

# Service Manual

Cassette Deck

Dolby NR-Equipped  
Stereo Double Cassette Deck

## RS-TR155

Color

(K)... Black Type



Area

Country Code	Area	Color
(P)	U.S.A.	(K)
(PC)	Canada.	(K)



## SPECIFICATIONS

### ■ CASSETTE DECK SECTION

<b>Deck system</b>	Stereo cassette deck
<b>Track system</b>	4-track, 2-channel
<b>Heads</b>	
(tape deck 1) Play	Permalloy head
(tape deck 2) Rec/play	Permalloy head
Erasing	Double-gap ferrite head
<b>Motors</b>	
(tape deck 1) Capstan/reel table drive	DC servo motor
(tape deck 2) Capstan/reel table drive	DC servo motor
<b>Recording system</b>	AC bias
Bias frequency	80 kHz
<b>Erasing system</b>	AC erase
<b>Tape speed</b>	4.8 cm/sec. (1-7/8 ips)
<b>Frequency response (w/o Dolby NR)</b>	
<b>NORMAL</b>	20 Hz~16 kHz
<b>CrO<sub>2</sub></b>	20 Hz~16 kHz
<b>METAL</b>	20 Hz~18 kHz
<b>S/N</b> (signal level = max recording level, CrO <sub>2</sub> type tape)	
<b>Dolby NR on</b>	66 dB (CCIR)
<b>Dolby NR off</b>	56 dB (A weighted)
<b>Wow and flutter</b>	0.1 % (WRMS)
<b>Fast forward and rewind times</b>	Approx. 110 seconds with C-60 cassette tape

### Input sensitivity and impedance

**LINE** 60 mV/47 kΩ

### Output voltage and impedance

**LINE** 400 mV/800 Ω

**HEADPHONES** 30 mV/8 Ω

(8 Ω~600 Ω)

### ■ GENERAL

**Power consumption** 15 W

**Power supply** AC 60 Hz, 120 V

**Dimensions (W × H × D)** 430 × 136 × 290 mm

(16-15/16" × 5-3/8" × 11-13/32")

**Weight** 4.8 kg (10.6 lb.)

### Note:

Specifications are subject to change without notice.  
Weight and dimensions are approximate.

\* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby" and the double-D symbol are trade marks of Dolby Laboratories Licensing Corporation.

# Technics

Matsushita Services Company  
50 Meadowland Parkway,  
Secaucus, New Jersey 07094

Panasonic Hawaii, Inc.  
99-859, Iwaiwa Street  
P.O. Box 774  
Honolulu, Hawaii 96808-0774

Matsushita Electric  
of Canada Limited  
5770 Ambler Drive, Mississauga,  
Ontario, L4W 2T3

Panasonic Sales Company,  
Division of Matsushita Electric  
of Puerto Rico, Inc.  
San Gabriel Industrial Park  
65th Infantry Ave. Km. 9.5  
Carolina, P.R. 00630

## CONTENTS

	Page		Page
• Safety Precaution .....	2	• Terminal Guide of IC's, Transistors and Diodes.....	25
• Accessories .....	3	• Block Diagram.....	26, 27
• How To Connection.....	3	• Wiring Connection Diagram.....	28
• Location of Controls .....	4, 5	• Resistors & Capacitors.....	29~32
• Disassembly Instructions.....	6~9	• Replacement Parts List (Electrical Parts).....	33~35
• Measurement and Adjustment Methodes.....	10~12	• Mechanical Parts Location (DECK 1).....	36, 37
• Terminal Function of IC's.....	13, 14	• Replacement Parts List (Mechanical Parts) .....	38, 39
• Printed Circuit Boards .....	15~18	• Mechanical Parts Location (DECK 2).....	40, 41
• Schematic Diagram.....	19~25	• Cabinet Parts Location .....	42, 43
		• Replacement Parts List (Cabinet Parts) .....	44

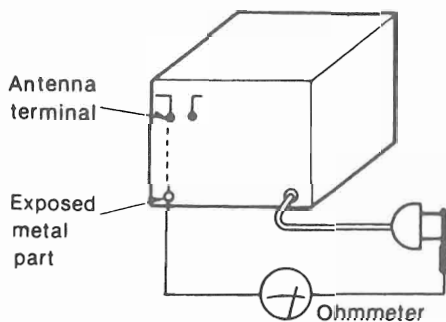
## SAFETY PRECAUTION (This "safety precaution" is applied only in U.S.A.)

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

### INSULATION RESISTANCE TEST

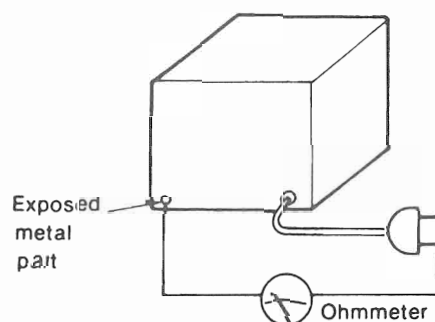
1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between  $3M\Omega$  and  $5.2M\Omega$  to all exposed parts. (Fig. A) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. B)

**Note:** Some exposed parts may be isolated from the chassis by design. These will read infinity.



(Fig. A)

Resistance =  $3M\Omega$ — $5.2M\Omega$



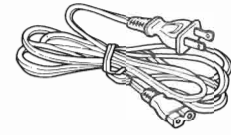
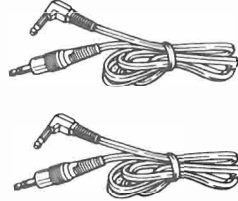
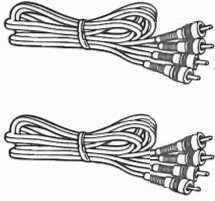
(Fig. B)

Resistance = Approx  $\infty$

4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

## ACCESSORIES

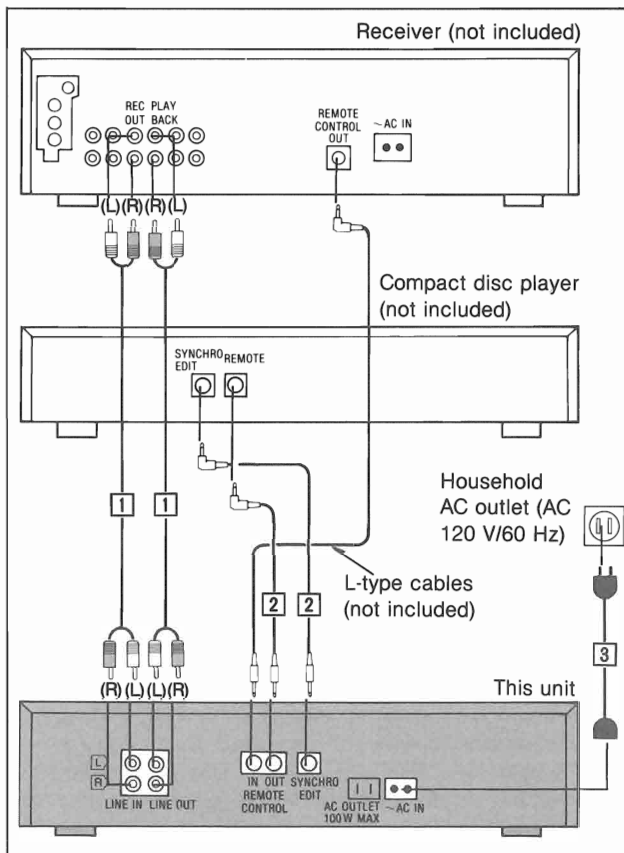
- Stereo connection cables..... 2  
(RFA006)
- L-type cables..... 2  
(SJP2257T)
- AC power supply cord (polarized).... 1  
(SJA175-1: (P)  
SJA175: (PC))



## HOW TO CONNECTION

Make connections in the numbered sequence by using the included cables.

- 1** Connect the stereo connection cables.
- 2** Connect the L-type cables.
- 3** Connect the AC power supply cord.



The illustration at the left shows an example of connections made when this unit is combined with a Technics hi-fi component system, and shows only the connections to be made to and from this unit in that combination.

Refer to the illustration together with the instructions provided below.

### “REMOTE CONTROL IN” terminal

Make a connection from this terminal to the control terminal for a cassette deck with a Technics receiver or a Technics amplifier. (For detailed information, refer to the operating instructions of the Technics receiver or the Technics amplifier.)

### “REMOTE CONTROL OUT” terminal

Make a connection from this terminal to the “REMOTE INPUT” terminal of a Technics graphic equalizer or to the “REMOTE” terminal of a Technics compact disc player. (For detailed information, refer to the operating instructions of the Technics graphic equalizer or the Technics compact disc player.)

### “SYNCHRO EDIT” terminal

Make a connection from this terminal to a terminal that has the synchro-edit function of a Technics compact-disc player. (For detailed information, refer to the operating instructions of the Technics compact disc player.)

### “AC OUTLET”

This outlet is a unswitched outlet.

Power is always available, regardless of unit's power switch setting.

This outlet is only for use with other audio equipment.

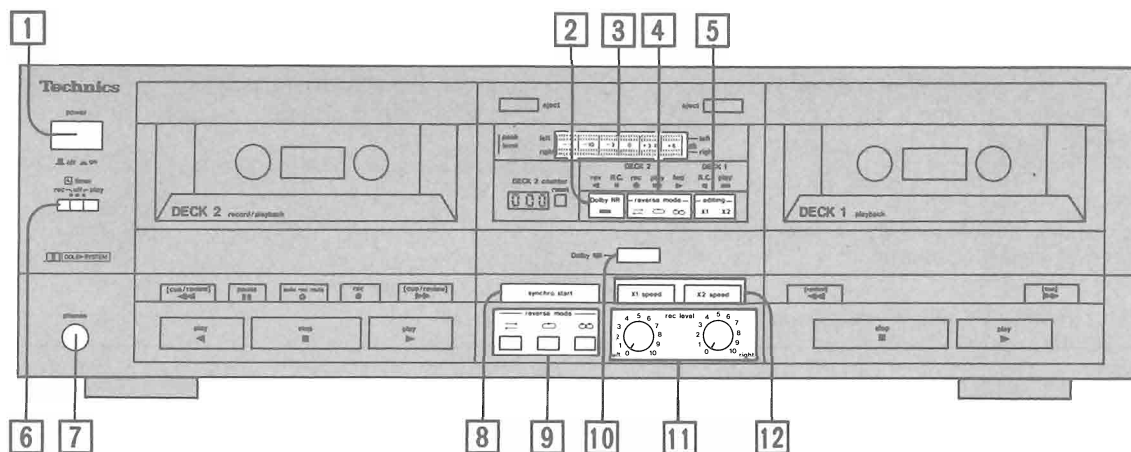
Also, do not exceed the indicated power rating when connecting to this outlet.

### Placements hints

If this unit is placed near a receiver or a tuner, a “hum” noise may be heard during tape playback, recording, or AM reception of the receiver or the tuner.

If this occurs, leave as much space as possible between the units, or place them where there is the least amount of “hum”.

## LOCATION OF CONTROLS



### Controls common to both tape decks

#### 1 Power switch (power)

#### 2 Dolby noise-reduction indicator

This indicator illuminates when the Dolby noise-reduction button is pressed.

#### 3 Input level meter (peak level)

During playback, this meter indicates the level of the recorded sound. During recording, it indicates the level being recorded, adjusted by the recording-level controls.

#### 4 Reverse-mode indicator (←, →, ↔)

Each indicator illuminates to show which of the reverse modes was selected by the reverse-mode selectors.

#### 5 Edit-recording tape-speed indicators (x1, x2)

Each indicator illuminates to show which of the tape-to-tape recording speeds was selected when pressing one of the edit-recording tape-speed buttons.

#### 6 Timer switch (timer)

This switch is used to automatically begin a tape recording or tape playback at a certain time, selected by an optional timer.

#### 7 Headphones jack (phones)

#### 8 Synchro-start button (synchro start)

This button is used to start a tape-to-tape recording, simultaneously starting deck 1 (the playback deck) and deck 2 (the recording deck).

#### 9 Reverse-mode selectors (reverse mode)

These selectors are used for selection of the reverse mode (for either playback or recording).

#### 10 Dolby noise-reduction button (Dolby NR)

This button is used to reduce the "hissing" noise heard from the tape.

#### 11 Recording-level controls (rec level)

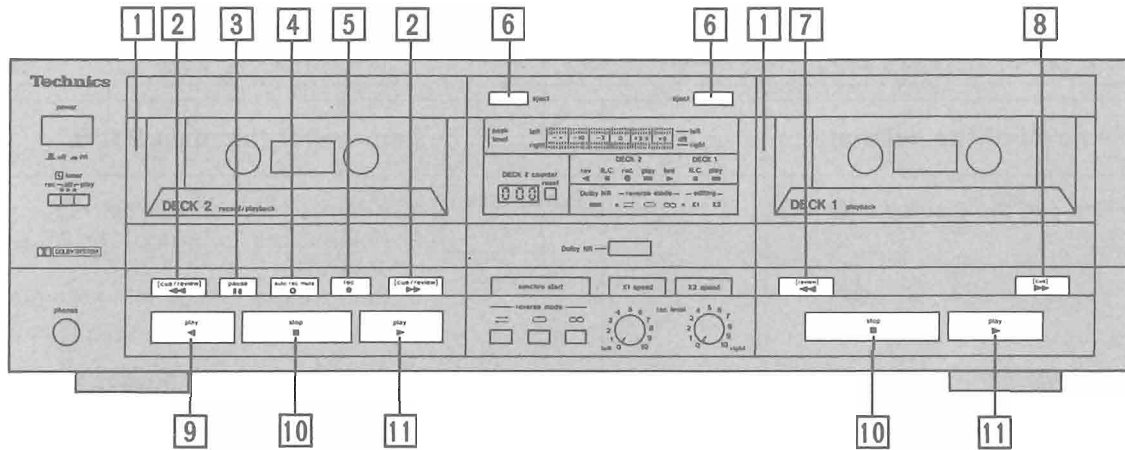
These controls are used to regulate the recording level of deck 2.

#### 12 Edit-recording tape-speed buttons (speed)

These buttons are used to select the recording speed during edit-recording.

### Remote-control operation

The following functions can be operated by remote-control (When connected to the appropriate Technics amplifier or receiver): Playback, Stop, Pause, Fast-forward/cue, Rewind/review, Record, Auto record mute, and A-B deck selection.



## Controls applicable to tape deck 1 and/or 2

### 1 Cassette holder

### 2 Fast-forward/cue, rewind/review buttons (cue/review/◀◀/▶▶)

These buttons are used to advance or rewind the tape. During playback these buttons are used to cue or review while listening to the contents at high speed.

### 3 Pause button (pause/||)

This button is used to temporarily stop the tape playback or recording of deck 2 only.

### 4 Automatic-record-muting button (auto rec mute/⊙)

This button is used to make a silent interval on the tape while recording is in progress.

### 5 Record button (rec/●)

This button is used to set deck 2 to the recording stand-by mode.

### 6 Eject button (eject)

This button is used to open the cassette holder.

### 7 Rewind/review button (review/◀◀)

This button is used to rewind the tape. During playback this button is used to review the contents at high speed.

### 8 Fast-forward/cue button (cue/▶▶)

This button is used to advance the tape. During playback this button is used to cue the contents at high speed.

### 9 Reverse-side playback button (play/◀)

This button is used to start the playback or recording of side "B" of the cassette in deck 2. (The tape will move in the right-to-left direction.)

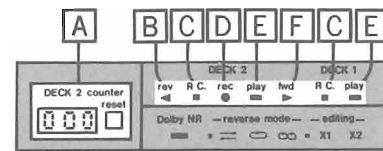
### 10 Stop button (stop/■)

This button is used to stop the tape movement.

### 11 Forward-side playback button (play/▶)

This button is used to start the playback or recording (of deck 2 only) of side "A" of the cassette. (The tape will move in the left-to-right direction.)

## Indicators applicable only to tape deck 1 or 2



### A Tape deck 2 counter/reset button (DECK 2 counter/reset)

This counter registers the amount of tape travel in deck 2. The reset button is used to reset the tape counter reading to "000".

### B Reverse-side indicator (rev/◀)

Illuminates during playback or recording of deck 2, to indicate that side "B" of the tape is being used.

### C Remote-control indicator (R.C.)

Illuminates to indicate that this unit can now be controlled by the remote-control transmitter.

### D Recording indicator (rec)

Illuminates to indicate that deck 2 is in the recording stand-by mode.

### E Playback indicator (play)

When this indicator illuminates steadily, it indicates that this unit is in the playback or recording mode (of deck 2 only). When flashing continually, indicates that deck 2 is in the pause mode or in the recording stand-by mode.

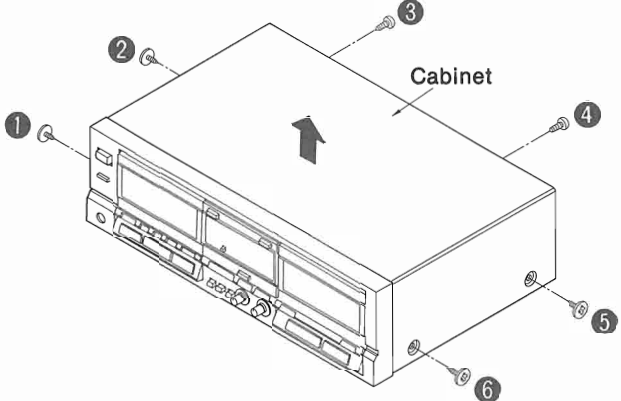
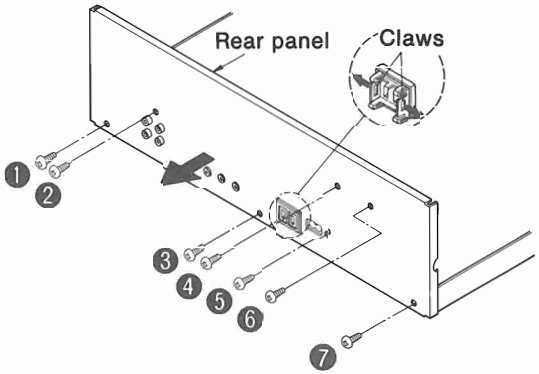
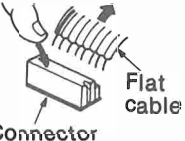
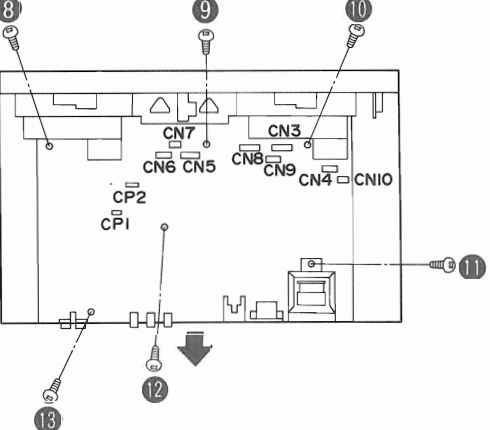
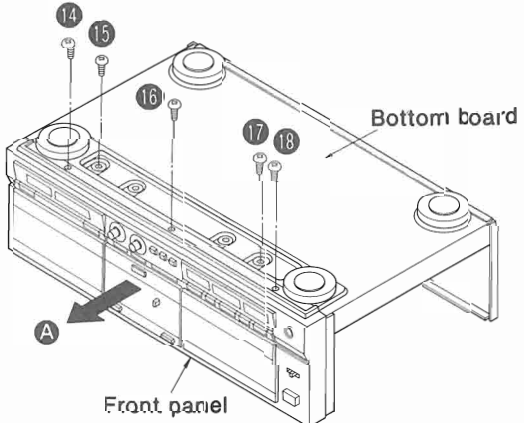
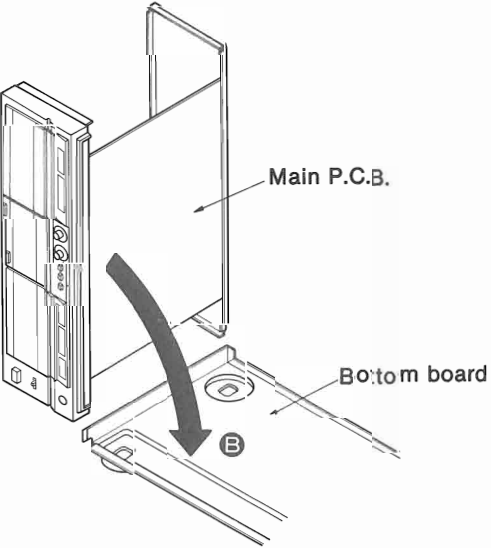
### F Forward-side indicator (fwd/▶)

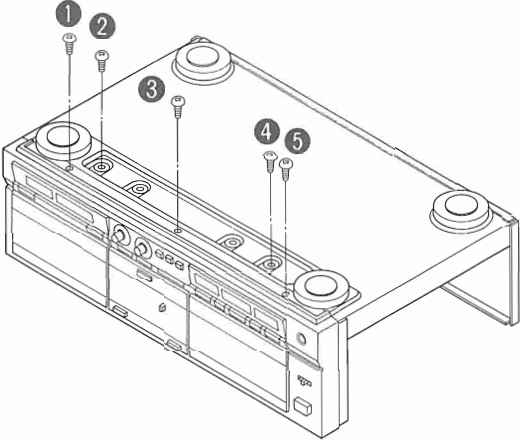
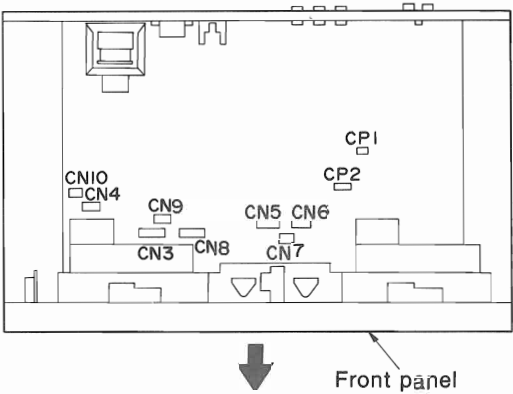
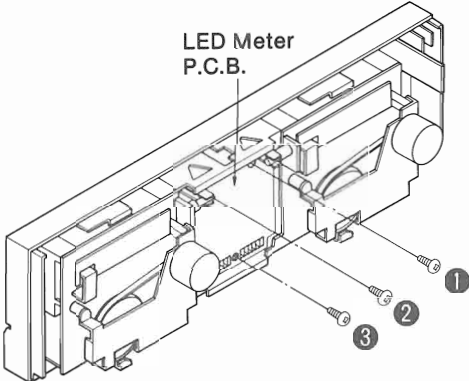
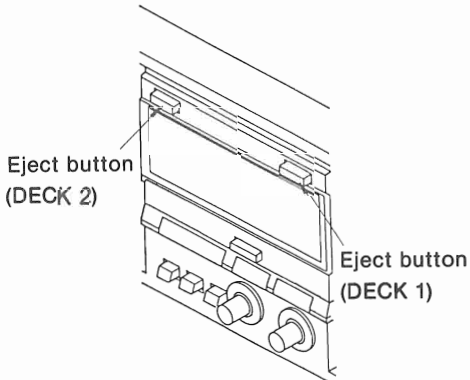
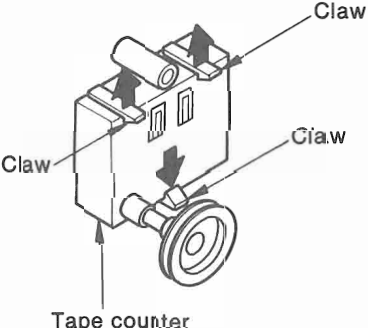
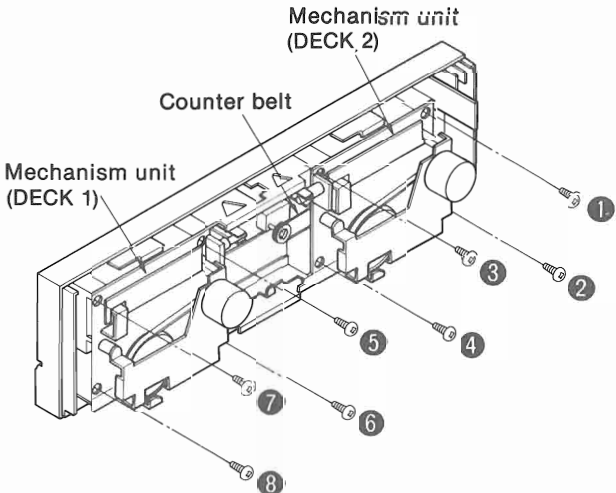
Illuminates during playback or recording of deck 2, to indicate that side "A" of the tape is being used.

