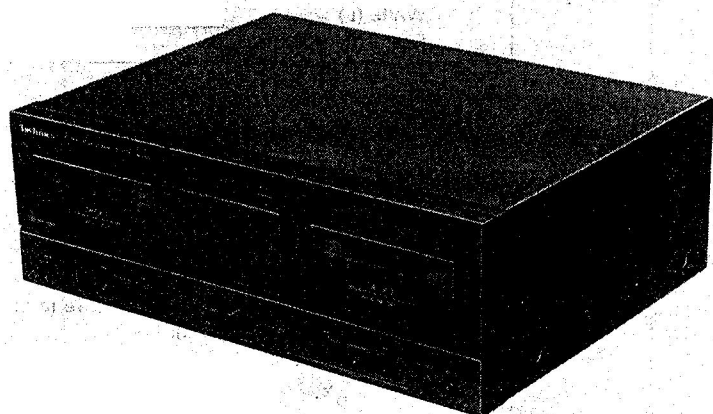
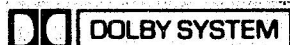


# Service Manual

Dolby NR-Equipped  
Stereo Double Cassette Deck

Cassette Deck  
**RS-X120**



Colour

(K)... Black Type

Area

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

- Please file and use this manual together with the service manual for Model No. RS-X102, Order No. AD9103044C8.
- This service manual indicates the main differences between; Original RS-X102.

## ■ LINE-UP OF COMPONENTS

| System Name  | Unit                                    |
|--------------|-----------------------------------------|
| SC-X120 (E)  | ST-X302LA (E) : Tuner                   |
|              | SU-X120 (E) : Amplifier                 |
|              | RS-X120 (EG) : Cassette Deck            |
|              | — : CD Player                           |
|              | SL-J110R (E) : Turntable                |
|              | SB-CS55 (E) : Speaker (Made in PAES)    |
| SC-X120 (EB) | ST-X302LA (EB) : Tuner                  |
|              | SU-X120 (EB) : Amplifier                |
|              | RS-X120 (EG) : Cassette Deck            |
|              | SL-PJ28A (EB) : CD Player (Made in MBV) |
|              | SL-J110R (EB) : Turntable               |
|              | SB-CS55 (E) : Speaker (Made in PAES)    |
| SC-X120 (EG) | ST-X302LA (EG) : Tuner                  |
|              | SU-X120 (EG) : Amplifier                |
|              | RS-X120 (EG) : Cassette Deck            |
|              | SL-PJ28A (EG) : CD Player (Made in MBV) |
|              | SL-J110R (EG) : Turntable               |
|              | SB-CS55 (E) : Speaker (Made in PAES)    |
| SC-X120 (EI) | ST-X302LA (EI) : Tuner (Made in PFS)    |
|              | SU-X120 (EG) : Amplifier                |
|              | RS-X120 (EG) : Cassette Deck            |
|              | SL-PJ28A (EG) : CD Player (Made in MBV) |
|              | SL-J110R (EG) : Turntable               |
|              | SB-CS55 (E) : Speaker (Made in PAES)    |

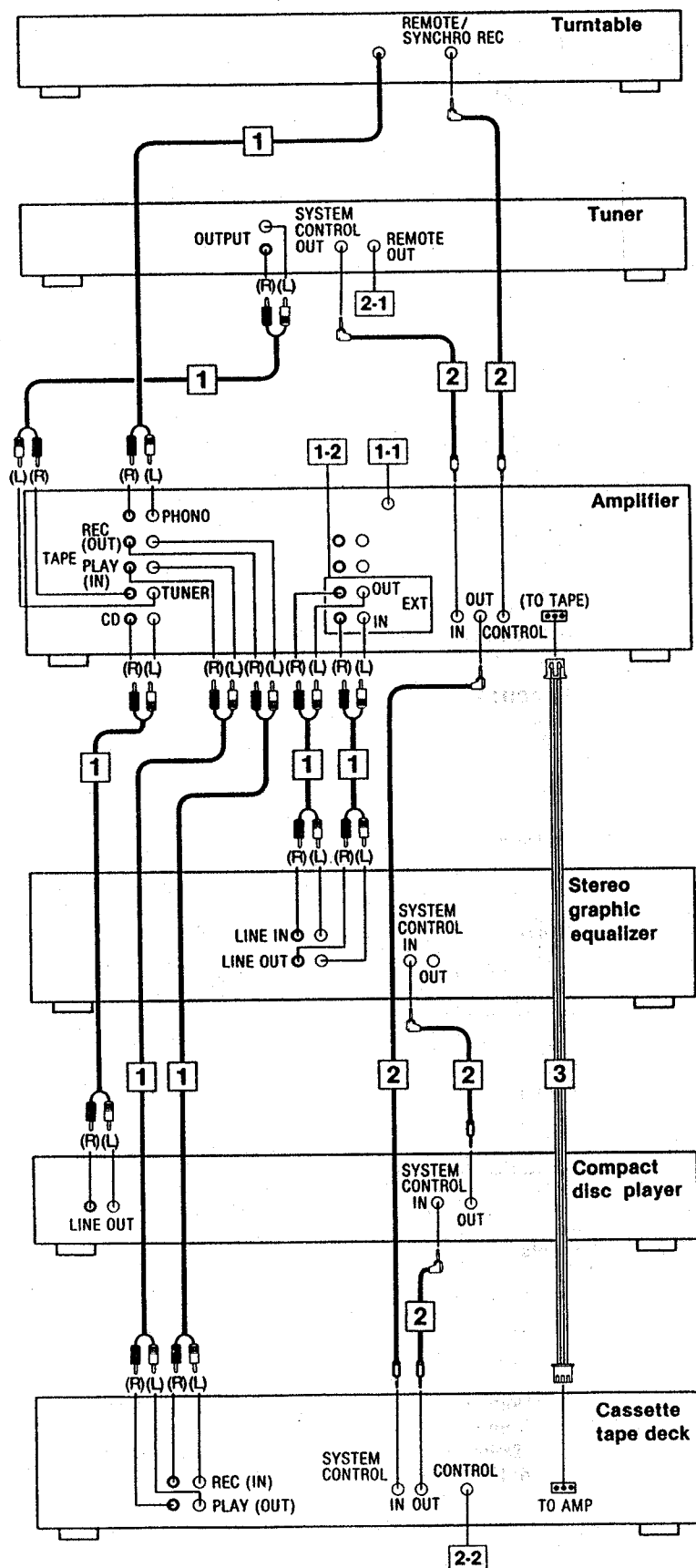
| System Name  | Unit                                   |
|--------------|----------------------------------------|
| SC-X120 (EF) | ST-X302LA (EF) : Tuner (Made in PFS)   |
|              | SU-X120 (E) : Amplifier                |
|              | RS-X120 (EG) : Cassette Deck           |
|              | SL-PJ28A (E) : CD Player (Made in MBV) |
|              | SL-J110R (E) : Turntable               |
|              | SB-CS55 (E) : Speaker (Made in PAES)   |
| SC-X120 (GC) | ST-X302LA (GC) : Tuner                 |
|              | SU-X120 (GC) : Amplifier               |
|              | RS-X120 (GC) : Cassette Deck           |
|              | SL-PJ28 (GC) : CD Player               |
|              | SL-J110R (GC) : Turntable              |
|              | SB-CD120 (GC) : Speaker                |
| SC-X120 (GN) | ST-X302LA (GN) : Tuner                 |
|              | SU-X120 (GN) : Amplifier               |
|              | RS-X120 (GC) : Cassette Deck           |
|              | SL-PJ28 (GN) : CD Player               |
|              | SL-J110R (GN) : Turntable              |
|              | SB-CD120 (GC) : Speaker                |

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

# Technics

# CONNECTIONS

## Connections of each unit



Connection diagrams shown are for connections to a Technics hi-fi component system. Make connections in the numbered sequential order.

- 1 Connect the stereo connection cables** (included with the turntable, tuner, stereo graphic equalizer, and cassette tape deck).

### Stereo connection cable

White (L)   
Red (R) 

#### 1-1

### "GND" terminal of the amplifier

This terminal is for use with a turntable which has a ground wire.

#### 1-2

### "EXT" terminals of the amplifier

When these terminals are not in use, be sure to insert the "shorting" pins (included).



- 2 Connect the L-type cables** (included with the turntable, tuner, stereo graphic equalizer, compact disc player, and cassette tape deck).

#### 2-1

### "REMOTE OUT" terminal

This terminal is used to connect to the "REMOTE IN" terminal of the Technics multi-compact disc player (not included).

#### 2-2

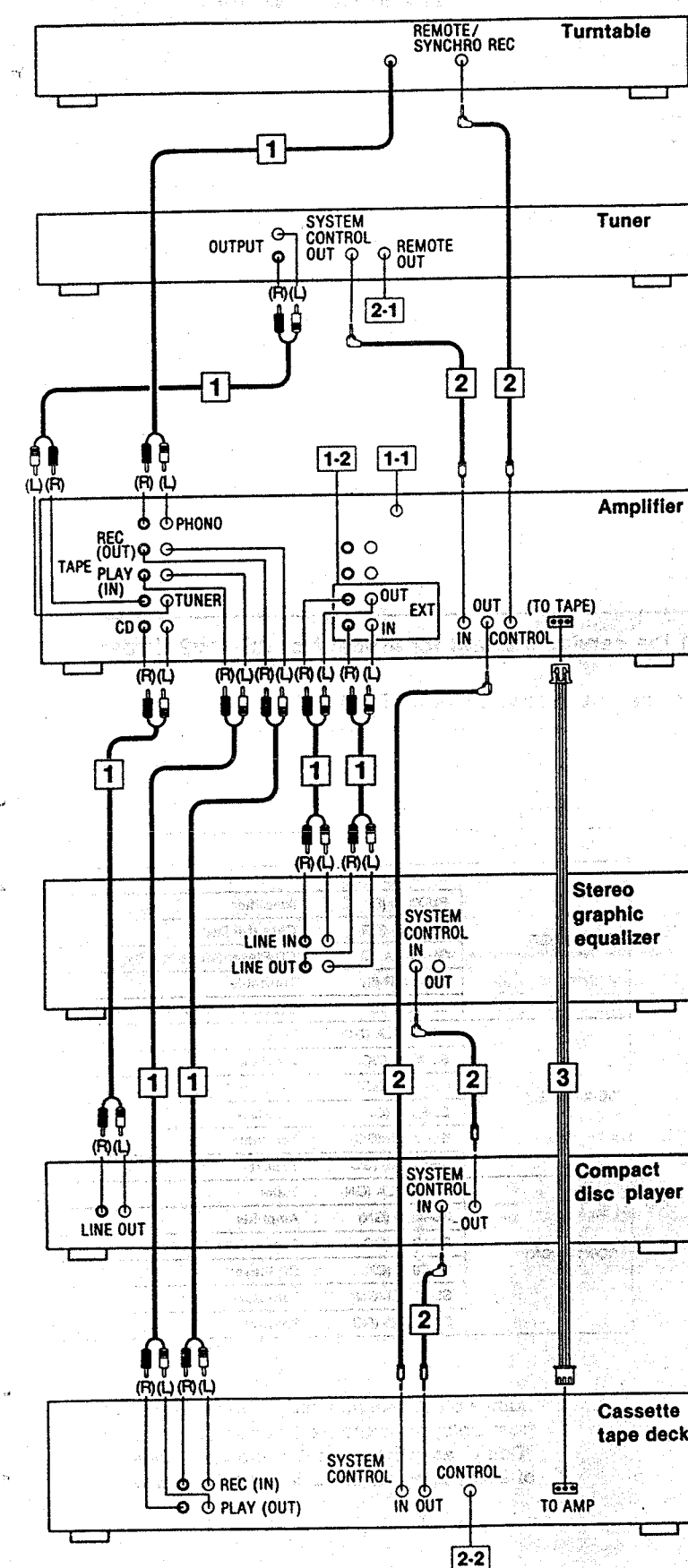
### "CONTROL" terminal

Make a connection from this terminal to the "CONTROL" terminal for a cassette deck on a Technics multi compact disc player. (For detailed information, refer to the operating instructions of the Technics multi compact disc player.)

- 3 Connect the 3-core flat cable** (included with the cassette tape deck).

# CONNECTIONS

## Connections of each unit



Connection diagrams shown are for connections to a Technics hi-fi component system. Make connections in the numbered sequential order.

- 1 Connect the stereo connection cables** (included with the turntable, tuner, stereo graphic equalizer, and cassette tape deck).

### Stereo connection cable

White (L)   
Red (R)

### 1-1

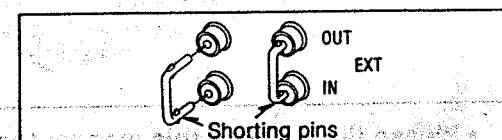
#### "GND" terminal of the amplifier

This terminal is for use with a turntable which has a ground wire.

### 1-2

#### "EXT" terminals of the amplifier

When these terminals are not in use, be sure to insert the "shorting" pins (included).



- 2 Connect the L-type cables** (included with the turntable, tuner, stereo graphic equalizer, compact disc player, and cassette tape deck).

### 2-1

#### "REMOTE OUT" terminal

This terminal is used to connect to the "REMOTE IN" terminal of the Technics multi-compact disc player (not included).

### 2-2

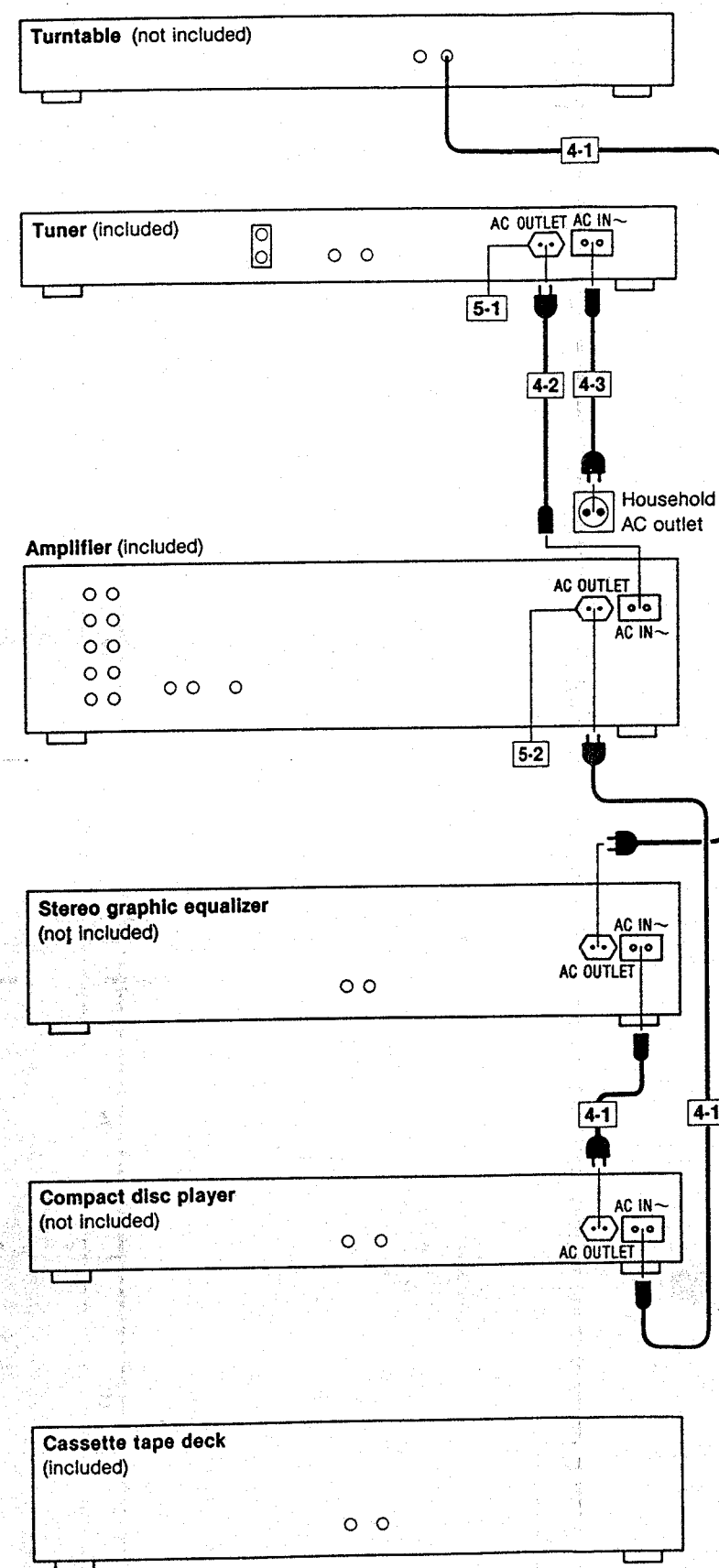
#### "CONTROL" terminal

Make a connection from this terminal to the "CONTROL" terminal for a cassette deck on a Technics multi compact disc player.

(For detailed information, refer to the operating instructions of the Technics multi compact disc player.)

- 3 Connect the 3-core flat cable** (included with the cassette tape deck).

## Connections of each unit (continued)



- 4 Connect the AC power supply cords.**  
**4-1 Connect the AC power supply cords** (not included).

- 4-2 Connect the AC power supply cord** (short for continental Europe) (included).

- 4-3 Connect the AC power supply cord** (long for continental Europe) (included).

Connect this cord only after all other cables have been connected.

### For areas except continental Europe

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



### Notes:

- Configuration of the AC outlets and AC power supply cords differ according to area.
- If the compact disc player is not used in combination with these components, connect the AC power supply cord of the stereo graphic equalizer to the AC outlet of the amplifier.

- 5 "AC OUTLET"**

### 5-1 "SWITCHED" outlet

Power is controlled by the power switch. Audio equipment rated up to 500 W can be connected here.

### 5-2 "UNSWITCHED" outlet:

Power is always available, regardless of power switch. Audio equipment rated up to 60 W can be connected here.

### Note:

If other audio equipments are to be connected to these outlets, make sure that the total power consumption does not exceed the rating of each outlet.

After other units have been connected, tie up the cords in a bundle with a clip, etc. and place them behind the units.

