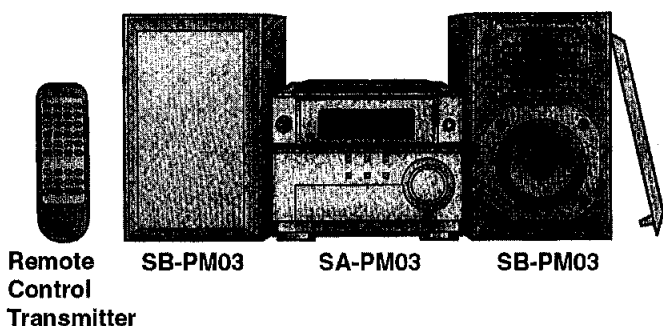


Service Manual

CD Stereo System



SA-PM03

Colour

(S)...Silver Type

Area

(E)...Europe

(EB)...Great Britain

(EG)...Germany and Italy

CD SECTION

RAE0152Z-3 TRAVERSE DECK SERIES

Specifications

■ Amplifier Section

RMS power output

THD 10%, both channels driven

1 kHz

(For E, EG)

14 W per channel (6 Ω)

(For EB)

15 W per channel (6 Ω)

Input sensitivity

AUX

250 mV

Input impedance

AUX

47 k Ω

Output impedance

Headphone

16-32 Ω

LINE OUT

2.2 k Ω

■ FM Tuner Section

Frequency range

87.50 - 108.00 MHz (50kHz steps)

Sensitivity

1.8 μ V (IHF)

S/N 26dB

1.5 μ V

Antenna terminal(s)

75 Ω (unbalanced)

■ AM Tuner Section

Frequency range

522 - 1629 kHz (9kHz steps)

Sensitivity

S/N 20dB

500 μ V/m

■ CD Section

Sampling frequency

44.1 kHz

Decoding

16 bit linear

Beam source/wave length

Number of channels

S/N ratio

SP OUT

WOW and flutter

Digital filter

D/A converter

■ General

Power supply

Power consumption

Standby

Dimensions (W x H x D)

Weight

Semiconductor laser/ 780 nm

2 channels Stereo

82 dB (JIS A)

Below measurable limit

8 fs

MASH (1 bit DAC)

AC 230 - 240 V, 50 Hz

50 W

0.5 W

190 x 149 x 297 mm

Approx 3.7 kg

Notes:

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

■ System

SC-PM03 (E)

Music Center: SA-PM03 (E)

Speaker: SB-PM03 (E)

SC-PM03 (EB)

Music Center: SA-PM03 (EB)

Speaker: SB-PM03 (E)

SC-PM03 (EG)

Music Center: SA-PM03 (EG)

Speaker: SB-PM03 (EG)

Panasonic®

© 2000 Matsushita Electronics (S) Pte. Ltd. All rights reserved. Unauthorized copying and distribution is a violation of law.



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.

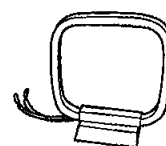
CONTENTS

	Page		Page
1 Accessories	2	9 Illustration of IC's, Transistors and Diodes	19
2 Handling Precautions For Traverse Deck	3	10 Terminal Function of IC's	20
3 Precaution of Laser Diode	3	11 Block Diagram	23
4 Caution for AC Mains Lead	5	12 Schematic Diagram	27
5 Operation Procedures	6	13 Printed Circuit Board	37
6 Operation Checks and Main Component replacement Procedures	7	14 Wiring Connection Diagram	43
7 Self-Diagnostic Display Function	16	15 Troubleshooting Guide	44
8 Measurements and Adjustments	17	16 Parts Location and Replacement Parts List	45

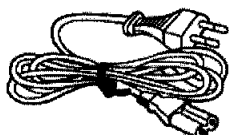
1 Accessories



Remote Control
Transmitter



AM loop antenna



AC Power Supply Cord...(E,EG)



AC Power Supply Cord...(EB)



FM Indoor Antenna



Antenna plug adapter

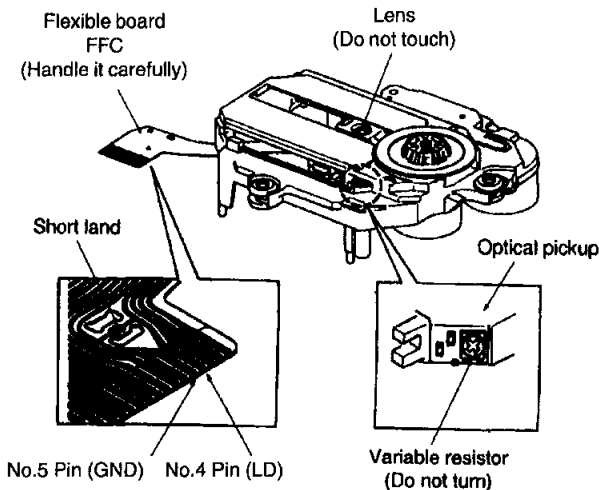
2 Handling Precautions For Traverse Deck

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. The short land between the No.4 (LD) and No.5 (GND) pins on the flexible board (FFC) is shorted with a solder build-up to prevent damage to the laser diode.
To connect to the PC board, be sure to open by removing the solder build-up, and finish the work quickly.
3. Take care not to apply excessive stress to the flexible board (FFC board).
4. Do not turn the variable resistor (laser power adjustment). It has already been adjusted.



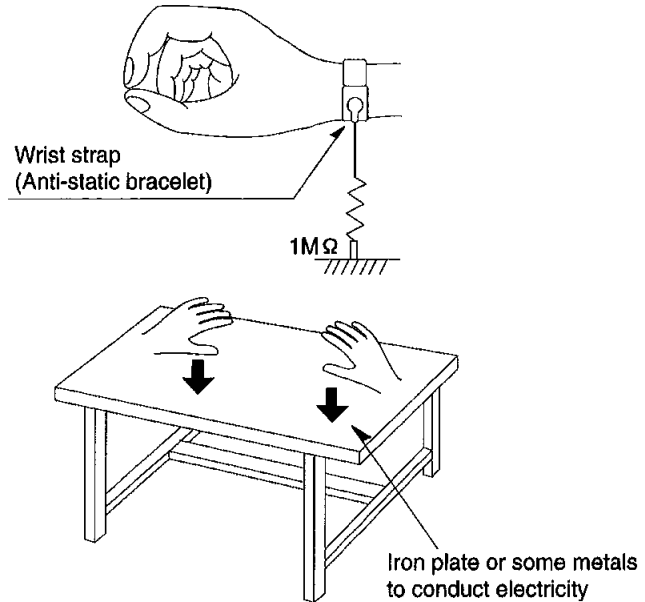
Use the anti-static wrist strap to discharge the static electricity from your body.

2. Work table grounding

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

Caution :

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



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.

● Grounding for electrostatic breakdown prevention

1. Human body grounding

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 : 780 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 : 780nm

Maximale Strahlungsleistung der Lasereinheit :100W/VDE

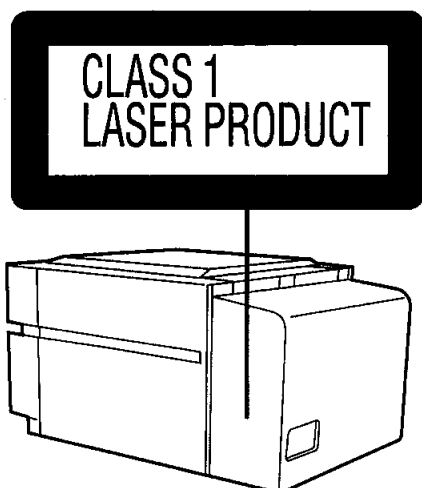
Die Strahlung an der Lasereinheit ist ungefährlich, wenn folgende Punkte beachtet werden:

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

ADVARSEL: I dette a apparat anvendes laser.**CAUTION!**

THIS PRODUCT UTILIZES A LASER.

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

■ Use of Caution Labels

DANGER	INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCK DEFEATED. AVOID DIRECT EXPOSURE TO BEAM.
ADVARSEL	USYNLIG LASERSTRÅLING VED ÅBNING. NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSETELSE FOR STRÅLING.
VARO!	AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTIHINA NÄKYMÄTÖNÄ LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESSEEN.
VARNING	OSYNLIG LASERSTRÅLNING NÅR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRÄKTA EJ STRÅLEN.
ADVARSEL	USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNESES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.
VORSICHT	UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET UND SICHERHEITVERRIEGELUNG ÜBERBRÜCKT. NICHT DEM STRAHL AUSSETZEN.

RQLS0119

4 Caution for AC Mains Lead

(For "EB" area code model only)

For your safety, please read the following text carefully.

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

A 5-ampere fuse is fitted in this plug.

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

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

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

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

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

CAUTION!

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

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

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

If in any doubt please consult a qualified electrician.

IMPORTANT

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

Blue: Neutral,

Brown: Live.

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

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

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

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

THIS PLUG IS NOT WATERPROOF—KEEP DRY.

Before use

Remove the connector cover.

How to replace the fuse

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

Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.

Figure A

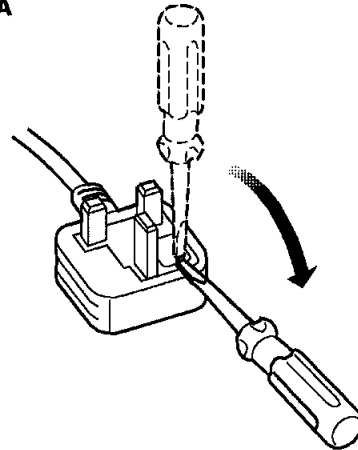
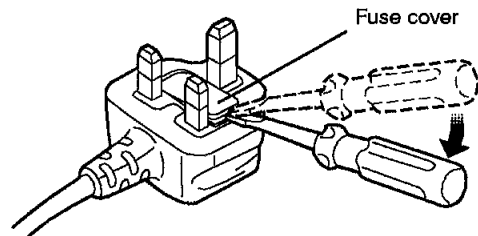


Figure B



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

Figure A

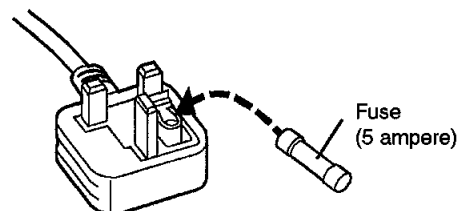
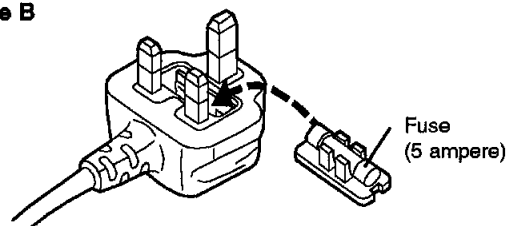
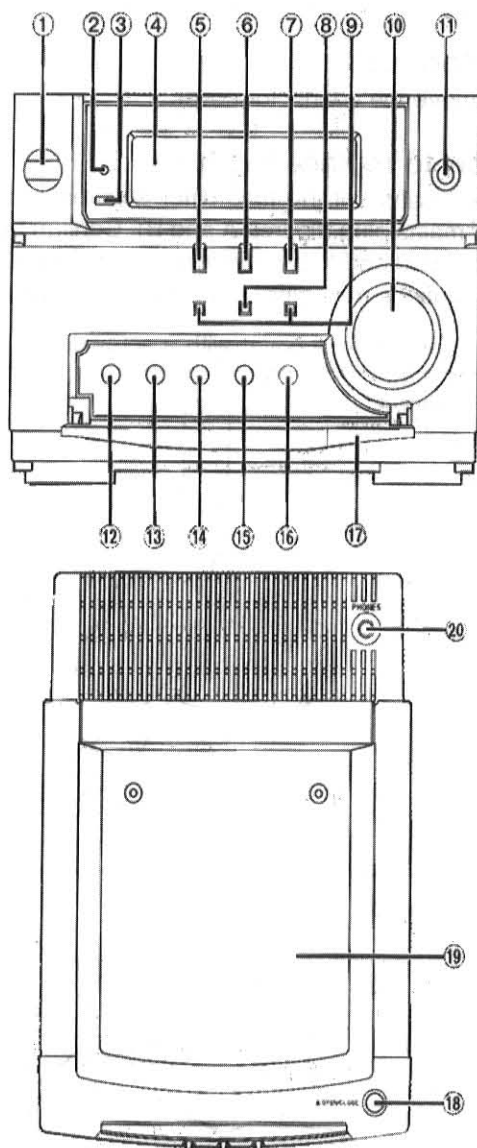


Figure B



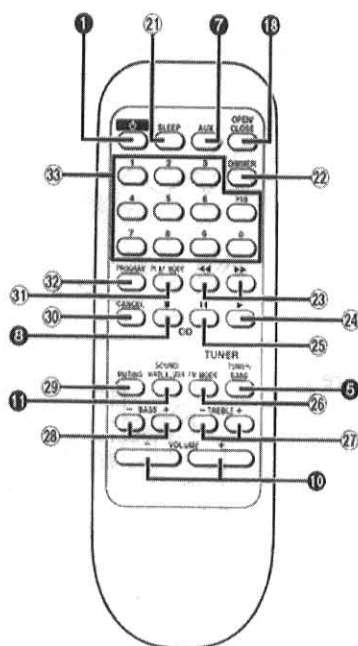
5 Operation Procedures



Front panel controls

- | No. | Name |
|-----|---|
| ① | Standby/on switch (⏻/⏻) |
| | Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power. |
| ② | Standby/on indicator (⏻/⏻) |
| | When the unit is connected to the AC mains supply, this indicator lights red in standby mode and lights green when the unit is turned on. |
| ③ | Remote control signal sensor (SENSOR) |
| ④ | Multi-function display panel (MULTI-FUNCTION DISPLAY) |
| ⑤ | Tuner/band select button (TUNER/BAND) |
| ⑥ | CD play/pause button (CD, ▶/⏻) |
| ⑦ | AUX button (AUX) |
| ⑧ | CD stop button (■) |
| ⑨ | Tuning/skip/search/time adjust buttons (←/⏮/⏭/→) |
| ⑩ | Volume control (VOLUME) |
| ⑪ | Sound virtualizer button (SOUND VIRTUALIZER) |
| ⑫ | Memory button (MEMORY) |
| ⑬ | Tuning mode select button (TUNE MODE) |
| ⑭ | Clock/timer button (CLOCK/TIMER) |
| ⑮ | Play timer button (⌚ PLAY) |
| ⑯ | Timer fader button (TIMER FADER) |
| ⑰ | Front cover |
| ⑱ | CD lid open/close button (▲ OPEN/CLOSE) |
| ⑲ | CD lid |
| ⑳ | Headphone jack (PHONES) |

A



Remote control A

Buttons such as ① function in exactly the same way as the buttons on the main unit.

- | No. | Name |
|-----|--|
| ① | Sleep button (SLEEP) |
| ② | Dimmer button (DIMMER) |
| ③ | Skip/search buttons (⏮, ⏭) |
| ④ | Play button (▶) |
| ⑤ | Pause button (⏻) |
| ⑥ | FM mode button (FM MODE) |
| ⑦ | Treble buttons (– TREBLE +) |
| ⑧ | Bass buttons (– BASS +) |
| ⑨ | Muting button (MUTING) |
| ⑩ | Cancel button (CANCEL) |
| ⑪ | Play mode select button (PLAY MODE) |
| ⑫ | Program button (PROGRAM) |
| ⑬ | Numeric buttons |

6 Operation Checks and Main Component replacement Procedures

“ATTENTION SERVICER” Some chassis components may have sharp edges. Be careful when disassembling and servicing.

1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.

2. For reassembly after operation checks or replacement, reverse the respective procedures.

Special reassembly procedures are described only when required.

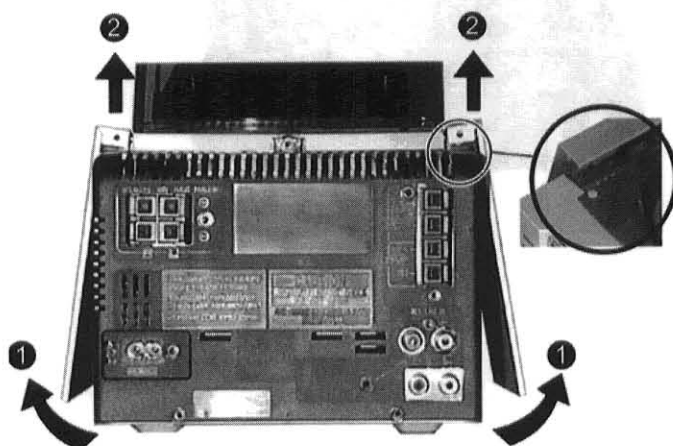
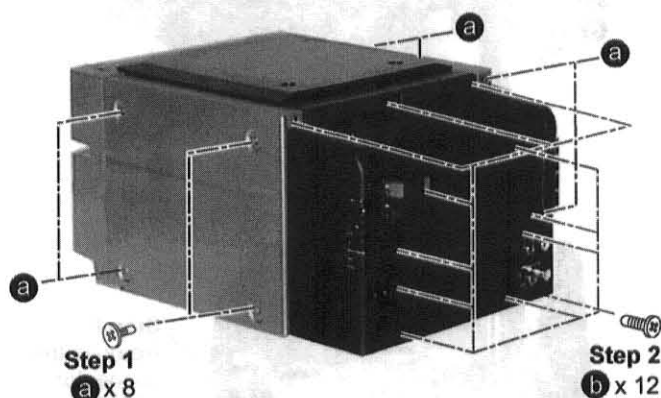
3. Select items from the following index when checks or replacements are required.

● Contents

- Checking Procedure for Each Major P.C.B.

6.1. Checking Procedure for Each Major P.C.B.

6.1.1. Checking of the Main/Trans P.C.B., Operation P.C.B., Tuner P.C.B. and AC IN P.C.B.



To remove side panel, CD lid must in open position. Pull both side panels in the arrow direction 1 and 2 to release the catches at the sides and the top.

1. Checking of the Main, Panel, Deck and Power P.C.B.

• Main Component Replacement Procedures

1. Replacement of the Traverse Deck

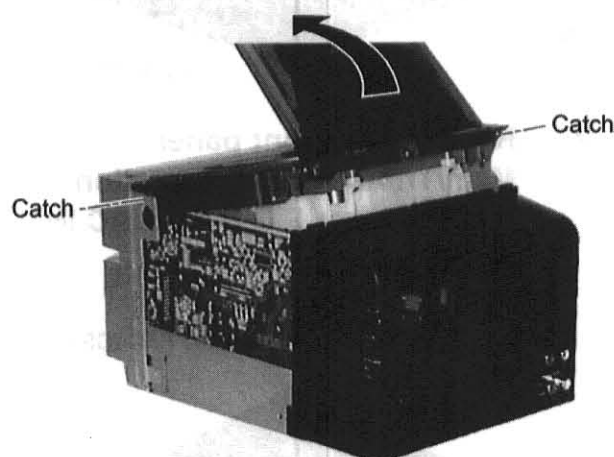
2. Replacement of the Power Amplifier IC and Regulator Transistors

Warning:

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

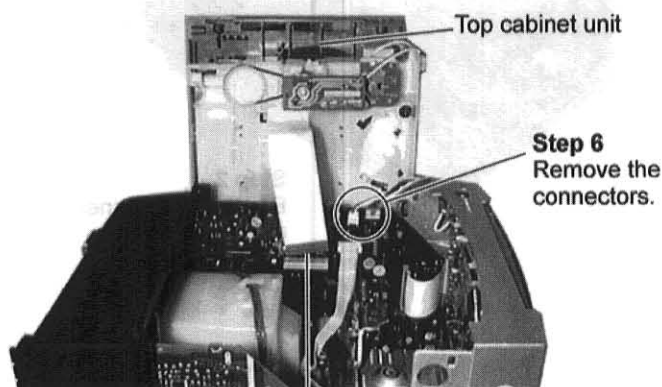
ACHTUNG:

- Die Lasereinheit nicht zerlegen.
- Die Lasereinheit darf nur gegen eine vom Hersteller spezifizierte Einheit ausgetauscht werden.



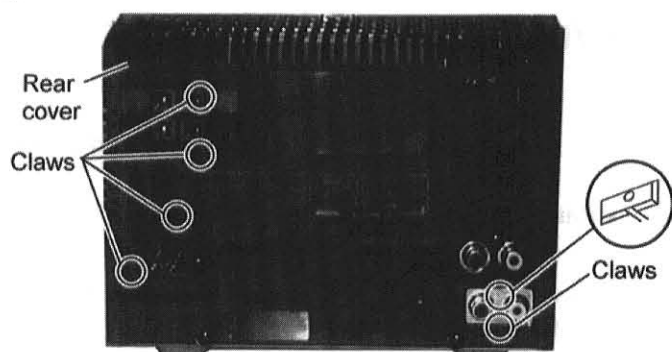
Step 4

release the catches, push the Top cabinet unit in the direction of arrow.

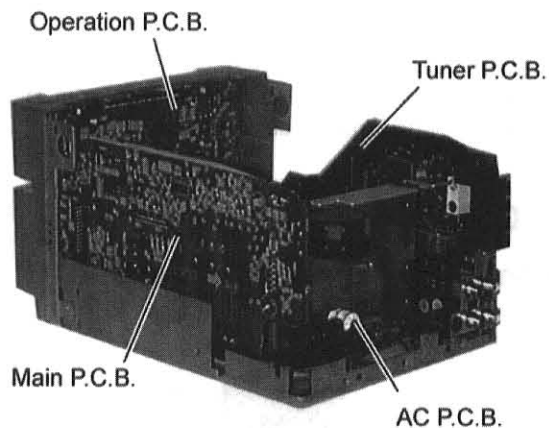


Step 5

Pull out the FFC.

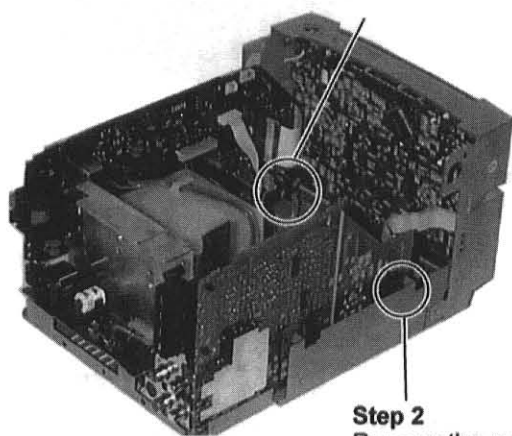
**Step 7**

Release the claws with thin tip of minus screwdriver and then remove the rear cover.

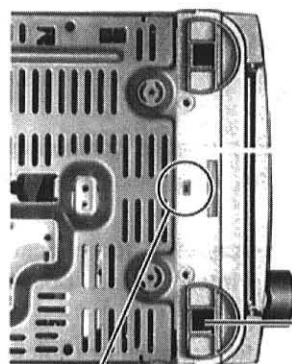


6.1.2. Removal of Front panel, Main/Trans P.C.B., Operation P.C.B., Tuner P.C.B. and AC IN P.C.B.

Step 1
Pull out the FFC (CS8011).



Step 2
Remove the connector (CS901).

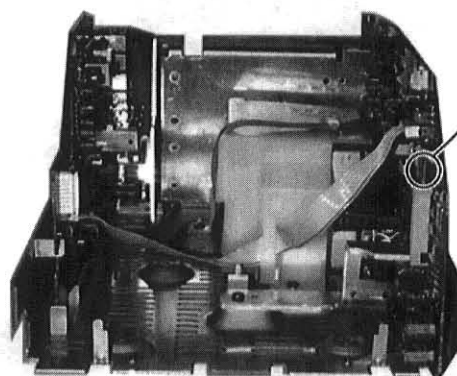
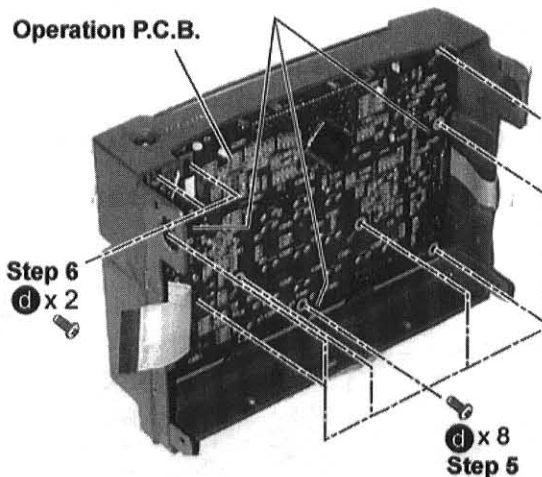
**Step 3**

Remove the rib with a minus screwdriver.

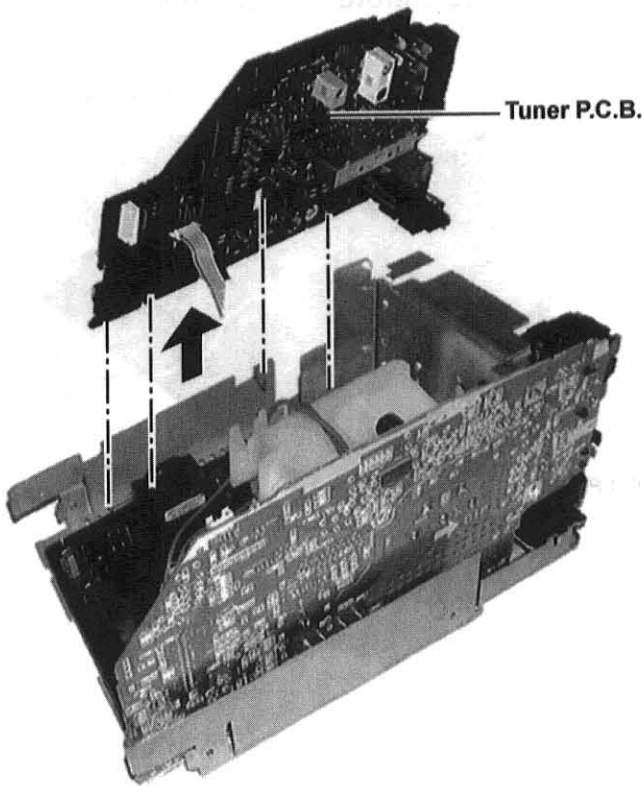
Step 4
Remove the Front Panel ass'y.

Step 7

Remove the Operation P.C.B. from the front panel guiding ribs.

