

Service Manual

DVD Stereo System



Remote Control SB-VK450 SA-VK450 SB-VK450

SA-VK450GC
SA-VK450GS
SA-VK450GCS
SA-VK450GCT

Colour

(S)... Silver Type

Notes: This model's DVD mechanism changer unit is CRS1D. Please refer to the original Service Manual (Order No. MD0603065A3) for this mechanism.

Specifications

n AMPLIFIER SECTION

RMS Output Power Stereo Mode both channels driven: 10 %

Total Harmonic Distortion

1 kHz Front CH 95 W per channel (4 Ω)

Total RMS Stereo mode power 190 W

PMPO output power 2000 W

n FM/AM TUNER, TERMINALS SECTION

Preset station FM 15 stations
 AM 15 stations

Frequency Modulation (FM)

Frequency range 87.50 - 108.00 MHz (50 kHz step)

Sensitivity 4.0 μ V (IHF)

S/N 26dB 2.2 μ V

Antenna terminals 75 Ω (unbalanced)

Amplitude Modulation (AM)

Frequency range 522 - 1629 kHz (9 kHz step)
 520 - 1630 kHz (10 kHz step)

AM Sensitivity S/N 20dB at 999 kHz

560 μ V/m

Music Port Input Jack

Sensitivity 100 mV, 4.7 k Ω

Terminal Stereo, 3.5 mm jack

Phone jack

Terminal Stereo, 3.5 mm jack

Mic jack

Sensitivity 0.7 mV, 600 Ω

Terminal Mono, 6.3 mm jack (2 system)

n CASSETTE DECK SECTION

Track system 4-Track, 2 Channel

Heads

Record/playback Solid permalloy head

Erasure Double gap ferrite head

Motor DC servo motor

Recording system AC bias 100 kHz

Erasing system AC erase 100 kHz

Tape speed 4.8 cm/s

Overall frequency response (+3, -6 dB) at DECK OUT

Normal 35 Hz - 14 kHz

S/N ratio 50 dB (A weighted)

Wow and flutter 0.18 % (WRMS)

Fast forward and rewind time Approx. 120 seconds with
 C-60 cassette tape

n DISC SECTION

Disc played [8 cm or 12 cm]

(1) DVD (DVD-Video, DivX[®] 6.7)

(2) DVD-RAM (DVD-VR, JPEG[®] 4.7, MP3[®] 2.7, MPEG4[®] 5.7, DivX[®] 6.7)

Panasonic

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- (3) DVD-R (DVD-Video, DVD-VR, JPEG^{* 4,7}, MP3^{* 2,7}, MPEG4^{* 5,7}, DivX^{* 6,7})
- (4) DVD-R DL(DVD-Video, DVD-VR)
- (5) DVD-RW (DVD-Video, DVD-VR, JPEG^{* 4,7}, MP3^{* 2,7}, MPEG4^{* 5,7}, DivX^{* 6,7})
- (6) DVD+R/RW (Video)
- (7) DVD+R DL (Video)
- (8) CD,CD-R/RW [CD-DA, Video CD, SVCD^{* 1}, MP3^{* 2,7}, WMA^{* 3,7}, JPEG^{* 4,7}, MPEG4^{* 5,7}, DivX^{* 6,7}, HighMAT Level 2 (Audio and Image)]

^{* 1} Conforming to IEC62107

^{* 2} MPEG-1 Layer 3, MPEG-2 Layer 3

^{* 3} Windows Media Audio Ver 9.0 L3

Not compatible with Multiple Bit Rate (MBR)

^{* 4} Exif Ver 2.1 JPEG Baseline files

Picture resolution: between 160 x 120 and 6144 x 4096 pixels (Sub sampling is 4:0:0, 4:2:0, 4:2:2 or 4:4:4). Extremely long and slender pictures may not be displayed.

^{* 5} MPEG4 data recorded with the Panasonic SD multi cameras or DVD video recorders. Conforming to SD VIDEO specifications (ASF standard)/ MPEG4 (Simple Profile) video system/ G.726 audio system.

^{* 6} Plays all version of DivX[®] video (including DivX[®]6) with standard playback of DivX[®] media files. Certified to the DivX[®] Home Theater Profile. GMC (Global Motion Compensation) is not supported.

^{* 7} The total combined maximum number of recognizable audio, picture and video contents and groups: 4000 audio, picture and video contents and 400 groups.

Pick up

Wavelength

CD 785 nm

DVD 662 nm

Laser Power

CD CLASS 1M

DVD CLASS 1

Audio output (Disc)

Number of channels (FL, FR) 2 ch (stereo)

n VIDEO SECTION

Video system PAL625/50, PAL525/60, 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 0.3 Vp-p (75 Ω) (PAL)

0.286 Vp-p (75 Ω) (NTSC)

Terminal S terminal (1 system)

Component video output

[NTSC : 525 (480)p/525 (480)i,

PAL : 625 (576)p/625 (576)i]

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)

n GENERAL

Power supply

For GC only AC 220-240 V, 50/60Hz

For GCS/GS/GCT only AC 110-127V/220-240 V, 50/60Hz

Power consumption 105 W

Power consumption in standby mode:

0.9 W (approximate)

Dimensions (W x H x D) 250 x 330 x 341.8 mm

Mass 6.7 kg

Operating temperature range +5 to +35°C

Operating humidity range 5 to 90% RH (no condensation)

n SYSTEM

SC-VK450(GC) Music Center: SA-VK450 (GC)

Speaker: SB-VK450 (GC)

SC-VK450(GS) Music Center: SA-VK450 (GS)

Speaker: SB-VK450 (GC)

SC-VK450(GCS) Music Center: SA-VK450 (GCS)

Speaker: SB-VK450 (GC)

SC-VK450(GCT) Music Center: SA-VK450 (GCT)

Speaker: SB-VK450 (GC)

For information on speaker system, please refer to the original Service Manual (Order No. MD0601005C3) for SB-VK450GC-S.

Notes:

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

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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.



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1 Safety Precautions

1.1. 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.

1.1.1. 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 ∞ .

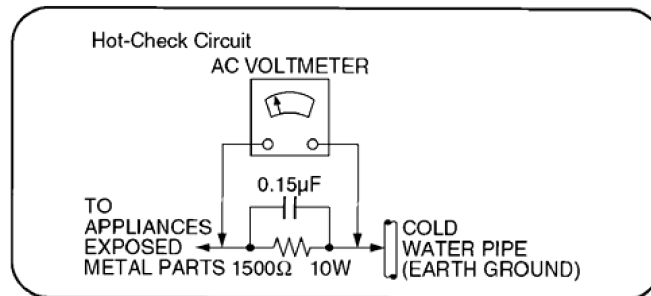


Figure 1

1.1.2. 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 $0.15\mu F$ capacitor, 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 out 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.

1.2. Safety Precaution for AC Power Supply Cord (For GS/GCS only)

Note on AC power supply cord (For Saudi Arabia and Kuwait only)

Before use

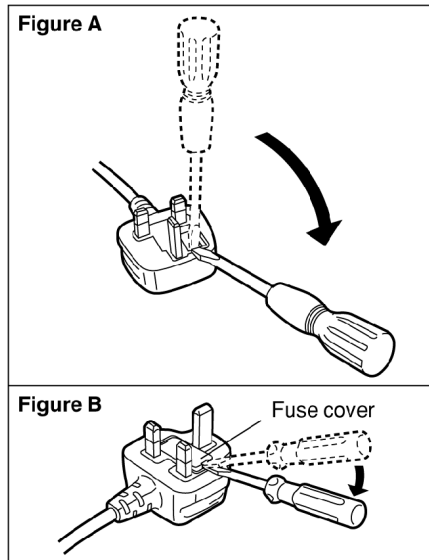
Remove the connector cover.

How to replace the fuse

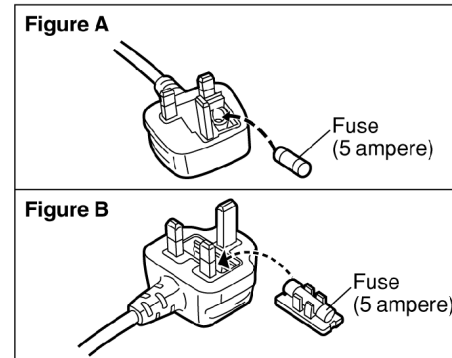
The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below.

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.



1.3. Before Use (For GS/GCS/GCT only)

Be sure to disconnect the mains cord before adjusting the voltage selector.

Use a minus(-) screwdriver to set the voltage selector (on the rear panel) to the voltage setting for the area in which the unit will be used. (If the power supply in your area is 117V or 120V, set to the "127V" position.)

Note that this unit will be seriously damaged if this setting is not made correctly. (There is no voltage selector for some countries, the correct voltage is already set.)

1.4. Before Repair and Adjustment

Disconnect AC power, discharge Power Supply Capacitors C5165, C5166, C5171, C5172, C5101, C5104, C5950 and C5966 through a 10Ω, 5W 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 100~120V, 50/60 Hz & AC 220/240V, 50Hz in NO SIGNAL (vol. min, at CD mode) should be ~300mA and ~200mA respectively. [For GCS/GS/GCT only]

Current consumption at AC 220/240V, 50 Hz in NO SIGNAL (vol. min, at CD mode) should be ~200mA . [For GC only]

1.5. 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.

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

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

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

Caution

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

8. Minimize body 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.

3 Handling Precautions for Traverse Unit

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

3.1. Handling Optical Pickup

1. Do not impact on optical pickup as the unit structurally uses an extremely precise technology.
2. Short-circuit the flexible cable of optical pickup remove from the circuit board using a short-circuit pin or clip in order to prevent laser diode from electrostatic destruction (Refer to Fig. 3.1 and Fig. 3.2)
3. Do not handle flexible cables forcibly as this may cause snapping. Handle the parts carefully (Refer to Fig. 3.1)
4. A new optical pickup is equipped with an anti-static flexible cable. After replacing and connecting to the flexible board, cut the anti-static flexible cable. (Refer to Fig. 3.1)

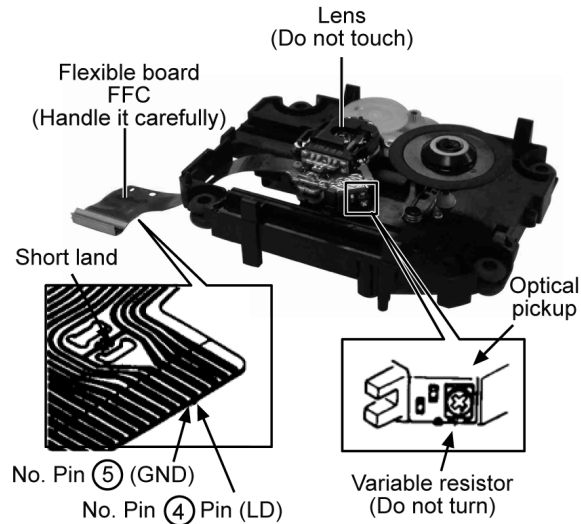


Fig 3.1

3.2. Replacing Precautions for Optical Pickup Unit

CD/DVD Optical Pickup

The optical pickup by which part supply was carried out attaches the short clip to the flexible board for laser diode electrostatic discharge damage prevention. Please remove the short clip and be sure to check that the short land is open, before connecting. (Please remove solder, when the short land short-circuits.)

3.3. Grounding for Preventing Electrostatic Destruction

1. Human body grounding

Use the anti-static wrist strap to discharge the static electricity accumulated in your body. (Refer to Fig. 3.2)

2. Work place grounding

Place a conductive material (conductive sheet) or ironboard where optical pickup is placed. (Refer to Fig. 3.2)

Note :

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

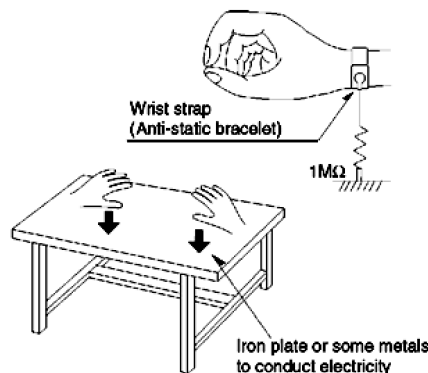


Fig. 3.2

5 Handling the Lead-free Solder

5.1. About lead free solder (PbF)

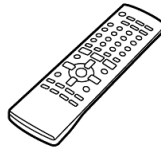
Distinction of PbF P.C.B.:

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

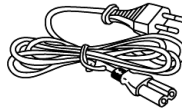
Caution:

- Pb free solder has a higher melting point than standard solder; Typically the melting point is 50 - 70°F (30 - 40°C) higher. Please use a high temperature soldering iron. In case of soldering iron with temperature control, please set it to 700 ± 20°F (370 ± 10°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.
- Pb free solder will tend to splash when heated too high (about 1100°F/600°C).

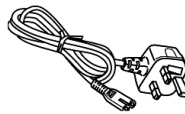
6 Accessories



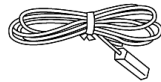
Remote control



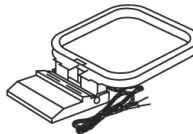
AC power supply
cord



AC power supply
cord (For GS only)



FM indoor antenna



AM loop antenna



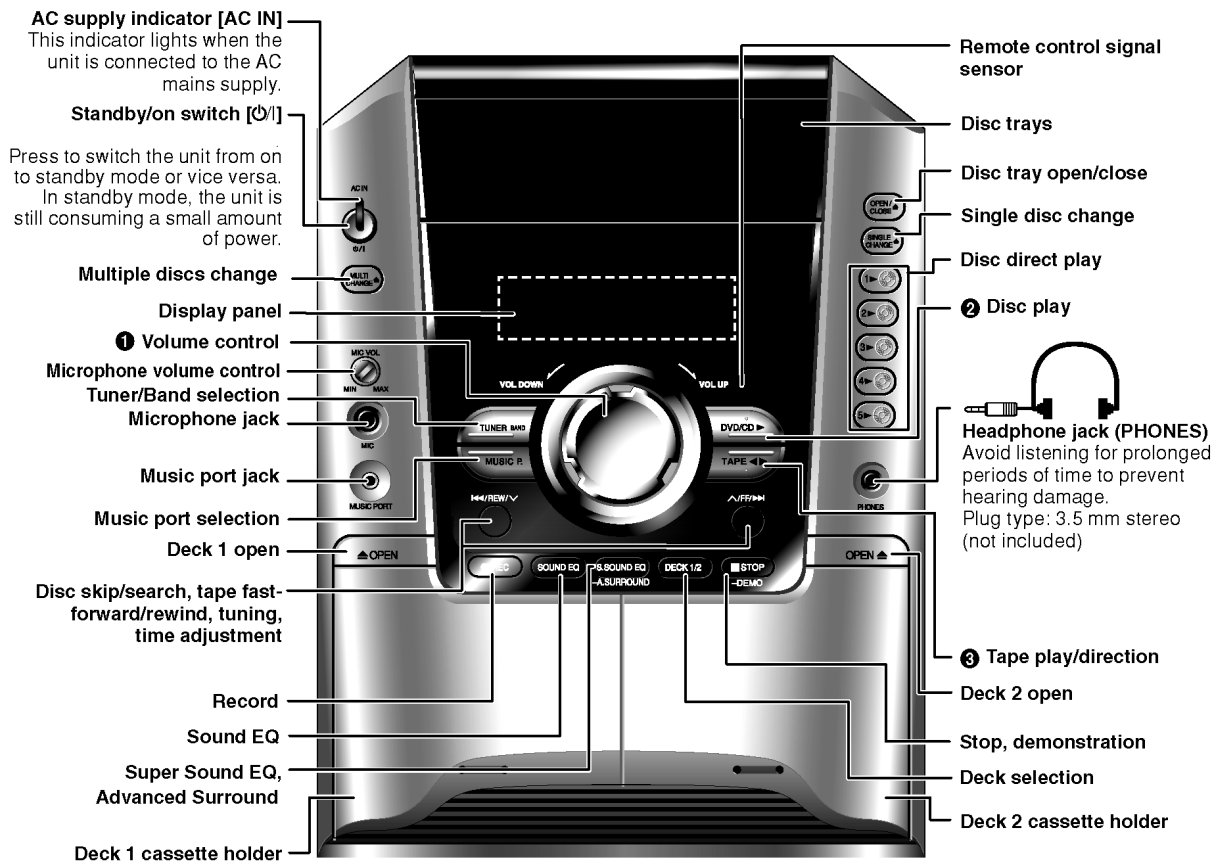
Video cable

7 Operation Procedures

7.1. Main Unit Operation Control

Main unit

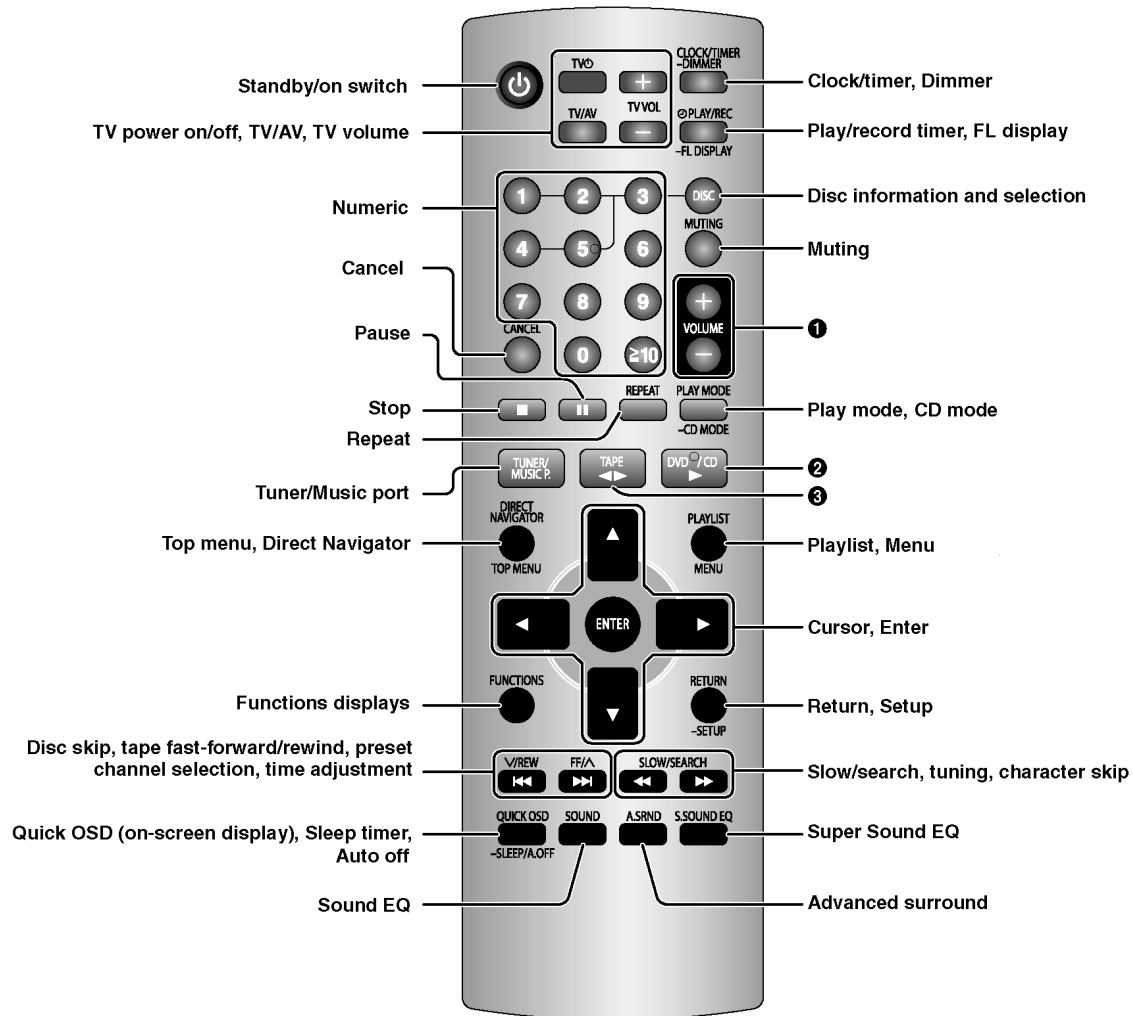
Buttons such as ❶ function the same as the controls on the remote control.



7.2. Remote Control Operation Control

Remote control

Buttons such as ❶ function the same as the controls on the main unit.



7.3. Disc Information

Discs that can be played

Operations in these instructions are described mainly with formats. Icons such as **DVD-V** show the formats.

	DVD-Video DVD-V —
	Video CD VCD • Including SVCD (Conforming to IEC62107)
	DVD-RAM DVD-VR MP3 JPEG MPEG4 DivX ^{※3} ^{※4} • DVD-VR Recorded with devices using Version 1.1 of the Video Recording Format (a unified video recording standard), such as DVD video recorders, DVD video cameras, personal computers, etc. • JPEG Recorded with Panasonic SD multi cameras or DVD video recorders using the DCF (Design rule for Camera File system) Standard Version 1.0. • MPEG4 Recorded with the Panasonic SD multi cameras or DVD video recorders [conforming to SD VIDEO specifications (ASF standard)/MPEG4 (Simple Profile) video system/G.726 audio system].
	DVD-R (DVD-Video) ^{※1} / DVD-RW (DVD-Video) DVD-V • Discs recorded and finalized ^{※2} on DVD video recorders or DVD video cameras. DVD-R (VR) ^{※1} / DVD-RW (VR) DVD-VR • Discs recorded and finalized ^{※2} on DVD video recorders or DVD video cameras using Version 1.1 or 1.2 (DVD-R only) of the Video Recording Format (a unified video recording standard). DVD-R/DVD-RW MP3 JPEG • Finalize ^{※2} the disc after recording. DVD-R (DivX Video) / DVD-RW (DivX Video) DivX ^{※3} ^{※4} • Finalize ^{※2} the disc after recording.
—	+R (Video) ^{※1} / +RW (Video) DVD-V • Discs recorded and finalized ^{※2} on DVD video recorders or DVD video cameras.
	CD CD WMA MP3 JPEG VCD MPEG4 DivX ^{※3} ^{※4} • This unit can play CD-R/RW recorded with the above formats. Close the sessions or finalize ^{※2} the disc after recording. • CD This unit is compatible with HDCD, but does not support the Peak Extend function (a function which expands the dynamic range of high-level signals). HDCD-encoded CDs sound better because they are encoded with 20 bits, as compared with 16 bits for all other CDs. • WMA MP3 JPEG This unit also plays HighMAT discs. • WMA This unit does not support Multiple Bit Rate (MBR: an encoding process for audio content that produces an audio file encoded at several different bit rates).

^{※1}Includes single-sided, dual layer discs.

^{※2}A process that allows play on compatible equipment.

^{※3}Plays all versions of DivX® video (including DivX®6) with standard playback of DivX® media files. Certified to the DivX Home Theater Profile. GMC (Global Motion Compensation) is not supported.

^{※4}Functions added with DivX Ultra are not supported.

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

Note about using a DualDisc

- The digital audio content side of a DualDisc does not meet the technical specifications of the Compact Disc Digital Audio (CD-DA) format so playback may not be possible.
- Do not use a DualDisc in this unit as it may not be possible to insert it correctly and it may get scratched or scraped.

Audio format of DVDs



- This unit automatically recognizes and decodes discs with these symbols.

Video systems

- This unit can play PAL and NTSC, but your television must match the system used on the disc.
- PAL discs cannot be correctly viewed on an NTSC television.
- This unit can convert NTSC signals to PAL 60 for viewing on a PAL television ("Video" tab — NTSC Disc Output).

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.

Discs that cannot be played

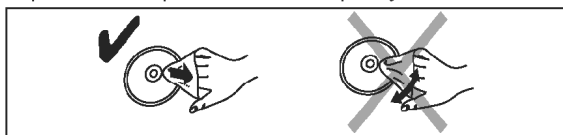
DVD-RW version 1.0, DVD-Audio, DVD-ROM, CD-ROM, CDV, CD-G, SACD, Photo CD, DVD-RAM that cannot be removed from their cartridge, 2.6-GB and 5.2-GB DVD-RAM, and "Chaoji VCD" available on the market including CVD, DVCD and SVCD that do not conform to IEC62107.

Disc handling precautions

- Do not attach labels or stickers to discs (This may cause disc warping, rendering it unusable).
- 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 use scratch-proof protectors or covers.
- Do not use the following discs:
 - Discs with exposed adhesive from removed stickers or labels (rented discs, etc).
 - Discs that are badly warped or cracked.
 - Irregularly shaped discs, such as heart shapes.

To clean discs

Wipe with a damp cloth and then wipe dry.



Tips for making WMA/MP3 and JPEG discs (For CD-R, CD-RW)

- Discs must conform to ISO9660 level 1 or 2 (except for extended formats).
- This unit supports multi-session but if there are a lot of sessions it takes more time for play to start. Keep the number of sessions to a minimum to avoid this.
- When there are more than 8 groups, the eighth group onwards will be displayed on one vertical line in the menu screen.
- There may be differences in the display order on the menu screen and computer screen.
- This unit cannot play files recorded using packet write.

Naming folders and files

Files are treated as contents and folders are treated as groups on this unit.

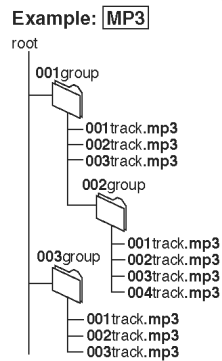
At the time of recording, prefix folder and file names with 3-digit numbers in the order you want to play them (this may not work at times).

Files must have the extension:

“.WMA” or “.wma”

“.MP3” or “.mp3”

“.JPG”, “.jpg”, “.JPEG” or “.jpeg”



MP3

- This unit is not compatible with ID3 tags.
- Compatible sampling rate: 8, 11.02, 12, 16, 22.05, 24, 32, 44.1 and 48 kHz.

JPEG

- To view JPEG files on this unit:
 - Take them on a digital camera that meets the DCF Standard (Design rule for Camera File system) Version 1.0. Some digital cameras have functions that are not supported by the DCF Standard Version 1.0 like automatic picture rotation which may render a picture unviewable.
 - Do not alter the files in any way or save them under a different name.
- This unit cannot display moving pictures, MOTION JPEG and other such formats, still pictures other than JPEG (example: TIFF) or play pictures with attached audio.

WMA

- You cannot play WMA files that are copy protected.
- This unit does not support Multiple Bit Rate (MBR).

7.4. DivX VOD Content

About DivX VOD content

DivX Video-on-Demand (VOD) content is encrypted for copyright protection. In order to play DivX VOD content on this unit, you first need to register the unit. Follow the online instructions for purchasing DivX VOD content to enter the unit's registration code and register the unit. For more information about DivX VOD, visit www.divx.com/vod.

Display the unit's registration code (“DivX Registration” in “Others” tab)



- We recommend that you make a note of this code for future reference.
- After playing DivX VOD content for the first time, another registration code is then displayed in “DivX Registration”. Do not use this registration code to purchase DivX VOD content. If you use this code to purchase DivX VOD content, and then play the content on this unit, you will no longer be able to play any content that you purchased using the previous code.

- If you purchase DivX VOD content using a registration code different from this unit's code, you will not be able to play this content. (“Authorization Error” is displayed.)

Regarding DivX content that can only be played a set number of times

Some DivX VOD content can only be played a set number of times. When you play this content, the remaining number of plays is displayed. You cannot play this content when the number of remaining plays is zero. (“Rented Movie Expired” or “Rental Expired” is displayed.)

When playing this content

- The number of remaining plays is reduced by one if
 - you press [⏮] or press and hold [–SETUP].
 - you press [■]. [Press [⏮] (pause) to stop play.]
 - you press [⏮, ⏭] (skip) or [⏮, ⏭] (search) etc. and arrive at another content or the start of the content being played.
- Resume (Stop) and Marker (Play Menu) functions do not work.

Types of subtitles text file that can be displayed

Subtitles text that satisfy the following conditions can be displayed on this unit.

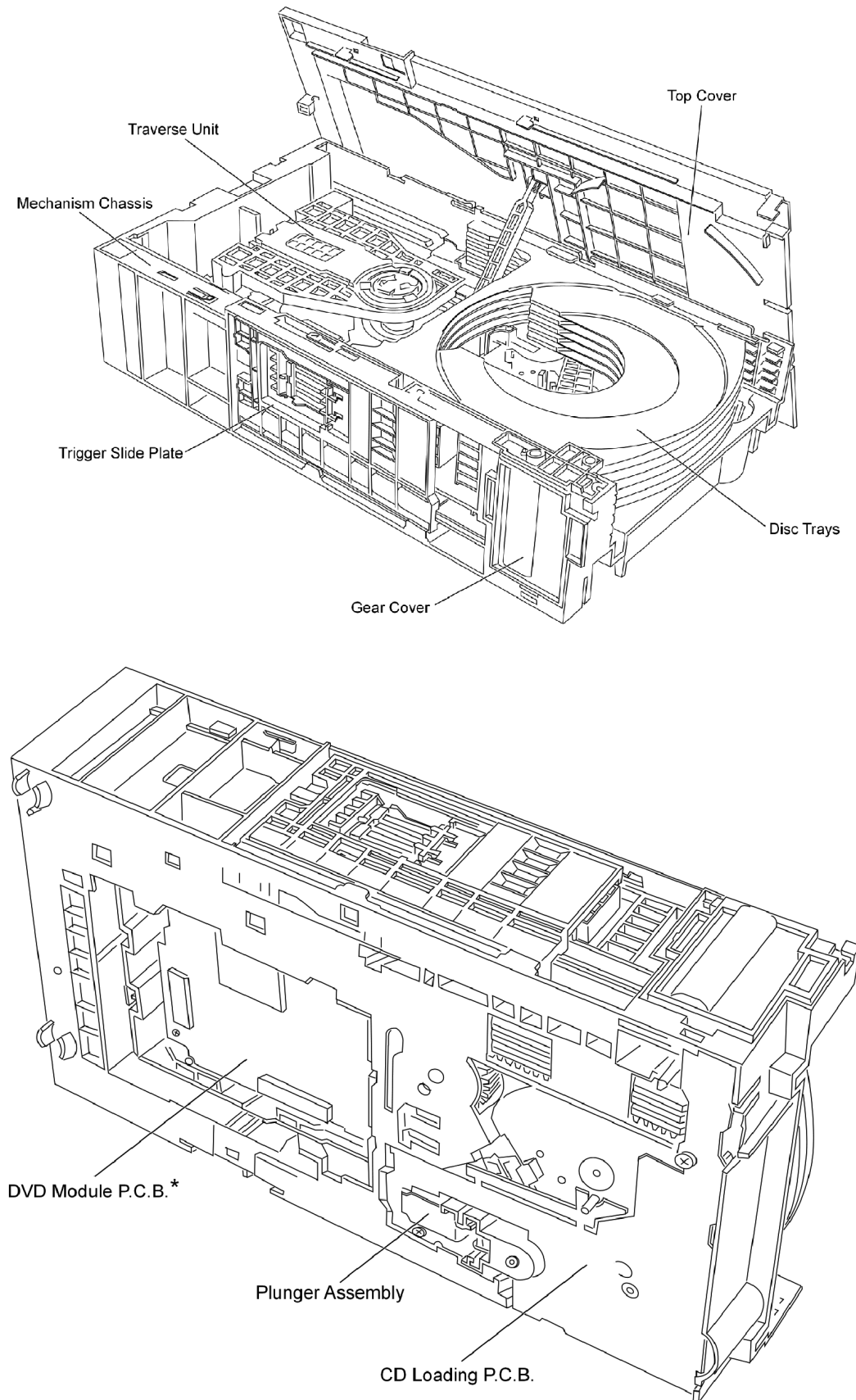
- File format: MicroDVD, SubRip, or TPlayer
- File extension: “.SRT”, “.srt”, “.SUB”, “.sub”, “.TXT”, or “.txt”
- File name: No more than 44 characters excluding the file extension
- The DivX video file and subtitles text file are inside the same folder, and the file names are the same except for the file extensions.
- If there are more than one subtitles text files inside the same folder, they are displayed in the following order of priority: “.srt”, “.sub”, “.txt”.

Limitations of this unit

- In the following situations, the subtitles cannot be displayed as recorded.
 - Furthermore, depending on the methods used to create the file or the state of the recording, only parts of the subtitles may be displayed, or the subtitles may not be displayed at all.
 - When special text or characters are included in the subtitles text.
 - When characters with styling specified are included in the subtitle data. Codes that specify the character style within files are displayed as subtitle characters.
 - When data with a different format exists within the subtitle data.
- If the file name of the DivX video file is not displayed correctly on the menu screen (the file name is displayed as “_”), the subtitles text may not be displayed correctly.
- The subtitles text cannot be displayed when search, Time Search, Time Slip, and other such operations are being performed.
- The subtitles text cannot be displayed when Quick OSD, On-Screen Menus, Navigation Menu and other such menu screens are being displayed.

8 New Features

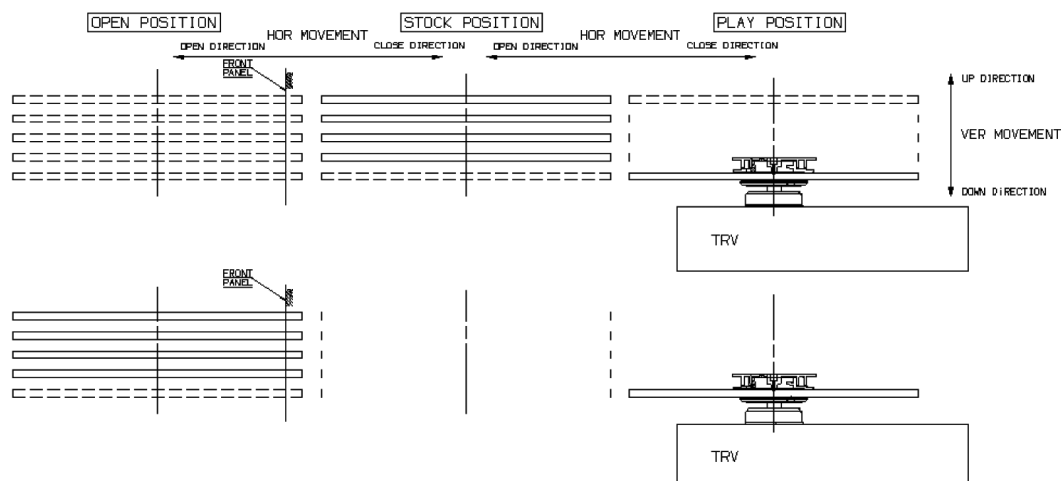
8.1. CRS1D Mechanism Overview



* Illustration for DVD Module P.C.B. (Applied models: VK450/650/750/850/950)

8.1.1. General Feature

- This is a five disc changer mechanism for CD/DVD. The outline figure is shown below.



- The mechanism has **"CHANGE WHILE PLAY"** function. It open other trays for disc exchanging while one tray is at PLAY position performing recording or reproducing.
- The mechanism can quickly change all trays with **"CHANGE ALL"** function. All trays can be move to OPEN position with one operation.
- There is no sensor to indicate presence of disc on any tray.

8.1.2. Hardware composition

- Below is the hardware components of the mechanism

Name	Function
Open Switch (OPEN-SW)	The switch is used to detect normal tray opening The switch is used for detect tray being manually push/trigger when full open
Home Switch (HOME-SW)	Is used to detect cam gear home position
Close Sensor (CLOSE-SENSOR)	Used for normal single tray closing Used to detect cam gear rotate to Play Driving position
Play Switch (PLAY-SW)	Detect TRV clamping complete position
Stocking Switch (STOCK-SW)	Detect tray completely transfer for play position to stocking position
UD Sensor (UD-SENSOR)	Detect TRV vertical movement position
Top Switch (TOP-SW)	Detect a default position of TRV vertical movement position
Driver IC	To drive Motor
Motor	Main driving source for changer
Plunger	Switching the driving source from motor to: 1. Tray open/close 2. Drive tray to play/stock position and TRV vertical movement

8.1.3. Mechanism Operation

- This mechanism has the following state:
 - Driving of a tray to open/close
 - Up/down operation of a traverse performs a state changes of tray.

By using the plunger to lift/release of a switching gear, and the cam gear to lift/release the function gear the motor can be link to several gear trains to perform various operations.

- The functions that can be perform in this mechanism are described as below:

Condition	Explanation
Open current playing tray	The state to change current playing disc. All tray will be open at once and current tray at PLAY position will be expose.
Open All	The state where all trays being driven to OPEN position. The disc can be taken in or out from tray to tray by close tray one by one from top to bottom.
Stock	The state where the trays are stored in STOCK position
Play	The state where one of the tray 5 trays is being driven to PLAY position and clamped by traverse unit
Play & Open Tray-*	The state where one of the tray is in playing position performing recording or reproducing, other trays can be used (OPEN position) for disc exchanging without stopping the recording or reproducing process.

Condition	Explanation
Change	The state when one of the opened tray being driven from OPEN position to STOCK position and other opened trays remain still at OPEN position.
Close All	The state where all open trays will being driven from OPEN position to STOCK position, one by one from top to bottom

Note: * represent tray number (from 1 ~ 5)

8.1.4. New CD/DVD Mechanism (CRS1D)

Note:

This service manual does not contain the following information for the mention CD/DVD Mechanism drive:

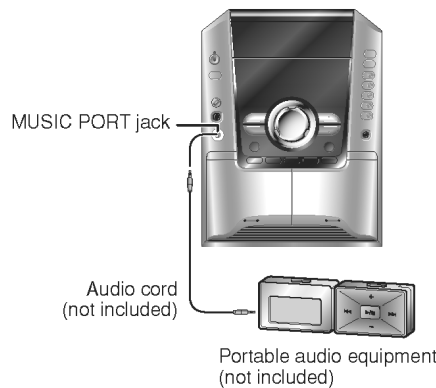
- Schematic Diagram, Block Diagram and P.C.B. layout of CD/DVD Loading P.C.B.
- Part List for individual parts of the mechanism.
- Exploded View and Parts List for individual parts of the CD/DVD Mechanism drive.

Please refer to the original service manual (Order No. MD0603065A3) for the CD/DVD Mechanism Drive CRS1D.

8.2. Music Port

Connecting to a portable audio equipment

This feature enables you to enjoy music from a portable audio equipment.



Playing from a portable audio equipment

Switch off the equalizer function (if there is any) of the portable audio equipment before you plug into the MUSIC PORT jack. Otherwise, sound from the speaker may be distorted.

- 1 Plug the audio cord into the MUSIC PORT jack and press [TUNER/MUSIC P.] repeatedly to select "MUSIC PORT".**
- 2 Play the portable audio equipment. (See the portable audio equipment's instruction manual.)**

Note:

All peripheral components and cables are sold separately.



Recording from a portable audio equipment

- 1 Press [TUNER/MUSIC P.] repeatedly to select "MUSIC PORT".**
- 2 Play the portable audio equipment.**
- 3 Press [●, REC] on the main unit to start recording.**

With reference to page 29 of the operating instruction manual.

9 About HighMAT

9.1. What's HighMAT?

Consumers worldwide are using PCs to create their own collections of music, photos and even video by burning them onto CDs. But how these collections can be experienced across different devices can be confusing, time consuming to access for a DVD player, and be incomplete in terms of music information available to the customer.

HighMAT offers a solution to this growing consumer problem. HighMAT dramatically improves the digital media experience on consumer electronic devices by delivering a simple, standardized approach that allows consumers who have created personal collections of digital music, photography and video on their PC to:

>> Create a HighMAT CD or DVD which can be easily played back on consumer electronics devices such as CD and DVD players, and car stereos.

>> Move digital media files (using recordable media such as CD-R and CD-RW) between the PC and various playback devices such as CD and DVD players.

A new standard for creating personal media on consumer electronic devices, HighMAT enable easier and more seamless interoperability between Windows PCs and devices designed for your living room, or the car.



HighMAT Audio

Products which display this logo are able to play back HighMAT audio content only (WMA, MP3)



HighMAT Audio and Image

Products which display this logo are able to play back HighMAT audio content (WMA, MP3) and still pictures (JPEG) only



HighMAT Audio, Image and Video

Products which display this logo are able to play back all three types of HighMAT content: Audio (WMA, MP3), still pictures (JPEG) and video (WMV, MPEG-4*)

*MPEG-4: support is optional

9.2. Why take advantage of HighMAT?

A Problem Defined: Today, when consumers create their own digital audio, video or photo collections on CD-R or other physical formats, there are numerous, inconsistent ways that devices read the data. For the consumer, the playback experience can be confusing:

- Many consumer electronics devices do not support playlists or advanced playback options such as the ability to access content by date or genre.
- The user interface for accessing the media and any associated information (including playlists, folders, music metadata and more) may vary between different devices.
- Large collections of music, videos or photos may take several minutes for a CD or DVD player to read.
- Discs may be unplayable because the compressed media format is not supported by the playback device or the disc layout is incompatible.

A Solution Created: HighMAT delivers a better digital media access experience by creating a standard approach for PCs to structure digital media on various physical formats and for playback devices to read the data.

9.3. Benefits of HighMAT?

1

Creating a HighMAT CD makes it easier to navigate different types of media you want to burn onto a CD (Photos, Music).

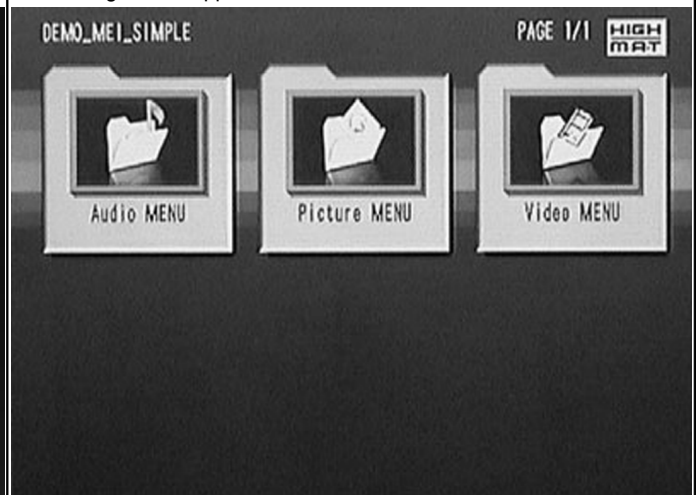
Conventional

Even though DVD player is CD-R/RW compatible, the inconsistent ways that various DVD players can read the music or photos files often leads to a confusing and inconsistent playback experience.



HighMAT

HighMAT compatible products play content back with consistent interface. This includes products which are JPEG compatible products without HighMAT support.



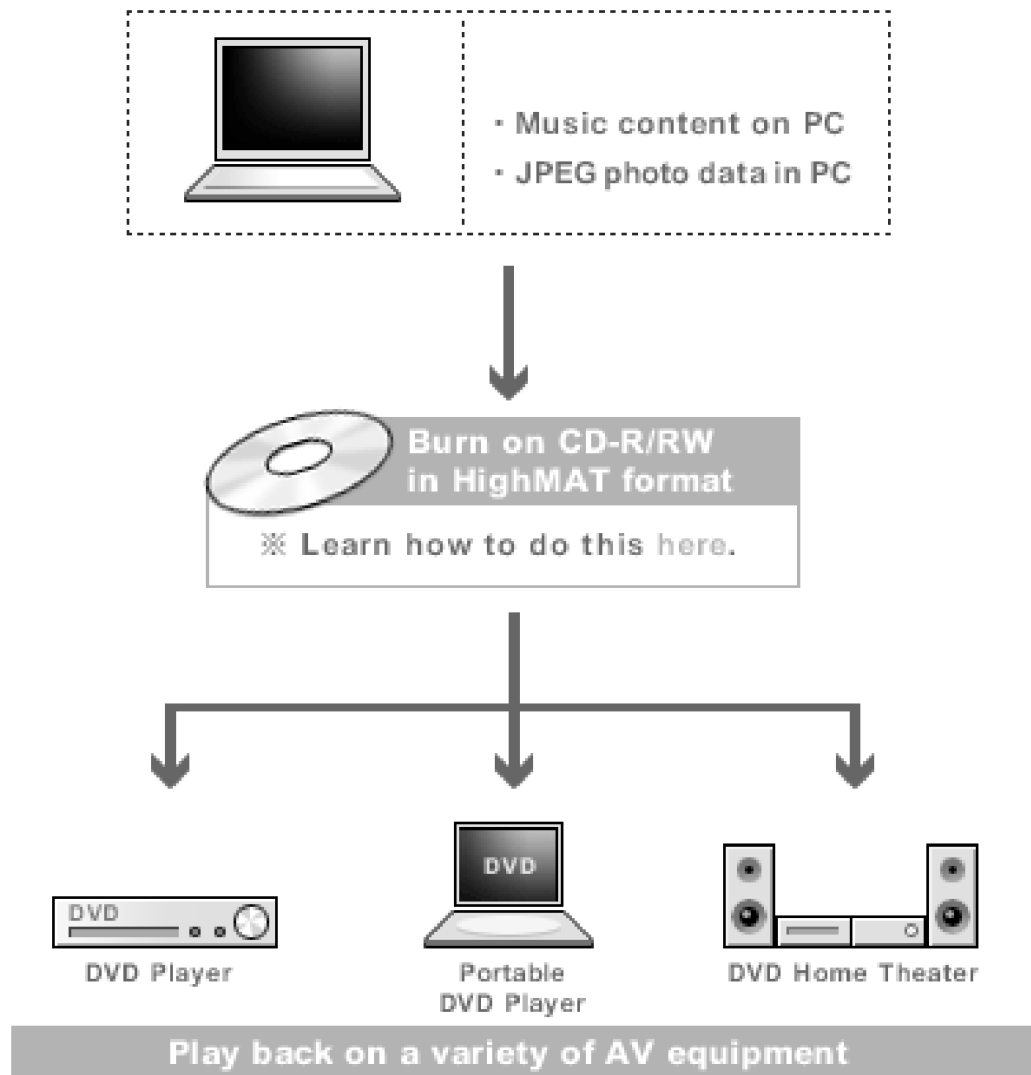
2

Eliminates compatibility issues and delivers better more consistent access to more music information like artist, song name, genre and photo information (metadata) as well as provide faster access to large amounts of music and photo files burned on CDs.



Easy navigation to access disc contents

3 HighMAT CDs can also work on other players.



HighMAT is now available for CD Burning and in Leading DVD Players. HighMAT is a new technology that is now available in leading software and consumer electronic devices to dramatically improve the digital media experience when you create homemade CDs. HighMAT delivers a simple, standardized way for PC software and consumer electronics devices to talk to each other and work better together.

When you create your homemade CDs with software that supports HighMAT CD burning, and then play them back on a DVD player that supports HighMAT, you get better, easier navigation. You get folders you can access with a single click of your DVD player's remote control. You can view important information about your music like full song names, artist titles, album names and genre. And you can get faster startup on your home entertainment device.

To enjoy the benefits of HighMAT, all you need is software that supports HighMAT for CD burning of music or photos, as well as a home entertainment device like a DVD player that supports HighMAT for playback. Always look for the HighMAT logo on your software or home entertainment device to ensure it supports the HighMAT experience.

10 Self diagnosis and special mode setting

This unit is equipped with functions for checking and inspecting namely: Self-Diagnostic and Test Mode.

10.1. Service Mode Summary Table

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

Below is the summary of major checking:

Player buttons	Remote control unit buttons	Application	Note
STOP	0	Error code display	(Refer to the section, "10.2.2 DVD Self Diagnostic Function-Error Code").
	5	Jitter checking	(Refer to the section "10.2.1 Service Mode Table 1 for more information").
	6	Region display and mode	(Refer to the section "10.2.1 Service Mode Table 1 for more information").
	7	Micro-processor firmware version check	
	FUNCTIONS	DVD laser drive current check	
	3	DVD laser drive current check	
	$\equiv 10$	Initialization of the player (factory setting is restored.) Used after replacement of micro-computer, FLASH ROM IC, EEPROM and HDMI module.	
	8	Region and Firmware version display	
	ENTER	DVD Module Reset	

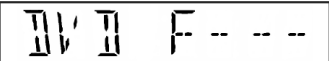
10.2. Service Mode Table 1

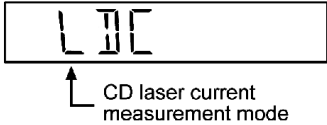
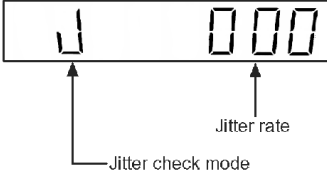
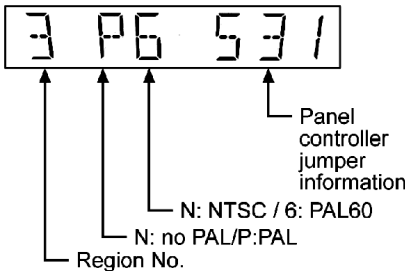
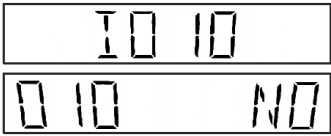
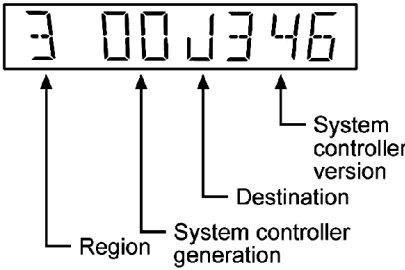
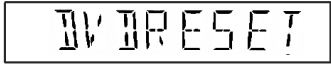
By pressing various button combinations on the player and remote control unit can activate the various service modes for checking.

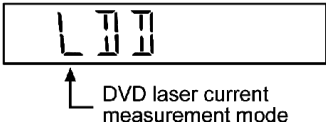
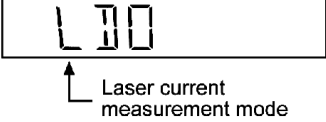
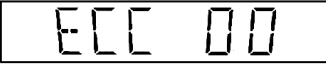
Special Note:

Due to the limitations of the no. characters that can be shown on FL Display, the "FL Display" button on the remote control unit is used to show the following page. (Display 1 / Display 2).

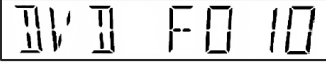
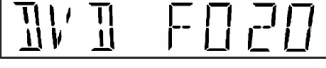
10.2.1. Service Mode Table 1

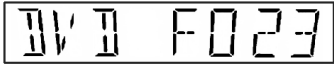
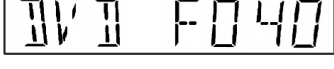
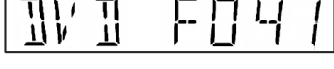
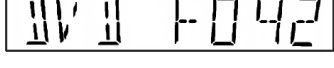
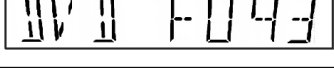
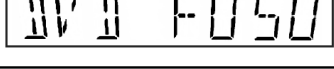
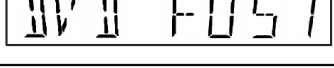
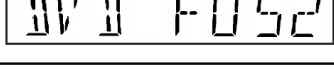
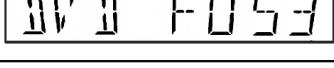
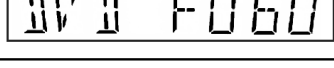
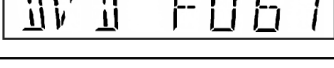
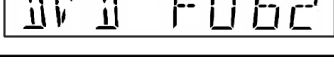
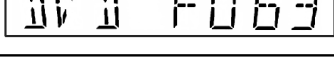
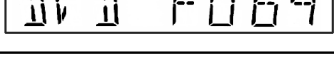
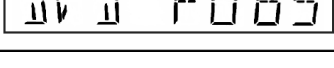
Item		FL Display	Key Operation
Mode Name	Description		Remote Control Key
Error code check	Error code check. The latest error code stored in the EEPROM IC is displayed.	 Error code (play_err) is expressed in the following convention. Error code = 0 x DAXX is expressed: DVDnn UXX Error code = 0 x DBXX is expressed: → DVDnn HXX Error code = 0 x DXXX is expressed: → DVDnn FXXX Error code = 0 x 0000 is expressed: → DVDnn F--- * "xx" denotes the error code →	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. Cancelled automatically 5 seconds later. To exit, press [POWER] button on main unit or remote control.
ADSC internal RAM data check	ADSC internal RAM data check. ADSC internal RAM data is read out and displayed.	 The value is shown in hexadecimal notation. The above example shows the data in ADSC address OFAh is 6901h.	In STOP (no disc) mode, press STOP button on the player, and "1" & "2" button on the remote control unit. Press STOP or PLAY button.

