

# Service Manual

Portable Stereo CD System

Radio Cassette  
**RX-DS650**

COMPACT  
**disc**  
DIGITAL AUDIO

**DIGITAL**



Color

(K)... Black Type

Area

Country Code	Area	Color
(E)	Continental Europe.	(K)
(EB)	Great Britain.	
(EG)	F.R. Germany & Italy.	

## RX-FD55 MECHANISM SERIES (AR300)

### ■ SPECIFICATIONS

#### General:

Power Requirement: AC; 220V, 50Hz...(E, EG)  
240V, 50Hz...(EB)  
Battery; 15V (10 UM-1, R20/LR20 batteries)

Power Consumption: 45W (AC only)

Power Output: 60W...PMPO  
30W...MPO

Speakers: 2-Woofer; 16 cm (2.7Ω)  
2-Tweeters; 2 cm

Input: AUX; 200mV/47kΩ

Output: Speaker; 2.7~8Ω  
Headphones; 32Ω, φ3.5

Dimensions (W × H × D): 702 × 229 × 218 mm  
Main unit; 349 × 229 × 217 mm  
Speaker box; 185 × 218 × 183 mm

Weight: 6.8kg without batteries

#### CD Player Section:

Sampling Frequency: 44.1kHz

D-A Conversion: 16-bit linear

Beam Source: Semiconductor laser  
(wavelength 780 nm)

No. of Channels: 2 channels, stereo

Frequency Response: 20~20,000Hz (+1/-1dB)

S/N Ratio: 75dB (1kHz)  
Measure point: speaker out

Wow and Flutter: Unmeasurable

#### Radio Section:

Frequency Range: FM; 87.5~108MHz  
LW; 148.5~285kHz  
MW; 520~1610kHz

Intermediate Frequency: FM; 10.7MHz  
AM; 459kHz

Sensitivity: FM; 4.5μV/50mW output  
(-3dB Limit Sens)  
LW; 224μV/m/50mW output  
MW; 142μV/m/50mW output

#### Tape Section:

Frequency Response: 40~13,000Hz (with normal tape)  
40~14,000Hz (with CrO<sub>2</sub> tape)

Tape Speed: 1-7/8 ips (4.8cm/s)

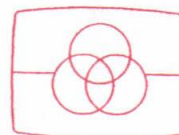
Track System: 4-track 2-channel, stereo

Recording System: AC bias

Erasing System: AC erase

Monitor System: Variable sound monitor

Weights and dimensions shown are approximate.  
Design and specifications are subject to change without notice.



Free service manuals  
Gratis schema's

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# Panasonic

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Central P.O. Box 288, Osaka 530-91, Japan

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## 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.  
 Wave length: 780nM  
 Maximum output radiation power from pick up: 100µW/VDE

Laser radiation from the pick up lens 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 pickup 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.

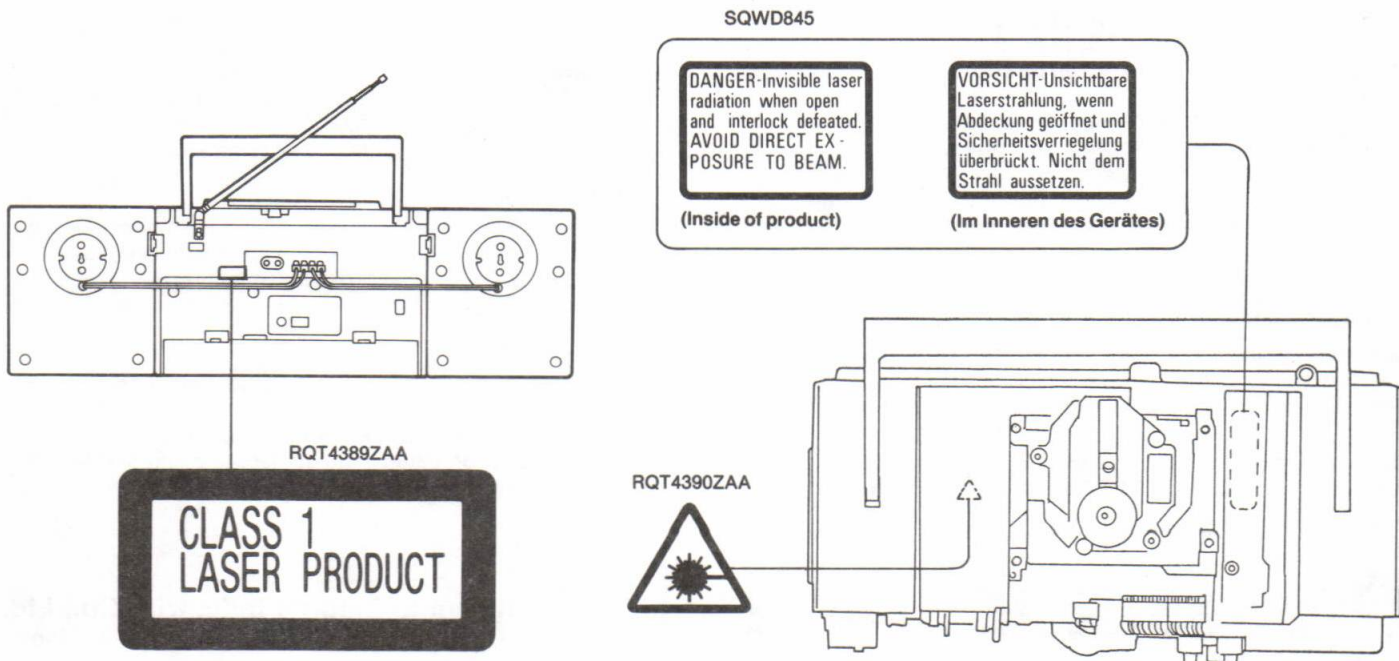
**ACHTUNG:** Dieses produkt enthält eine laserdioden. Im eingeschalteten zustand wird unsichtbare laserstrahlung von der lasereinheit abgestrahlt.

Wellenlänge: 780nM  
 Maximale strahlungsleistung der lasereinheit: 100µW/VDE

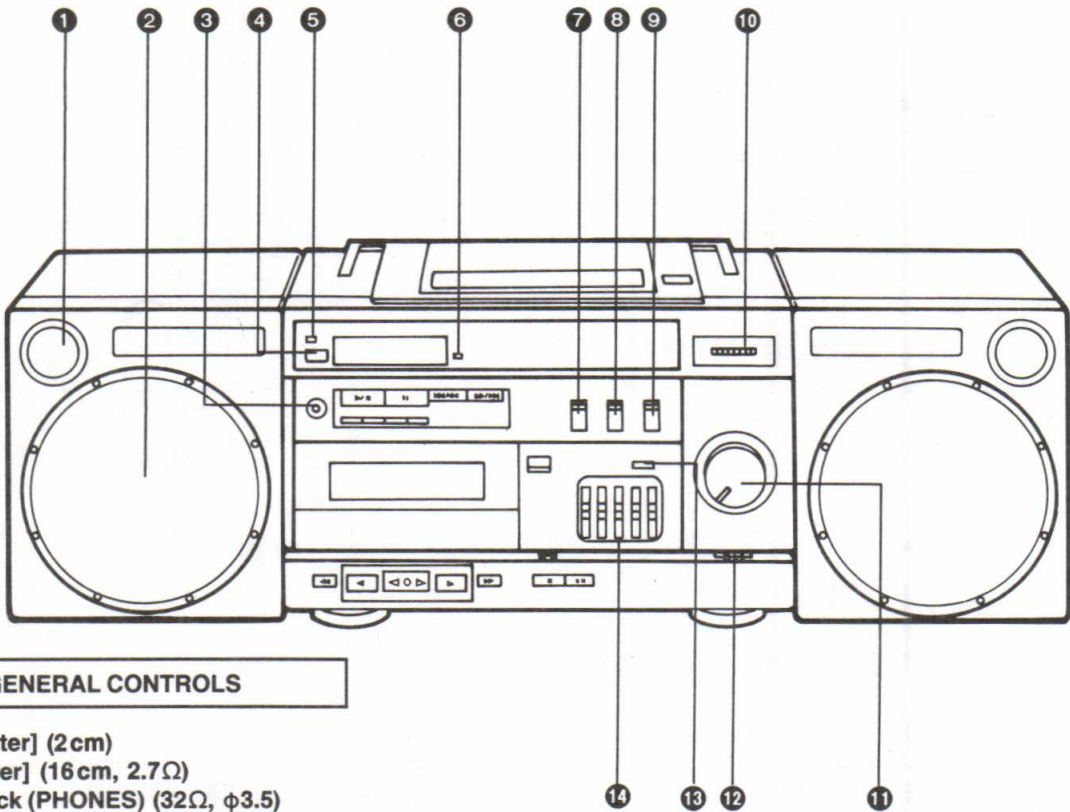
Die strahlung an der lasereinheit ist ungefährlich, wenn folgende punkte beachtet werden:

1. Die lasereinheit nicht zerlegen, da die strahlung an der freigelegten laserdioden 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.

**ADVASEL:** I dette a apparat anvendes laser.



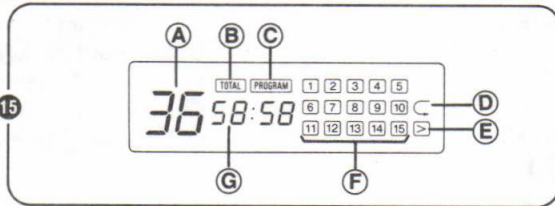
# LOCATION OF CONTROLS



## TUNER/GENERAL CONTROLS

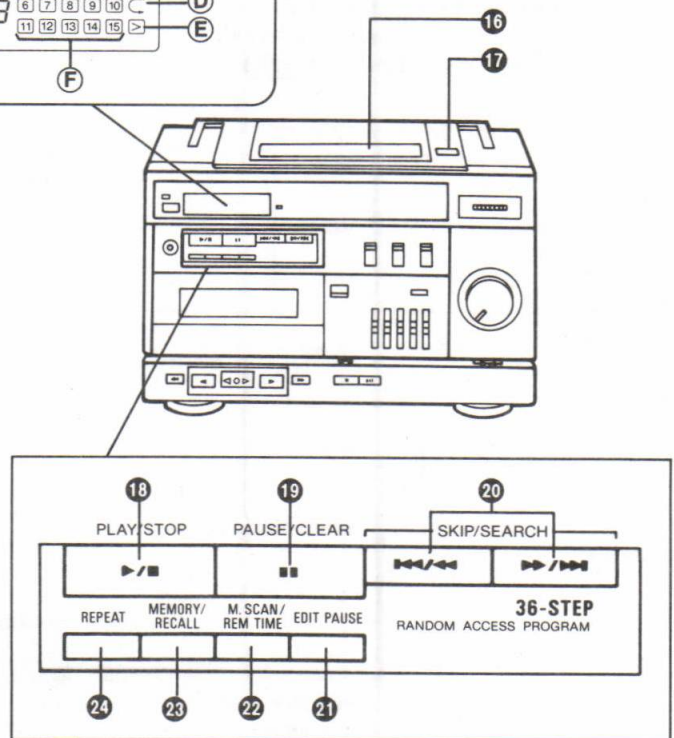
- 1 Speakers [Tweeter] (2 cm)
- 2 Speakers [Woofer] (16 cm, 2.7Ω)
- 3 Headphones Jack (PHONES) (32Ω, φ3.5)
  - When using the headphones, avoid listening to sound at excessive volume levels, because it may injure your ears.
  - Speakers are automatically cut off when the headphones are connected.
- 4 Operation Switch (OPERATION)
- 5 Operation/Battery Check Indicator (OPR/BATT)
- 6 FM Stereo Indicator (FM STEREO)
- 7 Function Selector (SELECTOR)
- 8 FM Mode Selector/Beat Proof Switch (FM MODE/B.P)
- 9 Band Selector (BAND)
- 10 Tuning Control (TUNING)

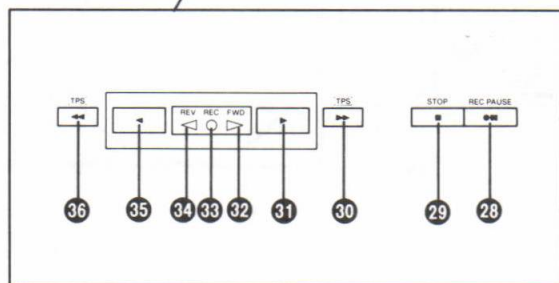
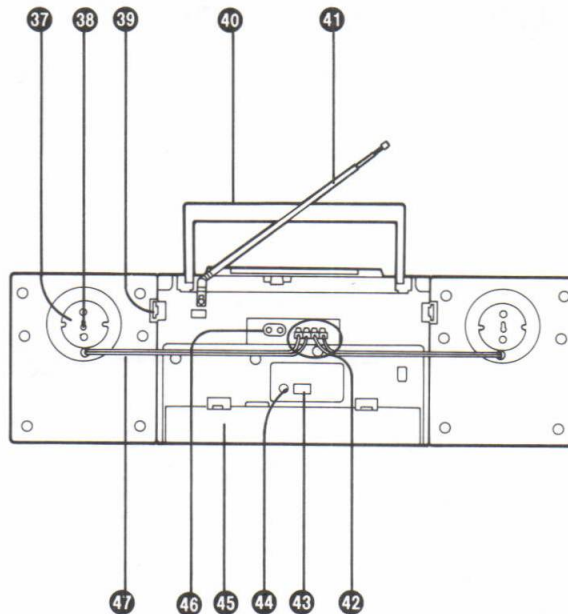
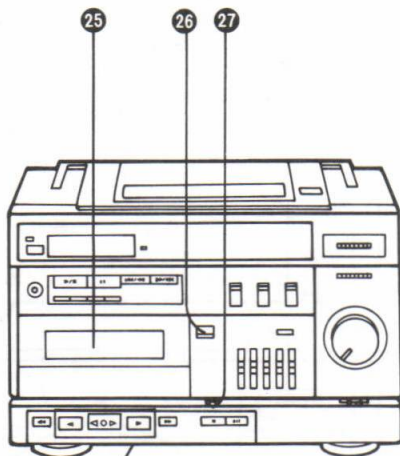
- 11 Volume Control (VOLUME)
- 12 Balance Control (BALANCE)
- 13 XBS Switch (XBS)
- 14 Graphic Equalizer Controls (GRAPHIC EQUALIZER)



## CD CONTROLS

- 15 Display Panel
  - A Track Display (TRACK)
  - B Total Indicator (TOTAL)
  - C Program Indicator (PROGRAM)
  - D Repeat Indicator (C)
  - E Multi Indicator (>)
  - F Program Display
  - G Time Display
- 16 Disc Compartment
- 17 CD Eject Button (▲ CD EJECT)
- 18 Play/Stop Button (▶/■ PLAY/STOP)
- 19 Pause/Clear Button (|| PAUSE/CLEAR)
- 20 Skip/Search Button (|◀◀/▶▶| SKIP/SEARCH)
- 21 Edit Pause Button (EDIT PAUSE)
- 22 Music Scan/Remaining Time Button (M.SCAN/REM TIME)
- 23 Memory/Recall Button (MEMORY/RECALL)
- 24 Repeat Button (REPEAT)





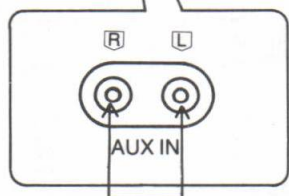
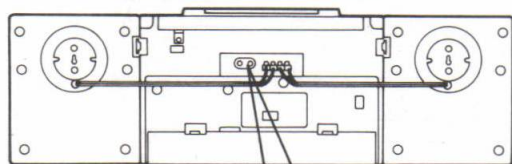
**DECK CONTROLS**

**REAR PANEL**

- 25 Cassette Compartment
- 26 Eject Button (▲ EJECT)
- 27 Reverse Mode Selector (REVERSE MODE)
- 28 Rec Pause Button (● || REC PAUSE)
- 29 Stop Button (■ STOP)
- 30 Fast/TPS Button (▶▶ TPS)
- 31 Forward Playback Button (▶)
- 32 Forward Indicator (FWD)
- 33 Recording Indicator (REC)
- 34 Reverse Indicator (REV)
- 35 Reverse Playback Button (◀)
- 36 Fast/TPS Button (◀◀ TPS)

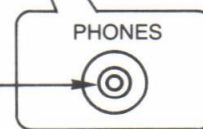
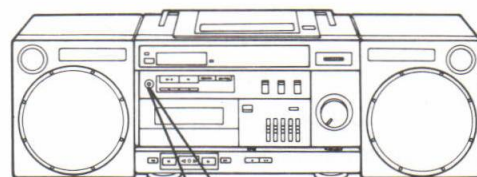
- 37 Speaker Cable Compartments
- 38 Speaker Wall Mounts
- 39 Speaker Release Levers (RELEASE)
- 40 Handle
- 41 Telescopic Antenna
- 42 Speaker Terminals [SPEAKER (IMP 2.7-8Ω)]
- 43 AC Socket (AC IN ~)
- 44 DC Input Jack [DC IN 13.2 V (12-15 V) ⊕ ⊖]
- 45 Battery Compartment
- 46 Auxiliary Input Jacks (AUX IN) (200mV/47kΩ)
- 47 Speaker Cables

**Function Selector... "AUX"**



Connection cord  
(not included)

Headphones  
(EAH-S20 optional)



Cassette Deck

## DISASSEMBLY INSTRUCTIONS

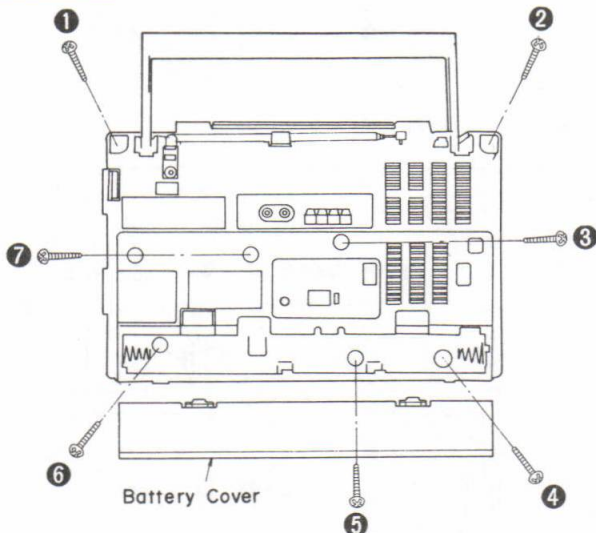
**Warning:** This product uses a laser diodes. Refer to caution statements on page 2.

**ACHTUNG:**

- Die lasereinheit nicht zerlegen.
- Die lasereinheit darf nur gegen eine vom hersteller spezifizizierte einheit ausgetauscht werden.

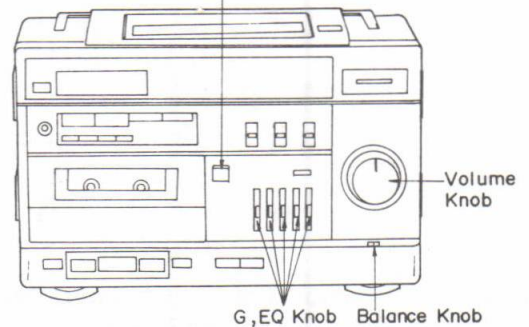
### Ref. No. 1 Removal of the Front Cabinet

#### Procedure 1

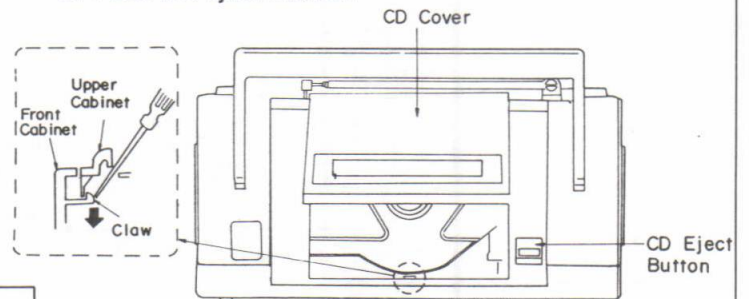


1. Remove the battery cover.
2. Remove the 7 screws (①~⑦).

### Eject Button



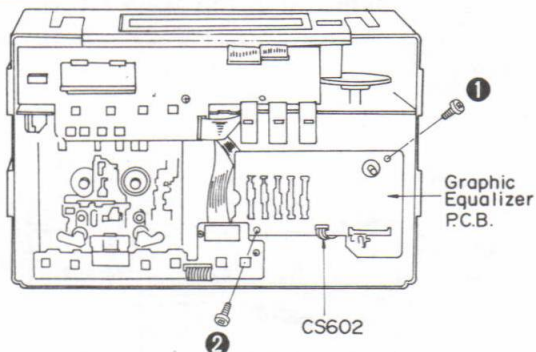
3. Remove the G. EQ knobs.
4. Remove the balance knob.
5. Remove the volume knob.
6. Push the eject button.



7. Push the CD eject button.
8. Push the claw, and then remove the front cabinet.

### Ref. No. 2 Removal of the Graphic Equalizer P.C.B.

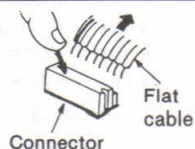
#### Procedure 1→2



1. Remove the 2 screws (①, ②).
2. Remove the 1 flat cable (CS602), and then remove the graphic equalizer P.C.B.

#### How to remove the flat cable

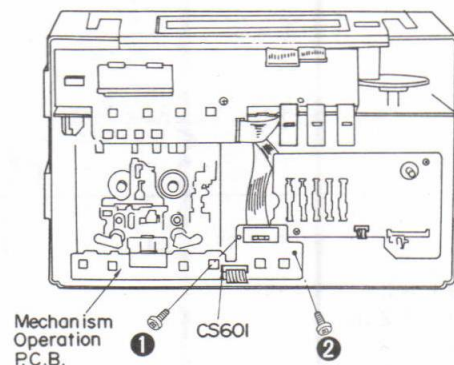
Pull out the flat cable while pressing the connector.

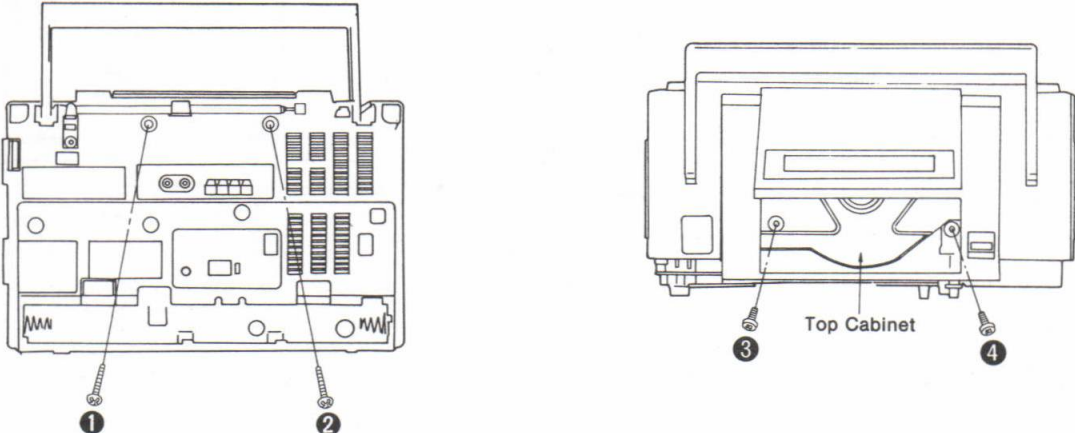


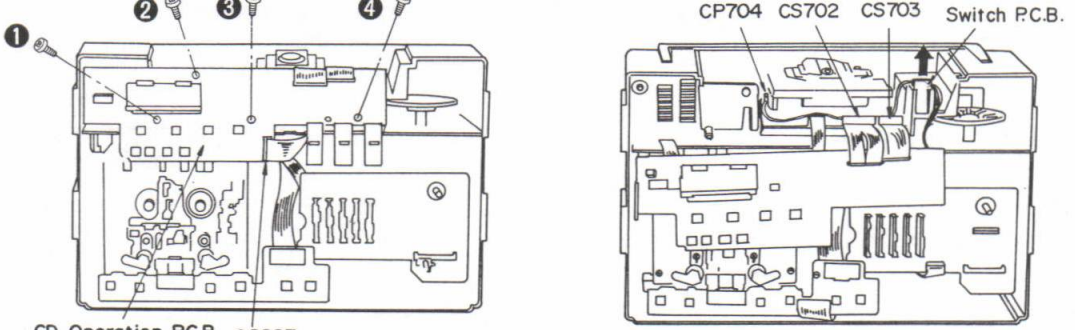
### Ref. No. 3 Removal of the Mechanism Operation P.C.B.

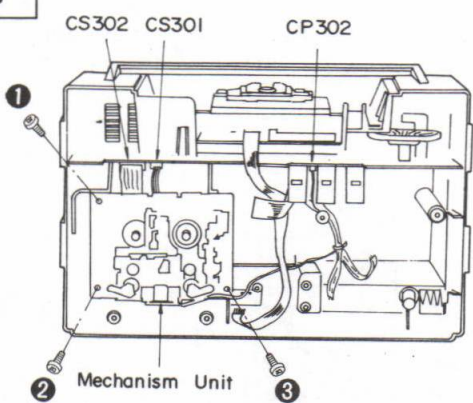
#### Procedure 1→3

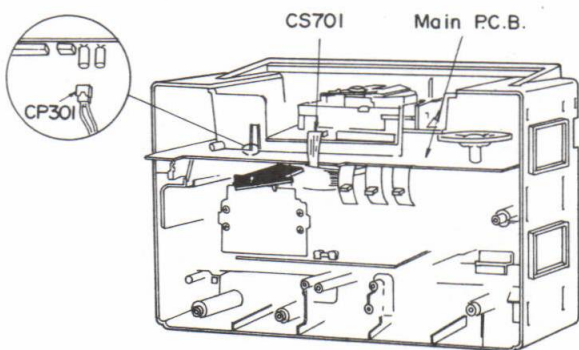
1. Remove the 2 screws (①, ②).
2. Remove the 1 flat cable (CS601), and then remove the mechanism operation P.C.B.