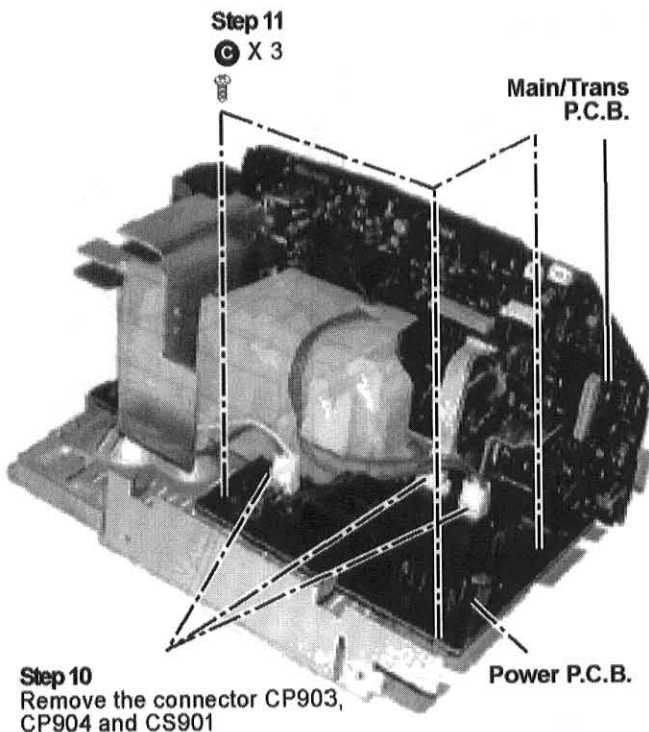


Step 8
Remove the connector (CS603).



Step 9

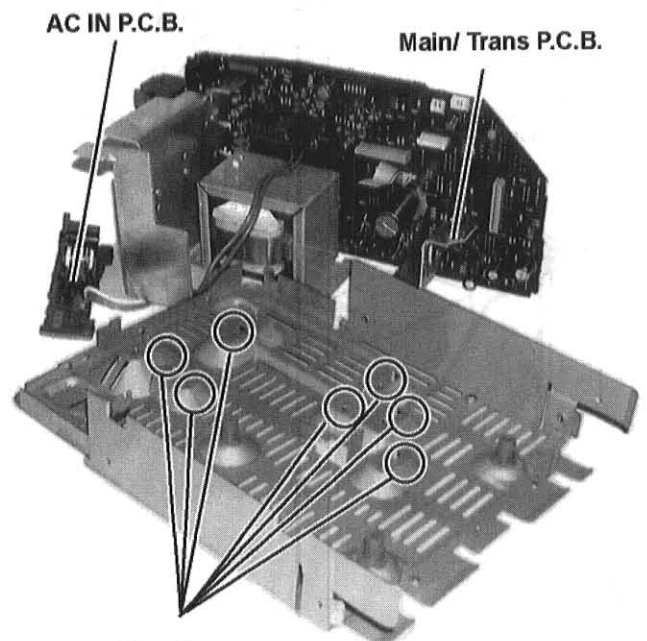
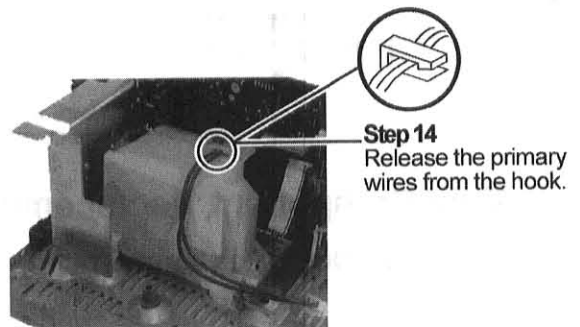
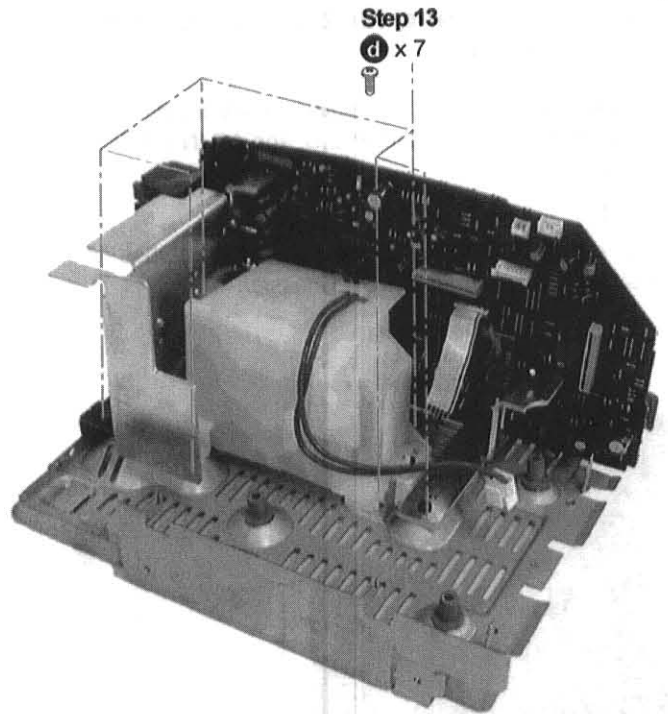
remove the Tuner P.C.B. from the bottom chassis catches.



Step 10
Remove the connector CP903,
CP904 and CS901

Step 12

Remove the Power P.C.B. vertically.



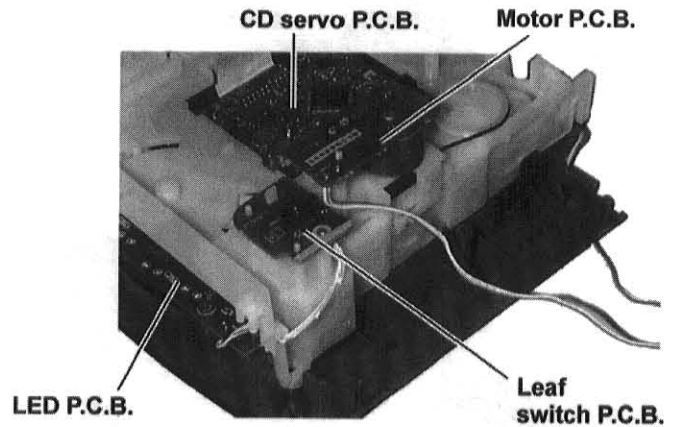
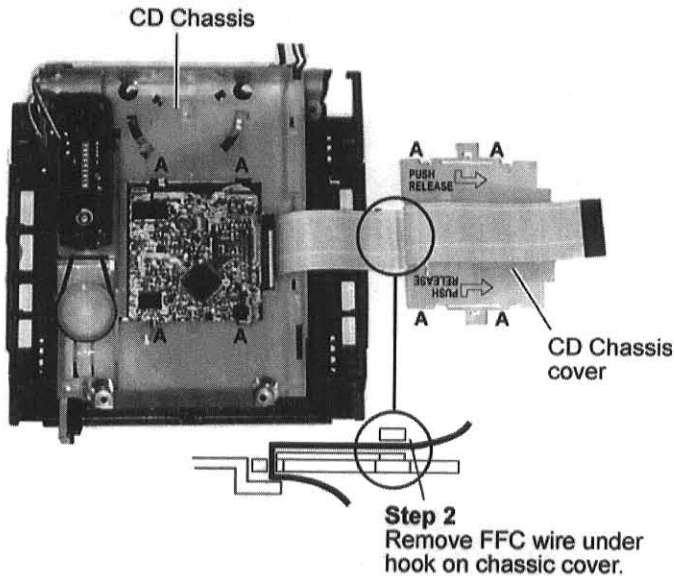
Step 15
Remove the Main P.C.B. and AC P.C.B. from
these guiding ribs on the bottom chassis.

6.1.3. Checking for the CD Servo P.C.B., Leaf switch P.C.B., Motor P.C.B. and LED P.C.B.

- Follow the Item 6.1.1 checking of the Main/Trans P.C.B., Operation P.C.B., Tuner P.C.B. and AC IN P.C.B. Step 1 to Step 7.

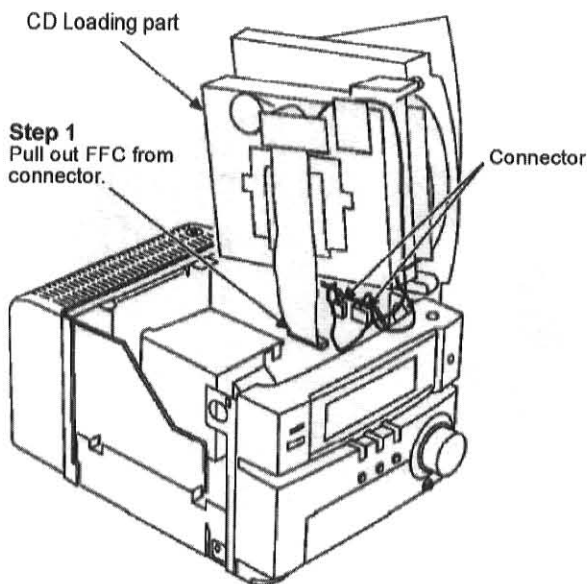
Step 1

Push out the CD Chassis cover from the catches "A" in the direction of arrow from the CD Chassis.



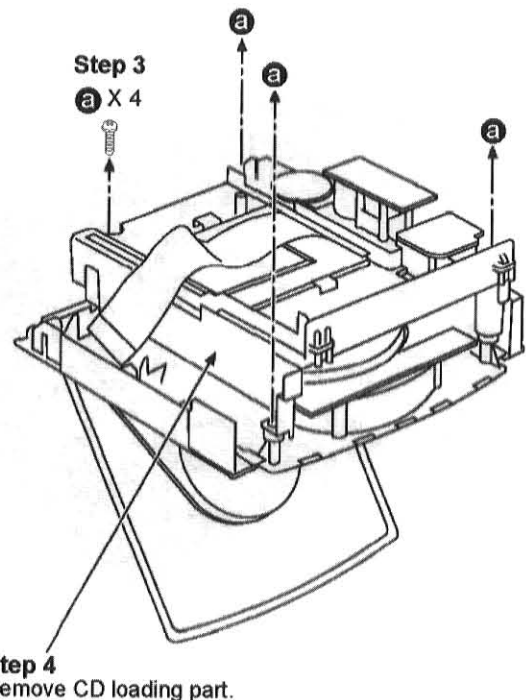
6.2. Main Component Replacement procedures

6.2.1. Traverse Deck Replacement



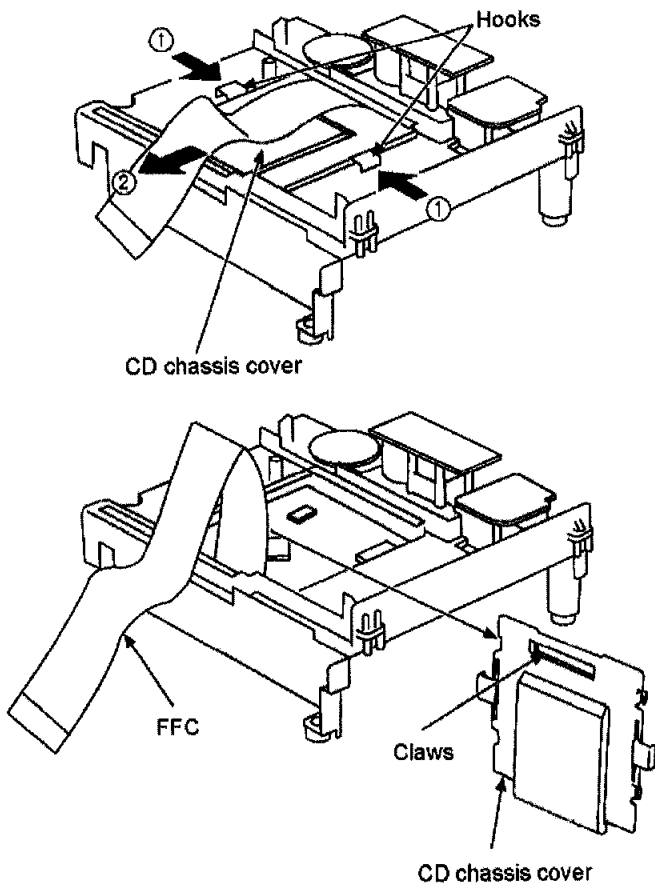
Step 2

Remove 2 connector.



Step 5

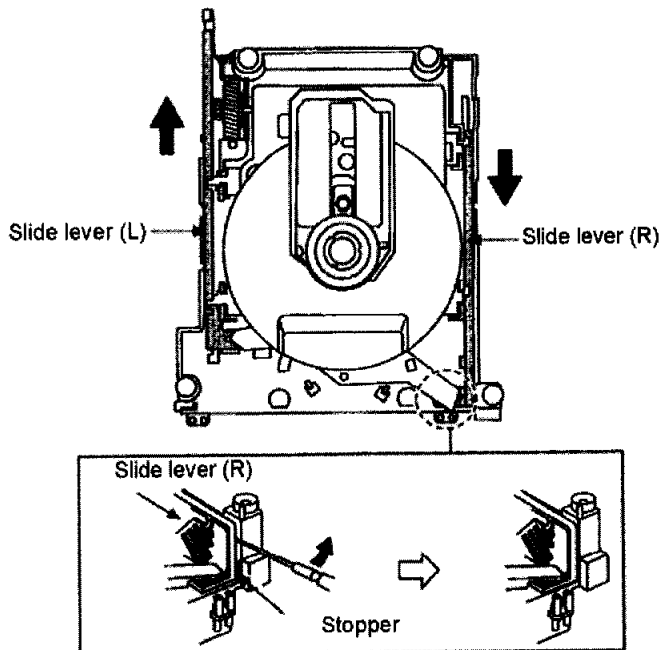
While pressing hooks (both sides) on CD chassis cover, pull in the direction shown by the arrow 2. (Claws are release and CD chassis cover opens).

**Step 6**

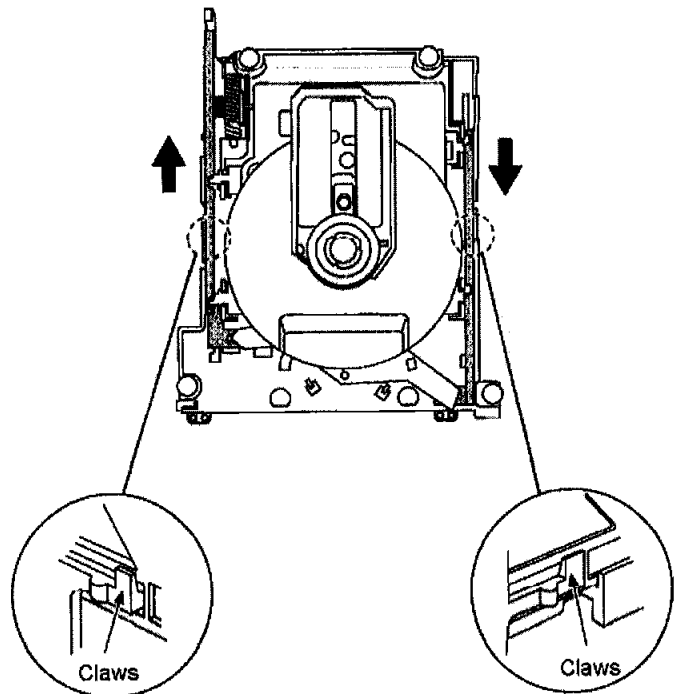
Release the claw and remove CD chassis cover from FC.

Step 7

Slide the slide lever (L) and (R) fully in the direction shown by the arrow.

**Step 8**

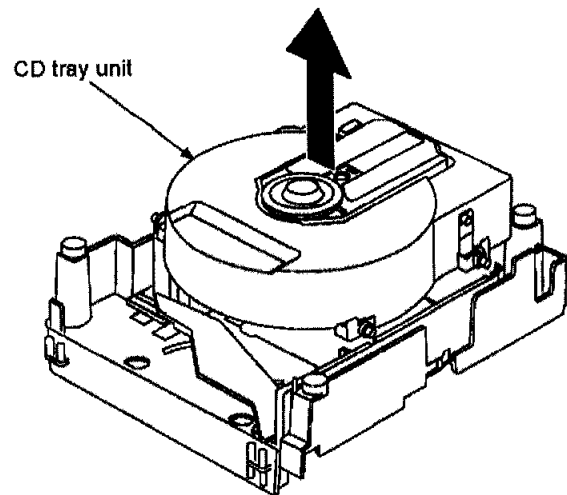
Place the slide lever (R) over the stopper with X screwdriver, etc.

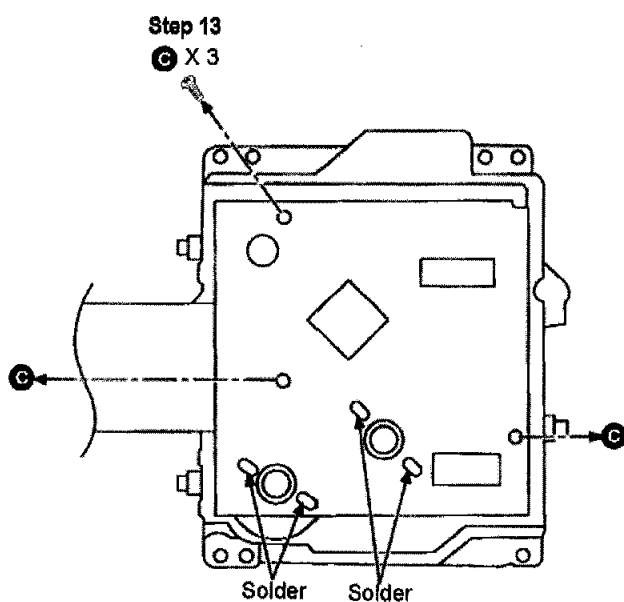
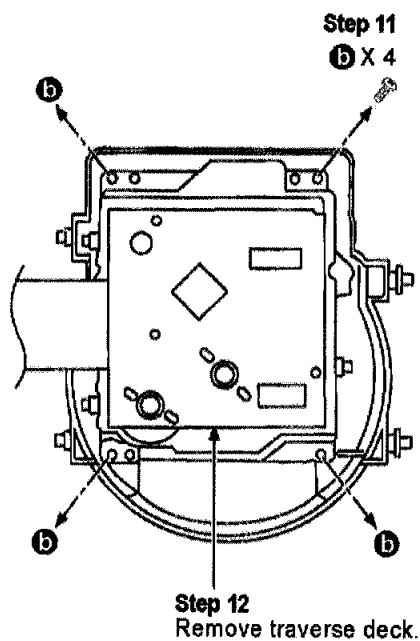
**Step 9**

Release the claws on both sides, then slide the slide lever (L) and (R) in the direction shown by the arrows. (Slide levers slide only a little bit.)

Step 10

Pull CD tray unit right upward to remove it.

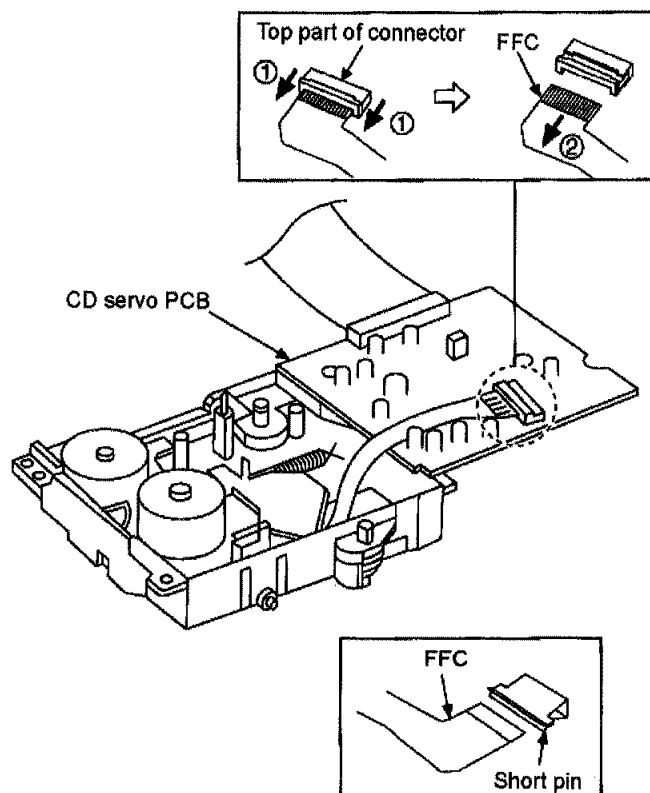


**Step 14**

Remove the 4 of solders on motor terminal.

Step 15

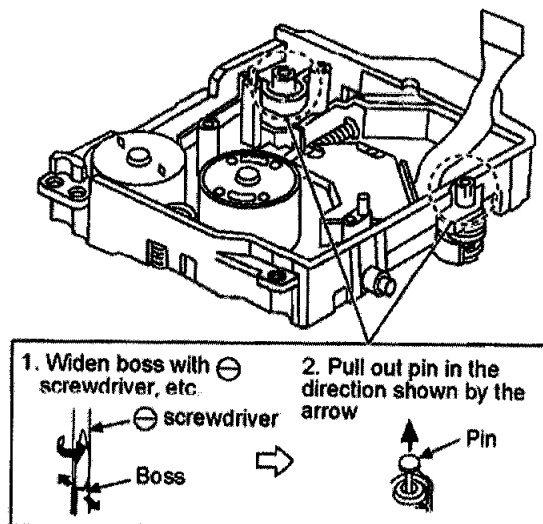
Remove FFC from connector, then remove CD servo PCB.

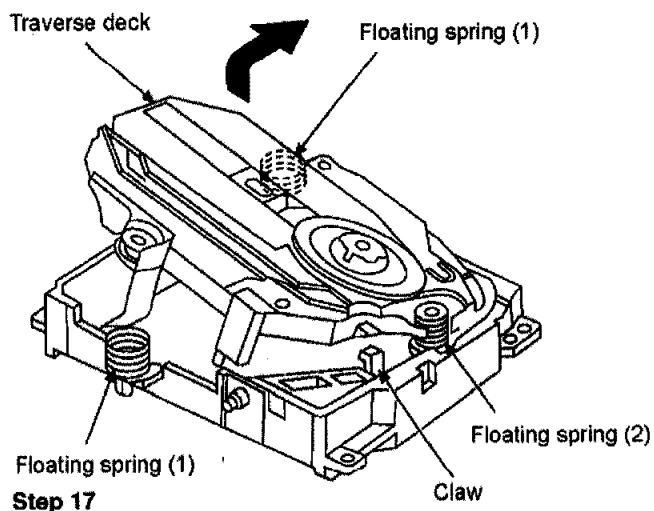
**Caution**

Insert short pin to FFC on optical pickup. (Refer to "Cautions on handling of optical pickup".)

Step 16

Remove pins. (2 places)

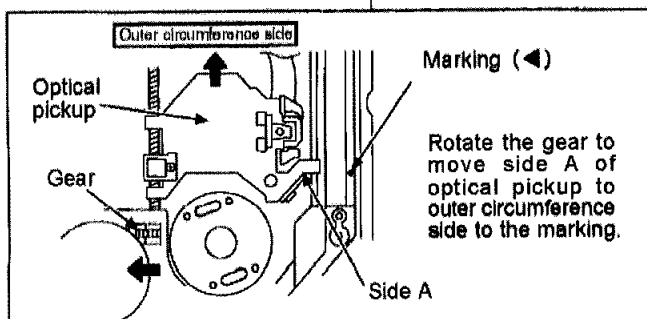
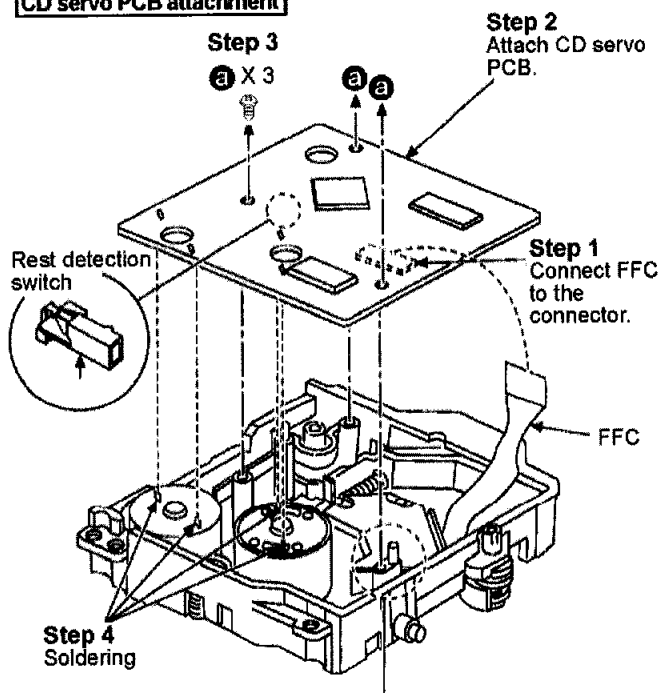


**Step 17**

Release the claw and remove traverse deck.

Caution

Floating spring (3 pieces) also come off at the same time. Make sure not to lose them.

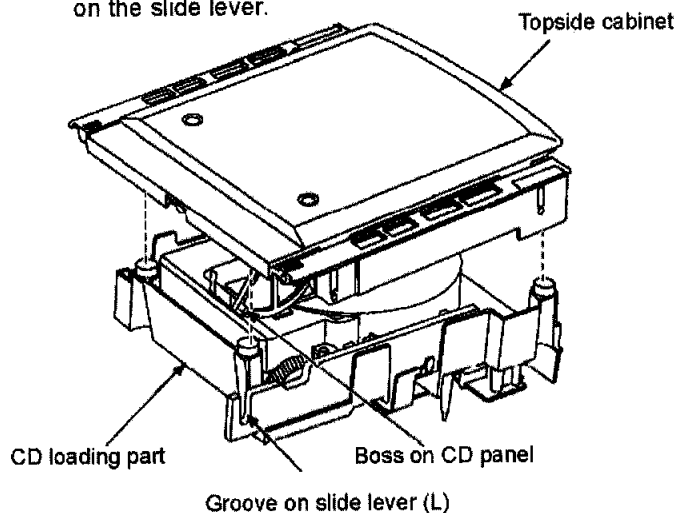
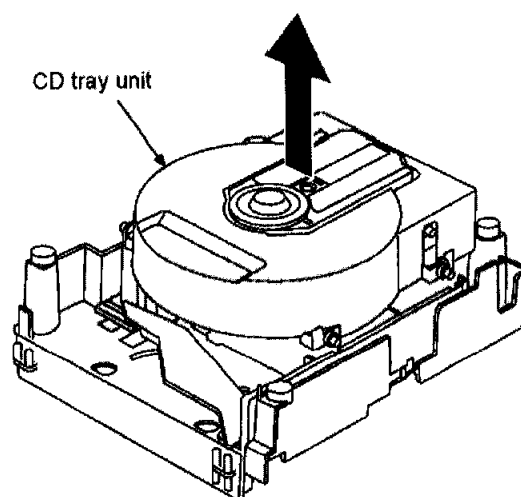
CD servo PCB attachment**Caution**

When attaching CD servo PCB, move optical pickup to outer circumference side to the marking (◀).