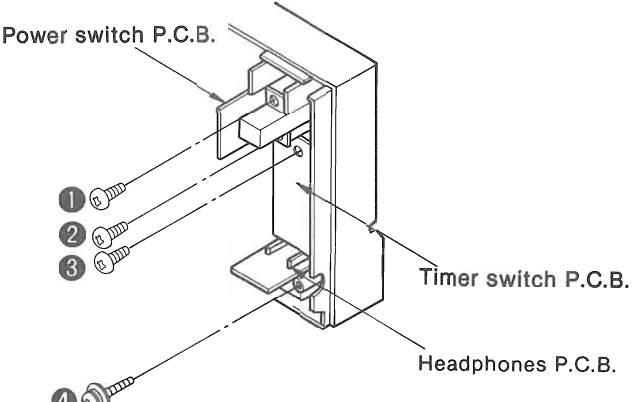
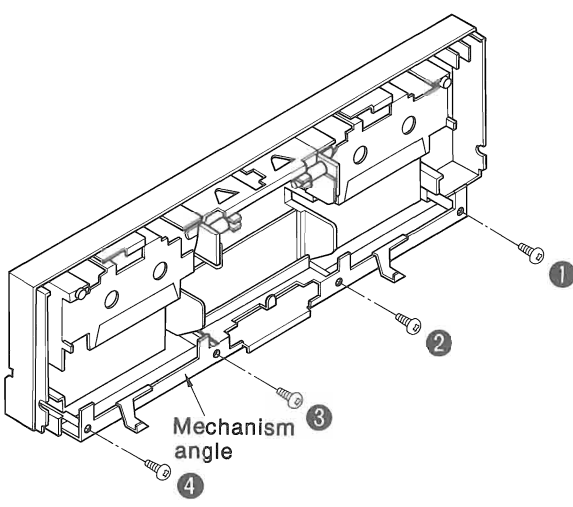
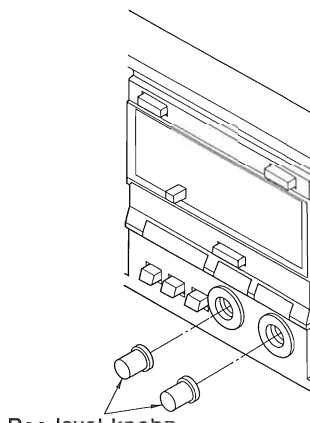
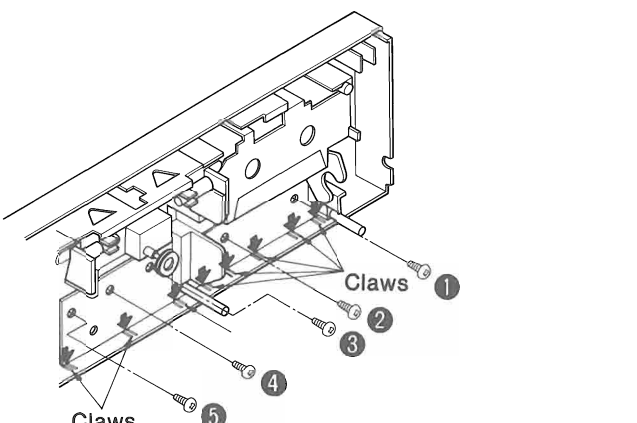
## DISASSEMBLY INSTRUCTIONS

### “ATTENTION SERVICER”

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

Ref. No. 1	Removal of the cabinet	Ref. No. 2	Removal of the main P.C.B.
Procedure 1	<ul style="list-style-type: none"> <li>Remove the 6 screws (①~⑥).</li> </ul>	Procedure 1→2	<ol style="list-style-type: none"> <li>Remove the 7 screws (①~⑦).</li> <li>Release the 2 claws of the AC outlet cover.</li> <li>Remove the rear panel in the direction of the arrow.</li> </ol>
			
	<ol style="list-style-type: none"> <li>Remove the 6 screws (⑧~⑬).</li> <li>Remove the 2 connectors (CP1, CP2).</li> <li>Remove the 8 flat cables (CN3, CN4, CN5, CN6, CN7, CN8, CN9, CN10).</li> <li>Remove the main P.C.B. in the direction of the arrow.</li> </ol> <div data-bbox="99 1136 711 1318" style="border: 1px solid black; padding: 5px;"> <p><b>How to remove the flat cable</b></p> <p>Pull out the flat cable while pressing the connector.</p>  </div>		
	<div data-bbox="99 1339 532 1392" style="border: 1px solid black; padding: 5px;"> <p><b>How to check the main P.C.B.</b></p> </div> <ul style="list-style-type: none"> <li>When checking the soldered surfaces of main P.C.B. and replacing the parts, do as shown.</li> <li>Remove the 14 screws (⑭, ⑮, ⑰~⑳).</li> <li>Remove the front panel in the direction of the arrow A.</li> </ul> 		<ol style="list-style-type: none"> <li>Remove the bottom board in direction of the arrow B.</li> <li>Reinstall the front panel to the main P.C.B.</li> </ol> 

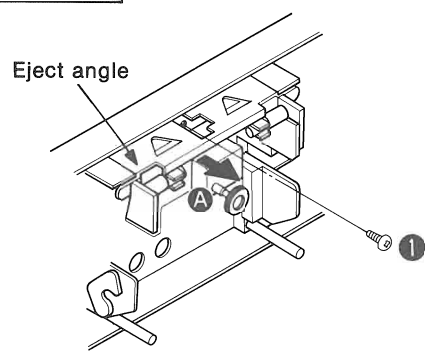
<p><b>Ref. No.</b> 3</p>	<p><b>Removal of the front panel ass'y</b></p>	<p>2. Remove the 2 connectors (CP1, CP2).          3. Remove the 8 flat cables (CN3, CN4, CN5, CN6, CN7, CN8, CN9, CN10).          4. Remove the front panel in the direction of the arrow.</p>	
<p><b>Procedure</b> 1→3</p>	<p>1. Remove the 5 screws (①~⑤).</p>		
			
<p><b>Ref. No.</b> 4</p>	<p><b>Removal of the LED meter P.C.B.</b></p>	<p><b>Ref. No.</b> 5</p>	<p><b>Removal of the mechanism units</b></p>
<p><b>Procedure</b> 1→3→4</p>	<p>1. Remove the 3 screws (①~③).          2. Remove the meter P.C.B. in the direction of the arrow.</p>	<p><b>Procedure</b> 1→3→4→5</p>	<ul style="list-style-type: none"> <li>• Mechanism unit (DECK 2)</li> <li>1. Push the eject button.</li> <li>2. Remove the 4 screws (①~④).</li> <li>3. Remove the counter belt.</li> <li>• Mechanism unit (DECK 1)</li> <li>1. Push the eject button.</li> <li>2. Remove the 4 screws (⑤~⑧).</li> </ul>
			
<p><b>Ref. No.</b> 6</p>	<p><b>Removal of the tape counter</b></p>		
<p><b>Procedure</b> 1→3→4→6</p>	<ul style="list-style-type: none"> <li>• Release the 3 claws.</li> </ul>		
			

<p><b>Ref. No.</b> 7</p>	<p><b>Removal of the power switch P.C.B., timer switch P.C.B. and headphones P.C.B.</b></p>	 <p>Power switch P.C.B.</p> <p>Timer switch P.C.B.</p> <p>Headphones P.C.B.</p>		
<p><b>Procedure</b> 1→3→7</p>	<ul style="list-style-type: none"> <li>• Removal of the power switch P.C.B.</li> <li>1. Remove the 2 screws (①, ②).</li> <li>• Removal of the timer switch P.C.B.</li> <li>1. Remove the 1 screw (③).</li> <li>• Removal of the headphones P.C.B.</li> <li>1. Remove the 1 screw (④).</li> </ul>	<p><b>Ref. No.</b> 8</p>	<p><b>Removal of the mechanism angle</b></p>	
<p><b>Procedure</b> 5→8</p>	<ul style="list-style-type: none"> <li>• Remove the 4 screws (①~④).</li> </ul>	 <p>Mechanism angle</p>	<p><b>Ref. No.</b> 9</p>	<p><b>Removal of the operation (DECK 1) P.C.B.</b></p>
<p><b>Procedure</b> 5→8→9</p>	<p>1. Remove the 2 screws (①, ②).</p> <p>2. Release the 5 claws.</p>	<p><b>Ref. No.</b> 10</p>	<p><b>Removal of the operation (DECK 2) P.C.B.</b></p>	
<p><b>Procedure</b> 5→8→10</p>	<p>1. Remove the rec level 2 knobs.</p>	 <p>Rec level knobs</p>	<p>2. Remove the 5 screws (①~⑤).</p> <p>3. Release the 8 claws.</p>	
 <p>Claws</p>	<p>Claws</p>			

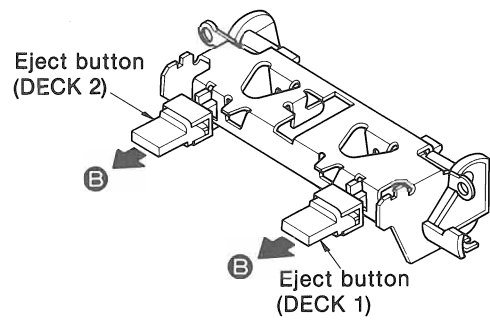


**Ref. No. 11**      **Removal of the eject angle, eject buttons, and eject lever**

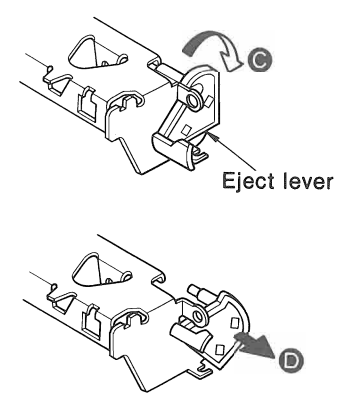
**Procedure**  
3→4→5→11



1. Remove the 1 screw (1).
2. Pull out the eject angle in the direction of the arrow A.



3. Pull out the eject buttons in the direction of the arrow B.

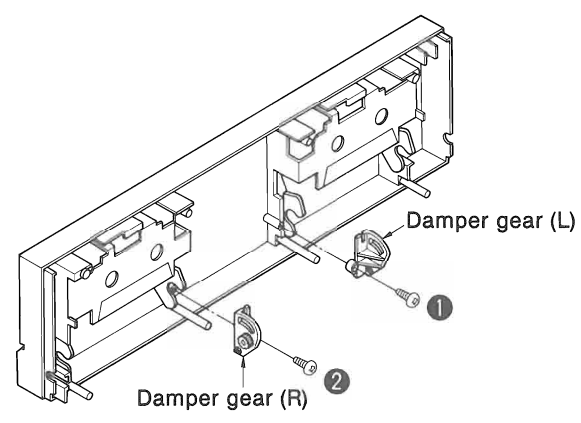


4. Turn the eject lever in the direction of the arrow C, and remove the eject lever in the direction of the arrow D.

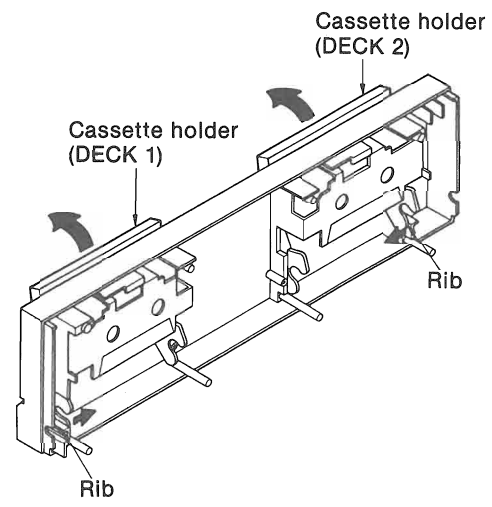
**Ref. No. 12**      **Removal of the cassette holder (DECK 1 & DECK 2)**

**Procedure**  
5→8→12

1. Remove the 2 screws (1, 2).
2. Remove the damper gear (L) and damper gear (R).



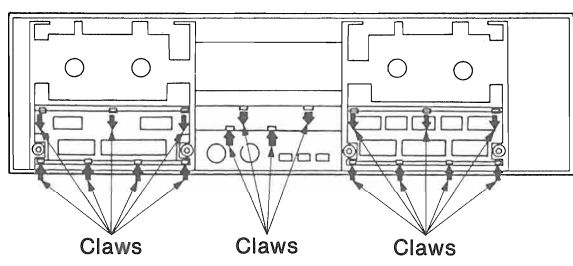
3. Remove the rib in the direction of the arrow.
4. Remove the cassette holder in the direction of the arrow.



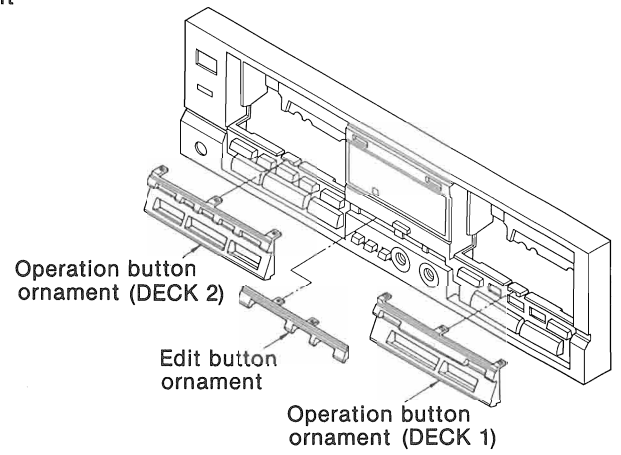
**Ref. No. 13**      **Removal of the operation button ornament and edit button ornament**

**Procedure**  
9→10→12→13

- A. Removal of the operation button ornament (DECK 1, DECK 2).
  1. Release the 14 claws.



- B. Removal of the edit button ornament.
  1. Release the 4 claws.



## MEASUREMENT AND ADJUSTMENT METHODES

### Measurement Condition

- Rec. level control; Maximum
- Timer switch; Off
- Reverse-mode selector switch;  $\longleftrightarrow$
- Edit-recording tape-speed selector; X1

- Dolby NR switch; Off
- Make sure heads are clean
- Make sure capstan and pressure roller are clean
- Judgeable room temperature  $20 \pm 5^\circ\text{C}$  ( $68 \pm 9^\circ\text{F}$ )

### Measuring instrument

- EVM (Electronic Voltmeter)
- Oscilloscope
- Digital frequency counter
- AF oscillator

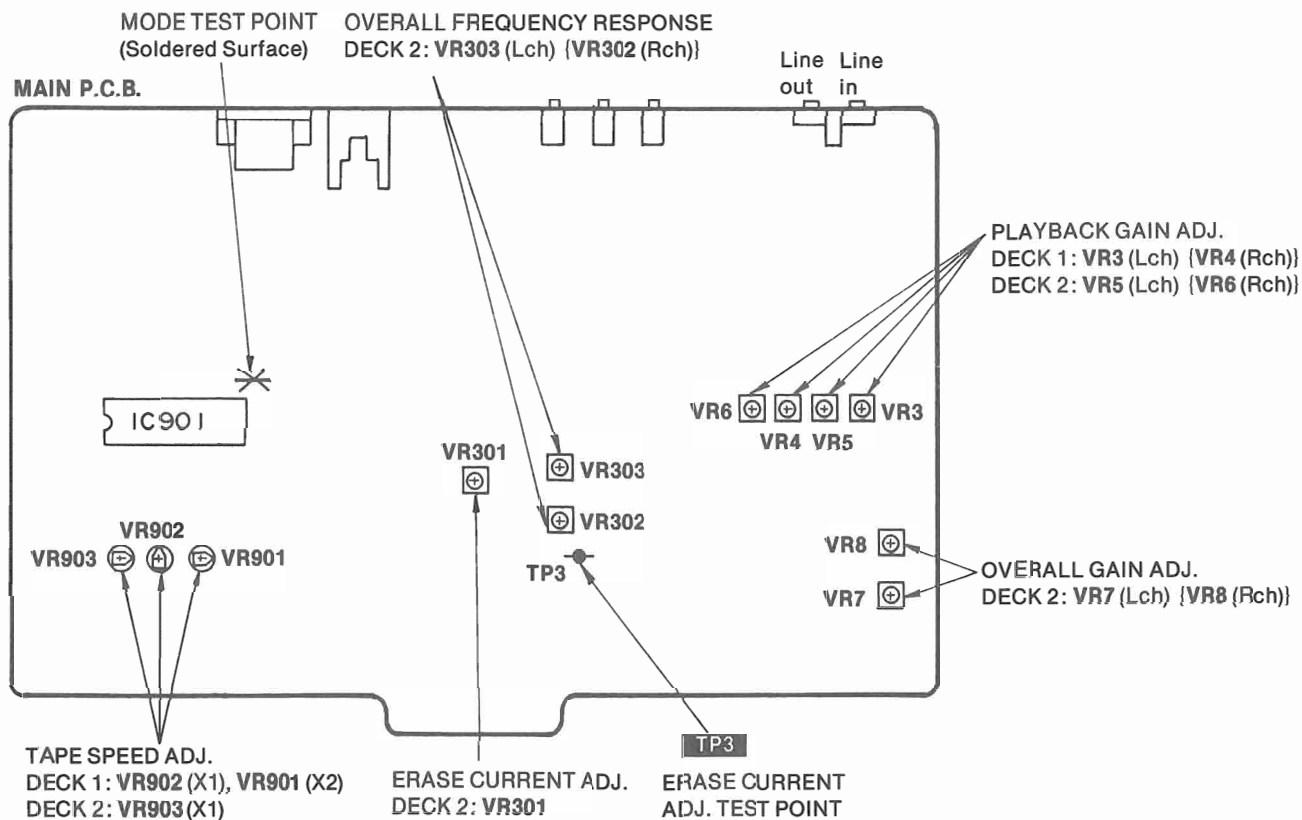
- ATT (Attenuator)
- DC voltmeter
- Resistor ( $600\Omega$ )

### Test tape

- Head azimuth adjustment (8kHz,  $-20\text{dB}$ ); QZZCFM
- Tape speed adjustment (3kHz,  $-10\text{dB}$ ); QZZCWAT
- Playback frequency response (315Hz, 12.5kHz, 10kHz, 8kHz, 4kHz, 1kHz, 250Hz, 125Hz, 63Hz,  $-20\text{dB}$ ); QZZCFM

- Playback gain adjustment (315Hz, 0dB); QZZCFM
- Overall frequency response, Overall gain adjustment  
Normal reference blank tape; QZZCRA  
CrO<sub>2</sub> reference blank tape; QZZCRX  
Metal reference blank tape; QZZCRZ

## Adjustment Points



**HEAD AZIMUTH ADJUSTMENT (DECK 2/1)**

1. Playback the azimuth adjustment portion (8kHz, -20dB) of the test tape (QZZCFM). Vary the azimuth adjusting screw until the outputs of the L-CH and R-CH are maximized and the lissajous waveform, as illustrated, approaches 0 degrees.

**Note:** If L-CH and R-CH are not maximized at the same point, adjust to the point where the levels of each channel are maximized and equal.

2. Perform the same adjustment in the play mode.
3. After the adjustment, apply screwlock to the azimuth adjusting screw.