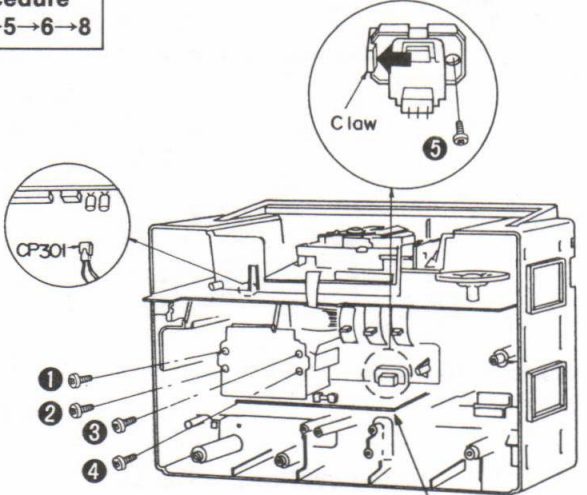
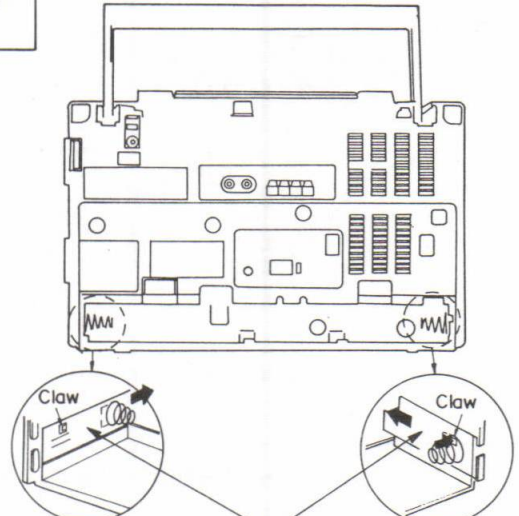
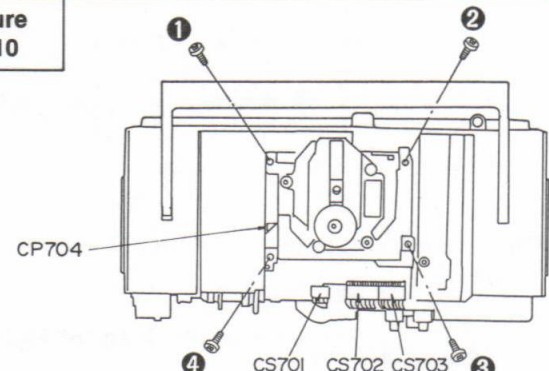
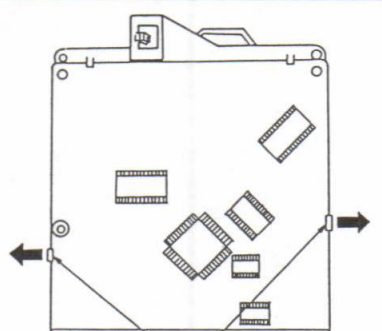
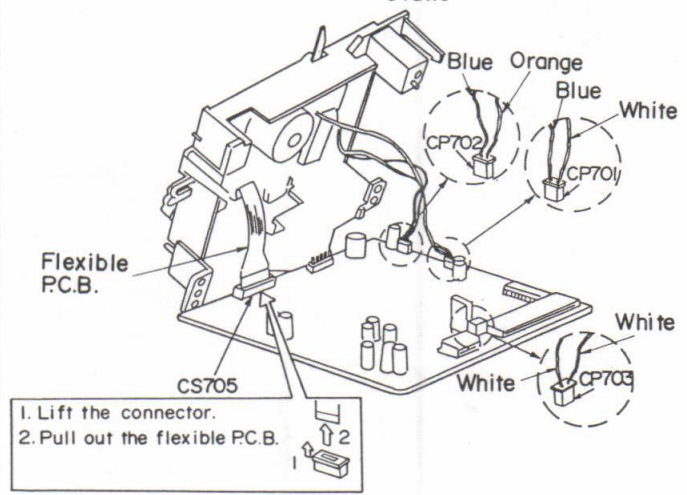


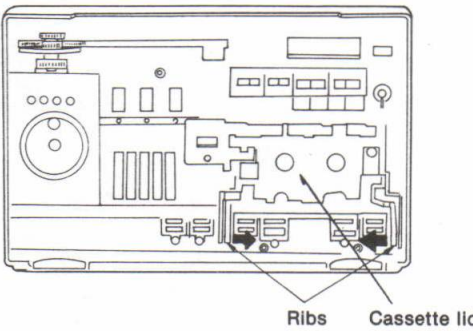
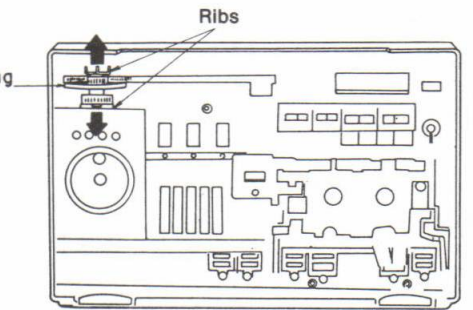
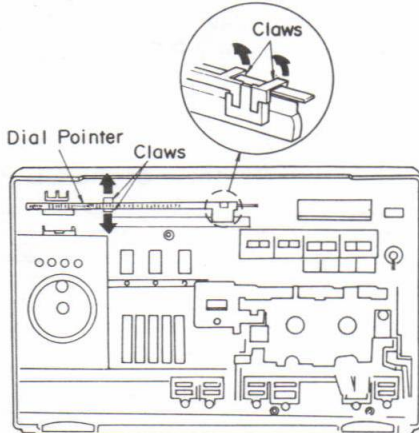
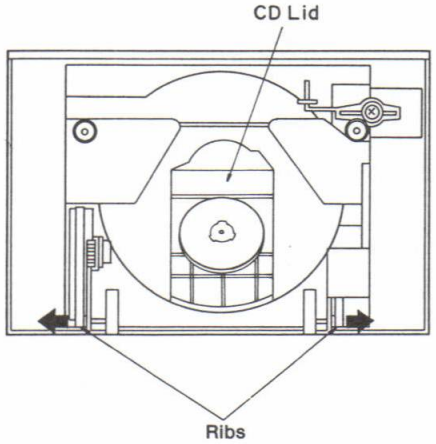
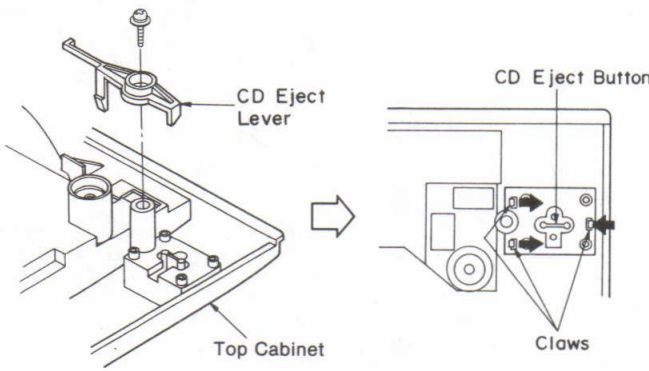
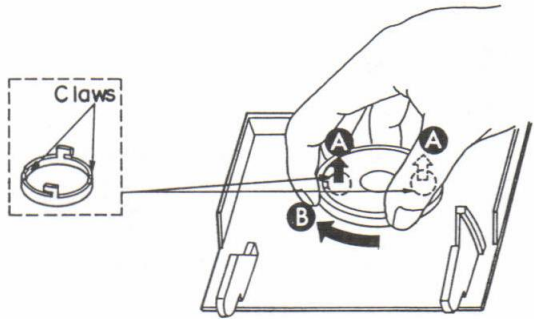
<p><b>Ref. No.</b> 4</p>	<p><b>Removal of the Top Cabinet</b></p>	<ul style="list-style-type: none"> <li>Remove the 4 screws (①~④), and then remove the top cabinet.</li> </ul>
<p><b>Procedure</b> 1→4</p>		

<p><b>Ref. No.</b> 5</p>	<p><b>Removal of the CD Operation P.C.B. and CD Switch P.C.B.</b></p>	
<p><b>Procedure</b> 1→4→5</p>	 <ol style="list-style-type: none"> <li>Remove the 4 screws (①~④).</li> <li>Remove the 3 flat cables (CS603, CS702, CS703), and then remove the CD operation P.C.B.</li> <li>Remove the 1 connector (CP704).</li> <li>Remove the CD switch P.C.B. in the direction of the arrow.</li> </ol>	

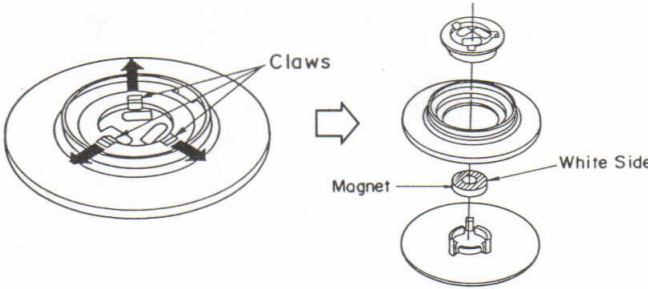
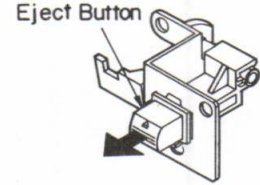
<p><b>Ref. No.</b> 6</p>	<p><b>Removal of the Mechanism Unit</b></p>
<p><b>Procedure</b> 1→4→5→6</p>	 <ol style="list-style-type: none"> <li>Remove the 3 screws (①~③).</li> <li>Remove the 2 flat cables (CS301, CS302).</li> <li>Remove the 1 connector (CP302), and then remove the mechanism unit.</li> </ol>

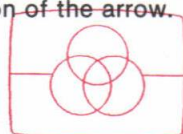
<p><b>Ref. No.</b> 7</p>	<p><b>Removal of the Main P.C.B.</b></p>
<p><b>Procedure</b> 1→4→5→6→7</p>	 <ol style="list-style-type: none"> <li>Remove the 1 flat cable (CS701).</li> <li>Remove the 1 connector (CP301).</li> <li>Pull out the main P.C.B. in the direction of the arrow.</li> </ol>

<p>Ref. No. 8</p>	<p>Removal of the Power Supply P.C.B.</p>	<p>Ref. No. 9</p>	<p>Removal of the Battery P.C.B.</p>
<p>Procedure 1→4→5→6→8</p>	 <ol style="list-style-type: none"> <li>1. Remove the 5 screws (1~5).</li> <li>2. Remove the 1 connector (CP301).</li> <li>3. Release the 1 claw.</li> <li>4. Pull out the power supply P.C.B. in the direction of the arrow.</li> </ol>	<p>Procedure 1→9</p>	 <ol style="list-style-type: none"> <li>1. Release the 1 claw.</li> <li>2. Pull out the battery P.C.B. in the direction of the arrow.</li> </ol>
<p>Ref. No. 10</p>	<p>Removal of the CD Player Unit</p>	<p>Ref. No. 12</p>	<p>Removal of the CD P.C.B.</p>
<p>Procedure 1→4→10</p>	 <ol style="list-style-type: none"> <li>1. Remove the 4 screws (1~4).</li> <li>2. Remove the 1 connector (CP704).</li> <li>3. Remove the 3 flat cables (CS701, CS702, CS703), and then remove the CD player unit.</li> </ol>	<p>Procedure 1→4→10→12</p>	 <ol style="list-style-type: none"> <li>1. Release the 2 claws.</li> </ol>
<p>Ref. No. 11</p>	<p>Removal of the Eject Lever Angle</p>	 <ol style="list-style-type: none"> <li>1. Lift the connector.</li> <li>2. Pull out the flexible P.C.B.</li> </ol> <p>2. Remove the 4 connectors (CP701, CP702, CP703, CS705).</p> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>• Insert a shorting chip to the flexible P.C.B. so as to prevent damages to the laser diode by static electricity.</li> </ul>	

<p><b>Ref. No.</b> 13</p>	<p><b>Removal of the Cassette Lid</b></p>	<p><b>Ref. No.</b> 14</p>	<p><b>Removal of the Tuning Knob</b></p>
<p><b>Procedure</b> 1→13</p>	 <p>Ribs Cassette lid</p> <ul style="list-style-type: none"> <li>Remove the ribs in the direction of the arrows.</li> </ul>	<p><b>Procedure</b> 1→14</p>	 <p>Ribs Tuning Knob</p> <ul style="list-style-type: none"> <li>Remove the ribs in the direction of the arrows.</li> </ul>
<p><b>Ref. No.</b> 15</p>	<p><b>Removal of the Dial Pointer</b></p>	<p><b>Ref. No.</b> 16</p>	<p><b>Removal of the CD Lid</b></p>
<p><b>Procedure</b> 1→14→15</p>	 <p>Dial Pointer Claws</p> <ul style="list-style-type: none"> <li>Release the 4 claws.</li> </ul>	<p><b>Procedure</b> 1→4→16</p>	 <p>CD Lid Ribs</p> <ul style="list-style-type: none"> <li>Remove the ribs in the direction of the arrows.</li> </ul>
<p><b>Ref. No.</b> 17</p>	<p><b>Removal of the CD Eject Button</b></p>	<p><b>Ref. No.</b> 18</p>	<p><b>Removal of the Magnet Holder</b></p>
<p><b>Procedure</b> 1→4→17</p>	 <p>CD Eject Lever Top Cabinet CD Eject Button Claws</p> <ol style="list-style-type: none"> <li>Remove the one screw, and remove the eject lever.</li> <li>Release the 3 claws, and remove the CD eject button.</li> </ol>	<p><b>Procedure</b> 1→4→16→18</p>	 <p>Claws A B</p> <ul style="list-style-type: none"> <li>While lifting the magnet holder in the direction of the arrow <b>A</b>, rotate magnet holder in the direction of the arrow <b>B</b> and remove the magnet holder.</li> </ul>



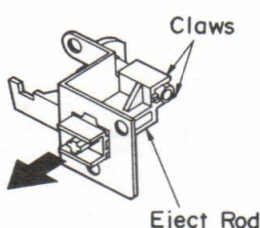
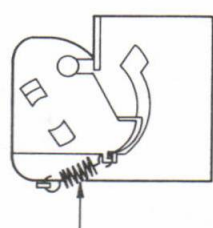
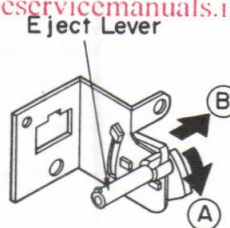
<p><b>Ref. No.</b> 19</p>	<p><b>Removal of the Magnet</b></p>	<p><b>Ref. No.</b> 20</p>	<p><b>Removal of the Eject Rod, Eject Button and Eject Lever</b></p>
<p><b>Procedure</b> 1→4→16→18→19</p>	<p><b>Procedure</b> 1→11→20</p>		
 <p>• Remove the 3 claws, and remove the magnet.</p>		 <p>1. Pull out the eject button in the direction of the arrow.</p>	

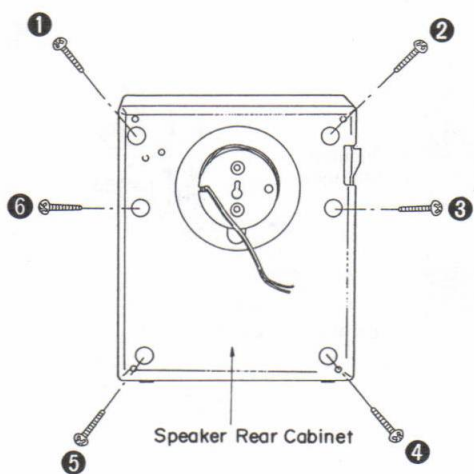
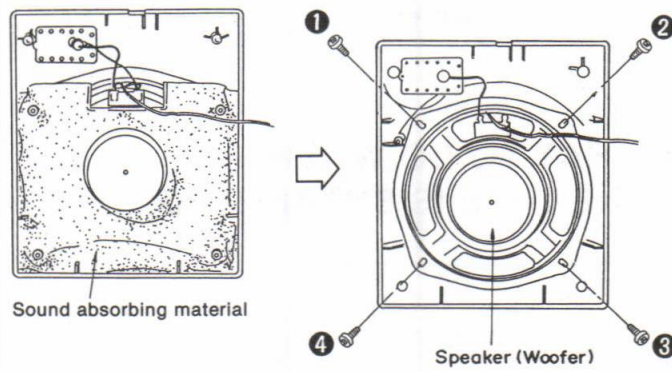


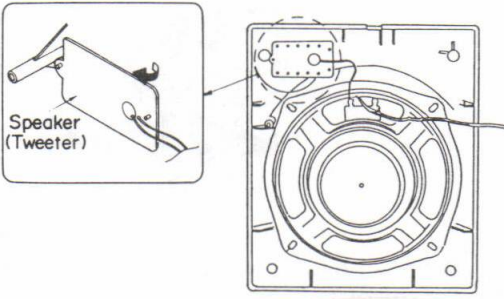
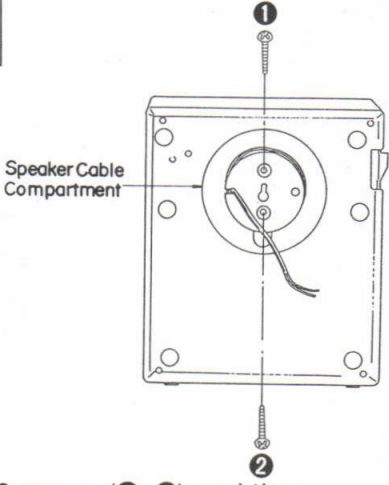
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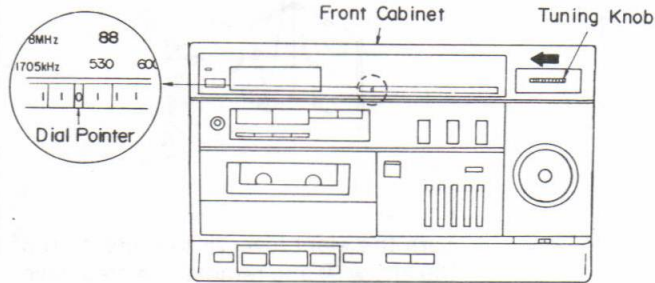
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 <p>2. Release the claws and remove the eject rod in the direction of the arrow.</p>	 <p>3. Remove the spring.</p>	 <p>4. Turn the eject lever in the direction of the arrow (A) and remove the eject lever in the direction of the arrow (B).</p>	
---	--	--	--

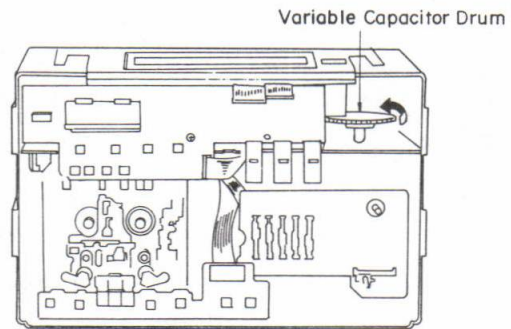
<p><b>Ref. No.</b> 21</p>	<p><b>Ref. No.</b> 22</p>	<p><b>Removal of the Speaker Rear Cabinet</b></p>	<p><b>Removal of the Speaker (Woofer)</b></p>
<p><b>Procedure</b> 21</p>	<p><b>Procedure</b> 21→22</p>		
 <p>• Remove the 6 screws (1~6), and remove the speaker rear cabinet.</p>		 <p>1. Remove the sound absorbing material. 2. Remove the 4 screws (1~4), and remove the speaker.</p>	

<p><b>Ref. No.</b> 23</p>	<p><b>Removal of the Speaker (Tweeter)</b></p>	<p><b>Ref. No.</b> 24</p>	<p><b>Removal of the Speaker Cable Compartment</b></p>
<p><b>Procedure</b> 21→23</p>	<p><b>Procedure</b> 24</p>		
 <p>• Remove the tweeter in the direction of the arrow.</p>		 <p>• Remove the 2 screws (1, 2), and then remove the speaker cable compartment.</p>	

### ● DIAL SETTING POINT



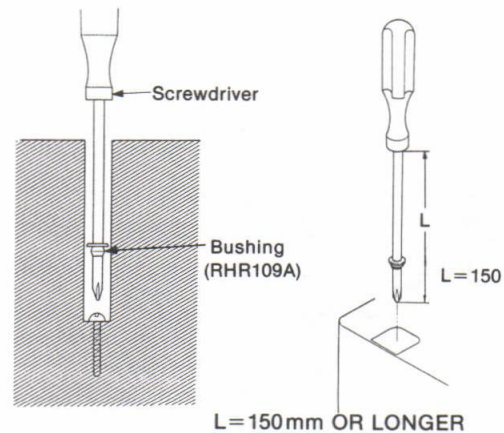
1. Turn the tuning knob to fully direction of arrow (→) and set the dial pointer at the position as shown in figure.



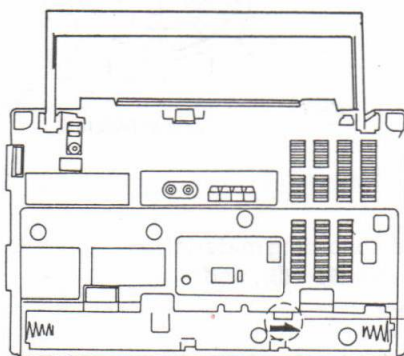
2. Turn the variable capacitor drum all the way in the direction of arrow.
3. Replace the front cabinet.

### ● REMOVAL OF SCREWS

- Use a screwdriver similar to the one in the figure.
- If you attach a bushing (part number: RHR109A) to the tip of the screwdriver as shown in the figure, the screwdriver tip will easily fit in the screw heads and you will be able to remove the screws with ease.



### ● WHAT TO DO WHEN THE TAPE IS ENTANGLED



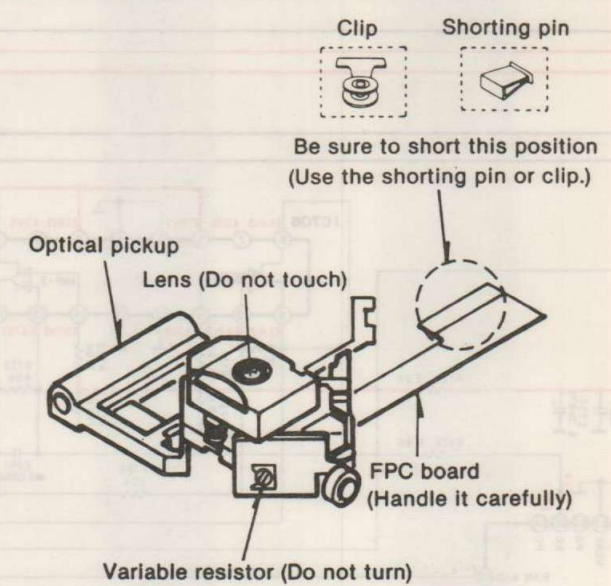
When the tape is caught in the pinch roller, etc. release the tape by turning the pulley on the motor with the screwdriver in the direction of the arrow.

### HANDLING PRECAUTIONS FOR OPTICAL PICKUP

The laser diode in the 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 optical pickup.

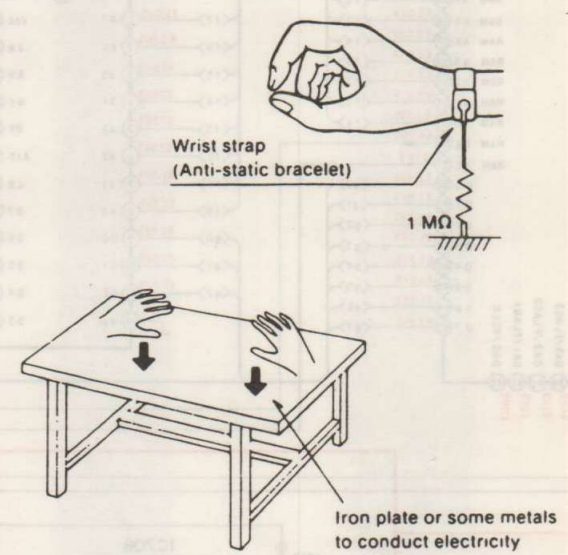
#### Handling of optical pickup

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



#### Grounding for electrostatic breakdown prevention

- Human body grounding**  
Use the anti-static wrist strap to discharge the static electricity from your body.
  - Work table grounding**  
Put a conductive material (sheet) or steel sheet on the area where the 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 optical pickup.

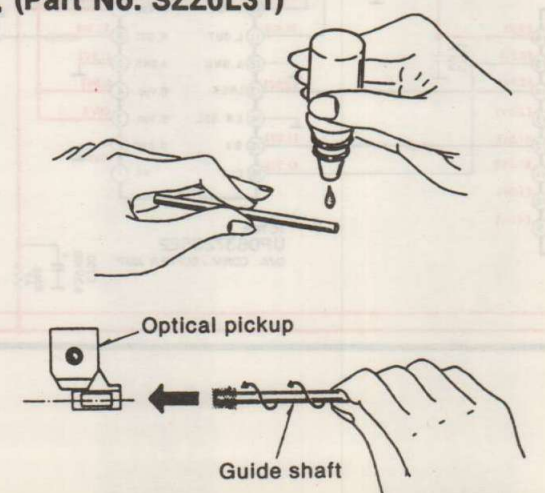


### INSTRUCTIONS FOR TRAVERSE OIL (Part No. SZZ0L31)

The container contains 6g (approx. 3ml) of oil. One application (one shaft) uses 0.05ml of oil.

#### How to Use

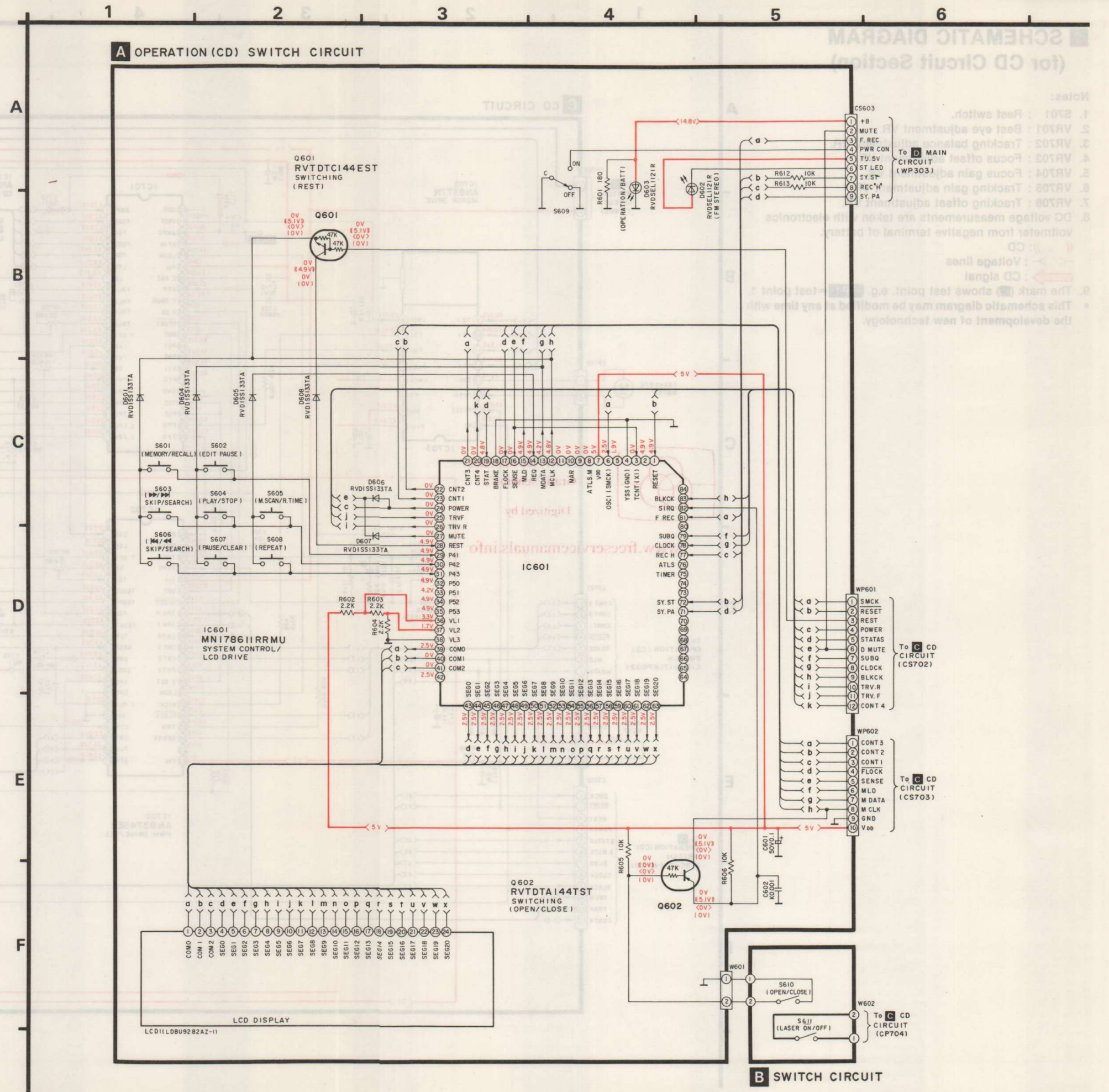
- Remove the guide shaft in the traverse deck from the optical pickup and clean off any dust from the guide shaft.
- Apply one drop of the SZZ0L31 to the tip of the guide shaft.
- Hold the guide shaft so that its oiled end touches the optical pickup and insert it into the bearing while rotating it slowly.
- After securing the guide shaft, move the optical pickup by hand several times to the left and right to distribute the oil on the guide shaft.



### SCHEMATIC DIAGRAM (for CD Operation Circuit Section)

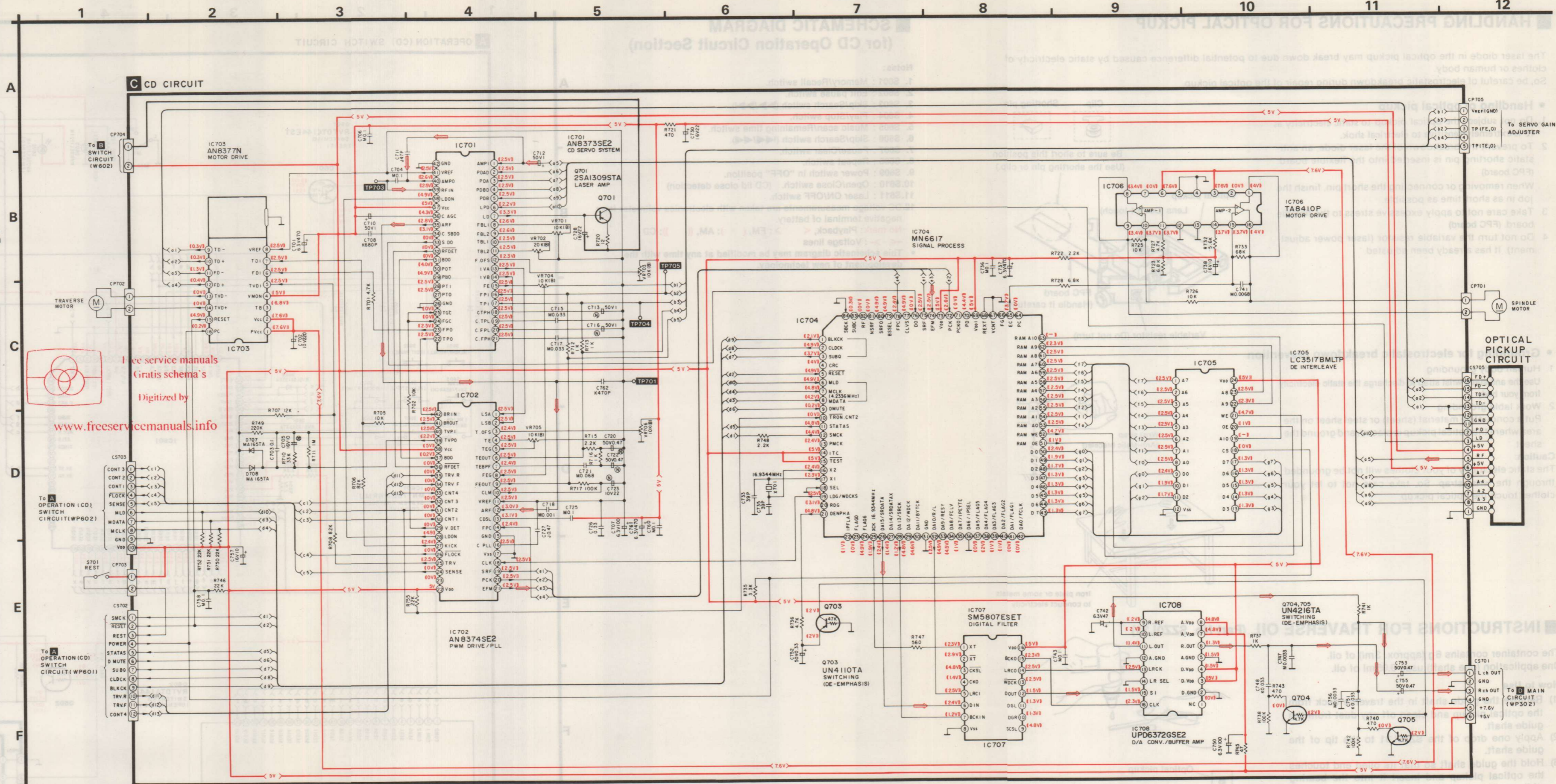
#### Notes:

- S601 : Memory/Recall switch.
  - S602 : Edit pause switch.
  - S603 : Skip/Search switch (▶▶/▶▶▶).
  - S604 : Play/Stop switch.
  - S605 : Music scan/Remaining time switch.
  - S606 : Skip/Search switch (◀◀/◀◀◀).
  - S607 : Pause/Clear switch.
  - S608 : Repeat switch.
  - S609 : Power switch in "OFF" position.
  - S610 : Open/Close switch. (CD lid close detection)
  - S611 : Laser ON/OFF switch.
12. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
- No mark : Playback, < > : FM, ( ) : AM, (( )) : CD  
< > : Voltage lines
- This schematic diagram may be modified at any time with the development of new technology.



