

Service Manual

Dolby NR-Equipped
Stereo Double Cassette Deck

Cassette Deck
RS-TR777



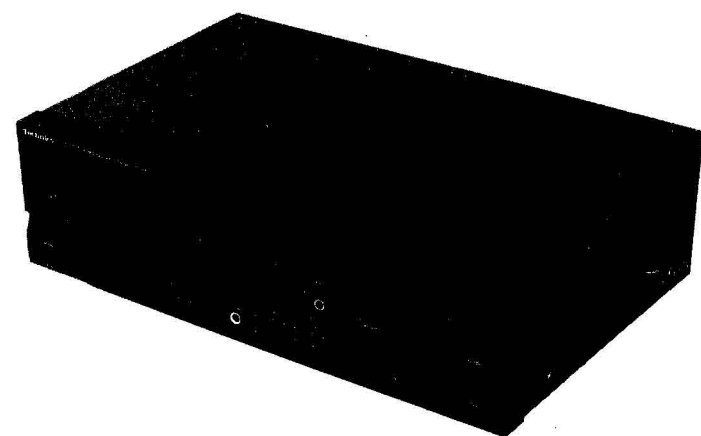
Colour

(K) ... Black Type

Area

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

* 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-TR979 MECHANISM SERIES (AR-1)

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	
DECK 1	Playback head (Permalloy) × 1
DECK 2	Recording/Playback head (Permalloy) × 1 Erasing head (Double-gap ferrite) × 1
Motors	
DECK 1	Capstan/reel table drive (DC servo motor) × 1 Reel table drive (DC motor) × 1
DECK 2	Capstan/reel table drive (DC servo motor) × 1 Reel table drive (DC motor) × 1
Tape speed	4.8 cm/sec. (1-7/8 ips)
Wow and flutter	
For (PP) area	0.1 % (WRMS)
For others	0.07 % (WRMS) ± 0.2 % (DIN)
Fast forward and rewind times	Approx. 45 seconds with C-60 cassette tape
Frequency response (Dolby NR off)	
NORMAL	40 Hz - 15 kHz ± 3 dB
For (PP) area	20 Hz - 17 kHz
For others	20 Hz - 16 kHz (DIN)
CrO ₂	40 Hz - 15 kHz ± 3 dB
For (PP) area	20 Hz - 17 kHz
For others	20 Hz - 16 kHz (DIN)

METAL

For (PP) area

40 Hz - 16 kHz ± 3 dB

20 Hz - 18 kHz

For others

20 Hz - 17 kHz (DIN)

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

NR off

56 dB (A weighted)

Dolby B NR on

66 dB (A weighted)

Dolby C NR on

74 dB (A weighted)

Input sensitivity and impedance

REC (IN)

100 mV/47 kΩ

Output voltage and impedance

PLAY (OUT)

500 mV/500 Ω

HEADPHONES

37.5 mV/(8 Ω)

(Load impedance 8 Ω - 600 Ω)

■ GENERAL

Power consumption

25 W

Power supply

For (PP) area

AC 60 Hz, 120 V

For (GC) area

AC 50/60 Hz, 110 V/127 V/220 V/240 V

For others

AC 50/60 Hz, 230 V - 240 V

Dimensions (W × H × D)

430 × 135 × 280 mm (16-15/16" × 5-5/16" × 11-1/32")

Weight

4.9 kg (10.8 lb.)

Note:

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

Technics

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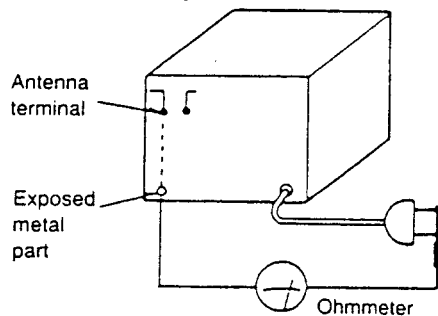
■ SAFETY PRECAUTION (This "safety precaution" is applied only in U.S.A.)

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

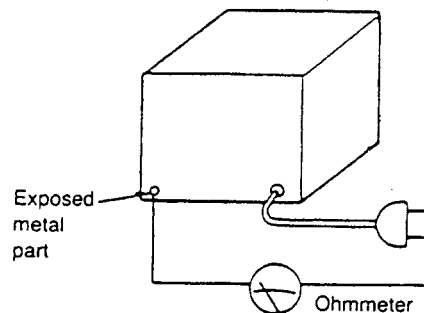
1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads antenna, control shafts, handle brackets, etc. Equipment with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

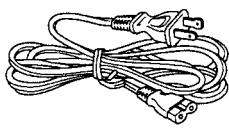


(Fig. B)

Resistance = Approx. ∞

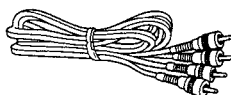
4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

ACCESSORIES

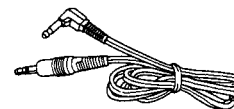


AC power supply cord
 [(RJA0019-2K) ... (EG, GC)]
 [(SJA172) ... (PP)]
 [(SJA173) ... (GN)]
 [(VJA0733) ... (EB)]

... 1 pc.



Stereo connection cables
 (SJP2249-3) 2 pcs.



Stereo mini cables
 (SJP2257T) 2 pcs.



Power plug adaptor
 (SJP5213-2) 1 pc.
 (For GC area only)

CONNECTIONS

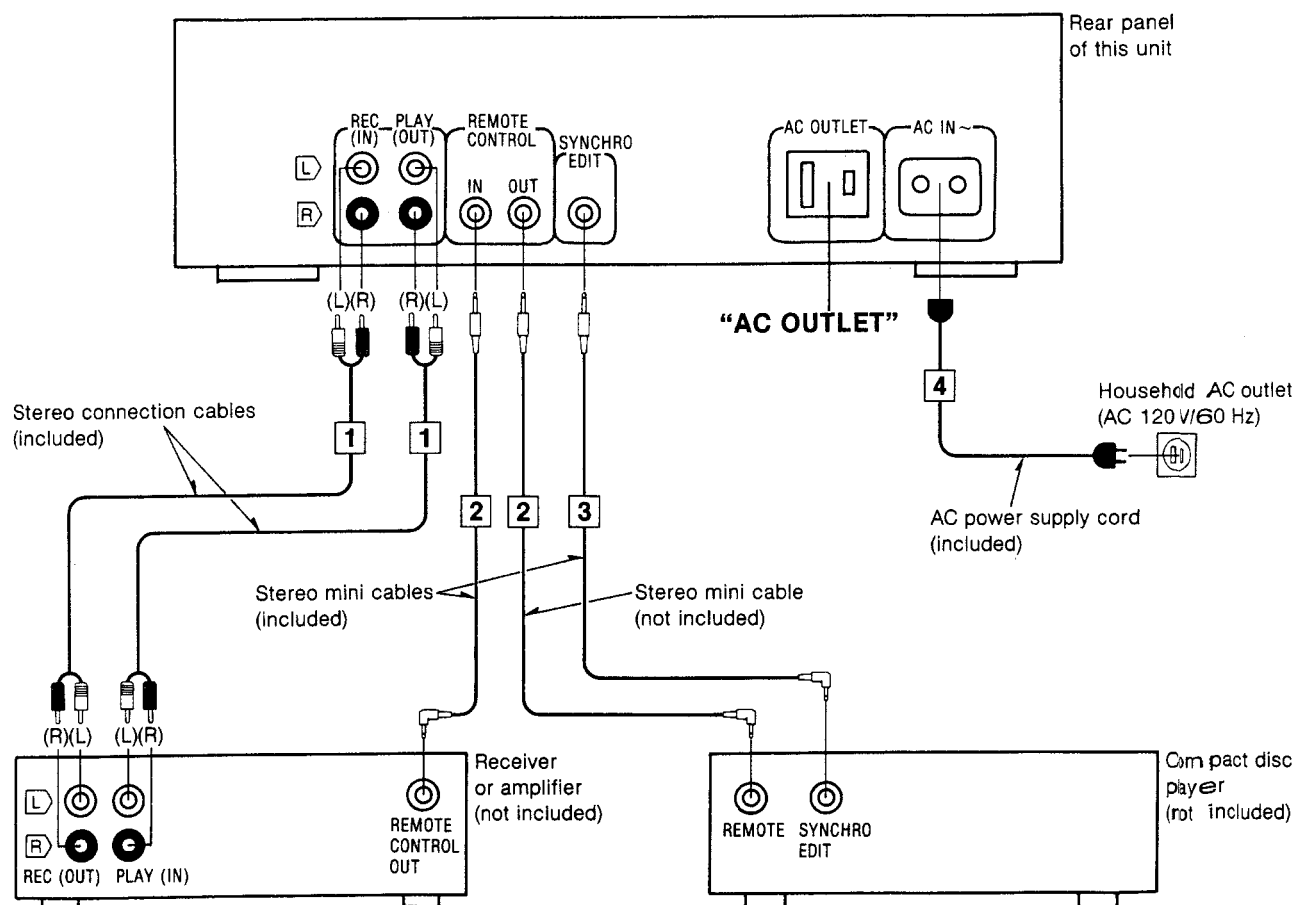
Before making connections, be sure that the power to this unit and all other system components is turned off first.

See the operating instructions of the receiver (or amplifier) and the compact disc player for details.

Make connections in the numbered sequence by using the cables.

Note:

Avoid letting the cables touch each other as much as possible, otherwise noise will be generated.



The following functions can be operated by remote control (When connected to the appropriate Technics receiver): Playback, Stop, Pause, Rewind/fast-forward search, Record, and 1-2 (A-B) deck selection.

The REMOTE CONTROL “OUT” terminal is provided to connect a Technics Compact Disc Player or Graphic Equalizer.

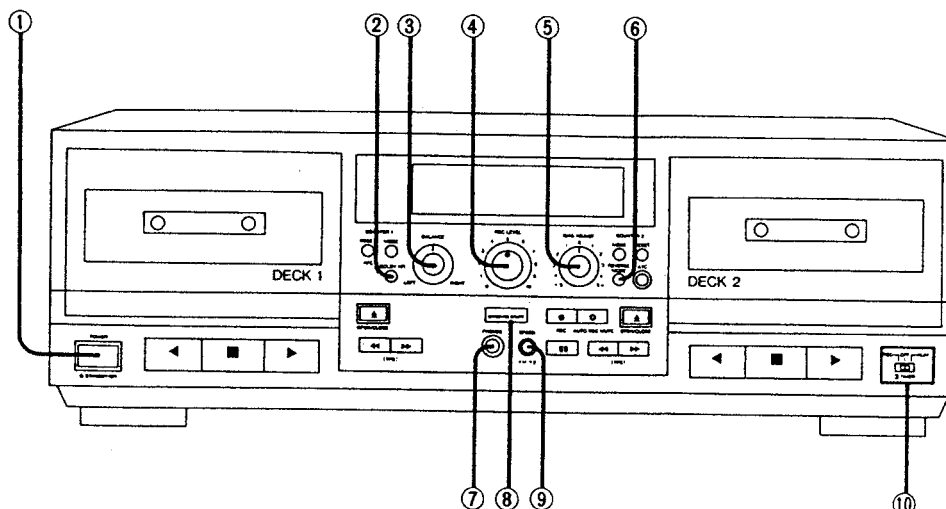
The REMOTE CONTROL and SYNCHRO EDIT terminals can only be used with selected Technics Components. Please contact your dealer for details.

“AC OUTLET” (UNSWITCHED: PP area only)

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

Audio equipment rated up to 100 W can be connected.

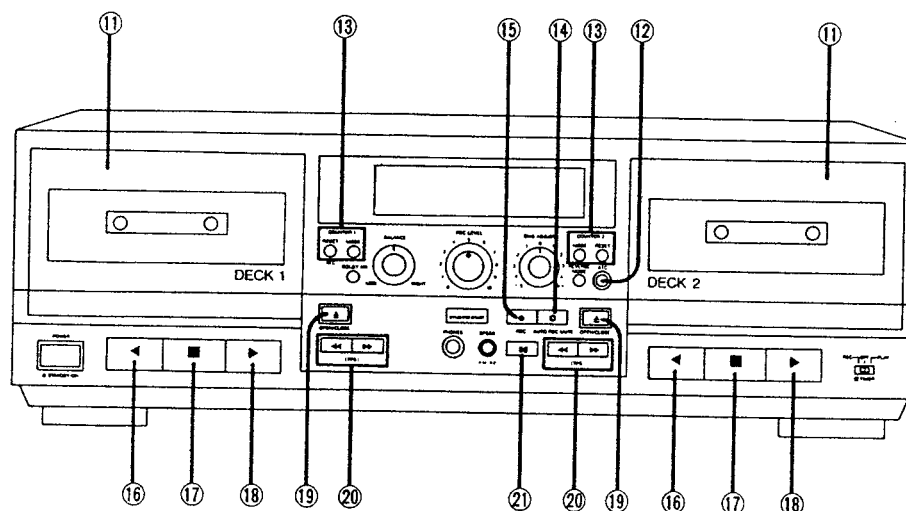
LOCATION OF CONTROL



Control section

Controls common to both tape decks

- ① **Power “ ⏻ STANDBY/ON” switch (POWER, ⏻ STANDBY/ON)**
- ② **Dolby noise-reduction button (DOLBY NR)**
This button is 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.
- ③ **Recording-balance control (BALANCE)**
This control is used to balance the left and right sound levels during recording.
- ④ **Recording-level control (REC LEVEL)**
This control is used to regulate the recording level.
- ⑤ **Bias-adjustment control (BIAS ADJUST)**
This control is used to equalize the frequency response during recording.
- ⑥ **Reverse-mode selector (REVERSE MODE)**
This selector is used for selection of the reverse mode (for either playback or recording).
- ⑦ **Headphones jack (PHONES)**
- ⑧ **Synchro-start button (SYNCHRO START)**
This button is used to start a tape-to-tape recording, simultaneously starting deck 1 (the playback deck) and deck 2 (the recording deck).
- ⑨ **Tape-to-tape recording-speed button (SPEED)**
This button is used to select the recording speed during tape-to-tape recording.
- ⑩ **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.



Control section

(continued)

Controls applicable to tape deck 1 and/or 2

- ⑪ **Cassette holder**
- ⑫ **ATC button (ATC)**
This button is used to perform ATC (auto tape calibration). (See page 6.)

**13 Tape counter buttons
(COUNTER 1/COUNTER 2)**

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

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

**14 Automatic-record-muting button
(● AUTO REC MUTE)**

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

15 Record button (● REC)

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

16 Reverse-side playback button (◀)

This button is used to start the playback or recording of side "B" of the cassette.

(The tape will move in the right-to-left direction.)

17 Stop button (■)

This button is used to stop the tape movement.

18 Forward-side playback button (▶)

This button is used to start the playback or recording of side "A" of the cassette.

(The tape will move in the left-to-right direction.)

19 Open/close button (▲ OPEN/CLOSE)

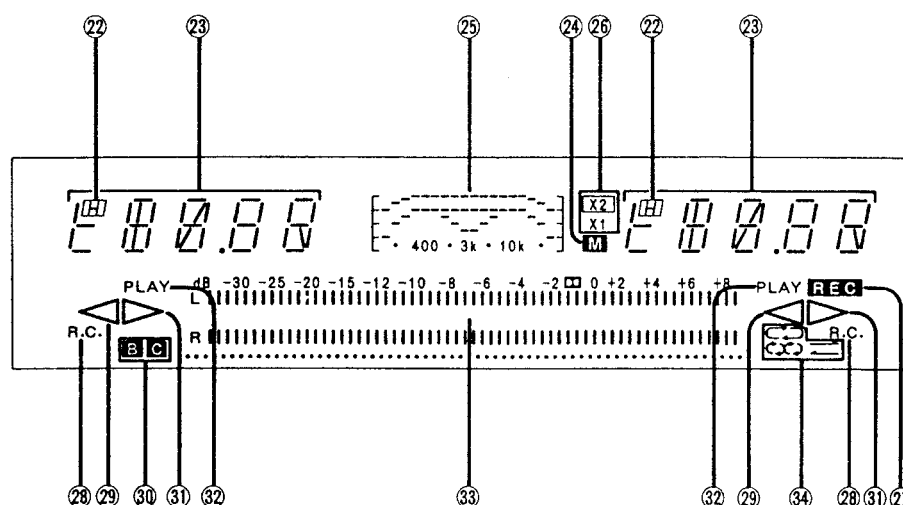
This button is used to open or close the cassette holder.

**20 Rewind/fast-forward search buttons
(◀◀/▶▶ TPS)**

These buttons are used to advance or rewind the tape, or to easily and quickly search for the program's beginning of the tape.

21 Pause button (||)

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



Display section

22 High-speed rewind/fast-forward search indicator (H)

Illuminates during high-speed rewind/fast-forward or high-speed search.

23 Tape counter/ATC display

Normally functions as the tape/linear counter display. During ATC (auto tape calibration), displays the status of the ATC operation.

24 ATC memory indicator (M)

Flashes during ATC (auto tape calibration), and then remains illuminated when the ATC operation is completed.

25 ATC graphic display

Shows a graphic display of the ATC (auto tape calibration) operation.

**26 Tape-to-tape recording-speed indicators
(x1, x2)**

One of these indicators illuminates to show which of the tape-to-tape recording speeds was selected by pressing the tape-to-tape recording-speed button.

27 Recording indicator (REC)

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

28 Remote-control indicator (R.C.)

Illuminates to indicate that this unit can now be controlled by the remote control transmitter of the appropriate receiver connected.

29 Reverse-side indicator (<)

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

30 Dolby noise-reduction indicators (B, C)

Each indicator illuminates to show the type of Dolby noise-reduction system selected by pressing the Dolby noise-reduction button.

31 Forward-side indicator (>)

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

32 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.

33 Input level meter

During playback, this meter indicates the level of the recorded sound.

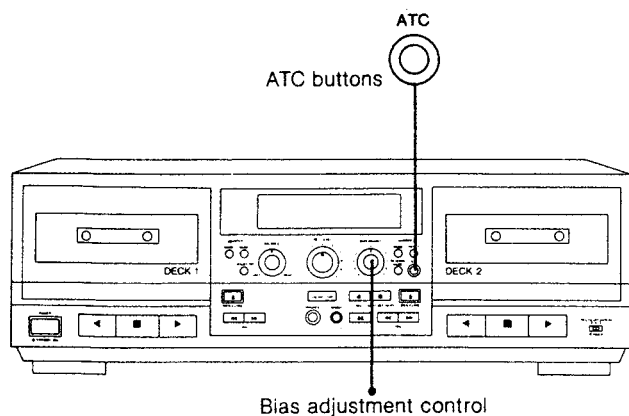
During recording, it indicates the level being recorded, adjusted by the recording-level control.

34 Reverse-mode indicators (R, C, X)

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

■ ABOUT THE ATC FUNCTION

ATC (auto tape calibration) is the function which identifies the quality of the tape (concerning bias, level, equalizer) automatically and sets the most desirable recording condition. It takes about 1 minute to complete the setting.



ATC will begin when the ATC button on the deck in which the cassette for recording is inserted is pressed.

Perform ATC while the other deck is in the stop (or rewind/fast-forward) mode.

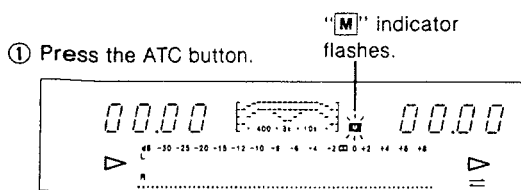
Because the ATC function records a test signal onto the tape, any previously recorded material will be erased, so be careful not to accidentally erase material which you wish to save.

Although ATC can also be performed for a tape which is partly wound, it is not possible at the end of the tape. Although the tape will be wound back to its original position after ATC has been completed, the position may be slightly different from the exact original position. Therefore, perform ATC 2 seconds or more after the end of the previous track.

Be sure to set the bias adjustment control to 0.

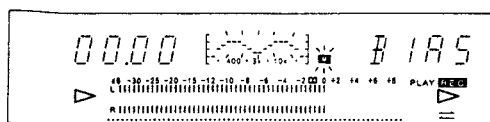
The display changes as follows while the ATC setting is taking place.

Example: Performing ATC on tape deck 2.

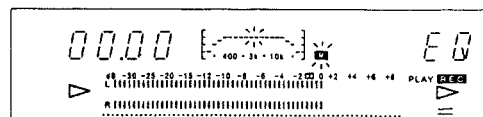


① Press the ATC button.

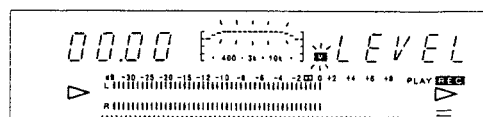
② Bias setting in progress.



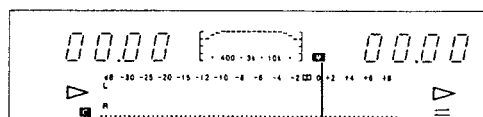
③ Equalizer setting in progress.



④ Level setting in progress.



⑤ ATC completed.



"M" indicator illuminates.

If the leader tape (attached to each end of recording tape) is reached during the above setting operations, the "M" indicator will rapidly flash on and off to indicate that ATC is not possible. Wind the tape to a position from which ATC can be performed and press the ATC button once again.

To cancel the ATC function while the settings are in progress:

Press the stop button.

To cancel the ATC settings after they have been made:

Press the ATC button. (The settings cannot be cancelled during recording.)

Notes:

ATC may not be possible on an old tape or on some special types of tapes.

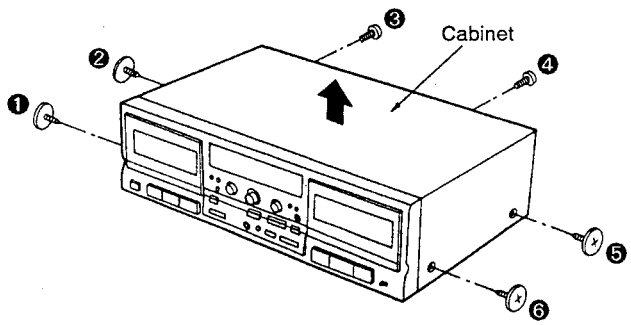
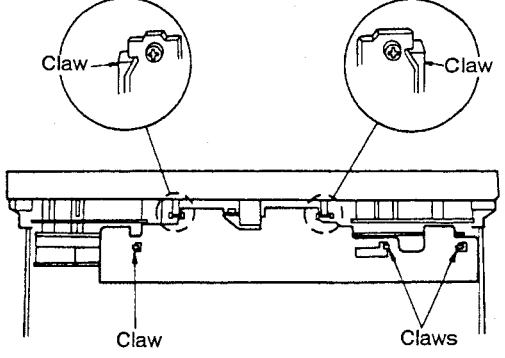
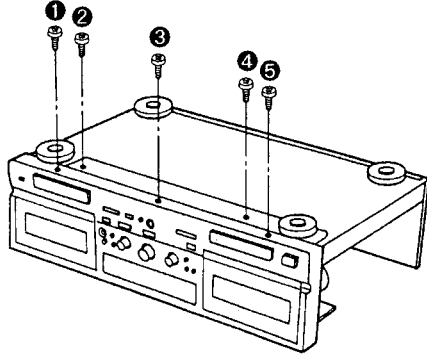
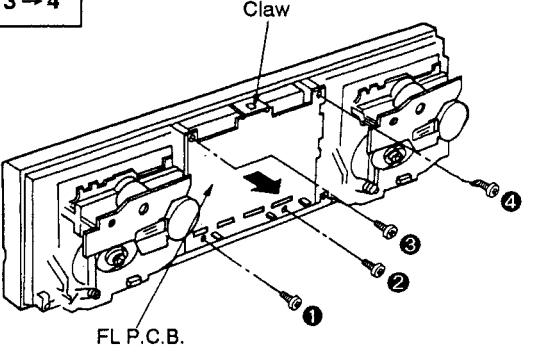
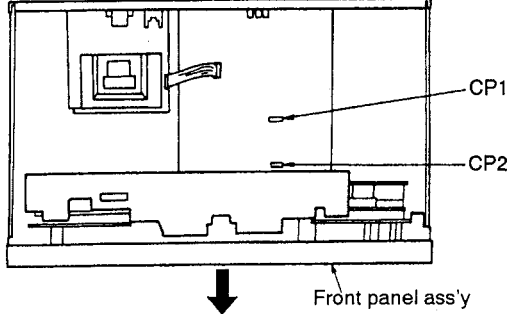
The settings will be cancelled if the open/close button is pressed, so do not remove the tape cassette until recording has been completed.

Unless the ATC settings are cancelled, they will be stored in memory even after the power has been switched to the standby condition (or the AC power supply cord has been disconnected from the AC outlet).

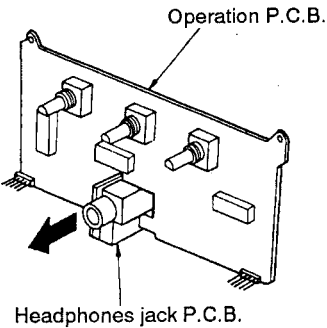
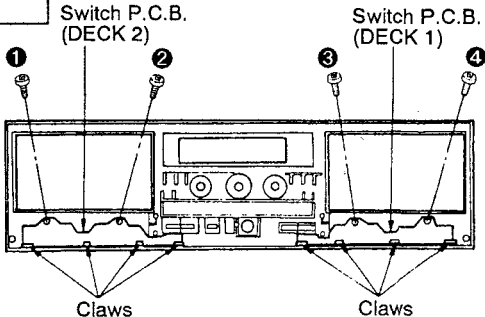
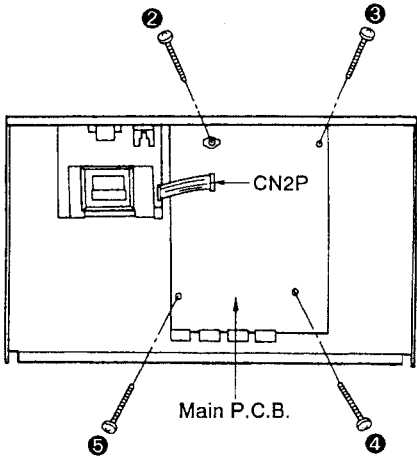
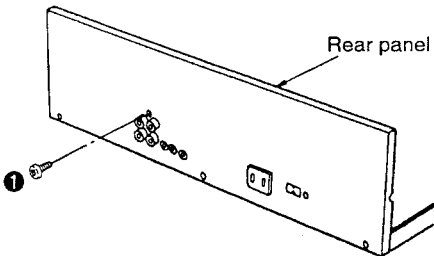
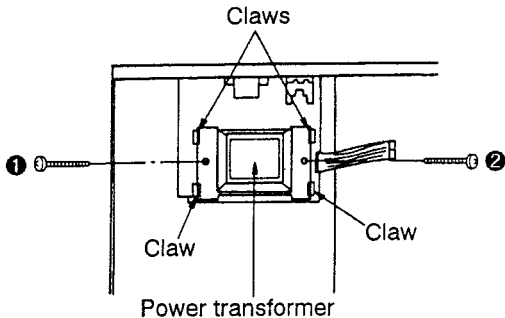
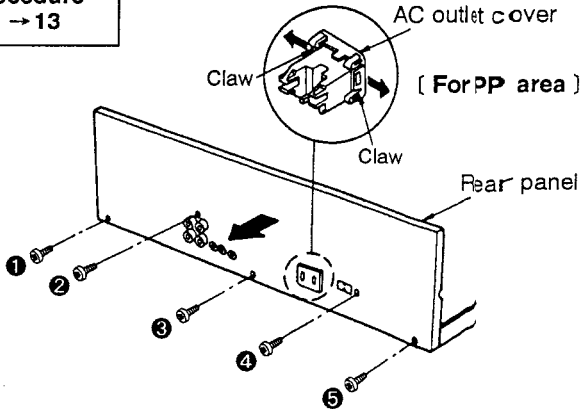
DISASSEMBLY INSTRUCTIONS

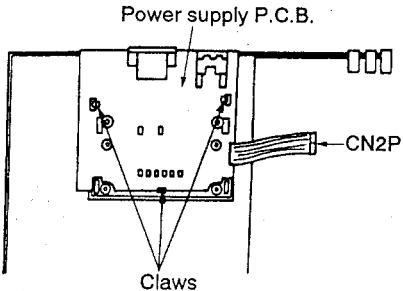
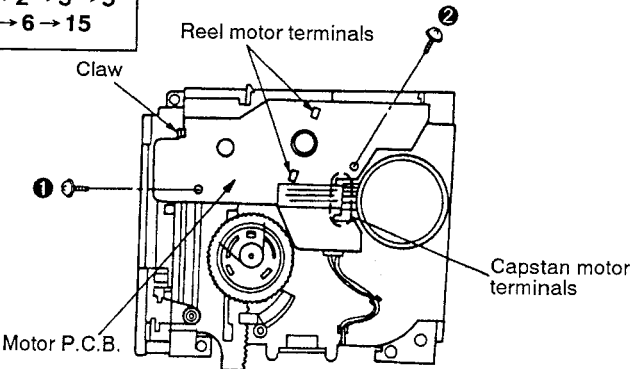
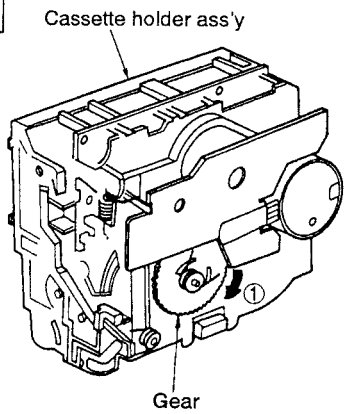
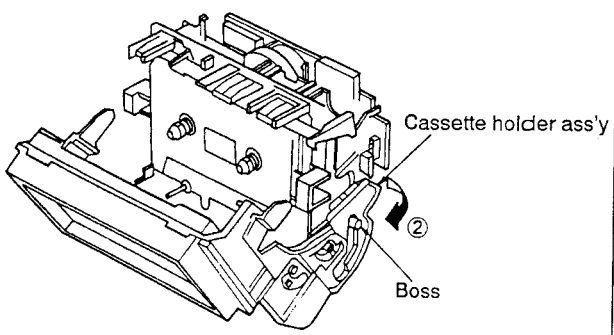
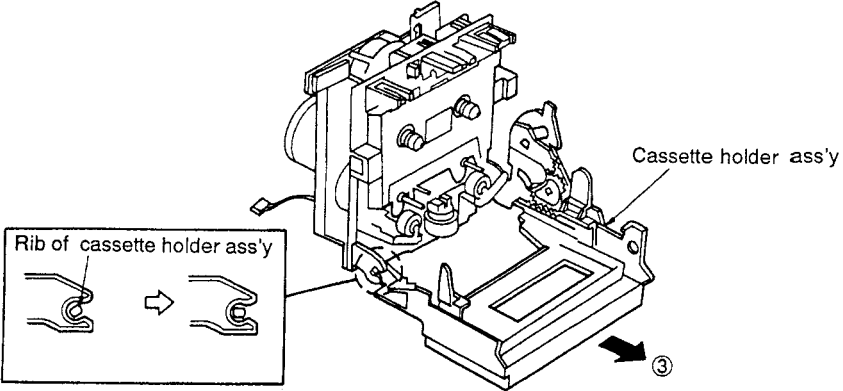
"ATTENTION SERVICER"

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

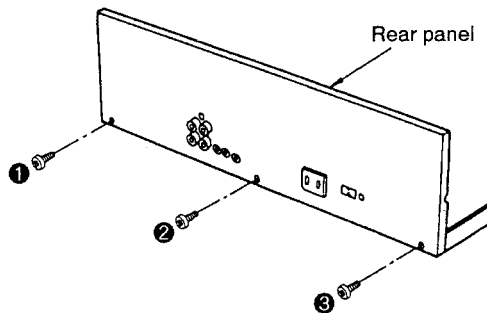
Ref.No. 1	Removal of the cabinet	Ref.No. 2	Removal of the motor control P.C.B.
Procedure 1		Procedure 1 → 2	
	 • Remove the 6 screws(❶ ~ ❺).		
Ref.No. 3	Removal of the front panel ass'y		
Procedure 1 → 3			
	 1. Remove the 5 screws(❶ ~ ❺).		 1. Remove the 4 screws(❶ ~ ❹). 2. Release the 1 claw and then remove the FL P.C.B. in the direction of arrow.
	 2. Remove the 2 connectors(CP1, CP2). 3. Remove the front panel ass'y in the direction of arrow.		

