

Service Manual

CD Stereo System

COMPACT
disc
DIGITAL AUDIO



Remote SB-AK640 SA-AK640 SB-WAK640 SB-AK640
Control

SA-AK640E
SA-AK640EB
SA-AK640EG

Colour

(S)... Silver Type

Notes: This model's CD mechanism changer unit is CRS1. Please refer to the original Service Manual (Order No. MD0509368C0) for this mechanism.

Specifications

■ AMPLIFIER SECTION

RMS output power	90 W per channel (3 Ω)
THD 10%, 1 kHz (Low channel-both channels driven)	
10 kHz (High channel-both channels driven)	90 W per channel (3 Ω)
60 Hz (Subwoofer channel)	180 W (8 Ω)
Total output power	540 W

■ FM/AM TUNER, TERMINALS SECTION

Preset station	FM 15 stations AM 15 stations
Frequency Modulation (FM)	
Frequency range	87.50 to 108.00 MHz (50 kHz steps)
Sensitivity	4.0 μV (IHF)
S/N 26dB	2.2 μV
Antenna terminal(s)	75 Ω (unbalanced)
Amplitude Modulation (AM)	
Frequency range	522 to 1629 kHz (9 kHz step)
Sensitivity	
S/N 20dB (at 999 kHz)	560 μV/m

Music Port input jack	
Terminal	Stereo, 3.5 mm jack
Sensitivity	100 mV, 4.7 kΩ
Phone jack	
Terminal	Stereo, 3.5 mm jack

■ 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 to 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

■ DISC SECTION

Disc played [8 cm or 12 cm]	
(1) CD-Audio (CD-DA)	
(2) CD-R/RW (CD-DA, MP3, WMA formatted disc)	
(3) MP3/WMA	

Panasonic

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Bit rate	
MP3, WMA	32 kbps to 320 kbps
Sampling frequency	
MP3/WMA	32 kHz, 44.1 kHz, 48 kHz
CD-DA	44.1 kHz
Decoding	16 bit linear
Digital filter	8 fs
D/A converter	MASH (1 bit DAC)
Pick up	
Wavelength	780 nm
Beam Source	Semiconductor laser
Audio output (Disc)	
Number of channels	2 (Stereo) (FL,FR)
n GENERAL	
Power supply	
For E/EG only	AC 230 V, 50Hz
For EB only	AC 230 to 240 V, 50Hz
Power consumption	128 W
Power consumption in standby mode	0.5 W
Dimensions (W x H x D)	250 x 330 x 343 mm

Mass	7.1 kg
Operating temperature range	+5 to +35°C
Operating humidity range	5 to 90% RH (no condensation)

n SYSTEM

SC-AK640 (E)	Music center: SA-AK640 (E) Speaker: SB-AK640 (EG) Subwoofer: SB-WAK640 (EG)
SC-AK640 (EB)	Music center: SA-AK640 (EB) Speaker: SB-AK640 (EG) Subwoofer: SB-WAK640 (EG)
SC-AK640 (EG)	Music center: SA-AK640 (EG) Speaker: SB-AK640 (EG) Subwoofer: SB-WAK640 (EG)

For information on speaker system, please refer to the original Service Manual (Order No. MD0601006C2) for SB-AK640EG and (Order No. MD0601007C2) for SB-WAK640EG.

Notes:

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

 **WARNING**

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

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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, ensure that all the protective devices such as insulation barriers and insulation papers shields are properly installed.
3. After servicing, check for leakage current checks to prevent 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. Using an ohmmeter measure the resistance value, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between $1M\Omega$ and $5.2M\Omega$.
When the exposed metal does not have a return path to the chassis, the reading must be ∞ .

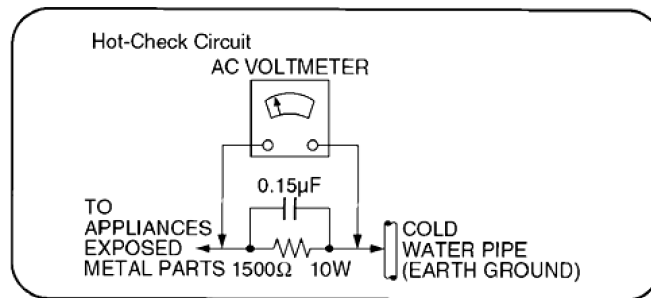


Fig. 1

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. Should the 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. Caution for AC Mains Lead



(For “EB” area code model only.)

For your safety, please read the following text carefully.

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

A 5-ampere fuse is fitted in this plug.

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

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

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

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

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

CAUTION!

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OFF SAFELY.

THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

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

If in any doubt please consult a qualified electrician.

IMPORTANT

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

Blue: Neutral

Brown: Live

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

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

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

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

THIS PLUG IS NOT WATERPROOF—KEEP DRY.

1.3. Before repair and adjustment

Disconnect AC power, discharge Power Capacitors C5101, C5104, C5171, C5172, C5920, C5940 and C5950 through a 10Ω, 5W

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.

Figure A

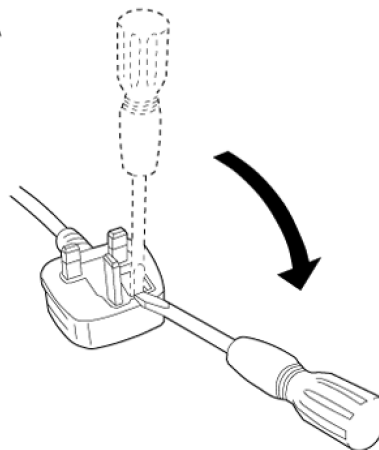
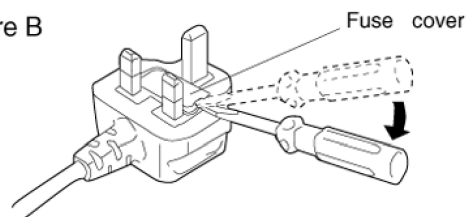


Figure B



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

Figure A

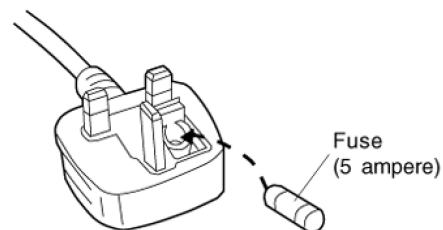
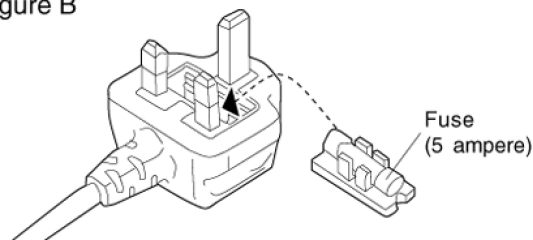


Figure B



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 240V, 50 Hz in NO SIGNAL mode (volume min at CD mode) should be ~ 350mA.

1.4. 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.

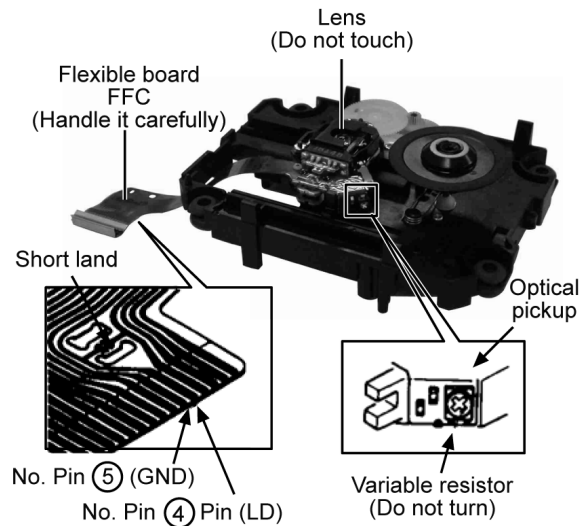
3 Handling Precautions For Traverse Deck

The laser diode in the traverse deck (optical pickup) may break down due to potential difference caused by the static electricity of clothes or our human body.

So, be careful of electrostatic breakdown during repair of the traverse deck (optical pickup).

· Way of handling the traverse deck (optical pickup)

1. Do not subject the traverse deck (optical pickup) to static electricity as it is extremely sensitive to electrical shock.
2. To prevent the breakdown of the laser diode, an antistatic shorting pin is inserted into the flexible board (FFC board).
3. Do not to apply excessive stress to the flexible board (FFC board). When removing or connecting the short pin, finish the job in as short time as possible.
4. Do not turn the variable resistor for laser power adjustment. (It is pre-adjusted during production time)



Grounding for electrostatic breakdown prevention

1. Human body grounding

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

2. Work table grounding

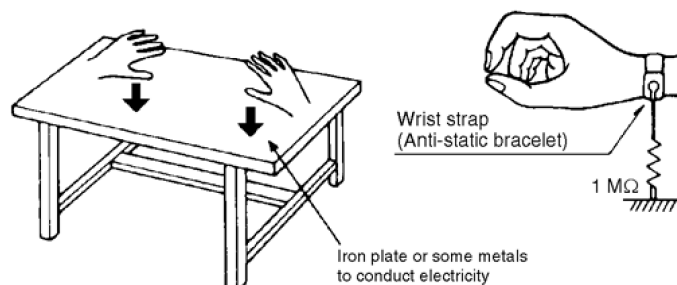
Put a conductive material (sheet) or steel sheet on the area where the traverse deck (optical pickup) is place, and ground the sheet.

Caution :

The static electricity of your clothes will not be grounded through the wrist strap. So, take care not to let your clothes touch the traverse deck (optical pickup).

Caution when replacing the Traverse Deck

The traverse deck has a short point shorted with solder to protect the laser diode against electrostatics breakdown. Be sure to remove the solder from the short point before making connections.



4 Precaution of Laser Diode

Caution :

This product utilizes a laser diode with the unit turned "ON", invisible laser radiation is emitted from the pick up lens.

Wavelength : 780 nm

Maximum output radiation power from pick up : 100 μ W/VDE

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

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

ACHTUNG :

Dieses Produkt enthält eine Laserdiode. Im eingeschalteten Zustand wird unsichtbare Laserstrahlung von der Lasereinheit abgestrahlt.

Wellenlänge : 780nm

Maximale Strahlungsleistung der Lasereinheit :100 μ W/VDE

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

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

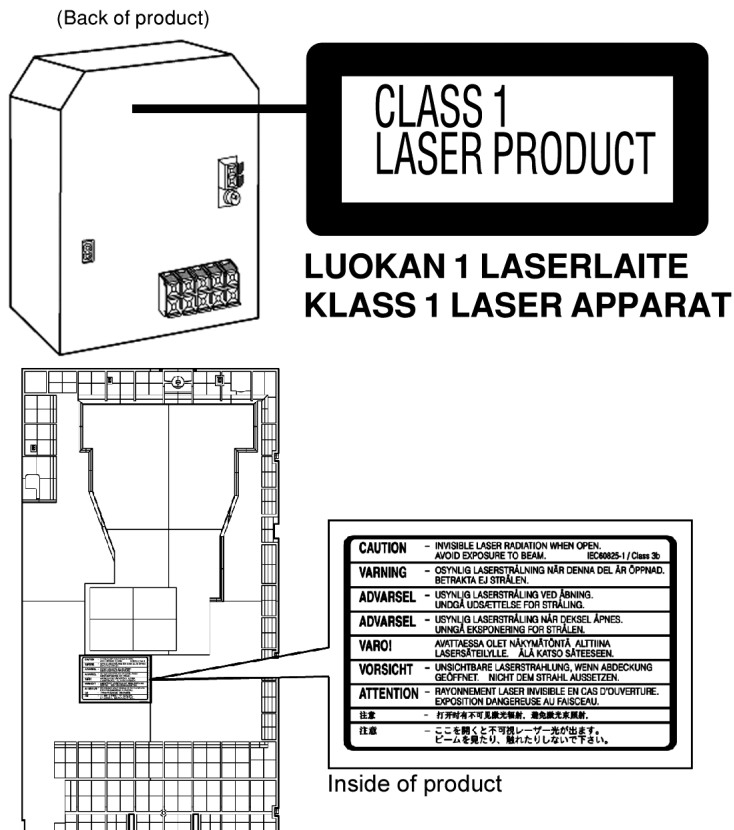
ADVARSEL: I dette a apparat anvendes laser.

CAUTION!

THIS PRODUCT UTILIZES A LASER.

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

n Use of caution label



5 Handling the Lead-free Solder

5.1. About lead free solder (PbF)

Distinction of PbF P.C.B.:

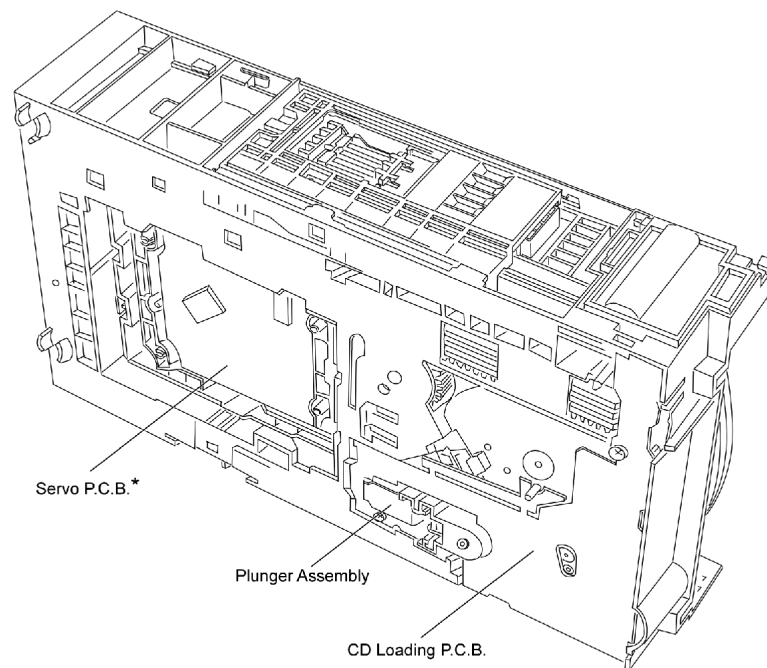
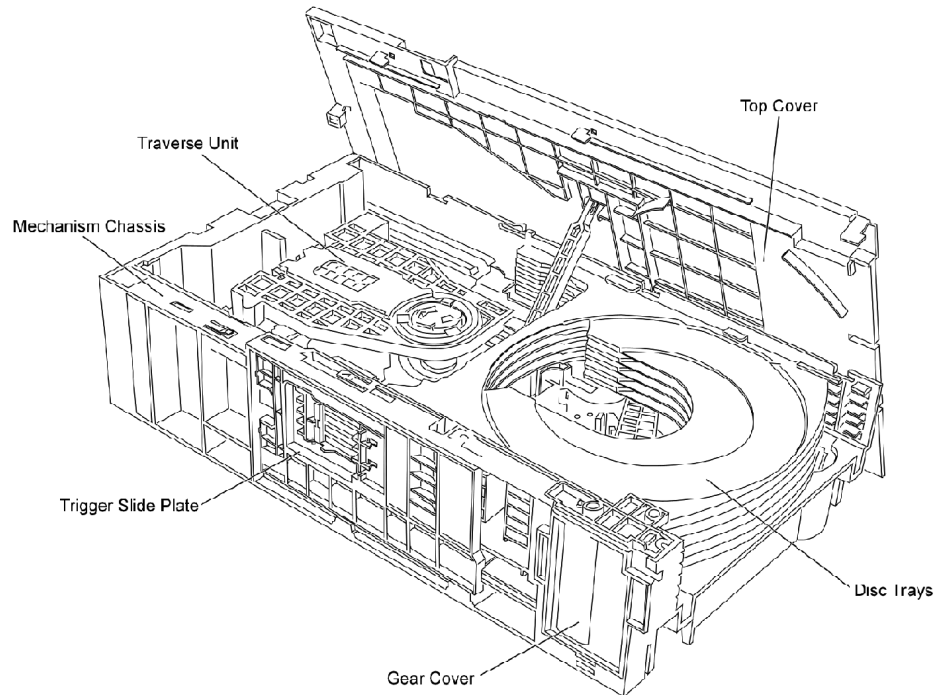
P.C.B.s (manufactured) using lead free solder will have a PbF stamp on the P.C.B.

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).
- Pb free solder will tend to splash when heated too high (about 1100°F/600°C).
- When soldering or unsoldering, please completely remove all of the solder on the pins or solder area, and be sure to heat the soldering points with the Pb free solder until it melts enough.

6 New Features

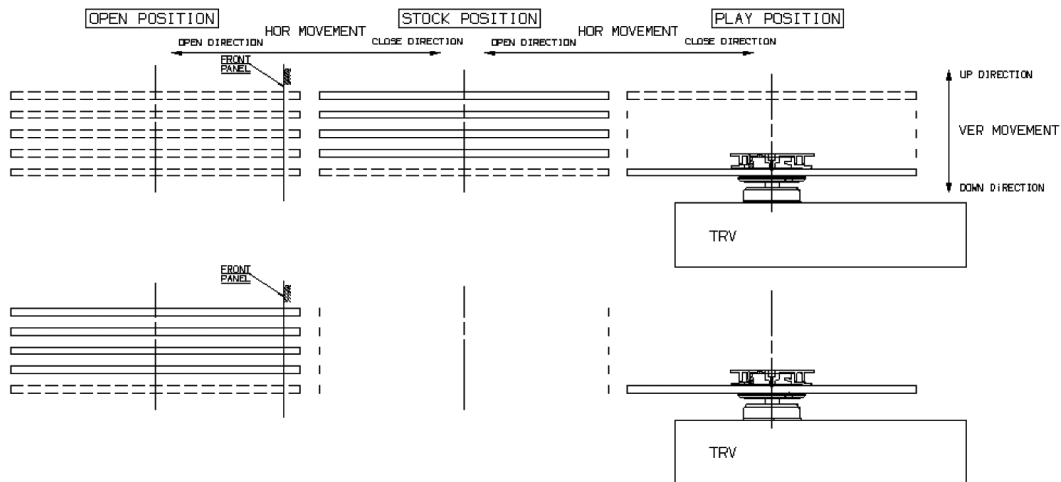
6.1. CRS1 Mechanism Overview



* Illustration for CD Servo P.C.B. (Applied models: SA-AK240/340/640 series)

6.1.1. 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.

6.1.2. 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

6.1.3. Mechanism Operation

- This mechanism has the following state:
 1. Driving of a tray to open/close
 2. 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.
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)

6.1.4. New CD Mechanism (CRS1)

Note:

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

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

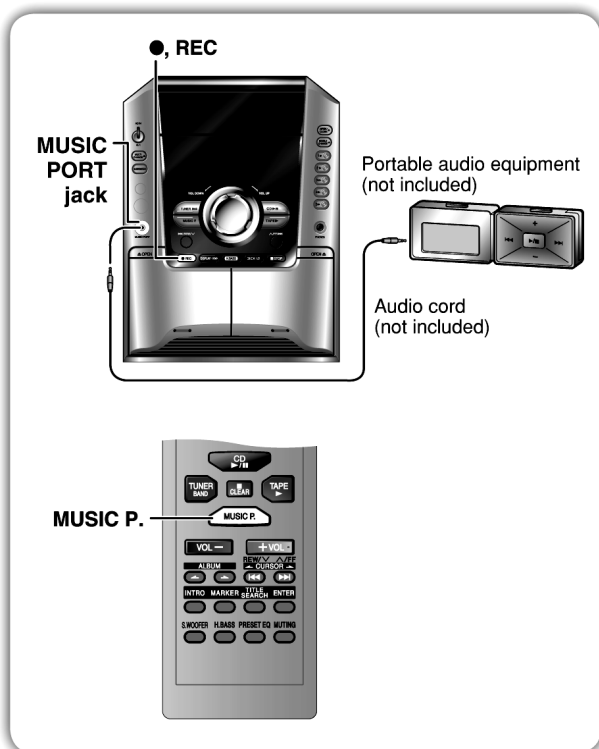
Please refer to the original service manual (Order No. MD0509368C0) for the CD Mechanism Drive CRS1.

6.2. Music Port

External unit

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 [MUSIC P.].
- 2** Play the portable audio equipment. (See the portable audio equipment's instruction manual.)

Recording from a portable audio equipment

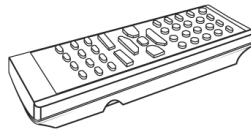
- 1** Press [MUSIC P.].
- 2** Play the portable audio equipment.
- 3** Press [●, REC] on the main unit to start recording.

Note:

All peripheral components and cables are sold separately.

With reference to page 16 of the operating instruction manual.

7 Accessories



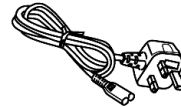
Remote Control



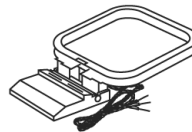
FM Antenna Wire



AC Cord (For E/EG
only)



AC Cord (For EB
only)



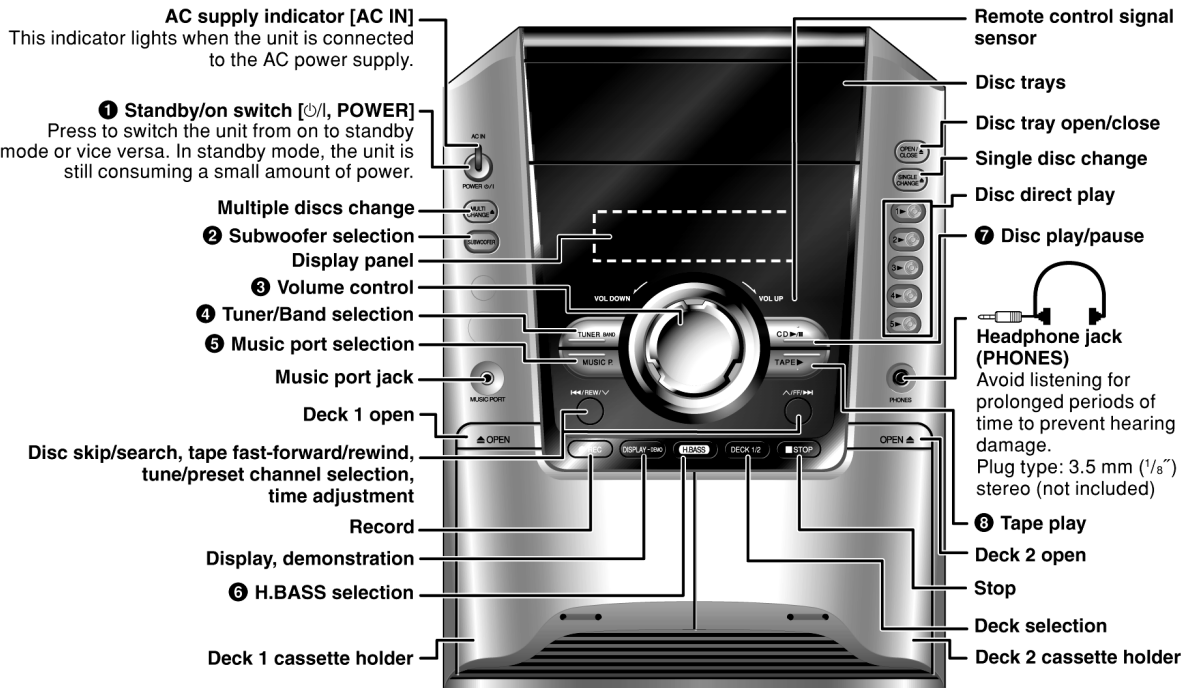
AM Loop Antenna



Antenna
Adaptor
(For EB
only)

8 Operating Instructions Procedures

Main unit

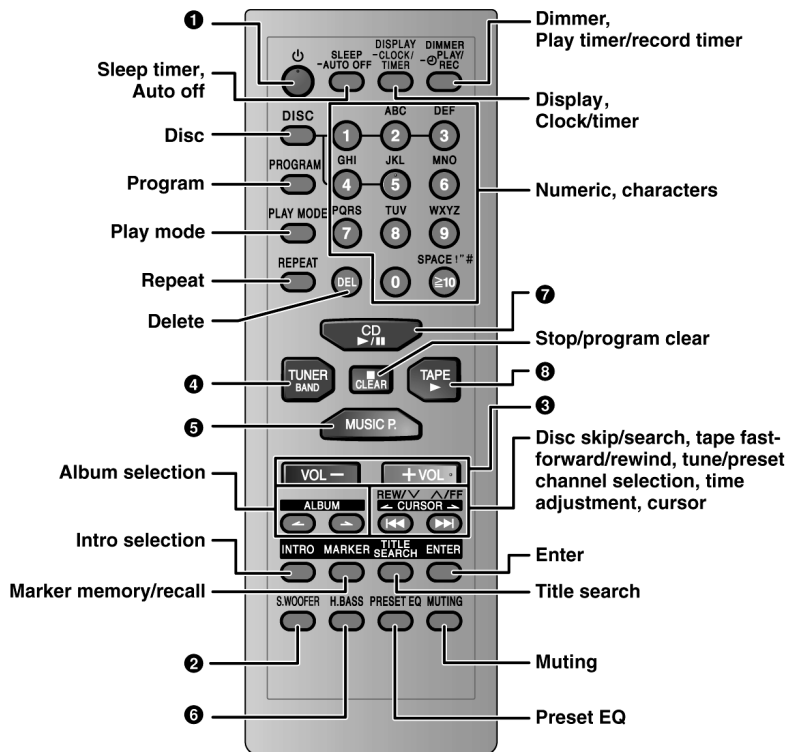


DISPLAY - DEMO

To select the desired display during play mode.
Each time you press the button: Normal → Reflection → (off)

Remote control

Buttons such as 1 function the same as the controls on the main unit.



SLEEP -AUTO OFF

This auto off function allows you to turn off the unit in **disc or tape** mode only after left unused for 10 minutes.

- Press and hold [-AUTO OFF] to activate the function.
- Press and hold [-AUTO OFF] again to cancel.
- The setting is maintained even if the unit is turned off.

DIMMER -PLAY/REC

To dim the display panel.

MUTING

To mute the sound.

- Press the button to activate.
- Press again to cancel.

NOTE on CDs

- This unit can access up to 99 tracks.
- Choose disc with this mark.



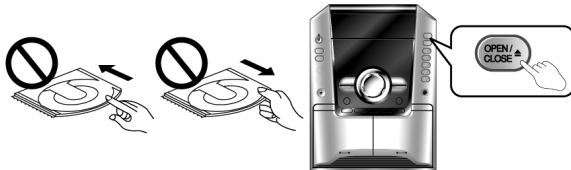
- This unit can play MP3 or WMA files and CD-DA format audio CD-R/RW that have been finalized.
- It may not be able to play some CD-R/RW due to the condition of the recording.
- Do not use irregularly shaped disc.
- Do not use disc with labels and stickers that are coming off or with adhesive exuding from under labels and stickers.
- Do not attach extra labels or stickers on the disc.
- Do not write anything on the disc.

Using DualDiscs

The "CD" sides of DualDiscs do not meet the CD-DA standard so it may not be possible to play them on this unit.

Not doing the following will cause damage to the unit.

- Press [O/I, POWER] to turn off the unit and remove the power plug only after all the displays have disappeared.



- Always press [▲, OPEN/CLOSE] to insert or remove a disc.
- Do not push or pull out the tray by hand as this will cause an accident.



- Place the disc correctly label-up as shown in the diagram.
- Insert one disc into the tray.

NOTE on MP3 or WMA

- Files are treated as tracks and folders are treated as albums.
- This unit can access up to 999 tracks, 255 albums and 20 sessions.
- Disc must conform to ISO9660 level 1 or 2 (except for extended formats).
- To play in a certain order, prefix the folder and file names with 3-digits numbers in the order you want to play them.

MP3

When "NOT MP3/ERROR1" appears on the display, an unsupported MP3 format is being played. The unit will skip that track and play the next one.

WMA

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

Limitations on MP3 or WMA play

- If you have recorded MP3 or WMA on the same disc as CD-DA, only the format recorded in the first session can be played.
- Some MP3 or WMA may not be played due to the condition of the disc or recording.
- Due to differences and variations of WMA tags, some files may not play or display the tags' information properly.
- Recordings will not necessarily be played in the order you recorded them.

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

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

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

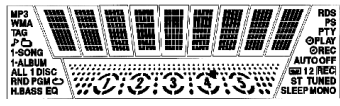


9 Self diagnosis and special mode setting

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

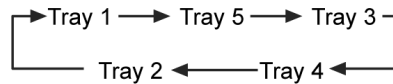
9.1. Special Mode Table

Item		FL Display	Key Operation
Mode Name	Description		
Self -Diagnostic Mode	To enter into self diagnostic checking for main unit.		1. Select [▶, TAPE] for TAPE mode (Ensure no tape is inserted). 2. Press and hold [■, STOP] button for 3 seconds follow by [▶▶, ^/FF]. To exit, press [⓪/I, POWER] button on main unit or remote control.
CD Test Mode	To enter into checking the reliability of changer unit.		1. Select [▶▶/II, CD] for CD mode. 2. Press and hold [■, STOP] button for 3 seconds follow by [▶▶, ^/FF]. To exit, press [⓪/I, POWER] button on main unit or remote control.
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 [⓪/I, POWER] button on main unit or remote control.
CD Changer Reliability Test (CRS1)	To determine the reliability of CD Changer Unit. (For more information, refer to section 9.1.1)		In Self-Diagnostic Mode: 1. Select [▶▶/II, CD] for CD mode. 2. Press [◀◀, REW/∨] button. To exit, press [⓪/I, POWER] 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 [⓪/I, POWER] button on main unit or remote control.
Cold Start	To activate cold start upon next AC power up.		In doctor mode: 1. Press [4] button on remote control. To exit, press [ENTER] button on remote control or [⓪/I, POWER] button on main unit or remote control.
Changer Reliability Test	To check the function operation of changer unit. (For more information, refer to 9.1.1)		In doctor mode: 1. Press [DISC] on remote control. To exit, press [ENTER] button on remote control or [⓪/I, POWER] button on main unit or remote control.

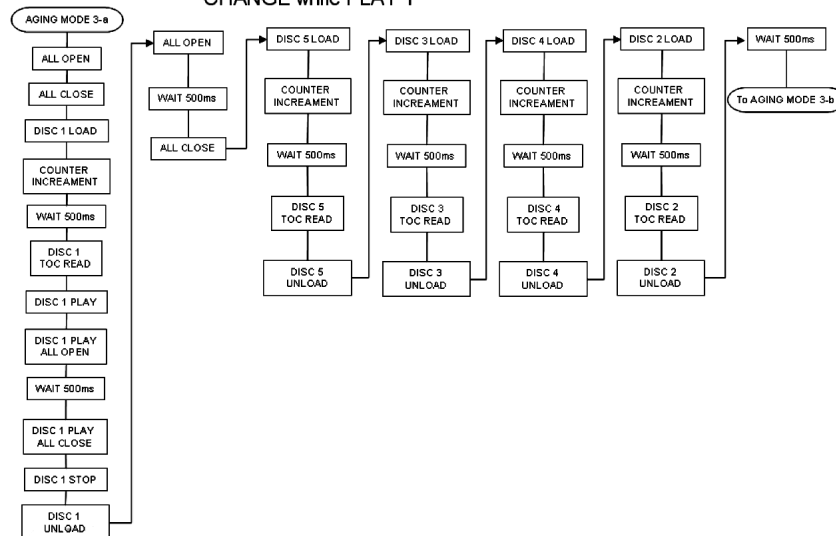
Item		FL Display	Key Operation
Mode Name	Description		Front Key
FL Display Test	To check the FL segments display (All segments will light up and LED will blink at 0.5 second interval)		In doctor mode: 1. Press [DIMMER] button on remote control.
Tape Eject Test	To check on the tape eject function (For deck 1/2)		In doctor mode: 1. Press [PROGRAM] button on remote control.

9.1.1. CD changer unit ageing test mode

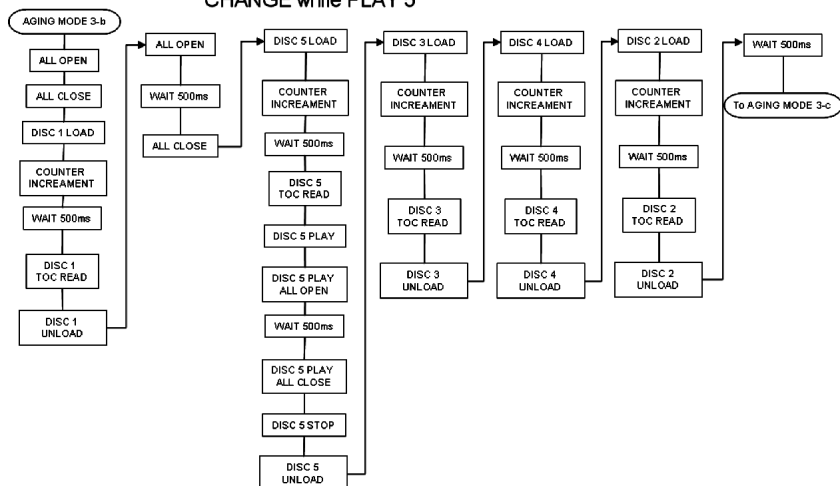
Below is the process flow chart of ageing for the CD changer unit. (CRS1)

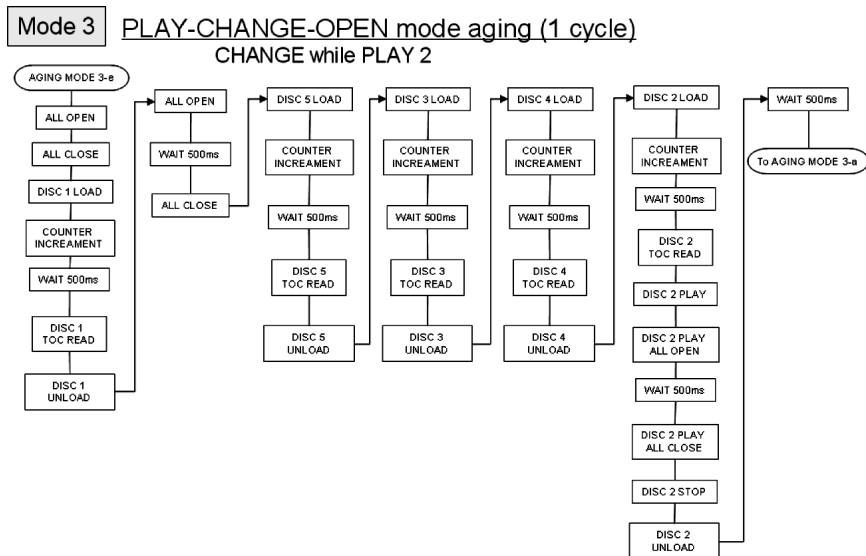
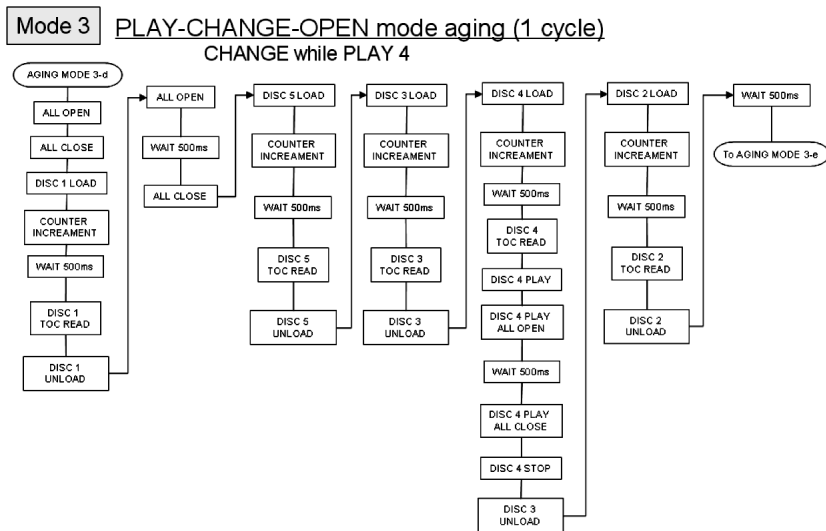
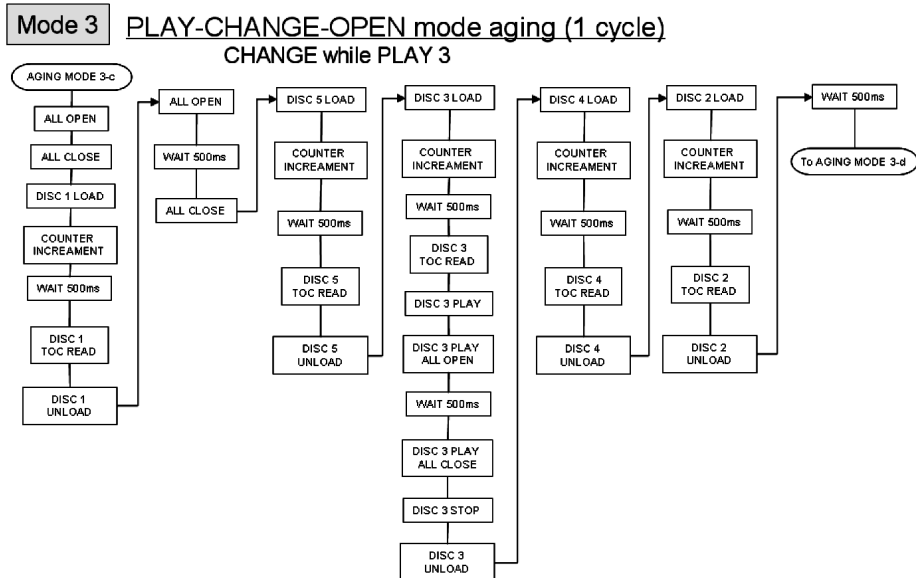


Mode 3 PLAY-CHANGE-OPEN mode aging (1 cycle) CHANGE while PLAY 1



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



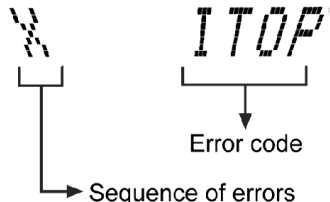
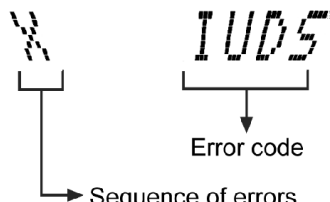
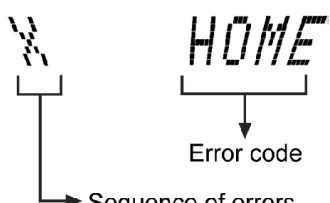
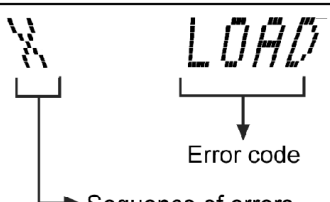
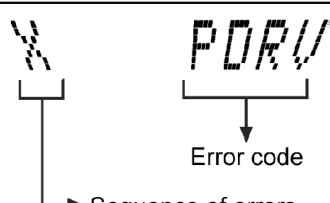



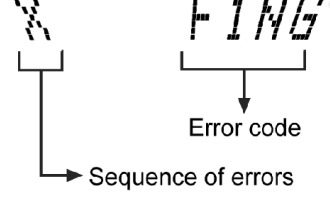
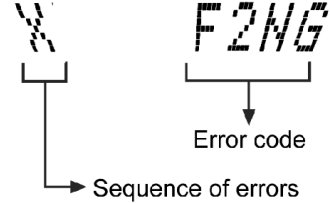


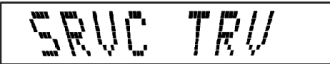
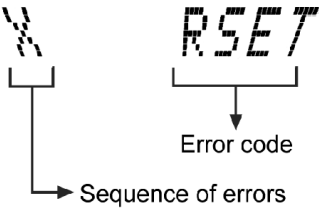
9.2. Error code Table

Self-Diagnosis Function (refer Section 9.1) 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			For deck mechanism unit (For deck 1/2). Press [■, STOP] on main unit for next error.
H02	Rec INH SW abnormal			For deck mechanism unit (For deck 2). Press [■, STOP] on main unit for next error.
H03	HALF SW abnormal			For deck mechanism unit (For deck 1/2). Press [■, STOP] on main unit for next error.
F01	Reel pulse abnormal			For deck mechanism unit (For deck 1/2). Press [■, STOP] on main unit for next error.
F02	TPS error			
F15	RESET SW abnormal	REST SW: ON is not detected within the specified time.		For CD 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.		For CD 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.		For power. Press [■, STOP] on main unit for next error.
IHMS	Cam gear abnormality	Cam gear does not rotate to "HOME" position.		For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.
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 changer unit (CRS1). 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 changer unit (CRS1). 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 changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
ITOP	UD assembly	UD Rack does not move to front direction. This lead to UD base not raise to top position.		For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.
IUD5	UD assembly	After TOP SW is detected, UD rack does not move into tray 1 position.		For CD changer unit (CRS1). 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 changer unit (CRS1). 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 changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.
PDRV	Cam gear/gear assembly abnormal	Cam gear does not move from "HOME" to "PLAY" drive position.		For CD changer unit (CRS1). 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 changer unit (CRS1). 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 changer unit (CRS1). 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 changer unit (CRS1). 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 changer unit (CRS1). 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 changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
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 changer unit (CRS1). 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 changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.

CRS1 Error Code display

1. The errors that occurred in CRS1 Mechanism can be recalled and displayed, in the order of the occurrence under self-diagnostic (Refer to Section 9.1 for procedures to enter this mode).