# SCHEMATIC DIAGRAM (for CD Circuit Section)

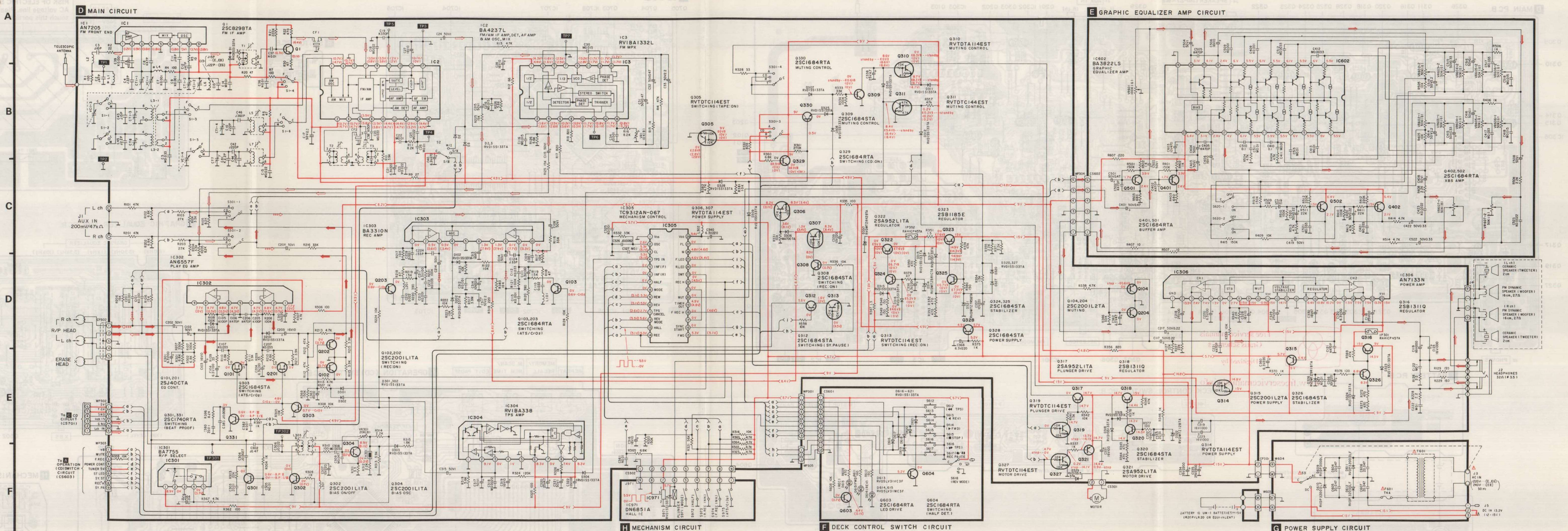
- Notes:**
- S701 : Rest switch.
  - VR701 : Best eye adjustment VR.
  - VR702 : Tracking balance adjustment VR.
  - VR703 : Focus offset adjustment VR.
  - VR704 : Focus gain adjustment VR.
  - VR705 : Tracking gain adjustment VR.
  - VR706 : Tracking offset adjustment VR.
  - DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
- (( )) : CD  
 <- -> : Voltage lines  
 <- -> : CD signal
9. The mark (■) shows test point. e.g. TP1 = test point 1.
- This schematic diagram may be modified at any time with the development of new technology.



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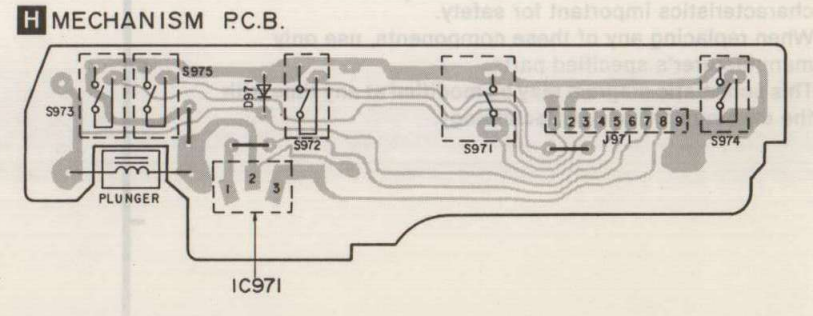
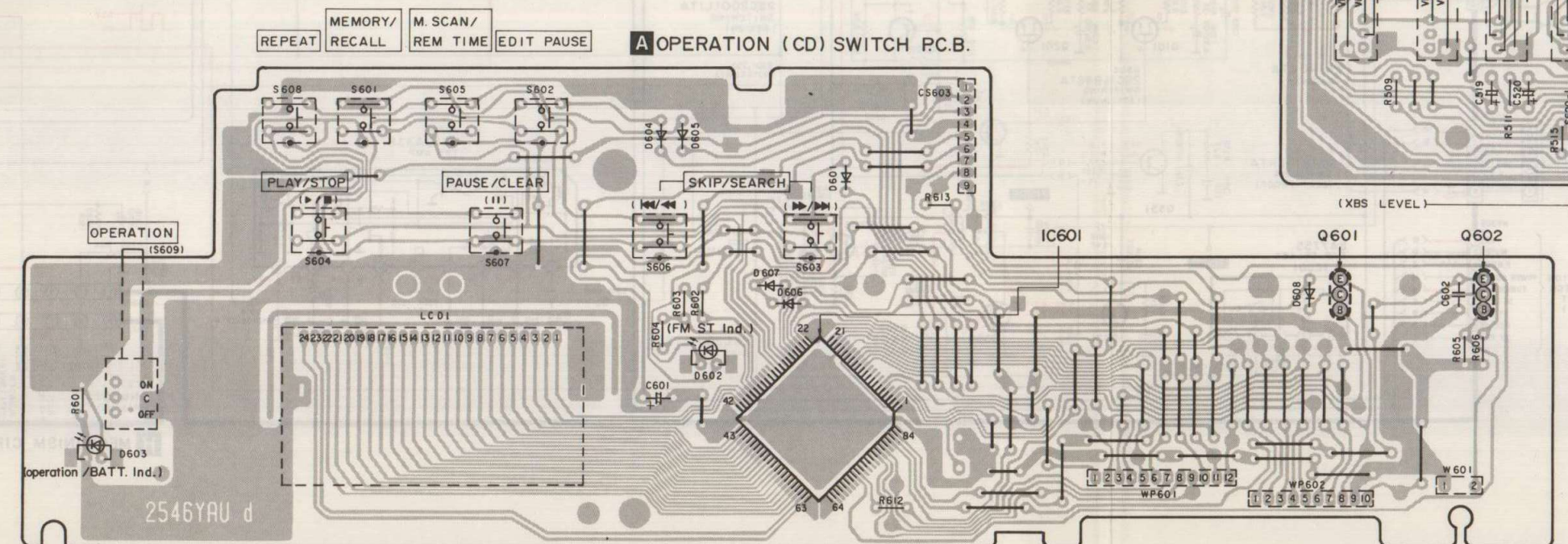
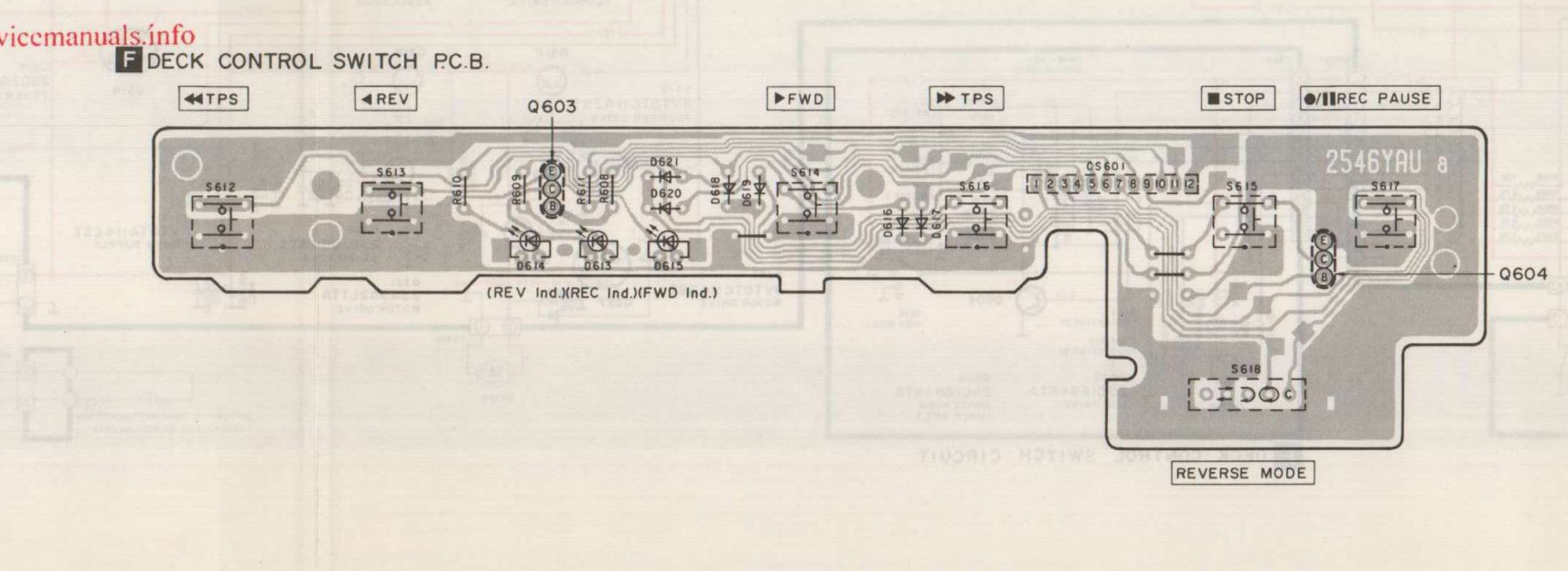
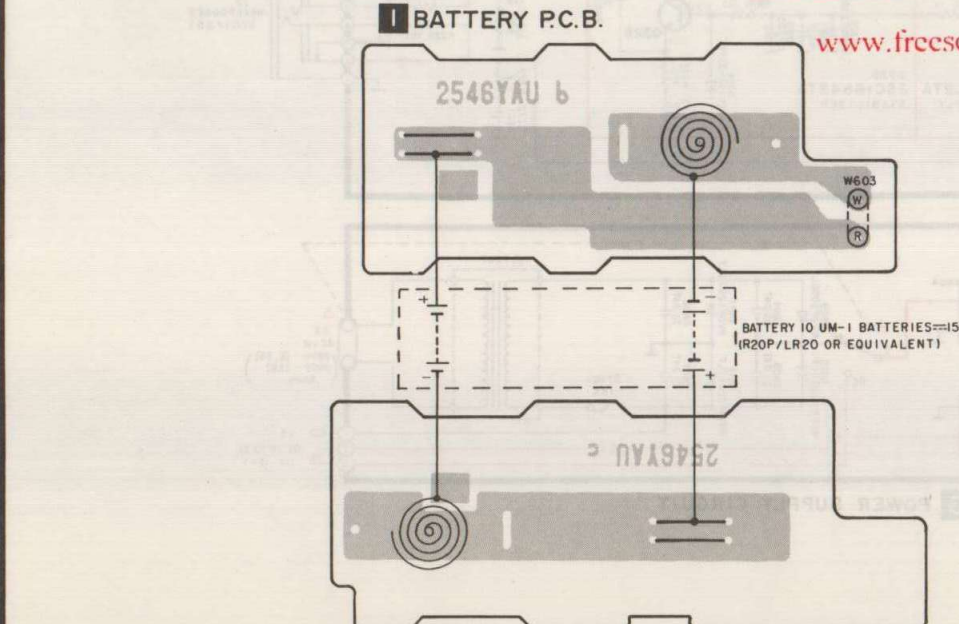
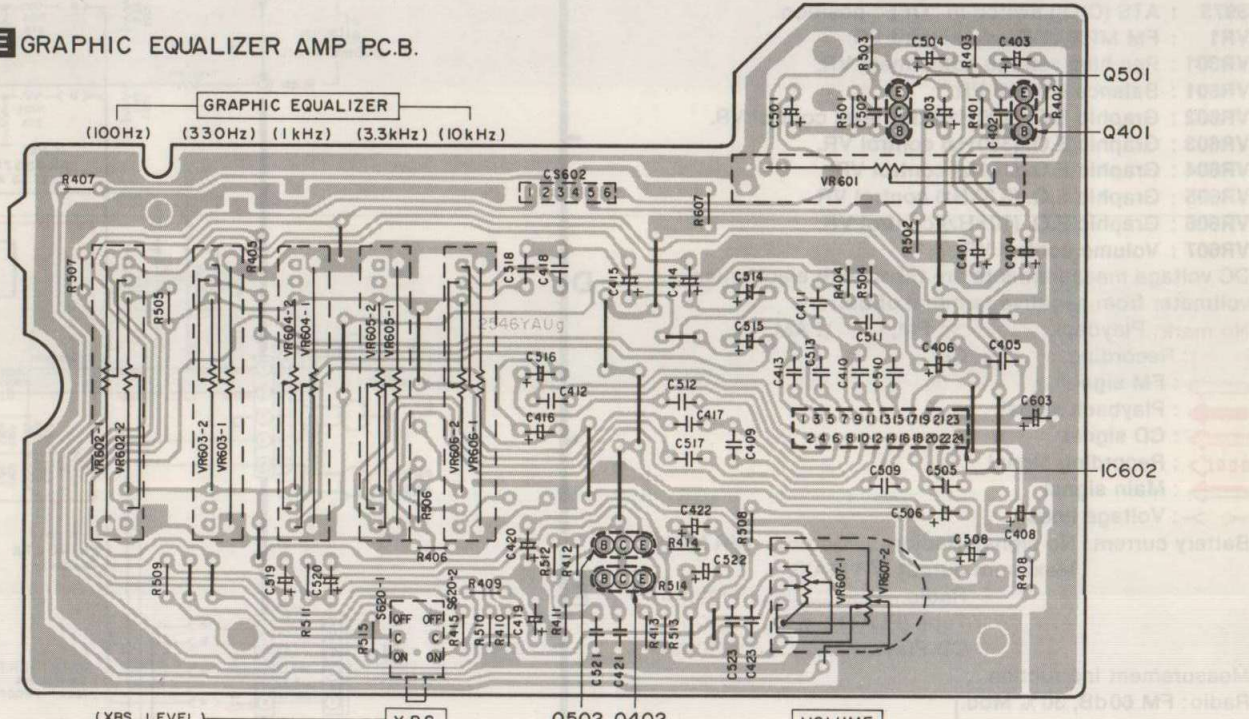
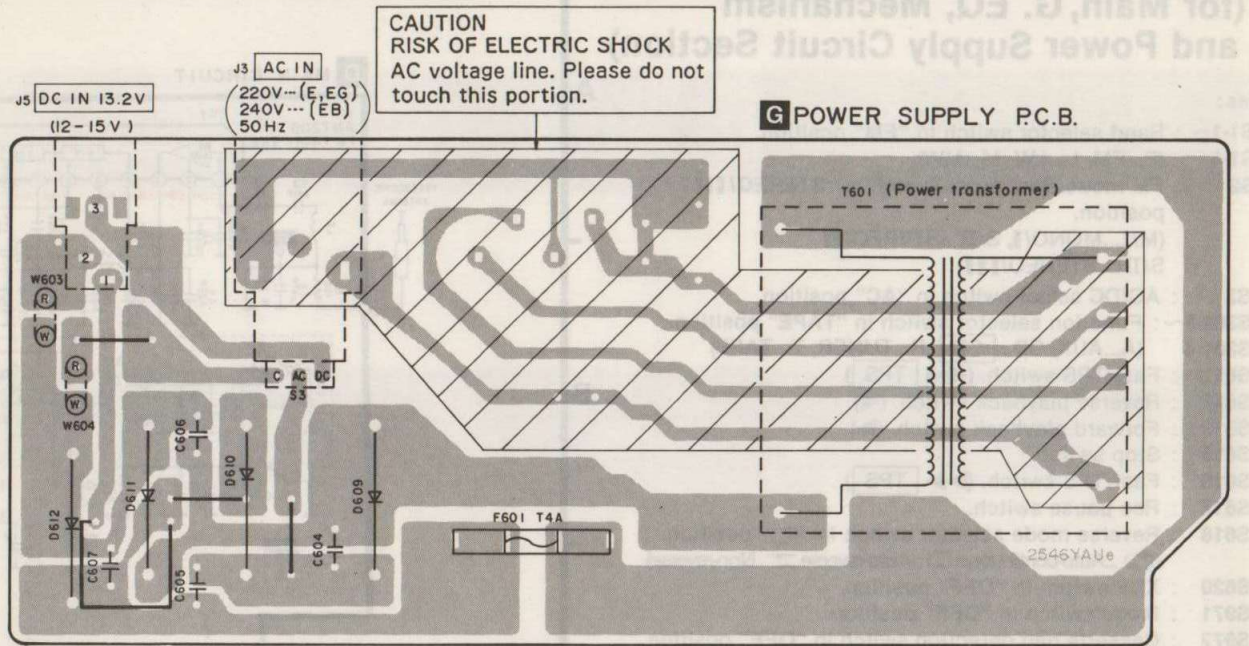
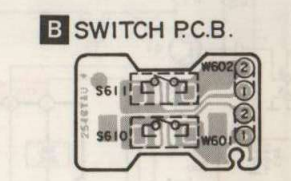
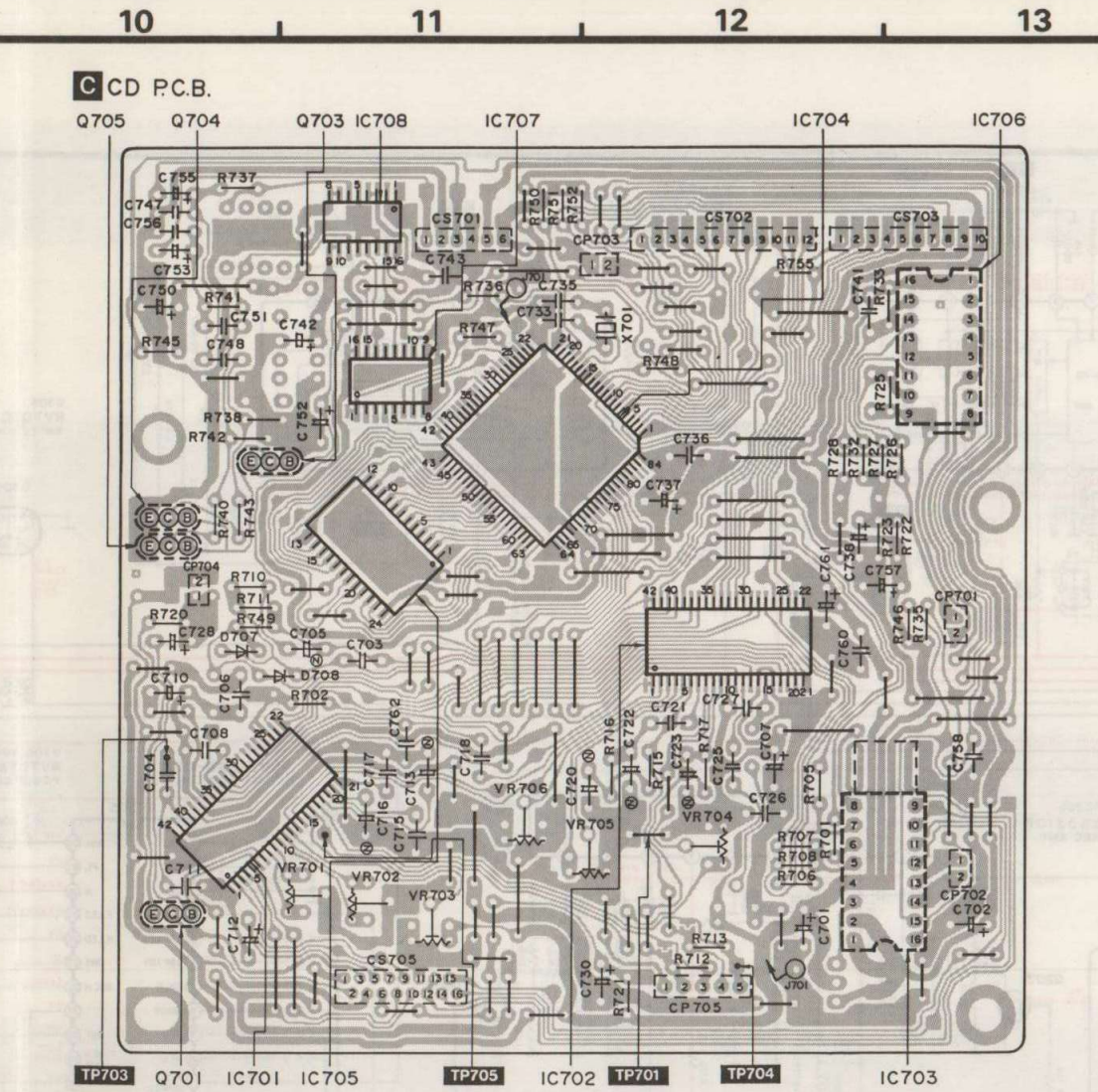
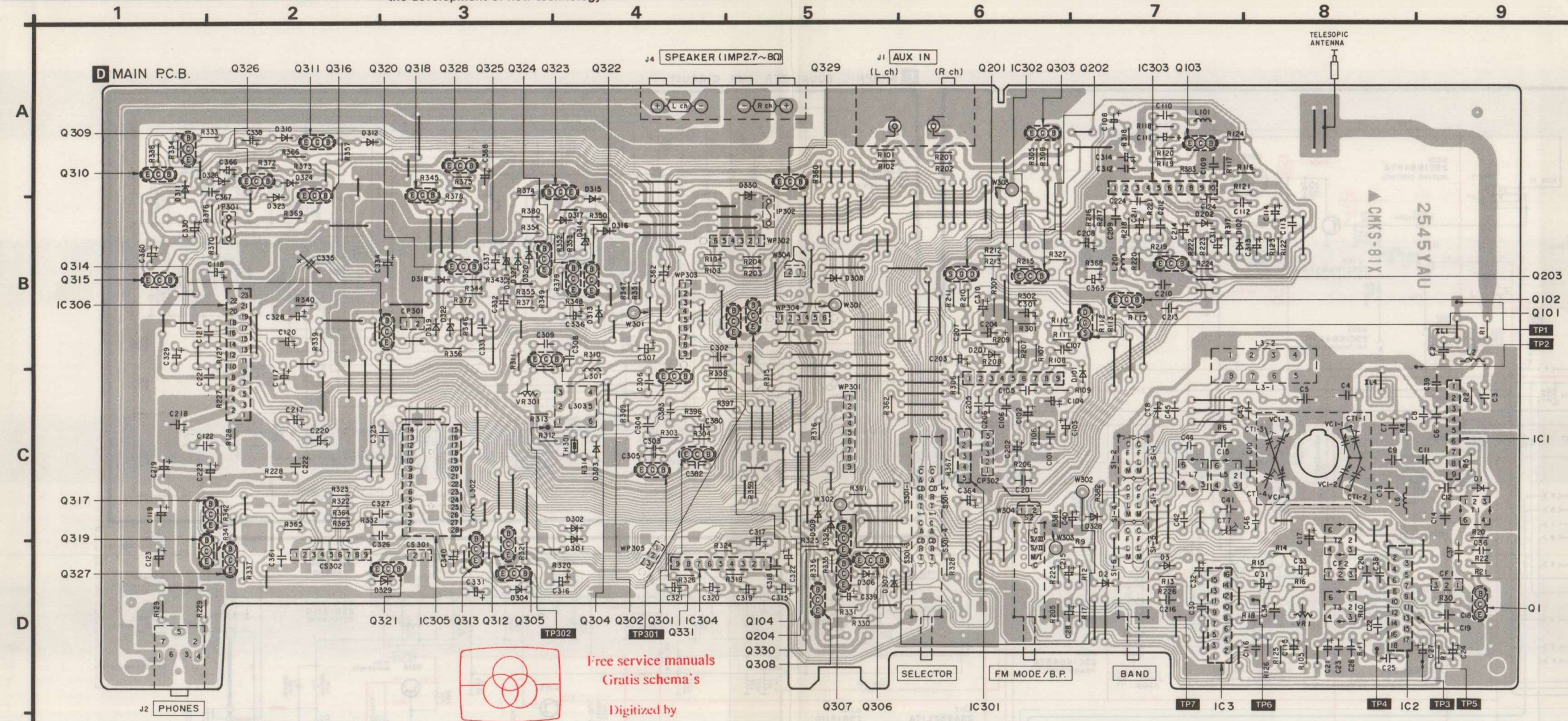
# SCHEMATIC DIAGRAM (for Main, G. EQ, Mechanism and Power Supply Circuit Section)

- Notes:**
- S1-1 ~ : Band selector switch in "FM" position.
  - S1-6 (F...FM, L...LW, M...MW)
  - S2 : FM mode/Beat proof switch in "STEREO/III" position.  
(M/I...MONO/I, S/II...STEREO/II, S/III...STEREO/III)
  - S3 : AC/DC select switch in "AC" position.
  - S301-1 ~ : Function selector switch in "TAPE" position.
  - S301-4 (A...AUX, CD...CD, R...TUNER, T...TAPE)
  - S612 : Fast/TPS switch. (◀◀ TPS)
  - S613 : Reverse playback switch. (◀)
  - S614 : Forward playback switch. (▶)
  - S615 : Stop switch.
  - S616 : Fast/TPS switch. (▶▶ TPS)
  - S617 : Rec pause switch.
  - S618 : Reverse mode selector switch in "C" position.  
(C...Auto-continuous, O...Auto-reverse, N...Non-reverse)
  - S620 : XBS switch in "OFF" position.
  - S971 : Mode switch in "OFF" position.
  - S972 : Cassette half detection switch in "OFF" position.
  - S973 : Rev. Rec Inhibit switch in "OFF" position.
  - S974 : For. Rec Inhibit switch in "OFF" position.
  - S975 : ATS (C/O) switch in "OFF" position.
  - VR1 : FM MPX VCO adjustment VR.
  - VR301 : Rec bias voltage adjustment VR.
  - VR601 : Balance control VR.
  - VR602 : Graphic E.Q. (100Hz)/XBS level control VR.
  - VR603 : Graphic E.Q. (330Hz) control VR.
  - VR604 : Graphic E.Q. (1kHz) control VR.
  - VR605 : Graphic E.Q. (3.3kHz) control VR.
  - VR606 : Graphic E.Q. (10kHz) control VR.
  - VR607 : Volume control VR.
27. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
- No mark: Playback, < : FM, ( ) : AM,  
[ ] : Recording, ( ( ) ) : CD
- ▶ : FM signal  
▶▶ : Playback signal  
▶▶▶ : CD signal  
▶▶▶▶ : Recording signal  
▶▶▶▶▶ : Main signal  
- - - : Voltage lines
28. Battery current: No signal (Radio) ..... 330mA (VR MIN)  
Maximum output (VR MAX)  
Radio ..... 1120mA  
Tape (PLAY) ..... 1530mA  
CD Play ..... 1850mA
- Measurement instruction  
(Radio: FM 60dB, 30% Mod.)  
(Tape: 315Hz, 0dB)
- The mark (■) shows test point. e.g. TP1 = test point 1.
  - Important safety notice.  
Components identified by Δ mark have special characteristics important for safety.  
When replacing any of these components, use only manufacturer's specified parts.
  - This schematic diagram may be modified at any time with the development of new technology.



PRINTED CIRCUIT BOARDS

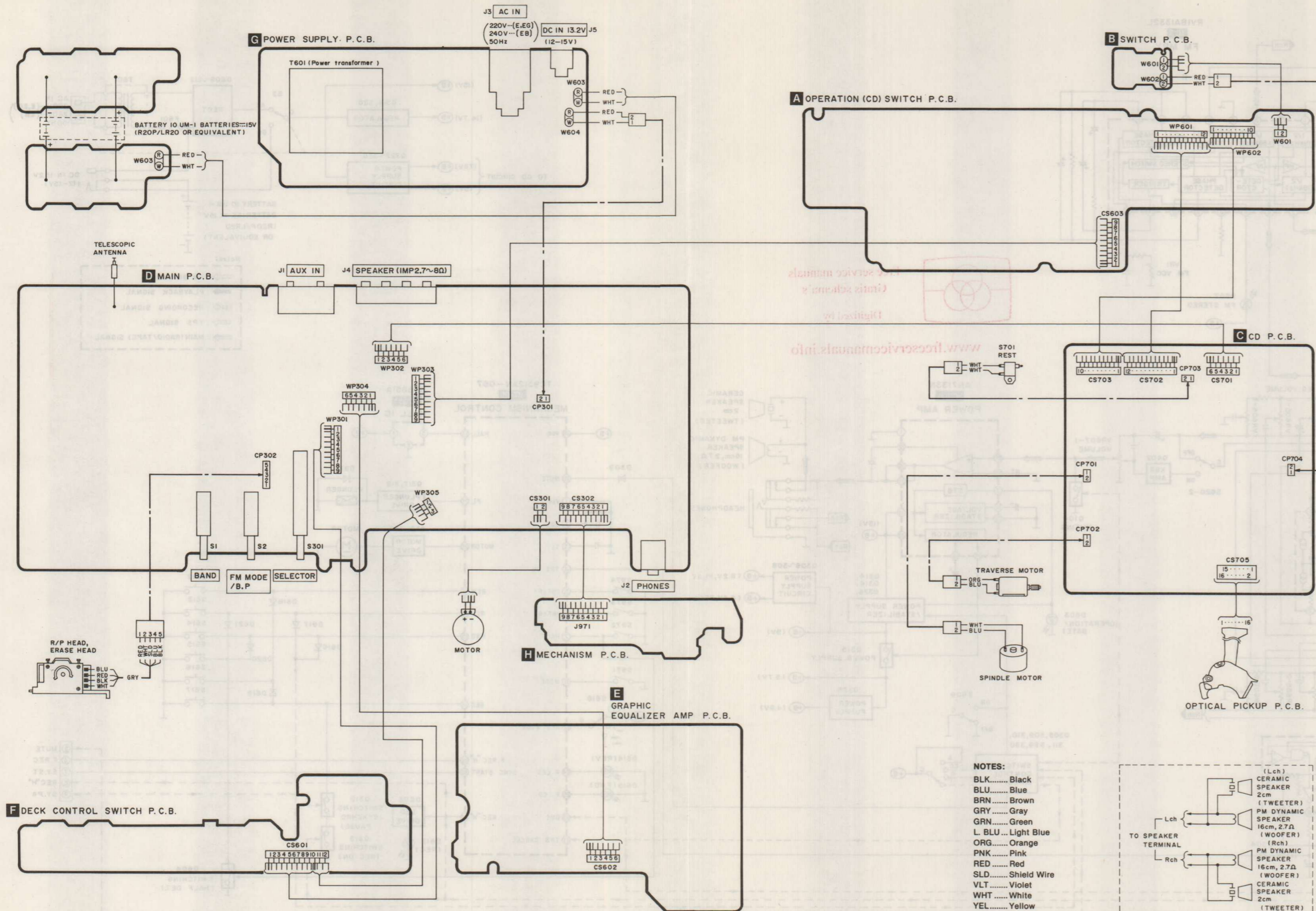
This schematic diagram may be modified at any time with the development of new technology.