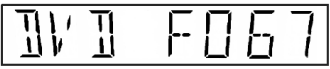
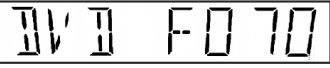
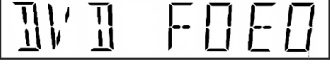
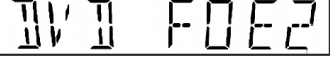
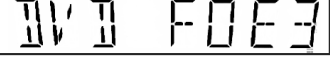
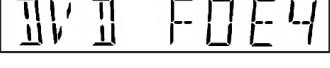
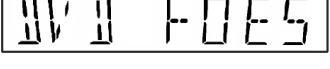
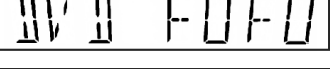
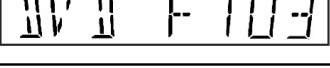
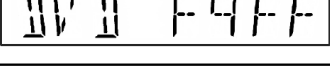
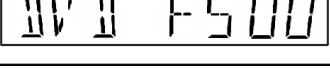
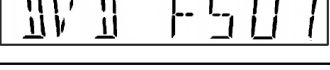
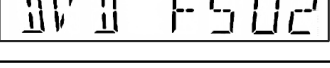
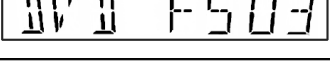
Item		FL Display	Key Operation
Mode Name	Description		Remote Control Key
CD laser drive current measurement	CD laser drive current measurement. CD laser drive current measured and the result is displayed together with the initial value stored in the EEPROM IC. After the measurement, CD laser emission 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.)	 The value denotes the current in decimal notation. The above example shows the initial current is 25mA and the measured value is 22mA.	In STOP (no disc) mode, press STOP button on the player, and "3" button on the remote control unit. Cancelled automatically 5 seconds later. Press "FL Display" button on remote control unit for next page (FL Display).
Device Name	Display the device name.		In STOP (no disc) mode, press STOP button on the player, and "4" button on the remote control unit. *With pointing of cursor up and down on display. Cancelled automatically 5 seconds later. To exit, press [POWER] button on main unit or remote control.
Jitter check	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 retired 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.	 Jitter rate is shown in decimal notation to one place of decimal. Focus drive value is shown in hexadecimal notation.	In STOP (no disc) mode, press STOP button on the player, and "5" button on the remote control unit. Press STOP or OPEN button to exit. Press "FL DISPLAY" button on remote control unit for next page (FL Display).
Region display	Region display & mode		In STOP (no disc) mode, press STOP button on the player, and "6" button on the remote control unit. Cancelled automatically 5 seconds later.
Micro- processor firmware version display & EEPROM checksum display.	Micro-processor firmware version display & EEPROM checksum display.		In STOP (no disc) mode, press STOP button on the player, and "7" button on the remote control unit. Cancelled automatically 5 seconds later. Press "FL Display" button on remote control unit for next page. (FL Display)
DVD module firmware version display	DVD module firmware version display is on the FL Display.		In STOP (no disc) mode, press STOP button on the player, and "8" button on the remote control unit. Cancelled automatically 5 seconds later.
Initialization	Initialization. User settings are cancelled and player is initialized to factory setting.		In STOP (no disc) mode, press STOP button on the player, and ≥ 10 button on the remote control unit.
DVD Module Reset	To reset DVD Module.		In initialisation, press and hold STOP button on the player followed by "Enter" button on the remote control. Cancelled automatically 5 seconds later.

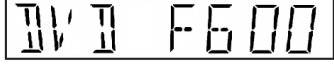
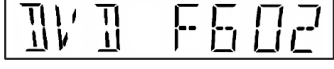
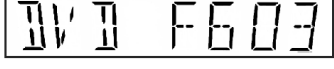
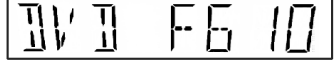
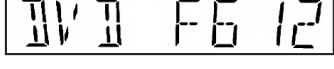
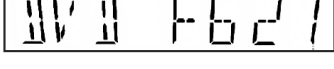
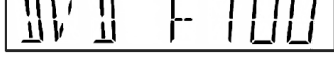
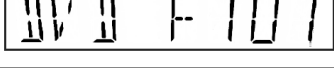
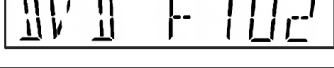
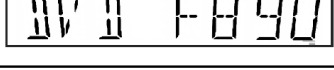
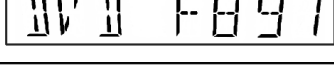
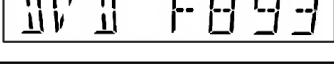
Item		FL Display	Key Operation
Mode Name	Description		Remote Control Key
DVD laser drive current measurement	DVD laser drive current measurement. DVD laser drive current is measured and the result is displayed together with the initial value stored in the EEPROM IC. After the measurement, DVD laser emission 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.)	 The value denotes the current in decimal notation. The above example shows the initial current is 20mA and the measured value is 20mA.	In STOP (no disc) mode, press STOP button on the player, and FUNCTIONS button on the remote control unit. Cancelled automatically 5 seconds later. Press "FL Display" button on remote control unit for next page (FL Display) on values of DVD drive current.
Communication error display	Displays frequency of communication errors between system control IC and mechanism control IC during DVD module.		In STOP (no disc) mode, press STOP button on the player, and "MENU" button on the remote control unit. Cancelled automatically 5 seconds later.
Initial setting of laser drive current	Initial setting of laser drive current. Initial current value for each of DVD laser and CD laser is separately saved in the EEPROM IC.	 The value denotes the current in decimal notation. The above example shows the initial current 20mA and 23mA for DVD laser and CD laser respectively when the laser is switched on.	In STOP (no disc) mode, press STOP button on the player, and PAUSE button on the remote control unit. Cancelled automatically 5 seconds later. Press "FL Display" button on remote control unit for next page (FL Display) on values of laser drive current.
ECC error display	ECC decode error display.		In STOP (no disc) mode, press STOP button on the player, and TOP MENU button on the remote control unit. Cancelled automatically 5 seconds later. Press "FL Display" button on remote control unit for next page (FL Display) on values of laser drive current.
Time 1 check	Timer 1 check. Laser operation timer Operation time is measured separately for DVD laser and CD laser. Press "FL Display" button for next page of FL Display (to show CD laser time).	 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".	In STOP (no disc) mode, press STOP button on the player, and "▲" button on the remote control unit. Cancelled automatically 5 seconds later.
Timer 1 reset	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)	While display Timer 1 data, press STOP button on the player, and "▼" button on the remote control unit. Cancelled automatically 5 seconds later.
Timer 2 check	Timer 2 check. Spindle motor operation timer. Press "FL Display" button for next page of FL Display.	 Time is shown in 5 digits of decimal notation in a unit of 10 hours. "0000" will follow "9999".	In STOP (no disc) mode, press STOP button on the player, and "►" button on the remote control unit. Cancelled automatically 5 seconds later.
Timer 2 reset	Timer 2 reset. Spindle motor operation timer.		While display Timer 2 data, press STOP button on the player, and "◀" button on the remote control unit. Cancelled automatically 5 seconds later.

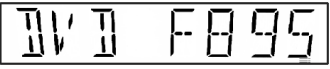
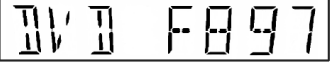
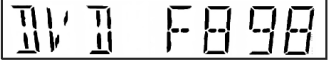
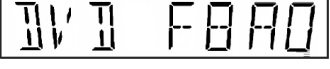
10.2.2. DVD Self-Diagnostic Function Error Code

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
F010	DVD Media disk	A specification value is size from the PARENTAL LOCK value of the appointed country.		Press [■, STOP] on main unit for next error.
F020	DVD Media disk	There is no TT_SRPT. (RLBN is 0).		Press [■, STOP] on main unit for next error.
F021	DVD Media disk	The number of TT_SRP is 0.		Press [■, STOP] on main unit for next error.

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
F022	DVD Media disk	A specification value. It is size from the number of TT_SRP.		Press [■, STOP] on main unit for next error.
F023	DVD Media disk	VTSN or in agreement with VTS_TTN. There is no SRP.		Press [■, STOP] on main unit for next error.
F024	DVD Media disk	A specification value. It is size from TT_SRP. PTT_Ns		Press [■, STOP] on main unit for next error.
F030	DVD Media disk	The number of TTU_SRP is 0.		Press [■, STOP] on main unit for next error.
F031	DVD Media disk	A specification value. It is size from the number of TTU_SRP.		Press [■, STOP] on main unit for next error.
F040	DVD Media disk	The number of SRP1 is 0.		Press [■, STOP] on main unit for next error.
F041	DVD Media disk	The number of PGCI_SRP is 0.		Press [■, STOP] on main unit for next error.
F042	DVD Media disk	A specification value. It is size from the number of PGCI_SRP.		Press [■, STOP] on main unit for next error.
F043	DVD Media disk	It is in agreement with Menu ID. There is no PGCI_SRP.		Press [■, STOP] on main unit for next error.
F050	DVD Media disk	The number of TMAP_SRP is 0.		Press [■, STOP] on main unit for next error.
F051	DVD Media disk	A specification value. It is size from the number of TMAP_SRP.		Press [■, STOP] on main unit for next error.
F052	DVD Media disk	Specification TMAP_SA is 0.		Press [■, STOP] on main unit for next error.
F053	DVD Media disk	The number of MAP_EN is 0.		Press [■, STOP] on main unit for next error.
F060	DVD Media disk	Although C_POSIT exists, it is in PGC. There is no PGMAP.		Press [■, STOP] on main unit for next error.
F061	DVD Media disk	Although C_POSIT exists, it is in PGC. There is no PGMAP.		Press [■, STOP] on main unit for next error.
F062	DVD Media disk	A specification value inside of PGC. It is size from the number of PGes.		Press [■, STOP] on main unit for next error.
F063	DVD Media disk	Although C_POSIT exists, it is in PGC. There is no C_PBIT.		Press [■, STOP] on main unit for next error.
F064	DVD Media disk	Although C_POSIT exists, it is in PGC. The number of PGes is 0.		Press [■, STOP] on main unit for next error.
F065	DVD Media disk	Specification A cell number is 0.'		Press [■, STOP] on main unit for next error.

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
F066	DVD Media disk	A specification value inside of PGC. It is size from the number of Cell(s).		Press [■, STOP] on main unit for next error.
F067	DVD Media disk	A blocked cell is present.		Press [■, STOP] on main unit for next error.
F070	DVD Media disk	There is no NV_PACK data.		Press [■, STOP] on main unit for next error.
F080	DVD Media disk	Under reference. There is no Cell number.		Press [■, STOP] on main unit for next error.
F0E0	DVD Media disk	For [used as a DFD object] a user guide. A PGC control file < impossible.		Press [■, STOP] on main unit for next error.
F0E1	DVD Media disk	DFD main microcomputer. Compatibility with a DFD type < download is impossible.		Press [■, STOP] on main unit for next error.
F0E2	DVD Media disk	DFD download start. PGC reproduction error.		Press [■, STOP] on main unit for next error.
F0E3	DVD Media disk	Waiting for the completion of DFD download. PGC reproduction error.		Press [■, STOP] on main unit for next error.
F0E4	DVD Media disk	At the time of DFD download AVDEC.		Press [■, STOP] on main unit for next error.
F0E5	DVD Media disk	It is the farm file lead error at the time of DFD download.		Press [■, STOP] on main unit for next error.
F0E6	DVD Media disk	DFD alteration check error of the read firmware.		Press [■, STOP] on main unit for next error.
F0F0	DVD Media disk	There is no farm file used as a DFD object and it is downloading needlessly.		Press [■, STOP] on main unit for next error.
F0F1	DVD Media disk	The firmware which is in agreement with DFD download conditions < unnecessary.		Press [■, STOP] on main unit for next error.
F103	Illegal highlight Position	Big possibility of disc specification violation during highlight display		Press [■, STOP] on main unit for next error.
F4FF	Force initialize failure (time out)	Timeout when force initialization fails		Press [■, STOP] on main unit for next error.
F500	DSC error	DSC (IC8251) stops in the occurrence of servo error (startup, focus error, etc.)		Press [■, STOP] on main unit for next error.
F501	DSC not Ready error	DSC-system computer communication error (Communication failure caused by idling of DSC)		Press [■, STOP] on main unit for next error.
F502	DSC Time out error	Similar as F500		Press [■, STOP] on main unit for next error.
F503	DSC communication Failure	Communication error (result error occurred although communication command was sent)		Press [■, STOP] on main unit for next error.

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
F504	Abnormal adjusting DSC data slice offset			Press [■, STOP] on main unit for next error.
F505	DSC Attention error	Similar as F500		Press [■, STOP] on main unit for next error.
F506	Invalid media	Disc is flipped over, TOC unreadable, incompatible disc media		Press [■, STOP] on main unit for next error.
F600	Access failure to management information caused by demodulation error	Operation stopped because navigation data is not accessible caused by the demodulation defect		Press [■, STOP] on main unit for next error.
F601	Indeterminate sector ID requested	Operation stopped caused by the request to access abnormal ID data		Press [■, STOP] on main unit for next error.
F602	Access failure to LEAD-IN caused by demodulation error	LEAD IN data unreadable		Press [■, STOP] on main unit for next error.
F603	Access failure to KEYDET caused by demodulation error	Access failure to CSS data of disc		Press [■, STOP] on main unit for next error.
F610	ODC abnormality	No permission for command execution		Press [■, STOP] on main unit for next error.
F611	No CRC OK for a specific time (CD)	Access failure to seek address in CD series		Press [■, STOP] on main unit for next error.
F612	No CRC OK for a specific time (DVD)	Access failure to ID data in DVD series		Press [■, STOP] on main unit for next error.
F620	Laser safeguard: high temperature condition	High temperature of the laser guide unit (OPU unit)		Press [■, STOP] on main unit for next error.
F621	Laser safeguard: circuit failure condition	Circuitry failure of the laser guide unit (OPU unit)		Press [■, STOP] on main unit for next error.
F700	MBX overflow	When replying message to disc manager		Press [■, STOP] on main unit for next error.
F701	Message command does not end	Next message is sent before replying to disc manager		Press [■, STOP] on main unit for next error.
F702	Message command changes	Message is changed before it is sent as a reply to disc manager		Press [■, STOP] on main unit for next error.
F880	Task number is not appropriate	Message coming from a non-existing task		Press [■, STOP] on main unit for next error.
F890	Sending message when message is being sent to AV task	Sending message to AV task		Press [■, STOP] on main unit for next error.
F891	Message couldn't be sent to AV task	Begin sending message to AV task		Press [■, STOP] on main unit for next error.
F893	FLASH ROM IC problem	FLASH ROM IC installed is not operating properly (Necessary replacement of FLASH ROM IC) or firmware problem		Press [■, STOP] on main unit for next error.

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
F894	EEPROM abnormality	EEPROM IC installed is not operating in normal condition (EEPROM contains neccessary data)		Press [■, STOP] on main unit for next error.
F895	Region setting abnormality	Firm version agreement check for factory preset setting failure prevention. Check region setting & re-initialize		Press [■, STOP] on main unit for next error.
F896	No existence model	Firm version agreement check for factory preset setting failure prevention		Press [■, STOP] on main unit for next error.
F897	Initialize is not completed	Initialize completion check for factory preset setting failure prevention		Press [■, STOP] on main unit for next error.
F898	Disagreement of hardware and software	Unsuitable combination of AV DECODER, SDRAM and FLASH ROM (firmware)		Press [■, STOP] on main unit for next error.
F8A0	Message command is not appropriate	Begin sending message to AV task		Press [■, STOP] on main unit for next error.

Note:

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

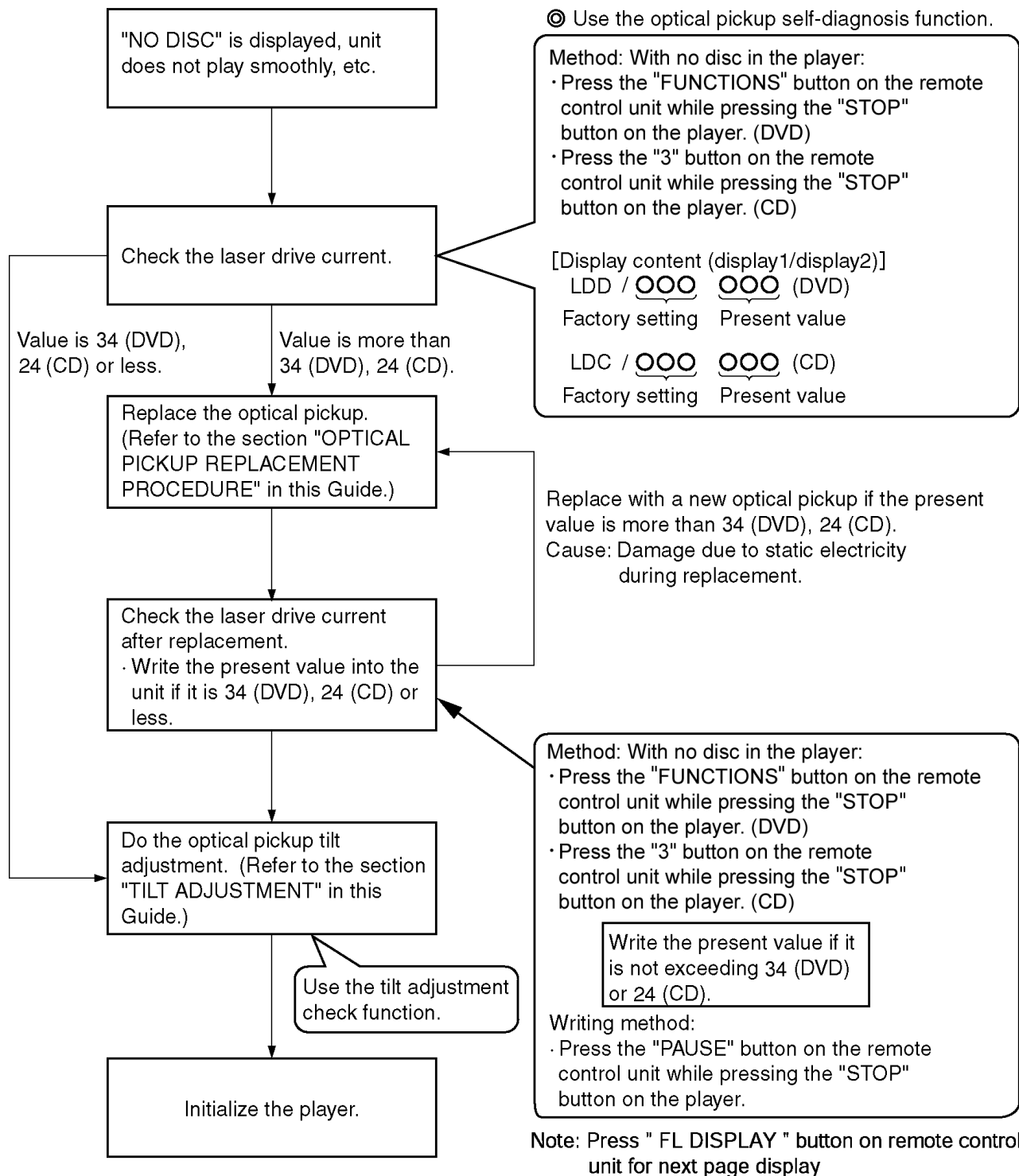
*1: CPPM is the copy guard function beforehand written in the disk for protection of copyrights.

10.2.3. Optical Pickup Breakdown Diagnosis

This unit is equipped with the optical pickup self-diagnosis function and the tilt adjustment check function. Follow the procedure described below during repair in order to perform self-diagnosis and tilt adjustment effectively. Especially when "NO DISC" is displayed, be sure to apply the self-diagnosis function before replacing with an optical pickup. Replacement of optical pickup generally requires when the present value of laser drive exceeds 45 (DVD) or 45 (CD).

Note:

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



10.3. Special Mode Table 2

Item		FL Display	Key Operation
Mode Name	Description		Front Key
Self -Diagnostic Mode	To enter into self diagnostic checking for main unit.		1. Press and hold [■, STOP] button for 2 seconds follow by [^/FF/▶▶]. To exit, press [Ⓞ/I, AC IN] button on main unit or remote control.
CD Test Mode	To enter into checking the reliability of changer unit.		1. Select [DVD/CD▶] for DVD/CD mode. 2. Press and hold [■, STOP] button for 3 seconds follow by [^/FF/▶▶]. To exit, press [Ⓞ/I, AC IN] button on main unit or remote control.

Item		FL Display	Key Operation
Mode Name	Description		Front Key
CD Auto Adjustment	To check the CD auto adjustment result for FLOCK, TLOCK and CLVS.		In CD Test Mode: 1. Press [0] button on the remote control. To exit, press [⏻/I, AC IN] button on main unit or remote control.
CD Changer Reliability Test (CRS1D)	To determine the reliability of CD/DVD Changer Unit. (For more information, refer to section 10.3.1)		In Self-Diagnostic Mode: 1. Select [DVD/CD ▶] for CD mode. 2. Press [1] on remote control.. To exit, press [⏻/I, AC IN] button on main unit or remote control. (The tray will return to PLAY position and then power off)
Doctor Mode	To enter into Doctor Mode for checking of various items and displaying EEPROM and firmware version.	1. 2. 1. All segments will light up for 1 second. 2. The Check Sum of EEPROM and firmware version will be display. * ROM correction ** Firmware version No:	In any mode: 1. Press [■, STOP] button on main unit follow by [4] and [7] on remote control. To exit, press [ENTER] button on remote control or [⏻/I, AC IN] button on main unit or remote control.
Changer Reliability Test	To check the function operation of changer unit. (For more information, refer to 10.3.1)		In self-diagnostic mode: 1. Press [1] on remote control. To exit, press [ENTER] button on remote control or [⏻/I, AC IN] button on main unit or remote control.
FL Display Test	To check the FL segments display (All segments will light up and LED will blink at 0.5 second interval)		In doctor mode: 1. Press [DIMMER] button on remote control.
Tape Eject Test	To check on the tape eject function (For deck 1/2)		In doctor mode: 1. Press [PROGRAM] button on remote control.

10.3.1. EEPROM Checksum (ROM Correction)

Purpose: To check for microprocessor firmware version and EEPROM checksum (ROM correction).

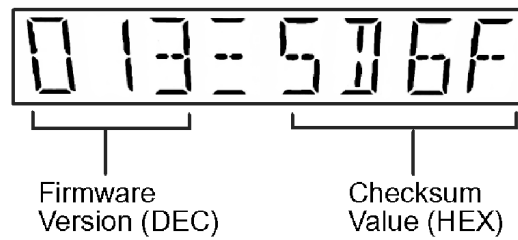
Below are the procedures for this mode.

Step 1: Enter into Doctor mode (for more information, refer to section 10.3 on key operation to enter into this mode).

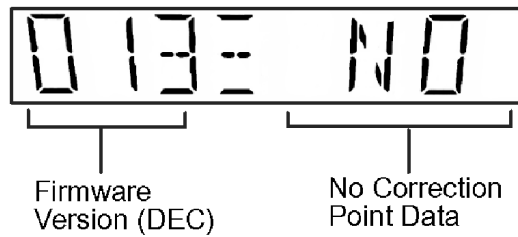
Step 2: Check for firmware version and EEPROM checksum (By pressing STOP button on main unit followed by “4” and “7” on remote control).

- When entering into DOCTOR MODE, the firmware version and checksum of EEPROM (if applicable) will appear on FL display. Below is the information on the EEPROM IC (ROM correction) under 3 possible situations:

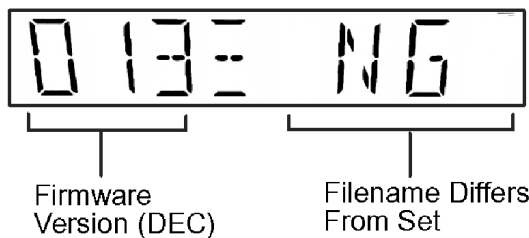
1. In the case that the correction point existence data is other than 0 (ie. correction file exists), EEPROM checksum display for the microprocessor shall be made after calculating checksum by summing up the content of data area from EEPROM.



2. In the case that the correction point existence data is 0, [NO] shall be displayed.



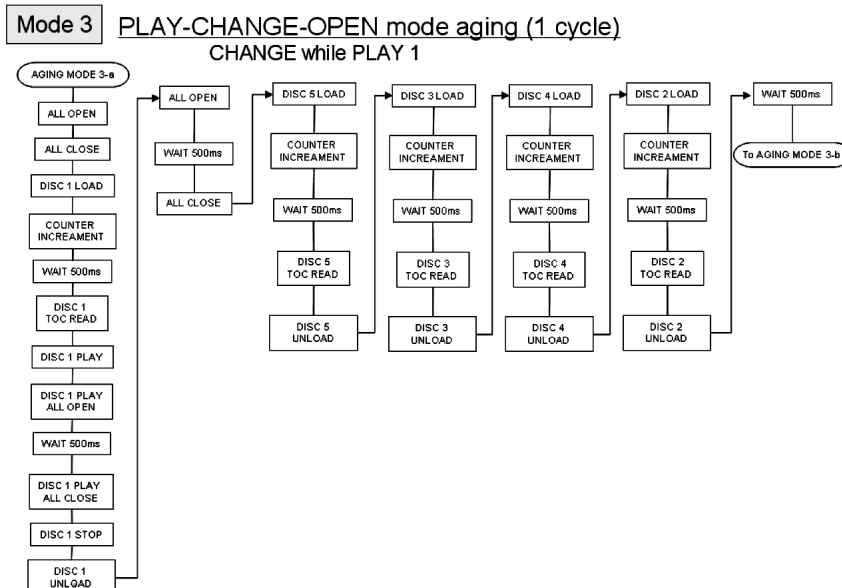
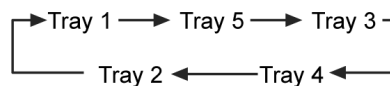
3. In cases that the filename is different even though a EEPROM is set, or no correction file exists, [NG] shall be displayed (the correction point existence data is set to 0 at this condition).



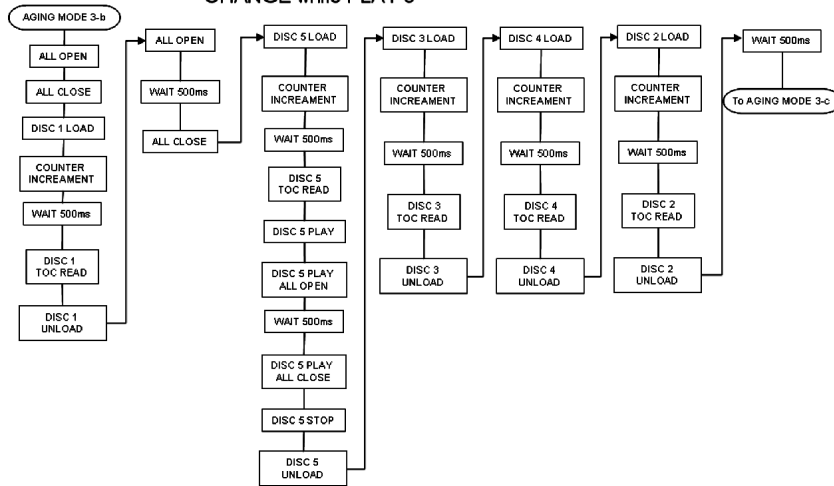
Note: Microprocessor firmware refers to version number for microprocessor IC. It is subject to change which would be updated accordingly. ROM correction checksum refers to the HEX code that is displayed upon key buttons pressed if an EEPROM is loaded in the unit.

10.3.2. CD/DVD changer unit ageing test mode

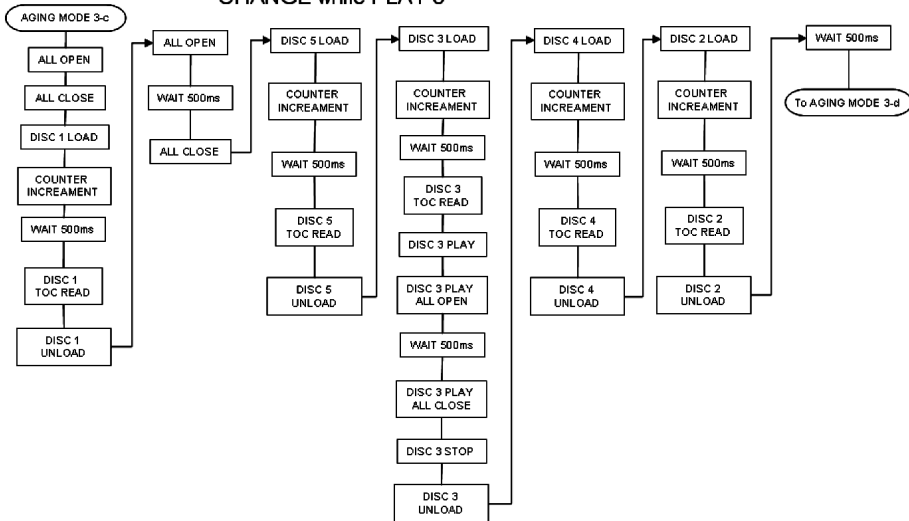
Below is the process flow chart of ageing for the CD/DVD changer unit. (CRS1D)



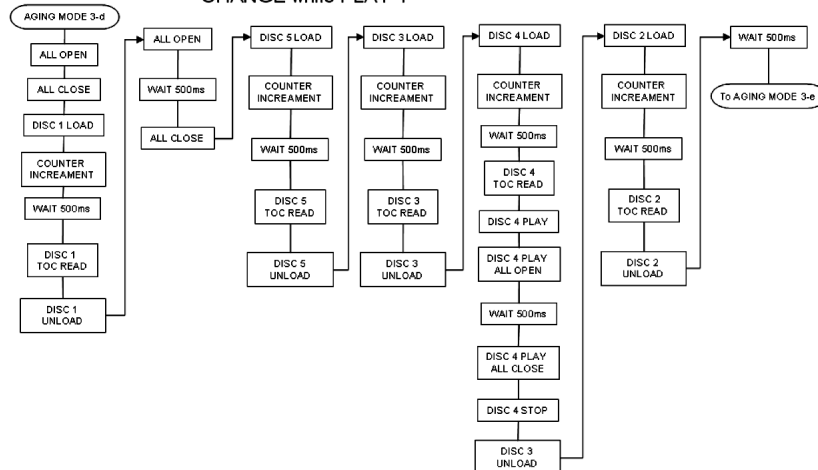
Mode 3 PLAY-CHANGE-OPEN mode aging (1 cycle) CHANGE while PLAY 5

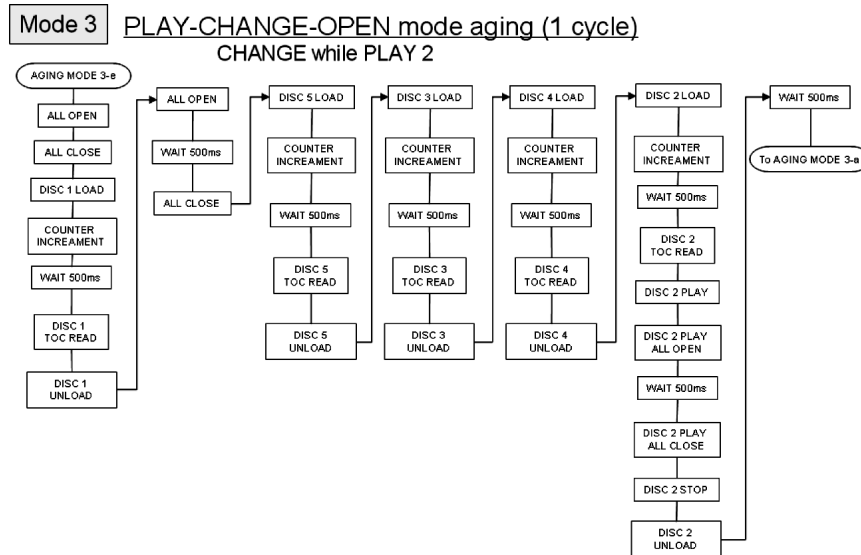


Mode 3 PLAY-CHANGE-OPEN mode aging (1 cycle) CHANGE while PLAY 3



Mode 3 PLAY-CHANGE-OPEN mode aging (1 cycle) CHANGE while PLAY 4



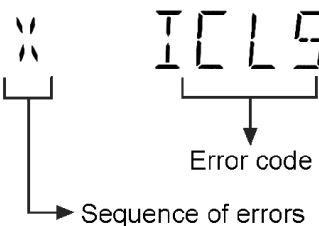
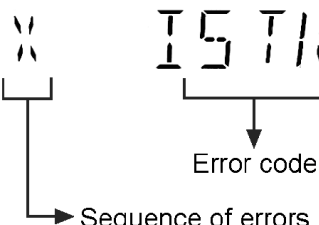
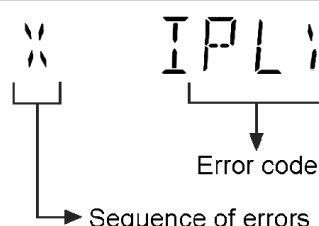
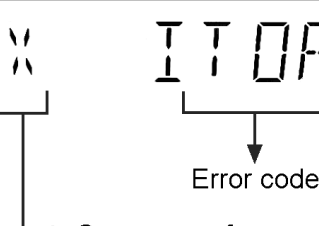
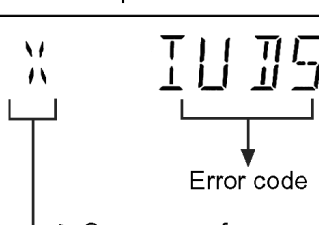
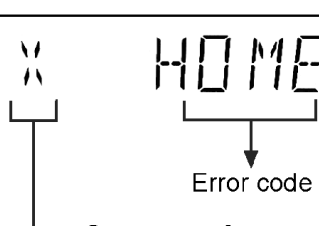
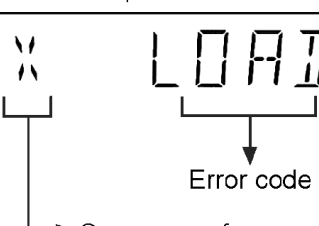


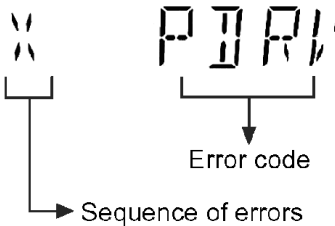
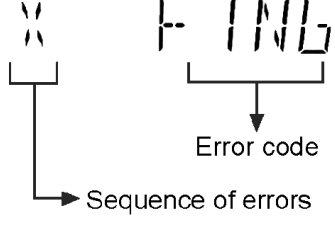
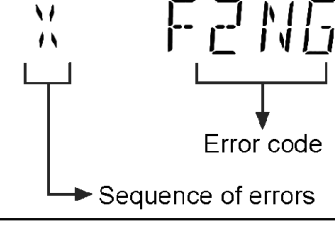
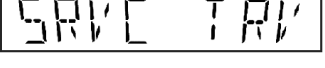
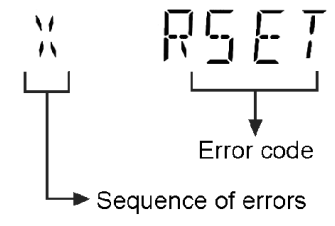
10.3.3. Error Code Table

Self-Diagnosis Function (refer Section 10.3) provides information on any problems occurring for the unit and its respective components by displaying the error codes. These error code such as U**, H** and F** are stored in memory and held unless it is cleared.

The error code is automatically display after entering into self-diagnostic mode.

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
H01	Mode SW, plunger and capstan motor abnormal		H01	For deck mechanism unit (For deck 1/2). Press [■, STOP] on main unit for next error.
H02	Rec INH SW abnormal		H02	For deck mechanism unit (For deck 2). Press [■, STOP] on main unit for next error.
H03	HALF SW abnormal		H03	For deck mechanism unit (For deck 1/2). Press [■, STOP] on main unit for next error.
F01	Reel pulse abnormal		F01	For deck mechanism unit (For deck 1/2). Press [■, STOP] on main unit for next error.
F15	RESET SW abnormal	REST SW: ON is not detected within the specified time.	F15	For DVD unit (For Traverse). Press [■, STOP] on main unit for next error.
F26	Transmission error between CD Servo LSI IC and microprocessor IC	When set to CD mode, the sense signal does not turn "Low", a fail safe time after system command transmission is sent.	F26	For DVD unit (For Traverse). Press [■, STOP] on main unit for next error.
F61	Power Amp IC output abnormal	Upon power on, PCONT=HIGH, DCDET=L after checking LSI.	F61	For power. Press [■, STOP] on main unit for next error.
IHMS	Cam gear abnormality	Cam gear does not rotate to "HOME" position.	 Error code Sequence of errors	For CD/DVD changer unit (CRS1D). Press [SINGLE CHANGE] on main unit for next error.

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
ICSL	Cam gear/gear units abnormal	Cam gear does not rotate to "PLAY" driving position and hence does not drive playing tray to "STOCK" position.		For CD/DVD changer unit (CRS1D). Press [SINGLE CHANGE] on main unit for next error.
ISTK	Drive rack/gear assembly abnormal	The tray drive rack does not move to "STOCK" position. (Tray does not move to "STOCK" position)		For CD/DVD changer unit (CRS1D). Press [SINGLE CHANGE] on main unit for next error.
IPLY	Drive rack/gear assembly abnormal	The tray drive rack does not move to "PLAY" position. (Tray does not move to "PLAY" position)		For CD/DVD changer unit (CRS1D). Press [SINGLE CHANGE] on main unit for next error.
ITOP	UD assembly	UD Rack does not move to front direction. This lead to UD base not raise to top position.		For CD/DVD changer unit (CRS1D). Press [SINGLE CHANGE] on main unit for next error.
IUDS	UD assembly	After TOP SW is detected, UD rack does not move into tray 1 position.		For CD/DVD changer unit (CRS1D). Press [SINGLE CHANGE] on main unit for next error.
HOME	Cam gear/gear assembly abnormal	Cam gear does not move to "HOME" position under following conditions 1. After tray is load to "PLAY" position. 2. After tray is unload to "STOCK" position.		For CD/DVD changer unit (CRS1D). Press [SINGLE CHANGE] on main unit for next error.
LOAD	Tray drive assembly abnormal	Tray unit does not move from "STOCK" to "PLAY" position		For CD/DVD changer unit (CRS1D). Press [SINGLE CHANGE] on main unit for next error.

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
PDRV	Cam gear/gear assembly abnormal	Cam gear does not move from "HOME" to "PLAY" drive position.		For CD/DVD changer unit (CRS1D). Press [SINGLE CHANGE] on main unit for next error.
UDU	UD base assembly abnormal	UD Base assembly does not move upwards from tray 5 to tray 2		For CD/DVD changer unit (CRS1D). Press [SINGLE CHANGE] on main unit for next error.
UDD	UD base assembly abnormal	UD Base assembly does not move downwards from tray 1 to tray 5.		For CD/DVD changer unit (CRS1D). Press [SINGLE CHANGE] on main unit for next error.
UD1	UD base assembly abnormal	UD Base assembly does not move to tray 1.		For CD/DVD changer unit (CRS1D). Press [SINGLE CHANGE] on main unit for next error.
F1NG	Fail - safe mode. (For open/close tray unit(s))	When the tray open operation is performed, it fails to open. It will automatically close all trays after the time-out by the microprocessor. During this time when it fails, the error code will appear.		For CD/DVD changer unit (CRS1D). Press [SINGLE CHANGE] on main unit for next error.
F2NG	Fail - safe mode. (For open/close tray unit(s))	When the tray close operation is performed, it fails to close. It will automatically open all trays after the time-out by the microprocessor. During this time when it fails, the error code will appear.		For CD/DVD changer unit (CRS1D). Press [SINGLE CHANGE] on main unit for next error.
SRVC_TRV	To unlock the traverse unit for service	1. All trays set to "STOCK" position 2. Mechanism set to tray 5 3. Cam gear set to "HOME" position		For CD/DVD changer unit (CRS1D). Press [SINGLE CHANGE] on main unit.
RSET	Cam gear jam/close sensor faulty	During tray re-open, the cam gear will rotate in the opposite direction to reset the cam gear position. When it fails, the error code will appear.		For CD/DVD changer unit (CRS1D). Press [SINGLE CHANGE] on main unit for next error.

CRS1D Error Code display

1. The errors that occurred in CRS1D Mechanism can be recalled and displayed, in the order of the occurrence under self-diagnostic (Refer to Section 10.3 for procedures to enter this mode).

- Only the first 5 errors will be memorized (in backup memory). The subsequence error shall be ignored and not memorize.

For system with EEPROM as memory backup, memory space in EEPROM is necessary.

2. To display all error code memorized

In CRS1D Self-Diagnostic mode, press [SINGLE CHANGE] to display subsequence error code.

It shall repeat after reaching error no. 5.

e.g.:

[1 _ _ _ _ I H M S] → [SINGLE CHANGE]

[2 _ _ _ _ I T O P] → [SINGLE CHANGE]

[3 _ _ _ _ H O M E] → [SINGLE CHANGE]

[4 _ _ _ _ L O A D] → [SINGLE CHANGE]

[5 _ _ _ _ _ U D D] → [SINGLE CHANGE]

3. To clear the error code memory

In CRS1D Self-Diagnostic mode, long press [SINGLE CHANGE] key (2s or more)

11 Assembling and Disassembling

11.1. Caution

Special Note:

This model uses a new CD/DVD changer unit CRS1D. In this following section does not contain the necessary disassembly & assembly information for the CD/DVD changer unit (CRS1D) except the disassembly & assembly of traverse unit. Kindly refer to the original service manual for the CD/DVD changer unit. (Order No. MD0603065A3).

“ATTENTION SERVICER”

Some chassis components may have sharp edges. Be careful when disassembling and servicing.

1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
2. For reassembly after operation checks or replacement, reverse the respective procedures.
Special reassembly procedures are described only when required.
3. Select items from the following index when checks or replacement are required.
4. Refer to the Parts No. on the page of “Parts Location and Replacement Parts List” (Section 25), if necessary.

Warning :-

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

Caution:

After replacing of CD/DVD Changer Unit, ageing test is necessary. Please confirm operation for CD/DVD Changer Unit.

Caution:

Original screws should be used.

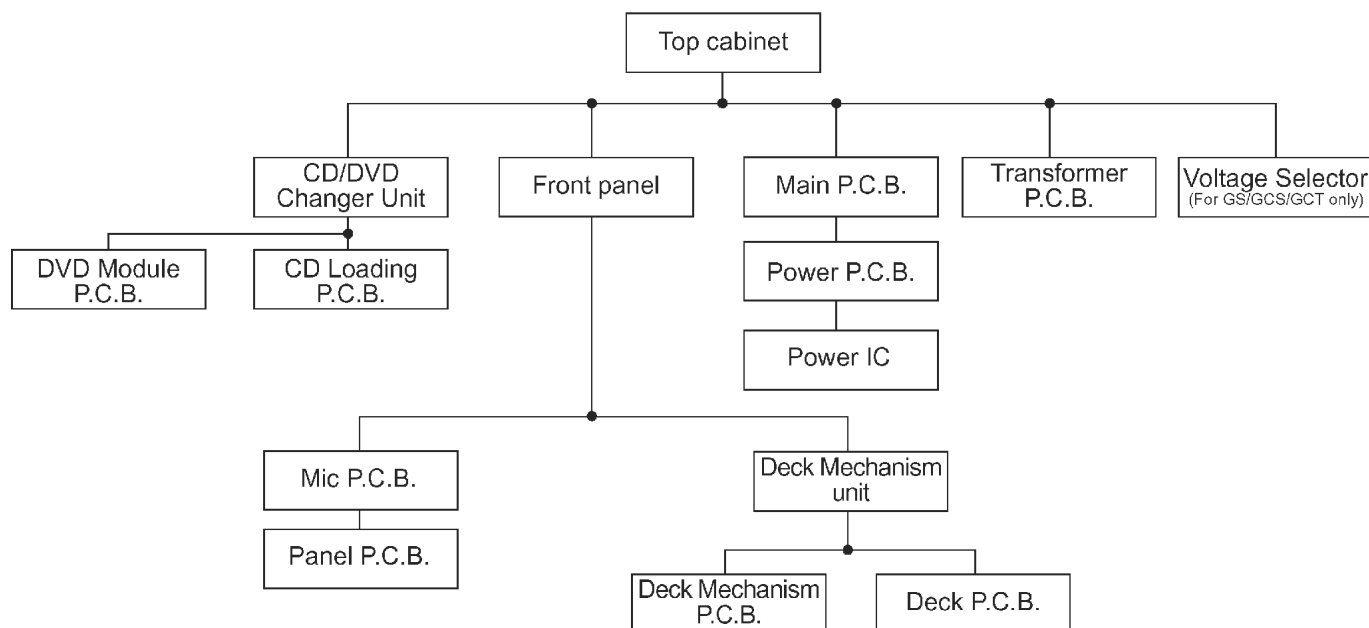
Below is the list of disassembly sections

- Disassembly of Top Cabinet
- Disassembly of Rear Panel
- Disassembly of CD/DVD Changer Unit
- Disassembly of Main P.C.B.
- Disassembly of Transformer P.C.B.
- Disassembly of Power P.C.B.
- Disassembly of Front Panel Unit
- Disassembly of Panel P.C.B.
- Disassembly of Deck Mechanism Unit
- Disassembly for Deck P.C.B.
- Disassembly of Traverse Unit
- Disassembly of Optical Pickup Unit (DVD Mechanism)
- Disassembly of Deck Mechanism
- Replacement for cassette lid
- Rectification for tape jam problem

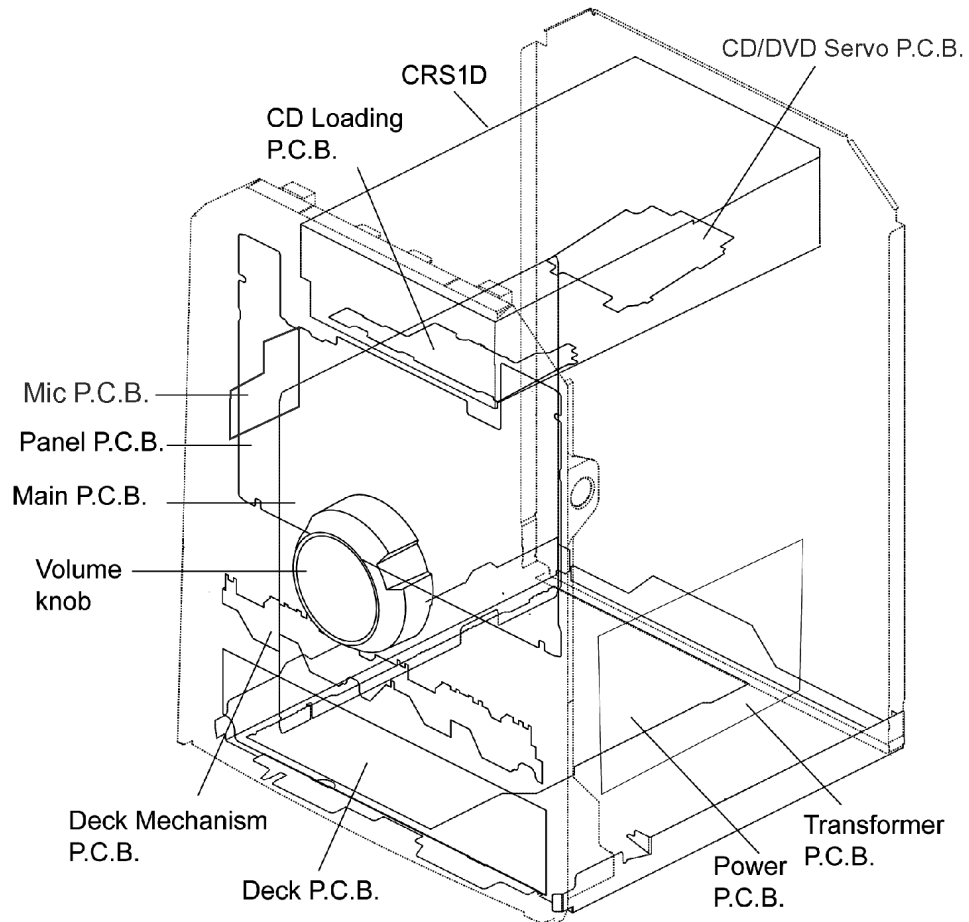
11.2. Disassembly flow chart

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

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



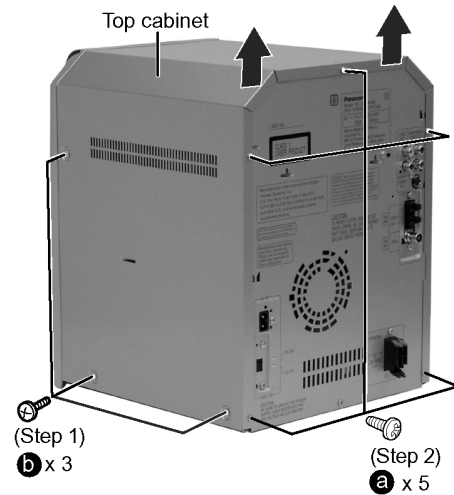
11.3. Main Parts Location



11.4. Disassembly of Top Cabinet

Step 1 Remove 3 screws at each side and 5 screws at rear panel.

Step 2 Lift up both sides of the top cabinet, push the top cabinet towards the rear to remove the top cabinet.



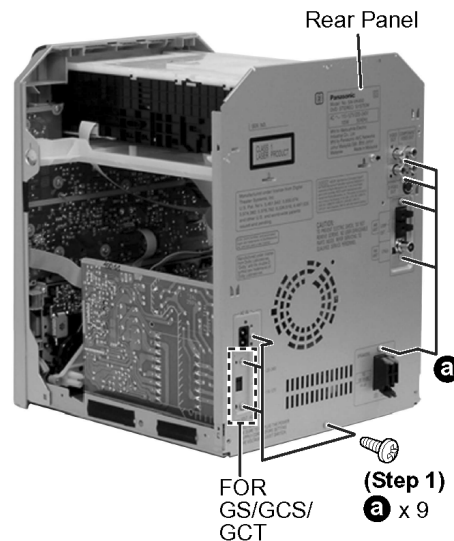
11.5. Disassembly of Rear Panel

· Follow the (Step 1) - (Step 2) of Item 11.4 - Disassembly of Top Cabinet

Step 1 Remove 9 screws (For GS/GCS/GCT).

Remove 7 screws (For GC).

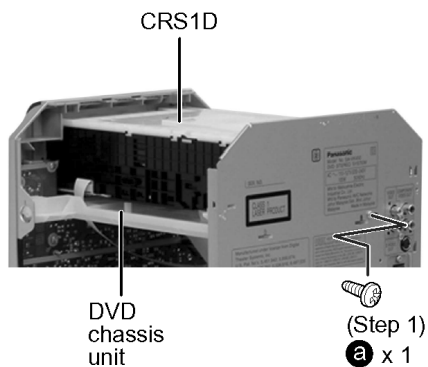
Step 2 Remove rear panel.



11.6. Disassembly of CD/DVD Changer Unit (CRS1D)

· Follow the (Step 1) - (Step 2) of Item 11.4 - Disassembly of Top Cabinet

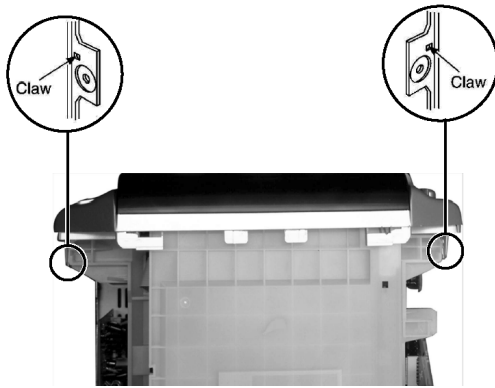
Step 1 Remove 1 screw at rear panel.



Step 2 Detach the FFC cables (CN2801 & CN2805).



Step 3 Release the claws on both ends.

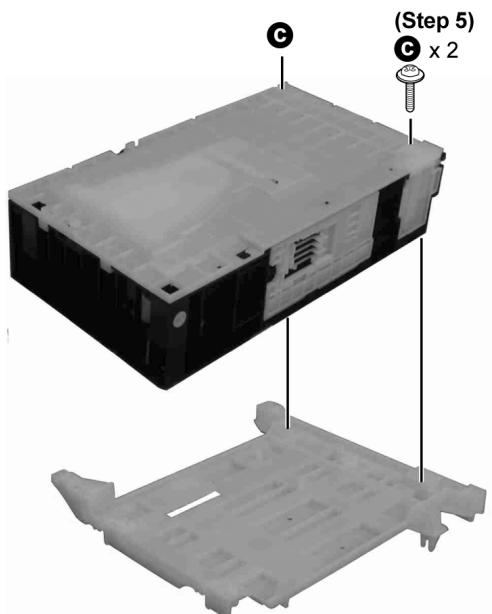


Service Manual for the Disassembly and Assembly of the CD/DVD Changer Unit (CRS1D).



Step 4 Lift the CD/DVD changer unit upwards to remove it.

· **Disassembly of Mecha Chassis**



Step 5 Remove 2 screws.

Step 6 Remove the Mecha Chassis.

Note:

For disassembly & assembly of traverse unit, please refer to section 11.14 of this service manual. Please refer to original

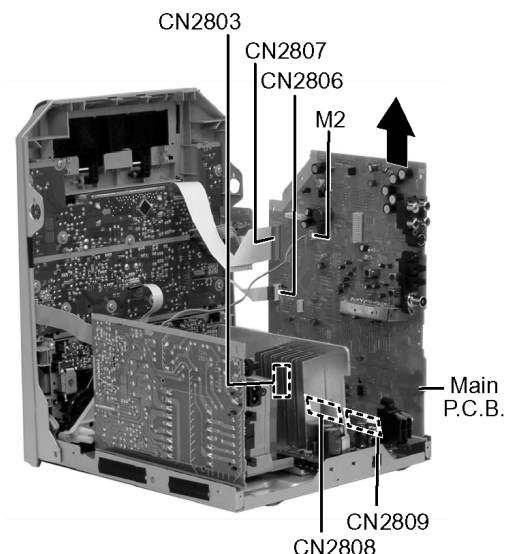
11.7. Disassembly of Main P.C.B.

- Follow the (Step 1) - (Step 2) of Item 11.4 - Disassembly of Top Cabinet
- Follow the (Step 1) - (Step 3) of Item 11.5 - Disassembly of Rear Panel
- Follow the (Step 1) - (Step 4) of Item 11.6 - Disassembly of CD/DVD Changer Unit

Step 1 Disconnect FFC cables (CN2803, CN2806 and CN2807). Disconnect wire M2 from CN5955

Step 2 Detach connectors (CN2808 & CN2809).

Step 3 Remove Main P.C.B.