- Only the first 5 errors will be memorized (in backup memory). The subsequent 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 CRS1 Self-Diagnostic mode, press [SINGLE CHANGE] to display subsequent 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 CRS1 Self-Diagnostic mode, long press [SINGLE CHANGE] key (2s or more)

10 Assembling and Disassembling

10.1. Caution

Special Note:

This model uses a new CD changer unit CRS1. In this following section does not contain the necessary disassembly & assembly information for the CD changer unit (CRS1) except the disassembly & assembly of traverse unit. Kindly refer to the original service manual for the CD changer unit. (Order No. MD0509368C0).

“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 22), if necessary.

Warning :-

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

Caution:

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

Caution:

Original screws should be used.

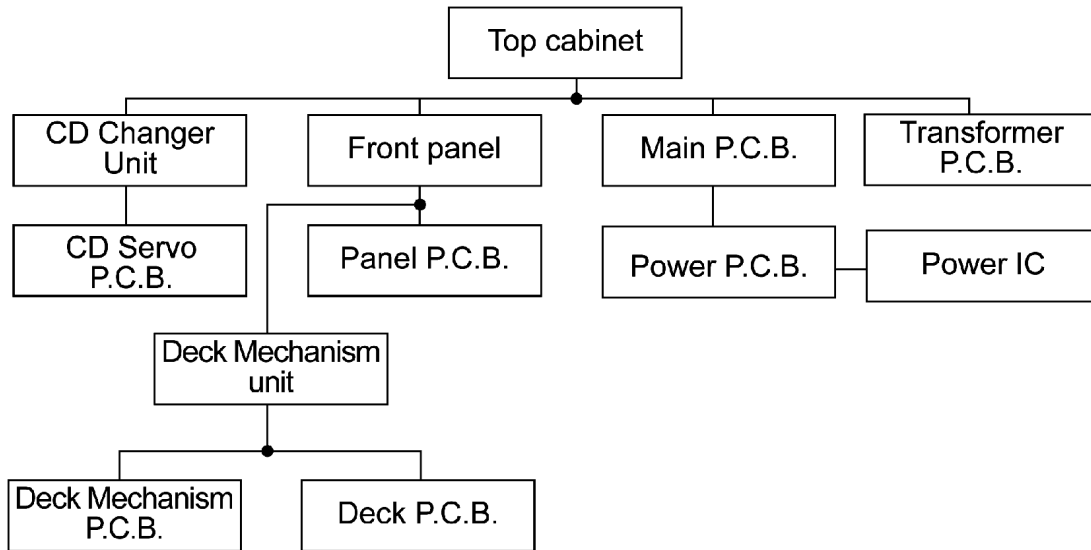
Below is the list of disassembly sections

- Disassembly of Top Cabinet
- Disassembly of Rear Panel
- Disassembly of CD 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 (CD Mechanism)
- Disassembly of Deck Mechanism
- Replacement for cassette lid
- Rectification for tape jam problem

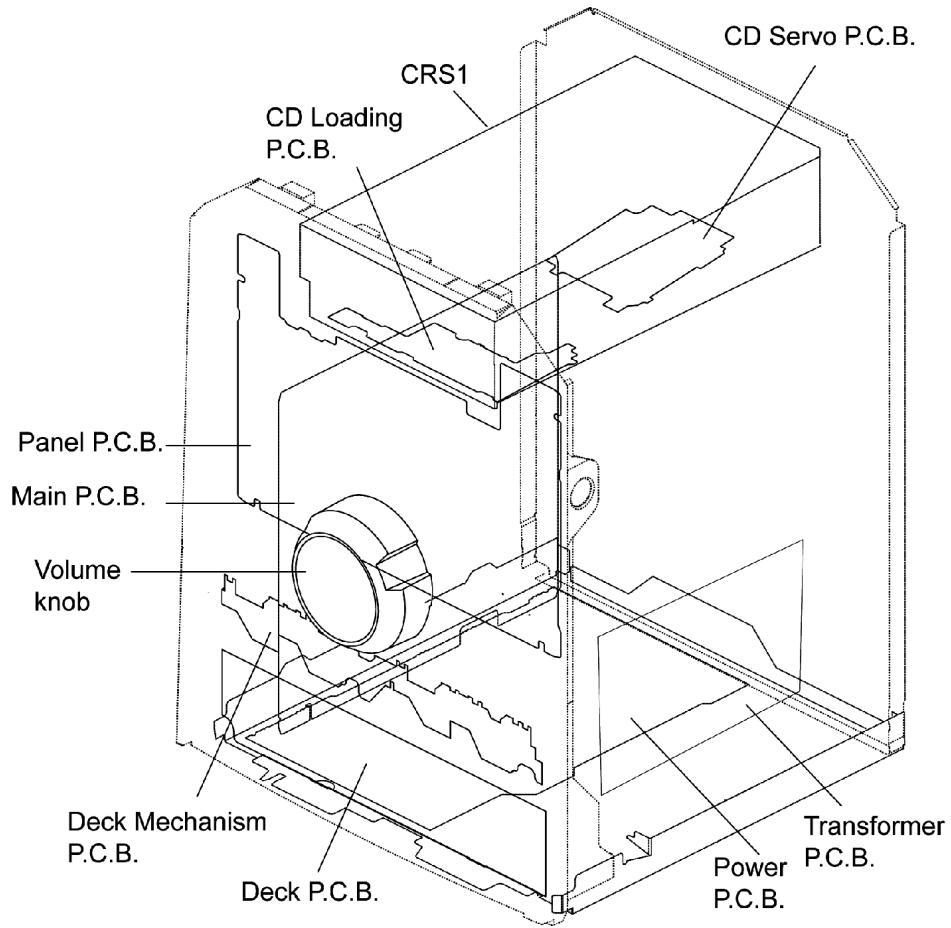
10.2. Disassembly flow chart

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.



10.3. Main Parts Location



10.4. 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.



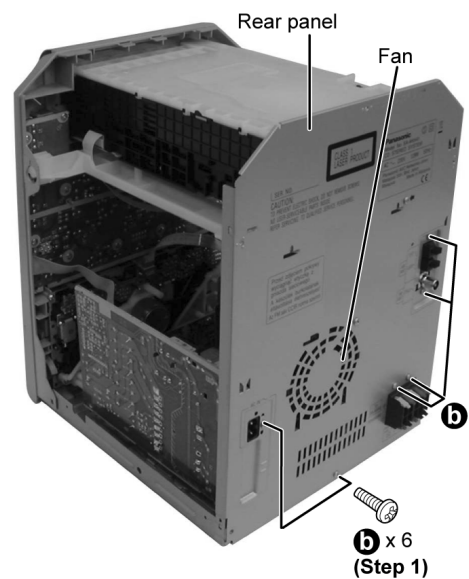
10.5. Disassembly of Rear Panel

· Follow the (Step 1) - (Step 2) of Item 10.4 - Disassembly of Top Cabinet

Step 1 Remove 6 screws.

Step 2 Disconnect cable CN2810 (Fan) at Main P.C.B..

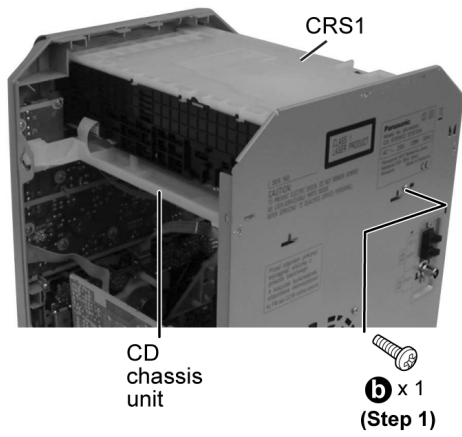
Step 3 Remove rear panel.



10.6. Disassembly of CD Changer Unit (CRS1)

· Follow the (Step 1) - (Step 2) of Item 10.4 - Disassembly of Top Cabinet

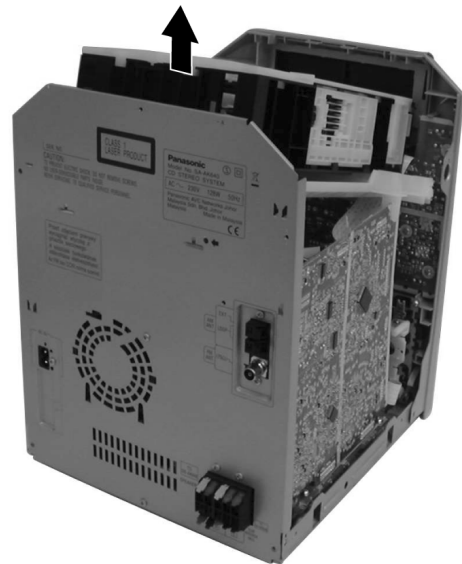
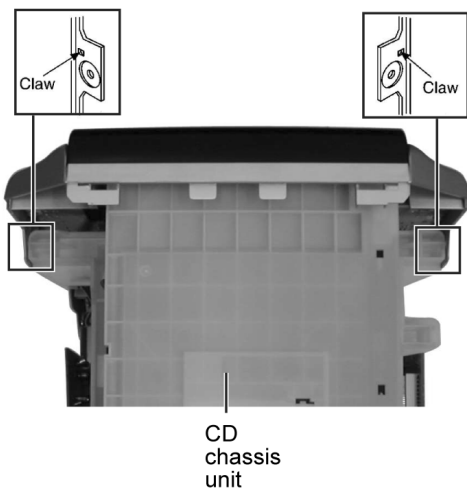
Step 1 Remove 1 screw at rear panel.



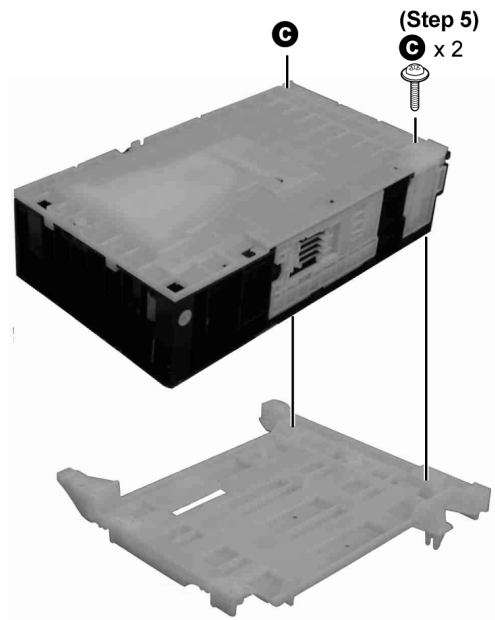
Step 2 Detach the FFC cables (CN2801 & CN2805).



Step 3 Release the claws on both ends.



Step 4 Lift the CD changer unit upwards to remove it.
 · Disassembly of Mecha Chassis



Step 5 Remove 2 screws.

Step 6 Remove the Mecha Chassis.

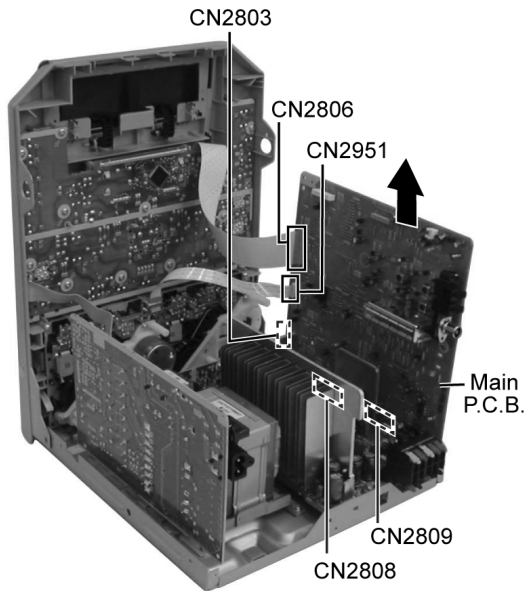
Note:

For disassembly & assembly of traverse unit, please refer to section 10.14 of this service manual. Please refer to original Service Manual for the Disassembly and Assembly of the CD Changer Unit (CRS1).

10.7. Disassembly of Main P.C.B.

- Follow the (Step 1) - (Step 2) of Item 10.4 - Disassembly of Top Cabinet
- Follow the (Step 1) - (Step 4) of Item 10.6 - Disassembly of CD Changer Unit
- Follow the (Step 1) - (Step 3) of Item 10.5 - Disassembly of Rear Panel

Step 1 Disconnect FFC cables (CN2803, CN2806 and CN2951).



Step 2 Detach connectors (CN2808 & CN2809).

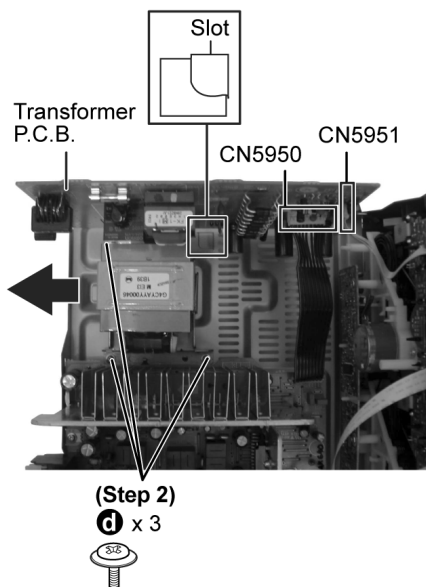
Step 3 Remove Main P.C.B..

10.8. Disassembly of Transformer P.C.B.

- Follow the (Step 1) - (Step 2) of Item 10.4 - Disassembly of Top Cabinet
- Follow the (Step 1) - (Step 3) of Item 10.5 - Disassembly of Rear Panel
- Follow the (Step 1) - (Step 4) of Item 10.6 - Disassembly of CD Changer Unit

Step 1 Disconnect connectors (CN5950 & CN5951).

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

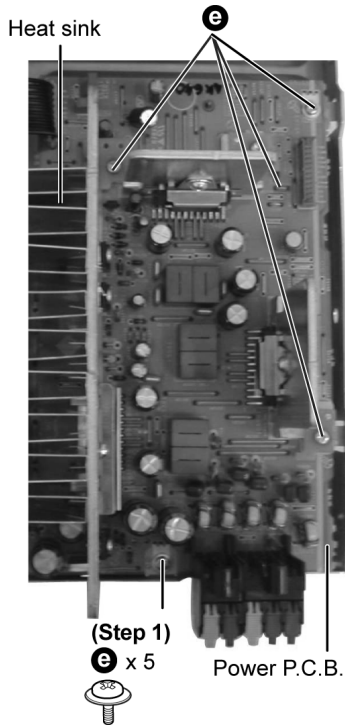


Step 3 Push the Transformer P.C.B. sideways to remove it.

10.9. Disassembly of Power P.C.B.

- Follow the (Step 1) - (Step 2) of Item 10.4 - Disassembly of Top Cabinet
- Follow the (Step 1) - (Step 4) of Item 10.6 - Disassembly of CD Changer Unit
- Follow the (Step 1) - (Step 3) of Item 10.5 - Disassembly of Rear Panel
- Follow the (Step 1) - (Step 3) of Item 10.7 - Disassembly of Main P.C.B.

Step 1 Remove the 5 screws on Power P.C.B..



Step 2 Detach cable (CN5950) remove the 5 screws on Power P.C.B..

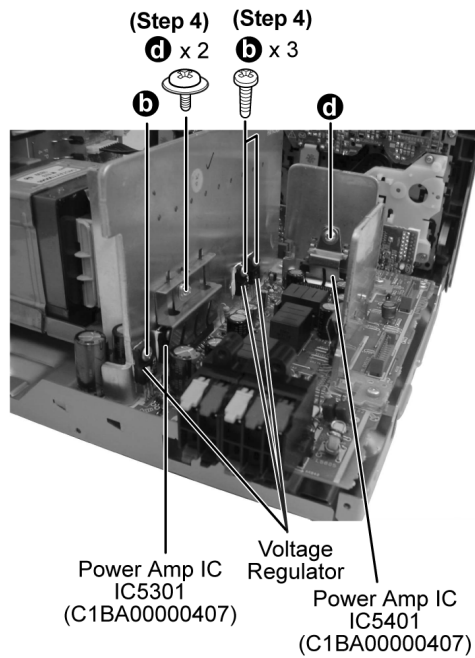
Step 3 Remove Power P.C.B..

Note:

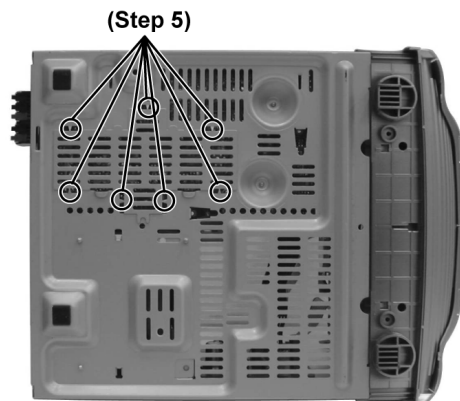
Insulate the Power P.C.B. with insulation material to avoid short circuit.

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

Step 4 Remove 2 screws at the Power Amp IC and/or 3 screws to Voltage Regulator.

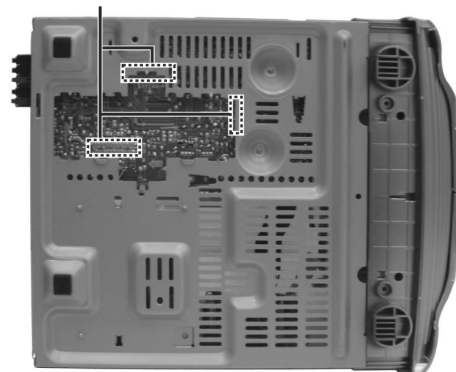


Step 5 Cut the joints with a metal cutter as shown below.

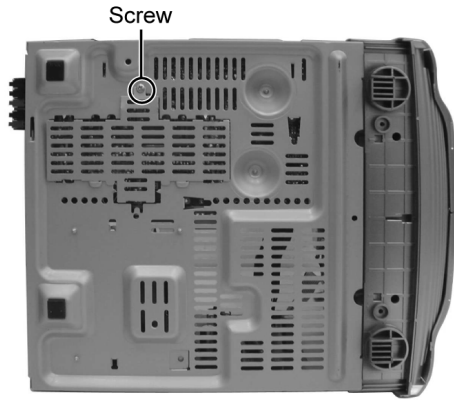


Step 6 Desolder the terminals to replace the components.

Solder terminal



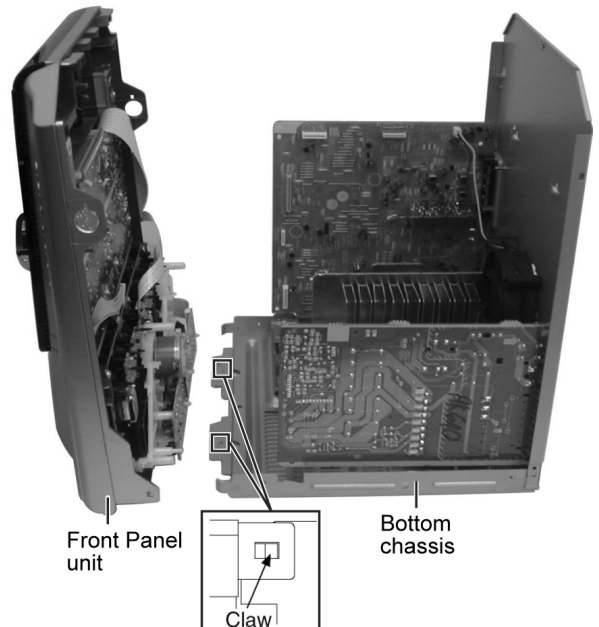
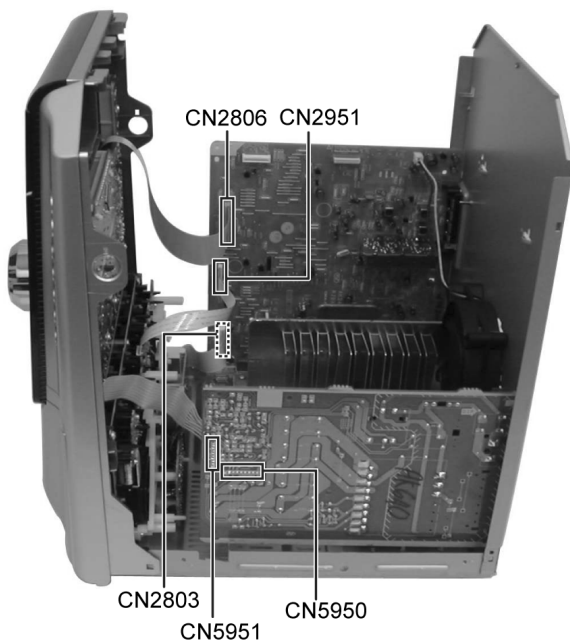
Step 7 Fix back the cut portion with a screw as shown.



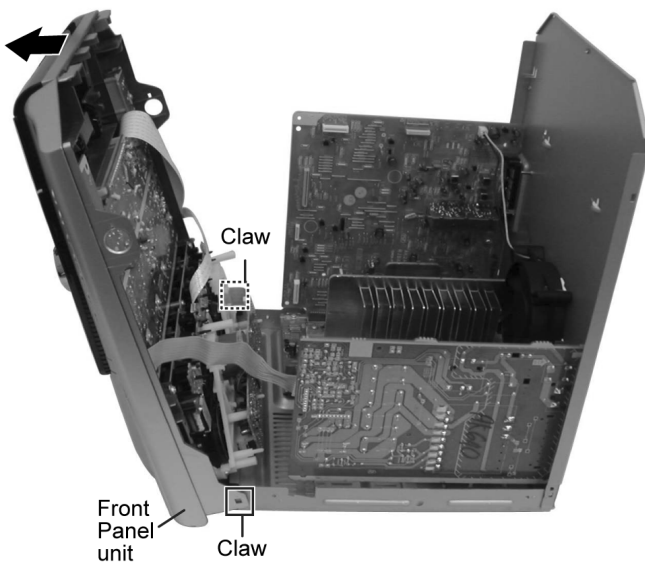
10.10. Disassembly of Front Panel Unit

- Follow the (Step 1) - (Step 2) of Item 10.4 - Disassembly of Top Cabinet
- Follow the (Step 1) - (Step 4) of Item 10.6 - Disassembly of CD Changer Unit

Step 1 Disconnect connectors (CN2803, CN2806, CN2951, CN5950 & CN5951). **Step 3** Release 2 claws outwards.



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



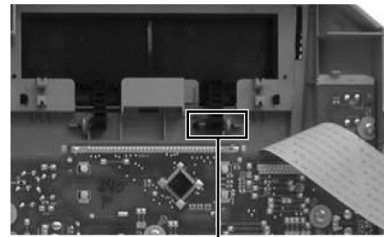
Step 4 Remove the front panel unit.

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.

10.11. Disassembly for Panel P.C.B.

- Follow the (Step 1) - (Step 2) of Item 10.4 - Disassembly of Top Cabinet
- Follow the (Step 1) - (Step 4) of Item 10.6 - Disassembly of CD Changer Unit
- Follow the (Step 1) - (Step 4) of Item 10.10 - Disassembly of Front Panel Unit

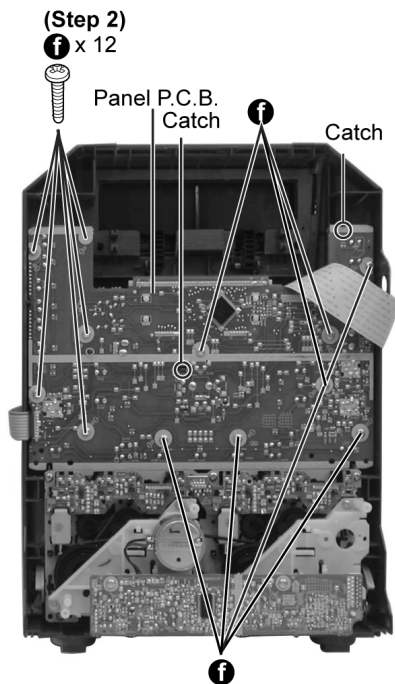
Step 1 Remove the volume knob.



Step 2 Remove Lid.

Note: Do not misplace the spring.

Step 2 Remove 12 screws.



Step 3 Release 2 catches.

Step 4 Remove Panel P.C.B..

10.11.1. Disassembly of Lid

Step 1 Lift the spring sideward.

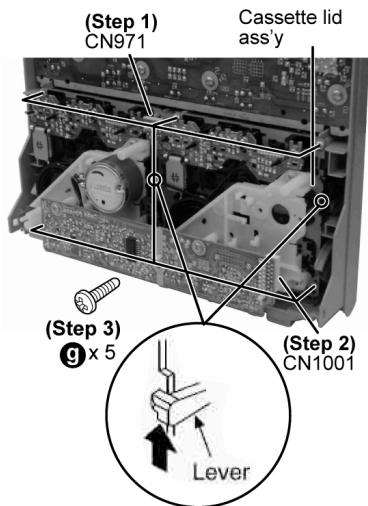
10.12. Disassembly of Deck mechanism unit

- Follow the (Step 1) - (Step 2) of Item 10.4 - Disassembly of Top Cabinet
- Follow the (Step 1) - (Step 4) of Item 10.6 - Disassembly of CD Changer Unit
- Follow the (Step 1) - (Step 4) of Item 10.10 - Disassembly of Front Panel Unit

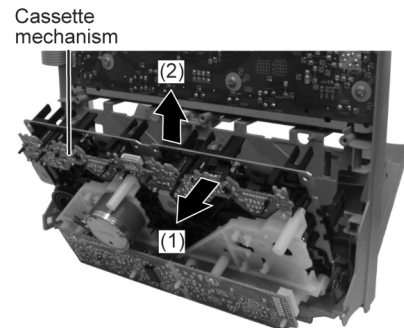
Step 1 Detach FFC cable (CN971).

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).



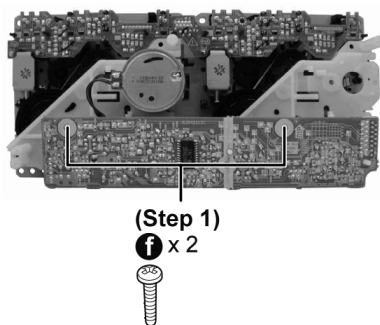
Step 5 Tilt the cassette mechanism unit in the direction of arrow (1), and then remove it in the direction of arrow (2).

Note: For disassembly of parts for deck mechanism unit, refer to Section 10.15.

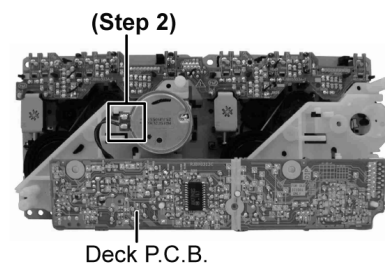
10.13. Disassembly of Deck P.C.B.

- Follow the (Step 1) - (Step 2) of Item 10.4 - Disassembly of Top Cabinet
- Follow the (Step 1) - (Step 4) of Item 10.6 - Disassembly of CD Changer Unit
- Follow the (Step 1) - (Step 4) of Item 10.10 - Disassembly of Front Panel Unit

Step 1 Remove 2 screws.



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

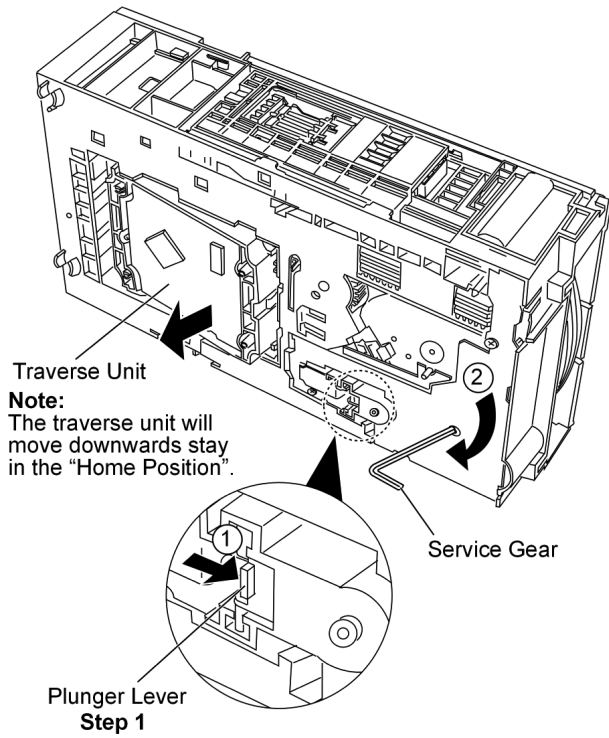


Step 3 Remove Deck P.C.B.

10.14. Disassembly of Traverse Unit

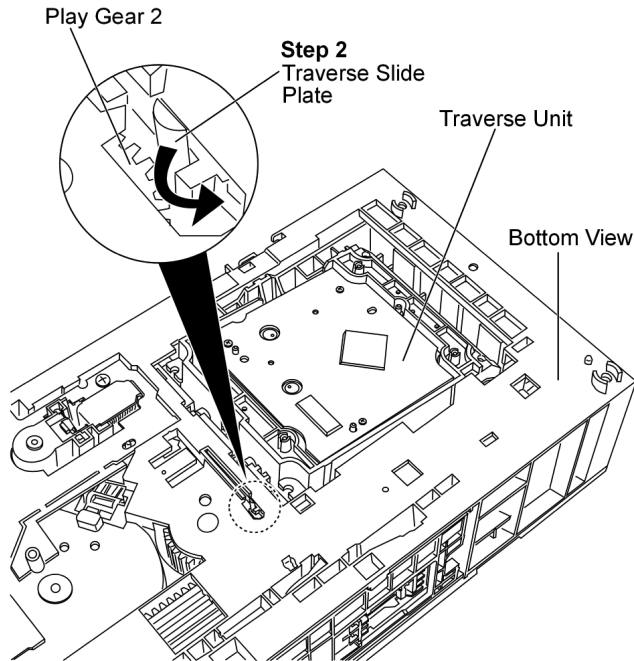
- Follow the (Step 1) - (Step 2) of Item 10.4 - Disassembly of Top Cabinet
- Follow the (Step 1) - (Step 4) of Item 10.6 - Disassembly of CD Changer Unit

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 CRS1, Section 7. Disassembling Procedure When Tray In Play Position, Order No. MD0509368C0.



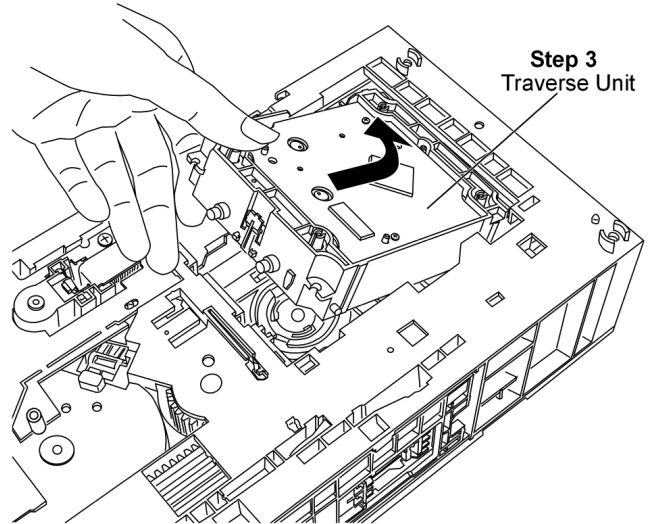
Step 1: Press and hold the plunger lever and rotate the gear as arrows shown until it stop.

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



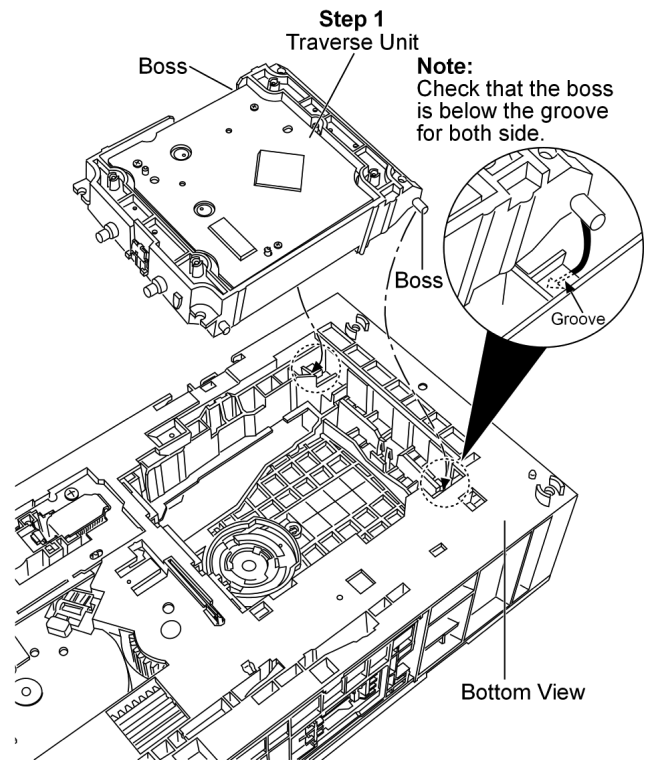
Step 2: Push the traverse slide plate as arrow shown to release the traverse unit.

Caution: Do not exert strong force on the traverse slide plate.



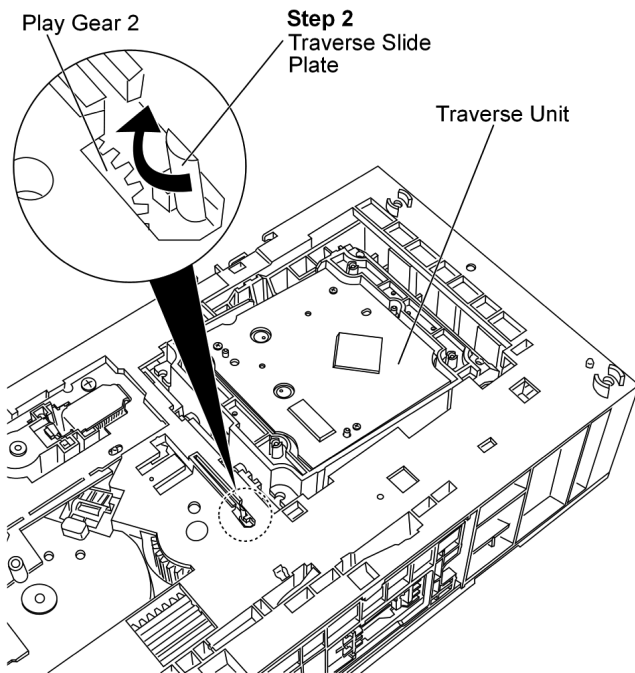
Step 3: Remove the traverse unit as arrow shown.

• Assembly of Traverse Unit



Step 1: Turn over the unit and install the traverse unit.

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

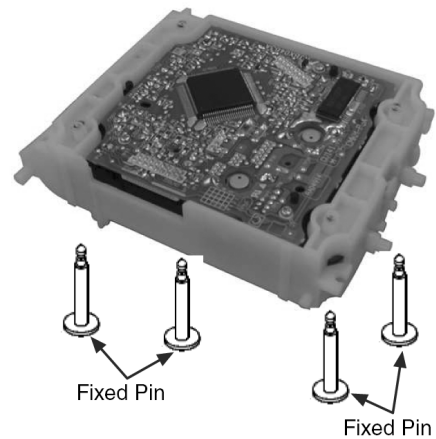
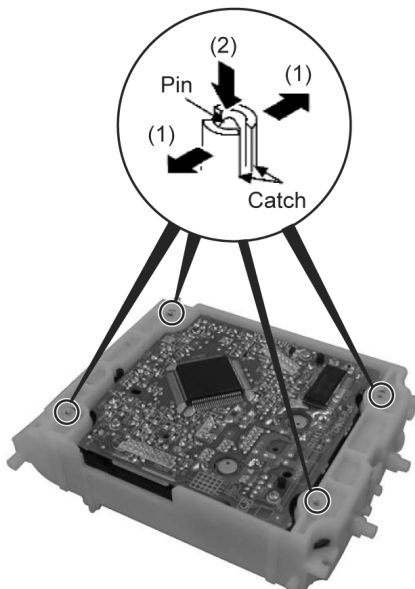


Step 2: Push the traverse slide plate as arrow shown to lock the traverse unit.

10.15. Disassembly of optical pickup unit (CD mechanism)

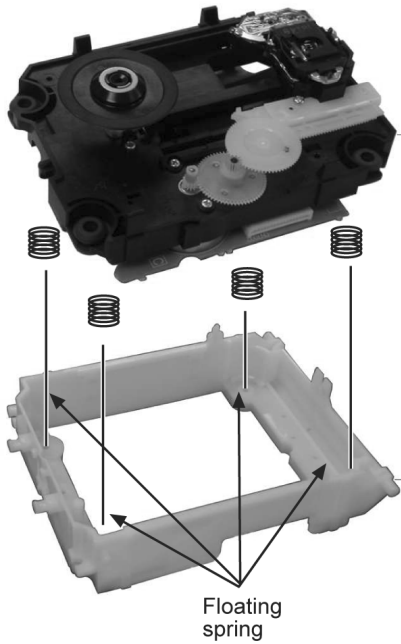
- Follow the (Step 1) - (Step 2) of Item 10.4 - Disassembly of Top Cabinet
- Follow the (Step 1) - (Step 4) of Item 10.6 - Disassembly of CD Changer Unit
- Follow the (Step 1) - (Step 2) of Item 10.14 - Disassembly of Traverse Unit

Step 1 Pull out FFC.



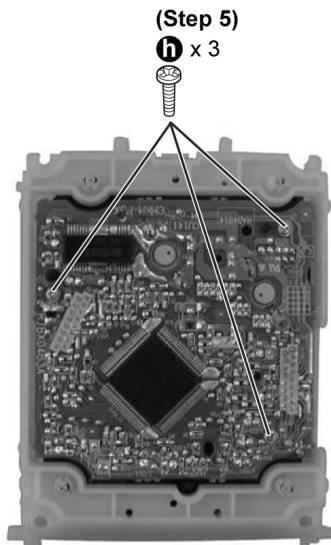
Step 3 Remove 4 pins.

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.

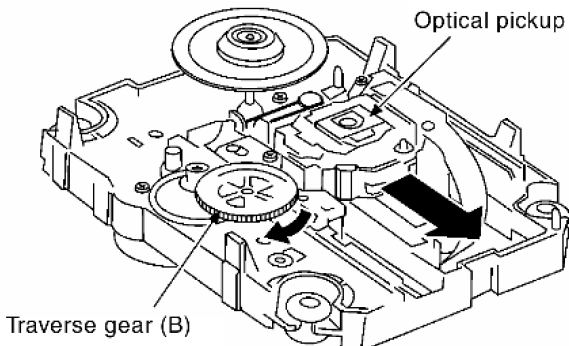


Step 5 Remove 3 screws.

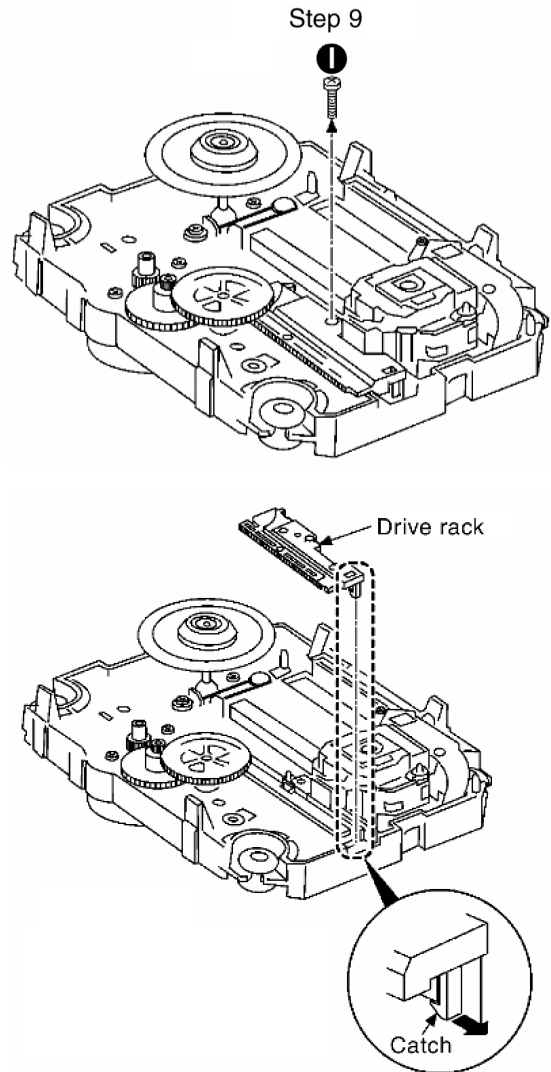
Step 6 Remove the CD Servo P.C.B. and turn it over.

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

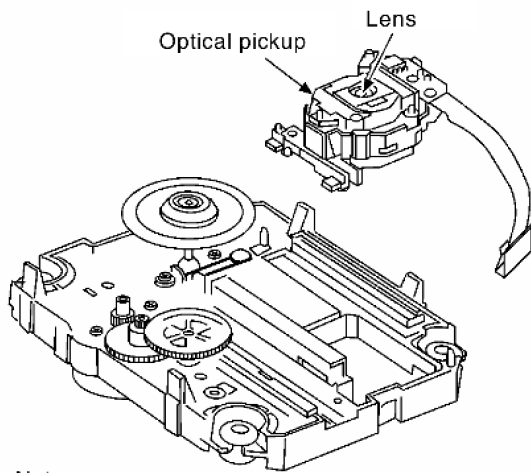
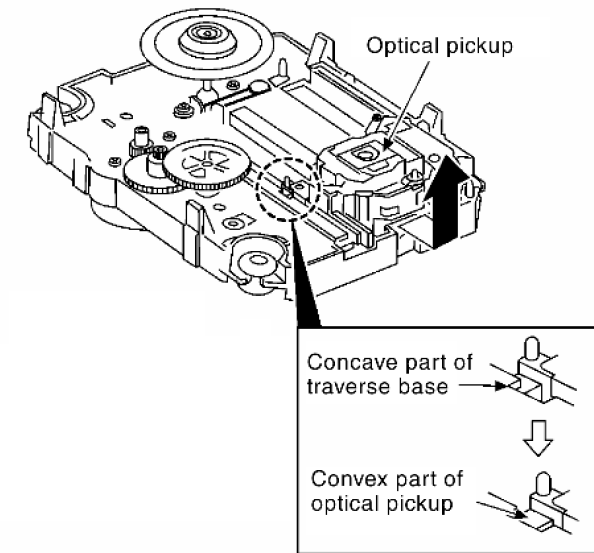
Step 7 Rotate the traverse deck (B) to the arrow direction and shift the optical pickup to the furthest backward.



