

Service Manual

Dolby NR-Equipped
Stereo Cassette Deck

Cassette Deck
RS-BX606



Color

(K) ... Black Type



Area

Country Code	Area	Color
(PP)	U.S.A./Canada.	(K)
(EB)	Great Britain.	
(EG)	F.R. Germany and Italy./Continental Europe.	

*HX Pro headroom extension originated by Bang Olufsen and manufactured under license from Dolby Laboratories Licensing Corporation. "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
Tape speed	4.8 cm/sec. (1-7/8 ips)
Wow and flutter	0.05% (WRMS)
For (EB, EG) areas only	±0.14% (DIN)
Fast forward and rewind time	Approx. 100 seconds with C-60 cassette tape
Frequency response (Dolby NR off)	
NORMAL	30 Hz~17 kHz, ±3 dB
For (PP) area	20 Hz~19 kHz
For others	20 Hz~18 kHz (DIN)
CrO₂	30 Hz~18 kHz, ±3 dB
For (PP) area	20 Hz~20 kHz
For others	20 Hz~19 kHz (DIN)
METAL	30 Hz~19 kHz, ±3 dB
For (PP) area	20 Hz~21 kHz
For others	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	74 dB (CCIR)
Input sensitivity and impedance	
LINE IN	600 mV/47 kΩ
Output voltage and impedance	
LINE OUT	400 mV/800 Ω
HEADPHONES	125 mV/(8 Ω)
	(Load impedance 8 Ω~600 Ω)

■ GENERAL

Power consumption	20 W
Power supply	
For (PP) area	AC 60 Hz, 120 V
For others	AC 50 Hz/60 Hz, 230 V~240 V
Dimensions (W × H × D)	430 × 125 × 300 mm (16-15/16" × 4-15/16" × 11-13/16")
Weight	4.3 kg (9.46 lb.)

Note:

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

Technics

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※ 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.

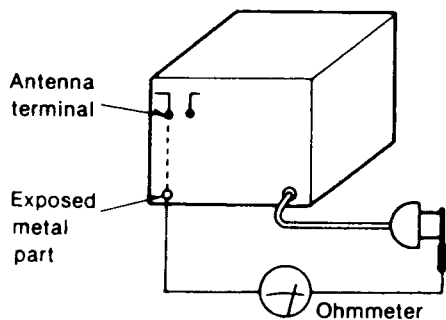
SAFETY PRECAUTION (This "safety precaution" is applied only in U.S.A.)

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

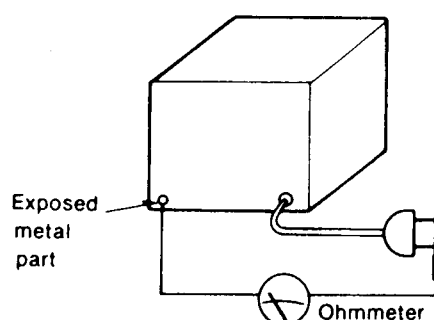
1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads antenna, control shafts, handle brackets, etc. Equipment with 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 = $3M\Omega$ — $5.2M\Omega$

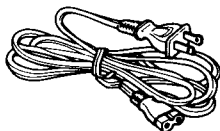


(Fig. B)

Resistance = Approx ∞

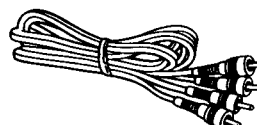
4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

ACCESSORIES



AC power supply cord

[(SFDAC05E03) (EG)]
[(SJA175) (PP)] 1 pc.
[(SJA193) (EB)]



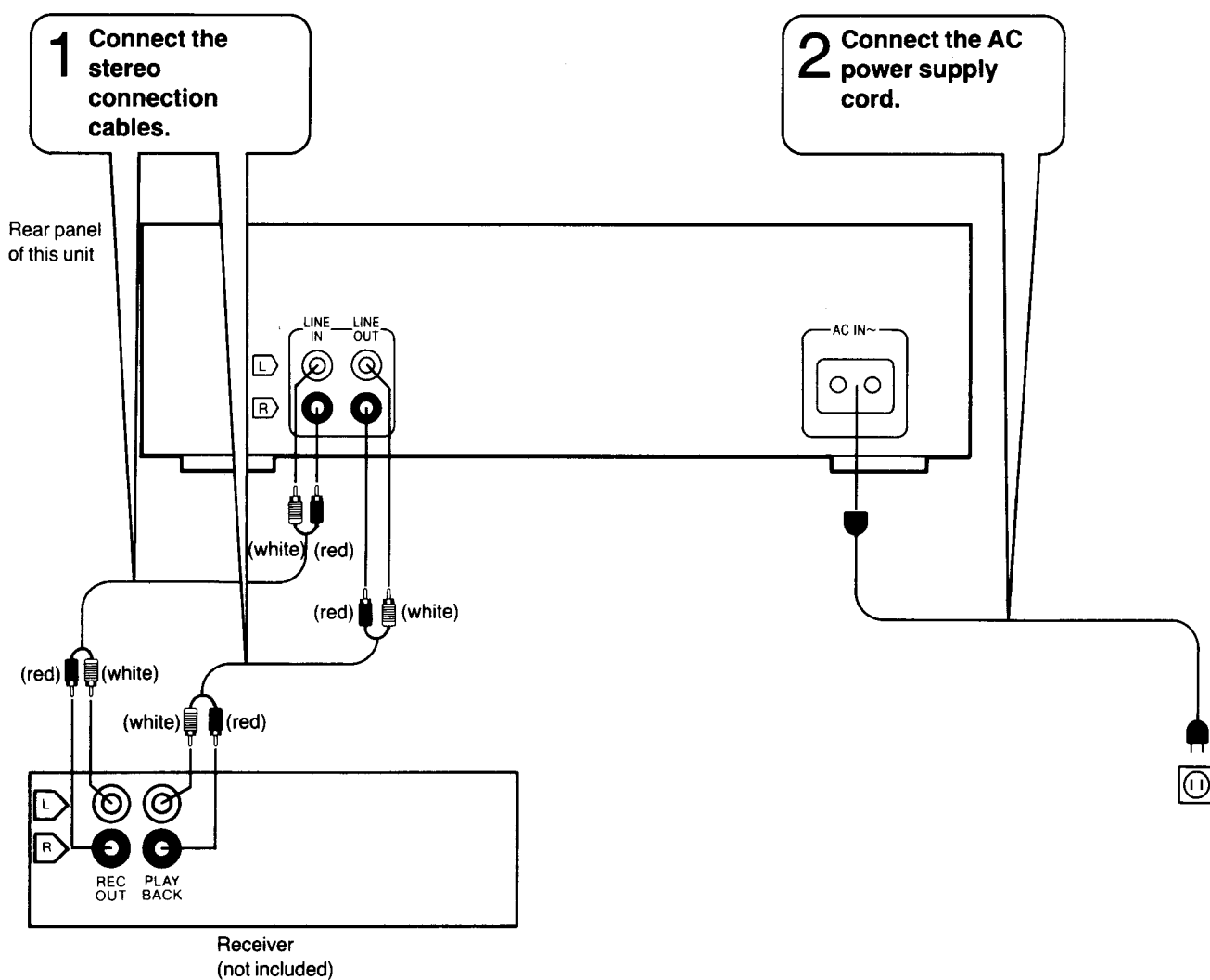
Stereo connection cables

(SJP2249-3) 2 pcs.

Note: Configuration of AC power supply cord differs according to area.

■ CONNECTIONS

Before making connections, be sure that the power to this unit and all other system components are turned off first.
See the operating instructions of the receiver or the compact disc player for details.

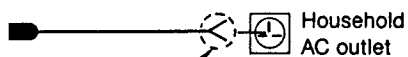


- 1 Connect the stereo connection cables (included) to the REC OUT and PLAYBACK terminals of the receiver.

- 2 Connect the power supply cord (included) to the household AC outlet.

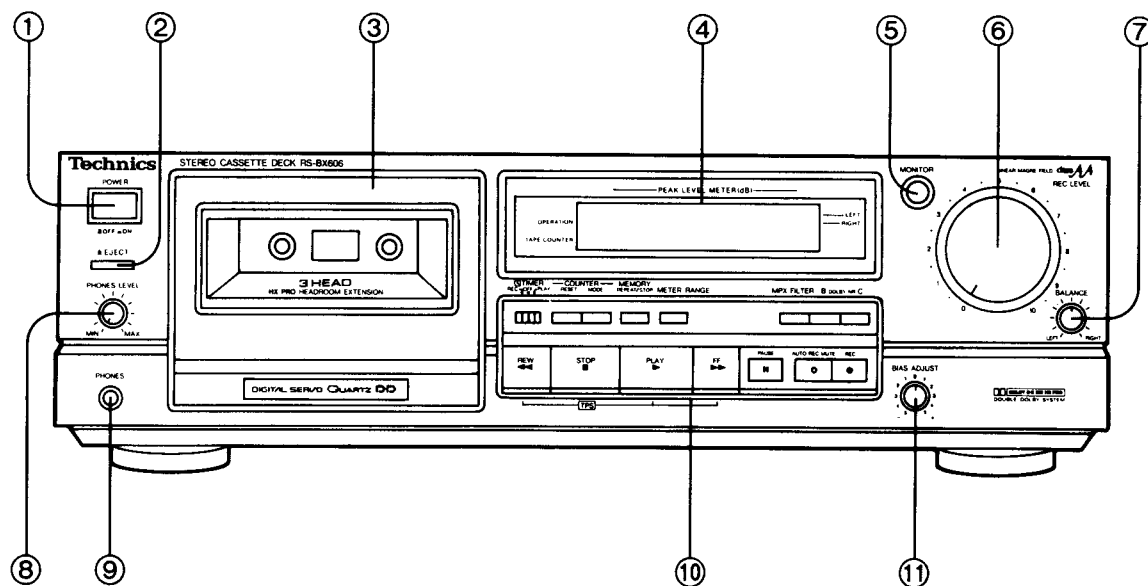
For (EB) area

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



Fit a suitable plug to the AC power supply cord.

LOCATION OF CONTROLS



Control section

① Power switch (POWER)For PP area

Press (⏻) to switch the power on.
Press again (⏻) to switch the power off.

Power "STANDBY (⏻)/ON" switch...For others (POWER ⏻ STANDBY (⏻) 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 (⏻) 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 Eject button (⏻ EJECT)

This button is used to open the cassette holder.

③ Cassette holder

④ Display section

(See "Display section" on page 6.)

⑤ Monitor switch (MONITOR)

The monitor switch is used to select the sound source just prior to or just after recording.

"SOURCE" position: Set to this position to monitor the sound to be recorded.

"TAPE" position: Set to this position to monitor the sound just recorded.

⑥ Recording-level control (REC LEVEL)

This control is used to regulate the recording level.

⑦ Recording-balance control (BALANCE)

This control is used to balance the left and right sound levels during recording.

⑧ Headphones volume control (PHONES LEVEL)

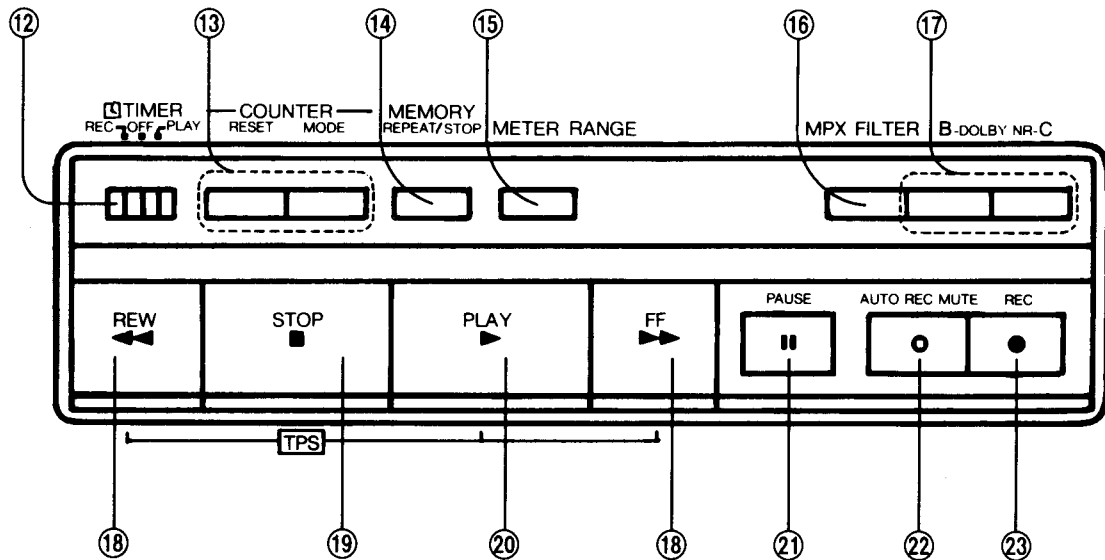
⑨ Headphones jack (PHONES)

⑩ Operation section

(See "Operation section" on page 5.)

⑪ Bias-adjustment control (BIAS ADJUST)

The frequency response for each tape type can be equalized by using this control.



Operation section

⑫ 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.

⑬ 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.

⑭ 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 "0000" point when the rewind (◀◀) button is pressed.

⑮ Meter-range selector (METER RANGE)

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

⑯ Multiplex filter switch (MPX FILTER)

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

⑰ Dolby noise-reduction buttons (DOLBY NR)

These buttons are used to reduce the hissing noise heard from the tape. This unit is provided with both the B-type and C-type noise-reduction systems.

⑱ Rewind/fast-forward/search button

(◀◀ REW, ▶▶ FF, [TPS])

These TPS (Tape Program Search) buttons are used to advance or rewind the tape, or to easily and quickly search for the program's beginning on the tape.

⑲ Stop button (STOP)

This button is used to stop the tape movement.

⑳ Playback button (▶ 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.)

㉑ Pause button (|| PAUSE)

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

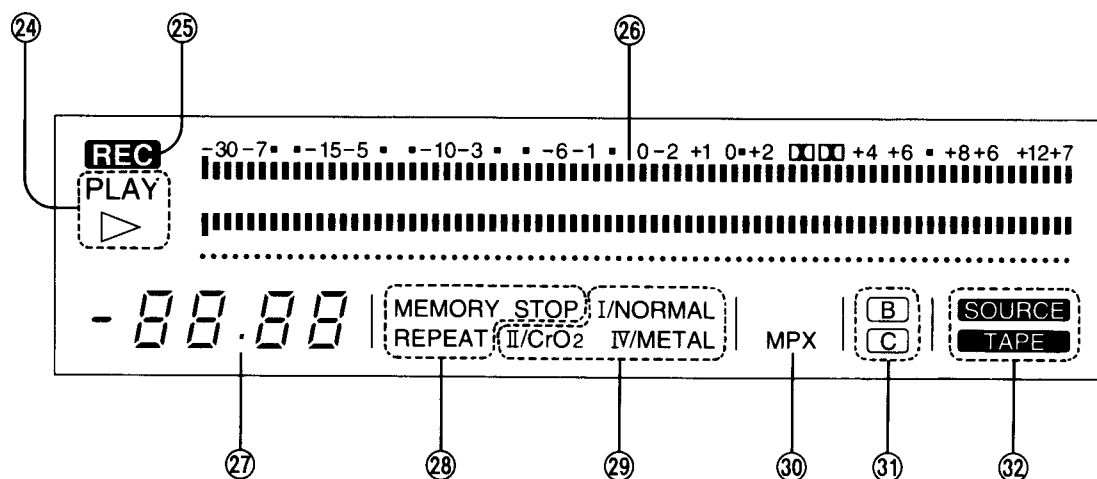
㉒ Automatic-record-muting button

(○ AUTO REC MUTE)

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

㉓ Record button (● REC)

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



Display section

②④ Playback indicator (PLAY ▷)

When this indicator illuminates steadily, it indicates that this unit is in the playback or recording mode.
When flashing, indicates that this unit is in the pause mode or in the recording stand-by mode.

②⑤ Recording indicator (REC)

Illuminates to indicate that this unit is in the recording stand-by mode or is recording.

②⑥ 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.

②⑦ Tape/Linear counter

Indicates the amount of tape movement or elapsed time.

②⑧ Memory-mode indicators (MEMORY REPEAT/MEMORY STOP)

Each indicator illuminates to show which of the memory modes was set by the memory-mode button.