Ref.No. 5	Removal of the cassette lid (DECK1, DECK2)	Friction gear(DECK 1) Friction gear(DECK 2) Cassette lid(DECK 1) Cassette lid(DECK 2) 1. Turn the friction gear in the direction of arrow ①, and open the cassette lid. 2. Lift the cassette lid in the direction of arrow ② and remove it in the direction of arrow ③.	
Ref.No. 6	Removal of the loading cassette mechanism units (DECK1, DECK2)	Ref.No. 7	Removal of the mechanism angle
Procedure 1 → 2 → 3 → 5 → 6	④ Loading cassette mechanism unit (DECK 2) ⑧ Loading cassette Mechanism unit (DECK 1) • Remove the 8 screws(① ~ ⑧).	Mechanism angle • Remove the 5 screws(① ~ ⑤).	
Ref.No. 8	Removal of the operation P.C.B.	Balance knob Rec level knob Bias adjust knob Operation P.C.B. Claws Claws 1. Remove the balance knob, rec level knob and bias adjust knob. 2. Remove the 4 screws(① ~ ④). 3. Release the 5 claws. 4. Remove the operation P.C.B. in the direction of arrow.	

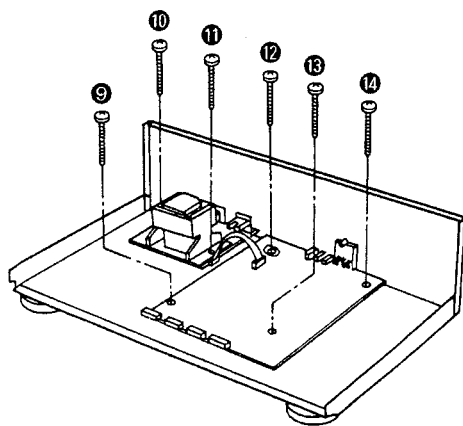
Ref.No. 9	Removal of the headphones jack P.C.B.	Ref.No. 10	Removal of the switch P.C.B. (DECK1, DECK2)
Procedure 1 → 2 → 3 → 4 → 5 → 6 → 7 → 8 → 9	 • Remove the headphones jack P.C.B. in the direction of arrow.	Procedure 1 → 2 → 3 → 4 → 5 → 6 → 7 → 8 → 10	 1. Remove the 4 screws (① ~ ④). 2. Release the 8 claws.
Ref.No. 11	Removal of the main P.C.B.	 1. Remove the 1 screw (①). 2. Remove the 1 connector (CN2P). 3. Remove the 4 screws (② ~ ⑤).	
Procedure 1 → 3 → 11		 1. Remove the 1 screw (①).	
Ref.No. 12	Removal of the power transformer	Ref.No. 13	Removal of the rear panel
Procedure 1 → 12		Procedure 1 → 13	
 1. Remove the 2 screws (①, ②). 2. Release the 4 claws.		 1. Remove the 5 screws (① ~ ⑤). 2. Release the 2 claws of the AC outlet cover. (For PP area.) 3. Remove the rear panel in the direction of arrow.	

Ref.No. 14	Removal of the power supply P.C.B.	Ref.No. 15	Removal of the motor P.C.B. (DECK1, DECK2)
Procedure 1 → 12 → 13 → 14	 Power supply P.C.B. CN2P Claws 1. Remove the 1 connector(CN2P). 2. Release the 3 claws.	Procedure 1 → 2 → 3 → 5 → 6 → 15	 Reel motor terminals Claw Capstan motor terminals Motor P.C.B. 1. Remove the 2 screws(①, ②). 2. Unsolder the 2 terminals of reel motor. 3. Unsolder the 4 terminals of capstan motor. 4. Release the 1 claw.
Ref.No. 16	Removal of the cassette holder ass'y (DECK1, DECK2)		
Procedure 1 → 2 → 3 → 5 → 6 → 16	 Cassette holder ass'y Gear 1. Turn the gear in the direction of arrow ①, and open the cassette holder ass'y.	 Cassette holder ass'y Boss 2. Remove the cassette holder ass'y in the direction of arrow ②.	
		 Rib of cassette holder ass'y Cassette holder ass'y Fig. 1 3. Open the cassette holder ass'y so that the rib of the cassette holder ass'y is located to the position as shown in Fig 1., and then pull out it in the direction of arrow ③.	

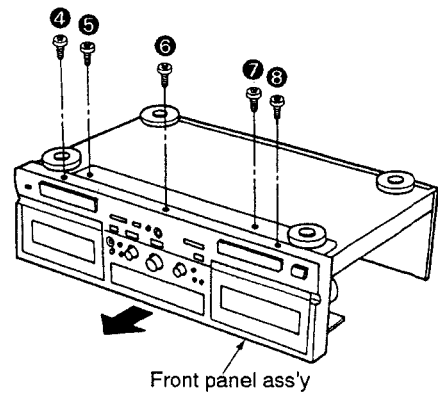
Ref.No. 17	How to check the main P.C.B.
Procedure 1 → 17	When checking the soldered surfaces of main P.C.B. and replacing the parts, do as show.



1. Remove the 3 screws (1 ~ 3).

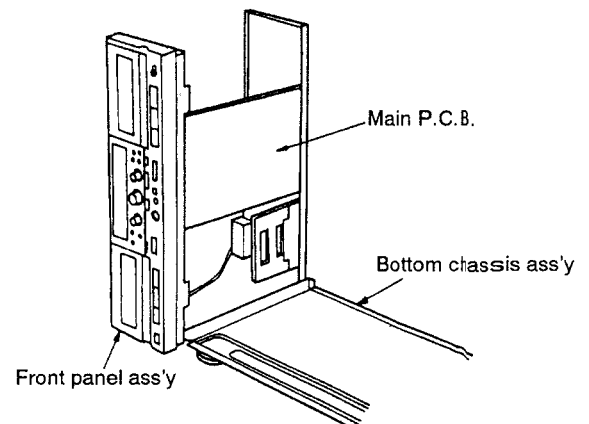


4. Remove the 6 screws (9 ~ 14).



2. Remove the 5 screws (4 ~ 8).

3. Remove the front panel ass'y in the direction of arrow.

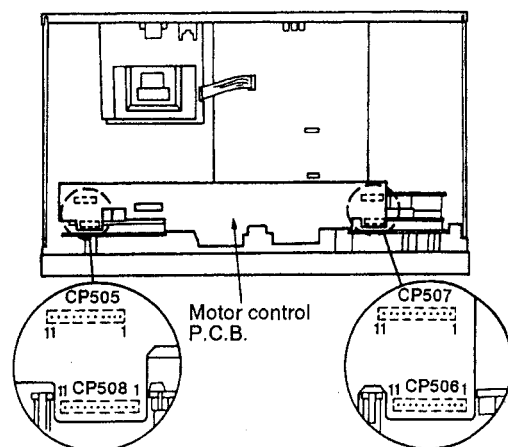


5. Remove the bottom chassis ass'y.

6. Reinstall the front panel to the main P.C.B.

■ HOW TO CHECK THE MOTOR CONTROL P.C.B.

- For troubleshooting described on page 17~20, check the unit by using connectors as shown below.



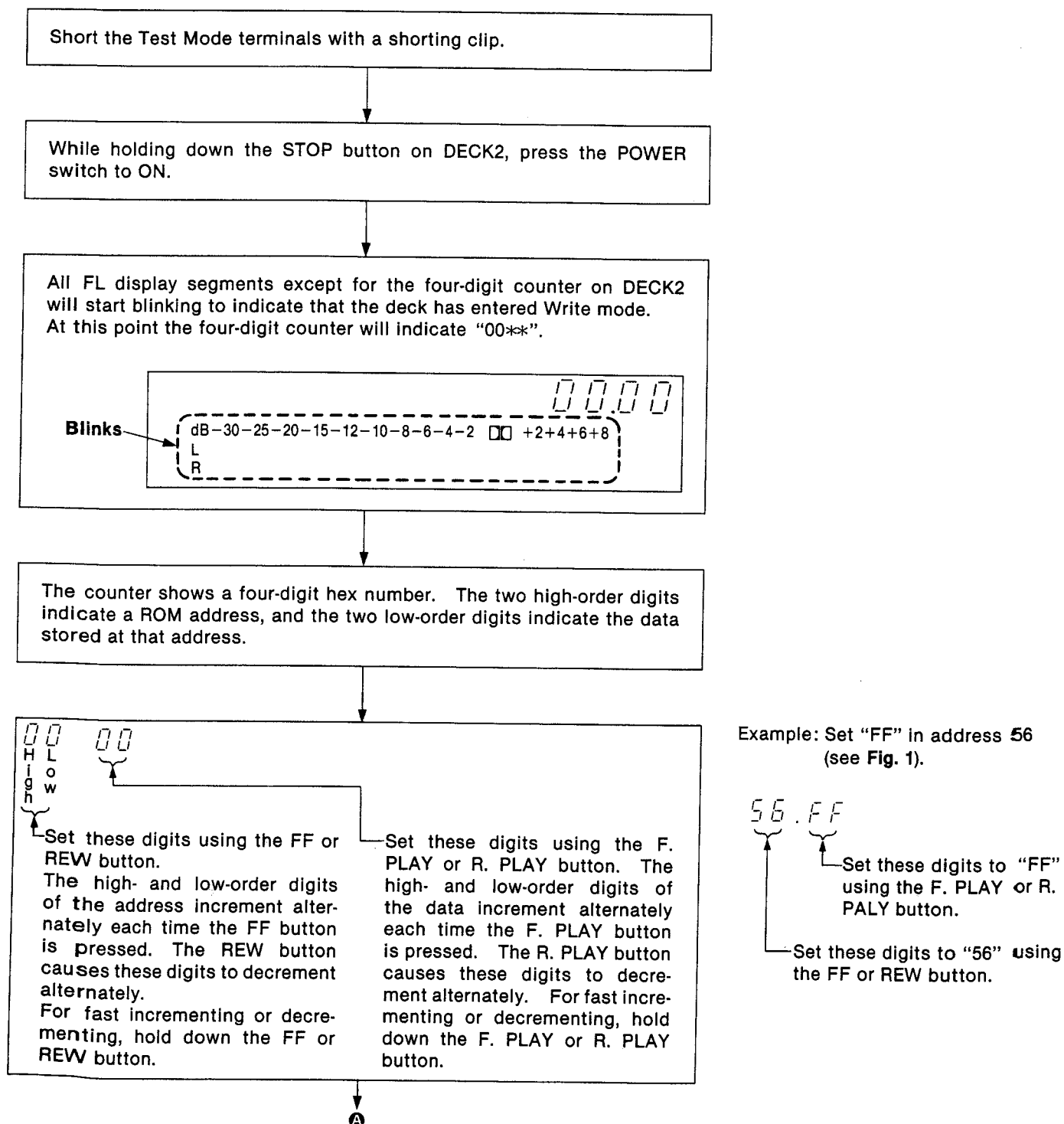
■ ADJUSTMENT PROCEDURE

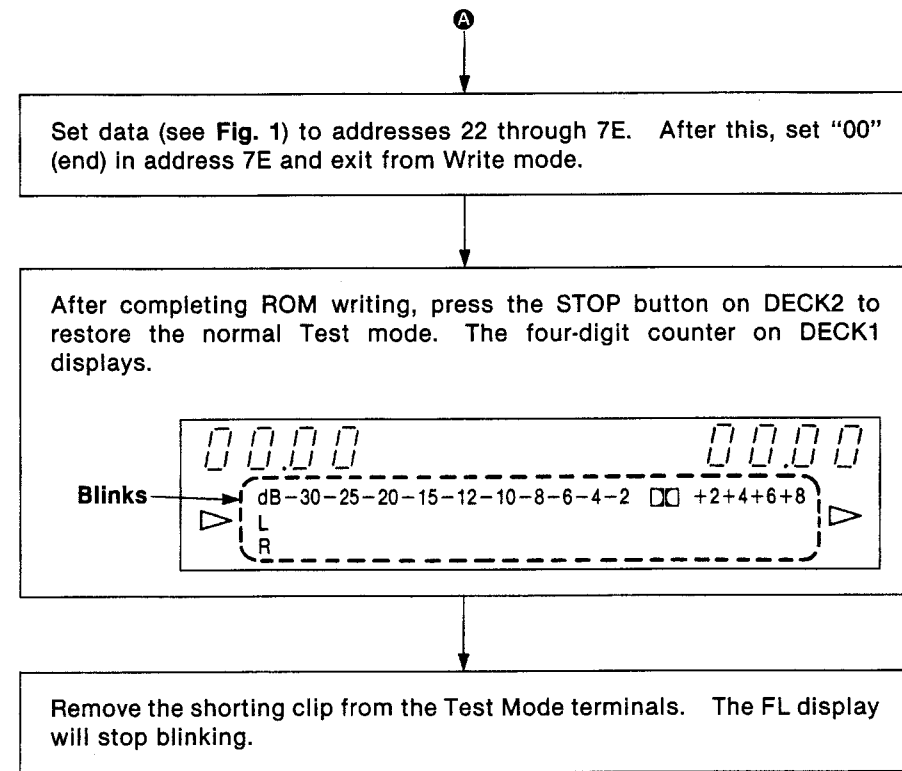
This unit holds recording bias and equalization data in its EEPROM chip. An internal CPU automatically adjusts playback gain, recording bias, overall gain, and overall frequency response according to the ROM data. Manual adjustment with potentiometers is no longer necessary except for head azimuth and tape speed. All other items require only measurement data checks.

The adjustment and checkout procedures are as follows.

• Writing to EEPROM

The EEPROM chip holds the optimal recording bias and equalization data. If the chip has been replaced, be sure to write to it, following the steps below:





High Low	0	1	2	3	4	5	6	7
0	—	—	—	—	B0	68	30	88
1	—	—	—	—	00	78	68	68
2	—	—	D0	68	—	38	B0	FF
3	—	—	80	78	—	64	6C	B0
4	—	—	E0	38	—	A8	FF	C4
5	—	—	7C	64	—	50	A0	1C
6	—	—	FB	A8	80	FF	BA	68
7	—	—	F5	00	58	74	2C	78
8	—	—	0F	—	18	B8	—	50
9	—	—	2B	—	80	30	—	72
A	—	—	12	—	88	—	—	4A
B	—	—	07	—	96	—	—	55
C	—	—	—	84	—	—	80	—
D	—	—	—	60	—	—	58	—
E	—	—	—	30	—	84	18	00
F	—	—	—	68	—	60	80	—

Fig. 1

MEASUREMENTS AND ADJUSTMENTS

Measurement Condition

- Rec. level control; Maximum
- Timer switch; Off
- Recording-balance control; Center
- Bias-adjustment control; Center
- Reverse-mode selector switch; $\rightleftharpoons$
- Tape-to-tape recording-speed switch; Off
- Dolby NR switch; Off
- ATC switch; Off

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

Measuring instrument

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

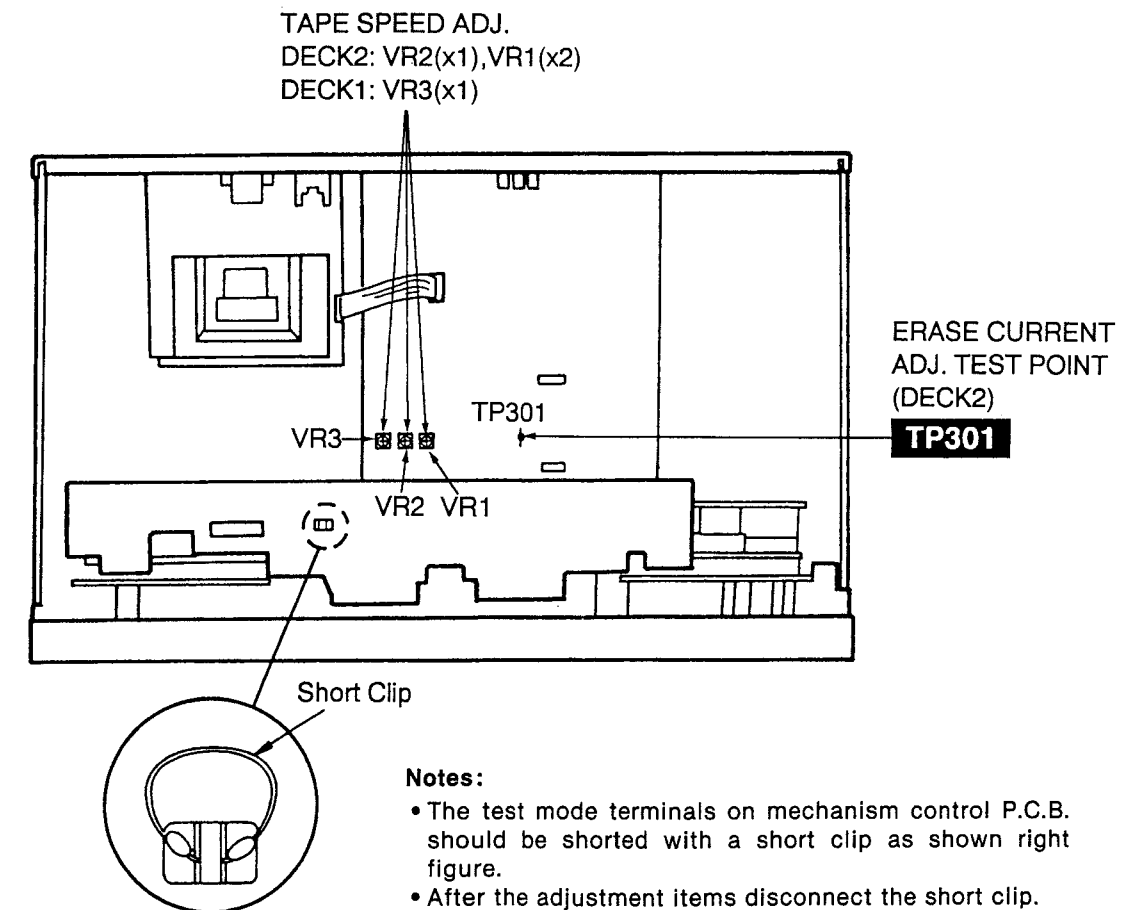
- ATT (Attenuator)
- DC voltmeter
- Resistor (600Ω)

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 gain adjustment and Overall frequency response Normal reference blank tape; QZZCRA
CrO₂ reference blank tape; QZZCRX
Metal reference blank tape; QZZCRZ

Adjustment Points



HEAD AZIMUTH ADJUSTMENT (DECK 1/2)

1. Playback the azimuth adjustment portion (8kHz, -20dB) 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. Repeat the same check in reverse play mode.
4. After the adjustment, apply screwlock to the azimuth adjusting screw.

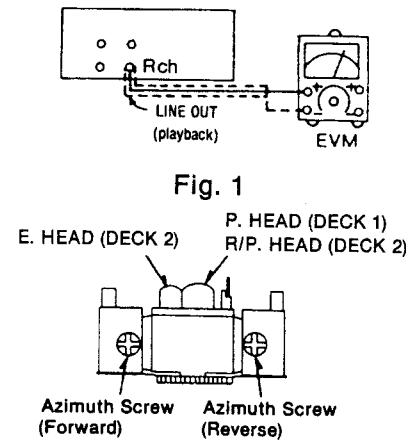


Fig. 1

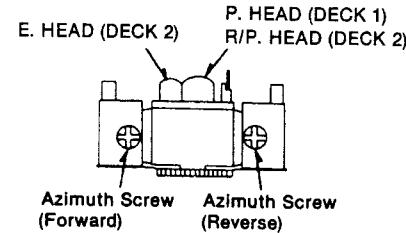


Fig. 2

TAPE SPEED ADJUSTMENT (DECK 1/2)

Normal speed

1. Playback the middle portion of the test tape (QZZCWAT).
2. Adjust Deck 1=VR3 and Deck 2=VR2 so that the output is within the standard value.

Standard value: 3000 ± 15 Hz (NORMAL speed)

High speed [Set the unit to forward (FWD) mode.]

3. Press the tape-to-tape recording-speed selector switch (X2) button. This will set the high speed mode.
4. Playback the middle portion on the test tape (QZZCWAT).
5. At that time, check if the output from DECK 1 is within the standard value.

Standard value: 6000 ± 600 Hz (HIGH speed)

6. Adjust VR1 so that the output frequency of DECK 2 is within ± 30 Hz for the value of the output frequency of DECK 1.

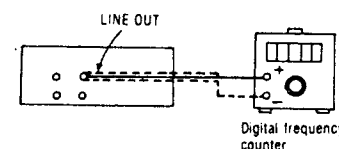


Fig. 3

PLAYBACK GAIN ADJUSTMENT (DECK 1/2)

1. Set the AF oscillator's output frequency to 315Hz.
2. With no tape loaded in the deck, press and hold the REC button on DECK2. Adjust the test signal level using the Rec. Level and Balance controls until the line output levels on both channels are 320mV. When the adjustment is complete, release the REC button. (The deck stores the data at the moment the REC button is released.)
3. Load the test tape (QZZCFM) into the deck and locate the part where the playback gain test tone (315Hz, 0dB) is recorded. Press the ATC button, then the FWD PLAY button. (At this point the deck automatically adjusts the playback gains on both forward and reverse sides.) After this, play back the tape and verify that the output level falls in the specified range.
4. Perform the adjustment described in step 3 above for both DECK1 and DECK2.

Standard value: $320\text{mV} \pm 0.5\text{dB}$

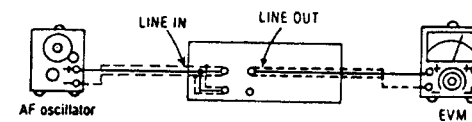


Fig. 4

PLAYBACK FREQUENCY RESPONSE (DECK 1/2)

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

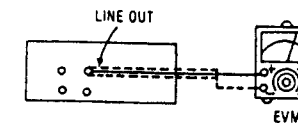


Fig. 5

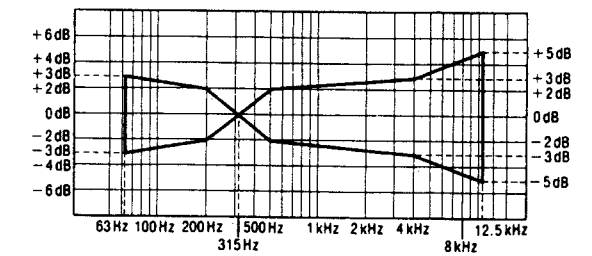


Fig. 6

ERASE CURRENT ADJUSTMENT (DECK 2)

1. Insert the Metal blank test tape (QZZCRZ) and set the unit to the Record Pause mode.
2. Check if the output at this time between the erase current confirmation point output TP301 and GND (chassis) (the output on both edges of R308) is within the standard value.

Standard value: 180 ± 20 mA (Metal)...EVM Reading: 180 ± 20 mV

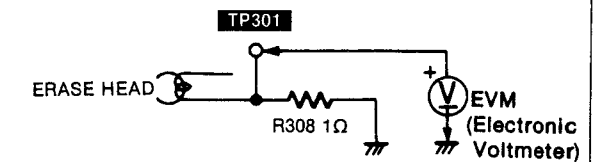


Fig. 7

OVERALL GAIN ADJUSTMENT AND OVERALL FREQUENCY RESPONSE (DECK 2)

1. Load a Normal blank test tape (QZZCRA) into the deck under test. Press the ATC button, then the REC button. (At this point the deck automatically adjusts the overall gain and frequency response.)
2. With the deck placed in Record. Pause mode, apply the reference test signal (1kHz) to the Rec. input and adjust the output level to 320mV with the attenuator (ATT). After this, start recording.
3. While playing back the reference signal just recorded, verify that the output level falls in the following range.

Standard value: $320\text{mV} \pm 0.5\text{dB}$

Normal Overall frequency response chart (NR OUT)

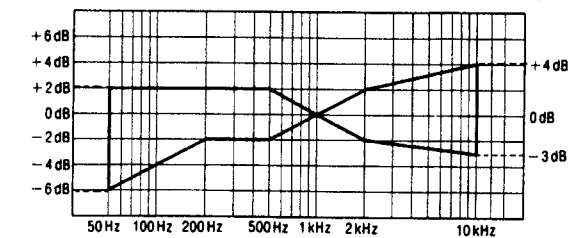


Fig. 8

CrO₂ Metal Overall frequency response chart (NR OUT)

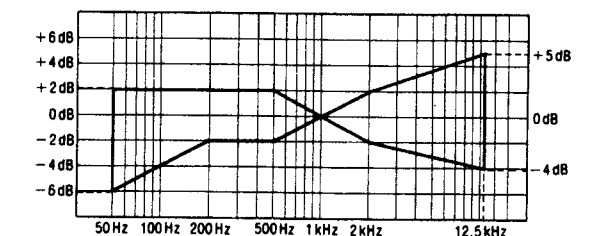


Fig. 9

4. Apply test signals (with the specified test frequencies covering the range from 50Hz to 10kHz) whose levels are 20dB lower than the reference signal level (1kHz) to the Rec. input and record these signals in sequence.
5. Play back the test signals just recorded and verify that the levels at the test frequencies fall in the ranges specified in Fig. 8 with respect to the reference signal level.
6. Repeat steps 4 and 5 above for CrO₂ blank test tape (QZZCRX) and Metal blank test tape (QZZCRZ), in these cases raising the upper end of the test signal frequency range to 12.5kHz. Verify that the signal levels at the test frequencies fall in the ranges specified in Fig. 9 with respect to the reference signal level.
7. Steps 1 through 4 above are concerned with overall gain; steps 5 through 7 pertain to overall frequency response.

