

# Service Manual

Portable Stereo CD System



## RX-ES29EE

Colour

(S).....Silver Type



### Specification

#### n RADIO

Frequency range

FM 87.50-108.00 MHz (50 kHz steps)

AM 522-1629 kHz (9 kHz steps)

#### n CD PLAYER

Sampling frequency 44.1 kHz

Decoding 16 bit linear

Beam source Semiconductor laser (wavelength 780 nm)

No. of channels 2 channel, stereo

Wow and flutter Below measurable limit

D/A converter MASH (1 bit DAC)

#### n TAPE RECORDER

Track system Stereo

Monitor system Variable sound monitor

Recording system AC bias

Erasing system Multi Pole magnet

Frequency range 50-14000 Hz

Normal position

#### n GENERAL

Speakers 8 cm 5.4Ω x 2

Jacks

Output Phones: 3.5 mm stereo (16-32Ω)

Power requirement

AC 230-240 V, 50 Hz

Power consumption 30 W

Battery 12 V [Eight R20/LR20 (D, UM-1) batteries]

! Do not use rechargeable type batteries

Memory backup for computer/clock 6 V [Four R6/LR6 (AA, UM-3) batteries]

! Do not use rechargeable type batteries

Dimensions 529 mm (W) x 144 mm (H) x 276 mm (D)

Mass 4.4 kg without batteries

Power consumption in standby mode 2.7 W

#### Notes:

1. Specifications are subject to change without notice.
2. Mass and dimensions are approximate.

# Panasonic

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## ⚠ WARNING

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

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# 1 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, 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  $5.2\Omega$ .

When the exposed metal does not have a return path to the chassis, the reading must be  $\infty$ .

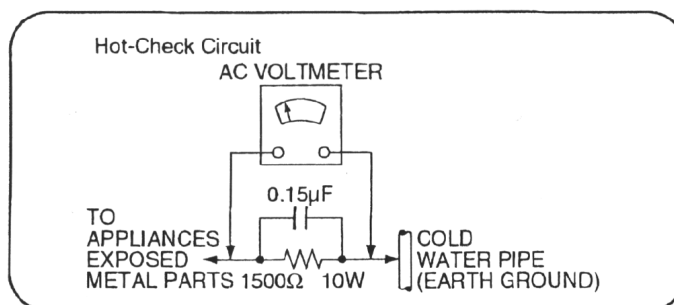


Fig. 1

### 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  $0.15\mu F$  capacitors, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliamp. Should the measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and re-checked before it is returned to the customer.

## 2 Before Repair and Adjustment

Disconnect AC power, discharge Power Supply Capacitors C301, C131, C231, C310, C307, C309 and C331 through a 10  $\Omega$ , 1 W resistor to ground. DO NOT SHORT-CIRCUIT DIRECTLY (with a screw driver 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 220 V, 50 Hz in NO SIGNAL mode should be ~180 mA respectively.

Current consumption at AC 240 V, 60 Hz in NO SIGNAL mode should be ~129 mA respectively.

## 3 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.
- 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.

## 4 Handling the Lead Solder

### 4.1. About lead free solder (PbF)

#### Distinction of PbF P.C.B. :

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

#### Caution:

- Pb free solder has a higher melting point than standard solder; Typically the melting point is 50 - 70°F (30 - 40°C) higher. Please use a high temperature soldering iron. In case of the soldering iron with temperature control, please set it to 700  $\pm$  20°F (370  $\pm$  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.

## 5 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  $\mu$ 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 $\mu$ 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 :

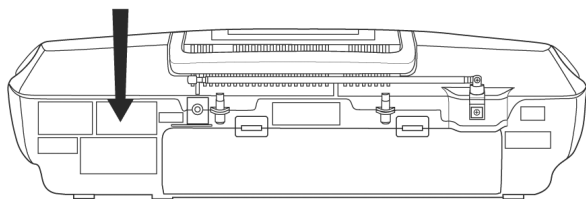
I dette a apparat anvendes laser.

### 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 Labels



|          |                                                                                                              |
|----------|--------------------------------------------------------------------------------------------------------------|
| DANGER   | INVISIBLE LASER RADIATION WHEN OPEN.<br>AVOID DIRECT EXPOSURE TO BEAM.                                       |
| ADVARSEL | USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING. |
| VARO!    | AVATTAESSA JA SUJALUKITUS OHITETTAESSA OLET ALTIINA NÄKYMÄTÖNTÄ LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.        |
| VARNING  | ÖSYNLIG LASERSTRÅLNING NÅR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRÄKTA EJ STRÅLEN.                |
| ADVARSEL | USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.               |
| VORSICHT | UNSIHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.                              |

Внутри аппарата

## 6 Handling Precautions For Traverse Deck

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

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

### I Handling of CD 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. The short land between the No.4 (LD) and No.5 (GND) pins on the flexible board (FFC) is shorted with a solder build-up to prevent damage to the laser diode.
3. Take care not to apply excessive stress to the flexible board (FPC board) (Fig 6.1).
4. Do not turn the variable resistor (laser power adjustment). It has already been adjusted.

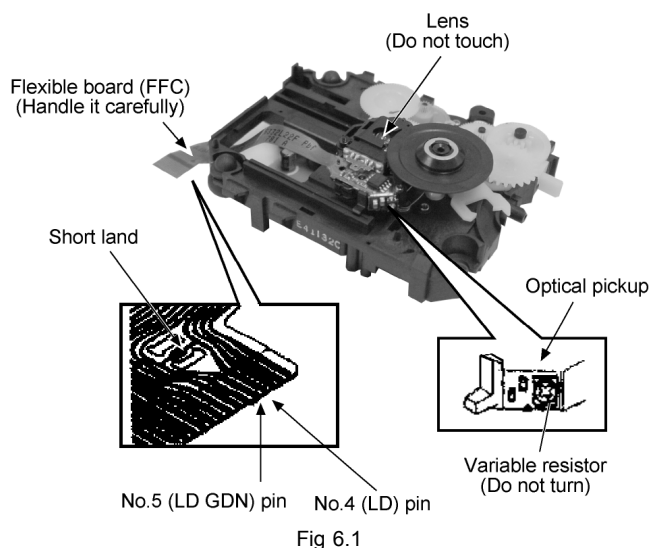


Fig 6.1

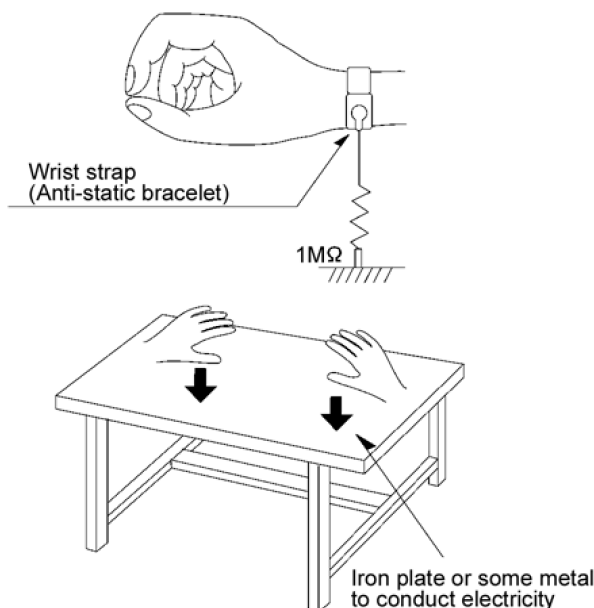


Fig 6.2

### Caution when Replacing the Optical Pickup :

The traverse 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.

### I Grounding for electrostatic breakdown prevention

1. Human body grounding (Fig 6.2)

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

2. Work table grounding (Fig 6.2)

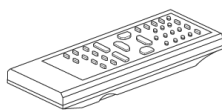
Put a conductive material (sheet) or steel sheet on the area where the traverse deck (optical pickup) is placed, and ground the sheet.

#### Caution :

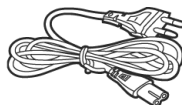
The static electricity of your clothes will not be grounded through the wrist strap. So, take care not to let your clothes touch the traverse deck (optical pickup).

## 7 Accessories

Note : Refer to Packing Materials & Accessories Parts List (Section 23.5) for the part number.



Remote Control.....1pc



AC cord.....1 pc

## 8 Operation Procedures

### 8.1. Main Unit

#### Main Unit

- ① Deck
- ② Deck eject button (▲ DECK)
  - Press [▲ DECK] to open the deck.
  - (The unit comes on.)
  - Then, load a cassette and close the deck by hand.
- ③ Record/record pause button (●/II)
- ④ Cassette play button (▶ TAPE)
  - Press [▶ TAPE] to start play.
- ⑤ Band button (TUNER BAND)
  - Press [TUNER BAND] to select "FM" or "AM".
- ⑥ CD play/pause button (CD ▶/II)
  - Press [CD ▶/II] to start play.
  - Plays to the end of the CD and stops.
  - Press [CD ▶/II] to pause halfway during play.
  - Press again to resume play.
- ⑦ CD recording mode button (CD REC MODE)
- ⑧ Play timer/record timer button (⌚ PLAY/REC)
- ⑨ Clock/timer button (CLOCK/TIMER)
- ⑩ CD program/clear, tuner preset button (• MEMORY-CLEAR)
- ⑪ Speaker
 

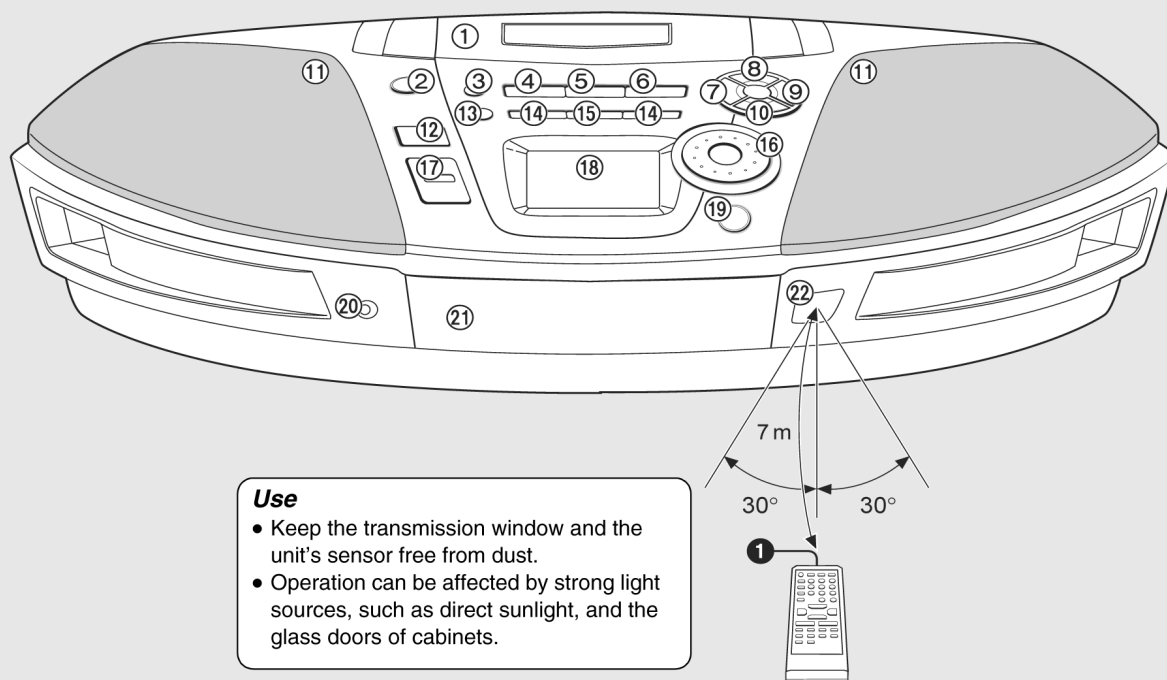
**Note:**

  - These speakers do not have magnetic shielding.
  - Do not place them near televisions, personal computers or other devices easily influenced by magnetism.
- ⑫ Standby/on switch (⏻/II)
 

Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.
- ⑬ Sound equalizer button (SOUND EQ)
- ⑭ Tuning/CD search, Rewind/fast-forward buttons (REW/-/◀◀, ▶▶/+FF)
- ⑮ CD/Tape mode select/stop button (■ TAPE/CD)
  - Press [■ TAPE/CD] to stop play.
- ⑯ Time adjust, Preset channel select/CD track select dial (TIME/PRESET TUNE ← TRACK SKIP →)
- ⑰ Volume control buttons (+, - VOLUME)
  - Press [+ , - VOLUME] to adjust to the desired volume for CD, Tuner or Cassette.
- ⑱ Display panel
 

e.g. CD
- ⑲ CD tray open/close button (▲ CD)
  - Press [▲ CD] to open the tray.
  - (The unit comes on.)
  - Load a CD and press [▲ CD] to close the tray.
- ⑳ Standby indicator (⏻)
 

When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.
- ㉑ CD tray
- ㉒ Remote control signal sensor (SENSOR)

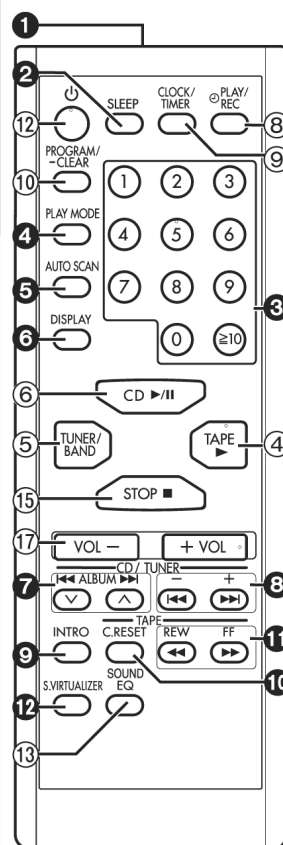


#### Use

- Keep the transmission window and the unit's sensor free from dust.
- Operation can be affected by strong light sources, such as direct sunlight, and the glass doors of cabinets.

## 8.2. Remote Control

- 1 Transmission window**  
Aim at the sensor, avoiding obstacles, at a maximum range of 7 meters directly in front of the unit.
- 2 Sleep timer button (SLEEP)**
- 3 Numeric buttons**
- 4 CD/MP3 play mode/FM mode button (PLAY MODE)**
- 5 Auto scan button (AUTO SCAN)**
- 6 Display select button (DISPLAY)**
  - Press [DISPLAY] to display the clock on the Display panel ⑮.
- 7 Preset channel select/album skip buttons (V/I◀◀ ALBUM, ALBUM▶▶/I/∧)**
- 8 Tuning/CD skip, search/MP3 track skip/clock, timer adjust buttons (◀/I◀◀, ▶▶/I/∧)**
- 9 MP3 intro play button (INTRO)**
- 10 Tape counter reset button (C.RESET)**
  - Press [C.RESET] to reset the tape counter. The counter resets to "000".
- 11 Rewind/fast-forward buttons (◀◀/REW, ▶▶/FF)**
- 12 Sound virtualizer button (S.VIRTUALIZER)**



## 9 Information on MP3

This unit can play MP3, a method of compressing audio without affecting audio quality.

■ **When creating MP3 files to play on this unit**

Disc format: ISO9660 level 1 and level 2 (except for extended formats)

Title names and album names are not displayable on this unit.

■ **Limitation on MP3**

- This unit is compatible with multi-session but if there are a lot of sessions it takes more time for play to start. Keep the number of sessions to a minimum to avoid this.
- This unit cannot play files recorded using packet write.
- If a CD-ROM format CD contains MP3 and files other than MP3, only the MP3 files will be playable.
- Depending on how you create MP3 files, they may not play in the order you numbered them or may not play at all.

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

# 10 Disassembly and Main Component Replacement Procedures and Operational Check

## “ATTENTION SERVICER”

Some chassis components may have sharp edges. Be careful when disassembly 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.

## Warning:

**This product uses a laser diode. Refer to “Precaution of Laser Diode”.**

## ACHTUNG:

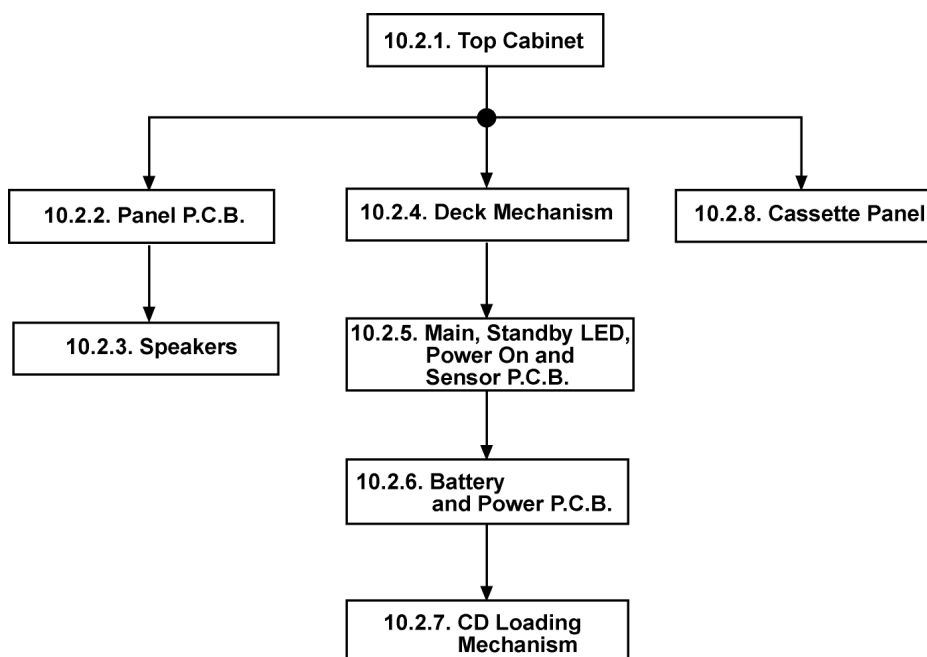
**Die Lasereinheit nicht zerlegen.**

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

## 10.1. Disassembly flow chart

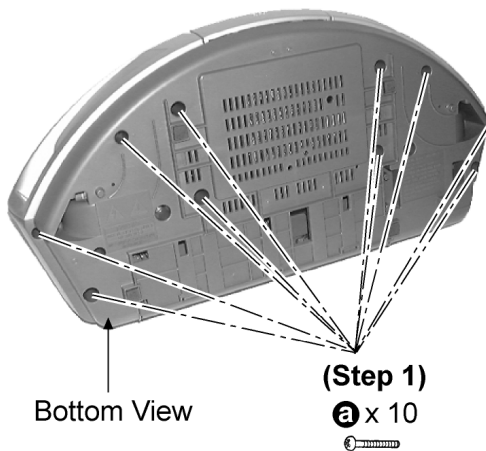
The following chart is the procedure for disassembling the casing and inside parts for internal inspection when carrying out the servicing.

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

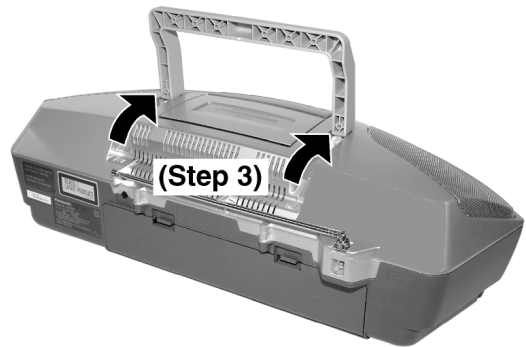


## 10.2. Checking Procedure for each major P.C.B.

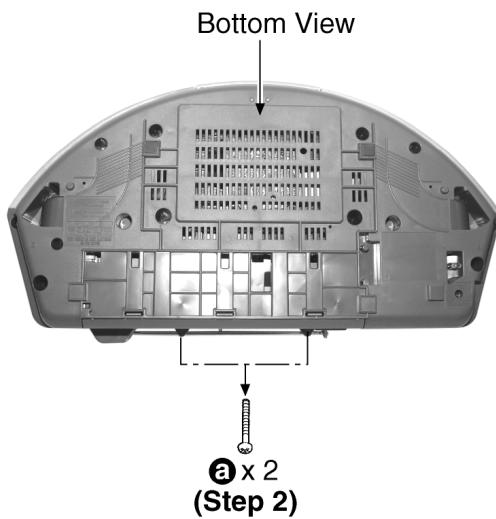
### 10.2.1. Disassembly of Top Cabinet Unit.



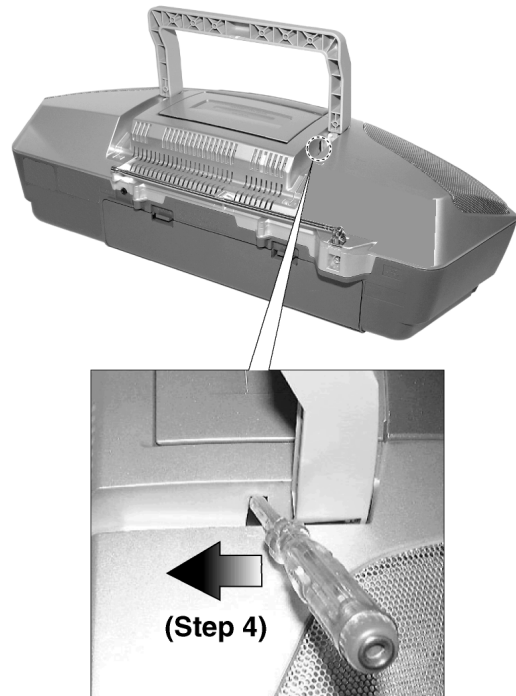
**Step 1:** Remove 10 screws.



**Step 3:** Flip up the handle as arrow direction shown.

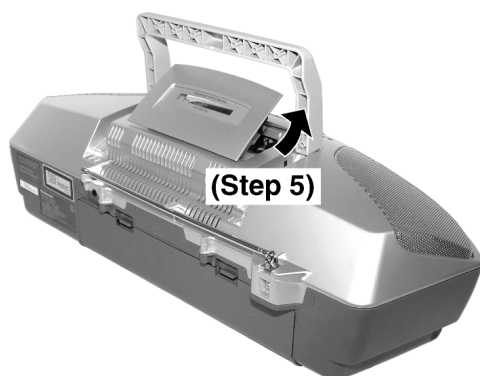


**Step 2:** Remove 2 screws.

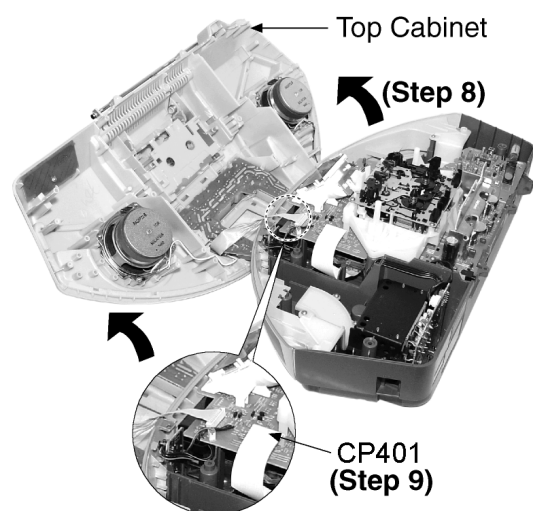


**Step 4:** Use a screw driver and insert into the hole. Slide the screw driver to the direction shown to open the cassette panel.

**Note:** Be careful not to exert strong force as it may cause damage to the chassis.



**Step 5:** Cassette panel will automatically open.

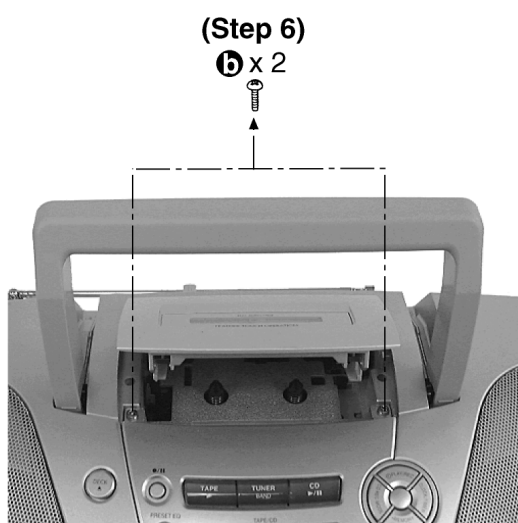


**Step 8:** Flip the Top Cabinet over as arrow shown.

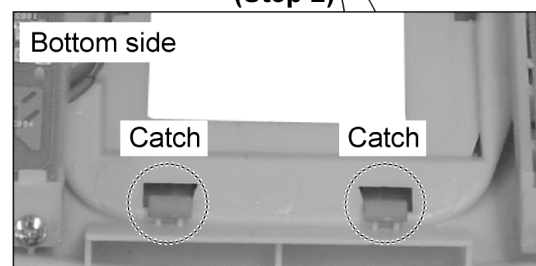
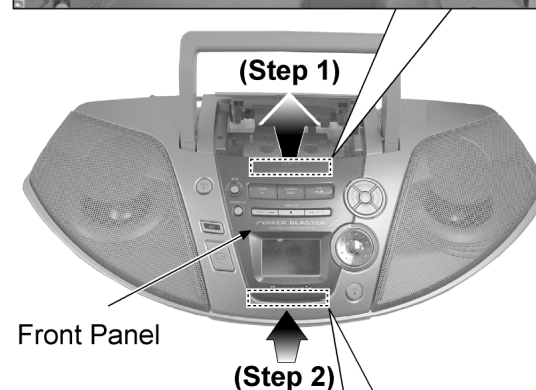
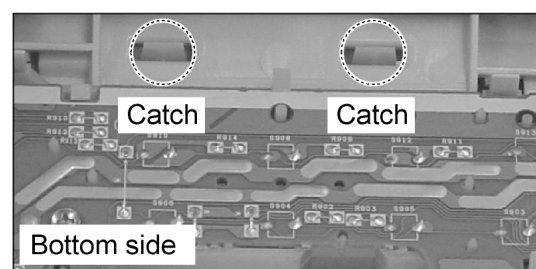
**Step 9:** Detach the FFC wire (CP401).

### 10.2.2. Disassembly of Panel P.C.B.

Follow (step 1) to (step 9) of item 10.2.1.

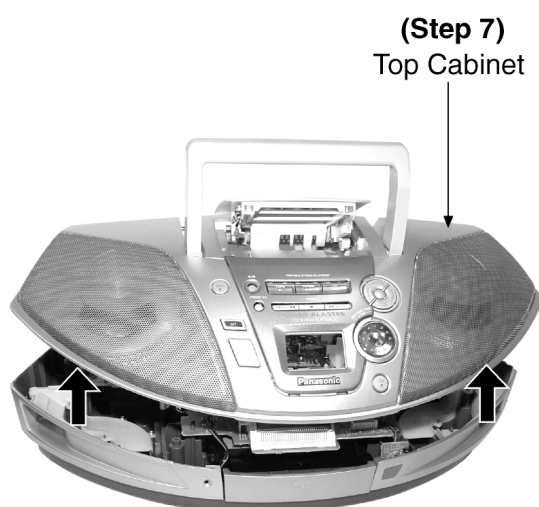


**Step 6:** Remove 2 screws.

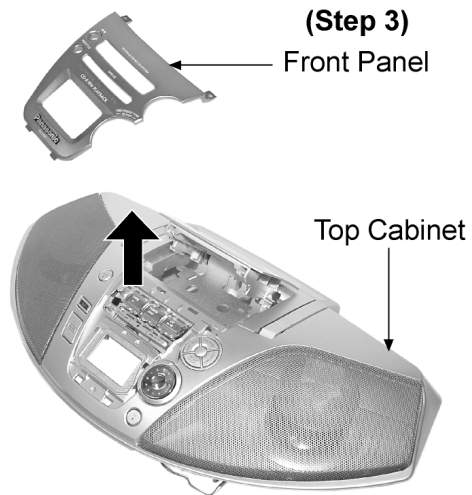


**Step 1:** Lift the upper section of the front panel slightly towards you as arrow shown.

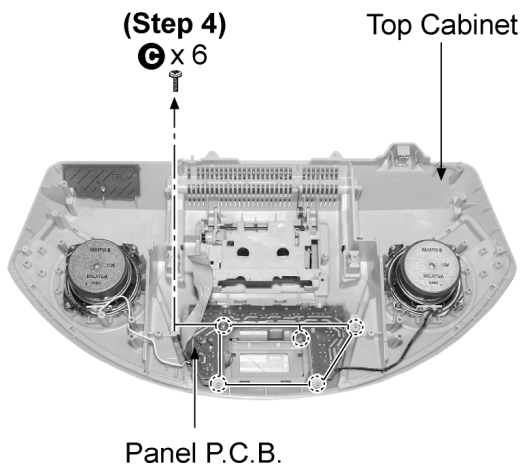
**Step 2:** While lifting, push the lower section of the front panel in the direction shown by the arrow to release the catches.



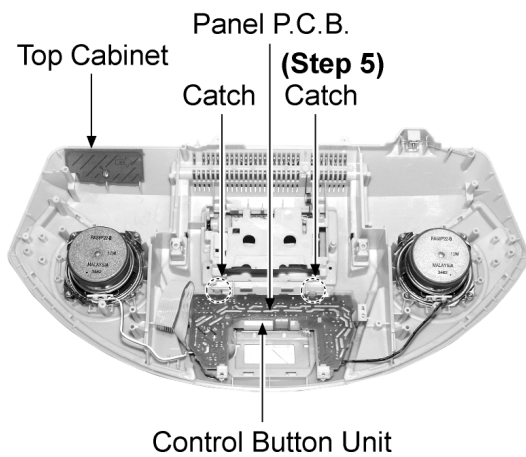
**Step 7:** Lift up the Top Cabinet as arrow shown.



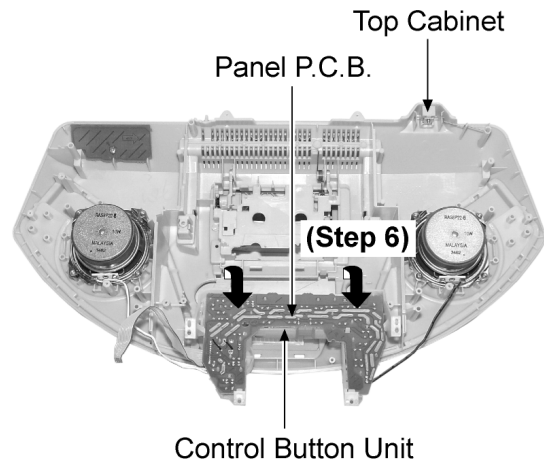
**Step 3:** Remove the Front Panel from Top Cabinet as arrow shown.



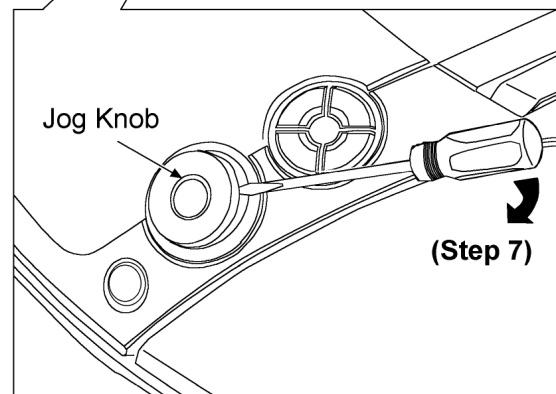
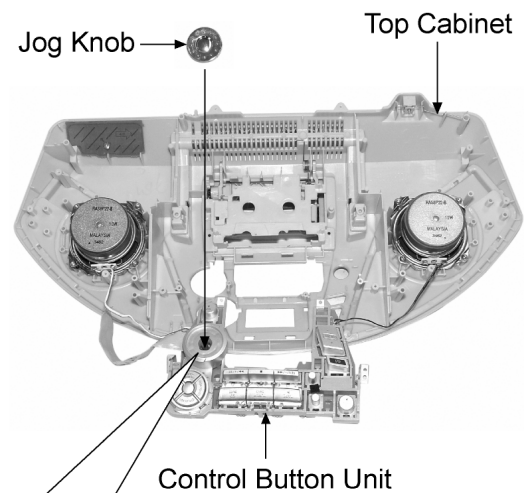
**Step 4:** Remove 6 screws.



**Step 5:** Release 2 catches.

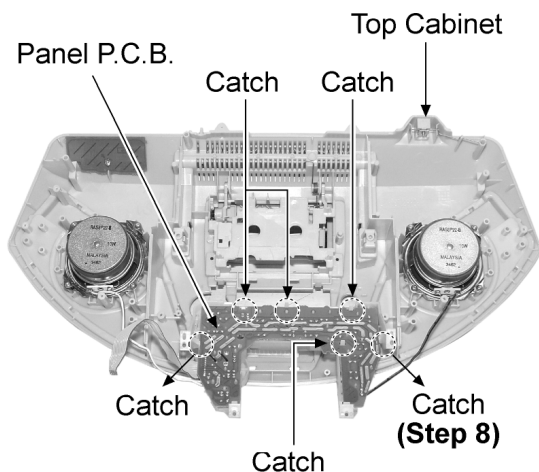


**Step 6:** Flip over the Control Button Unit with the Panel P.C.B. as arrow shown.

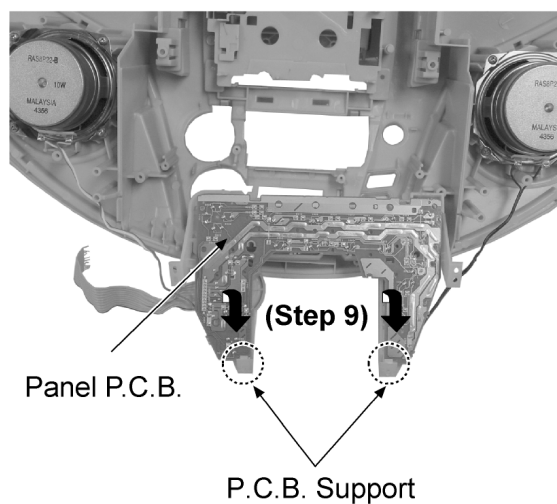


**Step 7:** Remove the Jog Knob using a screwdriver as arrow shown.

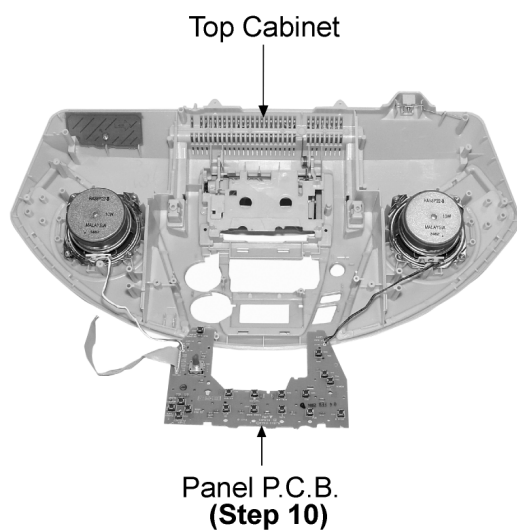
**Caution:** Do not exert strong force as it may cause damage to the top cabinet.



**Step 8:** Release 6 catches.



**Step 9:** Remove the Panel P.C.B. as arrow shown.

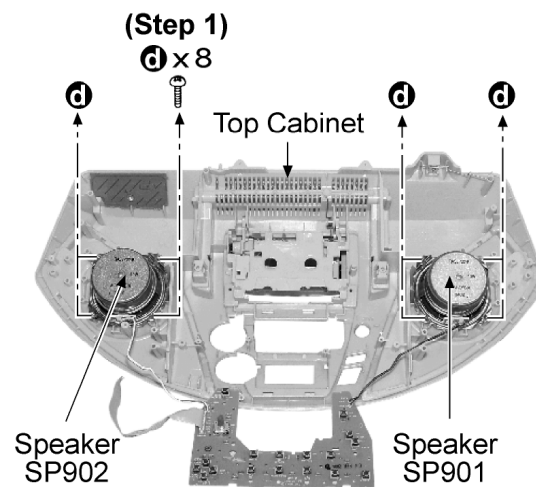


**Step 10:** Flip the Panel P.C.B. over.

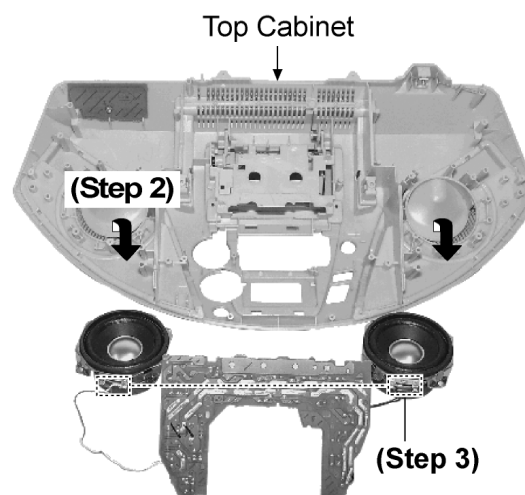
### 10.2.3. Disassembly of Speakers.

Follow (step 1) to (step 9) of item 10.2.1.

Follow (step 1) to (step 10) of item 10.2.2.



**Step 1:** Remove 8 screws.

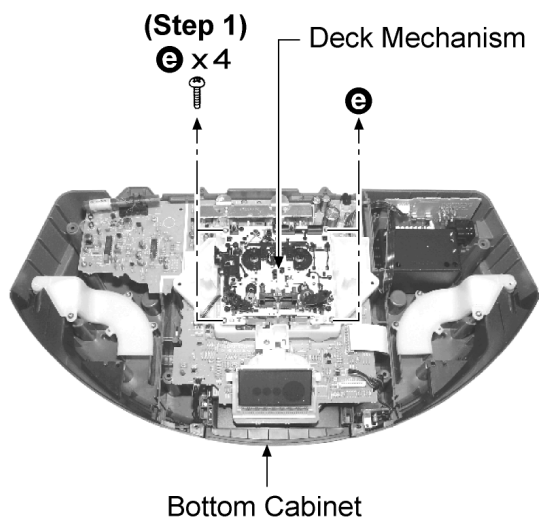


**Step 2:** Flip the both side speakers as arrow shown.

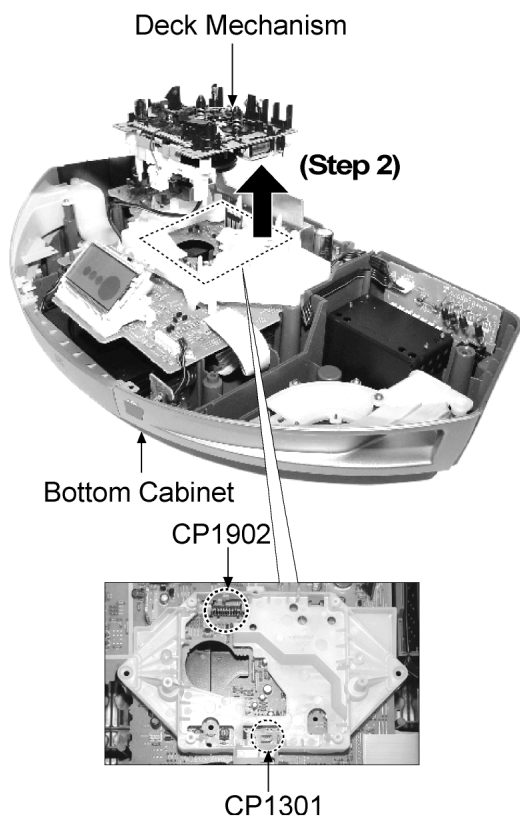
**Step 3:** Desolder the wire at speaker terminal to remove speaker.

### 10.2.4. Disassembly of Deck Mechanism.

Follow (step 1) to (step 9) of item 10.2.1.

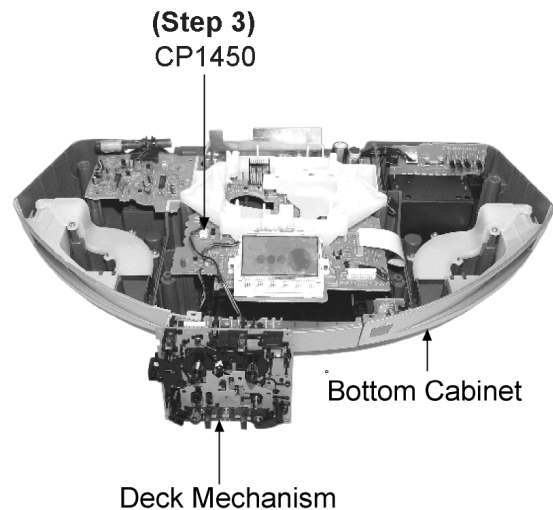


**Step 1:** Remove 4 screws.



**Note:** Be careful of connectors (CP1301 & CP1902) while removing the deck mechanism.

**Step 2:** Remove the deck mechanism as arrow shown.

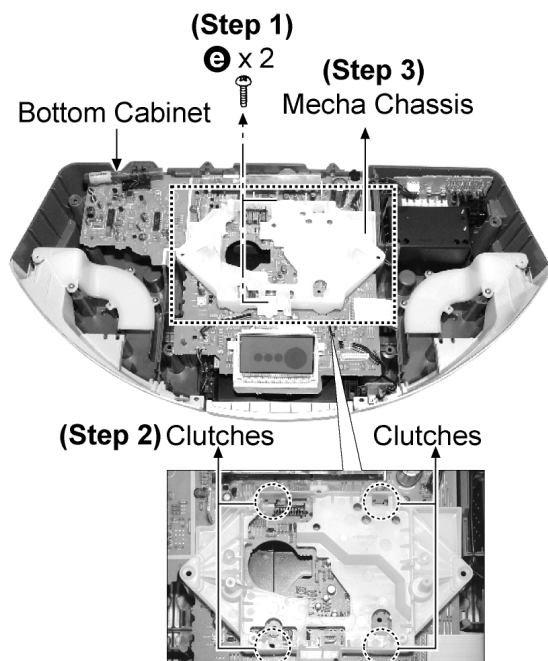


**Step 3:** Release the connector (CP1450) to remove the deck mechanism.

### 10.2.5. Disassembly of Main, Standby LED, Power On and Sensor P.C.B.

Follow (step 1) to (step 9) of item 10.2.1.

