ORDER NO. MD0802012CE

Service Manual

CD Stereo System

SA-PM46E
SA-PM46EG
SA-PM46EF

Colour

(K)... Black Type

Remote Control Transmmiter | SB-PM46 | SA-PM46 | SB-PM46

Specification

■ Amplifier Section

RMS OUTPUT POWER both channel driven simultaneously	
10% Total harmonic distortion	20 W per channel (4 Ω)
Input Impedance	
MUSIC PORT	250 mV 12 kΩ
Output Impedance	
HEADPHONE	16 to 32 Ω
Phone jack	
Terminal	Stereo, 3.5 mm
Music Port jack	
Terminal	Stereo, 3.5 mm

■ FM Tuner Section

Frequency range	87.50 to 108.00 MHz (50 kHz step)
Sensitivity	0.10 µV (IHF)
S/N 30 dB	1.20 µV
Antenna terminals	75 Ω (unbalanced)
Preset station	FM 20 stations
	AM 15 stations

■ AM Tuner Section

Frequency range	522 to 1629 kHz (9 kHz step)
	520 to 1630 kHz (10 kHz step)
Sensitivity	
S/N 20 dB (at 999 kHz)	1000 µV/m

■ 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, -6 dB) at DECK OUT	
Normal	35 Hz to 14 kHz
S/N RATIO	50 dB (A weighted)
Wow and flutter	0.08% (WRMS)
Fast-forward and rewind time	Approx. 120 seconds with C-60 cassette tape

■ 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	

Panasonic®

MP3	32 kbps to 384 kbps
Decoding	16/20/24 bit linear
Pickup	
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 (+1, -2 dB)
Wow and flutter	Below measurable limit
Digital filter	8 fs
D/A converter	MASH (1 bit DAC)

■ **USB Section**

Playable USB Storage Media	
1. HDD	
2. USB MP3 player/Digital audio player	
3. USB Thumbdrives	
Supported audio file format	
MP3	
USB memory port	
Maximum current	500 mA
Bit rate	
MP3	32 kbps to 320 kbps
Audio output (MP3)	
Number of channels	2 channel
Frequency response (MP3)	20 Hz to 20 kHz

■ **General**

Power supply	AC 230 V, 50 Hz
Power consumption	63 W
Dimensions (W x H x D)	164 mm x 227 mm x 314 mm
Mass	3.4 kg
Operating temperature range	0 to +40°C
Operating humidity range	35 to 80 % RH (no condensation)
Power consumption in standby mode	0.6 W (approx.)

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.

■ System : SC-PM46E-K	Music center: SA-PM46E-K
	Speaker: SB-PM46EG-K
■ System : SC-PM46EG-K	Music center: SA-PM46EG-K
	Speaker: SB-PM46EG-K
■ System : SC-PM46EF-K	Music center: SA-PM46EF-K
	Speaker: SB-PM46EG-K
■ System : SC-PM46EG-S	Music center: SA-PM46EG-K
	Speaker: SB-PM46EG-S

⚠ 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 ∞ .

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.

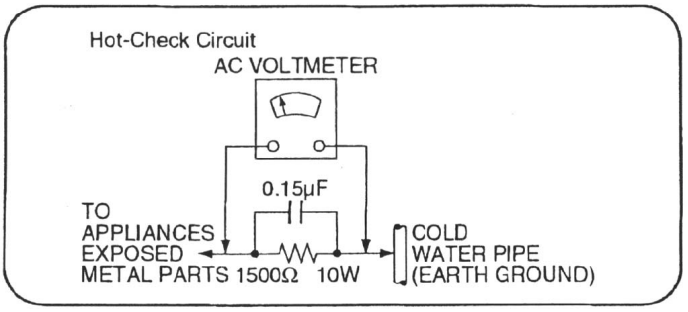


Figure. 1

1.2. Before Repair and Adjustment

Disconnect AC power, discharge Power Supply Capacitors C501, C502, C602, C910, C911, C915 and 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 230V, 50 Hz in NO SIGNAL mode (volume min) should be ~150 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.

1.4. Safety Part Information

Safety Parts List:

There are special components used in this equipment which are important for safety.These parts are marked by ⚠ in the Schematic Diagrams & Replacement Parts List. It is essential that these critical partsshould be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original designwithout permission of manufacturer.

Table 1

Reference No.	Part No.	Part Name & Description	Remarks
A2	K2CQ2CA00007	AC CORD	[M]E/EG ⚠
A2	K2CQ2CA00002	AC CORD	[M]EF ⚠
F1	K5D631BLA012	FUSE	[M] ⚠
JK600	K2AA2B000017	JK AC INLET	[M] ⚠
T600	G4CYAYY00137	SUB TRANSFORMER	[M] ⚠
T601	G4CYAYY00139	MAIN TRANSFORMER	[M] ⚠
L600	G0B371HA0005	LINE FILTER	[M] ⚠
Z600	ERZV10V511CS	ZENER	[M] ⚠
RL600	K6B1AEA00015	POWER RELAY	[M] ⚠
FP352	K5G502A00039	FUSE PROTECTOR	[M] ⚠
FP601	K5G502A00039	FUSE PROTECTOR	[M] ⚠
FP950	K5G102AA0002	FUSE PROTECTOR	[M] ⚠
R441	ERD2FCVG330T	RESISTOR (33 1/4W)	[M] ⚠
R608	ERD2FCVG120T	RESISTOR (12 1/4W)	[M] ⚠
R753	D0AF100JA039	RESISTOR (10 1/2W)	[M] ⚠
27	RKSV0037G-K	REAR CABINET	[M] ⚠
PCB4	REPX0669A	TRANSFORMER P.C.B.	[M] (RTL) ⚠
301	RAE0165Z-V	TRAVERSE UNIT (W/O SERVO P.C.B)	[M] (RTL) ⚠

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 removal 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 bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

3 Precaution of Laser Diode

Caution :

This product utilizes a laser diode with the unit turned "ON", invisible laser radiation is emitted from the pick up lens.
Wavelength : 785 nm
Maximum output radiation power from pick up : 100 µW/VDE
Laser radiation from pick up unit is safety level, but be sure the followings:

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

ACHTUNG :

Dieses Produkt enthält eine Laserdiode. Im eingeschalteten Zustand wird unsichtbare Laserstrahlung von der Lasereinheit abgestrahlt.
Wellenlänge : 785nm
Maximale Strahlungsleistung der Lasereinheit :100 µW/VDE
Die Strahlung an der Lasereinheit ist ungefährlich, wenn folgende Punkte beachtet werden:

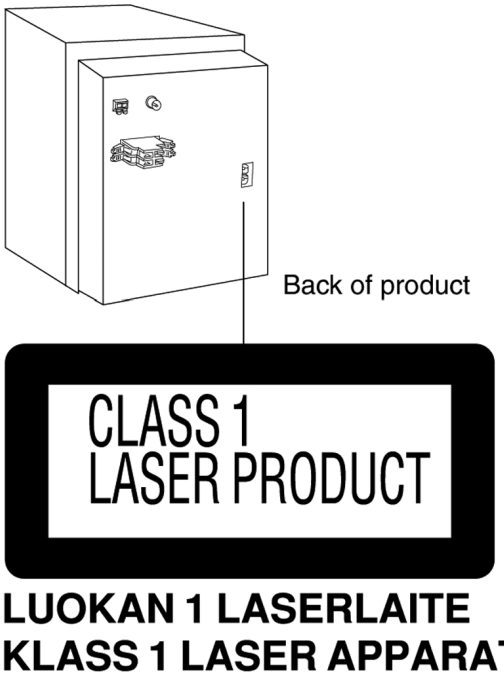
1. Die Lasereinheit nicht zerlegen, da die Strahlung an der freigelegten Laserdiode gefährlich ist.
2. Den werkseitig justierten Einstellregler der Lasereinhit nicht verstellen.
3. Nicht mit optischen Instrumenten in die Fokussierlinse blicken.
4. Nicht über längere Zeit in die Fokussierlinse blicken.

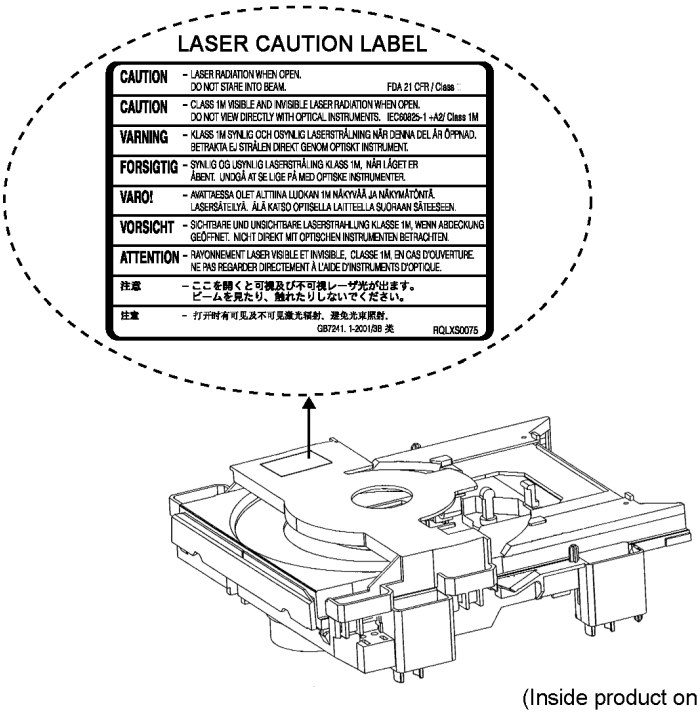
ADVARSEL :

I dette a apparat anvendes laser.

CAUTION!
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

■ **Use of Caution Labels**





(Inside product on Mechanism Unit)

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).

- **Handling of traverse deck (optical pickup)**
  1. Do not subject the traverse deck (optical pickup) to static electricity as it is extremely sensitive to electrical shock.
  2. To prevent the breakdown of the laser diode, an antistatic shorting pin is inserted into the flexible board (FFC board).
  3. Take care not to apply excessive stress to the flexible board (FFC board). When removing or connecting the short pin, finish the job in as short time as possible. (Fig 4.1)
  4. Do not turn the variable resistor (laser power adjustment). It has already been adjusted.

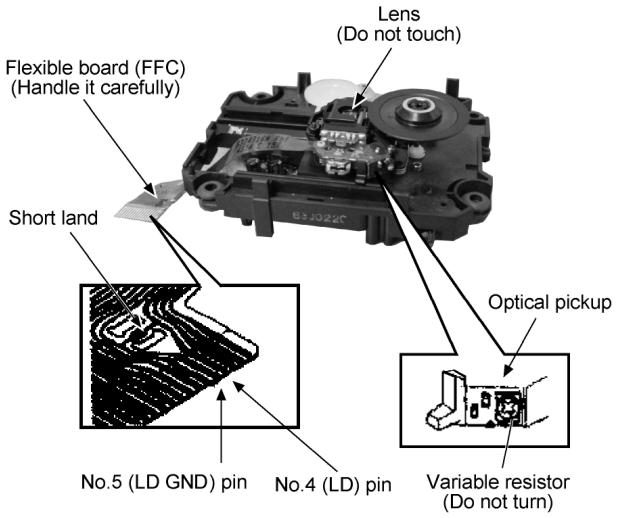
- **Grounding for electrostatic breakdown prevention**
  1. Work table grounding. (Fig 4.2)
     Use the anti-static wrist strap to discharge the static electricity from your body.
  2. Work table grounding. (Fig 4.2)
     Put a conductive material (sheet) or steel sheet on the area where the traverse deck (optical pickup) is place, and ground the sheet.

Caution:

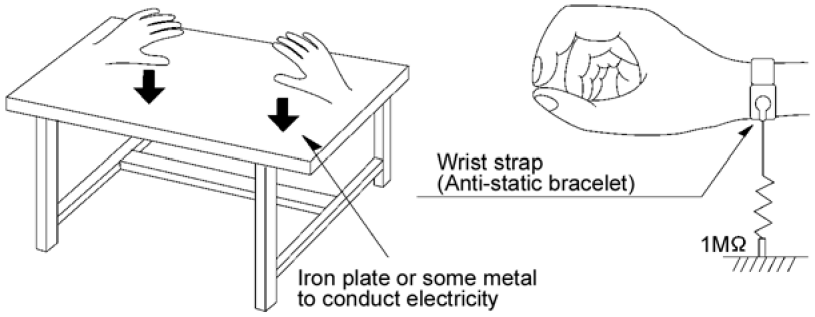
The static electricity of your clothes will not be grounded through the wrist strap. So, take care not to let your clothes touch the traverse deck (optical pickup).

Caution when replacing the Traverse Deck

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



(Fig 4.1)



(Fig 4.2)

5 Handling the Lead free Solder

5.1. General description about Lead Free Solder (PbF)

The lead free solder has been used in the mounting process of all electrical components on the printed circuit boards used for this equipment in considering the globally environmental conservation.

The normal solder is the alloy of tin (Sn) and lead (Pb). On the other hand, the lead free solder is the alloy mainly consists of tin (Sn), silver (Ag) and Copper (Cu), and the melting point of the lead free solder is higher approx.30 degrees C (86°F) more than that of the normal solder.

Definition of PCB Lead Free Solder being used

The letter of “PbF” is printed either foil side or components side on the PCB using the lead free solder. (See right figure)	PbF

Service caution for repair work using Lead Free Solder (PbF)

- The lead free solder has to be used when repairing the equipment for which the lead free solder is used.
  (Definition: The letter of “PbF” is printed on the PCB using the lead free solder.)
- To put lead free solder, it should be well molten and mixed with the original lead free solder.
- Remove the remaining lead free solder on the PCB cleanly for soldering of the new IC.
- Since the melting point of the lead free solder is higher than that of the normal lead solder, it takes the longer time to melt the lead free solder.
- Use the soldering iron (more than 70W) equipped with the temperature control after setting the temperature at 350±30 degrees C (662±86°F).

Recommended Lead Free Solder (Service Parts Route.)

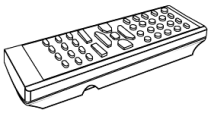
- The following 3 types of lead free solder are available through the service parts route.
  RFKZ03D01K----------(0.3mm 100g Reel)
  RFKZ06D01K----------(0.6mm 100g Reel)
  RFKZ10D01K----------(1.0mm 100g Reel)

Note

* Ingredient: Tin (Sn), 96.5%, Silver (Ag) 3.0%, Copper (Cu) 0.5%, Cobalt (Co) / Germanium (Ge) 0.1 to 0.3%

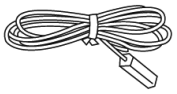
6 Accessories

Note : Refer to Packing Materials & Accessories Parts List (Section 22) for the part number.

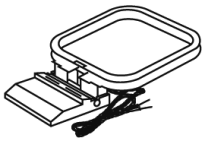


Remote Control

AC Cord



FM Antenna

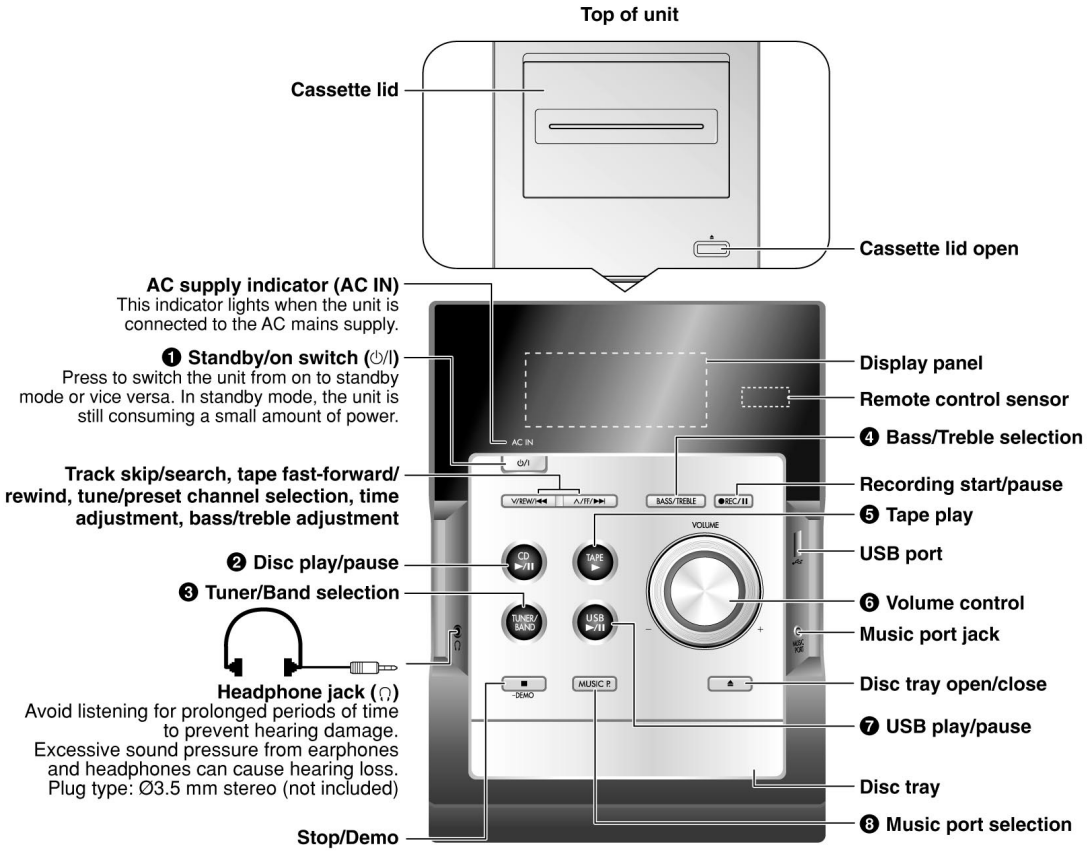


AM Loop Antenna

7 Operation Procedures

7.1. Main Unit Key Buttons Operation

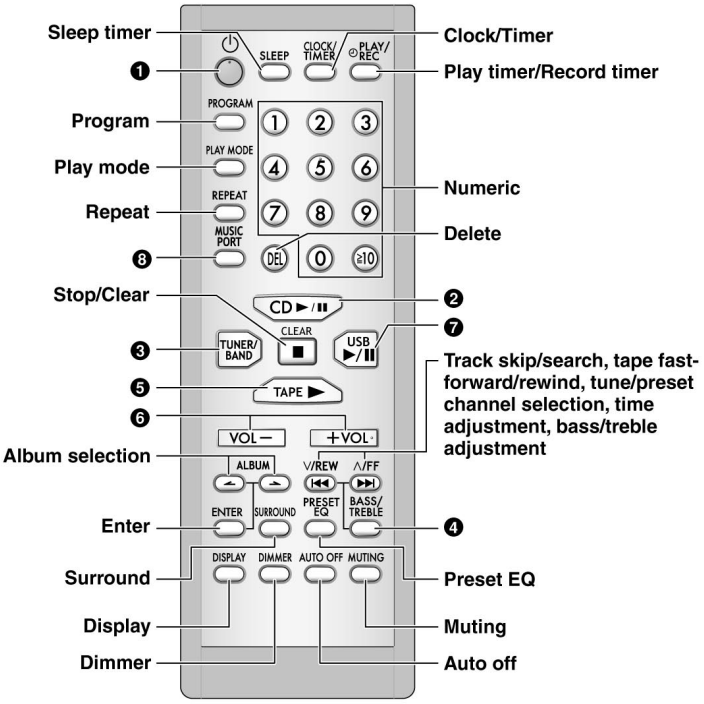
Main unit



7.2. Remote Control Key Buttons Operation

Remote control

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



AUTO OFF

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

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

DIMMER

Dims the display panel.

MUTING

Mutes the sound.

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

7.3. Disc Information

Note

- This unit can play MP3 files and CD-DA format audio CD-R/RW that have been finalized.
- It may not be able to play some CD-R/RW 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:

COMPACT disc DIGITAL AUDIO

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.
- Files must have the extension: “.MP3” or “.mp3”
- 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.

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. Service Mode Summary Table

The service modes can be activated by pressing various button combination on the main unit and remote control unit.Below is the summary for the various modes for checking:

Player buttons	Remote control unit buttons	Application	Note
[STOP]	[4], [7]	To enter into doctor mode	(Refer to the section 8.2. for more information.)

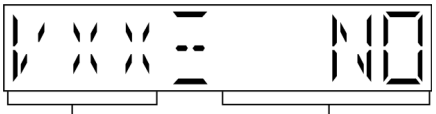
Mode	Remote control unit buttons	Application	Note
In Doctor Mode	[DIMMER]	FL ALL Segment inspection	(Refer to section 8.2. service mode Table 1 & 2 for more information.)
	[4]	CD to Tape Recording Test Mode	(Refer to section 8.2. service mode Table 1 & 2 for more information.)
	[5]	Tape Recording and Playing	(Refer to section 8.2. service mode Table 1 & 2 for more information.)
	[6]	CD and Tape Eject test	(Refer to section 8.2. service mode Table 1 & 2 for more information.)
	[7]	Volume 50 setting check	(Refer to section 8.2. service mode Table 1 & 2 for more information.)
	[8]	Volume 29 setting check	(Refer to section 8.2. service mode Table 1 & 2 for more information.)
	[9]	Volume 0 setting check	(Refer to section 8.2. service mode Table 1 & 2 for more information.)
	[≧10], [1], [1]	CD Loading Test Mode	(Refer to section 8.2. service mode Table 1 & 2 for more information.)
	[≧10], [1], [2]	CD Traverse Unit Test Mode	(Refer to section 8.2. service mode Table 1 & 2 for more information.)
	[≧10], [1], [3]	CD Combination Test Mode	(Refer to section 8.2. service mode Table 1 & 2 for more information.)
	[≧10], [1], [4]	CD Auto Adjustment Display	(Refer to section 8.2. service mode Table 1 & 2 for more information.)
	[SLEEP]	Cold Start Setting	(Refer to section 8.2. service mode Table 1 & 2 for more information.)

8.2. Service Mode Table

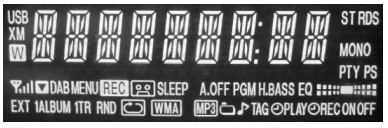
Below is the various special modes for checking:-

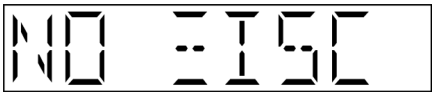
8.2.1. Service Mode Table 1

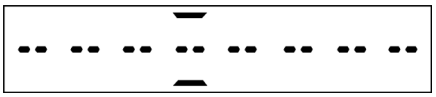
Item		**FL Display**	**Key Operation**
Mode Name	**Description**		**Front Key**
Self -Diagnostic Mode	To enter into self diagnostic checking for main unit.		1. Select [CD ►/II] for CD mode (Ensure no tape or CD inserted). 2. Press and hold [■, -DEMO]button for 2 seconds follow by [∧/**FF**/►►I]. To exit, press [⏻/**I**] button on main unit or remote control.

Item		FL Display	Key Operation
Mode Name	Description		Front Key
Doctor Mode	To enter into Doctor Mode for checking of various items and displaying EEPROM and firmware version. Note: The micro-processor version as shown is an example. It will be revise when there is an updates. FL Display sequenceDisplay 1 → 2	(Display 1)  Version Display (DEC) Check sum (HEX) Checksum : (Condition 1)  Version Display (DEC) No Rom correction (a) If there is NO EEPROM header string OR (b) If there is no EEPROM (no data is received by micro-processor) [NO] is displayed. Checksum : (Condition 2)  If the version of the EEPROM does not match or not working properly [NG] is display. Checksum : (Condition 3)  If the EEPROM version matches, checksum [YYYY] is displayed. (Display 2)  The Check Sum of EEPROM and firmware version will be display for 2 sec.	In any mode: 1. Press [■, -DEMO] button on main unit follow by [4] and [7] on remote control. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.

8.2.2. Service Mode Table 2

Item		FL Display	Key Operation
Mode Name	Description		Front Key
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 cancel, press [0] button on remote control. To exit Doctor Mode, 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 8.2.3)		In doctor mode: 1. Press [4] button on remote control. To exit Doctor Mode, 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 8.2.4)		In doctor mode: 1. Press [5] button on remote control. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.
CD Open and Tape Eject Test Mode	To check on the CD Open and Tape Eject function.		In doctor mode: 1. Press [6] button on remote control. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.

Item		FL Display	Key Operation
Mode Name	**Description**		**Front Key**
Volume Setting Mode	To check for the volume setting of the main unit. The volume will be automatically set to its respective level (in dB). During this mode, treble/bass/EQ will be set to '0'dB & OFF.	Display 1 	In doctor mode: 1. Press [7] button on remote control. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.
		Display 1 	In doctor mode: 2. Press [8] button on remote control. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.
		Display 1 	In doctor mode: 3. Press [9] button on remote control. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.
CD Loading Test Mode	To determine the reliability of CD Loading Unit. To check for the open/close operation for the CD loading unit. It fails when there is abnormality in opening or closing.	 The counter will increment by 1 untill reach 99999999 	In doctor Mode: 1. Press [≧10], [1] & [1] button on remote control. To cancel, press [0] button on remote control. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.
CD Traverse Unit Test Mode	To check for the traverse unit operation. In this made, the first & lost track is access & read (TOC). It fails when TOC is not completed by IDS or the traverse is out of focus.	 The counter will increment by 1 untill reach 99999999 	In doctor Mode: 1. Press [≧10], [1] & [2] button on remote control. To cancel, press [0] button on remote control. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.
CD Combination Test Mode	A combination of CD loading & Traverse unit test.	 The counter will increment by 1 untill reach 99999999 	In doctor Mode: 1. Press [≧10], [1] & [3] button on remote control. To cancel, press [0] button on remote control. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.
CD Auto Adjustment Display	To display result of self-adjustment for CD. (For more information, refer to section 8.2.5)	 The [NO DISC] display will appear after 3 sec. 	In doctor mode: 1. Press [≧10], [1] & [4] button on remote control. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.
TPS	To check FF TPS for deck. (For more information, refer to section 8.2.6)		In doctor mode: 1. Press [∧/FF/►►I] button on remote control. To cancel, press [0] button on remote control. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.

Item		FL Display	Key Operation
Mode Name	Description		Front Key
Cold Start	To activate cold start ipon next AC power up.	 **Note:** This test do not work when selector is in Tuner. The [NO DISC] display will appear after 3 sec. 	In doctor mode: 1. Press [SLEEP] button on remote control. To exit Doctor Mode, press [⏻/I] button on main unit or remote control.

8.2.3. CD to Tape Recording Inspection

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

Below is the procedures for this mode:-

Step 1: Enter into Doctor mode (For more information refer to section 8.2 on key operation to enter into this mode).

Step 2: Insert Test disc (CDT-018). Note: Ensure TOC is completed before next step.

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

Note : When in this mode, the following processes is perform :

a) Deck will rewind to the 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.
- To exit from this mode, press [■, -DEMO] button on main uint.

8.2.4. Tape Recording and Playing

Purpose : To check the tape operating function. (Playability & record function)

Note:

Below is the procedures for this mode:-

Step 1: Enter into Doctor mode (For more information refer to section 8.2 on key operation to enter into this mode).

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

Step 3: The tape played for 3 seconds after which it stop & eject. (Cassette door opens automatically)

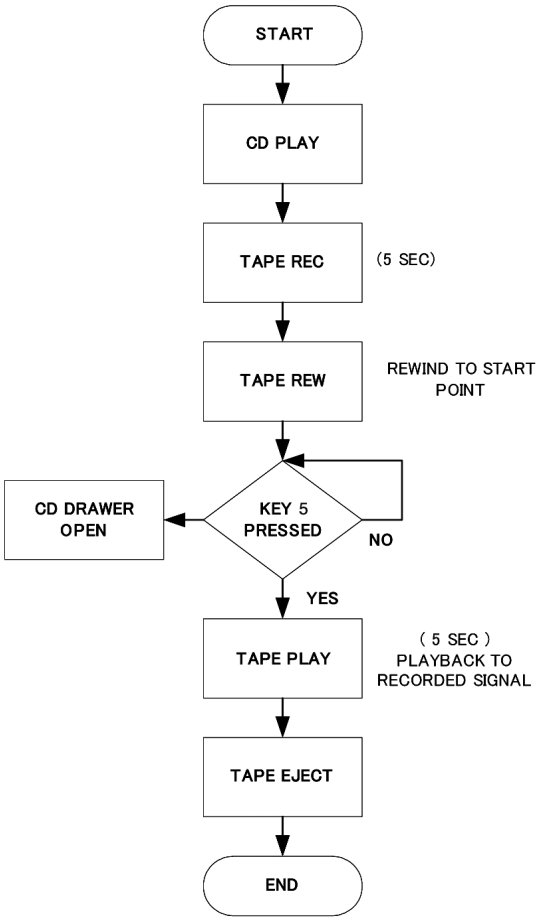
Note : When in CD to Tape Recording Test mode, the following process is perform :

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.



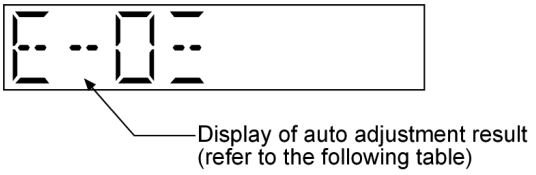
8.2.5. CD Self-Adjustment (AJST) Result Display

Purpose : To display the result of self-adjustment for CD.

Below is the procedures for this mode:-

Step 1: Enter into Doctor mode (For more information refer to section 8.2 on key operation to enter into this mode).

Step 2 : When [≥10], [1] & [4] key are pressed at the doctor mode, the following shall be displayed for 3 secs. The result shall correspond to the condition met as shown in the table below :



Error Code / Status Condition	0	1	2	4	6	8	A	C	E	F
AOC1/AOC2	O	□	O	O	O	O	O	O	O	-
ABC2/ABC1	O	-	X	O	X	O	X	O	X	-
2nd AOC1	O	-	O	X	X	O	O	X	X	-
FAGC/TAGC	O	-	O	O	O	X	X	X	X	-
AGC2	O	-	O	O	O	O	O	O	O	△

O: OK;
X: NG (In case that time out happens.)
□: Either one of FO AOC, TR AOC and FO coarse AGC is NG.
△ : If the AGC is NG (other don't care).

8.2.6. TPS Inspection

Purpose : Tape for TPS is put into Deck. TPS inspection starts with one key operation. This mode shall run a test program to check

REV TPS for the Deck and ends by displaying the result and ejecting the Deck.

Below is the procedures for this mode:-

Step 1: Enter into Doctor mode (For more information refer to section 8.2 on key operation to enter into this mode).

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

The following process is carry out in this test mode.

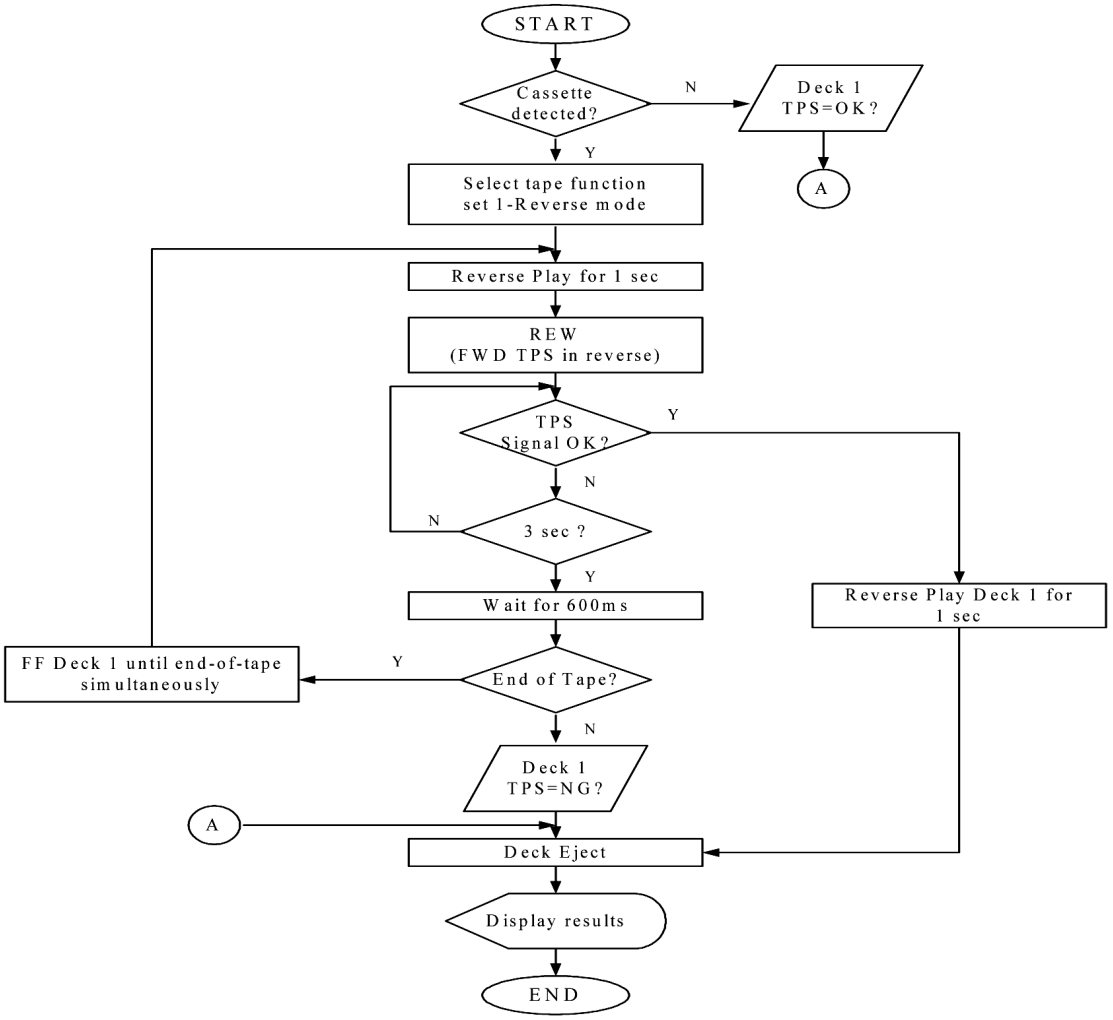
Micro-processor will start checking for the existence of cassette in deck mechanism unit, -

- If it does not contain any cassette, it shall end the test and displays [ERROR].
- If the cassette is detected, test shall start by playing the DECK in reverse direction for 1 sec and perform REV 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



8.3. Cassette Mechanism Self-Diagnostic Mode

Below is information of the checking of cassette deck mechanism

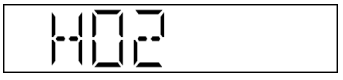
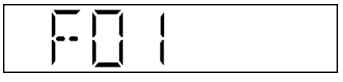
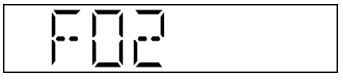
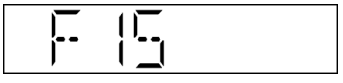
No.	Operation Procedures	Micon operation & processing
1	C-mecha Abnormal Detection shall be executed for DECK.	Check that all DECK mechanism leaf SW is in OFF state.
2	[∧/**FF**/►►I] key is pressed, after loading in a NORMAL type cassette with the recording tab on the left side removed.	FF shall be executed 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	[I◄◄, **REW**/∨] 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 [■] 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 [■] 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.

8.4. 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			For deck mechanism unit. Press [■, -DEMO] on main unit for next error.
H02	REC INH SW abnormal			For deck mechanism unit. Press [■, -DEMO] on main unit for next error.
H03	HALF SW abnormal			For deck mechanism unit. Press [■, -DEMO] on main unit for next error.
F01	Reel pulse abnormal			For deck mechanism unit. Press [■, -DEMO] on main unit for next error.
F02	TPS abnormal			
F15	CD REST SW Abnormal	CD traverse position intial setting operation failsafe counter (1000 ms) waiting for REST SW to turn on. Error No. shall be clear by force or during cold start.		For CD unit (For Traverse). Press [■, -DEMO] on main unit for next error.

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
H15	CD OPEN SW Abnormal	During normal operation CD OPEN SW ON fail to be detected with 4 sec. Error No. shall be clear by force or during cold start.		For CD unit (For Traverse). Press [■, -DEMO] on main unit for next error.
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.
F61	POWER AMP IC 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"

Be careful when disassembling and servicing.

Some chassis components may have sharp edges.

