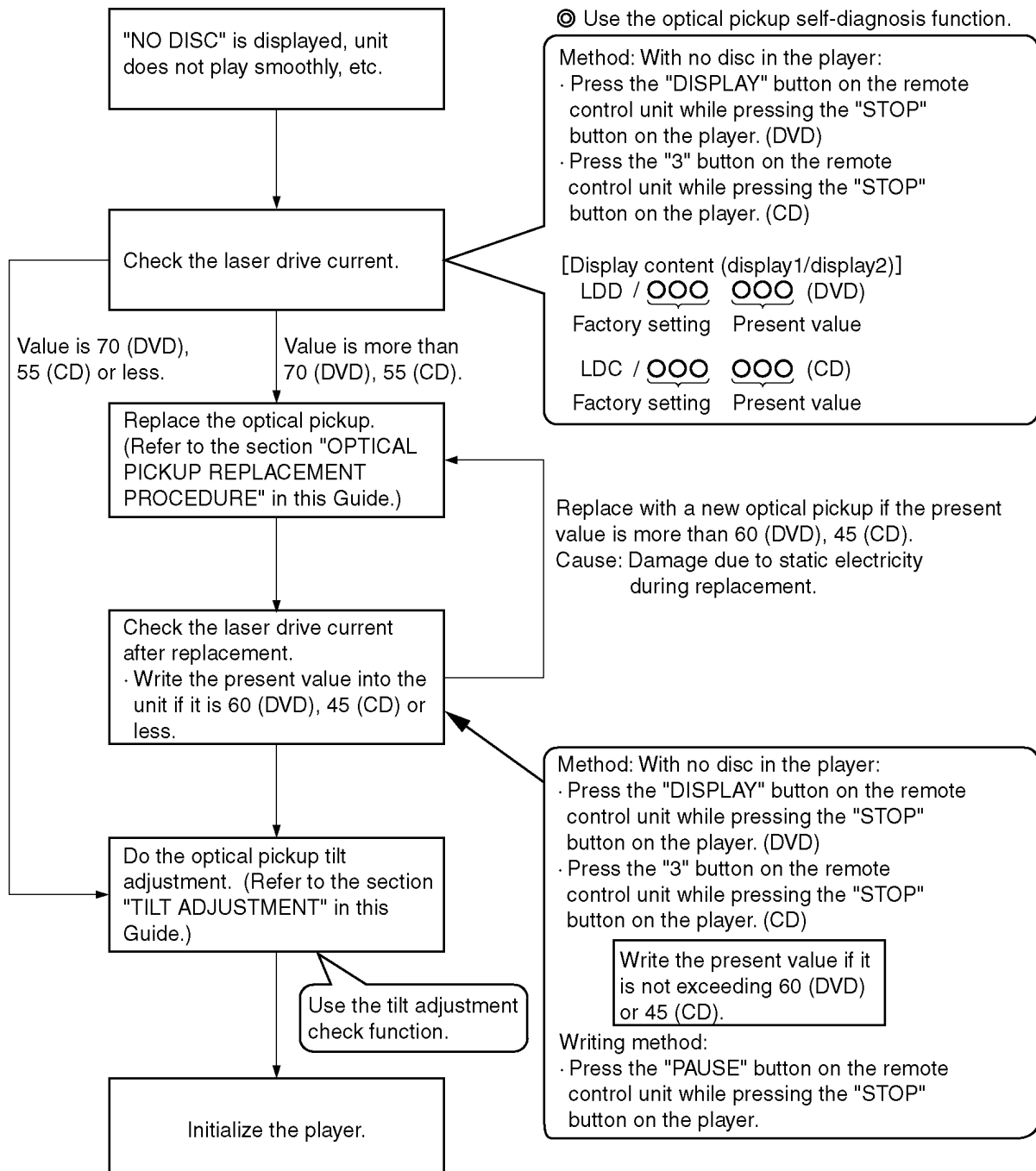
14 DVD-Optical Pick-up Self-Diagnosis and Replacement Procedure

14.1. Optical Pickup Breakdown Diagnosis

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

Note:

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



14.2. Service Mode Table 1

The service modes can be activated by pressing various button combination on the player and remote control unit.

Player buttons	Remote control unit buttons	Application	Note
STOP	0	Error code display	(Refer to the item, "14.3. DVD Self Diagnostic Function-Error Code").
	5	Tilt adjustment	Refer to the item "17.4. Optical adjustment".
	6	Area number and broadcasting system check	
	7	Built-in program version check	
	DISPLAY	DVD laser drive current check	Refer to the item "14.1. Optical Pickup Breakdown Diagnosis".
	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.	

14.3. DVD Self Diagnostic Function-Error Code

Error Code	Error Content	Additional error explanation
	U, H error	
U11	Focus error	
H01	Tray loading error	
H02	Spindle servo error	(Spindle servo, DSC (IC8271) SP motor, CLV servo error)
H03	Traverse servo error	(Traverse motor, IC8251)
H04	Tracking servo error	
H05	Seek error	
H06	Power error	Cannot switch off the power because of the panel and system computer communication error
H07	Spindle motor drive error	Spindle motor
	DSC related	
F500	DSC error	DSC (IC8271) stops in the occurrence of servo error (startup, focus error, etc.)
F501	DSC not Ready	DSC-system computer communication error (Communication failure caused by idling of DSC)
F502	DSC Time out error	Similar disposal as F500
F503	DSC communication Failure	Communication error (result error occurred although communication command was sent)
F504	Error adjusting DSC data slice offset	
F505	DSC Attention error	Similar disposal as F500
F506	Invalid media	Disc is flipped over, TOC unreadable, incompatible disc media
	ODC related	
F600	Access failure to management information caused by demodulation error	Operation stopped because navigation data is not accessible caused by the demodulation defect
F601	Indeterminate sector ID requested	Operation stopped caused by the request to access abnormal ID data
F602	Access failure to LEAD-IN caused by demodulation error	LEAD IN data unreadable
F603	Access failure to KEYDET caused by demodulation error	Access failure to CSS data of disc
F610	ODC abnormality	No permission for command execution
F611	6626 QCODE don't read Error	Access failure to seek address in CD series
F612	No CRC OK for a specific time	Access failure to ID data in DVD series
F620	Laser safeguard: high temperature condition	
F621	Laser safeguard: circuit failure condition	
F630	No reply to KEY DET enquiry	(for internal use only)
F631	CPPM KEY DET is not available till the FILE terminal	(CPPM file system is unreadable caused by scratches)
F632	CPPM KEY DET is not available	Been revoked or falsified
	Disc code	
F103	Illegal highlight Position	Big possibility of disc specification violation during highlight display
	HIC Error	
F4FF	Force initialize failure (time out)	
	Micro computer error	
F700	MBX overflow	When replying message to disc manager
F701	Message command does not end	Next message is sent before replying to disc manager
F702	Message command changes	Message is changed before it is sent as a reply to disc manager
F880	Task number is not appropriate	Message coming from a non-existing task

Error Code	Error Content	Additional error explanation
F890	Sending message when message is being sent to AV task	Sending message to AV task
F891	Message couldn't be sent to AV task	Begin sending message to AV task
F893	FROM falsification	
F894	EEPROM abnormality	
F895	Language area abnormality	Firm version agreement check for factory preset setting failure prevention
F896	No existence model	Firm version agreement check for factory preset setting failure prevention
F897	Initialize is not completed	Initialize completion check for factory preset setting failure prevention
F898	Disagreement of hardware and software	Unsuitable combination of AV DECORDER, SDRAM and FLASH ROM (firmware)
F8A0	Message command is not appropriate	Begin sending message to AV task

Note:

An error code will be canceled if a power supply is turned OFF.

*1: CPPM is the copy guard function beforehand written in the disk for protection of copyrights.

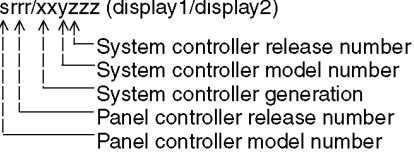
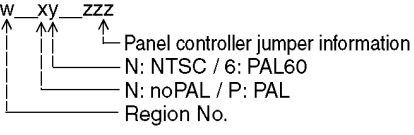
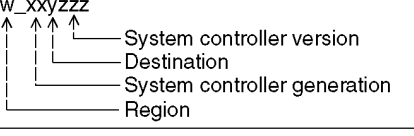
14.4. Last Error Code saved during NO PLAY

Error code	Error Content	System computer	Setting task	System computer internal error code
F0BF	6) Cannot playback because physical layer is not recognizable	PCND_NOPLAY PHYSICAL 0x50	DriveManager	0xDOBF
F0C0	8) DVD: Cannot playback because it is not DVD Video/Audio/VR	PCND_NOPLAY VIDEO 0x70	DiscManager	0xDOC0
F0C1	9) DVD: Prohibited by the restricted region code	PCND_NOPLAY RCD 0x80	DiscManager	0xDOC1
F0C2	A) DVD: PAL restricted playback	PCND_NOPLAY PAL 0x90	DiscManager	0xDOC2
F0C3	B) DVD: Parental lock setting prohibits the playback of the entire title	PCND_NOPLAY PTL 0xA0	DiscManager	0xDOC3
F0C4	C) VCD: Prohibited because it is in PHOTO CD format	PCND_NOPLAY PHOTO CD 0xB0	DiscManager	0xDOC4
F0C5	VCD/CD: Prohibited because it is CDROM without CD-DA	PCND_NOPLAY CDROM 0xC0	DiscManager	0xDOC5

14.5. Service mode table 2

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

Item	Player mode and button combination	Function	Display	Cancellation method
Jitter check	In STOP (no disc) mode, press STOP button on the player, and "5" button on the remote control unit.	Jitter check Jitter rate is measured and displayed. Measurement is repeatedly done in the cycle of one second. Read error counter starts from zero upon mode setting. When target block data failed to be read out, the counter advances by one increment. When the failure is caused by minor error, it may be corrected when retried to enable successful reading. In this case, the counter advances by one. When the error persists even after retry, the counter may jump by two or more.	J _xxx/yyy_zz (display1/display2) Focus drive value Read error counter Jitter rate Jitter check mode Jitter rate is shown in decimal notation to one place of decimal. Focus drive value is shown in hexadecimal notation.	Press STOP or OPEN button.
Error code check	In STOP (no disc) mode, press STOP button on the player, and "0" button on the remote control unit. * With pointing of cursor up and down on display	Error code check The latest error code stored in EEPROM is displayed.	Error code (play_err) is expressed in the following convention. Error code = 0 x DAXX is expressed: → DVDnn UXX Error code = 0 x DBXX is expressed: → DVDnn HXX Error code = 0 x DXXX is expressed: → DVDnn FXX Error code = 0 x 0000 is expressed: → DVDnn F--- * "xx" denotes the error code.	Cancelled automatically 5 seconds later.
Initial setting of laser drive current	In STOP (no disc) mode, press STOP button on the player, and PAUSE button on the remote control unit.	Initial setting of laser drive current Initial current value for each of DVD laser and CD laser is separately saved in EEPROM.	LDO_/034_028 (display1/display2) CD laser current measurement DVD laser current measurement Laser current measurement mode The value denotes the current in decimal notation. The above example shows the initial current is 34mA and 28mA for DVD laser and CD laser respectively when the laser is switched on.	Cancelled automatically 5 seconds later.
DVD laser drive current measurement	In STOP (no disc) mode, press STOP button on the player, and DISPLAY button on the remote control unit.	DVD laser drive current measurement DVD laser drive current is measured and the result is displayed together with the initial value stored in EEPROM. After the measurement, DVD laser emission is kept on. It is turned off when POWER key is switched off. (It is also turned off when POWER button on the player is switched off.)	LDD_/034_032 (display1/display2) Measured current Initial current stored in EEPROM DVD laser current measurement mode The value denotes the current in decimal notation. The above example shows the initial current is 34mA and the measured value is 32mA.	Cancelled automatically 5 seconds later.
ADSC internal RAM data check	In STOP (no disc) mode, press STOP button on the player, and "1" button on the remote control unit.	ADSC internal RAM data check ADSC internal RAM data is read out and displayed.	OFA_6901 RAM data for specified address Address The value is shown in hexadecimal notation. The above example shows the data in ADSC address OFAh is 6901h.	Press STOP or PLAY button.
CD laser drive current measurement	In STOP (no disc) mode, press STOP button on the player, and "3" button on the remote control unit.	CD laser drive current measurement CD laser drive current is measured and the result is displayed together with the initial value stored in EEPROM. After the measurement, CD laser emission is kept on. It is turned off when POWER key is switched off. (It is also turned off when POWER button on the player is switched off.)	LDC_/028_026 (display1/display2) Measured current Initial current stored in EEPROM CD laser current measurement mode The value denotes the current in decimal notation. The above example shows the initial current is 28mA and the measured value is 26mA.	Cancelled automatically 5 seconds later.

Item	Player mode and button combination	Function	Display	Cancellation method
Version display	In STOP (no disc) mode, press STOP button on the player, and "7" button on the remote control unit.	Version display	srrr/xyzzz (display1/display2) 	Cancelled automatically 5 seconds later.
Initialization	In STOP (no disc) mode, press STOP button on the player, and ≥ 10 button on the remote control unit.	Initialization User settings are cancelled and player is initialized to factory setting.	--INIT--	_____
Region display	In STOP (no disc) mode, press STOP button on the player, and "6" button on the remote control unit.	Region display	w_xy_zzz 	Cancelled automatically 5 seconds later.
Region and syscon version display	In STOP (no disc) mode, press STOP button on the player, and "8" button on the remote control unit.	Region and syscon display	w_xyzzz 	Cancelled automatically 5 seconds later.
Communication error display	In STOP (no disc) mode, press STOP button on the player, and "MENU" button on the remote control unit.	Displays frequency of communication errors between system control IC and mechanism control IC during DVD module.	ER_02_30	Cancelled automatically 5 seconds later.

Item	Player mode and button combination	Function	Display	Cancellation method
Timer 1 check	In STOP (no disc) mode, press STOP button on the player, and "▲" button on the remote control unit.	Timer 1 check Laser operation timer Operation time is measured separately for DVD laser and CD laser.	T1_1234/5678 (display1/display2) Shown to the left is DVD laser time, and to the right CD laser time. Time is shown in 4 digits of decimal notation in a unit of 10 hours. "0000" will follow "9999".	Cancelled automatically 5 seconds later.
Timer 1 reset	While displaying Timer 1 data, press STOP button on the "▼" button on the remote control unit.	Timer 1 reset Laser operation timer Operation time of both DVD laser and CD laser is reset all at once.	T1_0000/0000 (display1/display2)	Cancelled automatically 5 seconds later.
Timer 2 check	In STOP (no disc) mode, press STOP button on the player, and "▶" button on the remote control unit.	Timer 2 check Spindle motor operation timer	T2_12345 Time is shown in 5 digits of decimal notation in a unit of 10 hours. "00000" will follow "99999".	Cancelled automatically 5 seconds later.
Timer 2 reset	While displaying Timer 2 data, press STOP button on the player and "◀" button on the remote control unit.	Timer 2 reset Spindle motor operation timer	T2_00000	Cancelled automatically 5 seconds later.

14.6. Sales demonstration lock function

This function prevents discs from being lost when the unit is used for sales demonstrations by disabling the disc eject function. "LOCKED" is displayed on the unit, and ordinary operation is disabled.

14.6.1. Setting

• Prohibiting removal of disc

1. Select the DVD/CD function.
2. Press and hold down the **■** button on the player and the power button on the remote controller unit for at least three seconds. (The message, "___LOCKED_" appears when the function is activated.)

Note:

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

• Prohibiting operation of selector and disk

1. Select the DVD/CD function.
2. Press and hold down the **▶** button on the player and the power button on the remote controller unit for at least three seconds. (The message, "___LOCKED_" appears when the function is activated.)

Note:

The following buttons are invalid and the player displays "___LOCKED_" while the lock function mode is entered.

Player	▲ , ■ , , SELECTOR, ▶▶ , ◀◀ , VOLUME KNOB,
Remote controller unit	SLEEP, REPEAT, 0-9, ≥ 10 RETURN, TOP MENU, ■ , , ◀◀ , ▶▶ , ◀◀ , ▶▶ , POSITION MEMORY, TUNER/BAND, D.MIX, CH SELECT/ TEST, SET UP/ MUTING, DISPLAY, GROUP, TV, VCR/ AUX, QUICK REPLAY, SUBTITLE, FL DISPLAY, CH & VOLUME

14.6.2. Cancellation

The lock can be cancelled by the same procedure as used in setting. ("UNLOCK" is displayed on cancellation. Disconnecting the power cable from power outlet does not cancel the lock.)

14.7. Handling After Completing Repairs

Use the following procedure after completing repairs.

14.7.1. Method

Confirm that the power is turned on:

1. Press the "OPEN/CLOSE" button to close the tray.
2. Press the "POWER" button to turn off the power.
3. Disconnect the power plug from the outlet.

14.7.2. Precautions

Do not disconnect the power plug from the outlet with the tray still open, then close the tray manually.

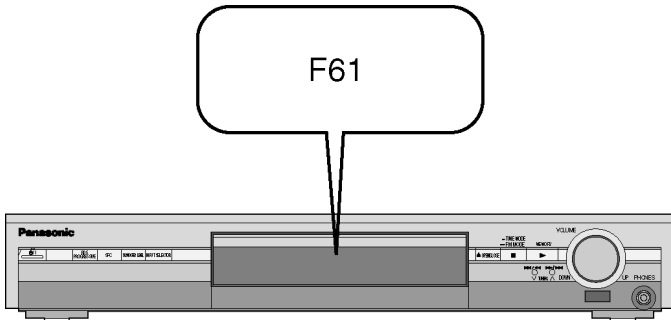
15 Self-Diagnosis Function

15.1. Automatic Displayed Error Codes

15.1.1. Automatic Display Function

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

F61: Automatically displayed on the LCD of the player.



15.1.2. 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.

15.1.3. Description of Error Code

15.1.3.1. F61

• State, Condition

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

• Cause, Troubleshooting

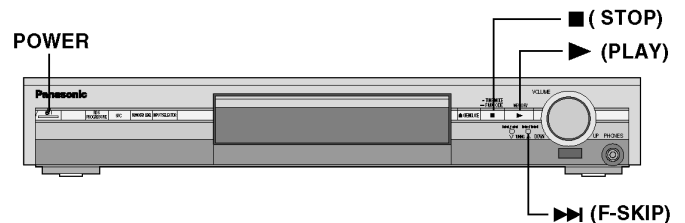
Power circuit system failure and/or direct current flow to speaker terminal

Identify the cause and replace with new parts.

15.2. Memorized Error Codes

15.2.1. 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 simultaneously 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.



15.2.2. 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”.

15.2.3. Deleting Details of Self Diagnosis

- After repair, press and hold down the **■** button for at least five seconds, “_ CLEAR _” 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.

Error Code	State, Condition	Cause, Troubleshooting
H15	The disc tray cannot be opened: it closes spontaneously.	Disc tray open/close detection switch (S901/S902) failure. (Check and replace)
H16	The disc tray cannot be closed: it opens spontaneously.	

16 Service Precautions

16.1. Recovery after the DVD player is repaired

- When FROM or module P.C.B. is replaced, carry out the recovery processing to optimize the drive.
Playback the recovery disk to process the recovery automatically.
- Recovery disc (Product number: RFKZD03R005)
- Performing recovery
 1. Load the recovery disc RFKZD03R005 on to the player and run it.
 2. Recovery is performed automatically. When it is finished, a message appears on the screen.
 3. Remove the recovery disc.
 4. Turn off the power.

Note:

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

When the recovery measures are taken, the customer setting will return to the factory setting as same as the procedure described in item of "Initialization" in 14.5. is carried out. Write down the contents of the setting before recovery processing, and reset the player.

16.2. Firmware version-up of the DVD player

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

Note:

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

17 Adjustment Procedure

17.1. Service Tools and Equipment

Application	Name	Number
Tilt adjustment	DVD test disc	DVDT-S15 or DVDT-S01
	TORX screw driver (T6)	Available on sales route. (T6) or RFKZ0185 [SPC]
Others	Grease	RFKXPG641
	Harnal	VFK1784 [SPC]
	Drysurf	RFKXGUD24
Confirmation	CD test disc	PVCD-K06 or any other commercially available disc
	VCD test disc	PVCD-K06 or any other commercially available disc
	Recovery disc	RFKZD03R005 [SPC]

17.2. Important points in adjustment

17.2.1. Important points in optical adjustment

- Before starting optical adjustment, be sure to take anti-static measures.
 - Optical pickup tilt adjustment is needed after replacement of the following components.
1. Optical pickup unit
 2. Spindle motor unit
 3. Optical pickup peripheral parts (such as rail)

Notes

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

17.2.2. Important points in electrical adjustment

- Follow the adjustment procedures described in this Manual.

17.3. Storing and Handling Test Discs

- Surface precision is vital for DVD test discs. Be sure to store and handle them carefully.
1. Do not place discs directly onto the workbench, etc., after use.
 2. Handle discs carefully in order to maintain their flatness. Place them into their case after use and store them vertically. Store discs in a cool place where they are not exposed to direct sunlight or air from air conditioners.
 3. Accurate adjustment will not be possible if the disc is warped when placed on a surface made of glass, etc. If this happens, use a new test disc to make optical adjustments.
 4. If adjustment is done using a warped disc, the adjustment will be incorrect and some discs will not be playable.

17.4. Optical adjustment

17.4.1. Optical pickup tilt adjustment

Measurement point	Adjustment point	Mode	Disc
	Tangential adjustment screw Tilt adjustment screw	T01 (inner periphery) play T30 (center periphery) play T43 (outer periphery) play	DVDT-S15 or DVDT-S01
Measuring equipment	Adjustment value		
None (Main unit display for servicing is used.)	Adjust to the minimum jitter value.		

17.4.1.1. Adjustment procedure

1. While pressing STOP button on the main unit, press "5" on the remote control unit.
2. Confirm that "J_ xxx/yyy_ zz" (display1/display2) is shown on the front display.

For your information:

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

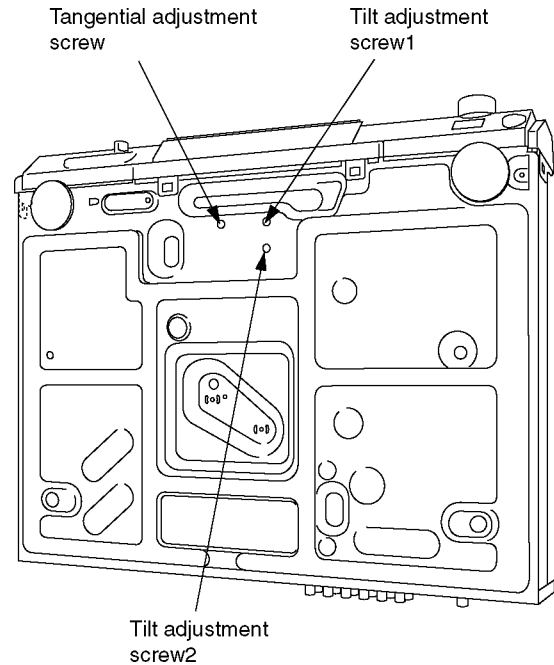
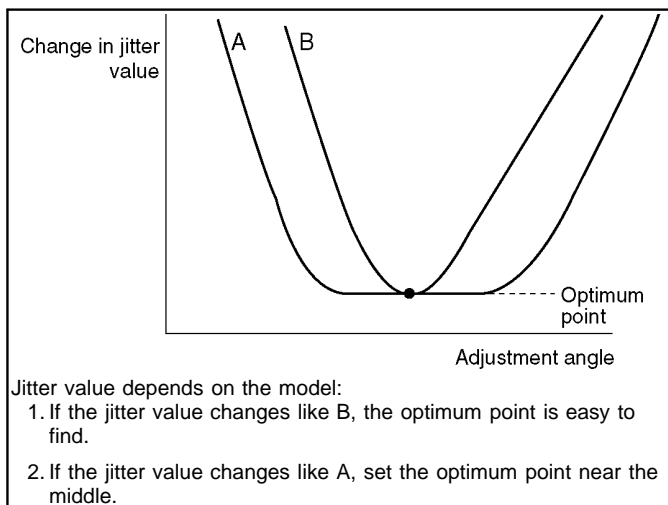
Note:

Jitter value appears on the front display.

3. Play test disc T30 (center periphery).
4. Adjust tangential adjustment screw so that the jitter value is minimized.
5. Play test disc T30 (center periphery).
6. Adjust tilt adjustment screw 1 so that the jitter value is minimized.
7. Play test disc T30 (center periphery).
8. Adjust tilt adjustment screw 2 so that the jitter value is minimized.
9. Repeat adjusting tilt adjustment screws 1 and 2 alternately until the jitter value is minimized.

17.4.1.2. Important points

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

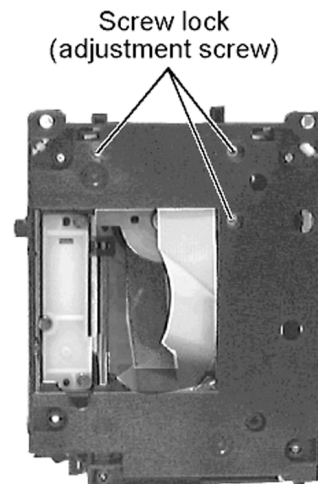


17.4.1.3. Check after adjustment

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

17.4.1.4. Procedure for screw lock

1. After adjustment, remove top cover, tray, clamper base and traverse unit in this sequence.
2. Lay the traverse unit upside down, and fix adjustment screw with screw lock.
3. After fixing, reassemble traverse unit, clamper base, tray and top cover.