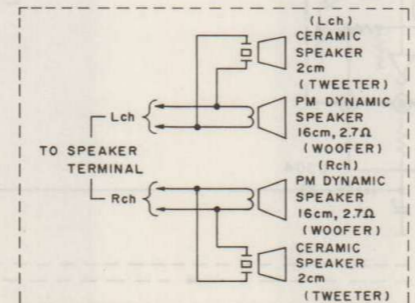
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# WIRING CONNECTION DIAGRAM



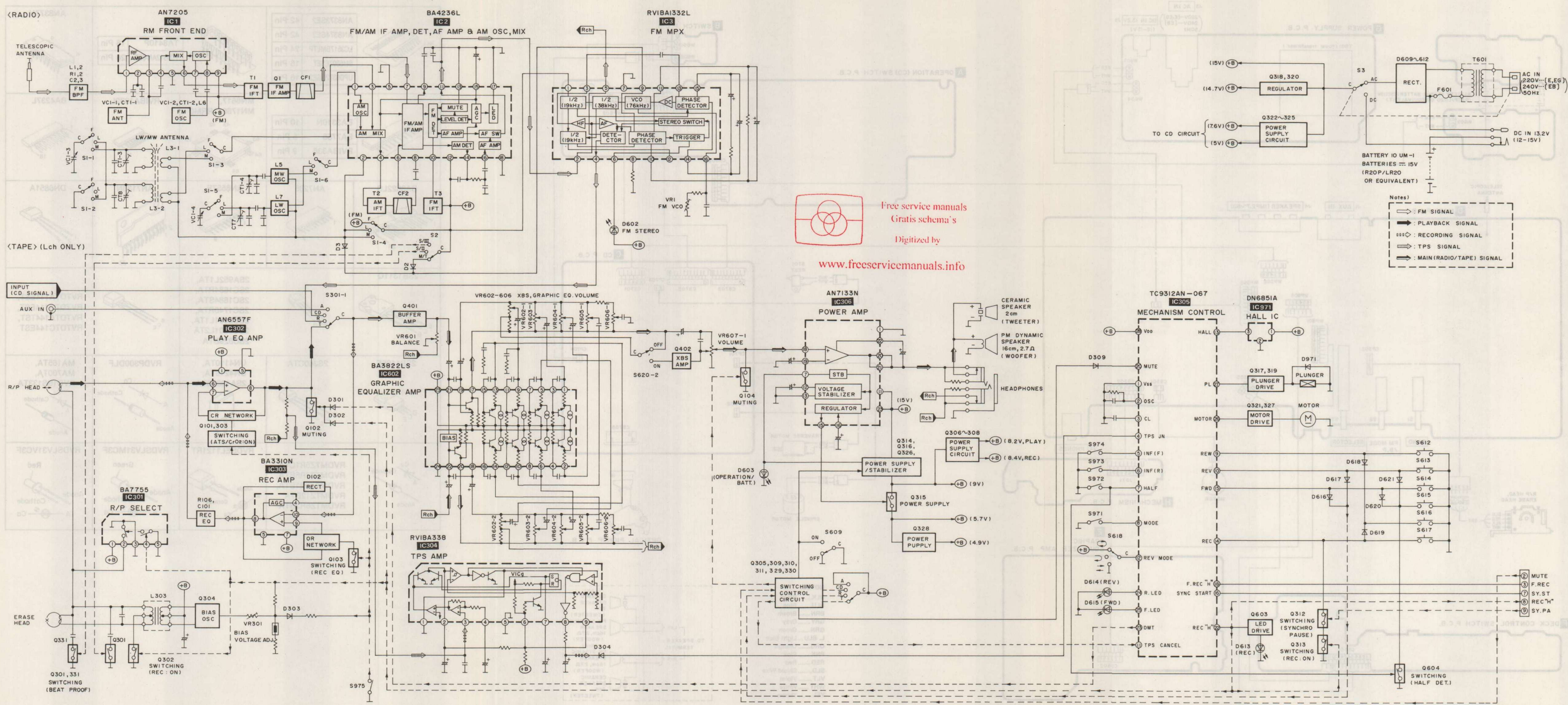
- NOTES:**
- BLK..... Black
  - BLU..... Blue
  - BRN..... Brown
  - GRY..... Gray
  - GRN..... Green
  - L. BLU... Light Blue
  - ORG..... Orange
  - PNK..... Pink
  - RED..... Red
  - SLD..... Shield Wire
  - VLT..... Violet
  - WHT..... White
  - YEL..... Yellow



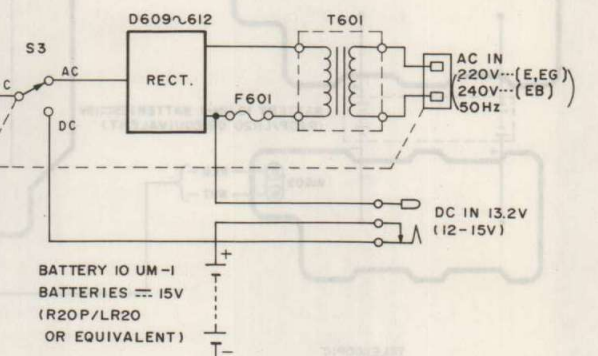
# TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

 AN8373SE2 42 Pin AN8374SE2 42 Pin LC3517BMLTP 24 Pin SM5807ESET 16 Pin UPD6372GSE2 16 Pin	 TA8410P 16 Pin TC9312AN-067 28 Pin	 AN8377N		
 BA3310N 10 Pin BA7755 5 Pin RVIBA338 9 Pin	 MN6617, MN178611RRM0	 RVIBA1332L	 BA4237L	
 BA3822LS 24	 AN7205 9	 AN6557F 9	 AN7133N 23	 DN6851A 3
 2SB1311Q E, C, B	 EC, B	2SA952L1TA, 2SC1684RTA, 2SC1684STA, 2SC1740RTA, 2SC2001L1TA, 2SC2001L2TA, 2SC829BTA	 B, C, E	RVTDTA114EST, RVTDTA144EST, RVTDTA144TST, RVTDTA144EST
 2SB1185E B, C, E	 D, G, S	UN4110TA, UN4216TA, 2SA1309STA	 A, Cathode, Anode	MA165TA, MA700TA, RVD1SS133TA
 A, Cathode, Anode	RVDMTZ5R1CTA, RVDMTZ7R5BTA, RVDMTZ9R1BTA, RVDMTZ12BTA, RVDMTZ8R2BTA	RVDSEL1121RT	 A, Cathode, Anode	RVDSEL1121RT
 A, Cathode, Anode	RVDSEL1121RT	RVDSEL1121RT	 A, Cathode, Anode	RVDSEL1121RT

BLOCK DIAGRAM (for Tuner, Main and Mechanism Section)



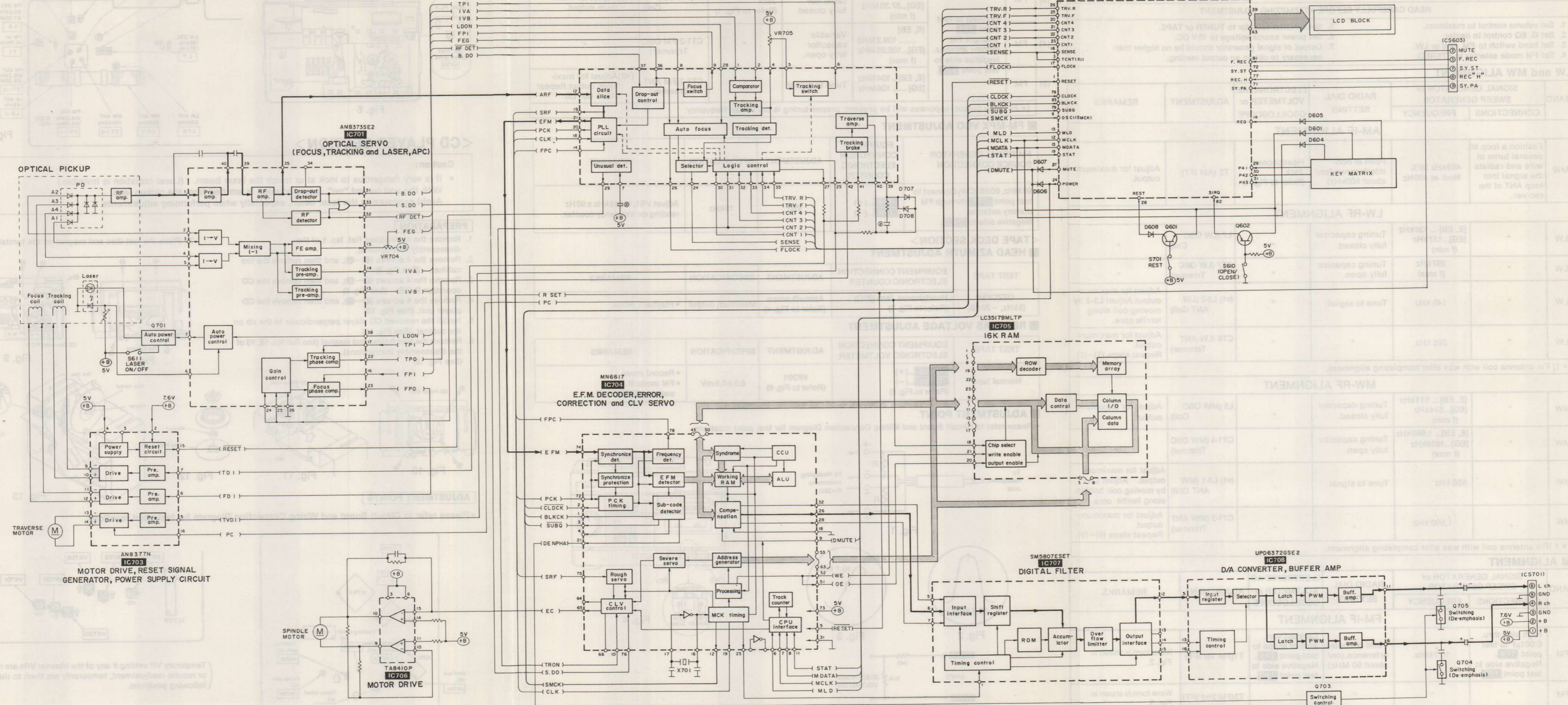
WIRING CONNECTION DIAGRAM



- Notes)
- FM SIGNAL
  - PLAYBACK SIGNAL
  - RECORDING SIGNAL
  - TPS SIGNAL
  - MAIN (RADIO/TAPE) SIGNAL



# BLOCK DIAGRAM (for CD Section)



**MEASUREMENTS AND ADJUSTMENTS**

**<TUNER SECTION>**

**ALIGNMENT INSTRUCTIONS**

READ CAREFULLY BEFORE ATTEMPTING ADJUSTMENT	
1. Set volume control to maximum.	5. Set function selector to TUNER or TAPE.
2. Set G. EQ control to center.	6. Set power source voltage to 15V DC.
3. Set band switch to FM, MW or LW.	7. Output of signal generator should be no higher than necessary to obtain an output reading.
4. Set FM mode selector to STEREO.	

**LW and MW ALIGNMENT**

BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	ELECTRONIC AC VOLTMETER or OSCILLOSCOPE	ADJUSTMENT	REMARKS
	CONNECTIONS	FREQUENCY				
<b>AM-IF ALIGNMENT</b>						
(1) MW	Fashion a loop of several turns of wire and radiate the signal into loop ANT of the reciver.	459kHz 30% Mod. at 400Hz	Point of non-interference. (on/ about 600kHz)	Headphones Jack (Refer to Fig. 1)	T2 (AM IFT)	Adjust for maximum output.
<b>LW-RF ALIGNMENT</b>						
(2) LW	"	[E, EB] ... 136kHz [EG]...137kHz (f min)	Tuning capacitor fully closed.	"	L7 (LW OSC Coil)	"
(3) LW	"	297kHz (f max)	Tuning capacitor fully open.	"	CT7 (LW OSC Trimmer)	"
(4) LW	"	145 kHz	Tune to signal.	"	(*)1 L3-2 (LW ANT Coil)	Adjust for maximum output. Adjust L3-2 by moving coil along ferrite core.
(5) LW	"	285 kHz	"	"	CT8 (LW ANT Trimmer)	Adjust for maximum output. Repeat steps (2)~(5).

(\* 1) Fix antenna coil with wax after completing alignment.

**MW-RF ALIGNMENT**

(6) MW	"	[E, EB] ... 511kHz [EG]...514kHz (f min)	Tuning capacitor fully closed.	"	L5 (MW OSC Coil)	Adjust for maximum output.
(7) MW	"	[E, EB]... 1,650kHz [EG]...1639kHz (f max)	Tuning capacitor fully open.	"	CT1-4 (MW OSC Trimmer)	"
(8) MW	"	550 kHz	Tune to signal.	"	(*)1 L3-1 (MW ANT Coil)	Adjust for maximum output. Adjust L3-1 by moving coil bobbin along ferrite core.
(9) MW	"	1,500 kHz	"	"	CT1-3 (MW ANT Trimmer)	Adjust for maximum output. Repeat steps (6)~(9).

(\* 1) Fix antenna coil with wax after completing alignment.

**FM ALIGNMENT**

BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	ELECTRONIC AC VOLTMETER or OSCILLOSCOPE	ADJUSTMENT	REMARKS
	CONNECTIONS	FREQUENCY				
<b>FM-IF ALIGNMENT</b>						
(1) FM	High side thru. 0.001µF to test point TP4. Negative side to test point TP2.	10.7MHz	Point of noninterference. (on/ about 90 MHz)	Connect vert. amp. of scope to test point TP5. Negative side to test point TP3.	T1(FM 1st IFT)	Wave form is shown in Fig. 2.
(2) FM	"	"	"	"	T3(FM 2nd IFT)	Wave form is shown in Fig. 3.

FM-RF ALIGNMENT						
(3) FM	Connect to test point TP1 through FM dummy antenna. Negative side to test point TP2.	[E, EB] ..... 86.2MHz [EG]...87.35MHz (f min)	Variable capacitor fully closed.	Headphones Jack (Refer to Fig. 1)	L6 (FM OSC Coil)	(*2)Adjust for maximum output.
(4) FM	"	[E, EB] ..... 109.2MHz [EG]...108.25MHz (f max)	Variable capacitor fully open.	"	CT1-2(FM OSC Trimmer)	"
(5) FM	"	[E, EB] .. 104MHz [EG] ..... 106MHz	Tune to signal	"	CT1-1(FM ANT Trimmer)	(*2)Adjust for maximum output. Repeat steps (3)~(5).

(\* 2) Three output responses will be present; proper tuning is the center frequency.

**FM-MPX VCO ADJUSTMENT**

FM SIGNAL GENERATOR SOURCE CONNECTION	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	SPECIFICATION	REMARKS
98 MHz, 60dB (CW) Connect to test point TP1 through FM dummy antenna. Negative side to TP2.	TP6 ... (+) TP7 ... (-)	VR1	19kHz	Adjust VR1, for 19kHz ± 50 Hz reading on frequency counter.

**<TAPE DECK SECTION>**

**HEAD AZIMUTH ADJUSTMENT**

TEST TAPE	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	SPECIFICATION	REMARKS
QZZCFM (8kHz, -20dB)	Headphones Jack (32Ω) (Refer to Fig. 1)	Azimuth screw (Refer to Fig. 4)	Maximum output	• Playback mode.

**REC BIAS VOLTAGE ADJUSTMENT**

TEST TAPE	EQUIPMENT CONNECTION ELECTRONIC VOLTMETER	ADJUSTMENT	SPECIFICATION	REMARKS
Normal tape	TP302 ... (+) TP301 ... (-) (Refer to Fig. 5)	VR301 (Refer to Fig. 6)	8.5 ± 0.5mV	• Record mode • FM mode/B. P switch → STEREO/II

**ADJUSTMENT POINT**

• Please refer to Circuit Board and Wiring Connection Diagram for test point locations.

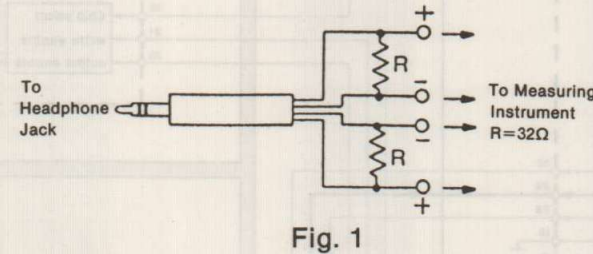


Fig. 1



Fig. 2

Fig. 3

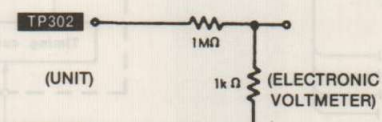


Fig. 5

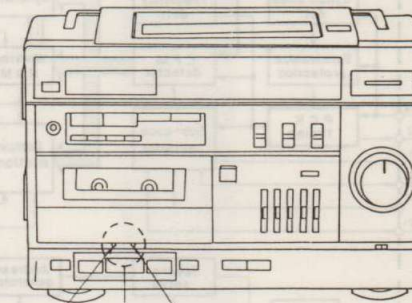


Fig. 4

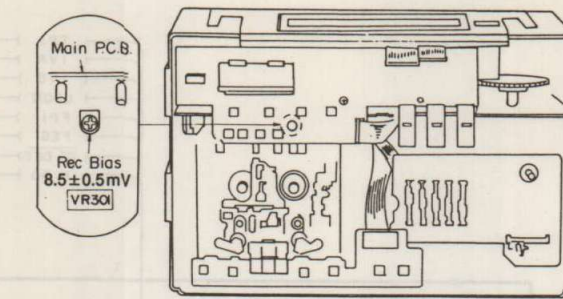


Fig. 6

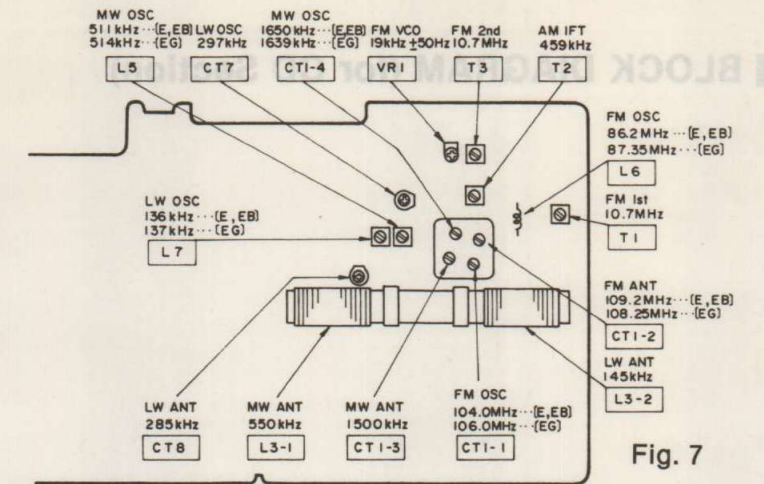


Fig. 7

**<CD PLAYER SECTION>**

**Caution:**

- It is very dangerous to look at or touch the laser beam. (Laser radiation is invisible.) With the unit turned "on", laser radiation is emitted from the pickup lens. Avoid exposure to the laser beam, especially when performing adjustments.

**PREPARATION**

1. Remove the cabinet (see Ref. No. 1 of the disassembly instructions).
2. Remove the 4 screws (1~4), and then remove the top cabinet. (See Fig. 8)
3. Remove the 4 screws (5~8), and then remove the CD operation P.C.B. (See Fig. 9)
4. Remove the 4 screws (9~12), and then remove the CD player unit. (See Fig. 10)
5. Install the removed CD player perpendicular to the rib on the cabinet. (See Fig. 11)
6. Remove the disc holder and magnet (see Ref No. 18, 19 of the disassembly instructions). (See Fig. 12)
7. Place the test disc and magnet on the turntable.

7. Place the test disc and magnet on the turntable.

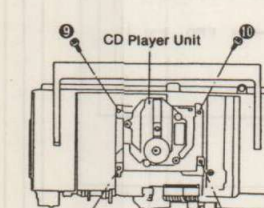


Fig. 10

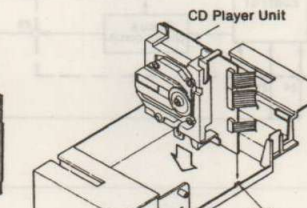


Fig. 11

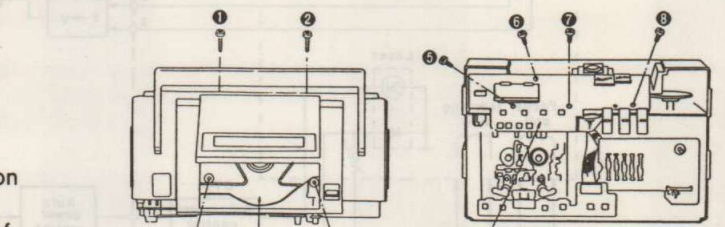


Fig. 8

Fig. 9

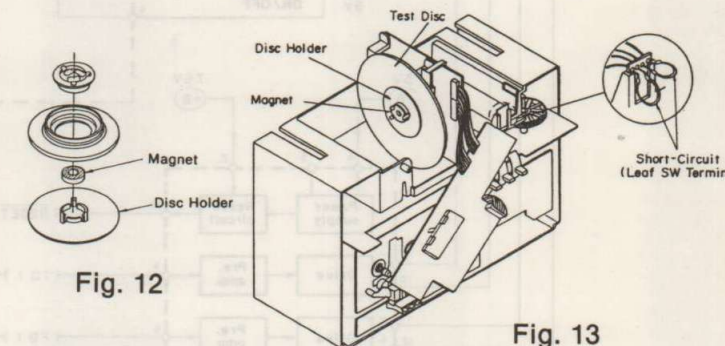
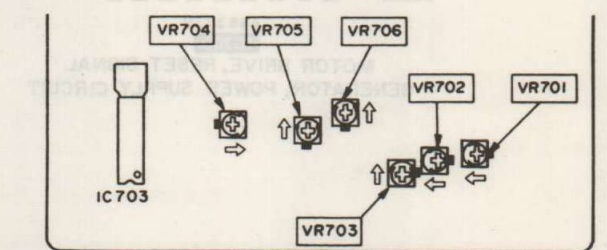
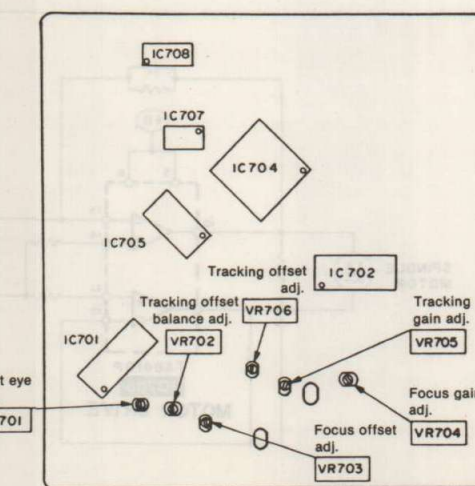


Fig. 12

Fig. 13

**ADJUSTMENT POINTS**

• Please refer to Circuit Board and Wiring Connection Diagram for test point locations.



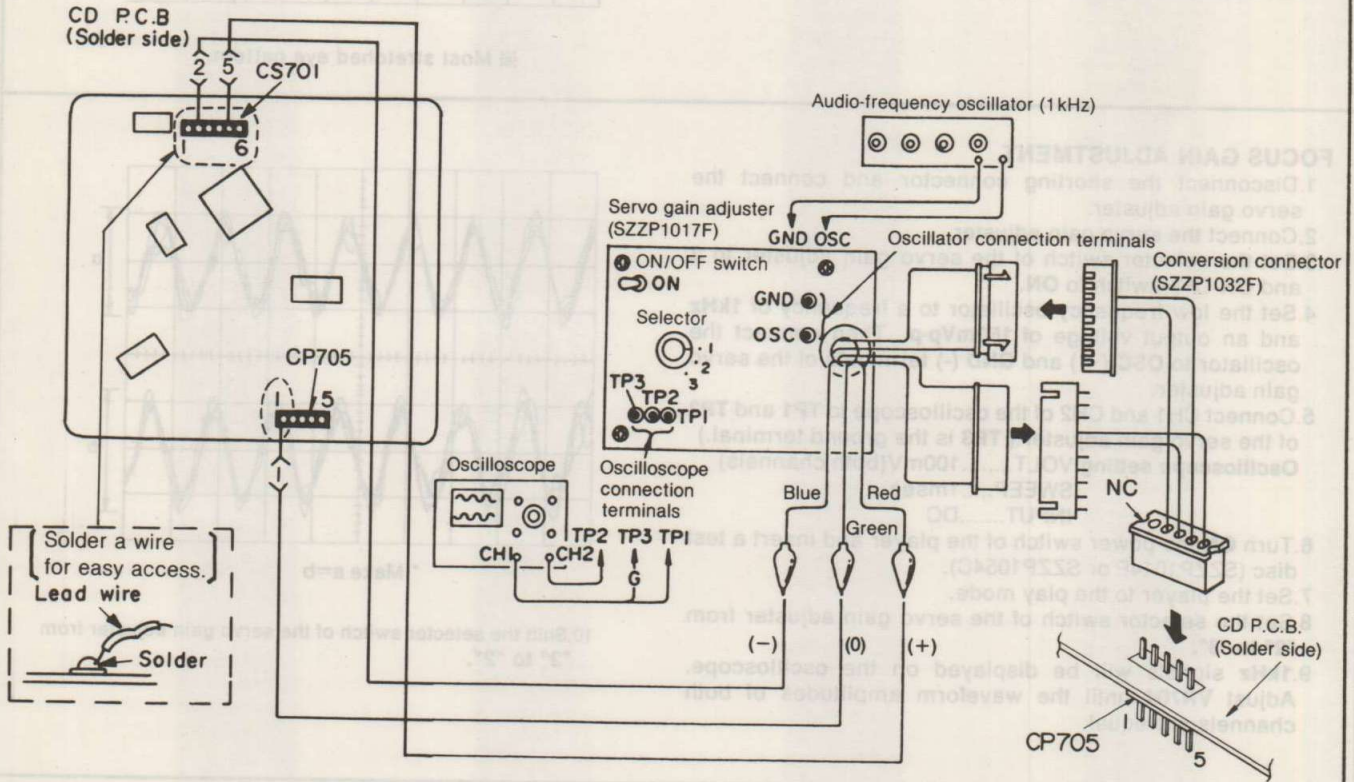
(Temporary VR setting if any of the trimmer VRs are replaced or require readjustment, temporarily set them to the following positions.)

**ELECTRICAL ADJUSTMENTS**

**Equipment used**

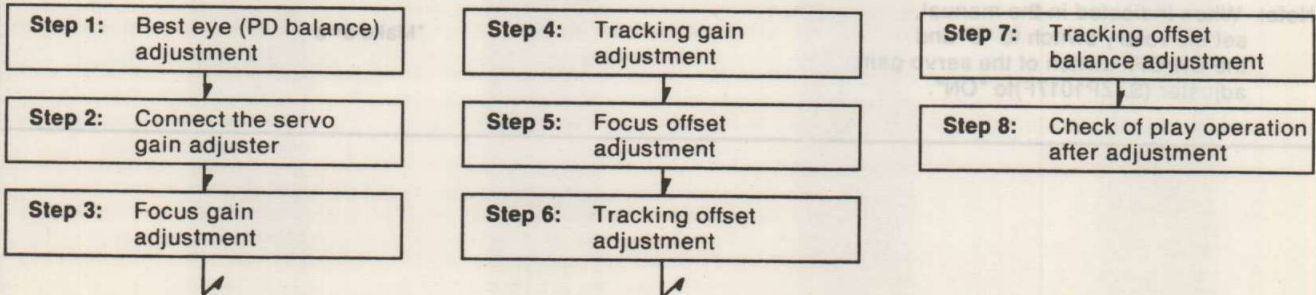
- Servo gain adjuster (SZZP1017F)
- Test discs:  
 Test disc(SZZP1014F) old or new type  
 Inspection test disc (SZZP1054C)  
 Uneven disc (SZZP1056C)  
 Black band disc (SZZP1057C)
- Ordinary disc
- Two-channel oscilloscope (with trigger) of 30MHz or over
- Audio-frequency oscillator
- Conversion connector(SZZP1032F)

**Servo Gain Adjuster and Its Connection**



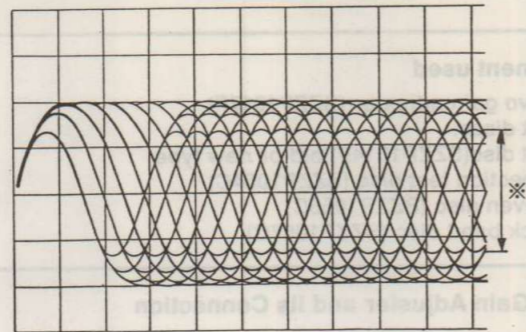
Note : Before making adjustments, make sure that function selector is set to "CD".

**Adjustment Procedures**



**BEST EYE(PD BALANCE) ADJUSTMENT**

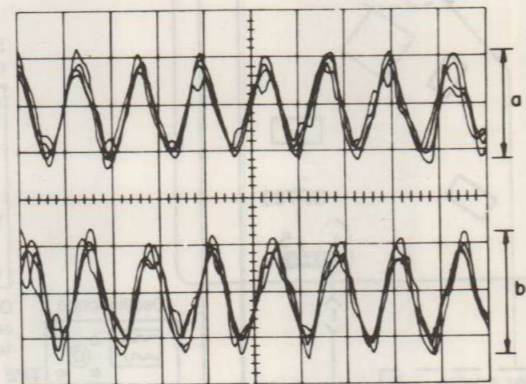
1. Insert the shorting connector of CP705 in its original position.
2. Connect CH1 of the oscilloscope to TP703 (+) and TP701 (-) of the main P.C.B.  
**Oscilloscope setting:** VOLT.....200mV  
 SWEEP.....0.5μsec.  
 INPUT.....AC
3. Turn ON the power switch of the player and insert a test disc (SZZP1014F or SZZP1054C).
4. Set the player to the play mode.
5. Adjust VR701 so that the eye pattern of RF signal is stretched to maximum.