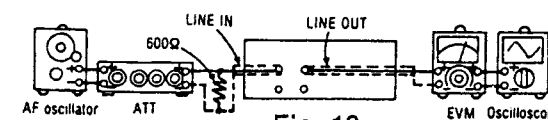
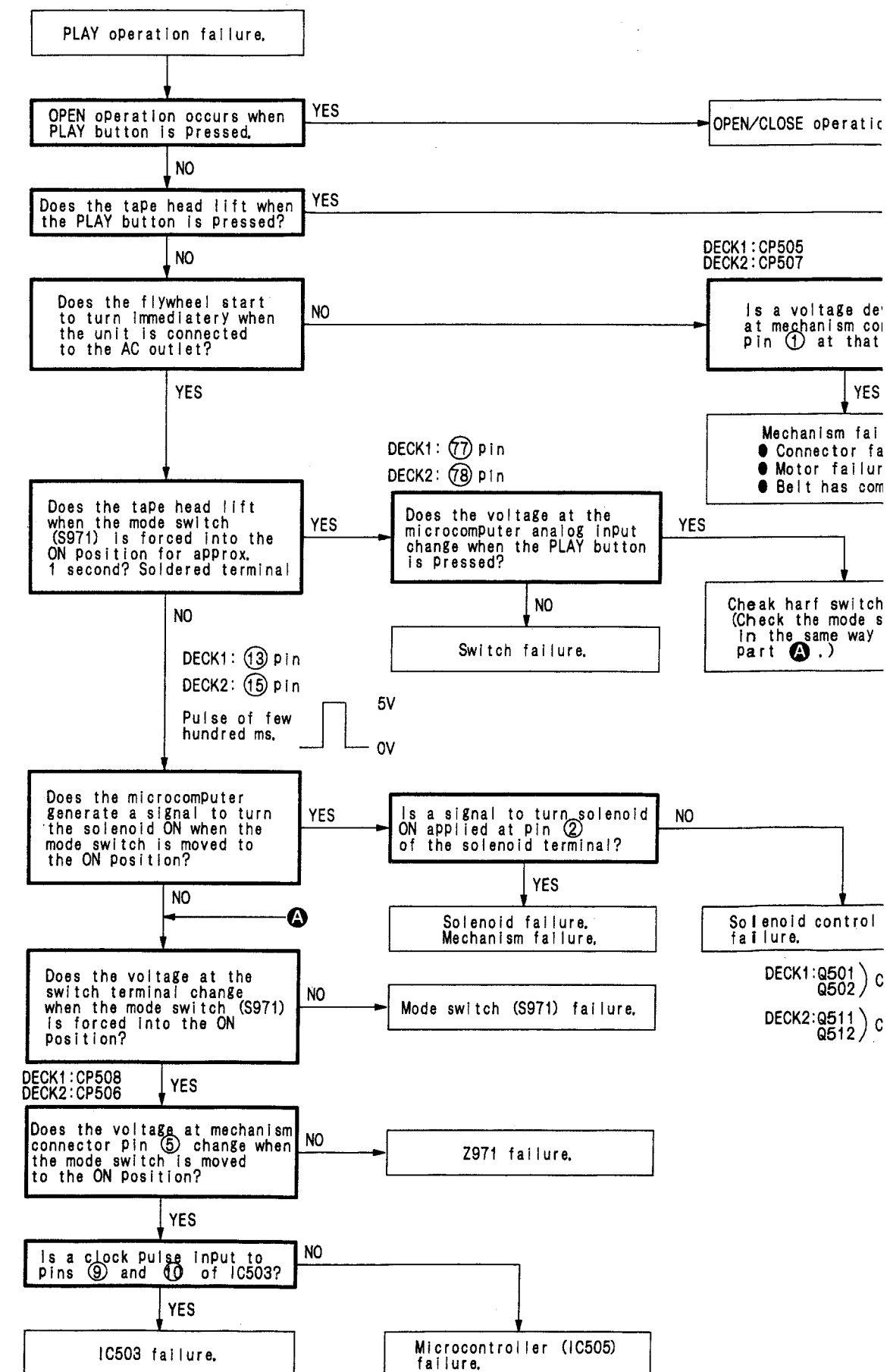
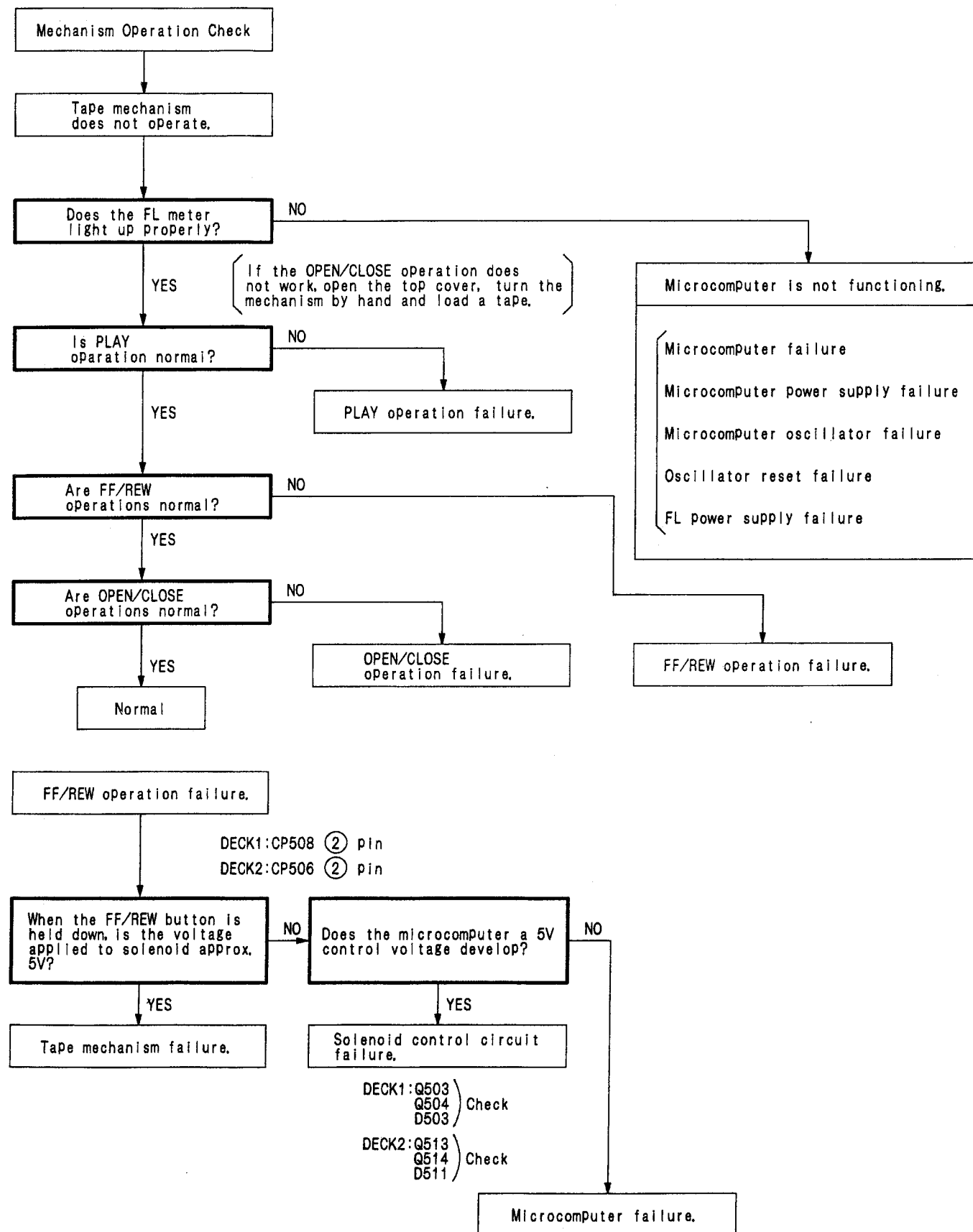
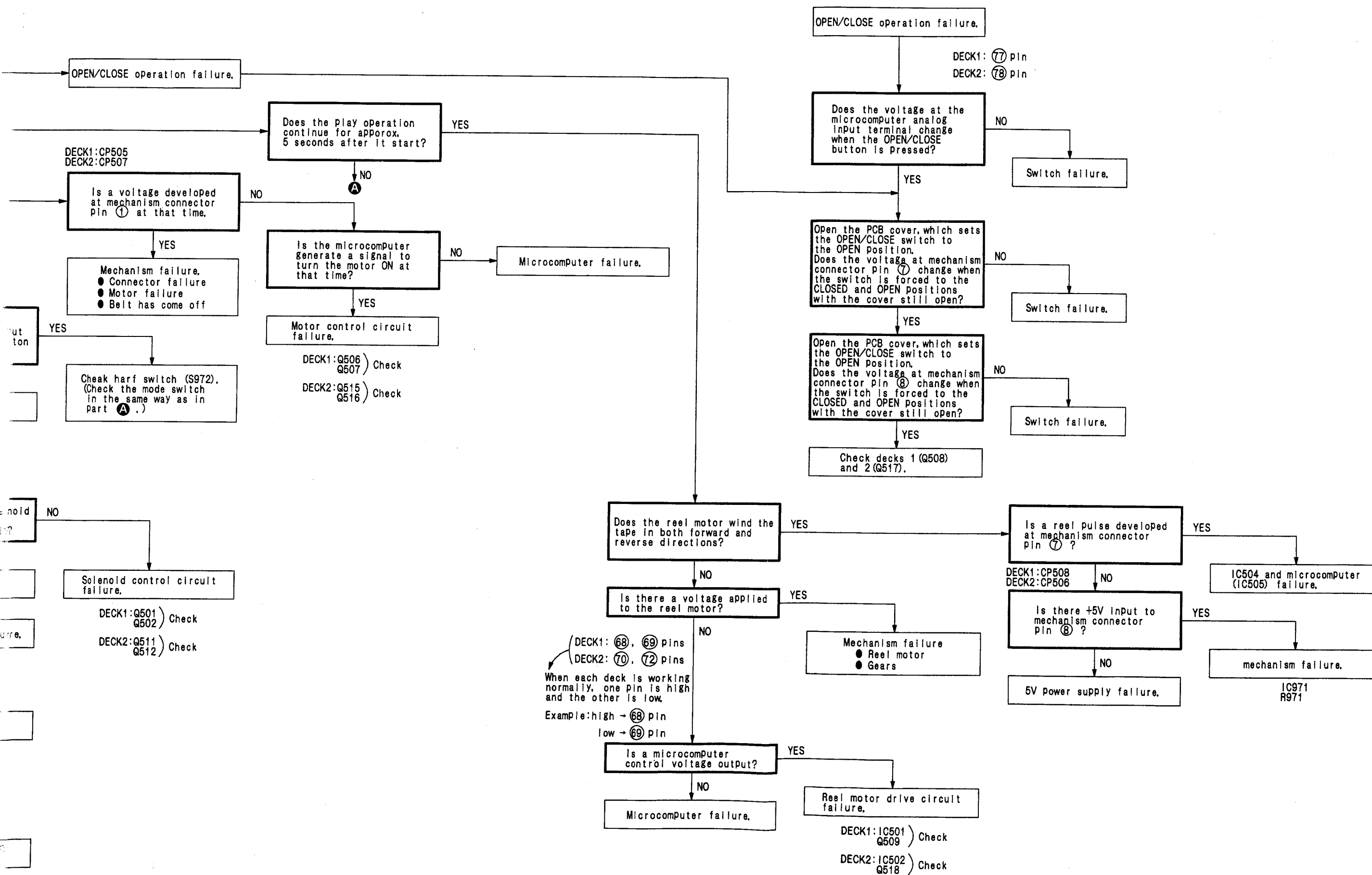


Fig. 10

■ TROUBLESHOOTING GUIDE

*To perform troubleshooting, set the unit to the state described in the "Motor Control PCB Checking Method" on page 11.

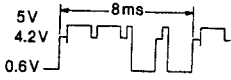
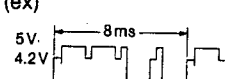
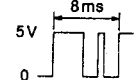
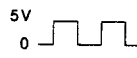
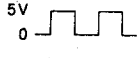
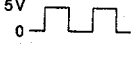
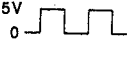


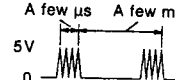
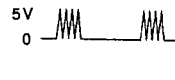


■ TERMINAL FUNCTION OF IC

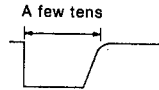
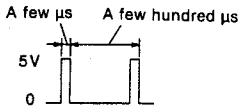
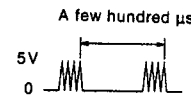
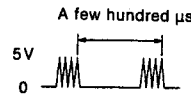
• IC505 (M38172M4065F): MICROCOMPUTER

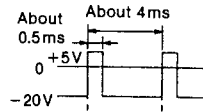
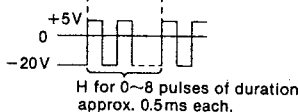
* To check the contents of the item "※" in the IC terminal table, set the unit to the state described in the "Motor Control PCB Checking Method" on page 11.

Pin No.	Mark	I/O Division	Function	Check point	※ Discription
1	RCH	I	Rch indication level input	Connector CP3 ② pin	0V with no signal and 1V with 0VU (-20dB) input in the REC or PAUSE mode. The voltage varies from 0 to 5V for different input levels.
2	BIAS	I	Bias adj. V.R input	Connector CP701 ③ pin	Bias ADJ. Vol. min..... 0V center..... 2.5V max..... 5V
3	MECHA1	I	Deck 1 leader tape det., mechanism switch	Connector CP502 ③ pin	(ex)  The waveform should vary with the type of tape and the tape speed of deck 1.
4	MECHA2	I	Deck 2 leader tape det., mechanism switch	Connector CP502 ④ pin	(ex)  The waveform should vary with the type of tape and the tape speed of deck 2.
5	SELA	O	Mecha. input selector signal output 1 (B) ON: "L", OFF: "H"	Connector CP502 ⑥ pin	
6	SELB	O	Mecha. input selector signal output 2 (A) ON: "L", OFF: "H"	Connector CP502 ⑤ pin	
7	RPT1	I	Deck 1 reel pulse det. input (take up side)	Connector CP502 ⑦ pin	 Changes within the 0 ↔ 5V range each time the take up reel on deck 1 is through approximately 30 degrees.
8	RPS1	I	Deck 1 reel pulse det. input (supply side)	Connector CP502 ⑧ pin	 Supply reel on deck 1
9	RPT2	I	Deck 2 reel pulse det. input (take up side)	Connector CP502 ⑨ pin	 Take up reel on deck 2
10	RPS2	I	Deck 2 reel pulse det. input (supply side)	Connector CP504 ① pin	 Supply reel on deck 2
11	HSPD1	I	Deck 1 high speed take up selector output	Connector CP504 ② pin	"H" (=5V) when deck 1 is in the high-speed FF/REW or TPS mode and "L" (=0V) in other modes.
12	HSPD2	I	Deck 2 high speed take up selector output	Connector CP504 ③ pin	"H" (=5V) when deck 2 is in the high-speed FF/REW or TPS mode and "L" (=0V) in other modes.

Pin No.	Mark	I/O Division	Function	Check point	※ Discription
13	SOL1	O	Deck 1 plunger trigger control output ON: "H", OFF: "L"	Connector CP504 ④ pin	"H" (=5V) for a period of a few tens to a few hundreds of milliseconds when deck 1 changes from stop mode to play mode and vice versa. When deck 1 changes from stop mode to FF/REW mode, this terminal generates "H" pulses twice for a period of a few tens to a few hundreds of milliseconds.
14	CSOL1	O	Deck 1 plunger keep control output ON: "H", OFF: "L"	Connector CP504 ⑤ pin	"H" (=5V) when deck 1 is in FF/REW mode.
15	SOL2	O	Deck 2 plunger trigger control output ON: "H", OFF: "L"	Connector CP504 ⑥ pin	Same as 13 above for deck 2.
16	CSOL2	O	Deck 2 plunger keep control output ON: "H", OFF: "L"	Connector CP504 ⑦ pin	Same as 14 above for deck 2.
17	OSC	O	Audio signal for adjustment output ON: "H", OFF: "L"	Connector CP3 ⑥ pin	Generates signals at approx. 400Hz, 10kHz and 3kHz (square wave (H and L, 0 and 5V) in REC mode during adjustment of ATC).
18	MODEL	I	Model selector input ON: "L", OFF: "H"	Connector CP5 ④ pin	5V
19	LFADJ	O	Low frequency rec. adj. output ON: "H", OFF: "L"	Connector CP3 ⑦ pin	Normally "L" (=0V) H and L are switched every 0.4s in the REC mode during adjustment of ATC. Becomes "H" (=5V) in level mode.
20	PBADJ	O	Playback adj. output ON: "H", OFF: "L"	Connector CP3 ⑧ pin	Used for adjustment at factory but in the finished product. Remains at "L" (=0V).
21	MSP	I	TPS signal det. input ON: "L", OFF: "H"	Connector CP3 ⑨ pin	TPS mode No program: "H" (=5V) Programs: "L" (=0V)
22	SYNC	I	CD syncro start signal input ON: "L", OFF: "H"	Connector CP6 ⑨ pin	"L" (=0V) via cable from CD at the start of CD sync; "H" in other modes.
23	REMOCON	I	Remocon signal input ON: "H", OFF: "L"	TRANSISTOR Q526 collector	H and L pulse waveform appears on the input of a remote control signal.
24	CLK	O	Serial clock for serial data output ON: "H", OFF: "L"	Connector CP3 ⑩ pin	 Constant pulse output
25	DATA	O	Serial data for amp control output ON: "H", OFF: "L"	Connector CP4 ① pin	 Data output in response to CLK above
26	POF	I	Power off det. input ON: "H", OFF: "L"	Connector CP4 ② pin	 Rectified waveform at both 50 and 60Hz (clamping at 5V)

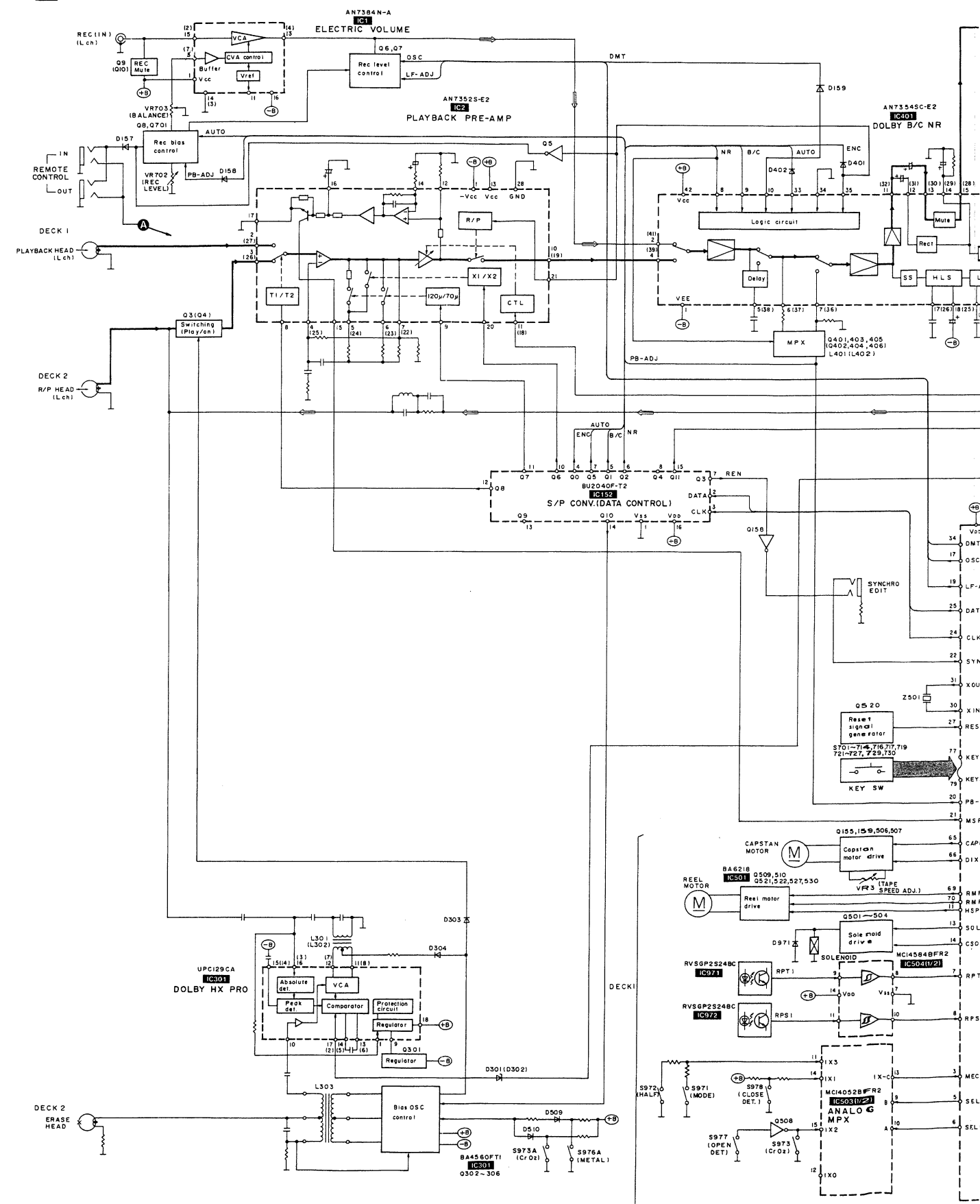
Pin No.	Ma
27	RES
28	XCI
29	XCO
30	XIN
31	XOU
32	V _{ss}
33	POWER
34	DMT
35	STBC
36	SDAC
37	SCKC
38	STBE

Pin No.	Mark	I/O Division	Function	Check point	※ Discription
27	RESET	I	Reset input ON: "L", OFF: "H"	TRANSISTOR Q520 collector	 Usually H (=5V) but L for a period of a few to a few tens of milliseconds is first plugged in when the player
28	XCIN	I	Not used	—	
29	XCOUT	O	Not used	—	
30	XIN	I	Microcomputer clock OSC terminal	Z501 DECK 2 MECHA. side terminal	 Oscillator waveform at 6MHz
31	XOUT	O	Microcomputer clock OSC terminal	Z501 DECK 1 MECHA. side terminal	 Oscillator waveform at 6MHz
32	V _{ss}	—	Microcomputer GND	Connector CP5 ② pin	0V
33	POWER	O	Power control output ON: "H", OFF: "L"	Connector CP4 ③ pin	Power ON: "H" (=5V) Power OFF: "L" (=0V)
34	DMT	O	Line out mute signal output ON: "L", OFF: "H"	Connector CP4 ④ pin	"L" (=0V) when sound is being produced in the play or REC mode and "H" (=5V) when no sound is produced in the stop or FF/REW mode.
35	STBC	O	DA converter strove signal output ON: "H", OFF: "L"	Connector CP4 ⑤ pin	 Usually
36	SDAC	O	DA converter data output ON: "L", OFF: "H"	Connector CP4 ⑥ pin	 Usually
37	SCKC	O	DA converter serial clock output ON: "L", OFF: "H"	Connector CP4 ⑦ pin	 Usually
38	STBE	O	E2PROM strove signal output ON: "H", OFF: "L"	Connector CP707 ③ pin	 (ex...FOR ↔ REV PLAY mode is changed)

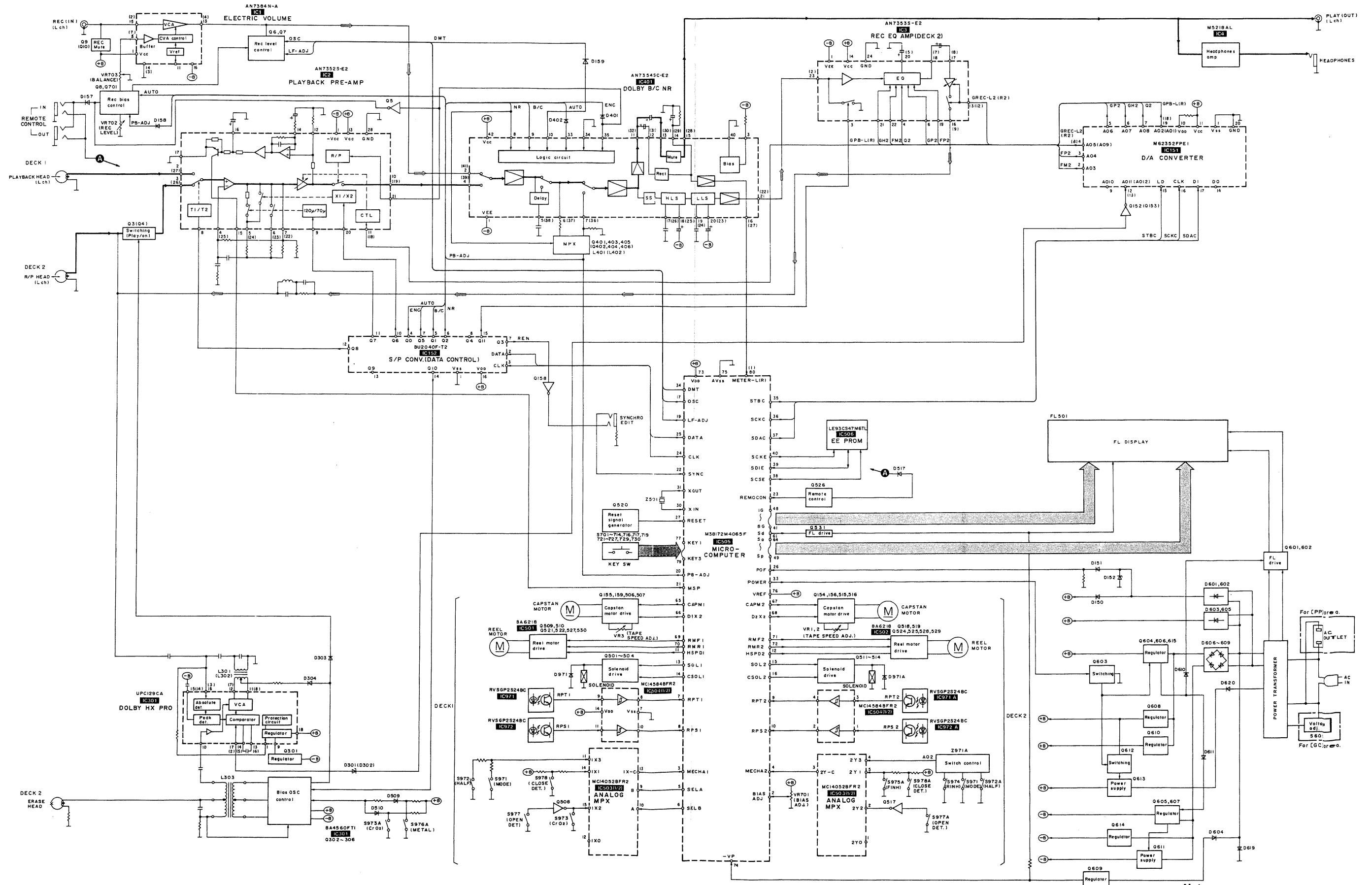
Pin No.	Mark	I/O Division	Function	Check point	※ Discription												
39	SE2P	I/O	E2PROM serial data input/output	Connector CP707 ② pin	5V 0  (ex...FOR ↔ REV PLAY mode is changed) Waveform appears in response to 38 above.												
40	SCKE	O	E2PROM serial clock output ON: "L", OFF: "H"	Connector CP707 ① pin	5V 0  Waveform appears in response to 38 above.												
41 48	8G 1G	O	FL meter glid output ON: "H", OFF: "L"	FL501 ⑤ ~ ⑫ pin													
49 64	Sp Sa	O	FL meter segment output ON: "H", OFF: "L"	F5501 ⑬ ~ ⑲ pin													
65	CAPM1	O	Deck 1 capstan motor ON/OFF control output ON: "H", OFF: "L"	Connector CP503 ⑥ pin	DECK 1 STOP mode: "L" (=0V) PLAY mode: "H" (=5V)												
66	SPD1	O	Deck 1 motor speed selector output ON: "H", OFF: "L"	Connector CP5 ⑩ pin	X2 Edit mode (DECK 1 motor): "L" Other: "H"												
67	CAPM2	O	Deck 2 capstan motor ON/OFF control output ON: "H", OFF: "L"	Connector CP503 ⑦ pin	DECK 2 STOP mode: "L" (=0V) PLAY mode: "H" (=5V)												
68	SPD2	O	Deck 2 motor speed selector output ON: "H", OFF: "L"	Connector CP6 ① pin	X2 Edit mode (DECK 2 motor): "L" Other: "H"												
69	RMF1	O	Deck 1 reel motor control output (+) ON: "H", OFF: "L"	Connector CP503 ⑧ pin	DECK 1 <table><tr><td></td><td>STOP</td><td>F. PLAY</td><td>R. PLAY</td></tr><tr><td>RMF1</td><td>L</td><td>H</td><td>L</td></tr><tr><td>RMR1</td><td>L</td><td>L</td><td>H</td></tr></table>		STOP	F. PLAY	R. PLAY	RMF1	L	H	L	RMR1	L	L	H
	STOP	F. PLAY	R. PLAY														
RMF1	L	H	L														
RMR1	L	L	H														
70	RMR1	O	Deck 1 reel motor control output (-) ON: "H", OFF: "L"	Connector CP503 ⑨ pin													
71	RMF2	O	Deck 2 reel motor control output (+) ON: "H", OFF: "L"	Connector CP502 ① pin	DECK 2 <table><tr><td></td><td>STOP</td><td>F. PLAY</td><td>R. PLAY</td></tr><tr><td>RMF2</td><td>L</td><td>H</td><td>L</td></tr><tr><td>RMR2</td><td>L</td><td>L</td><td>H</td></tr></table>		STOP	F. PLAY	R. PLAY	RMF2	L	H	L	RMR2	L	L	H
	STOP	F. PLAY	R. PLAY														
RMF2	L	H	L														
RMR2	L	L	H														
72	RMR2	O	Deck 2 reel motor control output (-) ON: "H", OFF: "L"	Connector CP502 ② pin													
73	V _{CC}	I	Power supply terminal (A/D)	Connector CP5 ③ pin	+5V												
74	V _{EE}	I	FL meter pull down voltage input terminal	Connector CP5 ⑤ pin	-20V												

Pin No.	Mark	I/O Division	Function	Check point	※ Discription
75	AV _{SS}	—	GND terminal (A/D)	Connector CP5 ② pin	0V
76	V _{REF}	I	Reference power supply (+5V) (A/D)	Connector CP5 ④ pin	+5V
77	KEY1	I	Key switch input	Connector CP702 ③ pin	+5V without key input on deck 1 and 0V with the stop key ON. An analog value (0~5V) is used for each key ON.
78	KEY2	I	Key switch input	Connector CP702 ④ pin	+5V without key input on deck 2 and 0V with the stop key ON. An analog value (0~5V) is used for each key ON.
79	KEY3	I	Key switch input	Connector CP701 ② pin	An analog value from 0 to 5V appears when an input key for power, sync start, X1/X2, NR, reverse, modification or timer switch is pressed. +5V without any key inputs and 0V with the power key ON.
80	LCH	I	Lch indication level input	Connector CP3 ① pin	0V with no signal and approx. 1V with 0VU (120dB) input. The voltage varies from 0 to 5V for different input levels.

