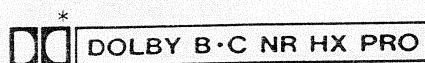


Service Manual

Dolby NR-Equipped
Stereo Cassette Deck

Cassette Deck
RS-BX828



Colour

(K) ... Black Type

Area

Suffix for Model No.	Area	Colour
(EB)	Great Britain.	(K)
(EG)	Germany and Italy./ Europe.	
(GC)	Asia, Latin America, Middle Near East and Africa.	
(GN)	Oceania.	



* Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang and Olufsen. "DOLBY", the double-D symbol and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

RS-TR555 MECHANISM SERIES (AR350)

SPECIFICATIONS

■ CASSETTE DECK SECTION

Deck system	Stereo cassette deck
Track system	4-track, 2-channel
Recording system	AC bias
Bias frequency	80 kHz
Erasing system	AC erase
Heads	

Recording head (Permalloy) × 1
Playback head (Permalloy) × 1
Erasing head (Double-gap ferrite) × 1

Motors

Capstan drive (Quartz DD motor) × 1
Reel table drive (DC motor) × 1
Cassette holder open/close (DC motor) × 1

Tape speed	4.8 cm/sec.
Wow and flutter	0.03% (WRMS) ±0.09% (DIN)

Fast forward and rewind times

Approx. 100 seconds with C-60 cassette tape

Frequency response (Dolby NR off)

NORMAL	30 Hz~17 kHz, ±3 dB 20 Hz~18 kHz (DIN)
CrO₂	30 Hz~18 kHz, ±3 dB 20 Hz~19 kHz (DIN)
METAL	30 Hz~19 kHz, ±3 dB 20 Hz~20 kHz (DIN)

S/N (Signal level = max recording level, CrO₂ type tape)

NR off	57 dB (A weighted)
Dolby B NR on	66 dB (CCIR)
Dolby C NR on	74 dB (CCIR)

Input sensitivity and impedance

REC (IN)	60 mV/47 kΩ
-----------------	-------------

Output voltage and impedance

PLAY (OUT)	400 mV/800Ω
HEADPHONES	125 mV/(8Ω)

(Load impedance 8Ω~600Ω)

■ GENERAL

Power consumption	22 W
--------------------------	------

Power supply

For (GC) area	AC 50 Hz/60 Hz, 110 V/127 V/220 V/240 V
For others	AC 50 Hz/60 Hz, 230 V~240 V

Dimensions (W×H×D)	430×135×300 mm
---------------------------	----------------

Weight	5.3 kg
---------------	--------

Note:

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

Technics

Service Manual

Supplement

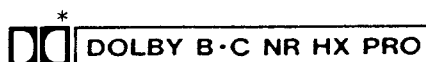
Dolby NR-Equipped
Stereo Cassette Deck

Cassette Deck

RS-BX828

Colour

(K) ... Black Type



* Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang and Olufsen. "DOLBY", the double-D symbol and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

Area

Suffix for Model No.	Area	Colour
(EB)	Great Britain.	(K)
(EG)	Germany and Italy./ Europe.	
(GC)	Asia, Latin America, Middle Near East and Africa.	
(GN)	Oceania.	

Please file and use this supplement manual together with the service manual for Model No. RS-BX828, Order No. AD9204104C8.

We inform you that we have changed the following zener diode in order to improve the takeup torque performance.

CHANGES

CHANGE IN REPLACEMENT PARTS LIST

Ref. No.	Change of Part No.		Part Name & Description	Remarks
	ORIGINAL	➡ NEW		
DIODE (S)				
D504	MTZJ5R6CTA	MTZJ5R1BTA	Zener Diode	Change

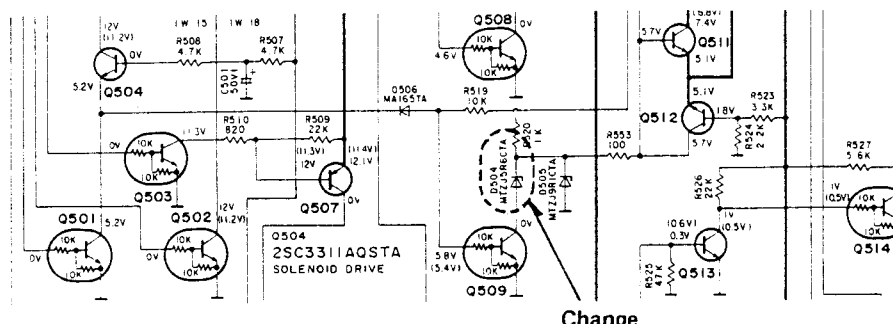
CHANGE OF SUFFIX NO.

"A" → "B"

EX: FP2J[A]01126

Suffix [B]

SCHEMATIC DIAGRAM (on page 30)



Technics

CONTENTS

	Page
CONNECTIONS.....	2
ACCESSORIES.....	3
REMOTE CONTROL TRANSMITTER.....	3
LOCATION OF CONTROLS.....	4~6
DISASSEMBLY INSTRUCTIONS.....	7~12
MEASUREMENT AND ADJUSTMENT METHODS.....	13~17
TERMINAL FUNCTION OF IC'S.....	18
PRINTED CIRCUIT BOARDS.....	19~23
SCHEMATIC DIAGRAM.....	24~31
TROUBLESHOOTING OF DIRECT DRIVE MOTOR.....	31, 32
TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES.....	32
BLOCK DIAGRAM.....	33, 34
INTERNAL CONNECTION OF FL.....	35, 36

	Page
PACKAGING.....	36
WIRING CONNECTION DIAGRAM.....	37
REPLACEMENT PARTS LIST.....	38
EXPLODED VIEWS (Cabinet parts and Mechanical parts).....	39~42
REPLACEMENT PARTS LIST.....	43~46
RESISTORS & CAPACITORS.....	46~48

※ TECHNICAL INFORMATION

This technical information is located on pp 45-51 of the RS-B555 Service Manual (Order No. AD8907231C5).

Therefore, refer to that Service Manual.

There is a few differences in this schematic diagram.

But this is the same as RS-B555 basically.

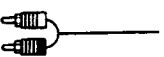
CONNECTIONS

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

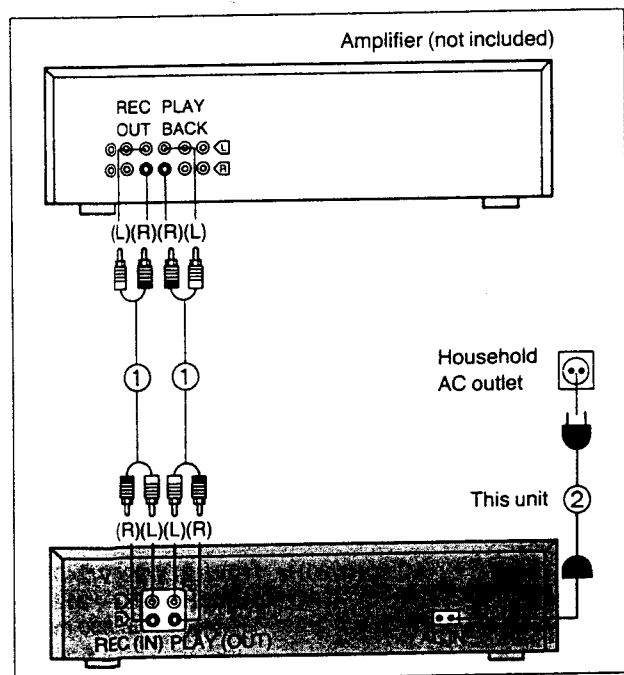
① Connect the stereo connection cables.

Stereo connection cable

White (L)
Red (R)



② Connect the AC power supply cord.

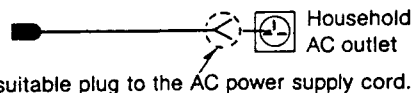


AC power supply cord ②

The configuration of the AC outlet and AC power supply cord differs according to area.

For (EB) area

Cut off and dispose of the plug and replace with a suitable plug.



For (GC) area

If the power plug will not fit your socket, use the power plug adaptor (included).



Placement hints

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

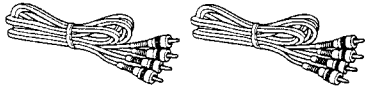
If this occurs, leave as much space as possible between the units, or place them where is the least amount of "hum".

Note:

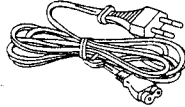
This unit is a precision instrument. Be sure to place it on a flat surface.

ACCESSORIES

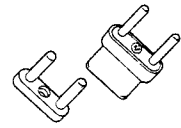
- Stereo connection cables (SJP2276) 2 pcs.



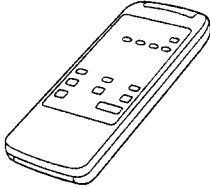
- AC power supply cord
 (RJA0004) (GC)
 (RJA0019-1K) (EG) 1 pc.
 (SJA173) (GN)
 (SJA193) (EB)



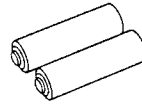
- Power plug adaptor (SJP9215) 1 pc.
 (For GC area)



- Remote control transmitter (RAK-RS305W) 1 pc.



- Remote control batteries 2 pcs.
 <UM-4, "AAA" (R03)>

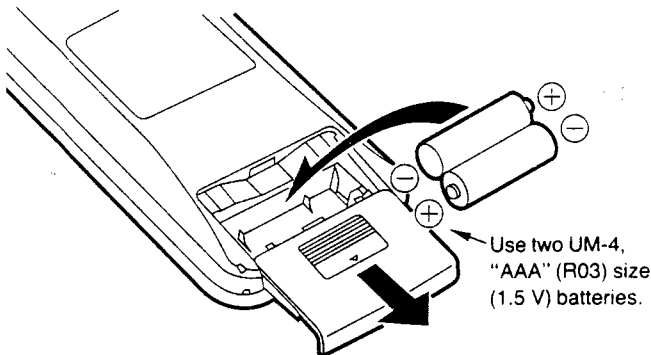


Note: The configuration of the AC power supply cord differs according to area.

REMOTE CONTROL TRANSMITTER

Insertion of remote control batteries

Battery life is about 1 year.



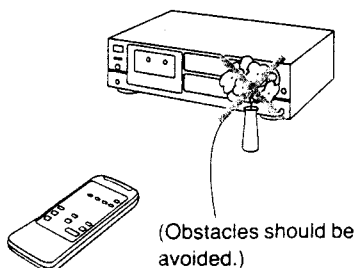
Notes concerning use of batteries

- Do not use chargeable batteries (Ni-Cd type).
- Be sure the batteries are inserted so that the positive (+) and negative (-) polarities are correct. Batteries installed with incorrect polarities may leak and damage the remote control transmitter.
- Never subject the batteries to excessive heat or flame; do not attempt to disassemble them; and be sure they are not short-circuited.
- If the remote control transmitter is not to be used for a long time, remove the batteries and store them in a cool dark place.
- Remove old, weak or worn-out batteries promptly and dispose of them.
- Never mix old and new batteries, nor batteries of different types (carbon or alkaline).

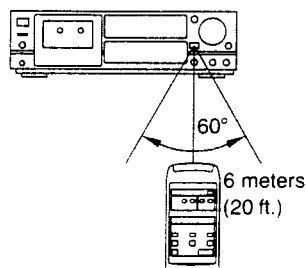
Remote control transmitter operation notes

Note that operation may not be correct if direct sunlight or other strong light strikes the remote control signal sensor. If there is a problem, place the unit away from the direct sunlight or other strong light source.

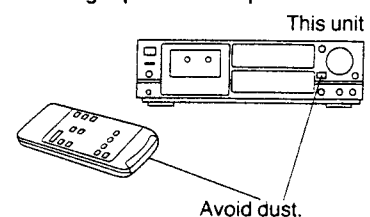
Face it toward the remote control signal sensor.



Use the remote control transmitter within 6 meters.



Be sure the transmitter part of the remote control transmitter and the remote control signal sensor are free from dust. Excessive dust might prevent reception.

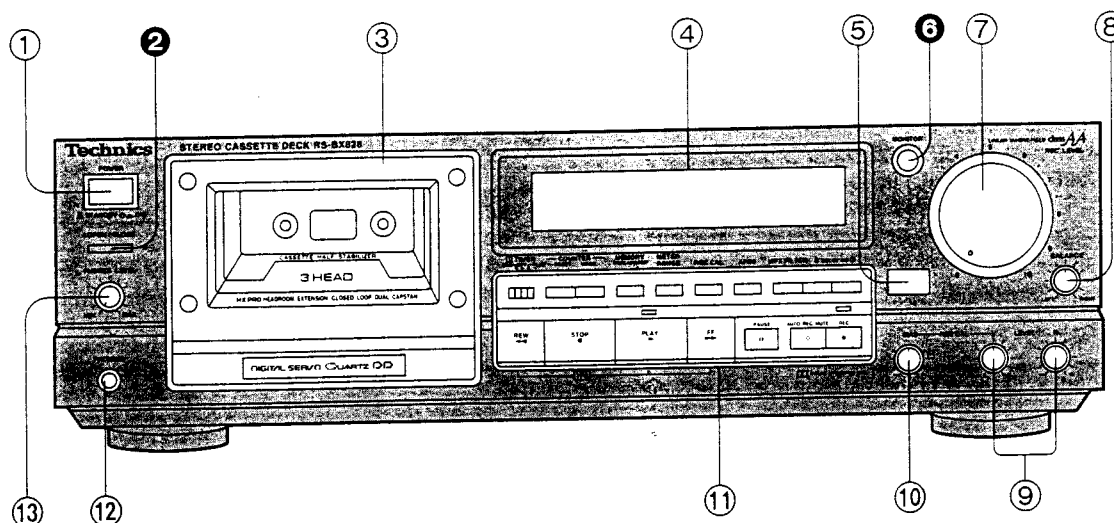


Notes:

- The control panel of the remote control transmitter may be covered by a clear plastic protective sheet. This sheet may be removed if desired.
- If this unit is installed in a rack with glass doors, the glass door's thickness or color might make it necessary to use the remote control transmitter a shorter distance from the unit.
- Do not use a remote control transmitter for a TV set, VCR or other component at the same time as this unit's remote control transmitter is being used, because this could result in an operation error.

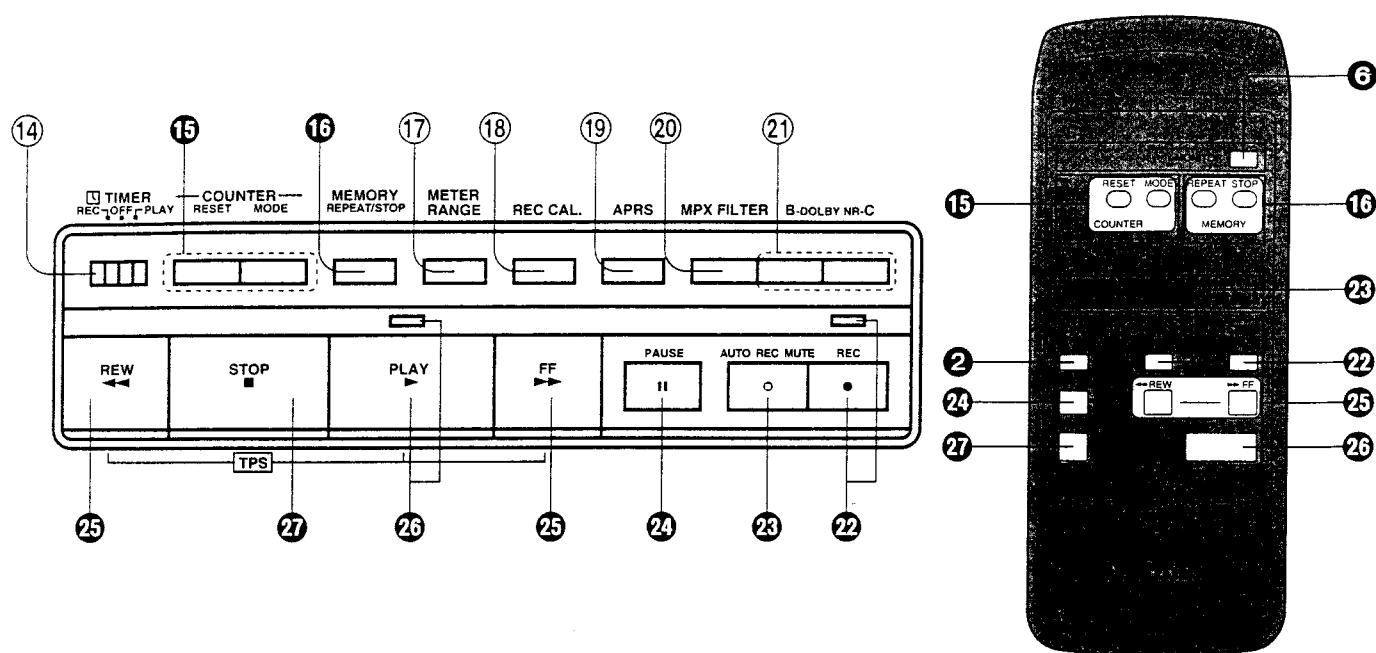
LOCATION OF CONTROLS

The functions indicated by the white numbers (with black background, ② etc.) can be also activated using the remote control transmitter.



Control section I

- ① **Power "STANDBY $\odot$ /ON" switch (POWER $\blacksquare$ STANDBY $\odot$ $\blacksquare$ ON)**
This switch switches ON and OFF the secondary circuit power only. The unit is in the "standby" condition when this switch is set to the STANDBY $\odot$ position. Regardless of the switch setting, the primary circuit is always "live" as long as the power cord is connected to an electrical outlet.
- ② **Open/close button ($\blacktriangle$ OPEN/CLOSE)**
This button can be used to open or close the cassette holder.
- ③ **Cassette holder**
- ④ **Indicators section**
(Refer to page 6.)
- ⑤ **Remote control signal sensor**
- ⑥ **Monitor switch (MONITOR)**
In order to monitor the tape (check the recording condition), the sound on the tape (immediately after recording) and the sound of the sound source (the original sound, before recording) can be alternately selected by pressing this button. (The corresponding indicator will illuminate.)
- ⑦ **Recording-level control (REC LEVEL)**
This control can be used to regulate the recording level.
- ⑧ **Recording-balance control (BALANCE)**
This control can be used to balance the left and right sound levels during recording.
- ⑨ **Calibration-level control (REC CAL. LEVEL)**
The sensitivity differences (high or low recording levels) for each tape type can be corrected by using these controls.
- ⑩ **Calibration-bias control (REC CAL. BIAS)**
The frequency response for each tape type can be equalized by using this control.
- ⑪ **Operation section**
(Refer to "Control section II" on page 5.)
- ⑫ **Headphones jack (PHONES)**
- ⑬ **Headphones volume control (PHONES LEVEL)**



Control section II

⑭ Timer switch (☐ TIMER)

This switch is used to automatically begin a tape recording or tape playback at a certain time, selected by a timer (not included).

⑮ Counter buttons (COUNTER RESET, MODE)

RESET: This button can be used to reset the tape/linear counter indication to "000_/00.00".

MODE: This button can be used to select the tape/linear counter indication.

⑯ Memory-mode button (MEMORY REPEAT/STOP)

REPEAT: This button can be used to set this unit to the "A-B repeat" mode.

STOP: This button can be used to rewind the tape to the preset "000_/00.00" point when the rewind (◀◀) button is pressed.

⑰ Meter-range selector (METER RANGE)

This selector can be used to select the meter-range display of the input level meter.

⑱ Calibration selector (REC CAL.)

This selector can switch the input level display between the level adjustment indicator and bias adjustment indicator.

⑲ APRS button (APRS)

This button can be used to hold the peak level while monitoring the input sound.

⑳ Multiplex filter switch (MPX FILTER)

This prevents the Dolby NR circuit from operating in error when FM stereo broadcasts are recorded using the noise reduction function.

㉑ Dolby noise-reduction buttons (B-DOLBY NR-C)

These buttons can be used to reduce the hiss noise that is characteristic of tape. This unit is provided with both the Dolby B type and C type noise-reduction systems.

㉒ Record button and indicator (● REC)

This button can be used to change the tape deck to the recording stand-by mode.

㉓ Automatic-record-muting button (○ AUTO REC MUTE)

This button can be used to make a silent interval on the tape being recorded on tape deck.

㉔ Pause button (|| PAUSE)

This button can be used to temporarily stop the tape playback or recording of tape deck.

㉕ Rewind/fast-forward/search buttons (◀◀ REW, ▶▶ FF, [TPS])

These buttons can be used to fast forward or rewind the tape, or to easily search for the tune's beginning of the tape quickly.

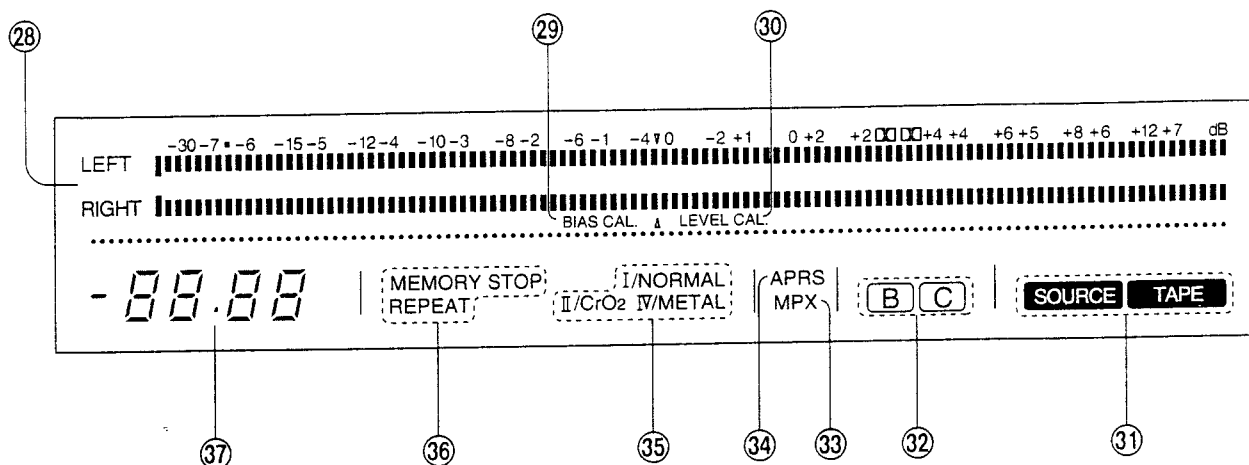
㉖ Playback button and indicator (▶ PLAY)

This button can be used to start the playback or recording of the cassette.

(The tape will then begin moving in the left-to-right direction.) When this indicator illuminates steadily, it indicates that this tape deck is in the playback mode or the recording mode. When it flashes continually, this is an indication that this tape deck is in the pause mode or the recording stand-by mode.

㉗ Stop button (■ STOP)

This button can be used to stop tape movement.