※ Most stretched eye pattern.

**FOCUS GAIN ADJUSTMENT**

1. Disconnect the shorting connector and connect the servo gain adjuster.
2. Connect the servo gain adjuster.
3. Set the selector switch of the servo gain adjuster to 2 and ON-OFF switch to ON.
4. Set the low frequency oscillator to a frequency of 1kHz and an output voltage of 150mVp-p. Then connect the oscillator to OSC (+) and GND (-) terminals of the servo gain adjuster.
5. Connect CH1 and CH2 of the oscilloscope to TP1 and TP2 of the servo gain adjuster. (TP3 is the ground terminal.)  
**Oscilloscope setting:** VOLT.....100mV(both channels)  
 SWEEP.....1msec.  
 INPUT.....DC
6. Turn ON the power switch of the player and insert a test disc (SZZP1014F or SZZP1054C).
7. Set the player to the play mode.
8. Set the selector switch of the servo gain adjuster from "2" to "3".
9. 1kHz signals will be displayed on the oscilloscope. Adjust VR704 until the waveform amplitudes of both channels are equal.

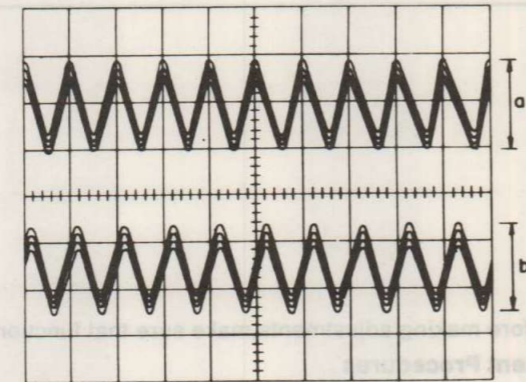


\* Make a=b

10. Shift the selector switch of the servo gain adjuster from "3" to "2".

**TRACKING GAIN ADJUSTMENT**

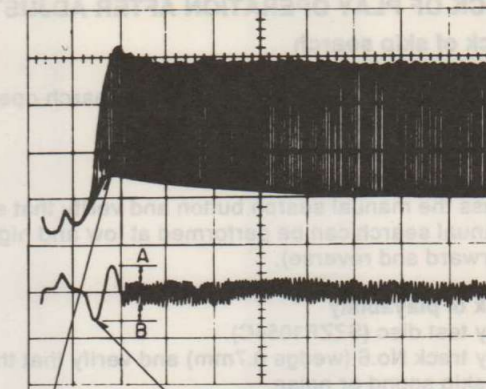
1. Oscilloscope setting and connections are same as above.
  2. Set the low frequency oscillator to a frequency of 1kHz and an output voltage of 150mVp-p.
  3. Turn ON the power switch of the player and insert the test disc (SZZP1014F or SZZP1054C).
  4. Set the player to the play mode.
  5. Set the selector switch of the servo gain adjuster from "2" to "1".
  6. 1kHz signals will be displayed on the oscilloscope. Adjust VR705 until the waveform amplitudes of both channels are equal.
  7. Shift the selector switch of the servo gain adjuster from "1" to "2".
- Note: When indicated in the manual, set the rotary switch to "2" and the ON/OFF switch of the servo gain adjuster (SZZP1017F) to "ON".



\* Make a=b

**FOCUS OFFSET ADJUSTMENT**

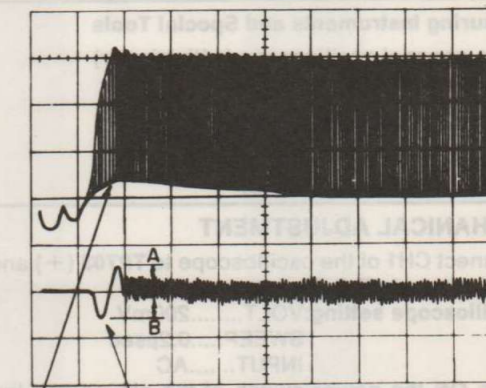
1. Connect CH1 of the oscilloscope to TP703 (+) and TP701 (-) of the main P.C.B.  
 Connect CH2 of the oscilloscope to TP705 (+) and TP701 (-) of the main P.C.B.  
**Oscilloscope setting:** VOLT.....100 mV(CH1),200 mV(CH2)  
 SWEEP..0.5msec.  
 INPUT....DC(CH1),AC(CH2)  
 MODE....NORM  
 (Triggering via CH2)
2. Turn ON the power switch of the player and insert the test disc (SZZP1057C).
3. Set the player to the play mode.
4. Check the waveform of CH1 and CH2 on the oscilloscope and adjust VR703, so that the waveform around the triggering point becomes as shown in the illustration.



Smooth envelope Minimize the amplitude or make A=B

**TRACKING OFFSET ADJUSTMENT**

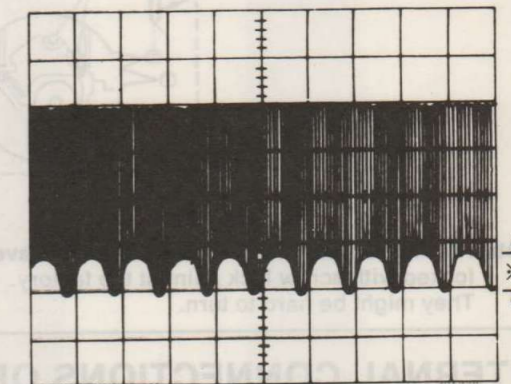
1. Connect CH1 of the oscilloscope to TP703 (+) and TP701 (-) of the main P.C.B.  
 Connect CH2 of the oscilloscope to TP704 (+) and TP701 (-) of the main P.C.B.  
**Oscilloscope setting:** VOLT.....100 mV(CH1),200 mV(CH2)  
 SWEEP..1msec.  
 INPUT....DC(CH1),AC(CH2)  
 MODE....NORM  
 (Triggering via CH2)
2. Turn ON the power switch of the player and insert the test disc (SZZP1057C).
3. Set the player to the play mode.
4. Check the waveform of CH1 and CH2 on the oscilloscope and adjust VR706, so that the waveform around the triggering point becomes as shown in the illustration.



Smooth envelope Minimize the amplitude or make A=B

**TRACKING OFFSET BALANCE ADJUSTMENT**

1. Set the low frequency oscillator to a frequency of 1.0 kHz and an output voltage of 150 mVp-p. Then connect the oscillator to OSC (+) and GND (-) terminals of the servo gain adjuster.
2. Connect CH1 of the oscilloscope to TP703 (+) and TP701 (-) of the main P.C.B.  
**Oscilloscope setting:** VOLT.....200mV  
 SWEEP.....0.5 mV  
 INPUT.....AC
3. Turn ON the power switch of the player and insert a test disc (SZZP1014F or SZZP1054C).
4. Set the player to the play mode.
5. Set the selector switch of the servo gain adjuster from "2" to "1".
6. Adjust the VR702 so that the section of the output of the waveform marked with ※ is balanced.
7. Shift the selector switch of the servo gain adjuster from "1" to "2".
8. Turn OFF the power switch of the player.
9. Disconnect the servo gain adjuster.



※ This section of the waveform must be balanced.

CHECK OF PLAY OPERATION AFTER ADJUSTMENT

Check of skip search

- 1. Play an ordinary disc.
2. Press the skip button and verify skip search operation (forward and reverse).

Check of manual search

- 1. Play an ordinary disc.
2. Press the manual search button and verify that smooth manual search can be performed at low and high speeds (forward and reverse).

Check of playability

- 1. Play test disc (SZZP1054C).
2. Play track No.6 (wedge 0.7mm) and verify that there is no skip sound or noise.

- 3. Play the track No.13 (black dot 0.7mm) and verify that there is no skip sound or noise.

Note: Never use the speakers to check playability; always use the headphones. Sounds output through the speakers will cause the unit cabinets to vibrate and this will prevent accurate checks of playability.

OPTICAL PICKUP ADJUSTMENTS

Measuring Instruments and Special Tools

- Two-channel oscilloscope (with trigger) of 30MHz or over
Test discs
Test disc (SZZP1014F) old or new type
Inspection test disc (SZZP1054C)
Uneven test (SZZP1056C)

- Hexagonal wrench
Screw lock paint (RZZ0L01)
Feeler gauge(RZZ0297)
Hexagonal wrench (SZZP1011C)

MECHANICAL ADJUSTMENT

- 1. Connect CH1 of the oscilloscope to TP703 (+) and TP701 (-) of the main P.C.B.
Oscilloscope setting: VOLT.....200mV, SWEEP.....0.2µsec, INPUT.....AC
2. Turn ON the power switch of the player and insert the test disc (SZZP1056C) and play Track No.5.
3. Using the manual search buttons, move the pickup so that the mechanical adjustment screws line up with the adjustment holes in the bottom panel.

- 4. Monitoring RF signal on the oscilloscope, adjust the two adjusting screws alternately with the 2mm hexagonal wrench so that the vertical fluctuation of RF signal is minimized and the eye pattern is most stretched.
5. Turn OFF the power switch of the player.
6. After adjustment, apply screw lock paint(RZZ0L01) to the adjusting screws.

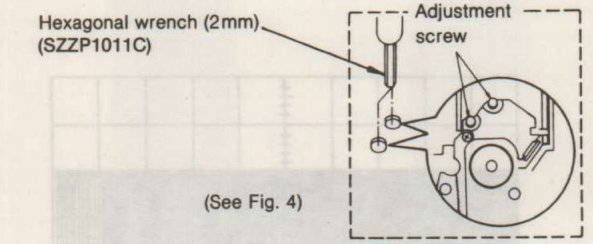
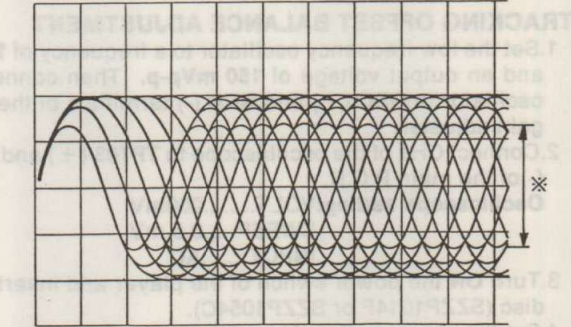


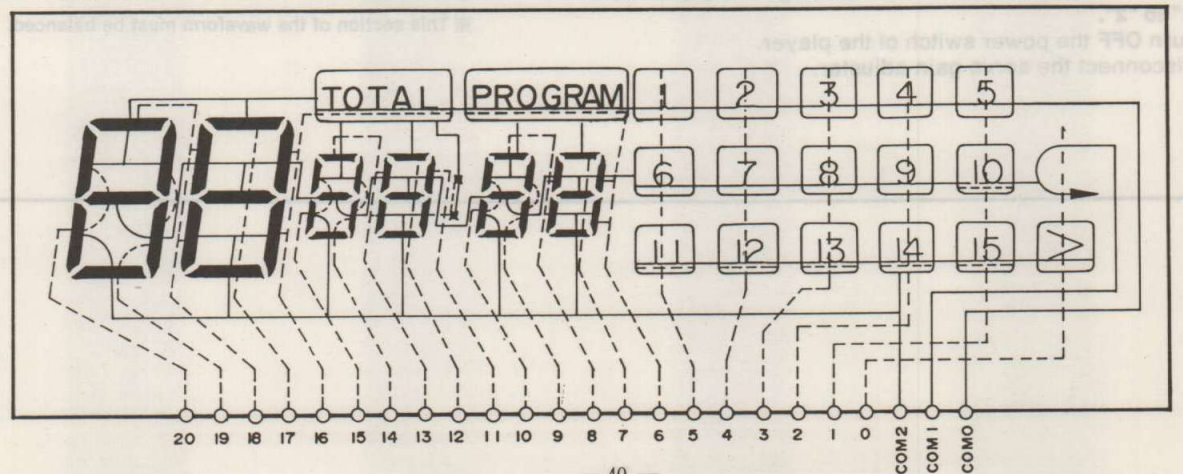
Fig. 3

Note: The mechanical adjustment screws have been locked with screw lock paint at the factory. They might be hard to turn.



※ Most stretched eye pattern.

INTERNAL CONNECTIONS OF LCD (Liquid Crystal Display)



FUNCTIONS OF IC TERMINALS

IC704: MN6617 (SIGNAL PROCESS)

Table with 4 columns: Terminal No., Terminal Symbol, I/O, Function. Lists terminals 1 through 22 with their respective functions.

IC601: MN178611RRM0 (SYSTEM CONTROL/LCD DRIVE)

Table with 4 columns: Terminal No., Terminal Symbol, I/O, Function. Lists terminals 1 through 23 with their respective functions.

Table with 4 columns: Terminal No., Terminal Symbol, I/O, Function. Lists terminals 24 through 83 with their respective functions.

## REPLACEMENT PARTS LIST

Notes : \* Important safety notice:  
 Components identified by Δ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.  
 \* The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)  
 Parts without these indications can be used for all areas.  
 \* [M] Indicates in Remarks columns parts that are supplied by MESA.

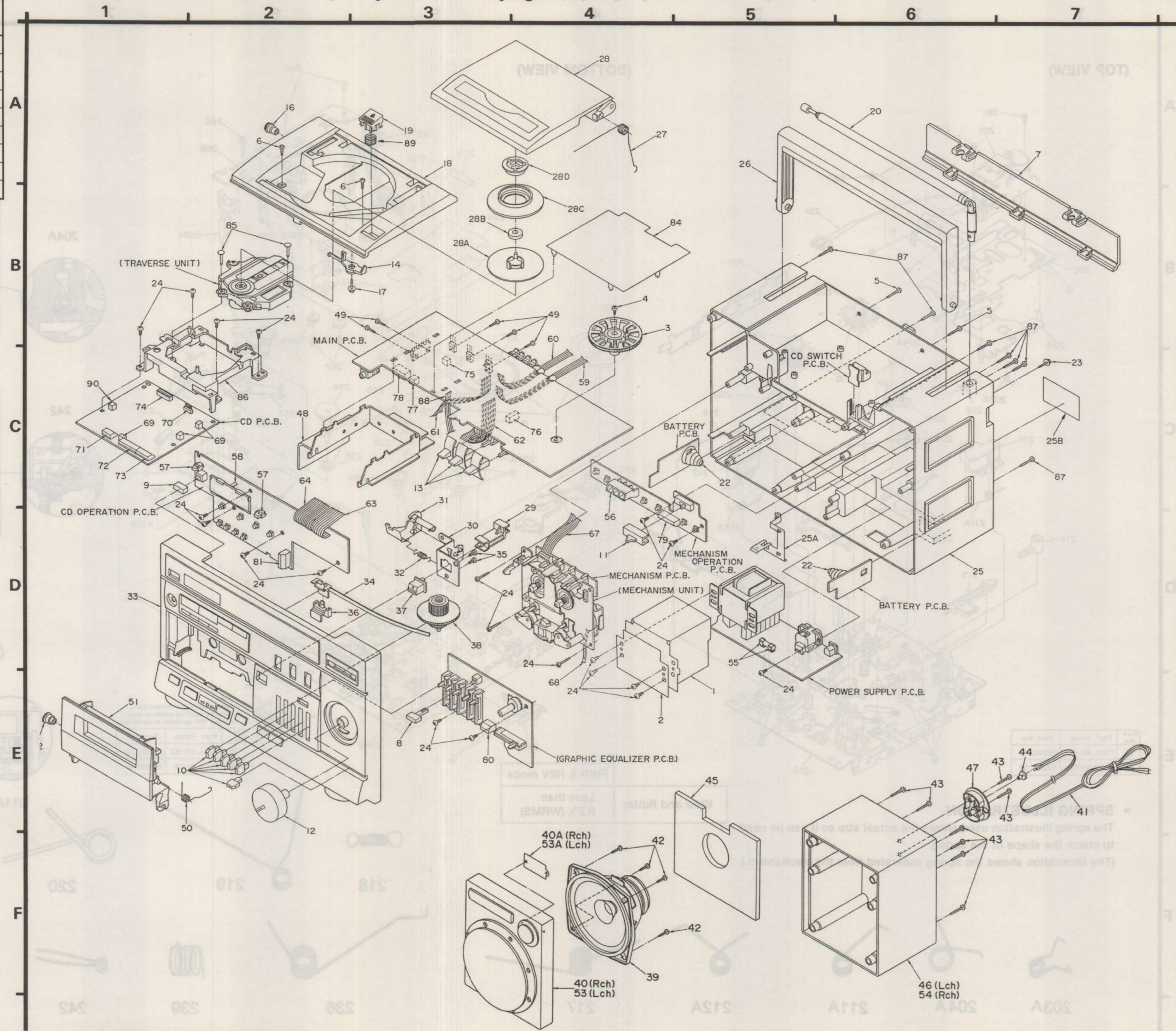
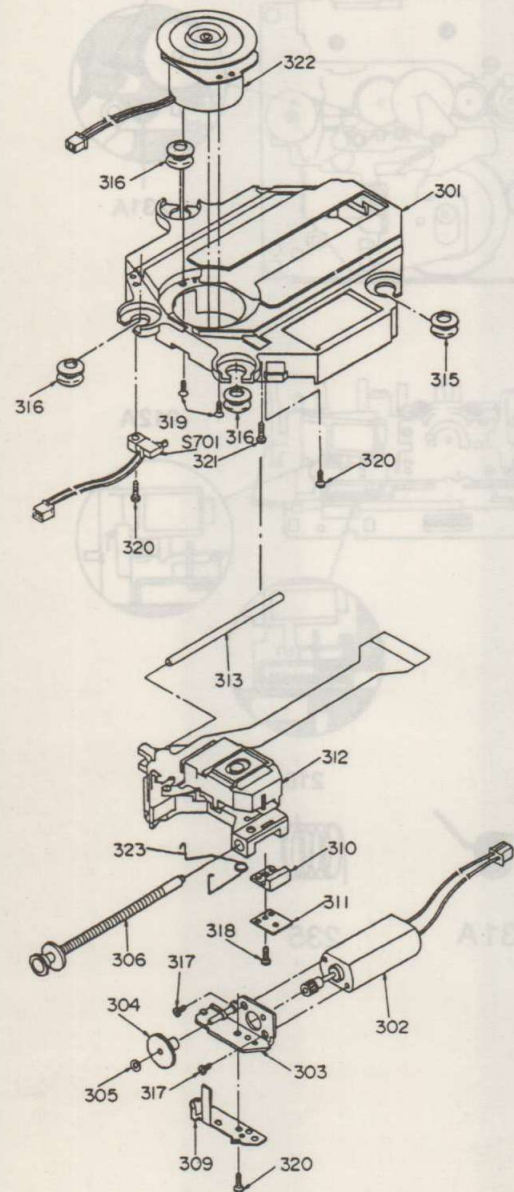
Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS					
1	1MCAD5650ZA	SHIELD PLATE ASS'Y	[M]	36	RDP361ZA-0	POINTER	[M]
2	RMC1257ZA	SHIELD PLATE	[M]	37	RBC1413ZA-0	BUTTON, CASSETTE EJECT	[M]
3	RDG5840ZA	GEAR		38	RBT283ZB-0	KNOB, TUNING	[M]
4	XYN26+C6	SCREW		39	EAS16P431A-G	SPEAKER	[M]
5	XTN3+20CFZ	SCREW		40	RYM2XCS750P	SP FRONT CAB. ASS'Y(R)	[M]
6	XTV3+10CFZ	SCREW	[M]	40A	RYEXCS750P	TWEETER ASS'Y(R)	[M]
7	RKK317YA-0	BATTERY COVER	[M]	41	RJE297ZA	SPEAKER CORD	[M]
8	RBC1399ZA-0	BUTTON, XBS	[M]	42	XTV3+10G	SCREW	
9	RBC1411ZA-0	BUTTON, POWER	[M]	43	XTV3+20GFY	SCREW	
10	RBD567ZA-0	KNOB, GEQ/BAL	[M]	44	RHG2152ZA	BUSH	[M]
11	RBD572ZA-0	KNOB, REV MODE	[M]	45	RHR3401ZA	SOUND ABSORBING MATERIAL	[M]
12	RBN783ZA-0	KNOB, VOLUME	[M]	46	RKF971ZA-0	SP. BOX (L)	[M]
13	RBS261ZA-0	KNOB, SELECTOR	[M]	47	RKE651ZA-0	HANGER	[M]
14	RUL1136ZA	LEVER	[M]	48	RMV226ZA	HEAT SINK	
16	RDG5782YC	GEAR	[M]	49	XTV3+8F	SCREW	
17	XTW3+10P	SCREW		50	RUW170YAA	SPRING	[M]
18	RKE653ZA-0	CHASSIS, CD	[M]	51	RKF0081	CASSETTE LID ASS'Y	[M]
19	RBC1412ZA-0	BUTTON, CD EJECT	[M]	52	RDG5782YC	GEAR	[M]
20	XEARR175FA-Y	TELESCOPIC ANT		53	RYM3XCS750P	SP FRONT CAB. ASS'Y(L)	[M]
22	RJC511ZBS	BATTERY SPRING		53A	RYEXCS750P	TWEETER ASS'Y(L)	[M]
23	XYN3+F12FY	SCREW		54	RKF971YA-0	SP BOX (R)	[M]
24	XTV3+12G	SCREW		55	RJF28ZA	FUSE HOLDER	Δ
25	RKS0048	REAR CABINET ASS'Y	(E) [M]	56	RMP289ZA	LED HOLDER	[M]
25	RKS0049	REAR CABINET ASS'Y	(EB) [M]	57	RMP290ZA	LED HOLDER	[M]
25	RKS0050	REAR CABINET ASS'Y	(EG) [M]	58	RME9036ZAA	LED HOLDER	[M]
25A	RJT1140ZA	ANT. TERMINAL	[M]	59	WBB6GB-25MM	FLAT CABLE	[M]
25B	RGT1397ZA-0	NAME PLATE	(E) [M]	60	WBB6GB-20MM	FLAT CABLE	[M]
25B	RGT1397XA-0	NAME PLATE	(EG) [M]	61	WBB9GB-20MM	FLAT CABLE	[M]
25B	RGT1397YA-0	NAME PLATE	(EB) [M]	62	WBB9GB-31MM	FLAT CABLE	[M]
26	1KHADS650ZA	HANDLE ASS'Y	[M]	63	WBB10KS-7MM	FLAT CABLE	[M]
27	RUW217ZA	SPRING	[M]	64	WBB12KS-7MM	FLAT CABLE	[M]
28	RYF0049	CD LID ASS'Y	[M]	67	WBB9GB-9MM	FLAT CABLE	[M]
28A	RHR3400ZA	DISC HOLDER	[M]	68	WBB2AB-17M	FLAT CABLE	[M]
28B	RHM245ZA	MAGNET		69	RJP2G18ZA	PLUG (2P)	
28C	RGX1807ZA-0	HOLDER	[M]	70	RJP5G35ZA	PLUG (5P)	
28D	RME502ZA	CLAMPER	[M]	71	RJS6T7ZA	SOCKET (6P)	
29	RUL1137ZA	ROD	[M]	72	RJS12T7ZA	SOCKET (12P)	
30	RUL1138ZA	LEVER	[M]	73	RJS10T7ZA	SOCKET (10P)	
31	RUL1139ZA	LEVER	[M]	74	RJS16Q11ZA	SOCKET (16P)	
32	RJS779ZA	SPRING	[M]	75	RJP2G4YA	CONNECTOR (2P)	
33	RKM0067	FRONT CABINET ASS'Y	[M]	76	RJP5G18ZA	CONNECTOR (5P)	
34	RDG5962ZA	RACK	[M]	77	RJS2T5ZA	SOCKET (2P)	
35	XTV3+12G-M	SCREW	[M]	78	RJS9T7ZA	SOCKET (9P)	
				79	RJS12T4ZA	SOCKET (12P)	
				80	RJS6T4ZA	SOCKET (6P)	
				81	RJS9T4ZA	SOCKET (9P)	

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
84	RMC1254ZA	SHIELD PLATE	[M]	235	RUQ111ZA	SPRING	
85	RHM281YA	SHAFT		236	RUW145ZA	SPRING	
86	RUA849ZC	CHASSIS		237	1UB0090ZA	ROD	
87	XTV3+20G	SCREW		237A	RUB512ZB	ROD	
88	WBB3GB-26MM	FLAT CABLE	[M]	238	RDG5773ZA	GEAR	
89	RJS780ZA	SPRING	[M]	239	RUQ112ZA	SPRING	
90	RJP2G17ZA	PLUG (2P)		240	RUS609ZC	TAPE PRESSURE SPRING	
		MECHANISM		241	RUB514ZB	LEVER	
		CASSETTE DECK		242	RUW147ZA	SPRING	
201	RXQ0007	HEAD BLOCK (REC./PLAYBACK)		243	RUB515ZA	LEVER	
202	RUA793ZD	HEAD BASE		244	RUB509ZA	LEVER	
203	RZLAR300A	ROD		245	RDV100ZA	CAPSTAN BELT	
203A	RUW143ZA	SPRING		249	RHG3032ZA	RUBBER CUSHION	
204	1UB0089ZA	ARM		250	RNL180ZB	DAMPER ARM	
204A	RUW148ZA	SPRING		251	2JSADS650ZA	LEAD WIRE ASS'Y	[M]
205	1DM0018ZA	REEL TABLE (R)		261	XTW2+6L	SCREW	
206	1DM0017ZA	REEL TABLE (F)		262	XTW2+8L	SCREW	
207	RUB502ZC	LEVER		263	XTN26+7J	SCREW	
208	RDG5772ZB	GEAR		264	RHE5203ZA	SCREW	
209	RUB508ZA	BRAKE ROD		265	XTW2+8S	SCREW	
210	RUB506ZB	LEVER		266	XYC2+JF16	SCREW	
211	1UB0088ZA	ARM (R)		267	QHQ1303	SCREW	
211A	RUW141Z	SPRING		268	RJS9T7ZA	CONNECTOR (9P)	
212	1UB0087ZA	ARM (F)				TRAVERSE DECK	
212A	RUW140ZB	SPRING		301	S1SD25-2	TRAVERSE BASE	
213	RUB507ZC	EJECT ROD (R)		352	SDGD67-E	MOTOR ASS'Y	
214	RNL1ZD	DAMPER ARM		303	SIWD110-E	BRACKET	
215	RUB503ZC	MAIN LEVER		304	SDGD62	GEAR	
216	RZAU300A	CHASSIS		305	SHWD35-1	WASHER	
217	RUW142ZA	SPRING		306	SUXD126-E	SHAFT	
218	RUD105Z	SPRING		309	SUWD120-3	SPRING	
219	RUW144ZA	SPRING		310	SIRD110-2	BRACKET	
220	RUW139ZA	SPRING		311	SUWD121-1	SPRING	
221	RFM173ZA	DC MOTOR		312	SOAD101A	OPTICAL PICK UP ASS'Y	
222	1UE0015ZA	PLUNGER		313	SUXD27-1	SHAFT	
223	RUB428ZE	MOVING IRON CORE		315	SHGD112	RUBBER	
224	RUL1030ZC	ANGLE		316	SHGD113-1	RUBBER	
225	RMD5014ZB	ANGLE		317	XQN2+A2	SCREW	
226	RDG5927ZG	GEAR		318	XQN17+C3FZ	SCREW	
227	1DW0037ZB	FLYWHEEL (F)		319	XQS2+A4FZT	SCREW	
227A	RNW139ZA	WASHER		320	SNSD38	SCREW	
228	1DW0038ZB	FLYWHEEL (R)		321	XTS2+8J	SCREW	
228A	RNW138Z	WASHER		322	SJGD13-A	MOTOR	
229	1DG0006ZA	REEL TABLE GEAR		323	RUW183ZA	SPRING	
230	RUB513ZC	ARM				ACCESSORIES	
231	1UB0091ZA	LEVER		A1	RJA20ZD-K	POWER CORD	(E, EG) Δ
231A	RUW146ZA	SPRING		A1	RJA86ZB-K	POWER CORD	(EB) Δ
232	1DR0011ZA	MAIN PULLEY		A2	RFKXDS650-K	INST. MANUAL ASS'Y	(E) [M]
233	RDV90ZB	BELT					
234	RDG5769ZA	REEL TABLE GEAR					

**CABINET PARTS LOCATION (See parts list on page 43.)**

Ref. No.	Part No.	Part Name & Description	Remarks
A2	RQX5255ZA	INST. MANUAL	(EG, EB)
		PACKING MATERIAL	
P1	RPH655ZA	SHEET	
P2	RPN9589ZA	CUSHION	
P3	RPK2834ZA	GIFT BOX	