Special Note:

1. **This section describes the disassembly procedures for all the major printed circuit boards and main components.**
2. **Before the disassembly process was carried out, do take special note that all safety precautions are to be carried out. (Ensure that no AC power supply is connected during disassembling.)**
3. **For assembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.**
4. **Do take note of the locators on each printed circuit board during reassembling procedures.**
5. **The Switch Regulator IC may have high temperature after prolonged use.**
6. **Use caution when removing the top cabinet and avoid touching heat sinks located in the unit.**

CAUTION: HOT!!
PLEASE DO NOT
TOUCH THE HEAT SINK

7. **Select items from the following index when checks or replacement are required.**

- **Disassembly of Side Panel L & R**
- **Disassembly of Top Cabinet Unit**
- **Disassembly of Deck Mechanism Unit & Tape Eject P.C.B**
- **Disassembly of CD Lid**
- **Disassembly of Front Panel**
- **Disassembly of USB P.C.B**
- **Disassembly of Panel P.C.B, Headphone P.C.B and Music Port P.C.B**
- **Disassembly of Rear Panel**
- **Disassembly of Main P.C.B**
- **Replacement of the Power IC**
- **Disassembly of Transformer P.C.B**
- **Disassembly of CD Mechanism**
- **Disassembly of Cassette Lid**
- **Disassembly of Traverse Unit, Driving Gear and Cam Gear**
- **Disassembly of Deck Mechanism**
- **Handling of Cassette Tape Jam**

CAUTION NOTE:
Please use original screws and at correct locations.

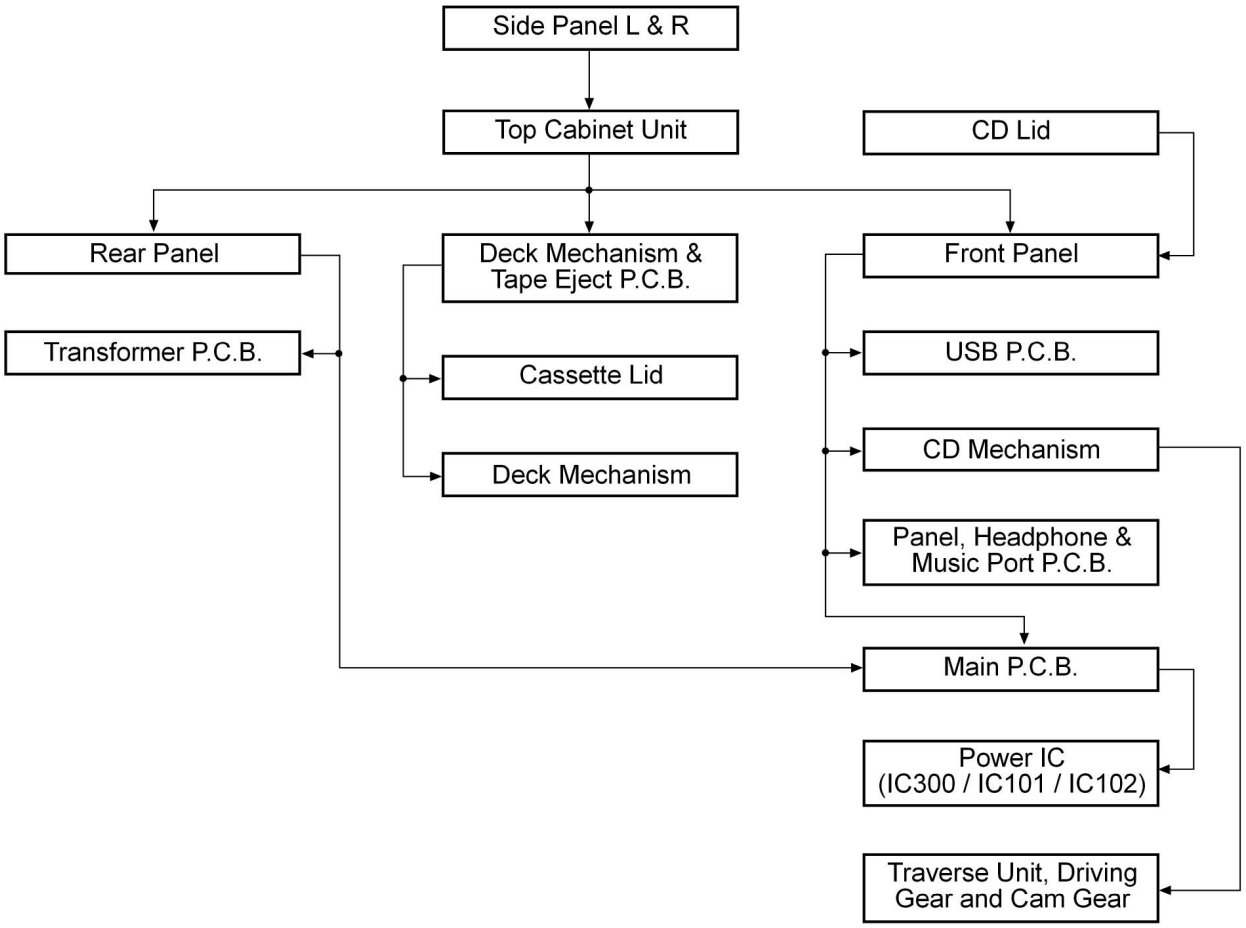
Below shown is the part no. of different screw types used:

ⓐ : RHD30007-K2J
ⓑ : XTB3+10JFJK
ⓒ : RHD26046-L
ⓓ : XTV3+10GFJ-M
ⓔ : XTB3+8FFJ
ⓕ : RHDV30005
ⓖ : XTB3+20JFJK
ⓗ : XTB3+8JFJ

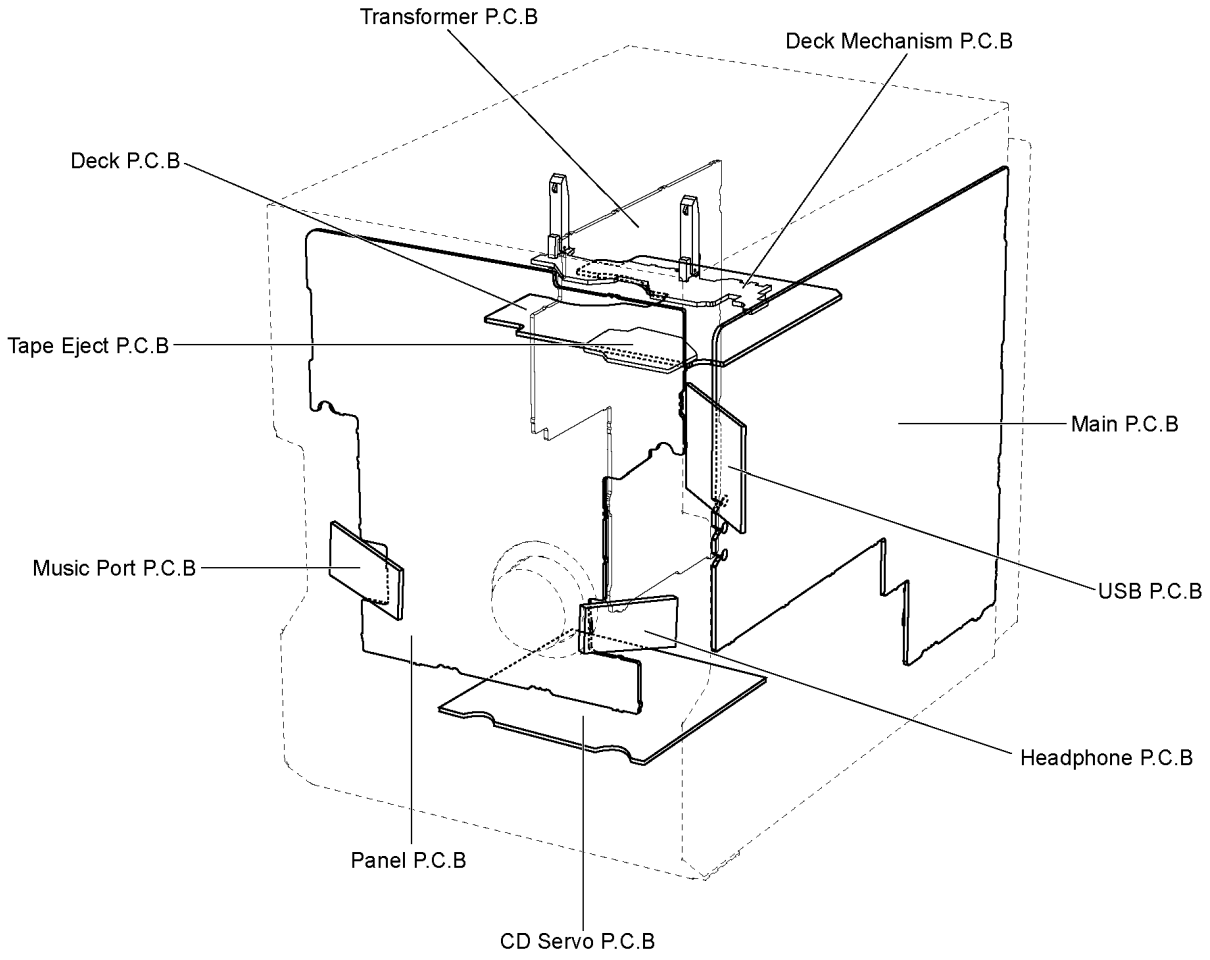
9.2. Disassembly flow chart

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.

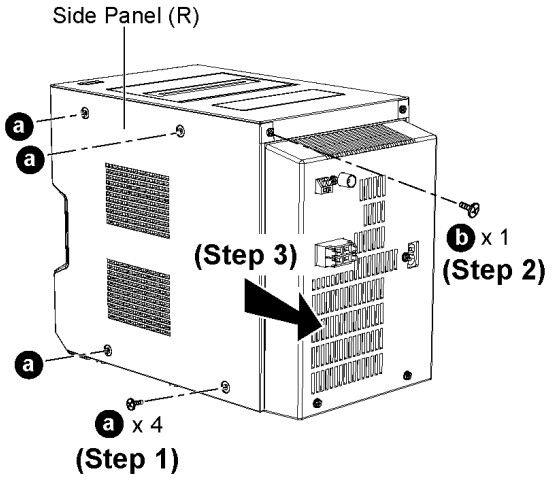


9.3. Main Parts Location Diagram



9.4. Disassembly of Side Panel (L / R)

- Disassembly of Side Panel (R)

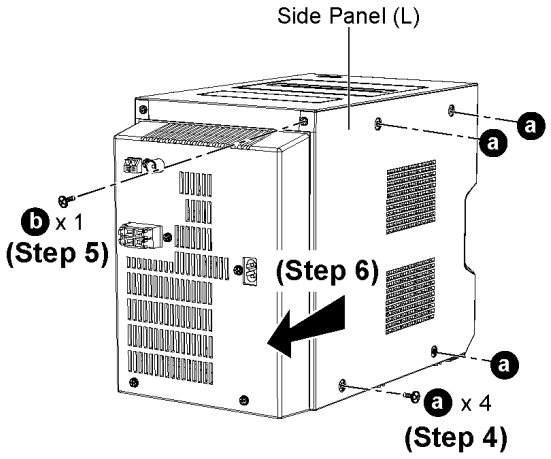


Step 1: Remove 4 screws.

Step 2 : Remove 1 screw.

Step 3 : Remove the Side Panel (R) as arrow shown.

- Disassembly of Side Panel (L)



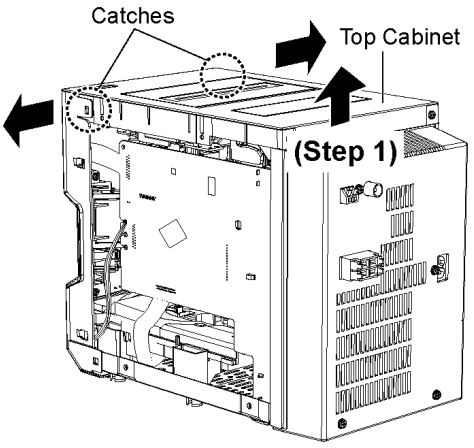
Step 4: Remove 4 screws.

Step 5 : Remove 1 screw.

Step 6 : Remove the Side Panel (L) as arrow shown.

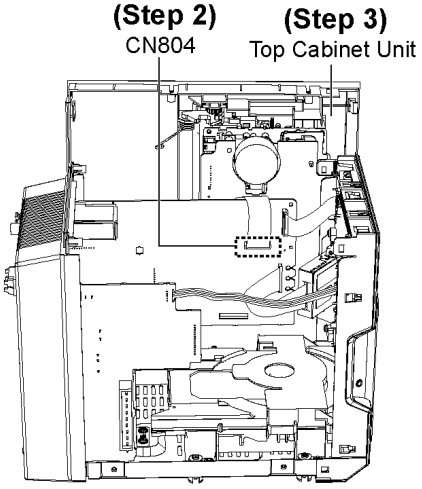
9.5. Disassembly of Top Cabinet Unit

- Follow the (Step 1) - (Step 6) of Item 9.4.



Step 1 : Lift up the top cabinet as arrow shown.

Note: Be careful of the catches area.



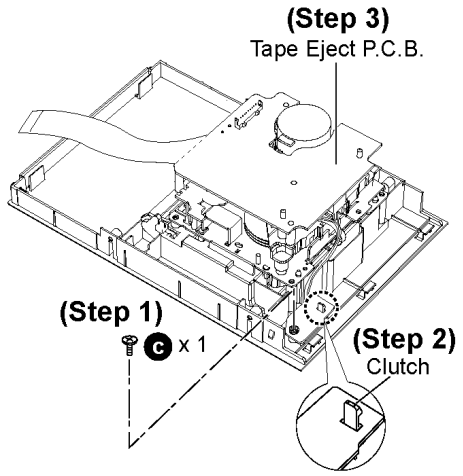
Step 2 : Disconnect FFC cable (CN804).

Step 3 : Remove Top Cabinet Unit.

9.6. Disassembly of Deck Mechanism Unit and Tape Eject P.C.B

- Follow the (Step 1) - (Step 6) of Item 9.4.
- Follow the (Step 1) - (Step 3) of Item 9.5.

- Diasssembly of Tape Eject P.C.B

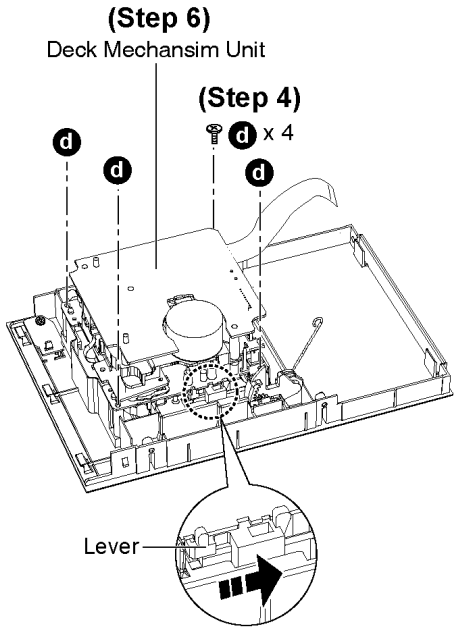


Step 1 : Remove 1 screw.

Step 2 : Release the clutch.

Step 3 : Remove the Tape Eject P.C.B.

- Disassembly of Deck Mechanism Unit



Step 4 : Remove 4 screws

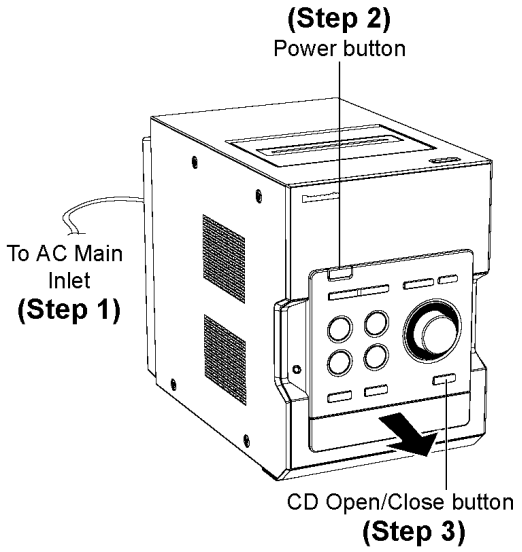
Step 5 : Push the lever as arrow shown to open the Cassette Lid.

Step 6 : Remove the Deck Mechanism Unit.

9.7. Disassembly of CD Lid

- Follow the (Step 1) - (Step 6) of Item 9.4.
- Follow the (Step 1) - (Step 3) of Item 9.5.

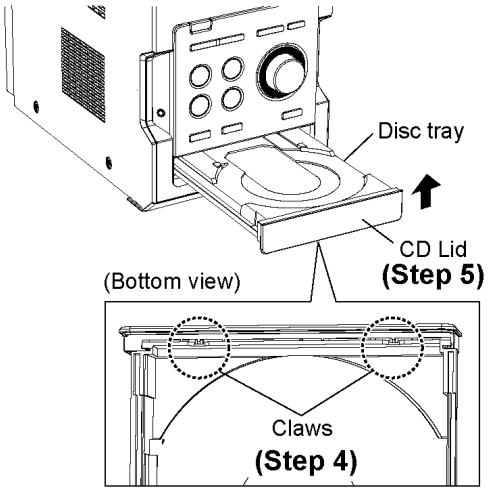
When opening the disc tray automatically (Using Power Supply)



Step 1 : Connect the AC power cord.

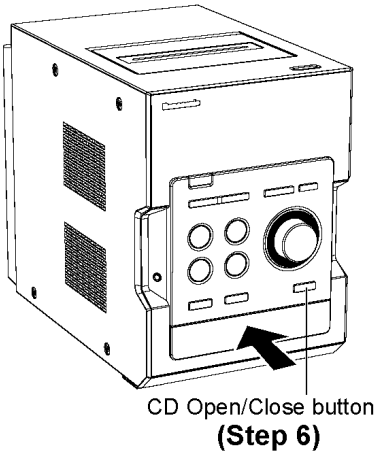
Step 2 : Press the POWER button to power up the main unit.

Step 3 : Press the OPEN/CLOSE button, the disc tray will open automatically.



Step 4 : Release the 2 claws.

Step 5 : Remove the CD Lid as arrow shown.

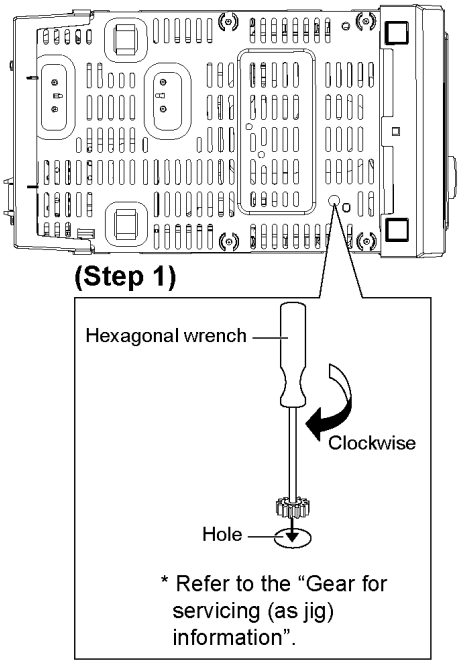


Step 6 : Press the OPEN/CLOSE button, the disc tray will

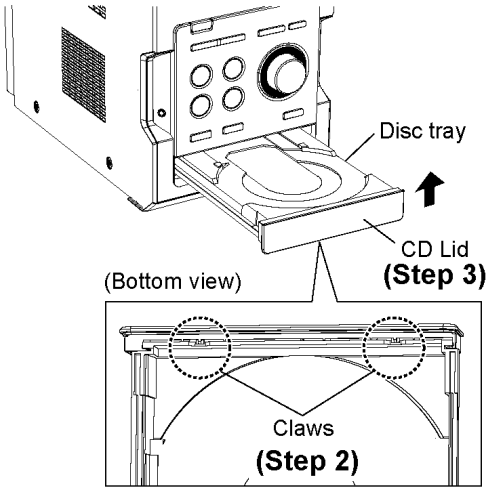
close.

[Open the disc tray manually (Using service tools)]

Note: This method applies if failure to power up the unit for the opening of tray.



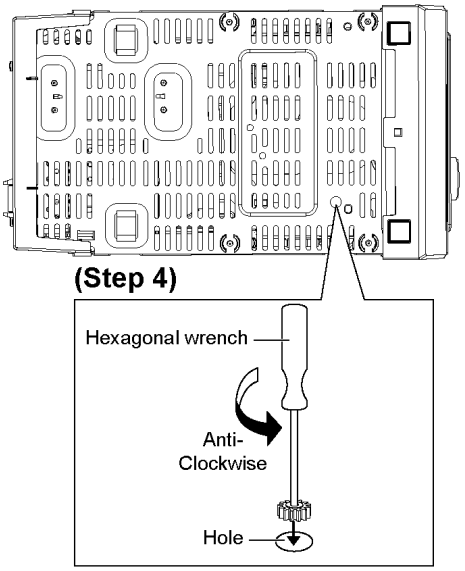
Step 1 : Insert the gear tool into the hole on the underside of CD chassis and then rotate in the direction of arrow. The disc tray will be open.



Step 2 : Release the 2 claws.

Step 3 : Remove the CD Lid as arrow shown.

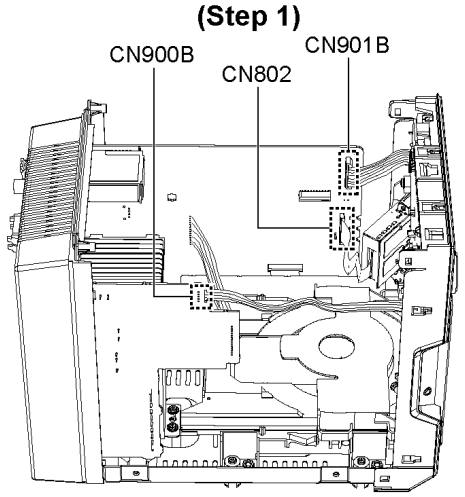
- To close the CD tray.



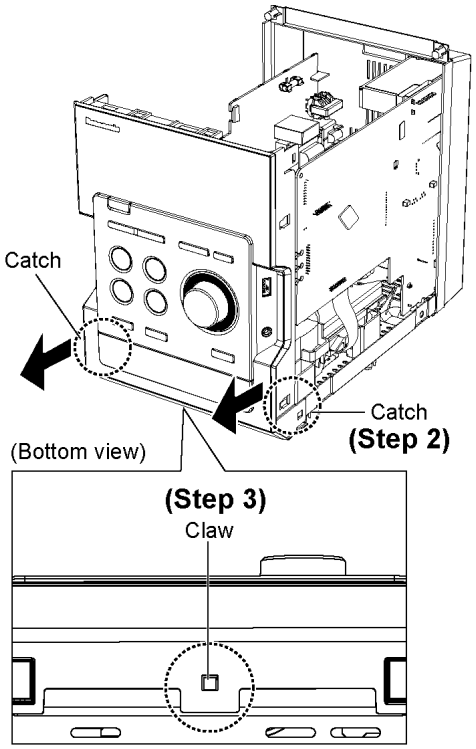
Step 4 : Repeat Step 1 but rotate the gear tools in anti-clockwise

9.8. Disassembly of Front Panel

- Follow the (Step 1) - (Step 6) of Item 9.4.
- Follow the (Step 1) - (Step 3) of Item 9.5.
- Follow the (Step 1) - (Step 6) of Item 9.7.



Step 1 : Detach wire cable (CN802, CN900B and CN901B).

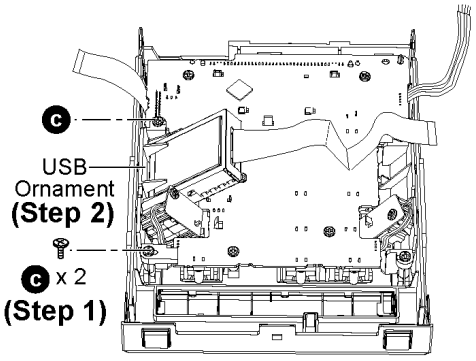


Step 2 : Release 2 catches.

Step 3 : Release the claw at the bottom cabinet and remove the Front Panel as arrow shown.

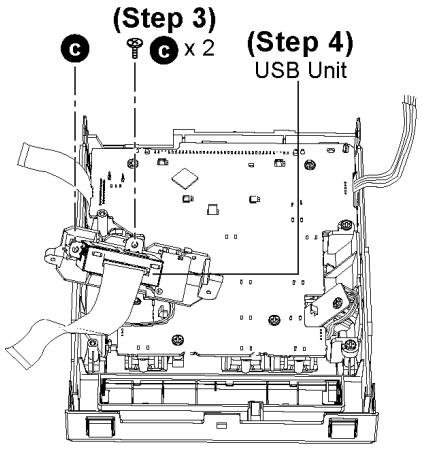
9.9. Disassembly of USB P.C.B

- Follow the (Step 1) - (Step 6) of Item 9.4.
- Follow the (Step 1) - (Step 3) of Item 9.5.
- Follow the (Step 1) - (Step 6) of Item 9.7.
- Follow the (Step 1) - (Step 3) of Item 9.8.



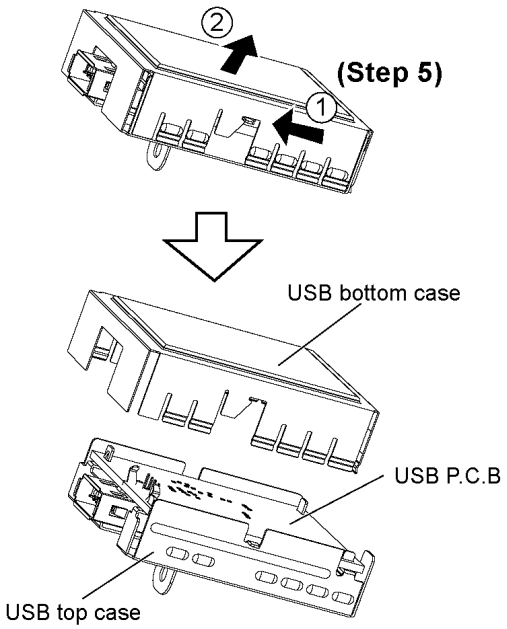
Step 1 : Remove 2 screws.

Step 2 : Remove the USB Ornament.

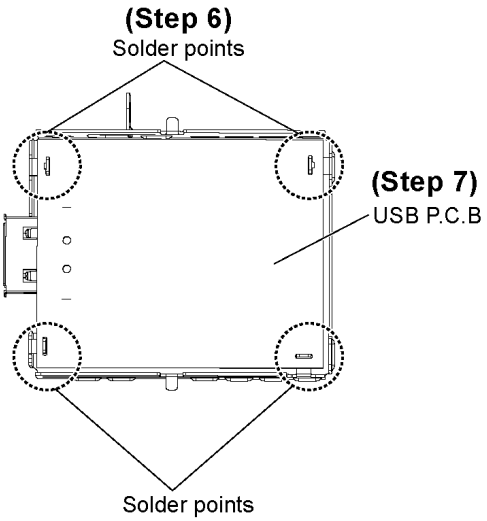


Step 3 : Remove 2 screws.

Step 4 : Remove USB Unit.



Step 5 : Remove USB bottom case as arrow shown.



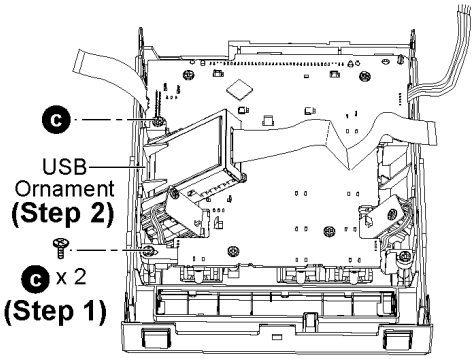
Step 6 : Unsolder 4 points.

Step 7 : Remove USB P.C.B.

9.10. Disassembly of Panel P.C.B, Headphone P.C.B & Music Port P.C.B

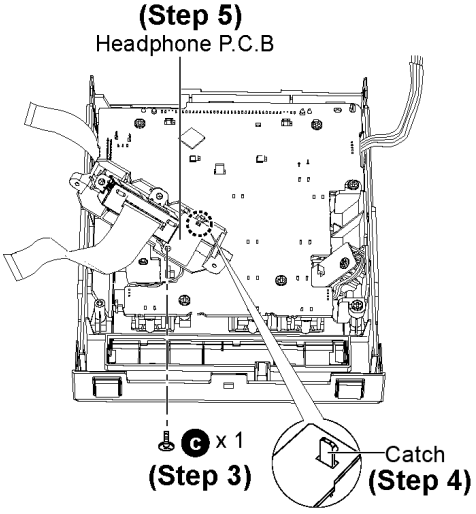
- Follow the (Step 1) - (Step 6) of Item 9.4.
- Follow the (Step 1) - (Step 3) of Item 9.5.
- Follow the (Step 1) - (Step 6) of Item 9.7.
- Follow the (Step 1) - (Step 3) of Item 9.8.

- Disassembly of Headphone P.C.B



Step 1 : Remove 2 screws.

Step 2 : Remove the USB Ornament.

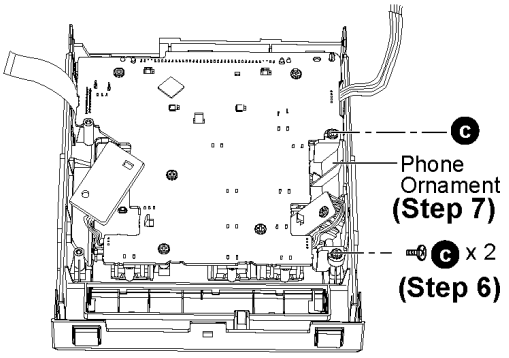


Step 3 : Remove 1 screw.

Step 4 : Release the catch.

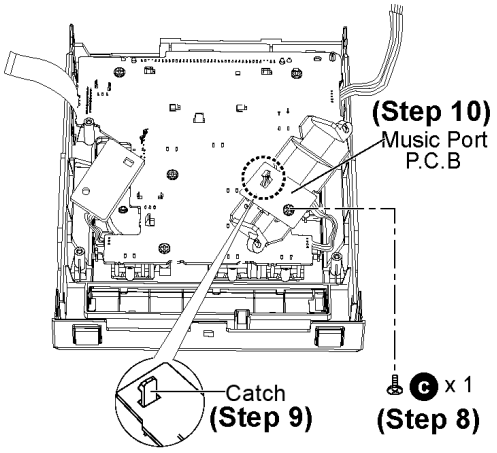
Step 5 : Remove the Headphone P.C.B.

- Disassembly of Music Port P.C.B



Step 6 : Remove 2 screws.

Step 7 : Remove the Phone Ornament.

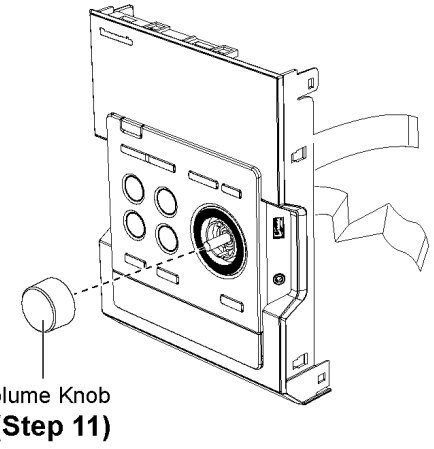


Step 8 : Remove 1 screw.

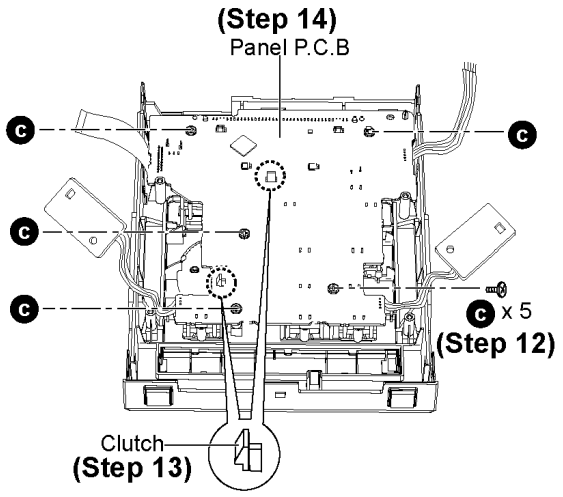
Step 9 : Release the catch.

Step 10 : Remove the Music Port P.C.B.

- Disassembly of Panel P.C.B



Step 11 : Remove the Volume Knob.



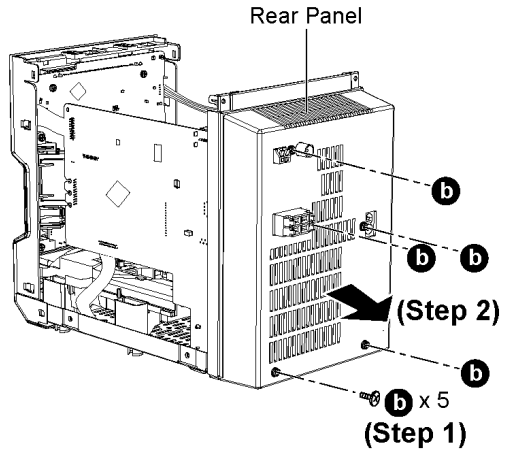
Step 12 : Remove 5 screw.

Step 13 : Release the 2 clutches.

Step 14 : Remove the Panel P.C.B.

9.11. Disassembly of Rear Panel

- Follow the (Step 1) - (Step 6) of Item 9.4.
- Follow the (Step 1) - (Step 3) of Item 9.5.

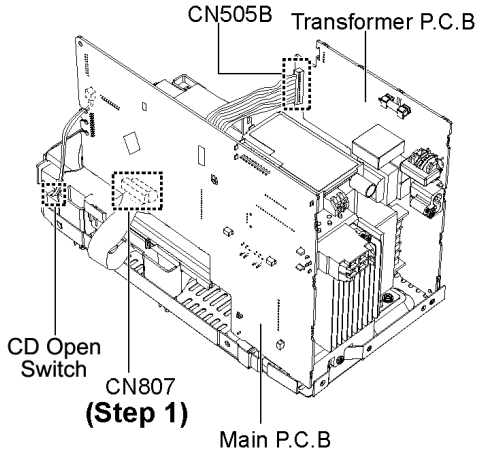


Step 1 : Remove 5 screws.

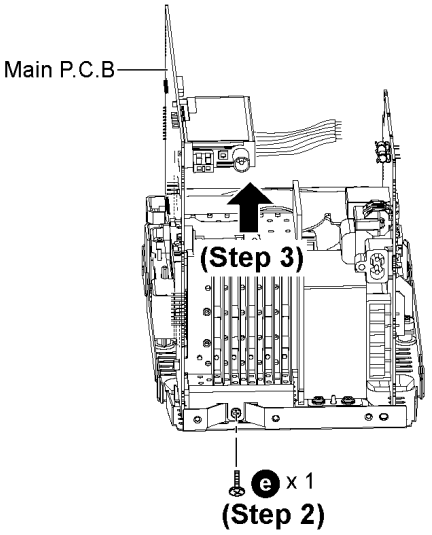
Step 2 : Remove Rear Panel as arrow shown.

9.12. Disassembly of Main P.C.B

- Follow the (Step 1) - (Step 6) of Item 9.4.
- Follow the (Step 1) - (Step 3) of Item 9.5.
- Follow the (Step 1) - (Step 6) of Item 9.7.
- Follow the (Step 1) - (Step 3) of Item 9.8.
- Follow the (Step 1) - (Step 2) of Item 9.11.



Step 1 : Detach cables (CN807, CN505B and CD Open Switch).



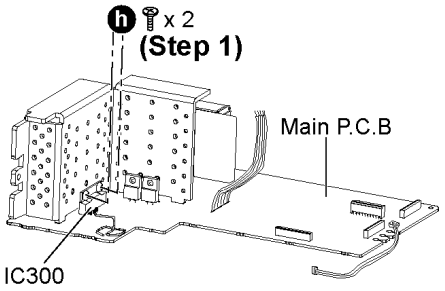
Step 2 : Remove 1 screw.

Step 3 : Remove Main P.C.B as arrow shown.

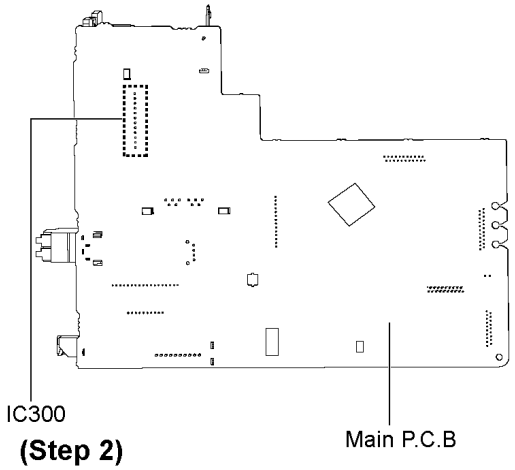
9.13. Replacement of the Power IC

- Follow the (Step 1) - (Step 6) of Item 9.4.
- Follow the (Step 1) - (Step 3) of Item 9.5.
- Follow the (Step 1) - (Step 6) of Item 9.7.
- Follow the (Step 1) - (Step 3) of Item 9.8.
- Follow the (Step 1) - (Step 2) of Item 9.11.
- Follow the (Step 1) - (Step 3) of Item 9.12.