■ BLOCK DIAGRAM



BLOCK DIAGRAM



1 2 3 4 5 6 7 8 9 10

A

B

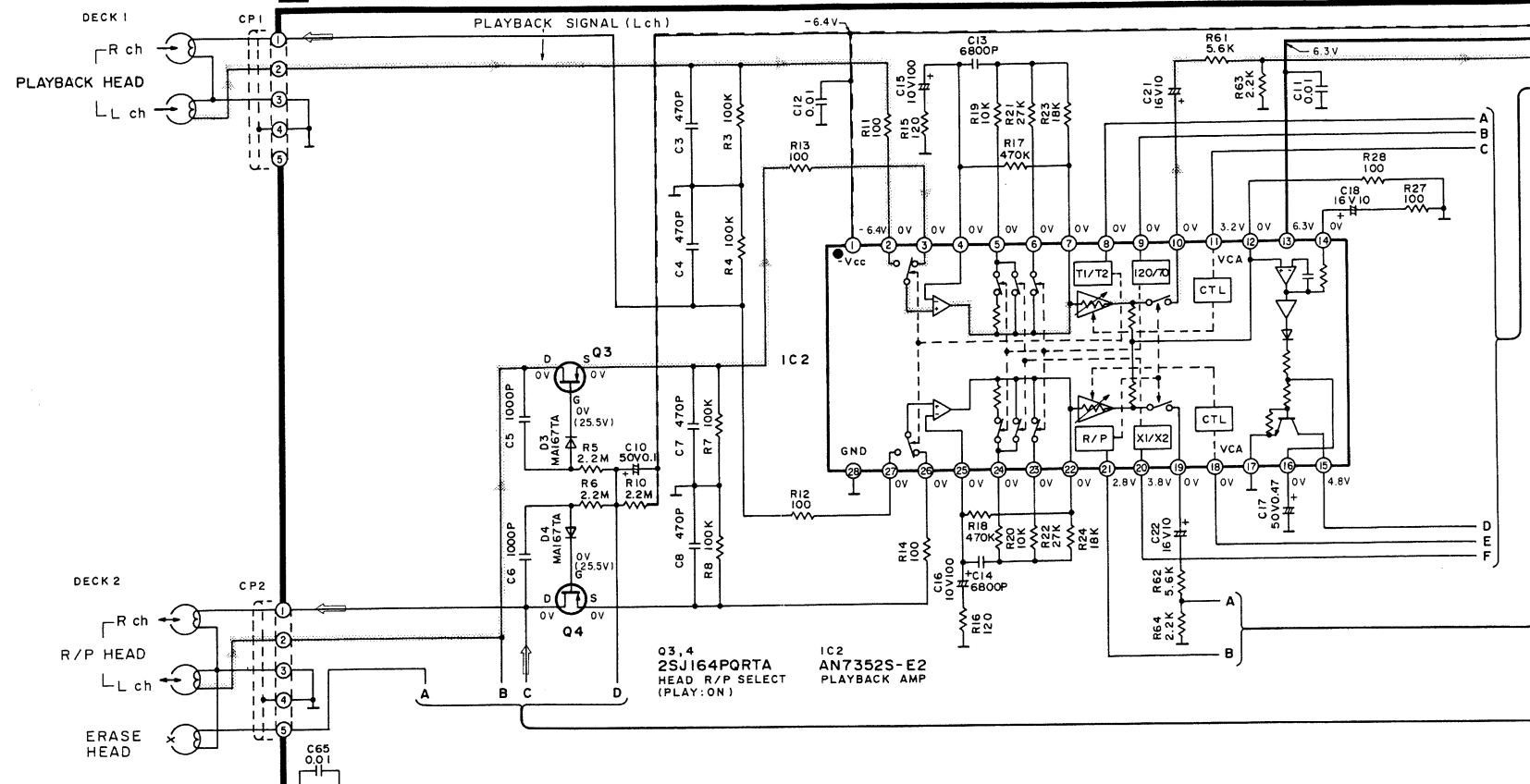
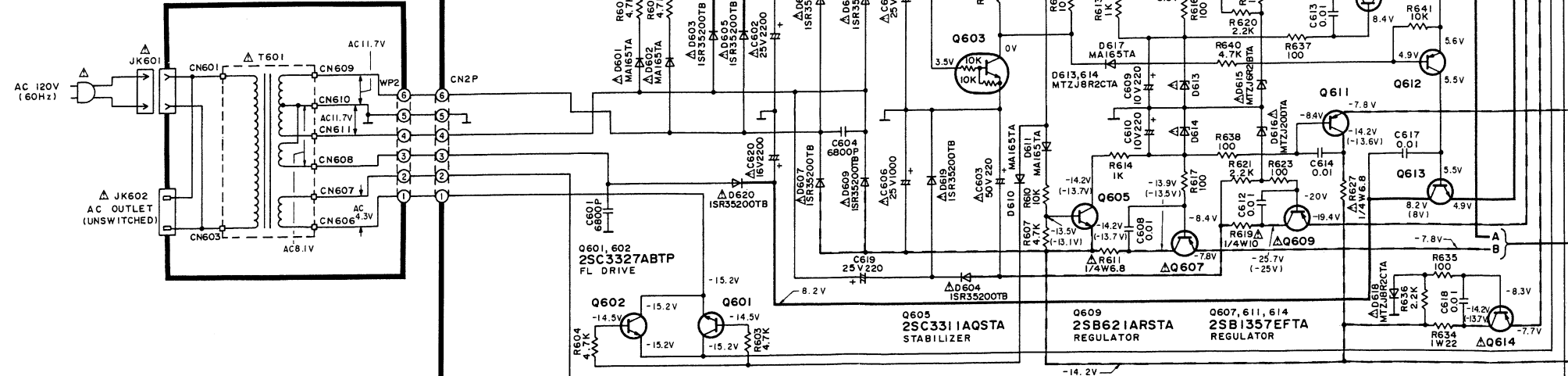
C

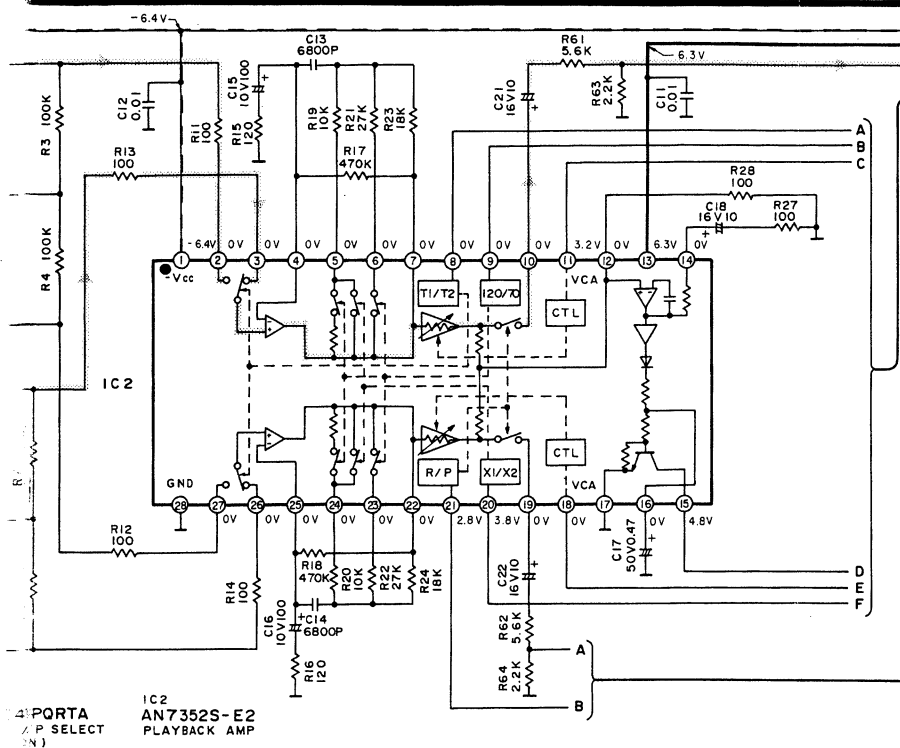
D

E

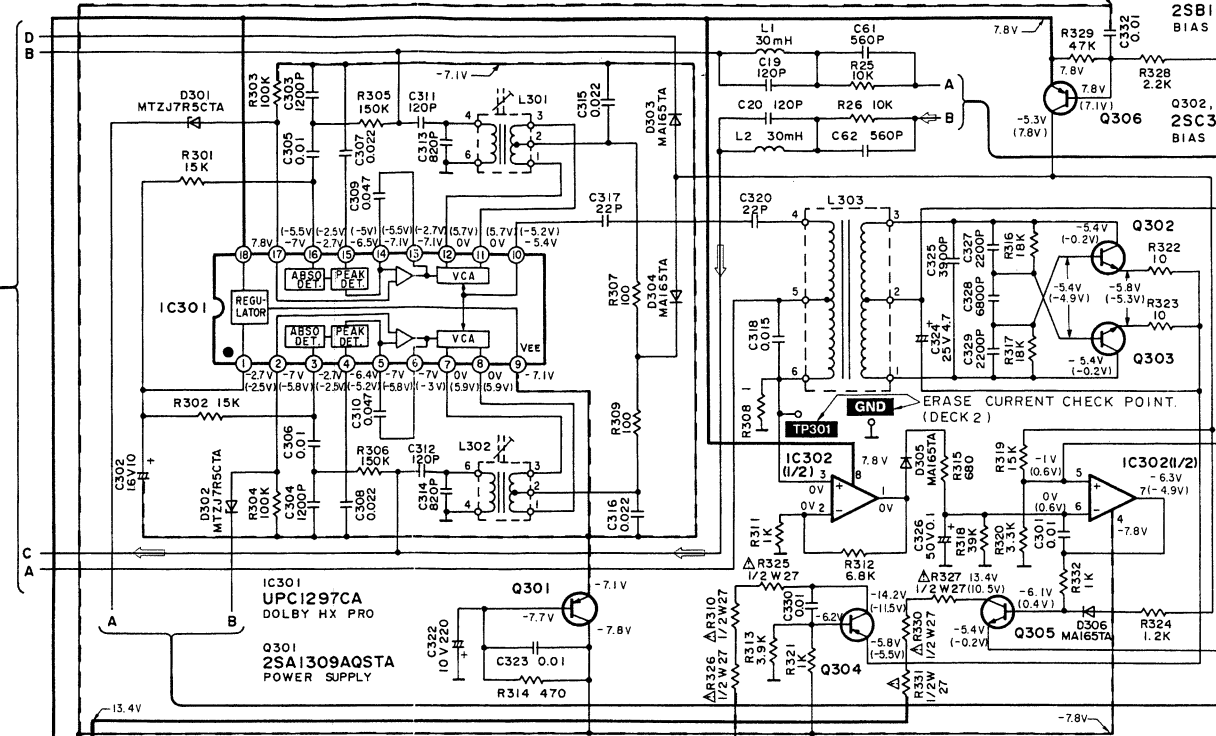
F

G

A MAIN CIRCUIT**B POWER SUPPLY CIRCUIT For (PP) area.**



PORTA
P SELECT
(N)

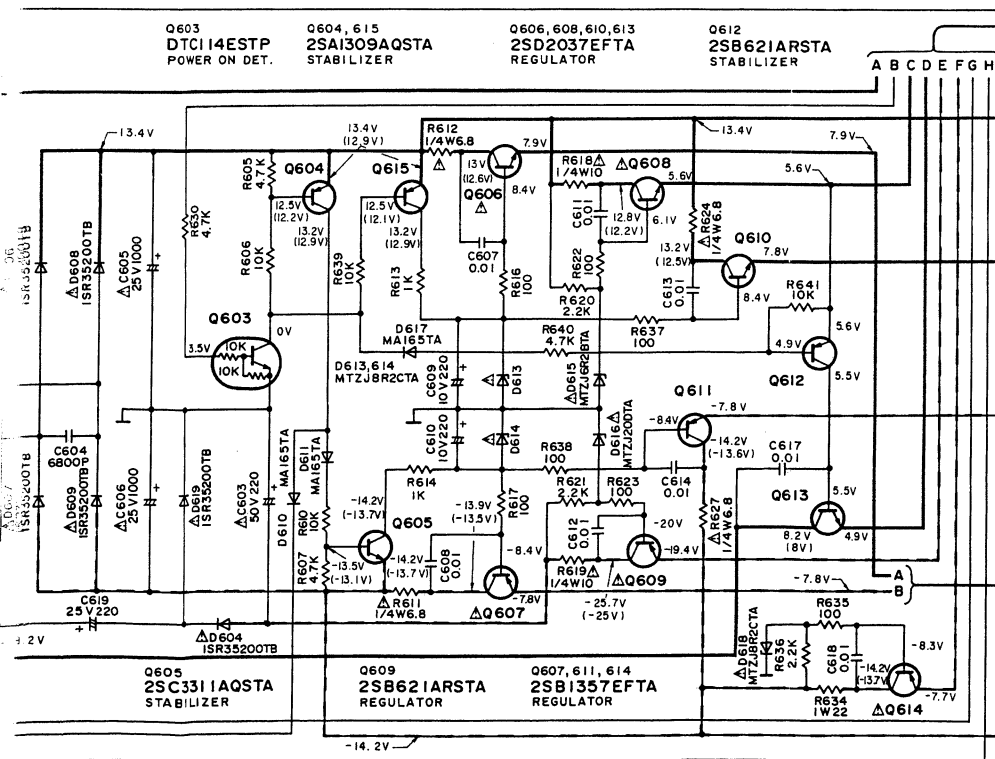


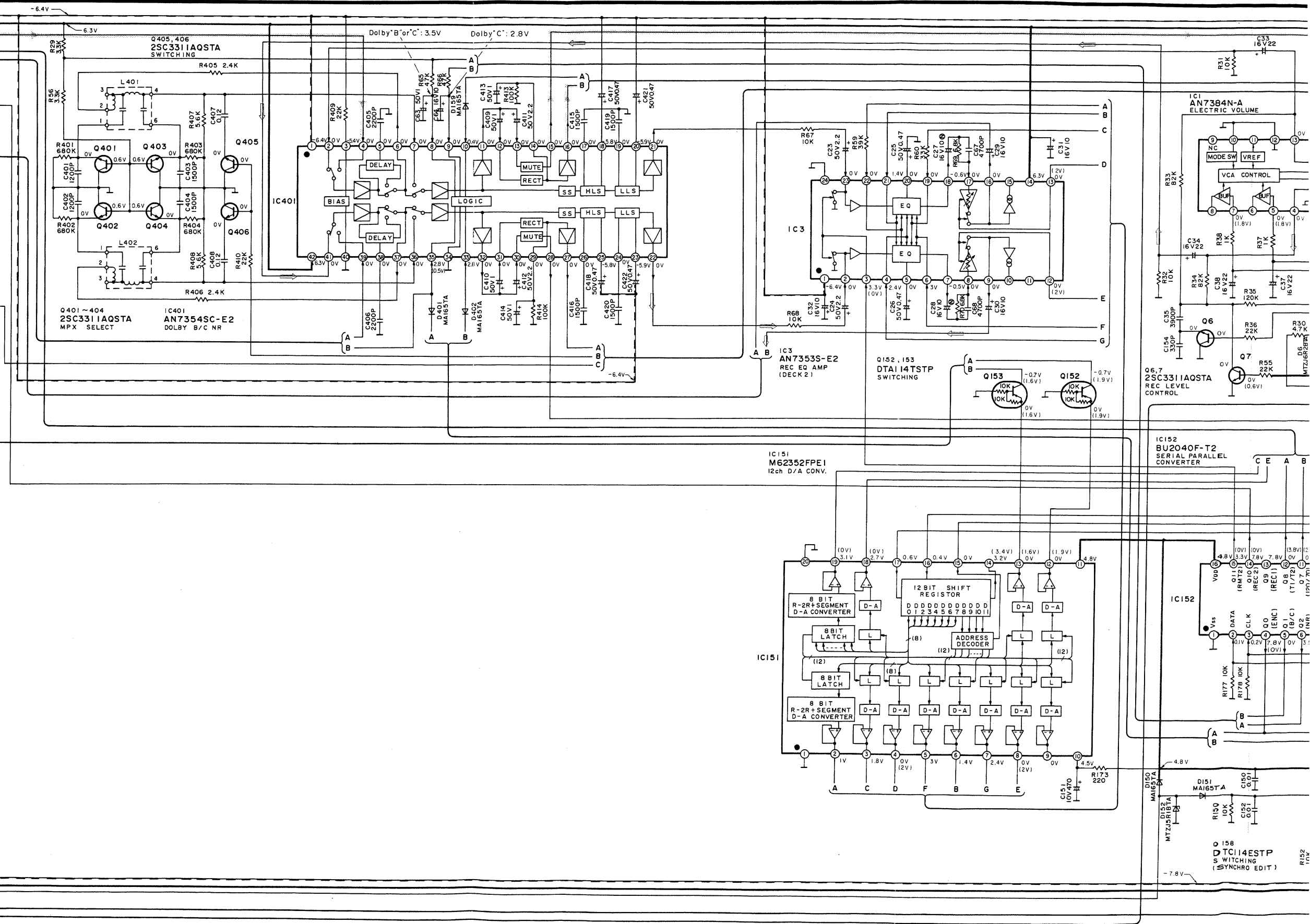
Q301
2SA1309AQSTA
POWER SUPPLY

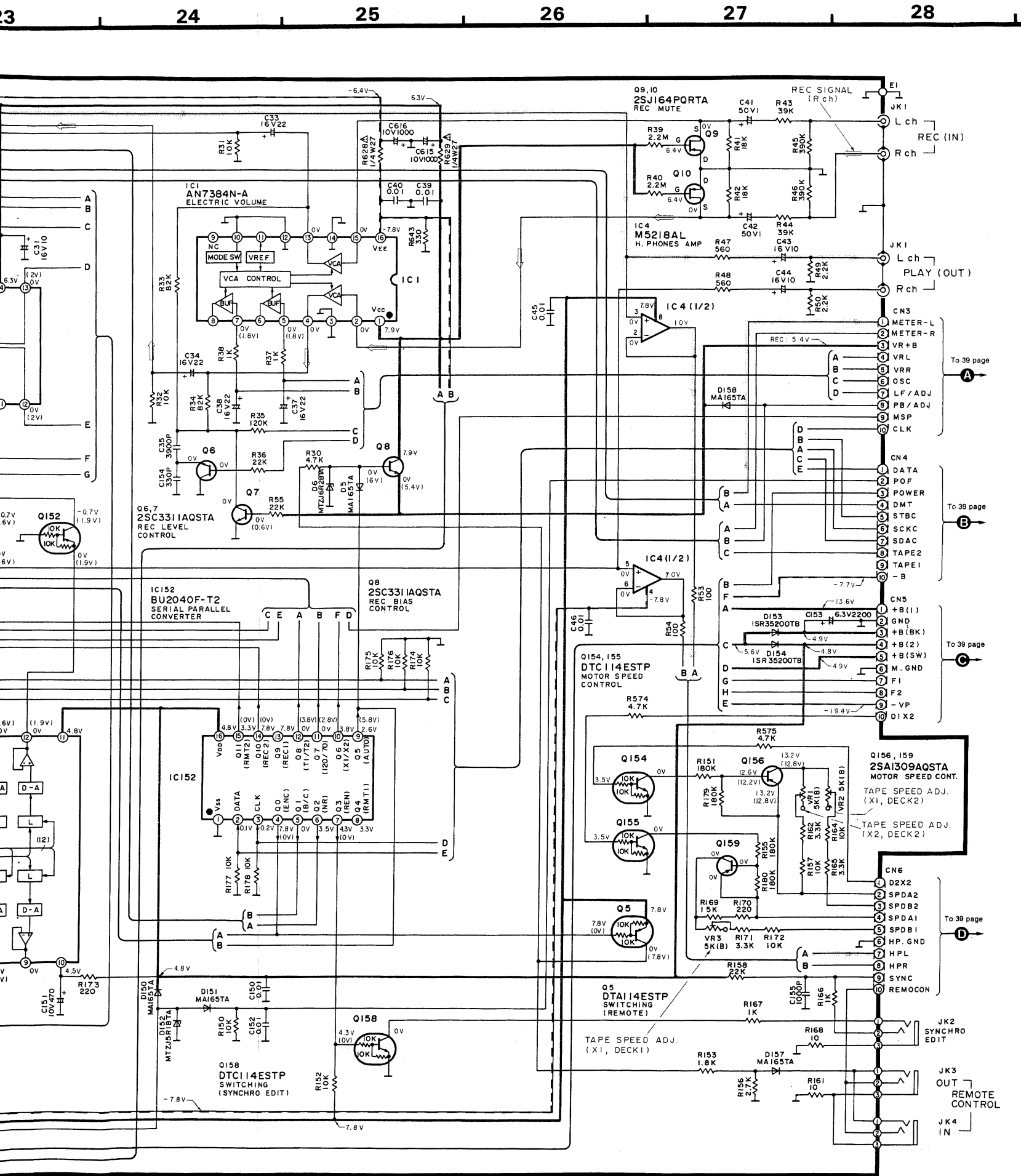
Q304
2SB621ARSTA
BIAS OSC CONT

IC302
BA4560FT1
E-CURRENT
ADJ. CONT.

Q305
2SD592AQSTA
BIAS OSC CONT.







SCHEMATIC DIAGRAM (Parts list on pages 59~63.)

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

Note 1:

- S601: Voltage selector in "240V" position. (For [GC] area only.) (110V ↔ 127V ↔ 220V ↔ 240V)
- 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.
IC1	AN7384N-A	AN7384
IC4	M5218AL	M5218L
IC302	BA4560FT1	SVIBA4560FT1

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.

SCHEMATIC DIAGRAM (Parts list on pages 59~63.)

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

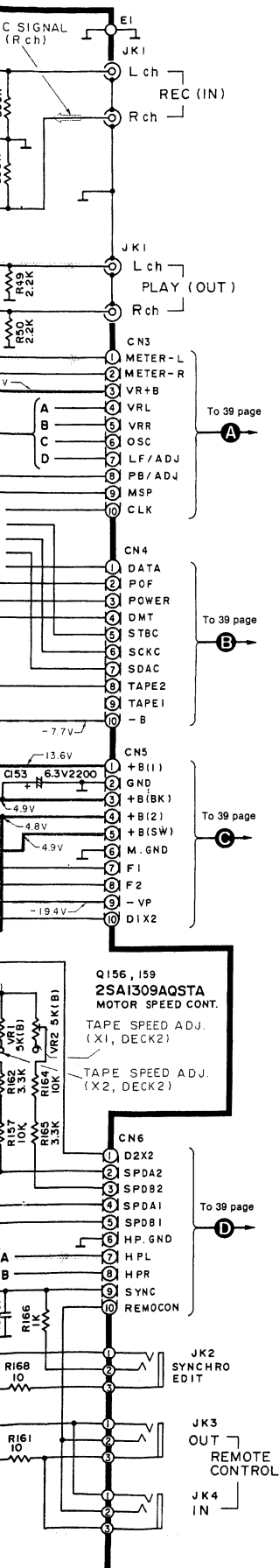
Note 1:

- S601: Voltage selector in "240V" position. (For [GC] area only.) (110V ↔ 127V ↔ 220V ↔ 240V)
- Resistance are in ohms (Ω), 1/4 watt unless specified otherwise.
1K=1,000 (Ω), 1M=1,000k (Ω)
- Capacity are in micro-farads (μ F) 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.
- (Δ) indicates +B (bias).
- (Δ) indicates -B (bias).
- (Δ) indicates the flow of the playback signal.
- (Δ) indicates the flow of the record signal.
- The supply part number is described alone in the replacement parts list,

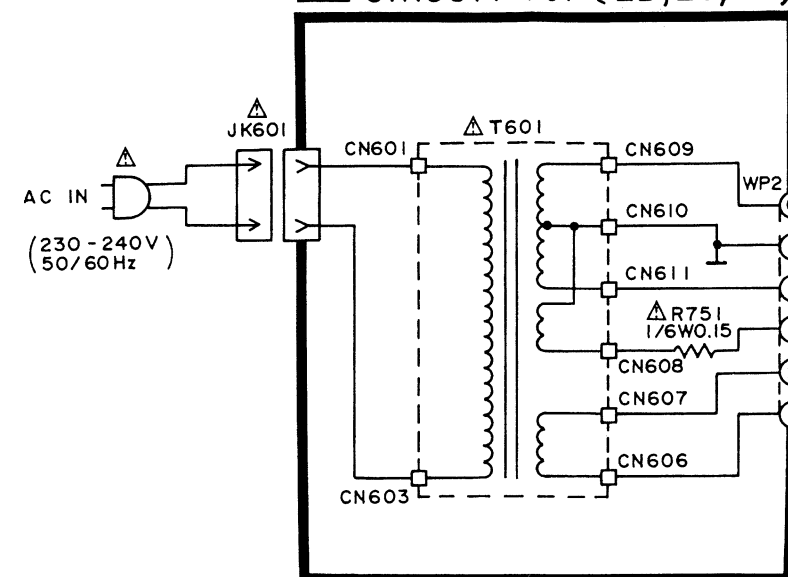
Ref. No.	Production Part No.	Supply Part No.
IC1	AN7384N-A	AN7384
IC4	M5218AL	M5218L
IC302	BA4560FT1	SVIBA4560FT1

Caution!

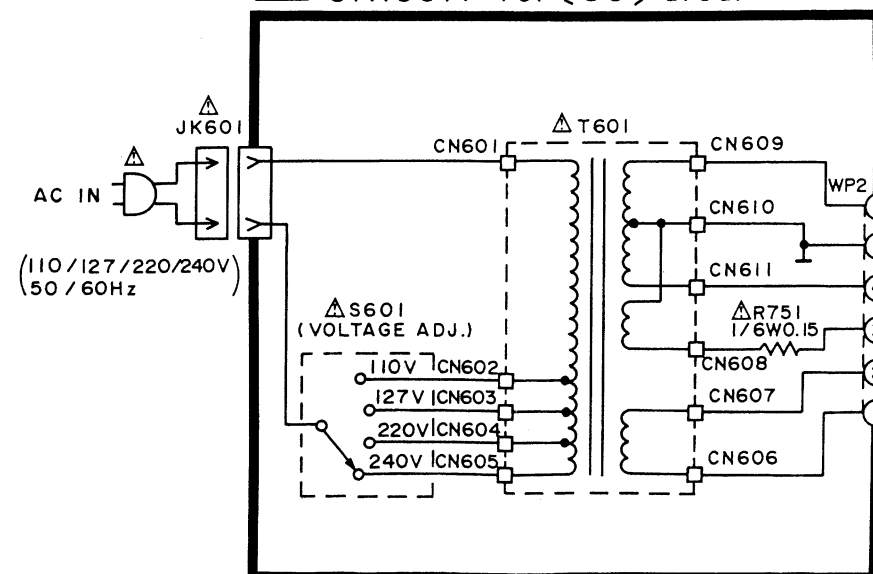
- IC and LSI are sensitive to static electricity.
- Secondary trouble can be prevented by taking care during repair.
- Cover the parts boxes made of plastics with aluminum foil.
- Ground the soldering iron.
- Put a conductive mat on the work table.
- Do not touch the legs of IC or LSI with the fingers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



B POWER SUPPLY CIRCUIT For [EB,EG,GN] areas.



B POWER SUPPLY CIRCUIT For [GC] area.



Note 2:

- S701 : Synchro-start switch (SYNCHRO START).
- S702 : Tape-to-tape recording-speed switch (SPEED; X1, X2).
- S703 : Dolby noise reduction switch (Dorby NR; $\square$, $\square$).
- S704 : Reverse-mode selector switch (REVERSE MODE; $\leftarrow$, $\rightarrow$, ∞).
- S705 : DECK 1 Fast-forward switch ($\gg$ TPS).
- S706 : DECK 2 Fast-forward switch ($\gg$ TPS).
- S707 : Power switch in "on" position (POWER/ $\blacksquare$ standby ϕ $\blacksquare$ ON).
- S708 : DECK 2 Stop switch ($\blacksquare$).
- S709 : DECK 1 Rewind switch ($\ll$ TPS).
- S710 : DECK 2 Rewind switch ($\ll$ TPS).
- S711 : DECK 1 Stop switch ($\blacksquare$).
- S712 : DECK 2 Forward-side playback switch ($\blacktriangleright$).
- S713 : DECK 1 Forward-side playback switch ($\blacktriangleright$).
- S714 : DECK 2 Reverse-side playback switch ($\blacktriangleleft$).
- S716 : DECK 2 Record switch ($\bullet$ REC).
- S717 : DECK 1 Reverse-side playback switch ($\blacktriangleleft$).
- S719 : DECK 2 Pause switch ($\blacksquare$).
- S721 : DECK 2 Automatic-record-muting switch ($\bullet$ AUTO REC MUTE).
- S722 : DECK 1 Open/close switch ($\blacktriangle$ OPEN/CLOSE).
- S723 : DECK 2 Open/close switch ($\blacktriangle$ OPEN/CLOSE).
- S724 : DECK 2 Tape counter mode 2 switch (COUNTER MODE 2).
- S725 : DECK 1 Tape counter mode 1 switch (COUNTER MODE 1).
- S726 : DECK 2 Tape counter reset 2 switch (COUNTER RESET 2).
- S727 : DECK 1 Tape counter reset 1 switch (COUNTER RESET 1).
- S729 : DECK 2 ATC switch (ATC).
- S730 : Timer switch ($\square$ TIMER).