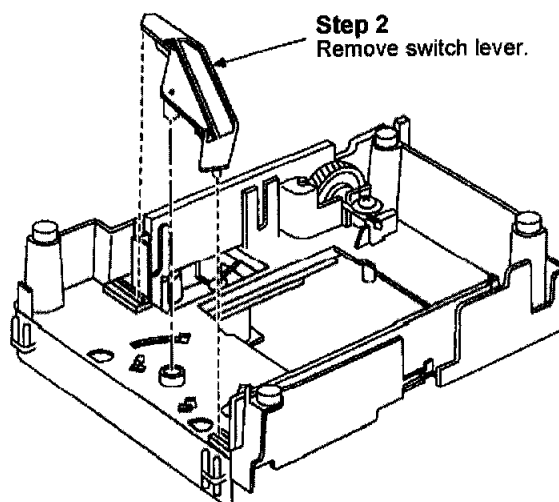
Otherwise, rest detection switch (S701) on CD servo PCB can be damaged.)

Cautions on attachment of topside cabinet.

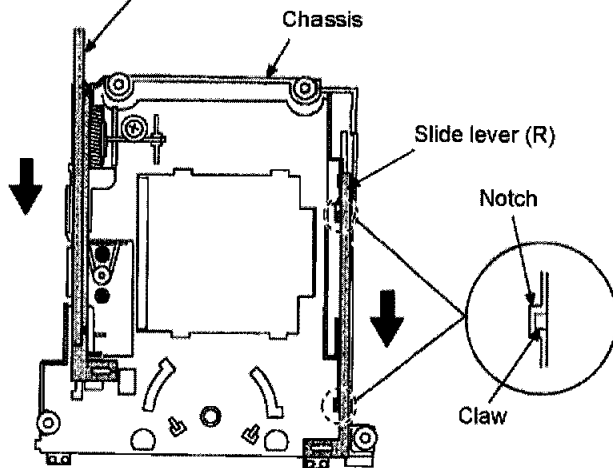
- When attaching topside cabinet to CD loading part, make sure to insert boss on CD panel into the groove on the slide lever.

**6.2.2. Replacement of switch lever, slide lever (L) and slide lever (R)****Step 1**

Pull CD tray unit right upward to remove it.



Step 3
Slide the slide lever (L) fully in the direction shown by the arrow.

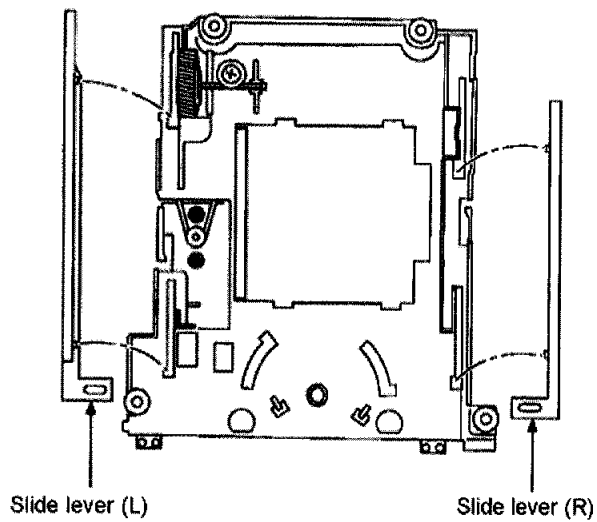


Step 4

Slide the slide lever (R) a little bit in the direction shown by the arrow, then align the claw on slide lever (R) to the notch on the chassis.

Step 5

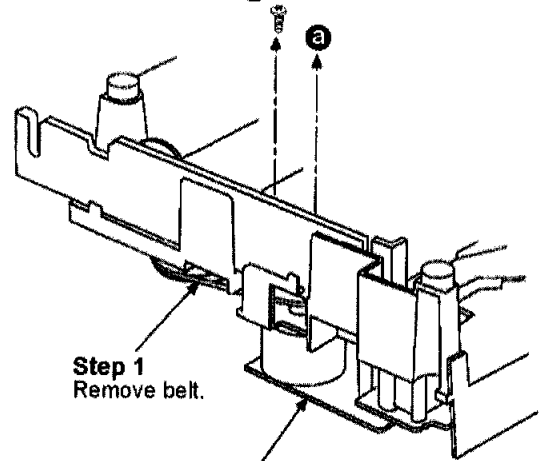
Remove slide lever (L) and (R).



6.2.3. Replacement of belt and loading motor

Step 2

a X 2

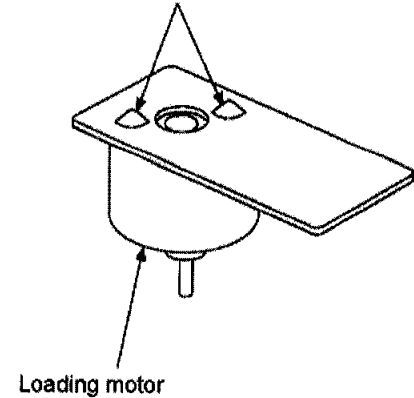


Step 3

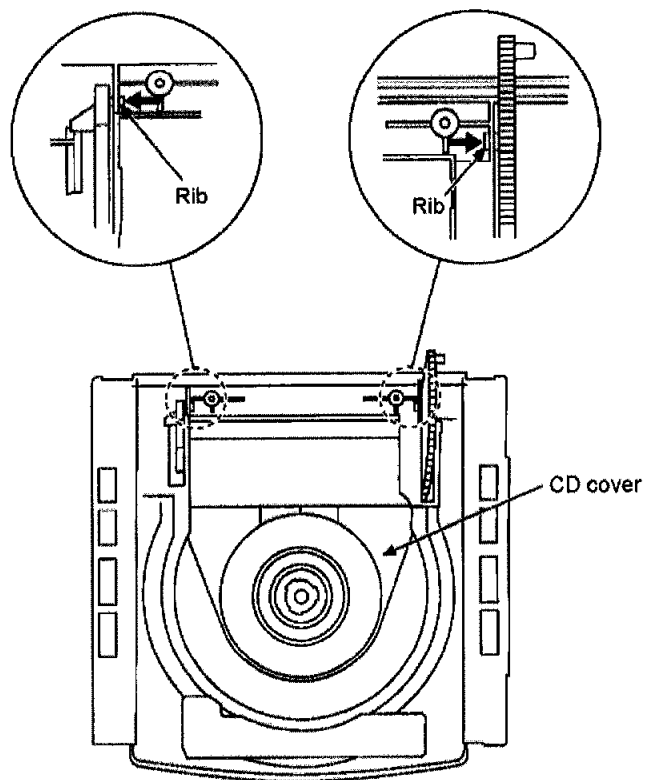
Remove loading PCB.

Step 4

Remove solders.

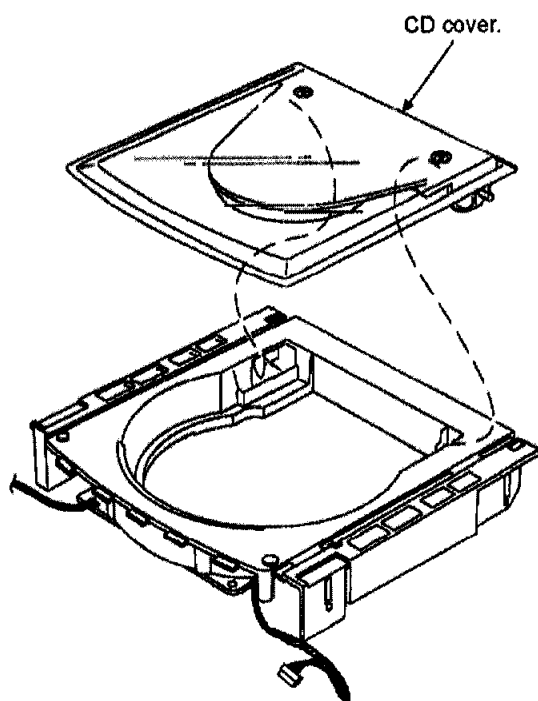


6.2.4. CD cover replacement



Step 1

Remove 2 ribs on CD cover.



Step 2

Remove CD cover.

7 Self-Diagnostic Display Function

This unit is equipped with a self diagnostic display function which, if a problem occurs, it will display an error code

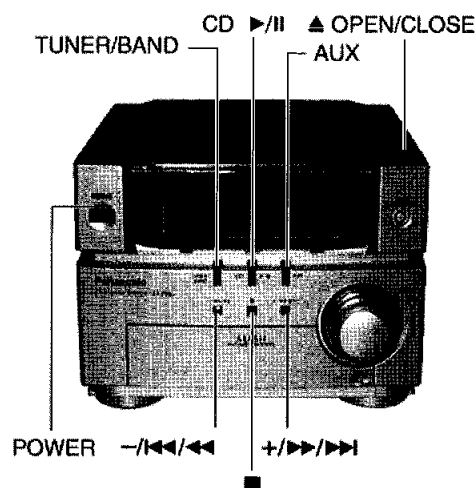
corresponding to the problem. Use this function when performing maintenance on the unit.

7.1. How to enter the Self-Diagnostic Display Function mode.

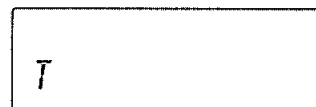
1. Turn the power on.
2. Set the operation selector to CD. (with no CD loading condition)
3. Press and hold the CD_STOP button for more than 2 seconds. While pressing the CD_STOP button, press and hold the F_SKIP button for 2 seconds. "T" will appear on the FL display. (The set is in the Self-Diagnostic Function Mode)
4. Press CD OPEN tray.
5. Under self-diagnosis mode, press CD STOP key to display memorised abnormality. Every time the key is pressed, the memorised numbers of abnormality shall appear cyclically.

Self-diagnosis mode will start even if CD_STOP key is released after F_SKIP key is pressed, as both keys use the same AD line.

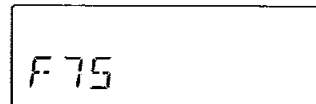
- Retain the memory of abnormality as long as memories of the micro-p are backed up.
- When RAM check at the reset of micro-p fails, clear all the RAM.



This means that the set is in the Self-Diagnostic Display Function mode



(Example of Error Code)



7.2. Interpretation of Error Codes.

7.2.1. Abnormality Detection for CD Block

Display	Abnormal Items	Content of Abnormality
F15	RESET SW abnormal	RESET SW ON is not detected within the specified time under normal operation (including self-dianosis mode)
F75	CD power abnormal	MDATA does not become H within 1 sec after MDATA is temporaly changed to input. Level detection is conducted when the selector is switched to CD under normal operation (including self-diagnosis mode).

F26	Transmission error between CD servo LSI and micro-p	SENSE=L is not detected within a fail-safe period (20mSec) after the selector is switched to CD. SENSE=H is detected and system command is transmitted to CD LSI, under normal operation(including self-diagnosis mode).
H16	Close SW abnormal	CD tray is left open due to fail-safe function under normal operation.

7.2.2. Detailed specification for F75

- For this model, a command needs to be transmitted quickly when CD LSI's RESET becomes H. Therefore, temporarily set the MDATA port as input and use it to detect CD power.
1. When the selector is switched to CD or power becomes on at CD mode, temporarily set MDATA port as input and check id MDATA is H. The check will start 20 mSec after the selector chane signal has been output. (CD RESET shall remain as L)
 2. If the MDATA is not detected as H within 1 Sec after starting the check, memorise F75 and change CD_L to H. Maintain CD RESET as L prohibits command output to CD LSI. However, other operations such as accepting keys shall be continued.

When the CD mode is re-selected, set CD_L to L as usual and cinduct CD power detection. Once the power is detected, resume the normal operation. (F75 shall not be cleared)

3.Once MDATA is detected as H. Change it to output and RESET.

4. Even during the normal operation at CD mode, set MDATA to input and detect the power as described in b. above when MDATA port is not used for output.

- The Circuit has to be designed to enable MDATA line detect H when it is set to input (especially pull-up and pull down);;

7.2.3. Abnormality Detection for Power Supply

Display	Abnormal Items	Content of Abnormality
F61	POWER AMP output	PDET becomes NG (AG_) when the power is on, or PDET remains NG (AGD even when T is made to H. F61 shall be displayed after PCNT has been changed to L. Memorise the error and display the contents of abnormality. Refer to SELF-DIAGNOSIS FUNCTION FOR CD.

8 Measurements and Adjustments

8.1. Tuner Section

8.1.1. AM-IF Alignment

SIGNAL GENERATION or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONIC VOLTMETER OSCILLOSCOPE)	ADJUSTMENT (Shown in Fig. 2)	REMARKS
CONNECTIONS	FREQUENCY				
Fashion a loop of several turns of wire and radiate a signal into the loop ant. of receiver.	450kHz 30% Mod. at 40Hz	Point of non-interference. (on/ about 600kHz)	Headphones jack (32Ω) Fabricate the plug as shown in Fig. 1 and then connect the lead wires of the plug to the measuring instrument.	Z102 (AM IFT)	Adjust for maximum output.

8.1.2. AM-RF Alignment

SIGNAL GENERATION or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONIC VOLTMETER OSCILLOSCOPE)	ADJUSTMENT (Shown in Fig. 2)	REMARKS
CONNECTIONS	FREQUENCY				
Fashion a loop of several turns of wire and radiate a signal into the loop ant. of receiver.	522kHz	Tuning capacitor fully closed	Headphones jack (32Ω) Fabricate the plug as shown in Fig. 1 and then connect the lead wires of the plug to the measuring instrument.	Z101 (AM OSC Coil)	Adjust for maximum output.
	603kHz	Tuning to signal		Z101 (AM ANT Coil)	

8.2. Alignment Points

Tuner Section

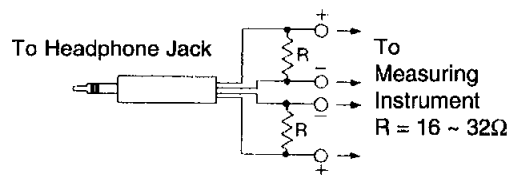


Fig.1

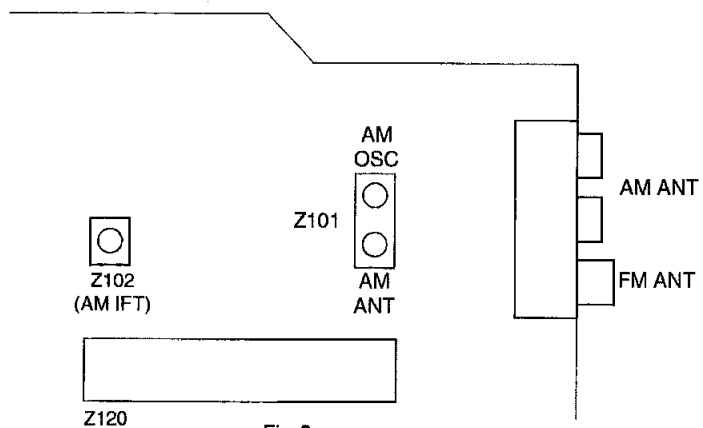
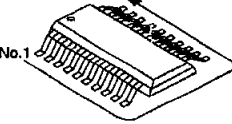
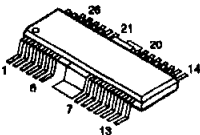
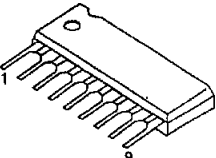
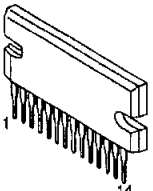
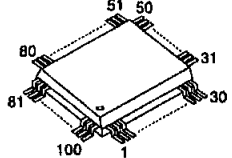
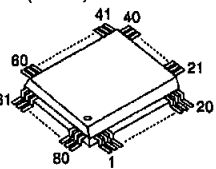
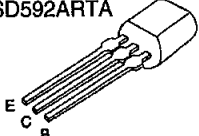
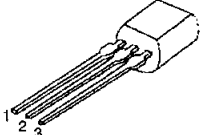
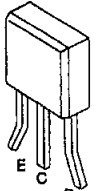
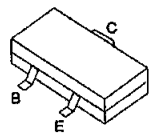
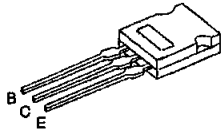
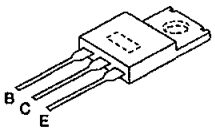
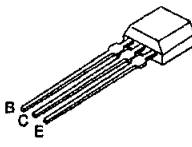
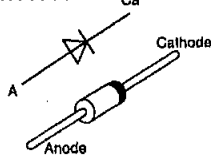
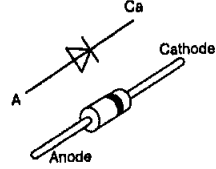
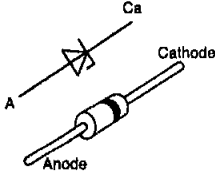
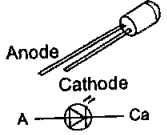
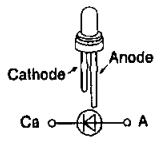
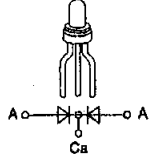


Fig.2

9 Illustration of IC's, Transistors and Diodes

LA1833MN-TLM (24P) LC72131MDTRM (20P) AN8837SBE1 (28 P) BH3857AFV-E2 (40P) 	AN8780NSBE2 	BA4558FDXE2 	BA6283N 	LA4625 
M38258MCM063 (100P) 	MN662746RPK1 (100P) 	2SA952LTA 2SC2001KTA 2SB621ARTA 2SD592ARTA 	S812505GY-Z 	2SC2787LTA 
DTC114YKA146 2SA1037AKSTX 	2SD2037ETA 	2SB1566E 	2SA933ASTA 2SC1740SRTA 	RVTDTA114EST RVTDTA144EST RVTDTA114YST RVTDTA143TST RVTDTA143XST RVTDTA144EST
1D3E 1N5402BM21 RL1N4003N02 	1SS291TA RVD1SS133TA 	Ca 	MTZJ16CTA MTZJ5R1BTA MTZJ9R1BTA MTZJ12BTA	LNW9A8BYBZ 
SLR342MG3F 	SPR39MVWF 			

10 Terminal Function of IC's

10.1. IC701 (AN8837SBE1) Servo Amplifier

Pin No.	Mark	I/O	Function
1	PDE	I	Tracking signal input terminal 1 (E ch)
2	PDF	I	Tracking signal input terminal 2 (F ch)
3	VCC	I	Power supply connection
4	PDA	I	Focus signal input terminal 1 (A ch)
5	PDB	I	Focus signal input terminal 2 (B ch)
6	LPD	I	Laser PD connection
7	LD	O	Laser power auto control output
8	RF	O	RF signal output
9	RFIN	I	RF signal input
10	CSBRT	I	Capacitor for detection connection
11	CEA	I	Capacitor connection for HPF amplifier
12	BDO	O	BDO output ("H" : drop out)
13	LDON	I	LD APC input ("H" : ON, "L" : OFF)
14	GND	—	Ground connection
15	/RFDET	O	NRFDET output ("L" : detection)

Pin No.	Mark	I/O	Function
16	CROSS	O	CROSS output (Track cross signal output)
17	OFTR	O	Off-track output ("L" : ON track, "H" : OFF track)
18	VDET	O	VDET output ("H" : Vibration detected)
19	ENV	O	RF envelope detection
20	ENVOFF	I	Not used, connected to power supply
21	TEBPF	I	Oscillation detect signal input
22	TEN	I	Tracking error signal input
23	TEOUT	O	Tracking error signal output
24	FEOUT	O	Focus error signal output
25	FEN	I	Focus error signal input
26	VREF	O	Reference voltage output
27	TBAL	I	Tracking balance signal input
28	FBAL	I	Focus balance signal input

10.2. IC702 (MN662746RPK1) Servo processor / Digital signal processor / Digital filter / D/A converter

Pin No.	Mark	I/O	Function
1	BCLK	O	Serial bit clock output
2	LRCK	O	L/R discriminating signal output
3	SRDATA	O	Serial data
4	DVDD1	I	Power supply (digital circuit) terminal
5	DVSS1	—	GND (digital circuit) terminal
6	TX	O	Digital audio interface signal
7	MCLK	I	Microprocessor command clock signal
8	MDATA	I	Microprocessor command data signal
9	MLD	I	Microprocessor command load signal
10	SENSE	O	Sense signal output (Not used, open) (OFT, FESL, NACEND, NAJEND, POSCAD, SF G)
11	/FLOCK	O	Optical servo condition(focus)("L" : lead-in) (Not used, open)
12	/TLOCK	O	Optical servo condition(tracking)("L" : lead-in) (Not used, open)
13	BLKCK	O	Sub-code block clock (f=75Hz)
14	SQCK	I	External clock signal input for sub-code Q register.
15	SUBQ	O	Sub-code Q code output
16	DMUTE	—	Muting input ("H" : mute) (Not used, connected to GND)
17	STAT	O	Status signal output (CRC, CUE, CLVS, TTSTVP, FCLV, SQCK)
18	/RST	I	Reset input ("L" : reset)
19	SMCK	—	System clock (f=4.2336MHz) (Not used, open)
20	PMCK	—	1/192-divided clock signal of crystal oscillating (fPMCK=88.2kHz) (Not used, open)
21	TRV	O	Traverse servo control output
22	TVD	O	Traverse drive signal output
23	PC	O	Spindle motor ON signal output ("L" : ON)
24	ECM	O	Spindle motor drive signal output (forced mode output)
25	ECS	O	Spindle motor drive signal output (servo error signal output)
26	KICK	O	Kick pulse output
27	TRD	O	Tracking drive output
28	FOD	O	Focus drive output
29	VREF	I	D/A (drive) output(TVD, ECS, TRD, FOD, FBAL, TBAL) Reference voltage input.
30	FBAL	O	Focus balance adjustment output
31	TBAL	O	Tracking balance adjustment output
32	FE	I	Focus error signal input (analog input)

Pin No.	Mark	I/O	Function
33	TE	I	Tracking error signal input (analog input)
34	RFENV	I	RF envelope signal input
35	VDET	I	Vibration detection signal input ("H" : detection)
36	OFTR	I	Off-track signal input ("H" : off track)
37	TRCRS	I	Track cross signal input
38	/RFDET	I	RF detection signal input ("L" : detection)
39	BDO	I	Dropout signal input ("H" : Dropout)
40	LDON	O	Laser on signal output ("H" : ON)
41	TES	O	Tracking error shunt signal output ("H" : shunt)
42	PLAY	O	Play signal out ("H" : PLAY) (Not used, open)
43	WVEL	O	Double speed status signal output ("H" : DS) (Not used, open)
44	ARF	I	RF signal input
45	IREF	I	Reference current input
46	DRF	I	DSL bias (Not used, open)
47	DSLIF	I/O	DSL loop filter
48	PLLIF	I/O	PLL loop filter
49	DSLIF2	I/O	VCO loop filter (Not used, open)
50	AVDD2	I	Power supply input (for analog circuit)
51	AVSS2	—	GND (for analog circuit)
52	EFM	O	EFM signal output (Not used, open)
53	PCK	O	PLL extraction clock output (Not used, open) (fPCK=4.3218MHz during normal playback)
54	TOUT	O	Phase comparison signal of EFM and PCK signals (Not used, open)
55	SUBC	O	Sub-code serial clock output
56	SBCK	I	Sub-code serial data signal input
57	VSS	—	GND
58	X1IN	I	Crystal oscillating circuit (f=16.9344MHz)
59	X2OUT	O	
60	VDD	I	Power supply input
61	BYTCK	O	Byte clock output (Not used, open)
62	/CLDCK	O	Sub-code frame clock signal (fCLDCK=7.35kHz : Normal)
63	FCLK	O	Crystal frame clock signal output (Not used, open)
64	IPFLAG	O	Interpolation flag output
65	FLAG	O	Flag output (Not used, open)
66	CLVS	O	Spindle servo phase synchronizing signal output ("H" : CLV, "L" : rough servo) (Not used, open)

Pin No.	Mark	I/O	Function
67	CRC	O	Sub-code CRC checked output ("H" : OK, "L" : NG) (Not used, open)
68	RESY	O	De-emphasis ON signal output ("H" : ON) (Not used, open)
69	FLAG	O	Frame resynchronizing signal output (Not used, open)
70	ARST	I	Reset input through MASH circuit (Not used, connected to GND)
71	/TEST	I	Test input (Not used, connected to power supply)
72	AVDD1	I	Power supply input (for analog circuit)

Pin No.	Mark	I/O	Function
73	OUTL	O	Left channel audio signal output
74	AVSS1	—	GND
75	OUTR	O	Right channel audio signal output
76	RSEL	I	RF signal polarity assignment input
77	CSEL	I	Crystal oscillating frequency designation input (Not used, connected to GND)
78	PSEL	I	Serial data input
79	MSEL	I	L ch/R ch clock signal input
80	PSEL	I	Audio bit clock input

10.3. IC703 (AN8780NSBE2) Focus coil / Tracking coil / Traverse motor / Spindle motor driver

Pin No.	Mark	I/O	Function
1	/RST	—	Not used, open
2	N.C.	—	Not used
3	IN2	I	Motor driver (2) input
4	PC2	I	Turntable motor drive signal ("L" : ON)
5	N.C.	—	Not used
6	IN1	I	Motor driver (1) input
7	PVCC1	I	Power supply (1) for driver
8	PGND1	—	Ground connection (1) for driver
9	N.C.	—	Not used, connected to GND
10	D1-	O	Motor driver (1) reverse-action output
11	D1+	O	Motor-driver (1) forward-action output
12	D2-	O	Motor driver (2) reverse-action output
13	D2+	O	Motor-driver (2) forward-action output