②⑨ Tape-select indicators (I/NORMAL, II/CrO₂, IV/METAL)

The type of tape being used will be automatically detected.
The corresponding indicator illuminates to show the tape type.

③⑩ Multiplex filter indicator (MPX)

Illuminates to indicate that the multiplex filter is set to "on".

③⑪ 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.

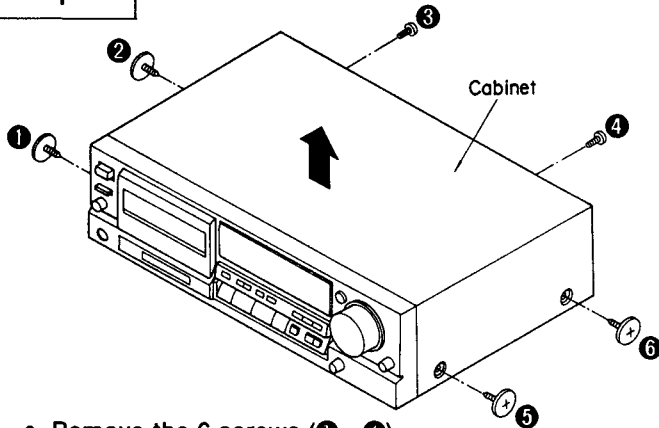
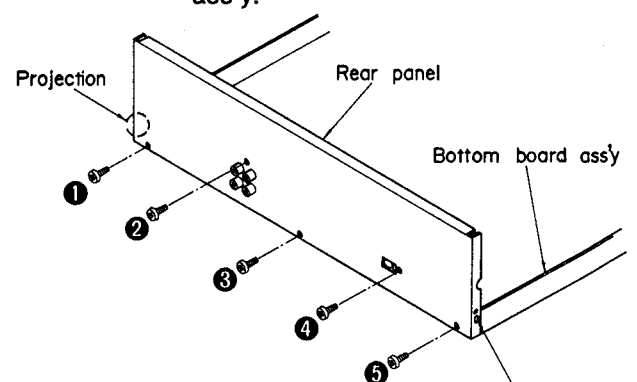
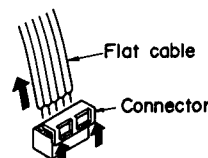
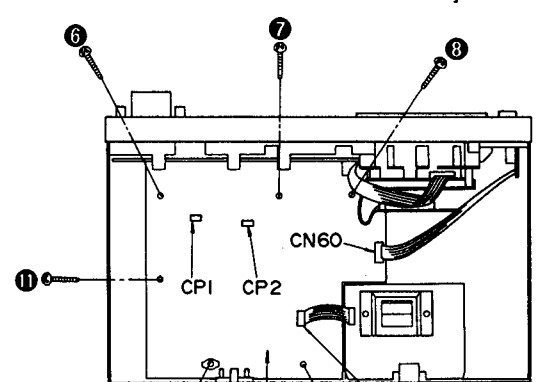
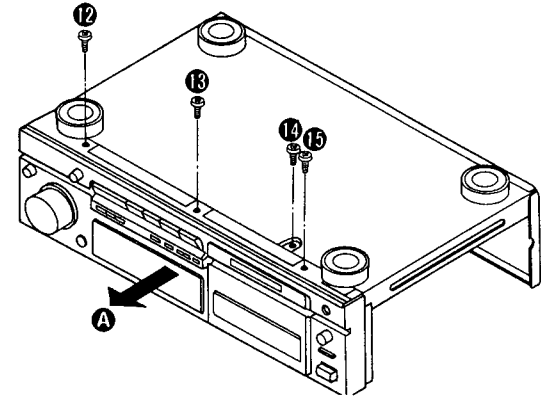
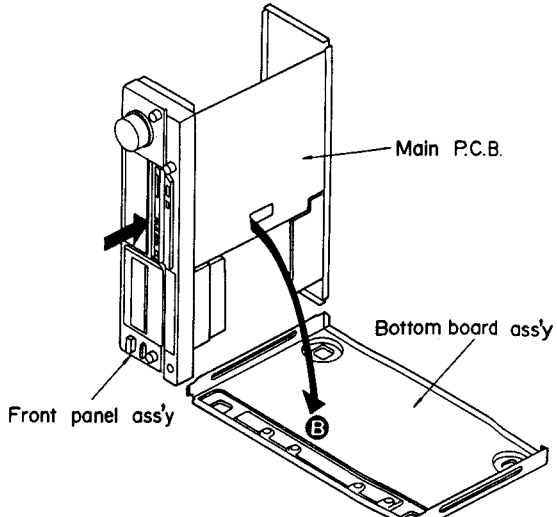
③⑫ Monitor indicators (SOURCE, TAPE)

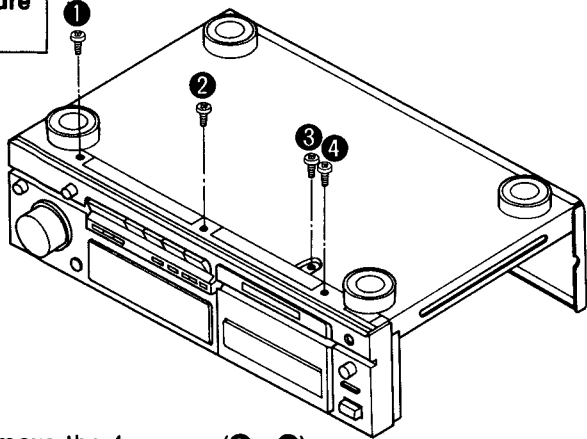
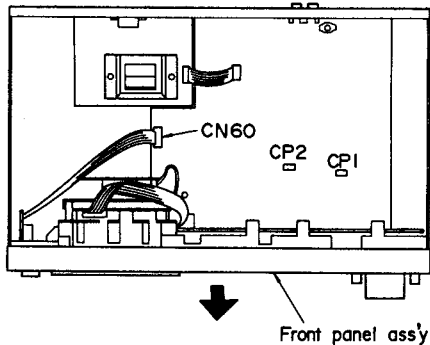
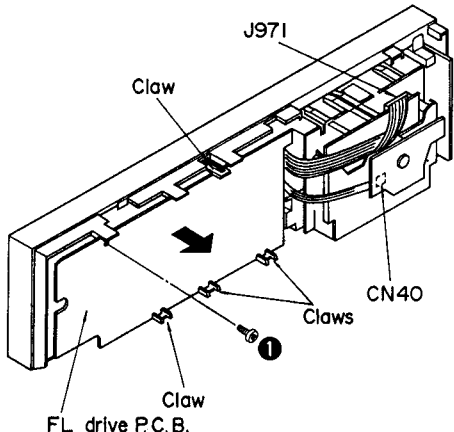
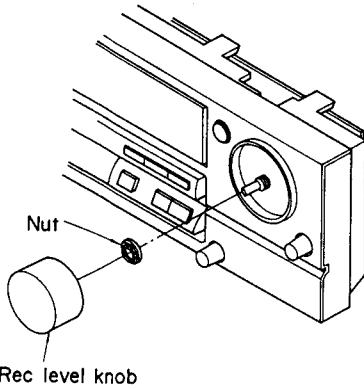
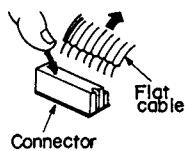
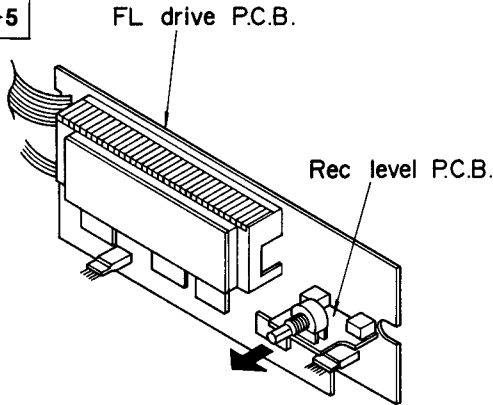
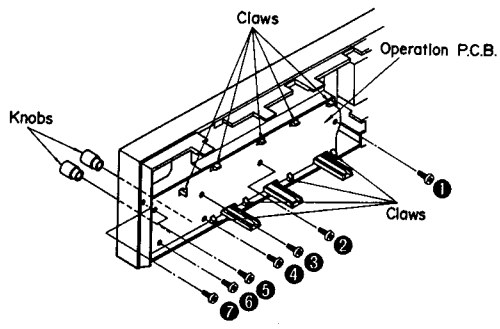
Each indicator illuminates to show the corresponding setting from the monitor switch.

DISASSEMBLY INSTRUCTIONS

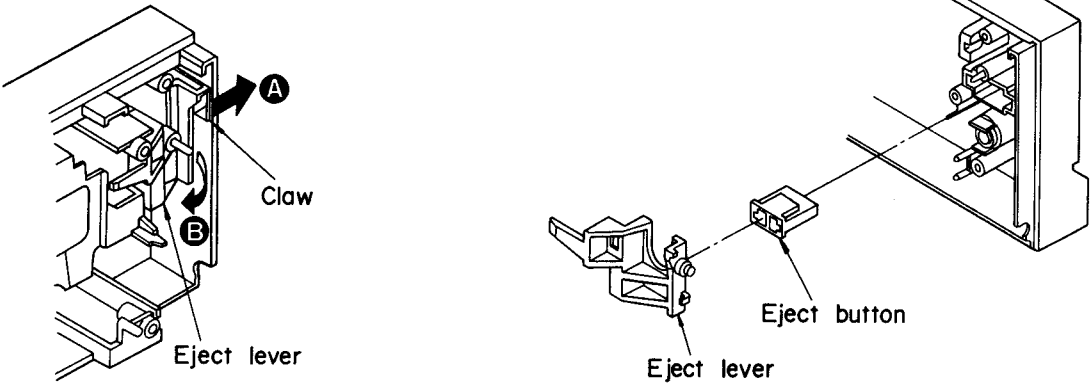
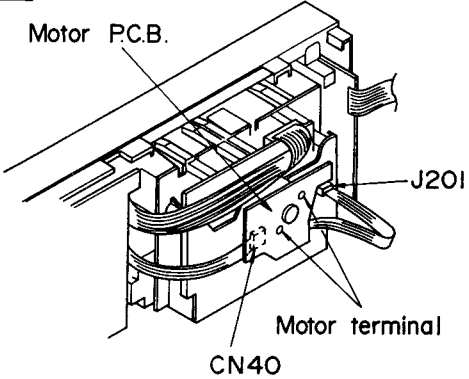
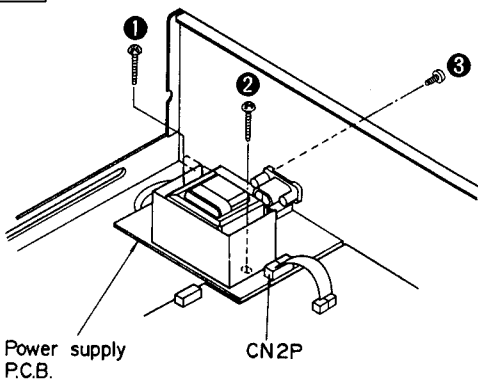
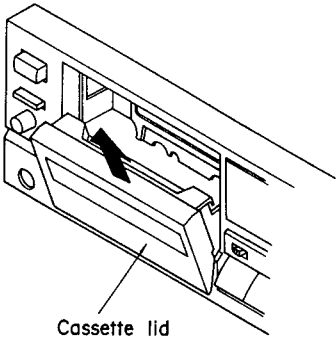
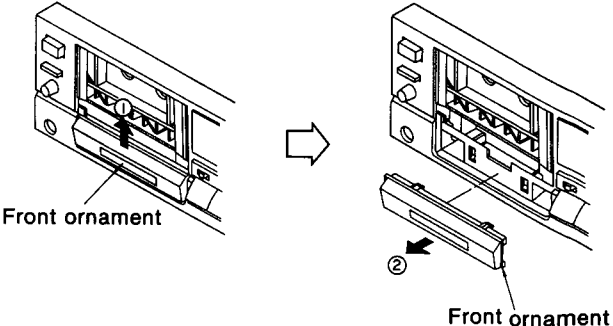
"ATTENTION SERVICER"

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 5 screws (①~⑤). 2. Remove the rear panel from the projection of the bottom board ass'y. 
	3. Remove the 6 screws (⑥~⑪). 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  1. Lift the connector. 2. Pull out the flat cable.		
	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 (①, ③, ⑥~⑪) in above figure. 2. Remove the 6 screws (⑫~⑰). 3. Remove the front panel ass'y in the direction of arrow A. 		4. Remove the bottom board ass'y in the direction of arrow B. 5. Reinstall the front panel ass'y to the main P.C.B. 

Ref. No. 3	Removal of the front panel ass'y	2. Remove the 2 connectors (CP1, CP2). 3. Remove the 1 flat cable (CN60).	
Procedure 1→3	 1. Remove the 4 screws (①~④).	 4. Remove the front panel ass'y in the direction of arrow.	
Ref. No. 4	Removal of the FL drive P.C.B.	 3. Remove the 2 flat cables (CN40, J971). 4. Remove the 1 screw (①). 5. Release the 2 claws. 6. Remove the FL drive P.C.B. in the direction of arrow.	
Procedure 1→3→4	 1. Pull out the rec level knob. 2. Remove the nut. • Pull out the flat cable while pressing the connector. 		
Ref. No. 5	Removal of the rec level P.C.B.	Ref. No. 6	Removal of the operation P.C.B.
Procedure 1→3→4→5	 • Remove the rec level P.C.B. in the direction of arrow.	Procedure 1→3→4→6	 1. Pull out the 2 knobs. 2. Remove the 7 screws (①~⑦). 3. Release the 9 claws.

Ref. No. 7	Removal of the mechanism unit	2. Remove the 2 flat cables (CN40, J971). 3. Remove the 4 screws (①~④).	
Procedure 1→3→7	1. Push the eject button and open the cassette lid.		
Ref. No. 8	Removal of the damper gear ass'y	Ref. No. 9	Removal of the cassette holder
Procedure 1→3→7→8	• Remove the 1 screw (①). 1. Remove the rib in the direction of arrow. 2. Remove the cassette holder spring.		
Ref. No. 10	Removal of the power switch P.C.B.	3. Pull out the cassette holder in the direction of arrow.	
Procedure 1→3→10	1. Remove the power switch button by pushing it from behind the front panel ass'y. 2. Pull out the phones level knob. 3. Remove the 2 screws (①, ②). 4. Remove the ornament.		

Ref. No. 11	Removal of the eject lever and eject button	 1. Push the claw in the direction of arrow A. 2. Remove the eject lever in the direction of arrow B. 3. Pull out the eject button.	
Procedure 1→3→10 →11			
Ref. No. 12	Removal of the motor P.C.B.	Ref. No. 13	Removal of the power supply P.C.B.
Procedure 1→3→12	 1. Remove the 2 flat cables (CN40, J201). 2. Unsolder the motor terminal.		 1. Remove the 1 flat cable (CN2P). 2. Remove the 3 screws (①~③).
Ref. No. 14	Removal of the cassette lid	Ref. No. 15	Removal of the front ornament
Procedure 14	 • Remove the cassette lid in the direction of arrow.		 • Remove the front ornament in the direction of arrow ①, ②.