- S971 : DECK 1 Mode switch in "off" position.
- S971A : DECK 2 Mode switch in "off" position.
- S972 : DECK 1 Cassette half detection switch in "off" position.
- S972A : DECK 2 Cassette half detection switch in "off" position.
- S973 : DECK 1 ATS (CrO₂) switch in "off" position.
- S973A : DECK 2 ATS (CrO₂) switch in "off" position.
- S974A : DECK 2 Reverse rec. inhibit switch in "off" position.
- S975A : DECK 2 Forward rec. inhibit switch in "off" position.
- S976A : DECK 2 ATS (Metal) switch in "off" position.
- S977 : DECK 1 Cassette holder open detection switch.
- S977A : DECK 2 Cassette holder open detection switch.
- S978 : DECK 1 Cassette holder close detection switch.
- S978A : DECK 2 Cassette holder close detection switch.

• Resistance are in ohms (Ω), 1/4 watt unless specified otherwise. 1K=1,000 (Ω), 1M=1,000k (Ω)

• Capacity are in micro-farads (μ F) 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.

($\triangleleft$ +B $\triangleright$) indicates +B (bias).

($\triangleleft$ -B $\triangleright$) indicates -B (bias).

($\rightarrow$) indicates the flow of the playback signal.

($\Rightarrow$) indicates the flow of the record signal.

* Caution!

IC and LSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

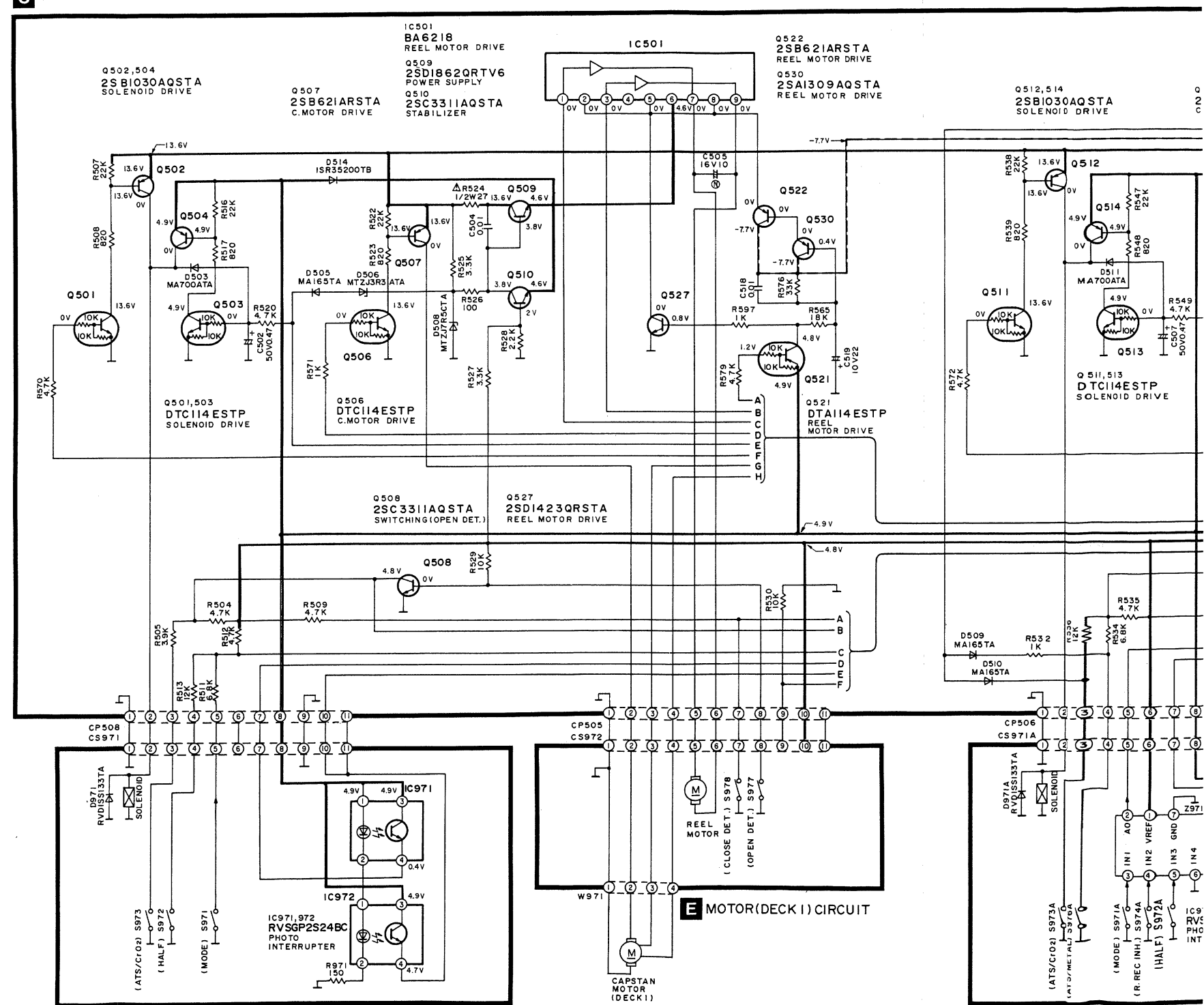
* Cover the parts boxes made of plastics with aluminum foil.

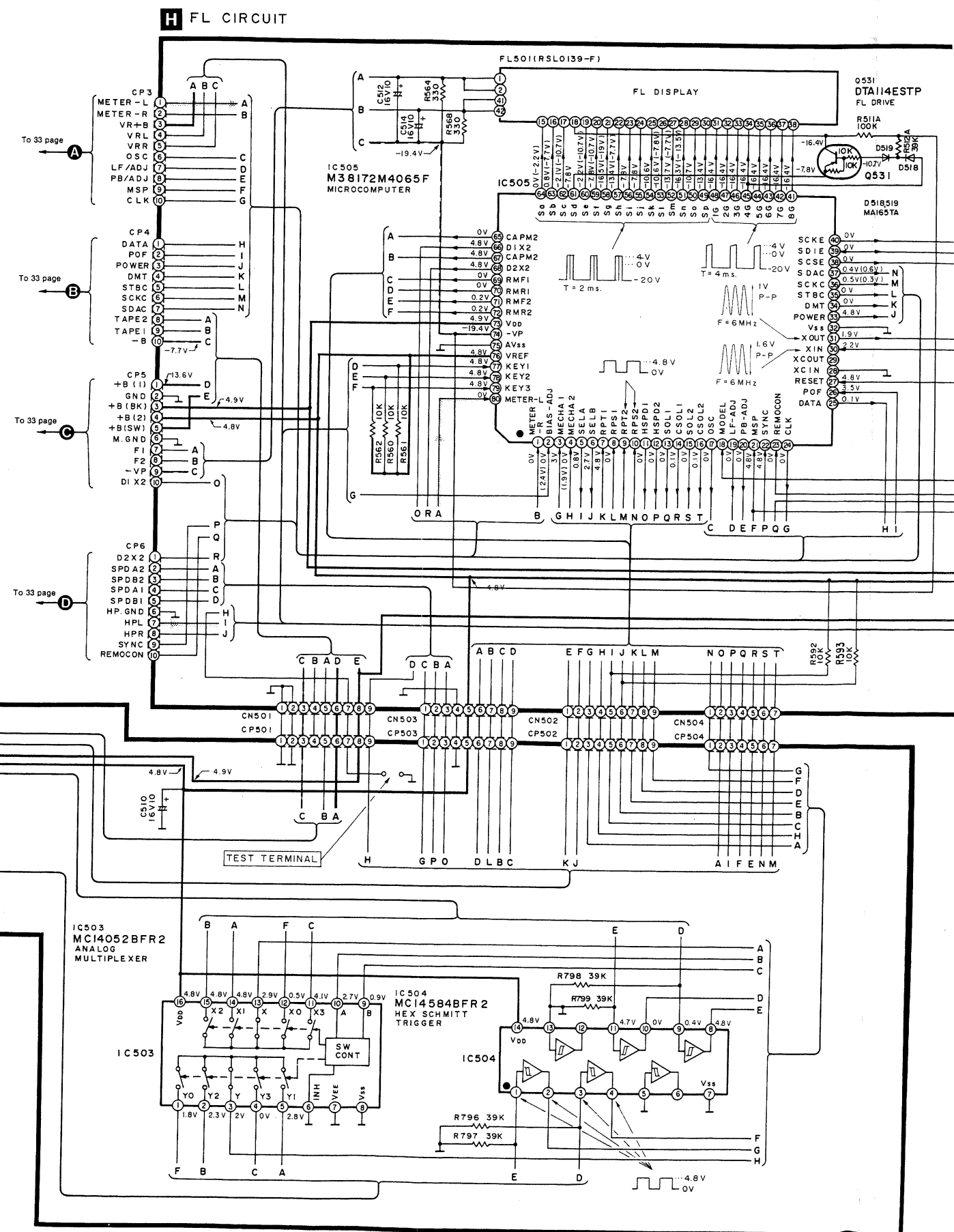
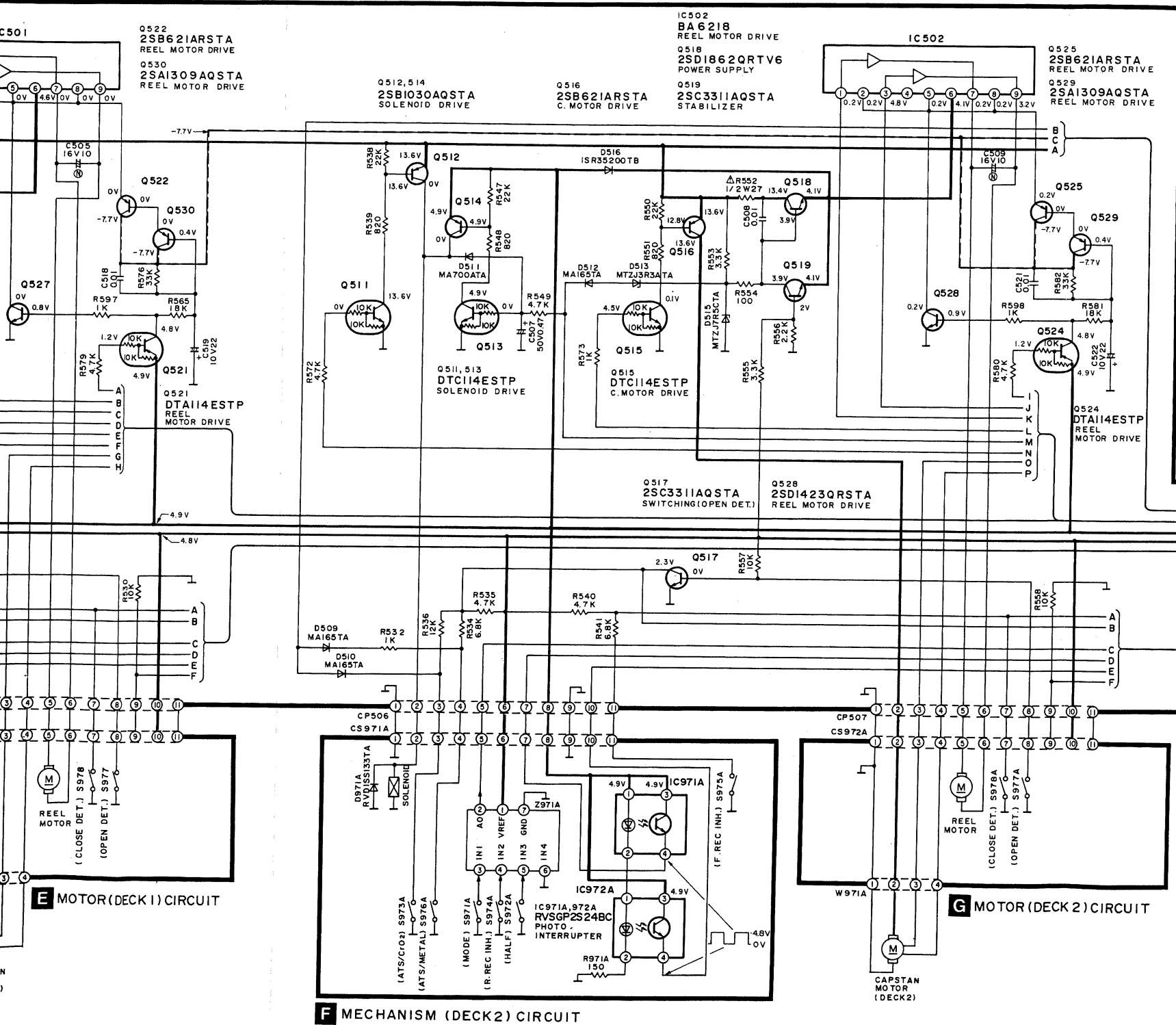
* Ground the soldering iron.

* Put a conductive mat on the work table.

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

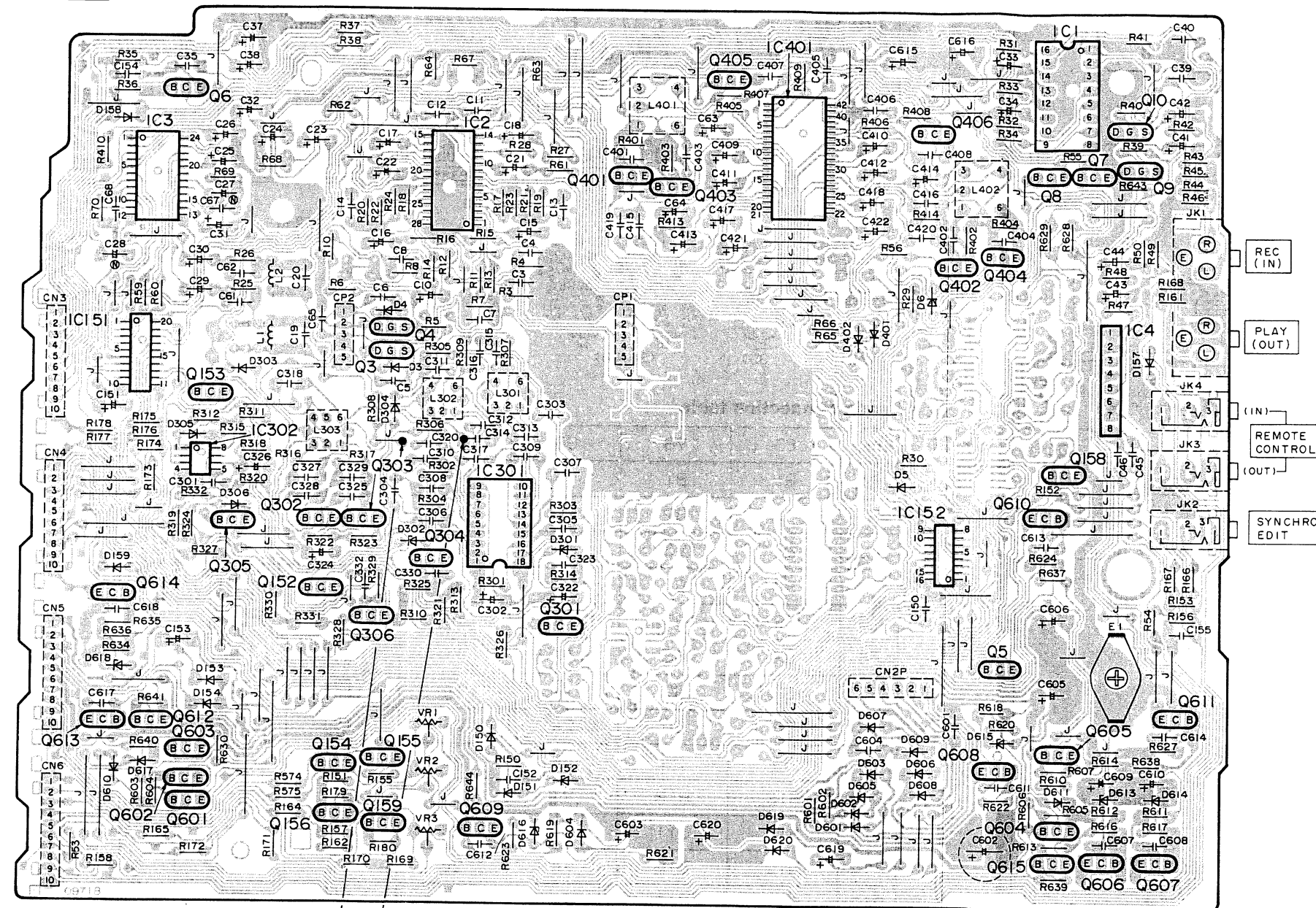
C MOTOR CONTROL CIRCUIT





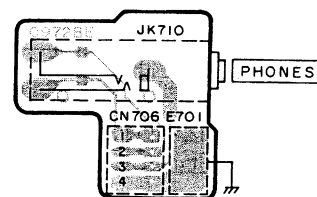
PRINTED CIRCUIT BOARDS

A MAIN P.C.B. (REP1574A-M)

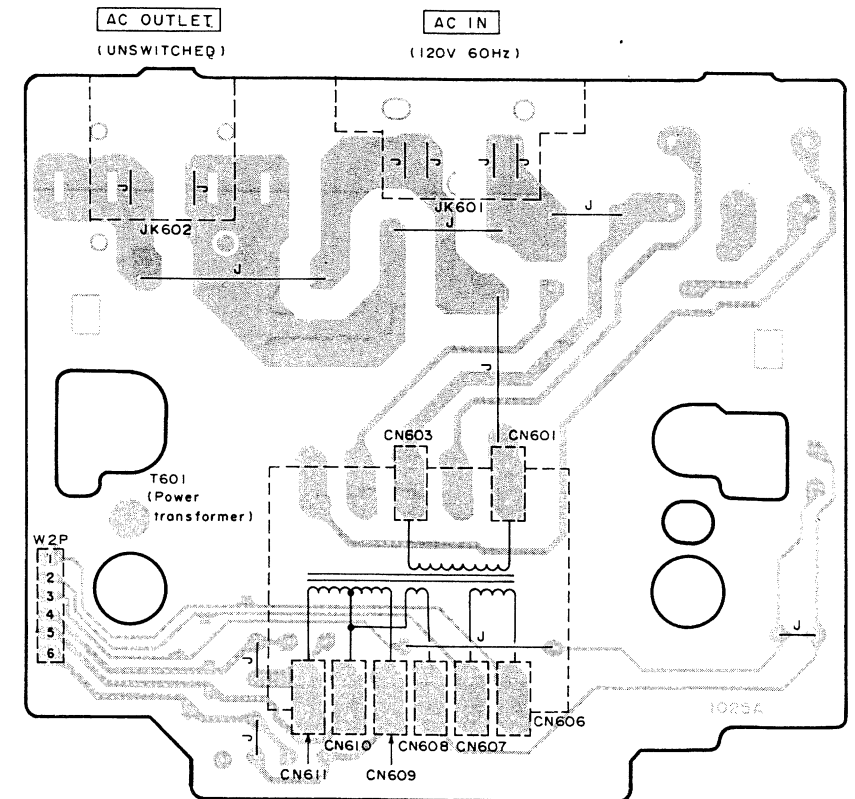


TP301 GND
ERASE CURRENT
CHECK POINT (DECK2)

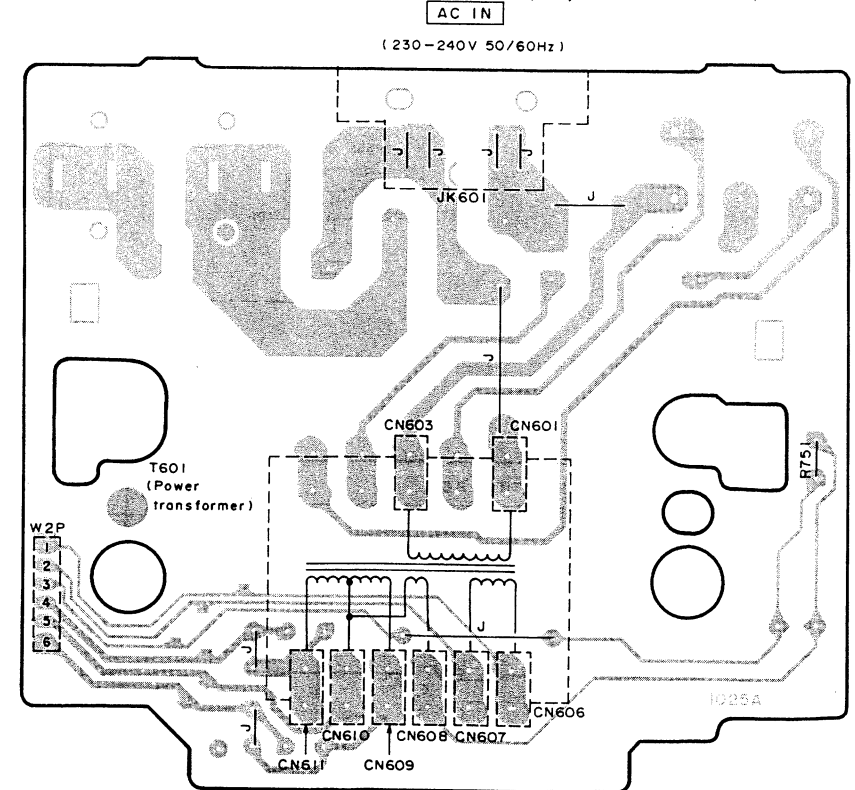
J HEADPHONES
JACK P.C.B.
(REP1576A-S)



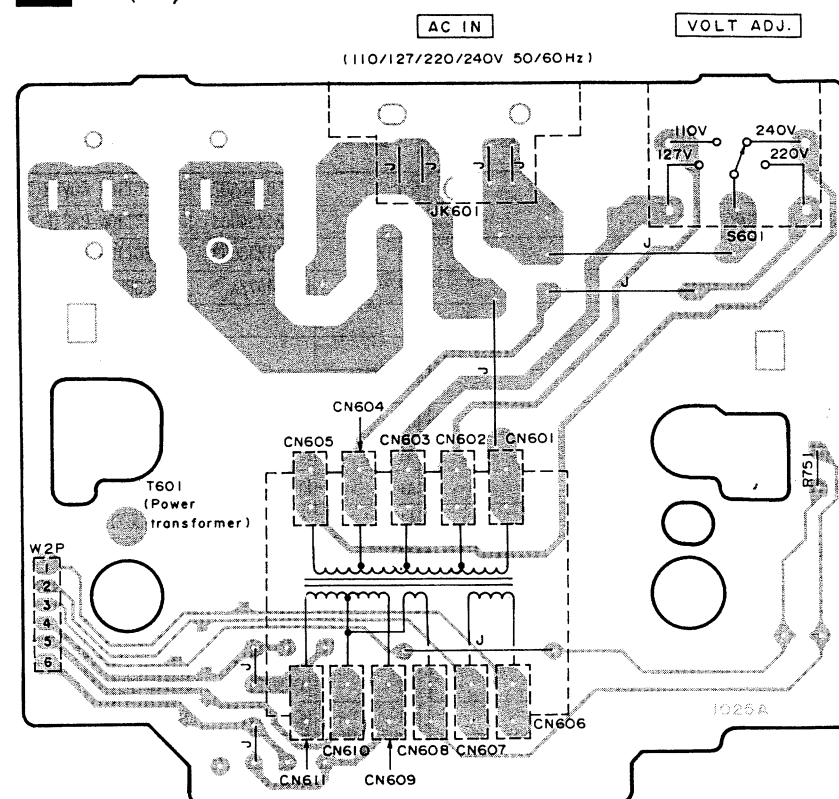
B POWER SUPPLY P.C.B.
For (PP) area. (REP1502A-P)



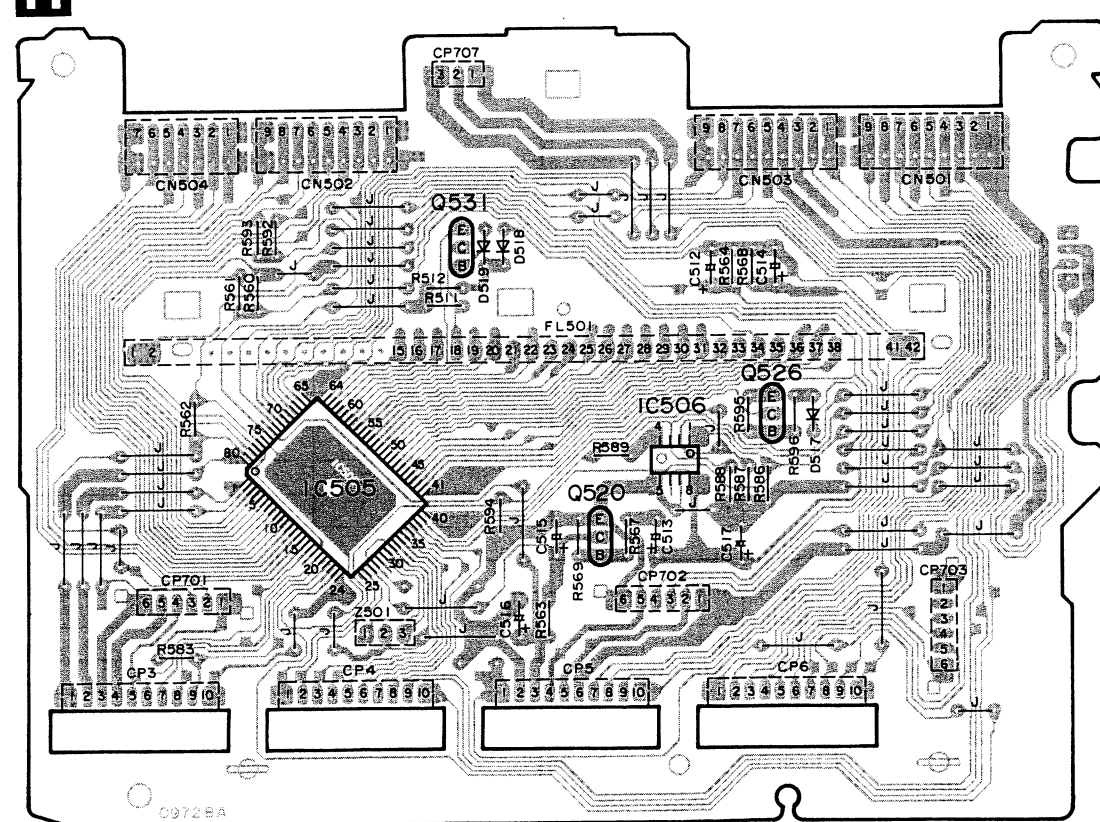
B POWER SUPPLY P.C.B.
For (EB, EG, GN) areas. (REP1502B-P... (EB, EG)
REP1502C-P... (GN))



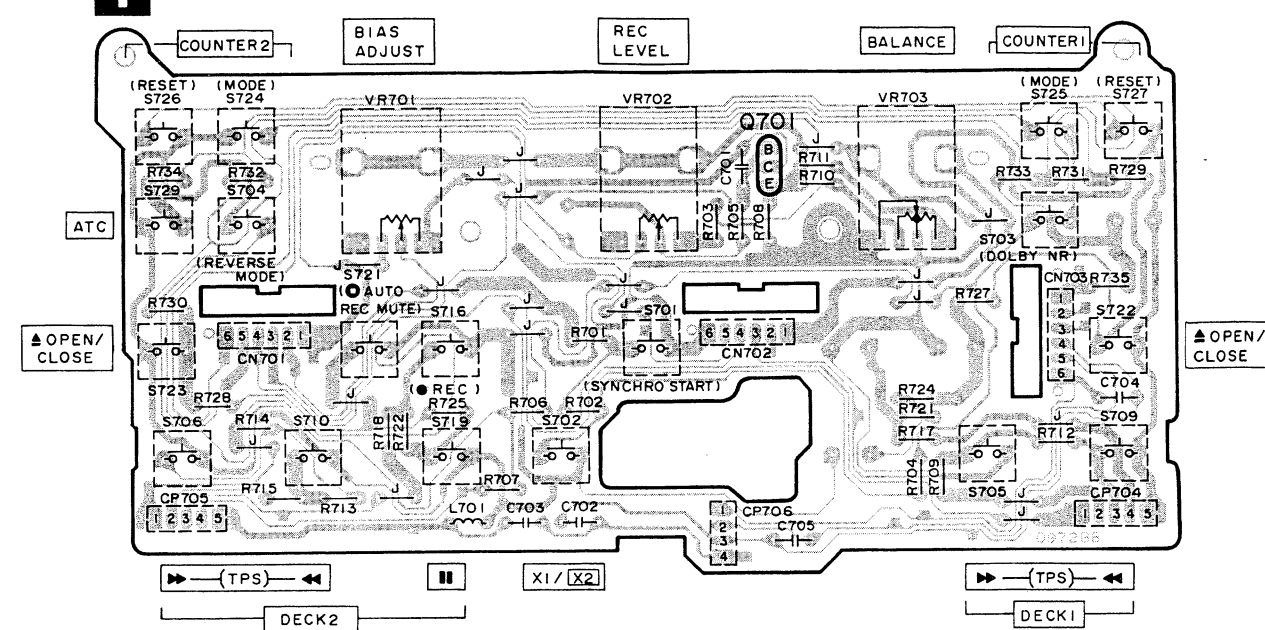
B POWER SUPPLY P.C.B. For (GC) area. (REP15020-P)