**CD PLAYER (TRAVERSE) PARTS LOCATION (See parts list on page 44.)**

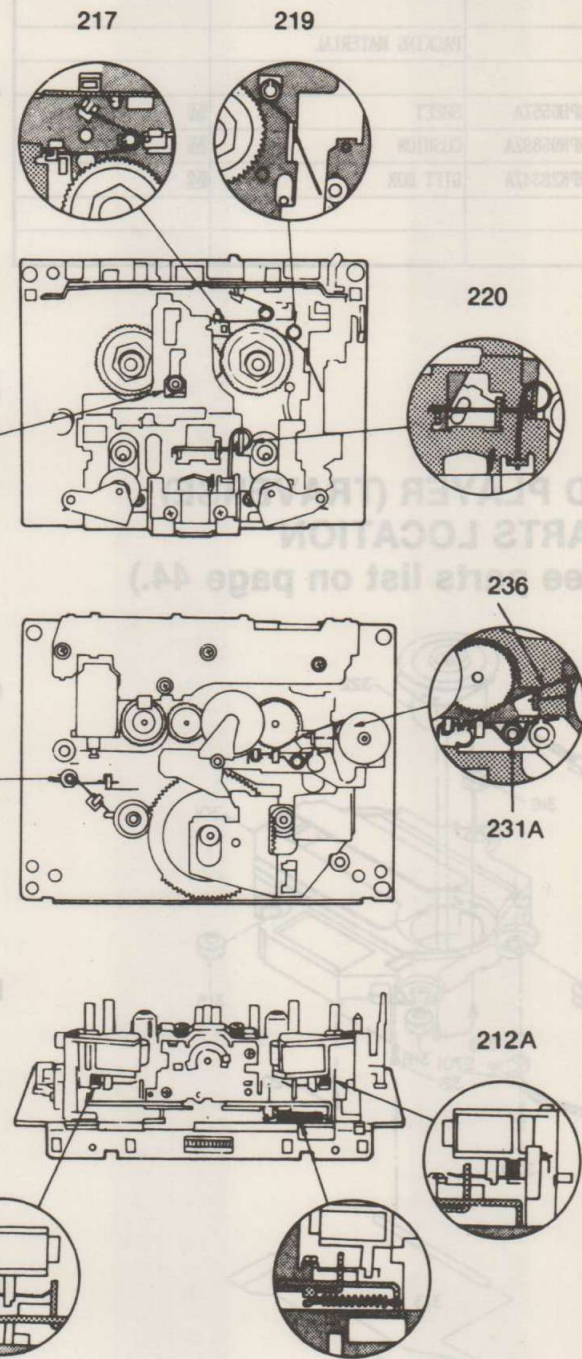
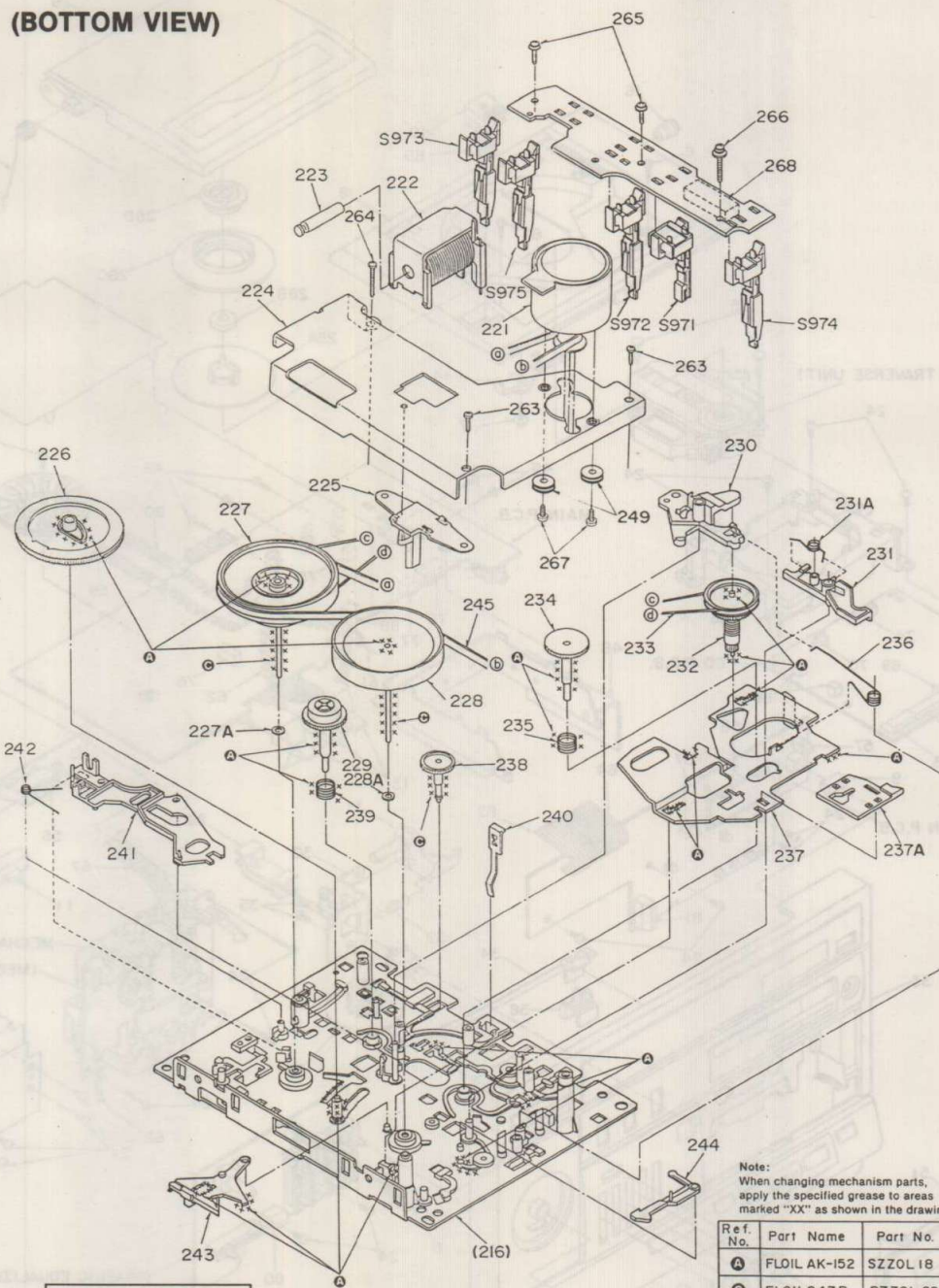
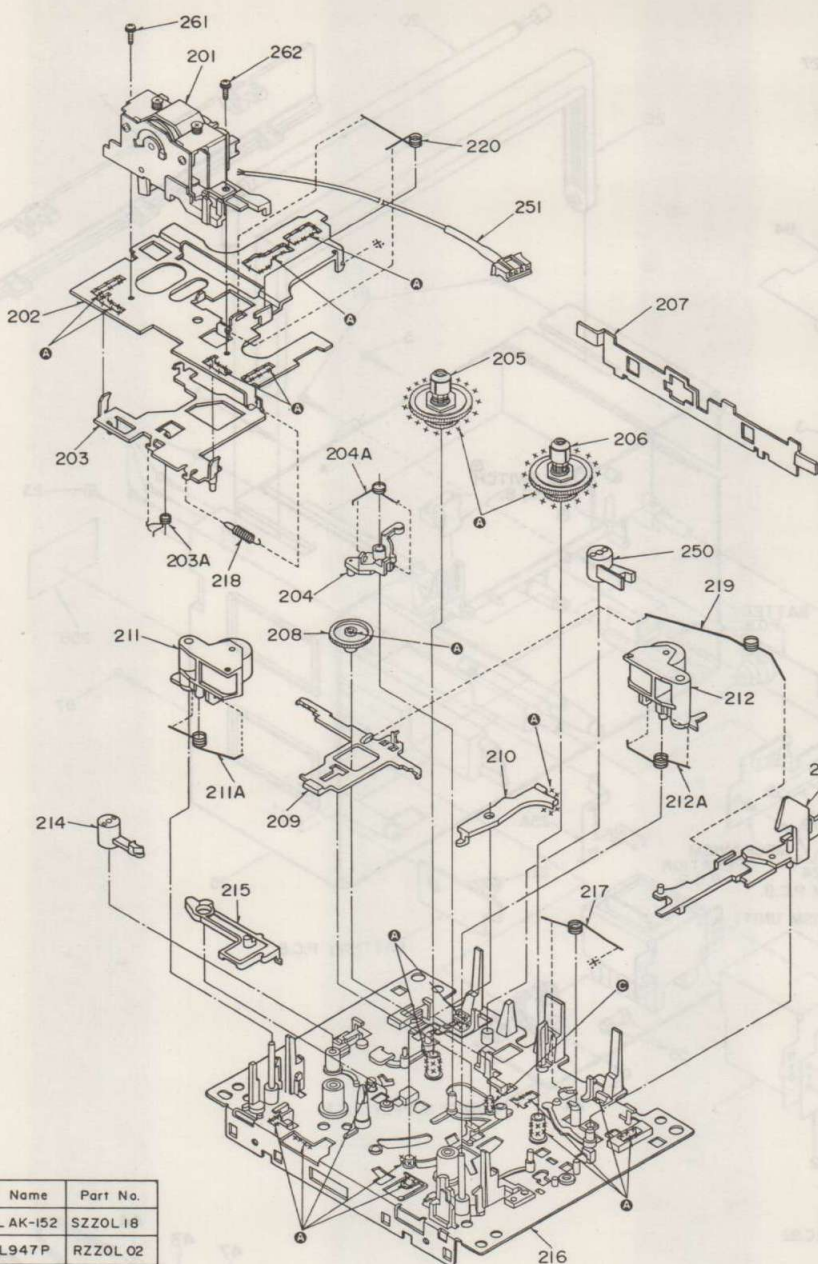


**MECHANISM PARTS LOCATION (See parts list on page 44.)**

1 2 3 4 5 6 7 8 9

(TOP VIEW)

(BOTTOM VIEW)



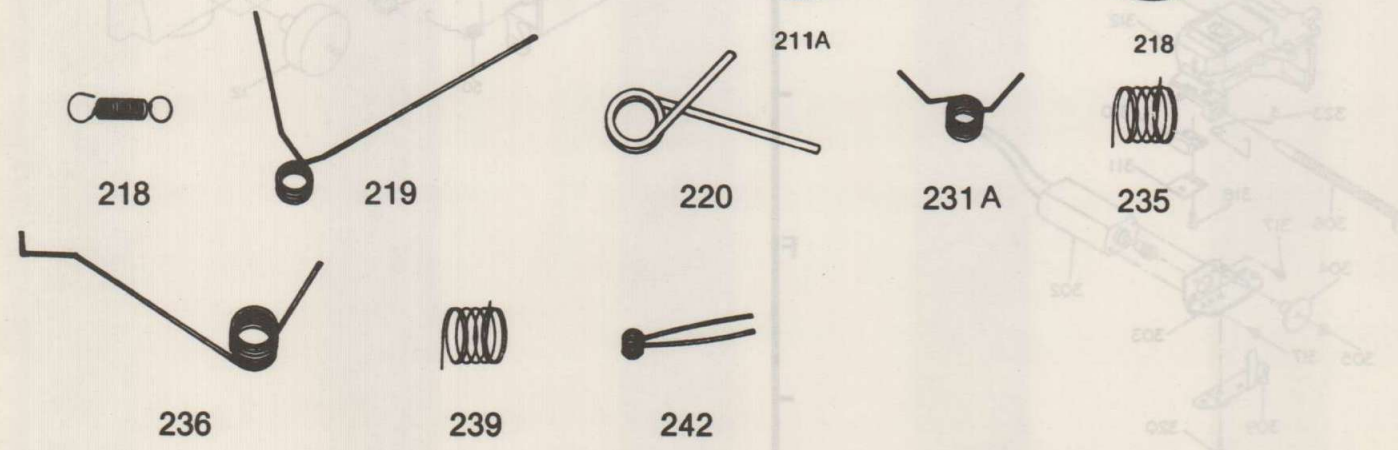
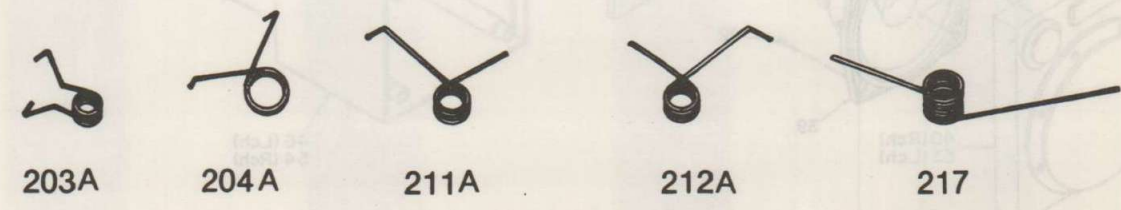
Ref. No.	Part Name	Part No.
A	FL0IL AK-152	SZZOL 18
C	FL0IL947P	RZZOL 02

Ref. No.	Part Name	Part No.
A	FL0IL AK-152	SZZOL 18
C	FL0IL947P	RZZOL 02

**• SPRING ILLUSTRATION**

The spring illustration used shows the actual size so it can be used to check the shape of the spring.  
(The illustration shows the spring separated from the mechanism.)

FWD & REV mode	
Wow and flutter	Less than 0.2% (WRMS)





Notes : \* Important safety notice:  
 Components identified by  $\Delta$  mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.  
 \* The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)  
 Parts without these indications can be used for all areas.  
 \*  $\square$  Indicates in Remarks columns parts that are supplied by MESA.

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
INTEGRATED CIRCUITS							
IC1	AN7205	I. C, FM FRONT END		Q314	RVTDA114EST	TRANSISTOR	
IC2	BA4237L	I. C, IF AMP		Q315	2SC2001L2TA	TRANSISTOR	
IC3	RVIBA1332L	I. C, FM MPX	$\square$	Q316	2SB1311Q	TRANSISTOR	
IC301	BA7755	I. C, R/P SELECT		Q317	2SA952L1TA	TRANSISTOR	
IC302	AN6557F	I. C, EQ AMP		Q318	2SB1311Q	TRANSISTOR	
IC303	BA3310N	I. C, REC AMP		Q319	RVTDC114EST	TRANSISTOR	
IC304	RVIBA338	I. C, TPS AMP		Q320	2SC1684STA	TRANSISTOR	
IC305	TC9312AN-067	I. C, MECHANISM CON.		Q321, 322	2SA952L1TA	TRANSISTOR	
IC306	AN7133N	I. C, POWER AMP		Q323	2SB1185E	TRANSISTOR	
IC601	MN178611R1RMO	I. C, SYSTEM CONTROL	$\square$	Q324-326	2SC1684STA	TRANSISTOR	
IC602	BA3822LS	I. C, G. EQ AMP		Q327	RVTDC114EST	TRANSISTOR	
IC701	AN8373SE2	I. C, CD SERVO SYSTEM		Q328	2SC1684STA	TRANSISTOR	
IC702	AN8374SE2	I. C, PWM DRIVE/PLL		Q329, 330	2SC1684RTA	TRANSISTOR	
IC703	AN8377N	I. C, MOTOR DRIVE		Q331	2SC1740RTA	TRANSISTOR	
IC704	MN6617	I. C, SIGNAL PROCESS		Q401, 402	2SC1684RTA	TRANSISTOR	
IC705	LC3517BMLTP	I. C, DE INTERLEAVE		Q501, 502	2SC1684RTA	TRANSISTOR	
IC706	TA8410P	I. C, MOTOR DRIVE		Q601	RVTDC144EST	TRANSISTOR	
IC707	SM5807ESET	I. C, DIGITAL FILTER		Q602	RVTDA144TST	TRANSISTOR	
IC708	UPD6372GSE2	I. C, D/A CONVERTER		Q603, 604	2SC1684RTA	TRANSISTOR	
IC971	DN6851A	I. C, HALL		Q701	2SA1309STA	TRANSISTOR	
TRANSISTORS				DIODES			
Q1	2SC829BTA	TRANSISTOR		D1-3	RVD1SS133TA	DIODE	
Q101	2SJ40CTA	TRANSISTOR		D101, 102	RVD1SS133TA	DIODE	
Q102	2SC2001L1TA	TRANSISTOR		D201, 202	RVD1SS133TA	DIODE	
Q103	2SC1684RTA	TRANSISTOR		D301-304	RVD1SS133TA	DIODE	
Q104	2SC2001L2TA	TRANSISTOR		D305	RVDMT25R1CTA	DIODE	
Q201	2SJ40CTA	TRANSISTOR		D306	MA700TA	DIODE	
Q202	2SC2001L1TA	TRANSISTOR		D307-313	RVD1SS133TA	DIODE	
Q203	2SC1684RTA	TRANSISTOR		D314	RVDMT25R1CTA	DIODE	
Q204	2SC2001L2TA	TRANSISTOR		D315-320	RVD1SS133TA	DIODE	
Q301	2SC1740RTA	TRANSISTOR		D321	RVDMT27R5BTA	DIODE	
Q302	2SC2001L1TA	TRANSISTOR		D322	RVDMT212BTA	DIODE	
Q303	2SC1684STA	TRANSISTOR		D323-325	RVD1SS133TA	DIODE	
Q304	2SC2001L1TA	TRANSISTOR		D326	RVDMT29R1BTA	DIODE	
Q305	RVTDC114EST	TRANSISTOR		D327-329	RVD1SS133TA	DIODE	
Q306, 307	RVTDA114EST	TRANSISTOR		D330	RVDMT28R2BTA	DIODE	
Q308, 309	2SC1684STA	TRANSISTOR		D601	RVD1SS133TA	DIODE	
Q310	RVTDC114EST	TRANSISTOR		D602, 603	RVDSEL1121RT	L. E. D	$\square$
Q311	RVTDC144EST	TRANSISTOR		D604-608	RVD1SS133TA	DIODE	
Q312	2SC1684STA	TRANSISTOR		D609-612	RVDP300DLF	DIODE	
Q313	RVTDC114EST	TRANSISTOR		D613	RVD3LV31VC3F	L. E. D	
				D614, 615	RVD3LV31MC3F	L. E. D	

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
D616-621	RVD1SS133TA	DIODE		S3	RJJA52C-H	JACK, W/SW (J3)	$\Delta$
D707, 708	MA165TA	DIODE		S301	RST4D072A-A	SW, SELECTOR	$\square$
D971	RVD1SS133TA	DIODE		S601	RSHIA100ZA-A	SW, MEMORY/RECALL	$\square$
VARIABLE RESISTORS				S602	RSHIA100ZA-A	SW, EDIT PAUSE	$\square$
VR1	RVNCA14B1T-A	V. R, FM MPX VCO ADJ.	$\square$	S603	RSHIA100ZA-A	SW, SKIP/SEARCH	$\square$
VR301	RVNCA24B1T-A	V. R, REC BIAS ADJ.		S604	RSHIA100ZA-A	SW, PLAY/STOP	$\square$
VR601	EWAGU3C14G15	V. R, BALANCE CONTROL	$\square$	S605	RSHIA100ZA-A	SW, M. SCAN/REM TIME	$\square$
VR602-606	EWAGQ6C14G54	V. R, G. EQ CONTROL	$\square$	S606	RSHIA100ZA-A	SW, SKIP/SEARCH	$\square$
VR607	EWCT5AF20B54	V. R, VOLUME CONTROL	$\square$	S607	RSHIA100ZA-A	SW, PAUSE/CLEAR	$\square$
VR701	EVNDXAA00B14	V. R, BEST EYE ADJ.		S608	RSHIA100ZA-A	SW, REPEAT	$\square$
VR702	EVNDXAA00B24	V. R, TRACKING BAL. ADJ.		S609	ESB6483	SW, POWER	$\square$
VR703	EVNDXAA00B14	V. R, FOCUS OFFSET ADJ.		S610	RSHIA64ZA-U	SW, OPEN/CLOSE	
VR704	EVNDXAA00B14	V. R, FOCUS GAIN ADJ.		S611	RSHIA64ZA-U	SW, LASER ON/OFF	
VR705	EVNDXAA00B14	V. R, TRACKING GAIN ADJ.		S612	RSHIA100ZA-A	SW, FAST/TPS	$\square$
VR706	EVNDXAA00B14	V. R, TRACKING OFFSET ADJ.		S613	RSHIA100ZA-A	SW, REV. PLAY	$\square$
VARIABLE CAPACITORS				S614	RSHIA100ZA-A	SW, FOR PLAY	$\square$
VC1	RCV4RC2V2K-A	V. C.	$\square$	S615	RSHIA100ZA-A	SW, STOP	$\square$
COILS AND TRANSFORMERS				S616	RSHIA100ZA-A	SW, FAST/TPS	$\square$
L2	RLQY30S1W-0	COIL	$\square$	S617	RSHIA100ZA-A	SW, REC. PAUSE	$\square$
L3	RLF6W9-0	COIL, AM ANT.	$\square$	S618	RSS3A18YA-H	SW, REV. MODE	
L5	RL02B108-M	COIL, AM OSC		S620	ESB6483	SW, XBS	$\square$
L6	RLD4Y53-0	COIL, FM OSC	(E, EB)	S701	SSH5-E	SW, REST	
L6	RL04N233-0	COIL, FM OSC	(EG)	S971-975	RSHIA89ZA-U	SW, MECHANISM	
L7	RL01B13-M	COIL		JACKS			
L101, 201	RLQZB272KT-D	COIL	$\square$	J1	RJF1099YA	JACK, AUX IN	
L301, 302	RLQZB102KT-D	COIL		J2	RJJD7S2ZA-C	JACK, H P	
L303	RL08R7-T	COIL	$\square$	J3	RJJA52C-H	JACK, AC JACK W/SW (S3)	$\Delta$
T1	RL14B153-M	TRANSFORMER, FM IFT		J4	RJF1098ZA-H	JACK, SPEAKER	$\square$
T2	RL12B458-M	TRANSFORMER, AM IFT		J5	RJJB3ZD-C	JACK, DC IN	
T3	RL14B153-M	TRANSFORMER, FM IFT		THERMISTOR			
T601	RLT5L5G4B-X	POWER TRANSFORMER	(E, EG) $\Delta$ $\square$	TH301	RRT202T-H	THERMISTOR	
T601	RLT5L5A4A-X	POWER TRANSFORMER	(EB) $\Delta$ $\square$	FUSE			
FILTERS				F601	XBA2C40TBOK	FUSE	$\Delta$
CF1	RVF107WMZT	CERAMIC FILTER		OSCILLATOR			
CF2	RVFSFU459B	CERAMIC FILTER		X701	RSXZ16M9M01T	OSCILLATOR	
LCD				TRIMMERS			
LCD1	LDBU9282AZ-1	LCD, DISPLAY	$\square$	CT7	RCVTZ20F	TRIMMER	
SWITCHES				CT8	RCVTZ20F	TRIMMER	
S1	RST3F27ZA-A	SW, BAND	$\square$	IC PROTECTORS			
S2	RST3B36ZA-A	SW, FM MODE/B. P.	$\square$	IP301	RAHICPN5TA	IC PROTECTOR	
				IP302	RAHICPN5TA	IC PROTECTOR	

# RESISTORS & CAPACITORS

Notes : \* Capacity value are in microfarads (uF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)  
 \* Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM) , 1M=1,000k(OHM)

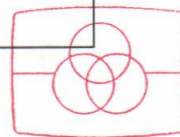
Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
RESISTORS			R201	ERDS2TJ473T	1/4W 47K	R325	ERDS2TJ101T	1/4W 100
R1	ERDS2TJ101T	1/4W 100	R202	ERDS2TJ682T	1/4W 6.8K	R326, 327	ERDS2TJ102T	1/4W 1K
R2	ERDS2TJ220T	1/4W 22	R203	ERDS2TJ273T	1/4W 27K	R328	ERDS2TJ330T	1/4W 33
R4	ERDS2TJ101T	1/4W 100	R204	ERDS2TJ472T	1/4W 4.7K	R330	ERDS2TJ821T	1/4W 820
R5	ERDS2TJ100T	1/4W 10	R205	ERDS2TJ822T	1/4W 8.2K	R331	ERDS2TJ103T	1/4W 10K
R6	ERDS2TJ470T	1/4W 47	R206	ERDS2TJ153T	1/4W 15K	R332, 333	ERDS2TJ333T	1/4W 33K
R7	ERDS2TJ101T	1/4W 100	R207	ERDS2TJ334T	1/4W 330K	R334	ERDS2TJ104T	1/4W 100K
R9	ERDS2TJ270T	1/4W 27	R208	ERDS2TJ104T	1/4W 100K	R335	ERDS2TJ101T	1/4W 100
R10	ERDS2TJ392T	1/4W 3.9K	R209	ERDS2TJ330T	1/4W 33	R336	ERDS2TJ103T	1/4W 10K
R11	ERDS2TJ822T	1/4W 8.2K	R210	ERDS2TJ682T	1/4W 6.8K	R337	ERDS2TJ102T	1/4W 1K
R12	ERDS2TJ680T	1/4W 68	R211	ERDS2TJ392T	1/4W 3.9K	R338	ERDS2TJ472T	1/4W 4.7K
R13	ERDS2TJ472T	1/4W 4.7K	R212	ERDS2TJ473T	1/4W 47K	R339	ERDS2TJ103T	1/4W 10K
R14	ERDS2TJ473T	1/4W 47K	R213	ERDS2TJ472T	1/4W 4.7K	R340	ERDS2TJ222T	1/4W 2.2K
R15	ERDS2TJ102T	1/4W 1K	R215	ERDS2TJ392T	1/4W 3.9K	R341	ERDS2TJ152T	1/4W 1.5K
R16	ERDS2TJ822T	1/4W 8.2K	R216	ERDS2TJ333T	1/4W 33K	R342	ERDS2TJ103T	1/4W 10K
R17	ERDS2TJ821T	1/4W 820	R217	ERDS2TJ103T	1/4W 10K	R343, 344	ERDS2TJ471T	1/4W 470
R18	ERDS2TJ821T	1/4W 820	R218	ERDS2TJ470T	1/4W 47	R345	ERDS2TJ473T	1/4W 47K
R20	ERDS2TJ470T	1/4W 47	R219	ERDS2TJ152T	1/4W 1.5K	R346	ERDS2TJ102T	1/4W 1K
R21	ERDS2TJ224T	1/4W 220K	R220	ERDS2TJ391T	1/4W 390	R347	ERDS2TJ1R5T	1/4W 1.5
R22	ERDS2TJ471T	1/4W 470	R221	ERDS2TJ104T	1/4W 100K	R348, 349	ERDS2TJ151T	1/4W 150
R30	ERDS2TJ470T	1/4W 47	R222-224	ERDS2TJ103T	1/4W 10K	R350	ERDS2TJ471T	1/4W 470
R101	ERDS2TJ473T	1/4W 47K	R225	ERDS2TJ153T	1/4W 15K	R351	ERDS2TJ1R5T	1/4W 1.5
R102	ERDS2TJ682T	1/4W 6.8K	R226	ERDS2TJ562T	1/4W 5.6K	R352, 353	ERDS2TJ471T	1/4W 470
R103	ERDS2TJ273T	1/4W 27K	R227	ERDS2TJ223T	1/4W 22K	R354	ERDS2TJ152T	1/4W 1.5K
R104	ERDS2TJ472T	1/4W 4.7K	R228	ERDS2TJ2R2T	1/4W 2.2	R355	ERDS2TJ222T	1/4W 2.2K
R105	ERDS2TJ822T	1/4W 8.2K	R229	ERDS2TJ151T	1/4W 150	R356	ERDS2TJ821T	1/4W 820
R106	ERDS2TJ153T	1/4W 15K	R301	ERDS2TJ682T	1/4W 6.8K	R357	ERDS2TJ473T	1/4W 47K
R107	ERDS2TJ334T	1/4W 330K	R302	ERDS2TJ682T	1/4W 6.8K	R358, 359	ERDS2TJ103T	1/4W 10K
R108	ERDS2TJ104T	1/4W 100K	R303	ERDS2TJ223T	1/4W 22K	R360	ERDS2TJ682T	1/4W 6.8K
R109	ERDS2TJ330T	1/4W 33	R304	ERDS2TJ102T	1/4W 1K	R361	ERDS2TJ274T	1/4W 270K
R110	ERDS2TJ682T	1/4W 6.8K	R305	ERDS2TJ103T	1/4W 10K	R362	ERDS2TJ101T	1/4W 100
R111	ERDS2TJ392T	1/4W 3.9K	R306	ERDS2TJ101T	1/4W 100	R363, 364	ERDS2TJ472T	1/4W 4.7K
R112	ERDS2TJ473T	1/4W 47K	R307	ERDS2TJ472T	1/4W 4.7K	R365	ERDS2TJ682T	1/4W 6.8K
R113	ERDS2TJ472T	1/4W 4.7K	R308	ERDS2TJ103T	1/4W 10K	R366	ERDS2TJ333T	1/4W 33K
R115	ERDS2TJ392T	1/4W 3.9K	R309	ERDS2TJ102T	1/4W 1K	R367	ERDS2TJ472T	1/4W 4.7K
R116	ERDS2TJ333T	1/4W 33K	R310	ERDS2TJ101T	1/4W 100	R368	ERDS2TJ103T	1/4W 10K
R117	ERDS2TJ103T	1/4W 10K	R311	ERDS2TJ3R3T	1/4W 3.3	R369	ERDS2TJ473T	1/4W 47K
R118	ERDS2TJ470T	1/4W 47	R312	ERDS2TJ222T	1/4W 2.2K	R370	ERDS2TJ102T	1/4W 1K
R119	ERDS2TJ152T	1/4W 1.5K	R313	ERDS2TJ392T	1/4W 3.9K	R371	ERDS2TJ222T	1/4W 2.2K
R120	ERDS2TJ391T	1/4W 390	R314	ERDS2TJ222T	1/4W 2.2K	R372, 373	ERDS2TJ471T	1/4W 470
R121	ERDS2TJ104T	1/4W 100K	R315	ERDS2TJ182T	1/4W 1.8K	R374	ERDS2TJ473T	1/4W 47K
R122-124	ERDS2TJ103T	1/4W 10K	R316	ERDS2TJ103T	1/4W 10K	R375	ERDS2TJ102T	1/4W 1K
R125	ERDS2TJ153T	1/4W 15K	R317	ERDS2TJ395	1/4W 3.9M	R376, 377	ERDS2TJ101T	1/4W 100
R126	ERDS2TJ562T	1/4W 5.6K	R318	ERDS2TJ221T	1/4W 220	R378	ERDS2TJ102T	1/4W 1K
R127	ERDS2TJ223T	1/4W 22K	R319	ERDS2TJ562T	1/4W 5.6K	R379	ERDS2TJ470T	1/4W 47
R128	ERDS2TJ2R2T	1/4W 2.2	R320	ERDS2TJ154T	1/4W 150K	R380	ERDS2TJ151T	1/4W 150
R129	ERDS2TJ151T	1/4W 150	R321	ERDS2TJ563T	1/4W 56K	R381	ERDS2TJ104T	1/4W 100K
			R322, 323	ERDS2TJ472T	1/4W 4.7K	R382	ERDS2TJ472T	1/4W 4.7K
			R324	ERDS2TJ104T	1/4W 100K	R383	ERDS2TJ103T	1/4W 10K

Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
R397	ERDS2TJ102T	1/4W 1K	R712, 713	ERDS2TJ102T	1/4W 1K	C24	ECEA1HJ010B	50V 1
R401	ERDS2TJ154T	1/4W 150K	R715	ERDS2TJ222T	1/4W 2.2K	C25	RCBSOJ223MY	6.3V 0.022
R402	ERDS2TJ102T	1/4W 1K	R716	ERDS2TJ102T	1/4W 1K	C26	RCBS1C103MY	16V 0.01
R403	ERDS2TJ681T	1/4W 680	R717	ERDS2TJ104T	1/4W 100K	C27	ECEA1CU100B	16V 10
R404	ERDS2TJ472T	1/4W 4.7K	R720	ERDS2TJ120T	1/4W 12	C28	ECEA1CU100B	16V 10
R405	ERDS2TJ103T	1/4W 10K	R721	ERDS2TJ471T	1/4W 470	C30	RCBSOJ153MY	6.3V 0.015
R406	ERDS2TJ102T	1/4W 1K	R722	ERDS2TJ222T	1/4W 2.2K	C31	ECEA1HUR47B	50V 0.47
R407	ERDS2TJ100T	1/4W 10	R723	ERDS2TJ682T	1/4W 6.8K	C32	ECEA1HUR47B	50V 0.47
R408	ERDS2TJ222T	1/4W 2.2K	R725	ERDS2TJ103T	1/4W 10K	C33	ECEA1HUR2R2B	50V 2.2
R409	ERDS2TJ103T	1/4W 10K	R726	ERDS2TJ562T	1/4W 5.6K	C34	ECQP2A102JZT	100V 0.001
R410	ERDS2TJ104T	1/4W 100K	R727	ERDS2TJ332T	1/4W 3.3K	C36	RCBS1C103NY	16V 0.01
R411	ERDS2TJ223T	1/4W 22K	R728	ERDS2TJ682T	1/4W 6.8K	C37	RCBS1C103NY	16V 0.01
R412	ERDS2TJ224T	1/4W 220K	R732	ERDS2TJ562T	1/4W 5.6K	C38	RCBS1H151KBY	50V 150P
R413	ERDS2TJ472T	1/4W 4.7K	R733	ERDS2TJ683T	1/4W 68K	C39	RCBS1H102KBY	50V 0.001
R414	ERDS2TJ472T	1/4W 4.7K	R735	ERDS2TJ332T	1/4W 3.3K	C40	ECEAOJU471B	6.3V 470
R415	ERDS2TJ154T	1/4W 150K	R736	ERDS2TJ472T	1/4W 4.7K	C41	RCBS1H2R2KCY	50V 2.2P
R501	ERDS2TJ154T	1/4W 150K	R737	ERDS2TJ102T	1/4W 1K	C42	ECQP2A221JZT	100V 220P
R502	ERDS2TJ102T	1/4W 1K	R738	ERDS2TJ104T	1/4W 100K	C43	RCBS1H150JCY	50V 15P
R503	ERDS2TJ681T	1/4W 680	R740	ERDS2TJ471T	1/4W 470	C44	ECQP2A151JZT	100V 150P
R504	ERDS2TJ472T	1/4W 4.7K	R741	ERDS2TJ102T	1/4W 1K	C45	RCBS1H470JLY	50V 47P
R505	ERDS2TJ103T	1/4W 10K	R742	ERDS2TJ104T	1/4W 100K	C46	ECQP2A361JZT	100V 360P
R506	ERDS2TJ102T	1/4W 1K	R743	ERDS2TJ471T	1/4W 470	C101	RCBS1H102KBY	50V 0.001
R507	ERDS2TJ100T	1/4W 10	R745	ERDS2TJ470T	1/4W 47	C102	ECEA1HJ010B	50V 1
R508	ERDS2TJ222T	1/4W 2.2K	R746	ERDS2TJ223T	1/4W 22K	C103	ECEA1CU100B	16V 10
R509	ERDS2TJ103T	1/4W 10K	R747	ERDS2TJ561T	1/4W 560	C104	ECEAOJU101B	6.3V 100
R510	ERDS2TJ104T	1/4W 100K	R748	ERDS2TJ222T	1/4W 2.2K	C105	RCBS1H101KBY	50V 100P
R511	ERDS2TJ223T	1/4W 22K	R749	ERDS2TJ224T	1/4W 220K	C106	RCBS1H471KBY	50V 470P
R512	ERDS2TJ224T	1/4W 220K	R750-752	ERDS2TJ223T	1/4W 22K	C107	ECFT1C333KDY	16V 0.033
R513	ERDS2TJ472T	1/4W 4.7K	R755	ERDS2TJ223T	1/4W 22K	C108	ECEA1HJ010B	50V 1
R514	ERDS2TJ472T	1/4W 4.7K	CAPACITORS			C109	RCBS1H102KBY	50V 0.001
R515	ERDS2TJ154T	1/4W 150K	C3	RCBS1H100JCY	50V 10P	C110	ECFT1C223KDY	16V 0.022
R601	ERDS2TJ181T	1/4W 180	C4	RCBS1H220JCY	50V 22P	C111	ECEAOJU101B	6.3V 100
R602	ERDS2TJ222T	1/4W 2.2K	C5	ECFT1C333MDY	16V 33	C112	ECFT1C333KDY	16V 0.033
R603	ERDS2TJ222T	1/4W 2.2K	C6	RCBS1H102KBY	50V 0.001	C113	RCBS1H102KBY	50V 0.001
R604	ERDS2TJ222T	1/4W 2.2K	C7	RCBS1H102KBY	50V 0.001	C114	ECEA1HJ010B	50V 1
R605	ERDS2TJ103T	1/4W 10K	C8	RCBS1H4R7KCY	50V 4.7P	C115	ECEA1HJ010B	50V 1
R606	ERDS2TJ103T	1/4W 10K	C9	RCBS1H102KBY	50V 0.001	C116	RCBSOJ153MY	6.3V 0.015
R607	ERDS2TJ221T	1/4W 220	C10	RCBS1H102KBY	50V 0.001	C117	ECEA1HUR22B	50V 0.22
R608	ERDS2TJ103T	1/4W 10K	C11	RCBS1H220JCY	50V 22P	C118	ECEA1EU101B	25V 100
R609	ERDS2TJ471T	1/4W 470	C13	RCBS1H180JCY	50V 18P	C119	ECEA1CU102E	16V 0.001
R610	ERDS2TJ181T	1/4W 180	C13	ECCD1H220KC	50V 22P (EG)	C120	ECEAOJU101B	6.3V 100
R611	ERDS2TJ181T	1/4W 180	C14	RCBS1C103MY	16V 0.01	C121	RCBS1H471KBY	50V 470P
R612	ERDS2TJ103T	1/4W 10K	C15	RCBSOJ223MY	6.3V 0.022	C122	ECQV1H104JZ3	50V 0.1
R613	ERDS2TJ103T	1/4W 10K	C17	ECEA1HUR2R2B	50V 2.2	C123	ECEA1CU102E	16V 0.001
R701	ERDS2TJ472T	1/4W 4.7K	C18	RCBSOJ223MY	6.3V 0.022	C124	RCBS1H330JLY	50V 33P
R702	ERDS2TJ103T	1/4W 10K	C19	RCBS1H331KBY	50V 330P	C201	RCBS1H102KBY	50V 0.001
R705	ERDS2TJ103T	1/4W 10K	C20	RCBSOJ223MY	6.3V 0.022	C202	ECEA1HJ010B	50V 1
R706	ERDS2TJ823T	1/4W 82K	C21	ECEAOJU221B	6.3V 220P	C203	ECEA1CU100B	16V 10
R707	ERDS2TJ123T	1/4W 12K	C22	RCBS1C103MY	16V 0.01	C204	ECEAOJU101B	6.3V 100
R708	ERDS2TJ683T	1/4W 68K	C23	RCBSOJ223MY	6.3V 0.022	C205	RCBS1H101KBY	50V 100P
R710	ERDS2TJ333T	1/4W 33K				C206	RCBS1H471KBY	50V 470P
R711	ERDS2TJ105T	1/4W 1M				C207	ECFT1C333KDY	16V 0.033

Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
C208	ECEA1HU010B	50V 1	C339	ECEA1AU221B	10V 220	C520	ECEA1HUR22B	50V 0.22
C209	RCBS1H102KBY	50V 0.001	C340	ECEAOJU221B	6.3V 220	C521	ECFT1C333MDY	16V 0.033
C210	ECFT1C223KDY	16V 0.022	C360	ECEAOJU221B	6.3V 220	C522	ECEA1HUR33B	50V 0.33
C211	ECEAOJU101B	6.3V 100	C361	RCBS1C103NYY	16V 0.01	C523	RCBS1C222MKY	16V 0.0022
C212	ECFT1C333KDY	16V 0.033	C362	ECEAOJU470B	6.3V 47	C601	ECEA1HUR1B	50V 0.1
C213	RCBS1H102KBY	50V 0.001	C363	ECEA1HU010B	50V 1	C602	RCBS1H102KBY	50V 0.001
C214	ECEA1HU010B	50V 1	C364	ECEA1CU100B	16V 10	C603	ECEA1AU471B	10V 470P
C215	ECEA1HU010B	50V 1	C366	ECEA1AU221B	10V 220	C604-607	ECKT1H103ZF	50V 0.01
C216	RCBSOJ153MY	6.3V 0.015	C367	RCBS1C103NYY	16V 0.01	C701	ECEAOJU471B	6.3V 470
C217	ECEA1HUR22B	50V 0.22	C368	ECEAOJU221B	6.3V 220	C702	ECEA1AU221B	10V 220
C218	ECEA1EU101B	25V 100	C380	ECKT1H103ZF	50V 0.01	C703, 704	ECFT1C104MDY	16V 0.1
C219	ECEA1CU102E	16V 0.001	C382	RCBS1C103NYY	16V 0.01	C705	ECEA1CN100SB	16V 10
C220	ECEAOJU101B	6.3V 100	C383	ECQP2A562JZT	100V 0.0056	C706	ECFT1C104MDY	16V 0.1
C221	RCBS1H471KBY	50V 470P	C401	ECEA1HUR47B	50V 0.47	C707	ECEAOJU101B	6.3V 100
C222	ECQV1H104JZ3	50V 0.1	C402	RCBS1H471KBY	50V 470P	C708	RCBS1H681KBY	50V 680P
C223	ECEA1CU102E	16V 0.001	C403, 404	ECEA1HU010B	50V 1	C710	ECEA1HU010B	50V 1
C224	RCBS1H330JLY	50V 33P	C405	RCBS1H471KBY	50V 470P	C711	RCBS1H470JLY	50V 47P
C301	ECEAOJU101B	6.3V 100	C406	ECEA1CU100B	16V 10	C712, 713	ECEA1HU010B	50V 1
C302	ECQV1H474JZ3	50V 0.47	C408	ECEA1HU010B	50V 1	C715	ECFT1C333KDY	16V 0.033
C303	ECKT1H103ZF	50V 0.01	C409	RCBS1H102KBY	50V 0.001	C716	ECEA1HN010SB	50V 1
C304	ECQP2A272JZT	100V 0.0027	C410	ECFT1C104MDY	16V 0.1	C717	ECFT1C333KDY	16V 0.033
C305	RCBS1C103NYY	16V 0.01	C411	RCBS1C103MY	16V 0.01	C718	RCBS1H102KBY	50V 0.001
C306	ECQP2A223JZT	100V 0.022	C412	RCBS1C332MKY	16V 0.0033	C720	ECEA1HNR47SB	50V 0.47
C307	ECEA1AU221B	10V 220	C413	RCBS1C103MY	16V 0.01	C721	ECFT1C683MDY	16V 0.068
C308	RCBS1C332MKY	16V 0.0033	C414	ECEA1HU2R2B	50V 2.2	C722	ECEA1HNR47SB	50V 0.47
C309	ECFT1C473MDY	16V 0.047	C415	ECEA1HUR33B	50V 0.33	C723	ECEA1AN220SB	10V 22
C310	ECEA1AU221B	10V 220	C416	ECEA1HUR1B	50V 0.1	C725	ECFT1C104MDY	16V 0.1
C311	ECEA1HU2R2B	50V 2.2	C417	ECFT1C333MDY	16V 0.033	C726	ECQV1H334JZ3	50V 0.33
C312	RCBS1H102KBY	50V 0.001	C418	ECFT1C153MDY	16V 0.015	C727	ECQV1H474JZ3	50V 0.47
C313	ECEA1CU100B	16V 10	C419	ECEA1HU010B	50V 1	C728	ECEA1CU220B	16V 22
C314	ECEA1AU221B	10V 220	C420	ECEA1HUR22B	50V 0.22	C730	ECEA1CU220B	16V 22
C315	ECEA1HU010B	50V 1	C421	ECFT1C333MDY	16V 0.033	C733	RCBS1H390JLY	50V 39P
C316	ECEA1CU100B	16V 10	C422	ECEA1HUR33B	50V 0.33	C735	RCBS1H390JLY	50V 39P
C317	ECEA1HU010B	50V 1	C423	RCBS1C222MKY	16V 0.0022	C736	ECFT1C104MDY	16V 0.1
C318	RCBS1C222MKY	16V 0.0022	C501	ECEA1HUR47B	50V 0.47	C737	ECEAOJU471B	6.3V 470
C319	ECEA1CU100B	16V 10	C502	RCBS1H471KBY	50V 470P	C738	ECEA1CU100B	16V 10
C320	ECEA1EU4R7B	25V 4.7	C503	ECEA1HU010B	50V 1	C741	RCBS1C682MKY	16V 0.068
C321	ECEA1HU010B	50V 1	C504	ECEA1HU010B	50V 1	C742	ECEAOJU470B	6.3V 47
C322	ECEA1AU101B	10V 100	C505	RCBS1H471KBY	50V 470P	C743	RCBS1H104ZFY	50V 0.1
C325	RCBS1H102KBY	50V 0.001	C506	ECEA1CU100B	16V 10	C747	RCBS1C332MKY	16V 0.0033
C326	ECQP2A822JZT	100V 0.0082	C508	ECEA1HU010B	50V 1	C748	ECFT1C333KDY	16V 0.033
C327	ECFT1C104MDY	16V 0.1	C509	RCBS1H102KBY	50V 0.001	C750	ECEAOJU101B	6.3V 100
C328	ECEA1CU100B	16V 10	C510	ECFT1C104MDY	16V 0.1	C751	ECFT1C333KDY	16V 0.033
C329	ECEA1EU101B	25V 100	C511	RCBS1C103MY	16V 0.01	C752	ECEA1HUR33B	50V 0.33
C330	ECEA1AU470B	10V 47	C512	RCBS1C332MKY	16V 0.0033	C753, 755	ECEA1HUR47B	50V 0.47
C331	ECEA1CU101B	16V 100	C513	RCBS1C103MY	16V 0.01	C756	RCBS1C332MKY	16V 0.0033
C332	ECEA1CU470B	16V 47	C514	ECEA1HU2R2B	50V 2.2	C757	ECEA1CU100B	16V 10
C333	ECKT1H103ZF	50V 0.01	C515	ECEA1HUR33B	50V 0.33	C758	RCBS1H104ZFY	50V 0.1
C334, 335	ECEA1EU222E	25V 0.0022	C516	ECEA1HUR1B	50V 0.1	C760	ECFT1C104MDY	16V 0.1
C336	ECEAOJU221B	6.3V 220	C517	ECFT1C333MDY	16V 0.033	C761	ECEAOJU471B	6.3V 470
C337	ECEA1AU221B	10V 220	C518	ECFT1C153MDY	50V 0.015	C762	RCBS1H471KBY	50V 470P
C338	ECEA1EU4R7B	25V 4.7	C519	ECEA1HU010B	50V 1			

## Portable Stereo CD System

# RX-DS650

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[www.freeservicemanuals.info](http://www.freeservicemanuals.info)**MESSUNGEN UND ABGLEICHUNGEN**

## &lt; EMPFANGSTEIL &gt;

**ABGLEICH-ANWEISUNGEN****VOR DEM ABGLEICH SORGFÄLTIG DURCHLESEN**

- Lautstärkeregler auf Maximum stellen.
- Bandschalter auf UKW, MW oder LW stellen.
- UKW-Betriebsart/Interferenzen-Schalter auf STEREO/II oder STEREO/III stellen.
- Spannungsversorgung auf 15V Gleichstrom stellen.
- Der Ausgang des Signalgenerators sollte nur so hoch sein, wie zur Erzielung einer Ausgangsanzeige erforderlich.

**LW- und MW-ABGLEICH**

WELLEN- BEREICH	SIGNALGENERATOR oder WOBBELOSZILLATOR		STELLUNG DES ABSTIMMREGLERS	ELEKTRONISCHER WECHSELSTROM- VOLTMETER oder OSZILLOSKOP	EINSTELLWERT	BEMERKUNGEN
	ANSCHLÜSSE	FREQUENZ				
<b>MW/LW-ZF-ABGLEICH</b>						
(1) MW	Aus einem Draht einige Schleifenwindungen bilden und das Signal in die Rahmenantenne des Empfängers abstrahlen.	459kHz 30% Mod. bei 400Hz	Abstimmpunkt ohne Interferenz (etwa bei 600 kHz)	Kopfhörerbuchse (Siehe Abb. 1)	T2 (MW ZF-Abgleich)	Auf maximalen Ausgang einstellen.
<b>LW-HF-ABGLEICH</b>						
(2) LW	"	[E, EB]...136 kHz [EG]...137 kHz (f minimum)	Abstimmkondensator ganz geschlossen	"	L7 (LW-Oszillatorspule)	"
(3) LW	"	297 kHz (f maximale)	Abstimmkondensator ganz geöffnet	"	CT7 (LW-Oszillatortrimmer)	"
(4) LW	"	145 kHz	Auf Signal abstimmen	"	(*1) L3-2 (LW-Antennenspule)	Auf maximalen Ausgang abstimmen. L3-2 durch Verschieben der Spule am Ferritkern einstellen.
(5) LW	"	285 kHz	"	"	CT8 (LW-Antennentrimmer)	Auf maximalen Ausgang einstellen. Schritte (2) - (5) wiederholen.
(*1) Nach der Einstellung Antennenspule mit Wachs befestigen.						
<b>MW-HF-ABGLEICH</b>						
(6) MW	"	[E, EB]...511 kHz [EG]...514 kHz (f minimum)	Abstimmkondensator ganz geschlossen	"	L5 (MW-Oszillatorspule)	Auf maximalen Ausgang einstellen.
(7) MW	"	[E, EB] ...1,650 kHz [EG]...1,639 kHz (f maximale)	Abstimmkondensator ganz geöffnet	"	CT1-4 (MW-Oszillatortrimmer)	"
(8) MW	"	550 kHz	Auf Signal abstimmen	"	(*1) L3-1 (MW-Antennenspule)	Auf maximalen Ausgang abstimmen. L3-1 durch Verschieben der Spule am Ferritkern einstellen.
(9) MW	"	1,500 kHz	"	"	CT1-3 (MW-Antennentrimmer)	Auf maximalen Ausgang einstellen. Schritte (6) - (9) wiederholen.
(*1) Nach der Einstellung Antennenspule mit Wachs befestigen.						

■ UKW-ABGLEICH

WELLENBEREICH	SIGNALGENERATOR oder WOBBELOSZILLATOR		STELLUNG DES ABSTIMMREGLERS	ELEKTRONISCHER WECHSELSTROM-VOLTMETER oder OSZILLOSKOP	EINSTELLWERT	BEMERKUNGEN
	ANSCHLÜSSE	FREQUENZ				
<b>UKW-ZF-ABGLEICH</b>						
(1) UKW	Hohe Seite durch 0,001 µF an Testpunkt TP4, negative Seite an Testpunkt TP2.		10,7 MHz	Abstimmungspunkt ohne Interferenz (bei 90 MHz)	Vertikalamplitude des Oszilloskops an Testpunkt TP5, negative Seite an Testpunkt TP3 anschließen.	T1 (UKW 1. ZF-Abgleich) Wellenform ist in Abb. 2 gezeigt.
(2) UKW	"		"	"	"	T3 (UKW 2. ZF-Abgleich) Wellenform ist in Abb. 3 gezeigt.

■ UKW-HF-ABGLEICH

(3) UKW	Über künstliche UKW-Antenne an Testpunkt TP1, negative Seite an Testpunkt TP2 anschließen.	[E, EB] ...86,2 MHz [EG]...87,35 MHz (f minimum)	Drehkondensator ganz geschlossen.	Kopfhörerbuchse (Siehe Abb. 1)	L6 (UKW-Oszillatorspule)	(*2) Auf maximalen Ausgang einstellen.
(4) UKW		[E, EB] ...109,2 MHz [EG]...108,25 MHz (f maximale)	Drehkondensator ganz geöffnet.	"	CT1-2 (UKW-Oszillatortrimmer)	"
(5) UKW		[E, EB]... 104MHz [EG]... 106MHz	Auf Signal abstimmen	"	CT1-1 (UKW-Antennentrimmer)	(*2) Auf maximalen Ausgang abstimmen. Schritte (3) – (5) wiederholen.

(\*2) Drei Ausgangsfrequenzkurven sind vorhanden, die richtige Abstimmung ist die Mittenfrequenz.

■ UKW-KANALTRENNUNG-ABGLEICH

UKW-SIGNALGENERATOR-QUELLENANSCHLUSS	ELEKTRONISCHER FREQUENZZÄHLER	ABGLEICHPUNKT (Siehe Abb. 1.)	EINSTELLWERT	BEMERKUNGEN
(6) 98 MHz, 60 dB (CW) Über künstliche UKW-Antenne an Testpunkt TP1, negative Seite an Testpunkt TP2 anschließen.	TP6 ... (+) TP7 ... (-)	VR1	19kHz	UKW-Betriebsart/Interferenzen-Schalter → STEREO VR1 für Anzeige von 19 kHz (± 50 Hz) auf elektronischem Zähler einstellen.

< KASSETTENDECKTEIL >

■ ABGLEICH-ANWEISUNGEN

GEGENSTAND	TESTKASSETTE	MESSPUNKT	ABGLEICHPUNKT	VERFAHREN
Azimuth	QZZCFM (8 kHz, -20 dB)	Kopfhörerbuchse (Siehe Abb. 1)	Azimuth-Einstellschraube (Siehe Abb. 4)	Die Azimuth-Einstellschraube während wiederholter Vorwärts- und Rückwärts-Wiedergabe so einstellen, daß der maximale Kopfazimuth-Abgleich erzielt wird, wobei beide Kanäle gleich sind. Dann die Einstellschraube mit Farbe sichern.
Vormagnetisierungsstrom	Normalband verwenden.	TP302 ... (+) TP301 ... (-) (Siehe Abb. 5)	VR301 (Siehe Abb. 6)	Aufnahme-Betriebsart UKW-Betriebsart/Interferenzen-Schalter → STEREO/II • Normalband ... 8.5mV ± 0.5mV

## ■ CD-PLAYER-TEIL

### Zur Beachtung:

- Es ist sehr gefährlich, in den Laserstrahl zu schauen oder diesen zu berühren. (Laser-Strahlung ist unsichtbar.)  
Wenn das Gerät eingeschaltet ist, wird Laser-

Strahlung von der Abtasterlinse abgegeben. Vermeiden Sie Kontakt mit dem Laserstrahl, insbesondere beim Durchführen von Abgleichungen.

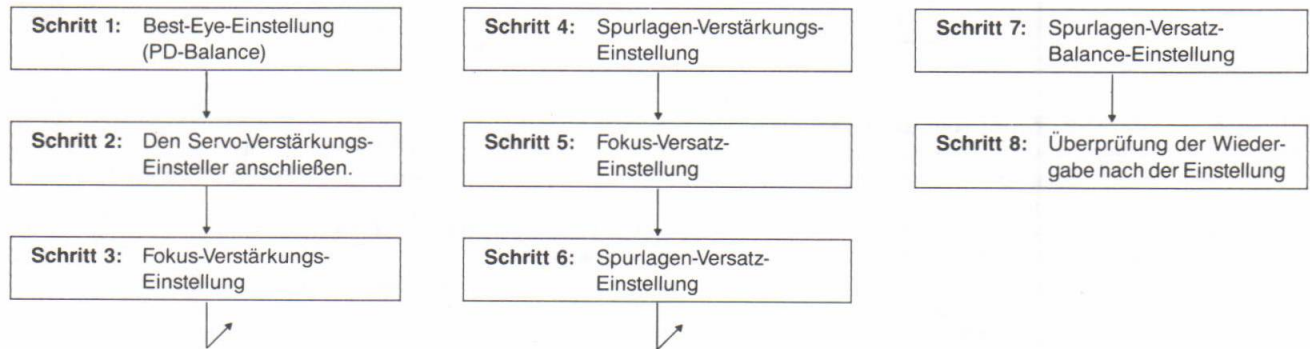
## ELEKTRISCHE EINSTELLUNG

### Verwendete Geräte

- Servo-Verstärkungs-Einsteller (SZZP1017F)
- Test-Discs:
  - Test-Disc (SZZP1014F) alte oder neue Ausführung
  - Prüf-Test-Disc (SZZP1054C)
  - Unebene Disc (SZZP1056C)
  - Schwarzband-Disc (SZZP1057C)
- Normale Disc
- Zweikanal-Oszilloskop (mit Auslöser) von 30 MHz oder mehr
- Niederfrequenz-Oszillator
- Zwischenstecker (SZZP1032F)

Hinweis: Vor den Einstellungen sicherstellen, daß der Funktionswähler auf "CD" steht.

### Einstellverfahren



### BEST-EYE-EINSTELLUNG (PD-BALANCE)

1. Die Kurzschlußbrücke von CP705 in die ursprüngliche Position einstecken.
2. Kanal 1 des Oszilloskops an TP703 (+) und TP701 (-) der Haupt-Platine anschließen.  
**Oszilloskop-Einstellung:** VOLT ... 200 mV  
WOBBEL ... 0,5  $\mu$ sec.  
EINGANG ... AC
3. Den Netzschalter des CD-Players einschalten und eine Test-Disc (SZZP1014F oder SZZP1054C) einsetzen.
4. Den CD-Player auf Wiedergabe schalten.
5. VR701 so einstellen, daß das Augenmuster des HF-Signals maximal gestreckt ist.

### FOKUS-VERSTÄRKUNG-EINSTELLUNG

1. Die Kurzschlußbrücke abtrennen und den Servo-Verstärkungs-Einsteller anschließen.
2. Den Servo-Verstärkungs-Einsteller anschließen.
3. Den Wahlschalter des Servo-Verstärkungs-Einstellers auf 2 und den ON-OFF-Schalter auf ON stellen.
4. Den Niederfrequenz-Oszillator auf eine Frequenz von 1 kHz und eine Ausgangsspannung von 150 mV-s einstellen. Dann den Oszillator an die Klemmen OSC (+) und GND (-) des Servo-Verstärkungs-Einstellers anschließen.
5. Kanal 1 und Kanal 2 des Oszilloskops an TP1 und TP2 des Servo-Verstärkungs-Einstellers anschließen. (TP3 ist die Masseklemme.)  
**Oszilloskop-Einstellung:** VOLT ... 100 mV (beide Kanäle)  
WOBBEL ... 1 msec.  
EINGANG ... DC
6. Den Netzschalter des CD-Players einschalten und eine Test-Disc (SZZP1014F oder SZZP1054C) einsetzen.
7. Den CD-Player auf Wiedergabe schalten.
8. Den Wahlschalter des Servo-Verstärkungs-Einstellers von "2" auf "3" stellen.
9. 1-kHz-Signale werden auf dem Oszilloskop angezeigt. VR704 so einstellen, daß die Wellenform-Amplituden beider Kanäle gleich werden.
10. Den Wahlschalter des Servo-Verstärkungs-Einstellers von "3" auf "2" stellen.

### SPURLAGEN-VERSTÄRKUNGS-EINSTELLUNG

1. Die Oszilloskop-Einstellungen und -Anschlüsse sind gleich wie oben.
  2. Den Niederfrequenz-Oszillator auf eine Frequenz von 1 kHz und eine Ausgangsspannung von 150 mV-s einstellen.
  3. Den Netzschalter des CD-Players einschalten und eine Test-Disc (SZZP1014F oder SZZP1054C) einsetzen.
  4. Den CD-Player auf Wiedergabe schalten.
  5. Den Wahlschalter des Servo-Verstärkungs-Einstellers von "2" auf "1" stellen.
  6. 1-kHz-Signale werden auf dem Oszilloskop angezeigt. VR705 so einstellen, daß die Wellenform-Amplituden beider Kanäle gleich werden.
  7. Den Wahlschalter des Servo-Verstärkungs-Einstellers von "1" auf "2" stellen.
- Hinweis: Wenn im Handbuch angegeben, den Drehschalter auf "2" stellen und den ON/OFF-Schalter des Servo-Verstärkungs-Einstellers (SZZP1017F) auf "ON" stellen.

**FOKUS-VERSATZ-EINSTELLUNG**

1. Kanal 1 des Oszilloskops an TP703 (+) und TP701 (-) der Haupt-Platine anschließen.

Kanal 2 des Oszilloskops an TP705 (+) und TP701 (-) der Haupt-Platine anschließen.

**Oszilloskop-Einstellung:** VOLT ... 100 mV (Kanal 1), 200 mV (Kanal 2)

WOBBEL ... 0,5 msec.

EINGANG ... DC (Kanal 1),  
AC (Kanal 2)

BETRIEBSART ... NORM  
(Auslösung über Kanal 2)

2. Den Netzschalter des CD-Players einschalten und die Test-Disc (SZZP1057C) einsetzen.

3. Den CD-Player auf Wiedergabe schalten.

4. Die Wellenform von Kanal 1 und Kanal 2 auf dem Oszilloskop überprüfen und VR703 so einstellen, daß die Wellenform um den Auslösungspunkt wie abgebildet wird.

**SPURLAGEN-VERSATZ-EINSTELLUNG**

1. Kanal 1 des Oszilloskops an TP703 (+) und TP701 (-) der Haupt-Platine anschließen.

Kanal 2 des Oszilloskops an TP704 (+) und TP701 (-) der Haupt-Platine anschließen.

**Oszilloskop-Einstellung:** VOLT ... 100 mV (Kanal 1), 200 mV (Kanal 2)

WOBBEL ... 1 msec.

EINGANG ... DC (Kanal 1),  
AC (Kanal 2)

BETRIEBSART ... NORM  
(Auslösung über Kanal 2)

2. Den Netzschalter des CD-Players einschalten und die Test-Disc (SZZP1057C) einsetzen.

3. Den CD-Player auf Wiedergabe schalten.

4. Die Wellenform von Kanal 1 und Kanal 2 auf dem Oszilloskop überprüfen und VR706 so einstellen, daß die Wellenform um den Auslösungspunkt wie abgebildet wird.