- Replacement of Power IC (IC300)

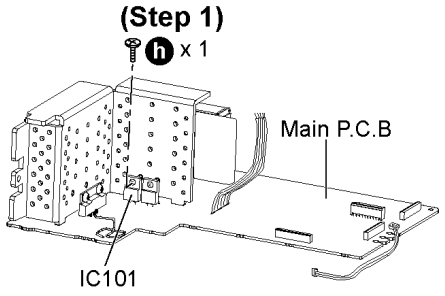


Step 1 : Remove 2 screws (For IC300).

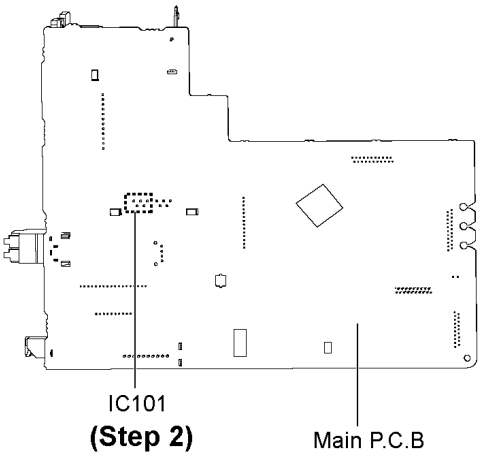


Step 2 : Desolder the terminal of Power IC (IC300) to replace the component.

- Replacement of USB Regulator (IC101)

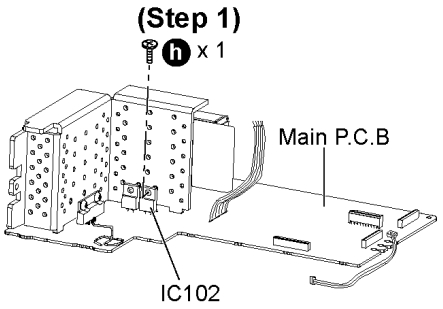


Step 1 : Remove 1 screws (For IC101).

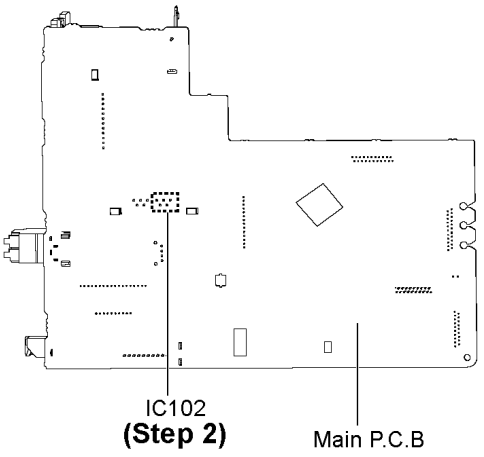


Step 2 : Desolder the terminal of USB Regulator IC (IC101) to replace the component.

- Replacement of CD Regulator (IC102)



Step 1 : Remove 1 screw (For IC102).

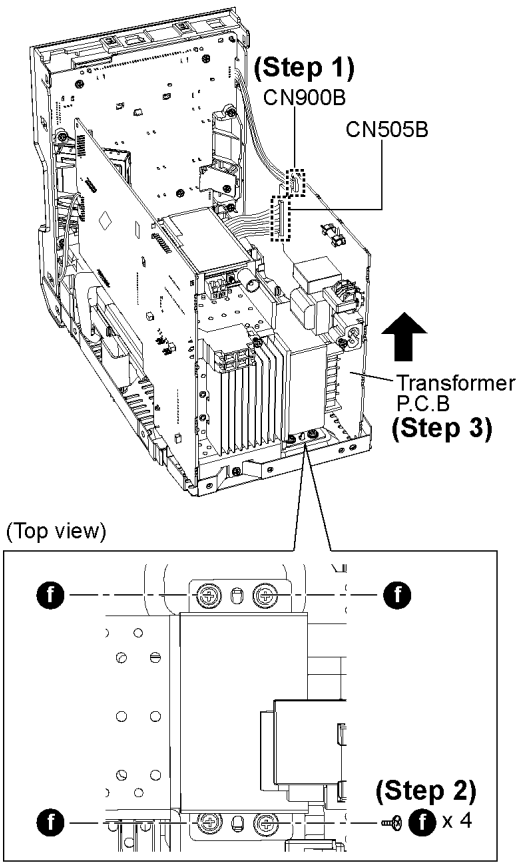


Step 2 : Desolder the terminal of CD Regulator (IC102) to replace the component.

9.14. Disassembly of Transformer P.C.B

- Follow the (Step 1) - (Step 6) of Item 9.4.
- Follow the (Step 1) - (Step 3) of Item 9.5.

- Follow the (Step 1) - (Step 2) of Item 9.11.



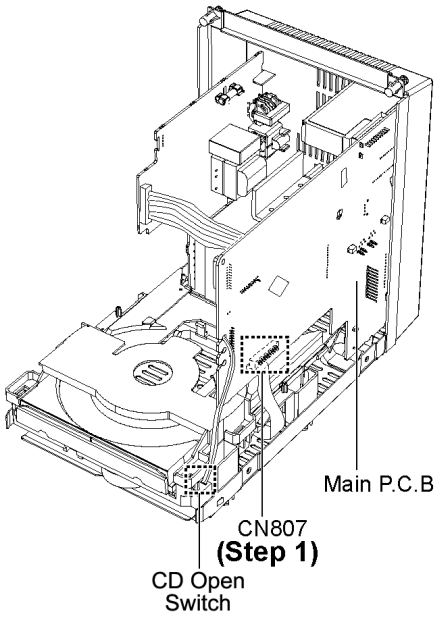
Step 1 : Detach cable (CN900B and CN505B).

Step 2 : Remove 4 screws.

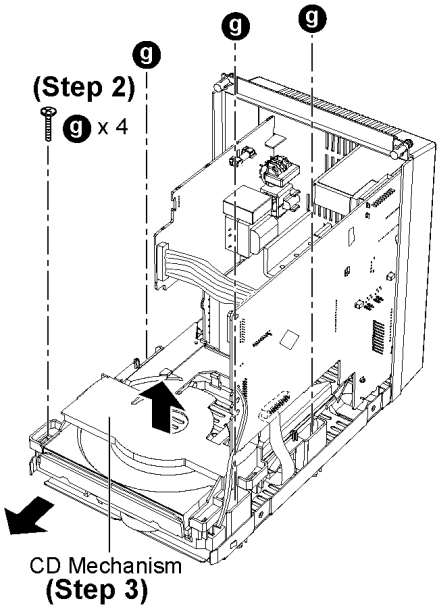
Step 3 : Remove Transformer P.C.B as arrow shown.

9.15. Disassembly of CD Mechanism

- Follow the (Step 1) - (Step 6) of Item 9.4.
- Follow the (Step 1) - (Step 3) of Item 9.5.
- Follow the (Step 1) - (Step 6) of Item 9.7.
- Follow the (Step 1) - (Step 3) of Item 9.8.



Step 1 : Detach connector (CD Open Switch and CN807).

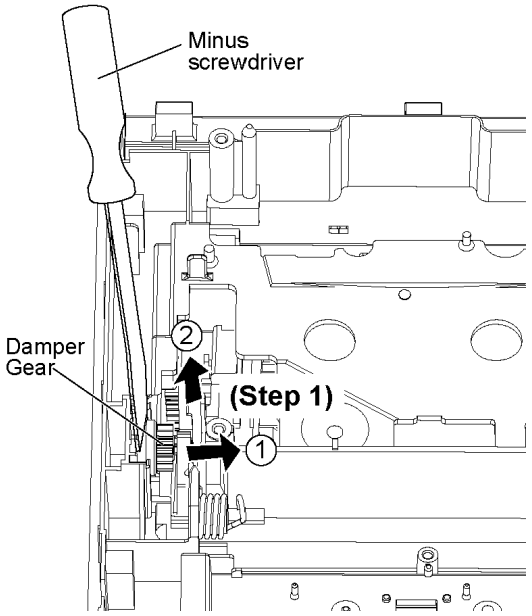


Step 2 : Remove 4 screws .

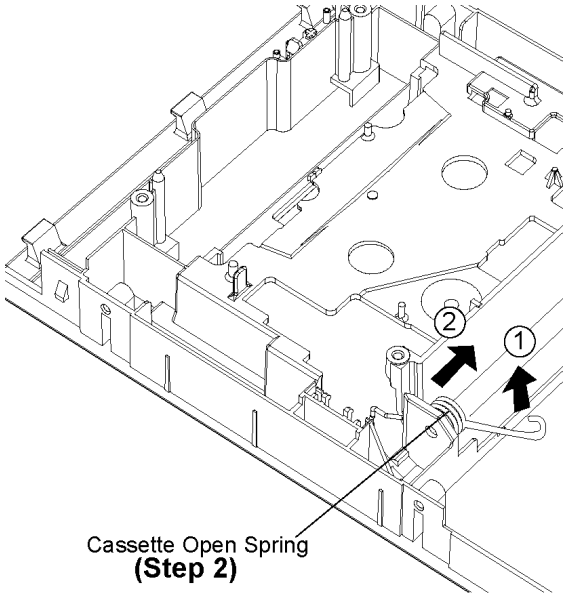
Step 3 : Lift up & remove the CD Mechanism unit as arrow shown.

9.16. Disassembly of Cassette Lid

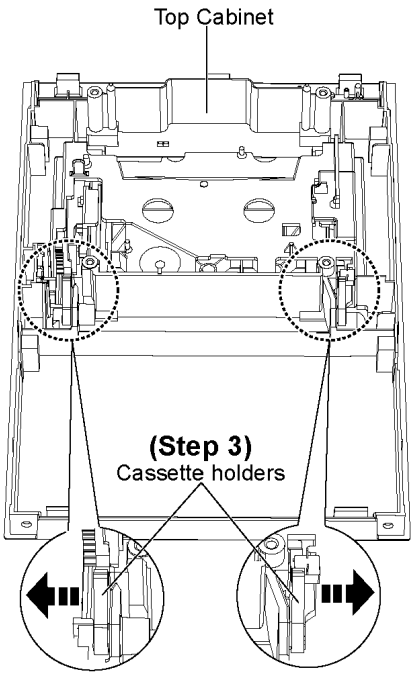
- Follow the (Step 1) - (Step 6) of Item 9.4.
- Follow the (Step 1) - (Step 3) of Item 9.5.
- Follow the (Step 1) - (step 6) of Item 9.6.



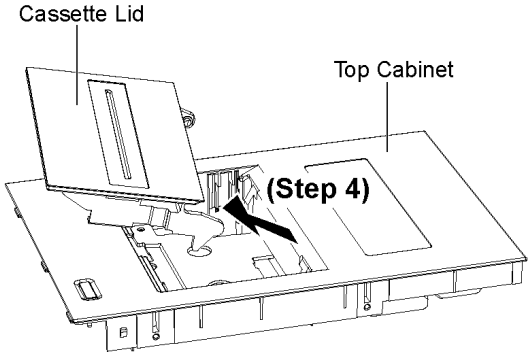
Step 1: Using screwdriver to remove Damper gear as arrow shown in order.



Step 2: Remove the Cassette Open Spring as arrow shown in order.



Step 3: Pull the sides Cassette holders to the direction of the arrows shown.

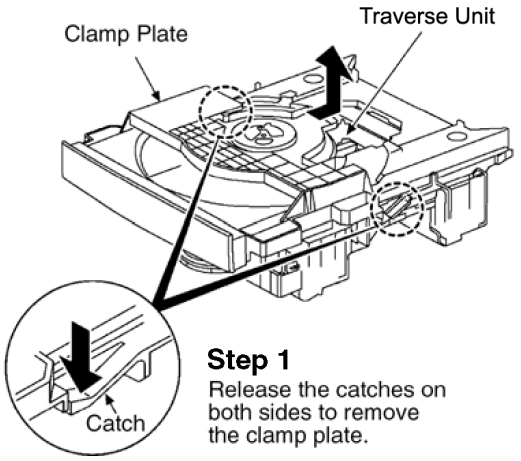


Step 4: Remove the Cassette Lid as arrows shown.

9.17. Disassembly of Traverse Unit, Driving Gear and Cam Gear

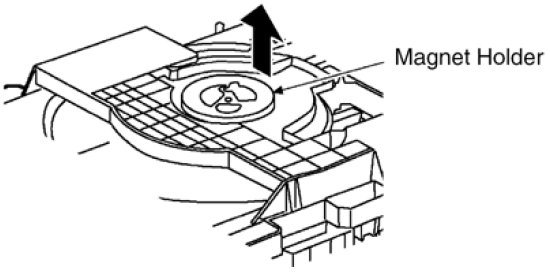
9.17.1. Disassembly of the Traverse Unit

- Follow the (Step 1) - (Step 6) of Item 9.4.
- Follow the (Step 1) - (Step 3) of Item 9.5.
- Follow the (Step 1) - (Step 6) of Item 9.7.
- Follow the (Step 1) - (Step 3) of Item 9.8 .
- Follow the (Step 1) - (Step 3) of Item 9.15.

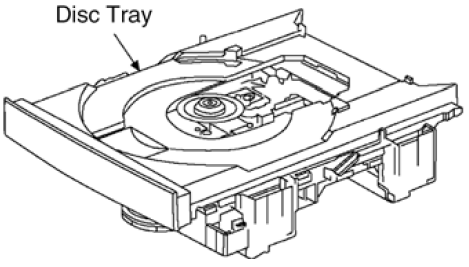


Step 1
Release the catches on both sides to remove the clamp plate.

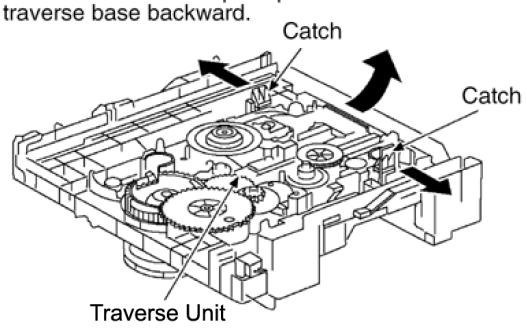
Note:
When the magnet attracts the traverse base that is set to UP, lift the magnet holder backward to remove the clamp plate.



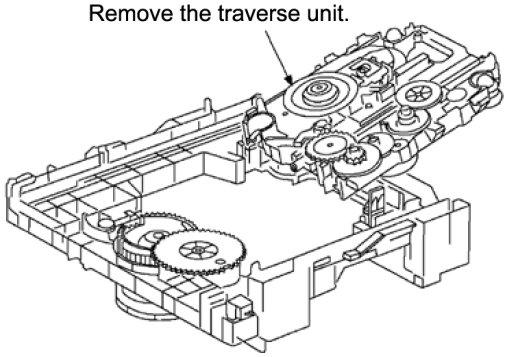
Step 2
Remove the disc tray upward.



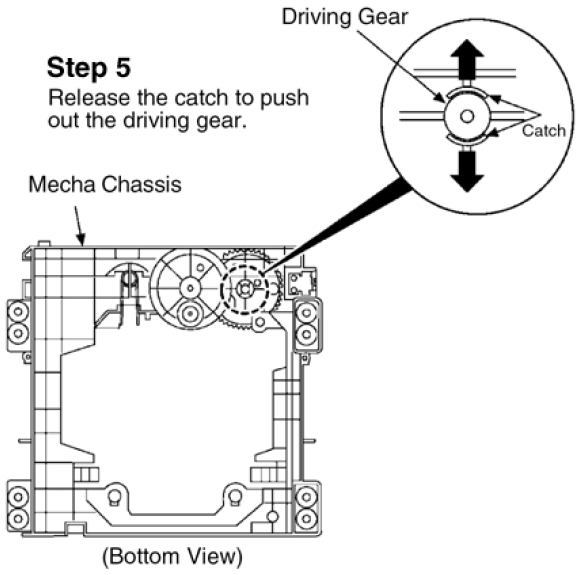
Step 3
Release 2 catches to pull up the traverse base backward.



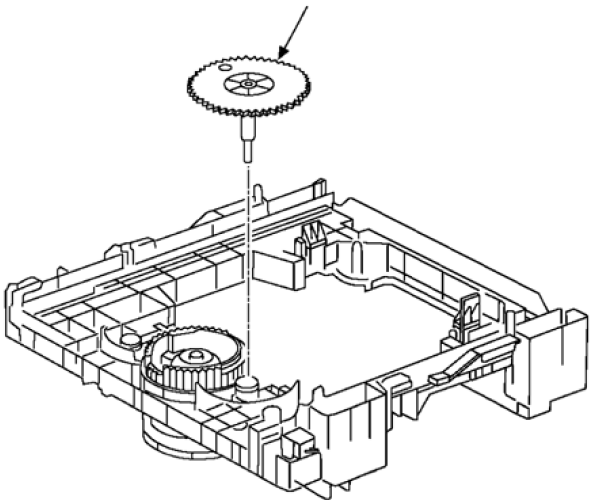
Step 4
Remove the traverse unit.



- **Disassembly of gears drive**

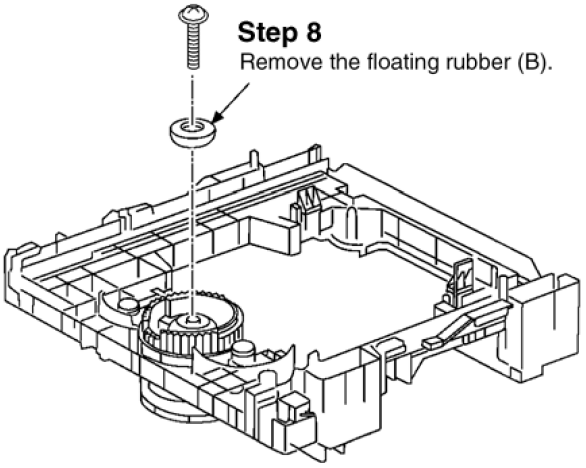


Step 6
Pull out the driving gear.



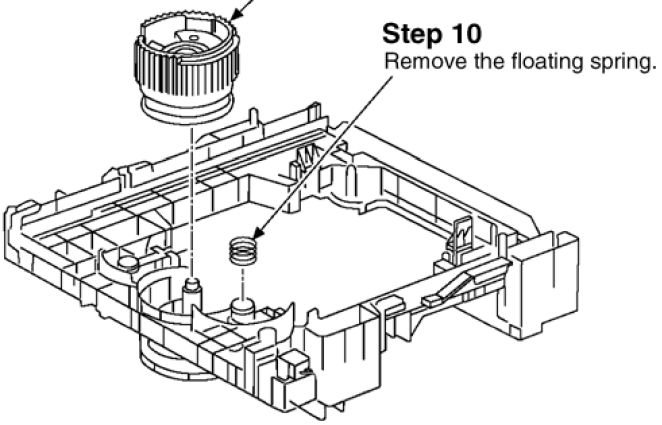
Step 7
ⓑ

Step 8
Remove the floating rubber (B).



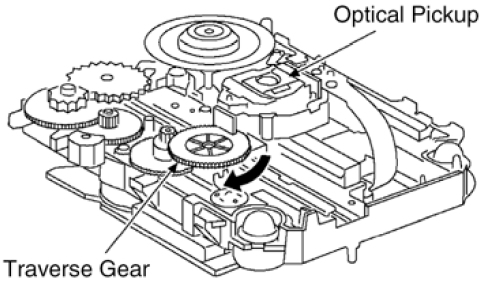
Step 9
Remove the cam gear.

Step 10
Remove the floating spring.



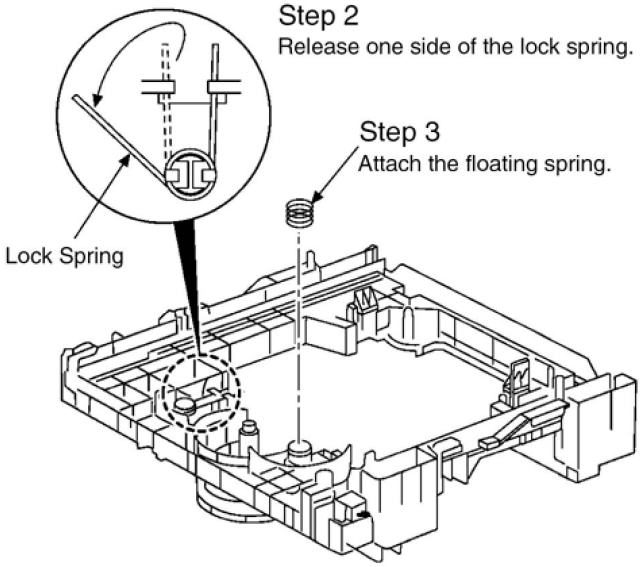
Assembly of Traverse Base, Cam Gear, Driving Gear, Disc Tray, and Clam Plate

Step 1
Turn the traverse gear (B) to the arrow direction, and move the optical pickup to the center.

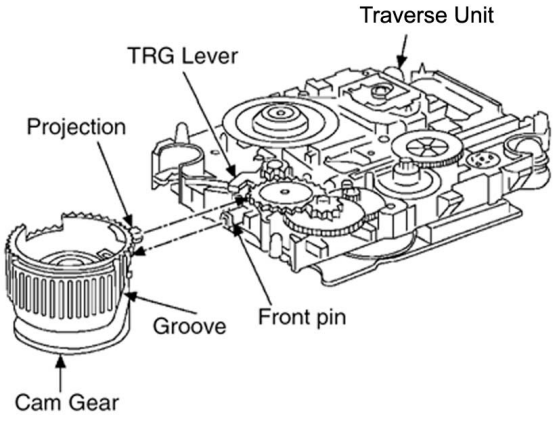


Step 2
Release one side of the lock spring.

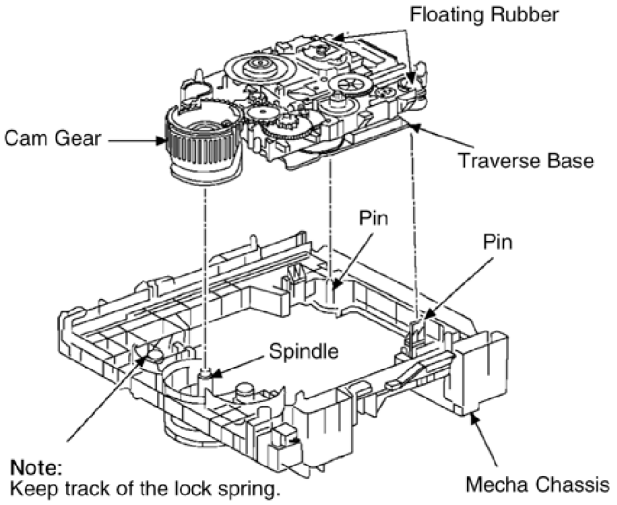
Step 3
Attach the floating spring.



Step 4
Engage the front pin of the traverse gear to the groove of the cam gear and the projection of the cam gear between the TRG lever.
(so that the gear is automatically engaged)



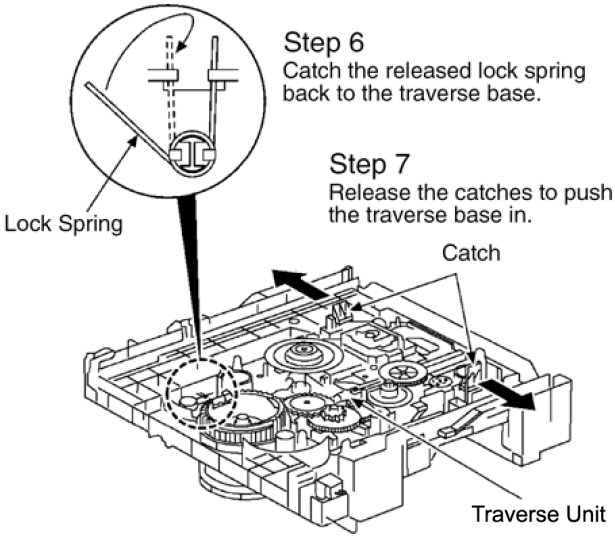
Step 5
Hold the assembled part carefully. Engage the cam gear to the spindle of the mecha chassis and the floating rubber of the traverse base to the pin of the mecha chassis.



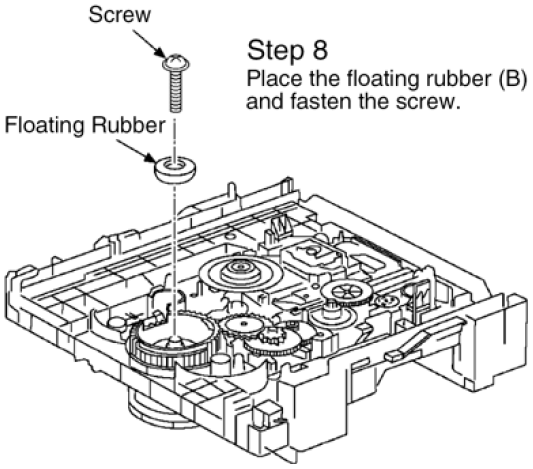
Note:
Keep track of the lock spring.

Step 6
Catch the released lock spring back to the traverse base.

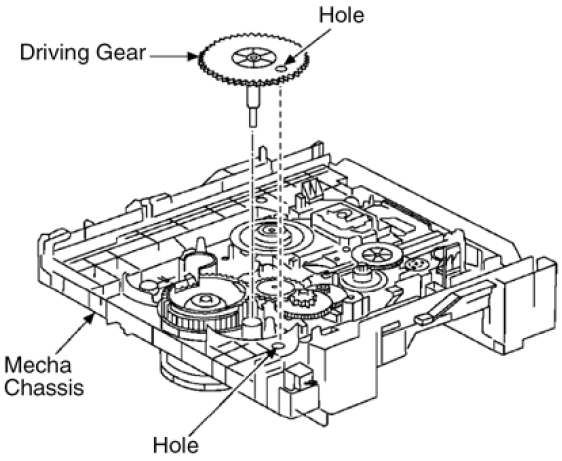
Step 7
Release the catches to push the traverse base in.



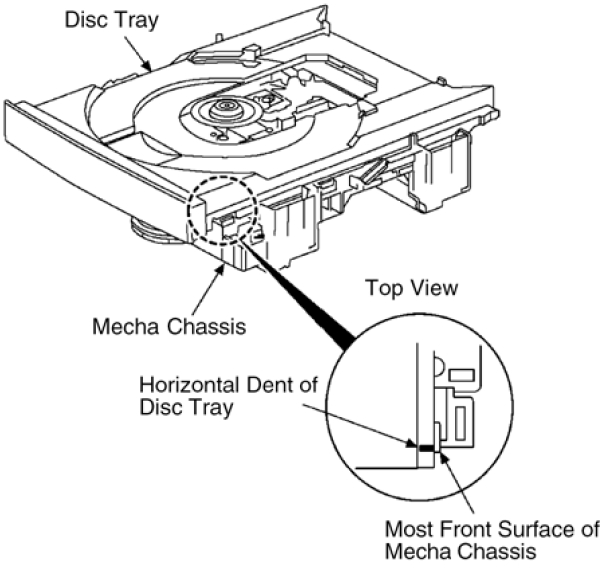
Step 8
Place the floating rubber (B) and fasten the screw.



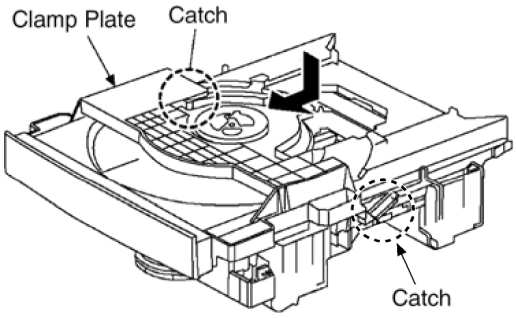
Step 9
Put together the holes located on the driving gear and the mecha chassis, and push down the driving gear till a click sound is heard.



Step 10
Position the disc tray where the horizontal dent located in the most right exterior of the disc tray is attached to the front surface located in the right most exterior of the mecha chassis.



Step 11
Insert the clamp plate from the top to attach over the catch.

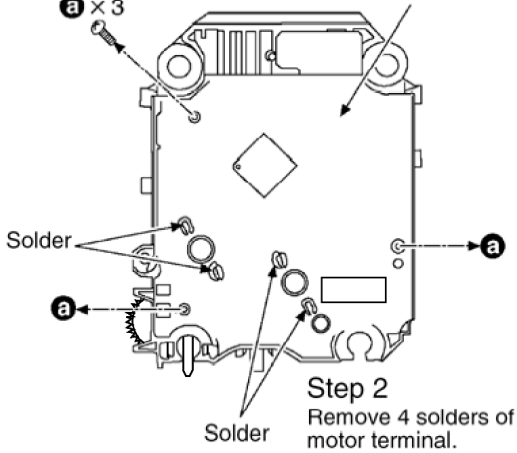


9.17.2. Disassembly of CD Servo P.C.B

- Follow the (Step 1) - (Step 6) of Item 9.4.
- Follow the (Step 1) - (Step 3) of Item 9.5.
- Follow the (Step 1) - (Step 6) of Item 9.7.
- Follow the (Step 1) - (Step 3) of Item 9.8 .
- Follow the (Step 1) - (Step 3) of Item 9.15.
- Follow the (Step 1) - (Step 4) of Item 9.17.1.

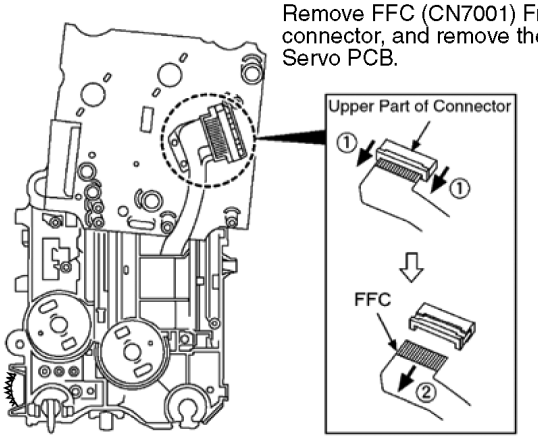
Step 3
Remove the CD Servo PCB and turn it over.

Step 1
ⓐ × 3

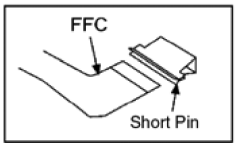


Step 2
Remove 4 solders of the motor terminal.

Step 4
Remove FFC (CN7001) From the connector, and remove the CD Servo PCB.

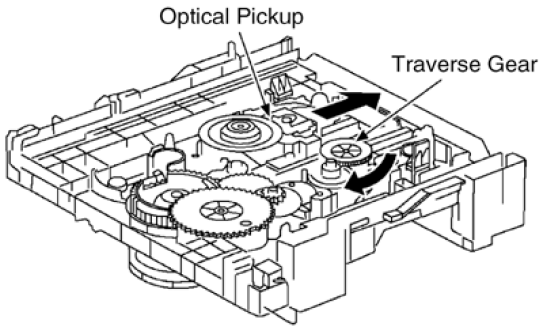


Note:
Insert the short pin to FFC of the optical pickup. (Refer to "Note on Handling Optical Pickup".)

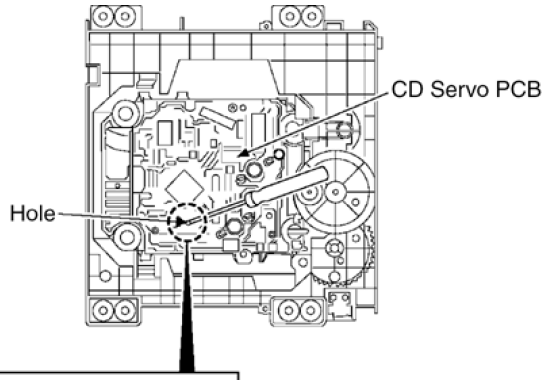


9.17.3. Disassembly of Traverse Gear A and Traverse Gear B

- Follow the (Step 1) - (Step 6) of Item 9.4.
- Follow the (Step 1) - (Step 3) of Item 9.5.
- Follow the (Step 1) - (Step 6) of Item 9.7.
- Follow the (Step 1) - (Step 3) of Item 9.8 .
- Follow the (Step 1) - (Step 3) of Item 9.15.
- Follow the (Step 1) - (Step 4) of Item 9.17.1.



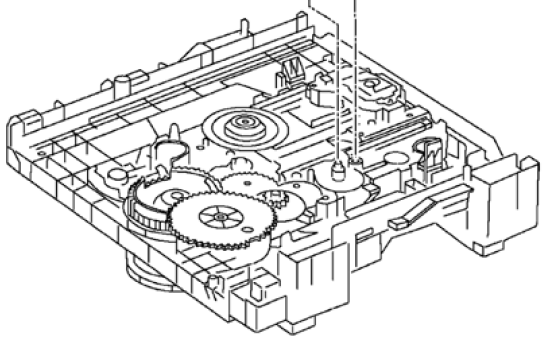
Step 1
Turn the traverse gear to the arrow direction, and move the optical pickup to the most outer side.



Step 2
Insert the thin negative screwdriver into the hole of the CD Servo P.C.B., and push the catch to release the traverse gear (B).

Step 4
Remove the traverse gear (B).

Step 3
Remove the traverse gear (A).



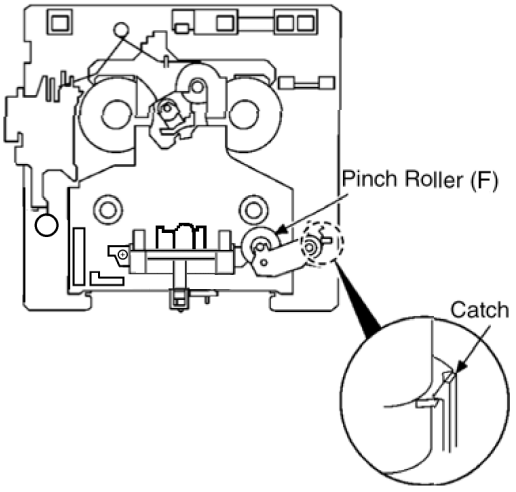
Note:
Do not use the once removed traverse gear (B), and be sure to replace with a new gear.

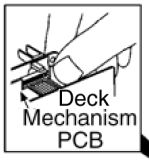
9.18. Disassembly of Deck Mechanism

9.18.1. Disassembly of Pinch Roller and Head Block (Deck Mechanism Unit)

- Follow the (Step 1) - (Step 6) of Item 9.4.
- Follow the (Step 1) - (Step 3) of Item 9.5.
- Follow the (Step 1) - (Step 6) of Item 9.6.

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

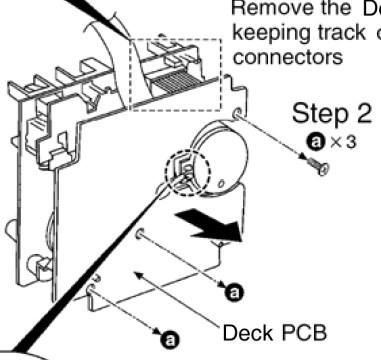


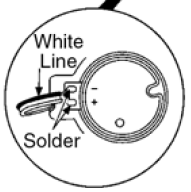


Note:
Support the Deck Mechanism PCB by hand to remove the Deck PCB.

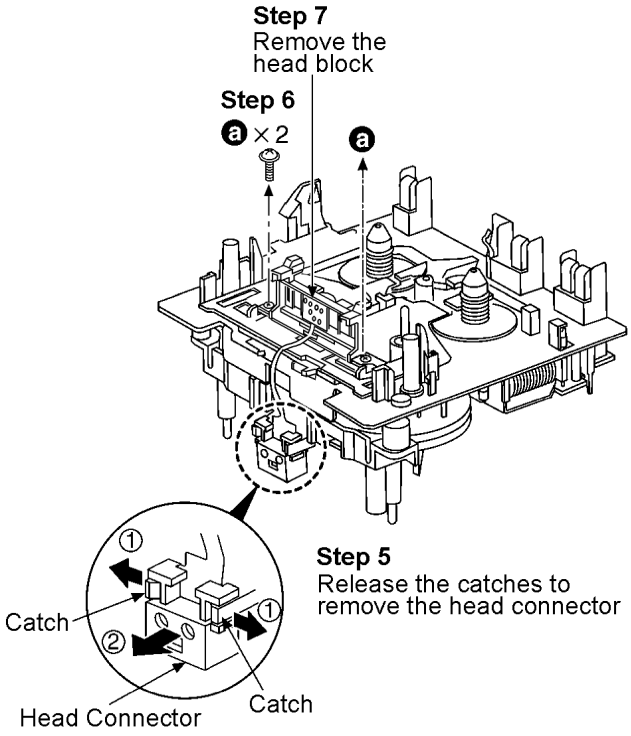
Step 4
Remove the Deck PCB, keeping track of connectors

Step 2
ⓐ×3



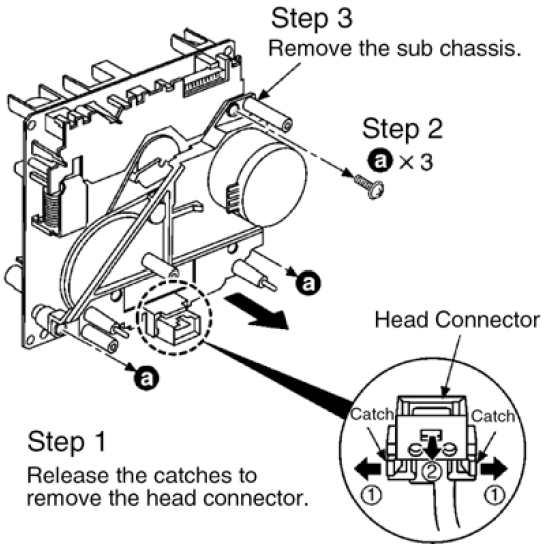


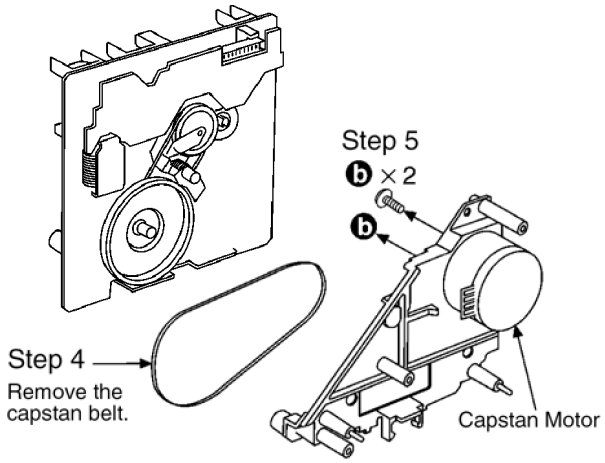
Step 3
Remove 2 solders of the motor terminal.