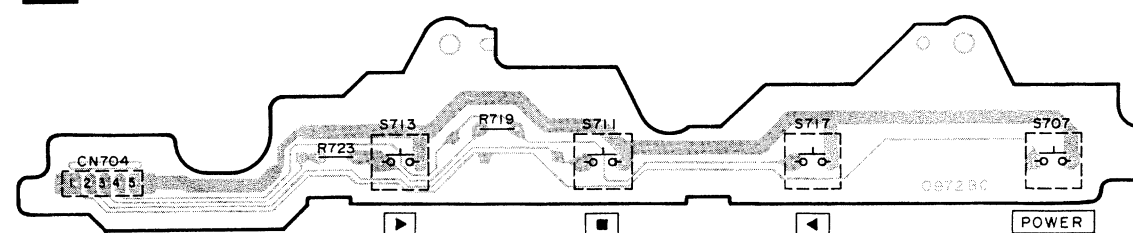
H FL P.C.B. (REP1576A-S)



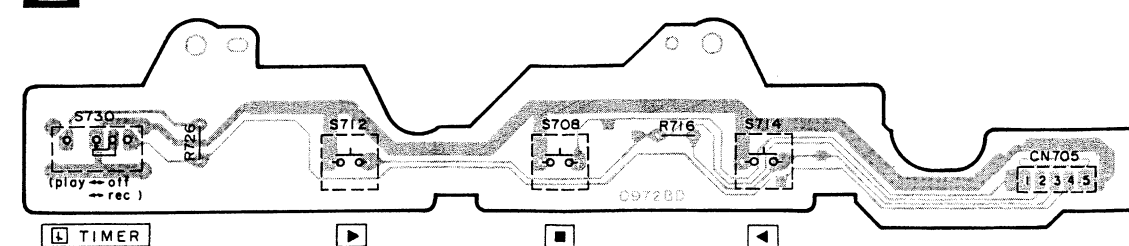
I OPERATION P.C.B. (REP1576A-S)



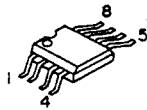
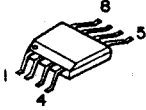
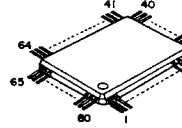
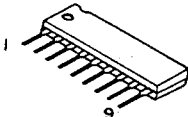
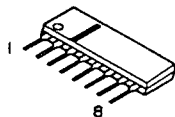
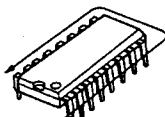
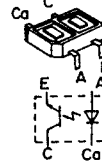
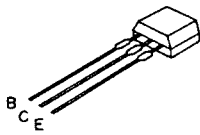
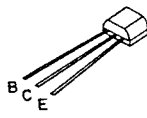
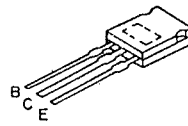
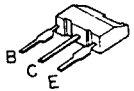
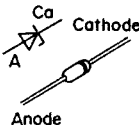
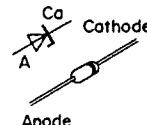
K SWITCH (DECK1) P.C.B. (REP1576A-S)



L SWITCH (DECK2) P.C.B. (REP1576A-S)

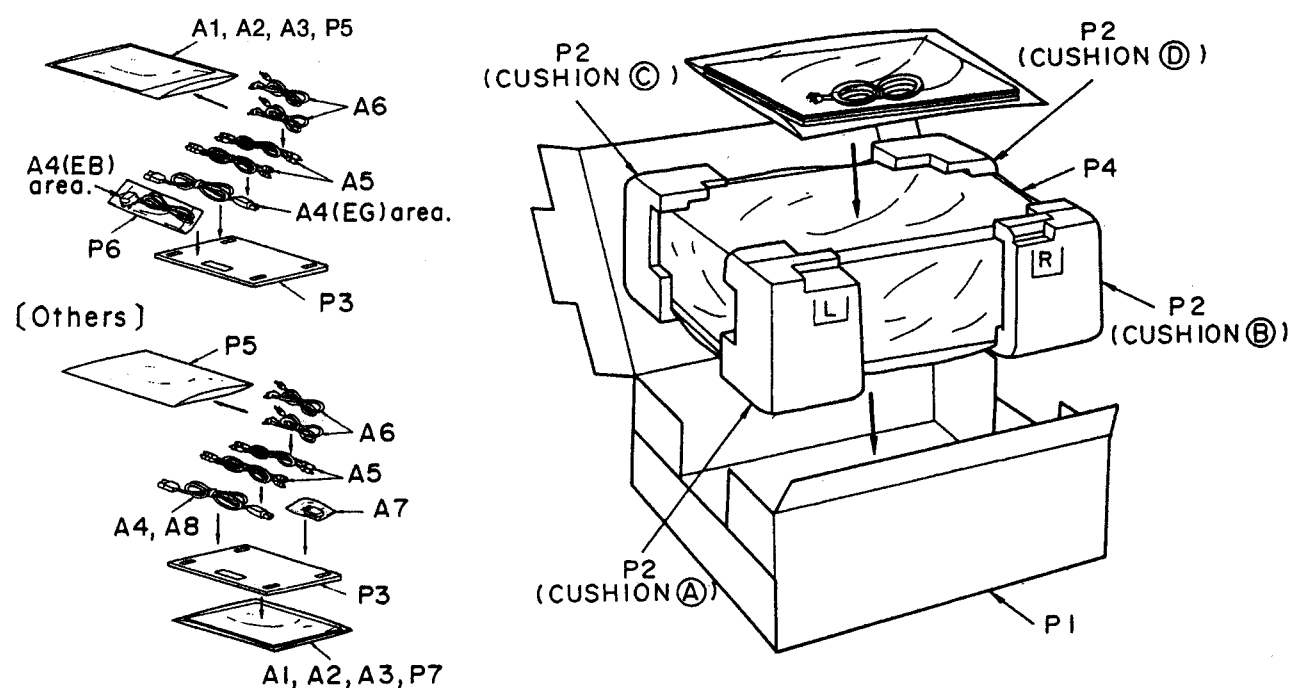


■ TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

BA4560FT1 	LE93CS47M6TL 	<table border="1"><tr><td>MC14584BFR2</td><td>14 Pin</td><td>AN7353S-E2</td><td>24 Pin</td></tr><tr><td>BU2040F-T2</td><td>16 Pin</td><td>AN7352S-E2</td><td>28 Pin</td></tr><tr><td>MC14052BFR2</td><td>16 Pin</td><td>AN7354SC-E2</td><td>42 Pin</td></tr><tr><td>M62352FPE1</td><td>20 Pin</td><td></td><td></td></tr></table>		MC14584BFR2	14 Pin	AN7353S-E2	24 Pin	BU2040F-T2	16 Pin	AN7352S-E2	28 Pin	MC14052BFR2	16 Pin	AN7354SC-E2	42 Pin	M62352FPE1	20 Pin			M38172M4065F 
MC14584BFR2	14 Pin	AN7353S-E2	24 Pin																	
BU2040F-T2	16 Pin	AN7352S-E2	28 Pin																	
MC14052BFR2	16 Pin	AN7354SC-E2	42 Pin																	
M62352FPE1	20 Pin																			
BA6218 	M5218AL 	<table border="1"><tr><td>AN7384N-A</td><td>16 Pin</td></tr><tr><td>UPC1297CA</td><td>18 Pin</td></tr></table> 	AN7384N-A	16 Pin	UPC1297CA	18 Pin	RVSGP2S24BC 	2SB621ARSTA 2SD592AQRSTA 												
AN7384N-A	16 Pin																			
UPC1297CA	18 Pin																			
DTA114ESTP DTA114TSTP DTC114ESTP 	2SA1309AQSTA 2SB1030AQSTA 2SC3311AQSTA 2SD1423QRSTA 	2SC3327ABTP 	2SB1357EFTA 2SD2037EFTA 																	
2SJ164PQRTA 	2SD1862QRTV6 	MA165TA MA167TA MA700TA 1SR35200TB RVD1SS133TA 	MTZJ3R3ATA MTZJ5R1BTA MTZJ6R2BTA MTZJ7R5CTA MTZJ8R2CTA MTZJ20DTA 																	

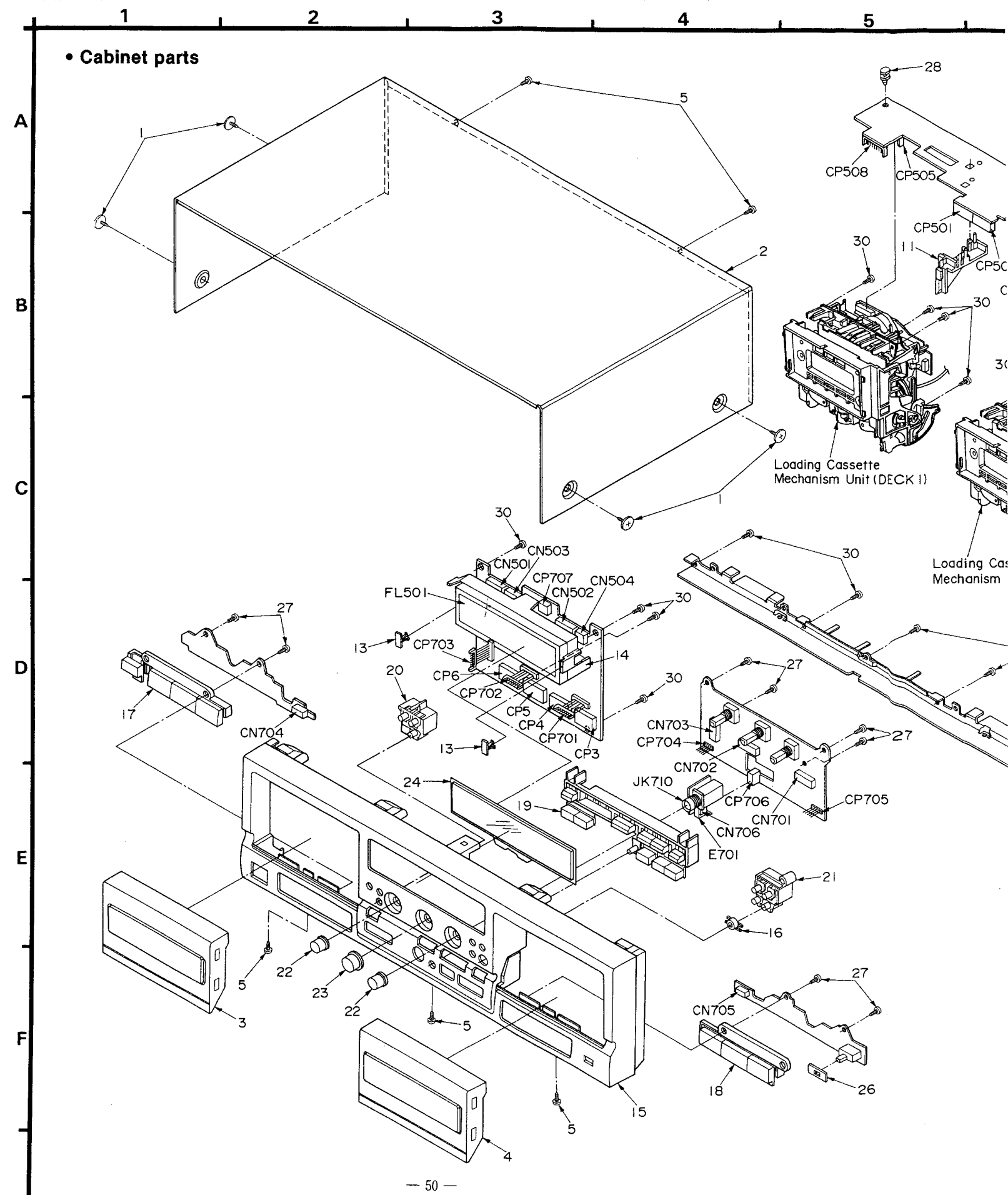
■ PACKAGING

((EB, EG) areas.)



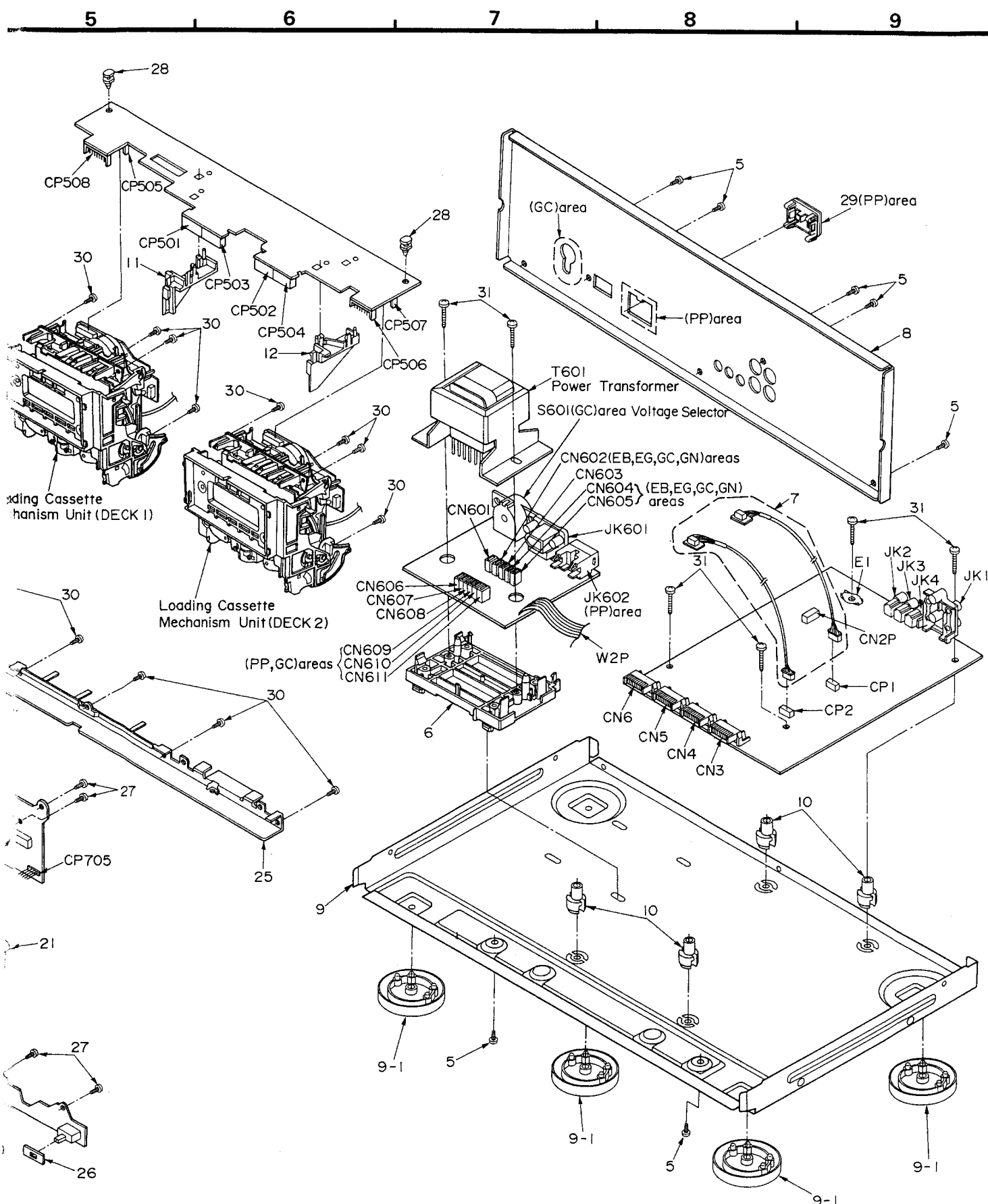
<CUSHION ④, ⑤, ⑥, ⑦ Part No.: RPN0664-1 (PP, EG, GC), RPN0665 (EB)>

■ EXPLODED VIEWS



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.

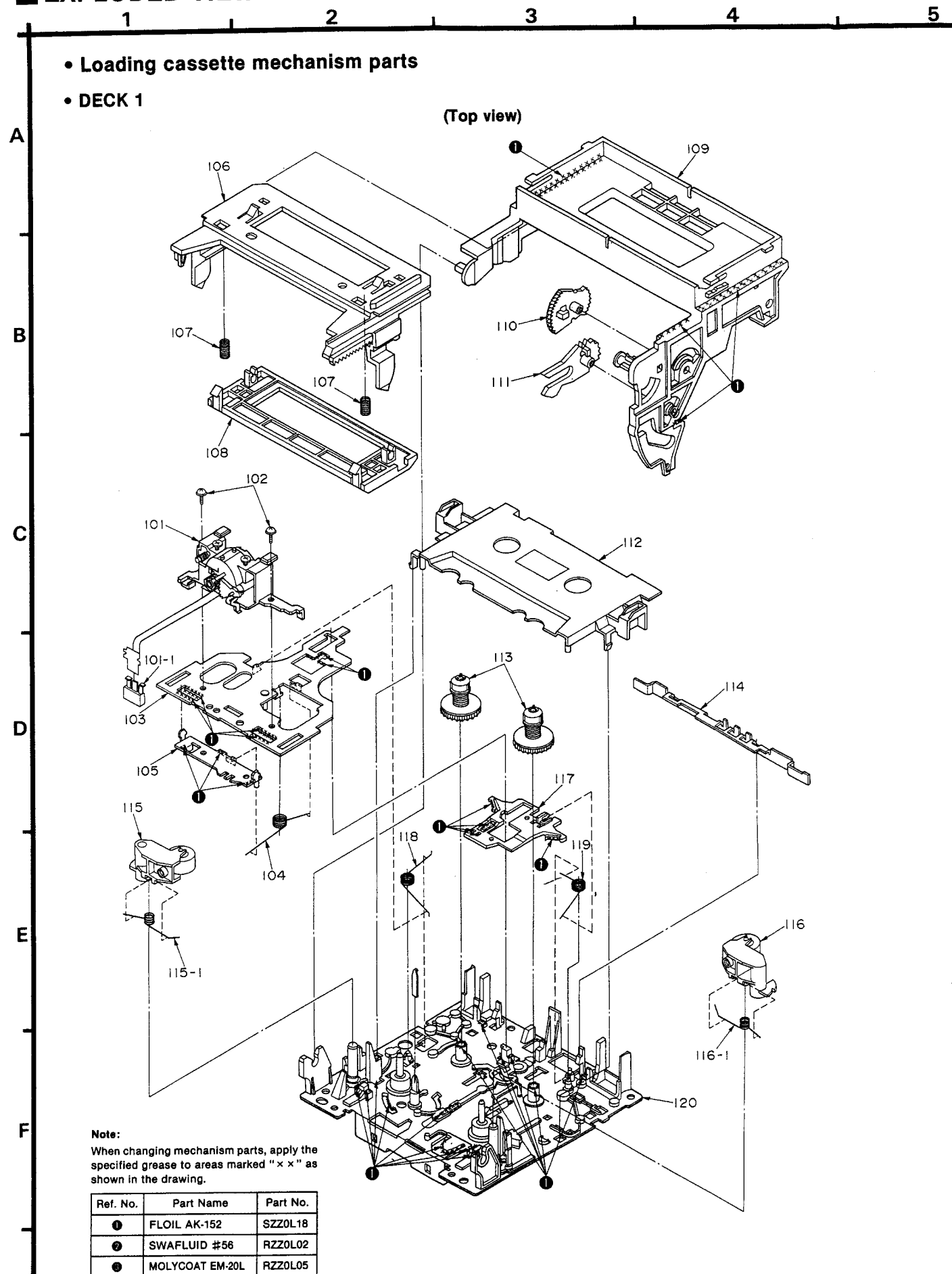


Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	RHD30035-K	SCREW	
2	RKMO016-K1	CABINET	
3	RYFO211B-K	CASSETTE LID(DECK1)	
4	RYFO211C-K	CASSETTE LID(DECK2)	
5	XTBS3+8JFZ1	SCREW	
6	RMNO210	TRANSFORMER BASE	
7	REZO574	CONNECTOR ASS'Y	
8	RGR0112G-B	REAR PANEL	(PP)
8	RGR0112H-C	REAR PANEL	(EG)
8	RGR0112H-D	REAR PANEL	(EB, GN)
8	RGR0112I-B	REAR PANEL	(GC)
9	RFKJLP6440AK	BOTTOM CHASSIS ASS'Y	
9-1	RKA0053-A	FOOT	
10	RKQO089	P. C. B. HOLDER	
11	RMNO208	P. C. B. FIXED PIECE(L)	
12	RMNO209	P. C. B. FIXED PIECE(R)	
13	RMNO195	FL. HOLD PIECE	
14	RMNO207	FL. HOLDER	
15	RFKGSSTR777PP	FRONT PANEL ASS'Y	
16	RGKO534-N	BUTTON ORNAMENT	
17	RGUO843-K	BUTTON, OPERATION (DECK1)	
18	RGUO844-K	BUTTON, OPERATION (DECK2)	
19	RFKNSTR777AK	BUTTON ASS'Y, OPERATION	
20	RFKNSTR777BK	BUTTON ASS'Y, COUNTER1	
21	RFKNSTR979CK	BUTTON ASS'Y, COUNTER2	
22	RGWO043	KNOB, BALANCE/BIAS ADJ.	
23	RGWO164-K	KNOB, REC. LEVEL	
24	RKWO253-K	TRANSPARENT PLATE	
25	RMA0682	MECHANISM ANGLE	
26	RMZO218	SPACER	
27	XTBS26+10J	SCREW	
28	SHR9806	MINI CARD SPACER	
29	SJS9331A	AC OUTLET COVER	(PP)
30	XTB3+10JFZ	SCREW	
31	XTB3+20JFZ	SCREW	
		PACKING MATERIAL	
P1	RPG1425	PACKING CASE	(PP)
P1	RPG1426	PACKING CASE	(EB)
P1	RPG1544	PACKING CASE	(EG, GC, GN)
P2	RPNO664-1	CUSHION	(PP, EG, GC, GN)
P2	RPNO665	CUSHION	(EB)
P3	RPQO164	ACCESSORIES PAD	

Ref. No.	Part No.	Part Name & Description	Remarks
P4	XZB50X65A02Z	PROTECTION COVER(THIS UNIT)	
P5	XZB24X34C04	PROTECTION BAG (F. B., ACC.)	
P6	XZB10X30C03	PROTECTION BAG (AC P. S. CORD)	(EB)
P7	RQX94672A	ENVELOPE FOR CANADA	
		ACCESSORIES	
A1	RFKSSTR979EG	INSTRUCTION MANUAL ASS'Y	(EG)
A1	RFKSSTR979GC	INSTRUCTION MANUAL ASS'Y	(GC)
A1	RFKSSTR979PP	INSTRUCTION MANUAL ASS'Y	(PP)
A1	RQT1751-B	INSTRUCTION MANUAL	(EB, GN)
A2	RQA0013	WARRANTY CARD	(EB, EG)
A2	RQA0049	WARRANTY CARD FOR CANADA	
A2	RQX74332A	WARRANTY CARD	(GN)
A2	SQX7179	WARRANTY CARD	(PP)
A3	RQCB0169	SERVICENTER LIST	(EB, EG, GC, GN)
A3	RQCB0391	SERVICENTER LIST	(PP)
A3	SQX9131	SERVICENTER LIST FOR CANADA	
A4	RJA0019-2K	AC POWER SUPPLY CORD	(EG, GC) △
A4	SJA172	AC POWER SUPPLY CORD	(PP) △
A4	SJA173	AC POWER SUPPLY CORD	(GN) △
A4	VJA0733	AC POWER SUPPLY CORD	(EB) △
A5	SJP2249-3	STEREO CONNECTION CABLE	
A6	SJP2257T	STEREO MINI CABLE	
A7	SJPS213-2	POWER PLUG ADAPTOR	(GC) △
A8	RQLA0134	CAUTION LABEL (VOL. SELECTOR)	(GC)

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		LOADING CASSETTE MECH PARTS					
DECK1				146	RMB0263	SPRING (F)	
101	RXQ0269	HEAD BLOCK (PLAYBACK)		147	RMB0264	SPRING (R)	
101-1	RMQ0360	CONNECTOR HOLDER		148	RDK0019	MAIN GEAR	
102	XTW2+5L	SCREW		149	RUS6092C	SPRING, TAPE PRESSURE	
103	RFKRSTR979BK	HEAD BASE ASS'Y		150	RML0267	TRIGGER LEVER	
104	RMB0266	SPRING, FOR. /REV. SIDE ROD		151	RJW1472A	SPRING, TRIGGER LEVER	
105	RXMD036	FOR. /REV. SIDE ROD		152	RML0268	FOR. /REV. SIDE LEVER	
106	RGQ0092-K	LIFTER		153	RMQ0368	HOLDER	
107	RMB0272	SPRING, STABILIZER					
108	RMQ0319	STABILIZER					
109	RKF0284-K	CASSETTE HOLDER					
110	RML0275	LIFT ARM					
111	RDG0212	LIFT GEAR					
112	RFKRSTR979DK	DRESSING PLATE ASS'Y					
113	RXR0015	REEL TABLE					
114	RML0272	SWITCH LEVER					
115	RXP0048	PINCH ARM (R)					
115-1	RMB0260	SPRING, PINCH ARM (R)					
116	RXP0047	PINCH ARM (F)					
116-1	RMB0259	SPRING, PINCH ARM (F)					
117	RMM0091	BRAKE ROD					
118	RMB0261	SPRING, HEAD BASE					
119	RMB0262	SPRING, BRAKE ROD					
120	RFKRSTR777AK	CHASSIS ASS'Y					
121	RXG0030	FRICTION GEAR					
122	XTW2+6S	SCREW					
123	RWJ4704050XX	MOTOR WIRE (4P), W971					
124	REM0037	REEL MOTOR					
125	REM0036	CAPSTAN MOTOR					
126	RML0271	HOLDER HOOK					
127	RMB0268	SPRING, HOLDER HOOK					
128	RML0270	DRIVE LEVER					
129	RMQ0312	DRIVE RACK					
130	RMB0269	SPRING, DRIVE LEVER					
131	RMC0169	SHIELD PLATE					
132	RDG0209	INTERMEDIATE GEAR					
133	XTW26+12S	SCREW					
134	RFKRSTR979CK	SUB CHASSIS					
135	XTW26+6L	SCREW					
136	RHD26013	SCREW					
137	RMQ0314	SURASUTO SPACER					
138	RDG0206	LOADING GEAR					
139	RXF0040	FLYWHEEL (F)					
140	RXF0041	FLYWHEEL (R)					
141	RDV1082A	BELT					
142	RSJ0003	SOLENOID					
143	RMS0398	MOVING IRON CORE					
144	RXL0089	IDLE GEAR					
145	RXG0029	REEL GEAR					