18 Abbreviations

INITIAL/LOGO		ABBREVIATIONS
A	A0-UP	ADDRESS
	ACLK	AUDIO CLOCK
	AD0-UP	ADDRESS BUS
	ADATA	AUDIO PES PACKET DATA
	ALE	ADDRESS LATCH ENABLE
	AMUTE	AUDIO MUTE
	AREQ	AUDIO PES PACKET REQUEST
	ARF	AUDIO RF
	ASI	SERVO AMP INVERTED INPUT
	ASO	SERVO AMPOUTPUT
ASYN	AUDIO WORD DISTINCTION SYNC	
B	BCK	BIT CLOCK (PCM)
	BCKIN	BIT CLOCK INPUT
	BDO	BLACK DROP OUT
	BLKCK	SUB CODE BLOCK CLOCK
	BOTTOM	CAP. FOR BOTTOM HOLD
	BYP	BYPATH
BYTCK	BYTE CLOCK	
C	CAV	CONSTANT ANGULAR VELOCITY
	CBDO	CAP. BLACK DROP OUT
	CD	COMPACT DISC
	CDSCK	CD SERIAL DATA CLOCK
	CDSRDATA	CD SERIAL DATA
	CDRF	CD RF (EFM) SIGNAL
	CDV	COMPACT DISC-VIDEO
	CHNDATA	CHANNEL DATA
	CKSL	SYSTEM CLOCKSELECT
	CLV	CONSTANT LINEAR VELOCITY
	COFTR	CAP. OFF TRACK
	CPA	CPU ADDRESS
	CPCS	CPU CHIP SELECT
	CPDT	CPU DATA
	CPUADR	CPU ADDRESS LATCH
	CPUADT	CPU ADDRESS DATA BUS
	CPUIRQ	CPU INTERRUPT REQUEST
	CPRD	CPU READ ENABLE
	CPWR	CPU WRITE ENABLE
	CS	CHIPSELECT
	CSYNIN	COMPOSITE SYNC IN
	CSYNOUT	COMPOSITE SYNC OUT
	D	DACCK
DEEMP		DEEMPHASIS BIT ON/OFF
DEMPH		DEEMPHASIS SWITCHING
DIG0-UP		FL DIGIT OUTPUT
DIN		DATA INPUT
DMSRCK		DM SERIAL DATA READ CLOCK
DMUTE		DIGITAL MUTE CONTROL
DO		DROP OUT
DOUT0-UP		DATAOUTPUT
DRF		DATA SLICE RF (BIAS)
DRPOUT		DROP OUT SIGNAL
DREQ		DATA REQUEST
DRESP		DATA RESPONSE
DSC		DIGITAL SERVO CONTROLLER
DSLFL		DATA SLICE LOOP FILTER
DVD		DIGITAL VIDEO DISC

INITIAL/LOGO		ABBREVIATIONS
E	EC	ERROR TORQUE CONTROL
	ECR	ERROR TORQUE CONTROL REFERENCE
	ENCSEL	ENCODER SELECT
	ETMCLK	EXTERNAL M CLOCK (81MHz/40.5MHz)
	ETSCLK	EXTERNAL S CLOCK (54MHz)
F	FBAL	FOCUS BALANCE
	FCLK	FRAME CLOCK
	FE	FOCUS ERROR
	FFI	FOCUS ERROR AMP INVERTED INPUT
	FEO	FOCUS ERROR AMP OUTPUT
	FG	FREQUENCY GENERATOR
	FSC	FREQUENCY SUB CARRIER
FSC	FS (384 OVER SAMPLING) CLOCK	
G	GND	COMMON GROUNDING (EARTH)
H	HA0-UP	HOST ADDRESS
	HD0-UP	HOST DATA
	HINT	HOST INTERRUPT
	HRXW	HOST READ/WRITE
I	IECOUT	IEC958 FORMAT DATA OUTPUT
	IPFRAG	INTERPOLATION FLAG
	IREF	I (CURRENT) REFERENCE
	ISEL	INTERFACE MODE SELECT
L	LDON	LASER DIODE CONTROL
	LPC	LASER POWER CONTROL
	LRCK	L CH/R CH DISTINCTION CLOCK
M	MA0-UP	MEMORY ADDRESS
	MCK	MEMORY CLOCK
	MCKI	MEMORY CLOCK INPUT
	MCLK	MEMORY SERIAL COMMAND CLOCK
	MDATA	MEMORY SERIAL COMMAND DATA
	MDQ0-UP	MEMORY DATA INPUT/OUTPUT
	MDQM	MEMORY DATA I/O MASK
MLD	MEMORYSERIAL COMMAND LOAD	
MPEG	MOVING PICTURE EXPERTS GROUP	
O	ODC	OPTICAL DISC CONTROLLER
	OFTR	OFF TRACKING
	OSCI	OSCILLATOR INPUT
	OSCO	OSCILLATOR OUTPUT
	OSD	ON SCREEN DISPLAY
P	P1-UP	PORT
	PCD	CD TRACKING PHASE DIFFERENCE
	PCK	PLL CLOCK
	PDVD	DVD TRACKING PHASE DIFFERENCE
	PEAK	CAP. FOR PEAK HOLD
	PLLCLK	CHANNEL PLL CLOCK
	PLLOK	PLL LOCK
	PWMCTL	PWM OUTPUT CONTROL
	PWMDA	PULSE WAVE MOTOR DRIVEA
	PWMOA, B	PULSE WAVE MOTOR OUT A, B

INITIAL/LOGO	ABBREVIATIONS
R	RE RFENV RFO RS RSEL RST RSV
S	SBI0, 1 SBO0 SBT0, 1 SCK SCKR SCL SCLK SDA SEG0~UP SELCLK SEN SIN1, 2 SOUT1, 2 SPDI SPDO SPEN SPRCLK SPWCLK SQCK SQCX SRDATA SRMADR SRMDT0~7 SS STAT STCLK STD0~UP STENABLE STSEL STVALID SUBC SBCK SUBQ SYSCLK
T	TE TIBAL TID TIN TIP TIS TPSN TPSO TPSP TRCRS TRON TRSON
	READ ENABLE RF ENVELOPE RF PHASE DIFFERENCE OUTPUT (CD-ROM) REGISTER SELECT RF POLARITY SELECT RESET RESERVE SERIAL DATA INPUT SERIAL DATA OUTPUT SERIAL CLOCK SERIAL DATA CLOCK AUDIO SERIAL CLOCK RECEIVER SERIAL CLOCK SERIAL CLOCK SERIAL DATA FL SEGMENT OUTPUT SELECTCLOCK SERIAL PORT ENABLE SERIAL DATA IN SERIAL DATA OUT SERIAL PORT DATA INPUT SERIAL PORT DATA OUTPUT SERIAL PORT R/W ENABLE SERIAL PORT READ CLOCK SERIAL PORT WRITE CLOCK SUB CODE Q CLOCK SUBCODE Q DATA READ CLOCK SERIAL DATA SRAM ADDRESS BUS SRAM DATA BUS 0~7 START/STOP STATUS STREAM DATA CLOCK STREAM DATA STREAM DATA INPUT ENABLE STREAM DATA POLARITY SELECT STREAM DATAVALIDITY SUB CODE SERIAL SUB CODE CLOCK SUB CODE Q DATA SYSTEM CLOCK TRACKING ERROR BALANCE CONTROL BALANCE OUTPUT 1 BALANCE INPUT BALANCE INPUT BALANCE OUTPUT 2 OP AMP INPUT OP AMP OUTPUT OP AMP INVERTED INPUT TRACK CROSSIGNAL TRACKING ON TRAVERSE SERVO ON

INITIAL/LOGO	ABBREVIATIONS
V	VBLANK VCC VCDCONT VDD VFB VREF VSS
W	WAIT WDCK WEH WSR
X	X XALE XAREQ XCDROM XCS XCSYNC XDS XHSYNCO XHINT XI XINT XMW XO XRE XSRMCE XSRMOE XSRMWE XVCS XVDS XVSYNCO
	V BLANKING COLLECTOR POWER SUPPLY VOLTAGE VIDEO CD CONTROL (TRACKING BALANCE) DRAIN POWER SUPPLY VOLTAGE VIDEO FEED BACK VOLTAGE REFERENCE SOURCE POWER SUPPLYVOLTAGE BUS CYCLE WAIT WORD CLOCK WRITE ENABLE HIGH WORD SELECT RECEIVER X' TAL X ADDRESS LATCH ENABLE X AUDIO DATA REQUEST X CD ROM CHIP SELECT X CHIP SELECT X COMPOSITE SYNC X DATA STROBE X HORIZONTAL SYNC OUTPUT XH INTERRUPTREQUEST X' TAL OSCILLATOR INPUT X INTERRUPT X MEMORY WRITE ENABLE X' TAL OSCILLATOR OUTPUT X READ ENABLE X SRAM CHIP ENABLE X SRAM OUTPUT ENABLE X SRAM WRITE ENABLE X V-DEC CHIPSELECT X V-DEC CONTROL BUS STROBE X VERTICAL SYNC OUTPUT

19 Voltage Chart

19.1. DVD Module P.C.B.

Ref No.	IC8001																				
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
CD PLAY	3.0	3.0	0	3.0	3.2	3.4	3.0	3.1	0	3.1	3.1	3.3	2.9	3.0	2.8	0	3.0	3.0	3.4	0	
STANDBY	3.0	3.0	0	3.1	3.2	3.3	3.1	3.1	0	3.2	3.1	3.3	0	3.1	0	0	3.1	3.0	3.3	0	
Ref No.	IC8001																				
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
CD PLAY	0	3.3	2.7	1.7	2.2	1.2	2.5	3.4	0	2.3	0.9	2.3	2.4	3.4	0	2.5	2.0	2.2	1.7	2.4	
STANDBY	0	3.3	2.9	0	2.4	1.2	2.6	3.3	0	2.7	0.4	2.6	2.3	3.3	0	2.7	1.8	2.6	1.3	2.3	
Ref No.	IC8001																				
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	
CD PLAY	2.3	2.6	0.7	1.2	1.8	1.5	2.3	3.4	0	2.3	0.8	2.3	3.3	0	0	2.8	3.3	0.7	3.3	3.3	
STANDBY	2.4	2.6	0.4	1.2	2.1	0.8	2.6	3.3	0	2.3	0.9	2.6	3.3	0	3.3	2.8	3.3	0.6	3.3	3.3	
Ref No.	IC8001																				
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	
CD PLAY	0	3.3	0	0	0	0.5	0	3.0	2.8	3.1	0	1.6	3.1	0	1.7	1.6	1.7	0.1	3.3	0	
STANDBY	0	3.3	0	0	0	0.7	0	3.0	0	3.0	0	3.3	3.1	0	1.7	0	0	3.3	0	3.3	
Ref No.	IC8001																				
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	
CD PLAY	3.3	0	3.3	3.4	0	0	0	0	1.2	0	0	0	0	0	0	0	0	3.3	3.3	0	
STANDBY	3.3	0	0	3.3	0	0	0	0	0	0	0	0	0	0	0	0	0	3.3	0.8	0	
Ref No.	IC8001																				
MODE	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	
CD PLAY	0	2.1	1.8	0.1	0	1.7	3.3	2.1	2.0	1.8	1.8	0.7	0.7	1.7	1.7	1.7	1.7	3.3	1.9	1.7	
STANDBY	2.4	2.1	1.8	-0.1	0	1.7	3.3	2.1	2.1	1.8	1.8	0.7	0.7	1.7	1.6	1.6	1.6	3.3	1.9	1.7	
Ref No.	IC8001																				
MODE	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	
CD PLAY	1.4	0	0	0.1	0	1.0	2.2	1.7	2.6	2.6	2.7	2.6	2.6	2.5	2.4	2.4	2.4	2.4	1.7	1.7	
STANDBY	1.4	0	0	0	0	0	0	1.7	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.7	1.6	
Ref No.	IC8001																				
MODE	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	
CD PLAY	3.4	1.2	1.8	2.2	0	1.7	1.7	1.7	0.4	3.3	0.5	0.4	1.0	1.0	2.3	0.4	0	0.8	3.4	0	
STANDBY	3.3	1.2	1.9	2.1	0	1.7	1.7	1.7	0.4	3.3	0.5	0.4	1.0	1.0	2.2	0.4	0	0.8	3.3	0	
Ref No.	IC8001																				
MODE	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	
CD PLAY	3.4	0	1.6	0	1.5	1.5	3.4	0.2	1.7	1.6	1.3	1.2	0	0	0	1.3	1.7	3.4	0	3.3	
STANDBY	3.3	0	1.6	0	1.5	1.5	3.3	0	1.7	1.6	0	1.2	0	0	0	1.7	3.3	0	0	3.3	
Ref No.	IC8001																				
MODE	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	
CD PLAY	0	3.3	0	0	0	0	0	0.1	0.1	3.4	0.1	1.0	1.6	0.7	1.4	3.4	-	-	-	-	
STANDBY	0	3.3	0	0	0	0	0	0	0	3.3	0	0.6	0.3	0.3	3.3	3.3	0.3	0.6	0.6	0.6	
Ref No.	IC8001																				
MODE	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	
CD PLAY	0.1	3.4	-	-	0.1	-	-	-	3.4	-	-	-	-	0	2.8	2.8	3.4	2.0	0	1.2	1.5
STANDBY	0	3.3	0.6	0.6	0	0.6	0.6	3.3	3.3	0.6	0.6	0	0	2.9	3.3	3.3	2.2	0	1.2	1.6	
Ref No.	IC8001																				
MODE	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	
CD PLAY	0.2	0	1.6	0.2	3.4	1.7	0.1	1.6	0	0	3.4	1.6	0.1	2.4	0	1.2	0	0.1	3.4	3.2	
STANDBY	0	0	1.6	0	3.3	1.6	0	1.5	0	0	3.3	1.6	0.1	2.9	0	1.2	0	0	3.3	3.2	
Ref No.	IC8001																				
MODE	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256					
CD PLAY	1.6	0	1.6	3.2	3.3	3.4	0	3.3	2.9	0	2.8	2.8	0	3.0	3.4	2.9					
STANDBY	1.6	0	1.6	3.2	3.3	3.3	0	3.3	2.9	0	2.9	2.9	0	3.1	3.3	3.0					
Ref No.	IC8051																				
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
CD PLAY	3.4	3.0	3.4	3.0	3.1	0	3.0	3.1	3.4	3.0	2.9	0	2.8	3.4	2.8	3.3	3.3	3.2	3.2	2.4	
STANDBY	3.3	3.1	3.3	3.1	3.1	0	3.1	3.2	3.3	3.0	3.0	0	2.9	3.3	2.9	3.3	3.3	3.2	3.2	2.6	
Ref No.	IC8051																				
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
CD PLAY	1.6	0	0.1	0.2	0.2	2.0	3.3	0	1.5	1.6	1.7	1.6	0.1	0.1	0	0	3.4	1.6	2.8	0	
STANDBY	1.7	0	0.1	0.2	0.2	2.2	3.3	0	1.6	1.6	1.6	1.5	0.1	0	0	0	3.3	1.6	2.9	0	
Ref No.	IC8051																				
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54							
CD PLAY	0	3.0	3.3	3.0	3.0	0	3.0	3.1	3.3	2.9	2.8	0	2.9	0							
STANDBY	0	3.1	3.3	3.0	3.1	0	3.1	3.2	3.3	2.9	2.9	0	0	0							
Ref No.	IC8111																				
MODE	1	2	3	4	5	6	7	8													
CD PLAY	3.3	0	0	1.9	4.8	0	0	4.8													
STANDBY	3.3	0	0	1.9	4.9	0	0	4.9													
Ref No.	IC8251																				
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
CD PLAY	1.7	1.7	1.7	1.7	1.7	1.7	0	4.8	3.3	0	2.8	2.8	2.8	2.8	2.1	2.1	2.1	2.0	0	0	
STANDBY	1.7	1.7	1.7	1.7	1.7	1.7	0	4.9	0	0	2.8	2.8	2.8	2.8	2.1	2.1	2.1	2.1	0	0	
Ref No.	IC8251																				
MODE	21	22	23	24	25	26	27	28													
CD PLAY	4.8	9.1	1.7	1.7	1.7	1.7	3.3	3.1													
STANDBY	4.9	9.2	1.7	1.7	1.7	1.7	0	3.1													

Ref No.	IC8271																													
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20										
CD PLAY	0	7.6	0	7.6	0	0	7.6	0	2.8	2.8	2.8	2.8	2.8	2.8	0.9	0	0.7	0	2.4	0.1										
STANDBY	0	0.3	0	0.3	0	0	0.3	0	4.9	4.9	4.9	4.9	4.9	4.9	4.9	0	0	0	4.9	4.8										
Ref No.	IC8271																													
MODE	21	22	23	24	25	26	27	28																						
CD PLAY	1.7	1.6	3.3	1.6	4.8	0	9.2	9.2																						
STANDBY	1.7	1.7	0	3.3	4.9	0	9.3	9.3																						
Ref No.	IC8451																													
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20										
CD PLAY	3.3	3.3	0	0	0	0	0	0	2.4	2.5	2.4	2.5	2.4	2.5	2.5	2.5	0	5.0	0	2.5										
STANDBY	0	0	0	0	0	0	0	0	2.4	2.5	2.4	2.5	2.4	2.5	2.5	2.5	0	5.0	0	2.4										
Ref No.	IC8451																													
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40										
CD PLAY	0	5.0	0	5.0	0	5.0	0	5.0	0	3.3	1.3	3.3	0.3	3.3	2.8	3.3	3.1	1.7	1.7	1.7										
STANDBY	0	5.0	0	5.0	0	5.0	0	5.0	0	0	0	0	0.3	3.3	2.8	3.3	3.1	1.7	1.8	1.6										
Ref No.	IC8451																													
MODE	41	42	43	44	45	46	47	48																						
CD PLAY	1.7	0	3.3	0	1.3	0	0	3.3																						
STANDBY	1.7	0	3.3	0	0	0	0	0																						
Ref No.	IC8601																													
MODE	1	2	3																											
CD PLAY	0	3.1	3.4																											
STANDBY	0	3.1	3.3																											
Ref No.	IC8605																													
MODE	1	2	3	4	5																									
CD PLAY	0.6	1.2	0	0	1.1																									
STANDBY	0.6	1.2	0	0	1.1																									
Ref No.	IC8611																													
MODE	1	2	3	4	5	6	7	8																						
CD PLAY	0	0	0	0	3.3	3.3	0	3.3																						
STANDBY	0	0	0	0	3.3	3.3	0	3.3																						
Ref No.	IC8651																													
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20										
CD PLAY	1.4	2.3	2.6	2.5	2.2	2.4	2.2	2.2	1.7	0	3.4	3.1	0	3.4	0.6	0.9	0.7	2.3	2.5	2.4										
STANDBY	0.8	2.6	2.7	2.6	2.2	2.3	2.4	2.4	2.1	0	3.3	3.1	0	3.3	0.6	0.5	0.4	0	2.7	2.3										
Ref No.	IC8651																													
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40										
CD PLAY	1.7	0.8	2.0	1.7	2.7	2.2	0	2.3	0.9	0.7	1.0	0.8	1.5	0.9	1.4	1.3	3.4	1.3	0.9	1.5										
STANDBY	2.0	0.9	1.8	1.3	2.9	2.5	0	2.6	0.9	0.6	1.1	0.7	1.6	0.8	1.5	1.4	3.3	1.4	0.7	1.3										
Ref No.	IC8651																													
MODE	41	42	43	44	45	46	47	48																						
CD PLAY	1.4	1.4	1.8	1.6	1.9	0	3.4	2.2																						
STANDBY	1.3	1.6	1.8	1.6	1.9	0	3.3	2.7																						
Ref No.	IC8691																													
MODE	1	2	3	4	5																									
CD PLAY	3.0	3.0	0	4.3	4.8																									
STANDBY	3.0	3.0	0	4.4	4.9																									
Ref No.	IC8695																													
MODE	1	2	3	4	5																									
CD PLAY	2.8	2.8	0	4.0	4.8																									
STANDBY	2.9	2.9	0	4.2	4.9																									
Ref No.	Q8550						Q8551						Q8552						Q8560						Q8561					
MODE	E	C	B				E	C	B				E	C	B				E	C	B				E	C	B			
CD PLAY	4.9	4.9	4.2				0	4.9	0.1				4.9	0	4.9				0	0.1	0.7				0.4	3.7	1.0			
STANDBY	5.0	4.9	4.3				0	4.9	0				4.9	0	4.9				0	0.1	0.7				0	4.9	0			
Ref No.	Q8562						Q8605						Q8606						QR8420						QR8571					
MODE	E	C	B				E	C	B				E	C	B				E	C	B				E	C	B			
CD PLAY	4.3	2.2	3.7				0	0.1	0.6				0	3.1	0.1				0	2.8	0				3.4	3.3	0.1			
STANDBY	4.9	0	4.9				0	0.1	0.6				0	3.1	0.1				0	0	3.3				3.3	-0.3	3.3			

19.2. Main P.C.B.

Ref No.	IC2000																			
MODE	1	2	3																	
CD PLAY	6.1	0	5.0																	
STANDBY	6.1	0	5.0																	
Ref No.	IC2001																			
MODE	1	2	3	4	5															
CD PLAY	13.4	2.9	0	1.0	3.5															
STANDBY	13.5	2.6	0	1.0	3.5															
Ref No.	IC2002																			
MODE	1	2	3	4	5															
CD PLAY	13.5	6.0	0	1.0	3.5															
STANDBY	13.7	6.0	0	1.0	3.5															
Ref No.	IC2004																			
MODE	1	2	3																	
CD PLAY	6.1	0	5.0																	
STANDBY	6.1	0	5.0																	
Ref No.	IC2005																			
MODE	1	2	3	4	5															
CD PLAY	2.4	5.0	1.3	1.0	0															
STANDBY	2.4	5.0	1.3	1.0	0															
Ref No.	IC2006																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	4.8	2.2	4.8	0	0	1.7	2.4	0	1.9	0	0	1.7	0	2.2	4.8	2.2	0	2.2	2.2	0
STANDBY	4.8	2.2	4.8	0	0	1.7	2.4	0	1.9	0	0	1.7	0	2.2	4.8	2.2	0	2.2	2.2	0
Ref No.	IC2006																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34						
CD PLAY	2.2	2.2	0	1.8	1.6	0	1.8	1.7	0	1.7	1.6	0	2.2	4.8						
STANDBY	2.2	2.2	0	1.8	1.6	0	1.8	1.7	0	1.7	1.6	0	2.2	4.8						
Ref No.	IC2009																			
MODE	1	2	3	4	5	6														
CD PLAY	4.4	1.7	4.8	1.5	0	1.3														
STANDBY	4.3	1.7	4.8	1.5	0	1.3														
Ref No.	IC2010																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0	0	0	-6.7	0	0	0	6.8												
STANDBY	0	0	0	-6.7	0	0	0	6.9												
Ref No.	IC2011																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC2011																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	0	0	0	0	0	0	0	0	0	0	0	0	-6.0	2.4	0	0	0	0	0	0
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	-6.0	2.4	0	0	0	0	0	0
Ref No.	IC2011																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	0	-6.0	6.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDBY	0	-6.0	6.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC2011																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
CD PLAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC2012																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
CD PLAY	0	0	0	6.8	0	0	0	0	0	0	-6.7	0	0	0						
STANDBY	0	0	0	6.8	0	0	0	0	0	0	-6.7	0	0	0						
Ref No.	IC2013																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0	0	0	-6.7	0	0	0	6.9												
STANDBY	0	0	0	-6.7	0	0	0	6.9												
Ref No.	IC2015																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0	0	0	-6.7	0	0	0	6.8												
STANDBY	0	0	0	-6.7	0	0	0	6.9												
Ref No.	IC2018																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	4.5	4.7	4.7	0	0.2	0	4.7	0	0	0	0	4.6	2.3	0	2.2	4.7	4.7	4.6	2.6	4.7
STANDBY	4.5	4.7	4.7	0	0.2	0	4.7	0	0	4.7	0	4.6	2.3	0	2.2	4.7	4.7	4.7	2.6	4.7
Ref No.	IC2018																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	0.1	0.5	0.3	0	0	4.6	0	0.1	4.7	4.7	0.5	0	0	0	3.6	3.9	4.3	4.6	0	4.6
STANDBY	0.1	0.2	0.1	0	0	4.6	0	0	4.8	4.8	0.2	0	0	4.6	3.5	4.0	4.3	4.7	4.6	4.6

Ref No.	IC2018																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	0	0	0	0	0	0	0	0	0	0	0	4.6	0	4.7	0	0	0	0	0	0
STANDBY	0	4.6	0	4.7	0	0	0	0	0	0	0	4.6	0	4.7	0	0	0	0	0	0.2
Ref No.	IC2018																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
CD PLAY	0	4.7	0	0	0	4.6	0	4.6	0	4.4	0	4.7	0	0	0	4.7	0	0	0	0
STANDBY	0	4.7	0	0	0	4.6	0	4.6	0	4.4	0	4.7	0	0	0	4.8	0	0	0	0
Ref No.	IC2018																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
CD PLAY	0	0	0	0	0	4.6	4.7	2.1	3.3	0.7	2.8	0	0.4	0	0	0	4.7	4.8	4.7	0.2
STANDBY	-0.1	0	0	0	0	4.7	4.7	2.0	3.3	0.9	2.8	0	0.4	0	0	0	4.8	4.8	4.7	0.2
Ref No.	IC2019																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0	4.8	0	0	0	0	0	0												
STANDBY	0	4.8	0	0	0	0	0	0												
Ref No.	IC2020																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
CD PLAY	2.5	2.5	4.9	0	2.5	2.4	0	2.6	2.5	0	5.0	0	0	1.6	2.5	0				
STANDBY	2.5	2.5	4.9	0	2.5	2.4	0	2.6	2.5	0	5.0	0	0	1.6	2.5	0				
Ref No.	IC2021																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
CD PLAY	0	0	0	6.8	0	0	0	0	0	0	-6.7	0	0	0						
STANDBY	0	0	0	6.8	0	0	0	0	0	0	-6.7	0	0	0						
Ref No.	IC2022																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
CD PLAY	0	0	0	0	0	0	-6.7	0	4.7	4.7	4.7	0	0	0	0	5.1				
STANDBY	0	0	0	0	0	0	-6.7	0	4.6	4.6	4.6	0	0	0	0	5.1				

Ref No.	Q2000			Q2003			Q2004			Q2005			Q2006		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
CD PLAY	0	4.6	0	0	0	4.4	0	0	4.6	0	0	4.4	0.8	0	0.2
STANDBY	0	4.6	0	0	0	4.3	0	0	4.5	0	0	4.3	0.8	0	0.2
Ref No.	Q2007			Q2011			Q2012			Q2013			Q2014		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
CD PLAY	0.7	0	0.1	13.5	-3.0	13.5	13.5	9.2	12.9	8.5	12.9	9.1	13.6	12.9	13.5
STANDBY	0.7	0	0.1	13.8	-3.0	13.7	13.6	9.2	12.9	8.5	12.9	9.1	13.6	12.9	13.6
Ref No.	Q2015			Q2016			Q2017			Q2021			Q2022		
MODE	E	C	B	E	C	B	1	2	3	E	C	B	E	C	B
CD PLAY	-29.2	-34.8	-29.9	0	-7.3	-0.6	-6.7	-12.0	-7.3	9.2	5.6	5.0	7.4	13.2	6.9
STANDBY	-29.3	-35.0	-29.9	0	-7.3	-0.6	-6.7	-12.3	-7.3	9.2	5.6	5.0	6.9	13.4	7.4
Ref No.	Q2023			Q2025			Q2026			Q2027			Q2028		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
CD PLAY	10.1	13.1	9.5	0	4.7	-3.0	0	-4.5	0	1.8	1.7	0	0	0	2.8
STANDBY	10.1	13.2	9.5	0	4.7	-3.0	0	-4.5	0	1.7	1.7	0	0	5.0	0
Ref No.	Q2029			Q2030			Q2100								
MODE	E	C	B	E	C	B	1	2	3	4	5	6			
CD PLAY	0	0	3.5	0	0	4.6	0	-4.5	0	0	-4.5	0			
STANDBY	0	0	3.5	0	0	4.6	0	-4.5	0	0	-4.5	-0.5			
Ref No.	Q2101			Q2102						Q2103					
MODE	1	2	3	4	5	6	1	2	3	4	5	6	E	C	B
CD PLAY	0	0.6	0	0	0.6	0	0	-4.5	0	0	-4.5	0	1.7	1.7	0
STANDBY	0	0.6	0	0	0.6	0	0	-4.5	0	0	-4.5	0	1.7	1.7	0
Ref No.	Q2104			Q2105						Q2200					
MODE	1	2	3	4	5	6	E	C	B	1	2	3	4	5	6
CD PLAY	0	0.6	0	0	0.6	0	0	-4.5	0	0	-4.5	0	0	-4.5	0
STANDBY	0	0.6	0	0	0.6	0	1.7	1.7	0	0	0.6	0	0	0.6	0
Ref No.	Q2201			Q2300			Q2301			Q2500			Q2600		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
CD PLAY	0	-4.5	0	0	0	0.7	2.0	2.0	0	2.9	2.0	2.2	0	-4.5	0
STANDBY	0	-4.5	0	0	0	0.7	2.0	2.0	0	2.9	2.0	2.2	2.1	2.1	0
Ref No.	Q2601														
MODE	1	2	3	4	5	6									
CD PLAY	0	-4.5	0	0	0.6	0									
STANDBY	0	0.7	0	0	0.6	0									

19.3. Tray Loading P.C.B.

Ref No.	IC904																			
MODE	1	2	3	4	5	6	7	8	9											
CD PLAY	4.7	7.9	0.6	7.9	0	7.9	0.6	2.6	4.7											
STANDBY	4.7	7.9	0.6	7.9	0	7.9	0.6	2.6	4.7											

19.4. Scart P.C.B.

Ref No.	IC1001																				
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
CD PLAY	4.8	2.3	4.8	1.6	0	1.6	2.4	0	0	0	0	2.3	4.8	2.3	4.3	2.3	0	2.3	2.3	0	
STANDBY	4.8	2.3	4.8	1.6	0	1.6	2.4	0	0	0	0	2.3	4.8	2.3	4.3	2.3	0	2.3	2.3	0	
Ref No.	IC1001																				
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34							
CD PLAY	2.3	2.3	0	2.3	2.3	0	1.7	1.7	0	1.7	1.5	0	2.3	4.8							
STANDBY	2.3	2.3	0	2.3	2.3	0	1.7	1.7	0	1.7	1.5	0	2.3	4.8							
Ref No.	IC1002																				
MODE	1	2	3	4	5	6															
CD PLAY	0	4.2	4.8	4.8	0.6	0															
STANDBY	0	4.2	4.8	4.8	0.6	0															
Ref No.	IC1003																				
MODE	1	2	3	4	5	6															
CD PLAY	0	2.4	4.8	2.5	0	2.5															
STANDBY	0	2.4	4.8	2.5	0	2.5															
Ref No.	Q1001			Q1004			Q1005			Q1006			Q1007								
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B						
CD PLAY	0.8	0	0.1	0	0	4.5	4.8	9.9	5.4	0	0	4.8	4.7	4.8	0						
STANDBY	0.8	0	0.1	0	0	4.5	5.0	10.3	5.6	0	0	4.8	5.0	5.0	0						
Ref No.	Q1010																				
MODE	E	C	B																		
CD PLAY	9.8	10.6	9.8																		
STANDBY	10.3	11.1	10.3																		

19.5. FL P.C.B.

Ref No.	IC6000																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	0	-21.3	-28.3	-26.0	-28.4	-16.7	-23.6	-21.3	-23.7	-19.0	-28.3	0	0	-28.3	-28.3	-28.3	-19.0	-23.6	-28.4
STANDBY	0	0	-14.3	-21.3	-23.6	-21.3	-16.6	-9.7	-14.3	-14.3	-16.6	-12.0	0	0	-23.6	-23.6	-21.4	-14.3	-21.3	-23.6
Ref No.	IC6000																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	-26.4	-26.3	-26.3	-26.3	0	0	-26.3	-26.0	-26.1	-26.1	-26.1	-26.1	-26.1	-26.1	-26.1	-26.1	0	0	-28.3	0
STANDBY	-26.3	-26.3	-26.3	-26.3	0	0	-26.3	-26.3	-26.3	-26.3	-26.3	-26.3	-26.3	-26.3	-26.3	-26.3	0	0	-28.6	0
Ref No.	IC6000																			
MODE	41	42	43	44	45	46	47	48												
CD PLAY	4.7	2.3	3.0	0.6	0	1.8	1.7	4.1												
STANDBY	4.7	2.3	3.0	0.6	0	1.8	1.7	4.1												
Ref No.	IC6002																			
MODE	1	2	3	4	5															
CD PLAY	3.5	0	0	3.0	4.1															
STANDBY	3.5	0	0	3.0	4.1															

20 Schematic Diagram Notes

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

Notes:

S901:	Close detection switch.
S902:	Open detection switch.
S6000:	Tray open / close switch (▲ Open / Close).
S6002:	Play and memory switch (► Memory).
S6003:	F. skip, search and tuning switch (►► / ►►► / TUNING ▲).
S6004:	Stop and Tune mode / FM mode switch (■ TUNE MODE / FM MODE).
S6005:	R. skip, search and tuning switch (◀◀ / ◀◀◀ / TUNING ▼).
S6011:	Source select switch (INPUT SELECTOR).
S6012:	Standby / on switch (⏻/⏻).
S6013:	RDS / Progressive switch.
S6014:	SFC (Sound Field Control) switch.
S6015:	Subwoofer level switch.
VR6000:	Main volume control.

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

- Important safety notice:








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

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

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

- The supply part number is described alone in the replacement parts list.

- Voltage and signal line

	: +B Signal line
	: CD-DA signal line
	: Main signal line
	: DVD (Video) signal line
	: DVD (Audio) signal line
	: FM/AM signal line
	: -B Signal line

Caution!