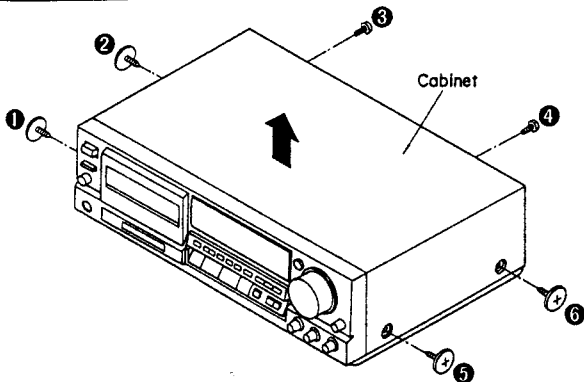
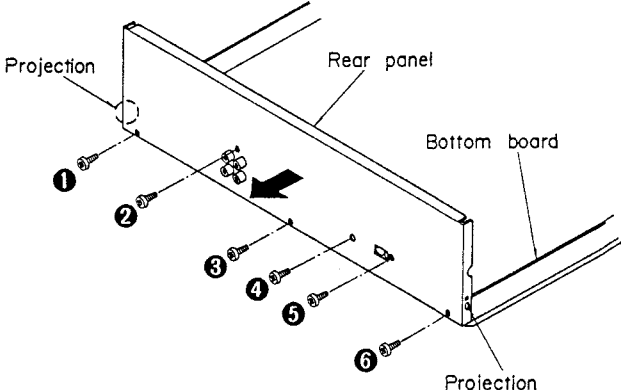
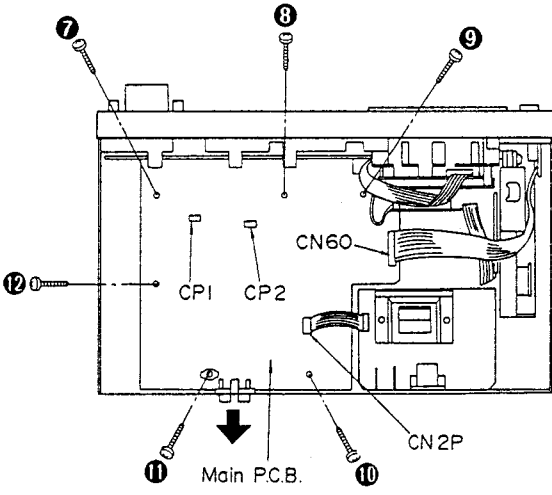
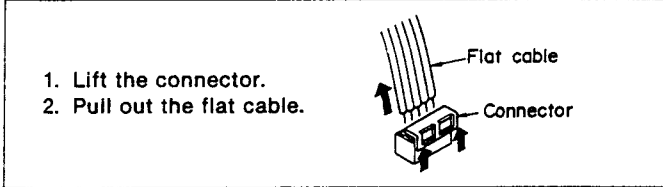
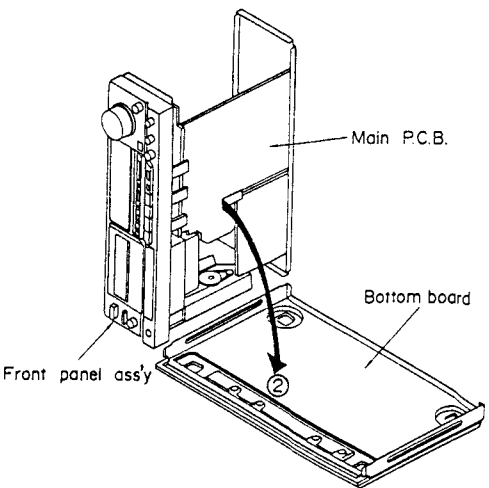
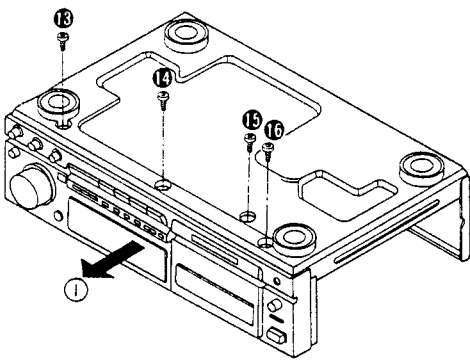
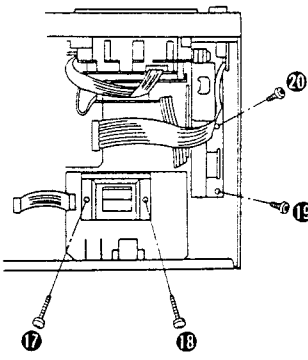
Indicators section

- 28 Input level meter**
During playback, this meter indicates the level of the recorded sound.
During recording, it indicates the level being recorded, adjusted by the recording-level control.
- 29 Bias adjustment indicator (BIAS CAL.)**
Indicates that the bias can now be adjusted.
- 30 Level adjustment indicator (LEVEL CAL.)**
Indicates that the recording level can now be adjusted.
- 31 Monitor indicators (SOURCE, TAPE)**
Each indicator illuminates to show which of the monitor was set by the monitor switch.
- 32 Dolby noise-reduction indicators (B, C)**
Each indicator illuminates to show the type of Dolby noise-reduction system selected by pressing one of the Dolby noise-reduction buttons.
- 33 Multiplex filter indicator (MPX)**
Illuminates to indicate that the multiplex filter is set to "ON".
- 34 APRS indicator (APRS)**
Illuminates to indicate that the "APRS" is set to "on" in the recording stand-by mode.
- 35 Tape-select indicators (I/NORMAL, II/CrO₂, IV/METAL)**
The type of tape being used will be automatically detected and the indicator will illuminate.
- 36 Memory-mode indicators (MEMORY REPEAT, MEMORY STOP)**
Each indicator illuminates to show which of the memory modes was set by the memory-mode button.
- 37 Tape/Linear counter**
Indicates the amount of tape movement or elapsed time.

DISASSEMBLY INSTRUCTIONS

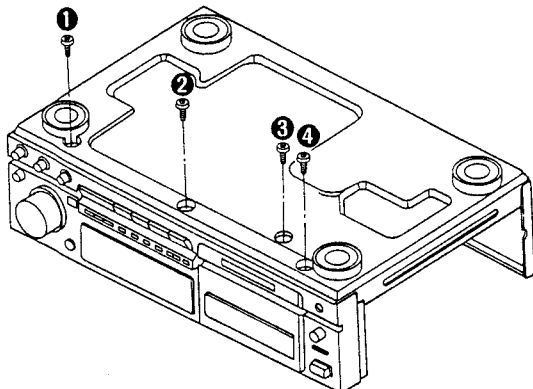
"ATTENTION SERVICER"

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

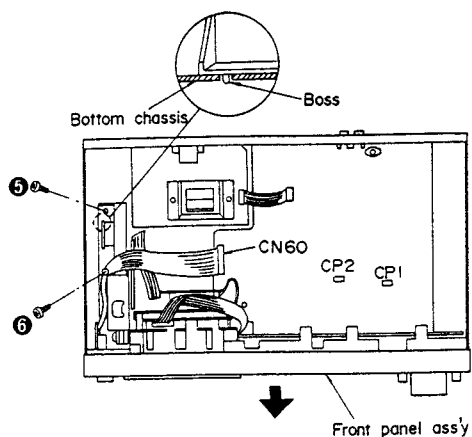
Ref. No. 1	Removal of the cabinet	Ref. No. 2	Removal of the main P.C.B.
Procedure 1	 • Remove the 6 screws (①~⑥).	Procedure 1→2	1. Remove the 6 screws (①~⑥). 2. Remove the rear panel from the projection of the bottom board. 
	3. Remove the 6 screws (⑦~⑫). 4. Remove the 2 connectors (CP1, CP2). 5. Remove the 2 flat cables (CN2P, CN60). 6. Remove the main P.C.B. in the direction of arrow.		
	How to remove the flat cable 		4. Remove the bottom board in the direction of arrow ②. 5. Reinstall the front panel ass'y to the main P.C.B. 
	How to check the main P.C.B. • When checking the soldered surfaces of main P.C.B. and replacing the parts, do as show. 1. Remove the 9 screws (⑬, ⑭, ⑮, ⑯~⑳) in above figure. 2. Remove the 8 screws (㉑~㉔). 3. Remove the front panel ass'y in the direction of arrow ①.  		

Ref. No.
3

Removal of the front panel ass'y

Procedure
1→3

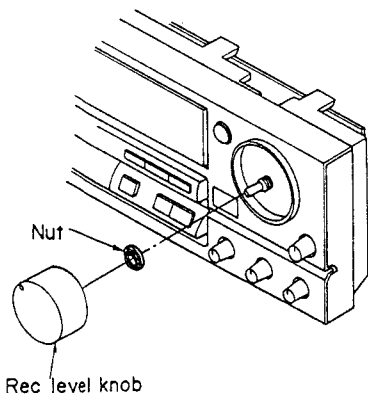
1. Remove the 6 screws (①~⑥).



2. Remove the 2 connectors (CP1, CP2).
3. Remove the 1 flat cable (CN60).
4. Remove the boss from bottom chassis.
5. Remove the front panel ass'y in the direction of arrow.

Ref. No.
4

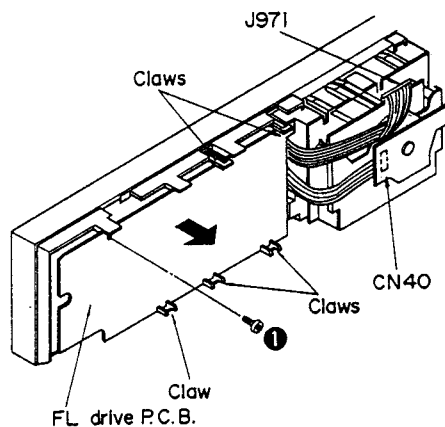
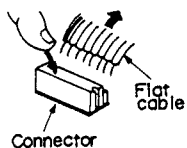
Removal of the FL drive P.C.B.

Procedure
1→3→4

1. Pull out the rec level knob.
2. Remove the nut.

How to remove the flat cable

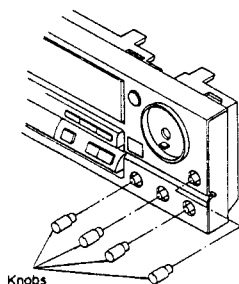
- Pull out the flat cable while pressing the connector.



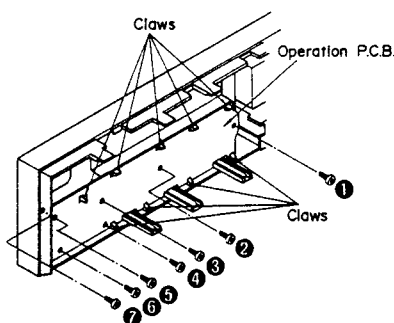
3. Remove the 2 flat cables (CN40, J971).
4. Remove the 1 screw (①).
5. Release the 5 claws.
6. Remove the FL drive P.C.B. in the direction of arrow.

Ref. No.
5

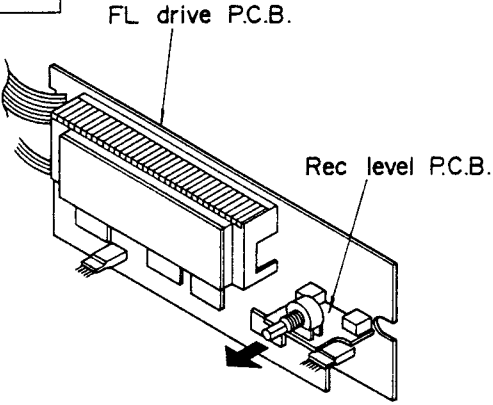
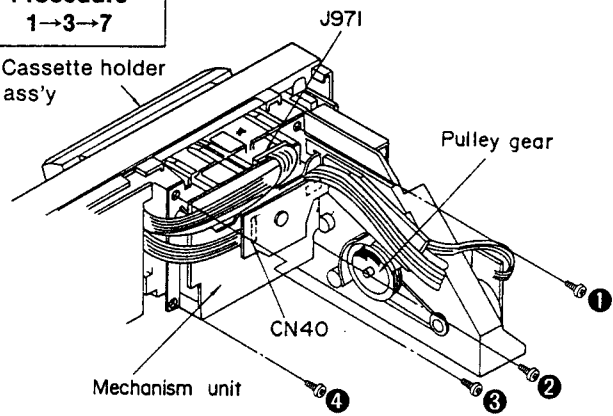
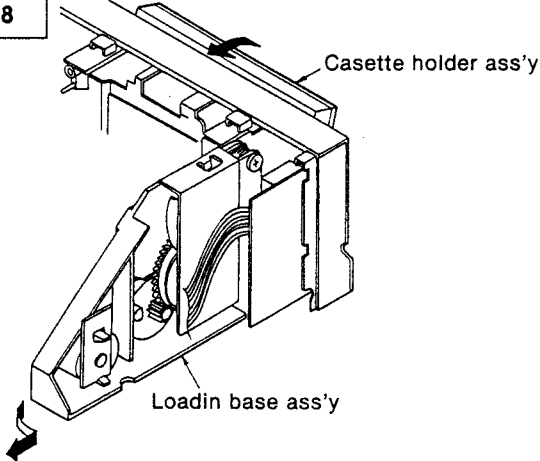
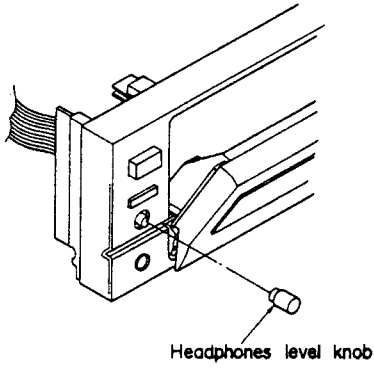
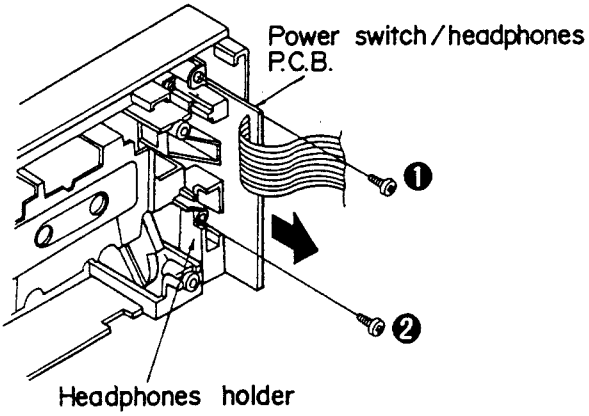
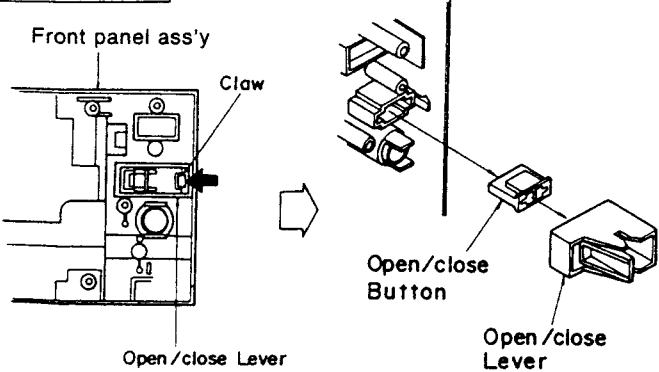
Removal of the operation P.C.B.

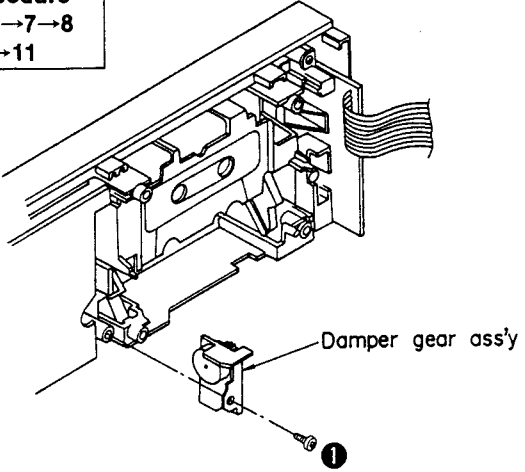
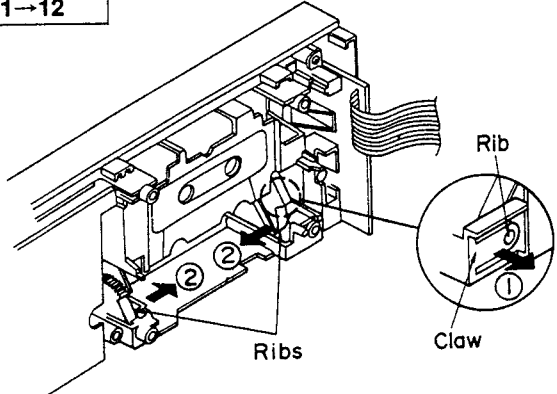
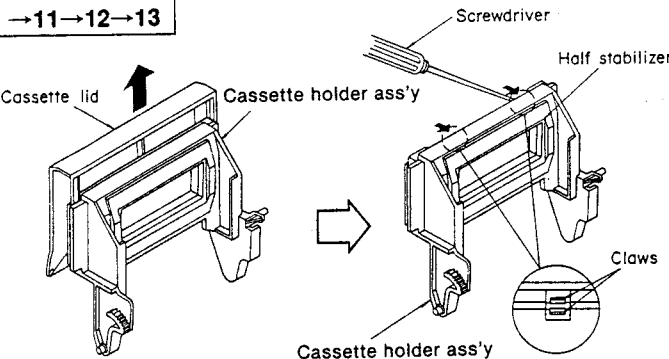
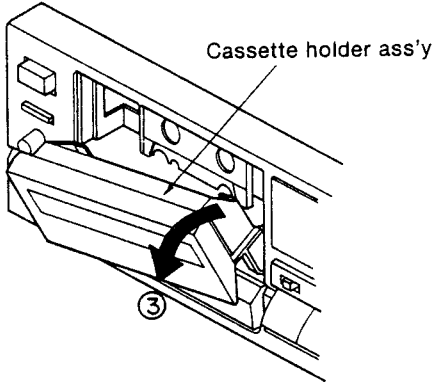
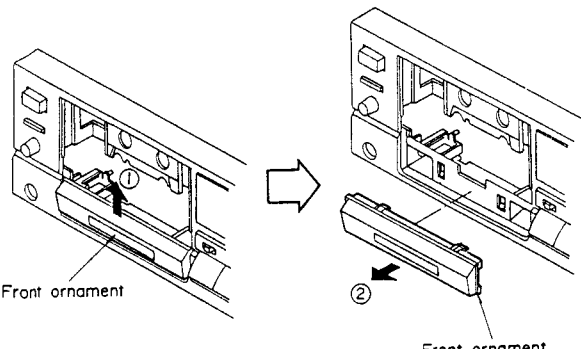
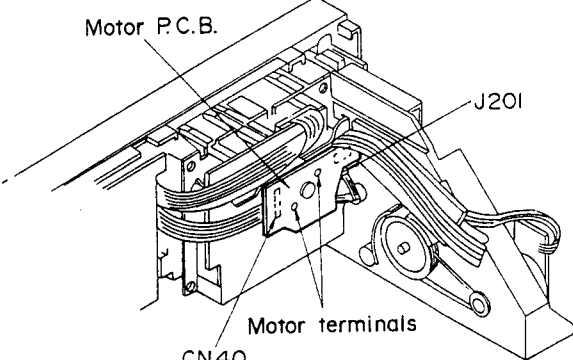
Procedure
1→3→4→5

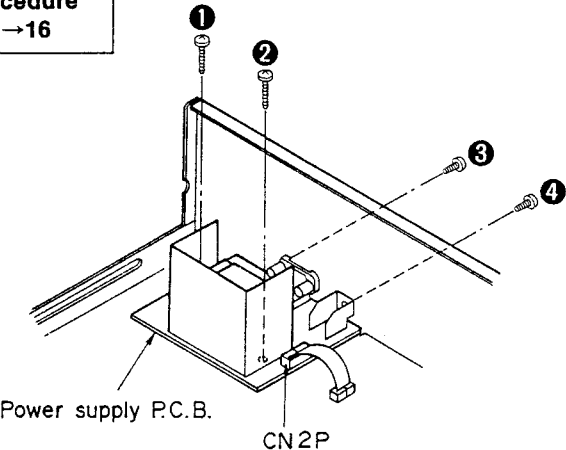
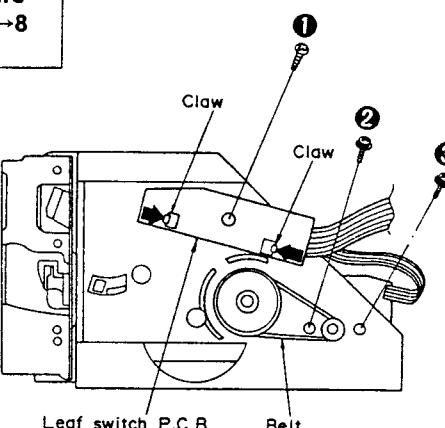
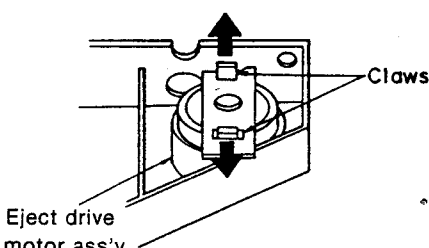
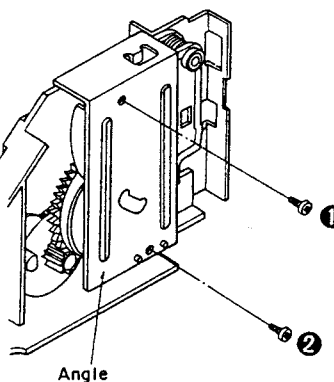
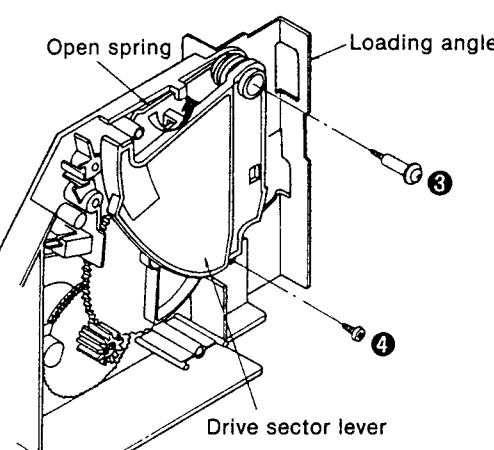
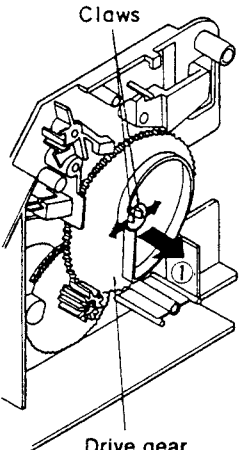
1. Pull out the 4 knobs.