MEASUREMENT AND ADJUSTMENT METHODS

Measurement Condition

- Rec. level control; Maximum
- Timer switch; Off
- MPX filter switch: off
- Bias-adjustment VR: 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

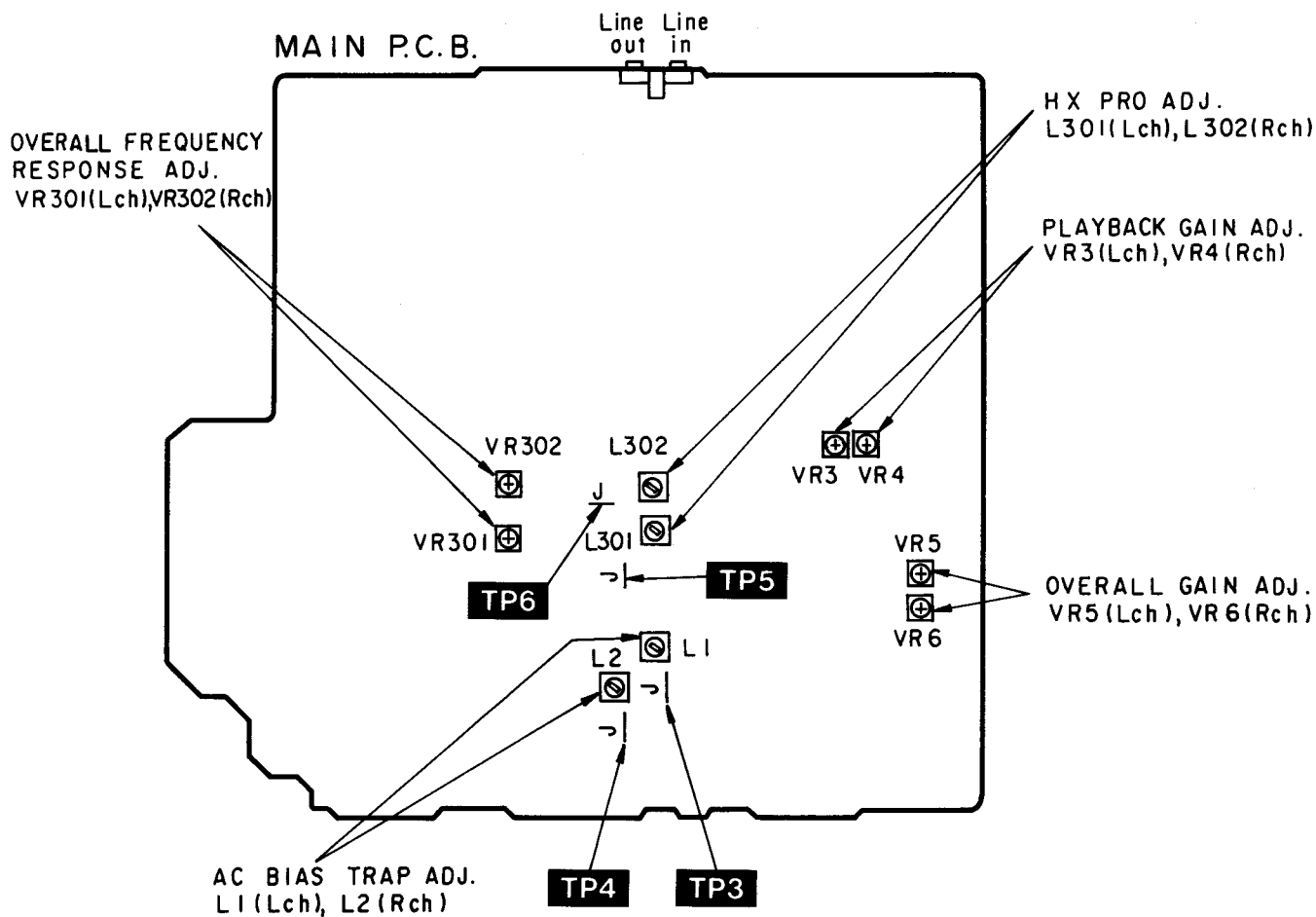
- ATT (Attenuator)
- Resistor (600Ω)

Test tape

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

- Playback gain adjustment (315Hz, 0dB); QZZCFM
- Overall frequency response, Overall gain adjustment
Normal reference blank tape; QZZCRA
CrO₂ reference blank tape; QZZCRX
Metal reference blank tape; QZZCRZ

Adjustment Points



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.

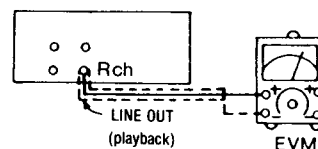


Fig. 1

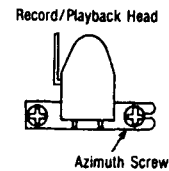


Fig. 2

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: $0.4V \pm 0.5dB$

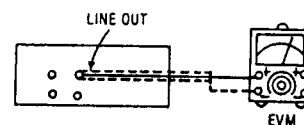


Fig. 3

PLAYBACK FREQUENCY RESPONSE

1. Playback the frequency response portion (315 Hz, 12.5 kHz ~ 63 Hz, -20 dB) of the test tape (QZZCFM).
2. Assure that the frequency response is within the range shown in Fig. 5 for both L-CH and R-CH.

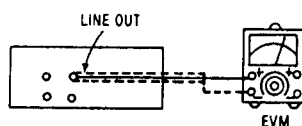


Fig. 4

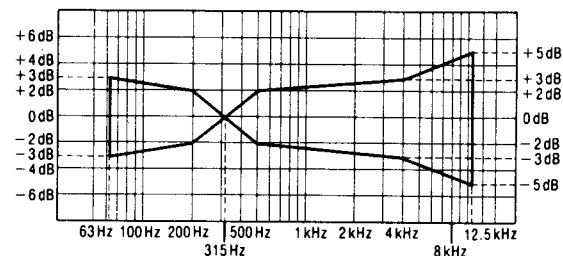


Fig. 5

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.

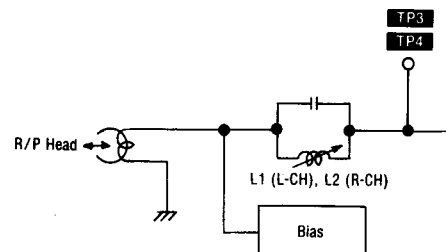


Fig. 6

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.

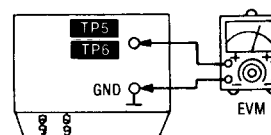


Fig. 7

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. 8 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 rangeIncrease 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. 9.

Normal Overall frequency response chart (NR OUT)

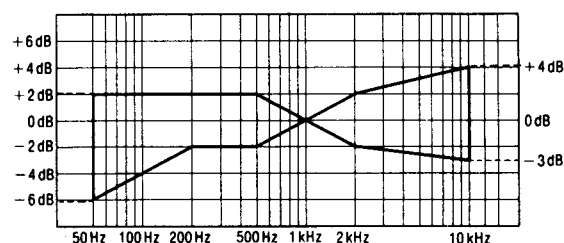


Fig. 8

CrO₂-Metal Overall frequency response chart (NR OUT)

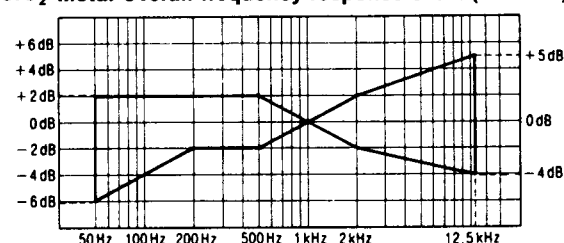


Fig. 9

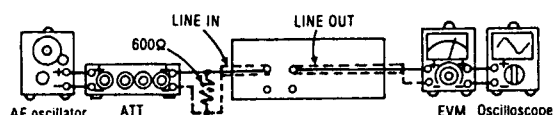


Fig. 10

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: $0.4V \pm 0.5dB$

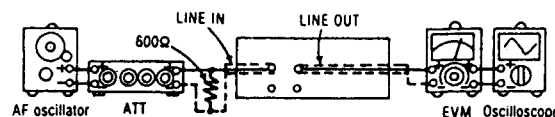


Fig. 11

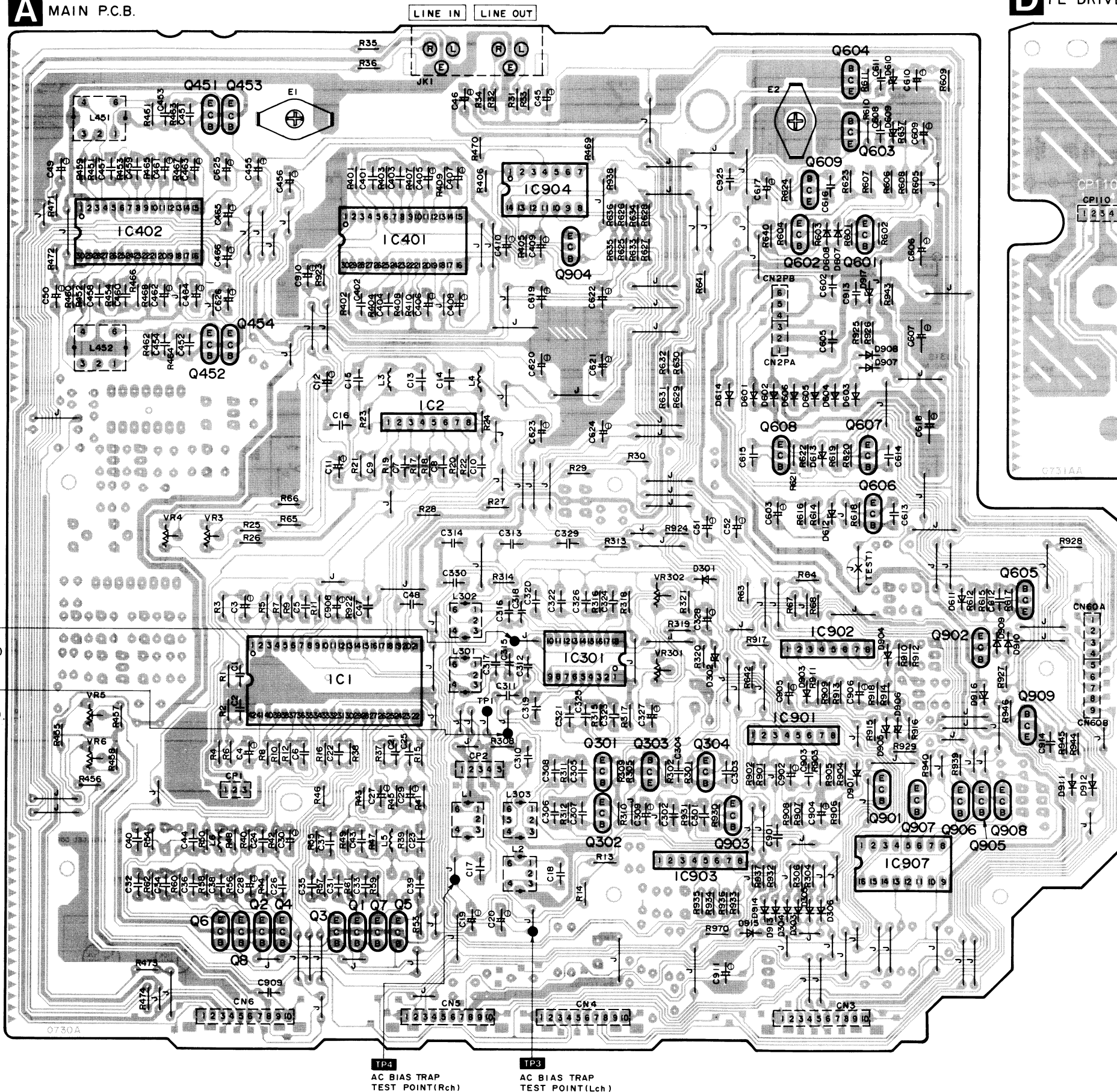
■ TERMINAL FUNCTION OF IC'S

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

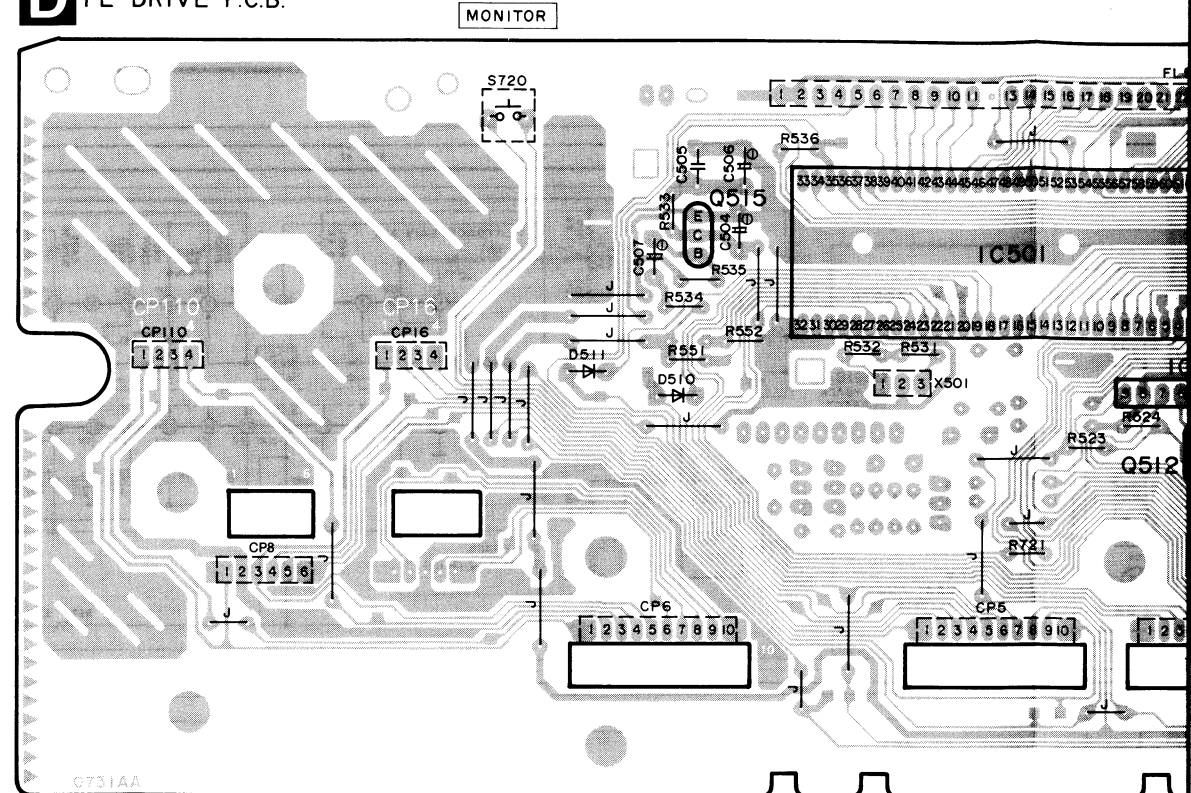
Pin No.	Mark	I/O Division	Function	Pin No.	Mark	I/O Division	Function
1	V _{REF}	I	A/D converter reference voltage (Connected to AV _{CC})	20	CLOCK	O	Serial clock for amp, logic control (MPX, C, B, T/S)
2	KEY1	I	Key switch input STOP, FF, REW, PLAY, REC, PAUSE, Dolby B, C, MPX, TPLAY, TREC	21	DATA	O	Serial clock for amp, logic control (MPX, C, B, T/S)
3	KEY2	I	Key switch input C-RESET, C-MODE, M-RANGE, MEMORY, ARM	22	EJTSEL	I	Model select terminal Always: "L"
4	MLCH	I	Lch indication level input	23	CNTSEL	I	Model select terminal Always: "H"
5	MRCH	I	Rch indication level input	24	POF	I	Power off det. OFF: "L"
6	APRS	I	Not used, connected to GND	25	REM	I	Not used
7	R. INH	I	Rec. inh. switch input Rec. OK: 1.5V, NG: 5V	26	CNV _{SS}	I	Connected to V _{SS}
8	TAPE	I	ATS switch input Nor: 1.1V, CrO ₂ : 2.4V, Metal: 5V	27	RESET	I	Reset input Normal: "H", Reset: "L"
9	RPT	I	Reel table (take up side) rotary det.	28	X _{IN}	I	Clock OSC terminal (4 MHz)
10	CAPM	O	Capstan motor ON/OFF control ON: "H", OFF: "L"	29	X _{OUT}	O	
11	RMR	O	Reel motor ON/OFF control REW, R • TPS: "H", Others: "L"	30	X _{CIN}	I	Not used, connected to V _{SS}
12	RMF	O	Reel motor ON/OFF control (REC) PLAY, FF, F • TPS: "H", Others: "L"	31	X _{COUT}	O	Not used
13	T. SOL	O	Trigger solenoid ON/OFF control ON: "H", OFF: "L"	32	V _{SS}	I	GND terminal
14	B. SOL	O	Brake solenoid ON/OFF control FF/REW/TPS: "H", Others: "L"	33	φ	O	Not used
15	C/R SOL	O	Brake solenoid keep and reel motor speed select FF/REW/TPS: "H", Others: "L"	34	RPS	I	Reel table (supply side) rotary det.
16	EJECT R	O	Not used	35	MSP	I	TPS (MS) det. No signal: "H" signal ON: "L"
17	EJECT F	O	Not used	36	MODE	I	Mech. mode switch (REC) PLAY, TPS: "L" Others: "H"
18	DMT	O	Line out muting control ON: "H", OFF: "L"	37	HALF	I	Mech. Half switch ON: "L", OFF: "H"
19	RMT	O	Rec amp muting control ON: "H", OFF: "L"	38	V _P	I	Reference voltage terminal
				39 } 44 } G1 } G6 }	O	FL grid control signal	
				45 } 62 } S1 } S18 }	O	FL segment control signal	
				63	AV _{CC}	I	Power supply terminal for A/D converter
				64	V _{CC}	I	Power supply terminal for micro computer