EXPLODED VIEW

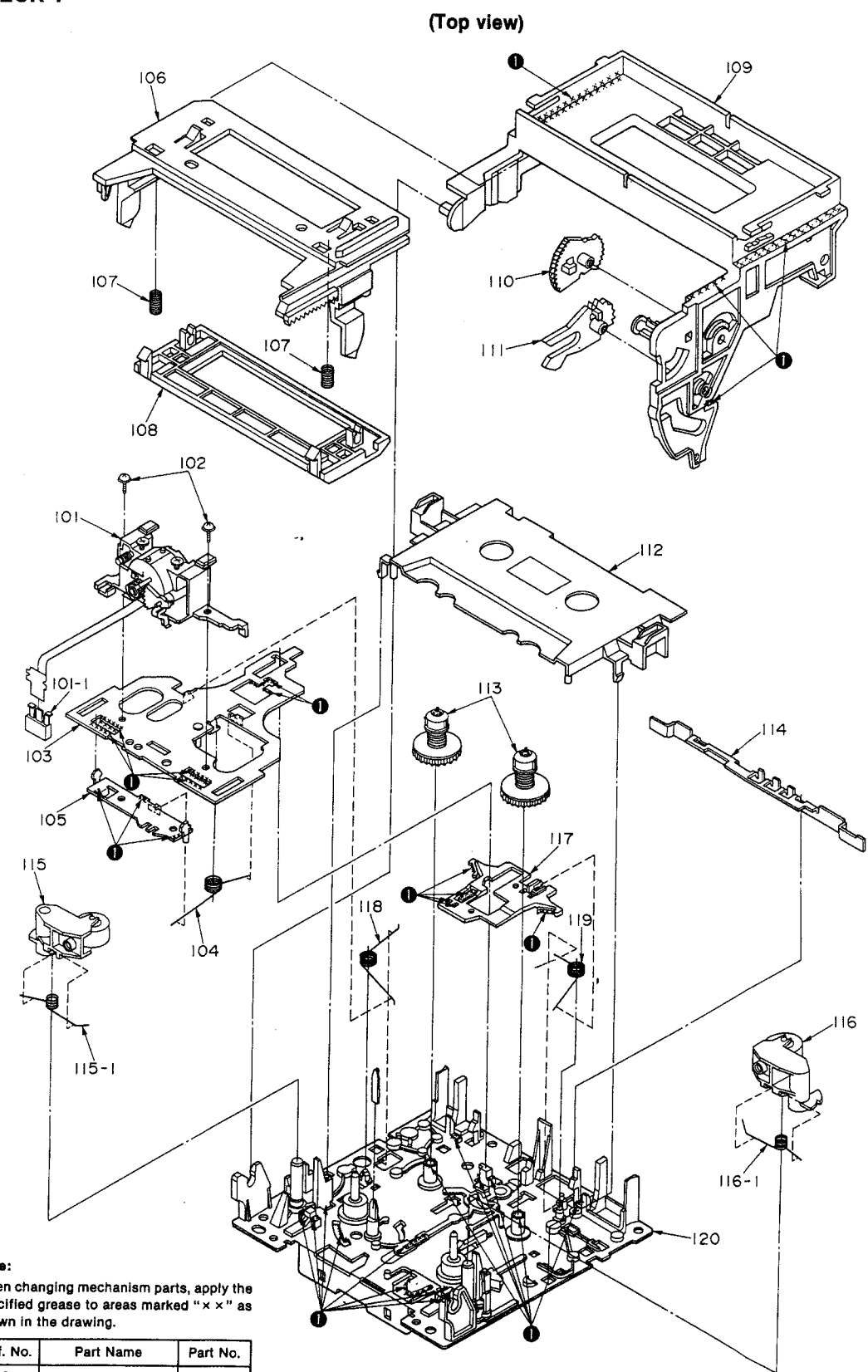


EXPLODED VIEW

Remarks

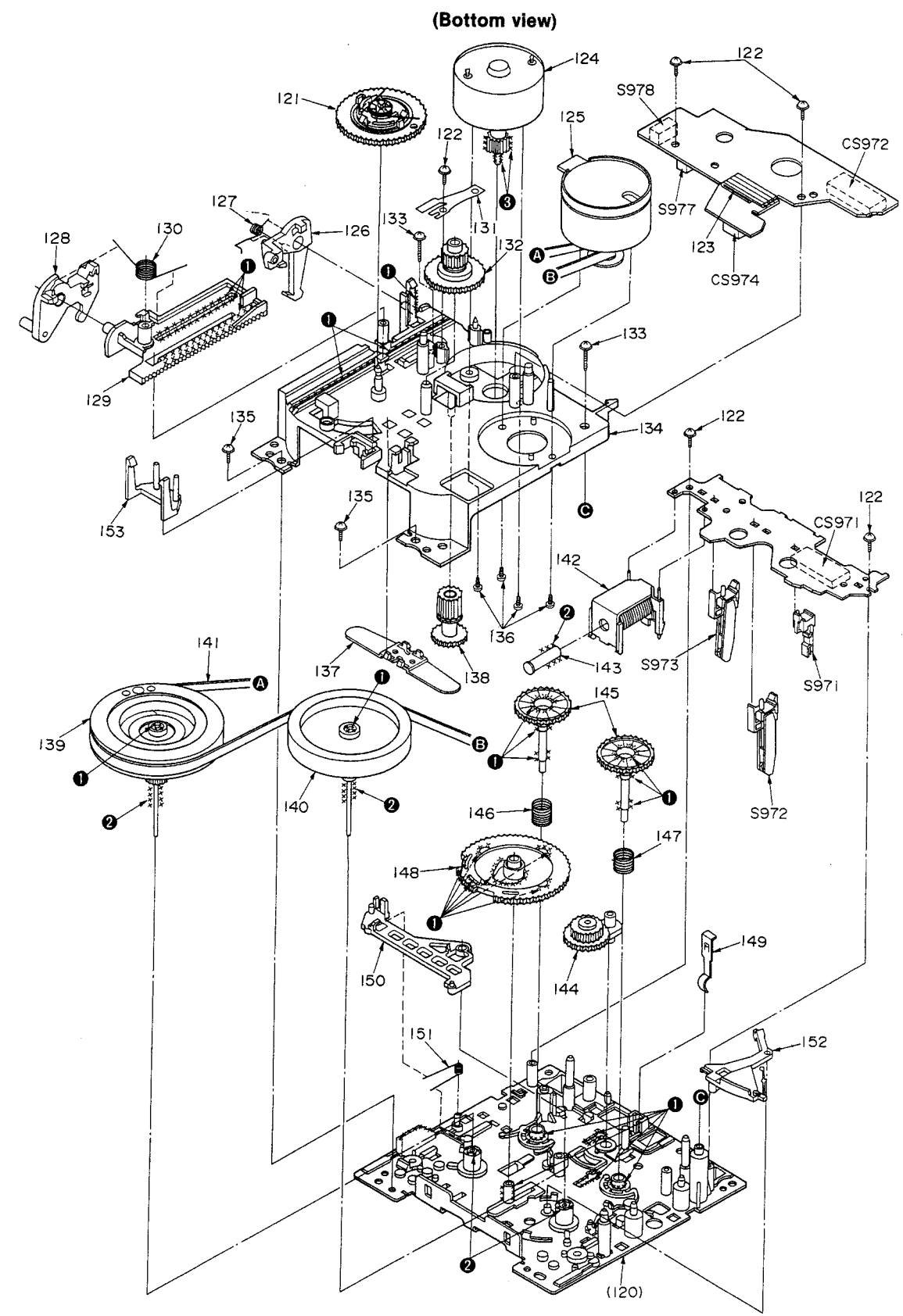
- Loading cassette mechanism parts
- DECK 1

A
B
C
D
E
F



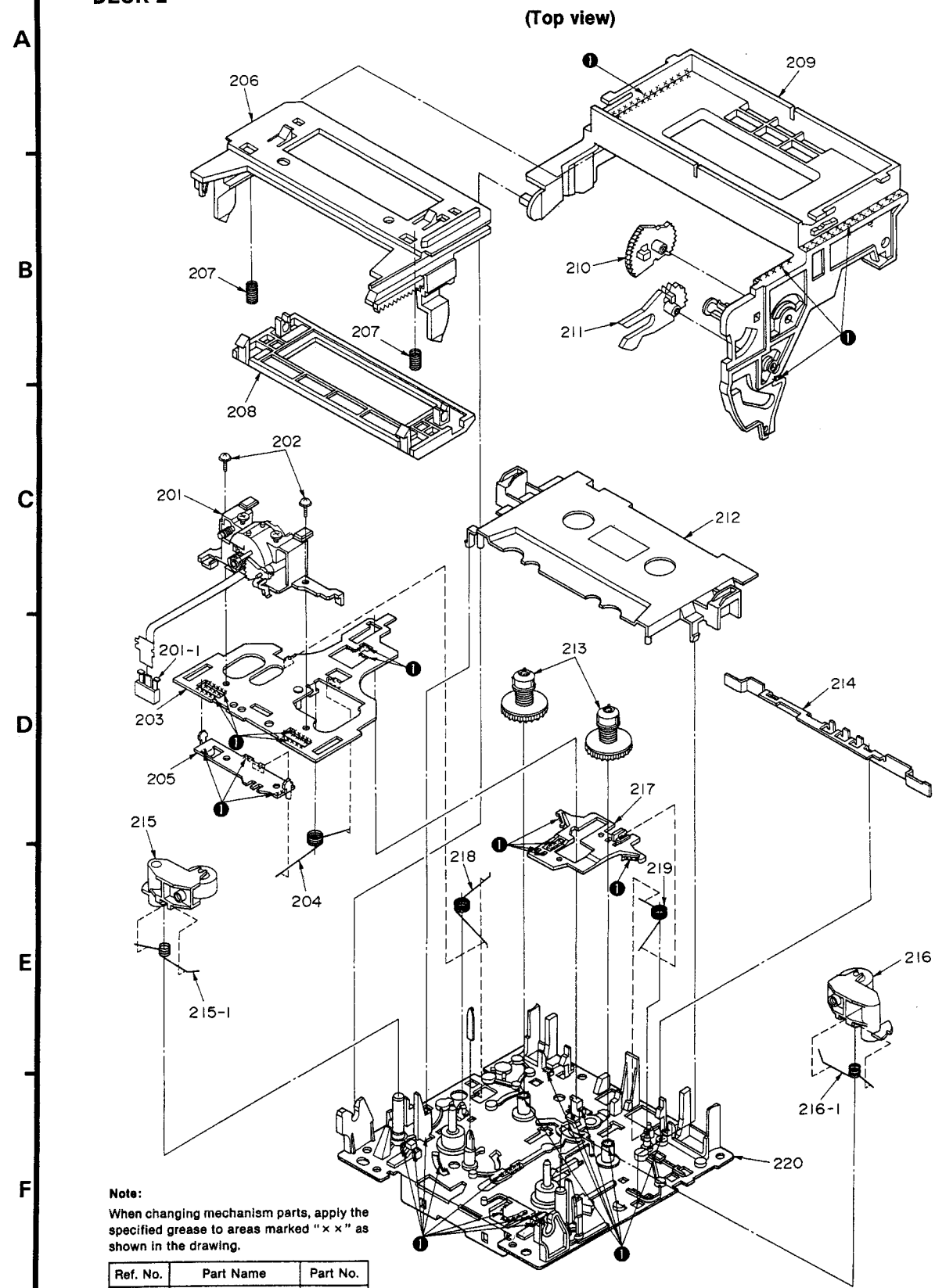
Note:
When changing mechanism parts, apply the specified grease to areas marked "x x" as shown in the drawing.

Ref. No.	Part Name	Part No.
●	FLOIL AK-152	SZZ0L18
●	SWAFLUID #58	RZZ0L02
●	MOLYCOAT EM-20L	RZZ0L05



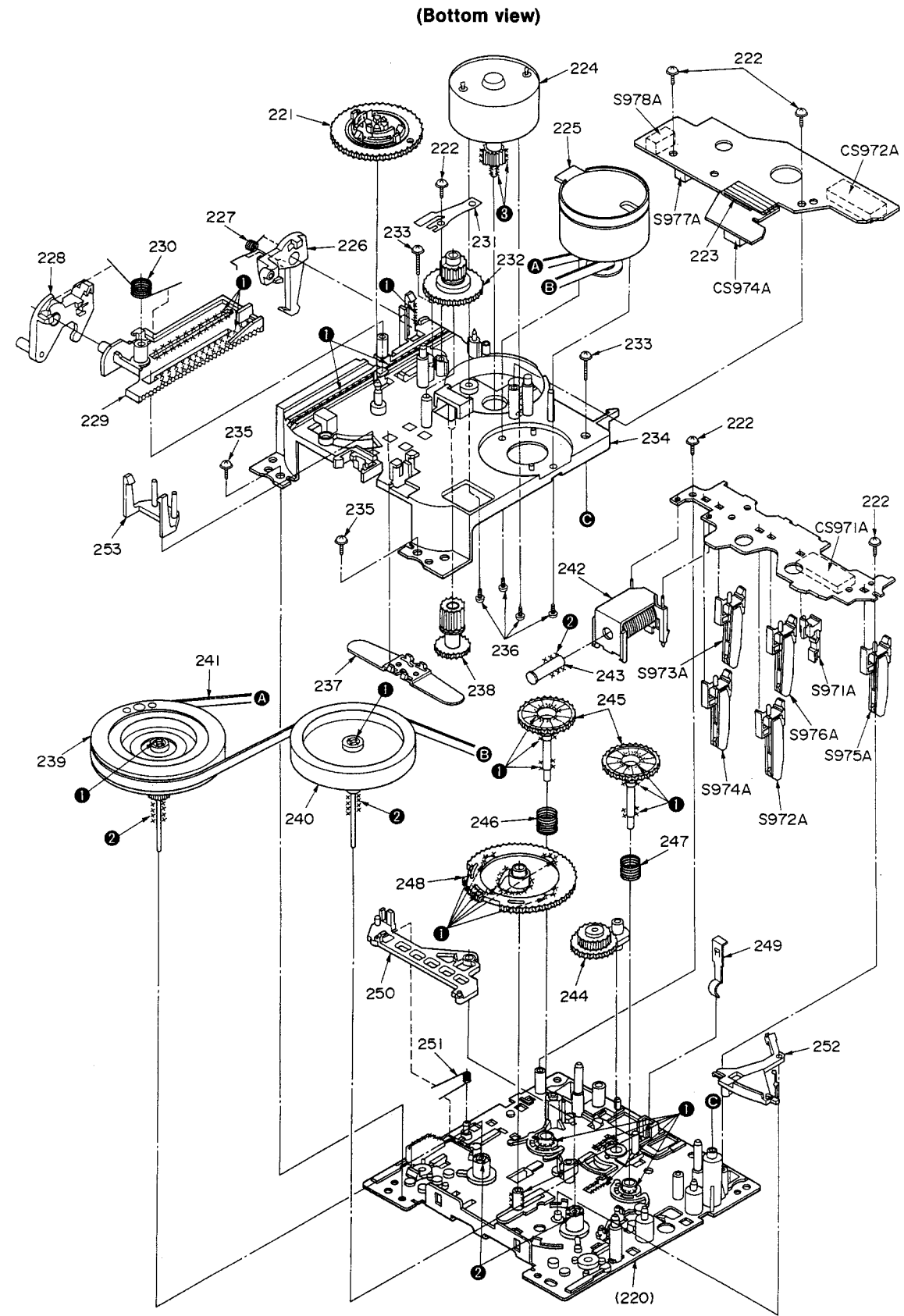
Ref. No.
DECK2
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215-1
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• Loading cassette mechanism parts
• DECK 2



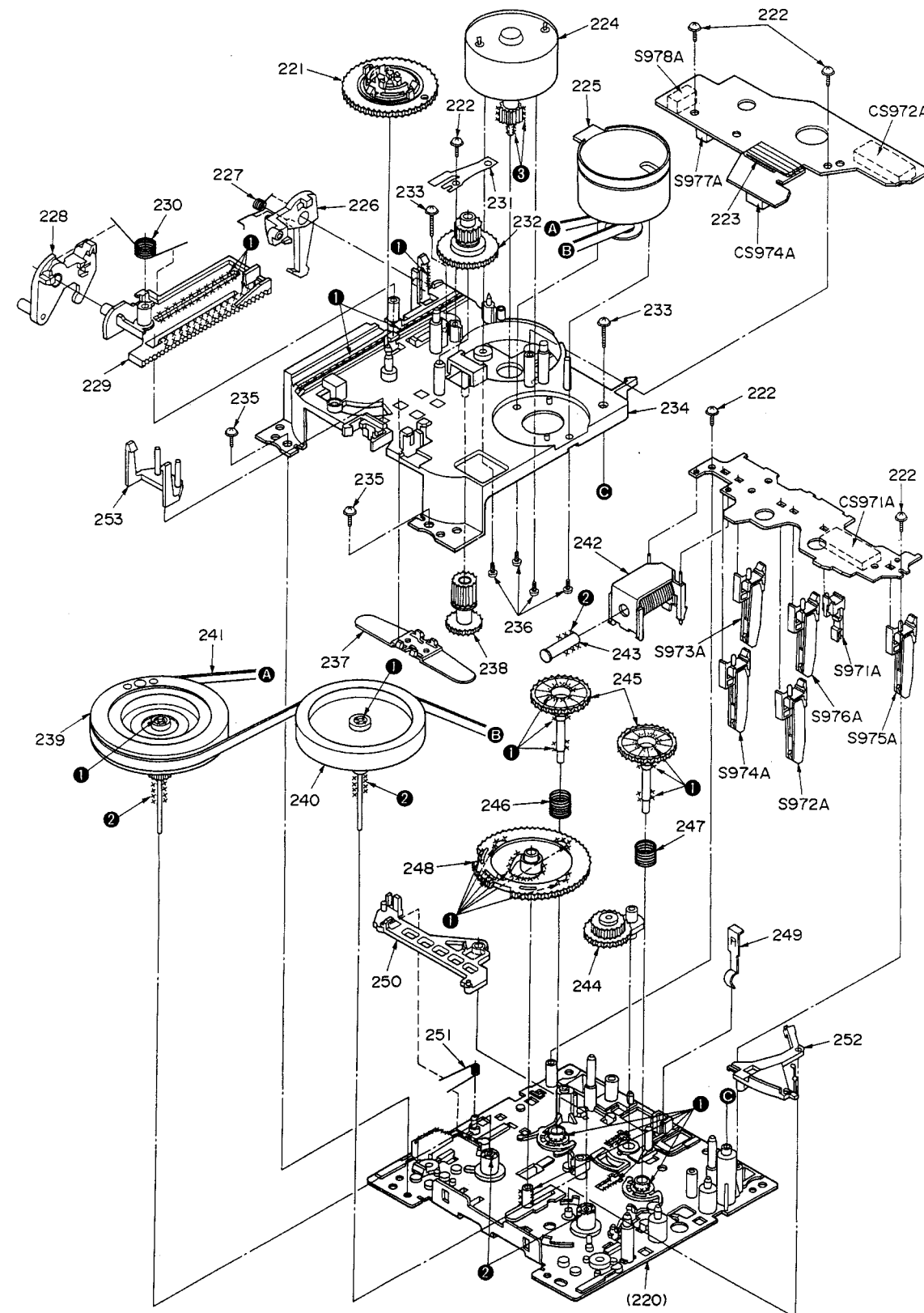
Note:
When changing mechanism parts, apply the specified grease to areas marked "x x" as shown in the drawing.

Ref. No.	Part Name	Part No.
①	FLOIL AK-152	SZZ0L18
②	SWAFLUID #56	RZZ0L02
③	MOLYCOAT EM-20L	RZZ0L05



5 6 7 8 9

(Bottom view)



REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		LOADING CASSETTE MECH PARTS		246	RMB0263	SPRING (F)	
				247	RMB0264	SPRING (R)	
				248	RD0019	MAIN GEAR	
DECK2				249	RUS6092C	SPRING, TAPE PRESSURE	
201	RXQ0264	HEAD BLOCK (REC./PLAYBACK)		250	RML0267	TRIGGER LEVER	
201-1	RMQ0360	CONNECTOR HOLDER		251	RW1472A	SPRING, TRIGGER LEVER	
202	XTW2+5L	SCREW		252	RML0268	FOR./REV. SIDE LEVER	
203	RFKRSTR979BK	HEAD BASE ASS'Y		253	RMQ0368	HOLDER	
204	RMB0266	SPRING, FOR./REV. SIDE ROD					
205	RXM0036	FOR./REV. SIDE ROD					
206	RGQ0092-K	LIFTER					
207	RMB0272	SPRING, STABILIZER					
208	RMQ0319	STABILIZER					
209	RKF0284-K	CASSETTE HOLDER					
210	RML0275	LIFT ARM					
211	RDG0212	LIFT GEAR					
212	RFKRSTR979DK	DRESSING PLATE ASS'Y					
213	RXR0015	REEL TABLE					
214	RML0272	SWITCH LEVER					
215	RXP0048	PINCH ARM (R)					
215-1	RMB0260	SPRING, PINCH ARM (R)					
216	RXP0047	PINCH ARM (F)					
216-1	RMB0259	SPRING, PINCH ARM (F)					
217	RMM0091	BRAKE ROD					
218	RMB0261	SPRING, HEAD BASE					
219	RMB0262	SPRING, BRAKE ROD					
220	RFKRSTR777AK	CHASSIS ASS'Y					
221	RXG0030	FRICTION GEAR					
222	XTW2+6S	SCREW					
223	RWJ4704050XX	MOTOR WIRE (4P), W971A					
224	REM0037	REEL MOTOR					
225	REM0036	CAPSTAN MOTOR					
226	RML0271	HOLDER HOOK					
227	RMB0268	SPRING, HOLDER HOOK					
228	RML0270	DRIVE LEVER					
229	RMQ0312	DRIVE RACK					
230	RMB0269	SPRING, DRIVE LEVER					
231	RMC0169	SHIELD PLATE					
232	RDG0209	INTERMEDIATE GEAR					
233	XTW26+12S	SCREW					
234	RFKRSTR979CK	SUB CHASSIS ASS'Y					
235	XTW26+6L	SCREW					
236	RHD26013	SCREW					
237	RMQ0314	SURASUTO SPACER					
238	RDG0206	LOADING GEAR					
239	RXF0040	FLYWHEEL (F)					
240	RXF0041	FLYWHEEL (R)					
241	RDV1082A	BELT					
242	RSJ0003	SOLENOID					
243	RMS0398	MOVING IRON CORE					
244	RXL0089	IDLE GEAR					
245	RXG0029	REEL GEAR					

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)		Q509	2SD1862QRTV6	TRANSISTOR	
				Q510	2SC3311A-Q	TRANSISTOR	
				Q511	DTC114ESTP	TRANSISTOR	
IC1	AN7384	ELECTRIC VOLUME		Q512	2SB1030AQSTA	TRANSISTOR	
IC2	AN7352S-E2	PLAYBACK AMP		Q513	DTC114ESTP	TRANSISTOR	
IC3	AN7353S-E2	REC. EQ. AMP (DECK2)		Q514	2SB1030AQSTA	TRANSISTOR	
IC4	M5218L	HEADPHONES AMP		Q515	DTC114ESTP	TRANSISTOR	
IC151	M62352FPE1	12ch D/A CONVERTER		Q516	2SB621A-R	TRANSISTOR	
IC152	BU2040F-T2	SERIAL PARALLEL CONVERTER		Q517	2SC3311A-Q	TRANSISTOR	
IC301	UPC1297CA	DOLBY HX PRO (DECK2)		Q518	2SD1862QRTV6	TRANSISTOR	
IC302	SV1BA4560FT1	E. CURRENT ADJ. CONT. (DECK2)		Q519, 520	2SC3311A-Q	TRANSISTOR	
IC401	AN7354SC-E2	DOLBY B/C NR		Q521	DTA114ESTP	TRANSISTOR	
IC501	BA6218	REEL MOTOR DRIVE (DECK1)		Q522	2SB621A-R	TRANSISTOR	
IC502	BA6218	REEL MOTOR DRIVE (DECK2)		Q524	DTA114ESTP	TRANSISTOR	
IC503	MC14052BFR2	ANALOG MULTIPLEXER		Q525	2SB621A-R	TRANSISTOR	
IC504	MC14584BFR2	HEX SCHMITT TRIGGER		Q526	2SA1309A-R	TRANSISTOR	
IC505	M38172M4065F	MICROCOMPUTER		Q527, 528	2SD1423QRS	TRANSISTOR	
IC506	LE93CS47M6TL	EEPROM		Q529, 530	2SA1309A-R	TRANSISTOR	
IC971	RVSGP2S24BC	PHOTO INTERRUPTER (DECK1)		Q531	DTA114ESTP	TRANSISTOR	
IC971A	RVSGP2S24BC	PHOTO INTERRUPTER (DECK2)		Q601, 602	2SC3327-A	TRANSISTOR	
IC972	RVSGP2S24BC	PHOTO INTERRUPTER (DECK1)		Q603	DTC114ESTP	TRANSISTOR	
IC972A	RVSGP2S24BC	PHOTO INTERRUPTER (DECK2)		Q604	2SA1309A-R	TRANSISTOR	
				Q605	2SC3311A-Q	TRANSISTOR	
		TRANSISTOR (S)		Q606	2SD2037EFTA	TRANSISTOR	Δ
				Q607	2SB1357EFTA	TRANSISTOR	Δ
Q3, 4	2SJ164PQRTA	TRANSISTOR		Q608	2SD2037EFTA	TRANSISTOR	Δ
Q5	DTA114ESTP	TRANSISTOR		Q609	2SB621A-R	TRANSISTOR	Δ
Q6-8	2SC3311A-Q	TRANSISTOR		Q610	2SD2037EFTA	TRANSISTOR	
Q9, 10	2SJ164PQRTA	TRANSISTOR		Q611	2SB1357EFTA	TRANSISTOR	
Q152, 153	DTA114ESTP	TRANSISTOR		Q612	2SB621A-R	TRANSISTOR	
Q154, 155	DTC114ESTP	TRANSISTOR		Q613	2SD2037EFTA	TRANSISTOR	
Q156	2SA1309A-R	TRANSISTOR		Q614	2SB1357EFTA	TRANSISTOR	Δ
Q158	DTC114ESTP	TRANSISTOR		Q615	2SA1309A-R	TRANSISTOR	
Q159	2SA1309A-R	TRANSISTOR		Q701	2SC3311A-Q	TRANSISTOR	
Q301	2SA1309A-R	TRANSISTOR					
Q302, 303	2SC3311A-Q	TRANSISTOR				DIODE (S)	
Q304	2SB621A-R	TRANSISTOR					
Q305	2SD592ANCQ	TRANSISTOR		D3, 4	MA167	DIODE	
Q306	2SB1030AQSTA	TRANSISTOR		D5	MA165	DIODE	
Q401-406	2SC3311A-Q	TRANSISTOR		D6	MTZJ6R2BTA	DIODE	
Q501	DTC114ESTP	TRANSISTOR		D150, 151	MA165	DIODE	
Q502	2SB1030AQSTA	TRANSISTOR		D152	MTZJ5R1BTA	DIODE	
Q503	DTC114ESTP	TRANSISTOR		D153, 154	1SR35200TB	DIODE	
Q504	2SB1030AQSTA	TRANSISTOR		D157-159	MA165	DIODE	
Q506	DTC114ESTP	TRANSISTOR		D301, 302	MTZJ7R5CTA	DIODE	
Q507	2SB621A-R	TRANSISTOR		D303-306	MA165	DIODE	
Q508	2SC3311A-Q	TRANSISTOR		D401, 402	MA165	DIODE	

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
D503	MA700	DIODE					
D505	MA165	DIODE		FL501	RSL0139-F	FL DISPLAY TUBE	
D506	MTZJ3R3ATA	DIODE					
D508	MTZJ7R5CTA	DIODE				SWITCH(ES)	
D509, 510	MA165	DIODE					
D511	MA700	DIODE		S601	SSR187-1	VOLTAGE SELECTOR	(GC) △
D512	MA165	DIODE		S701	EVQ21405R	SYNCHRO START	
D513	MTZJ3R3ATA	DIODE		S702	EVQ21405R	SPEED (X1, X2)	
D514	ISR35200TB	DIODE		S703	EVQ21405R	DOLBY NR (B, C)	
D515	MTZJ7R5CTA	DIODE		S704	EVQ21405R	REVERSE MODE	
D516	ISR35200TB	DIODE		S705	EVQ21405R	F. F. <TPS> (DECK1)	
D517-519	MA165	DIODE		S706	EVQ21405R	F. F. <TPS> (DECK2)	
D601, 602	MA165	DIODE	△	S707	EVQ21405R	POWER	
D603-609	ISR35200TB	DIODE	△	S708	EVQ21405R	STOP (DECK2)	
D610, 611	MA165	DIODE		S709	EVQ21405R	REW. <TPS> (DECK1)	
D613, 614	MTZJ8R2CTA	DIODE	△	S710	EVQ21405R	REW. <TPS> (DECK2)	
D615	MTZJ6R2BTA	DIODE	△	S711	EVQ21405R	STOP (DECK1)	
D616	MTZJ20DTA	DIODE	△	S712	EVQ21405R	F. PLAYBACK (DECK2)	
D617	MA165	DIODE		S713	EVQ21405R	F. PLAYBACK (DECK1)	
D618	MTZJ8R2CTA	DIODE	△	S714	EVQ21405R	R. PLAYBACK (DECK2)	
D619, 620	ISR35200TB	DIODE	△	S716	EVQ21405R	REC (DECK2)	
D971	RVD1SS133TA	DIODE (DECK1)		S717	EVQ21405R	R. PLAYBACK (DECK1)	
D971A	RVD1SS133TA	DIODE (DECK2)		S719	EVQ21405R	PAUSE (DECK2)	
		VARIABLE RESISTOR(S)		S721	EVQ21405R	AUTO REC MUTE (DECK2)	
				S722	EVQ21405R	OPEN/CLOSE (DECK1)	
				S723	EVQ21405R	OPEN/CLOSE (DECK2)	
VR1-3	EVNDXAA00B53	TAPE SPEED ADJ.		S724	EVQ21405R	COUNTER2 MODE (DECK2)	
VR701	EVJ02KF02B53	BIAS ADJ. CONTROL		S725	EVQ21405R	COUNTER1 MODE (DECK1)	
VR702	EVJ02FF02B15	REC LEVEL CONTROL		S726	EVQ21405R	COUNTER2 RESET (DECK2)	
VR703	EVJ02SF02G15	BALANCE CONTROL		S727	EVQ21405R	COUNTER1 RESET (DECK1)	
		OSC. (S) AND COMBINATION(S)		S729	EVQ21405R	ATC (DECK2)	
				S730	SSS180-1	TIMER	
Z501	RSXY6M00M01T	CRYSTAL OSCILLATOR (6MHz)		S971	RSH1A018-U	MODE (DECK1)	
Z971A	EXBF6L306SYV	COMBINATION PART (DECK2)		S971A	RSH1A018-U	MODE (DECK2)	
		COIL (S)		S972	RSH1A019-U	HALF (DECK1)	
				S972A	RSH1A019-U	HALF (DECK2)	
				S973	RSH1A019-U	ATS (DECK1)	
				S973A	RSH1A019-U	ATS (DECK2)	
L1	RLZ0003	COIL		S974A	RSH1A019-U	R. REC INH. (DECK2)	
L2	SLQX303-1KT	COIL		S975A	RSH1A019-U	F. REC INH. (DECK2)	
L301, 302	SL09B1-Z	COIL		S976A	RSH1A019-U	ATS (DECK2)	
L303	SL09B4-K	COIL		S977	RSH1A022-U	OPEN DETECTION (DECK1)	
L401, 402	QLM9Z10K	COIL		S977A	RSH1A022-U	OPEN DETECTION (DECK2)	
L701	ELEXT101KA9	COIL		S978	RSH1A022-U	CLOSE DETECTION (DECK1)	
		TRANSFORMER (S)		S978A	RSH1A022-U	CLOSE DETECTION (DECK2)	
						CONNECTOR(S) AND SOCKET(S)	
T601	RTP1U4C001-V	POWER TRANSFORMER	(PP) △				
T601	RTP1U4E001-V	POWER TRANSFORMER	(EB, EG, GN) △	CN2P	RJS1A6606	CONNECTOR (6P)	
T601	RTP1U4E002-V	POWER TRANSFORMER	(GC) △	CN3-6	RJU003K010M1	SOCKET (10P)	
				CN501-503	RJU057W009	SOCKET (9P)	
		DISPLAY TUBE (S)		CN504	RJU057W007	SOCKET (7P)	