2. Remove the 7 screws (①~⑦).
3. Remove the 9 claws.

Ref. No. 6	Removal of the rec level P.C.B.	Ref. No. 7	Removal of the mechanism unit
Procedure 1→3→4→6	 FL drive P.C.B. Rec level P.C.B. • Remove the rec level P.C.B. in the direction of arrow.	Procedure 1→3→7	 1. Turn the pulley gear in the direction of arrow, and open the cassette holder ass'y 2. Remove the 2 flat cables (CN40, J971). 3. Remove the 4 screws (①~④).
Ref. No. 8	Removal of the loading base ass'y	Ref. No. 9	Removal of the power switch/ headphones P.C.B.
Procedure 1→3→7→8	 1. Close the cassette holder ass'y. 2. Remove the loading base ass'y in the direction of arrow.	Procedure 1→3→7→8→9	 Headphones level knob 1. Pull out the headphones level knob.
Ref. No. 10	Removal of the open/close lever and open/close button	 2. Remove the 2 screws (①, ②). 3. Remove the headphones holder. 4. Remove the power switch/headphones P.C.B. in the direction of arrow.	
Procedure 1→3→7→8 →9→10	 • Release the 1 claw.		

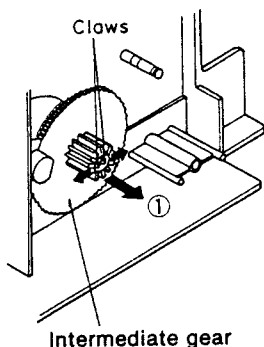
Ref. No. 11	Removal of the damper gear ass'y	Ref. No. 12	Removal of the cassette holder ass'y
Procedure 1→3→7→8 →11		Procedure 1→3→7→8 →11→12	
	 • Remove the 1 screw (①).		 1. Remove the claw in the direction of arrow ①. 2. Remove the ribs in the direction of arrow ②.
Ref. No. 13	Removal of the cassette lid and cassette half stabilizer		
Procedure 1→3→7→8 →11→12→13			
	 1. Remove the cassette lid in the direction of arrow. 2. Release the 2 claws.		 3. Remove the cassette holder ass'y in the direction of arrow ③.
Ref. No. 14	Removal of the front ornament	Ref. No. 15	Removal of the motor P.C.B.
Procedure 1→3→7→8 →11→12→14		Procedure 1→3→15	
	 • Remove the front ornament in the direction of arrow ①, ②.		 1. Remove the 2 flat cables (CN40, J201). 2. Unsolder the motor terminal.

Ref. No. 16	Removal of the power supply P.C.B.	Ref. No. 17	Removal of the leaf switch P.C.B. and eject drive motor
Procedure 1→16	 Power supply P.C.B. CN2P 1. Remove the 1 flat cable (CN2P). 2. Remove the 4 screws (①~④).	Procedure 1→3→7→8 →17	 Claw Claw Leaf switch P.C.B. Belt  Claws Eject drive motor ass'y ■ Removal of the leaf switch P.C.B. 1. Remove the 1 screw (①). 2. Release the 2 claws. ■ Removal of the eject drive motor ass'y 1. Remove the belt. 2. Remove the 2 screws (②, ③). 3. Release the 2 claws.
Ref. No. 18	Removal of the drive sector lever and loading angle		
Procedure 1→3→7→8 →18	 Angle 1. Remove the 2 screws (①, ②). 2. Remove the angle.  Open spring Loading angle Drive sector lever 3. Remove the 2 screws (③, ④). 4. Remove the loading angle. 5. Remove the open spring in the direction of arrow.	Ref. No. 19	Removal of the drive gear
		Procedure 1→3→7→8 →18→19	 Claws Drive gear 1. Release the 2 claws. 2. Remove the drive gear in the direction of arrow ①.

Ref. No.
20

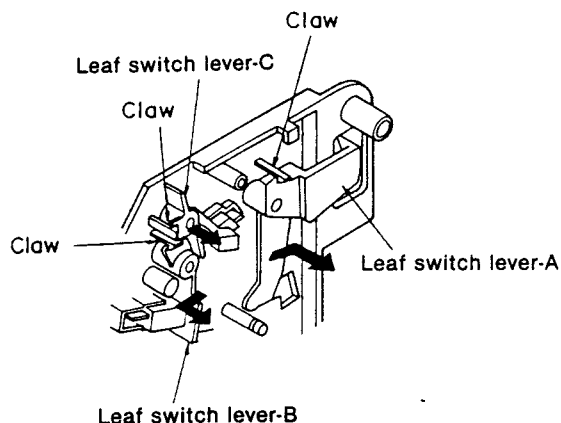
Removal of the intermediate gear, leaf switch lever-A, leaf switch lever-B, and leaf switch lever-C

Procedure
1→3→7→8
→18→19→20



■ Removal of the intermediate gear

1. Release the 2 claws.
2. Remove the intermediate gear in the direction of arrow ①.



■ Removal of the leaf switch lever-A

- Release the 1 claw.

■ Removal of the leaf switch lever-B

- Release the 1 claw.

■ Removal of the leaf switch lever-C

- Release the 1 claw.

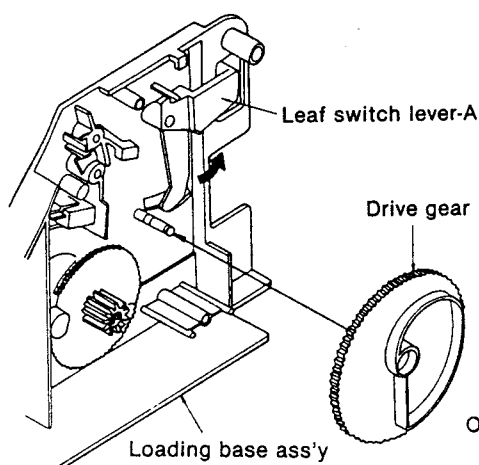
Ref. No.
21

Installation of the drive gear and drive sector lever

Procedure
21

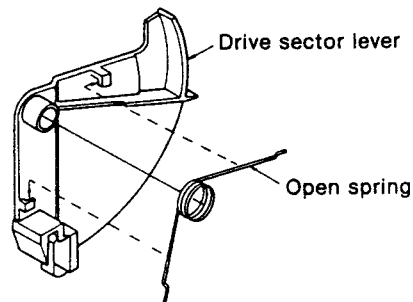
■ Installation of the drive gear

1. Push the leaf switch lever-A in the direction of arrow.
2. Place the drive gear as shown below and then install it in the loading base ass'y.

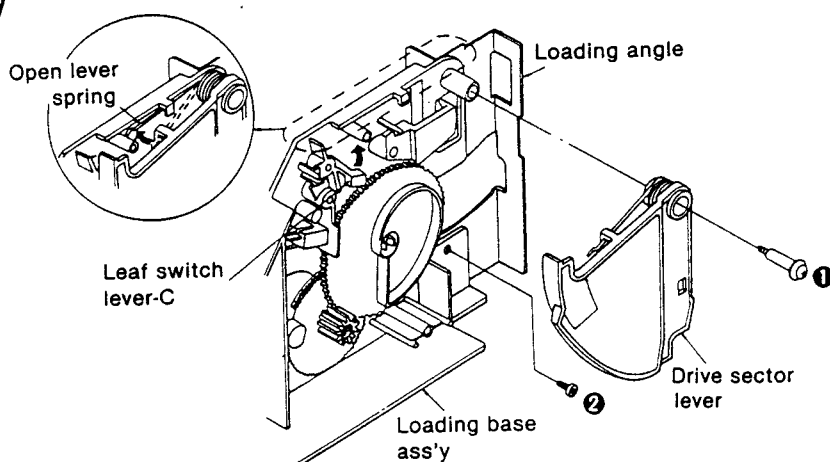


■ Installation of the drive sector lever

1. Temporarily install the open spring in the drive sector lever.



2. Install the loading angle in the loading base ass'y and then secure it with the 1 screw (②).
3. Push the leaf switch lever-C in the direction of arrow.
4. Secure the drive sector lever with 1 screw (①).
5. Engage the open spring in the claw of the loading base ass'y.



MEASUREMENT AND ADJUSTMENT METHODS

Measurement Condition

- Rec. level control; Maximum
- Timer switch; Off
- MPX filter switch; off
- Calibration-bias control; Center
- Rec. balance control; Center

- Calibration-level control; Center
- 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

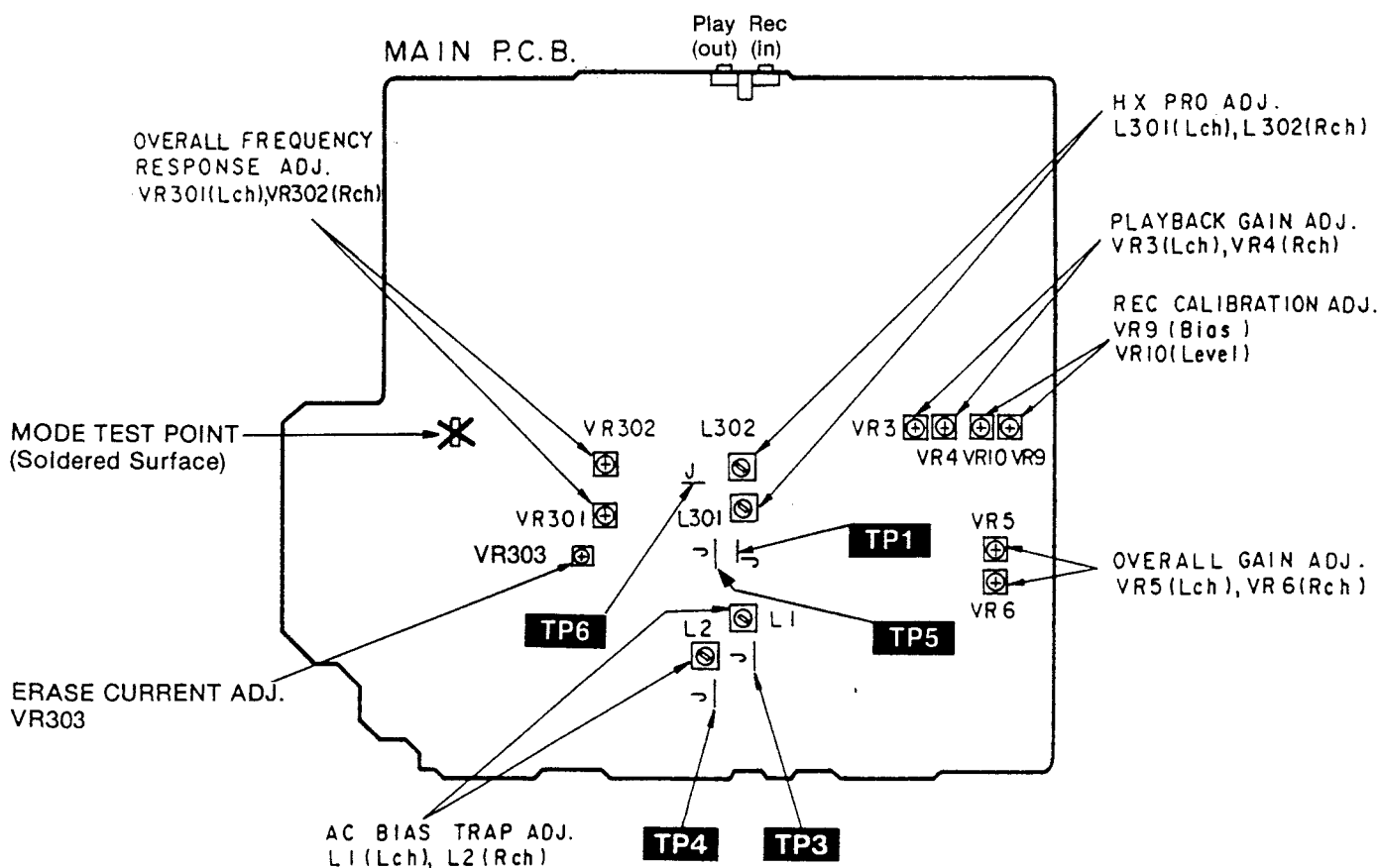
- ATT (Attenuator)
- Resistor (600Ω)

Test tape

- Head azimuth adjustment (8kHz, -20dB); QZZCFM
- Playback gain adjustment (315Hz, 0dB); QZZCFM
- Playback frequency response (315Hz, 12.5kHz, 10kHz, 8kHz, 4kHz, 1kHz, 250Hz, 125Hz, 63Hz, -20dB); QZZCFM

- Overall frequency response, Overall gain adjustment, AC Bias trap adjustment, Erase current adjustment, HX Pro adjustment, Rec. cal. adjustment
- Normal reference black tape; QZZCRA
- CrO_2 reference blank tape; QZZCRX
- Metal reference blank tape; QZZCRZ

Adjustment Points



■ Replacing, Installing and Adjusting the Head

Adjustment Screws and Head Screws

1. Remove the head by removing the two head screws (see Fig. 1).
2. Install the head with the two head screws, holding the head facing in the direction of arrow 1 (toward the left) (see Fig. 1).
3. Install the head alignment gauge (QZZ0207) in the mechanism and set the unit to the play mode.
4. With the check bar, check if it comes in contact with the head. (See Figs. 2 and 3)

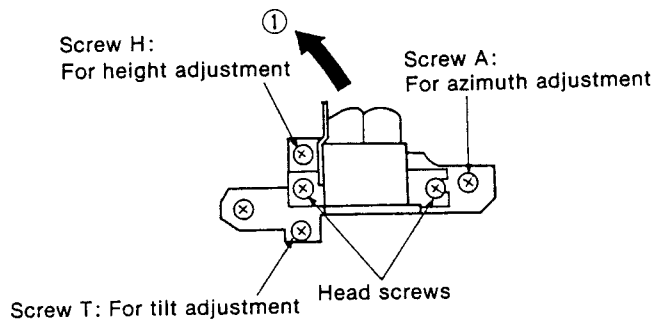


Fig. 1

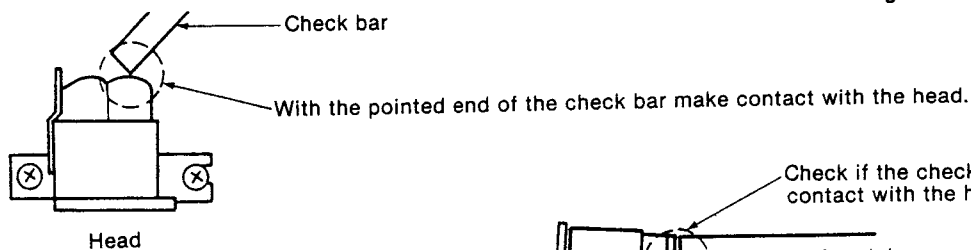


Fig. 2

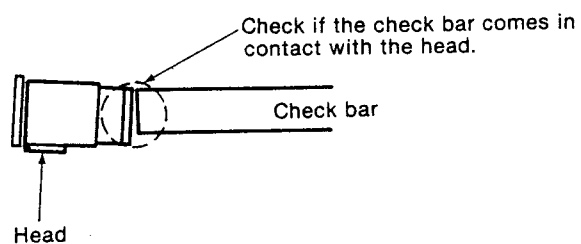


Fig. 3

- * If the check bar and head do not come in contact, adjust the head with the "Tilt Adjustment Screw".
- 5. With the check bar, make sure that the check bar and tape guide do not come in contact, and visually check that the head is placed horizontally (azimuth aligned).
- * If the check bar comes in contact with the tape guide, make adjustments as follows. (See Fig. 4.)

[If the check bar comes in contact with the top of the tape guide:]

Turn screw H (height adjustment screw) clockwise (as shown in Fig. 1) until the check bar does not come in contact with the tape guide. Then turn screw T (tilt adjustment screw) in the same way as screw H was turned. Finally, turn screw A (azimuth alignment screw) counterclockwise as many degrees as screws H and T were turned.

[If the check bar comes in contact with the bottom of the tape guide:]

Turn screw H (height adjustment screw) counterclockwise until the check bar does not come in contact with the tape guide. Then turn screw T (tilt adjustment screw) in the same way as screw H was turned. Finally, turn screw A (azimuth alignment screw) clockwise as many degrees as screws H and T were turned.

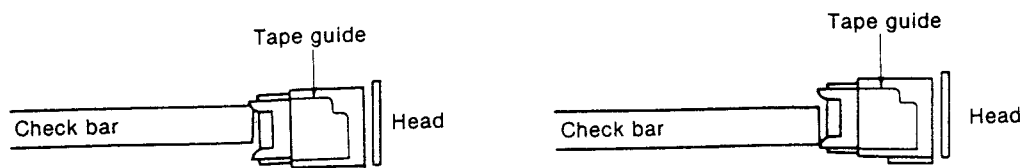


Fig. 4

6. With the check bar, make sure that the check bar does not come in contact with the tape guide on pinch arm S. If it does, make adjustment with a hex wrench (1.27 mm) until the check bar does not come in contact with the pinch arm.

7. Then, with the check bar, make sure that the check bar does not come in contact with the tape guide. If it does, turn the screw as shown in Fig. 5 until the check bar does not come in contact with the tape guide.
8. After making these adjustments, insert a tape with the mirror (QZZCRD) and play back the tape. Check if the tape runs smoothly (i.e. does not get twisted).
9. Follow "Head Azimuth Adjustment" procedures on page 19.
10. After following the adjustment procedures, repeat steps 3 to 10 and check if trouble occurs (if it does, remedy it).

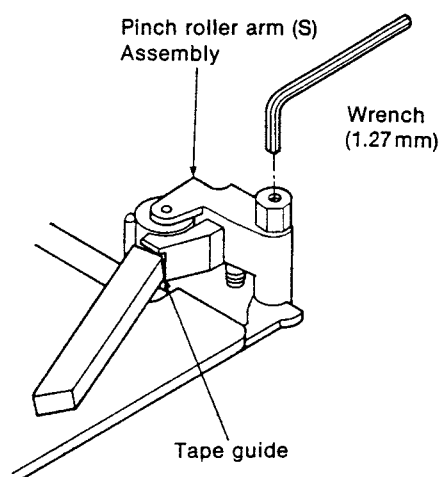


Fig. 5

■ Adjustment procedures when replacing "Pinch Arm S"

1. Install the head alignment gauge and set the play mode.
2. Adjust the height of the pinch arm with the check bar, using the height of tape guide on the head as reference.

■ If the already adjusted "Screw H (Height Adjustment Screw) and Screw T (Tilt Adjustment Screw)" are wrongly turned

- Install the head alignment gauge (QZZ0207), set the play mode, and turn screws H and T until the check bar does not come in contact with the tape guide on the head.
- Then, follows steps 1 to 10 in "Replacing, Installing and Adjusting the Head".

HEAD AZIMUTH ADJUSTMENT

1. Playback the azimuth adjustment portion (8 kHz, -20 dB) of the test tape (QZZCFM). Vary the azimuth adjusting screw until the output of the R-CH are maximized.
2. Perform the same adjustment in the play mode.
3. After the adjustment, apply screwlock to the azimuth adjusting screw.

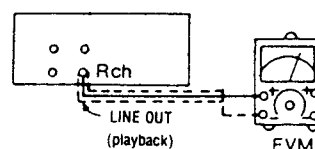


Fig. 6

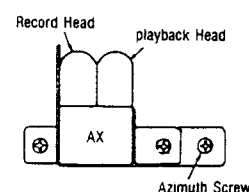


Fig. 7

PLAYBACK GAIN ADJUSTMENT

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

Standard value: $0.4V \pm 0.5dB$

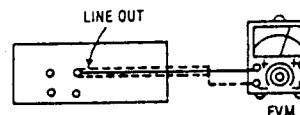


Fig. 8

PLAYBACK FREQUENCY RESPONSE

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. 10 for both L-CH and R-CH.

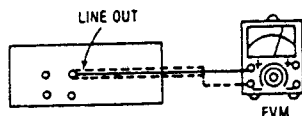


Fig. 9

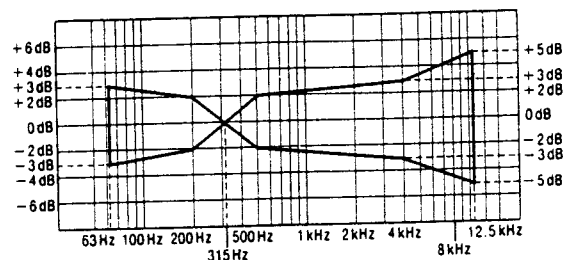


Fig. 10

AC BIAS TRAP ADJUSTMENT

1. Insert the Metal blank test tape (QZZCRZ) and set the unit to the Record mode.
2. Adjust L1 (L-CH) [[L2 (R-CH)]] so that the output voltage between TP3 (TP4) and GND is less than the minimum value.

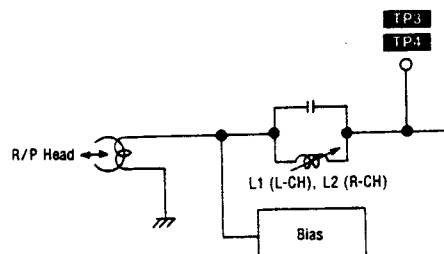


Fig. 11

ERASE CURRENT ADJUSTMENT

1. Insert the Metal blank test tape (QZZCRZ) and set the unit to the Record Pause mode.
2. Adjust VR303 so that the output between TP1 and GND is within the standard value.

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

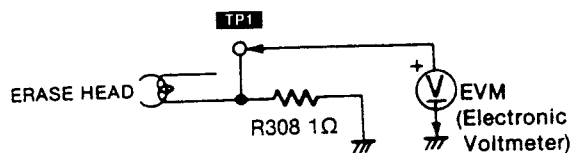


Fig. 12

HX PRO ADJUSTMENT

1. Insert the Metal blank tape (QZZCRZ) and set the unit to the Record Pause mode.
2. Connect a DC voltmeter across TP5 (L-CH) and GND, TP6 (R-CH) and GND.
3. Adjust L301 (L-CH) and L302 (R-CH) so that the output is the minimum value.

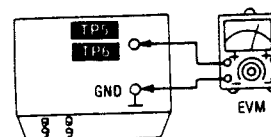


Fig. 13

OVERALL FREQUENCY RESPONSE

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. 15 in comparison to the reference frequency (1 kHz).
6. If it is not within the standard range, adjust VR301 (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 CrO₂ 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. 16.

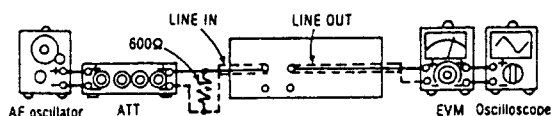


Fig. 14

Normal Overall frequency response chart (NR OUT)

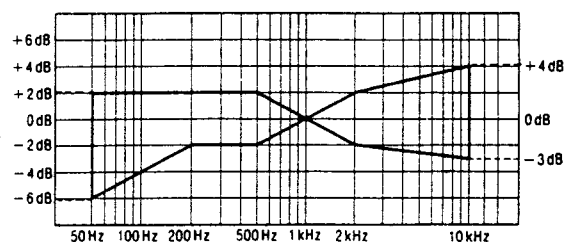


Fig. 15

CrO₂-Metal Overall frequency response chart (NR OUT)

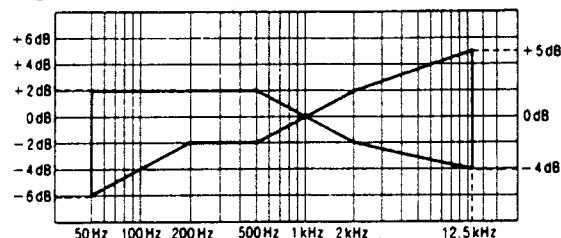


Fig. 16

OVERALL GAIN ADJUSTMENT

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 VR5 (L-CH) and VR6 (R-CH).
6. Repeat the step 2~5 above until the output is within the standard value.