IC and LSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

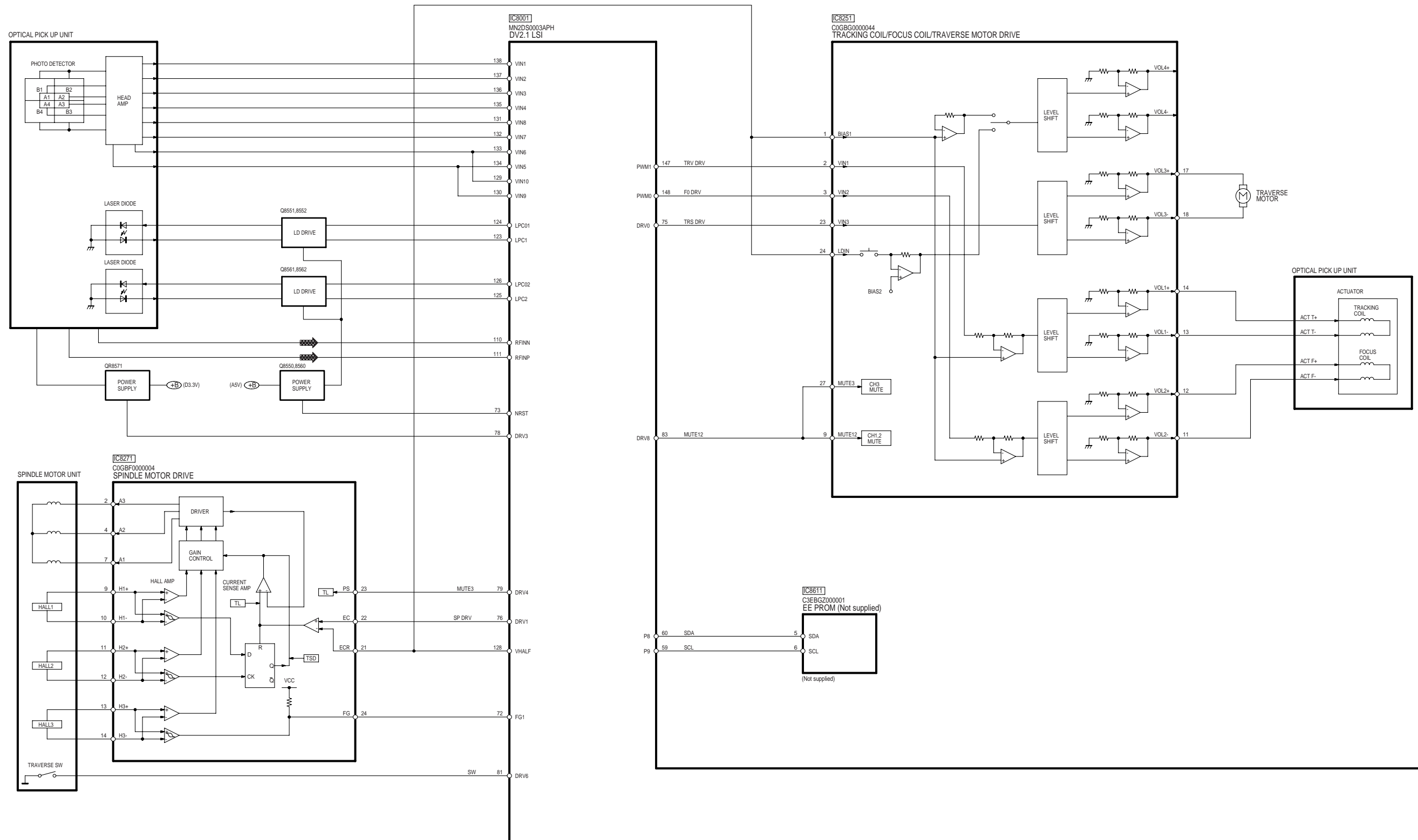
Cover the parts boxes made of plastics with aluminum foil.

Ground the soldering iron.

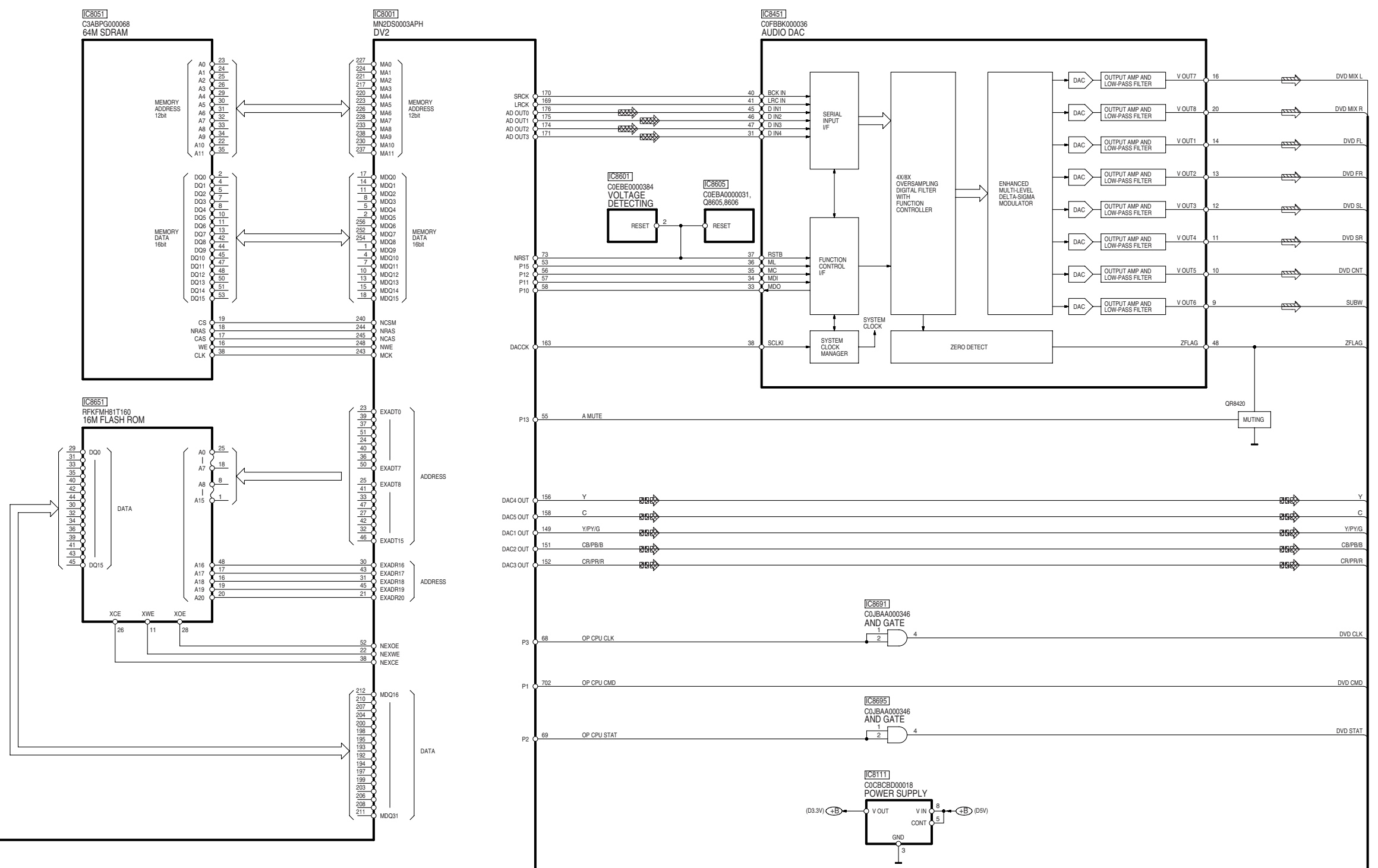
Put a conductive mat on the work table.

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

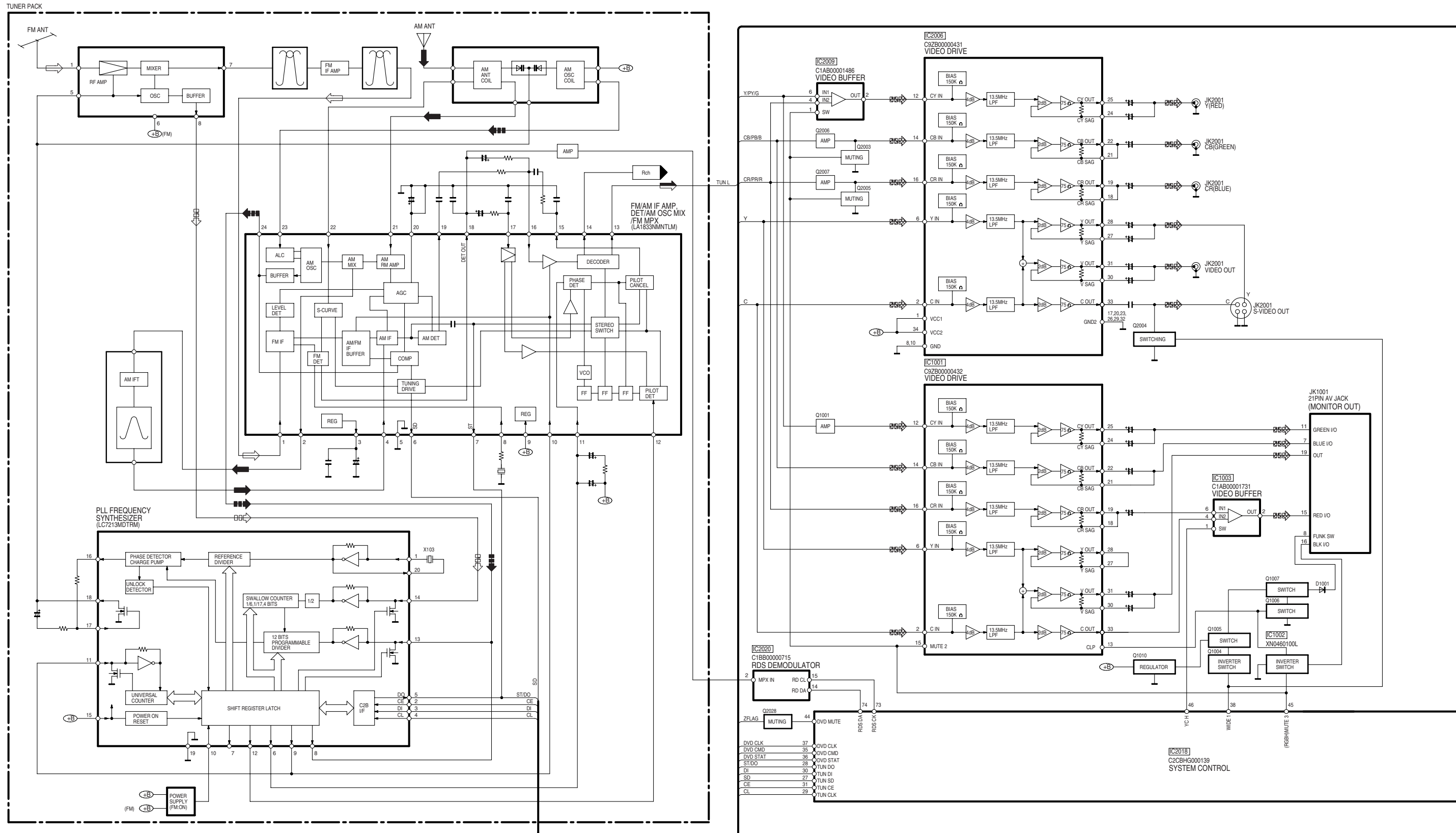
21 Block Diagram



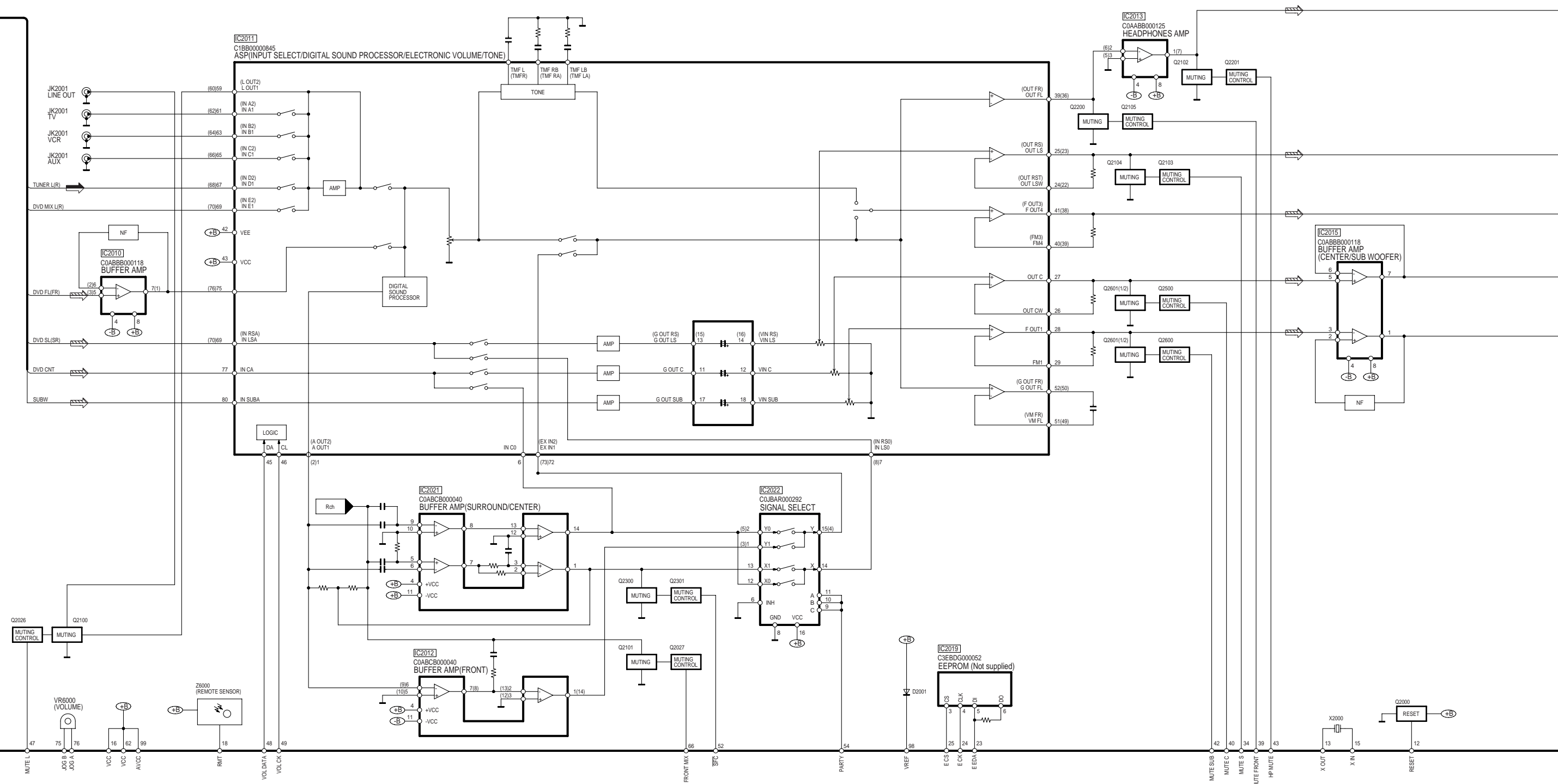
SA-HT870E,EB,EG BLOCK DIAGRAM



SA-HT870E,EB,EG BLOCK DIAGRAM



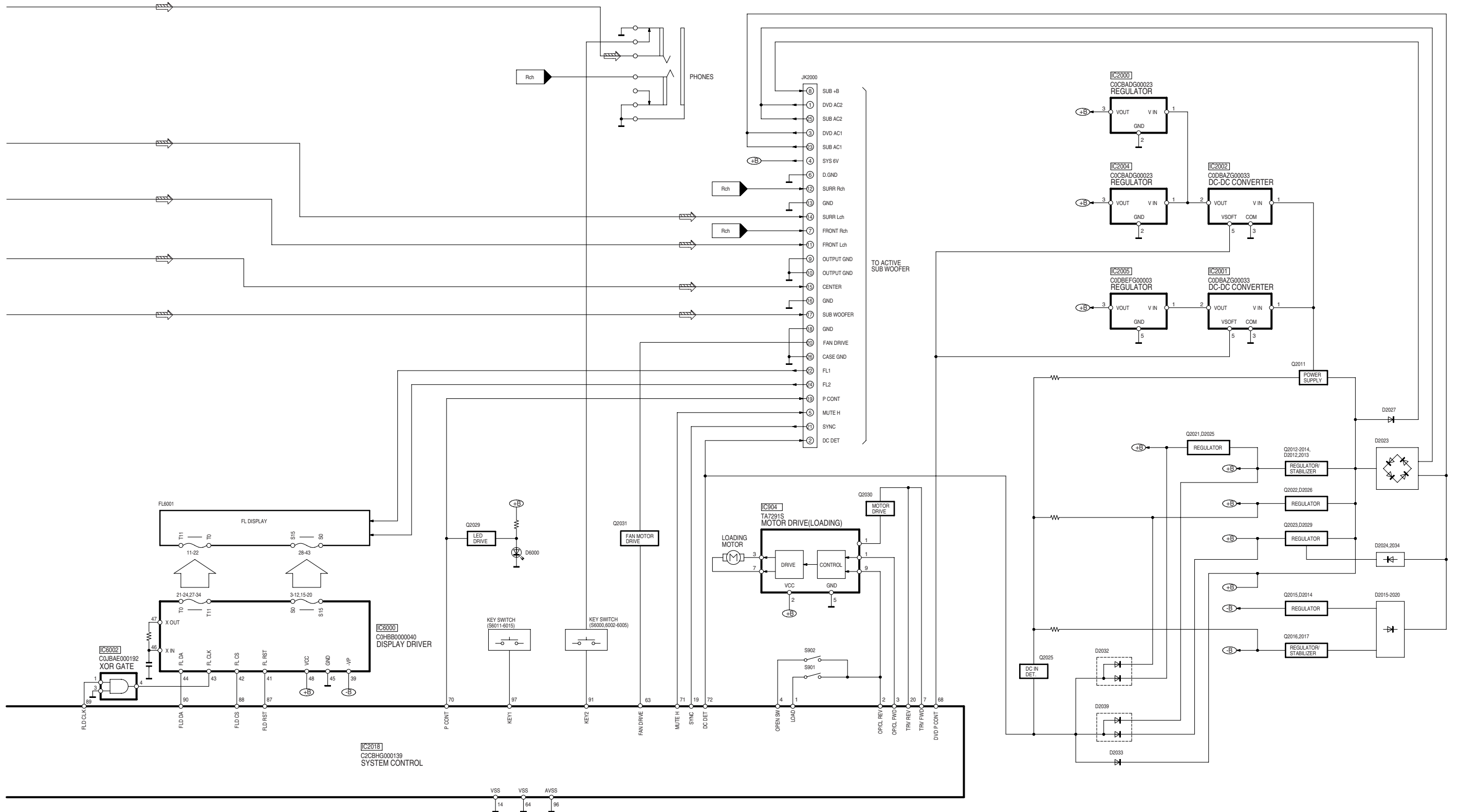
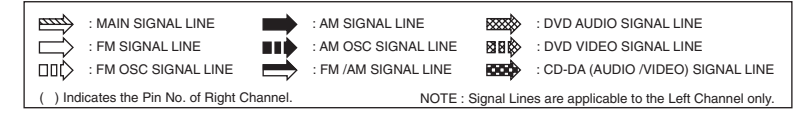
SA-HT870E,EB,EG BLOCK DIAGRAM



IC2018 C2CBHG000139 SYSTEM CONTROL

SA-HT870E,EB,EG BLOCK DIAGRAM

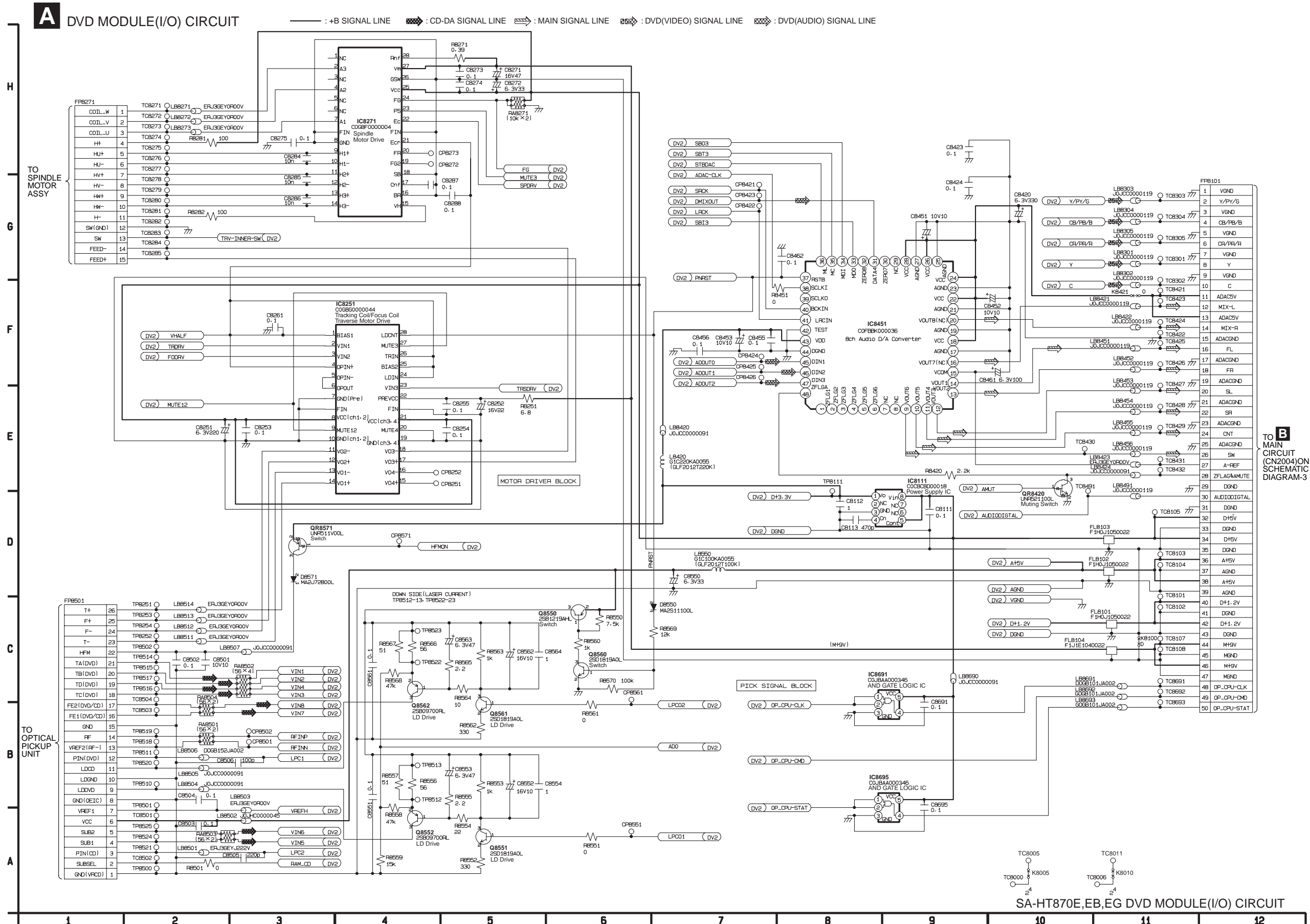
SIGNAL LINES



SA-HT870E,EB,EG BLOCK DIAGRAM

22 Schematic Diagram

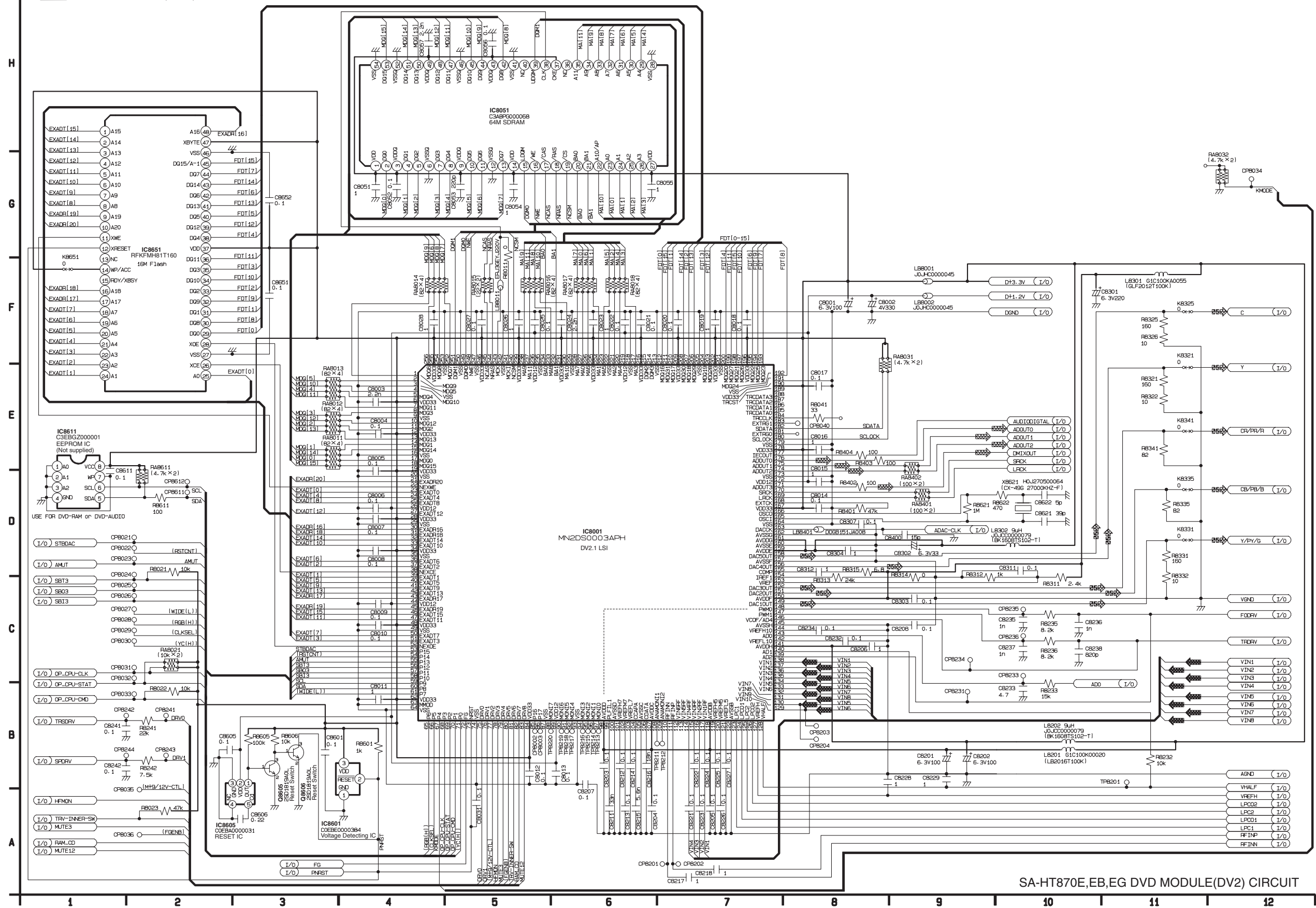
SCHEMATIC DIAGRAM-1



SCHEMATIC DIAGRAM-2

A DVD MODULE(DV2) CIRCUIT

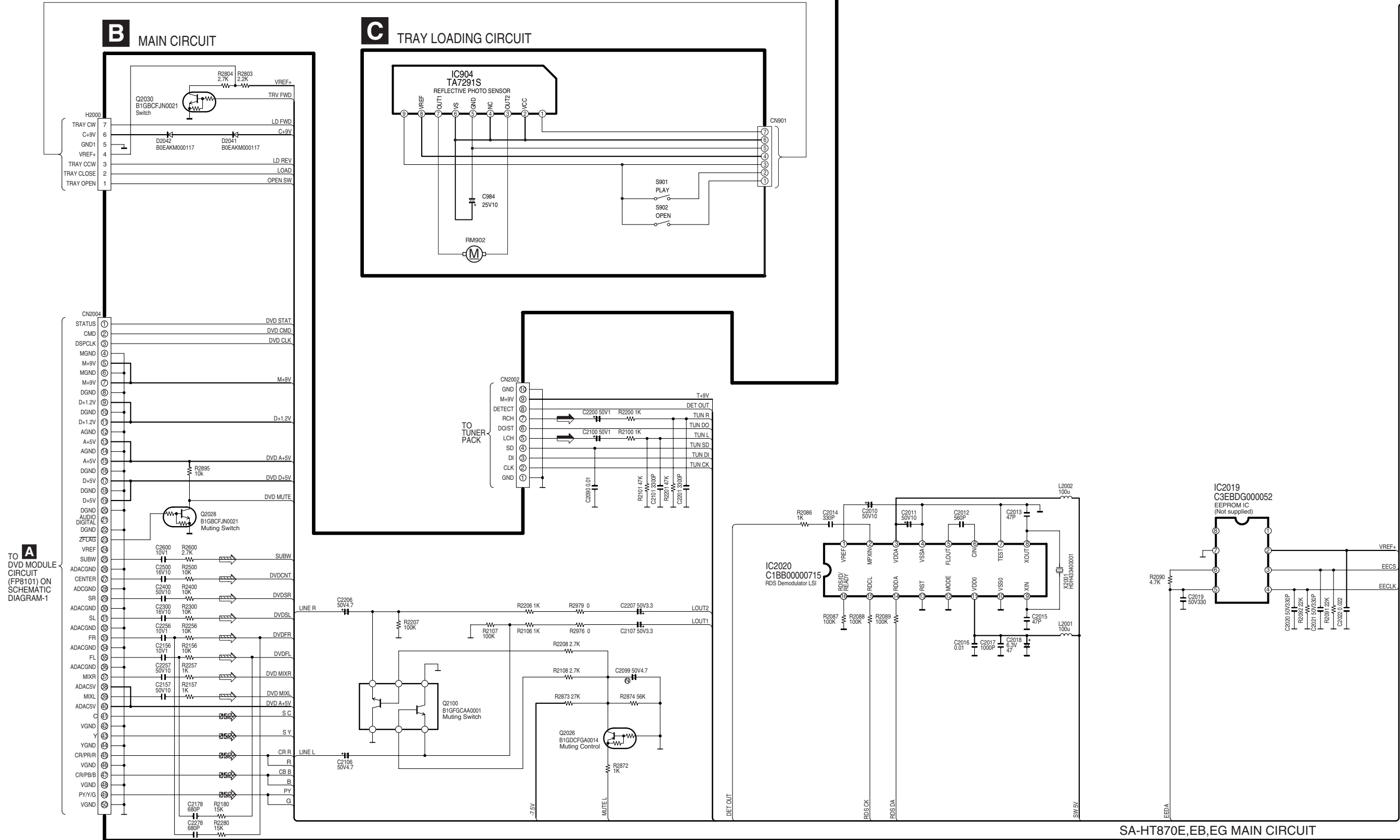
— : +B SIGNAL LINE ◀▶ : CD-DA SIGNAL LINE ◻◻ : DVD(VIDEO) SIGNAL LINE ◻◻◻ : DVD(AUDIO) SIGNAL LINE