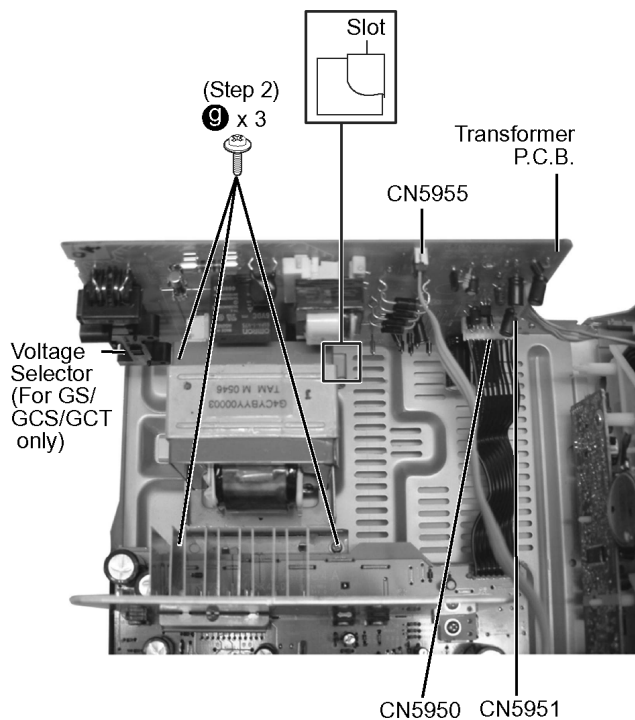


11.8. Disassembly of Transformer P.C.B.

- Follow the (Step 1) - (Step 2) of Item 11.4 - Disassembly of Top Cabinet
- Follow the (Step 1) - (Step 3) of Item 11.5 - Disassembly of Rear Panel
- Follow the (Step 1) - (Step 4) of Item 11.6 - Disassembly of CD/DVD Changer Unit

Step 1 Disconnect connectors (CN5950, CN5951 & CN5955).

Step 2 Remove 3 screws (Mounting screws for transformer to bottom chassis).

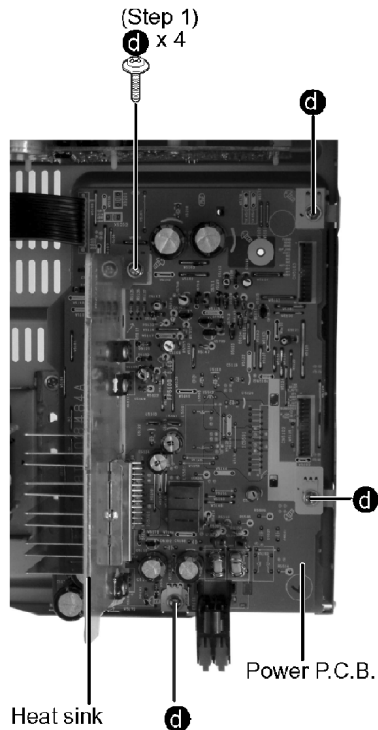


Step 3 Push the Transformer P.C.B. sideways to remove it.

11.9. Disassembly of Power P.C.B.

- Follow the (Step 1) - (Step 2) of Item 11.4 - Disassembly of Top Cabinet
- Follow the (Step 1) - (Step 4) of Item 11.6 - Disassembly of CD/DVD Changer Unit
- Follow the (Step 1) - (Step 3) of Item 11.5 - Disassembly of Rear Panel
- Follow the (Step 1) - (Step 3) of Item 11.7 - Disassembly of Main P.C.B.

Step 1 Remove the 4 screws on Power P.C.B..



Step 2 Detach cable connected to CN5950 on Transformer P.C.B.

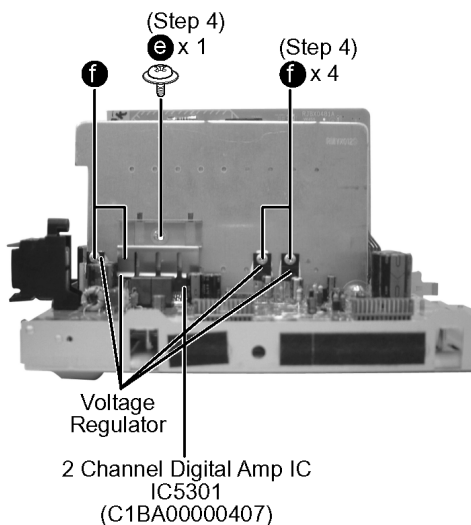
Step 3 Remove Power P.C.B..

Note:

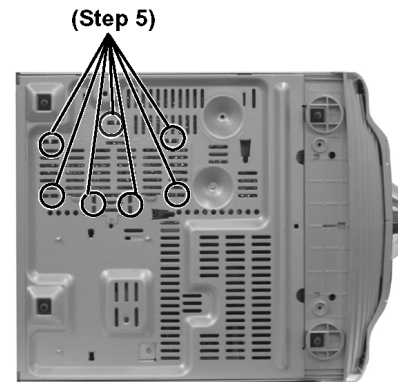
Insulate the Power P.C.B. with insulating material to avoid short circuit.

- **Replacement of the Power Amp IC or Voltage Regulator**

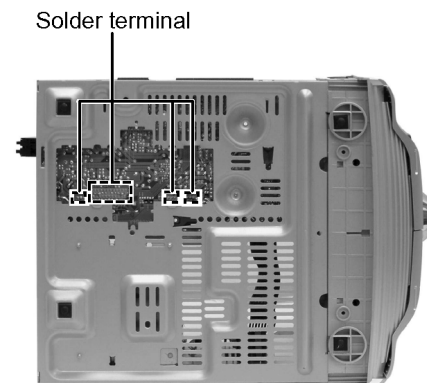
Step 4 Remove 1 screw at the Power Amp IC and/or 3 screws to Voltage Regulator.



Step 5 Cut the joints with a metal cutter as shown below.



Step 6 Desolder the terminals to replace the components.



Step 7 Fix back the cut portion with a screw as shown.

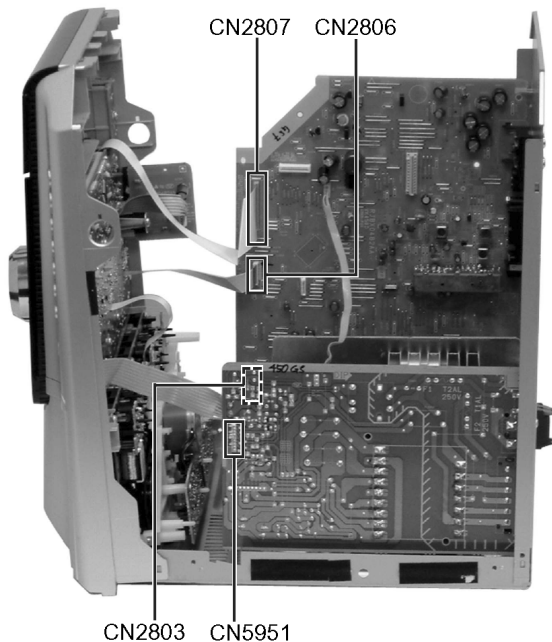


11.10. Disassembly of Front Panel Unit

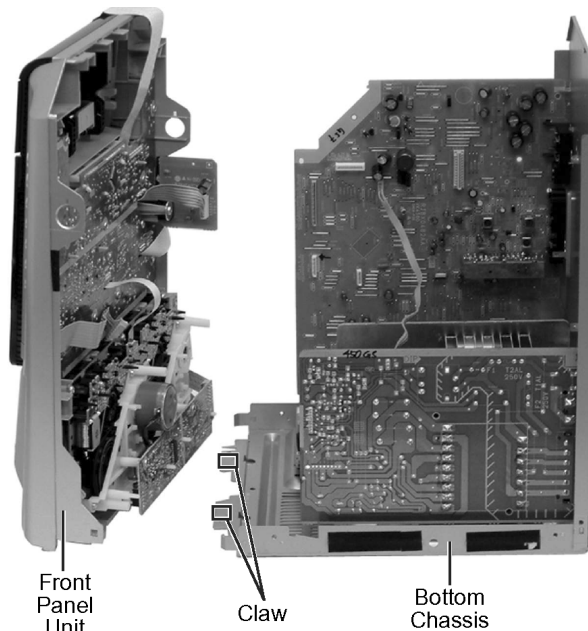
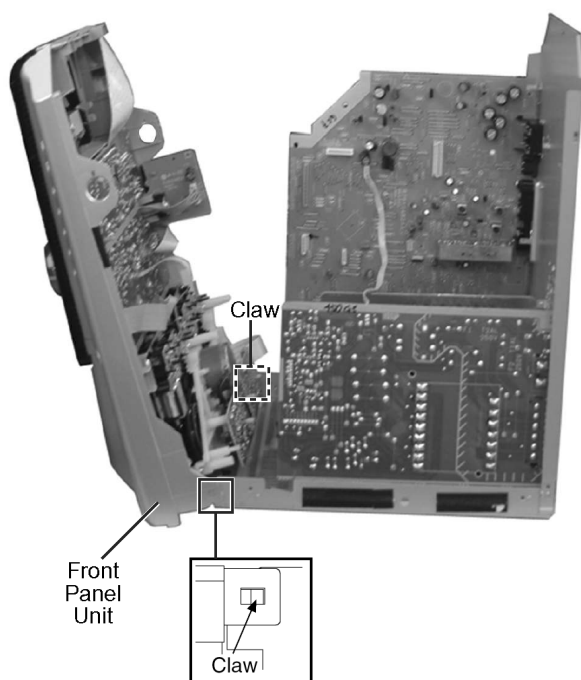
- Follow the (Step 1) - (Step 2) of Item 11.4 - Disassembly of Top Cabinet
- Follow the (Step 1) - (Step 4) of Item 11.6 - Disassembly of CD/DVD Changer Unit

Step 1 Disconnect connectors (CN2803, CN2806, CN2807 & CN5951).

Step 3 Release 2 claws outwards.



Step 2 Bent the front panel unit slightly forward as shown.



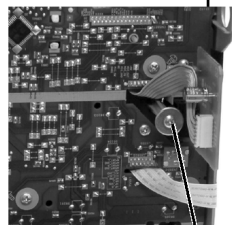
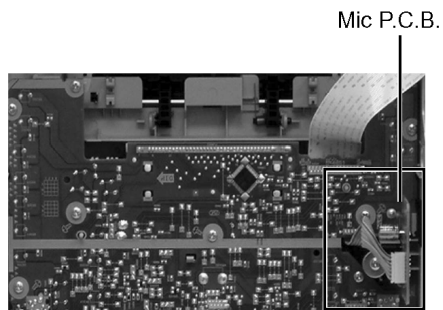
Step 4 Remove the front panel unit.

Note: Ensure 2 claws located at the bottom chassis is seated into the 2 slots at bottom of front panel at 2 catches (one on each side) of bottom chassis to be aligned to front panel's slot. Assembly is secured upon hearing clicking sound.

11.11. Disassembly for Panel P.C.B. & Mic P.C.B.

- Follow the (Step 1) - (Step 2) of Item 11.4 - Disassembly of Top Cabinet
- Follow the (Step 1) - (Step 4) of Item 11.6 - Disassembly of CD/DVD Changer Unit
- Follow the (Step 1) - (Step 4) of Item 11.10 - Disassembly of Front Panel Unit

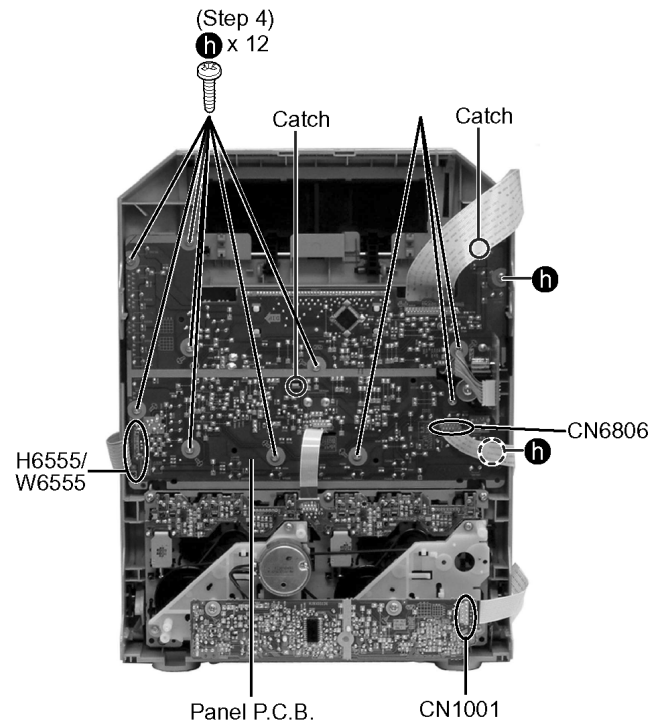
Step 1 Remove the Volume knob & Mic Volume Knob.



Step 2 Remove 1 screw.

Step 3 Lift up the Mic P.C.B to remove it.

Step 4 Remove 12 screws.

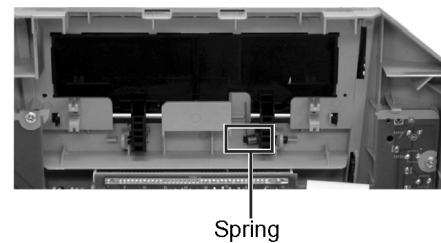


Step 5 Release 2 catches.

Step 6 Remove Panel P.C.B..

11.11.1. Disassembly of Lid

Step 1 Lift the spring sideward.



Step 2 Remove Lid.

Note: Do not misplace the spring.

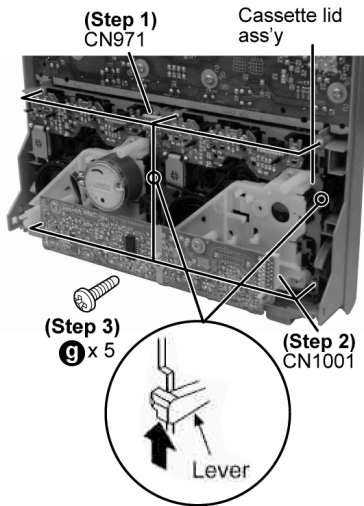
11.12. Disassembly of Deck mechanism unit

- Follow the (Step 1) - (Step 2) of Item 11.4 - Disassembly of Top Cabinet
- Follow the (Step 1) - (Step 4) of Item 11.6 - Disassembly of CD/DVD Changer Unit
- Follow the (Step 1) - (Step 4) of Item 11.10 - Disassembly of Front Panel Unit

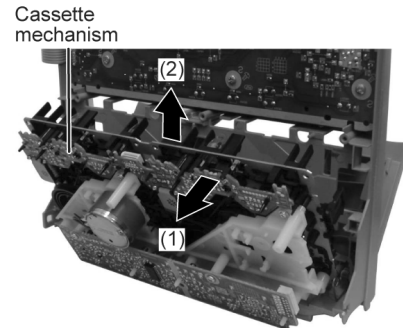
Step 1 Detach FFC cable (CN971).

Step 2 Disconnect FFC cable (CN1001).

Step 3 Remove the 5 screws.



Step 4 Push the lever upward, and then open the cassette lid ass'y (For DECK1 and DECK2).



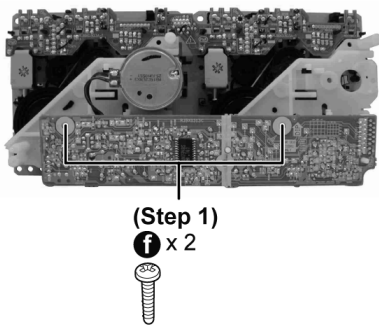
Step 5 Tilt the cassette mechanism unit in the direction of arrow (1), and then remove it in the direction of arrow (2).

Note: For disassembly of parts for deck mechanism unit, refer to Section 11.16.

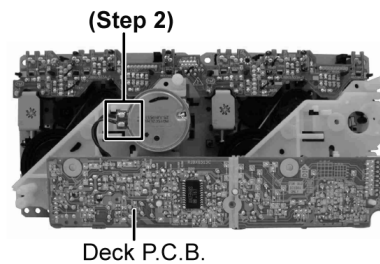
11.13. Disassembly of Deck P.C.B.

- Follow the (Step 1) - (Step 2) of Item 11.4 - Disassembly of Top Cabinet
- Follow the (Step 1) - (Step 4) of Item 11.6 - Disassembly of CD/DVD Changer Unit
- Follow the (Step 1) - (Step 4) of Item 11.10 - Disassembly of Front Panel Unit

Step 1 Remove 2 screws.



Step 2 Desolder wire at deck motor terminals (W1002).

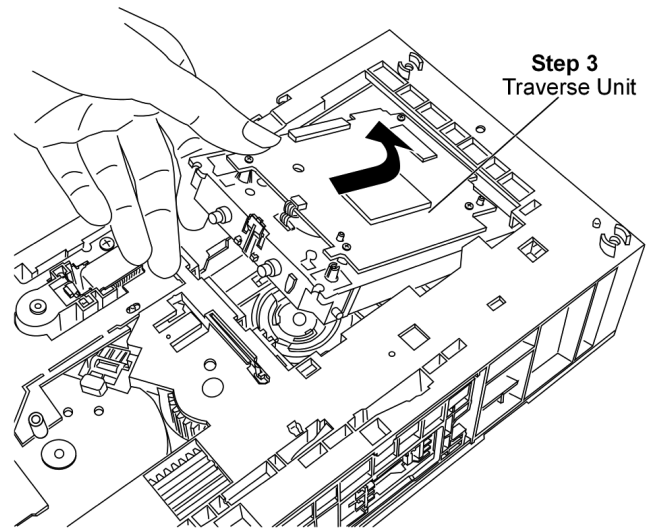
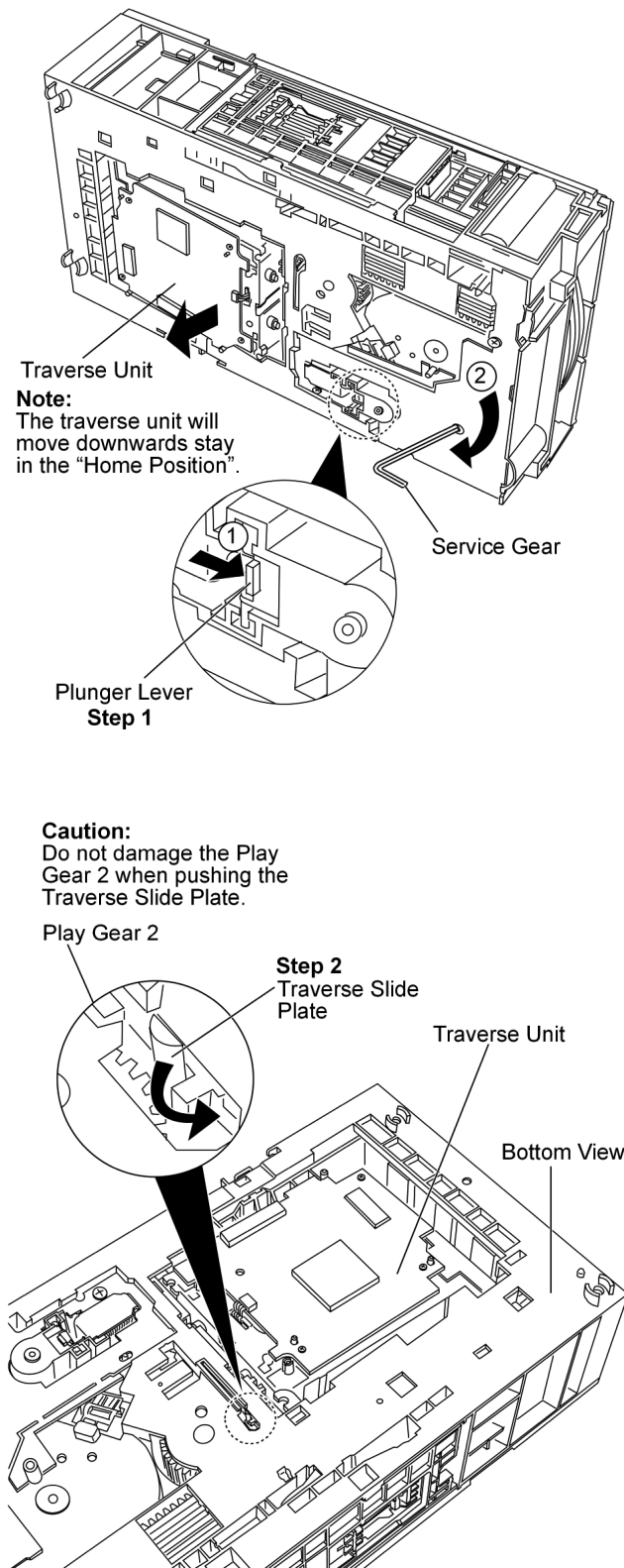


Step 3 Remove Deck P.C.B.

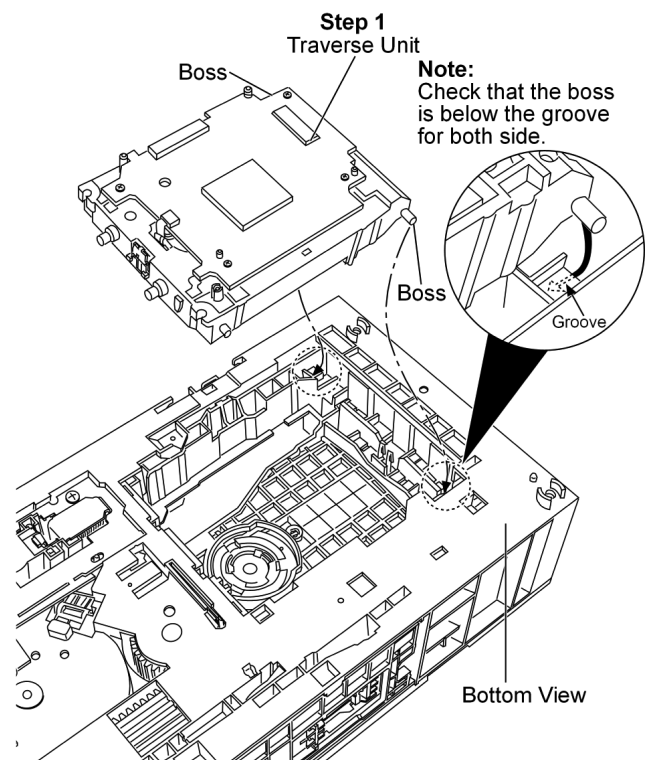
11.14. Disassembly of Traverse Unit

- Follow the (Step 1) - (Step 2) of Item 11.4 - Disassembly of Top Cabinet
- Follow the (Step 1) - (Step 4) of Item 11.6 - Disassembly of CD/DVD Changer Unit

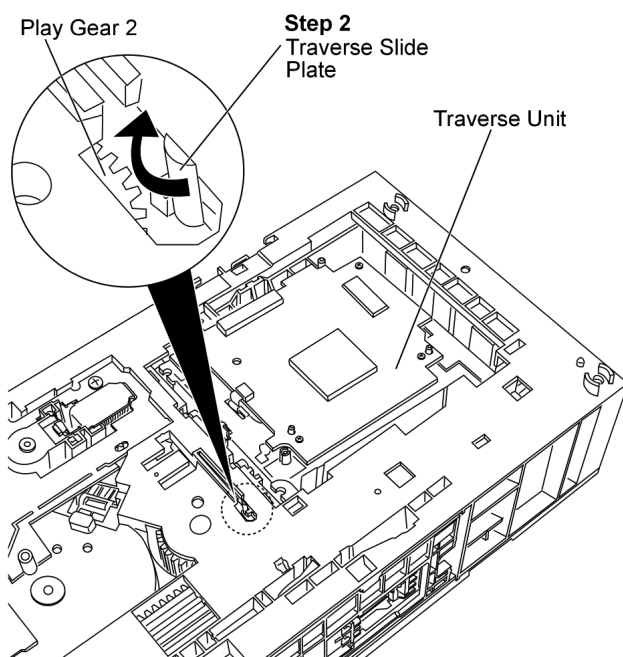
Important notes: Ensure all the trays are in the “STOCK” position before proceeding to the disassemble of traverse unit. For procedures to set the trays in “STOCK” position, please refer to original Service Manual for CRS1D, Section 4.3. Setting the trays in “STOCK” position, Order No. MD0603065A3.



• Assembly of Traverse Unit



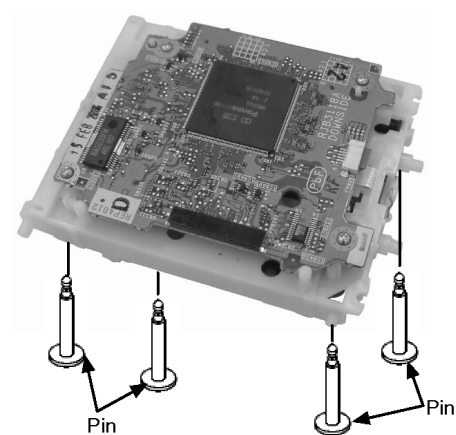
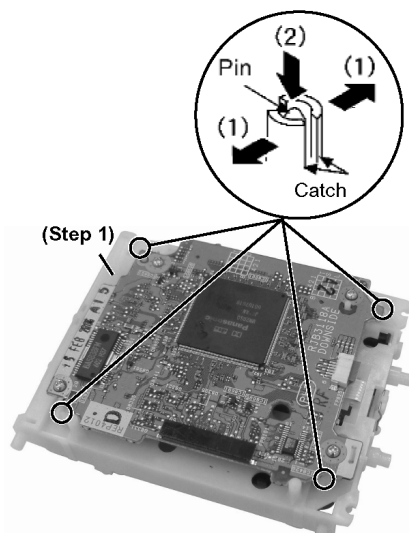
Caution:
Do not damage the Play
Gear 2 when pushing the
Traverse Slide Plate.



11.15. Disassembly of optical pickup unit (DVD mechanism)

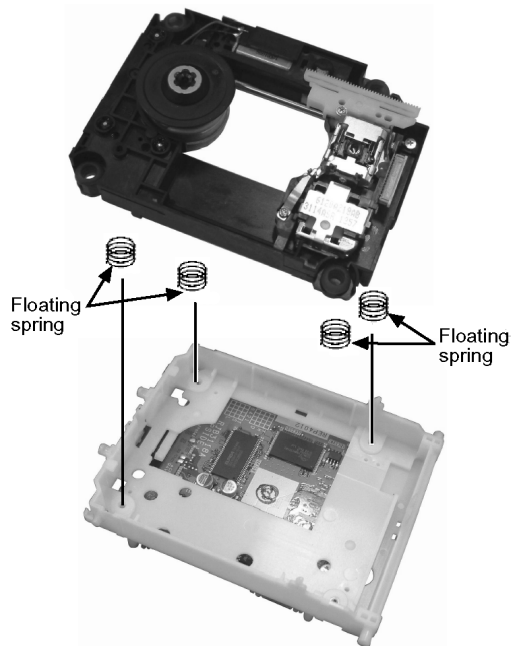
- Follow the (Step 1) - (Step 2) of Item 11.4 - Disassembly of Top Cabinet
- Follow the (Step 1) - (Step 4) of Item 11.6 - Disassembly of CD/DVD Changer Unit
- Follow the (Step 1) - (Step 2) of Item 11.14 - Disassembly of Traverse Unit

Step 1 Pull out FFC.



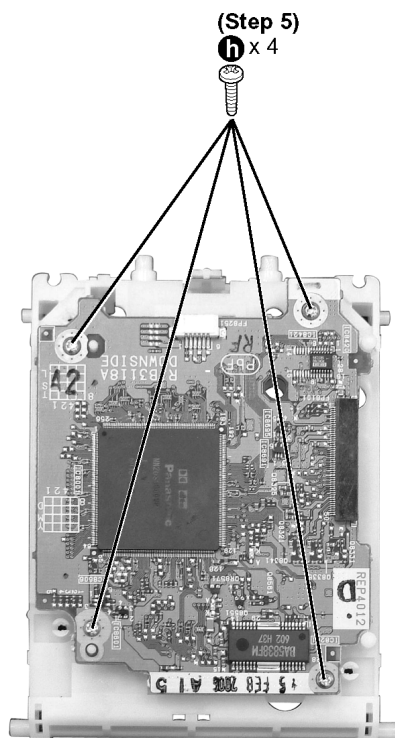
Step 3 Remove 4 pins.

Step 2 Widening the catch, push the pin in.



Step 4 Remove the traverse deck.

Note: As floating springs (4 pieces) come off at the same time, be careful not to lose them.

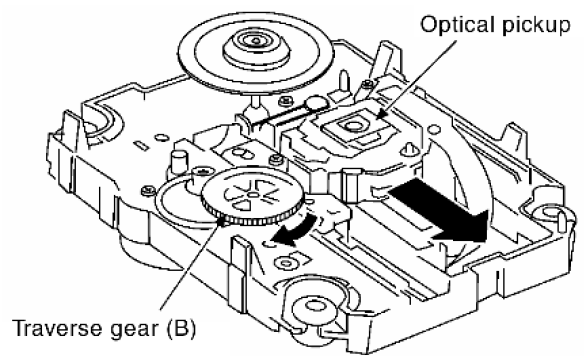


Step 5 Remove 4 screws.

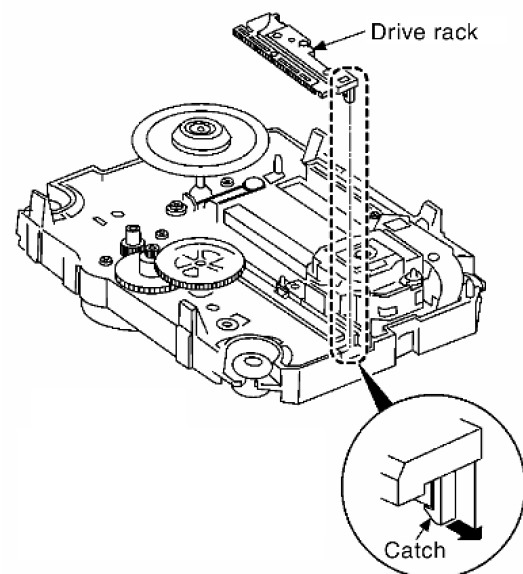
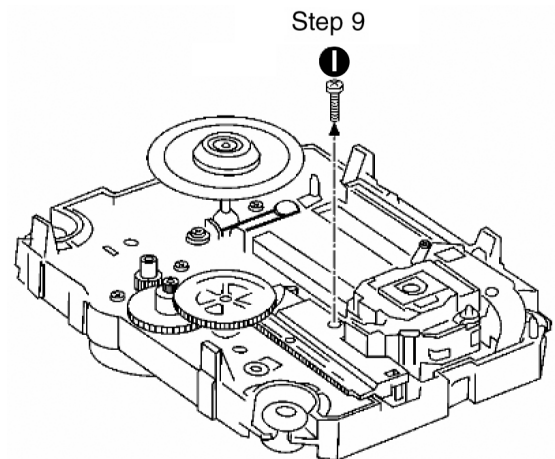
Step 6 Remove the DVD Servo P.C.B. and turn it over.

Note: Insert a short pin into FFC of the optical pickup.

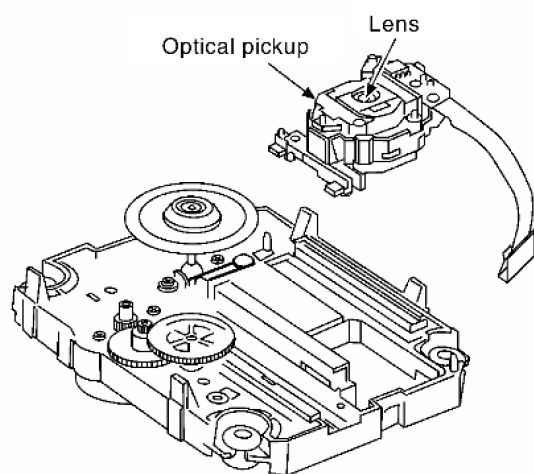
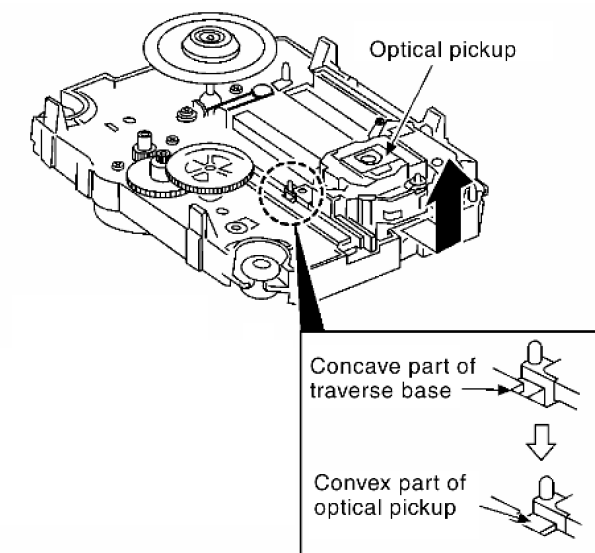
Step 7 Rotate the traverse deck (B) to the arrow direction and shift the optical pickup to the furthest backward.



Step 8 Remove the catch of the drive rack, and take out the drive rack.



Step 9 Place the convex part of an optical pickup to the concave part of a traverse base, then take out the optical pickup.



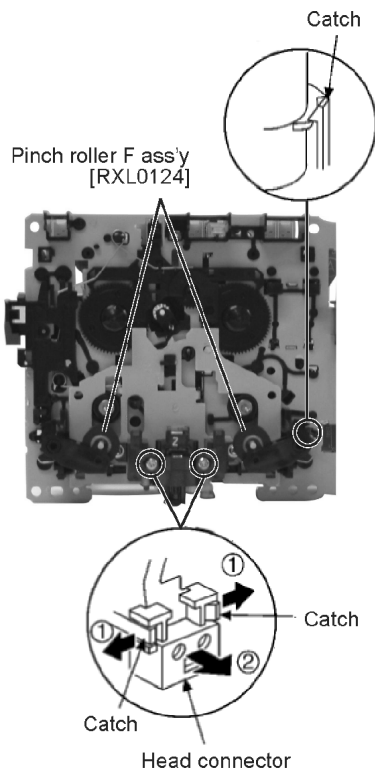
Note:
Do not touch the lens of the optical pickup

11.16. Disassembly of Deck Mechanism

- Follow the (Step 1) - (Step 2) of Item 11.4 - Disassembly of Top Cabinet
- Follow the (Step 1) - (Step 4) of Item 11.6 - Disassembly of CD/DVD Changer Unit
- Follow the (Step 1) - (Step 4) of Item 11.10 - Disassembly of Front Panel Unit
- Follow the (Step 1) - (Step 5) of Item 11.12 - Disassembly of Deck Mechanism Unit

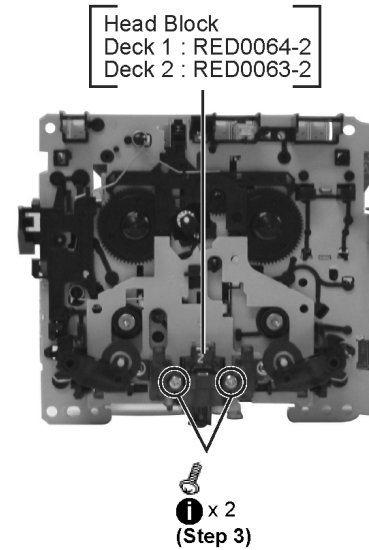
11.16.1. Disassembly of the pinch roller ass'y and head block

* The mechanism as shown below is for DECK1. For DECK 2, perform the same procedures.



Step 1 Release the catch, and then remove the pinch roller (F).

Step 2 Release 2 claws and detach the head block connector.



Step 3 Remove 2 screws.

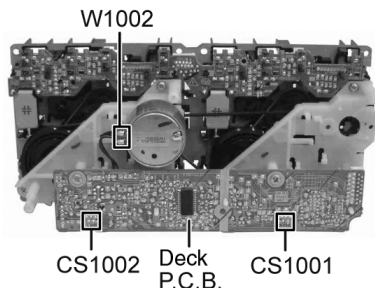
Step 4 Remove head block.

11.16.2. Disassembly of capstan motor ass'y, capstan belt A, capstan belt B and winding belt

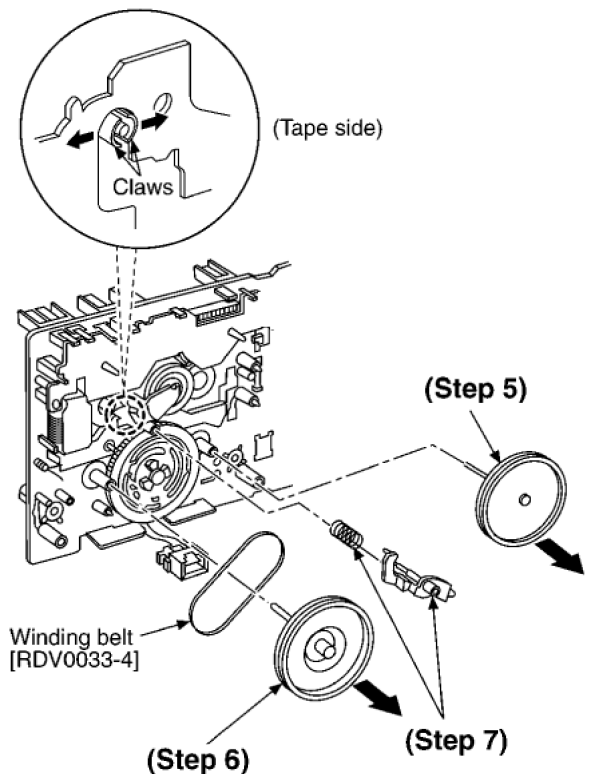
Step 1 Detach the head block connector (Deck P.C.B.).

Step 2 Desolder wire(W1002) at motor assembly.

Step 3 Remove Deck P.C.B.



Step 5 Remove capstan belt A/B.

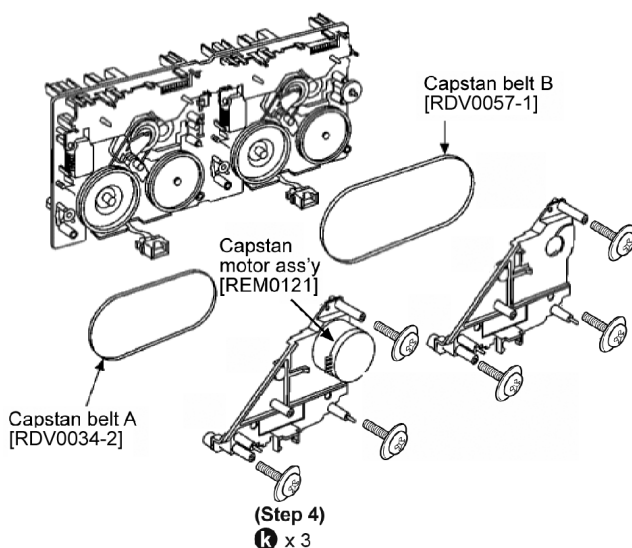


Step 6 Remove the flywheel R.

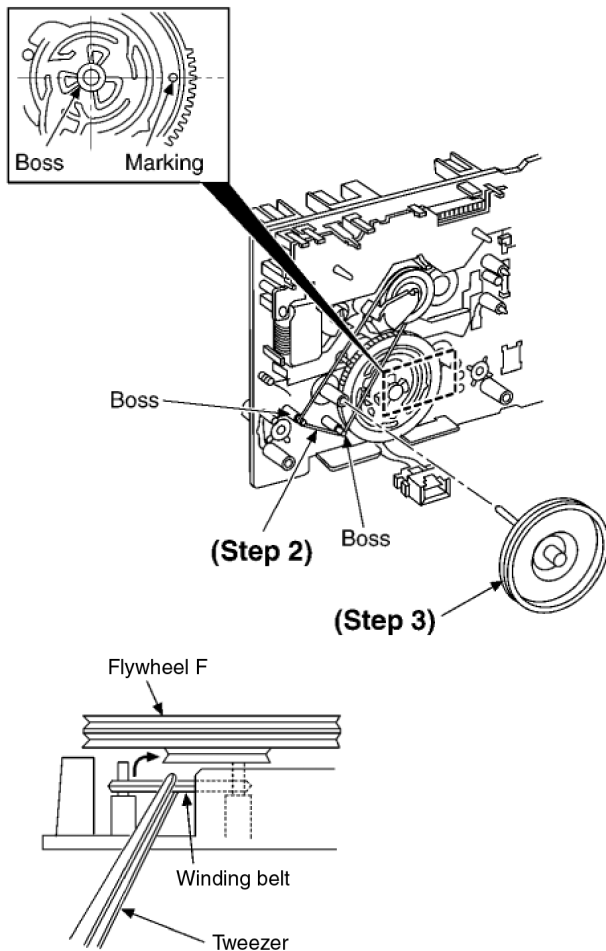
Step 7 Release the claw and remove the winding lever and spring.

[Installation of the belt]

Step 1 The boss and marking should be positioned horizontally.



Step 4 Remove 3 screws (for deck 1 & 2).



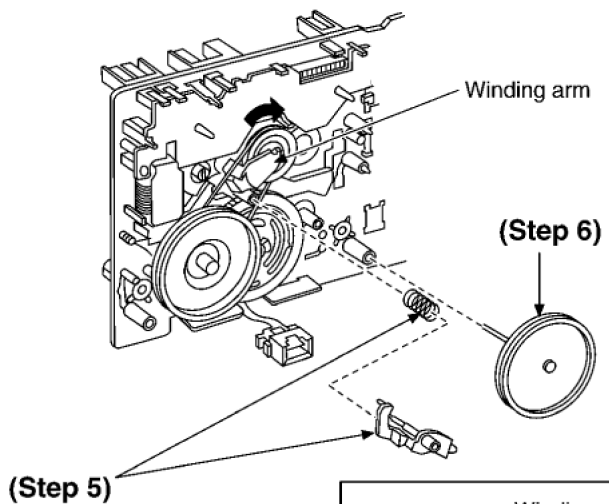
Step 2 Put the winding belt on the pulley temporarily.

Step 3 Install the flywheel F.

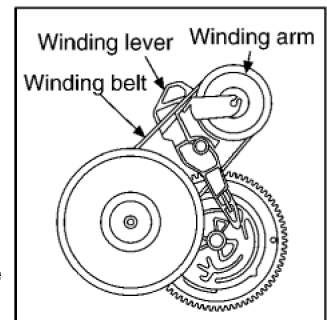
Step 4 Put the winding belt on the flywheel F.

Step 5 Install the winding lever and spring while pressing the winding arm in the direction of arrow.

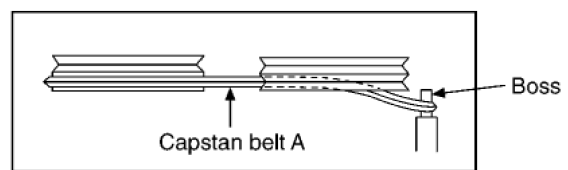
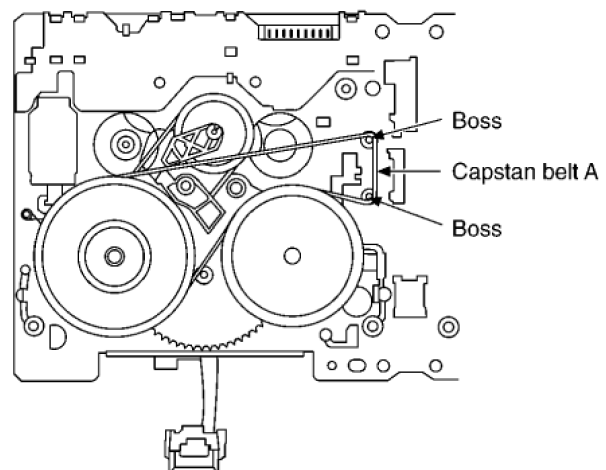
Step 6 Install the flywheel R.



NOTE:
The winding lever should be positioned as shown below.



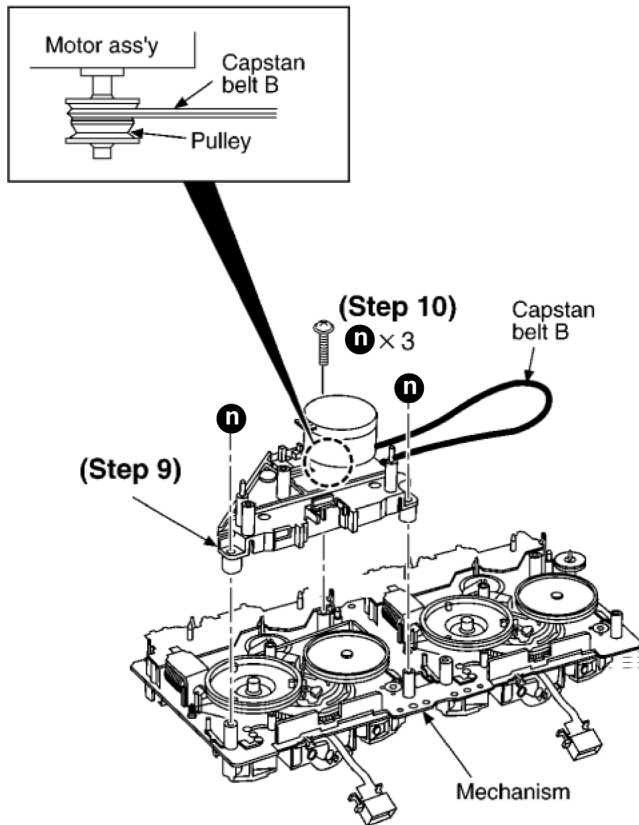
Step 7 Put the capstan belt A temporarily as shown below.



(Side view)

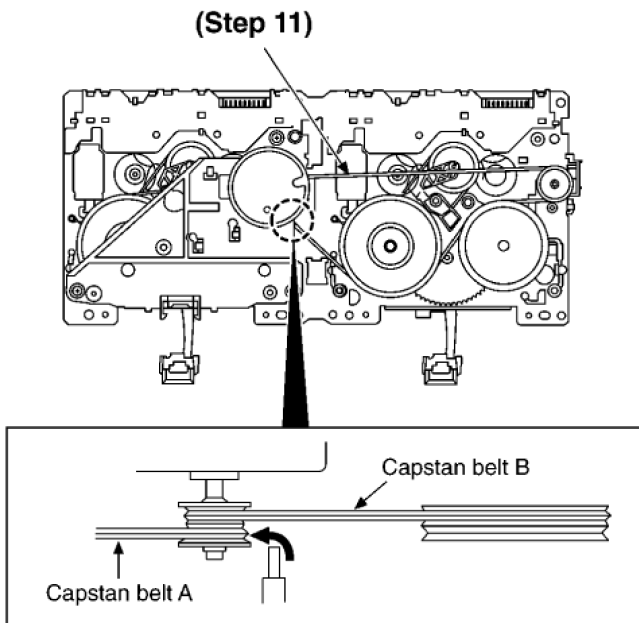
Step 8 Put the capstan belt B on the motor ass'y pulley.

Step 9 Install the sub chassis to the mechanism, and then tighten screws.



Step 10 Install 3 screws.

Step 11 Put the capstan belt B as shown below.



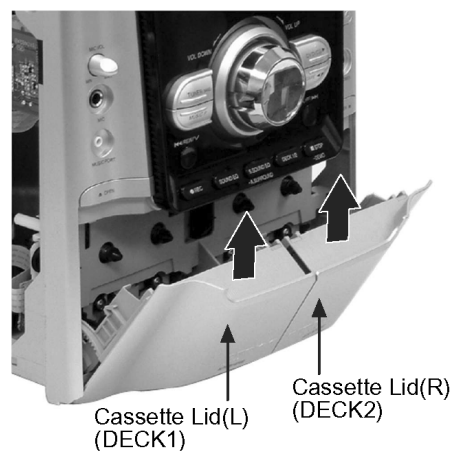
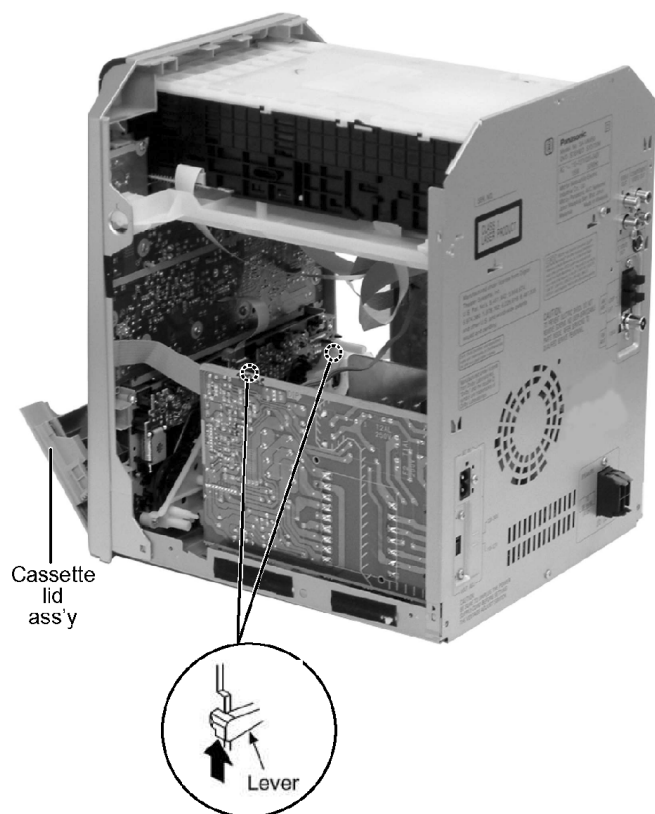
Step 12 Put the capstan belt A on the motor ass'y pulley.

11.17. Replacement for cassette lid

· Follow the (Step 1) - (Step 2) of Item 11.4 - Disassembly of Top Cabinet

Step 1 Lift up the lever upward, open the cassette deck. (For DECK1 and DECK2)

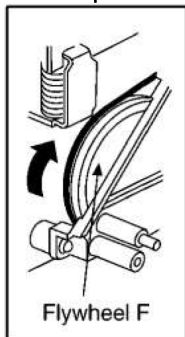
Step 2 Push up the cassette lid (L/R) in the direction of arrow. (For DECK1 and DECK2).



11.18. Rectification for tape jam problem

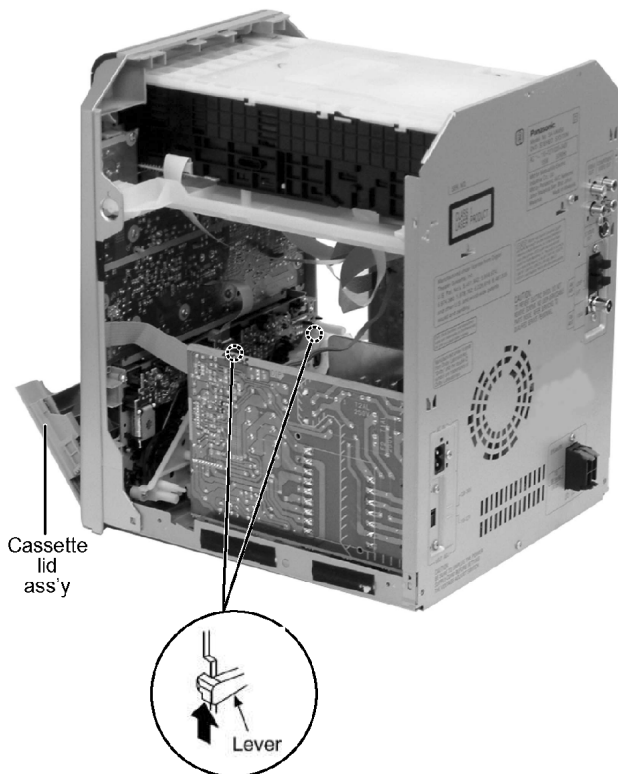
· Follow the (Step 1) - (Step 2) of Item 11.4 - Disassembly of Top Cabinet

Step 1 If a cassette tape cannot be removed from the deck (the tape is caught by the capstan or pinch roller during playback or recording), rotate the flywheel F in the direction of the arrow to remove it.



Flywheel F

Step 2 Push the lever upward and open the cassette lid. Remove the cassette tape.

Cassette
lid
ass'y

Lever

12 Service Fixture and Tools

Service Tools	
Extension FFC	
(A) Deck P.C.B. - Main P.C.B.	REEX0485 (14 Pins)
(B) Panel P.C.B. - Deck Mechanism P.C.B.	REEX0484 (10 Pins)

13 Service Positions

Note: For description of the disassembly procedures, see the Section 11.

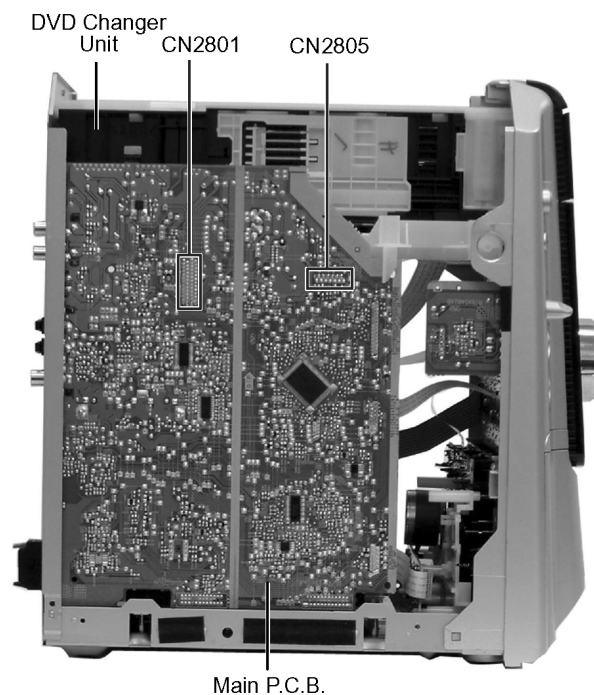
13.1. Checking and Repairing of Main P.C.B.

1. Remove Top cabinet

Remove 3 screws on L/R side.

Remove 5 screws on rear panel.