Standard value: 0.4 V ± 0.5 dB

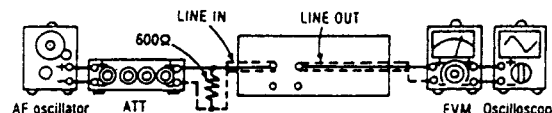


Fig. 17

REC CAL. ADJUSTMENT

1. After the overall frequency characteristics and over all gain are adjusted, insert the test tape (QZZCRA) in the unit and then set the recording mode (REC/PLAY).

— Level Adjustment —

2. First, press the REC CAL button. (The indication "LEVEL CAL" will appear in the FL meter.)
3. Adjust VR10 so that the level of the right and left channels reach the Δ mark as shown.

— Bias Adjustment —

4. Next, press the REC CAL button again. ("BIAS CAL" will be displayed in the FL meter.)
5. Adjust VR9 so that the indication of the left channel level reaches the Δ mark as shown.

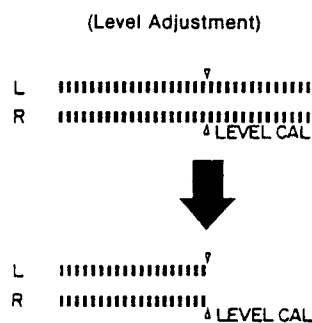


Fig. 18

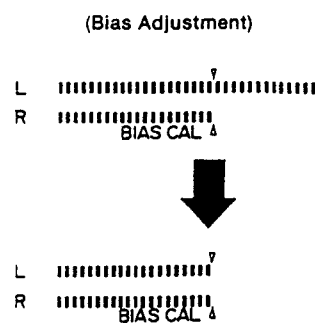


Fig. 19

Note: Unless the overall frequency and overall gain are adjusted so that the L/R channel levels are the same, there will be a difference between the L/R channels levels in the level and bias adjustments.

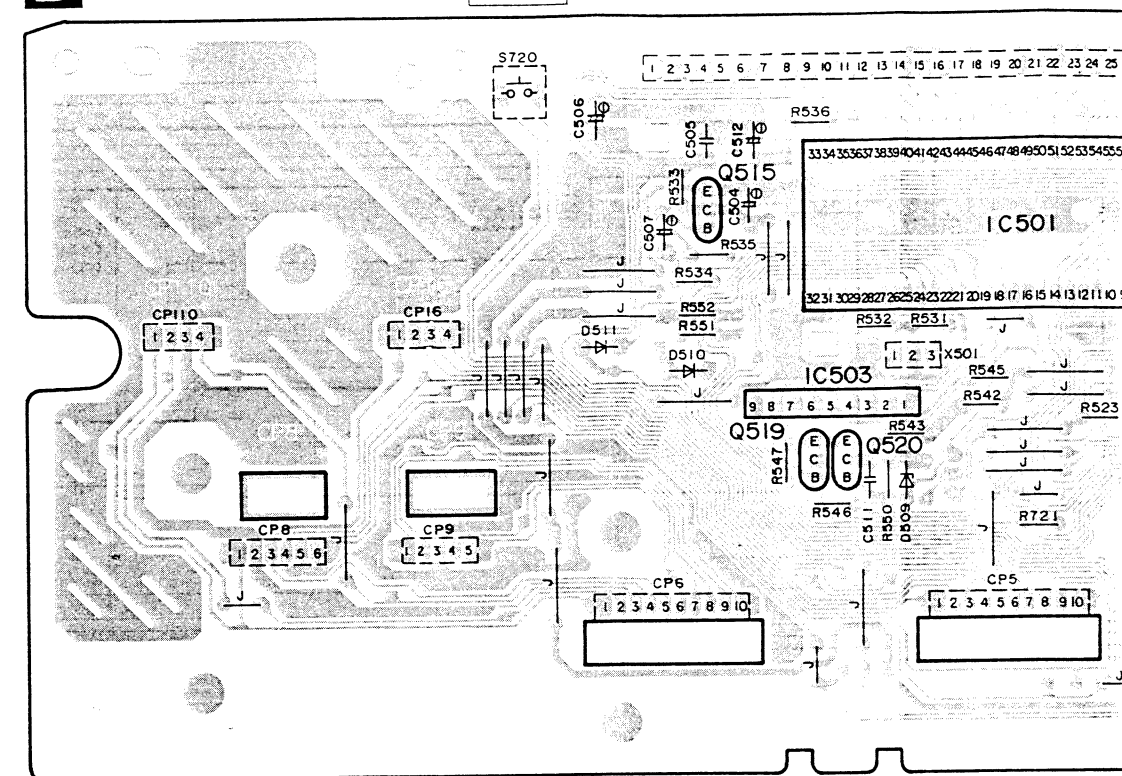
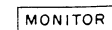
■ TERMINAL FUNCTION OF IC'S

• IC501 (M50942-518SP): MICROCOMPUTER (This microcomputer is used for mechanical/FL DRIVE operation.)

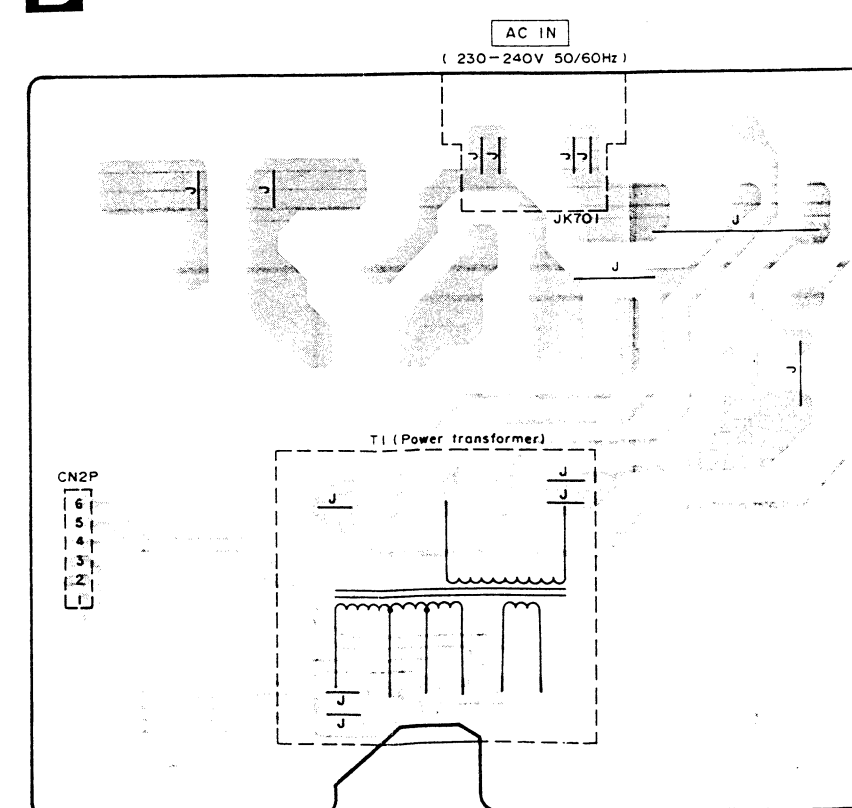
Pin No.	Mark	I/O Division	Function
1	V _{REF}	I	A/D converter reference voltage (Connected to AV _{CC})
2	KEY1	I	Key switch (STOP, FF, REW, PLAY, REC, PAUSE, Dolby B, C, MPX, T-PLAY, T-REC)
3	KEY2	I	Key switch (C-RESET, C-MODE, M-RANGE, MEMORY, ARM, APRS, REC CAL)
4	Lch	I	Lch indication level input
5	Rch	I	Rch indication level input
6	APRS	I	Input Vol. position det. for APRS
7	R. INH	I	Motor switch, rec. inh. switch (Motor switch OFF: 0V, Rec. OK: 1.5V, NG: 5V)
8	TAPE	I	OPEN switch, ATS switch input (OPEN: 0V, Nor: 1.1V, CrO ₂ : 2.4V, Metal: 5V)
9	RPT	I	Reel table (take up side) rotary det.
10	CAPM	O	Capstan motor ON/OFF control (ON: "H", OFF: "L")
11	RMR	O	Reel motor ON/OFF control (REW, R-TPS: "H", Others: "L")
12	RMF	O	Reel motor ON/OFF control ((REC) PLAY, FF, F-TPS: "H", Others: "L")
13	T. SOL	O	Trigger solenoid ON/OFF control (ON: "H", OFF: "L")
14	B. SOL	O	Brake solenoid ON/OFF control (FF/REW/TPS: "H", Others: "L")
15	C/R SOL	O	Brake solenoid keep and reel motor speed select (FF/REW/TPS: "H", Others: "L")
16	EJECT R	O	Eject motor ON/OFF control (OPEN: "H", Others: "L")
17	EJECT F	O	Eject motor ON/OFF control (CLOSE: "H", Others: "L")
18	DMT	O	Line out muting control (ON: "H", OFF: "L")
19	RMT	O	Rec amp muting control (ON: "H", OFF: "L")

Pin No.	Mark	I/O Division	Function
20	CLOCK	O	Serial clock for amp, logic control (MPX, C, B, T/S, PLAY, REC, CALF, OSCON)
21	DATA	O	Serial data for amp, logic control (MPX, C, B, T/S, PLAY, REC, CALF, OSCON)
22	EJTSEL	I	Model select terminal (Always: "H")
23	CNTSEL	I	Model select terminal (Always: "H")
24	POF	I	Power off det. (OFF: "L")
25	REM	I	Remote control signal
26	CNV _{SS}	I	Connected to V _{SS}
27	RESET	I	Reset input (Normal: "H", Reset: "L")
28	X _{IN}	I	Clock OSC terminal (4MHz)
29	X _{OUT}	O	
30	X _{CIN}	I	Not used, connected to V _{SS}
31	X _{COUT}	O	Not used
32	V _{SS}	I	GND terminal
33	φ	O	Not used
34	RPS	I	Reel table (supply side) rotary det.
35	MSP	I	TPS (MS) det. (No signal: "H", Signal ON: "L")
36	MODE	I	Mech. mode switch ((REC) PLAY, TPS: "L", Others: "H")
37	HALF	I	Mech. half switch (ON: "L", OFF: "H")
38	VP	I	Reference voltage terminal
39 }	G1 }	O	FL grid control signal
44	G6		
45 }	S1 }	O	FL segment control signal
62	S18		
63	AV _{CC}	I	Power supply terminal for A/D converter
64	V _{CC}	I	Power supply terminal for micro computer

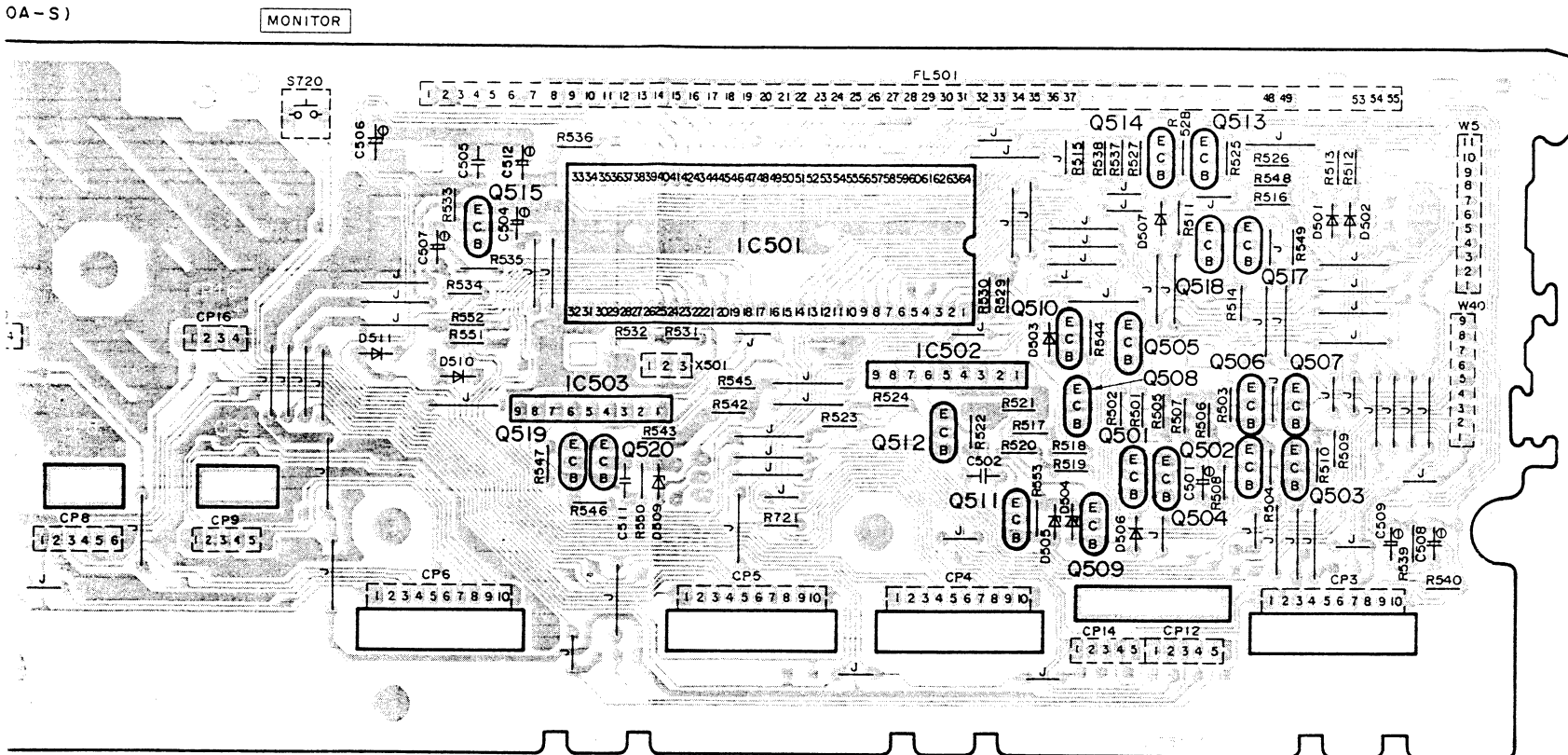
A MAIN P.C.B. (REP1299A-M)



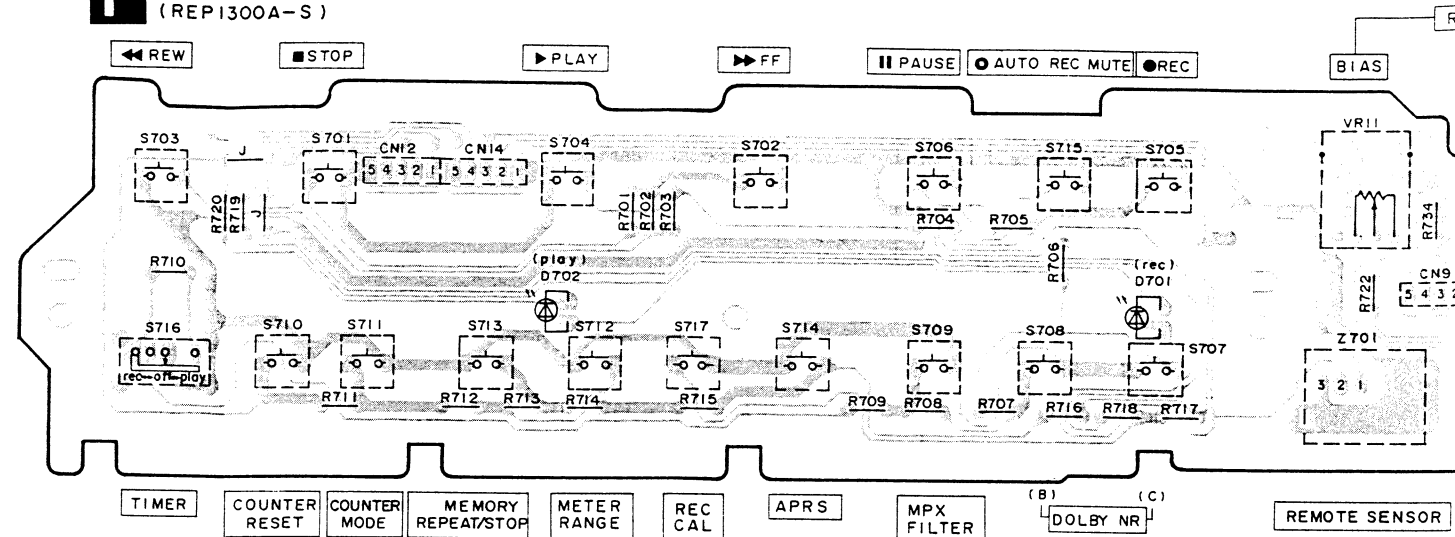
B POWER SUPPLY P.C.B. For (EB,EG,GN) areas. (REPI011J-P
REPI011L-P)



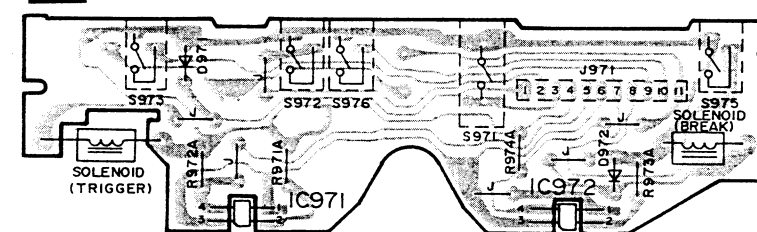
VE P.C.B.
0A-S)



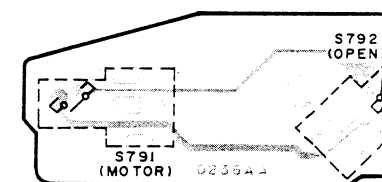
F OPERATION P.C.B.
(REP1300A-S)



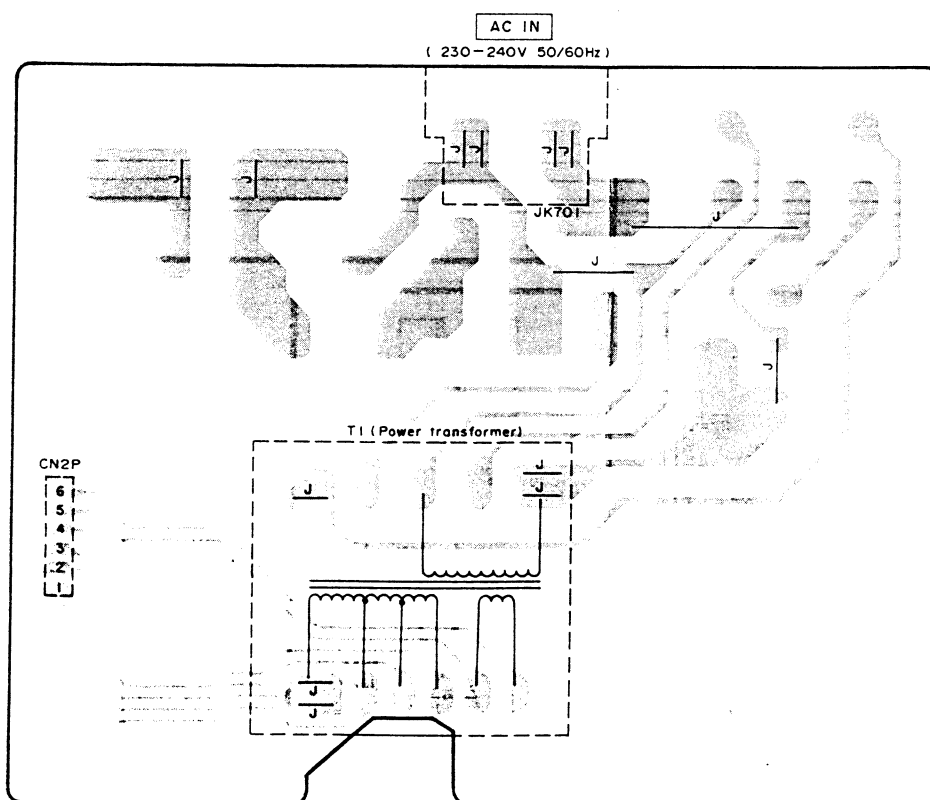
G MECHANISM P.C.B.
(REP0267)



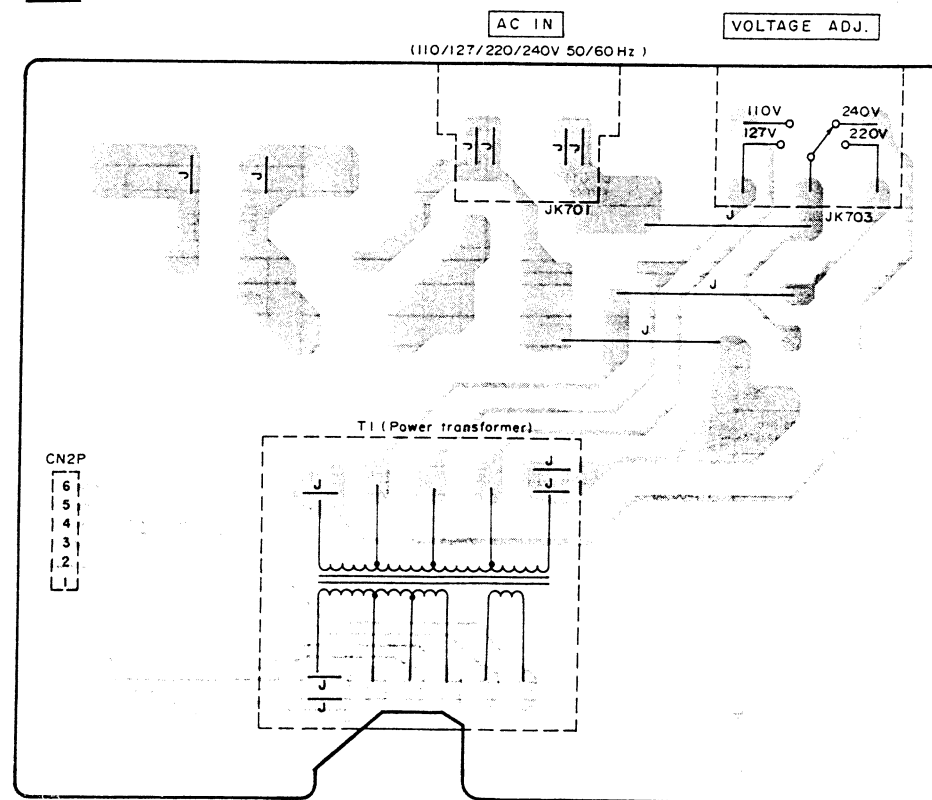
I LEAF SWITCH P.C.B.
(REP0391A)



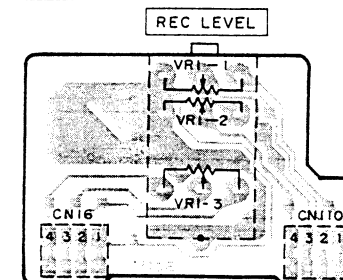
B POWER SUPPLY P.C.B. For (EB,EG,GN) areas.
(REPI011J-P (EB,EG)
REPI011L-P (GN)



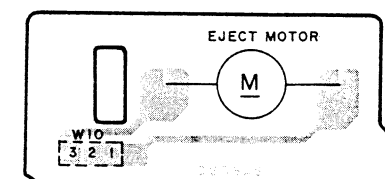
B POWER SUPPLY P.C.B. For (GC) area.
(REPI011K-P)



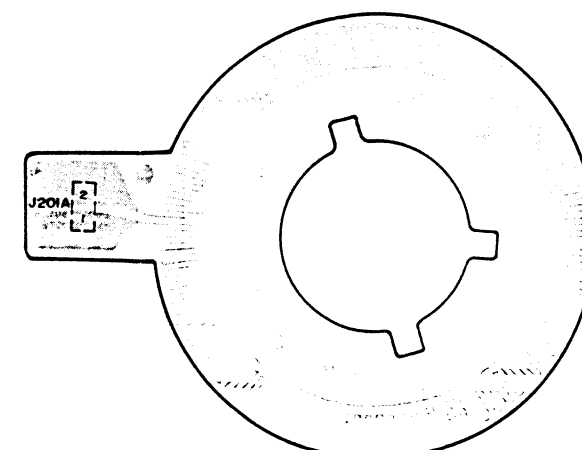
E REC LEVEL P.C.B.
(REP1300A-S)



J EJECT DRIVE MOTOR
P.C.B. (REP0391A)



L FG P.C.B.
(RJ80152A)



SCHEMATIC DIAGRAM (Parts list on pages 44~48.)