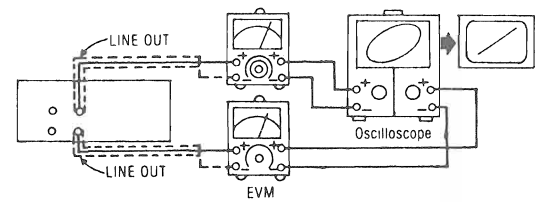


Fig. 1

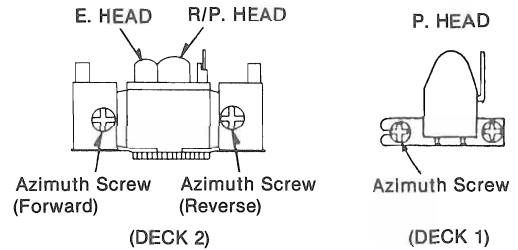


Fig. 2

**TAPE SPEED ADJUSTMENT (DECK 2/1)****Normal speed**

1. Shift the edit-recording tape-speed selector to "X1".
2. Playback the middle portion of the test tape (QZZCWAT).
3. Adjust Deck 1=VR902 and Deck 2=VR903 so that the output is within the standard value.

**High speed**

4. Shift the edit-recording tape speed switch to "X2".
5. Playback the middle portion of the test tape (QZZCWAT).
6. Adjust Deck 1=VR901 so that the output is within the standard value.

**Note:** The Normal speed adjustment must be done before the High speed adjustment.

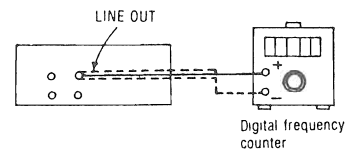


Fig. 3

**Standard value: 3000 ± 15 Hz [Normal (X1)], 6000 ± 600 Hz [High (X2)]**

**PLAYBACK GAIN ADJUSTMENT (DECK 2/1)**

1. Playback the gain adjusted portion (315Hz, 0dB) of the test tape (QZZCFM).
2. Adjust Deck 1=VR3 (L-CH) [[VR4 (R-CH)]] and Deck 2=VR5 (L-CH) [[VR6 (R-CH)]] so that the output is within the standard value.

**Standard value: 0.4V ± 0.5dB**

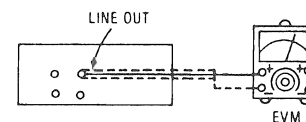


Fig. 4

**PLAYBACK FREQUENCY RESPONSE (DECK 2/1)**

1. Playback the frequency response portion (315Hz, 12.5kHz~63Hz, -20dB) of the test tape (QZZCFM).
2. Assure that the frequency response is within the range shown in Fig. 6 for both L-CH and R-CH.

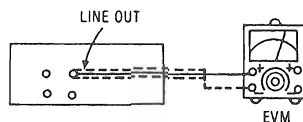


Fig. 5

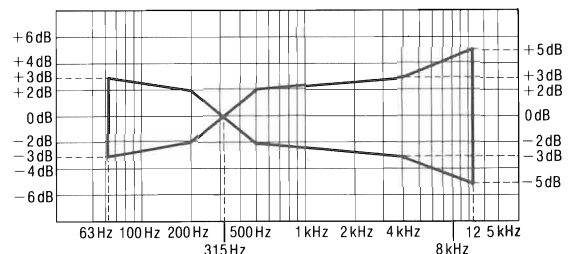


Fig. 6

**ERASE CURRENT ADJUSTMENT (DECK 2)**

1. Insert the Metal blank test tape (QZZCRZ) and set the unit to the Record Pause mode.
2. Adjust VR301 so that the output between TP3 and GND is within the standard value.

Standard value:  $190 \pm 5 \text{ mA (Metal)}$ ...EVM Reading:  $190 \pm 5 \text{ mV}$

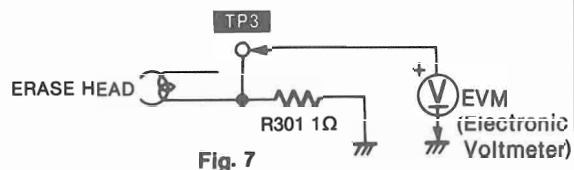


Fig. 7

**OVERALL FREQUENCY RESPONSE (DECK 2)**

1. Insert the Normal blank test tape (QZZCRA) and set the unit to the Record Pause mode.
2. Apply a reference input signal (1 kHz, -24 dB) through an attenuator.
3. Attenuate the signal by 20 dB and adjust the frequency from 50 Hz ~ 10 kHz.
4. Record the frequency sweep.
5. Playback the recorded signal and assure that it is within the range shown in Fig. 8 in comparison to the reference frequency (1 kHz).
6. If it is not within the standard range, adjust VR303 (L-CH) and VR302 (R-CH) so that the frequency level is within the standard range.
  - Level up in high frequency range .....Increase the bias current.
  - Level down in high frequency range ...Decrease the bias current.
7. Repeat steps 2~6 above using the CrO<sub>2</sub> tape (QZZCRX) and the Metal tape (QZZCRZ) increasing the frequency range to 12.5 kHz (50 Hz ~ 12.5 kHz).
8. Assure that the level is within the range shown in Fig. 9.

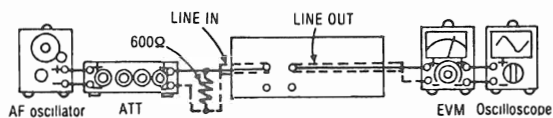


Fig. 10

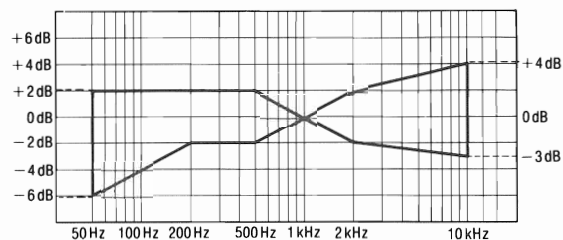
**Normal Overall frequency response chart (NR OUT)**

Fig. 8

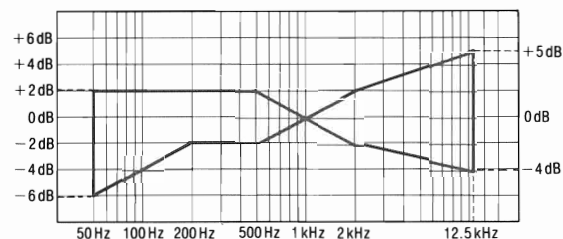
**CrO<sub>2</sub> Metal Overall frequency response chart (NR OUT)**

Fig. 9

**OVERALL GAIN ADJUSTMENT (DECK 2)**

1. Insert the Normal blank test tape (QZZCRA) and set the unit to the Record pause mode.
2. Apply a reference input signal (1 kHz, -24 dB). Attenuate the output so that its level becomes 0.4 V.
3. Record this input signal.
4. Playback the signal recorded in step 3 above, and assure that the output is within the standard value.
5. If it is not within the standard value, adjust VR7 (L-CH) and VR8 (R-CH).
6. Repeat the step 2~5 above until the output is within the standard value.

Standard value:  $0.4 \text{ V} \pm 0.5 \text{ dB}$

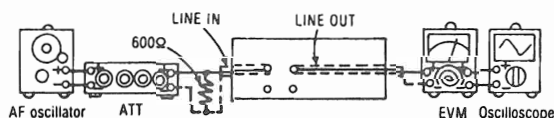


Fig. 11

## ■ TERMINAL FUNCTION OF IC's

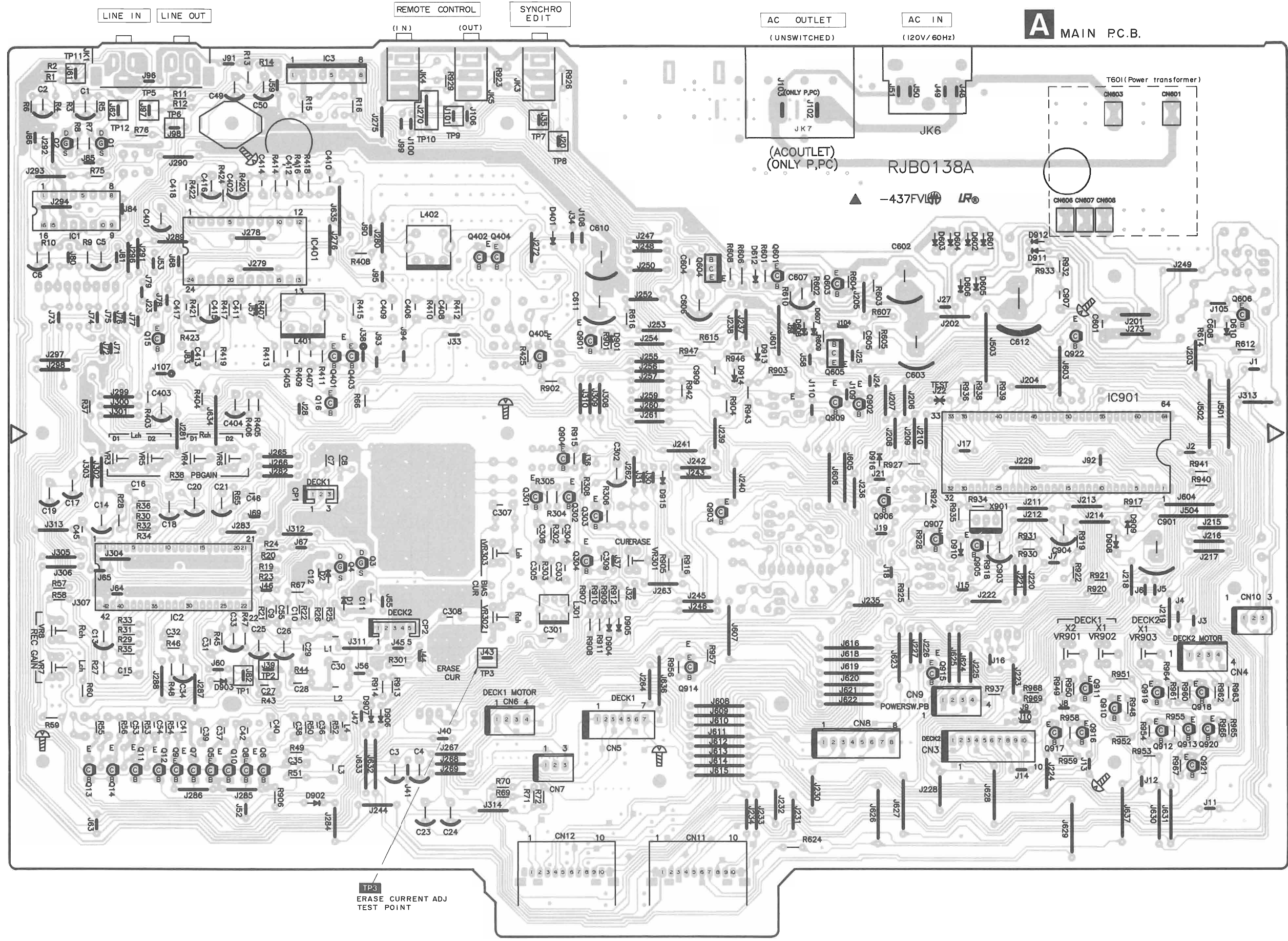
### • IC901 (M50746-145SP): MICROCOMPUTER

Pin No.	Mark	I/O Division	Function
1	V <sub>CC</sub>	I	Power supply terminal
2	AV <sub>SS</sub>	—	• Connected to V <sub>SS</sub>
3	V <sub>REF</sub>	I	Standard voltage terminal (5V)
4	CRM	O	CUE/REV mute signal • "L" level in muting is off mode. • "H" level in muting is on mode.
5	DIR 2	O	Direction indicator signal of deck 2 • "L" level with forward mode. • "OPEN" with reverse mode.
6	MMT	O	Mater mute control signal • "L" level in muting is off mode. • "OPEN" when muting is on mode.
7	LMT	O	Line out mute signal (Not used, open)
8	RMT 2	O	Rec. amp. mute signal of deck 2 • "L" level in mute is off mode. • "H" level in mute is on mode.
9	DMT	O	Line out mute signal • "L" level in muting is off mode. • "OPEN" when muting is on mode.
10	REV 2	—	Connected to GND
11	REV 1	—	Connected to GND
12	KEY 2	I	Key switch scan (DECK 2: STOP, F.F., REW, F. PLAY, R. PLAY, REC., PAUSE, S. START, X2, X1, DOLBY NR)
13	KEY 1	I	Key switch scan (DECK 1: STOP, F.F., REW, PLAY, $\frac{\infty}{\infty}$ )
14	PLAY 2	O	Deck 2 Playback LED display/CUE, REV, LED display
15	PLAY 1	O	Deck 1 Playback LED display/CUE, REV, LED display
16	ARM 2	I	Auto Rec. mute terminal. "L"=KEY ON, "H"=KEY OFF
17	REC 1	I	Not used.
18	REC 2	O	Deck 2 Rec. mode LED display • "L" level in Deck 2 Rec. mode. • "H" level in other mode.
19	REM 2	O	Deck 2 Remote control LED display • "L" level in LED on mode. • "H" level in LED off mode.
20	REM 1	O	Deck 1 Remote control LED display • "L" level when LED is on mode. • "H" level when LED is off mode.
21	RENA	O	B side select signal to CD player, used during CD synchro editing mode.
22	SYNC	I	Synchro start signal input from CD player
23	RCS	I	Remote control serial data
24	TREC	I	Timer rec terminal
25	TPLAY	I	Timer play terminal
26	POF	I	Primary AC power detection terminal
27	CNV <sub>SS</sub>	—	Connected to V <sub>SS</sub>
28	RESET	I	Reset terminal • "L" level when reset is on mode. • "L" → "H" level when reset is off mode.
29	XIN	I	Clock OSC terminal
30	XOUT	O	
31	φ	I	Not used, open.
32	V <sub>SS</sub>	—	Connected to GND
33	TEST	—	Test terminal
34	PWIN	I	Power ON/OFF switch input • "L" level with power ON • "H" level with power OFF
35	REEL 1	I	Deck 1 Rotation pulse signal of reel table

Pin No.	Mark	I/O Division	Function
36	REEL 2	I	Deck 2 Rotation pulse signal of reel table
37	RINH 2	I	Deck 2 Reverse Rec. Inh. switch select terminal
38	FINH 2	I	Deck 2 Forward Rec. Inh. switch select terminal
39	MODE 1	I	Deck 1 mechanism mode switch select terminal
40	HALF 1	I	Deck 1 cassette half detection switch <ul style="list-style-type: none"> <li>• "L" level in half detection switch is on mode.</li> <li>• "H" level in half detection switch is off mode.</li> </ul>
41	MPX	O	MPX filter IN/OUT control signal <ul style="list-style-type: none"> <li>• "OPEN" with Dolby NR "IN"</li> <li>• "L" level with Dolby NR "OUT"</li> </ul>
42	$\overline{T2}$	O	Deck 2 play select signal <ul style="list-style-type: none"> <li>• "L" level with PLAY/CUE/REVIEW mode.</li> <li>• "H" level with any other mode.</li> </ul>
43	$\overline{X2}$	O	X2 Speed LED display <ul style="list-style-type: none"> <li>• "L" level when LED is on mode.</li> <li>• "OPEN" when other mode.</li> </ul>
44	$\overline{X1}$	O	X1 Speed LED display <ul style="list-style-type: none"> <li>• "L" level when LED is on mode.</li> <li>• "OPEN" when other mode.</li> </ul>
45	T/S	I	Connected to GND
46	$\overline{C}$	O	Dolby C LED display <ul style="list-style-type: none"> <li>• "L" level when LED is on mode.</li> <li>• "OPEN" when other mode. (Not used, open.)</li> </ul>
47	$\overline{B}$	O	Dolby B LED display <ul style="list-style-type: none"> <li>• "L" level when LED is on mode.</li> <li>• "OPEN" when other mode.</li> </ul>
48	$\overline{ENC}$	O	Encode/Decode select signal <ul style="list-style-type: none"> <li>• "L" level in encode mode.</li> <li>• "H" level in decode mode.</li> </ul>
49	C/M	I	Deck 1 one-way mechanism select terminal (Connected to GND)
50	$\overline{PWOUT}$	O	Power ON/OFF output terminal
51	$\overline{SDATA}$	O	Serial data output (Not used, open)
52	P04 (∞∞)	O	Reverse mode (∞∞) LED display.
53	P03 (↔)	O	Reverse mode (↔) LED display.
54	P02 (↔)	O	Reverse mode (↔) LED display.
55	DIR 1	O	Direction indicator signal of deck 1 (Not used, open)
56	FINH 1	I	Deck 1 Forward Rec. Inh. switch select terminal
57	HSP 1	O	Deck 1 Motor speed control signal <ul style="list-style-type: none"> <li>• "L" level when normal speed (X1).</li> <li>• "H" level when high speed (X2).</li> </ul>
58	SOL 1	O	Deck 1 Solenoid control signal <ul style="list-style-type: none"> <li>• "H" level when solenoid is on mode.</li> <li>• "L" level when solenoid is off mode.</li> </ul>
59	MOTOR 1	O	Deck 1 Motor control signal <ul style="list-style-type: none"> <li>• "H" level when motor is on mode.</li> <li>• "L" level when motor is off mode.</li> </ul>
60	MODE 2	I	Deck 2 mechanism mode switch select terminal
61	HALF 2	I	Deck 2 cassette half detection switch <ul style="list-style-type: none"> <li>• "L" level in half detection switch in on mode.</li> <li>• "H" level in half detection switch in off mode.</li> </ul>
62	HSP 2	O	Deck 2 Motor speed control signal <ul style="list-style-type: none"> <li>• "H" level when normal speed (X1).</li> <li>• "L" level when high speed (X2).</li> </ul>
63	SOL 2	O	Deck 2 Solenoid control signal <ul style="list-style-type: none"> <li>• "H" level when solenoid is on mode.</li> <li>• "L" level when solenoid is off mode.</li> </ul>
64	MOTOR 2	O	Deck 2 Motor control signal <ul style="list-style-type: none"> <li>• "H" level when motor is on mode.</li> <li>• "L" level when motor is off mode.</li> </ul>

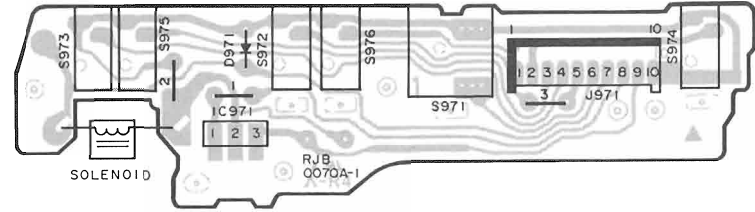
PRINTED CIRCUIT BOARDS

A MAIN P.C.B.

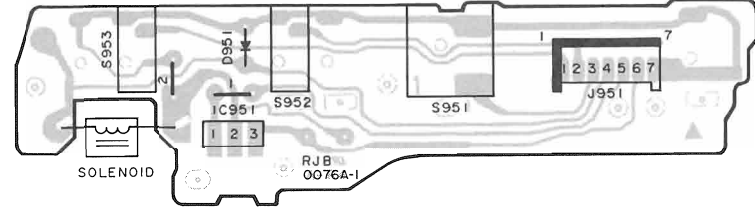


A  
B  
C  
D  
E  
F  
G

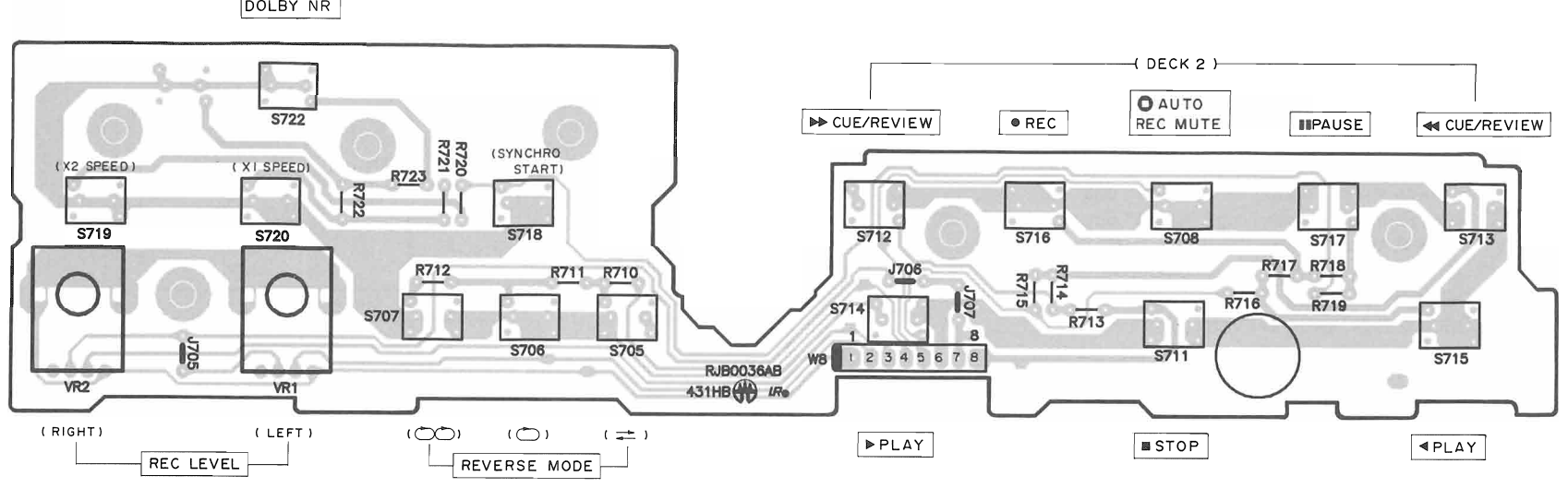
**B** MECHANISM (DECK2) P.C.B.



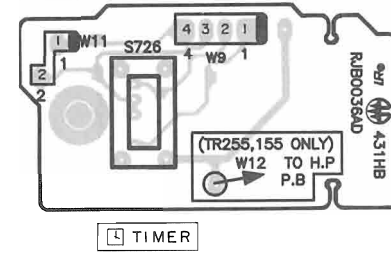
**C** MECHANISM (DECK 1) P.C.B.



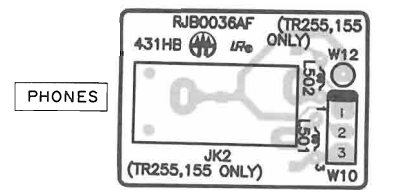
**I** OPERATION (DECK2) P.C.B.