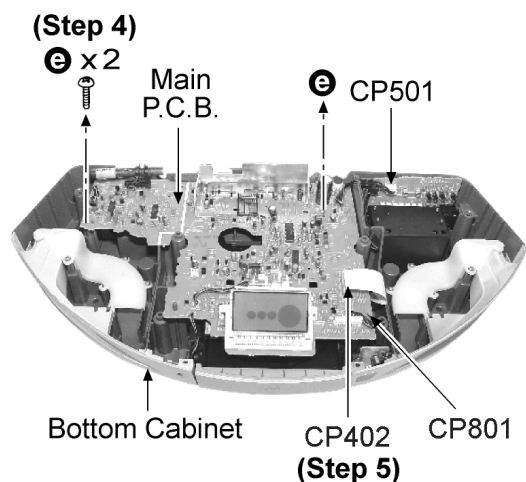
Follow (step 1) to (step 3) of item 10.2.4.



**Step 1:** Remove 2 screws.

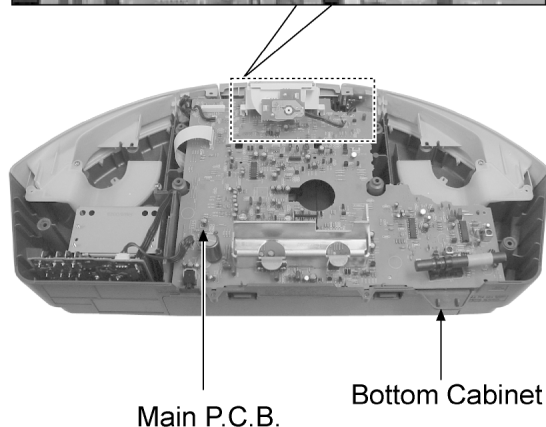
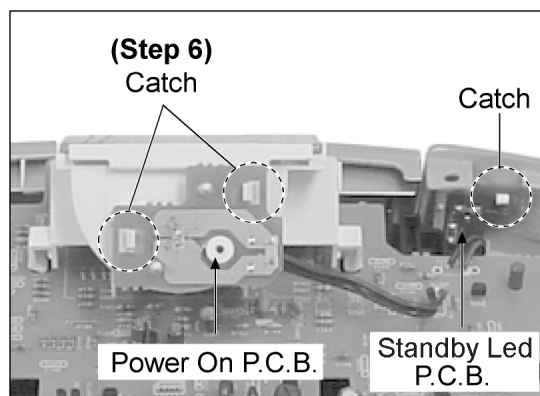
**Step 2:** Release 4 clutches.

**Step 3:** Remove the Mecha Chassis.

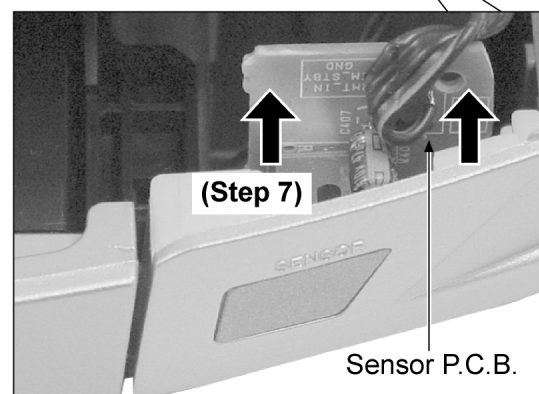
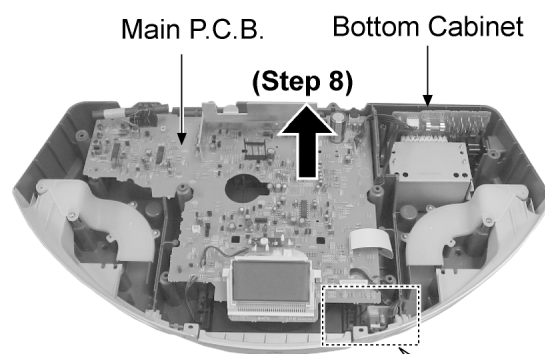


**Step 4:** Remove 2 screws.

**Step 5:** Release all the connectors (CP501, CP402 & CP801).



**Step 6:** Release 3 Catches and remove Power On P.C.B. and Standby Led P.C.B..



**Step 7:** Release the Sensor P.C.B. as arrow shown.

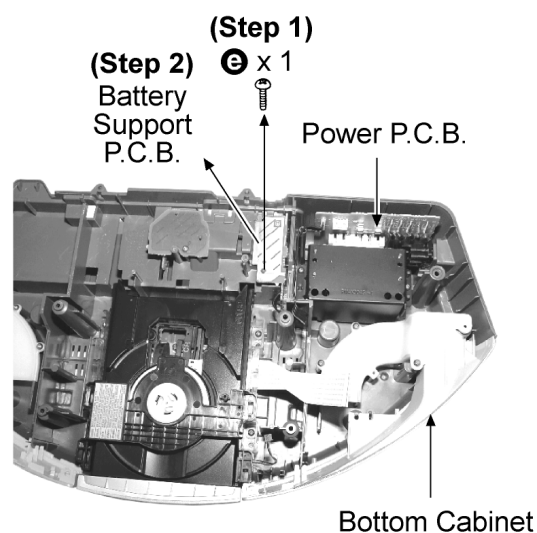
**Step 8:** Remove the Main P.C.B. as arrow shown.

### 10.2.6. Disassembly of Battery and Power P.C.B.

Follow (step 1) to (step 9) of item 10.2.1.

Follow (step 1) to (step 3) of item 10.2.4.

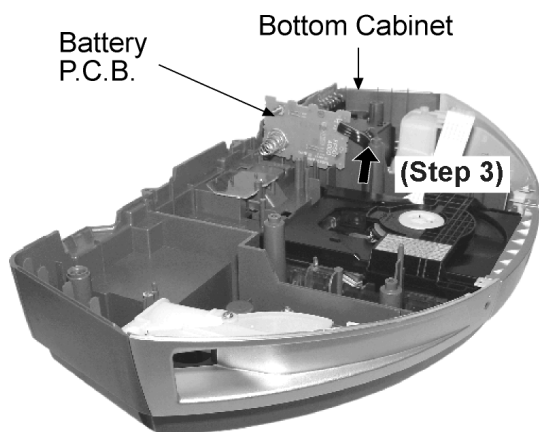
Follow (step 1) to (step 8) of item 10.2.5.



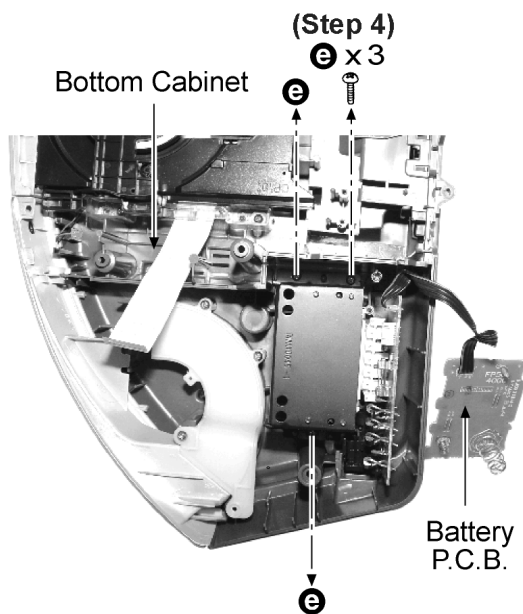
**Step 1:** Remove 1 screw.

**Step 2:** Remove the Battery Support P.C.B..

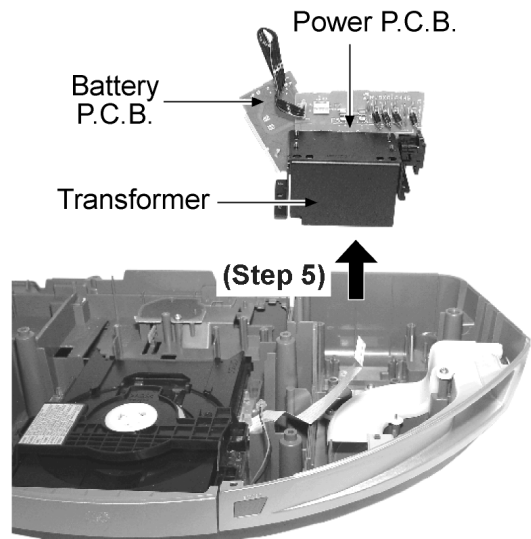
**Note:** Remember to place the Battery Support P.C.B. to original location.



**Step 3:** Remove the Battery P.C.B. as arrow shown.



**Step 4:** Remove 3 screws.



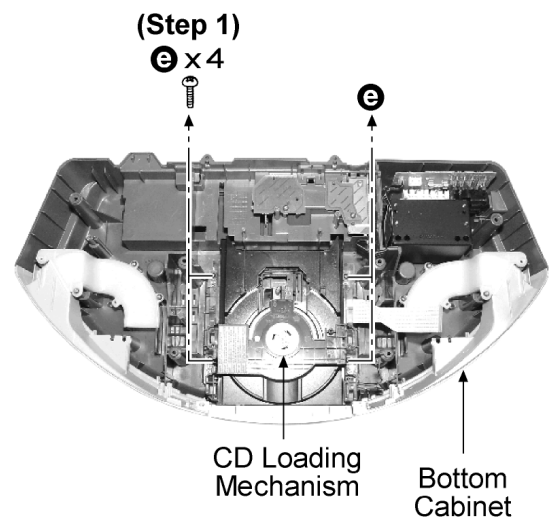
**Step 5:** Remove the Transformer together with battery P.C.B. and Power P.C.B. as arrow shown.

### 10.2.7. Disassembly of CD Loading Mechanism.

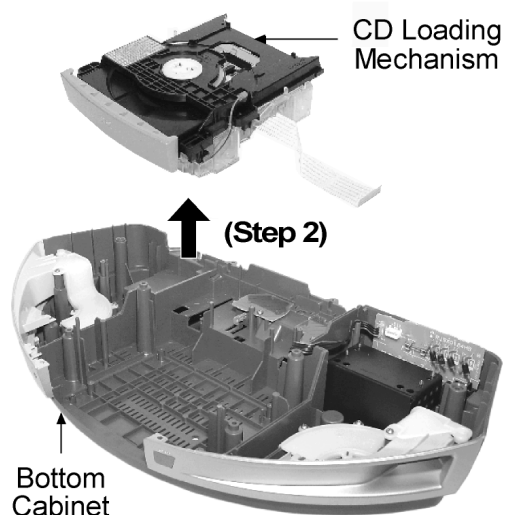
Follow (step 1) to (step 9) of item 10.2.1.

Follow (step 1) to (step 3) of item 10.2.4.

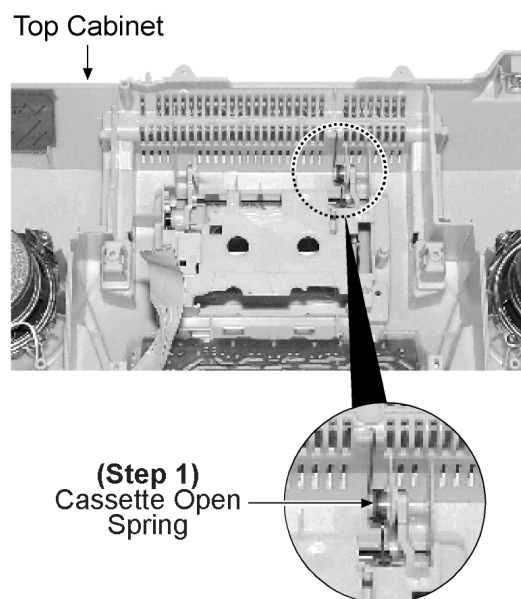
Follow (step 1) to (step 8) of item 10.2.5.



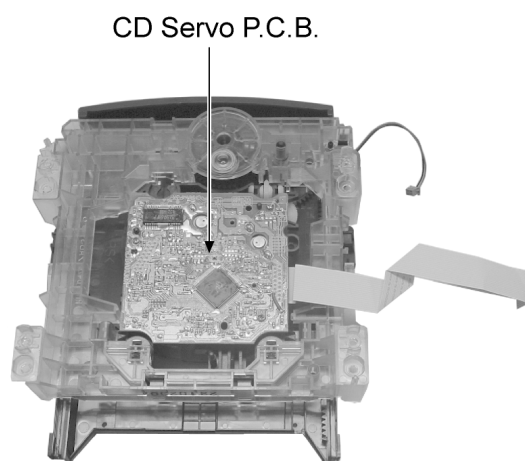
**Step 1:** Remove 4 screws.



**Step 2:** Remove the CD Loading Mechanism as arrow shown.

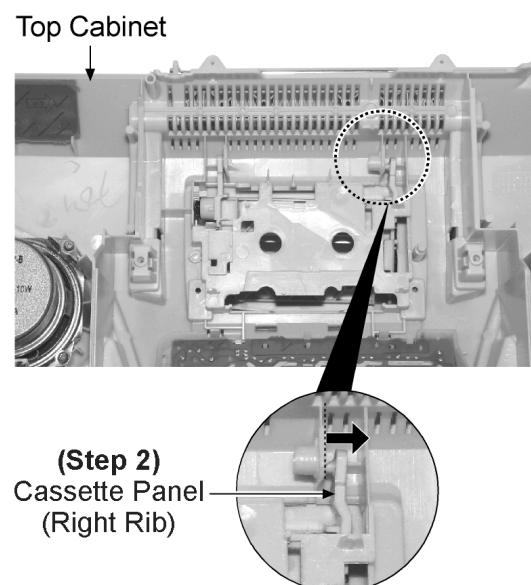


**Step 1:** Remove the cassette open spring.

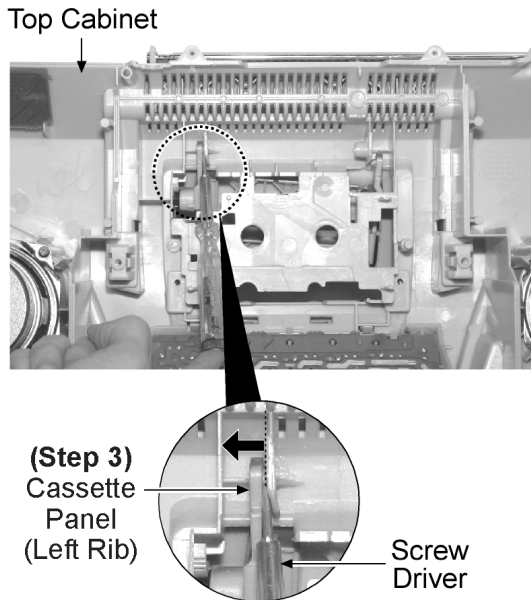


### 10.2.8. Replacement of Cassette Panel.

Follow (step 1) to (step 9) of item 10.2.1.

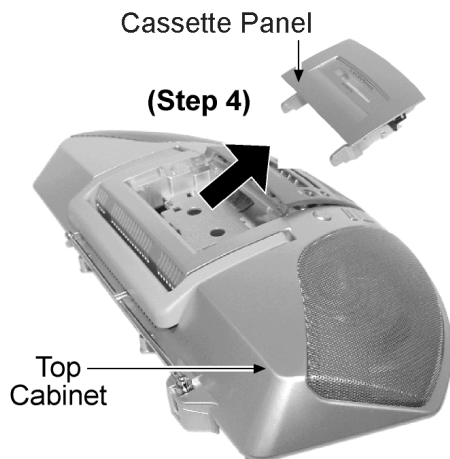


**Step 2:** Push the cassette panel slowly to the right.



**Step 3:** Push the cassette panel slowly to the left using a screw driver.

**Caution:** Be careful of using/exerting strong forces.

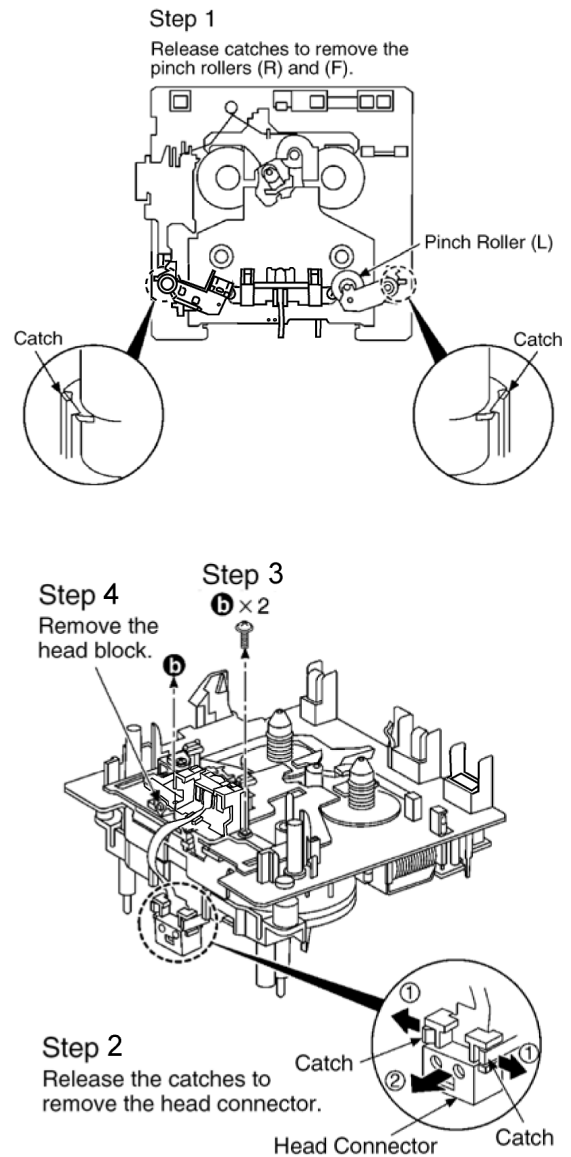


**Step 4:** Remove the cassette panel from top cabinet as arrow shown.

### 10.3. Procedures for Replacing Pinch Roller and Head Block (Deck Mechanism Unit)

Follow (step 1) to (step 9) of item 10.2.1.

Follow (step 1) to (step 3) of item 10.2.4.

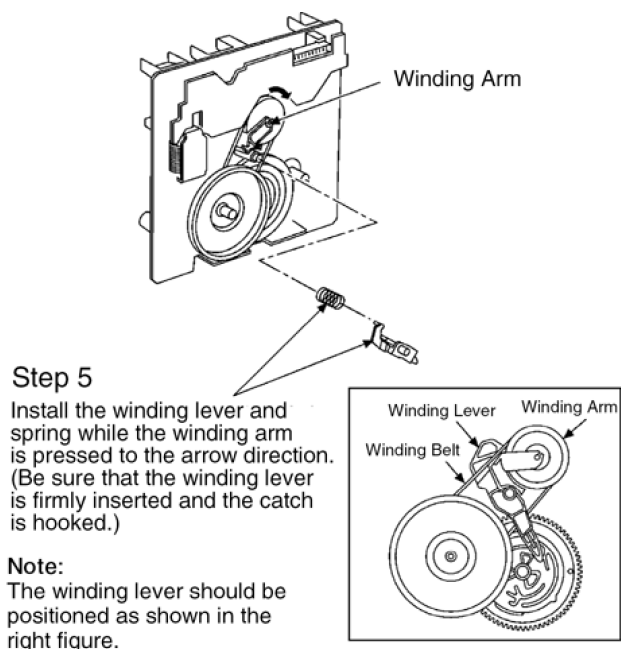
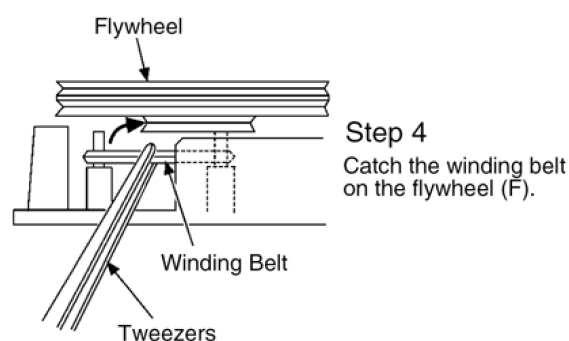
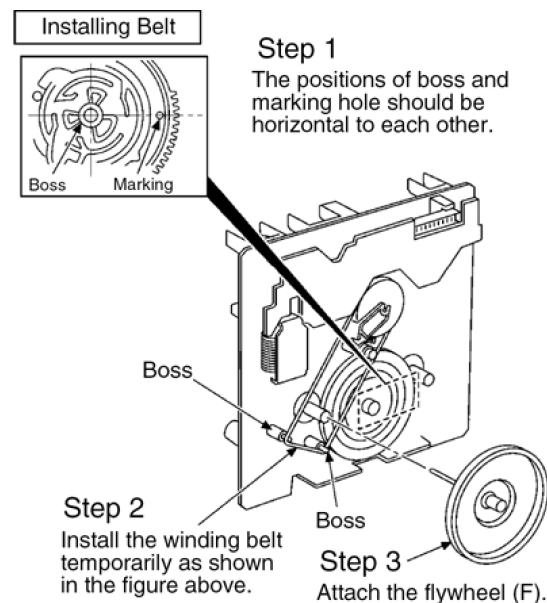
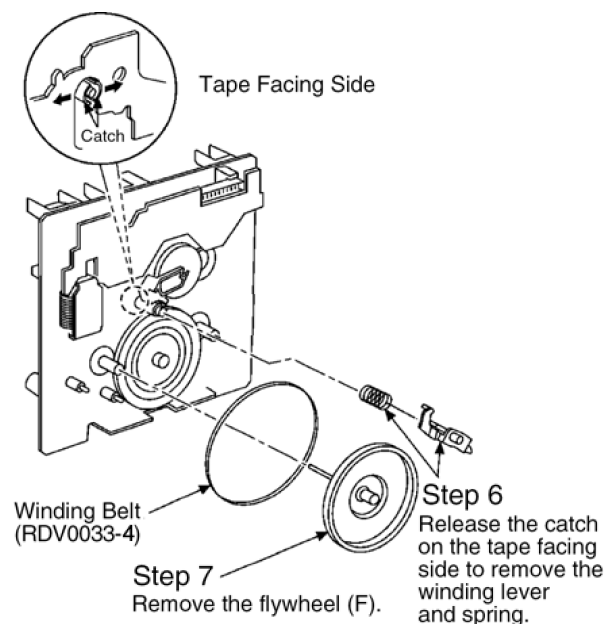
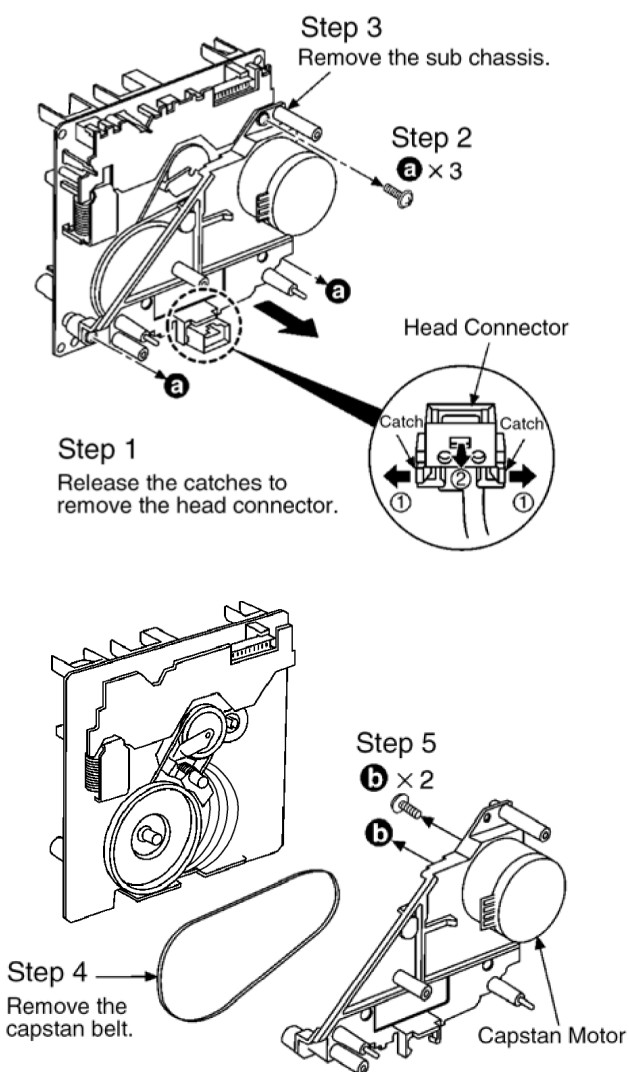


### 10.4. Procedures for Replacing Motor, Capstan Belt A, Capstan Belt B, and Winding Belt (Deck Mechanism Unit)

Follow (step 1) to (step 9) of item 10.2.1.

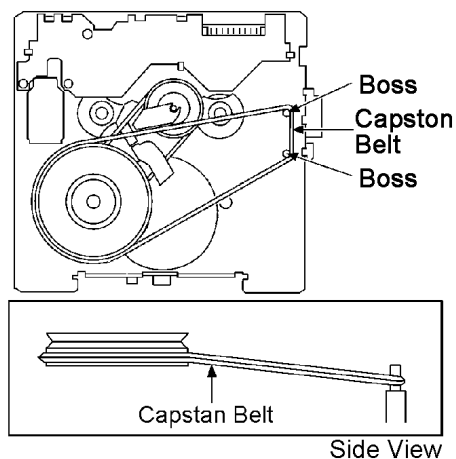
Follow (step 1) to (step 3) of item 10.2.4.

Follow (step 1) of item 10.3.



**Step 6**

Install the capstan belt temporarily as shown in the figure below.



**Note:**

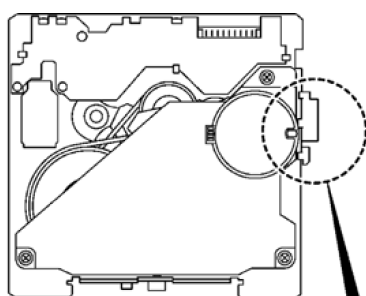
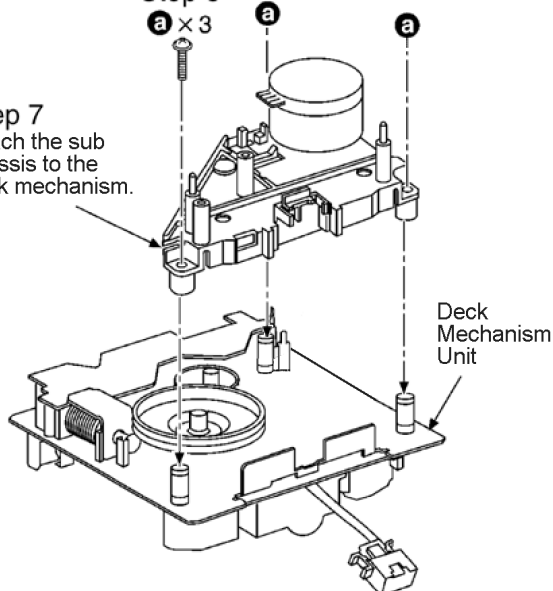
Keep the belt away from grease.

**Step 8**

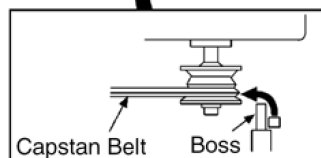
**a** × 3

**Step 7**

Attach the sub chassis to the deck mechanism.

**Step 9**

Catch the capstan belt to the pulley of the capstan motor.



## 10.5. Procedures for Replacing Parts on Deck Mechanism PCB

Follow (step 1) to (step 9) of item 10.2.1.

Follow (step 1) to (step 3) of item 10.2.4.

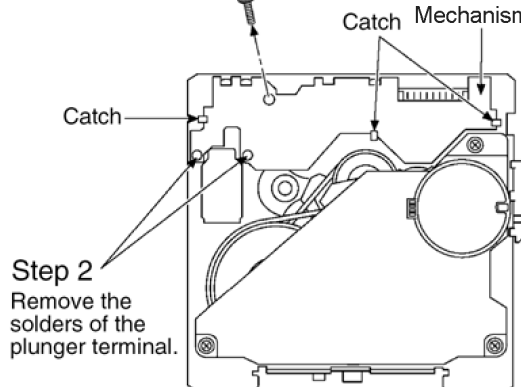
Follow (step 1) of item 10.3.

**Step 1**

**a**

**Step 3**

Remove 3 catches to remove the Deck Mechanism PCB.



## 10.6. Procedures of Replacing Traverse Base (Unit), Driving Gear, and Cam Gear (CD Mechanism Unit)

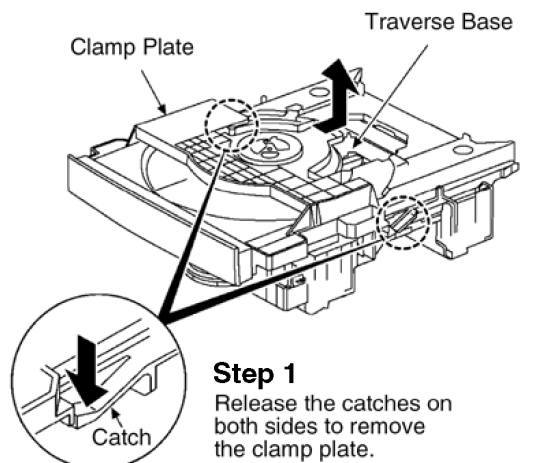
### 10.6.1. Disassembly of the Disc Tray.

Follow (step 1) to (step 9) of item 10.2.1.

Follow (step 1) to (step 3) of item 10.2.4.

Follow (step 1) to (step 8) of item 10.2.5.

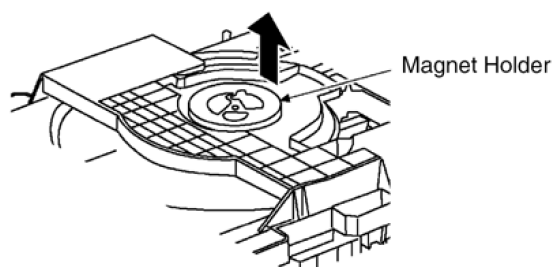
Follow (step 1) to (step 2) of item 10.2.7.

**Step 1**

Release the catches on both sides to remove the clamp plate.

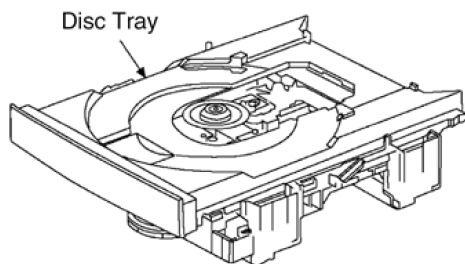
**Note:**

When the magnet attracts the traverse base (JUN) that is set to UP, lift the magnet holder backward to remove the clamp plate.

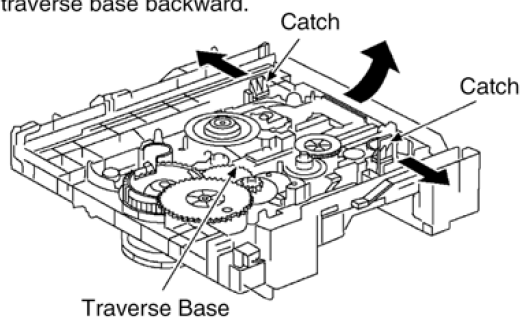


**Step 2**

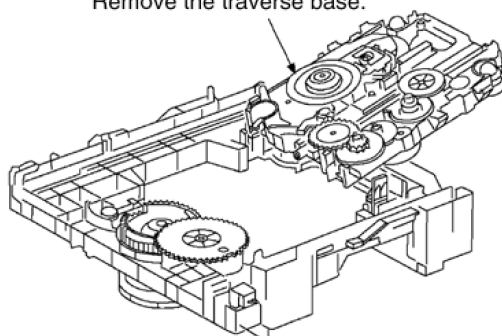
Remove the disc tray upward.

**Step 3**

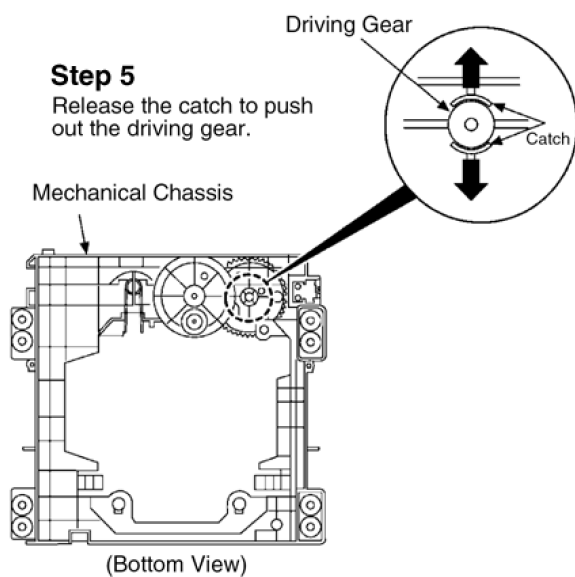
Release 2 catches to pull up the traverse base backward.

**Step 4**

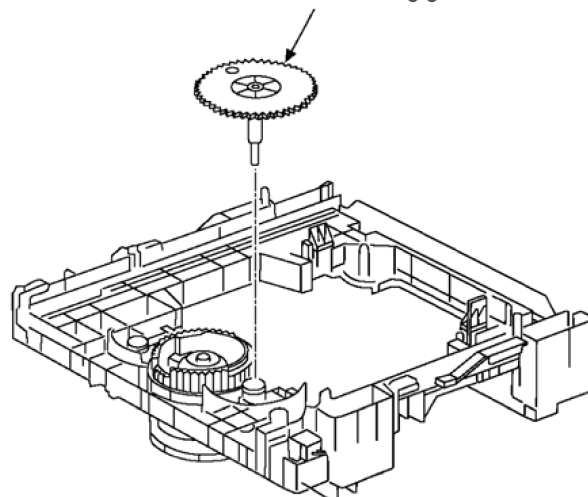
Remove the traverse base.

**Step 5**

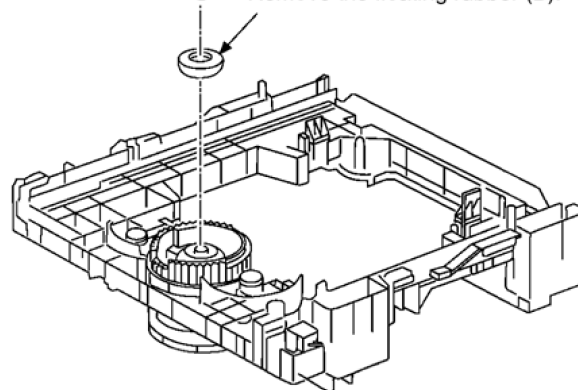
Release the catch to push out the driving gear.

**Step 6**

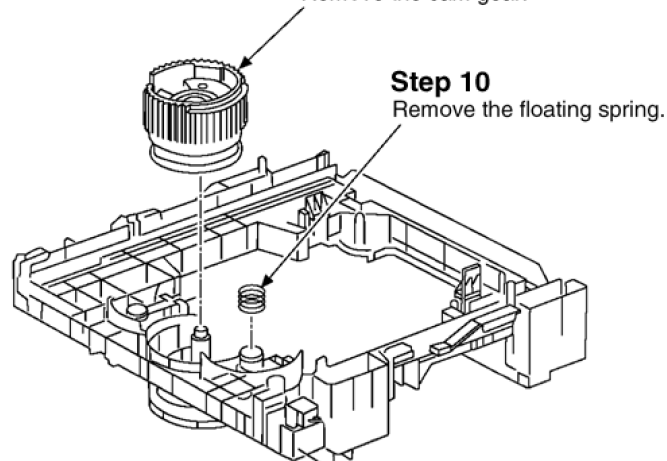
Pull out the driving gear.

**Step 7****b****Step 8**

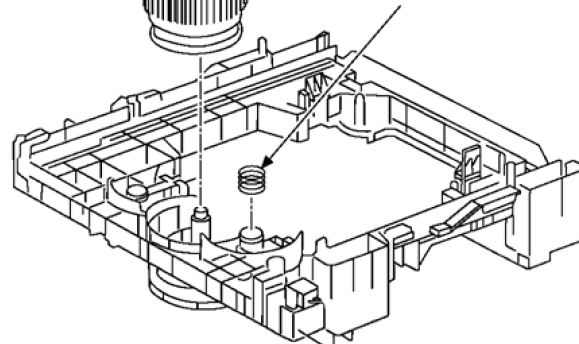
Remove the floating rubber (B).

**Step 9**

Remove the cam gear.

**Step 10**

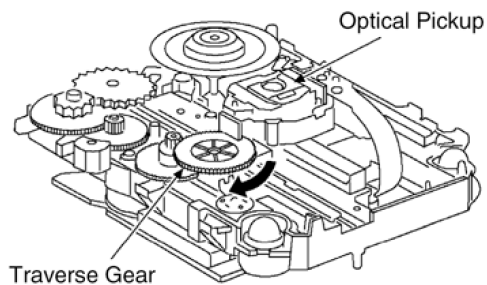
Remove the floating spring.



## Assembly of Traverse Base, Cam Gear, Driving Gear, Disc Tray, and Clam Plate

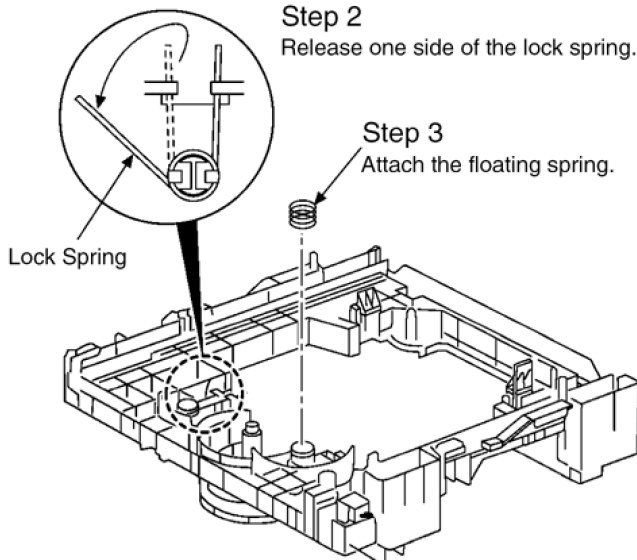
### Step 1

Turn the traverse gear (B) to the arrow direction, and move the optical pickup to the center.



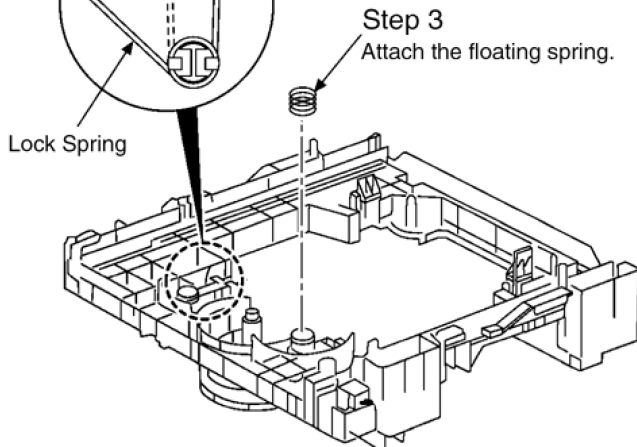
### Step 2

Release one side of the lock spring.



### Step 3

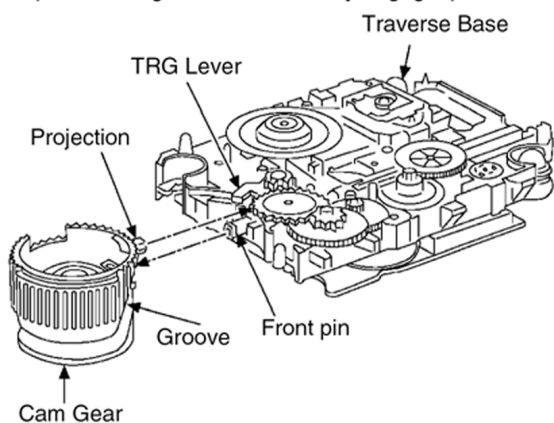
Attach the floating spring.



### Step 4

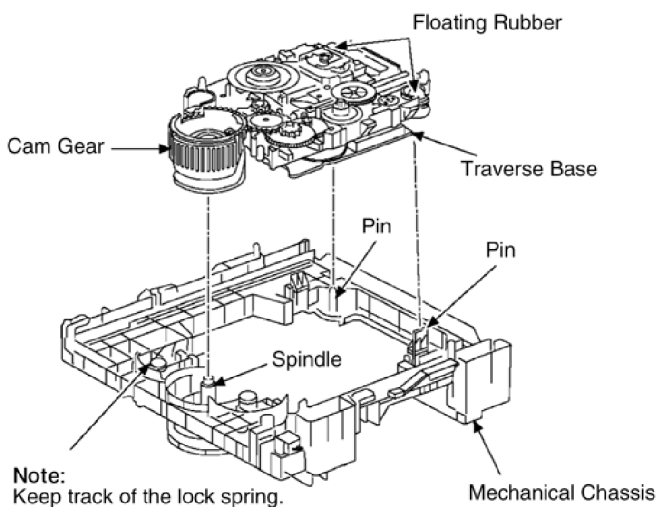
Engage the front pin of the traverse gear to the groove of the cam gear and the projection of the cam gear between the TRG lever.

(so that the gear is automatically engaged)



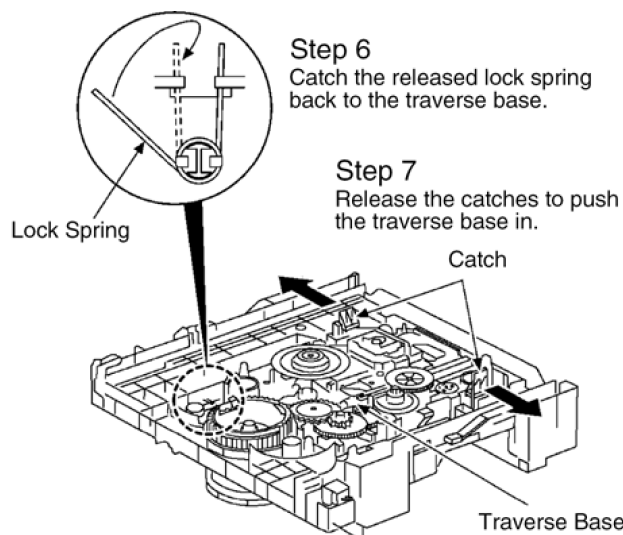
### Step 5

Hold the assembled part carefully. Engage the cam gear to the spindle of the mechanical chassis and the floating rubber of the traverse base to the pin of the mechanical chassis.