SA-HT870E,EB,EG DVD MODULE(DV2) CIRCUIT

SCHEMATIC DIAGRAM-3

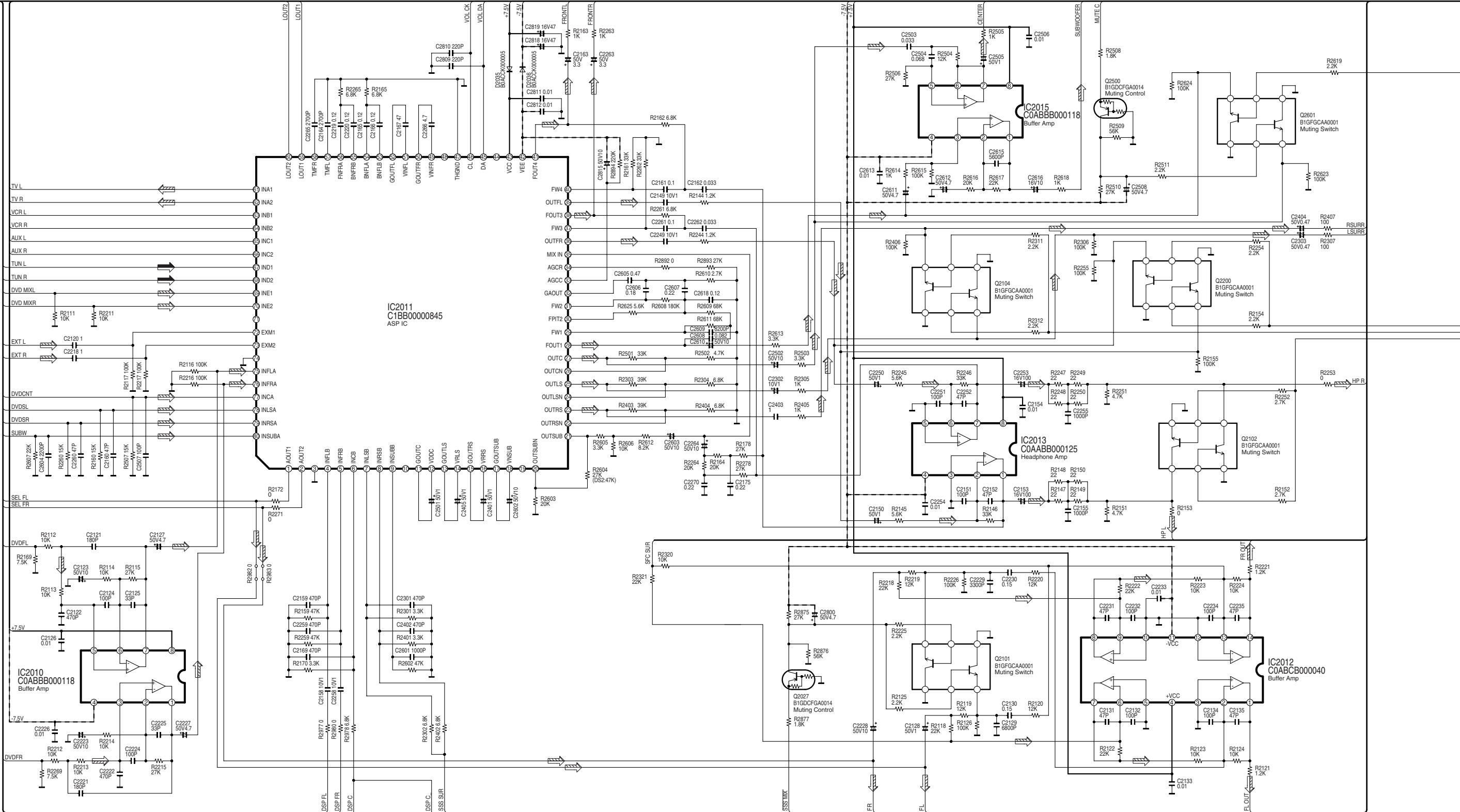
— : +B SIGNAL LINE ⇨ : MAIN SIGNAL LINE ⇨ : DVD(VIDEO) SIGNAL LINE ⇨ : FM/AM SIGNAL LINE



SCHEMATIC DIAGRAM-4

B MAIN CIRCUIT

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

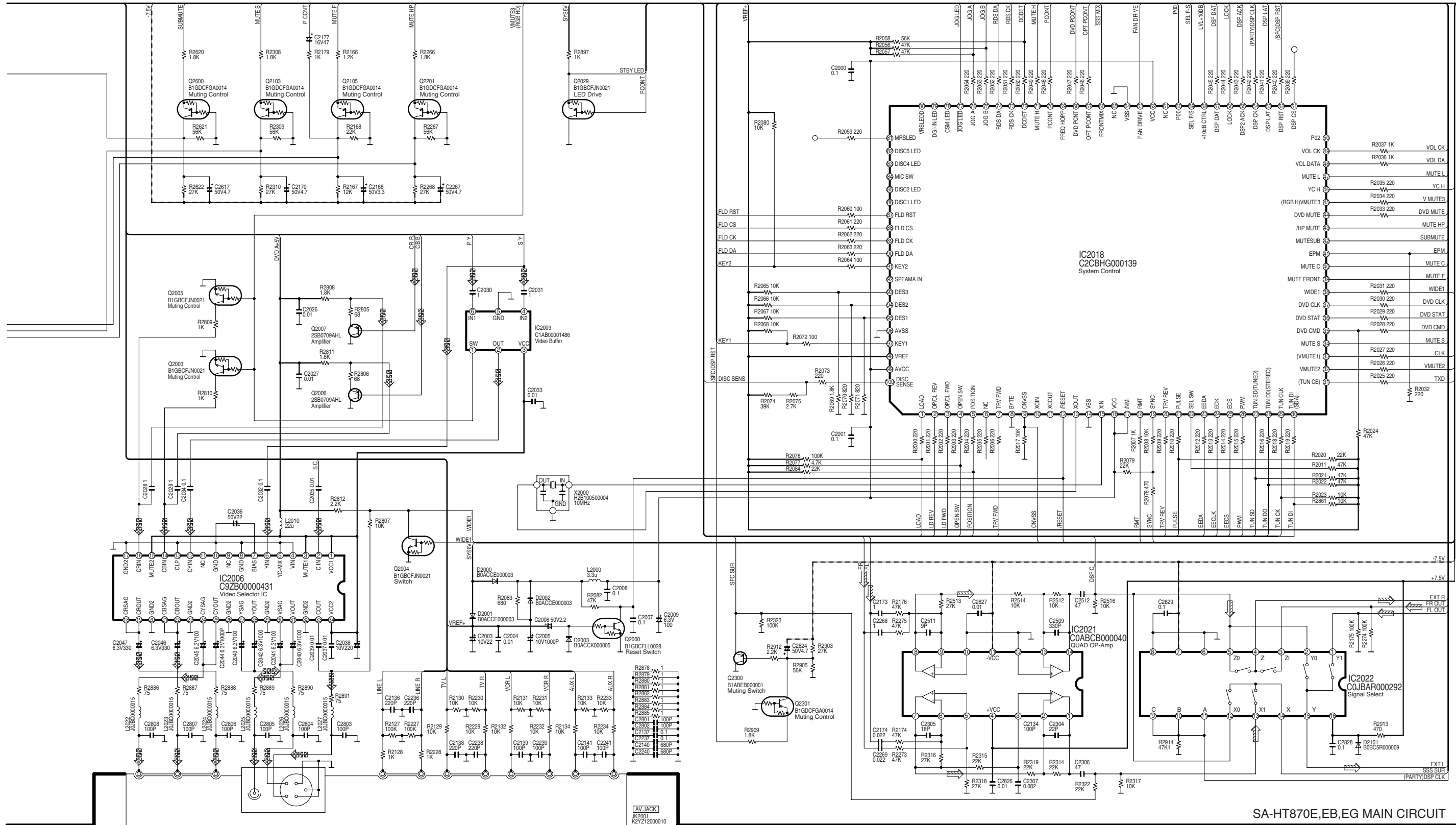


SA-HT870E,EB,EG MAIN CIRCUIT

SCHEMATIC DIAGRAM-5

B MAIN CIRCUIT

— : +B SIGNAL LINE - - - - : -B SIGNAL LINE : DVD(VIDEO) SIGNAL LINE : MAIN SIGNAL LINE

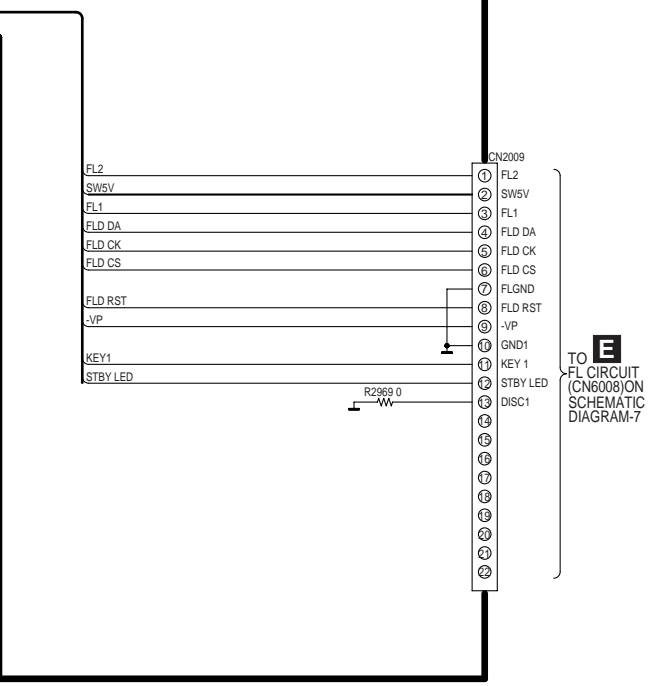
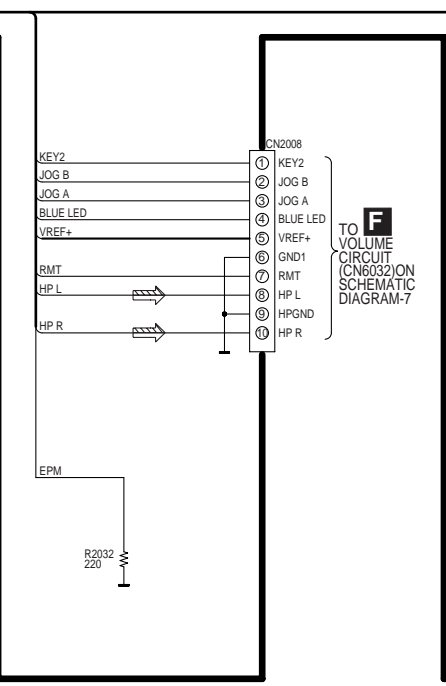
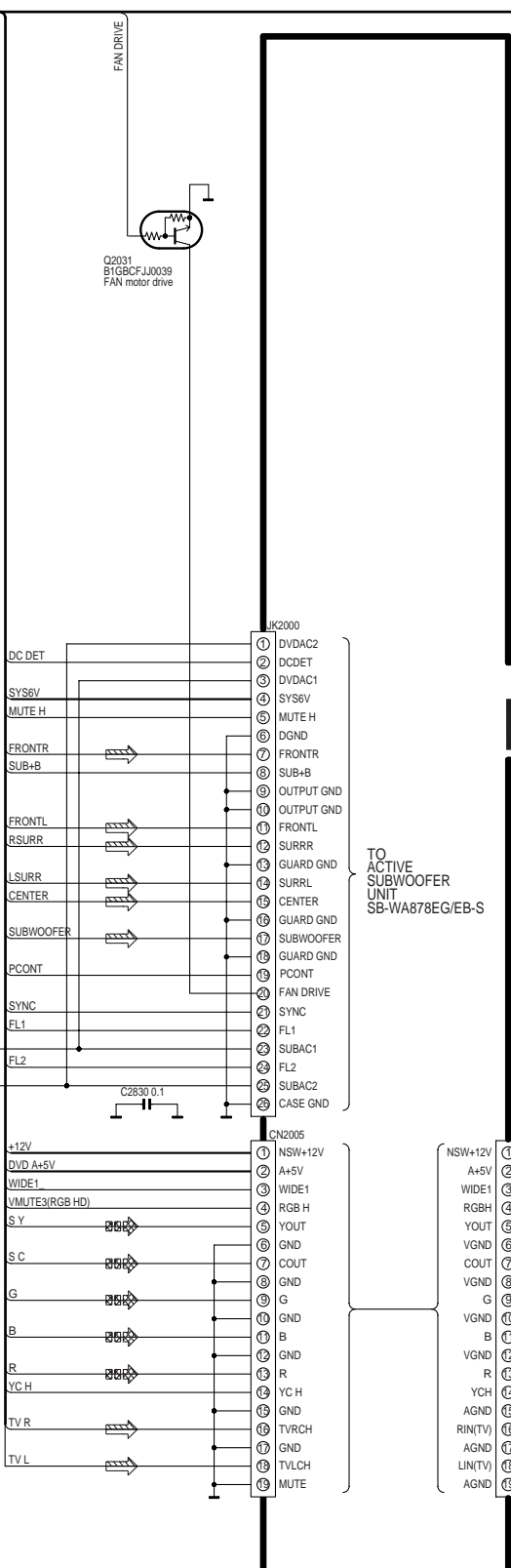
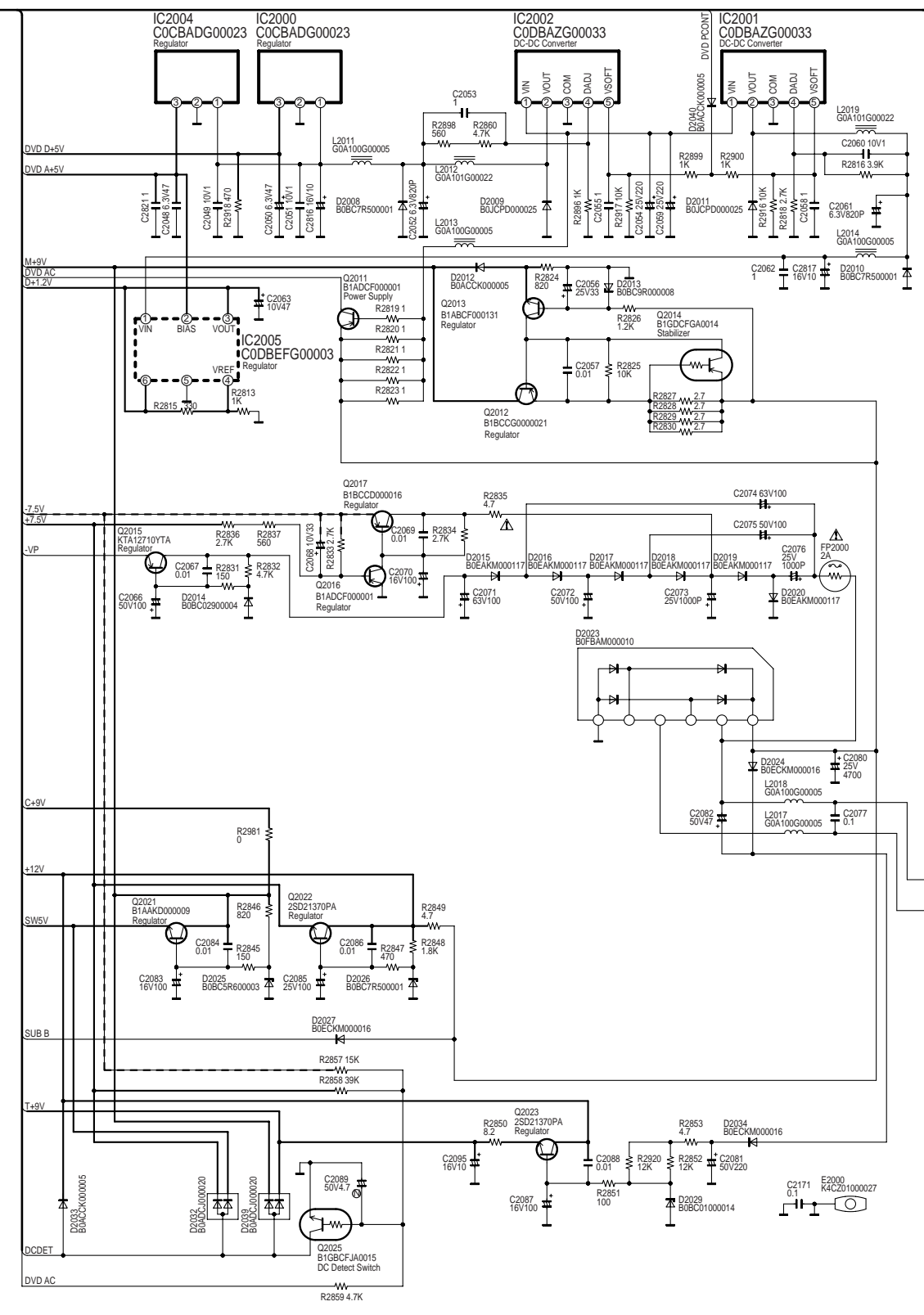