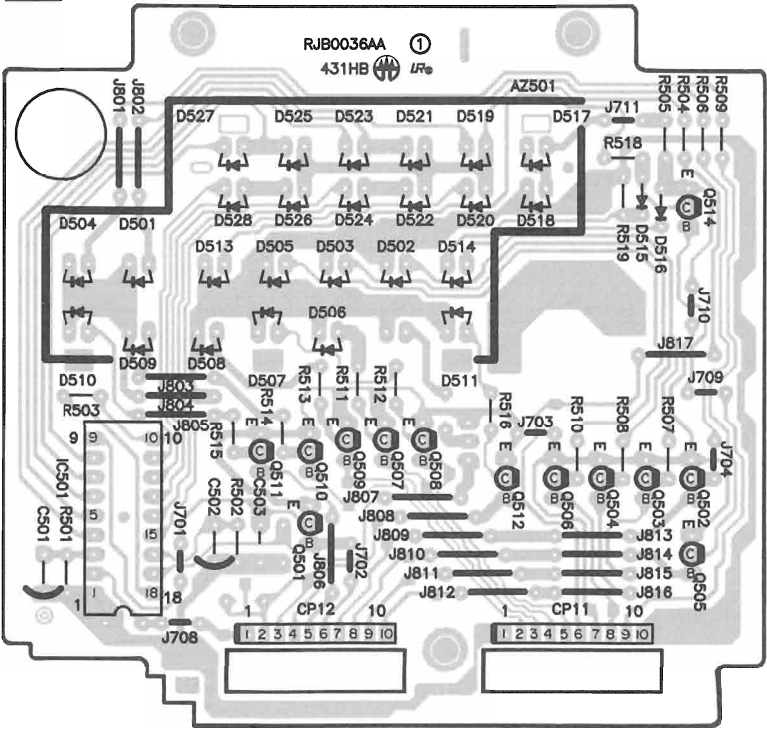
**D** TIMER SWITCH P.C.B.



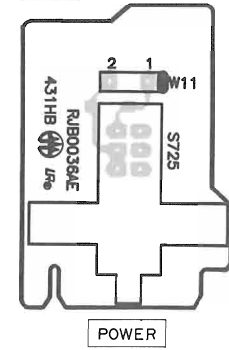
**F** HEADPHONES P.C.B.



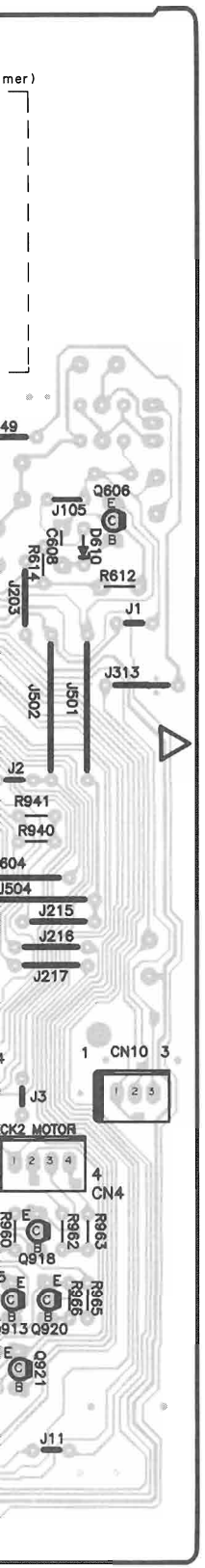
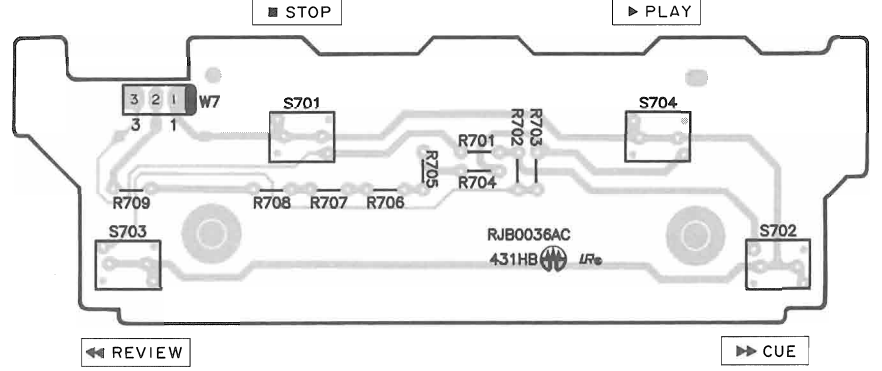
**G** LED METER P.C.B.



**E** POWER SWITCH P.C.B.



**H** OPERATION (DECK 1) P.C.B.





SCHEMATIC DIAGRAM

(Parts list on pages 29~35.)

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

Notes:

- S701: DECK 1 Stop switch in "off" position.
- S702: DECK 1 F.F. switch in "off" position.
- S703: DECK 1 Rew. switch in "off" position.
- S704: DECK 1 Playback switch in "off" position.
- S705: Reverse mode switch (↔) in "off" position.
- S706: Reverse mode switch (↺) in "off" position.
- S707: Reverse mode switch (↻) in "off" position.
- S708: DECK 2 Auto rec. mute switch in "off" position.
- S711: DECK 2 Stop switch in "off" position.
- S712: DECK 2 F.F. switch in "off" position.
- S713: DECK 2 Rew. switch in "off" position.
- S714: DECK 2 For. Playback switch in "off" position.
- S715: DECK 2 Rev. Playback switch in "off" position.
- S716: DECK 2 Record switch in "off" position.
- S717: DECK 2 Pause switch in "off" position.
- S718: Synchro-start switch in "off" position.
- S719: Editing tape speed selector (X2) in "off" position.
- S720: Editing tape speed selector (X1) in "off" position.
- S722: Dolby NR switch in "off" position.
- S725: Power switch in "on" position.
- S726: Timer switch in "off" position.
- S951: DECK 1 Mode switch in "off" position.
- S952: DECK 1 Cassette half detection switch in "off" position.
- S953: DECK 1 ATS (CrO<sub>2</sub>) switch in "off" position.
- S971: DECK 2 Mode switch in "off" position.
- S972: DECK 2 Cassette half detection switch in "off" position.
- S973: DECK 2 Rev. Rec Inhibit switch in "off" position.
- S974: DECK 2 For. Rec Inhibit switch in "off" position.
- S975: DECK 2 ATS (CrO<sub>2</sub>) switch in "off" position.
- S976: DECK 2 ATS (Metal) switch in "off" position.

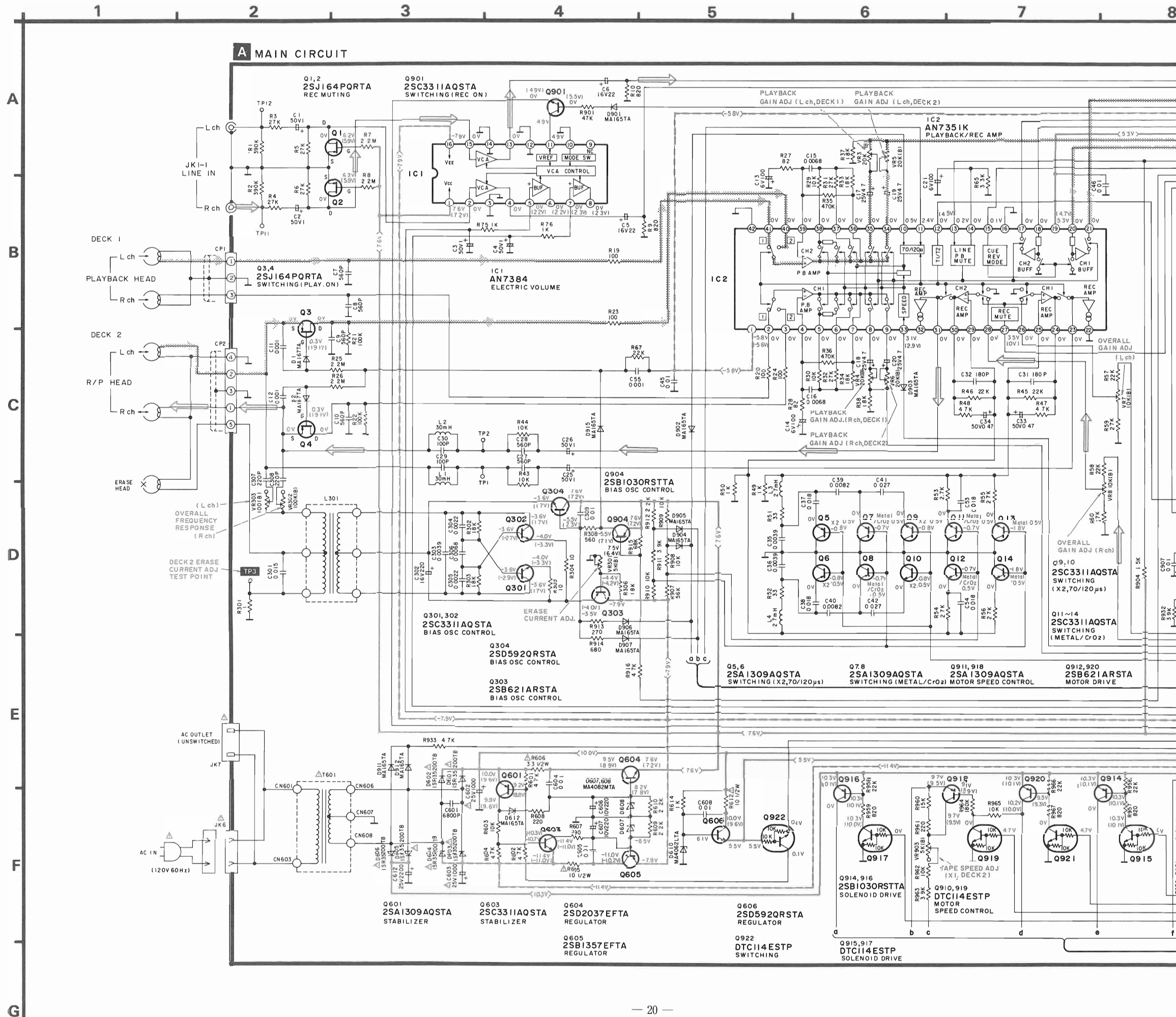
Resistance are in ohms (Ω), 1/4 watt unless specified otherwise.  
 1K=1,000 (Ω), 1M=1,000k (Ω)  
 Capacity are in micro-farads (μF) unless specified otherwise.  
 All voltage values shown in circuitry are under no signal condition and playback mode with volume control at minimum position otherwise specified.

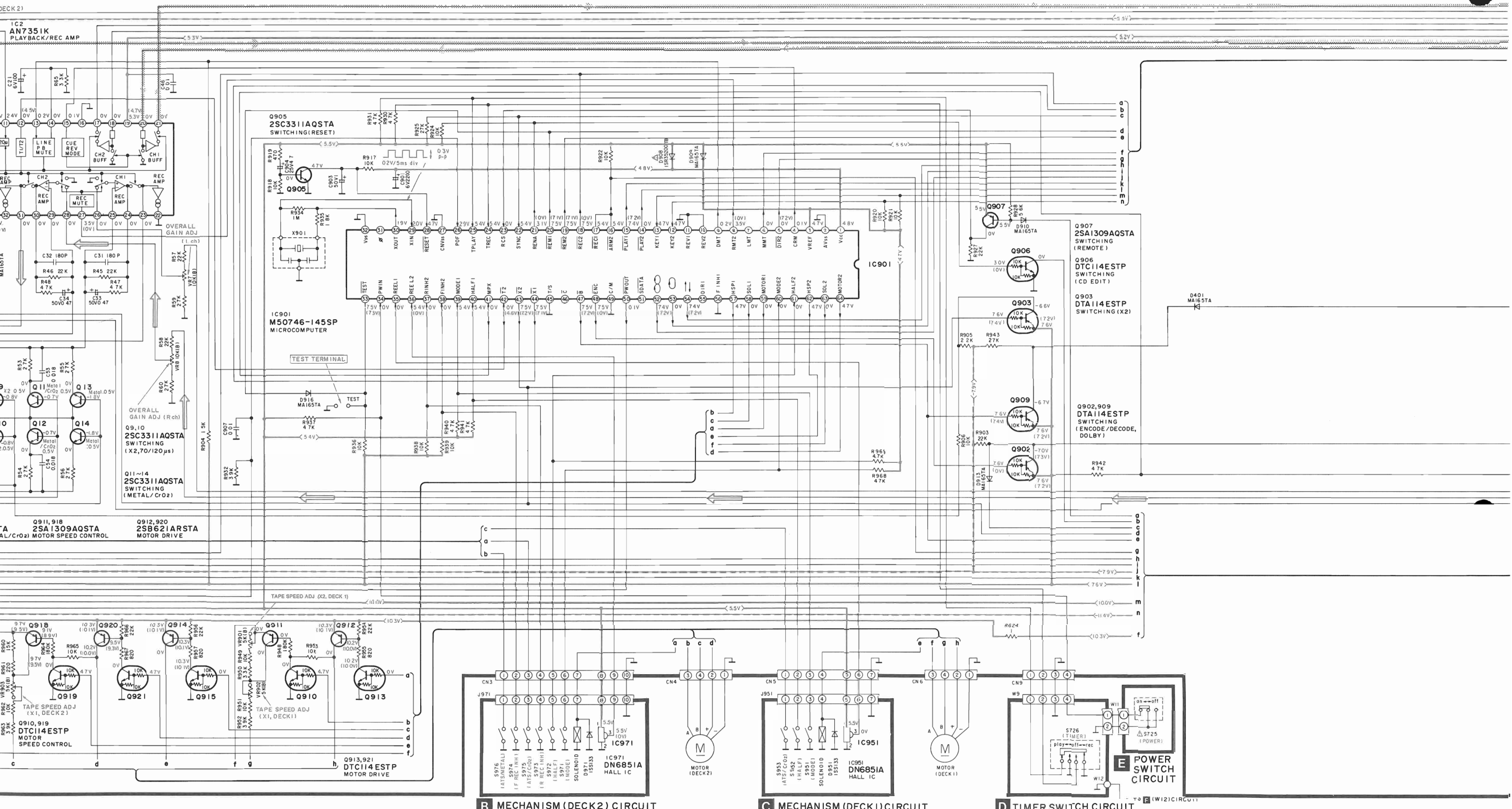
(.....).....Voltage values at record mode.  
 For measurement us EVM.  
 Important safety notice  
 Components identified by Δ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

- ( ———— < + B > ———— ) indicates + B (bias).
- ( ———— < - B > ———— ) indicates - B (bias).
- ( ———— < P > ———— ) indicates the flow of the playback signal.
- ( ———— < R > ———— ) indicates the flow of the record signal.

\* Caution!

- IC and LSI are sensitive to static electricity. Secondary trouble can be prevented by taking care during repair.
- Cover the parts boxes made of plastics with aluminum foil.
- Ground the soldering iron.
- Put a conductive mat on the work table.
- Do not touch the legs of IC or LSI with the fingers directly.

