ORDER NO. MD0602029C3

Service Manual

CD Stereo System

COMPACT disc DIGITAL AUDIO

SA-PM3EE

Colour

(S)... Silver Type

Remote Control Transmitter SB-PM3 SA-PM3 SB-PM3

Specification

RMS OUTPUT POWER both channel driven simultaneously	
10% total harmonic distortion	5.0 W per channel (6 Ω)
Output impedance	
HEADPHONE	16 Ω to 32 Ω
Phone jack	
Terminal	Stereo, 3.5 mm

n FM Tuner Section

Frequency range	87.50 to 108.00 MHz (50 kHz step)
Sensitivity	1.4 µV (IHF)
S/N 26 dB	1.0 µV
Antenna terminals	75 Ω (unbalanced)
Preset station	FM 15 stations
	AM 15 stations

n AM Tuner Section

Frequency range	522 to 1629 kHz (9 kHz steps)
	520 to 1630 kHz (10 kHz steps)
Sensitivity	
S/N 20 dB (at 999 kHz)	902 µV/m

n Cassette Deck Section

Track system	4-track, 2-channel
Heads	
Record/playback	Solid permalloy head
Erasure	Double gap ferrite head
Motor	DC servo motor
Recording system	AC bias 100 kHz
Erase system	AC erase 100 kHz
Tape speed	4.8 cm/s
Overall frequency response (+3 dB, -6 dB) at DECK OUT	
Normal	35 Hz to 14 kHz
S/N RATIO	47 dB (A weighted)
Wow and flutter	0.09% (WRMS)
Fast-forward and rewind time	Approx. 120 seconds with C-60 cassette tape

n CD Section

Disc played [8 cm or 12 cm]	
(1) CD-Audio (CD-DA)	
(2) CD-R/RW (CD-DA, MP3 formatted disc)	
(3) MP3	
Sampling frequency	
CD	44.1 kHz
MP3	32 kHz, 44.1 kHz, 48 kHz
Bit rate	
MP3	32 kbps to 384 kbps
Decoding	16/20/24 bit linear
Pickup	

Panasonic

Wavelength	785 nm
Beam source	Semiconductor laser
Laser power	CLASS 1
Audio output (Disc)	
Number of channels	2 channel
Frequency response	20 Hz to 20 kHz (+1dB, -2dB)
Wow and flutter	Below measurable limit
Digital filter	8 fs
D/A converter	MASH (1 bit DAC)

n General

Power supply	AC 230 V, 50 Hz
Power consumption	30 W
Dimensions (W x H x D)	165 x 227 x 285 mm
Mass	2.8 kg
Operating temperature range	+5 to +35°C
Operation humidity range	5 to 90% RH (no condensation)
Power consumption in standby mode	0.8 W

Notes :

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

2. Total harmonic distortion is measured by the digital spectrum analyzer.

n System : SC-PM3EE-S — Music center: SA-PM3EE-S

Speaker: SB-PM3EG-M

⚠ WARNING

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

CONTENTS

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 1MΩ and 5.2Ω.
   When the exposed metal does not have a return path to the chassis, the reading must be ∞.

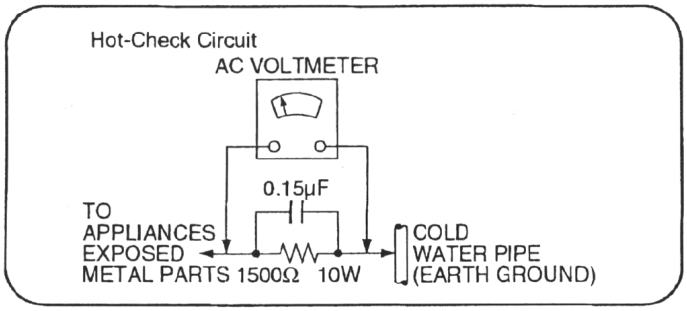


Figure 1

1.1.2. Leakage Current Hot Check (See Figure 1)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 1.5kΩ, 10 watts resistor, in parallel with a 0.15μF 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.

1.2. Before Repair and Adjustment

Disconnect AC power, discharge Power Supply Capacitors C272, C472, C501, C909, C910, C911 & C923 through a 10Ω, 1W resistor to ground.

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

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

- Current consumption at AC 230 V, 50 Hz in NO SIGNAL mode should be ~250 mA.

1.3. 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.
- Sound stops during a performance.

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

If this occurs, follow the procedure outlines below:

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

Note:

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

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

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

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

   Caution

   Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize body motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

IMPORTANT SAFETY NOTICE

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

3 Precaution of Laser Diode

CAUTION:

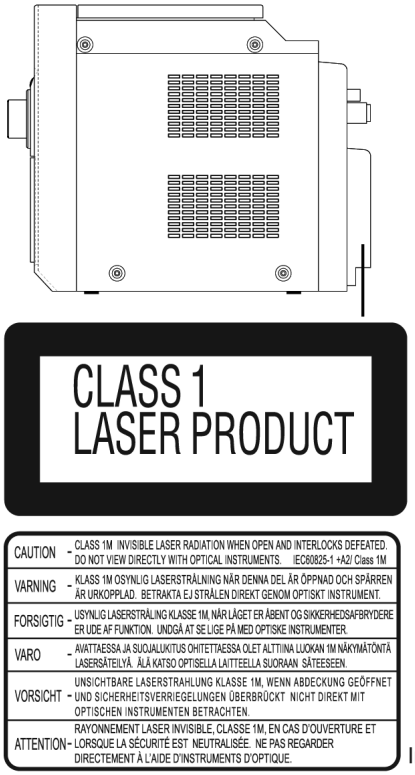
This unit utilizes a class 1 laser.

Invisible laser radiation is emitted from the optical pickup lens.

When the unit is turned on:

1. Do not look directly into the pick up lens.
2. Do not use optical instruments to look at the pick up lens.
3. Do not adjust the preset variable resistor on the pickup lens.
4. Do not disassemble the optical pick up unit.
5. If the optical pick up is replaced, use the manufacturer's specified replacement pick up only.
6. Use of control or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

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.



Inside of product

4 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).

l 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 (FFC board) (Fig 4.1).
4. Do not turn the variable resistor (laser power adjustment). It has already been adjusted.

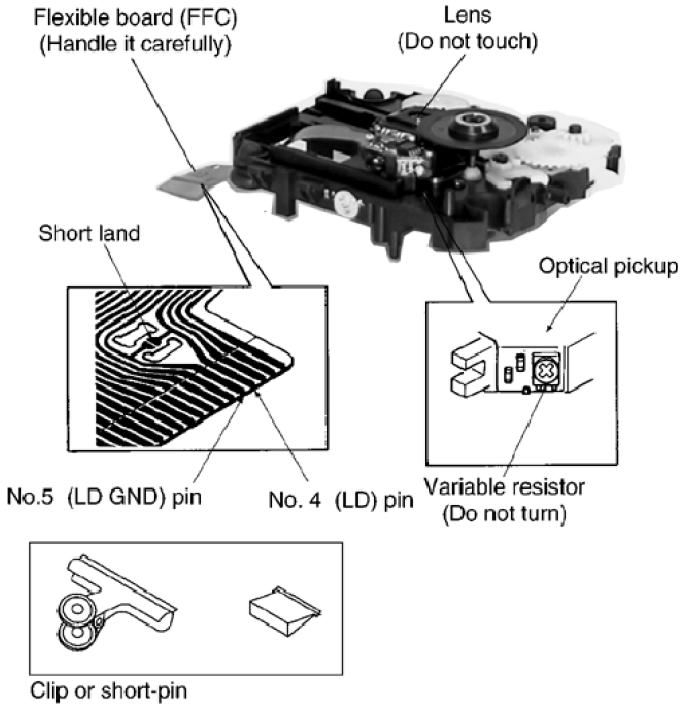


Fig 4.1

l Grounding for electrostatic breakdown prevention

1. Human body grounding (Fig 4.2)

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

2. Work table grounding (Fig 4.2)

   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).

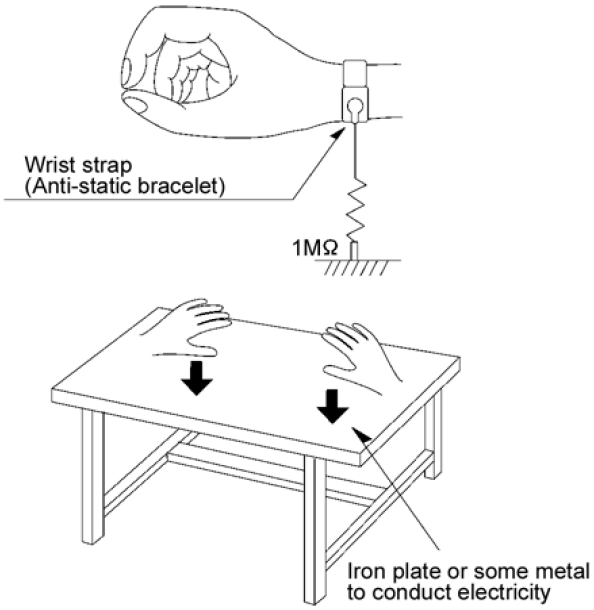


Fig 4.2

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.

5 Handling the Lead-free Solder

5.1. About lead free solder (PbF)

Distinction of PbF P.C.B.:

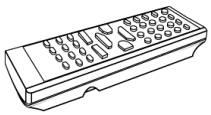
P.C.B.s (manufactured) using lead free solder will have a PbF stamp on the P.C.B.

Caution:

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

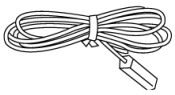
6 Accessories

Note : Refer to Packing Materials & Accessories (Section 24) for part number.

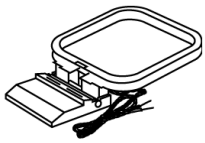


Remote control

AC cord



FM indoor
antenna

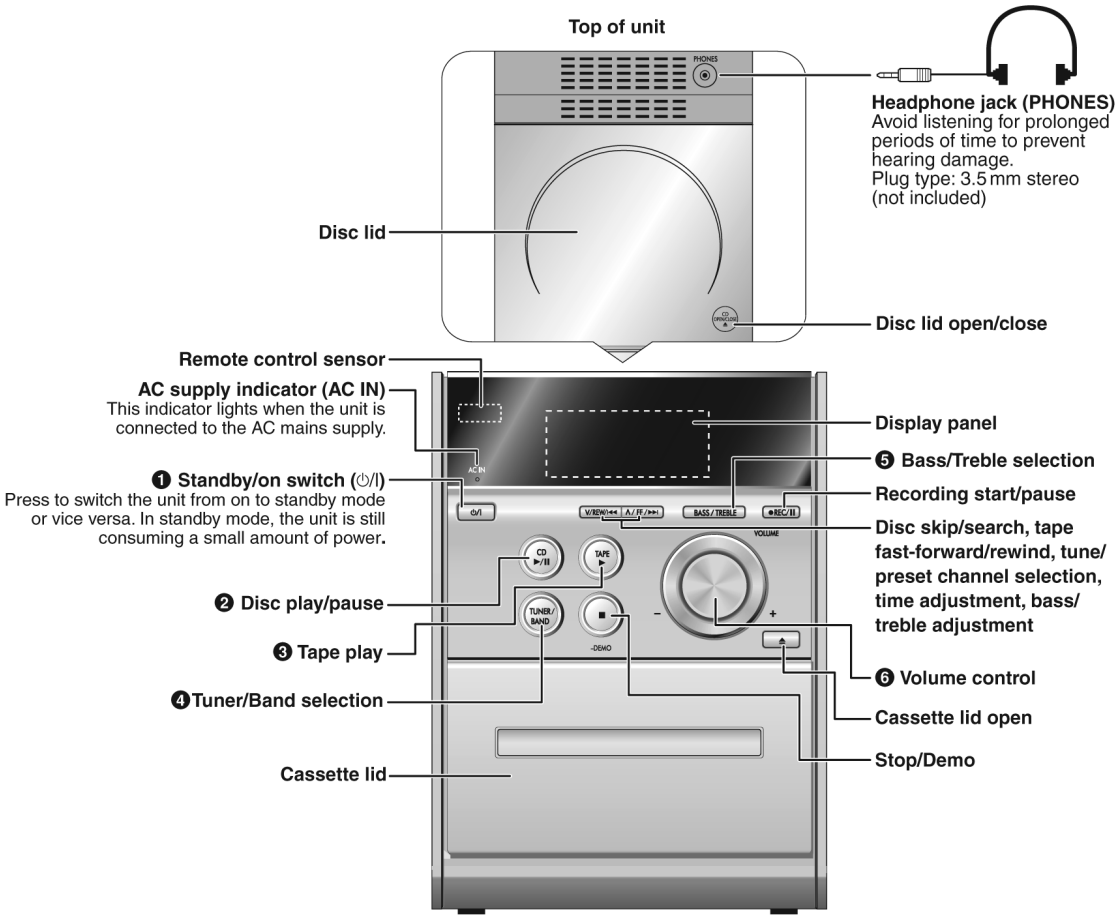


AM loop antenna

7 Operating Instructions Procedures

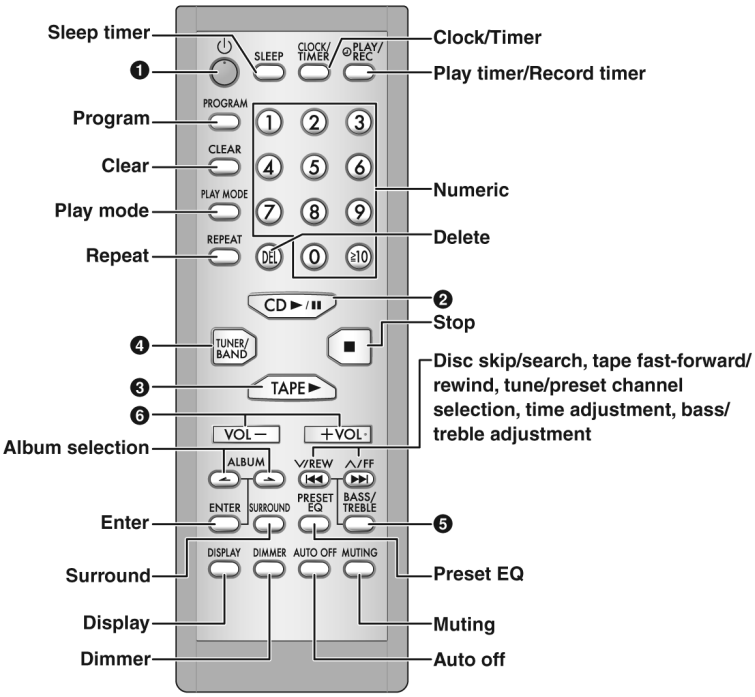
7.1. Main Unit & Remote Control Operation

Main unit



Remote control

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



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

The setting is maintained even if the unit is turned off.

Dims the display panel.

Mutes the sound.

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

7.2. Disc Information

Note

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

CD

- This unit can access up to 99 tracks.
- Choose a CD with this mark:

Using DualDiscs

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

MP3

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

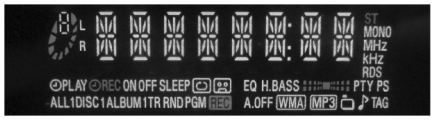
MPEG Layer-3 audio decoding technology licensed from Fraunhofer IIS and Thomson multimedia.

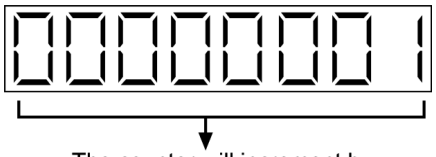
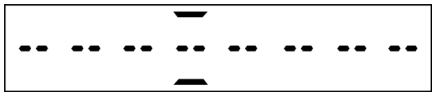
8 Self diagnosis and special mode setting

This unit is equipped with features of self-diagnostic & special mode setting for checking the functions & reliability.

8.1. Special Mode Table

Below is the various special modes for checking:-

Item		FL Display	Key Operation
Mode Name	**Description**		**Front Key**
Self -Diagnostic Mode	To enter into self diagnostic checking for main unit.		1. Select [CD ►/II] for CD mode (Ensure no tape or CD inserted). 2. Press and hold [■, -DEMO]button for 2 seconds follow by [∧/FF/►►I]. To exit, press [⏻/I] button on main unit or remote control.
Doctor Mode	To enter into Doctor Mode for checking of various items and displaying EEPROM and firmware version. (For more information, refer to section 8.1.2) Note: The micro-processor version as shown is an example. It will be revise when there is an updates.	1.  2.  The Check Sum of EEPROM and firmware version will be display for 1 sec. * ROM correction ** Firmware version No:	In any mode: 1. Press [■, -DEMO] button on main unit follow by [4] and [7] on remote control. To exit, press [⏻/I] button on main unit or remote control.
FL Display Test	To check the FL segments display (All segments will light up)		In doctor mode: 1. Press [DIMMER] button on remote control. To exit, press [⏻/I] button on main unit or remote control.
CD to Tape Recording Test Mode	To Inspect the recording process from CD to TAPE for the unit. (For more information, refer to section 8.1.3)		In doctor mode: 1. Press [4] button on remote control. To exit, press [⏻/I] button on main unit or remote control.
Tape Recording and Playing	To Inspect the Tape recording and playing is process for unit. (For more information, refer to section 8.1.4)		In doctor mode: 1. Press [5] button on remote control. To exit, press [⏻/I] button on main unit or remote control.
Tape Eject test	To check on the tape eject function.		In doctor mode: 1. Press [6] button on remote control. To exit, press [⏻/I] button on main unit or remote control.
Volume Setting	To Forced Volume Setting.	1.  2.  3. 	In doctor mode: 1. Press [7] button on remote control. 2. Press [8] button on remote control. 3. Press [9] button on remote control. To exit, press [⏻/I] button on main unit or remote control.

Item		FL Display	Key Operation
Mode Name	Description		Front Key
Traverse Test	To determine the reliability of CD unit.		In doctor Mode: 1. Press [≧10], [1], [2] button on remote control. To exit, press [⏻/I] button on main unit or remote control.
TPS	To check FF TPS for deck. (For more information, refer to section 8.1.5)		In doctor mode: 1. Press [∧/FF/►►I] button on remote control. To exit, press [⏻/I] button on main unit or remote control.
Cold Start	To activate cold start ipon next AC power up.		In doctor mode: 1. Press [SLEEP] button on remote control. To exit, press [⏻/I] button on main unit or remote control.

8.1.1. Cassette Mechanism Self-Diagnostic Mode

Below is information of the checking of cassette deck mechanism

No.	Operation Procedures	Micon operation & processing
1	C-mecha Abnormal Detection shall be executed for DECK.	Check that all DECK mechanism leaf SW is in OFF state.
2	[∧/FF/►►I] key is pressed, after loading in a NORMAL type cassette with the recording tab on the left side removed.	FF shall be executed for 2 sec, after which STOP. Check the following. { F.REC INH SW } is OFF { HALF SW } is ON Reel pulse toggles between H & L.
3	[∨/REW/I◄◄] key is pressed, after loading a NORMAL, CrO2, METAL type cassette with the recording tab on the right side removed.	REW shall be executed for 2 sec, after which STOP. Check the following. { F.REC INH SW } is ON { HALF SW } is ON Reel pulse toggles between H & L.
4	[TAPE ►] Key is pressed, after loading in a NORMAL, CrO2, METAL type cassette (cassette for TPS checking purposes and with both recording tabs intact).	TPS operation is executed. Check the following. { F.REC INH SW } is ON { HALF SW } is ON TPS signal changes. After checking TPS, it shall STOP. If TPS checking is completed at TAPE END, it is considered as TPS abnormal.
5	[REC] key is pressed, after loading in a NORMAL type cassette (with both recording tabs intact)	REC operation shall not be executed. Check the following. { F.REC INH SW } is ON { HALF SW } is ON
6	Self-diagnostic mode is stopped by pressing the [n] Key.	LCD shall display the abnormality item code, when the STOP key is pressed, it shall display the abnormality item code in the following sequence. [TEST H 0 1] [TEST H 0 2] [TEST H 0 3]
7	To clear all the abnormalities in the memory, press the [n] Key for more than 5 Sec while the self-diagnostic mode is stopped.	At this time, all the abnormalities item in the memory is cleared and is displayed on the LCD.[C L E A R] display for 1 Sec. then,[TEST] is displayed.
8	To cancel the self-diagnostic mode press the [⏻/I] Key.	POWER is OFF.At the next POWER ON, normal operation shall be executed.

・If RAM check error occurs during microcomputer reset, COLDSTART shall be executed and all the error memory shall be cleared during RAM initialization.

8.1.2. EEPROM Checksum (ROM correction)

Purpose : To check for micro-processor firmware version & EEPROM check (ROM correction).

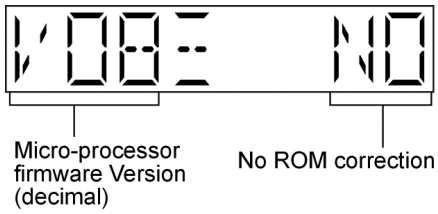
Below is the procedures for this mode.

Step 1: Enter into Doctor mode (For more information refer to section 8.1 on key operation to enter into this mode.

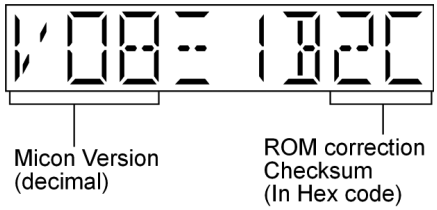
Step 2: Check for firmware version & EEPROM checksum.

・When entering into DOCTOR MODE the firmware version & checksum of EEPROM (if applicable) will appear on FL display. Below is information on the EEPROM IC (Rom correction) under 3 examples:

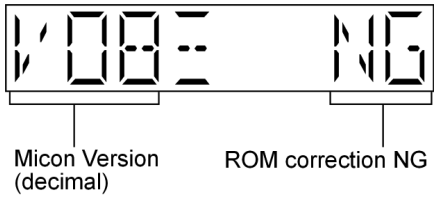
1. When EEPROM IC is detected and there is no ROM correction:



2. When EEPROM IC is detected and has ROM correction:



3. When EEPROM IC is detected and has ROM correction but NG:



Note: Micro-processor firmware version refers to version No. (Eg.MS079_12) for micro-processor IC.

It is subject to change which would update accordingly.

- Rom correction checksum refers to the hex code that is display upon key buttons pressed if an EEPROM is loaded in the unit. (Main P.C.B)

8.1.3. CD to Tape Recording Inspection

Purpose : To check the recording function from CD to Tape.

Below is the procedures for this mode.

Procedure :

Step 1: Enter into Doctor mode (Refer section 8.1 Special Mode Table)

Step 2: Insert CDT-018 (Ensure TOC is completed) to CD unit before proceeding.

Step 3: Press [4] button on remote control. Enter into CD to Tape Test mode. (During this mode, volume is set to [VOLUME 50], Bass & Treble is set to 0dB & EQ is switch off).

Note : When in CD to Tape Recording Test mode, the following process is perform :

a) Deck will rewind to start point (point at the start of recording) & Stop.

b) Recording begins (at constant analogue recording speed) for 3 seconds & Stop.

- However, “Error” would be display if there is no tracks to access to, no tape inserted, no test CD inserted or when the tape erasure prevention tab for FWD side is not suitable for recording.
- When in this mode, if ■, -DEMO button is pressed the process will stops automatically.

8.1.4. Tape Recording and Playing

Purpose : To check the Tape function.

Assuming the recording to TAPE has been done in test 3, only playing TAPE is made.

Below is the procedures for this mode.

Procedure :

Step 1: Enter into Doctor mode (Refer section 8.1 Special Mode Table)

Step 2: Press [5] button on remote control. Enter into Tape recording Test mode. (During this mode, Tape function is set to automatically, volume is set to [VOLUME 50], Bass & Treble is set to 0dB & EQ is switch off).

Step 3: FWD play is made for 3 seconds after setting the above-mentioned, TAPE is stopped 3 seconds later. Tape should open.

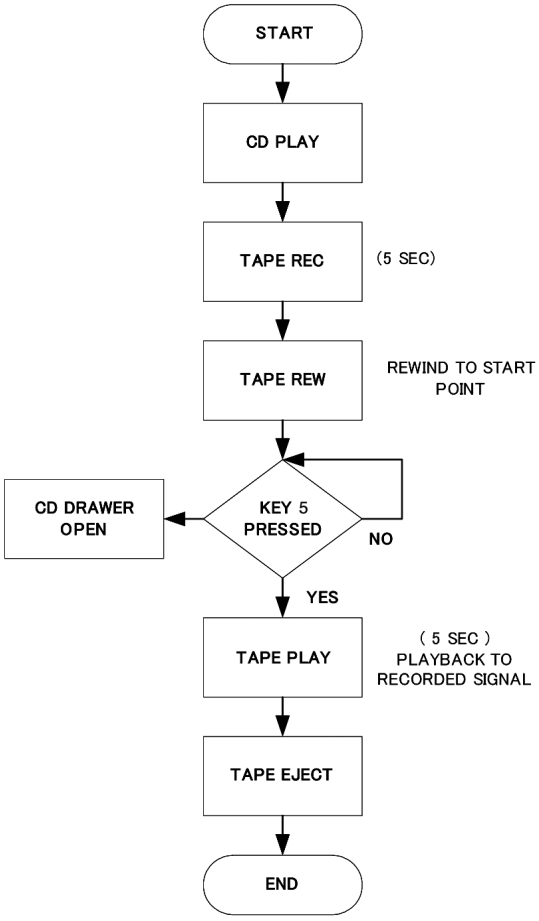
Note : When in CD to Tape Recording Test mode, the following process is perform :

a) If the erasure prevention tab for FWD side the tape is broken, it is judged as an error and the recording operation does not start.

b) If tape stops by detecting a tape end while recording, it becomes an error.

c) If STOP key is pressed while recording or playing, the operation shall be terminated by stopping TAPE. In this case, the doctor mode is not released.

d) DMT is output with the same timing as usual.



8.1.5. TPS Inspection

Purpose : To check the TPS.

Below is the procedures for this mode.

Procedure :

Step 1: Enter into Doctor mode (Refer section 8.1 Special Mode Table)

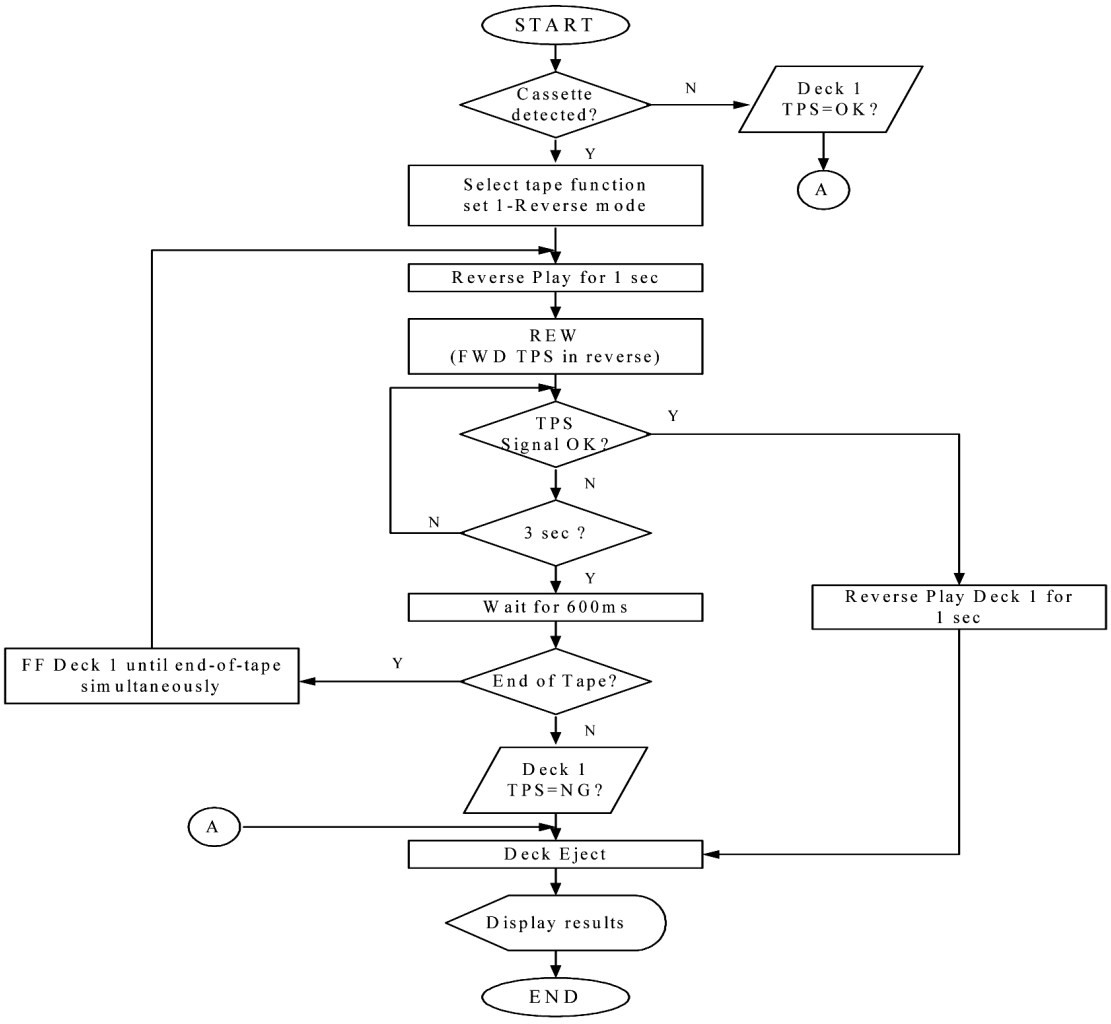
Step 2: Press [∧/**FF**/►►I] button on remote control. Enter into TPS Test mode. (During this mode)

- Software will start checking for existence of cassette in Deck.
- If the Deck does not contain any cassette, it shall end the test and displays the result of the test.
- The test will start by playing the Deck in forward direction for 1 sec and then FF TPS.
- If TPS signal is OK, the Deck shall be ejected. Below is information on the TPS under 3 examples.

1. If ERROR Flag is set "ERROR" shall be displayed. TPS check result shall not be shown in this case.

2. If Deck TPS check = OK

3. If Deck TPS check = NG



8.2. Error Code Table

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

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

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
H01	MODE SW abnormal		H01	For deck mechanism unit. Press [■, -DEMO] on main unit for next error.
H02	REC INH SW abnormal		H02	For deck mechanism unit. Press [■, -DEMO] on main unit for next error.
H03	HALF SW abnormal		H03	For deck mechanism unit. Press [■, -DEMO] on main unit for next error.
F01	Reel pulse abnormal		F01	For deck mechanism unit. Press [■, -DEMO] on main unit for next error.
F02	TPS abnormal		F02	
F15	CD REST SW Abnormal	CD traverse position intial setting operation failsafe counter (1000 ms) waiting for REST SW toturn on. Error No. shall be clear by force or during cold start.	F 15	For CD unit (For Traverse). Press [■, -DEMO] on main unit for next error.

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
F26	Communication between CD servo LSI and micro-p abnormal.	CD function DTMS command, after system setting, If SENSE = ´L´ cannot be detected. Memory shall contain F26 code. After Power on, CD function shall continue, error display shall be "NO DISC". Error No. shall be clear by force or cold start.		For CD unit (For Traverse). Press [■, -DEMO] on main unit for next error.
POWER AMP output abnormal		During normal operation, if DCDET becomes "L", normal POWER OFF process shall not be executed, PCONT shall be switched to "L" immediately. "GOODBYE" shall not be display but the error display F61 is displayed instead. 2 seconds after the F61 displayed, ECONO shall be set to "L" and FL display shall be turned off. The error content shall be memorized when the abnormality occurs and can be display in the C-mecha self-diagnostic mode described later.		For Power Supply Related Error Detection. Press [■, -DEMO] on main unit for next error.