SA-HT870E,EB,EG MAIN CIRCUIT

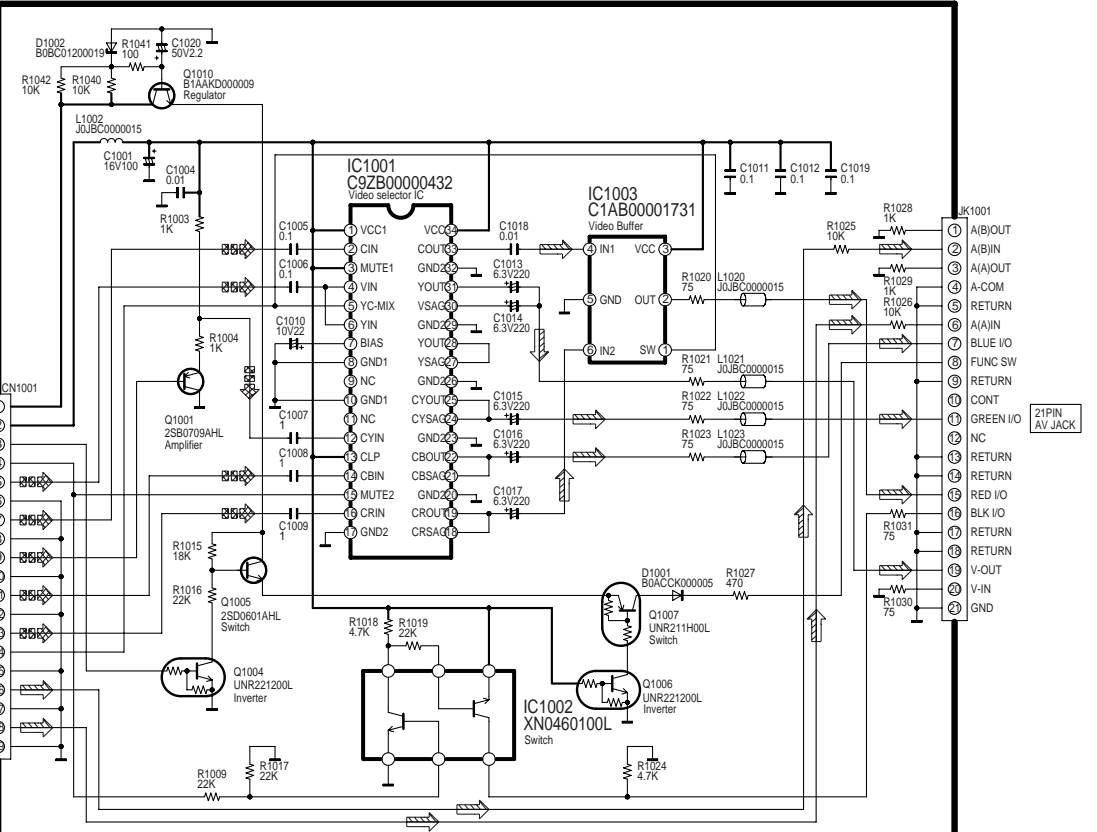
SCHEMATIC DIAGRAM-6

B MAIN CIRCUIT

— : +B SIGNAL LINE - - - : -B SIGNAL LINE ⇨ : MAIN SIGNAL LINE ⇨⇨ : DVD(VIDEO) SIGNAL LINE



D SCART CIRCUIT

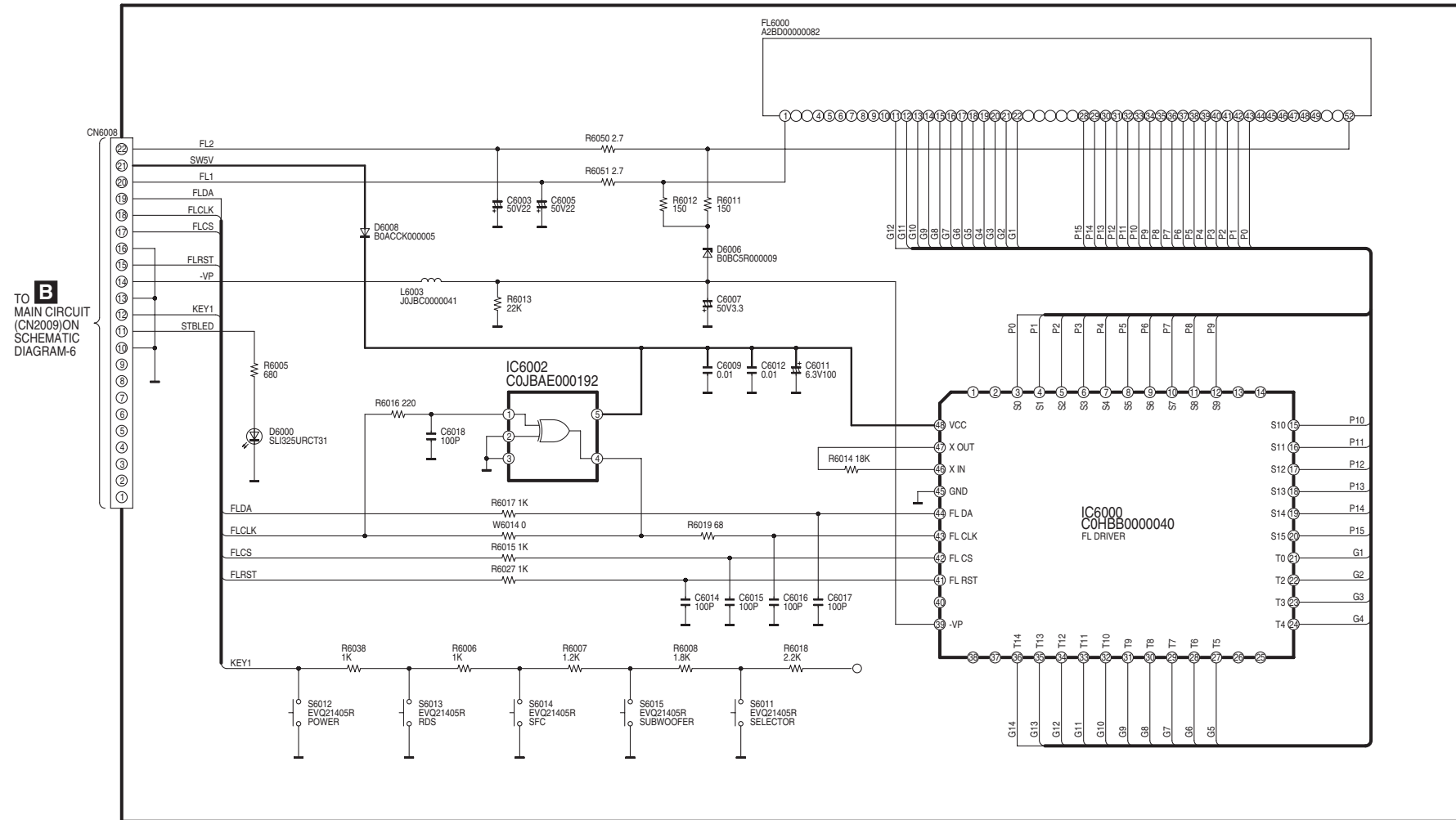


SA-HT870E,EB,EG MAIN CIRCUIT

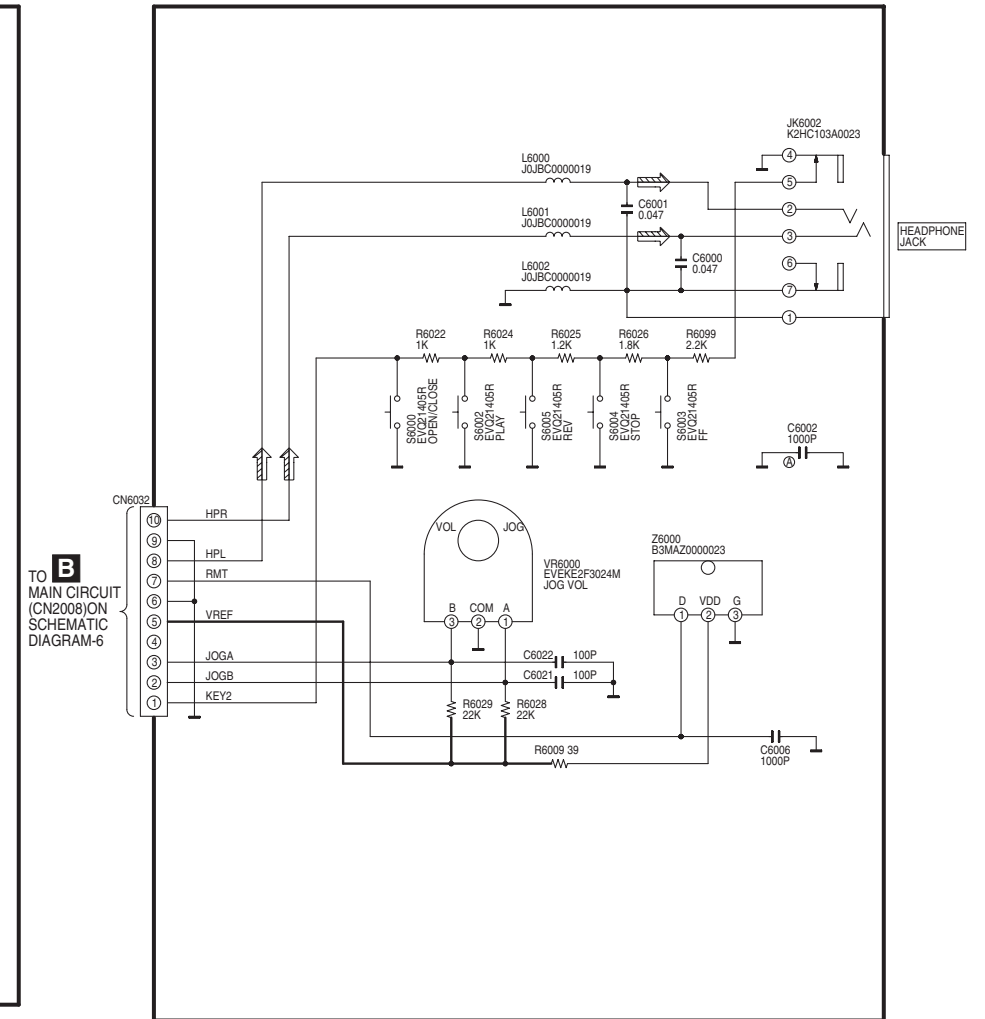
SCHEMATIC DIAGRAM-7

E FL CIRCUIT

— : +B SIGNAL LINE ⇨ : MAIN SIGNAL LINE



F VOLUME CIRCUIT

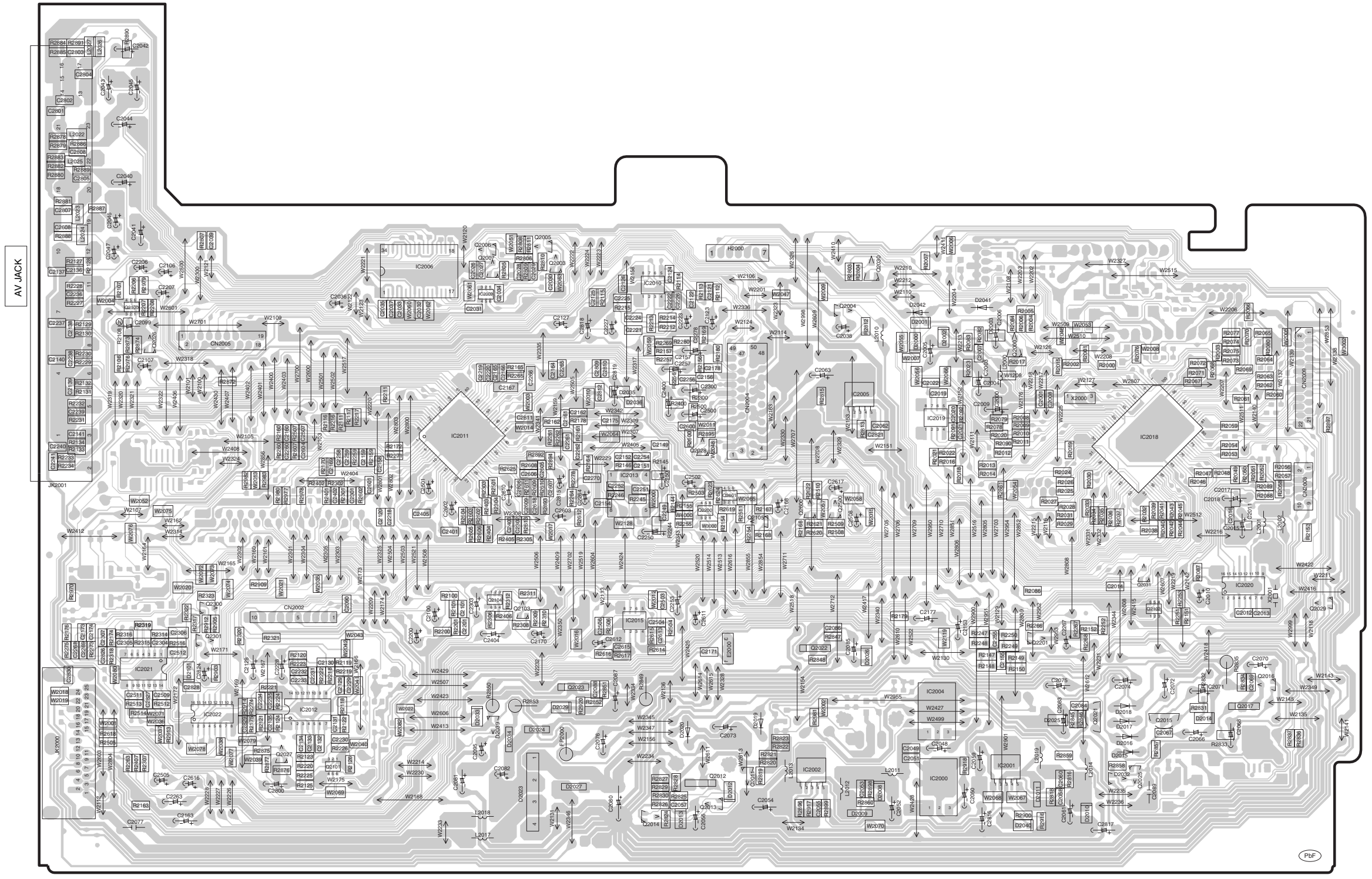


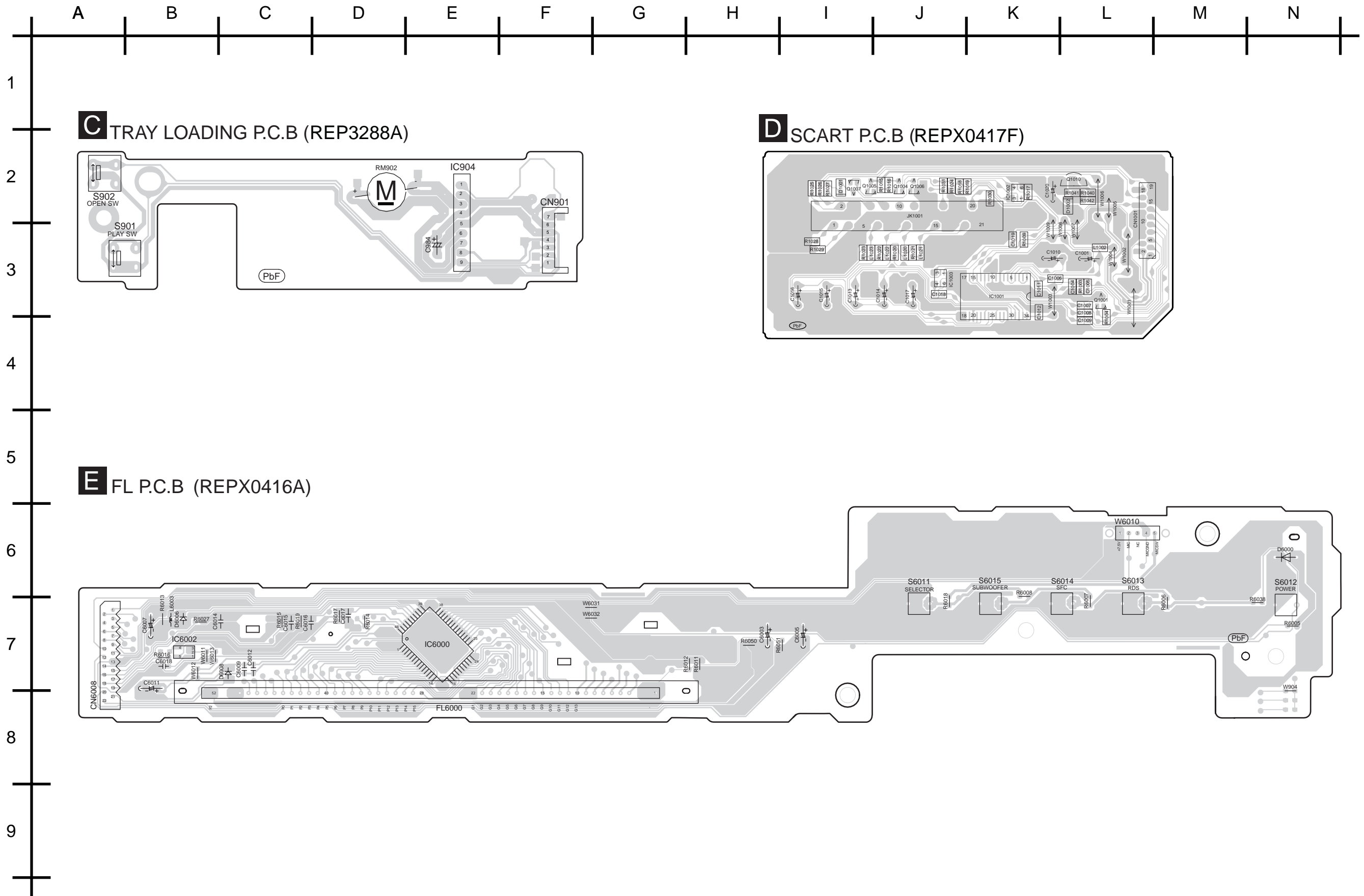
SA-HT870E,EB,EG FL/VOLUME CIRCUIT

A B C D E F G H I J K L M N

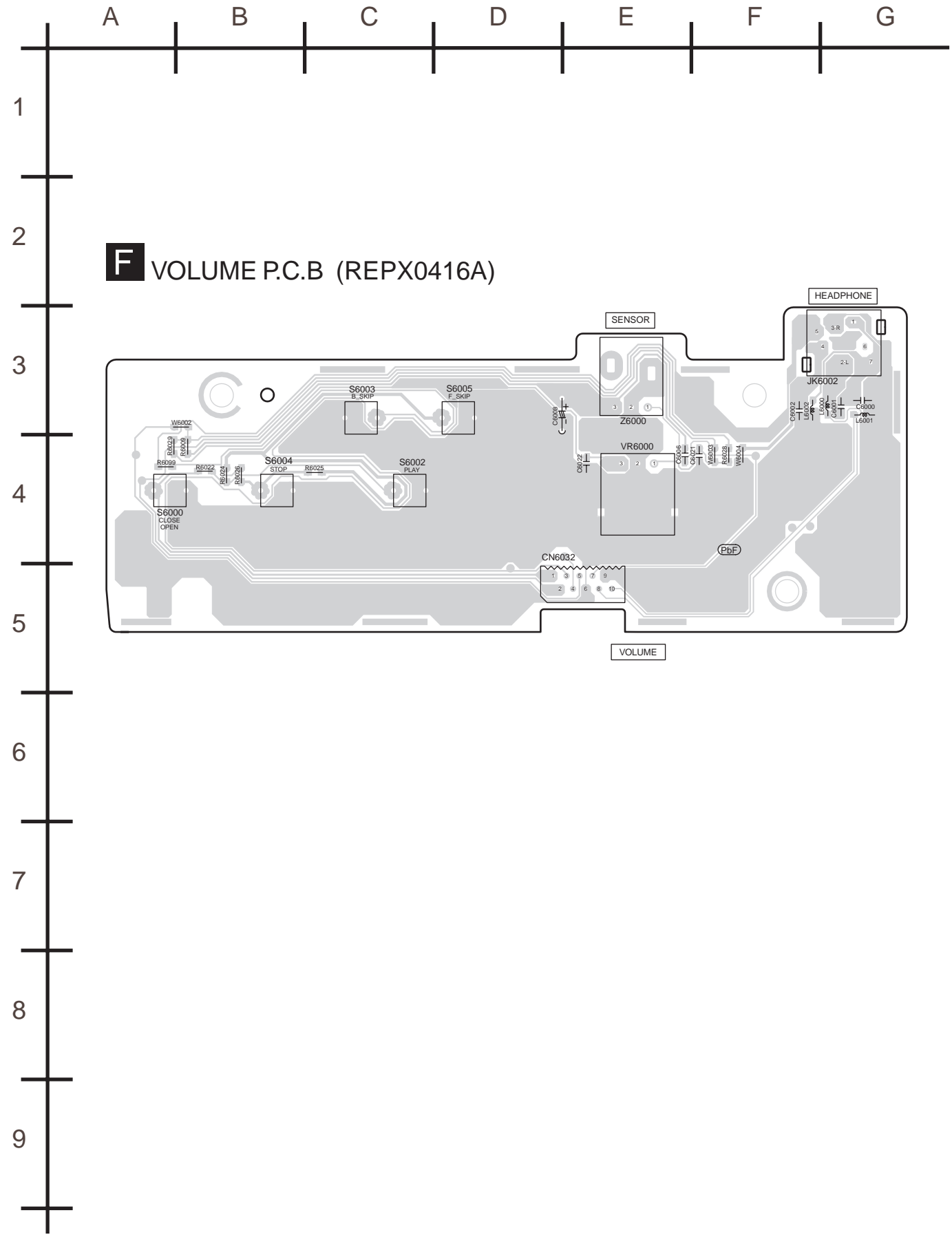
1
2
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4
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9

B MAIN P.C.B. (REPX0417F)



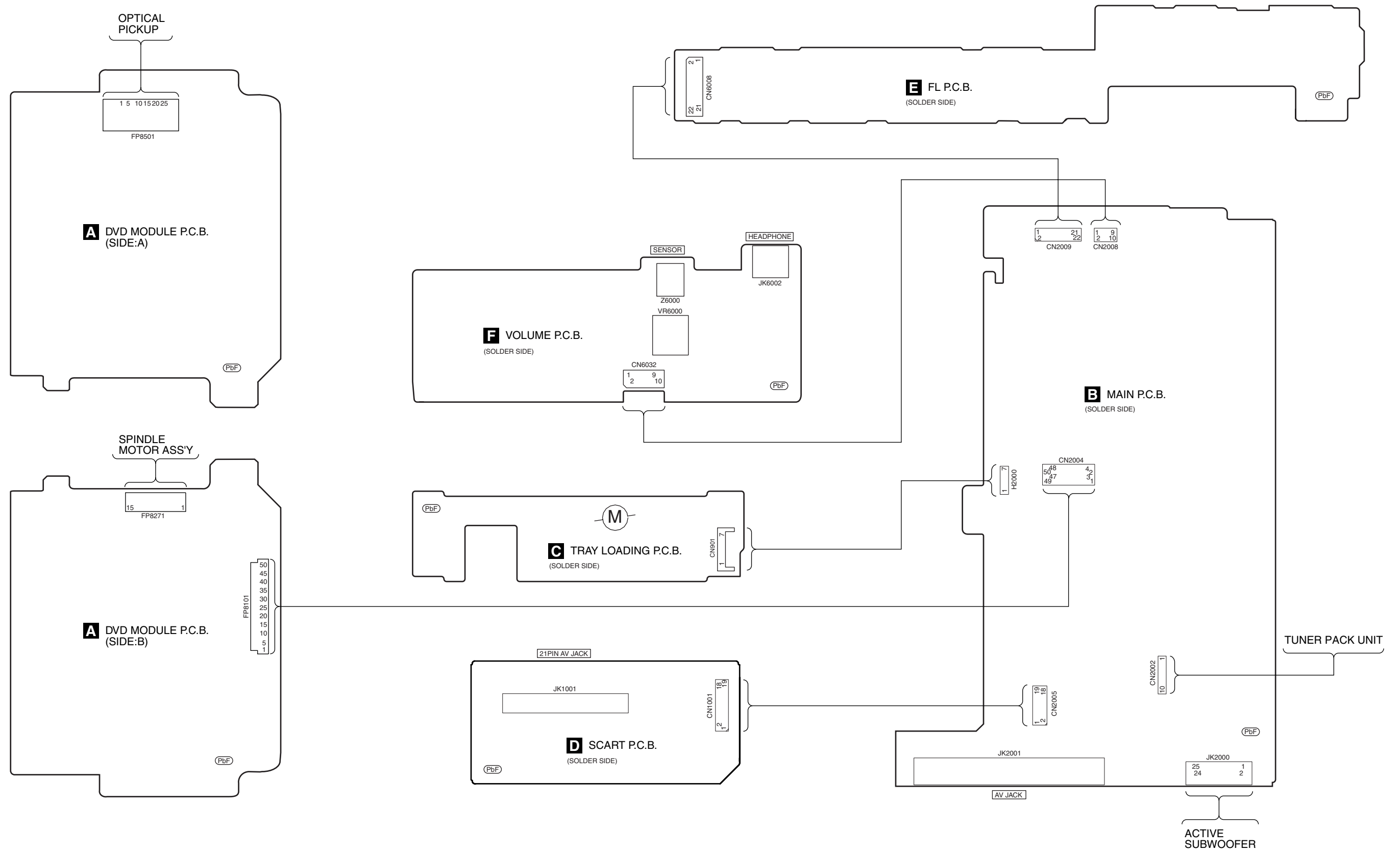


SA-HT870E,EB,EG TRAY LOADING/SCART/FL P.C.B.

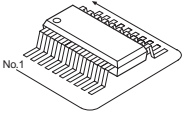
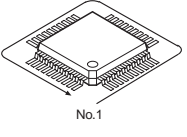
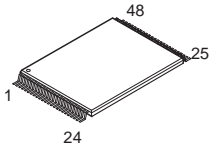
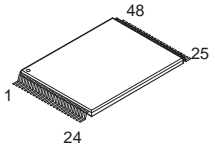
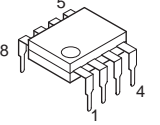
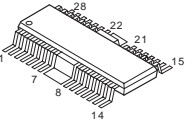
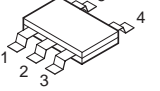
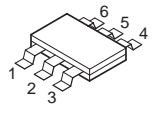
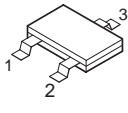
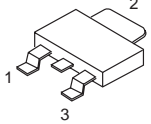
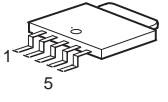
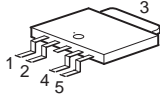
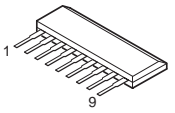
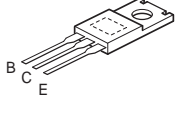
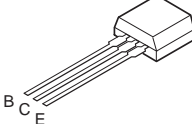
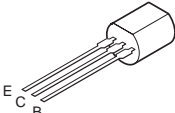
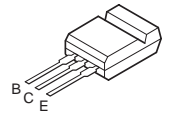
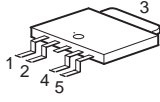
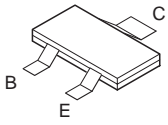
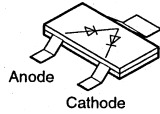
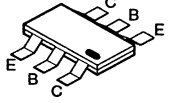
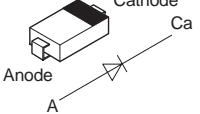
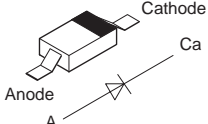
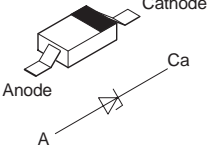
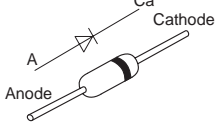
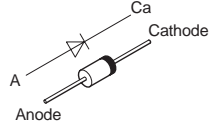
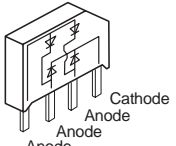
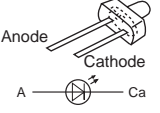


F VOLUME P.C.B (REPX0416A)

24 Wiring Connection Diagram



25 Illustration of IC's, Transistors and Diodes

<p>C0ABBB000118 (8p) C0ABCB000040 (14p) C0CBCBD00018 (8p)</p> 	<p>C0JBAR000292 (16p) C1AB00001486 (6p) C1AB00001731 (6p) C1BB00000715 (16p) C3ABPG000068 (54p) C9ZB00000431 (34p) C9ZB00000432 (34p)</p> 	<p>C0FBBK000036 (48p) C0HBB0000040 (48p) C1BB00000845 (80p) C2CBHG000138 (100p) MN2DS0003APH (256p)</p> 	<p>RFKFMH81T160</p> 	<p>C0AABB000125</p> 	
<p>C0GBF0000004 C0GBG0000044</p> 	<p>C0JBCA000066 C0EBA0000031 C0JBAE000192</p> 	<p>XN0460100L</p> 	<p>C0EBE0000384</p> 	<p>C0CBADG00023</p> 	<p>C0DBAZG00033</p> 
<p>C0DBEFG00003</p> 	<p>TA7291S</p> 	<p>B1BCCG000021</p> 	<p>B1BCCD000016</p> 	<p>B1AAKD000009 KTA12710YTA</p> 	<p>2SD21370PA</p> 
<p>2SB0709AHL 2SB09700RL 2SB1219AHL 2SD0601AHL 2SD1819A0L B1ADCF000001 B1GBCFJA0015</p> 	<p>B1GBCFJN0021 B1GBCFLL0028 UNR211H00L UNR221200L UNR511V00L UNR521100L</p> 	<p>B0ADCJ000020</p> 	<p>B1GFGCAA0001</p> 	<p>B0ECKM000016 B0JCPD000025</p> 	
<p>B0BC02900004 B0BC5R000009 MA2S11100L</p> 	<p>B0ACCE000003 B0ACCK000005 B0BC01000014 B0BC9R000008 B0BC7R500001 B0BC5R600003 B0BC01200019</p> 	<p>MA2J72800L</p> 	<p>B0EAKM000117</p> 	<p>B0FBAM000010</p> 	
<p>B3AAA0000583</p> 					

26 Terminal Function of ICs

26.1. IC2018 (C2CBHG000139): System control

Pin No.	Terminal Name	I/O	Function
1	TRY CLOSE	I	Loading mechanism close switch signal input (L: Sw ON)
2	TRAY CCW	O	Tray control 1 terminal
3	TRAY CW	O	Tray control 2 terminal
4	TRY OPEN	I	Loading mechanism open switch signal input (L: Sw ON)
5	NC	-	Not used, open
6	NC	-	Not used, open
7	BRAKE H	O	Tray control 3 terminal
8	BYTE	-	GND
9	CNVSS	-	GND
10	XCIN	-	Sub clock input (32.768kHz)
11	XCOU	-	Sub clock output (32.768kHz)
12	RESET	I	System reset signal input
13	XOUT	-	Main clock output (8.0MHz)
14	VSS	-	GND
15	XIN	-	Main clock input (10.0MHz)
16	VCC	-	Power supply terminal (5V)
17	/NMI	I	Connect to VCC, external interrupt I/P
18	RMT	I	Remocon signal input
19	SYNC	I	AC failure detection input
20	NC	-	Not used, open
21	NC	-	Not used, open
22	SEL	I	Model select signal input
23	EDA	I/O	EEPROM data in/output
24	ECK	O	EEPROM clock output
25	ECS	O	EEPROM latch output
26	NC	-	Not used, open
27	TUN SD	I	Tuner signal detect input
28	TUN DO	I	DO output of Tuner IC
29	TUN CLK	O	Clock output for Tuner
30	TUN DI	O	Data output for Tuner
31	TU CE	O	Tuner latch signal output
32	V MUTE2	O	Mute signal 2 for video output
33	V MUTE1	O	Mute signal 1 for video output
34	MUTE S	O	Mute signal output for surround Audio signal
35	DVD CMD	O	CDM signal output for the DVD module
36	DVD STAT	I	Status signal input from the DVD module
37	DVD CLK	I	CLK signal input from the DVD module
38	WIDE1	O	Wide function control signal output
39	MUT FRNT	O	Mute signal output for Front speaker
40	MUTE C	O	Mute signal output for Center speaker
41	EPM	I	Signal output for Flash
42	MUTE SUB	O	Mute signal output for Subwoofer
43	HP MUTE	O	Mute signal output for Headphone
44	DVD MUTE	I	Signal output from DVD module control mute circuit
45	V MUTE3	O	Mute signal 1 for video output
46	VMIX Ctrl	O	Control signal output for the video signal mix
47	MUTE L	O	Mute signal output for the line output
48	VOL DA	O	Data output for 6ch VOL ASP
49	VOL CK	O	Clock output for 6ch VOL ASP
50	NC	-	Not used, open
51	MIC MUTE	O	MIC muting signal output
52	SFC	O	SFC switch signal output (during Disco/Live/Hall)
53	SSS MIX	O	SSS signal output (during Surround function)
54	PARTY	O	PARTY signal output (during Party mode)

Pin No.	Terminal Name	I/O	Function
55	NC	-	Not used, open
56	NC	-	Not used, open
57	NC	-	Not used, open
58	NC	-	Not used, open
59	NC	-	Not used, open
60	NC	-	Not used, open
61	NC	-	Not used, open
62	VCC	-	Power supply terminal (5V)
63	FAN CTRL	O	Fan control signal output
64	VSS	-	GND
65	NC	-	Not used, open
66	NC	-	Not used, open
67	NC	-	Not used, open
68	DVD PCNT	O	Control signal output for the power for the DVD module
69	NC	-	Not used, open
70	PCONT	O	Control signal output for the power control relay
71	MUTE H	O	Mute signal output for HIC
72	DC DET	I	DC detection signal input
73	RDS CK	O	Clock output for the RDS decoder
74	RDS DAT	O	Data output for the RDS decoder
75	JOG B	I	Volume jog B signal input
76	JOG A	I	Volume jog A signal input
77	JOG LED	O	FL driver reset signal output
78	NC	-	Not used, open
79	NC	-	Not used, open
80	NC	-	Not used, open
81	NC	-	Not used, open
82	NC	-	Not used, open
83	NC	-	Not used, open
84	MIC SW	O	MIC switch control signal output
85	NC	-	Not used, open
86	NC	-	Not used, open
87	FLD RST	O	FL driver reset signal output
88	FLD CS	O	FL driver latch output
89	FLD CK	O	FL driver clock output
90	FLD DA	O	Data input for the FL driver
91	KEY2	I	Key 2 line input
92	NC	-	Not used, open
93	DES3	I	DVD region setting signal input
94	DES2	I	DVD region setting signal input (speaker region)
95	DES1	I	DVD region setting signal input (Tuner/RDS/SCART region)
96	AVSS	-	Analog power supply input
97	KEY1	I	Key 1 line input
98	VREF	-	Reference voltage input
99	AVCC	-	Analog power supply input
100	NC	-	Not used, open

27 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-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

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

*Warning: This product uses a laser diode. Refer to caution statements.

*Capacity values are in microfarads (μF) unless specified otherwise, P=Pico-farads (pF), F=Farads (F).

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

*The parenthesized indications in the Remarks columns specify the model names and areas. (Refer to the cover page)

*The marking (RTL) indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.

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

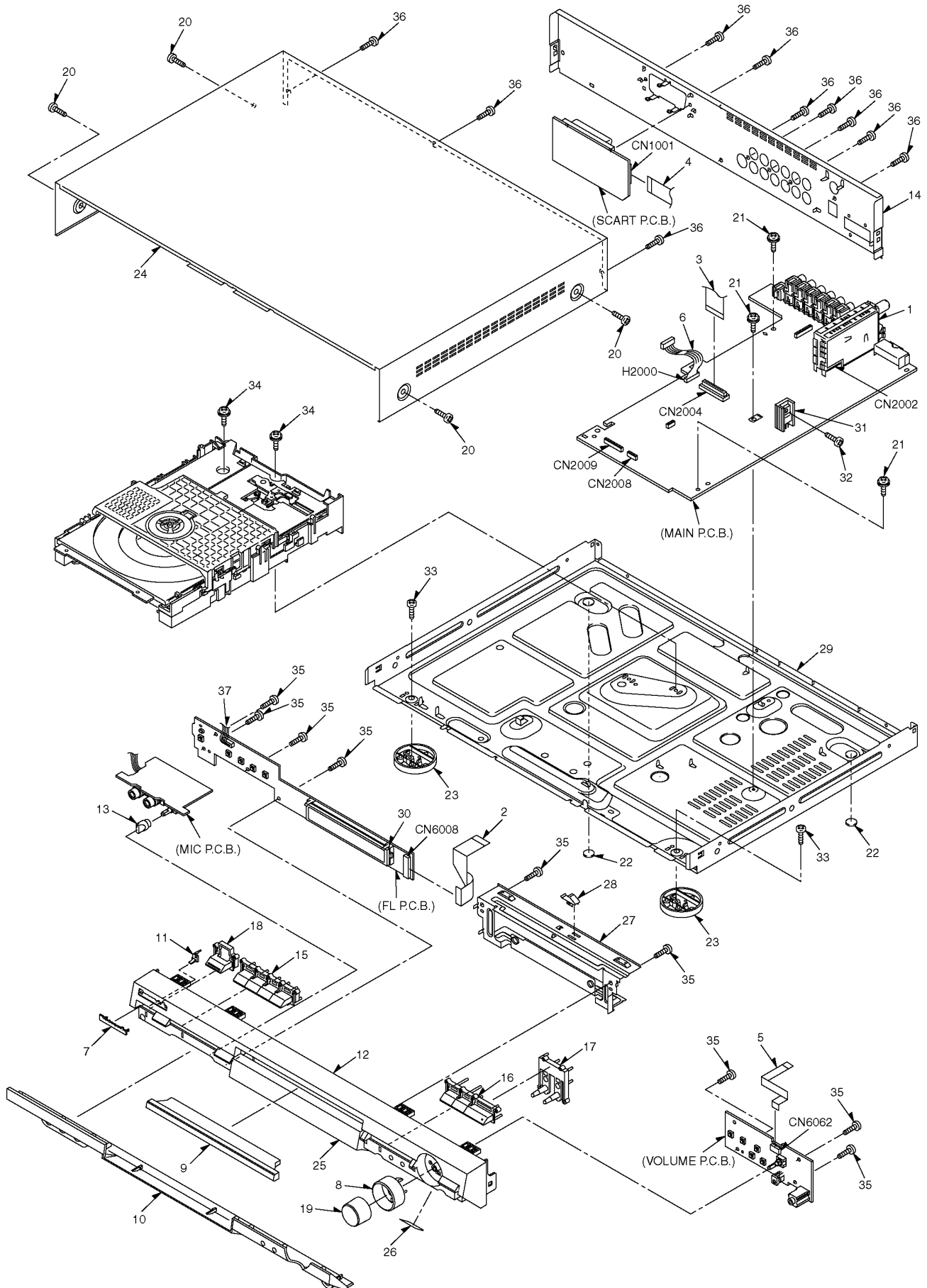
[En: English, Ge: German, It: Italian, Fr: French, Du: Netherlandic, Da: Danish, Sw: Swedish, Sp: Spanish, Po: Polish, Cz: Czech]

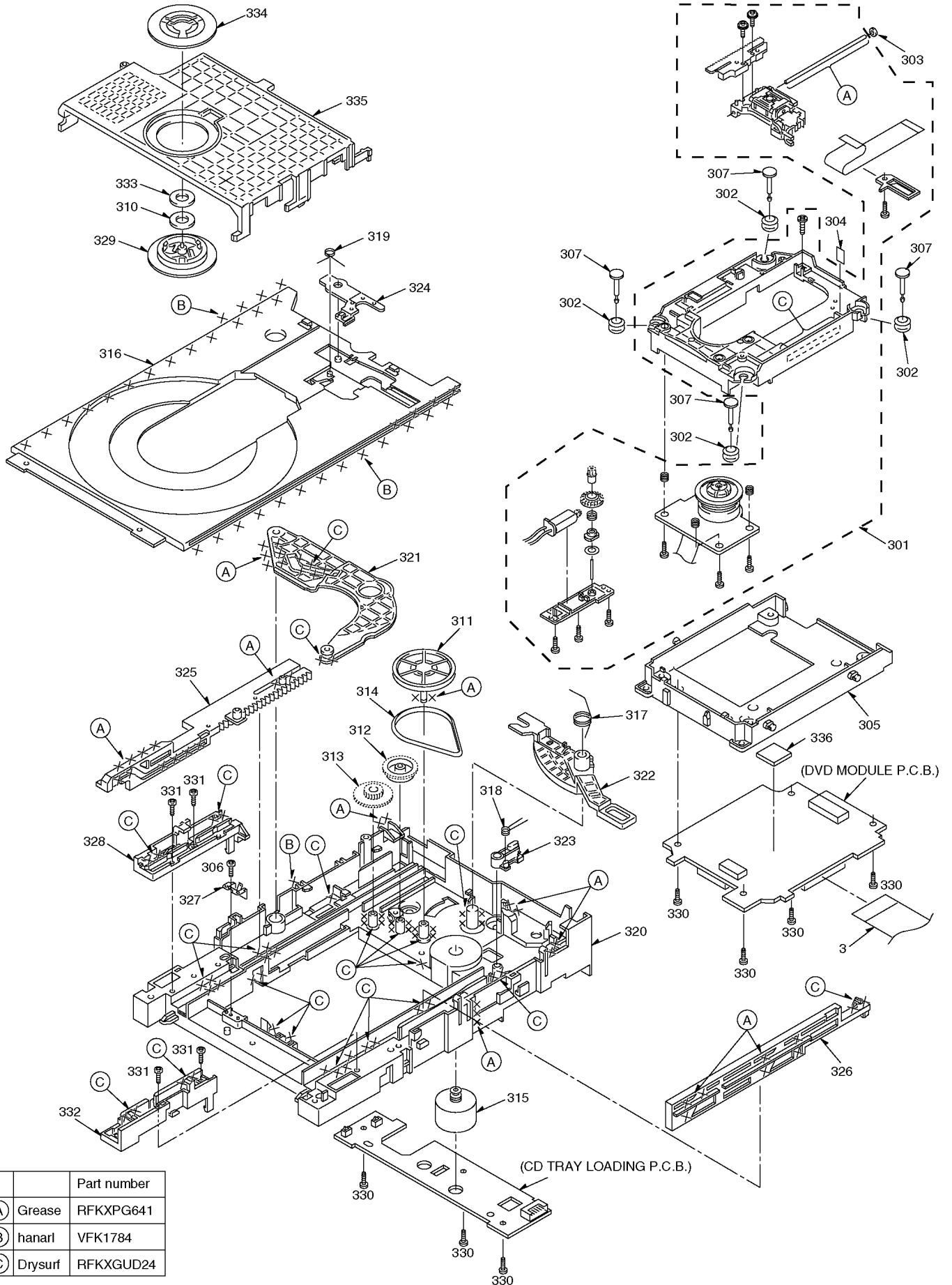
*[M] indicates in the Remarks columns indicates parts supplied by PAVCSG.