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.



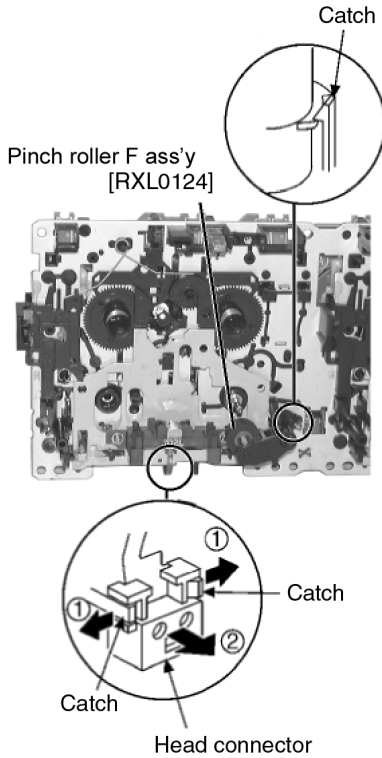
Note:
Do not touch the lens of the optical pickup

10.16. Disassembly of Deck Mechanism

- Follow the (Step 1) - (Step 2) of Item 10.4 - Disassembly of Top Cabinet
- Follow the (Step 1) - (Step 4) of Item 10.6 - Disassembly of CD Changer Unit
- Follow the (Step 1) - (Step 4) of Item 10.10 - Disassembly of Front Panel Unit
- Follow the (Step 1) - (Step 5) of Item 10.12 - Disassembly of Deck Mechanism Unit

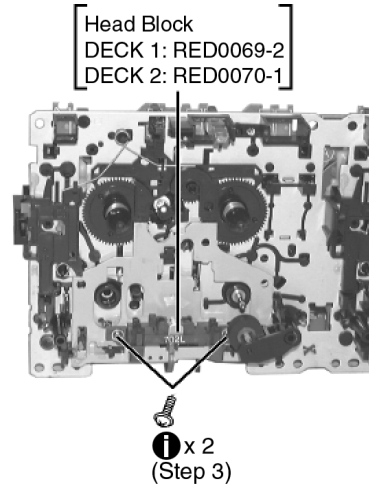
10.16.1. Disassembly of the pinch roller ass'y and head block

* 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.

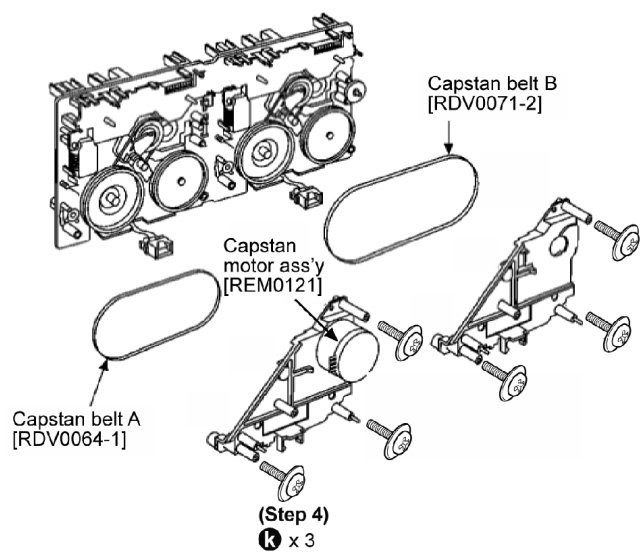
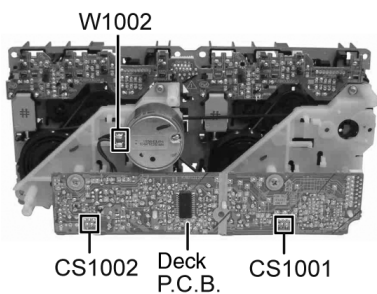
Step 4 Remove head block.

10.16.2. 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.).

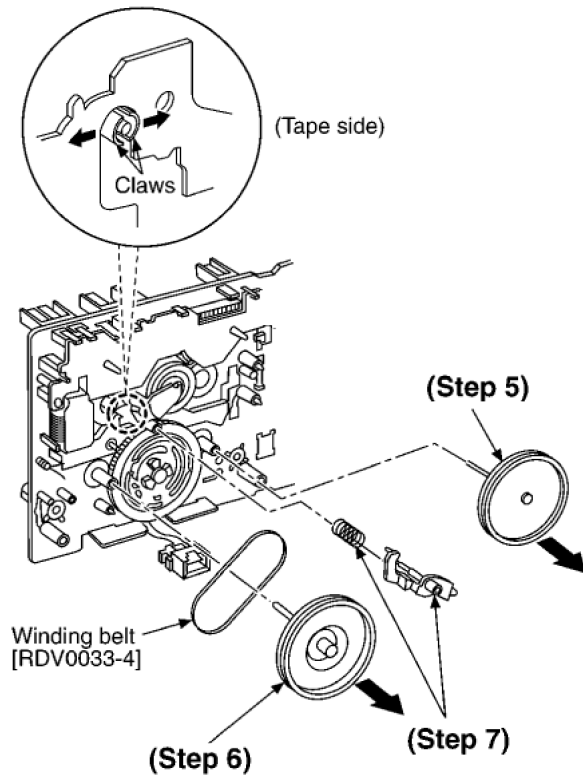
Step 2 Desolder wire(W1002) at motor assembly.

Step 3 Remove Deck P.C.B.



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

Step 5 Remove capstan belt A/B.

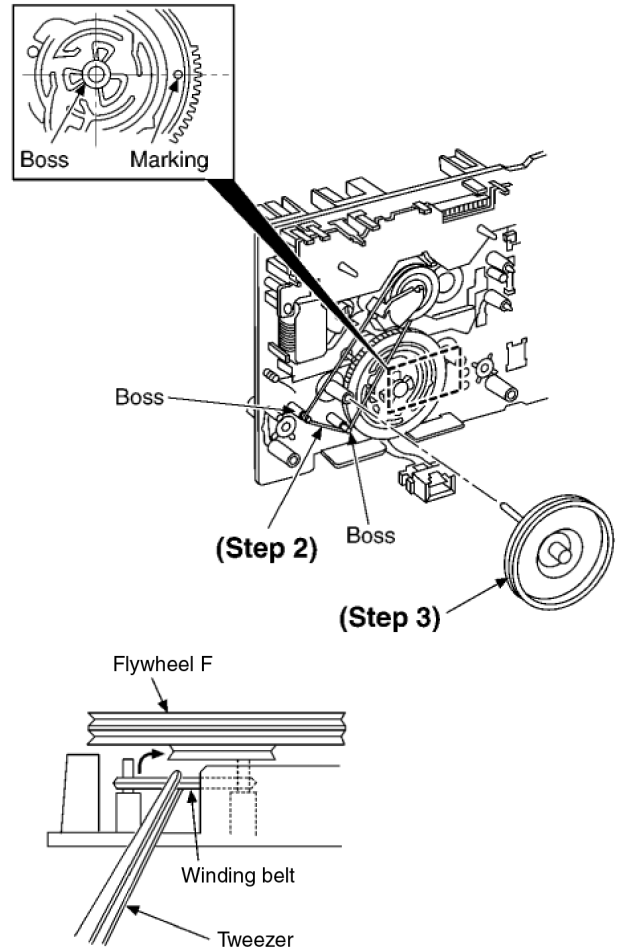


Step 6 Remove the flywheel R.

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.



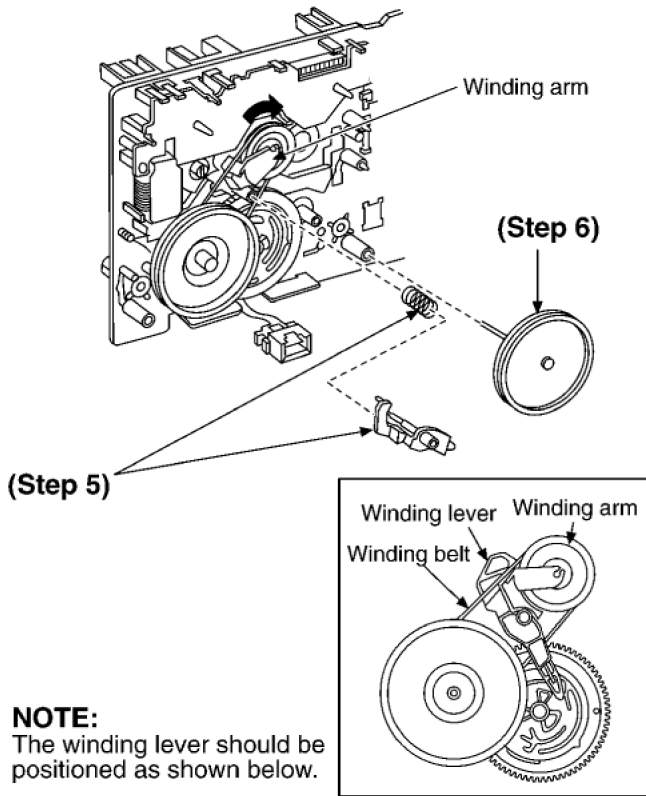
Step 2 Put the winding belt on the pulley temporarily.

Step 3 Install the flywheel F.

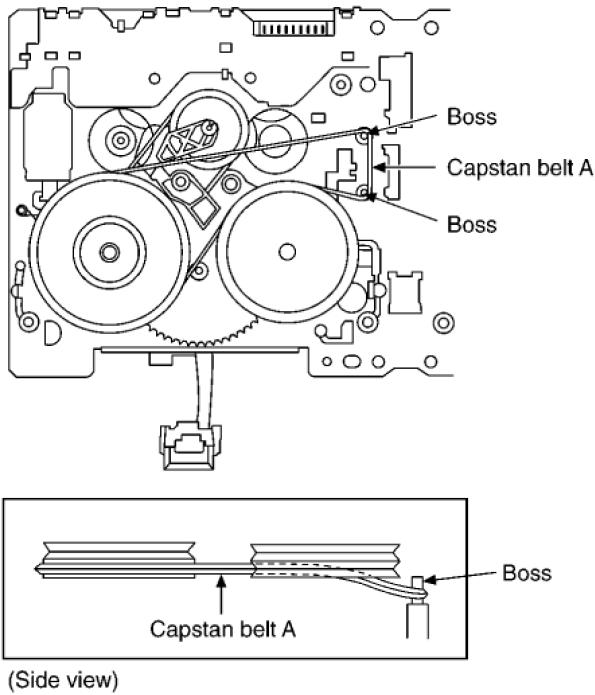
Step 4 Put the winding belt on the flywheel F.

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

Step 6 Install the flywheel R.



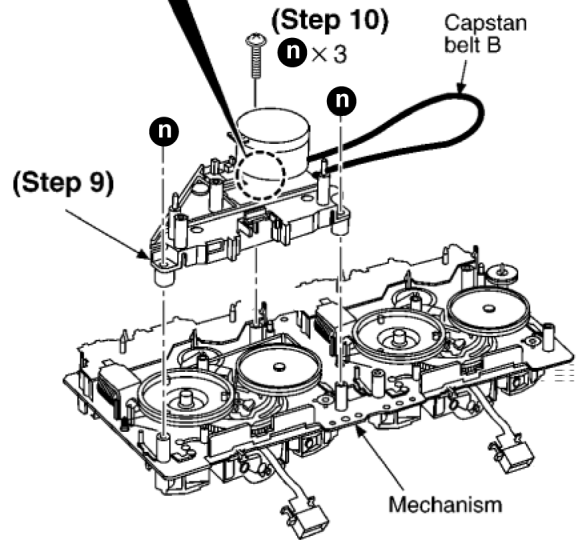
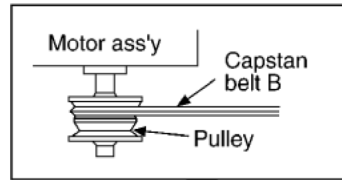
Step 7 Put the capstan belt A temporarily as shown below.



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

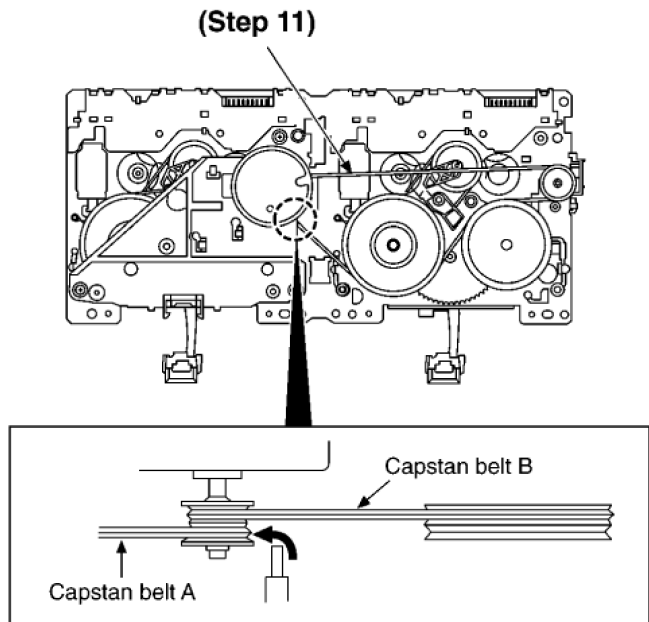
Step 9 Install the sub chassis to the mechanism, and then

tighten screws.



Step 10 Install 3 screws.

Step 11 Put the capstan belt B as shown below.

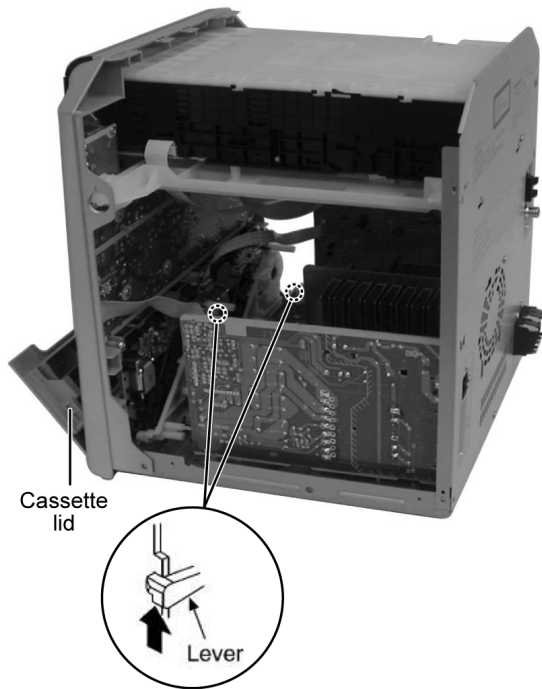


Step 12 Put the capstan belt A on the motor ass'y pulley.

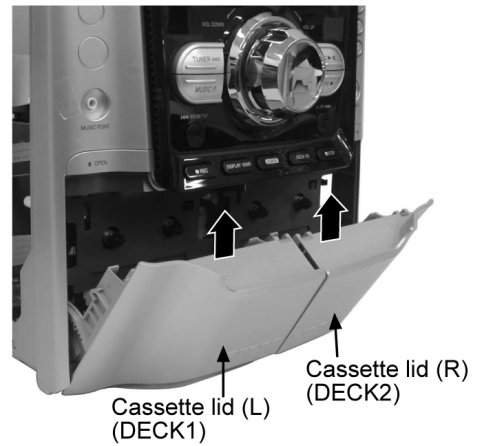
10.17. Replacement for cassette lid

· Follow the (Step 1) - (Step 2) of Item 10.4 - Disassembly of Top Cabinet

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



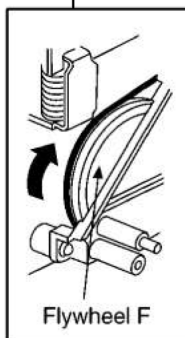
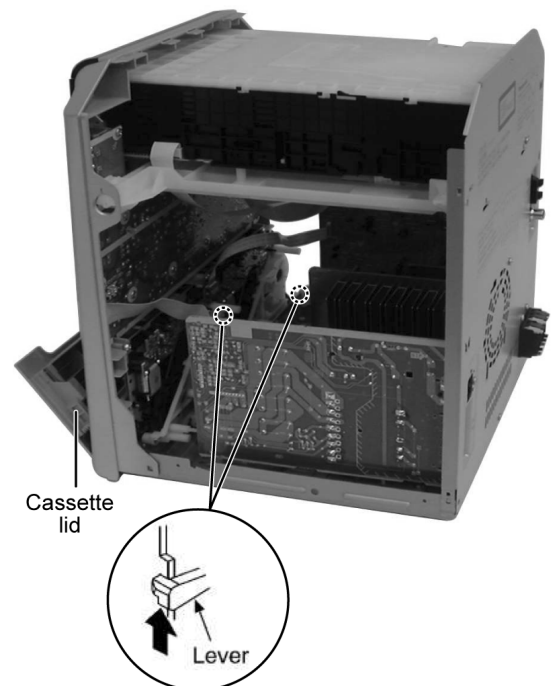
Step 2 Push up the cassette lid (L/R) in the direction of arrow.
(For DECK1 and DECK2).



10.18. Rectification for tape jam problem

· Follow the (Step 1) - (Step 2) of Item 10.4 - 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.



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

11 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)

12 Service Positions

Note: For description of the disassembly procedures, see the Section 10.

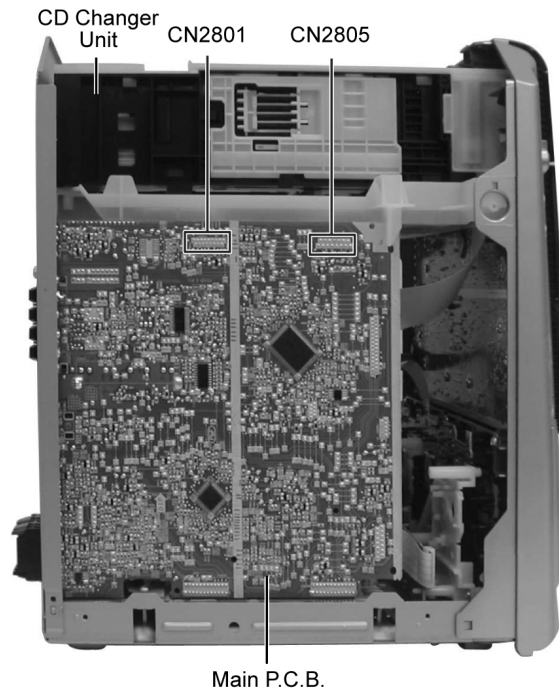
12.1. Checking and Repairing of Main P.C.B.

1. Remove Top cabinet

Remove 3 screws on L/R side.

Remove 5 screws on rear panel.

Remove top cabinet.



12.2. 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.



12.3. 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, CN2951, CN5950 & CN5951.

Bent front panel forward.

Release 2 claws.

3. Disassemble Panel P.C.B.

Remove volume knob.

Remove 11 screws.

Release 2 catches.

4. Disassemble Deck mechanism unit

Detach CN971.

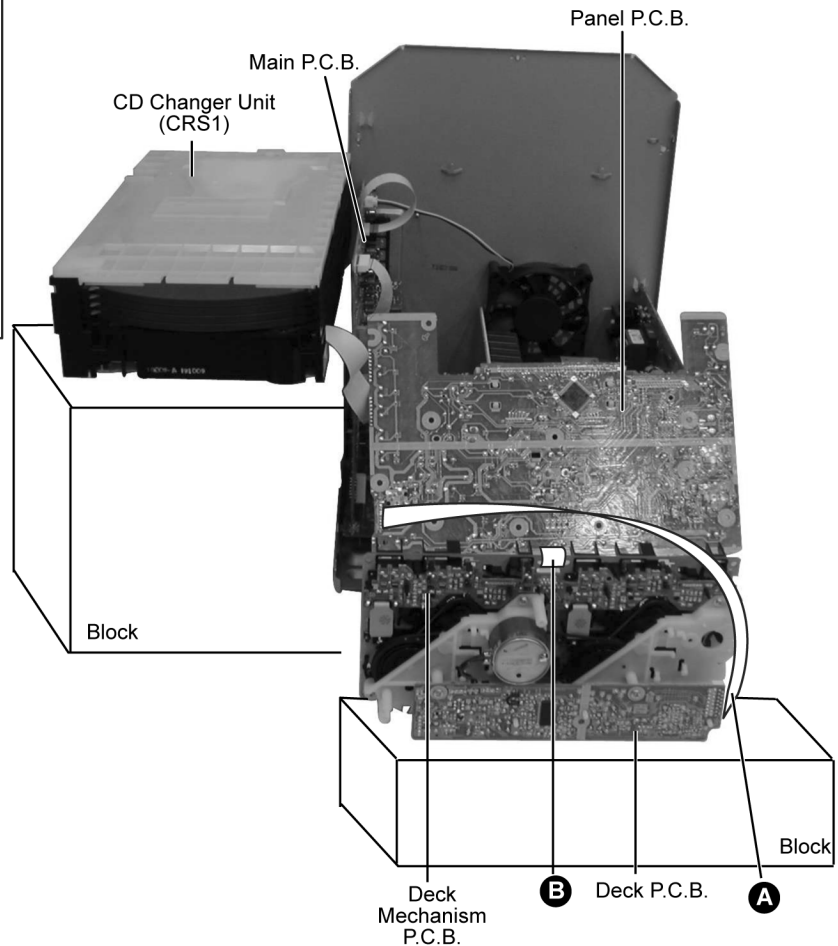
Disconnect CN1001.

Remove 5 screws.

Push lever upward.

5. Connect Panel P.C.B., CRS1 & 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 17P FFC cable between CN2801 to CN7002



12.4. 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. Remove Rear panel

Disconnect 5 screws.

Disconnect cable CN2810 (fan).

3. Disassemble CD changer unit

Remove 1 screw at rear panel.

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

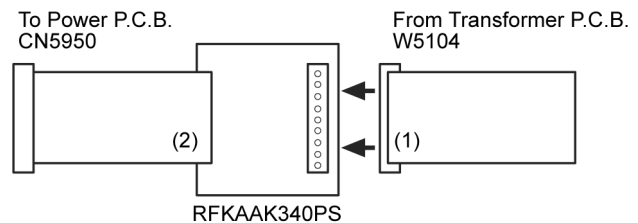
4. Disassemble Power P.C.B.

Remove 5 screws

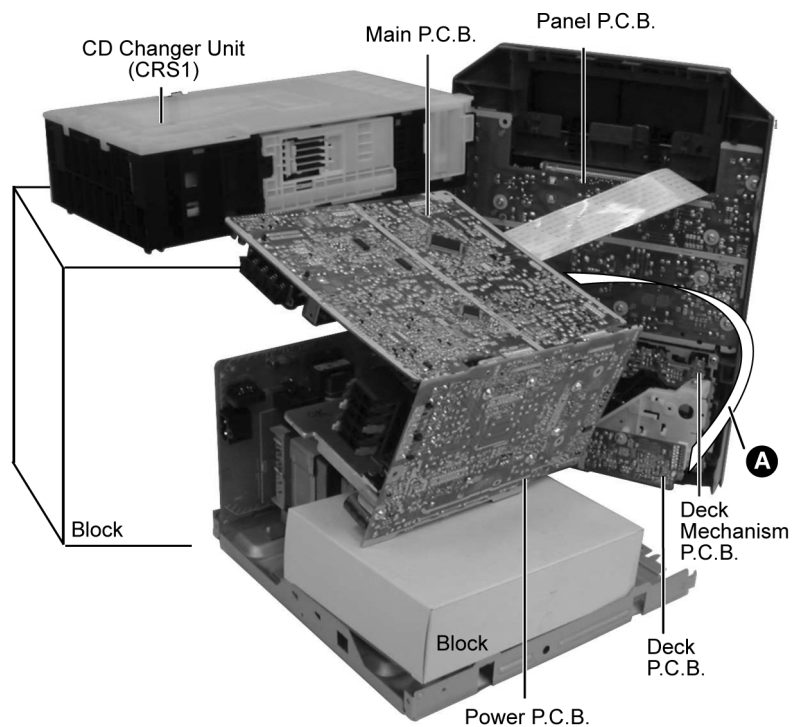
Detach CN5950.

5. Connect Panel P.C.B., CRS1 & 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 17P FFC cable between CN2801 to CN7002
 Connect service extension P.C.B (Part No. RFKAAK340PS) between CN5950 and W5104




- (1) Connect W5104 (Transformer P.C.B.) to connector on Service Extension P.C.B.
- (2) Connector the connector (Service Extension P.C.B.) to CN5950 (Power P.C.B.)



13 Adjustment Procedures

13.1. Cassette Deck Section

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

13.1.1. Tape Speed Adjustment (Deck 1/2)

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

Adjustment target: 2910 ~ 3090 Hz (NORMAL speed)

3. 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.

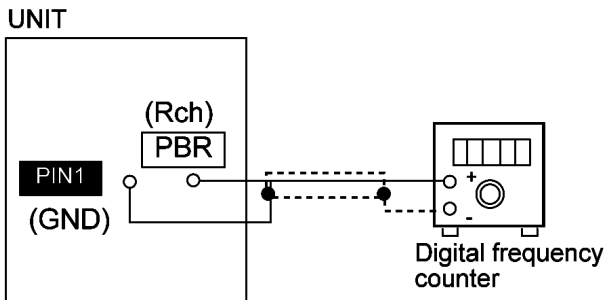


Fig. 1

13.1.3. 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 (I use "REC/STOP" key).
3. Adjust L1002 so that the output frequency is within the standard value as below.

Standard Value: 89 ~ 110 kHz

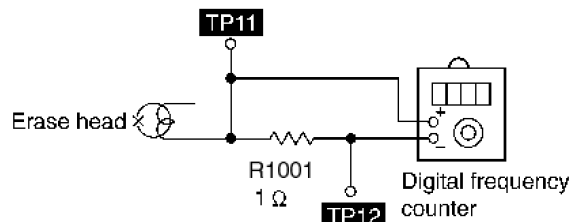


Fig. 4

13.1.3.1. Cassette Deck Section

Below is the locations of test points for Deck P.C.B.:-

13.1.2. 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 "I REC/STOP" 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)

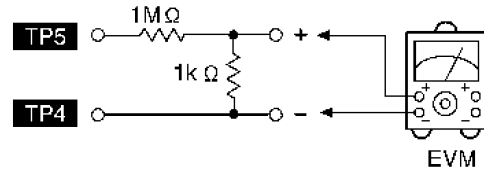


Fig. 2

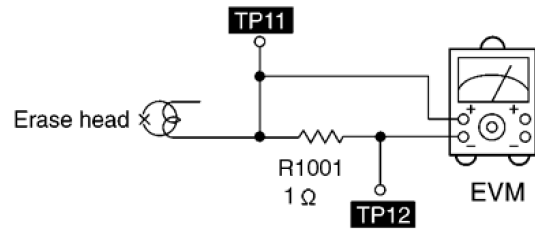
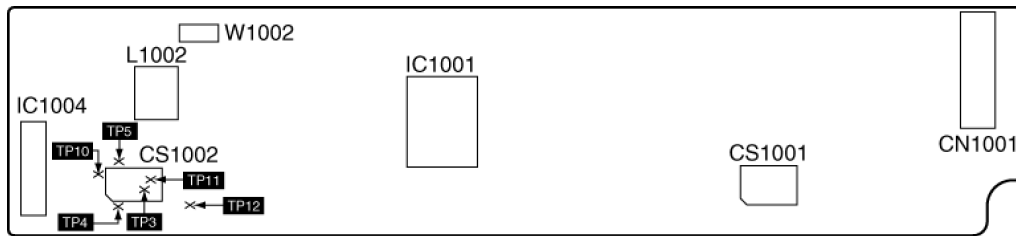


Fig. 3



13.2. Tuner Section

This section include details on the alignment of AM-IF and AM RF adjustment.

13.2.1. AM-IF Alignment

1. Set up the equipments as shown in Fig. 5.
2. Select [TUNER] mode on selector and set to [AM] mode.
3. Apply signal as shown in Fig. 5 from AM-SG.
4. Adjust Z2602 accordingly so that the output frequency is maximized at 450kHz in Fig. 6.

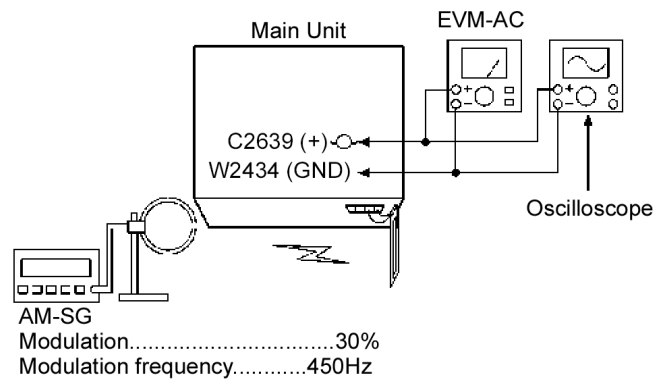


Fig. 5

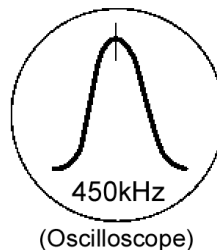


Fig. 6

13.2.2. AM RF Adjustment

1. Set up the equipments as shown in Fig. 7.
2. Select [TUNER] on selector and set 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 $1.1 \pm 0.5V$.

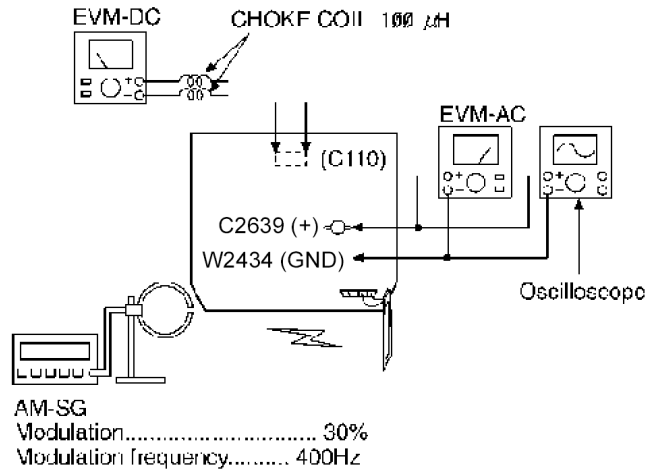
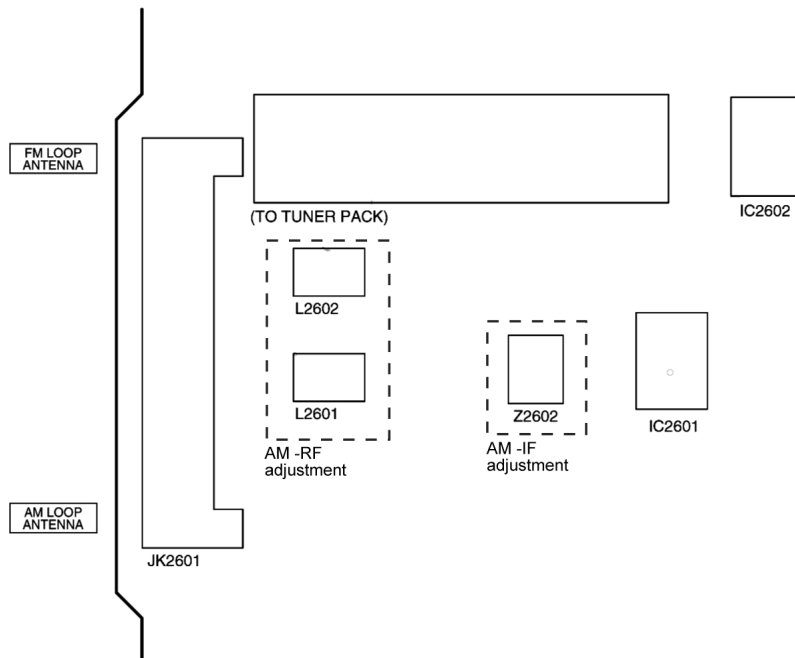


Fig. 7

13.2.3. Adjustment Point

Below is the locations of alignment points on the Main (Tuner) P.C.B.



14 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.

14.1. CD Servo P.C.B. & Main P.C.B.

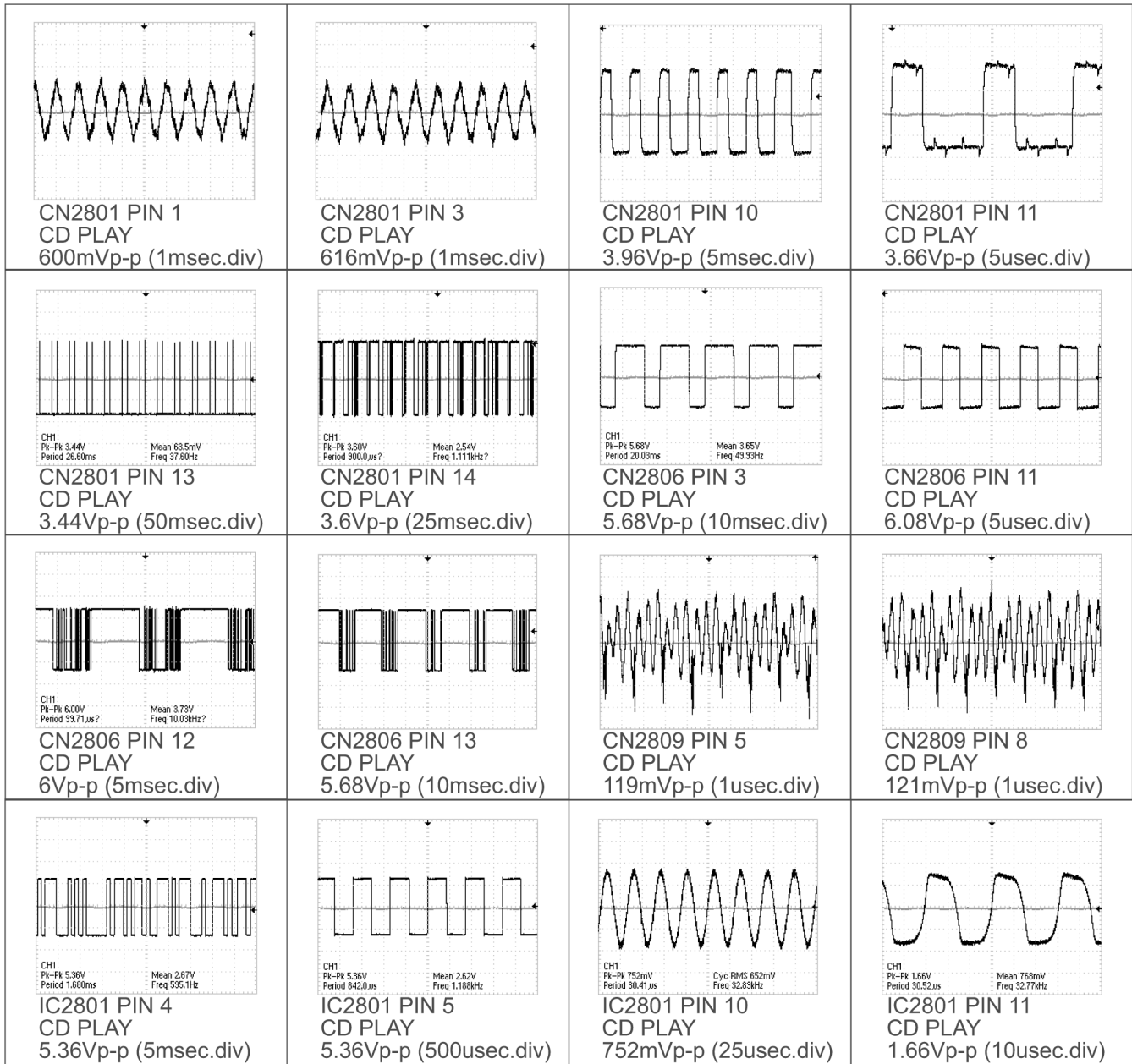
CD SERVO P.C.B.(SIDE A)																				
Ref No.	IC7001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.4
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.7	0	0	1.6	0
Ref No.	IC7001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	0	0	1.7	1.7	1.9	0	3.4	1.5	3.4	3.4	0	1.7	1.6	1.7	1.8	1.8	1.7	1.7	1.7	1.7
STANDBY	1.7	3.4	1.7	1.7	1.7	0	3.4	1.5	3.4	3.4	0	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Ref No.	IC7001																			
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	2.5	1.4	1.7	1.7	1.8	3.4	1.2	1.2	1.3	1.7	1.7	0.8	1.5	1.5	1.5	0	3.1	1.5	0
STANDBY	0	3.4	1.4	1.7	1.7	1.8	3.4	1.2	1.2	1.2	0	1.7	0.8	1.1	0	1.5	0	3.1	1.5	0
Ref No.	IC7001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
CD PLAY	3.4	3.4	0	0	0	0	3	2.5	3.7	2.3	0	3.7	0	1.7	0	1.5	3.4	0	3.4	1.7
STANDBY	3.4	0.8	0.8	0	3.2	0	3.7	0	3.7	0	0	3.7	0	1.7	0	1.5	3.4	0	3.4	1.7
Ref No.	IC7001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
CD PLAY	-	3.4	0	0	0	0	0	0	0	0	0	0	3.4	0	0	0	0	0	0	0
STANDBY	1.6	3.4	0	0	0	0	0	0	0	0	0	0	3.4	0	0	0	0	0	0	0
Ref No.	IC7002																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	1.7	0	1.7	0	0	0	0	0	0	7.2	4	3.4	3.4	3.4	3	3.8	3.5	3.2	7.2	0
STANDBY	1.7	0	1.7	3.3	0	0	0	0	0	7.5	3.8	3.8	3.4	3.4	3.4	3.4	3.4	3.4	7.5	0
Ref No.	IC7002																			
MODE	21	22	23	24	25	26	27	28												
CD PLAY	7.3	0	0	0	7.3	1.7	1.7	1.7												
STANDBY	7.5	0	0	0	7.5	1.7	1.7	1.7												
MAIN P.C.B.																				
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	0	2	0	0	5	5.2	3.8	6	0	4.9	3.6	0	1.5	1.9	2	2	0	0	0.1
STANDBY	2	6	2	2	0	5	5.2	0	6	0	4.9	0	1.5	1.5	1.9	2	2	0	0	0
Ref No.	IC2601																			
MODE	21	22	23	24																
CD PLAY	2.4	2.4	6	4.6																
STANDBY	2.4	2.4	6	4.6																
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	0	1.2	4.6	0	14.9	0	0	2.6	0	0	0	0	15	0	2.6
STANDBY	2.6	0	0	0	5.2	4.9	0.8	4.6	0	15	0	0	2.6	0	5.2	0	0	0	0	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	2.5	0	0	2.5	2.5	0	0	0	0	0	0.0	0.7	5.5	2.7	-	5.5	5.5	5.4	5.5	3.6
STANDBY	0	0	0	2.4	2.5	0	0	0	0	0.6	0.7	0	2.7	0	2.7	5.5	5.5	5.5	0	3.7
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	5.1	0	0	0	0	5.5	0	0	0	0	0	0	0	0	0	5.4	0	5.4	0
STANDBY	5.2	5.1	0	0	0	0	5.5	0	0	0	0	0	0	5	0	0	5.4	0	5.5	5.5
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	5.4	5.4	0	0	0	0	0	5.1	0	0	0	0	5.5	5.5	5.5
STANDBY	0	0	0	0	0	5.4	5.4	0	0	0	0	5	5.1	0	0	0	5.5	5.5	5.5	5.5
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	5.5	0	0	0	5.5	0	0	0	3.5	3.8	4.7	0	5.5	1	5.4	4.2	4.9	5.1	0
STANDBY	0	5.5	0	0	0	5.5	0	0	0	5.5	5.5	5.5	5.5	5.5	5.1	5.5	0	5.5	5.1	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	4.6	5.1	0	0	5.1	0	0	0	0.1	5.1	5.5	4.6	4.6	4.7	0	4.7	5.5	5.5	5.4
STANDBY	0	4.6	5.1	0	0	5.1	0	0	0	0.1	5.1	5.5	4.6	4.6	4.7	0	4.7	5.5	5.5	5.4