Pin No.	Mark	I/O	Function
14	D3-	O	Motor driver (3) reverse-action output
15	D3+	O	Motor-driver (3) forward-action output
16	D4-	O	Motor driver (4) reverse-action output
17	D4+	O	Motor-driver (4) forward-action output
18	N.C.	—	Not used, open
19	PGND2	—	Ground connection (2) for driver
20	PVCC2	I	Power supply (2) for driver
21	VCC	I	Power supply terminal
22	VREF	I	Reference voltage input
23	IN4	I	Motor driver (4) input
24	IN3	I	Motor driver (3) input
25	RSTIN	I	Reset terminal (Not used, connected to GND)
26	N.C.	—	Not used, connected to GND

10.4. IC801 (M38258MCM063) System Microprocessor

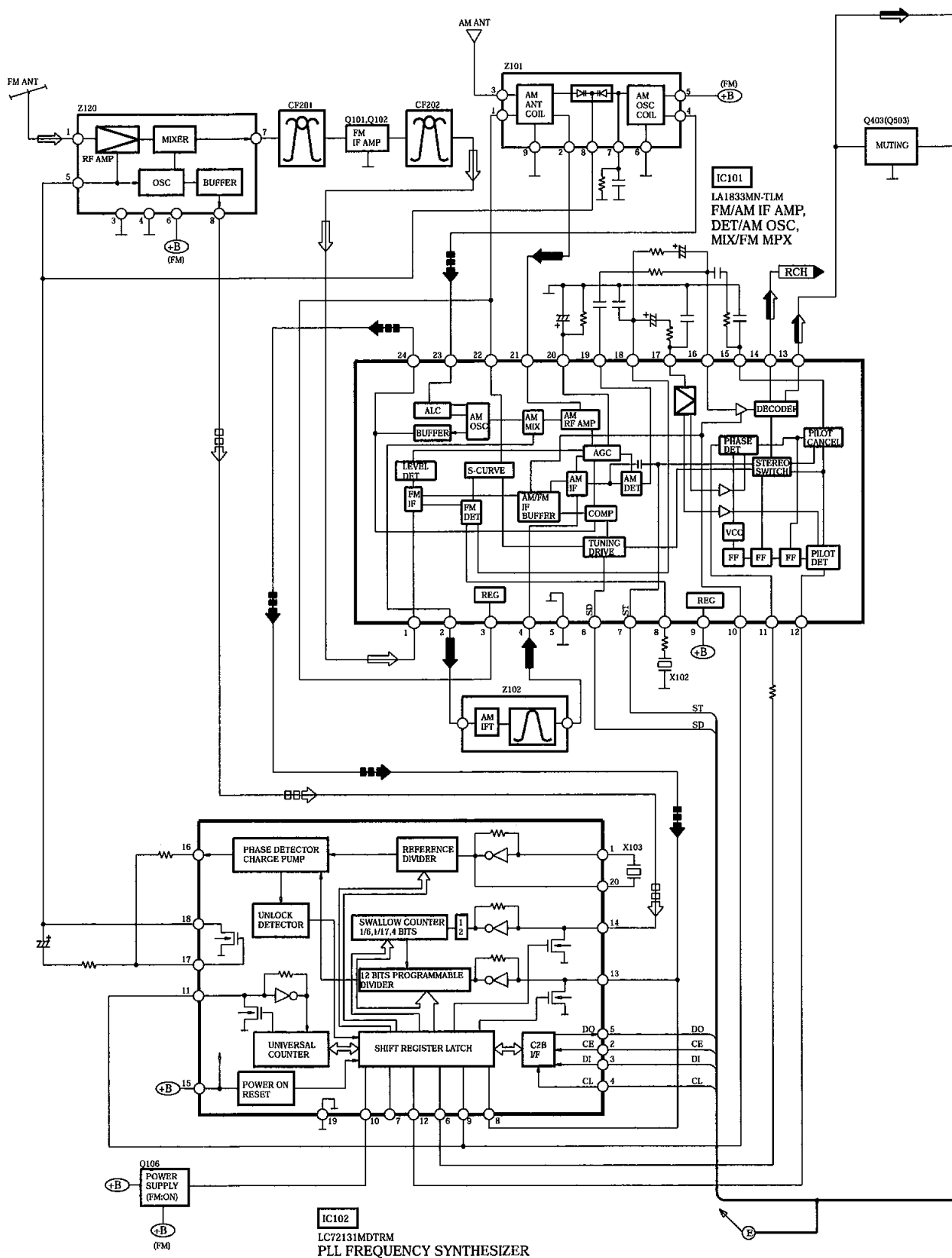
Pin No.	Mark	I/O	Function
1	N.C.	—	Not used
2	VL1	—	LCD power supply
3	DTUNER	I/O	DIMMER control signal output
4	DES	I	Destination setting terminal
5	CR_TMR	—	CR timer
6	PWRDET	I/O	Power detection signal input
7	CD CLS_SW	I/O	CD tray close detection SW (L:close)
8	MIC SW	I/O	(H: there is MIC)
9	KEY 2	I/O	Key 2
10	KEY 1	I/O	Key 1
11	ASP_LAT CH	I/O	ASP latch output
12	ASP_DA TA	I/O	ASP data output
13	ASP_CLK	I/O	ASP clock output
14	CD_CLO SE	I/O	CD tray close control output
15	PCNT	I/O	Power control output
16	CD_OPE N	I/O	CD tray open control output
17	SYNC	I/O	AC power drop detection
18	RMT_IN	I/O	Remote control signal input
19	SRDY	I/O	No connection
20	SQCK	I/O	CD subcode clock output
21	PMZ_1	I/O	PMZ(PM01)/PMV(PM05) switch (L:PMZ, H:PMV)
22	SUBQ	I/O	CD subcode data input
23	BLKCK	I/O	CD block clock input
24	MUTEA	I/O	Audio mute output (L: mute ON)
25	RESTSW	I/O	CD REST detect SW input
26	CDRST	I/O	CE reset output
27	STAT	I/O	CD signal processor status input
28	MLD	I/O	CD command load output

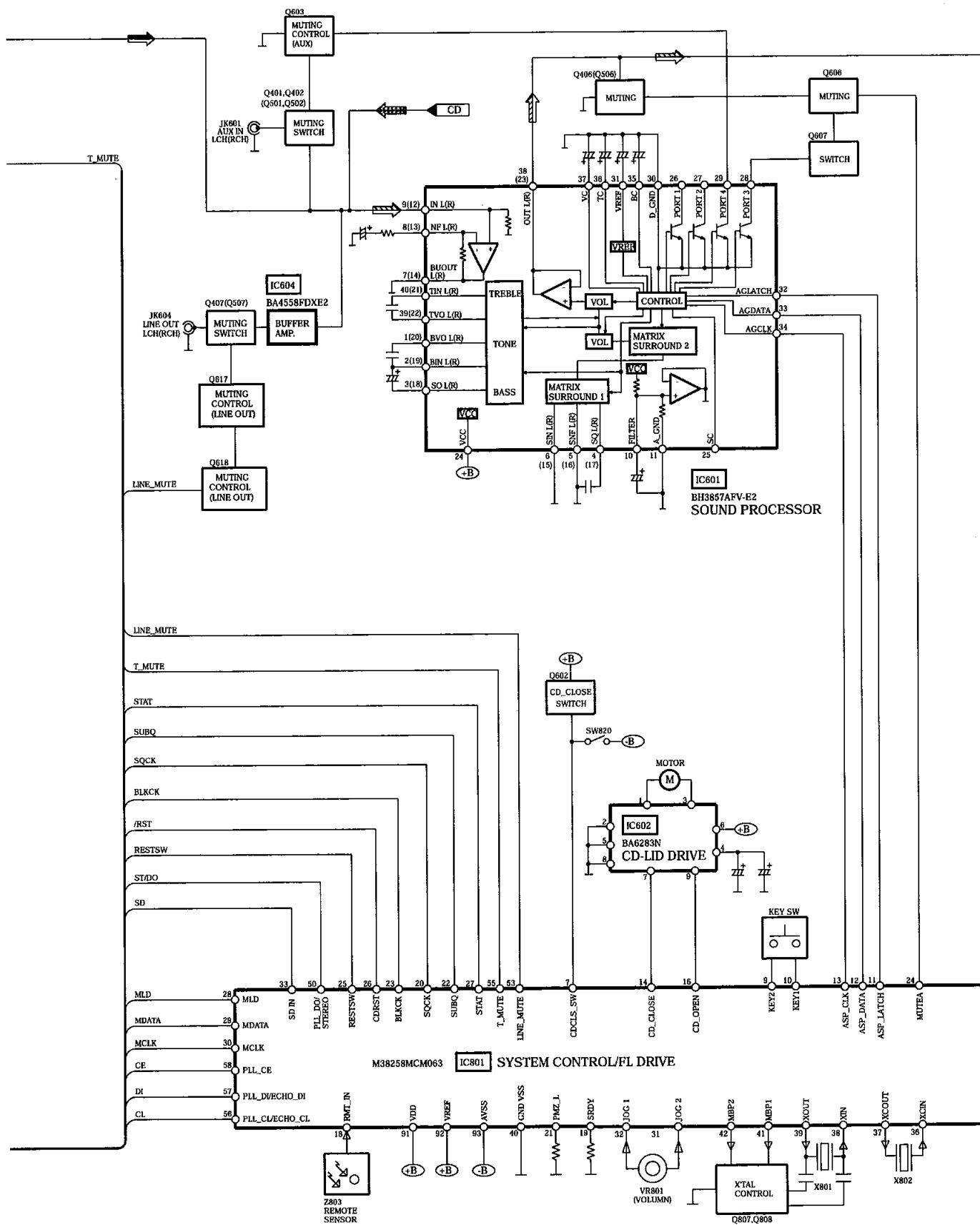
Pin No.	Mark	I/O	Function
29	MDATA	I/O	CD command data output
30	MCLK	I/O	CD command clock output
31	JOG2	I/O	Volume jog dial input 2
32	JOG1	I/O	Volume jog dial input 1
33	SD	I/O	Tuner signal detect input
34	VMODE	-	Not used, connected to GND
35	RESET	-	RESET input
36	XCIN	-	X'tal oscillator (f = 32,768 kHz sub clock)
37	XCOUT	-	X'tal oscillator (f = 32,768 kHz sub clock)
38	XIN	-	X'tal oscillator (f = 6.0 kHz Main clock)
39	XOUT	-	X'tal oscillator (f = 6.0 kHz Main clock)
40	GND	-	Ground
41	MPB1	I/O	MPU beat proof output 1
42	MPB2	I/O	MPU beat proof output 2
43~49	N.C.	I/O	Not used, connected to GND
50	PLL	I/O	PLL count data
	DO/ST		STEREO input
51~52	N.C.	O	No connection
53	L_MUTE	O	Line out mute output
54	N.C.	O	No connection
55	T_MUTE	O	Tuner mute output (H: mute ON)
56	PLL_CL	O	PLL IC clock output
57	PLL_D1	O	Tuner PLL control data output
58	PLL_CE	O	Tuner PLL chip enable output
59~60	N.C.	O	No connection (LCD segment output)
61~90	SEG29~0	O	LCD segment output
91	VDD	-	Power supply (15V)
92	VREF	-	Reference voltage for AD (VDD)
93	AVSS	-	Reference voltage for AD (VSS)
94	COM3	O	LCDcommon output
95	COM2	O	LCDcommon output
96	COM1	O	LCDcommon output
97	COM0	O	LCDcommon output
98	VL3	-	LCD bias setting

SA-PM03

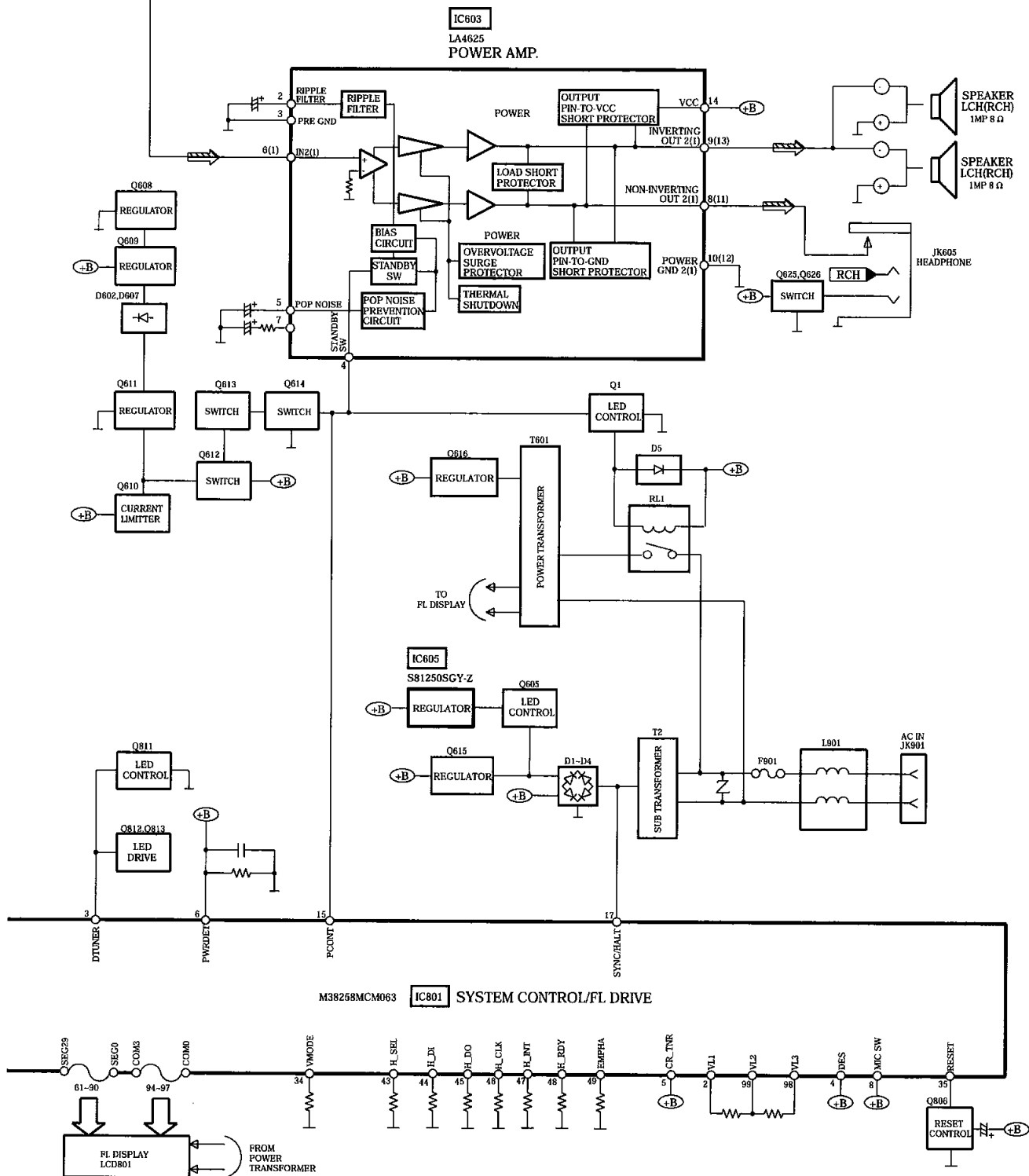
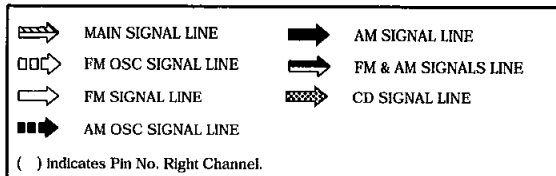
Pin No.	Mark	I/O	Function
99	VL2	-	LCD bias setting
100	N.C.	-	Not used







SIGNAL LINES



12 Schematic Diagram

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

Note :

S701	Reset switch
SW801	Power switch
SW802	Memory switch
SW803	Tuning mode select switch
SW804	Timer adjust/fast forward/skip search switch
SW805	CD stop switch
SW806	Timer adjust/rewind/skip search switch
SW807	Tuner band select switch
SW808	CD/CD play/pause select switch
SW809	AUX switch
SW810	CD open/close switch
SW811	Sound virtualizer switch
SW812	Timer fader switch
SW813	Play timer switch
SW814	Clock/timer switch
SW820	Leaf switch
VR801	Volume control VR

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

and waveforms depending upon the internal impedance of the tester or the measuring unit.

No mark	: Playback
(())	: CD
< >	: FM
()	: AM
[]	: AUX

• Importance safety notice :

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

Caution !

IC, LSI and VLSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

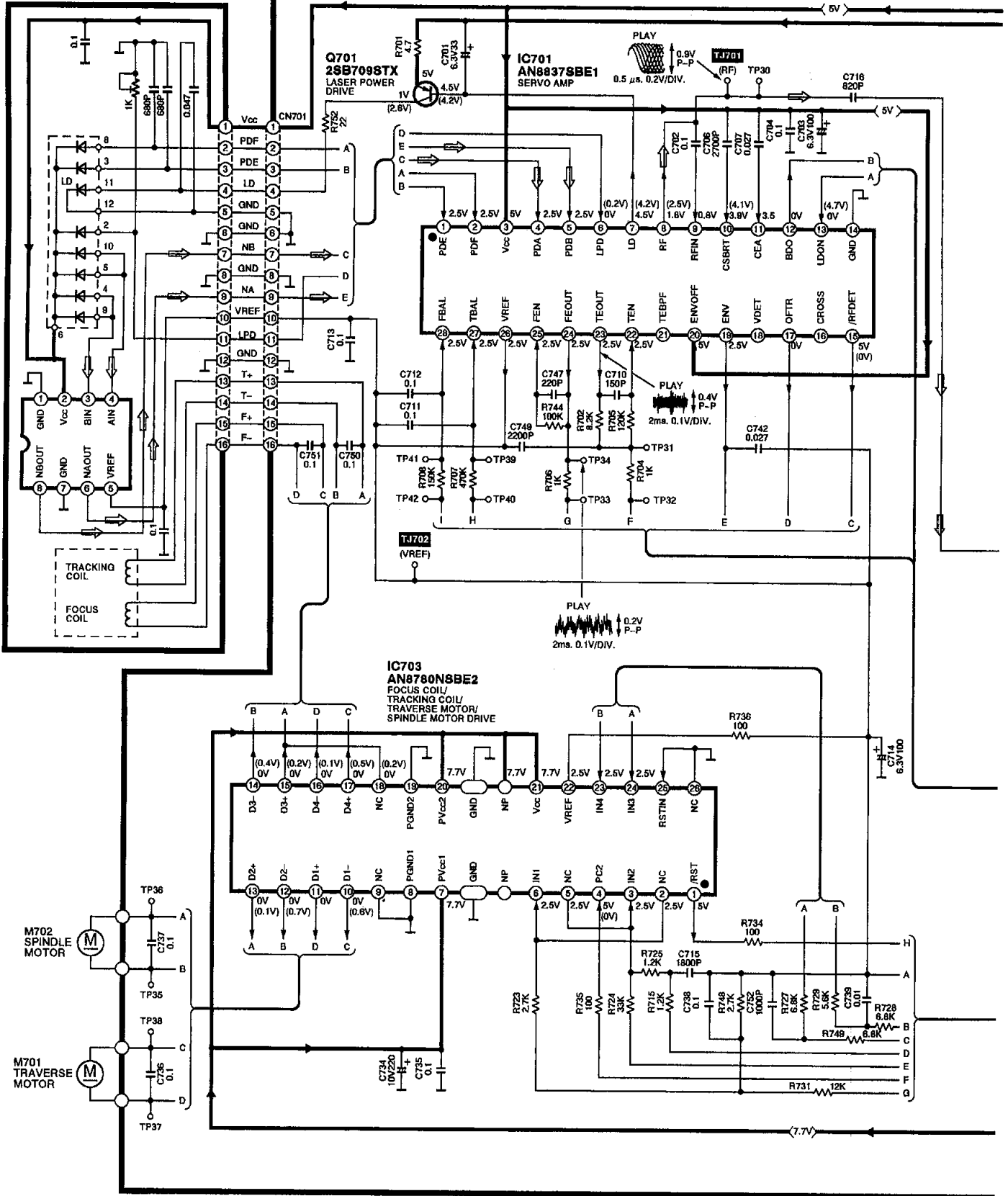
- Cover the parts boxes made of plastics with aluminium foil.
- Put a conductive mat on the work table.
- Ground the soldering iron.
- Do not touch the pins of IC, LSI or VLSI with fingers directly.