PRINTED CIRCUIT BOARDS

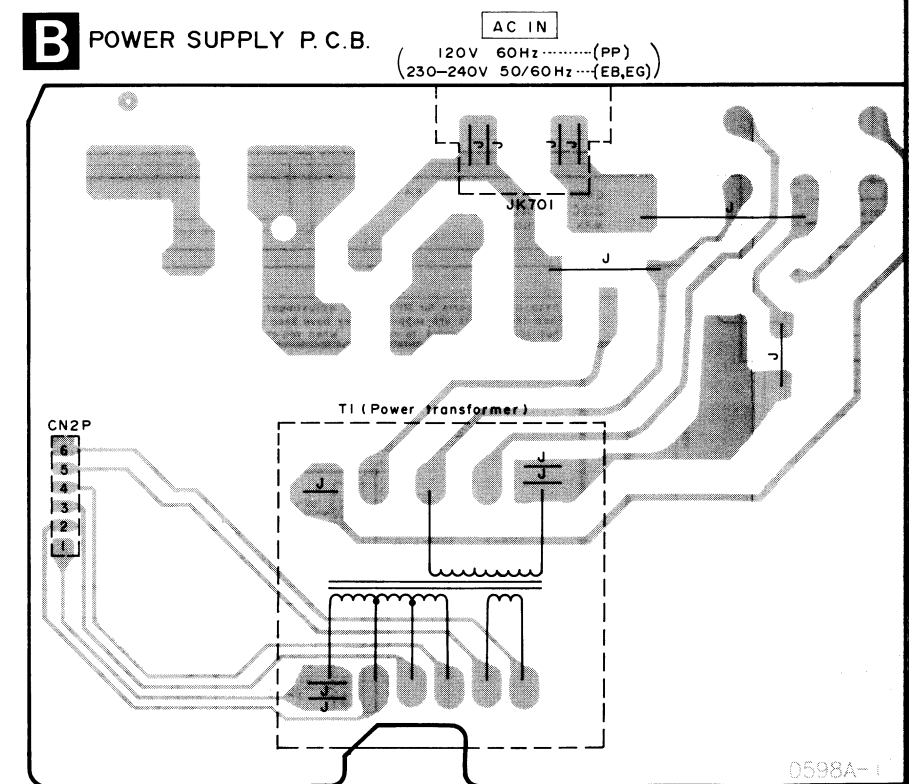
A MAIN P.C.B.

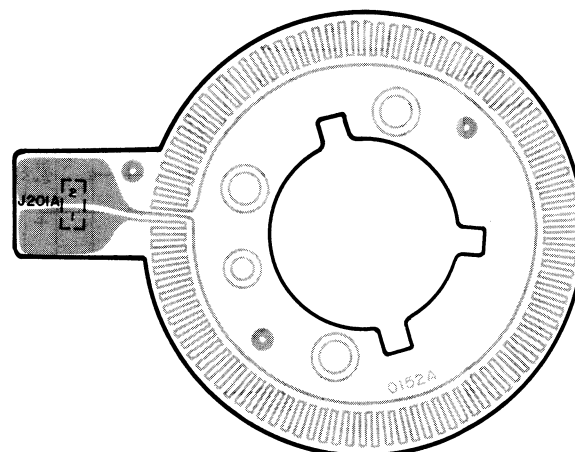
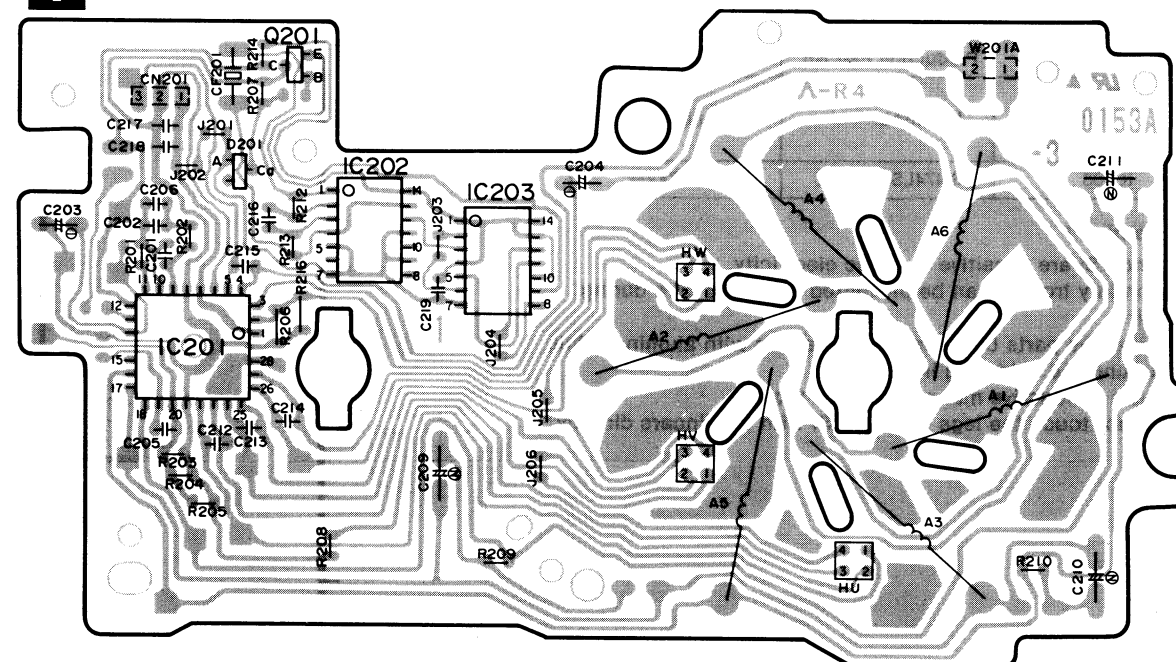
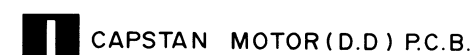
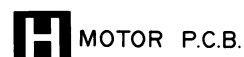
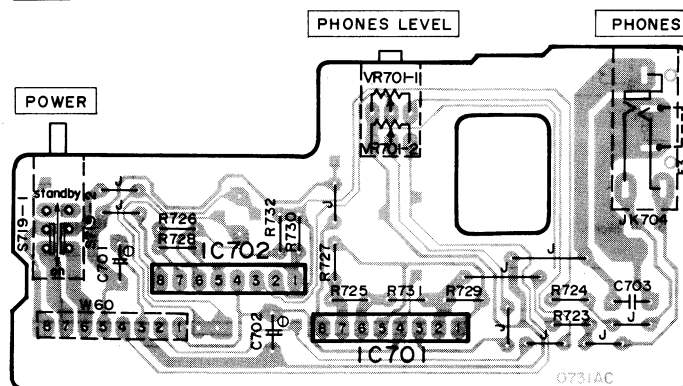


D FL DRIVE P.C.B.



B POWER SUPPLY P.C.B.





SCHEMATIC DIAGRAM (Parts list on pages 32~35.)

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

Notes:

- 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).
- S715 : Automatic-record-muting switch (● AUTO REC MUTE).
- S716 : Timer switch in "off" position (□ TIMER).
- S719 : Power switch in "on" position (PP area: POWER/■ OFF ■ ON, Others areas: POWER/■ standby ◻ ■ ON).
- S720 : Monitor switch (MONITOR).
- 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.
1 K=1,000 (Ω), 1 M=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	M5218AL	M5218L
IC203	SN74LS74AMEL	SN74LS74AM

* 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.