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

Notes:

- JK703: Voltage selector in "240V" position. (For [GC] area.) (110V → 127V → 220V → 240V)
- S701: Stop switch (■ STOP).
- S702: Fast-forward switch (TPS ▶▶).
- S703: Rewind switch (◀◀ TPS).
- S704: Playback switch (▶ PLAY).
- S705: Record switch (● REC).
- S706: Pause switch (■ PAUSE).
- S707: Dolby noise-reduction switch (Dolby NR; C).
- S708: Dolby noise-reduction switch (Dolby NR; B).
- S709: Multiplex filter switch (MPX FILTER).
- S710: Counter reset switch (COUNTER RESET).
- S711: Counter mode switch (COUNTER MODE).
- S712: Meter-range selector switch (METER RANGE).
- S713: Memory mode switch (MEMORY REPEAT/STOP).
- S714: APRS switch (APRS).
- S715: Automatic-record-muting switch (● AUTO REC MUTE).
- S716: Timer switch in "off" position (□ TIMER).
- S717: Calibration selector switch (REC CAL).
- S718: Open/close switch (▲ OPEN/CLOSE).
- S719: Power switch in "on" position (POWER ■ standby ○ = ON).
- S720: Monitor switch (MONITOR).
- S791: Motor switch in "off" position. (Loading)
- S792: Open switch in "off" position. (Loading)
- S971: Mode switch in "off" position.
- S972: Cassette half detection switch in "off" position.
- S973: ATS (CrO₂) switch in "off" position.
- S975: Rec. inhibit switch in "off" position.
- S976: 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).
- (————) indicates the flow of the playback signal.
- (————) indicates the flow of the record signal.
- The supply part number is described alone in the replacement parts list.

Ref. No.	Production Part No.	Supply part No.
IC2, 701, 702, 901, 902, 903, 906	M5218AL	M5218L
IC203	SN74LS74AMEL	SN74LS74AM
Z701	RCDHC-278-E	RCDHC-278

* Caution !

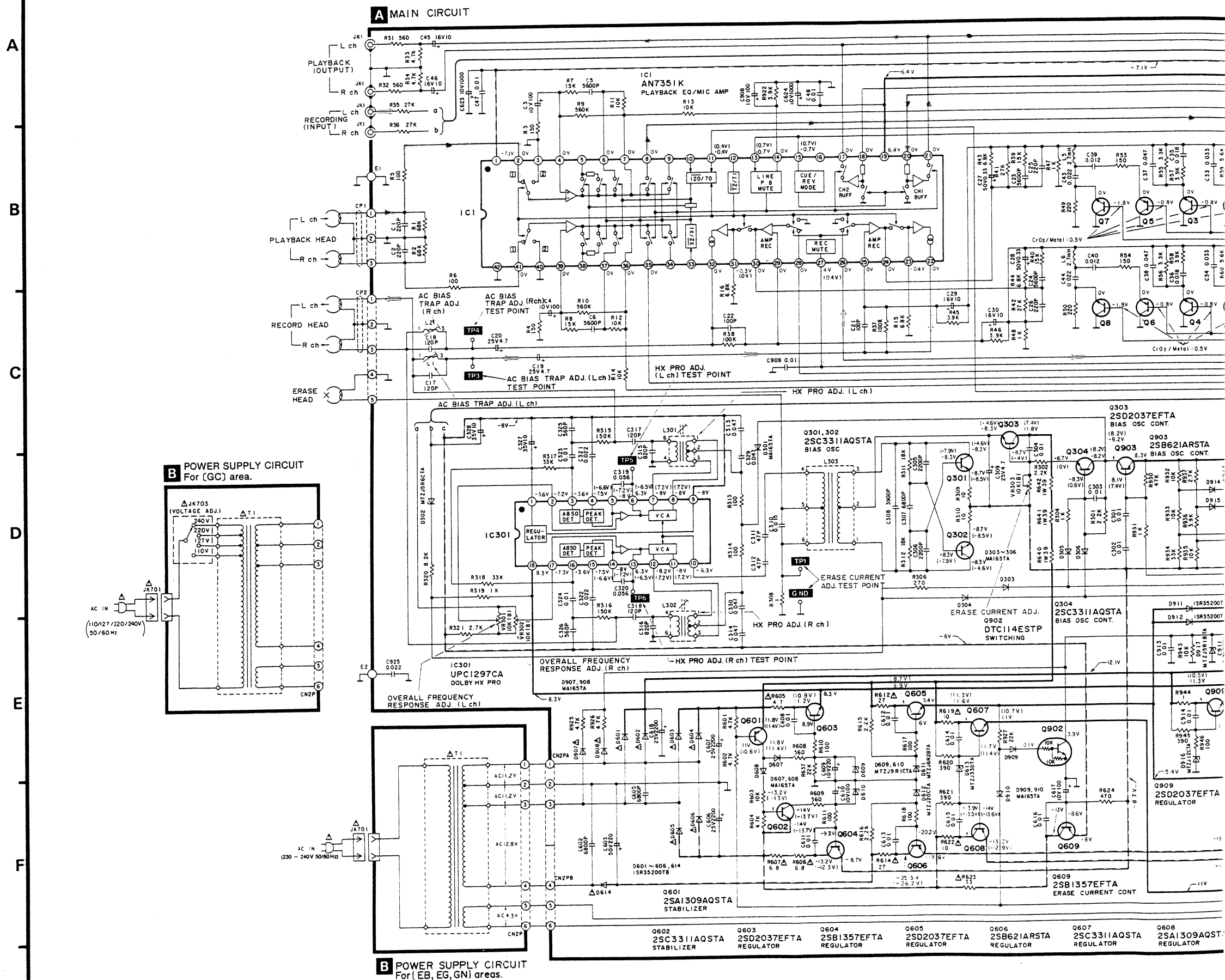
IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.

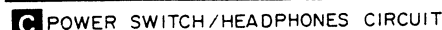
* Cover the parts boxes made of plastics with aluminum foil.

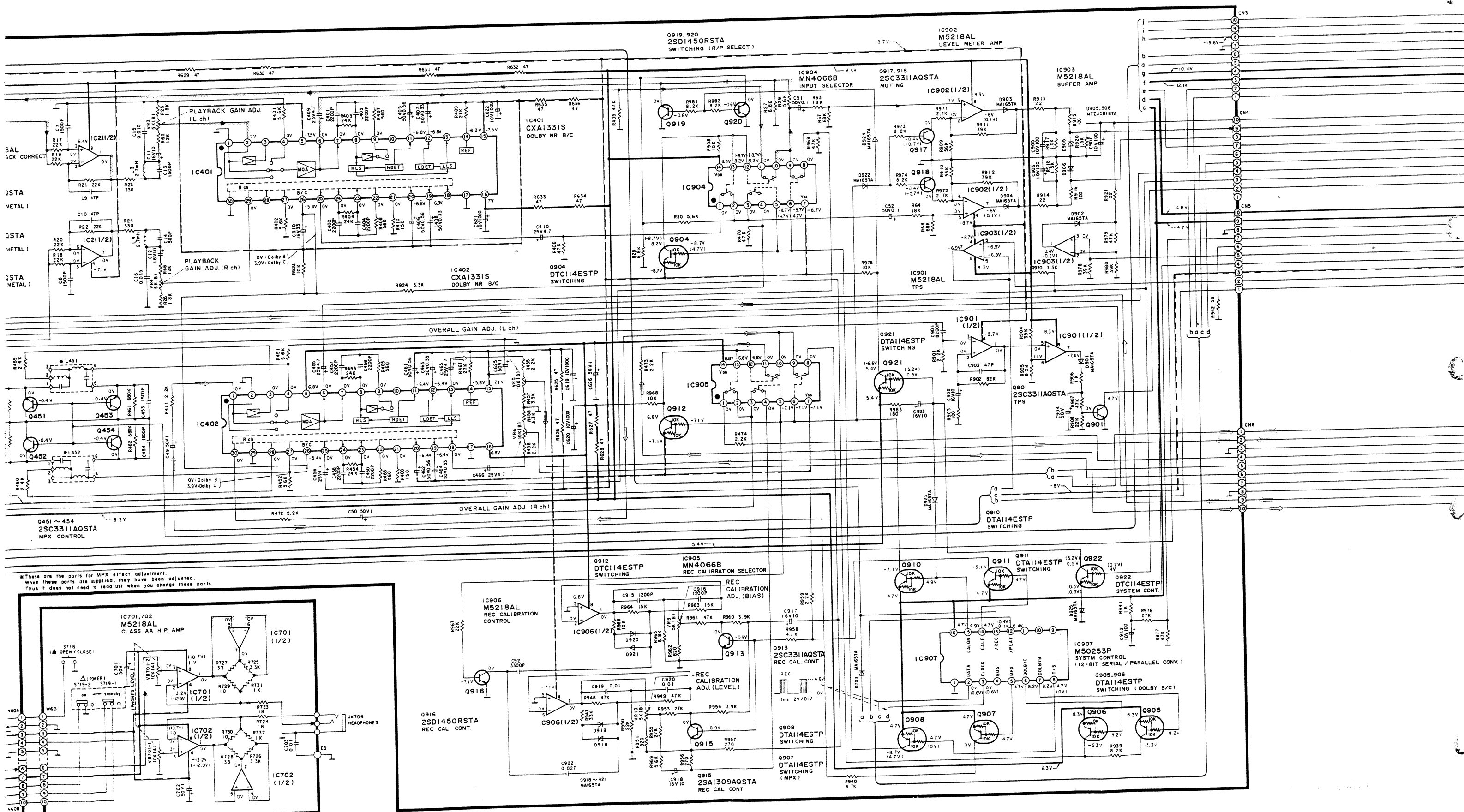
* Ground the soldering iron.

* Put a conductive mat on the work table.

* Do not touch the legs of IC or LSI with the fingers directly.







C POWER SWITCH/HEADPHONES CIRCUIT

20

21

22

23

24

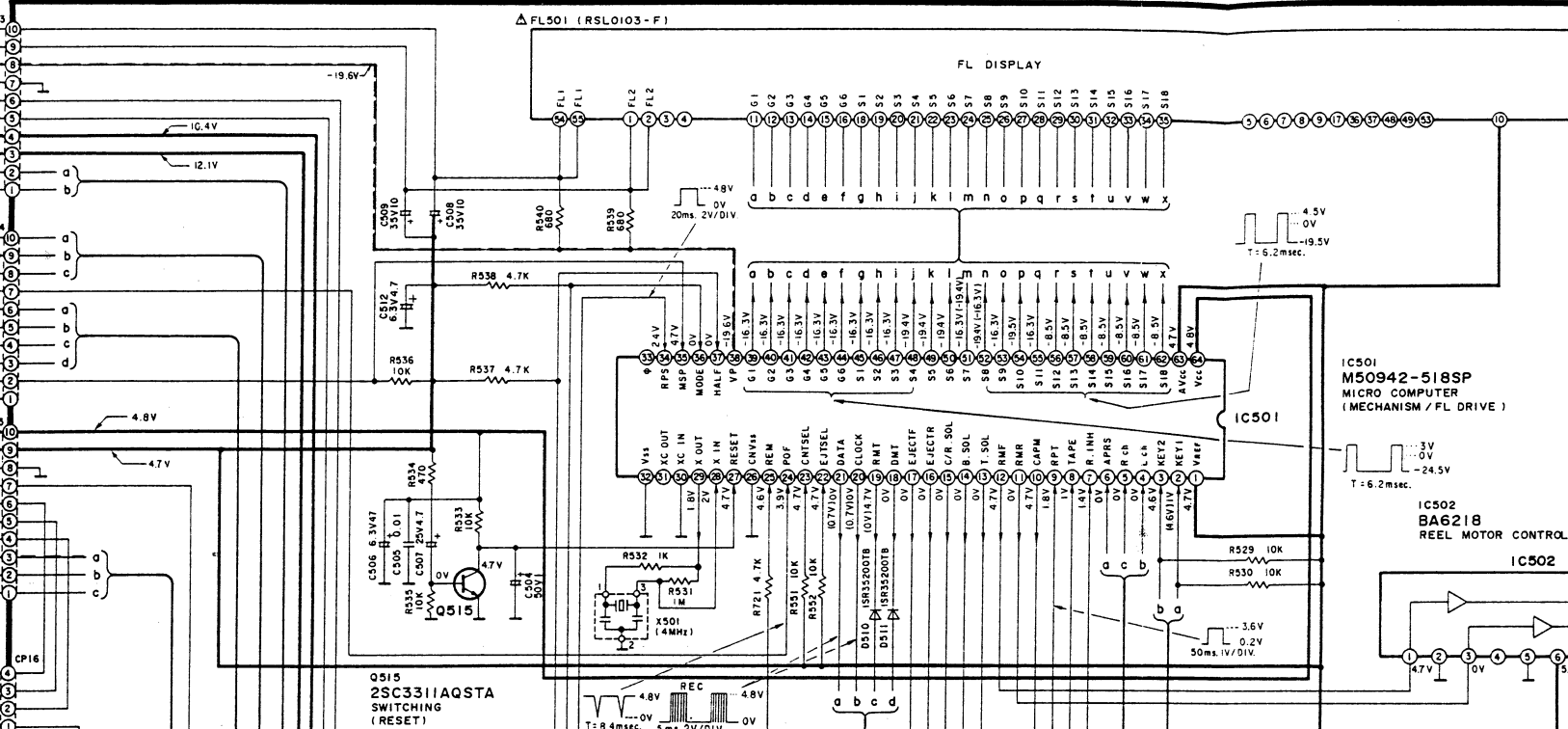
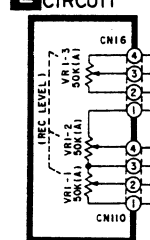
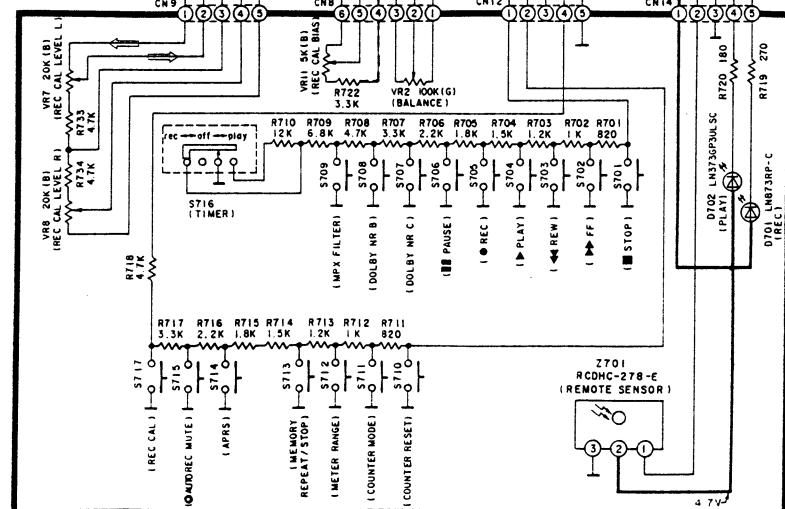
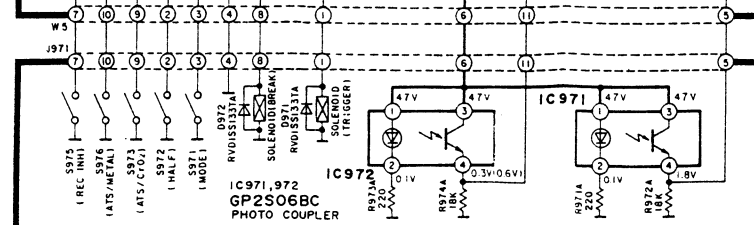
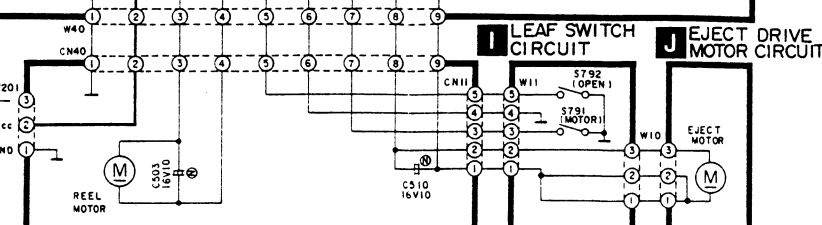
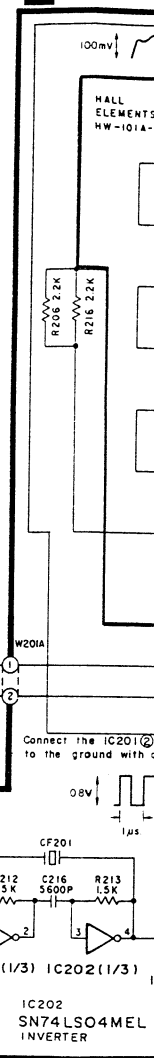
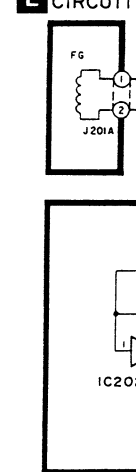
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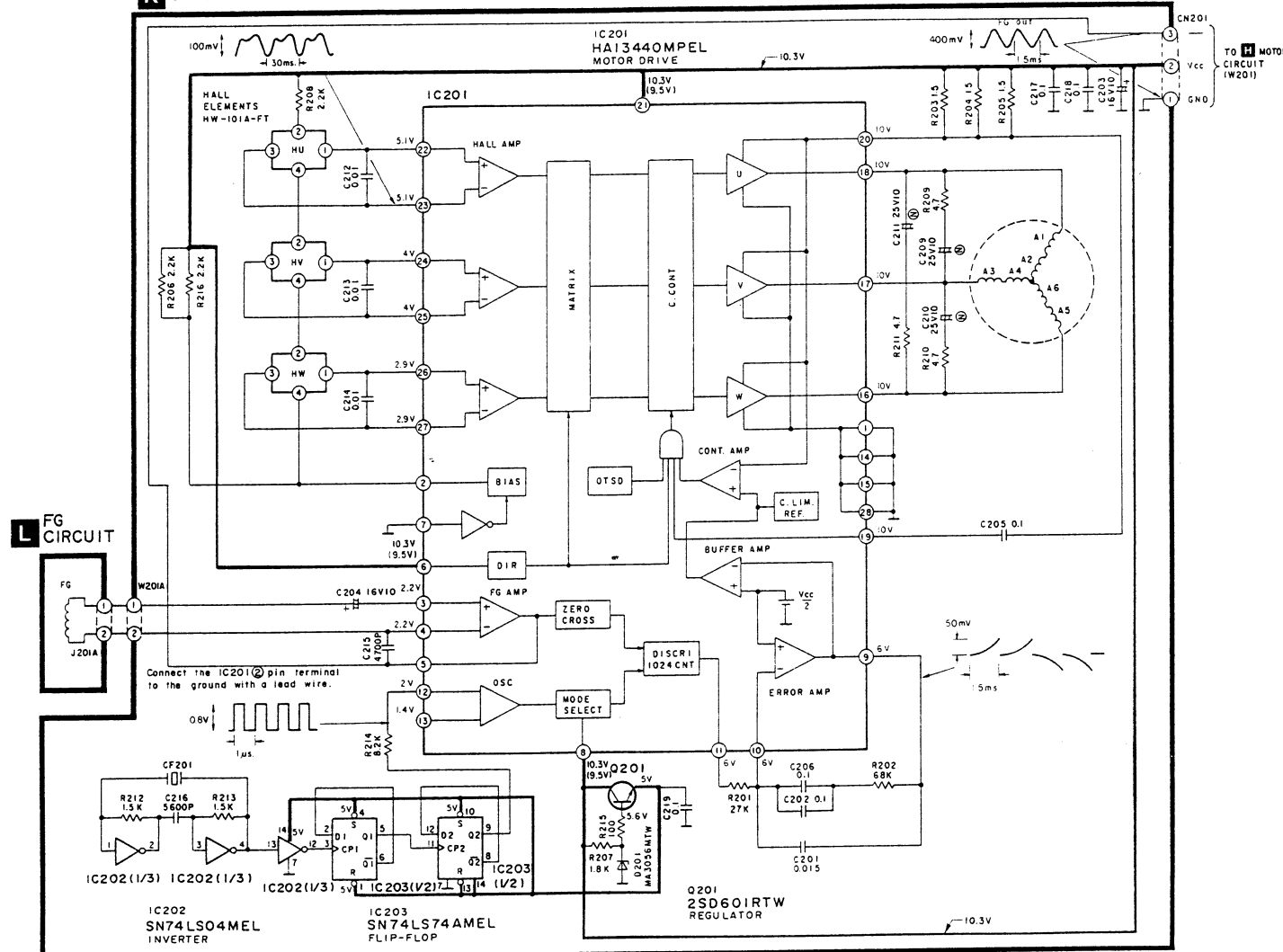
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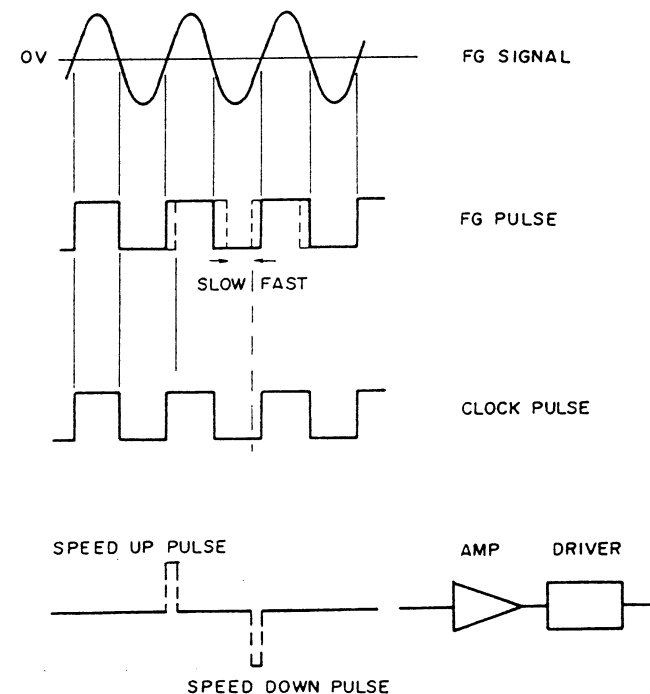
D FL DRIVE CIRCUIT**E** REC LEVEL CIRCUIT**F** OPERATION CIRCUIT**G** MECHANISM CIRCUIT**H** MOTOR CIRCUIT**K** CAPSTAN**L** FG CIRCUIT

LFG
CIRCUIT



- OUTLINE OF THE DIRECT DRIVE MOTOR SYSTEM

The capstan motor is actuated by the DD motor digital servo system. The FG pulse is generated after the detection of the zero crosspoint, and the reference signal generated from the quartz oscillator is compared with this FG pulse. From this comparison, the accelerated and reduced speed pulses are generated, causing the driving coil to function.