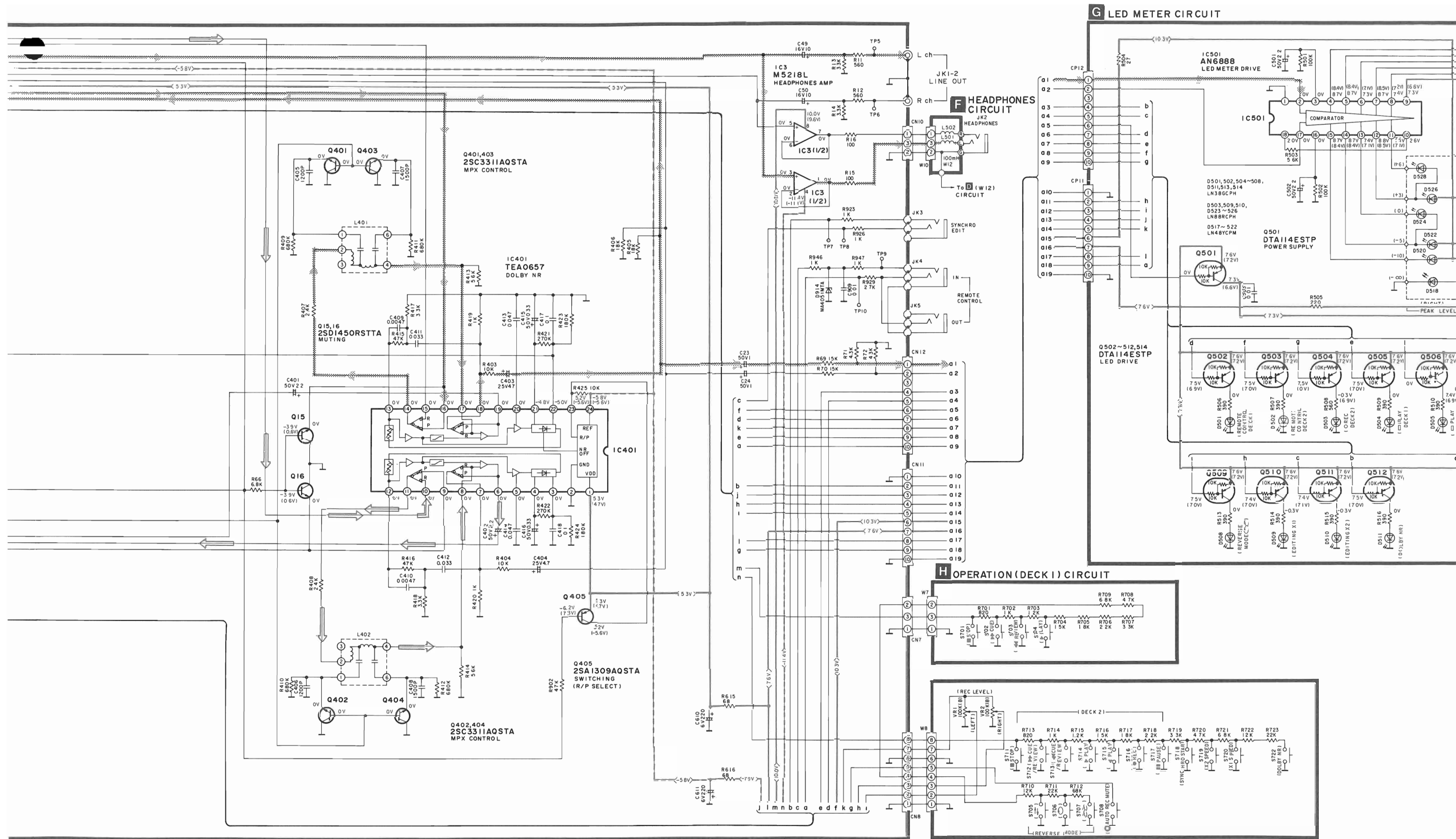


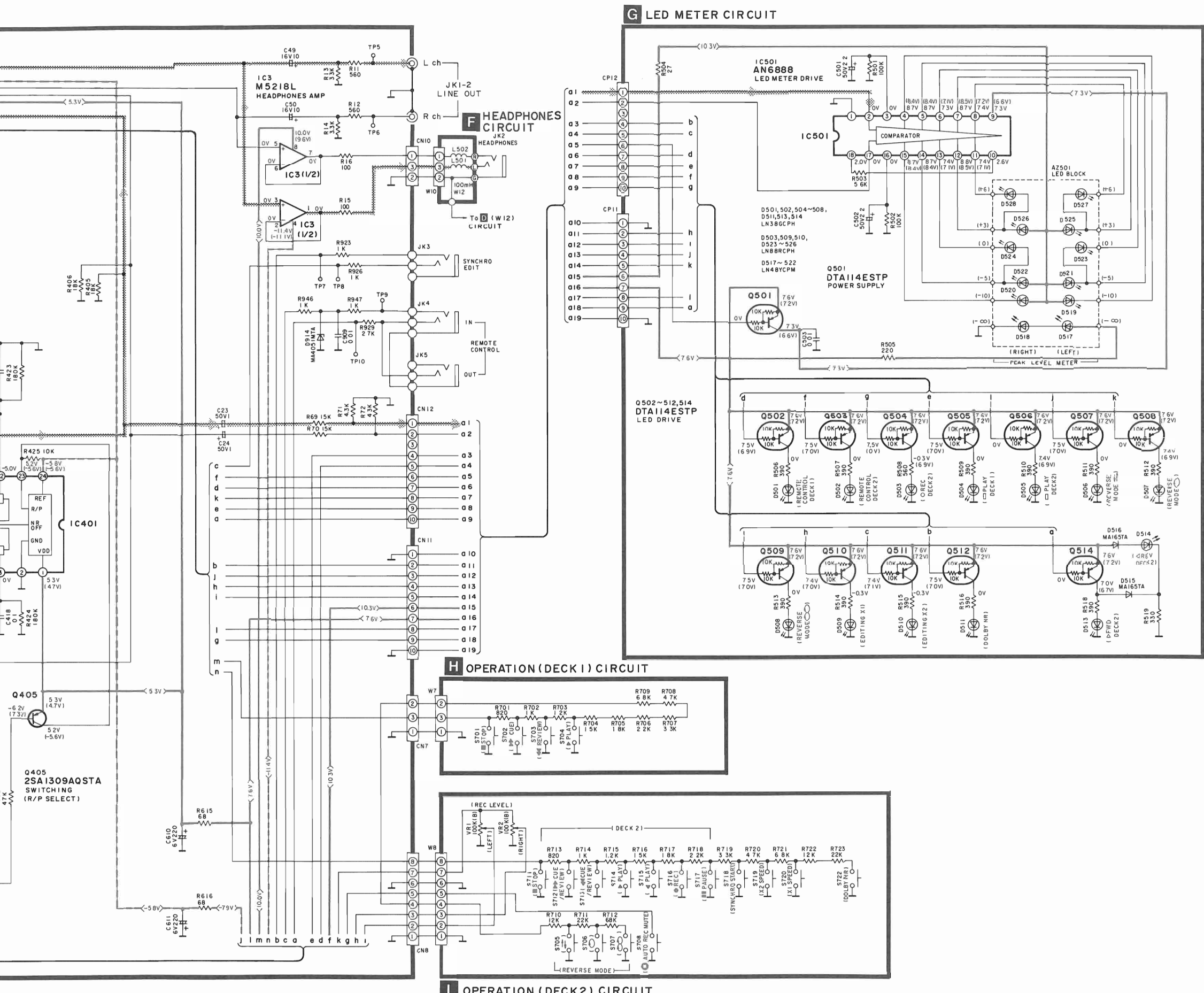


B MECHANISM (DECK 2) CIRCUIT

C MECHANISM (DECK 1) CIRCUIT

D TIMER SWITCH CIRCUIT



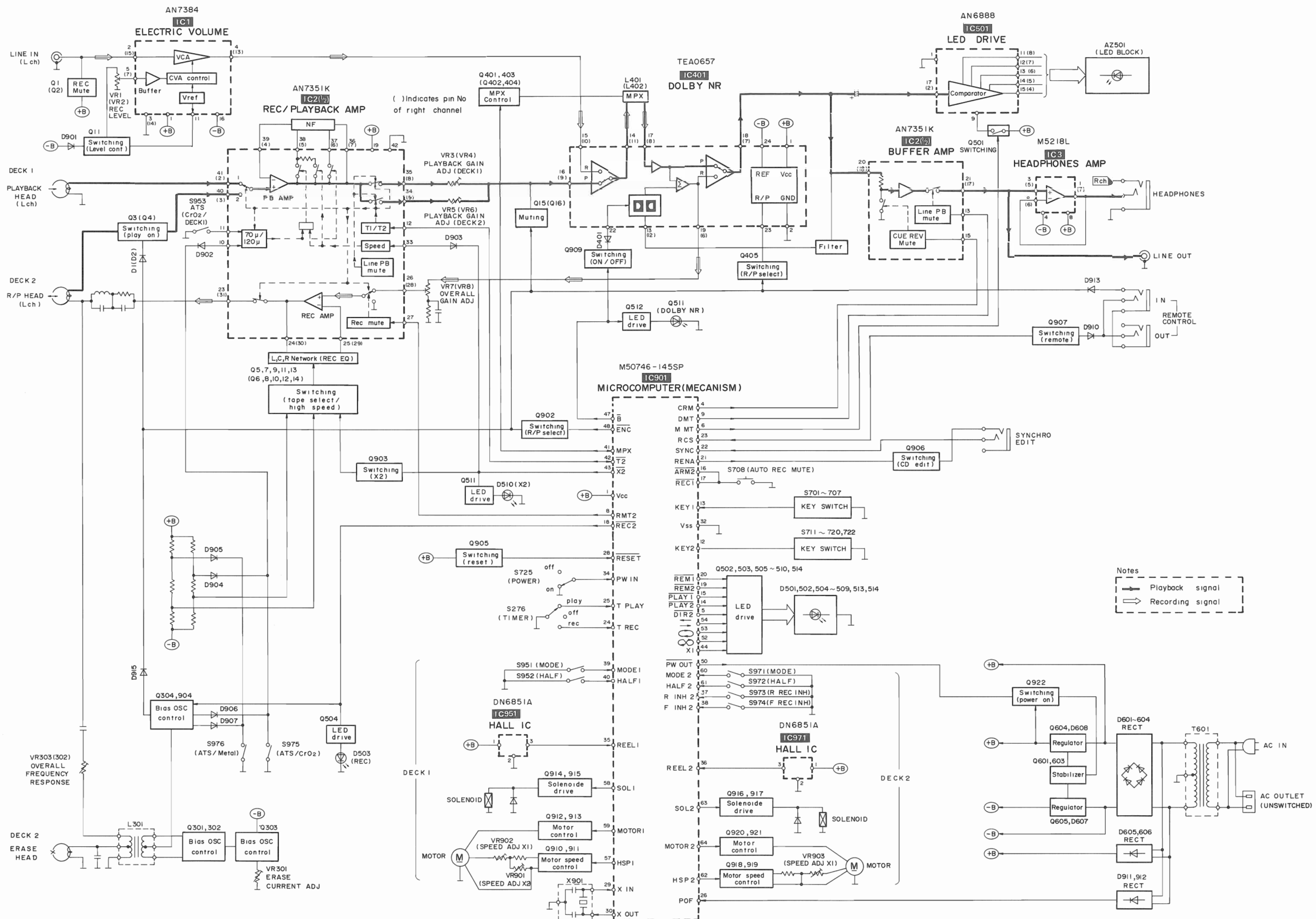


TERMINAL GUIDE OF IC's, TRANSISTORS AND DIODES

	AN7384 16 Pin		DN6851A 3 Pin
	AN6888 18 Pin		M5218L 8 Pin
	TEA0657 24 Pin		2SJ164PQRTA
	AN7351K 42 Pin		2SA1309AQSTA 2SC3311AQSTA 2SD1450RSTTA 2SB1030RSTTA
	M50746-145SP 64 Pin		DTC114ESTP
	2SB621ARSTA 2SD592QRSTA		DTA114ESTP
	2SB1357EFTA 2SD2037EFTA		MA167TA MA165TA 1SR35200TB 1SS133
	MA4062LTA MA4082MTA MA4051MTA		LN38GCPH (GREEN) LN48YCPH (AMBER) LN88RCPH (ORANGE)

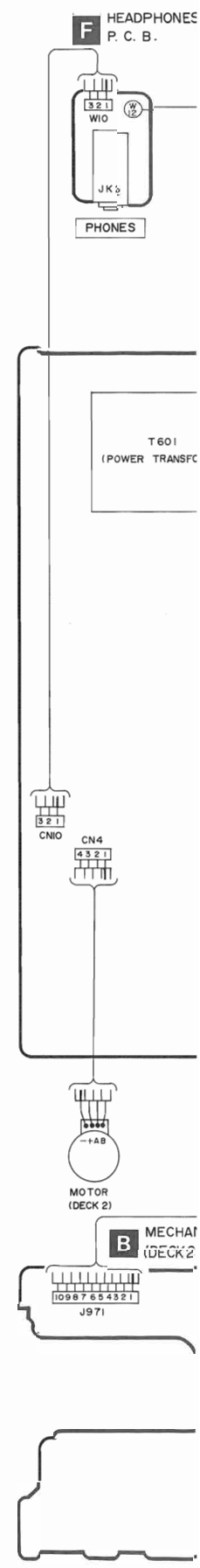
BLOCK DIAGRAM

WIRING CON

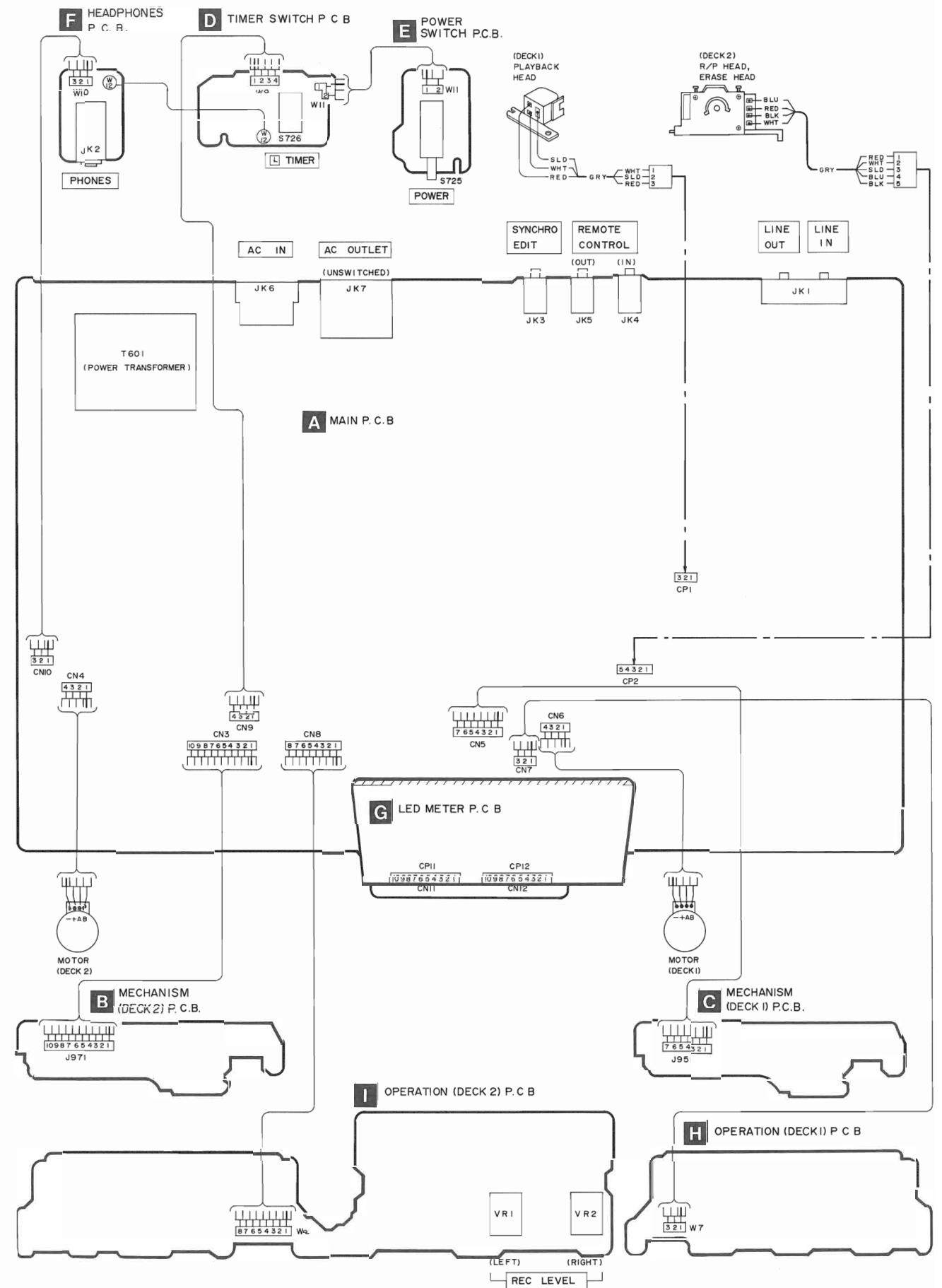
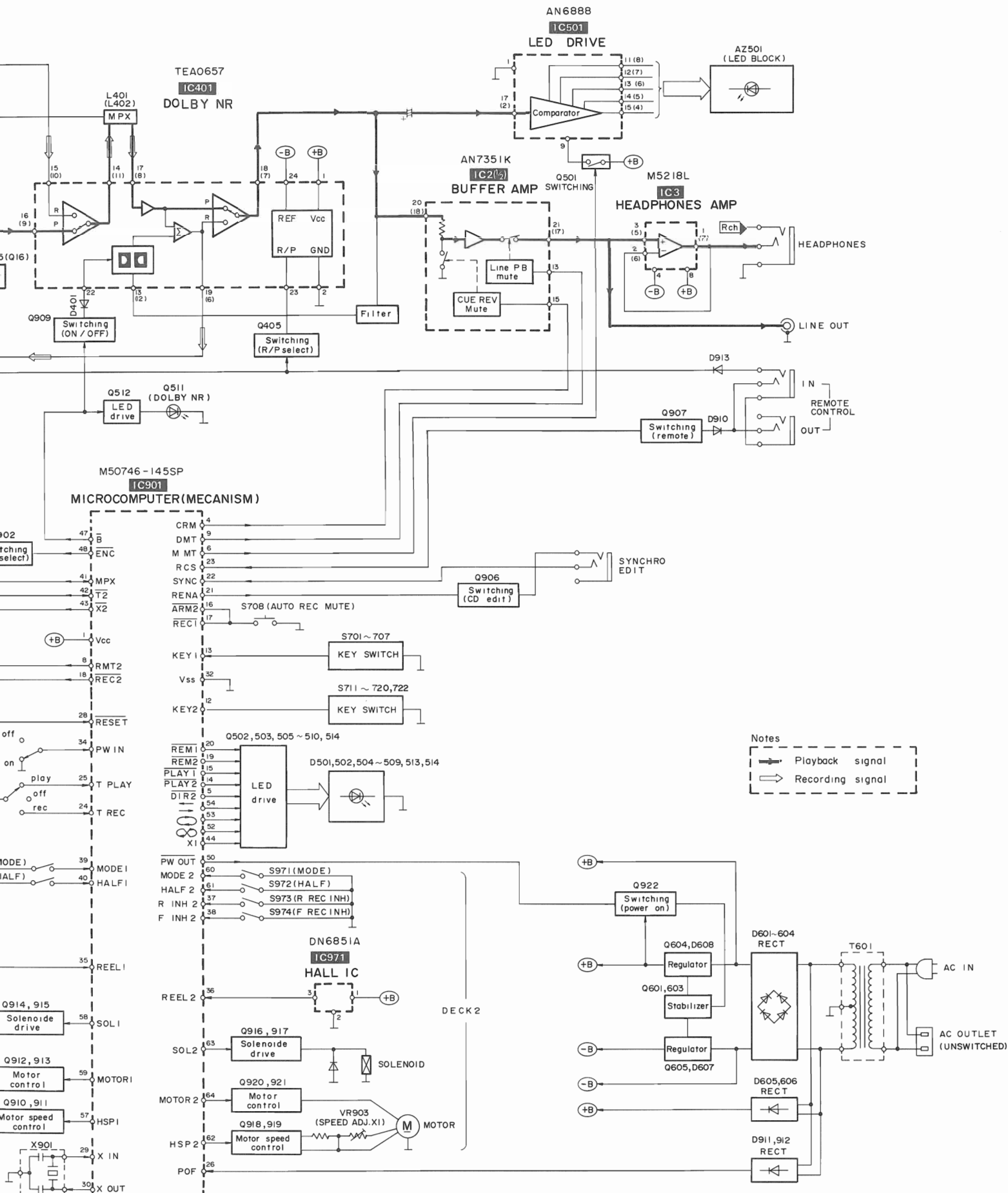


Notes

- Playback signal
- Recording signal



WIRING CONNECTION DIAGRAM



## RESISTORS & CAPACITORS

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.

### Numbering System For Resistors

Example:

Type	Wattage	Shape	Tolerance	Value
ERD	25	F	J	102
	(1/4W)			(1K $\Omega$ )
ERX	2	AN	J	471
	(2W)			(470 $\Omega$ )

### Numbering System For Capacitors

Example:

Type	Voltage	Value	Tolerance	Unique
ECKD	1H	102	Z	F
	(50V)	(0.001 $\mu$ F)		
ECEA	50	M		330
	(50V)	Characteristics		Value (33 $\mu$ F)

● P=Pico-farads (pF), U=microfarads ( $\mu$ F).

● Resistance values are in ohms ( $\Omega$ ), unless specified otherwise, 1K = 1,000 $\Omega$ , 1M = 1,000k $\Omega$

Resistor Type	Wattage		Tolerance
ERD : Carbon	10 : 1/8W	12 : 1/2W	J : $\pm$ 5%
ERG : Metal Oxide	14 : 1/4W	25 : 1/4W	F : $\pm$ 1%
ERQ : Fuse Type Metal	1A : 1W	18 : 1/8W	G : $\pm$ 2%
ERX : Metal Film	S2 : 1/4W	S1 : 1/2W	J : $\pm$ 5%
ERD L : Carbon (chip)	2F : 1/4W	50 : 1/2W	K : $\pm$ 10%
ERO K : Metal Film (chip)	2A : 2W	3A : 3W	M : $\pm$ 20%
ERC : Solid	6G : 1/10W	8G : 1/8W	
ERF : Incombustible Box-Shaped			
ERM : Wire-Wound			
RRJ : Chip Resistor			
ERJ : Chip Resistor			

Capacitor Type	Voltage		Tolerance
ECE : Electrolytic	0J : 6.3V	1A : 10V	K : $\pm$ 10%
ECCD : Ceramic	1C : 16V	1E : 25V	M : $\pm$ 20%
ECKD : Ceramic Capacitor	1H : 50V	1V : 35V	Z : +80 % -20
ECQM : Polyester	50 : 50V	05 : 50V	J : $\pm$ 5%
ECQP : Polypropylene	2H : 500V	2A : 100V	G : $\pm$ 2%
ECG : Ceramic	1 : 100V	1J : 63V	F : $\pm$ 1%
ECEA N : Non Polar Electrolytic	KC : 400V AC		C : $\pm$ 0.25pF
QCU : Ceramic (Chip Type)	KC : 125V AC (UL)		D : $\pm$ 0.5pF
ECUX : Ceramic (Chip Type)			
ECF : Semiconductor			
ECCW : Liquid electrolyte double layer capacitor			

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		RESISTORS		R28	ERDS2TJ820T	C. RESISTOR 1/4W 82	
				R29	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
				R30	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R1	ERDS2TJ394T	C. RESISTOR 1/4W 390K		R31	ERDS2TJ273T	C. RESISTOR 1/4W 27K	
R2	ERDS2TJ394T	C. RESISTOR 1/4W 390K		R32	ERDS2TJ273T	C. RESISTOR 1/4W 27K	
R3	ERDS2TJ273T	C. RESISTOR 1/4W 27K		R33	ERDS2TJ183T	C. RESISTOR 1/4W 18K	
R4	ERDS2TJ273T	C. RESISTOR 1/4W 27K		R34	ERDS2TJ183T	C. RESISTOR 1/4W 18K	
R5	ERDS2TJ273T	C. RESISTOR 1/4W 27K		R35	ERDS2TJ474T	C. RESISTOR 1/4W 470K	
R6	ERDS2TJ273T	C. RESISTOR 1/4W 27K		R36	ERDS2TJ474T	C. RESISTOR 1/4W 470K	
R7	ERDS2TJ225T	C. RESISTOR 1/4W 2.2M		R37	ERDS2TJ182T	C. RESISTOR 1/4W 1.8K	
R8	ERDS2TJ225T	C. RESISTOR 1/4W 2.2M		R38	ERDS2TJ182T	C. RESISTOR 1/4W 1.8K	
R9	ERDS2TJ821T	C. RESISTOR 1/4W 820		R43	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R10	ERDS2TJ821T	C. RESISTOR 1/4W 820		R44	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R11	ERDS2TJ561T	C. RESISTOR 1/4W 560		R45	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R12	ERDS2TJ561T	C. RESISTOR 1/4W 560		R46	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R13	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K		R47	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R14	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K		R48	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R15	ERDS2TJ101T	C. RESISTOR 1/4W 100		R49	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R16	ERDS2TJ101T	C. RESISTOR 1/4W 100		R50	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R19	ERDS2TJ101T	C. RESISTOR 1/4W 100		R51	ERDS2TJ330T	C. RESISTOR 1/4W 33	
R20	ERDS2TJ101T	C. RESISTOR 1/4W 100		R52	ERDS2TJ330T	C. RESISTOR 1/4W 33	
R21	ERDS2TJ104T	C. RESISTOR 1/4W 100K		R53	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R22	ERDS2TJ104T	C. RESISTOR 1/4W 100K		R54	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R23	ERDS2TJ101T	C. RESISTOR 1/4W 100		R55	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R24	ERDS2TJ101T	C. RESISTOR 1/4W 100		R56	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R25	ERDS2TJ225T	C. RESISTOR 1/4W 2.2M		R57	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R26	ERDS2TJ225T	C. RESISTOR 1/4W 2.2M		R58	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R27	ERDS2TJ820T	C. RESISTOR 1/4W 82		R59	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
R60	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K		R513	ERDS2TJ391T	C. RESISTOR 1/4W 390	
R65	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K		R514	ERDS2TJ391T	C. RESISTOR 1/4W 390	
R66	ERDS2TJ682T	C. RESISTOR 1/4W 6.8K		R515	ERDS2TJ391T	C. RESISTOR 1/4W 390	
R67	ERDS2TJ223T	C. RESISTOR 1/4W 22K		R516	ERDS2TJ391T	C. RESISTOR 1/4W 390	
R69	ERDS2TJ153T	C. RESISTOR 1/4W 15K		R518	ERDS2TJ391T	C. RESISTOR 1/4W 390	
R70	ERDS2TJ153T	C. RESISTOR 1/4W 15K		R519	ERDS2TJ331T	C. RESISTOR 1/4W 330	
R71	ERDS2TJ432T	C. RESISTOR 1/4W 4.3K		R601	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R72	ERDS2TJ432T	C. RESISTOR 1/4W 4.3K		R602	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R75	ERDS2TJ102T	C. RESISTOR 1/4W 1K		R603	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R76	ERDS2TJ102T	C. RESISTOR 1/4W 1K		R604	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R301	ERDS2TJ1R0T	C. RESISTOR 1/4W 1.0		R605	ERDS1FVJ100T	C. RESISTOR 1/2W 10	△
R302	ERDS2TJ183T	C. RESISTOR 1/4W 18K		R606	ERDS1FVJ3R3T	C. RESISTOR 1/2W 3.3	△
R303	ERDS2TJ183T	C. RESISTOR 1/4W 18K		R607	ERDS2TJ391T	C. RESISTOR 1/4W 390	
R304	ERDS2TJ100T	C. RESISTOR 1/4W 10		R608	ERDS2TJ221T	C. RESISTOR 1/4W 220	
R305	ERDS2TJ100T	C. RESISTOR 1/4W 10		R609	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R306	ERDS2TJ182T	C. RESISTOR 1/4W 1.8K		R610	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R308	ERDS2TJ561T	C. RESISTOR 1/4W 560		R612	ERDS1FVJ100T	C. RESISTOR 1/2W 10	△
R403	ERDS2TJ103T	C. RESISTOR 1/4W 10K		R614	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R404	ERDS2TJ103T	C. RESISTOR 1/4W 10K		R615	ERDS2TJ680T	C. RESISTOR 1/4W 68	
R405	ERDS2TJ183T	C. RESISTOR 1/4W 18K		R616	ERDS2TJ680T	C. RESISTOR 1/4W 68	
R406	ERDS2TJ183T	C. RESISTOR 1/4W 18K		R624	ERDS2TJ1R0T	C. RESISTOR 1/4W 1.0	
R407	ERDS2TJ242T	C. RESISTOR 1/4W 2.4K		R701	ERDS2TJ821T	C. RESISTOR 1/4W 820	
R408	ERDS2TJ242T	C. RESISTOR 1/4W 2.4K		R702	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R409	ERDS2TJ684T	C. RESISTOR 1/4W 680K		R703	ERDS2TJ122T	C. RESISTOR 1/4W 1.2K	
R410	ERDS2TJ684T	C. RESISTOR 1/4W 680K		R704	ERDS2TJ152T	C. RESISTOR 1/4W 1.5K	
R411	ERDS2TJ684T	C. RESISTOR 1/4W 680K		R705	ERDS2TJ182T	C. RESISTOR 1/4W 1.8K	
R412	ERDS2TJ684T	C. RESISTOR 1/4W 680K		R706	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R413	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K		R707	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R414	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K		R708	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R415	ERDS2TJ473T	C. RESISTOR 1/4W 47K		R709	ERDS2TJ682T	C. RESISTOR 1/4W 6.8K	
R416	ERDS2TJ473T	C. RESISTOR 1/4W 47K		R710	ERDS2TJ123T	C. RESISTOR 1/4W 12K	
R417	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K		R711	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R418	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K		R712	ERDS2TJ683T	C. RESISTOR 1/4W 68K	
R419	ERDS2TJ102T	C. RESISTOR 1/4W 1K		R713	ERDS2TJ821T	C. RESISTOR 1/4W 820	
R420	ERDS2TJ102T	C. RESISTOR 1/4W 1K		R714	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R421	ERDS2TJ274T	C. RESISTOR 1/4W 270K		R715	ERDS2TJ122T	C. RESISTOR 1/4W 1.2K	
R422	ERDS2TJ274T	C. RESISTOR 1/4W 270K		R716	ERDS2TJ152T	C. RESISTOR 1/4W 1.5K	
R423	ERDS2TJ184T	C. RESISTOR 1/4W 180K		R717	ERDS2TJ182T	C. RESISTOR 1/4W 1.8K	
R424	ERDS2TJ184T	C. RESISTOR 1/4W 180K		R718	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R425	ERDS2TJ103T	C. RESISTOR 1/4W 10K		R719	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R501	ERDS2TJ104T	C. RESISTOR 1/4W 100K		R720	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R502	ERDS2TJ104T	C. RESISTOR 1/4W 100K		R721	ERDS2TJ682T	C. RESISTOR 1/4W 6.8K	
R503	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K		R722	ERDS2TJ123T	C. RESISTOR 1/4W 12K	
R504	ERDS2TJ270T	C. RESISTOR 1/4W 27		R723	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R505	ERDS2TJ221T	C. RESISTOR 1/4W 220		R901	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R506	ERDS2TJ391T	C. RESISTOR 1/4W 390		R902	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R507	ERDS2TJ391T	C. RESISTOR 1/4W 390		R903	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R508	ERDS2TJ561T	C. RESISTOR 1/4W 560		R904	ERDS2TJ152T	C. RESISTOR 1/4W 1.5K	
R509	ERDS2TJ391T	C. RESISTOR 1/4W 390		R905	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R510	ERDS2TJ391T	C. RESISTOR 1/4W 390		R906	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R511	ERDS2TJ391T	C. RESISTOR 1/4W 390		R907	ERDS2TJ563T	C. RESISTOR 1/4W 56K	
R512	ERDS2TJ391T	C. RESISTOR 1/4W 390		R908	ERDS2TJ103T	C. RESISTOR 1/4W 10K	



Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
R909	ERDS2TJ103T	C. RESISTOR 1/4W 10K		R963	ERDS2TJ392T	C. RESISTOR 1/4W 3.9K	
R910	ERDS2TJ103T	C. RESISTOR 1/4W 10K		R964	ERDS2TJ184T	C. RESISTOR 1/4W 180K	
R911	ERDS2TJ392T	C. RESISTOR 1/4W 3.9K		R965	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R912	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K		R966	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R913	ERDS2TJ271T	C. RESISTOR 1/4W 270		R967	ERDS2TJ821T	C. RESISTOR 1/4W 820	
R914	ERDS2TJ681T	C. RESISTOR 1/4W 680		R968	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R915	ERDS2TJ683T	C. RESISTOR 1/4W 68K		R969	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R916	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K					
R917	ERDS2TJ103T	C. RESISTOR 1/4W 10K				CAPACITORS	
R918	ERDS2TJ103T	C. RESISTOR 1/4W 10K					
R919	ERDS2TJ471T	C. RESISTOR 1/4W 470		C1	ECEA1HK010B	E. CAPACITOR 50V 1U	
R920	ERDS2TJ103T	C. RESISTOR 1/4W 10K		C2	ECEA1HK010B	E. CAPACITOR 50V 1U	
R921	ERDS2TJ103T	C. RESISTOR 1/4W 10K		C3	ECEA1HK010B	E. CAPACITOR 50V 1U	
R922	ERDS2TJ103T	C. RESISTOR 1/4W 10K		C4	ECEA1HK010B	E. CAPACITOR 50V 1U	
R923	ERDS2TJ102T	C. RESISTOR 1/4W 1K		C5	ECEA1CK220B	E. CAPACITOR 16V 22U	
R924	ERDS2TJ103T	C. RESISTOR 1/4W 10K		C6	ECEA1CK220B	E. CAPACITOR 16V 22U	
R925	ERDS2TJ273T	C. RESISTOR 1/4W 27K		C7	ECBT1H561KB5	C. CAPACITOR 50V 560P	
R926	ERDS2TJ102T	C. RESISTOR 1/4W 1K		C8	ECBT1H561KB5	C. CAPACITOR 50V 560P	
R927	ERDS2TJ223T	C. RESISTOR 1/4W 22K		C9	ECBT1H561KB5	C. CAPACITOR 50V 560P	
R928	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K		C10	ECBT1H561KB5	C. CAPACITOR 50V 560P	
R929	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K		C11	ECBT1H102KB5	C. CAPACITOR 50V 1000P	
R930	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K		C12	ECBT1H102KB5	C. CAPACITOR 50V 1000P	
R931	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K		C13	ECEA0JU101B	E. CAPACITOR 6.3V 100U	
R932	ERDS2TJ392T	C. RESISTOR 1/4W 3.9K		C14	ECEA0JU101B	E. CAPACITOR 6.3V 100U	
R933	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K		C15	ECQB1H682JZ3	P. CAPACITOR 50V 6800P	
R934	ERDS2TJ105T	C. RESISTOR 1/4W 1M		C16	ECQB1H682JZ3	P. CAPACITOR 50V 6800P	
R935	ERDS2TJ182T	C. RESISTOR 1/4W 1.8K		C17	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
R936	ERDS2TJ103T	C. RESISTOR 1/4W 10K		C18	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
R937	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K		C19	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
R938	ERDS2TJ103T	C. RESISTOR 1/4W 10K		C20	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
R939	ERDS2TJ103T	C. RESISTOR 1/4W 10K		C21	ECEA0JU101B	E. CAPACITOR 6.3V 100U	
R940	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K		C23	ECEA1HK010B	E. CAPACITOR 50V 1U	
R941	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K		C24	ECEA1HK010B	E. CAPACITOR 50V 1U	
R942	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K		C25	ECEA1HK010B	E. CAPACITOR 50V 1U	
R943	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K		C26	ECEA1HK010B	E. CAPACITOR 50V 1U	
R946	ERDS2TJ102T	C. RESISTOR 1/4W 1K		C27	ECBT1H561KB5	C. CAPACITOR 50V 560P	
R947	ERDS2TJ102T	C. RESISTOR 1/4W 1K		C28	ECBT1H561KB5	C. CAPACITOR 50V 560P	
R948	ERDS2TJ184T	C. RESISTOR 1/4W 180K		C29	ECKT2H101KB	C. CAPACITOR 500V 100P	
R949	ERDS2TJ103T	C. RESISTOR 1/4W 10K		C30	ECKT2H101KB	C. CAPACITOR 500V 100P	
R950	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K		C31	ECCT1H181K	C. CAPACITOR 50V 180P	
R951	ERDS2TJ103T	C. RESISTOR 1/4W 10K		C32	ECCT1H181K	C. CAPACITOR 50V 180P	
R952	ERDS2TJ392T	C. RESISTOR 1/4W 3.9K		C33	ECEA1HKR47B	E. CAPACITOR 50V 0.47U	
R953	ERDS2TJ103T	C. RESISTOR 1/4W 10K		C34	ECEA1HKR47B	E. CAPACITOR 50V 0.47U	
R954	ERDS2TJ223T	C. RESISTOR 1/4W 22K		C35	ECQB1H392JZ3	P. CAPACITOR 50V 3900P	
R955	ERDS2TJ821T	C. RESISTOR 1/4W 820		C36	ECQB1H392JZ3	P. CAPACITOR 50V 3900P	
R956	ERDS2TJ223T	C. RESISTOR 1/4W 22K		C37	ECQB1H183JZ3	P. CAPACITOR 50V 0.018U	
R957	ERDS2TJ821T	C. RESISTOR 1/4W 820		C38	ECQB1H183JZ3	P. CAPACITOR 50V 0.018U	
R958	ERDS2TJ223T	C. RESISTOR 1/4W 22K		C39	ECQB1H822JZ3	P. CAPACITOR 50V 8200P	
R959	ERDS2TJ821T	C. RESISTOR 1/4W 820		C40	ECQB1H822JZ3	P. CAPACITOR 50V 8200P	
R960	ERDS2TJ153T	C. RESISTOR 1/4W 15K		C41	ECQB1H273JZ3	P. CAPACITOR 50V 0.027U	
R961	ERDS2TJ221T	C. RESISTOR 1/4W 220		C42	ECQB1H273JZ3	P. CAPACITOR 50V 0.027U	
R962	ERDS2TJ103T	C. RESISTOR 1/4W 10K		C45	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
C46	ECKT1H103ZF	C. CAPACITOR 50V 0.01U					
C49	ECEA1CK100B	E. CAPACITOR 16V 10U					
C50	ECEA1CK100B	E. CAPACITOR 16V 10U					
C53	ECQB1H183JZ3	P. CAPACITOR 50V 0.018U					
C54	ECQB1H183JZ3	P. CAPACITOR 50V 0.018U					
C55	ECBT1H102KB5	C. CAPACITOR 50V 1000P					
C301	ECQP1153JZ3	P. CAPACITOR 50V 0.015U					
C302	ECEA1CU221B	E. CAPACITOR 16V 220U					
C303	ECKT1H392KB	C. CAPACITOR 50V 3900P					
C304	ECFR1E222KAY	S. CAPACITOR 25V 2200P					
C305	ECFR1E222KAY	S. CAPACITOR 25V 2200P					
C306	ECFR1E682KAY	S. CAPACITOR 25V 6800P					
C307	ECCT1H221K	C. CAPACITOR 50V 220P					
C308	ECCT1H221K	C. CAPACITOR 50V 220P					
C309	ECKT1H103ZF	C. CAPACITOR 50V 0.01U					
C401	ECEA1HK2R2B	E. CAPACITOR 50V 2.2U					
C402	ECEA1HK2R2B	E. CAPACITOR 50V 2.2U					
C403	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U					
C404	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U					
C405	ECKT1H122KB	C. CAPACITOR 50V 1200P					
C406	ECKT1H122KB	C. CAPACITOR 50V 1200P					
C407	ECKT1H152KB	C. CAPACITOR 50V 1500P					
C408	ECKT1H152KB	C. CAPACITOR 50V 1500P					
C409	ECQB1H472JZ3	P. CAPACITOR 50V 4700P					
C410	ECQB1H472JZ3	P. CAPACITOR 50V 4700P					
C411	ECQB1H333JZ3	P. CAPACITOR 50V 0.033U					
C412	ECQB1H333JZ3	P. CAPACITOR 50V 0.033U					
C413	ECQV1H473JZ3	P. CAPACITOR 50V 0.047U					
C414	ECQV1H473JZ3	P. CAPACITOR 50V 0.047U					
C415	ECEA1HKR33B	E. CAPACITOR 50V 0.33U					
C416	ECEA1HKR33B	E. CAPACITOR 50V 0.33U					
C417	ECQV1H104JZ3	P. CAPACITOR 50V 0.1U					
C418	ECQV1H104JZ3	P. CAPACITOR 50V 0.1U					
C501	ECEA1HK2R2B	E. CAPACITOR 50V 2.2U					
C502	ECEA1HK2R2B	E. CAPACITOR 50V 2.2U					
C503	ECKT1H103ZF	C. CAPACITOR 50V 0.01U					
C601	ECKT2H682PEL	C. CAPACITOR 500V 6800P					
C602	ECEA1EU102B	E. CAPACITOR 25V 1000U	△				
C603	ECEA1EU102B	E. CAPACITOR 25V 1000U	△				
C604	ECKT1H103ZF	C. CAPACITOR 50V 0.01U					
C605	ECKT1H103ZF	C. CAPACITOR 50V 0.01U					
C606	ECEA1AU221B	E. CAPACITOR 10V 220U					
C607	ECEA1AU221B	E. CAPACITOR 10V 220U					
C608	ECKT1H103ZF	C. CAPACITOR 50V 0.01U					
C610	ECEA0JU221B	E. CAPACITOR 6.3V 220U					
C611	ECEA0JU221B	E. CAPACITOR 6.3V 220U					
C612	ECEA1EU222E	E. CAPACITOR 25V 2200U					
C901	ECEA0JU222B	E. CAPACITOR 6.3V 2200U					
C903	ECEA1HK010B	E. CAPACITOR 50V 1U					
C904	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U					
C907	ECKT1H103ZF	C. CAPACITOR 50V 0.01U					
C909	ECKT1H103ZF	C. CAPACITOR 50V 0.01U					

## REPLACEMENT PARTS LIST

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.

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUITS					
IC1	AN7384	IC, VOLUME CONTROL		Q509	DTA114ESTP	TRANSISTOR	
IC2	AN7351K	IC, REC. /PLAYBACK AMP.		Q510	DTA114ESTP	TRANSISTOR	
IC3	M5218L	IC, HEADPHONES AMP.		Q511	DTA114ESTP	TRANSISTOR	
IC401	TEA0657	IC, DOLBY NR		Q512	DTA114ESTP	TRANSISTOR	
IC501	AN6888	IC, METER DRIVE		Q514	DTA114ESTP	TRANSISTOR	
IC901	M50746-145SP	IC, MICROCOMPUTER		Q601	2SA1309AQSTA	TRANSISTOR	
IC951	DN6851A	IC, HALL		Q603	2SC3311AQSTA	TRANSISTOR	
IC971	DN6851A	IC, HALL		Q604	2SD2037EFTA	TRANSISTOR	
		TRANSISTORS		Q605	2SB1357EFTA	TRANSISTOR	
Q1	2SJ164PQRTA	TRANSISTOR		Q606	2SD592QRSTA	TRANSISTOR	
Q2	2SJ164PQRTA	TRANSISTOR		Q901	2SC3311AQSTA	TRANSISTOR	
Q3	2SJ164PQRTA	TRANSISTOR		Q902	DTA114ESTP	TRANSISTOR	
Q4	2SJ164PQRTA	TRANSISTOR		Q903	DTA114ESTP	TRANSISTOR	
Q5	2SA1309AQSTA	TRANSISTOR		Q904	2SB1030RSTTA	TRANSISTOR	
Q6	2SA1309AQSTA	TRANSISTOR		Q905	2SC3311AQSTA	TRANSISTOR	
Q7	2SA1309AQSTA	TRANSISTOR		Q906	DTC114ESTP	TRANSISTOR	
Q8	2SA1309AQSTA	TRANSISTOR		Q907	2SA1309AQSTA	TRANSISTOR	
Q9	2SC3311AQSTA	TRANSISTOR		Q909	DTA114ESTP	TRANSISTOR	
Q10	2SC3311AQSTA	TRANSISTOR		Q910	DTC114ESTP	TRANSISTOR	
Q11	2SC3311AQSTA	TRANSISTOR		Q911	2SA1309AQSTA	TRANSISTOR	
Q12	2SC3311AQSTA	TRANSISTOR		Q912	2SB621ARSTA	TRANSISTOR	
Q13	2SC3311AQSTA	TRANSISTOR		Q913	DTC114ESTP	TRANSISTOR	
Q14	2SC3311AQSTA	TRANSISTOR		Q914	2SB1030RSTTA	TRANSISTOR	
Q15	2SD1450RSTTA	TRANSISTOR		Q915	DTC114ESTP	TRANSISTOR	
Q16	2SD1450RSTTA	TRANSISTOR		Q916	2SB1030RSTTA	TRANSISTOR	
Q301	2SC3311AQSTA	TRANSISTOR		Q917	DTC114ESTP	TRANSISTOR	
Q302	2SC3311AQSTA	TRANSISTOR		Q918	2SA1309AQSTA	TRANSISTOR	
Q303	2SB621ARSTA	TRANSISTOR		Q919	DTC114ESTP	TRANSISTOR	
Q304	2SD592QRSTA	TRANSISTOR		Q920	2SB621ARSTA	TRANSISTOR	
Q401	2SC3311AQSTA	TRANSISTOR		Q921	DTC114ESTP	TRANSISTOR	
Q402	2SC3311AQSTA	TRANSISTOR		Q922	DTC114ESTP	TRANSISTOR	
Q403	2SC3311AQSTA	TRANSISTOR				DIODES	
Q404	2SC3311AQSTA	TRANSISTOR		D1	MA167TA	DIODE	
Q405	2SA1309AQSTA	TRANSISTOR		D2	MA167TA	DIODE	
Q501	DTA114ESTP	TRANSISTOR		D401	MA165TA	DIODE	
Q502	DTA114ESTP	TRANSISTOR		D501	LN38GCPH	L. E. D	
Q503	DTA114ESTP	TRANSISTOR		D502	LN38GCPH	L. E. D	
Q504	DTA114ESTP	TRANSISTOR		D503	LN88RCPH	L. E. D	
Q505	DTA114ESTP	TRANSISTOR		D504	LN38GCPH	L. E. D	
Q506	DTA114ESTP	TRANSISTOR		D505	LN38GCPH	L. E. D	
Q507	DTA114ESTP	TRANSISTOR		D506	LN38GCPH	L. E. D	
Q508	DTA114ESTP	TRANSISTOR		D507	LN38GCPH	L. E. D	
				D508	LN38GCPH	L. E. D	
				D509	LN88RCPH	L. E. D	
				D510	LN88RCPH	L. E. D	

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
D511	LN38GCPH	L. E. D		VR5	EVNDXAA00B24	V. R, PLAYBACK GAIN ADJ.	
D513	LN38GCPH	L. E. D		VR6	EVNDXAA00B24	V. R, PLAYBACK GAIN ADJ.	
D514	LN38GCPH	L. E. D		VR7	EVNDXAA00B14	V. R, OVERALL GAIN ADJ.	
D515	MA165TA	DIODE		VR8	EVNDXAA00B14	V. R, OVERALL GAIN ADJ.	
D516	MA165TA	DIODE		VR301	EVNDXAA00B53	V. R, ERASE CURRENT ADJ.	
D517	LN48YCPH	L. E. D		VR302	EVNDXAA00B15	V. R, OVERALL FREQ. ADJ.	
D518	LN48YCPH	L. E. D		VR303	EVNDXAA00B15	V. R, OVERALL FREQ. ADJ.	
D519	LN48YCPH	L. E. D		VR901	EVN4LCA00B53	V. R, TAPE SPEED ADJ. (X2)	
D520	LN48YCPH	L. E. D		VR902	EVN4LCA00B53	V. R, TAPE SPEED ADJ. (X1)	
D521	LN48YCPH	L. E. D		VR903	EVN4LCA00B53	V. R, TAPE SPEED ADJ. (X1)	
D522	LN48YCPH	L. E. D					
D523	LN88RCPH	L. E. D				COILS	
D524	LN88RCPH	L. E. D					
D525	LN88RCPH	L. E. D					
D526	LN88RCPH	L. E. D		L1	SLQX303-1KT	COIL	
D527	LN88RCPH	L. E. D		L2	SLQX303-1KT	COIL	
D528	LN88RCPH	L. E. D		L3	SLQX272-1YT	COIL	
D601	1SR35200TB	DIODE	$\Delta$	L4	SLQX272-1YT	COIL	
D602	1SR35200TB	DIODE	$\Delta$	L301	SL09B4-K	COIL	
D603	1SR35200TB	DIODE	$\Delta$	L401	QLM9Z10K	COIL	
D604	1SR35200TB	DIODE	$\Delta$	L402	QLM9Z10K	COIL	
D605	1SR35200TB	DIODE	$\Delta$	L501	ELEXT101KA9	COIL	
D606	1SR35200TB	DIODE	$\Delta$	L502	ELEXT101KA9	COIL	
D607	MA4082MTA	DIODE					
D608	MA4082MTA	DIODE				TRANSFORMERS	
D610	MA4062LTA	DIODE					
D612	MA165TA	DIODE		T601	RTP1K4C002-V	POWER TRANSFORMER	$\Delta$
D901	MA165TA	DIODE					
D902	MA165TA	DIODE				OSCILLATORS	
D903	MA165TA	DIODE					
D904	MA165TA	DIODE		X901	EF0GC4004T4	CERAMIC FILTER	
D905	MA165TA	DIODE					
D906	MA165TA	DIODE				SWITCHES	
D907	MA165TA	DIODE					
D908	1SR35200TB	DIODE	$\Delta$	S701	EVQQB005R	SW, STOP (DECK 1)	
D909	MA165TA	DIODE		S702	EVQQB005R	SW, F. F. (DECK 1)	
D910	MA165TA	DIODE		S703	EVQQB005R	SW, REW. (DECK 1)	
D911	MA165TA	DIODE		S704	EVQQB005R	SW, F. PLAYBACK (DECK 1)	
D912	MA165TA	DIODE		S705	EVQQB005R	SW, REVERSE MODE	
D913	MA165TA	DIODE		S706	EVQQB005R	SW, REVERSE MODE	
D914	MA4051MTA	DIODE		S707	EVQQB005R	SW, REVERSE MODE	
D915	MA165TA	DIODE		S708	EVQQB005R	SW, AUTO REC MUTE (DECK 2)	
D916	MA165TA	DIODE		S711	EVQQB005R	SW, STOP (DECK 2)	
D951	1SS133	DIODE		S712	EVQQB005R	SW, F. F. (DECK 2)	
D971	1SS133	DIODE		S713	EVQQB005R	SW, REW. (DECK 2)	
				S714	EVQQB005R	SW, F. PLAYBACK (DECK 2)	
		VARIABLE RESISTORS		S715	EVQQB005R	SW, R. PLAYBACK (DECK 2)	
				S716	EVQQB005R	SW, REC. (DECK 2)	
VR1	EVJ02FF01B15	V. R, REC. LEVEL CONTROL		S717	EVQQB005R	SW, PAUSE (DECK 2)	
VR2	EVJ02FF01B15	V. R, REC. LEVEL CONTROL		S718	EVQQB005R	SW, SYNCHRO-START	
VR3	EVNDXAA00B24	V. R, PLAYBACK GAIN ADJ.		S719	EVQQB005R	SW, X2 SPEED	
VR4	EVNDXAA00B24	V. R, PLAYBACK GAIN ADJ.		S720	EVQQB005R	SW, X1 SPEED	