*[SPC] indicates in the Remarks columns indicates parts supplied by SPC [PAVC].

27.1. Loading Mechanism, Traverse Unit & Cabinet

27.1.1. Loading Mechanism, Traverse Unit & Cabinet Parts Location





		Part number
(A)	Grease	RFKXPG641
(B)	hanari	VFK1784
(C)	Drysurf	RFKXGUD24

27.1.2. Traverse and Cabinet Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	ENG07802QF	TUNER PACK	[M]
2	REEX0306	22P FFC WIRE (FL)	[M]
3	REEX0308	50P FFC (MECHA)	[M]
4	REEX0321	19P FFC WIRE	[M]
5	REEX0349	10P FFC WIRE	[M]
6	REXX0384	7P FLAT WIRE (DVD)	[M]
7	RGBX0011-S	PANA BADGE	[M]
8	RGKX0246-1S	VOLUME RING	[M]
9	RGKX0247-S	DVD LID	[M]
10	RGKX0248-H1	BOTTOM ORNAMENT	[M]
11	RGLX0084-Q	LIGHTING PIECE	[M]
12	RGPX0142A-S1	FRONT PANEL	[M]
14	RGRX0030A-CA	REAR PANEL	[M]
15	RGUX0553-S	FUNCTION BUTTON	[M]
16	RGUX0554-S	OPERATION BUTTON	[M]
17	RGUX0561-H	FF/REV BUTTON	[M]
18	RGUX0562-S	POWER BUTTON	[M]
19	RGWX0076-S	VOLUME KNOB	[M]
20	RHD30007-1SJ	SCREW	[M]
21	RHD30090	SCREW	[M]
22	RKA0145-K	CUSHION	[M]
23	RKA0157-S	FOOT ASS`Y	[M]
24	RKMX0094-S	TOP CABINET	[M]
25	RKWX0228-Q2	FL WINDOW	[M]
26	RKWX0232-S	SENSOR WINDOW	[M]
27	RMAX0064	DVD SUPPORT BRACKET	[M]
28	RMCX0023	TOP SPRING	[M]
29	RMKX0089	BOTTOM CHASSIS	[M]
30	RMNX0120	FL HOLDER	[M]
31	TUC25628	TRANSISTOR HEAT SINK	[M]
32	XTB3+10JFZ	SCREW	[M]
33	XTB3+6J	SCREW	[M]
34	XTB3+8JFZ	SCREW	[M]
35	XTBS26+10J	SCREW	[M]
36	XTBS3+8JFZ1	SCREW	[M]
		TRAVERSE DECK	
301	RAE2008W-S	DT68 TRV SUB UNIT	[M]
302	RMG0598A-K	FLOATING RUBBER	[M]
303	RMG0617-H	CUSHION RUBBER A	[M]
304	RMG0618-H	CUSHION RUBBER B	[M]
305	RMR1596-K	MIDDLE CHASSIS	[M]
306	XTV2+6G	PCB SCREW	[M]
307	RMS0789	FIXED PIN	[M]
310	JSM0048	MAGNET	[M]
311	RDG0547	PULLEY GEAR	[M]
312	RDG0548	RELAY GEAR	[M]
313	RDG0549	DRIVE GEAR	[M]
314	RDV0070	BELT	[M]
315	REM0102	MOTOR UNIT	[M]
316	RGQ0395-K	TRAY	[M]
317	RME0350	CHANGE LEVER SPRING	[M]
318	RME0351	LOCK LEVER SPRING	[M]
319	RME0353	TRAY SLIDER SPRING	[M]
320	RMK0591	MECHA CHASSIS	[M]
321	RML0627-2	DRIVE ARM	[M]
322	RML0628	CHANGE LEVER	[M]
323	RML0629	LOCK LEVER	[M]
324	RML0631	TRAY SLIDER	[M]
325	RMM0247-2	DRIVE RACK	[M]
326	RMM0248	SUB RACK	[M]
327	RMC0387	SUPPORT SPRING	[M]
328	RMM0250	GUIDE PIECE (L)	[M]
329	RMR1446-X	CLAMPER	[M]
330	XTN26+6G	SCREW	[M]
331	XTN26+8G	ADDITIONAL SCREWS	[M]
332	RMM0253	GUIDE PIECE R	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
333	XWG6FFY	WASHER	[M]
334	RMR1447-X	MAGNET HOLDER	[M]
335	RMR1468-K	CLAMP PLATE	[M]
336	RMX0290	PLASTIC SHEET	[M]