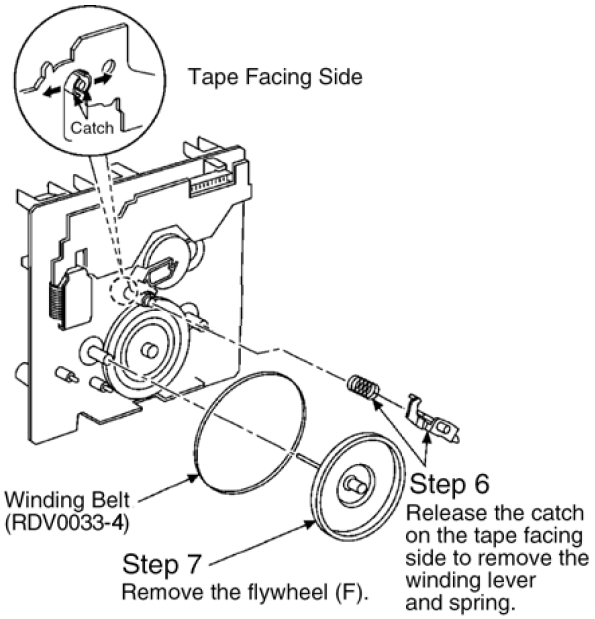


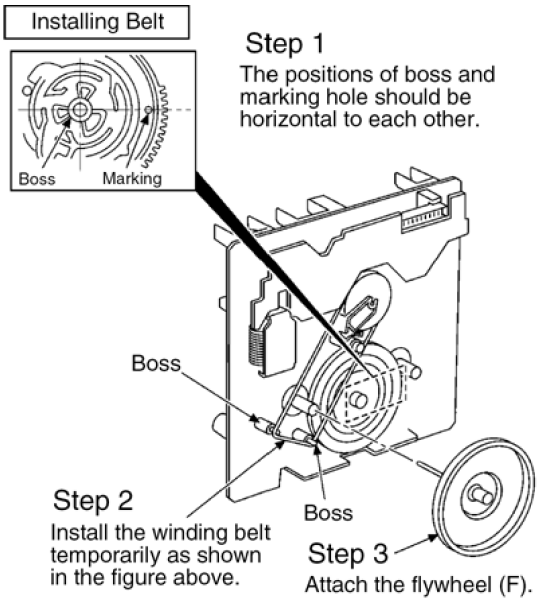
9.18.2. Disassembly of Motor, Capstan Belt A, Capstan Belt B, and Winding Belt (Deck Mechanism Unit)

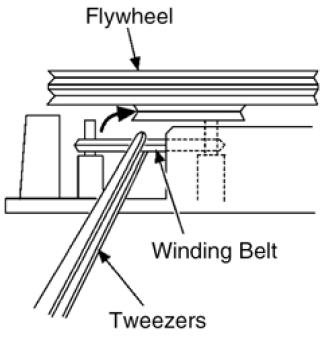
- Follow the (Step 1) - (Step 6) of Item 9.4.
- Follow the (Step 1) - (Step 3) of Item 9.5.
- Follow the (Step 1) - (Step 6) of Item 9.6.
- Follow the (Step 1) - (Step 4) of Item 9.18.1.



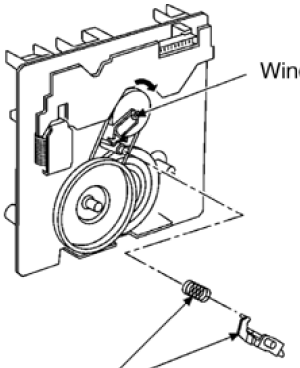




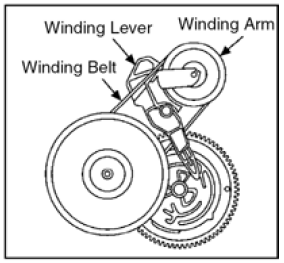




Step 4
Catch the winding belt on the flywheel (F).

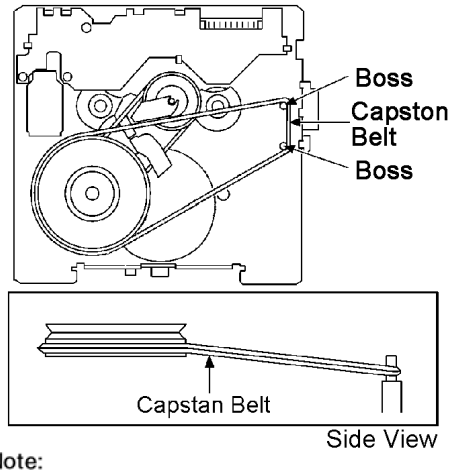


Step 5
Install the winding lever and spring while the winding arm is pressed to the arrow direction. (Be sure that the winding lever is firmly inserted and the catch is hooked.)



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

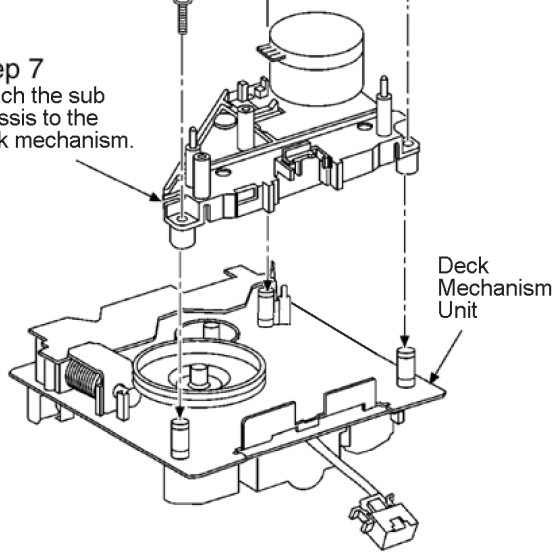
Step 6
Install the capstan belt temporarily as shown in the figure below.

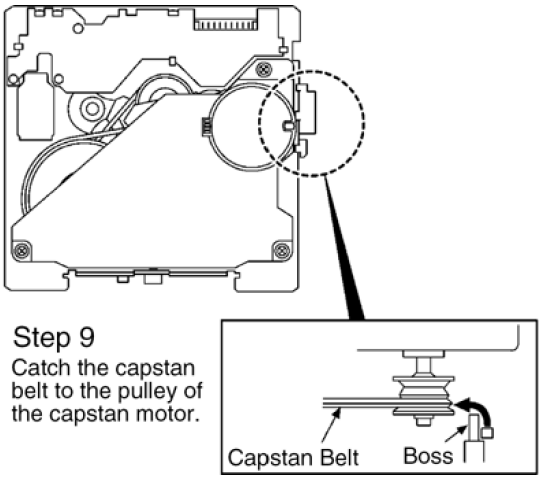


Note:
Keep the belt away from grease.

Step 8
ⓐ×3 ⓐ ⓐ

Step 7
Attach the sub chassis to the deck mechanism.





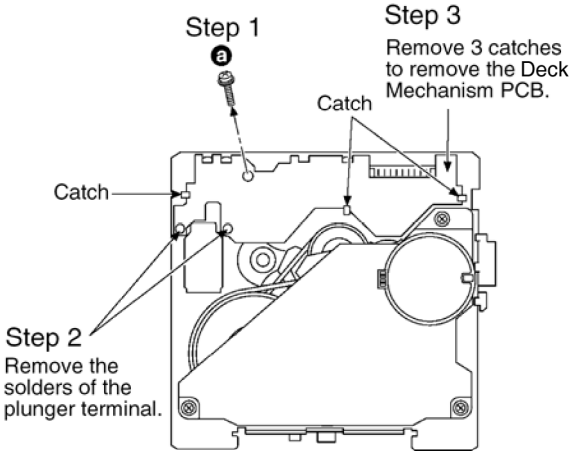
Step 9
Catch the capstan belt to the pulley of the capstan motor.

9.18.3. Disassembly of Deck Mechanism P.C.B

- Follow the (Step 1) - (Step 6) of Item 9.4.
- Follow the (Step 1) - (Step 3) of Item 9.5.
- Follow the (Step 1) - (Step 6) of Item 9.6.
- Follow the (Step 1) - (Step 4) of Item 9.18.1.

Step 1
ⓐ

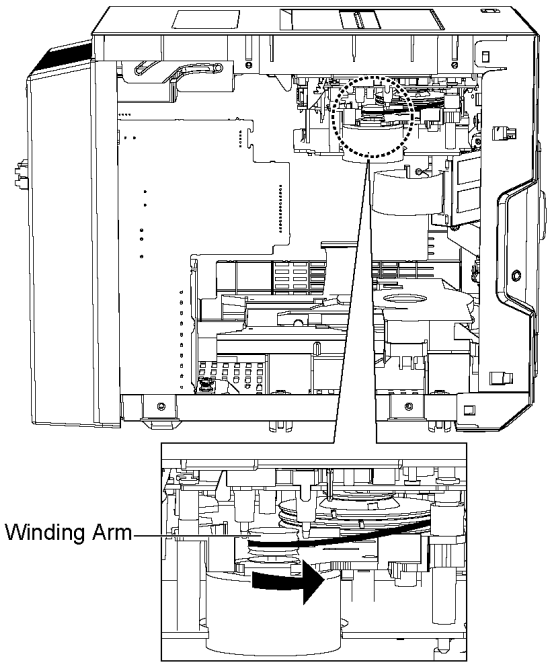
Step 3
Remove 3 catches to remove the Deck Mechanism PCB.



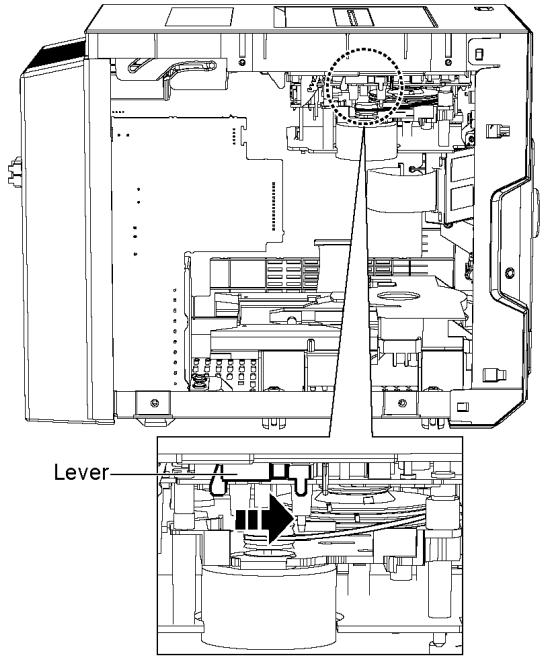
Step 2
Remove the solders of the plunger terminal.

9.19. Handling of Cassette Tape Jam

- Follow the (Step 4) - (Step 6) of Item 9.4.



Step 1 : If the cassette tape cannot eject due to twinning around capstan or pinch roller during play or record, rotate the Winding Arm as arrow shown to remove twined tape.



Step 2 : Push the lever as arrow shown to open the cassette lid and remove the cassette tape.

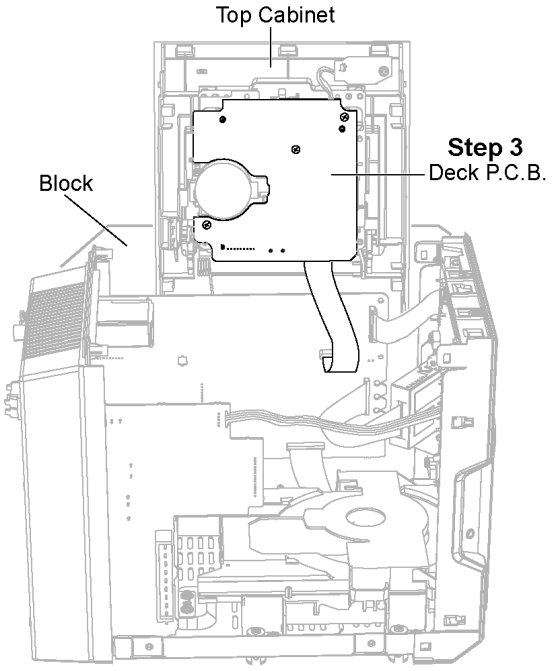
10 Service Position

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

10.1. Checking & Repairing Deck P.C.B.

Step 1 : Remove Side Panel L/R.

Step 2 : Lift up Top Cabinet and position it according to the diagram show.

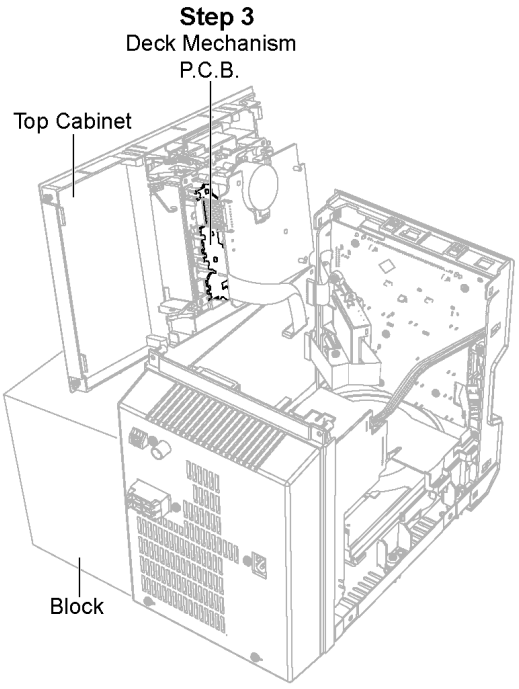


Step 3 : Check and Repair Deck P.C.B. according to the diagram shown.

10.2. Checking & Repairing Deck Mechanism P.C.B.

Step 1 : Remove Side Panel L/R.

Step 2 : Lift up Top Cabinet and position it according to the diagram show.

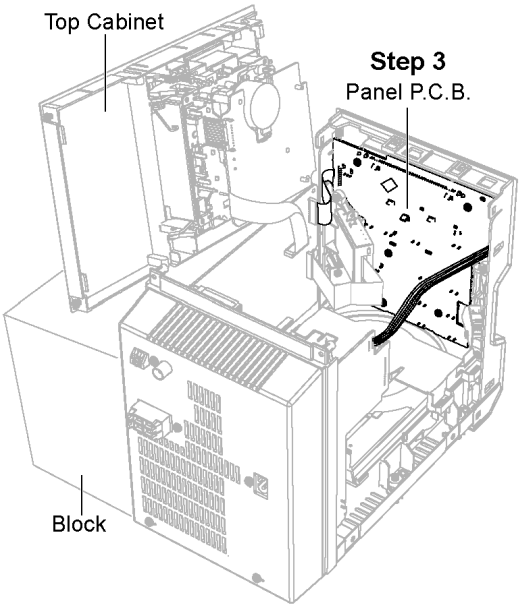


Step 3 : Check and Repair Deck Mechanism P.C.B. according to the diagram shown.

10.3. Checking & Repairing Panel P.C.B.

Step 1 : Remove Side Panel L/R.

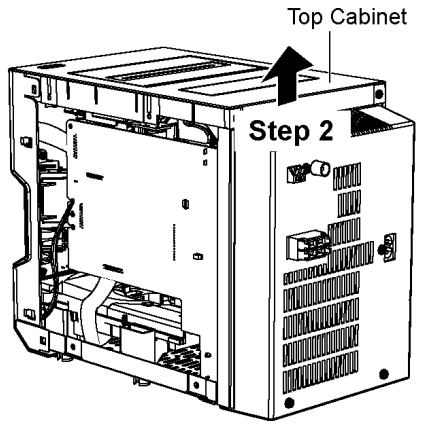
Step 2 : Lift up Top Cabinet and position it according to the diagram show.



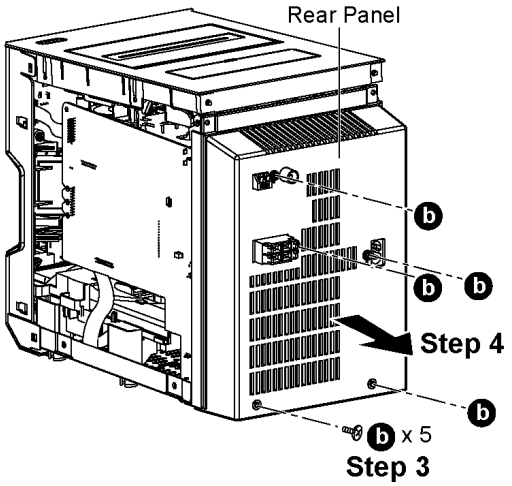
Step 3 : Panel P.C.B. can be checked at its original position.

10.4. Checking & Repairing Transformer P.C.B.

Step 1 : Remove Side Panel L/R.

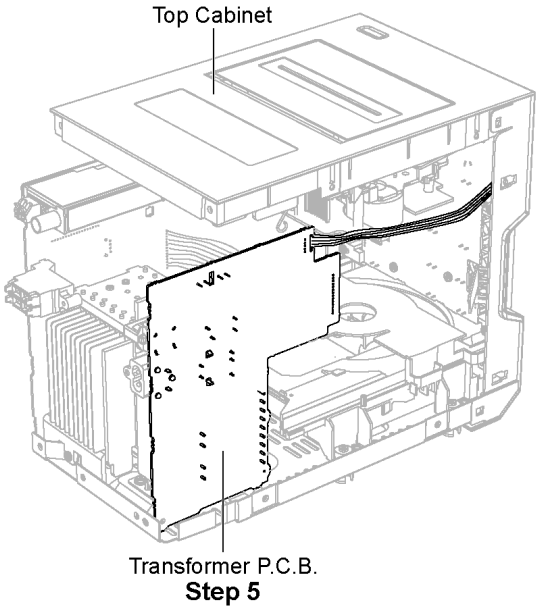


Step 2 : Lift up the Top Cabinet as arrow shown.



Step 3 : Remove 5 screws.

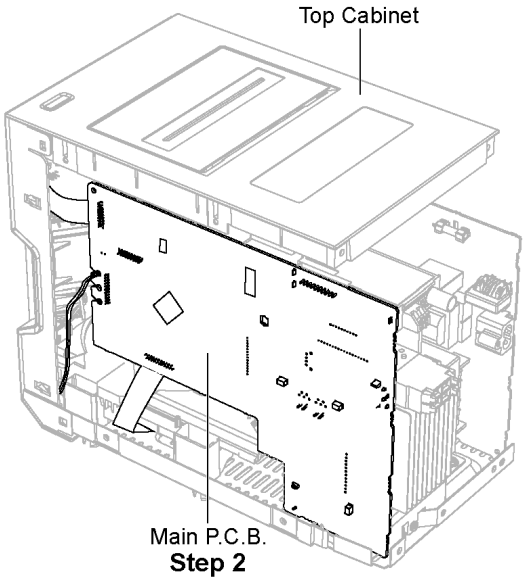
Step 4 : Remove Rear Panel as arrow shown.



Step 5 : Transformer P.C.B. can be checked at its original position.

10.5. Checking & Repairing Main P.C.B.

Step 1 : Follow step 1 - 5 of item 10.4.



Step 2 : Main P.C.B. can be checked at its original position.

10.6. Checking & Repairing CD Servo P.C.B.

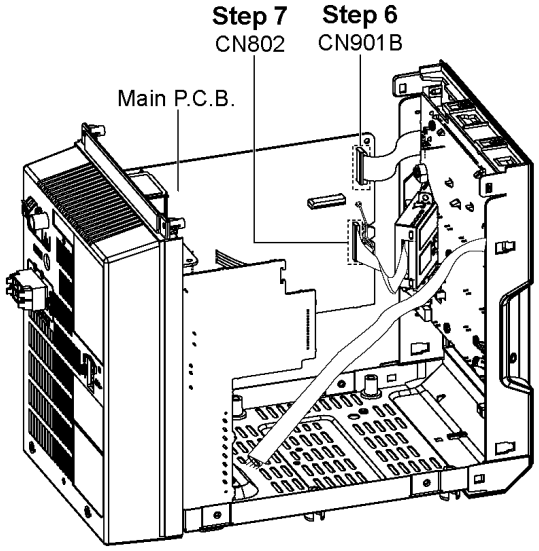
Step 1 : Remove Side Panel L/R.

Step 2 : Remove Top Cabinet.

Step 3 : Remove CD Lid.

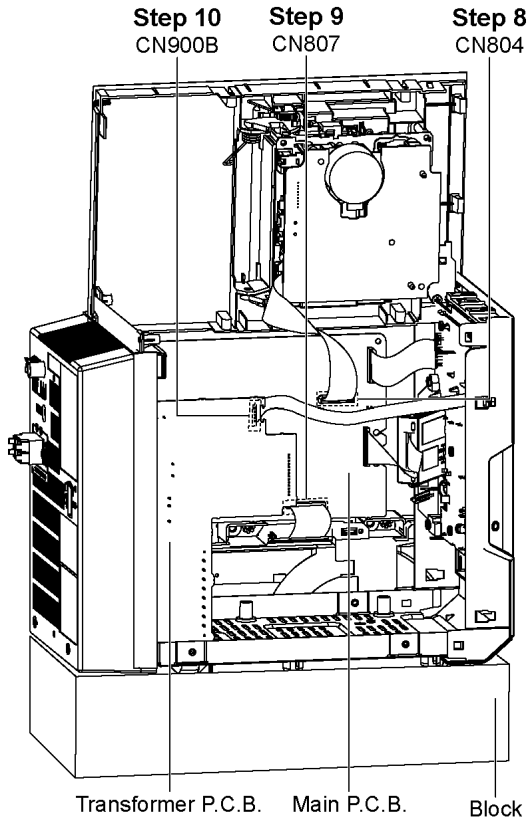
Step 4 : Remove Front Panel.

Step 5 : Remove CD Mechanism.



Step 6 : Connect 19P FFC cable at the connector (CN901B) on Main P.C.B..

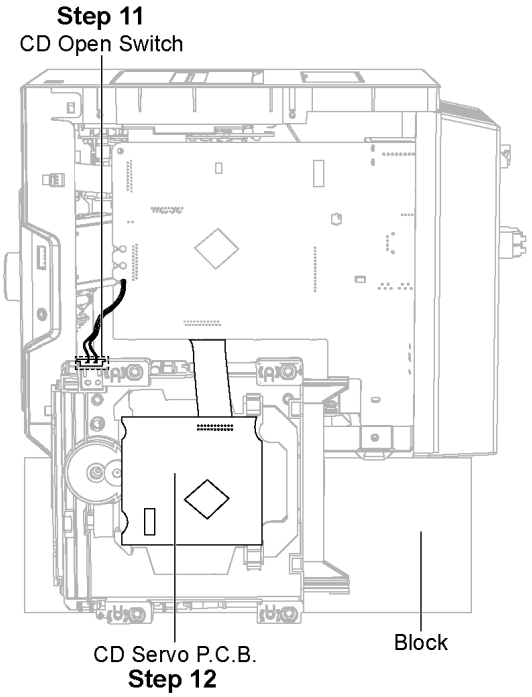
Step 7 : Connect 22P FFC cable at the connector (CN802) on Main P.C.B..



Step 8 : Connect 19P FFC cable at the connector (CN804) on Main P.C.B..

Step 9 : Connect 22P FFC cable at the connector (CN807) on Main P.C.B..

Step 10 : Connect 5P cable at the connector (CN900B) on Transformer P.C.B..



Step 11 : Connect 2P cable at the CD Open Switch on CD Mechansim.

Step 12 : Check and Repair CD Servo P.C.B. according to the diagram shown.

10.7. Checking & Repairing USB P.C.B.

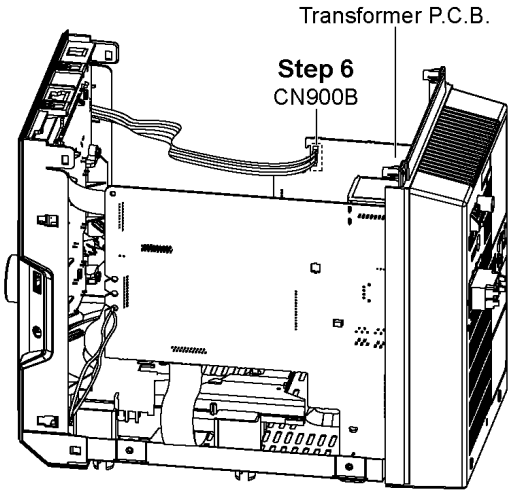
Step 1 : Remove Side Panel L/R.

Step 2 : Remove Top Cabinet.

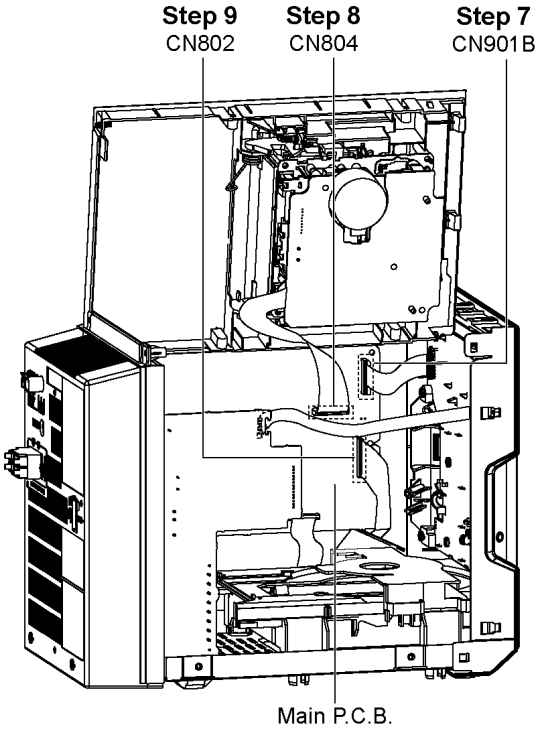
Step 3 : Remove CD Lid.

Step 4 : Remove Front Panel.

Step 5 : Remove USB P.C.B.



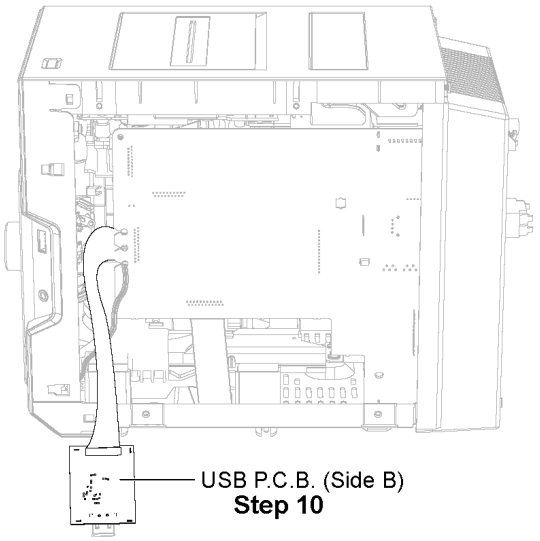
Step 6 : Connect 5P cable at the connector (CN900B) on Transformer P.C.B..



Step 7 : Connect 19P FFC cable at the connector (CN901B) on Main P.C.B..

Step 8 : Connect 19P FFC cable at the connector (CN804) on Main P.C.B..

Step 9 : Connect 22P FFC cable at the connector (CN802) on Main P.C.B..



Step 10 : Check and Repair USB P.C.B. (Side B) according to the diagram shown.

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

11.1. 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.

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

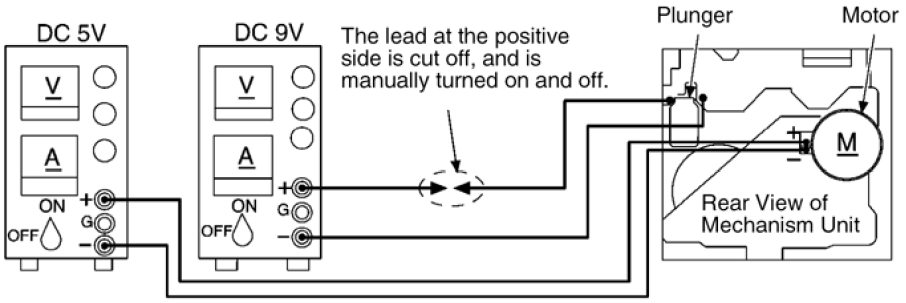


Fig. 5

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

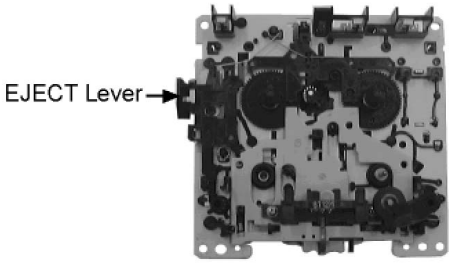


Fig. 6

11.2. 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)

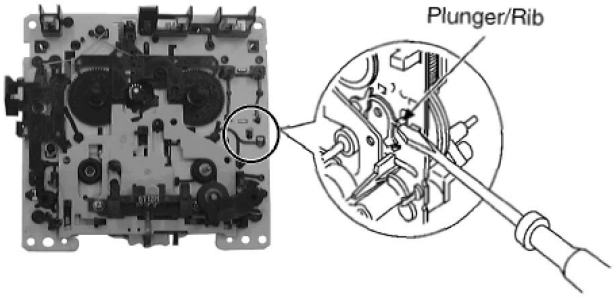


Fig. 7

12 Measurement And Adjustments

12.1. Cassette Deck Section

12.1.1. Requirements

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

12.1.2. Setting of Unit

- VOLUME: MAX

12.1.3. 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.

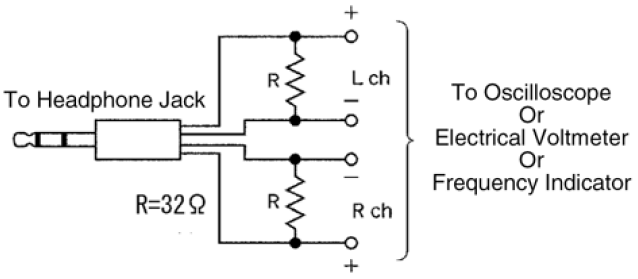


Fig. 8

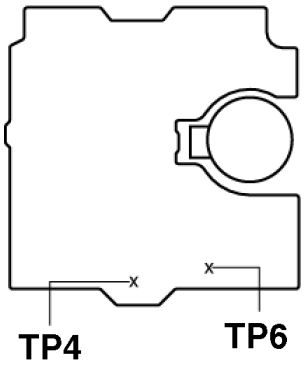


Fig. 9

12.1.4. 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)

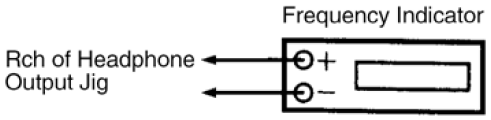


Fig. 10

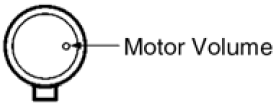


Fig. 11

12.1.5. 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

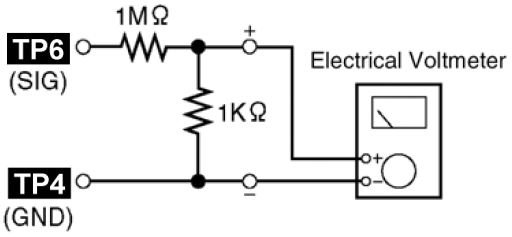


Fig. 12

12.1.6. 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

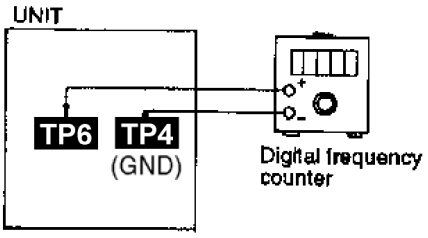


Fig. 13

13 Voltage Measurement & 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.

13.1. Voltage Measurement

13.1.1. 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	3.2
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	3.2	1.5	3.2	3.2	0	1.6	1.6	0	0	1.9	1.9	0	1.7	1.7
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	1.7	1.9	1	0	3.2	1.2	0	1.2	1.6	1.6	0.9	1.4	1.5	1.5	0	3.2	0	0
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC7001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
CD PLAY	3.2	0	0	0	0	0	3	3	3	2.9	0	3.2	0	1.6	0	1.6	3.2	0	3.2	1.6
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC7001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
CD PLAY	1.6	1.6	0	0	0	0	0	0	0	0	0	0	3.2	0	0	0	0	0	0	0
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	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	0	1.7	3.2	3.2	3.2	2.8	3.8	3.2	3.2	0	7.1
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC7002																			
MODE	21	22	23	24	25	26	27	28	29	30										
CD PLAY	0	0	0	0	7.1	1.6	1.6	1.6	0	0										
STANDBY	0	0	0	0	0	0	0	0	0	0										
Ref No.	Q7601																			
MODE	E	C	B																	
CD PLAY	3.1	2	2.4																	
STANDBY	0	0.1	0																	

SA-PM46E/EG/EF CD SERVO P.C.B.

13.1.2. MAIN P.C.B.

MAIN P.C.B.

Ref No.	IC101																			
MODE	1	2	3	4	5															
CD PLAY	8.1	15.2	0	9.5	15.2															
STANDBY	0	0.8	0	0	0.8															
Ref No.	IC102																			
MODE	1	2	3	4	5															
CD PLAY	3.3	11.3	0	5.6	11.3															
STANDBY	0	0	0	0	0															
Ref No.	IC300																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12								
CD PLAY	25	6.3	0	6.3	3	0	0	0	4.3	6.5	0	6.5								
STANDBY	26	0	0	0	0	0	0	0	0	0.3	0	0.3								
Ref No.	IC301																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
CD PLAY	1.6	1.6	1.6	1.6	0	0	1.6	1.6	0	0	0	3.1	1.2	1.6	0	1				
STANDBY	0	0	0.1	0	0	0	0	0.1	0	0	0	0	0	0	0	0				
Ref No.	IC700																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	4.3	4.3	4.3	0	4.3	4.3	4.3	8.7												
STANDBY	0	0	0	0	0	0	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	4.2	4.2	4.2	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	0	0	0	0	8.5	0.7
STANDBY	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0	0	0	0	0	0
Ref No.	IC800																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32								
CD PLAY	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3								
STANDBY	0.5	0.5	0.5	0	0.1	0.2	0	0	0	0	0.1	0.1								
Ref No.	IC801																			
MODE	1	2	3																	
CD PLAY	6	0	3.9																	
STANDBY	6	0	3.9																	
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	3	3	0	0.1	0	0.1	2.2	0	0	0	0	1.4	1.5	0	1.5	1.5	3	1.7	3	0
STANDBY	0	0	0	0	0	0	0	0	0	0	0	1.5	1.5	0	1.5	1.6	3.2	1.8	3.1	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	0	0	0	0	3	2.2	1.3	1.3	0	2.3	3	2.8	3	0	3	3.2	1.8	0	0	0
STANDBY	0	0	0	0	3	2.2	1.3	1.3	0	2.5	0	0	0	0	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	0	0	0	0	3	0	1.5	1.5	0	0	3	3	3	0	0	1.2	1.2	1.2	1.2	1.2
STANDBY	0	0	0	0	0	0	1.5	1.5	0	0	0	0	0	0	0	1.3	1.3	1.3	1.3	1.3
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	1.2	3.1	0	1.4	3.4	0	0	0	0	0	0	0	1.4	0.3	0	0	0	0	0	0
STANDBY	1.3	3.1	0	0	3.1	0	0	0	0	0	0	0	0	0	0	0	1.4	0	0	3
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	2.6	3	3.2	1.2	1.2	1.4	3.1	3.1	0	3	0	3	2.2	1.2	0	0	3
STANDBY	0	0	0	2.9	2.9	0	1.4	1.4	1.4	3.1	1.4	0	3	2.3	3.1	0	0	0	0	3
Ref No.	Q221				Q222				Q421				Q422				Q750			
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		0	0	0.7		0	0	0		0	8.7	0	
STANDBY	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
Ref No.	Q751				Q803				Q804				Q807				Q808			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	0	0	6.1		0	0	0		3.2	2.1	0		0	8.7	0		0	8.7	0	
STANDBY	0	0	0		0	0	0		0	3	0		0	0	0		0	0	0	

SA-PM46E/EG/EF MAIN P.C.B.