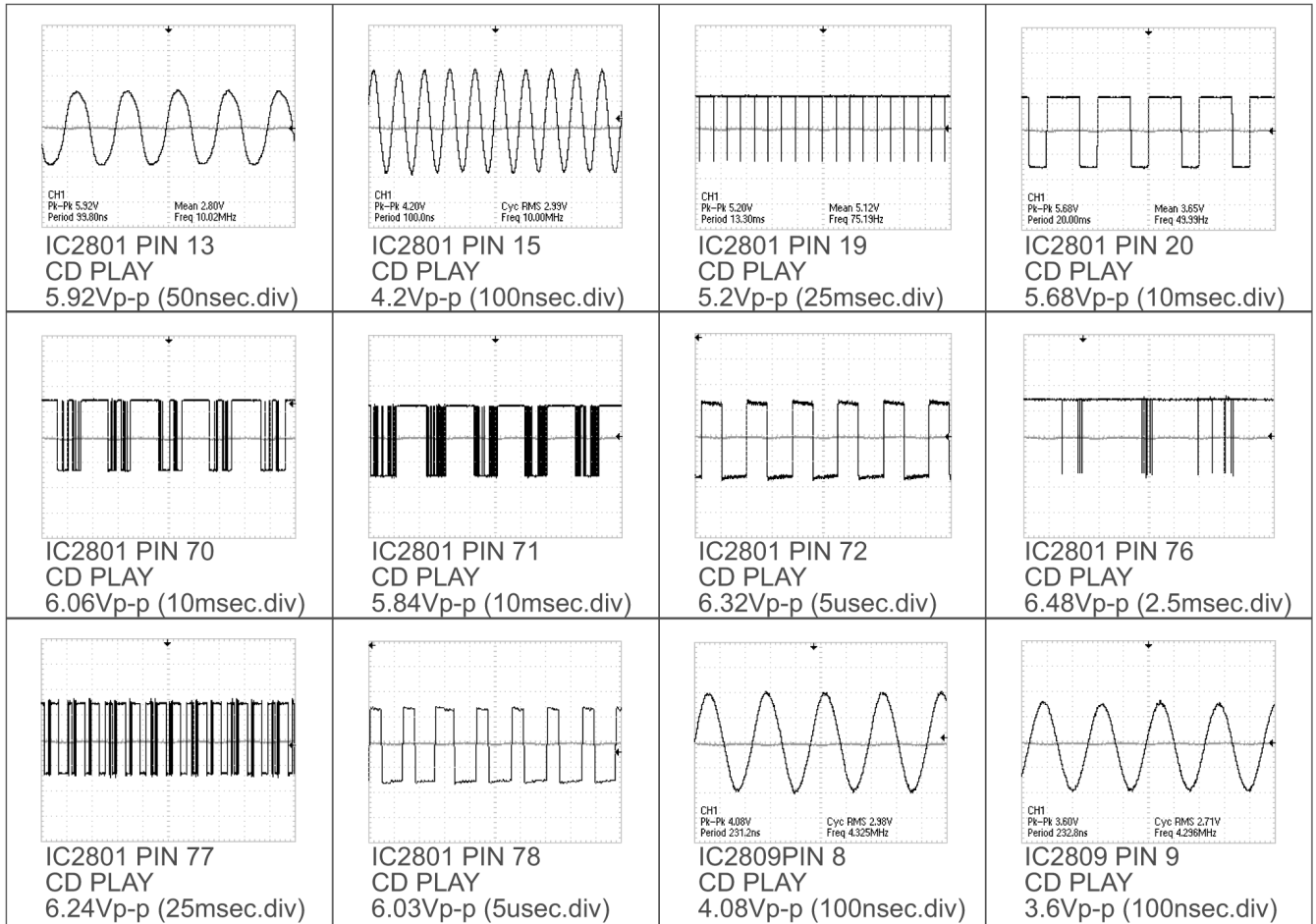
Ref No.	IC2803																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
STANDBY	0	4.6	0	0	4.6	4.6	4.6	0	0	4.6	4.6	0	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Ref No.	IC2803																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	4.6	4.6	4.6	4.6	4.6	4.6	4.6	0	0	0	4.6	4.6	4.6	4.6	4.6	4.6	4.6	9.2	5.5	0
STANDBY	4.6	4.6	4.6	4.6	4.6	4.6	4.6	0	0	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	9.2	5.5	0
Ref No.	IC2803																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56				
CD PLAY	0	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.5	4.5	4.6	4.6	4.6	8	2.2				
STANDBY	0	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.5	0	0	4.6	0	0	0				
Ref No.	IC2804																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	7.5	7.4	7.3	0	15.1	7.5	7.4	7.3												
STANDBY	7.5	7.4	7.3	0	15.1	7.5	7.5	7.3												
CD SERVO P.C.B. (SIDE A)																				
Ref No.	Q7601																			
MODE	E	C	B																	
CD PLAY	3.2	2.1	2.5																	
STANDBY	3.4	0.2	3.4																	
MAIN P.C.B.																				
Ref No.	Q2142			Q2242			Q2311			Q2317			Q2341							
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B					
CD PLAY	0	0	0	0	0	0	0	0	-3.5	0	0	-3.5	0	0	-3.5					
STANDBY	0	0	0	0	0	0	0	0	0.6	0	0	0.6	0	0	0.6					
Ref No.	Q2411			Q2417			Q2441			Q2501			Q2511							
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B					
CD PLAY	0	0	-3.5	0	0	-3.5	-	-	-	0.3	2.2	1	0	-3.9	0					
STANDBY	0	0	0.6	0	0	0.6	0	0	0.6	0.4	0.6	1.1	2.7	2.7	0					
Ref No.	Q2521			Q2601			Q2606			Q2803			Q2901							
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B					
CD PLAY	0.1	2.6	0.8	0	0	0	15.1	0	15.1	0	5.5	0	5.7	3.4	5					
STANDBY	0.1	2.9	0.8	0	0	0	14.9	0	14.9	0	5.5	0	6.9	3.4	6.2					
Ref No.	Q2902			Q2906			Q2907			Q2936			Q2937							
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B					
CD PLAY	2.6	5.1	3.2	0	5.1	0	0	1.7	0.4	12	0	12	0	12	0					
STANDBY	2.6	6.2	2.2	0	5.1	0	0	5.1	0	12.1	2	12.1	0	12.1	0					
Ref No.	Q2942			Q2943			Q2948			Q2949			Q2950							
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B					
CD PLAY	12	0	12	0	12	0	0	0	0.2	0	5.4	0	5.5	5.5	4.8					
STANDBY	12.1	0	0	0	12	0	0	0	0.2	0	5.4	0	5.5	5.5	4.8					
Ref No.	Q2951			Q2952			Q2957			Q2958			Q2959							
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B					
CD PLAY	5.5	5.5	0	0	0.1	5.4	0	12	0	12	0	12	0	12	0					
STANDBY	5.5	5.5	4.8	0	0.1	5.4	0	12.1	0	2.6	6.2	3.2	0	12.1	0					
Ref No.	Q2978			Q2980																
B MODE	E	C	B	E	C	B														
12 D PLAY	5.1	0	5.4	5.1	-0.4	5.4														
0:TANDBY	5.1	0	5.4	5.1	-0.4	5.4														

14.2. Power P.C.B. & Transformer P.C.B.

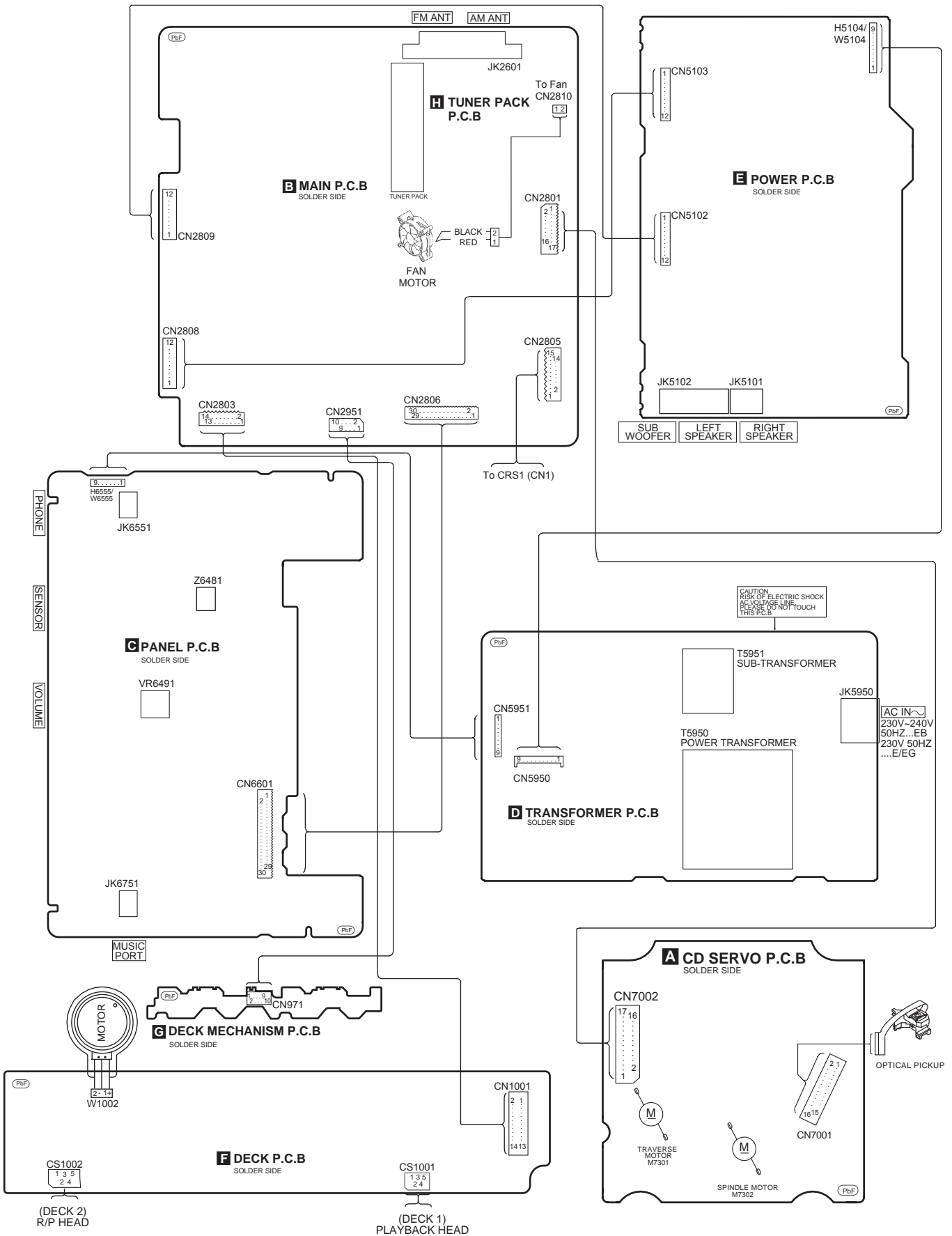
POWER P.C.B.																					
Ref No.	IC5201																				
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14							
CD PLAY	0	5	2.4	2.5	2.3	2.4	0	4.2	1.6	2.5	2.6	3.2	1.5	5							
STANDBY	0	0	0	0	0	0	0	0	0	0.07	0	0	0	0							
Ref No.	IC5301																				
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
CD PLAY	2.43	0.05	0.05	28.54	-0.02	-30	-22	28.95	11	-0.1	-30	-18	-30	-0.1	10.8	29	-30	-30	0	28.6	
STANDBY	0.1	0	0	0.1	0	0.5	0.1	0.1	0.05	0.2	0.5	0.1	0.5	0.2	0	0.1	0.5	0.8	0	0.1	
Ref No.	IC5301																				
MODE	21	22	23																		
CD PLAY	-0.1	-0.1	4.6																		
STANDBY	0	0	0																		
Ref No.	IC5401																				
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
CD PLAY	24.3	-0.05	-0.05	28.5	-0.01	-30	-22	28	0	-0.1	-30	17	30	0	11	28.9	-30	-30	0	28.55	
STANDBY	0	0	0	0.1	0	0.5	0.1	0.1	0.1	0.25	0.5	0.1	0.5	0.2	0	0.1	0.5	0.5	0	0.1	
Ref No.	IC5401																				
MODE	21	22	23																		
CD PLAY	-0.1	-0.1	45.8																		
STANDBY	0	0	0																		
POWER P.C.B.																					
Ref No.	Q5101			Q5102			Q5103			Q5104			Q5108								
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
CD PLAY	29	40.7	32.5	-41	30.4	-37.7	0	5.4	-0.3	-0.3	5.4	0	-41	-37.8	-40.5						
STANDBY	0	0	10.5	-1	0	0	0	0.5	0.2	0.2	0.5	0	-0.6	0	0.7						
Ref No.	Q5109			Q5110			Q5111			Q5112			Q5113								
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
CD PLAY	-5	-15.3	-3.6	28.4	32.5	29	15.4	28.3	16.1	17.1	12	16.4	17.3	16.5	17.1						
STANDBY	0	-0.7	0	0	11	0	0.06	0.06	0.07	0.42	0.08	0.45	0.47	0.45	0.47						
Ref No.	Q5114			Q5115			Q5201			Q5202											
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
CD PLAY	11.3	16.4	11.8	5.1	5.7	8	2.6	2.5	2.4	2.6	0	5.1									
STANDBY	0	0.43	0.47	0	0	0	0	0	0	0	0	0									
TRANSFORMER P.C.B.																					
Ref No.	Q5950			Q5951			Q5953														
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
CD PLAY	6.2	6.8	12.2	-24.6	-45	-25	0	0.1	0.8												
STANDBY	6.2	6.8	14.8	-20	-20	-20	0	6.2	0												
Ref No.																					
MODE																					
CD PLAY																					
STANDBY																					
Ref No.																					
MODE																					
CD PLAY																					
STANDBY																					
Ref No.																					
MODE																					
CD PLAY																					
STANDBY																					

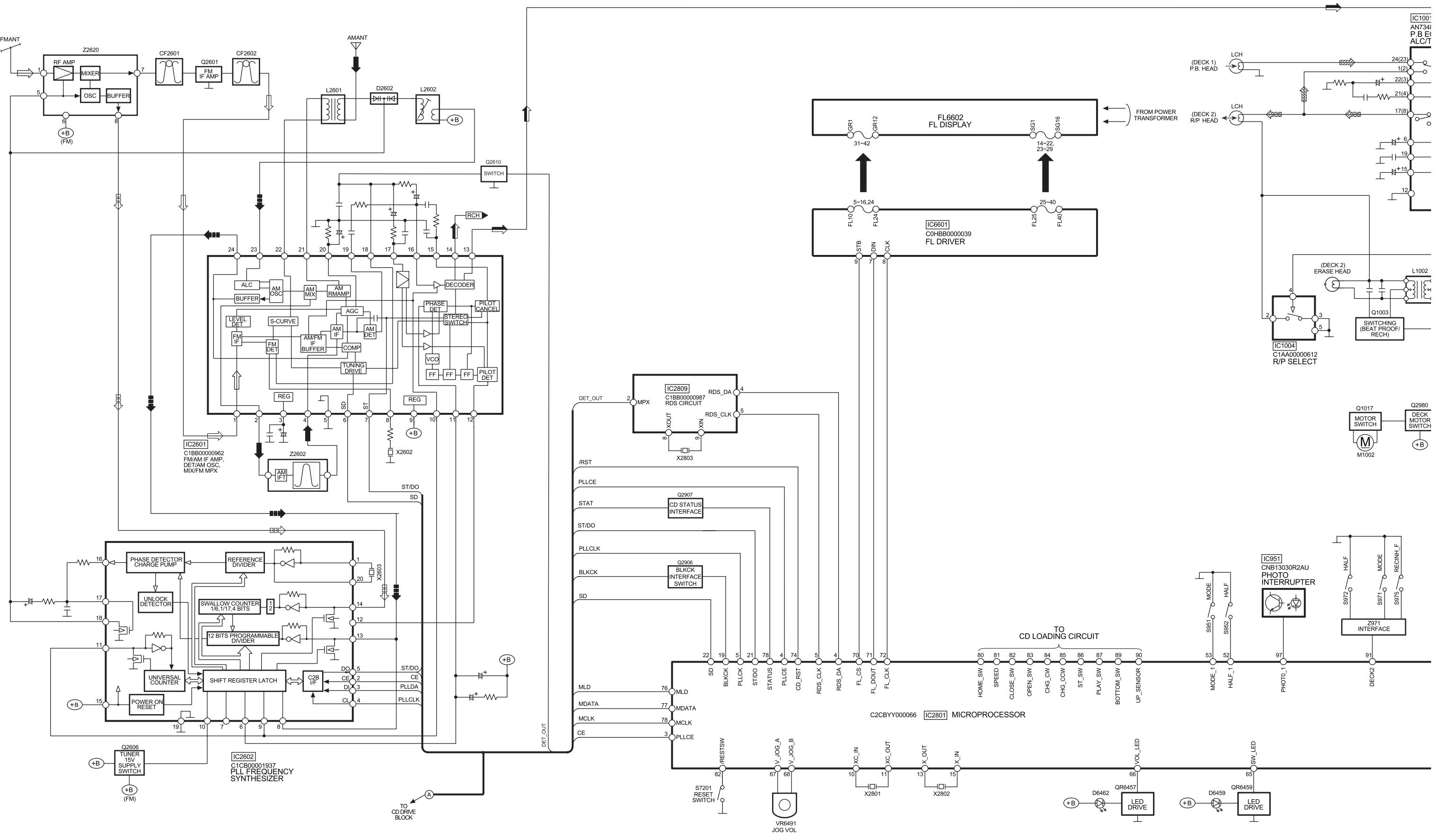
14.3. Waveform Chart

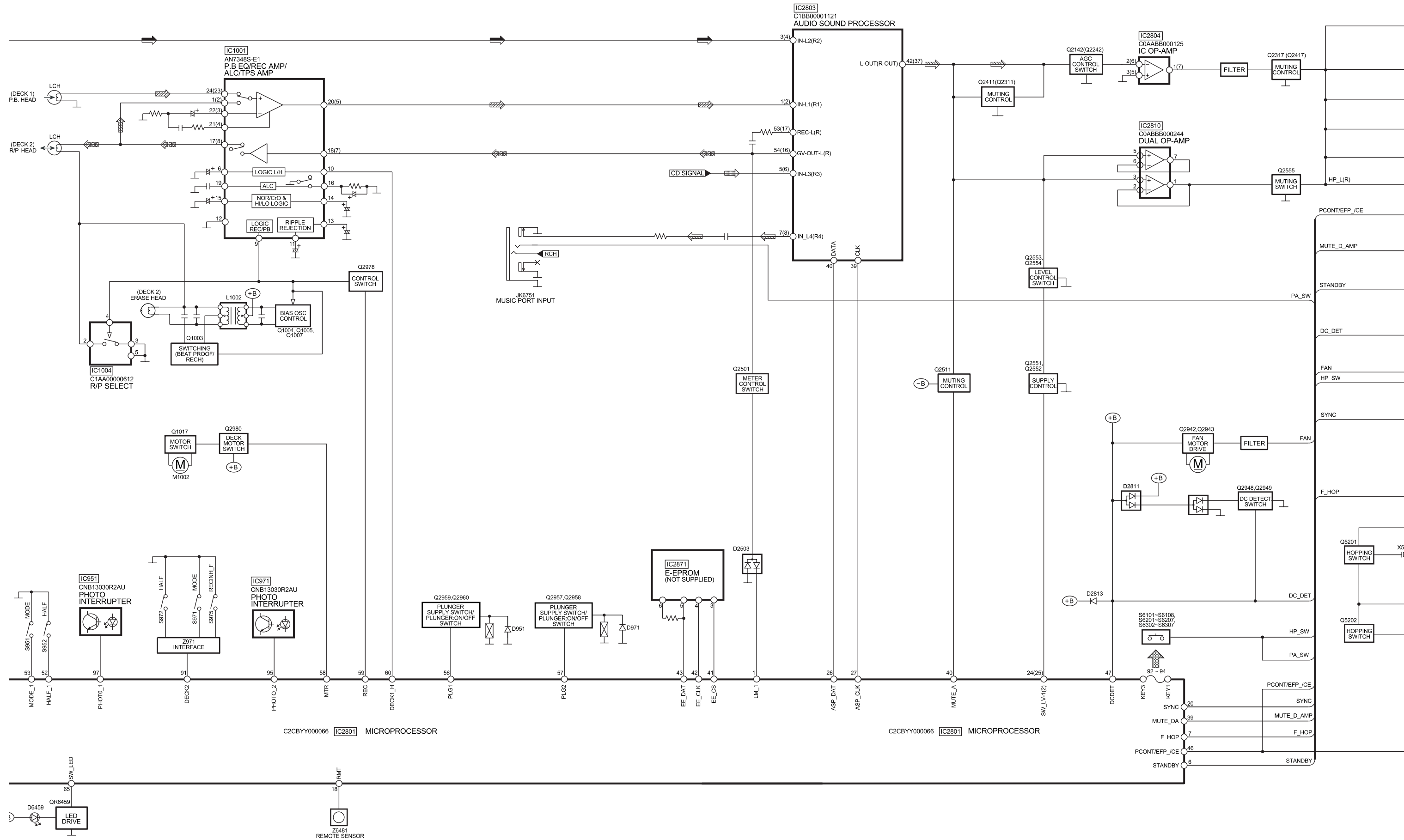


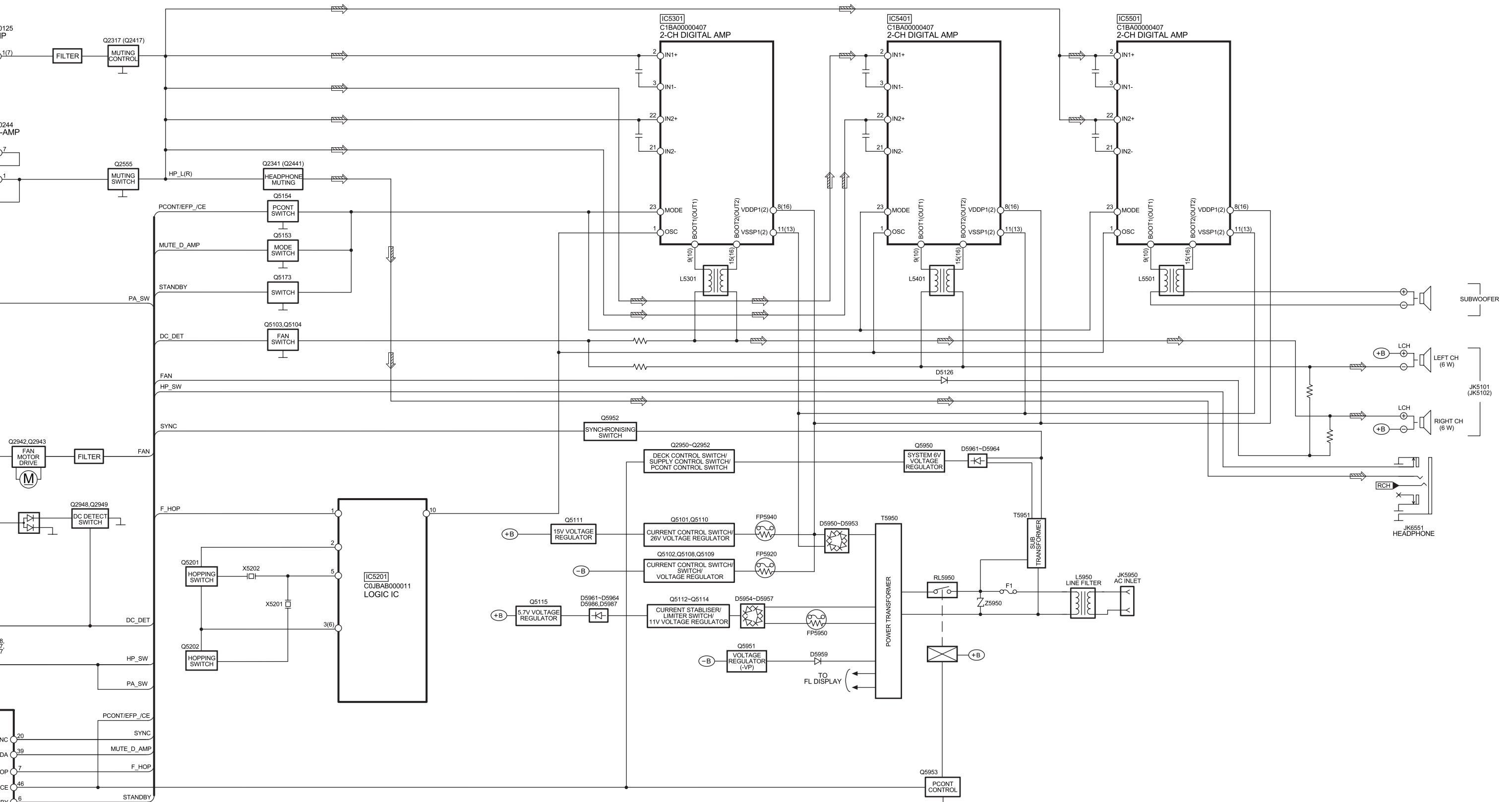


15 Wiring Connection Diagram









SIGNAL LINES

() Indicates the Pin No. of Right Channel.

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

17 Schematic Diagram

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


17.1. Notes of Schematic Diagrams

Note:

S951	: MODE Switch
S952	: HALF Switch
S971	: MODE Switch
S972	: HALF Switch
S975	: RECINH_F Switch
S6101	: POWER Switch
S6102	: SINGLE DISC CHANGE Switch
S6103	: OPEN/CLOSE Switch
S6104	: CD 1 Switch
S6105	: CD 2 Switch
S6106	: CD 3 Switch
S6107	: CD 4 Switch
S6108	: CD 5 Switch
S6201	: DECK 2 OPEN Switch
S6202	: DISPLAY/DEMO Switch
S6203	: DECK 1/2 Switch
S6204	: H.BASS Switch
S6205	: FF Switch
S6206	: REW Switch
S6207	: DECK 1 OPEN Switch
S6301	: CD Switch
S6302	: TAPE Switch
S6303	: STOP Switch
S6304	: REC Switch
S6305	: TUNER/BAND Switch
S6306	: MUSIC PORT Switch
S6307	: SUBWOOFER Switch
S6308	: MULTI DISC CHANGE Switch
S7201	: REST Switch
VR6491	: VR VOLUME

- 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.

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.

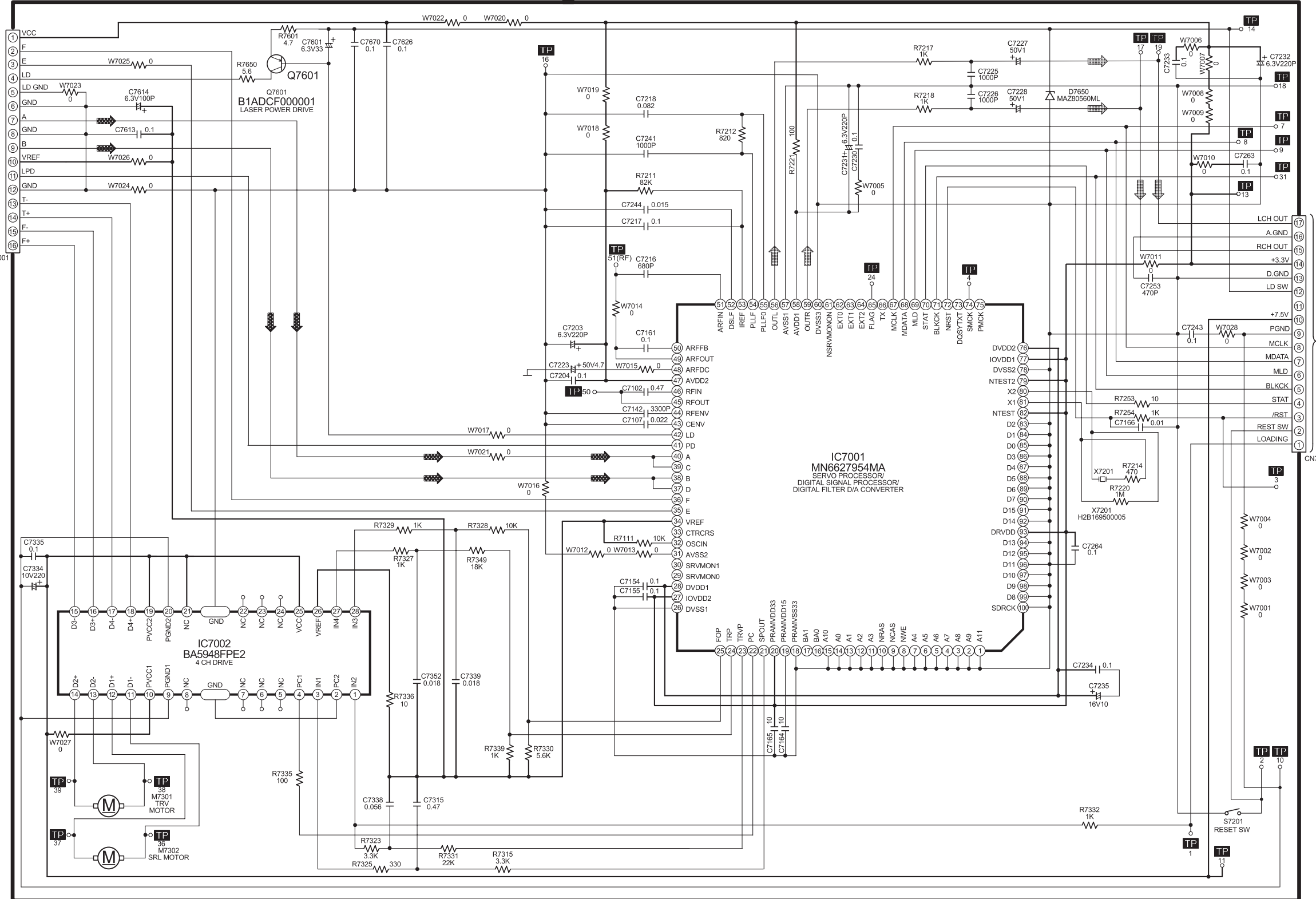
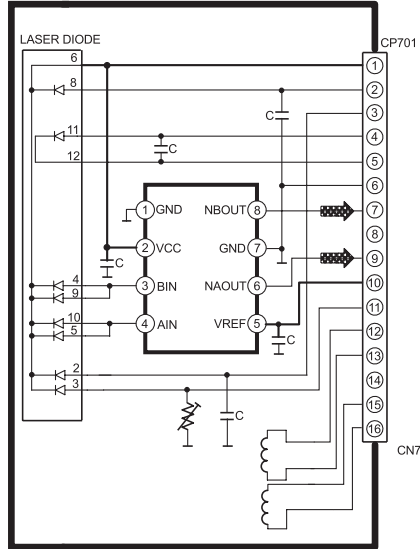
17.2. (A) CD Servo Circuit

SCHEMATIC DIAGRAM - 1

A CD SERVO CIRCUIT

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

! OPTICAL PICKUP CIRCUIT

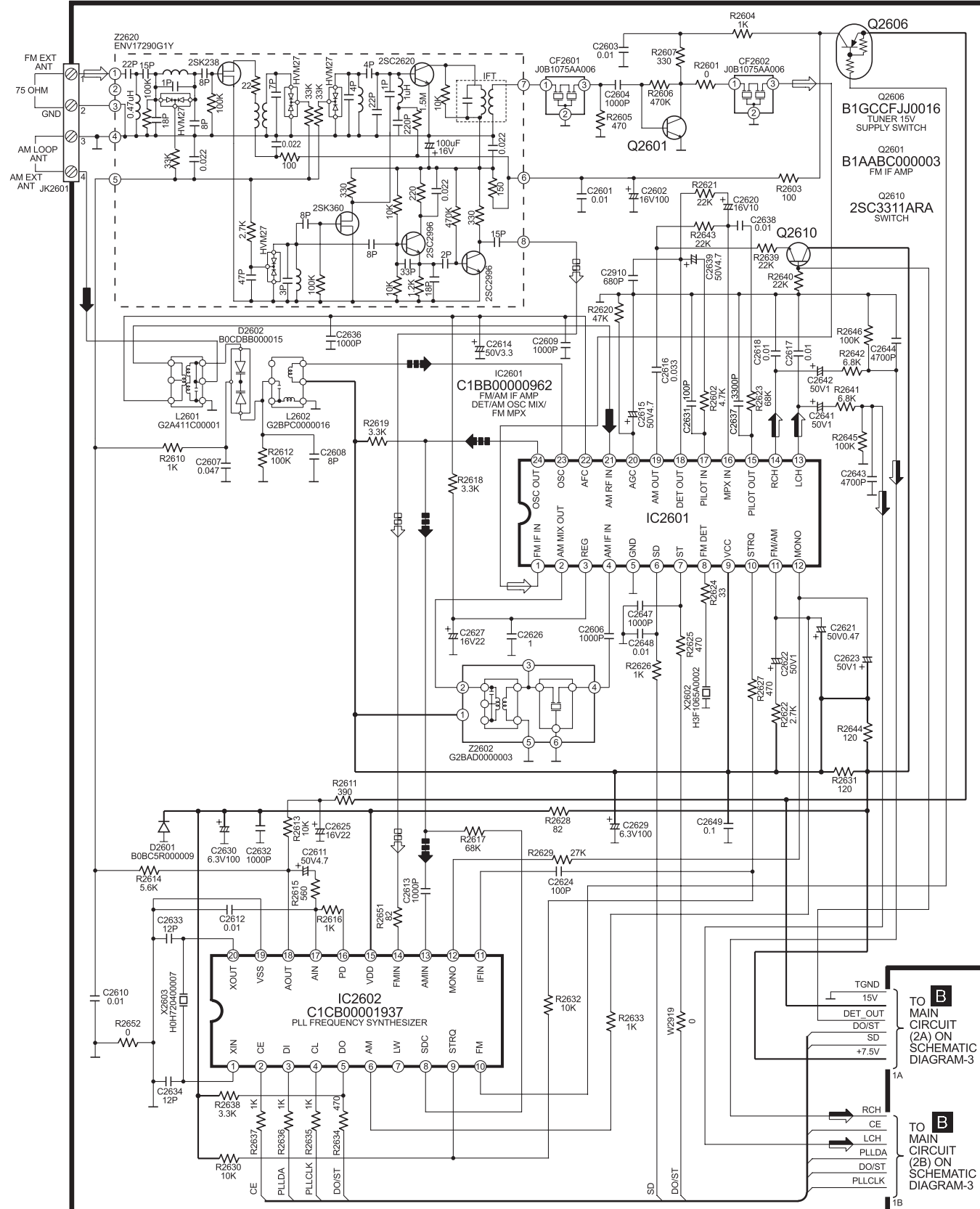
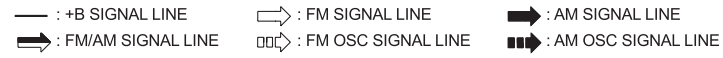


B MAIN CIRCUIT (CN2801) ON SCHEMATIC DIAGRAM-3

17.3. (B) Main (Tuner) Circuit

SCHEMATIC DIAGRAM - 2

B MAIN (TUNER) CIRCUIT



SA-AK640E/EB/EG MAIN (TUNER) CIRCUIT

17.4. (B) Main Circuit

SCHEMATIC DIAGRAM - 3

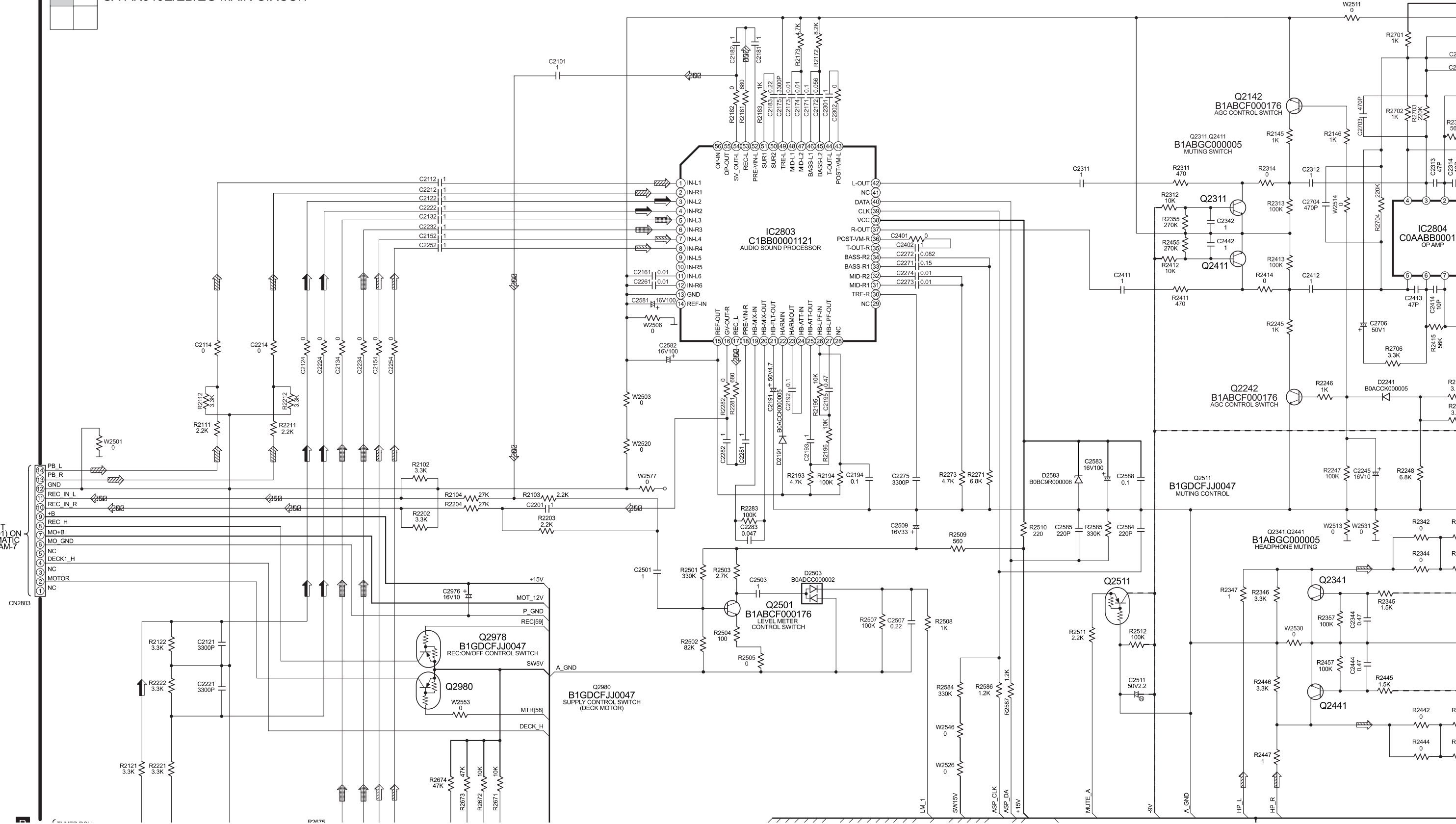
— : +B SIGNAL \Rightarrow : FM/AM SIGNAL LINE \Rightarrow : TAPE RECORD SIGNAL LINE \Rightarrow : CD SIGNAL LINE
 - - : -B SIGNAL \Rightarrow : MAIN SIGNAL LINE \Rightarrow : TAPE PLAYBACK SIGNAL LINE