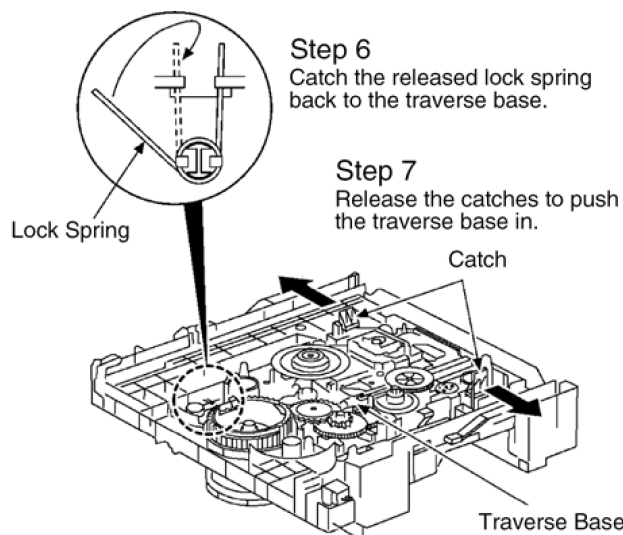
### Step 6

Catch the released lock spring back to the traverse base.



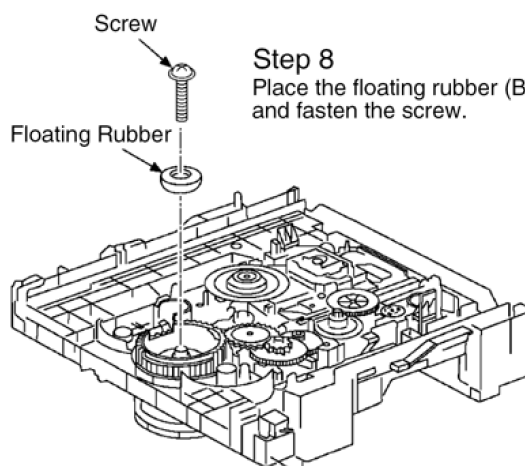
### Step 7

Release the catches to push the traverse base in.



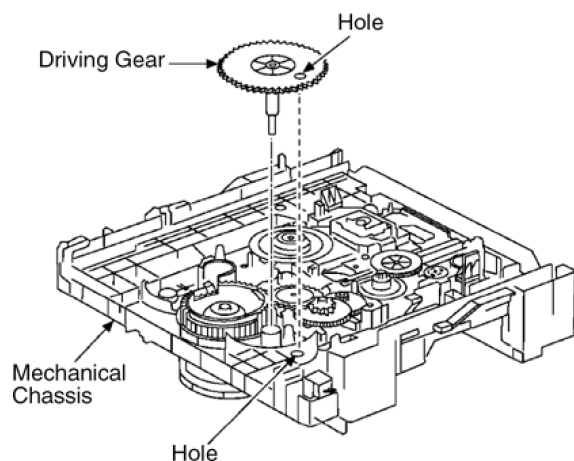
### Step 8

Place the floating rubber (B) and fasten the screw.

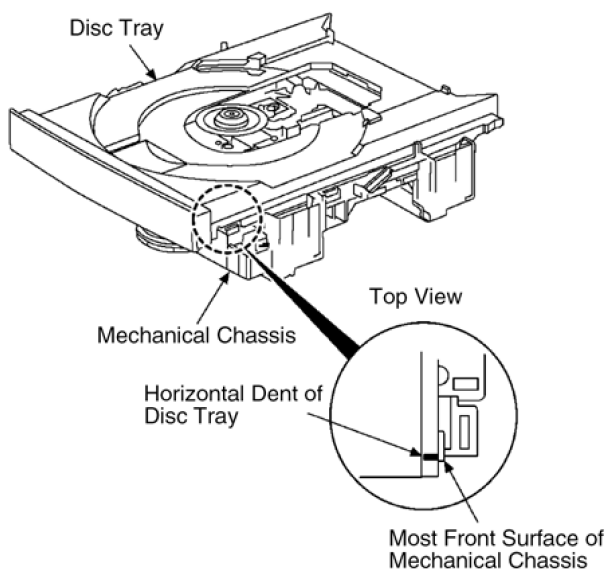


**Step 9**

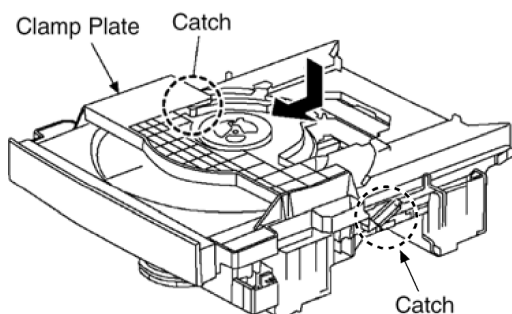
Put together the holes located on the driving gear and the mechanical chassis, and push down the driving gear till a click sound is heard.

**Step 10**

Position the disc tray where the horizontal dent located in the most right exterior of the disc tray is attached to the front surface located in the right most exterior of the mechanical chassis.

**Step 11**

Insert the clamp plate from the top to attach over the catch.



## 10.7. Procedures for Replacing Optical Pickup (CD Mechanism Unit)

Follow (step 1) to (step 9) of item 10.2.1.

Follow (step 1) to (step 3) of item 10.2.4.

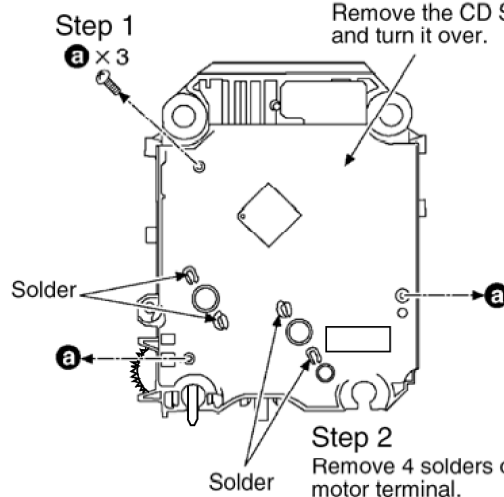
Follow (step 1) to (step 8) of item 10.2.5.

Follow (step 1) to (step 2) of item 10.2.7.

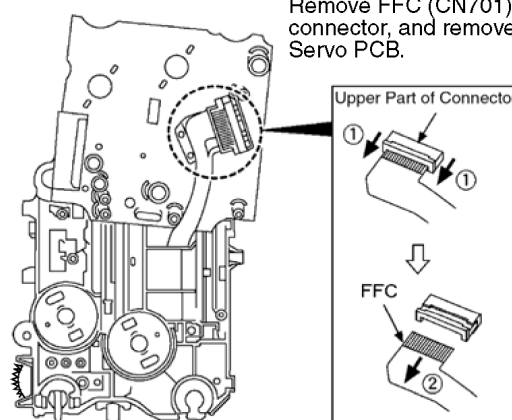
Follow (step 1) to (step 4) of item 10.6.1.

**Step 3**

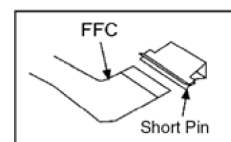
Remove the CD Servo PCB and turn it over.

**Step 4**

Remove FFC (CN701) From the connector, and remove the CD Servo PCB.

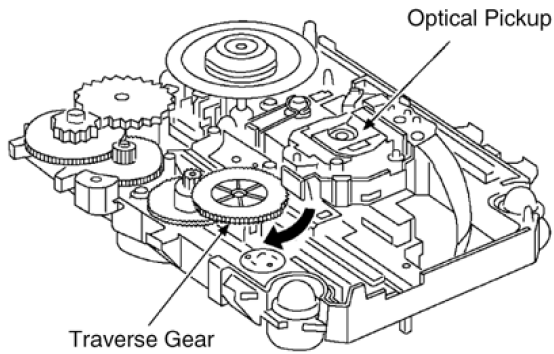
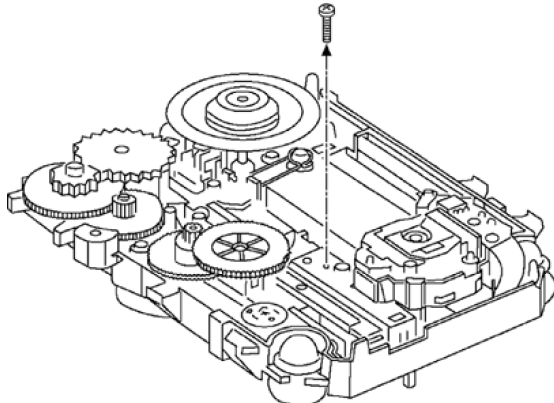


**Note:**  
Insert the short pin to FFC of the optical pickup.  
(Refer to "Note on Handling Optical Pickup".)

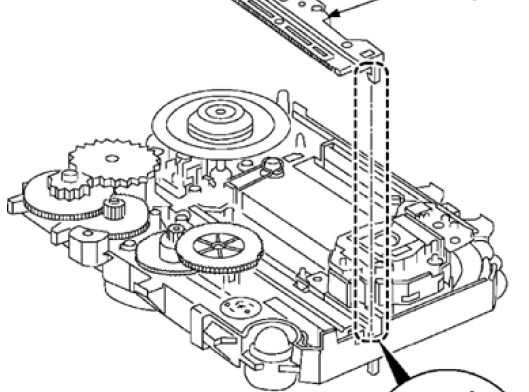


**Step 5**

Turn the traverse gear (B) to the arrow direction, and move the optical pickup to the most outer side.

**Step 6****b**

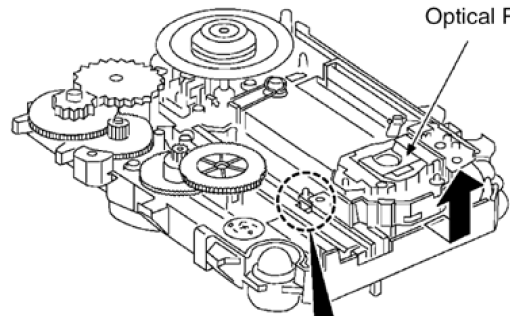
Driving Rack

**Step 7**

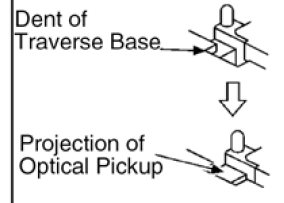
Release the catch of the driving rack to remove the rack.

Catch

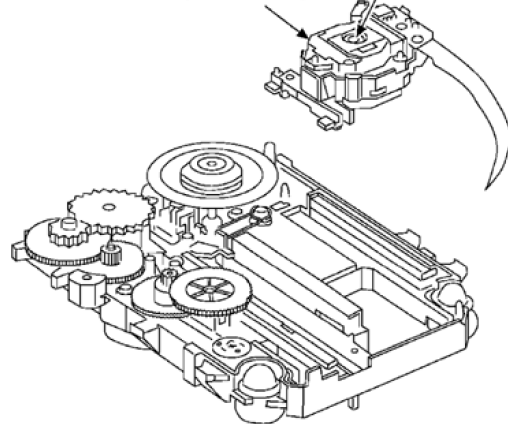
Optical Pickup

**Step 8**

Engage the projection of the optical pickup to the dent of the traverse base in order to remove the optical pickup.



Optical Pickup Lens

**Note:**

Do not touch the optical pickup lens.

## 10.8. Procedures for Replacement Traverse Gear A and Traverse Gear B (CD Mechanism Unit)

Follow (step 1) to (step 9) of item 10.2.1.

Follow (step 1) to (step 3) of item 10.2.4.

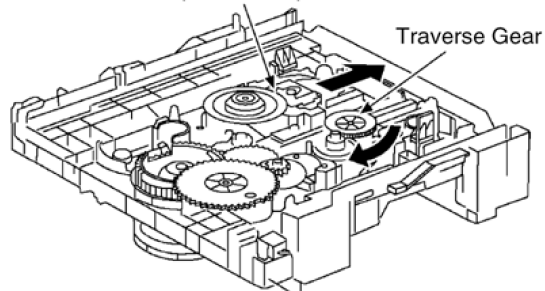
Follow (step 1) to (step 8) of item 10.2.5.

Follow (step 1) to (step 2) of item 10.2.7.

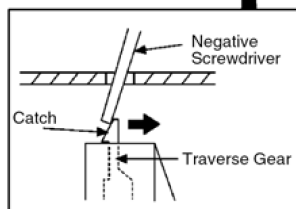
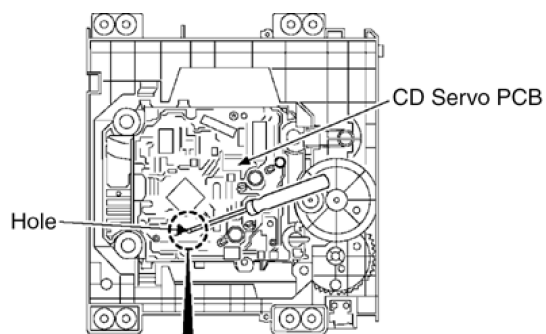
Follow (step 1) to (step 2) of item 10.6.1.

Optical Pickup

Traverse Gear

**Step 1**

Turn the traverse gear to the arrow direction, and move the optical pickup to the most outer side.



### Step 2

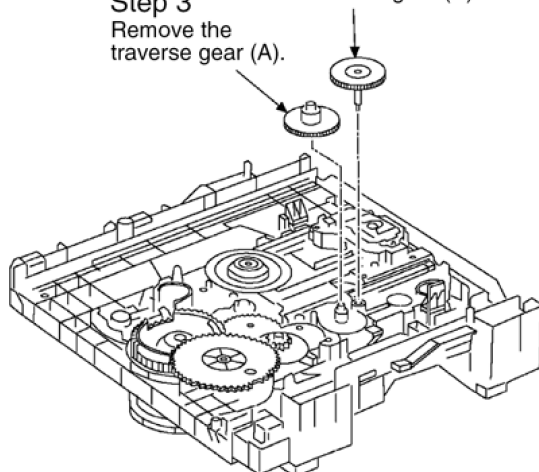
Insert the thin negative screwdriver into the hole of the CD Servo P.C.B., and push the catch to release the traverse gear (B).

### Step 4

Remove the traverse gear (B).

### Step 3

Remove the traverse gear (A).



### Note:

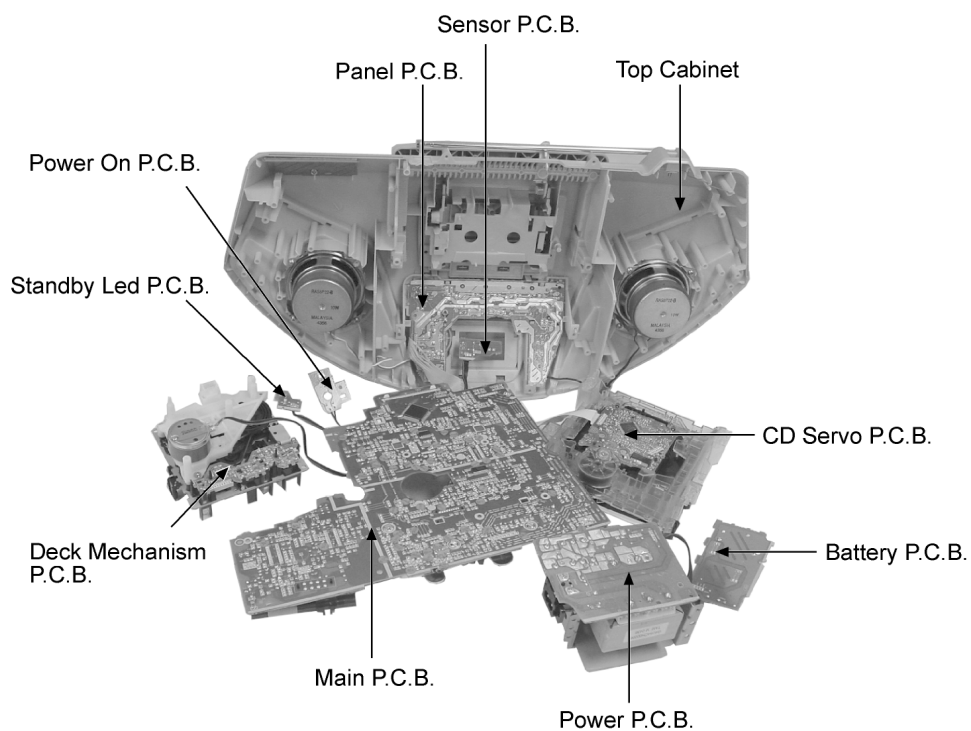
Do not use the once removed traverse gear (B), and be sure to replace with a new gear.

## 11 Procedure for checking of the major P.C.B.

### 11.1. Checking the Main P.C.B., Panel P.C.B., Deck Mechanism P.C.B., CD Servo P.C.B., Battery P.C.B., Sensor P.C.B., Power-On P.C.B., Power and Standby LED P.C.B.

#### Preparation

Follow items 10.2.1. to 10.2.7. of Disassembly Procedure.



## 12 Self Diagnostic Function

### 12.1. Self-diagnosis Function

#### 12.1.1. Entering into self-diagnosis mode

1. Ensure there is no cassette tape in the deck unit.
2. Switch to CD function.
3. Press and hold the [CD/TAPE STOP<sub>N</sub>] key of the main set for more than 2 seconds. While pressing this key, press the FF key on the main set for another 2 seconds to enter into the Self-Diagnosis mode.

**Note:**

Even if [CD/TAPE STOP<sub>N</sub>] key of the main set is pressed while the self diagnosis mode is on, function will not be switched. Instead, confirmation of error numbers will begin.

#### 12.1.2. Display Location

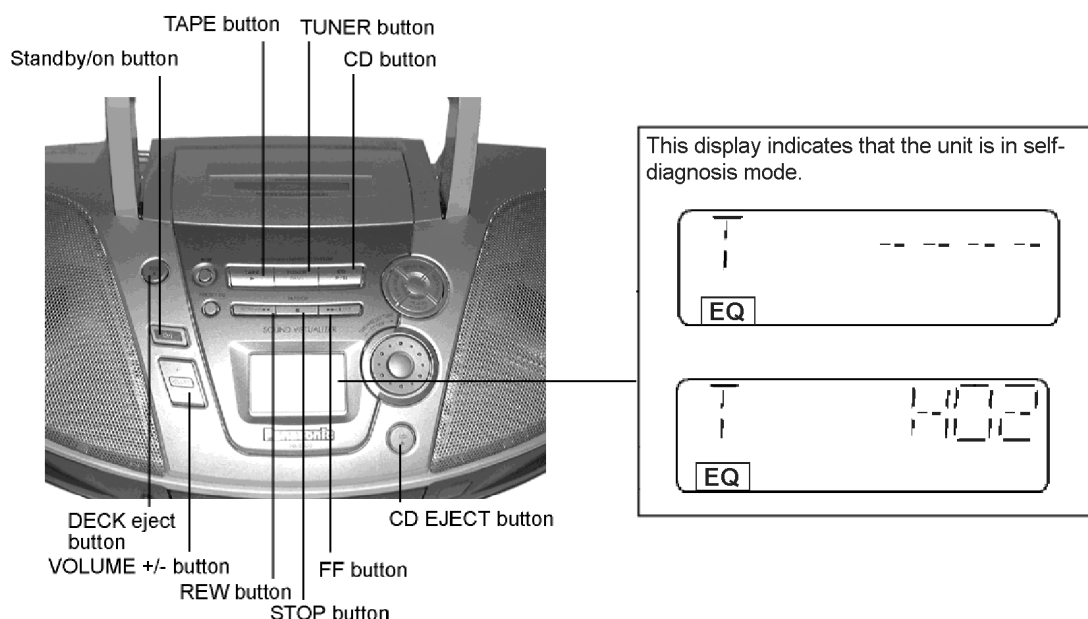


Figure 12-1

#### 12.1.3. Error Code Display

- At the self-diagnosis mode, error codes will be displayed when [TAPE/CD STOP<sub>N</sub>] key at the main unit is pressed.

**Note:**

Error numbers display is due to error symptom encountered during normal operation of unit. These error codes will be “remembered” and stored.

- Example: [T.....H01] (the display shall be retained)
- To exit from the self-diagnosis mode, execute power OFF operation.
- Even at power OFF operation, this error numbers shall not be cleared (the number can be cleared only at the start up of micro-p after reset).
- If repeating self-diagnosis, add the newly detected errors only without deleting errors which have been detected before.

#### 12.1.4. Error Code Table

| Error code | Possible symptom | Description of problem                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| U01        | Batteryflat      | <ul style="list-style-type: none"> <li>• During operation, when PDET switches to OFF (PDET &lt; 1.534V) due to fall of power supply voltage fall, the power supply will be automatically switched OFF.</li> <li>• If REM_STBY = L, VCCDET = L the system shall be judged to have low battery and [.....U01] shall be displayed for 10 seconds.</li> <li>• To check REM_STBY and VCCDET, chattering check will be read-in twice 1 sec after PCONT is set to L.</li> <li>• In case of power ON operation, after PCONT is set to 'H', power supply shall be checked using PDET input. If the battery is flat (PDET &lt; 1.534V), power supply OFF process will be executed and error number [.....U01] will be displayed for 5 seconds. This error number will not be memorized.</li> </ul> |

| Error code | Possible symptom                                                          | Description of problem                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| U02        | Power supply cut                                                          | <ul style="list-style-type: none"> <li>During operation, when PDET switches to OFF (PDET &lt; 1.534V) due to fall of power supply voltage, the power supply will be automatically switched OFF.</li> <li>If REM_STBY = L, VCCDET = H the system shall be judged to have low battery and [.....U02] shall be displayed for 10 seconds.</li> <li>To check REM_STBY and VCCDET, chattering check will be read-in twice 1 sec after PCONT is set to L.</li> <li>Power supply state shall be checked using REM_STBY and VCCDET inputs. If power ON is executed from power OFF (REM_STBY = L and VCCDET = H), error number [.....U02] will be displayed for 5 seconds. This error number will not be memorized.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                             |
| F15        | CD REST_SW abnormal                                                       | <ul style="list-style-type: none"> <li>At initial setting of CD traverse position, if REST_SW ON is not detected even though the fail safe timer time is over (10 sec), this is memorized as an error and the error number can be cleared only at the start up of micro-p after reset.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| H15        | CD OPEN_SW abnormal                                                       | <ul style="list-style-type: none"> <li>During normal operation, if CD OPEN_SW ON is not detected within 4 sec, then H15 will be memorized in memory. The error code can be cleared only at the start up of micro-p after reset.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| H01        | DECK operation abnormal (reel motor, solenoid, and MODE_SW) (provisional) | <ul style="list-style-type: none"> <li>During normal operation, if mechanism error process is executed once by mode switch against the same deck operation, it is judged as mechanism abnormality and this is memorized as an error.</li> <li>Conditions for judging mechanism error: <ul style="list-style-type: none"> <li>Mode switch ON is not detected 800 ms after plunger activation for PLAY / REC process.</li> <li>Mode switch ON is not detected 800 ms after plunger activation for FF / REW process / Mode switch OFF is not detected 800 ms after plunger activation after detecting Mode SW ON / Mode Switch ON is not detected 800 ms after detecting Mode switch OFF.</li> <li>If Mode switch comes ON at STOP / PAUSE state (normal condition), this is judged as an Error: <ol style="list-style-type: none"> <li>Main purpose for this Self Diagnosis is to diagnose a partial short of the deck.</li> <li>Mechanical error process caused by EJECT operation will not be counted.</li> <li>This error number can be cleared only at the start up of micro-p after reset.</li> </ol> </li> </ul> </li> </ul> |
| F26        | Communication between CD servo LSI and microp abnormal                    | <ul style="list-style-type: none"> <li>At the time of switching to CD function, SENSE = H will be detected using DTMS system setting command. If the error is memorized when SENSE = L is not detected within fail safe timer time (20 sec), [F26] will be displayed simultaneously. This display will be retained if the power is ON and at CD function. If this error occurs, CD operation afterward cannot be executed as in the case of [NO.DISC.]. This error number can be cleared only at the start up of micro-p after reset.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

### 12.1.5. Self-diagnosis mode Deck Mechanism

- Activate the Self Diagnosis mode for the Deck and the following Self Diagnosis will be conducted.

| Error Code | Description                                                                                                                     |
|------------|---------------------------------------------------------------------------------------------------------------------------------|
| H01:       | If MODE_SW abnormal is detected during normal operation, it will be memorized. The detection and memory shall be done for Deck. |
| H02:       | RECINH_SW abnormal.                                                                                                             |
| H03:       | HALF_SW abnormal.                                                                                                               |
| F01:       | Reel pulse abnormal.                                                                                                            |

- Operating Procedures

1. Activate the Self Diagnosis mode with the Deck unloaded.
2. The test mode will be displayed ([T] at the 1st digit shows TEST) and detection shall be executed to check RECINH\_SW, HALF\_SW are in the OFF state (the tape counter display is retained).
3. Load a cassette tape (with recording preventive tab present) into the deck and close the cassette holder.
4. At this instant with the cassette loaded in, RECINH\_SW, HALF\_SW will be checked and confirmed at this stage by the software. Press FF key to proceed the self-diagnosis. The FF operation will stop automatically after 3 sec. If abnormal operation is detected, the tape will stop automatically after 1 sec. During the FF operation, the Reel Pulse will be checked by the software.
5. After the tape stops, the Error codes will be displayed by toggling the STOP<sub>n</sub> key. (For a more detailed explanation, refer to Figure 12-2).

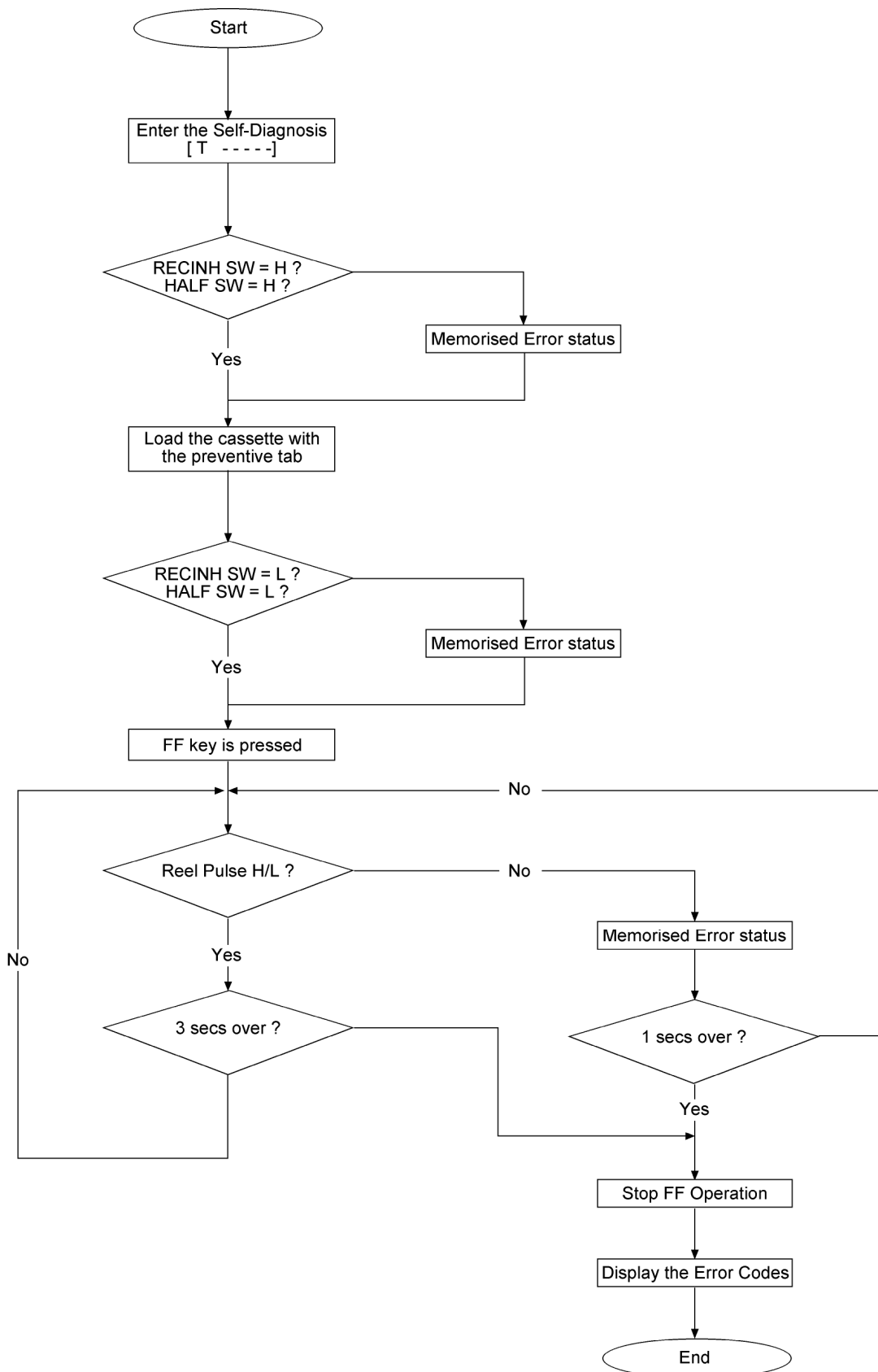
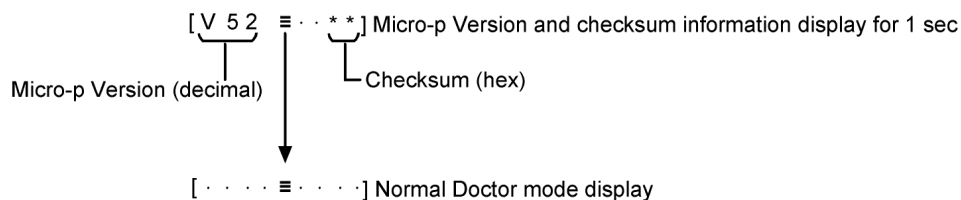


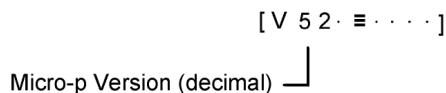
Figure 12-2

## 12.2. Setting of doctor mode

1. Switch to CD mode. (Ensure no disc is inserted)
2. To enter Doctor mode, press and hold [TAPE/CD STOP<sub>n</sub>] key at the main unit, followed by [4] & [7] on remote control.
3. When the Doctor Mode is activated the LCD display will show the  $\equiv$  symbol at the 5<sup>th</sup> digit. At the same time, the micro-p version number (base 10) and EEPROM's checksum (base 16) will be displayed for 1 sec. After displaying the EEPROM information for 1 sec, the display will return to the normal Doctor mode display



4. However, if the EEPROM was not detected, it will not display the EEPROM's checksum information. The LCD will display micro-p version number (as shown below) for 1 sec and return to normal Doctor Mode display.



**Note:**

Within the Doctor Mode display, at any of the test modes, if [STOP<sub>n</sub>] key at main set is pressed, followed by [4] and [7] key from the remote control, the micro-p's version number and EEPROM information will be displayed for 1 sec, and then returned to the normal doctor mode display.

### 12.2.1. Inspection item list

| Test number | Test Item                  | Operation key<br>(numeric buttons) |
|-------------|----------------------------|------------------------------------|
| 1           | Tact SW inspection         | CD, [1]                            |
| 2           | TONE inspection            | [2],[3]                            |
| 3           | LCD ALL Segment inspection | [4]                                |
| 4           | CD Unit Loading Test       | CD,[ ≥ 10],[1],[0]                 |
| 5           | CD Unit Traverse Test      | CD,[ ≥ 10],[1],[1]                 |
| 6           | CD Unit Combination Test   | CD,[ ≥ 10],[1],[2]                 |
| 7           | CD Unit Adjustment Test    | [ ≥ 10],[2],[0]                    |
| 8           | SG2 Aging Test             | TAPE, FF                           |
| 9           | EEPROM Checksum Check      | DOCTOR mode key                    |
| 10          | BBD Check                  | TAPE,[8]                           |

**Note:**

- If entering Doctor Mode by numeric buttons, PRESET EQ will be set to OFF.
- In case of error, all the segments of LCD will blink (1 sec on and off) and Doctor Mode shall be retained.

### 12.2.2. CD Unit Loading Test (Reliability test 1)

- Purpose : To test CD Unit Loading (OPEN / CLOSE aging test) function.

– The following operation will be carried out.

- Procedures :

1. Enter into doctor mode (Refer to section 12.2)
2. Press [ ≥ 10] followed by [1] & [0] on the remote control.

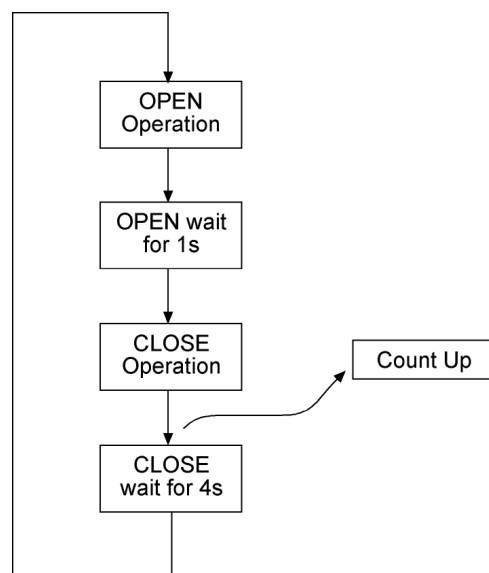


Figure 12-3

3. After a few times, the LCD shall display as below:

Special Note:

Due to certain reasons, when the following conditions occur, the aging will stop but the count value shall be maintained:

- During OPEN operation, after a certain timing, the CD does not open in the Open position. (After REST SW is OFF, the CD OPEN SW did not turn ON after 4s.)
  - Do the CLOSE operation, stop the aging test at CLOSE condition.
- During CLOSE operation, after a certain timing, the CD does not close in the CLOSE position. (After CLOSE operation, REST SW was not turned off in 4s.)
  - Do the OPEN operation, stop the aging test at OPEN condition

### 12.2.3. CD Unit Traverse Test (Reliability test 2)

- Purpose : (Access Inner Outer Disc aging test) To test CD Unit traverse reliability.
  - The following operation will be carried out.
- Procedures :

1. Enter into doctor mode (Refer to section 12.2)
2. Press [ ≥ 10 ] followed by [ 1 ] & [ 1 ] on the remote control.

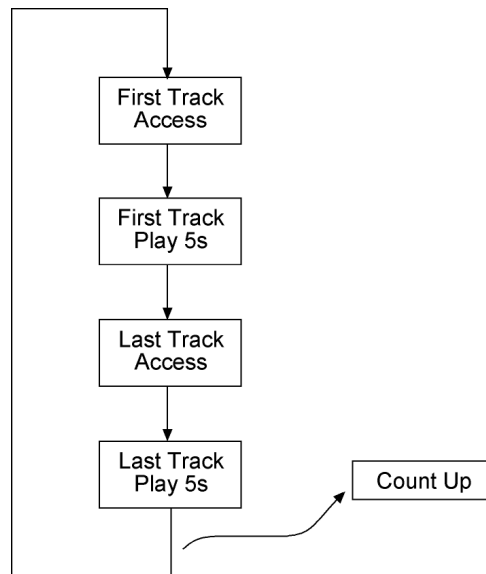


Figure 12-4

3. After a few times, the LCD will display as shown below:



Special Note :

Due to certain reasons, when the following conditions occur, the aging will stop but the count value shall be maintained:

- After 10s, the Disc Access has not yet complete.
- Out of Focus for more than 2s.

#### 12.2.4. CD Unit Combination Test (Reliability test 3)

- Purpose : This test is the combination of the CD OPEN/CLOSE operation and the Inner and Outer Disc Access operation aging test. (Mainly used for CD unit reliability test)

– Operation : During Doctor Mode, when the keys [ ≥ 10] followed by [1] & [2] are being pressed using the remote control key, the following operation will be carried out.

- Procedures

1. Enter into doctor mode (Refer to section 12.2)

2. Press [ ≥ 10] followed by [1] & [2] on the remote control key, the following operation will be carried out:

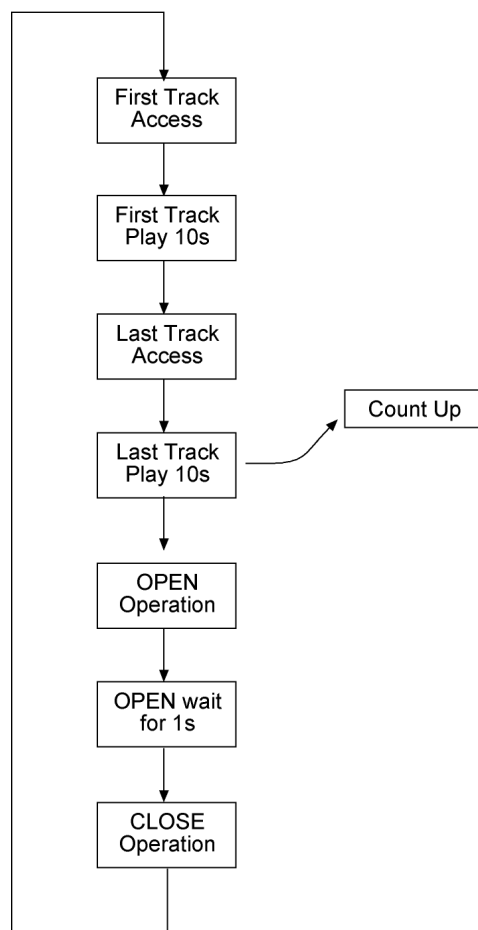


Figure 12-5

3. After a few times, the LCD will display as shown below:

Special Note :

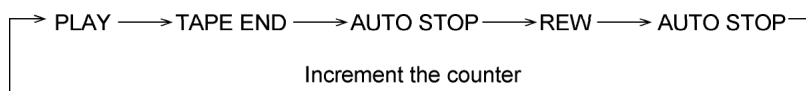
Due to certain reason, when the following conditions occur, the aging will stop but the count value shall be maintained:

- During OPEN operation, after a certain timing, the CD does not open in the OPEN position. (After REST SW is OFF, the CD OPEN SW did not turn ON after 4s.)
- During CLOSE operation, after a certain timing, the CD does not close in the CLOSE position. (After CLOSE operation, REST SW was not turned off in 4s.)
- After 10s, the Disc Access has not yet complete.
- Out of Focus for more than 2s.

### 12.2.5. Cassette Aging Test (SG2)

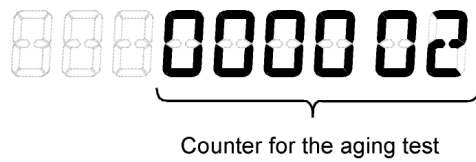
- Purpose : To check the reliability of the SG2 mechanism.
  - Operation: After entering the doctor mode, press [▶▶/+/FF] key on the main set for 2sec, it will enter the Aging Test where the process is as below:
  - Stop Operation: Use Stop key (main set). If stop key is pressed, aging test will stop and remain in doctor mode.
- Procedures :

1. Enter into doctor mode (Refer to section 12.2).
2. Press **[▶▶]/+ /FF** on the main unit. it will enter into the cassette aging mode.



## SG2 Aging Test

Example of LCD Display:



# 13 Measurements and Adjustments

## 13.1. Tuner Section

### READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

1. Set selector switch to AM or TAPE.
2. Set volume level to 40.
3. Output of signal generator should be no higher than necessary to obtain an output reading.

#### · AM-RF ALIGNMENT

| Signal Generator or Sweep Generator                                               |           | Radio Dial Setting                           | Indicator (Electronic Voltmeter or oscilloscope)                                                                                                | Adjustment (Shown in Fig.1) | Remarks                    |
|-----------------------------------------------------------------------------------|-----------|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|----------------------------|
| Connections                                                                       | Frequency |                                              |                                                                                                                                                 |                             |                            |
| Fashion a loop of several turns of wire and radiate signal into loop of receiver. | 594 kHz   | Point of non-interference (on/about 600 kHz) | Headphone Jack (32 $\Omega$ )<br>Fabricate the plug as shown in Fig. 2 and then connect the lead wires of the plug to the measuring instrument. | [*1] L3 (AM ANT coil)       | Adjust for maximum output. |
| Fashion a loop of several turns of wire and radiate signal into loop of receiver. | 1503 kHz  | Point of non-interference (on/about 600 kHz) | Headphone Jack (32 $\Omega$ )<br>Fabricate the plug as shown in Fig. 2 and then connect the lead wires of the plug to the measuring instrument. | CT1 (AM ANT Trimmer)        | Adjust for maximum output. |

[\*1] Fix antenna coil with wax after completing alignment.