SCHEMATIC DIAGRAM-1

— : +B Line ⇨ : CD Signal Line

A CD SERVO CIRCUIT

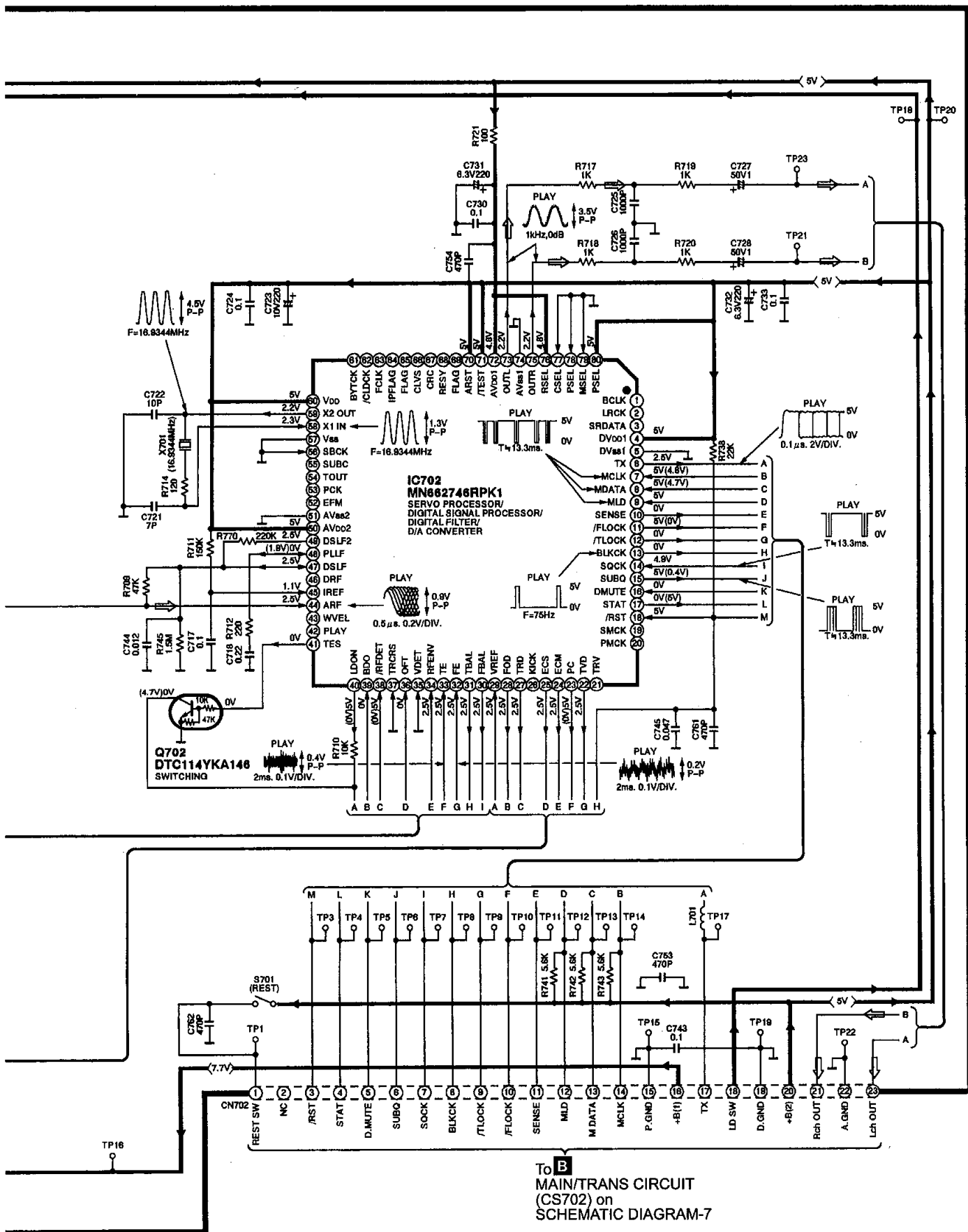
△ OPTICAL PICKUP CIRCUIT



SCHEMATIC DIAGRAM-2

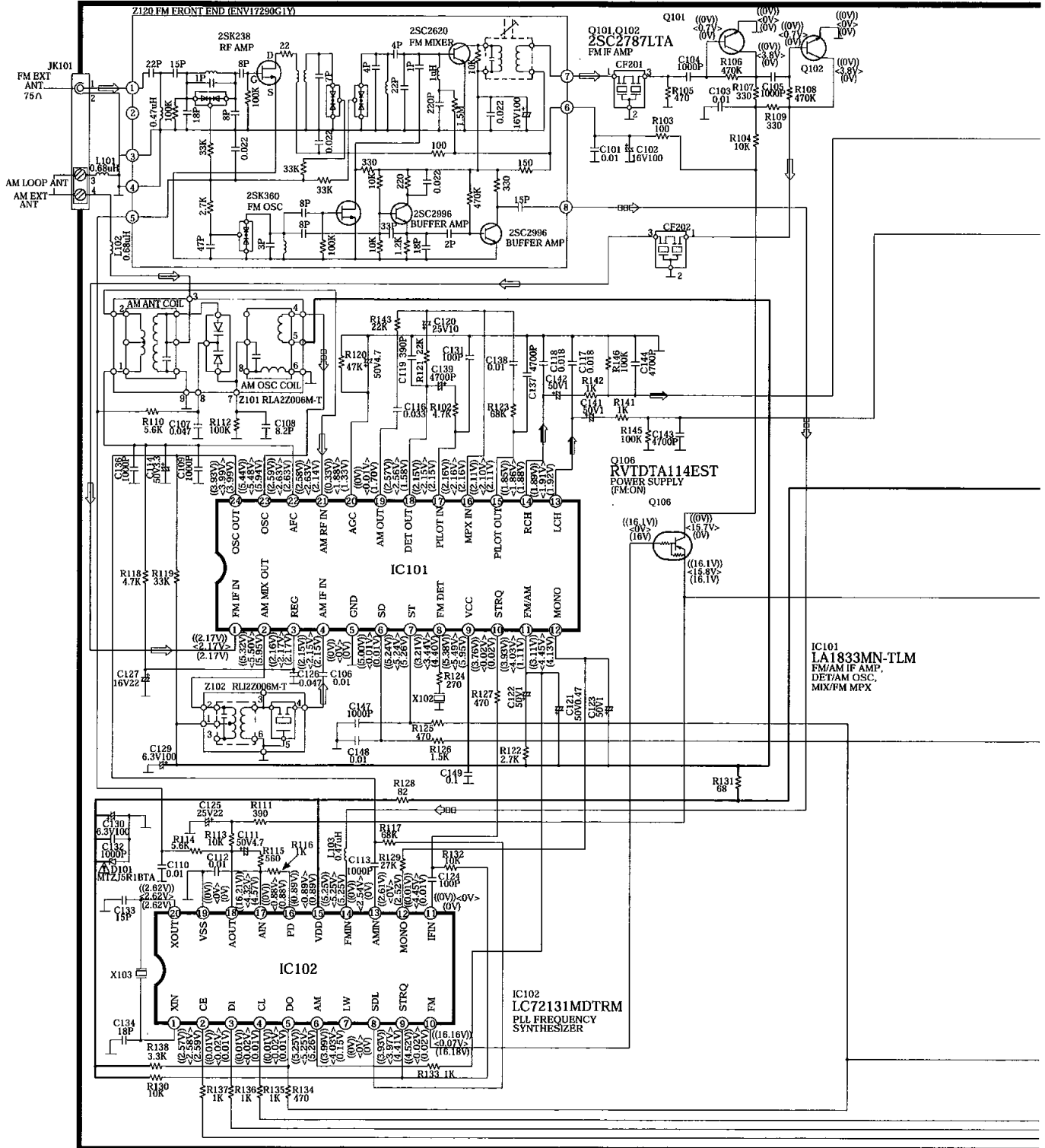
— : +B Line

⇒ : CD Signal Line



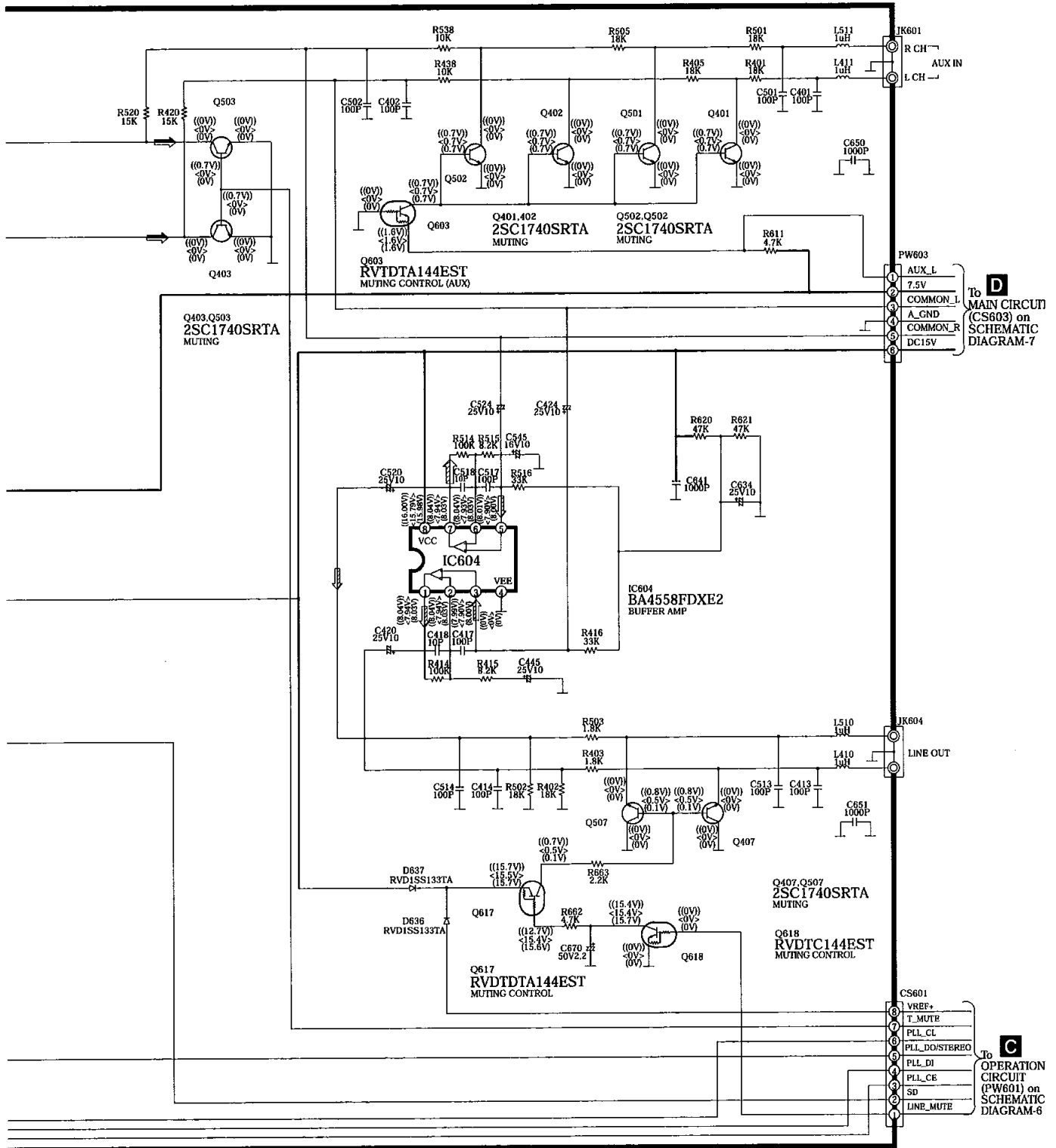
SCHEMATIC DIAGRAM-3

— : +B signal line
 ⇨ : FM signal line
 ⇨ : FM/AM signal line
 ⇨ : FM OSC signal line
 ⇨ : AM signal line
 ⇨ : AM OSC signal line