B MAIN CIRCUIT

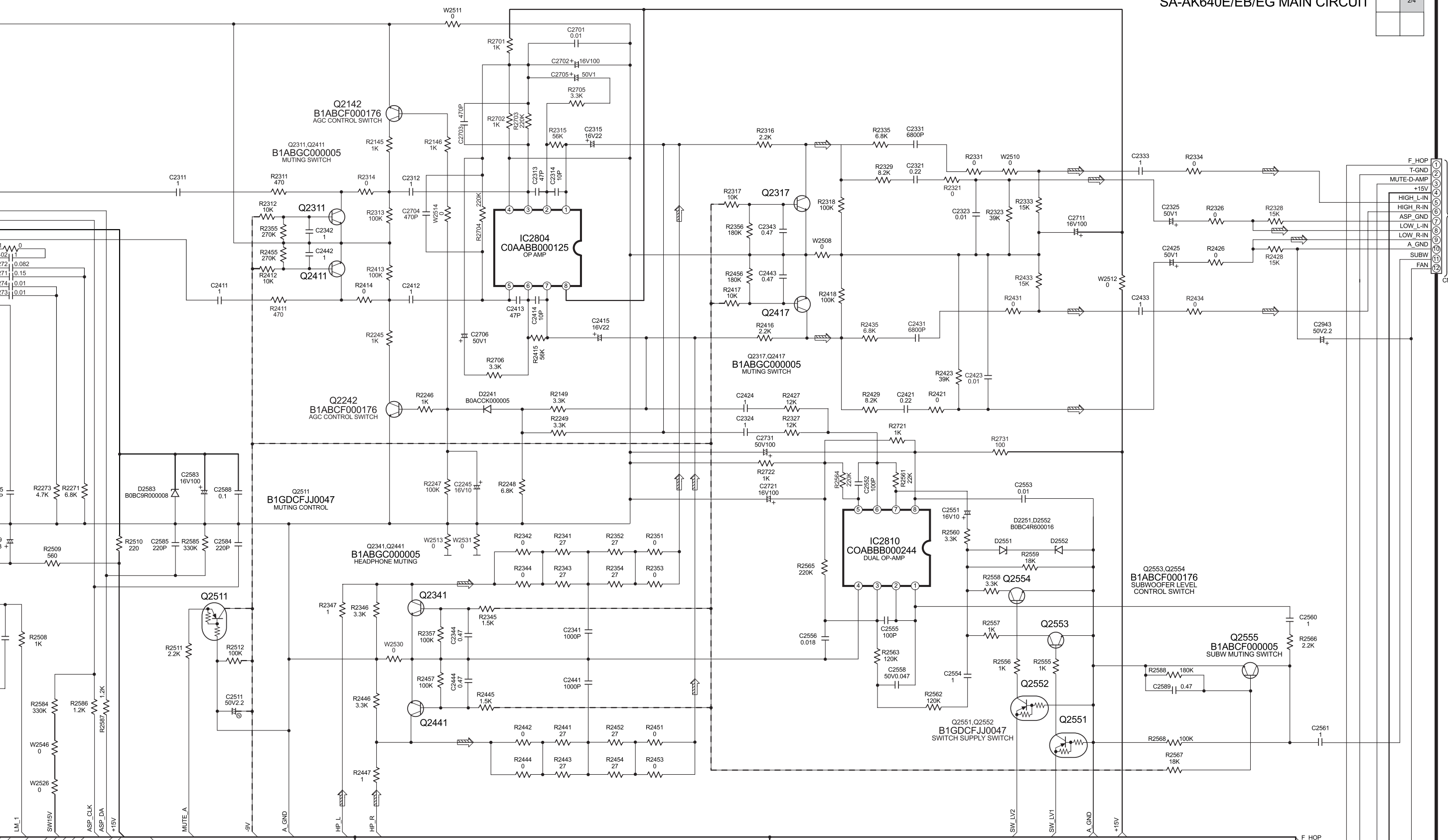
1/4

SA-AK640E/EB/EG MAIN CIRCUIT

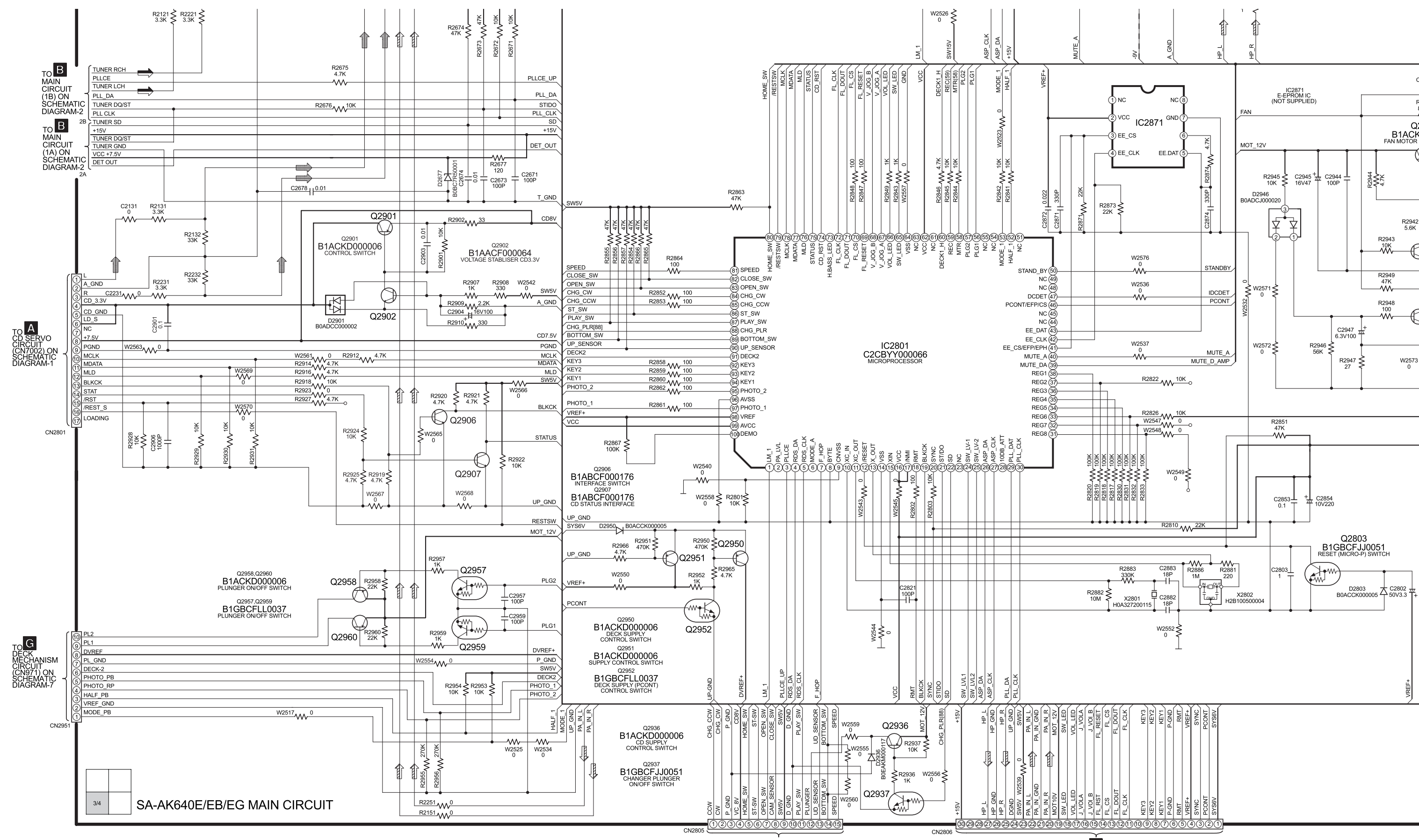
F TO DECK CIRCUIT (CN1001) ON SCHEMATIC DIAGRAM-7



SA-AK640E/EB/EG MAIN CIRCUIT



TO POWER CIRCUIT (CN5102) ON SCHEMATIC DIAGRAM-6



SA-AK640E/EB/EG MAIN CIRCUIT

TO MAIN CIRCUIT (1B) ON SCHEMATIC DIAGRAM-2

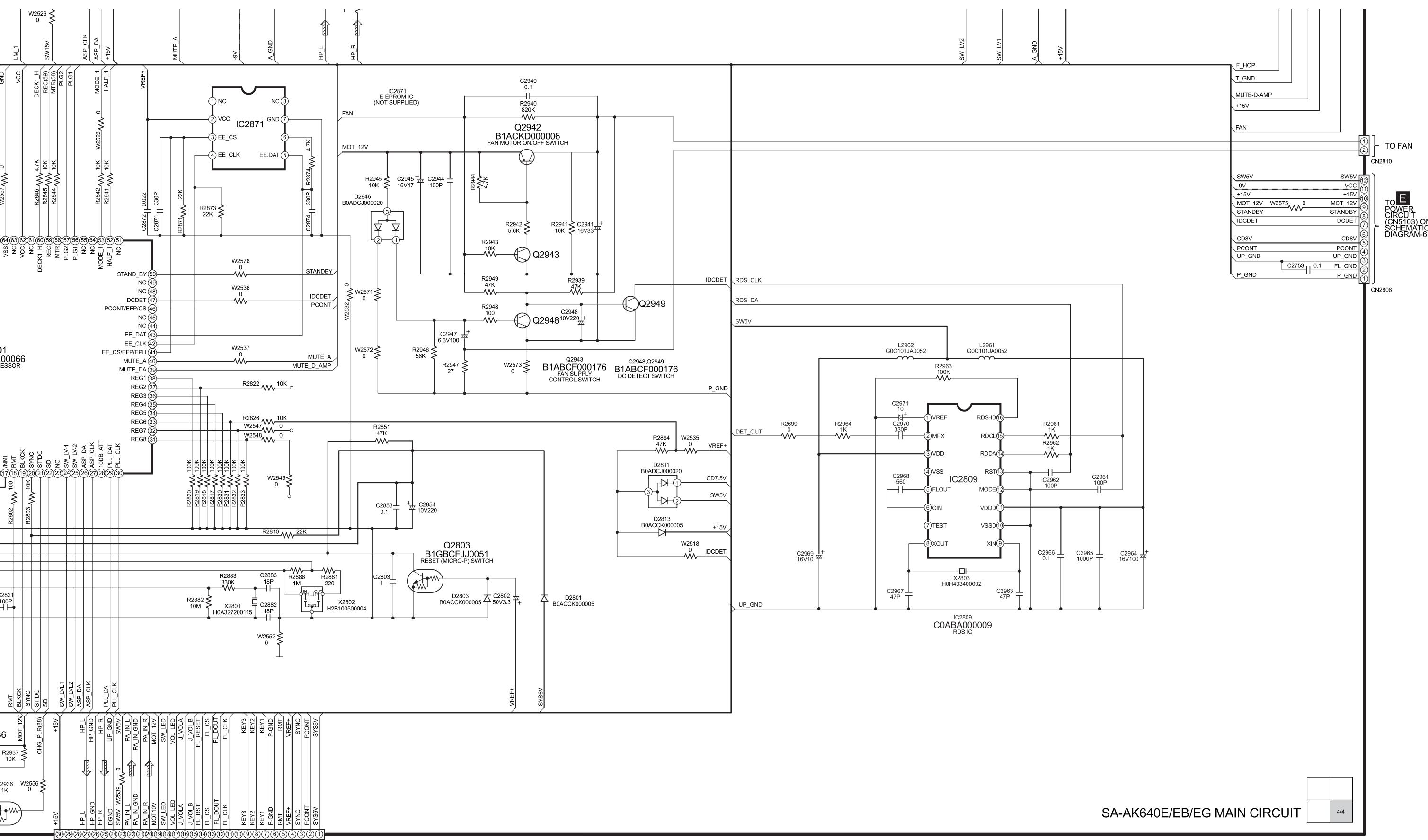
TO MAIN CIRCUIT (1A) ON SCHEMATIC DIAGRAM-2

TO CD SERVO CIRCUIT (CN7002) ON SCHEMATIC DIAGRAM-1

TO DECK MECHANISM CIRCUIT (CN971) ON SCHEMATIC DIAGRAM-7

CN2805

CN2806



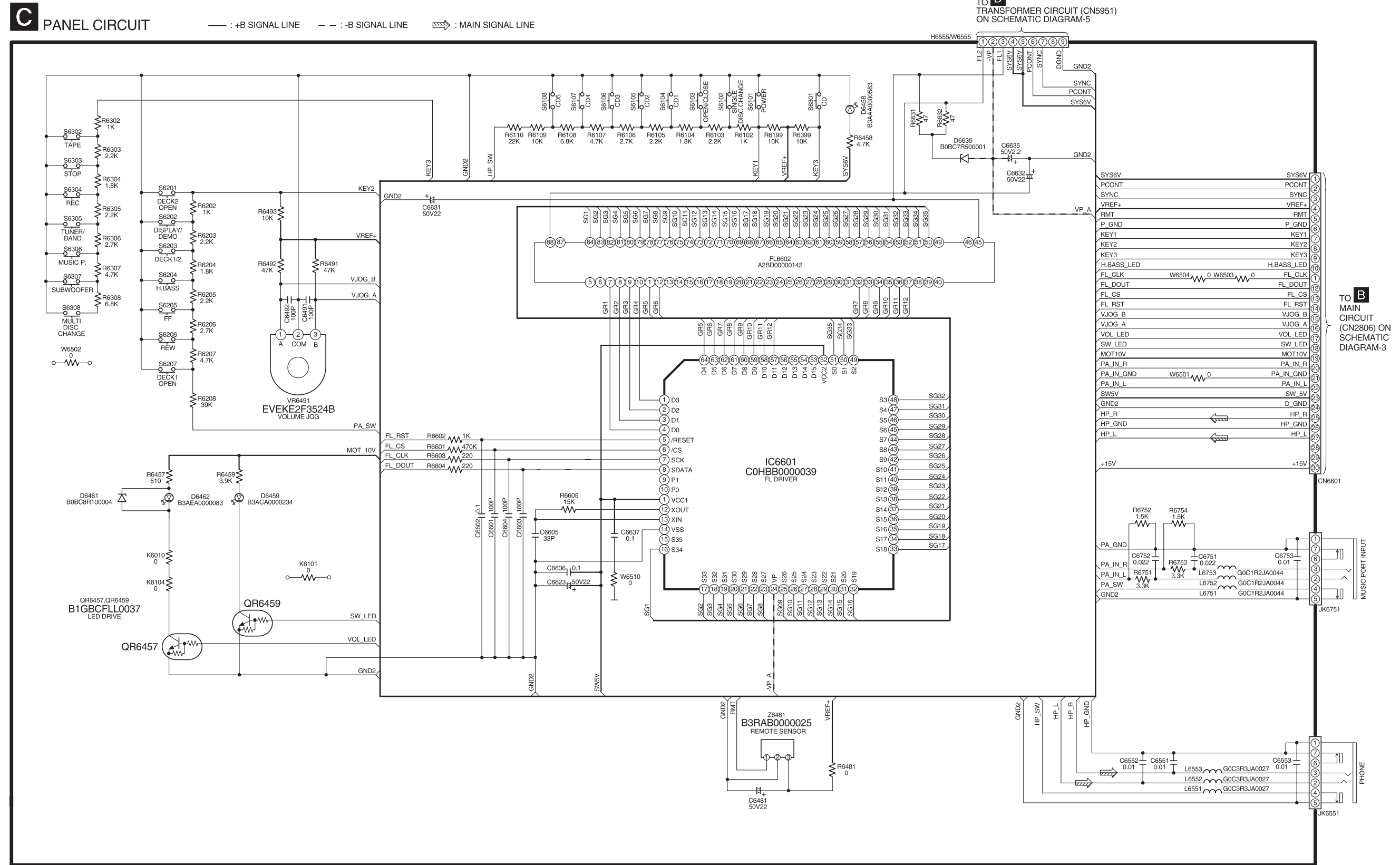
TO POWER CIRCUIT (CN5103) ON SCHEMATIC DIAGRAM-6

SW5V	SW5V
-9V	-VCC
+15V	+15V
MOT_12V	MOT_12V
STANDBY	STANDBY
IDCDET	IDCDET
CD8V	CD8V
PCONT	PCONT
UP_GND	UP_GND
P_GND	P_GND

SA-AK640E/EB/EG MAIN CIRCUIT

17.5. (C) Panel Circuit

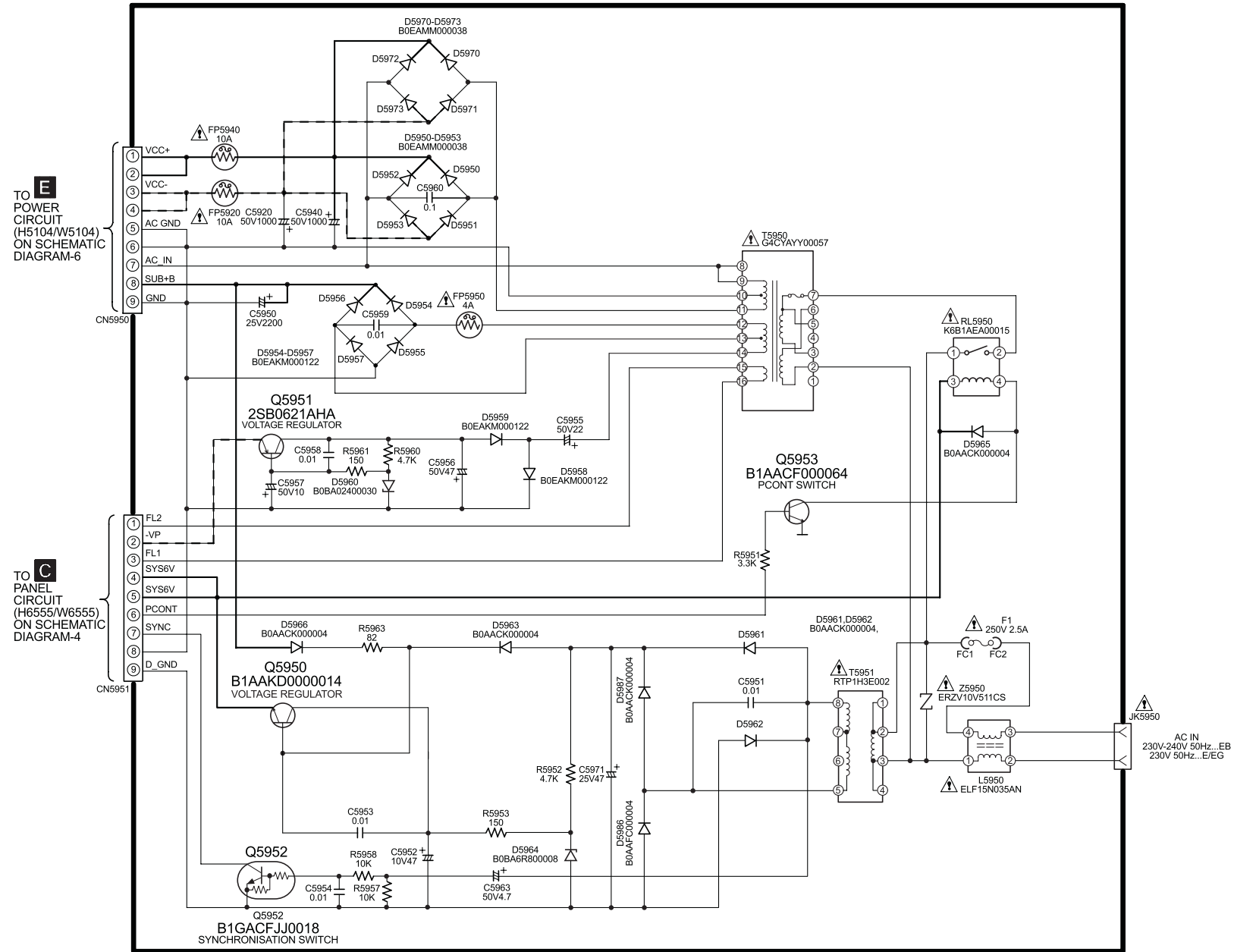
SCHEMATIC DIAGRAM - 4



17.6. (D) Transformer Circuit

SCHEMATIC DIAGRAM - 5

D TRANSFORMER CIRCUIT — : +B SIGNAL LINE - - : -B SIGNAL LINE

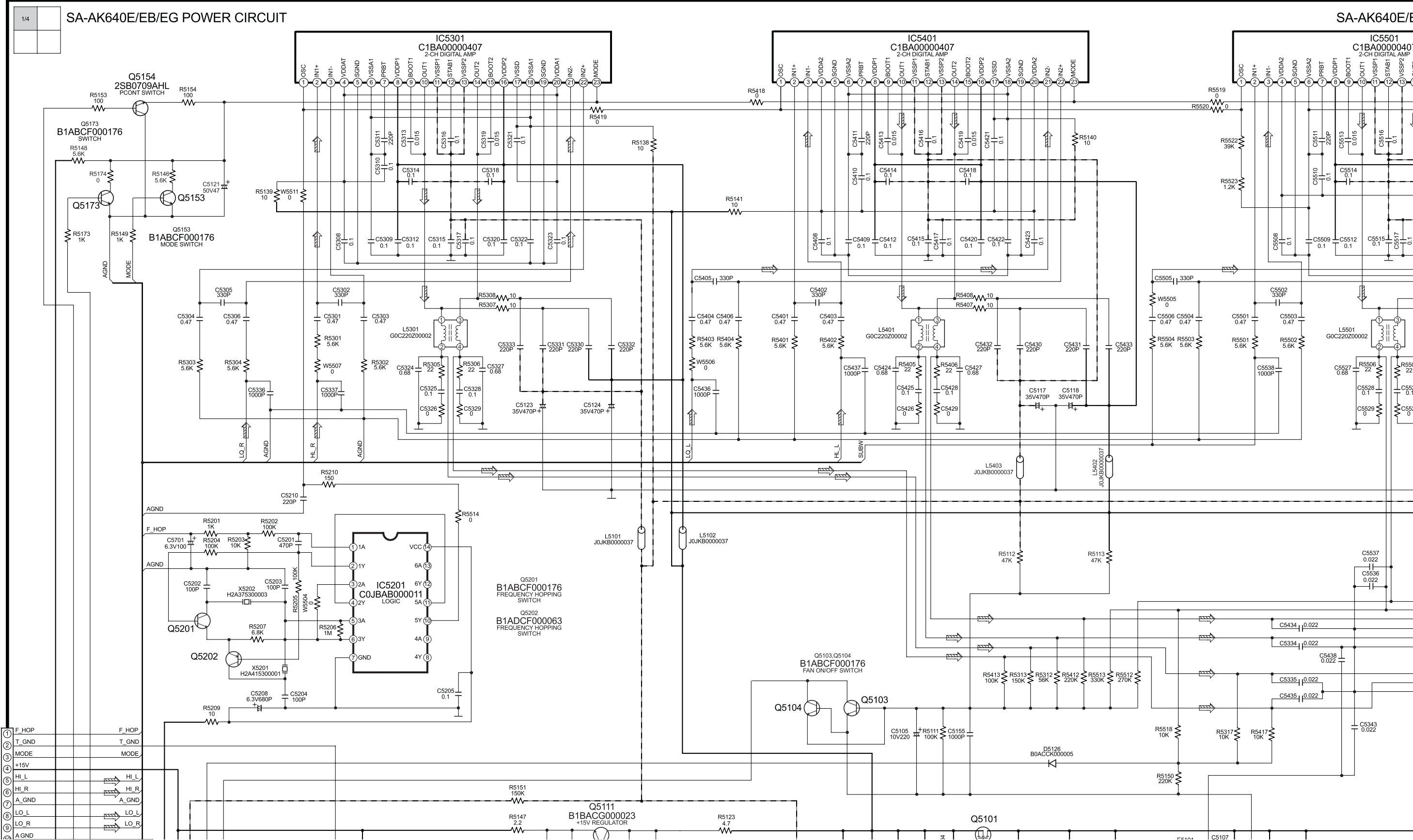


SA-AK640E/EB/EG TRANSFORMER CIRCUIT

17.7. (H) Power Circuit

SCHEMATIC DIAGRAM - 6

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



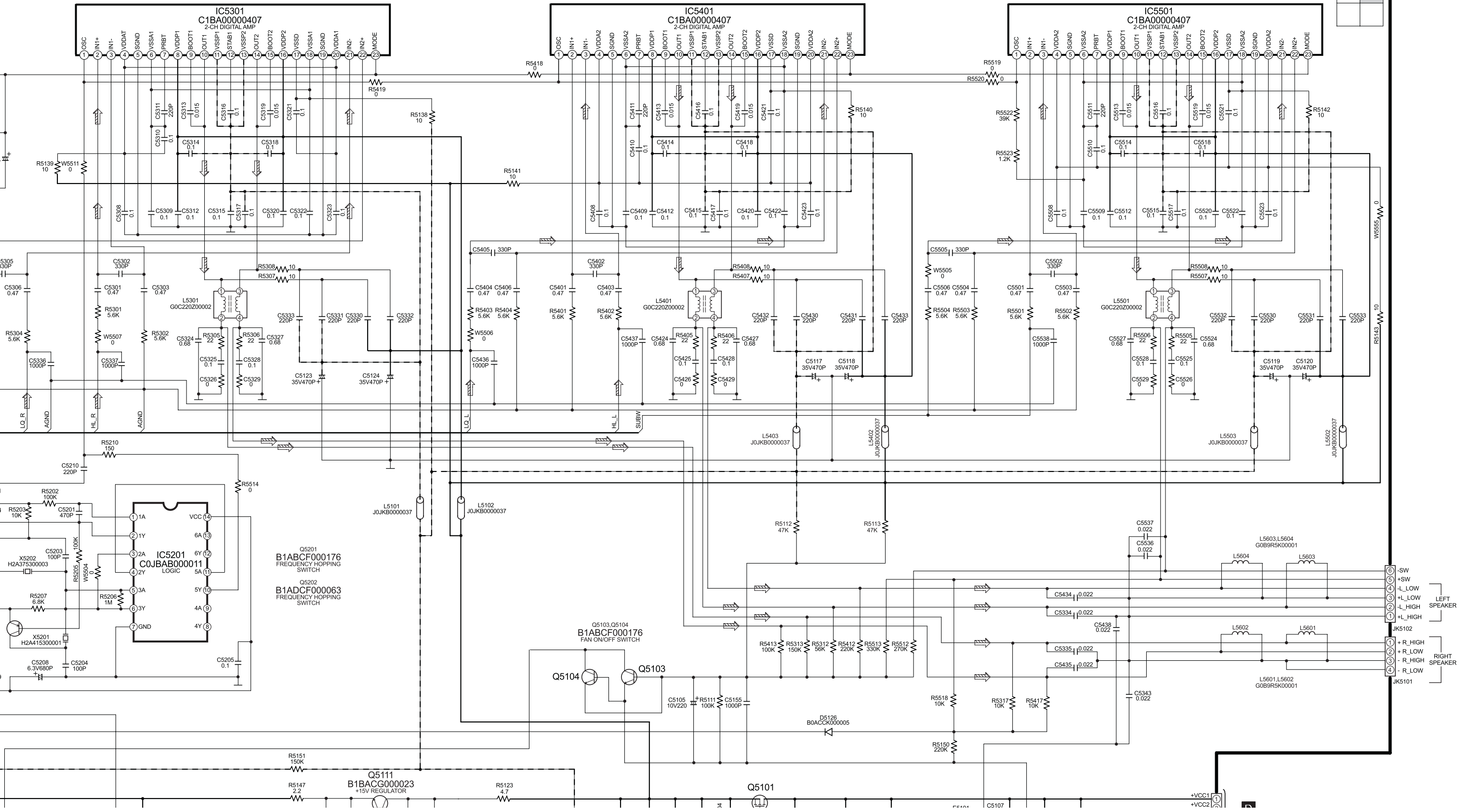
TO MAIN CIRCUIT (CN2809) ON SCHEMATIC DIAGRAM-3

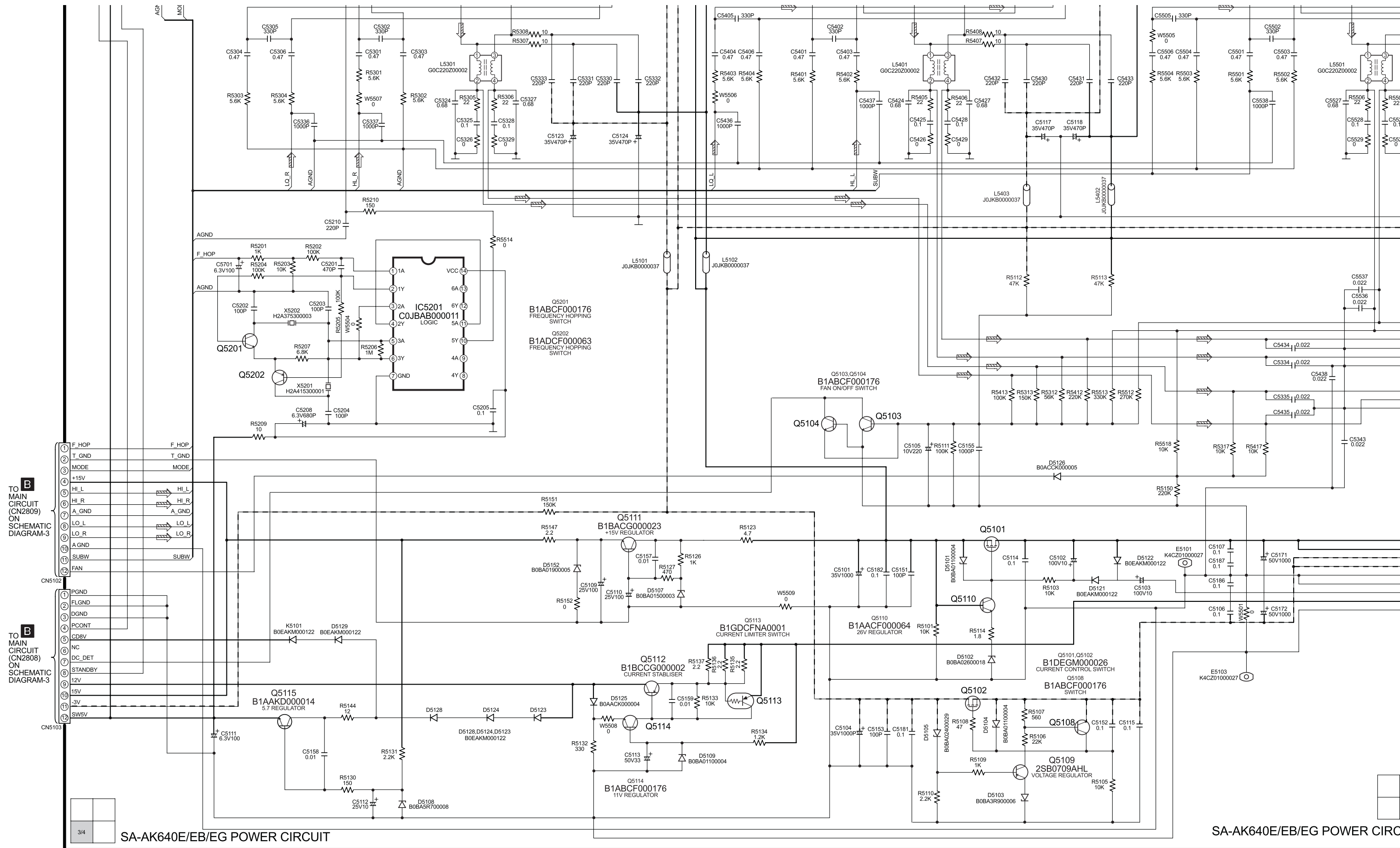
--- : -B SIGNAL LINE
⇒ : MAIN SIGNAL LINE

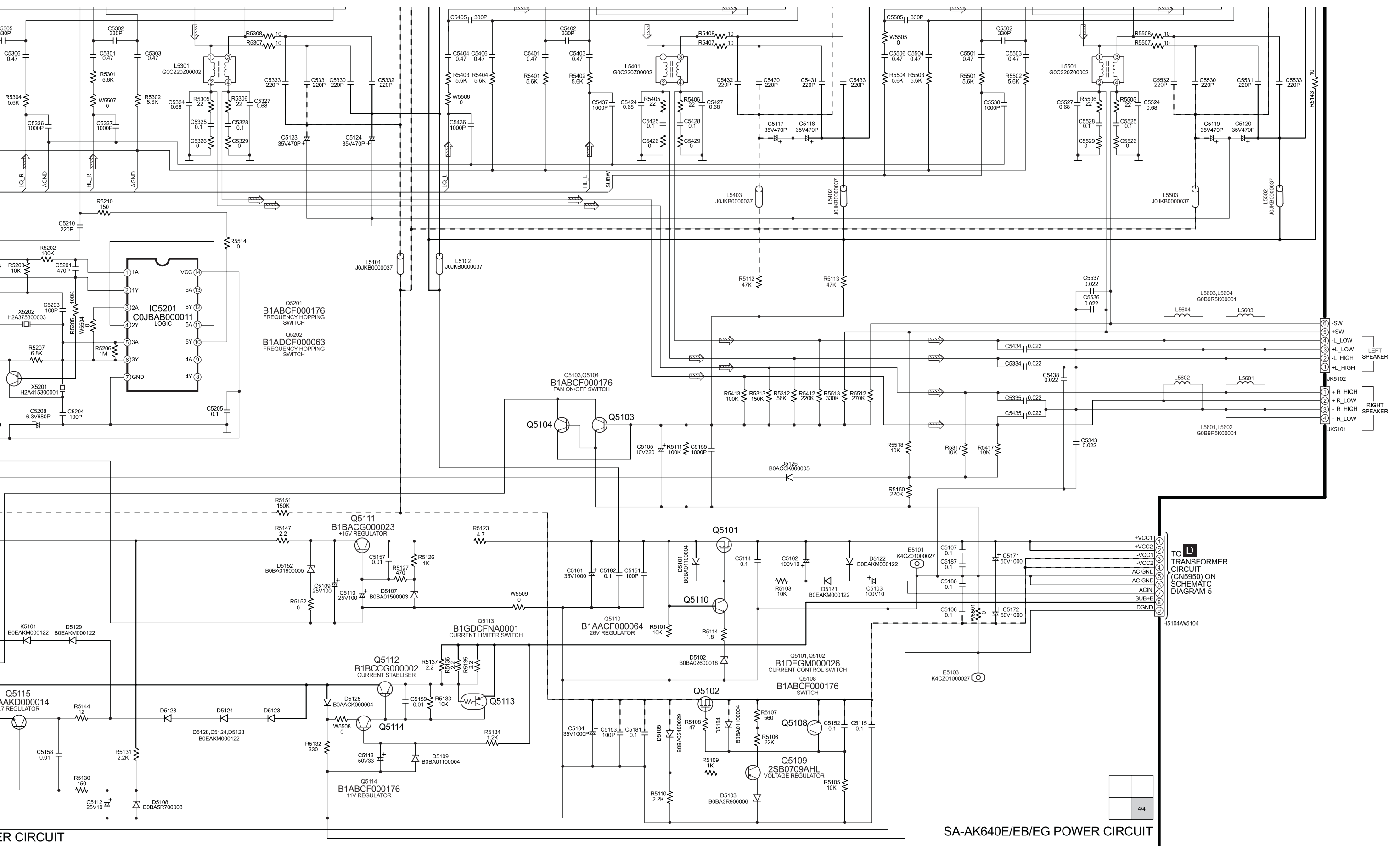
POWER CIRCUIT

SA-AK640E/EB/EG POWER CIRCUIT

2/4

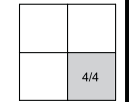






TO TRANSFORMER CIRCUIT (CN5950) ON SCHEMATIC DIAGRAM-5

SA-AK640E/EB/EG POWER CIRCUIT

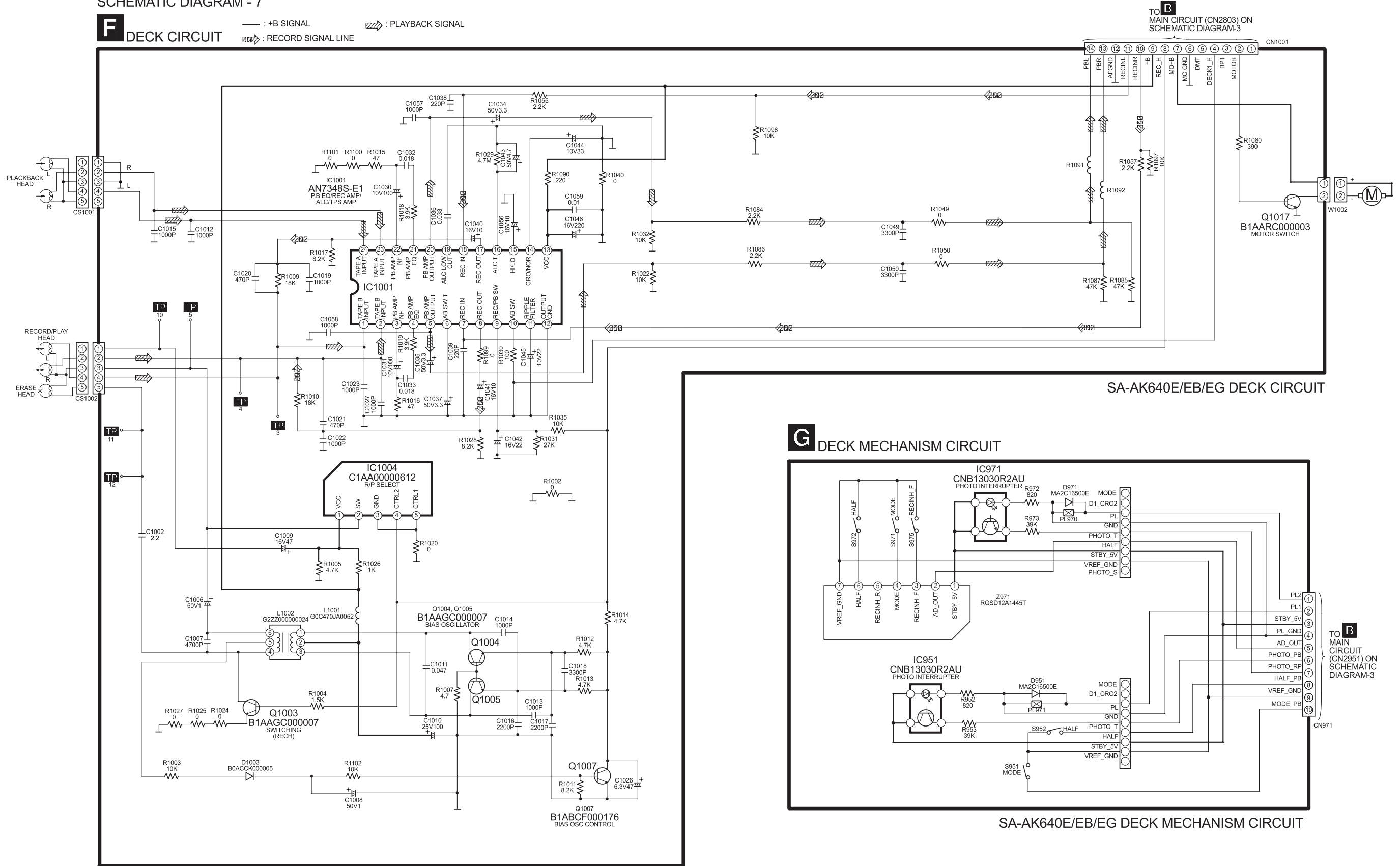


17.8. (F) Deck Circuit & (G) Deck Mechanism Circuit

SCHEMATIC DIAGRAM - 7

F DECK CIRCUIT

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



SA-AK640E/EB/EG DECK CIRCUIT

G DECK MECHANISM CIRCUIT

SA-AK640E/EB/EG DECK MECHANISM CIRCUIT

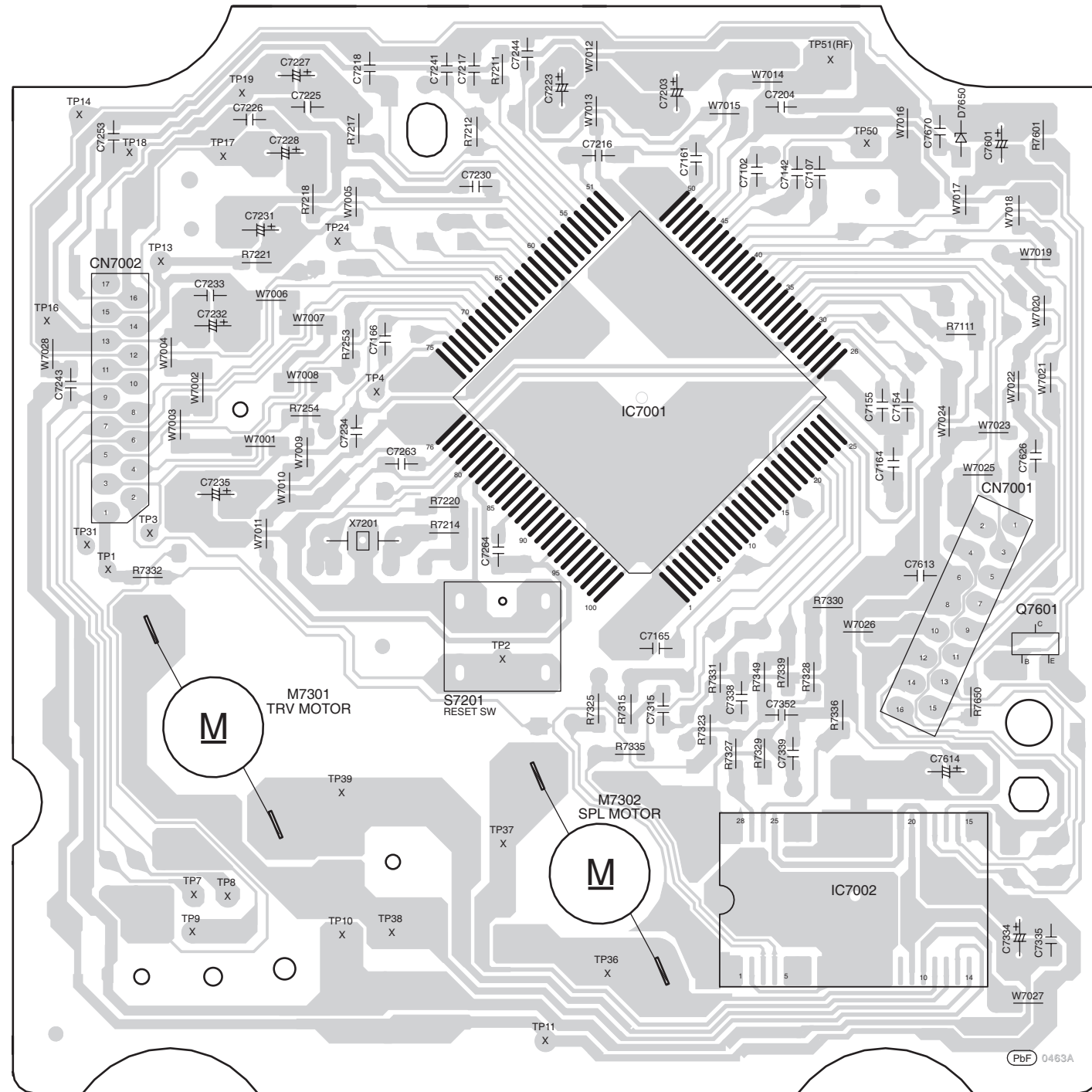
18 Printed Circuit Board

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

18.1. (A) CD Servo P.C.B.