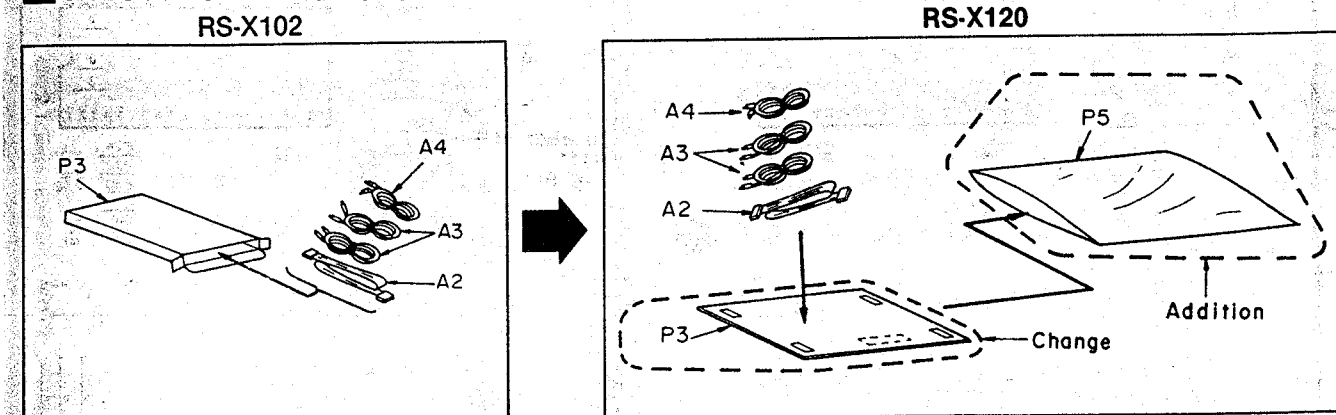
# **CHANGE IN REPLACEMENT PARTS LIST (on pages 28~31, 34, 40)**

- Notes:**
- Mentioned in this parts list is only those different from Model No. RS-X102 (E). All other parts are the same as for RS-X102 (E).
  - Important safety notice:  
Components identified by  $\Delta$  mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

| Ref. No.              | Change of Part No. |                  | Part Name & Description    | Remarks  |
|-----------------------|--------------------|------------------|----------------------------|----------|
|                       | RS-X102 (E)        | RS-X120 (EG, GC) |                            |          |
| INTEGRATED CIRCUIT(S) |                    |                  |                            |          |
| IC901                 | M50963-245SP       | M50963-248SP     | MICROCOMPUTER; MECHANICAL  |          |
| IC951                 | DN6851ALB          | LB9051A-WD       | HALL (DECK 1)              |          |
| IC971                 | DN6851ALB          | LB9051A-WD       | HALL (DECK 2)              |          |
| TRANSISTOR(S)         |                    |                  |                            |          |
| Q5-8                  | KSA1175YGTA        | 2SA1309A-R       | TRANSISTOR                 |          |
| Q9-14                 | KSC2785YGTA        | 2SC3311A-Q       | TRANSISTOR                 |          |
| Q303                  | KSB564ACYGTA       | 2SB621A-R        | TRANSISTOR                 |          |
| Q551                  | KSA1175YGTA        | 2SA1309A-R       | TRANSISTOR                 |          |
| Q607                  | KSB564ACYGTA       | 2SB621A-R        | TRANSISTOR                 |          |
| Q905                  | KSC2785YGTA        | 2SC3311A-Q       | TRANSISTOR                 |          |
| Q911                  | KSA1175YGTA        | 2SA1309A-R       | TRANSISTOR                 |          |
| Q918                  | KSA1175YGTA        | 2SA1309A-R       | TRANSISTOR                 |          |
| Q929                  | KSC2785YGTA        | 2SC3311A-Q       | TRANSISTOR                 |          |
| Q932                  | KSC2785YGTA        | 2SC3311A-Q       | TRANSISTOR                 |          |
| TRANSFORMER(S)        |                    |                  |                            |          |
| T601                  | RTP1H4G001         | RTP1I4G002       | POWER TRANSFORMER          | Δ        |
| CONNECTOR(S)          |                    |                  |                            |          |
| CN4                   | RJS1A1704          | RJS1A6604        | CONNECTOR (4P)             |          |
| CN6                   | RJS1A1704          | RJS1A6604        | CONNECTOR (4P)             |          |
| FLAT CABLE(S)         |                    |                  |                            |          |
| W3                    | RWJ0207210QQ       | RWJ5707210QQ     | FLAT CABLE (7P)            |          |
| W5                    | RWJ0210200QQ       | RWJ5710200QQ     | FLAT CABLE (10P)           |          |
| W8                    | RWJ0210200KQ       | RWJ5710200KQ     | FLAT CABLE (10P)           |          |
| RESISTORS             |                    |                  |                            |          |
| R35, 36               | ERDS2TJ474         | ERDS2TJ394       | C. RESISTOR, 1/4W, 390kΩ   |          |
| R131, 132             | ERDS2TJ104         | —                | C. RESISTOR, 1/4W, 100kΩ   | Deletion |
| R144, 145             | ERDS2TJ103         | ERDS2TJ562       | C. RESISTOR, 1/4W, 5.6kΩ   |          |
| R631                  | ERD25FVJ2R7T       | ERG1SJ120E       | M. RESISTOR, 1W, 12Ω       | Δ        |
| R913                  | ERDS2TJ271         | ERDS2TJ391       | C. RESISTOR, 1/4W, 390Ω    |          |
| R914                  | ERDS2TJ681         | ERDS2TJ331       | C. RESISTOR, 1/4W, 330Ω    |          |
| CAPACITORS            |                    |                  |                            |          |
| C7, 8                 | ECBT1H561KB5       | ECBT1H471KB5     | C. CAPACITOR, 50V, 470pF   |          |
| C13, 14               | ECEA0JKA101B       | ECEA1AU101       | E. CAPACITOR, 10V, 100μF   |          |
| C15, 16               | ECQB1H682JZ3       | ECQB1H822JF3     | C. CAPACITOR, 50V, 8200pF  |          |
| C21                   | ECEA0JKA101B       | ECEA1AU101       | E. CAPACITOR, 10V, 100μF   |          |
| C57, 58               | ECEA1AKA470B       | ECEA1CKA470B     | E. CAPACITOR, 16V, 47μF    |          |
| C135, 136             | ECQB1H822JZ        | ECQB1H153JF3     | C. CAPACITOR, 50V, 0.015μF |          |
| CABINET AND CHASSIS   |                    |                  |                            |          |
| 3                     | RYF0104B-K2        | RYF0104D-K       | CASSETTE LID (DECK 1)      |          |
| 4                     | RYF0105A-K2        | RYF0105B-K       | CASSETTE LID (DECK 2)      |          |

| Ref. No.                    | Change of Part No. |                  | Part Name & Description                                                | Remarks        |
|-----------------------------|--------------------|------------------|------------------------------------------------------------------------|----------------|
|                             | RS-X102 (E)        | RS-X120 (EG, GC) |                                                                        |                |
| 6                           | RGR0102A-B         | RGR0102A-F1      | REAR PANEL                                                             |                |
| 7                           | RFKJTX302LEK       | RFKJSX502E-K     | BOTTOM BOARD ASS'Y                                                     |                |
| 12                          | RFKGSX102E-K       | RFKGSX120EGK     | FRONT PANEL ASS'Y                                                      |                |
| <b>PACKING MATERIAL</b>     |                    |                  |                                                                        |                |
| P1                          | RPG0842            | RPG1212          | PACKING CASE                                                           |                |
| P3                          | SPSD152            | RPQ0164          | ACCESSORIES PAD                                                        |                |
| P4                          | SPP756             | XZB50X65A02Z     | PROTECTION COVER (UNIT)                                                |                |
| P5                          | —                  | XZB24X34C04      | PROTECTION BAG (ACCESSORIES)                                           | Addition       |
| <b>ACCESSORIES</b>          |                    |                  |                                                                        |                |
| A1                          | RQF1081            | —                | INSTRUCTION MANUAL UNIT                                                | (EG) Deletion  |
|                             |                    | —                | INSTRUCTION MANUAL UNIT                                                | (GC) Deletion  |
| A1-1                        | RFKSUX102E-K       | RFKSCX120E-K     | INSTRUCTION MANUAL ASS'Y (Europe.)                                     | (EG)           |
|                             |                    | RQT1495-G        | INSTRUCTION MANUAL (Asia, Latin America, Middle Near East and Africa.) | (GC)           |
|                             |                    | RQT1497-D        | INSTRUCTION MANUAL (Germany and Italy.)                                | (EG)           |
|                             |                    | RQT1498-B        | INSTRUCTION MANUAL (Great Britain and Oceania.)                        | (EG, GC)       |
| A1-2                        | RQA0013            | RQA0013          | WARRANTY CARD (Europe, Great Britain and Germany and Italy.)           | (EG)           |
|                             |                    | RQX7433ZA        | WARRANTY CARD (Oceania.)                                               | (GC)           |
|                             |                    | —                | WARRANTY CARD (Asia, Latin America, Middle Near East and Africa.)      | (GC) Deletion  |
| A3                          | SJP2249-3          | SJP2276          | STEREO CONNECTION CABLE                                                |                |
| <b>MECHANISM PARTS LIST</b> |                    |                  |                                                                        |                |
| <b>DECK 2</b>               |                    |                  |                                                                        |                |
| 261                         | XTW2+6L            |                  | SCREW                                                                  | Change of Pcs. |
| 262                         | XTW2+8L            |                  | SCREW                                                                  | Deletion       |

## **PACKAGING (on page 28.)**



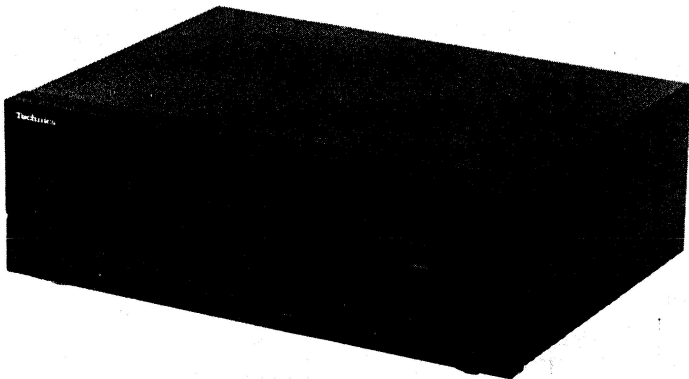
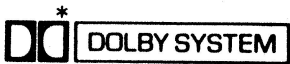




# Service Manual

Dolby NR-Equipped  
Stereo Double Cassette Deck

Cassette Deck  
RS-X102



Color  
(K)... Black Type

| Area         |                                                   |       |
|--------------|---------------------------------------------------|-------|
| Country Code | Area                                              | Color |
| (E)          | Continental Europe.                               | (K)   |
| (EB)         | Great Britain.                                    |       |
| (EG)         | F.R. Germany and Italy.                           |       |
| (GC)         | Asia, Latin America, Middle Near East and Africa. |       |
| (GN)         | Oceania.                                          |       |

## MECHANISM SERIES (AR300)

## SPECIFICATIONS

### ■ CASSETTE DECK SECTION

|                                                                      |                         |
|----------------------------------------------------------------------|-------------------------|
| Deck system                                                          | Stereo cassette deck    |
| Track system                                                         | 4-track, 2-channel      |
| Heads                                                                |                         |
| (tape deck 2) rec/play                                               | Permalloy head          |
| erasing                                                              | Double-gap ferrite head |
| (tape deck 1) play                                                   | Permalloy head          |
| Motors                                                               |                         |
| (tape deck 2) Capstan/reel table drive                               | DC servo motor          |
| (tape deck 1) Capstan/reel table drive                               | DC servo motor          |
| Recording system                                                     | AC bias                 |
| Bias frequency                                                       | 80 kHz                  |
| Erasing system                                                       | AC erase                |
| Tape speeds                                                          | 4.8 cm/sec. (1-7/8 ips) |
| Frequency response (w/o Dolby NR)                                    |                         |
| NORMAL                                                               | 30 Hz~16 kHz            |
|                                                                      | 40 Hz~15 kHz (DIN)      |
| CrO <sub>2</sub>                                                     | 30 Hz~16 kHz            |
|                                                                      | 40 Hz~15 kHz (DIN)      |
| METAL                                                                | 30 Hz~18 kHz            |
|                                                                      | 40 Hz~17 kHz (DIN)      |
| S/N (signal level = max recording level, CrO <sub>2</sub> type tape) |                         |
| Dolby B NR ON                                                        | 66 dB (CCIR)            |
| Dolby NR OFF                                                         | 56 dB (A weighted)      |

|                                 |                                             |
|---------------------------------|---------------------------------------------|
| Wow and flutter                 | 0.1 % (WRMS)                                |
| Fast forward and rewind times   | Approx. 110 seconds with C-60 cassette tape |
| Input sensitivity and impedance |                                             |
| LINE                            | 60 mV/47 kΩ                                 |
| Output voltage and impedance    |                                             |
| LINE                            | 400 mV/800 Ω                                |

### ■ GENERAL

|                    |                             |
|--------------------|-----------------------------|
| Power consumption  | 15 W                        |
| Dimensions (W×H×D) | 360×129×285 mm              |
|                    | (14-3/16"×5-3/32"×11-7/32") |
| Weight             | 3.7 kg (8.1 lb.)            |

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

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

# Technics

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## ACCESSORIES



3-core flat cable  
(REX0346) ..... 1 pc.

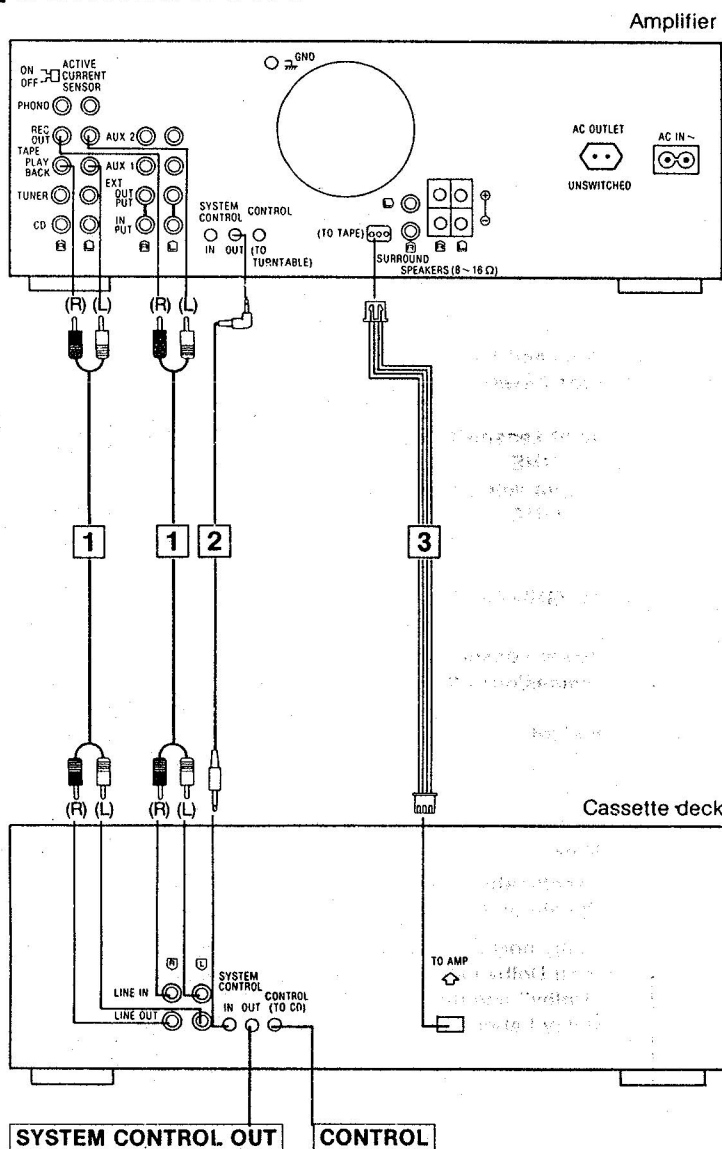


L-type cable  
(SJP2257T) ..... 1 pc.



Stereo connection cables  
(SJP2249-3) ..... 2 pcs.

## CONNECTIONS



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

### Stereo connection cable

White (L) ———  
Red (R) ———

**1** Connect the stereo connection cables.

**2** Connect the L-type cable.

**3** Connect the flat cable.

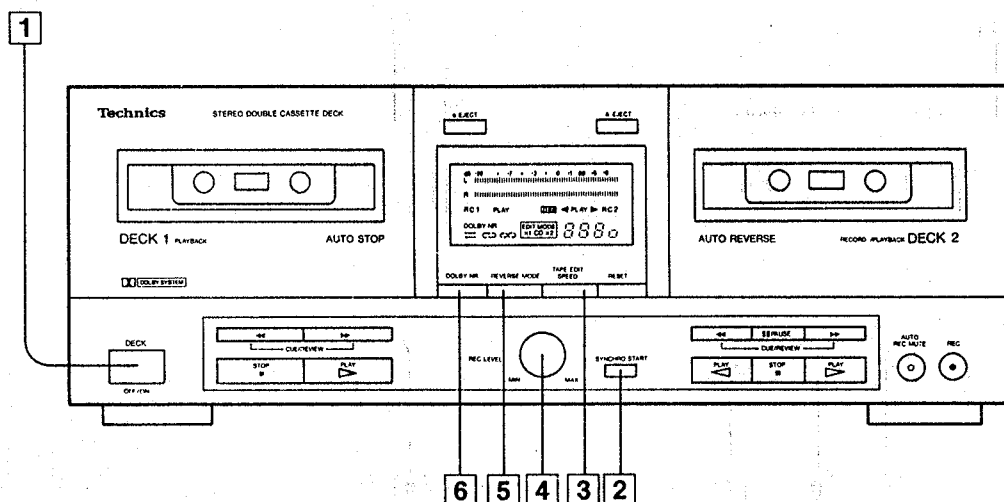
### SYSTEM CONTROL OUT

This terminal is used to connect a Technics compact disc player or a Technics stereo graphic equalizer with the "SYSTEM CONTROL IN" terminal.

### CONTROL

This terminal is used to connect a Technics multi compact disc player with the "CONTROL" terminal.

## LOCATION OF CONTROLS



### Controls common to both tape decks

#### 1 DECK ON/OFF switch (DECK)

#### 2 Synchro-start button (SYNCHRO START)

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

#### 3 Tape-to-tape recording tape-speed selector (TAPE EDIT SPEED)

This selector can be used to select the recording speed when a tape-to-tape recording is made.

#### 4 Recording-level control (REC LEVEL)

This control can be used to regulate the recording level of tape deck 2.

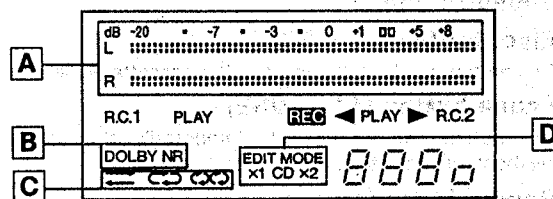
#### 5 Reverse-mode selector (REVERSE MODE)

This selector can be used for selection of the reverse mode (for either playback or recording).

#### 6 Dolby noise-reduction button (DOLBY NR)

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

### Indicators common to both tape decks



#### A Input level meter

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

#### B Dolby noise-reduction indicator (DOLBY NR)

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

#### C Reverse-mode indicators (REVERSE MODE)

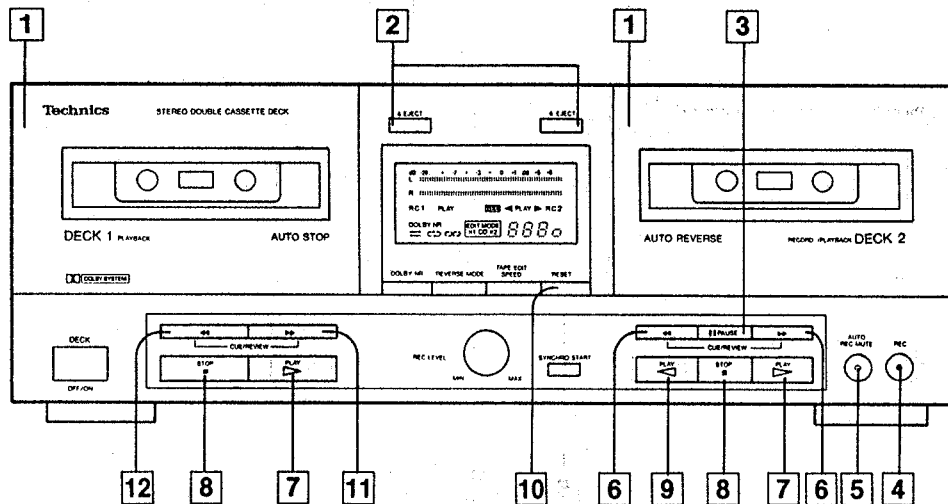
One of these indicators illuminates to show which of the reverse modes was selected by the reverse-mode selector.

#### D Edit-recording indicators (EDIT MODE, CD, x1, x2)

The words "EDIT MODE" and "x1 (or "x2") indicator will illuminate when a tape-to-tape recording is made. The words "EDIT MODE" and "CD" indicator will illuminate when a CD edit-recording is made.

## Tape deck 1

## Tape deck 2



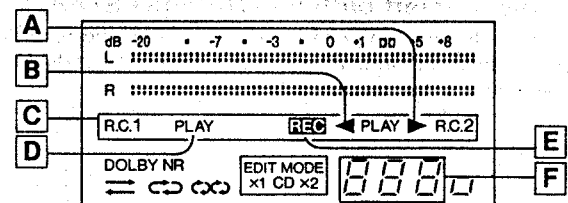
## Controls applicable to tape deck 1 and/or 2

- 1 Cassette holder**
- 2 Eject button (▲ EJECT)**  
This button can be used to open the cassette holder.
- 3 Pause button (|| PAUSE)**  
This button can be used to temporarily stop the tape playback or recording, on tape deck 2 only.
- 4 Record button (REC)**  
This button can be used to change tape deck 2 to the recording stand-by mode.
- 5 Automatic-record-muting button (AUTO REC MUTE)**  
This button can be used to make a silent interval on the tape during recording, on tape deck 2 only.
- 6 Fast-forward/cue, rewind/review buttons (◀◀, ▶▶)**  
These buttons are used to advance or rewind the tape. During playback, these buttons are used to cue or review while listening to the contents at high speed.
- 7 Forward-side playback button (▷ PLAY)**  
This button can be used to start the playback or recording of side "A" of the cassette in tape deck 2 only.  
(The tape will then begin moving in the left-to-right direction.)
- 8 Stop button (■ STOP)**  
This button can be used to stop tape movement.
- 9 Reverse-side playback button (◁ PLAY)**  
This button can be used to start the playback or recording of side "B" of the cassette in tape deck 2 only.  
(The tape will then begin moving in the right-to-left direction.)
- 10 Tape counter reset button (RESET)**  
This button can be used to reset the tape counter indication (for tape deck 2 only) to "000".
- 11 Fast-forward/cue button (▶▶)**  
This button is used to advance the tape. During playback this button is used to cue the contents at high speed.