#### · FM-RF ALIGNMENT

| Signal Generator or Sweep Generator                                               |           | Radio Dial Setting                           | Indicator (Electronic Voltmeter or oscilloscope)                                                                                                | Adjustment (Shown in Fig.1) | Remarks                    |
|-----------------------------------------------------------------------------------|-----------|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|----------------------------|
| Connections                                                                       | Frequency |                                              |                                                                                                                                                 |                             |                            |
| Fashion a loop of several turns of wire and radiate signal into loop of receiver. | 87.5 MHz  | Point of non-interference (on/about 600 kHz) | Headphone Jack (32 $\Omega$ )<br>Fabricate the plug as shown in Fig. 2 and then connect the lead wires of the plug to the measuring instrument. | [*1] L4 (AM IFT)            | Adjust for maximum output. |

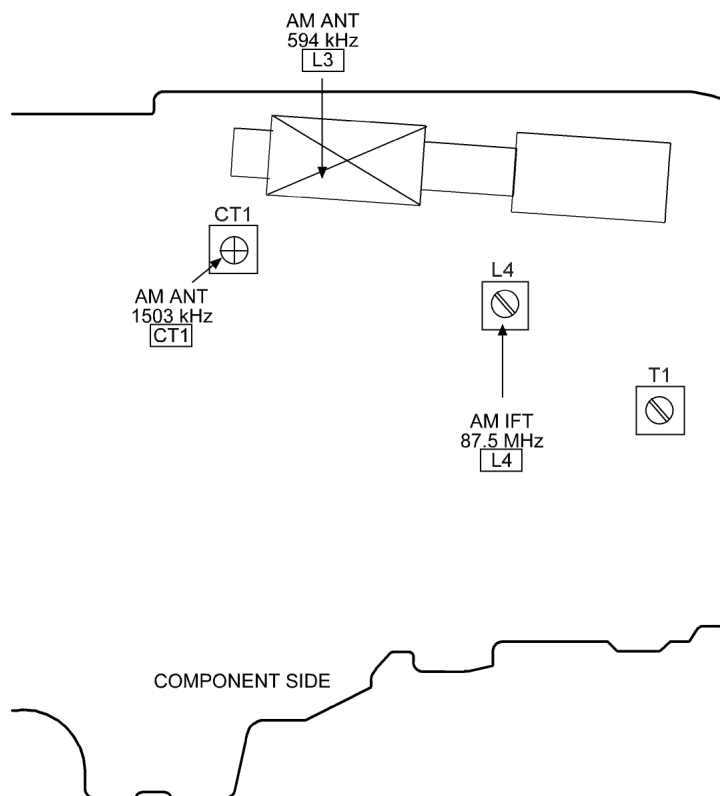


FIG 1.

## 13.2. Deck Section

### · HEAD AZIMUTH ALIGNMENT

| Test Tape                 | Indicator (Electronic Voltmeter or oscilloscope)                                                                                       | Adjustment                         | Remarks                                                                                                                                                                                                                                                                                                                                                |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QZZCFM<br>(8 kHz, -20 dB) | Headphone Jack<br>(32Ω) Fabricate the plug as shown in Fig. 2 and then connect the lead wires of the plug to the measuring instrument. | Azimuth Screw<br>(Shown in Fig. 3) | 1. Insert a test tape (QZZCFM) and start playback in the forward direction.<br>2. Adjust the azimuth screw for maximum waveform on the oscilloscope and the similar output on L and R channels.<br>3. When adjusting the azimuth in the reverse direction, repeat the adjustment several times because of a little slip on the forward direction side. |

### CAUTION:

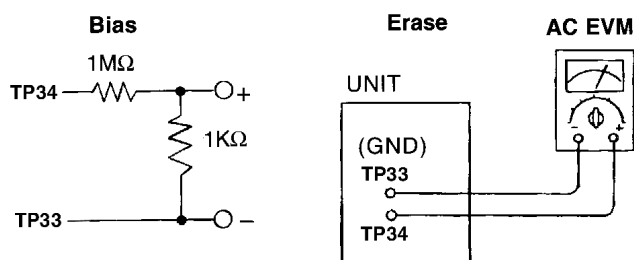
- Please remove the screw-locking bond left on the head base when replacing the azimuth screw.
- After the adjustment, apply screw lock to the azimuth adjusting screw. (Screw-locking bond: RZZ0L01)

### · TAPE SPEED ALIGNMENT

| Test Tape                  | Equipment Connection<br>Electronic Counter                                                                                             | Adjustment | Specifi- cation | Remarks  |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------|----------|
| QZZCWAT<br>(3 kHz, -10 dB) | Headphone Jack<br>(32Ω) Fabricate the plug as shown in Fig. 2 and then connect the lead wires of the plug to the measuring instrument. | —          | 3000 ± 90 Hz    | Playmode |

### · BIAS AND ERASE VOLTAGE CHECK

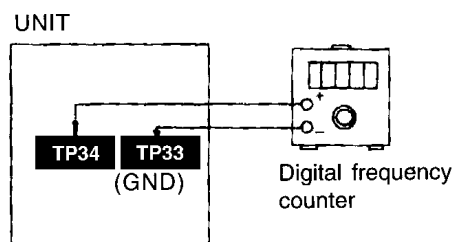
1. Set the unit to "TUNER MODE" position.
2. Insert the Normal blank tape (QZZCRA) into DECK and set the unit to "REC" mode (use "IREC / STOP<sub>n</sub>" key).
3. Measure and make sure that the output is within the standard value.
4. Insert the CrO<sub>2</sub> tape (QZZCRX).
5. Repeat steps 2 and 3.



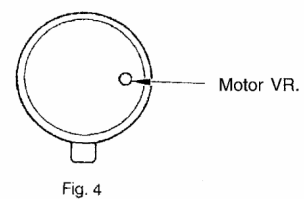
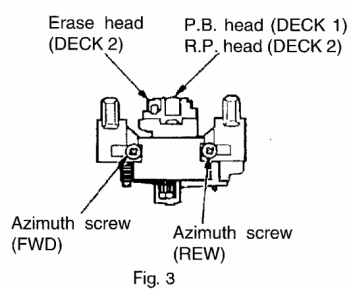
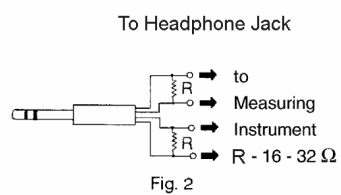
**Bias voltage for Deck (Standard value): 17.3 ± 1mV (Normal)**

### · BIAS FREQUENCY ADJUSTMENT

1. Set the unit to "TUNER MODE" position.
2. Insert the Normal blank tape (QZZCRA) into DECK and set the unit to "REC" mode (use "IREC / STOP<sub>n</sub>" key).
3. Adjust CP1301 so that the output frequency is within the standard value.



**Standard value: 100 ± 7kHz**



# 14 Voltage Measurement

## Note:

- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard.

Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.

## 14.1. Main P.C.B.

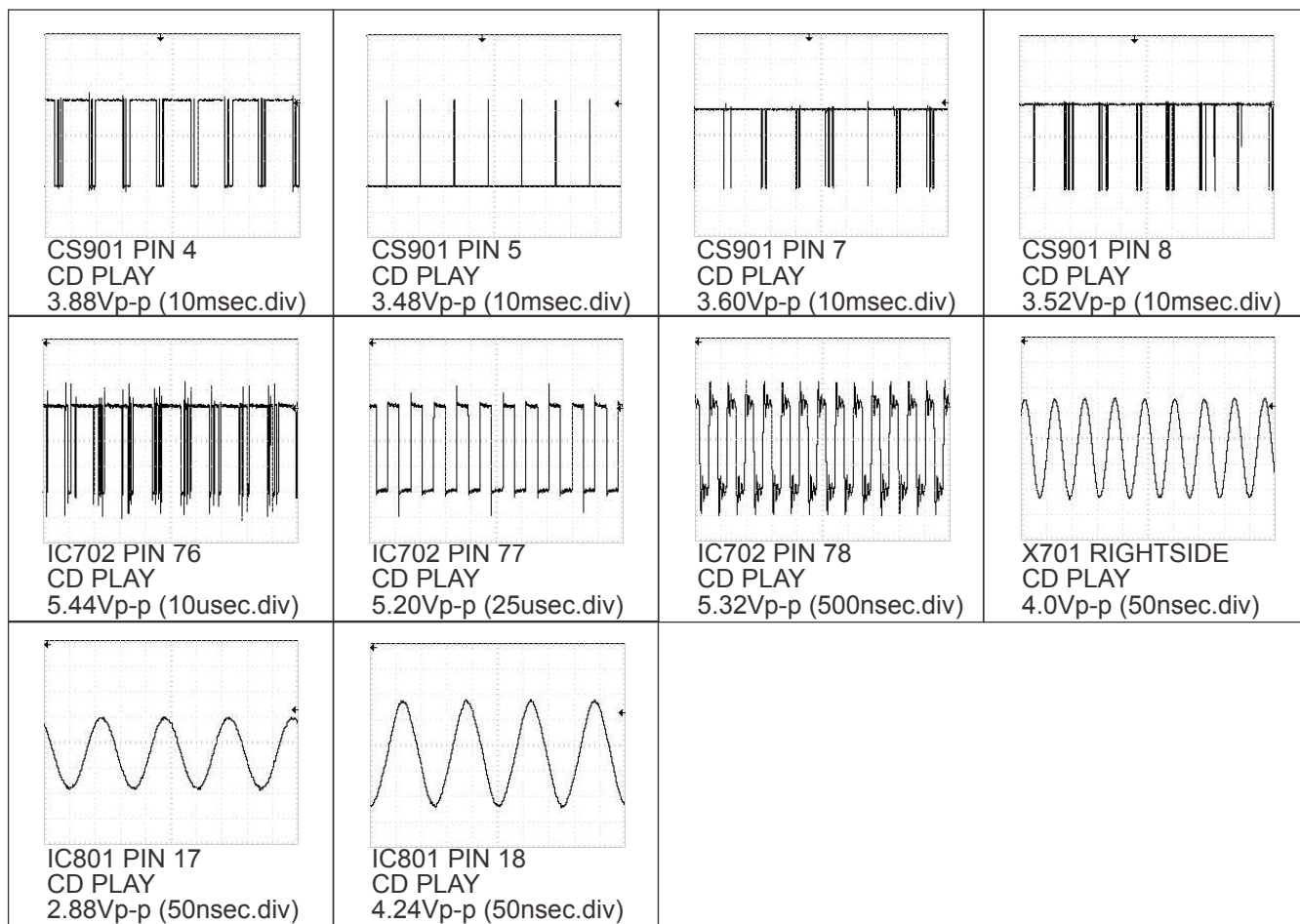
| MAIN P.C.B. (REPV0043A) |        |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
|-------------------------|--------|-----|------|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ref No.                 | IC1    |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| MODE                    | 1      | 2   | 3    | 4   | 5   | 6   | 7    | 8    | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  |
| CD PLAY                 | 0.8    | 0   | 0.6  | 0.9 | 5   | 5   | 5    | 0    | 3.5 | 5   | 1.6 | 1.5 | 4.3 | 3.6 | 3.6 | 1.4 | 1.4 | 3.6 | 3.9 | 5   |
| STANDBY                 | 0      | 0   | 0    | 0.3 | 0   | 0   | 0    | 0    | 0.3 | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Ref No.                 | IC1    |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| MODE                    | 21     | 22  | 23   | 24  |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| CD PLAY                 | 4.9    | 5   | 5    | 5   |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| STANDBY                 | 0      | 0   | 0    | 0   |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| Ref No.                 | IC2    |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| 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    | 0   | 0   | 3.8 | 3.5  | 3.5  | 0   | 0   | 5   | 0   | 3.6 | 0   | 2.5 | 0   | 5.0 | 0   | 0   | 9.1 |
| STANDBY                 | 0      | 0   | 0    | 0   | 0   | 0   | 0    | 0    | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0.1 | 0.1 | 0   |
| Ref No.                 | IC2    |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| MODE                    | 21     | 22  |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| CD PLAY                 | 0      | 2.5 |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| STANDBY                 | 0      | 0   |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| Ref No.                 | IC201  |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| MODE                    | 1      | 2   | 3    | 4   | 5   | 6   | 7    | 8    | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  |
| CD PLAY                 | 4.4    | 4.6 | 4.4  | 4.6 | 4.4 | 4.4 | 4.4  | 4.4  | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | 4.5 | 0   | 0   | 0   | 8.8 | 3.4 |
| STANDBY                 | 0.5    | 0.5 | 0.5  | 0.5 | 0.5 | 0.5 | 0.5  | 0.5  | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0   | 0   | 0   | 0   | 0   | 0.4 |
| Ref No.                 | IC201  |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| MODE                    | 21     | 22  | 23   | 24  | 25  | 26  | 27   | 28   | 29  | 30  | 31  | 32  |     |     |     |     |     |     |     |     |
| CD PLAY                 | 4.4    | 4.5 | 4.5  | 4.5 | 4.5 | 4.5 | 4.5  | 4.5  | 4.5 | 4.5 | 4.5 | 4.5 |     |     |     |     |     |     |     |     |
| STANDBY                 | 0      | 0   | 0    | 0   | 0   | 0   | 0    | 0    | 0   | 0   | 0.3 | 0.3 |     |     |     |     |     |     |     |     |
| Ref No.                 | IC301  |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| MODE                    | 1      | 2   | 3    | 4   | 5   | 6   | 7    | 8    | 9   | 10  | 11  | 12  | 13  | 14  |     |     |     |     |     |     |
| CD PLAY                 | 12.4   | 0   | 0    | 0   | 2.2 | 0   | 15.0 | 5.7  | 0   | 5.8 | 6.0 | 0   | 5.7 |     |     |     |     |     |     |     |
| STANDBY                 | 0      | 0   | 0    | 0   | 0   | 0   | 16.5 | 16.5 | 0   | 0   | 0   | 0   | 0   | 0   |     |     |     |     |     |     |
| Ref No.                 | IC302  |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| MODE                    | 1      | 2   | 3    |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| CD PLAY                 | 5.0    | 0   | 11.1 |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| STANDBY                 | 5.0    | 0   | 11.1 |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| Ref No.                 | IC303  |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| MODE                    | 1      | 2   | 3    |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| CD PLAY                 | 3.3    | 0   | 5.0  |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| STANDBY                 | 3.3    | 0   | 5.0  |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| Ref No.                 | IC401  |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| MODE                    | 1      | 2   | 3    | 4   | 5   | 6   | 7    | 8    | 9   | 10  | 11  | 12  | 13  | 14  |     |     |     |     |     |     |
| CD PLAY                 | 1.3    | 0   | 0    | 0   | 0   | 0   | 0    | 0    | 0   | 0   | 0   | 0   | 0   | 5.0 |     |     |     |     |     |     |
| STANDBY                 | 0.1    | 0   | 0.1  | 0   | 0.1 | 0   | 0    | 0    | 0   | 0   | 0   | 0   | 0   | 0   |     |     |     |     |     |     |
| Ref No.                 | IC801  |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| 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    | 2.4 | 1.7  | 1.7 | 1.2 | 2.4 | 3.2  | 3.2  | 0   | 0   | 0   | 0   | 3.3 | 2.6 | 0   | 0   | 1.6 | 1.6 | 3.3 | 1.0 |
| STANDBY                 | 1.7    | 1.7 | 1.7  | 1.7 | 1.3 | 2.4 | 3.2  | 3.2  | 0   | 0   | 0   | 0   | 0   | 2.7 | 2.7 | 0   | 1.6 | 1.6 | 3.3 | 1.2 |
| Ref No.                 | IC801  |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| MODE                    | 21     | 22  | 23   | 24  | 25  | 26  | 27   | 28   | 29  | 30  | 31  | 32  | 33  | 34  | 35  | 36  | 37  | 38  | 39  | 40  |
| CD PLAY                 | 1.6    | 0   | 3.3  | 3.3 | 3.3 | 3.3 | 3.3  | 0.3  | 2.4 | 3.3 | 3.3 | 3.3 | 0   | 0   | 0   | 0   | 3.2 | 3.2 | 2.7 | 3.3 |
| STANDBY                 | 1.6    | 0   | 3.3  | 3.3 | 3.3 | 3.3 | 3.3  | 0.3  | 0   | 3.3 | 3.3 | 3.3 | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Ref No.                 | IC801  |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| MODE                    | 41     | 42  | 43   | 44  | 45  | 46  | 47   | 48   | 49  | 50  | 51  | 52  | 53  | 54  | 55  | 56  | 57  | 58  | 59  | 60  |
| CD PLAY                 | 0      | 0   | 0    | 0   | 0   | 0   | 0    | 0    | 0   | 0   | 0   | 3.3 | 0   | 0   | 3.3 | 0   | 3.3 | 0   | 0   | 0   |
| STANDBY                 | 0      | 0   | 0    | 0   | 0   | 0   | 0    | 0.9  | 2.6 | 0   | 0   | 3.3 | 0   | 0   | 3.3 | 0   | 3.3 | 0   | 0   | 0   |
| Ref No.                 | IC801  |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| MODE                    | 61     | 62  | 63   | 64  | 65  | 66  | 67   | 68   | 69  | 70  | 71  | 72  | 73  | 74  | 75  | 76  | 77  | 78  | 79  | 80  |
| CD PLAY                 | 3.3    | 2.6 | 0    | 0   | 0   | 0   | 0    | 0    | 0   | 0   | 0   | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.6 | 1.8 |
| STANDBY                 | 0      | 2.7 | 0    | 0   | 0   | 0   | 0    | 0    | 0   | 0   | 0   | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
| Ref No.                 | IC801  |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| MODE                    | 81     | 82  | 83   | 84  | 85  | 86  | 87   | 88   | 89  | 90  | 91  | 92  | 93  | 94  | 95  | 96  | 97  | 98  | 99  | 100 |
| CD PLAY                 | 1.7    | 1.7 | 1.7  | 1.7 | 1.7 | 1.7 | 1.8  | 1.7  | 1.7 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.7 | 1.7 | 1.8 |
| STANDBY                 | 1.8    | 1.8 | 1.8  | 1.8 | 1.8 | 1.8 | 1.8  | 1.8  | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
| Ref No.                 | IC971  |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| MODE                    | 1      | 2   | 3    | 4   |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| CD PLAY                 | 0      | 0   | 7.3  | 0   |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| STANDBY                 | 0      | 0   | 0.2  | 0   |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| Ref No.                 | IC1301 |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| MODE                    | 1      | 2   | 3    | 4   | 5   |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| CD PLAY                 | 6.7    | 0   | 0    | 0   | 0   |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| STANDBY                 | 0.2    | 0   | 0    | 0   | 0   |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| Ref No.                 | IC1302 |     |      |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |     |     |
| MODE                    | 1      | 2   | 3    | 4   | 5   | 6   | 7    | 8    | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  |     |     |     |     |
| CD PLAY                 | 0      | 0.6 | 3.6  | 0   | 3.3 | 3.3 | 0    | 0    | 6.1 | 3.7 | 3.6 | 3.2 | 0   | 3.6 | 0.6 | 0   |     |     |     |     |
| STANDBY                 | 0      | 0   | 0    | 0   | 0.3 | 0.3 | 0    | 0    | 0   | 0   | 0   | 0.3 | 0   | 0   | 0   | 0   |     |     |     |     |

| Ref No. | Q1    |      |      | Q102  |      |      | Q103  |     |      | Q202  |      |     | Q203  |      |      |
|---------|-------|------|------|-------|------|------|-------|-----|------|-------|------|-----|-------|------|------|
| MODE    | E     | C    | B    | E     | C    | B    | E     | C   | B    | E     | C    | B   | E     | C    | B    |
| CD PLAY | 0     | 3.6  | 0    | 3.0   | 4.6  | 2.4  | 7.1   | 7.5 | 6.5  | 3.0   | 4.5  | 2.4 | 7.1   | 7.4  | 6.5  |
| STANDBY | 0     | 0    | 0    | 0     | 0    | 0    | 0     | 0   | 0    | 0     | 0    | 0   | 0     | 0    | 0    |
| Ref No. | Q301  |      |      | Q302  |      |      | Q303  |     |      | Q304  |      |     | Q305  |      |      |
| MODE    | E     | C    | B    | E     | C    | B    | E     | C   | B    | E     | C    | B   | E     | C    | B    |
| CD PLAY | 11.7  | 15.0 | 11.1 | 4.3   | 0    | 0    | 2.6   | 3.3 | 3.3  | 0.6   | 0    | 0   | 14.3  | 15.0 | 15.0 |
| STANDBY | 11.7  | 16.4 | 11.1 | 5.1   | 0    | 0    | 2.6   | 3.3 | 3.3  | 0.6   | 0    | 0   | 16.4  | 0    | 16.5 |
| Ref No. | Q306  |      |      | Q307  |      |      | Q308  |     |      | Q309  |      |     | Q310  |      |      |
| MODE    | E     | C    | B    | E     | C    | B    | E     | C   | B    | E     | C    | B   | E     | C    | B    |
| CD PLAY | 2.7   | 0.5  | 0    | 14.9  | 14.2 | 15.0 | 14.9  | 9.1 | 14.1 | 8.9   | 14.2 | 8.3 | 6.9   | 5.0  | 7.5  |
| STANDBY | 0     | 16.4 | 0    | 0     | 0    | 0    | 0     | 0   | 0    | 0     | 0    | 0   | 0     | 0    | 0    |
| Ref No. | Q311  |      |      | Q312  |      |      | Q313  |     |      | Q314  |      |     | Q315  |      |      |
| MODE    | E     | C    | B    | E     | C    | B    | E     | C   | B    | E     | C    | B   | E     | C    | B    |
| CD PLAY | 4.8   | 6.9  | 4.3  | 4.3   | 3.4  | 5.0  | 3.3   | 4.3 | 2.7  | 4.3   | 5.0  | 5.0 | 2.9   | 0    | 0    |
| STANDBY | 0     | 0    | 0    | 0.2   | 0.4  | 0    | 0     | 0.2 | 0    | 5.0   | 0    | 5.0 | 0     | 5.0  | 0    |
| Ref No. | Q316  |      |      | Q317  |      |      | Q401  |     |      | Q803  |      |     | Q1000 |      |      |
| MODE    | E     | C    | B    | E     | C    | B    | E     | C   | B    | E     | C    | B   | E     | C    | B    |
| CD PLAY | 1.4   | 2.9  | 0.7  | 0.7   | 0    | 0    | 14.9  | 0   | 0    | 0     | 3.3  | 0   | 0     | 9.1  | 0    |
| STANDBY | 0     | 0    | 0    | 0     | 0    | 0    | 0     | 1.7 | 0    | 0     | 3.3  | 0   | 0     | 0    | 0    |
| Ref No. | Q1101 |      |      | Q1102 |      |      | Q1103 |     |      | Q1104 |      |     | Q1201 |      |      |
| MODE    | E     | C    | B    | E     | C    | B    | E     | C   | B    | E     | C    | B   | E     | C    | B    |
| CD PLAY | 0     | 9.1  | 0    | 0.6   | 0    | 0    | 0     | 0   | 0    | 0     | 3.6  | 0   | 0     | 9.1  | 0    |
| STANDBY | 0     | 0    | 0    | 0     | 0    | 0.2  | 0     | 0   | 0    | 0     | 0    | 0   | 0     | 0    | 0    |
| Ref No. | Q1202 |      |      | Q1203 |      |      | Q1204 |     |      | Q1301 |      |     | Q1303 |      |      |
| MODE    | E     | C    | B    | E     | C    | B    | E     | C   | B    | E     | C    | B   | E     | C    | B    |
| CD PLAY | 0.6   | 0    | 0    | 0     | 0    | 0    | 0     | 3.6 | 0    | 0.7   | 0    | 0   | 0     | 0    | 0    |
| STANDBY | 0     | 0    | 0.3  | 0     | 0    | 0    | 0     | 0   | 0    | 0.7   | 0    | 0   | 0     | 0    | 0    |
| Ref No. | Q1400 |      |      | Q1401 |      |      | Q1402 |     |      | Q1403 |      |     | Q1404 |      |      |
| MODE    | E     | C    | B    | E     | C    | B    | E     | C   | B    | E     | C    | B   | E     | C    | B    |
| CD PLAY | 0     | 0.7  | 0    | 9.0   | 0    | 9.1  | 0     | 9.0 | 0    | 0     | 9.1  | 0   | 0     | 9.1  | 0    |
| STANDBY | 0     | 0.7  | 0    | 0     | 0    | 0    | 0     | 0   | 0    | 0     | 0    | 0   | 0     | 0    | 0    |
| Ref No. | Q1451 |      |      | Q1452 |      |      | Q1453 |     |      |       |      |     |       |      |      |
| MODE    | E     | C    | B    | E     | C    | B    | E     | C   | B    |       |      |     |       |      |      |
| CD PLAY | 9.1   | -0.2 | 9.1  | -0.2  | 8.5  | 0    | 9.1   | 0   | 9.1  |       |      |     |       |      |      |
| STANDBY | 0     | -0.1 | 0    | -0.1  | 0    | 0    | 0     | 0   | 0    |       |      |     |       |      |      |

## 14.2. CD Servo P.C.B.

| CD SERVO P.C.B (REPV0039A) |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------------------------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ref No.                    | IC702 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| MODE                       | 1     | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  |
| CD PLAY                    | 1.4   | 1.4 | 1.4 | 3.4 | 1.6 | 0   | 1.7 | 0   | 1.4 | 0   | 1.6 | 0   | 1.8 | 0   | 3.4 | 0   | 0   | 1.7 | 0   | 0   |
| STANDBY                    | 0.2   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Ref No.                    | IC702 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| MODE                       | 21    | 22  | 23  | 24  | 25  | 26  | 27  | 28  | 29  | 30  | 31  | 32  | 33  | 34  | 35  | 36  | 37  | 38  | 39  | 40  |
| CD PLAY                    | 1.7   | 1.7 | 1.7 | 1.7 | 1.7 | 1.9 | 1.7 | 0.2 | 2.5 | 2.0 | 2.0 | 1.8 | 1.8 | 1.8 | 1.8 | 1.6 | 3.4 | 0   | 0.8 | 2.2 |
| STANDBY                    | 0.1   | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0   | 0.3 | 0.2 | 0   | 0   | 0.1 | 0.1 | 0.1 | 0.1 | 0   | 0.4 | 0   | 0   | 0   |
| Ref No.                    | IC702 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| MODE                       | 41    | 42  | 43  | 44  | 45  | 46  | 47  | 48  | 49  | 50  | 51  | 52  | 53  | 54  | 55  | 56  | 57  | 58  | 59  | 60  |
| CD PLAY                    | 1.6   | 1.4 | 0   | 1.7 | 1.7 | 0.8 | 1.4 | 1.4 | 3.4 | 1.5 | 0   | 1.3 | 3.1 | 1.5 | 0   | 3.4 | 1.5 | 3.4 | 0   | 3.4 |
| STANDBY                    | 0     | 0   | 0   | 0   | 0   | 0.4 | 0   | 0   | 0.4 | 0   | 0   | 0   | 0.4 | 0   | 0   | 0   | 0   | 0   | 0   | 0.4 |
| Ref No.                    | IC702 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 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   | 0   | 3.1 | 2.9 | 3.0 | 2.7 | 0   | 3.3 | 0   | 1.7 | 1.6 | 3.4 | 0.3 | 0   | 0   | 1.7 | 1.7 | 1.7 | 0   | 0   |
| STANDBY                    | 0.4   | 0.2 | 0   | 0   | 0   | 0.2 | 0.9 | 0   | 0   | 0.2 | 0.2 | 0.4 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 |
| Ref No.                    | IC703 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 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   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 7.5 | 4.3 | 3.5 | 3.5 | 3.5 | 3.2 | 3.8 | 3.5 | 3.4 | 7.5 | 0   |
| STANDBY                    | 0     | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Ref No.                    | IC703 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| MODE                       | 21    | 22  | 23  | 24  | 25  | 26  | 27  | 28  |     |     |     |     |     |     |     |     |     |     |     |     |
| CD PLAY                    | 7.5   | 0   | 0   | 0   | 7.5 | 1.7 | 1.7 | 1.7 |     |     |     |     |     |     |     |     |     |     |     |     |
| STANDBY                    | 0     | 0   | 0   | 0   | 0   | 0   | 0   | 0   |     |     |     |     |     |     |     |     |     |     |     |     |
| Ref No.                    | Q701  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| MODE                       | E     | C   | B   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| CD PLAY                    | 3.2   | 2.0 | 2.5 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| STANDBY                    | 0.4   | 0.4 | 0   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

# 15 Waveform Chart



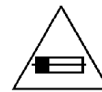
## 16 Notes of Schematic Diagram

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

### Notes:

|        |                        |
|--------|------------------------|
| S701 : | REST SWITCH            |
| S780 : | OPEN SWITCH            |
| S901 : | VOL+ SWITCH            |
| S902 : | VOL- SWITCH            |
| S903 : | SEQ SWITCH             |
| S904 : | STOP SWITCH            |
| S905 : | REW SWITCH             |
| S906 : | FF SWITCH              |
| S907 : | POWER SWITCH           |
| S908 : | TUNER BAND SWITCH      |
| S909 : | CD REC MODE SWITCH     |
| S910 : | CD PLAY / PAUSE SWITCH |
| S911 : | DECK EJECT SWITCH      |
| S912 : | TAPE PLAY SWITCH       |
| S913 : | REC/PAUSE SWITCH       |
| S914 : | CLOCK/TIMER SWITCH     |
| S915 : | MEMORY/CLEAR SWITCH    |
| S916 : | PLAY/REC TIME SWITCH   |
| S917 : | CD_OPEN/CLOSE SWITCH   |
| S971 : | MODE SWITCH            |
| S972 : | HALF SWITCH            |
| S975 : | RECINF SWITCH          |

**CAUTION:** FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE F501 4A, 250V FUSE.



RISK OF FIRE-REPLACE FUSE AS MARKED.

### FUSE CAUTION



These symbols located near the fuse indicates that the fuse used is a fast operating type. For continued protection against fire hazard, replace with the same type fuse. For fuse rating, refer to the marking adjacent to the symbol.



Ce symbole indique que le fusible utilisé est à rapide. Pour une protection permanente, n' utiliser que des fusibles de même type. Ce dernier est indiqué là où le présent symbole est apposé.

- 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.

|       |      |         |           |
|-------|------|---------|-----------|
| < >   | ; FM | No Mark | : Tape    |
| ( )   | : AM | [ ]     | : Standby |
| (( )) | : CD |         |           |

### Importance safety notice:

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

### Caution !

IC, LSI and VLSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

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

# 17 Schematic Diagram

## 17.1. CD SERVO CIRCUIT

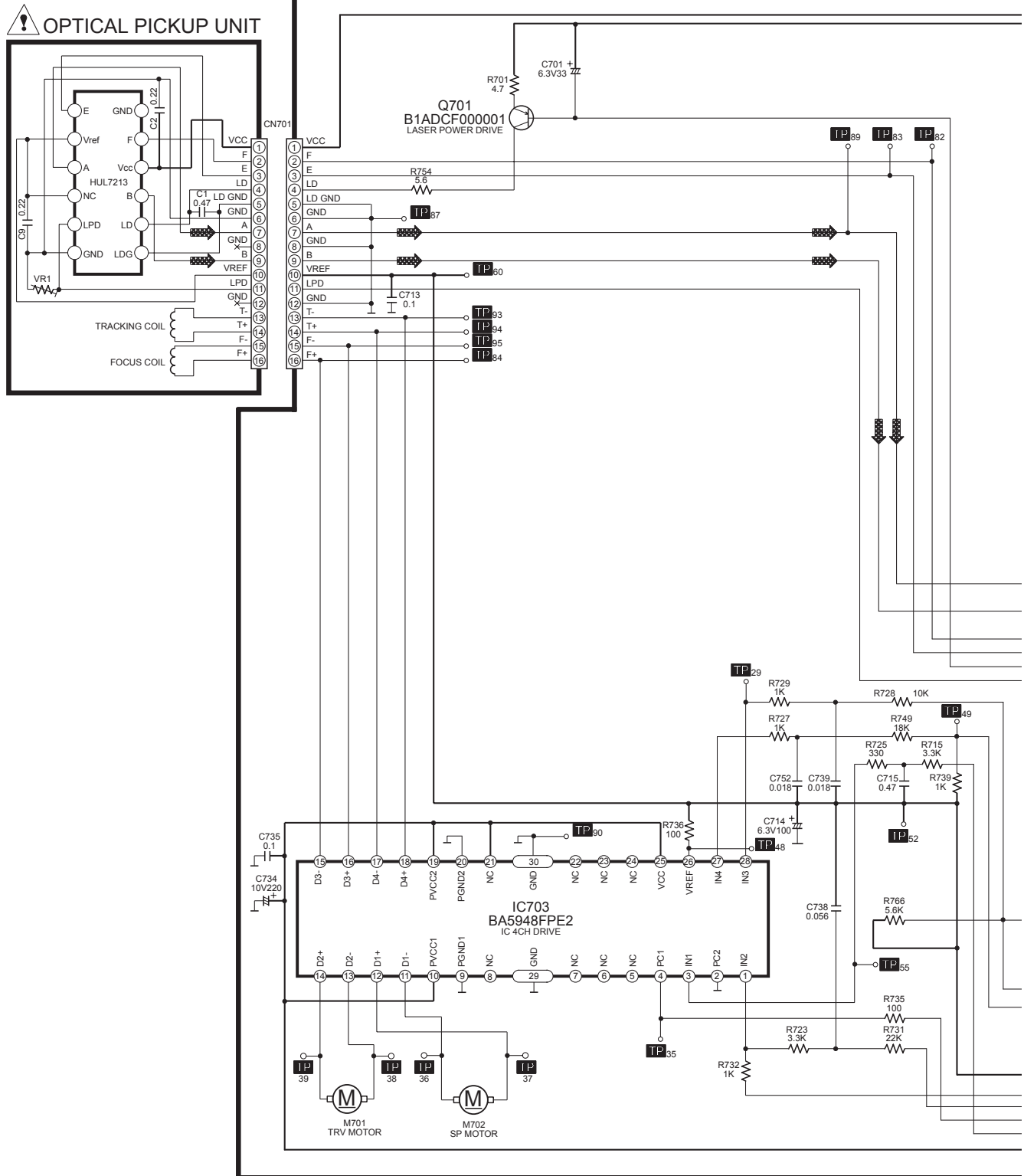
SCHEMATIC DIAGRAM - 1

**A**

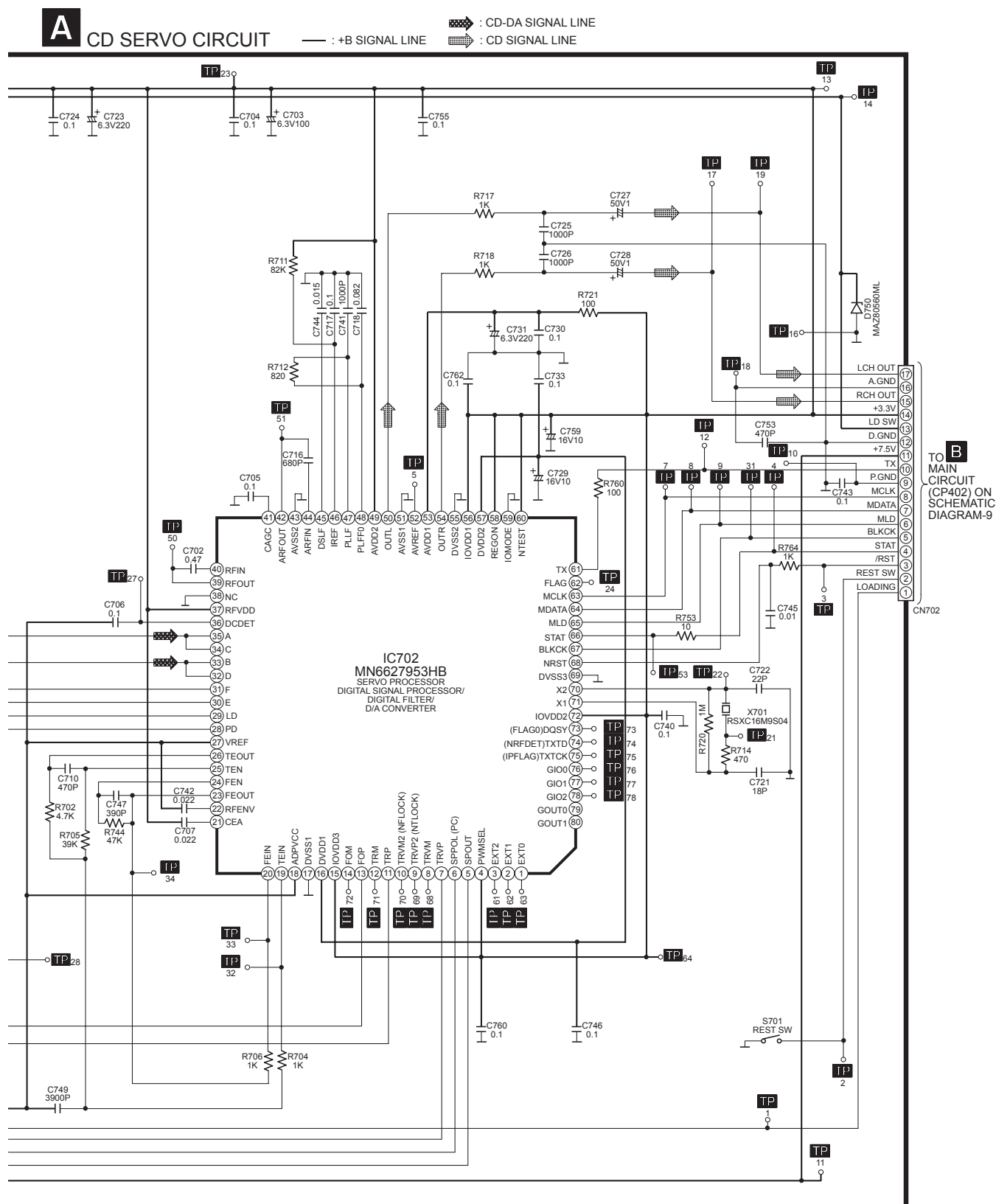
CD SERVO CIRCUIT

— : +B SIGNAL LINE

▨ : CD-DA SIGNAL LINE



SCHEMATIC DIAGRAM - 2

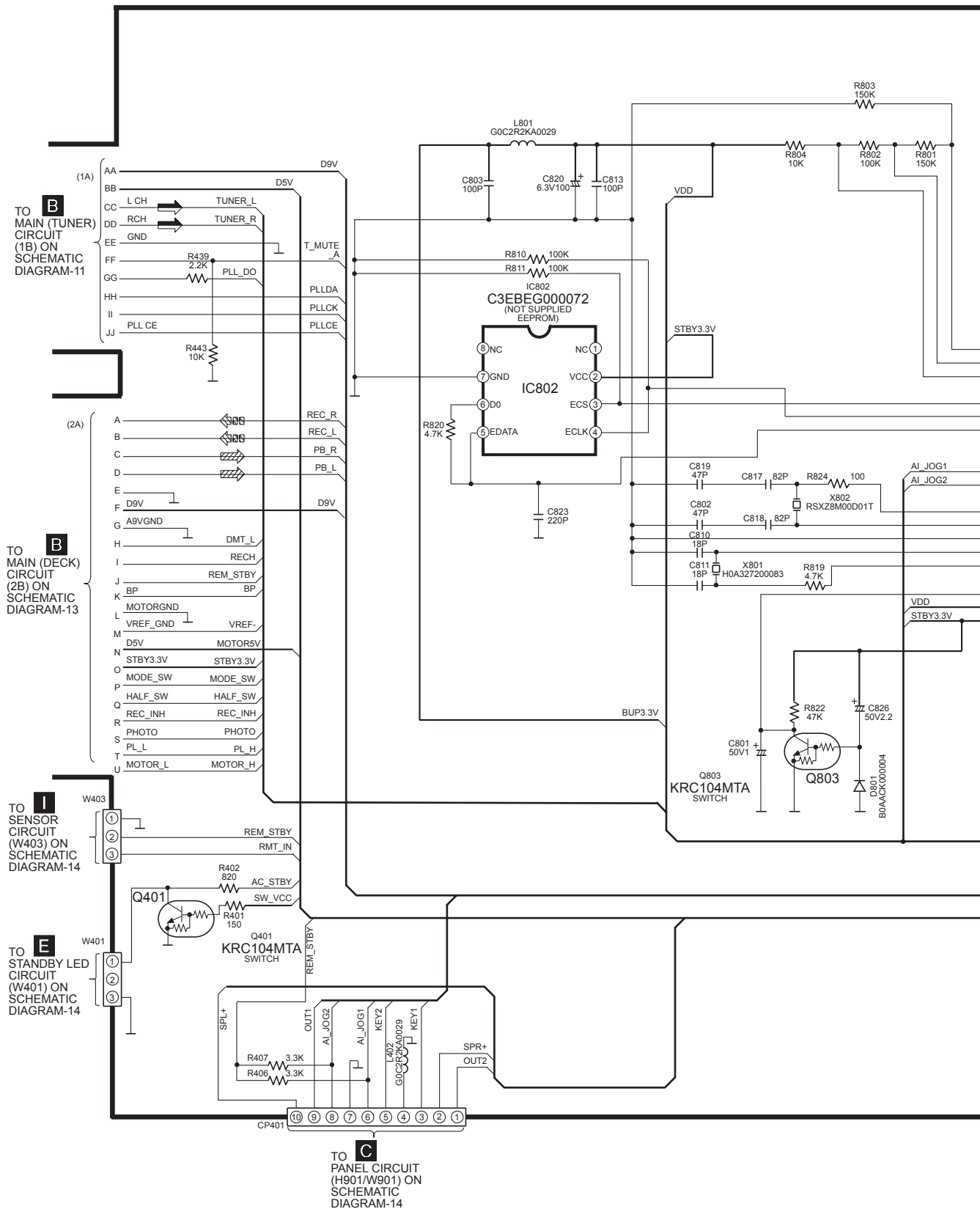


## 17.2. MAIN CIRCUIT and POWER ON CIRCUIT

SCHEMATIC DIAGRAM-3

**B** MAIN CIRCUIT

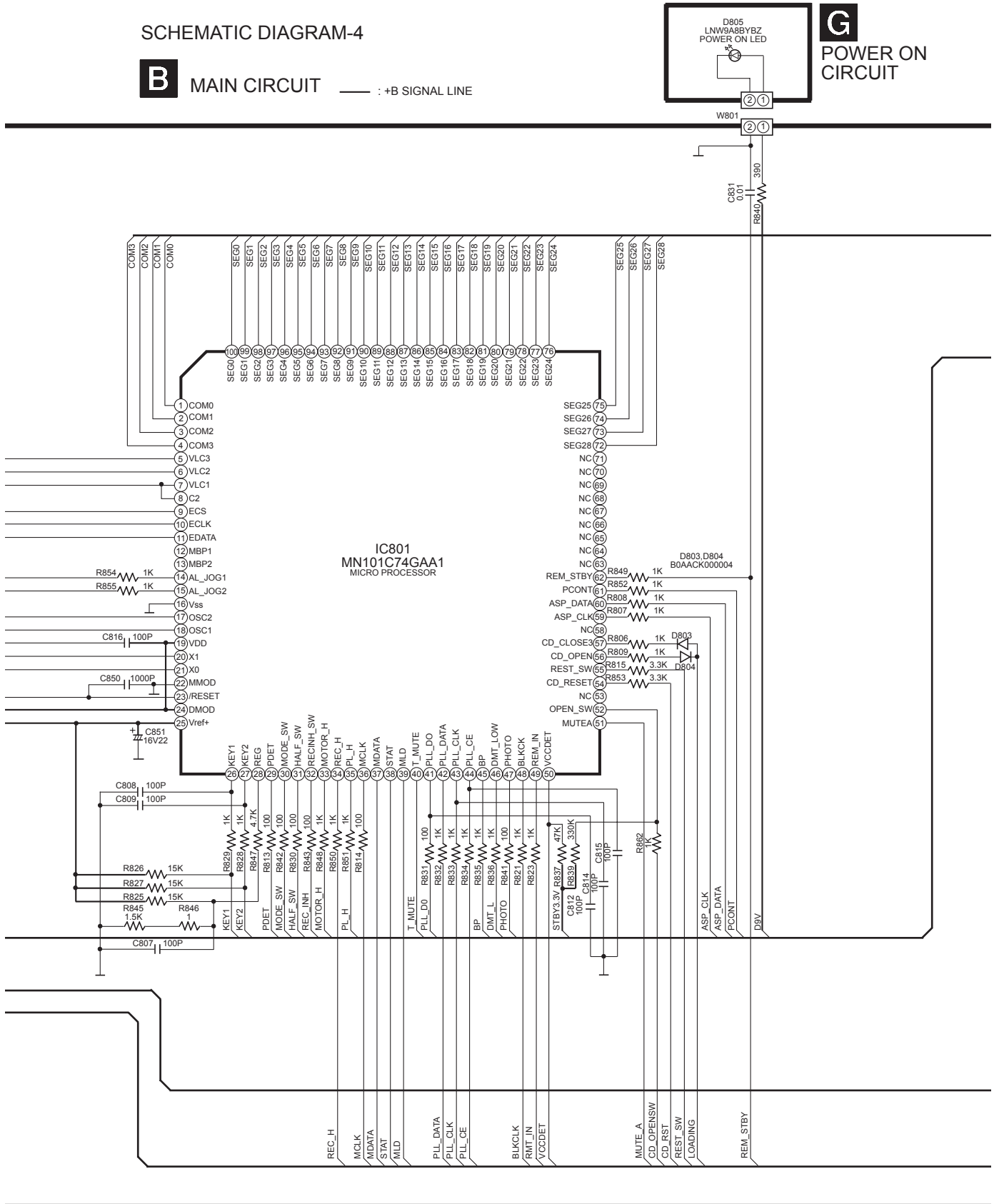
— : +B SIGNAL LINE      ➡ : FM/AM SIGNAL LINE      ▨ : PLAYBACK SIGNAL LINE      ▩ : RECORD SIGNAL LINE