9 Assembling and Disassembling

9.1. Caution

“ATTENTION SERVICER”

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

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

Warning:

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

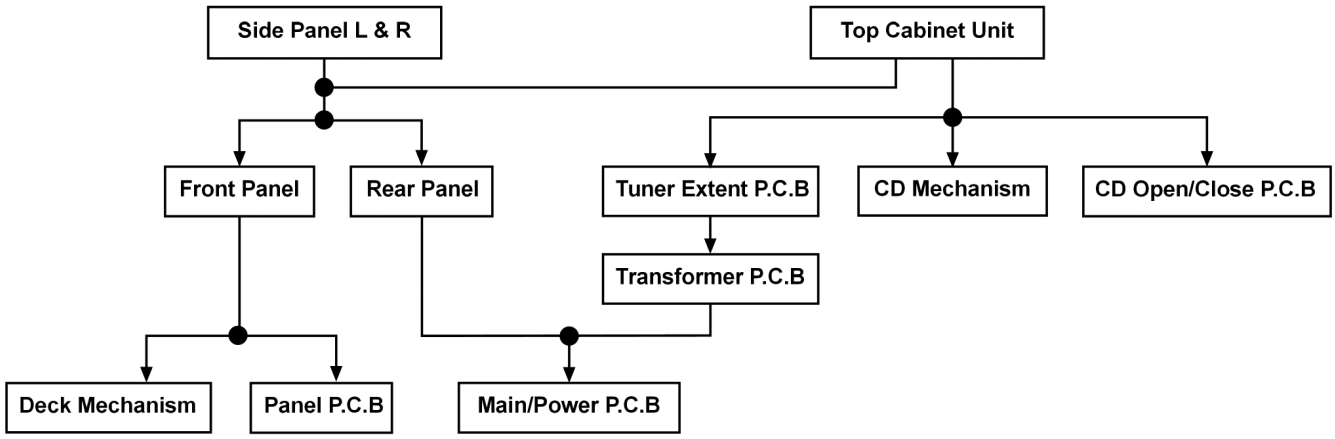
Below is the list of disassembly sections

- **Disassembly of Side Panel L & R**
- **Disassembly of Top Cabinet Unit**
- **Disassembly of CD Mechanism**
- **Disassembly of CD Open/Close P.C.B.**
- **Disassembly of Front Panel**
- **Disassembly of Deck Mechanism**
- **Disassembly of Panel P.C.B.**
- **Disassembly of Tuner Extent P.C.B.**
- **Disassembly of Transformer P.C.B.**
- **Disassembly of Rear Panel**
- **Disassembly of Main/Power P.C.B.**
- **Replacement of CD Lid and CD Open Spring**
- **Replacement of CD Damper Gear**
- **Replacement of Cassette Lid and Cassette Open Spring**
- **Replacement of Cassette Damper Gear**
- **Replacement of Optical pickup unit (CD Mechanism)**
- **Replacement of a traverse gear A and a traverse gear B**
- **Procedure for Replacing Pinch Roller and Head Block (Deck Mechanism Unit)**
- **Procedure for Replacing Motor, Capstan Belt A, Capstan Belt B, and Winding Belt (Deck Mechanism Unit)**
- **Procedure for Replacing Parts on Deck Mechanism PCB**
- **Handling of cassette tape jam**

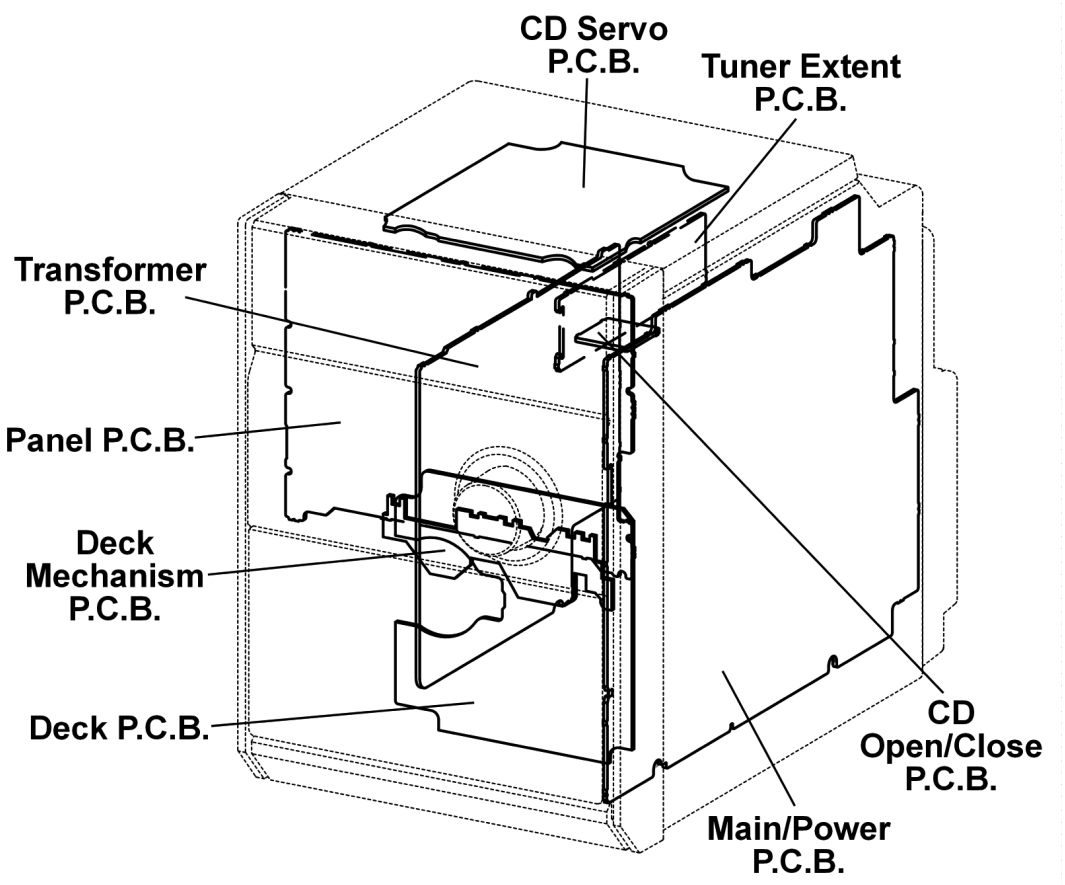
9.2. Disassembly flow chart

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

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

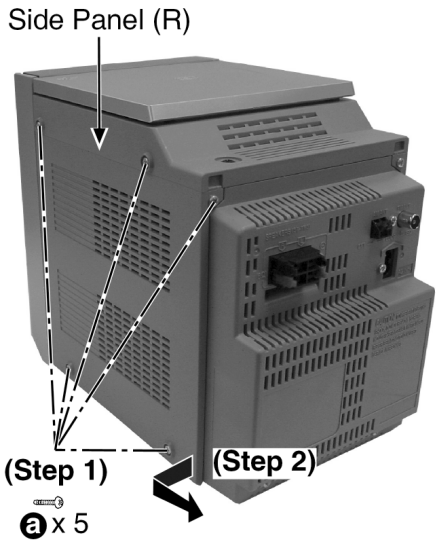


9.3. Main Parts Location Diagram



9.4. Disassembly of Side Panel L & R

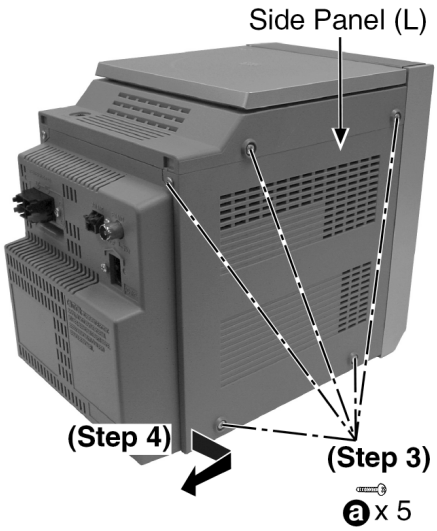
· Disassembly of Side Panel (R)



Step 1: Remove 5 screws.

Step 2: Remove the side panel (R) as arrow shown.

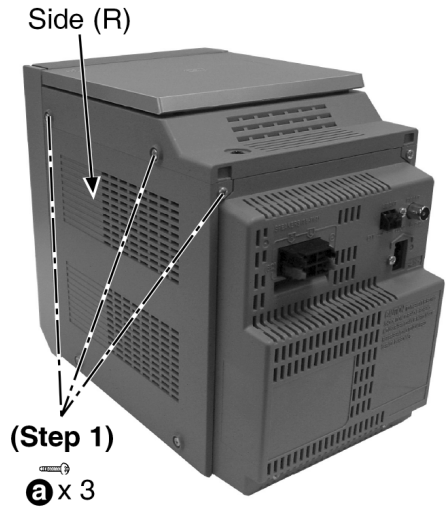
· Disassembly of Side Panel (L)



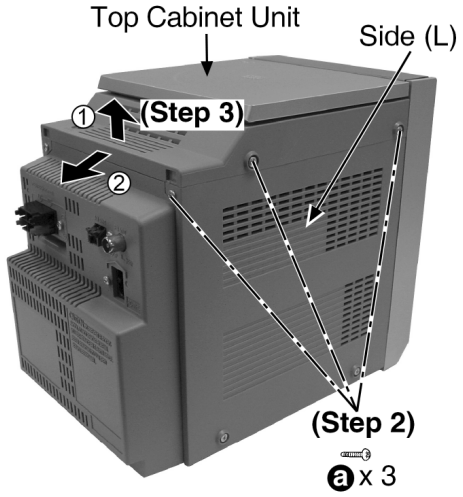
Step 3: Remove 5 screws.

Step 4: Remove the side panel (L) as arrow shown.

9.5. Disassembly of Top Cabinet Unit

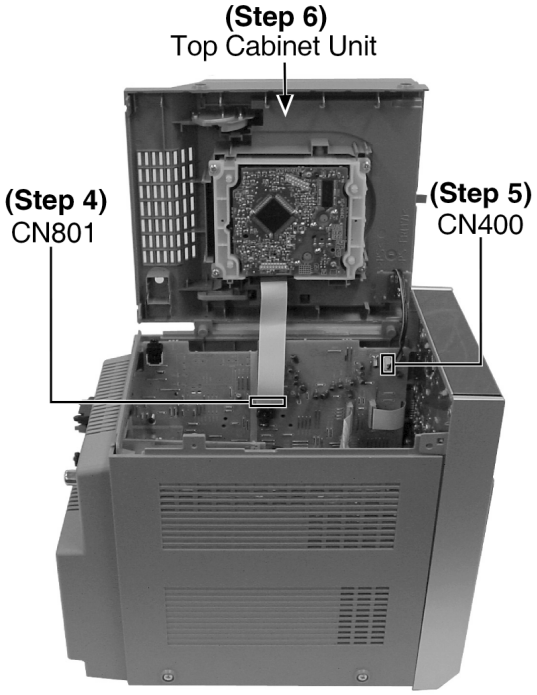


Step 1: Remove 3 screws.



Step 2: Remove 3 screws.

Step 3: Lift up the top cabinet unit, push backward as arrow shown and flip top cabinet unit sideway. (Be careful of the catch)



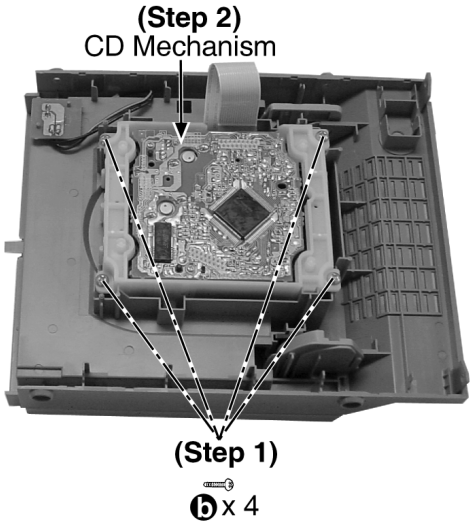
Step 4: Disconnect FFC cable (CN801).

Step 5: Detach connector (CN400).

Step 6: Remove top cabinet unit.

9.6. Disassembly of CD Mechanism

- Follow the (Step 1) - (Step 6) of Item 9.5. - Disassembly of Top Cabinet Unit

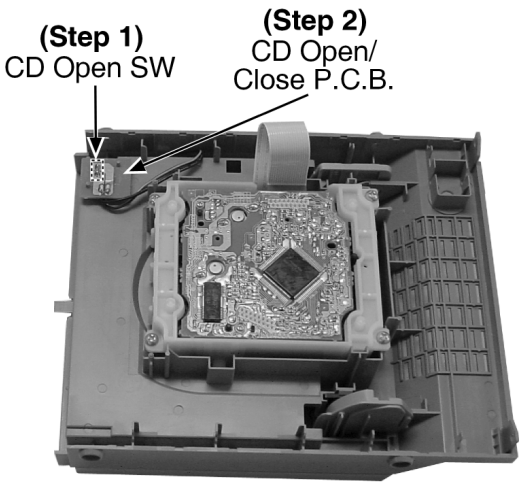


Step 1: Remove 4 screws.

Step 2: Remove CD mechanism. (Refer to section 9.19 for disassembly of CD mechanism unit).

9.7. Disassembly of CD Open/Close P.C.B.

- Follow the (Step 1) - (Step 6) of Item 9.5. - Disassembly of Top Cabinet Unit

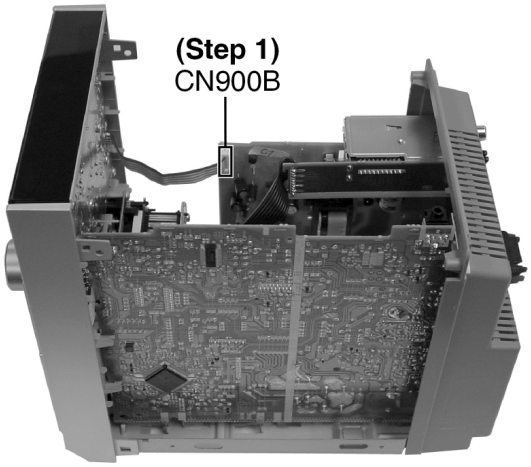


Step 1: Unsolder the CD Open SW.

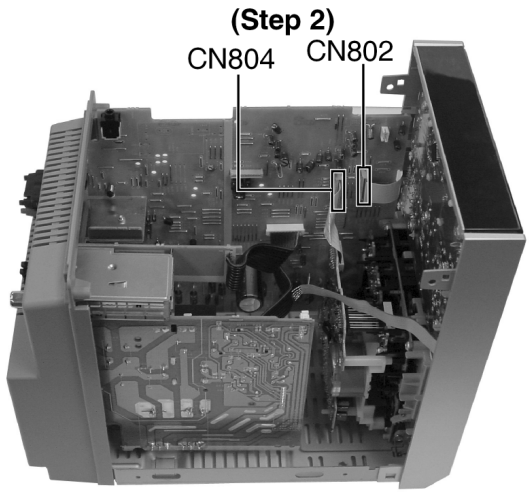
Step 2: Remove CD Open/Close P.C.B.

9.8. Disassembly of Front Panel

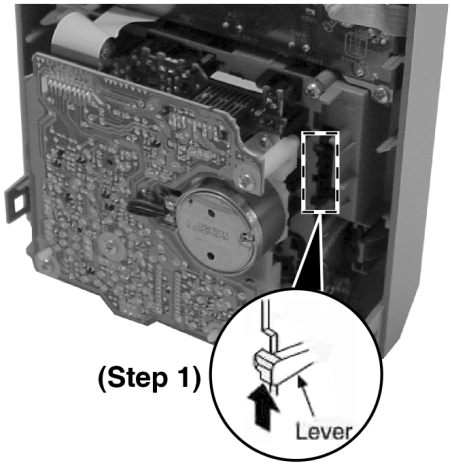
- Follow the (Step 1) - (Step 4) of Item 9.4. - Disassembly of Side Panel L & R
- Follow the (Step 3) - (Step 6) of Item 9.5. - Disassembly of Top Cabinet Unit



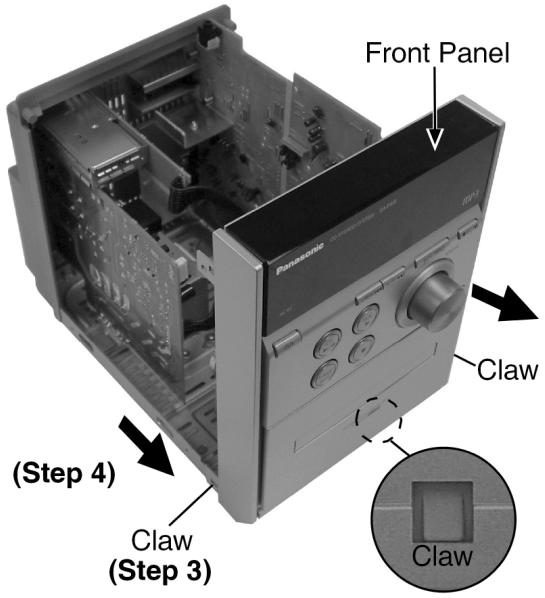
Step 1: Detach connector (CN900B).



Step 2: Disconnect FFC cable (CN802 and CN804).

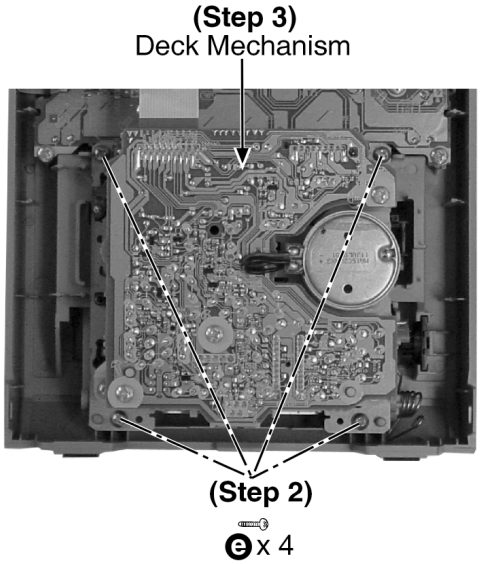


Step 1: Push the lever as arrow shown to open the cassette lid.



Step 3: Release 3 claws.

Step 4: Remove the front panel as arrow shown.



Step 2: Remove 4 screws.

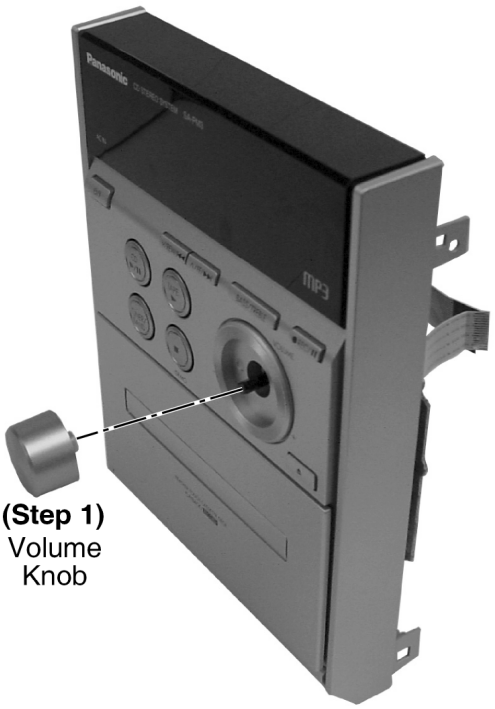
Step 3: Remove deck mechanism.

9.9. Disassembly of Deck Mechanism

- Follow the (Step 1) - (Step 4) of Item 9.4. - Disassembly of Side Panel L & R
- Follow the (Step 3) - (Step 6) of Item 9.5. - Disassembly of Top Cabinet Unit
- Follow the (Step 1) - (Step 4) of Item 9.8. - Disassembly of Front Panel

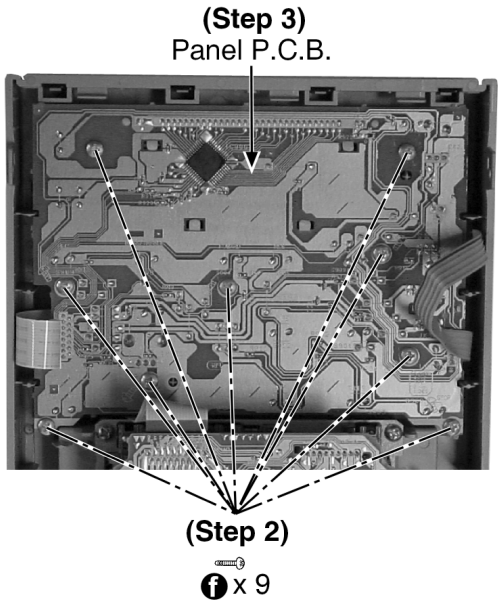
9.10. Disassembly of Panel P.C.B.

- Follow the (Step 1) - (Step 4) of Item 9.4. - Disassembly of Side Panel L & R
- Follow the (Step 3) - (Step 6) of Item 9.5. - Disassembly of Top Cabinet Unit
- Follow the (Step 1) - (Step 4) of Item 9.8. - Disassembly of Front Panel



Step 1: Remove the volume knob.

Step 1: Remove 1 screw.

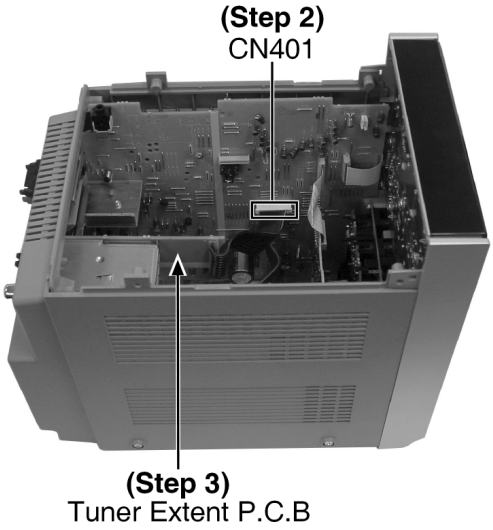


Step 2: Remove 9 screws.

Step 3: Remove the Panel P.C.B.

9.11. Disassembly of Tuner Extent P.C.B.

- Follow the (Step 1) - (Step 6) of Item 9.5. - Disassembly of Top Cabinet Unit



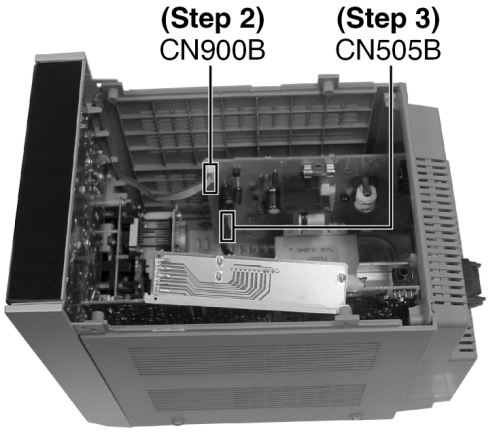
Step 2: Detach connector (CN401).

Step 3: Remove the Tuner Extent P.C.B.

9.12. Disassembly of Transformer P.C.B.

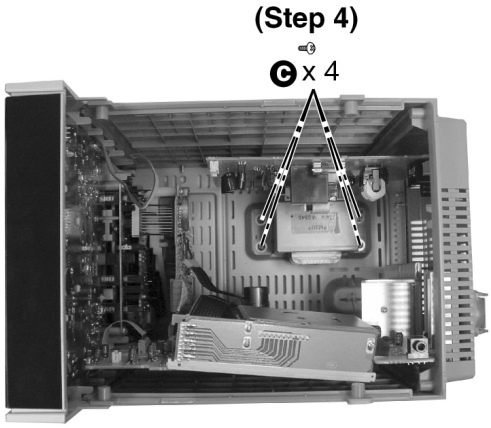
- Follow the (Step 1) - (Step 6) of Item 9.5. - Disassembly of Top Cabinet Unit
- Follow the (Step 1) of Item 9.11. - Disassembly of Tuner Extent P.C.B.

Step 1: Remove 1 screw.

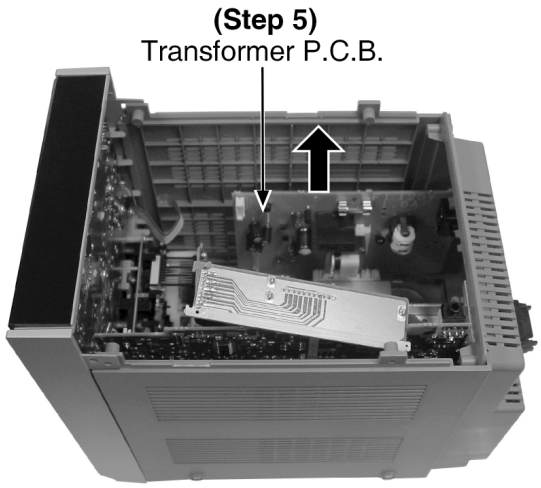


Step 2: Detach connector (CN900B).

Step 3: Detach connector (CN505B).



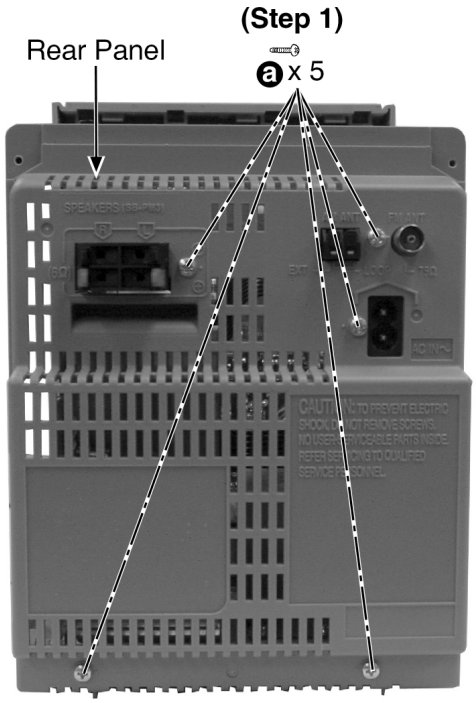
Step 4: Remove 4 screws.



Step 5: Remove the Transformer P.C.B as arrow shown.

9.13. Disassembly of Rear Panel

- Follow the (Step 1) - (Step 4) of Item 9.4. - Disassembly of Side Panel L & R
- Follow the (Step 3) - (Step 6) of Item 9.5. - Disassembly of Top Cabinet Unit

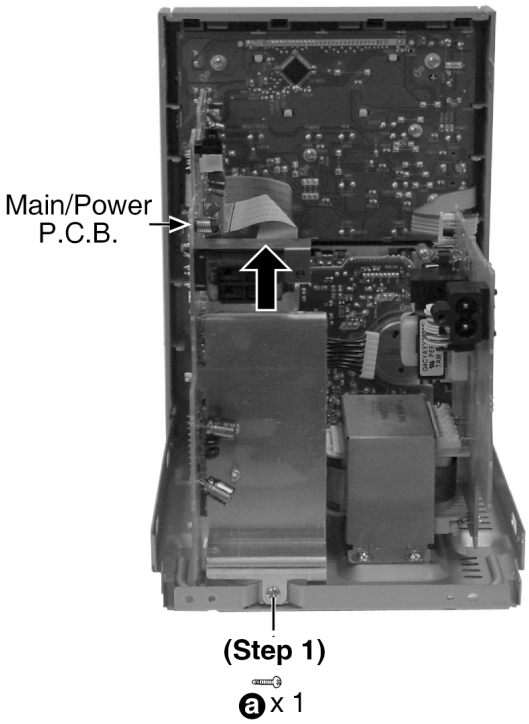


Step 1: Remove 5 screws and remove the rear panel.

9.14. Disassembly of Main/Power P.C.B.

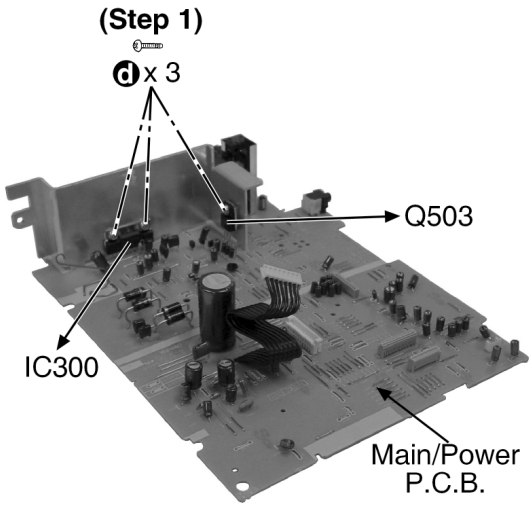
- Follow the (Step 1) - (Step 4) of Item 9.4. - Disassembly of Side Panel L & R
- Follow the (Step 3) - (Step 6) of Item 9.5. - Disassembly of Top Cabinet Unit
- Follow the (Step 2) of Item 9.8. - Disassembly of Front Panel

- Follow the (Step 1) - (Step 3) of Item 9.11. - Disassembly of Tuner Extent P.C.B.
- Follow the (Step 3) of Item 9.12. - Disassembly of Transformer P.C.B.
- Follow the (Step 1) of Item 9.13. - Disassembly of Rear Panel

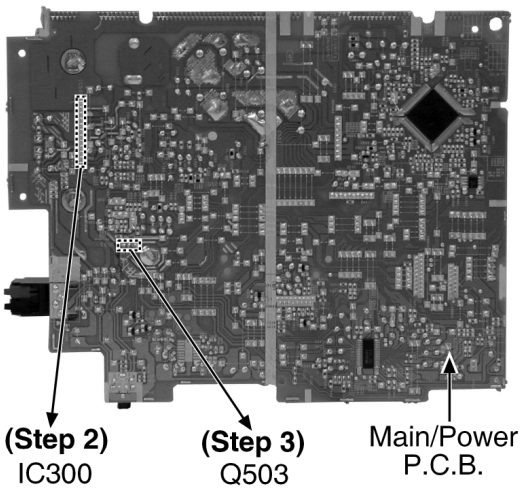


Step 1: Remove 1 screw and remove the Main/Power P.C.B as arrow shown.

- **Replacement of Power Amplifier IC**



Step 1: Remove 3 screws.

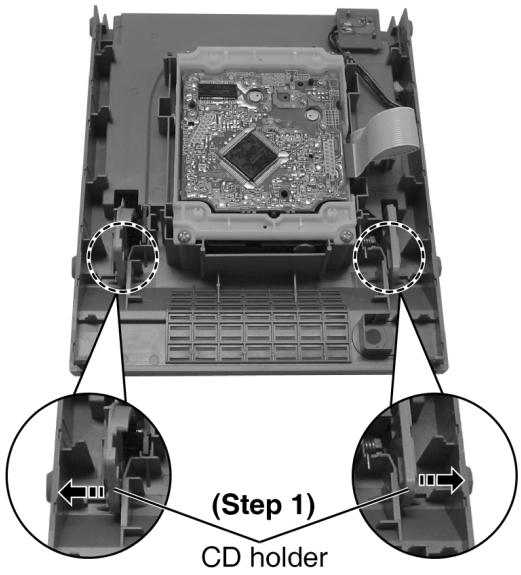


Step 2: Unsolder the terminal of Power Amp IC (IC300) and replace the component.

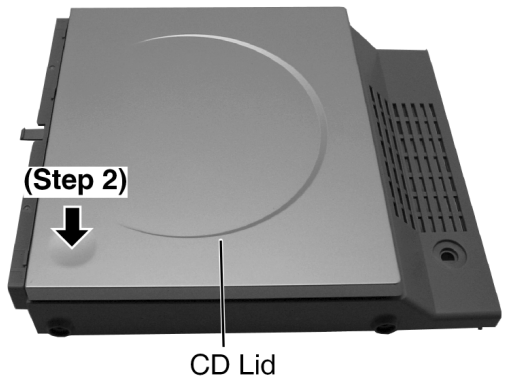
Step 3: Unsolder the terminal of Transistor (Q503) and replace the component.

9.15. Replacement of CD Lid and CD Open Spring

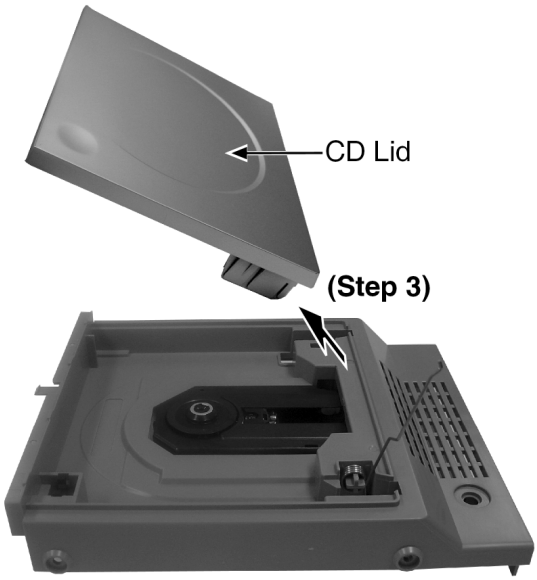
- Follow the (Step 1) - (Step 6) of Item 9.5. - Disassembly of Top Cabinet Unit



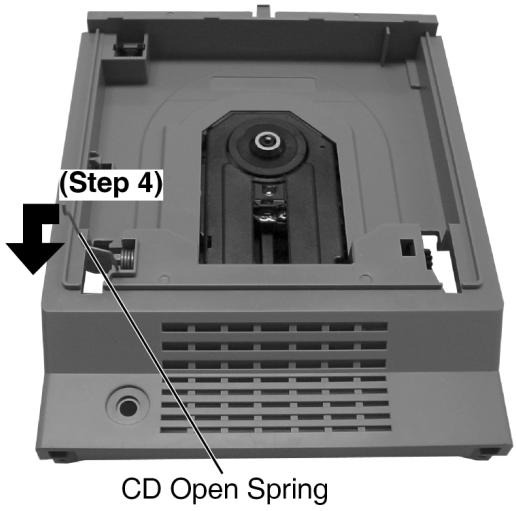
Step 1: Pull both sides CD holders to the direction of the arrows shown.



Step 2: Press the CD lid as arrow shown to open.



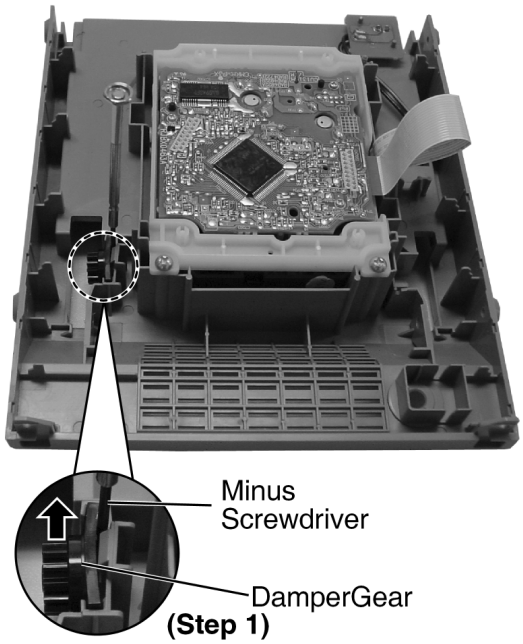
Step 3: Remove the CD lid as arrow shown.



Step 4: Remove the CD open spring as arrow shown.

9.16. Replacement of CD Damper Gear

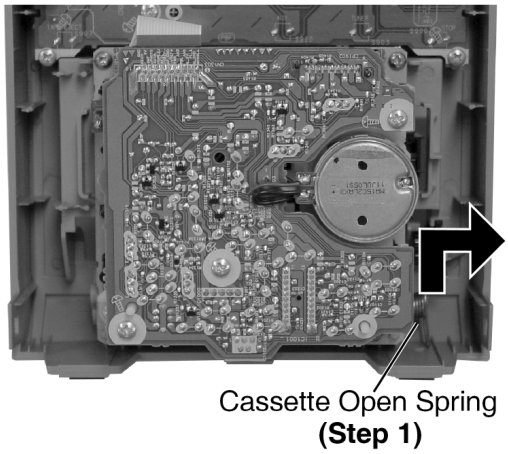
- Follow the (Step 1) - (Step 6) of Item 9.5. - Disassembly of Top Cabinet Unit
- Follow the (Step 2) of Item 9.15. - Replacement of CD Lid and CD Open Spring



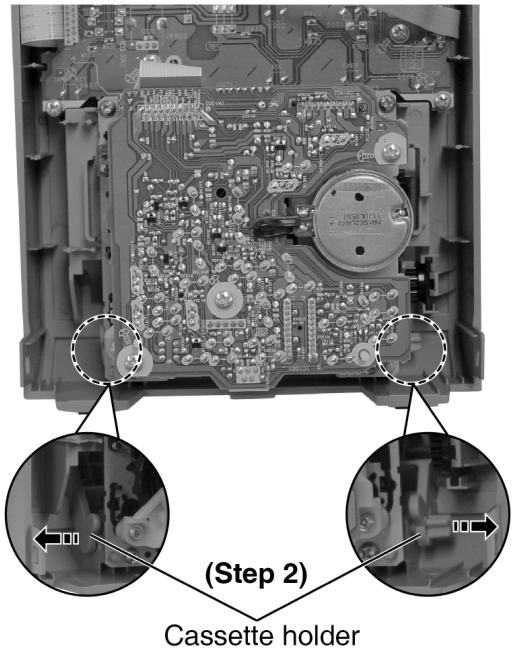
Step 1: Use a minus screwdriver slot into the gap and push out the damper gear as arrow shown. (Be careful of the catches)

9.17. Replacement of Cassette Lid and Cassette Open Spring

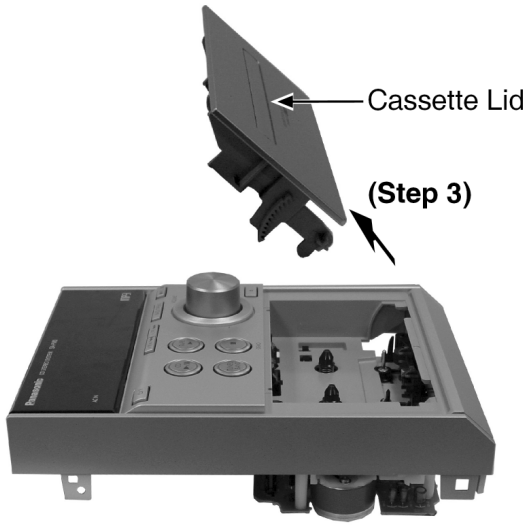
- Follow the (Step 1) - (Step 4) of Item 9.4. - Disassembly of Side Panel L & R
- Follow the (Step 3) - (Step 6) of Item 9.5. - Disassembly of Top Cabinet Unit
- Follow the (Step 1) - (Step 4) of Item 9.8. - Disassembly of Front Panel
- Follow the (Step 1) of Item 9.9. - Disassembly of Deck Mechanism



Step 1: Remove the cassette open spring as arrow shown.