<table border="1"> <tr> <td>SN74LS04MEL</td><td>14 Pin</td></tr> <tr> <td>SN74LS74AMEL</td><td>14 Pin</td></tr> </table>	SN74LS04MEL	14 Pin	SN74LS74AMEL	14 Pin	HA13440MPCL	AN7351K						
SN74LS04MEL	14 Pin											
SN74LS74AMEL	14 Pin											
<table border="1"> <tr> <td>M50253P</td><td>16 Pin</td></tr> <tr> <td>M50942-518SP</td><td>64 Pin</td></tr> </table>	M50253P	16 Pin	M50942-518SP	64 Pin		<table border="1"> <tr> <td>MN4066B</td><td>14 Pin</td></tr> <tr> <td>UPC1297CA</td><td>18 Pin</td></tr> <tr> <td>CXA1331S</td><td>30 Pin</td></tr> </table>	MN4066B	14 Pin	UPC1297CA	18 Pin	CXA1331S	30 Pin
M50253P	16 Pin											
M50942-518SP	64 Pin											
MN4066B	14 Pin											
UPC1297CA	18 Pin											
CXA1331S	30 Pin											
M5218AL	BA6218	GP2S06BC										
2SD592AQRSTA 2SB621ARSTA	DTA114ESTP DTC114ESTP	2SB1357EFTA 2SD2037EFTA										
	2SA1309AQSTA 2SC3311AQSTA 2SD1450RSTA	2SD601RTW										
MA165TA RVD1SS133TA 1SR35200TB		MTZJ5R1BTA MTZJ5R6CTA MTZJ6R2BTA MTZJ8R2CTA MTZJ9R1CTA MTZJ12CTA MTZJ20CTA MTZJ33DTA										
MA3056-MTX		LN373GP3ULSC LN873RP-C										

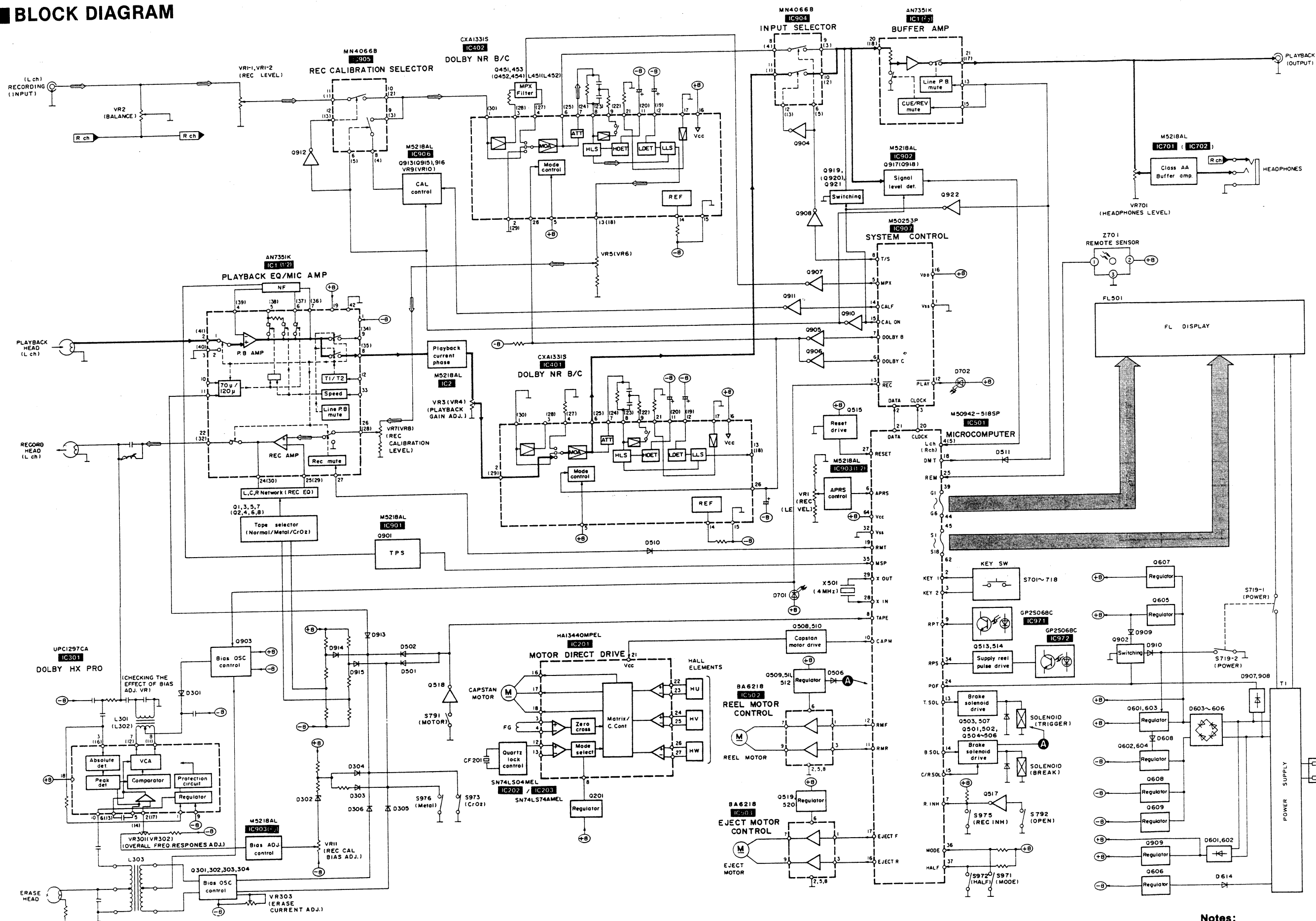
• TROUBLESHOOTING OF DIRECT DRIVE MOTOR

Problem	Possible Cause	Check Points
1. The motor does not rotate.	1. No power supply (+12V). 2. The Hall element has failed (Current does not flow). 3. The ceramic (or crystal) does not oscillate.	• Check the voltage applied to the connector. • Check the DC potential on IC201 pins ⑫~⑰. *Check the waveform of IC201 pin ⑫.
2. The motor does not rotate properly. (When pressed, it stops at certain angles. Sometimes it does not rotate even if power is ON.)	1. The coil is broken or not properly soldered. 2. Output of the Hall element is not proper.	*Check the conductance of the coil. If normal, the resistances between IC201 pins ⑮~⑰, ⑰~⑬, ⑮~⑬ will reach 20 ohms. • Check the waveform of IC201 pins ⑫~⑰.
3. The motor is out of control.	1. The FG coil is broken.	• Check the waveform of IC201 pin ⑤. • Check if the FG coil is broken.
4. Abnormal wow.	1. Same as those described for problem 2.	

Note: Check the points marked with an asterisk (*) by removing the DD motor control P.C.B. and then connecting IC201 pin ② to GND with a lead wire. (After the DD motor control P.C.B. is removed, current will start flowing through the coil, heating the IC.)

BLOCK DIAGRAM

RS-BX828 RS-BX828



Notes:
 • Playback signal
 • Recording signal

INTERNAL

• Anode conn

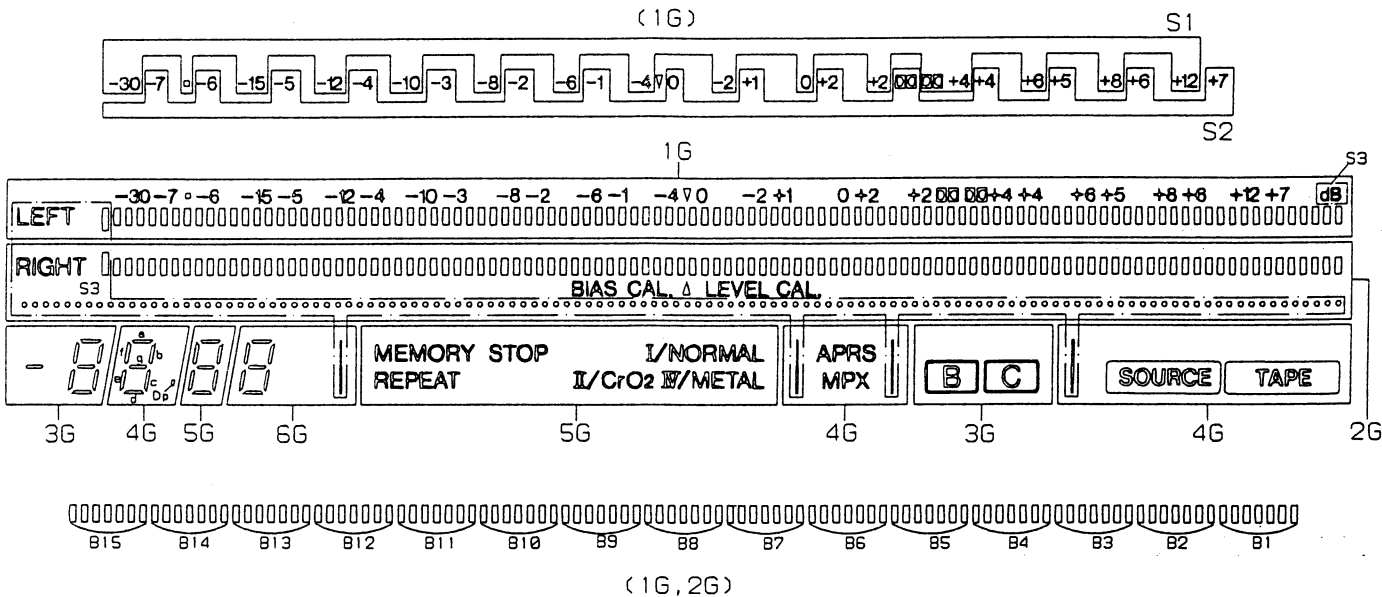
P1	
P2	
P3	
P4	
P5	
P6	
P7	
P8	
P9	
P10	
P11	
P12	
P13	
P14	
P15	
P16	
P17	
P18	
P19	

INTERNAL CONNECTION OF FL

Anode connection table

	1G	2G	3G	4G	5G	6G
P1	S1	LEVEL CAL.	—	APRS	—	—
P2	S2	BIAS CAL.	—	—	—	—
P3	▽	△	—	—	—	—
P 4	B1	B1	—	—	—	—
P 5	B2	B2	—	—	MEMORY	—
P 6	B3	B3	—	—	REPEAT	—
P 7	B4	B4	—	TAPE	STOP	—
P 8	B5	B5	B	SOURCE	—	—
P 9	B6	B6	C	—	I/NORMAL	—
P10	B7	B7	—	MPX	II/CrO ₂	—
P11	B8	B8	—	Dp	W/METAL	—
P12	B9	B9	a	a	a	a
P13	B10	B10	b	b	b	b
P14	B11	B11	f	f	f	f
P15	B12	B12	g	g	g	g
P16	B13	B13	c	c	c	c
P17	B14	B14	e	e	e	e
P18	B15	B15	d	d	d	d
P19	S3	S3	—	S3	—	S3

Grid connection diagram



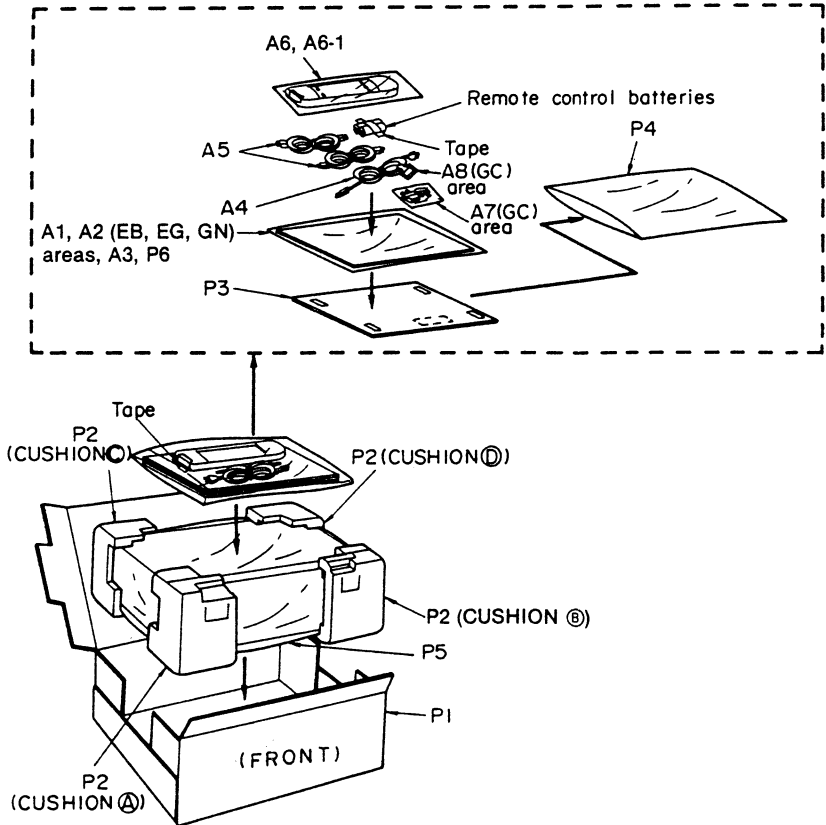
Pin connection

PIN NO.	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
CONNECTION	N	N	N	N	N	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	N	G	G	G	G	G	G	G	19	P	P	P	P	P	P	P	F	F

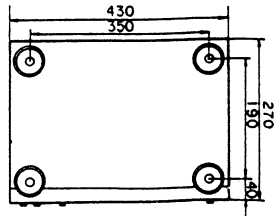
PIN NO.	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41
CONNECTION	F	F	N	N	N	N	N	N	N	N	N	N	N	N	N

- 1) F1, F2..... Filament 3) NC..... No connection
2) NP..... No pin 4) 1G~6G..... Grid

PACKAGING

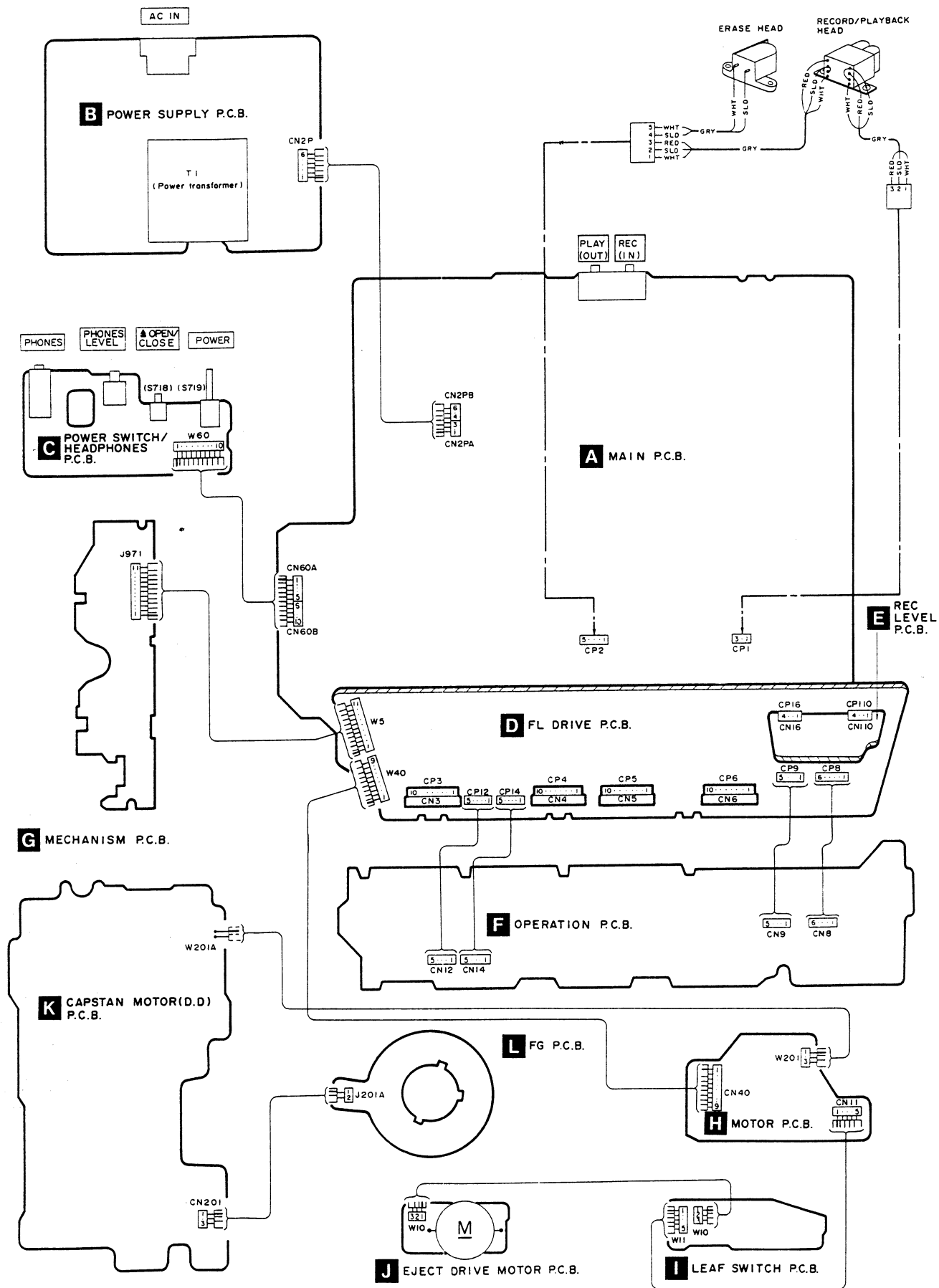


Position of foot (Dimmension : mm)



(CUSHION ④, ⑤, ⑥, ⑦, Part No.: RPN0366-1)

WIRING CONNECTION DIAGRAM



REPLACEMENT PARTS LIST

Notes: *Important safety notice:

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

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

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

*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.

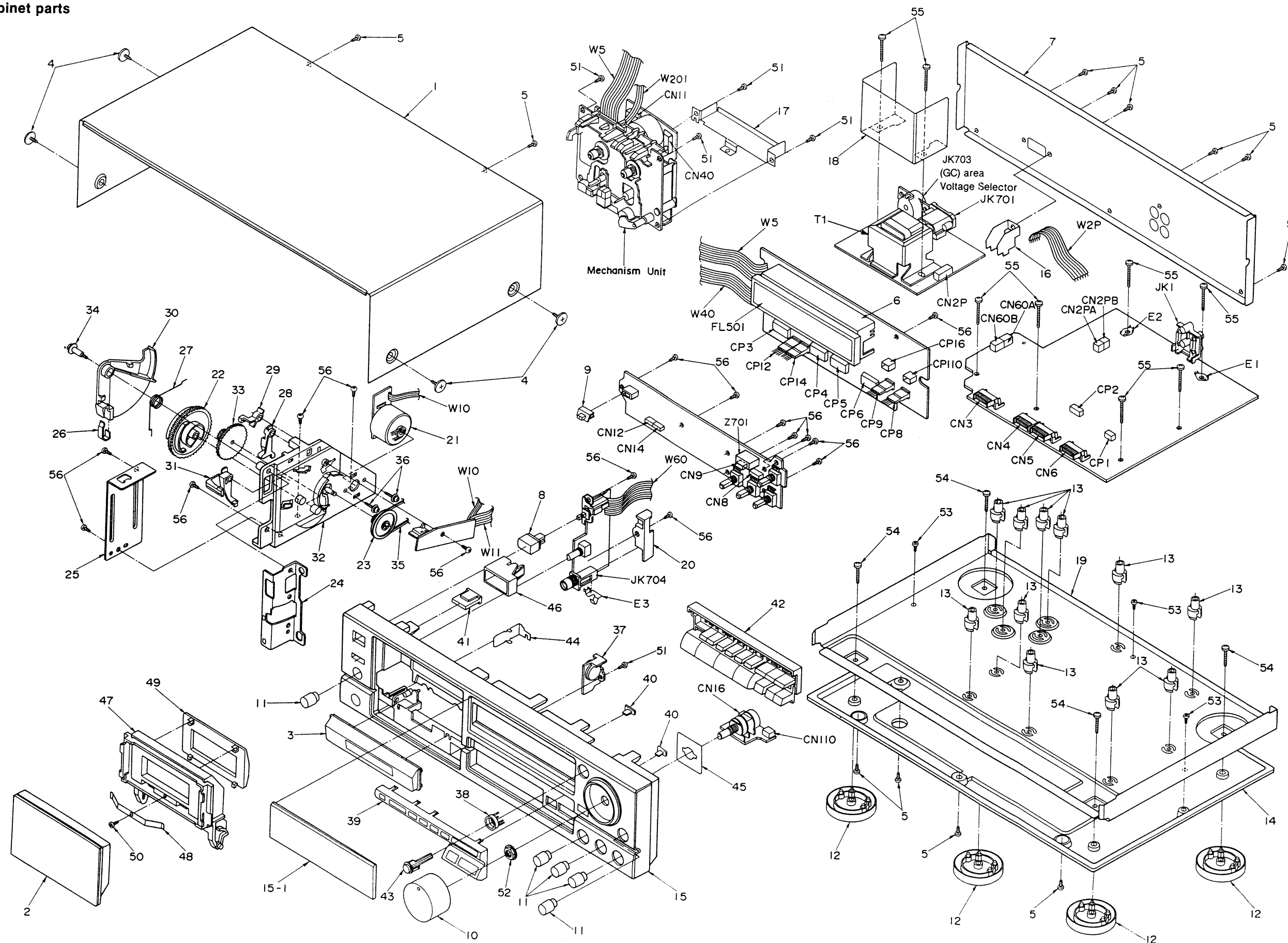
*Remote Control Ass'y:

Supply period for three years from termination of production.