**12 Rewind/review button (◀◀)**

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

## Indicators applicable only to deck 1 or 2



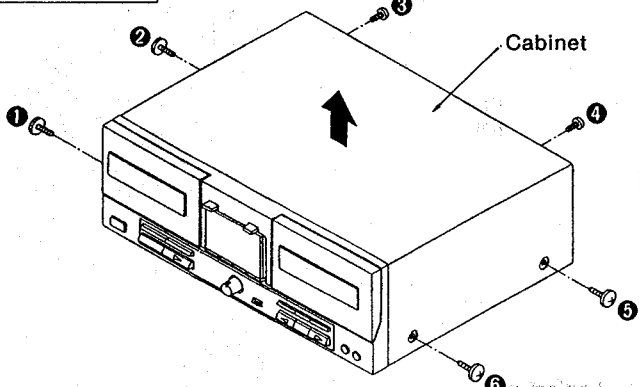
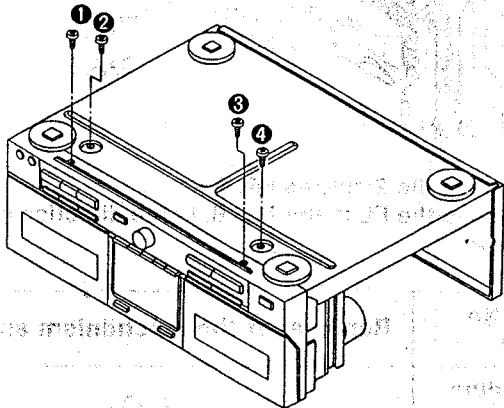
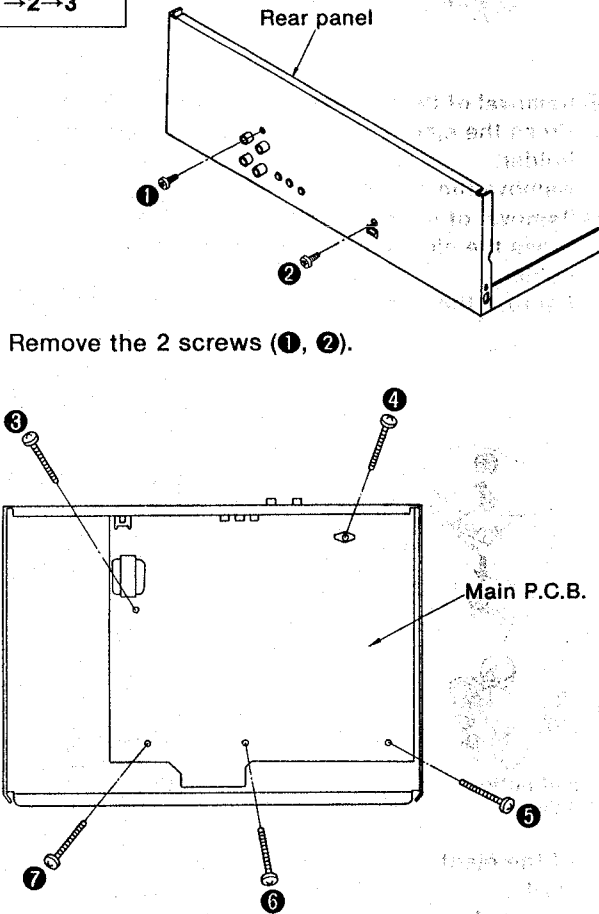
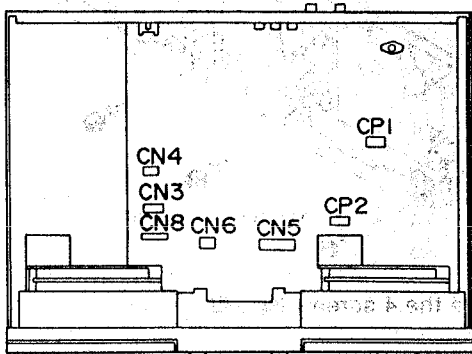
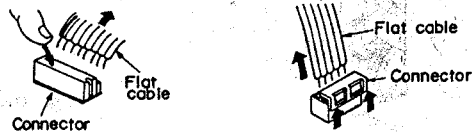
- A Forward-side indicator (▶)**  
This indicator illuminates during playback or recording on tape deck 2 to indicate that side "A" of the tape is being used.
- B Reverse-side indicator (◁)**  
This indicator illuminates during playback or recording on tape deck 2 to indicate that side "B" of the tape is being used.
- C Remote-control indicator (R.C.1/R.C.2)**  
This indicator illuminates to indicate that this tape deck can now be controlled by the remote-control transmitter (included with tuner).
- D Playback indicator (PLAY)**  
When this indicator illuminates steadily, it indicates that this tape deck is in the playback mode or the recording mode (for tape deck 2 only).  
When it flashes continually, this is an indication that tape deck 2 is in the pause mode or the recording stand-by mode.
- E Recording indicator (REC)**  
This indicator illuminates to indicate that tape deck 2 is in the recording stand-by mode or is recording.
- F Tape deck 2 counter**  
Indicates the amount of tape movement.

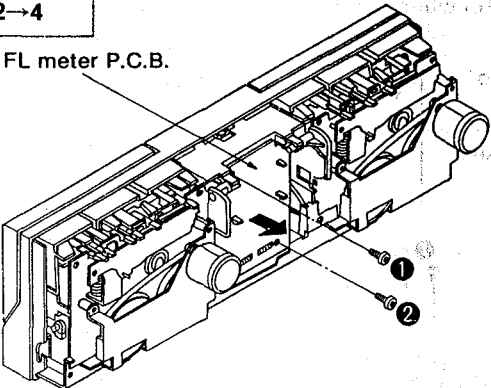
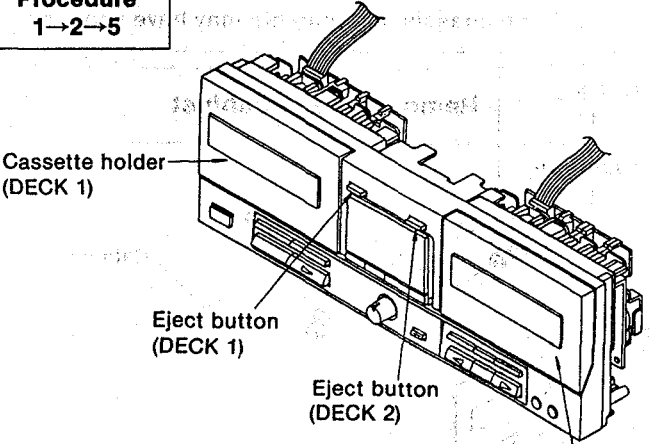
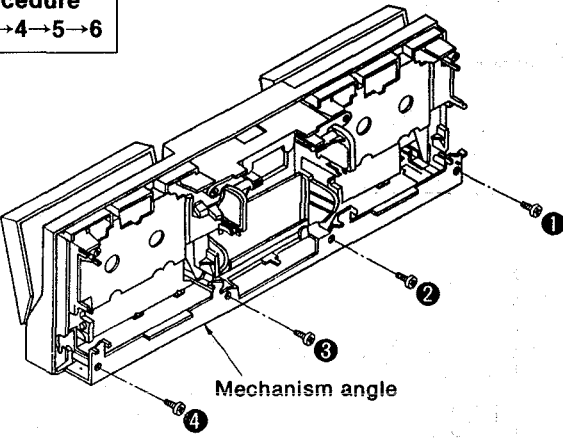
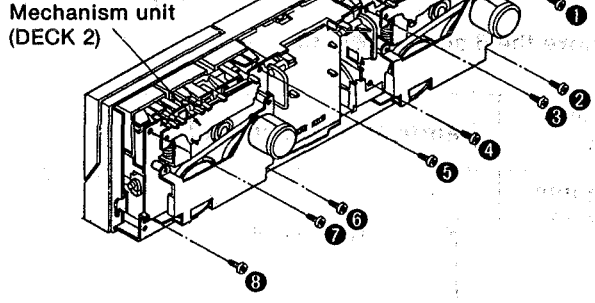
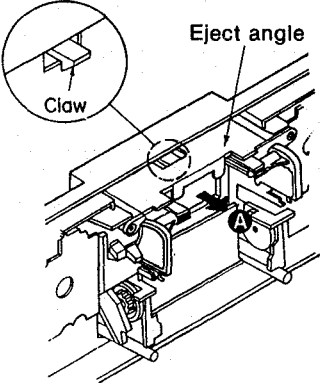
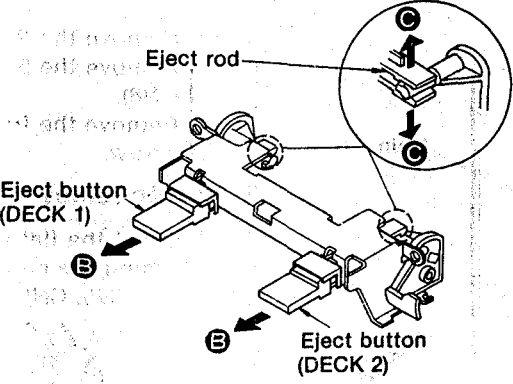
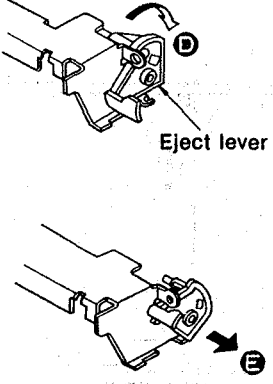


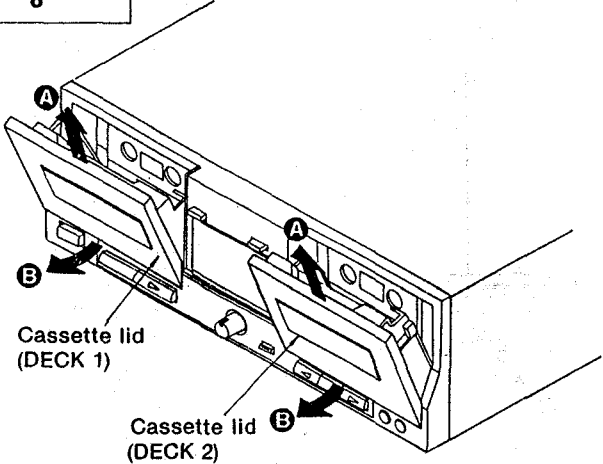
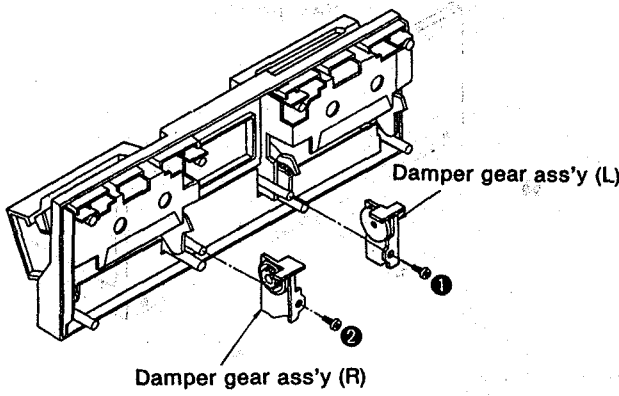
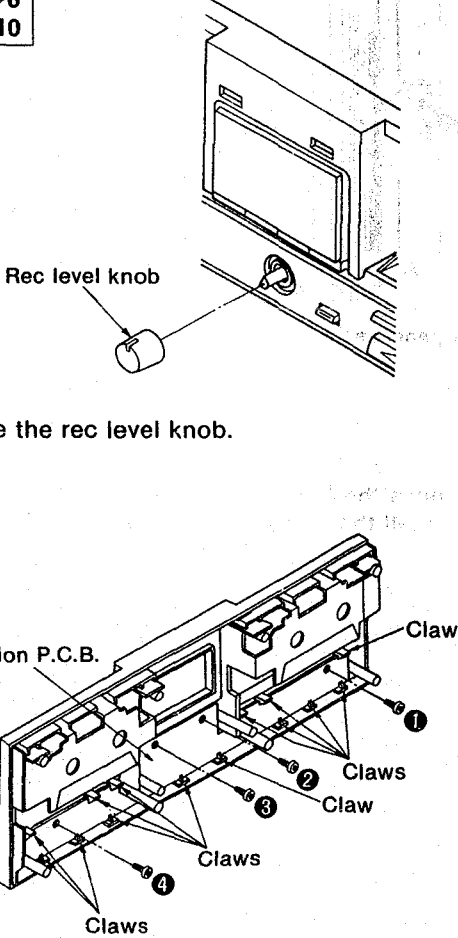
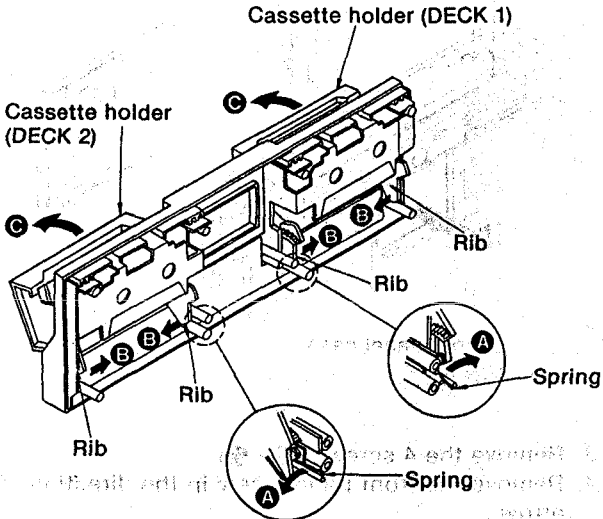
# DISASSEMBLY INSTRUCTIONS

## "ATTENTION SERVICER"

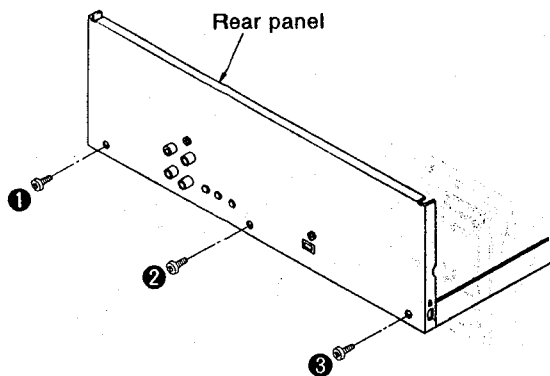
Some chassis components may have sharp edges. Be careful when disassembling and servicing.

|                           |                                                                                                                                                               |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Ref. No.</b><br>1      | <b>Removal of the cabinet</b>                                                                                                                                 | <b>Ref. No.</b><br>2    | <b>Removal of the front panel ass'y</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Procedure</b><br>1     |                                                                                                                                                               | <b>Procedure</b><br>1→2 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                           |  <p>• Remove the 6 screws (①~⑥).</p>                                          |                         |  <p>1. Remove the 4 screws (①~④).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Ref. No.</b><br>3      | <b>Removal of the main P.C.B.</b>                                                                                                                             |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Procedure</b><br>1→2→3 |                                                                                                                                                               |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                           |  <p>1. Remove the 2 screws (①, ②).</p> <p>2. Remove the 5 screws (③~⑦).</p> |                         |  <p>2. Remove the 2 connectors (CP1, CP2).</p> <p>3. Remove the 5 flat cables (CN3, CN4, CN5, CN6, CN8).</p> <p>4. Remove the front panel ass'y in the direction of arrow.</p> <p><b>How to remove the flat cable</b></p> <p>• Pull out the flat cable while pressing the connector. (CN3, CN5, CN8)</p> <p>1. Lift the connector.</p> <p>2. Pull out the flat cable. (CN4, CN6)</p>  |

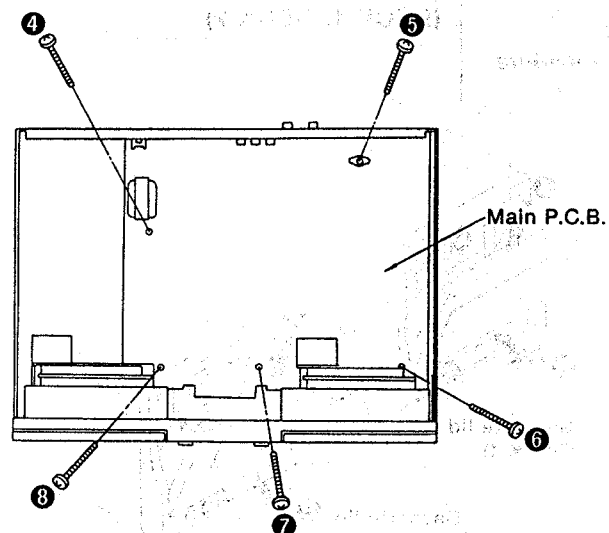
|                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Ref. No.</b><br>4                                                                                                                                                                                                                                          | <b>Removal of the FL meter P.C.B.</b>                                                                                                                                                                                                                                                                                                                        | <b>Ref. No.</b><br>5                                                                                               | <b>Removal of the mechanism units<br/>(DECK 1, DECK 2)</b>                                                                                                                                                                                                                                                                                                                                        |
| <b>Procedure</b><br>1→2→4                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                              | <b>Procedure</b><br>1→2→5                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                               |  <p>FL meter P.C.B.</p> <ol style="list-style-type: none"> <li>1. Remove the 2 screws (①, ②).</li> <li>2. Remove the FL meter P.C.B. in the direction of arrow.</li> </ol>                                                                                                  |                                                                                                                    |  <p>Cassette holder (DECK 1)</p> <p>Eject button (DECK 1)</p> <p>Eject button (DECK 2)</p> <p>Cassette holder (DECK 2)</p>                                                                                                                                                                                      |
| <b>Ref. No.</b><br>6                                                                                                                                                                                                                                          | <b>Removal of the mechanism angle</b>                                                                                                                                                                                                                                                                                                                        |                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Procedure</b><br>1→2→4→5→6                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                               |  <p>Mechanism angle</p> <p>• Remove the 4 screws (①~④).</p>                                                                                                                                                                                                                |  <p>Mechanism unit (DECK 2)</p> | <p>■ Removal of the mechanism unit (DECK 1)</p> <ol style="list-style-type: none"> <li>1. Press the eject button and open the cassette holder.</li> <li>2. Remove the 4 screws (①~④).</li> </ol> <p>■ Removal of the mechanism unit (DECK 2)</p> <ol style="list-style-type: none"> <li>1. Press the eject button and open the cassette holder.</li> <li>2. Remove the 4 screws (⑤~⑧).</li> </ol> |
| <b>Ref. No.</b><br>7                                                                                                                                                                                                                                          | <b>Removal of the eject angle, eject buttons, and eject lever</b>                                                                                                                                                                                                                                                                                            |                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Procedure</b><br>1→2→4→5→7                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                   |
|  <p>Claw</p> <p>Eject angle</p> <ol style="list-style-type: none"> <li>1. Release the 1 claw.</li> <li>2. Pull out the eject angle in the direction of arrow ①.</li> </ol> |  <p>Eject rod</p> <p>Eject button (DECK 1)</p> <p>Eject button (DECK 2)</p> <ol style="list-style-type: none"> <li>3. Pull out the claw of the eject rod in the direction of arrow ②, remove the eject buttons and the eject rod in the direction of arrow ③.</li> </ol> |                                                                                                                    |  <p>Eject lever</p> <ol style="list-style-type: none"> <li>4. Turn the eject lever in the direction of arrow ④, and remove the eject lever in the direction of arrow ⑤.</li> </ol>                                                                                                                           |

| Ref. No.<br>8                       | Removal of the cassette lid<br>(DECK 1, DECK 2)                                                                                                                                                                                                                                                                         | Ref. No.<br>9                                                                                                                                                                                                                                                                                                                                           | Removal of the cassette holder<br>(DECK 1, DECK 2)                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Procedure<br>8                      |  <p>Cassette lid (DECK 1)</p> <p>Cassette lid (DECK 2)</p> <ul style="list-style-type: none"> <li>Lift the cassette lid in the direction of arrow <b>A</b> and remove it in the direction of arrow <b>B</b>.</li> </ul>                | <p>Procedure<br/>1→2→4→5<br/>→6→7→8→9</p>  <p>Damper gear ass'y (L)</p> <p>Damper gear ass'y (R)</p> <ol style="list-style-type: none"> <li>Remove the 2 screws (<b>1</b>, <b>2</b>).</li> <li>Remove the damper gear ass'y (L) and damper gear ass'y (R).</li> </ol> |                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Ref. No.<br>10                      | Removal of the operation P.C.B.                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Procedure<br>1→2→4→5→6<br>→7→8→9→10 |  <p>Rec level knob</p> <p>Operation P.C.B.</p> <p>Claw</p> <p>Claws</p> <ol style="list-style-type: none"> <li>Remove the rec level knob.</li> <li>Remove the 4 screws (<b>1</b>~<b>4</b>).</li> <li>Release the 14 claws.</li> </ol> |                                                                                                                                                                                                                                                                                                                                                         |  <p>Cassette holder (DECK 1)</p> <p>Cassette holder (DECK 2)</p> <p>Rib</p> <p>Spring</p> <ol style="list-style-type: none"> <li>Remove the springs in the direction of arrow <b>A</b>.</li> <li>Remove the ribs in the direction of arrow <b>B</b>.</li> <li>Remove the cassette holder in the direction of arrow <b>C</b>.</li> </ol> |