Remove top cabinet.



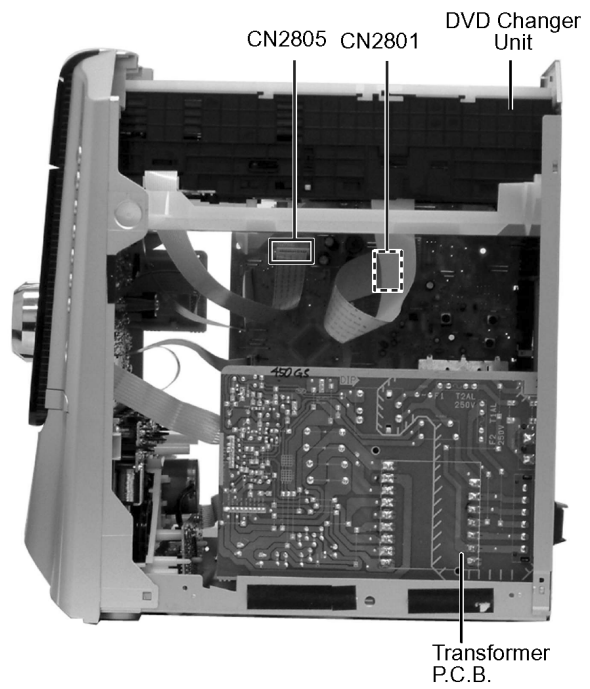
13.2. Checking and Repairing of Transformer P.C.B.

1. Remove Top cabinet

Remove 3 screws on L/R side.

Remove 5 screws on rear panel.

Remove top cabinet.



13.3. Checking and Repairing of Panel, Deck & Deck Mechanism P.C.B.

1. Remove Top cabinet

Remove 3 screws on L/R side.

Remove 5 screws on rear panel.

Remove top cabinet.

2. Disassemble Front panel

Disconnect 5 connectors, CN2803, CN2806, CN2807 & CN5951.

Bent front panel forward.

Release 2 claws.

3. Disassemble Panel P.C.B.

Remove volume knob.

Remove MIC volume knob.

Remove 12 screws.

Release 2 catches.

4. Disassemble Deck mechanism unit

Detach CN971.

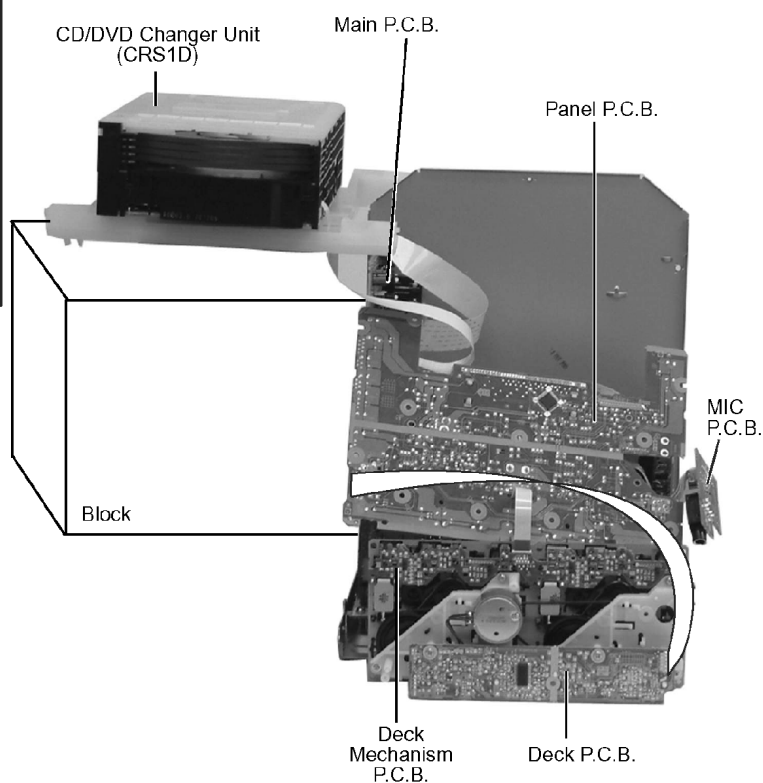
Disconnect CN1001.

Remove 5 screws.

Push lever upward.

5. Connect Panel P.C.B., CRS1D & Deck Mechanism

Connect 10P FFC cable (REEX0484) between CN971 to CN2951
 Connect 14P FFC cable (REEX0485) between CN2803 to CN1001
 Connect 14P FFC cable between CN2805 to CN1
 Connect 50P FFC cable between CN2801 to CN7002



13.4. Checking and Repairing of Power P.C.B.

1. Remove Top cabinet

Remove 3 screws on L/R side.

Remove 5 screws on rear panel.

Remove top cabinet.

2. Disassemble DVD changer unit

Remove 1 screw at rear panel.

Release 2 claws at (L) & (R).

3. Remove Rear panel

Remove 7 screws. (for GC).

Remove 9 screws (for GS/GCS/GCT).

4. Disassemble Power P.C.B.

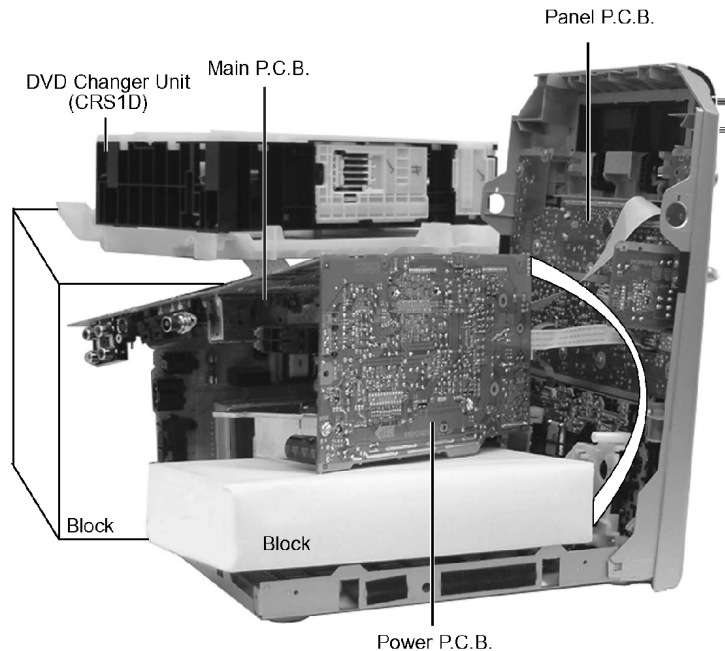
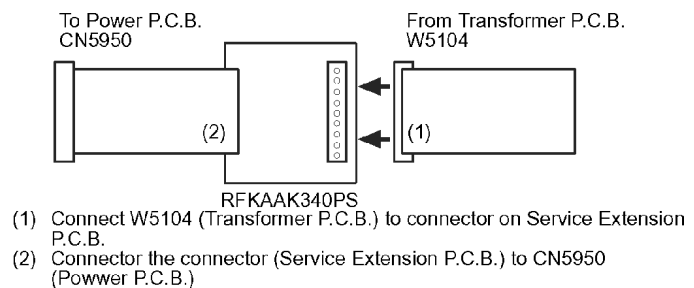
Disconnect CN2808 & CN2809.

Remove 4 screws

Detach CN5950.

5. Connect Panel P.C.B., CRS1D & Deck Mechanism

Connect 10P FFC cable (REEX0484) between CN971 to CP6401
 Connect 14P FFC cable (REEX0485) between CN2803 to CN1001
 Connect 14P FFC cable between CN2805 to CN1
 Connect 50P FFC cable between CN2801 to CN7002
 Connect service extension P.C.B (Part No. RFKAAK340PS) between CN5950 and W5104



14 Adjustment Procedures

14.1. Cassette Deck Section

- Measurement Condition
 - Reverse-mode selector switch: 
 - Tape edit: NORMAL
 - Make sure head, capstan and press roller are clean.
 - Judgeable room temperature $20 \pm 5^{\circ}\text{C}$ ($68 \pm 9^{\circ}\text{F}$)
- Measuring instrument
 - EVM (DC Electronic voltmeter)
 - Digital frequency counter
- Test Tape
 - Tape speed gain adjustment (3 kHz, -10 dB); QZZCWAT

14.1.1. Head Azimuth Adjustment (Deck 1/2)

Caution:

- Please replace both azimuth adjustment screw and springs simultaneously when readjusting the head azimuth. (shown in Fig. 2) Even if you wish to readjust the head azimuth without replacing the screws and springs, a fine adjustment to the azimuth screw and spring.
- Please remove the screw-locking bond left on the head base when replacing the azimuth screw.
- If you wish to readjust the head azimuth, be sure to adjust with adhering the cassette tape closely to the mechanism by pushing the center of cassette tape with your finger. (shown in Fig. 3)

1. Playback the azimuth adjustment portion (8 kHz, -20dB) of the test tape (QZZCFM) in the forward play mode. Vary the azimuth adjustment screw until the output of the R-CH (PB OUT-R) are maximized.
2. Perform the same adjustment in the reverse play mode.
3. After the adjustment, apply screwlock to the azimuth adjusting screw.

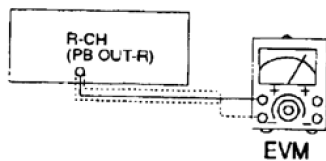


Fig. 1



Fig. 2

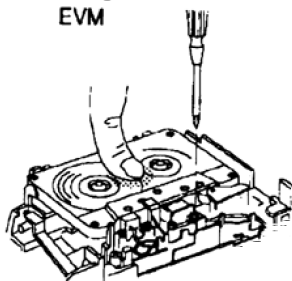


Fig. 3

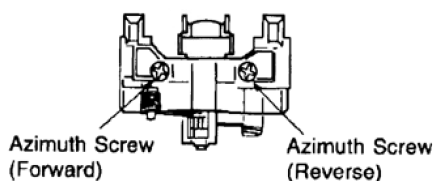


Fig. 4

14.1.2. Tape Speed Adjustment (Deck 1/2)

1. Set the tape edit button to "NORMAL" position.
2. Insert the test tape (QZZCWAT) to DECK 2 and playback (FWD side) the middle portion of it.
3. Adjust Motor VR (DECK 2) for the output value shown below.

Adjustment target: 2940 ~ 3060 Hz (NORMAL speed)

4. After alignment, assure that the output frequency of the DECK 1 FWD are within ± 60 Hz of the value of the output frequency of DECK 2 FWD.

UNIT

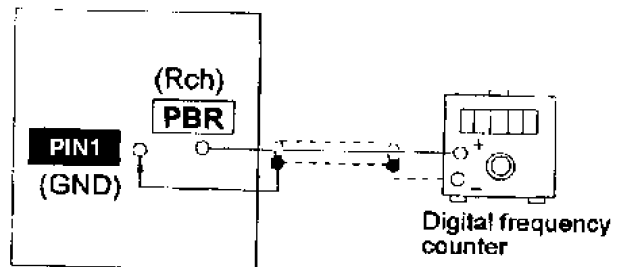


Fig. 1

14.1.3. Bias Voltage Check

1. Set the unit "AUX" position.
2. Insert the Normal blank tape (QZZCRA) into DECK 2 and the unit to "REC" mode (use , REC key).
3. Measure and make sure that the output is within the standard value.

Bias voltage for Deck 2

$14 \pm 4\text{mV}$ (Normal)

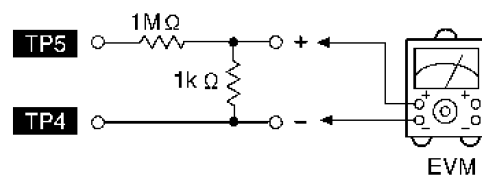


Fig. 2

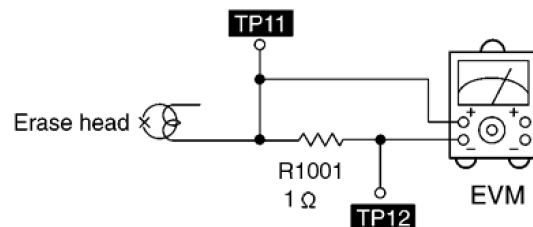


Fig. 3

14.1.4. Bias Frequency Adjustment (Deck 1/2)

1. Set the unit to "AUX" position.
2. Insert the Normal blank tape (QZZCRA) into DECK 2 and set the unit to "REC" mode (use **REC** key).
3. Adjust L1002 so that the output frequency is within the standard value.

Standard Value: 89 ~ 110 kHz

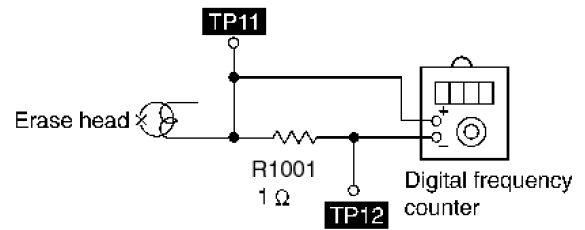


Fig. 4

14.2. Tuner Section

14.2.1. AM-IF Alignment

1. Connect the instrument as shown in Fig. 5.
2. Set the unit to AM mode.
3. Apply signal as shown in Fig. 5 from AM-SG.
4. Adjust Z2602 so that the output frequency is maximized in Fig. 6.

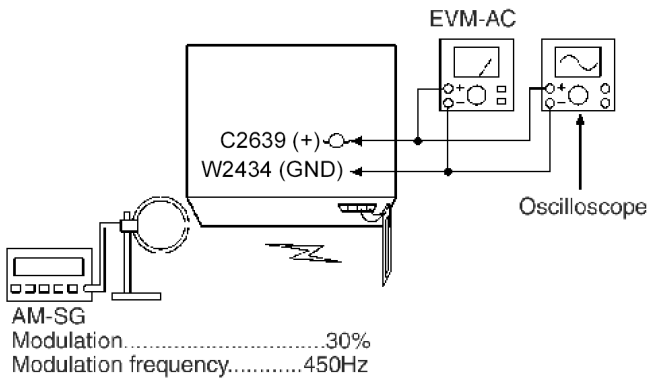


Fig. 5

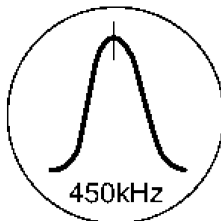


Fig. 6

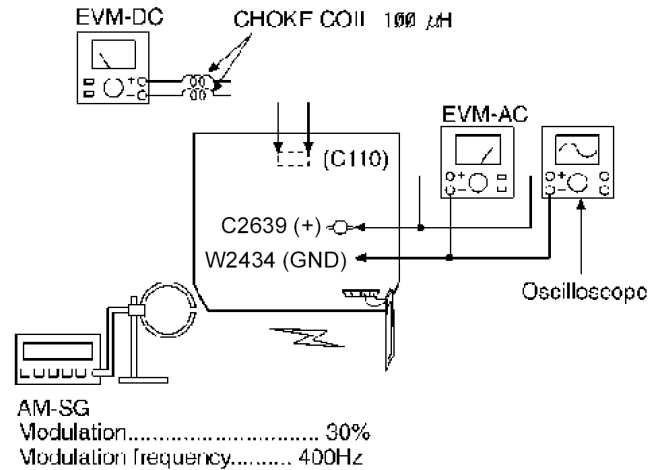


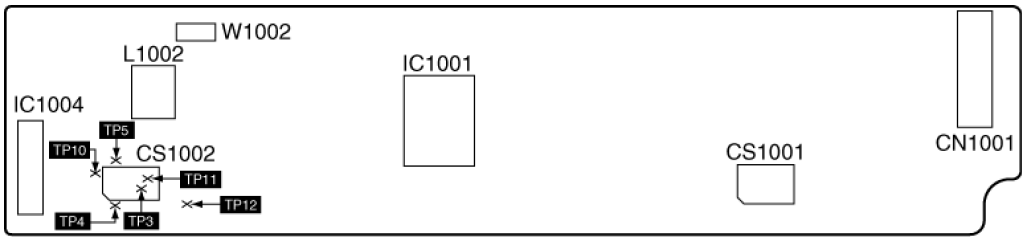
Fig. 7

14.2.2. AM RF Adjustment

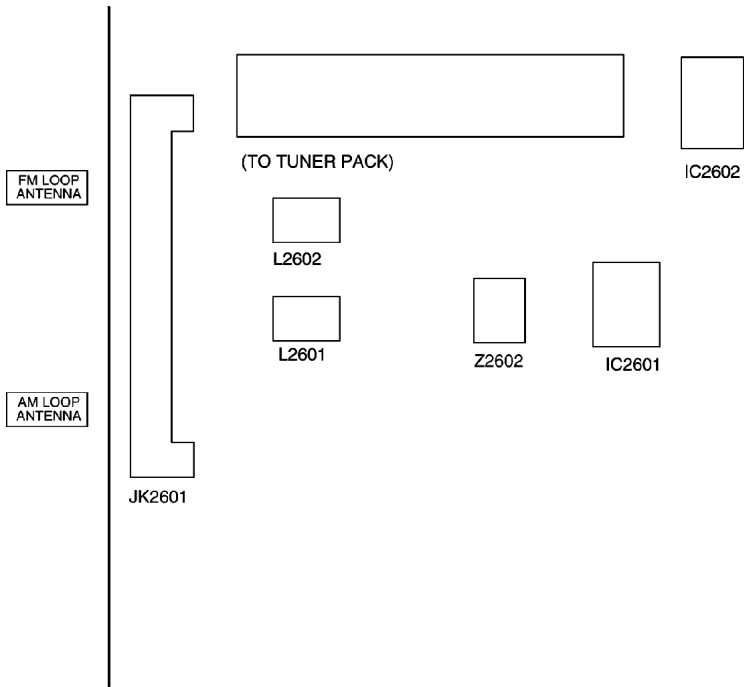
1. Connect the instrument as shown in Fig. 7.
2. Set the unit to AM mode.
3. Set AM-SG to 520kHz.
4. Receive 520kHz in the unit.
5. Adjust L2601 (OSC) so that the EVM-AC is maximized.
6. Set AM-SG to 600Hz.
7. Receive 600Hz in the unit.
8. Adjust L2601 (ANT) so that the EVM-SG is maximized.
9. Set AM-SG to 520kHz.
10. Receive 520kHz in the unit.
11. Adjust L2602 (OSC) so that the EVM-DC value is with $1.1 \pm 0.5V$.

14.3. Alignment Points

14.3.1. Cassette Deck Section



14.3.2. Adjustment Point



15 Voltage and Waveform Chart

Note:

Circuit voltage and waveform described herein shall be regarded as reference information when probing defect point, because it may differ from an actual measuring value due to difference of Measuring instrument and its measuring condition and product itself.

15.1. DVD Module P.C.B.

DVD 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	0.2	0.2	3.4	0.1	0.1	0.1	0.1	3.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	3.4	2.6	2.6	2.6
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0.2	1.3	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0.2	3.4	1.2	1.2	1.2	1.2	1.2
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0.2	0.2	3.4	0.2	1.3	1.2	0.2	0.2	3.4	3.4	2.5	0.2	3.5	1.5	3.5	1.1	2.2	1.2	1.5	2.3
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	1.5	2.3	1.8	2.6	0.2	3.5	3.5	0.2	0	0.2	0.2	0.2	2.7	2.7	3.1	3.1	3.4	3	0.2	0.2
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0.2	0.2	1.3	3.4	0.2	0.2	3.5	3.5	3.5	2.1	1.7	0.2	3.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	3.4	1	0.2	2.5	1.9	0.1	0.2	1.9	3.4	0.2	0.2	2	2	1.8	1.8	1.8	1.8	3.4	2
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	1.2	0.2	0.6	0.2	0.2	2	2.4	1.8	2.7	2.7	2.7	2.7	2.7	2.7	2.5	2.6	2.6	2.6	2	2
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	1.8	1.8	0.2	1.8	1.8	3.5	0.9	1	0.5	3.4	1.9	1.1	1.1	1.9	0.1	0.5	1	3.5	0.1	3.5
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0.1	1.7	1.8	0.2	1.4	1.7	1.8	1.8	1	0.2	0.2	1	1.8	0.2	3.5	0.2	0.2	0.2	0.2	0.2
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0.2	0.2	0.2	3.5	0.2	0.2	3.5	3.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	3.5	3.1	3.1	3
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	3.3	3	3.2	3.5	0.2	3.3	3.2	3	3.3	3.1	3	3.2	3	3.4	0.1	3	2.9	1.3	2.7	2.7
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	3.3	0.1	1.7	3.4	1.7	0.1	3.3	3.3	3.2	0.1	2	0.1	0.1	1.3	1.8	0.1	0.1	0.1	3.4	1.6
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC8001																			
MODE	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256				
CD PLAY	0.1	1.7	0.3	1.7	0.3	1.6	1.6	0.1	3.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1				
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
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	1.8	1.7	1.7	2.4	2.4	2	0.1	5	3.4	0	2.6	2.6	2.6	2.6	5.4	5.5	6.2	4.6	0.1	3.4
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC8251																			
MODE	21	22	23	24	25	26	27	28												
CD PLAY	11.1	10.9	1.9	1.7	1.7	1.7	3.4	5												
STANDBY	0	0	0	0	0	0	0	0												

Ref No.	IC8420																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
CD PLAY	0	3.4	3	3.4	1.7	1	1.8	1.8	0	0	5.1	0	2.6	2.5	2.5	5.1				
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Ref No.	IC8601																			
MODE	1	2	3	4																
CD PLAY	3.4	1.3	0.1	0																
STANDBY	0	0	0	0																
Ref No.	IC8606																			
MODE	1	2	3	4	5															
CD PLAY	3.4	3.4	0.1	0.1	0															
STANDBY	0	0	0	0	0															
Ref No.	IC8691																			
MODE	1	2	3	4	5															
CD PLAY	3.1	3.1	0.1	4.5	5															
STANDBY	0	0	0	0	0															
Ref No.	IC8695																			
MODE	1	2	3	4	5															
CD PLAY	2.8	2.8	0.1	4.2	5															
STANDBY	0	0	0	0	0															
Ref No.	Q8551				Q8561				QR8571											
MODE	E	C	B		E	C	B		E	C	B									
CD PLAY	0.1	5.1	0.2		1.4	3.9	2		3.4	3.3	0.2									
STANDBY	0	0	0		0	0	0		0	0	0									

15.2. Main P.C.B.

MAIN P.C.B																				
Ref No.	IC2101																			
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	4.6	4.5	4.6	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	0	5.4	0	9	0.7
STANDBY	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0	0	0	0.4	0.1
Ref No.	IC2101																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32								
CD PLAY	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5								
STANDBY	0.2	0.2	0.1	0	0.1	0	0.1	0	0.1	0	0.1	0.1								
Ref No.	IC2103																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0	0	0	-3.8	0	0	0	3.8												
STANDBY	0	0	0	0.4	0	0	0	0.3												
Ref No.	IC2561																			
MODE	1	2	3	4	5															
CD PLAY	16.1	5.2	0	1	4.3															
STANDBY	17.8	0	0	0	0															
Ref No.	IC2601																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	2	5.9	2	2	0	5	5.2	3.8	0	4.8	3.5	3.5	1.6	1.5	1.9	2	2	2.2	0	0.1
STANDBY	0	0.4	0	0	0	0.3	0.4	0	0.4	0.3	0.3	0.4	0	0	0	0	0	0.1	0	0
Ref No.	IC2601																			
MODE	21	22	23	24																
CD PLAY	2.4	2.4	5.9	4.5																
STANDBY	0	0	0.4	0.4																
Ref No.	IC2602																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	2.6	0	0	0	5.2	4.8	1.1	4.5	0	15.4	0	0	2.6	0	5.2	0	0	15.4	0	2.6
STANDBY	0	0	0	0	0.3	0.4	0	0.4	0.3	0	0	0.4	0	0	0.4	-0.2	-0.2	0	0	0
Ref No.	IC2701																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
CD PLAY	5.2	2.5	2.6	1.8	5.2	1.8	0	2.4	0	0	2.4	2.4	1.7	1.7	1.6	2.4				
STANDBY	0	0	0	-0.1	0	0	0	0	0	0	0.2	0.2	0	0	0.2	0				
Ref No.	IC2801																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	1.3	0	0	5.4	5.4	0	0	0	0	0.6	0.7	5.4	2.7	0	2.6	5.5	5.4	5.4	0	3.7
STANDBY	0	0	0	0	0	0	0	0	0	0	0.7	0.7	5.4	2.7	0	2.6	5.4	5.4	5.4	0
Ref No.	IC2801																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	5.1	5	0	0	0.2	0	5.4	0	0	0	0	0	0	1.3	2.7	4.2	4.5	0	5.4	0
STANDBY	0.3	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Ref No.	IC2801																			
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	5.3	5.4	5.4	0	0	5.3	5.3	0	0	0	0	0	5.4	5.4	5.4
STANDBY	0	0	0	0	0	0	0.7	0	0	0	0	0	0	0	0	0	0	0.3	0.3	0
Ref No.	IC2801																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
CD PLAY	0	5.4	0	0	0	0	5.4	5.4	0	0	0	4	4.1	4.9	0	0	0	5.3	0	0
STANDBY	0	0	5.4	0	0	0	5.4	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC2801																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
CD PLAY	0	0.1	0	0	0	0.1	5.3	0	2.7	0	4.9	4.6	3.2	2.3	0.6	0	0.6	5.4	5.4	0
STANDBY	0	0	0	0	0	0	0	0	2.7	0	0	0	3.2	2.3	0	0	0	5.4	5.4	0
Ref No.	IC2804																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0	0	0	-8.9	0	0	0	9												
STANDBY	0	0	0	0.4	0	0	0	0.4												

Ref No.	Q2052																		
MODE	1	2	3	4	5	6													
CD PLAY	0	-6	0	0	-6	0													
STANDBY	0	0.3	0	0	0.3	0													
Ref No.	Q2502																		
MODE	1	2	3	4	5	6													
CD PLAY	0	-6	0	0	-6	0													
STANDBY	0	0.7	0	0	0.7	0													
Ref No.	Q2366																		
MODE	1	2	3	4	5	6													
CD PLAY	0	-6	0	0	-6	0													
STANDBY	0	0.7	0	0	0.7	0													
Ref No.	Q2051			Q2142				Q2143				Q2242				Q2243			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B
CD PLAY	5.1	-6	4.6		0	0	0		0	0	-6		0	0	0		0	0	-6
STANDBY	0	0.3	0		0	0	0		0	0	0.6		0	0	0		0	0	0.6
Ref No.	Q2501			Q2551				Q2552				Q2576				Q2601			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B
CD PLAY	0	-6	0		16.1	-3.9	16.1		4.4	5.2	5.2		0	5.4	-3.9		0	0	0
STANDBY	1.4	0.9	0		17.8	0.4	17.8		0	0	0		0	0.7	0.4		0	0	0
Ref No.	Q2606			Q2806				Q2901				Q2912				Q2913			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B
CD PLAY	15.4	0	15.5		0	5.4	0		0	0	4.9		0	0	4.3		0	12	0
STANDBY	0	0	0		0	5.4	0		0	0	0		0	0	0		0	0.3	0
Ref No.	Q2914			Q2978				Q2979											
MODE	E	C	B		E	C	B		E	C	B								
CD PLAY	12	0	12		5	0	5.1		5	0	5.3								
STANDBY	0.3	0	0		0.3	0	0		0	0	0.2								

15.3. Panel P.C.B. & Power P.C.B. & Transformer P.C.B.

PANEL P.C.B																				
Ref No.	IC6801																			
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	2.3	1.6	1.2	4.1	4.8	3.9	0	0	5	-16.5	-29.5	-24.5	-27.5	-27	-24.4	-19.2
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0.2	-29.1	-28.9	-28.8	-28.7	-28.7	-28.6	-28.6
Ref No.	IC6801																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	-21.9	-13.9	-16.5	-29.7	-27.1	-29.7	-21.9	-27.1	-27.1	-30.3	-30	-27.4	-27.4	-27.4	-27.4	-27.4	-27.4	-27.4	-27.4	-27.4
STANDBY	-28.6	-28.5	-28.5	-28.4	-28.4	-28.3	-28.3	-28.2	-28.2	-28.2	-27.8	-27.7	-27.6	-27.7	-27.6	-27.6	-27.5	-27.4	-27.4	-27.3
Ref No.	IC6801																			
MODE	41	42	43	44																
CD PLAY	-27.4	-27.4	5	0																
STANDBY	-27.3	-27.3	0.2	0																
Ref No.	Q6411				Q6415				Q6421				Q6425				Q6803			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	12	0	11.9		11.9	0	11.9		0	11.9	0		0	11.9	0		5.4	5.4	4.6	
STANDBY	0.3	0	0.3		0.3	0	0.3		0	0.3	0		0	0.3	0		5.4	5.4	4.7	
Ref No.	Q6804				Q6805															
MODE	E	C	B		E	C	B													
CD PLAY	0	5.3	4.6		0	0	5.3													
STANDBY	5.4	0	5.4		0	5.2	0													

POWER P.C.B																				
Ref No.	IC5301																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	-25.9	0	0	28	0	-28.9	-20.7	28.6	11	0	-29	0	-29.1	-0.2	10.9	28.5	-28.9	-28.9	0	28.1
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC5301																			
MODE	21	22	23																	
CD PLAY	0	0	4.6																	
STANDBY	0	0	0.1																	
Ref No.	Q5101				Q5102				Q5103				Q5104				Q5108			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	28.5	42.8	32		0	-29.2	-39.7		0	5.4	0.1		0.1	5.4	0		-43.1	-39.6	-42.4	
STANDBY	0	0	8		-0.8	0	0		0	0.8	0.3		0.3	0.8	0		-0.8	0	0	
Ref No.	Q5109				Q5110				Q5111				Q5112				Q5113			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	-4.6	-12.6	-5.2		27.9	32.1	28.6		15.5	27.4	16.1		16.3	12	15.6		16.3	15.6	16.2	
STANDBY	-0.1	-0.8	0		0.1	7.9	0		0	0	0		0.3	0.4	0.3		0.2	0.2	0.2	
Ref No.	Q5114				Q5115				Q5150				Q5151				Q5152			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	11.2	15.7	11.8		5	5.7	8.6		4.7	0	5.3		4.7	0	5.4		0	4.5	0	
STANDBY	0	0	0.2		0.3	0	0		0.1	0	0		0.1	0	0		0	0	0.8	
Ref No.	Q5603				Q5604				Q5707				Q5708				Q5709			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	-29	-29	-2.6		0	-2.6	0		9	13.3	9.6		0	-9.4	-0.6		-8.9	-25.2	-9.4	
STANDBY	0	0	0		0	0	0		0.4	0	0		0	0	0.4		0.4	0	0	

TRANSFORMER P.C.B																				
Ref No.	Q5950				Q5951				Q5952				Q5953							
MODE	E	C	B		E	C	B		E	C	B		E	C	B					
CD PLAY	6.2	10.3	6.8		-30.3	-47.5	0		0	3.7	-0.3		0	0.1	0					
STANDBY	0	6.8	0		-29.1	-29.4	0		0	3.7	0		0	6.2	0					

15.4. Deck P.C.B. & Deck Mechanism P.C.B. & Mic P.C.B. & Tuner P.C.B.

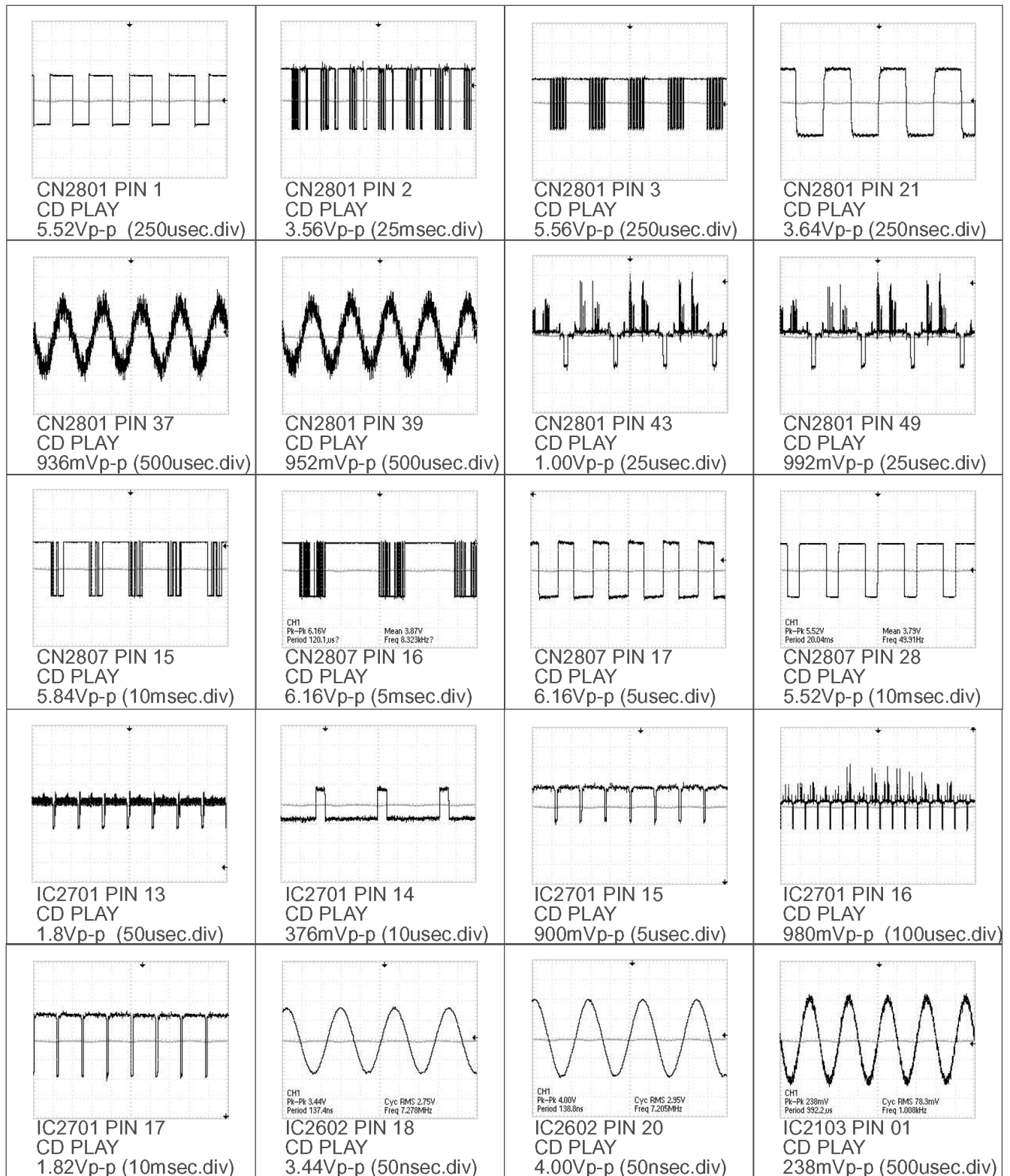
DECK P.C.B																				
Ref No.	IC1001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	0	0.6	5.5	5.5	2.8	0	0.3	0	1.9	7.2	0	11.3	0	0	0	0.3	0	0.2	5.4
STANDBY			0.4	0.4	0.2	0.2	0	0	0	0	0	0	0	0	0	0	0.3	0	0.2	0.1
Ref No.	IC1001																			
MODE	21	22	23	24																
CD PLAY	6.3	0.7	0	0																
STANDBY	0.3	0.3	0	0																
Ref No.	IC1004																			
MODE	1	2	3	4	5															
CD PLAY	7.9	0	0	0	0															
STANDBY	0	0	0	0	0															
Ref No.	Q1003				Q1004				Q1005				Q1017							
MODE	E	C	B		E	C	B		E	C	B		E	C	B					
CD PLAY	0	-0.1	0		0	15.3	0		0	15.3	0		0	11.6	-0.6					
STANDBY	0	0	0		0	0	0		0	0	0		0	0	0					

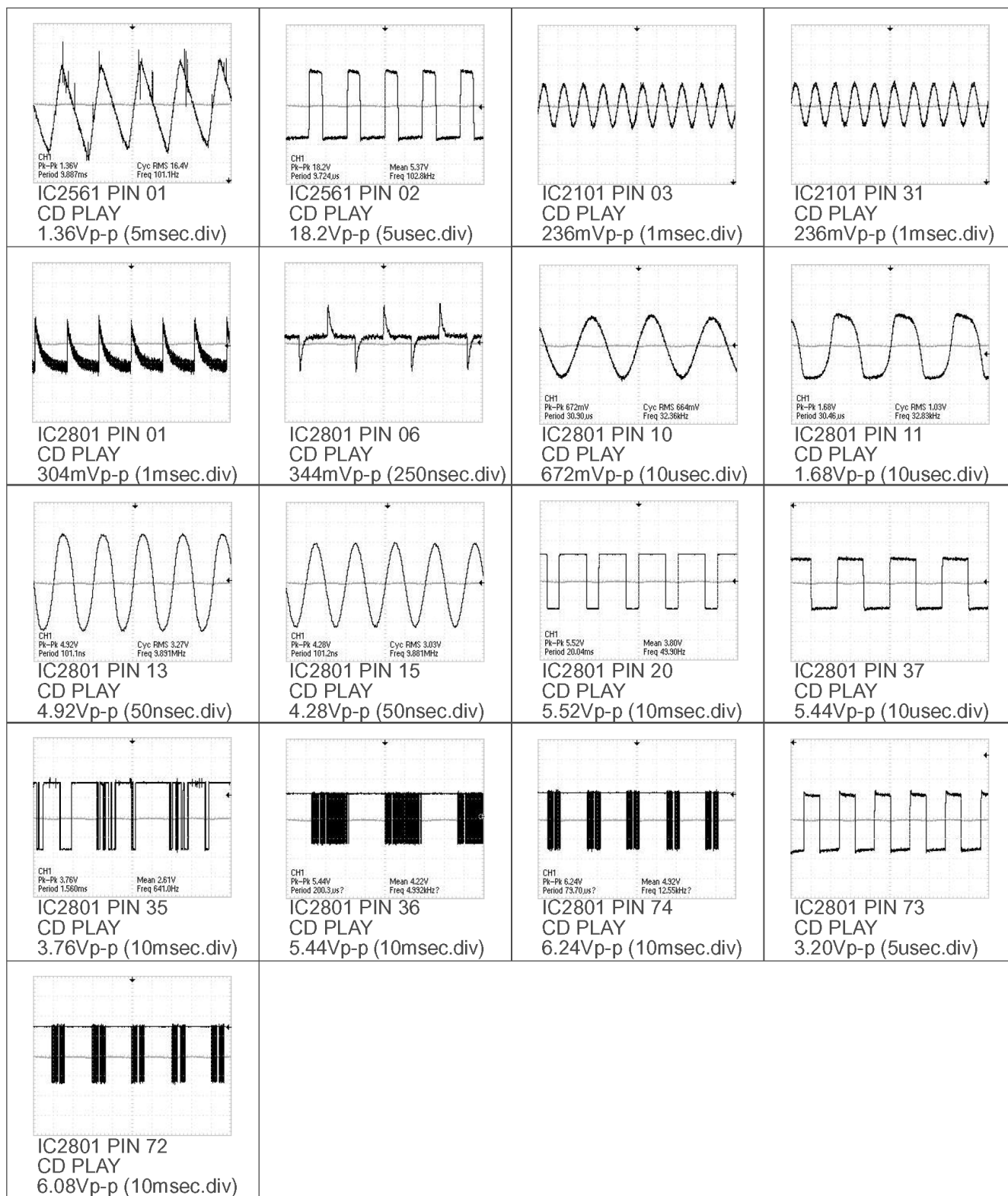
DECK MECHANISM P.C.B																				
Ref No.	IC951																			
MODE	1	2	3	4																
CD PLAY	0.7	5	4.2	5.3																
STANDBY	0	0	0	0																

MIC P.C.B																				
Ref No.	Q2701				Q2702															
MODE	E	C	B		E	C	B													
CD PLAY	6.1	8.3	6.5		0	1.6	0.7													
STANDBY	0	0.2	0.2		0	0.2	0.2													

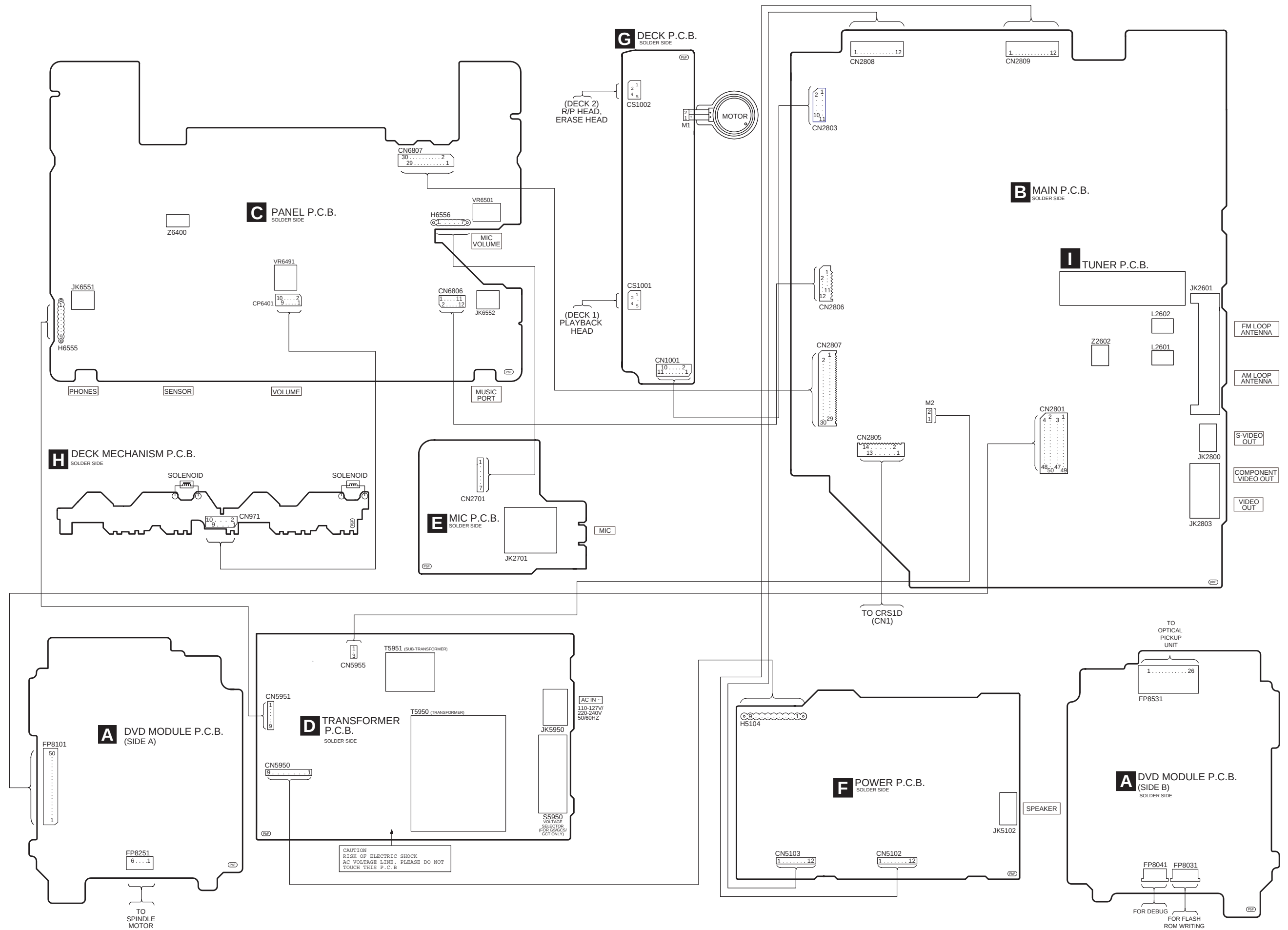
TUNER P.C.B																				
Ref No.	Q1				Q2				Q3				Q4							
MODE	G	D	S		E	C	B		E	C	B		E	C	B					
CD PLAY	0	0	0		0	0	0		0	0	0		0	0	0					
STANDBY	0	0	0		0	0	0		0	0	0		0	0	0					

15.5. Waveform Chart

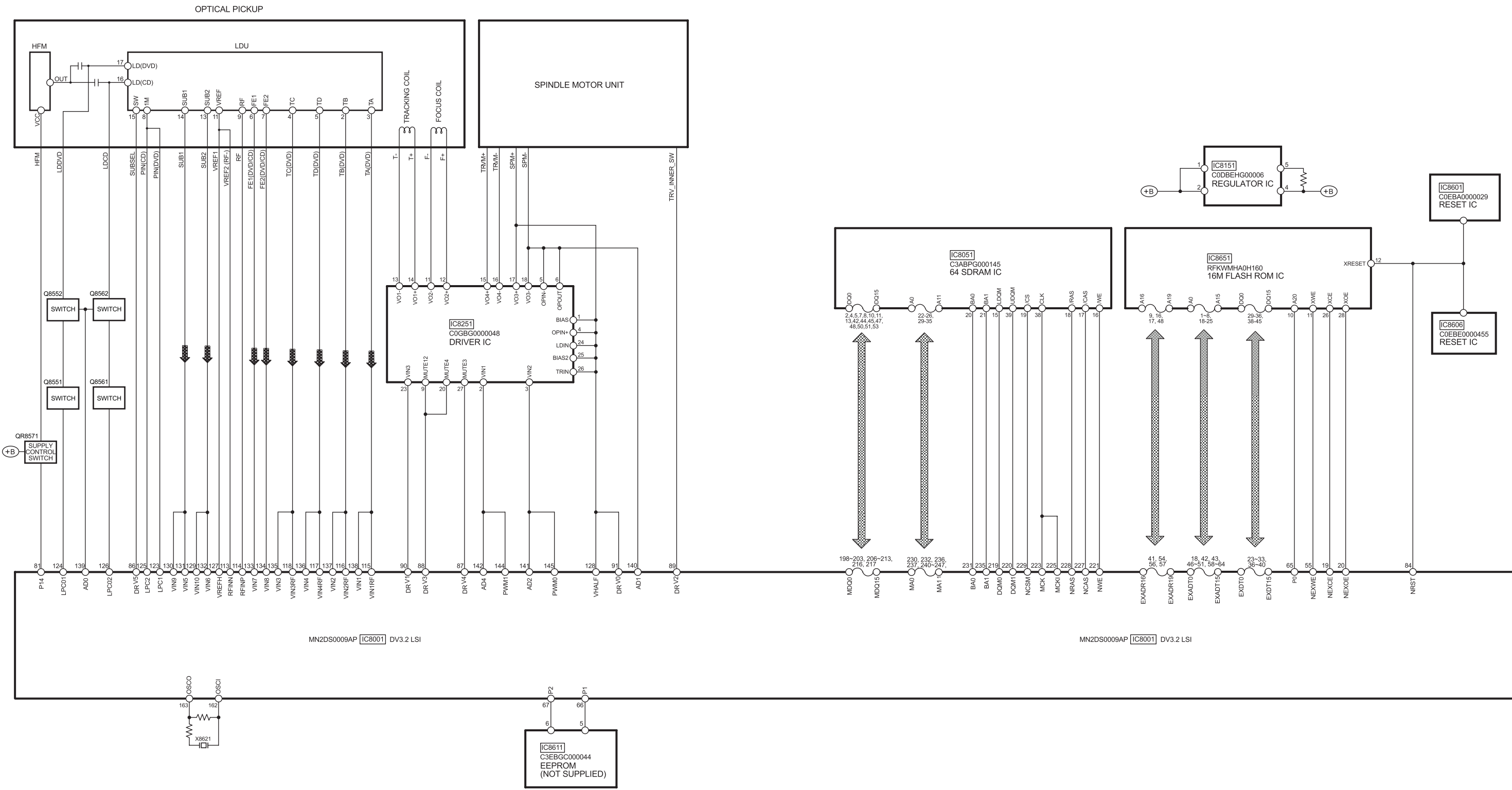


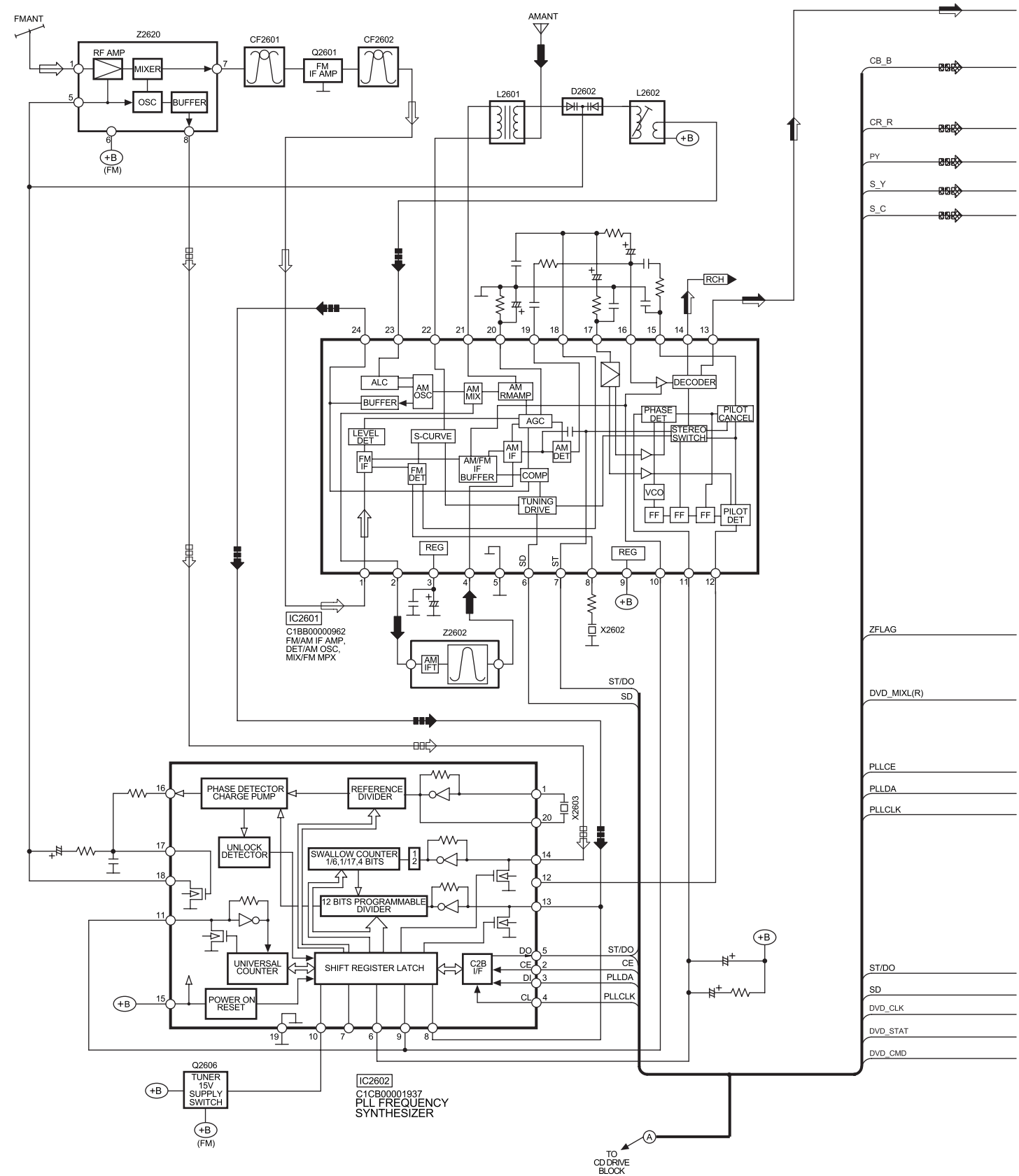
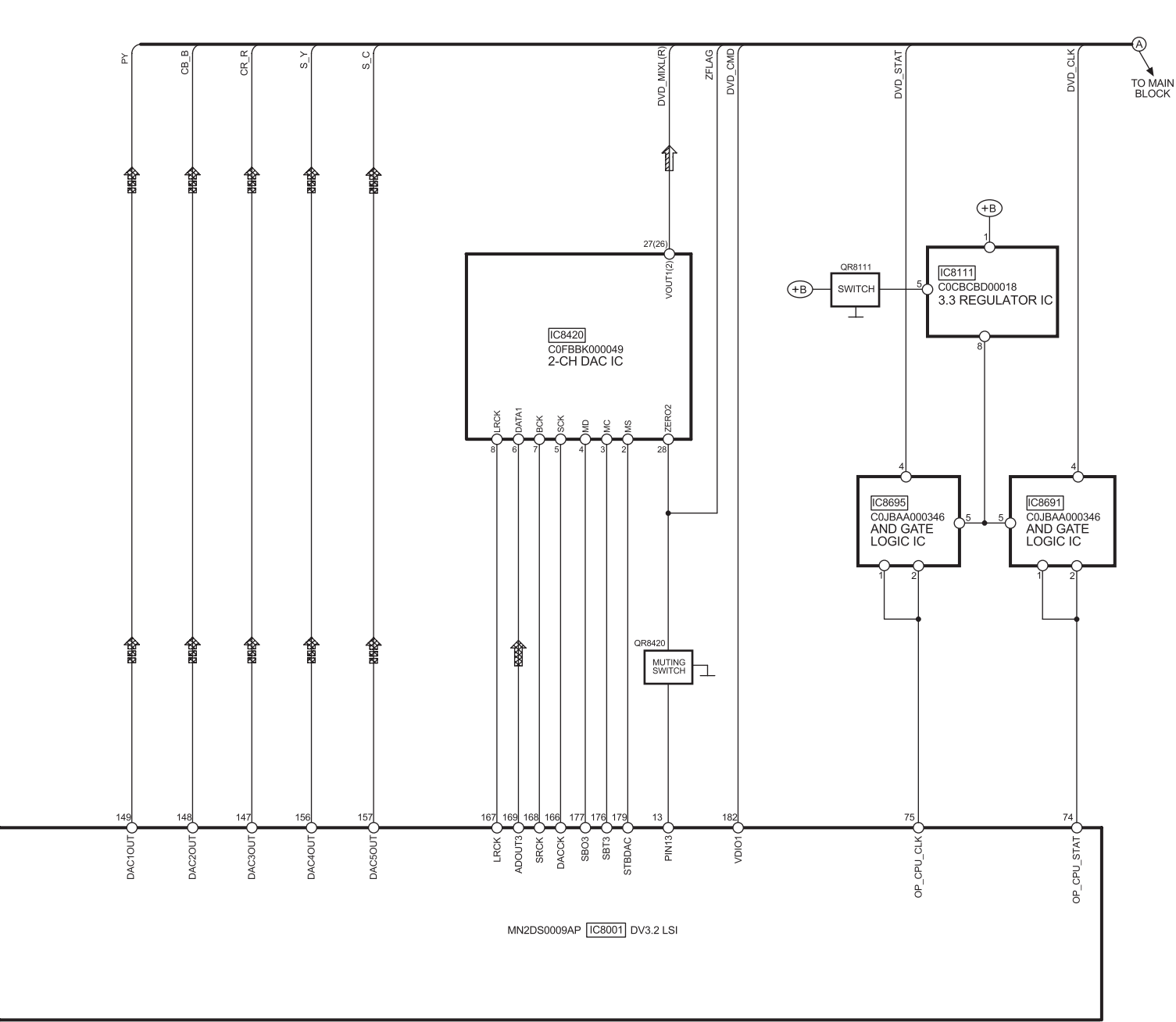