A

B

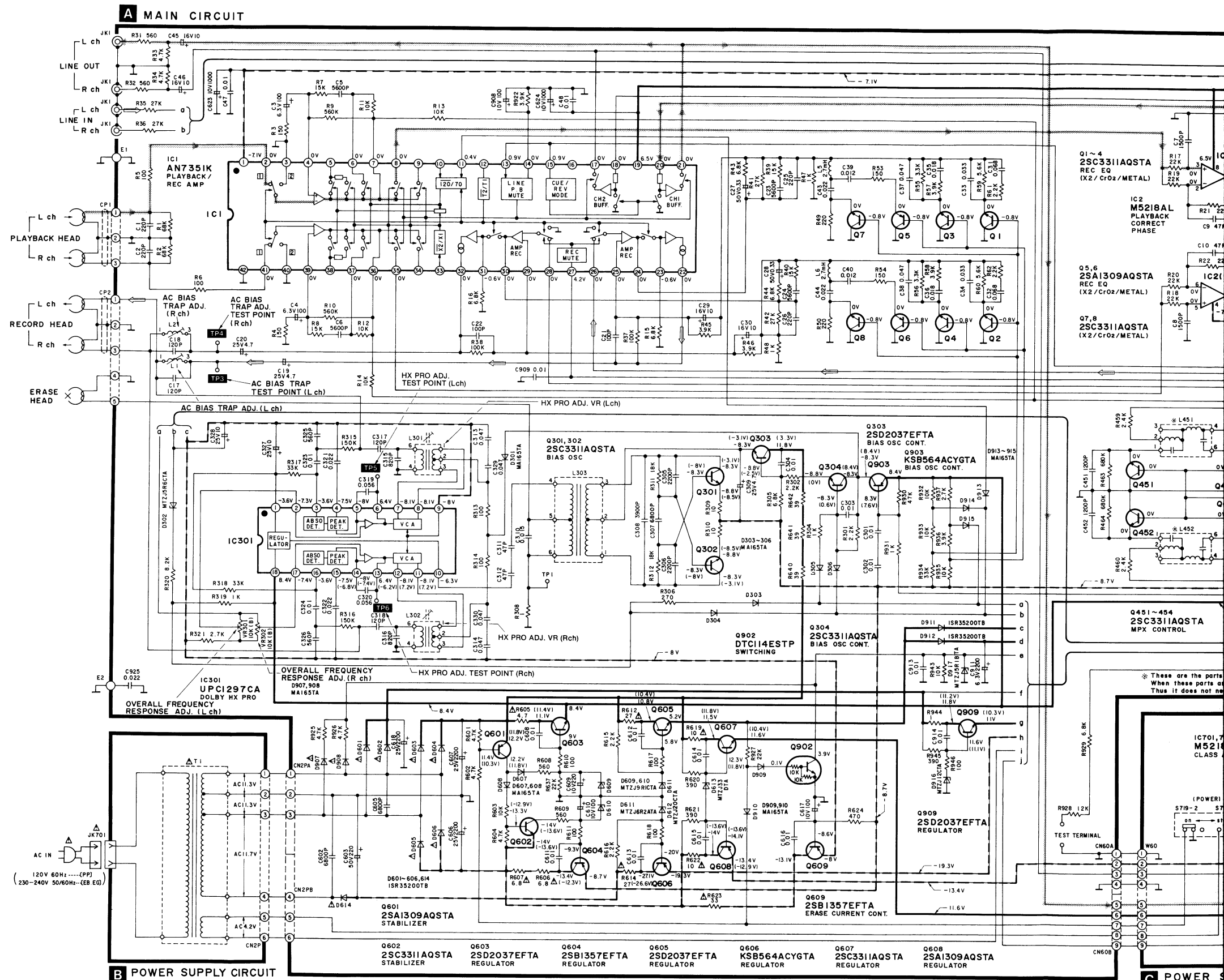
C

D

E

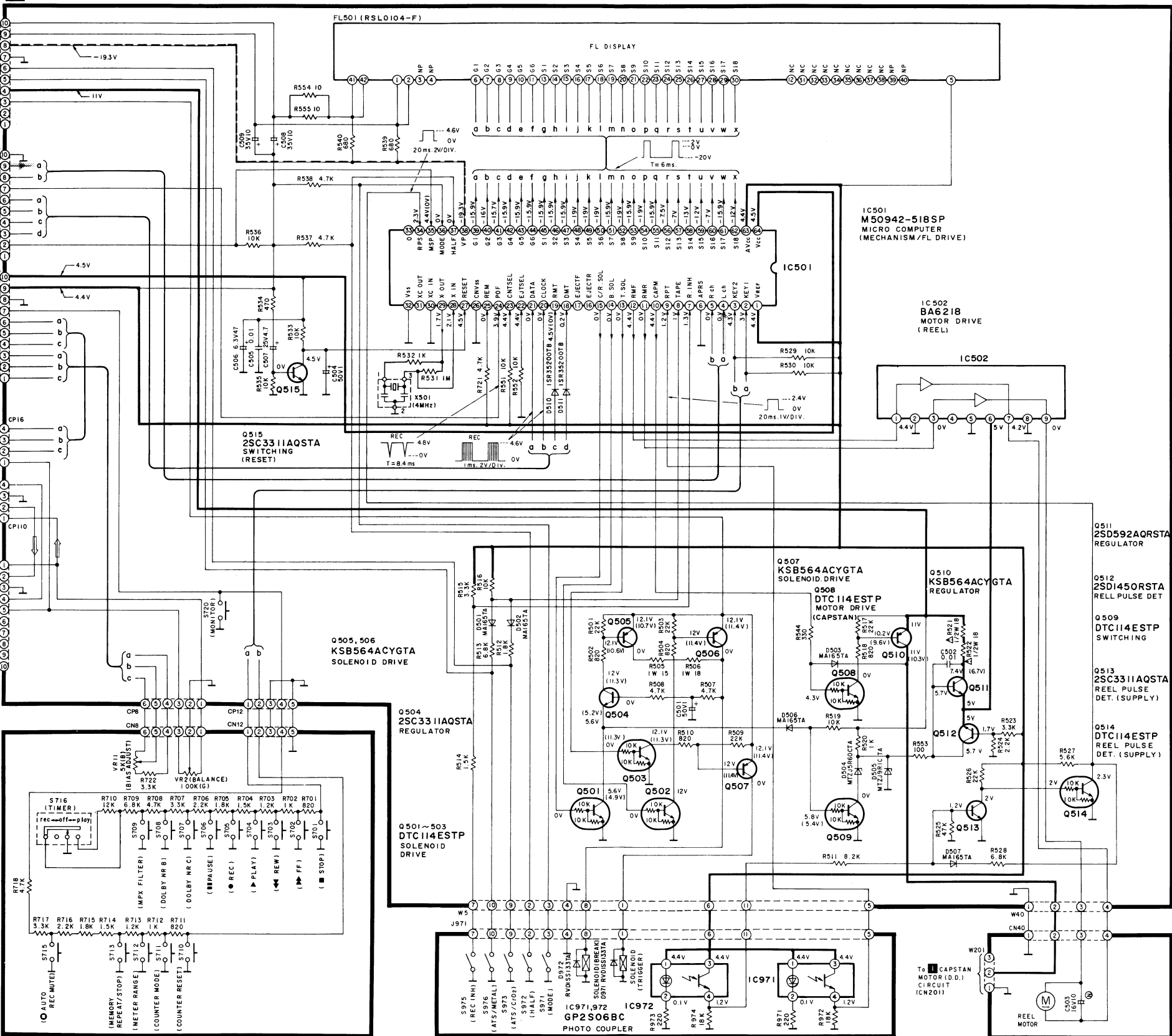
F

G

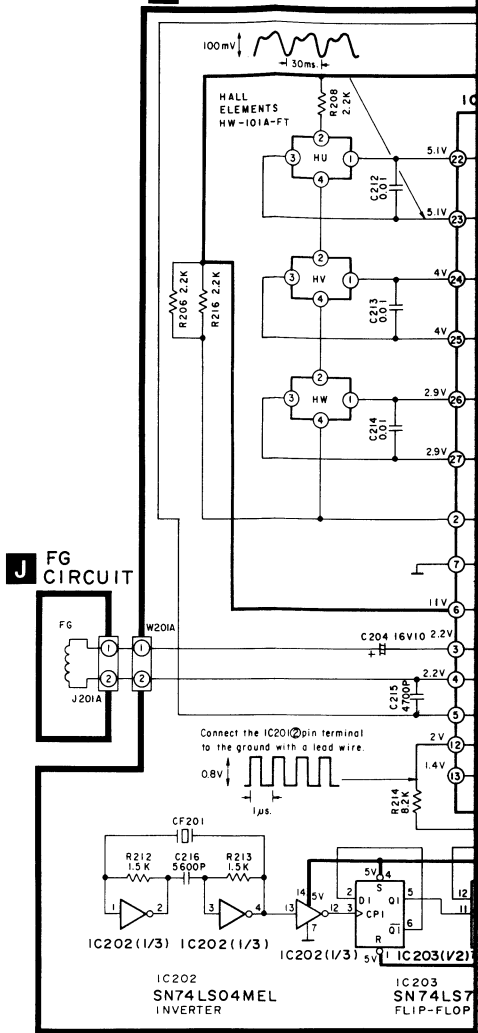




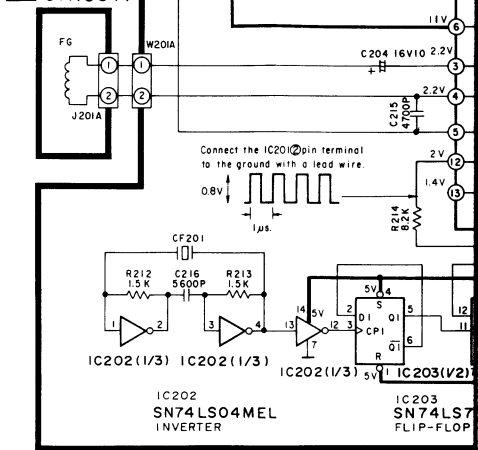
D FL DRIVE CIRCUIT



I CAPSTAN MOTOR (D.D.) CIRCUIT



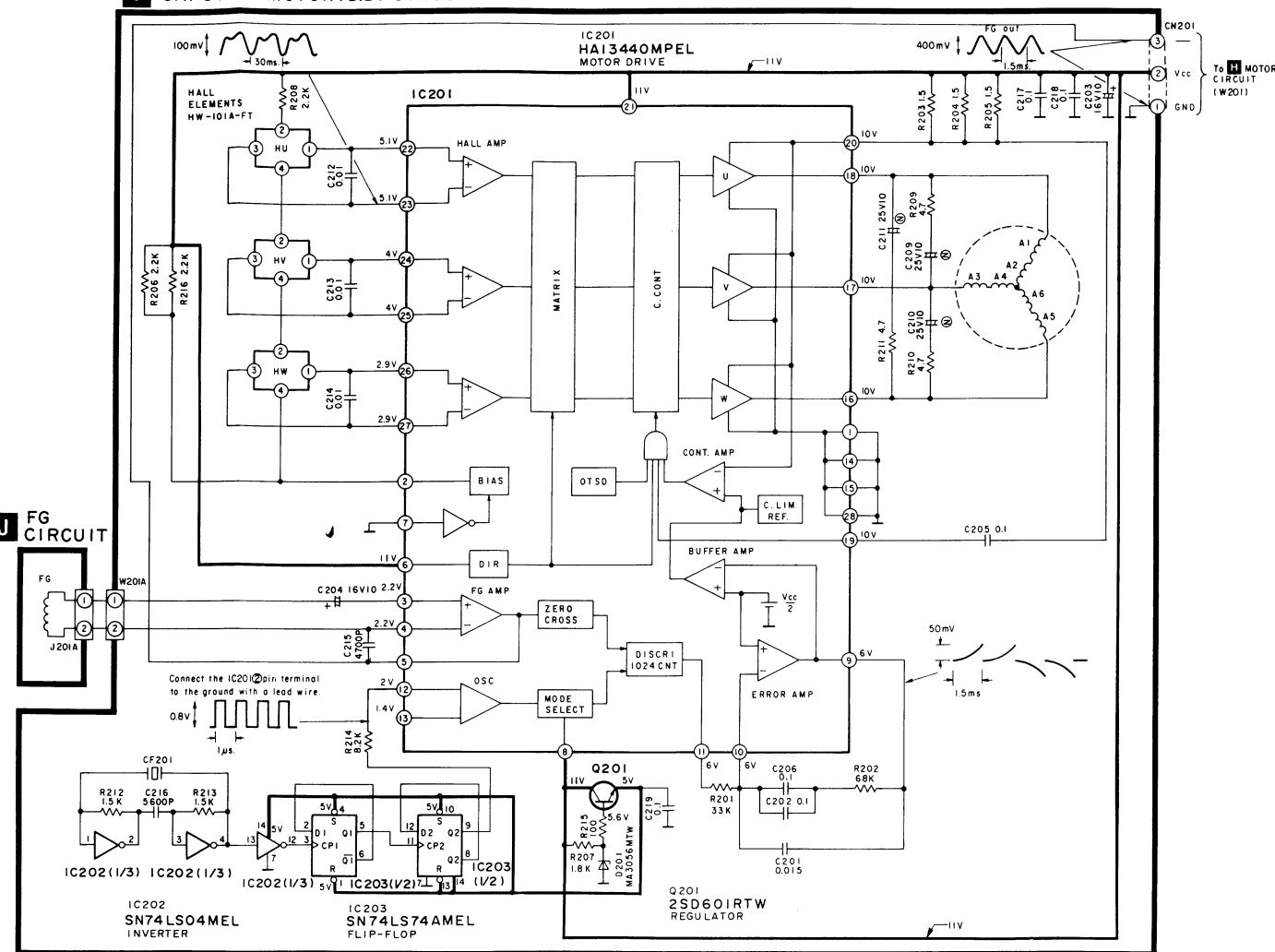
J FG CIRCUIT



H MOTOR CIRCUIT

REEL MOTOR

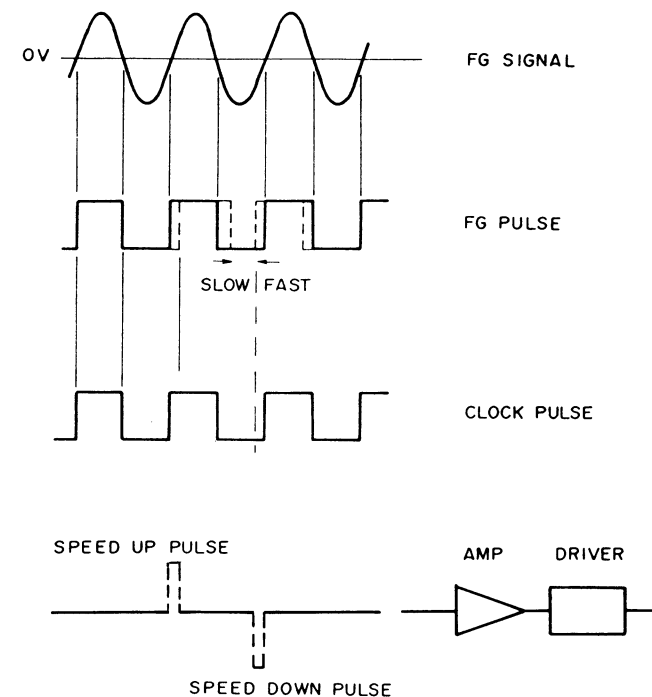
I CAPSTAN MOTOR (D.D) CIRCUIT



TROUBLESHOOTING OF DIRECT DRIVE MOTOR

• 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.



• TROUBLESHOOTING OF DIRECT DRIVE MOTOR

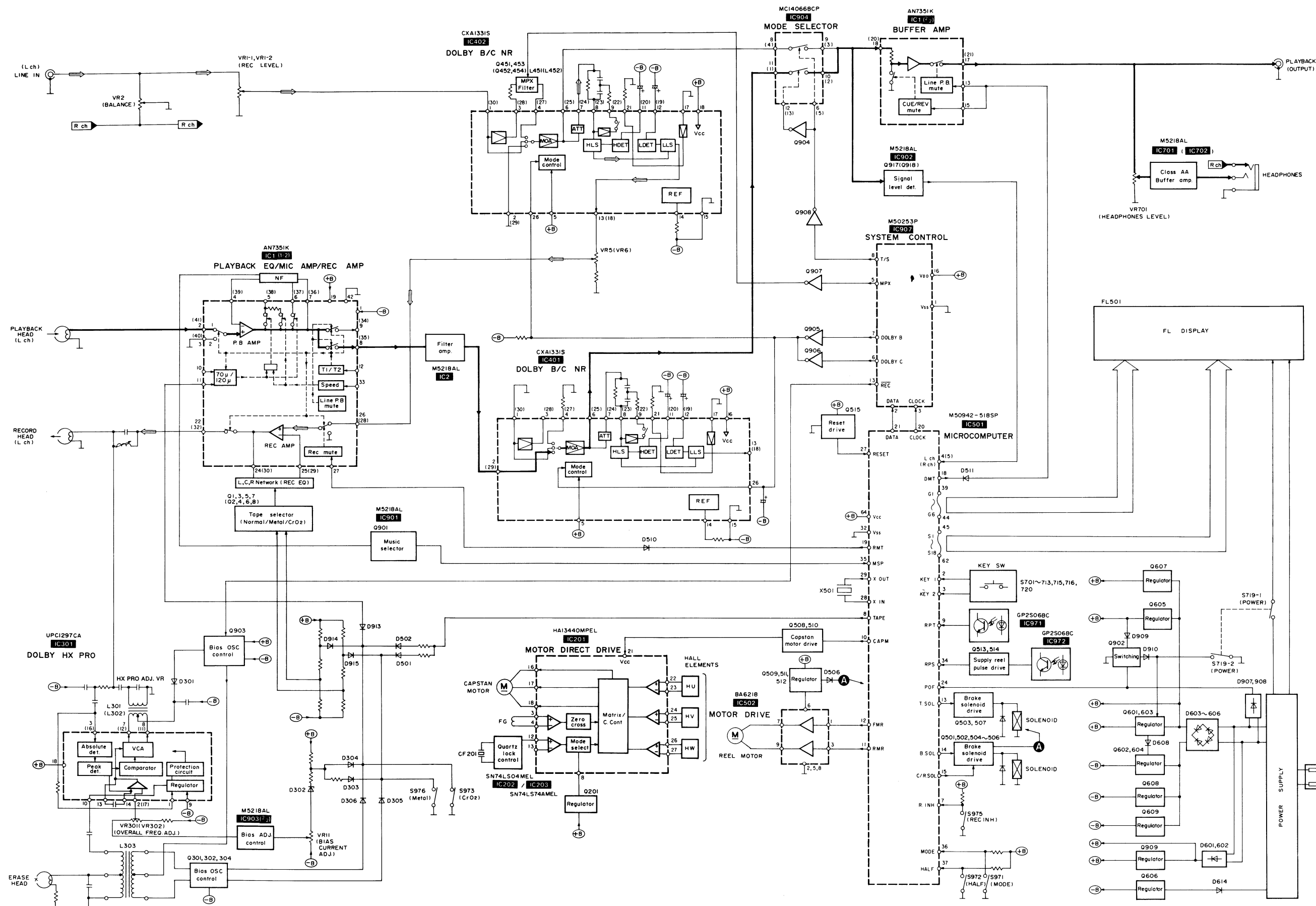
Problem	Possible Cause	Check Points
1. The motor does not rotate.	1. No power supply (+12V). 2. The Hall element has failed (Current does not flow). 3. The ceramic (or crystal) does not oscillate.	• Check the voltage applied to the connector. • Check the DC potential on IC201 pins ②~⑦. *Check the waveform of IC201 pin ⑩.
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 ⑩~⑪, ⑪~⑫, ⑫~⑬ will reach 20 ohms. • Check the waveform of IC201 pins ②~⑦.
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.)

TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

SN74LS04MEL 14 Pin SN74LS74MEL 14 Pin 	HA13440MPEL 	AN7351K
M50253P 16 Pin M50942-518SP 64 Pin 		MN4066B 14 Pin UPC1297CA 18 Pin CXA1331S 30 Pin
M5218AL 	BA6218 	GP2S06BC
2SD592AQRSTA KSB564ACYGTA 	DTA114ESTP DTC114ESTP 	2SB1357EFTA 2SD2037EFTA
	2SA1309AQSTA 2SC3311AQSTA 2SD1450RSTA 	2SD601RTW
MA165TA RVD1SS133TA 1SR35200TB 		MTZJ5R1BTA MTZJ5R6CTA MTZJ6R2ATA MTZJ9R1CTA MTZJ12CTA MTZJ20CTA MTZJ33DTA
MA3056-MTX 		

BLOCK DIAGRAM



Notes:
 • Playback signal
 • Recording signal

INTERNAL

• Anode conn

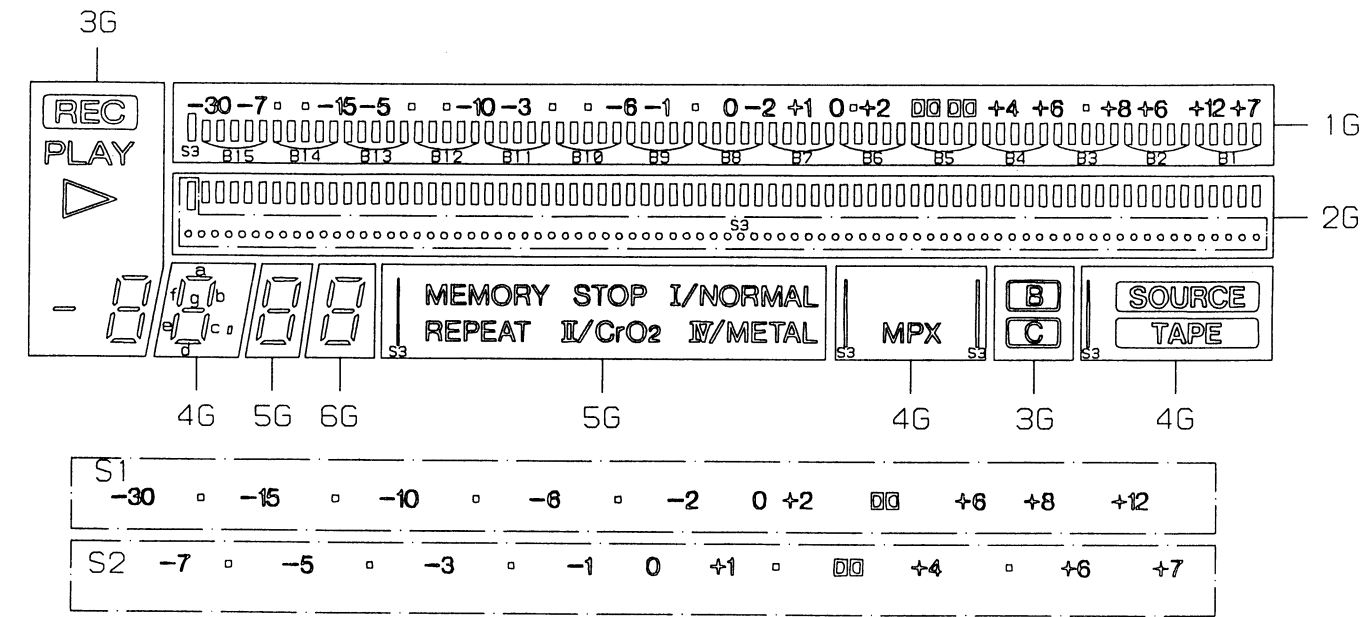
P1	
P2	
P3	
P4	
P5	
P6	
P7	
P8	
P9	
P10	
P11	
P12	
P13	
P14	
P15	
P16	
P17	
P18	
P19	

INTERNAL CONNECTION OF FL

Anode connection table

	1G	2G	3G	4G	5G	6G
P1	S1	-	REC	-	-	-
P2	S2	-	PLAY	-	-	-
P3	-	-	▷	-	-	-
P4	B1	B1	-	-	-	-
P5	B2	B2	-	-	MEMORY	-
P6	B3	B3	-	-	REPEAT	-
P7	B4	B4	-	TAPE	STOP	-
P8	B5	B5	B	SOURCE	-	-
P9	B6	B6	C	-	I/NORMAL	-
P10	B7	B7	-	MPX	II/CrO2	-
P11	B8	B8	—	▯	IV/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