A CD SERVO P.C.B (REPX0494A)

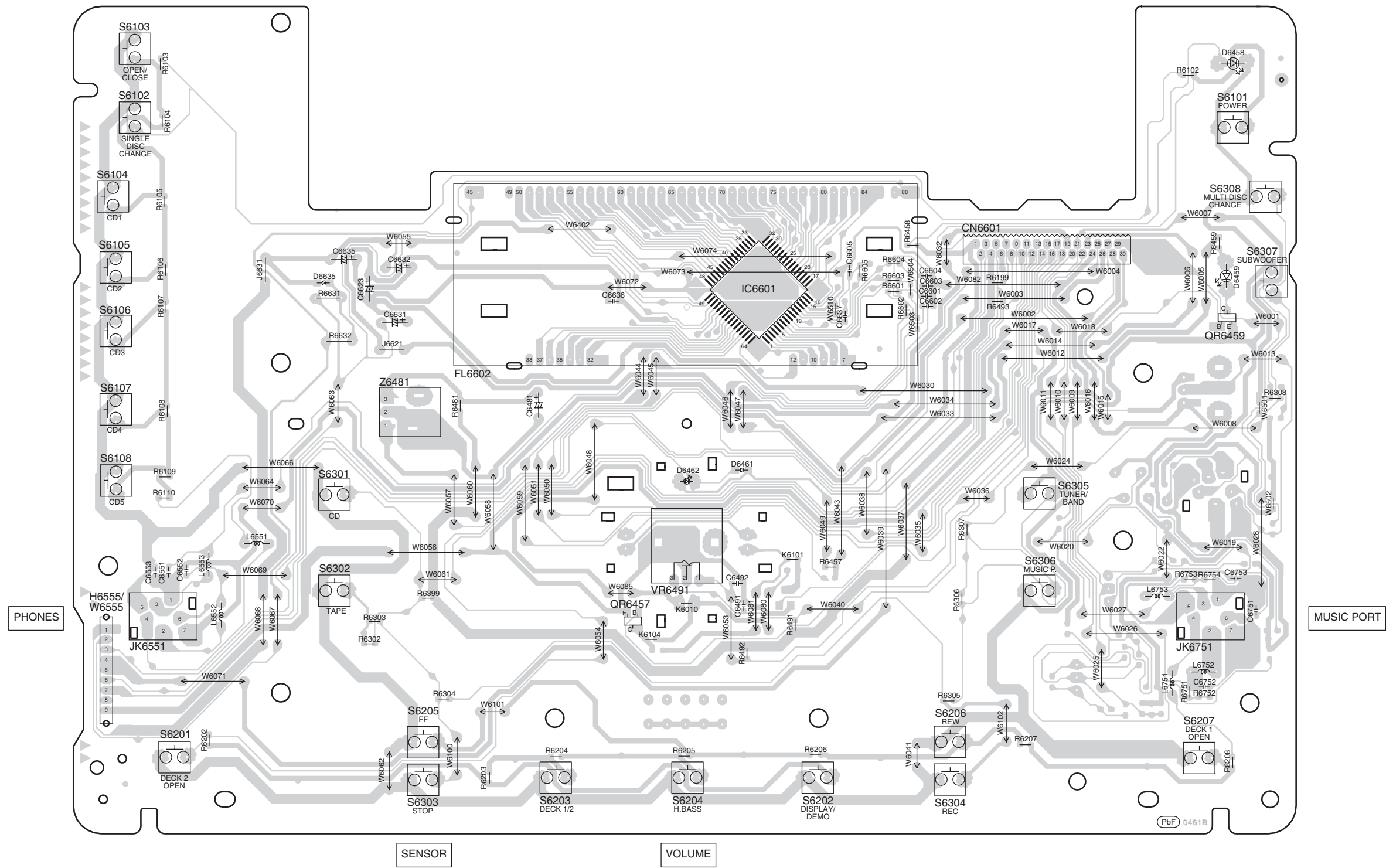


18.3. (C) Panel P.C.B.

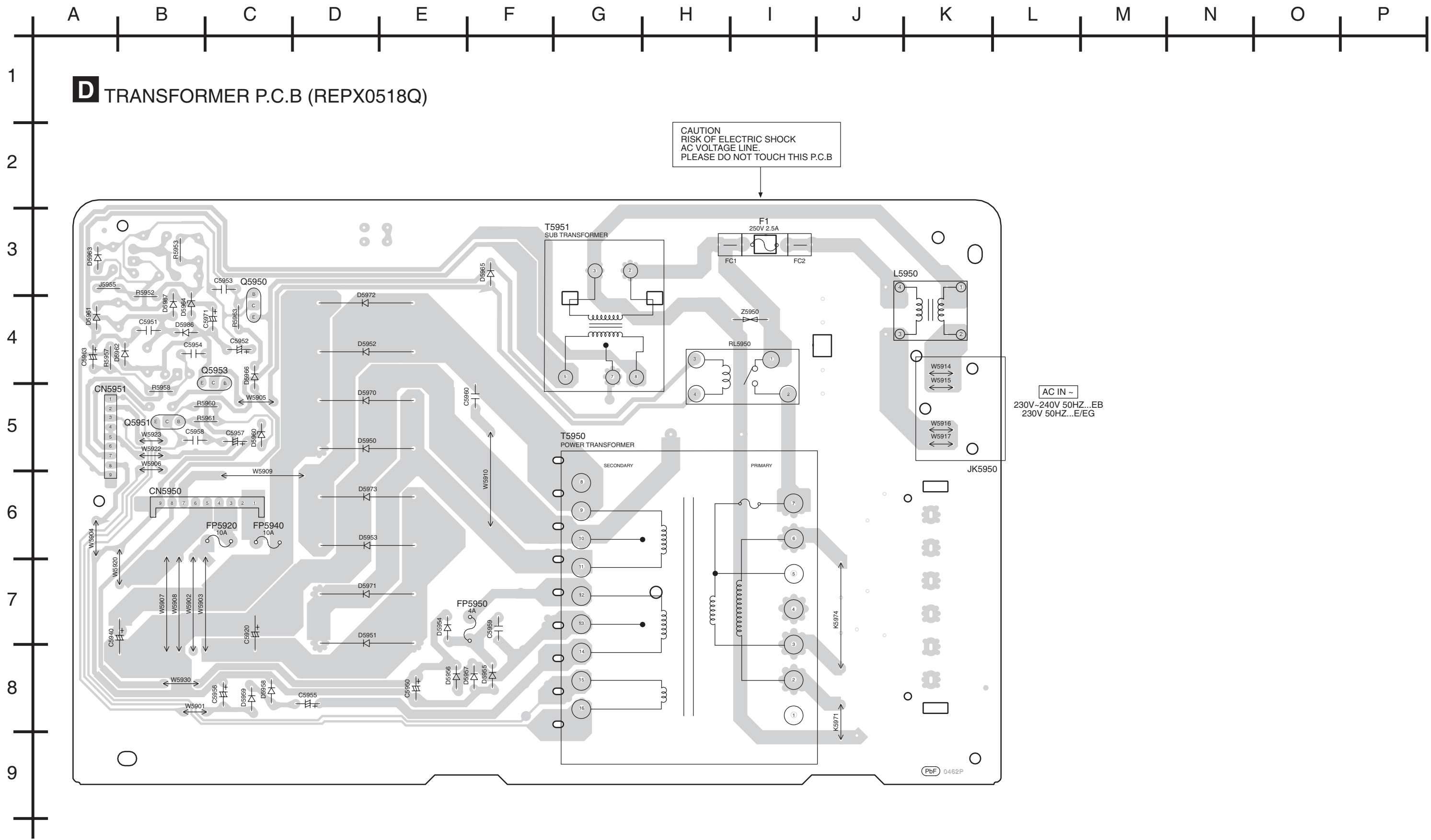
C PANEL P.C.B (REPX0517L)

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

1
2
3
4
5
6
7
8
9



18.4. (D) Transformer P.C.B.



D TRANSFORMER P.C.B (REPX0518Q)

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

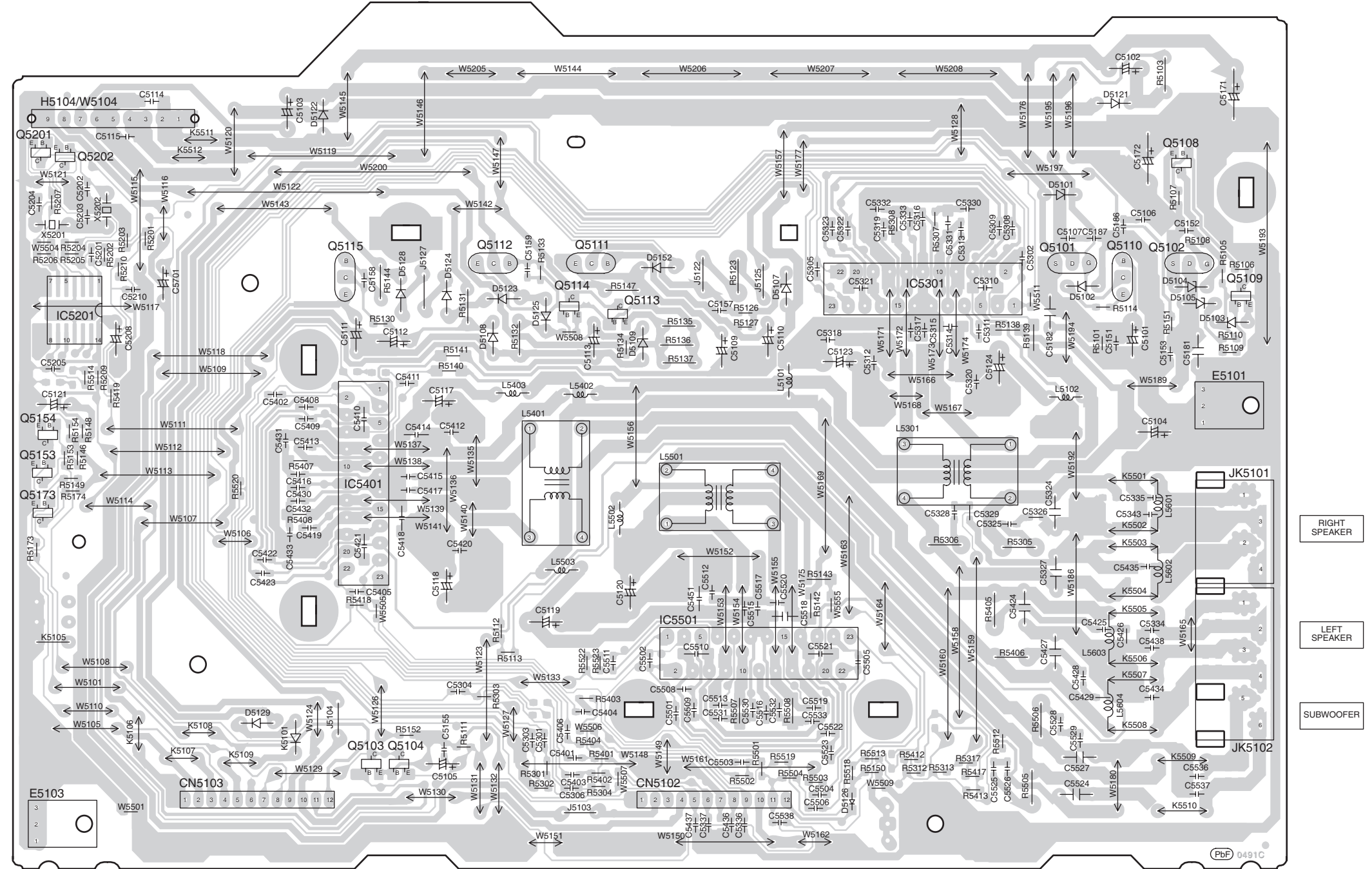
AC IN ~
230V-240V 50HZ...EB
230V 50HZ...E/EG

PbF 0462P

18.5. (E) Power P.C.B.

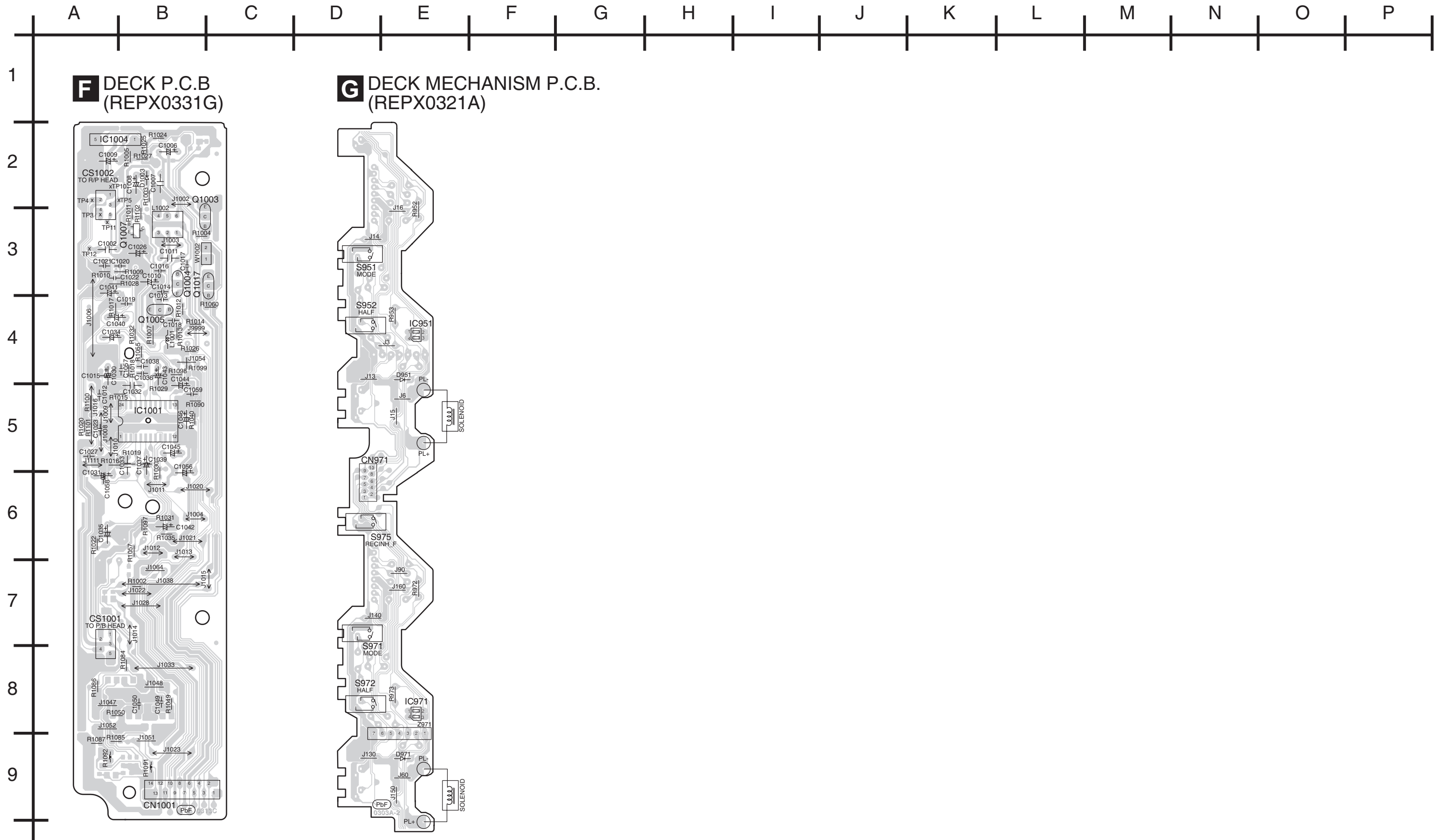
A B C D E F G H I J K L M N O P

E POWER P.C.B (REPX0533C)

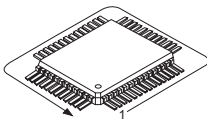
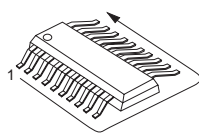
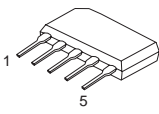
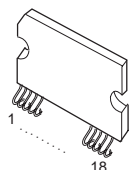
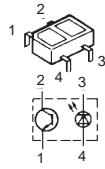
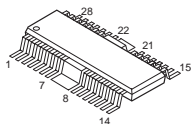
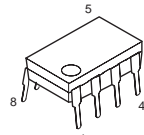
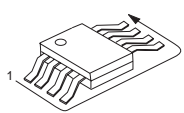
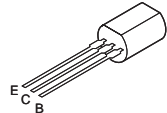
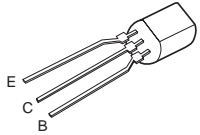
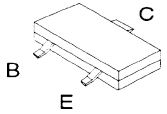
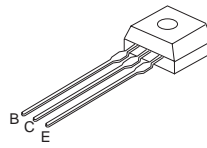
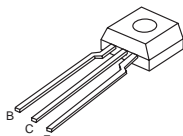
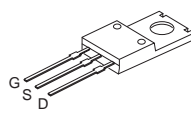
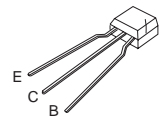
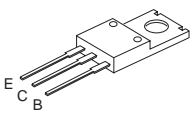
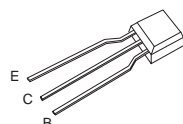
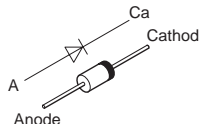
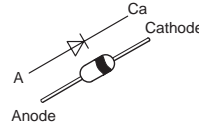
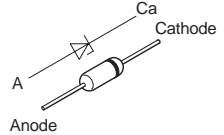
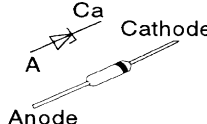
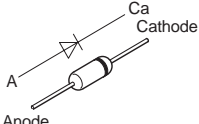
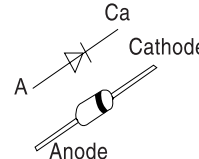
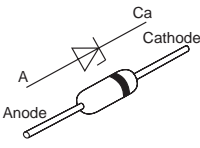
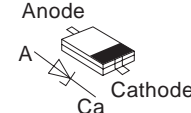
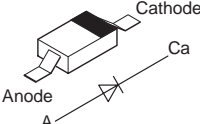
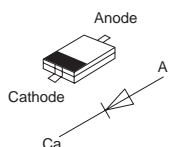
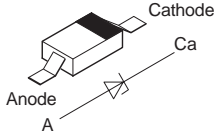
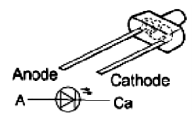
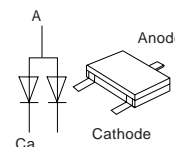
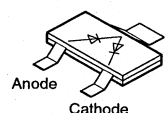
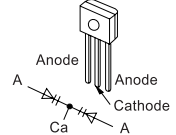


- RIGHT SPEAKER
- LEFT SPEAKER
- SUBWOOFER

18.6. (F) Deck P.C.B. & (G) Deck Mechanism P.C.B.



19 Illustration of ICs, Transistors and Diodes

<p>C1BB00001121 (100P) C2CBBY000066 (100P) C0HBB0000039 (44P) MN6627954MA (100P)</p> 	<p>AN7348S-E1 (24P) C0JBAB000011 (14P) C1BB00000987 (16P) C1BB00000962 (24P) C1CB00001937 (20P)</p> 	<p>C1AA00000612</p> 	<p>C1BA00000407</p> 		
<p>CNB13030R2AU (4P)</p> 	<p>BA5948FPE2</p> 	<p>C0AABB000125</p> 	<p>C0ABBB000244 (8P)</p> 	<p>B1AAKD000014 B1AARC000003 B1ACKD000006</p> 	<p>2SB0621AHA</p> 
<p>2SB0709AHL B1ABCF000176 B1ABGC000005 B1ADCF000063 B1GBCFJJ0051 B1GDCFNA0001 B1GBCFLL0037</p>	<p>B1ADCF000001 B1GDCFJJ0047</p> 	<p>B1GCCFJJ0016</p> 	<p>B1AACF000064</p> 	<p>B1DEGM000026</p> 	<p>2SC3311ARA</p> 
<p>B1BACG000023 B1BCCG000002</p> 	<p>B1AABC000003 B1AAGC000007</p> 	<p>B0EAKM000117 B0EAKM000122</p> 	<p>MA2C16500E</p> 	<p>B0BA6R800008 B0BA3R900006 B0BA5R700008 B0BA01900005 B0BA02400029 B0BA02400030</p> 	
<p>B0BA01100004 B0BA01500003</p> 	<p>B0EAMM000038</p> 	<p>B0AACK000004</p> 	<p>B0BA02600018</p> 	<p>B0BC5R000009 B0BC7R500001</p> 	<p>MAZ80560ML</p> 
<p>B0ACCK000005</p> 	<p>B0BC4R400016 B0BC8R100004 B0BC9R000008</p> 		<p>B3AAA0000803 B3AEA0000083 B3ACA0000234</p> 	<p>B0ADCJ000020</p> 	<p>B0ADCC000002</p> 
<p>B0CDBB000015</p> 					

20 Terminal Function of IC's

20.1. IC7001 (MN6627954MA) Servo Processor, Digital Signal Processor/Digital filter and D/A Converter

Pin No.	Mark	I/O	Function
1	A11	O	DRAM address signal O/P 11
2	A9	O	DRAM address signal O/P 9
3	A8	O	DRAM address signal O/P 8
4	A7	O	DRAM address signal O/P 7
5	A6	O	DRAM address signal O/P 6
6	A5	O	DRAM address signal O/P 5
7	A4	O	DRAM address signal O/P 4
8	NWE	O	Write Enable Signal (DRAM)
9	NCAS	O	DRAM CAS Control Signal
10	NRAS	O	DRAM ARS Control Signal
11	A3	O	DRAM address Signal O/P 3
12	A2	O	DRAM address Signal O/P 2
13	A1	O	DRAM address Signal O/P 1
14	A0	O	DRAM address Signal O/P 0
15	A10	O	DRAM address Signal O/P 10
16	BA0	N.C.	Motor O/P (0);/Serial I/P
17	BA1	N.C.	Motor O/P (1);/Serial I/P
18	PRAMVSS33	-	GND (DRAM)
19	PRAMVDD15	-	Power Supply Voltage (DRAM)
20	PRAMVDD33	-	Power Supply Voltage (+1.6V)
21	SPOUT	O	Spindle Drive O/P
22	PC	I/O	Spindle motor drive O/P signal serial data/Monitoring I/P
23	TRVP	O	Traverse Drive O/P (+ve)
24	TRP	O	Tracking Drive O/P (+ve)
25	FOP	O	Focusing Drive O/P (+ve)
26	DVSS1	-	GND
27	IOVDD2	I	Digital Power Supply Voltage 2 (I/O)
28	DVDD1	-	Digital Power Supply Voltage 1 (Built-In)
29	SRVMON0	N.C.	Servo Monitor (0) O/P
30	SRVMON1	N.C.	Servo Monitor (1) O/P
31	AVSS2	-	GND
32	OSCIN	I	Oscillating Input
33	CTRCRS	N.C.	Tracking Cross Comparator
34	VREF	-	+Vref Supply Voltage
35	E	I	Tracking Input Signal 1
36	F	I	Tracking Input Signal 2
37	D	I	Focusing Input Signal 4
38	B	I	Focusing Input Signal 2
39	C	I	Focusing Input Signal 3
40	A	I	Focusing Input Signal 1
41	PD	I	APC Amp I/P
42	LD	O	Laser Drive Current O/P
43	CENV	I	Detection Capacitance Connection terminal
44	RFENV	O	RF Envelope O/P
45	RFOUT	O	RF Summing Amp O/P
46	RFIN	I	SGC I/P
47	AVDD2	I	Analog Power Supply voltage 2 (For DSL/PLL)
48	ARFDC	O	AGC Capacitive Connection Terminal
49	ARFOUT	O	AGC Output
50	ARFFB	I	ARF Feedback Signal I/P
51	ARFIN	I	Audio RF Signal I/P
52	DSLFL	I	Loop Filter Terminal (For DSL)

Pin No.	Mark	I/O	Function
53	IREF	I	Reference I/P
54	PLLFL	I	PLL Loop Filter Terminal (Phase Compare)
55	PLLFO	O	PLL Loop Filter Terminal (Speed Compare)
56	OUTL	O	Audio O/P (LCH)
57	AVSS1	-	GND
58	AVDD1	I	Analog Power Supply Voltage 1
59	OUTR	O	Audio O/P (RCH)
60	DVSS3	-	GND3 (Digital Circuit)
61	NSRVMONON	I	Servo Motor O/P Enabling
62	EXT0	N.C.	Expansion O/P Port 0
63	EXT1	N.C.	Expansion O/P Port 1
64	EXT2	N.C.	Expansion O/P Port 2
65	FLAG	N.C.	Flag Signal O/P
66	TX	N.C.	Digital Audio Interface O/P signal
67	MCLK	I	Micro-Computer Command Clock I/P
68	MDATA	I	Micro-Computer Data I/P
69	MLD	I	Micro-Computer Load I/P
70	STAT	O	Status Signal O/P
71	BLKCK	O	Subcode Blk Clock
72	NRST	O	LSI Reset Signal
73	DQSYTXT	N.C.	Pack Signal O/P for CD-Text data
74	SMCK	N.C.	Micro-Computer Clock O/P
75	PMCK	N.C.	IOCNT Serial data O/P (Synchronous O/P)
76	DVDD2	-	Digital Power Supply Voltage 2 (+1.5V)
77	IOVDD1	-	Digital Power Supply Voltage 1 (For I/O)
78	DVSS2	-	GND2 (For Digital Circuit)
79	NTEST2	I	Test Mode Setting (ON:H)
80	X2	O	Crystal Oscillating Circuit O/P
81	X1	I	Crystal Oscillating Circuit I/P
82	NTEST	I	Test Mode Setting I/P (ON:H)
83	D2	I/O	Data Signal O/P 2
84	D1	I/O	Data Signal O/P 1
85	D0	I/O	Data Signal O/P 0
86	D3	I/O	Data Signal O/P 3
87	D4	I/O	Data Signal O/P 4
88	D5	I/O	Data Signal O/P 5
89	D6	I/O	Data Signal O/P 6
90	D7	I/O	Data Signal O/P 7
91	D15	I/O	Data Signal O/P 15
92	D14	I/O	Data Signal O/P 14
93	DRVDD	I	I/O Power Supply Voltage (DRAM)
94	D13	I/O	Data Signal O/P 13
95	D12	I/O	Data Signal O/P 12
96	D11	I/O	Data Signal O/P 11
97	D10	I/O	Data Signal O/P 10
98	D9	I/O	Data Signal O/P 9
99	D8	I/O	Data Signal O/P 8
100	SDRCK	O	Clock Signal O/P

20.2. IC7002 (BA5948FPE2) IC 4CH Drive

Pin No.	Mark	I/O	Function
1	IN2	I	Motor Driver 92 Input
2	PC2	I	Turntable Motor Drive Signal ("L":ON)
3	IN1	I	Motor Drive (1) Input
4	PC1	-	Traverse Motor Drive Signal ("L"): ON)
5-8	N.C.	-	No Connection
9	PGND1	-	Ground Connection (1) for Drive
10	PVCC1	I	Power Supply (1) for Drive
11	D1-	O	Motor Drive (1) reverse - action output
12	D1+	O	Motor Drive (1) forward - action output
13	D2-	O	Motor Drive (2) reverse - action output
14	D2+	O	Motor Drive (2) forward - action output

Pin No.	Mark	I/O	Function
15	D3-	O	Motor Drive (3) reverse - action output
16	D3+	O	Motor Drive (3) forward - action output
17	D4-	O	Motor Drive (4) reverse - action output
18	D4+	O	Motor Drive (4) forward - action output
19	PVCC2	-	Power Supply (2) for Driver
20	PGND2	-	Ground Connection (2) for Driver
21-24	N.C.	O	No Connection
25	VCC	I	Power Supply terminal
26	VREF	I	Reference Voltage Input
27	IN4	I	Motor Driver (4) Input
28	IN3	I	Motor Driver (3) Input

20.3. IC2801 (C2CBYY000066) System Microprocessor

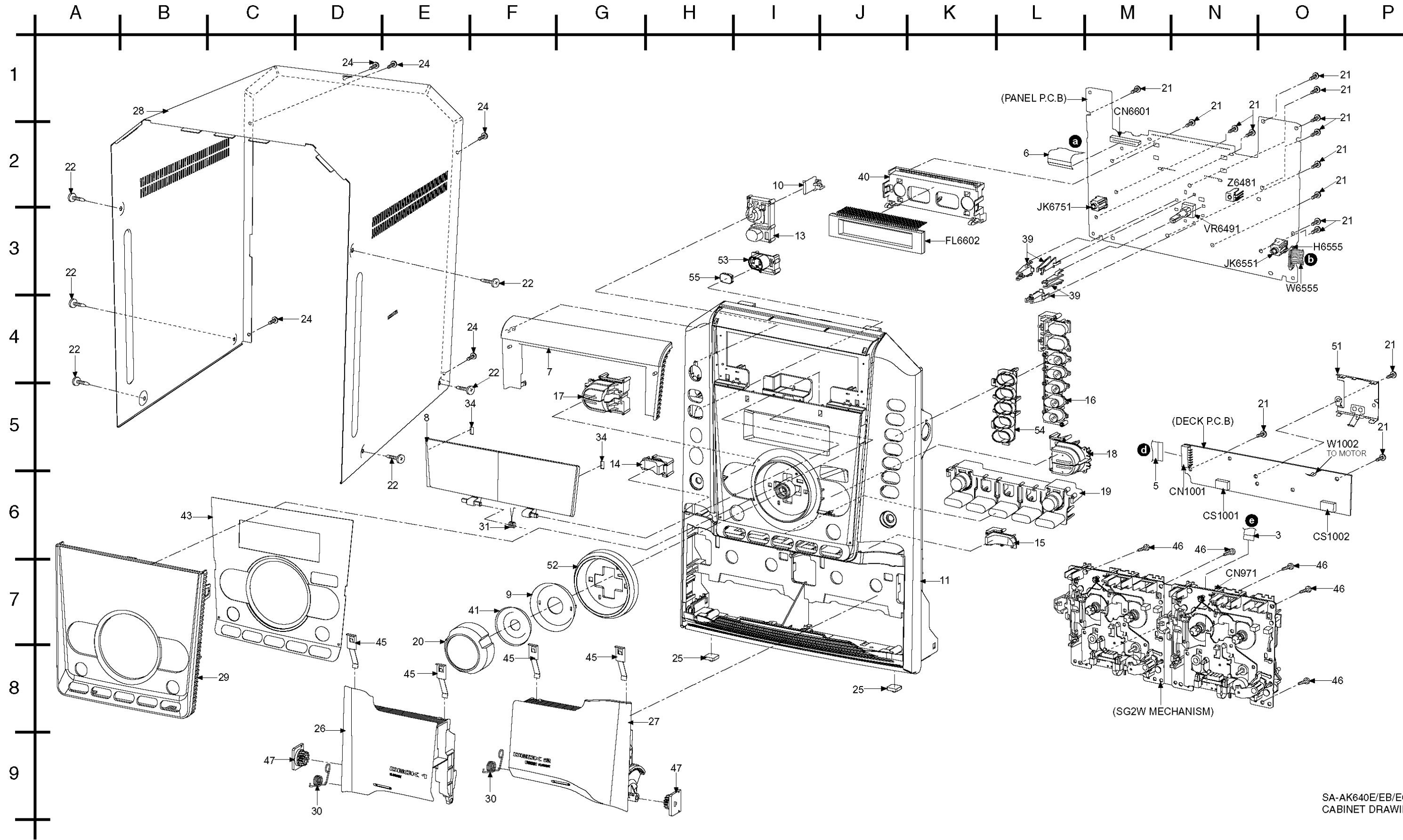
Pin No.	Mark	I/O	Function
1	LM_1	-	Level Meter
2	PA_LVL	-	No Connection
3	PLLCE	O	PLL Chip Select
4	RDS_DA	I	RDS Data Input
5	RDS_CLK	I	RDS Clock Input
6	MODE_A	-	No Connection
7	F_Hop	O	F_Hop for Digital Amp
8	BYTE	-	External Data Bus Width Select Input (Connect to Ground)
9	CNVSS	-	Flash Mode Terminal (Connect to Ground)
10	XC_IN	-	32.768 kHz Sub Clock
11	XC_OUT	-	32.768 kHz Sub Clock
12	/RESET	-	Reset Input (ACTIVE L)
13	X_OUT	-	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	BLKCK	I	CD Block Clock Input (Inverted)
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	SW_LV-1	O	Sub-Woofer Level 1
25	SW_LV-2	O	Sub-Woofer Level 2
26	ASP_DA	O	ASP DATA
27	ASP_CLK	O	ASP CLOCK
28	10DB_ATT	O	No Connection
29	PLL_DAT	O	PLL DATA
30	PLL_CLK	O	PLLCLK
31	REG8	-	To GND resistor
32	REG7	I	Region Setting 7 (MIC)/Flash Rx
33	REG6	I	Region Setting 6 (RDS)/Flash Clock
34	REG5	O	Chip Select/Flash Busy
35	REG4	I	Latin Non Chip Select
36	REG3	I	Region Setting 3 (Tuner)
37	REG2	I	Region Setting 2 (Tuner)
38	REG1	I	Region Setting 1 (Tuner)
39	MUTE_DA	O	Mute_DA for Digital Amp
40	MUTE_A	O	Audio Mute
41	EE_CS/EFP/EPH	O	EEPROM Chip Select
42	EE_CLK	O	EEPROM CLOCK

Pin No.	Mark	I/O	Function
43	EE_DAT	I/O	EEPROM DATA
44	N.C.	-	No Connection
45	N.C.	-	No Connection
46	PCONT/EFP/CS	O	Main Transformer Control Output
47	DCDET	I	DC Detect Input
48-49	N.C.	-	No Connection
50	STANDBY	O	Standby mode
51	N.C.	-	No Connection
52	HALF_1	I	Deck 1 HALF PLAYBACK INPUT
53	MODE_1	I	Deck 1 MODE PLYABACK INPUT
54	N.C.	-	No Connection
55	N.C.	-	No Connection
56	PLG1	O	Deck 1 plunger control
57	PLG2	O	Deck 2 plunger control
58	MTR	O/I	Deck motor control ("L" for motor ON)
59	REC	O/I	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	SW_LED	O	SUB WOOFER LED
66	VOL_LED	O	VOLUME_LED
67	V_JOG_A	I	Volume Jog A
68	V_JOG_B	I	Volume Jog B
69	FL_RESET	O	FL Driver reset
70	FL_CS	I/O	FL Driver Chip Select
71	FL_DOUT	O	Serial Data To FL Driver
72	FL_CLK	I/O	Serial Clock To FL Driver
73	H.BASS_LED	O	H.BASS LED
74	CD_RST	O	CD Reset Output
75	STATUS	I	CD Servo LSI Status Input
76	MLD	O	CD Command Load Output
77	MDATA	O	CD Command Data Output
78	MCLK	O	CD Command Clock Output
79	/RESTSW	I	CD Limit Switch Input for the most Inner Point (Active Low)
80	HOME_SW	I	Home Switch for CRS1
81	SPEED	O	SPEED is For CRS1 (cater)
82	CLOSE_SW	I	CLOSE SW is for CRS1

Pin No.	Mark	I/O	Function
83	OPEN_SW	I	Open_Sw for CRS1
84	CHG_CW	O	CRS1 motor CW
85	CHG_CCW	O	CRS1 motor CCW
86	ST_SW	I	Stock_Sw for CRS1
87	PLAY_SW	I	Play_Sw for CRS1
88	CHG_PLR	O	Plunger for CRS1
89	BOTTOM_SW	I	Bottom_SW for CRS1
90	UP_SENSOR	I	UD-Sensor for CRS1
91	DECK2	I	DECK CONDITION INPUT 2 (R_INHF/MODE2/HALF2)
92	KEY3	I	KEY3 INPUT
93	KEY2	I	KEY2 INPUT
94	KEY1	I	KEY1 INPUT
95	PHOTO_2	I	Rotation Detection Signal (Deck 2)
96	AVSS	-	Analog Power Supply Input (Connect to GND)
97	PHOTO_1	I	Rotation Detection Signal (Deck 1)
98	VREF	-	Reference for A-D (5V)
99	AVCC	-	Analog Power Supply Input
100	DEMO	I	(H= default demo on, L= default demo off.)

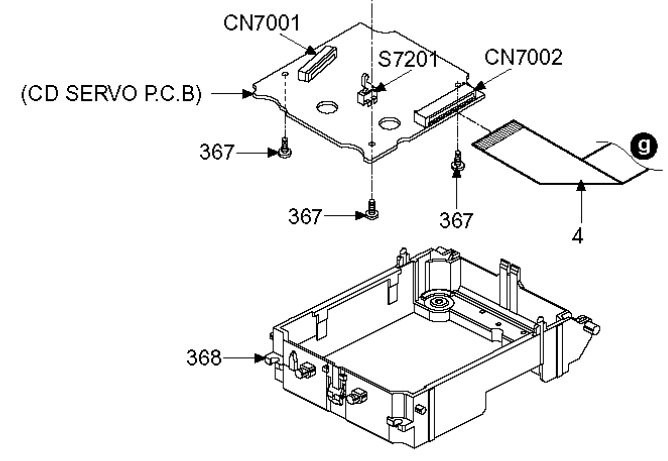
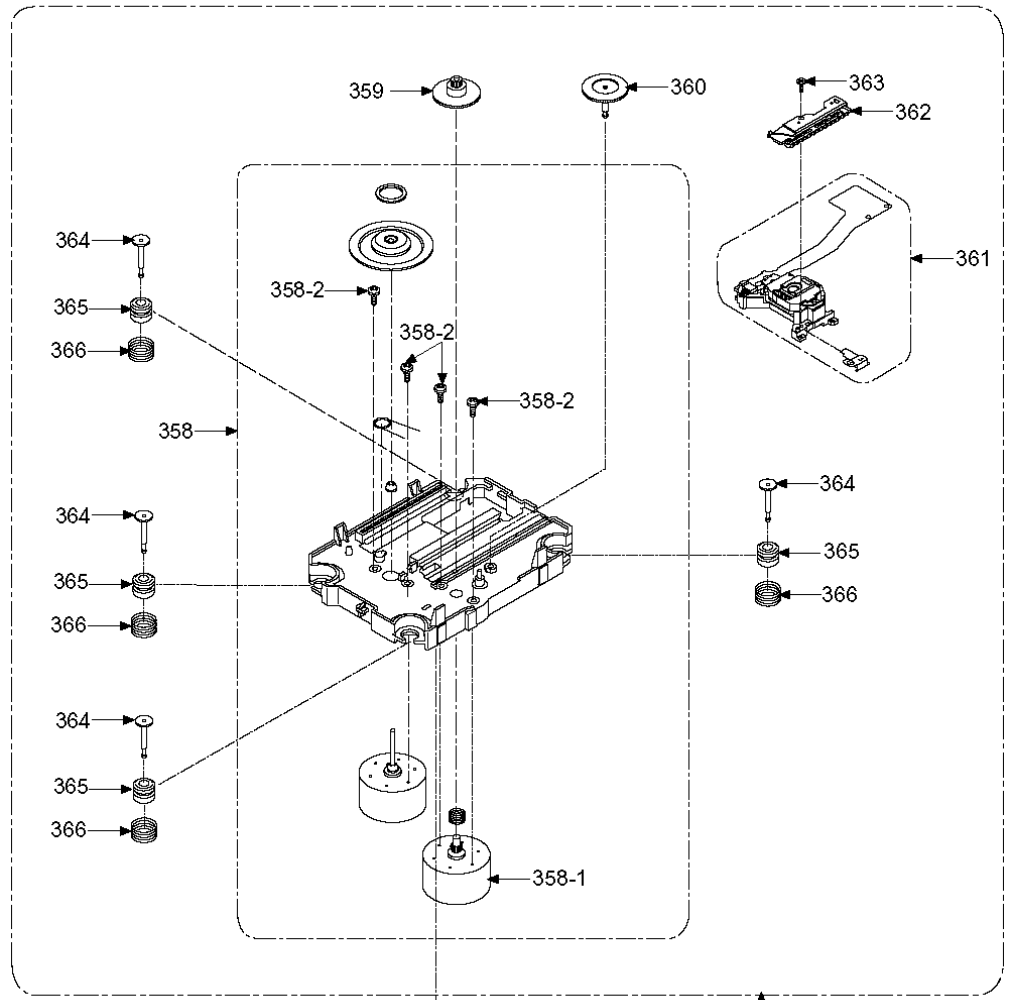
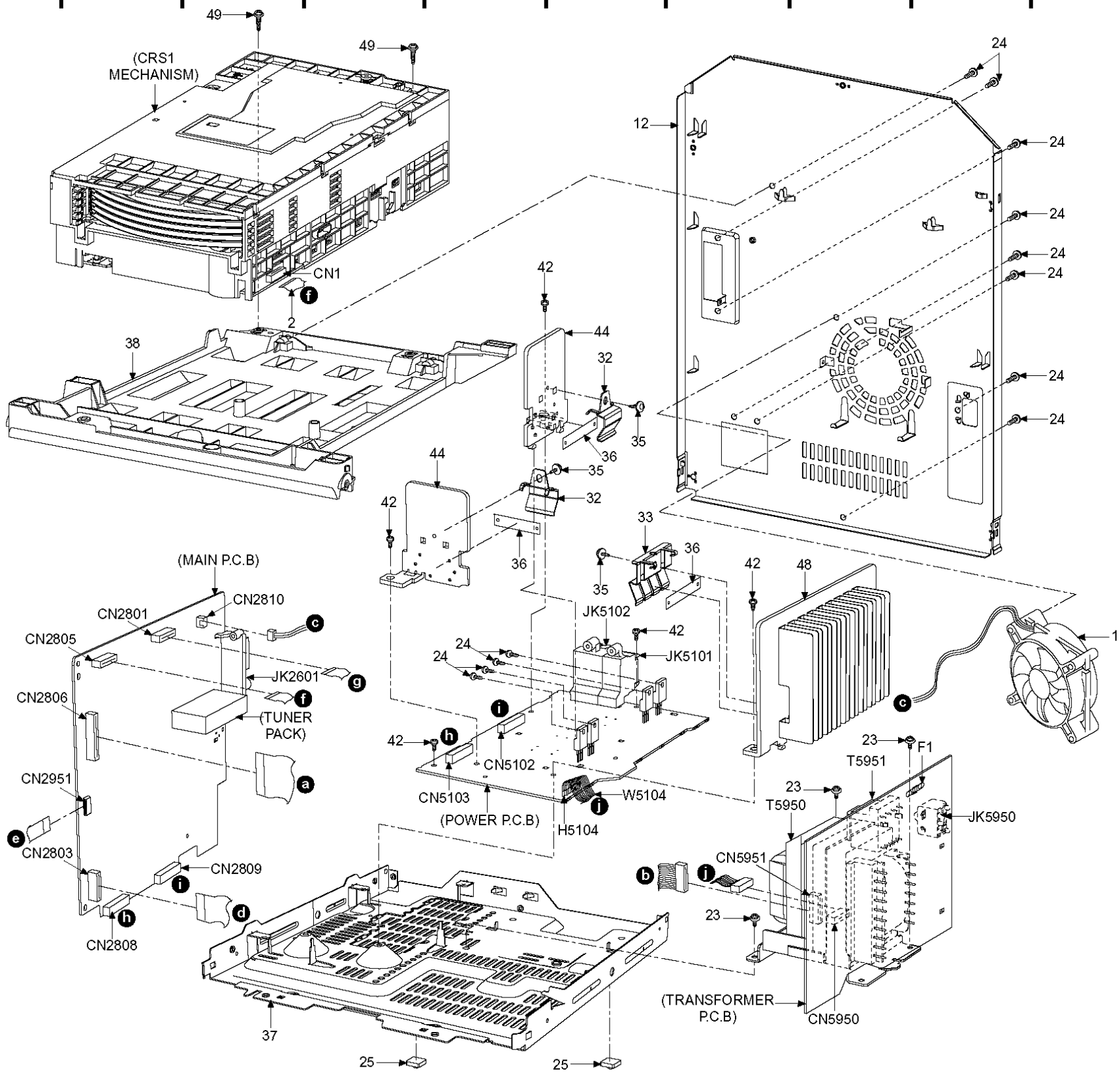
21 Exploded Views