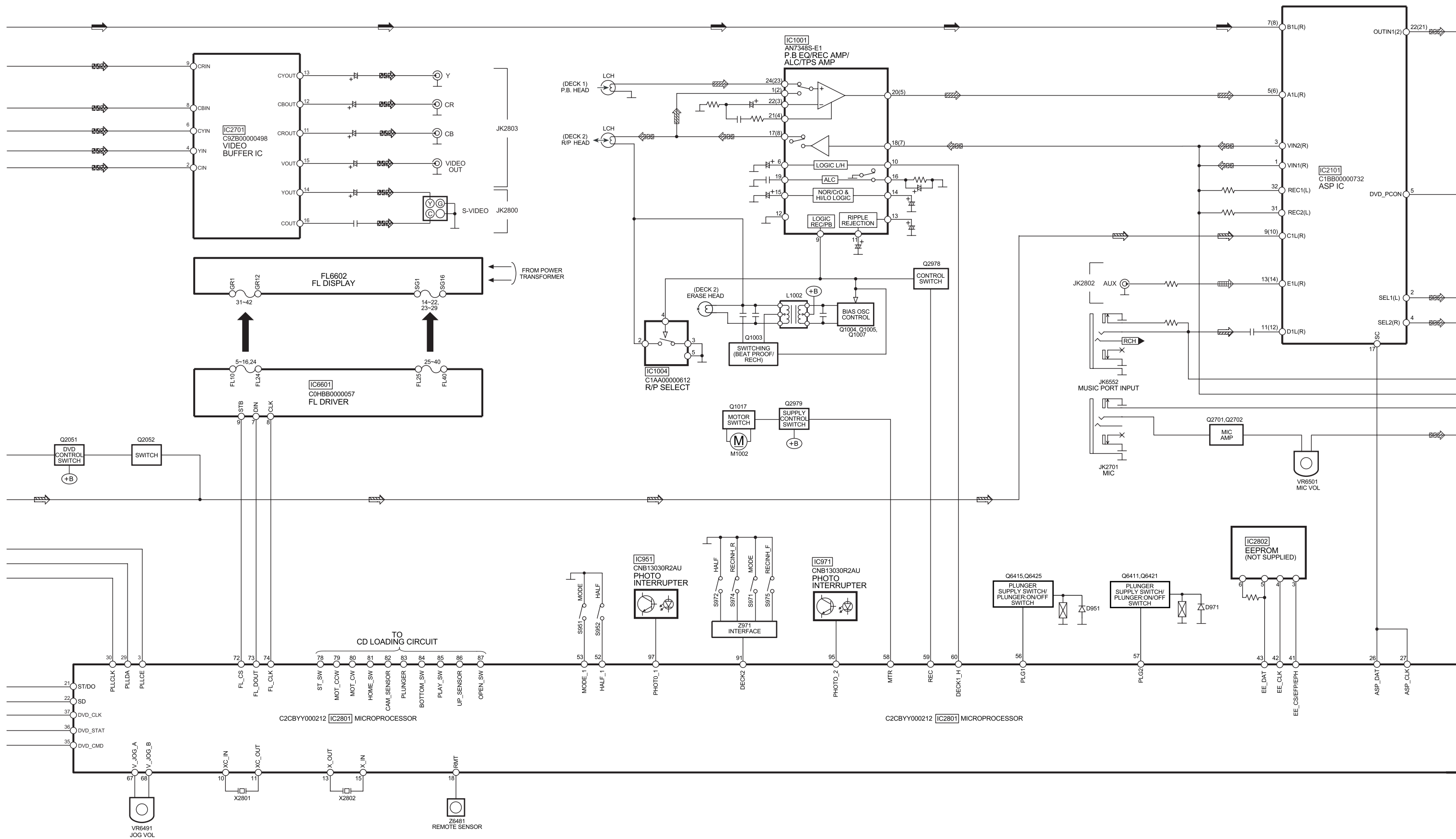
16 Wiring Connection Diagram

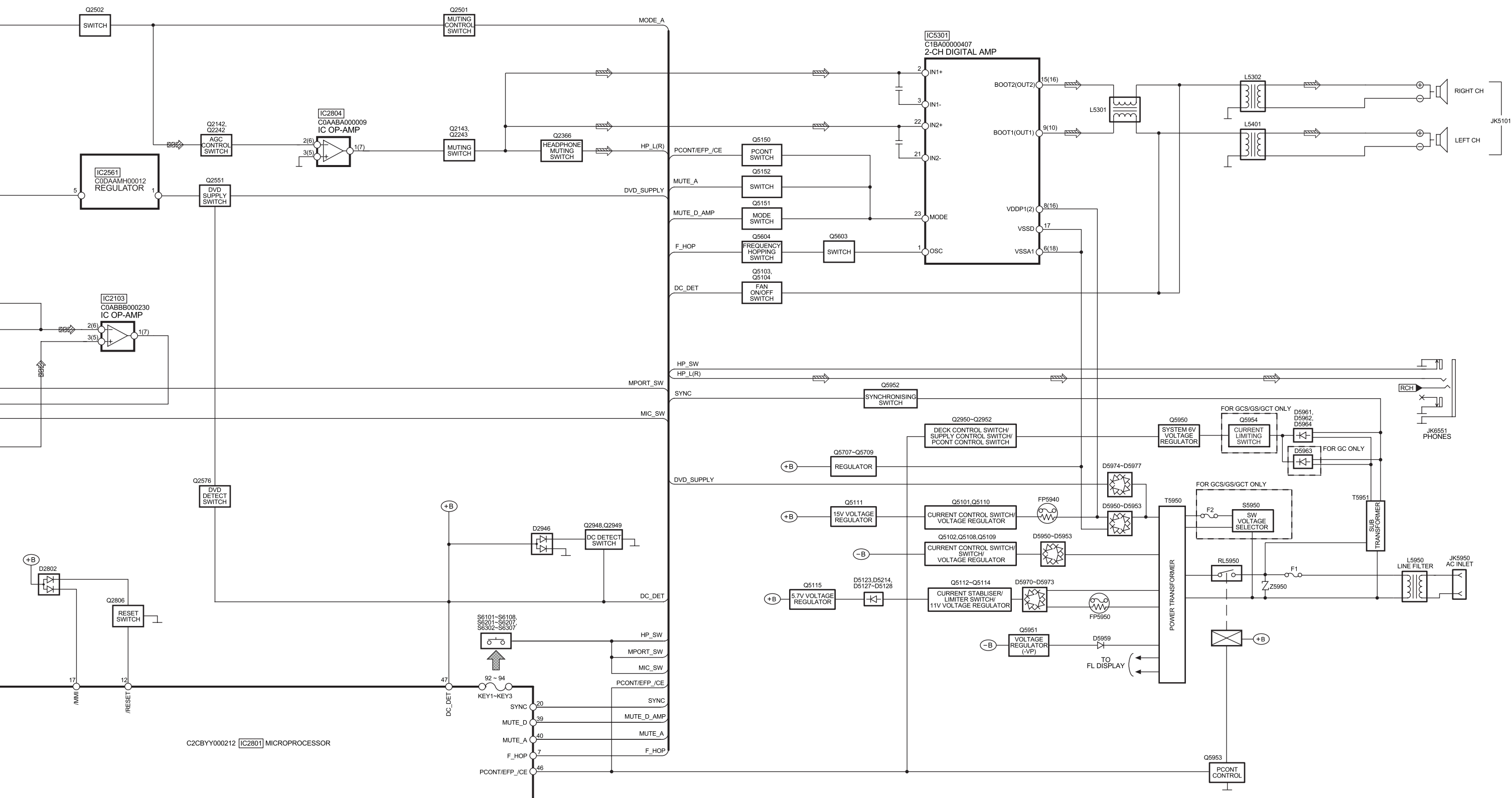


17 Block Diagram









SIGNAL LINES

 : MAIN SIGNAL LINE	 : CD SIGNAL LINE	 : AM SIGNAL LINE	 : PLAYBACK SIGNAL LINE
 : FM OSC SIGNAL LINE	 : AM OSC SIGNAL LINE	 : FM/AM SIGNAL LINE	 : RECORD SIGNAL LINE
 : FM SIGNAL LINE	 : AUX SIGNAL LINE	 : CD-DA (AUDIO/VIDEO) SIGNAL LINE	

() Indicates the Pin No. of Right Channel.

NOTE : Signal Lines are applicable to the Left Channel only.

18 Notes of Schematic Diagrams

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

S951	: MODE Switch
S952	: HALF Switch
S971	: MODE Switch
S972	: HALF Switch
S974	: RECINH_R Switch
S975	: RECINH_F Switch
S5950	: VOLTAGE SELECTOR Switch
S6101	: POWER Switch
S6102	: MULTI CHANGE Switch
S6103	: TUNER Switch
S6104	: MUSIC PORT Switch
S6105	: DECK 1 Switch
S6201	: REW/TUNE DOWN Switch
S6202	: REC Switch
S6203	: SOUND EQ Switch
S6204	: SSEQ/-A. SURROUND Switch
S6205	: DECK 1/2 Switch
S6206	: FWD/TUNE UP Switch
S6207	: STOP/DEMO OPEN Switch
S6302	: OPEN/CLOSE Switch
S6303	: SINGLE CHANGE Switch
S6304	: DISC 1 Switch
S6305	: DISC 2 Switch
S6306	: DISC 3 Switch
S6307	: DISC 4 Switch
S6308	: DISC 5 Switch
S6309	: DVD/CD Switch
S6310	: TAPE Switch
S6311	: DECK 2 Switch
VR6491	: VR VOLUME JOG
VR6501	: VR MIC JOG

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

• Importance safety notice :

Components identified by  mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

Caution !

IC, LSI and VLSI are sensitive to static electricity.

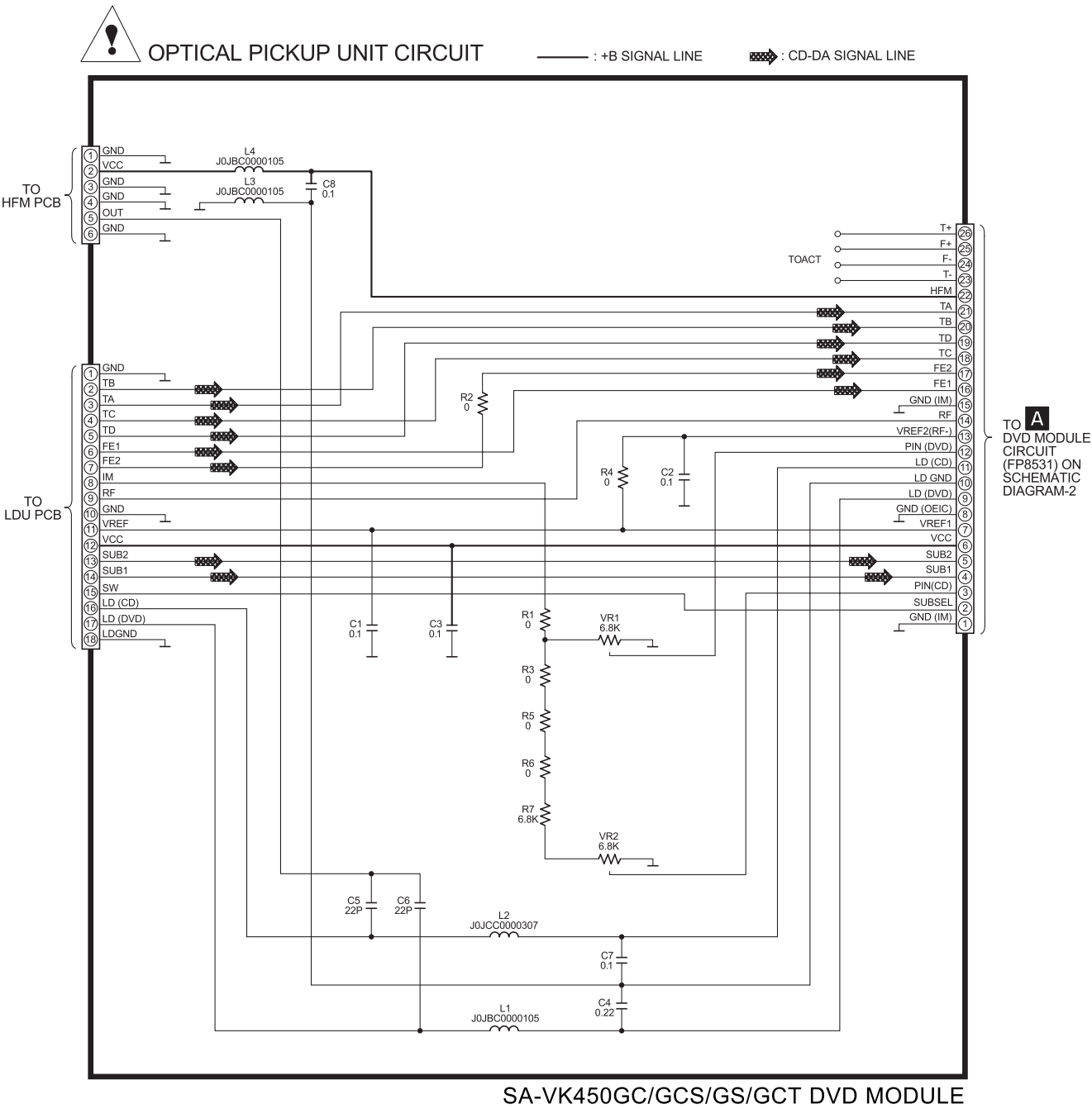
Secondary trouble can be prevented by taking care during repair.

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

19 Schematic Diagram

19.1. Optical Pickup Unit Circuit

SCHEMATIC DIAGRAM - 1



19.2. (A) DVD Module Circuit

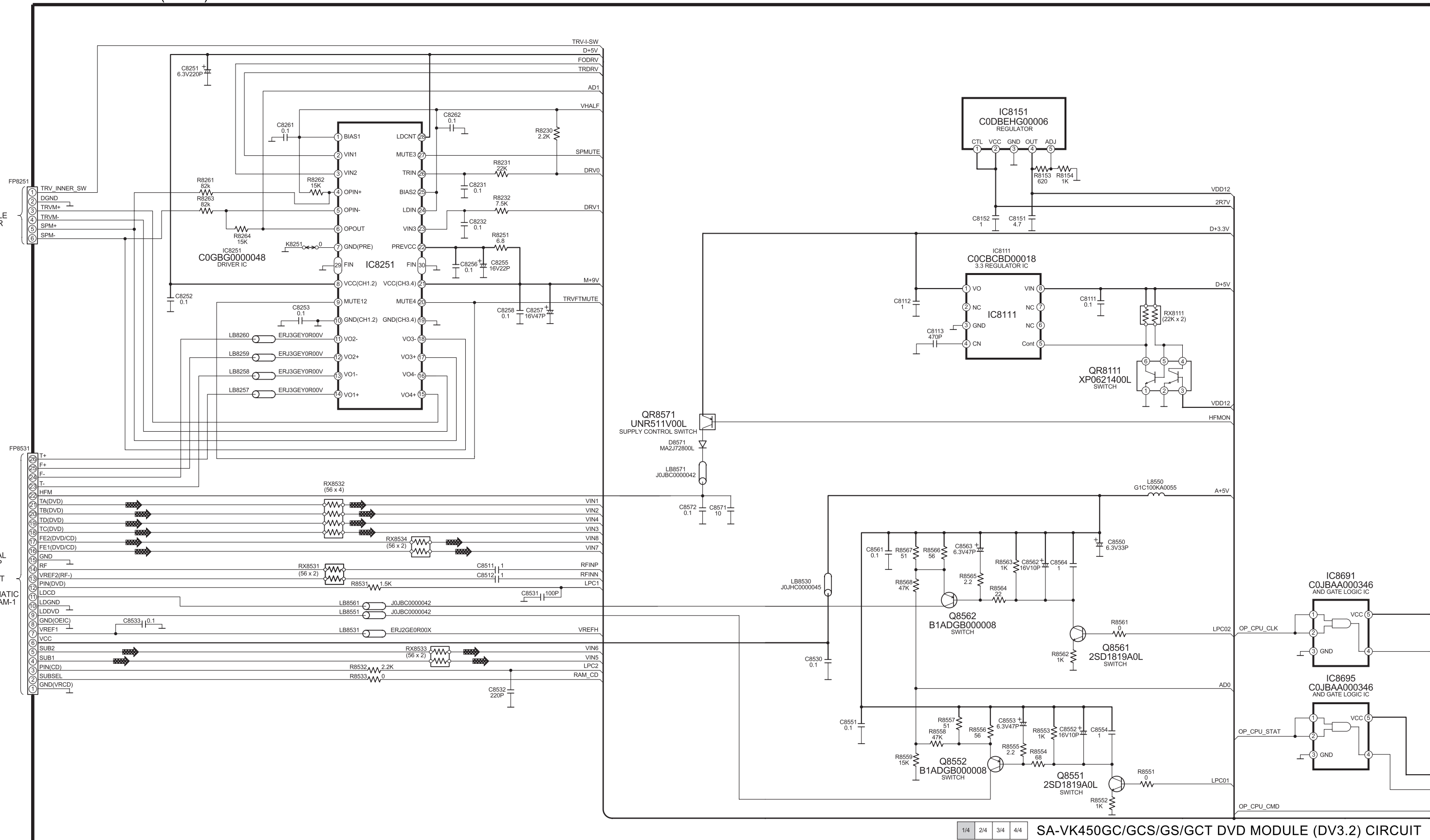
SCHEMATIC DIAGRAM - 2

A

DVD MODULE (DV3.2) CIRCUIT

———— : +B SIGNAL LINE

 : CD-DA SIGNAL LINE

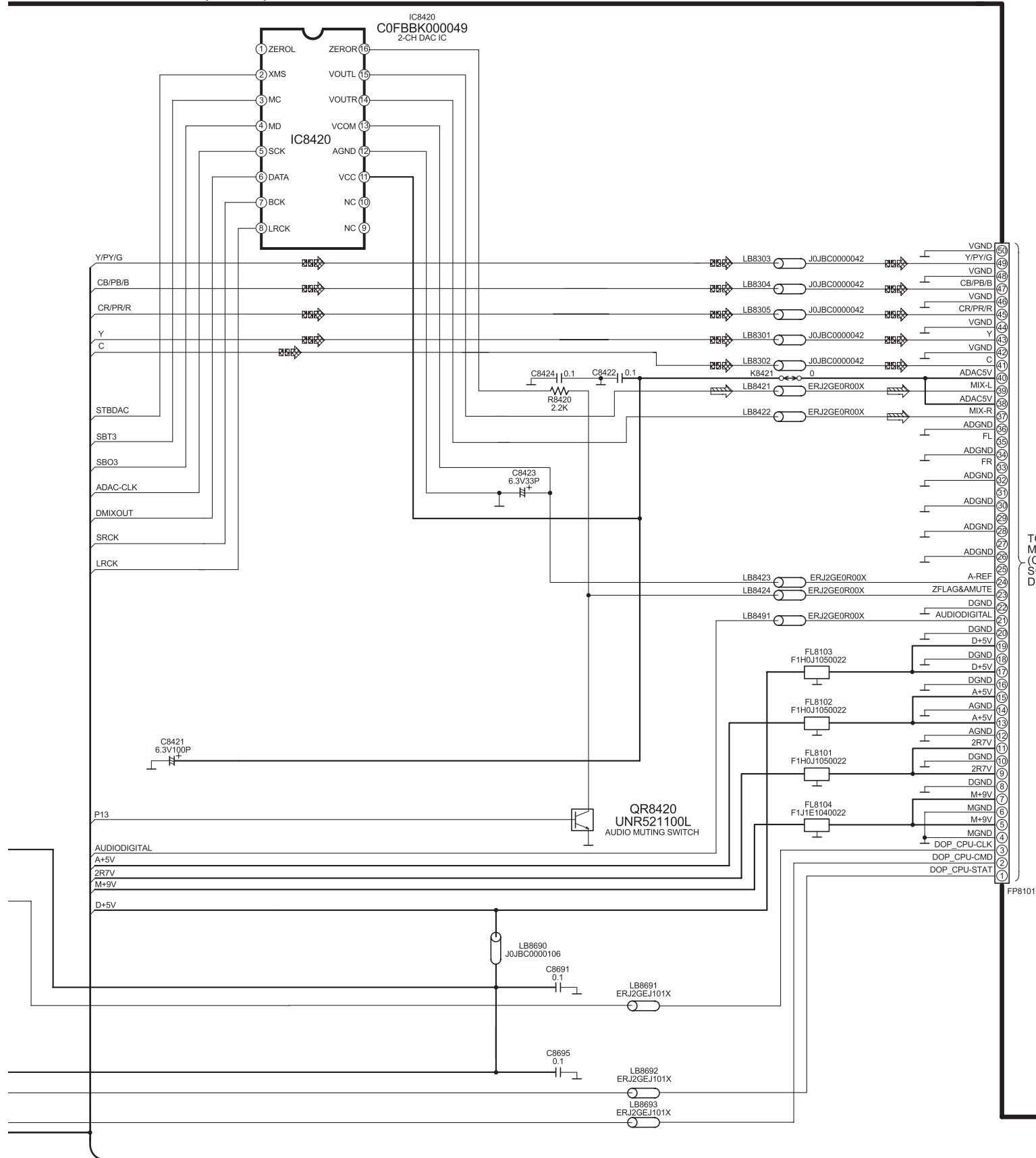


SCHEMATIC DIAGRAM - 3

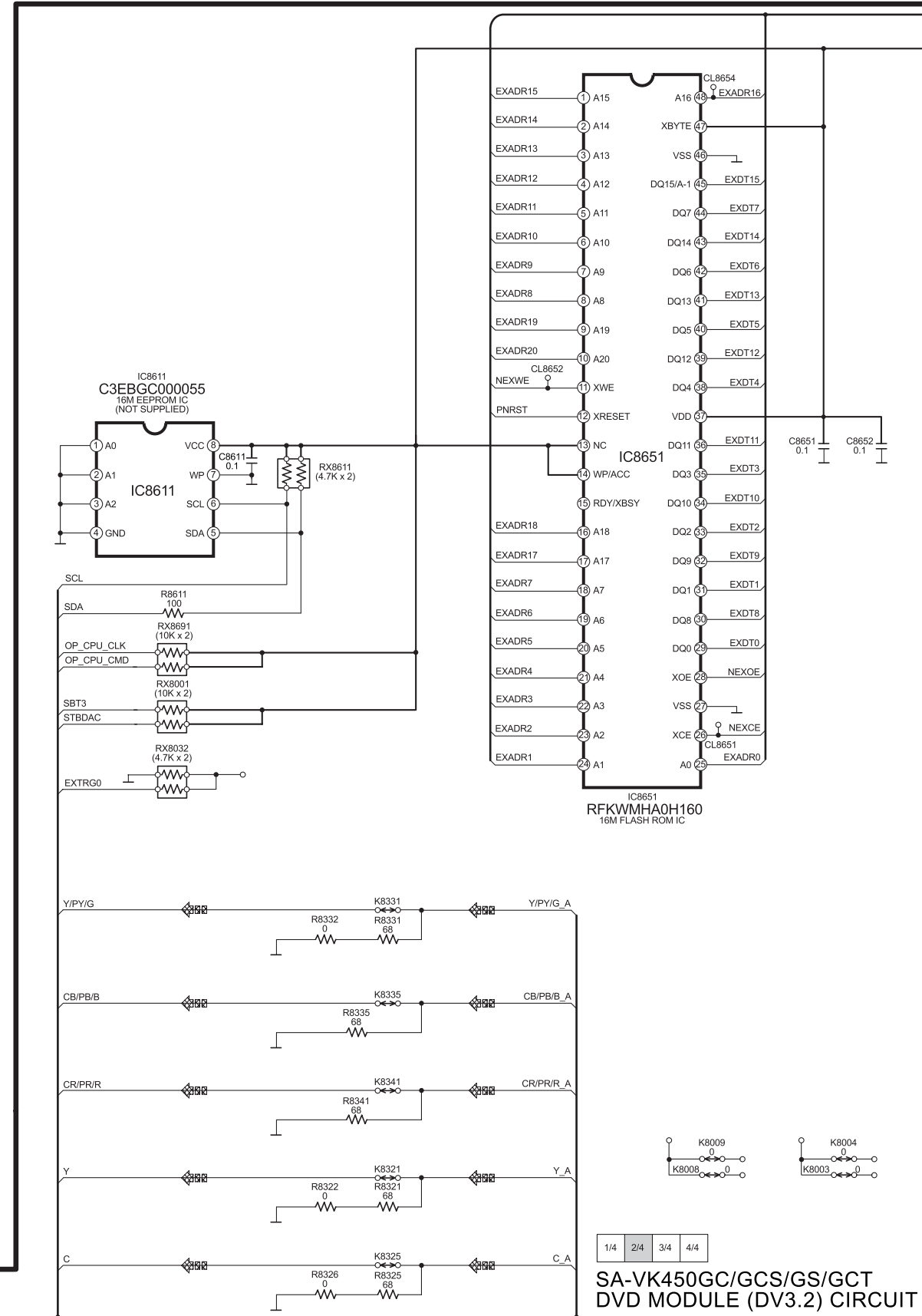
A

 DVD MODULE (DV3.2) CIRCUIT

 : MAIN SIGNAL LINE
  : DVD VIDEO SIGNAL LINE
 : +B SIGNAL LINE



B
 TO MAIN CIRCUIT
 (CN2801) ON
 SCHEMATIC
 DIAGRAM-7



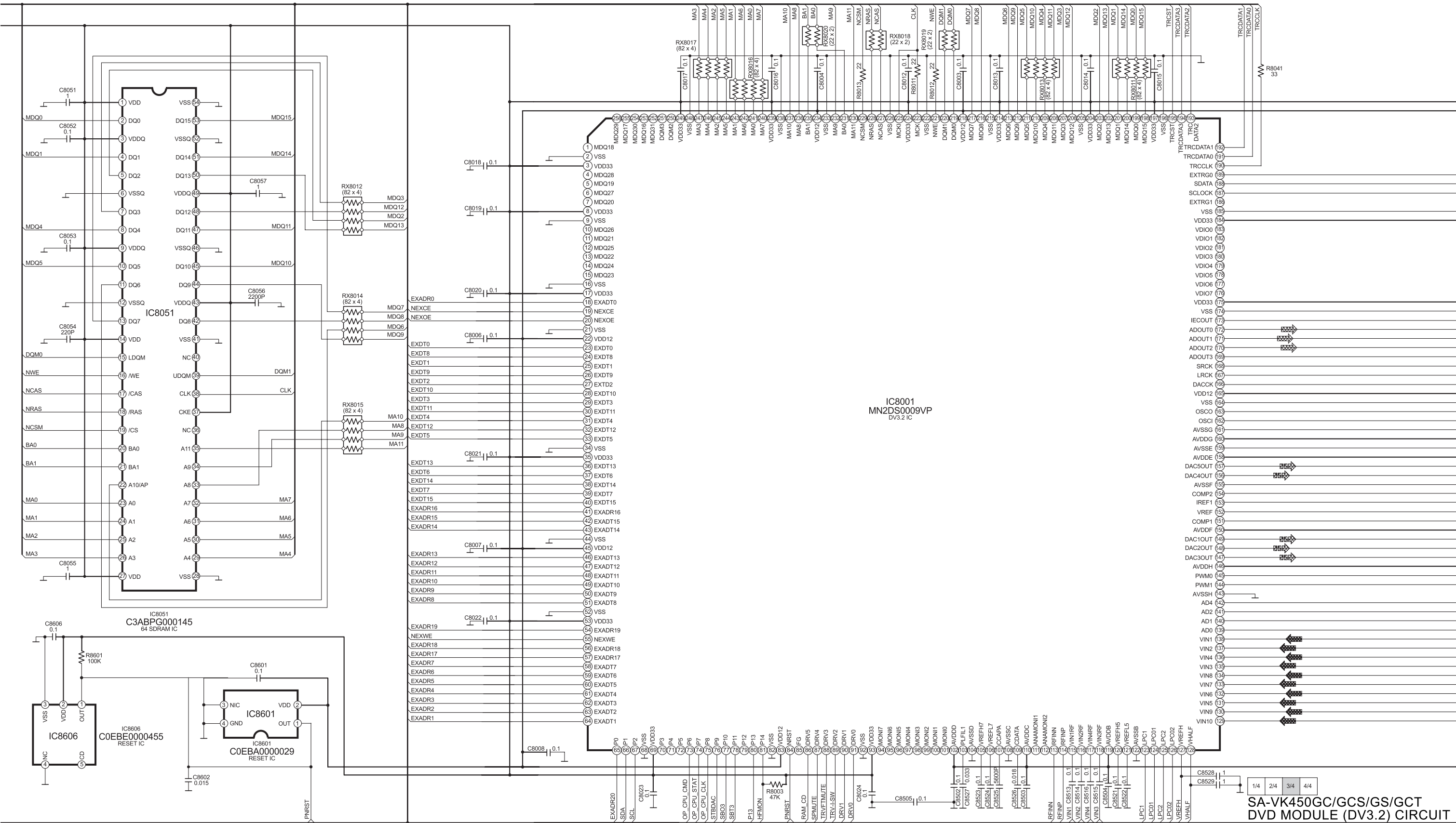
1/4 2/4 3/4 4/4

SA-VK450GC/GCS/GS/GCT
DVD MODULE (DV3.2) CIRCUIT

SCHEMATIC DIAGRAM - 4

A DVD MODULE (DV3.2) CIRCUIT

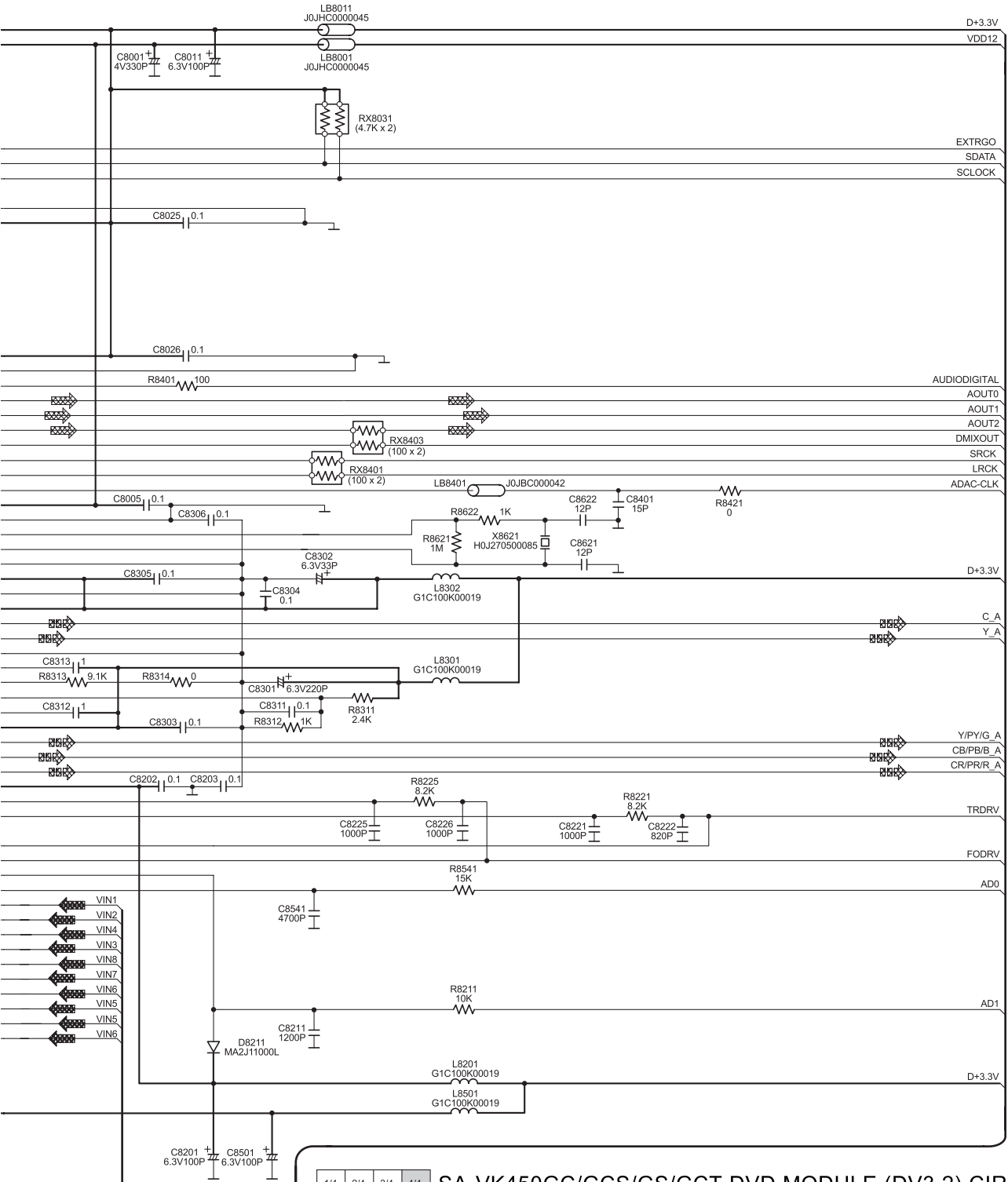
———— : +B SIGNAL LINE



SCHEMATIC DIAGRAM - 5

A DVD MODULE (DV3.2) CIRCUIT

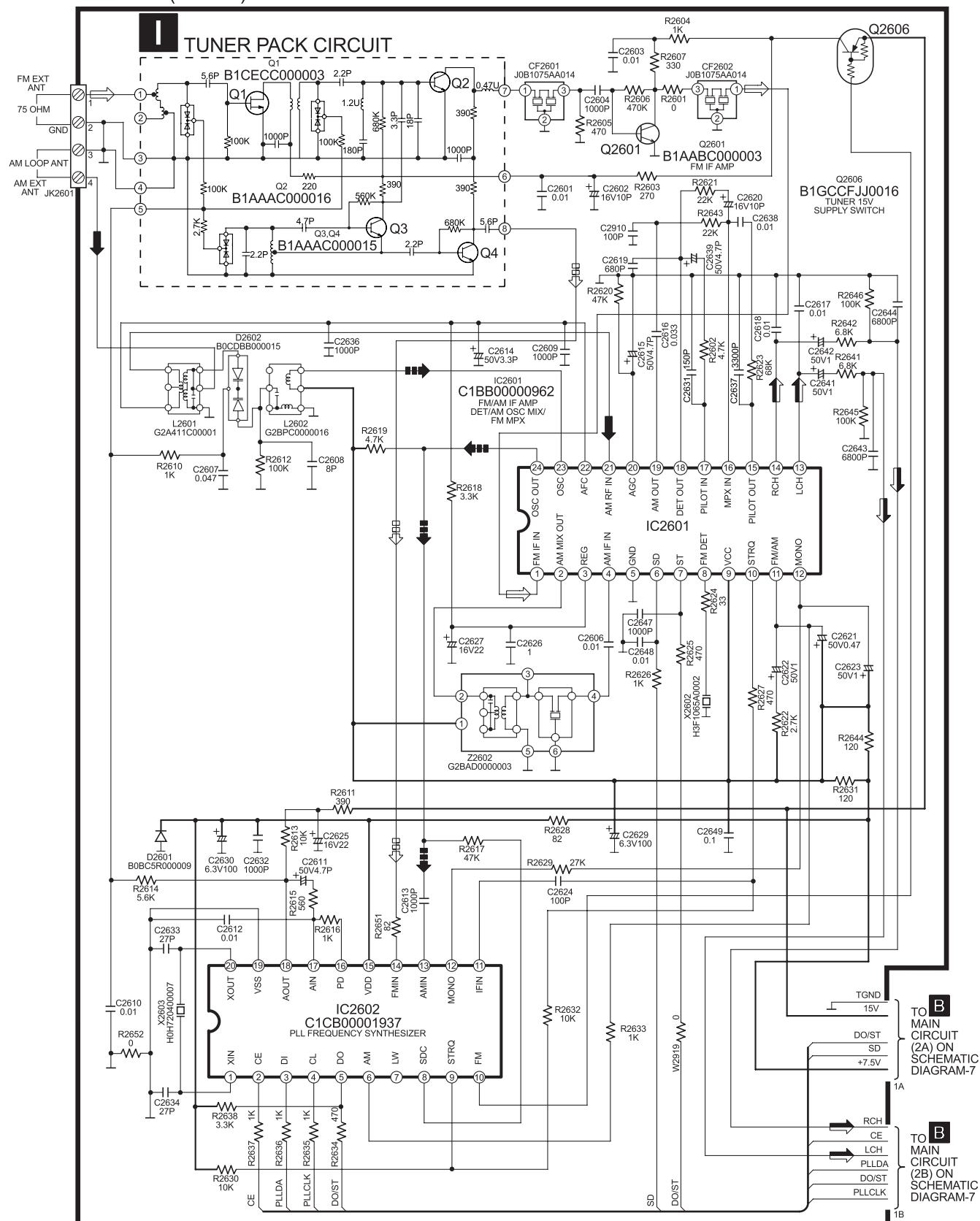
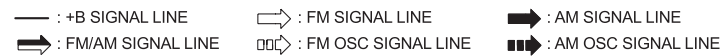
-  : CD-DA SIGNAL LINE
-  : DVD VIDEO SIGNAL LINE
-  : +B SIGNAL LINE
-  : DVD AUDIO SIGNAL LINE



19.3. (B) Main (Tuner) Circuit

SCHEMATIC DIAGRAM - 6

B MAIN(TUNER) CIRCUIT

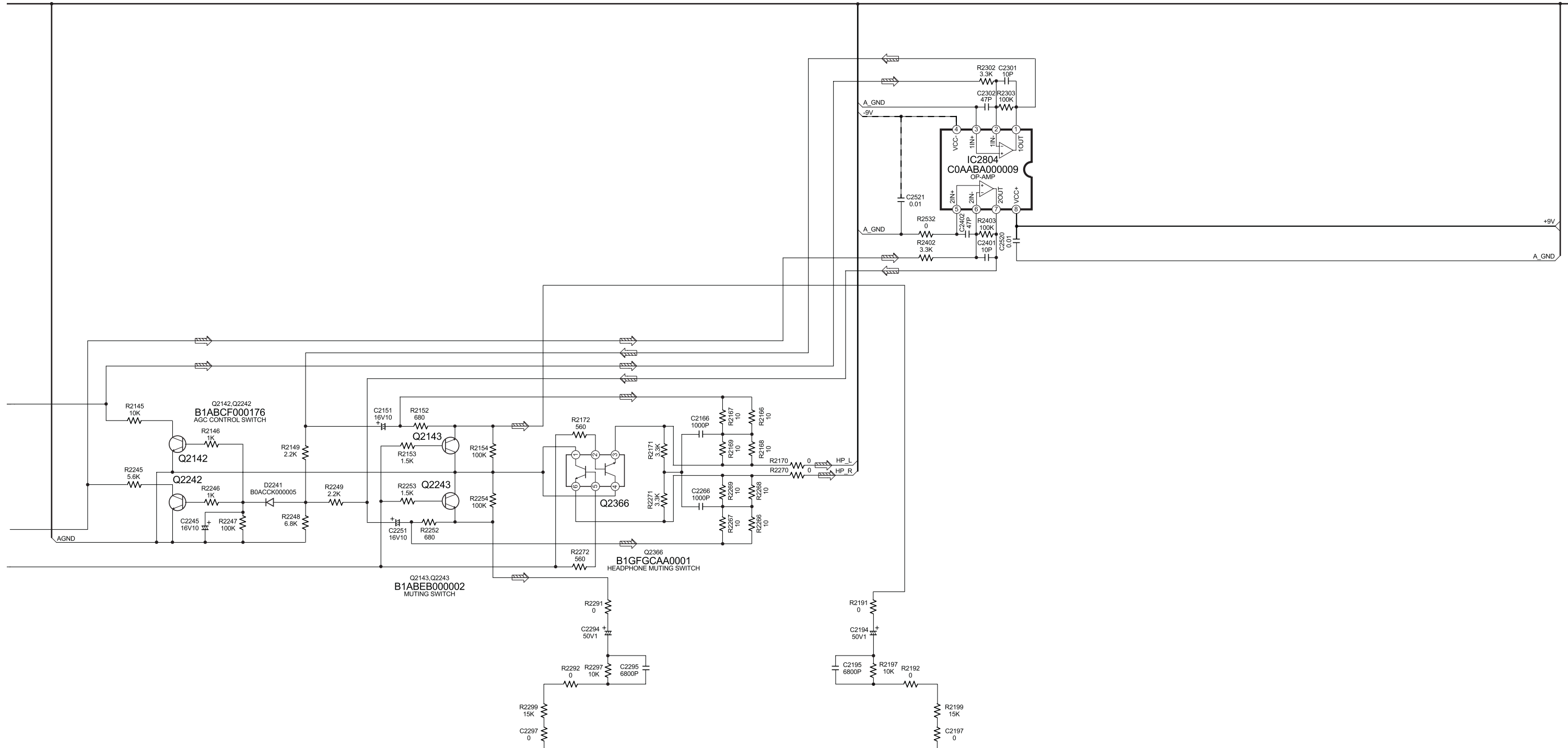


SA-VK450GC/GCS/GS/GCT MAIN(TUNER) CIRCUIT

SCHEMATIC DIAGRAM - 9

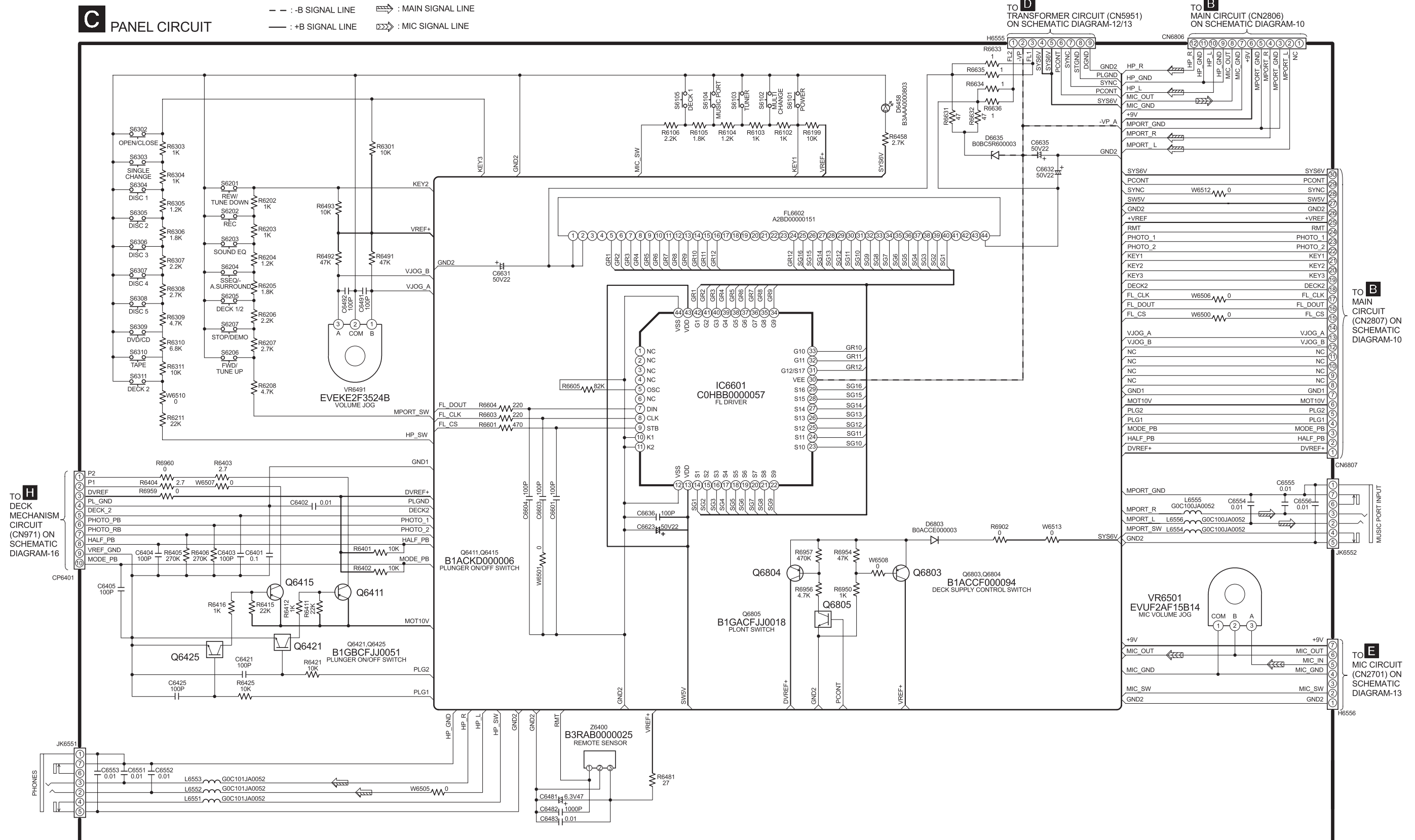
B MAIN CIRCUIT

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

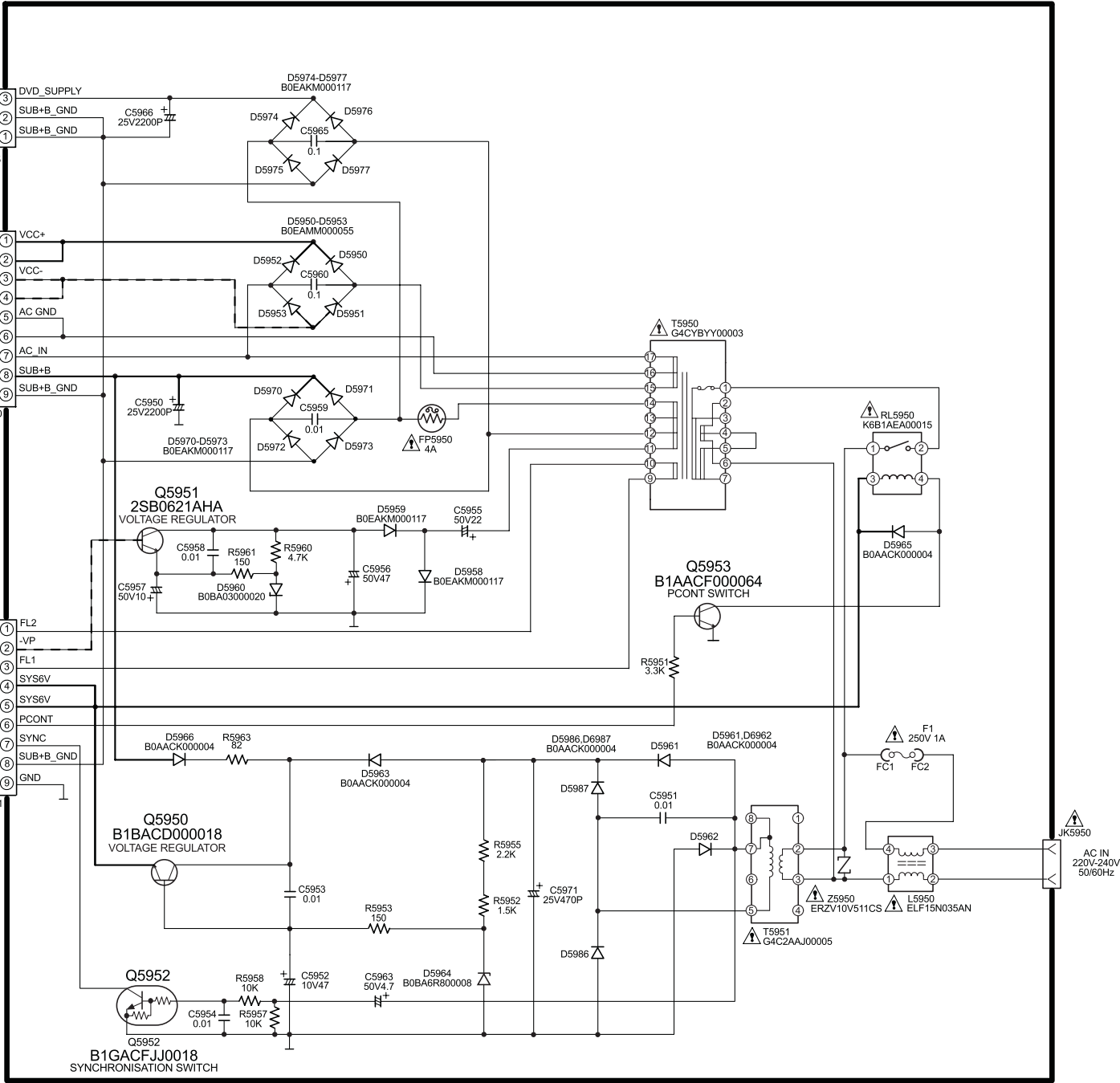


19.5. (C) Panel Circuit

SCHEMATIC DIAGRAM - 11



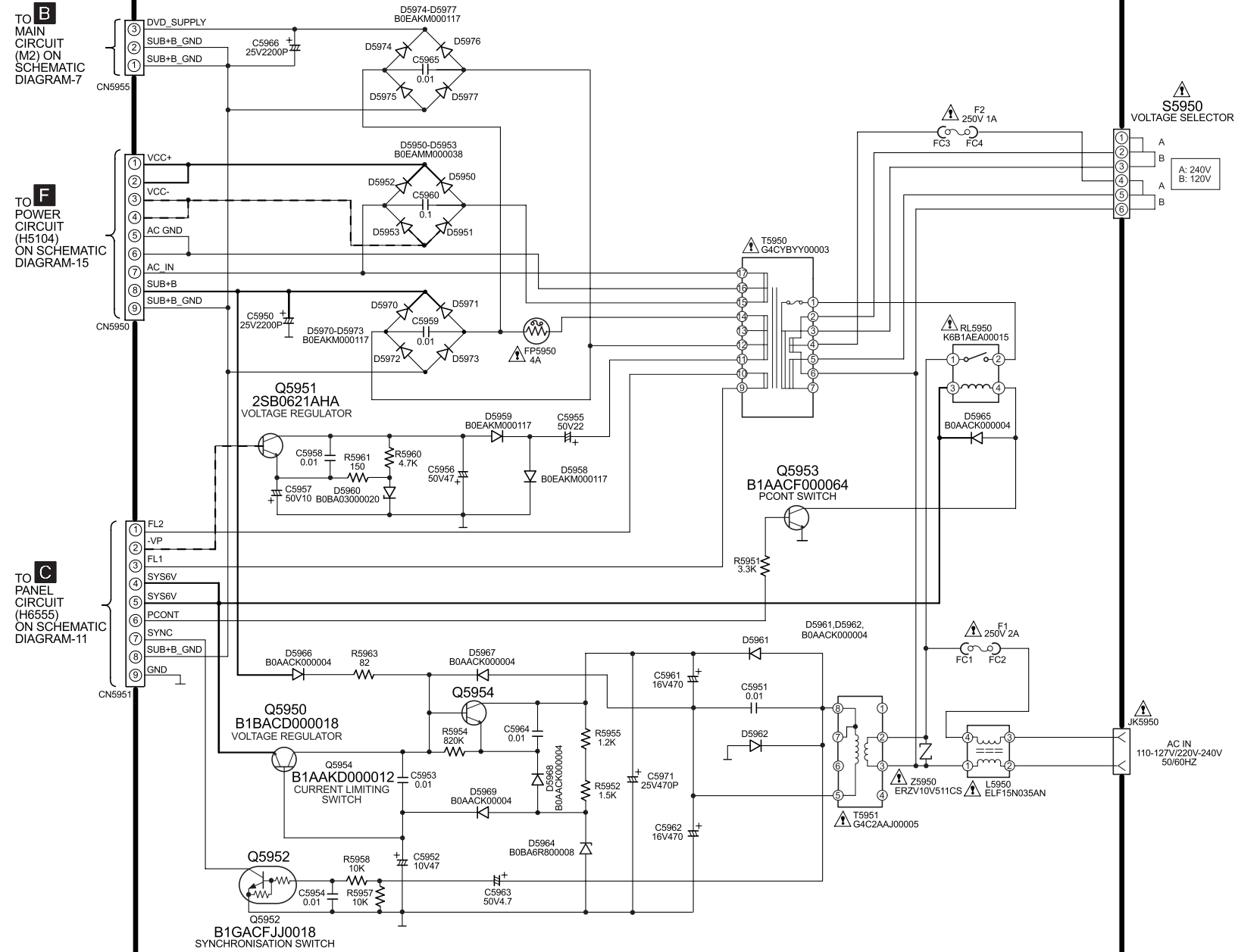
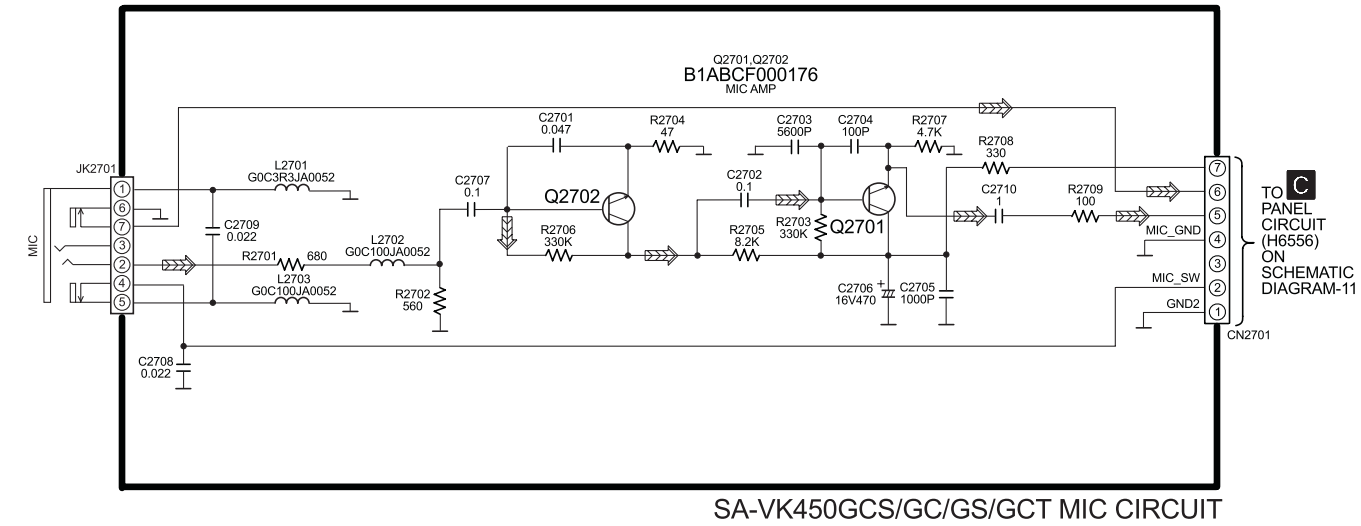
D TRANSFORMER CIRCUIT (FOR GC) — : +B SIGNAL LINE - - : -B SIGNAL LINE