B TUNER CIRCUIT


SCHEMATIC DIAGRAM-4

— : +B Line ➡ : FM/AM signal line ⇨ : Main signal line

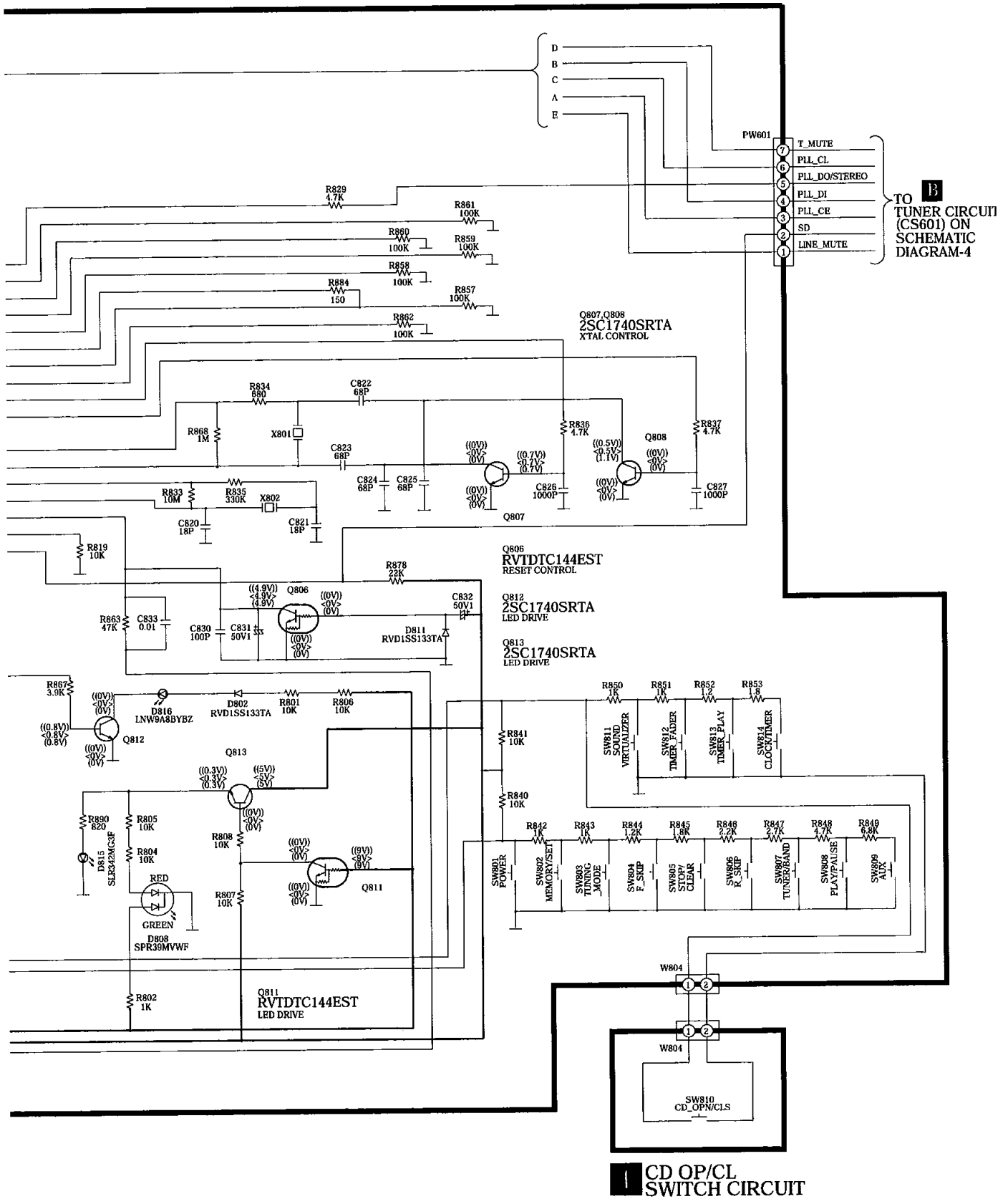


C OPERATION CIRCUIT



SCHEMATIC DIAGRAM-6

: +B signal line



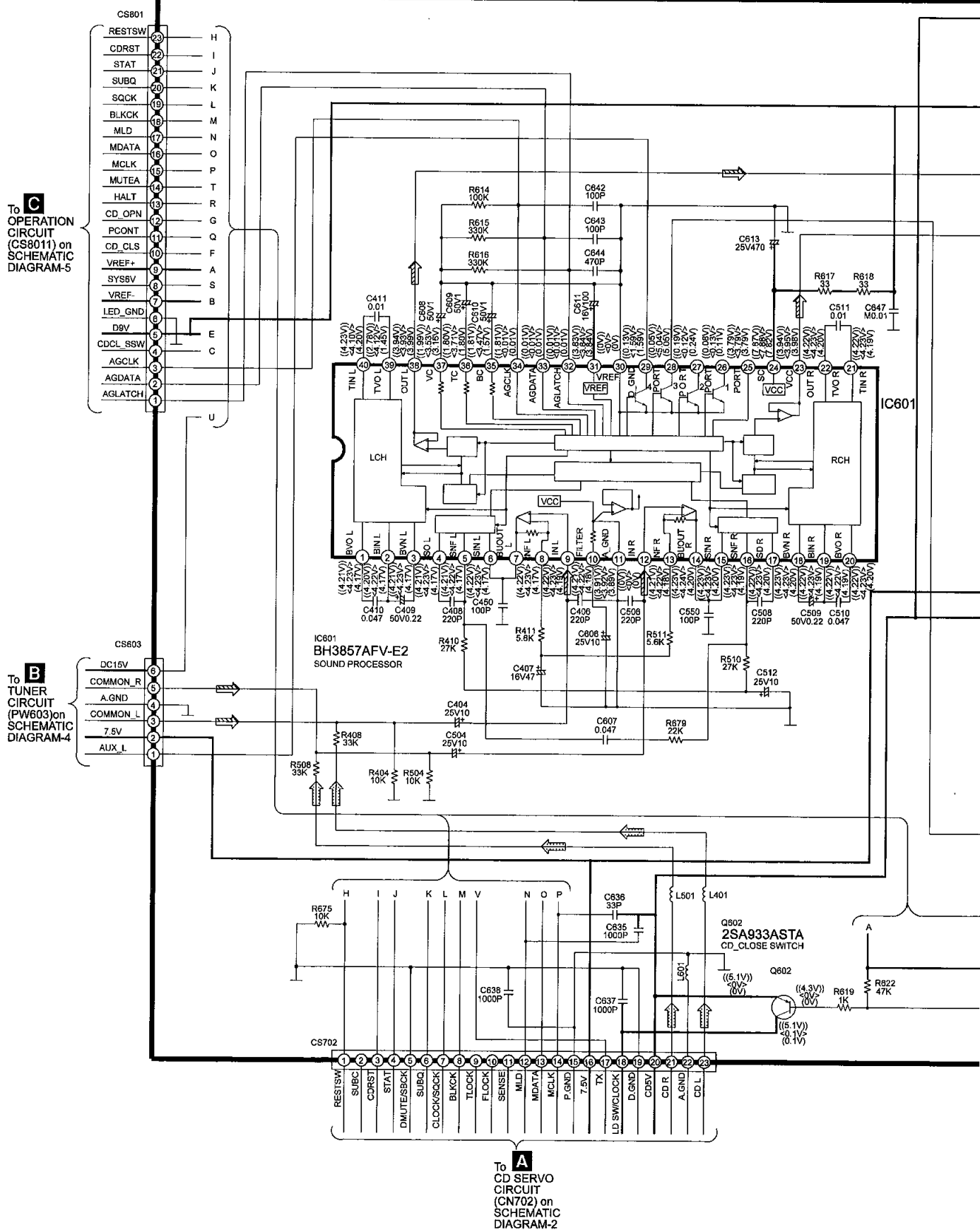
SCHEMATIC DIAGRAM-7

D MAIN CIRCUIT

— : +B signal line

⏏ : CD signal line

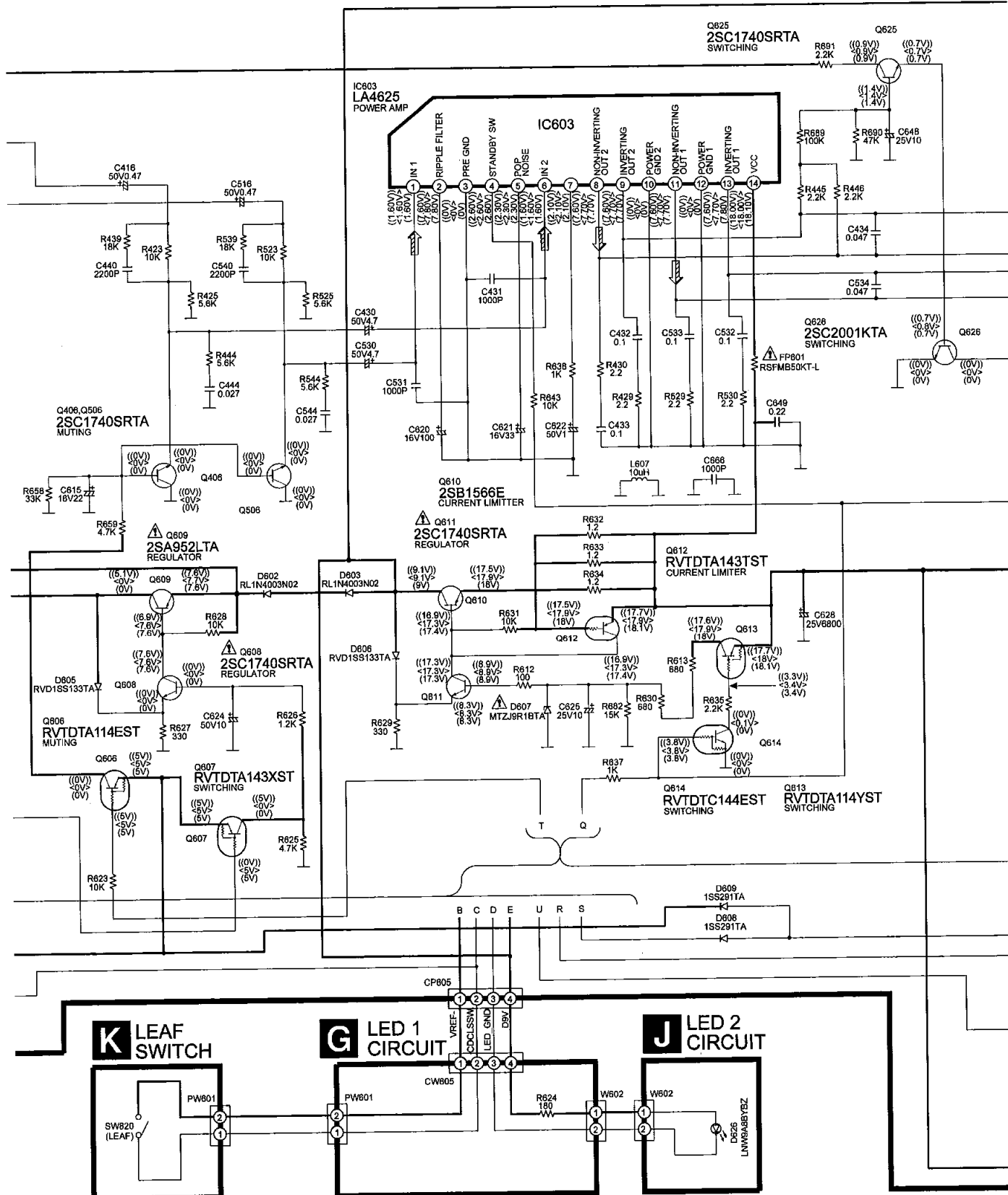
➡ : Main signal line



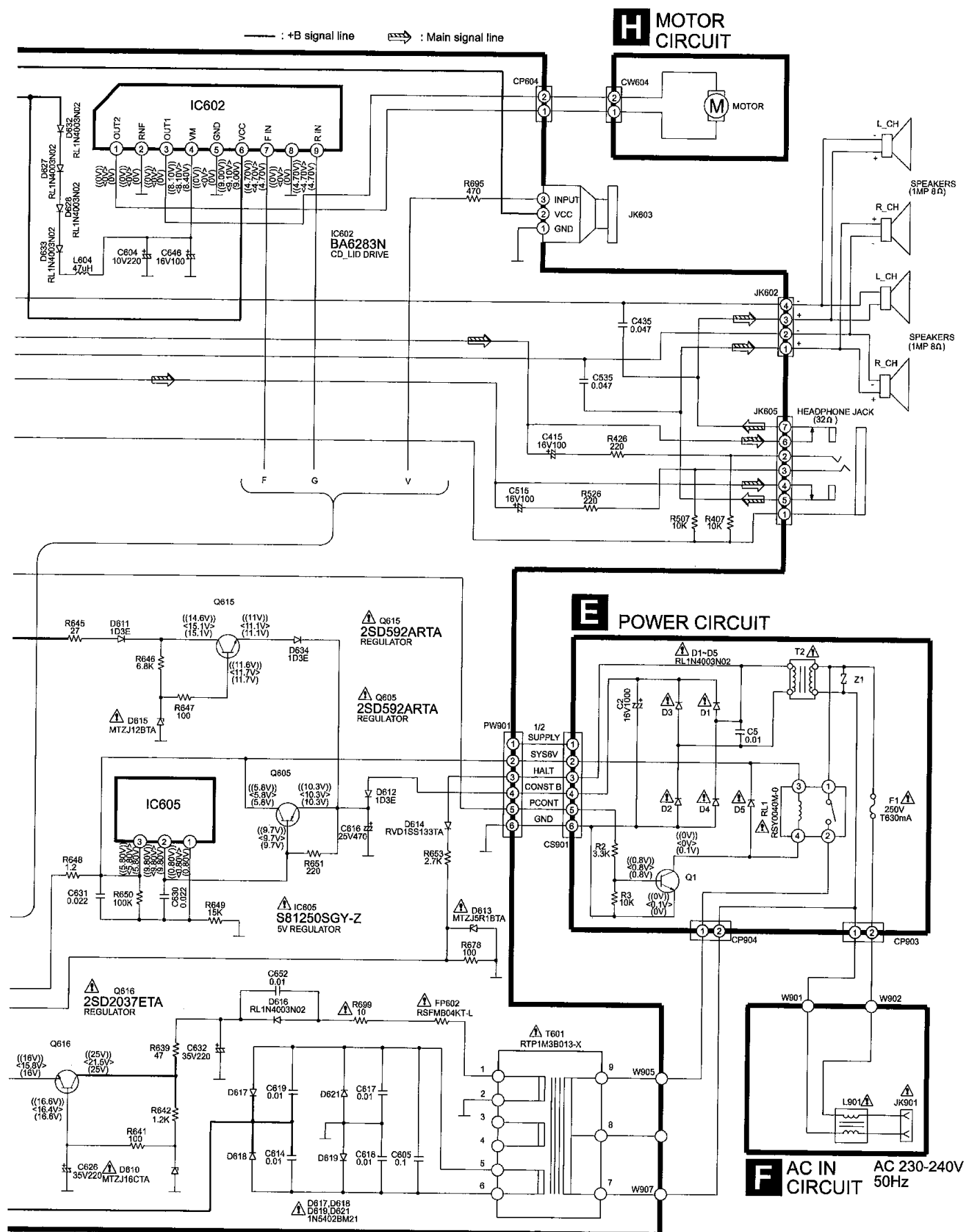
SCHEMATIC DIAGRAM-8

— : +B signal line

⇒ : Main signal line

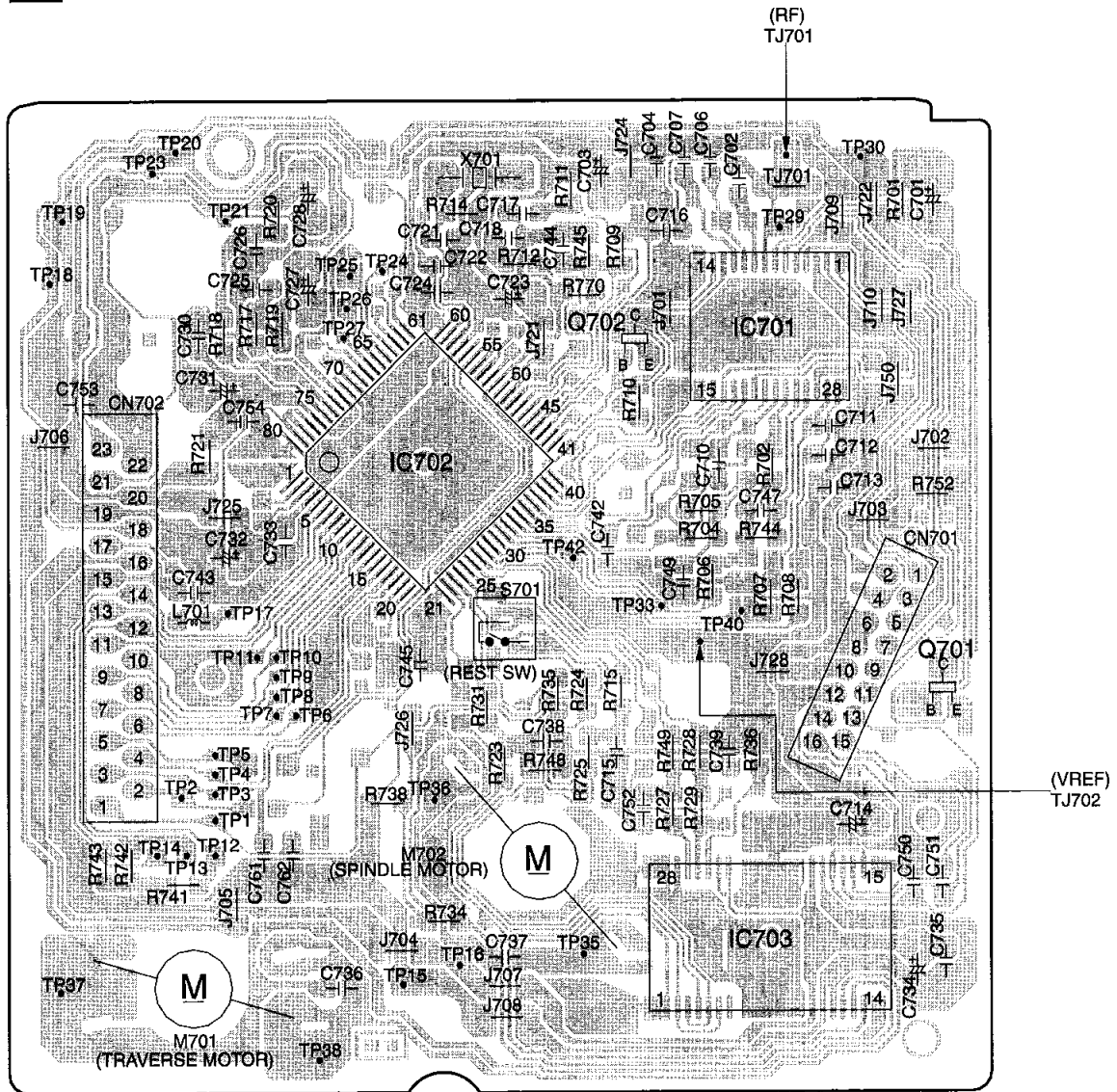


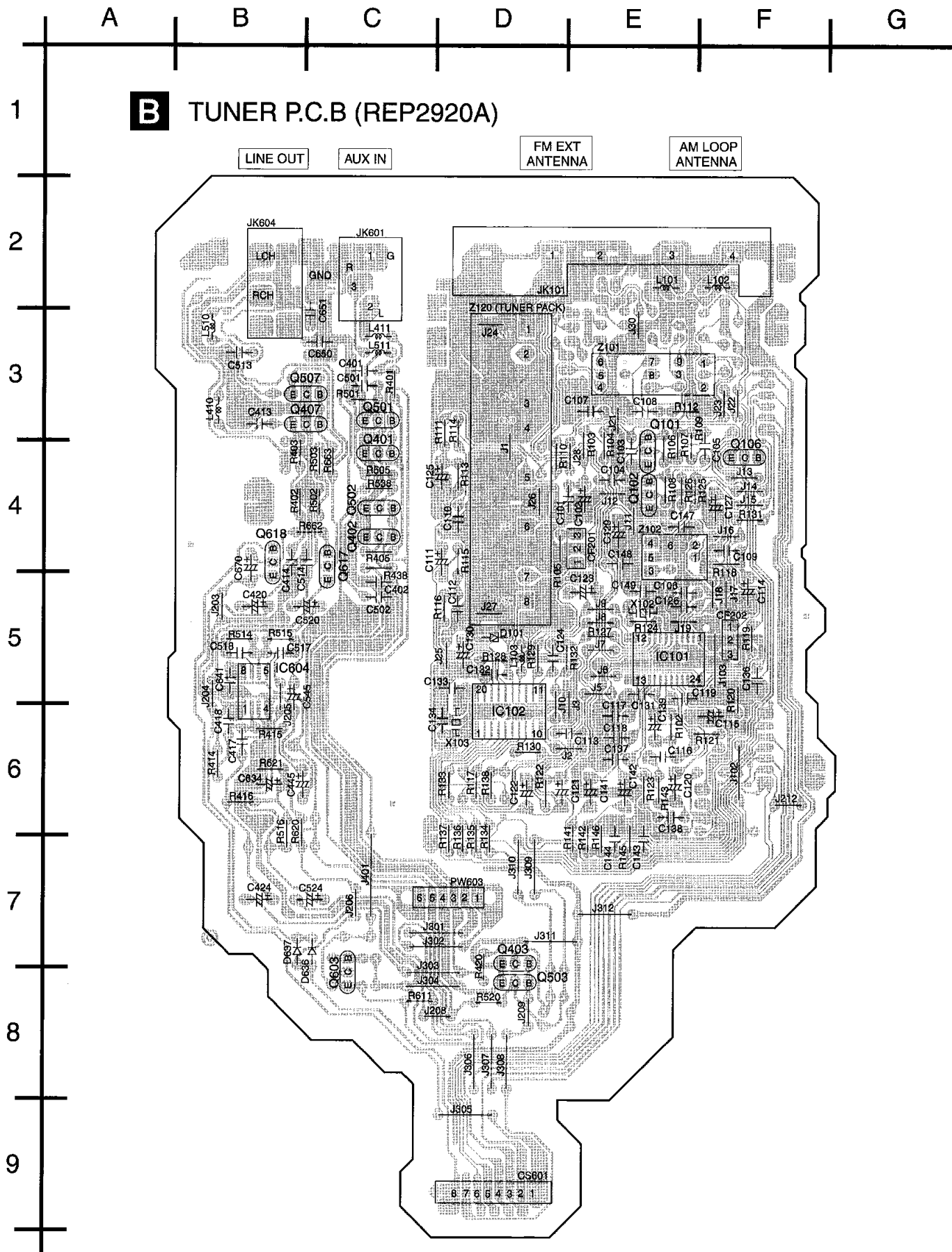
SCHEMATIC DIAGRAM-9



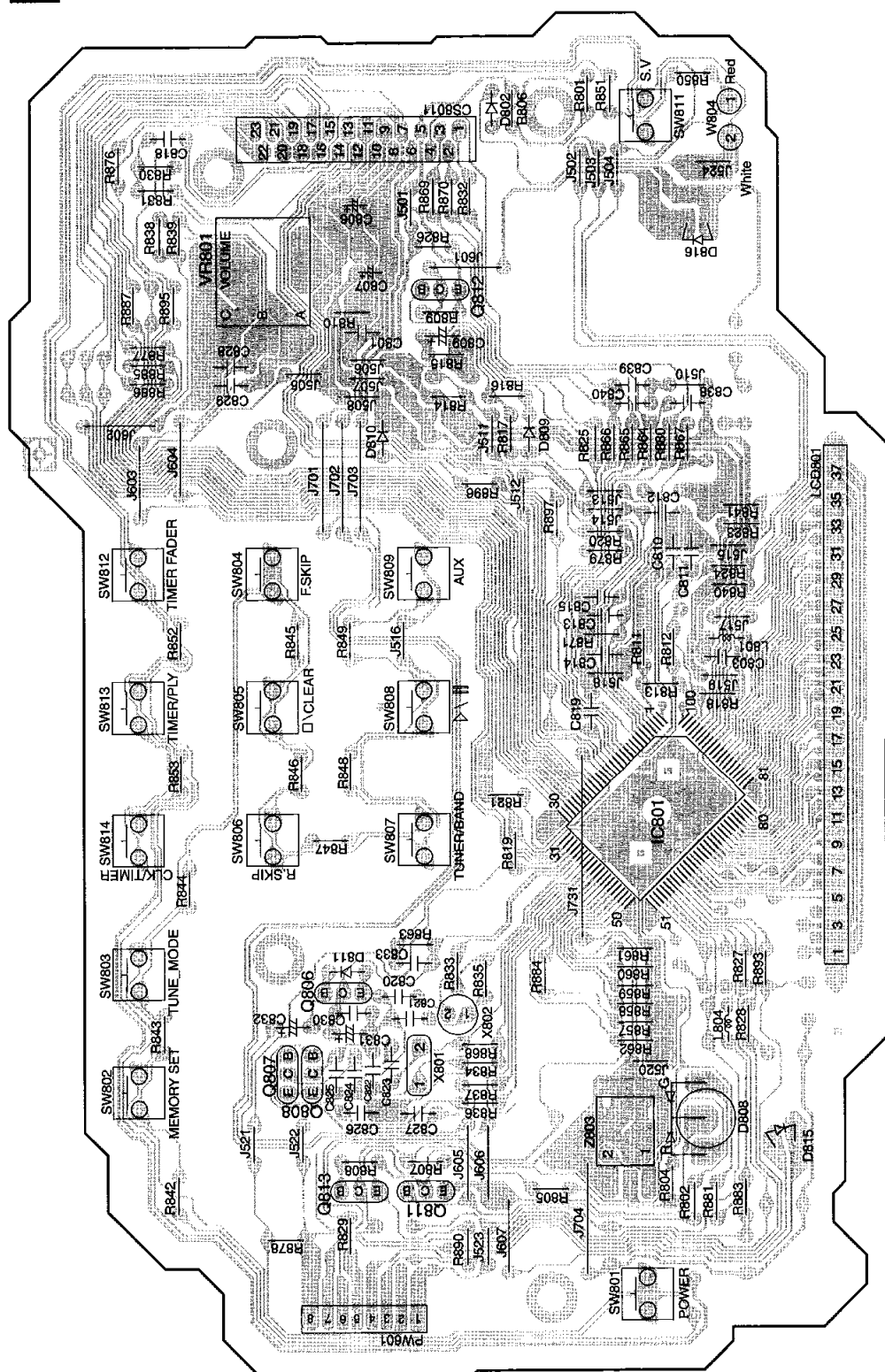
13 Printed Circuit Board

A CD SERVO P.C.B (REPX0144B)





C OPERATION P.C.B (REP2920A)



A B C D E F G

1

E POWER P.C.B (REP2921A)

2

3

4

5

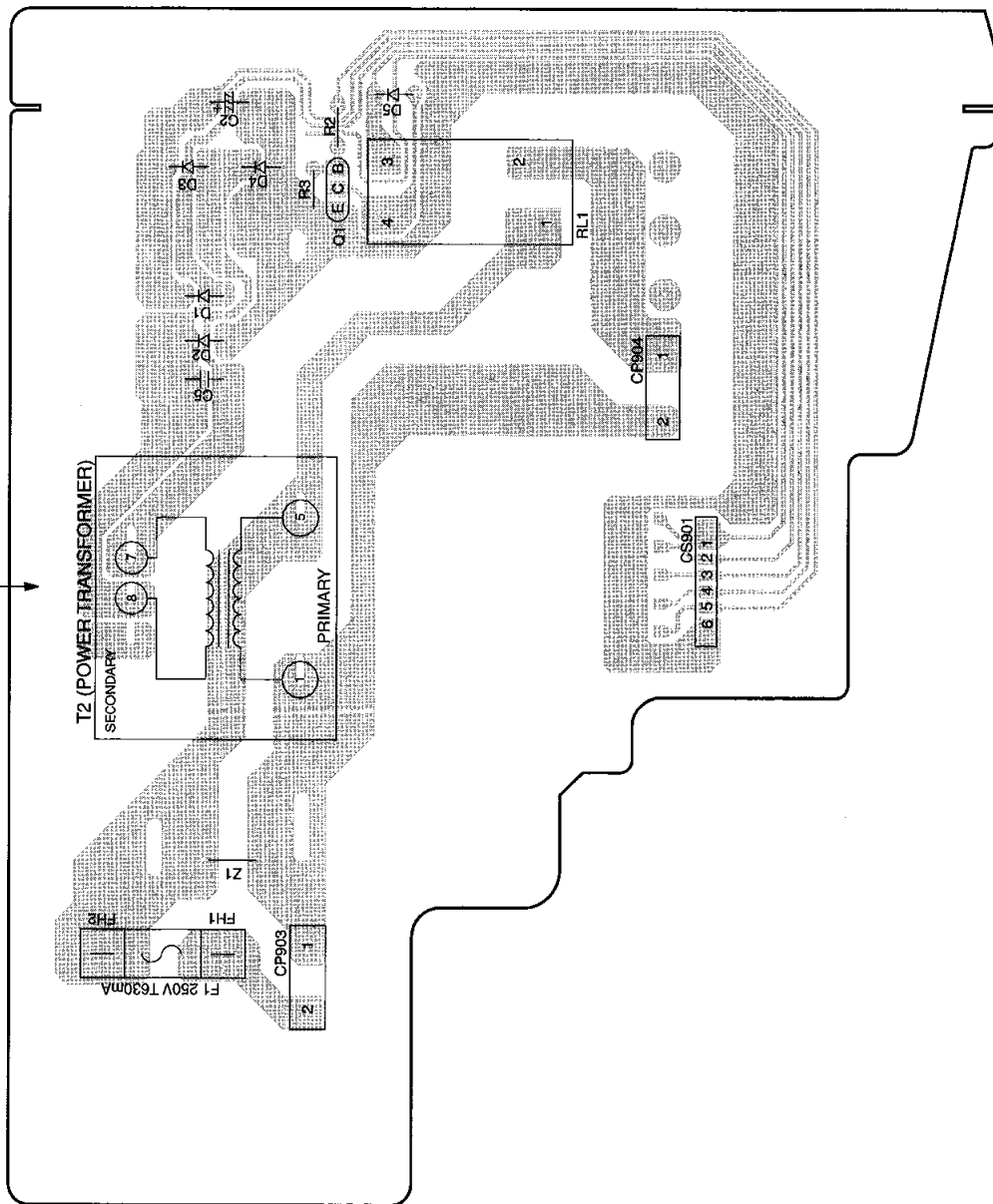
6

7

8

9

CAUTION
RISK OF ELECTRIC SHOCK
AC VOLTAGE LINE. PLEASE DO NOT
TOUCH THIS PCB.



A

B

C

D

E

F

G

1

D MAIN / TRANS P.C.B (REP2920A)

2

3

4

5

6

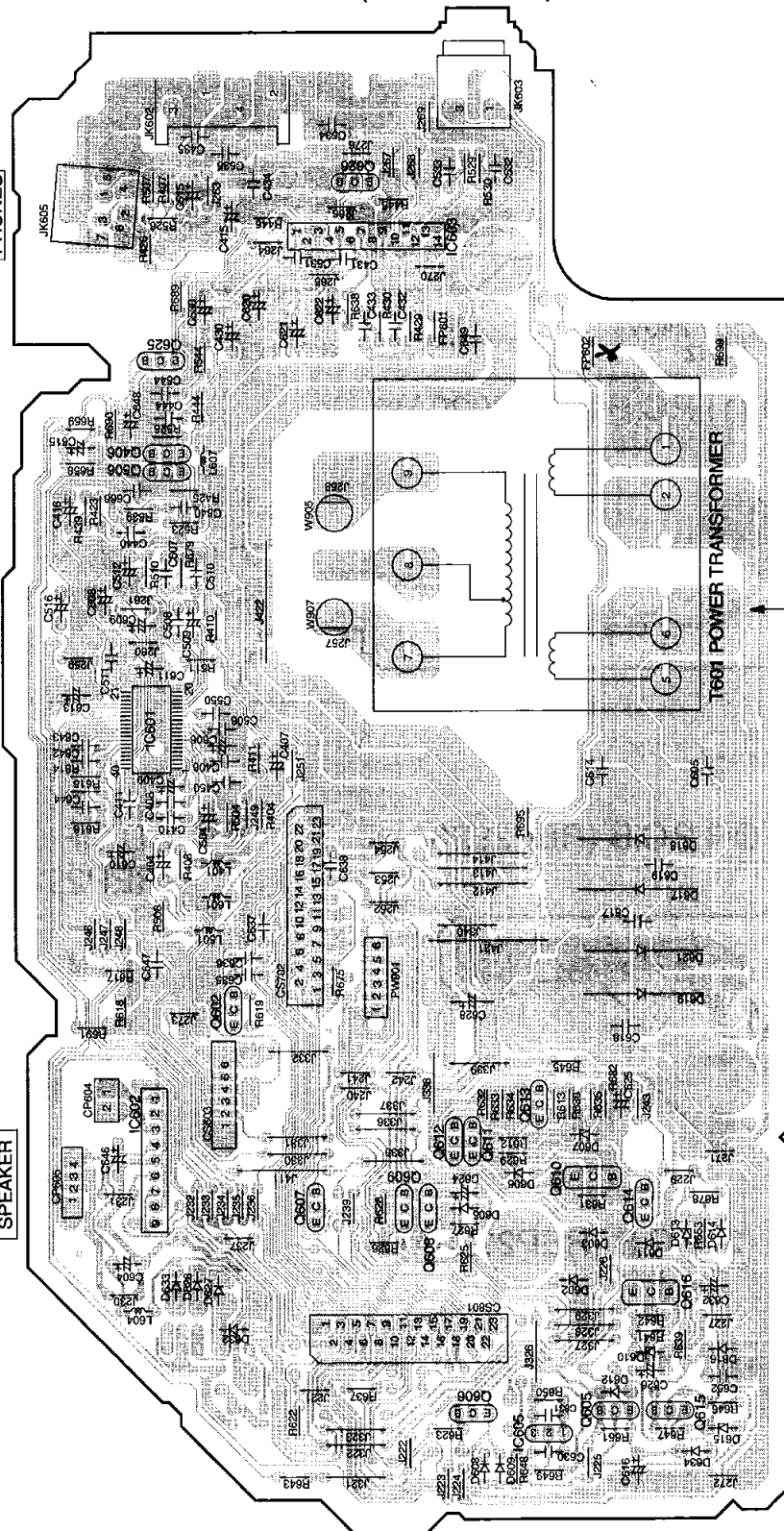
7

8

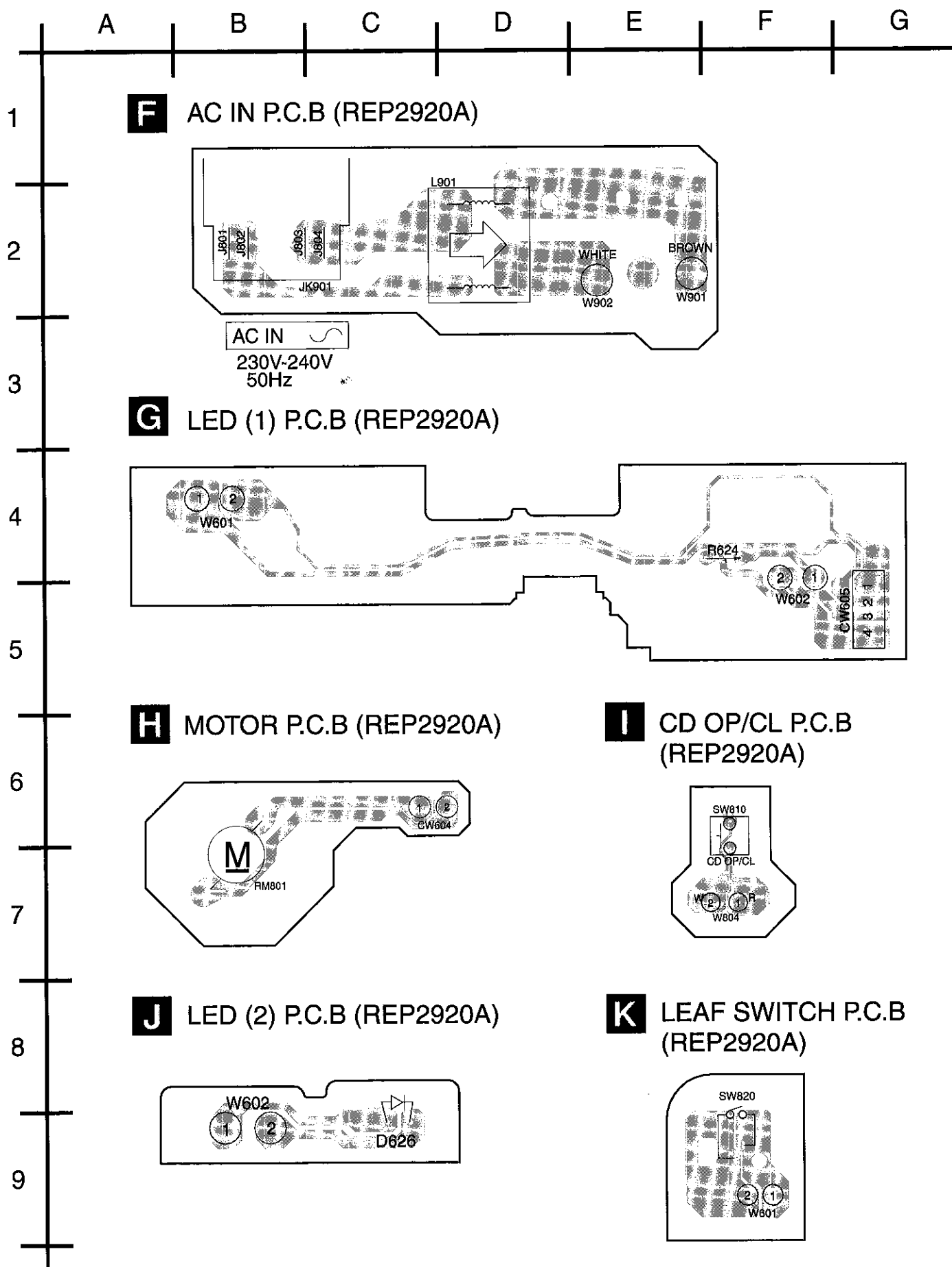
9

PHONES

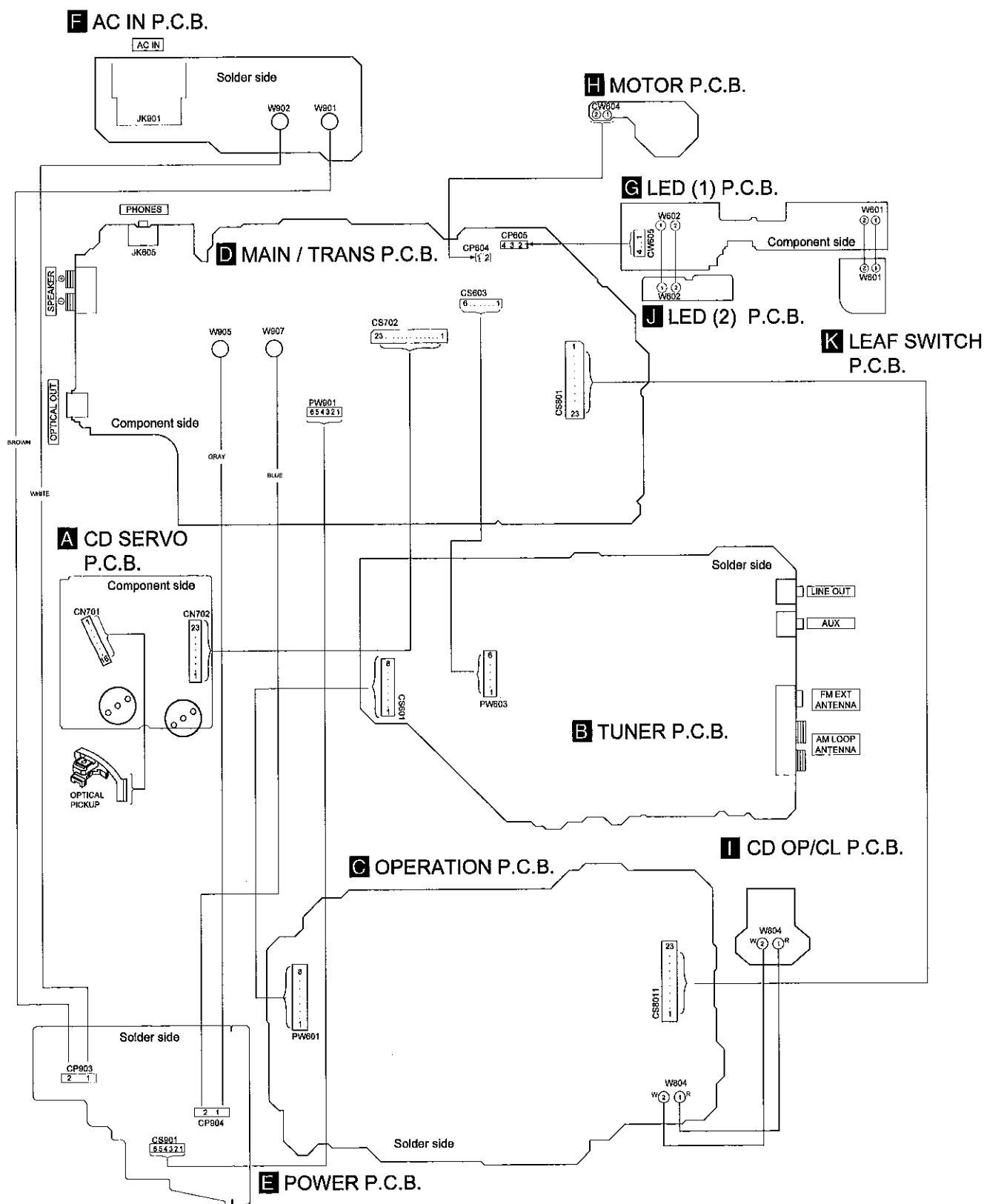
SPEAKER



CAUTION
 RISK OF ELECTRIC SHOCK
 AC VOLTAGE LINE. PLEASE DO NOT
 TOUCH THIS PCB.



14 Wiring Connection Diagram





16 Parts Location and Replacement Parts List

Notes:

- Important safety notice:

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

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

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

- The parenthesized indications in the Remarks columns specify the areas or colour. (Refer to the cover page for area or colour)

Parts without these indications can be used for all areas.

- Warning: This product uses a laser diode. Refer to caution statements on page 3.

ACTUNG:

– Die Lasereinheit nicht zerlegen.

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

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

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

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

- [M] Indicates in the Remarks columns indicates parts supplied by **MESA**.

- The "(SF)" mark denotes the standard part.

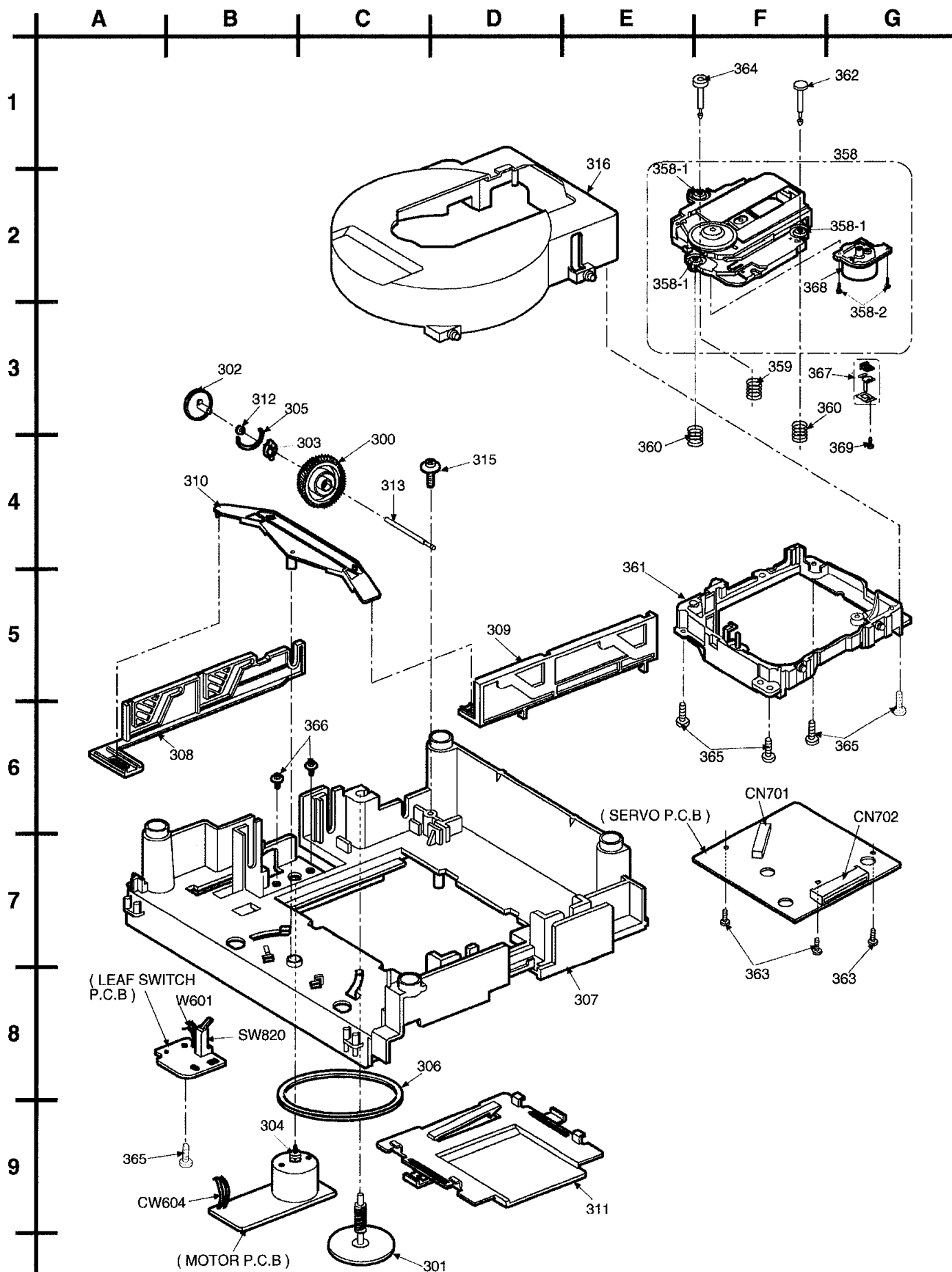
- Remote Control Unit: Supply period for three years from terminal of production.