## SCHEMATIC DIAGRAM-4

**B** MAIN CIRCUIT — : +B SIGNAL LINE

**G**  
POWER ON  
CIRCUIT



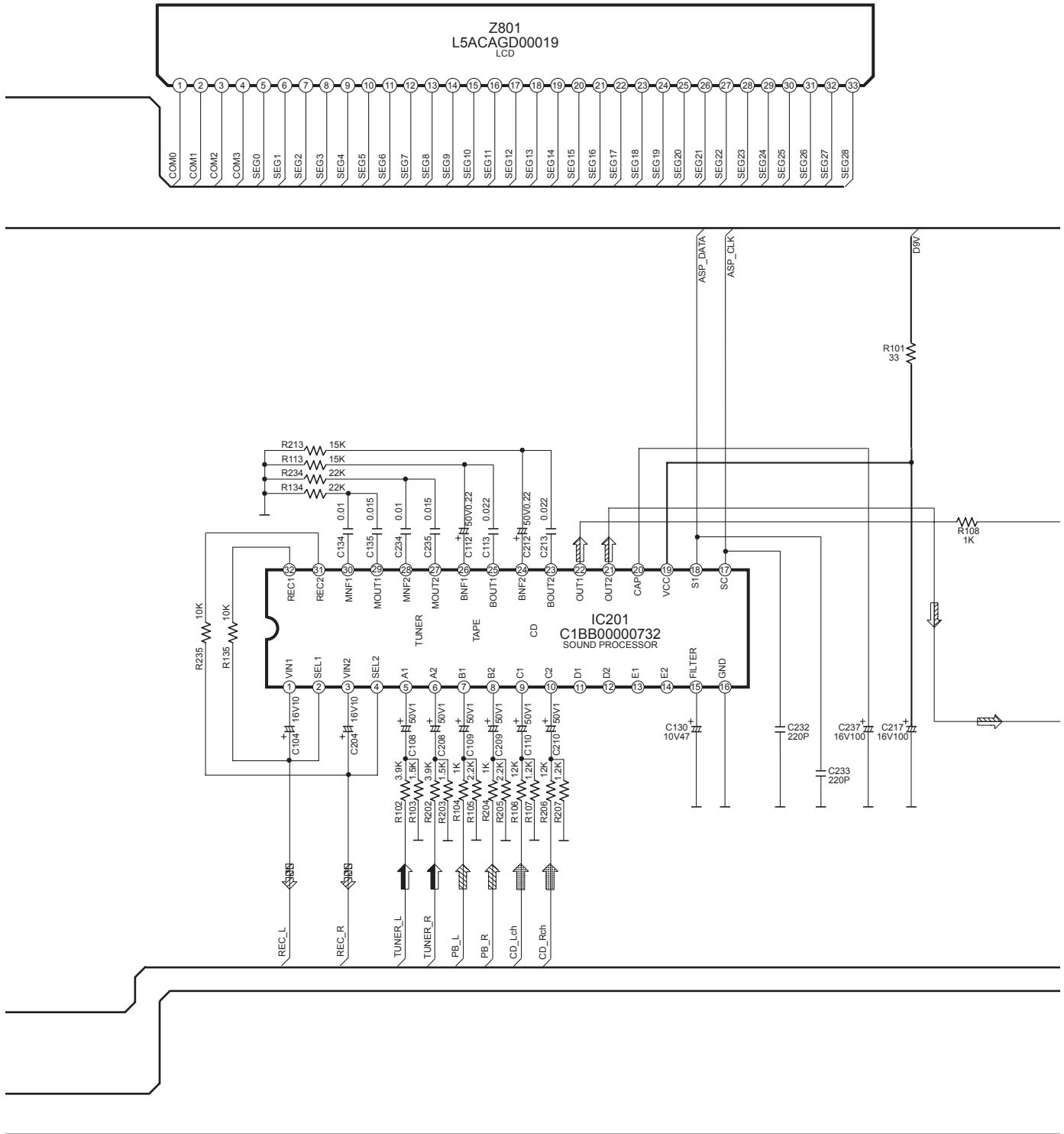
## SCHEMATIC DIAGRAM-5

## B MAIN CIRCUIT

 : +B SIGNAL LINE  
 : MAIN SIGNAL LINE

 : CD SIGNAL LINE  
 : FM/AM SIGNAL LINE

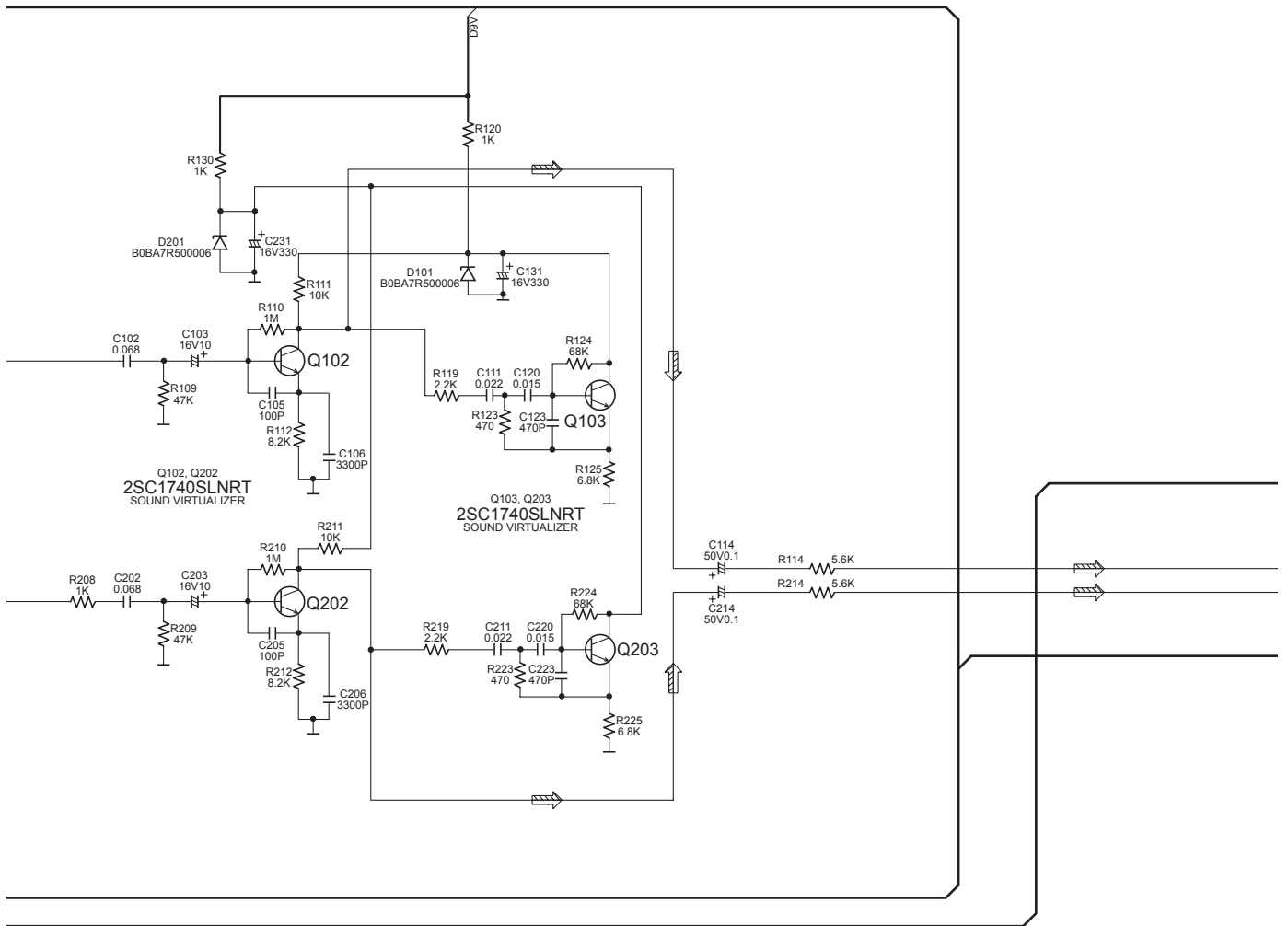
 : PLAYBACK SIGNAL LINE  
 : RECORD SIGNAL LINE



## SCHEMATIC DIAGRAM-6

**B** MAIN CIRCUIT

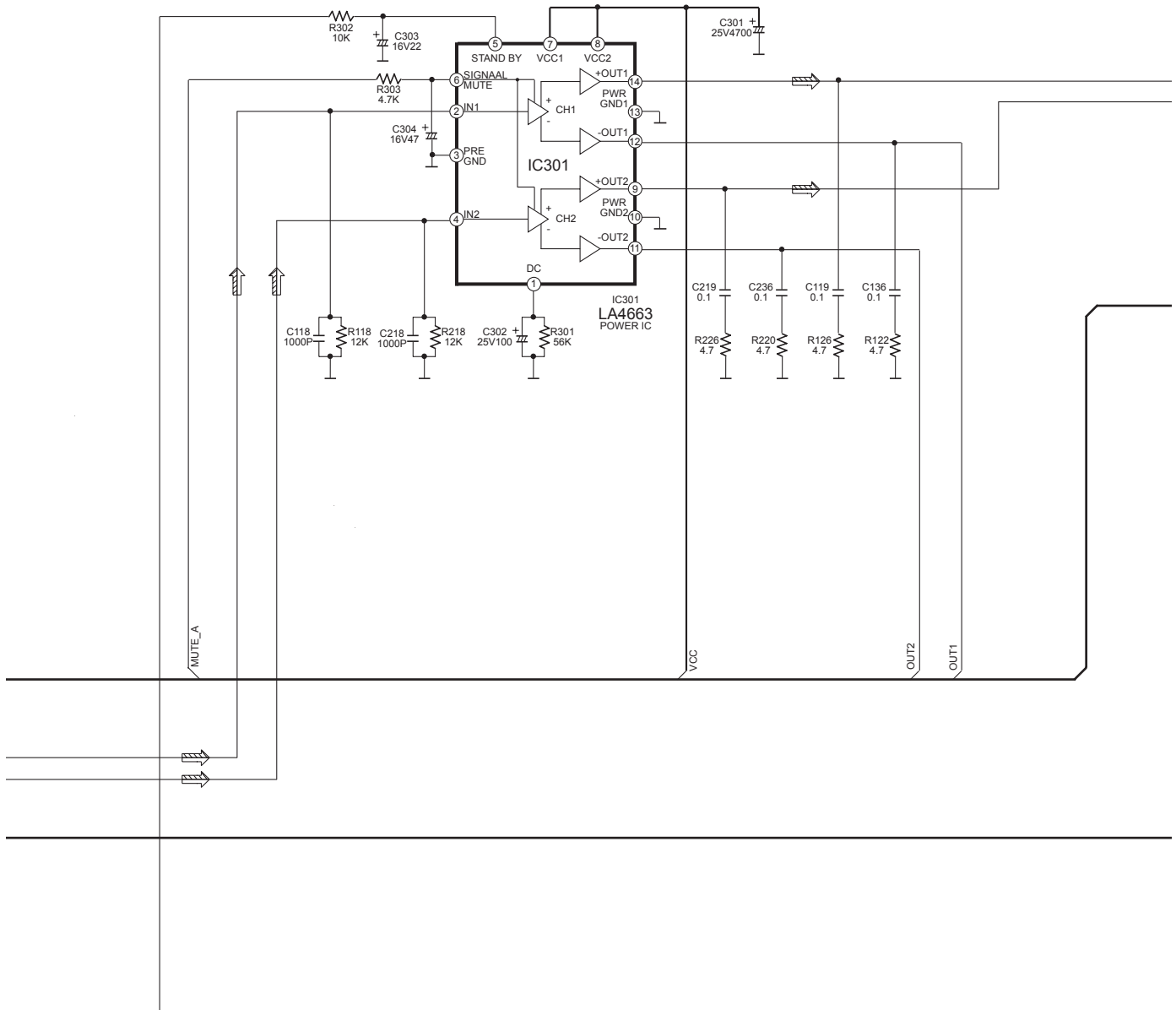
— : +B SIGNAL LINE  
 : MAIN SIGNAL LINE



## SCHEMATIC DIAGRAM-7

**B** MAIN CIRCUIT
 

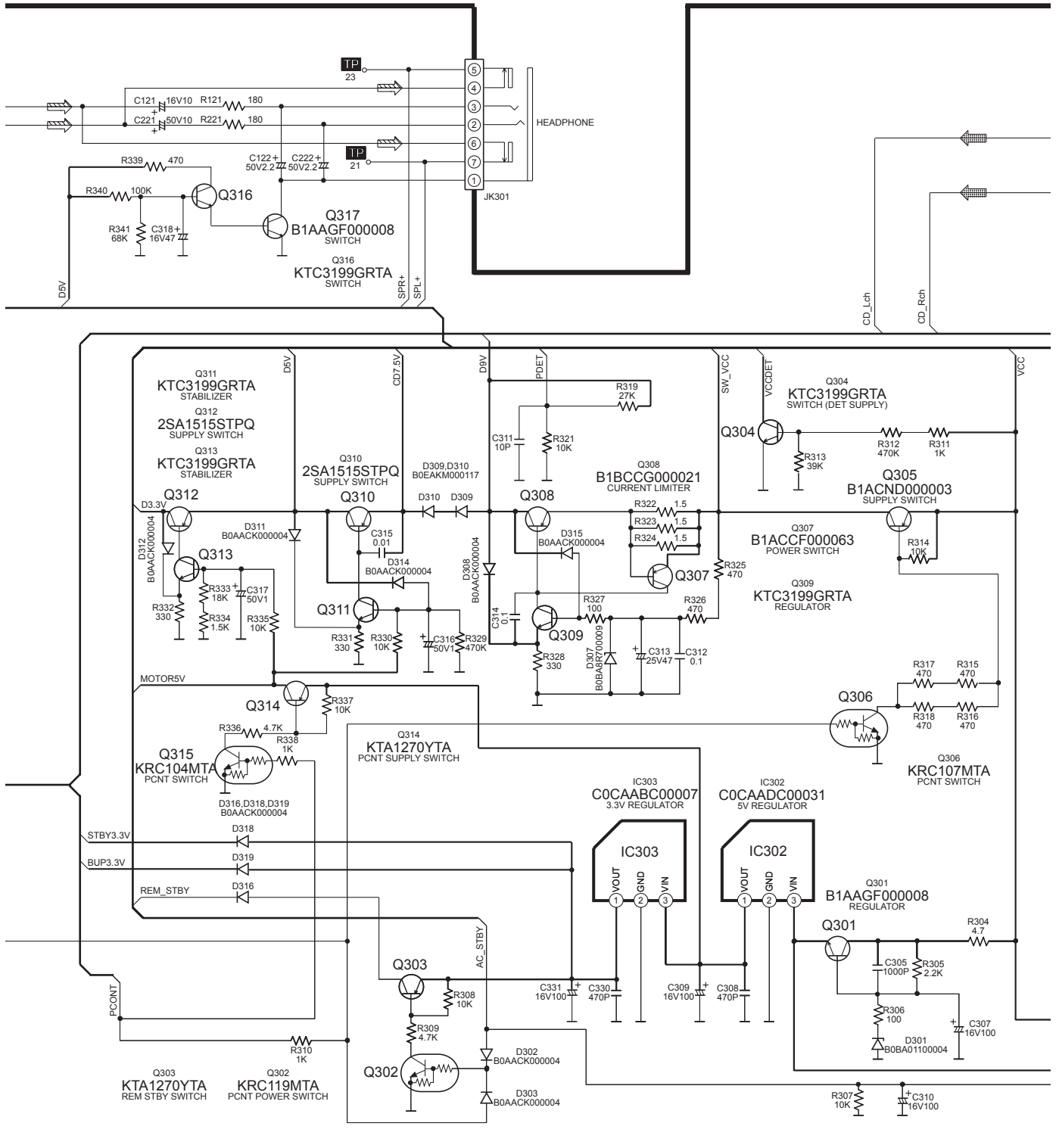
— : +B SIGNAL LINE  
 ⇨ : MAIN SIGNAL LINE



SCHEMATIC DIAGRAM-8

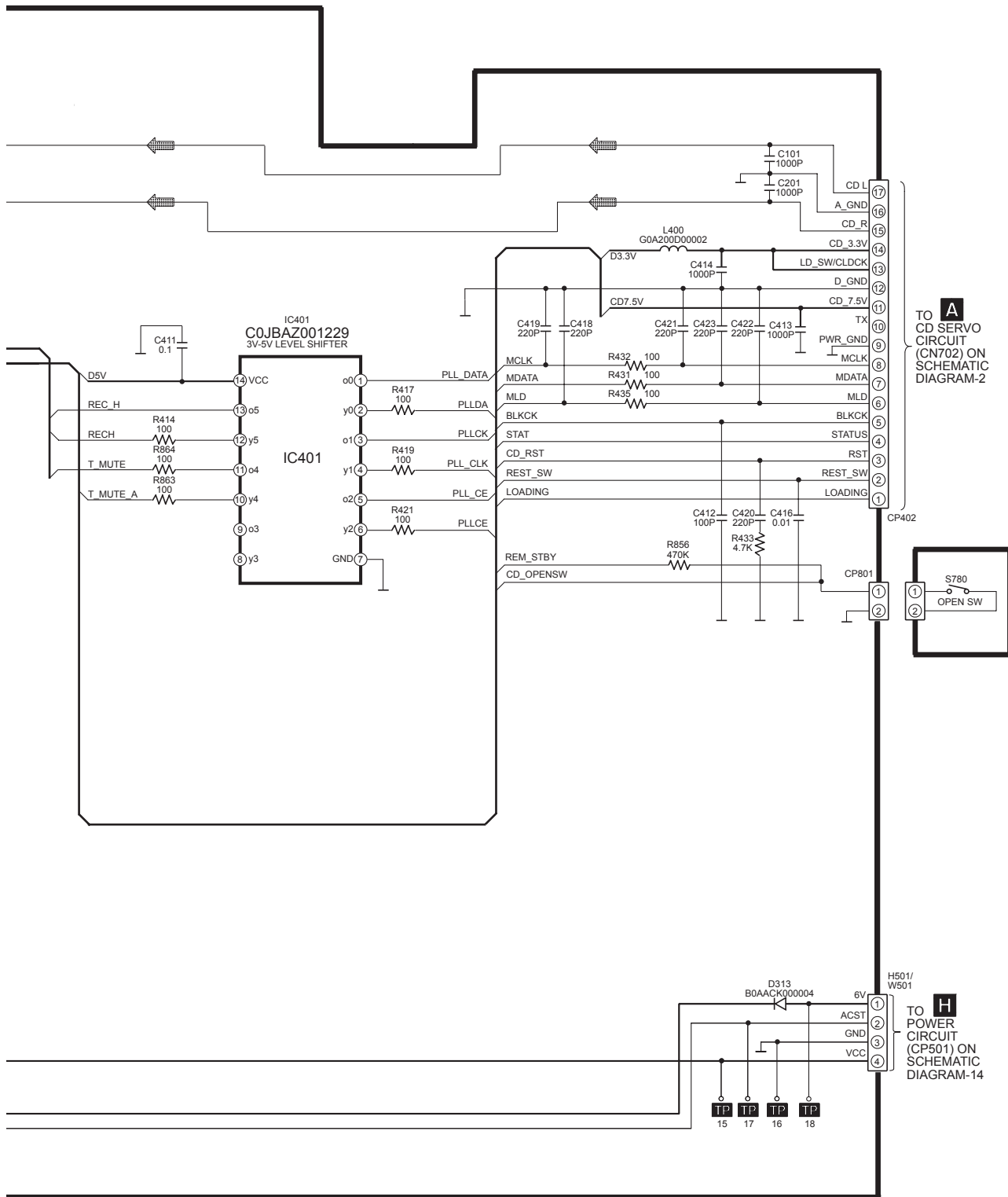
**B** MAIN CIRCUIT

— : +B SIGNAL LINE  
 : MAIN SIGNAL LINE  
 : CD SIGNAL LINE



## SCHEMATIC DIAGRAM-9

**B** MAIN CIRCUIT — : +B SIGNAL LINE ➡ : CD SIGNAL LINE



## 17.3. MAIN (TUNER) CIRCUIT

SCHEMATIC DIAGRAM - 10

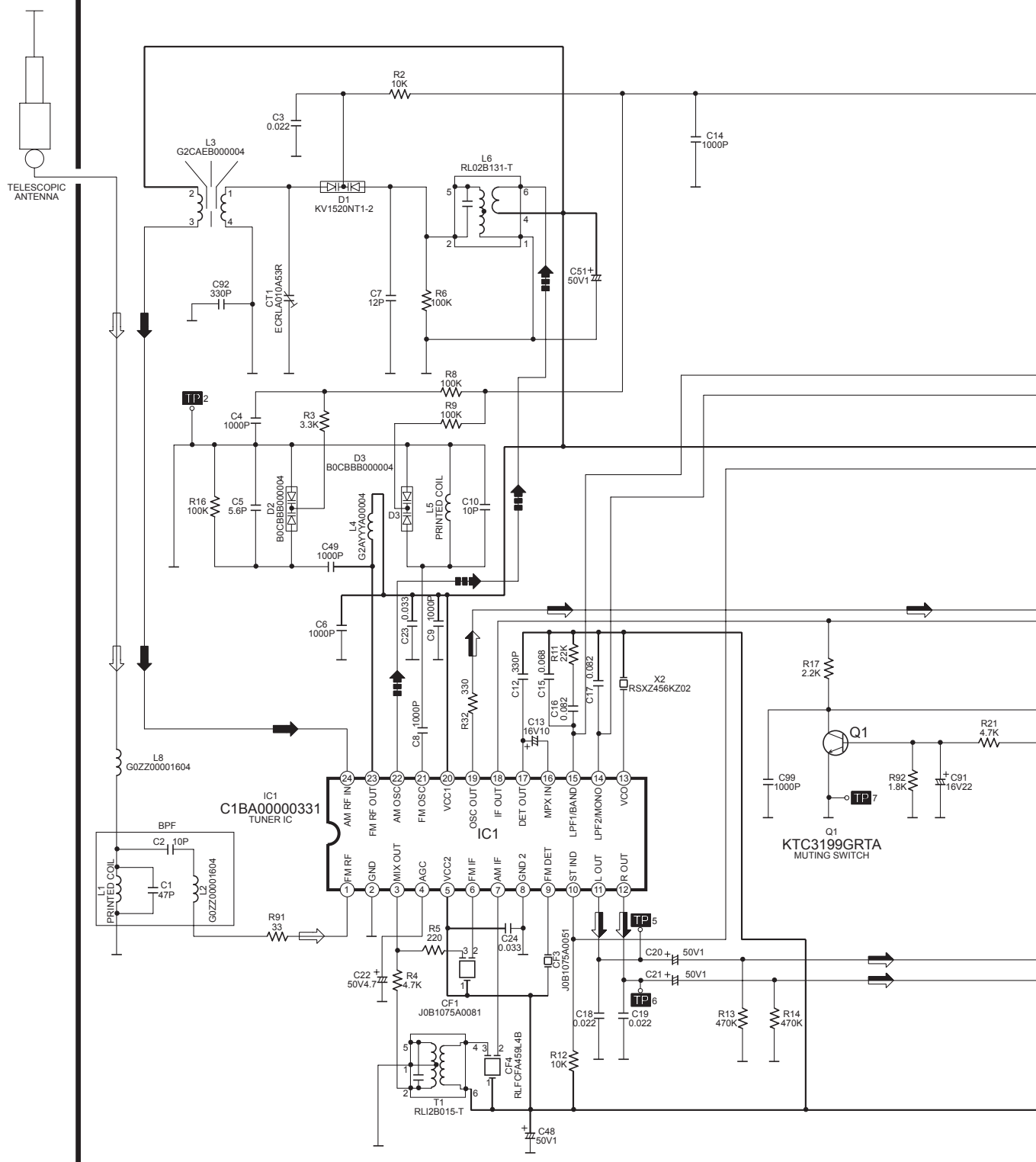
### B MAIN (TUNER) CIRCUIT

 : FM/AM SIGNAL LINE

 : AM SIGNAL LINE

 : +B SIGNAL LINE

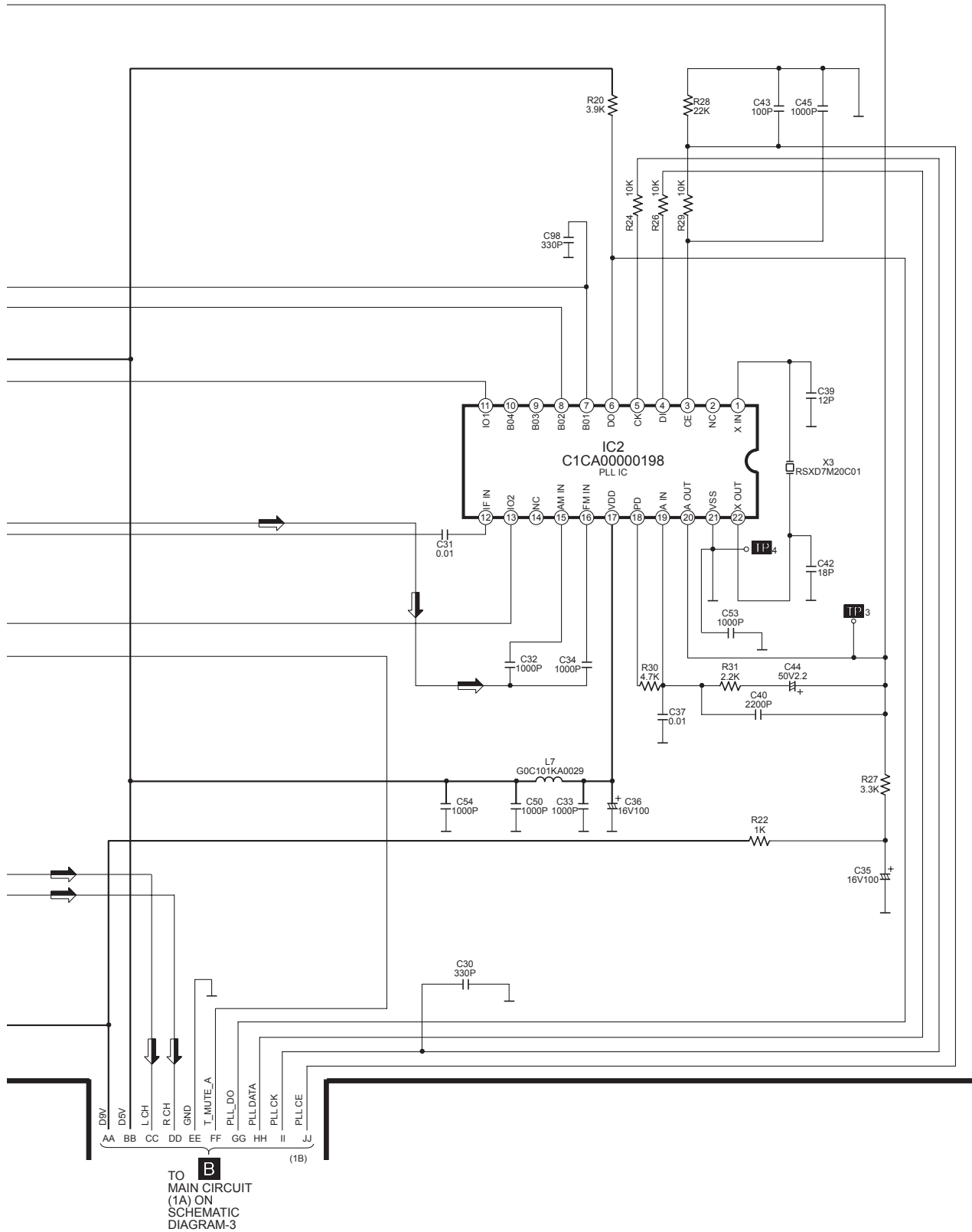
 : AM OSC SIGNAL LINE

 : FM OSC SIGNAL LINE


## SCHEMATIC DIAGRAM - 11

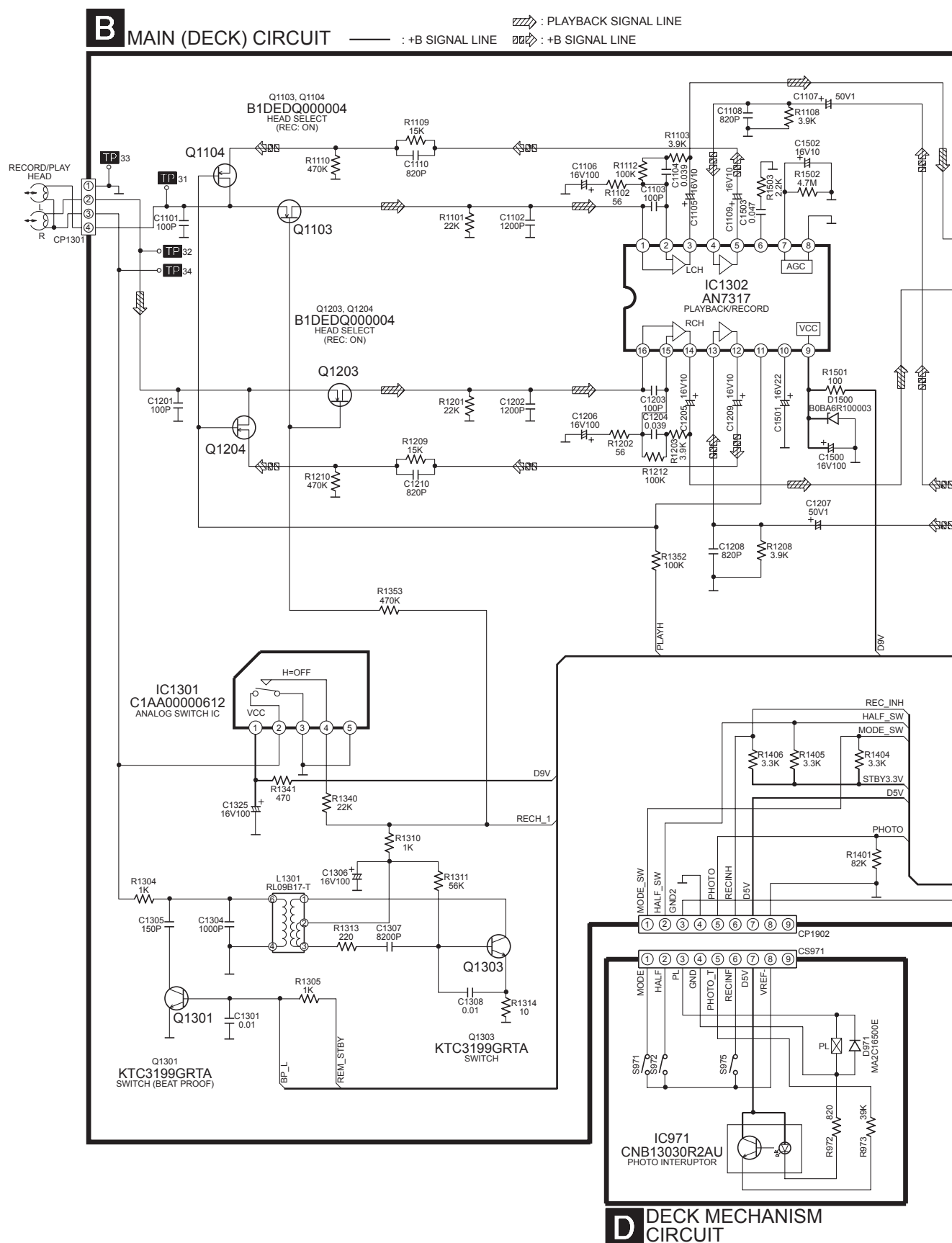
**B** MAIN (TUNER) CIRCUIT

⇒ : FM/AM SIGNAL LINE  
 — : +B SIGNAL LINE



## 17.4. MAIN (DECK) CIRCUIT

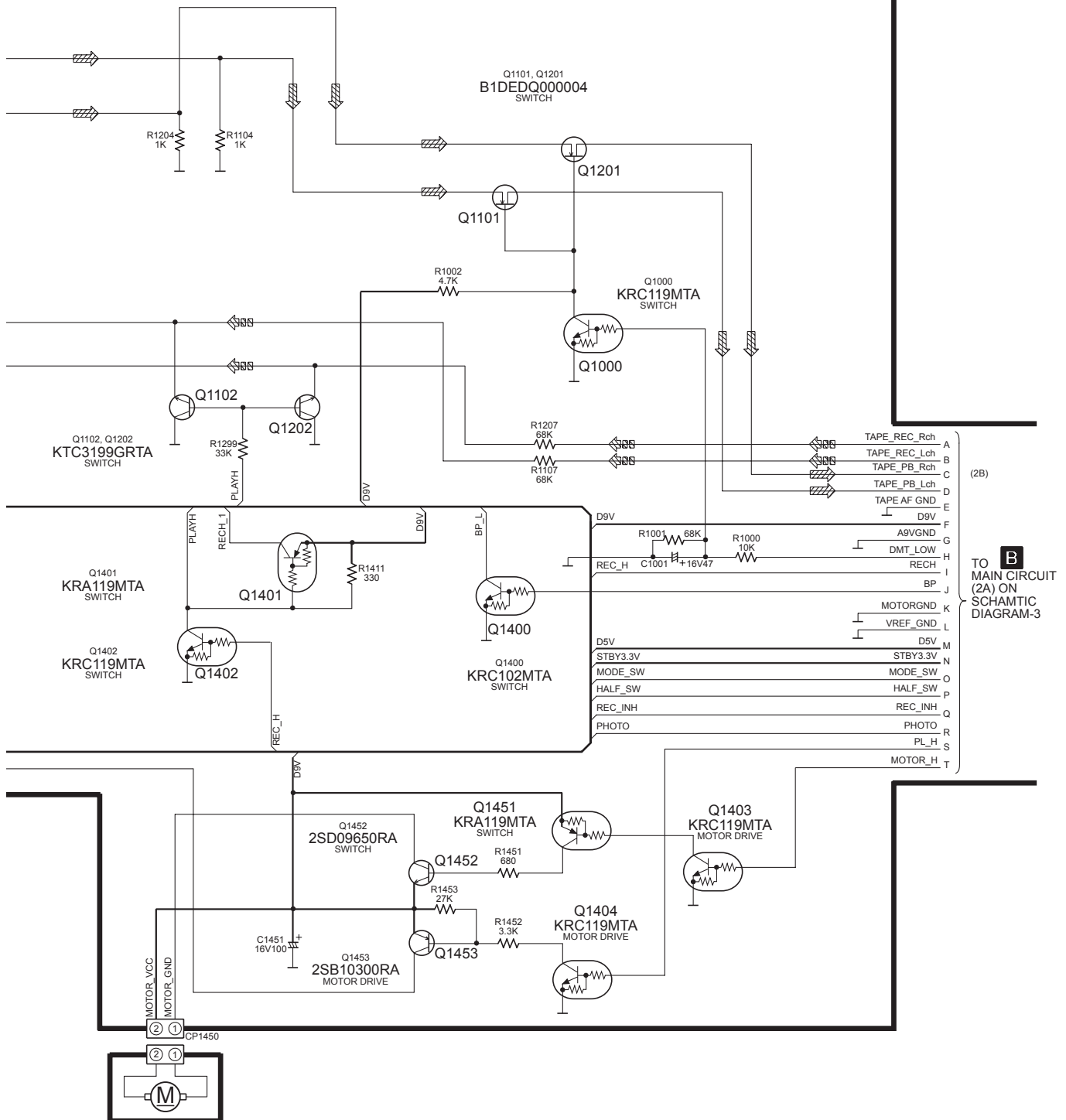
SCHEMATIC DIAGRAM-12



## SCHEMATIC DIAGRAM-13

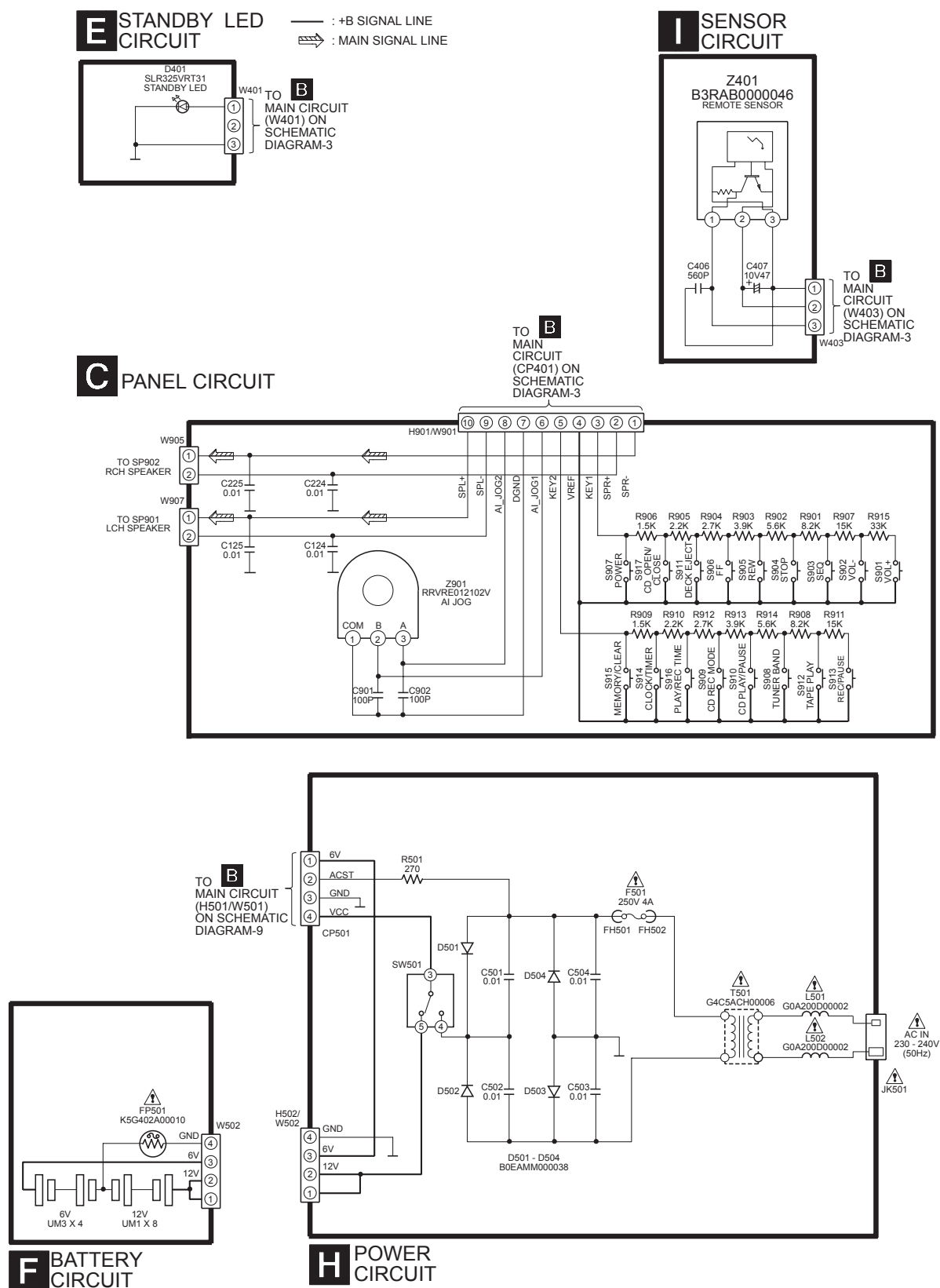
**B** MAIN (DECK) CIRCUIT

— : +B SIGNAL LINE  
 : PLAYBACK SIGNAL LINE  
 : +B SIGNAL LINE



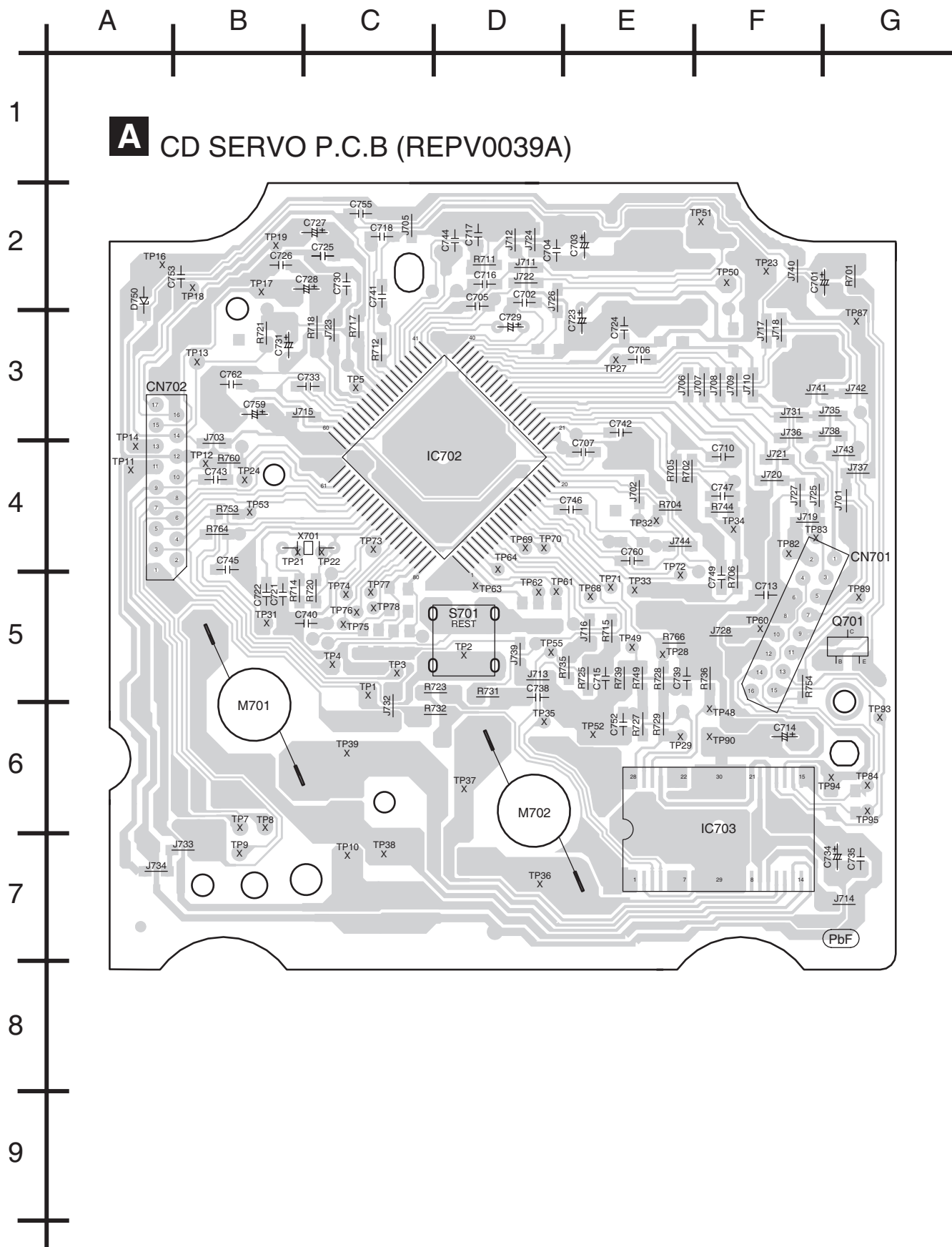
## 17.5. PANEL CIRCUIT, STANDBY LED CIRCUIT, BATTERY CIRCUIT, POWER CIRCUIT and SENSOR CIRCUIT