SA-VK450GC TRANSFORMER CIRCUIT

19.7. (D) Transformer Circuit (For GS/GCS/GCT only) & (E) Mic Circuit

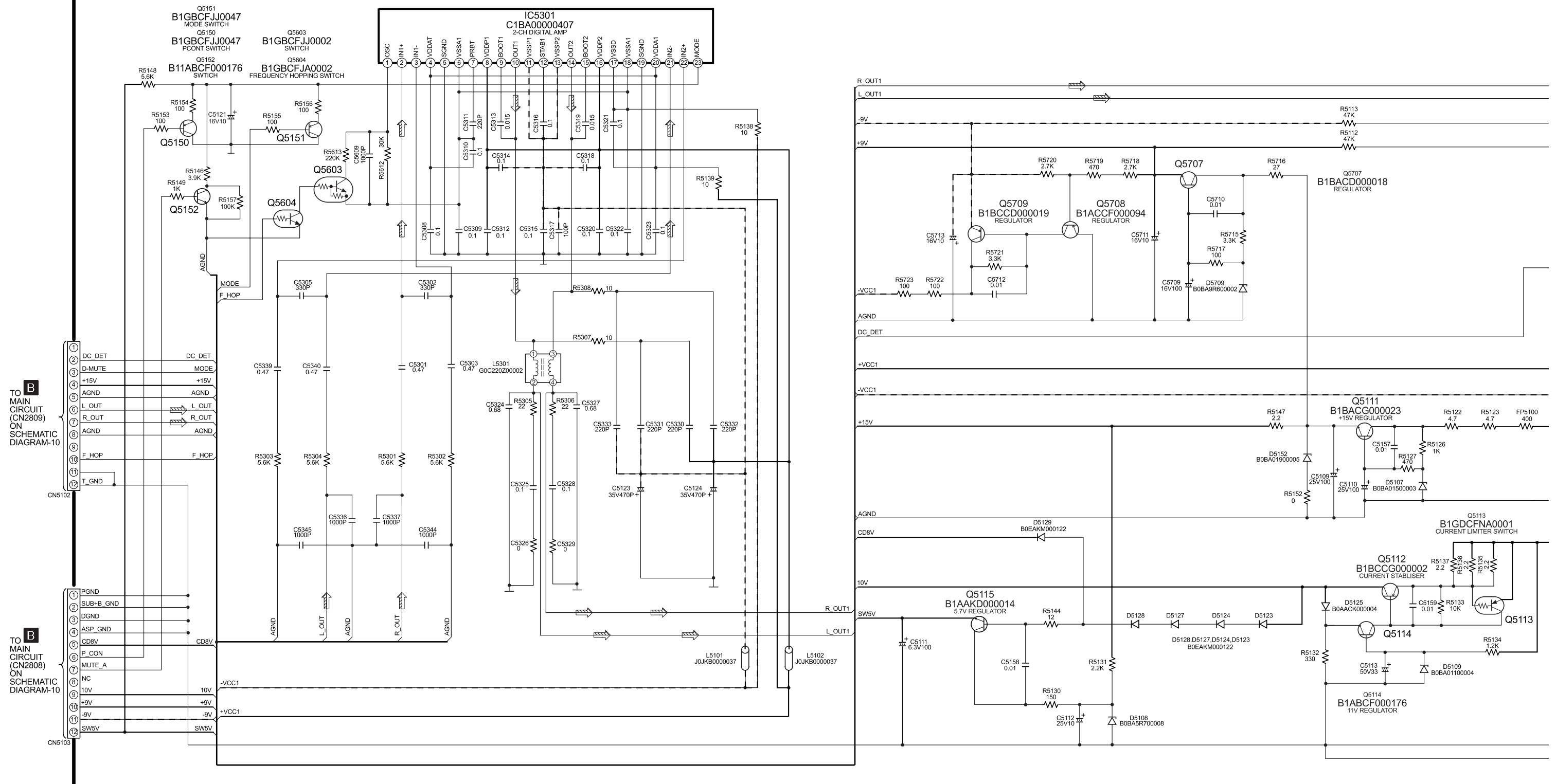
SCHEMATIC DIAGRAM - 13

D TRANSFORMER CIRCUIT (FOR GS/GCS/GCT) — : +B SIGNAL LINE — — : -B SIGNAL LINE**E** MIC CIRCUIT — : +B SIGNAL LINE — — : -B SIGNAL LINE >>> : MIC SIGNAL LINE

19.8. (F) Power Circuit

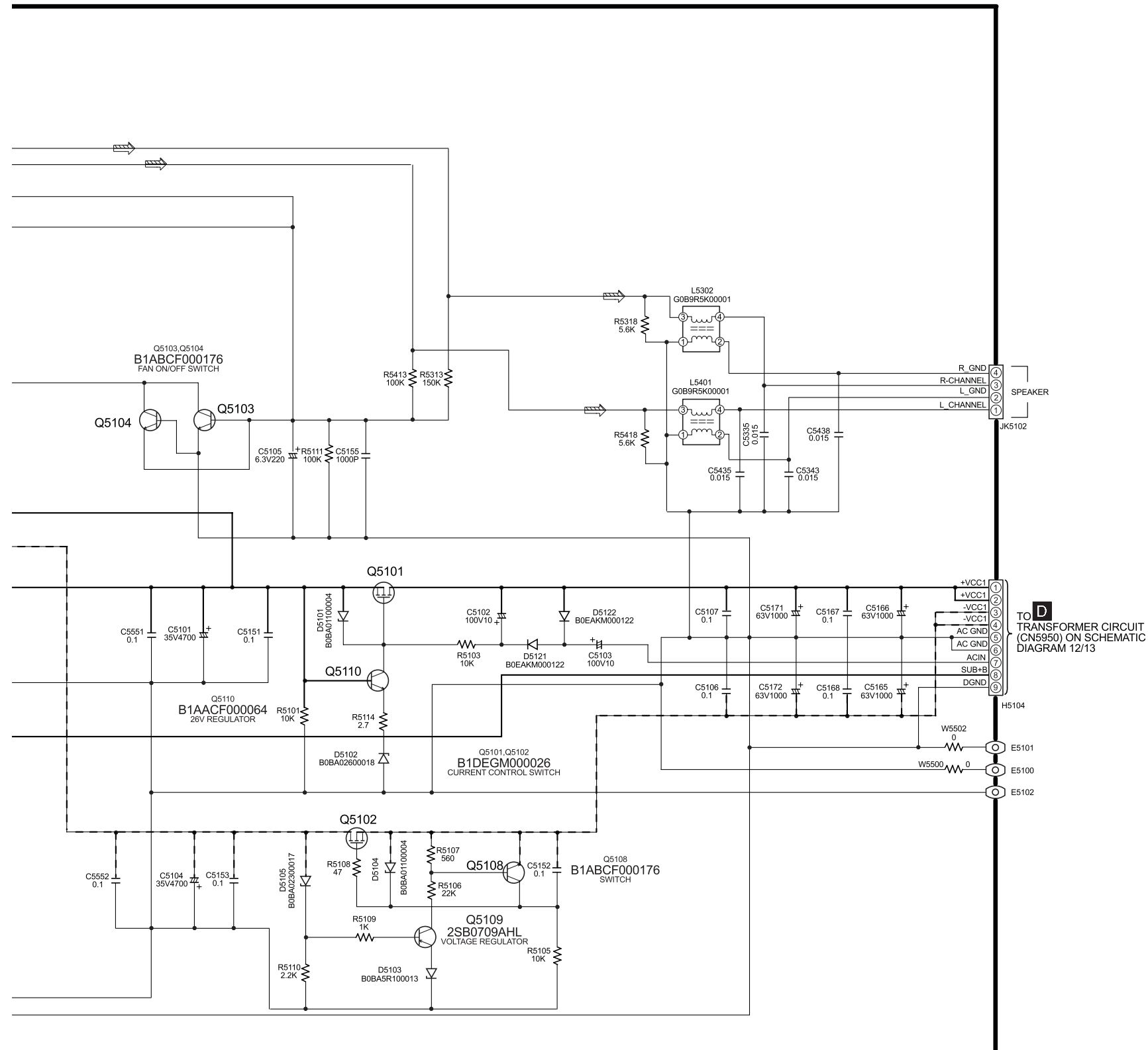
SCHEMATIC DIAGRAM - 14

F POWER CIRCUIT — : +B SIGNAL LINE - - : -B SIGNAL LINE  : MAIN SIGNAL LINE



SCHEMATIC DIAGRAM - 15

F POWER CIRCUIT — : +B SIGNAL LINE - - : -B SIGNAL LINE ⇨ : MAIN SIGNAL LINE

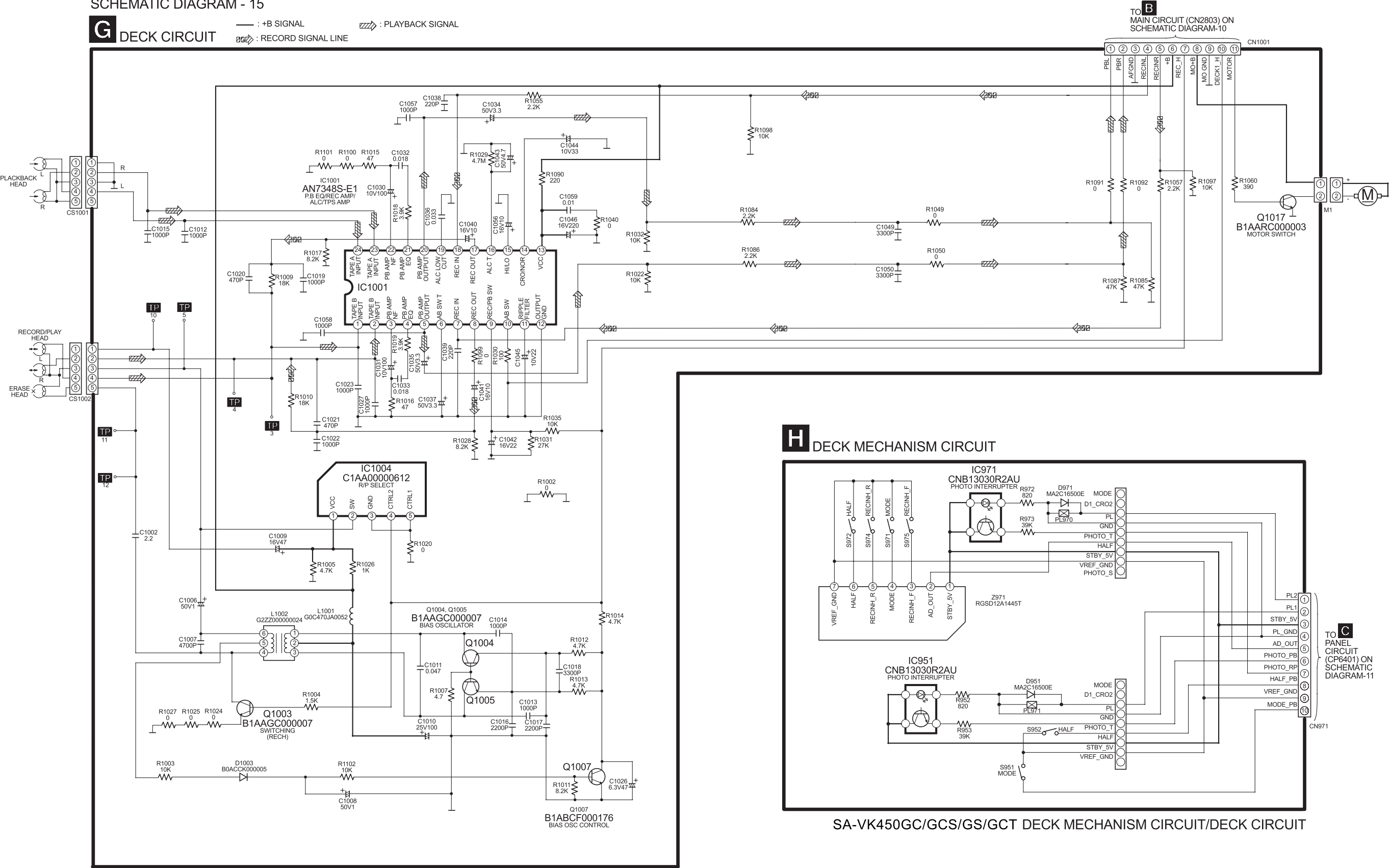


19.9. (G) Deck Circuit & (H) Deck Mechanism Circuit

SCHEMATIC DIAGRAM - 15

G DECK CIRCUIT

— : +B SIGNAL
▨ : PLAYBACK SIGNAL
▧ : RECORD SIGNAL LINE

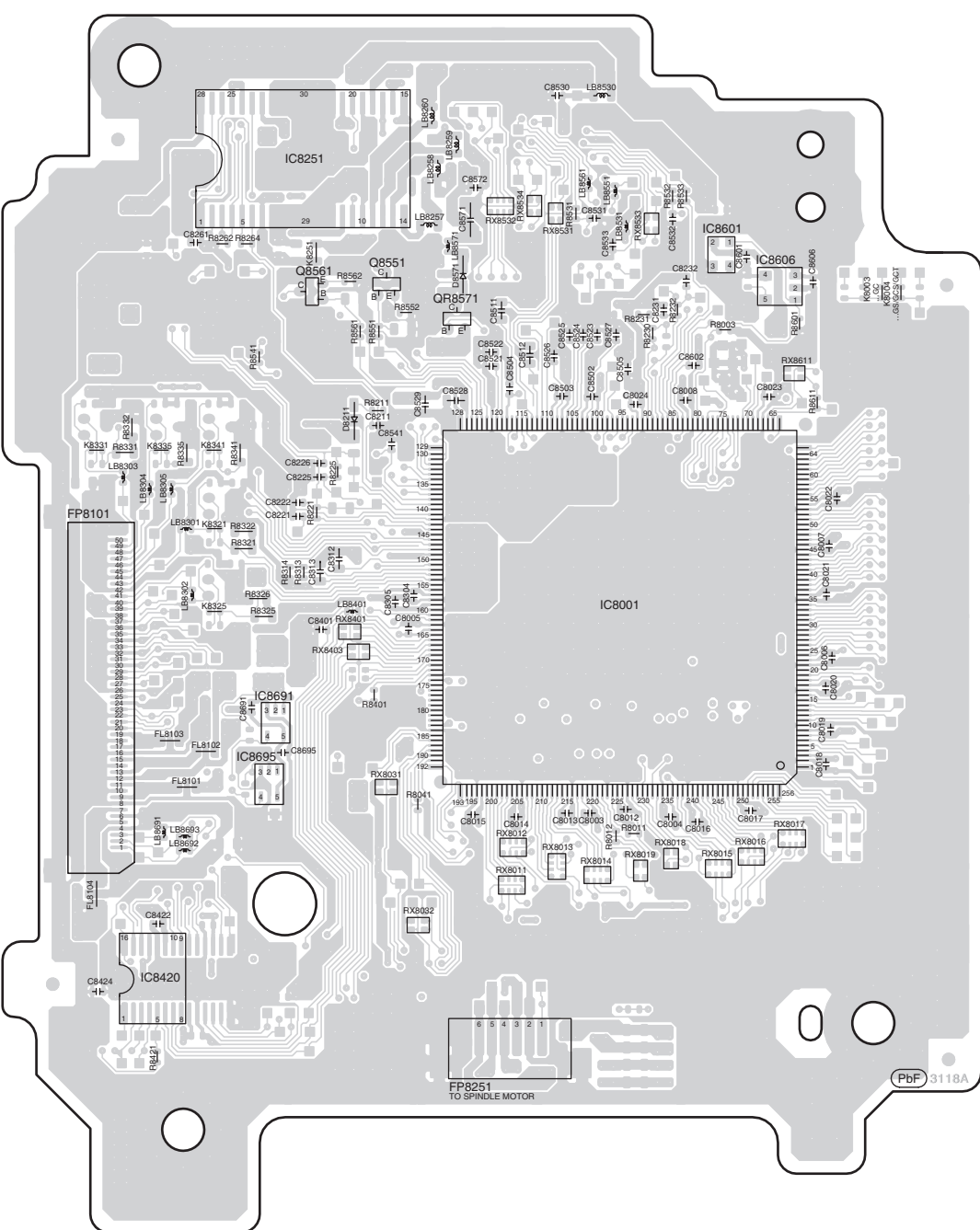


20 Printed Circuit Board

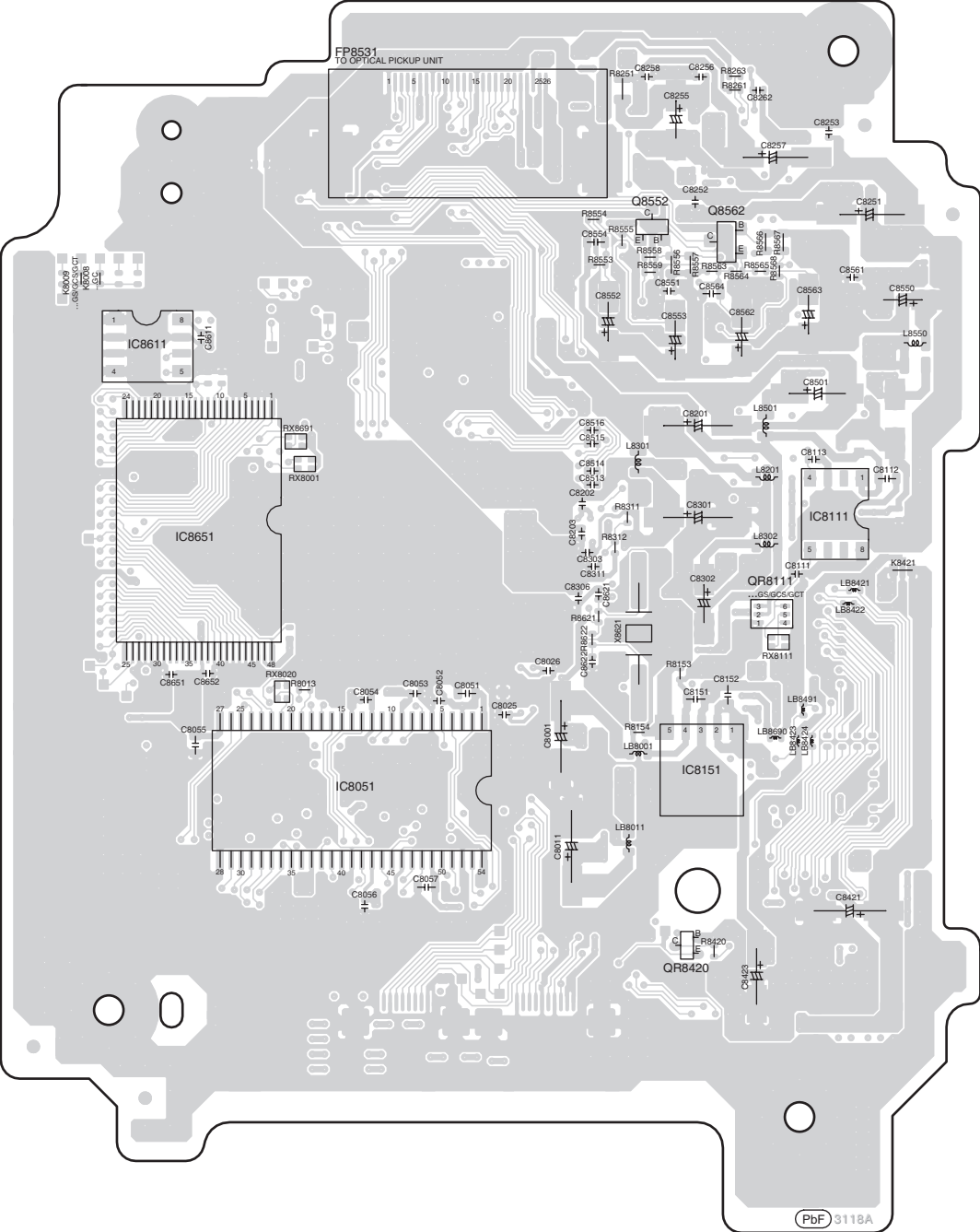
Note: Circuit board diagrams may be modified at any time with the development of new technology.

20.1. (A) DVD Module P.C.B. (Side: A & B)

A DVD MODULE P.C.B (REP4012D...GC/GS)
(REP4012E...GCS/GCT)



(SIDE A)



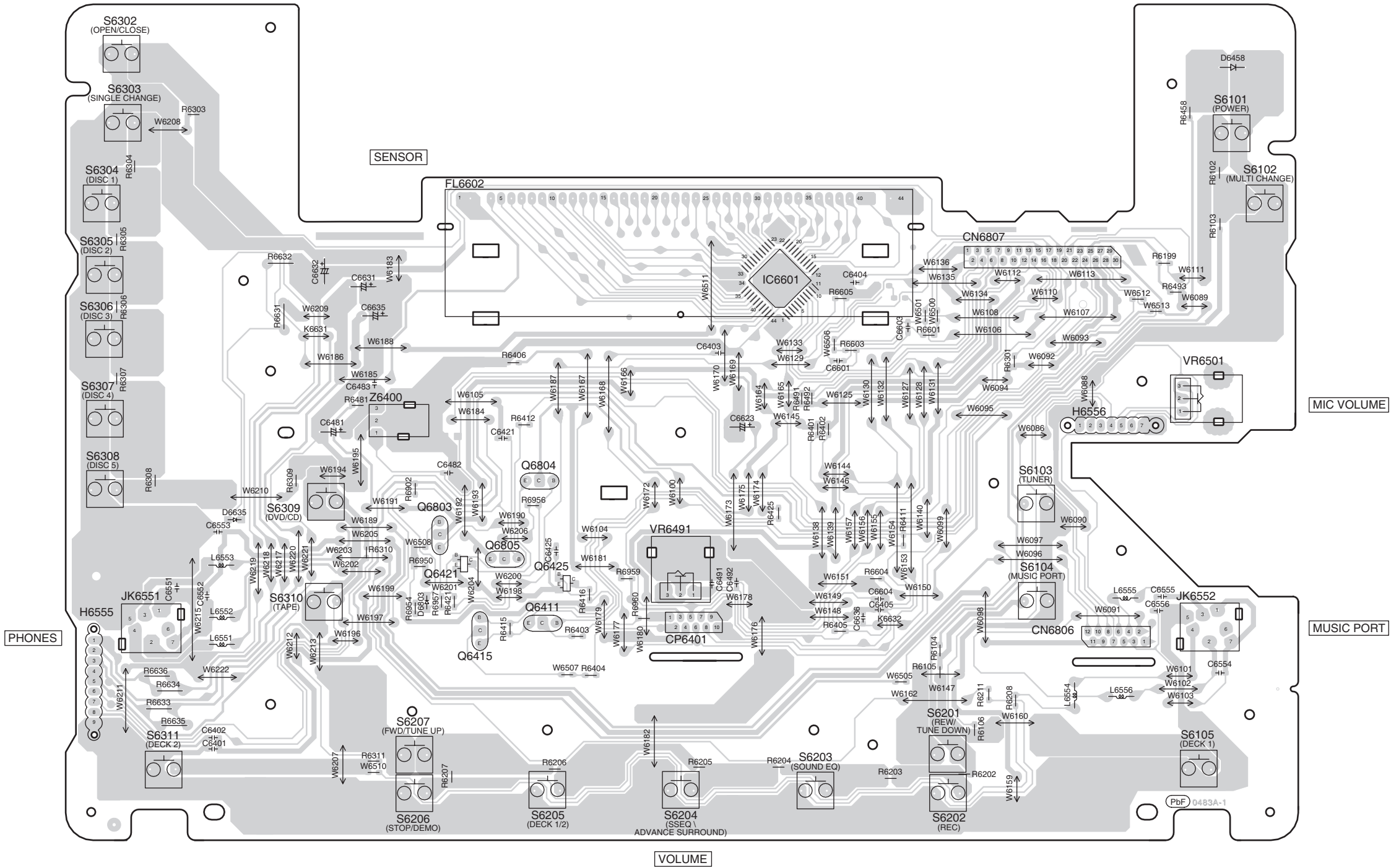
(SIDE B)

20.2. (B) Main P.C.B.



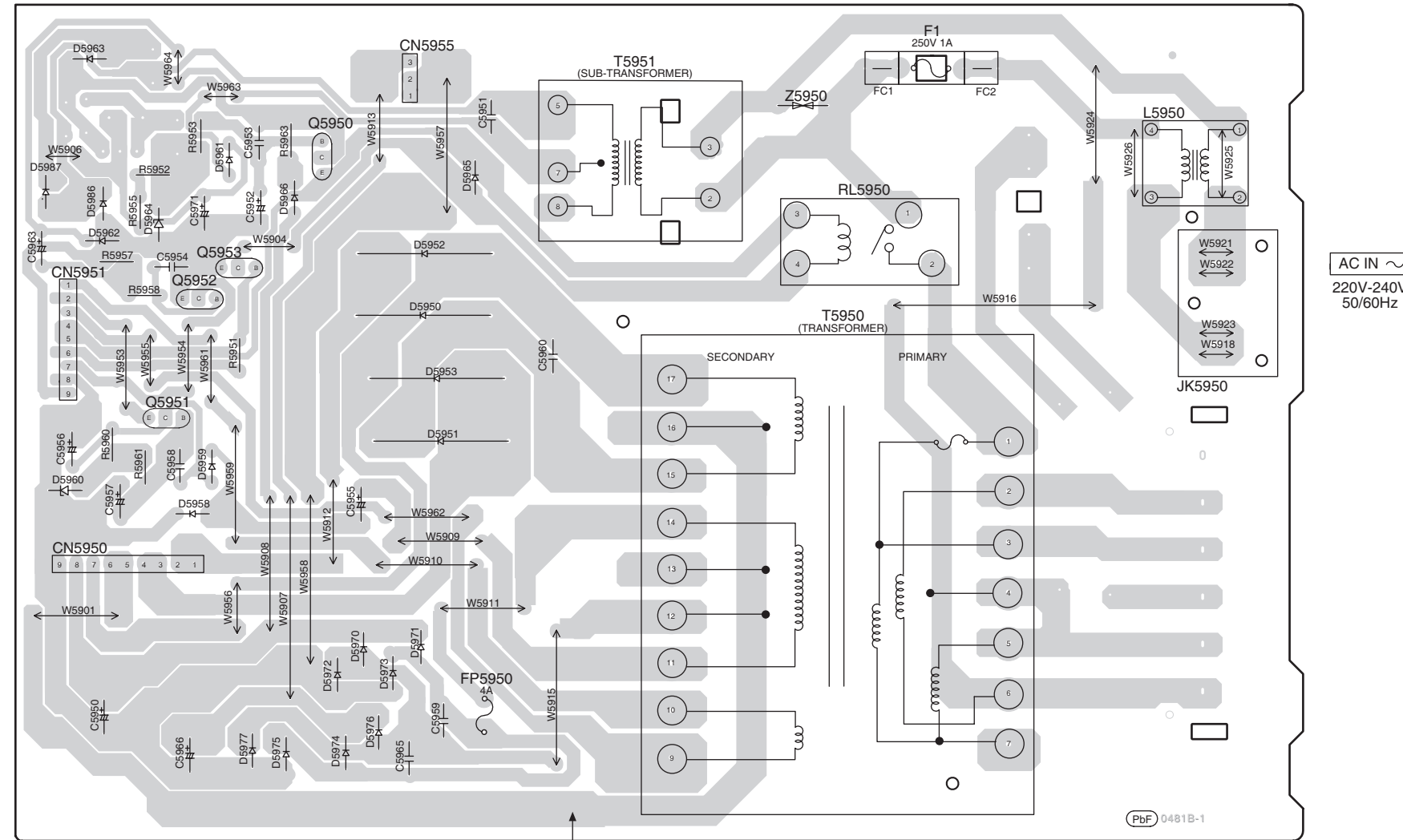
20.3. (C) Panel P.C.B.

C PANEL P.C.B (REPX0521A)



20.4. (D) Transformer P.C.B. (For GC only)

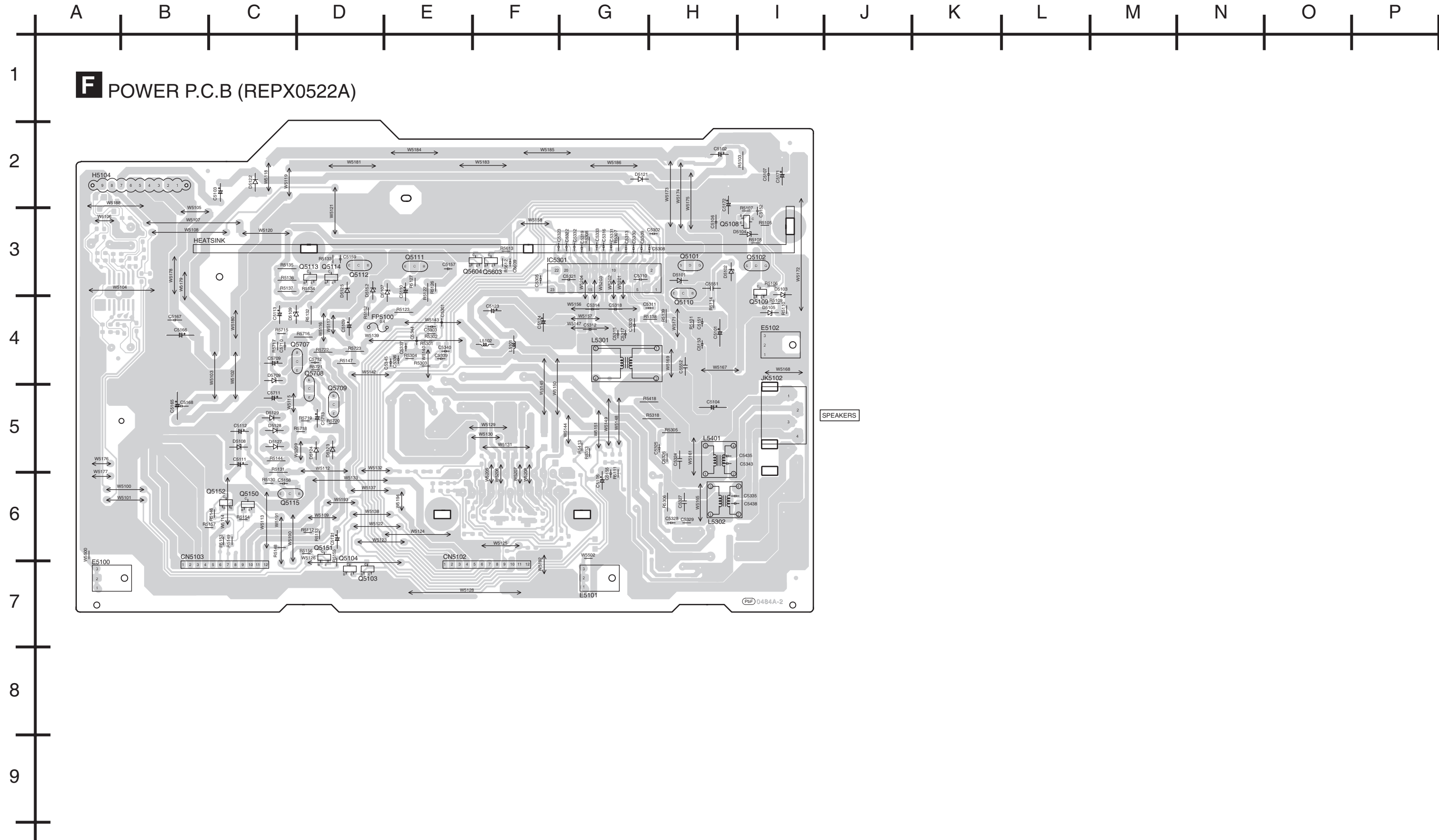
D TRANSFORMER P.C.B (REPX0519C...GC)



(PbF) 0481A-1

CAUTION
RISK OF ELECTRIC SHOCK
AC VOLTAGE LINE.
PLEASE DO NOT TOUCH THIS P.C.B

20.6. (F) Power P.C.B.





21 Basic Troubleshooting Guide for Backend Module

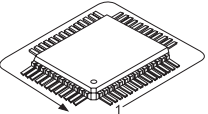
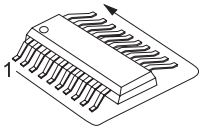
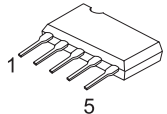
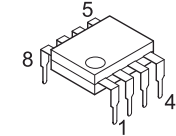
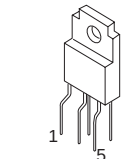
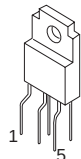
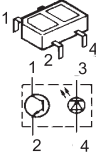
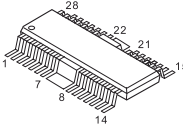
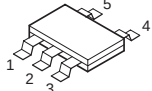
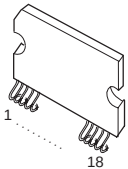
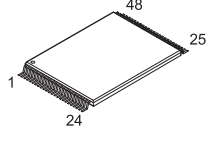
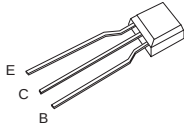
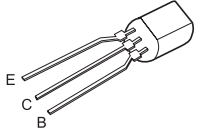
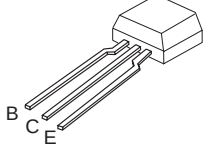
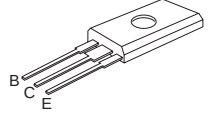
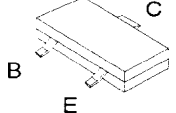
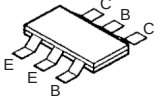
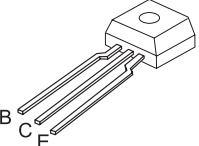
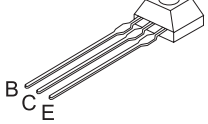
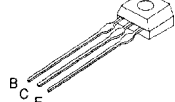
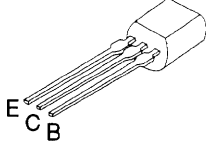
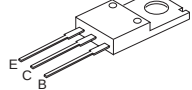
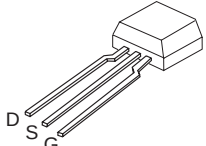
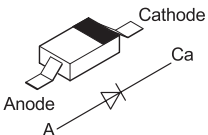
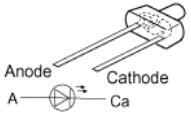
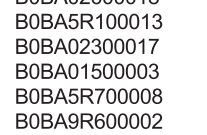
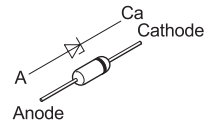
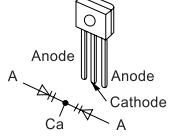
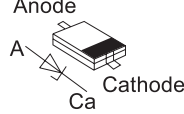
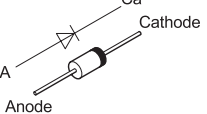
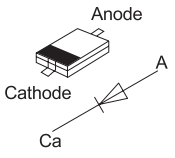
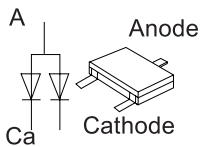
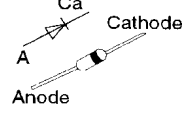
21.1. Firmware and Key Download

Problems	Checking Points	Checking Components
1) Firmware downloading fails. 2) CPPM/CPRM key download fails.	a) Check supply voltages on ICs pins. b) Check oscillation frequency and level. c) Check reset signal and power voltage rise time. d) Check Flash ROM address and data bus. e) Check SDRAM address and data bus, CLK and other control signals waveform. f) Check EEPROM CLK and data line. * Compare the above with OK condition Module.	IC8111, IC8651, IC8001, IC8051, IC8151 X8621, C8621, C8622, R8621, R8622 IC8601 IC8651 IC8051 IC8611 * Check for solder short and/or component missing/damaged.

21.2. Initialisation and Playability

Problems	Checking Points	Checking Components
1) No DVD logo screen saver.	a) Check supply voltages (3.3V and 1.2V). b) Check video signals especially Luminance, Y signal. c) Check SDRAM, EEPROM and Flash ROM for solder short.	IC8111, IC8151 LB8301, R8321, R8322 IC8051, IC8611, IC8651
2) Picture black and white only.	a) Check C (Chroma) signal if using Composite S-Video. b) Check P _b and P _r signal if using Component.	LB8302 LB8304, LB8305
3) Distorted picture and abnormal sound is heard during initialisation.	a) Check SDRAM address and data bus, CLK and other control signals waveform. b) Check video signals. c) Check audio DAC circuitry. * Compare the above with OK condition Module.	IC8051 LB8301, R8321, R8322, LB8302, R8325, R8326 IC8421 * Check for solder short and/or component missing/damaged.
4) No TOC/ Long TOC	a) Check motor driver circuitry (voltages). b) Check laser drive circuitry (voltages and current). c) Check LSI connection to motor drive circuitry. * Compare the above with OK condition Module.	IC8251 Q8550, Q8551, Q8552, Q8560, Q8561, Q8562 IC8001 * Check for solder short and/or component missing/damaged.
5) Disc not spinning. 6) Traverse not moving. 7) Traverse and spindle abnormal movement.	a) Check connection from Backend Module to Traverse Unit. b) Check motor driver circuitry on voltages and control signals. * Compare the above with OK condition Module.	FP8251, FP8531, IC8251 M+9V=FP8101(PIN 5/7), IC8251(PIN21) * Check for solder short and/or component damaged.
8) Cannot read disc but spindle is spinning - Cannot read CD - Cannot read DVD	a) Check laser drive circuitry (voltages and current). - Check CD laser drive. - Check DVD laser drive. * Check voltages and LD current and compare with OK Module.	Q8550, Q8551, Q8552, Q8560, Q8561, Q8562 Q8550, Q8560, Q8561, Q8562 Q8550, Q8551, Q8552, Q8560 * Check for solder short and/or component missing/damaged.
9) Block noise during play.	a) Check SDRAM address and data bus signal. * Compare the above with OK condition Module.	IC8051 * Check for solder short and/or component damaged.
10) DVD Audio no audio output	a) CPPM key download NG, check test point for CPPM key download. b) Check EEPROM. * Check test point damaged or broken pattern.	IC8611 * Check for component damaged.
11) No audio	a) Check audio signal IC8421(5.1 ch), IC8420(2.1 ch) b) Check audio DAC control signals. c) Check Zero Flag and A-Mute signal. * Compare the above with OK condition Module.	(MIXL/MIXR/FL/FR) LB8421, LB8422, LB8425, LB8426 (SURL/SURR/CEN/SW) LB8427, LB8428, LB8429, LB8431 (IC8421/IC8420) Pin 5,6,7 & 8 QR8420, LB8424 * Check for solder short and/or component missing/damaged.

22 Illustration of ICs, Transistors and Diodes

C2CBYY000212 (100P) C0HBBB0000057 (44P) MN2DS0009VP (256P) 	AN7348S-E1 (24P) C0ABBB000230(8P) C0FBBK000049(16P) C0CBCBD000018(8P) C1BB00000732 (32P) C1BB00000962(24P) C1CB00001937 (20P) C3ABPG000145 (54P) C9ZB00000498 (16P) 	C0EBA0000029(4P) 	C1AA00000612 C0DBEHG00006 	C0AABA000009 	C0DAAMH00012 
CNB13030R2AU 	C0GBG0000048 	C0EBE0000455 C0JBAA000346 	C1BA00000407 	RFKWMHA0H160(48P) RFKWMHA0J160(48P) 	XP0621400L B1AABC000003 
2SB0621AHA 	B1AACF000064 	B1BACD000018 B1BCCD000019 	2SB0709AHL 2SD1819A0L B1ADCF000001 B1ABCF000176 B1ABEB000002 B1ADGB000008 B1GDCFNA0001 B1GBCFJA0002 	B1GBCFJJ0002 B1GBCFJA0028 B1GBCFJN0033 B1GBCFJJ0051 B1GDCFJJ0047 UNR521100L UNR511V00L 	
B1GFGCAA0001 	B1ACCF000094 	B1GACFJJ0018 	B1AAGC000007 B1AAAC000016 B1AAAD000015 	B1ACKD000006 B1AAKD000012 B1AAKD000014 B1AARC000003 B1GCCFJJ0016 	
B1BACG000023 B1BCCG000002 B1DEGM000026 	B1CECC000003 	B0BC4R300002 B0ACCE000003 MA2J11100L 	B3AAA0000803 	B0BA01900005 B0BA01100004 B0BA02600018 B0BA5R100013 B0BA02300017 B0BA01500003 B0BA5R700008 B0BA9R600002 	B0BA03000020 B0BA6R800008 
B0CDBB000015 B0CBAD000004 	B0BC5R600003 B0BC5R000009 B0BC7R500001 B0JCPD000025 	B0EAMM000038 B0EAKM000117 B0EAKM000122 	B0ACCK000005 	B0ADCJ000020 	
B0AACK000004 MA2J72800L MA2C16500E 					

23 Terminal Function of IC

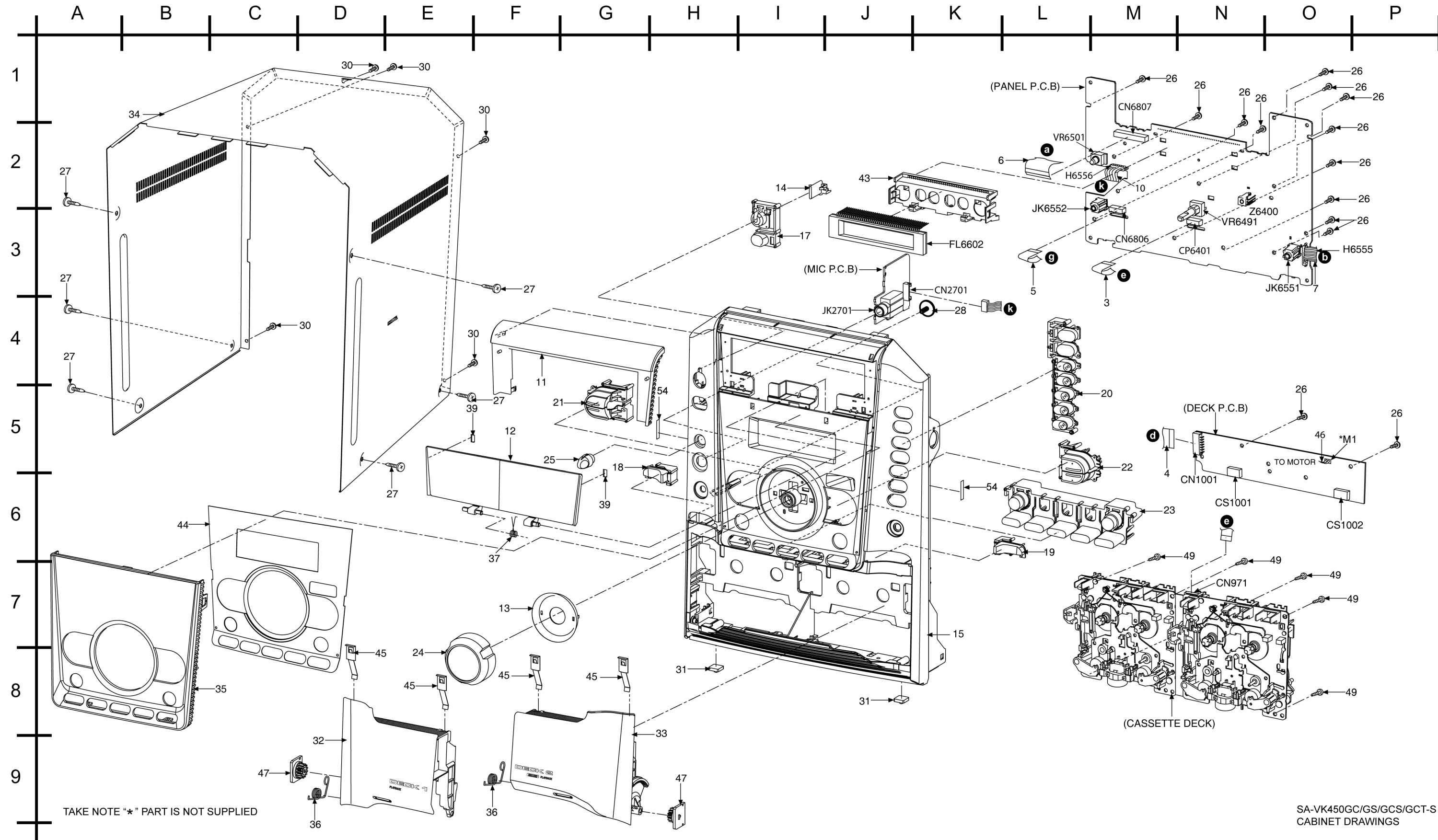
23.1. IC2801 (C2CBYY000212) System Microprocessor

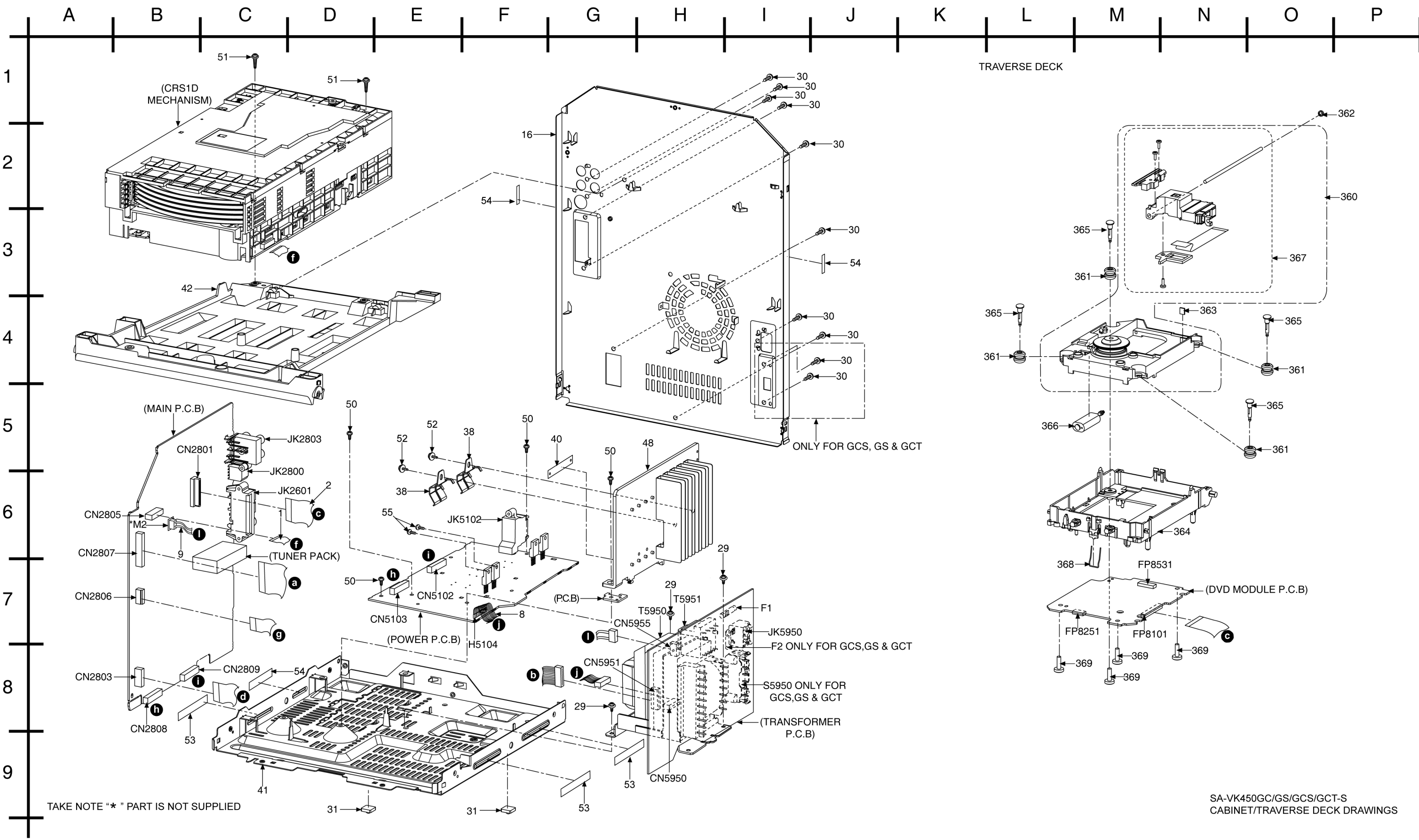
Pin No.	Mark	I/O	Function
1	LM_L	-	No Connection
2	PA_LM	-	No Connection
3	PLLCE	-	PLL Chip Select
4	WIDE1	O	S.VIDEO output control
5	DVD_PCONT	O	Power control pin for DVD module
6	DVD_MUTE	I	Signal from DVD module control mute circuit
7	F_HOP	O	F_Hop for Digital Amplifier
8	BYTE	-	External Data Bus Width Select Input (Connect to Ground)
9	CNVss/EFP_CNVss	-	Flash Mode Terminal (Connected to Ground)
10	XC_IN	-	32.768 kHz Sub Clock
11	XC_OUT	-	32.768 kHz Sub Clock
12	RESET/EFP_RESET	-	Reset Input (ACTIVE L)
13	XOUT	-	10 MHz Main Clock
14	VSS	-	Ground (0V)
15	XIN	-	10 MHz Main Clock
16	VCC	-	Power Supply (+5V)
17	NMI	-	Connect to VCC (+5V)
18	RMT	I	Remote Control Input
19	N.C.	-	No Connection
20	SYNC	I	AC Failure Detect Input
21	ST/DO	I	Tuner IF Data/Stereo Input
22	SD	I	Tuner Signal Detect Input
23	N.C.	-	No Connection
24	N.C.	-	No Connection
25	N.C.	-	No Connection
26	ASP_DAT	O	ASP DATA
27	ASP_CLK	O	ASP CLOCK
28	N.C.	-	No Connection
29	PLL_DAT	O	PLL DATA
30	PLL_CLK	O	PLL CLK
31	REG 1	I	REGION SETTING 1 (Tuner)
32	REG 2	I	REGION SETTING 2 (Tuner)
33	REG 3	I	REGION SETTING 3 (Tuner)
34	REG 4	I	REGION SETTING 4 (Tuner)
35	DVD_CMD	O	CMD signal for the DVD Module
36	DVD_STA	I	STATUS signal from the DVD Module
37	DVD_CLK	I	CLOCK signal for the DVD Module
38	MODEL_SLCT	I	MODEL SELECT (Active Low)
39	MOD_DA	O	Digital Amplifier Muting
40	MUTE_A	O	Audio Mute
41	EE_CS/EFP/EPM	O	EEPROM Chip Select
42	EE_CLK	O/I	EEPROM CLOCK
43	EE_DATA	O/I	EEPROM DATA
44	N.C.	-	No Connection
45	N.C.	-	No Connection
46	PCONT/EFP_CE	O	Main Transformer Control Output
47	DC_DET	I	DC Detect Input
48	LED_CTRL1	-	No Connection