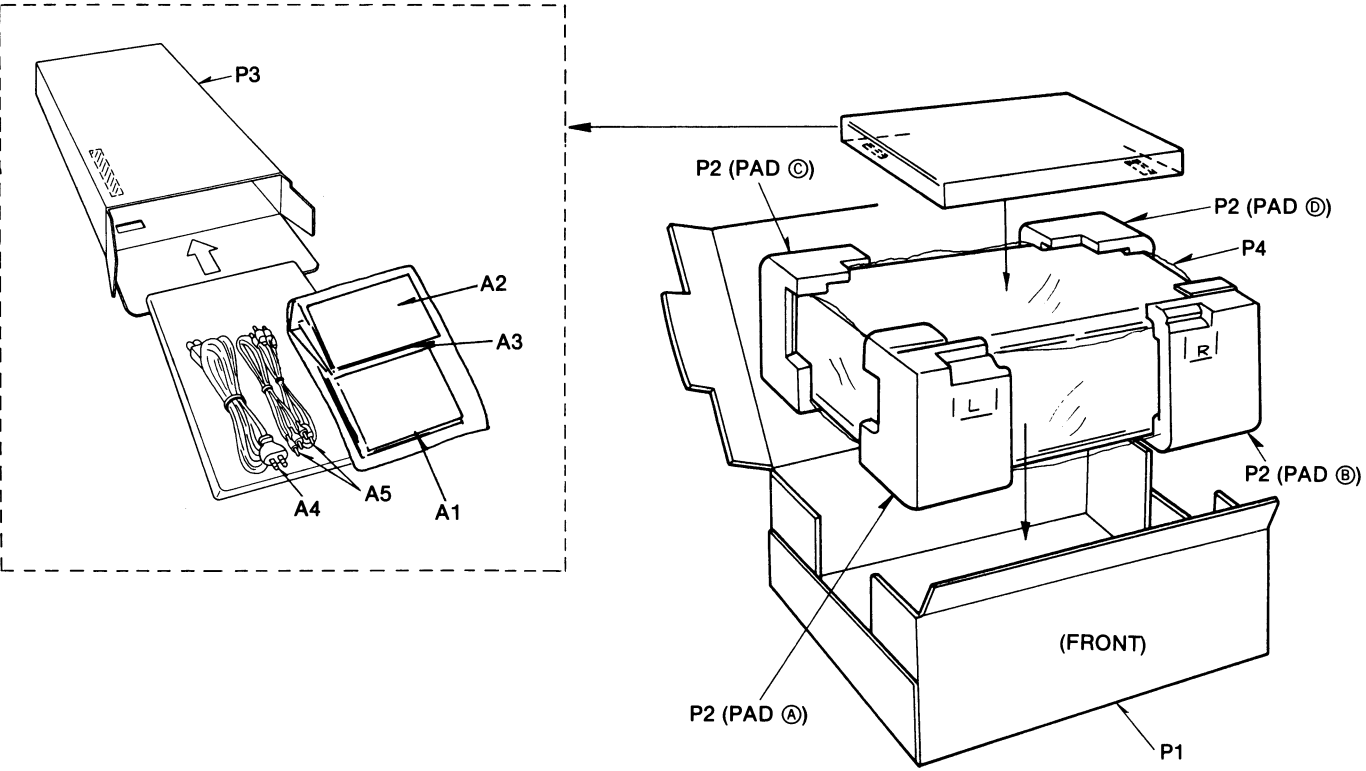


Pin connection

PIN NO.	42	41	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	F	F	N	N	N	N	N	N	N	N	N	N	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	N	6	5	4	3	2	1	P	N	N	F	F	
	2	2	P	P	C	C	C	C	C	C	C	C	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	C	G	G	G	G	G	19	P	N	P	1	1

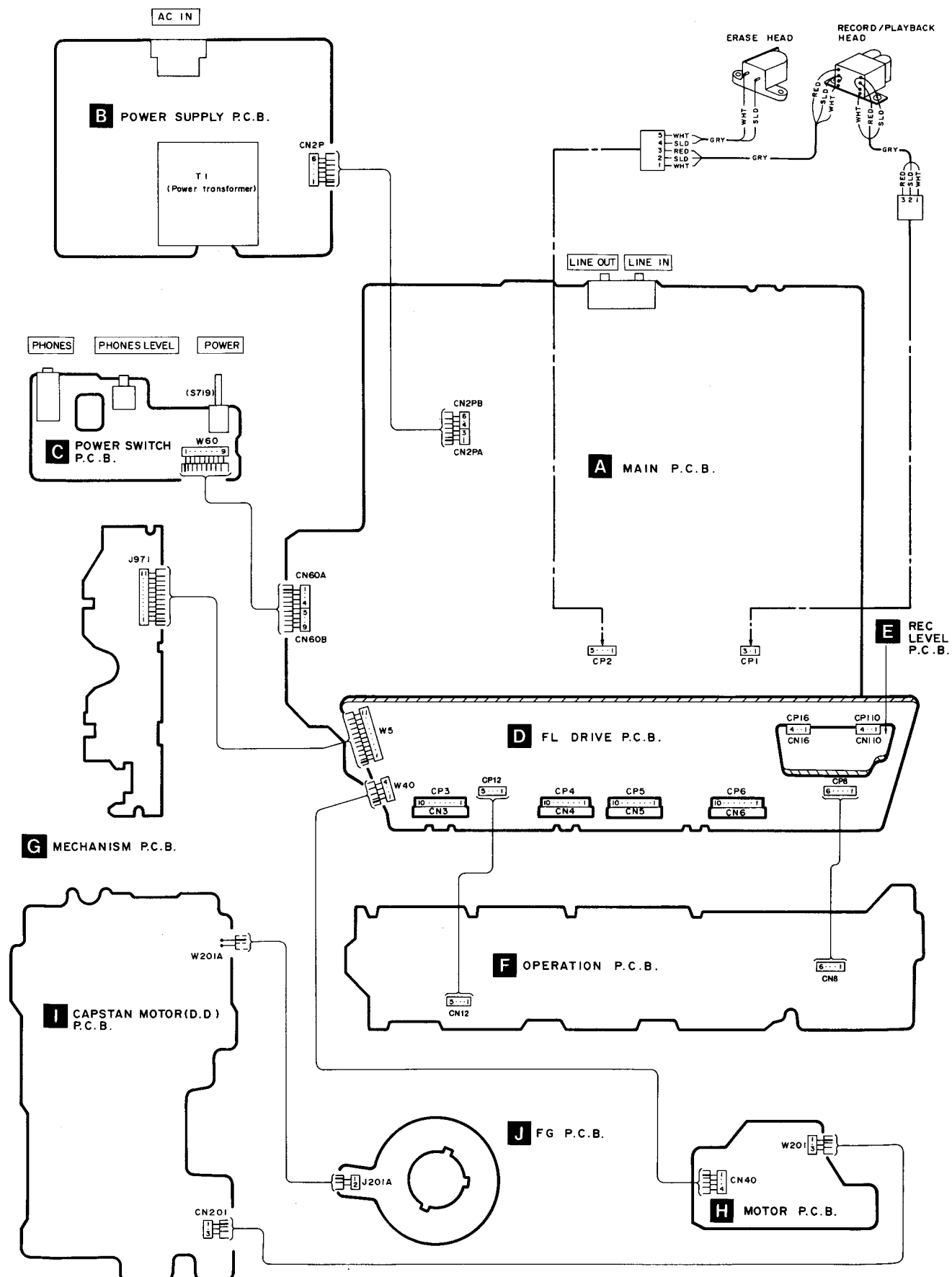
- 1) F1, F2..... Filament
2) NP..... No pin
- 3) NC..... No connection
4) 1G~6G..... Grid

PACKING



<PAD A, B, C, D Part No.: RPN0345-1>

WIRING CONNECTION DIAGRAM



REPLACEMENT PARTS LIST

Notes : * Important safety notice:

Components identified by Δ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

* The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)
Parts without these indications can be used for all areas.

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUIT(S)		Q608	2SA1309A-R	TRANSISTOR	
				Q609	2SB1357EFTA	TRANSISTOR	
				Q901	2SC3311A-Q	TRANSISTOR	
IC1	AN7351K	PLAYBACK/REC AMP		Q902	DTC114ESTP	TRANSISTOR	
IC2	M5218L	PLAYBACK CORRECT PHASE		Q903	KSB564ACYGTA	TRANSISTOR	
IC201	HA13440MPCL	MOTOR DRIVE		Q904	DTC114ESTP	TRANSISTOR	
IC202	SN74LS04MEL	INVERTER		Q905-908	DTA114ESTP	TRANSISTOR	
IC203	SN74LS74AM	FLIP-FLOP		Q909	2SD2037EFTA	TRANSISTOR	
IC301	UPC1297CA	DOLBY HX PRO					
IC401, 402	CXA1331S	DOLBY B/C NR				DIODE(S)	
IC501	M50942-518SP	MICROCOMPUTER					
IC502	BA6218	REEL MOTOR DRIVE		D201	MA3056-MTX	DIODE	
IC701, 702	M5218L	Class AA: H.P. AMP		D301	MA165	DIODE	
IC901	M5218L	TPS		D302	MTZJ5R6CTA	DIODE	
IC902	M5218L	LEVEL METER AMP		D303-306	MA165	DIODE	
IC903	M5218L	BUFFER AMP		D501-503	MA165	DIODE	
IC904	MN4066B	INPUT SELECTOR		D504	MTZJ5R6CTA	DIODE	
IC907	M50253P	SYSTEM CONTROL		D505	MTZJ9R1CTA	DIODE	
IC971, 972	GP2S06BC	PHOTO COUPLER		D506, 507	MA165	DIODE	
				D510, 511	1SR35200TB	DIODE	
		TRANSISTOR(S)		D601-606	1SR35200TB	DIODE	Δ
				D607, 608	MA165	DIODE	
Q1-4	2SC3311A-Q	TRANSISTOR		D609, 610	MTZJ9R1CTA	DIODE	
Q5, 6	2SA1309A-R	TRANSISTOR		D611	MTZJ6R2ATA	DIODE	
Q7, 8	2SC3311A-Q	TRANSISTOR		D612	MTZJ20CTA	DIODE	
Q201	2SD601R	TRANSISTOR		D613	MTZJ33DTA	DIODE	
Q301, 302	2SC3311A-Q	TRANSISTOR		D614	1SR35200TB	DIODE	Δ
Q303	2SD2037EFTA	TRANSISTOR		D901	MA165	DIODE	
Q304	2SC3311A-Q	TRANSISTOR		D903, 904	MA165	DIODE	
Q451-454	2SC3311A-Q	TRANSISTOR		D905, 906	MTZJ5R1BTA	DIODE	
Q501-503	DTC114ESTP	TRANSISTOR		D907, 908	MA165	DIODE	Δ
Q504	2SC3311A-Q	TRANSISTOR		D909, 910	MA165	DIODE	
Q505-507	KSB564ACYGTA	TRANSISTOR		D911, 912	1SR35200TB	DIODE	
Q508, 509	DTC114ESTP	TRANSISTOR		D913-915	MA165	DIODE	
Q510	KSB564ACYGTA	TRANSISTOR		D916	MTZJ12CTA	DIODE	
Q511	2SD592ANCQ	TRANSISTOR		D917	MTZJ5R1BTA	DIODE	
Q512	2SD1450RSTA	TRANSISTOR		D971, 972	RVD1SS133TA	DIODE	
Q513	2SC3311A-Q	TRANSISTOR					
Q514	DTC114ESTP	TRANSISTOR				VARIABLE RESISTOR(S)	
Q515	2SC3311A-Q	TRANSISTOR					
Q601	2SA1309A-R	TRANSISTOR		VR1	EWGEPAD24A54	REC. LEVEL CONTROL	
Q602	2SC3311A-Q	TRANSISTOR		VR2	EVJ02SFA5G15	BALANCE CONTROL	
Q603	2SD2037EFTA	TRANSISTOR		VR3, 4	EVNDXAA00B53	PLAYBACK GAIN ADJ.	
Q604	2SB1357EFTA	TRANSISTOR		VR5, 6	EVNDXAA00B14	OVERALL GAIN ADJ.	
Q605	2SD2037EFTA	TRANSISTOR		VR11	EVJ02KFA5B53	BIAS CURRENT ADJ.	
Q606	KSB564ACYGTA	TRANSISTOR		VR301, 302	EVNDXAA00B14	OVERALL FREQ. ADJ.	
Q607	2SC3311A-Q	TRANSISTOR		VR701	EVU57AD64A14	HEADPHONES CONTROL	

Ref. No.	Part No.	Part Name & Description	Remarks
		COIL (S)	
L1, 2	RLZ0003	COIL (AC BIAS TRAP ADJ.)	
L3-6	SLQK272-1YT	COIL	
L301, 302	SL09B1-Z	COIL (HX PRO ADJ.)	
L303	SL09B4-K	COIL	
L451, 452	QLM9Z10K	COIL	
		TRANSFORMER (S)	
T1	RTP1K4C008-V	POWER TRANSFORMER	(PP) △
T1	RTP1K4E014-V	POWER TRANSFORMER	(EB, EG) △
		OSILLATOR (S)	
CF201	RSXA3M74S01	CRYSTAL OSILLATOR	
		FILTER (S)	
X501	EF0GC4004A4	CERAMIC FILTER (4MHz)	
		DISPLAY TUBE (S)	
FL501	RSL0104-F	DISPLAY TUBE	
		SWITCH (ES)	
S701	EVQ21405R	STOP	
S702	EVQ21405R	FF	
S703	EVQ21405R	REW	
S704	EVQ21405R	PLAY	
S705	EVQ21405R	REC	
S706	EVQ21405R	PAUSE	
S707	EVQ21405R	DOLBY NR C	
S708	EVQ21405R	DOLBY NR B	
S709	EVQ21405R	MPX FILTER	
S710	EVQ21405R	COUNTER RESET	
S711	EVQ21405R	COUNTER MODE	
S712	EVQ21405R	METER RANGE	
S713	EVQ21405R	MEMORY (REPEAT/STOP)	
S715	EVQ21405R	AUTO REC MUTE	
S716	SSS166	TIMER	
S719	SSH1238	POWER	
S720	EVQ21405R	MONITOR (SOURCE/TAPE)	
S971	RSH1A89ZB-U	MODE	
S972	RSH1A90YB-U	HALF	
S973	RSH1A90YB-U	ATS	
S975	RSH1A90YB-U	REC INHIBIT	
S976	RSH1A90YB-U	ATS	
		CONNECTOR (S) AND SOCKET (S)	

[illegible]