SCHEMATIC DIAGRAM-14

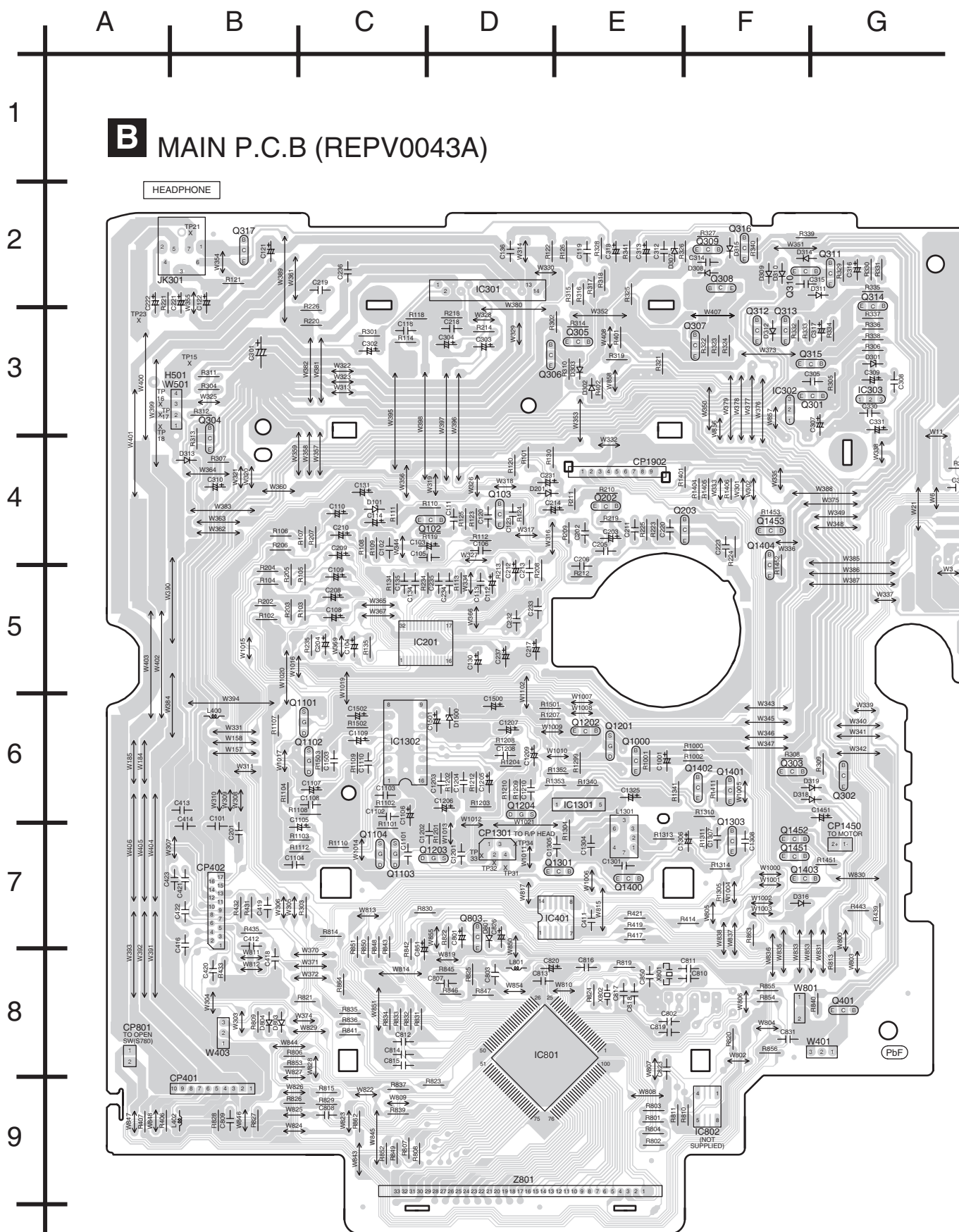


# 18 Printed Circuit Board

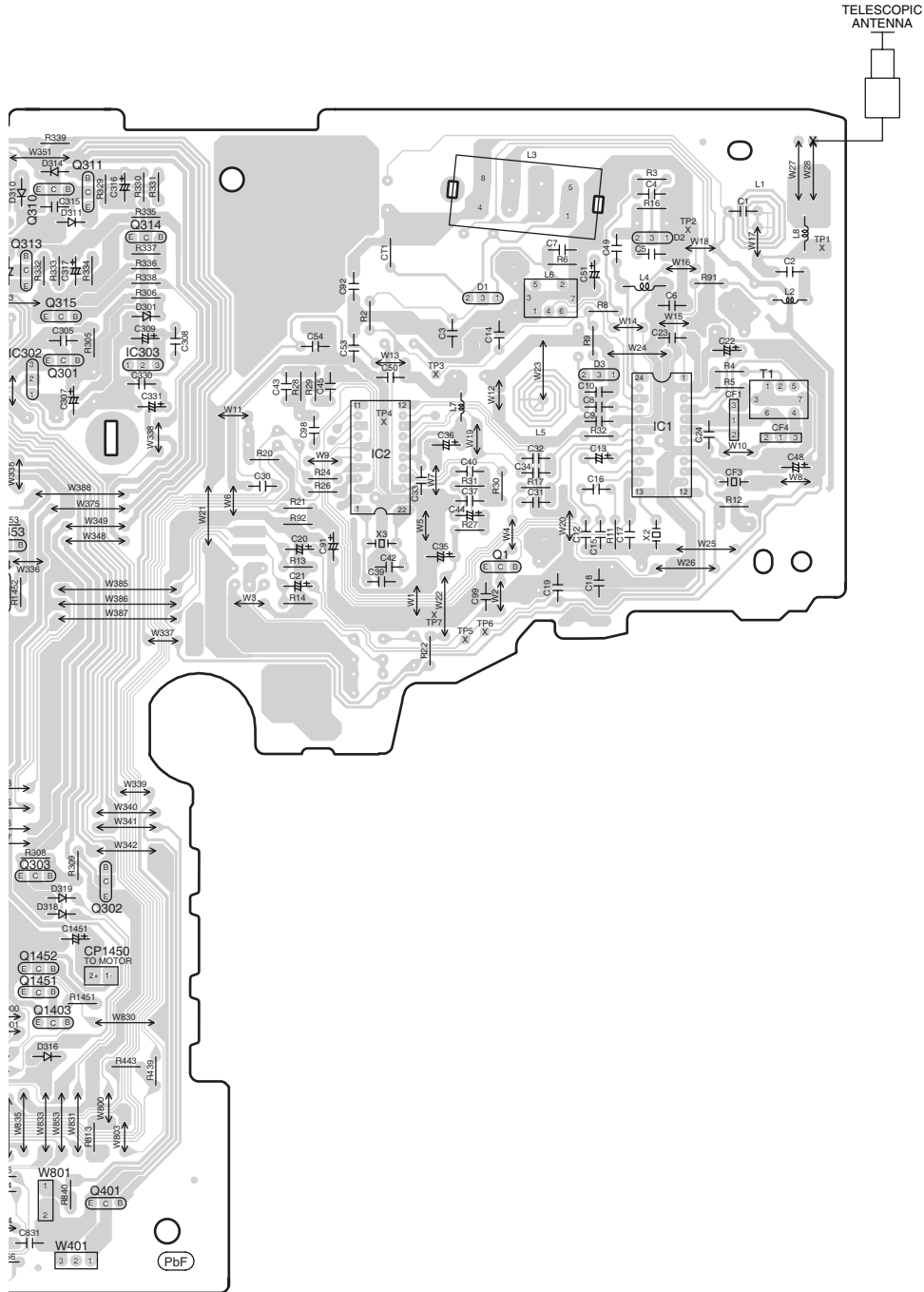
## 18.1. CD SERVO P.C.B



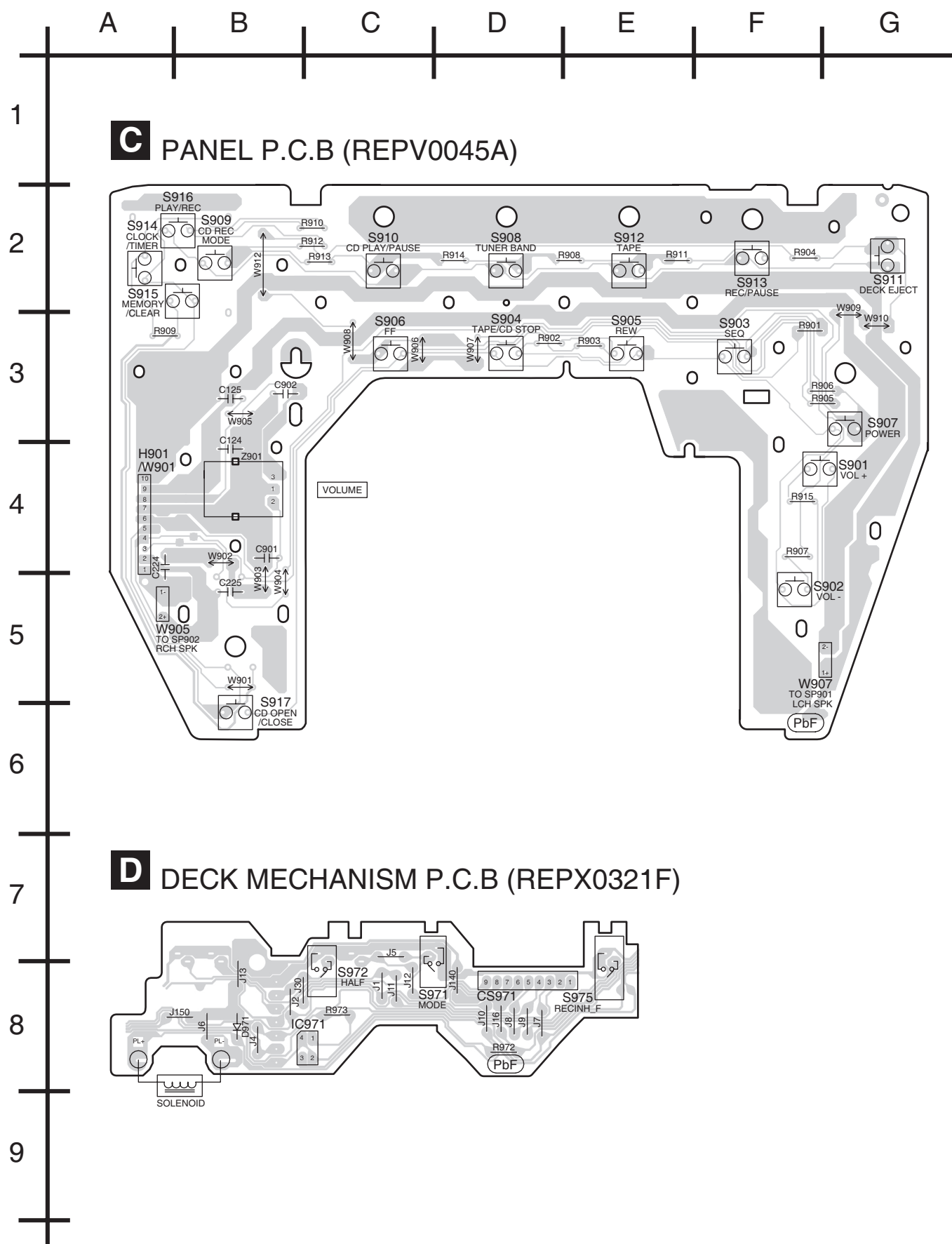
## 18.2. MAIN P.C.B.



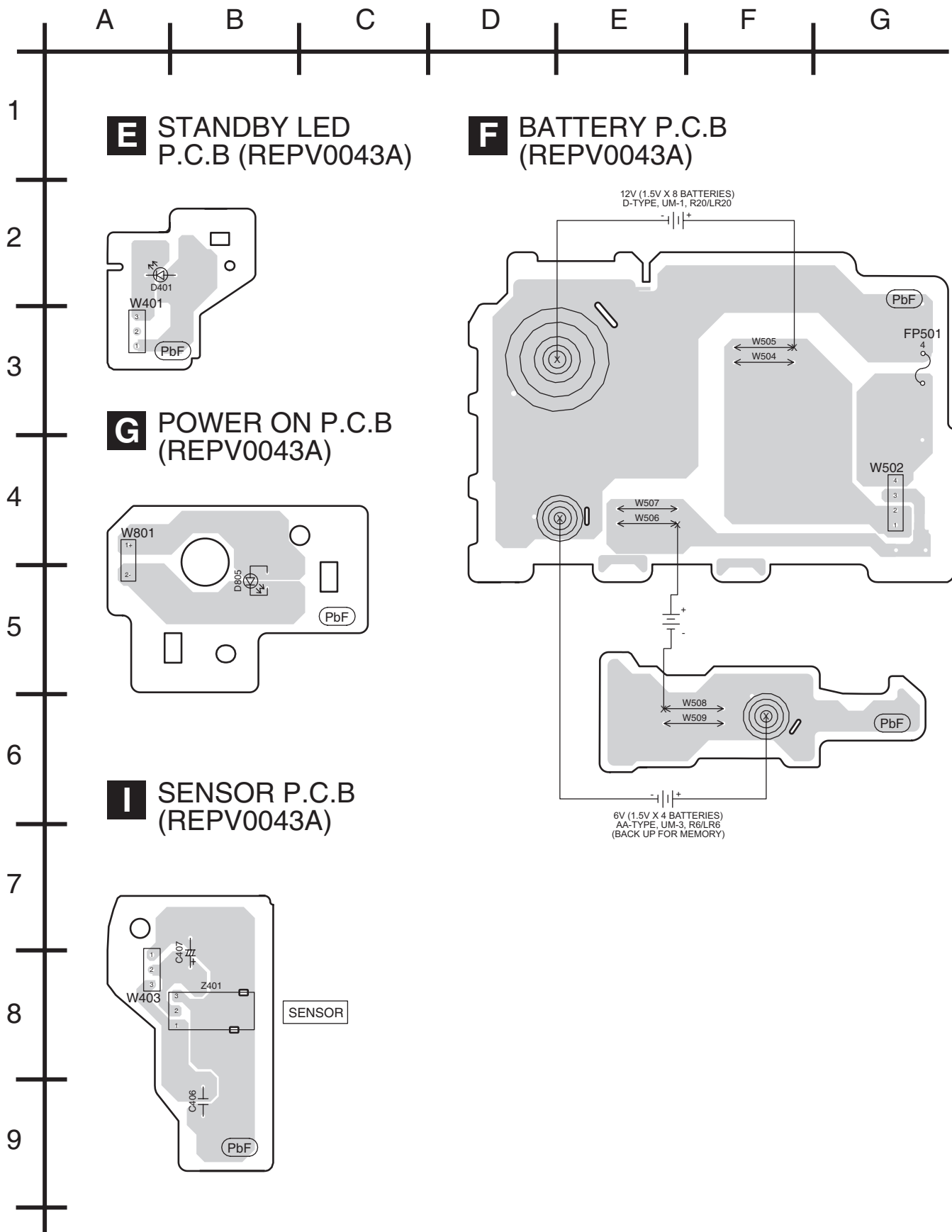
G H I J K L M



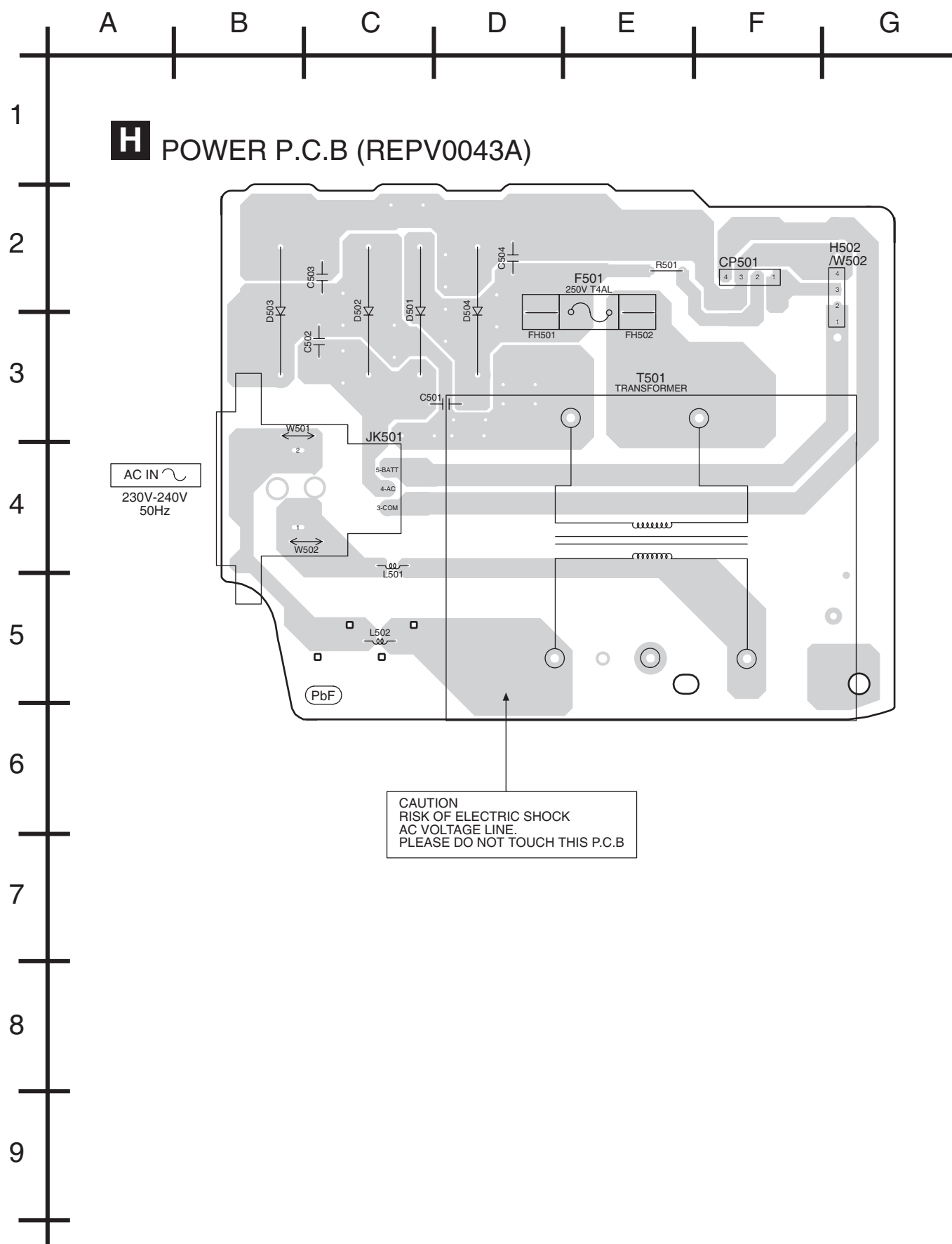
### 18.3. PANEL P.C.B. and DECK MECHANISM P.C.B.



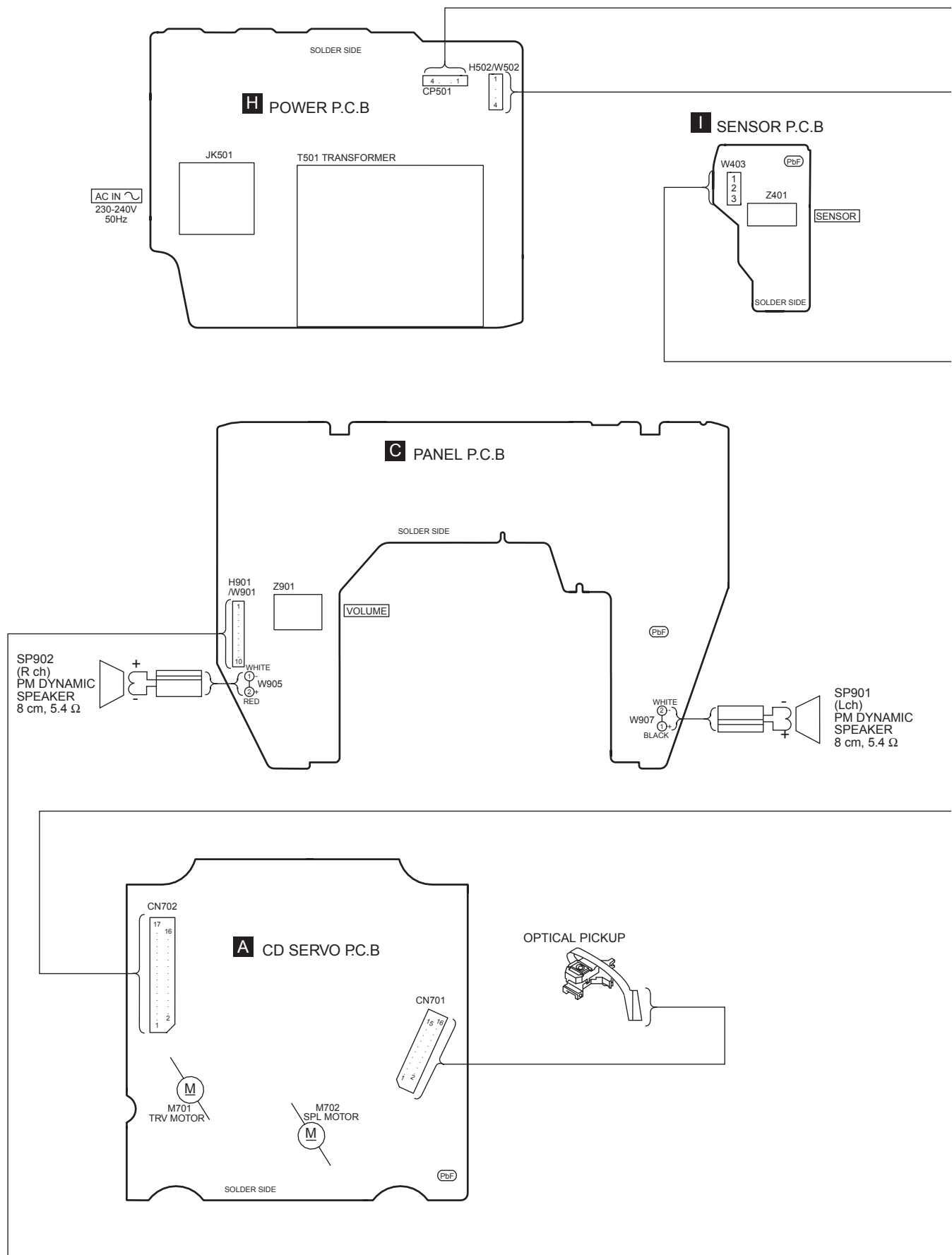
## 18.4. STANDBY LED P.C.B., BATTERY P.C.B., POWER ON P.C.B. and SENSOR P.C.B.

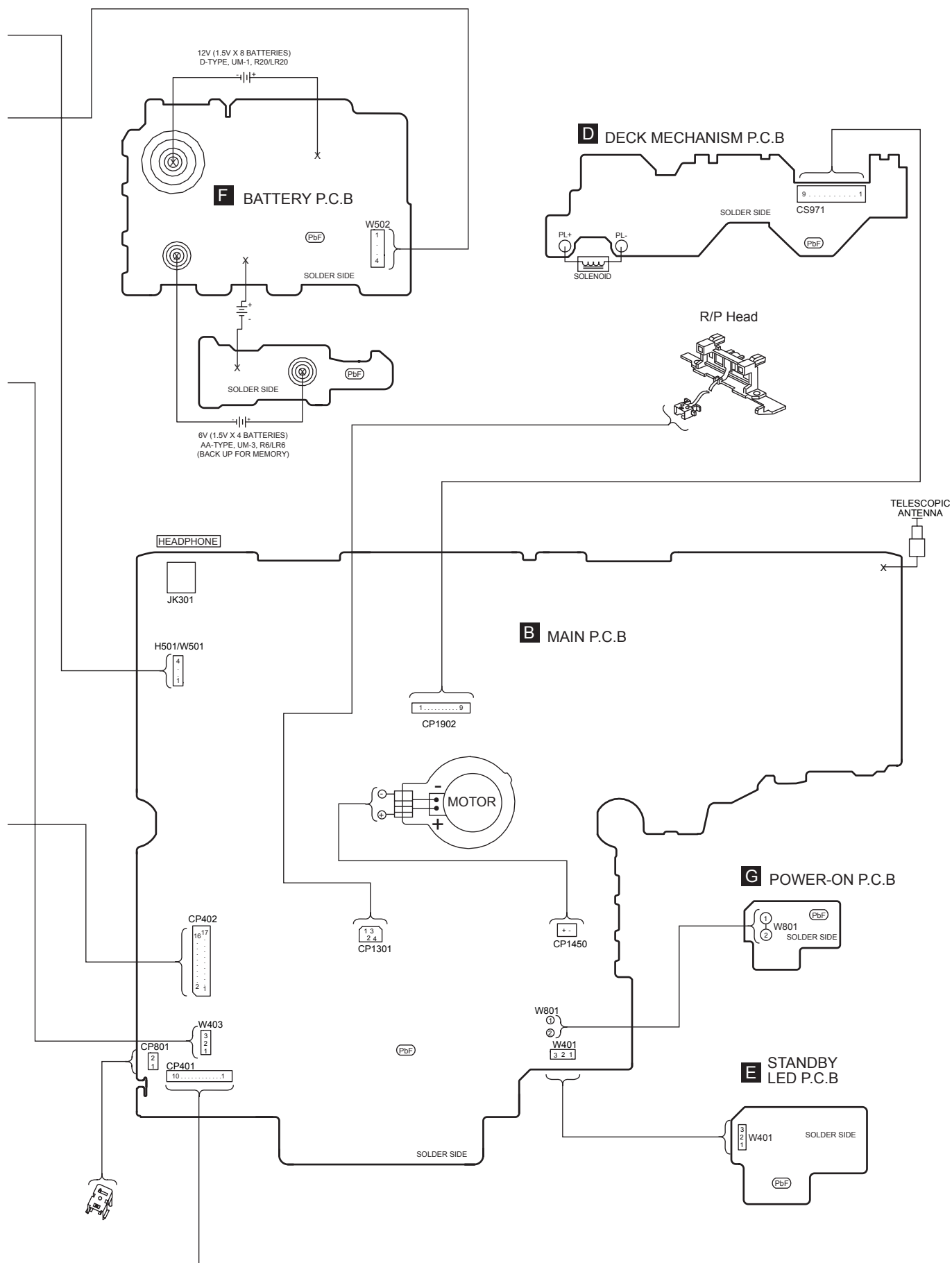


## 18.5. POWER P.C.B.

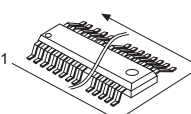
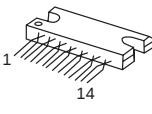
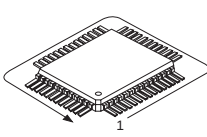
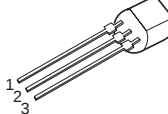
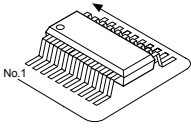
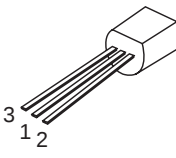
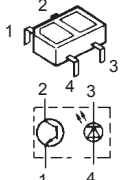
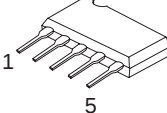
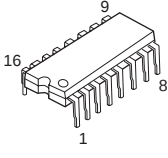
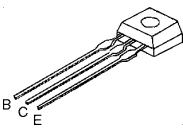
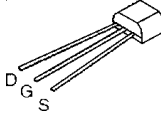
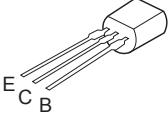
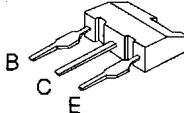
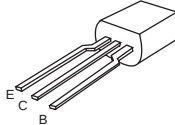
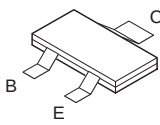
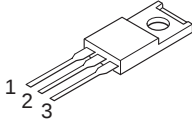
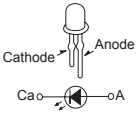
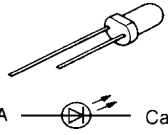
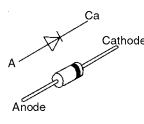
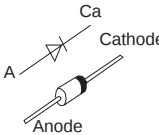
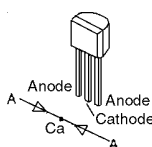
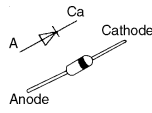
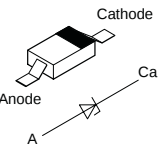
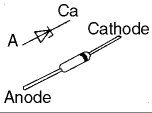


# 19 Wiring Connection Diagram





## 20 Type Illustration of IC's, Transistors and Diodes

|                                                                                                                                                         |                                                                                                                                                            |                                                                                                                                    |                                                                                                                          |                                                                                                                                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <p>C1BA00000331 (24P)<br/>C1CA00000198 (22P)<br/>BA5948FPE2 (28P)</p>  | <p>LA4663 (14P)</p>                                                       | <p>MN6627953HB (80P)<br/>MN101C74GAA1 (100P)</p>  | <p>C0CAABC00007</p>                    | <p>C1BB00000732 (32P)<br/>C0JBAZ001229 (14P)</p>  |
| <p>C0CAADC00031 (3P)</p>                                               | <p>CNB13030R2AU</p>                                                       | <p>C1AA00000612 (5P)</p>                          | <p>AN7317 (16P)</p>                    | <p>KTC3199GRTA</p>                                |
| <p>B1DEDQ000004</p>                                                    | <p>2SD09650RA</p>                                                         | <p>2SA1515STPQ<br/>2SB10300RA</p>                 | <p>B1ACND000003</p>                    | <p>KTA1270YTA</p>                                 |
| <p>B1ADCF000001</p>                                                  | <p>B1BCCG000021</p>                                                     | <p>KRA119MTA<br/>KRC102MTA<br/>KRC104MTA<br/>KRC107MTA<br/>KRC119MTA<br/>B1AAGF000008<br/>2SC1740SLNRT<br/>B1ACCF000063</p>        |                                                                                                                          | <p>LNW9A8BYBZ</p>                               |
| <p>SLR325VRT31</p>                                                   | <p>B0EAMM000038</p>                                                     | <p>B0EAKM000117</p>                             | <p>KV1520NT1-2<br/>B0CBBB000004</p>  | <p>B0AACK000004<br/>MA2C16500E</p>              |
| <p>MAZ80560ML</p>                                                    | <p>B0BA01100004<br/>B0BA6R100003<br/>B0BA7R500006<br/>B0BA8R700009</p>  |                                                                                                                                    |                                                                                                                          |                                                                                                                                      |

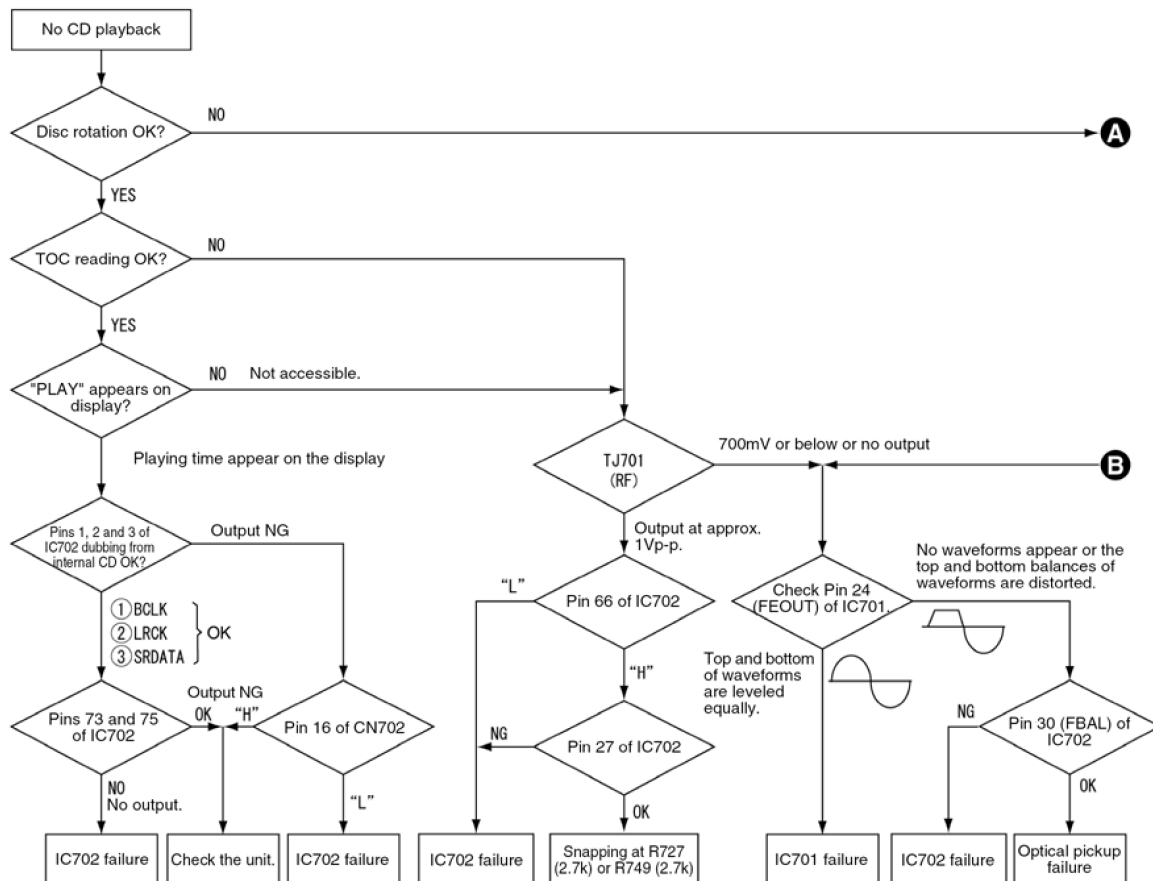
## 21 Terminal Function Of IC's

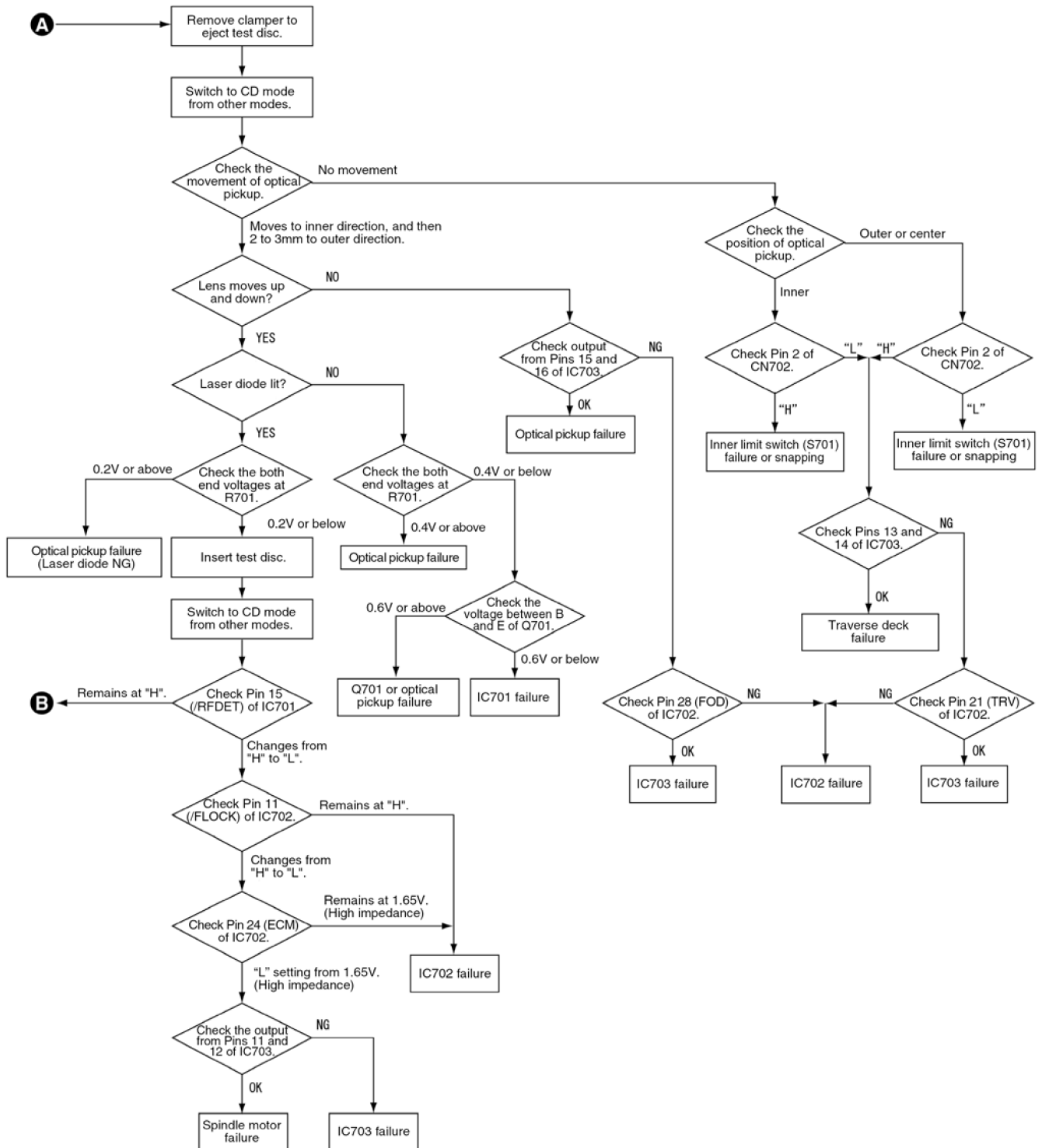
### 21.1. IC801 (MN101C74GAA1): Microprocessor