When replacing any of these

& Description Remarks

Ref. No.	Part No.	Part Name & Description	Remarks
D511	LN38GCPH	L. E. D	
D513	LN38GCPH	L. E. D	
D514	LN38GCPH	L. E. D	
D515	MA165TA	DIODE	
D516	MA165TA	DIODE	
D517	LN48YCPH	L. E. D	
D518	LN48YCPH	L. E. D	
D519	LN48YCPH	L. E. D	
D520	LN48YCPH	L. E. D	
D521	LN48YCPH	L. E. D	
D522	LN48YCPH	L. E. D	
D523	LN88RCPH	L. E. D	
D524	LN88RCPH	L. E. D	
D525	LN88RCPH	L. E. D	
D526	LN88RCPH	L. E. D	
D527	LN88RCPH	L. E. D	
D528	LN88RCPH	L. E. D	
D601	1SR35200TB	DIODE	△
D602	1SR35200TB	DIODE	△
D603	1SR35200TB	DIODE	△
D604	1SR35200TB	DIODE	△
D605	1SR35200TB	DIODE	△
D606	1SR35200TB	DIODE	△
D607	MA4082MTA	DIODE	
D608	MA4082MTA	DIODE	
D610	MA4062LTA	DIODE	
D612	MA165TA	DIODE	
D901	MA165TA	DIODE	
D902	MA165TA	DIODE	
D903	MA165TA	DIODE	
D904	MA165TA	DIODE	
D905	MA165TA	DIODE	
D906	MA165TA	DIODE	
D907	MA165TA	DIODE	
D908	1SR35200TB	DIODE	△
D909	MA165TA	DIODE	
D910	MA165TA	DIODE	
D911	MA165TA	DIODE	
D912	MA165TA	DIODE	
D913	MA165TA	DIODE	
D914	MA4051MTA	DIODE	
D915	MA165TA	DIODE	
D916	MA165TA	DIODE	
D951	1SS133	DIODE	
D971	1SS133	DIODE	
		VARIABLE RESISTORS	
VR1	EVJ02FF01B15	V. R, REC. LEVEL CONTROL	
VR2	EVJ02FF01B15	V. R, REC. LEVEL CONTROL	
VR3	EVNDXAA00B24	V. R, PLAYBACK GAIN ADJ.	
VR4	EVNDXAA00B24	V. R, PLAYBACK GAIN ADJ.	

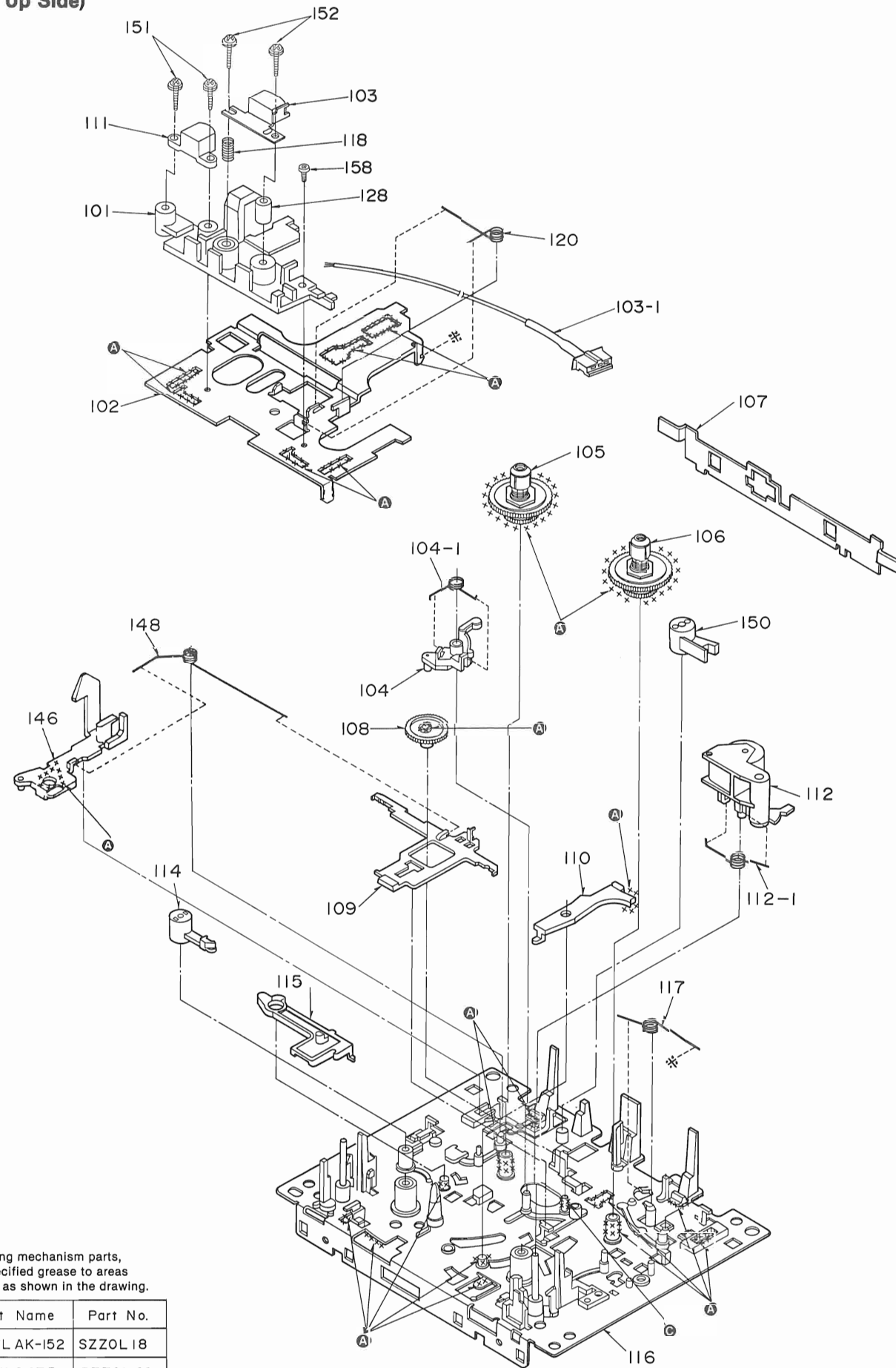
Ref. No.	Part No.	Part Name & Description	Remarks
VR5	EVNDXAA00B24	V. R, PLAYBACK GAIN ADJ.	
VR6	EVNDXAA00B24	V. R, PLAYBACK GAIN ADJ.	
VR7	EVNDXAA00B14	V. R, OVERALL GAIN ADJ.	
VR8	EVNDXAA00B14	V. R, OVERALL GAIN ADJ.	
VR301	EVNDXAA00B53	V. R, ERASE CURRENT ADJ.	
VR302	EVNDXAA00B15	V. R, OVERALL FREQ. ADJ.	
VR303	EVNDXAA00B15	V. R, OVERALL FREQ. ADJ.	
VR901	EVN4LCA00B53	V. R, TAPE SPEED ADJ. (X2)	
VR902	EVN4LCA00B53	V. R, TAPE SPEED ADJ. (X1)	
VR903	EVN4LCA00B53	V. R, TAPE SPEED ADJ. (X1)	
		COILS	
L1	SLQX303-1KT	COIL	
L2	SLQX303-1KT	COIL	
L3	SLQX272-1YT	COIL	
L4	SLQX272-1YT	COIL	
L301	SL09B4-K	COIL	
L401	QLM9210K	COIL	
L402	QLM9210K	COIL	
L501	ELEXT101KA9	COIL	
L502	ELEXT101KA9	COIL	
		TRANSFORMERS	
T601	RTP1K4C002-V	POWER TRANSFORMER	△
		OSCILLATORS	
X901	EF0GC4004T4	CERAMIC FILTER	
		SWITCHES	
S701	EVQQB005R	SW, STOP (DECK 1)	
S702	EVQQB005R	SW, F. F. (DECK 1)	
S703	EVQQB005R	SW, REW. (DECK 1)	
S704	EVQQB005R	SW, F. PLAYBACK (DECK 1)	
S705	EVQQB005R	SW, REVERSE MODE	
S706	EVQQB005R	SW, REVERSE MODE	
S707	EVQQB005R	SW, REVERSE MODE	
S708	EVQQB005R	SW, AUTO REC MUTE (DECK 2)	
S711	EVQQB005R	SW, STOP (DECK 2)	
S712	EVQQB005R	SW, F. F. (DECK 2)	
S713	EVQQB005R	SW, REW. (DECK 2)	
S714	EVQQB005R	SW, F. PLAYBACK (DECK 2)	
S715	EVQQB005R	SW, R. PLAYBACK (DECK 2)	
S716	EVQQB005R	SW, REC. (DECK 2)	
S717	EVQQB005R	SW, PAUSE (DECK 2)	
S718	EVQQB005R	SW, SYNCHRO-START	
S719	EVQQB005R	SW, X2 SPEED	
S720	EVQQB005R	SW, X1 SPEED	

Ref. No.	Part No.	Part Name & Description	Remarks
S722	EVQQB005R	SW, DOLBY NR	
S725	SSH1230	SW, POWER	△
S726	SSS180-1	SW, TIMER	
S951	RSH1A89Z	SW, MODE (DECK 1)	
S952	RSH1A90Z	SW, HALF (DECK 1)	
S953	RSH1A90Z	SW, ATS (DECK 1)	
S971	RSH1A89Z	SW, MODE (DECK 2)	
S972	RSH1A90Z	SW, HALF (DECK 2)	
S973	RSH1A90Z	SW, REC. 1NH (R) (DECK 2)	
S974	RSH1A90Z	SW, REC. 1NH (F) (DECK 2)	
S975	RSH1A90Z	SW, ATS (DECK 2)	
S976	RSH1A90Z	SW, ATS (DECK 2)	
		LED BLOCK	
AZ501	LN261478PH	LED BLOCK ASS' Y	(D501-D511, D513, D514, D517-D528)
		CONNECTORS	
CN3	SJSD1005	CONNECTOR (10P)	
CN4	SJT30443-V	CONNECTOR (4P)	
CN5	SJSD0705	CONNECTOR (7P)	
CN6	SJT30443-V	CONNECTOR (4P)	
CN7	SJT30343-V	CONNECTOR (3P)	
CN8	SJT30843-V	CONNECTOR (8P)	
CN9	SJT30443-V	CONNECTOR (4P)	
CN10	SJT30343-V	CONNECTOR (3P)	
CN11	RJU003K010M	SOCKET (10P)	
CN12	RJU003K010M	SOCKET (10P)	
CN601	RJS1A1101	SOCKET (1P)	
CN603	RJS1A1101	SOCKET (1P)	
CN606	RJS1A1101	SOCKET (1P)	
CN607	RJS1A1101	SOCKET (1P)	
CN608	RJS1A1101	SOCKET (1P)	
CP1	SJTD313	CONNECTOR (3P)	
CP2	SJTD513	CONNECTOR (5P)	
CP11	RJT003K010	CONNECTOR (10P)	
CP12	RJT003K010	CONNECTOR (10P)	
		GND PARTS	
E1	SNE1004	GND PLATE	
		JACKS	
JK1	SJF3069N	TERMINAL BOARD	
JK2	SJJ134B	JACK, HEADPHONES	
JK3	RJJ33701	M3 JACK (BLACK)	
JK4	RJJ337R01	M3 JACK (RED)	
JK5	RJJ337R01	M3 JACK (RED)	
JK6	SJSD16	AC INLET	△

Ref. No.	Part No.	Part Name & Description	Remarks
JK7	SJS9331B	AC OUTLET	△

**MECHANICAL PARTS LOCATION**

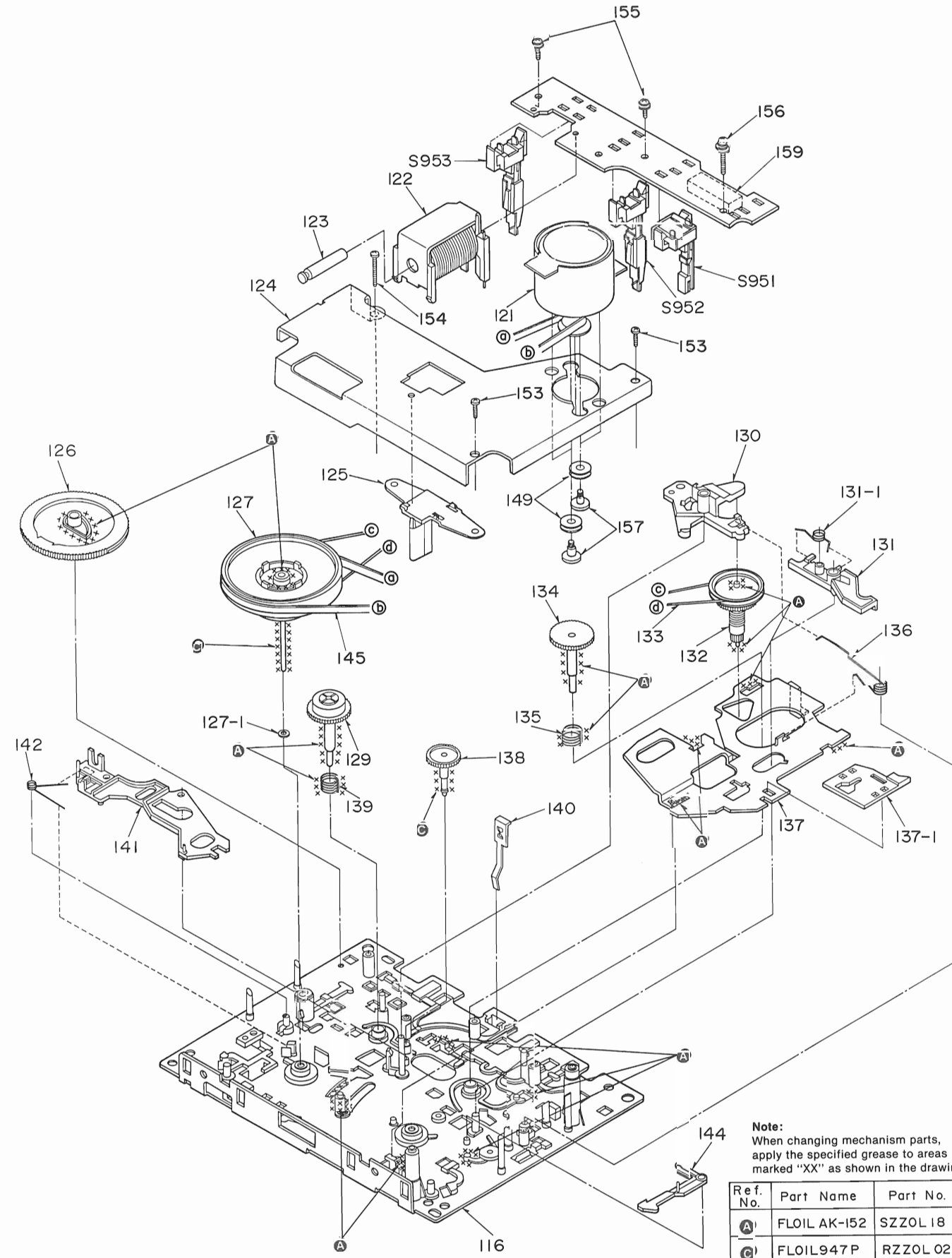
(DECK 1: Up Side)



**Note:**  
When changing mechanism parts,  
apply the specified grease to areas  
marked "XX" as shown in the drawing.

Ref. No.	Part Name	Part No.
A	FLOIL AK-152	SZZOL 18
C	FLOIL947P	RZZOL 02

(DECK 1: Down Side)



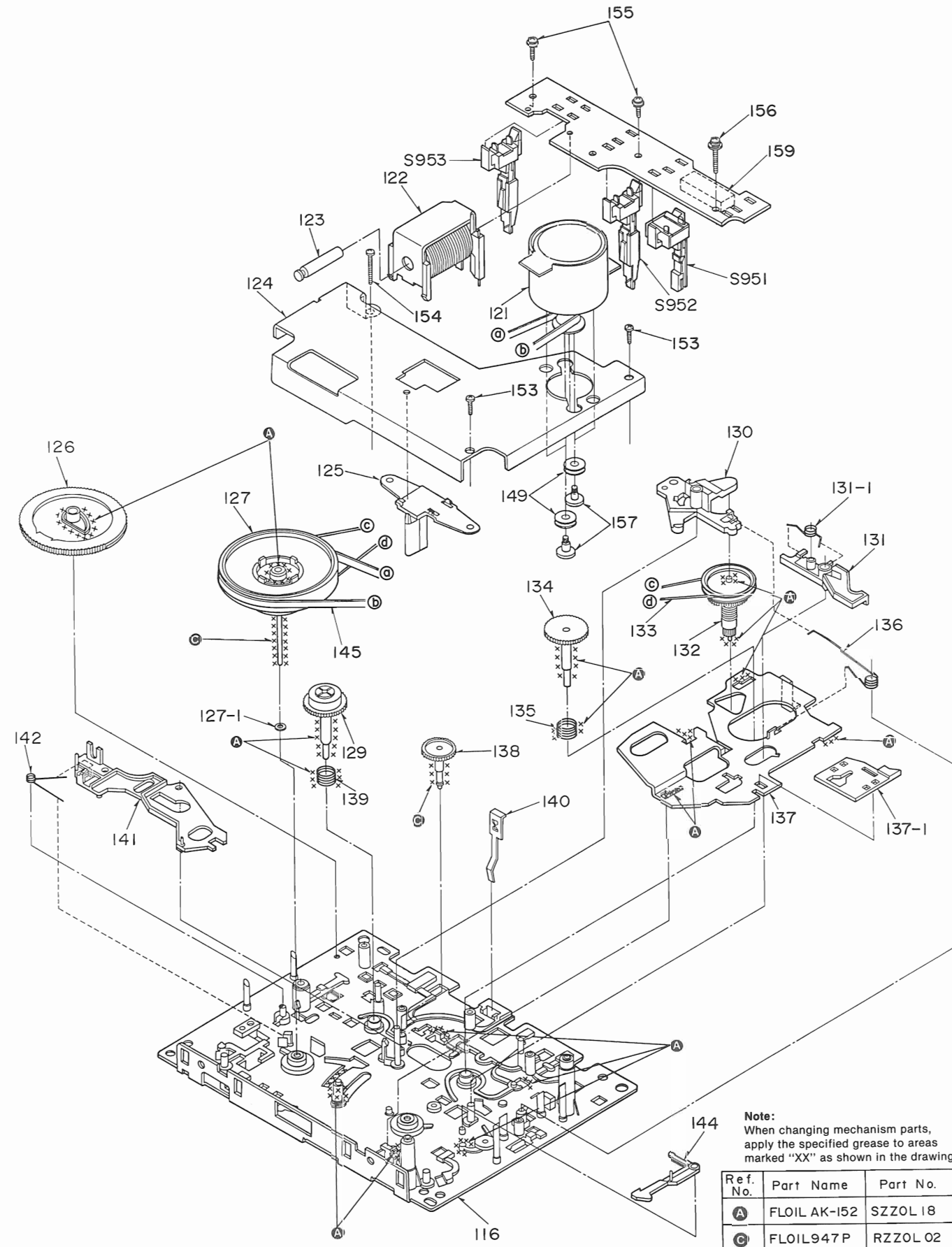
**Note:**  
When changing mechanism parts,  
apply the specified grease to areas  
marked "XX" as shown in the drawing.