27.2. Component Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		PRINTED CIRCUIT BOARD	
	REP3288A	TRAY LOADING P.C.B.	[M] (RTL)
	REP3654H	DVD MODULE P.C.B.	[M] (RTL)
	REPX0416A	FL/VOLUME P.C.B.	[M] (RTL)
	REPX0417F	MAIN P.C.B.	[M] (RTL)
		INTEGRATED CIRCUITS	
IC904	TA7291S	IC PHOTO SENSOR	[M]
IC1001	C9ZB00000432	IC VIDEO SELECTOR	[M]
IC1002	XN0460100L	IC CHIP DUAL TRANS.	[M]
IC1003	CIAB00001731	IC V.BUFFER	[M]
IC2000	COCBADG00023	IC REGULATOR	[M]
IC2001	CODBAZG00033	IC DC-DC CONVOTER	[M]
IC2002	CODBAZG00033	IC DC-DC CONVOTER	[M]
IC2004	COCBADG00023	IC REGULATOR	[M]
IC2005	CODBEFG00003	IC REGULATOR	[M]
IC2006	C9ZB00000431	IC VIDEO SELECTOR	[M]
IC2009	CIAB00001486	IC VIDEO SWITCH	[M]
IC2010	COABBB000118	IC BUFFER AMP	[M]
IC2011	C1BB00000845	IC ASP	[M]
IC2012	COABCB000040	IC QUAD OP AMP	[M]
IC2013	COAABB000125	IC HP AMP	[M]
IC2015	COABBB000118	IC BUFFER AMP	[M]
IC2018	C2CBHG000139	IC SYSTEM CONTROL	[M]
IC2020	C1BB00000715	IC RDS	[M]
IC2021	COABCB000040	IC QUAD OP AMP	[M]
IC2022	COJBAR000292	IC SIGNAL SELECTOR	[M]
IC6000	COHBB0000040	IC FL DRIVER	[M]
IC6002	COJBAE000192	IC XOR GATE	[M]
IC8001	MN2DS0003APH	IC DV2.1 LSI	[M]
IC8051	C3ABPG000068	IC 64MB SDRAM	[M]
IC8111	COCBCBD00018	IC POWER SUPPLY	[M]
IC8251	COGBG0000044	IC MOTOR DRIVER	[M]
IC8271	COGBF0000004	IC SPINDLE MOTOR DRIVE	[M]
IC8451	COFBK0000036	IC AUDIO DAC	[M]
IC8601	COEBE0000384	IC VOLTAGE DETECTING	[M]
IC8605	COEBA0000031	IC RESET	[M]
IC8651	RFKFMH81T160	IC 16M FLASH ROM	[SPC]
IC8691	COJBAA000346	IC AND GATE LOGIC	[M]
IC8695	COJBAA000346	IC AND GATE LOGIC	[M]
		TRANSISTORS	
Q1001	2SB0709AHL	TRANSISTOR	[M]
Q1004	UNR221200L	TRANSISTOR	[M]
Q1005	2SD0601AHL	TRANSISTOR	[M]
Q1006	UNR221200L	TRANSISTOR	[M]
Q1007	UNR211H00L	TRANSISTOR	[M]
Q1010	BIAAKD000009	TRANSISTOR	[M]
Q2000	B1GBCFLL0028	TRANSISTOR	[M]
Q2003	B1GBCFJN0021	TRANSISTOR	[M]
Q2004	B1GBCFJN0021	TRANSISTOR	[M]
Q2005	B1GBCFJN0021	TRANSISTOR	[M]
Q2006	2SB0709AHL	TRANSISTOR	[M]
Q2007	2SB0709AHL	TRANSISTOR	[M]
Q2011	B1ADCF000001	TRANSISTOR	[M]
Q2012	B1BCCG000021	TRANSISTOR	[M]
Q2013	B1ABCF000131	TRANSISTOR	[M]
Q2014	B1GDCFGA0014	TRANSISTOR	[M]
Q2015	KTA12710YTA	TRANSISTOR	[M]
Q2016	B1ADCF000001	TRANSISTOR	[M]
Q2017	B1BCCD000016	TRANSISTOR	[M]
Q2021	BIAAKD000009	TRANSISTOR	[M]
Q2022	2SD21370PA	TRANSISTOR	[M]
Q2023	2SD21370PA	TRANSISTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
Q2025	B1GBCFJA0015	TRANSISTOR	[M]
Q2026	B1GDCFGA0014	TRANSISTOR	[M]
Q2027	B1GDCFGA0014	TRANSISTOR	[M]
Q2028	B1GBCFJN0021	TRANSISTOR	[M]
Q2029	B1GBCFJN0021	TRANSISTOR	[M]
Q2030	B1GBCFJN0021	TRANSISTOR	[M]
Q2031	B1GBCFJN0039	TRANSISTOR	[M]
Q2100	B1GFGCAA0001	TRANSISTOR	[M]
Q2101	B1GFGCAA0001	TRANSISTOR	[M]
Q2102	B1GFGCAA0001	TRANSISTOR	[M]
Q2103	B1GDCFGA0014	TRANSISTOR	[M]
Q2104	B1GFGCAA0001	TRANSISTOR	[M]
Q2105	B1GDCFGA0014	TRANSISTOR	[M]
Q2200	B1GFGCAA0001	TRANSISTOR	[M]
Q2201	B1GDCFGA0014	TRANSISTOR	[M]
Q2300	BIABEB000001	TRANSISTOR	[M]
Q2301	B1GDCFGA0014	TRANSISTOR	[M]
Q2500	B1GDCFGA0014	TRANSISTOR	[M]
Q2600	B1GDCFGA0014	TRANSISTOR	[M]
Q2601	B1GFGCAA0001	TRANSISTOR	[M]
Q8550	2SB1219AHL	TRANSISTOR	[M]
Q8551	2SD1819A0L	TRANSISTOR	[M]
Q8552	2SB09700RL	TRANSISTOR	[M]
Q8560	2SD1819A0L	TRANSISTOR	[M]
Q8561	2SD1819A0L	TRANSISTOR	[M]
Q8562	2SB09700RL	TRANSISTOR	[M]
Q8605	2SD1819A0L	TRANSISTOR	[M]
Q8606	2SD1819A0L	TRANSISTOR	[M]
QR8420	UNR521100L	CHIP TRANSISTOR	[M]
QR8571	UNR511V00L	CHIP TRANSISTOR	[M]
		DIODES	
D1001	B0ACCK000005	DIODE	[M]
D1002	B0BC01200019	DIODE	[M]
D2000	B0ACCE000003	DIODE	[M]
D2001	B0ACCE000003	DIODE	[M]
D2002	B0ACCE000003	DIODE	[M]
D2003	B0ACCK000005	DIODE	[M]
D2008	B0BC7R500001	DIODE	[M]
D2009	B0JCPD000025	DIODE	[M]
D2010	B0BC7R500001	DIODE	[M]
D2011	B0JCPD000025	DIODE	[M]
D2012	B0ACCK000005	DIODE	[M]
D2013	B0BC9R000008	DIODE	[M]
D2014	B0BC02900004	DIODE	[M]
D2015	B0EAKM000117	DIODE	[M]
D2016	B0EAKM000117	DIODE	[M]
D2017	B0EAKM000117	DIODE	[M]
D2018	B0EAKM000117	DIODE	[M]
D2019	B0EAKM000117	DIODE	[M]
D2020	B0EAKM000117	DIODE	[M]
D2023	B0FBAM000010	DIODE	[M]
D2024	B0ECKM000016	DIODE	[M]
D2025	B0BC5R600003	DIODE	[M]
D2026	B0BC7R500001	DIODE	[M]
D2027	B0ECKM000016	DIODE	[M]
D2029	B0BC01000014	DIODE	[M]
D2032	B0ADCJ000020	DIODE	[M]
D2033	B0ACCK000005	DIODE	[M]
D2034	B0ECKM000016	DIODE	[M]
D2035	B0ACCK000005	DIODE	[M]
D2036	B0ACCK000005	DIODE	[M]
D2039	B0ADCJ000020	DIODE	[M]
D2040	B0ACCK000005	DIODE	[M]
D2041	B0EAKM000117	DIODE	[M]
D2042	B0EAKM000117	DIODE	[M]
D2101	B0BC5R000009	DIODE	[M]
D6000	SLI325URCT31	DIODE	[M]
D6006	B0BC5R000009	DIODE	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
D6008	B0ACCK000005	DIODE	[M]
D8550	MA2S11100L	DIODE	[M]
D8571	MA2J72800L	DIODE	[M]
		VARIABLE RESISTORS	
VR6000	EVEKE2F3024M	VR VOLUME JOG	[M]
		CHIP INDUCTORS	
LB8001	J0JHC0000045	CHIP INDUCTOR	[M]
LB8002	J0JHC0000045	CHIP INDUCTOR	[M]
LB8011	ERJ3GEYJ220V	22 1/16W	[M]
LB8271	ERJ3GEY0R00V	0 1/16W	[M]
LB8272	ERJ3GEY0R00V	0 1/16W	[M]
LB8273	ERJ3GEY0R00V	0 1/16W	[M]
LB8301	J0JCC0000119	CHIP INDUCTOR	[M]
LB8302	J0JCC0000119	CHIP INDUCTOR	[M]
LB8303	J0JCC0000119	CHIP INDUCTOR	[M]
LB8304	J0JCC0000119	CHIP INDUCTOR	[M]
LB8305	J0JCC0000119	CHIP INDUCTOR	[M]
LB8401	D0GB151JA008	150 1/16W	[M]
LB8420	J0JCC0000091	FILTER	[M]
LB8421	J0JCC0000119	CHIP INDUCTOR	[M]
LB8422	J0JCC0000119	CHIP INDUCTOR	[M]
LB8423	ERJ3GEY0R00V	0 1/16W	[M]
LB8424	J0JCC0000091	FILTER	[M]
LB8451	J0JCC0000119	CHIP INDUCTOR	[M]
LB8452	J0JCC0000119	CHIP INDUCTOR	[M]
LB8453	J0JCC0000119	CHIP INDUCTOR	[M]
LB8454	J0JCC0000119	CHIP INDUCTOR	[M]
LB8455	J0JCC0000119	CHIP INDUCTOR	[M]
LB8456	J0JCC0000119	CHIP INDUCTOR	[M]
LB8491	J0JCC0000119	CHIP INDUCTOR	[M]
LB8501	ERJ3GEYJ222V	2.2K 1/16W	[M]
LB8502	J0JHC0000045	CHIP INDUCTOR	[M]
LB8503	ERJ3GEY0R00V	0 1/16W	[M]
LB8504	J0JCC0000091	FILTER	[M]
LB8505	J0JCC0000091	FILTER	[M]
LB8506	D0GB152JA002	1.5K 1/16W	[M]
LB8507	J0JCC0000091	FILTER	[M]
LB8511	ERJ3GEY0R00V	0 1/16W	[M]
LB8512	ERJ3GEY0R00V	0 1/16W	[M]
LB8513	ERJ3GEY0R00V	0 1/16W	[M]
LB8514	ERJ3GEY0R00V	0 1/16W	[M]
LB8690	J0JCC0000091	FILTER	[M]
LB8691	D0GB101JA002	100 1/16W	[M]
LB8692	D0GB101JA002	100 1/16W	[M]
LB8693	D0GB101JA002	100 1/16W	[M]
		SWITCHES	
S901	RSH1A044-1A	SW PLAY	[M]
S902	RSH1A044-1A	SW OPEN	[M]
S6000	EVQ21405R	SW OPEN/CLOSE	[M]
S6002	EVQ21405R	SW PLAY	[M]
S6003	EVQ21405R	SW FF	[M]
S6004	EVQ21405R	SW STOP	[M]
S6005	EVQ21405R	SW REV	[M]
S6011	EVQ21405R	SW SELECTOR	[M]
S6012	EVQ21405R	SW POWER	[M]
S6013	EVQ21405R	SW RDS	[M]
S6014	EVQ21405R	SW SFC	[M]
S6015	EVQ21405R	SW SUBWOOFER	[M]
		CONNECTORS	
CN901	K1KA07B00027	7P CONNECTOR	[M]
CN1001	K1MN19B00026	19P CONNECTOR	[M]
CN2002	K1KA10A00263	10P CONNECTOR	[M]
CN2004	K1MN50A00008	50P CONNECTOR	[M]
CN2005	K1MN19A00021	19P CONNECTOR	[M]
CN2008	K1MN10A00052	10P CONNECTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
CN2009	K1MN22A00027	22P CONNECTOR	[M]
CN6008	K1MN22B00043	22P CONNECTOR	[M]
CN6032	K1MN10B00088	10P CONNECTOR	[M]
FP8101	K1MN50B00031	50P CONNECTOR	[M]
FP8271	K1MN15B00041	15P CONNECTOR	[M]
FP8501	K1MN26B00094	26P CONNECTOR	[M]
		COILS	
L1002	J0JBC0000015	CHIP INDUCTOR	[M]
L1020	J0JBC0000015	CHIP INDUCTOR	[M]
L1021	J0JBC0000015	CHIP INDUCTOR	[M]
L1022	J0JBC0000015	CHIP INDUCTOR	[M]
L1023	J0JBC0000015	CHIP INDUCTOR	[M]
L2000	G0C3R3JA0027	COIL	[M]
L2001	G0C101JA0030	INDUCTOR	[M]
L2002	G0C101JA0030	INDUCTOR	[M]
L2010	ELESN220JA	COIL	[M]
L2011	G0A100G00005	INDUCTOR	[M]
L2012	G0A101G00022	COIL	[M]
L2013	G0A100G00005	INDUCTOR	[M]
L2014	G0A100G00005	INDUCTOR	[M]
L2017	G0A100G00005	INDUCTOR	[M]
L2018	G0A100G00005	INDUCTOR	[M]
L2019	G0A101G00022	COIL	[M]
L2022	J0JBC0000015	CHIP INDUCTOR	[M]
L2023	J0JBC0000015	CHIP INDUCTOR	[M]
L2024	J0JBC0000015	CHIP INDUCTOR	[M]
L2025	J0JBC0000015	CHIP INDUCTOR	[M]
L2026	J0JBC0000015	CHIP INDUCTOR	[M]
L2027	J0JBC0000015	CHIP INDUCTOR	[M]
L6000	J0JBC0000019	CHIP INDUCTOR	[M]
L6001	J0JBC0000019	CHIP INDUCTOR	[M]
L6002	J0JBC0000019	CHIP INDUCTOR	[M]
L6003	J0JBC0000041	CHIP INDUCTOR	[M]
L8201	G1C100K00020	CHIP INDUCTOR	[M]
L8202	J0JCC0000079	FILTER	[M]
L8301	G1C100KA0055	CHIP INDUCTOR	[M]
L8302	J0JCC0000079	FILTER	[M]
L8420	G1C220KA0055	CHIP INDUCTOR	[M]
L8550	G1C100KA0055	CHIP INDUCTOR	[M]
		COMPONENT COMBINATION	
Z6000	B3MAZ0000023	R/CONTROL SENSOR	[M]
		OSCILLATORS	
X2000	H2B100500004	CERAMIC RESONATORS	[M]
X2001	H0H433400001	CRYSTAL OSCILLATOR	[M]
X8621	H0J270500064	S/MOUNTING CRYSTAL	[M]
		DISPLAY TUBES	
FL6000	A2BD0000082	FL DISPLAY	[M]
FL8101	F1H0J1050022	1 6.3V	[M]
FL8102	F1H0J1050022	1 6.3V	[M]
FL8103	F1H0J1050022	1 6.3V	[M]
FL8104	F1J1E1040022	0.1 25V	[M]
		FUSE PROTECTOR	
FP2000	K5G202AA0002	FUSE PROTECTOR	[M] △
		HOLDERS	
H2000	RMR0316	7P WIRE HOLDER	[M]
		JACKS	
JK1001	K1FB121A0007	JK SCART TERMINAL	[M]
JK2000	K1FB125B0097	JK SYSTEM CONNECTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
JK2001	K2YZ12000010	JK COMBINED RCA	[M]
JK6002	K2HC103A0023	JK SMALL SIGN	[M]
		EARTH TERMINAL	
E2000	K4CZ01000027	TERMINALS	[M]
		CHIP JUMPERS	
W1208	ERJ3GEY0R00V	0 1/16W	[M]
W2000	ERJ3GEY0R00V	0 1/16W	[M]
W2001	ERJ3GEY0R00V	0 1/16W	[M]
W2002	ERJ3GEY0R00V	0 1/16W	[M]
W2003	ERJ3GEY0R00V	0 1/16W	[M]
W2004	ERJ3GEY0R00V	0 1/16W	[M]
W2005	ERJ3GEY0R00V	0 1/16W	[M]
W2006	ERJ3GEY0R00V	0 1/16W	[M]
W2007	ERJ3GEY0R00V	0 1/16W	[M]
W2008	ERJ3GEY0R00V	0 1/16W	[M]
W2009	ERJ3GEY0R00V	0 1/16W	[M]
W2010	ERJ3GEY0R00V	0 1/16W	[M]
W2011	ERJ3GEY0R00V	0 1/16W	[M]
W2012	ERJ3GEY0R00V	0 1/16W	[M]
W2013	ERJ3GEY0R00V	0 1/16W	[M]
W2014	ERJ3GEY0R00V	0 1/16W	[M]
W2015	ERJ3GEY0R00V	0 1/16W	[M]
W2016	ERJ3GEY0R00V	0 1/16W	[M]
W2017	ERJ3GEY0R00V	0 1/16W	[M]
W2018	ERJ3GEY0R00V	0 1/16W	[M]
W2019	ERJ3GEY0R00V	0 1/16W	[M]
W2020	ERJ3GEY0R00V	0 1/16W	[M]
W2021	ERJ3GEY0R00V	0 1/16W	[M]
W2022	ERJ3GEY0R00V	0 1/16W	[M]
W2035	ERJ3GEY0R00V	0 1/16W	[M]
W2036	ERJ3GEY0R00V	0 1/16W	[M]
W2037	ERJ3GEY0R00V	0 1/16W	[M]
W2038	ERJ3GEY0R00V	0 1/16W	[M]
W2039	ERJ3GEY0R00V	0 1/16W	[M]
W2040	ERJ3GEY0R00V	0 1/16W	[M]
W2041	ERJ3GEY0R00V	0 1/16W	[M]
W2042	ERJ3GEY0R00V	0 1/16W	[M]
W2043	ERJ3GEY0R00V	0 1/16W	[M]
W2046	ERJ3GEY0R00V	0 1/16W	[M]
W2047	ERJ3GEY0R00V	0 1/16W	[M]
W2048	ERJ3GEY0R00V	0 1/16W	[M]
W2050	ERJ6GEY0R00V	0 1/10W	[M]
W2051	ERJ6GEY0R00V	0 1/10W	[M]
W2052	ERJ6GEY0R00V	0 1/10W	[M]
W2053	ERJ6GEY0R00V	0 1/10W	[M]
W2054	ERJ6GEY0R00V	0 1/10W	[M]
W2055	ERJ6GEY0R00V	0 1/10W	[M]
W2056	ERJ6GEY0R00V	0 1/10W	[M]
W2057	ERJ6GEY0R00V	0 1/10W	[M]
W2058	ERJ6GEY0R00V	0 1/10W	[M]
W2059	ERJ6GEY0R00V	0 1/10W	[M]
W2060	ERJ6GEY0R00V	0 1/10W	[M]
W2061	ERJ6GEY0R00V	0 1/10W	[M]
W2062	ERJ6GEY0R00V	0 1/10W	[M]
W2063	ERJ6GEY0R00V	0 1/10W	[M]
W2064	ERJ6GEY0R00V	0 1/10W	[M]
W2065	ERJ6GEY0R00V	0 1/10W	[M]
W2066	ERJ6GEY0R00V	0 1/10W	[M]
W2067	ERJ6GEY0R00V	0 1/10W	[M]
W2068	ERJ6GEY0R00V	0 1/10W	[M]
W2069	ERJ6GEY0R00V	0 1/10W	[M]
W2070	ERJ6GEY0R00V	0 1/10W	[M]
W2071	ERJ3GEY0R00V	0 1/16W	[M]
W2072	ERJ3GEY0R00V	0 1/16W	[M]
W2073	ERJ3GEY0R00V	0 1/16W	[M]
W2074	ERJ3GEY0R00V	0 1/16W	[M]
W2075	ERJ3GEY0R00V	0 1/16W	[M]
W2076	ERJ3GEY0R00V	0 1/16W	[M]
W2077	ERJ3GEY0R00V	0 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
W2078	ERJ3GEY0R00V	0 1/16W	[M]
W2079	ERJ3GEY0R00V	0 1/16W	[M]
W2080	ERJ3GEY0R00V	0 1/16W	[M]
W2082	ERJ3GEY0R00V	0 1/16W	[M]
W2119	ERJ3GEY0R00V	0 1/16W	[M]
W2128	ERJ3GEY0R00V	0 1/16W	[M]
W3000	ERJ3GEY0R00V	0 1/16W	[M]
W3002	ERJ3GEY0R00V	0 1/16W	[M]
W4000	ERJ3GEY0R00V	0 1/16W	[M]
W6002	ERJ3GEY0R00V	0 1/16W	[M]
W6003	ERJ3GEY0R00V	0 1/16W	[M]
W6004	ERJ3GEY0R00V	0 1/16W	[M]
W6011	ERJ3GEY0R00V	0 1/16W	[M]
W6012	ERJ3GEY0R00V	0 1/16W	[M]
W6013	ERJ3GEY0R00V	0 1/16W	[M]
W6031	ERJ3GEY0R00V	0 1/16W	[M]
W6032	ERJ3GEY0R00V	0 1/16W	[M]
		RESISTORS	
R1003	ERJ3RBD102V	1K 3W	[M]
R1004	ERJ3RBD102V	1K 3W	[M]
R1009	ERJ3GEYJ223V	22K 1/16W	[M]
R1015	DOGB183JA002	18K 1/16W	[M]
R1016	ERJ3GEYJ223V	22K 1/16W	[M]
R1017	ERJ3GEYJ223V	22K 1/16W	[M]
R1018	ERJ3GEYJ472V	4.7K 1/16W	[M]
R1019	ERJ3GEYJ223V	22K 1/16W	[M]
R1020	D1BB75R0A012	75 1/16W	[M]
R1021	D1BB75R0A012	75 1/16W	[M]
R1022	D1BB75R0A012	75 1/16W	[M]
R1023	D1BB75R0A012	75 1/16W	[M]
R1024	ERJ3GEYJ472V	4.7K 1/16W	[M]
R1025	ERJ3GEYJ103V	10K 1/16W	[M]
R1026	ERJ3GEYJ103V	10K 1/16W	[M]
R1027	ERJ3GEYJ471V	470 1/16W	[M]
R1028	ERJ3GEYJ102V	1K 1/16W	[M]
R1029	ERJ3GEYJ102V	1K 1/16W	[M]
R1030	DOGB750JA019	75 1/16W	[M]
R1031	D1BB75R0A012	75 1/16W	[M]
R1040	ERJ3GEYJ103V	10K 1/16W	[M]
R1041	DOGB101JA002	100 1/16W	[M]
R1042	ERJ3GEYJ103V	10K 1/16W	[M]
R2000	ERJ3GEYJ221V	220 1/16W	[M]
R2001	ERJ3GEYJ221V	220 1/16W	[M]
R2002	ERJ3GEYJ221V	220 1/16W	[M]
R2003	ERJ3GEYJ221V	220 1/16W	[M]
R2004	ERJ3GEYJ221V	220 1/16W	[M]
R2005	ERJ3GEYJ221V	220 1/16W	[M]
R2006	ERJ3GEYJ221V	220 1/16W	[M]
R2007	ERJ3GEYJ102V	1K 1/16W	[M]
R2008	ERJ3GEYJ103V	10K 1/16W	[M]
R2009	ERJ3GEYJ221V	220 1/16W	[M]
R2010	ERJ3GEYJ221V	220 1/16W	[M]
R2011	ERJ3GEYJ473V	47K 1/16W	[M]
R2012	ERJ3GEYJ221V	220 1/16W	[M]
R2013	ERJ3GEYJ221V	220 1/16W	[M]
R2014	ERJ3GEYJ221V	220 1/16W	[M]
R2015	ERJ3GEYJ221V	220 1/16W	[M]
R2016	ERJ3GEYJ221V	220 1/16W	[M]
R2017	ERJ3GEYJ103V	10K 1/16W	[M]
R2018	ERJ3GEYJ221V	220 1/16W	[M]
R2019	ERJ3GEYJ221V	220 1/16W	[M]
R2020	ERJ3GEYJ223V	22K 1/16W	[M]
R2021	ERJ3GEYJ473V	47K 1/16W	[M]
R2022	ERJ3GEYJ473V	47K 1/16W	[M]
R2023	ERJ3GEYJ103V	10K 1/16W	[M]
R2024	ERJ3GEYJ473V	47K 1/16W	[M]
R2025	ERJ3GEYJ221V	220 1/16W	[M]
R2026	ERJ3GEYJ221V	220 1/16W	[M]
R2027	ERJ3GEYJ221V	220 1/16W	[M]
R2028	ERJ3GEYJ221V	220 1/16W	[M]
R2029	ERJ3GEYJ221V	220 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R2030	ERJ3GEYJ221V	220 1/16W	[M]
R2031	ERJ3GEYJ221V	220 1/16W	[M]
R2032	ERJ3GEYJ221V	220 1/16W	[M]
R2033	ERJ3GEYJ221V	220 1/16W	[M]
R2034	ERJ3GEYJ221V	220 1/16W	[M]
R2035	ERJ3GEYJ221V	220 1/16W	[M]
R2036	ERJ3GEYJ102V	1K 1/16W	[M]
R2037	ERJ3GEYJ102V	1K 1/16W	[M]
R2038	ERJ3GEYJ221V	220 1/16W	[M]
R2039	ERJ3GEYJ221V	220 1/16W	[M]
R2040	ERJ3GEYJ221V	220 1/16W	[M]
R2041	ERJ3GEYJ221V	220 1/16W	[M]
R2042	ERJ3GEYJ221V	220 1/16W	[M]
R2043	ERJ3GEYJ221V	220 1/16W	[M]
R2044	ERJ3GEYJ221V	220 1/16W	[M]
R2045	ERJ3GEYJ221V	220 1/16W	[M]
R2046	ERJ3GEYJ221V	220 1/16W	[M]
R2047	ERJ3GEYJ221V	220 1/16W	[M]
R2048	ERJ3GEYJ221V	220 1/16W	[M]
R2049	ERJ3GEYJ221V	220 1/16W	[M]
R2050	ERJ3GEYJ221V	220 1/16W	[M]
R2051	ERJ3GEYJ221V	220 1/16W	[M]
R2052	ERJ3GEYJ221V	220 1/16W	[M]
R2053	ERJ3GEYJ221V	220 1/16W	[M]
R2054	ERJ3GEYJ221V	220 1/16W	[M]
R2056	ERJ3GEYJ473V	47K 1/16W	[M]
R2057	ERJ3GEYJ473V	47K 1/16W	[M]
R2058	D0GB563JA002	56K 1/16W	[M]
R2059	ERJ3GEYJ221V	220 1/16W	[M]
R2060	D0GB101JA002	100 1/16W	[M]
R2061	ERJ3GEYJ221V	220 1/16W	[M]
R2062	ERJ3GEYJ221V	220 1/16W	[M]
R2063	ERJ3GEYJ221V	220 1/16W	[M]
R2064	D0GB101JA002	100 1/16W	[M]
R2065	ERJ3GEYJ103V	10K 1/16W	[M]
R2066	ERJ3GEYJ103V	10K 1/16W	[M]
R2067	ERJ3GEYJ103V	10K 1/16W	[M]
R2068	ERJ3GEYJ103V	10K 1/16W	[M]
R2069	ERJ3GEYJ182V	1.8K 1/16W	[M]
R2070	ERJ3GEY0R00V	0 1/16W	[M]
R2071	ERJ3GEYJ821V	820 1/16W	[M]
R2072	D0GB101JA002	100 1/16W	[M]
R2073	ERJ3GEYJ221V	220 1/16W	[M]
R2074	D0GB393JA002	39K 1/16W	[M]
R2075	D0GB272JA002	2.7K 1/16W	[M]
R2076	ERJ3GEYJ104V	100K 1/16W	[M]
R2077	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2078	ERJ3GEYJ471V	470 1/16W	[M]
R2079	ERJ3GEYJ223V	22K 1/16W	[M]
R2080	ERJ3GEYJ103V	10K 1/16W	[M]
R2082	ERJ3GEYJ473V	47K 1/16W	[M]
R2083	ERJ3GEYJ681V	680 1/16W	[M]
R2084	ERJ3GEYJ223V	22K 1/16W	[M]
R2086	ERJ3GEYJ102V	1K 1/16W	[M]
R2087	ERJ3GEYJ104V	100K 1/16W	[M]
R2088	ERJ3GEYJ102V	1K 1/16W	[M]
R2089	ERJ3GEYJ102V	1K 1/16W	[M]
R2090	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2091	ERJ3GEYJ223V	22K 1/16W	[M]
R2092	ERJ3GEYJ223V	22K 1/16W	[M]
R2100	ERJ3GEYJ102V	1K 1/16W	[M]
R2101	ERJ3GEYJ473V	47K 1/16W	[M]
R2106	ERJ3GEYJ102V	1K 1/16W	[M]
R2107	ERJ3GEYJ104V	100K 1/16W	[M]
R2108	D0GB272JA002	2.7K 1/16W	[M]
R2111	ERJ3GEYJ103V	10K 1/16W	[M]
R2112	ERJ3GEYJ103V	10K 1/16W	[M]
R2113	ERJ3GEYJ103V	10K 1/16W	[M]
R2114	ERJ3GEYJ103V	10K 1/16W	[M]
R2115	D0GB273JA002	27K 1/16W	[M]
R2116	ERJ3GEYJ104V	100K 1/16W	[M]
R2117	ERJ3GEYJ104V	100K 1/16W	[M]
R2118	ERJ3GEYJ223V	22K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R2119	ERJ3GEYJ123V	12K 1/16W	[M]
R2120	ERJ3GEYJ123V	12K 1/16W	[M]
R2121	D0GB122JA019	1.2K 1/16W	[M]
R2122	ERJ3GEYJ223V	22K 1/16W	[M]
R2123	ERJ3GEYJ103V	10K 1/16W	[M]
R2124	ERJ3GEYJ103V	10K 1/16W	[M]
R2125	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2126	ERJ3GEYJ104V	100K 1/16W	[M]
R2127	ERJ3GEYJ104V	100K 1/16W	[M]
R2128	ERJ3GEYJ102V	1K 1/16W	[M]
R2129	ERJ3GEYJ103V	10K 1/16W	[M]
R2130	ERJ3GEYJ103V	10K 1/16W	[M]
R2131	ERJ3GEYJ103V	10K 1/16W	[M]
R2132	ERJ3GEYJ103V	10K 1/16W	[M]
R2133	ERJ3GEYJ103V	10K 1/16W	[M]
R2134	ERJ3GEYJ103V	10K 1/16W	[M]
R2144	D0GB122JA019	1.2K 1/16W	[M]
R2145	D0GB562JA002	5.6K 1/16W	[M]
R2146	D0GB333JA002	33K 1/16W	[M]
R2147	ERJ3GEYJ220V	22 1/16W	[M]
R2148	ERJ3GEYJ220V	22 1/16W	[M]
R2149	ERJ3GEYJ220V	22 1/16W	[M]
R2150	ERJ3GEYJ220V	22 1/16W	[M]
R2151	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2152	D0GB272JA002	2.7K 1/16W	[M]
R2153	ERJ3GEY0R00V	0 1/16W	[M]
R2154	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2155	ERJ3GEYJ104V	100K 1/16W	[M]
R2156	ERJ3GEYJ103V	10K 1/16W	[M]
R2157	ERJ3GEYJ102V	1K 1/16W	[M]
R2159	ERJ3GEYJ473V	47K 1/16W	[M]
R2160	ERJ3GEYJ153V	15K 1/16W	[M]
R2161	D0GB333JA002	33K 1/16W	[M]
R2162	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2163	ERJ3GEYJ102V	1K 1/16W	[M]
R2164	ERJ3GEYJ203V	20K 1/16W	[M]
R2165	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2166	D0GB122JA019	1.2K 1/16W	[M]
R2167	ERJ3GEYJ123V	12K 1/16W	[M]
R2168	ERJ3GEYJ223V	22K 1/16W	[M]
R2169	ERJ3GEYJ752V	7.5K 1/16W	[M]
R2170	D0GB332JA002	3.3K 1/16W	[M]
R2172	ERJ3GEY0R00V	0 1/16W	[M]
R2174	ERJ3GEYJ473V	47K 1/16W	[M]
R2175	ERJ3GEYJ104V	100K 1/16W	[M]
R2176	ERJ3GEYJ473V	47K 1/16W	[M]
R2178	D0GB273JA002	27K 1/16W	[M]
R2179	ERJ3GEYJ102V	1K 1/16W	[M]
R2180	ERJ3GEYJ153V	15K 1/16W	[M]
R2200	ERJ3GEYJ102V	1K 1/16W	[M]
R2201	ERJ3GEYJ473V	47K 1/16W	[M]
R2206	ERJ3GEYJ102V	1K 1/16W	[M]
R2207	ERJ3GEYJ104V	100K 1/16W	[M]
R2208	D0GB272JA002	2.7K 1/16W	[M]
R2211	ERJ3GEYJ103V	10K 1/16W	[M]
R2212	ERJ3GEYJ103V	10K 1/16W	[M]
R2213	ERJ3GEYJ103V	10K 1/16W	[M]
R2214	ERJ3GEYJ103V	10K 1/16W	[M]
R2215	D0GB273JA002	27K 1/16W	[M]
R2216	ERJ3GEYJ104V	100K 1/16W	[M]
R2217	ERJ3GEYJ104V	100K 1/16W	[M]
R2218	ERJ3GEYJ223V	22K 1/16W	[M]
R2219	ERJ3GEYJ123V	12K 1/16W	[M]
R2220	ERJ3GEYJ123V	12K 1/16W	[M]
R2221	D0GB122JA019	1.2K 1/16W	[M]
R2222	ERJ3GEYJ223V	22K 1/16W	[M]
R2223	ERJ3GEYJ103V	10K 1/16W	[M]
R2224	ERJ3GEYJ103V	10K 1/16W	[M]
R2225	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2226	ERJ3GEYJ104V	100K 1/16W	[M]
R2227	ERJ3GEYJ104V	100K 1/16W	[M]
R2228	ERJ3GEYJ102V	1K 1/16W	[M]
R2229	ERJ3GEYJ103V	10K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R2230	ERJ3GEYJ103V	10K 1/16W	[M]
R2231	ERJ3GEYJ103V	10K 1/16W	[M]
R2232	ERJ3GEYJ103V	10K 1/16W	[M]
R2233	ERJ3GEYJ103V	10K 1/16W	[M]
R2234	ERJ3GEYJ103V	10K 1/16W	[M]
R2244	DOGB122JA019	1.2K 1/16W	[M]
R2245	DOGB562JA002	5.6K 1/16W	[M]
R2246	DOGB333JA002	33K 1/16W	[M]
R2247	ERJ3GEYJ220V	22 1/16W	[M]
R2248	ERJ3GEYJ220V	22 1/16W	[M]
R2249	ERJ3GEYJ220V	22 1/16W	[M]
R2250	ERJ3GEYJ220V	22 1/16W	[M]
R2251	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2252	DOGB272JA002	2.7K 1/16W	[M]
R2253	ERJ3GEY0R00V	0 1/16W	[M]
R2254	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2255	ERJ3GEYJ104V	100K 1/16W	[M]
R2256	ERJ3GEYJ103V	10K 1/16W	[M]
R2257	ERJ3GEYJ102V	1K 1/16W	[M]
R2259	ERJ3GEYJ473V	47K 1/16W	[M]
R2260	ERJ3GEYJ153V	15K 1/16W	[M]
R2261	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2262	DOGB333JA002	33K 1/16W	[M]
R2263	ERJ3GEYJ102V	1K 1/16W	[M]
R2264	ERJ3GEYJ203V	20K 1/16W	[M]
R2265	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2266	ERJ3GEYJ182V	1.8K 1/16W	[M]
R2267	DOGB563JA002	56K 1/16W	[M]
R2268	DOGB273JA002	27K 1/16W	[M]
R2269	ERJ3GEYJ752V	7.5K 1/16W	[M]
R2271	ERJ3GEY0R00V	0 1/16W	[M]
R2273	ERJ3GEYJ473V	47K 1/16W	[M]
R2274	ERJ3GEYJ104V	100K 1/16W	[M]
R2275	ERJ3GEYJ473V	47K 1/16W	[M]
R2278	DOGB273JA002	27K 1/16W	[M]
R2280	ERJ3GEYJ153V	15K 1/16W	[M]
R2300	ERJ3GEYJ103V	10K 1/16W	[M]
R2301	DOGB332JA002	3.3K 1/16W	[M]
R2302	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2303	DOGB393JA002	39K 1/16W	[M]
R2304	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2305	ERJ3GEYJ102V	1K 1/16W	[M]
R2306	ERJ3GEYJ104V	100K 1/16W	[M]
R2307	DOGB101JA002	100 1/16W	[M]
R2308	ERJ3GEYJ182V	1.8K 1/16W	[M]
R2309	DOGB563JA002	56K 1/16W	[M]
R2310	DOGB273JA002	27K 1/16W	[M]
R2311	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2312	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2314	ERJ3GEYJ223V	22K 1/16W	[M]
R2315	ERJ3GEYJ223V	22K 1/16W	[M]
R2316	DOGB273JA002	27K 1/16W	[M]
R2317	ERJ3GEYJ103V	10K 1/16W	[M]
R2318	DOGB273JA002	27K 1/16W	[M]
R2319	ERJ3GEYJ223V	22K 1/16W	[M]
R2320	ERJ3GEYJ103V	10K 1/16W	[M]
R2321	ERJ3GEYJ223V	22K 1/16W	[M]
R2322	ERJ3GEYJ223V	22K 1/16W	[M]
R2323	ERJ3GEYJ104V	100K 1/16W	[M]
R2400	ERJ3GEYJ103V	10K 1/16W	[M]
R2401	DOGB332JA002	3.3K 1/16W	[M]
R2402	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2403	DOGB393JA002	39K 1/16W	[M]
R2404	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2405	ERJ3GEYJ102V	1K 1/16W	[M]
R2406	ERJ3GEYJ104V	100K 1/16W	[M]
R2407	DOGB101JA002	100 1/16W	[M]
R2500	ERJ3GEYJ103V	10K 1/16W	[M]
R2501	DOGB333JA002	33K 1/16W	[M]
R2502	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2503	DOGB332JA002	3.3K 1/16W	[M]
R2504	ERJ3GEYJ123V	12K 1/16W	[M]
R2505	ERJ3GEYJ102V	1K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R2506	DOGB273JA002	27K 1/16W	[M]
R2507	ERJ3GEYJ153V	15K 1/16W	[M]
R2508	ERJ3GEYJ182V	1.8K 1/16W	[M]
R2509	DOGB563JA002	56K 1/16W	[M]
R2510	DOGB273JA002	27K 1/16W	[M]
R2511	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2512	ERJ3GEYJ103V	10K 1/16W	[M]
R2513	DOGB273JA002	27K 1/16W	[M]
R2514	ERJ3GEYJ103V	10K 1/16W	[M]
R2516	ERJ3GEYJ103V	10K 1/16W	[M]
R2600	DOGB272JA002	2.7K 1/16W	[M]
R2602	ERJ3GEYJ473V	47K 1/16W	[M]
R2603	ERJ3GEYJ203V	20K 1/16W	[M]
R2604	DOGB333JA002	33K 1/16W	[M]
R2605	DOGB332JA002	3.3K 1/16W	[M]
R2606	ERJ3GEYJ103V	10K 1/16W	[M]
R2607	ERJ3GEYJ223V	22K 1/16W	[M]
R2608	ERJ3GEYJ184V	180K 1/16W	[M]
R2609	DOGB683JA002	68K 1/16W	[M]
R2610	DOGB272JA002	2.7K 1/16W	[M]
R2611	DOGB683JA002	68K 1/16W	[M]
R2612	ERJ3GEYJ822V	8.2K 1/16W	[M]
R2613	DOGB332JA002	3.3K 1/16W	[M]
R2614	ERJ3GEYJ102V	1K 1/16W	[M]
R2615	ERJ3GEYJ104V	100K 1/16W	[M]
R2616	ERJ3GEYJ203V	20K 1/16W	[M]
R2617	ERJ3GEYJ223V	22K 1/16W	[M]
R2618	ERJ3GEYJ102V	1K 1/16W	[M]
R2619	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2620	ERJ3GEYJ182V	1.8K 1/16W	[M]
R2621	DOGB563JA002	56K 1/16W	[M]
R2622	DOGB273JA002	27K 1/16W	[M]
R2623	ERJ3GEYJ104V	100K 1/16W	[M]
R2624	ERJ3GEYJ104V	100K 1/16W	[M]
R2625	DOGB562JA002	5.6K 1/16W	[M]
R2803	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2804	DOGB272JA002	2.7K 1/16W	[M]
R2805	ERJ3RED680V	68 3W	[M]
R2806	ERJ3RED680V	68 3W	[M]
R2807	ERJ3GEYJ103V	10K 1/16W	[M]
R2808	ERJ3RBD182V	1.8K 3W	[M]
R2809	ERJ3GEYJ102V	1K 1/16W	[M]
R2810	ERJ3GEYJ102V	1K 1/16W	[M]
R2811	ERJ3RBD182V	1.8K 3W	[M]
R2812	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2813	ERJ3GEYJ102V	1K 1/16W	[M]
R2815	ERJ3GEYJ331V	330 1/16W	[M]
R2816	DOGB392JA002	3.9K 1/16W	[M]
R2818	DOGB272JA002	2.7K 1/16W	[M]
R2819	DOGB1R0JA002	1 1/16W	[M]
R2820	DOGB1R0JA002	1 1/16W	[M]
R2821	DOGB1R0JA002	1 1/16W	[M]
R2822	DOGB1R0JA002	1 1/16W	[M]
R2823	DOGB1R0JA002	1 1/16W	[M]
R2824	DOGB821JA002	820 1/16W	[M]
R2825	ERJ3GEYJ103V	10K 1/16W	[M]
R2826	DOGB122JA019	1.2K 1/16W	[M]
R2827	DOGB2R7JA019	2.7 1/16W	[M]
R2828	DOGB2R7JA019	2.7 1/16W	[M]
R2829	DOGB2R7JA019	2.7 1/16W	[M]
R2830	DOGB2R7JA019	2.7 1/16W	[M]
R2831	DOGB151JA008	150 1/16W	[M]
R2832	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2833	DOGB272JA002	2.7K 1/16W	[M]
R2834	DOGB272JA002	2.7K 1/16W	[M]
R2835	ERD2FCVJ4R7T	4.7 1/4W	[M]
R2836	DOGB272JA002	2.7K 1/16W	[M]
R2837	ERJ3GEYJ561V	560 1/16W	[M]
R2845	DOGB151JA008	150 1/16W	[M]
R2846	DOGB821JA002	820 1/16W	[M]
R2847	ERJ3GEYJ471V	470 1/16W	[M]
R2848	ERJ3GEYJ182V	1.8K 1/16W	[M]
R2849	ERD2FCVJ4R7T	4.7 1/4W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R2850	ERDS1FVJ8R2T	8.2 1/2W	[M]
R2851	D0GB101JA002	100 1/16W	[M]
R2852	ERJ3GEYJ123V	12K 1/16W	[M]
R2853	ERD2FCVJ4R7T	4.7 1/4W	[M]
R2857	ERJ3GEYJ153V	15K 1/16W	[M]
R2858	D0GB393JA002	39K 1/16W	[M]
R2859	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2860	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2861	ERJ3GEYJ103V	10K 1/16W	[M]
R2872	ERJ3GEYJ102V	1K 1/16W	[M]
R2873	D0GB273JA002	27K 1/16W	[M]
R2874	D0GB563JA002	56K 1/16W	[M]
R2875	D0GB273JA002	27K 1/16W	[M]
R2876	D0GB563JA002	56K 1/16W	[M]
R2877	ERJ3GEYJ182V	1.8K 1/16W	[M]
R2878	D0GB1R0JA002	1 1/16W	[M]
R2879	D0GB1R0JA002	1 1/16W	[M]
R2880	D0GB1R0JA002	1 1/16W	[M]
R2881	D0GB1R0JA002	1 1/16W	[M]
R2882	D0GB1R0JA002	1 1/16W	[M]
R2883	D0GB1R0JA002	1 1/16W	[M]
R2884	D0GB1R0JA002	1 1/16W	[M]
R2885	D0GB1R0JA002	1 1/16W	[M]
R2886	D0HB750ZA003	75 3W	[M]
R2887	D0HB750ZA003	75 3W	[M]
R2888	D0HB750ZA003	75 3W	[M]
R2889	D0HB750ZA003	75 3W	[M]
R2890	D0HB750ZA003	75 3W	[M]
R2891	D0HB750ZA003	75 3W	[M]
R2892	ERJ3GEY0R00V	0 1/16W	[M]
R2893	ERJ3GEYJ273V	27K 1/16W	[M]
R2894	ERJ3GEYJ224V	220K 1/16W	[M]
R2895	ERJ3GEYJ103V	10K 1/16W	[M]
R2896	ERJ3GEYJ102V	1K 1/16W	[M]
R2897	ERJ3GEYJ102V	1K 1/16W	[M]
R2898	ERJ3GEYJ561V	560 1/16W	[M]
R2899	ERJ3GEYJ102V	1K 1/16W	[M]
R2900	ERJ3GEYJ102V	1K 1/16W	[M]
R2903	D0GB273JA002	27K 1/16W	[M]
R2905	D0GB563JA002	56K 1/16W	[M]
R2909	ERJ3GEYJ182V	1.8K 1/16W	[M]
R2912	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2913	ERJ3GEYJ471V	470 1/16W	[M]
R2914	ERJ3GEYJ473V	47K 1/16W	[M]
R2916	ERJ3GEYJ103V	10K 1/16W	[M]
R2917	ERJ3GEYJ103V	10K 1/16W	[M]
R2918	ERJ3GEYJ471V	470 1/16W	[M]
R2920	ERJ3GEYJ123V	12K 1/16W	[M]
R2970	ERJ3GEY0R00V	0 1/16W	[M]
R2976	ERJ3GEY0R00V	0 1/16W	[M]
R2977	ERJ3GEY0R00V	0 1/16W	[M]
R2978	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2979	ERJ3GEY0R00V	0 1/16W	[M]
R2980	ERJ3GEY0R00V	0 1/16W	[M]
R2981	ERJ3GEY0R00V	0 1/16W	[M]
R2982	ERJ3GEY0R00V	0 1/16W	[M]
R2983	ERJ3GEY0R00V	0 1/16W	[M]
R6005	ERJ3GEYJ681V	680 1/16W	[M]
R6006	ERJ3GEYJ102V	1K 1/16W	[M]
R6007	D0GB122JA019	1.2K 1/16W	[M]
R6008	ERJ3GEYJ182V	1.8K 1/16W	[M]
R6009	D0GB390JA002	39 1/16W	[M]
R6011	D0GB151JA008	150 1/16W	[M]
R6012	D0GB151JA008	150 1/16W	[M]
R6013	ERJ3GEYJ223V	22K 1/16W	[M]
R6014	D0GB183JA002	18K 1/16W	[M]
R6015	ERJ3GEYJ102V	1K 1/16W	[M]
R6016	ERJ3GEYJ221V	220 1/16W	[M]
R6017	ERJ3GEYJ102V	1K 1/16W	[M]
R6018	ERJ3GEYJ222V	2.2K 1/16W	[M]
R6019	ERJ3GEYJ680V	68 1/16W	[M]
R6022	ERJ3GEYJ102V	1K 1/16W	[M]
R6024	ERJ3GEYJ102V	1K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R6025	D0GB122JA019	1.2K 1/16W	[M]
R6026	ERJ3GEYJ182V	1.8K 1/16W	[M]
R6027	ERJ3GEYJ102V	1K 1/16W	[M]
R6028	ERJ3GEYJ223V	22K 1/16W	[M]
R6029	ERJ3GEYJ223V	22K 1/16W	[M]
R6038	ERJ3GEYJ102V	1K 1/16W	[M]
R6050	D0GB2R7JA019	2.7 1/16W	[M]
R6051	D0GB2R7JA019	2.7 1/16W	[M]
R6099	ERJ3GEYJ222V	2.2K 1/16W	[M]
R8011	ERJ3GEY0R00V	0 1/16W	[M]
R8021	ERJ2GEJ103X	10K 2W	[M]
R8022	ERJ2GEJ103X	10K 2W	[M]
R8023	ERJ2GEJ473X	47K 2W	[M]
R8041	ERJ2GEJ330X	33 2W	[M]
R8232	ERJ2GEJ103X	10K 2W	[M]
R8233	ERJ3GEYJ153V	15K 1/16W	[M]
R8235	ERJ3GEYJ822V	8.2K 1/16W	[M]
R8236	ERJ3GEYJ822V	8.2K 1/16W	[M]
R8241	ERJ3GEYJ223V	22K 1/16W	[M]
R8242	D0GB752JA008	7.5K 1/16W	[M]
R8251	D0GF6R8JA017	6.8 1/16W	[M]
R8271	ERJ14YKR39H	0.39 1/4W	[M]
R8281	D0GB101JA002	100 1/16W	[M]
R8282	D0GB101JA002	100 1/16W	[M]
R8311	ERJ3RBD242V	2.4K 3W	[M]
R8312	ERJ3RBD102V	1K 3W	[M]
R8313	ERJ3RBD243V	24K 3W	[M]
R8314	ERJ3GEY0R00V	0 1/16W	[M]
R8315	ERJ3GEYJ6R8V	6.8 1/16W	[M]
R8321	ERJ3RBD161V	160 3W	[M]
R8322	ERJ3RED100V	10 3W	[M]
R8325	ERJ3RBD161V	160 3W	[M]
R8326	ERJ3RED100V	10 3W	[M]
R8331	ERJ3RBD161V	160 3W	[M]
R8332	ERJ3RED100V	10 3W	[M]
R8335	ERJ3RED820V	82 3W	[M]
R8341	ERJ3RED820V	82 3W	[M]
R8401	ERJ2GEJ473X	47K 2W	[M]
R8402	ERJ2GEJ101X	100 2W	[M]
R8403	ERJ2GEJ101X	100 2W	[M]
R8404	ERJ2GEJ101X	100 2W	[M]
R8420	ERJ3GEYJ222V	2.2K 1/16W	[M]
R8451	ERJ3GEY0R00V	0 1/16W	[M]
R8501	ERJ3GEY0R00V	0 1/16W	[M]
R8550	D0GB752JA008	7.5K 1/16W	[M]
R8551	ERJ3GEY0R00V	0 1/16W	[M]
R8552	ERJ3GEYJ331V	330 1/16W	[M]
R8553	ERJ3GEYJ102V	1K 1/16W	[M]
R8554	ERJ3GEYJ220V	22 1/16W	[M]
R8555	ERJ3GEYJ2R2V	2.2 1/16W	[M]
R8556	D0GB560JA002	56 1/16W	[M]
R8557	ERJ3GEYJ510V	51 1/16W	[M]
R8558	ERJ3GEYJ473V	47K 1/16W	[M]
R8559	ERJ3GEYJ153V	15K 1/16W	[M]
R8560	ERJ3GEYJ102V	1K 1/16W	[M]
R8561	ERJ3GEY0R00V	0 1/16W	[M]
R8562	ERJ3GEYJ331V	330 1/16W	[M]
R8563	ERJ3GEYJ102V	1K 1/16W	[M]
R8564	D0GB100JA002	10 1/16W	[M]
R8565	ERJ3GEYJ2R2V	2.2 1/16W	[M]
R8566	D0GB560JA002	56 1/16W	[M]
R8567	ERJ3GEYJ510V	51 1/16W	[M]
R8568	ERJ3GEYJ473V	47K 1/16W	[M]
R8569	ERJ3GEYJ123V	12K 1/16W	[M]
R8570	ERJ3GEYJ104V	100K 1/16W	[M]
R8601	ERJ3GEYJ102V	1K 1/16W	[M]
R8605	ERJ3GEYJ104V	100K 1/16W	[M]
R8606	ERJ3GEYJ103V	10K 1/16W	[M]
R8611	ERJ2GEJ101X	100 2W	[M]
R8621	D0GB105JA002	1M 1/16W	[M]
R8622	ERJ3RBD471V	470 3W	[M]
K8005	ERJ2GE0R00X	0 1/4W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
K8010	ERJ2GE0R00X	0 1/4W	[M]
K8100	ERJ3GEY0R00V	0 1/16W	[M]
K8321	ERJ2GE0R00X	0 1/4W	[M]
K8325	ERJ2GE0R00X	0 1/4W	[M]
K8331	ERJ2GE0R00X	0 1/4W	[M]
K8335	ERJ2GE0R00X	0 1/4W	[M]
K8341	ERJ2GE0R00X	0 1/4W	[M]
K8421	ERJ3GEY0R00V	0 1/16W	[M]
K8651	ERJ2GE0R00X	0 1/4W	[M]
RA8011	EXB28V820JX	CHIP RESISTOR	[M]
RA8012	EXB28V820JX	CHIP RESISTOR	[M]
RA8013	EXB28V820JX	CHIP RESISTOR	[M]
RA8014	EXB28V820JX	CHIP RESISTOR	[M]
RA8015	DIH422020001	CHIP RESISTOR	[M]
RA8016	EXB28V820JX	CHIP RESISTOR	[M]
RA8017	EXB28V820JX	CHIP RESISTOR	[M]
RA8018	EXB28V820JX	CHIP RESISTOR	[M]
RA8021	DIH410320002	CHIP RESISTOR	[M]
RA8031	DIH447220001	CHIP RESISTOR	[M]
RA8032	DIH447220001	CHIP RESISTOR	[M]
RA8271	DIH410320002	CHIP RESISTOR	[M]
RA8401	DIH410120001	CHIP RESISTOR	[M]
RA8402	DIH410120001	CHIP RESISTOR	[M]
RA8501	DIH456020001	CHIP RESISTOR	[M]
RA8502	EXB28V560JX	CHIP RESISTOR	[M]
RA8503	DIH456020001	CHIP RESISTOR	[M]
RA8504	DIH456020001	CHIP RESISTOR	[M]
RA8611	DIH447220001	CHIP RESISTOR	[M]
		CAPACITORS	
C984	ECA1EAK100XE	10 25V	[M]
C1001	ECEA1CKA101B	100 16V	[M]
C1004	ECJ1VF1H103Z	0.01 50V	[M]
C1005	ECJ1VB1H103K	0.01 50V	[M]
C1006	ECUV1C104KBV	0.1 16V	[M]
C1007	ECJ1VB1A105K	1 10V	[M]
C1008	ECJ1VB1A105K	1 10V	[M]
C1009	ECJ1VB1A105K	1 10V	[M]
C1010	ECEA1AKA220B	22 10V	[M]
C1011	ECJ1VF1H104Z	0.1 50V	[M]
C1012	ECJ1VF1H104Z	0.1 50V	[M]
C1013	ECEA0JKA221B	220 6.3V	[M]
C1014	ECEA0JKA221B	220 6.3V	[M]
C1015	ECEA0JKA221B	220 6.3V	[M]
C1016	ECEA0JKA221B	220 6.3V	[M]
C1017	ECEA0JKA221B	220 6.3V	[M]
C1018	ECJ1VB1H103K	0.01 50V	[M]
C1019	ECJ1VF1H104Z	0.1 50V	[M]
C1020	ECA1HAK2R2XB	2.2 50V	[M]
C2000	ECUV1C104KBV	0.1 16V	[M]
C2001	ECUV1C104KBV	0.1 16V	[M]
C2003	ECEA1AKA220B	22 10V	[M]
C2004	ECJ1VB1E103K	0.01 25V	[M]
C2005	RCE1AM102B	1000 10V	[M]
C2006	ECEA1HKA2R2B	2.2 50V	[M]
C2007	ECUV1C104KBV	0.1 16V	[M]
C2008	ECUV1C104KBV	0.1 16V	[M]
C2009	ECEA0JKA101B	100 6.3V	[M]
C2010	ECEA1HKA100I	10 50V	[M]
C2011	ECEA1HKA100B	10 50V	[M]
C2012	ECJ1VB1H561K	560P 50V	[M]
C2013	ECJ1VC1H470J	47P 50V	[M]
C2014	ECJ1VB1H331K	330P 50V	[M]
C2015	ECJ1VC1H470J	47P 50V	[M]
C2016	ECJ1VB1H103K	0.01 50V	[M]
C2017	ECJ1VB1H102K	1000P 50V	[M]
C2018	ECEA0JKA470B	47 6.3V	[M]
C2019	ECJ1VB1H331K	330P 50V	[M]
C2020	ECJ1VB1H331K	330P 50V	[M]
C2021	ECJ1VB1H331K	330P 50V	[M]
C2022	ECJ1VB1H223K	0.022 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C2026	ECJ1VB1H103K	0.01 50V	[M]
C2027	ECJ1VB1H103K	0.01 50V	[M]
C2028	ECJ1VB1A105K	1 10V	[M]
C2029	ECJ1VB1A105K	1 10V	[M]
C2030	ECJ1VB1A105K	1 10V	[M]
C2031	ECJ1VB1A105K	1 10V	[M]
C2032	ECUV1C104KBV	0.1 16V	[M]
C2033	ECJ1VB1H103K	0.01 50V	[M]
C2034	ECUV1C104KBV	0.1 16V	[M]
C2035	ECJ1VB1H103K	0.01 50V	[M]
C2036	ECEA1HKA220I	22 50V	[M]
C2037	ECJ1VB1H103K	0.01 50V	[M]
C2038	ECEA1AKA221I	220 10V	[M]
C2039	ECJ1VB1H103K	0.01 50V	[M]
C2040	ECA0JM102B	1000 6.3V	[M]
C2041	ECEA0JKA101B	100 6.3V	[M]
C2042	ECA0JM102B	1000 6.3V	[M]
C2043	ECEA0JKA101B	100 6.3V	[M]
C2044	ECA0JM102B	1000 6.3V	[M]
C2045	ECEA0JKA101B	100 6.3V	[M]
C2046	ECA0JM331I	330 6.3V	[M]
C2047	ECA0JM331I	330 6.3V	[M]
C2048	ECEA0JKA470B	47 6.3V	[M]
C2049	ECJ1VB1A105K	1 10V	[M]
C2050	ECEA0JKA470B	47 6.3V	[M]
C2051	ECJ1VB1A105K	1 10V	[M]
C2052	EEUFC0J821B	820P 6.3V	[M]
C2053	ECJ1VB1A105K	1 10V	[M]
C2054	ECALEM221B	220 25V	[M]
C2055	ECJ1VB1A105K	1 10V	[M]
C2056	ECEA1EKA330B	33 25V	[M]
C2057	ECJ1VB1H103K	0.01 50V	[M]
C2058	ECJ1VB1A105K	1 10V	[M]
C2059	ECALEM221B	220 25V	[M]
C2060	ECJ1VB1A105K	1 10V	[M]
C2061	EEUFC0J821B	820P 6.3V	[M]
C2062	ECJ1VB1A105K	1 10V	[M]
C2063	ECEA1AKA470B	47 10V	[M]
C2066	ECA1HM101B	100 50V	[M]
C2067	ECJ1VB1H103K	0.01 50V	[M]
C2068	ECEA1AKA330B	33 10V	[M]
C2069	ECJ1VB1H103K	0.01 50V	[M]
C2070	ECA1JM101B	100 63V	[M]
C2071	ECA1JM101B	100 63V	[M]
C2072	ECA1HM101B	100 50V	[M]
C2073	F2A1E1020065	1000P 25V	[M]
C2074	ECA1JM101B	100 63V	[M]
C2075	ECA1HM101B	100 50V	[M]
C2076	F2A1E1020065	1000P 25V	[M]
C2077	ECQE1104KF3	0.1 100V	[M]
C2080	ECALEM472B	4700 25V	[M]
C2081	ECA1VM221B	220 35V	[M]
C2082	ECEA1HKA470I	47 50V	[M]
C2083	ECALEM101B	100 25V	[M]
C2084	ECJ1VB1H103K	0.01 50V	[M]
C2085	ECALEM101B	100 25V	[M]
C2086	ECJ1VB1H103K	0.01 50V	[M]
C2087	ECALEM101B	100 25V	[M]
C2088	ECJ1VB1H103K	0.01 50V	[M]
C2089	ECEA1HKN4R7B	4.7 50V	[M]
C2090	ECJ1VB1E103K	0.01 25V	[M]
C2095	ECA1CAD100XI	10 16V	[M]
C2099	ECEA1HKN4R7B	4.7 50V	[M]
C2100	ECEA1HKA010I	1 50V	[M]
C2101	ECJ1VB1H332K	3300P 50V	[M]
C2106	ECEA1HKA4R7I	4.7 50V	[M]
C2107	ECEA1HKA3R3I	3.3 50V	[M]
C2120	ECJ1VB1A105K	1 10V	[M]
C2121	ECJ1VC1H181K	180P 50V	[M]
C2122	ECJ1VB1H471K	470P 50V	[M]
C2123	ECEA1HKA100I	10 50V	[M]
C2124	ECJ1VC1H101K	100P 50V	[M]
C2125	ECJ1VC1H330J	33P 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C2126	ECJ1VB1E103K	0.01 25V	[M]
C2127	ECEA1HKA4R7I	4.7 50V	[M]
C2128	ECEA1HKA100B	10 50V	[M]
C2129	ECJ1VB1H332K	3300P 50V	[M]
C2130	ECJ1VB1A154K	0.15 10V	[M]
C2131	ECJ1VC1H470J	47P 50V	[M]
C2132	ECJ1VC1H101K	100P 50V	[M]
C2133	ECJ1VB1E103K	0.01 25V	[M]
C2134	ECJ1VC1H101K	100P 50V	[M]
C2135	ECJ1VC1H470J	47P 50V	[M]
C2136	ECJ1VB1H221K	220P 50V	[M]
C2137	ECJ1VB1H104K	0.1 50V	[M]
C2138	ECJ1VC1H221J	220P 50V	[M]
C2139	ECJ1VC1H101K	100P 50V	[M]
C2140	ECJ1VB1H681K	680P 50V	[M]
C2141	ECJ1VC1H101K	100P 50V	[M]
C2149	ECJ1VB1A105K	1 10V	[M]
C2150	ECEA1HKA010B	1 50V	[M]
C2151	ECJ1VC1H101K	100P 50V	[M]
C2152	ECJ1VC1H470J	47P 50V	[M]
C2153	ECA1CM101B	100 16V	[M]
C2154	ECJ1VB1E103K	0.01 25V	[M]
C2155	ECJ1VB1H102K	1000P 50V	[M]
C2156	ECJ1VB1A105K	1 10V	[M]
C2157	ECEA1HKA100B	10 50V	[M]
C2158	ECJ1VB1A105K	1 10V	[M]
C2159	ECJ1VB1H471K	470P 50V	[M]
C2160	ECJ1VC1H470J	47P 50V	[M]
C2161	ECUV1C104KBV	0.1 16V	[M]
C2162	ECJ1VB1C333K	0.033 16V	[M]
C2163	ECEA1HKA3R3B	3.3 50V	[M]
C2164	ECJ1VB1H272K	2700P 50V	[M]
C2165	ECJ1VB1A124K	0.12 10V	[M]
C2166	ECJ1VB1A124K	0.12 10V	[M]
C2167	F1K1A4750013	47 10V	[M]
C2168	ECEA1HKA3R3I	3.3 50V	[M]
C2169	ECJ1VB1H471K	470P 50V	[M]
C2170	ECEA1HKA4R7I	4.7 50V	[M]
C2171	ECUV1C104KBV	0.1 16V	[M]
C2173	ECJ1VB1A105K	1 10V	[M]
C2174	ECJ1VB1H223K	0.022 50V	[M]
C2175	ECJ1VB1A224K	0.22 10V	[M]
C2177	ECEA1CKA470B	47 16V	[M]
C2178	ECJ1VB1H681K	680P 50V	[M]
C2200	ECEA1HKA010I	1 50V	[M]
C2201	ECJ1VB1H332K	3300P 50V	[M]
C2206	ECEA1HKA4R7I	4.7 50V	[M]
C2207	ECEA1HKA3R3I	3.3 50V	[M]
C2218	ECJ1VB1A105K	1 10V	[M]
C2219	ECJ1VB1A124K	0.12 10V	[M]
C2220	ECJ1VB1A124K	0.12 10V	[M]
C2221	ECJ1VC1H181K	180P 50V	[M]
C2222	ECJ1VB1H471K	470P 50V	[M]
C2223	ECEA1HKA100I	10 50V	[M]
C2224	ECJ1VC1H101K	100P 50V	[M]
C2225	ECJ1VC1H330J	33P 50V	[M]
C2226	ECJ1VB1E103K	0.01 25V	[M]
C2227	ECEA1HKA4R7I	4.7 50V	[M]
C2228	ECEA1HKA100B	10 50V	[M]
C2229	ECJ1VB1H332K	3300P 50V	[M]
C2230	ECJ1VB1A154K	0.15 10V	[M]
C2231	ECJ1VC1H470J	47P 50V	[M]
C2232	ECJ1VC1H101K	100P 50V	[M]
C2233	ECJ1VB1E103K	0.01 25V	[M]
C2234	ECJ1VC1H101K	100P 50V	[M]
C2235	ECJ1VC1H470J	47P 50V	[M]
C2236	ECJ1VC1H221J	220P 50V	[M]
C2237	ECJ1VB1H104K	0.1 50V	[M]
C2238	ECJ1VC1H221J	220P 50V	[M]
C2239	ECJ1VC1H101K	100P 50V	[M]
C2240	ECJ1VB1H681K	680P 50V	[M]
C2241	ECJ1VC1H101K	100P 50V	[M]
C2249	ECJ1VB1A105K	1 10V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C2250	ECEA1HKA010B	1 50V	[M]
C2251	ECJ1VC1H101K	100P 50V	[M]
C2252	ECJ1VC1H470J	47P 50V	[M]
C2253	ECA1CM101B	100 16V	[M]
C2254	ECJ1VB1E103K	0.01 25V	[M]
C2255	ECJ1VB1H102K	1000P 50V	[M]
C2256	ECJ1VB1A105K	1 10V	[M]
C2257	ECEA1HKA100B	10 50V	[M]
C2258	ECJ1VB1A105K	1 10V	[M]
C2259	ECJ1VB1H471K	470P 50V	[M]
C2260	ECJ1VC1H470J	47P 50V	[M]
C2261	ECUV1C104KBV	0.1 16V	[M]
C2262	ECJ1VB1C333K	0.033 16V	[M]
C2263	ECEA1HKA3R3B	3.3 50V	[M]
C2264	ECEA1HKA100I	10 50V	[M]
C2265	ECJ1VB1H272K	2700P 50V	[M]
C2266	F1K1A4750013	4.7 10V	[M]
C2267	ECEA1HKA4R7I	4.7 50V	[M]
C2268	ECJ1VB1A105K	1 10V	[M]
C2269	ECJ1VB1H223K	0.022 50V	[M]
C2270	ECJ1VB1A224K	0.22 10V	[M]
C2278	ECJ1VB1H681K	680P 50V	[M]
C2300	ECEA1CKA100B	10 16V	[M]
C2301	ECJ1VB1H471K	470P 50V	[M]
C2302	ECJ1VB1A105K	1 10V	[M]
C2303	ECEA1HKAR47B	0.47 50V	[M]
C2304	ECJ1VC1H220J	22P 50V	[M]
C2305	ECJ1VC1H180J	18P 50V	[M]
C2306	F1J0J4750002	4.7 6.3V	[M]
C2307	ECJ1VB1C823K	0.082 16V	[M]
C2400	ECEA1HKA100B	10 50V	[M]
C2401	ECJ1VB1A105K	1 10V	[M]
C2402	ECJ1VB1H471K	470P 50V	[M]
C2403	ECJ1VB1A105K	1 10V	[M]
C2404	ECEA1HKAR47B	0.47 50V	[M]
C2405	ECJ1VB1A105K	1 10V	[M]
C2500	ECEA1CKA100B	10 16V	[M]
C2501	ECEA1HKA100I	10 50V	[M]
C2502	ECEA1HKA010I	1 50V	[M]
C2503	ECJ1VB1C333K	0.033 16V	[M]
C2504	ECJ1VB1C683K	0.068 16V	[M]
C2505	ECEA1HKA010I	1 50V	[M]
C2506	ECJ1VB1E103K	0.01 25V	[M]
C2507	ECJ1VC1H101J	100P 50V	[M]
C2508	ECEA1HKA4R7I	4.7 50V	[M]
C2509	ECJ1VB1H331K	330P 50V	[M]
C2511	ECUV1H090DCV	9P 50V	[M]
C2512	F1J0J4750002	4.7 6.3V	[M]
C2513	ECJ1VB1C823K	0.082 16V	[M]
C2600	ECJ1VB1A105K	1 10V	[M]
C2601	ECJ1VB1H102K	1000P 50V	[M]
C2602	ECEA1HKA100I	10 50V	[M]
C2603	ECEA1HKA100I	10 50V	[M]
C2604	ECJ1VB1H222K	2200P 50V	[M]
C2605	ECJ1VB1A474K	0.47 10V	[M]
C2606	ECJ1VB1A184K	0.18 10V	[M]
C2607	ECUV1C224KBV	0.22 16V	[M]
C2608	ECJ1VB1C823K	0.082 16V	[M]
C2609	ECJ1VB1H822K	8200P 50V	[M]
C2610	ECEA1HKA100B	10 50V	[M]
C2611	ECEA1HKA4R7I	4.7 50V	[M]
C2612	ECEA1HKA4R7I	4.7 50V	[M]
C2613	ECJ1VB1E103K	0.01 25V	[M]
C2615	ECJ1VB1H562K	5600P 50V	[M]
C2616	ECEA1CKA100I	10 16V	[M]
C2617	ECEA1HKA4R7I	4.7 50V	[M]
C2618	ECJ1VB1A124K	0.12 10V	[M]
C2800	ECEA1HKA4R7B	4.7 50V	[M]
C2801	ECJ1VC1H101K	100P 50V	[M]
C2802	ECJ1VC1H101K	100P 50V	[M]
C2803	ECJ1VC1H101K	100P 50V	[M]
C2804	ECJ1VC1H101K	100P 50V	[M]
C2805	ECJ1VC1H101K	100P 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C2806	ECJ1VC1H101K	100P 50V	[M]
C2807	ECJ1VC1H101K	100P 50V	[M]
C2808	ECJ1VC1H101K	100P 50V	[M]
C2809	ECJ1VB1H221K	220P 50V	[M]
C2810	ECJ1VB1H221K	220P 50V	[M]
C2811	ECJ1VB1E103K	0.01 25V	[M]
C2812	ECJ1VB1E103K	0.01 25V	[M]
C2815	ECEA1HKA100I	10 50V	[M]
C2816	ECEA1CKA100B	10 16V	[M]
C2817	ECEA1CKA100B	10 16V	[M]
C2818	ECEA1CKA470B	47 16V	[M]
C2819	ECEA1CKA470B	47 16V	[M]
C2821	ECJ1VB1A105K	1 10V	[M]
C2824	ECEA1HKA4R7I	4.7 50V	[M]
C2826	ECJ1VB1E103K	0.01 25V	[M]
C2827	ECJ1VB1E103K	0.01 25V	[M]
C2828	ECUV1C104KBV	0.1 16V	[M]
C2829	ECUV1C104KBV	0.1 16V	[M]
C2830	ECUV1C104KBV	0.1 16V	[M]
C6000	ECJ1VB1H473K	0.047 50V	[M]
C6001	ECJ1VB1H473K	0.047 50V	[M]
C6002	ECJ1VB1H102K	1000P 50V	[M]
C6003	ECEA1HKA220B	22 50V	[M]
C6005	ECEA1HKA220B	22 50V	[M]
C6006	ECJ1VB1H102K	1000P 50V	[M]
C6007	ECEA1HKS3R3B	3.3 50V	[M]
C6008	ECEA0JKS470B	47 6.3V	[M]
C6009	ECJ1VB1H103K	0.01 50V	[M]
C6011	ECEA0JKS101B	100 6.3V	[M]
C6012	ECJ1VB1H103K	0.01 50V	[M]
C6014	ECJ1VC1H101K	100P 50V	[M]
C6015	ECJ1VC1H101K	100P 50V	[M]
C6016	ECJ1VC1H101K	100P 50V	[M]
C6017	ECJ1VC1H101K	100P 50V	[M]
C6018	ECJ1VC1H101K	100P 50V	[M]
C6021	ECJ1VC1H101K	100P 50V	[M]
C6022	ECJ1VC1H101K	100P 50V	[M]
C8001	EEEF0C0J101P	100P 6.3V	[M]
C8002	EEEOGA331WP	330P 4V	[M]
C8003	ECJ1VB1H222K	2200P 50V	[M]
C8004	ECJ0EF1C104Z	0.1 16V	[M]
C8005	ECJ1ZF1C104Z	0.1 16V	[M]
C8006	ECJ1ZF1C104Z	0.1 16V	[M]
C8007	ECJ0EF1C104Z	0.1 16V	[M]
C8008	ECJ1ZF1C104Z	0.1 16V	[M]
C8009	ECJ1ZF1C104Z	0.1 16V	[M]
C8010	ECJ0EF1C104Z	0.1 16V	[M]
C8011	FIH0J1050013	1 6.3V	[M]
C8012	ECJ1ZF1C104Z	0.1 16V	[M]
C8013	ECJ1ZF1C104Z	0.1 16V	[M]
C8014	ECJ1ZF1C104Z	0.1 16V	[M]
C8015	FIH0J1050013	1 6.3V	[M]
C8016	FIH0J1050013	1 6.3V	[M]
C8017	ECJ0EF1C104Z	0.1 16V	[M]
C8018	ECJ0EF1C104Z	0.1 16V	[M]
C8019	FIH0J1050013	1 6.3V	[M]
C8020	ECJ0EF1C104Z	0.1 16V	[M]
C8021	ECJ0EF1C104Z	0.1 16V	[M]
C8022	ECJ1ZF1C104Z	0.1 16V	[M]
C8023	FIH0J1050013	1 6.3V	[M]
C8024	ECJ1VB1H222K	2200P 50V	[M]
C8025	ECJ1ZF1C104Z	0.1 16V	[M]
C8026	FIH0J1050013	1 6.3V	[M]
C8027	ECJ0EF1C104Z	0.1 16V	[M]
C8028	FIH0J1050013	1 6.3V	[M]
C8031	ECJ1ZF1C104Z	0.1 16V	[M]
C8051	FIH0J1050013	1 6.3V	[M]
C8052	ECJ0EF1C104Z	0.1 16V	[M]
C8053	ECJ1VC1H221J	220P 50V	[M]
C8054	FIH0J1050013	1 6.3V	[M]
C8055	FIH0J1050013	1 6.3V	[M]
C8056	ECJ0EF1C104Z	0.1 16V	[M]
C8057	ECJ1VB1H222K	2200P 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C8111	ECUVNC104KBV	0.1 16V	[M]
C8112	ECJ2FB1A105K	1 10V	[M]
C8113	ECJ1VC1H471J	470P 50V	[M]
C8201	EEEOJA101WR	100P 6.3V	[M]
C8202	EEEF0C0J101P	100P 6.3V	[M]
C8203	ECJ1ZF1C104Z	0.1 16V	[M]
C8204	ECJ1ZF1C104Z	0.1 16V	[M]
C8205	ECJ1ZF1C104Z	0.1 16V	[M]
C8206	FIH0J1050013	1 6.3V	[M]
C8207	ECJ1ZF1C104Z	0.1 16V	[M]
C8208	ECJ1ZF1C104Z	0.1 16V	[M]
C8211	ECJ1VB1C333K	0.033 16V	[M]
C8212	ECJ1ZF1C104Z	0.1 16V	[M]
C8213	ECJ1ZF1C104Z	0.1 16V	[M]
C8214	ECJ1ZF1C104Z	0.1 16V	[M]
C8215	ECJ1VB1H562K	5600P 50V	[M]
C8216	ECJ1VB1C183K	0.018 16V	[M]
C8217	FIH0J1050013	1 6.3V	[M]
C8218	FIH0J1050013	1 6.3V	[M]
C8221	ECUVNC104KBV	0.1 16V	[M]
C8222	ECUVNC104KBV	0.1 16V	[M]
C8223	ECUVNC104KBV	0.1 16V	[M]
C8224	ECUVNC104KBV	0.1 16V	[M]
C8225	ECJ1ZF1C104Z	0.1 16V	[M]
C8226	ECJ1ZF1C104Z	0.1 16V	[M]
C8227	ECJ1ZF1C104Z	0.1 16V	[M]
C8228	ECJ2FB1A105K	1 10V	[M]
C8229	ECJ2FB1A105K	1 10V	[M]
C8232	ECJ1ZF1C104Z	0.1 16V	[M]
C8233	ECJ1VB1H472K	4700P 50V	[M]
C8234	ECJ1ZF1C104Z	0.1 16V	[M]
C8235	ECJ1VC1H102J	1000P 50V	[M]
C8236	ECJ1VC1H102J	1000P 50V	[M]
C8237	ECJ1VC1H102J	1000P 50V	[M]
C8238	ECJ1VC1H821J	820P 50V	[M]
C8241	ECUVNC104KBV	0.1 16V	[M]
C8242	ECUVNC104KBV	0.1 16V	[M]
C8251	EEEF0C0J221P	220P 6.3V	[M]
C8252	EEEOGA220WR	22P 16V	[M]
C8253	ECJ1ZF1C104Z	0.1 16V	[M]
C8254	ECJ1ZF1C104Z	0.1 16V	[M]
C8255	ECJ1ZF1C104Z	0.1 16V	[M]
C8261	ECJ1ZF1C104Z	0.1 16V	[M]
C8271	EEEF0C1C470P	47P 16V	[M]
C8272	EEEOJA330WR	33P 6.3V	[M]
C8273	ECJ1ZF1C104Z	0.1 16V	[M]
C8274	ECJ1ZF1C104Z	0.1 16V	[M]
C8275	ECJ1ZF1C104Z	0.1 16V	[M]
C8284	ECJ1VB1H103K	0.01 50V	[M]
C8285	ECJ1VB1H103K	0.01 50V	[M]
C8286	ECJ1VB1H103K	0.01 50V	[M]
C8287	ECUVNC104KBV	0.1 16V	[M]
C8288	ECJ1ZF1C104Z	0.1 16V	[M]
C8301	EEEOJA221WP	220P 6.3V	[M]
C8302	EEEOJA330WR	33P 6.3V	[M]
C8303	ECJ1ZF1C104Z	0.1 16V	[M]
C8304	FIH0J1050013	1 6.3V	[M]
C8307	ECJ1ZF1C104Z	0.1 16V	[M]
C8311	ECJ1ZF1C104Z	0.1 16V	[M]
C8312	FIH0J1050013	1 6.3V	[M]
C8400	ECJ1VC1H150J	15P 50V	[M]
C8420	F2G0J331A015	330P 6.3V	[M]
C8423	ECJ1ZF1C104Z	0.1 16V	[M]
C8424	ECJ1ZF1C104Z	0.1 16V	[M]
C8451	F3F1A106A001	10 10V	[M]
C8452	F3F1A106A001	10 10V	[M]
C8453	F3F1A106A001	10 10V	[M]
C8455	ECJ0EF1C104Z	0.1 16V	[M]
C8456	ECJ1ZF1C104Z	0.1 16V	[M]
C8461	F2G0J101A015	100P 6.3V	[M]
C8462	ECJ1ZF1C104Z	0.1 16V	[M]
C8501	FK1A1060017	10 10V	[M]
C8502	ECJ1ZF1C104Z	0.1 16V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C8503	ECJ1ZF1C104Z	0.1 16V	[M]
C8504	ECJ1ZF1C104Z	0.1 16V	[M]
C8505	ECJ1VC1H221J	220P 50V	[M]
C8506	ECUV1H101JCV	100P 50V	[M]
C8550	EEEEJA330WR	33P 6.3V	[M]
C8551	ECJ1ZF1C104Z	0.1 16V	[M]
C8552	EEEF1C100R	0.P 16V	[M]
C8553	EEEEJA470WR	47P 6.3V	[M]
C8554	F1H0J1050013	1 6.3V	[M]
C8561	ECJ1ZF1C104Z	0.1 16V	[M]
C8562	EEEF1C100R	0.P 16V	[M]
C8563	EEEEJA470WR	47P 6.3V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C8564	F1H0J1050013	1 6.3V	[M]
C8601	ECJ0EF1C104Z	0.1 16V	[M]
C8605	ECJ0EF1C104Z	0.1 16V	[M]
C8606	ECJ1VB1A224K	0.22 10V	[M]
C8611	ECJ1ZF1C104Z	0.1 16V	[M]
C8621	ECJ1VC1H390J	39P 50V	[M]
C8622	ECJ1VC1H050D	5P 50V	[M]
C8651	ECJ1ZF1C104Z	0.1 16V	[M]
C8652	ECJ1ZF1C104Z	0.1 16V	[M]
C8691	ECJ0EF1C104Z	0.1 16V	[M]
C8695	ECJ0EF1C104Z	0.1 16V	[M]