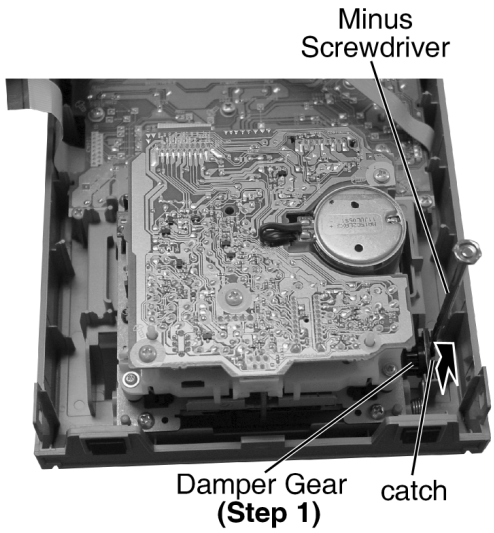
Step 2: Pull both sides cassette holders to the direction of the arrows shown.



Step 3: Remove the cassette lid as arrow shown.

9.18. Replacement of Cassette Damper Gear

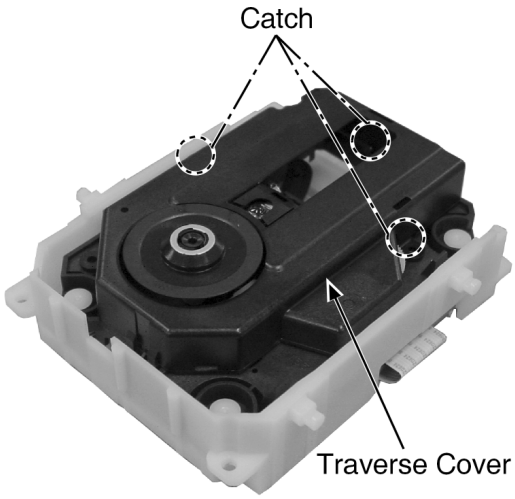
- Follow the (Step 1) - (Step 4) of Item 9.4. - Disassembly of Side Panel L & R
- Follow the (Step 3) - (Step 6) of Item 9.5. - Disassembly of Top Cabinet Unit
- Follow the (Step 1) - (Step 4) of Item 9.8. - Disassembly of Front Panel
- Follow the (Step 1) of Item 9.9. - Disassembly of Deck Mechanism



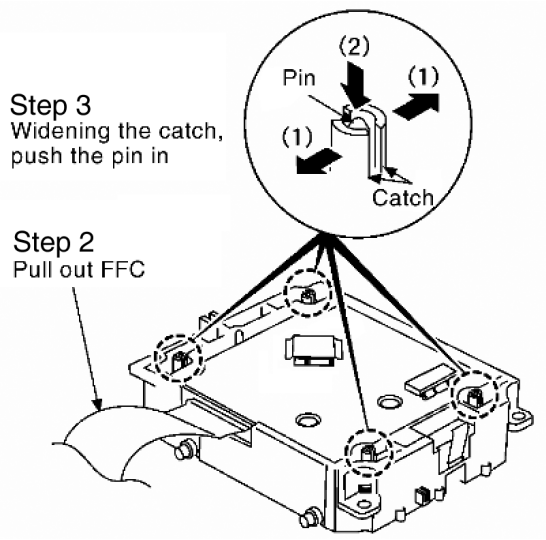
Step 1: Use a minus screwdriver slot into the gap and push out the damper gear as arrow shown. (Be careful of the catches)

9.19. Replacement of optical pickup unit (CD mechanism)

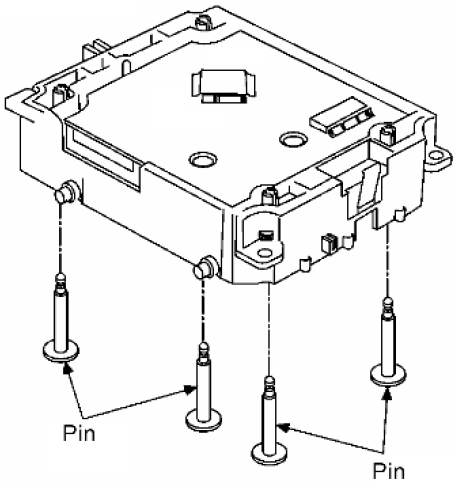
- Follow the (Step 1) - (Step 6) of Item 9.5. - Disassembly of Top Cabinet Unit
- Follow the (Step 1) - (Step 2) of Item 9.6. - Disassembly of CD Mechanism



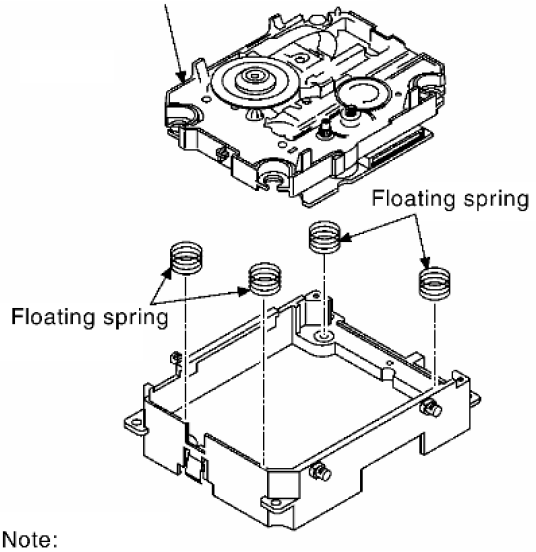
Step 1: Remove 3 catches and remove the traverse cover.



Step 4
Remove 4 pins



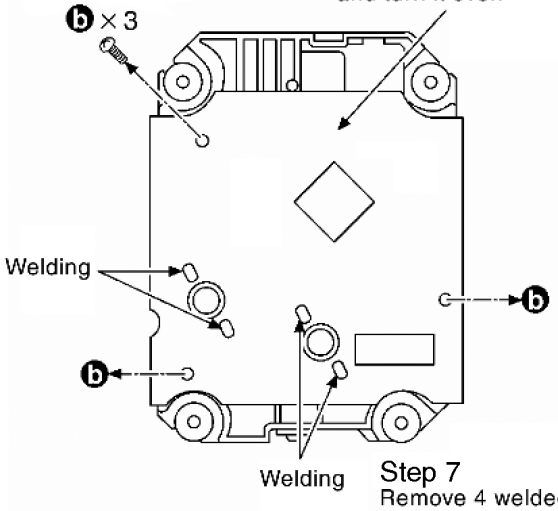
Step 5
Remove the traverse deck



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

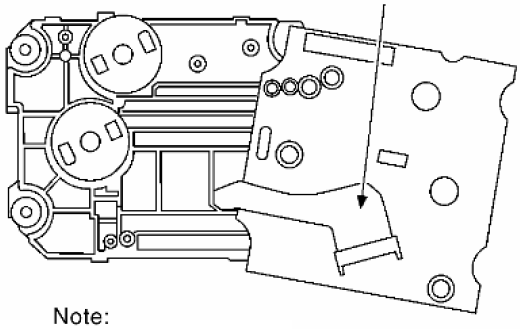
Step 6
ⓑ × 3

Step 8
Remove CD servo board and turn it over.

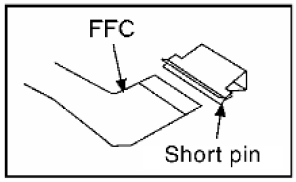


Step 7
Remove 4 welded parts of the motor terminal.

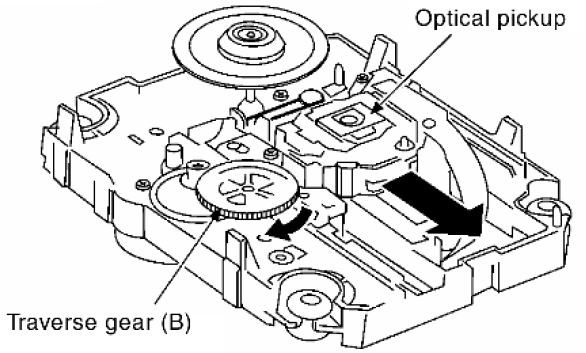
Step 9
Pull FFC out from the connector.



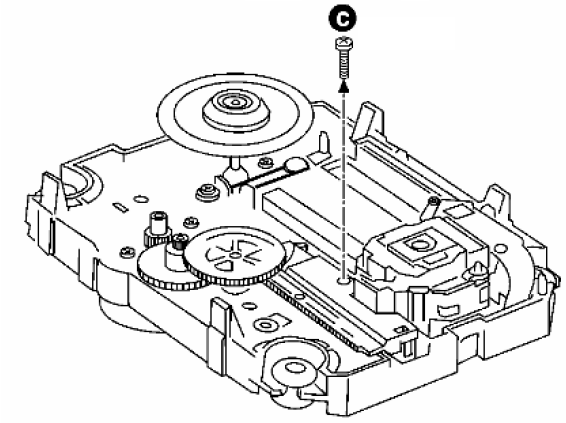
Note:
Insert a short pin into FFC of the optical pickup.
[See "Notice on handling of the optical pickup"]

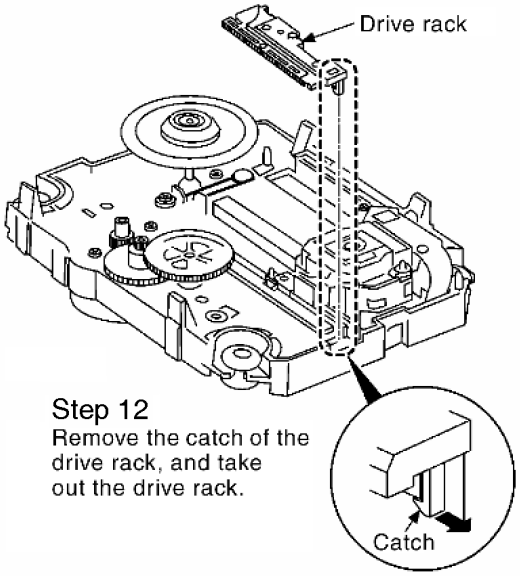


Step 10
Rotate the traverse gear (B) to the arrow direction and shift the optical pickup to the furthest backward.

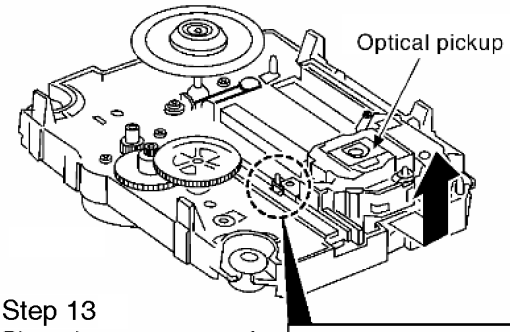


Step 11

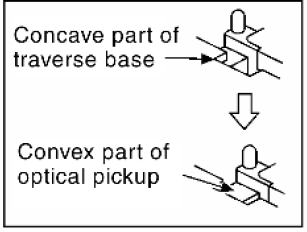


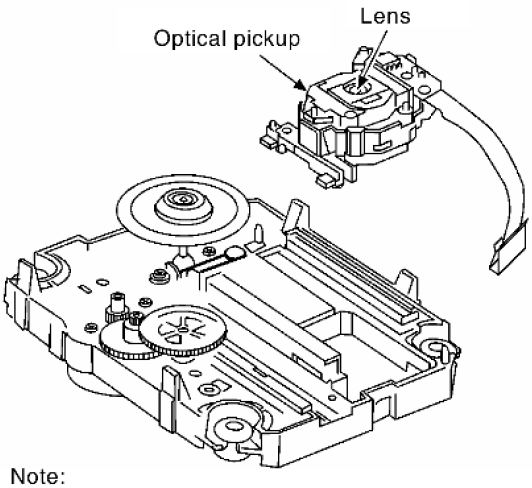


Step 12
Remove the catch of the drive rack, and take out the drive rack.



Step 13
Place the convex part of an optical pickup to the concave part of a traverse base, then take out the optical pickup.



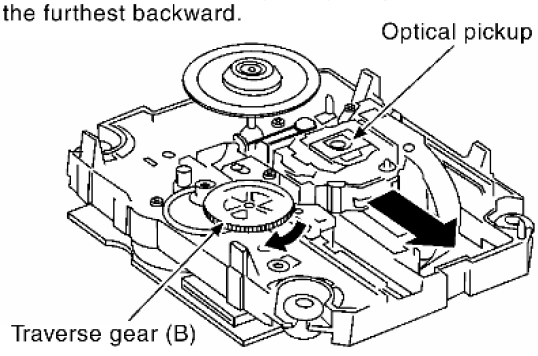


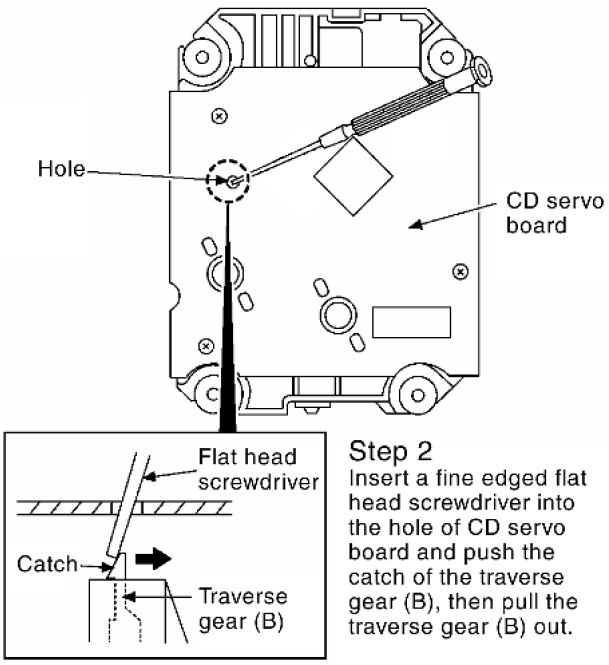
Note:
Do not touch the lens of the optical pickup

9.20. Replacement of a traverse gear A and a traverse gear B

- Follow the (Step 1) - (Step 6) of Item 9.5. - Disassembly of Top Cabinet Unit
- Follow the (Step 1) - (Step 2) of Item 9.6. - Disassembly of CD Mechanism
- Follow the (Step 1) - (Step 5) of Item 9.19. - Replacement of optical pickup unit (CD mechanism)

Step 1
Rotate the traverse gear (B) to the arrow direction, and shift the optical pickup to the furthest backward.



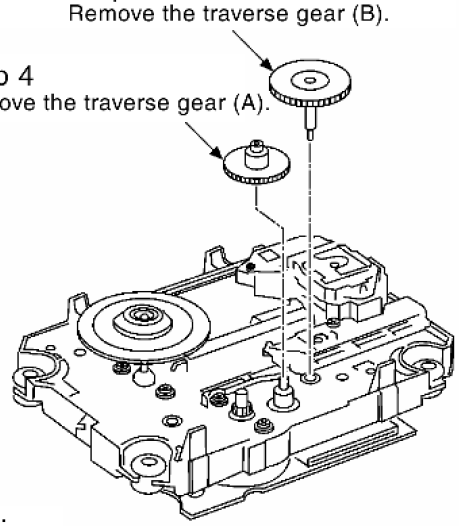


Step 2
Insert a fine edged flat head screwdriver into the hole of CD servo board and push the catch of the traverse gear (B), then pull the traverse gear (B) out.

Note:
Be careful not to break the hook of the traverse gear (B)

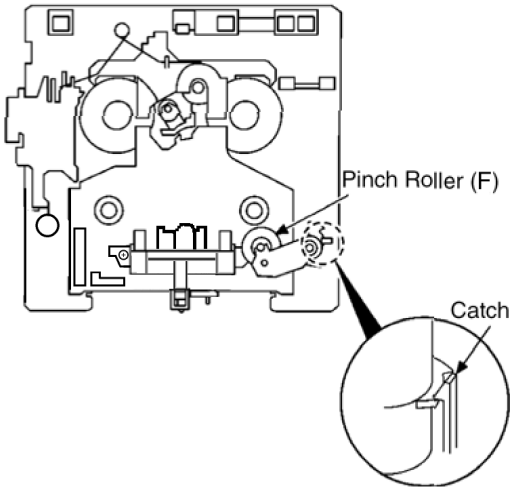
Step 3
Remove the traverse gear (B).

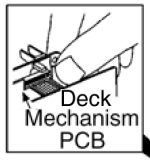
Step 4
Remove the traverse gear (A).



Note:
Do not use the removed traverse gear (B) anymore.
Surely replace with a new one.

Step 1
Release catches to remove the pinch rollers (F).

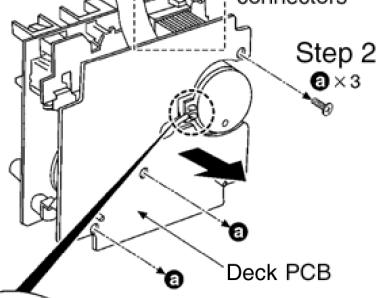


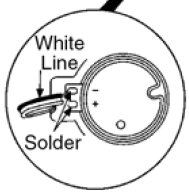


Note:
Support the Deck Mechanism PCB by hand to remove the Deck PCB.

Step 4
Remove the Deck PCB, keeping track of connectors

Step 2
ⓐ×3

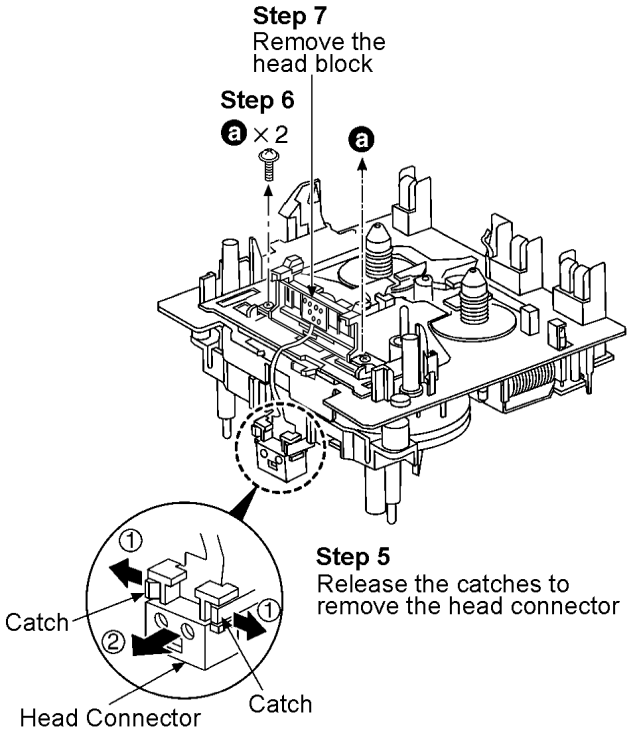




Step 3
Remove 2 solders of the motor terminal.

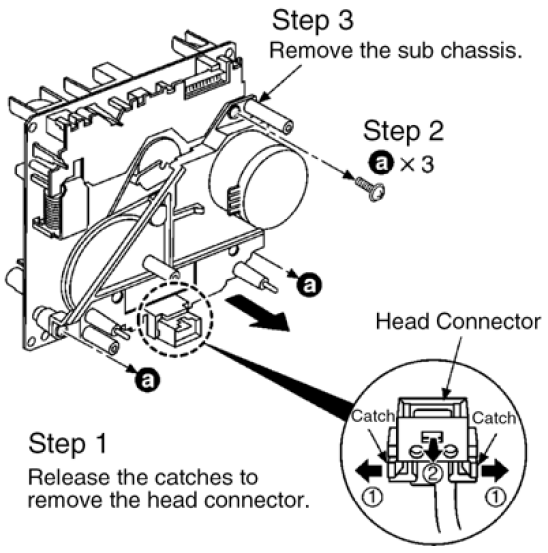
9.21. Procedure for Replacing Pinch Roller and Head Block (Deck Mechanism Unit)

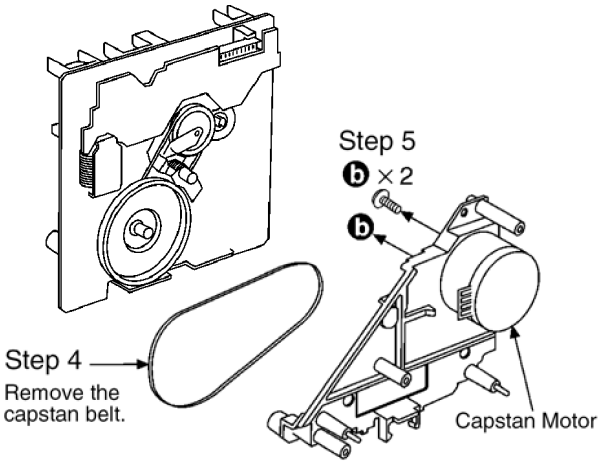
- Follow the (Step 1) - (Step 4) of Item 9.4. - Disassembly of Side Panel L & R
- Follow the (Step 3) - (Step 6) of Item 9.5. - Disassembly of Top Cabinet Unit
- Follow the (Step 1) - (Step 4) of Item 9.8. - Disassembly of Front Panel
- Follow the (Step 1) - (Step 3) of Item 9.9. - Disassembly of Deck Mechanism

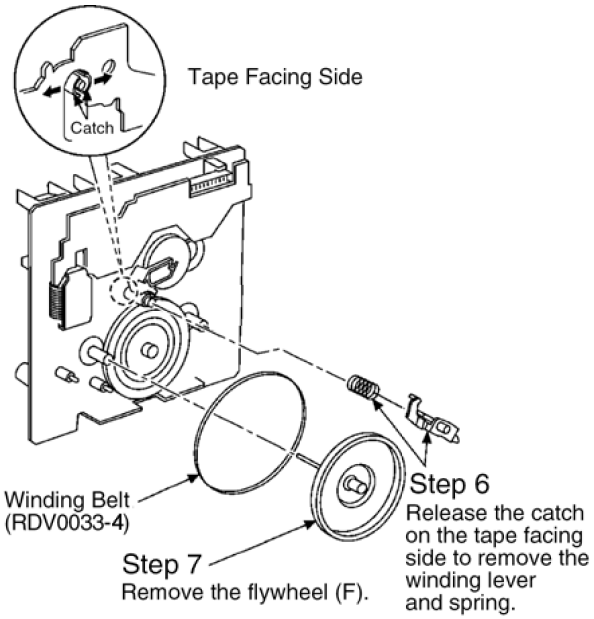


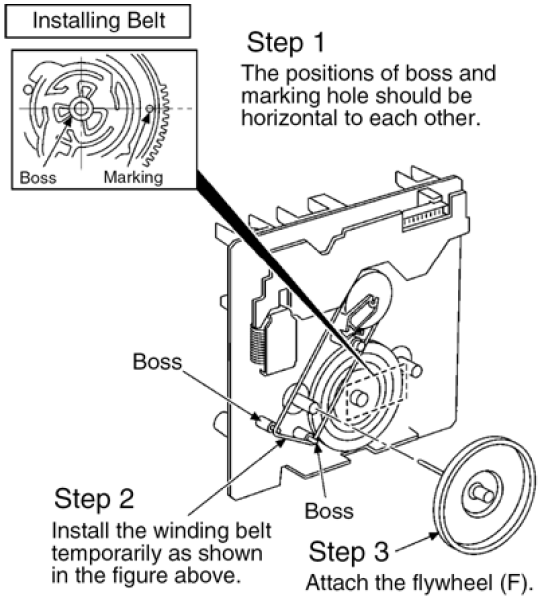
9.22. Procedure for Replacing Motor, Capstan Belt A, Capstan Belt B, and Winding Belt (Deck Mechanism Unit)

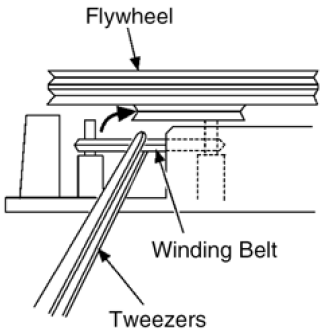
- Follow the (Step 1) - (Step 4) of Item 9.4. - Disassembly of Side Panel L & R
- Follow the (Step 3) - (Step 6) of Item 9.5. - Disassembly of Top Cabinet Unit
- Follow the (Step 1) - (Step 4) of Item 9.8. - Disassembly of Front Panel
- Follow the (Step 1) - (Step 3) of Item 9.9. - Disassembly of Deck Mechanism
- Follow the (Step 1) - (Step 4) of Item 9.21. - Procedure for Replacing Pinch Roller and Head Block (Deck Mechanism Unit)



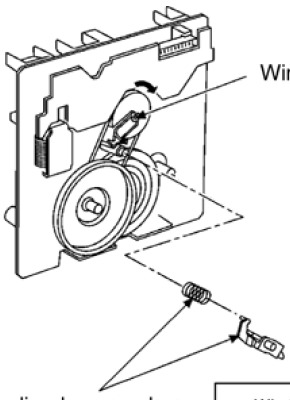




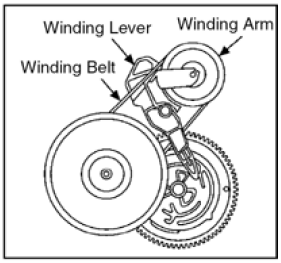




Step 4
Catch the winding belt on the flywheel (F).

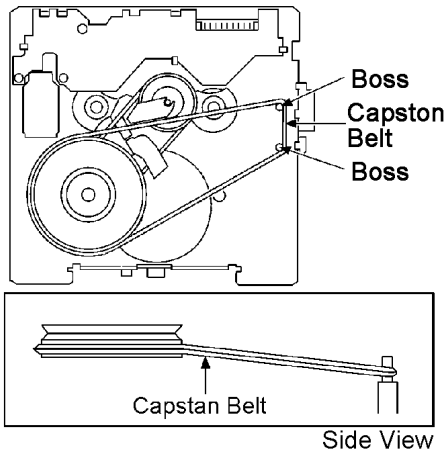


Step 5
Install the winding lever and spring while the winding arm is pressed to the arrow direction. (Be sure that the winding lever is firmly inserted and the catch is hooked.)



Note:
The winding lever should be positioned as shown in the right figure.

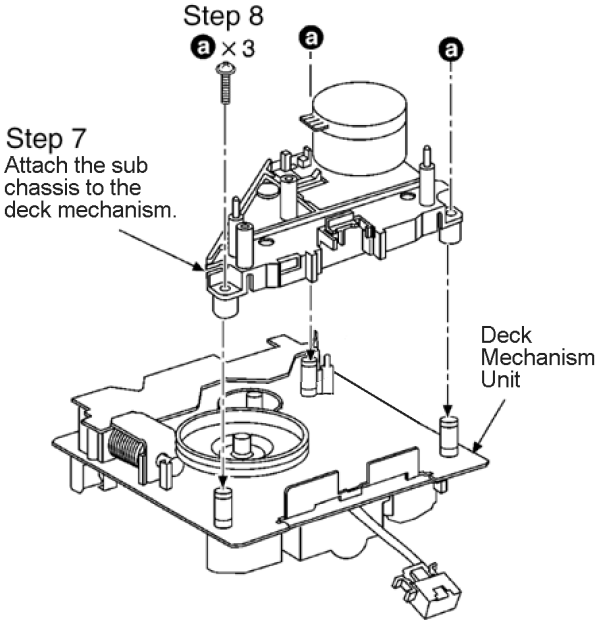
Step 6
Install the capstan belt temporarily as shown in the figure below.

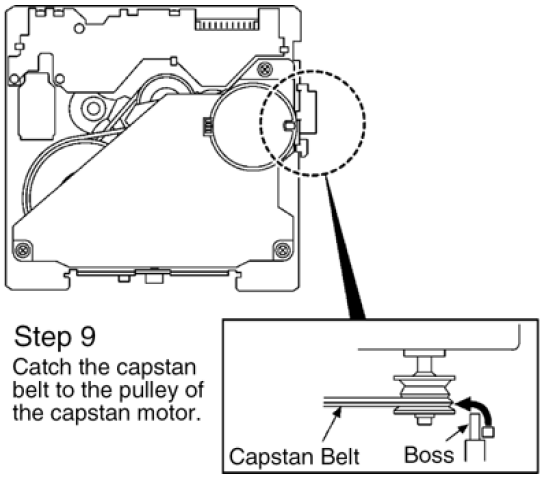


Note:
Keep the belt away from grease.

Step 8
ⓐ × 3

Step 7
Attach the sub chassis to the deck mechanism.

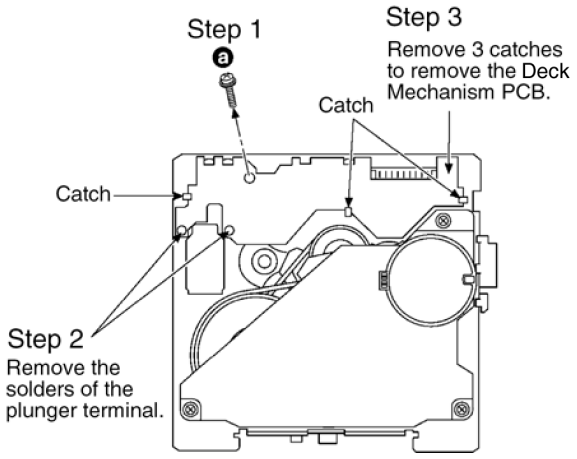




Step 9
Catch the capstan belt to the pulley of the capstan motor.

9.23. Procedure for Replacing Parts on Deck Mechanism PCB

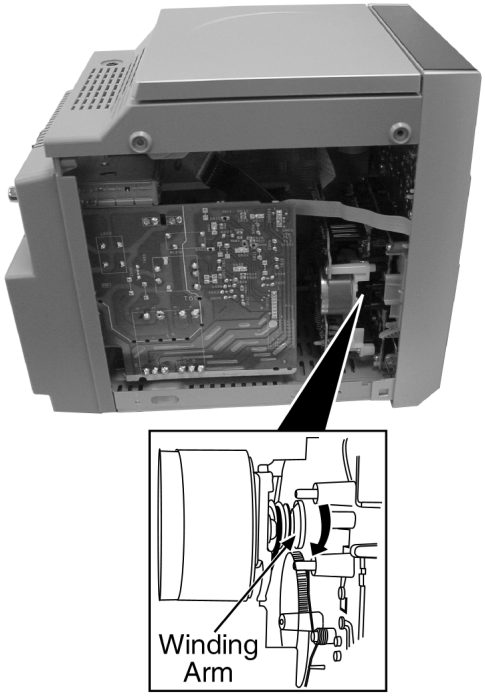
- Follow the (Step 1) - (Step 4) of Item 9.4. - Disassembly of Side Panel L & R
- Follow the (Step 3) - (Step 6) of Item 9.5. - Disassembly of Top Cabinet Unit
- Follow the (Step 1) - (Step 4) of Item 9.8. - Disassembly of Front Panel
- Follow the (Step 1) - (Step 3) of Item 9.9. - Disassembly of Deck Mechanism



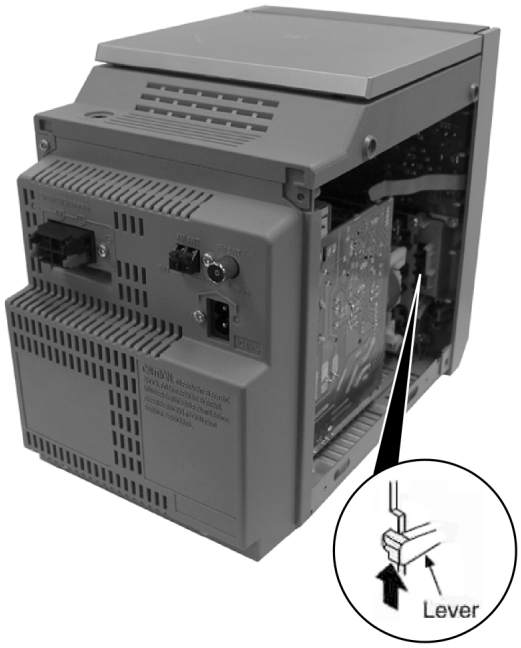
9.24. Handling of cassette tape jam

・Follow the (Step 3) - (Step 4) of Item 9.4. - Disassembly of Side Panel L & R

Step 1
If the cassette tape is not ejected due to twining around capstan or pinch roller during playing or recording, rotate a Winding Arm to the arrow direction to remove twined tape.



Step 2
Push the lever to the arrow direction, open the cassette cover and take out the cassette tape.



10 Service Fixture and Tools

Service Tools	
Extension FFC	
(A) Deck P.C.B. - Main/Power P.C.B.	RFKZPM23PS (19 Pins)

11 Service Positions

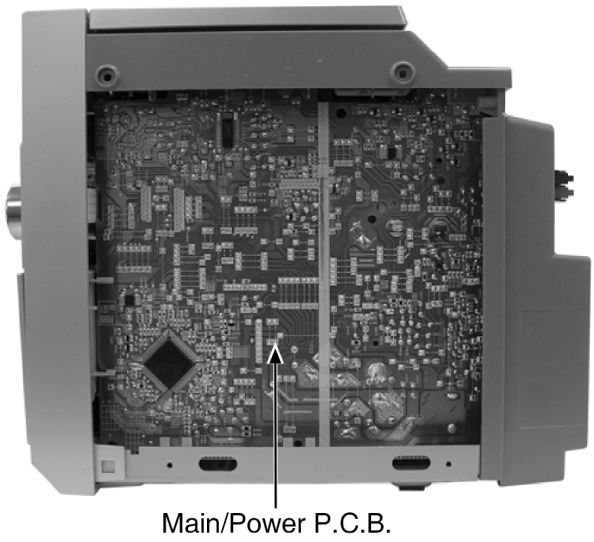
Note: For description of the disassembly procedures, see the Section 9

11.1. Checking and Repairing of Main/Power P.C.B.

1. Remove Side Panel (R)

Remove 5 screws.

Remove the side panel (R).

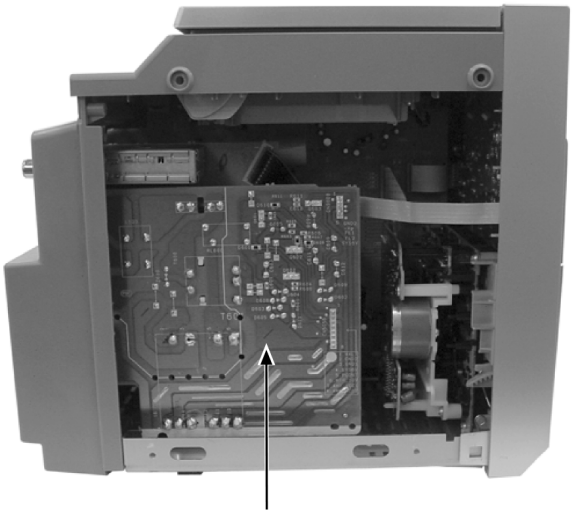


11.2. Checking and Repairing of Transformer P.C.B.

1. Remove Side Panel (L)

Remove 5 screws.

Remove the side panel (L).