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS					
1	RKM0036-K	CABINET		41	RGU0195	BUTTON, OPEN/CLOSE	
2	RYF0161A-K	CASSETTE LID		42	RGU0619-K	BUTTON, OPERATION	
3	RYQ0070-K	FRONT ORNAMENT		43	RGU0620-K	BUTTON, MONITOR	
4	SNE2129-1	SCREW		44	RMA0535	HOLDER ANGLE	
5	XTBS3+8JFZ1	SCREW		45	RMC0056-1	SHIELD PLATE, REC LEVEL	
6	RMN0141	FL HOLDER		46	RMN0185	OPEN/CLOSE LEVER	
7	RGR0128C-E	REAR PANEL	(EG)	47	RFKNSBX707EB	CASSETTE HOLDER ASS'Y	
7	RGR0128C-F	REAR PANEL	(EB, GN)	48	RMC0038	HALF SPRING	
7	RGR0128D-A	REAR PANEL	(GC)	49	RMQ0072	HALF STABILIZER	
8	RGU0030	BUTTON, POWER		50	XTB3+6J	SCREW	
9	RGV0080-K	KNOB, TIMER		51	XTB3+10JFZ	SCREW	
10	RGW0033-K1	KNOB, REC LEVEL		52	SNE4021-1	NUT	
11	RGW0110-K	KNOB, BAL. /BIAS/H.P. /REC CAL.		53	XTB3+10GFZ	SCREW	
12	RKA0009-1	FOOT		54	XTB3+16CFN	SCREW	
13	RKQ0089	P. C. B. HOLDER		55	XTB3+20JFZ	SCREW	
14	RKU0039	BOTTOM BOARD		56	XTB3+8JFZ	SCREW	
15	RFKGSBX828EB	FRONT PANEL ASS'Y				PACKING MATERIAL	
15-1	RKW0171B-K	TRANSPARENT PLATE		P1	RPG1234	PACKING CASE	(EG)
16	RMA0582	ANGLE, POWER SUPPLY		P1	RPG1309	PACKING CASE	(EB, GC, GN)
17	RMC0137	SHIELD PLATE, MECH UNIT		P2	RPN0366-1	CUSHION	
18	RMC0139-1	SHIELD PLATE, P. TRANSFORMER		P3	RPQ0164	ACCESSORIES PAD	
19	RMK0026-6	BOTTOM CHASSIS		P4	XZB24X34C04	PROTECTION BAG (F. B., ACC.)	
20	RMN0140	HOLDER, HEADPHONES		P5	XZB52X60A01Z	PROTECTION COVER (UNIT)	
21	RFKPSB755E-K	EJECT DRIVE MOTOR ASS'Y		P6	SPB1061	PROTECTION BAG (F. B.)	
22	RDG0080	DRIVE GEAR				ACCESSORIES	
23	RDG0081	PULLEY GEAR					
24	RMA0146-1	LOADING ANGLE		A1	RFKSSBX828EG	INSTRUCTION MANUAL ASS'Y	(EG)
25	RMA0242	ANGLE, LEAD COVER		A1	RQT1520-G	INSTRUCTION MANUAL	(GC)
26	RMC0039	BRACKET		A1	RQT1522-B	INSTRUCTION MANUAL	(EB, GN)
27	RME0039	OPEN SPRING		A2	RQA0013	WARRANTY CARD	(EB, EG)
28	RML0110	LEAF SWITCH LEVER(B)		A2	RQX74332A	WARRANTY CARD	(GN)
29	RML0111	LEAF SWITCH LEVER(C)		A3	RQCB0169	SERVICENTER LIST	
30	RML0112	DRIVE SECTOR LEVER		A4	RJA0004	AC POWER SUPPLY CORD	(GC) Δ
31	RML0113	LEAF SWITCH LEVER(A)		A4	RJA0019-1K	AC POWER SUPPLY CORD	(EG) Δ
32	RFKNSB755EDK	LOADING BASE ASS'Y		A4	SJA173	AC POWER SUPPLY CORD	(GN) Δ
33	SFUGF01N02	INTERMEDIATE GEAR		A4	SJA193	AC POWER SUPPLY CORD	(EB) Δ
34	SHDD8	SCREW		A5	SJP2276	STEREO CONNECTION CABLE	
35	SMBD7-2	BELT		A6	RAK-RS305W	REMOTE CONTROL TRANSMITTER	
36	XYN26+F6	SCREW		A6-1	RKK0020-K	BATTERY COVER	
37	RFKNSDN7AK	DAMPER GEAR ASS'Y		A7	SJP9215	POWER PLUG ADAPTOR	(GC) Δ
38	RGK0407-A	ORNAMENT, MONITOR BUTTON		A8	RQLA0134	CAUTION LABEL (VOL. SELECTOR)	(GC)
39	RGK0411-K	ORNAMENT, OPERATION BUTTON					
40	RGL0030	PANEL LIGHT					

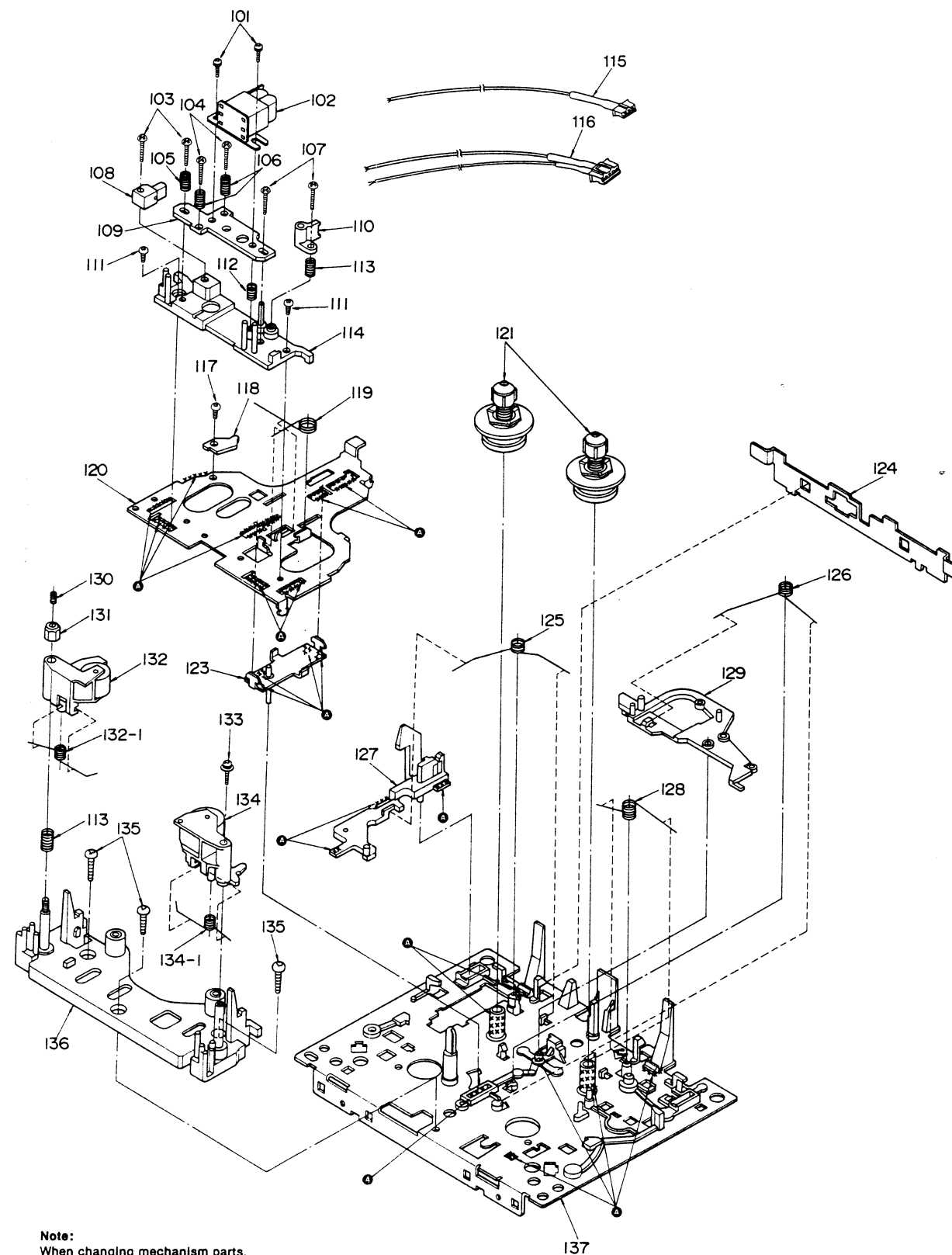
EXPLODED VIEWS

• Cabinet parts



• Mechanical parts

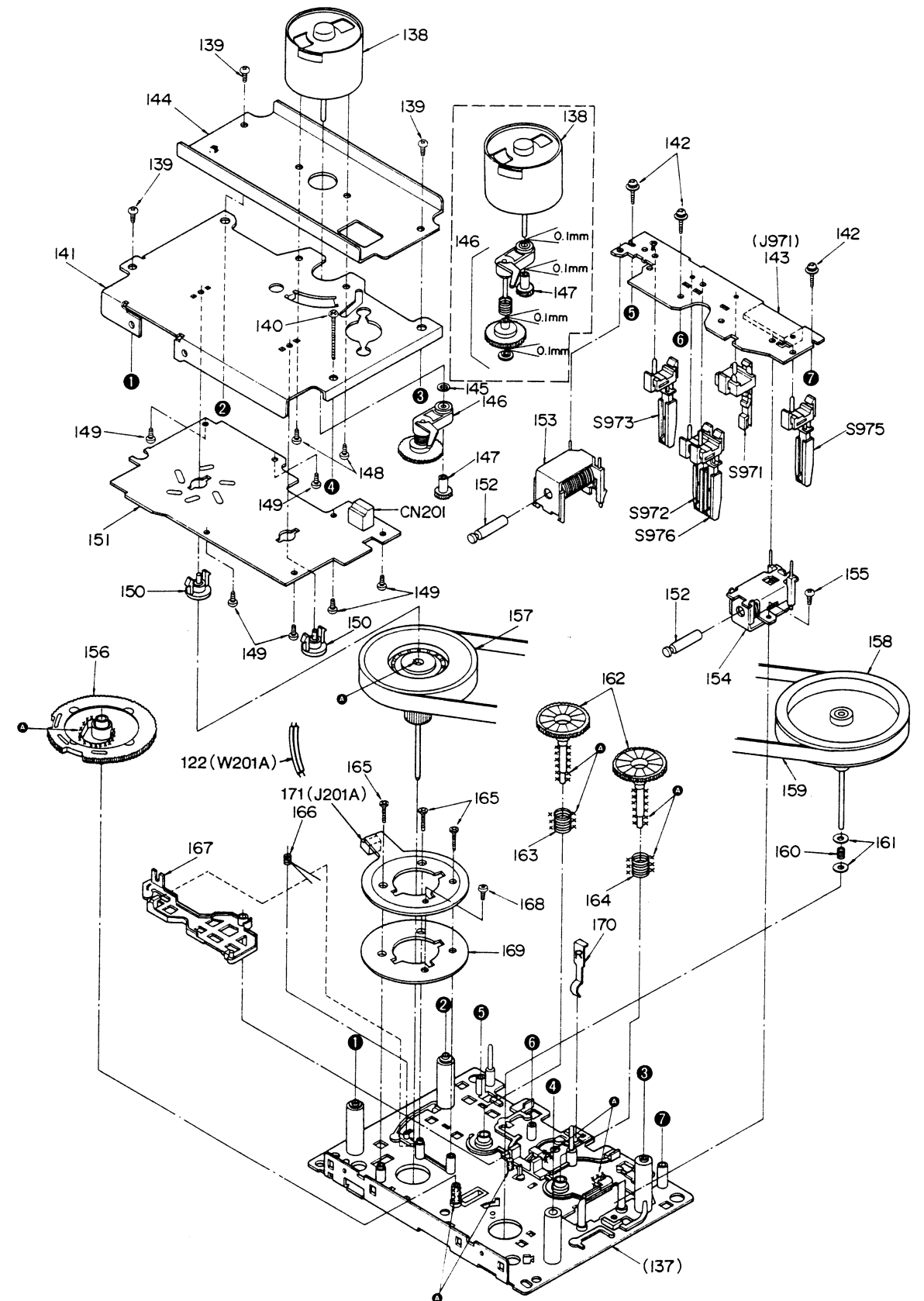
(Top view)



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

(Bottom view)



REPLACEMENT PARTS LIST

Ref.No.	Part No.	Part Name & Description	Remarks	Ref.No.	Part No.	Part Name & Description	Remarks
		MECHANISM PARTS LIST		148	XSN26+4	SCREW	
				149	XTN2+3F	SCREW	
101	XYN2+C4	SCREW		150	RMRO141	THRUST BEARING	
102	RBR4CY009-C	R/P HEAD		151	REPO268B	STATER P.C.B. ASS'Y	
103	XSN2+10	SCREW		152	RUB428ZE	MOVING IRON CORE	
104	RHD20005	SCREW		153	RSJ0003	SOLENOID	
105	RMB0135	SPRING		154	RXQ0011	BRAKE SOLENOID	
106	RMB0137	SPRING		155	XTN26+4F	SCREW	
107	XSN2+8	SCREW		156	RDG0030	MAIN GEAR	
108	RBR2CY008-A	E HEAD		157	RXF0018	FLYWHEEL (D)	
109	RMA0271	HEAD PLATE		158	RXF0013	FLYWHEEL (S)	
110	RMRO249	TAPE GUIDE		159	RDV0012	BELT	
111	XTN2+5F	SCREW		160	RMB0138	SPRING	
112	RMB0136	SPRING		161	RHW21011	WASHER	
113	RMB0133	SPRING		162	RXG0003	REEL TABLE GEAR	
114	RXQ0099	HEAD SPACER		163	RUQ1122A	SPRING	
115	REX0093-2	LEAD WIRE BLOCK(3P)		164	RUQ1112B	SPRING	
116	REX0409	LEAD WIRE BLOCK(4P)		165	RHE5204ZB	SCREW	
117	XTN2+4F	SCREW		166	RUW1472A	SPRING	
118	RMRO250	F PEACE		167	RML0037	TRIGGER LEVER	
119	RME0066	SPRING		168	XQN2+AF3	SCREW	
120	RMA0047A-1	HEAD BASE		169	RMQ0037	FG YOKE	
121	RXR0009	REEL TABLE		170	RUS6092C	TAPE PRESSURE SPRING	
122	RWJ0202090XX	FLAT CABLE (2P), W201A		171	RJS2T72A	CONNECTOR (2P), J201A	
123	RXQ0078	MAIN ROD ASS'Y					
124	RML0069-1	LEVER					
125	RME0018-1	SPRING					
126	RME0059	SPRING					
127	RMD0012-2	EJECT ROD (L)					
128	RUW1422A	SPRING					
129	RML0040-2	BRAKE LEVER					
130	XXE26D3	SCREW					
131	RHN26002	NUT, ADJUSTMENT					
132	RXP0026	PINCH ROLLER ARM (S)					
132-1	RMB0134	SPRING					
133	XSN2+W4FZ	SCREW					
134	RXP0004	PINCH ROLLER ARM (F)					
134-1	RUW1402C	SPRING					
135	XTN26+6F	SCREW					
136	RXQ0098	HOUSING BLOCK UNIT					
137	RMK0097	CHASSIS BLOCK UNIT					
138	MMN-6F4RA88	REEL MOTOR					
139	XTN26+7J	SCREW					
140	XTN26+26F	SCREW					
141	RMA0048A	FLYWHEEL PLATE					
142	XTW2+8S	SCREW					
143	RJS11T72A	CONNECTOR (11P), J971					
144	RMA0324	BRACKET					
145	RHW21013	WASHER					
146	RXG0009	GEAR ASS'Y					
147	RDG0034	REEL MOTOR GEAR					

REPLACEMENT PARTS LIST

Notes: *Important safety notice:

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

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

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

*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.

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUIT(S)		Q602	2SC3311A-Q	TRANSISTOR	
				Q603	2SD2037EFTA	TRANSISTOR	
				Q604	2SB1357EFTA	TRANSISTOR	
IC1	AN7351K	PLAYBACK/REC AMP		Q605	2SD2037EFTA	TRANSISTOR	
IC2	M5218L	PLAYBACK CORRECT PHASE		Q606	2SB621A-R	TRANSISTOR	
IC201	HA13440MPEL	MOTOR DRIVE		Q607	2SC3311A-Q	TRANSISTOR	
IC202	SN74LS04MEL	INVERTER		Q608	2SA1309A-R	TRANSISTOR	
IC203	SN74LS74AM	FLIP FLOP		Q609	2SB1357EFTA	TRANSISTOR	
IC301	UPC1297CA	DOLBY HX PRO		Q901	2SC3311A-Q	TRANSISTOR	
IC401, 402	CXA1331S	DOLBY B/C NR		Q902	DTC114ESTP	TRANSISTOR	
IC501	M50942-518SP	MICROCOMPUTER		Q903	2SB621A-R	TRANSISTOR	
IC502	BA6218	REEL MOTOR DRIVE		Q904	DTC114ESTP	TRANSISTOR	
IC503	BA6218	EJECT MOTOR DRIVE		Q905-908	DTA114ESTP	TRANSISTOR	
IC701, 702	M5218L	Class AA: H.P. AMP		Q909	2SD2037EFTA	TRANSISTOR	
IC901	M5218L	TPS AMP		Q910, 911	DTA114ESTP	TRANSISTOR	
IC902	M5218L	LEVEL METER AMP		Q912	DTC114ESTP	TRANSISTOR	
IC903	M5218L	BUFFER AMP		Q913	2SC3311A-Q	TRANSISTOR	
IC904	MN4066B	INPUT SELECTOR		Q915	2SA1309A-R	TRANSISTOR	
IC905	MN4066B	REC CALIBRATION SELECTOR		Q916	2SD1450RSTA	TRANSISTOR	
IC906	M5218L	REC CALIBRATION CONTROL		Q917, 918	2SC3311A-Q	TRANSISTOR	
IC907	M50253P	SYSTEM CONTROL		Q919, 920	2SD1450RSTA	TRANSISTOR	
IC971, 972	GP2S06BC	PHOTO COUPLER		Q921	DTA114ESTP	TRANSISTOR	
		TRANSISTOR(S)		Q922	DTC114ESTP	TRANSISTOR	
						DIODE(S)	
Q1-4	2SC3311A-Q	TRANSISTOR		D201	MA3056-MTX	DIODE	
Q5, 6	2SA1309A-R	TRANSISTOR		D301	MA165	DIODE	
Q7, 8	2SC3311A-Q	TRANSISTOR		D302	MTZJ5R6CTA	DIODE	
Q201	2SD601R	TRANSISTOR		D303-306	MA165	DIODE	
Q301, 302	2SC3311A-Q	TRANSISTOR		D501-503	MA165	DIODE	
Q303	2SD2037EFTA	TRANSISTOR		D504	MTZJ5R6CTA	DIODE	
Q304	2SC3311A-Q	TRANSISTOR		D505	MTZJ9R1CTA	DIODE	
Q451-454	2SC3311A-Q	TRANSISTOR		D506, 507	MA165	DIODE	
Q501-503	DTC114ESTP	TRANSISTOR		D509	MTZJ8R2CTA	DIODE	
Q504	2SC3311A-Q	TRANSISTOR		D510, 511	1SR35200TB	DIODE	
Q505-507	2SB621A-R	TRANSISTOR		D601-606	1SR35200TB	DIODE	Δ
Q508, 509	DTC114ESTP	TRANSISTOR		D607, 608	MA165	DIODE	
Q510	2SB621A-R	TRANSISTOR		D609, 610	MTZJ9R1CTA	DIODE	
Q511	2SD592ANCQ	TRANSISTOR		D611	MTZJ6R2BTA	DIODE	
Q512	2SD1450RSTA	TRANSISTOR		D612	MTZJ20CTA	DIODE	
Q513	2SC3311A-Q	TRANSISTOR		D613	MTZJ33DTA	DIODE	
Q514	DTC114ESTP	TRANSISTOR		D614	1SR35200TB	DIODE	Δ
Q515	2SC3311A-Q	TRANSISTOR		D701	LN873RP-C	L. E. D.	
Q517, 518	2SC3311A-Q	TRANSISTOR		D702	LN373GP3ULSC	L. E. D.	
Q519	2SD1450RSTA	TRANSISTOR		D703	MA165	DIODE	
Q520	2SD592ANCQ	TRANSISTOR		D901-904	MA165	DIODE	
Q601	2SA1309A-R	TRANSISTOR					