13.1.3. PANEL P.C.B.

PANEL P.C.B.

Ref No.	IC900																			
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	1.8	3.2	0.1	0.1	1.5	0	1.5	0	0	-29	-26	-26	-26	-26	-21	-28
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	-26	-26	-26	-26	-26	-26	-26
Ref No.	IC900																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	-28	-28	-24	-21.3	-28	-28	-28	-26	-19	-29	-19	-27	-27	-26	-26	-26	-26	-26	-26	-26
STANDBY	-26	-26	-27	-26.5	-27	-27	-27	-27	-27	0	0	-27	-27	-27	-27	-27	-27	-27	-27	-27
Ref No.	IC900																			
MODE	41	42	43	44																
CD PLAY	-26	-26	3.2	0																
STANDBY	-27	-27	0	0																

SA-PM46E/EG/EF PANEL P.C.B.

13.1.4. 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	21	22																		
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													

SA-PM46E/EG/EF DECK P.C.B.

13.1.5. 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	0.7		0	7.9	6.7		1.7	1.8	0		-29	-34	-30					
STANDBY	0	6	0		0	9.2	6.7		1.7	1.8	0		-27	-28	-28					

SA-PM46E/EG/EF TRANSFORMER P.C.B.

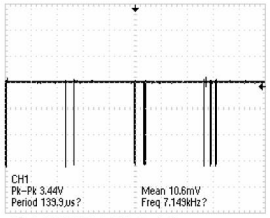
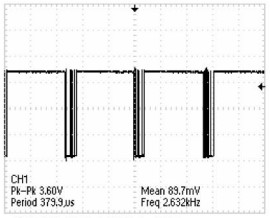
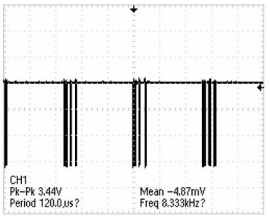
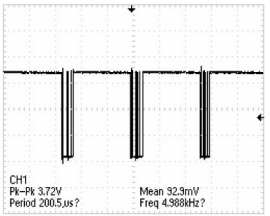
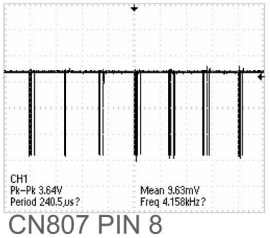
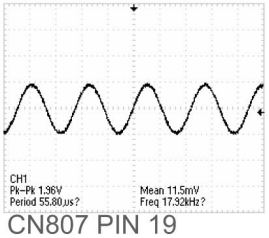
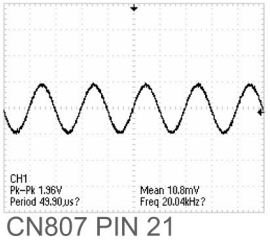
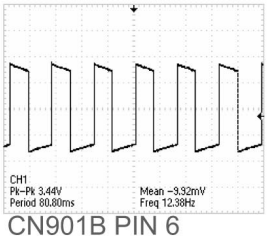
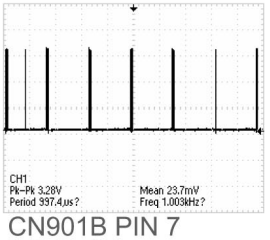
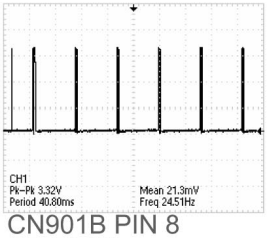
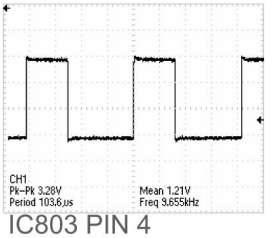
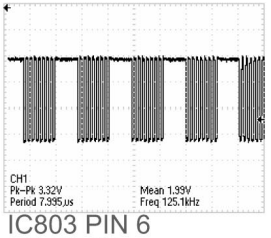
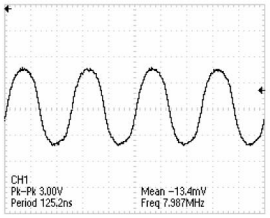
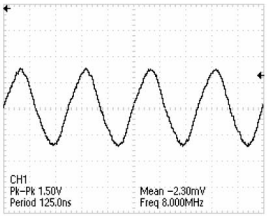
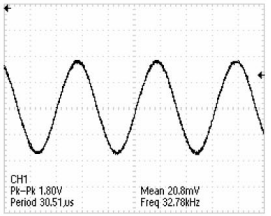
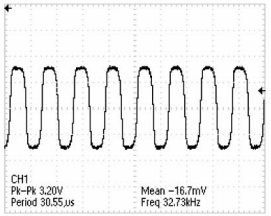
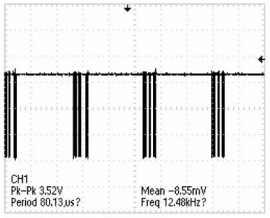
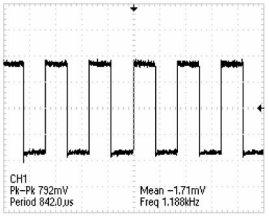
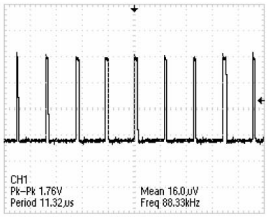
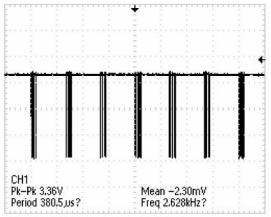
13.1.6. DECK MECHANISM P.C.B.

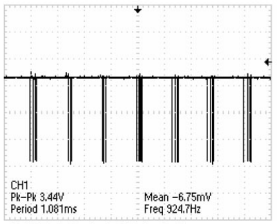
DECK MECHANISM P.C.B.																				
Ref No.	IC971																			
MODE	1	2	3	4																
CD PLAY	4.7	4.8	3.6	4.8																
STANDBY	4.8	4.9	3.7	4.9																
SA-PM46E/EG/EF DECK MECHANISM P.C.B.																				

13.1.7. USB P.C.B.

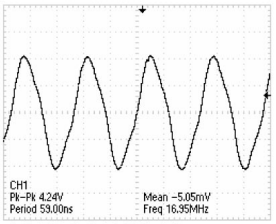
USB P.C.B.																				
Ref No.	IC900																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	1.3	3.2	3.2	0	0	0	3.2	3.2	3.2	1.8	0	1.5	0	0	0	0				
STANDBY	0	0	0	0	0	0	0.6	0	0.6	0.6	0	0	0	0	0	0	0	0	0	0
Ref No.	IC900																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	3.3	3.3	3.3	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	3.3	1.4	0
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0
Ref No.	IC900																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	1.4	1.2	1.8	0	1.4	3.2	3.2	0.1	3.2	0	0	1.2	0.1	0	1.4	3.1	3.1	3.1	0	1.3
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC900																			
MODE	61	62	63	64																
CD PLAY	0	1.8	1.4	3.2																
STANDBY	0	0.6	0	0																
Ref No.	IC951																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0	5	5	3.2	3.3	0.5	0.5	0.5												
STANDBY	0	0	0	0.6	0	0	0	0												
SA-PM46E/EG/EF USB P.C.B.																				

13.2. Waveform Chart

 CN802 PIN 12 CD PLAY 3.44Vp-p (5msec.div)	 CN802 PIN 13 CD PLAY 3.60Vp-p (5msec.div)	 CN802 PIN 15 CD PLAY 3.44Vp-p (5msec.div)	 CN807 PIN 4 CD PLAY 3.72Vp-p (5msec.div)
 CN807 PIN 8 CD PLAY 3.64Vp-p (10msec.div)	 CN807 PIN 19 CD PLAY 1.96Vp-p (25usec.div)	 CN807 PIN 21 CD PLAY 1.96Vp-p (25usec.div)	 CN901B PIN 6 CD PLAY 3.44Vp-p (50msec.div)
 CN901B PIN 7 CD PLAY 3.28Vp-p (50msec.div)	 CN901B PIN 8 CD PLAY 3.32Vp-p (50msec.div)	 IC803 PIN 4 CD PLAY 3.28Vp-p (25usec.div)	 IC803 PIN 6 CD PLAY 3.32Vp-p (50usec.div)
 IC803 PIN 12 CD PLAY 3.00Vp-p (50nsec.div)	 IC803 PIN 13 CD PLAY 1.50Vp-p (50nsec.div)	 IC803 PIN 15 CD PLAY 1.80Vp-p (10usec.div)	 IC803 PIN 16 CD PLAY 3.20Vp-p (25usec.div)
 IC803 PIN 33 CD PLAY 3.52Vp-p (5msec.div)	 IC803 PIN 74 CD PLAY 792mVp-p (500usec.div)	 IC7001 PIN 25 CD PLAY 1.76Vp-p (10usec.div)	 IC7001 PIN 67 CD PLAY 3.36Vp-p (10msec.div)

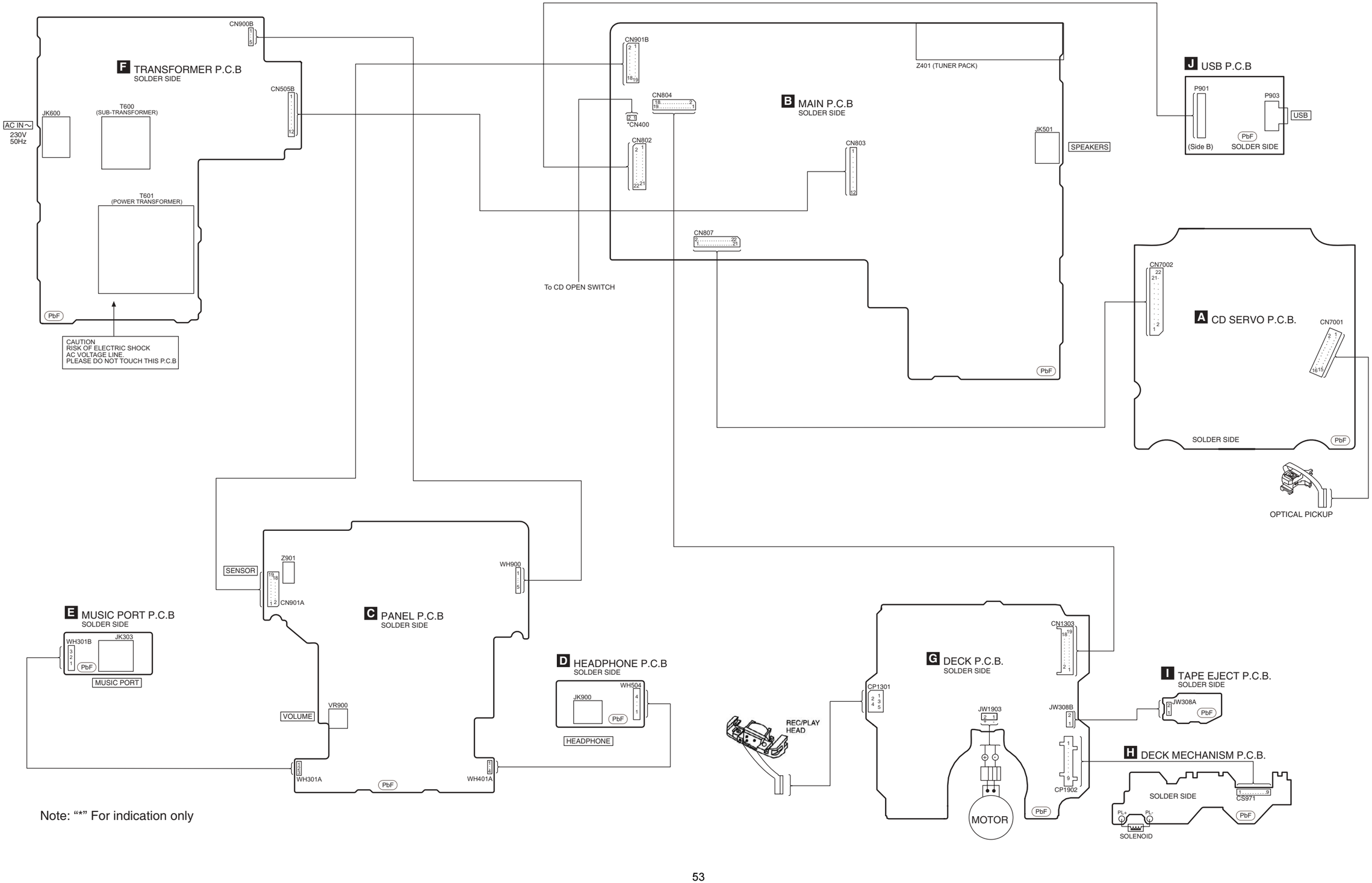


IC7001 PIN 68
CD PLAY
3.44Vp-p (10msec.div)



IC7001 PIN 80
CD PLAY
4.24Vp-p (25nsec.div)

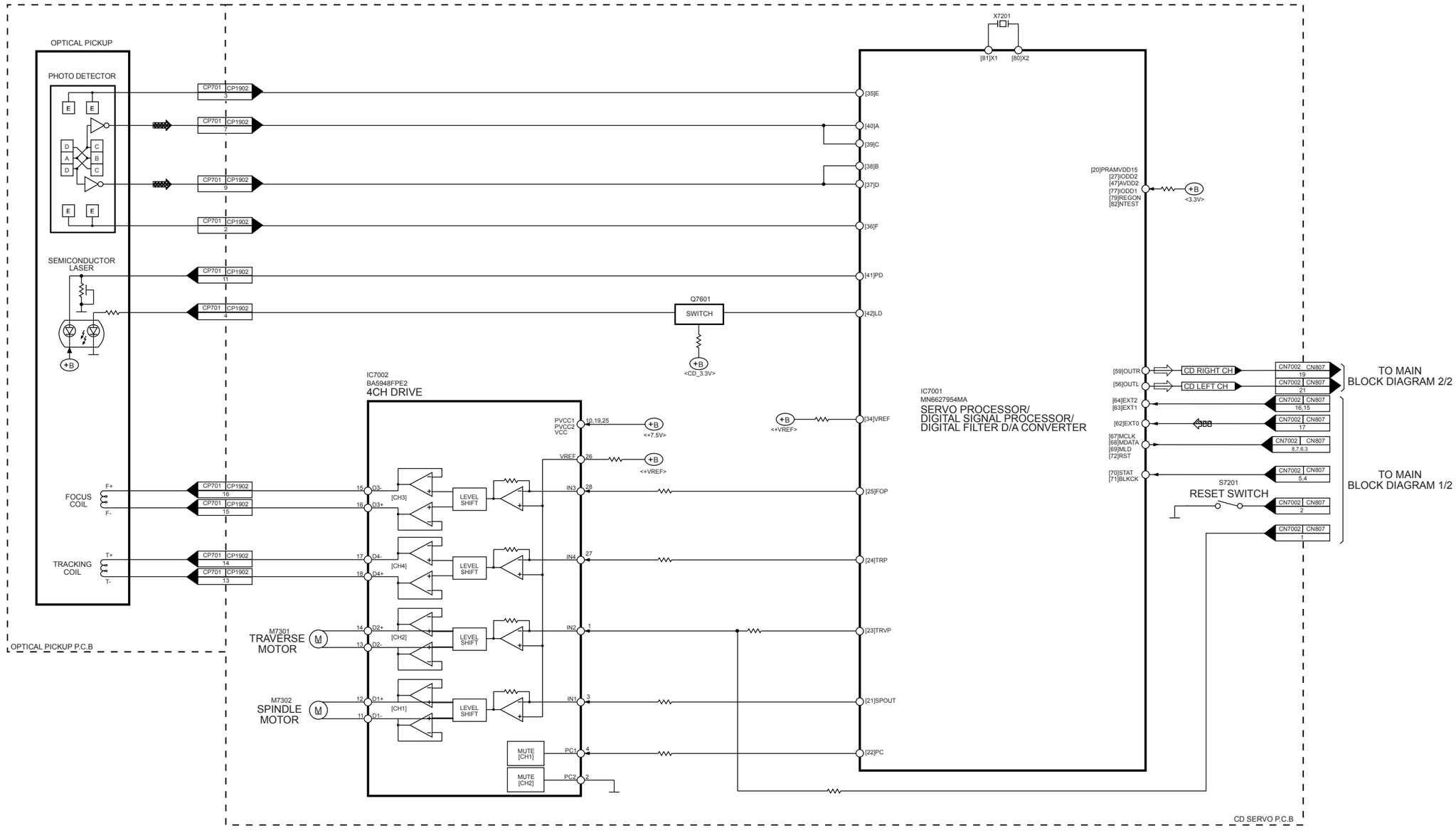
14 Wiring Connection Diagram



Note: "*" For indication only

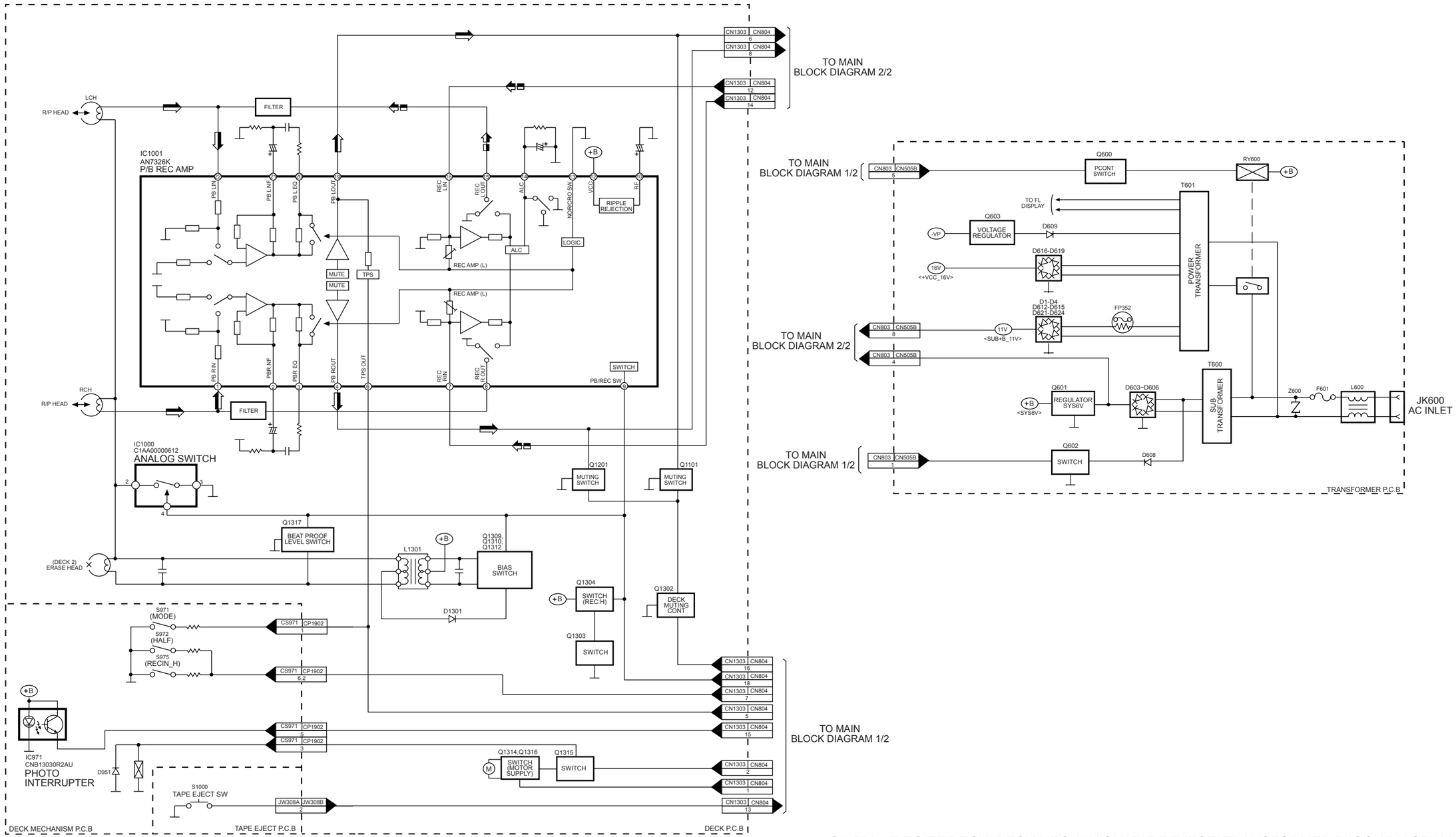
15 Block Diagram

15.1. CD SERVO/ OPTICAL PICKUP UNIT



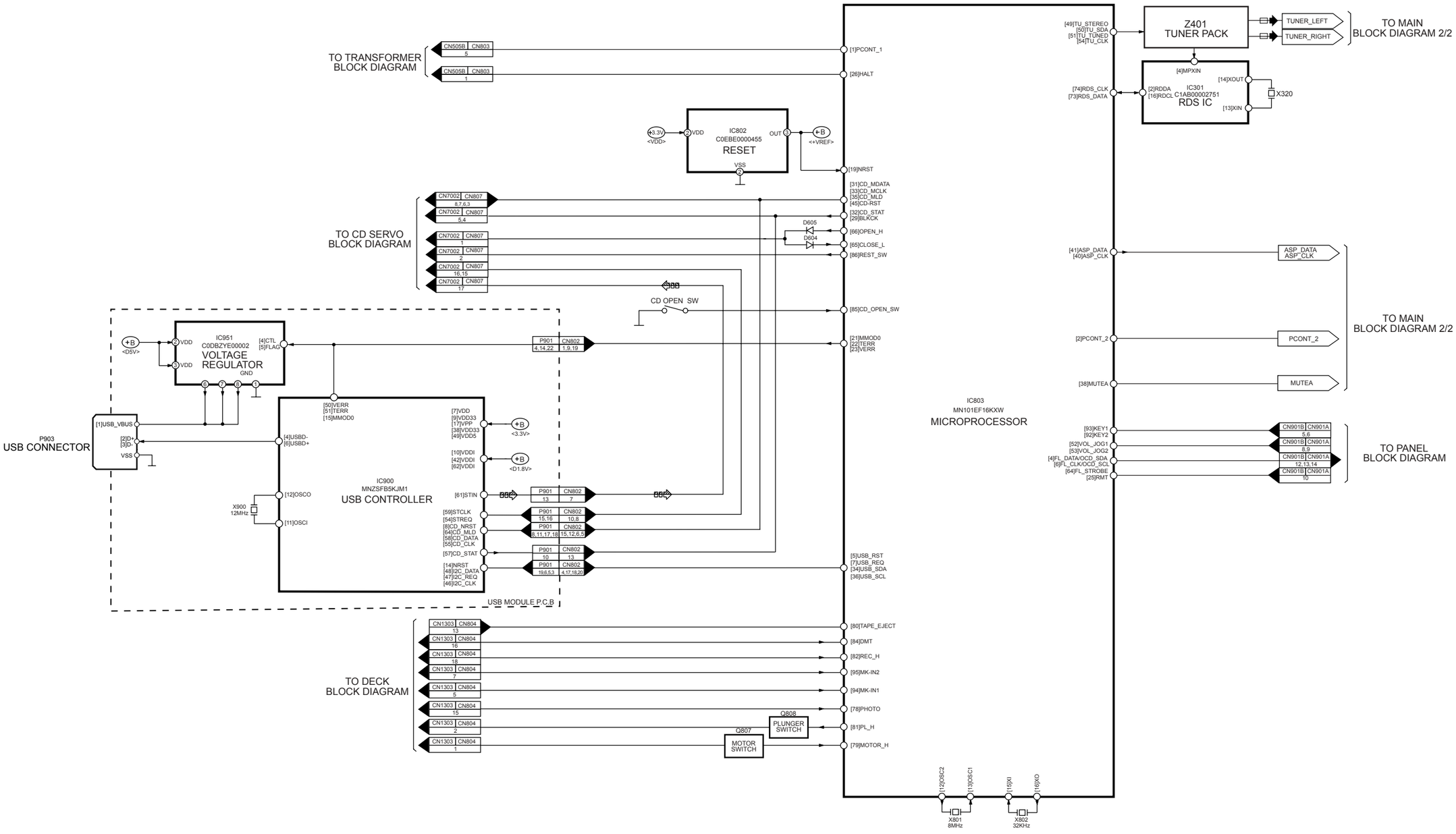
SA-PM46E/EG/EF CD SERVO/ OPTICAL PICKUP UNIT BLOCK DIAGRAM

15.2. DECK/ DECK MECHANISM/ TAPE EJECT/ TRANSFORMER



SA-PM46E/EG/EF DECK/ DECK MECHANISM/ TAPE EJECT/ TRANSFORMER BLOCK DIAGRAM

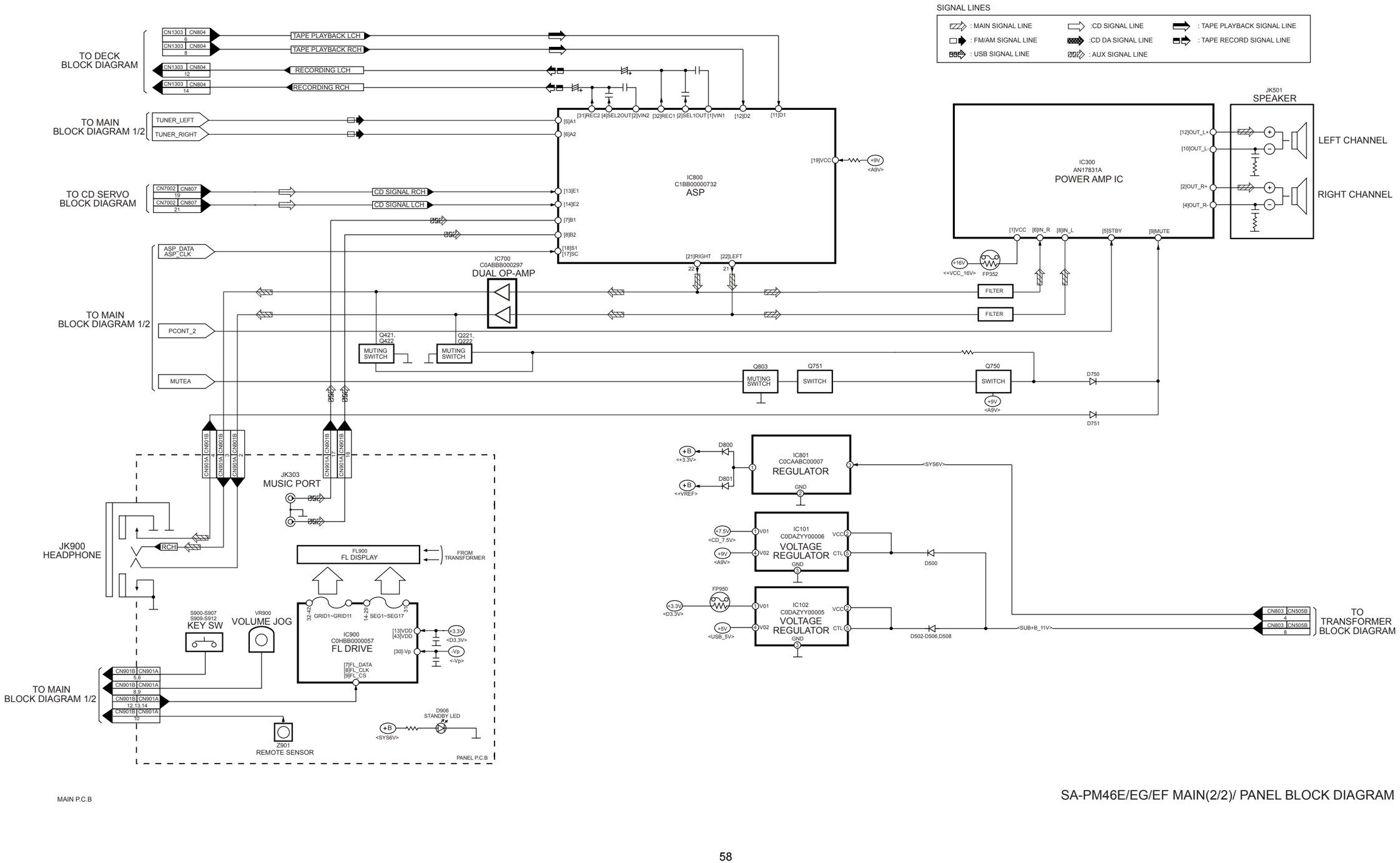
15.3. MAIN (1/2)/ USB MODULE



MAIN P.C.B

SA-PM46E/EG/EF MAIN(1/2)/USB MODULE BLOCK DIAGRAM

15.4. MAIN (2/2)/ PANEL



SA-PM46E/EG/EF MAIN(2/2)/ PANEL BLOCK DIAGRAM

16 Notes of Schematic Diagram

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

Notes:

S900:	STOP switch. (■ / -DEMO).
S901:	PLAY switch (CD ▶/❚❚).
S902:	TAPE switch (TAPE ▶).
S903:	TUNER switch (TUNER/BAND).
S904:	USB switch (USB ▶/❚❚).
S905:	FF switch (∧ / FF / ▶▶I).
S906:	REW switch (∨ / REW / I◀◀).
S907:	POWER switch (AC IN ⏻/I).
S909:	BASS/TREBLE switch.
S910:	REC switch (● REC/❚❚).
S911:	MPORT switch (MUSIC P.).
S912:	OPEN/CLOSE switch (⏏).
S971:	MODE switch.
S972:	HALF switch.
S975:	RECINH_F switch.
S1000:	TAPE EJECT switch.
S7201:	RESET switch.
VR900:	VR Volume jog.

- * FOR REFERENCE ONLY.
- **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.

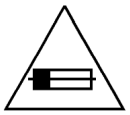
- Capacitor values are in microfarad(μF) unless specified otherwise, F=Farad, pF=Pico-Farad

  Resistance values are in ohm(Ω), unless specified otherwise, 1K=1,000Ω, 1M=1,000KΩ

- **Voltage and Signal lines:**

  : +B Signal line
  : -B Signal line
  : CD DA signal line
  : CD signal line
  : Main signal line
  : AUX signal line
  : FM/AM signal line
  : Tape Playback signal line
  : Tape Recording signal line
  : USB signal line

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE F1 T630mAL, 250V FUSE



RISK OF FIRE-REPLACE FUSE AS MARKED.

FUSE CAUTION

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

17 Schematic Diagram

17.1. CD SERVO CIRCUIT

SCHEMATIC DIAGRAM - 1

OPTICAL PICKUP CIRCUIT
(FOR REFERENCE ONLY)

A CD SERVO CIRCUIT

: + B SIGNAL LINE : CD DA SIGNAL LINE : CD SIGNAL LINE

LASER DIODE

CN7001

Q7601
B1ADCF000001
LASER POWER DRIVE

IC7001
MN6627954MA
SERVO PROCESSOR/
DIGITAL SIGNAL PROCESSOR/
DIGITAL FILTER D/A CONVERTER

IC7002
BA5948FPE2
4 CH DRIVE IC

TRAVERSE MOTOR

SPINDLE MOTOR

CN7002

TO **B** MAIN CIRCUIT (CN807) IN SCHEMATIC DIAGRAM - 4

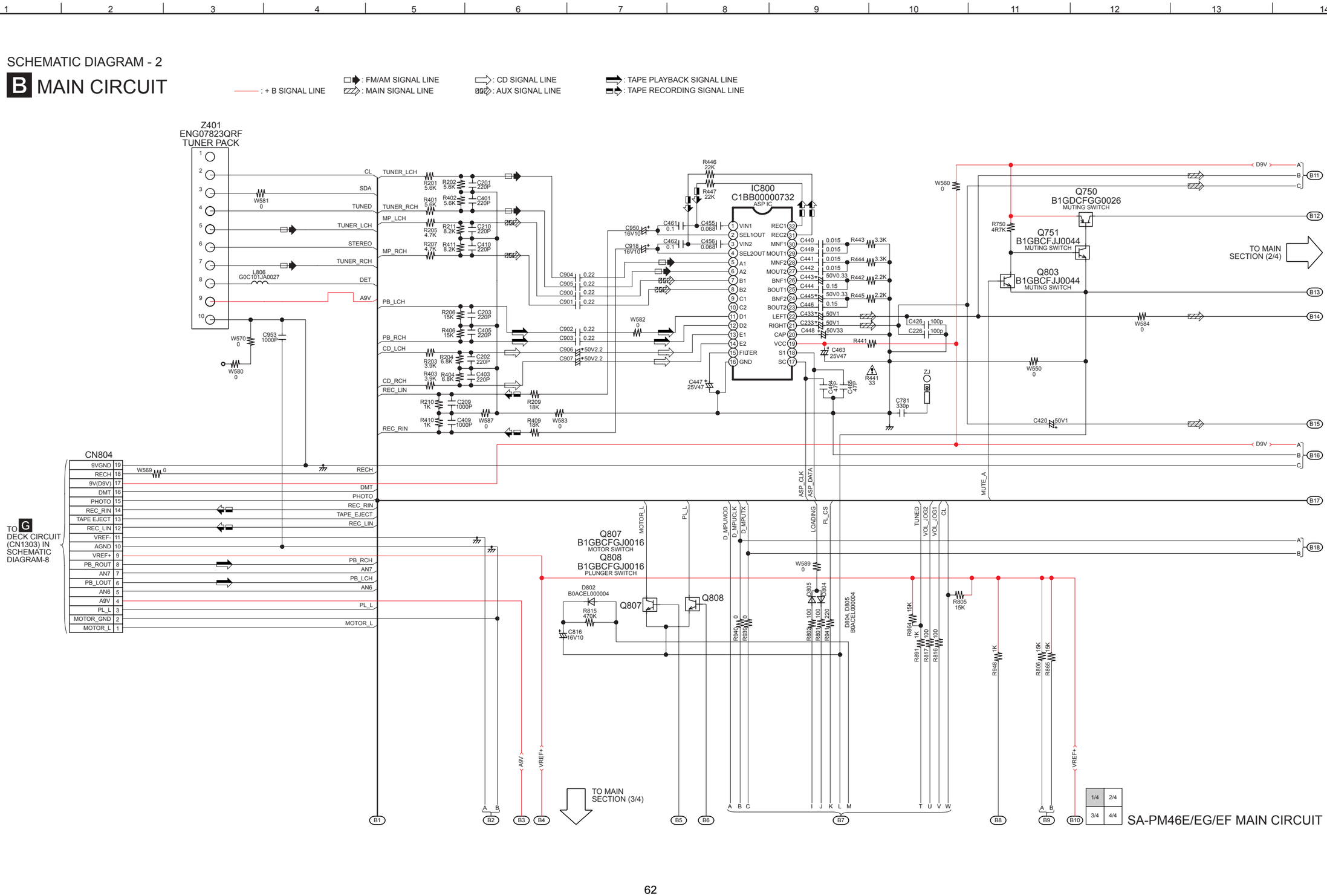
SA-PM46E/EG/EF CD SERVO CIRCUIT

17.2. MAIN CIRCUIT

SCHEMATIC DIAGRAM - 2

B MAIN CIRCUIT

: + B SIGNAL LINE
: FM/AM SIGNAL LINE
: MAIN SIGNAL LINE
: CD SIGNAL LINE
: AUX SIGNAL LINE
: TAPE PLAYBACK SIGNAL LINE
: TAPE RECORDING SIGNAL LINE



SA-PM46E/EG/EF MAIN CIRCUIT

SCHEMATIC DIAGRAM - 3

B MAIN CIRCUIT

: + B SIGNAL LINE : MAIN SIGNAL LINE : AUX SIGNAL LINE

IC300
AN17831A
POWER AMP IC

IC700
C0ABBB000297
OP-AMP IC

Q221, Q222, Q421, Q422
B1ABGC000001
MUTING SWITCH

IC301
C1AB00002751
RDS IC

X320
H0H433400002

LB320, LB321
J0JBC0000015

JK501
SPEAKERS

CN901B

TO MAIN SECTION (1/4)

TO MAIN SECTION (4/4)

TO C PANEL CIRCUIT (CN901A) IN SCHEMATIC DIAGRAM-6

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

SA-PM46E/EG/EF MAIN CIRCUIT

SCHEMATIC DIAGRAM - 4

B MAIN CIRCUIT

: + B SIGNAL LINE : CD SIGNAL LINE

TO MAIN SECTION (1/4)

TO A CD SERVO CIRCUIT (CN7002) IN SCHEMATIC DIAGRAM-1

TO J USB CIRCUIT (P901) IN SCHEMATIC DIAGRAM-9

TO MAIN SECTION (4/4)