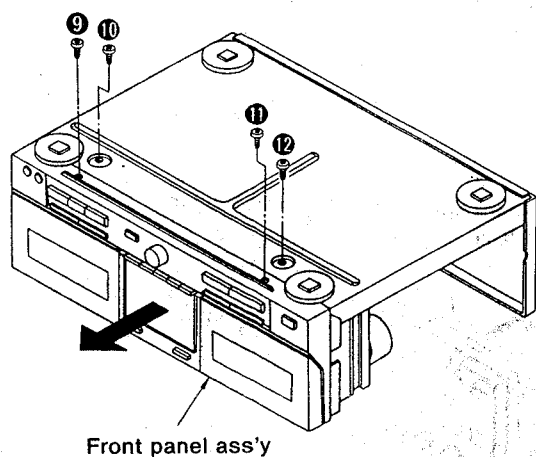
|                   |                              |
|-------------------|------------------------------|
| Ref. No.<br>11    | How to check the main P.C.B. |
| Procedure<br>1→11 |                              |



1. Remove the 3 screws (①~③).

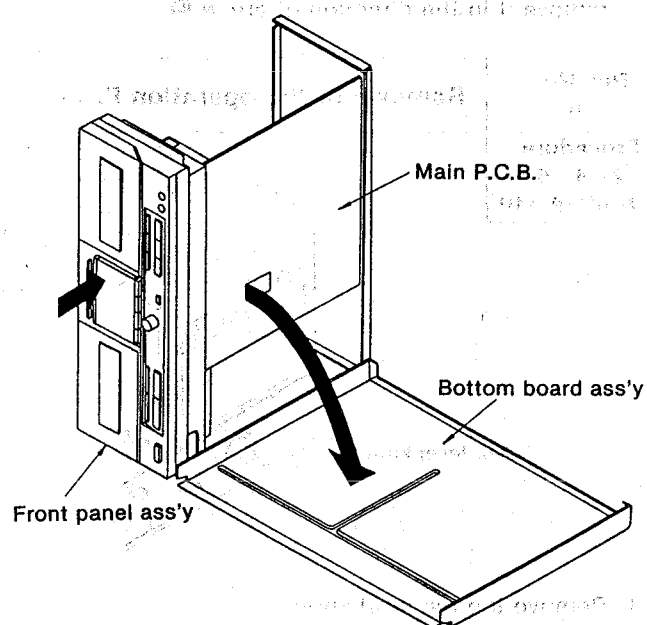


2. Remove the 5 screws (④~⑧).



3. Remove the 4 screws (⑨~⑫).

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

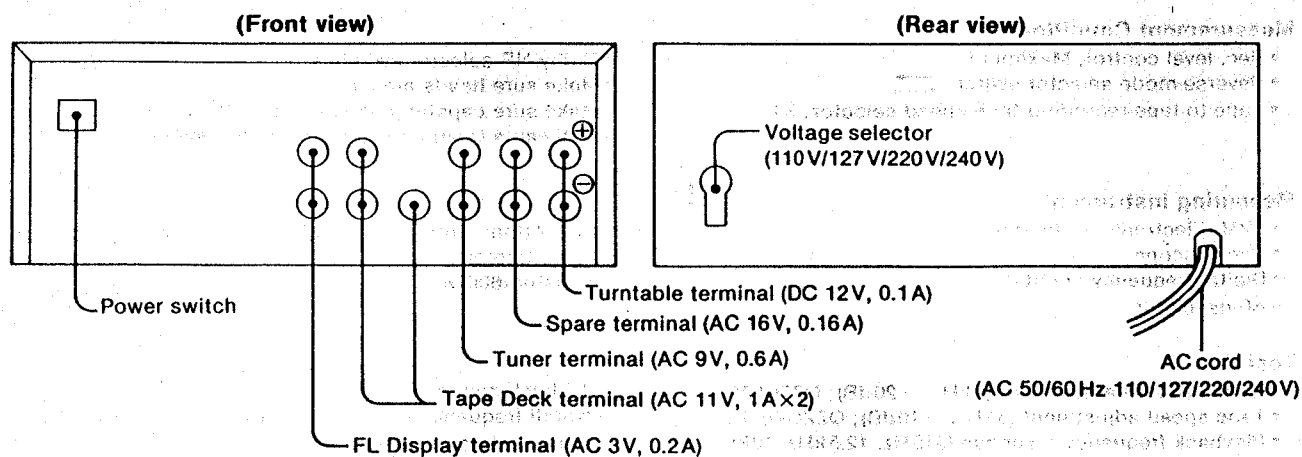


5. Remove the bottom board ass'y.

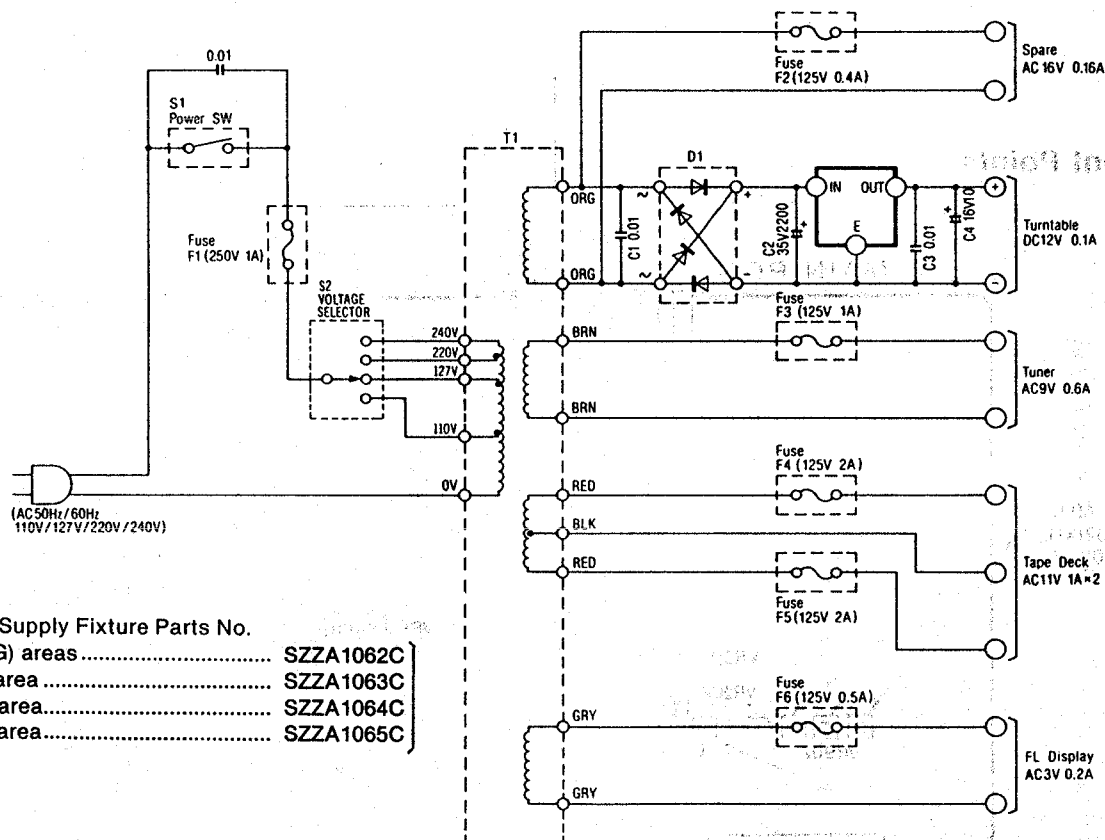
6. Reinstall the front panel ass'y to the main P.C.B.

# ■ INFORMATION ON POWER SUPPLY FIXTURE

## • LOCATION



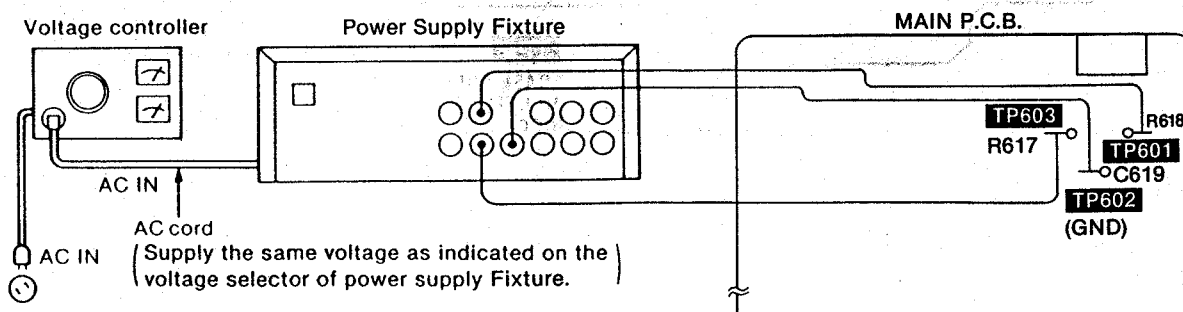
## • SCHEMATIC DIAGRAM (Reference)



※ Power Supply Fixture Parts No.

|                      |           |
|----------------------|-----------|
| • (E, EG) areas..... | SZZA1062C |
| • (EB) area.....     | SZZA1063C |
| • (GN) area.....     | SZZA1064C |
| • (GC) area.....     | SZZA1065C |

## • HOW TO CONNECT





## MEASUREMENTS AND ADJUSTMENTS

### Measurement Condition

- Rec. level control; Maximum
- Reverse-mode selector switch;  $\rightleftarrows$
- Tape-to-tape-recording tape-speed selector; X1

### Measuring Instrument

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

### Test tape

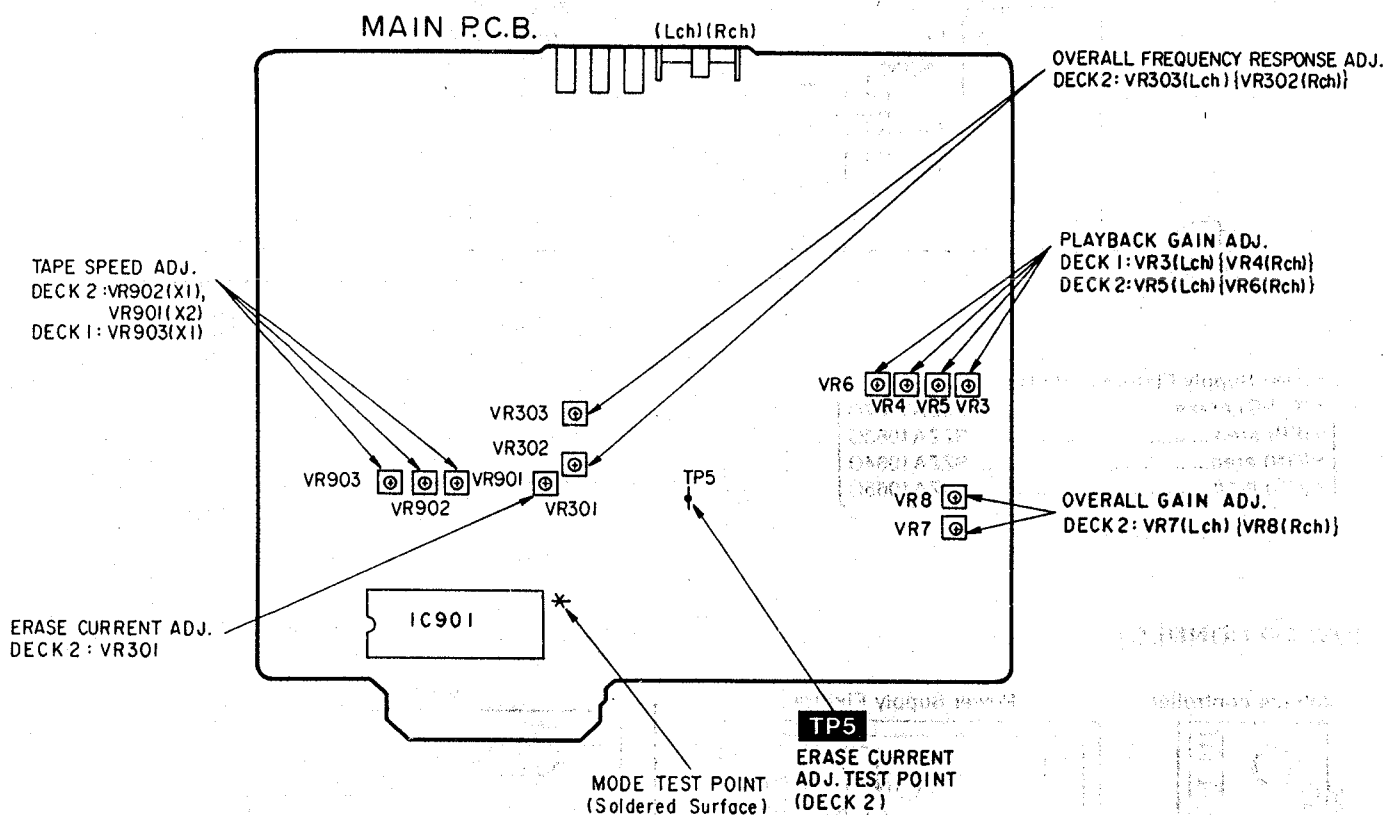
- Head azimuth adjustment (8kHz, -20dB); QZZCFM
- Tape speed adjustment (3kHz, -10dB); QZZCWAT
- Playback frequency response (315Hz, 12.5kHz, 10kHz, 8kHz, 4kHz, 1kHz, 250Hz, 125Hz, 63Hz, -20dB); QZZCFM

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

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

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

### Adjustment Points



## HEAD AZIMUTH ADJUSTMENT (DECK 1/2)

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

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

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

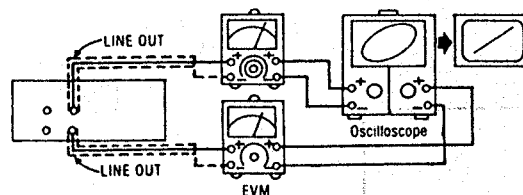


Fig. 1

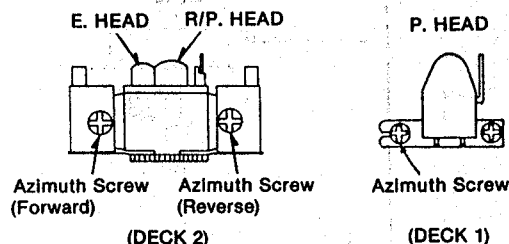


Fig. 2

## TAPE SPEED ADJUSTMENT (DECK 1/2)

### Normal speed

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

### High speed

4. Shift the Tape-to-tape recording tape speed switch to "X2" and press the synchro-start button.
5. Playback the middle portion of the test tape (QZZCWAT).
6. Adjust Deck 2 = VR901 so that the output is within the standard value.

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

(DECK 1) Standard value:  $3000 \pm 15 \text{ Hz}$  [Normal (X1)],  $6000 \pm 600 \text{ Hz}$  [High (X2), only confirmation]  
(DECK 2) Standard value:  $3000 \pm 15 \text{ Hz}$  [Normal (X1)],  $6000 \pm 30 \text{ Hz}$  [High (X2)]

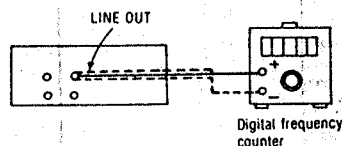


Fig. 3

## PLAYBACK GAIN ADJUSTMENT (DECK 1/2)

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

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

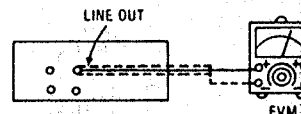


Fig. 4

## 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.

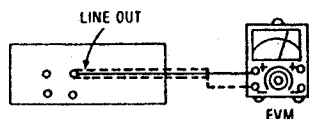


Fig. 5

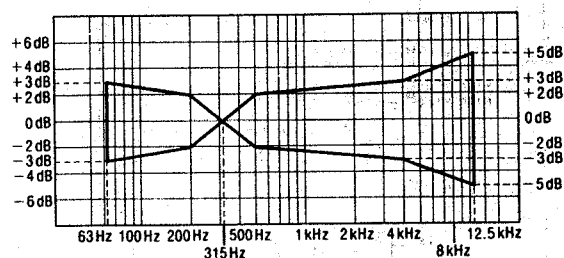
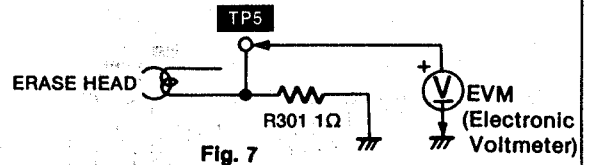


Fig. 6

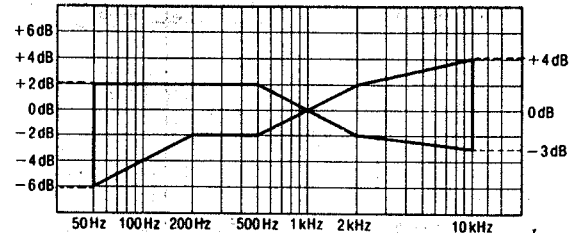
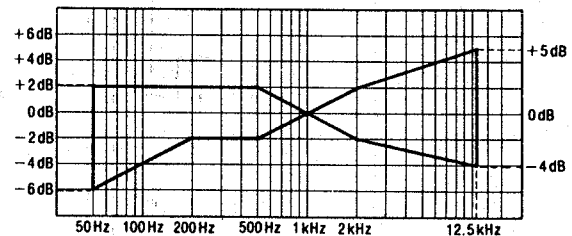
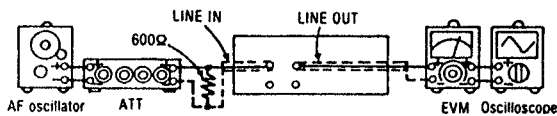
**ERASE CURRENT ADJUSTMENT (DECK 2)**

1. Insert the Metal blank test tape (QZZCRZ) and set the unit to the Record Pause mode.
2. Adjust VR301 so that the output between TP5 and GND is within the standard value.