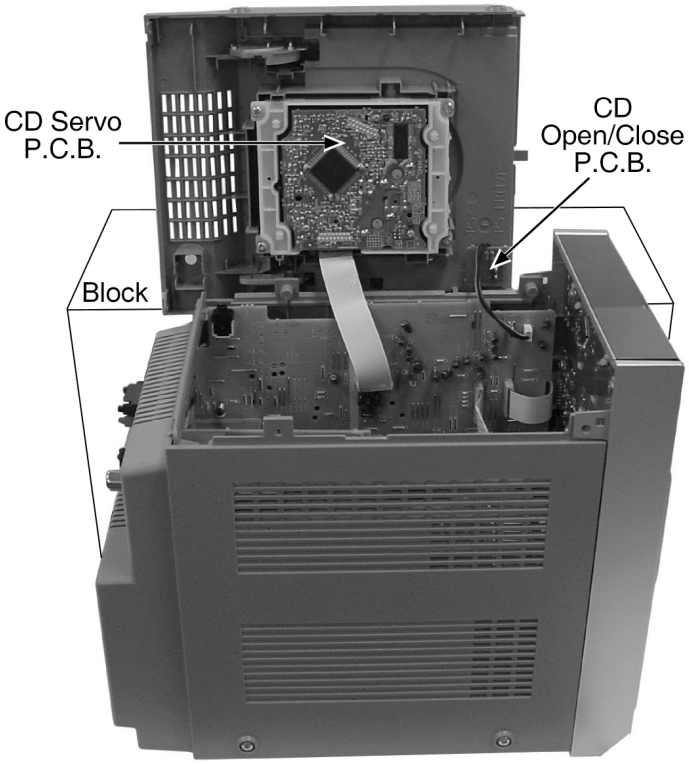
11.3. Checking and Repairing of CD Servo & CD Open/Close P.C.B.

1. Disassemble Top Cabinet Unit

Remove 3 screws on R side.

Remove 3 screws on L side.

Flip top cabinet unit sideway.



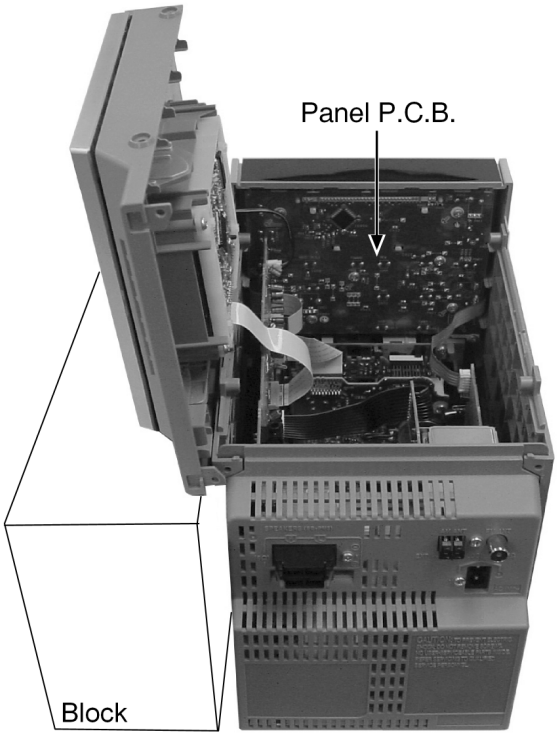
11.4. Checking and Repairing of Panel P.C.B.

1. Disassemble Top Cabinet Unit

Remove 3 screws on R side.

Remove 3 screws on L side.

Flip top cabinet unit sideway.



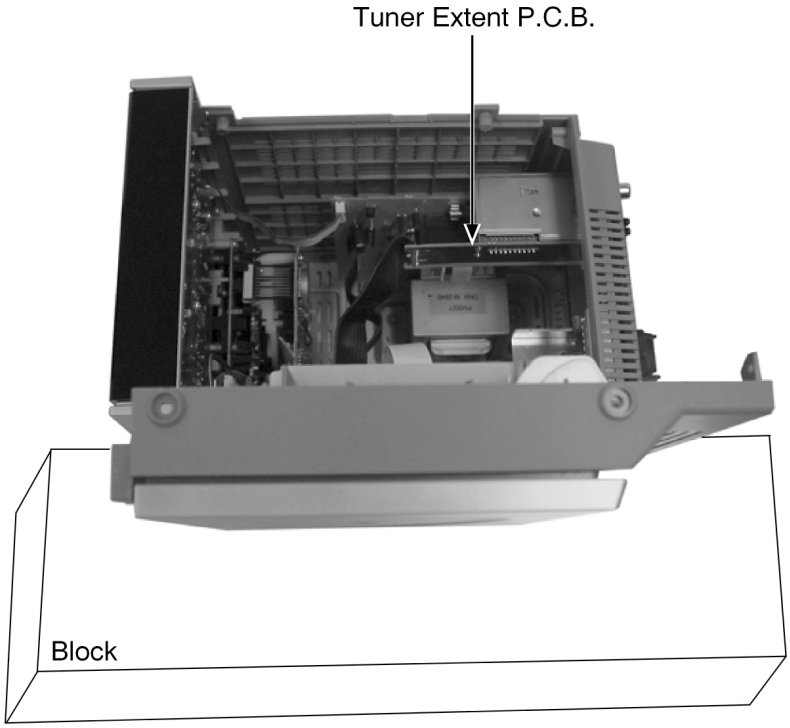
11.5. Checking and Repairing of Tuner Extent P.C.B.

1. Disassemble Top Cabinet Unit

Remove 3 screws on R side.

Remove 3 screws on L side.

Flip top cabinet unit sideway.



11.6. Checking and Repairing of Deck & Deck Mechanism P.C.B.

1. Remove Side Panel L & R

- Remove 5 screws.
- Remove the side panel (L).
- Remove 5 screws.
- Remove the side panel (R).

2. Disassemble Top Cabinet Unit

- Flip top cabinet unit sideway.

3. Disassemble Front Panel

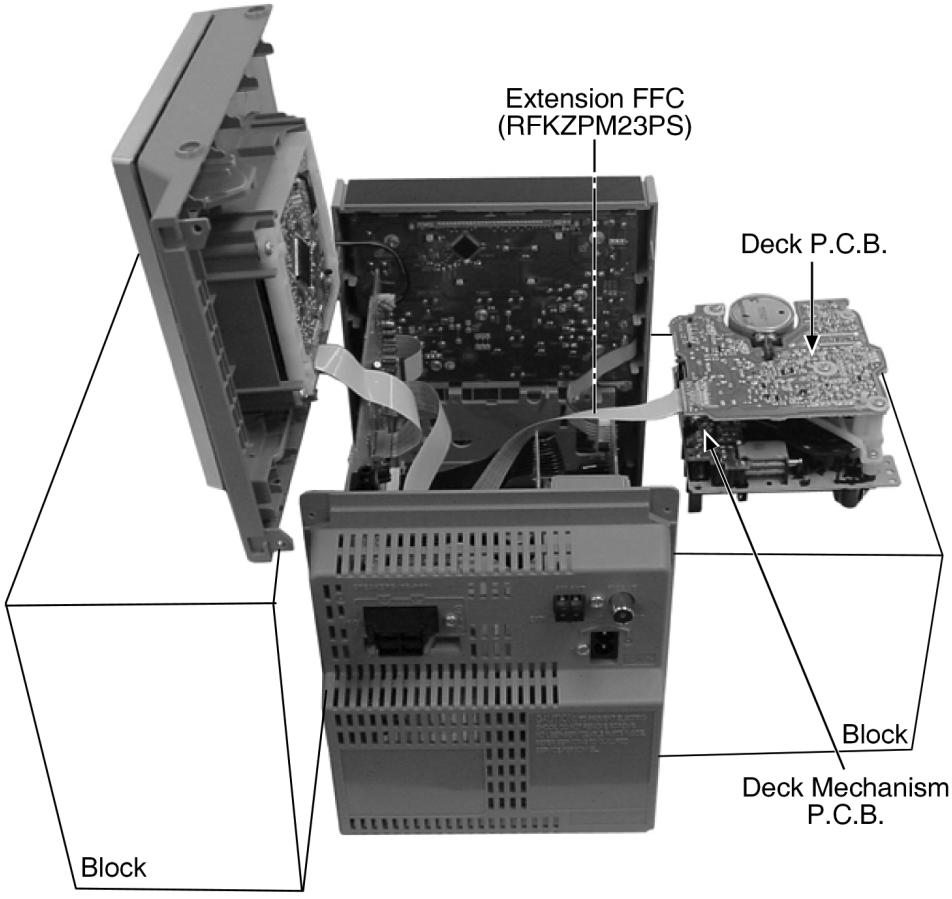
- Detach CN900B.
- Disconnect CN802 and CN804.
- Release 3 claws.
- Remove the front panel.

4. Disassemble Deck Mechanism

- Push the lever upward.
- Remove 4 screws.
- Remove the deck mechanism.

5. Connect Panel P.C.B. & Deck P.C.B.

Connect 5P cable between WH900 to CN900B
Connect 15P FFC cable between CN901 to CN802
Connect 19P FFC cable (RFKZPM23PS)
between CN1303 to CN804



12 Procedure for Checking Operation of Individual Parts of Deck Mechanism Unit

12.1. Operation Check with Cassette Tape

1. Pull up the EJECT lever using a rubber band. (Fig. 6)
2. Supply DC5V to MOTOR. (→ MOTOR rotates.) (Fig. 5)
3. Insert a cassette tape to the unit.
4. Supply DC9V to the plunger, and turn the power ON and OFF. (→ Power +PL, -PL) (Fig. 5)
   a. FWD PLAY: Supply the plunger power in a flash. (ON: approx. 5msec)
   b. FWD FF: Supply the plunger power in a flash at PLAY mode. (ON: approx. 5msec)
   c. STOP: Supply the plunger power in a flash at FWD FF mode. (ON: approx. 5msec)
   d. REV PLAY: Supply the plunger power in a normal timing at STOP mode. (ON: approx. 200msec)
   e. REV REW: Supply the plunger power in a flash at REV PLAY mode. (ON: approx. 50msec)
   f. STOP: Supply the plunger power in a flash at FF mode. (ON: approx. 50msec)
   Repeat the operation (→ FWD PLAY)
   (Note) Other operation may start if a timing of supplying the plunger power is missed.

12.1.1. Connection Status between Mechanism and Power Supply (Motor, Plunger)

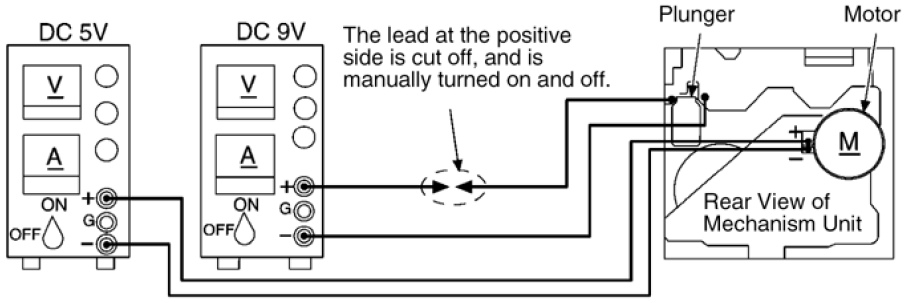


Fig. 5

12.1.2. Operative Parts of Deck Mechanism Unit (EJECT lever fitted with rubber band, Plunger/Rib operation)

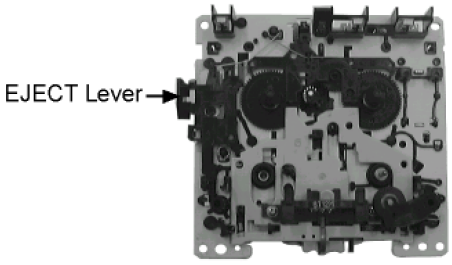


Fig. 6

12.2. Operation Check without Cassette Tape

1. Pull up the EJECT lever using a rubber band. (Fig. 6)
2. Supply DC5V to MOTOR. (→ MOTOR rotates.)
3. Lift up the mechanism unit's plunger/rib with the tip of a negative screwdriver, and operate the unit in the same timing as supplying the power. (Fig. 7)

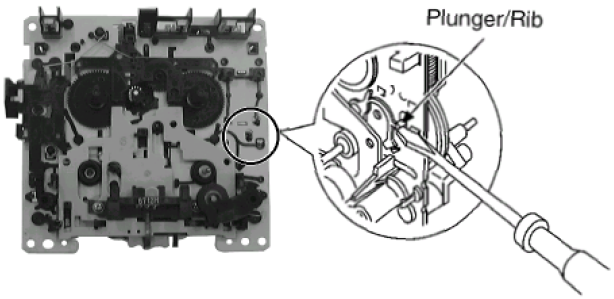


Fig. 7

13 Measurement And Adjustments

13.1. Cassette Deck Section

13.1.1. Requirements

- Test tape (QZZCFM) (QZZCWAT)
- Normal blank cassette tape (QZZCRA)
- Digital frequency counter
- Oscilloscope
- Electrical voltmeter
- Headphone jack output jig (Fig. 8)

13.1.2. Setting of Unit

- VOLUME: MAX

13.1.3. Preparations

1. Apply under [9. Assembling and Disassembling].
2. Remove 4 screws from the mechanism unit to disassemble. under [9. Assembling and Disassembling].
3. Connect the headphone jack output jig (Fig. 8) to headphone jack.

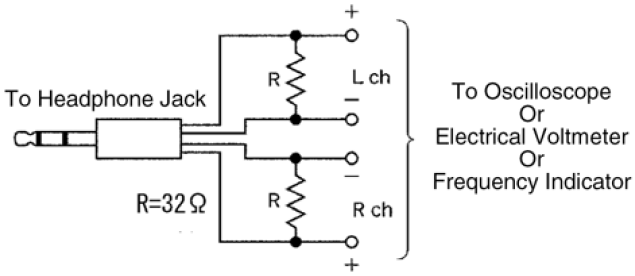


Fig. 8

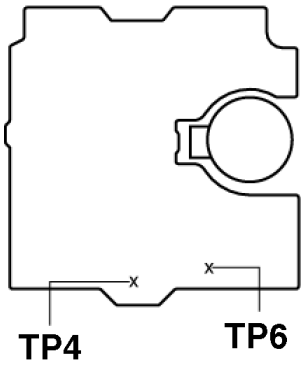


Fig. 9

13.1.4. Tape Speed Adjustment

- Normal speed adjustment (only during forward playback)
  (Product reference value: 3,000±90Hz)

1. Connect a frequency indicator. (Fig. 12)
2. Playback the middle portion of the test tape (QZZCWAT).
3. Adjust the motor screw so that the following output level is produced. (Fig. 10)
   Adjustment Range: 3,000 ± 90Hz (a constant speed)

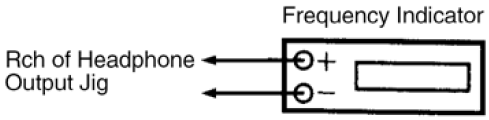


Fig. 10

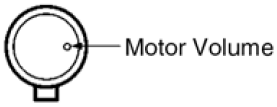


Fig. 11

13.1.5. Bias Voltage Check

1. Connect an electrical voltmeter. (Fig. 9) (Fig. 12)
2. Set the function to “TAPE” position.
3. Insert a normal blank cassette tape (QZZCRA).
4. While pressing and holding down [REC (● / ▮▮)] button, press [TAPE (▶)] button to pause the recording mode. (Repeat pressing the buttons till the recording pause mode is activated.)
5. Check that the output level is within the standard range.

   Standard Range: 16 ± 3mV

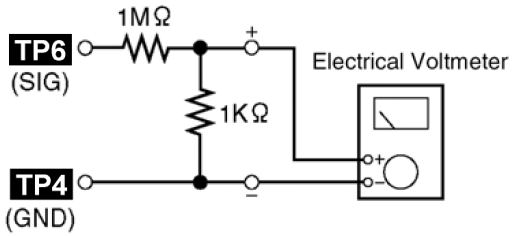


Fig. 12

13.1.6. Bias Frequency Check

1. Connect a digital frequency counter (Fig. 13).
2. Set the function to “TAPE” position.
3. Insert a normal blank cassette tape (QZZCRA) and press “REC” mode on main unit.
4. Check that the output frequency is within the standard range.

Standard Value: 98 ±8 kHz

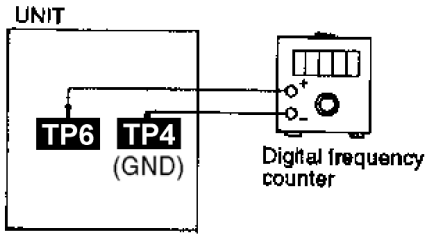


Fig. 13

14 Voltage Measurement and Waveform Chart

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

14.1. Voltage Measurement

14.1.1. CD Servo P.C.B.

CD SERVO P.C.B.

Ref No.	IC7001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.3
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0	0	0.3	0
Ref No.	IC7001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	1.6	0	1.6	1.6	1.8	0	3.3	1.5	3.3	3.3	0	1.0	0	1.6	2.1	2.1	1.8	1.8	1.8	1.8
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0
Ref No.	IC7001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	0.2	2.4	1.9	1.7	1.1	1.1	3.3	1.1	1.2	1.3	1.7	1.7	0.8	1.5	1.4	1.5	0	3.0	1.5	0
STANDBY	0	0	0	0	0.2	0	0	0	0	0	0	0	0.2	0	0	0	0	0.2	0	0
Ref No.	IC7001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
CD PLAY	3.3	0	0	0	0	0	3.4	3.4	3.5	0	0	3.5	0	1.6	0	1.5	3.3	0	3.3	1.6
STANDBY	0.1	0	0	0	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0.2	0	0.2	0.1
Ref No.	IC7001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
CD PLAY	0	3.3	0	0	0	0	0	0	0	0	0	0	2.3	0	0	0	0	0	0	0
STANDBY	0.1	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC7002																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	1.6	0	1.6	0	0	0	0	0	0	7.6	4.3	3.6	3.7	3.6	3	4.1	3.8	3.5	7.7	0
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC 7002																			
MODE	21	22	23	24	25	26	27	28												
CD PLAY	7.7	0	0	0	7.7	1.6	1.6	1.6												
STANDBY	0	0	0	0	0	0	0	0												
Ref No.	Q7601																			
MODE	E	C	B																	
CD PLAY	3.1	2	2.4																	
STANDBY	0.2	0.3	0.2																	

14.1.2. Main/Power P.C.B.

MAIN/POWER P.C.B.

Ref No.	IC500																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12								
CD PLAY	0	0	27.2	0	0	0	11.1	0.1	0	10.1	4.7	11								
STANDBY	3.2	0	0.5	0	0	0	0	0	0	2.7	0	0								
Ref No.	IC800																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	4.7	0	0	0	0	0	4.7	4.7	4.7	4.7	4.7	4.7	0	0	0	0	0	0	9.5	0.7
STANDBY	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0	0	0	0	0.1	0.1
Ref No.	IC800																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32								
CD PLAY	4.8	0	0	4.8	4.8	0	4.8	4.7	4.8	4.7	4.8	4.8								
STANDBY	0.2	0.2	0.2	0.2	0.2	0	0	0	0	0	0	0								
Ref No.	IC802																			
MODE	1	2	3	4	5															
CD PLAY	5.7	0	0	0	3.3															
STANDBY	0	0	0	0	0.1															
Ref No.	IC803																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	5.2	5.2	0	5.2	3.2	0.4	0	0	5.2	5.2	2.6	2.6	0	2.2	2.6	0	0	0	0.2
STANDBY	0	5.2	5.2	4	5.4	0	0.4	0	0	5.4	0	2.7	2.6	0	2.2	2.6	0	0	0	0
Ref No.	IC803																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	5.0	0	4.9	0	5	5.2	0	0	5.7	5.6	1.8	1.5	5.2	0	5.1	5.1	0	0	0	2.6
STANDBY	0	0	0	0	0	5.3	3.1	0	0	0	0.1	0.1	0.1	5.2	0	0	0	0	0	0
Ref No.	IC803																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	1.7	0.5	0	0.3	0.1	0	0.1	0	0	2.6	0	1.8	0	0	0	0	0	0	0	0
STANDBY	0.1	0	0	0	0.1	0	0	0	0	2.7	0	0.1	0	0	0	0	0	0	0	0
Ref No.	IC803																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
CD PLAY	0	0	0	0	0	0	0	0	0	0	5.2	0	0	5.2	4.5	0	0	4.8	0	0
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	5.3	4.6	0	0	4.9	5.3	0
Ref No.	IC803																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
CD PLAY	0	0	0	0	0	0	0	0	0	0	0	5.2	1.6	1.7	0	5.2	0	5.2	0	5.3
STANDBY	0	0	0	0	0	0	0	0	0	0	0	5.3	0.1	0	0	5.3	0	5.2	0	5.2
Ref No.	IC804																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0	5.2	0	0	0	0	0	0												
STANDBY	0	5.2	0	0	0	0	0	0												
Ref No.	Q501				Q502				Q503				Q504				Q505			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	4.3	23	4.9		7.7	9.8	2.3		23.6	9.8	22.1		4.3	9.8	4.9		7.7	5.7	7	
STANDBY	2.9	2.9	3.7		0	0	0		2.1	0.1	2.9		2.9	0.1	0		0	0	0	
Ref No.	Q506				Q507				Q530				Q750				Q751			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	5	7.1	5.6		7.7	9.9	8.3		9	9.9	9.7		9.8	0	9.8		0	9.8	0	
STANDBY	0	0	0		0.1	0.2	0.2		0	0.3	0.3		0	0	0		0	0	0	
Ref No.	Q801				Q802				Q803				Q804				Q807			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	0	5.6	0		0	1.2	1.2		0	0	5.1		0	5.2	0		0	9.8	0	
STANDBY	0	0	0		0	0	0		0	0.1	0		0	5.2	0		0	0.1	0	
Ref No.	Q808																			
MODE	E	C	B																	
CD PLAY	0	9.8	0																	
STANDBY	0	0.1	0																	

14.1.3. Panel P.C.B.

PANEL P.C.B.

Ref No.	IC 900																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	0	0	0	3.3	5.7	0.1	0.2	2.5	0	1.4	0	5.7	-21.6	-21.6	-17.7	0	-17.6	-15.5	-21.5
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-20.7	-20.6	-20.3	-20.3	-20.4	-20.4
Ref No.	IC 900																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	-21.5	-21.5	-15.6	-17.7	-21.5	-21.5	-21.5	-15.6	-13.3	-22.2	-13..7	-19.7	-19.7	-19.7	-19.7	-19.7	-19.7	-19.7	-19.7	-19.7
STANDBY	-20.4	-20.4	-20.4	-20.4	-20.4	-20.4	-20.4	-20.4	-20.4	-20.4	-20.4	-20.1	-20.1	-20.1	-20.1	-20.1	-20.1	-20	-20	-20
Ref No.	IC 900																			
MODE	41	42	43	44																
CD PLAY	-19.7	-19.7	5.7	0																
STANDBY	-19.7	-19.7	0	0																

14.1.4. Transformer P.C.B.

TRANSFORMER P.C.B.																				
Ref No.	Q600				Q601				Q602				Q603							
MODE	E	C	B		E	C	B		E	C	B		E	C	B					
CD PLAY	0	0.2	0.8		5.9	8.4	6.6		0	3	1.5		-22.2	-33.7	-22.8					
STANDBY	0	6	0		6	10	0		0	3	2		-20.2	-20.5	-20.5					

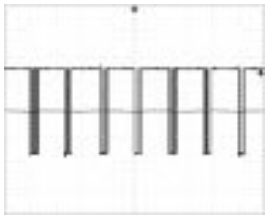
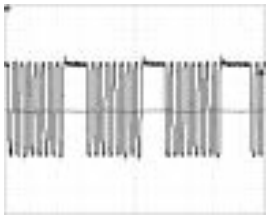
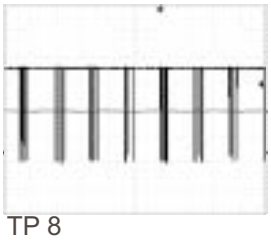
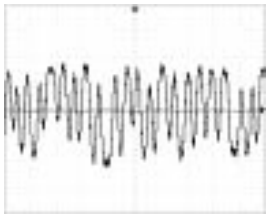
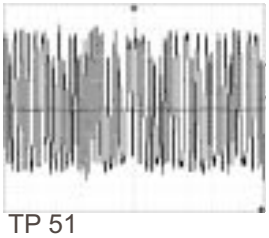
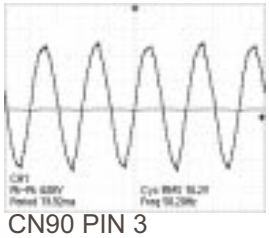
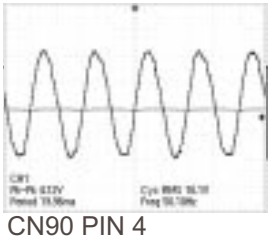
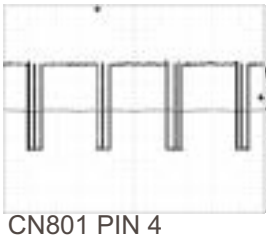
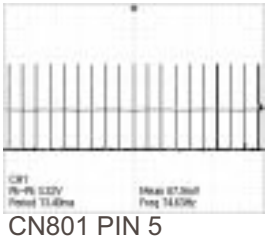
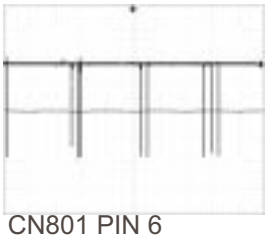
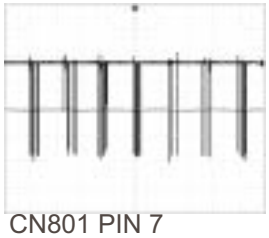
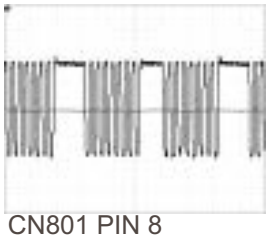
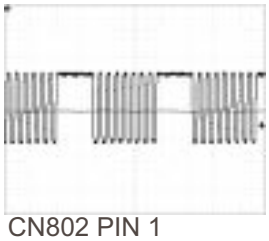
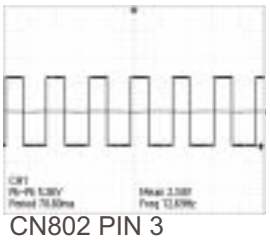
14.1.5. Deck P.C.B.

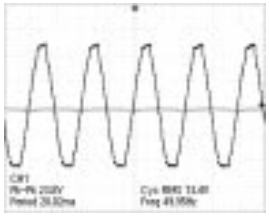
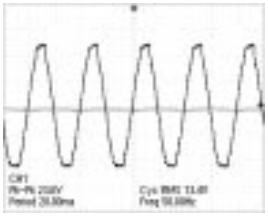
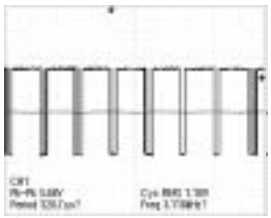
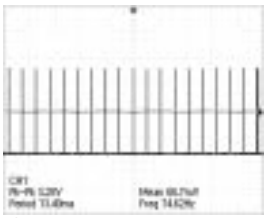
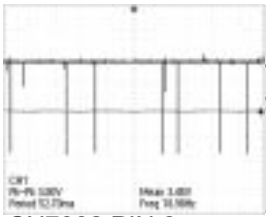
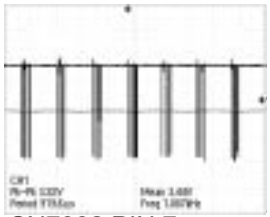
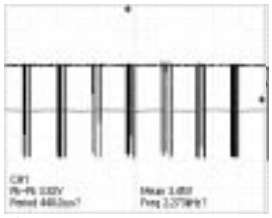
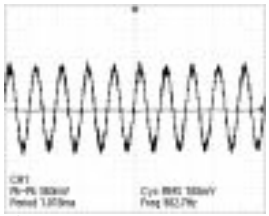
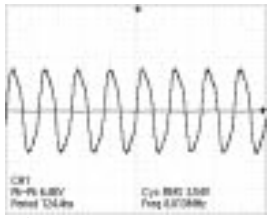
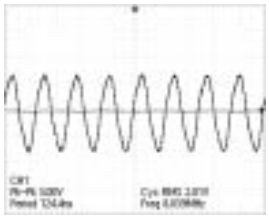
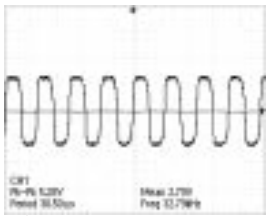
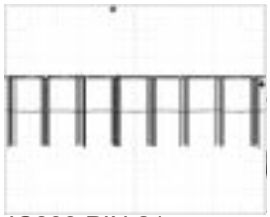
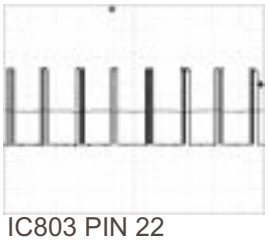
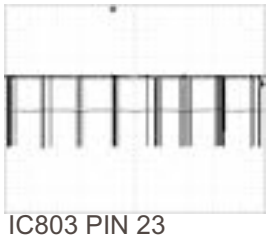
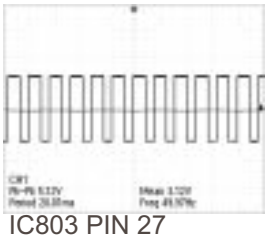
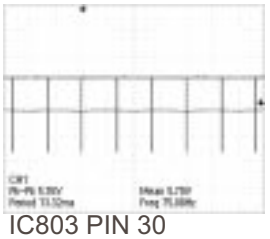
DECK P.C.B.																				
Ref No.	IC1000																			
MODE	1	2	3	4	5															
CD PLAY	0	0	0	0	0															
STANDBY	0	0	0	0	0															
Ref No.	IC1001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	0.3	0.3	0.1	0	0	0	0.1	0	0	0	0	0	0	0.1	0	0	0	0.1	0.3
STANDBY	0	0.3	0.3	0.1	0	0	0	0.1	0	0	0	0	0	0	0.1	0	0	0	0.1	0.3
Ref No.	IC1001																			
MODE	0	2																		
CD PLAY	0.3	0																		
STANDBY	0.3	0																		
Ref No.	Q1101				Q1201				Q1302				Q1303				Q1304			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	0	0	0.7		0	0	0.7		9.8	9.7	0		0	0	0		0	0	0	
STANDBY	0	0	0		0	0	0		0.3	0	0		0	0	0		0	0	0	
Ref No.	Q1309				Q1310				Q1312				Q1314				Q1315			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	0	0	0		0	0	0		0	0	0		3	3	0.5		3	1.7	9.1	
STANDBY	0	0	0		0	0	0		0	0	0		2.2	2.2	0.3		2.2	2.2	1.5	
Ref No.	Q1316				Q1317															
MODE	E	C	B		E	C	B													
CD PLAY	1.7	1.7	2.4		0	0	0													
STANDBY	2.1	2.1	2.2		0	0	0													

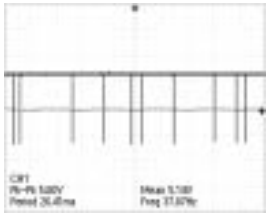
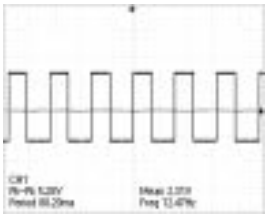
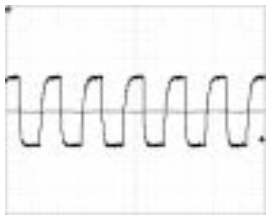
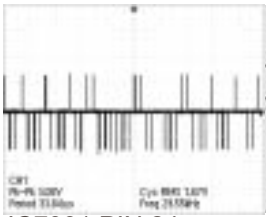
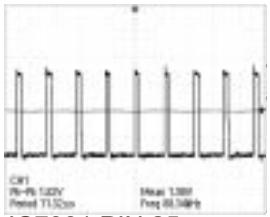
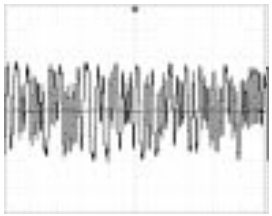
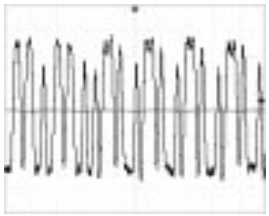
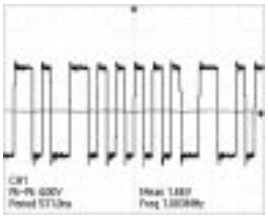
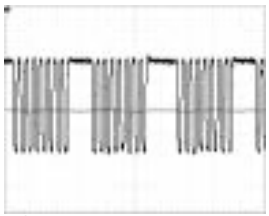
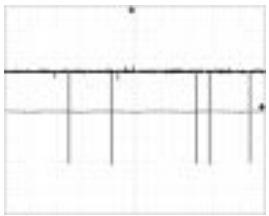
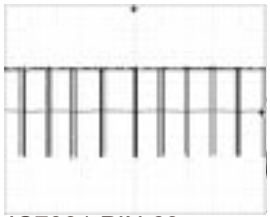
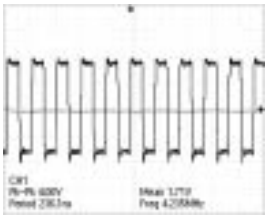
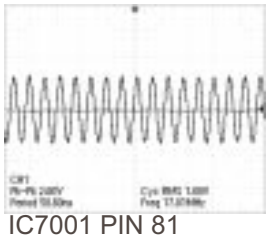
14.1.6. Deck Mechanism P.C.B.