CN807 — CD_AGND 22, CD_L 21, AGND 20, CD_R 19, CD_GND 18, ST_IN 17, ST_CLK 16, ST_REQ 15, CD_3.3V 14, CD_DGND 13, LD_SW/CLDCK 12, TX 11, CD_7.5V 10, PGND 9, MCLK 8, MDATA 7, MLD 6, BLKCK 5, STATUS 4, RST 3, REST_SW 2, LOADING 1

CN400* — GND 2, CD_OPEN_SW 1 (CD OPEN SW)

CN802 — USB5V 22, DGND 21, USB_SCL 20, VERR 19, USB_IRQ 18, USB_SDA 17, DGND 16, CD_CLK 15, DGND 14, CD_STAT 13, CD_DATA 12, DGND 11, STCLK 10, TERR 9, STREQ 8, STIN 7, CD_MLD 6, CD_RST 5, USB_RST 4, DGND 3, D3.3V 2, MMOD 1

CN801* — MMOD 6, MICONRST 5, OCD_SCL 4, VSS 3, OCD_SDA 2, STBY_3.3V 1 (FOR SOFTWARE DOWNLOAD)

IC803 MN101EF16KXW MICROPROCESSOR

IC801 C0CAABC00007 3.3V REGULATOR IC

IC802 C0EBE0000455 RESET IC

D910 B0ADCJ000020

L803 J0JKB0000020; L802-L803; L802; L804 G0C3R3JA0027; L805

D800, D801 B0ACCE000003

X801 H4Z8004AA001; X802 H0A327200097

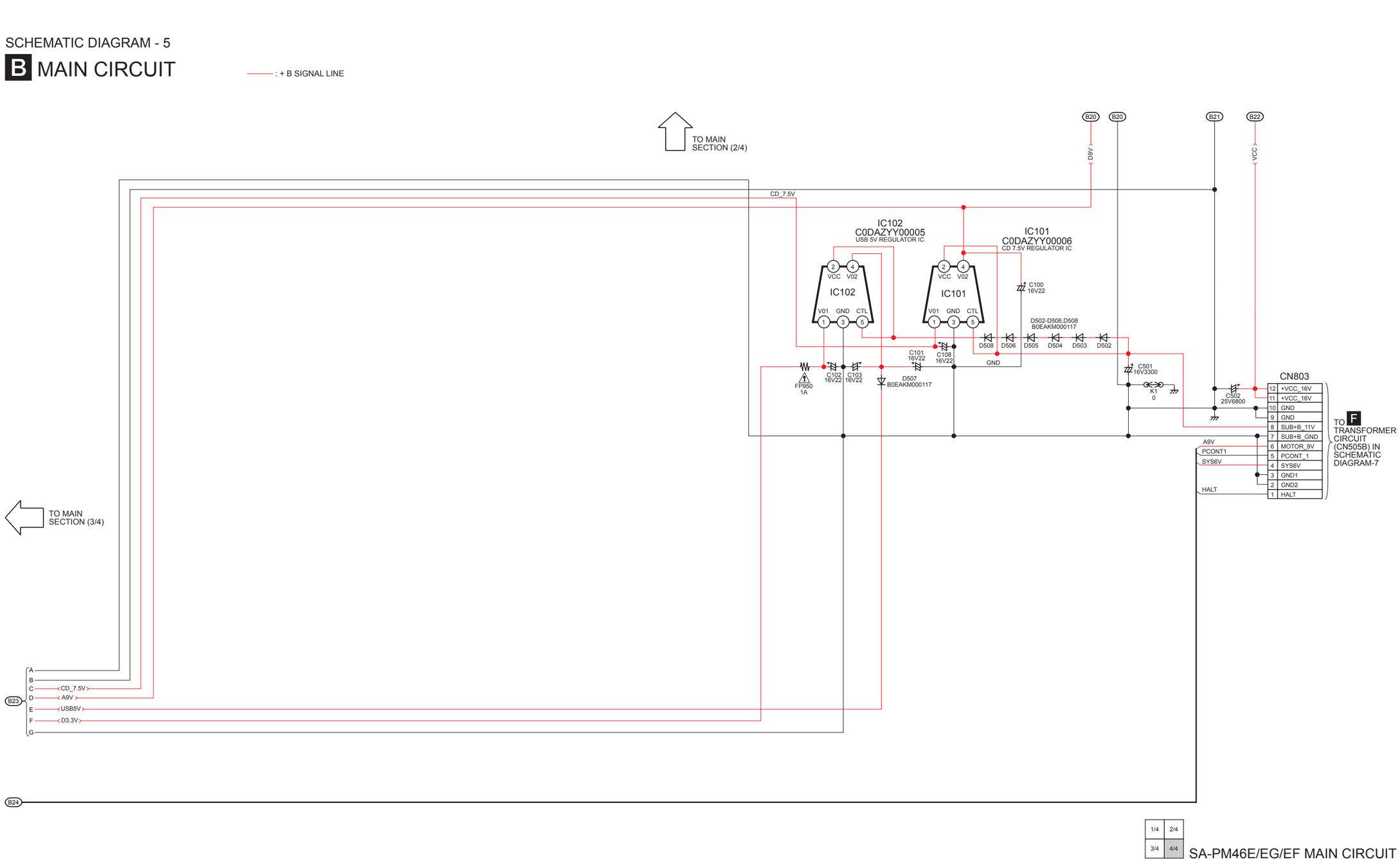
1/4	2/4
3/4	4/4

SA-PM46E/EG/EF MAIN CIRCUIT

SCHEMATIC DIAGRAM - 5

B MAIN CIRCUIT

——— : + B SIGNAL LINE



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

SA-PM46E/EG/EF MAIN CIRCUIT

17.3. HEADPHONE / MUSIC PORT / PANEL CIRCUIT

SCHEMATIC DIAGRAM - 6

C PANEL CIRCUIT

: + B SIGNAL LINE : - B SIGNAL LINE : MAIN SIGNAL LINE : AUX SIGNAL LINE

FL900
A2BB00000166
FL DISPLAY

CN901A

TO B MAIN CIRCUIT (CN901B) IN SCHEMATIC DIAGRAM-3

WH900

TO F TRANSFORMER CIRCUIT (CN900B) IN SCHEMATIC DIAGRAM-7

IC900
C0HBB0000057
FL DRIVER

Z901
B3RAD0000143
REMOTE SENSOR

VR900
EVEKE2F2524B
VOLUME JOG

D906
B3AAA0000489
STANDBY LED

D HEADPHONE CIRCUIT

WH401A

WH504

JK900
HEADPHONE

E MUSIC PORT CIRCUIT

WH301A

WH301B

JK303
MUSIC PORT

SA-PM46E/EG/EF HEADPHONE / MUSIC PORT / PANEL CIRCUIT

17.4. TRANSFORMER / DECK MECHANISM / TAPE EJECT CIRCUIT

SCHEMATIC DIAGRAM - 7

F TRANSFORMER CIRCUIT

: + B SIGNAL LINE

TO B MAIN CIRCUIT (CN803) IN SCHEMATIC DIAGRAM-5

CN505B: +VCC_16V 12, +VCC_16V 11, GND 10, GND 9, SUB+B_11V 8, SUB+B_GND 7, MOTOR_9V 6, PCONT_1 5, SYS6V 4, GND1 3, GND2 2, HALT 1

TO C PANEL CIRCUIT (WH900) IN SCHEMATIC DIAGRAM-6

CN900B: SYS6V 5, FL2 4, FL1 3, -VP 2, GND2 1

D625,D627 B0EAKM000168

D627, D625

C602 35V1000

D622 B0EAKM000117

D623 B0EAKM000117

D1-D4 B0EAKM000117

D621 B0EAKM000117

D624 B0EAKM000117

D616 - D619 B0EAMM000038

D616, D617, D618, D619

C614 ECQE2104KF3 50V0.1u

FP601 5A

C613 50V0.1u

T601 G4CYAYY00139 POWER TRANSFORMER

Q603 2SB0621AHA VOLTAGE REGULATOR

R608 12

D602, D609 B0EAKM000117

C612 50V100

C610 0.01

R611 3.3K

C609 50V100

C611 50V47

D610 B0BC02900004

W523 0

R601 22

Q600 B1AACF000063 PCONT SWITCH

RL600 K6B1AEA00015

D600 B0ACEL000004

R604 4.7K

R600 47K

Q601 2SC3940ARA VOLTAGE REGULATOR

R603 820

C604 0.01

R605 150

C603 16V1000

D606, D605, D604, D603

C601 0.01

W521 0

C605 25V47

D607 B0BC6R700006

D603 - D606 B0EAKM000117

Q602 B1GACFJJ0018 VOLTAGE REGULATOR

R607 10K

R606 10K

D608 B0ACEL000004

F1 250V T630mAL

Z600 ERZV10V511CS

L600 G0B371HA0005

JK600

AC IN 230V 50Hz

T600 G4CYAYY00137 SUB TRANSFORMER

H DECK MECHANISM CIRCUIT

TO G DECK CIRCUIT (CP1902) IN SCHEMATIC DIAGRAM-8

CS971: MODE, HALF, PL, PL_GND, PHOTO_T, RECINH_F, VREF+, VREF-

D971 MA2C16500E

S971 MODE

S972 HALF

S975 RECINH_F

R972 820

R973 39K

IC971

IC971 CNB13030R2AU PHOTO INTERRUPTOR

I TAPE EJECT CIRCUIT

TO G DECK CIRCUIT (JW308B) IN SCHEMATIC DIAGRAM-8

JW308A

S1000 TAPE EJECT

17.5. DECK CIRCUIT

SCHEMATIC DIAGRAM - 8

G DECK CIRCUIT

: + B SIGNAL LINE : - B SIGNAL LINE : TAPE PLAYBACK SIGNAL LINE : TAPE RECORDING SIGNAL LINE

CP1301 PBLIN PBRIN

IC1001 AN7326K P/B REC AMP IC

IC1000 C1AA00000612 ANALOG SWITCH IC

Q1317 B1ABGC000005 BEAT PROOF LEVEL SWITCH

Q1309, Q1310 B1AAGC000006 BIAS SWITCH

Q1101, Q1201 B1ABGC000005 MUTING SWITCH

Q1302 B1GDCFJJ0002 DECK MUTING SWITCH

Q1304 B1GDCFGH0002 SWITCH (RECH)

Q1303 B1GBCFGH0001 SWITCH

Q1316 2SD09650RA SWITCH

Q1314 B1GDCFGH0002 MOTOR SUPPLY SWITCH

Q1315 B1ACKD000006 SWITCH

Q1312 B1ABCF000011 SWITCH

CP1902

TO H DECK MECHANISM CIRCUIT (CS971) IN SCHEMATIC DIAGRAM-7

CN1303 TO B MAIN CIRCUIT (CN804) IN SCHEMATIC DIAGRAM-2

JW308B TO I TAPE EJECT CIRCUIT (JW308A) IN SCHEMATIC DIAGRAM-7

SA-PM46E/EG/EF DECK CIRCUIT

17.6. USB CIRCUIT

SCHEMATIC DIAGRAM - 9

J USB CIRCUIT

: + B SIGNAL LINE

: USB SIGNAL LINE

IC900
MNZSFB5KJM1
USB CONTROLLER IC

IC951
C0DBZYE00002
VOLTAGE REGULATOR

P903
USB CONNECTOR

P901

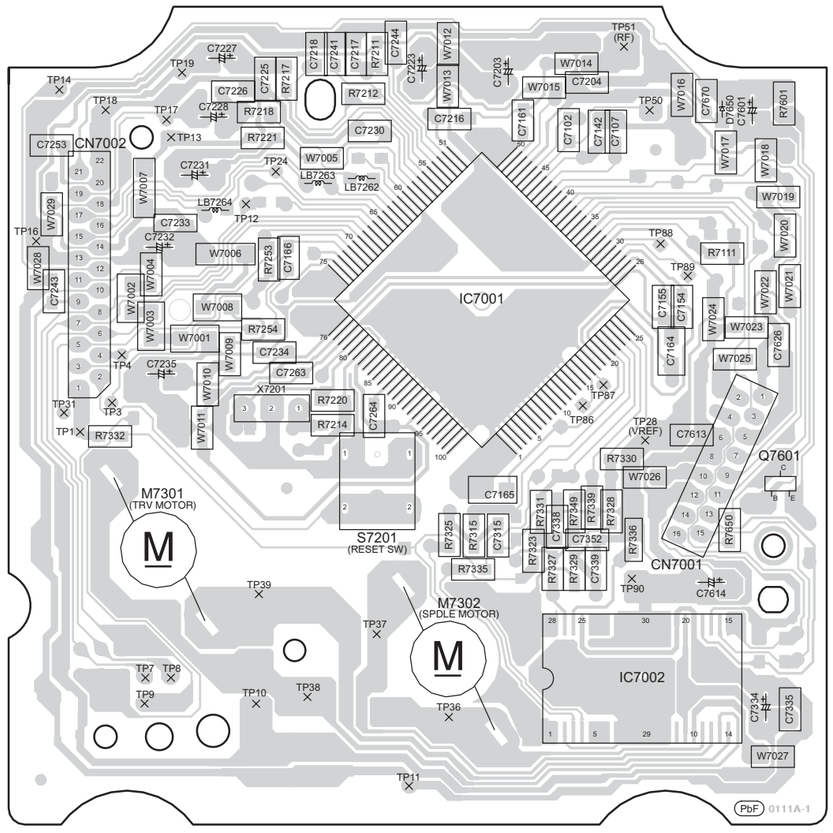
TO **B** MAIN CIRCUIT (CN802) IN SCHEMATIC DIAGRAM-4

SA-PM46E/EG/EF USB CIRCUIT

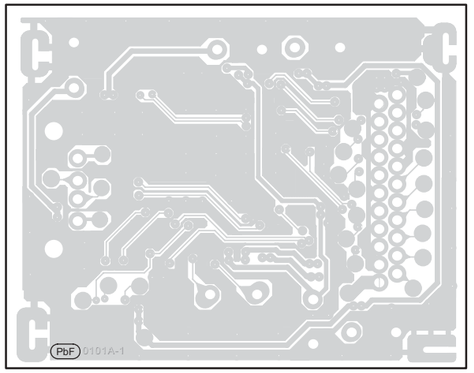
18 Printed Circuit Board Diagrams

18.1. CD SERVO/ USB P.C.B.

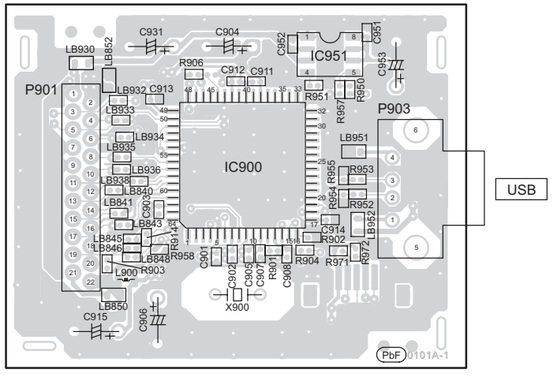
A CD SERVO P.C.B. (REPV0111A)



J USB P.C.B. (REPV0101A)



(SIDE A)

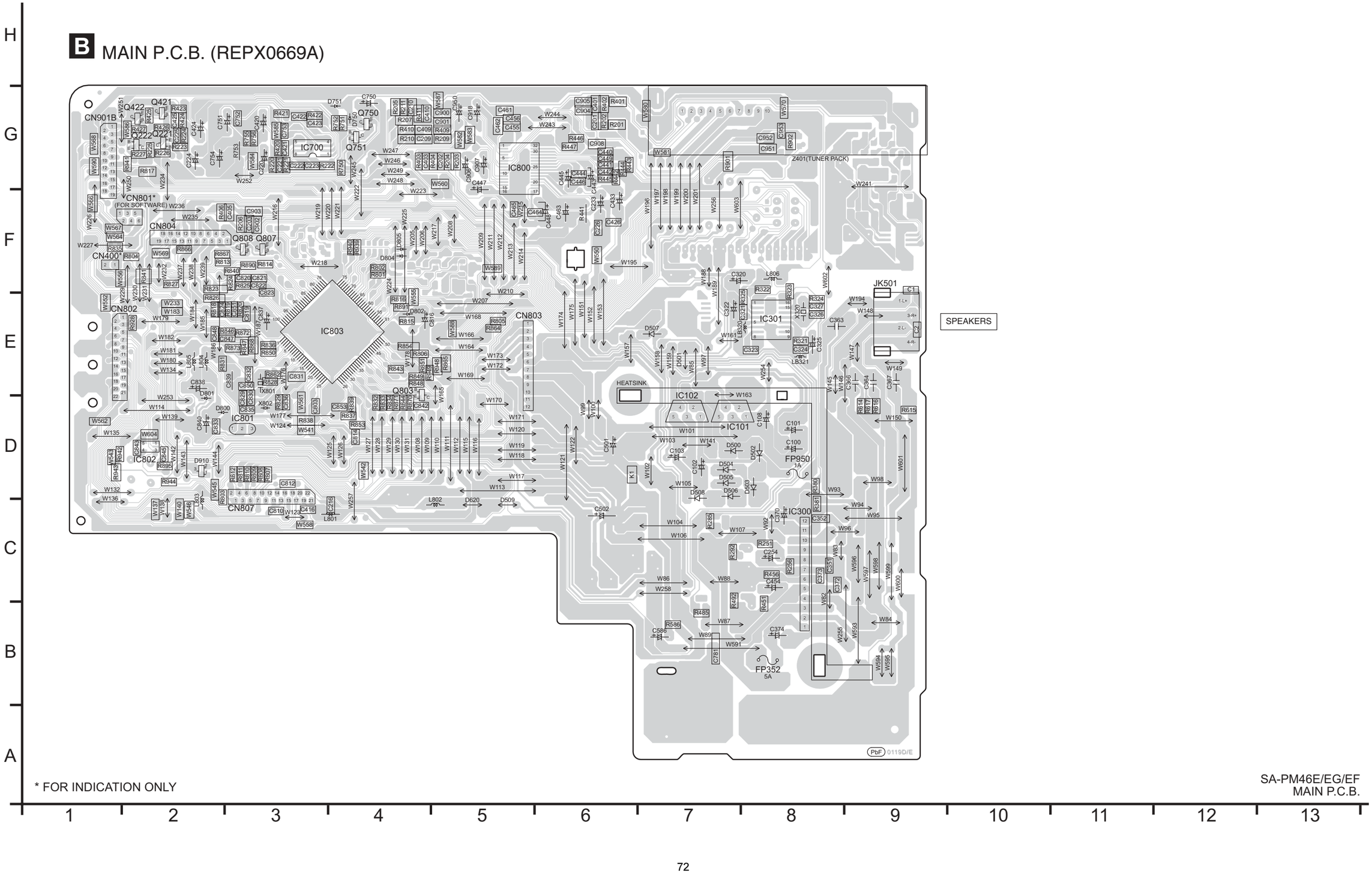


(SIDE B)

SA-PM46E/EG/EF
CD SERVO/ USB P.C.B.

18.2. MAIN P.C.B.

B MAIN P.C.B. (REPX0669A)

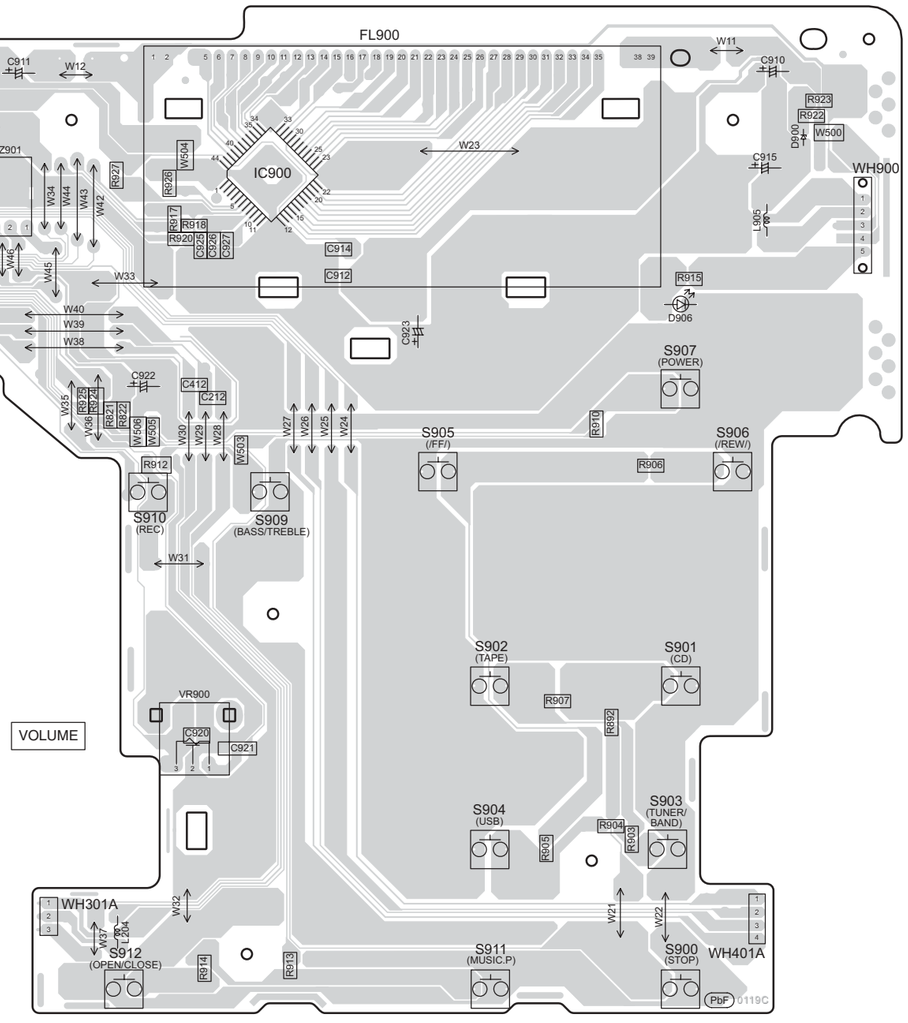


* FOR INDICATION ONLY

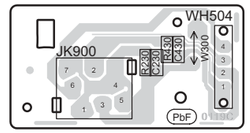
SA-PM46E/EG/EF
MAIN P.C.B.

18.3. PANEL/ HEADPHONE/ MUSIC PORT/ DECK MECHANISM P.C.B.

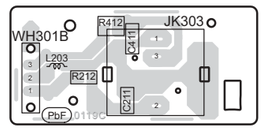
C PANEL P.C.B. (REPX0669A)



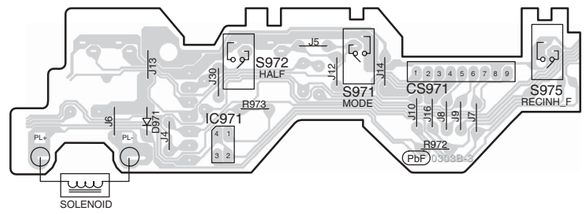
D HEADPHONE P.C.B. (REPX0669A)



E MUSIC PORT P.C.B. (REPX0669A)

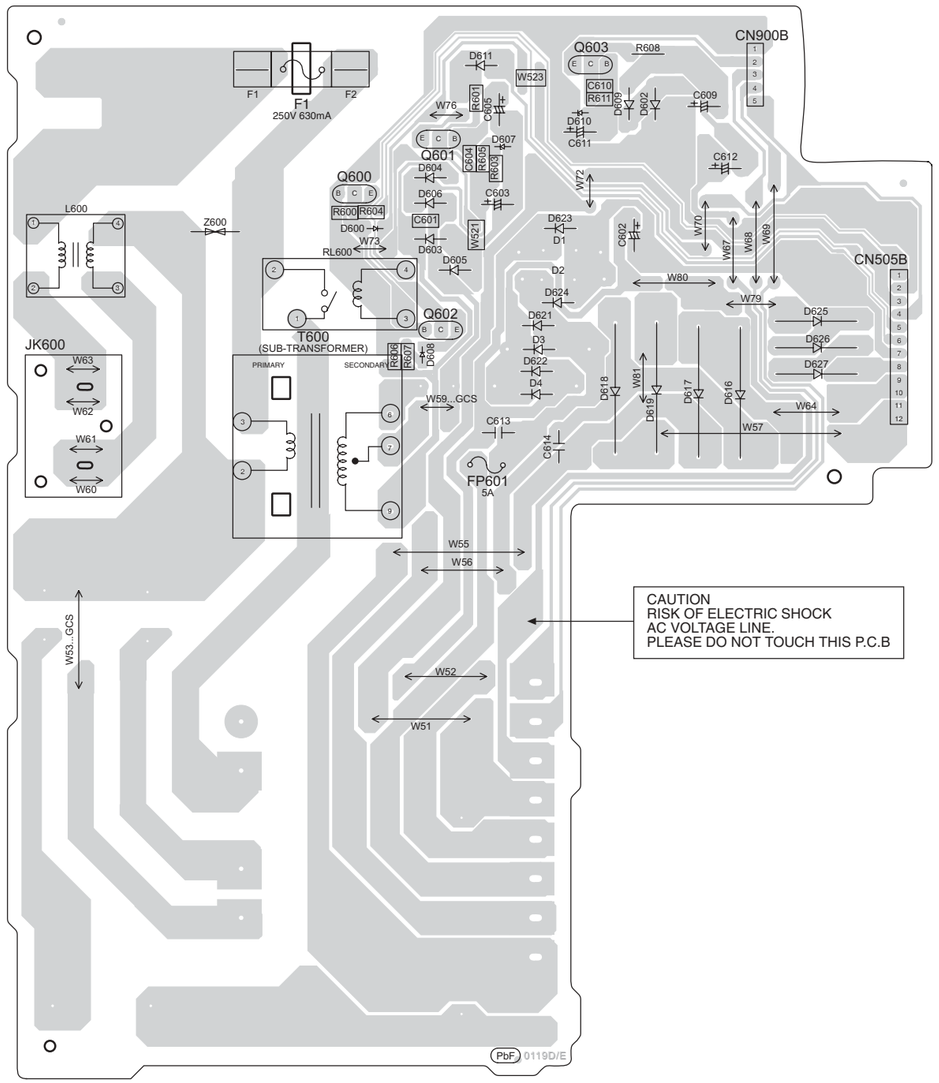


H DECK MECHANISM P.C.B. (REPX0321F)

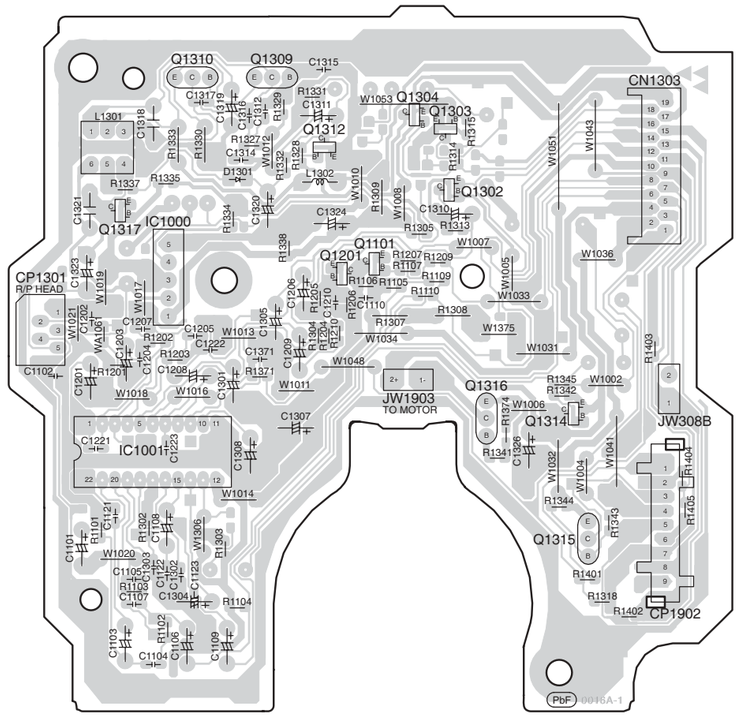


18.4. TRANSFORMER/ DECK/ TAPE EJECT P.C.B.

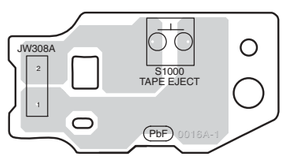
F TRANSFORMER P.C.B. (REPX0669A)



G DECK P.C.B. (REPV0092B)

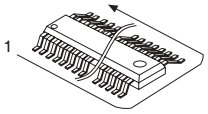
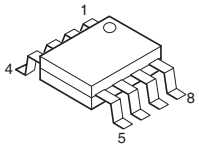
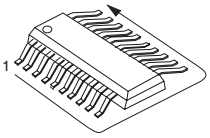
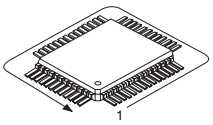
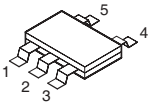
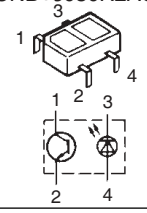
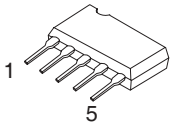
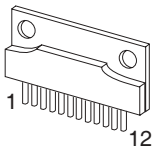
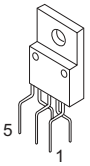
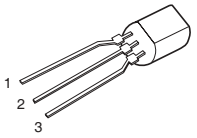
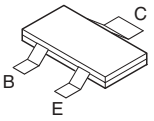
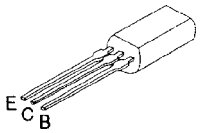
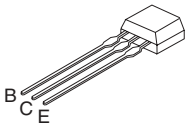
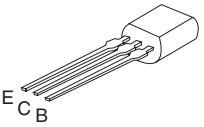
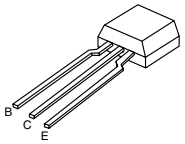
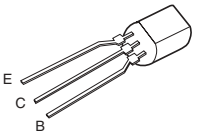
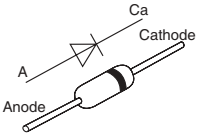
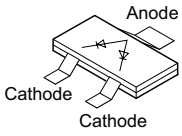
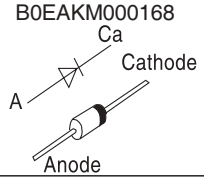
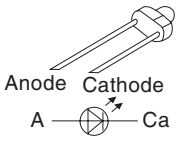
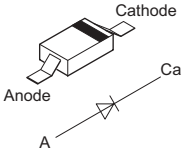
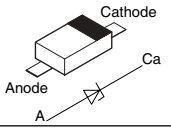
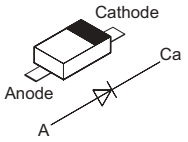


I TAPE EJECT P.C.B. (REPV0092B)



SA-PM46E/EG/EF
TRANSFORMER/ DECK/ TAPE EJECT P.C.B.

19 Illustration of IC's, Transistors and Diodes

BA5948FPE2 (28P) AN7326K (22P) 	C0ABBB000297 (8P) 	C1BB00000732 (32P) C1AB00002751 (16P) C0DBZYE00002 (8P) 	MN6627954MA(100P) MN101EF16KXW(100P) C0HBB0000057(44P) MNZSFB5KJM1(64P) 	C0EBE0000455 	CNB13030R2AU 
C1AA00000612 	AN17831A 	C0DAZYY00005 C0DAZYY00006 	C0CAABC00007 	B1ABGC000005 B1GBCFGH0001 B1GDCFGH0002 B1ABCF000011 B1GDCFJJ0002 B1ABGC000001 B1GBCFGJ0016 B1GBCFJJ0044	B1ADCF000001 B1GDCFGG0026 
2SC3940ARA 	B1GACFJJ0018 	B1ACKD000006 	B1AACF000063 B1AAGC000006 	2SB0621AHA 2SD09650RA 	MA2C16500E 
B0ADCJ000020 	B0EAKM000117 B0EAMM000038 B0EAKM000168 	B3AAA0000489 	B0ACEL000004 	MAZ80560ML B0BC5R600003 B0BC02900004 B0BC6R700006 	B0ACCK000005 B0ACCE000003 

20 Terminal Function of IC's

20.1. 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	-	Motor O/P (0);/Serial I/P
17	BA1	-	Motor O/P (1);/Serial I/P
18	PRAMVSS33	-	GND (DRAM)
19	PRAMVDD15	-	Power Supply Voltage (DRAM)
20	PRAMVDD33	-	Power Supply Voltage (+1.6V)
21	SPOUT	O	Spindle Drive O/P
22	PC	I/O	Spindle motor drive O/P signal serial data/Monitoring I/P
23	TRVP	O	Traverse Drive O/P (+ve)
24	TRP	O	Tracking Drive O/P (+ve)
25	FOP	O	Focusing Drive O/P (+ve)
26	DVSS1	-	GND
27	IOVDD2	-	Digital Power Supply Voltage 2 (I/O)
28	DVDD1	-	Digital Power Supply Voltage 1 (Built-In)
29	SRVMON0	-	No Connection
30	SRVMON1	-	No Connection
31	AVSS2	-	GND
32	OSCIN	I	Oscillating Input
33	CTRCRS	-	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	-	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	-	Analog Power Supply voltage 2 (For DSL/PLL)
48	ARFDC	-	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	-	PLL Loop Filter Terminal (Phase Compare)
55	PLLF0	-	PLL Loop Filter Terminal (Speed Compare)
56	OUTL\	O	Audio O/P (LCH)
57	AVSS1	-	GND
58	AVDD1	-	Analog Power Supply Voltage 1
59	OUTR	O	Audio O/P (RCH)
60	DVSS3	-	GND3 (Digital Circuit)
61	NSRVMONON	I	Servo Motor O/P Enabling
62	EXT0	-	Expansion O/P Port 0
63	EXT1	-	Expansion O/P Port 1
64	EXT2	-	Expansion O/P Port 2
65	FLAG	-	Flag Signal O/P
66	TX	-	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	-	Pack Signal O/P for CD-Text data
74	SMCK	-	Micro-Computer Clock O/P
75	PMCK	-	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	O	Data Sigmal O/P 2
84	D1	O	Data Signal O/P 1
85	D0	O	Data Signal O/P 0
86	D3	O	Data Signal O/P 3
87	D4	O	Data Signal O/P 4
88	D5	O	Data Signal O/P 5
89	D6	O	Data Signal O/P 6
90	D7	O	Data Signal O/P 7
91	D15	O	Data Signal O/P 15
92	D14	O	Data Signal O/P 14
93	DRVDD	-	I/O Power Supply Voltage (DRAM)
94	D13	O	Data Signal O/P 13
95	D12	O	Data Signal O/P 12
96	D11	O	Data Signal O/P 11
97	D10	O	Data Signal O/P 10
98	D9	O	Data Signal O/P 9
99	D8	O	Data Signal O/P 8
100	SDRCK	O	Clock Signal O/P

20.2. IC7002 (BA5948FPE2) IC 4CH Drive

Pin No.	Mark	I/O	Function
1	IN2	I	Motor Driver 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	-	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.	-	No Connection
25	VCC	I	Power Supply terminal
26	VREF	I	Reference Voltage Input
27	IN4	I	Motor Driver (4) Input
28	IN3	I	Motor Driver (3) Input