**SPURLAGEN-VERSATZ-BALANCE-EINSTELLUNG**

1. Den Niederfrequenz-Oszillator auf eine Frequenz von 1,1 kHz und eine Ausgangsspannung von 150 mV-s einstellen. Dann den Oszillator an die Klemmen OSC (+) und GND (-) des Servo-Verstärkungs-Einstellers anschließen.

2. Kanal 1 des Oszilloskops an TP703 (+) und TP701 (-) der Haupt-Platine anschließen.

**Oszilloskop-Einstellung:** VOLT ... 200 mV  
WOBBEL ... 0,5 mV  
EINGANG ... AC

3. Den Netzschalter des CD-Players einschalten und eine Test-Disc (SZZP1014F oder SZZP1054C) einsetzen.

4. Den CD-Player auf Wiedergabe schalten.

5. Den Wahlschalter des Servo-Verstärkungs-Einstellers von "2" auf "1" stellen.

6. VR702 so einstellen, daß die Ausgangs-Wellenform wie abgebildet wird.

7. Den Wahlschalter des Servo-Verstärkungs-Einstellers von "1" auf "2" stellen.

8. Den Netzschalter des CD-Players ausschalten.

9. Den Servo-Verstärkungs-Einsteller abtrennen.

**ÜBERPRÜFUNG DER WIEDERGABE NACH DER EINSTELLUNG****Überprüfung des Überspring-Suchlaufs**

1. Eine normale Disc wiedergeben.
2. Die Überspring-Taste drücken und den Überspring-Suchlauf (vorwärts und rückwärts) überprüfen.

**Überprüfung des manuellen Suchlaufs.**

1. Eine normale Disc wiedergeben.
2. Die Taste für manuellen Suchlauf drücken und überprüfen, ob einwandfreier manueller Suchlauf mit niedriger und hoher Geschwindigkeit (vorwärts und rückwärts) durchgeführt werden kann.

**Überprüfung der Wiedergabe**

1. Die Test-Disc (SZZP1054C) wiedergeben.
  2. Titel Nr. 6 (Keil 0,7 mm) wiedergeben und sicherstellen, daß keine Tonausfälle oder Geräusche vorhanden sind.
  3. Titel Nr. 13 (schwarzer Punkt 0,7 mm) wiedergeben und sicherstellen, daß keine Tonausfälle oder Geräusche vorhanden sind.
- Zur Beachtung: Für diese Überprüfung unbedingt Kopfhörer verwenden. Keinesfalls die Lautsprecher verwenden, weil damit keine korrekten Ergebnisse erhalten werden.

**EINSTELLUNG DES OPTISCHEN ABTASTERS****Meßinstrumente und Spezialwerkzeuge**

- Zweikanal-Oszilloskop (mit Auslöser) von 30 MHz oder mehr
- Test-Discs  
Test-Disc (SZZP1014F) alte oder neue Ausführung  
Prüf-Test-Disc (SZZP1054C)  
Unebene Disc (SZZP1056C)

- Sechskantschlüssel
- Schrauben-Sicherungsfarbe (RZZ0L01)
- Fühlerlehre (RZZ0297)

**MECHANISCHE EINSTELLUNG**

1. Kanal 1 des Oszilloskops an TP703 (+) und TP701 (-) der Haupt-Platine anschließen.

**Oszilloskop-Einstellung:** VOLT ... 200 mV  
WOBBEL ... 0,2  $\mu$ sec.  
EINGANG ... AC

2. Den Netzschalter des CD-Players einschalten, die Test-Disc (SZZP1056C) einsetzen und Titel Nr. 5 wiedergeben.

3. Mit den Tasten für manuellen Suchlauf den Abtaster so bewegen, daß die Schrauben für mechanische Einstellung mit den Einstellöffnungen in der Bodenplatte zusammenkommen.

4. Das HF-Signal auf dem Oszilloskop überwachen und die beiden Einstellschrauben abwechselnd mit dem 2 mm Sechskantschlüssel einstellen, so daß die vertikalen Schwankungen des HF-Signals minimal werden und das Augenmuster so gestreckt wie möglich ist.

5. Den Netzschalter des CD-Players ausschalten.

6. Nach der Einstellung Schrauben-Sicherungsfarbe (RZZ0L01) auf die Einstellschrauben auftragen.

**Hinweis:** Die Schrauben für mechanische Einstellung werden ab Werk mit Schrauben-Sicherungsfarbe versehen und sind daher eventuell schwer zu drehen.

# FRANÇAIS

## ■ MESURES ET REGLAGES

### < SECTION TUNER >

#### ■ METHODE D'ALIGNEMENT

#### LIRE ATTENTIVEMENT CE QUI SUIT AVANT DE PROCEDER AUX ALIGNEMENTS

- Régler le potentiomètre de niveau de sortie au maximum.
- Placer le sélecteur de gamme sur FM, PO ou GO.
- Placer le sélecteur de mode FM/interrupteur de battement sur la position STEREO/II ou STEREO/III.
- Régler la tension d'alimentation à 15V CC.
- Le niveau de sortie du générateur de signaux ne doit pas être plus élevé qu'il n'est nécessaire pour obtenir une lecture.

#### ■ ALIGNEMENTS PO et GO

GAMME	GENERATEUR DE SIGNAUX OU GENERATEUR DE BALAYAGE		POSITION DE L'AIGUILLE SUR LE CADRAN	VOLTMETRE ELECTRONIQUE CA OU OSCILLOSCOPE	REGLAGE	REMARQUES
	BRANCHEMENTS	FREQUENCE				
<b>ALIGNEMENT DE LA FREQUENCE INTERMEDIAIRE AM</b>						
(1) PO	Confectionner une bobine de plusieurs tours de fil et placer cette bobine parcourue par le signal dans l'antenne du récepteur.		459kHz Taux de modulation: 30% à 400Hz	Position pour laquelle il n'y a pas d'interférence (environ 600 kHz)	Prise casque (Voir figure 1)	T2 (AM IFT)  Régler pour obtenir une sortie maximum
<b>ALIGNEMENT RF EN GO</b>						
(2) GO	"	[E, EB]...136 kHz [EG]...137 kHz (f minimum)	Condensateur d'accord complètement fermé	"	L7 (bobine oscillateur GO)	"
(3) GO	"	297 kHz (f maximale)	Condensateur d'accord complètement ouvert	"	CT7 (trimmer oscillateur PO)	"
(4) GO	"	145 kHz	Accorder sur le signal	"	(*1) L3-2 (bobine antenne GO)	Régler pour obtenir une sortie maximum en déplaçant L3-2 sur le noyau de ferrite.
(5) GO	"	285 kHz	"	"	CT8 (trimmer antenne GO)	Régler pour obtenir une sortie maximum. Répéter les étapes 2 à 5.
(*1) Fixer la bobine d'antenne à la cire après avoir achevé l'alignement						
<b>ALIGNEMENT RF EN PO</b>						
(6) PO	"	[E, EB]...511 kHz [EG]...514 kHz (f minimum)	Condensateur d'accord complètement fermé	"	L5 (bobine oscillateur PO)	Régler pour obtenir une sortie maximum.
(7) PO	"	[E, EB]...1,650 kHz [EG]...1,639 kHz (f maximale)	Condensateur d'accord complètement ouvert	"	CT1-4 (trimmer oscillateur PO)	"
(8) PO	"	550 kHz	Accorder sur le signal	"	(*1) L3-1 (bobine antenne PO)	Régler pour obtenir une sortie maximum en déplaçant L3-1 sur le noyau de ferrite.
(9) PO	"	1.500 kHz	"	"	CT1-3 (trimmer antenne PO)	Régler pour obtenir une sortie maximum. Répéter les étapes 6 à 9.
(*1) Fixer la bobine d'antenne à la cire après avoir achevé l'alignement.						



■ ALIGNEMENT FM

GAMME	GENERATEUR DE SIGNAUX OU GENERATEUR DE BALAYAGE		POSITION DE L'AIGUILLE SUR LE CADRAN	VOLTMETRE ELECTRONIQUE CA OU OSCILLOSCOPE	REGLAGE	REMARQUES
	BRANCHEMENTS	FREQUENCE				
<b>ALIGNEMENT DE LA FREQUENCE INTERMEDIAIRE FM</b>						
(1) FM	Signal sur le point de test <b>TP4</b> à travers un condensateur de 0,01 µF pôle négatif sur le point de test <b>TP2</b> .	10,7 MHz	Position pour laquelle il n'y a pas d'interférence (environ 90 MHz)	Brancher l'entrée du balayage vertical de l'oscilloscope sur le point de test <b>TP5</b> , le pôle négatif étant relié au point de test <b>TP3</b> .	T1 (1er transistor FI)	La forme d'onde est indiquée dans la Fig. 2
(2) FM	"	"	"	"	T3 (2ème transistor FI)	La forme d'onde est indiquée dans la Fig. 3
<b>ALIGNEMENT RF EN FM</b>						
(3) FM	Brancher sur le point de test <b>TP1</b> , à travers une antenne fictive, le pôle négatif étant relié au point de test <b>TP2</b> .	[E, EB] ... 86,2 MHz [EG]... 87,35 MHz (f minimum)	Condensateur d'accord complètement fermé.	Prise casque (Voir figure 1)	L6 (bobine oscillateur FM)	(*2) Régler pour obtenir une sortie maximum.
(4) FM		[E, EB] ... 109,2 MHz [EG]... 108,25 MHz (f maximale)	Condensateur d'accord complètement ouvert.	"	CT1-2 (trimmer oscillateur FM)	"
(5) FM		[E, EB] ... 104 MHz [EG]... 106 MHz	Accorder sur le signal	"	CT1-1 (trimmer antenne FM)	(*2) Régler pour obtenir une sortie maximum. Répéter les étapes 3 à 5.

(\*2) Il y a trois sorties; la syntonisation adéquate est obtenue pour la fréquence centrale.

**REGLAGE DE LA SEPARATION**

BRANCHEMENT DU GENERATEUR DE SIGNAUX FM	FREQUENCEMETRE ELECTRONIQUE	POINT DE REGLAGE (Voir figure 1.)	CARACTERISTIQUES	REMARQUES
(6) 98 MHz, 60 dB (Porteuse pure). Brancher sur le point de test <b>TP1</b> , à travers une antenne fictive FM, le pôle négatif étant relié au point de test <b>TP2</b> .	<b>TP6</b> ... (+) <b>TP7</b> ... (-)	VR1	19 kHz	Sélecteur de mode FM/interrupteur de battement sur la position STEREO. Régler VR1 de sorte que le fréquencemètre électronique indique 19 kHz (± 50 Hz).

< SECTION MAGNETOPHONE >

■ METHODE DE REGLAGE

RUBRIQUE	BANDE D'ESSAI	POINT DE MESURE	POINT DE REGLAGE	PROCEDURE
Azimet	QZZCFM (8 kHz, - 20 dB)	Prise casque (Voir figure 1)	Vis de réglage de l'azimet (Voir figure 4)	Régler la vis tout en faisant défiler la bande dans les deux sens (en lecture) pour obtenir un niveau maximum et identique dans les deux voies.
Courant de polarisation	Utiliser une bande normale	<b>TP302</b> ... (+) <b>TP301</b> ... (-) (Voir la figure 5)	VR301 (Voir la figure 6)	Mode enregistrement Sélecteur de mode FM/interrupteur de battement sur la position STEREO/II • Normale ... 8,5mV ± 0,5mV

## ■ SECTION CD

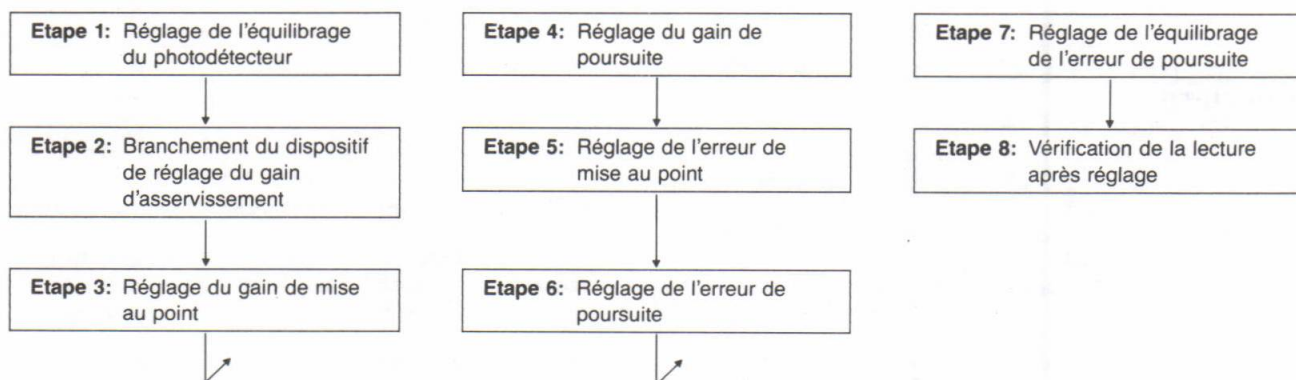
**Attention:**

- Il est dangereux de toucher ou de regarder le faisceau du laser dont la radiation est invisible. Dès que l'appareil est sous tension, une radiation laser est émise par le capteur; éviter d'être exposé à cette radiation au cours des réglages.

**REGLAGES ELECTRIQUES****Appareillage requis**

- Dispositif de réglage du gain d'asservissement (SZZP1017F)
- Disques d'essai:
  - Disque d'essai (SZZP1014F) nouveau ou ancien modèle
  - Disque de contrôle (SZZP1054C)
  - Disque voilé (SZZP1056C)
  - Disque à zone noire (SZZP1057C)
- Disque ordinaire
- Oscilloscope double trace (avec déclenchement), 30 MHz ou mieux
- Générateur basse fréquence
- Connecteur d'adaptation (SZZP1032F)

Remarque: Avant de procéder aux réglages, s'assurer que le sélecteur de fonction est sur CD.

**Procédure de réglage****REGLAGE DE L'EQUILIBRAGE DU PHOTODETECTEUR**

1. Placer le connecteur de court-circuit de CP705 dans sa position d'origine.
2. Brancher CH1 de l'oscilloscope sur TP703 (+) et TP701 (-) du circuit imprimé principal.  
**Réglage de l'oscilloscope:** Tension ... 200 mV  
Balayage ... 0,5  $\mu$ s  
Entrée ... CA
3. Placer l'interrupteur d'alimentation du lecteur sur la position ON et introduire un disque d'essai (SZZP1014F ou SZZP1054C).
4. Régler le lecteur pour la lecture.
5. Régler VR701 de sorte que la trace du signal radiofréquence soit aussi allongée que possible.

**REGLAGE DU GAIN DE MISE AU POINT**

1. Débrancher le connecteur de court-circuit.
2. Brancher le dispositif de réglage du gain d'asservissement.
3. Placer le sélecteur du dispositif de réglage du gain sur la position 2 et l'interrupteur ON/OFF sur la position ON.
4. Régler le générateur basse fréquence sur 1 kHz avec un niveau de sortie de 150 mVc-c. Brancher ce générateur entre les bornes OSC (+) et GND (-) du dispositif de réglage du gain d'asservissement.
5. Brancher CH1 et CH2 de l'oscilloscope sur TP1 et TP2 du dispositif de réglage du gain. (TP3 est à la masse.)  
**Réglage de l'oscilloscope:** Tension ... 100 mV (pour les deux traces)  
Balayage ... 1 ms  
Entrée ... CC
6. Placer l'interrupteur d'alimentation du lecteur sur la position ON et introduire un disque d'essai (SZZP1014F ou SZZP1054C).
7. Régler le lecteur pour la lecture.
8. Basculer le sélecteur du dispositif de réglage du gain d'asservissement de la position 2 à la position 3.
9. Les signaux 1 kHz apparaissent sur l'oscilloscope. Régler VR704 de sorte que l'amplitude des deux traces soit identique.
10. Basculer le sélecteur du dispositif de réglage du gain d'asservissement de la position 3 à la position 2.

**REGLAGE DU GAIN DE POURSUITE**

1. Les branchements et les réglages de l'oscilloscope sont les mêmes que ci-dessus.
  2. Régler le générateur basse fréquence sur 1 kHz avec un niveau de sortie de 150 mVc-c.
  3. Placer l'interrupteur d'alimentation du lecteur sur la position ON et introduire un disque d'essai (SZZP1014F ou SZZP1054C).
  4. Régler le lecteur pour la lecture.
  5. Basculer le sélecteur du dispositif de réglage du gain d'asservissement de la position 2 à la position 1.
  6. Les signaux 1 kHz apparaissent sur l'oscilloscope. Régler VR705 de sorte que l'amplitude des deux traces soit identique.
  7. Basculer le sélecteur du dispositif de réglage du gain d'asservissement de la position 1 à la position 2.
- Remarque: Lorsque cela est indiqué, placer le commutateur rotatif sur 2 et l'interrupteur ON/OFF du dispositif de réglage du gain (SZZP1017F) sur la position ON.

**REGLAGE DE L'ERREUR DE MISE AU POINT**

1. Brancher CH1 de l'oscilloscope sur TP703 (+) et TP701 (-) du circuit imprimé principal.  
Brancher CH2 de l'oscilloscope sur TP705 (+) et TP701 (-) du circuit imprimé principal.

**Réglage de l'oscilloscope:** Tension ... 100 mV (CH1), 200 mV (CH2)  
Balayage ... 0,5 ms  
Entrée ... CC (CH1), CA (CH2)  
Mode ... Normal (déclenchement à partir de CH2)

2. Placer l'interrupteur d'alimentation du lecteur sur la position ON et introduire le disque d'essai (SZZP1057C).
3. Régler le lecteur pour la lecture.
4. Observer l'allure des signaux de CH1 et CH2 sur l'oscilloscope et régler VR703 de sorte que les traces au voisinage du point de déclenchement aient les formes de l'illustration.

**REGLAGE DE L'ERREUR DE POURSUITE**

1. Brancher CH1 de l'oscilloscope sur TP703 (+) et TP701 (-) du circuit imprimé principal.  
Brancher CH2 de l'oscilloscope sur TP704 (+) et TP701 (-) du circuit imprimé principal.

**Réglage de l'oscilloscope:** Tension ... 100 mV (CH1), 200 mV (CH2)  
Balayage ... 1 ms  
Entrée ... CC (CH1), CA (CH2)  
Mode ... Normal (déclenchement à partir de CH2)

2. Placer l'interrupteur d'alimentation du lecteur sur la position ON et introduire le disque d'essai (SZZP1057C).
3. Régler le lecteur pour la lecture.
4. Observer l'allure des signaux de CH1 et CH2 sur l'oscilloscope et régler VR706 de sorte que les traces au voisinage du point de déclenchement aient les formes de l'illustration.

**REGLAGE DE L'EQUILIBRAGE DE L'ERREUR DE POURSUITE**

1. Régler le générateur basse fréquence sur 1,1 kHz avec un niveau de sortie de 150 mVc-c. Brancher ce générateur entre les bornes OSC (+) et GND (-) du dispositif de réglage du gain d'asservissement.
2. Brancher CH1 de l'oscilloscope sur TP703 (+) et TP701 (-) du circuit imprimé principal.

**Réglage de l'oscilloscope:** Tension ... 200 mV  
Balayage ... 0,5 ms  
Entrée ... CA

3. Placer l'interrupteur d'alimentation du lecteur sur la position ON et introduire un disque d'essai (SZZP1014F ou SZZP1054C).

4. Régler le lecteur pour la lecture.
5. Basculer le sélecteur du dispositif de réglage du gain d'asservissement de la position 2 à la position 1.
6. Régler VR702 de sorte que l'allure du signal soit celle de l'illustration.
7. Basculer le sélecteur du dispositif de réglage du gain d'asservissement de la position 1 à la position 2.
8. Placer l'interrupteur d'alimentation du lecteur sur la position OFF.
9. Débrancher le dispositif de réglage du gain d'asservissement.

**VERIFICATION DE LA LECTURE APRES REGLAGES****Vérification de la recherche**

1. Lire un disque ordinaire.
2. Appuyer sur la touche de saut et vérifier la recherche (dans les deux sens).

**Vérification de la recherche manuelle**

1. Lire un disque ordinaire.
2. Appuyer sur la touche de recherche manuelle et s'assurer que la recherche s'effectue sans à-coups à petite et grande vitesses (dans les deux sens).

**Vérification de la lecture**

1. Lire le disque d'essai (SZZP1054C).
2. Lire la piste No. 6 (triangle 0,7 mm) et s'assurer qu'il n'y a ni perte de son ni bruit.
3. Lire la piste No. 13 (point noir 0,7 mm) et s'assurer qu'il n'y a ni perte de son ni bruit.

Remarque: Pour cette vérification, utiliser un casque car les haut-parleurs ne donnent pas un résultat correct.

**Vérification du capteur****Appareillage de mesure et outillage spécial**

- Oscilloscope double trace (avec déclenchement), 30 MHz ou mieux
- Disques d'essai:  
Disque d'essai (SZZP1014F) nouveau ou ancien mode  
Disque de contrôle (SZZP1054C)  
Disque voilé (SZZP1056C)
- Clé hexagonale
- Vernis de freinage (RZZ0L01)
- Jauge (RZZ0297)

**REGLAGE MECANIQUE**

1. Brancher CH1 de l'oscilloscope entre TP703 (+) et TP701 (-) du circuit imprimé principal.

**Réglage de l'oscilloscope:** Tension ... 200 mV  
Balayage ... 0,2  $\mu$ s  
Entrée ... CA

2. Placer l'interrupteur d'alimentation du lecteur sur la position ON et introduire le disque d'essai (SZZP1056C). Lire la piste No. 5.
3. Déplacer le capteur au moyen des touches de recherche manuelle de manière que les vis de réglage mécanique apparaissent dans les trous de la plaque de fond.

4. Tout en observant le signal radiofréquence sur l'oscilloscope, régler alternativement les deux vis au moyen de la clé hexagonale de 2 mm de sorte que les fluctuations verticales du signal soient minimales et que les traces soient aussi allongées que possible.
5. Placer l'interrupteur d'alimentation du lecteur sur la position OFF.
6. Le réglage terminé, appliquer une goutte de vernis de freinage (RZZ0L01) sur les vis.

Remarque: Les vis ayant été freinées, en usine, avec un vernis, il peut être difficile de les tourner.

# Service Manual

**Supplement**

Portable Stereo CD System



Radio Cassette  
**RX-DS650**

Colour

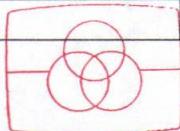
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Area

Suffix for Model No.	Area	Colour
(P)	U.S.A.	(K)
(PC)	Canada.	
(E)	Europe.	
(EB)	Great Britain.	
(EG)	F.R. Germany & Italy.	
(GC)	Asia, Latin America, Middle Near East and Africa.	
(GN)	Oceania.	

Please file and use this supplement manual together with the Service Manual as shown in the table below.

Model No.	Order No.
RX-DS650 (P, PC)	MD8905022C1
RX-DS650 (E, EB, EG)	MD8906029C2
RX-DS650 (GC)	MD8908049A3
RX-DS650 (GN)	MD8907038A3



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Note:

[www.freeservicemanuals.info](http://www.freeservicemanuals.info)

- The purpose of this supplement is to correct an error in the "Replacement Parts List". Please correct your service manual as follows.

## CORRECTION

### REPLACEMENT PARTS LIST

Note: **M** indicates parts that are supplied by MESA.

Ref. No.	Change of Part No.		Part Name & Description	Remarks
	ORIGINAL	→ NEW		
<b>CABINET AND CHASSIS</b>				
30	RUL1138ZA	<b>RUL1139ZA</b>	LEVER	<b>M</b>
31	RUL1139ZA	<b>RUL1138ZA</b>	LEVER	<b>M</b>

# Service Manual

Part 1: Cassette

## RX-D850

Portable Stereo CD System

Service Manual



Model No. RX-D850

Part No.	Description	Qty.
101	CD Player	1
102	CD Tray	1
103	CD Lens	1
104	CD Motor	1
105	CD Hub	1
106	CD Clamp	1
107	CD Guide	1
108	CD Sensor	1
109	CD Motor Drive	1
110	CD Motor Gear	1
111	CD Motor Housing	1
112	CD Motor Bracket	1
113	CD Motor Screws	4
114	CD Motor Nut	1
115	CD Motor Washer	1
116	CD Motor Seal	1
117	CD Motor O-ring	1
118	CD Motor Gasket	1
119	CD Motor Pin	1
120	CD Motor Spring	1
121	CD Motor Stopper	1
122	CD Motor Spacer	1
123	CD Motor Shim	1
124	CD Motor Bush	1
125	CD Motor Sleeve	1
126	CD Motor Cap	1
127	CD Motor Cover	1
128	CD Motor Guard	1
129	CD Motor Shield	1
130	CD Motor Plate	1
131	CD Motor Base	1
132	CD Motor Mount	1
133	CD Motor Bracket	1
134	CD Motor Screws	4
135	CD Motor Nut	1
136	CD Motor Washer	1
137	CD Motor Seal	1
138	CD Motor O-ring	1
139	CD Motor Gasket	1
140	CD Motor Pin	1
141	CD Motor Spring	1
142	CD Motor Stopper	1
143	CD Motor Spacer	1
144	CD Motor Shim	1
145	CD Motor Bush	1
146	CD Motor Sleeve	1
147	CD Motor Cap	1
148	CD Motor Cover	1
149	CD Motor Guard	1
150	CD Motor Shield	1
151	CD Motor Plate	1
152	CD Motor Base	1
153	CD Motor Mount	1
154	CD Motor Bracket	1
155	CD Motor Screws	4
156	CD Motor Nut	1
157	CD Motor Washer	1
158	CD Motor Seal	1
159	CD Motor O-ring	1
160	CD Motor Gasket	1
161	CD Motor Pin	1
162	CD Motor Spring	1
163	CD Motor Stopper	1
164	CD Motor Spacer	1
165	CD Motor Shim	1
166	CD Motor Bush	1
167	CD Motor Sleeve	1
168	CD Motor Cap	1
169	CD Motor Cover	1
170	CD Motor Guard	1
171	CD Motor Shield	1
172	CD Motor Plate	1
173	CD Motor Base	1
174	CD Motor Mount	1
175	CD Motor Bracket	1
176	CD Motor Screws	4
177	CD Motor Nut	1
178	CD Motor Washer	1
179	CD Motor Seal	1
180	CD Motor O-ring	1
181	CD Motor Gasket	1
182	CD Motor Pin	1
183	CD Motor Spring	1
184	CD Motor Stopper	1
185	CD Motor Spacer	1
186	CD Motor Shim	1
187	CD Motor Bush	1
188	CD Motor Sleeve	1
189	CD Motor Cap	1
190	CD Motor Cover	1
191	CD Motor Guard	1
192	CD Motor Shield	1
193	CD Motor Plate	1
194	CD Motor Base	1
195	CD Motor Mount	1
196	CD Motor Bracket	1
197	CD Motor Screws	4
198	CD Motor Nut	1
199	CD Motor Washer	1
200	CD Motor Seal	1

Please refer to the exploded view diagram for the location of the parts listed below.



For more information, please refer to the service manual for the CD player.

### CORRECTION

### REPLACEMENT PARTS LIST

Part No.	Description	Qty.
101	CD Player	1
102	CD Tray	1
103	CD Lens	1
104	CD Motor	1
105	CD Hub	1
106	CD Clamp	1
107	CD Guide	1
108	CD Sensor	1
109	CD Motor Drive	1
110	CD Motor Gear	1
111	CD Motor Housing	1
112	CD Motor Bracket	1
113	CD Motor Screws	4
114	CD Motor Nut	1
115	CD Motor Washer	1
116	CD Motor Seal	1
117	CD Motor O-ring	1
118	CD Motor Gasket	1
119	CD Motor Pin	1
120	CD Motor Spring	1
121	CD Motor Stopper	1
122	CD Motor Spacer	1
123	CD Motor Shim	1
124	CD Motor Bush	1
125	CD Motor Sleeve	1
126	CD Motor Cap	1
127	CD Motor Cover	1
128	CD Motor Guard	1
129	CD Motor Shield	1
130	CD Motor Plate	1
131	CD Motor Base	1
132	CD Motor Mount	1
133	CD Motor Bracket	1
134	CD Motor Screws	4
135	CD Motor Nut	1
136	CD Motor Washer	1
137	CD Motor Seal	1
138	CD Motor O-ring	1
139	CD Motor Gasket	1
140	CD Motor Pin	1
141	CD Motor Spring	1
142	CD Motor Stopper	1
143	CD Motor Spacer	1
144	CD Motor Shim	1
145	CD Motor Bush	1
146	CD Motor Sleeve	1
147	CD Motor Cap	1
148	CD Motor Cover	1
149	CD Motor Guard	1
150	CD Motor Shield	1
151	CD Motor Plate	1
152	CD Motor Base	1
153	CD Motor Mount	1
154	CD Motor Bracket	1
155	CD Motor Screws	4
156	CD Motor Nut	1
157	CD Motor Washer	1
158	CD Motor Seal	1

# Service Manual

**Supplement**

Portable Stereo CD System

Radio Cassette

## RX-DS650



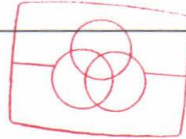
**DIGITAL**

Color

(K)... Black Type

Please file and use this supplement manual together with the Service Manual as shown in the table below.

Model No.	Order No.
RX-DS650 (P, PC)	MD8905022C1
RX-DS650 (E, EB, EG)	MD8906029C2
RX-DS650 (GC)	MD8908049A3
RX-DS650 (GN)	MD8907038A3



Free service manuals  
Gratis schema's

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Note:

- The purpose of this supplement is to correct an error in the "Replacement Parts List". Please correct your service manual as follows.

Area

Country Code	Area	Color
(P)	U.S.A.	(K)
(PC)	Canada.	
(E)	Continental Europe.	
(EB)	Great Britain.	
(EG)	F.R. Germany & Italy.	
(GC)	Asia/Latin America, Middle Near East/ Africa.	
(GN)	Oceania.	

### CORRECTION

### REPLACEMENT PARTS LIST

NOTE: [M] indicates parts that are supplied by MESA.

Ref. No.	Change of Part No.		Part Name & Description	Remarks
	ORIGINAL	NEW		
<b>CABINET AND CHASSIS</b>				
28A	RHR3400ZA	RFKND620PBK	DISC HOLDER	[M]
<b>MECHANISM PARTS</b>				
216	RZAUR300A	RZUAR300A	CHASSIS	

**National/Panasonic**