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

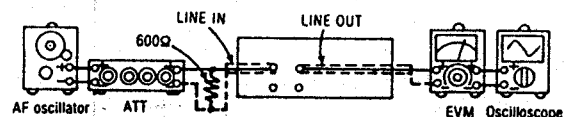
**OVERALL FREQUENCY RESPONSE (DECK 2)**

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

**Normal Overall frequency response chart (NR OUT)****Fig. 8****CrO<sub>2</sub> Metal Overall frequency response chart (NR OUT)****Fig. 9****Fig. 10****OVERALL GAIN ADJUSTMENT (DECK 2)**

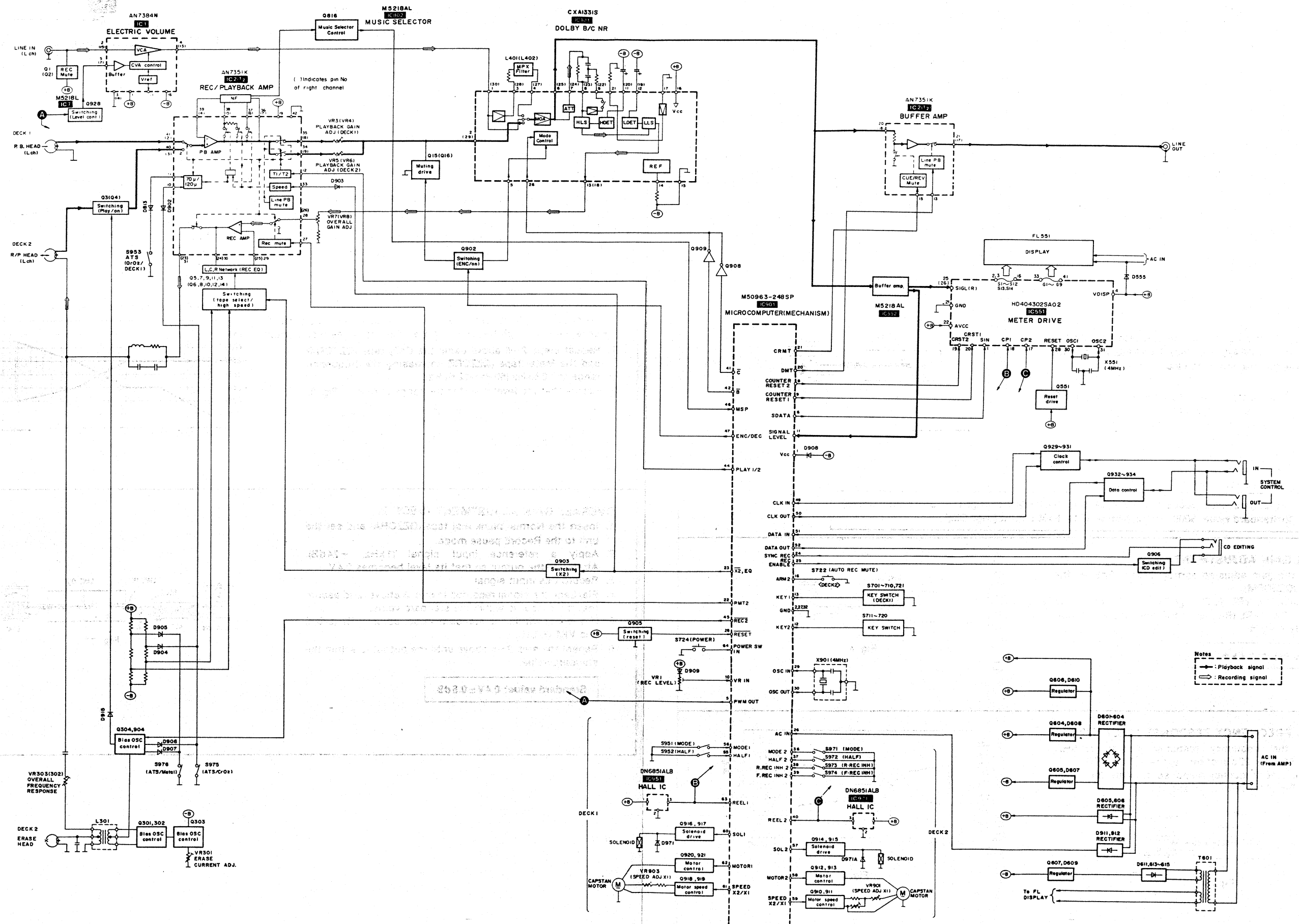
1. Insert the Normal blank test tape (QZZCRA) and set the unit to the Record pause mode.
2. Apply a reference input signal (1 kHz, -24 dB). Attenuate the output so that its level becomes 0.4 V.
3. Record this input signal.
4. Playback the signal recorded in step 3 above, and assure that the output is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

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

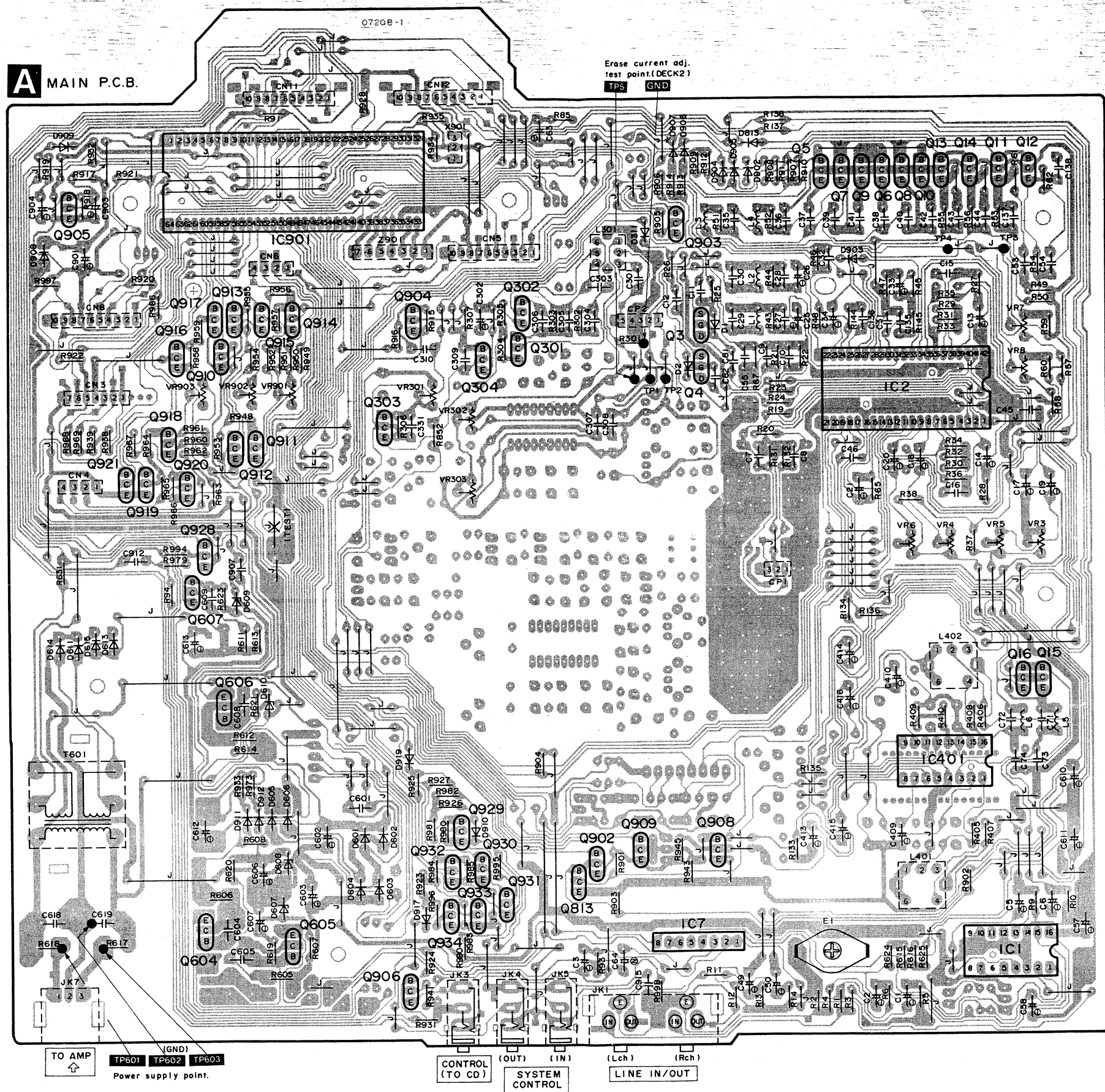
**Fig. 11**

# BLOCK DIAGRAM

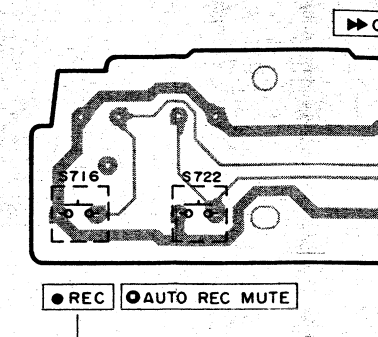
RS-X102 RS-X102



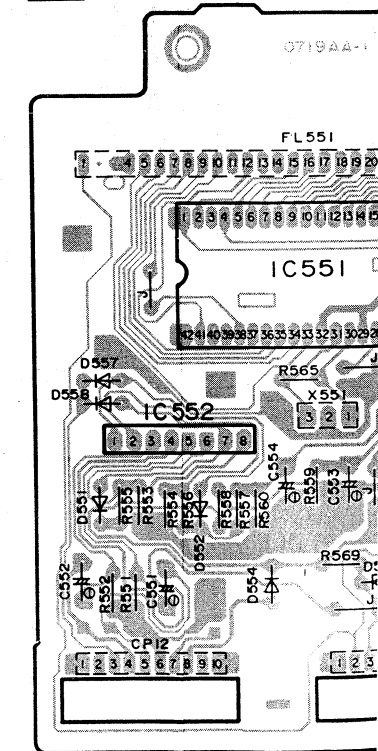
# PRINTED CIRCUIT BOARDS



## **E OPERATION P.C.B.**



## **D FL METER P.C.B.**





10

11

12

13

14

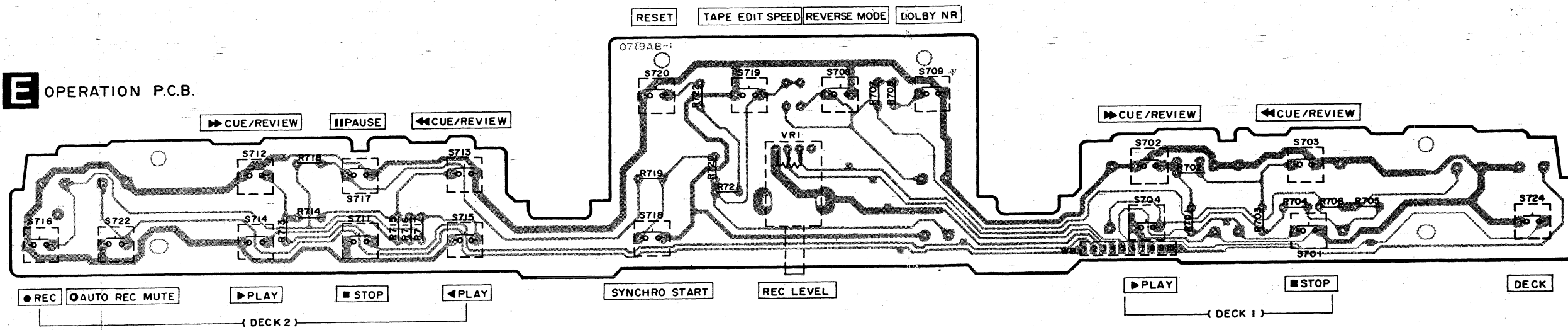
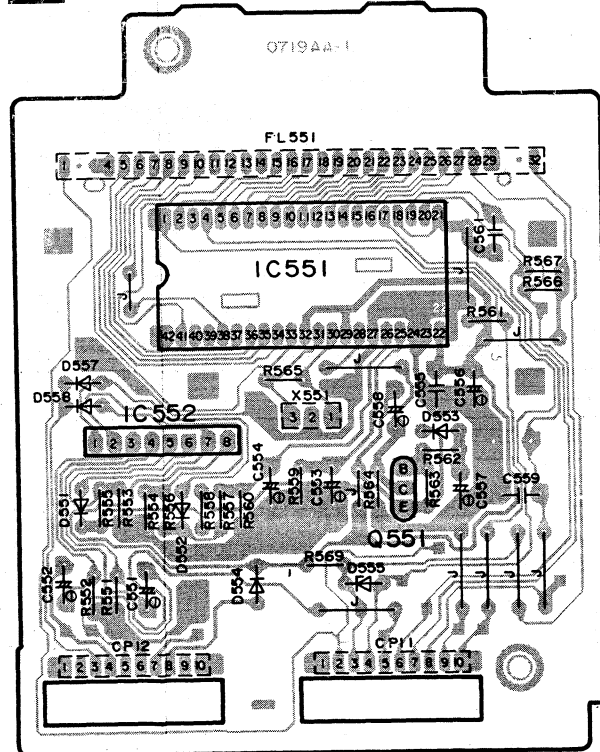
15

16

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**E** OPERATION P.C.B.**D** FL METER P.C.B.

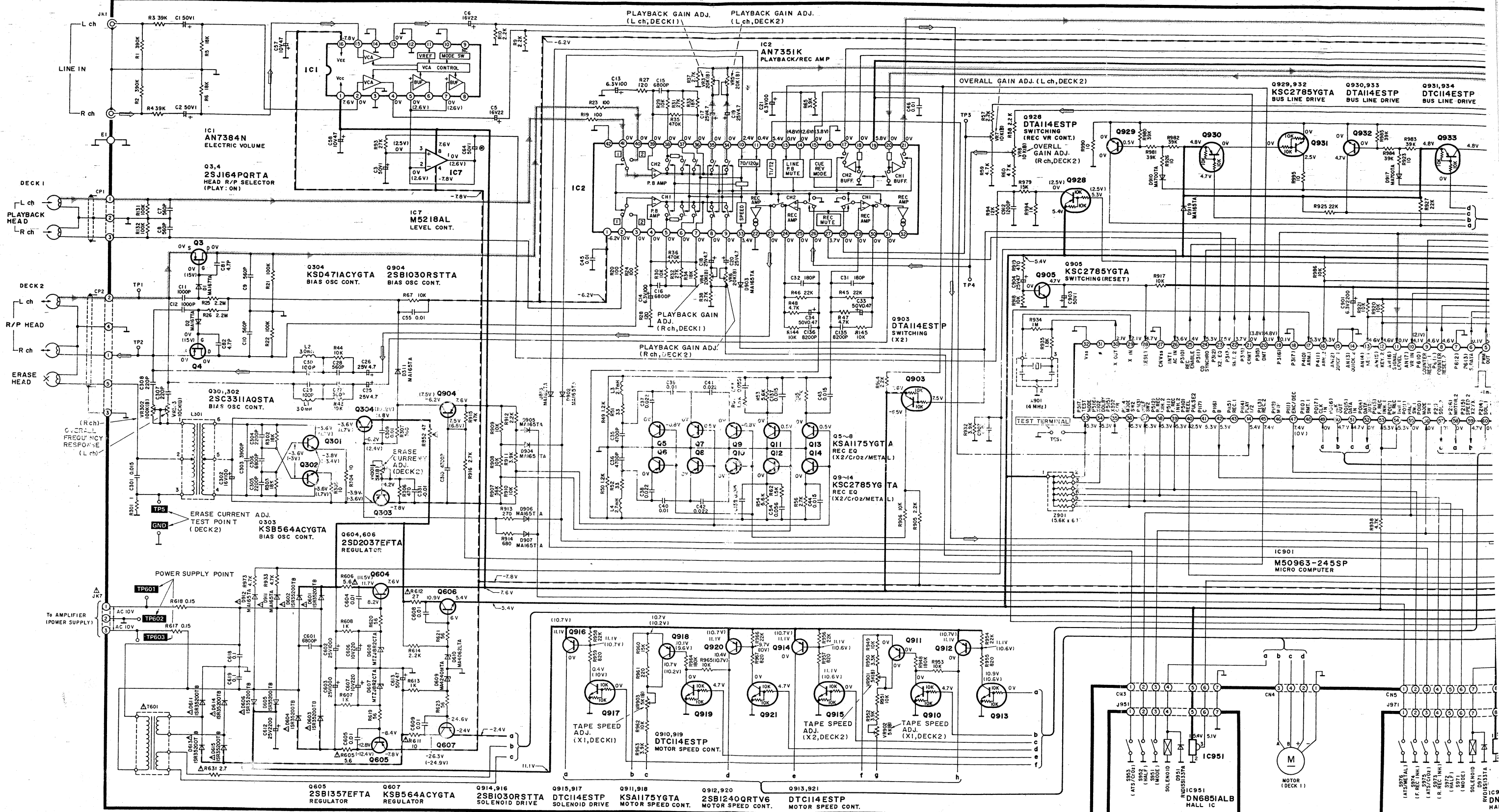
A

B

C

D

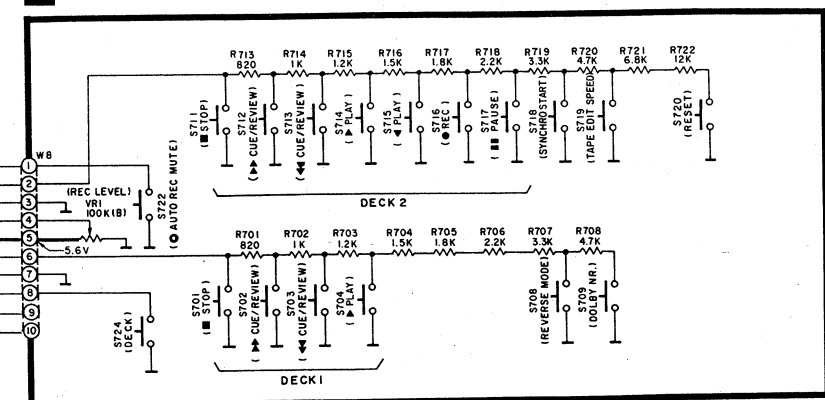
## A MAIN CIRCUIT



## B MECHANISM (DECK1) CIRCUIT

## C MECHANISM (DECK 2)

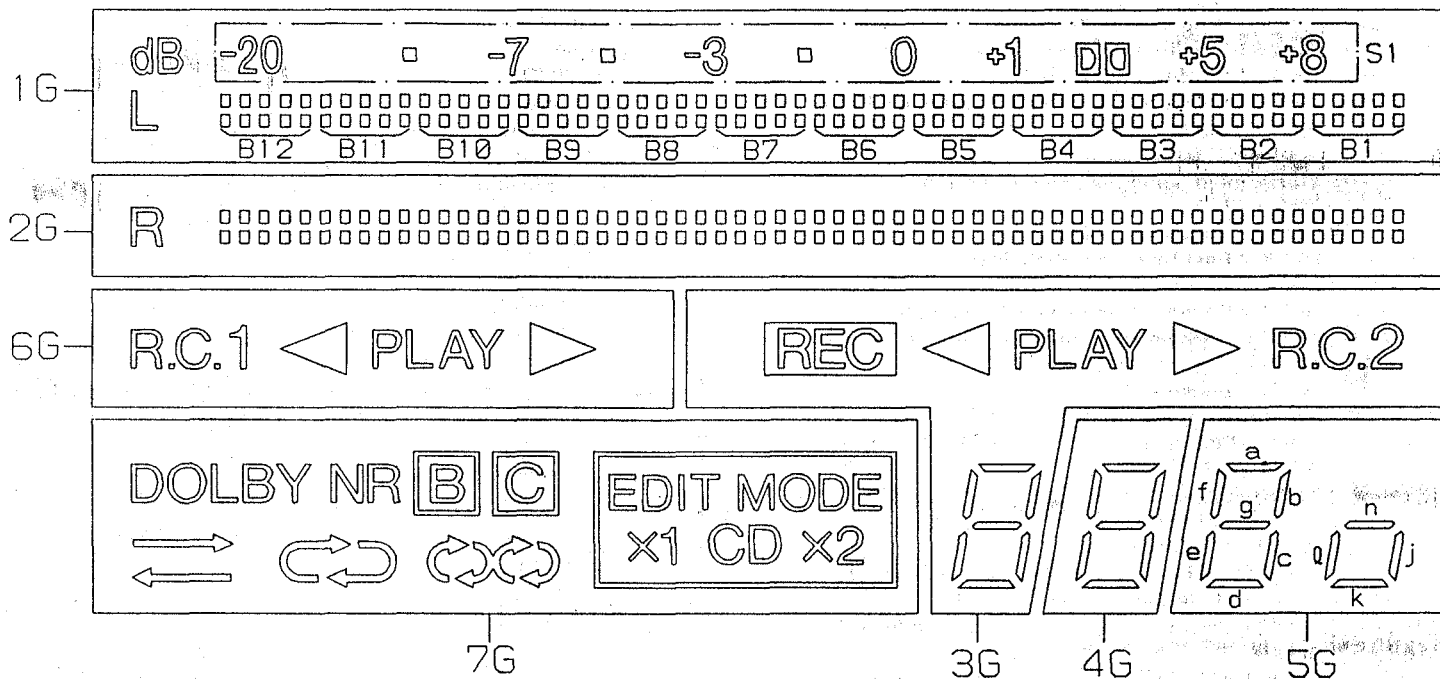




CIRCUIT

# INTERNAL CONNECTION OF FL

## Grid connection diagram



## Anode connection table

|     | 7G        | 6G    | 5G | 4G | 3G    | 2G  | 1G   |
|-----|-----------|-------|----|----|-------|-----|------|
| P1  | ↻         | ▶     | n  | -  | ▶     | B1  | B1   |
| P2  | ↻         | PLAY  | j  | -  | PLAY  | B2  | B2   |
| P3  | ↻         | ◀     | l  | -  | ◀     | B3  | B3   |
| P4  | EDIT MODE | R.C.1 | k  | -  | R.C.2 | B4  | B4   |
| P5  | CD        | -     | -  | -  | REC   | B5  | B5   |
| P6  | x2        | -     | a  | a  | a     | B6  | B6   |
| P7  | x1        | -     | b  | b  | b     | B7  | B7   |
| P8  | -         | -     | f  | f  | f     | B8  | B8   |
| P9  | B         | -     | g  | g  | g     | B9  | B9   |
| P10 | C         | -     | c  | c  | c     | B10 | B10  |
| P11 | DOLBY NR  | -     | e  | e  | e     | B11 | B11  |
| P12 | -         | -     | d  | d  | d     | B12 | B12  |
| P13 | -         | -     | -  | -  | -     | -   | S1   |
| P14 | -         | -     | -  | -  | -     | R   | dB L |