Pin No.	Mark	I/O	Function
49	LED_CTRL2	-	No Connection
50	MIC_LVL1	-	No Connection
51	MIC_LVL2	-	No Connection
52	HALF_1	I	DECK 1 HALF PLAYBACK INPUT
53	MODE_1	I	DECK 1 MODE PLAYBACK INPUT
54	MODE_F	-	No Connection
55	N.C.	-	No Connection
56	PLG_1	O	DECK 1 Plunger Control
57	PLG_2	O	DECK 2 Plunger Control
58	MTR	O	DECK motor control ("L" for Motor ON)
59	REC	O	L when record circuit is operating
60	DECK1_H	O	H when DECK 1 P/B head is selected
61	N.C.	-	No Connection
62	Vcc	-	Power Supply (+5V)
63	N.C.	-	No Connection
64	Vss	-	Ground (0V)
65	N.C.	-	No Connection
66	N.C.	-	No Connection
67	V_JOG_A	I	Volume Jog A
68	V_JOG_B	I	Volume Jog B
69	N.C.	-	No Connection
70	N.C.	-	No Connection
71	N.C.	-	No Connection
72	FL_CS	O	FL Driver Chip Select
73	FL_DATA	O	Serial Data To FL Driver
74	FL_CLK	O	Serial Clock To FL Driver
75	N.C.	-	No Connection
76	N.C.	-	No Connection
77	N.C.	-	No Connection
78	ST_SW	I	Stock Switch of CRS1
79	CCW	O	CRS1 motor CCW
80	CW	O	CRS1 motor CW
81	HOME	I	Home Switch for CRS1
82	CAM_SENSOR	I	Close Switch for CRS1
83	PLUNGER	O	Plunger for CRS1
84	BOTTOM_SW	I	Bottom Switch for CRS1
85	PLAY_SW	I	Play Switch for CRS1
86	UD_SENSOR	I	UD Sensor for CRS1
87	OPEN_SW	I	Open Switch for CRS1
88	N.C.	-	No Connection
89	DVD_REG	AD IN	DVD Region setting
90	N.C.	-	No Connection
91	DECK2	AD IN	Deck Condition Input 2 (R_INHF/MODE2/HALF2)
92-94	KEY3-KEY1	AD IN	KEY 3 to KEY 1 INPUT
95	PHOTO_2	AD IN	Rotation Detection Signal (DECK2)
96	AVss	-	Analog Power Supply Input (Connect to GND)
97	PHOTO_1	AD IN	Rotation Detection Signal (DECK 1)
98	VREF	-	Reference for A-D (+5V)
99	AVcc	-	Analog Power Supply Input
100	N.C.	-	No Connection

24 Exploded Views

24.1. Cabinet Parts Location

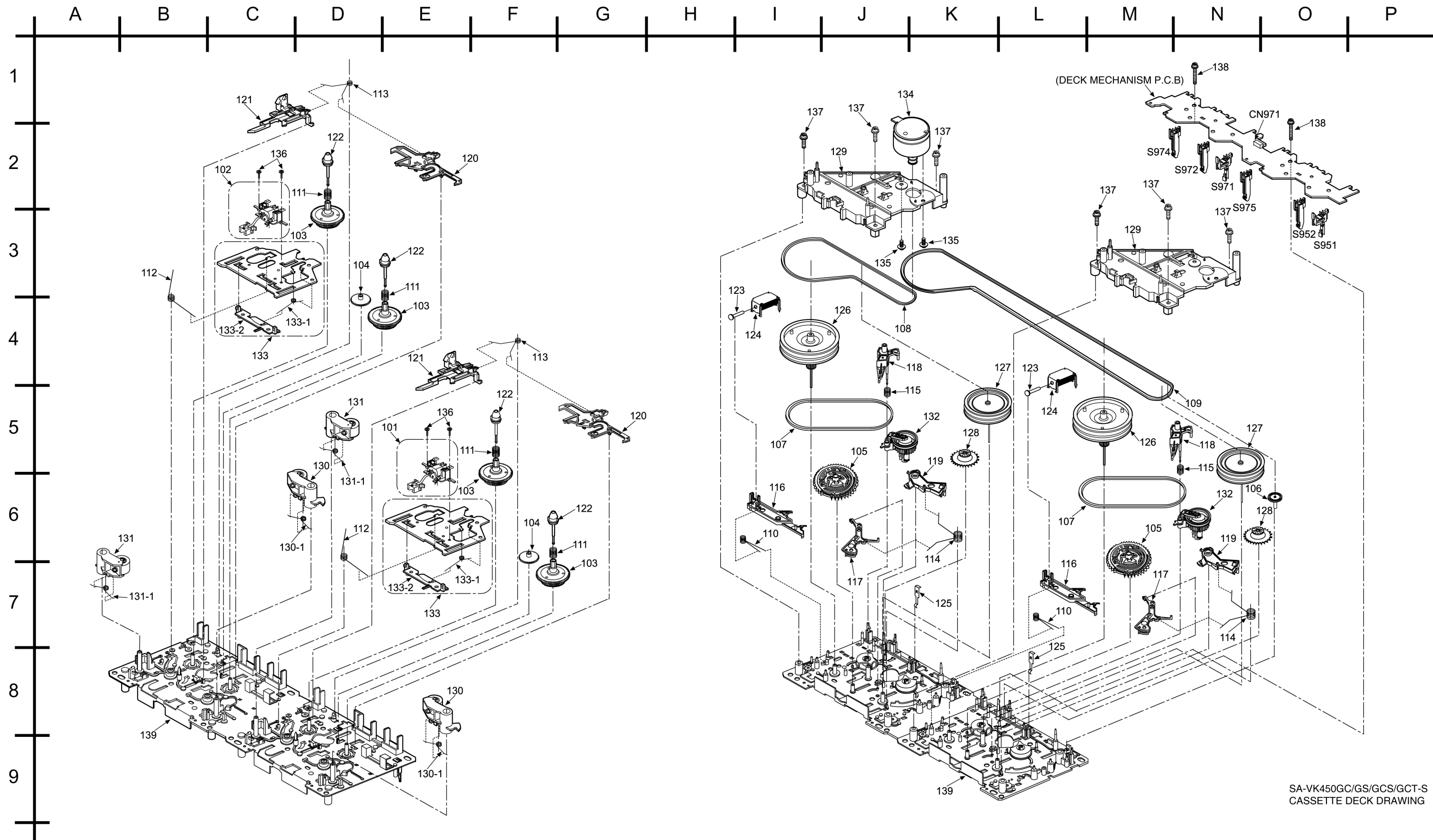




TAKE NOTE "★" PART IS NOT SUPPLIED

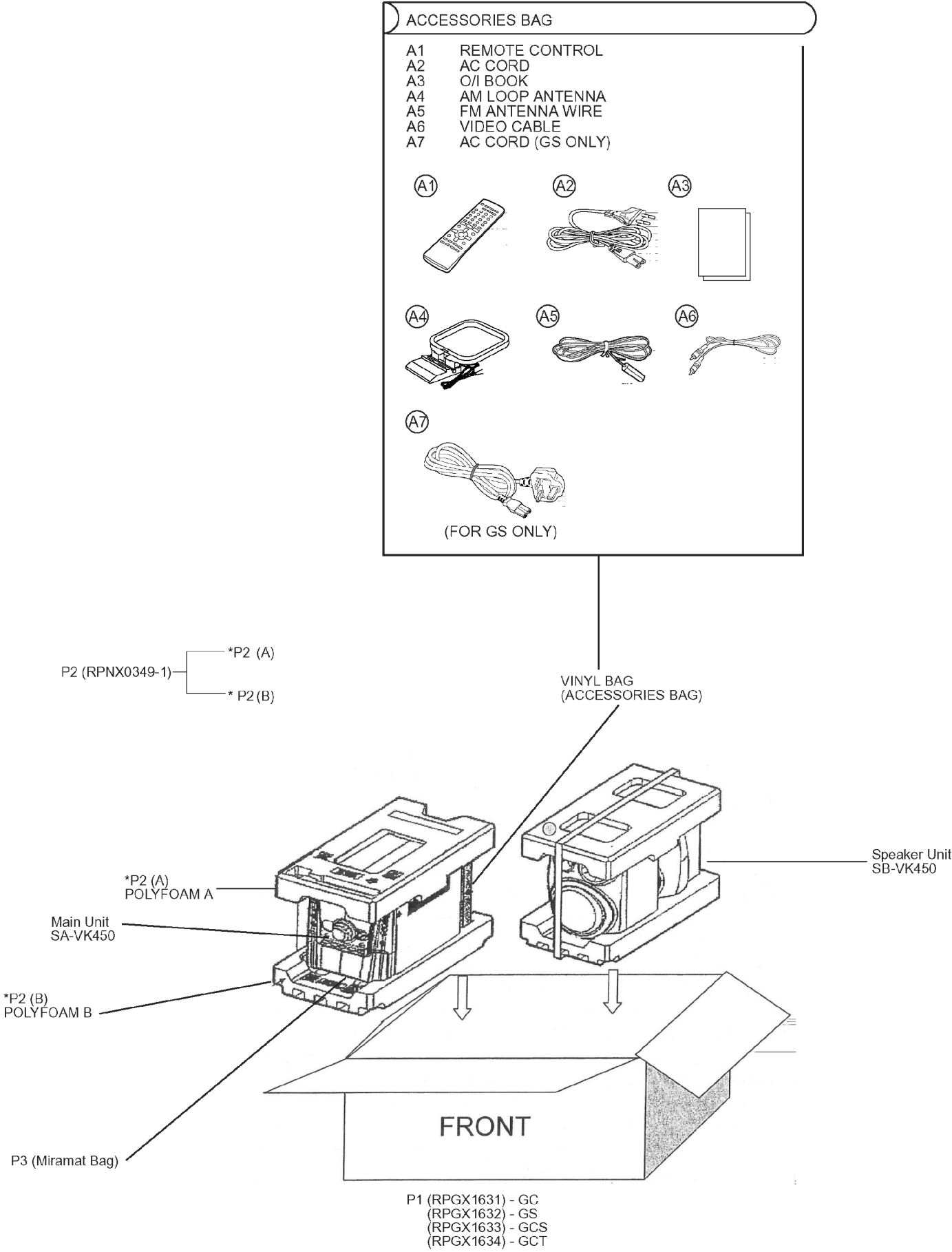
SA-VK450GC/GS/GCS/GCT-S
CABINET/TRaverse DECK DRAWINGS

24.2. Deck Mechanism Parts Location (RAA3413-1S)



SA-VK450GC/GS/GCS/GCT-S
CASSETTE DECK DRAWING

24.3. Packaging



25 Replacement Parts List

Notes:

- Important safety notice:

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

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

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

- The parenthesized indications in the Remarks columns specify the areas or colour. (Refer to the cover page for area or colour)
- Parts without these indications can be used for all areas.

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

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

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

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

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

- [SPG] markings in the Remarks columns indicates parts that are supplied by **PAVC**.