DECK MECHANISM P.C.B.																				
Ref No.	IC971																			
MODE	1	2	3	4																
CD PLAY	5.1	0	1.7	0																
STANDBY	5.2	0	2.1	0																

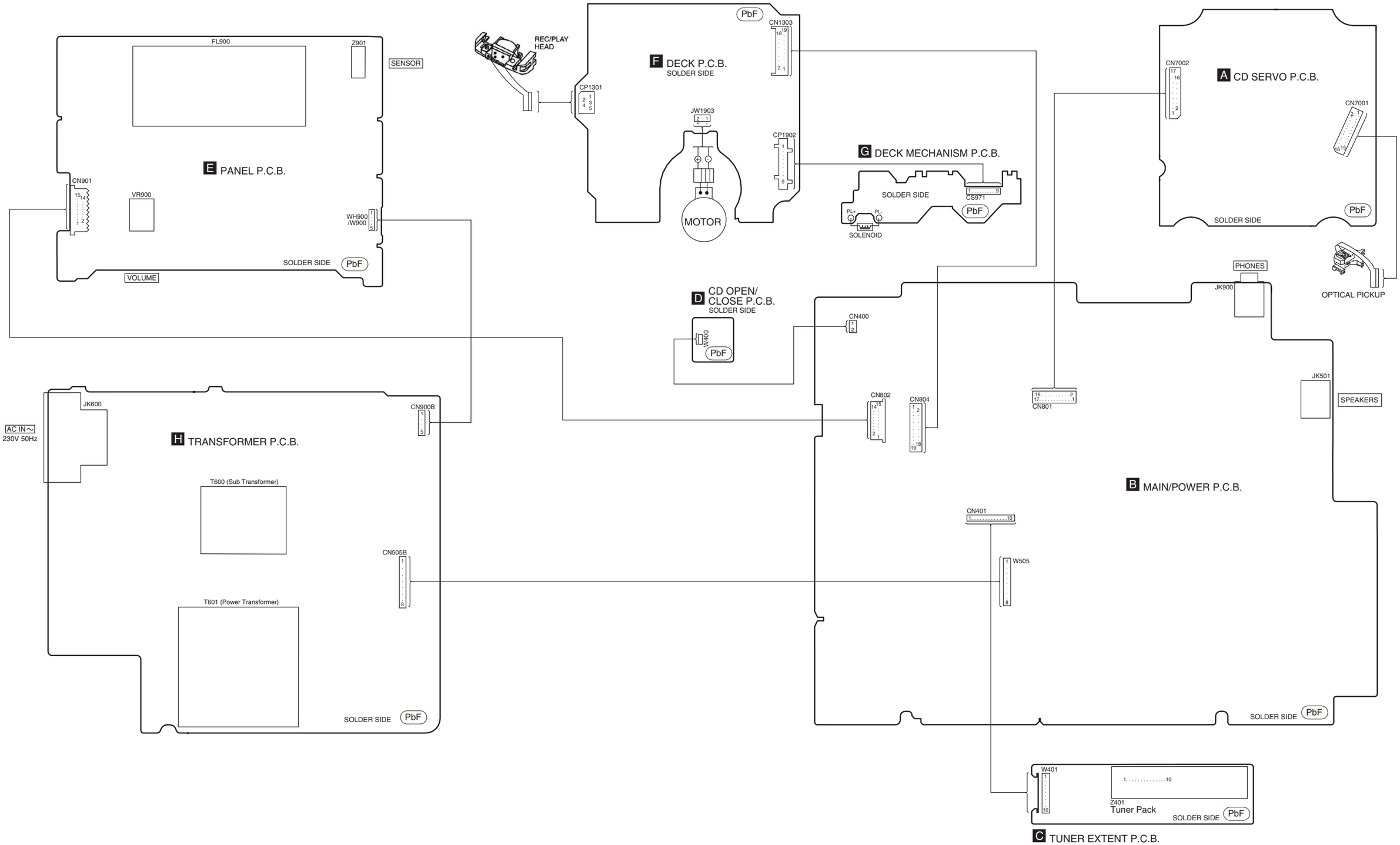
14.2. Waveform

 TP 4 CD PLAY 3.48Vp-p (10msec.div)	 TP 7 CD PLAY 3.96Vp-p (10usec.div)	 TP 8 CD PLAY 3.76Vp-p (10msec.div)	 TP 50 CD PLAY 400mVp-p (5usec.div)
 TP 51 CD PLAY 400mVp-p (10usec.div)	 CN90 PIN 3 CD PLAY 4.88Vp-p (10msec.div)	 CN90 PIN 4 CD PLAY 4.12Vp-p (10msec.div)	 CN801 PIN 4 CD PLAY 3.48Vp-p (5msec.div)
 CN801 PIN 5 CD PLAY 3.32Vp-p (25msec.div)	 CN801 PIN 6 CD PLAY 3.8Vp-p (5msec.div)	 CN801 PIN 7 CD PLAY 4.16Vp-p (10msec.div)	 CN801 PIN 8 CD PLAY 3.92Vp-p (10usec.div)
 CN802 PIN 1 CD PLAY 5.44Vp-p (25usec.div)	 CN802 PIN 2 CD PLAY 5.52Vp-p (50usec.div)	 CN802 PIN 3 CD PLAY 5.36Vp-p (50msec.div)	 WH505A PIN 1 CD PLAY 5.28Vp-p (10msec.div)

 WH505A PIN 7 CD PLAY 23.8Vp-p (10msec.div)	 WH505A PIN 8 CD PLAY 23.6Vp-p (10msec.div)	 CN7002 PIN 4 CD PLAY 3.44Vp-p (10msec.div)	 CN7002 PIN 5 CD PLAY 3.28Vp-p (25msec.div)
 CN7002 PIN 6 CD PLAY 3.8Vp-p (25msec.div)	 CN7002 PIN 7 CD PLAY 3.92Vp-p (10msec.div)	 CN7002 PIN 8 CD PLAY 3.92Vp-p (10msec.div)	 CN7002 PIN 17 CD PLAY 360mVp-p (1msec.div)
 IC803 PIN 12 CD PLAY 6.48Vp-p (100nsec.div)	 IC803 PIN 13 CD PLAY 3Vp-p (100nsec.div)	 IC803 PIN 16 CD PLAY 5.28Vp-p (25usec.div)	 IC803 PIN 21 CD PLAY 5.6Vp-p (10msec.div)
 IC803 PIN 22 CD PLAY 6Vp-p (10msec.div)	 IC803 PIN 23 CD PLAY 5.68Vp-p (10msec.div)	 IC803 PIN 27 CD PLAY 5.12Vp-p (25msec.div)	 IC803 PIN 30 CD PLAY 5.76Vp-p (10msec.div)

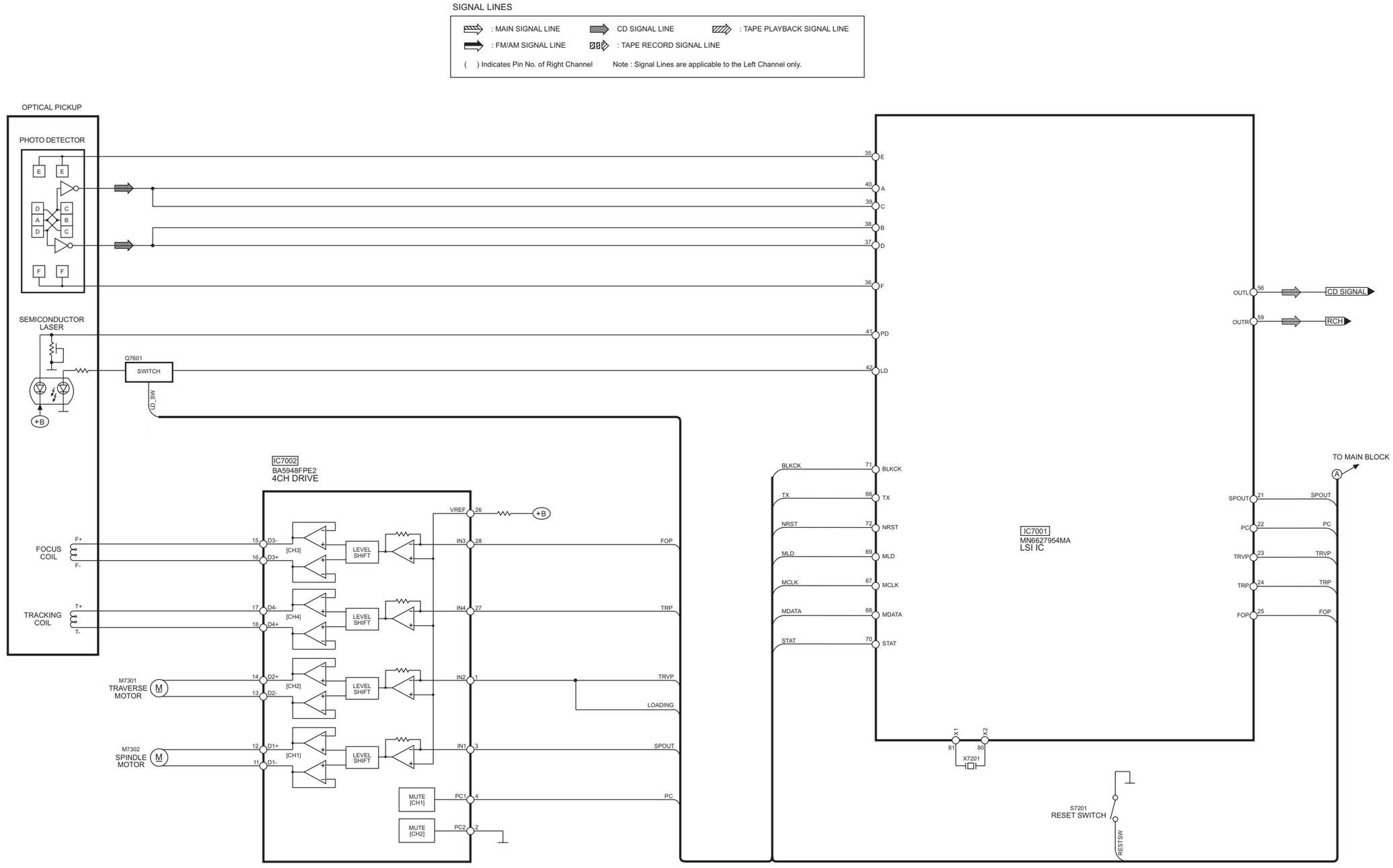
 IC803 PIN 36 CD PLAY 5.6Vp-p (100msec.div)	 IC803 PIN 40 CD PLAY 5.28Vp-p (50msec.div)	 IC803 PIN 42 CD PLAY 5.52Vp-p (250usec.div)	 IC803 PIN 44 CD PLAY 5.52Vp-p (5usec.div)
 IC7001 PIN 24 CD PLAY 3.08Vp-p (50usec.div)	 IC7001 PIN 25 CD PLAY 1.82Vp-p (10usec.div)	 IC7001 PIN 45 CD PLAY 384mVp-p (10usec.div)	 IC7001 PIN 51 CD PLAY 1.12Vp-p (5usec.div)
 IC7001 PIN 65 CD PLAY 4Vp-p (500nsec.div)	 IC7001 PIN 66 CD PLAY 3.88Vp-p (10usec.div)	 IC7001 PIN 68 CD PLAY 3.76Vp-p (50msec.div)	 IC7001 PIN 69 CD PLAY 3.52Vp-p (1msec.div)
 IC7001 PIN 74 CD PLAY 4Vp-p (250nsec.div)	 IC7001 PIN 81 CD PLAY 2.6Vp-p 100nsec.div)		

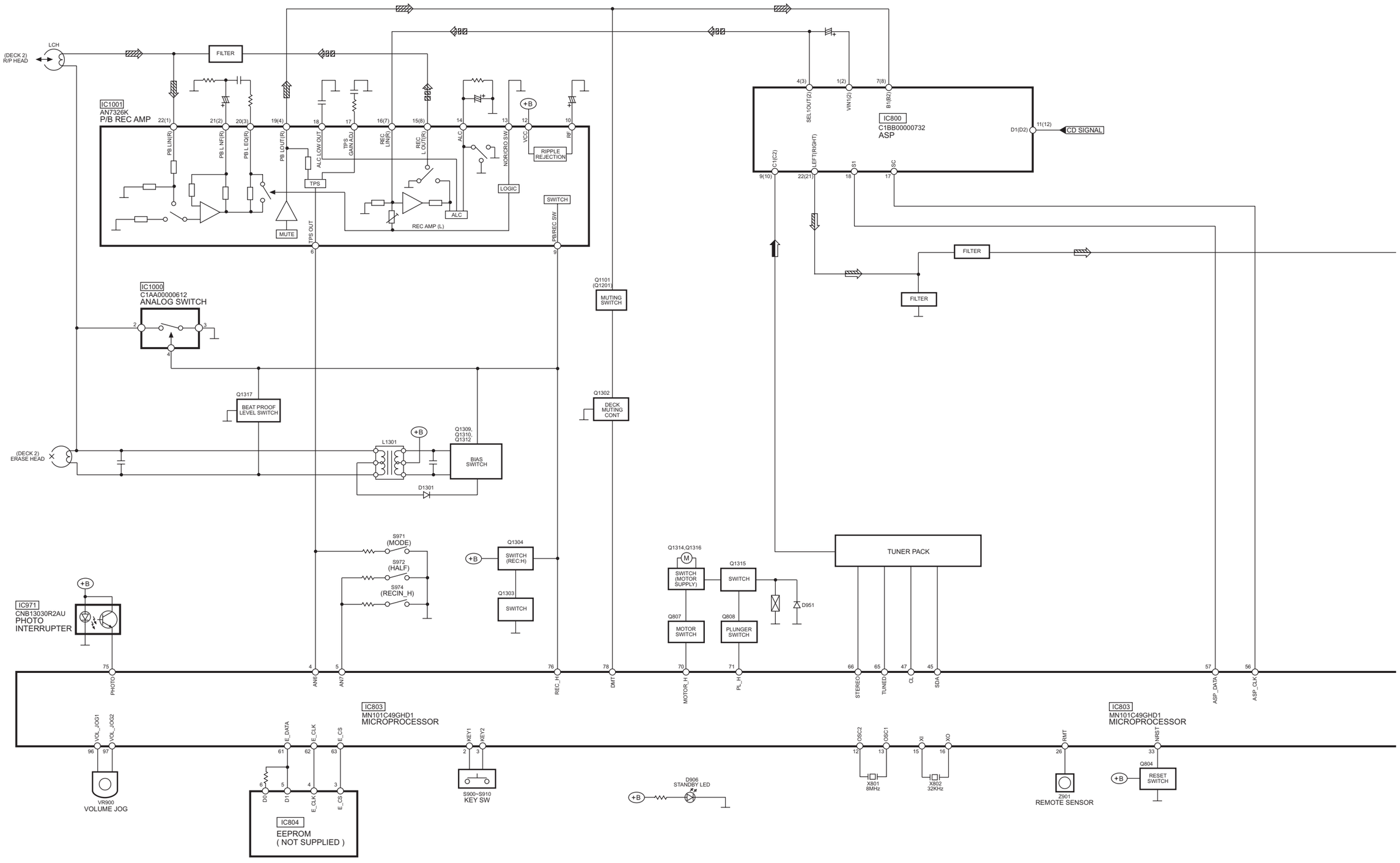
15 Wiring Connection Diagram

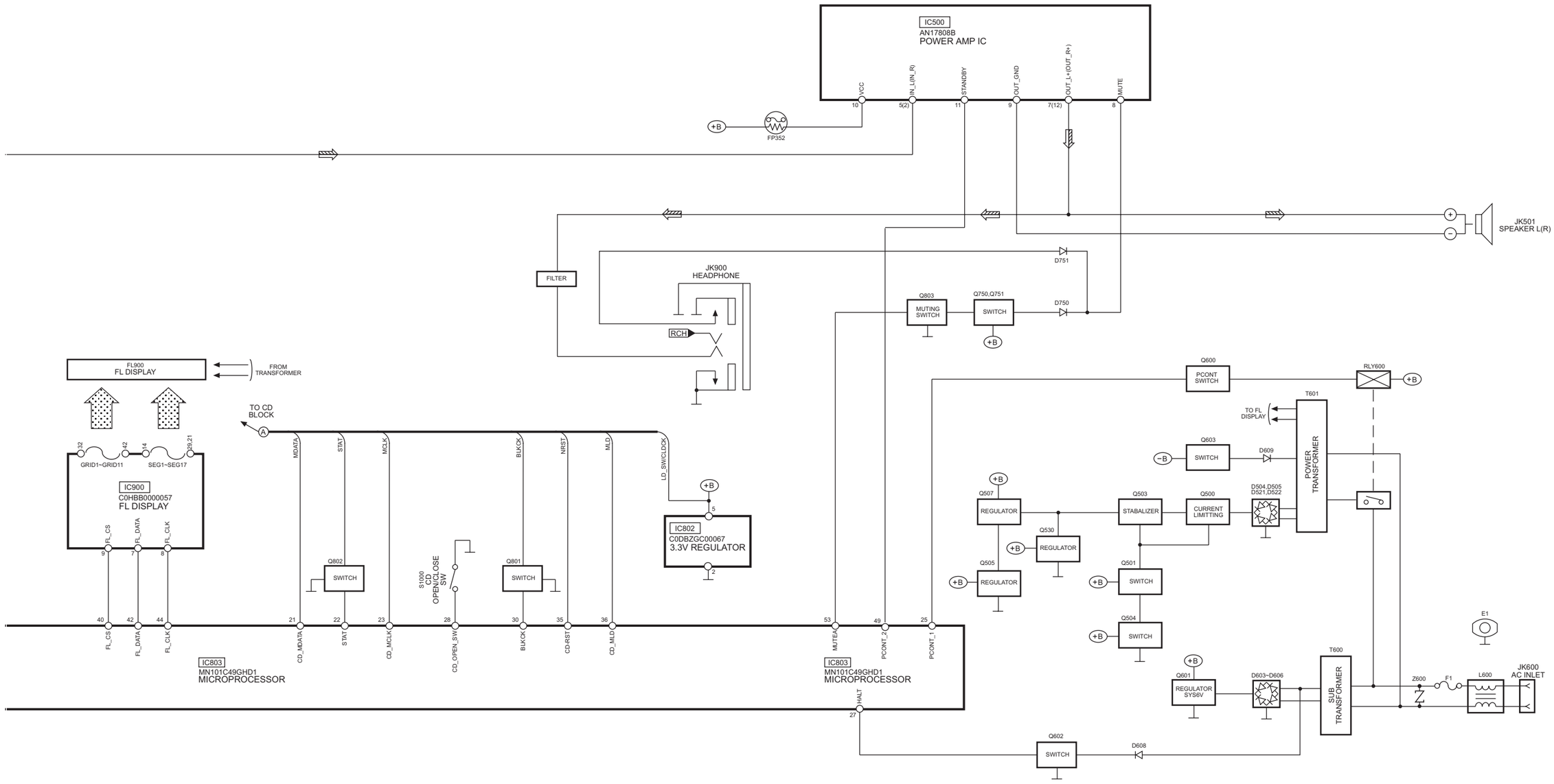


SA-PM3EE

16 Block Diagram




(DECK 2)
R/P HEAD
LCH
FILTER
IC1001
AN7326K
P/B REC AMP
PB LIN(R)
PB L NF(R)
PB L EQ(R)
PB LOUT(R)
ALC LOW OUT
TPS GAIN ADJ
REC LIN(R)
REC L OUT(R)
ALC
NOR/CHG SW
VCC
RF
RIPPLE REJECTION
TPS
LOGIC
SWITCH
ALC
MUTE
REC AMP (L)
TPS OUT
PB/REC SW
+B
IC800
C1BB00000732
ASP
SEL1OUT(2)
VIN1(2)
B1(B2)
D1(D2)
CD SIGNAL
C1(C2)
LEFT(RIGHT)
S1
SC
FILTER
FILTER
IC1000
C1AA00000612
ANALOG SWITCH
Q1101
(Q1201)
MUTING SWITCH
Q1317
BEAT PROOF LEVEL SWITCH
Q1302
DECK MUTING CONT
(DECK 2)
ERASE HEAD
L1301
Q1309,
Q1310,
Q1312
BIAS SWITCH
D1301
S971
(MODE)
S972
(HALF)
S974
(RECIN_H)
Q1304
SWITCH
(REC:H)
Q1303
SWITCH
Q1314,Q1316
SWITCH
(MOTOR SUPPLY)
Q807
MOTOR SWITCH
Q1315
SWITCH
Q808
PLUNGER SWITCH
D951
TUNER PACK
IC971
CNB13030R2AU
PHOTO
INTERRUPTER
PHOTO
ANI6
ANT
REC_H
DMT
MOTOR_H
PL_H
STEREO
TUNED
CL
SDA
ASP_DATA
ASP_CLK
IC803
MN101C49GHD1
MICROPROCESSOR
VOL_JOG1
VOL_JOG2
VR900
VOLUME JOG
E_DATA
E_CLK
E_CS
IC804
EEPROM
(NOT SUPPLIED)
KEY1
KEY2
S900~S910
KEY SW
D906
STANDBY LED
OSC2
OSC1
X801
8MHz
XI
XO
X802
32KHz
RMT
Z901
REMOTE SENSOR
NRST
Q804
RESET SWITCH


IC500
AN17808B
POWER AMP IC
VCC
IN_L(IN_R)
STANDBY
OUT_GND
OUT_L+(OUT_R+)
MUTE
10
5(2)
11
9
7(12)
8
+B
FP352
JK501
SPEAKER L(R)
FILTER
JK900
HEADPHONE
RCH
D751
D750
Q803
MUTING SWITCH
Q750,Q751
SWITCH
+B
FL900
FL DISPLAY
FROM TRANSFORMER
TO CD BLOCK
A
GRID1~GRID11
SEG1~SEG17
32
42
14
29,21
IC900
C0HBB0000057
FL DISPLAY
FL_CS
FL_DATA
FL_CLK
9
7
8
MDATA
STAT
MCLK
BLKCK
NRST
MLD
LD_SWCLOCK
Q802
SWITCH
S1000
CD OPEN/CLOSE SW
Q801
SWITCH
IC802
C0DBZGC00067
3.3V REGULATOR
5
2
40
42
44
21
22
23
28
30
35
36
FL_CS
FL_DATA
FL_CLK
CD_MDATA
STAT
CD_MCLK
CD_OPEN_SW
BLKCK
CD-RST
CD_MLD
IC803
MN101C49GHD1
MICROPROCESSOR
MUTEN
PCONT_2
PCONT_1
53
49
25
HALT
27
Q600
PCONT SWITCH
RLY600
+B
T601
TO FL DISPLAY
POWER TRANSFORMER
Q603
SWITCH
D609
−B
Q507
REGULATOR
Q530
REGULATOR
Q505
REGULATOR
Q503
STABALIZER
Q500
CURRENT LIMITTING
D504,D505
D521,D522
Q501
SWITCH
Q504
SWITCH
E1
Q601
REGULATOR SYS6V
D603~D606
T600
SUB TRANSFORMER
Z600
F1
L600
JK600
AC INLET
Q602
SWITCH
D608

SA-PM3EE

17 Notes of Schematic Diagram

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

Note :

S900	Stop/-Demo switch
S901	CD switch
S902	Tape switch
S903	Tuner/Band switch
S904	FF switch
S905	REW switch
S906	Power switch
S907	Tape_Eject switch
S908	Bass/Treble switch
S909	Rec switch
S971	Mode switch
S972	Half switch
S973	CR02 switch
S975	Recinh_F switch
S1000	CD Open/Close switch
S7201	Reset switch
VR900	VR Volume Jog

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

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

Caution !

IC, LSI and VLSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

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

18 Schematic Diagram

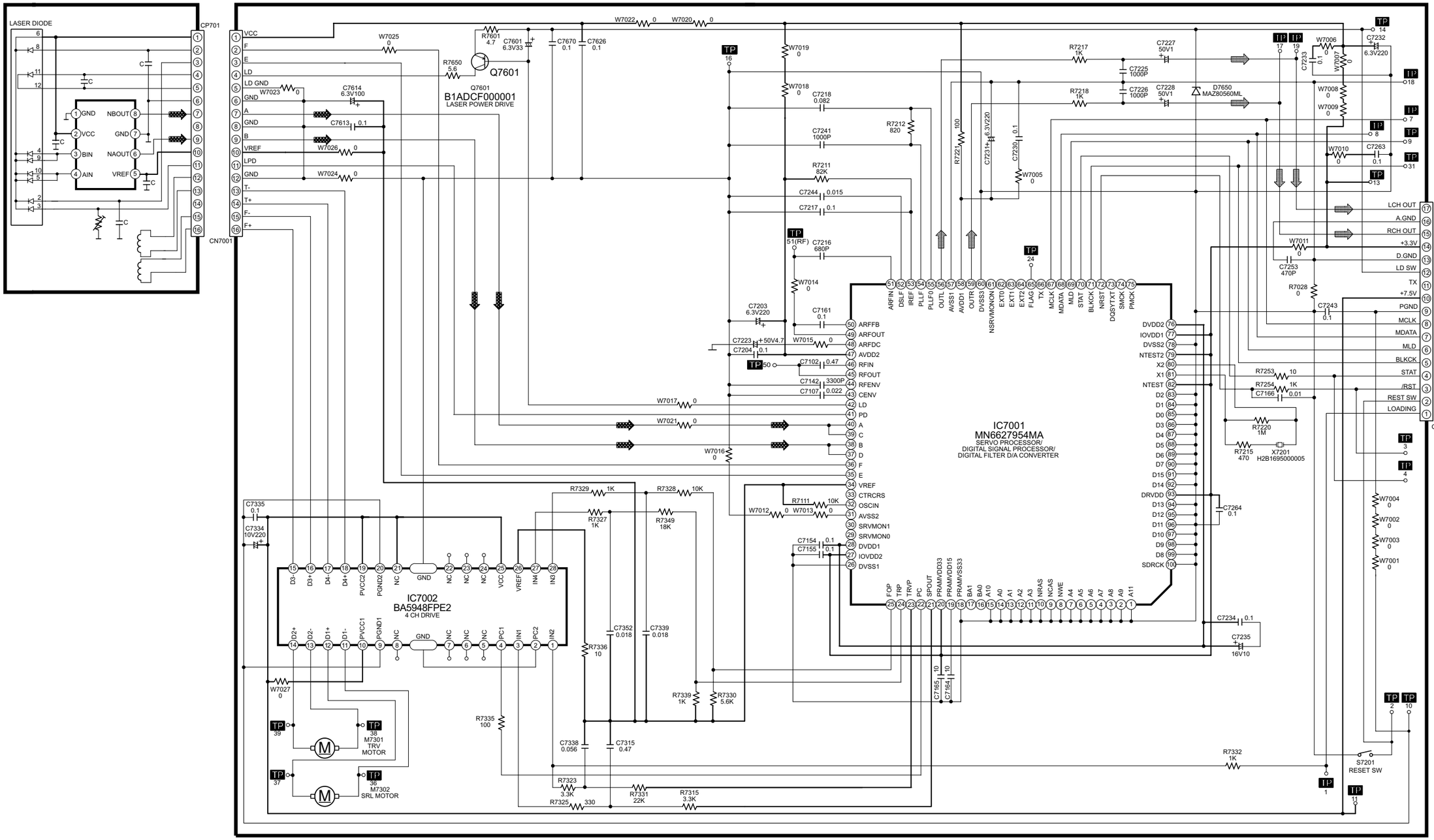
18.1. CD Servo Circuit

SCHEMATIC DIAGRAM - 1

OPTICAL PICKUP CIRCUIT

A CD SERVO CIRCUIT

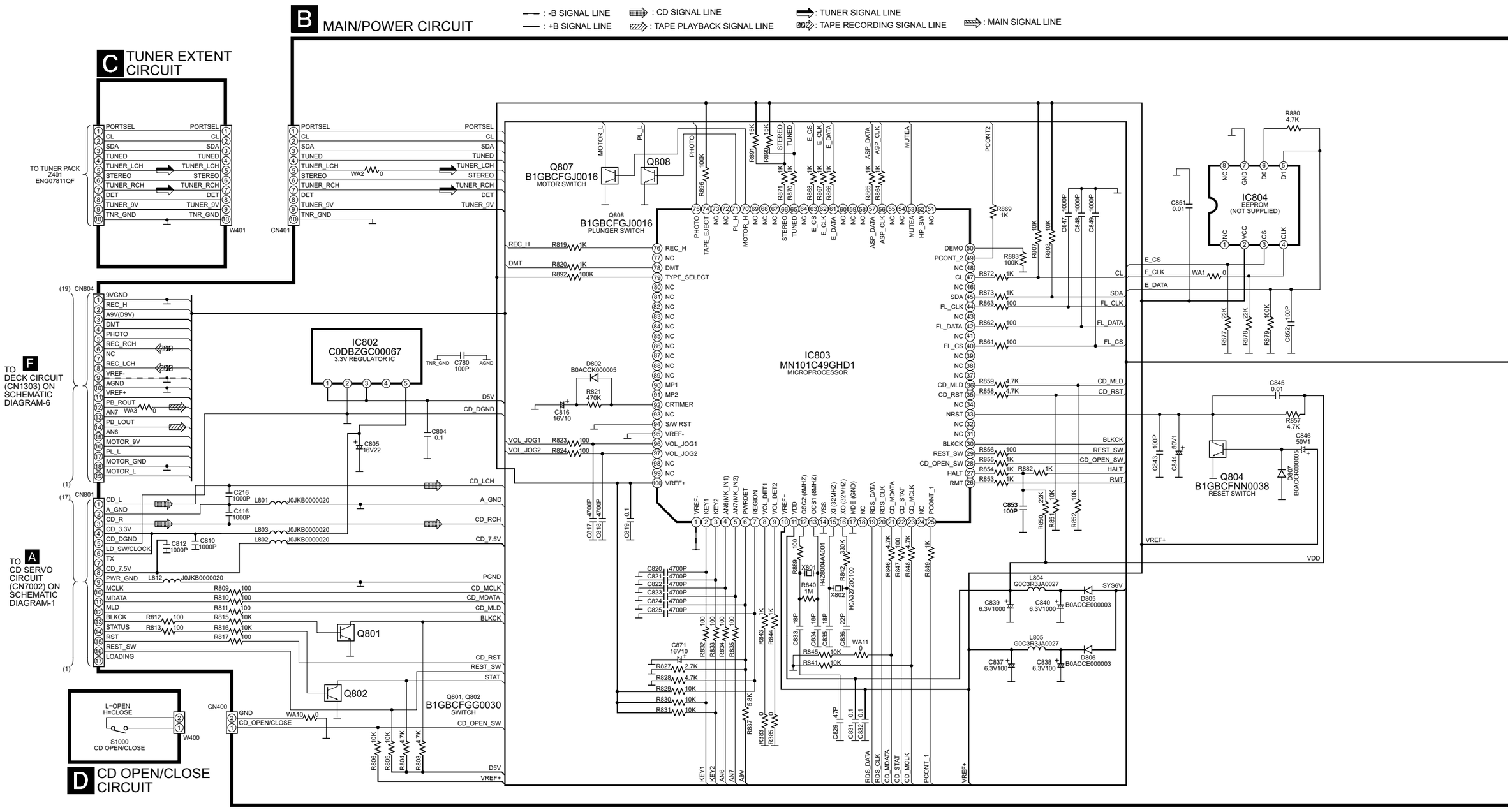
—— : +B SIGNAL LINE ▶▶ : CD-DA SIGNAL LINE ▶▶ : CD SIGNAL LINE



SA-PM3EE CD SERVO CIRCUIT

18.2. Main/Power Circuit, Tuner Extent Circuit and CD Open/Close Circuit

SCHEMATIC DIAGRAM - 2

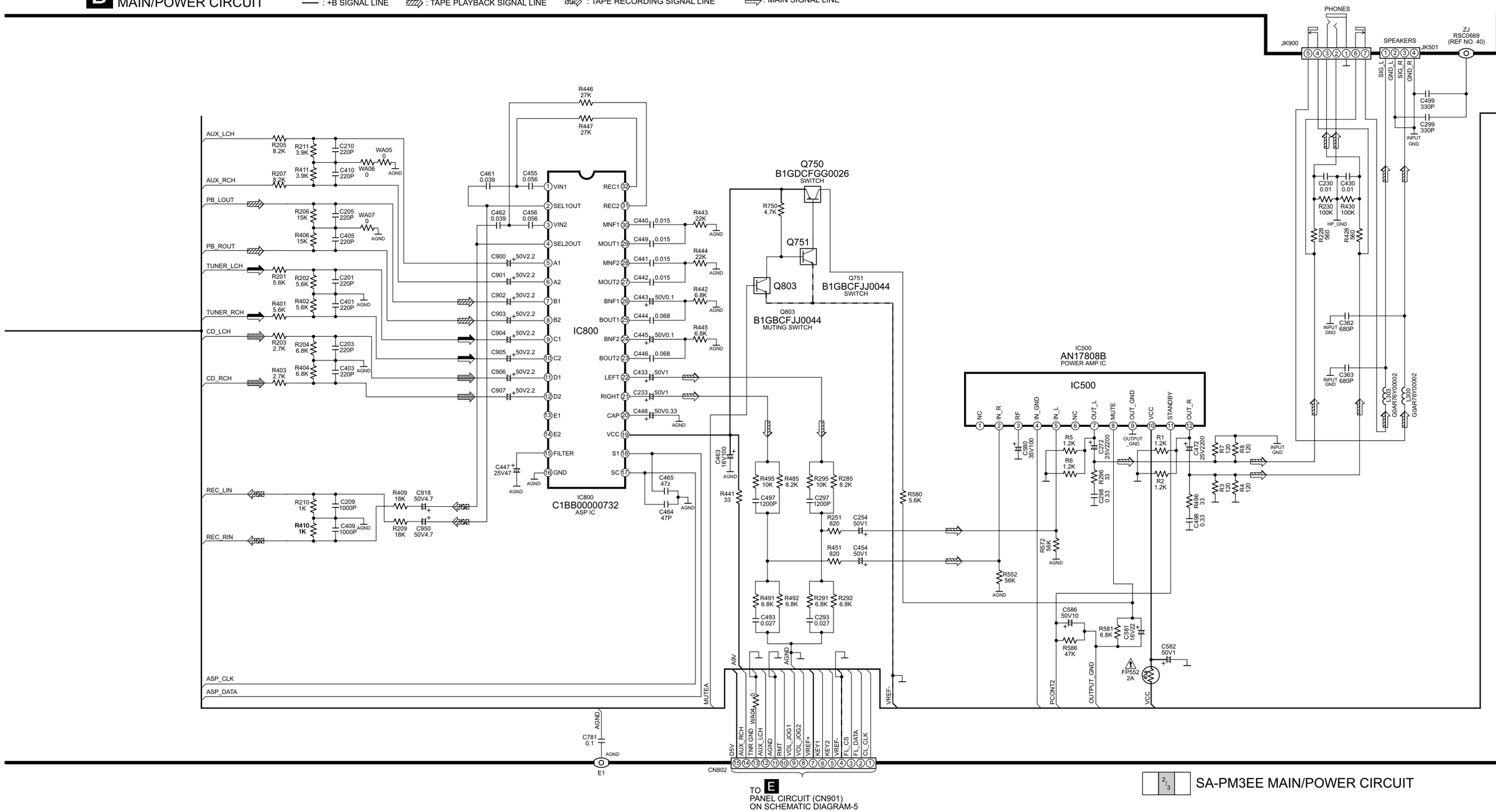


1/3 SA-PM3EE MAIN/POWER / TUNER EXTENT / CD OPEN/CLOSE CIRCUIT

SCHEMATIC DIAGRAM - 3

B MAIN/POWER CIRCUIT

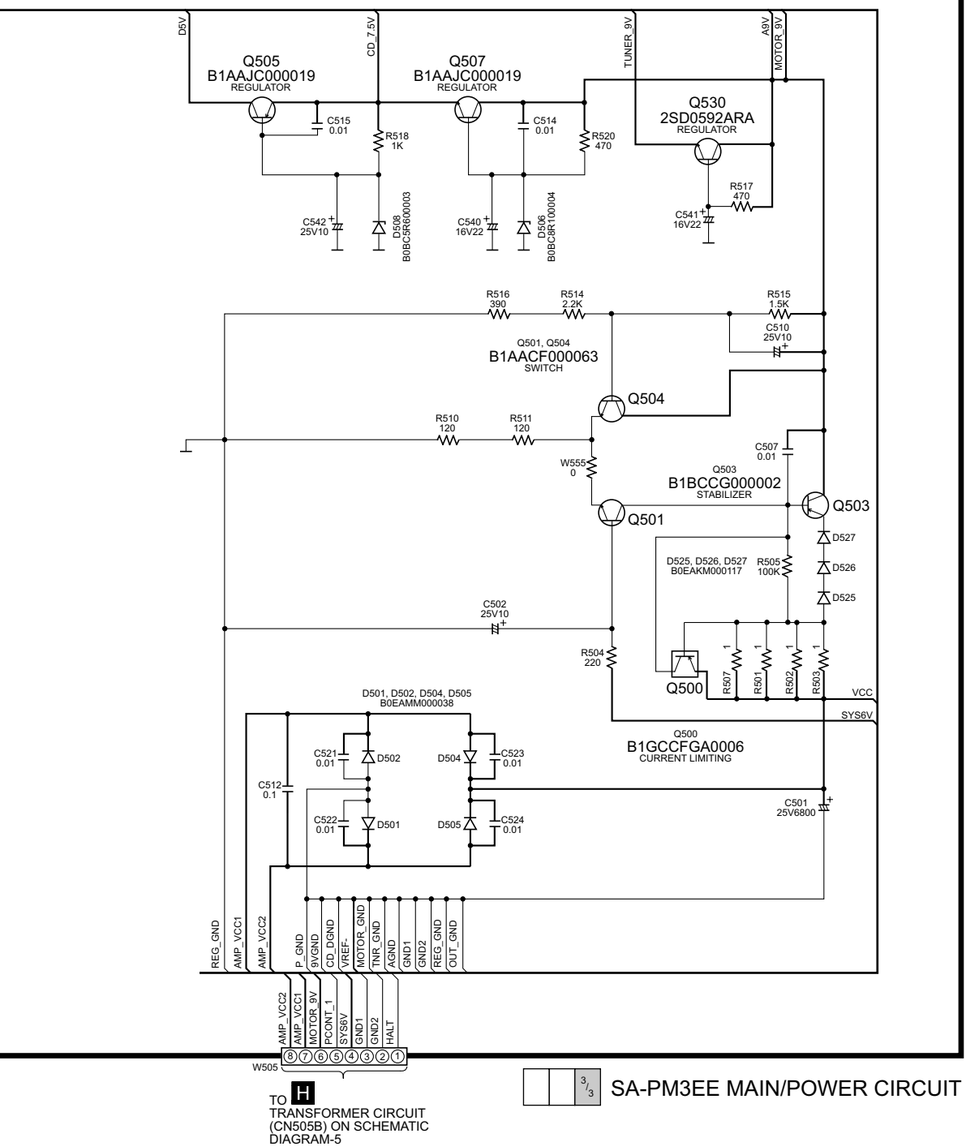
—— : -B SIGNAL LINE
—— : +B SIGNAL LINE
: CD SIGNAL LINE
: TAPE PLAYBACK SIGNAL LINE
: TUNER SIGNAL LINE
: TAPE RECORDING SIGNAL LINE
: MAIN SIGNAL LINE