## Pin connection

| PIN NO.    | 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  | P  | P  | P  | P  | P  | P  | P  | P  | P  | P  | P  | P  | P  | P  | N  | N  | 7  | N  | 6  | 5 | 4 | 3 | 2 | 1 | N | N | F | F |

### Note

1) F1, F2.....Filament  
2) NP.....No pin

3) NC.....No connection  
4) 1G~7G.....Grid

# SCHEMATIC DIAGRAM (Parts list on pages 28~31.)

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

## Notes:

- S701: DECK 1 Stop switch (■ STOP).
- S702: DECK 1 Fast-forward switch (▶▶).
- S703: DECK 1 Rewind switch (◀◀).
- S704: DECK 1 Forward-side playback switch (▷ PLAY).
- S708: Reverse mode switch (REVERSE MODE; ⇄, ∞, ∞).
- S709: Dolby noise-reduction selector switch (Dolby NR).
- S711: DECK 2 Stop switch (■ STOP).
- S712: DECK 2 Fast-forward switch (▶▶).
- S713: DECK 2 Rewind switch (◀◀).
- S714: DECK 2 Forward-side playback switch (▷ PLAY).
- S715: DECK 2 Reverse-side playback switch (◁ PLAY).
- S716: DECK 2 Record switch (● REC).
- S717: DECK 2 Pause switch (■ PAUSE).
- S718: Synchro-start switch (SYNCHRO START).
- S719: Tape-to-tape recording tape-speed selector switch (TAPE EDIT SPEED).
- S720: DECK 2 Tape counter reset switch (RESET).
- S722: DECK 2 Automatic-record-muting switch (● AUTO REC MUTE).
- S724: DECK ON/OFF switch in "on" position (DECK).
- S951: DECK 1 Mode switch in "off" position.
- S952: DECK 1 Cassette half detection switch in "off" position.
- S953: DECK 1 ATS (CrO<sub>2</sub>) switch in "off" position.
- S971: DECK 2 Mode switch in "off" position.
- S972: DECK 2 Cassette half detection switch in "off" position.
- S973: DECK 2 Rev. Rec Inhibit switch in "off" position.
- S974: DECK 2 For. Rec Inhibit switch in "off" position.
- S975: DECK 2 ATS (CrO<sub>2</sub>) switch in "off" position.
- S976: DECK 2 ATS (Metal) switch in "off" position.

- Resistance are in ohms (Ω), 1/4 watt unless specified otherwise.  
1K=1,000 (Ω), 1M=1,000k (Ω)
- Capacity are in micro-farads (μF) unless specified otherwise.
- All voltage values shown in circuitry are under no signal condition and playback mode of deck 2 with volume control at minimum position otherwise specified.

< > .....Voltage values at playback mode of deck 1.

( ) .....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. |
|----------|---------------------|-----------------|
| IC7, 552 | M5218AL             | M5218L          |

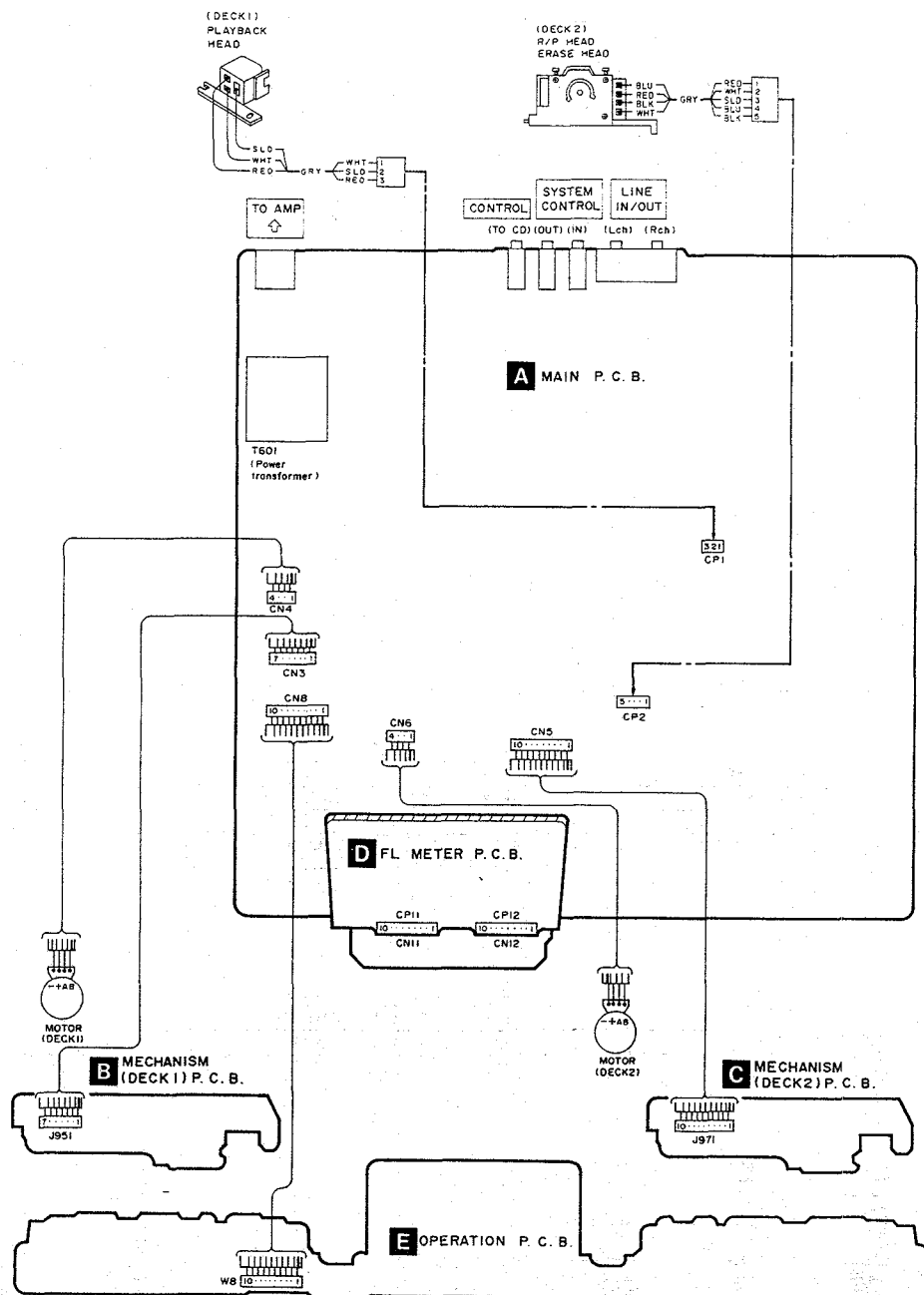
## \* Caution!

- 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.

# TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

|                                  |                  |                                                                        |                                 |                                |                 |
|----------------------------------|------------------|------------------------------------------------------------------------|---------------------------------|--------------------------------|-----------------|
| CXA1101P<br>AN7384N<br>          | HD404302SA02<br> | AN7351K<br>                                                            | M50963-245SP<br>                | M5218AL<br>                    | DN6851ALB<br>   |
| KSB564ACYGTA<br>KSD471ACYGTA<br> |                  | KSA1175YGTA<br>KSC2785YGTA<br>2SC3311AQSTA<br>DTA114ESTP<br>DTC114ESTP | 2SB1030RSTTA<br>2SD1450RSTA<br> | 2SB1357EFTA<br>2SD2037EFTA<br> | 2SJ164PQRTA<br> |
| 2SB1240QRTV6<br>                 |                  | MA165TA<br>MA167TA<br>MA700TA<br>1SR35200TB<br>RVD1SS133TA             | MTZJ5R6BTA<br>MTZJ8R2CTA<br>    | MA4062LTA<br>                  | MA4240MTA<br>   |

# WIRING CONNECTION DIAGRAM



# TERMINAL FUNCTION OF IC'S

• IC901 (M50963-245SP): MICROCOMPUTER (This microcomputer is used for mechanical operation.)

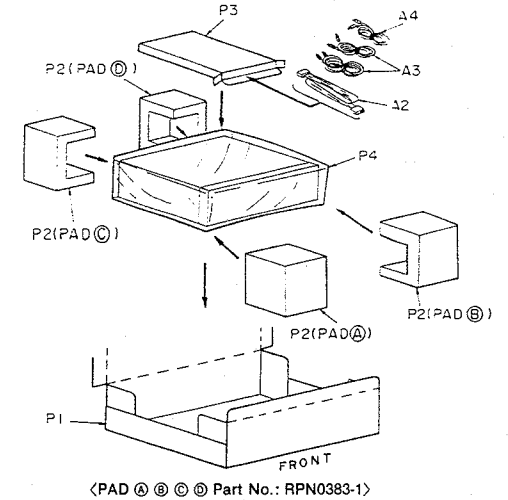
| Pin No. | Mark                   | I/O Division | Function                                                                                             |
|---------|------------------------|--------------|------------------------------------------------------------------------------------------------------|
| 1       | V <sub>CC</sub>        | I            | Power supply terminal                                                                                |
| 2       | AV <sub>SS</sub> (GND) | —            | GND terminal                                                                                         |
| 3       | V <sub>REF</sub>       | I            | Reference voltage terminal                                                                           |
| 4       | D-A                    | —            | Not used, open                                                                                       |
| 5       | PWM                    | O            | Pulse width modulated signal                                                                         |
| 6       | P6 (3)                 | O            | Serial signal for FL display                                                                         |
| 7       | P6 (2)                 | —            | Not used, open                                                                                       |
| 8       | P6 (1)                 | O            | Counter reset signal of deck 2 ("RESET": "L", others: "H")                                           |
| 9       | P6 (0)                 | O            | Counter reset signal of deck 1 ("RESET": "L", others: "H")                                           |
| 10      | AN (7)                 | I            | Variable voltage level signal of rec. level volume                                                   |
| 11      | AN (6)                 | I            | Peak voltage terminal of rec. signal                                                                 |
| 12      | AN (5)                 | I            | Operation key switches Deck 2: STOP, F.F./REW, PLAY, REC, PAUSE, SYNCHRO START, X1/X2, counter reset |
| 13      | AN (4)                 | I            | Operation key switches Deck 1: STOP, F.F./REW, F. PLAY, Dolby B/C, Meter range counter reset         |
| 14      | AN (3)                 | —            | Leader tape det. signal of deck 2                                                                    |
| 15      | AN (2)                 | —            | Leader tape det. signal of deck 1                                                                    |
| 16      | P4 (1)                 | I            | "AUTO REC MUTE" key switch signal of deck 2 ("ON": "L", "OFF": "H")                                  |
| 17      | P4 (0)                 | I            | Not used, open                                                                                       |
| 18      | P3 (7)                 | —            | Not used                                                                                             |
| 19      | P3 (6)                 | —            | Not used                                                                                             |
| 20      | P3 (5)                 | O            | Mute signal of line out (Mute "ON": "H", Mute "OFF": "L")                                            |
| 21      | P3 (4)                 | O            | Mute signal with Cue/Review action (Mute "ON": "H", Mute "OFF": "L")                                 |
| 22      | P3 (3)                 | O            | Rec. mute signal of deck 2 (Mute "ON": "H", Mute "OFF": "L")                                         |

| Pin No. | Mark              | I/O Division | Function                                                                              |
|---------|-------------------|--------------|---------------------------------------------------------------------------------------|
| 23      | P3 (2)            | O            | Playback equalizer select signal with tape edit of deck 1 (Normal: "H", X2 edit: "L") |
| 24      | P3 (1)            | I            | CD Synchro rec. signal (CD STOP: "H", CD PLAY: "L")                                   |
| 25      | P3 (0)            | O            | CD Synchro rec. possible/impossible signal (possible: "L", impossible: "H")           |
| 26      | INT1              | I            | "AC POWER OFF" det. terminal                                                          |
| 27      | CNV <sub>SS</sub> | —            | GND terminal                                                                          |
| 28      | RESET             | I            | Reset signal ("L" = RESET, Normal: "H")                                               |
| 29      | X <sub>4</sub>    | I            | Clock OSC terminal                                                                    |
| 30      | X <sub>OUT</sub>  | O            | Clock OSC terminal                                                                    |
| 31      | o                 | —            | Not used, open                                                                        |
| 32      | V <sub>SS</sub>   | —            | GND terminal                                                                          |
| 33      | P5 (7)            | I            | Test terminal (Normal="H")                                                            |
| 34      | P5 (6)            | I            | Model select (Normal: "L")                                                            |
| 35      | P5 (5)            | I            | Model select (Normal: "L")                                                            |
| 36      | P5 (4)            | I            | Mechanism mode switch ("ON": "L", "OFF": "H")                                         |
| 37      | P5 (3)            | I            | Cassette half det. switch ("ON": "L", "OFF": "H")                                     |
| 38      | P5 (2)            | I            | Reverse rec. inh. switch of deck 2 ("ON": "L", "OFF": "H")                            |
| 39      | P5 (1)            | I            | Forward rec. inh. switch of deck 2 ("ON": "L", "OFF": "H")                            |
| 40      | P5 (0)            | I            | Reel rotation pulse signal of deck 2                                                  |
| 41      | P1 (7)            | —            | Not used, open                                                                        |
| 42      | P1 (6)            | O            | Dolby B "ON/OFF" select signal ("ON": "L", "OFF": "H")                                |
| 43      | P1 (5)            | —            | Not used, open                                                                        |
| 44      | P1 (4)            | O            | Playback amp. select signal (Deck 2-P.B: "L", others: "H")                            |
| 45      | P1 (3)            | O            | Bias OSC "ON/OFF" select signal ("ON": "L", "OFF": "H")                               |
| 46      | P1 (2)            | —            | Not used, open                                                                        |

## ■ PACKING

## Note:

This packing not illustrated Ref. No. A1 (A1-1, A1-2, A1-3).  
Refer to the packing on page 38 of the service manual  
for Model No. SU-X102, Order No. AD9103049C8.



## ■ REPLACEMENT PARTS LIST

## Notes : • Important safety notice:

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

| Pin No. | Mark   | I/O Division | Function                                                                   |
|---------|--------|--------------|----------------------------------------------------------------------------|
| 47      | P1 (1) | O            | Dolby circuit encord/decord select signal (encord: "L", decord: "H")       |
| 48      | P1 (0) | —            | Not used, open                                                             |
| 49      | P0 (7) | I            | Bus clock signal                                                           |
| 50      | P0 (6) | O            |                                                                            |
| 51      | P0 (5) | I            | Bus data signal                                                            |
| 52      | P0 (4) | O            |                                                                            |
| 53      | P0 (3) | I            | Forward rec. inh. switch of deck 1 ("ON": "L", "OFF": "H")                 |
| 54      | P0 (2) | I            | Reverse rec. inh. switch of deck 1 ("ON": "L", "OFF": "H")                 |
| 55      | P0 (1) | I            | Cassette-half det. switch of deck 1 ("ON": "L", "OFF": "H")                |
| 56      | P0 (0) | I            | Mechanism mode-switch of deck 1 ("ON": "L", "OFF": "H")                    |
| 57      | P2 (7) | O            | Mechanism plunger "ON/OFF" select signal of deck 2 ("ON": "H", "OFF": "L") |

| Pin No. | Mark   | I/O Division | Function                                                                   |
|---------|--------|--------------|----------------------------------------------------------------------------|
| 58      | P2 (6) | O            | Mechanism motor "ON/OFF" select signal of deck 2 ("ON": "H", "OFF": "L")   |
| 59      | P2 (5) | O            | Mechanism motor speed select signal of deck 2 ("X1": "H", "X2": "L")       |
| 60      | P2 (4) | O            | Mechanism plunger "ON/OFF" select signal of deck 1 ("ON": "H", "OFF": "L") |
| 61      | P2 (3) | O            | Mechanism motor speed select signal of deck 1 ("X1": "H", "X2": "L")       |
| 62      | P2 (2) | O            | Mechanism motor "ON/OFF" select signal of deck 1 ("ON": "H", "OFF": "L")   |
| 63      | P2 (1) | I            | Mechanism reel rotation pulse signal of deck 1                             |
| 64      | P2 (0) | I            | Power switch ("ON": "L", "OFF": "H")                                       |