21.1. Cabinet Parts Location

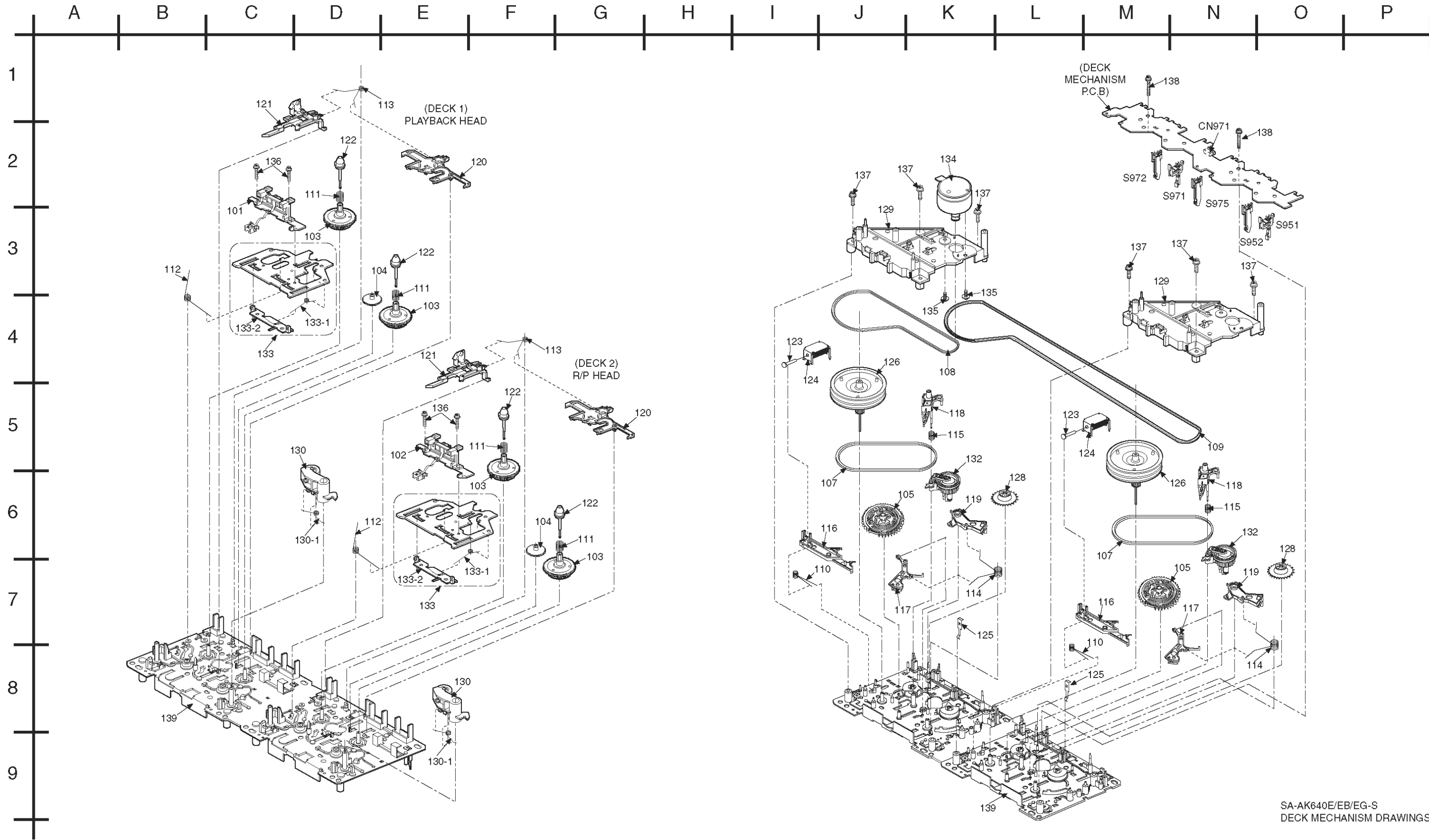


A B C D E F G H I J K L M N O P

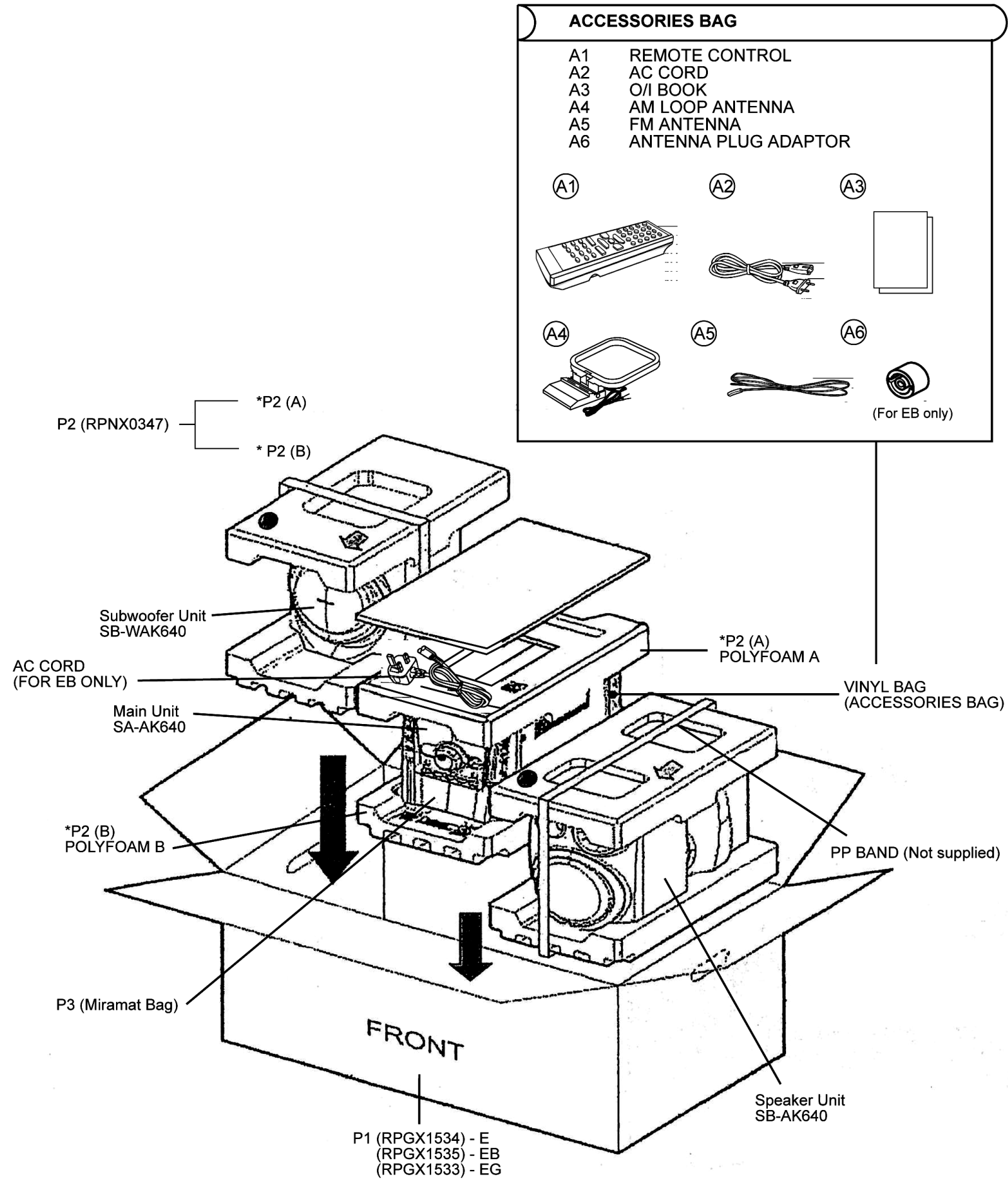
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21.2. Deck Mechanism Parts Location (RAA4502-S)



21.3. Packaging



22 Replacement Parts List

Notes:

- Important safety notice:

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

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

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

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

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

ACHTUNG:

– Die Lasereinheit nicht zerlegen.

– Die Lasereinheit darf nur gegen eine vom Hersteller spezifizierte Einheit ausgetauscht werden.

- Capacitor values are in microfarads (μ F) unless specified otherwise, P= Pico-farads (pF), F= Farads.
- Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM).
- The marking (RTL) indicates that the Retention Time is limited for this items. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of a availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.
- [M] Indicates in the Remarks columns indicates parts supplied by **PAVCSG**.
- 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						

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	L6FALEFH0030	FAN UNIT	[M]
2	REEX0212-2	14P FFC WIRE	[M]
3	REEX0503	10P FFC WIRE	[M]
4	REEX0513	17P FFC WIRE	[M]
5	REEX0528	14P FFC WIRE	[M]
6	REEX0529	30P FFC WIRE	[M]
7	RGKX0319-K	TOP ORNAMENT	[M]
8	RGKX0320E-K	CD LID	[M]
9	RGLX0120-Q	VOLUME LIGHT PIECE	[M]
10	RGLX0121-Q	POWER LIGHT PIECE	[M]
11	RGPX0224C-S1	FRONT PANEL	[M]
12	RGRX0054J-A	REAR PANEL	[M]E
12	RGRX0054J-B	REAR PANEL	[M]EB
12	RGRX0054J-C	REAR PANEL	[M]EG
13	RGUX0637-SL	POWER DISC BUTTON	[M]
14	RGUX0638-SL	OPEN DECK BUTTON 1	[M]
15	RGUX0639-SL	OPEN DECK BUTTON 2	[M]
16	RGUX0640-S	DISC/OPEN/5 DISC BTN	[M]
17	RGUX0642-SL	FUNCTION BUTTON (L)	[M]
18	RGUX0643-SL	FUNCTION BUTTON (R)	[M]
19	RGUX0644-K	CONTROL BUTTON	[M]
20	RGWX0093-S	VOLUME KNOB	[M]
21	RHD26046-L	SCREW	[M]
22	RHD30007-1SJ	SCREW	[M]
23	RHD30111-3	SCREW	[M]
24	RHD30119-S	SCREW	[M]
25	RKA0072-KJ	LEG CUSHION	[M]
26	RKFX0131-SL	CASS LID (L)	[M]
27	RKFX0132-SL	CASS LID (R)	[M]
28	RKMX0117-S	TOP PANEL (BEND)	[M]
29	RKWX0253-H	FL WINDOW	[M]
30	RMBX0036	CASS OPEN SPRING	[M]
31	RMBX0049	CD LID OPEN SPRING	[M]
32	RMC0158-S2	TRANSISTOR HOLDER	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
33	RMX0021-J	TRANSISTOR CLIP	[M]
34	RMG0547-K	CUSHION	[M]
35	XTWS3+6TFJ	SCREW	[M]
36	RMGX0044	D.AMP. INSULATOR	[M]
37	RMKX0112	BOTTOM CHASSIS	[M]
38	RMKX0113	CD CHASSIS	[M]
39	RMNX0161	LED HOLDER	[M]
40	RMNX0162	FL HOLDER	[M]
41	RMQX0150-W	VOL. LIGHT DIFFUSER	[M]
42	XTW3+10TFC	SCREW	[M]
43	RMVX0092	FL WINDOW BACK GROUND	[M]
44	RMVX0131	SUB HEAT SINK	[M]
45	RUS757ZAA	CASS HALF SPRING	[M]
46	XTV3+10GFJ-M	SCREW	[M]
47	RXGX0002	DAMPER GEAR	[M]
48	RXXX0066	HEAT SINK UNIT	[M]
49	XTW3+12TFJ	SCREW	[M]
51	RSQX0006	D/SHIELD PLATE UNIT	[M]
52	RGKX0322-S	VOLUME KNOB ORNAMENT	[M]
53	RGLX0123-Q	SUBWOOFER BUTTON	[M]
54	RGLX0641-D	5 CD BACK ORNAMENT	[M]
55	RGUX0645-S	SUBWOOFER BUTTON CAP	[M]
		CASSETTE DECK	
101	RED0069-2	R/P HEAD BLOCK UNIT	[M]
102	RED0070-1	P/B HEAD BLOCK UNIT	[M]
103	RDG0300	REEL BASE GEAR	[M]
104	RDG0301	WINDING RELAY GEAR	[M]
105	RDK0026-4	MAIN GEAR	[M]
107	RDV0033-4	WINDING BELT	[M]
108	RDV0064-1	CAPSTAN BELT	[M]
109	RDV0071-2	CAPSTAN BELT B	[M]
110	RMB0312	TRIGGER LEVER SPRING	[M]
111	RMB0400	REEL SPRING	[M]
112	RMB0403	HEAD PANEL SPRING	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
113	RMB0404	BRAKE ROD SPRING	[M]
114	RMB0406-5	FR LEVER SPRING	[M]
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]
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]
132	RXL0126	WINDING ARM ASS'Y	[M]
133	RXQ0412-3	HEAD PANEL ASS'Y	[M]
133-1	RMB0405-1	FR ROD SPRING	[M]
133-2	RMM0132-1	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	RFKJAA4501-S	CHASSIS ASS'Y	[M]
		TRAVERSE DECK	
358	RFKNCT121157	SPINDLE MOTOR ASS'Y	[M]
358-1	RXQ0632	TRAVERSE MOTOR UNIT	[M]
358-2	XQN17+C28FJ	SCREW	[M]
359	RDG0455	TRAVERSE GEAR (A)	[M]
360	RDG0456	TRAVERSE GEAR (B)	[M]
361	RXQ0999	OPU UNIT	[M]
362	RMM0218	TRAVERSE DRIVE RACK	[M]
363	SNSD38-1	SCREW	[M]
364	RMS0757-1	FIXED PIN	[M]
365	RMG0703-R	FLOATING RUBBER	[M]
366	RME0109	FLOATING SPRING	[M]
367	XTN2+6GFJ	SCREW	[M]
368	RMRX0064	MIDDLE CHASSIS	[M]
369	RAE0157A-V	TRV UNIT WITHOUT SERVO	[M]
		PRINTED CIRCUIT BOARDS	
	REPX0494A	CD SERVO P.C.B.	[M]
	REPX0516W	MAIN P.C.B.	[M]
	REPX0517L	PANEL P.C.B.	[M]
	REPX0518Q	TRANSFORMER P.C.B.	[M]
	REPX0533C	POWER P.C.B.	[M]
	REPX0331G	DECK P.C.B.	[M]
	REPX0321A	DECK MECHANISM P.C.B.	[M]
		INTEGRATED CIRCUITS	
IC951	CNB13030R2AU	IC PHOTO INTERRUPTER	[M]
IC971	CNB13030R2AU	IC PHOTO INTERRUPTER	[M]
IC1001	AN7348S-E1	IC P.B. EQ/REC AMP/ALC/TPS AMP	[M]
IC1004	C1AA00000612	IC R/P SELECT	[M]
IC2601	C1BB00000962	IC FM/AM IF AMP,DET/AM OSC,MIX/FM MPX	[M]
IC2602	C1CB00001937	IC PLL FREQUENCY SYNTHESIZER	[M]
IC2801	C2CBY000066	IC MICROPROCESSOR	[M]
IC2803	C1BB00001121	IC AUDIO SOUND PROCESSOR	[M]
IC2804	C0AAB0000125	IC DUAL OP-AMP	[M]
IC2809	C1BB00000987	IC RDS	[M]
IC2810	C0ABBB000244	IC SMT OP AMP	[M]
IC5201	C0JBAB000011	IC LOGIC	[M]
IC5301	C1BA00000407	IC 2-CH DIGITAL AMP	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
IC5401	C1BA00000407	IC 2-CH DIGITAL AMP	[M]
IC5501	C1BA00000407	IC 2-CH DIGITAL AMP	[M]
IC6601	C0HBB0000039	IC FL DRIVER	[M]
IC7001	MN6627954MA	IC SERVO PROCESSOR/DIGITAL SIGNAL PROCESSOR/DIGITAL FILTER D/A CONVERTER	[M]
IC7002	BA5948FPE2	IC 4 CH DRIVE	[M]
		TRANSISTORS	
Q1003	B1AAGC000007	TRANSISTOR	[M]
Q1004	B1AAGC000007	TRANSISTOR	[M]
Q1005	B1AAGC000007	TRANSISTOR	[M]
Q1007	B1ABCF000176	TRANSISTOR	[M]
Q1017	B1AARC000003	TRANSISTOR	[M]
Q2142	B1ABCF000176	TRANSISTOR	[M]
Q2242	B1ABCF000176	TRANSISTOR	[M]
Q2311	B1ABGC000005	TRANSISTOR	[M]
Q2317	B1ABGC000005	TRANSISTOR	[M]
Q2341	B1ABGC000005	TRANSISTOR	[M]
Q2411	B1ABGC000005	TRANSISTOR	[M]
Q2417	B1ABGC000005	TRANSISTOR	[M]
Q2441	B1ABGC000005	TRANSISTOR	[M]
Q2501	B1ABCF000176	TRANSISTOR	[M]
Q2511	B1GDCFJ00047	TRANSISTOR	[M]
Q2551	B1GDCFJ00047	TRANSISTOR	[M]
Q2552	B1GDCFJ00047	TRANSISTOR	[M]
Q2553	B1ABCF000176	TRANSISTOR	[M]
Q2554	B1ABCF000176	TRANSISTOR	[M]
Q2555	B1ABGC000005	TRANSISTOR	[M]
Q2601	B1ABC000003	TRANSISTOR	[M]
Q2606	B1GCCFJ00016	TRANSISTOR	[M]
Q2610	2SC3311ARA	TRANSISTOR	[M]
Q2803	B1GBCFJ00051	TRANSISTOR	[M]
Q2901	B1ACKD000006	TRANSISTOR	[M]
Q2902	B1AACF000064	TRANSISTOR	[M]
Q2906	B1ABCF000176	TRANSISTOR	[M]
Q2907	B1ABCF000176	TRANSISTOR	[M]
Q2936	B1ACKD000006	TRANSISTOR	[M]
Q2937	B1GBCFJ00051	TRANSISTOR	[M]
Q2942	B1ACKD000006	TRANSISTOR	[M]
Q2943	B1ABCF000176	TRANSISTOR	[M]
Q2948	B1ABCF000176	TRANSISTOR	[M]
Q2949	B1ABCF000176	TRANSISTOR	[M]
Q2950	B1ACKD000006	TRANSISTOR	[M]
Q2951	B1ACKD000006	TRANSISTOR	[M]
Q2952	B1GBCFLL0037	TRANSISTOR	[M]
Q2957	B1GBCFLL0037	TRANSISTOR	[M]
Q2958	B1ACKD000006	TRANSISTOR	[M]
Q2959	B1GBCFLL0037	TRANSISTOR	[M]
Q2960	B1ACKD000006	TRANSISTOR	[M]
Q2978	B1GDCFJ00047	TRANSISTOR	[M]
Q2980	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]
Q5153	B1ABCF000176	TRANSISTOR	[M]
Q5154	2SB0709AHL	TRANSISTOR	[M]
Q5173	B1ABCF000176	TRANSISTOR	[M]
Q5201	B1ABCF000176	TRANSISTOR	[M]
Q5202	B1ADCF000063	TRANSISTOR	[M]
Q5950	B1AAKD000014	TRANSISTOR	[M]
Q5951	2SB0621AHA	TRANSISTOR	[M]
Q5953	B1AACF000064	TRANSISTOR	[M]
Q7601	B1ADCF000001	TRANSISTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
QR6457	B1GBCFLL0037	CHIP TRANSISTOR	[M]
QR6459	B1GBCFLL0037	CHIP TRANSISTOR	[M]
		DIODES	
D951	MA2C16500E	DIODE	[M]
D971	MA2C16500E	DIODE	[M]
D1003	B0ACCK000005	DIODE	[M]
D2191	B0ACCK000005	DIODE	[M]
D2241	B0ACCK000005	DIODE	[M]
D2503	B0ADCC000002	DIODE	[M]
D2551	B0BC4R600016	DIODE	[M]
D2552	B0BC4R600016	DIODE	[M]
D2583	B0BC9R000008	DIODE	[M]
D2601	B0BC5R000009	DIODE	[M]
D2602	B0CDBB000015	DIODE	[M]
D2677	B0BC7R500001	DIODE	[M]
D2801	B0ACCK000005	DIODE	[M]
D2803	B0ACCK000005	DIODE	[M]
D2811	B0ADCJ000020	DIODE	[M]
D2813	B0ACCK000005	DIODE	[M]
D2901	B0ADCC000002	DIODE	[M]
D2936	B0EAKM000117	DIODE	[M]
D2946	B0ADCJ000020	DIODE	[M]
D2950	B0ACCK000005	DIODE	[M]
D5101	B0BA01100004	DIODE	[M]
D5102	B0BA02600018	DIODE	[M]
D5103	B0BA3R900006	DIODE	[M]
D5104	B0BA01100004	DIODE	[M]
D5105	B0BA02400029	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]
D5126	B0ACCK000005	DIODE	[M]
D5128	B0EAKM000122	DIODE	[M]
D5129	B0EAKM000122	DIODE	[M]
D5152	B0BA01900005	DIODE	[M]
D5950	B0EAMM000038	DIODE	[M]
D5951	B0EAMM000038	DIODE	[M]
D5952	B0EAMM000038	DIODE	[M]
D5953	B0EAMM000038	DIODE	[M]
D5954	B0EAKM000122	DIODE	[M]
D5955	B0EAKM000122	DIODE	[M]
D5956	B0EAKM000122	DIODE	[M]
D5957	B0EAKM000122	DIODE	[M]
D5958	B0EAKM000122	DIODE	[M]
D5959	B0EAKM000122	DIODE	[M]
D5960	B0BA02400030	DIODE	[M]
D5961	B0AACK000004	DIODE	[M]
D5962	B0AACK000004	DIODE	[M]
D5963	B0AACK000004	DIODE	[M]
D5964	B0BA6R800008	DIODE	[M]
D5965	B0AACK000004	DIODE	[M]
D5966	B0AACK000004	DIODE	[M]
D5970	B0EAMM000038	DIODE	[M]
D5971	B0EAMM000038	DIODE	[M]
D5972	B0EAMM000038	DIODE	[M]
D5973	B0EAMM000038	DIODE	[M]
D5986	B0AACK000004	DIODE	[M]
D5987	B0AACK000004	DIODE	[M]
D6458	B3AAA0000803	DIODE	[M]
D6459	B3ACA0000234	DIODE	[M]
D6461	B0BC8R100004	DIODE	[M]
D6462	B3AEA0000083	DIODE	[M]
D6635	B0BC7R500001	DIODE	[M]
D7650	MAZ80560ML	DIODE	[M]
		VARIABLE RESISTOR	

Ref. No.	Part No.	Part Name & Description	Remarks
VR6491	EVEKE2F3524B	VR VOLUME JOG	[M]
		SWITCHES	
S951	K0J1BB000017	SW MODE	[M]
S952	K0J1BB000021	SW HALF	[M]
S971	K0J1BB000017	SW MODE	[M]
S972	K0J1BB000021	SW HALF	[M]
S975	K0J1BB000021	SW RECINH F	[M]
S6101	EVQ21405RJ	SW POWER	[M]
S6102	EVQ21405RJ	SW SINGLE DISC CHANGE	[M]
S6103	EVQ21405RJ	SW OPEN/CLOSE	[M]
S6104	EVQ21405RJ	SW CD 1	[M]
S6105	EVQ21405RJ	SW CD 2	[M]
S6106	EVQ21405RJ	SW CD 3	[M]
S6107	EVQ21405RJ	SW CD 4	[M]
S6108	EVQ21405RJ	SW CD 5	[M]
S6201	EVQ21405RJ	SW DECK 2 OPEN	[M]
S6202	EVQ21405RJ	SW DISPLAY/DEMO	[M]
S6203	EVQ21405RJ	SW DECK 1/2	[M]
S6204	EVQ21405RJ	SW H.BASS	[M]
S6205	EVQ21405RJ	SW FF	[M]
S6206	EVQ21405RJ	SW REW	[M]
S6207	EVQ21405RJ	SW DECK 1 OPEN	[M]
S6301	EVQ21405RJ	SW CD	[M]
S6302	EVQ21405RJ	SW TAPE	[M]
S6303	EVQ21405RJ	SW STOP	[M]
S6304	EVQ21405RJ	SW REC	[M]
S6305	EVQ21405RJ	SW TUNER/BAND	[M]
S6306	EVQ21405RJ	SW MUSIC PORT	[M]
S6307	EVQ21405RJ	SW SUBWOOFER	[M]
S6308	EVQ21405RJ	SW MULTI DISC CHANGE	[M]
S7201	RSH1A048-A	SW RESET	[M]
		CONNECTORS	
CN971	K1MN10B00104	10P FFC CONNECTOR	[M]
CN1001	K1MN14B00058	14P FFC CONNECTOR	[M]
CN2801	K1MN17AA0004	17P CONNECTOR	[M]
CN2803	K1MN14A00049	14P FFC CONNECTOR	[M]
CN2805	K1MN14A00049	14P FFC CONNECTOR	[M]
CN2806	K1MN30AA0004	30P CONNECTOR	[M]
CN2808	K1KB12B00036	12P CONNECTOR	[M]
CN2809	K1KB12B00036	12P CONNECTOR	[M]
CN2810	K1KA02AA0186	2P FAN CONNECTOR	[M]
CN2951	K1MN10AA0003	10P FFC CONNECTOR	[M]
CN5102	K1KA12AA0424	12P CONNECTOR	[M]
CN5103	K1KA12AA0424	12P CONNECTOR	[M]
CN5950	K1KA09AA0319	9P CONNECTOR	[M]
CN5951	K1KA09AA0193	9P CONNECTOR	[M]
CN6601	K1MN30AA0004	30P CONNECTOR	[M]
CN7001	K1MN16B00154	16P CONNECTOR	[M]
CN7002	K1MN17B00032	17P CONNECTOR	[M]
CS1001	K1MY05AA0043	5P CONNECTOR	[M]
CS1002	K1MY05AA0043	5P CONNECTOR	[M]
		COILS & TRANSFORMERS	
L1001	G0C470JA0052	RF CHOKE COIL	[M]
L1002	G2ZZ00000024	BIAS OCS COIL	[M]
L2601	G2A411C00001	AM COIL	[M]
L2602	G2BPC0000016	OSCILLATOR COIL	[M]
L2961	G0C101JA0052	INDUCTOR	[M]
L2962	G0C101JA0052	INDUCTOR	[M]
L5101	J0JKB0000037	FILTER	[M]
L5102	J0JKB0000037	FILTER	[M]
L5301	G0C220Z00002	COIL	[M]
L5401	G0C220Z00002	COIL	[M]
L5402	J0JKB0000037	FILTER	[M]
L5403	J0JKB0000037	FILTER	[M]
L5501	G0C220Z00002	COIL	[M]
L5502	J0JKB0000037	FILTER	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
L5503	J0JKB0000037	FILTER	[M]
L5601	G0B9R5K00001	COIL	[M]
L5602	G0B9R5K00001	COIL	[M]
L5603	G0B9R5K00001	COIL	[M]
L5604	G0B9R5K00001	COIL	[M]
L5950	ELF15N035AN	LINE FILTER	[M] △
L6551	G0C3R3JA0027	COIL	[M]
L6552	G0C3R3JA0027	COIL	[M]
L6553	G0C3R3JA0027	COIL	[M]
L6751	G0C1R2JA0044	COIL	[M]
L6752	G0C1R2JA0044	COIL	[M]
L6753	G0C1R2JA0044	COIL	[M]
T5950	G4CYAY00057	TRANSFORMER	[M] △
T5951	RTP1H3E002	BACK-UP TRANSFORMER	[M] △
		COMPONENT COMBINATIONS	
Z971	RGSD12A1445T	RADA RESISTOR	[M]
Z2602	G2BAD000003	AM IFT	[M]
Z2620	ENV17290GIY	FM TUNER PACK	[M]
Z5950	ERZV10V511CS	ZENER	[M] △
Z6481	B3RAB0000025	REMOTE SENSOR	[M]
		CERAMIC FILTERS	
CF2601	J0B1075AA006	CERAMIC CAPACITOR	[M]
CF2602	J0B1075AA006	CERAMIC CAPACITOR	[M]
		RELAY	
RL5950	K6B1AEA00015	POWER RELAY	[M]
		OSCILLATORS	
X2602	H3F1065A0002	DIELECTRIC RESONATOR	[M]
X2603	H0H720400007	CRYSTAL OSCILLATOR	[M]
X2801	H0A327200115	CRYSTAL OSCILLATOR	[M]
X2802	H2B100500004	CERAMIC RESONATOR	[M]
X2803	H0H433400002	CRYSTAL 4.33MHZ	[M]
X5201	H2A415300001	OSCILLATOR	[M]
X5202	H2A375300003	OSCILLATOR	[M]
X7201	H2B169500005	CRYSTAL	[M]
		DISPLAY TUBE	
FL6602	A2BD00000142	FL	[M]
		FUSE	
F1	K5D252BLA013	FUSE	[M] △
		FUSE HOLDERS	
FC1	EYF52BCY	FUSE CLIP	[M]
FC2	EYF52BCY	FUSE CLIP	[M]
		FUSE PROTECTORS	
FP5920	K5G103A00019	FUSE PROTECTOR	[M] △
FP5940	K5G103A00019	FUSE PROTECTOR	[M] △
FP5950	K5G402A00025	FUSE PROTECTOR	[M] △
		HOLDERS	
H5104	K1YF09000001	9P WIRE HOLDER	[M]
H6555	K1YZ09000002	9P CABLE HOLDER	[M]
		JACKS	
JK2601	K4BC03A00008	JK ANTENNA	[M]
JK5101	K4BC04B00120	JK 4P SPEAKER	[M]
JK5102	K4BC06B00061	JK CONNECTOR	[M]
JK5950	K2AA2B000011	JK AC INLET	[M] △

Ref. No.	Part No.	Part Name & Description	Remarks
JK6551	K2HC103A0024	JK HP	[M]
JK6751	K2HC1YYA0002	JK MUSIC PORT	[M]
		EARTH TERMINALS	
E5101	K4CZ01000027	EARTH LUG	[M]
E5103	K4CZ01000027	EARTH LUG	[M]
		WIRES	
W1002	RWJ0102050CK	MAIN TO MECHA MOTOR	[M]
W5104	REXX0325	9P FLAT WIRE	[M]
W6555	REXX0324	9P FLAT WIRE	[M]
		PACKING MATERIALS	
P1	RPGX1533	PACKING CASE	[M]EG
P1	RPGX1534	PACKING CASE	[M]E
P1	RPGX1535	PACKING CASE	[M]EB
P2	RPNX0347	POLYFOAM	[M]
P3	RPFX0007-1	MIRAMAT BAG	[M]
		ACCESSORIES	
A1	N2QAHB000064	REMOTE CONTROL	[M]
A1-1	RKK-HTR0283H	R/C BATTERY COVER	[M]
A2	K2CQ2CA00006	AC CORD	[M]EG/E △
A2	K2CT3CA00004	AC CORD	[M]EB △
A3	RQTV0073-E	O/I BOOK (Sp/Po/Cz)	[M]E
A3	RQTV0074-D	O/I BOOK (Ge/Fr/It)	[M]EG
A3	RQTV0075-H	O/I BOOK (Du/Da/Sw)	[M]EG
A3	RQTV0076-B	O/I BOOK (En)	[M]EB/E
A4	N1DAAA000001	AM LOOP ANTENNA	[M]
A4	RSA0007-L	FM ANTENNA WIRE	[M]
A6	K1YZ02000013	ANT ADAPTER	[M]EB
		RESISTORS	
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]

Ref. No.	Part No.	Part Name & Description	Remarks
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	J0JCC0000120	INDUCTOR	[M]
R1092	J0JCC0000120	INDUCTOR	[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]
R2102	D0GB332JA007	3.3K 1/16W	[M]
R2103	D0GB222JA041	2.2K 1/16W	[M]
R2104	D0GB273JA007	27K 1/16W	[M]
R2111	D0GB222JA041	2.2K 1/16W	[M]
R2112	D0GB332JA007	3.3K 1/16W	[M]
R2121	D0GB332JA007	3.3K 1/16W	[M]
R2122	D0GB332JA007	3.3K 1/16W	[M]
R2131	D0GB332JA007	3.3K 1/16W	[M]
R2132	D0GB332JA007	3.3K 1/16W	[M]
R2145	ERJ3GEYJ102V	1K 1/16W	[M]
R2146	ERJ3GEYJ102V	1K 1/16W	[M]
R2149	D0GB332JA007	3.3K 1/16W	[M]
R2151	ERJ3GEY0R00V	0 1/16W	[M]
R2172	ERJ3GEYJ822V	8.2K 1/16W	[M]
R2173	D0GB472JA041	4.7K 1/16W	[M]
R2181	ERJ3GEYJ681V	680 1/16W	[M]
R2182	ERJ3GEY0R00V	0 1/16W	[M]
R2183	ERJ3GEYJ102V	1K 1/16W	[M]
R2193	D0GB472JA041	4.7K 1/16W	[M]
R2194	D0GB104JA007	100K 1/16W	[M]
R2195	ERJ3GEYJ103V	10K 1/16W	[M]
R2196	ERJ3GEYJ103V	10K 1/16W	[M]
R2202	D0GB332JA007	3.3K 1/16W	[M]
R2203	D0GB222JA041	2.2K 1/16W	[M]
R2204	D0GB273JA007	27K 1/16W	[M]
R2211	D0GB222JA041	2.2K 1/16W	[M]
R2212	D0GB332JA007	3.3K 1/16W	[M]
R2221	D0GB332JA007	3.3K 1/16W	[M]
R2222	D0GB332JA007	3.3K 1/16W	[M]
R2231	D0GB332JA007	3.3K 1/16W	[M]
R2232	D0GB332JA007	3.3K 1/16W	[M]
R2245	ERJ3GEYJ102V	1K 1/16W	[M]
R2246	ERJ3GEYJ102V	1K 1/16W	[M]
R2247	D0GB104JA007	100K 1/16W	[M]
R2248	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2249	D0GB332JA007	3.3K 1/16W	[M]
R2251	ERJ3GEY0R00V	0 1/16W	[M]
R2271	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2273	D0GB472JA041	4.7K 1/16W	[M]
R2281	ERJ3GEYJ681V	680 1/16W	[M]
R2282	ERJ3GEY0R00V	0 1/16W	[M]
R2283	D0GB104JA007	100K 1/16W	[M]
R2311	ERJ3GEYJ471V	470 1/16W	[M]
R2312	ERJ3GEYJ103V	10K 1/16W	[M]
R2313	D0GB104JA007	100K 1/16W	[M]
R2314	ERJ3GEY0R00V	0 1/16W	[M]
R2315	D0GB563JA007	56K 1/16W	[M]
R2316	D0GB222JA041	2.2K 1/16W	[M]
R2317	ERJ3GEYJ103V	10K 1/16W	[M]
R2318	D0GB104JA007	100K 1/16W	[M]
R2321	ERJ3GEY0R00V	0 1/16W	[M]
R2323	D0GB393JA007	39K 1/16W	[M]
R2326	ERJ3GEY0R00V	0 1/16W	[M]
R2327	D0GB123JA007	12K 1/16W	[M]
R2328	D0GB153JA007	15K 1/16W	[M]
R2329	D0GB822JA007	8.2K 1/16W	[M]
R2331	ERJ3GEY0R00V	0 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R2333	D0GB153JA007	15K 1/16W	[M]
R2334	ERJ3GEY0R00V	0 1/16W	[M]
R2335	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2341	D0GB270JA007	27 1/16W	[M]
R2342	ERJ3GEY0R00V	0 1/16W	[M]
R2343	D0GB270JA007	27 1/16W	[M]
R2344	ERJ3GEY0R00V	0 1/16W	[M]
R2345	D0GB152JA007	1.5K 1/16W	[M]
R2346	D0GB332JA007	3.3K 1/16W	[M]
R2347	D0GB1R0JA007	1 1/16W	[M]
R2351	ERJ3GEY0R00V	0 1/16W	[M]
R2352	D0GB270JA007	27 1/16W	[M]
R2353	ERJ3GEY0R00V	0 1/16W	[M]
R2354	D0GB270JA007	27 1/16W	[M]
R2355	D0GB274JA007	270K 1/16W	[M]
R2356	D0GB184JA007	180K 1/16W	[M]
R2357	D0GB104JA007	100K 1/16W	[M]
R2411	ERJ3GEYJ471V	470 1/16W	[M]
R2412	ERJ3GEYJ103V	10K 1/16W	[M]
R2413	D0GB104JA007	100K 1/16W	[M]
R2414	ERJ3GEY0R00V	0 1/16W	[M]
R2415	D0GB563JA007	56K 1/16W	[M]
R2416	D0GB222JA041	2.2K 1/16W	[M]
R2417	ERJ3GEYJ103V	10K 1/16W	[M]
R2418	D0GB104JA007	100K 1/16W	[M]
R2421	ERJ3GEY0R00V	0 1/16W	[M]
R2423	D0GB393JA007	39K 1/16W	[M]
R2426	ERJ3GEY0R00V	0 1/16W	[M]
R2427	D0GB123JA007	12K 1/16W	[M]
R2428	D0GB153JA007	15K 1/16W	[M]
R2429	D0GB822JA007	8.2K 1/16W	[M]
R2431	ERJ3GEY0R00V	0 1/16W	[M]
R2433	D0GB153JA007	15K 1/16W	[M]
R2434	ERJ3GEY0R00V	0 1/16W	[M]
R2435	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2441	D0GB270JA007	27 1/16W	[M]
R2442	ERJ3GEY0R00V	0 1/16W	[M]
R2443	D0GB270JA007	27 1/16W	[M]
R2444	ERJ3GEY0R00V	0 1/16W	[M]
R2445	D0GB152JA007	1.5K 1/16W	[M]
R2446	D0GB332JA007	3.3K 1/16W	[M]
R2447	D0GB1R0JA007	1 1/16W	[M]
R2451	ERJ3GEY0R00V	0 1/16W	[M]
R2452	D0GB270JA007	27 1/16W	[M]
R2453	ERJ3GEY0R00V	0 1/16W	[M]
R2454	D0GB270JA007	27 1/16W	[M]
R2455	D0GB274JA007	270K 1/16W	[M]
R2456	D0GB184JA007	180K 1/16W	[M]
R2457	D0GB104JA007	100K 1/16W	[M]
R2501	D0GB334JA007	330K 1/16W	[M]
R2502	D0GB823JA007	82K 1/16W	[M]
R2503	D0GB272JA007	2.7K 1/16W	[M]
R2504	D0GB101JA007	100 1/16W	[M]
R2505	ERJ3GEY0R00V	0 1/16W	[M]
R2507	D0GB104JA007	100K 1/16W	[M]
R2508	ERJ3GEYJ102V	1K 1/16W	[M]
R2509	D0GB561JA007	560 1/16W	[M]
R2510	D0AF221JA039	220 1/4W	[M]
R2511	D0GB222JA041	2.2K 1/16W	[M]
R2512	D0GB104JA007	100K 1/16W	[M]
R2555	ERJ3GEYJ102V	1K 1/16W	[M]
R2556	ERJ3GEYJ102V	1K 1/16W	[M]
R2557	ERJ3GEYJ102V	1K 1/16W	[M]
R2558	D0GB332JA007	3.3K 1/16W	[M]
R2559	D0GB183JA007	18K 1/16W	[M]
R2560	D0GB332JA007	3.3K 1/16W	[M]
R2561	D0GB223JA041	22K 1/16W	[M]
R2562	D0GB124JA007	120K 1/16W	[M]
R2563	D0GB124JA007	120K 1/16W	[M]
R2564	D0GB224JA007	220K 1/16W	[M]
R2565	D0GB224JA007	220K 1/16W	[M]
R2566	D0GB222JA041	2.2K 1/16W	[M]
R2567	D0GB183JA007	18K 1/16W	[M]
R2568	D0GB104JA007	100K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
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]
R2588	D0GB184JA007	180K 1/16W	[M]
R2601	ERJ3GEY0R00V	0 1/16W	[M]
R2602	D0GB472JA041	4.7K 1/16W	[M]
R2603	D0GB101JA007	100 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	D0GB683JA007	68K 1/16W	[M]
R2618	D0GB332JA007	3.3K 1/16W	[M]
R2619	D0GB332JA007	3.3K 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]
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]
R2639	D0GB223JA041	22K 1/16W	[M]
R2640	D0GB223JA041	22K 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]
R2671	ERJ3GEYJ103V	10K 1/16W	[M]
R2672	ERJ3GEYJ103V	10K 1/16W	[M]
R2673	D0GB473JA041	47K 1/16W	[M]
R2674	D0GB473JA041	47K 1/16W	[M]
R2675	D0GB472JA041	4.7K 1/16W	[M]
R2676	ERJ3GEYJ103V	10K 1/16W	[M]
R2677	DOC1121JA020	120 1W	[M]
R2699	ERJ3GEY0R00V	0 1/16W	[M]
R2701	ERJ3GEYJ102V	1K 1/16W	[M]
R2702	ERJ3GEYJ102V	1K 1/16W	[M]
R2703	D0GB224JA007	220K 1/16W	[M]
R2704	D0GB224JA007	220K 1/16W	[M]
R2705	D0GB332JA007	3.3K 1/16W	[M]
R2706	D0GB332JA007	3.3K 1/16W	[M]
R2721	ERJ3GEYJ102V	1K 1/16W	[M]
R2722	ERJ3GEYJ102V	1K 1/16W	[M]
R2731	D0GB101JA007	100 1/16W	[M]
R2801	ERJ3GEYJ103V	10K 1/16W	[M]
R2802	D0GB101JA007	100 1/16W	[M]
R2803	ERJ3GEYJ103V	10K 1/16W	[M]
R2810	D0GB223JA041	22K 1/16W	[M]
R2817	D0GB104JA007	100K 1/16W	[M]
R2818	D0GB104JA007	100K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R2819	D0GB104JA007	100K 1/16W	[M]
R2820	D0GB104JA007	100K 1/16W	[M]
R2822	ERJ3GEYJ103V	10K 1/16W	[M]
R2826	ERJ3GEYJ103V	10K 1/16W	[M]
R2830	D0GB104JA007	100K 1/16W	[M]
R2831	D0GB104JA007	100K 1/16W	[M]
R2832	D0GB104JA007	100K 1/16W	[M]
R2833	D0GB104JA007	100K 1/16W	[M]
R2841	ERJ3GEYJ103V	10K 1/16W	[M]
R2842	ERJ3GEYJ103V	10K 1/16W	[M]
R2843	ERJ3GEYJ102V	1K 1/16W	[M]
R2844	ERJ3GEYJ103V	10K 1/16W	[M]
R2845	ERJ3GEYJ103V	10K 1/16W	[M]
R2846	D0GB472JA041	4.7K 1/16W	[M]
R2847	D0GB101JA007	100 1/16W	[M]
R2848	D0GB101JA007	100 1/16W	[M]
R2849	ERJ3GEYJ102V	1K 1/16W	[M]
R2851	D0GB473JA041	47K 1/16W	[M]
R2852	D0GB101JA007	100 1/16W	[M]
R2853	D0GB101JA007	100 1/16W	[M]
R2854	D0GB473JA041	47K 1/16W	[M]
R2855	D0GB473JA041	47K 1/16W	[M]
R2856	D0GB473JA041	47K 1/16W	[M]
R2857	D0GB473JA041	47K 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	D0GB473JA041	47K 1/16W	[M]
R2864	D0GB101JA007	100 1/16W	[M]
R2865	D0GB473JA041	47K 1/16W	[M]
R2866	D0GB473JA041	47K 1/16W	[M]
R2867	D0GB104JA007	100K 1/16W	[M]
R2871	D0GB223JA041	22K 1/16W	[M]
R2873	D0GB223JA041	22K 1/16W	[M]
R2874	D0GB472JA041	4.7K 1/16W	[M]
R2881	D0GB221JA041	220 1/16W	[M]
R2882	D0GB106JA007	10M 1/16W	[M]
R2883	D0GB334JA007	330K 1/16W	[M]
R2886	D0GB105JA007	1M 1/16W	[M]
R2894	D0GB473JA041	47K 1/16W	[M]
R2901	ERJ3GEYJ103V	10K 1/16W	[M]
R2902	ERDS1FVJ330T	33 1/2W	[M]
R2907	ERJ3GEYJ102V	1K 1/16W	[M]
R2908	D0GB331JA007	330 1/16W	[M]
R2909	D0GB222JA041	2.2K 1/16W	[M]
R2910	D0GB331JA007	330 1/16W	[M]
R2912	D0GB472JA041	4.7K 1/16W	[M]
R2914	D0GB472JA041	4.7K 1/16W	[M]
R2916	D0GB472JA041	4.7K 1/16W	[M]
R2918	ERJ3GEYJ103V	10K 1/16W	[M]
R2919	D0GB472JA041	4.7K 1/16W	[M]
R2920	D0GB472JA041	4.7K 1/16W	[M]
R2921	D0GB472JA041	4.7K 1/16W	[M]
R2922	ERJ3GEYJ103V	10K 1/16W	[M]
R2923	ERJ3GEY0R00V	0 1/16W	[M]
R2924	ERJ3GEYJ103V	10K 1/16W	[M]
R2925	D0GB472JA041	4.7K 1/16W	[M]
R2927	D0GB472JA041	4.7K 1/16W	[M]
R2928	ERJ3GEYJ103V	10K 1/16W	[M]
R2929	ERJ3GEYJ103V	10K 1/16W	[M]
R2930	ERJ3GEYJ103V	10K 1/16W	[M]
R2931	ERJ3GEYJ103V	10K 1/16W	[M]
R2936	ERJ3GEYJ102V	1K 1/16W	[M]
R2937	ERJ3GEYJ103V	10K 1/16W	[M]
R2939	D0GB473JA041	47K 1/16W	[M]
R2940	ERJ3GEYJ824V	820K 1/16W	[M]
R2941	ERJ3GEYJ103V	10K 1/16W	[M]
R2942	D0GB562JA007	5.6K 1/16W	[M]
R2943	ERJ3GEYJ103V	10K 1/16W	[M]
R2944	D0GB472JA041	4.7K 1/16W	[M]
R2945	ERJ3GEYJ103V	10K 1/16W	[M]
R2946	D0GB563JA007	56K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R2947	D0AF270JA039	27 1/4W	[M]
R2948	D0GB101JA007	100 1/16W	[M]
R2949	D0GB473JA041	47K 1/16W	[M]
R2950	D0GB474JA041	470K 1/16W	[M]
R2951	D0GB474JA041	470K 1/16W	[M]
R2952	ERJ3GEYJ102V	1K 1/16W	[M]
R2953	ERJ3GEYJ103V	10K 1/16W	[M]
R2954	ERJ3GEYJ103V	10K 1/16W	[M]
R2955	D0GB274JA007	270K 1/16W	[M]
R2956	D0GB274JA007	270K 1/16W	[M]
R2957	ERJ3GEYJ102V	1K 1/16W	[M]
R2958	D0GB223JA041	22K 1/16W	[M]
R2959	ERJ3GEYJ102V	1K 1/16W	[M]
R2960	D0GB223JA041	22K 1/16W	[M]
R2961	ERJ3GEYJ102V	1K 1/16W	[M]
R2962	ERJ3GEYJ102V	1K 1/16W	[M]
R2963	D0GB104JA007	100K 1/16W	[M]
R2964	ERJ3GEYJ102V	1K 1/16W	[M]
R2965	D0GB472JA041	4.7K 1/16W	[M]
R2966	D0GB472JA041	4.7K 1/16W	[M]
R5101	ERJ3GEYJ103V	10K 1/16W	[M]
R5103	D0C1103JA020	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	ERJ3GEYJ1R8V	1.8 1/16W	[M]
R5123	D0C14R7JA020	4.7 1W	[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]
R5138	ERJ8GEYJ100V	10 1/8W	[M]
R5139	ERJ8GEYJ100V	10 1/8W	[M]
R5140	ERJ8GEYJ100V	10 1/8W	[M]
R5141	ERJ8GEYJ100V	10 1/8W	[M]
R5142	ERJ8GEYJ100V	10 1/8W	[M]
R5143	ERJ8GEYJ100V	10 1/8W	[M]
R5144	D0AF120JA039	12 1/4W	[M]
R5146	D0GB562JA007	5.6K 1/16W	[M]
R5147	D0AF2R2JA039	2.2 1/4W	[M]
R5148	D0GB562JA007	5.6K 1/16W	[M]
R5149	ERJ3GEYJ102V	1K 1/16W	[M]
R5150	D0GB224JA007	220K 1/16W	[M]
R5151	D0GB154JA007	150K 1/16W	[M]
R5152	ERJ3GEY0R00V	0 1/16W	[M]
R5153	D0GB101JA007	100 1/16W	[M]
R5154	D0GB101JA007	100 1/16W	[M]
R5173	ERJ3GEYJ102V	1K 1/16W	[M]
R5174	ERJ3GEY0R00V	0 1/16W	[M]
R5201	ERJ3GEYJ102V	1K 1/16W	[M]
R5202	D0GB104JA007	100K 1/16W	[M]
R5203	ERJ3GEYJ103V	10K 1/16W	[M]
R5204	D0GB104JA007	100K 1/16W	[M]
R5205	D0GB104JA007	100K 1/16W	[M]
R5206	D0GB105JA007	1M 1/16W	[M]
R5207	ERJ3GEYJ682V	6.8K 1/16W	[M]
R5209	D0GB100JA007	10 1/16W	[M]
R5210	D0GB151JA007	150 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]