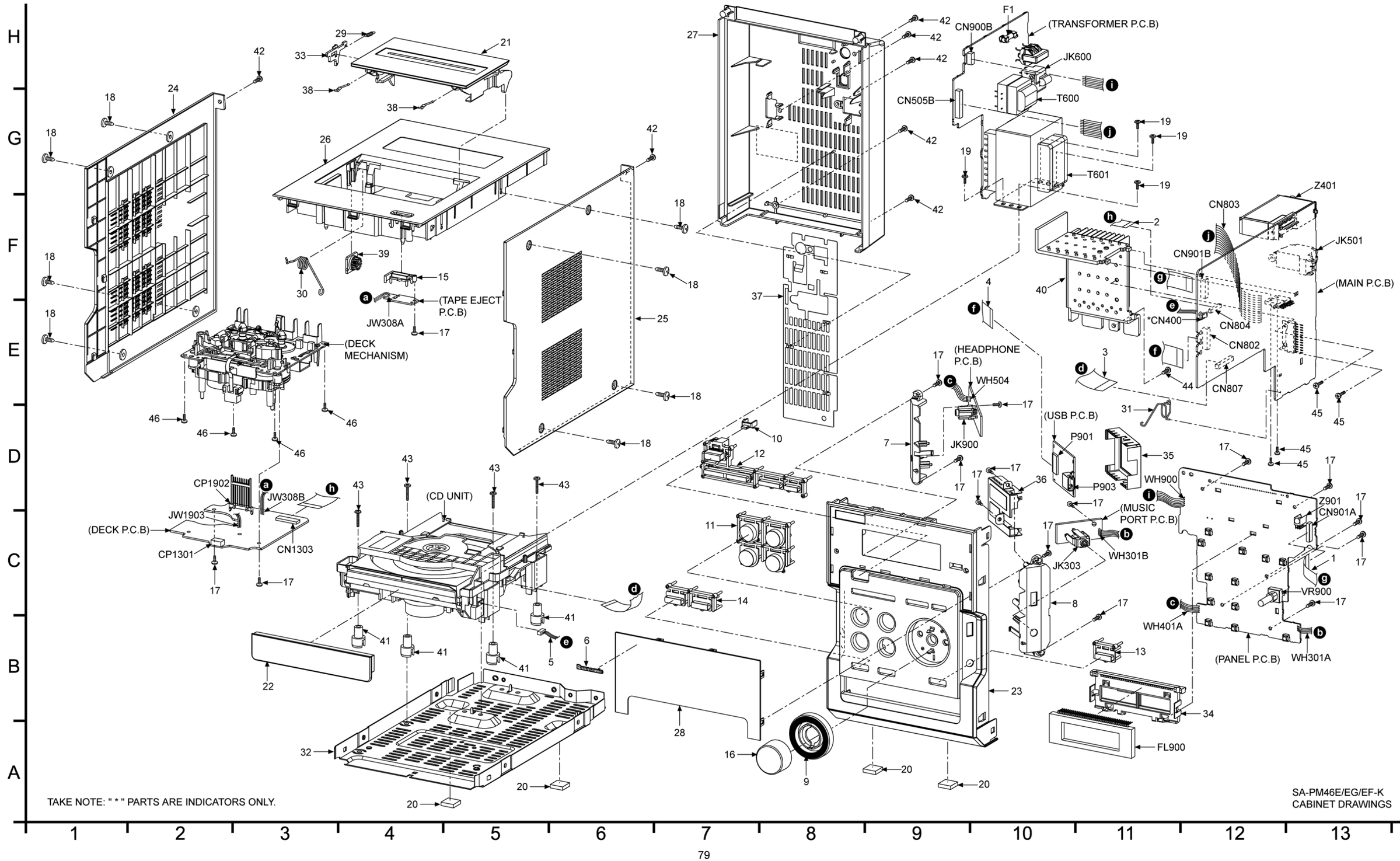
20.3. IC803 (MN101EF16KXW) MICROPROCESSOR

Pin No.	Mark	I/O	Function
1	PCONT1	O	Power Control Output 1(Pwr Sply,Active HIGH)
2	PCONT2	O	Power Control Output 2
3	N.C.	-	No Connection
4	FL_DATA / OCD_SDA	O	FL Data Output / On Chip Debugger Data
5	USB_RST	O	USB Reset Pin
6	FL_CLK / OCD_SCL	O	FL CLK Output / On Chip Debugger Clock
7	USB_REQ	I	USB Interrupt Request
8	N.C.	-	No Connection
9	N.C.	-	No Connection
10	N.C.	-	No Connection
11	MMOD (GND)	-	Memory mode selection (Ground connection)
12	OSC2 (8MHz)	O	Main Oscillator output (8MHz)
13	OSC1 (8MHz)	I	Main Oscillator input (8MHz)
14	VSS	-	Micom GND
15	XI (32kHz)	I	Slow Oscillator input (32KHz)
16	XO (32KHz)	O	Slow Oscillator output (32KHz)
17	VDD3.3	-	Voltage supply 3.3V
18	VDD1.8	-	Connect to pin 37
19	NRST	I	MICOM RESET PIN (L: reset)
20	N.C.	-	No Connection
21	MMOD0	O	Switching Mode
22	TERR	I	Time out error
23	VERR	O	Verify error
24	DAB_PCONT	-	No Connection
25	RMT	I	Remote Control Input
26	HALT	I	AC Failure Detect Signal
27	DAB_ DDOWFIC	-	No Connection
28	DAB_IRQ	-	No Connection
29	BLKCK	I	CD Subcode Block Clock Input
30	N.C.	-	No Connection
31	CD_MDATA	O	CD LSI Command Data
32	STAT	I	CD LSI Status Input
33	CD_MCLK	O	CD LSI Command Clock
34	USB_SDA	I/O	USB I2C Data Line
35	CD_MLD	O	CD LSI Command Load
36	USB_SCL	I	USB I2C Clock Line
37	VDD18	-	Power Supply (1.8V)
38	MUTEA	O	Analog MUTE Output(L:MUTE ON)
39	VSS	-	Micom GND
40	ASP_CLK	O	ASP Sound Processor Serial Clock Output
41	ASP_DATA	O	ASP Sound Processor Serial Data Output
42	N.C.	-	No Connection
43	N.C.	-	No Connection
44	N.C.	-	No Connection
45	CD_RST	O	CD LSI Reset Ouput (L: reset)
46	N.C.	-	No Connection
47	DEMO_SET	I	Demo Mode Setting Input
48	MODEL_SEL	I	D-Port Select (H: D-Port, L: Deck)
49	TU_STEREO	I/O	Tuner Stereo Signal
50	TU_SDA	I/O	IIC Serial Data for Tuner (PLL Data I/O)
51	TU_CLK	O	IIC Serial Clock for Tuner (PLL Clock Output)
52	VOL_JOG1	I	Jog Input 1
53	VOL_JOG2	I	Jog Input 2
54	TU_TUNED	I/O	Tuner Tuned Signal
55	N.C.	-	No Connection
56	N.C.	-	No Connection
57	N.C.	-	No Connection
58	N.C.	-	No Connection
59	N.C.	-	No Connection
60	N.C.	-	No Connection
61	N.C.	-	No Connection
62	CRTIMER	I/O	CR TIMER
63	VSS	-	Micom GND
64	FL_STROBE	O	Chip select for FL Panel
65	CLOSE_L	O	CD Tray Close Control (Active L)
66	OPEN_H	O	CD Tray Open Control (Active H)
67	DAB_RST	-	No Connection
68	DAB_ TU_RST	-	No Connection
69	DAB_ TU_SCL	-	No Connection
70	DAB_ TU_SDA	-	No Connection
71	N.C.	-	No Connection
72	DAB_RX	-	No Connection
73	RDS_DATA	I	RDS Data Input
74	RDS_CLK	I	RDS Clock Input
75	DAB_MODE	-	No Connection
76	UART_IN	-	No Connection
77	UART_OUT	-	No Connection

Pin No.	Mark	I/O	Function
78	PHOTO	I	Deck Photo SW Input (L:SW On)
79	MOTOR_H	O	Deck Motor Control Output (H:On)
80	TAPE_EJECT	I	Tape Eject SW Input (L:SW On)
81	PL_H	O	Deck Plunger Control Output (H:ON)
82	REC_H	O	Deck Rec Control Output (Active High)
83	N.C.	-	No Connection
84	DMT	O	Deck Mute Output (H:Mute ON)
85	CD_ OPEN_SW	I	CD Open SW (H:Open; L:Close)
86	REST_SW	I	REST SW (L: inner)
87	DLINKDET1	-	No Connection
88	DLINKDET2	-	No Connection
89	VDD	-	Micom VDD +5V
90	ACK_IN	-	No Connection
91	VSS	-	Ground Connection
92	KEY1	I	Key 1 Input
93	KEY2	I	Key 2 Input
94	MK-IN1	I	Mech Condition Input 1 (Mode and Tps)
95	MK-IN2	I	Mech Condition Input 2 (Mode and Tps)
96	DCDET	I	DC Level Detection Input
97	REGION	I	Region Setting Input
98	N.C.	-	No Connection
99	N.C.	-	No Connection
100	VREF +	-	A/D Converter reference voltage +3.3V

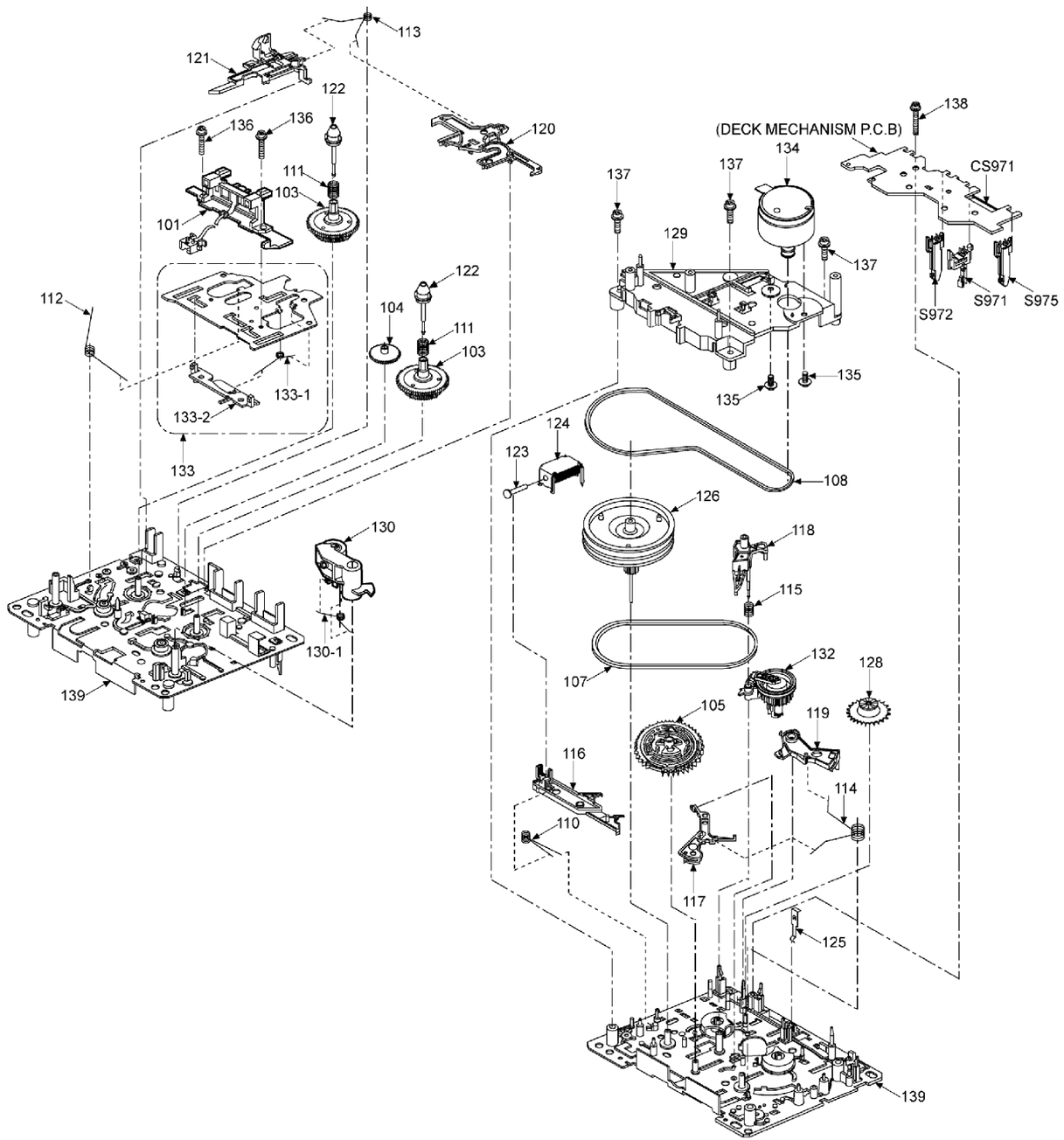
21 Exploded Views

21.1. Cabinet Parts Location

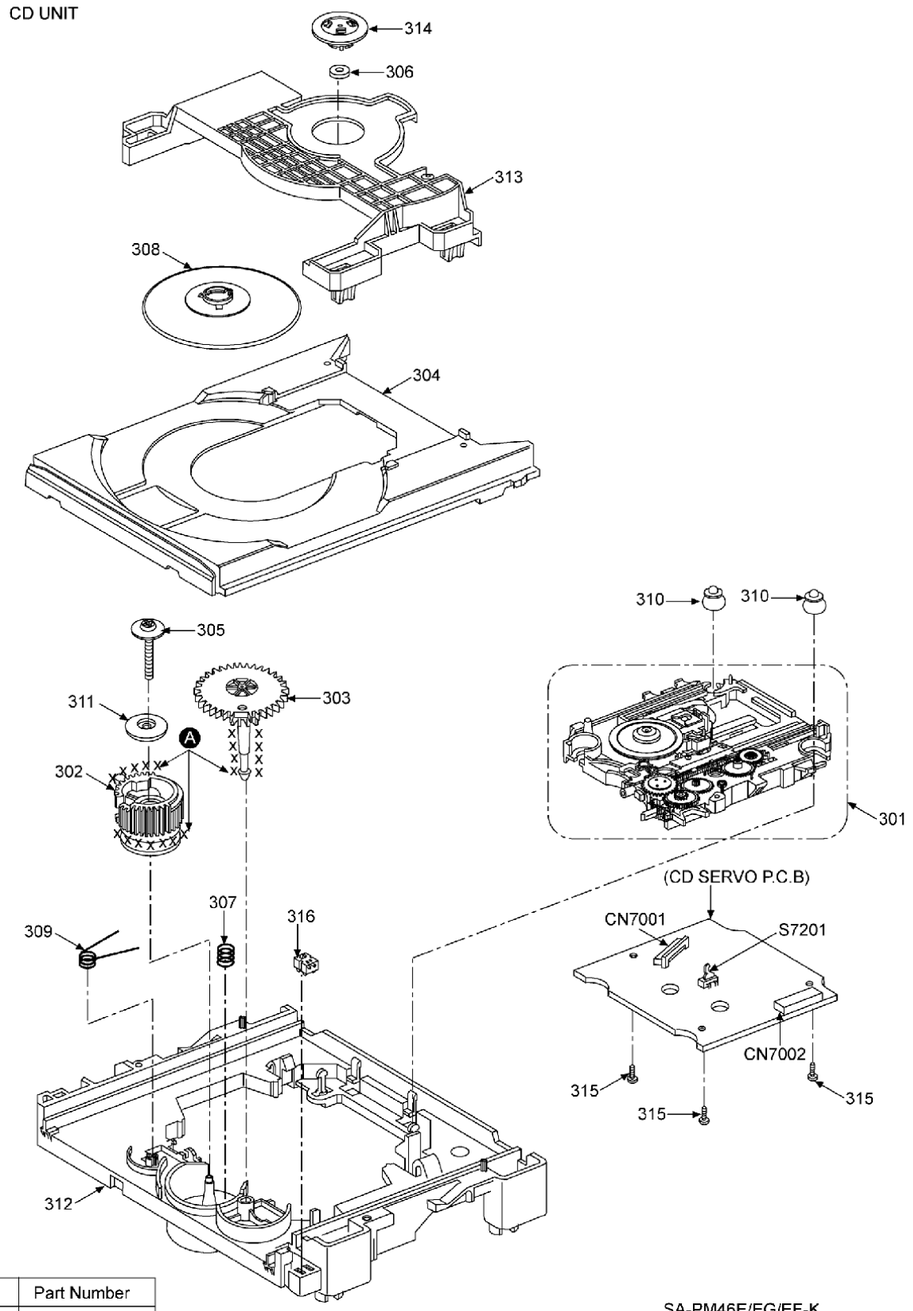


21.2. Deck Mechanism Parts Location (RAA4403-S) & CD Unit Parts Location

DECK MECHANISM



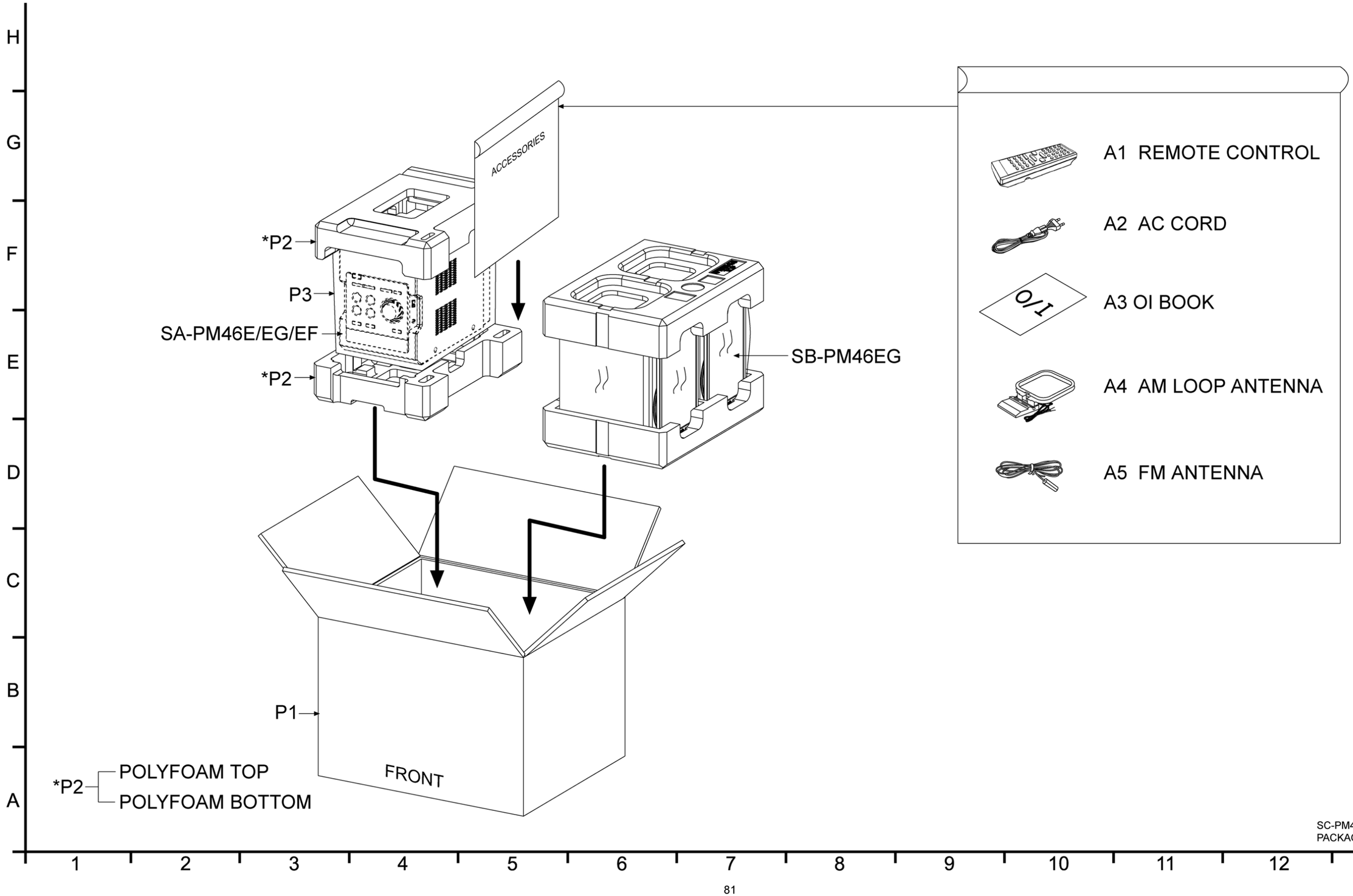
CD UNIT



		Part Number
A	Drysurf	RZGGGA-1266

SA-PM46E/EG/EF-K
DECK / CD MECHANISM DRAWINGS

21.3. Packaging



SC-PM46E/EG/EF-K,EG-S
PACKAGING DRAWINGS

22 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".

  ACTUNG:

  Die Lasereinheit nicht zerlegen.

  Die Lasereinheit darf nur gegen eine vom Hertsteller spezifizierte Einheit ausgetauscht werden.
- 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	Pr:	Portuguese		

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	REEV0162	19P FFC CABLE (PAN-MN)	[M]
2	REEV0163	19P FFC CABLE (DECK-MN)	[M]
3	REEV0164	22P FFC CABLE (CD-MN)	[M]
4	REEV0165	22P FFC CABLE (USB-MN)	[M]
5	REXX0230-2	2P WIRE (MN-CD)	[M]
6	RGBV0016-S	PANASONIC BADGE	[M]
7	RGKV0159-K	PHONE ORNAMENT	[M]
8	RGKV0160-K	USB ORNAMENT	[M]
9	RGKV0161-1S	VOLUME RING	[M]
10	RGLV0071-Q	POWER LIGHTING TIP	[M]
11	RGUV0168-S	FUNCTION BUTTON	[M]
12	RGUV0169-1S	POWER/REC BUTTON	[M]
13	RGUV0170-1S	CD EJECT BUTTON	[M]
14	RGUV0171-1S	STOP/AUX BUTTON	[M]
15	RGUV0172-K1	CASS EJECT BUTTON	[M]
16	RGWV0047-1S	VOLUME KNOB	[M]
17	RHD26046-L	SCREW	[M]
18	RHD30007-K2J	SCREW	[M]
19	RHDV30005	SCREW	[M]
20	RHGV0008	LEG CUSHION	[M]
21	RKF0688A-KJ1	CASSETTE HOLDER	[M]
22	RKFV0064-1S	CD LID	[M]
23	RKMV0072B-K	FRONT CABINET	[M]
24	RKMV0073-K1	SIDE PANEL L	[M]
25	RKMV0074-K1	SIDE PANEL R	[M]
26	RKMV0075-K1	TOP CABINET	[M]
27	RKSV0037G-K	REAR CABINET	[M] ⚠
28	RKWV0069C-R	FL WINDOW	[M]
29	RMB0448-J	LOCK ROD SPRING	[M]
30	RMB0780-1	CASSETTE OPEN SPRING	[M]
31	RMBV0043	EARTH SPRING	[M]
32	RMKV0063	BOTTOM CHASSIS	[M]
33	RMM0163-1	CASSETTE LOCK ROD	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
34	RMNV0062	FL HOLDER	[M]
35	RSCV0086-2	SHIELD	[M]
36	RSCV0087B-1	SHIELD	[M]
37	RSCV0088	SHIELD	[M]
38	RUS757ZAA	CASSETTE HALF SPRING	[M]
39	RXGX0002	DAMPER GEAR	[M]
40	RXXV0050	HEAT SINK UNIT	[M]
41	SHE187-4J	POWER PCB SUPPORT	[M]
42	XTB3+10JFJK	SCREW	[M]
43	XTB3+20JFJK	SCREW	[M]
44	XTB3+8FFJ	SCREW	[M]
45	XTB3+8JFJ	SCREW	[M]
46	XTV3+10GFJ-M	SCREW	[M]
		CASSETTE DECK	
101	RED0067-2	P/B HEAD	[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]

Ref. No.	Part No.	Part Name & Description	Remarks
123	RMS0398-1	MOVING CORE	[M]
124	RXQ0470-2	PLUNGER ASS'Y	[M]
125	RMC0061	PACK SPRING	[M]
126	RXF0061-1	FLYWHEEL F ASS'Y	[M]
128	RXG0040	FF RELAY GEAR ASS'Y	[M]
129	RMK0283A-2	SUB-CHASSIS	[M]
130	RXL0124	PINCH ROLLER F ASS'Y	[M]
130-1	RMB0401	PINCH ARM SPRING F	[M]
132	RXL0126	WINDING ARM ASS'Y	[M]
133	RXQ0412-3	HEAD PANEL ASS'Y	[M]
133-1	RMB0405-1	FR ROD SPRING	[M]
133-2	RMM0132-1	FR ROD	[M]
134	REM0120	CAPSTAN MOTOR ASS'Y	[M]
135	RHD26022-1	MOTOR SCREW	[M]
136	XTW2+5LFJ	HEAD BLOCK SCREW	[M]
137	XTW26+10SFJ	SUB-CHASSIS SCREW	[M]
138	XYC2+JF17FJ	PCB EARTH SCREW	[M]
139	RFKJSTR280PP	CHASSIS ASS'Y	[M]
		TRAVERSE DECK	
301	RAE0165Z-V	TRAVERSE UNIT (W/O SERVO P.C.B)	[M] ⚠ (RTL)
302	RDG0460A-1	CAM GEAR	[M]
303	RDG0461A	DRIVE GEAR	[M]
304	RGQ0254-K2	TRAY	[M]
305	RHD30083-1	CAM GEAR SCREW	[M]
306	RHM0001	MAGNET	[M]
307	RMB0603-1	FLOATING SPRING	[M]
308	RFKNANS55P-K	CLAMPER HOLDER ASS'Y	[M]
309	RME0288-1	SPRING	[M]
310	RMG0510-K	FLOATING RUBBER (A)	[M]
311	RMG0511-K	FLOATING RUBBER (B)	[M]
312	RMK0422A	MECHA CHASSIS	[M]
313	RMR1223-K1	CLAMP PLATE	[M]
314	RMR1242-X3	FIXTURE	[M]
315	XTN2+6GFJ	SCREW	[M]
316	K0F111E00093	OPEN SWITCH	[M]
		PRINTED CIRCUIT BOARDS	
PCB1	REPX0321F	DECK MECHANISM P.C.B	[M] (RTL)
PCB2	REPV0092B	DECK / TAPE EJECT P.C.B	[M] (RTL)
PCB3	REPX0669A	MAIN / PANEL / HEADPHONE / MUSIC PORT P.C.B	[M] (RTL)
PCB4	REPX0669A	TRANSFORMER P.C.B	[M] ⚠ (RTL)
PCB5	REPV0111A	CD SERVO P.C.B	[M] (RTL)
PCB6	REPV0101A	USB P.C.B	[M] (RTL)
		INTEGRATED CIRCUITS	
IC101	C0DAZYY00006	IC +7.5V REGULATOR	[M]
IC102	C0DAZYY00005	IC +5V REGULATOR	[M]
IC300	AN17831A	IC POWER AMP	[M]
IC301	C1AB00002751	IC RDS	[M]
IC700	C0ABBB000297	IC OP-AMP	[M]
IC800	C1BB00000732	IC ASP	[M]
IC801	C0CAABC00007	IC REGULATOR	[M]
IC802	C0EBE0000455	IC RESET	[M]
IC803	MN101EF16KXW	IC MICROPROCESSOR	[M]
IC900	C0HBB0000057	IC DISPLAY DRIVER	[M]
IC900	MNZSFB5KJM1	IC MICROPROCESSOR	[M]
IC951	C0DBZYE00002	IC POWER SUPPLY	[M]
IC971	CNB13030R2AU	IC PHOTO INTERUPTOR	[M]
IC1000	C1AA00000612	IC ANALOG SWITCH	[M]
IC1001	AN7326K	IC DECK R/P	[M]
IC7001	MN6627954MA	IC SERVO PROCESSOR / DIGITAL SIGNAL PROCESSOR / DIGITAL FILTER D/A CONVERTER	[M]
IC7002	BA5948FPE2	IC 4 CH DRIVE	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
		TRANSISTORS	
Q221	B1ABGC000001	TRANSISTOR	[M]
Q222	B1ABGC000001	TRANSISTOR	[M]
Q421	B1ABGC000001	TRANSISTOR	[M]
Q422	B1ABGC000001	TRANSISTOR	[M]
Q600	B1AACF000063	TRANSISTOR	[M]
Q601	2SC3940ARA	TRANSISTOR	[M]
Q602	B1GACFJJ0018	TRANSISTOR	[M]
Q603	2SB0621AHA	TRANSISTOR	[M]
Q750	B1GDCFGG0026	TRANSISTOR	[M]
Q751	B1GBCFJJ0044	TRANSISTOR	[M]
Q803	B1GBCFJJ0044	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]
Q1315	B1ACKD000006	TRANSISTOR	[M]
Q1316	2SD09650RA	TRANSISTOR	[M]
Q1317	B1ABGC000005	TRANSISTOR	[M]
Q7601	B1ADCF000001	TRANSISTOR	[M]
		DIODES	
D1	B0EAKM000117	DIODE	[M]
D2	B0EAKM000117	DIODE	[M]
D3	B0EAKM000117	DIODE	[M]
D4	B0EAKM000117	DIODE	[M]
D502	B0EAKM000117	DIODE	[M]
D503	B0EAKM000117	DIODE	[M]
D504	B0EAKM000117	DIODE	[M]
D505	B0EAKM000117	DIODE	[M]
D506	B0EAKM000117	DIODE	[M]
D507	B0EAKM000117	DIODE	[M]
D508	B0EAKM000117	DIODE	[M]
D600	B0ACEL000004	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	B0ACEL000004	DIODE	[M]
D609	B0EAKM000117	DIODE	[M]
D610	B0BC02900004	DIODE	[M]
D611	B0EAKM000117	DIODE	[M]
D616	B0EAMM000038	DIODE	[M]
D617	B0EAMM000038	DIODE	[M]
D618	B0EAMM000038	DIODE	[M]
D619	B0EAMM000038	DIODE	[M]
D621	B0EAKM000117	DIODE	[M]
D622	B0EAKM000117	DIODE	[M]
D623	B0EAKM000117	DIODE	[M]
D624	B0EAKM000117	DIODE	[M]
D625	B0EAKM000168	DIODE	[M]
D627	B0EAKM000168	DIODE	[M]
D750	B0ACEL000004	DIODE	[M]
D751	B0ACEL000004	DIODE	[M]
D800	B0ACCE000003	DIODE	[M]
D801	B0ACCE000003	DIODE	[M]
D802	B0ACEL000004	DIODE	[M]
D804	B0ACEL000004	DIODE	[M]
D805	B0ACEL000004	DIODE	[M]
D900	B0BC5R600003	DIODE	[M]
D906	B3AAA0000489	DIODE	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
D910	B0ADCJ000020	DIODE	[M]
D971	MA2C16500E	DIODE	[M]
D1301	B0ACCK000005	DIODE	[M]
D7650	MAZ80560ML	DIODE	[M]
		INDUCTORS	
L203	J0JBC0000019	INDUCTOR	[M]
L204	G0C3R3JA0027	INDUCTOR	[M]
L600	G0B371HA0005	LINE FILTER	[M] ⚠
L803	J0JKB0000020	INDUCTOR	[M]
L804	G0C3R3JA0027	INDUCTOR	[M]
L805	G0C3R3JA0027	INDUCTOR	[M]
L806	G0C101JA0027	INDUCTOR	[M]
L900	G1C100K00019	INDUCTOR	[M]
L901	G0C3R3JA0027	INDUCTOR	[M]
L905	G0C101JA0027	INDUCTOR	[M]
L1301	G2ZZ00000024	BIAS OSC COIL	[M]
L1302	G0C470JA0052	INDUCTOR	[M]
LB320	J0JBC0000015	INDUCTOR	[M]
LB321	J0JBC0000015	INDUCTOR	[M]
LB840	J0JAC0000021	INDUCTOR	[M]
LB841	J0JAC0000021	INDUCTOR	[M]
LB843	J0JAC0000021	INDUCTOR	[M]
LB845	J0JAC0000021	INDUCTOR	[M]
LB846	J0JAC0000021	INDUCTOR	[M]
LB848	J0JAC0000021	INDUCTOR	[M]
LB850	J0JHC0000045	INDUCTOR	[M]
LB852	J0JHC0000045	INDUCTOR	[M]
LB930	J0JHC0000045	INDUCTOR	[M]
LB932	J0JAC0000021	INDUCTOR	[M]
LB933	J0JAC0000021	INDUCTOR	[M]
LB934	J0JAC0000021	INDUCTOR	[M]
LB935	J0JAC0000021	INDUCTOR	[M]
LB936	J0JAC0000021	INDUCTOR	[M]
LB938	J0JAC0000021	INDUCTOR	[M]
LB951	J0JHC0000045	INDUCTOR	[M]
LB952	J0JHC0000045	INDUCTOR	[M]
		VARIABLE RESISTOR	
VR900	EVEKE2F2524B	VOLUME ENCODER	[M]
		SWITCHES	
S900	EVQ21405RJ	SW STOP	[M]
S901	EVQ21405RJ	SW CD PLAY	[M]
S902	EVQ21405RJ	SW TAPE/DPORT PLAY	[M]
S903	EVQ21405RJ	SW TUNER	[M]
S904	EVQ21405RJ	SW USB	[M]
S905	EVQ21405RJ	SW FF	[M]
S906	EVQ21405RJ	SW REW	[M]
S907	EVQ21405RJ	SW POWER	[M]
S909	EVQ21405RJ	SW BASS/TREBLE	[M]
S910	EVQ21405RJ	SW REC	[M]
S911	EVQ21405RJ	SW MPORT	[M]
S912	EVQ21405RJ	SW CD OPEN/CLOSE	[M]
S971	K0J1BB000017	SW MODE	[M]
S972	K0J1BB000021	SW HALF	[M]
S975	K0J1BB000021	SW RECINH_F	[M]
S1000	EVQ21405RJ	SW TAPE EJECT	[M]
S7201	RSH1A048-A	SW RESET	[M]
		CONNECTORS	
CN802	K1MY22AA0124	22P FFC CONNECTOR	[M]
CN803	AWJ0212140KQ	12P CONNECTOR	[M]
CN804	K1MY19AA0124	19P FFC CONNECTOR	[M]
CN807	K1MY22AA0124	22P FFC CONNECTOR	[M]
CN1303	K1MN19BA0005	19P CONNECTOR	[M]
CN505B	K1MN12A00031	12P WIRE HOLDER	[M]
CN7001	K1MN16B00154	16P FFC CONNECTOR	[M]
CN7002	K1MN22BA0005	22P CONNECTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
CN900B	K1MP05A00004	5P CONNECTOR	[M]
CN901A	K1MY19AA0124	19P FFC CONNECTOR	[M]
CN901B	K1MY19AA0124	19P CONNECTOR	[M]
CP1301	K1MY05AA0043	5P CONNECTOR	[M]
CP1902	K1KA09BA0153	9P CONNECTOR	[M]
CS971	RJU071H09M1	CONNECTOR	[M]
P901	K1MN22BA0005	22P CONNECTOR	[M]
P903	K1FY104B0011	CONNECTOR	[M]
WH504	K1YZ04000002	4P CABLE HOLDER	[M]
WH301B	K1YZ03000010	3P CONNECTOR	[M]
		TRANSFORMERS	
T600	G4CYAYY00137	TRANSFORMER	[M] ⚠
T601	G4CYAYY00139	TRANSFORMER	[M] ⚠
		COMPOMENT COMBINATION	
F1	EYF52BCY	FUSE HOLDER	[M]
F2	EYF52BCY	FUSE HOLDER	[M]
Z401	ENG07823QRF	TUNER PACK	[M]
Z600	ERZV10V511CS	ZENER	[M] ⚠
Z901	B3RAD0000143	REMOTE SENSOR	[M]
		OSCILLATORS	
X320	H0H433400002	CRYSTAL OSCILLATOR	[M]
X801	H4Z8004AA001	CRYSTAL OSCILLATOR	[M]
X802	H0A327200097	CRYSTAL OSCILLATOR	[M]
X900	H0D120500009	CRYSTAL OSCILLATOR	[M]
X7201	H2B169500005	CRYSTAL OSCILLATOR	[M]
		FL DISPLAY	
FL900	A2BB00000166	FL DISPLAY	[M]
		RELAY	
RL600	K6B1AEA00015	POWER RELAY	[M] ⚠
		FUSE	
F1	K5D631BLA012	FUSE	[M] ⚠
		FUSE PROTECTORS	
FP352	K5G502A00039	FUSE PROTECTOR	[M] ⚠
FP601	K5G502A00039	FUSE PROTECTOR	[M] ⚠
FP950	K5G102AA0002	FUSE PROTECTOR	[M] ⚠
		JACKS	
JK303	K2HC1YYA0003	JK MUSIC PORT	[M]
JK501	K4BC04B00123	JK SPEAKER	[M]
JK600	K2AA2B000017	JK AC INLET	[M] ⚠
JK900	K2HC103A0024	JK HEADPHONE	[M]
		CHIP JUMPERS	
K1	D0GDR00JA017	0 1/10W	[M]
LB7262	D0GBR00JA008	0 1/16W	[M]
LB7263	D0GBR00JA008	0 1/16W	[M]
LB7264	D0GBR00JA008	0 1/16W	[M]
W137	ERJ8GEY0R00V	0 1/4W	[M]
W140	ERJ8GEY0R00V	0 1/4W	[M]
W183	ERJ8GEY0R00V	0 1/4W	[M]
W233	ERJ8GEY0R00V	0 1/4W	[M]
W500	D0GDR00JA017	0 1/10W	[M]
W503	D0GBR00JA008	0 1/16W	[M]
W504	D0GDR00JA017	0 1/10W	[M]
W505	D0GBR00JA008	0 1/16W	[M]
W506	D0GDR00JA017	0 1/10W	[M]
W507	D0GBR00JA008	0 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
W521	D0GDR00JA017	0 1/10W	[M]
W523	D0GDR00JA017	0 1/10W	[M]
W541	D0GDR00JA017	0 1/10W	[M]
W542	D0GDR00JA017	0 1/10W	[M]
W543	D0GBR00JA008	0 1/16W	[M]
W545	ERJ8GEY0R00V	0 1/4W	[M]
W546	D0GDR00JA017	0 1/10W	[M]
W550	D0GDR00JA017	0 1/10W	[M]
W552	D0GDR00JA017	0 1/10W	[M]
W555	D0GDR00JA017	0 1/10W	[M]
W556	D0GDR00JA017	0 1/10W	[M]
W558	D0GBR00JA008	0 1/16W	[M]
W560	D0GDR00JA017	0 1/10W	[M]
W561	ERJ8GEY0R00V	0 1/4W	[M]
W562	ERJ8GEY0R00V	0 1/4W	[M]
W564	D0GDR00JA017	0 1/10W	[M]
W566	D0GDR00JA017	0 1/10W	[M]
W567	D0GDR00JA017	0 1/10W	[M]
W568	ERJ8GEY0R00V	0 1/4W	[M]
W569	D0GDR00JA017	0 1/10W	[M]
W570	D0GDR00JA017	0 1/10W	[M]
W580	D0GDR00JA017	0 1/10W	[M]
W581	D0GBR00JA008	0 1/16W	[M]
W582	D0GDR00JA017	0 1/10W	[M]
W583	D0GDR00JA017	0 1/10W	[M]
W584	D0GDR00JA017	0 1/10W	[M]
W585	D0GDR00JA017	0 1/10W	[M]
W586	D0GBR00JA008	0 1/16W	[M]
W587	D0GDR00JA017	0 1/10W	[M]
W588	D0GBR00JA008	0 1/16W	[M]
W589	D0GBR00JA008	0 1/16W	[M]
W590	D0GDR00JA017	0 1/10W	[M]
W604	D0GDR00JA017	0 1/10W	[M]
W7001	D0GDR00JA017	0 1/10W	[M]
W7002	D0GDR00JA017	0 1/10W	[M]
W7003	D0GDR00JA017	0 1/10W	[M]
W7004	D0GBR00JA008	0 1/16W	[M]
W7005	D0GBR00JA008	0 1/16W	[M]
W7006	ERJ8GEY0R00V	0 1/4W	[M]
W7007	ERJ8GEY0R00V	0 1/4W	[M]
W7008	D0GDR00JA017	0 1/10W	[M]
W7009	D0GBR00JA008	0 1/16W	[M]
W7010	D0GBR00JA008	0 1/16W	[M]
W7011	D0GBR00JA008	0 1/16W	[M]
W7012	D0GBR00JA008	0 1/16W	[M]
W7013	D0GBR00JA008	0 1/16W	[M]
W7014	D0GBR00JA008	0 1/16W	[M]
W7015	D0GBR00JA008	0 1/16W	[M]
W7016	D0GBR00JA008	0 1/16W	[M]
W7017	D0GBR00JA008	0 1/16W	[M]
W7018	D0GBR00JA008	0 1/16W	[M]
W7019	D0GBR00JA008	0 1/16W	[M]
W7020	D0GBR00JA008	0 1/16W	[M]
W7021	D0GBR00JA008	0 1/16W	[M]
W7022	D0GBR00JA008	0 1/16W	[M]
W7023	D0GBR00JA008	0 1/16W	[M]
W7024	D0GBR00JA008	0 1/16W	[M]
W7025	D0GBR00JA008	0 1/16W	[M]
W7026	D0GBR00JA008	0 1/16W	[M]
W7027	D0GBR00JA008	0 1/16W	[M]
W7028	D0GBR00JA008	0 1/16W	[M]
W7029	D0GBR00JA008	0 1/16W	[M]
WA1061	D0GBR00JA008	0 1/16W	[M]
		WIRES	
WH301A	RWJ1103070SX	3P WIRE (PAN-MPRT)	[M]
WH401A	RWJ1104070SX	4P WIRE (PAN-HP)	[M]
WH900	RWJ1105205QS	5P WIRE (PANEL TO TRANS)	[M]
JW1903	RWJ0102050KR	2P WIRE (MOTOR)	[M]
JW308AB	RWJ0102190SS	2P WIRE (CASS OPEN TO DECK)	[M]
		PACKING MATERIALS	