## • IC551 (HD404302SA02): MICROCOMPUTER (This microcomputer is used for FL meter operation.)

| Pin No.                        | Mark   | I/O Division | Function                                      |
|--------------------------------|--------|--------------|-----------------------------------------------|
| 1                              | SIN    | I            | Serial data signal                            |
| 2<br>•<br>5<br>S12<br>•<br>S14 | S1     | O            | Segment signal for FL display                 |
| 3                              | S13    | —            |                                               |
| 4                              | V disp | I            | Pull down power supply terminal ( $-V_{CC}$ ) |
| 17                             | CP2    | I            | Peel pulse signal of deck 2                   |
| 18                             | CP1    |              |                                               |
| 19                             | CRST2  | I            | Tape counter reset terminal of deck 2         |
| 20                             | CRST1  | I            | Tape counter reset terminal of deck 1         |
| 21                             | GND    | —            | GND terminal                                  |
| 22                             | AVCC   | I            | Power supply terminal                         |

| Pin No.                  | Mark                     | I/O Division | Function                      |
|--------------------------|--------------------------|--------------|-------------------------------|
| 23                       | —                        | —            | —                             |
| 24                       | VRIN                     | —            | Rec level control signal      |
| 25                       | SIGL                     | I            | Lch level signal              |
| 26                       | SIGR                     | I            | Rch level signal              |
| 27                       | AVSS                     | —            | GND terminal                  |
| 28                       | RESET                    | I            | Reset terminal ("RESET": "H") |
| 29                       | TEST                     | I            | Test terminal                 |
| 30                       | OSC1                     | O            | Clock OSC terminal (4MHz)     |
| 31                       | OSC2                     | I            |                               |
| 32                       | VCC                      | I            | Power supply terminal         |
| 33<br>•<br>38<br>•<br>41 | G1<br>•<br>G6<br>•<br>G9 | O            | Grid signal for FL display    |
| 39<br>•<br>42            | G7<br>•<br>G8            | —            |                               |
| 42                       | PWM                      | —            | Not used, open                |

| Ref. No.  | Part No.     | Part Name & Description   | Remarks | Ref. No.  | Part No.    | Part Name & Description | Remarks |
|-----------|--------------|---------------------------|---------|-----------|-------------|-------------------------|---------|
|           |              | INTEGRATED CIRCUIT(S)     |         | Q813      | DTC114ESTP  | TRANSISTOR              |         |
|           |              |                           |         | Q902, 903 | DTA114ESTP  | TRANSISTOR              |         |
|           |              |                           |         | Q904      | 2SB1030QTA  | TRANSISTOR              |         |
| IC1       | AN7384N      | ELECTRIC VOLUME           |         | Q905      | KSC2785YGTA | TRANSISTOR              |         |
| IC2       | AN7351K      | PLAYBACK/REC AMP          |         | Q906      | DTC114ESTP  | TRANSISTOR              |         |
| IC7       | M5218L       | REC LEVEL CONTROL         |         | Q908      | DTC114ESTP  | TRANSISTOR              |         |
| IC401     | CXA1101P     | DOLBY NR                  |         | Q909      | DTA114ESTP  | TRANSISTOR              |         |
| IC551     | HD404302SA02 | MICROCOMPUTER; FL METER   |         | Q910      | DTC114ESTP  | TRANSISTOR              |         |
| IC552     | M5218L       | BUFFER AMP                |         | Q911      | KSAL175YGTA | TRANSISTOR              |         |
| IC901     | M50963-245SP | MICROCOMPUTER; MECHANICAL |         | Q912      | 2SB1240-P   | TRANSISTOR              |         |
| IC951     | DN6851ALB    | HALL (DECK1)              |         | Q913      | DTC114ESTP  | TRANSISTOR              |         |
| IC971     | DN6851ALB    | HALL (DECK2)              |         | Q914      | 2SB1030QTA  | TRANSISTOR              |         |
|           |              | TRANSISTOR(S)             |         | Q915      | DTC114ESTP  | TRANSISTOR              |         |
|           |              |                           |         | Q916      | 2SB1030QTA  | TRANSISTOR              |         |
| Q3, 4     | 2SJ164PORTA  | TRANSISTOR                |         | Q917      | DTC114ESTP  | TRANSISTOR              |         |
| Q5-8      | KSAL175YGTA  | TRANSISTOR                |         | Q918      | KSAL175YGTA | TRANSISTOR              |         |
| Q9        | KSC2785YGTA  | TRANSISTOR                |         | Q919      | DTC114ESTP  | TRANSISTOR              |         |
| Q10-14    | KSC2785YGTA  | TRANSISTOR                |         | Q920      | 2SB1240-P   | TRANSISTOR              |         |
| Q15, 16   | 2SD1450RSTA  | TRANSISTOR                |         | Q921      | DTC114ESTP  | TRANSISTOR              |         |
| Q301, 302 | 2SC3311A-Q   | TRANSISTOR                |         | Q928      | DTA114ESTP  | TRANSISTOR              |         |
| Q303      | KS8564ACYGTA | TRANSISTOR                |         | Q929      | KSC2785YGTA | TRANSISTOR              |         |
| Q304      | KSD471ACYGTA | TRANSISTOR                |         | Q930      | DTA114ESTP  | TRANSISTOR              |         |
| Q551      | KSAL175YGTA  | TRANSISTOR                |         | Q931      | DTC114ESTP  | TRANSISTOR              |         |
| Q604      | 2SD2037EFTA  | TRANSISTOR                |         | Q932      | KSC2785YGTA | TRANSISTOR              |         |
| Q605      | 2SB1357EFTA  | TRANSISTOR                |         | Q933      | DTA114ESTP  | TRANSISTOR              |         |
| Q606      | 2SD2037EFTA  | TRANSISTOR                |         | Q934      | DTC114ESTP  | TRANSISTOR              |         |
| Q607      | KS8564ACYGTA | TRANSISTOR                |         |           |             |                         |         |





## ■ REPLACEMENT PARTS LIST

Notes : • Important safety notice:

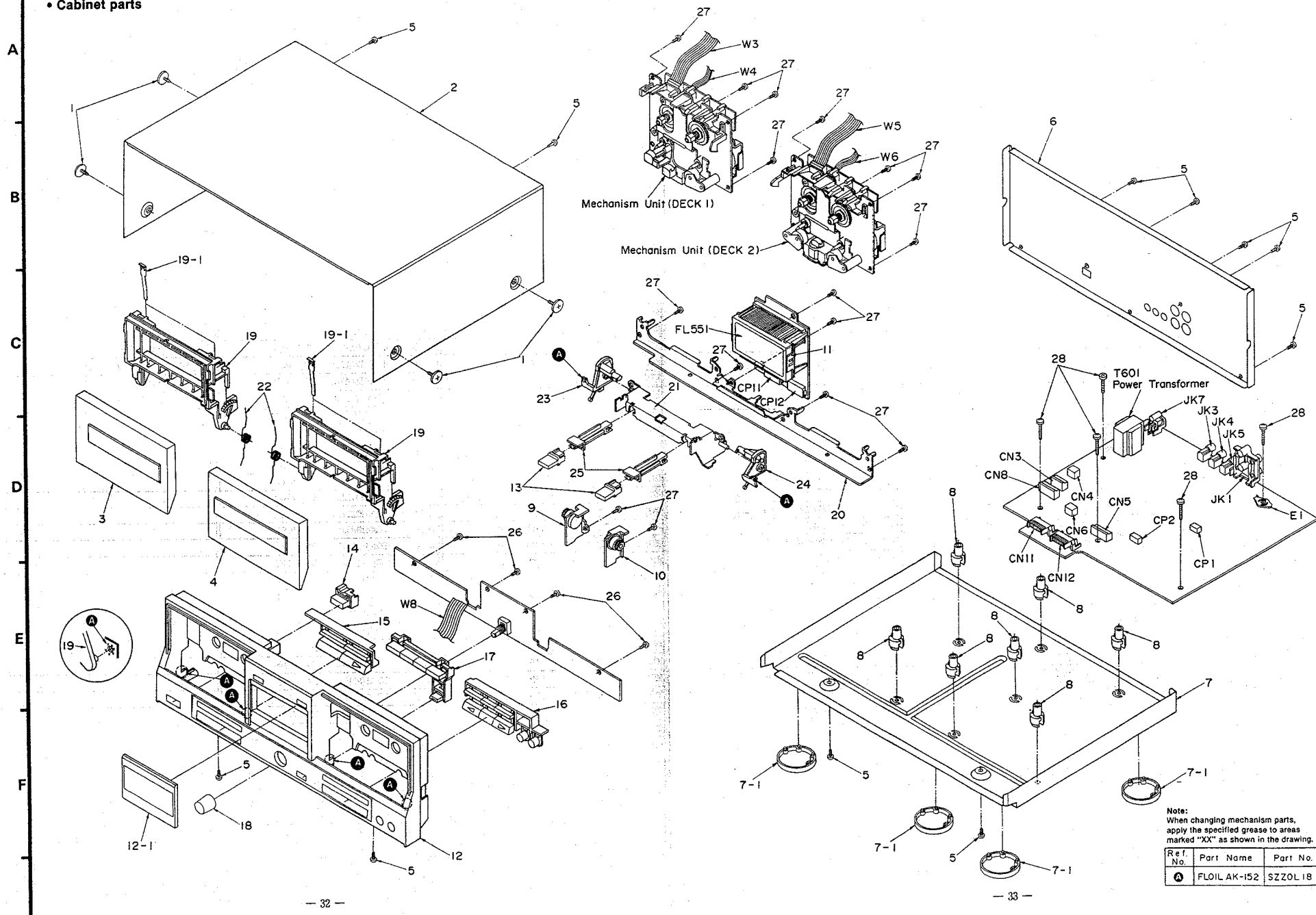
- Components identified by  $\Delta$  mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
- The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)
- Parts without these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

| Ref. No.  | Part No.      | Values & Remarks | Ref. No.  | Part No.     | Values & Remarks | Ref. No.  | Part No.     | Values & Remarks |
|-----------|---------------|------------------|-----------|--------------|------------------|-----------|--------------|------------------|
| R719      | ERDS2TJ332    | 1/4W 3.3K        | R964      | ERDS2TJ184T  | 1/4W 180K        | C307, 308 | ECCR1H221K5  | 50V 220P         |
| R720      | ERDS2TJ472    | 1/4W 4.7K        | R965      | ERDS2TJ103   | 1/4W 10K         | C309      | ECCR1H103ZF5 | 50V 0.01U        |
| R721      | ERDS2TJ682T   | 1/4W 6.8K        | R966      | ERDS2TJ223   | 1/4W 22K         | C310      | ECCR1H472KB5 | 50V 4700P        |
| R722      | ERDS2TJ123    | 1/4W 12K         | R967      | ERDS2TJ821   | 1/4W 820         | C331      | ECCR1H103ZF5 | 50V 0.01U        |
| R852      | ERDS2FCV6470T | 1/4W 47 $\Delta$ | R968, 969 | ERDS2TJ472   | 1/4W 4.7K        | C409, 410 | ECEA502R68   | 50V 0.68U        |
| R901      | ERDS2TJ103    | 1/4W 10K         | R973      | ERDS2TJ472   | 1/4W 4.7K        | C413-416  | ECEA1EKA4R7B | 25V 4.7U         |
| R902      | ERDS2TJ822    | 1/4W 8.2K        | R979      | ERDS2TJ153   | 1/4W 15K         | C551, 552 | ECEA1CKA100B | 16V 10U          |
| R903      | ERDS2TJ393    | 1/4W 39K         | R980-985  | ERDS2TJ393   | 1/4W 39K         | C553, 554 | ECEA0JKA101B | 6.3V 100U        |
| R904, 905 | ERDS2TJ222    | 1/4W 2.2K        | R986      | ERDS2TJ103   | 1/4W 10K         | C555      | ECCR1H103ZF5 | 50V 0.01U        |
| R906      | ERDS2TJ103    | 1/4W 10K         | R990      | ERDS2TJ100   | 1/4W 10          | C556      | ECEA0JKA101B | 6.3V 100U        |
| R907      | ERDS2TJ563    | 1/4W 56K         | R994      | ERDS2TJ102   | 1/4W 1K          | C557      | ECEA1EKA4R7B | 25V 4.7U         |
| R908-910  | ERDS2TJ103    | 1/4W 10K         | R995, 996 | ERDS2TJ100   | 1/4W 10          | C558      | ECEA1HKA010B | 50V 1U           |
| R911      | ERDS2TJ392T   | 1/4W 3.9K        | R997      | ERDS2TJ562   | 1/4W 5.6K        | C559      | ECCR1H103ZF5 | 50V 0.01U        |
| R912      | ERDS2TJ222    | 1/4W 2.2K        | R998      | ERDS2TJ100   | 1/4W 10          | C561      | ECCR1H103ZF5 | 50V 0.01U        |
| R913      | ERDS2TJ271    | 1/4W 270         |           |              |                  | C601      | ECCR2H682PE  | 500V 6800P       |
| R914      | ERDS2TJ681    | 1/4W 680         |           |              | CAPACITORS       | C602, 603 | ECA1EM102B   | 25V 1000U        |
| R915      | ERDS2TJ473    | 1/4W 47K         |           |              |                  | C604, 605 | ECCR1H103ZF5 | 50V 0.01U        |
| R916      | ERDS2TJ272T   | 1/4W 2.7K        | C1-3      | ECEA1HKA010B | 50V 1U           | C606, 607 | ECEA1AKA221Q | 10V 220U         |
| R917, 918 | ERDS2TJ103    | 1/4W 10K         | C5, 6     | ECEA1CKA220B | 16V 22U          | C608, 609 | ECCR1H103ZF5 | 50V 0.01U        |
| R919      | ERDS2TJ471    | 1/4W 470         | C7-10     | ECBT1H561KB5 | 50V 560P         | C610, 611 | ECEA1AJ102B  | 10V 1000U        |
| R920-922  | ERDS2TJ103    | 1/4W 10K         | C11, 12   | ECBT1H102KB5 | 50V 1000P        | C612      | ECEA1EU222B  | 25V 2200U        |
| R923      | ERDS2TJ100    | 1/4W 10          | C13, 14   | ECEA0JKA101B | 6.3V 100U        | C613      | ECA1HMA70B   | 50V 47U          |
| R924      | ERDS2TJ103    | 1/4W 10K         | C15, 16   | ECQB1H682JZ3 | 50V 6800P        | C618, 619 | ECFR1E104ZF5 | 25V 0.1U         |
| R925      | ERDS2TJ223    | 1/4W 22K         | C17-20    | ECEA1EKA4R7B | 25V 4.7U         | C901      | ECEA0JMA22B  | 6.3V 2200U       |
| R926      | ERDS2TJ100    | 1/4W 10          | C21       | ECEA0JKA101B | 6.3V 100U        | C903      | ECEA1HKA010B | 50V 1U           |
| R927      | ERDS2TJ223    | 1/4W 22K         | C25, 26   | ECEA1EKA4R7B | 25V 4.7U         | C904      | ECEA1EKA4R7B | 25V 4.7U         |
| R928      | ERDS2TJ273    | 1/4W 27K         | C27, 28   | ECBT1H561KB5 | 50V 560P         | C907      | ECCR1H103ZF5 | 50V 0.01U        |
| R931      | ERDS2TJ102    | 1/4W 1K          | C29, 30   | ECCR2H101KB5 | 500V 100P        | C912      | ECBT1H122KB  | 50V 1200P        |
| R932      | ERDS2TJ392T   | 1/4W 3.9K        | C31, 32   | ECBT1H181KB5 | 50V 180P         | C915      | ECBT1E103ZF  | 25V 0.01U        |
| R933      | ERDS2TJ472    | 1/4W 4.7K        | C33, 34   | ECEA1HKA4R7B | 50V 0.47U        |           |              |                  |
| R934      | ERDS2TJ105T   | 1/4W 1M          | C35, 36   | ECQB1H472JZ  | 50V 4700P        |           |              |                  |
| R935      | ERDS2TJ182    | 1/4W 1.8K        | C37, 38   | ECQB1H223JZ3 | 50V 0.022U       |           |              |                  |
| R938, 939 | ERDS2TJ472    | 1/4W 4.7K        | C39, 40   | ECQB1H103JZ  | 50V 0.01U        |           |              |                  |
| R941      | ERDS2TJ102    | 1/4W 1K          | C41, 42   | ECQB1H223JZ3 | 50V 0.022U       |           |              |                  |
| R943      | ERDS2TJ223    | 1/4W 22K         | C43, 44   | ECQB1H153JZ  | 50V 0.015U       |           |              |                  |
| R945      | ERDS2TJ103    | 1/4W 10K         | C45, 46   | ECBT1E103ZF  | 25V 0.01U        |           |              |                  |
| R948      | ERDS2TJ184T   | 1/4W 180K        | C49, 50   | ECEA1CKA100B | 16V 10U          |           |              |                  |
| R949      | ERDS2TJ103    | 1/4W 10K         | C53, 54   | ECQV1H563JZ3 | 50V 0.056U       |           |              |                  |
| R950      | ERDS2TJ332    | 1/4W 3.3K        | C55       | ECBT1E103ZF  | 25V 0.01U        |           |              |                  |
| R951      | ERDS2TJ103    | 1/4W 10K         | C57, 58   | ECEA1AKA470B | 10V 47U          |           |              |                  |
| R952      | ERDS2TJ392T   | 1/4W 3.9K        | C63       | ECEA1CKA100B | 16V 10U          |           |              |                  |
| R953      | ERDS2TJ103    | 1/4W 10K         | C64       | ECEA1HNO10   | 50V 1U           |           |              |                  |
| R954      | ERDS2TJ223    | 1/4W 22K         | C71, 72   | ECBT1H391KB5 | 50V 390P         |           |              |                  |
| R955      | ERDS2TJ821    | 1/4W 820         | C73, 74   | ECBT1C472KB5 | 16V 4700P        |           |              |                  |
| R956      | ERDS2TJ223    | 1/4W 22K         | C81, 82   | ECBT1H47KCS  | 50V 4.7P         |           |              |                  |
| R957      | ERDS2TJ821    | 1/4W 820         | C135, 136 | ECQB1H822JZ  | 50V 8200P        |           |              |                  |
| R958      | ERDS2TJ223    | 1/4W 22K         | C137, 138 | ECQB1H153JZ  | 50V 0.015U       |           |              |                  |
| R959      | ERDS2TJ821    | 1/4W 820         | C301      | ECQP1153JZ   | 100V 0.015U      |           |              |                  |
| R960      | ERDS2TJ153    | 1/4W 15K         | C302      | ECEA1CKA101B | 16V 100U         |           |              |                  |
| R961      | ERDS2TJ221    | 1/4W 220         | C303      | ECCR1H392KB5 | 50V 3900P        |           |              |                  |
| R962      | ERDS2TJ103    | 1/4W 10K         | C304, 305 | ECKW1H222KB5 | 50V 2200P        |           |              |                  |
| R963      | ERDS2TJ392T   | 1/4W 3.9K        | C306      | ECKD1H682KB  | 50V 6800P        |           |              |                  |