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

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

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	REEX0212-2	WIRE	[M]
2	REEX0566	50P FFC WIRE	[M]
3	REEX0567	10P FFC WIRE	[M]
4	REEX0568	11P FFC WIRE	[M]
5	REEX0569	12P FFC WIRE	[M]
6	REEX0580	30P FFC WIRE	[M]
7	REXX0324	9P FLAT WIRE	[M]
8	REXX0325	9P FLAT WIRE	[M]
9	REXX0479	2P FLAT WIRE (MAIN TO TRANS)	[M]
10	REXX0505	7P FLAT WIRE	[M]
11	RGKX0319-KJ	TOP ORNAMENT	[M]
12	RGKX0320F-KJ	CD LID	[M]
13	RGLX0120-Q	VOLUME LIGHT PIECE	[M]
14	RGLX0121-Q	POWER LIGHT PIECE	[M]
15	RGPX0207D-S1	FRONT PANEL	[M]
16	RGRX0054L-A	REAR PANEL	[M] GCS
16	RGRX0054L-C	REAR PANEL	[M] GCT
16	RGRX0054K-A1	REAR PANEL	[M] GC
16	RGRX0054L-B1	REAR PANEL	[M] GS
17	RGUX0637-SJ	POWER/DISC BUTTON	[M]
18	RGUX0638-SJ	OPEN DECK 1 BUTTON	[M]
19	RGUX0639-SJ	OPEN DECK 2 BUTTON	[M]
20	RGUX0640-SJ	DISC/OPEN/SCD BUTTON	[M]
21	RGUX0642-SJ	FUNCTION BUTTON L	[M]
22	RGUX0643A-SJ	FUNCTION BUTTON R	[M]
23	RGUX0644A-KJ	CONTROL BUTTON	[M]
24	RGWX0093-S	VOLUME KNOB	[M]
25	RGWX0096-S	MIC VOL KNOB	[M]
26	RHD26046-L	SCREW	[M]
27	RHD30007-1SJ	SCREW	[M]
28	RHD30008	WASHER HEAD SCREW	[M]
29	RHD30111-3	SCREW	[M]
30	RHD30119-S	SCREW	[M]
31	RKA0072-KJ	LEG CUSHION	[M]
32	RKFX0131A-SJ	CASS LID L	[M]
33	RKFX0132A-SJ	CASS LID R	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
34	RKMX0117-S	TOP CABINET	[M]
35	RKWX0253A-H	FL WINDOW	[M]
36	RMBX0036	CASS OPEN SPRING	[M]
37	RMBX0049	DVD LID SPRING	[M]
38	RMC0158-S2	TRANSISTOR HOLDER	[M]
39	RMG0547-K	CUSHION	[M]
40	RMGX0044	D.AMP.IC INSULATOR	[M]
41	RMKX0112	BOTTOM CHASSIS	[M]
42	RMKX0113	CD CHASSIS	[M]
43	RMNX0185-1	FL HOLDER	[M]
44	RMVX0092A	FL WINDOW BACKGROUND	[M]
45	RUS757ZAA	CASS HALF SPRING	[M]
46	RWJ0102050CK	MAIN TO MECHA MOTOR	[M]
47	RXGX0002	DAMPER GEAR	[M]
48	RXXX0066A-1	HEAT SINK UNIT	[M]
49	XTV3+10GFJ-M	SCREW	[M]
50	XTW3+10TFJ	SCREW	[M]
51	XTW3+12TFJ	SCREW	[M]
52	XTWS3+6TFJ	SCREW	[M]
53	RMQX0197	HIMELON A	[M]
54	RMQX0198	HIMELON B	[M]
55	XTB3+8JFJ	SCREW	[M]
		CASSETTE DECK	
101	RED0064-2	R/P HEAD BLOCK UNIT	[M]
102	RED0063-2	P/B HEAD BLOCK UNIT	[M]
103	RDG0300	REEL BASE GEAR	[M]
104	RDG0301	WINDING RELAY GEAR	[M]
105	RDK0026-4	MAIN GEAR	[M]
106	RDR0029-4	RELAY PULLEY	[M]
107	RDV0033-4	WINDING BELT	[M]
108	RDV0034-2	CAPSTAN BELT A	[M]
109	RDV0057-1	MAIN BELT B	[M]
110	RMB0312	TRIGGER LEVER SPRING	[M]
111	RMB0400	REEL SPRING	[M]
112	RMB0403	HEAD PANEL SPRING	[M]
113	RMB0404	BRAKE ROD SPRING	[M]
114	RMB0406-5	FR LEVER SPRING	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
115	RMB0408	THRUST SPRING	[M]
116	RML0370-4	TRIGGER LEVER	[M]
117	RML0371	FR LEVER	[M]
118	RML0372-2	WINDING LEVER	[M]
119	RML0374-2	EJECT LEVER	[M]
120	RMM0131-1	BRAKE ROD	[M]
121	RMM0133-1	EJECT ROD	[M]
122	RMQ0519	REEL HUB	[M]
123	RMS0398-1	MOVING CORE	[M]
124	RSJ0003	PLUNGER ASS'Y	[M]
125	RMC0061	PACK SPRING	[M]
126	RXF0061-1	FLYWHEEL F ASS'Y	[M]
127	RXF0062-1	FLYWHEEL R ASS'Y	[M]
128	RXG0040	FF RELAY GEAR ASS'Y	[M]
129	RMK0283A-2	SUB-CHASSIS	[M]
130	RXL0124	PINCH ROLLER F ASS'Y	[M]
130-1	RMB0401	PINCH ARM SPRING F	[M]
131	RXL0125	PINCH ROLLER R ASS'Y	[M]
131-1	RMB0402	PINCH ARM SPRING R	[M]
132	RXL0126	WINDING ARM ASS'Y	[M]
133	RXQ0412-3	HEAD PANEL ASS'Y	[M]
133-1	RMB0405	FR ROD SPRING	[M]
133-2	RMM0132	FR ROD	[M]
134	REM0121	CAP MOTOR ASS'Y	[M]
135	RHD26022-1	MOTOR SCREW	[M]
136	XTW2+5LFJ	HEAD BLOCK UNIT SCREW	[M]
137	XTW26+10SFJ	SUB-CHASSIS SCREW	[M]
138	XYC2+JF17FJ	PCB EARTH SCREW	[M]
139	RFKJXED70-K	MAIN CHASSIS	[M]
		TRAVERSE DECK	
360	RAE2018W-S	DT69U3 BLOCK	[M]
361	RMG0598-A	FLOATING RUBBER	[M]
362	RMG0617-H	CUSHION RUBBER A	[M]
363	RMG0618-H	CUSHION RUBBER B	[M]
364	RMRX0066	MIDDLE CHASSIS	[M]
365	RMS0789	FIXED PIN	[M]
366	RXQ0946	TRAVERSE MOTOR ASS'Y	[M]
367	RXQ1389	DVD OPU SUB ASS'Y	[M]
368	RMEX0041	MIDDLE CHASSIS SPR.	[M]
369	XTV2+6GFJ	SCREW	[M]
		PRINTED CIRCUIT BOARD	
	REP4012D	DVD MODULE P.C.B.	[M] GC/GS (RTL)
	REP4012E	DVD MODULE P.C.B.	[M] GCS/GCT (RTL)
	REPX0520A	MAIN P.C.B.	[M] GC/GS (RTL)
	REPX0520B	MAIN P.C.B.	[M] GCS/GCT (RTL)
	REPX0521A	PANEL P.C.B.	[M] (RTL)
	REPX0519A	TRANSFORMER P.C.B.	[M] GS/GCS/GCT (RTL)
	REPX0519C	TRANSFORMER P.C.B.	[M] GC (RTL)
	REPX0522A	POWER P.C.B.	[M] (RTL)
	REPX0331F	DECK P.C.B.	[M] (RTL)
	REPX0321B	DECK MECHANISM P.C.B.	[M] (RTL)
	REPX0520A	MIC P.C.B.	[M] GC/GS (RTL)
	REPX0520B	MIC P.C.B.	[M] GCS/GCT (RTL)
	REP1999B	TUNER PACK P.C.B.	[M] (RTL)
		INTEGRATED CIRCUITS	
IC951	CNB13030R2AU	IC PHOTO INTERRUPTER	[M]
IC971	CNB13030R2AU	IC PHOTO INTERRUPTER	[M]
IC1001	AN7348S-E1	IC P.B EQ/REC	[M]
IC1004	C1AA00000612	IC R/P SELECT	[M]
IC2101	C1BB00000732	IC ASP	[M]
IC2103	C0ABBB000230	IC OP-AMP	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
IC2561	C0DAAMH00012	IC REGULATOR	[M]
IC2601	C1BB00000962	IC FM/AM IF AMP DET/AM OSC MIX/FM MPX	[M]
IC2602	C1CB00001937	IC PLL FREQUENCY SYNTHESIZER	[M]
IC2701	C9ZB00000498	IC VIDEO BUFFER	[M]
IC2801	C2CBYY000212	IC MICROPROCESSOR	[M]
IC2804	C0AABA000009	IC OP-AMP	[M]
IC5301	C1BA00000407	IC 2-CH DIGITAL AMP	[M]
IC6601	C0HBB0000057	IC FL DRIVER	[M]
IC8001	MN2DS0009VP	IC DV3.2	[M]
IC8051	C3ABPG000145	IC 64 SDRAM	[M]
IC8111	C0CBCBD00018	IC 3.3 REGULATOR	[M]
IC8151	C0DBEHG00006	IC REGULATOR	[M]
IC8251	C0GBG0000048	IC DRIVER	[M]
IC8420	C0FBBK000049	IC 2-CH DAC	[M]
IC8601	C0EBA0000029	IC RESET	[M]
IC8606	C0EBE0000455	IC RESET	[M]
IC8651	RFKWMHA0H160	IC 16M FLASH ROM	[SPG]GC/GS
IC8651	RFKWMHA0J160	IC 16M FLASH ROM	[SPG]GCS/GCT
IC8691	C0JBAA000346	IC AND GATE LOGIC	[M]
IC8695	C0JBAA000346	IC AND GATE LOGIC	[M]
		TRANSISTORS	
Q1	B1CECC000003	TRANSISTOR	[M]
Q2	B1AAAC000016	TRANSISTOR	[M]
Q3	B1AAAD000015	TRANSISTOR	[M]
Q4	B1AAAD000015	TRANSISTOR	[M]
Q1003	B1AAGC000007	TRANSISTOR	[M]
Q1004	B1AAGC000007	TRANSISTOR	[M]
Q1005	B1AAGC000007	TRANSISTOR	[M]
Q1007	B1ABCF000176	TRANSISTOR	[M]
Q1017	B1AARC000003	TRANSISTOR	[M]
Q2051	B1GDCFJ00047	TRANSISTOR	[M]
Q2052	B1GFGCAA0001	TRANSISTOR	[M]
Q2142	B1ABCF000176	TRANSISTOR	[M]
Q2143	B1ABEB000002	TRANSISTOR	[M]
Q2242	B1ABCF000176	TRANSISTOR	[M]
Q2243	B1ABEB000002	TRANSISTOR	[M]
Q2366	B1GFGCAA0001	TRANSISTOR	[M]
Q2501	B1GDCFJ00047	TRANSISTOR	[M]
Q2502	B1GFGCAA0001	TRANSISTOR	[M]
Q2551	B1ADCF000001	TRANSISTOR	[M]
Q2552	B1ACKD000006	TRANSISTOR	[M]
Q2576	B1GBCFJA0028	TRANSISTOR	[M]
Q2601	B1AABC000003	TRANSISTOR	[M]
Q2606	B1GCCFJ00016	TRANSISTOR	[M]
Q2701	B1ABCF000176	TRANSISTOR	[M]
Q2702	B1ABCF000176	TRANSISTOR	[M]
Q2806	B1GBCFJ00051	TRANSISTOR	[M]
Q2901	B1GBCFJN0033	TRANSISTOR	[M]
Q2912	B1GBCFJN0033	TRANSISTOR	[M]
Q2913	B1GBCFJ00051	TRANSISTOR	[M]
Q2914	B1ACKD000006	TRANSISTOR	[M]
Q2978	B1GDCFJ00047	TRANSISTOR	[M]
Q2979	B1GDCFJ00047	TRANSISTOR	[M]
Q5101	B1DEGM000026	TRANSISTOR	[M]
Q5102	B1DEGM000026	TRANSISTOR	[M]
Q5103	B1ABCF000176	TRANSISTOR	[M]
Q5104	B1ABCF000176	TRANSISTOR	[M]
Q5108	B1ABCF000176	TRANSISTOR	[M]
Q5109	2SB0709AHL	TRANSISTOR	[M]
Q5110	B1AACF000064	TRANSISTOR	[M]
Q5111	B1BACG000023	TRANSISTOR	[M]
Q5112	B1BCCG000002	TRANSISTOR	[M]
Q5113	B1GDCFNA0001	TRANSISTOR	[M]
Q5114	B1ABCF000176	TRANSISTOR	[M]
Q5115	B1AAKD000014	TRANSISTOR	[M]
Q5150	B1GDCFJ00047	TRANSISTOR	[M]
Q5151	B1GDCFJ00047	TRANSISTOR	[M]
Q5152	B1ABCF000176	TRANSISTOR	[M]
Q5603	B1GBCFJ00002	TRANSISTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
Q5604	B1GBCFJA0002	TRANSISTOR	[M]
Q5707	B1BACD000018	TRANSISTOR	[M]
Q5708	B1ACCF000094	TRANSISTOR	[M]
Q5709	B1BCCD000019	TRANSISTOR	[M]
Q5950	B1BACD000018	TRANSISTOR	[M]
Q5951	2SB0621AHA	TRANSISTOR	[M]
Q5952	B1GACFJJ0018	TRANSISTOR	[M]
Q5953	B1AACF000064	TRANSISTOR	[M]
Q5954	B1AAKD000012	TRANSISTOR	[M]
Q6411	B1ACKD000006	TRANSISTOR	[M]
Q6415	B1ACKD000006	TRANSISTOR	[M]
Q6421	B1GBCFJJ0051	TRANSISTOR	[M]
Q6425	B1GBCFJJ0051	TRANSISTOR	[M]
Q6803	B1ACCF000094	TRANSISTOR	[M]
Q6804	B1ACCF000094	TRANSISTOR	[M]
Q6805	B1GACFJJ0018	TRANSISTOR	[M]
Q8551	2SD1819A0L	TRANSISTOR	[M]
Q8552	B1ADGB000008	TRANSISTOR	[M]
Q8561	2SD1819A0L	TRANSISTOR	[M]
Q8562	B1ADGB000008	TRANSISTOR	[M]
QR8111	XP0621400L	CHIP TRANSISTOR	[M]
QR8420	UNR521100L	CHIP TRANSISTOR	[M]
QR8571	UNR511V00L	CHIP TRANSISTOR	[M]
		DIODES	
D1	B0CBAD000004	DIODE	[M]
D2	B0CBAD000004	DIODE	[M]
D3	B0CBAD000004	DIODE	[M]
D951	MA2C16500E	DIODE	[M]
D971	MA2C16500E	DIODE	[M]
D1003	B0ACCK000005	DIODE	[M]
D2031	B0BC7R500001	DIODE	[M]
D2241	B0ACCK000005	DIODE	[M]
D2311	B0BC4R300002	DIODE	[M]
D2411	B0BC4R300002	DIODE	[M]
D2551	B0ACCK000005	DIODE	[M]
D2552	B0BC7R500001	DIODE	[M]
D2553	B0JCPD000025	DIODE	[M]
D2555	B0EAKM000117	DIODE	[M]
D2556	B0EAKM000117	DIODE	[M]
D2557	B0EAKM000117	DIODE	[M]
D2576	B0ADCJ000020	DIODE	[M]
D2578	B0ACCK000005	DIODE	[M]
D2601	B0BC5R000009	DIODE	[M]
D2602	B0CDBB000015	DIODE	[M]
D2801	B0ACCK000005	DIODE	[M]
D2802	B0ADCJ000020	DIODE	[M]
D2804	B0ACCK000005	DIODE	[M]
D2911	B0ACCK000005	DIODE	[M]
D2912	B0EAKM000117	DIODE	[M]
D5101	B0BA01100004	DIODE	[M]
D5102	B0BA02600018	DIODE	[M]
D5103	B0BA5R100013	DIODE	[M]
D5104	B0BA01100004	DIODE	[M]
D5105	B0BA02300017	DIODE	[M]
D5107	B0BA01500003	DIODE	[M]
D5108	B0BA5R700008	DIODE	[M]
D5109	B0BA01100004	DIODE	[M]
D5121	B0EAKM000122	DIODE	[M]
D5122	B0EAKM000122	DIODE	[M]
D5123	B0EAKM000122	DIODE	[M]
D5124	B0EAKM000122	DIODE	[M]
D5125	B0AACK000004	DIODE	[M]
D5127	B0EAKM000122	DIODE	[M]
D5128	B0EAKM000122	DIODE	[M]
D5129	B0EAKM000122	DIODE	[M]
D5152	B0BA01900003	DIODE	[M]
D5709	B0BA9R600002	DIODE	[M]
D5950	B0EAMM000038	DIODE	[M]
D5951	B0EAMM000038	DIODE	[M]
D5952	B0EAMM000038	DIODE	[M]
D5953	B0EAMM000038	DIODE	[M]
D5958	B0EAKM000117	DIODE	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
D5959	B0EAKM000117	DIODE	[M]
D5960	B0BA03000020	DIODE	[M]
D5961	B0AACK000004	DIODE	[M]
D5962	B0AACK000004	DIODE	[M]
D5963	B0AACK000004	DIODE	[M] GC
D5964	B0BA6R800008	DIODE	[M]
D5965	B0AACK000004	DIODE	[M]
D5966	B0AACK000004	DIODE	[M]
D5967	B0AACK000004	DIODE	[M]
D5968	B0AACK000004	DIODE	[M]
D5969	B0AACK000004	DIODE	[M]
D5970	B0EAKM000117	DIODE	[M]
D5971	B0EAKM000117	DIODE	[M]
D5972	B0EAKM000117	DIODE	[M]
D5973	B0EAKM000117	DIODE	[M]
D5974	B0EAKM000117	DIODE	[M]
D5975	B0EAKM000117	DIODE	[M]
D5976	B0EAKM000117	DIODE	[M]
D5977	B0EAKM000117	DIODE	[M]
D5986	B0AACK000004	DIODE	[M] GC
D5987	B0AACK000004	DIODE	[M] GC
D6458	B3AAA0000803	DIODE	[M]
D6635	B0BC5R600003	DIODE	[M]
D6803	B0ACCE000003	DIODE	[M]
D8211	MA2J11100L	DIODE	[M]
D8571	MA2J72800L	DIODE	[M]
		VARIABLE RESISTORS	
VR6491	EVEKE2F3524B	VOLUME JOG	[M]
VR6501	EVUF2AF15B14	MIC JOG	[M]
		SWITCHES	
S951	K0J1BB000017	SW MODE	[M]
S952	K0J1BB000021	SW HALF	[M]
S971	K0J1BB000017	SW MODE	[M]
S972	K0J1BB000021	SW HALF	[M]
S974	K0J1BB000021	SW RECINH_R	[M]
S975	K0J1BB000021	SW RECINH_F	[M]
S5950	K0ABLB000003	SW VOLTAGE SELECTOR	[M] GS/GCS/GCT Δ
S6101	EVQ21405RJ	SW POWER	[M]
S6102	EVQ21405RJ	SW MULTI CHANGE	[M]
S6103	EVQ21405RJ	SW TUNER	[M]
S6104	EVQ21405RJ	SW MUSIC PORT	[M]
S6105	EVQ21405RJ	SW DECK 1	[M]
S6201	EVQ21405RJ	SW REW/TUNE DOWN	[M]
S6202	EVQ21405RJ	SW REC	[M]
S6203	EVQ21405RJ	SW SOUND EQ	[M]
S6204	EVQ21405RJ	SW SSEQ/-A. SURROUND	[M]
S6205	EVQ21405RJ	SW DECK 1/2	[M]
S6206	EVQ21405RJ	SW FWD/TUNE UP	[M]
S6207	EVQ21405RJ	SW STOP/DEMO	[M]
S6302	EVQ21405RJ	SW OPEN/CLOSE	[M]
S6303	EVQ21405RJ	SW SINGLE CHANGE	[M]
S6304	EVQ21405RJ	SW DISC 1	[M]
S6305	EVQ21405RJ	SW DISC 2	[M]
S6306	EVQ21405RJ	SW DISC 3	[M]
S6307	EVQ21405RJ	SW DISC 4	[M]
S6308	EVQ21405RJ	SW DISC 5	[M]
S6309	EVQ21405RJ	SW DVD/CD	[M]
S6310	EVQ21405RJ	SW TAPE	[M]
S6311	EVQ21405RJ	SW DECK 2	[M]
		CONNECTORS	
CN971	K1MN10B00104	10P FFC CONNECTOR	[M]
CN1001	K1MN11B00016	11P CONNECTOR	[M]
CN2701	K1KA07AA0193	7P CONNECTOR	[M]
CN2801	K1MY50AA0029	50P CONNECTOR	[M]
CN2803	K1MN11A00008	11P CONNECTOR	[M]
CN2805	K1MN14A00049	14P FFC CONNECTOR	[M]
CN2806	K1MN12AA0003	12P CONNECTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
CN2807	K1MN30AA0004	30P CONNECTOR	[M]
CN2808	K1KB12B00036	12P CONNECTOR	[M]
CN2809	K1KB12B00036	12P CONNECTOR	[M]
CN5102	K1KA12AA0424	12P CONNECTOR	[M]
CN5103	K1KA12AA0424	12P CONNECTOR	[M]
CN5950	K1KA09AA0319	9P CONNECTOR	[M]
CN5951	K1KA09AA0193	9P CONNECTOR	[M]
CN5955	K1KA03AA0190	3P CONNECTOR	[M]
CN6806	K1MN12AA0003	12P CONNECTOR	[M]
CN6807	K1MN30AA0004	30P CONNECTOR	[M]
CP6401	K1MN10AA0003	10P FFC CONNECTOR	[M]
CS1001	K1MY05AA0043	5P CONNECTOR SOCKET	[M]
CS1002	K1MY05AA0043	5P CONNECTOR SOCKET	[M]
FP8101	K1MN50BA0173	50P FFC CONNECTOR	[M]
FP8251	K1MN06BA0148	6P FFC CONNECTOR	[M]
FP8531	K1MY26BA0025	26P CONNECTOR	[M]
		COILS & TRANSFORMERS	
L1	G0C1R2KA0029	AXIAL COIL	[M]
L2	G0CR47KA0029	RF CHOKE COIL	[M]
L1001	G0C470JA0052	RF CHOKE COIL	[M]
L1002	G2ZZ00000024	BIAS OCS COIL	[M]
L2551	G0A101ZA0028	CHOKE COIL	[M]
L2555	G0A100D00002	CHOKE COIL	[M]
L2601	G2A411C00001	AM COIL	[M]
L2602	G2BPC0000016	OSCILLATOR COIL	[M]
L2701	G0C3R3JA0052	COIL	[M]
L2702	G0C100JA0052	INDUCTOR	[M]
L2703	G0C100JA0052	INDUCTOR	[M]
L2901	J0JCC0000120	COIL	[M]
L2902	J0JCC0000120	COIL	[M]
L2903	J0JCC0000120	COIL	[M]
L2906	J0JCC0000120	COIL	[M]
L2907	J0JCC0000120	COIL	[M]
L2908	J0JCC0000120	COIL	[M]
L2912	G0A100D00002	CHOKE COIL	[M]
L5101	J0JKB0000037	FILTER	[M]
L5102	J0JKB0000037	FILTER	[M]
L5301	G0C220Z00002	COIL	[M]
L5302	G0B9R5K00001	CHOKE COIL	[M]
L5401	G0B9R5K00001	CHOKE COIL	[M]
L5950	ELF15N035AN	LINE FILTER	[M] △
L5950	ELF15N035AN	LINE FILTER	[M] GS △
L6551	G0C100JA0052	INDUCTOR	[M]
L6552	G0C101JA0052	INDUCTOR	[M]
L6553	G0C101JA0052	INDUCTOR	[M]
L6554	G0C100JA0052	INDUCTOR	[M]
L6555	G0C101JA0052	INDUCTOR	[M]
L6556	G0C101JA0052	INDUCTOR	[M]
L8201	G1C100K00019	CHIP COIL	[M]
L8301	G1C100K00019	CHIP COIL	[M]
L8302	G1C100K00019	CHIP COIL	[M]
L8501	G1C100K00019	CHIP COIL	[M]
L8550	G1C100KA0055	CHIP INDUCTOR	[M]
LB8001	J0JHC0000045	CHIP INDUCTOR	[M]
LB8011	J0JHC0000045	CHIP INDUCTOR	[M]
LB8257	ERJ3GEY0R00V	CHIP JUMPER	[M]
LB8258	ERJ3GEY0R00V	CHIP JUMPER	[M]
LB8259	ERJ3GEY0R00V	CHIP JUMPER	[M]
LB8260	ERJ3GEY0R00V	CHIP JUMPER	[M]
LB8301	J0JBC0000042	CHIP BEAD	[M]
LB8302	J0JBC0000042	CHIP BEAD	[M]
LB8303	J0JBC0000042	CHIP BEAD	[M]
LB8304	J0JBC0000042	CHIP BEAD	[M]
LB8305	J0JBC0000042	CHIP BEAD	[M]
LB8401	J0JBC0000042	CHIP BEAD	[M]
LB8421	ERJ2GE0R00X	CHIP JUMPER	[M]
LB8422	ERJ2GE0R00X	CHIP JUMPER	[M]
LB8423	ERJ2GE0R00X	CHIP JUMPER	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
LB8424	ERJ2GE0R00X	CHIP JUMPER	[M]
LB8491	ERJ2GE0R00X	CHIP JUMPER	[M]
LB8530	J0JHC0000045	CHIP INDUCTOR	[M]
LB8531	ERJ2GE0R00X	CHIP JUMPER	[M]
LB8551	J0JBC0000042	CHIP BEAD	[M]
LB8561	J0JBC0000042	CHIP BEAD	[M]
LB8571	J0JBC0000042	CHIP BEAD	[M]
LB8690	J0JBC0000106	CHIP BEAD	[M]
LB8691	ERJ2GEJ101X	CHIP RESISTOR	[M]
LB8692	ERJ2GEJ101X	CHIP RESISTOR	[M]
LB8693	ERJ2GEJ101X	CHIP RESISTOR	[M]
T5950	G4CYBYY00003	TRANSFORMER	[M] △
T5951	G4C2AAJ00005	BACK UP TRANSFORMER	[M] △
		COMPONENT COMBINATION	
Z971	RGSD12A1445T	RADA RESISTOR	[M]
Z2602	G2BAD0000003	AM IFT	[M]
Z5950	ERZV10V511CS	ZENER	[M] △
Z6400	B3RAB0000025	REMOTE SENSOR	[M]
		CERAMIC FILTERS	
CF2601	J0B1075AA014	FM CERAMIC FILTER	[M]
CF2602	J0B1075AA014	FM CERAMIC FILTER	[M]
		RELAY	
RL5950	K6B1AEA00015	POWER RELAY	[M] △
		OSCILLATORS	
X2602	H3F1065A0002	DIELECTRIC RESONATOR	[M]
X2603	H0H720400007	CRYSTAL	[M]
X2801	H0A327200115	CRYSTAL	[M]
X2802	H2B100500004	CERAMIC RESONATOR	[M]
X8621	H0J270500085	CRYSTAL	[M]
		DISPLAY TUBE	
FL6602	A2BD00000151	FL DISPLAY	[M]
FL8101	F1H0J1050022	CHIP CAPACITOR	[M]
FL8102	F1H0J1050022	CHIP CAPACITOR	[M]
FL8103	F1H0J1050022	CHIP CAPACITOR	[M]
FL8104	F1J1E1040022	CHIP CAPACITOR	[M]
		FUSES	
F1	K5D202BLA013	FUSE	[M] GS, GCS, GCT △
F1	K5D102BLA013	FUSE	[M] GC △
F2	K5D102BLA013	FUSE	[M] GS, GCS, GCT △
		FUSE HOLDERS	
FC1	EYF52BCY	FUSE CLIP	[M]
FC2	EYF52BCY	FUSE CLIP	[M]
FC3	EYF52BCY	FUSE CLIP	[M] GS
FC4	EYF52BCY	FUSE CLIP	[M] GS
		FUSE PROTECTORS	
FP5100	K5G401A00008	RESISTOR	[M] △
FP5950	K5G402A00025	FUSE PROTECTOR	[M] △
		HOLDERS	
H5104	K1YF09000001	9P WIRE HOLDER	[M]
H6555	K1YZ09000002	9P CABLE HOLDER	[M]
H6556	K1YZ07000001	7P WIRE HOLDER	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
		JACKS	
JK2601	K4BC03A00008	JK ANTENNA	[M]
JK2701	K2HB102J0038	JK MIC	[M]
JK2800	K1CB105B0046	JK S-VIDEO	[M]
JK2803	K2HA408B0083	JK COMP/VIDEO	[M]
JK5102	K4AC04B00014	JK SPEAKER	[M]
JK5950	K2AA2B000011	JK AC INLET	[M] △
JK6551	K2HC103A0024	JK HP	[M]
JK6552	K2HC1YYA0002	JK MUSIC PORT	[M]
		EARTH TERMINAL	
E5100	K4CZ01000027	EARTH LUG	[M]
E5101	K4CZ01000027	EARTH LUG	[M]
E5102	K4CZ01000027	EARTH LUG	[M]
		CHIP JUMPERS	
W2000	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2002	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2003	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2161	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2806	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2807	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2821	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2825	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2832	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2833	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2835	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2842	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2908	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2909	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2911	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2912	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2913	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2918	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2919	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2940	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2941	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2942	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2943	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2958	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2961	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2962	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2964	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2969	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2989	ERJ3GEY0R00V	CHIP JUMPER	[M]
W5500	ERJ3GEY0R00V	CHIP JUMPER	[M]
W5502	ERJ3GEY0R00V	CHIP JUMPER	[M]
W6500	ERJ3GEY0R00V	CHIP JUMPER	[M]
W6501	ERJ3GEY0R00V	CHIP JUMPER	[M]
W6505	ERJ3GEY0R00V	CHIP JUMPER	[M]
W6506	ERJ3GEY0R00V	CHIP JUMPER	[M]
W6507	ERJ3GEY0R00V	CHIP JUMPER	[M]
W6508	ERJ3GEY0R00V	CHIP JUMPER	[M]
W6510	ERJ3GEY0R00V	CHIP JUMPER	[M]
W6512	ERJ3GEY0R00V	CHIP JUMPER	[M]
W6513	ERJ3GEY0R00V	CHIP JUMPER	[M]
		PACKING MATERIALS	
P1	RPGX1633	PACKING CASE	[M] GCS
P1	RPGX1634	PACKING CASE	[M] GCT
P1	RPGX1631	PACKING CASE	[M] GC
P1	RPGX1632	PACKING CASE	[M] GS
P2	RPNX0349-1	POLYFOAM	[M]
P3	RPFX0007-1	MIRAMAT BAG	[M]
		ACCESSORIES	
A1	N2QAYB000018	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] △
A2	K2CT3CA00004	AC CORD	[M] GS △
A3	RQTV0128-1L	OI BOOK (EN)	[M]
A3	RQTV0129-1G	OI BOOK (EN/Ar/Pe)	[M]
A3	RQTV0132-1K	OI BOOK (CN)	[M]
A4	N1DAAA000001	AM LOOP ANTENNA	[M]
A5	RSA0007-L	FM ANTENNA WIRE	[M]
A6	K2KA2CA00011	VIDEO CABLE	[M]
		RESISTORS	
R1	D0AE104JA048	100K 1/4W	[M]
R2	D0AE104JA048	100K 1/4W	[M]
R3	D0AE221JA048	220 1/4W	[M]
R4	D0AE104JA048	100K 1/4W	[M]
R5	ERDS2TJ564T	560K 1/4W	[M]
R6	D0AE391JA048	390 1/4W	[M]
R7	D0AE272JA048	2.7K 1/4W	[M]
R8	ERDS2TJ684T	680K 1/4W	[M]
R9	D0AE391JA048	390 1/4W	[M]
R10	D0AE391JA048	390 1/4W	[M]
R11	ERDS2TJ684T	680K 1/4W	[M]
R952	ERDS2TJ821T	820 1/4W	[M]
R953	ERDS2TJ393T	39K 1/4W	[M]
R972	ERDS2TJ821T	820 1/4W	[M]
R973	ERDS2TJ393T	39K 1/4W	[M]
R1002	ERJ3GEY0R00V	0 1/16W	[M]
R1003	ERJ3GEYJ103V	10K 1/16W	[M]
R1004	D0GB152JA007	1.5K 1/16W	[M]
R1005	D0GB472JA041	4.7K 1/16W	[M]
R1007	ERD25FVJ4R7T	4.7 1/4W	[M]
R1009	D0GB183JA007	18K 1/16W	[M]
R1010	D0GB183JA007	18K 1/16W	[M]
R1011	ERJ3GEYJ822V	8.2K 1/16W	[M]
R1012	D0GB472JA041	4.7K 1/16W	[M]
R1013	D0GB472JA041	4.7K 1/16W	[M]
R1014	D0GB472JA041	4.7K 1/16W	[M]
R1015	D0GB470JA008	47 1/16W	[M]
R1016	D0GB470JA008	47 1/16W	[M]
R1017	ERJ3GEYJ822V	8.2K 1/16W	[M]
R1018	D0GB392JA007	3.9K 1/16W	[M]
R1019	D0GB392JA007	3.9K 1/16W	[M]
R1020	ERJ3GEY0R00V	0 1/16W	[M]
R1022	ERJ3GEYJ103V	10K 1/16W	[M]
R1024	ERJ3GEY0R00V	0 1/16W	[M]
R1025	ERJ3GEY0R00V	0 1/16W	[M]
R1026	ERJ3GEYJ102V	1K 1/16W	[M]
R1027	ERJ3GEY0R00V	0 1/16W	[M]
R1028	ERJ3GEYJ822V	8.2K 1/16W	[M]
R1029	D0GB475JA007	4.7M 1/16W	[M]
R1030	D0GB101JA007	100 1/16W	[M]
R1031	D0GB273JA007	27K 1/16W	[M]
R1032	ERJ3GEYJ103V	10K 1/16W	[M]
R1035	ERJ3GEYJ103V	10K 1/16W	[M]
R1040	ERJ3GEY0R00V	0 1/16W	[M]
R1049	ERJ3GEY0R00V	0 1/16W	[M]
R1050	ERJ3GEY0R00V	0 1/16W	[M]
R1055	D0GB222JA041	2.2K 1/16W	[M]
R1057	D0GB222JA041	2.2K 1/16W	[M]
R1060	D0GB391JA041	390 1/16W	[M]
R1084	D0GB222JA041	2.2K 1/16W	[M]
R1085	D0GB473JA041	47K 1/16W	[M]
R1086	D0GB222JA041	2.2K 1/16W	[M]
R1087	D0GB473JA041	47K 1/16W	[M]
R1090	D0GB221JA041	220 1/16W	[M]
R1091	ERJ3GEY0R00V	0 1/16W	[M]
R1092	ERJ3GEY0R00V	0 1/16W	[M]
R1097	ERJ3GEYJ103V	10K 1/16W	[M]
R1098	ERJ3GEYJ103V	10K 1/16W	[M]
R1099	ERJ3GEY0R00V	0 1/16W	[M]
R1100	ERJ3GEY0R00V	0 1/16W	[M]
R1101	ERJ3GEY0R00V	0 1/16W	[M]
R1102	ERJ3GEYJ103V	10K 1/16W	[M]
R2001	ERJ3GEY0R00V	0 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R2002	ERJ3GEY0R00V	0 1/16W	[M]
R2003	ERJ3GEY0R00V	0 1/16W	[M]
R2007	ERJ3GEY0R00V	0 1/16W	[M]
R2021	ERJ3GEY0R00V	0 1/16W	[M]
R2031	D0AF270JA039	27 1/4W	[M]
R2032	ERJ3GEYJ103V	10K 1/16W	[M]
R2033	D0GB472JA041	4.7K 1/16W	[M]
R2051	ERJ3GEYJ102V	1K 1/16W	[M]
R2052	ERJ3GEYJ103V	10K 1/16W	[M]
R2053	D0GB563JA007	56K 1/16W	[M]
R2054	D0GB273JA007	27K 1/16W	[M]
R2055	D0GB152JA007	1.5K 1/16W	[M]
R2056	D0GB152JA007	1.5K 1/16W	[M]
R2057	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2058	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2101	D0GB332JA007	3.3K 1/16W	[M]
R2102	ERJ3GEYJ122V	1.2K 1/16W	[M]
R2103	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2104	ERJ3GEYJ103V	10K 1/16W	[M]
R2105	D0GB223JA041	22K 1/16W	[M]
R2106	D0GB101JA007	100 1/16W	[M]
R2107	D0GB473JA041	47K 1/16W	[M]
R2108	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2111	ERJ3GEYJ103V	10K 1/16W	[M]
R2112	D0GB223JA041	22K 1/16W	[M]
R2113	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2118	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2120	ERJ3GEYJ102V	1K 1/16W	[M]
R2141	D0GB272JA007	2.7K 1/16W	[M]
R2142	D0GB152JA007	1.5K 1/16W	[M]
R2143	D0GB104JA007	100K 1/16W	[M]
R2145	ERJ3GEYJ103V	10K 1/16W	[M]
R2146	ERJ3GEYJ102V	1K 1/16W	[M]
R2149	D0GB222JA041	2.2K 1/16W	[M]
R2152	ERJ3GEYJ681V	680 1/16W	[M]
R2153	D0GB152JA007	1.5K 1/16W	[M]
R2154	D0GB104JA007	100K 1/16W	[M]
R2166	ERJ3GEYJ100V	10 1/16W	[M]
R2167	ERJ3GEYJ100V	10 1/16W	[M]
R2168	ERJ3GEYJ100V	10 1/16W	[M]
R2169	ERJ3GEYJ100V	10 1/16W	[M]
R2170	ERJ3GEY0R00V	0 1/16W	[M]
R2171	D0GB332JA007	3.3K 1/16W	[M]
R2172	D0GB561JA007	560 1/16W	[M]
R2191	ERJ3GEY0R00V	0 1/16W	[M]
R2192	ERJ3GEY0R00V	0 1/16W	[M]
R2197	ERJ3GEYJ103V	10K 1/16W	[M]
R2199	D0GB153JA007	15K 1/16W	[M]
R2201	D0GB332JA007	3.3K 1/16W	[M]
R2202	ERJ3GEYJ122V	1.2K 1/16W	[M]
R2204	ERJ3GEYJ103V	10K 1/16W	[M]
R2205	D0GB223JA041	22K 1/16W	[M]
R2206	D0GB101JA007	100 1/16W	[M]
R2207	D0GB473JA041	47K 1/16W	[M]
R2211	ERJ3GEYJ103V	10K 1/16W	[M]
R2212	D0GB223JA041	22K 1/16W	[M]
R2220	ERJ3GEYJ102V	1K 1/16W	[M]
R2241	D0GB272JA007	2.7K 1/16W	[M]
R2242	D0GB152JA007	1.5K 1/16W	[M]
R2243	D0GB104JA007	100K 1/16W	[M]
R2245	ERJ3GEYJ103V	10K 1/16W	[M]
R2246	ERJ3GEYJ102V	1K 1/16W	[M]
R2247	D0GB104JA007	100K 1/16W	[M]
R2248	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2249	D0GB222JA041	2.2K 1/16W	[M]
R2252	ERJ3GEYJ681V	680 1/16W	[M]
R2253	D0GB152JA007	1.5K 1/16W	[M]
R2254	D0GB104JA007	100K 1/16W	[M]
R2266	ERJ3GEYJ100V	10 1/16W	[M]
R2267	ERJ3GEYJ100V	10 1/16W	[M]
R2268	ERJ3GEYJ100V	10 1/16W	[M]
R2269	ERJ3GEYJ100V	10 1/16W	[M]
R2270	ERJ3GEY0R00V	0 1/16W	[M]
R2271	D0GB332JA007	3.3K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R2272	D0GB561JA007	560 1/16W	[M]
R2291	ERJ3GEY0R00V	0 1/16W	[M]
R2292	ERJ3GEY0R00V	0 1/16W	[M]
R2297	ERJ3GEYJ103V	10K 1/16W	[M]
R2299	D0GB153JA007	15K 1/16W	[M]
R2302	ERJ3GEYJ332V	3.3K 1/16W	[M]
R2303	D0GB104JA007	100K 1/16W	[M]
R2312	D0GB563JA007	56K 1/16W	[M]
R2313	D0GB683JA007	68K 1/16W	[M]
R2314	ERJ3GEYJ103V	10K 1/16W	[M]
R2315	D0GB823JA007	82K 1/16W	[M]
R2316	ERJ3GEYJ102V	1K 1/16W	[M]
R2317	D0GB104JA007	100K 1/16W	[M]
R2318	D0GB272JA007	2.7K 1/16W	[M]
R2319	D0GB562JA007	5.6K 1/16W	[M]
R2320	ERJ3GEYJ102V	1K 1/16W	[M]
R2402	ERJ3GEYJ332V	3.3K 1/16W	[M]
R2403	D0GB104JA007	100K 1/16W	[M]
R2412	D0GB563JA007	56K 1/16W	[M]
R2413	D0GB683JA007	68K 1/16W	[M]
R2414	ERJ3GEYJ103V	10K 1/16W	[M]
R2415	D0GB823JA007	82K 1/16W	[M]
R2416	ERJ3GEYJ102V	1K 1/16W	[M]
R2417	D0GB104JA007	100K 1/16W	[M]
R2418	D0GB272JA007	2.7K 1/16W	[M]
R2419	D0GB562JA007	5.6K 1/16W	[M]
R2420	ERJ3GEYJ102V	1K 1/16W	[M]
R2501	D0GB222JA041	2.2K 1/16W	[M]
R2502	D0GB563JA007	56K 1/16W	[M]
R2503	D0GB273JA007	27K 1/16W	[M]
R2532	ERJ3GEY0R00V	0 1/16W	[M]
R2551	D0GB1R0JA007	1 1/16W	[M]
R2552	D0GB1R0JA007	1 1/16W	[M]
R2553	D0GB1R0JA007	1 1/16W	[M]
R2554	D0GB1R0JA007	1 1/16W	[M]
R2555	D0GB1R0JA007	1 1/16W	[M]
R2556	ERJ3GEYJ102V	1K 1/16W	[M]
R2557	ERJ3GEYJ102V	1K 1/16W	[M]
R2558	D0GB331JA007	330 1/16W	[M]
R2559	D0GB392JA007	3.9K 1/16W	[M]
R2560	ERJ3GEYJ103V	10K 1/16W	[M]
R2562	D0GB221JA041	220 1/16W	[M]
R2563	D0GB392JA007	3.9K 1/16W	[M]
R2568	ERJ3GEYJ102V	1K 1/16W	[M]
R2576	D0GB472JA041	4.7K 1/16W	[M]
R2577	D0GB393JA007	39K 1/16W	[M]
R2578	D0GB153JA007	15K 1/16W	[M]
R2579	D0GB473JA041	47K 1/16W	[M]
R2582	ERJ3GEY0R00V	0 1/16W	[M]
R2584	D0GB334JA007	330K 1/16W	[M]
R2585	D0GB334JA007	330K 1/16W	[M]
R2586	ERJ3GEYJ122V	1.2K 1/16W	[M]
R2587	ERJ3GEYJ122V	1.2K 1/16W	[M]
R2601	ERJ3GEY0R00V	0 1/16W	[M]
R2602	D0GB472JA041	4.7K 1/16W	[M]
R2603	D0GB271JA007	270 1/16W	[M]
R2604	ERJ3GEYJ102V	1K 1/16W	[M]
R2605	D0GB471JA041	470 1/16W	[M]
R2606	D0GB474JA041	470K 1/16W	[M]
R2607	D0GB331JA007	330 1/16W	[M]
R2610	ERJ3GEYJ102V	1K 1/16W	[M]
R2611	D0GB391JA041	390 1/16W	[M]
R2612	D0GB104JA007	100K 1/16W	[M]
R2613	ERJ3GEYJ103V	10K 1/16W	[M]
R2614	D0GB562JA007	5.6K 1/16W	[M]
R2615	D0GB561JA007	560 1/16W	[M]
R2616	ERJ3GEYJ102V	1K 1/16W	[M]
R2617	D0GB473JA041	47K 1/16W	[M]
R2618	D0GB332JA007	3.3K 1/16W	[M]
R2619	D0GB472JA041	4.7K 1/16W	[M]
R2620	D0GB473JA041	47K 1/16W	[M]
R2621	D0GB223JA041	22K 1/16W	[M]
R2622	D0GB272JA007	2.7K 1/16W	[M]
R2623	D0GB683JA007	68K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R2624	D0GB330JA007	33 1/16W	[M]
R2625	D0GB471JA041	470 1/16W	[M]
R2626	ERJ3GEYJ102V	1K 1/16W	[M]
R2627	D0GB471JA041	470 1/16W	[M]
R2628	ERJ3GEYJ820V	82 1/16W	[M]
R2629	D0GB273JA007	27K 1/16W	[M]
R2630	ERJ3GEYJ103V	10K 1/16W	[M]
R2631	D0GB121JA007	120 1/16W	[M]
R2632	ERJ3GEYJ103V	10K 1/16W	[M]
R2633	ERJ3GEYJ102V	1K 1/16W	[M]
R2634	D0GB471JA041	470 1/16W	[M]
R2635	ERJ3GEYJ102V	1K 1/16W	[M]
R2636	ERJ3GEYJ102V	1K 1/16W	[M]
R2637	ERJ3GEYJ102V	1K 1/16W	[M]
R2638	D0GB332JA007	3.3K 1/16W	[M]
R2641	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2642	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2643	D0GB223JA041	22K 1/16W	[M]
R2644	D0GB121JA007	120 1/16W	[M]
R2645	D0GB104JA007	100K 1/16W	[M]
R2646	D0GB104JA007	100K 1/16W	[M]
R2651	ERJ3GEYJ820V	82 1/16W	[M]
R2652	ERJ3GEY0R00V	0 1/16W	[M]
R2701	ERJ3GEYJ681V	680 1/16W	[M]
R2702	D0GB561JA007	560 1/16W	[M]
R2703	D0GB334JA007	330K 1/16W	[M]
R2704	ERJ3GEYJ470V	47 1/16W	[M]
R2705	ERJ3GEYJ822V	8.2K 1/16W	[M]
R2706	D0GB334JA007	330K 1/16W	[M]
R2707	D0GB472JA041	4.7K 1/16W	[M]
R2708	D0GB331JA007	330 1/16W	[M]
R2709	D0GB101JA007	100 1/16W	[M]
R2801	ERJ3GEYJ103V	10K 1/16W	[M]
R2802	D0GB101JA007	100 1/16W	[M]
R2803	ERJ3GEYJ103V	10K 1/16W	[M]
R2804	D0GB473JA041	47K 1/16W	[M]
R2805	D0GB473JA041	47K 1/16W	[M]
R2806	ERJ3GEYJ103V	10K 1/16W	[M]
R2807	ERJ3GEYJ103V	10K 1/16W	[M]
R2810	D0GB223JA041	22K 1/16W	[M]
R2811	ERJ3GEY0R00V	0 1/16W	[M]
R2817	D0GB104JA007	100K 1/16W	[M]
R2818	D0GB104JA007	100K 1/16W	[M]
R2819	D0GB104JA007	100K 1/16W	[M]
R2822	ERJ3GEYJ103V	10K 1/16W	[M]
R2828	ERJ3GEYJ103V	10K 1/16W	[M]
R2834	ERJ3GEYJ102V	1K 1/16W	[M]
R2835	D0GB101JA007	100 1/16W	[M]
R2836	D0GB101JA007	100 1/16W	[M]
R2837	ERJ3GEY0R00V	0 1/16W	[M]
R2838	ERJ3GEY0R00V	0 1/16W	[M]
R2839	ERJ3GEY0R00V	0 1/16W	[M]
R2840	ERJ3GEY0R00V	0 1/16W	[M]
R2841	ERJ3GEYJ103V	10K 1/16W	[M]
R2842	ERJ3GEYJ103V	10K 1/16W	[M]
R2844	ERJ3GEYJ103V	10K 1/16W	[M]
R2845	ERJ3GEYJ103V	10K 1/16W	[M]
R2846	D0GB472JA041	4.7K 1/16W	[M]
R2849	ERJ3GEY0R00V	0 1/16W	[M]
R2850	ERJ3GEY0R00V	0 1/16W	[M]
R2851	ERJ3GEY0R00V	0 1/16W	[M]
R2852	ERJ3GEY0R00V	0 1/16W	[M]
R2854	D0GB473JA041	47K 1/16W	[M]
R2856	ERJ3GEYJ102V	1K 1/16W	[M]
R2858	D0GB101JA007	100 1/16W	[M]
R2859	D0GB101JA007	100 1/16W	[M]
R2860	D0GB101JA007	100 1/16W	[M]
R2861	D0GB101JA007	100 1/16W	[M]
R2862	D0GB101JA007	100 1/16W	[M]
R2863	D0GB101JA007	100 1/16W	[M]
R2869	D0GB473JA041	47K 1/16W	[M]
R2870	D0GB473JA041	47K 1/16W	[M]
R2871	D0GB473JA041	47K 1/16W	[M]
R2872	D0GB473JA041	47K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R2873	D0GB473JA041	47K 1/16W	[M]
R2874	D0GB332JA007	3.3K 1/16W	[M]
R2875	ERJ3GEYJ103V	10K 1/16W	[M]
R2876	D0GB223JA041	22K 1/16W	[M]
R2877	D0GB223JA041	22K 1/16W	[M]
R2878	D0GB472JA041	4.7K 1/16W	[M]
R2881	D0GB221JA041	220 1/16W	[M]
R2882	D0GB106JA007	10M 1/16W	[M]
R2883	D0GB334JA007	330K 1/16W	[M]
R2884	D0GB473JA041	47K 1/16W	[M]
R2886	D0GB105JA007	1M 1/16W	[M]
R2887	ERJ3GEYJ102V	1K 1/16W	[M]
R2888	ERJ3GEYJ102V	1K 1/16W	[M]
R2889	ERJ3GEYJ102V	1K 1/16W	[M]
R2890	ERJ3GEY0R00V	0 1/16W	[M]
R2891	D0GB473JA041	47K 1/16W	[M]
R2892	ERJ3GEY0R00V	0 1/16W	[M]
R2894	ERJ3GEYJ102V	1K 1/16W	[M]
R2895	D0GB101JA007	100 1/16W	[M]
R2901	D0HB750ZA003	75 3W	[M]
R2902	D0HB750ZA003	75 3W	[M]
R2903	D0HB750ZA003	75 3W	[M]
R2906	D0GB104JA007	100K 1/16W	[M]
R2907	D0GB104JA007	100K 1/16W	[M]
R2908	D0GB104JA007	100K 1/16W	[M]
R2909	D0HB750ZA003	75 3W	[M]
R2910	D0HB750ZA003	75 3W	[M]
R2911	ERJ3GEY0R00V	0 1/16W	[M]
R2912	D0GB222JA041	2.2K 1/16W	[M]
R2913	ERJ3GEYJ103V	10K 1/16W	[M]
R2914	ERJ3GEYJ103V	10K 1/16W	[M]
R2915	D0HB750ZA003	75 3W	[M]
R2920	D0GB104JA007	100K 1/16W	[M]
R2921	D0GB104JA007	100K 1/16W	[M]
R2922	D0GB104JA007	100K 1/16W	[M]
R2931	ERJ3GEY0R00V	0 1/16W	[M]
R2932	ERJ3GEY0R00V	0 1/16W	[M]
R2934	ERJ3GEY0R00V	0 1/16W	[M]
R2935	ERJ3GEY0R00V	0 1/16W	[M]
R2936	ERJ3GEY0R00V	0 1/16W	[M]
R2937	ERJ3GEY0R00V	0 1/16W	[M]
R2938	ERJ3GEY0R00V	0 1/16W	[M]
R2940	ERJ3GEY0R00V	0 1/16W	[M]
R2941	ERJ3GEYJ103V	10K 1/16W	[M]
R2942	ERJ3GEY0R00V	0 1/16W	[M]
R2943	ERJ3GEY0R00V	0 1/16W	[M]
R2950	ERJ3GEYJ102V	1K 1/16W	[M]
R2976	ERJ3GEY0R00V	0 1/16W	[M]
R2977	ERJ3GEY0R00V	0 1/16W	[M]
R2991	ERJ3GEY0R00V	0 1/16W	[M]
R5101	ERJ3GEYJ103V	10K 1/16W	[M]
R5103	ERG1SJ103E	10K 1W	[M]
R5105	ERJ3GEYJ103V	10K 1/16W	[M]
R5106	D0GB223JA041	22K 1/16W	[M]
R5107	D0GB561JA007	560 1/16W	[M]
R5108	D0GB470JA008	47 1/16W	[M]
R5109	ERJ3GEYJ102V	1K 1/16W	[M]
R5110	D0GB222JA041	2.2K 1/16W	[M]
R5111	D0GB104JA007	100K 1/16W	[M]
R5112	D0GB473JA041	47K 1/16W	[M]
R5113	D0GB473JA041	47K 1/16W	[M]
R5114	ERJ3GEYJ2R7V	2.7 1/16W	[M]
R5122	D0AF4R7JA039	4.7 1/4W	[M]
R5123	D0AF4R7JA039	4.7 1/4W	[M]
R5126	ERJ3GEYJ102V	1K 1/16W	[M]
R5127	D0GB471JA041	470 1/16W	[M]
R5130	D0GB151JA007	150 1/16W	[M]
R5131	ERDS1FVJ222T	2.2K 1/2W	[M]
R5132	D0AF331JA039	330 1/4W	[M]
R5133	ERJ3GEYJ103V	10K 1/16W	[M]
R5134	ERJ3GEYJ122V	1.2K 1/16W	[M]
R5135	D0AE2R2JA048	2.2 1/4W	[M]
R5136	D0AE2R2JA048	2.2 1/4W	[M]
R5137	D0AE2R2JA048	2.2 1/4W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R5138	ERJ8GEYJ100V	10 1/8W	[M]
R5139	ERJ8GEYJ100V	10 1/8W	[M]
R5144	D0AF120JA039	12 1/4W	[M]
R5146	D0GB392JA007	3.9K 1/16W	[M]
R5147	D0AF2R2JA039	2.2 1/4W	[M]
R5148	D0GB562JA007	5.6K 1/16W	[M]
R5149	ERJ3GEYJ102V	1K 1/16W	[M]
R5152	ERJ3GEY0R00V	0 1/16W	[M]
R5153	D0GB101JA007	100 1/16W	[M]
R5154	D0GB101JA007	100 1/16W	[M]
R5155	D0GB101JA007	100 1/16W	[M]
R5156	D0GB101JA007	100 1/16W	[M]
R5157	D0GB104JA007	100K 1/16W	[M]
R5301	D0GB562JA007	5.6K 1/16W	[M]
R5302	D0GB562JA007	5.6K 1/16W	[M]
R5303	D0GB562JA007	5.6K 1/16W	[M]
R5304	D0GB562JA007	5.6K 1/16W	[M]
R5305	ERGLSJ220E	22 1W	[M]
R5306	ERGLSJ220E	22 1W	[M]
R5307	ERJ8GEYJ100V	10 1/8W	[M]
R5308	ERJ8GEYJ100V	10 1/8W	[M]
R5313	D0GB154JA007	150K 1/16W	[M]
R5318	ERDS1FVJ562T	5.6K 1/2W	[M]
R5413	D0GB104JA007	100K 1/16W	[M]
R5418	ERDS1FVJ562T	5.6K 1/2W	[M]
R5612	D0GB303JA007	30K 1/16W	[M]
R5613	D0GB224JA007	220K 1/16W	[M]
R5715	D0GB332JA007	3.3K 1/16W	[M]
R5716	D0AF270JA039	27 1/4W	[M]
R5717	D0GB101JA007	100 1/16W	[M]
R5718	D0GB272JA007	2.7K 1/16W	[M]
R5719	D0GB471JA041	470 1/16W	[M]
R5720	D0GB272JA007	2.7K 1/16W	[M]
R5721	D0GB332JA007	3.3K 1/16W	[M]
R5722	ERDS1FVJ101T	100 1/2W	[M]
R5723	ERDS1FVJ101T	100 1/2W	[M]
R5951	D0AE332JA048	3.3K 1/4W	[M]
R5952	D0AE152JA048	1.5K 1/4W	[M]
R5952	D0AE152JA048	1.5K 1/4W	[M] GS
R5953	D0AE151JA048	150 1/4W	[M] GC
R5954	D0AE824JA048	820K 1/4W	[M]
R5954	D0AE824JA048	820K 1/4W	[M] GS
R5955	D0AE122JA048	1.2K 1/4W	[M]
R5955	D0AE122JA048	1.2K 1/4W	[M] GS
R5955	D0AE222JA048	2.2K 1/4W	[M] GC
R5957	D0AE103JA048	10K 1/4W	[M]
R5958	D0AE103JA048	10K 1/4W	[M]
R5960	D0AE472JA048	4.7K 1/4W	[M]
R5961	D0AE151JA048	150 1/4W	[M]
R5963	D0AF820JA039	82 1/4W	[M]
R6102	ERJ3GEYJ102V	1K 1/16W	[M]
R6103	ERJ3GEYJ102V	1K 1/16W	[M]
R6104	ERJ3GEYJ122V	1.2K 1/16W	[M]
R6105	D0GB182JA007	1.8K 1/16W	[M]
R6106	D0GB222JA041	2.2K 1/16W	[M]
R6199	ERJ3GEYJ103V	10K 1/16W	[M]
R6202	ERJ3GEYJ102V	1K 1/16W	[M]
R6203	ERJ3GEYJ102V	1K 1/16W	[M]
R6204	ERJ3GEYJ122V	1.2K 1/16W	[M]
R6205	D0GB182JA007	1.8K 1/16W	[M]
R6206	D0GB222JA041	2.2K 1/16W	[M]
R6207	D0GB272JA007	2.7K 1/16W	[M]
R6208	D0GB472JA041	4.7K 1/16W	[M]
R6211	D0GB223JA041	22K 1/16W	[M]
R6301	ERJ3GEYJ103V	10K 1/16W	[M]
R6303	ERJ3GEYJ102V	1K 1/16W	[M]
R6304	ERJ3GEYJ102V	1K 1/16W	[M]
R6305	ERJ3GEYJ122V	1.2K 1/16W	[M]
R6306	D0GB182JA007	1.8K 1/16W	[M]
R6307	D0GB222JA041	2.2K 1/16W	[M]
R6308	D0GB272JA007	2.7K 1/16W	[M]
R6309	D0GB472JA041	4.7K 1/16W	[M]
R6310	ERJ3GEYJ682V	6.8K 1/16W	[M]
R6311	ERJ3GEYJ103V	10K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R6401	ERJ3GEYJ103V	10K 1/16W	[M]
R6402	ERJ3GEYJ103V	10K 1/16W	[M]
R6403	ERJ3GEYJ2R7V	2.7 1/16W	[M]
R6404	ERJ3GEYJ2R7V	2.7 1/16W	[M]
R6405	D0GB274JA007	270K 1/16W	[M]
R6406	D0GB274JA007	270K 1/16W	[M]
R6411	D0GB223JA041	22K 1/16W	[M]
R6412	ERJ3GEYJ102V	1K 1/16W	[M]
R6415	D0GB223JA041	22K 1/16W	[M]
R6416	ERJ3GEYJ102V	1K 1/16W	[M]
R6421	ERJ3GEYJ103V	10K 1/16W	[M]
R6425	ERJ3GEYJ103V	10K 1/16W	[M]
R6458	D0GB272JA007	2.7K 1/16W	[M]
R6481	D0GB270JA007	27 1/16W	[M]
R6491	D0GB473JA041	47K 1/16W	[M]
R6492	D0GB473JA041	47K 1/16W	[M]
R6493	ERJ3GEYJ103V	10K 1/16W	[M]
R6601	D0GB471JA041	470 1/16W	[M]
R6603	D0GB221JA041	220 1/16W	[M]
R6604	D0GB221JA041	220 1/16W	[M]
R6605	D0GB823JA007	82K 1/16W	[M]
R6631	ERD2FCVG470T	47 1/4W	[M]
R6632	ERD2FCVG470T	47 1/4W	[M]
R6633	ERDS1FVJ1R0T	1 1/2W	[M]
R6634	ERDS1FVJ1R0T	1 1/2W	[M]
R6635	ERDS1FVJ1R0T	1 1/2W	[M]
R6636	ERDS1FVJ1R0T	1 1/2W	[M]
R6902	ERJ3GEY0R00V	0 1/16W	[M]
R6950	ERJ3GEYJ102V	1K 1/16W	[M]
R6954	D0GB473JA041	47K 1/16W	[M]
R6956	D0GB472JA041	4.7K 1/16W	[M]
R6957	D0GB474JA041	470K 1/16W	[M]
R6959	ERJ3GEY0R00V	0 1/16W	[M]
R6960	ERJ3GEY0R00V	0 1/16W	[M]
R8003	ERJ2GEJ473X	47K 2W	[M]
R8011	ERJ2GEJ220X	22 2W	[M]
R8012	ERJ2GEJ220X	22 2W	[M]
R8013	ERJ2GEJ220X	22 2W	[M]
R8041	ERJ2GEJ330X	33 2W	[M]
R8153	ERJ2RHD621X	620 2W	[M]
R8154	ERJ2RHD102X	1K 2W	[M]
R8211	ERJ2GEJ103X	10K 2W	[M]
R8221	ERJ2GEJ822X	8.2K 2W	[M]
R8225	ERJ2GEJ822X	8.2K 2W	[M]
R8230	ERJ2GEJ222X	2.2K 2W	[M]
R8231	ERJ2GEJ223X	22K 2W	[M]
R8232	ERJ2GEJ752X	7.5K 2W	[M]
R8251	ERJ6GEYJ6R8V	6.8 1/10W	[M]
R8261	ERJ2GEJ823X	82K 2W	[M]
R8262	ERJ2GEJ153X	15K 2W	[M]
R8263	ERJ2GEJ823X	82K 2W	[M]
R8264	ERJ2GEJ153X	15K 2W	[M]
R8311	ERJ2RHD242X	2.4K 2W	[M]
R8312	ERJ2RHD102X	1K 2W	[M]
R8313	ERJ2RHD912X	9.1K 2W	[M]
R8314	ERJ2GE0R00X	0 2W	[M]
R8321	ERJ3RED680V	68 3W	[M]
R8322	ERJ3GEY0R00V	0 1/16W	[M]
R8325	ERJ3RED680V	68 3W	[M]
R8326	ERJ3GEY0R00V	0 1/16W	[M]
R8331	ERJ3RED680V	68 3W	[M]
R8332	ERJ3GEY0R00V	0 1/16W	[M]
R8335	ERJ3RED680V	68 3W	[M]
R8341	ERJ3RED680V	68 3W	[M]
R8401	ERJ2GEJ101X	100 2W	[M]
R8420	ERJ2GEJ222X	2.2K 2W	[M]
R8421	ERJ2GE0R00X	0 2W	[M]
R8531	ERJ2GEJ152X	1.5K 2W	[M]
R8532	ERJ2GEJ222X	2.2K 2W	[M]
R8533	ERJ2GE0R00X	0 2W	[M]
R8541	ERJ2GEJ153X	15K 2W	[M]
R8551	ERJ2GE0R00X	0 2W	[M]
R8552	ERJ2GEJ102X	1K 2W	[M]
R8553	ERJ2GEJ102X	1K 2W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R8554	ERJ2GEJ680X	68 2W	[M]
R8555	ERJ2GEJ2R2X	2.2 2W	[M]
R8556	ERJ3GEYJ560V	56 1/16W	[M]
R8557	ERJ3GEYJ510V	51 1/16W	[M]
R8558	ERJ2GEJ473X	47K 2W	[M]
R8559	ERJ2GEJ153X	15K 2W	[M]
R8561	ERJ2GE0R00X	0 2W	[M]
R8562	ERJ2GEJ102X	1K 2W	[M]
R8563	ERJ2GEJ102X	1K 2W	[M]
R8564	ERJ2GEJ220X	22 2W	[M]
R8565	ERJ2GEJ2R2X	2.2 2W	[M]
R8566	ERJ3GEYJ560V	56 1/16W	[M]
R8567	ERJ3GEYJ510V	51 1/16W	[M]
R8568	ERJ2GEJ473X	47K 2W	[M]
R8601	ERJ2GEJ104X	100K 2W	[M]
R8611	ERJ2GEJ101X	100 2W	[M]
R8621	ERJ2GEJ105X	1M 2W	[M]
R8622	ERJ2RHD102X	1K 2W	[M]
RX8001	D1H410320002	CHIP RESISTOR	[M]
RX8011	D1H88204A024	CHIP RESISTOR	[M]
RX8012	D1H88204A024	CHIP RESISTOR	[M]
RX8013	D1H88204A024	CHIP RESISTOR	[M]
RX8014	D1H88204A024	CHIP RESISTOR	[M]
RX8015	D1H88204A024	CHIP RESISTOR	[M]
RX8016	D1H88204A024	CHIP RESISTOR	[M]
RX8017	D1H88204A024	CHIP RESISTOR	[M]
RX8018	D1H422020001	CHIP RESISTOR	[M]
RX8019	D1H422020001	CHIP RESISTOR	[M]
RX8020	D1H422020001	CHIP RESISTOR	[M]
RX8031	D1H447220001	CHIP RESISTOR	[M]
RX8032	D1H447220001	CHIP RESISTOR	[M]
RX8111	D1H422320002	CHIP RESISTOR	[M]
RX8401	D1H410120001	CHIP RESISTOR	[M]
RX8403	D1H410120001	CHIP RESISTOR	[M]
RX8531	D1H456020001	CHIP RESISTOR	[M]
RX8532	D1H85604A024	CHIP RESISTOR	[M]
RX8533	D1H456020001	CHIP RESISTOR	[M]
RX8534	D1H456020001	CHIP RESISTOR	[M]
RX8611	D1H447220001	CHIP RESISTOR	[M]
RX8691	D1H410320002	CHIP RESISTOR	[M]
K2111	ERJ3GEY0R00V	CHIP JUMPER	[M]
K2211	ERJ3GEY0R00V	CHIP JUMPER	[M]
K8004	ERJ2GE0R00X	CHIP JUMPER	[M]
K8009	ERJ2GE0R00X	CHIP JUMPER	[M]
K8251	ERJ3GEY0R00V	CHIP JUMPER	[M]
K8321	ERJ2GE0R00X	CHIP JUMPER	[M]
K8325	ERJ2GE0R00X	CHIP JUMPER	[M]
K8331	ERJ2GE0R00X	CHIP JUMPER	[M]
K8335	ERJ2GE0R00X	CHIP JUMPER	[M]
K8341	ERJ2GE0R00X	CHIP JUMPER	[M]
K8421	ERJ3GEY0R00V	CHIP JUMPER	[M]
		CAPACITORS	
C1	F1D1H5R6A017	5.6P 50V	[M]
C2	F1D1H102A029	1000P 50V	[M]
C3	F1D1H2R2A017	2.2P 50V	[M]
C4	F1D1H181A012	180P 50V	[M]
C5	F1D1H5R6A017	5.6P 50V	[M]
C6	F1D1H3R3A017	3.3P 50V	[M]
C7	F1D1H4R7A017	4.7P 50V	[M]
C8	F1D1H3R3A017	3.3P 50V	[M]
C9	F1D1H2R2A017	2.2P 50V	[M]
C10	F1D1H180A015	18P 50V	[M]
C11	F1D1H102A029	1000P 50V	[M]
C1002	ECEA1HKN2R2B	2.2 50V	[M]
C1006	ECA1HAK010XB	1 50V	[M]
C1007	F0A2A472A034	4700P 100V	[M]
C1008	ECA1HAK010XB	1 50V	[M]
C1009	ECA1CAK470XB	47 16V	[M]
C1010	ECA1EAM101XB	100 25V	[M]
C1011	ECQV1H473JL3	0.047 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C1012	F1H1H102A219	1000P 50V	[M]
C1013	F1H1H102A219	1000P 50V	[M]
C1014	F1H1H102A219	1000P 50V	[M]
C1015	F1H1H102A219	1000P 50V	[M]
C1016	F1H1H222A013	2200P 50V	[M]
C1017	F1H1H222A013	2200P 50V	[M]
C1018	F1H1H332A013	3300P 50V	[M]
C1019	F1H1H102A219	1000P 50V	[M]
C1020	F1H1H471A219	470P 50V	[M]
C1021	F1H1H471A219	470P 50V	[M]
C1022	F1H1H102A219	1000P 50V	[M]
C1023	F1H1H102A219	1000P 50V	[M]
C1026	ECA0JAK470XB	47 6.3V	[M]
C1027	F1H1H102A219	1000P 50V	[M]
C1030	ECEA1AKA101B	100 10V	[M]
C1031	ECEA1AKA101B	100 10V	[M]
C1032	F1C1C183A023	0.018 16V	[M]
C1033	F1C1C183A023	0.018 16V	[M]
C1034	ECA1HAK3R3XB	3.3 50V	[M]
C1035	ECA1HAK3R3XB	3.3 50V	[M]
C1036	F1H1C333A071	0.033 16V	[M]
C1037	ECA1HAK3R3XB	3.3 50V	[M]
C1038	F1H1H221A748	220P 50V	[M]
C1039	F1H1H221A748	220P 50V	[M]
C1040	ECA1CAK100XB	10 16V	[M]
C1041	ECA1CAK100XB	10 16V	[M]
C1042	ECA1CAK220XB	22 16V	[M]
C1043	ECA1HAK4R7XB	4.7 50V	[M]
C1044	ECA1AAK330XB	33 10V	[M]
C1045	ECA1AAK220XB	22 10V	[M]
C1046	ECA1CAM221XB	220 16V	[M]
C1049	F1H1H332A013	3300P 50V	[M]
C1050	F1H1H332A013	3300P 50V	[M]
C1056	ECA1CAK100XB	10 16V	[M]
C1057	F1H1H102A219	1000P 50V	[M]
C1058	F1H1H102A219	1000P 50V	[M]
C1059	F1H1H103A219	0.01 50V	[M]
C2004	F1H1C104A041	0.1 16V	[M]
C2031	F1H1H103A219	0.01 50V	[M]
C2032	F1H1H103A219	0.01 50V	[M]
C2034	ECJ1VB1C105K	1 16V	[M]
C2035	ECJ1VB1C105K	1 16V	[M]
C2051	F2A1H4R7A014	4.7P 50V	[M]
C2102	F1H1C104A041	0.1 16V	[M]
C2103	F1H1H102A219	1000P 50V	[M]
C2104	F1H1C104A041	0.1 16V	[M]
C2105	ECJ1VB1H561K	560P 50V	[M]
C2106	F1H1H332A013	3300P 50V	[M]
C2107	F1H1C104A041	0.1 16V	[M]
C2108	F1H1H102A219	1000P 50V	[M]
C2111	F1H1C104A041	0.1 16V	[M]
C2112	F1H1H102A219	1000P 50V	[M]
C2119	ECJ1VB1C105K	1 16V	[M]
C2120	ECJ1VB1C105K	1 16V	[M]
C2121	ECJ1VB1C224K	0.22 16V	[M]
C2126	ECJ1VB1C224K	0.22 16V	[M]
C2131	ECJ1VB1A474K	0.47 10V	[M]
C2136	ECJ1VB1A474K	0.47 10V	[M]
C2141	ECJ1VB1C105K	1 16V	[M]
C2142	ECJ1VB1C105K	1 16V	[M]
C2151	ECA1CAK100XB	10 16V	[M]
C2166	F1H1H102A219	1000P 50V	[M]
C2194	ECA1HAK010XB	1 50V	[M]
C2195	ECJ1VB1H682K	6800P 50V	[M]
C2197	ERJ3GEY0R00V	0 1/16W	[M]
C2202	F1H1C104A041	0.1 16V	[M]
C2203	F1H1H102A219	1000P 50V	[M]
C2204	F1H1C104A041	0.1 16V	[M]
C2205	ECJ1VB1H561K	560P 50V	[M]
C2206	F1H1H332A013	3300P 50V	[M]
C2207	F1H1C104A041	0.1 16V	[M]
C2208	F1H1H102A219	1000P 50V	[M]
C2211	F1H1C104A041	0.1 16V	[M]
C2212	F1H1H102A219	1000P 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C2219	ECJ1VB1C105K	1 16V	[M]
C2220	ECJ1VB1C105K	1 16V	[M]
C2221	ECJ1VB1H473K	0.047 50V	[M]
C2226	ECJ1VB1H473K	0.047 50V	[M]
C2231	ECJ1VB1C393K	0.039 16V	[M]
C2236	ECJ1VB1C393K	0.039 16V	[M]
C2241	ECJ1VB1C105K	1 16V	[M]
C2242	ECJ1VB1C105K	1 16V	[M]
C2245	ECA1CAK100XB	10 16V	[M]
C2251	ECA1CAK100XB	10 16V	[M]
C2266	F1H1H102A219	1000P 50V	[M]
C2294	ECA1HAK010XB	1 50V	[M]
C2295	ECJ1VB1H682K	6800P 50V	[M]
C2297	ERJ3GEY0R00V	0 1/16W	[M]
C2301	ECJ1VC1H100D	10P 50V	[M]
C2302	F1H1H470A230	47P 50V	[M]
C2311	ECJ1VB1C224K	0.22 16V	[M]
C2312	ECJ1VB1A474K	0.47 10V	[M]
C2313	ECJ1VC1H120J	12P 50V	[M]
C2314	F1H1H470A230	47P 50V	[M]
C2315	ECJ1VB1C105K	1 16V	[M]
C2335	ECJ1VB1H152K	1500P 50V	[M]
C2401	ECJ1VC1H100D	10P 50V	[M]
C2402	F1H1H470A230	47P 50V	[M]
C2411	ECJ1VB1C224K	0.22 16V	[M]
C2412	ECJ1VB1A474K	0.47 10V	[M]
C2413	ECJ1VC1H120J	12P 50V	[M]
C2414	F1H1H470A230	47P 50V	[M]
C2415	ECJ1VB1C105K	1 16V	[M]
C2501	ECEA1AKN100B	10 10V	[M]
C2520	F1H1H103A219	0.01 50V	[M]
C2521	F1H1H103A219	0.01 50V	[M]
C2550	F2A1E2210050	220P 25V	[M]
C2551	ECJ1VC1H101K	100P 50V	[M]
C2552	F2A0J102A130	1000P 6.3V	[M]
C2553	ECA0JAK101XB	100 6.3V	[M]
C2554	F1H1H103A219	0.01 50V	[M]
C2555	ECJ1VB1A105K	1 10V	[M]
C2556	F2A1E2210050	220P 25V	[M]
C2576	ECEA1HKN4R7B	4.7 50V	[M]
C2581	ECA1CAK101XB	100 16V	[M]
C2582	ECA1CAK101XB	100 16V	[M]
C2583	ECJ1VB1C224K	0.22 16V	[M]
C2584	F1H1H221A748	220P 50V	[M]
C2585	F1H1H221A748	220P 50V	[M]
C2586	F1H1H103A219	0.01 50V	[M]
C2587	F1H1H103A219	0.01 50V	[M]
C2588	F1H1C104A041	0.1 16V	[M]
C2601	F1H1H103A219	0.01 50V	[M]
C2602	F2A1C1000018	10P 16V	[M]
C2603	F1H1H103A219	0.01 50V	[M]
C2604	F1H1H102A219	1000P 50V	[M]
C2606	F1H1H103A219	0.01 50V	[M]
C2607	ECJ1VB1E473K	0.047 25V	[M]
C2608	ECJ1VC1H080D	8P 50V	[M]
C2609	F1H1H102A219	1000P 50V	[M]
C2610	F1H1H103A219	0.01 50V	[M]
C2611	F2A1H4R7A014	4.7P 50V	[M]
C2612	F1H1H103A219	0.01 50V	[M]
C2613	F1H1H102A219	1000P 50V	[M]
C2614	F2A1H3R3A013	3.3P 50V	[M]
C2615	F2A1H4R7A014	4.7P 50V	[M]
C2616	F1H1C333A071	0.033 16V	[M]
C2617	F1H1H103A219	0.01 50V	[M]
C2618	F1H1H103A219	0.01 50V	[M]
C2619	F0A2A681A010	680P 100V	[M]
C2620	F2A1C1000018	10P 16V	[M]
C2621	ECA1HAKR47XB	0.47 50V	[M]
C2622	ECA1HAK010XB	1 50V	[M]
C2623	ECA1HAK010XB	1 50V	[M]
C2624	ECJ1VC1H101K	100P 50V	[M]
C2625	ECA1CAK220XB	22 16V	[M]
C2626	ECJ2VF1C105Z	1 16V	[M]
C2627	ECA1CAK220XB	22 16V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C2629	ECA0JAK101XB	100 6.3V	[M]
C2630	ECA0JAK101XB	100 6.3V	[M]
C2631	ECJ1VC1H151J	150P 50V	[M]
C2632	F1H1H102A219	1000P 50V	[M]
C2633	ECJ1VC1H270J	27P 50V	[M]
C2634	ECJ1VC1H270J	27P 50V	[M]
C2636	F1H1H102A219	1000P 50V	[M]
C2637	F1H1H332A013	3300P 50V	[M]
C2638	F1H1H103A219	0.01 50V	[M]
C2639	F2A1H4R7A014	4.7P 50V	[M]
C2641	ECA1HAK010XB	1 50V	[M]
C2642	ECA1HAK010XB	1 50V	[M]
C2643	ECJ1VB1H682K	6800P 50V	[M]
C2644	ECJ1VB1H682K	6800P 50V	[M]
C2647	F1H1H102A219	1000P 50V	[M]
C2648	F1H1H103A219	0.01 50V	[M]
C2649	F1H1C104A008	0.1 16V	[M]
C2701	ECJ1VB1H473K	0.047 50V	[M]
C2702	ECJ1VB1C105K	1 16V	[M]
C2703	ECJ1VB1H562K	5600P 50V	[M]
C2704	ECJ1VC1H101K	100P 50V	[M]
C2705	F1H1H102A219	1000P 50V	[M]
C2706	ECA1CAM471XB	470 16V	[M]
C2707	ECJ1VB1H104K	0.1 50V	[M]
C2708	F1H1E223A002	0.022 25V	[M]
C2709	F1H1C223A001	0.022 16V	[M]
C2710	ECJ1VB1C105K	1 16V	[M]
C2813	ECJ1VC1H101K	100P 50V	[M]
C2814	ECJ1VC1H101K	100P 50V	[M]
C2815	ECJ1VC1H101K	100P 50V	[M]
C2816	ECJ1VC1H101K	100P 50V	[M]
C2817	ECJ1VC1H101K	100P 50V	[M]
C2818	ECJ1VC1H101K	100P 50V	[M]
C2819	ECJ1VC1H101K	100P 50V	[M]
C2820	ECJ1VC1H101K	100P 50V	[M]
C2821	ECJ1VC1H101K	100P 50V	[M]
C2831	F1H1C223A001	0.022 16V	[M]
C2832	F1H1H331A013	330P 50V	[M]
C2833	F1H1H331A013	330P 50V	[M]
C2834	ECJ1VC1H680J	68P 50V	[M]
C2838	ECJ1VC1H680J	68P 50V	[M]
C2840	ECJ1VC1H180J	18P 50V	[M]
C2841	ECJ1VC1H180J	18P 50V	[M]
C2851	F1H1C104A041	0.1 16V	[M]
C2852	ECA1CAM471XB	470 16V	[M]
C2853	F1H1C104A041	0.1 16V	[M]
C2854	ECA1CAK101XB	100 16V	[M]
C2856	ECJ1VB1C105K	1 16V	[M]
C2857	F2A1H3R3A013	3.3P 50V	[M]
C2858	F1H1H103A219	0.01 50V	[M]
C2860	ECJ1VC1H101K	100P 50V	[M]
C2861	ECJ1VC1H101K	100P 50V	[M]
C2862	ECJ1VC1H101K	100P 50V	[M]
C2863	ECJ1VC1H101K	100P 50V	[M]
C2864	ECJ1VC1H101K	100P 50V	[M]
C2865	ECJ1VC1H101K	100P 50V	[M]
C2866	ECJ1VC1H101K	100P 50V	[M]
C2867	ECJ1VC1H101K	100P 50V	[M]
C2868	ECJ1VC1H101K	100P 50V	[M]
C2901	ECJ1VC1H101K	100P 50V	[M]
C2902	ECJ1VC1H101K	100P 50V	[M]
C2903	ECJ1VB1H104K	0.1 50V	[M]
C2904	ECJ1VC1H101K	100P 50V	[M]
C2908	ECJ1VC1H101K	100P 50V	[M]
C2909	ECJ1VC1H101K	100P 50V	[M]
C2910	ECJ1VC1H101K	100P 50V	[M]
C2911	ECA1AAK221XB	220 10V	[M]
C2912	F1H1H103A219	0.01 50V	[M]
C2913	ECA1HAK220XB	22 50V	[M]
C2914	F1H1C104A041	0.1 16V	[M]
C2915	F1H1H103A219	0.01 50V	[M]
C2916	ECJ1VC1H101K	100P 50V	[M]
C2917	F1H1H103A219	0.01 50V	[M]
C2918	F1H1H103A219	0.01 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C2919	F2A0J102A130	1000P 6.3V	[M]
C2920	F2A0J102A130	1000P 6.3V	[M]
C2922	F2A0J102A130	1000P 6.3V	[M]
C2923	F2A0J102A130	1000P 6.3V	[M]
C2924	F2A0J102A130	1000P 6.3V	[M]
C2925	F1H1C104A041	0.1 16V	[M]
C2926	ECA1HAK010XB	1 50V	[M]
C2927	ECJ1VB1C105K	1 16V	[M]
C2930	F1H1C104A041	0.1 16V	[M]
C2931	F1H1C104A041	0.1 16V	[M]
C2932	F1H1C104A041	0.1 16V	[M]
C2933	F1H1C104A041	0.1 16V	[M]
C2976	ECA1CAK100XB	10 16V	[M]
C2977	F2A0J331A015	330P 6.3V	[M]
C2981	ECA1CAK101XB	100 16V	[M]
C2982	ECA1CAM221XB	220 16V	[M]
C5101	ECA1VM472E	4700 35V	[M]
C5102	ECA2AM100B	10 100V	[M]
C5103	ECA2AM100B	10 100V	[M]
C5104	ECA1VM472E	4700 35V	[M]
C5105	ECA0JAK221XB	220 6.3V	[M]
C5106	F1K2A1040006	0.1 100V	[M]
C5107	F1K2A1040006	0.1 100V	[M]
C5109	ECA1EAM101XB	100 25V	[M]
C5110	ECA1EAM101XB	100 25V	[M]
C5111	ECA0JAK101XB	100 6.3V	[M]
C5112	ECA1EAK100XB	10 25V	[M]
C5113	ECA1HM330B	33 50V	[M]
C5121	ECA1CAK100XB	10 16V	[M]
C5123	F2A1V471A141	470P 35V	[M]
C5124	F2A1V471A141	470P 35V	[M]
C5151	ECJ1VB1H104K	0.1 50V	[M]
C5152	ECJ1VB1H104K	0.1 50V	[M]
C5153	ECJ1VB1H104K	0.1 50V	[M]
C5155	F1H1H102A219	1000P 50V	[M]
C5157	F1H1H103A219	0.01 50V	[M]
C5158	F1H1H103A219	0.01 50V	[M]
C5159	F1H1H103A219	0.01 50V	[M]
C5165	ECA1JM102E	1000 63V	[M]
C5166	ECA1JM102E	1000 63V	[M]
C5167	F1K2A1040006	0.1 100V	[M]
C5168	F1K2A1040006	0.1 100V	[M]
C5171	ECA1JM102E	1000 63V	[M]
C5172	ECA1JM102E	1000 63V	[M]
C5301	ECJ1VB1A474K	0.47 10V	[M]
C5302	F1H1H331A013	330P 50V	[M]
C5303	ECJ1VB1A474K	0.47 10V	[M]
C5305	F1H1H331A013	330P 50V	[M]
C5308	ECJ1VB1H104K	0.1 50V	[M]
C5309	ECJ1VB1H104K	0.1 50V	[M]
C5310	F1K2A1040006	0.1 100V	[M]
C5311	F1H1H221A748	220P 50V	[M]
C5312	F1K2A1040007	0.1 100V	[M]
C5313	ECJ1VB1H153K	0.015 50V	[M]
C5314	F1K2A1040006	0.1 100V	[M]
C5315	ECJ1VB1H104K	0.1 50V	[M]
C5316	ECJ1VB1H104K	0.1 50V	[M]
C5317	ECJ1VC1H101K	100P 50V	[M]
C5318	F1K2A1040006	0.1 100V	[M]
C5319	ECJ1VB1H153K	0.015 50V	[M]
C5320	F1K2A1040007	0.1 100V	[M]
C5321	F1K2A1040006	0.1 100V	[M]
C5322	ECJ1VB1H104K	0.1 50V	[M]
C5323	ECJ1VB1H104K	0.1 50V	[M]
C5324	ECQV1H684JL3	0.68 50V	[M]
C5325	ECJ1VB1H104K	0.1 50V	[M]
C5326	ERJ3GEY0R00V	0 1/16W	[M]
C5327	ECQV1H684JL3	0.68 50V	[M]
C5328	ECJ1VB1H104K	0.1 50V	[M]
C5329	ERJ3GEY0R00V	0 1/16W	[M]
C5330	F1H2A221A009	220P 100V	[M]
C5331	F1H2A221A009	220P 100V	[M]
C5332	F1H2A221A009	220P 100V	[M]
C5333	F1H2A221A009	220P 100V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C5335	ECJ1VB1H153K	0.015 50V	[M]
C5336	F1H1H102A219	1000P 50V	[M]
C5337	F1H1H102A219	1000P 50V	[M]
C5339	ECJ1VB1A474K	0.47 10V	[M]
C5340	ECJ1VB1A474K	0.47 10V	[M]
C5343	ECJ1VB1H153K	0.015 50V	[M]
C5344	F1H1H102A219	1000P 50V	[M]
C5345	F1H1H102A219	1000P 50V	[M]
C5435	ECJ1VB1H153K	0.015 50V	[M]
C5438	ECJ1VB1H153K	0.015 50V	[M]
C5551	ECQE2104KF3	0.1 250V	[M]
C5552	ECQE2104KF3	0.1 250V	[M]
C5609	F1H1H102A219	1000P 50V	[M]
C5709	ECA1CAK101XB	100 16V	[M]
C5710	F1H1H103A219	0.01 50V	[M]
C5711	ECA1CAK100XB	10 16V	[M]
C5712	F1H1H103A219	0.01 50V	[M]
C5713	ECA1CAK100XB	10 16V	[M]
C5950	F2B1E222A005	2200P 25V	[M]
C5951	F1B1H103A007	0.01 50V	[M]
C5952	ECA1AAK470XB	47 10V	[M]
C5953	F1B1H103A007	0.01 50V	[M]
C5954	F1B1H103A007	0.01 50V	[M]
C5955	ECA1HM220B	22 50V	[M]
C5956	ECA1HAM470XB	47 50V	[M]
C5957	ECA1HAK100XB	10 50V	[M]
C5958	F1B1H103A007	0.01 50V	[M]
C5959	F1B1H103A007	0.01 50V	[M]
C5960	ECQE2104KF3	0.1 250V	[M]
C5961	ECA1CAM471XB	470 16V	[M]
C5961	ECA1CAM471XB	470 16V	[M] GS
C5962	ECA1CAM471XB	470 16V	[M]
C5962	ECA1CAM471XB	470 16V	[M] GS
C5963	ECA1HAK4R7XB	4.7 50V	[M]
C5964	F1B1H103A007	0.01 50V	[M]
C5964	F1B1H103A007	0.01 50V	[M] GS
C5965	F1B1H103A007	0.01 50V	[M]
C5966	F2B1E222A005	2200P 25V	[M]
C5971	F2A1E471A205	470P 25V	[M]
C6401	ECJ1VB1H104K	0.1 50V	[M]
C6402	F1H1H103A219	0.01 50V	[M]
C6403	ECJ1VC1H101K	100P 50V	[M]
C6404	ECJ1VC1H101K	100P 50V	[M]
C6405	ECJ1VC1H101K	100P 50V	[M]
C6421	ECJ1VC1H101K	100P 50V	[M]
C6425	ECJ1VC1H101K	100P 50V	[M]
C6481	ECA0JAK470XB	47 6.3V	[M]
C6482	F1H1H102A219	1000P 50V	[M]
C6483	F1H1H103A219	0.01 50V	[M]
C6491	ECJ1VC1H101K	100P 50V	[M]
C6492	ECJ1VC1H101K	100P 50V	[M]
C6551	F1H1H103A219	0.01 50V	[M]
C6552	F1H1H103A219	0.01 50V	[M]
C6553	F1H1H103A219	0.01 50V	[M]
C6554	F1H1H103A219	0.01 50V	[M]
C6555	F1H1H103A219	0.01 50V	[M]
C6556	F1H1H103A219	0.01 50V	[M]
C6601	ECJ1VC1H101K	100P 50V	[M]
C6603	ECJ1VC1H101K	100P 50V	[M]
C6604	ECJ1VC1H101K	100P 50V	[M]
C6623	ECA1HM220B	22 50V	[M]
C6631	ECA1HM220B	22 50V	[M]
C6632	ECA1HM220B	22 50V	[M]
C6635	ECA1HM220B	22 50V	[M]
C6636	ECJ1VC1H101K	100P 50V	[M]
C8001	F2G0G331A012	330P 4V	[M]
C8003	ECJ0EF1C104Z	0.1 16V	[M]
C8004	ECJ0EF1C104Z	0.1 16V	[M]
C8005	ECJ0EF1C104Z	0.1 16V	[M]
C8006	ECJ0EF1C104Z	0.1 16V	[M]
C8007	ECJ0EF1C104Z	0.1 16V	[M]
C8008	ECJ0EF1C104Z	0.1 16V	[M]
C8011	F2G0J101A066	100P 6.3V	[M]
C8012	ECJ0EF1C104Z	0.1 16V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C8013	ECJ0EF1C104Z	0.1 16V	[M]
C8014	ECJ0EF1C104Z	0.1 16V	[M]
C8015	ECJ0EF1C104Z	0.1 16V	[M]
C8016	ECJ0EF1C104Z	0.1 16V	[M]
C8017	ECJ0EF1C104Z	0.1 16V	[M]
C8018	ECJ0EF1C104Z	0.1 16V	[M]
C8019	ECJ0EF1C104Z	0.1 16V	[M]
C8020	ECJ0EF1C104Z	0.1 16V	[M]
C8021	ECJ0EF1C104Z	0.1 16V	[M]
C8022	ECJ0EF1C104Z	0.1 16V	[M]
C8023	ECJ0EF1C104Z	0.1 16V	[M]
C8024	ECJ0EF1C104Z	0.1 16V	[M]
C8025	ECJ0EF1C104Z	0.1 16V	[M]
C8026	ECJ0EF1C104Z	0.1 16V	[M]
C8051	ECJ1VB0J105K	1 6.3V	[M]
C8052	ECJ0EB1A104K	0.1 10V	[M]
C8053	ECJ0EF1C104Z	0.1 16V	[M]
C8054	ECJ0EC1H221J	220P 50V	[M]
C8055	ECJ1VB0J105K	1 6.3V	[M]
C8056	ECJ0EB1E222K	2200P 25V	[M]
C8057	ECJ1VB0J105K	1 6.3V	[M]
C8111	ECJ0EB1A104K	0.1 10V	[M]
C8112	ECJ1VB0J105K	1 6.3V	[M]
C8113	ECJ0EB1E471K	470P 25V	[M]
C8151	ECJ1VB0J475K	4.7 6.3V	[M]
C8152	ECJ1VB1C105K	1 16V	[M]
C8201	F2G0J101A066	100P 6.3V	[M]
C8202	ECJ0EB1A104K	0.1 10V	[M]
C8203	ECJ0EB1A104K	0.1 10V	[M]
C8211	ECJ0EB1E122K	1200P 25V	[M]
C8221	ECJ0EB1E102K	1000P 25V	[M]
C8222	ECJ0EB1E821K	820P 25V	[M]
C8225	ECJ0EB1E102K	1000P 25V	[M]
C8226	ECJ0EB1E102K	1000P 25V	[M]
C8231	ECJ0EB1A104K	0.1 10V	[M]
C8232	ECJ0EB1A104K	0.1 10V	[M]
C8251	F2G0J221A065	220P 6.3V	[M]
C8252	ECJ0EF1C104Z	0.1 16V	[M]
C8253	ECJ0EF1C104Z	0.1 16V	[M]
C8255	F2G1C220A037	22P 16V	[M]
C8256	ECJ0EF1C104Z	0.1 16V	[M]
C8257	F2G1C470A076	47P 16V	[M]
C8258	ECJ0EF1C104Z	0.1 16V	[M]
C8261	ECJ0EF1C104Z	0.1 16V	[M]
C8262	ECJ0EF1C104Z	0.1 16V	[M]
C8301	F2G0J221A031	220P 6.3V	[M]
C8302	F2G0J330A031	33P 6.3V	[M]
C8303	ECJ0EB1A104K	0.1 10V	[M]
C8304	ECJ0EB1A104K	0.1 10V	[M]
C8305	ECJ0EB1A104K	0.1 10V	[M]
C8306	ECJ0EB1A104K	0.1 10V	[M]
C8311	ECJ0EB1A104K	0.1 10V	[M]
C8312	ECJ1VB0J105K	1 6.3V	[M]
C8313	ECJ1VB0J105K	1 6.3V	[M]
C8401	ECJ0EC1H150J	15P 50V	[M]
C8421	F2G0J101A083	100P 6.3V	[M]
C8422	ECJ0EF1C104Z	0.1 16V	[M]
C8423	F2G0J330A083	33P 6.3V	[M]
C8424	ECJ0EF1C104Z	0.1 16V	[M]
C8501	F2G0J101A031	100P 6.3V	[M]
C8502	ECJ0EF1C104Z	0.1 16V	[M]
C8503	ECJ0EF1C104Z	0.1 16V	[M]
C8504	ECJ0EF1C104Z	0.1 16V	[M]
C8505	ECJ0EF1C104Z	0.1 16V	[M]
C8511	ECJ1VB0J105K	1 6.3V	[M]
C8512	ECJ1VB0J105K	1 6.3V	[M]
C8513	ECJ0EB1A104K	0.1 10V	[M]
C8514	ECJ0EB1A104K	0.1 10V	[M]
C8515	ECJ0EB1A104K	0.1 10V	[M]
C8516	ECJ0EB1A104K	0.1 10V	[M]
C8521	ECJ0EB1A104K	0.1 10V	[M]
C8522	ECJ0EB1A104K	0.1 10V	[M]
C8523	ECJ0EF1C104Z	0.1 16V	[M]
C8524	ECJ0EF1C104Z	0.1 16V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C8525	ECJ0EB1C562K	5600P 16V	[M]
C8526	ECJ0EB1C183K	0.018 16V	[M]
C8527	ECJ0EB1A333K	0.033 10V	[M]
C8528	ECJ1VB0J105K	1 6.3V	[M]
C8529	ECJ1VB0J105K	1 6.3V	[M]
C8530	ECJ0EF1C104Z	0.1 16V	[M]
C8531	ECJ0EC1H101J	100P 50V	[M]
C8532	ECJ0EC1H221J	220P 50V	[M]
C8533	ECJ0EF1C104Z	0.1 16V	[M]
C8541	ECJ0EB1E472K	4700P 25V	[M]
C8550	F2G0J330A031	33P 6.3V	[M]
C8551	ECJ0EF1C104Z	0.1 16V	[M]
C8552	F2G1C100A072	10P 16V	[M]
C8553	F2G0J470A031	47P 6.3V	[M]
C8554	ECJ1VB0J105K	1 6.3V	[M]
C8561	ECJ0EF1C104Z	0.1 16V	[M]
C8562	F2G1C100A072	10P 16V	[M]
C8563	F2G0J470A031	47P 6.3V	[M]
C8564	ECJ1VB0J105K	1 6.3V	[M]
C8571	F1K1A1060017	10 10V	[M]
C8572	ECJ0EF1C104Z	0.1 16V	[M]
C8601	ECJ0EF1C104Z	0.1 16V	[M]
C8602	ECJ0EB1C153K	0.015 16V	[M]
C8606	ECJ0EF1C104Z	0.1 16V	[M]
C8611	ECJ0EF1C104Z	0.1 16V	[M]
C8621	ECJ0EC1H120J	12P 50V	[M]
C8622	ECJ0EC1H120J	12P 50V	[M]
C8651	ECJ0EF1C104Z	0.1 16V	[M]
C8652	ECJ0EF1C104Z	0.1 16V	[M]
C8691	ECJ0EF1C104Z	0.1 16V	[M]
C8695	ECJ0EF1C104Z	0.1 16V	[M]