RESISTORS & CAPACITORS

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

Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
		RESISTORS	R309, 310	ERDS2TJ100	1/4W 10	R527	ERDS2TJ562	1/4W 5.6K
			R311, 312	ERDS2TJ183T	1/4W 18K	R528	ERDS2TJ682T	1/4W 6.8K
			R313, 314	ERDS2TJ101	1/4W 100	R529, 530	ERDS2TJ103	1/4W 10K
R1, 2	ERDS2TJ683	1/4W 68K	R315, 316	ERDS2TJ154	1/4W 150K	R531	ERDS2TJ105T	1/4W 1M
R3, 4	ERDS2TJ151	1/4W 150	R317, 318	ERDS2TJ333	1/4W 33K	R532	ERDS2TJ102	1/4W 1K
R5, 6	ERDS2TJ101	1/4W 100	R319	ERDS2TJ102	1/4W 1K	R533	ERDS2TJ103	1/4W 10K
R7, 8	ERDS2TJ153	1/4W 15K	R320	ERDS2TJ822	1/4W 8.2K	R534	ERDS2TJ471	1/4W 470
R9, 10	ERDS2TJ564	1/4W 560K	R321	ERDS2TJ272T	1/4W 2.7K	R535, 536	ERDS2TJ103	1/4W 10K
R11-14	ERDS2TJ103	1/4W 10K	R401, 402	ERDS2TJ562	1/4W 5.6K	R537, 538	ERDS2TJ472	1/4W 4.7K
R15, 16	ERDS2TJ682T	1/4W 6.8K	R403, 404	ERDS2TJ243T	1/4W 24K	R539, 540	ERDS2TJ681	1/4W 680
R17-22	ERDS2TJ223	1/4W 22K	R405, 406	ERDS2TJ473	1/4W 47K	R544	ERDS2TJ331	1/4W 330
R23, 24	ERDS2TJ331	1/4W 330	R407, 408	ERDS2TJ561	1/4W 560	R551, 552	ERDS2TJ103	1/4W 10K
R25, 26	ERDS2TJ182	1/4W 1.8K	R409	ERDS2TJ273	1/4W 27K	R553	ERDS2TJ101	1/4W 100
R27, 28	ERDS2TJ682T	1/4W 6.8K	R410	ERDS2TJ151	1/4W 150	R554, 555	ERDS2TJ100	1/4W 10
R29, 30	ERDS2TJ562	1/4W 5.6K	R451, 452	ERDS2TJ562	1/4W 5.6K	R601, 602	ERDS2TJ472	1/4W 4.7K
R31, 32	ERDS2TJ561	1/4W 560	R453, 454	ERDS2TJ243T	1/4W 24K	R603	ERDS2TJ103	1/4W 10K
R33, 34	ERDS2TJ472	1/4W 4.7K	R455, 456	ERDS2TJ183T	1/4W 18K	R604	ERDS2TJ472	1/4W 4.7K
R35, 36	ERDS2TJ273	1/4W 27K	R457, 458	ERDS2TJ332	1/4W 3.3K	R605	ERD2FCVJ4R7T	1/4W 4.7 Δ
R37, 38	ERDS2TJ104	1/4W 100K	R459, 460	ERDS2TJ242	1/4W 2.4K	R606, 607	ERD2FCVJ6R8T	1/4W 6.8 Δ
R39, 40	ERDS2TJ153	1/4W 15K	R461-464	ERDS2TJ684	1/4W 680K	R608, 609	ERDS2TJ561	1/4W 560
R41, 42	ERDS2TJ273	1/4W 27K	R465, 466	ERDS2TJ561	1/4W 560	R610, 611	ERDS2TJ101	1/4W 100
R43, 44	ERDS2TJ682T	1/4W 6.8K	R467	ERDS2TJ273	1/4W 27K	R612	ERD2FCVG270T	1/4W 27 Δ
R45, 46	ERDS2TJ392T	1/4W 3.9K	R468	ERDS2TJ151	1/4W 150	R614	ERD2FCVG270T	1/4W 27 Δ
R47, 48	ERDS2TJ102	1/4W 1K	R469, 470	ERDS2TJ473	1/4W 47K	R615, 616	ERDS2TJ222	1/4W 2.2K
R49, 50	ERDS2TJ221	1/4W 220	R471-474	ERDS2TJ222	1/4W 2.2K	R617, 618	ERDS2TJ101	1/4W 100
R53, 54	ERDS2TJ151	1/4W 150	R501	ERDS2TJ223	1/4W 22K	R619	ERD2FCVG100T	1/4W 10 Δ
R55, 56	ERDS2TJ332	1/4W 3.3K	R502	ERDS2TJ821	1/4W 820	R620, 621	ERDS2TJ391	1/4W 390
R57, 58	ERDS2TJ392T	1/4W 3.9K	R503	ERDS2TJ223	1/4W 22K	R622	ERD2FCVG100T	1/4W 10 Δ
R59, 60	ERDS2TJ562	1/4W 5.6K	R504	ERDS2TJ821	1/4W 820	R623	ERD2FCVG330T	1/4W 33 Δ
R61, 62	ERDS2TJ222	1/4W 2.2K	R505	ERG1SJ150E	1W 15	R624	ERDS2TJ471	1/4W 470
R63, 64	ERDS2TJ183T	1/4W 18K	R506	ERG1SJ180E	1W 18	R625-636	ERDS2TJ470	1/4W 47
R65, 66	ERDS2TJ123	1/4W 12K	R507, 508	ERDS2TJ472	1/4W 4.7K	R637	ERDS2TJ223	1/4W 22K
R67, 68	ERDS2TJ683	1/4W 68K	R509	ERDS2TJ223	1/4W 22K	R640-642	ERG1SJ390E	1W 39
R201	ERJ6GEYJ333V	1/10W 33K	R510	ERDS2TJ821	1/4W 820	R701	ERDS2TJ821	1/4W 820
R202	ERJ6GEYJ683V	1/10W 68K	R511	ERDS2TJ822	1/4W 8.2K	R702	ERDS2TJ102	1/4W 1K
R203-205	ERJ6GEYJ1R5V	1/10W 1.5	R512	ERDS2TJ182	1/4W 1.8K	R703	ERDS2TJ122	1/4W 1.2K
R206	ERJ6GEYJ222V	1/8W 2.2K	R513	ERDS2TJ682T	1/4W 6.8K	R704	ERDS2TJ152	1/4W 1.5K
R207	ERJ6GEYJ182V	1/10W 1.8K	R514	ERDS2TJ152	1/4W 1.5K	R705	ERDS2TJ182	1/4W 1.8K
R208	ERJ6GEYJ222V	1/10W 2.2K	R515	ERDS2TJ332	1/4W 3.3K	R706	ERDS2TJ222	1/4W 2.2K
R209-211	ERJ6GEYJ4R7V	1/10W 4.7	R516	ERDS2TJ103	1/4W 10K	R707	ERDS2TJ332	1/4W 3.3K
R212, 213	ERJ6GEYJ152V	1/10W 1.5K	R517	ERDS2TJ223	1/4W 22K	R708	ERDS2TJ472	1/4W 4.7K
R214	ERJ6GEYJ822V	1/10W 8.2K	R518	ERDS2TJ821	1/4W 820	R709	ERDS2TJ682T	1/4W 6.8K
R215	ERJ6GEYJ101V	1/10W 100	R519	ERDS2TJ103	1/4W 10K	R710	ERDS2TJ123	1/4W 12K
R216	ERJ6GEYJ222V	1/8W 2.2K	R520	ERDS2TJ102	1/4W 1K	R711	ERDS2TJ821	1/4W 820
R301, 302	ERDS2TJ222	1/4W 2.2K	R521, 522	ERDS1FVJ180T	1/2W 18 Δ	R712	ERDS2TJ102	1/4W 1K
R304	ERDS2TJ102	1/4W 1K	R523	ERDS2TJ332	1/4W 3.3K	R713	ERDS2TJ122	1/4W 1.2K
R305	ERDS2TJ682T	1/4W 6.8K	R524	ERDS2TJ222	1/4W 2.2K	R714	ERDS2TJ152	1/4W 1.5K
R306	ERDS2TJ271	1/4W 270	R525	ERDS2TJ473	1/4W 47K	R715	ERDS2TJ182	1/4W 1.8K
R308	ERDS2TJ1R0	1/4W 1.0	R526	ERDS2TJ223	1/4W 22K	R716	ERDS2TJ222	1/4W 2.2K

Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
R717	ERDS2TJ332	1/4W 3.3K				C327, 328	ECEA1EK100	25V 10U
R718	ERDS2TJ472	1/4W 4.7K			CAPACITORS	C329, 330	ECKR1H473ZF5	50V 0.047U
R721	ERDS2TJ472	1/4W 4.7K				C401-404	ECQB1H22JF3	50V 2200P
R722	ERDS2TJ332	1/4W 3.3K	C1, 2	ECBT1H221KB5	50V 220P	C405, 406	ECEA1HUR56B	50V 0.56U
R723, 724	ERDS2TJ180T	1/4W 18	C3, 4	ECEA0JK101	6.3V 100U	C407, 408	ECEA1HUR33	50V 0.33U
R725, 726	ERDS2TJ332	1/4W 3.3K	C5, 6	ECQB1H562JF3	50V 5600P	C409, 410	ECEA1EK4R7	25V 4.7U
R727, 728	ERDS2TJ330	1/4W 33	C7, 8	ECQB1H52JF3	50V 1500P	C451, 452	ECKT1H122KB	50V 1200P
R729, 730	ERDS2TJ100	1/4W 10	C9, 10	ECBT1H470J5	50V 47P	C453, 454	ECKD1H152KB	50V 1500P
R731, 732	ERDS2TJ102	1/4W 1K	C11, 12	ECEA1CK100B	16V 10U	C455, 456	ECEA1EK4R7	25V 4.7U
R901	ERDS2TJ222	1/4W 2.2K	C13, 14	ECQB1H52JF3	50V 1500P	C457-460	ECQB1H22JF3	50V 2200P
R902	ERDS2TJ823T	1/4W 82K	C15, 16	ECQB1H53JF3	50V 0.015U	C461, 462	ECEA1HUR56B	50V 0.56U
R903	ERDS2TJ101	1/4W 100	C17, 18	ECQP1121JZ3	100V 120P	C463, 464	ECEA1HUR33	50V 0.33U
R904	ERDS2TJ393	1/4W 39K	C19, 20	ECEA1EK4R7	25V 4.7U	C465, 466	ECEA1EK4R7	25V 4.7U
R905	ERDS2TJ822	1/4W 8.2K	C21, 22	ECBT1H101KB5	50V 100P	C501	ECEA1HK010B	50V 1U
R906	ERDS2TJ102	1/4W 1K	C23, 24	ECQB1H562JF3	50V 5600P	C502	ECBT1E103ZF	25V 0.01U
R907	ERDS2TJ473	1/4W 47K	C25, 26	ECBT1H221KB5	50V 220P	C503	ECEA1CN100SB	16V 10U
R908	ERDS2TJ223	1/4W 22K	C27, 28	ECEA1HUR33	50V 0.33U	C504	ECEA1HK010B	50V 1U
R909, 910	ERDS2TJ563	1/4W 56K	C29, 30	ECEA1CK100B	16V 10U	C505	ECKR1H103ZF5	50V 0.01U
R911, 912	ERDS2TJ393	1/4W 39K	C31, 32	ECQV1H683JZ3	50V 0.068U	C506	ECEA0JU470B	6.3V 47U
R913, 914	ERDS2TJ220T	1/4W 22	C33, 34	ECQB1H333JF3	50V 0.033U	C507	ECEA1EK4R7	25V 4.7U
R915, 916	ERDS2TJ101	1/4W 100	C35, 36	ECQB1H183JF3	50V 0.018U	C508, 509	ECEA1VK100B	35V 10U
R917, 918	ERDS2TJ152	1/4W 1.5K	C37, 38	ECQV1H473JZ3	50V 0.047U	C602	ECKR2H682PE	500V 6800P
R922	ERDS2TJ392T	1/4W 3.9K	C39, 40	ECQB1H123JF3	50V 0.012U	C603	ECEA1HU221B	50V 220U
R923	ERDS2TJ103	1/4W 10K	C43, 44	ECQB1H223JF3	50V 0.022U	C605	ECKR2H682PE	500V 6800P
R924	ERDS2TJ332	1/4W 3.3K	C45, 46	ECEA1CK100B	16V 10U	C606, 607	ECEA1EU222B	25V 2200U
R925, 926	ERDS2TJ472	1/4W 4.7K	C47, 48	ECKR1H103ZF5	50V 0.01U	C608	ECKR1H103ZF5	50V 0.01U
R927	ERDS2TJ223	1/4W 22K	C49, 50	ECEA1HK010B	50V 1U	C609	ECEA1AU221	10V 220U
R928	ERDS2TJ123	1/4W 12K	C51, 52	ECEA1HK0R1	50V 0.1U	C610	ECEA1AU101	10V 100U
R929	ERDS2TJ682T	1/4W 6.8K	C201	ECUV1E153KBN	25V 0.015U	C611-616	ECKR1H103ZF5	50V 0.01U
R930	ERDS2TJ473	1/4W 47K	C202	ECUV1E104KBN	25V 0.1U	C617	ECEA1AU101	10V 100U
R931	ERDS2TJ102	1/4W 1K	C203, 204	ECEV1CA100R	16V 10U	C618	ECEA1EU222B	25V 2200U
R932, 933	ERDS2TJ103	1/4W 10K	C205	ECUV1E104ZFN	25V 0.1U	C619-624	ECEA1AU102B	10V 1000U
R934	ERDS2TJ333	1/4W 33K	C206	ECUV1E104KBN	25V 0.1U	C625, 626	ECEA1HK010B	50V 1U
R935	ERDS2TJ103	1/4W 10K	C209-211	ECEV1EN100R	25V 10U	C701, 702	ECEA1HK010B	50V 1U
R936	ERDS2TJ392T	1/4W 3.9K	C212-214	ECUV1H103ZFN	50V 0.01U	C703	ECKR1H103ZF5	50V 0.01U
R937	ERDS2TJ272T	1/4W 2.7K	C215	ECUV1H472ZFN	50V 4700P	C901	ECQB1H822JF3	50V 8200P
R938	ERDS2TJ103	1/4W 10K	C216	ECUV1E562KBN	25V 5600P	C902	ECEA1CK100B	16V 10U
R939	ERDS2TJ822	1/4W 8.2K	C217-219	ECUV1E104ZFN	25V 0.1U	C903	ECBT1H470J5	50V 47P
R940	ERDS2TJ472	1/4W 4.7K	C301-304	ECKR1H103ZF5	50V 0.01U	C904	ECEA1HK010B	50V 1U
R943	ERDS2TJ103	1/4W 10K	C305, 306	ECKW1H222KB5	50V 2200P	C905, 906	ECEA1AU101	10V 100U
R944	ERDS2TJ1R0	1/4W 1.0	C307	ECKD1H682KB	50V 6800P	C908	ECEA1AK101	10V 100U
R945	ERDS2TJ391	1/4W 390	C308	ECKR1H392KB5	50V 3900P	C909	ECBT1E103ZF	25V 0.01U
R946	ERDS2TJ101	1/4W 100	C309	ECEA1EK4R7	25V 4.7U	C910	ECEA1CK330	16V 33U
R970	ERDS2TJ332	1/4W 3.3K	C310	ECQP1153JZ	100V 0.015U	C911	ECEA0JU222B	6.3V 2200U
R971	ERDS2TJ221	1/4W 220	C311, 312	ECBT1H470J5	50V 47P	C913, 914	ECKR1H103ZF5	50V 0.01U
R972	ERDS2TJ183T	1/4W 18K	C313, 314	ECKR1H473ZF5	50V 0.047U	C925	ECKT1H223ZF	50V 0.022U
R973	ERDS2TJ221	1/4W 220	C315, 316	ECKR2H821KB5	500V 820P			
R974	ERDS2TJ183T	1/4W 18K	C317, 318	ECBT1H121KB5	50V 120P			
			C319, 320	ECQV1H563JZ3	50V 0.056U			
		CHIP JUMPER(S)	C321, 322	ECQB1H223JF3	50V 0.022U			
			C323, 324	ECQB1H103JF3	50V 0.01U			
J201-206	ERJ6GEY0R00V	CHIP JUMPER	C325, 326	ECBT1H561KB5	50V 560P			

REPLACEMENT PARTS LIST

Notes : * Important safety notice:

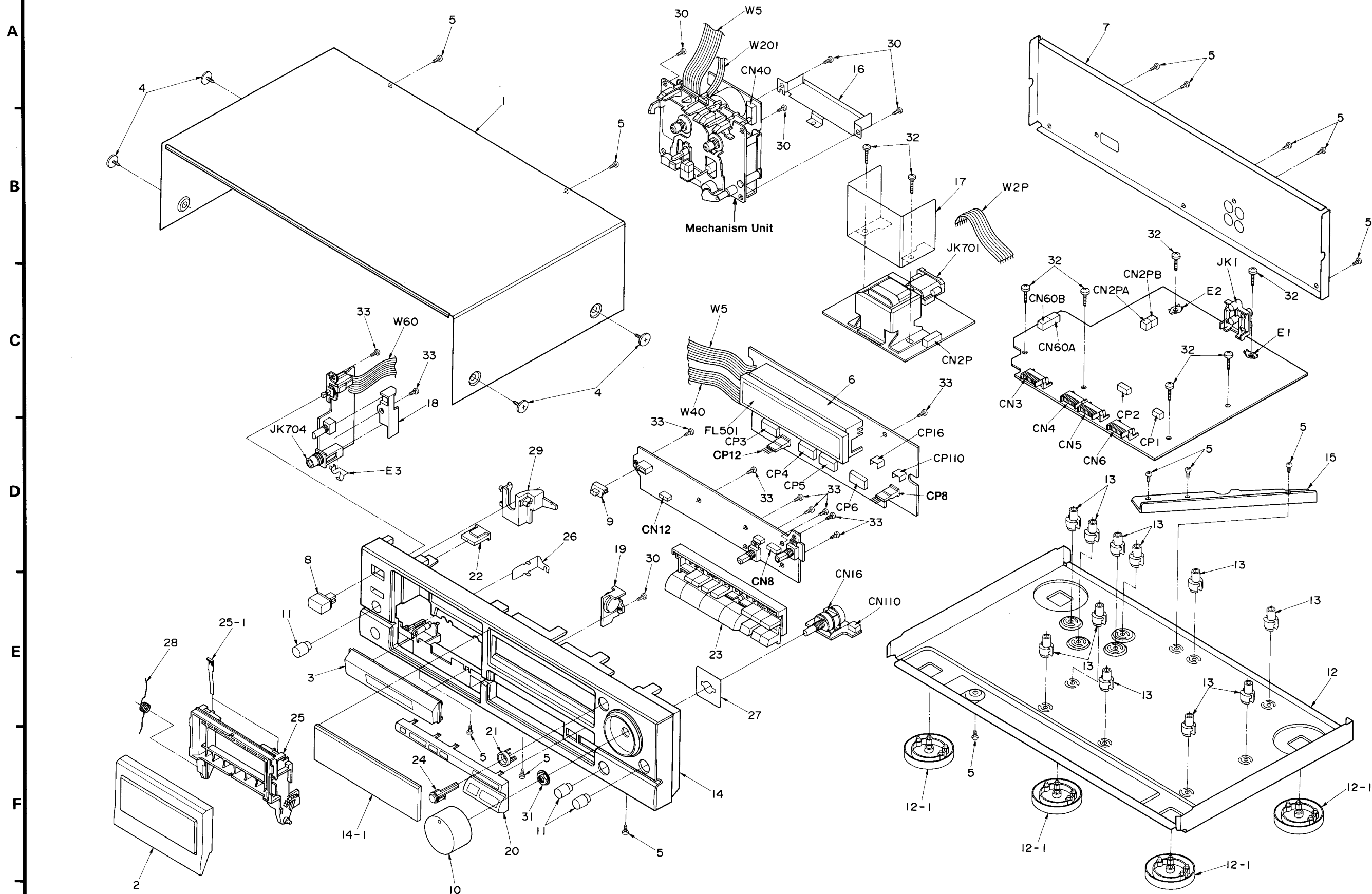
Components identified by $\triangle$ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

* The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.) Parts without these indications can be used for all areas.