| Pin NO. | Terminal Name | I/O | Function                                   |
|---------|---------------|-----|--------------------------------------------|
| 1       | COM0          | O   | LCD COMMON OUTPUT                          |
| 2       | COM1          | O   | LCD COMMON OUTPUT                          |
| 3       | COM2          | O   | LCD COMMON OUTPUT                          |
| 4       | COM3          | O   | LCD COMMON OUTPUT                          |
| 5       | VLC3          | -   | LCD BIAS                                   |
| 6       | VLC2          | -   | LCD BIAS                                   |
| 7       | VLC1          | -   | LCD BIAS                                   |
| 8       | C2            | -   | CONNECTED TO VLC1                          |
| 9       | ECS           | O   | EERROM CS OUTPUT                           |
| 10      | ECLK          | O   | EEPROM CLOCK OUTPUT                        |
| 11      | EDATA         | I/O | EEPROM DATA IN / OUT                       |
| 12      | MBP1          | O   | MBP CONTROL OP1                            |
| 13      | MBP2          | O   | MBP CONTROL OP2                            |
| 14      | AI_JOG1       | I   | JOG INPUT 1                                |
| 15      | AI_JOG2       | I   | JOG INPUT 2                                |
| 16      | VSS           | -   | GND                                        |
| 17      | OSC2          | O   | 8 MHz OSC OUTPUT                           |
| 18      | OSC1          | I   | 8 MHz OSC OUTPUT                           |
| 19      | VDD           | -   | BUP 3.3V                                   |
| 20      | X1            | I   | 32.768kHz OSC INPUT                        |
| 21      | X0            | O   | 32.768kHz OSC OUTPUT                       |
| 22      | MMOD          | I   | CONNECT TO VDD                             |
| 23      | /RESET        | I   | FOR RESET MICROP                           |
| 24      | DMOD          | I   | -                                          |
| 25      | VREF+         | -   | 3.3V REFERENCE VOLTAGE                     |
| 26      | KEY1          | I/O | KEY INPUT 1                                |
| 27      | KEY2          | I/O | KEY INPUT 2                                |
| 28      | REG           | I/O | REGION SETTING                             |
| 29      | PDET          | I   | POWER DETECTION                            |
| 30      | MODE_SW       | I   | DECK INPUT 1                               |
| 31      | HALF_SW       | I   | DECK INPUT 2                               |
| 32      | RECINH_SW     | I   | DECK INPUT 3                               |
| 33      | MOTOR_H       | O   | DECK MOTOR CONTROL OUTPUT                  |
| 34      | REC_H         | O   | DECK REC CONTROL OUTPUT                    |
| 35      | PL_H          | O   | DECK PLUNGER CONTROL                       |
| 36      | MCLK          | O   | CD LSI COMMAND CONTROL                     |
| 37      | MDATA         | O   | CD LSI COMMAND DATA                        |
| 38      | STAT          | I   | CD STATUS INPUT                            |
| 39      | MLD           | O   | CD LSI COMMAND LOAD                        |
| 40      | T_MUTE        | O   | TUNER MUTE                                 |
| 41      | PLL_DO        | I   | PLL IF COUNT INPUT                         |
| 42      | PLL_DATA      | O   | PLL DATA OUTPUT                            |
| 43      | PLL_CLK       | O   | PLL CLOCK OUTPUT                           |
| 44      | PLL_CE        | O   | PLL CHIP ENABLE INPUT                      |
| 45      | BP            | O   | BEAT PROFF FOR AM                          |
| 46      | DMT_LOW       | O   | TAPE MUTE OUTPUT                           |
| 47      | PHOTO         | I   | DECK PHOTO SW INPUT                        |
| 48      | BLKCK         | I   | CD SUBCODE BLOCK INPUT                     |
| 49      | REM_IN        | I   | REMOTE CONTROL INPUT                       |
| 50      | VCCDET        | I   | MAIN POWER DETECT INPUT                    |
| 51      | MUTEA         | O   | AUDIO MUTE INPUT                           |
| 52      | OPEN_SW       | I   | CD OPEN SWITCH                             |
| 53      | NC            | -   | NO CONNECTION                              |
| 54      | CD_RESET      | O   | CD RST OUTPUT                              |
| 55      | REST_SW       | I   | CD LIMIT SW INPUT FOR THE MOST INNER POINT |
| 56      | CD_OPEN       | O   | CD OPEN OUTPUT                             |
| 57      | CD_CLOSE      | O   | CD CLOSE OUTPUT                            |
| 58      | NC            | -   | NO CONNECTION                              |
| 59      | ASP_CLK       | O   | ASP SERIAL CLOCK OUTPUT                    |

| Pin NO. | Terminal Name | I/O | Function                 |
|---------|---------------|-----|--------------------------|
| 60      | ASP_DATA      | O   | ASP SERIAL DATA OUTPUT   |
| 61      | PCONT         | O   | POWER CONTROL OUTPUT     |
| 62      | REM_STBY      | I   | AC IN DETECTION          |
| 63      | NC            | -   | NO CONNECTION            |
| 64      | NC            | -   | NO CONNECTION            |
| 65      | NC            | -   | NO CONNECTION            |
| 66      | NC            | -   | NO CONNECTION            |
| 67      | NC            | -   | NO CONNECTION            |
| 68      | NC            | -   | NO CONNECTION            |
| 69      | NC            | -   | NO CONNECTION            |
| 70      | NC            | -   | NO CONNECTION            |
| 71      | NC            | -   | NO CONNECTION            |
| 72      | SEG28         | O   | LCD SEGMENT DRIVE OUTPUT |
| 73      | SEG27         | O   | LCD SEGMENT DRIVE OUTPUT |
| 74      | SEG26         | O   | LCD SEGMENT DRIVE OUTPUT |
| 75      | SEG25         | O   | LCD SEGMENT DRIVE OUTPUT |
| 76      | SEG24         | O   | LCD SEGMENT DRIVE OUTPUT |
| 77      | SEG23         | O   | LCD SEGMENT DRIVE OUTPUT |
| 78      | SEG22         | O   | LCD SEGMENT DRIVE OUTPUT |
| 79      | SEG21         | O   | LCD SEGMENT DRIVE OUTPUT |
| 80      | SEG20         | O   | LCD SEGMENT DRIVE OUTPUT |
| 81      | SEG19         | O   | LCD SEGMENT DRIVE OUTPUT |
| 82      | SEG18         | O   | LCD SEGMENT DRIVE OUTPUT |
| 83      | SEG17         | O   | LCD SEGMENT DRIVE OUTPUT |
| 84      | SEG16         | O   | LCD SEGMENT DRIVE OUTPUT |
| 85      | SEG15         | O   | LCD SEGMENT DRIVE OUTPUT |
| 86      | SEG14         | O   | LCD SEGMENT DRIVE OUTPUT |
| 87      | SEG13         | O   | LCD SEGMENT DRIVE OUTPUT |
| 88      | SEG12         | O   | LCD SEGMENT DRIVE OUTPUT |
| 89      | SEG11         | O   | LCD SEGMENT DRIVE OUTPUT |
| 90      | SEG10         | O   | LCD SEGMENT DRIVE OUTPUT |
| 91      | SEG9          | O   | LCD SEGMENT DRIVE OUTPUT |
| 92      | SEG8          | O   | LCD SEGMENT DRIVE OUTPUT |
| 93      | SEG7          | O   | LCD SEGMENT DRIVE OUTPUT |
| 94      | SEG6          | O   | LCD SEGMENT DRIVE OUTPUT |
| 95      | SEG5          | O   | LCD SEGMENT DRIVE OUTPUT |
| 96      | SEG4          | O   | LCD SEGMENT DRIVE OUTPUT |
| 97      | SEG3          | O   | LCD SEGMENT DRIVE OUTPUT |
| 98      | SEG2          | O   | LCD SEGMENT DRIVE OUTPUT |
| 99      | SEG1          | O   | LCD SEGMENT DRIVE OUTPUT |
| 100     | SEG0          | O   | LCD SEGMENT DRIVE OUTPUT |

## 22 Troubleshooting Flowchart (CD Section Circuit)





## 23 Parts Location and Replacement Parts List

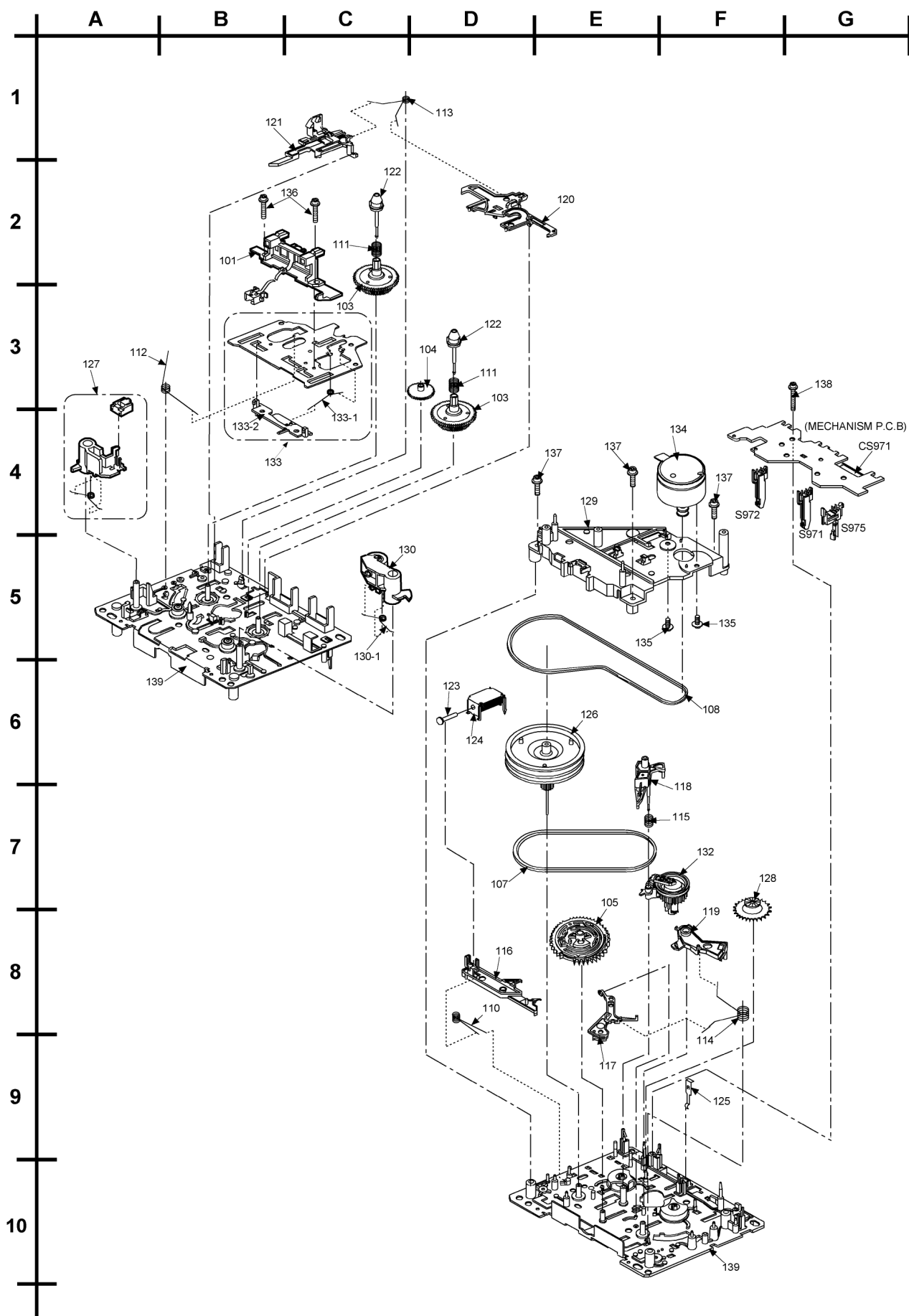
### Notes:

- Important safety notice:  
Components identified by  $\triangle$  mark have special characteristics important for safety.  
Furthermore, special parts which have purposes of fire-retardant (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 Precaution of Laser Diode.  
**ACTUNG:**  
Die Lasereinheit nicht zerlegen.  
Die Lasereinheit darf nur gegen eine vom Hersteller spezifizierte Einheit ausgetauscht werden.
- Capacitor values are in microfarads ( $\mu$ 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         | Ur: | Ukraine |     |         |     |                     |

## 23.1. Deck Mechanism (RAA4401-1V)

### 23.1.1. Deck Mechanism Parts Location

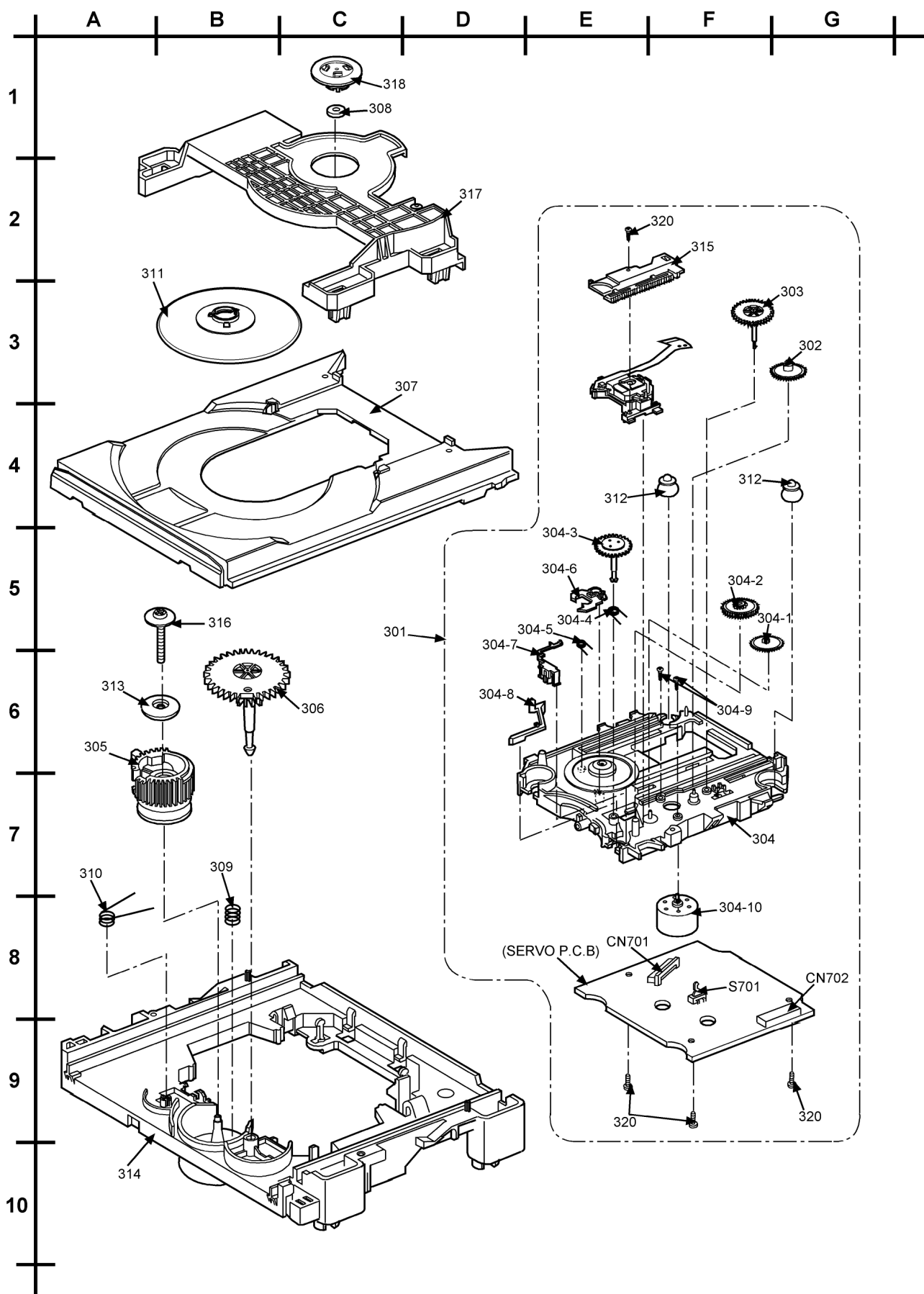


## 23.1.2. Deck Mechanism Parts List

| Ref. No. | Part No.     | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
|          |              | CASSETTE DECK           |         |
|          |              |                         |         |
| 101      | RED0062      | 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      | CAPSTAN BELT            | [M]     |
| 110      | RMB0312      | TRIGGER LEVER SPRING    | [M]     |
| 111      | RMB0400      | REEL SPRING             | [M]     |
| 112      | RMB0403      | HEAD PANEL SPRING       | [M]     |
| 113      | RMB0404      | BRAKE ROD SPRING        | [M]     |
| 114      | RMB0406-5    | FR LEVER SPRING         | [M]     |
| 115      | RMB0408      | THRUST SPRING           | [M]     |
| 116      | RML0370-4    | TRIGGER LEVER           | [M]     |
| 117      | RML0371      | FR LEVER                | [M]     |
| 118      | RML0372-2    | WINDING LEVER           | [M]     |
| 119      | RML0374-2    | EJECT LEVER             | [M]     |
| 120      | RMM0131-1    | BRAKE ROD               | [M]     |
| 121      | RMM0133-1    | EJECT ROD               | [M]     |
| 122      | RMQ0519      | REEL HUB                | [M]     |
| 123      | RMS0398-1    | MOVING CORE             | [M]     |
| 124      | RSJ0003      | PLUNGER ASS'Y           | [M]     |
| 125      | RMC0061      | PACK SPRING             | [M]     |
| 126      | RXF0061-1    | FLYWHEEL 'F' ASS'Y      | [M]     |
| 127      | RXL0151      | E-HEAD ARM ASS'Y        | [M]     |
| 128      | RXG0040      | FF RELAY GEAR ASS'Y     | [M]     |
| 129      | RMK0283A-J   | 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      | RXQ0412-1    | HEAD PANEL ASS'Y        | [M]     |
| 133-1    | RMB0405-1    | FR ROD SPRING           | [M]     |
| 133-2    | RMM0132-1    | FR ROD                  | [M]     |
| 134      | REM0120      | CAP MOTOR ASS'Y         | [M]     |
| 135      | RHD26022     | MOTOR SCREW             | [M]     |
| 136      | XTW2+5L      | HEAD BLOCK UNIT SCREW   | [M]     |
| 137      | XTW26+10S    | SUB-CHASSIS SCREW       | [M]     |
| 138      | XYC2+JF17    | PCB EARTH SCREW         | [M]     |
| 139      | RFKJSTR280PP | CHASSIS ASS'Y           | [M]     |

## 23.2. CD Loading Mechanism

### 23.2.1. CD Loading Mechanism Parts Location

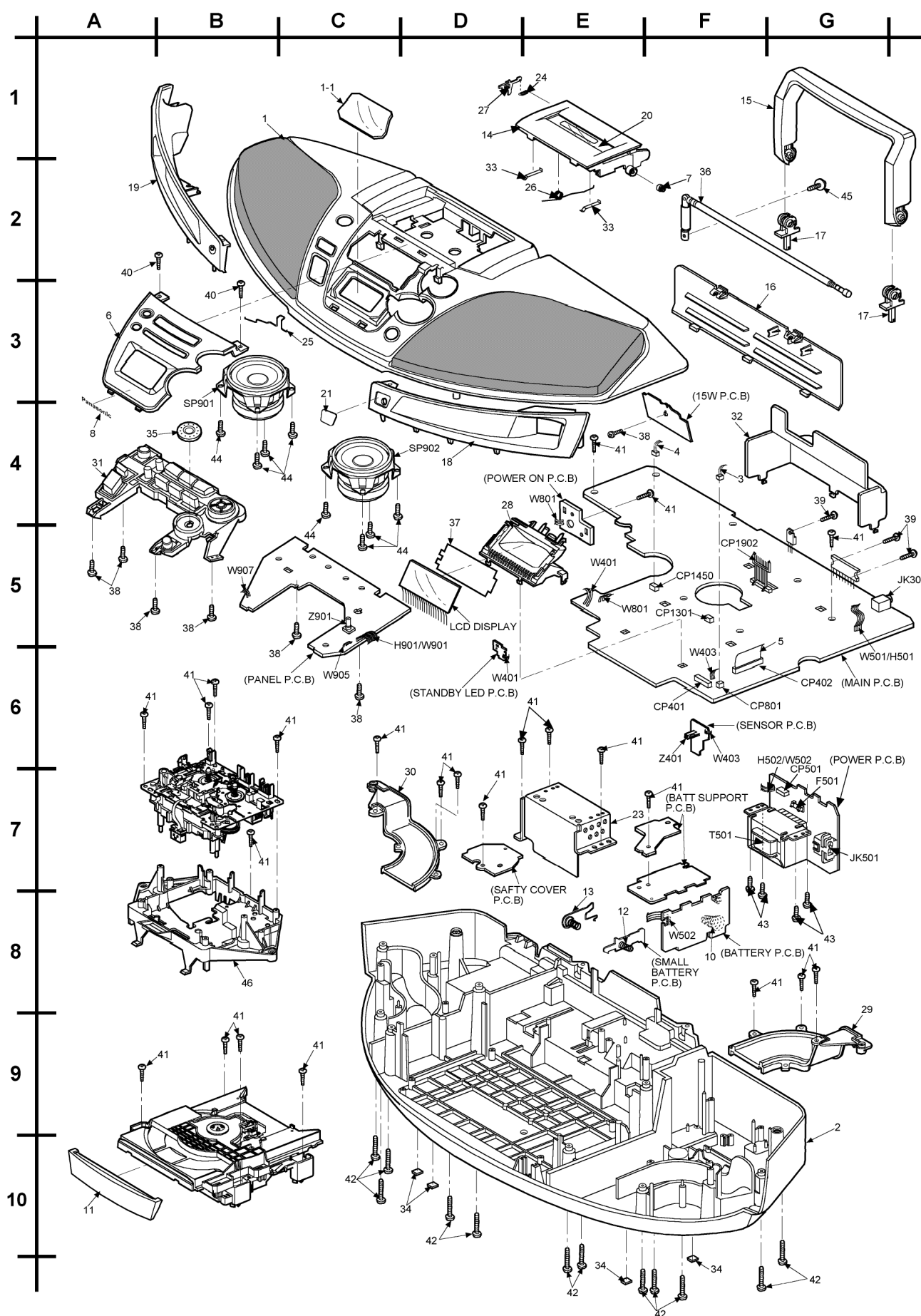


## 23.2.2. CD Loading Mechanism Parts List

| Ref. No. | Part No.    | Part Name & Description | Remarks |
|----------|-------------|-------------------------|---------|
|          |             | TRAVERSE DECK           |         |
|          |             |                         |         |
| 301      | RAE0157Z-V  | CT 130MP TRV            | [M]     |
| 302      | RDG0455     | TRAVERSE GEAR (A)       | [M]     |
| 303      | RDG0456     | TRAVERSE GEAR (B)       | [M]     |
| 304      | RFKNCT100   | TRAVERSE BASE ASS'Y     | [M]     |
| 304-1    | RDG0457     | LOAD GEAR (A)           | [M]     |
| 304-10   | RXQ0632     | TRAVERSE MOTOR UNIT     | [M]     |
| 304-2    | RDG0458     | LOAD GEAR (B)           | [M]     |
| 304-3    | RDG0459     | LOAD GEAR (C)           | [M]     |
| 304-4    | RME0369     | PRESS SPRING            | [M]     |
| 304-5    | RME0291     | LOCK SPRING             | [M]     |
| 304-6    | RML0551     | TRG LEVER               | [M]     |
| 304-7    | RML0552     | LOCK LEVER              | [M]     |
| 304-8    | RMM0219     | STOPPER                 | [M]     |
| 304-9    | XQN17+C28FJ | SCREW                   | [M]     |
| 305      | RDG0460-2   | CAM GEAR                | [M]     |
| 306      | RDG0461     | DRIVE GEAR              | [M]     |
| 307      | RGQ0254-K2  | TRAY                    | [M]     |
| 308      | RHM0001     | MAGNET                  | [M]     |
| 309      | RMB0603     | FLOATING SPRING         | [M]     |
| 310      | RME0288     | CENTERING SPRING        | [M]     |
| 311      | RFKNXED50-S | CLAMPER HOLDER ASS'Y    | [M]     |
| 312      | RMG0510-K   | FLOATING RUBBER (A)     | [M]     |
| 313      | RMG0511-K   | FLOATING RUBBER (B)     | [M]     |
| 314      | RMK0422-6   | MECHA CHASSIS           | [M]     |
| 315      | RMM0218     | TRAVERSE DRIVE RACK     | [M]     |
| 316      | RHD30083    | CAM. GEAR SCREW         | [M]     |
| 317      | RMRL223-K1  | CLAMP PLATE             | [M]     |
| 318      | RMRL242-X1  | FIXTURE                 | [M]     |
| 320      | XTN2+6GFJ   | SCREW                   | [M]     |

### 23.3. Cabinet Part List

### 23.3.1. Cabinet Parts Location



## 23.3.2. Cabinet Part List

| Ref. No. | Part No.     | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
|          |              | CABINET AND CHASSIS     |         |
| 1        | RFKKXES29EGS | UPPER CABINET ASS'Y     | [M]     |
| 1-1      | RKWX0140-Q   | LCD PANEL               | [M]     |
| 2        | RKSX0036S-H  | BOTTOM CABINET          | [M]     |
| 3        | REX0980      | MAIN-CD WIRE            | [M]     |
| 4        | REXX0212     | MOTOR WIRE              | [M]     |
| 5        | REEV0069     | CD FF WIRE              | [M]     |
| 6        | RGKX0052E-H  | FRONT PANEL             | [M]     |
| 7        | RDG0183-J    | DAMPER GEAR             | [M]     |
| 8        | RGB0115-S    | BADGE                   | [M]     |
| 10       | RJC511XA     | BATTERY TERMINAL        | [M]     |
| 11       | RGKX0051-1S  | CD TRAY LID             | [M]     |
| 12       | RJC751YB     | UM-3 BATTERY SPRING     | [M]     |
| 13       | RJC91008-1   | + - BATTERY TERMINAL    | [M]     |
| 14       | RKFX0080-H   | CASS LID                | [M]     |
| 15       | RKH0011-H    | HANDLE                  | [M]     |
| 16       | RKK0073-1H   | BATTERY COVER           | [M]     |
| 17       | RKQ0224-W    | HANDLE FIXTURE          | [M]     |
| 18       | RKT0007-1S   | SPEAKER PORT (R)        | [M]     |
| 19       | RKT0008-1S   | SPEAKER PORT (L)        | [M]     |
| 20       | RKWX0141-K   | CASS PANEL              | [M]     |
| 21       | RKWX0142-Q   | REMCON PANEL            | [M]     |
| 23       | RMV0025      | TRANS BRACKET           | [M]     |
| 24       | RMB0448-J    | LOCK ROD SPRING         | [M]     |
| 25       | RME0270      | R. ANTENNA TERMINAL     | [M]     |
| 26       | RMEX0010     | CASS OPEN SPRING        | [M]     |
| 27       | RMM0163-1    | CASS LOCK ROD           | [M]     |
| 28       | RMNX0031-W   | LCD HOLDER              | [M]     |
| 29       | RMVX0048     | PORT COVER RIGHT        | [M]     |
| 30       | RMVX0049     | PORT COVER LEFT         | [M]     |
| 31       | RYQX0031B-2S | CONTROL BUTTON ASS'Y    | [M]     |
| 32       | RMVX0041     | HEAT SINK               | [M]     |
| 33       | RUS757ZAA    | CASS HALF SPRING        | [M]     |
| 34       | RHGV0008     | LEG CUSHION             | [M]     |
| 35       | RGWX0050-S   | JOG KNOB                | [M]     |
| 36       | XEARR210C-C  | ROD ANTENNA             | [M]     |
| 37       | RMXX0006     | LCD SPACER SHEET        | [M]     |
| 38       | RHD26046-L   | SCREW                   | [M]     |
| 39       | XTV3+10GFJ-M | SCREW                   | [M]     |
| 40       | XTB3+12CFN   | SCREW                   | [M]     |
| 41       | XTV3+12GFJ-M | SCREW                   | [M]     |
| 42       | XTV3+20GFJ-M | SCREW                   | [M]     |
| 43       | XTV3+6FFJ    | SCREW                   | [M]     |
| 44       | XTV3+10FFJ   | SCREW                   | [M]     |
| 45       | XYN3+F12FFJ  | SCREW                   | [M]     |
| 46       | RMKX0037     | MECHA CHASSIS           | [M]     |

## 23.4. Electrical Part List

| Ref. No. | Part No.     | Part Name & Description                                                                            | Remarks |
|----------|--------------|----------------------------------------------------------------------------------------------------|---------|
|          |              | Printed Circuit Board                                                                              |         |
|          | REPV0039A    | CD SERVO P.C.B.                                                                                    | [M] RTL |
|          | REPV0043A    | MAIN P.C.B. / STANDBY LED P.C.B. / BATTERY P.C.B. / POWER ON P.C.B. / SENSOR P.C.B. / POWER P.C.B. | [M] RTL |
|          | REPV0045A    | PANEL P.C.B.                                                                                       | [M] RTL |
|          | REPX0321F    | DECK MECHANISM P.C.B.                                                                              | [M] RTL |
|          |              | INTEGRATED CIRCUITS                                                                                |         |
| IC1      | C1BA00000331 | IC TUNER                                                                                           | [M]     |
| IC2      | C1CA00000198 | IC PLL                                                                                             | [M]     |
| IC201    | C1BB00000732 | IC SOUND PROCESSOR                                                                                 | [M]     |
| IC301    | LA4663       | IC POWER                                                                                           | [M]     |
| IC302    | C0CAADC00031 | IC 5V REGULATOR                                                                                    | [M]     |
| IC303    | C0CAABC00007 | IC 3.3V REGULATOR                                                                                  | [M]     |
| IC401    | C0JBAZ001229 | IC 3V-5V LEVEL SHIFTER                                                                             | [M]     |
| IC702    | MN6627953HB  | IC SERVO PROCESSOR<br>DIGITAL SIGNAL<br>PROCESSOR/DIGITAL FILTER/ D/A<br>CONVERTER                 | [M]     |
| IC703    | BA5948FPE2   | IC 4 CH DRIVE                                                                                      | [M]     |
| IC801    | MN101C74GAA1 | IC MICRO PROCESSOR                                                                                 | [M]     |
| IC971    | CNB13030R2AU | IC PHOTO INTERRUPTOR                                                                               | [M]     |
| IC1301   | C1AA00000612 | IC ANALOG SW                                                                                       | [M]     |
| IC1302   | AN7317       | IC PLAYBACK / RECORD                                                                               | [M]     |
|          |              | TRANSISTORS                                                                                        |         |
| Q1       | KTC3199GRTA  | TRANSISTOR                                                                                         | [M]     |
| Q102     | 2SC1740SLNRT | TRANSISTOR                                                                                         | [M]     |
| Q103     | 2SC1740SLNRT | TRANSISTOR                                                                                         | [M]     |
| Q202     | 2SC1740SLNRT | TRANSISTOR                                                                                         | [M]     |
| Q203     | 2SC1740SLNRT | TRANSISTOR                                                                                         | [M]     |
| Q301     | B1AAGF000008 | TRANSISTOR                                                                                         | [M]     |
| Q302     | KRC119MTA    | TRANSISTOR                                                                                         | [M]     |
| Q303     | KTA1270YTA   | TRANSISTOR                                                                                         | [M]     |
| Q304     | KTC3199GRTA  | TRANSISTOR                                                                                         | [M]     |
| Q305     | B1ACND000003 | TRANSISTOR                                                                                         | [M]     |
| Q306     | KRC107MTA    | TRANSISTOR                                                                                         | [M]     |
| Q307     | B1ACCF000063 | TRANSISTOR                                                                                         | [M]     |
| Q308     | B1BCCG000021 | TRANSISTOR                                                                                         | [M]     |
| Q309     | KTC3199GRTA  | TRANSISTOR                                                                                         | [M]     |
| Q310     | 2SA1515STPQ  | TRANSISTOR                                                                                         | [M]     |
| Q311     | KTC3199GRTA  | TRANSISTOR                                                                                         | [M]     |
| Q312     | 2SA1515STPQ  | TRANSISTOR                                                                                         | [M]     |
| Q313     | KTC3199GRTA  | TRANSISTOR                                                                                         | [M]     |
| Q314     | KTA1270YTA   | TRANSISTOR                                                                                         | [M]     |
| Q315     | KRC104MTA    | TRANSISTOR                                                                                         | [M]     |
| Q316     | KTC3199GRTA  | TRANSISTOR                                                                                         | [M]     |
| Q317     | B1AAGF000008 | TRANSISTOR                                                                                         | [M]     |
| Q401     | KRC104MTA    | TRANSISTOR                                                                                         | [M]     |
| Q701     | B1ADCF000001 | TRANSISTOR                                                                                         | [M]     |
| Q803     | KRC104MTA    | TRANSISTOR                                                                                         | [M]     |
| Q1000    | KRC119MTA    | TRANSISTOR                                                                                         | [M]     |
| Q1101    | B1DEDQ000004 | TRANSISTOR                                                                                         | [M]     |
| Q1102    | KTC3199GRTA  | TRANSISTOR                                                                                         | [M]     |
| Q1103    | B1DEDQ000004 | TRANSISTOR                                                                                         | [M]     |
| Q1104    | B1DEDQ000004 | TRANSISTOR                                                                                         | [M]     |
| Q1201    | B1DEDQ000004 | TRANSISTOR                                                                                         | [M]     |
| Q1202    | KTC3199GRTA  | TRANSISTOR                                                                                         | [M]     |
| Q1203    | B1DEDQ000004 | TRANSISTOR                                                                                         | [M]     |
| Q1204    | B1DEDQ000004 | TRANSISTOR                                                                                         | [M]     |
| Q1301    | KTC3199GRTA  | TRANSISTOR                                                                                         | [M]     |
| Q1303    | KTC3199GRTA  | TRANSISTOR                                                                                         | [M]     |
| Q1400    | KRC102MTA    | TRANSISTOR                                                                                         | [M]     |
| Q1401    | KRA119MTA    | TRANSISTOR                                                                                         | [M]     |
| Q1402    | KRC119MTA    | TRANSISTOR                                                                                         | [M]     |
| Q1403    | KRC119MTA    | TRANSISTOR                                                                                         | [M]     |
| Q1404    | KRC119MTA    | TRANSISTOR                                                                                         | [M]     |

| Ref. No. | Part No.     | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| Q1451    | KRA119MTA    | TRANSISTOR              | [M]     |
| Q1452    | 2SD09650RA   | TRANSISTOR              | [M]     |
| Q1453    | 2SB10300RA   | TRANSISTOR              | [M]     |
|          |              | DIODES                  |         |
| D1       | KV1520NT1-2  | DIODE                   | [M]     |
| D2       | B0CBBB000004 | DIODE                   | [M]     |
| D3       | B0CBBB000004 | DIODE                   | [M]     |
| D101     | B0BA7R500006 | DIODE                   | [M]     |
| D201     | B0BA7R500006 | DIODE                   | [M]     |
| D301     | B0BA01100004 | DIODE                   | [M]     |
| D302     | B0AACK000004 | DIODE                   | [M]     |
| D303     | B0AACK000004 | DIODE                   | [M]     |
| D307     | B0BA8R700009 | DIODE                   | [M]     |
| D308     | B0AACK000004 | DIODE                   | [M]     |
| D309     | B0EAKM000117 | DIODE                   | [M]     |
| D310     | B0EAKM000117 | DIODE                   | [M]     |
| D311     | B0AACK000004 | DIODE                   | [M]     |
| D312     | B0AACK000004 | DIODE                   | [M]     |
| D313     | B0AACK000004 | DIODE                   | [M]     |
| D314     | B0AACK000004 | DIODE                   | [M]     |
| D315     | B0AACK000004 | DIODE                   | [M]     |
| D316     | B0AACK000004 | DIODE                   | [M]     |
| D318     | B0AACK000004 | DIODE                   | [M]     |
| D319     | B0AACK000004 | DIODE                   | [M]     |
| D401     | SLR325VRT31  | DIODE                   | [M]     |
| D501     | B0EAMM000038 | DIODE                   | [M]     |
| D502     | B0EAMM000038 | DIODE                   | [M]     |
| D503     | B0EAMM000038 | DIODE                   | [M]     |
| D504     | B0EAMM000038 | DIODE                   | [M]     |
| D750     | MAZ80560ML   | DIODE                   | [M]     |
| D801     | B0AACK000004 | DIODE                   | [M]     |
| D803     | B0AACK000004 | DIODE                   | [M]     |
| D804     | B0AACK000004 | DIODE                   | [M]     |
| D805     | LNW9A8BYBZ   | DIODE                   | [M]     |
| D971     | MA2C16500E   | DIODE                   | [M]     |
| D1500    | B0BA6R100003 | DIODE                   | [M]     |
|          |              | SWITCHES                |         |
| S701     | RSH1A048-A   | SW REST                 | [M]     |
| S780     | KOF111E00093 | SW OPEN                 | [M]     |
| S901     | EVQ21405RJ   | SW VOL+                 | [M]     |
| S902     | EVQ21405RJ   | SW VOL-                 | [M]     |
| S903     | EVQ21405RJ   | SW SEQ                  | [M]     |
| S904     | EVQ21405RJ   | SW STOP                 | [M]     |
| S905     | EVQ21405RJ   | SW REW                  | [M]     |
| S906     | EVQ21405RJ   | SW FF                   | [M]     |
| S907     | EVQ21405RJ   | SW POWER                | [M]     |
| S908     | EVQ21405RJ   | SW TUNER BAND           | [M]     |
| S909     | EVQ21405RJ   | SW CD REC MODE          | [M]     |
| S910     | EVQ21405RJ   | SW CD PLAY / PAUSE      | [M]     |
| S911     | EVQ21405RJ   | SW DECK EJECT           | [M]     |
| S912     | EVQ21405RJ   | SW TAPE PLAY            | [M]     |
| S913     | EVQ21405RJ   | SW REC / PAUSE          | [M]     |
| S914     | EVQ21405RJ   | SW CLOCK / TIMER        | [M]     |
| S915     | EVQ21405RJ   | SW MEMORY / CLEAR       | [M]     |
| S916     | EVQ21405RJ   | SW PLAY / REC TIMER     | [M]     |
| S917     | EVQ21405RJ   | SW CD OPEN / CLOSE      | [M]     |
| S971     | K0J1BB000017 | SW MODE                 | [M]     |
| S972     | RSH1A019-2U  | SW HALF                 | [M]     |
| S975     | RSH1A019-2U  | SW RECINF               | [M]     |
|          |              | CONNECTORS              |         |
| CN701    | RJS2A8616    | 16P FPC CONNECTOR       | [M]     |
| CN702    | RJS2A7717    | 17P FPC CONNECTOR       | [M]     |
| CP401    | K1MP10A00003 | 10P WIRE HOLDER         | [M]     |
| CP402    | K1MN17A00040 | 17P FPC CONNECTOR       | [M]     |

| Ref. No. | Part No.     | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| CP501    | K1KA04A00105 | 4P CONNECTOR            | [M]     |
| CP801    | K1KA02A00010 | 2P CONNECTOR            | [M]     |
| CP1301   | RJS1A6804-J  | 4P CONNECTOR            | [M]     |
| CP1450   | K1KA02A00228 | MOTOR CONNECTOR         | [M]     |
| CP1902   | K1KA09B00058 | 9P CONNECTOR            | [M]     |
| CS971    | RJU071H09M1  | 9P CONNECTOR            | [M]     |
|          |              | TRIMMER                 |         |
| CT1      | ECRLA010A53R | TRIMMER CAPACITOR       | [M]     |
|          |              | COILS & TRANSFORMERS    |         |
| L2       | G0ZZ00001604 | FM COIL                 | [M]     |
| L3       | G2CAEB000004 | FERRITE ANTENNA         | [M]     |
| L4       | G2AYYYA00004 | OSC COIL                | [M]     |
| L6       | RL02B131-T   | AM OSC COIL             | [M]     |
| L7       | G0C101KA0029 | AXIAL COIL              | [M]     |
| L8       | G0ZZ00001604 | FM COIL                 | [M]     |
| L400     | G0A200D00002 | RF CHOKE COIL           | [M]     |
| L402     | G0C2R2KA0029 | COIL                    | [M]     |
| L501     | G0A200D00002 | RF CHOKE COIL           | [M] △   |
| L502     | G0A200D00002 | RF CHOKE COIL           | [M] △   |
| L801     | G0C2R2KA0029 | COIL                    | [M]     |
| L1301    | RL09B17-T    | REC BIAS OSC COIL       | [M]     |
| T1       | RLI2B015-T   | AM IFT                  | [M] △   |
| T501     | G4C5ACH00006 | TRANSFORMER             | [M] △   |
|          |              | COMPONENT COMBINATIONS  |         |
| Z401     | B3RAB0000046 | REMOCON SENSOR          | [M]     |
| Z801     | L5ACAGD00019 | LIQUID CRYSTAL DISPLAY  | [M]     |
| Z901     | RRVRE012102V | AI JOG                  | [M]     |
|          |              | SPEAKERS                |         |
| SP901    | L0AA07A00014 | SPEAKER                 | [M]     |
| SP902    | L0AA07A00014 | SPEAKER                 | [M]     |
|          |              | CERAMIC FILTERS         |         |
| CF1      | J0B1075A0081 | FM CF                   | [M]     |
| CF3      | J0B1075A0051 | FM DISCRIMINATOR        | [M]     |
| CF4      | RLFCFA459L4B | AM FILTER               | [M]     |
|          |              | OSCILLATORS             |         |
| X2       | RSXZ456KZ02  | CERAMIC OSCILLATOR      | [M]     |
| X3       | RSXD7M20C01  | CRYSTAL OSCILLATOR      | [M]     |
| X701     | RSXC16M9S04  | CRYSTAL OSCILLATOR      | [M]     |
| X801     | H0A327200083 | CRYSTAL OSCILLATOR      | [M]     |
| X802     | RSXZ8M00D01T | CERAMIC RESONATOR       | [M]     |
|          |              | FUSE                    |         |
| F501     | K5D402BL0001 | FUSE                    | [M] △   |
|          |              | FUSE HOLDERS            |         |
| FH501    | EYF52BC      | FUSE CLIP               | [M] △   |
| FH502    | EYF52BC      | FUSE CLIP               | [M] △   |
|          |              | FUSE PROTECTOR          |         |
| FP501    | K5G402A00010 | FUSE PROTECTOR          | [M] △   |
|          |              | HOLDERS                 |         |
| H501     | K1YF04000001 | CABLE HOLDER            | [M]     |
| H502     | K1YF04000001 | CABLE HOLDER            | [M]     |
| H901     | RMR0319      | 10P CABLE HOLDER        | [M]     |