- 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

16.1. CD Loading Mechanism

16.1.1. CD Loading Mechanism Parts Location



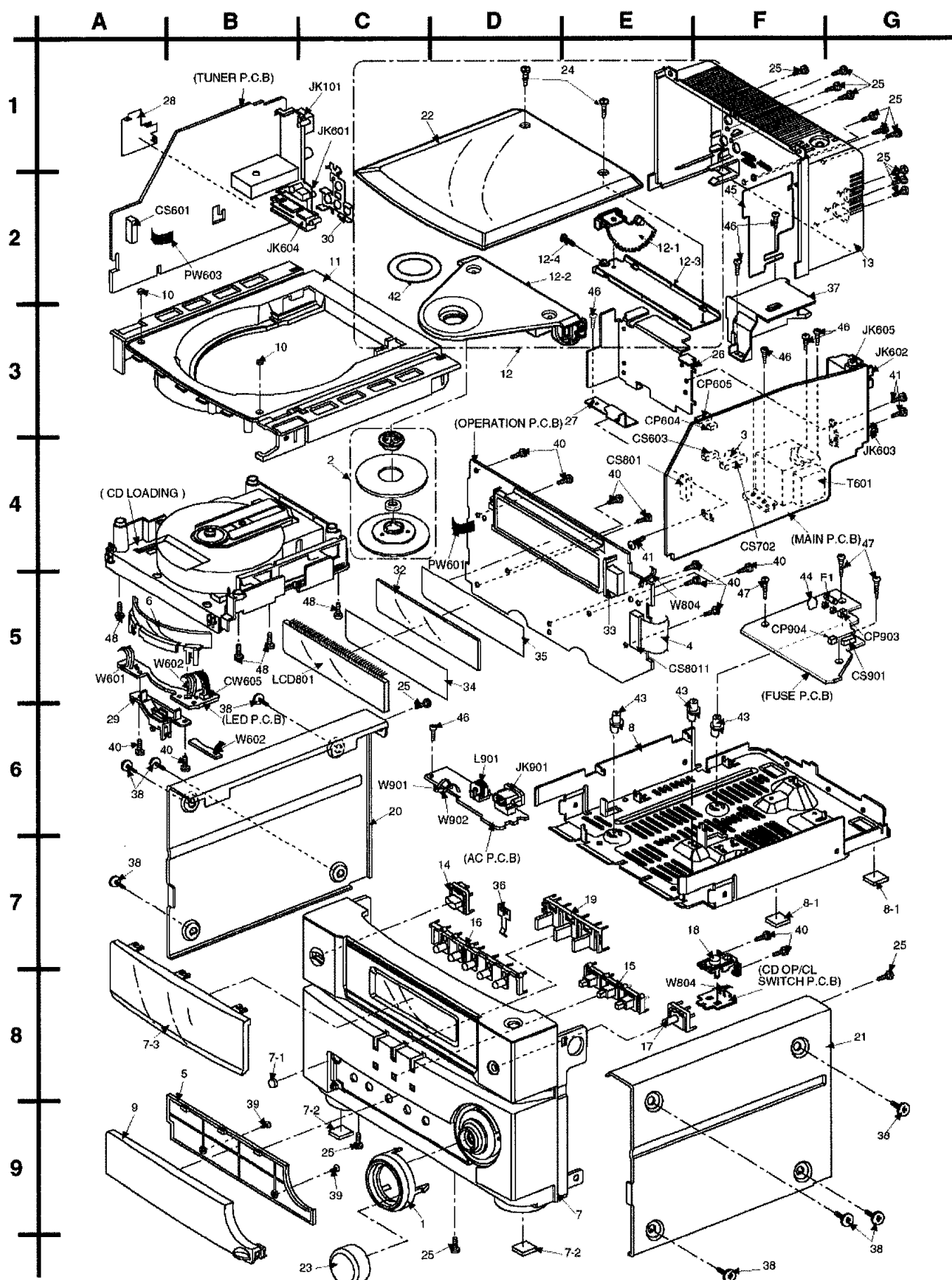
16.1.2. CD Mechanism Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		TRAVERSE DECK	
300	RDG0439	TRANSFER GEAR	[M]
301	RDG0440	WORM GEAR	[M]
302	RDG0441	SLIP GEAR	[M]
303	RDK0034	CAM	[M]
304	RDP0040	MOTOR PULLEY	[M]
305	RME0273	CAM SPRING	[M]
306	RMG0158	BELT	[M]
307	RMK0399	CD CHASSIS	[M]
308	RMM0210	UP/DOWN LEVER (L)	[M]
309	RMM0211	UP/DOWN LEVER (R)	[M]
310	RMM0212	CHANGE LEVER	[M]
311	RMR1175-W	CHASSIS COVER	[M]
312	RMR1182-K	WASHER	[M]
313	RMS0631	GEAR SHAFT	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
315	XTWS3+10Q	SCREW	[M]
316	RGQ0244-S	CD TRAY	[M]
358	RAE0152Z-3	TRAVERSE	[M]
358-1	SHGD113-1	FLOATING CUSHION	[M]
358-2	SNSD38	TRV MOTOR ASS'Y SCRE	[M]
359	RME0109	FLOATING SPRING B	[M]
360	RME0142	FLOATING SPRING A	[M]
361	RMR0698-K1	TRAVERSE CHASSIS	[M]
362	RMS0123-1	FIXED PIN B	[M]
363	XTN2+6G	PCB SCREW	[M]
364	RMS0350	FIXED PIN A	[M]
365	XTBS26+10J	SCREW	[M]
366	XYN2+F4	SCREW WITH SPRING WA	[M]
367	RXQ0304-1	NUT PLATE ASS'Y	[M]
368	RXQ0339	TRAVERSE MOTOR ASS'Y	[M]
369	XQN17+CG5	NUT PLATE ASS'Y SCRE	[M]

16.2. Cabinet

16.2.1. Cabinet Parts Location



16.2.2. Cabinet Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	RGK1059-S	VOL. RING	[M]
2	RFKNXDT39GCK	CD HOLDER ASS'Y	[M]
3	REE0966	23P FFC	[M]
4	REE0967	CD 23P FFC	[M]
5	RGK1060-H	SEALING PANEL COVER	[M]
6	RGL0488-Q	LED PANEL	[M]
7	RFKGAPM03EBS	FRONT PANEL ASS'Y	[M]
7-1	RMG0497-H	CUSHION RUBBER	[M]
7-2	RKA0095-K	LEG FELT	[M]
7-3	RGP0678-Q	LCD PANEL	[M]
8	RFKJAPM01EBS	BOTTOM CHASSIS ASS'Y	[M]
8-1	RKA0095-K	LEG FELT	[M]
9	RGP0676B-S	SEALING PANEL	[M]
10	RMF0271	CUSHION	[M]
11	RKQ0226-1S	TOP CABINET	[M]
12	RFKLAPM01ESA	CD LID ASS'Y	[M]
12-1	RDG0473	CD LID GEAR	[M]
12-2	RKF0561-K2	CD LID	[M]
12-3	RMA1291	CD LID ANGLE	[M]
12-4	XTV3+6JFZ	SCREW	[M]
13	RFKHAPM03EBS	REAR COVER ASS'Y	[M] EB
13	RFKHAPM03E-S	REAR COVER ASS'Y	[M] E
13	RKS0288E-K	REAR COVER	[M] EG
14	RGU1662-S	POWER BUTTON	[M]
15	RGU1663-S	CD OPERT BUTTON	[M]
16	RGU1664-S	ADJUST BTN	[M]
17	RGU1665-1S	S.V. BUTTON	[M]
18	RGU1666-A	CD OPEN BTN	[M]
19	RGU1667-S	FUNCTION BTN	[M]
20	RKM0377-1S	SIDE PANEL (L)	[M]
21	RKM0378-1S	SIDE PANEL (R)	[M]
22	RGP0680-1Q	CD PANEL	[M]
23	RGW0340-S	VOL. KOB	[M]
24	RHD30077	SCREW	[M]
25	XTB3+12JFZ	SCREW	[M]
26	RMV0222	HEAT SINK (A)	[M]
27	RMV0223	HEAT SINK (B)	[M]
28	RSC0510	TUNER SHIELD	[M]
29	RMN0580	PCB SUPPORT	[M]
30	RSC0511	SHIELD PLATE	[M]
32	RGL0490-Q	LIGHTING PANEL	[M]
33	RMN0581	LCD HOLDER	[M]
34	RMR1285-W	DISORDER SHEET	[M]
35	RMV0163-1	SAFETY SHEET	[M]
36	RMCO360	FRICTION SPRING	[M]
37	RMR1174-W	HEAT COVER	[M]
38	RHD30007-S	SCREW	[M]
39	XTS26+6JFN	SCREW	[M]
40	XTB826+10J	SCREW	[M]
41	XTB3+10J	SCREW	[M]
42	RMF0267	DOUBLE SIDE TAPE	[M]
43	RKQ0089-2	PCB SUPPORT	[M]
44	RMZ0339	ZNR COVER	[M]
45	RMV0196	BARRIER SHEET	[M]
46	XTB3+10JFZ	SCREW	[M]
47	XTB3+20JFZ	SCREW	[M]
48	XTV3+12G	SCREW	[M]

16.3. Electrical Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		P.C.B.	
	REP2920A	MAIN PCB UNIT	[M] (RTL)
	REP2921A	POWER PCB UNIT	[M] (RTL)
	REPX0144B	SERVO PCB UNIT	[M] (RTL)
		INTEGRATED CIRCUITS	

Ref. No.	Part No.	Part Name & Description	Remarks
IC101	LA1833MN-TLM	IC IF & MPX	[M]
IC102	LC72131MDTRM	IC PLL	[M]
IC601	BH3857AFV-E2	IC SOUND PROCESSOR	[M]
IC602	BA6283N	IC MOTOR DRIVER	[M]
IC603	LA4625	IC POWER	[M] △
IC604	BA4558FDXE2	IC OP AMP	[M]
IC605	S81250SGV-Z	IC 5V REG	[M] △
IC701	AN8837SBE1	HEAD AMP IC	[M]
IC702	MN662746RPK1	LSI	[M]
IC703	AN8780NSBE2	IC	[M]
IC801	M38258MCM063	IC MICOM	[M]
		TRANSISTORS	
Q1	2SC1740SRTA	TRANSISTOR	[M]
Q101	2SC2787LTA	TRANSISTOR	[M]
Q102	2SC2787LTA	TRANSISTOR	[M]
Q106	RVTDTA114EST	TRANSISTOR	[M]
Q401	2SC1740SRTA	TRANSISTOR	[M]
Q402	2SC1740SRTA	TRANSISTOR	[M]
Q403	2SC1740SRTA	TRANSISTOR	[M]
Q406	2SC1740SRTA	TRANSISTOR	[M]
Q407	2SC1740SRTA	TRANSISTOR	[M]
Q501	2SC1740SRTA	TRANSISTOR	[M]
Q502	2SC1740SRTA	TRANSISTOR	[M]
Q503	2SC1740SRTA	TRANSISTOR	[M]
Q506	2SC1740SRTA	TRANSISTOR	[M]
Q507	2SC1740SRTA	TRANSISTOR	[M]
Q602	2SA933ASTA	TRANSISTOR	[M]
Q603	RVTDTA144EST	TRANSISTOR	[M]
Q605	2SB621ARTA	TRANSISTOR	[M] △
Q606	RVTDTA114EST	TRANSISTOR	[M]
Q607	RVTDTA143XST	TRANSISTOR	[M]
Q608	2SC1740SRTA	TRANSISTOR	[M] △
Q609	2SA952LTA	TRANSISTOR	[M] △
Q610	2SB1566E	TRANSISTOR	[M]
Q611	2SC1740SRTA	TRANSISTOR	[M] △
Q612	RVTDTA143TST	TRANSISTOR	[M]
Q613	RVTDTA114YST	TRANSISTOR	[M]
Q614	RVTDTA144EST	TRANSISTOR	[M]
Q615	2SD592ARTA	TRANSISTOR	[M]
Q616	2SD2037ETA	TRANSISTOR	[M] △
Q617	RVTDTA144EST	TRANSISTOR	[M]
Q618	RVTDTA144EST	TRANSISTOR	[M]
Q625	2SC1740SRTA	TRANSISTOR	[M]
Q626	2SC2001KTA	TRANSISTOR	[M]
Q701	2SA1037AKSTX	TRANSISTOR	[M]
Q702	DTC114YKA146	TRANSISTOR	[M]
Q806	RVTDTA144EST	TRANSISTOR	[M]
Q807	2SC1740SRTA	TRANSISTOR	[M]
Q808	2SC1740SRTA	TRANSISTOR	[M]
Q811	RVTDTA144EST	TRANSISTOR	[M]
Q812	2SC1740SRTA	TRANSISTOR	[M]
Q813	2SC1740SRTA	TRANSISTOR	[M]
		DIODES	
D1	RL1N4003N02	DIODE	[M] △
D2	RL1N4003N02	DIODE	[M] △
D3	RL1N4003N02	DIODE	[M] △
D4	RL1N4003N02	DIODE	[M] △
D5	RVD1SS133TA	DIODE	[M] △
D101	MTZJ5R1BTA	DIODE	[M]
D602	RL1N4003N02	DIODE	[M]
D603	RL1N4003N02	DIODE	[M]
D605	RVD1SS133TA	DIODE	[M]
D606	RVD1SS133TA	DIODE	[M]
D607	MTZJ9R1BTA	DIODE	[M]
D608	1SS291TA	DIODE	[M]
D609	1SS291TA	DIODE	[M]
D610	MTZJ16CTA	DIODE	[M] △
D611	1D3E	DIODE	[M]
D612	1D3E	DIODE	[M]
D613	MTZJ5R1BTA	DIODE	[M] △