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS		P2	RPN0345-1	PAD	
				P3	SPSD152	ACCESSORIES BOX	
				P4	SPP756	PROTECTION COVER	
1	RKMD036-K	CABINET				ACCESSORIES	
2	RYFD146A-K	CASSETTE LID		A1	RFKSSBX606EG	INSTRUCTION MANUAL ASS'Y	(EG)
3	RYQ0070-K	FRONT ORNAMENT		A1	RQT1187-B	INSTRUCTION MANUAL	(EB)
4	SNE2129-1	SCREW		A1	RQT1188-Y	INSTRUCTION MANUAL	(PP)
5	XTBS3+8JFZ1	SCREW		A2	RQA0013	WARRANTY CARD	(EB, EG)
6	RMNO141	FL. HOLDER		A2	RQA0049	WARRANTY CARD	for CANADA
7	RGR0128A-B1	REAR PANEL	(EG)	A2	SQX7179	WARRANTY CARD	(PP)
7	RGR0128A-C	REAR PANEL	(EB)	A3	RQCB0169	SERVICENTER LIST	(EB, EG)
7	RGR0128A-G	REAR PANEL	(PP)	A3	SQX9129-1	SERVICENTER LIST	(PP)
8	RGU0030	BUTTON, POWER SWITCH		A3	SQX9131	SERVICENTER LIST	for CANADA
9	RGV0080-K	KNOB, TIMER		A4	SFDAC05E03	AC POWER SUPPLY CORD	(EG) $\triangle$
10	RGW0033	KNOB, REC LEVEL		A4	SJA175	AC POWER SUPPLY CORD	(PP) $\triangle$
11	RGW0110-K	KNOB, BALANCE, BIAS/PHONES		A4	SJA193	AC POWER SUPPLY CORD	(EB) $\triangle$
12	RFKJSTR313PK	BOTTOM BOARD ASS'Y		A5	SJP2249-3	STEREO CONNECTION CABLE	
12-1	RKA0009-1	FOOT	Ref. No. 12-1 is included in Ref. No. 12.				
13	RKQ0089	P. C. B. HOLDER					
14	RFKGSBX606EB	FRONT PANEL ASS'Y	(EB, EG)				
14	RFKGSBX606PP	FRONT PANEL ASS'Y	(PP)				
14-1	RKW0171A-K	TRANSPARENT PLATE	Ref. No. 14-1 is included in Ref. No. 14.				
15	RMA0517	BRACKET, BOTTOM BOARD					
16	RMC0137	SHIELD PLATE, MECH UNIT					
17	RMC0139	SHIELD PLATE, P. TRANSFORMER					
18	RMNO140	ORNAMENT, HEADPHONES					
19	RFKNSDN7AK	DAMPER GEAR ASS'Y (L)					
20	RGK0405-K	ORNAMENT, OPERATION BUTTON					
21	RGK0407-A	ORNAMENT, MONITOR BUTTON					
22	RGU0130	BUTTON, EJECT					
23	RFKNSBX606EB	BUTTON ASS'Y, OPERATION					
24	RGU0620-K	BUTTON, MONITOR					
25	RKF0169A-K	CASSETTE HOLDER					
25-1	QBP2006A	TAPE PRESSURE SPRING	Ref. No. 25-1 is included in Ref. No. 25.				
26	RMA0535	HOLDER ANGLE					
27	RMC0056-1	SHIELD PLATE, REC LEVEL					
28	RME0092	SPRING					
29	RML0086	EJECT LEVER					
30	XTB3+10JFZ	SCREW					
31	SNE4021-1	NUT					
32	XTB3+20JFZ	SCREW					
33	XTB3+8JFZ	SCREW					
		PACKING MATERIAL					
P1	RPG0990	CARTON BOX	(EB, EG)				
P1	RPG0993	CARTON BOX	(PP)				

EXPLODED VIEW

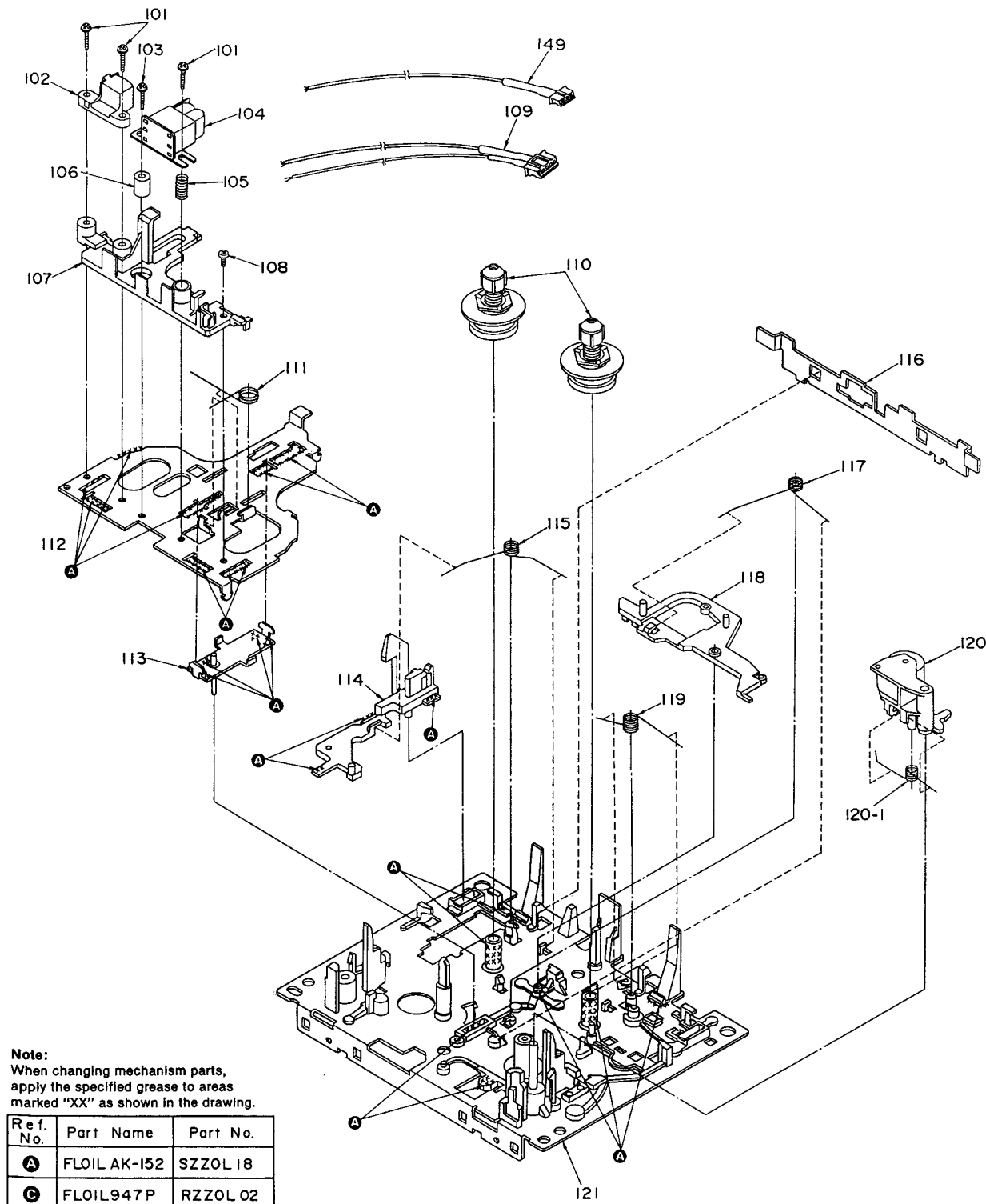
• Cabinet parts



• Mechanical parts

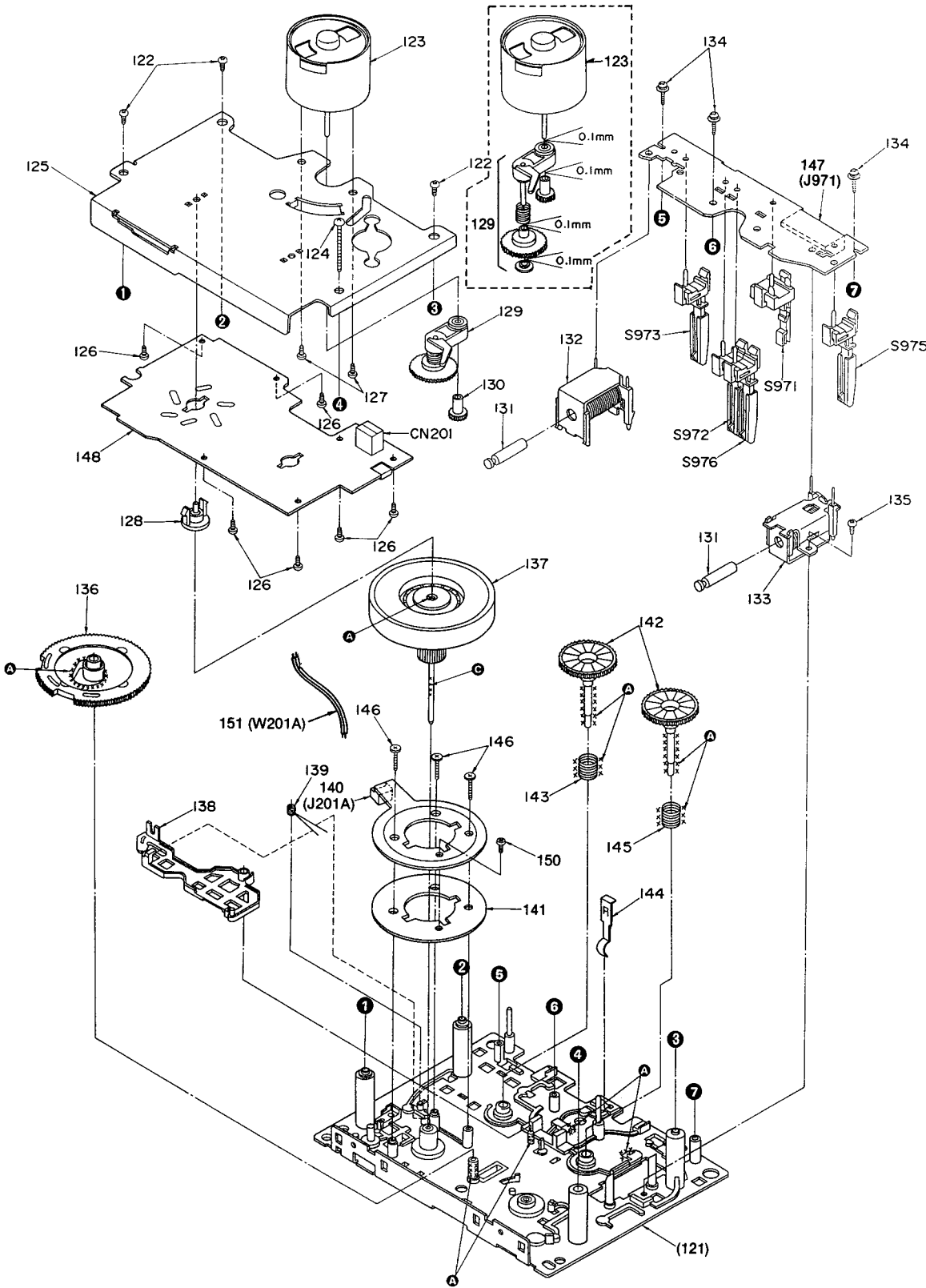
(Top view)

(Bottom 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
C	FLOIL 947 P	RZZOL 02



REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		MECHANISM PARTS LIST		149	REX0093-2	LEAD WIRE BLOCK	
				150	XQN2+AF3	SCREW	
				151	RWJ0202090XX	FLAT CABLE (2P), W201A	
101	QH1361A	SCREW					
102	SJH96-1	E HEAD					
103	RHE52012A	SCREW					
104	RBR4CY009-C	R/P HEAD					
105	QBC1278A	HEAD SPRING					
106	RMX0014	SPACER					
107	RMRO184	HEAD SPACER					
108	XTN2+5F	SCREW					
109	REX0092-1	LEAD WIRE BLOCK					
110	RXR0009	REEL TABLE					
111	RJW1392A	HEAD BASE SPRING					
112	RMA0047A-1	HEAD BASE					
113	RXQ0078	MAIN ROD ASS'Y					
114	RMM0012-2	EJECT ROD (L)					
115	RME0018-1	SPRING, EJECT ROD (L)					
116	RML0069-1	LEVER					
117	RME0020	BRAKE SPRING					
118	RML0040-2	BRAKE LEVER					
119	RJW1422A	SPRING					
120	RXP0004	PINCH ROLLER ARM (F)					
120-1	RJW1402C	SPRING, PINCH ROLLER ARM (F)					
121	RFKRSB555E-K	CHASSIS ASS'Y					
122	XTN26+7J	SCREW					
123	MMN-6F4RA88	REEL MOTOR					
124	XTN26+26F	SCREW					
125	RMA0048A	FLYWHEEL PLATE					
126	XTN2+3F	SCREW					
127	XSN26+3	SCREW					
128	RMRO141	THRUST BEARING					
129	RXG0009	IDLE GEAR ASS'Y					
130	RDG0034	REEL MOTOR GEAR					
131	RUB428ZE	MOVING IRON CORE					
132	RSJ0003	SOLENOID					
133	RXQ0011	BLAKE SOLENOID					
134	XTW2+8S	SCREW					
135	XTN26+4F	SCREW					
136	RDG0030	MAIN GEAR					
137	RXF0008	FLYWHEEL					
138	RML0037	TRIGGER LEVER					
139	RJW1472A	TRIGGER LEVER SPRING					
140	RJS2T72A	CONNECTOR (2P), J201A					
141	RMQ0037	FG YOKE					
142	RXG0003	REEL TABLE GEAR					
143	RJQ1122A	SPRING					
144	RUS6092C	TAPE PRESSURE SPRING					
145	RJQ1112B	SPRING					
146	RHE52042B	SCREW					
147	RJS11T72A	CONNECTOR (11P), J971					
148	REP0268C	STATOR P. C. B. ASS'Y					