27.3. Packing Materials & Accessories Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		PACKING MATERIALS	
P1	RPGX1243	PACKING CASE	[M] EG
P1	RPGX1244	PACKING CASE	[M] E
P1	RPGX1245	PACKING CASE	[M] EB
P2	RPNX0214	POLYFOAM	[M]
P3	RPPX0058	MIRAMAT SHEET	[M]
		ACCESSORIES	
A1	EUR7722X30	REMOTE CONTROL	[M]
A1-1	RKK-HTR0051K	R/C BATTERY COVER	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
A2	K2CQ2CA00002	AC CORD	[M] EG E
A2	RJA0053-3X	AC CORD	[M] EB
A3	RQT7426-2D	O/I BOOK (Ge/It/Fr)	[M] EG
A3	RQT7427-1H	O/I BOOK (Du/Da/Sw)	[M] EG
A3	RQT7428-2R	O/I BOOK (Sp/Po/Cz)	[M] E
A3	RQT7429-2B	O/I BOOK (En)	[M] EB E
A4	RSA0007-J	FM ANTENNA	[M]
A5	K1HA25HA0001	SYSTEM CABLE	[M]
A6	N1DAAAA00001	LINEAR ANTENNA	[M]
A7	K1YZ02000013	DIN ADAPTOR	[M] EB
A8	RJL1P016B15A	VIDEO CABLE	[M]
A9	RYQX0137	PRE SCREW	[M]
A10	RQCA1029	LABEL SHEET	[M]

27.4. Packaging