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
CN601	RJS1A1101T1	CONNECTOR (1P)		CS974	RJP3G17ZA	CONNECTOR (3P) (DECK1)	
CN602	RJS1A1101T1	CONNECTOR (1P)	(EB, EG, GC, GN)	CS974A	RJP3G17ZA	CONNECTOR (3P) (DECK2)	
CN603	RJS1A1101T1	CONNECTOR (1P)					
CN604, 605	RJS1A1101T1	CONNECTOR (1P)	(EB, EG, GC, GN)			JACK (S)	
CN606-608	RJS1A1101T1	CONNECTOR (1P)					
CN609-611	RJS1A1101T1	CONNECTOR (1P)	(PP, GC)	JK1	SJF3069N	TERMINAL BOARD: REC/PLAY	
CN701-703	RJU066H06	SOCKET (6P)		JK2	RJJ33T01	M3 JACK (BLACK) : S. EDIT	
CN704, 705	SJS50581BB	SOCKET (5P)		JK3, 4	RJJ33TR01	M3 JACK (RED) : R. C.	
CN706	RJU057W004	SOCKET (4P)		JK601	SJSD16	AC INLET	(PP, GN) △
CP1, 2	RJP5G18ZA	CONNECTOR (5P)		JK601	SJS9236	AC INLET	(EB, EG, GC) △
CP3-6	RJT003K010-1	CONNECTOR (10P)		JK602	SJS9331B	AC OUTLET	(PP) △
CP501-503	RJT057W009-1	CONNECTOR (9P)		JK710	SJJD19	HEADPHONES JACK	
CP504	RJT057W007-1	CONNECTOR (7P)					
CP505-508	RJT028W011-2	CONNECTOR (11P)				GND PART (S)	
CP701-703	RJT066H06	CONNECTOR (6P)					
CP704, 705	RJT067H05	CONNECTOR (5P)		E1	SNE1004-1	GND PLATE	
CP706	RJT057W004-1	CONNECTOR (4P)		E701	RMC0199	GND PLATE	
CP707	RJP3G17ZA	CONNECTOR (3P)					
CS971	RJU028W011-1	SOCKET (11P) (DECK1)				FLAT CABLE (S)	
CS971A	RJU028W011-1	SOCKET (11P) (DECK2)					
CS972	RJU028W011-1	SOCKET (11P) (DECK1)					
CS972A	RJU028W011-1	SOCKET (11P) (DECK2)		W2P	REZ0573	FLAT CABLE (6P)	

RESISTORS AND 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, 1 K = 1,000 (OHM), 1 M = 1,000 k (OHM)

Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
		RESISTORS	R53, 54	ERDS2TJ101	1/4W 100	R173	ERDS2TJ221	1/4W 220
			R55	ERDS2TJ223	1/4W 22K	R174-178	ERDS2TJ103	1/4W 10K
			R56	ERDS2TJ332	1/4W 3. 3K	R179, 180	ERDS2TJ184T	1/4W 180K
R3, 4	ERDS2TJ104	1/4W 100K	R59	ERDS2TJ393	1/4W 39K	R301, 302	ERDS2TJ153	1/4W 15K
R5, 6	ERDS2TJ225	1/4W 2. 2M	R60	ERDS2TJ333	1/4W 33K	R303, 304	ERDS2TJ104	1/4W 100K
R7, 8	ERDS2TJ104	1/4W 100K	R61, 62	ERDS2TJ562	1/4W 5. 6K	R305, 306	ERDS2TJ154	1/4W 150K
R10	ERDS2TJ225	1/4W 2. 2M	R63, 64	ERDS2TJ222	1/4W 2. 2K	R307	ERDS2TJ101	1/4W 100
R11-14	ERDS2TJ101	1/4W 100	R65, 66	ERDS2TJ473	1/4W 47K	R308	ERDS2TJ1R0	1/4W 1
R15, 16	ERDS2EJ121	1/4W 120	R67, 68	ERDS2TJ103	1/4W 10K	R309	ERDS2TJ101	1/4W 100
R17, 18	ERDS2TJ474	1/4W 470K	R69, 70	ERDS2TJ682T	1/4W 6. 8K	R310	ERDS1FJ270	1/2W 27 △
R19, 20	ERDS2TJ103	1/4W 10K	R150	ERDS2TJ103	1/4W 10K	R311	ERDS2TJ102	1/4W 1K
R21, 22	ERDS2TJ273	1/4W 27K	R151	ERDS2TJ184T	1/4W 180K	R312	ERDS2TJ682T	1/4W 6. 8K
R23, 24	ERDS2TJ183T	1/4W 18K	R152	ERDS2TJ103	1/4W 10K	R313	ERDS2TJ392T	1/4W 3. 9K
R25, 26	ERDS2TJ103	1/4W 10K	R153	ERDS2TJ182	1/4W 1. 8K	R314	ERDS2TJ471	1/4W 470
R27, 28	ERDS2TJ101	1/4W 100	R155	ERDS2TJ184T	1/4W 180K	R315	ERDS2TJ681	1/4W 680
R29	ERDS2TJ332	1/4W 3. 3K	R156	ERDS2TJ272T	1/4W 2. 7K	R316, 317	ERDS2TJ183T	1/4W 18K
R30	ERDS2TJ472	1/4W 4. 7K	R157	ERDS2TJ103	1/4W 10K	R318	ERDS2TJ393	1/4W 39K
R31, 32	ERDS2TJ103	1/4W 10K	R158	ERDS2TJ223	1/4W 22K	R319	ERDS2TJ153	1/4W 15K
R33, 34	ERDS2TJ823T	1/4W 82K	R161	ERDS2TJ100	1/4W 10	R320	ERDS2TJ332	1/4W 3. 3K
R35	ERDS2TJ124T	1/4W 120K	R162	ERDS2TJ332	1/4W 3. 3K	R321	ERDS2TJ102	1/4W 1K
R36	ERDS2TJ223	1/4W 22K	R164	ERDS2TJ103	1/4W 10K	R322, 323	ERDS2TJ100	1/4W 10
R37, 38	ERDS2TJ102	1/4W 1K	R165	ERDS2TJ332	1/4W 3. 3K	R324	ERDS2TJ122	1/4W 1. 2K
R39, 40	ERDS2TJ225	1/4W 2. 2M	R166, 167	ERDS2TJ102	1/4W 1K	R325-327	ERDS1FJ270	1/2W 27 △
R41, 42	ERDS2TJ183T	1/4W 18K	R168	ERDS2TJ100	1/4W 10	R328	ERDS2TJ222	1/4W 2. 2K
R43, 44	ERDS2TJ393	1/4W 39K	R169	ERDS2TJ153	1/4W 15K	R329	ERDS2TJ473	1/4W 47K
R45, 46	ERDS2TJ394	1/4W 390K	R170	ERDS2TJ221	1/4W 220	R330, 331	ERDS1FJ270	1/2W 27 △
R47, 48	ERDS2TJ561	1/4W 560	R171	ERDS2TJ332	1/4W 3. 3K	R332	ERDS2TJ102	1/4W 1K
R49, 50	ERDS2TJ222	1/4W 2. 2K	R172	ERDS2TJ103	1/4W 10K	R401-404	ERDS2TJ684	1/4W 680K

Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
R405, 406	ERDS2TJ242	1/4W 2.4K	R572	ERDS2TJ472	1/4W 4.7K	R717, 718	ERDS2TJ182	1/4W 1.8K
R407, 408	ERDS2TJ562	1/4W 5.6K	R573	ERDS2TJ102	1/4W 1K	R719	ERDS2TJ152	1/4W 1.5K
R409, 410	ERDS2TJ223	1/4W 22K	R574, 575	ERDS2TJ472	1/4W 4.7K	R721, 722	ERDS2TJ222	1/4W 2.2K
R413, 414	ERDS2TJ104	1/4W 100K	R576	ERDS2TJ333	1/4W 33K	R723	ERDS2TJ122	1/4W 1.2K
R504	ERDS2TJ472	1/4W 4.7K	R579, 580	ERDS2TJ472	1/4W 4.7K	R724, 725	ERDS2TJ332	1/4W 3.3K
R505	ERDS2TJ392T	1/4W 3.9K	R581	ERDS2TJ183T	1/4W 18K	R726	ERDS2TJ222	1/4W 2.2K
R507	ERDS2TJ223	1/4W 22K	R582	ERDS2TJ333	1/4W 33K	R727, 728	ERDS2TJ472	1/4W 4.7K
R508	ERDS2TJ821	1/4W 820	R583	ERDS2TJ103	1/4W 10K	R729, 730	ERDS2TJ682T	1/4W 6.8K
R509	ERDS2TJ472	1/4W 4.7K	R586-588	ERDS2TJ223	1/4W 22K	R731, 732	ERDS2TJ123	1/4W 12K
R511	ERDS2TJ682T	1/4W 6.8K	R589	ERDS2TJ472	1/4W 4.7K	R733, 734	ERDS2TJ223	1/4W 22K
R511A	ERDS2TJ104	1/4W 100K	R592, 593	ERDS2TJ103	1/4W 10K	R735	ERDS2TJ683	1/4W 68K
R512	ERDS2TJ472	1/4W 4.7K	R594	ERDS2TJ223	1/4W 22K	R751	ERQ16NKKWR15E	1/6W 0.15 (EB, EG, GC, GN) Δ
R512A	ERDS2TJ393	1/4W 39K	R595	ERDS2TJ562	1/4W 5.6K			
R513	ERDS2TJ123	1/4W 12K	R596	ERDS2TJ272T	1/4W 2.7K	R796-799	ERDS2TJ393	1/4W 39K
R516	ERDS2TJ223	1/4W 22K	R597, 598	ERDS2TJ102	1/4W 1K	R971	ERDS2TJ151	1/4W 150 (DECK1)
R517	ERDS2TJ821	1/4W 820	R601-605	ERDS2TJ472	1/4W 4.7K	R971A	ERDS2TJ151	1/4W 150 (DECK2)
R520	ERDS2TJ472	1/4W 4.7K	R606	ERDS2TJ103	1/4W 10K			
R522	ERDS2TJ223	1/4W 22K	R607	ERDS2TJ472	1/4W 4.7K			CHIP JUMPERS
R523	ERDS2TJ821	1/4W 820	R610	ERDS2TJ103	1/4W 10K			
R524	ERDS1FJ270	1/2W 27 Δ	R611, 612	ERD2FCVJ6R8T	1/4W 6.8 Δ	J1, 2	W5E-18H	CHIP JUMPER (DECK1)
R525	ERDS2TJ332	1/4W 3.3K	R613, 614	ERDS2TJ102	1/4W 1K	J1A-5A	W5E-18H	CHIP JUMPER (DECK2)
R526	ERDS2TJ101	1/4W 100	R616, 617	ERDS2TJ101	1/4W 100			
R527	ERDS2TJ332	1/4W 3.3K	R618, 619	ERD2FCVG100T	1/4W 10 Δ			CAPACITORS
R528	ERDS2TJ222	1/4W 2.2K	R620, 621	ERDS2TJ222	1/4W 2.2K			
R529, 530	ERDS2TJ103	1/4W 10K	R622, 623	ERDS2TJ101	1/4W 100	C3, 4	ECBT1H471KB5	50V 470P
R532	ERDS2TJ102	1/4W 1K	R624	ERD2FCVJ6R8T	1/4W 6.8 Δ	C5, 6	ECBT1H102KB5	50V 1000P
R534	ERDS2TJ682T	1/4W 6.8K	R627	ERD2FCVJ6R8T	1/4W 6.8 Δ	C7, 8	ECBT1H471KB5	50V 470P
R535	ERDS2TJ472	1/4W 4.7K	R628, 629	ERD2FCVG270T	1/4W 27 Δ	C10	ECEA1HKA0R1B	50V 0.1U
R536	ERDS2TJ123	1/4W 12K	R630	ERDS2TJ472	1/4W 4.7K	C11, 12	ECBT1E103ZF	25V 0.01U
R538	ERDS2TJ223	1/4W 22K	R634	ERG1SJ220E	1W 22	C13, 14	ECQB1H682JF3	50V 6800P
R539	ERDS2TJ821	1/4W 820	R635	ERDS2TJ101	1/4W 100	C15, 16	ECEA1AU101	10V 100U
R540	ERDS2TJ472	1/4W 4.7K	R636	ERDS2TJ222	1/4W 2.2K	C17	ECEA1HKA47B	50V 0.47U
R541	ERDS2TJ682T	1/4W 6.8K	R637, 638	ERDS2TJ101	1/4W 100	C18	ECEA1CKA100B	16V 10U
R547	ERDS2TJ223	1/4W 22K	R639	ERDS2TJ103	1/4W 10K	C19, 20	ECKR2H121KB5	500V 120P
R548	ERDS2TJ821	1/4W 820	R640	ERDS2TJ472	1/4W 4.7K	C21, 22	ECEA1CKA100B	16V 10U
R549	ERDS2TJ472	1/4W 4.7K	R641	ERDS2TJ103	1/4W 10K	C23, 24	ECEA1HKA2R2B	50V 2.2U
R550	ERDS2TJ223	1/4W 22K	R643	ERDS2TJ331	1/4W 330	C25, 26	ECEA1HKA47B	50V 0.47U
R551	ERDS2TJ821	1/4W 820	R644	ERDS2TJ1R0	1/4W 1	C27, 28	ECEA1CKN100B	16V 10U
R552	ERDS1FJ270	1/2W 27 Δ	R701	ERDS2TJ821	1/4W 820	C29-32	ECEA1CKA100B	16V 10U
R553	ERDS2TJ332	1/4W 3.3K	R702	ERDS2TJ102	1/4W 1K	C33, 34	ECEA1CKA220B	16V 22U
R554	ERDS2TJ101	1/4W 100	R703	ERDS2TJ153	1/4W 15K	C35	ECQB1H392JF3	50V 3900P
R555	ERDS2TJ332	1/4W 3.3K	R704	ERDS2TJ122	1/4W 1.2K	C37, 38	ECEA1CKA220B	16V 22U
R556	ERDS2TJ222	1/4W 2.2K	R705	ERDS2TJ102	1/4W 1K	C39, 40	ECBT1E103ZF	25V 0.01U
R557, 558	ERDS2TJ103	1/4W 10K	R706	ERDS2TJ152	1/4W 1.5K	C41, 42	ECEA1HKA010B	50V 1U
R560-563	ERDS2TJ103	1/4W 10K	R707	ERDS2TJ182	1/4W 1.8K	C43, 44	ECEA1CKA100B	16V 10U
R564	ERDS2TJ331	1/4W 330	R708	ERDS2TJ102	1/4W 1K	C45, 46	ECBT1E103ZF	25V 0.01U
R565	ERDS2TJ183T	1/4W 18K	R709	ERDS2TJ821	1/4W 820	C61, 62	ECBT1H561KB5	50V 560P
R567	ERDS2TJ471	1/4W 470	R710, 711	ERDS2TJ562	1/4W 5.6K	C63	ECEA1HKA010B	50V 1U
R568	ERDS2TJ331	1/4W 330	R712, 713	ERDS2TJ102	1/4W 1K	C64	ECEA1CKA100B	16V 10U
R569	ERDS2TJ103	1/4W 10K	R714	ERDS2TJ821	1/4W 820	C65	ECBT1E103ZF	25V 0.01U
R570	ERDS2TJ472	1/4W 4.7K	R715	ERDS2TJ122	1/4W 1.2K	C67, 68	ECBT1C472KB5	16V 4700P
R571	ERDS2TJ102	1/4W 1K	R716	ERDS2TJ152	1/4W 1.5K	C150	ECBT1E103ZF	25V 0.01U

Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks			
C151	ECEA1AU471	10V 470U	C521	ECBT1E103ZF	25V 0.01U			
C152	ECBT1E103ZF	25V 0.01U	C522	ECEA1AKA220B	10V 22U			
C153	ECA0JM222B	6.3V 2200U	C601	ECKR2H682PE	500V 6800P			
C154	ECBT1H331KB5	50V 330P	C602	ECEA1EU222B	25V 2200U Δ			
C155	ECBT1H102KB5	50V 1000P	C603	ECA1HM221B	50V 220U Δ			
C301	ECBT1E103ZF	25V 0.01U	C604	ECKR2H682PE	500V 6800P			
C302	ECEA1CKA100B	16V 10U	C605, 606	ECA1EM102B	25V 1000U Δ			
C303, 304	ECBT1C122KR5	16V 1200P	C607, 608	ECBT1E103ZF	25V 0.01U			
C305, 306	ECQB1H103JF3	50V 0.01U	C609, 610	ECEA1AU221	10V 220U			
C307, 308	ECQB1H223JF3	50V 0.022U	C611-614	ECBT1E103ZF	25V 0.01U			
C309, 310	ECQV1H473JM3	50V 0.047U	C615, 616	ECA1AM102B	10V 1000U			
C311, 312	ECBT1H121KB5	50V 120P	C617, 618	ECBT1E103ZF	25V 0.01U			
C313, 314	ECKR2H821KB5	500V 820P	C619	ECA1EM221B	25V 220U			
C315, 316	ECBT1E223ZF	25V 0.022U	C620	ECA1CM222B	16V 2200U Δ			
C317	ECBT1H220J5	50V 22P	C701-705	ECBT1E103ZF	25V 0.01U			
C318	ECQP1153JZ	100V 0.015U						
C320	ECBT1H220J5	50V 22P						
C322	ECEA1AU221	10V 220U						
C323	ECBT1E103ZF	25V 0.01U						
C324	ECEA1EKA4R7B	25V 4.7U						
C325	ECKR1H392KB5	50V 3900P						
C326	ECEA1HKA0R1B	50V 0.1U						
C327	ECKW1H222KB5	50V 2200P						
C328	ECKD1H682KB	50V 6800P						
C329	ECKW1H222KB5	50V 2200P						
C330	ECBT1E103ZF	25V 0.01U						
C332	ECBT1E103ZF	25V 0.01U						
C401, 402	ECBT1C122KR5	16V 1200P						
C403, 404	ECBT1C152KR5	16V 1500P						
C405, 406	ECQB1H222JF3	50V 2200P						
C407, 408	ECQV1H124JM3	50V 0.12U						
C409, 410	ECEA1HKA010B	50V 1U						
C411, 412	ECEA1HKA2R2B	50V 2.2U						
C413, 414	ECEA1HKA010B	50V 1U						
C415, 416	ECQB1H152JF3	50V 1500P						
C417, 418	ECEA1HKAR47B	50V 0.47U						
C419, 420	ECQB1H152JF3	50V 1500P						
C421, 422	ECEA1HKAR47B	50V 0.47U						
C502	ECEA1HKAR47B	50V 0.47U						
C504	ECBT1E103ZF	25V 0.01U						
C505	ECEA1CN100SB	16V 10U						
C507	ECEA1HKAR47B	50V 0.47U						
C508	ECBT1E103ZF	25V 0.01U						
C509	ECEA1CN100SB	16V 10U						
C510	ECEA1CKA100B	16V 10U						
C512	ECEA1CKA100B	16V 10U						
C513	ECEA1EKA4R7B	25V 4.7U						
C514	ECEA1CKA100B	16V 10U						
C515	ECEA1HKA010B	50V 1U						
C516, 517	ECEA1CKA100B	16V 10U						
C518	ECBT1E103ZF	25V 0.01U						
C519	ECEA1AKA220B	10V 22U						

Service Manual

Cassette Deck

RS-TR777

Supplement

Dolby NR-Equipped
Stereo Double Cassette Deck

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
(PP)	U.S.A./Canada.	(K)
(EB)	Great Britain.	
(EG)	Germany, Italy and 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-TR777, Order No. AD9301002C0.

Note: This supplement is intended to provide additional information or corrections to the existing service manual for Model No. RS-TR777. Be sure to update your service manual for future reference.

CHANGES

CHANGE IN REPLACEMENT PARTS LIST (on pages 61, 63.)

Note: • 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.

Ref. No.	Change of Part No.		Part Name & Description	Remarks
	ORIGINAL	➡ NEW		
RESISTORS				
R310	ERDS1FJ270	ERDS1FVJ180T	C. RESISTOR, 1/2W, 18Ω	⚠
R325—327				
R330, 331				
CAPACITORS				
C523, 524	—	ECBT1E103ZF	C. CAPACITOR, 25V, 0.01μF	Addition
C610	ECEA1AU221	ECEA1AU471	E. CAPACITOR, 10V, 470μF	

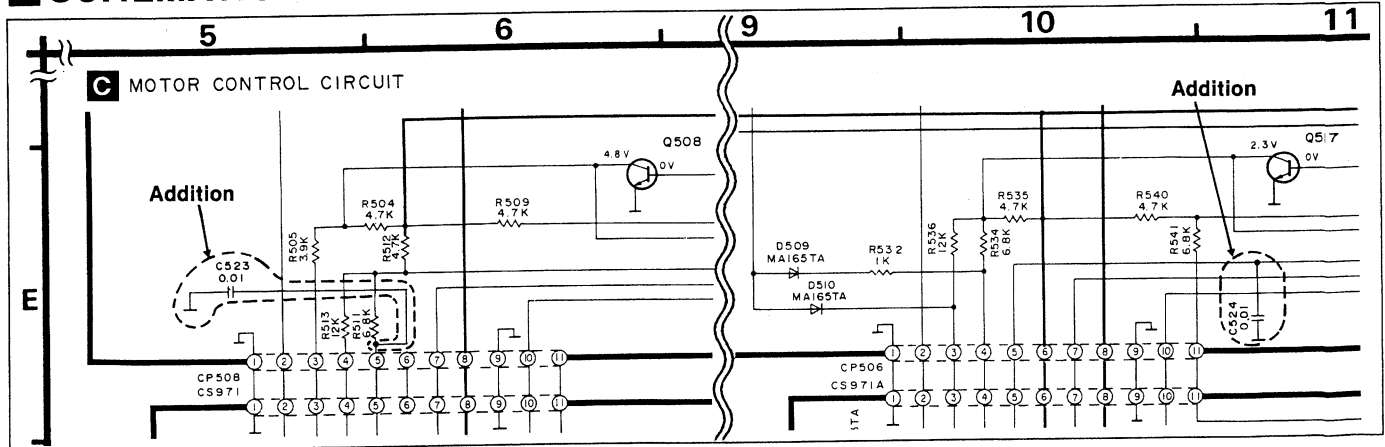
Technics

ADJUSTMENT PROCEDURE (See page 13.)

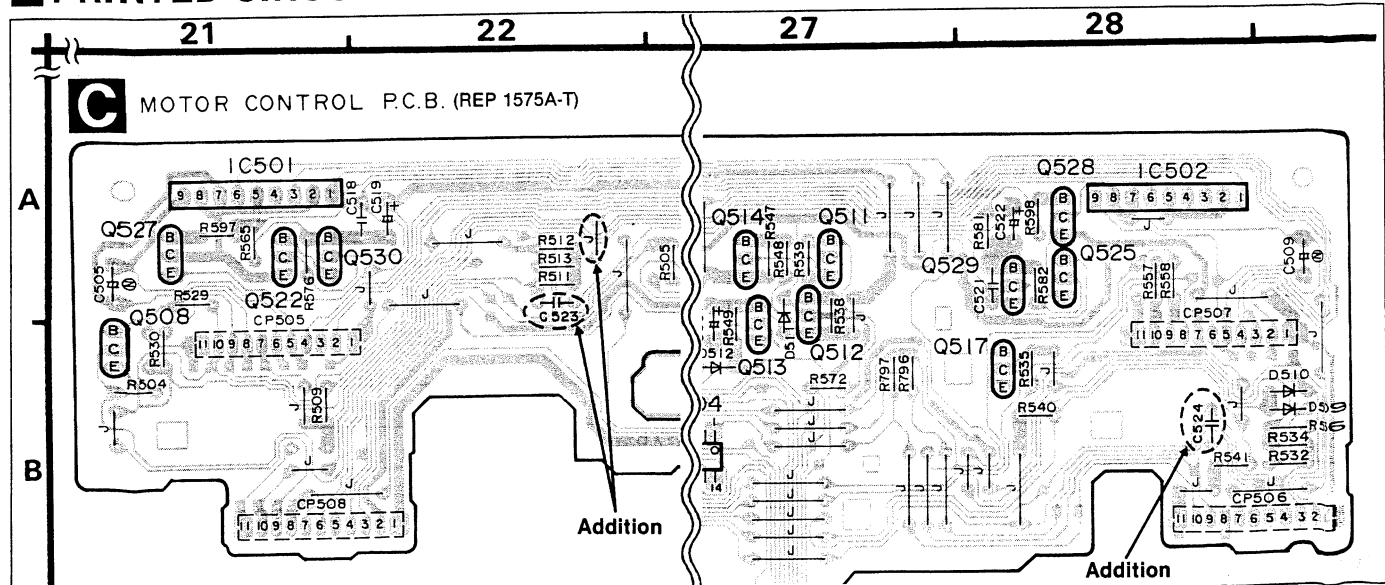
High Low	0	1	2	3	4	5	6	7
0	—	—	—	—	B0	68	30	88
1	—	—	—	—	00	78	68	68
2	—	—	D0	68	—	38	B0	68
3	—	—	80	78	—	64	6C	B0
4	—	—	E0	38	—	A8	70	B8
5	—	—	7C	64	—	50	A0	55
6	—	—	FB	A8	80	70	B1	68
7	—	—	F5	00	58	74	58	78
8	—	—	0F	—	18	AB	—	50
9	—	—	2B	—	80	68	—	72
A	—	—	12	—	88	—	—	4A
F	—	—	—	68	—	60	80	—

Fig. 1

SCHEMATIC DIAGRAM (See pages 37, 38.)



PRINTED CIRCUIT BOARDS (See pages 47, 48.)



Printed in Japan
H930315000 SN1-H/TN
30125T003
30204T003

Parts Change Notice

Model No. RS-TR979 (EB, EG, GC, PP)/RS-TR777 (PP, EB, EG, GC, GN)/RS-CA1060 (E)/
RS-CH510 (E)/RS-TR575 (P, PC, E, EB, EG, GC, GN)/SA-LS10 (EB, EG, Ei)/
RS-BX501 (E, EB, EG), (EP)

Please revise the original parts list in the Service Manual to conform to the change (s) shown below. If new part numbers are shown, be sure to use them when ordering parts.

Reason for Change		*The circled item indicates the reason. If no marking, see the Notes in the bottom column.	
1.	Improve performance		
2.	Change of material or dimension		
3.	To meet approved specification		
4.	Standardization		
5.	Addition		
6.	Deletion		
⑦.	Correction		
8.	Other		

Interchangeability Code		**The circled item Indicates the interchangeability. If no marking, see the Notes in the bottom column.	
Parts	Unit Production		
A	Original → Early New → Late		Original or new parts may be used in either early or late production units. Use original parts until the supply is exhausted, then stock new parts.
B	Original → Early New → Late		Original parts may be used in early production units only. New parts may be used in either or late production units. Use original parts where possible, then stock new parts.
③	Original → Early New → Late		New parts are to be used in both early and late production units. Stock new parts only.
D	Original → Early New → Late		Original parts must be used in early production units. New parts must be used in late production units only. Stock both original and new parts.
E	Other		

Part Number Information							
Model No.	Ref. No.	Original Part No.	New Part No.	Notes (*, **)	Part Name & Description	Q'ty	
MECHANISM PARTS							
RS-TR979	101	RXQ0264	RFKRSTR979	7,C	HEAD BLOCK (REC./PLAYBACK)		
	201	RXQ0264	RFKRSTR979	7,C	HEAD BLOCK (REC./PLAYBACK)		
RS-TR777	101	RXQ0269	RFKRSTR777	7,C	HEAD BLOCK (PLAYBACK)		
	201	RXQ0264	RFKRSTR979	7,C	HEAD BLOCK (REC./PLAYBACK)		
RS-CA1060	106	RXQ0317-1	RFKRSTR777	7,C	HEAD BLOCK (P. B)		
	106	RXQ0316-1	RFKRSTR979	7,C	HEAD BLOCK (R/P)		
RS-CH510	106	RXQ0317-1	RFKRSTR777	7,C	HEAD BLOCK (R. B)		
	206	RXQ0316-1	RFKRSTR979	7,C	HEAD BLOCK (R/P)		
RS-TR575/SA-LS10	106	RXQ0316-1	RFKRSTR979	7,C	HEAD BLOCK (R/P)		
RS-BX501							

Part file this parts change notice with your copy of the Service Manual for model No. RS-TR979 (EB, EG, GC, PP), RS-TR777 (PP, EB, EG, GC, GN), RS-CA1060 (E), RS-CH510 (E), RS-TR575 (P, PC, E, EB, EG, GC, GN), SA-LS10 (EB, EG, Ei), RS-BX501 (E, EB, EG), RS-BX501 (EP),

Order No. AD9301003C0.
Order No. AD9301002C0.
Order No. AD9406159C2.
Order No. AD9407189C8.
Order No. AD9403060C0.
Order No. AD9409247C2.
Order No. AD9403072C2.
Order No. AD9407202A2.

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