SCHEMATIC DIAGRAM - 4

B MAIN/POWER CIRCUIT

—·— : -B SIGNAL
—— : +B SIGNAL LINE

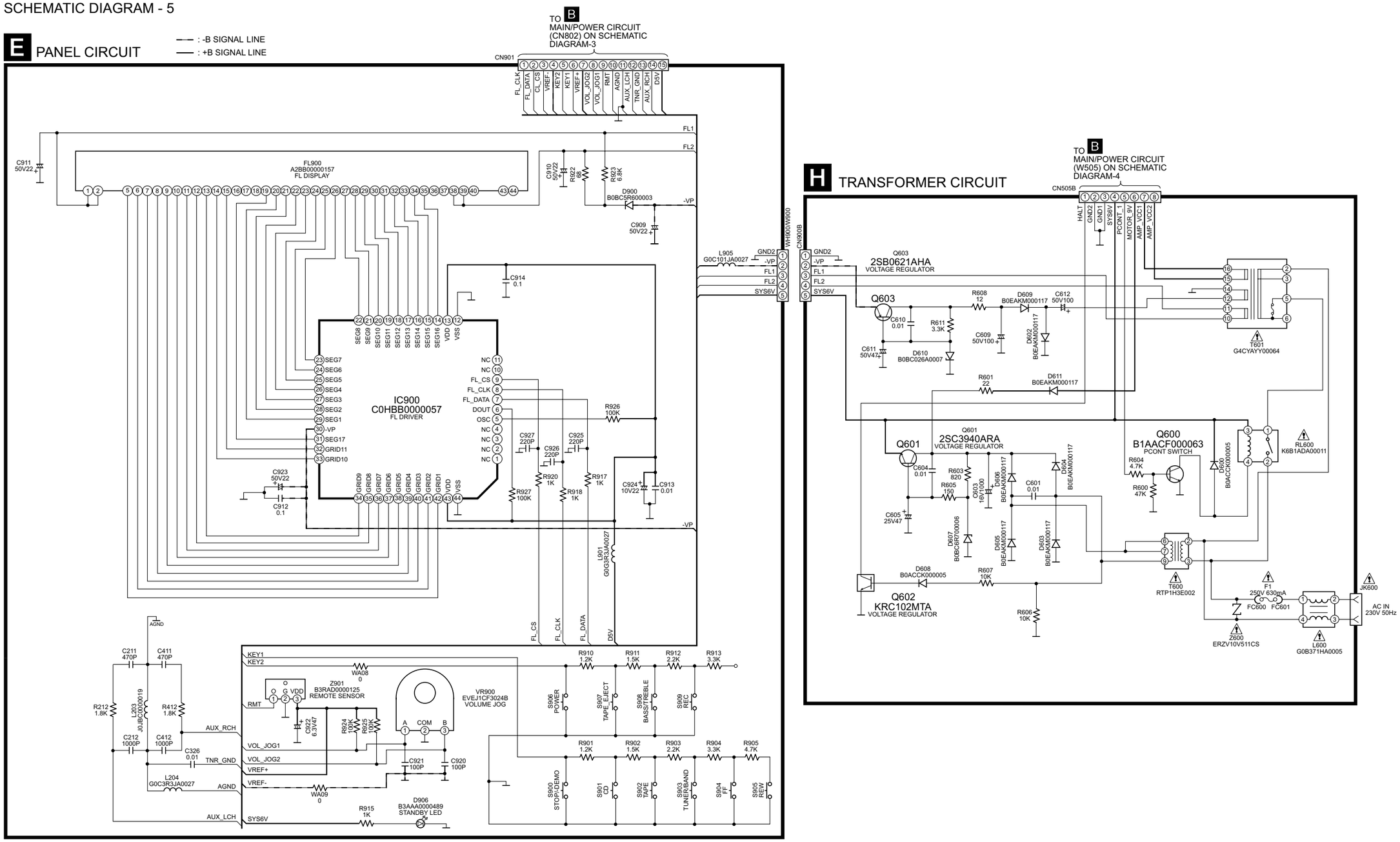


TO H
TRANSFORMER CIRCUIT
(CN505B) ON SCHEMATIC
DIAGRAM-5

3/3 SA-PM3EE MAIN/POWER CIRCUIT

18.3. Panel Circuit and Transformer Circuit

SCHEMATIC DIAGRAM - 5



SA-PM3EE PANEL / TRANSFORMER CIRCUIT

18.4. Deck Circuit and Deck Mechanism Circuit

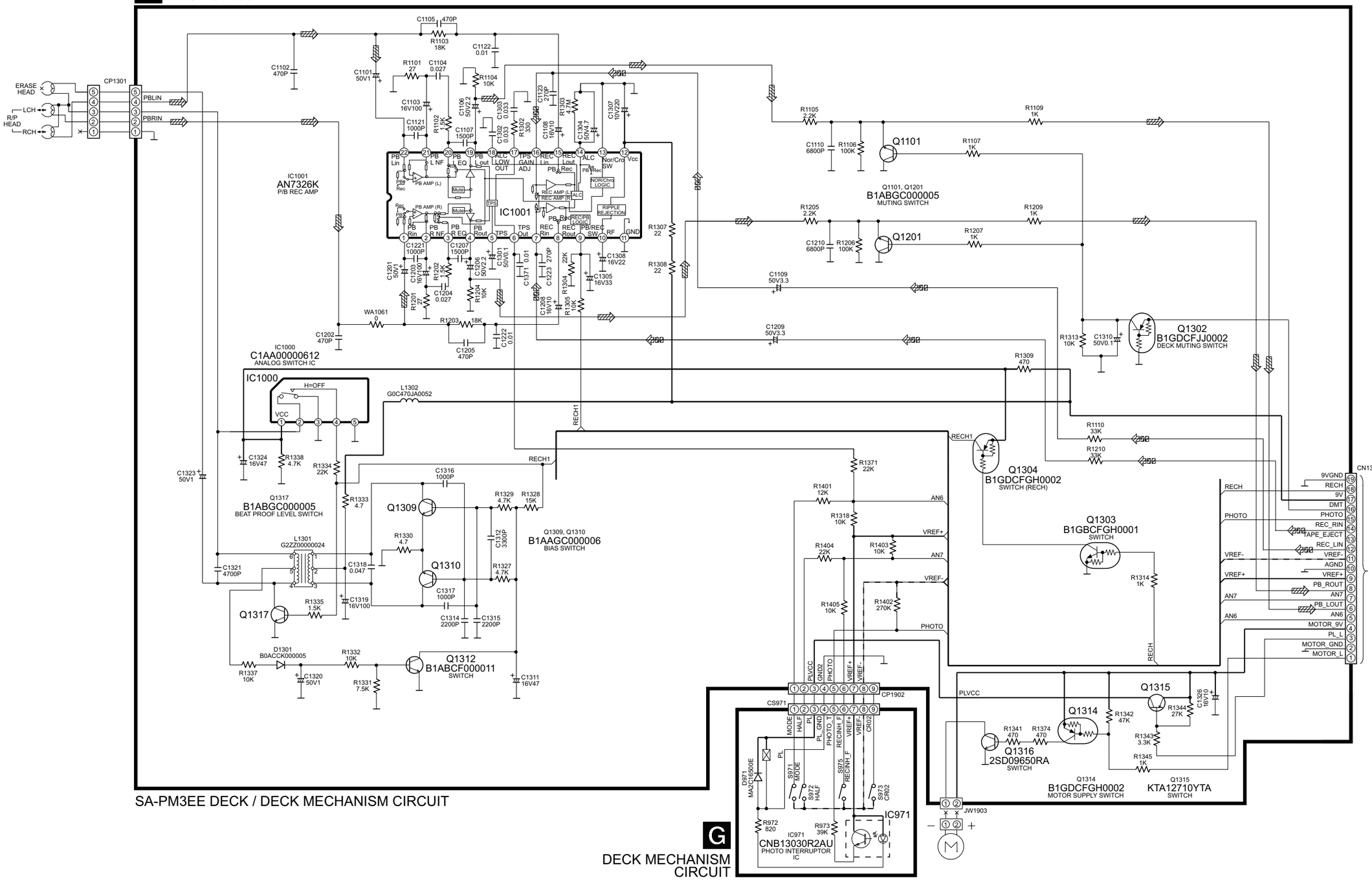
SCHEMATIC DIAGRAM - 6

F DECK CIRCUIT

: +B SIGNAL LINE

TAPE PLAYBACK SIGNAL LINE

TAPE RECORD SIGNAL LINE



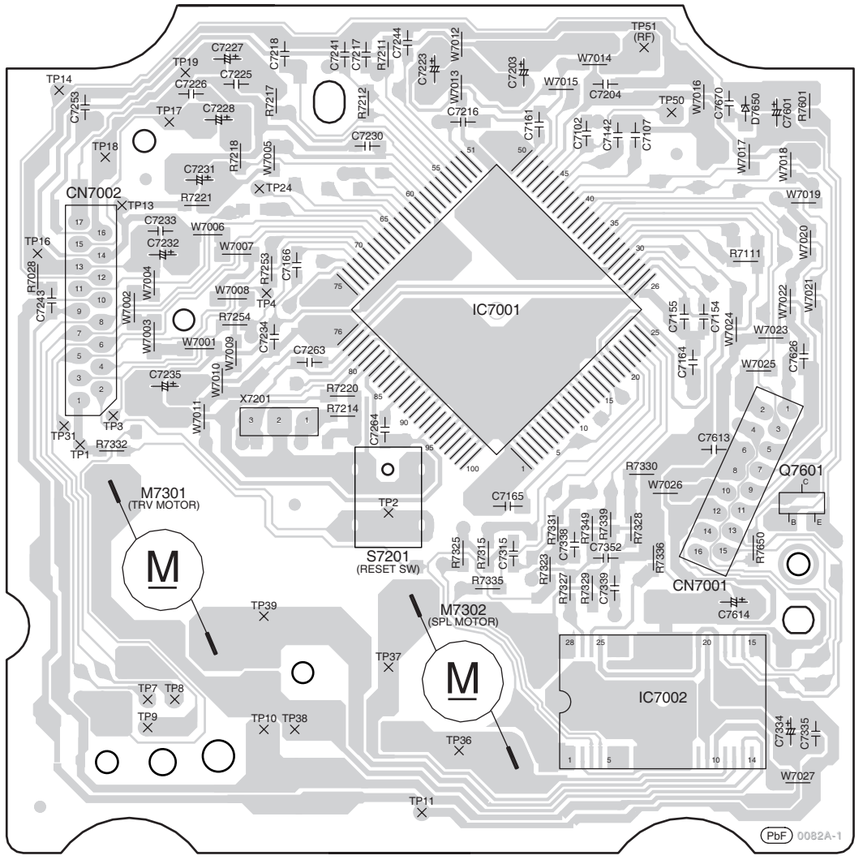
SA-PM3EE DECK / DECK MECHANISM CIRCUIT

G DECK MECHANISM CIRCUIT

19 Printed Circuit Board

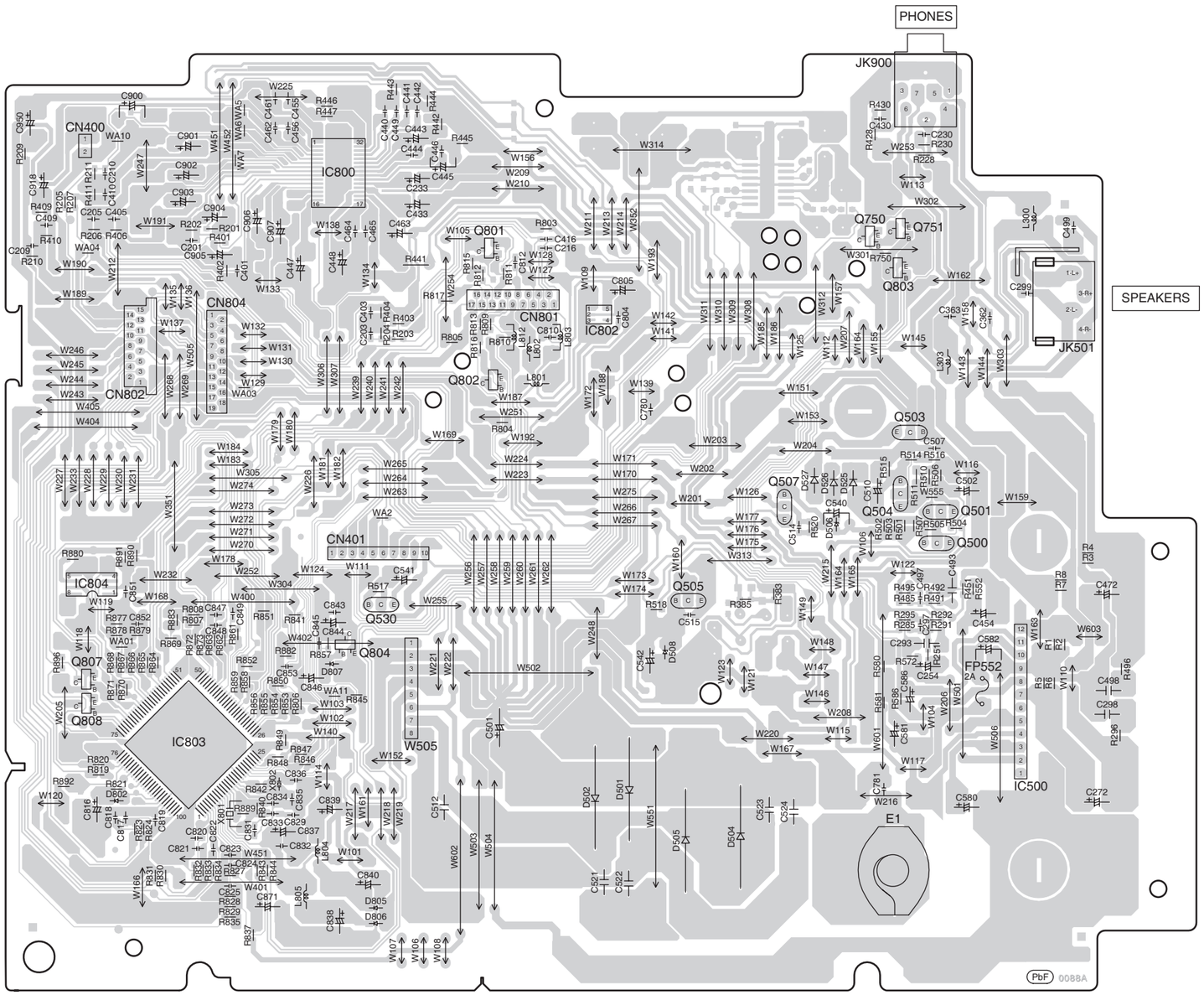
19.1. CD Servo P.C.B.

A CD SERVO P.C.B (REPV0082A)



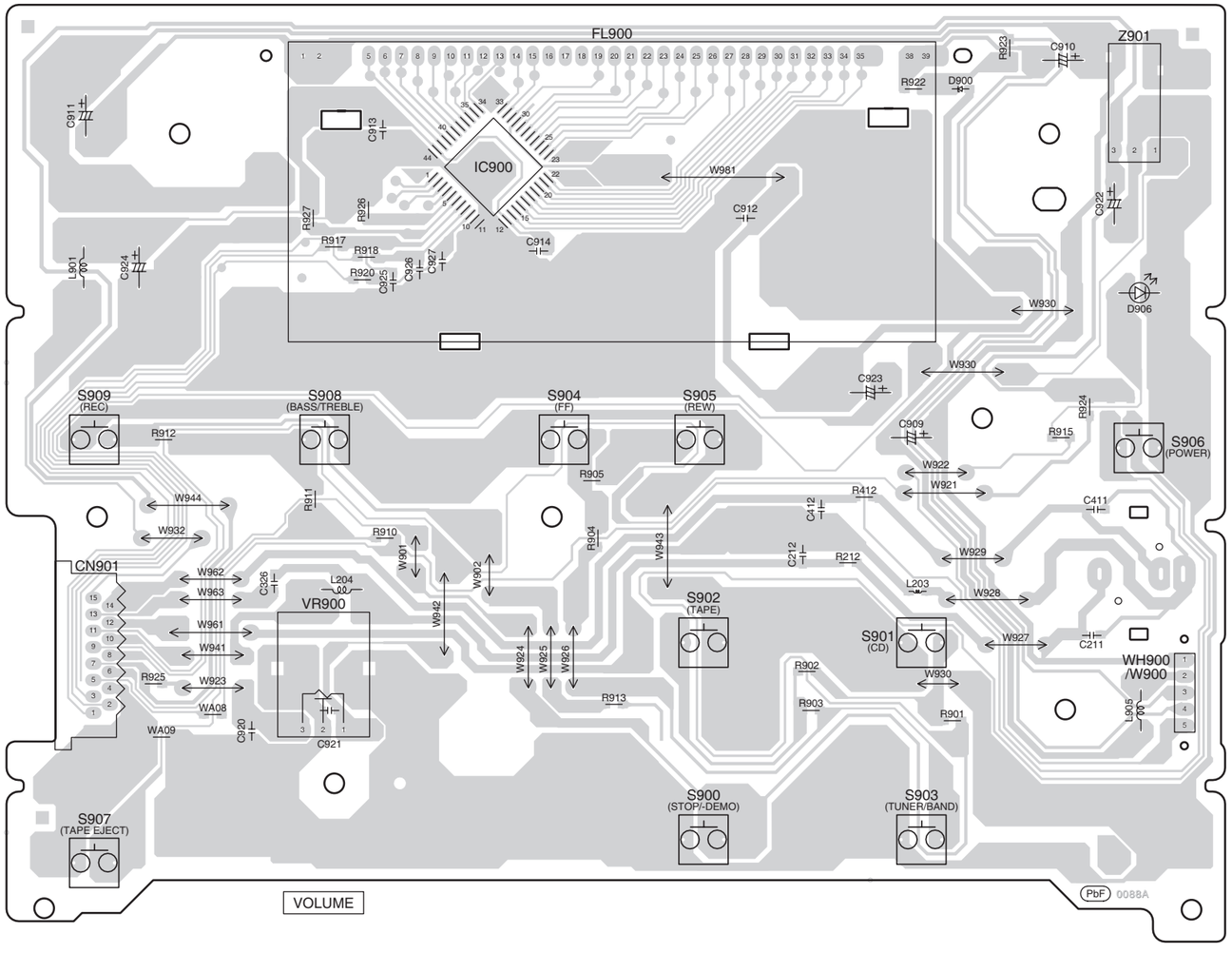
19.2. Main/Power P.C.B.

B MAIN/POWER P.C.B (REPV0088E)

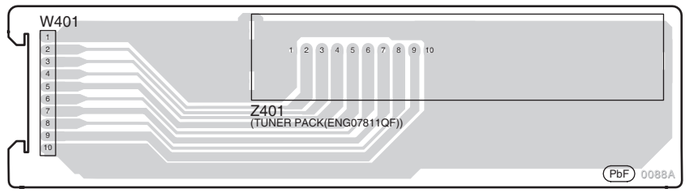


19.3. Tuner Extent P.C.B, CD Open/Close P.C.B and Panel P.C.B.

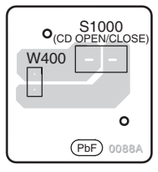
E PANEL P.C.B (REPV0088E)



C TUNER EXTENT P.C.B (REPV0088E)

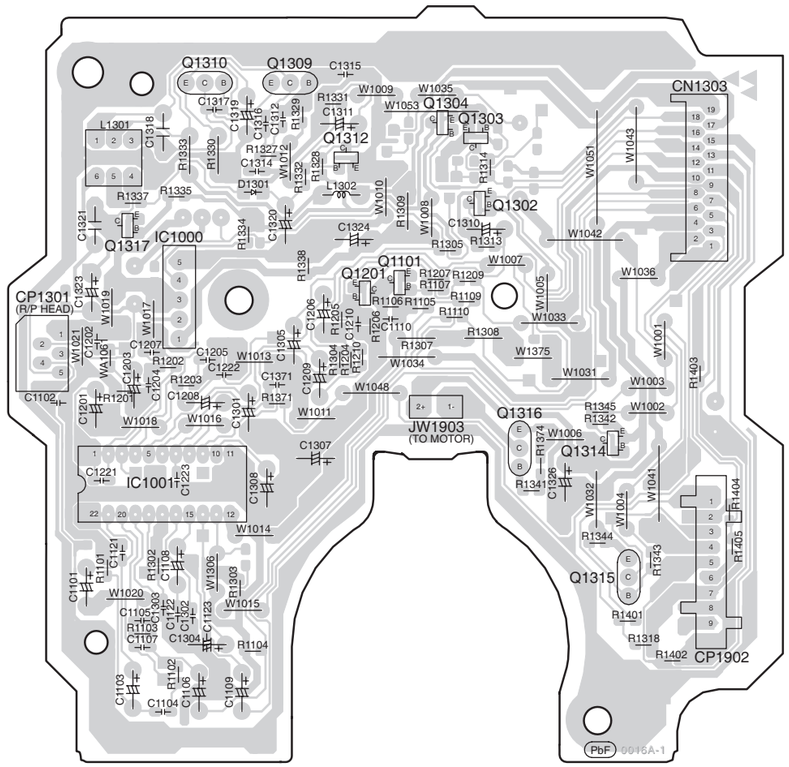


D CD OPEN/CLOSE P.C.B (REPV0088E)

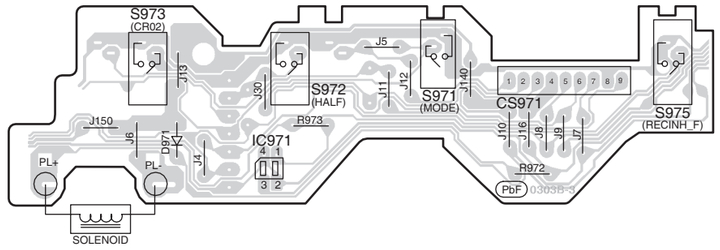


19.4. Deck P.C.B and Deck Mechanism P.C.B.

F DECK P.C.B (REPV0092A)

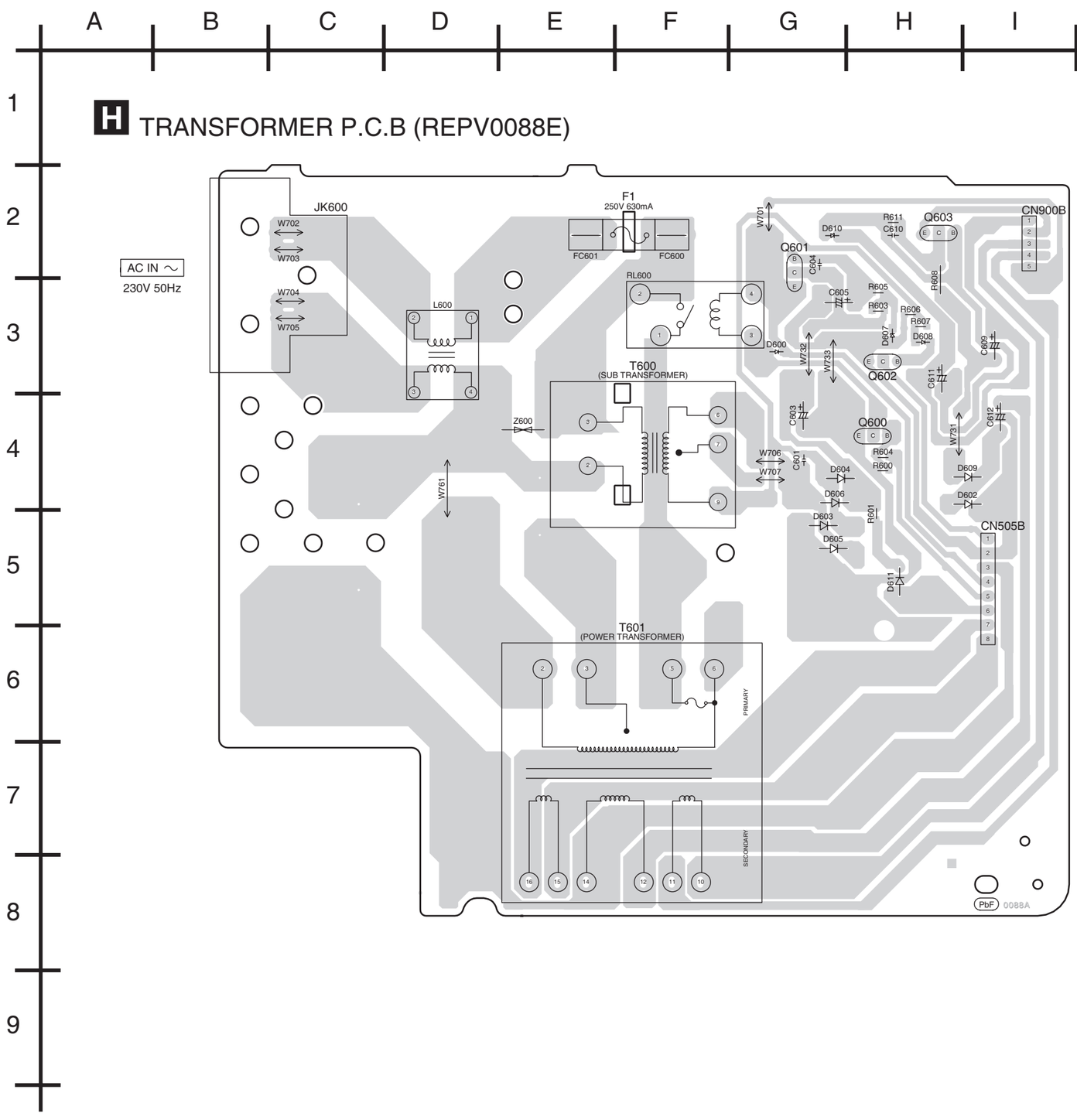


G DECK MECHANISM P.C.B (REPX0321H)



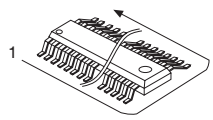
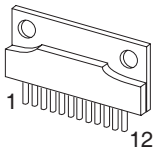
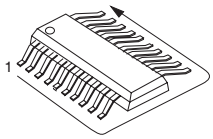
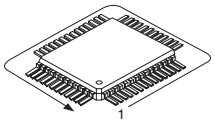
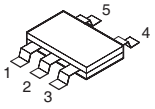
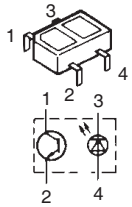
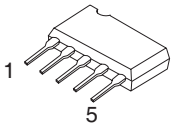
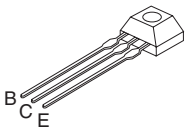
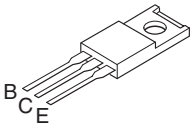
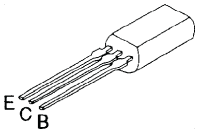
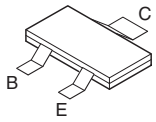
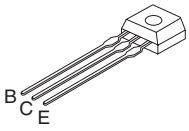
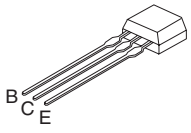
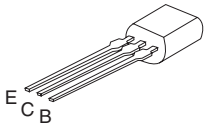
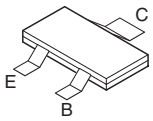
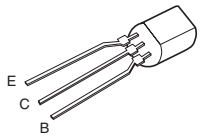
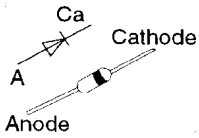
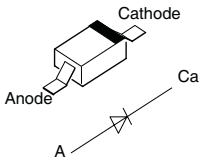
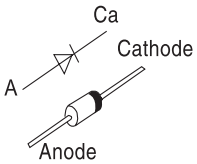
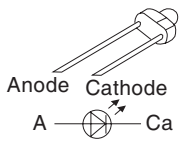
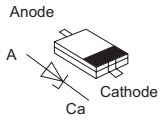
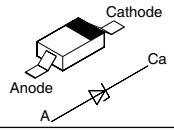
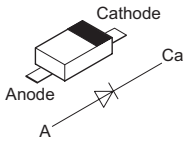
19.5. Transformer P.C.B.

H TRANSFORMER P.C.B (REPV0088E)



SA-PM3EE

20 Illustration of IC's, Transistors and Diodes

BA5948FPE2 (28P) AN7326K (22P) 	AN17808B 	C1BB00000732 (32P) 	MN6627954MA(100P) MN101C49GHD1(100P) C0HBB0000057(44P) 	C0DBZGC00067 	CNB13030R2AU 
C1AA00000612 	KRC102MTA B1GCCFGA0006 	B1BCCG000002 	2SC3940ARA 	B1ABGC000005 B1GBCFGH0001 B1GDCFGH0002 B1ABCF000011 B1GDCFJJ0002 B1GBCFNN0038 B1GBCFGG0030 B1GBCFGJ0016	B1GBCFJJ0044 B1ADCF000001 
B1AACF000063 	B1AAGC000006 	2SD0592ARA 2SD09650RA B1ACKD000006 B1AAJC000019 	B1GDCFGG0026 	2SB0621AHA 	MA2C16500E 
B0ACCE000003 	B0EAKM000117 B0EAMM000038 	B3AAA0000489 	B0BC5R600003 	MAZ80560ML B0BC8R100004 B0BC026A0007 B0BC6R700006 	B0ACCK000005 

21 Terminal Function of IC's

21.1. IC7001 (MN6627954MA) IC SERVO PROCESSOR/DIGITAL SIGNAL PROCESSOR/DIGITAL FILTER D/A CONVERTER

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

Pin No.	Mark	I/O	Function
53	IREF	I	Reference I/P
54	PLLF	I	PLL Loop Filter Terminal (Phase Compare)
55	PLLF0	O	PLL Loop Filter Terminal (Speed Compare)
56	OUTL\	O	Audio O/P (LCH)
57	AVSS1	I	GND
58	AVDD1	I	Analog Power Supply Voltage 1
59	OUTR	O	Audio O/P (RCH)
60	DVSS3	I	GND3 (Digital Circuit)
61	NSRVMONON	I	Servo Motor O/P Enabling
62	EXT0	N.C.	Expansion O/P Port 0
63	EXT1	N.C.	Expansion O/P Port 1
64	EXT2	N.C.	Expansion O/P Port 2
65	FLAG	N.C.	Flag Signal O/P
66	TX	N.C.	Digital Audio Interface O/P signal
67	MCLK	I	Micro-Computer Command Clock I/P
68	MDATA	I	Micro-Computer Data I/P
69	MLD	I	Micro-Computer Load I/P
70	STAT	O	Status Signal O/P
71	BLKCK	O	Subcode Blk Clock
72	NRST	O	LSI Reset Signal
73	DQSYTXT	N.C.	Pack Signal O/P for CD-Text data
74	SMCK	N.C.	Micro-Computer Clock O/P
75	PMCK	N.C.	IOCNT Serial data O/P (Synchronous O/P)
76	DVDD2	-	Digital Power Supply Voltage 2 (+1.5V)
77	IOVDD1	-	Digital Power Supply Voltage 1 (For I/O)
78	DVSS2	-	GND2 (For Digital Circuit)
79	NTEST2	I	Test Mode Setting (ON:H)
80	X2	O	Crystal Oscillating Circuit O/P
81	X1	I	Crystal Oscillating Circuit I/P
82	NTEST	I	Test Mode Setting I/P (ON:H)
83	D2	I/O	Data Sigmal O/P 2
84	D1	I/O	Data Signal O/P 1
85	D0	I/O	Data Signal O/P 0
86	D3	I/O	Data Signal O/P 3
87	D4	I/O	Data Signal O/P 4
88	D5	I/O	Data Signal O/P 5
89	D6	I/O	Data Signal O/P 6
90	D7	I/O	Data Signal O/P 7
91	D15	I/O	Data Signal O/P 15
92	D14	I/O	Data Signal O/P 14
93	DRVDD	I	I/O Power Supply Voltage (DRAM)
94	D13	I/O	Data Signal O/P 13
95	D12	I/O	Data Signal O/P 12
96	D11	I/O	Data Signal O/P 11
97	D10	I/O	Data Signal O/P 10
98	D9	I/O	Data Signal O/P 9
99	D8	I/O	Data Signal O/P 8
100	SDRCK	O	Clock Signal O/P