Ref. No.	Part Name	Part No.
A	FLOIL AK-152	SZZOL 18
C	FLOIL947P	RZZOL 02

**REPLACEMENT PARTS**

Ref. No.	Part No.	Part Name
		MECHANISM
DECK1		
101	RMD5013ZB	HEAD
102	RUA793ZA	HEAD
103	SJHL03-1	PLAY
103-1	1JS0060ZA	LEAD
104	1UB0089ZA	ARM
104-1	RJW148ZA	SPRI
105	1DM0005ZA	REEL
106	1DM0017ZA	REEL
107	RUB502ZC	LEVE
108	RDG5772ZA	GEAR
109	RUB508ZA	BRAK
110	RUB506ZB	ROCK
111	RUG82Z	DAMP
112	1UB0087ZA	ARM
112-1	RJW140ZB	SPRI
114	RNL1Z	DAMP
115	RUB503ZB	MAI
116	RZUAR300	CHAS
117	RJW142ZA	SPRI
118	QBA51278	SPRI
120	RJW139ZA	SPRI
121	RFM134ZA	DC M
122	1UE0015ZA	PLUN
123	RUB428Z	MOVI
124	RUL1030ZC	ANGL
125	RMD5017ZA	ANGL
126	RDG5927ZC	MAI
127	1DW0037ZA	FLYW
127-1	RNW139ZA	WASH
128	RHM278ZA	SPAC
129	1DG006ZA	REEL
130	RUB513ZC	ARM
131	1UB0091ZA	LEVE
131-1	RJW146ZA	SPRI
132	1DR0011ZA	MAI
133	RDV90ZB	BELT
134	RDG5769ZA	REEL
135	RJQ10Z	SPRI
136	RJW145ZA	SPRI
137	1UB0090ZA	ROD
137-1	RUB512ZB	ROD
138	RDG5773ZA	GEAR
139	RJQ30Z	SPRI
140	RJS609Z	TAPE
141	RUB514ZB	LEVE
142	RJW147ZA	SPRI
144	RUB509ZA	LEVE
145	RDV109ZA	CAPS

(DECK 1: Down Side)



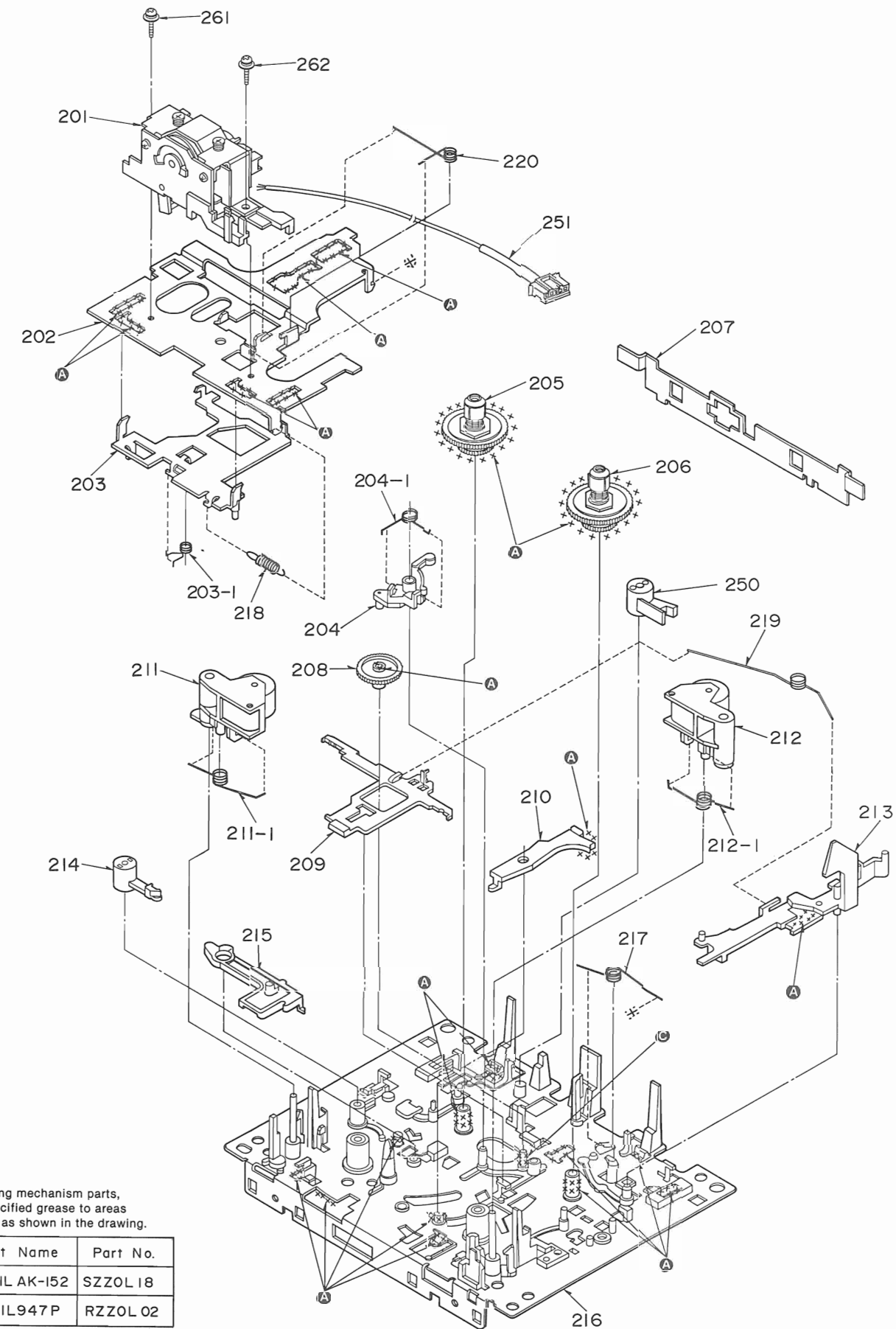
## REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
				146	RUB541Z	EJECT ROD (L)	
				148	RJW167ZA	SPRING	
				149	RHG3032ZA	RUBBER CUSHION	
				150	RNL180ZA	DAMPER ARM	
				151	QHQ1361A	SCREW	
				152	RHE5201ZA	SCREW	
				153	XTN26+7J	SCREW	
				154	XTN26+16F	SCREW	
				155	XTW2+8S	SCREW	
				156	XYC2+JF16	SCREW	
				157	XSN26+3	SCREW	
				158	XTN2+5F	SCREW	
				159	SJT30744-H	CONNECTOR (7P), J951	
MECHANISM PARTS LIST							
DECK1							
101	RMD5013ZB	HEAD ANGLE					
102	RJA793ZA	HEAD BASE					
103	SJH103-1	PLAYBACK HEAD					
103-1	1JS0060ZA	LEAD WIRE BLOCK					
104	1UB0089ZA	ARM					
104-1	RJW148ZA	SPRING					
105	1DM005ZA	REEL TABLE (R)					
106	1DM0017ZA	REEL TABLE (F)					
107	RUB502ZC	LEVER					
108	RDG5772ZA	GEAR					
109	RUB508ZA	BRAKE ROD					
110	RUB506ZB	ROCK LEVER					
111	RJG82Z	DAMPE HEAD					
112	1UB0087ZA	ARM					
112-1	RJW140ZB	SPRING					
114	RNL1Z	DAMPER ARM					
115	RUB503ZB	MAIN LEVER					
116	RZUAR300	CHASSIS					
117	RJW142ZA	SPRING					
118	QBA51278	SPRING					
120	RJW139ZA	SPRING					
121	RFM134ZA	DC MOTOR					
122	1UE0015ZA	PLUNGER					
123	RUB428Z	MOVING IRON CORE					
124	RUL1030ZC	ANGLE					
125	RMD5017ZA	ANGLE					
126	RDG5927ZC	MAIN GEAR					
127	1DW0037ZA	FLYWHEEL (F)					
127-1	RJW139ZA	WASHER					
128	RHM278ZA	SPACER					
129	1DG0006ZA	REEL TABLE GEAR					
130	RUB513ZC	ARM					
131	1UB0091ZA	LEVER					
131-1	RJW146ZA	SPRING					
132	1DR0011ZA	MAIN PULLEY					
133	RDV90ZB	BELT					
134	RDG5769ZA	REEL TABLE GEAR					
135	RJQ10Z	SPRING					
136	RJW145ZA	SPRING					
137	1UB0090ZA	ROD					
137-1	RUB512ZB	ROD					
138	RDG5773ZA	GEAR					
139	RJQ30Z	SPRING					
140	RUS609Z	TAPE PRESSURE SPRING					
141	RUB514ZB	LEVER					
142	RJW147ZA	SPRING					
144	RUB509ZA	LEVER					
145	RDV109ZA	CAPSTAN BELT					

Ref. No.	Part No.	Part Name & Description	Remarks
MECHANISM PARTS LIST			
DECK2			
201	RXQ0019	HEAD BLOCK (REC./PLAYBACK)	
202	RJA793Z	HEAD BASE	
203	RZLAR300	ROD	
203-1	RUW143Z	SPRING	
204	1UB0089ZA	ARM	
204-1	RUW148ZA	SPRING	
205	1DM0018ZA	REEL TABLE (R)	
206	1DM0017ZA	REEL TABLE (F)	
207	RUB502Z	LEVER	
208	RDG5772Z	GEAR	
209	RUB508ZA	BRAKE ROD	
210	RUB506Z	LEVER	
211	1UB0088ZA	ARM (R)	
211-1	RUW141Z	SPRING	
212	1UB0087ZA	ARM (F)	
212-1	RUW140Z	SPRING	
213	RUB507Z	EJECT ROD (R)	
214	RNL1Z	DAMPER ARM	
215	RUB503Z	MAIN LEVER	
216	RZUSX980	CHASSIS	
217	RUW142ZA	SPRING	
218	RJD105Z	SPRING	
219	RUW144ZA	SPRING	
220	RUW139ZA	SPRING	
221	RFM134ZA	DC MOTOR	
222	1UE0015ZA	PLUNGER	
223	RUB428Z	MOVING IRON CORE	
224	RUL1030XA	ANGLE	
225	RMD5014Z	ANGLE	
226	RDG5927ZA	GEAR	
227	1DW0053ZA	FLYWHEEL (F)	
227-1	RNW139ZA	WASHER	
228	1DW0054ZA	FLYWHEEL (R)	
228-1	RNW138Z	WASHER	
229	1DG0006ZA	REEL TABLE GEAR	
230	RUB513Z	ARM	
231	1UB0091ZA	LEVER	
231-1	RUW146ZA	SPRING	
232	1DR0011ZA	MAIN PULLEY	
233	RDV90ZB	BELT	
234	RDG5769ZA	REEL TABLE GEAR	
235	RUQ10Z	SPRING	
236	RUW145ZA	SPRING	
237	1UB0090ZA	ROD	
237-1	RUB512Z	ROD	
238	RDG5773ZA	GEAR	
239	RUQ30Z	SPRING	
240	RUS609Z	TAPE PRESSURE SPRING	

Ref. No.	Part No.	Part Name & Description	Remarks
241	RUB514Z	LEVER	
242	RUW147ZA	SPRING	
243	RUB515Z	LEVER	
244	RUB509ZA	LEVER	
245	RDV108ZA	CAPSTAN BELT	
249	RHG3032Z	RUBBER CUSHION	
250	RNL180ZA	DAMPER ARM	
251	REX0059	LEAD WIRE BLOCK	
261	XTW2+6L	SCREW	
262	XTW2+8L	SCREW	
263	XTN26+7J	SCREW	
264	XTN26+16F	SCREW	
265	XTW2+8S	SCREW	
266	XYC2+JF16	SCREW	
267	QHQ1303	SCREW	
268	SJT31044-H	CONNECTOR (10P), J971	
269	XYN26+F6	SCREW	

### MECHANICAL PARTS LOCATION (DECK 2: Up Side)



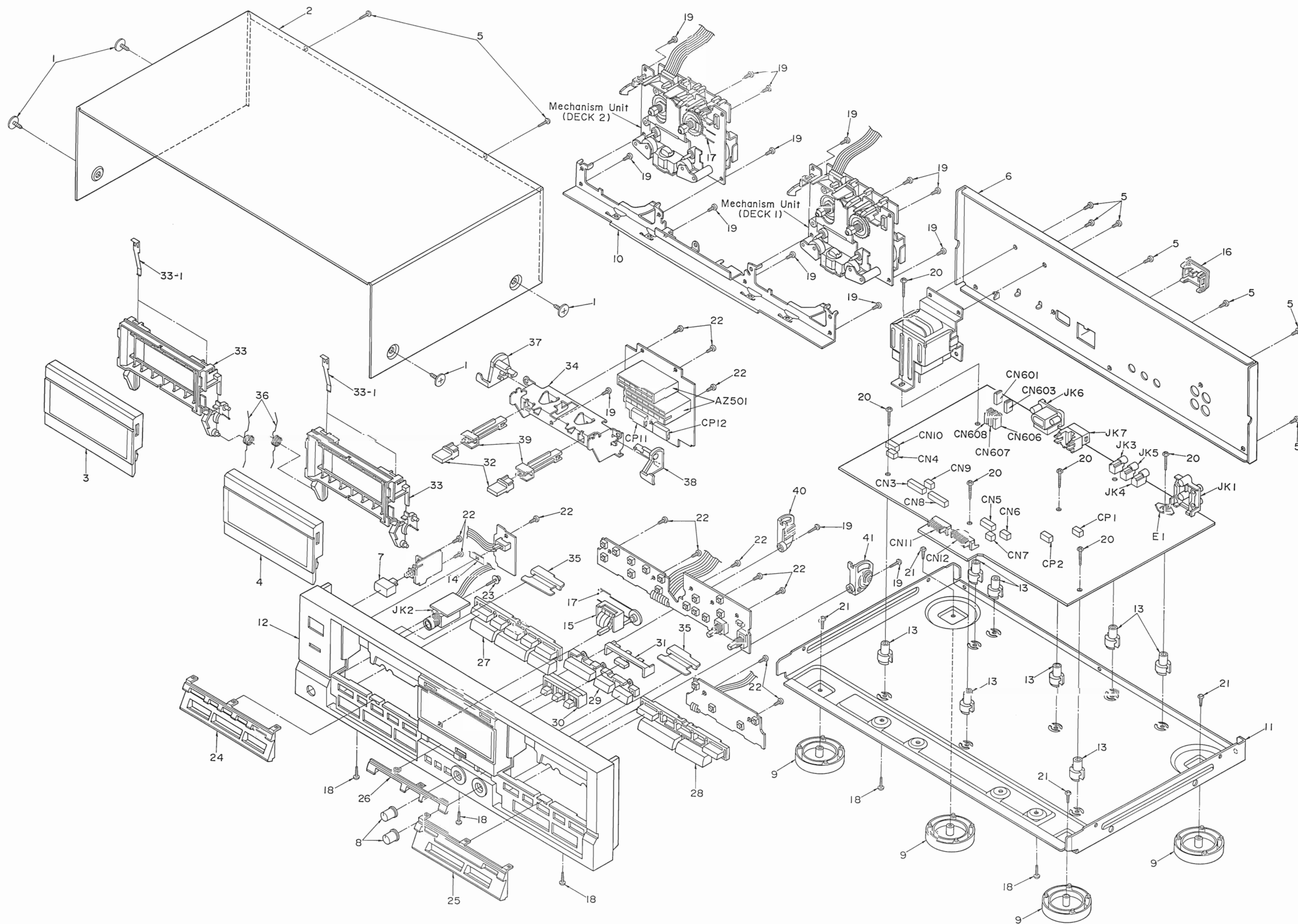
**Note:**  
When changing mechanism parts, apply the specified grease to areas marked "XX" as shown in the drawing.

Ref. No.	Part Name	Part No.
A	FLOIL AK-152	SZZ0L 18
C	FLOIL947P	RZZ0L 02





**■ CABINET PARTS LOCATION**



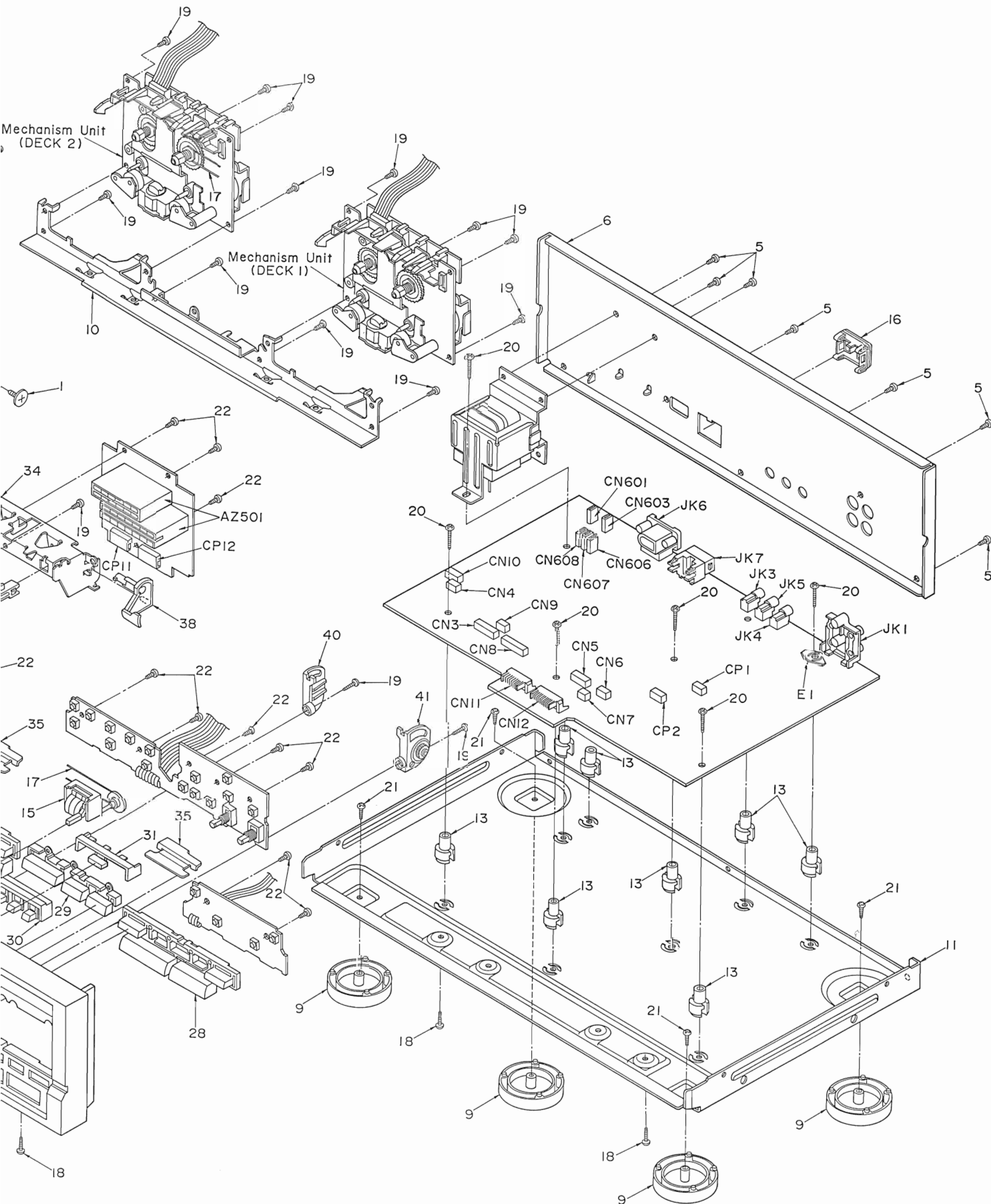
**■ REPLACEMENT PARTS**

Notes : \* Important Components are indicated by a star symbol.  
\* Bracketed parts are optional.

Ref. No.	Part No.
1	RHD30003
2	RKMD016-K
3	RYF009L-K
4	RYF009K-K
5	XTBS3+&JFZ1
6	RGR008A-E
7	RGU0030
8	RGW0012
9	RKAD009
10	RMAD050
11	RMK0026
12	RGPO036
13	SHE187-2
14	SHR0076
15	SJN32
16	SJS9331A
17	SMQ0024
18	XTBS3+10JFZ1
19	XTB3+10J
20	XTB3+20J
21	XTB3+6J
22	XTB3+8J
23	XTWS3+10Q
24	RGK0049
25	RGK0050
26	RGK0051
27	RGU0064
28	RGU0065
29	RGU0066
30	RGU0067
31	RGU0127
32	RGU0070
33	RKF0020A
33-1	QBP2006A
34	RMAD051
35	RMAD052
36	RMED026
37	RML0041
38	RML0042
39	RMMD014
40	RMRO153
41	RMRO154

### REPLACEMENT PARTS LIST

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.  
 \* Bracketed indications in Remarks columns specify the area. (Refer to the first page for area.)  
 Parts without these indications can be used for all areas.



Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
CABINET AND CHASSIS				P1	RPG0155	CARTON BOX	<P>
				P1	RPG0156	CARTON BOX	<PC>
1	RHD30003	SCREW		P2	RPN0087A	PAD, FRONT	
2	RKM0016-K	CABINET		P3	RPN0087B	PAD, BACK	
3	RYF0009L-K	CASSETTE LID (DECK 2)		P4	SPS5185	PAD, ACCESSORIES	
4	RYF0009K-K	CASSETTE LID (DECK 1)		P5	XZB50X65B02	PROTECTION COVER	
5	XTBS3+8JFZ1	SCREW		ACCESSORIES			
6	RGR0008A-E	REAR PANEL		A1	RQF0064	INSTRUCTION MANUAL	<P>
7	RGU0030	BUTTON, POWER		A1	RQF0065	INSTRUCTION MANUAL	<PC>
8	RGW0012	KNOB, REC. LEVEL		A2	SJA175	POWER CORD	<PC> $\Delta$
9	RKA0009	FOOT		A2	SJA175-1	POWER CORD	<P> $\Delta$
10	RMA0050	BRACKET, MECHANISM		A3	RFAD06	CORD	
11	RMK0026	BOTTOM BOARD		A4	SJP2257T	CORD	
12	RGPO036	FRONT PANEL ASS'Y					
13	SHE187-2	HOLDER					
14	SHR6076	ORNAMENT					
15	SJN32	TAPE COUNTER					
16	SJS9331A	AC OUTLET COVER					
17	SMQ20024	BELT, TAPE COUNTER					
18	XTBS3+10JFZ1	SCREW					
19	XTB3+10J	SCREW					
20	XTB3+20J	SCREW					
21	XTB3+6J	SCREW					
22	XTB3+8J	SCREW					
23	XTWS3+10Q	SCREW					
24	RGK0049	ORNAMENT, BUTTON (DECK 2)					
25	RGK0050	ORNAMENT, BUTTON (DECK 1)					
26	RGK0051	ORNAMENT, EDIT BUTTON					
27	RGU0064	BUTTON, OPERATION (DECK 2)					
28	RGU0065	BUTTON, OPERATION (DECK 1)					
29	RGU0066	BUTTON, EDIT					
30	RGU0067	BUTTON, REVERSE					
31	RGU0127	BUTTON ASS'Y, DOLBY					
32	RGU0070	BUTTON, EJECT					
33	RKF0020A	CASSETTE HOLDER					
33-1	QBP2006A	SPRING, TAPE PRESSURE					
34	RMA0051	EJECT ANGLE					
35	RMA0052	BRACKET					
36	RME0026	SPRING, CASSETTE HOLDER					
37	RML0041	EJECT LEVER (L)					
38	RML0042	EJECT LEVER (R)					
39	RMMD014	EJECT ROD					
40	RMRO153	DAMPER GEAR (L) ASS'Y					
41	RMRO154	DAMPER GEAR (R) ASS'Y					
PACKING MATERIAL							