| Ref. No. | Part No.     | Part Name & Description   | Remarks |
|----------|--------------|---------------------------|---------|
|          |              | JACKS                     |         |
| JK301    | K2HC103B0049 | JK HEADPHONE              | [M]     |
| JK501    | K2AA2K000008 | JK AC (SW501)             | [M] △   |
|          |              | WIRES                     |         |
| W401     | RWJ8302080KK | STANDBY-BLUE LED WIRE     | [M]     |
| W403     | RWJ8303110SS | R/CONTROL SENSOR          | [M]     |
| W501     | REXX0214     | MAIN-POWER WIRE           | [M]     |
| W502     | RWJ0104170SQ | POWER-BATTERY WIRE        | [M]     |
| W801     | RWJ8302080KK | POWER ON-BLUE LED WIRE    | [M]     |
| W901     | RWJ1110150XX | MAIN-PANEL WIRE           | [M]     |
| W905     | RWJ4202205KX | MAIN-SPEAKER (RIGHT) WIRE | [M]     |
| W907     | RWJ6902170KX | MAIN-SPEAKER (LEFT) WIRE  | [M]     |
|          |              | RESISTORS                 |         |
| R2       | D0AE103JA048 | 10K 1/4W                  | [M]     |
| R3       | ERDS2TJ332T  | 3.3K 1/4W                 | [M]     |
| R4       | D0AE472JA048 | 4.7K 1/4W                 | [M]     |
| R5       | D0AE221JA048 | 220 1/4W                  | [M]     |
| R6       | D0AE104JA048 | 100K 1/4W                 | [M]     |
| R8       | D0AE104JA048 | 100K 1/4W                 | [M]     |
| R9       | D0AE104JA048 | 100K 1/4W                 | [M]     |
| R11      | D0AE223JA048 | 22K 1/4W                  | [M]     |
| R12      | D0AE103JA048 | 10K 1/4W                  | [M]     |
| R13      | D0AE474JA048 | 470K 1/4W                 | [M]     |
| R14      | D0AE474JA048 | 470K 1/4W                 | [M]     |
| R16      | D0AE104JA048 | 100K 1/4W                 | [M]     |
| R17      | ERDS2TJ222T  | 2.2K 1/4W                 | [M]     |
| R20      | ERDS2TJ392T  | 3.9K 1/4W                 | [M]     |
| R21      | D0AE472JA048 | 4.7K 1/4W                 | [M]     |
| R22      | D0AE102JA048 | 1K 1/4W                   | [M]     |
| R24      | D0AE103JA048 | 10K 1/4W                  | [M]     |
| R26      | D0AE103JA048 | 10K 1/4W                  | [M]     |
| R27      | ERDS2TJ332T  | 3.3K 1/4W                 | [M]     |
| R28      | D0AE223JA048 | 22K 1/4W                  | [M]     |
| R29      | D0AE103JA048 | 10K 1/4W                  | [M]     |
| R30      | D0AE472JA048 | 4.7K 1/4W                 | [M]     |
| R31      | ERDS2TJ222T  | 2.2K 1/4W                 | [M]     |
| R32      | D0AE331JA048 | 330 1/4W                  | [M]     |
| R91      | ERDS2TJ330T  | 33 1/4W                   | [M]     |
| R92      | ERDS2TJ182T  | 1.8K 1/4W                 | [M]     |
| R101     | ERD2FCVG330T | 33 1/4W                   | [M]     |
| R102     | ERDS2TJ392T  | 3.9K 1/4W                 | [M]     |
| R103     | ERDS2TJ152T  | 1.5K 1/4W                 | [M]     |
| R104     | D0AE102JA048 | 1K 1/4W                   | [M]     |
| R105     | ERDS2TJ222T  | 2.2K 1/4W                 | [M]     |
| R106     | D0AE123JA048 | 12K 1/4W                  | [M]     |
| R107     | D0AE122JA048 | 1.2K 1/4W                 | [M]     |
| R108     | D0AE102JA048 | 1K 1/4W                   | [M]     |
| R109     | D0AE473JA048 | 47K 1/4W                  | [M]     |
| R110     | ERDS2TJ105T  | 1M 1/4W                   | [M]     |
| R111     | D0AE103JA048 | 10K 1/4W                  | [M]     |
| R112     | ERDS2TJ822T  | 8.2K 1/4W                 | [M]     |
| R113     | D0AE153JA048 | 15K 1/4W                  | [M]     |
| R114     | D0AE562JA048 | 5.6K 1/4W                 | [M]     |
| R118     | D0AE123JA048 | 12K 1/4W                  | [M]     |
| R119     | ERDS2TJ222T  | 2.2K 1/4W                 | [M]     |
| R120     | D0AE102JA048 | 1K 1/4W                   | [M]     |
| R121     | ERDS2TJ181T  | 180 1/4W                  | [M]     |
| R122     | ERD2FCVJ4R7T | 4.7 1/4W                  | [M]     |
| R123     | ERDS2TJ471T  | 470 1/4W                  | [M]     |
| R124     | ERDS2TJ683T  | 68K 1/4W                  | [M]     |
| R125     | ERDS2TJ682T  | 6.8K 1/4W                 | [M]     |
| R126     | ERD2FCVJ4R7T | 4.7 1/4W                  | [M]     |
| R130     | D0AE102JA048 | 1K 1/4W                   | [M]     |
| R134     | D0AE223JA048 | 22K 1/4W                  | [M]     |
| R135     | D0AE103JA048 | 10K 1/4W                  | [M]     |
| R202     | ERDS2TJ392T  | 3.9K 1/4W                 | [M]     |
| R203     | ERDS2TJ152T  | 1.5K 1/4W                 | [M]     |

| Ref. No. | Part No.     | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| R204     | DOAE102JA048 | 1K 1/4W                 | [M]     |
| R205     | ERDS2TJ222T  | 2.2K 1/4W               | [M]     |
| R206     | DOAE123JA048 | 12K 1/4W                | [M]     |
| R207     | DOAE122JA048 | 1.2K 1/4W               | [M]     |
| R208     | DOAE102JA048 | 1K 1/4W                 | [M]     |
| R209     | DOAE473JA048 | 47K 1/4W                | [M]     |
| R210     | ERDS2TJ105T  | 1M 1/4W                 | [M]     |
| R211     | DOAE103JA048 | 10K 1/4W                | [M]     |
| R212     | ERDS2TJ822T  | 8.2K 1/4W               | [M]     |
| R213     | DOAE153JA048 | 15K 1/4W                | [M]     |
| R214     | DOAE562JA048 | 5.6K 1/4W               | [M]     |
| R218     | DOAE123JA048 | 12K 1/4W                | [M]     |
| R219     | ERDS2TJ222T  | 2.2K 1/4W               | [M]     |
| R220     | ERD2FCVJ4R7T | 4.7 1/4W                | [M]     |
| R221     | ERDS2TJ181T  | 180 1/4W                | [M]     |
| R223     | ERDS2TJ471T  | 470 1/4W                | [M]     |
| R224     | ERDS2TJ683T  | 68K 1/4W                | [M]     |
| R225     | ERDS2TJ682T  | 6.8K 1/4W               | [M]     |
| R226     | ERD2FCVJ4R7T | 4.7 1/4W                | [M]     |
| R234     | DOAE223JA048 | 22K 1/4W                | [M]     |
| R235     | DOAE103JA048 | 10K 1/4W                | [M]     |
| R301     | DOAE563JA048 | 56K 1/4W                | [M]     |
| R302     | DOAE103JA048 | 10K 1/4W                | [M]     |
| R303     | DOAE472JA048 | 4.7K 1/4W               | [M]     |
| R304     | ERD2FCVJ4R7T | 4.7 1/4W                | [M]     |
| R305     | ERDS2TJ222T  | 2.2K 1/4W               | [M]     |
| R306     | DOAE101JA048 | 100 1/4W                | [M]     |
| R307     | DOAE103JA048 | 10K 1/4W                | [M]     |
| R308     | DOAE103JA048 | 10K 1/4W                | [M]     |
| R309     | DOAE472JA048 | 4.7K 1/4W               | [M]     |
| R310     | DOAE102JA048 | 1K 1/4W                 | [M]     |
| R311     | DOAE102JA048 | 1K 1/4W                 | [M]     |
| R312     | DOAE474JA048 | 470K 1/4W               | [M]     |
| R313     | ERDS2TJ393T  | 39K 1/4W                | [M]     |
| R314     | DOAE103JA048 | 10K 1/4W                | [M]     |
| R315     | ERDS2TJ471T  | 470 1/4W                | [M]     |
| R316     | ERDS2TJ471T  | 470 1/4W                | [M]     |
| R317     | ERDS2TJ471T  | 470 1/4W                | [M]     |
| R318     | ERDS2TJ471T  | 470 1/4W                | [M]     |
| R319     | ERDS2TJ273T  | 27K 1/4W                | [M]     |
| R321     | DOAE103JA048 | 10K 1/4W                | [M]     |
| R322     | ERDS2TJ1R5T  | 1.5 1/4W                | [M]     |
| R323     | ERDS2TJ1R5T  | 1.5 1/4W                | [M]     |
| R324     | ERDS2TJ1R5T  | 1.5 1/4W                | [M]     |
| R325     | ERDS2TJ471T  | 470 1/4W                | [M]     |
| R326     | ERDS2TJ471T  | 470 1/4W                | [M]     |
| R327     | DOAE101JA048 | 100 1/4W                | [M]     |
| R328     | DOAE331JA048 | 330 1/4W                | [M]     |
| R329     | DOAE474JA048 | 470K 1/4W               | [M]     |
| R330     | DOAE103JA048 | 10K 1/4W                | [M]     |
| R331     | DOAE331JA048 | 330 1/4W                | [M]     |
| R332     | DOAE331JA048 | 330 1/4W                | [M]     |
| R333     | ERDS2TJ183T  | 18K 1/4W                | [M]     |
| R334     | ERDS2TJ152T  | 1.5K 1/4W               | [M]     |
| R335     | DOAE103JA048 | 10K 1/4W                | [M]     |
| R336     | DOAE472JA048 | 4.7K 1/4W               | [M]     |
| R337     | DOAE103JA048 | 10K 1/4W                | [M]     |
| R338     | DOAE102JA048 | 1K 1/4W                 | [M]     |
| R339     | ERDS2TJ471T  | 470 1/4W                | [M]     |
| R340     | DOAE104JA048 | 100K 1/4W               | [M]     |
| R341     | ERDS2TJ683T  | 68K 1/4W                | [M]     |
| R350     | DOAE473JA048 | 47K 1/4W                | [M]     |
| R401     | ERDS2TJ151T  | 150 1/4W                | [M]     |
| R402     | ERDS2TJ821T  | 820 1/4W                | [M]     |
| R406     | ERDS2TJ332T  | 3.3K 1/4W               | [M]     |
| R407     | ERDS2TJ332T  | 3.3K 1/4W               | [M]     |
| R414     | DOAE101JA048 | 100 1/4W                | [M]     |
| R417     | DOAE101JA048 | 100 1/4W                | [M]     |
| R419     | DOAE101JA048 | 100 1/4W                | [M]     |
| R421     | DOAE101JA048 | 100 1/4W                | [M]     |
| R431     | DOAE101JA048 | 100 1/4W                | [M]     |
| R432     | DOAE101JA048 | 100 1/4W                | [M]     |
| R433     | DOAE472JA048 | 4.7K 1/4W               | [M]     |

| Ref. No. | Part No.     | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| R435     | DOAE101JA048 | 100 1/4W                | [M]     |
| R439     | ERDS2TJ222T  | 2.2K 1/4W               | [M]     |
| R443     | DOAE103JA048 | 10K 1/4W                | [M]     |
| R501     | ERDS2TJ271T  | 270 1/4W                | [M]     |
| R701     | D0GB4R7JA007 | 4.7 1/16W               | [M]     |
| R702     | D0GB472JA041 | 4.7K 1/16W              | [M]     |
| R704     | ERJ3GEYJ102V | 1K 1/16W                | [M]     |
| R705     | D0GB393JA041 | 39K 1/16W               | [M]     |
| R706     | ERJ3GEYJ102V | 1K 1/16W                | [M]     |
| R711     | D0GB823JA007 | 82K 1/16W               | [M]     |
| R712     | D0GB821JA007 | 820 1/16W               | [M]     |
| R714     | D0GB471JA041 | 470 1/16W               | [M]     |
| R715     | D0GB332JA007 | 3.3K 1/16W              | [M]     |
| R717     | ERJ3GEYJ102V | 1K 1/16W                | [M]     |
| R718     | ERJ3GEYJ102V | 1K 1/16W                | [M]     |
| R720     | D0GB105JA007 | 1M 1/16W                | [M]     |
| R721     | D0GB101JA007 | 100 1/16W               | [M]     |
| R723     | D0GB332JA007 | 3.3K 1/16W              | [M]     |
| R725     | D0GB331JA007 | 330 1/16W               | [M]     |
| R727     | ERJ3GEYJ102V | 1K 1/16W                | [M]     |
| R728     | ERJ3GEYJ103V | 10K 1/16W               | [M]     |
| R729     | ERJ3GEYJ102V | 1K 1/16W                | [M]     |
| R731     | D0GB223JA041 | 22K 1/16W               | [M]     |
| R732     | ERJ3GEYJ102V | 1K 1/16W                | [M]     |
| R735     | D0GB101JA007 | 100 1/16W               | [M]     |
| R736     | D0GB101JA007 | 100 1/16W               | [M]     |
| R739     | ERJ3GEYJ102V | 1K 1/16W                | [M]     |
| R744     | D0GB473JA041 | 47K 1/16W               | [M]     |
| R749     | D0GB183JA007 | 18K 1/16W               | [M]     |
| R753     | D0GB100JA007 | 10 1/16W                | [M]     |
| R754     | D0GB5R6JA007 | 5.6 1/16W               | [M]     |
| R760     | D0GB101JA007 | 100 1/16W               | [M]     |
| R764     | ERJ3GEYJ102V | 1K 1/16W                | [M]     |
| R766     | D0GB562JA007 | 5.6K 1/16W              | [M]     |
| R801     | ERDS2TJ154T  | 150K 1/4W               | [M]     |
| R802     | DOAE104JA048 | 100K 1/4W               | [M]     |
| R803     | ERDS2TJ154T  | 150K 1/4W               | [M]     |
| R804     | DOAE103JA048 | 10K 1/4W                | [M]     |
| R806     | DOAE102JA048 | 1K 1/4W                 | [M]     |
| R807     | DOAE102JA048 | 1K 1/4W                 | [M]     |
| R808     | DOAE102JA048 | 1K 1/4W                 | [M]     |
| R809     | DOAE102JA048 | 1K 1/4W                 | [M]     |
| R810     | DOAE104JA048 | 100K 1/4W               | [M]     |
| R811     | DOAE104JA048 | 100K 1/4W               | [M]     |
| R813     | DOAE101JA048 | 100 1/4W                | [M]     |
| R814     | DOAE101JA048 | 100 1/4W                | [M]     |
| R815     | ERDS2TJ332T  | 3.3K 1/4W               | [M]     |
| R819     | DOAE472JA048 | 4.7K 1/4W               | [M]     |
| R820     | DOAE472JA048 | 4.7K 1/4W               | [M]     |
| R821     | DOAE102JA048 | 1K 1/4W                 | [M]     |
| R822     | DOAE473JA048 | 47K 1/4W                | [M]     |
| R823     | DOAE102JA048 | 1K 1/4W                 | [M]     |
| R824     | DOAE101JA048 | 100 1/4W                | [M]     |
| R825     | DOAE153JA048 | 15K 1/4W                | [M]     |
| R826     | DOAE153JA048 | 15K 1/4W                | [M]     |
| R827     | DOAE153JA048 | 15K 1/4W                | [M]     |
| R828     | DOAE102JA048 | 1K 1/4W                 | [M]     |
| R829     | DOAE102JA048 | 1K 1/4W                 | [M]     |
| R830     | DOAE101JA048 | 100 1/4W                | [M]     |
| R831     | DOAE101JA048 | 100 1/4W                | [M]     |
| R832     | DOAE102JA048 | 1K 1/4W                 | [M]     |
| R833     | DOAE102JA048 | 1K 1/4W                 | [M]     |
| R834     | DOAE102JA048 | 1K 1/4W                 | [M]     |
| R835     | DOAE102JA048 | 1K 1/4W                 | [M]     |
| R836     | DOAE102JA048 | 1K 1/4W                 | [M]     |
| R837     | DOAE473JA048 | 47K 1/4W                | [M]     |
| R839     | ERDS2TJ334T  | 330K 1/4W               | [M]     |
| R840     | ERDS2TJ391T  | 390 1/4W                | [M]     |
| R841     | DOAE101JA048 | 100 1/4W                | [M]     |
| R842     | DOAE101JA048 | 100 1/4W                | [M]     |
| R843     | DOAE101JA048 | 100 1/4W                | [M]     |
| R845     | ERDS2TJ152T  | 1.5K 1/4W               | [M]     |
| R846     | DOAE1R0JA048 | 1 1/4W                  | [M]     |

| Ref. No. | Part No.     | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| R847     | D0AE472JA048 | 4.7K 1/4W               | [M]     |
| R848     | D0AE102JA048 | 1K 1/4W                 | [M]     |
| R849     | D0AE102JA048 | 1K 1/4W                 | [M]     |
| R850     | D0AE102JA048 | 1K 1/4W                 | [M]     |
| R851     | D0AE102JA048 | 1K 1/4W                 | [M]     |
| R852     | D0AE102JA048 | 1K 1/4W                 | [M]     |
| R853     | ERDS2TJ332T  | 3.3K 1/4W               | [M]     |
| R854     | D0AE102JA048 | 1K 1/4W                 | [M]     |
| R855     | D0AE102JA048 | 1K 1/4W                 | [M]     |
| R856     | D0AE474JA048 | 470K 1/4W               | [M]     |
| R862     | D0AE102JA048 | 1K 1/4W                 | [M]     |
| R863     | D0AE101JA048 | 100 1/4W                | [M]     |
| R864     | D0AE101JA048 | 100 1/4W                | [M]     |
| R901     | ERDS2TJ822T  | 8.2K 1/4W               | [M]     |
| R902     | D0AE562JA048 | 5.6K 1/4W               | [M]     |
| R903     | ERDS2TJ392T  | 3.9K 1/4W               | [M]     |
| R904     | D0AE272JA048 | 2.7K 1/4W               | [M]     |
| R905     | ERDS2TJ222T  | 2.2K 1/4W               | [M]     |
| R906     | ERDS2TJ152T  | 1.5K 1/4W               | [M]     |
| R907     | D0AE153JA048 | 15K 1/4W                | [M]     |
| R908     | ERDS2TJ822T  | 8.2K 1/4W               | [M]     |
| R909     | ERDS2TJ152T  | 1.5K 1/4W               | [M]     |
| R910     | ERDS2TJ222T  | 2.2K 1/4W               | [M]     |
| R911     | D0AE153JA048 | 15K 1/4W                | [M]     |
| R912     | D0AE272JA048 | 2.7K 1/4W               | [M]     |
| R913     | ERDS2TJ392T  | 3.9K 1/4W               | [M]     |
| R914     | D0AE562JA048 | 5.6K 1/4W               | [M]     |
| R915     | ERDS2TJ333T  | 33K 1/4W                | [M]     |
| R972     | ERDS2TJ821T  | 820 1/4W                | [M]     |
| R973     | ERDS2TJ393T  | 39K 1/4W                | [M]     |
| R1000    | D0AE103JA048 | 10K 1/4W                | [M]     |
| R1001    | ERDS2TJ683T  | 68K 1/4W                | [M]     |
| R1002    | D0AE472JA048 | 4.7K 1/4W               | [M]     |
| R1101    | D0AE223JA048 | 22K 1/4W                | [M]     |
| R1102    | ERDS2TJ560T  | 56 1/4W                 | [M]     |
| R1103    | ERDS2TJ392T  | 3.9K 1/4W               | [M]     |
| R1104    | D0AE102JA048 | 1K 1/4W                 | [M]     |
| R1107    | ERDS2TJ683T  | 68K 1/4W                | [M]     |
| R1108    | ERDS2TJ392T  | 3.9K 1/4W               | [M]     |
| R1109    | D0AE153JA048 | 15K 1/4W                | [M]     |
| R1110    | D0AE474JA048 | 470K 1/4W               | [M]     |
| R1112    | D0AE104JA048 | 100K 1/4W               | [M]     |
| R1201    | D0AE223JA048 | 22K 1/4W                | [M]     |
| R1202    | ERDS2TJ560T  | 56 1/4W                 | [M]     |
| R1203    | ERDS2TJ392T  | 3.9K 1/4W               | [M]     |
| R1204    | D0AE102JA048 | 1K 1/4W                 | [M]     |
| R1207    | ERDS2TJ683T  | 68K 1/4W                | [M]     |
| R1208    | ERDS2TJ392T  | 3.9K 1/4W               | [M]     |
| R1209    | D0AE153JA048 | 15K 1/4W                | [M]     |
| R1210    | D0AE474JA048 | 470K 1/4W               | [M]     |
| R1212    | D0AE104JA048 | 100K 1/4W               | [M]     |
| R1299    | ERDS2TJ333T  | 33K 1/4W                | [M]     |
| R1304    | D0AE102JA048 | 1K 1/4W                 | [M]     |
| R1305    | D0AE102JA048 | 1K 1/4W                 | [M]     |
| R1310    | D0AE102JA048 | 1K 1/4W                 | [M]     |
| R1311    | D0AE563JA048 | 56K 1/4W                | [M]     |
| R1313    | D0AE221JA048 | 220 1/4W                | [M]     |
| R1314    | D0AE100JA048 | 10 1/4W                 | [M]     |
| R1340    | D0AE223JA048 | 22K 1/4W                | [M]     |
| R1341    | ERDS2TJ471T  | 470 1/4W                | [M]     |
| R1352    | D0AE104JA048 | 100K 1/4W               | [M]     |
| R1353    | D0AE474JA048 | 470K 1/4W               | [M]     |
| R1401    | ERDS2TJ823T  | 82K 1/4W                | [M]     |
| R1404    | ERDS2TJ332T  | 3.3K 1/4W               | [M]     |
| R1405    | ERDS2TJ332T  | 3.3K 1/4W               | [M]     |
| R1406    | ERDS2TJ332T  | 3.3K 1/4W               | [M]     |
| R1411    | D0AE331JA048 | 330 1/4W                | [M]     |
| R1451    | ERDS2TJ681T  | 680 1/4W                | [M]     |
| R1452    | ERDS2TJ332T  | 3.3K 1/4W               | [M]     |
| R1453    | ERDS2TJ273T  | 27K 1/4W                | [M]     |
| R1501    | D0AE101JA048 | 100 1/4W                | [M]     |
| R1502    | ERDS2TJ475T  | 4.7M 1/4W               | [M]     |
| R1503    | ERDS2TJ222T  | 2.2K 1/4W               | [M]     |

| Ref. No. | Part No.     | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
|          |              | CAPACITORS              |         |
| C1       | F1D1H470A006 | 47P 50V                 | [M]     |
| C2       | F1D1H100A015 | 10P 50V                 | [M]     |
| C3       | F1C1C223A001 | 0.022 16V               | [M]     |
| C4       | F1D1H102A012 | 1000P 50V               | [M]     |
| C5       | F1D1H5R6A017 | 5.6P 50V                | [M]     |
| C6       | F1D1H102A012 | 1000P 50V               | [M]     |
| C7       | F1D1H120A015 | 12P 50V                 | [M]     |
| C8       | F1D1H102A012 | 1000P 50V               | [M]     |
| C9       | F1D1H102A012 | 1000P 50V               | [M]     |
| C10      | F1D1H100A015 | 10P 50V                 | [M]     |
| C12      | F1D1H331A012 | 330P 50V                | [M]     |
| C13      | ECA1CAK100XB | 10 16V                  | [M]     |
| C14      | F1D1H102A012 | 1000P 50V               | [M]     |
| C15      | F1C1C683A014 | 0.068 16V               | [M]     |
| C16      | F1C1C823A015 | 0.082 16V               | [M]     |
| C17      | F1C1C823A015 | 0.082 16V               | [M]     |
| C18      | F1C1C223A001 | 0.022 16V               | [M]     |
| C19      | F1C1C223A001 | 0.022 16V               | [M]     |
| C20      | ECA1HAK010XB | 1 50V                   | [M]     |
| C21      | ECA1HAK010XB | 1 50V                   | [M]     |
| C22      | ECA1HAK4R7XB | 4.7 50V                 | [M]     |
| C23      | F1C1C3330001 | 0.033 16V               | [M]     |
| C24      | F1C1C3330001 | 0.033 16V               | [M]     |
| C30      | F1D1H331A012 | 330P 50V                | [M]     |
| C31      | F1D1C103A004 | 0.01 16V                | [M]     |
| C32      | F1D1H102A012 | 1000P 50V               | [M]     |
| C33      | F1D1H102A012 | 1000P 50V               | [M]     |
| C34      | F1D1H102A012 | 1000P 50V               | [M]     |
| C35      | ECA1CAK101XB | 100 16V                 | [M]     |
| C36      | ECA1CAK101XB | 100 16V                 | [M]     |
| C37      | F1D1C103A004 | 0.01 16V                | [M]     |
| C39      | F1D1H120A015 | 12P 50V                 | [M]     |
| C40      | F1D1C222A010 | 2200P 16V               | [M]     |
| C42      | F1D1H180A015 | 18P 50V                 | [M]     |
| C43      | F1D1H101A012 | 100P 50V                | [M]     |
| C44      | ECA1HAK2R2XB | 2.2 50V                 | [M]     |
| C45      | F1D1H102A012 | 1000P 50V               | [M]     |
| C48      | ECA1HAK010XB | 1 50V                   | [M]     |
| C49      | F1D1H102A012 | 1000P 50V               | [M]     |
| C50      | F1D1H102A012 | 1000P 50V               | [M]     |
| C51      | ECA1HAK010XB | 1 50V                   | [M]     |
| C53      | F1D1H102A012 | 1000P 50V               | [M]     |
| C54      | F1D1H102A012 | 1000P 50V               | [M]     |
| C91      | ECA1CAK220XB | 22 16V                  | [M]     |
| C92      | F1D1H331A012 | 330P 50V                | [M]     |
| C98      | F1D1H331A012 | 330P 50V                | [M]     |
| C99      | F1D1H102A012 | 1000P 50V               | [M]     |
| C101     | F1D1H102A012 | 1000P 50V               | [M]     |
| C102     | F1C1C683A014 | 0.068 16V               | [M]     |
| C103     | ECA1CAK100XB | 10 16V                  | [M]     |
| C104     | ECA1CAK100XB | 10 16V                  | [M]     |
| C105     | F1D1H101A012 | 100P 50V                | [M]     |
| C106     | F1D1C332A010 | 3300P 16V               | [M]     |
| C108     | ECA1HAK010XB | 1 50V                   | [M]     |
| C109     | ECA1HAK010XB | 1 50V                   | [M]     |
| C110     | ECA1HAK010XB | 1 50V                   | [M]     |
| C111     | F1C1C223A001 | 0.022 16V               | [M]     |
| C112     | ECA1HAKR22XB | 0.22 50V                | [M]     |
| C113     | F1D1H223A012 | 0.022 50V               | [M]     |
| C114     | ECQV1H104JL3 | 0.1 50V                 | [M]     |
| C118     | F1D1H102A012 | 1000P 50V               | [M]     |
| C119     | ECQB1H104JF3 | 0.1 50V                 | [M]     |
| C120     | F1C1C153A001 | 0.015 16V               | [M]     |
| C121     | ECA1CAK100XB | 10 16V                  | [M]     |
| C122     | ECA1HAK2R2XB | 2.2 50V                 | [M]     |
| C123     | F1D1H471A012 | 470P 50V                | [M]     |
| C124     | F1E1H1030001 | 0.01 50V                | [M]     |
| C125     | F1E1H1030001 | 0.01 50V                | [M]     |
| C130     | ECA1AAK470XB | 47 10V                  | [M]     |
| C131     | ECA1CAM331XB | 330 16V                 | [M]     |

| Ref. No. | Part No.     | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| C134     | F1E1H1030001 | 0.01 50V                | [M]     |
| C135     | ECQB1H153JF3 | 0.015 50V               | [M]     |
| C136     | ECQB1H104JF3 | 0.1 50V                 | [M]     |
| C201     | F1D1H102A012 | 1000P 50V               | [M]     |
| C202     | F1C1C683A014 | 0.068 16V               | [M]     |
| C203     | ECA1CAK100XB | 10 16V                  | [M]     |
| C204     | ECA1CAK100XB | 10 16V                  | [M]     |
| C205     | F1D1H101A012 | 100P 50V                | [M]     |
| C206     | F1D1C332A010 | 3300P 16V               | [M]     |
| C208     | ECA1HAK010XB | 1 50V                   | [M]     |
| C209     | ECA1HAK010XB | 1 50V                   | [M]     |
| C210     | ECA1HAK010XB | 1 50V                   | [M]     |
| C211     | F1C1C223A001 | 0.022 16V               | [M]     |
| C212     | ECA1HAKR22XB | 0.22 50V                | [M]     |
| C213     | F1D1H223A012 | 0.022 50V               | [M]     |
| C214     | ECQV1H104JL3 | 0.1 50V                 | [M]     |
| C217     | ECA1CAK101XB | 100 16V                 | [M]     |
| C218     | F1D1H102A012 | 1000P 50V               | [M]     |
| C219     | ECQB1H104JF3 | 0.1 50V                 | [M]     |
| C220     | F1C1C153A001 | 0.015 16V               | [M]     |
| C221     | ECA1HAK100XB | 10 50V                  | [M]     |
| C222     | ECA1HAK2R2XB | 2.2 50V                 | [M]     |
| C223     | F1D1H471A012 | 470P 50V                | [M]     |
| C224     | F1E1H1030001 | 0.01 50V                | [M]     |
| C225     | F1E1H1030001 | 0.01 50V                | [M]     |
| C231     | ECA1CAM331XB | 330 16V                 | [M]     |
| C232     | F1D1H221A012 | 220P 50V                | [M]     |
| C233     | F1D1H221A012 | 220P 50V                | [M]     |
| C234     | F1E1H1030001 | 0.01 50V                | [M]     |
| C235     | ECQB1H153JF3 | 0.015 50V               | [M]     |
| C236     | ECQB1H104JF3 | 0.1 50V                 | [M]     |
| C237     | ECA1CAK101XB | 100 16V                 | [M]     |
| C301     | ECA1EAM472XE | 4700 25V                | [M]     |
| C302     | ECA1EAM101XB | 100 25V                 | [M]     |
| C303     | ECA1CAK220XB | 22 16V                  | [M]     |
| C304     | ECA1CAK470XB | 47 16V                  | [M]     |
| C305     | F1D1H102A012 | 1000P 50V               | [M]     |
| C307     | ECA1CAK101XB | 100 16V                 | [M]     |
| C308     | F1D1H471A012 | 470P 50V                | [M]     |
| C309     | ECA1CAK101XB | 100 16V                 | [M]     |
| C310     | ECA1CAK101XB | 100 16V                 | [M]     |
| C312     | F1D1H1040002 | 0.1 50V                 | [M]     |
| C313     | ECA1EAK470XB | 47 25V                  | [M]     |
| C314     | F1D1H1040002 | 0.1 50V                 | [M]     |
| C315     | F1D1E103A001 | 0.01 25V                | [M]     |
| C316     | ECA1HAK010XB | 1 50V                   | [M]     |
| C317     | ECA1HAK010XB | 1 50V                   | [M]     |
| C318     | ECA1CAK470XB | 47 16V                  | [M]     |
| C330     | F1D1H471A012 | 470P 50V                | [M]     |
| C331     | ECA1CAK101XB | 100 16V                 | [M]     |
| C406     | F1D1H561A012 | 560P 50V                | [M]     |
| C407     | ECA1AAK470XB | 47 10V                  | [M]     |
| C411     | F1D1H1040002 | 0.1 50V                 | [M]     |
| C412     | F1D1H101A012 | 100P 50V                | [M]     |
| C413     | F1D1H102A012 | 1000P 50V               | [M]     |
| C414     | F1D1H102A012 | 1000P 50V               | [M]     |
| C416     | F1E1H1030001 | 0.01 50V                | [M]     |
| C418     | F1D1H221A012 | 220P 50V                | [M]     |
| C419     | F1D1H221A012 | 220P 50V                | [M]     |
| C420     | F1D1H221A012 | 220P 50V                | [M]     |
| C421     | F1D1H221A012 | 220P 50V                | [M]     |
| C422     | F1D1H221A012 | 220P 50V                | [M]     |
| C423     | F1D1H221A012 | 220P 50V                | [M]     |
| C501     | F1B1H103A007 | 0.01 50V                | [M]     |
| C502     | F1B1H103A007 | 0.01 50V                | [M]     |
| C503     | F1B1H103A007 | 0.01 50V                | [M]     |
| C504     | F1B1H103A007 | 0.01 50V                | [M]     |
| C701     | ECEA0JKA330I | 33 6.3V                 | [M]     |
| C702     | F1H1A4740009 | 0.47 10V                | [M]     |
| C703     | ECEA0JKA101I | 100 6.3V                | [M]     |
| C704     | F1H1C104A041 | 0.1 16V                 | [M]     |
| C705     | F1H1C104A041 | 0.1 16V                 | [M]     |
| C706     | F1H1C104A041 | 0.1 16V                 | [M]     |

| Ref. No. | Part No.     | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| C707     | F1H1E223A002 | 0.022 25V               | [M]     |
| C710     | ECJ1VC1H471J | 470P 50V                | [M]     |
| C713     | F1H1C104A041 | 0.1 16V                 | [M]     |
| C714     | ECEA0JKA101I | 100 6.3V                | [M]     |
| C715     | F1H1A4740009 | 0.47 10V                | [M]     |
| C716     | ECJ1VB1H681K | 680P 50V                | [M]     |
| C717     | F1H1C104A041 | 0.1 16V                 | [M]     |
| C718     | ECJ1VB1C823K | 0.082 16V               | [M]     |
| C721     | ECJ1VC1H180J | 18P 50V                 | [M]     |
| C722     | F1H1H220A230 | 22P 50V                 | [M]     |
| C723     | ECEA0JKA221I | 220 6.3V                | [M]     |
| C724     | F1H1C104A041 | 0.1 16V                 | [M]     |
| C725     | F1H1H102A219 | 1000P 50V               | [M]     |
| C726     | F1H1H102A219 | 1000P 50V               | [M]     |
| C727     | ECA1HAK010XI | 1 50V                   | [M]     |
| C728     | ECA1HAK010XI | 1 50V                   | [M]     |
| C729     | ECEA1CKA100I | 10 16V                  | [M]     |
| C730     | F1H1C104A041 | 0.1 16V                 | [M]     |
| C731     | ECA0JAK221XI | 220 6.3V                | [M]     |
| C733     | F1H1C104A041 | 0.1 16V                 | [M]     |
| C734     | ECEA1AKA221I | 220 10V                 | [M]     |
| C735     | F1H1E104A030 | 0.1 25V                 | [M]     |
| C738     | ECJ1VB1C563K | 0.056 16V               | [M]     |
| C739     | ECJ1VB1E183K | 0.018 25V               | [M]     |
| C740     | F1H1C104A041 | 0.1 16V                 | [M]     |
| C741     | F1H1H102A219 | 1000P 50V               | [M]     |
| C742     | F1H1E223A002 | 0.022 25V               | [M]     |
| C743     | F1H1E104A030 | 0.1 25V                 | [M]     |
| C744     | F1H1E1530002 | 0.015 25V               | [M]     |
| C745     | F1H1E103A029 | 0.01 25V                | [M]     |
| C746     | F1H1C104A041 | 0.1 16V                 | [M]     |
| C747     | ECJ1VB1H391K | 390P 50V                | [M]     |
| C749     | F1H1H392A013 | 3900P 50V               | [M]     |
| C752     | ECJ1VB1E183K | 0.018 25V               | [M]     |
| C753     | F1H1H471A219 | 470P 50V                | [M]     |
| C755     | F1H1C104A041 | 0.1 16V                 | [M]     |
| C759     | ECEA1CKA100I | 10 16V                  | [M]     |
| C760     | F1H1C104A041 | 0.1 16V                 | [M]     |
| C762     | F1H1C104A041 | 0.1 16V                 | [M]     |
| C801     | ECA1HAK010XB | 1 50V                   | [M]     |
| C802     | F1D1H470A006 | 47P 50V                 | [M]     |
| C803     | F1D1H101A012 | 100P 50V                | [M]     |
| C807     | F1D1H101A012 | 100P 50V                | [M]     |
| C808     | F1D1H101A012 | 100P 50V                | [M]     |
| C809     | F1D1H101A012 | 100P 50V                | [M]     |
| C810     | F1D1H180A015 | 18P 50V                 | [M]     |
| C811     | F1D1H180A015 | 18P 50V                 | [M]     |
| C812     | F1D1H101A012 | 100P 50V                | [M]     |
| C813     | F1D1H101A012 | 100P 50V                | [M]     |
| C814     | F1D1H101A012 | 100P 50V                | [M]     |
| C815     | F1D1H101A012 | 100P 50V                | [M]     |
| C816     | F1D1H101A012 | 100P 50V                | [M]     |
| C817     | F1D1H820A012 | 82P 50V                 | [M]     |
| C818     | F1D1H820A012 | 82P 50V                 | [M]     |
| C819     | F1D1H470A006 | 47P 50V                 | [M]     |
| C820     | ECA0JAK101XB | 100 6.3V                | [M]     |
| C823     | F1D1H221A012 | 220P 50V                | [M]     |
| C826     | ECA1HAK2R2XB | 2.2 50V                 | [M]     |
| C831     | F1E1H1030001 | 0.01 50V                | [M]     |
| C850     | F1D1H102A012 | 1000P 50V               | [M]     |
| C851     | ECA1CAK220XB | 22 16V                  | [M]     |
| C901     | F1D1H101A012 | 100P 50V                | [M]     |
| C902     | F1D1H101A012 | 100P 50V                | [M]     |
| C1001    | ECA1CAK470XB | 47 16V                  | [M]     |
| C1101    | F1D1H101A012 | 100P 50V                | [M]     |
| C1102    | F1D1C122A010 | 1200P 16V               | [M]     |
| C1103    | F1D1H101A012 | 100P 50V                | [M]     |
| C1104    | F1C1C393A013 | 0.039 16V               | [M]     |
| C1105    | ECA1CAK100XB | 10 16V                  | [M]     |
| C1106    | ECA1CAK101XB | 100 16V                 | [M]     |
| C1107    | ECA1HAK010XB | 1 50V                   | [M]     |
| C1108    | F1D1H821A012 | 820P 50V                | [M]     |
| C1109    | ECA1CAK100XB | 10 16V                  | [M]     |

| Ref.<br>No. | Part No.     | Part Name & Description | Remarks |
|-------------|--------------|-------------------------|---------|
| C1110       | F1D1H821A012 | 820P 50V                | [M]     |
| C1201       | F1D1H101A012 | 100P 50V                | [M]     |
| C1202       | F1D1C122A010 | 1200P 16V               | [M]     |
| C1203       | F1D1H101A012 | 100P 50V                | [M]     |
| C1204       | F1C1C393A013 | 0.039 16V               | [M]     |
| C1205       | ECA1CAK100XB | 10 16V                  | [M]     |
| C1206       | ECA1CAK101XB | 100 16V                 | [M]     |
| C1207       | ECA1HAK010XB | 1 50V                   | [M]     |
| C1208       | F1D1H821A012 | 820P 50V                | [M]     |
| C1209       | ECA1CAK100XB | 10 16V                  | [M]     |
| C1210       | F1D1H821A012 | 820P 50V                | [M]     |
| C1301       | F1D1C103A004 | 0.01 16V                | [M]     |
| C1304       | F0A2A102A010 | 1000P 100V              | [M]     |
| C1305       | F0A2A151A010 | 150P 100V               | [M]     |
| C1306       | ECA1CAK101XB | 100 16V                 | [M]     |
| C1307       | F1D1C822A004 | 8200P 16V               | [M]     |
| C1308       | F1D1C103A004 | 0.01 16V                | [M]     |
| C1325       | ECA1CAK101XB | 100 16V                 | [M]     |
| C1451       | ECA1CAK101XB | 100 16V                 | [M]     |
| C1500       | ECA1CAK101XB | 100 16V                 | [M]     |
| C1501       | ECA1CAK220XB | 22 16V                  | [M]     |
| C1502       | ECA1CAK100XB | 10 16V                  | [M]     |
| C1503       | F1C1C473A013 | 0.047 16V               | [M]     |

## 23.5. Packaging Materials & Accessories Parts List

| Ref. No. | Part No.   | Part Name & Description | Remarks |
|----------|------------|-------------------------|---------|
|          |            | PACKING MATERIALS       |         |
| P1       | RPGV0165   | PACKING CASE            | [M]     |
| P2       | RPNX0111-3 | POLYFOAM                | [M]     |
| P3       | RPHX0018-1 | MIRAMAT SHEET           | [M]     |

| Ref. No. | Part No.     | Part Name & Description | Remarks                                                                                 |
|----------|--------------|-------------------------|-----------------------------------------------------------------------------------------|
|          |              | ACCESSORIES             |                                                                                         |
| A1       | N2QAHB000048 | REMOTE CONTROL          | [M]                                                                                     |
| A1-1     | RKK-HTR0283H | R/C BATTERY COVER       | [M]                                                                                     |
| A2       | K2CQ2CA00002 | AC CORD                 | [M]  |
| A3       | RQT7913-R    | O/I BOOK (Ru/Ur)        | [M]                                                                                     |

## 23.6. Packaging

### Accessory case

A3: O/I Book