21.2. IC7002 (BA5948FPE2) IC 4CH Drive

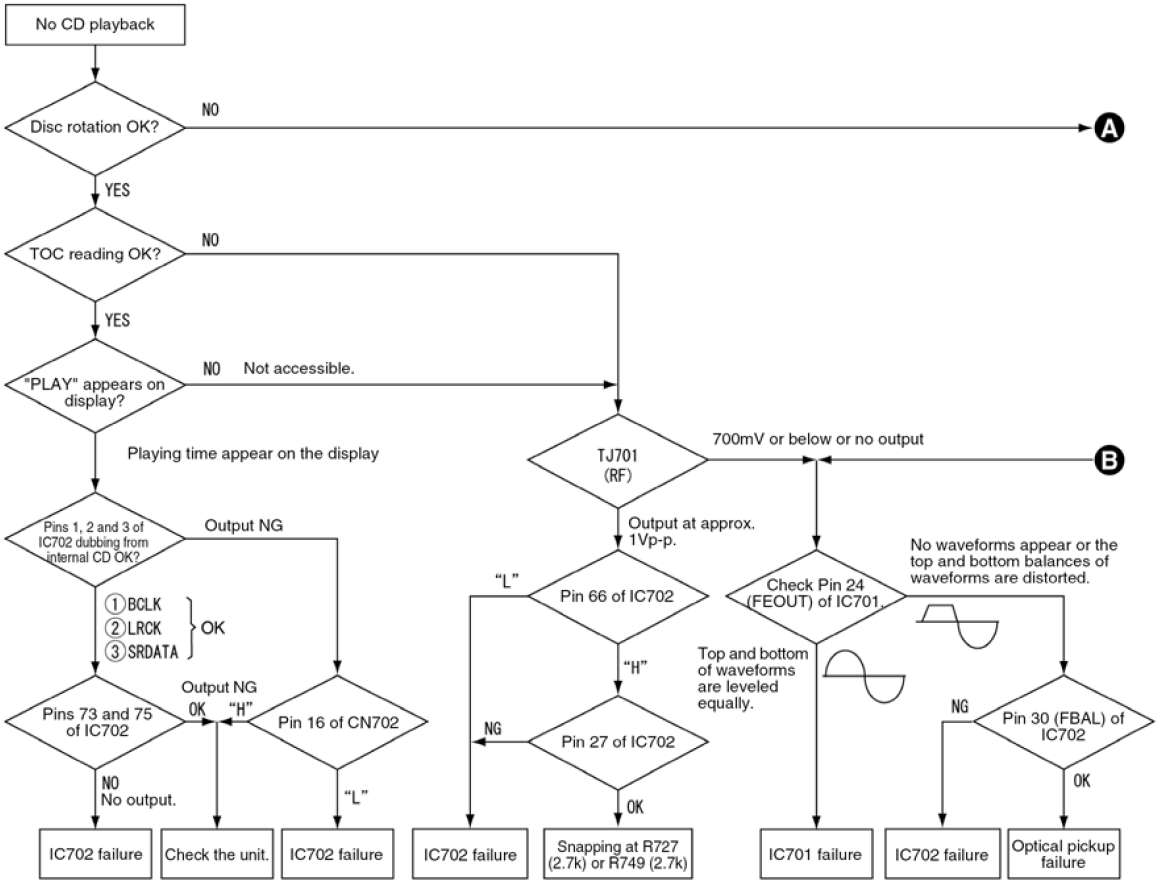
Pin No.	Mark	I/O	Function
1	IN2	I	Motor Driver 92 Input
2	PC2	I	Turntable Motor Drive Signal (“L”:ON)
3	IN1	I	Motor Drive (1) Input
4	PC1	-	Traverse Motor Drive Signal (“L”): ON)
5-8	N.C.	-	No Connection
9	PGND1	-	Ground Connection (1) for Drive
10	PVCC1	I	Power Supply (1) for Drive
11	D1-	O	Motor Drive (1) reverse - action output
12	D1+	O	Motor Drive (1) forward - action output
13	D2-	O	Motor Drive (2) reverse - action output
14	D2+	O	Motor Drive (2) forward - action output
15	D3-	O	Motor Drive (3) reverse - action output
16	D3+	O	Motor Drive (3) forward - action output
17	D4-	O	Motor Drive (4) reverse - action output
18	D4+	O	Motor Drive (4) forward - action output
19	PVCC2	-	Power Supply (2) for Driver
20	PGND2	-	Ground Connection (2) for Driver
21-24	N.C.	O	No Connection
25	VCC	I	Power Supply terminal
26	VREF	I	Reference Voltage Input
27	IN4	I	Motor Driver (4) Input
28	IN3	I	Motor Driver (3) Input

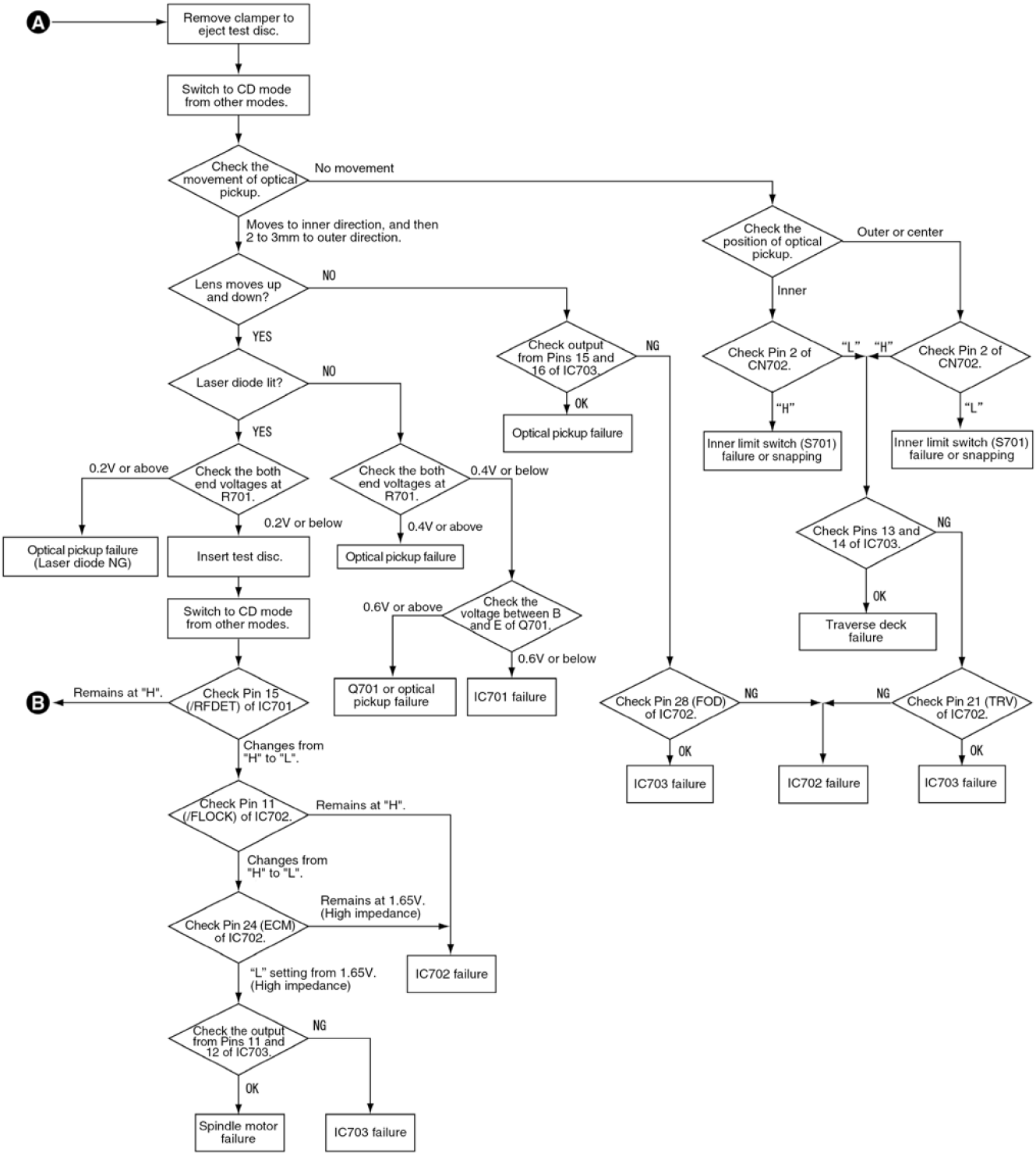
21.3. IC803 (MN101C49GHD1) MICROPROCESSOR

Pin No.	Mark	I/O	Function
1	VREF-	-	A/D Converter Reference GND
2	KEY 1	I	Key 1 Input
3	KEY 2	I	Key 2 Input
4	AN6 (MK_IN1)	I	Mech Condition Input1 (Mode and TPS)
5	AN7 (MK_IN2)	I	Mech Condition Input2 (Half and RECINF)
6	PWRDET	I	Power Detect
7	REGION	I	Destination Setting
8	VOL_DET1	I	Volume Lever Left
9	VOL_DET2	I	Volume Lever Right
10	VREF +	-	A/D Converter Reference Volt
11	VDD	-	Power Input Pin
12	OSC2 (8MHZ)	O	Main Oscillator Output
13	OSC1 (8MHZ)	I	Main Oscillator Input
14	VSS	-	GND
15	XI (32KHZ)	I	Suboscillator Input
16	XO (32KHZ)	O	Suboscillator Output
17	MDE (GND)	-	No Connection
18	N.C.	-	No Connection
19	RDS_DATA	I/O	RDS IC CTRL
20	RDS_CLK	O	RDS CLK IN
21	CD_MDATA	O	CD LSI Command Data
22	CD_STAT	I	CD Status Input
23	CD_MCLK	O	CD LSI Command Clock
24	N.C.	-	No Connection
25	PCONT_1	O	Power Control Output1 (PWR SPLY, Active High)
26	RMT	I	Remocon Input
27	HALT	I	AC Failure Detect Signal
28	CD_OPEN _SW	I	CD Open Switch (L: Open, H: Close)
29	RESTSW	I	CD Tranverse Limit SW
30	BLKCK	I	CD Subcode Block Clock Input
31	N.C.	-	No Connection
32	N.C.	-	No Connection
33	NRST	I	Micom Reset (L: Reset)
34	N.C.	-	No Connection
35	CD RST	O	CD Reset Output
36	CD_MLD	O	CD LSI Command Load
37	N.C.	-	No Connection
38	N.C.	-	No Connection
39	N.C.	-	No Connection
40	FL_CS	O	FL Strobe Output
41	N.C.	-	No Connection
42	FL_DATA	O	FL Data Output
43	N.C.	-	No Connection
44	FL_CLK	O	FL Clock Output
45	SDA	I/O	IIC Data Line For Tuner
46	N.C.	-	No Connection
47	CL	O	IIC Clock Signal For Tuner
48	N.C.	-	No Connection
49	PCONT_2	O	Power Control Output2 (PWR AMP, active H)
50	DEMO	I	Demo Mode Setting (H: OFF, L: ON)
51	N.C.	-	No Connection
52	HP_SW	-	No Connection
53	MUTE A	O	Audio Mute O/P (L: Mute On)
54	N.C.	-	No Connection
55	N.C.	-	No Connection
56	ASP_CLK	O	ASP CLK
57	ASP_DAT	O	ASP Data
58	N.C.	-	No Connection
59	N.C.	-	No Connection
60	N.C.	-	No Connection
61	EDATA	I/O	Eeprom Data In/Out
62	ECLK	O	Eeprom Clock Output
63	ECS	O	Eeprom CS Output
64	N.C.	-	No Connection
65	TUNED	I/O	Tuner Tuned Signal
66	STEREO	I/O	Tuner Stereo Signal
67	N.C.	-	No Connection
68	N.C.	-	No Connection
69	N.C.	-	No Connection
70	MOTOR_H	O	Deck Motor Control Out (H: ON)
71	PL_H	O	Deck Plunger Control Out (H: On)
72	N.C.	-	No Connection
73	N.C.	-	No Connection
74	TAPE_EJECT	O	Tape Eject SW I/P (L: SW On)
75	PHOTO	I	Deck Photo SW Input
76	REC_H	O	Deck Rec Control Output (Active High)
77	N.C.	-	No Connection
78	DMT	O	Deck Mute Output (L: Mute On)
79	TYPE _SELECT	I	Type Select
80	N.C.	-	No Connection
81	N.C.	-	No Connection
82	N.C.	-	No Connection
83	N.C.	-	No Connection

Pin No.	Mark	I/O	Function
84	N.C.	-	No Connection
85	N.C.	-	No Connection
86	N.C.	-	No Connection
87	N.C.	-	No Connection
88	N.C.	-	No Connection
89	N.C.	-	No Connection
90	MP1	-	No Connection
91	MP2	-	No Connection
92	CRTIMER	I/O	CR Timer
93	N.C.	-	No Connection
94	S/W RST	-	Switch Reset
95	VREF -	-	D/A Converter Reference GND
96	VOL_JOG1	I	Jog Input 1
97	VOL_JOG2	I	Jog Input 2
98	N.C.	-	No Connection
99	N.C.	-	No Connection
100	VREF +	-	D/A Converter Reference Voltage

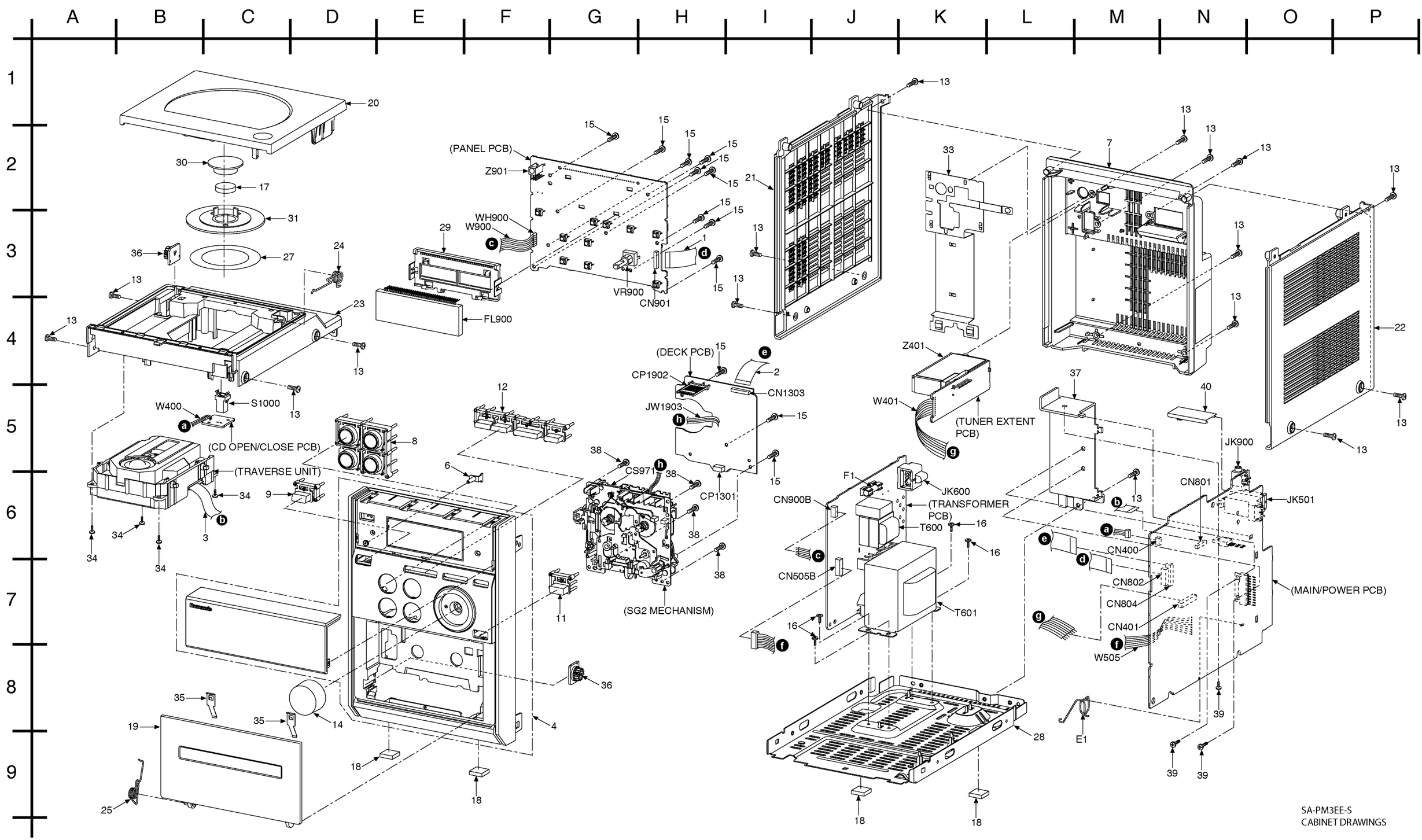
22 Troubleshooting Flowchart (CD Section Circuit)




A
Remove clamper to eject test disc.
Switch to CD mode from other modes.
Check the movement of optical pickup.
No movement
Moves to inner direction, and then 2 to 3mm to outer direction.
Lens moves up and down?
NO
YES
Laser diode lit?
NO
YES
Check output from Pins 15 and 16 of IC703.
NG
OK
Optical pickup failure
Check the position of optical pickup.
Outer or center
Inner
Check Pin 2 of CN702.
"L"
"H"
Check Pin 2 of CN702.
"H"
"L"
Inner limit switch (S701) failure or snapping
Inner limit switch (S701) failure or snapping
Check the both end voltages at R701.
0.2V or above
0.2V or below
Optical pickup failure (Laser diode NG)
Insert test disc.
Check the both end voltages at R701.
0.4V or below
0.4V or above
Optical pickup failure
Check Pins 13 and 14 of IC703.
NG
OK
Traverse deck failure
Switch to CD mode from other modes.
Check the voltage between B and E of Q701.
0.6V or above
0.6V or below
Q701 or optical pickup failure
IC701 failure
B
Remains at "H".
Check Pin 15 (/RFDET) of IC701
Changes from "H" to "L".
Check Pin 28 (FOD) of IC702.
NG
OK
IC703 failure
NG
IC702 failure
Check Pin 21 (TRV) of IC702.
OK
IC703 failure
Check Pin 11 (/FLOCK) of IC702.
Remains at "H".
Changes from "H" to "L".
Check Pin 24 (ECM) of IC702.
Remains at 1.65V. (High impedance)
IC702 failure
"L" setting from 1.65V. (High impedance)
Check the output from Pins 11 and 12 of IC703.
NG
OK
Spindle motor failure
IC703 failure

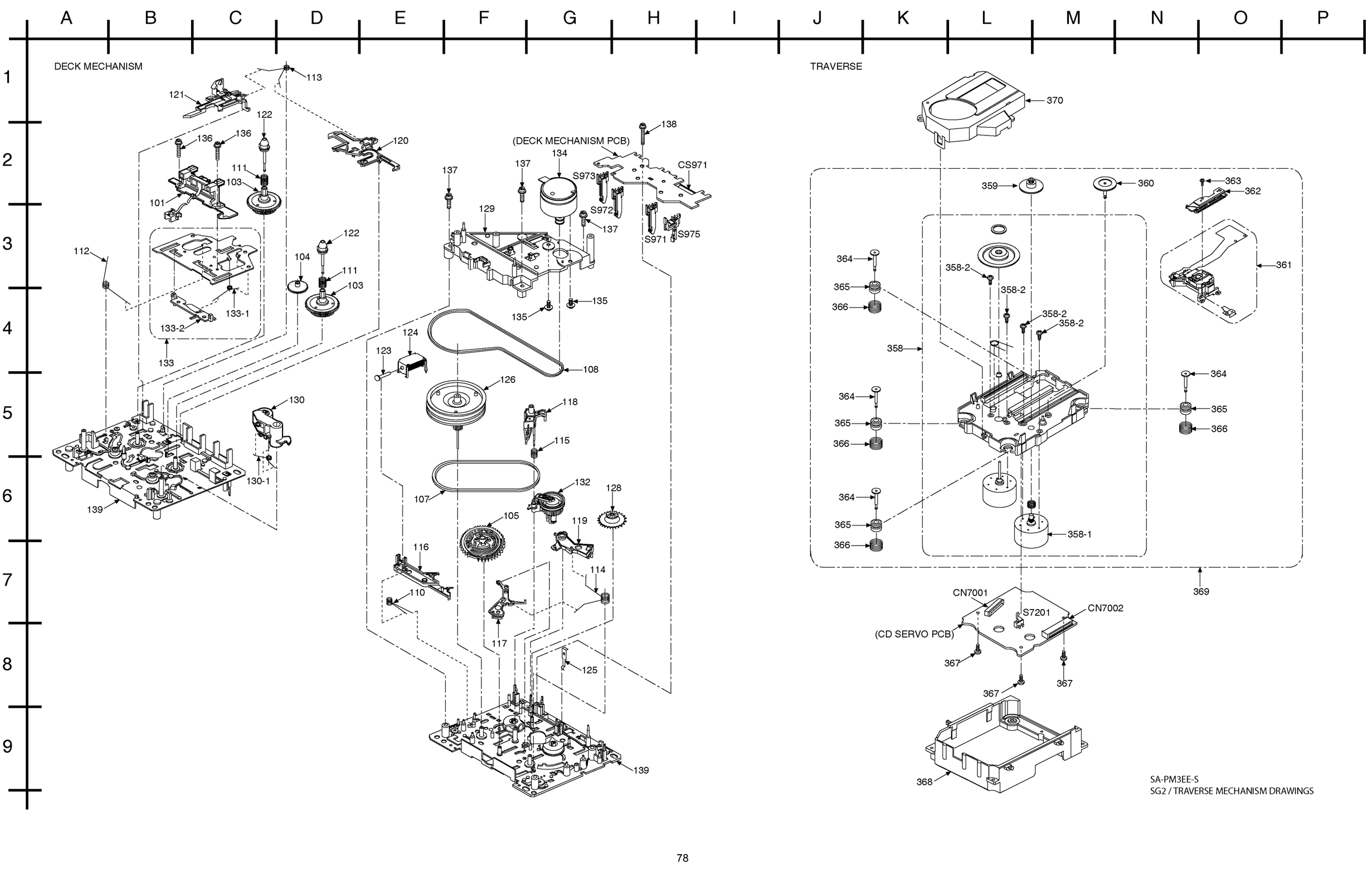
23 Exploded Views

23.1. Cabinet Parts Location



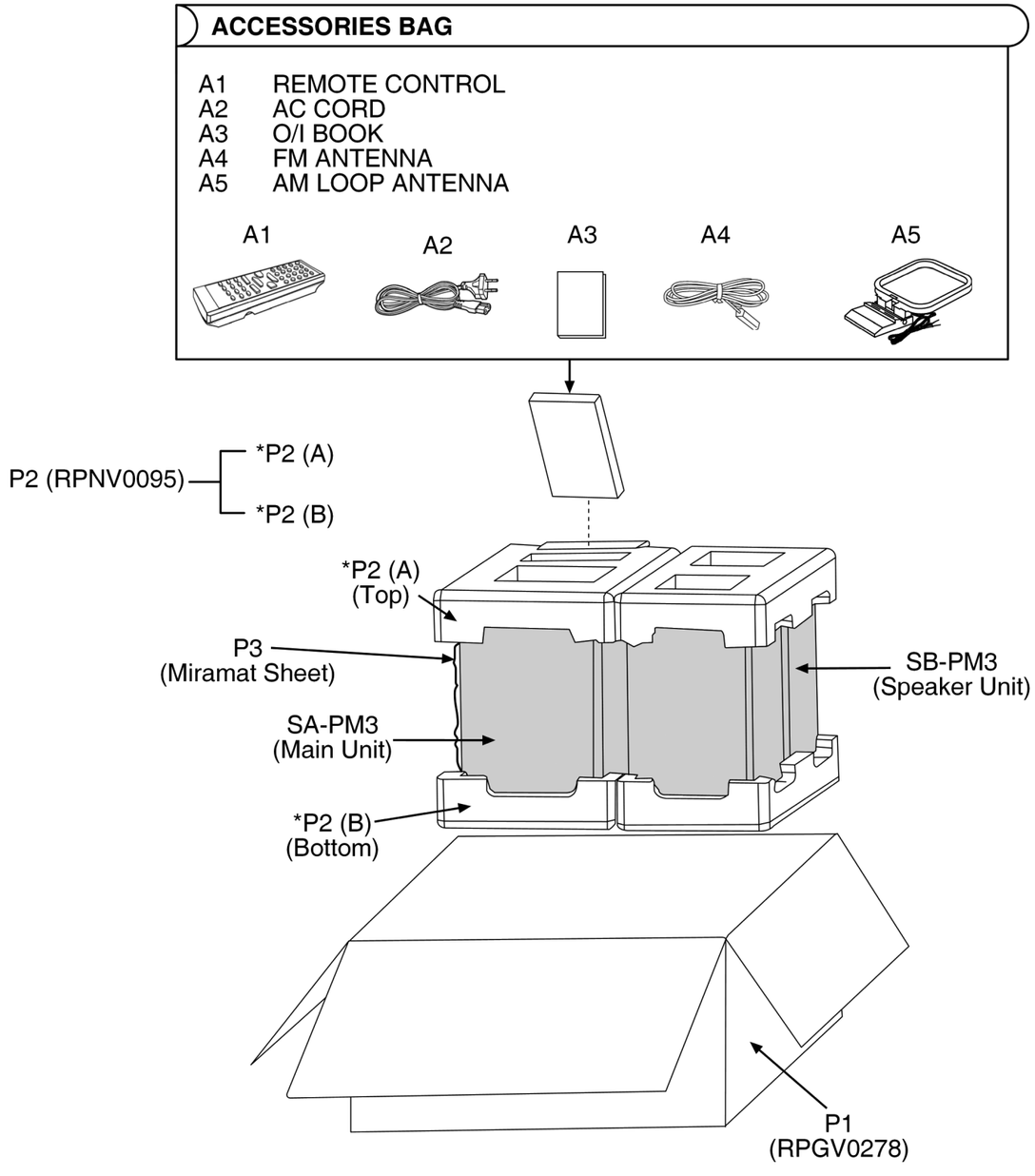
SA-PM3EE-S
CABINET DRAWINGS

23.2. Deck Mechanism (RAA4402-1S) & Traverse Part Location



SA-PM3EE-S
SG2 / TRAVERSE MECHANISM DRAWINGS

23.3. Packaging



24 Replacement Parts List

Notes:

- Important safety notice:

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

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

  When replacing any of these components, be sure to use only manufacturer's specified parts shown in the parts list.
- The parenthesized indications in the Remarks columns specify the areas or colour. (Refer to the cover page for area or colour)

  Parts without these indications can be used for all areas.
- Warning: This product uses a laser diode. Refer to "Precaution of Laser Diode".
- Capacitor values are in microfarads (μF) unless specified otherwise, P= Pico-farads (pF), F= Farads.
- Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM).
- The marking (RTL) indicates that the Retention Time is limited for this items. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of a availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.
- [M] 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				

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	REEV0095	15P FFC (PANEL-MAIN)	[M]
2	REEV0096	19P FFC (DECK-MAIN)	[M]
3	REEV0097	17P FFC (MAIN-CD)	[M]
4	RFKGAPM3EE-S	FRONT PANEL ASS'Y	[M]
6	RGLV0061-Q	LIGHTING TIP	[M]
7	RKSV0033B-H	REAR CABINET	[M]
8	RGUV0134A-S	FUNCTION BUTTON	[M]
9	RGUV0136-S	POWER BUTTON	[M]
11	RGUV0138-S	CASS EJECT BUTTON	[M]
12	RGUV0139-S	CONTROL BUTTON	[M]
13	XTB3+10JFJ	SCREW	[M]
14	RGWV0039-1S	VOLUME KNOB	[M]
15	RHD26046-L	SCREW	[M]
16	RHDV30002	SCREW	[M]
17	RHM0001	MAGNET	[M]
18	RKA0072-KJ	LEG CUSHION	[M]
19	RKFV0053A-S	CASS LID	[M]
20	RKFV0054-S	CD LID	[M]
21	RKMV0055A-H	SIDE PANEL L	[M]
22	RKMV0056A-H	SIDE PANEL R	[M]
23	RKMV0057A-H	TOP CABINET	[M]
24	RMBV0041	CD LID OPEN SPRING	[M]
25	RMBV0042	CASS LID SPRING	[M]
27	RMF0188-1L	CLAMPER SHEET	[M]
28	RMKV0045	BOTTOM CHASSIS	[M]
29	RMNV0062	FL HOLDER	[M]
30	RMQ0152-E	FIXTURE	[M]
31	RMQ0496-K	CD CLAMPER	[M]
33	RSCV0067	REAR SHEILD	[M]
34	XTV3+12GFJ-M	SCREW	[M]
35	RUS757ZAA	CASS HALF SPRING	[M]
36	RXGX0002	DAMPER GEAR	[M]
37	RMYV0053	HEAT SINK	[M]
38	XTV3+10GFJ-M	SCREW	[M]
39	XTV3+8FFJ	SCREW	[M]
40	RSC0669	SP EARTH	[M]
		CASSETTE DECK	

Ref. No.	Part No.	Part Name & Description	Remarks
101	RED0067-2	R/P HEAD BLOCK UNIT	[M]
103	RDG0300	REEL BASE GEAR	[M]
104	RDG0301	WINDING RELAY GEAR	[M]
105	RDK0026-4	MAIN GEAR	[M]
107	RDV0033-4	WINDING BELT	[M]
108	RDV0064-1	CAPSTAN BELT	[M]
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	RXQ0470-2	PLUNGER	[M]
125	RMC0061	PACK SPRING	[M]
126	RXF0061-1	FLYWHEEL F ASS'Y	[M]
128	RXG0040	FF RELAY GEAR ASS'Y	[M]
129	RMK0283A-2	SUB-CHASSIS	[M]
130	RXL0124	PINCH ROLLER F ASS'Y	[M]
130-1	RMB0401	PINCH ARM SPRING F	[M]
132	RXL0126	WINDING ARM ASS'Y	[M]
133	RXQ0412-3	HEAD PANEL ASS'Y	[M]
133-1	RMB0405-1	FR ROD SPRING	[M]
133-2	RMM0132-1	FR ROD	[M]
134	REM0120	CAP MOTOR ASS'Y	[M]
135	RHD26022-1	MOTOR SCREW	[M]
136	XTW2+5LFJ	HEAD BLOCK UNIT SCRE	[M]
137	XTW26+10SFJ	SUB-CHASSIS SCREW	[M]
138	XYC2+JF17FJ	PCB EARTH SCREW	[M]
139	RFKJSTR280PP	CHASSIS ASS'Y	[M]
		TRAVERSE DECK	