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
D905, 906	MTZJ5R1BTA	DIODE					
D907, 908	MA165	DIODE	△			SWITCH(ES)	
D909, 910	MA165	DIODE					
D911, 912	1SR35200TB	DIODE		S701	EVQ21405R	STOP	
D913-915	MA165	DIODE		S702	EVQ21405R	FF<TPS>	
D916	MTZJ12CTA	DIODE		S703	EVQ21405R	REW<TPS>	
D917	MTZJ5R1BTA	DIODE		S704	EVQ21405R	PLAY	
D918-925	MA165	DIODE		S705	EVQ21405R	REC	
D971, 972	RVD1SS133TA	DIODE		S706	EVQ21405R	PAUSE	
		VARIABLE RESISTOR(S)		S707	EVQ21405R	DOLBY NR C	
				S708	EVQ21405R	DOLBY NR B	
VR1	EWGU2A029A54	REC. LEVEL CONTROL		S709	EVQ21405R	MPX FILTER	
VR2	EVJ02SFA5G15	BALANCE CONTROL		S710	EVQ21405R	COUNTER RESET	
VR3, 4	EVNDXAA00B53	PLAYBACK GAIN ADJ.		S711	EVQ21405R	COUNTER MODE	
VR5, 6	EVNDXAA00B14	OVERALL GAIN ADJ.		S712	EVQ21405R	METER RANGE	
VR7, 8	EVJ02KFA5B24	REC. CALIBRATION		S713	EVQ21405R	MEMORY (REPEAT/STOP)	
VR9	EVNDXAA00B53	CALIBRATION BIAS ADJ.		S714	EVQ21405R	APRS	
VR10	EVNDXAA00B53	CALIBRATION LEVEL ADJ.		S715	EVQ21405R	AUTO REC MUTE	
VR11	EVJ02KFA5B53	BIAS CURRENT ADJ.		S716	SSS166	TIMER	
VR301, 302	EVNDXAA00B14	OVERALL FREQ. ADJ.		S717	EVQ21405R	REC CAL.	
VR303	EVNDXAA00B14	ERASE CURRENT ADJ.		S718	EVQ21405R	OPEN/CLOSE	
VR701	EVU57A064A14	HEADPHONES CONTROL		S719	SSH1238	POWER	△
		SENSOR(S)		S720	EVQ21405R	MONITOR (SOURCE/TAPE)	
				S791	SSPD18-1	MOTOR, LOADING	
Z701	RCDHC-278	REMOTE SENSOR		S792	SSPD18-1	OPEN, LOADING	
		COIL(S)		S971	RSH1A89ZC-U	MODE	
				S972	RSH1A90YC-U	HALF	
				S973	RSH1A90YC-U	ATS	
				S975	RSH1A90YC-U	REC INHIBIT	
				S976	RSH1A90YC-U	ATS	
L1, 2	RLZ0003	COIL (AC BIAS TRAP ADJ.)				CONNECTOR(S) AND SOCKET(S)	
L3-6	SLQX272-1YT	COIL					
L301, 302	SL09B1-Z	COIL (HX PRO ADJ.)		CN2P	SJT30643-V	CONNECTOR (6P)	
L303	SL09B4-K	COIL		CN2PA	RJS1A6603	CONNECTOR (3P)	
L451, 452	QLM9210K	COIL (MPX)		CN2PB	RJS1A6603	CONNECTOR (3P)	
		TRANSFORMER(S)		CN3-6	RJU003K010M1	SOCKET (10P)	
				CN8	SJS50681BB	SOCKET (6P)	
T1	RTP1K4E014-V	POWER TRANSFORMER	(EB, EG, GN) △	CN9	SJS50581BB	SOCKET (5P)	
T1	RTP1K4E015-V	POWER TRANSFORMER	(GC) △	CN11	SJT30544-H	CONNECTOR (5P)	
		OSCILLATOR(S)		CN12	SJS50581BB	SOCKET (5P)	
				CN14	SJS50581BB	SOCKET (5P)	
CF201	RSXA3M75S01	CRYSTAL OSCILLATOR		CN16	RJU057W004	SOCKET (4P)	
		FILTER(S)		CN40	RJS9T77A	CONNECTOR (9P)	
				CN60A	RJS1A6605	CONNECTOR (5P)	
X501	EFOGC400A4	CERAMIC FILTER (4MHz)		CN60B	RJS1A6605	CONNECTOR (5P)	
		DISPLAY TUBE(S)		CN110	RJU057W004	SOCKET (4P)	
				CN201	RJS3T42A	CONNECTOR (3P)	
FL501	RSL0103-F	DISPLAY TUBE	△	CP1	SJTD313	CONNECTOR (3P)	
				CP2	RJP5G18ZA	CONNECTOR (5P)	
				CP3-6	RJT003K010-1	CONNECTOR (10P)	
				CP8	SJT30648BB1	CONNECTOR (6P)	

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
CP9	SJT30548BB1	CONNECTOR (5P)				GND PARTS (S)	
CP12	SJT30548BB1	CONNECTOR (5P)					
CP14	SJT30548BB1	CONNECTOR (5P)		E1, 2	SNE1004-1	GND PLATE	
CP16	RJT057W004-1	CONNECTOR (4P)		E3	SUSD165	GND SPRING	
CP110	RJT057W004-1	CONNECTOR (4P)					
						FLAT CABLE(S)	
		JACK (S)					
				W2P	RWJ1806110QQ	FLAT CABLE (6P)	
JK1	SJF3069N	TERMINAL BOARD		W5	RWJ5711220KQ	FLAT CABLE (11P)	
JK701	SJSD16	AC INLET	(GN) △	W10	RWJ1803160KK	FLAT CABLE (3P)	
JK701	SJS9236	AC INLET	(EB, EG, GC) △	W11	RWJ1805170KQ	FLAT CABLE (5P)	
JK703	SSR187-1	VOLTAGE SELECTOR	(GC) △	W40	RWJ5709180KQ	FLAT CABLE (9P)	
JK704	SJJD19	JACK, HEADPHONES		W60	RWJ1810260KQ	FLAT CABLE (10P)	
				W201	RWJ1803120KQ	FLAT CABLE (3P)	

RESISTORS & CAPACITORS

Notes : * Capacity values 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	R59, 60	ERDS2TJ562	1/4W 5.6K	R401, 402	ERDS2TJ562	1/4W 5.6K
			R61, 62	ERDS2TJ222	1/4W 2.2K	R403, 404	ERDS2TJ243T	1/4W 24K
			R63, 64	ERDS2TJ183T	1/4W 18K	R405, 406	ERDS2TJ473	1/4W 47K
R1, 2	ERDS2TJ683	1/4W 68K	R65, 66	ERDS2TJ123	1/4W 12K	R407, 408	ERDS2TJ561	1/4W 560
R3, 4	ERDS2TJ151	1/4W 150	R67, 68	ERDS2TJ683	1/4W 68K	R409	ERDS2TJ273	1/4W 27K
R5, 6	ERDS2TJ101	1/4W 100	R201	ERJ6GEYJ273V	1/10W 27K	R410	ERDS2TJ151	1/4W 150
R7, 8	ERDS2TJ153	1/4W 15K	R202	ERJ6GEYJ683V	1/10W 68K	R451, 452	ERDS2TJ562	1/4W 5.6K
R9, 10	ERDS2TJ564	1/4W 560K	R203-205	ERJ6GEYJ1R5V	1/10W 1.5	R453, 454	ERDS2TJ243T	1/4W 24K
R11-14	ERDS2TJ103	1/4W 10K	R206	ERJ8GEYJ222V	1/8W 2.2K	R455, 456	ERDS2TJ222	1/4W 2.2K
R15, 16	ERDS2TJ682T	1/4W 6.8K	R207	ERJ6GEYJ182V	1/10W 1.8K	R457, 458	ERDS2TJ332	1/4W 3.3K
R17-22	ERDS2TJ223	1/4W 22K	R208	ERJ6GEYJ222V	1/10W 2.2K	R459, 460	ERDS2TJ242	1/4W 2.4K
R23, 24	ERDS2TJ331	1/4W 330	R209-211	ERJ6GEYJ4R7V	1/10W 4.7	R461-464	ERDS2TJ684	1/4W 680K
R25, 26	ERDS2TJ182	1/4W 1.8K	R212, 213	ERJ6GEYJ152V	1/10W 1.5K	R465, 466	ERDS2TJ561	1/4W 560
R27, 28	ERDS2TJ682T	1/4W 6.8K	R214	ERJ6GEYJ822V	1/10W 8.2K	R467	ERDS2TJ273	1/4W 27K
R29, 30	ERDS2TJ562	1/4W 5.6K	R215	ERJ6GEYJ101V	1/10W 100	R468	ERDS2TJ151	1/4W 150
R31, 32	ERDS2TJ561	1/4W 560	R216	ERJ8GEYJ222V	1/8W 2.2K	R469, 470	ERDS2TJ473	1/4W 47K
R33, 34	ERDS2TJ472	1/4W 4.7K	R301, 302	ERDS2TJ222	1/4W 2.2K	R471-474	ERDS2TJ222	1/4W 2.2K
R35, 36	ERDS2TJ273	1/4W 27K	R304	ERDS2TJ102	1/4W 1K	R501	ERDS2TJ223	1/4W 22K
R37, 38	ERDS2TJ104	1/4W 100K	R306	ERDS2TJ271	1/4W 270	R502	ERDS2TJ821	1/4W 820
R39, 40	ERDS2TJ153	1/4W 15K	R308	ERDS2TJ1R0	1/4W 1.0	R503	ERDS2TJ223	1/4W 22K
R41, 42	ERDS2TJ273	1/4W 27K	R309, 310	ERDS2TJ100	1/4W 10	R504	ERDS2TJ821	1/4W 820
R43, 44	ERDS2TJ682T	1/4W 6.8K	R311, 312	ERDS2TJ183T	1/4W 18K	R505	ERG1SJ150E	1W 15
R45, 46	ERDS2TJ392T	1/4W 3.9K	R313, 314	ERDS2TJ101	1/4W 100	R506	ERG1SJ180E	1W 18
R47, 48	ERDS2TJ102	1/4W 1K	R315, 316	ERDS2TJ154	1/4W 150K	R507, 508	ERDS2TJ472	1/4W 4.7K
R49, 50	ERDS2TJ221	1/4W 220	R317, 318	ERDS2TJ333	1/4W 33K	R509	ERDS2TJ223	1/4W 22K
R53, 54	ERDS2TJ151	1/4W 150	R319	ERDS2TJ102	1/4W 1K	R510	ERDS2TJ821	1/4W 820
R55, 56	ERDS2TJ332	1/4W 3.3K	R320	ERDS2TJ822	1/4W 8.2K	R511	ERDS2TJ822	1/4W 8.2K
R57, 58	ERDS2TJ392T	1/4W 3.9K	R321	ERDS2TJ272T	1/4W 2.7K	R512	ERDS2TJ182	1/4W 1.8K

Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
R513	ERDS2TJ682T	1/4W 6. 8K	R702	ERDS2TJ102	1/4W 1K	R934	ERDS2TJ333	1/4W 33K
R514	ERDS2TJ152	1/4W 1. 5K	R703	ERDS2TJ122	1/4W 1. 2K	R935	ERDS2TJ103	1/4W 10K
R515	ERDS2TJ332	1/4W 3. 3K	R704	ERDS2TJ152	1/4W 1. 5K	R936	ERDS2TJ392T	1/4W 3. 9K
R516	ERDS2TJ103	1/4W 10K	R705	ERDS2TJ182	1/4W 1. 8K	R937	ERDS2TJ272T	1/4W 2. 7K
R517	ERDS2TJ223	1/4W 22K	R706	ERDS2TJ222	1/4W 2. 2K	R938	ERDS2TJ103	1/4W 10K
R518	ERDS2TJ821	1/4W 820	R707	ERDS2TJ332	1/4W 3. 3K	R939	ERDS2TJ822	1/4W 8. 2K
R519	ERDS2TJ103	1/4W 10K	R708	ERDS2TJ472	1/4W 4. 7K	R940	ERDS2TJ472	1/4W 4. 7K
R520	ERDS2TJ102	1/4W 1K	R709	ERDS2TJ682T	1/4W 6. 8K	R941	ERDS2TJ102	1/4W 1K
R521, 522	ERDS1FVJ180T	1/2W 18 Δ	R710	ERDS2TJ123	1/4W 12K	R942	ERDS2TJ560T	1/4W 56
R523	ERDS2TJ332	1/4W 3. 3K	R711	ERDS2TJ821	1/4W 820	R943	ERDS2TJ103	1/4W 10K
R524	ERDS2TJ222	1/4W 2. 2K	R712	ERDS2TJ102	1/4W 1K	R944	ERDS2TJ1R0	1/4W 1. 0
R525	ERDS2TJ473	1/4W 47K	R713	ERDS2TJ122	1/4W 1. 2K	R945	ERDS2TJ391	1/4W 390
R526	ERDS2TJ223	1/4W 22K	R714	ERDS2TJ152	1/4W 1. 5K	R946	ERDS2TJ101	1/4W 100
R527	ERDS2TJ562	1/4W 5. 6K	R715	ERDS2TJ182	1/4W 1. 8K	R947	ERDS2TJ333	1/4W 33K
R528	ERDS2TJ682T	1/4W 6. 8K	R716	ERDS2TJ222	1/4W 2. 2K	R948, 949	ERDS2TJ473	1/4W 47K
R529, 530	ERDS2TJ103	1/4W 10K	R717	ERDS2TJ332	1/4W 3. 3K	R950	ERDS2TJ223	1/4W 22K
R531	ERDS2TJ105T	1/4W 1M	R718	ERDS2TJ472	1/4W 4. 7K	R951	ERDS2TJ821	1/4W 820
R532	ERDS2TJ102	1/4W 1K	R719	ERDS2TJ271	1/4W 270	R953	ERDS2TJ273	1/4W 27K
R533	ERDS2TJ103	1/4W 10K	R720	ERDS2TJ181T	1/4W 180	R954	ERDS2TJ392T	1/4W 3. 9K
R534	ERDS2TJ471	1/4W 470	R721	ERDS2TJ472	1/4W 4. 7K	R955	ERDS2TJ273	1/4W 27K
R535, 536	ERDS2TJ103	1/4W 10K	R722	ERDS2TJ332	1/4W 3. 3K	R956, 957	ERDS2TJ271	1/4W 270
R537, 538	ERDS2TJ472	1/4W 4. 7K	R723, 724	ERDS2TJ180T	1/4W 18	R958	ERDS2TJ472	1/4W 4. 7K
R539, 540	ERDS2TJ681	1/4W 680	R725, 726	ERDS2TJ332	1/4W 3. 3K	R959	ERDS2TJ222	1/4W 2. 2K
R542, 543	ERDS1FVJ3R3T	1/2W 3. 3 Δ	R727, 728	ERDS2TJ330	1/4W 33	R960	ERDS2TJ392T	1/4W 3. 9K
R544	ERDS2TJ331	1/4W 330	R729, 730	ERDS2TJ100	1/4W 10	R961	ERDS2TJ473	1/4W 47K
R545	ERDS2TJ102	1/4W 1K	R731, 732	ERDS2TJ102	1/4W 1K	R962	ERDS2TJ821	1/4W 820
R546	ERDS2TJ332	1/4W 3. 3K	R733, 734	ERDS2TJ472	1/4W 4. 7K	R963, 964	ERDS2TJ153	1/4W 15K
R547	ERDS2TJ222	1/4W 2. 2K	R901	ERDS2TJ222	1/4W 2. 2K	R965	ERDS2TJ682T	1/4W 6. 8K
R548, 549	ERDS2TJ472	1/4W 4. 7K	R902	ERDS2TJ823T	1/4W 82K	R966	ERDS2TJ103	1/4W 10K
R550	ERDS2TJ101	1/4W 100	R903	ERDS2TJ101	1/4W 100	R967	ERDS2TJ223	1/4W 22K
R551, 552	ERDS2TJ103	1/4W 10K	R904	ERDS2TJ393	1/4W 39K	R968	ERDS2TJ103	1/4W 10K
R553	ERDS2TJ101	1/4W 100	R905	ERDS2TJ822	1/4W 8. 2K	R969	ERDS2TJ562	1/4W 5. 6K
R601, 602	ERDS2TJ472	1/4W 4. 7K	R906	ERDS2TJ102	1/4W 1K	R970	ERDS2TJ332	1/4W 3. 3K
R603	ERDS2TJ103	1/4W 10K	R907	ERDS2TJ473	1/4W 47K	R971	ERDS2TJ272T	1/4W 2. 7K
R604	ERDS2TJ472	1/4W 4. 7K	R908	ERDS2TJ223	1/4W 22K	R971A	ERDS2TJ221	1/4W 220
R605	ERD2FCVJ4R7T	1/4W 4. 7 Δ	R909, 910	ERDS2TJ563	1/4W 56K	R972	ERDS2TJ272T	1/4W 2. 7K
R606, 607	ERD2FCVJ6R8T	1/4W 6. 8 Δ	R911, 912	ERDS2TJ393	1/4W 39K	R972A	ERDS2TJ183T	1/4W 18K
R608, 609	ERDS2TJ561	1/4W 560	R913, 914	ERDS2TJ220T	1/4W 22	R973	ERDS2TJ822	1/4W 8. 2K
R610, 611	ERDS2TJ101	1/4W 100	R915, 916	ERDS2TJ101	1/4W 100	R973A	ERDS2TJ221	1/4W 220
R612	ERD2FCVG270T	1/4W 27 Δ	R917, 918	ERDS2TJ152	1/4W 1. 5K	R974	ERDS2TJ822	1/4W 8. 2K
R614	ERD2FCVG270T	1/4W 27 Δ	R920	ERDS2TJ152	1/4W 1. 5K	R974A	ERDS2TJ183T	1/4W 18K
R615, 616	ERDS2TJ222	1/4W 2. 2K	R921	ERDS2TJ220T	1/4W 22	R975	ERDS2TJ103	1/4W 10K
R617, 618	ERDS2TJ101	1/4W 100	R922	ERDS2TJ392T	1/4W 3. 9K	R976	ERDS2TJ273	1/4W 27K
R619	ERD2FCVG100T	1/4W 10 Δ	R923	ERDS2TJ103	1/4W 10K	R977	ERDS2TJ473	1/4W 47K
R620, 621	ERDS2TJ391	1/4W 390	R924	ERDS2TJ332	1/4W 3. 3K	R978	ERDS2TJ393	1/4W 39K
R622	ERD2FCVG100T	1/4W 10 Δ	R925, 926	ERDS2TJ472	1/4W 4. 7K	R979	ERDS2TJ473	1/4W 47K
R623	ERD2FCVG330T	1/4W 33 Δ	R927	ERDS2TJ223	1/4W 22K	R980	ERDS2TJ393	1/4W 39K
R624	ERDS2TJ471	1/4W 470	R928	ERDS2TJ123	1/4W 12K	R981, 982	ERDS2TJ822	1/4W 8. 2K
R625-636	ERDS2TJ470	1/4W 47	R929	ERDS2TJ682T	1/4W 6. 8K	R983	ERDS2TJ181T	1/4W 180
R637	ERDS2TJ223	1/4W 22K	R930	ERDS2TJ473	1/4W 47K			
R640-642	ERG1SJ390E	1W 39	R931	ERDS2TJ102	1/4W 1K			CHIP JUMPERS
R701	ERDS2TJ821	1/4W 820	R932, 933	ERDS2TJ103	1/4W 10K			

Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
J201-J206	ERJ6GEY0R00V	CHIP JUMPER	C325, 326	ECBT1H561KB5	50V 560P	C921	ECQB1H332JF3	50V 3300P
			C327, 328	ECEA1VKA100B	35V 10U	C922	ECQB1H273JF3	50V 0.027U
		CAPACITORS	C329, 330	ECKR1H473ZF5	50V 0.047U	C923	ECEA1CKA100B	16V 10U
			C401-404	ECQB1H222JF3	50V 2200P	C925	ECKT1H223ZF	50V 0.022U
C1, 2	ECBT1H221KB5	50V 220P	C405, 406	ECEA1HUR56B	50V 0.56U			
C3, 4	ECEA1AU101	10V 100U	C407, 408	ECEA1HKAR33B	50V 0.33U			
C5, 6	ECQB1H562JF3	50V 5600P	C409, 410	ECEA1EKA4R7B	25V 4.7U			
C7, 8	ECQB1H152JF3	50V 1500P	C451, 452	ECKT1H122KB	50V 1200P			
C9, 10	ECBT1H470J5	50V 47P	C453, 454	ECKD1H152KB	50V 1500P			
C11, 12	ECEA1CKA100B	16V 10U	C455, 456	ECEA1EKA4R7B	25V 4.7U			
C13, 14	ECQB1H152JF3	50V 1500P	C457-460	ECQB1H222JF3	50V 2200P			
C15, 16	ECQB1H153JF3	50V 0.015U	C461, 462	ECEA1HUR56B	50V 0.56U			
C17, 18	ECQP1121JZ3	100V 120P	C463, 464	ECEA1HKAR33B	50V 0.33U			
C19, 20	ECEA1EKA4R7B	25V 4.7U	C465, 466	ECEA1EKA4R7B	25V 4.7U			
C21, 22	ECBT1H101KB5	50V 100P	C501	ECEA1HKA010B	50V 1U			
C23, 24	ECQB1H562JF3	50V 5600P	C502	ECBT1E103ZF	25V 0.01U			
C25, 26	ECBT1H221KB5	50V 220P	C503	ECEA1CN100SB	16V 10U			
C27, 28	ECEA1HKAR33B	50V 0.33U	C504	ECEA1HKA010B	50V 1U			
C29, 30	ECEA1CKA100B	16V 10U	C505	ECKR1H103ZF5	50V 0.01U			
C31, 32	ECQV1H683JZ3	50V 0.68U	C506	ECEA0JKA470B	6.3V 47U			
C33, 34	ECQB1H333JF3	50V 0.033U	C507	ECEA1EKA4R7B	25V 4.7U			
C35, 36	ECQB1H183JF3	50V 0.018U	C508, 509	ECEA1VKA100B	35V 10U			
C37, 38	ECQV1H473JZ3	50V 0.047U	C510	ECEA1CN100SB	16V 10U			
C39, 40	ECQB1H123JF3	50V 0.012U	C511	ECBT1E103ZF	25V 0.01U			
C43, 44	ECQB1H223JF3	50V 0.022U	C512	ECEA0JKA470B	6.3V 47U			
C45, 46	ECEA1CKA100B	16V 10U	C602	ECKR2H682PE	500V 6800P			
C47, 48	ECKR1H103ZF5	50V 0.01U	C603	ECA1HM221B	50V 220U			
C49, 50	ECEA1HKA010B	50V 1U	C605	ECKR2H682PE	500V 6800P			
C51, 52	ECEA1HKA0R1B	50V 0.1U	C606, 607	ECEA1EU222	25V 2200U			
C201	ECUV1E153KBN	25V 0.015U	C608	ECKR1H103ZF5	50V 0.01U			
C202	ECUV1E104KBN	25V 0.1U	C609	ECEA1AU221	10V 220U			
C203, 204	ECEV1CA100R	16V 10U	C610	ECEA1AU101	10V 100U			
C205	ECUV1E104ZFN	25V 0.1U	C611-616	ECKR1H103ZF5	50V 0.01U			
C206	ECUV1E104KBN	25V 0.1U	C617	ECEA1AU101	10V 100U			
C209-211	ECEV1EN100R	25V 10U	C618	ECEA1EU222	25V 2200U			
C212-214	ECUV1H103ZFN	50V 0.01U	C619-624	ECA1AAX102B	10V 1000U			
C215	ECUV1H472ZFN	50V 4700P	C625, 626	ECEA1HKA010B	50V 1U			
C216	ECUV1E562KBN	25V 5600P	C701, 702	ECEA1HKA010B	50V 1U			
C217-219	ECUV1E104ZFN	25V 0.1U	C703	ECKR1H103ZF5	50V 0.01U			
C301-304	ECKR1H103ZF5	50V 0.01U	C901	ECQB1H822JF3	50V 8200P			
C305, 306	ECKW1H222KB5	50V 2200P	C902	ECEA1CKA100B	16V 10U			
C307	ECKD1H682KB	50V 6800P	C903	ECBT1H470J5	50V 47P			
C308	ECKR1H392KB5	50V 3900P	C904	ECEA1HKA010B	50V 1U			
C309	ECEA1EKA4R7B	25V 4.7U	C905-908	ECEA1AU101	10V 100U			
C310	ECQP1153JZ	100V 0.015U	C909	ECBT1E103ZF	25V 0.01U			
C311, 312	ECBT1H470J5	50V 47P	C910	ECEA1CKA330B	16V 33U			
C313, 314	ECKR1H473ZF5	50V 0.047U	C911	ECA0JM222B	6.3V 2200U			
C315, 316	ECKR2H821KB5	500V 820P	C912	ECEA1AU101	10V 100U			
C317, 318	ECBT1H121KB5	50V 120P	C913, 914	ECKR1H103ZF5	50V 0.01U			
C319, 320	ECQV1H563JZ3	50V 0.056U	C915, 916	ECQB1H122JF3	50V 1200P			
C321, 322	ECQB1H223JF3	50V 0.022U	C917, 918	ECEA1CKA100B	16V 10U			
C323, 324	ECQB1H103JF3	50V 0.01U	C919, 920	ECQB1H103JF3	50V 0.01U			