Ref. No.	Part No.	Part Name & Description	Remarks
R5305	ERGISJ220E	22 1W	[M]
R5306	ERGISJ220E	22 1W	[M]
R5307	ERJ8GEYJ100V	10 1/8W	[M]
R5308	ERJ8GEYJ100V	10 1/8W	[M]
R5312	D0GB563JA007	56K 1/16W	[M]
R5313	D0GB154JA007	150K 1/16W	[M]
R5317	ERJ3GEYJ103V	10K 1/16W	[M]
R5401	D0GB562JA007	5.6K 1/16W	[M]
R5402	D0GB562JA007	5.6K 1/16W	[M]
R5403	D0GB562JA007	5.6K 1/16W	[M]
R5404	D0GB562JA007	5.6K 1/16W	[M]
R5405	ERGISJ220E	22 1W	[M]
R5406	ERGISJ220E	22 1W	[M]
R5407	ERJ8GEYJ100V	10 1/8W	[M]
R5408	ERJ8GEYJ100V	10 1/8W	[M]
R5412	D0GB224JA007	220K 1/16W	[M]
R5413	D0GB104JA007	100K 1/16W	[M]
R5417	ERJ3GEYJ103V	10K 1/16W	[M]
R5418	ERJ3GEY0R00V	0 1/16W	[M]
R5419	ERJ3GEY0R00V	0 1/16W	[M]
R5501	D0GB562JA007	5.6K 1/16W	[M]
R5502	D0GB562JA007	5.6K 1/16W	[M]
R5503	D0GB562JA007	5.6K 1/16W	[M]
R5504	D0GB562JA007	5.6K 1/16W	[M]
R5505	ERGISJ220E	22 1W	[M]
R5506	ERGISJ220E	22 1W	[M]
R5507	ERJ8GEYJ100V	10 1/8W	[M]
R5508	ERJ8GEYJ100V	10 1/8W	[M]
R5512	D0GB274JA007	270K 1/16W	[M]
R5513	D0GB334JA007	330K 1/16W	[M]
R5514	ERJ3GEY0R00V	0 1/16W	[M]
R5518	ERJ3GEYJ103V	10K 1/16W	[M]
R5519	ERJ3GEY0R00V	0 1/16W	[M]
R5520	ERJ3GEY0R00V	0 1/16W	[M]
R5522	D0GB393JA007	39K 1/16W	[M]
R5523	ERJ3GEYJ122V	1.2K 1/16W	[M]
R5952	D0AE472JA048	4.7K 1/4W	[M]
R5953	D0AE151JA048	150 1/4W	[M]
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	D0GB222JA041	2.2K 1/16W	[M]
R6104	D0GB182JA007	1.8K 1/16W	[M]
R6105	D0GB222JA041	2.2K 1/16W	[M]
R6106	D0GB272JA007	2.7K 1/16W	[M]
R6107	D0GB472JA041	4.7K 1/16W	[M]
R6108	ERJ3GEYJ682V	6.8K 1/16W	[M]
R6109	ERJ3GEYJ103V	10K 1/16W	[M]
R6110	D0GB223JA041	22K 1/16W	[M]
R6199	ERJ3GEYJ103V	10K 1/16W	[M]
R6202	ERJ3GEYJ102V	1K 1/16W	[M]
R6203	D0GB222JA041	2.2K 1/16W	[M]
R6204	D0GB182JA007	1.8K 1/16W	[M]
R6205	D0GB222JA041	2.2K 1/16W	[M]
R6206	D0GB272JA007	2.7K 1/16W	[M]
R6207	D0GB472JA041	4.7K 1/16W	[M]
R6208	D0GB393JA007	39K 1/16W	[M]
R6302	ERJ3GEYJ102V	1K 1/16W	[M]
R6303	D0GB222JA041	2.2K 1/16W	[M]
R6304	D0GB182JA007	1.8K 1/16W	[M]
R6305	D0GB222JA041	2.2K 1/16W	[M]
R6306	D0GB272JA007	2.7K 1/16W	[M]
R6307	D0GB472JA041	4.7K 1/16W	[M]
R6308	ERJ3GEYJ682V	6.8K 1/16W	[M]
R6399	ERJ3GEYJ103V	10K 1/16W	[M]
R6457	ERJ3GEYJ511V	510 1/16W	[M]
R6458	D0GB472JA041	4.7K 1/16W	[M]
R6459	D0GB392JA007	3.9K 1/16W	[M]
R6481	ERJ3GEY0R00V	0 1/16W	[M]
R6491	D0GB473JA041	47K 1/16W	[M]
R6492	D0GB473JA041	47K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R6493	ERJ3GEYJ103V	10K 1/16W	[M]
R6601	D0GB471JA041	470 1/16W	[M]
R6602	ERJ3GEYJ102V	1K 1/16W	[M]
R6603	D0GB221JA041	220 1/16W	[M]
R6604	D0GB221JA041	220 1/16W	[M]
R6605	D0GB153JA007	15K 1/16W	[M]
R6631	ERD2FCVCG470T	47 1/4W	[M]
R6632	ERD2FCVCG470T	47 1/4W	[M]
R6751	D0GB332JA007	3.3K 1/16W	[M]
R6752	D0GB152JA007	1.5K 1/16W	[M]
R6753	D0GB332JA007	3.3K 1/16W	[M]
R6754	D0GB152JA007	1.5K 1/16W	[M]
R7111	ERJ3GEYJ103V	10K 1/16W	[M]
R7211	ERJ3GEYJ823V	82K 1/16W	[M]
R7212	ERJ3GEYJ821V	820 1/16W	[M]
R7214	ERJ3GEYJ471V	470 1/16W	[M]
R7217	ERJ3GEYJ102V	1K 1/16W	[M]
R7218	ERJ3GEYJ102V	1K 1/16W	[M]
R7220	ERJ3GEYJ105V	1M 1/16W	[M]
R7221	ERJ3GEYJ101V	100 1/16W	[M]
R7253	ERJ3GEYJ100V	10 1/16W	[M]
R7254	ERJ3GEYJ102V	1K 1/16W	[M]
R7315	ERJ3GEYJ332V	3.3K 1/16W	[M]
R7323	ERJ3GEYJ332V	3.3K 1/16W	[M]
R7325	ERJ3GEYJ331V	330 1/16W	[M]
R7327	ERJ3GEYJ102V	1K 1/16W	[M]
R7328	ERJ3GEYJ103V	10K 1/16W	[M]
R7329	ERJ3GEYJ102V	1K 1/16W	[M]
R7330	ERJ3GEYJ562V	5.6K 1/16W	[M]
R7331	ERJ3GEYJ223V	22K 1/16W	[M]
R7332	ERJ3GEYJ102V	1K 1/16W	[M]
R7335	ERJ3GEYJ101V	100 1/16W	[M]
R7336	ERJ3GEYJ100V	10 1/16W	[M]
R7339	ERJ3GEYJ102V	1K 1/16W	[M]
R7349	ERJ3GEYJ183V	18K 1/16W	[M]
R7601	ERJ3GEYJ4R7V	4.7 1/16W	[M]
R7650	ERJ3GEYJ5R6V	5.6 1/16W	[M]
K5101	BOEAKM000122	RECTIFIER	[M]
K6010	ERJ3GEY0R00V	CHIP JUMPER	[M]
K6101	ERJ3GEY0R00V	CHIP JUMPER	[M]
K6104	ERJ3GEY0R00V	CHIP JUMPER	[M]
		CHIP JUMPERS	
W2501	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2503	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2506	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2508	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2510	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2511	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2512	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2513	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2514	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2517	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2518	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2520	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2523	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2525	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2526	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2530	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2531	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2532	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2534	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2535	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2536	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2537	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2539	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2540	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2542	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2543	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2544	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2545	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2546	ERJ3GEY0R00V	CHIP JUMPER	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
W2547	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2548	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2549	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2550	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2552	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2553	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2554	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2555	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2556	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2557	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2558	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2559	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2560	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2561	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2563	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2565	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2566	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2567	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2568	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2569	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2570	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2571	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2572	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2573	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2575	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2576	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2577	ERJ3GEY0R00V	CHIP JUMPER	[M]
W2919	ERJ3GEY0R00V	CHIP JUMPER	[M]
W5501	ERJ3GEY0R00V	CHIP JUMPER	[M]
W5504	ERJ3GEY0R00V	CHIP JUMPER	[M]
W5505	ERJ3GEY0R00V	CHIP JUMPER	[M]
W5506	ERJ3GEY0R00V	CHIP JUMPER	[M]
W5507	ERJ3GEY0R00V	CHIP JUMPER	[M]
W5508	ERJ3GEY0R00V	CHIP JUMPER	[M]
W5509	ERJ3GEY0R00V	CHIP JUMPER	[M]
W5511	ERJ3GEY0R00V	CHIP JUMPER	[M]
W5555	ERJ3GEY0R00V	CHIP JUMPER	[M]
W6501	ERJ3GEY0R00V	CHIP JUMPER	[M]
W6502	ERJ3GEY0R00V	CHIP JUMPER	[M]
W6503	ERJ3GEY0R00V	CHIP JUMPER	[M]
W6504	ERJ3GEY0R00V	CHIP JUMPER	[M]
W6510	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7001	ERJ6GEY0R00V	CHIP JUMPER	[M]
W7002	ERJ6GEY0R00V	CHIP JUMPER	[M]
W7003	ERJ6GEY0R00V	CHIP JUMPER	[M]
W7004	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7005	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7006	ERJ6GEY0R00V	CHIP JUMPER	[M]
W7007	ERJ6GEY0R00V	CHIP JUMPER	[M]
W7008	ERJ6GEY0R00V	CHIP JUMPER	[M]
W7009	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7010	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7011	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7012	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7013	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7014	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7015	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7016	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7017	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7018	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7019	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7020	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7021	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7022	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7023	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7024	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7025	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7026	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7027	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7028	ERJ3GEY0R00V	CHIP JUMPER	[M]
		CAPACITORS	
C1002	ECEALHKN2R2B	2.2 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C1006	ECA1HAK010XB	1 50V	[M]
C1007	FOA2A472A034	4700P 100V	[M]
C1008	ECA1HAK010XB	1 50V	[M]
C1009	ECA1CAK470XB	47 16V	[M]
C1010	ECA1EAM101XB	100 25V	[M]
C1011	ECQV1H473JL3	0.047 50V	[M]
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]
C2101	ECJ1VB1A105K	1 10V	[M]
C2112	ECJ1VB1C105K	1 16V	[M]
C2113	ECJ1VB1H682K	6800P 50V	[M]
C2114	ERJ3GEY0R00V	0 1/16W	[M]
C2121	F1H1H332A013	3300P 50V	[M]
C2122	ECJ1VB1C105K	1 16V	[M]
C2124	ERJ3GEY0R00V	0 1/16W	[M]
C2131	ERJ3GEY0R00V	0 1/16W	[M]
C2132	ECJ1VB1C105K	1 16V	[M]
C2134	ERJ3GEY0R00V	0 1/16W	[M]
C2152	ECJ1VB1C105K	1 16V	[M]
C2154	ERJ3GEY0R00V	0 1/16W	[M]
C2161	F1H1H103A219	0.01 50V	[M]
C2171	F1H1H104A783	0.1 50V	[M]
C2172	ECJ1VB1C563K	0.056 16V	[M]
C2173	F1H1H103A219	0.01 50V	[M]
C2174	F1H1H103A219	0.01 50V	[M]
C2175	ECJ1VB1H332K	3300P 50V	[M]
C2181	ECJ1VB1A105K	1 10V	[M]
C2182	F1H1A105A025	1 10V	[M]
C2183	ECJ1VB1C224K	0.22 16V	[M]
C2191	ECA1HAK4R7XB	4.7 50V	[M]
C2192	F1H1C104A041	0.1 16V	[M]
C2193	ECJ1VB1A105K	1 10V	[M]
C2194	ECJ1VB1H104K	0.1 50V	[M]
C2195	ECJ1VB1A474K	0.47 10V	[M]
C2201	ECJ1VB1A105K	1 10V	[M]
C2212	ECJ1VB1C105K	1 10V	[M]
C2213	ECJ1VB1H682K	6800P 50V	[M]
C2214	ERJ3GEY0R00V	0 1/16W	[M]
C2221	F1H1H332A013	3300P 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C2222	ECJ1VB1C105K	1 16V	[M]
C2224	ERJ3GEY0R00V	0 1/16W	[M]
C2231	ERJ3GEY0R00V	0 1/16W	[M]
C2232	ECJ1VB1C105K	1 16V	[M]
C2234	ERJ3GEY0R00V	0 1/16W	[M]
C2245	ECA1CAK100XB	10 16V	[M]
C2252	ECJ1VB1C105K	1 16V	[M]
C2254	ERJ3GEY0R00V	0 1/16W	[M]
C2261	F1H1H103A219	0.01 50V	[M]
C2271	F1H1A154A001	0.15 10V	[M]
C2272	ECJ1VB1C823K	0.082 16V	[M]
C2273	F1H1H103A219	0.01 50V	[M]
C2274	F1H1H103A219	0.01 50V	[M]
C2275	ECJ1VB1H332K	3300P 50V	[M]
C2281	ECJ1VB1A105K	1 10V	[M]
C2282	F1H1A105A025	1 10V	[M]
C2283	ECJ1VB1H473K	0.047 50V	[M]
C2301	ECJ1VB1C105K	1 16V	[M]
C2302	ERJ3GEY0R00V	0 1/16W	[M]
C2311	ECJ1VB1A105K	1 10V	[M]
C2312	ECJ1VB1A105K	1 10V	[M]
C2313	F1H1H470A230	47P 50V	[M]
C2314	ECJ1VC1H100D	10P 50V	[M]
C2315	ECA1CAK220XB	22 16V	[M]
C2321	ECJ1VB1A224K	0.22 10V	[M]
C2323	ECJ1VB1H103K	0.01 50V	[M]
C2324	ECJ1VB1A105K	1 10V	[M]
C2325	ECA1HAK010XB	1 50V	[M]
C2331	ECJ1VB1H682K	6800P 50V	[M]
C2333	ECJ1VB1A105K	1 10V	[M]
C2341	F1H1H102A219	1000P 50V	[M]
C2342	ECJ1VB1A105K	1 10V	[M]
C2343	ECJ1VB1A474K	0.47 10V	[M]
C2344	ECJ1VB1A474K	0.47 10V	[M]
C2401	ERJ3GEY0R00V	0 1/16W	[M]
C2402	ECJ1VB1C105K	1 16V	[M]
C2411	ECJ1VB1A105K	1 10V	[M]
C2412	ECJ1VB1A105K	1 10V	[M]
C2413	F1H1H470A230	47P 50V	[M]
C2414	ECJ1VC1H100D	10P 50V	[M]
C2415	ECA1CAK220XB	22 16V	[M]
C2421	ECJ1VB1A224K	0.22 10V	[M]
C2423	ECJ1VB1H103K	0.01 50V	[M]
C2424	ECJ1VB1A105K	1 10V	[M]
C2425	ECA1HAK010XB	1 50V	[M]
C2431	ECJ1VB1H682K	6800P 50V	[M]
C2433	ECJ1VB1A105K	1 10V	[M]
C2441	F1H1H102A219	1000P 50V	[M]
C2442	ECJ1VB1A105K	1 10V	[M]
C2443	ECJ1VB1A474K	0.47 10V	[M]
C2444	ECJ1VB1A474K	0.47 10V	[M]
C2501	ECJ1VB1A105K	1 10V	[M]
C2503	ECJ1VB1A105K	1 10V	[M]
C2507	ECJ1VB1C224K	0.22 16V	[M]
C2509	ECA1CAK330XB	33 16V	[M]
C2511	ECEA1HKN2R2B	2.2 50V	[M]
C2551	ECA1CAK100XB	10 16V	[M]
C2552	ECJ1VC1H101K	100P 50V	[M]
C2553	F1H1H103A219	0.01 50V	[M]
C2554	ECJ1VB1A105K	1 10V	[M]
C2555	ECJ1VC1H101K	100P 50V	[M]
C2556	ECJ1VB1H183K	0.018 50V	[M]
C2558	ECJ1VB1H473K	0.047 50V	[M]
C2560	ECJ1VB1A105K	1 10V	[M]
C2561	ECJ1VB1A105K	1 10V	[M]
C2581	ECA1CAK101XB	100 16V	[M]
C2582	ECA1CAK101XB	100 16V	[M]
C2583	ECA1CAK101XB	100 16V	[M]
C2584	F1H1H221A748	220P 50V	[M]
C2585	F1H1H221A748	220P 50V	[M]
C2588	F1H1C104A041	0.1 16V	[M]
C2589	ECJ1VB1A474K	0.47 10V	[M]
C2601	F1H1H103A219	0.01 50V	[M]
C2602	ECA1CM101B	100 16V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C2603	F1H1H103A219	0.01 50V	[M]
C2604	F1H1H102A219	1000P 50V	[M]
C2606	F1H1H102A219	1000P 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	ECA1HAK4R7XB	4.7 50V	[M]
C2612	F1H1H103A219	0.01 50V	[M]
C2613	F1H1H102A219	1000P 50V	[M]
C2614	ECA1HAK3R3XB	3.3 50V	[M]
C2615	ECA1HAK4R7XB	4.7 50V	[M]
C2616	F1H1C333A071	0.033 16V	[M]
C2617	F1H1H103A219	0.01 50V	[M]
C2618	F1H1H103A219	0.01 50V	[M]
C2620	ECA1CAK100XB	10 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	ECJ1VF1C105Z	1 16V	[M]
C2627	ECA1CAK220XB	22 16V	[M]
C2629	ECA0JAK101XB	100 6.3V	[M]
C2630	ECA0JAK101XB	100 6.3V	[M]
C2631	F1H1H101A230	100P 50V	[M]
C2632	F1H1H102A219	1000P 50V	[M]
C2633	ECJ1VC1H120J	12P 50V	[M]
C2634	ECJ1VC1H120J	12P 50V	[M]
C2636	F1H1H102A219	1000P 50V	[M]
C2637	F1H1H332A013	3300P 50V	[M]
C2638	F1H1H103A219	0.01 50V	[M]
C2639	ECA1HAK4R7XB	4.7 50V	[M]
C2641	ECA1HAK010XB	1 50V	[M]
C2642	ECA1HAK010XB	1 50V	[M]
C2643	ECJ1VB1H472K	4700P 50V	[M]
C2644	ECJ1VB1H472K	4700P 50V	[M]
C2647	F1H1H102A219	1000P 50V	[M]
C2648	F1H1H103A219	0.01 50V	[M]
C2649	F1H1C104A008	0.1 16V	[M]
C2671	ECJ1VC1H101K	100P 50V	[M]
C2673	ECJ1VC1H101K	100P 50V	[M]
C2674	F1H1H103A219	0.01 50V	[M]
C2678	F1H1H103A219	0.01 50V	[M]
C2701	F1H1H103A219	0.01 50V	[M]
C2702	ECA1CAK101XB	100 16V	[M]
C2703	F1H1H471A219	470P 50V	[M]
C2704	F1H1H471A219	470P 50V	[M]
C2705	ECA1HAK010XB	1 50V	[M]
C2706	ECA1HAK010XB	1 50V	[M]
C2711	ECA1CAK101XB	100 16V	[M]
C2721	ECA1CAK101XB	100 16V	[M]
C2731	ECA1HM101B	100 50V	[M]
C2753	F1H1C104A041	0.1 16V	[M]
C2802	ECA1HAK3R3XB	3.3 50V	[M]
C2803	ECJ1VB1A105K	1 10V	[M]
C2821	ECJ1VC1H101K	100P 50V	[M]
C2853	F1H1C104A041	0.1 16V	[M]
C2854	ECA1AAK221XB	220 10V	[M]
C2871	F1H1H331A013	330P 50V	[M]
C2872	F1H1C223A001	0.022 16V	[M]
C2874	F1H1H331A013	330P 50V	[M]
C2882	ECJ1VC1H180J	18P 50V	[M]
C2883	ECJ1VC1H180J	18P 50V	[M]
C2901	F1H1C104A041	0.1 16V	[M]
C2903	F1H1H103A219	0.01 50V	[M]
C2904	ECA1CAK101XB	100 16V	[M]
C2906	F1H1H102A219	1000P 50V	[M]
C2910	ECJ1VB1H681K	680P 50V	[M]
C2940	F1H1C104A041	0.1 16V	[M]
C2941	ECA1CAK330XB	33 16V	[M]
C2943	ECA1HAK2R2XB	2.2 50V	[M]
C2944	ECJ1VC1H101K	100P 50V	[M]
C2945	ECA1CAK470XB	47 16V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C2947	ECA0JAK101XB	100 6.3V	[M]
C2948	ECA1AAK221XB	220 10V	[M]
C2957	ECJ1VC1H101K	100P 50V	[M]
C2959	ECJ1VC1H101K	100P 50V	[M]
C2961	ECJ1VC1H101K	100P 16V	[M]
C2962	ECJ1VC1H101K	100P 16V	[M]
C2963	F1H1H470A230	47P 50V	[M]
C2964	ECA1CM101B	100 16V	[M]
C2965	F1H1H102A219	100P 50V	[M]
C2966	ECJ1VB1H104K	0.1 50V	[M]
C2967	F1H1H470A230	47P 50V	[M]
C2968	ECJ1VB1H561K	560P 50V	[M]
C2969	ECA1CM100B	10 16V	[M]
C2970	F1H1H331A013	330P 50V	[M]
C2971	ECA1CM100B	10 16V	[M]
C2976	ECA1CAK100XB	10 16V	[M]
C5101	F2A1V102A154	1000P 35V	[M]
C5102	ECA2AM100B	10 100V	[M]
C5103	ECA2AM100B	10 100V	[M]
C5104	F2A1V102A154	1000P 35V	[M]
C5105	ECA1AAK221XB	220 10V	[M]
C5106	ECJ1VB1H104K	0.1 50V	[M]
C5107	ECJ1VB1H104K	0.1 50V	[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]
C5114	F1K2A1040007	0.1 100V	[M]
C5115	F1K2A1040007	0.1 100V	[M]
C5117	F2A1V471A141	470P 35V	[M]
C5118	F2A1V471A141	470P 35V	[M]
C5119	F2A1V471A141	470P 35V	[M]
C5120	F2A1V471A141	470P 35V	[M]
C5121	ECA1HAM470XB	47 50V	[M]
C5123	F2A1V471A141	470P 35V	[M]
C5124	F2A1V471A141	470P 35V	[M]
C5151	ECJ1VC1H101K	100P 50V	[M]
C5152	ECJ1VB1H104K	0.1 50V	[M]
C5153	ECJ1VC1H101K	100P 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]
C5171	ECA1HM102E	1000 50V	[M]
C5172	ECA1HM102E	1000 50V	[M]
C5181	F1D1H1040002	0.1 50V	[M]
C5182	F1D1H1040002	0.1 50V	[M]
C5186	ECJ1VB1H104K	0.1 50V	[M]
C5187	ECJ1VB1H104K	0.1 50V	[M]
C5201	F1H1H471A219	470P 50V	[M]
C5202	ECJ1VC1H101K	100P 50V	[M]
C5203	ECJ1VC1H101K	100P 50V	[M]
C5204	ECJ1VC1H101K	100P 50V	[M]
C5205	ECJ1VB1H104K	0.1 50V	[M]
C5208	F2A0J681A550	680P 6.3V	[M]
C5210	F1H1H221A748	220P 50V	[M]
C5301	ECJ1VB1A474K	0.47 10V	[M]
C5302	F1H1H331A013	330P 50V	[M]
C5303	ECJ1VB1A474K	0.47 10V	[M]
C5304	ECJ1VB1A474K	0.47 10V	[M]
C5305	F1H1H331A013	330P 50V	[M]
C5306	ECJ1VB1A474K	0.47 10V	[M]
C5308	ECJ1VB1H104K	0.1 50V	[M]
C5309	ECJ1VB1H104K	0.1 50V	[M]
C5310	F1K2A1040007	0.1 100V	[M]
C5311	F1H1H221A748	220P 50V	[M]
C5312	ECJ1VB1H104K	0.1 50V	[M]
C5313	ECJ1VB1H153K	0.015 50V	[M]
C5314	F1K2A1040007	0.1 100V	[M]
C5315	ECJ1VB1H104K	0.1 50V	[M]
C5316	ECJ1VB1H104K	0.1 50V	[M]
C5317	ECJ1VB1H104K	0.1 50V	[M]
C5318	F1K2A1040007	0.1 100V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C5319	ECJ1VB1H153K	0.015 50V	[M]
C5320	ECJ1VB1H104K	0.1 50V	[M]
C5321	F1K2A1040007	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]
C5334	ECJ1VB1H223K	0.022 50V	[M]
C5335	ECJ1VB1H223K	0.022 50V	[M]
C5336	F1H1H102A219	1000P 50V	[M]
C5337	F1H1H102A219	1000P 50V	[M]
C5343	ECJ1VB1H223K	0.022 50V	[M]
C5401	ECJ1VB1A474K	0.47 10V	[M]
C5402	F1H1H331A013	330P 50V	[M]
C5403	ECJ1VB1A474K	0.47 10V	[M]
C5404	ECJ1VB1A474K	0.47 10V	[M]
C5405	F1H1H331A013	330P 50V	[M]
C5406	ECJ1VB1A474K	0.47 10V	[M]
C5408	ECJ1VB1H104K	0.1 50V	[M]
C5409	ECJ1VB1H104K	0.1 50V	[M]
C5410	F1K2A1040007	0.1 100V	[M]
C5411	F1H1H221A748	220P 50V	[M]
C5412	ECJ1VB1H104K	0.1 50V	[M]
C5413	ECJ1VB1H153K	0.015 50V	[M]
C5414	F1K2A1040007	0.1 100V	[M]
C5415	ECJ1VB1H104K	0.1 50V	[M]
C5416	ECJ1VB1H104K	0.1 50V	[M]
C5417	ECJ1VB1H104K	0.1 50V	[M]
C5418	F1K2A1040007	0.1 100V	[M]
C5419	ECJ1VB1H153K	0.015 50V	[M]
C5420	ECJ1VB1H104K	0.1 50V	[M]
C5421	F1K2A1040007	0.1 100V	[M]
C5422	ECJ1VB1H104K	0.1 50V	[M]
C5423	ECJ1VB1H104K	0.1 50V	[M]
C5424	ECQV1H684JL3	0.68 50V	[M]
C5425	ECJ1VB1H104K	0.1 50V	[M]
C5426	ERJ3GEY0R00V	0 1/16W	[M]
C5427	ECQV1H684JL3	0.68 50V	[M]
C5428	ECJ1VB1H104K	0.1 50V	[M]
C5429	ERJ3GEY0R00V	0 1/16W	[M]
C5430	F1H2A221A009	220P 100V	[M]
C5431	F1H2A221A009	220P 100V	[M]
C5432	F1H2A221A009	220P 100V	[M]
C5433	F1H2A221A009	220P 100V	[M]
C5434	ECJ1VB1H223K	0.022 50V	[M]
C5435	ECJ1VB1H223K	0.022 50V	[M]
C5436	F1H1H102A219	1000P 50V	[M]
C5437	F1H1H102A219	1000P 50V	[M]
C5438	ECJ1VB1H223K	0.022 50V	[M]
C5501	ECJ1VB1A474K	0.47 10V	[M]
C5502	F1H1H331A013	330P 50V	[M]
C5503	ECJ1VB1A474K	0.47 10V	[M]
C5504	ECJ1VB1A474K	0.47 10V	[M]
C5505	F1H1H331A013	330P 50V	[M]
C5506	ECJ1VB1A474K	0.47 10V	[M]
C5508	ECJ1VB1H104K	0.1 50V	[M]
C5509	ECJ1VB1H104K	0.1 50V	[M]
C5510	F1K2A1040007	0.1 100V	[M]
C5511	F1H1H221A748	220P 50V	[M]
C5512	ECJ1VB1H104K	0.1 50V	[M]
C5513	ECJ1VB1H153K	0.015 50V	[M]
C5514	F1K2A1040007	0.1 100V	[M]
C5515	ECJ1VB1H104K	0.1 50V	[M]
C5516	ECJ1VB1H104K	0.1 50V	[M]
C5517	ECJ1VB1H104K	0.1 50V	[M]
C5518	F1K2A1040007	0.1 100V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C5519	ECJ1VB1H153K	0.015 50V	[M]
C5520	ECJ1VB1H104K	0.1 50V	[M]
C5521	F1K2A1040007	0.1 100V	[M]
C5522	ECJ1VB1H104K	0.1 50V	[M]
C5523	ECJ1VB1H104K	0.1 50V	[M]
C5524	ECQV1H684JL3	0.68 50V	[M]
C5525	ECJ1VB1H104K	0.1 50V	[M]
C5526	ERJ3GEY0R00V	0 1/16W	[M]
C5527	ECQV1H684JL3	0.68 50V	[M]
C5528	ECJ1VB1H104K	0.1 50V	[M]
C5529	ERJ3GEY0R00V	0 1/16W	[M]
C5530	F1H2A221A009	220P 100V	[M]
C5531	F1H2A221A009	220P 100V	[M]
C5532	F1H2A221A009	220P 100V	[M]
C5533	F1H2A221A009	220P 100V	[M]
C5536	ECJ1VB1H223K	0.022 50V	[M]
C5537	ECJ1VB1H223K	0.022 50V	[M]
C5538	F1H1H102A219	1000P 50V	[M]
C5701	ECA0JAK101XB	100 6.3V	[M]
C5920	ECA1HM102E	1000 50V	[M]
C5940	ECA1HM102E	1000 50V	[M]
C5950	ECA1EAM222XE	2200 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]
C5963	ECA1HAK4R7XB	4.7 50V	[M]
C5971	ECA1EAK470XB	47 25V	[M]
C6481	ECA1HM220B	22 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]
C6601	ECJ1VC1H101K	100P 50V	[M]
C6602	ECJ1VB1H104K	0.1 50V	[M]
C6603	ECJ1VC1H101K	100P 50V	[M]
C6604	ECJ1VC1H101K	100P 50V	[M]
C6605	ECJ1VC1H330J	33P 50V	[M]
C6623	ECA1HM220B	22 50V	[M]
C6631	ECA1HM220B	22 50V	[M]
C6632	ECA1HM220B	22 50V	[M]
C6635	ECA1HAK2R2XB	2.2 50V	[M]
C6636	ECJ1VB1H104K	0.1 50V	[M]
C6637	ECJ1VB1H104K	0.1 50V	[M]
C6751	F1H1C223A001	0.022 16V	[M]
C6752	F1H1C223A001	0.022 16V	[M]
C6753	F1H1H103A219	0.01 50V	[M]
C7102	ECJ1VB1A474K	0.47 10V	[M]
C7107	ECJ1VB1H223K	0.022 50V	[M]
C7142	ECJ1VB1H332K	3300P 50V	[M]
C7154	ECJ1VB1C104K	0.1 16V	[M]
C7155	ECJ1VB1C104K	0.1 16V	[M]
C7161	ECJ1VB1C104K	0.1 16V	[M]
C7164	ECJ2FF1A106Z	10 10V	[M]
C7165	ECJ2FF1A106Z	10 10V	[M]
C7166	ECJ1VB1H103K	0.01 50V	[M]
C7203	F2A0J221A200	220P 6.3V	[M]
C7204	ECJ1VB1C104K	0.1 16V	[M]
C7216	ECJ1VB1H681K	680P 50V	[M]
C7217	ECJ1VB1C104K	0.1 16V	[M]
C7218	ECJ1VB1C823K	0.082 16V	[M]
C7223	ECEA1HKA4R7I	4.7 50V	[M]
C7225	ECJ1VB1H102K	1000P 50V	[M]
C7226	ECJ1VB1H102K	1000P 50V	[M]
C7227	ECA1HAK010XI	1 50V	[M]
C7228	ECA1HAK010XI	1 50V	[M]
C7230	ECJ1VB1C104K	0.1 16V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C7231	F2A0J221A200	220P 6.3V	[M]
C7232	F2A0J221A200	220P 6.3V	[M]
C7233	ECJ1VF1C104Z	0.1 16V	[M]
C7234	ECJ1VB1C104K	0.1 16V	[M]
C7235	ECEA1CKA100I	10 16V	[M]
C7241	ECJ1VB1H102K	1000P 50V	[M]
C7243	ECJ1VF1C104Z	0.1 16V	[M]
C7244	ECJ1VB1C153K	0.015 16V	[M]
C7253	ECJ1VB1H471K	470P 50V	[M]
C7263	ECJ1VB1C104K	0.1 16V	[M]
C7264	ECJ1VB1C104K	0.1 16V	[M]
C7315	ECJ1VB1A474K	0.47 10V	[M]
C7334	ECEA1AKA221I	220 10V	[M]
C7335	ECJ1VF1C104Z	0.1 16V	[M]
C7338	ECJ1VB1C563K	0.056 16V	[M]
C7339	ECJ1VB1C183K	0.018 16V	[M]
C7352	ECJ1VB1C183K	0.018 16V	[M]
C7601	ECEA0JKA330I	33 6.3V	[M]
C7613	ECJ1VB1C104K	0.1 16V	[M]
C7614	F2A0J101A198	100P 6.3V	[M]
C7626	ECJ1VB1C104K	0.1 16V	[M]
C7670	ECJ1VB1C104K	0.1 16V	[M]