Ref. No.	Part No.	Part Name & Description	Remarks
P1	RPGX1908	PACKING CASE	[M] EG-K
P1	RPGX1909	PACKING CASE	[M] E-K
P1	RPGX1982	PACKING CASE	[M] EF-K
P1	RPGX1983	PACKING CASE	[M] EG-S
P2	RPNV0124	POLYFOAM	[M]
P3	RPHV0001-1	MIRAMAT SHEET	[M]
		ACCESSORIES	
A1	N2QAYB000078	REMOTE CONTROL	[M]
A1-1	RKK-HTR0283	R/C BATTERY COVER	[M]
A2	K2CQ2CA00002	AC CORD	[M] ⚠ EF-K
A2	K2CQ2CA00007	AC CORD	[M] ⚠ E-K
A3	RQTV0299-D	O/I BOOK (Ge/Fr/It)	[M] EG-K/S
A3	RQTV0300-H	O/I BOOK (Du/Sw/Da)	[M] EG-K/S
A3	RQTV0301-E	O/I BOOK (En/Sp/Cz/Po)	[M] E-K
A3	RQTV0302-R	O/I BOOK (Ru/Ur)	[M] E-K
A4	N1DAAAA00001	AM LOOP ANTENNA	[M]
A5	RSA0007-L1	FM INDOOR ANTENNA	[M]
		RESISTORS	
R201	D0GB562JA007	5.6K 1/10W	[M]
R202	D0GB562JA007	5.6K 1/10W	[M]
R203	D0GB392JA007	3.9K 1/10W	[M]
R204	ERJ6GEYJ682V	6.8K 1/8W	[M]
R205	D0GB472JA007	4.7K 1/10W	[M]
R206	ERJ6GEYJ153V	15K 1/8W	[M]
R207	D0GB472JA007	4.7K 1/10W	[M]
R209	ERJ6GEYJ183V	18K 1/8W	[M]
R210	ERJ6GEYJ102V	1K 1/8W	[M]
R211	D0GB822JA007	8.2K 1/10W	[M]
R212	D0GB182JA007	1.8K 1/10W	[M]
R220	D0GB104JA007	100K 1/10W	[M]
R221	D0GB153JA007	15K 1/10W	[M]
R222	D0GB683JA007	68K 1/10W	[M]
R223	ERJ3GEYJ470V	47 1/10W	[M]
R224	ERJ3GEYJ102V	1K 1/10W	[M]
R225	ERJ3GEYJ470V	47 1/10W	[M]
R226	D0GB392JA007	3.9K 1/10W	[M]
R227	D0GB392JA007	3.9K 1/10W	[M]
R230	D0GB104JA007	100K 1/10W	[M]
R251	D0GB821JA007	820 1/10W	[M]
R256	D0GB563JA008	56K 1/16W	[M]
R285	D0GB682JA008	6.8K 1/16W	[M]
R292	D0GB562JA007	5.6K 1/10W	[M]
R321	D0GB222JA008	2.2K 1/16W	[M]
R322	D0GB221JA041	220 1/10W	[M]
R323	D0GB221JA041	220 1/10W	[M]
R324	D0GB102JA008	1K 1/16W	[M]
R325	D0GB102JA008	1K 1/16W	[M]
R380	D0GB222JA008	2.2K 1/16W	[M]
R381	D0GB103JA007	10K 1/10W	[M]
R401	D0GB562JA007	5.6K 1/10W	[M]
R402	D0GB562JA007	5.6K 1/10W	[M]
R403	D0GB392JA007	3.9K 1/10W	[M]
R404	ERJ6GEYJ682V	6.8K 1/8W	[M]
R406	ERJ6GEYJ153V	15K 1/8W	[M]
R409	ERJ6GEYJ183V	18K 1/8W	[M]
R410	ERJ6GEYJ102V	1K 1/8W	[M]
R411	D0GB822JA007	8.2K 1/10W	[M]
R412	D0GB182JA007	1.8K 1/10W	[M]
R420	D0GB104JA007	100K 1/10W	[M]
R421	D0GB153JA007	15K 1/10W	[M]
R422	D0GB683JA007	68K 1/10W	[M]
R423	ERJ3GEYJ470V	47 1/10W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R424	ERJ3GEYJ102V	1K 1/10W	[M]
R425	ERJ3GEYJ470V	47 1/10W	[M]
R426	D0GB392JA007	3.9K 1/10W	[M]
R427	D0GB392JA007	3.9K 1/10W	[M]
R430	D0GB104JA007	100K 1/10W	[M]
R441	ERD2FCVG330T	33 1/4W	[M]
R442	D0GB222JA008	2.2K 1/16W	[M]
R443	D0GB332JA007	3.3K 1/10W	[M]
R444	D0GB332JA007	3.3K 1/10W	[M]
R445	D0GB222JA008	2.2K 1/16W	[M]
R446	D0GB223JA008	22K 1/16W	[M]
R447	D0GB223JA008	22K 1/16W	[M]
R451	D0GB821JA007	820 1/10W	[M]
R456	D0GB563JA008	56K 1/16W	[M]
R485	D0GB682JA008	6.8K 1/16W	[M]
R492	D0GB562JA007	5.6K 1/10W	[M]
R586	D0GB473JA008	47K 1/16W	[M]
R600	D0GB473JA008	47K 1/16W	[M]
R601	D0GB220JA007	22 1/10W	[M]
R603	D0GB821JA008	820 1/16W	[M]
R604	D0GB472JA008	4.7K 1/16W	[M]
R605	D0GB151JA007	150 1/10W	[M]
R606	D0GB103JA008	10K 1/16W	[M]
R607	D0GB103JA008	10K 1/16W	[M]
R608	ERD2FCVG120T	12 1/4W	[M]
R611	D0GB332JA008	3.3K 1/16W	[M]
R614	D0GB2R2JA007	2.2 1/10W	[M]
R615	D0GB2R2JA007	2.2 1/10W	[M]
R616	D0GB2R2JA007	2.2 1/10W	[M]
R617	D0GB2R2JA007	2.2 1/10W	[M]
R750	D0GB472JA007	4.7K 1/10W	[M]
R751	D0GB102JA008	1K 1/16W	[M]
R752	D0GB222JA007	2.2K 1/10W	[M]
R753	D0AF100JA039	10 1/2W	[M]
R755	D0GB472JA007	4.7K 1/10W	[M]
R756	D0GB472JA007	4.7K 1/10W	[M]
R801	D0GB101JA008	100 1/16W	[M]
R802	D0GB101JA008	100 1/16W	[M]
R803	D0GB103JA008	10K 1/16W	[M]
R804	D0GB103JA008	10K 1/16W	[M]
R805	D0GB153JA008	15K 1/16W	[M]
R806	D0GB153JA008	15K 1/16W	[M]
R807	D0GB101JA008	100 1/16W	[M]
R808	D0GB101JA008	100 1/16W	[M]
R809	D0GB101JA008	100 1/16W	[M]
R810	D0GB101JA008	100 1/16W	[M]
R811	D0GB101JA008	100 1/16W	[M]
R812	D0GB101JA008	100 1/16W	[M]
R813	D0GB102JA008	1K 1/16W	[M]
R814	D0GB102JA008	1K 1/16W	[M]
R815	D0GB474JA041	470K 1/10W	[M]
R816	D0GB101JA008	100 1/16W	[M]
R817	D0GB101JA008	100 1/16W	[M]
R818	ERJ3GEYJ182V	1.8K 1/10W	[M]
R819	D0GB153JA007	15K 1/10W	[M]
R820	D0GB103JA008	10K 1/16W	[M]
R821	D0GB103JA008	10K 1/16W	[M]
R822	D0GB103JA008	10K 1/16W	[M]
R823	D0GB101JA008	100 1/16W	[M]
R824	D0GB101JA008	100 1/16W	[M]
R825	D0GB101JA008	100 1/16W	[M]
R826	D0GB101JA008	100 1/16W	[M]
R827	D0GB332JA008	3.3K 1/16W	[M]
R828	D0GB105JA008	1M 1/16W	[M]
R829	D0GB334JA008	330K 1/16W	[M]
R831	D0GBR00JA008	0 1/16W	[M]
R832	D0GB101JA008	100 1/16W	[M]
R833	D0GB101JA008	100 1/16W	[M]
R834	D0GB101JA008	100 1/16W	[M]
R835	D0GB472JA007	4.7K 1/10W	[M]
R836	D0GB102JA008	1K 1/16W	[M]
R837	D0GB222JA008	2.2K 1/16W	[M]
R838	ERJ6GEYJ101V	100 1/8W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R839	D0GB102JA008	1K 1/16W	[M]
R840	D0GB101JA008	100 1/16W	[M]
R841	D0GB222JA008	2.2K 1/16W	[M]
R843	D0GB472JA008	4.7K 1/16W	[M]
R844	D0GB102JA008	1K 1/16W	[M]
R846	D0GB101JA008	100 1/16W	[M]
R847	D0GB101JA008	100 1/16W	[M]
R848	D0GB102JA008	1K 1/16W	[M]
R849	D0GB102JA008	1K 1/16W	[M]
R850	D0GB102JA008	1K 1/16W	[M]
R851	D0GB102JA008	1K 1/16W	[M]
R853	D0GB102JA008	1K 1/16W	[M]
R854	D0GB103JA008	10K 1/16W	[M]
R862	D0GB101JA008	100 1/16W	[M]
R864	D0GB153JA008	15K 1/16W	[M]
R865	D0GB153JA008	15K 1/16W	[M]
R866	D0GB104JA008	100K 1/16W	[M]
R867	D0GB102JA008	1K 1/16W	[M]
R868	D0GB472JA008	4.7K 1/16W	[M]
R870	D0GB101JA008	100 1/16W	[M]
R871	D0GB101JA008	100 1/16W	[M]
R872	D0GB101JA008	100 1/16W	[M]
R873	D0GB101JA008	100 1/16W	[M]
R890	D0GB101JA008	100 1/16W	[M]
R891	D0GB102JA008	1K 1/16W	[M]
R892	D0GB122JA007	1.2K 1/10W	[M]
R895	D0GB472JA008	4.7K 1/16W	[M]
R901	ERJ2GEJ102X	1K 1/16W	[M]
R902	ERJ2GEJ102X	1K 1/16W	[M]
R903	D0GB222JA008	2.2K 1/16W	[M]
R903	ERJ2GE0R00X	0 1/16W	[M]
R904	D0GB332JA008	3.3K 1/16W	[M]
R904	ERJ2GE0R00X	0 1/16W	[M]
R905	D0GB472JA008	4.7K 1/16W	[M]
R906	D0GB472JA008	4.7K 1/16W	[M]
R906	ERJ2GE0R00X	0 1/16W	[M]
R907	D0GB152JA007	1.5K 1/10W	[M]
R910	D0GB122JA007	1.2K 1/10W	[M]
R912	D0GB152JA007	1.5K 1/10W	[M]
R913	D0GB222JA008	2.2K 1/16W	[M]
R914	D0GB332JA008	3.3K 1/16W	[M]
R914	ERJ2GE0R00X	0 1/16W	[M]
R915	D0GB102JA008	1K 1/16W	[M]
R917	D0GB102JA008	1K 1/16W	[M]
R918	D0GB102JA008	1K 1/16W	[M]
R920	D0GB102JA008	1K 1/16W	[M]
R922	D0GB680JA007	68 1/10W	[M]
R923	D0GB680JA007	68 1/16W	[M]
R924	D0GB104JA008	100K 1/16W	[M]
R925	D0GB104JA008	100K 1/16W	[M]
R926	D0GB104JA008	100K 1/16W	[M]
R927	D0GB103JA008	10K 1/16W	[M]
R928	D0GB104JA008	100K 1/16W	[M]
R939	D0GBR00JA008	0 1/16W	[M]
R940	D0GBR00JA008	0 1/16W	[M]
R941	D0GB221JA008	220 1/16W	[M]
R942	D0GB472JA008	4.7K 1/16W	[M]
R943	D0GB472JA008	4.7K 1/16W	[M]
R944	D0GB472JA008	4.7K 1/16W	[M]
R948	D0GB102JA008	1K 1/16W	[M]
R949	D0GB102JA008	1K 1/16W	[M]
R950	ERJ2GEJ223X	22K 1/16W	[M]
R951	ERJ2GE0R00X	0 1/16W	[M]
R952	ERJ2GEJ240X	24 1/16W	[M]
R953	ERJ2GEJ240X	24 1/16W	[M]
R954	ERJ2GEJ153X	15K 1/16W	[M]
R955	ERJ2GEJ153X	15K 1/16W	[M]
R957	ERJ2GEJ222X	2.2K 1/16W	[M]
R958	ERJ2GEJ104X	100K 1/16W	[M]
R971	ERJ2GEJ102X	1K 1/16W	[M]
R972	ERJ2GEJ102X	1K 1/16W	[M]
R972	ERDS2TJ821T	820 1/4W	[M]
R973	ERDS2TJ393T	39K 1/4W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R1101	D0GB270JA008	27 1/16W	[M]
R1102	D0GB152JA008	1.5K 1/16W	[M]
R1103	D0GB183JA008	18K 1/16W	[M]
R1104	D0GB103JA008	10K 1/16W	[M]
R1105	D0GB222JA008	2.2K 1/16W	[M]
R1106	D0GB104JA008	100K 1/16W	[M]
R1107	D0GB102JA008	1K 1/16W	[M]
R1109	D0GB102JA008	1K 1/16W	[M]
R1110	D0GB333JA008	33K 1/16W	[M]
R1201	D0GB270JA008	27 1/16W	[M]
R1202	D0GB152JA008	1.5K 1/16W	[M]
R1203	D0GB183JA008	18K 1/16W	[M]
R1204	D0GB103JA008	10K 1/16W	[M]
R1205	D0GB222JA008	2.2K 1/16W	[M]
R1206	D0GB104JA008	100K 1/16W	[M]
R1207	D0GB102JA008	1K 1/16W	[M]
R1209	D0GB102JA008	1K 1/16W	[M]
R1210	D0GB333JA008	33K 1/16W	[M]
R1302	D0GB331JA008	330 1/16W	[M]
R1303	D0GB475JA008	4.7M 1/16W	[M]
R1304	D0GB223JA008	22K 1/16W	[M]
R1305	D0GB103JA008	10K 1/16W	[M]
R1307	ERD25FVJ220T	22 1/4W	[M]
R1308	ERD25FVJ220T	22 1/4W	[M]
R1309	D0AF471JA039	470 1/2W	[M]
R1313	D0GB103JA008	10K 1/16W	[M]
R1314	D0GB102JA008	1K 1/16W	[M]
R1315	D0GB102JA008	1K 1/16W	[M]
R1318	D0GB103JA008	10K 1/16W	[M]
R1327	D0GB472JA008	4.7K 1/16W	[M]
R1328	D0GB153JA008	15K 1/16W	[M]
R1329	D0GB472JA008	4.7K 1/16W	[M]
R1330	ERD2FCVJ4R7T	4.7 1/4W	[M]
R1331	D0GB752JA008	7.5K 1/16W	[M]
R1332	D0GB103JA008	10K 1/16W	[M]
R1333	ERD2FCVJ4R7T	4.7 1/4W	[M]
R1334	D0GB223JA008	22K 1/16W	[M]
R1335	D0GB152JA008	1.5K 1/16W	[M]
R1337	D0GB103JA008	10K 1/16W	[M]
R1338	D0GB472JA008	4.7K 1/16W	[M]
R1341	D0GB471JA007	470 1/10W	[M]
R1342	D0GB473JA007	47K 1/10W	[M]
R1343	D0GB332JA008	3.3K 1/16W	[M]
R1344	D0GB273JA008	27K 1/16W	[M]
R1345	D0GB102JA008	1K 1/16W	[M]
R1371	D0GB223JA008	22K 1/16W	[M]
R1374	D0GB471JA007	470 1/10W	[M]
R1401	D0GB123JA008	12K 1/16W	[M]
R1402	D0GB274JA008	270K 1/16W	[M]
R1403	D0GB103JA008	10K 1/16W	[M]
R1404	D0GB223JA008	22K 1/16W	[M]
R1405	D0GB103JA008	10K 1/16W	[M]
R7111	D0GB103JA008	10K 1/16W	[M]
R7211	ERJ3GEYJ823V	82K 1/10W	[M]
R7212	ERJ3GEYJ821V	820 1/10W	[M]
R7214	ERJ3GEYJ471V	470 1/10W	[M]
R7217	D0GB102JA008	1K 1/16W	[M]
R7218	D0GB102JA008	1K 1/16W	[M]
R7220	ERJ3GEYJ105V	1M 1/10W	[M]
R7221	ERJ3GEYJ101V	100 1/10W	[M]
R7253	ERJ3GEYJ100V	10 1/10W	[M]
R7254	D0GB102JA008	1K 1/16W	[M]
R7315	ERJ3GEYJ332V	3.3K 1/10W	[M]
R7323	ERJ3GEYJ332V	3.3K 1/10W	[M]
R7325	ERJ3GEYJ331V	330 1/10W	[M]
R7327	D0GB102JA008	1K 1/16W	[M]
R7328	D0GB103JA008	10K 1/16W	[M]
R7329	D0GB102JA008	1K 1/16W	[M]
R7330	ERJ3GEYJ562V	5.6K 1/10W	[M]
R7331	D0GB223JA008	22K 1/16W	[M]
R7332	D0GB102JA008	1K 1/16W	[M]
R7335	ERJ3GEYJ101V	100 1/10W	[M]
R7336	ERJ3GEYJ100V	10 1/10W	[M]
R7339	D0GB102JA008	1K 1/16W	[M]
R7349	ERJ3GEYJ183V	18K 1/10W	[M]
R7601	ERJ3GEYJ4R7V	4.7 1/10W	[M]
R7650	ERJ3GEYJ5R6V	5.6 1/10W	[M]
		CAPACITORS	
C1	F1H1H221A748	220pF 50V	[M]
C2	F1H1H221A748	220pF 50V	[M]
C100	F2A1C220A234	22uF 16V	[M]
C101	F2A1C220A234	22uF 16V	[M]
C102	F2A1C220A234	22uF 16V	[M]
C103	F2A1C220A234	22uF 16V	[M]
C108	ECA1CAK220XB	22uF 16V	[M]
C201	F1H1H221A748	220pF 50V	[M]
C202	F1H1H221A748	220pF 50V	[M]
C203	F1H1H221A748	220pF 50V	[M]
C209	F1H1H102A219	1000pF 50V	[M]
C210	F1H1H221A748	220pF 50V	[M]
C211	F1H1H102A219	1000pF 50V	[M]
C212	F1H1H102A219	1000pF 50V	[M]
C216	F1H1H102A219	1000pF 50V	[M]
C220	F2A1H1R0A234	1.0uF 50V	[M]
C221	F1H1H331A013	330pF 50V	[M]
C222	F1H1H101A230	100pF 50V	[M]
C223	F1H1H101A230	100pF 50V	[M]
C224	F2A0J470A167	47uF 6.3V	[M]
C225	F1H1E103A029	0.01uF 25V	[M]
C226	F1H1H101A230	100pF 50V	[M]
C230	F1H1H103A219	0.01uF 50V	[M]
C233	ECA1HAK010XB	1uF 50V	[M]
C254	ECA1HAKR22XB	0.22uF 50V	[M]
C320	F2A1C100A234	10uF 16V	[M]
C321	F1H1H471A219	470pF 50V	[M]
C322	F2A1C470A234	47uF 16V	[M]
C323	ECJ1VB1H561K	560pF 50V	[M]
C324	ECJ1VC1H102J	1000pF 50V	[M]
C325	F2A1C470A234	47uF 16V	[M]
C326	F1H1H470A230	47pF 50V	[M]
C327	F1H1H470A230	47pF 50V	[M]
C351	F1H1H332A013	3300pF 50V	[M]
C352	F1H1H102A219	1000pF 50V	[M]
C363	ECQV1H224JL3	0.22uF 50V	[M]
C364	ECQV1H224JL3	0.22uF 50V	[M]
C366	ECQV1H224JL3	0.22uF 50V	[M]
C367	ECQV1H224JL3	0.22uF 50V	[M]
C370	ECA1CAK220XB	22uF 16V	[M]
C372	F1H1H102A219	1000pF 50V	[M]
C373	F1H1H332A013	3300pF 50V	[M]
C374	ECA1HAK100XB	10uF 50V	[M]
C401	F1H1H221A748	220pF 50V	[M]
C403	F1H1H221A748	220pF 50V	[M]
C405	F1H1H221A748	220pF 50V	[M]
C409	F1H1H102A219	1000pF 50V	[M]
C410	F1H1H221A748	220pF 50V	[M]
C411	F1H1H102A219	1000pF 50V	[M]
C412	F1H1H102A219	1000pF 50V	[M]
C416	F1H1H102A219	1000pF 50V	[M]
C420	F2A1H1R0A234	1.0uF 50V	[M]
C421	F1H1H331A013	330pF 50V	[M]
C422	F1H1H101A230	100pF 50V	[M]
C423	F1H1H101A230	100pF 50V	[M]
C424	F2A0J470A167	47uF 6.3V	[M]
C425	F1H1E103A029	0.01uF 25V	[M]
C426	F1H1H101A230	100pF 50V	[M]
C430	F1H1H103A219	0.01uF 50V	[M]
C433	ECA1HAK010XB	1uF 50V	[M]
C440	F1H1E1530002	0.015uF 25V	[M]
C441	F1H1E1530002	0.015uF 25V	[M]
C442	F1H1E1530002	0.015uF 25V	[M]
C443	ECA1HAKR33XB	0.33uF 50V	[M]
C444	F1H1C154A002	0.15uF 16V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C445	ECA1HAKR33XB	0.33uF 50V	[M]
C446	F1H1C154A002	0.15uF 16V	[M]
C447	ECA1EPX470B	47uF 25V	[M]
C448	F2A1HR33A234	0.33uF 50V	[M]
C449	F1H1E1530002	0.015uF 25V	[M]
C454	ECA1HAKR22XB	0.22uF 50V	[M]
C455	ECJ1VB1C683K	0.068uF 16V	[M]
C456	ECJ1VB1C683K	0.068uF 16V	[M]
C461	F1H1C104A041	0.1uF 16V	[M]
C462	F1H1C104A041	0.1uF 16V	[M]
C463	ECA1EPX470B	47uF 25V	[M]
C464	F1H1H470A230	47pF 50V	[M]
C465	F1H1H470A230	47pF 50V	[M]
C501	F2A1C332A237	3300uF 16V	[M]
C502	ECA1EAM682YE	6800uF 25V	[M]
C586	F2A1H100A234	10uF 50V	[M]
C601	F1H1H103A219	0.01uF 50V	[M]
C602	F2A1V102A154	1000uF 35V	[M]
C603	F2A1C102A236	1000uF 16V	[M]
C604	F1H1H103A219	0.01uF 50V	[M]
C605	F2A1E470A202	47uF 25V	[M]
C609	F2A1H1010039	100uF 50V	[M]
C610	F1H1H103A219	0.01uF 50V	[M]
C611	F2A1H470A147	47uF 50V	[M]
C612	F2A1H1010039	100uF 50V	[M]
C613	ECQE2104KF3	0.1uF 100V	[M]
C614	ECQE2104KF3	0.1uF 100V	[M]
C750	F2A1H1R0A234	1.0uF 50V	[M]
C751	F2A0J470A167	47uF 6.3V	[M]
C752	F1H1E103A029	0.01uF 25V	[M]
C753	F1H1E103A029	0.01uF 25V	[M]
C754	F2A1C221A236	220uF 16V	[M]
C781	F1H1H331A013	330pF 50V	[M]
C803	F1H1H101A230	100pF 50V	[M]
C810	F1H1H102A219	1000pF 50V	[M]
C812	F1H1H102A219	1000pF 50V	[M]
C814	F1H1H470A230	47pF 50V	[M]
C816	F2A1C100A234	10uF 16V	[M]
C819	F1H1C104A041	0.1uF 16V	[M]
C820	ECJ1VB1H472K	4700pF 50V	[M]
C821	ECJ1VB1H472K	4700pF 50V	[M]
C822	ECJ1VB1H472K	4700pF 50V	[M]
C823	ECJ1VB1H472K	4700pF 50V	[M]
C824	ECJ1VB1H472K	4700pF 50V	[M]
C829	F1H1H470A230	47pF 50V	[M]
C830	ECJ1VC1H180J	18pF 50V	[M]
C831	ECJ2VB1C104K	0.1uF 16V	[M]
C832	F1H1C104A041	0.1uF 16V	[M]
C833	F1H1H470A230	47pF 50V	[M]
C835	ECJ1VC1H180J	18pF 50V	[M]
C836	ECJ1VC1H220J	22pF 50V	[M]
C837	F2A0J470A167	47uF 6.3V	[M]
C838	F2A0J470A167	47uF 6.3V	[M]
C839	F2A0J102A247	1000uF 6.3V	[M]
C840	F2A0J102A247	1000uF 6.3V	[M]
C842	F1H1H102A219	1000pF 50V	[M]
C843	F1H1H104A783	0.1uF 50V	[M]
C845	F1H1H104A783	0.1uF 50V	[M]
C847	F1H1H221A748	220pF 50V	[M]
C848	F1H1H221A748	220pF 50V	[M]
C850	ECJ1VC1H180J	18pF 50V	[M]
C851	ECJ1VB1H472K	4700pF 50V	[M]
C853	F1H1H101A230	100pF 50V	[M]
C900	ECJ1VB1A224K	0.22uF 10V	[M]
C901	ECJ1VB1A224K	0.22uF 10V	[M]
C901	F1G1C104A083	0.1uF 16V	[M]
C902	ECJ1VB1A224K	0.22uF 10V	[M]
C902	F1G1C104A083	0.1uF 16V	[M]
C903	ECJ1VB1A224K	0.22uF 10V	[M]
C903	F1G1C104A083	0.1uF 16V	[M]
C904	ECJ1VB1A224K	0.22uF 10V	[M]
C904	F2A1C100A234	10uF 16V	[M]
C905	ECJ1VB1A224K	0.22uF 10V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C905	F1G1C104A083	0.1uF 16V	[M]
C906	ECA1HAK2R2XB	2.2uF 50V	[M]
C906	F2A1C100A234	10uF 16V	[M]
C907	ECA1HAK2R2XB	2.2uF 50V	[M]
C907	F1G1H180A565	18pF 50V	[M]
C908	F1G1H220A565	22pF 50V	[M]
C910	F2A1H220A234	22uF 50V	[M]
C911	ECA1HAK220XB	22uF 50V	[M]
C911	F1G1C104A083	0.1uF 16V	[M]
C912	F1G1C104A083	0.1uF 16V	[M]
C912	F1H1H104A783	0.1uF 50V	[M]
C913	F1G1C104A083	0.1uF 16V	[M]
C913	F1H1H103A219	0.01uF 50V	[M]
C914	F1G1C104A083	0.1uF 16V	[M]
C914	F1H1H104A783	0.1uF 50V	[M]
C915	ECA1HAK220XB	22uF 50V	[M]
C915	F2A1C470A234	47uF 16V	[M]
C918	F2A1C100A234	10uF 16V	[M]
C920	F1H1H101A230	100pF 50V	[M]
C921	F1H1H101A230	100pF 50V	[M]
C922	F2A0J470A167	47uF 6.3V	[M]
C923	ECA1HAK220XB	22uF 50V	[M]
C924	F2A1A220A204	22uF 10V	[M]
C925	F1H1H101A230	100pF 50V	[M]
C926	F1H1H101A230	100pF 50V	[M]
C927	F1H1H101A230	100pF 50V	[M]
C931	F2A1C100A234	10uF 16V	[M]
C950	F2A1C100A234	10uF 16V	[M]
C951	F1G1C104A083	0.1uF 16V	[M]
C952	F1G1C104A083	0.1uF 16V	[M]
C953	F1H1H102A219	1000pF 50V	[M]
C953	F2A0J101A245	100uF 6.3V	[M]
C1101	F2A1H1R0A145	1.0uF 50V	[M]
C1102	F1H1H471A219	470pF 50V	[M]
C1103	F2A1C101A147	100uF 16V	[M]
C1104	F1H1C2730001	0.027uF 16V	[M]
C1105	F1H1H471A219	470pF 50V	[M]
C1106	F2A1H2R2A145	2.2uF 50V	[M]
C1107	F1H1H152A219	1500pF 50V	[M]
C1108	F2A1C1000018	10uF 16V	[M]
C1109	F2A1H3R3A145	3.3uF 50V	[M]
C1110	F1H1H682A219	6800pF 50V	[M]
C1121	F1H1H102A219	1000pF 50V	[M]
C1122	F1H1H103A219	0.01uF 50V	[M]
C1123	ECJ1VB1H271K	270pF 50V	[M]
C1201	F2A1H1R0A145	1.0uF 50V	[M]
C1202	F1H1H471A219	470pF 50V	[M]
C1203	F2A1C101A147	100uF 16V	[M]
C1204	F1H1C2730001	0.027uF 16V	[M]
C1205	F1H1H471A219	470pF 50V	[M]
C1206	F2A1H2R2A145	2.2uF 50V	[M]
C1207	F1H1H152A219	1500pF 50V	[M]
C1208	F2A1C1000018	10uF 16V	[M]
C1209	F2A1H3R3A145	3.3uF 50V	[M]
C1210	F1H1H682A219	6800pF 50V	[M]
C1221	F1H1H102A219	1000pF 50V	[M]
C1222	F1H1H103A219	0.01uF 50V	[M]
C1223	ECJ1VB1H271K	270pF 50V	[M]
C1301	ECA1HAK0R1XB	0.1uF 50V	[M]
C1302	F1H1C333A071	0.033uF 16V	[M]
C1303	F1H1C333A071	0.033uF 16V	[M]
C1304	F2A1H4R7A145	4.7uF 50V	[M]
C1305	F2A1C330A234	33uF 16V	[M]
C1307	ECA1AAK221XQ	220uF 10V	[M]
C1308	F2A1C220A234	22uF 16V	[M]
C1310	ECA1HAK0R1XB	0.1uF 50V	[M]
C1311	ECA1CAK470XB	47uF 16V	[M]
C1312	F1H1H332A013	3300pF 50V	[M]
C1314	F1H1H222A013	2200pF 50V	[M]
C1315	F1H1H222A013	2200pF 50V	[M]
C1316	F1H1H102A219	1000pF 50V	[M]
C1317	F1H1H102A219	1000pF 50V	[M]
C1318	ECQV1H473JL3	0.047uF 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C1319	F2A1C101A147	100uF 16V	[M]
C1320	F2A1H1R0A145	1.0uF 50V	[M]
C1321	F0A2A472A019	4700pF 100V	[M]
C1323	ECEA1HKN010B	1uF 50V	[M]
C1324	ECA1CAK470XB	47uF 16V	[M]
C1326	F2A1C1000018	10uF 16V	[M]
C1371	F1H1H103A219	0.01uF 50V	[M]
C7102	F1H1A474A025	0.47uF 10V	[M]
C7107	ECJ1VB1H223K	0.022uF 50V	[M]
C7142	ECJ1VB1H332K	3300pF 50V	[M]
C7154	ECJ1VB1C104K	0.1uF 16V	[M]
C7155	ECJ1VB1C104K	0.1uF 16V	[M]
C7161	ECJ1VB1C104K	0.1uF 16V	[M]
C7164	ECJ2FF1A106Z	10uF 10V	[M]
C7165	ECJ2FF1A106Z	10uF 10V	[M]
C7166	F1H1H103A219	0.01uF 50V	[M]
C7203	F2A0J221A200	220uF 6.3V	[M]
C7204	ECJ1VB1C104K	0.1uF 16V	[M]
C7216	ECJ1VB1H681K	680pF 50V	[M]
C7217	ECJ1VB1C104K	0.1uF 16V	[M]
C7218	ECJ1VB1C823K	0.082uF 16V	[M]
C7223	F2A1H4R70037	4.7uF 50V	[M]
C7225	F1H1H102A219	1000pF 50V	[M]
C7226	F1H1H102A219	1000pF 50V	[M]
C7227	ECA1HAK010XI	1uF 50V	[M]
C7228	ECA1HAK010XI	1uF 50V	[M]
C7230	ECJ1VB1C104K	0.1uF 16V	[M]
C7231	F2A0J221A200	220uF 6.3V	[M]
C7232	F2A0J221A200	220uF 6.3V	[M]
C7233	F1H1C104A008	0.1uF 16V	[M]
C7234	ECJ1VB1C104K	0.1uF 16V	[M]
C7235	F2A1C100A133	10uF 16V	[M]
C7241	F1H1H102A219	1000pF 50V	[M]
C7243	F1H1C104A008	0.1uF 16V	[M]
C7244	ECJ1VB1C153K	0.015uF 16V	[M]
C7253	F1H1H471A219	470pF 50V	[M]
C7263	ECJ1VB1C104K	0.1uF 16V	[M]
C7264	ECJ1VB1C104K	0.1uF 16V	[M]
C7315	F1H1A474A025	0.47uF 10V	[M]
C7334	ECEA1AKA221I	220uF 10V	[M]
C7335	F1H1C104A008	0.1uF 16V	[M]
C7338	ECJ1VB1C563K	0.056uF 16V	[M]
C7339	ECJ1VB1C183K	0.018uF 16V	[M]
C7352	ECJ1VB1C183K	0.018uF 16V	[M]
C7601	ECEA0JKA330I	33uF 6.3V	[M]
C7613	ECJ1VB1C104K	0.1uF 16V	[M]
C7614	F2A0J101A198	100uF 6.3V	[M]
C7626	ECJ1VB1C104K	0.1uF 16V	[M]
C7670	ECJ1VB1C104K	0.1uF 16V	[M]