Ref. No.	Part No.	Part Name & Description	Remarks
D614	RVD1SS133TA	DIODE	[M]
D615	MTZJ12BTA	DIODE	[M] △
D616	RL1N4003N02	DIODE	[M] △
D617	1N5402BM21	DIODE	[M] △
D618	1N5402BM21	DIODE	[M] △
D619	1N5402BM21	DIODE	[M] △
D621	1N5402BM21	DIODE	[M] △
D626	LNW9A8BYBZ	DIODE	[M]
D627	RL1N4003N02	DIODE	[M]
D628	RL1N4003N02	DIODE	[M]
D632	RL1N4003N02	DIODE	[M]
D633	RL1N4003N02	DIODE	[M]
D634	1D3E	DIODE	[M]
D636	RVD1SS133TA	DIODE	[M]
D637	RVD1SS133TA	DIODE	[M]
D802	RVD1SS133TA	DIODE	[M]
D808	SPR39MVWF	DIODE	[M]
D809	RVD1SS133TA	DIODE	[M]
D810	1SS291TA	DIODE	[M]
D811	RVD1SS133TA	DIODE	[M]
D815	SLR342MG3F	DIODE	[M]
D816	LNW9A8BYBZ	DIODE	[M]
		VARIABLE RESISTORS	
VR801	RRV16B24304A	VR ENCORDED VOL	[M]
		SWITCHES	
S701	RSH1A043-U	SW, REST	[M]
SW801	EVQ21405R	SW POWER	[M]
SW802	EVQ21405R	SW TUNER MODE	[M]
SW803	EVQ21405R	SW MEMORY/SET	[M]
SW804	EVQ21405R	SW F. SKIP	[M]
SW805	EVQ21405R	SW STOP/CLEAR	[M]
SW806	EVQ21405R	SW R. SKIP	[M]
SW807	EVQ21405R	SW TUNER/BAND	[M]
SW808	EVQ21405R	SW PLAY/PAUSE	[M]
SW809	EVQ21405R	SW AUX	[M]
SW810	EVQ21405R	SW CD OPEN/CLOSE	[M]
SW811	EVQ21405R	SW S.VIRTUALIZER	[M]
SW812	EVQ21405R	SW TIMER FADER	[M]
SW813	EVQ21405R	SW TIMER PLAY	[M]
SW814	EVQ21405R	SW CLK/TIMER	[M]
SW820	RSH1A005-1U	SW LEAF	[M]
		CONNECTORS	
CN701	RJS2A6016	16P FFC CONNECTOR	[M]
CN702	RJS1A6723-1Q	23P FFC CONNECTOR	[M]
CP604	RJT029W002-1	SP CONNECTOR	[M]
CP605	RJP4G17ZA	4P POST	[M]
CP903	RJP1A4103	CONNECTOR	[M]
CP904	RJP1A4103	CONNECTOR	[M]
CS601	RJS1A5208	8P MOLEX	[M]
CS603	RJS1A5206	TO TUNER PCB	[M]
CS702	RJS1A6823-J	23P FFC CONNECTOR	[M]
CS801	RJS1A6823-J	23P FFC CONNECTOR	[M]
CS901	RJS1A5206	TO TUNER PCB	[M]
CS8011	RJS1A9323	23 FFC CONNECTOR	[M]
		COILS & TRANSFORMERS	
L101	ELESNR68MA	CHOKE COIL	[M]
L102	ELESNR68MA	CHOKE COIL	[M]
L103	ELEXTR47MA9	CHOKE COIL	[M]
L401	RL1500050T-Y	RF CHOKE COIL	[M]
L410	RLQZP1R0KT-Y	AXIAL COIL	[M]
L411	RLQZP1R0KT-Y	AXIAL COIL	[M]
L501	RL1500050T-Y	RF CHOKE COIL	[M]
L510	RLQZP1R0KT-Y	AXIAL COIL	[M]
L511	RLQZP1R0KT-Y	AXIAL COIL	[M]
L601	RL1500050T-Y	RF CHOKE COIL	[M]
L604	RLQZB470KT-D	RF CHOKE	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
L607	BL02RN2R65T2	COIL	[M]
L701	RLBN102V-Y	CHIP INDUCTOR	[M]
L801	RLQZP2R2KT-Y	COIL	[M]
L804	RLQZP2R2KT-Y	COIL	[M]
L901	RLQZ271M	AC LINE COIL	[M] △
T2	RTP1I3E001-V	BABY TRANSFORMER	[M] △
T601	RTP1M3B013-X	POWER TRANSFORMER	[M] △
		COMPONENT COMBINATION	
Z1	ERZV10V511CS	ZNR	[M]
Z101	RLA2Z006M-T	ANT COIL BLOCK	[M]
Z102	RLI2Z006M-T	AM IFT	[M]
Z120	ENV17290G1Y	FM TUNER PACK	[M]
Z803	RCDGP1U27XD	REMOTE CONTROL SENSO	[M]
		CERAMIC FILTERS	
CF201	RLFFETNGD01L	CERAMIC CAPACITOR	[M]
CF202	RLFFETMGD01L	CERAMIC FILTER	[M]
		RELAY	
RL1	RSY0040M-0	RELAY	[M] △
		OSCILLATORS	
X102	RLFDFT13DD	CERAMIC FILTER	[M]
X103	RSXD7M20C01	CRYSTAL 7.2 MHZ	[M]
X701	RSXB16M9J02T	CRYSTAL OSCILLATOR	[M]
X801	RSXZ6M00D01T	6MHZ RESONATOR	[M]
X802	RSXD32K0C01	CRYSTAL	[M]
		FUSES	
F1	XBA2C06TB0L	FUSE	[M] △
		FUSE HOLDERS	
FH1	EYF52BC	FUSE HOLDER	[M]
FH2	EYF52BC	FUSE HOLDER	[M]
		FUSE PROTECTOR	
FP601	RSFMB50KT-L	PROTECTOR	[M] △
FP602	RSFMB04KT-L	RESISTOR	[M] △
		JACKS	
JK101	RJH5210-1	JK ANTENNA	[M]
JK601	RJH2210	JK AUX	[M]
JK602	RJR0054E-J	JK SPEAKER TERMINAL	[M]
JK603	T0TX178	JK CD OUT	[M]
JK604	RJH2211	JK LINE OUT	[M]
JK605	RJJ37TK08-H	JK HEADPHONE	[M]
JK901	SJS9236-1	JK AC INLET	[M] △
		LCD	
LCD801	RSL5205-L	LCD	[M]
		WIRES	
W601	RWJ6902125KK	WIRE	[M]
W602	RWJ6902080KK	WIRE	[M]
W804	RWJ4202060KK	CONT TO CD EJ	[M]
W901	REX1006	WIRE	[M]
W905	REX1005	WIRE	[M]
CW604	REX0922	MOTOR WIRE	[M]
CW605	REX0923Y	LED WIRE	[M]
PW601	RWJ1108120XX	WIRE	[M]
PW603	RWJ1106190XX	WIRE	[M]
PW901	RWJ1106100XX	BABY TR TO MAIN	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
		RESISTORS	
R2	ERDS2TJ332T	3.3K 1/4W	[M]
R3	ERDS2TJ103T	10K 1/4W	[M]
R102	ERDS2TJ472T	4.7K 1/4W	[M]
R103	ERDS2TJ101T	100 1/4W	[M]
R104	ERDS2TJ103T	10K 1/4W	[M]
R105	ERDS2TJ471T	470 1/4W	[M]
R106	ERDS2TJ474T	470K 1/4W	[M]
R107	ERDS2TJ331T	330 1/4W	[M]
R108	ERDS2TJ474T	470K 1/4W	[M]
R109	ERDS2TJ331T	330 1/4W	[M]
R110	ERDS2TJ562T	5.6K 1/4W	[M]
R111	ERDS2TJ391T	390 1/4W	[M]
R112	ERDS2TJ104T	100K 1/4W	[M]
R113	ERDS2TJ103T	10K 1/4W	[M]
R114	ERDS2TJ562T	5.6K 1/4W	[M]
R115	ERDS2TJ561T	560 1/4W	[M]
R116	ERDS2TJ102T	1K 1/4W	[M]
R117	ERDS2TJ683T	68K 1/4W	[M]
R118	ERDS2TJ472T	4.7K 1/4W	[M]
R119	ERDS2TJ333T	33K 1/4W	[M]
R120	ERDS2TJ473T	47K 1/4W	[M]
R121	ERDS2TJ223T	22K 1/4W	[M]
R122	ERDS2TJ272T	2.7K 1/4W	[M]
R123	ERDS2TJ683T	68K 1/4W	[M]
R124	ERDS2TJ271T	270 1/4W	[M]
R125	ERDS2TJ471T	470 1/4W	[M]
R126	ERDS2TJ152T	1.5K 1/4W	[M]
R127	ERDS2TJ471T	470 1/4W	[M]
R128	ERDS2TJ820T	82 1/4W	[M]
R129	ERDS2TJ273T	27K 1/4W	[M]
R130	ERDS2TJ103T	10K 1/4W	[M]
R131	ERDS2TJ680T	68 1/4W	[M]
R132	ERDS2TJ103T	10K 1/4W	[M]
R133	ERDS2TJ102T	1K 1/4W	[M]
R134	ERDS2TJ471T	470 1/4W	[M]
R135	ERDS2TJ102T	1K 1/4W	[M]
R136	ERDS2TJ102T	1K 1/4W	[M]
R137	ERDS2TJ102T	1K 1/4W	[M]
R138	ERDS2TJ333T	3.3K 1/4W	[M]
R141	ERDS2TJ102T	1K 1/4W	[M]
R142	ERDS2TJ102T	1K 1/4W	[M]
R143	ERDS2TJ223T	22K 1/4W	[M]
R145	ERDS2TJ104T	100K 1/4W	[M]
R146	ERDS2TJ104T	100K 1/4W	[M]
R401	ERDS2TJ183T	18K 1/4W	[M]
R402	ERDS2TJ183T	18K 1/4W	[M]
R403	ERDS2TJ182T	1.8K 1/4W	[M]
R404	ERDS2TJ103T	10K 1/4W	[M]
R405	ERDS2TJ183T	18K 1/4W	[M]
R407	ERDS2TJ103T	10K 1/4W	[M]
R408	ERDS2TJ333T	33K 1/4W	[M]
R410	ERDS2TJ273T	27K 1/4W	[M]
R411	ERDS2TJ562T	5.6K 1/4W	[M]
R414	ERDS2TJ104T	100K 1/4W	[M]
R415	ERDS2TJ822T	8.2K 1/4W	[M]
R416	ERDS2TJ333T	33K 1/4W	[M]
R420	ERDS2TJ153T	15K 1/4W	[M]
R423	ERDS2TJ103T	10K 1/4W	[M]
R425	ERDS2TJ562T	5.6K 1/4W	[M]
R426	ERDS2TJ221T	220 1/4W	[M]
R429	ERDS2TJ2R2T	2.2 1/4W	[M]
R430	ERDS2TJ2R2T	2.2 1/4W	[M]
R438	ERDS2TJ103T	10K 1/4W	[M]
R439	ERDS2TJ183T	18K 1/4W	[M]
R444	ERDS2TJ562T	5.6K 1/4W	[M]
R445	ERDS2TJ222T	2.2K 1/4W	[M]
R446	ERDS2TJ222T	2.2K 1/4W	[M]
R501	ERDS2TJ183T	18K 1/4W	[M]
R502	ERDS2TJ183T	18K 1/4W	[M]
R503	ERDS2TJ182T	1.8K 1/4W	[M]
R504	ERDS2TJ103T	10K 1/4W	[M]
R505	ERDS2TJ183T	18K 1/4W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R507	ERDS2TJ103T	10K 1/4W	[M]
R508	ERDS2TJ333T	33K 1/4W	[M]
R510	ERDS2TJ273T	27K 1/4W	[M]
R511	ERDS2TJ562T	5.6K 1/4W	[M]
R514	ERDS2TJ104T	100K 1/4W	[M]
R515	ERDS2TJ822T	8.2K 1/4W	[M]
R516	ERDS2TJ333T	33K 1/4W	[M]
R520	ERDS2TJ153T	15K 1/4W	[M]
R523	ERDS2TJ103T	10K 1/4W	[M]
R525	ERDS2TJ562T	5.6K 1/4W	[M]
R526	ERDS2TJ221T	220 1/4W	[M]
R529	ERDS2TJ2R2T	2.2 1/4W	[M]
R530	ERDS2TJ2R2T	2.2 1/4W	[M]
R538	ERDS2TJ103T	10K 1/4W	[M]
R539	ERDS2TJ183T	18K 1/4W	[M]
R544	ERDS2TJ562T	5.6K 1/4W	[M]
R611	ERDS2TJ472T	4.7K 1/4W	[M]
R612	ERDS2TJ101T	100 1/4W	[M]
R613	ERDS2TJ681T	680 1/4W	[M]
R614	ERDS2TJ104T	100K 1/4W	[M]
R615	ERDS2TJ334T	330K 1/4W	[M]
R616	ERDS2TJ334T	330K 1/4W	[M]
R617	ERDS2TJ330T	33 1/4W	[M]
R618	ERDS2TJ330T	33 1/4W	[M]
R619	ERDS2TJ102T	1K 1/4W	[M]
R620	ERDS2TJ473T	47K 1/4W	[M]
R621	ERDS2TJ473T	47K 1/4W	[M]
R622	ERDS2TJ473T	47K 1/4W	[M]
R623	ERDS2TJ103T	10K 1/4W	[M]
R624	ERDS2TJ181T	180 1/4W	[M]
R625	ERDS2TJ472T	4.7K 1/4W	[M]
R626	ERDS2TJ122T	1.2K 1/4W	[M]
R627	ERDS2TJ331T	330 1/4W	[M]
R628	ERDS2TJ103T	10K 1/4W	[M]
R629	ERDS2TJ331T	330 1/4W	[M]
R630	ERDS2TJ681T	680 1/4W	[M]
R631	ERDS2TJ103T	10K 1/4W	[M]
R632	ERDS2TJ1R2T	1.2 1/4W	[M]
R633	ERDS2TJ1R2T	1.2 1/4W	[M]
R634	ERDS2TJ1R2T	1.2 1/4W	[M]
R635	ERDS2TJ222T	2.2K 1/4W	[M]
R637	ERDS2TJ102T	1K 1/4W	[M]
R638	ERDS2TJ102T	1K 1/4W	[M]
R639	ERD2FCVG470T	47 1/4W	[M]
R641	ERDS2TJ101T	100 1/4W	[M]
R642	ERDS2TJ122T	1.2K 1/4W	[M]
R643	ERDS2TJ103T	10K 1/4W	[M]
R645	ERD2FCVG470T	47 1/4W	[M]
R646	ERDS2TJ682T	6.8K 1/4W	[M]
R647	ERDS2TJ101T	100 1/4W	[M]
R648	ERDS2TJ1R2T	1.2 1/4W	[M]
R649	ERDS2TJ153T	15K 1/4W	[M]
R650	ERDS2TJ104T	100K 1/4W	[M]
R651	ERDS2TJ221T	220 1/4W	[M]
R653	ERDS2TJ472T	4.7K 1/4W	[M]
R658	ERDS2TJ333T	33K 1/4W	[M]
R659	ERDS2TJ472T	4.7K 1/4W	[M]
R662	ERDS2TJ472T	4.7K 1/4W	[M]
R663	ERDS2TJ222T	2.2K 1/4W	[M]
R675	ERDS2TJ103T	10K 1/4W	[M]
R678	ERDS2TJ104T	100K 1/4W	[M]
R679	ERDS2TJ223T	22K 1/4W	[M]
R682	ERDS2TJ153T	15K 1/4W	[M]
R689	ERDS2TJ104T	100K 1/4W	[M]
R690	ERDS2TJ473T	47K 1/4W	[M]
R691	ERDS2TJ222T	2.2K 1/4W	[M]
R695	ERDS2TJ471T	470 1/4W	[M]
R699	ERDS1FVJ100T	10 1/2W	[M] △
R701	ERJ6GEYJ4R7A	4.7 1/10W	[M]
R702	ERJ6GEYJ822A	8.2K 1/10W	[M]
R704	ERJ6GEYJ102A	1K 1/10W	[M]
R705	ERJ6GEYJ124A	120K 1/10W	[M]
R706	ERJ6GEYJ102A	1K 1/10W	[M]
R707	ERJ6GEYJ474A	470K 1/10W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R708	ERJ6GEYJ154A	150K 1/10W	[M]
R709	ERJ6GEYJ473A	47K 1/10W	[M]
R710	ERJ6GEYJ103A	10K 1/10W	[M]
R711	ERJ6GEYJ104A	100K 1/10W	[M]
R712	ERJ6GEYJ151A	150 1/10W	[M]
R714	ERJ6GEYJ121A	120 1/10W	[M]
R715	ERJ6GEYJ122A	1.2K 1/10W	[M]
R717	ERJ6GEYJ102A	1K 1/10W	[M]
R718	ERJ6GEYJ102A	1K 1/10W	[M]
R719	ERJ6GEYJ102A	1K 1/10W	[M]
R720	ERJ6GEYJ102A	1K 1/10W	[M]
R721	ERJ6GEYJ101A	100 1/10W	[M]
R723	ERJ6GEYJ272A	2.7K 1/10W	[M]
R724	ERJ6GEYJ333A	33K 1/10W	[M]
R725	ERJ6GEYJ122A	1.2K 1/10W	[M]
R727	ERJ6GEYJ682A	6.8K 1/10W	[M]
R728	ERJ6GEYJ682A	6.8K 1/10W	[M]
R729	ERJ6GEYJ562A	5.6K 1/10W	[M]
R731	ERJ6GEYJ123A	12K 1/10W	[M]
R734	ERJ6GEYJ101A	100 1/10W	[M]
R735	ERJ6GEYJ101A	100 1/10W	[M]
R736	ERJ6GEYJ101A	100 1/10W	[M]
R738	ERJ6GEYJ223A	22K 1/10W	[M]
R741	ERJ6GEYJ562A	5.6K 1/10W	[M]
R742	ERJ6GEYJ562A	5.6K 1/10W	[M]
R743	ERJ6GEYJ562A	5.6K 1/10W	[M]
R744	ERJ6GEYJ104A	100K 1/10W	[M]
R745	ERJ6GEYJ106A	10M 1/10W	[M]
R748	ERJ6GEYJ272A	2.7K 1/10W	[M]
R749	ERJ6GEYJ682A	6.8K 1/10W	[M]
R752	ERJ8GEYJ220A	22 1/8W	[M]
R770	ERJ6GEYJ224A	220K 1/10W	[M]
R801	ERDS2TJ151T	150 1/4W	[M]
R802	ERDS2TJ102T	1K 1/4W	[M]
R804	ERDS2TJ101T	100 1/4W	[M]
R805	ERDS2TJ331T	330 1/4W	[M]
R806	ERDS2TJ181T	180 1/4W	[M]
R807	ERDS2TJ103T	10K 1/4W	[M]
R808	ERDS2TJ103T	10K 1/4W	[M]
R809	ERDS2TJ472T	4.7K 1/4W	[M]
R810	ERDS2TJ331T	330 1/4W	[M]
R811	ERDS2TJ823T	82K 1/4W	[M]
R812	ERDS2TJ823T	82K 1/4W	[M]
R813	ERDS2TJ823T	82K 1/4W	[M]
R814	ERDS2TJ222T	2.2K 1/4W	[M]
R815	ERDS2TJ104T	100K 1/4W	[M]
R816	ERDS2TJ561T	560 1/4W	[M]
R817	ERDS2TJ104T	100K 1/4W	[M]
R818	ERDS2TJ473T	47K 1/4W	[M]
R819	ERDS2TJ103T	10K 1/4W	[M]
R820	ERDS2TJ104T	100K 1/4W	[M]
R821	ERDS2TJ104T	100K 1/4W	[M]
R823	ERDS2TJ472T	4.7K 1/4W	[M]
R824	ERDS2TJ472T	4.7K 1/4W	[M]
R825	ERDS2TJ102T	1K 1/4W	[M]
R826	ERDS2TJ103T	10K 1/4W	[M]
R827	ERDS2TJ472T	4.7K 1/4W	[M]
R828	ERDS2TJ472T	4.7K 1/4W	[M]
R829	ERDS2TJ472T	4.7K 1/4W	[M]
R830	ERDS2TJ102T	1K 1/4W	[M]
R831	ERDS2TJ102T	1K 1/4W	[M]
R832	ERDS2TJ222T	2.2K 1/4W	[M]
R833	ERDS2TJ106T	10M 1/4W	[M]
R834	ERDS2TJ681T	680 1/4W	[M]
R835	ERDS2TJ334T	330K 1/4W	[M]
R836	ERDS2TJ472T	4.7K 1/4W	[M]
R837	ERDS2TJ472T	4.7K 1/4W	[M]
R838	ERDS2TJ473T	47K 1/4W	[M]
R839	ERDS2TJ473T	47K 1/4W	[M]
R840	ERDS2TG103T	10K 1/4W	[M]
R841	ERDS2TG103T	10K 1/4W	[M]
R842	ERDS2TJ102T	1K 1/4W	[M]
R843	ERDS2TJ102T	1K 1/4W	[M]
R844	ERDS2TJ122T	1.2K 1/4W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R845	ERDS2TJ182T	1.8K 1/4W	[M]
R846	ERDS2TJ222T	2.2K 1/4W	[M]
R847	ERDS2TJ272T	2.7K 1/4W	[M]
R848	ERDS2TJ472T	4.7K 1/4W	[M]
R849	ERDS2TJ682T	6.8K 1/4W	[M]
R850	ERDS2TJ102T	1K 1/4W	[M]
R851	ERDS2TJ102T	1K 1/4W	[M]
R852	ERDS2TJ122T	1.2K 1/4W	[M]
R853	ERDS2TJ182T	1.8K 1/4W	[M]
R857	ERDS2TJ104T	100K 1/4W	[M]
R858	ERDS2TJ104T	100K 1/4W	[M]
R859	ERDS2TJ104T	100K 1/4W	[M]
R860	ERDS2TJ104T	100K 1/4W	[M]
R861	ERDS2TJ104T	100K 1/4W	[M]
R862	ERDS2TJ104T	100K 1/4W	[M]
R863	ERDS2TJ473T	47K 1/4W	[M]
R864	ERDS2TJ222T	2.2K 1/4W	[M]
R865	ERDS2TJ222T	2.2K 1/4W	[M]
R866	ERDS2TJ222T	2.2K 1/4W	[M]
R867	ERDS2TJ392T	3.9K 1/4W	[M]
R868	ERDS2TJ105T	1M 1/4W	[M]
R869	ERDS2TJ222T	2.2K 1/4W	[M]
R870	ERDS2TJ222T	2.2K 1/4W	[M]
R871	ERDS2TJ103T	10K 1/4W	[M]
R876	ERDS2TJ102T	1K 1/4W	[M]
R877	ERDS2TJ102T	1K 1/4W	[M]
R878	ERDS2TJ223T	22K 1/4W	[M]
R879	ERDS2TJ104T	100K 1/4W	[M]
R880	ERDS2TJ102T	1K 1/4W	[M]
R881	ERDS2TJ103T	10K 1/4W	[M]
R883	ERDS2TJ472T	4.7K 1/4W	[M]
R884	ERDS2TJ151T	150 1/4W	[M]
R885	ERDS2TJ101T	100 1/4W	[M]
R886	ERDS2TJ101T	100 1/4W	[M]
R887	ERDS2TJ101T	100 1/4W	[M]
R890	ERDS2TJ821T	820 1/4W	[M]
R893	ERDS2TJ102T	1K 1/4W	[M]
R895	ERDS2TJ102T	1K 1/4W	[M]
R896	ERDS2TJ102T	1K 1/4W	[M]
R897	ERDS2TJ102T	1K 1/4W	[M]
		CAPACITORS	
C2	ECA1CM102B	1000 16V	[M]
C5	ECRR1H103ZF5	0.01 50V	[M]
C101	ECBT1C103NS5	0.01 16V	[M]
C102	ECA1CAK101XB	100 16V	[M]
C103	ECBT1C103NS5	0.01 16V	[M]
C104	ECBT1H102KB5	1000P 50V	[M]
C105	ECBT1H102KB5	1000P 50V	[M]
C106	ECBT1C103NS5	0.01 16V	[M]
C107	ECBT1H473ZF5	0.047 50V	[M]
C108	ECBT1H8R2KC5	8.2P 50V	[M]
C109	ECBT1H102KB5	1000P 50V	[M]
C110	ECBT1C103NS5	0.01 16V	[M]
C111	ECA1HAK4R7XB	4.7 50V	[M]
C112	ECBT1C103NS5	0.01 16V	[M]
C113	ECBT1H102KB5	1000P 50V	[M]
C114	ECEA1HKA3R3B	3.3 50V	[M]
C115	ECA1HAK4R7XB	4.7 50V	[M]
C116	ECFR1C333KR	0.033 16V	[M]
C117	ECFR1C183KR	0.018 16V	[M]
C118	ECFR1C183KR	0.018 16V	[M]
C119	ECQP1391JZT	390P 100V	[M]
C120	ECA1EAK100XB	10 25V	[M]
C121	ECA1HAKR47XB	0.47 50V	[M]
C122	ECA1HAK010XB	1 50V	[M]
C123	ECA1HAK010XB	1 50V	[M]
C124	ECBT1H101KB5	100P 50V	[M]
C125	ECEA1EKA220B	22 25V	[M]
C126	ECBT1H473ZF5	0.047 50V	[M]
C127	ECEA1CKA220B	22 16V	[M]
C129	ECEA0JKA101B	100 6.3V	[M]
C130	ECEA0JKA101B	100 6.3V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C131	ECBT1H101KB5	100P 50V	[M]
C132	ECBT1H102KB5	1000P 50V	[M]
C133	ECBT1H150JC5	15P 50V	[M]
C134	ECBT1H180JC5	18P 50V	[M]
C136	ECBT1H102KB5	1000P 50V	[M]
C137	ECFR1C472KR	4700P 16V	[M]
C138	ECBT1C103KS5	0.01 16V	[M]
C139	ECFR1C472KR	4700P 16V	[M]
C141	ECA1HAK010XB	1 50V	[M]
C142	ECA1HAK010XB	1 50V	[M]
C143	ECBT1C472KR5	4700P 16V	[M]
C144	ECBT1C472KR5	4700P 16V	[M]
C147	ECBT1H102KB5	1000P 50V	[M]
C148	ECBT1C103NS5	0.01 16V	[M]
C149	ECBT1H104ZF5	0.1 50V	[M]
C401	ECBT1H101KB5	100P 50V	[M]
C402	ECBT1H101KB5	100P 50V	[M]
C404	ECA1EAK100XB	10 25V	[M]
C406	ECBT1H221KB5	220P 50V	[M]
C407	ECA1CAK470XB	47 16V	[M]
C408	ECBT1H221KB5	220P 50V	[M]
C409	ECA1HAKR22XB	0.22 50V	[M]
C410	ECFR1C473KR	0.047 16V	[M]
C411	ECFR1C103KR	0.01 16V	[M]
C413	ECBT1H101KB5	100P 50V	[M]
C414	ECBT1H101KB5	100P 50V	[M]
C415	ECA1CAK101XB	100 16V	[M]
C416	ECA1HAKR47XB	0.47 50V	[M]
C417	ECBT1H101KB5	100P 50V	[M]
C418	ECBT1H100JC5	10P 50V	[M]
C420	ECA1EAK100XB	10 25V	[M]
C424	ECA1EAK100XB	10 25V	[M]
C430	ECA1HAK4R7XB	4.7 50V	[M]
C431	ECBT1H102KB5	1000P 50V	[M]
C432	ECFR1C104MR	0.1 16V	[M]
C433	ECFR1C104MR	0.1 16V	[M]
C434	ECBT1H473ZF5	0.047 50V	[M]
C435	ECBT1H473ZF5	0.047 50V	[M]
C440	ECBT1C222KR5	2200P 16V	[M]
C444	ECFR1C273KR	0.027 16V	[M]
C445	ECA1EAK100XB	10 25V	[M]
C450	ECBT1H101KB5	100P 50V	[M]
C501	ECBT1H101KB5	100P 50V	[M]
C502	ECBT1H101KB5	100P 50V	[M]
C504	ECA1EAK100XB	10 25V	[M]
C506	ECBT1H221KB5	220P 50V	[M]
C508	ECBT1H221KB5	220P 50V	[M]
C509	ECA1HAKR22XB	0.22 50V	[M]
C510	ECFR1C473KR	0.047 16V	[M]
C511	ECFR1C103KR	0.01 16V	[M]
C512	ECA1EAK100XB	10 25V	[M]
C513	ECBT1H101KB5	100P 50V	[M]
C514	ECBT1H101KB5	100P 50V	[M]
C515	ECA1CAK101XB	100 16V	[M]
C516	ECA1HAKR47XB	0.47 50V	[M]
C517	ECBT1H101KB5	100P 50V	[M]
C518	ECBT1H100JC5	10P 50V	[M]
C520	ECA1EAK100XB	10 25V	[M]
C524	ECA1EAK100XB	10 25V	[M]
C530	ECA1HAK4R7XB	4.7 50V	[M]
C531	ECBT1H102KB5	1000P 50V	[M]
C532	ECFR1C104MR	0.1 16V	[M]
C533	ECFR1C104MR	0.1 16V	[M]
C534	ECBT1H473ZF5	0.047 50V	[M]
C535	ECBT1H473ZF5	0.047 50V	[M]
C540	ECBT1C222KR5	2200P 16V	[M]
C544	ECFR1C273KR	0.027 16V	[M]
C545	ECA1EAK100XB	10 25V	[M]
C550	ECBT1H101KB5	100P 50V	[M]
C604	ECEA1AKA221Q	220 10V	[M]
C605	ECQE2104KF3	0.1 250V	[M]
C606	ECA1EAK100XB	10 25V	[M]
C607	ECFR1C473MR	0.047 16V	[M]
C608	ECA1HAK010XB	1 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C609	ECA1HAK010XB	1 50V	[M]
C610	ECA1HAK010XB	1 50V	[M]
C611	ECA1CAK101XB	100 16V	[M]
C613	ECA1EAM471XB	470 25V	[M]
C614	ECBT1H103ZF5	0.01 50V	[M]
C615	ECEA1CKA220B	22 16V	[M]
C616	ECA1EAM471XB	470 25V	[M]
C617	ECBT1H103ZF5	0.01 50V	[M]
C618	ECBT1H103ZF5	0.01 50V	[M]
C619	ECBT1H103ZF5	0.01 50V	[M]
C620	ECA1CAK101XB	100 16V	[M]
C621	ECEA1CKA330B	33 16V	[M]
C622	ECA1HAK010XB	1 50V	[M]
C624	ECA1HHG100B	10 50V	[M]
C625	ECA1EAK100XB	10 25V	[M]
C626	ECA1VM221B	220 35V	[M]
C628	ECA1EAM682XE	6800 25V	[M]
C630	ECBT1H223KB5	0.022 50V	[M]
C631	ECBT1H223KB5	0.022 50V	[M]
C632	ECA1VM221B	220 35V	[M]
C634	ECA1EAK100XB	10 25V	[M]
C635	ECBT1H102KB5	1000P 50V	[M]
C636	ECBT1H330J5	33P 50V	[M]
C637	ECBT1H102KB5	1000P 50V	[M]
C638	ECBT1H102KB5	1000P 50V	[M]
C641	ECBT1H102KB5	1000P 50V	[M]
C642	ECBT1H101KB5	100P 50V	[M]
C643	ECBT1H101KB5	100P 50V	[M]
C644	ECBT1H471KB5	470P 50V	[M]
C646	ECA1CAK101XB	100 16V	[M]
C647	ECBT1C103MS5	0.01 16V	[M]
C648	ECA1EAK100XB	10 25V	[M]
C649	ECQV1H224JZ3	0.22 50V	[M]
C650	ECBT1H102KB5	1000P 50V	[M]
C651	ECBT1H102KB5	1000P 50V	[M]
C652	ECR1H223ZF5	0.022 50V	[M]
C666	ECBT1H102KB5	1000P 50V	[M]
C670	ECEA1HKA2R2B	2.2 50V	[M]
C701	ECEA0JKA330I	33 6.3V	[M]
C702	ECUZ1E104MBN	0.1 25V	[M]
C703	ECEA0JKA101I	100 6.3V	[M]
C704	ECUZ1E104MBN	0.1 25V	[M]
C706	ECUZ1H272KBN	2700P 50V	[M]
C707	ECUZ1E273KBN	0.027 25V	[M]
C710	ECUV1H151KCN	150P 50V	[M]
C711	ECUZ1E104ZFN	0.1 25V	[M]
C712	ECUZ1E104ZFN	0.1 25V	[M]
C713	ECUZ1E104MBN	0.1 25V	[M]
C714	ECEA0JKA101I	100 6.3V	[M]
C715	ECUZ1H182KBN	1800P 50V	[M]
C716	ECUZ1H821KBN	820P 50V	[M]
C717	ECUZ1E104ZFN	0.1 25V	[M]
C718	ECUZ1C224KBN	0.22 16V	[M]
C721	ECUZ1H070DCN	7P 50V	[M]
C722	ECUZ1H100DCN	10P 50V	[M]
C723	ECEA1AKA221I	220 10V	[M]
C724	ECUZ1E104MBN	0.1 25V	[M]
C725	ECUZ1H102KBN	1000P 50V	[M]
C726	ECUZ1H102KBN	1000P 50V	[M]
C727	ECA1HAK010XI	1 50V	[M]
C728	ECA1HAK010XI	1 50V	[M]
C730	ECUZ1E104ZFN	0.1 25V	[M]
C731	ECEA0JKA221I	220 6.3V	[M]
C732	ECEA0JKA221I	220 6.3V	[M]
C733	ECUZ1E104MBN	0.1 25V	[M]
C734	ECEA1AKA221I	220 10V	[M]
C735	ECUZ1E104ZFN	0.1 25V	[M]
C736	ECUZ1E104ZFN	0.1 25V	[M]
C737	ECUZ1E104ZFN	0.1 25V	[M]
C738	ECUZ1E104MBN	0.1 25V	[M]
C739	ECUZ1H103KBN	0.01 50V	[M]
C742	ECUZ1E273KBN	0.027 25V	[M]
C743	ECUZ1E104ZFN	0.1 25V	[M]
C744	ECUZ1E183KBN	0.018 25V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C745	ECUZ1C473KBN	0.047 16V	[M]
C747	ECUV1H221KBN	220P 50V	[M]
C749	ECUZ1H222KBN	2200P 50V	[M]
C750	ECUZ1E104MBN	0.1 25V	[M]
C751	ECUZ1E104MBN	0.1 25V	[M]
C752	ECUZ1H102KBN	1000P 50V	[M]
C753	ECUZ1H471KBN	470P 50V	[M]
C754	ECUZ1H471KBN	470P 50V	[M]
C761	ECUZ1H471KBN	470P 50V	[M]
C762	ECUZ1H471KBN	470P 50V	[M]
C801	ECBT1H102KB5	1000P 50V	[M]
C803	ECBT1H102KB5	1000P 50V	[M]
C806	ECA0JM102	1000 6.3V	[M]
C807	ECA0JM102	1000 6.3V	[M]
C809	ECEA0JKA470B	47 6.3V	[M]
C810	ECBT1H561KB5	560P 50V	[M]
C811	ECBT1H561KB5	560P 50V	[M]
C812	ECBT1H561KB5	560P 50V	[M]
C813	ECBT1H561KB5	560P 50V	[M]
C814	ECBT1H561KB5	560P 50V	[M]
C815	ECBT1H561KB5	560P 50V	[M]
C818	ECBT1H101KB5	100P 50V	[M]
C819	ECBT1C103MS5	0.01 16V	[M]
C820	ECBT1H180JC5	18P 50V	[M]
C821	ECBT1H180JC5	18P 50V	[M]
C822	ECBT1H680J5	68P 50V	[M]
C823	ECBT1H680J5	68P 50V	[M]
C824	ECBT1H680J5	68P 50V	[M]
C825	ECBT1H680J5	68P 50V	[M]
C826	ECBT1H102KB5	1000P 50V	[M]
C827	ECBT1H102KB5	1000P 50V	[M]
C828	ECBT1H101KB5	100P 50V	[M]
C829	ECBT1H101KB5	100P 50V	[M]
C830	ECBT1H101KB5	100P 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C831	ECA1HAK010XB	1 50V	[M]
C832	ECA1HAK010XB	1 50V	[M]
C833	ECBT1C103MS5	0.01 16V	[M]
C838	ECBT1H221KB5	220P 50V	[M]
C839	ECBT1H221KB5	220P 50V	[M]
C840	ECBT1H221KB5	220P 50V	[M]
		CHIP JUMPER	
RJ701	ERJ6GEY0R00A	0 1/10W	[M]
RJ702	ERJ8GEY0R00A	0 1/8W	[M]
RJ703	ERJ8GEY0R00A	0 1/8W	[M]
RJ704	ERJ8GEY0R00A	0 1/8W	[M]
RJ705	ERJ8GEY0R00A	0 1/8W	[M]
RJ706	ERJ8GEY0R00A	0 1/8W	[M]
RJ707	ERJ8GEY0R00A	0 1/8W	[M]
RJ708	ERJ8GEY0R00A	0 1/8W	[M]
RJ709	ERJ8GEY0R00A	0 1/8W	[M]
RJ710	ERJ8GEY0R00A	0 1/8W	[M]
RJ721	ERJ6GEY0R00A	0 1/10W	[M]
RJ722	ERJ6GEY0R00A	0 1/10W	[M]
RJ723	ERJ6GEY0R00A	0 1/10W	[M]
RJ724	ERJ6GEY0R00A	0 1/10W	[M]
RJ725	ERJ6GEY0R00A	0 1/10W	[M]
RJ726	ERJ6GEY0R00A	0 1/10W	[M]
RJ727	ERJ6GEY0R00A	0 1/10W	[M]
RJ728	ERJ6GEY0R00A	0 1/10W	[M]
RJ750	ERJ6GEY0R00A	0 1/10W	[M]
		TEST JUMPER	
TJ701	EYF8CU	TEST JUMPER	[M]

16.4. Packing Materials & Accessories Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		PACKING MATERIALS	
P1	RPN1135	POLYFOAM	[M]
P2	RPG4714	PACKING CASE	[M]
P3	RPH0202	PROTECTION SHEET	[M]
		ACCESSORIES	
A1	EUR648100	REMOTE CONTROL	[M]
A1-1	UR64EC2176D	R/C BATTERY COVER	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
A2	RJA0019-2K	AC CORD (SF)	[M]EG E △
A2	VJA0733	AC CORD (SF)	[M]EB △
A3	RQT5270-D	O/I BOOK	[M]EG
A3	RQT5271-H	O/I BOOK	[M]EG
A3	RQT5272-E	O/I BOOK	[M]E
A3	RQT5273-R	O/I BOOK	[M]E
A3	RQT5274-B	O/I BOOK	[M]EB
A4	RSA0007	FM ANTENNA	[M]
A5	RSA0025	AM LOOP ANT	[M]
A6	SJP9009	ANT ADAPTER	[M]EB

16.5. Packaging