Ref. No.	Part No.	Part Name & Description	Remarks
358	RFKNCT121157	SPINDLE MOTOR ASS'Y	[M]
358-1	RXQ0632	TRAVERSE MOTOR UNIT	[M]
358-2	XQN17+C28FJ	SCREW	[M]
359	RDG0455	TRVAERSE GEAR (A)	[M]
360	RDG0456-1	TRVAERSE GEAR (B)	[M]
361	RXQ0999	OPU UNIT	[M]
362	RMM0218-1	TRAVERSE DRIVE RACK	[M]
363	SNSD38-1	SCREW	[M]
364	RMS0757-1	FIXED PIN	[M]
365	RMG0703-R	FLOATING RUBBER	[M]
366	RME0109	FLOATING SPRING	[M]
367	XTN2+6GFJ	SCREW	[M]
368	RMR1395-X	MIDDLE CHASSIS	[M]
369	RAE0157A-V	TRV UNIT W/O S/PCB	[M]
370	RMR1396-K	TRAVERSE COVER	[M]
		PRINTED CIRCUIT BOARD	
	REPV0092A	DECK P.C.B.	[M] (RTL)
	REPV0088E	MAIN/POWER P.C.B. / PANEL P.C.B. / TUNER EXTENT P.C.B. / TRANSFORMER P.C.B. / CD OPEN/CLOSE P.C.B.	[M] (RTL)
	REPX0321H	DECK MECHANISM P.C.B.	[M] (RTL)
	REPV0082A	CD SERVO P.C.B.	[M] (RTL)
		INTEGRATED CIRCUITS	
IC500	AN17808B	IC POWER AMP	[M]
IC800	C1BB00000732	IC ASP	[M]
IC802	C0DBZGC00067	IC 3.3V REGULATOR	[M]
IC803	MN101C49GHD1	IC MICROPROCESSOR	[M]
IC900	C0HBB0000057	IC FL DRIVER	[M]
IC971	CNB13030R2AU	IC PHOTO INTERRUPTOR	[M]
IC1000	C1AA00000612	IC ANALOG SWITCH	[M]
IC1001	AN7326K	IC P/B REC AMP	[M]
IC7001	MN6627954MA	IC SERVO PROCESSOR/DIGITAL SIGNAL PROCESSOR/DIGITAL FILTER D/A CONVERTER	[M]
IC7002	BA5948FPE2	IC 4 CH DRIVE	[M]
		TRANSISTORS	
Q500	B1GCCFGA0006	TRANSISTOR	[M]
Q501	B1AACF000063	TRANSISTOR	[M]
Q503	B1BCCG000002	TRANSISTOR	[M]
Q504	B1AACF000063	TRANSISTOR	[M]
Q505	B1AAJC000019	TRANSISTOR	[M]
Q507	B1AAJC000019	TRANSISTOR	[M]
Q530	2SD0592ARA	TRANSISTOR	[M]
Q600	B1AACF000063	TRANSISTOR	[M]
Q601	2SC3940ARA	TRANSISTOR	[M]
Q602	KRC102MTA	TRANSISTOR	[M]
Q603	2SB0621AHA	TRANSISTOR	[M]
Q750	B1GDCFGG0026	TRANSISTOR	[M]
Q751	B1GBCFJJ0044	TRANSISTOR	[M]
Q801	B1GBCFGG0030	TRANSISTOR	[M]
Q802	B1GBCFGG0030	TRANSISTOR	[M]
Q803	B1GBCFJJ0044	TRANSISTOR	[M]
Q804	B1GBCFNN0038	TRANSISTOR	[M]
Q807	B1GBCFGJ0016	TRANSISTOR	[M]
Q808	B1GBCFGJ0016	TRANSISTOR	[M]
Q1101	B1ABGC000005	TRANSISTOR	[M]
Q1201	B1ABGC000005	TRANSISTOR	[M]
Q1302	B1GDCFJJ0002	TRANSISTOR	[M]
Q1303	B1GBCFGH0001	TRANSISTOR	[M]
Q1304	B1GDCFGH0002	TRANSISTOR	[M]
Q1309	B1AAGC000006	TRANSISTOR	[M]
Q1310	B1AAGC000006	TRANSISTOR	[M]
Q1312	B1ABCF000011	TRANSISTOR	[M]
Q1314	B1GDCFGH0002	TRANSISTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
Q1315	B1ACKD000006	TRANSISTOR	[M]
Q1316	2SD09650RA	TRANSISTOR	[M]
Q1317	B1ABGC000005	TRANSISTOR	[M]
Q7601	B1ADCF000001	TRANSISTOR	[M]
		DIODES	
D501	B0EAMM000038	DIODE	[M]
D502	B0EAMM000038	DIODE	[M]
D504	B0EAMM000038	DIODE	[M]
D505	B0EAMM000038	DIODE	[M]
D506	B0BC8R100004	DIODE	[M]
D508	B0BC5R600003	DIODE	[M]
D525	B0EAKM000117	DIODE	[M]
D526	B0EAKM000117	DIODE	[M]
D527	B0EAKM000117	DIODE	[M]
D600	B0ACCK000005	DIODE	[M]
D602	B0EAKM000117	DIODE	[M]
D603	B0EAKM000117	DIODE	[M]
D604	B0EAKM000117	DIODE	[M]
D605	B0EAKM000117	DIODE	[M]
D606	B0EAKM000117	DIODE	[M]
D607	B0BC6R700006	DIODE	[M]
D608	B0ACCK000005	DIODE	[M]
D609	B0EAKM000117	DIODE	[M]
D610	B0BC026A0007	DIODE	[M]
D611	B0EAKM000117	DIODE	[M]
D802	B0ACCK000005	DIODE	[M]
D805	B0ACCE000003	DIODE	[M]
D806	B0ACCE000003	DIODE	[M]
D807	B0ACCK000005	DIODE	[M]
D900	B0BC5R600003	DIODE	[M]
D906	B3AAA0000489	DIODE	[M]
D971	MA2C16500E	DIODE	[M]
D1301	B0ACCK000005	DIODE	[M]
D7650	MAZ80560ML	DIODE	[M]
		VARIABLE RESISTOR	
VR900	EVEJ1CF3024B	VR VOLUME JOG	[M]
		SWITCHES	
S900	EVQ21405RJ	SW STOP/-DEMO	[M]
S901	EVQ21405RJ	SW CD	[M]
S902	EVQ21405RJ	SW TAPE	[M]
S903	EVQ21405RJ	SW TUNER/BAND	[M]
S904	EVQ21405RJ	SW FF	[M]
S905	EVQ21405RJ	SW REW	[M]
S906	EVQ21405RJ	SW POWER	[M]
S907	EVQ21405RJ	SW TAPE_EJECT	[M]
S908	EVQ21405RJ	SW BASS/TREBLE	[M]
S909	EVQ21405RJ	SW REC	[M]
S971	K0J1BB000017	SW MODE	[M]
S972	K0J1BB000021	SW HALF	[M]
S973	K0J1BB000021	SW CR02	[M]
S975	K0J1BB000021	SW RECINH_F	[M]
S1000	RSP1A026-Q	SW CD OPEN/CLOSE	[M]
S7201	RSH1A048-A	RESET SWITCH	[M]
		CONNECTORS	
CN400	K1KA02AA0180	2P CONNECTOR	[M]
CN401	K1MP10A00003	10P WIRE HOLDER	[M]
CN505B	K1KA08AA0319	8P CONNECTOR	[M]
CN801	K1MN17AA0004	17P CONNECTOR	[M]
CN802	K1MN15A00049	15P FFC CONNECTOR	[M]
CN804	K1MN19A00027	19P CONNECTOR	[M]
CN900B	K1MP05A00004	5P CONNECTOR	[M]
CN901	K1MN15A00049	15P FFC CONNECTOR	[M]
CN1303	K1MN19BA0005	19P CONNECTOR	[M]
CN7001	K1MN16B00154	16P CONNECTOR	[M]
CN7002	K1MN17B00032	17P CONNECTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
CP1301	K1MY05AA0043	5P CONNECTOR	[M]
CP1902	K1KA09BA0153	9P CONNECTOR	[M]
CS971	RJU071H09M1	9P CONNECTOR	[M]
		COILS & TRANSFORMERS	
L203	J0JBC0000019	CHIP INDUCTOR	[M]
L204	G0C3R3JA0027	COIL	[M]
L300	G0AR76Y00002	CHOKE COIL	[M]
L303	G0AR76Y00002	CHOKE COIL	[M]
L600	G0B371HA0005	LINE FILTER	[M] ⚠
L801	J0JKB0000020	EMI BEAD CORE	[M]
L802	J0JKB0000020	EMI BEAD CORE	[M]
L803	J0JKB0000020	EMI BEAD CORE	[M]
L804	G0C3R3JA0027	COIL	[M]
L805	G0C3R3JA0027	COIL	[M]
L812	J0JKB0000020	EMI BEAD CORE	[M]
L901	G0C3R3JA0027	COIL	[M]
L905	G0C101JA0027	COIL	[M]
L1301	G2ZZ00000024	BIAS OCS COIL	[M]
L1302	G0C470JA0052	RF CHOKE COIL	[M]
T600	RTP1H3E002	SUB TRANSFORMER	[M] ⚠
T601	G4CYAYY00064	POWER TRANSFORMER	[M] ⚠
		COMPONENT COMBINATIONS	
Z401	ENG07811QF	TUNER PACK	[M]
Z600	ERZV10V511CS	ZENER	[M] ⚠
Z901	B3RAD0000125	REMOTE SENSOR	[M]
		RELAY	
RL600	K6B1ADA00011	RELAY	[M] ⚠
		OSCILLATORS	
X801	H4Z8004AA001	CERAMIC RESONATOR	[M]
X802	H0A327200100	CRYSTAL OSCILLATOR	[M]
X7201	H2B169500005	CRYSTAL OSCILLATOR	[M]
		DISPLAY TUBE	
FL900	A2BB00000157	FL DISPLAY	[M]
		FUSE	
F1	K5D631BLA012	FUSE	[M] ⚠
		FUSE HOLDERS	
FC600	EYF52BCY	FUSE CLIP	[M]
FC601	EYF52BCY	FUSE CLIP	[M]
		FUSE PROTECTOR	
FP552	K5G202A00044	FUSE PROTECTOR	[M] ⚠
		JACKS	
JK501	K4BC04B00123	JK RED/BLACK SPEAKER	[M]
JK600	K2AA2B000015	JK AC INLET	[M] ⚠
JK900	K2HC103B0162	JK HEADPHONE	[M]
		EARTH TERMINAL	
E1	RMBV0043	EARTH SPRING	[M]
		WIRES	
W400	REXV0060	2P WIRE (CASS MOTOR)	[M]
W401	RWJ0210145SQ	10P WIRE(TUNER-MAIN)	[M]
W505	REXV0064	8P WIRE (TRANS-MAIN)	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
W900	RWJ1105120QX	5P FLAT WIRE	[M]
WH900	RMR0314	CABLE HOLDER	[M]
JW1903	RWJ0102050KR	2P (MOTOR WIRE)	[M]
		PACKING MATERIALS	
P1	RPGV0278	PACKING CASE	[M]
P2	RPNV0095	POLYFOAM	[M]
P3	RPHV0001-1	MIRAMAT SHEET	[M]
		ACCESSORIES	
A1	N2QAYB000002	REMOTE CONTROL	[M]
A1-1	RKK-HTR0283	R/C BATTERY COVER	[M]
A2	K2CQ2CA00002	AC CORD	[M] ⚠
A3	RQTV0087-R	O/I BOOK (Ru/Ur)	[M]
A4	RSA0007-L	FM ANTENNA	[M]
A5	N1DAAAA00001	AM LOOP ANTENNA	[M]
		CHIP RESISTORS	
W555	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7001	ERJ6GEY0R00V	CHIP JUMPER	[M]
W7002	ERJ6GEY0R00V	CHIP JUMPER	[M]
W7003	ERJ6GEY0R00V	CHIP JUMPER	[M]
W7004	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7005	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7006	ERJ6GEY0R00V	CHIP JUMPER	[M]
W7007	ERJ6GEY0R00V	CHIP JUMPER	[M]
W7008	ERJ6GEY0R00V	CHIP JUMPER	[M]
W7009	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7010	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7011	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7012	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7013	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7014	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7015	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7016	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7017	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7018	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7019	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7020	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7021	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7022	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7023	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7024	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7025	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7026	ERJ3GEY0R00V	CHIP JUMPER	[M]
W7027	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA1	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA2	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA3	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA4	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA5	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA6	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA7	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA8	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA9	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA10	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA11	ERJ3GEY0R00V	CHIP JUMPER	[M]
WA1061	ERJ3GEY0R00V	CHIP JUMPER	[M]
		RESISTORS	
R1	D0GB222JA041	2.2K 1/16W	[M]
R2	D0GB222JA041	2.2K 1/16W	[M]
R3	D0GB121JA007	120 1/16W	[M]
R4	D0GB121JA007	120 1/16W	[M]
R5	D0GB222JA041	2.2K 1/16W	[M]
R6	D0GB222JA041	2.2K 1/16W	[M]
R7	D0GB121JA007	120 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R8	D0GB121JA007	120 1/16W	[M]
R201	D0GB562JA007	5.6K 1/16W	[M]
R202	D0GB562JA007	5.6K 1/16W	[M]
R203	D0GB272JA007	2.7K 1/16W	[M]
R204	ERJ3GEYJ682V	6.8K 1/16W	[M]
R205	ERJ3GEYJ822V	8.2K 1/16W	[M]
R206	D0GB153JA007	15K 1/16W	[M]
R207	ERJ3GEYJ822V	8.2K 1/16W	[M]
R209	D0GB183JA007	18K 1/16W	[M]
R210	ERJ3GEYJ102V	1K 1/16W	[M]
R211	D0GB392JA007	3.9K 1/16W	[M]
R212	D0GB182JA007	1.8K 1/16W	[M]
R228	D0GB561JA007	560 1/16W	[M]
R230	D0GB104JA007	100K 1/16W	[M]
R251	D0GB821JA007	820 1/16W	[M]
R285	ERJ3GEYJ822V	8.2K 1/16W	[M]
R291	ERJ3GEYJ682V	6.8K 1/16W	[M]
R292	ERJ3GEYJ682V	6.8K 1/16W	[M]
R295	ERJ3GEYJ103V	10K 1/16W	[M]
R296	D0GB330JA007	33 1/16W	[M]
R383	ERJ3GEY0R00V	0 1/16W	[M]
R385	ERJ3GEY0R00V	0 1/16W	[M]
R401	D0GB562JA007	5.6K 1/16W	[M]
R402	D0GB562JA007	5.6K 1/16W	[M]
R403	D0GB272JA007	2.7K 1/16W	[M]
R404	ERJ3GEYJ682V	6.8K 1/16W	[M]
R406	D0GB153JA007	15K 1/16W	[M]
R409	D0GB183JA007	18K 1/16W	[M]
R410	ERJ3GEYJ102V	1K 1/16W	[M]
R411	D0GB392JA007	3.9K 1/16W	[M]
R412	D0GB182JA007	1.8K 1/16W	[M]
R428	D0GB561JA007	560 1/16W	[M]
R430	D0GB104JA007	100K 1/16W	[M]
R441	ERD2FCVG330T	33 1/4W	[M]
R442	ERJ6GEYJ682V	6.8K 1/10W	[M]
R443	D0GB332JA007	3.3K 1/16W	[M]
R444	D0GB332JA007	3.3K 1/16W	[M]
R445	ERJ6GEYJ682V	6.8K 1/10W	[M]
R446	D0GB273JA007	27K 1/16W	[M]
R447	D0GB273JA007	27K 1/16W	[M]
R451	D0GB821JA007	820 1/16W	[M]
R485	ERJ3GEYJ822V	8.2K 1/16W	[M]
R491	ERJ3GEYJ682V	6.8K 1/16W	[M]
R492	ERJ3GEYJ682V	6.8K 1/16W	[M]
R495	ERJ3GEYJ103V	10K 1/16W	[M]
R496	D0GB330JA007	33 1/16W	[M]
R501	D0GB1R0JA007	1 1/16W	[M]
R502	D0GB1R0JA007	1 1/16W	[M]
R503	D0GB1R0JA007	1 1/16W	[M]
R504	D0GB221JA041	220 1/16W	[M]
R505	D0GB104JA007	100K 1/16W	[M]
R507	D0GB1R0JA007	1 1/16W	[M]
R510	ERJ6GEYJ121V	120 1/10W	[M]
R511	ERJ6GEYJ121V	120 1/10W	[M]
R514	D0GB222JA041	2.2K 1/16W	[M]
R515	D0GB152JA007	1.5K 1/16W	[M]
R516	ERJ6GEYJ391V	390 1/10W	[M]
R517	D0GB471JA041	470 1/16W	[M]
R518	ERJ3GEYJ102V	1K 1/16W	[M]
R520	D0GB471JA041	470 1/16W	[M]
R552	D0GB563JA007	56K 1/16W	[M]
R572	D0GB563JA007	56K 1/16W	[M]
R580	D0GB562JA007	5.6K 1/16W	[M]
R581	ERJ3GEYJ682V	6.8K 1/16W	[M]
R586	D0GB473JA041	47K 1/16W	[M]
R600	D0GB473JA041	47K 1/16W	[M]
R601	D0GB220JA007	22 1/16W	[M]
R603	D0GB821JA007	820 1/16W	[M]
R604	D0GB472JA041	4.7K 1/16W	[M]
R605	D0GB151JA007	150 1/16W	[M]
R606	ERJ3GEYJ103V	10K 1/16W	[M]
R607	ERJ3GEYJ103V	10K 1/16W	[M]
R608	ERD2FCVG120T	12 1/4W	[M]
R611	D0GB332JA007	3.3K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R750	D0GB472JA041	4.7K 1/16W	[M]
R803	D0GB472JA041	4.7K 1/16W	[M]
R804	D0GB472JA041	4.7K 1/16W	[M]
R805	ERJ3GEYJ103V	10K 1/16W	[M]
R806	ERJ3GEYJ103V	10K 1/16W	[M]
R807	ERJ3GEYJ103V	10K 1/16W	[M]
R808	ERJ3GEYJ103V	10K 1/16W	[M]
R809	D0GB101JA007	100 1/16W	[M]
R810	D0GB101JA007	100 1/16W	[M]
R811	D0GB101JA007	100 1/16W	[M]
R812	D0GB101JA007	100 1/16W	[M]
R813	D0GB101JA007	100 1/16W	[M]
R815	ERJ3GEYJ103V	10K 1/16W	[M]
R816	ERJ3GEYJ103V	10K 1/16W	[M]
R817	D0GB101JA007	100 1/16W	[M]
R819	ERJ3GEYJ102V	1K 1/16W	[M]
R820	ERJ3GEYJ102V	1K 1/16W	[M]
R821	D0GB474JA041	470K 1/16W	[M]
R823	D0GB101JA007	100 1/16W	[M]
R824	D0GB101JA007	100 1/16W	[M]
R827	D0GB272JA007	2.7K 1/16W	[M]
R828	D0GB472JA041	4.7K 1/16W	[M]
R829	ERJ3GEYJ103V	10K 1/16W	[M]
R830	ERJ3GEYJ103V	10K 1/16W	[M]
R831	ERJ3GEYJ103V	10K 1/16W	[M]
R832	D0GB101JA007	100 1/16W	[M]
R833	D0GB101JA007	100 1/16W	[M]
R834	D0GB101JA007	100 1/16W	[M]
R835	D0GB101JA007	100 1/16W	[M]
R837	D0GB562JA007	5.6K 1/16W	[M]
R840	D0GB105JA007	1M 1/16W	[M]
R841	ERJ3GEYJ103V	10K 1/16W	[M]
R842	D0GB334JA007	330K 1/16W	[M]
R843	ERJ3GEYJ102V	1K 1/16W	[M]
R844	ERJ3GEYJ102V	1K 1/16W	[M]
R845	ERJ3GEYJ103V	10K 1/16W	[M]
R846	D0GB472JA041	4.7K 1/16W	[M]
R847	D0GB101JA007	100 1/16W	[M]
R848	D0GB472JA041	4.7K 1/16W	[M]
R849	ERJ3GEYJ102V	1K 1/16W	[M]
R850	D0GB223JA041	22K 1/16W	[M]
R851	ERJ3GEYJ103V	10K 1/16W	[M]
R852	ERJ3GEYJ103V	10K 1/16W	[M]
R853	ERJ3GEYJ102V	1K 1/16W	[M]
R854	ERJ3GEYJ102V	1K 1/16W	[M]
R855	ERJ3GEYJ102V	1K 1/16W	[M]
R856	D0GB101JA007	100 1/16W	[M]
R857	D0GB472JA041	4.7K 1/16W	[M]
R858	D0GB472JA041	4.7K 1/16W	[M]
R859	D0GB472JA041	4.7K 1/16W	[M]
R861	D0GB101JA007	100 1/16W	[M]
R862	D0GB101JA007	100 1/16W	[M]
R863	D0GB101JA007	100 1/16W	[M]
R864	ERJ3GEYJ102V	1K 1/16W	[M]
R865	ERJ3GEYJ102V	1K 1/16W	[M]
R866	ERJ3GEYJ102V	1K 1/16W	[M]
R867	ERJ3GEYJ102V	1K 1/16W	[M]
R868	ERJ3GEYJ102V	1K 1/16W	[M]
R869	ERJ3GEYJ102V	1K 1/16W	[M]
R870	ERJ3GEYJ102V	1K 1/16W	[M]
R871	ERJ3GEYJ102V	1K 1/16W	[M]
R872	ERJ3GEYJ102V	1K 1/16W	[M]
R873	ERJ3GEYJ102V	1K 1/16W	[M]
R877	D0GB223JA041	22K 1/16W	[M]
R878	D0GB223JA041	22K 1/16W	[M]
R879	D0GB104JA007	100K 1/16W	[M]
R880	D0GB472JA041	4.7K 1/16W	[M]
R882	ERJ3GEYJ102V	1K 1/16W	[M]
R883	D0GB104JA007	100K 1/16W	[M]
R889	D0GB101JA007	100 1/16W	[M]
R890	D0GB153JA007	15K 1/16W	[M]
R891	D0GB153JA007	15K 1/16W	[M]
R892	D0GB104JA007	100K 1/16W	[M]
R896	D0GB104JA007	100K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R901	ERJ3GEYJ122V	1.2K 1/16W	[M]
R902	D0GB152JA007	1.5K 1/16W	[M]
R903	D0GB222JA041	2.2K 1/16W	[M]
R904	D0GB332JA007	3.3K 1/16W	[M]
R905	D0GB472JA041	4.7K 1/16W	[M]
R910	ERJ3GEYJ122V	1.2K 1/16W	[M]
R911	D0GB152JA007	1.5K 1/16W	[M]
R912	D0GB222JA041	2.2K 1/16W	[M]
R913	D0GB332JA007	3.3K 1/16W	[M]
R915	ERJ3GEYJ102V	1K 1/16W	[M]
R917	ERJ3GEYJ102V	1K 1/16W	[M]
R918	ERJ3GEYJ102V	1K 1/16W	[M]
R920	ERJ3GEYJ102V	1K 1/16W	[M]
R922	D0GB680JA007	68 1/16W	[M]
R923	ERJ3GEYJ682V	6.8K 1/16W	[M]
R924	D0GB104JA007	100K 1/16W	[M]
R925	D0GB104JA007	100K 1/16W	[M]
R926	D0GB104JA007	100K 1/16W	[M]
R927	D0GB104JA007	100K 1/16W	[M]
R972	ERDS2TJ821T	820 1/4W	[M]
R973	ERDS2TJ393T	39K 1/4W	[M]
R1101	D0GB270JA007	27 1/16W	[M]
R1102	D0GB152JA007	1.5K 1/16W	[M]
R1103	D0GB183JA007	18K 1/16W	[M]
R1104	ERJ3GEYJ103V	10K 1/16W	[M]
R1105	D0GB222JA041	2.2K 1/16W	[M]
R1106	D0GB104JA007	100K 1/16W	[M]
R1107	ERJ3GEYJ102V	1K 1/16W	[M]
R1109	ERJ3GEYJ102V	1K 1/16W	[M]
R1110	D0GB333JA007	33K 1/16W	[M]
R1201	D0GB270JA007	27 1/16W	[M]
R1202	D0GB152JA007	1.5K 1/16W	[M]
R1203	D0GB183JA007	18K 1/16W	[M]
R1204	ERJ3GEYJ103V	10K 1/16W	[M]
R1205	D0GB222JA041	2.2K 1/16W	[M]
R1206	D0GB104JA007	100K 1/16W	[M]
R1207	ERJ3GEYJ102V	1K 1/16W	[M]
R1209	ERJ3GEYJ102V	1K 1/16W	[M]
R1210	D0GB333JA007	33K 1/16W	[M]
R1302	D0GB331JA007	330 1/16W	[M]
R1303	D0GB475JA007	4.7M 1/16W	[M]
R1304	D0GB223JA041	22K 1/16W	[M]
R1305	ERJ3GEYJ103V	10K 1/16W	[M]
R1307	ERD25FVJ220T	22 1/4W	[M]
R1308	ERD25FVJ220T	22 1/4W	[M]
R1309	D0AF471JA039	470 1/4W	[M]
R1313	ERJ3GEYJ103V	10K 1/16W	[M]
R1314	ERJ3GEYJ102V	1K 1/16W	[M]
R1318	ERJ3GEYJ103V	10K 1/16W	[M]
R1327	D0GB472JA041	4.7K 1/16W	[M]
R1328	D0GB153JA007	15K 1/16W	[M]
R1329	D0GB472JA041	4.7K 1/16W	[M]
R1330	ERD2FCVJ4R7T	4.7 1/4W	[M]
R1331	D0GB752JA007	7.5K 1/16W	[M]
R1332	ERJ3GEYJ103V	10K 1/16W	[M]
R1333	ERD2FCVJ4R7T	4.7 1/4W	[M]
R1334	D0GB223JA041	22K 1/16W	[M]
R1335	D0GB152JA007	1.5K 1/16W	[M]
R1337	ERJ3GEYJ103V	10K 1/16W	[M]
R1338	D0GB472JA041	4.7K 1/16W	[M]
R1341	D0GB471JA041	470 1/16W	[M]
R1342	D0GB473JA041	47K 1/16W	[M]
R1343	D0GB332JA007	3.3K 1/16W	[M]
R1344	D0GB273JA007	27K 1/16W	[M]
R1345	ERJ3GEYJ102V	1K 1/16W	[M]
R1371	D0GB223JA041	22K 1/16W	[M]
R1374	D0GB471JA041	470 1/16W	[M]
R1401	D0GB123JA007	12K 1/16W	[M]
R1402	D0GB274JA007	270K 1/16W	[M]
R1403	ERJ3GEYJ103V	10K 1/16W	[M]
R1404	D0GB223JA041	22K 1/16W	[M]
R1405	ERJ3GEYJ103V	10K 1/16W	[M]
R7028	ERJ3GEY0R00V	0 1/16W	[M]
R7111	ERJ3GEYJ103V	10K 1/16W	[M]
R7211	D0GB823JA007	82K 1/16W	[M]
R7212	D0GB821JA007	820 1/16W	[M]
R7214	D0GB471JA041	470 1/16W	[M]
R7217	ERJ3GEYJ102V	1K 1/16W	[M]
R7218	ERJ3GEYJ102V	1K 1/16W	[M]
R7220	D0GB105JA007	1M 1/16W	[M]
R7221	D0GB101JA007	100 1/16W	[M]
R7253	D0GB100JA007	10 1/16W	[M]
R7254	ERJ3GEYJ102V	1K 1/16W	[M]
R7315	D0GB332JA007	3.3K 1/16W	[M]
R7323	D0GB332JA007	3.3K 1/16W	[M]
R7325	D0GB331JA007	330 1/16W	[M]
R7327	ERJ3GEYJ102V	1K 1/16W	[M]
R7328	ERJ3GEYJ103V	10K 1/16W	[M]
R7329	ERJ3GEYJ102V	1K 1/16W	[M]
R7330	D0GB562JA007	5.6K 1/16W	[M]
R7331	D0GB223JA041	22K 1/16W	[M]
R7332	ERJ3GEYJ102V	1K 1/16W	[M]
R7335	D0GB101JA007	100 1/16W	[M]
R7336	D0GB100JA007	10 1/16W	[M]
R7339	ERJ3GEYJ102V	1K 1/16W	[M]
R7349	D0GB183JA007	18K 1/16W	[M]
R7601	D0GB4R7JA007	4.7 1/16W	[M]
R7650	D0GB5R6JA007	5.6 1/16W	[M]
		CAPACITORS	
C201	F1H1H221A748	220P 50V	[M]
C203	F1H1H221A748	220P 50V	[M]
C205	F1H1H221A748	220P 50V	[M]
C209	F1H1H102A219	1000P 50V	[M]
C210	F1H1H221A748	220P 50V	[M]
C211	F1H1H471A219	470P 50V	[M]
C212	F1H1H102A219	1000P 50V	[M]
C216	F1H1H102A219	1000P 50V	[M]
C230	F1H1H103A219	0.01 50V	[M]
C233	ECA1HAK010XB	1 50V	[M]
C254	ECA1HAK010XB	1 50V	[M]
C272	ECA1EAM222XE	2200 25V	[M]
C293	ECQB1H273JF3	0.027 50V	[M]
C297	ECJ1VB1H122K	1200P 50V	[M]
C298	ECQV1H334JL3	0.33 50V	[M]
C299	F1H1H331A013	330P 50V	[M]
C326	F1H1H103A219	0.01 50V	[M]
C362	ECJ1VB1H681K	680P 50V	[M]
C363	ECJ1VB1H681K	680P 50V	[M]
C401	F1H1H221A748	220P 50V	[M]
C403	F1H1H221A748	220P 50V	[M]
C405	F1H1H221A748	220P 50V	[M]
C409	F1H1H102A219	1000P 50V	[M]
C410	F1H1H221A748	220P 50V	[M]
C411	F1H1H471A219	470P 50V	[M]
C412	F1H1H102A219	1000P 50V	[M]
C416	F1H1H102A219	1000P 50V	[M]
C430	F1H1H103A219	0.01 50V	[M]
C433	ECA1HAK010XB	1 50V	[M]
C440	F1H1E1530002	0.015 25V	[M]
C441	F1H1E1530002	0.015 25V	[M]
C442	F1H1E1530002	0.015 25V	[M]
C443	ECA1HAK0R1XB	0.1 50V	[M]
C444	ECJ1VB1C683K	0.068 16V	[M]
C445	ECA1HAK0R1XB	0.1 50V	[M]
C446	ECJ1VB1C683K	0.068 16V	[M]
C447	ECA1EPX470B	47 25V	[M]
C448	ECA1HAKR33XB	0.33 50V	[M]
C449	F1H1E1530002	0.015 25V	[M]
C454	ECA1HAK010XB	1 50V	[M]
C455	ECJ1VB1C563K	0.056 16V	[M]
C456	ECJ1VB1C563K	0.056 16V	[M]
C461	ECJ1VB1C393K	0.039 16V	[M]
C462	ECJ1VB1C393K	0.039 16V	[M]
C463	ECA1CAK101XB	100 16V	[M]
C464	F1H1H470A230	47P 50V	[M]
C465	F1H1H470A230	47P 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C472	ECA1EAM222XE	2200 25V	[M]
C493	ECQB1H273JF3	0.027 50V	[M]
C497	ECJ1VB1H122K	1200P 50V	[M]
C498	ECQV1H334JL3	0.33 50V	[M]
C499	F1H1H331A013	330P 50V	[M]
C501	ECA1EAM682YE	6800 25V	[M]
C502	ECA1EAK100XB	10 25V	[M]
C507	F1H1H103A219	0.01 50V	[M]
C510	ECA1EAK100XB	10 25V	[M]
C512	ECQE2104KF3	0.1 250V	[M]
C514	F1H1H103A219	0.01 50V	[M]
C515	F1H1H103A219	0.01 50V	[M]
C521	ECQB1H103JF3	0.01 50V	[M]
C522	ECQB1H103JF3	0.01 50V	[M]
C523	ECQB1H103JF3	0.01 50V	[M]
C524	ECQB1H103JF3	0.01 50V	[M]
C540	ECA1CAK220XB	22 16V	[M]
C541	ECA1CAK220XB	22 16V	[M]
C542	ECA1EAK100XB	10 25V	[M]
C580	ECA1VAM101XB	100 35V	[M]
C581	ECA1CAK220XB	22 16V	[M]
C582	ECA1HAK010XB	1 50V	[M]
C586	ECA1HAK100XB	10 50V	[M]
C601	F1H1H103A219	0.01 50V	[M]
C603	ECA1CAM102XB	1000 16V	[M]
C604	F1H1H103A219	0.01 50V	[M]
C605	ECA1EM470B	47 25V	[M]
C609	ECA1HM101B	100 50V	[M]
C610	F1H1H103A219	0.01 50V	[M]
C611	ECA1HM470B	47 50V	[M]
C612	ECA1HM101B	100 50V	[M]
C780	F1H1H101A230	100P 50V	[M]
C781	F1H1C104A042	0.1 16V	[M]
C804	F1H1H104A783	0.1 50V	[M]
C805	ECA1CAK220XB	22 16V	[M]
C810	F1H1H102A219	1000P 50V	[M]
C812	F1H1H102A219	1000P 50V	[M]
C816	ECA1CAK100XB	10 16V	[M]
C817	ECJ1VB1H472K	4700P 50V	[M]
C818	ECJ1VB1H472K	4700P 50V	[M]
C819	F1H1C104A042	0.1 16V	[M]
C820	ECJ1VB1H472K	4700P 50V	[M]
C821	ECJ1VB1H472K	4700P 50V	[M]
C822	ECJ1VB1H472K	4700P 50V	[M]
C823	ECJ1VB1H472K	4700P 50V	[M]
C824	ECJ1VB1H472K	4700P 50V	[M]
C825	ECJ1VB1H472K	4700P 50V	[M]
C829	F1H1H470A230	47P 50V	[M]
C831	F1H1C104A042	0.1 16V	[M]
C832	F1H1C104A042	0.1 16V	[M]
C833	ECJ1VC1H180J	18P 50V	[M]
C834	ECJ1VC1H180J	18P 50V	[M]
C835	ECJ1VC1H180J	18P 50V	[M]
C836	ECJ1VC1H220J	22P 50V	[M]
C837	ECA0JAK101XB	100 6.3V	[M]
C838	ECA0JAK101XB	100 6.3V	[M]
C839	ECA0JAM102XB	1000 6.3V	[M]
C840	ECA0JAM102XB	1000 6.3V	[M]
C843	F1H1H101A230	100P 50V	[M]
C844	ECA1HAK010XB	1 50V	[M]
C845	F1H1E103A029	0.01 25V	[M]
C846	ECA1HAK010XB	1 50V	[M]
C847	F1H1H102A219	1000P 50V	[M]
C848	F1H1H102A219	1000P 50V	[M]
C849	F1H1H102A219	1000P 50V	[M]
C851	F1H1E103A029	0.01 25V	[M]
C852	F1H1H101A230	100P 50V	[M]
C853	F1H1H101A230	100P 50V	[M]
C871	ECA1CAK100XB	10 16V	[M]
C900	ECA1HAK2R2XB	2.2 50V	[M]
C901	ECA1HAK2R2XB	2.2 50V	[M]
C902	ECA1HAK2R2XB	2.2 50V	[M]
C903	ECA1HAK2R2XB	2.2 50V	[M]
C904	ECA1HAK2R2XB	2.2 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C905	ECA1HAK2R2XB	2.2 50V	[M]
C906	ECA1HAK2R2XB	2.2 50V	[M]
C907	ECA1HAK2R2XB	2.2 50V	[M]
C909	ECA1HAK220XB	22 50V	[M]
C910	ECA1HAK220XB	22 50V	[M]
C911	ECA1HAK220XB	22 50V	[M]
C912	F1H1H104A783	0.1 50V	[M]
C913	F1H1H103A219	0.01 50V	[M]
C914	F1H1H104A783	0.1 50V	[M]
C918	ECA1HAK4R7XB	4.7 50V	[M]
C920	F1H1H101A230	100P 50V	[M]
C921	F1H1H101A230	100P 50V	[M]
C922	F2A0J470A013	47P 6.3V	[M]
C923	ECA1HAK220XB	22 50V	[M]
C924	ECA1AAK220XB	22 10V	[M]
C925	F1H1H221A748	220P 50V	[M]
C926	F1H1H221A748	220P 50V	[M]
C927	F1H1H221A748	220P 50V	[M]
C950	ECA1HAK4R7XB	4.7 50V	[M]
C1101	ECA1HAK010XB	1 50V	[M]
C1102	F1H1H471A219	470P 50V	[M]
C1103	ECA1CAK101XB	100 16V	[M]
C1104	F1H1C2730001	0.027 16V	[M]
C1105	F1H1H471A219	470P 50V	[M]
C1106	ECA1HAK2R2XB	2.2 50V	[M]
C1107	F1H1H152A219	1500P 50V	[M]
C1108	F2A1C1000018	10P 16V	[M]
C1109	ECA1HAK3R3XB	3.3 50V	[M]
C1110	F1H1H682A219	6800P 50V	[M]
C1121	F1H1H102A219	1000P 50V	[M]
C1122	F1H1H103A219	0.01 50V	[M]
C1123	ECJ1VB1H271K	270P 50V	[M]
C1201	ECA1HAK010XB	1 50V	[M]
C1202	F1H1H471A219	470P 50V	[M]
C1203	ECA1CAK101XB	100 16V	[M]
C1204	F1H1C2730001	0.027 16V	[M]
C1205	F1H1H471A219	470P 50V	[M]
C1206	ECA1HAK2R2XB	2.2 50V	[M]
C1207	F1H1H152A219	1500P 50V	[M]
C1208	F2A1C1000018	10P 16V	[M]
C1209	ECA1HAK3R3XB	3.3 50V	[M]
C1210	F1H1H682A219	6800P 50V	[M]
C1221	F1H1H102A219	1000P 50V	[M]
C1222	F1H1H103A219	0.01 50V	[M]
C1223	ECJ1VB1H271K	270P 50V	[M]
C1301	ECA1HAK0R1XB	0.1 50V	[M]
C1302	F1H1C333A071	0.033 16V	[M]
C1303	F1H1C333A071	0.033 16V	[M]
C1304	ECA1HAK4R7XB	4.7 50V	[M]
C1305	ECA1CAK330XB	33 16V	[M]
C1307	ECA1AAK221XQ	220 10V	[M]
C1308	ECA1CAK220XB	22 16V	[M]
C1310	ECA1HAK0R1XB	0.1 50V	[M]
C1311	ECA1CAK470XB	47 16V	[M]
C1312	F1H1H332A013	3300P 50V	[M]
C1314	F1H1H222A013	2200P 50V	[M]
C1315	F1H1H222A013	2200P 50V	[M]
C1316	F1H1H102A219	1000P 50V	[M]
C1317	F1H1H102A219	1000P 50V	[M]
C1318	ECQV1H473JL3	0.047 50V	[M]
C1319	ECA1CAK101XB	100 16V	[M]
C1320	ECA1HAK010XB	1 50V	[M]
C1321	F0A2A472A019	4700P 100V	[M]
C1323	ECEA1HKN010B	1 50V	[M]
C1324	ECA1CAK470XB	47 16V	[M]
C1326	F2A1C1000018	10P 16V	[M]
C1371	F1H1H103A219	0.01 50V	[M]
C7102	ECJ1VB1A474K	0.47 10V	[M]
C7107	ECJ1VB1H223K	0.022 50V	[M]
C7142	F1H1H332A013	3300P 50V	[M]
C7154	F1H1C104A041	0.1 16V	[M]
C7155	F1H1C104A041	0.1 16V	[M]
C7161	F1H1C104A041	0.1 16V	[M]
C7164	ECJ2FF1A106Z	10 10V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C7165	ECJ2FF1A106Z	10 10V	[M]
C7166	F1H1H103A219	0.01 50V	[M]
C7203	F2A0J221A200	220P 6.3V	[M]
C7204	F1H1C104A041	0.1 16V	[M]
C7216	ECJ1VB1H681K	680P 50V	[M]
C7217	F1H1C104A041	0.1 16V	[M]
C7218	ECJ1VB1C823K	0.082 16V	[M]
C7223	ECEA1HKA4R7I	4.7 50V	[M]
C7225	F1H1H102A219	1000P 50V	[M]
C7226	F1H1H102A219	1000P 50V	[M]
C7227	ECA1HAK010XI	1 50V	[M]
C7228	ECA1HAK010XI	1 50V	[M]
C7230	F1H1C104A041	0.1 16V	[M]
C7231	F2A0J221A200	220P 6.3V	[M]
C7232	F2A0J221A200	220P 6.3V	[M]
C7233	F1H1C104A008	0.1 16V	[M]
C7234	F1H1C104A041	0.1 16V	[M]
C7235	ECEA1CKA100I	10 16V	[M]
C7241	F1H1H102A219	1000P 50V	[M]
C7243	F1H1C104A008	0.1 16V	[M]
C7244	ECJ1VB1C153K	0.015 16V	[M]
C7253	F1H1H471A219	470P 50V	[M]
C7263	F1H1C104A041	0.1 16V	[M]
C7264	F1H1C104A041	0.1 16V	[M]
C7315	ECJ1VB1A474K	0.47 10V	[M]
C7334	ECEA1AKA221I	220 10V	[M]
C7335	F1H1C104A008	0.1 16V	[M]
C7338	ECJ1VB1C563K	0.056 16V	[M]
C7339	ECJ1VB1C183K	0.018 16V	[M]
C7352	ECJ1VB1C183K	0.018 16V	[M]
C7601	ECEA0JKA330I	33 6.3V	[M]
C7613	F1H1C104A041	0.1 16V	[M]
C7614	F2A0J101A198	100P 6.3V	[M]
C7626	F1H1C104A041	0.1 16V	[M]
C7670	F1H1C104A041	0.1 16V	[M]