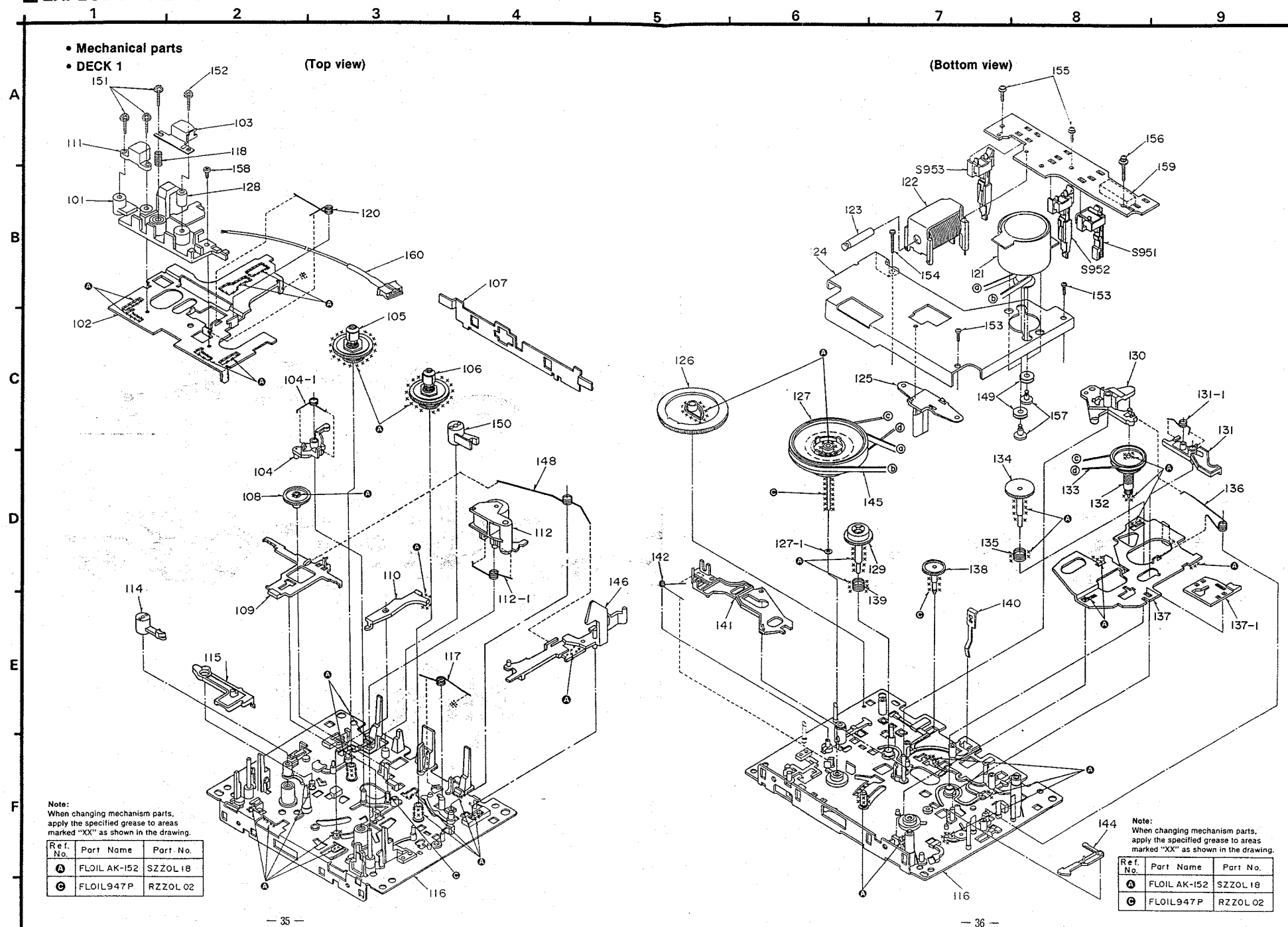
| Ref. No. | Part No.     | Part Name & Description   | Remarks         | Ref. No. | Part No.    | Part Name & Description  | Remarks     |
|----------|--------------|---------------------------|-----------------|----------|-------------|--------------------------|-------------|
|          |              | CABINET AND CHASSIS       |                 | A1       | RQF1083     | INSTRUCTION MANUAL UNIT  | (EG)        |
|          |              |                           |                 | A1       | RQF1084     | INSTRUCTION MANUAL UNIT  | (GC)        |
|          |              |                           |                 | A1       | RQF1085     | INSTRUCTION MANUAL UNIT  | (GN)        |
| 1        | RHD30007     | SCREW                     |                 | A1-1     | RFKSX102E-K | INSTRUCTION MANUAL ASS'Y | (E)         |
| 2        | RQMD024-2K   | CABINET                   |                 | A1-1     | RQT0986-G   | INSTRUCTION MANUAL       | (GC)        |
| 3        | RYFO104B-K2  | CASSETTE LID(DECK1)       |                 | A1-1     | RQT0988-B   | INSTRUCTION MANUAL       | (EB, GN)    |
| 4        | RYFO105A-K2  | CASSETTE LID(DECK2)       |                 | A1-1     | RQT0989-D   | INSTRUCTION MANUAL       | (EG)        |
| 5        | XTBS3-8JFZ1  | SCREW                     |                 | A1-2     | RQAD013     | WARRANTY CARD            | (E, EB, EG) |
| 6        | RGRD102A-B   | REAR PANEL                | (E, EB, GC, GN) | A1-2     | SOX7186     | WARRANTY CARD            | (GN)        |
| 6        | RGRD102A-D   | REAR PANEL                | (EG)            | A1-3     | RQCBO169    | SERVICEMAN LIST          |             |
| 7        | RFKJTX302LEX | BOTTOM BOARD ASS'Y        |                 | A2       | REX0346     | 3-CORE FLAT CABLE        |             |
| 7-1      | RKA0011-2    | FOOT                      |                 | A3       | SJPD2249-3  | STEREO CONNECTION CABLE  |             |
| 8        | RKQ0089      | P. C. B. HOLDER           |                 | A4       | SJPD2257T   | L-TYPE CABLE             |             |
| 9        | RFKNSDN7AK   | DAMPER GEAR ASS'Y (L)     |                 |          |             |                          |             |
| 10       | RFKNSDN7BK   | DAMPER GEAR ASS'Y (R)     |                 |          |             |                          |             |
| 11       | RMD0135      | FL HOLDER                 |                 |          |             |                          |             |
| 12       | RFKSGK102E-K | FRONT PANEL ASS'Y         |                 |          |             |                          |             |
| 12-1     | RKWD165-K    | TRANSPARENT PLATE         |                 |          |             |                          |             |
| 13       | RGU0070      | BUTTON, EJECT             |                 |          |             |                          |             |
| 14       | RGU0453-K    | BUTTON, DECK (POWER)      |                 |          |             |                          |             |
| 15       | RGU0602-K    | BUTTON, OPERATION (DECK1) |                 |          |             |                          |             |
| 16       | RGU0459A-K   | BUTTON, OPERATION (DECK2) |                 |          |             |                          |             |
| 17       | RFKNSK102F-K | BUTTON ASS'Y COUNT./SYNC. |                 |          |             |                          |             |
| 18       | RGW0098-K    | KNOB, REC LEVEL           |                 |          |             |                          |             |
| 19       | RKFD169A-K   | CASSETTE HOLDER           |                 |          |             |                          |             |
| 19-1     | QBP2006A     | TAPE PRESSURE SPRING      |                 |          |             |                          |             |
| 20       | RMA0159-1    | MECHANISM ANGLE           |                 |          |             |                          |             |
| 21       | RMA0373      | EJECT ANGLE               |                 |          |             |                          |             |
| 22       | RME0068-1    | SPRING                    |                 |          |             |                          |             |
| 23       | RML0185-1    | EJECT LEVER (L)           |                 |          |             |                          |             |
| 24       | RML0186-1    | EJECT LEVER (R)           |                 |          |             |                          |             |
| 25       | RMD0041      | EJECT ROD                 |                 |          |             |                          |             |
| 26       | XTBS26+10J   | SCREW                     |                 |          |             |                          |             |
| 27       | XTBS3+10JFZ  | SCREW                     |                 |          |             |                          |             |
| 28       | XTBS3+20JFZ  | SCREW                     |                 |          |             |                          |             |
|          |              | PACKING MATERIAL          |                 |          |             |                          |             |
| P1       | RPQ0842      | CARTON BOX                |                 |          |             |                          |             |
| P2       | RPND383-1    | PAD                       |                 |          |             |                          |             |
| P3       | SPSD152      | ACCESSORIES BOX           |                 |          |             |                          |             |
| P4       | SPP756       | PROTECTION COVER          |                 |          |             |                          |             |
|          |              | ACCESSORIES               |                 |          |             |                          |             |
| A1       | RQF1081      | INSTRUCTION MANUAL UNIT   | (E)             |          |             |                          |             |
| A1       | RQF1082      | INSTRUCTION MANUAL UNIT   | (EB)            |          |             |                          |             |

## EXPLODED VIEW

## • Cabinet parts

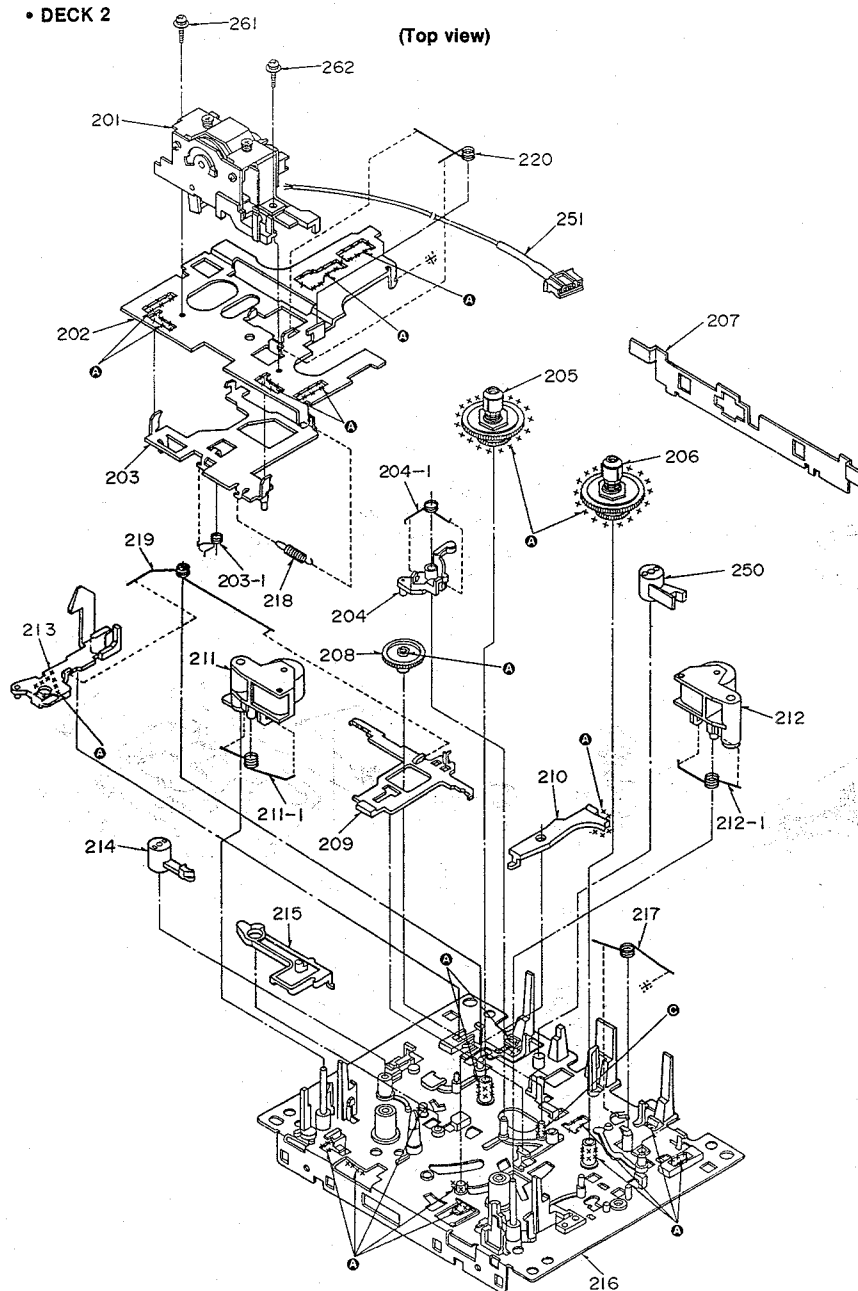


## EXPLODED VIEWS

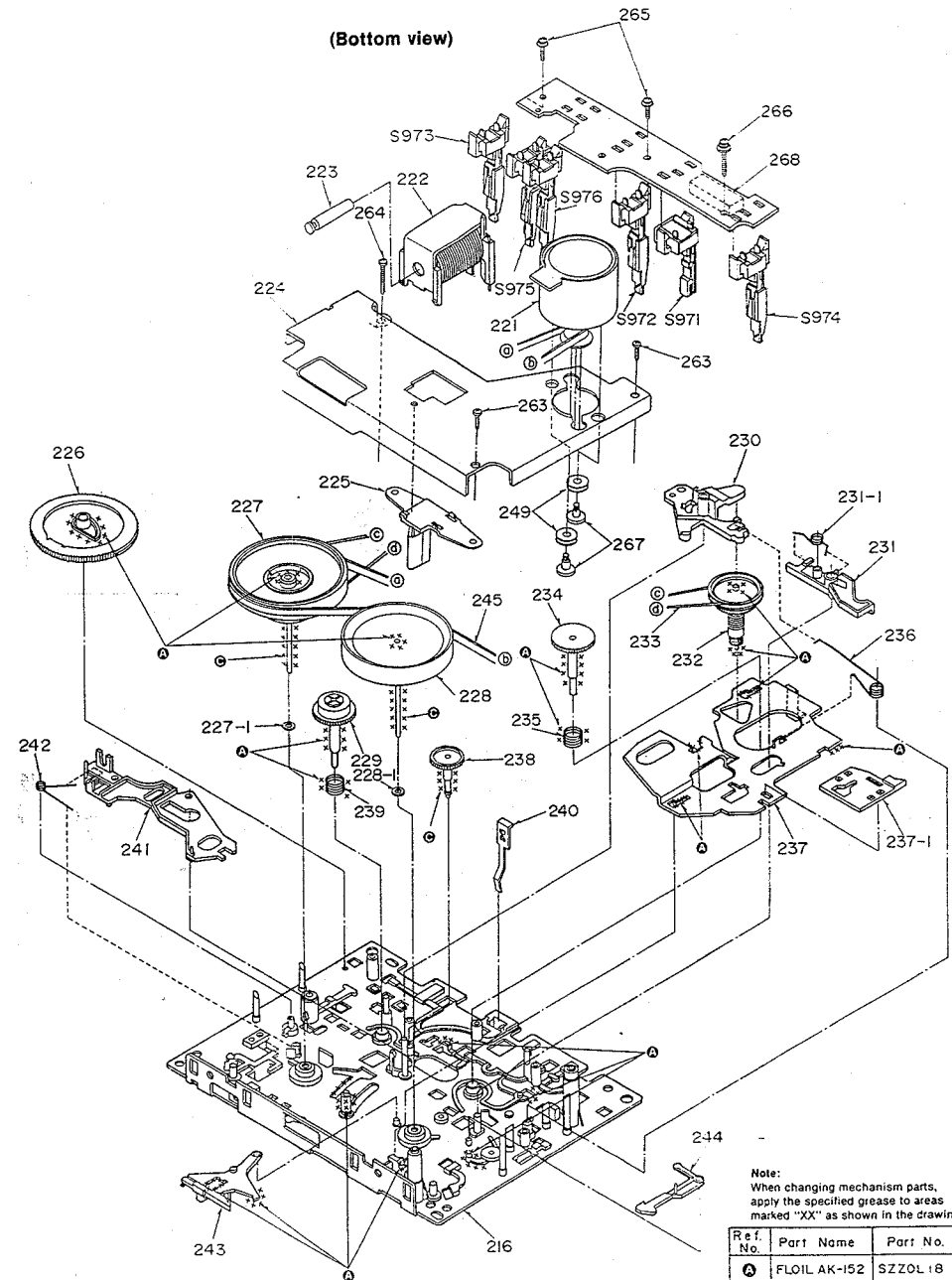


## • DECK 2

(Top view)



(Bottom view)



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

| Ref.<br>No. | Part Name    | Part No. |
|-------------|--------------|----------|
| A           | FLOIL AK-152 | SZZOL18  |
| C           | FLOIL947P    | RZZOL02  |

## ■ REPLACEMENT PARTS LIST

| Ref. No. | Part No.    | Part Name & Description | Remarks | Ref. No. | Part No.  | Part Name & Description | Remarks |
|----------|-------------|-------------------------|---------|----------|-----------|-------------------------|---------|
|          |             | MECHANISM PARTS LIST    |         | 148      | RW1442A   | SPRING                  |         |
|          |             |                         |         | 149      | RK30322A  | RUBBER CUSHION          |         |
|          |             |                         |         | 150      | RNL1802B  | DAMPER ARM              |         |
| DECK1    |             |                         |         | 151      | QH1361A   | SCREW                   |         |
| 101      | RMD50132D   | HEAD ANGLE              |         | 152      | RHE52012A | SCREW                   |         |
| 102      | RUA793YC    | HEAD BASE               |         | 153      | XTN26*7J  | SCREW                   |         |
| 103      | RJHAC35GYAM | PLAYBACK HEAD           |         | 154      | RHE52032A | SCREW                   |         |
| 104      | IUB00892A   | ARM                     |         | 155      | XTW2*8S   | SCREW                   |         |
| 104-1    | RUN1482A    | SPRING                  |         | 156      | XYC2*JF16 | SCREW                   |         |
| 105      | 1DM00052A   | REEL TABLE (R)          |         | 157      | RHD26002  | SCREW                   |         |
| 106      | 1DM00172A   | REEL TABLE (F)          |         | 158      | XTN2*5F   | SCREW                   |         |
| 107      | RML0069-1   | LEVER                   |         | 159      | RJS7772A  | CONNECTOR (7P), J951    |         |
| 108      | RDG57722C   | GEAR                    |         | 160      | REX0060   | LEAD WIRE BLOCK (3P)    |         |
| 109      | RUB5082B    | BRAKE ROD               |         |          |           |                         |         |
| 110      | RUB5062B    | ROCK LEVER              |         |          |           |                         |         |
| 111      | RUG822A     | DAMPE HEAD              |         |          |           |                         |         |
| 112      | IUB00872A   | ARM                     |         |          |           |                         |         |
| 112-1    | RUN1402C    | SPRING                  |         |          |           |                         |         |
| 114      | RNL12D      | DAMPER ARM              |         |          |           |                         |         |
| 115      | RUB5032D    | MAIN LEVER              |         |          |           |                         |         |
| 116      | RZUAR300    | CHASSIS                 |         |          |           |                         |         |
| 117      | RUN1422A    | SPRING                  |         |          |           |                         |         |
| 118      | QBC1278A    | SPRING                  |         |          |           |                         |         |
| 120      | RUN1392A    | SPRING                  |         |          |           |                         |         |
| 121      | RFM1332A    | DC MOTOR                |         |          |           |                         |         |
| 122      | IUED0152A   | PLUNGER                 |         |          |           |                         |         |
| 123      | RUB4282E    | MOVING IRON CORE        |         |          |           |                         |         |
| 124      | RUL1030YA   | ANGLE                   |         |          |           |                         |         |
| 125      | RMD50142C   | ANGLE                   |         |          |           |                         |         |
| 126      | RDG59272G   | MAIN GEAR               |         |          |           |                         |         |
| 127      | 1DM00372A   | FLYWHEEL (F)            |         |          |           |                         |         |
| 127-1    | RNW1392A    | WASHER                  |         |          |           |                         |         |
| 128      | RHM2782A    | SPACER                  |         |          |           |                         |         |
| 129      | 1DC00062A   | REEL TABLE GEAR         |         |          |           |                         |         |
| 130      | RUB5132D    | ARM                     |         |          |           |                         |         |
| 131      | IUB00912A   | LEVER                   |         |          |           |                         |         |
| 131-1    | RUN1462A    | SPRING                  |         |          |           |                         |         |
| 132      | 1DR00112A   | MAIN PULLEY             |         |          |           |                         |         |
| 133      | RDV902B     | BELT                    |         |          |           |                         |         |
| 134      | RDG57692A   | REEL TABLE GEAR         |         |          |           |                         |         |
| 135      | RUQ1112B    | SPRING                  |         |          |           |                         |         |
| 136      | RUN1452A    | SPRING                  |         |          |           |                         |         |
| 137      | IUB00902A   | ROD                     |         |          |           |                         |         |
| 137-1    | RUB5122B    | F. F. ROD               |         |          |           |                         |         |
| 138      | RDG57732B   | GEAR                    |         |          |           |                         |         |
| 139      | RUQ1122A    | SPRING                  |         |          |           |                         |         |
| 140      | RUS6092C    | TAPE PRESSURE SPRING    |         |          |           |                         |         |
| 141      | RUB5142C    | LEVER                   |         |          |           |                         |         |
| 142      | RUN1472A    | SPRING                  |         |          |           |                         |         |
| 144      | RUB5092A    | LEVER                   |         |          |           |                         |         |
| 145      | RDV1092A    | CAPSTAN BELT            |         |          |           |                         |         |
| 146      | RUB5072D    | EJECT ROL (R)           |         |          |           |                         |         |

| Ref. No. | Part No.  | Part Name & Description    | Remarks | Ref. No. | Part No.  | Part Name & Description | Remarks |
|----------|-----------|----------------------------|---------|----------|-----------|-------------------------|---------|
|          |           | MECHANISM PARTS LIST       |         |          |           |                         |         |
| DECK2    |           |                            |         | 241      | RUB5142C  | LEVER                   |         |
| 201      | RXQ0019   | HEAD BLOCK (REC./PLAYBACK) |         | 242      | RJW1472A  | SPRING                  |         |
| 202      | RUA7932F  | HEAD BASE                  |         | 243      | RUB5152A  | LEVER                   |         |
| 203      | RZLAR300  | ROD                        |         | 244      | RUB5092A  | LEVER                   |         |
| 203-1    | RJW1432A  | SPRING                     |         | 245      | RDV1082A  | CAPSTAN BELT            |         |
| 204      | IUB00892A | ARM                        |         | 249      | RHG30322A | RUBBER CUSHION          |         |
| 204-1    | RJW1482A  | SPRING                     |         | 250      | RNL1802B  | DAMPER ARM              |         |
| 205      | IDMD0182A | REEL TABLE (R)             |         | 251      | REX0059   | LEAD WIRE BLOCK (SP)    |         |
| 206      | IDMD0172A | REEL TABLE (F)             |         | 261      | XTW2-6L   | SCREW                   |         |
| 207      | RML0069-1 | LEVER                      |         | 262      | XTW2-8L   | SCREW                   |         |
| 208      | RDG57722C | GEAR                       |         | 263      | XTN26-7J  | SCREW                   |         |
| 209      | RUB5082B  | BRAKE ROD                  |         | 264      | RHE52032A | SCREW                   |         |
| 210      | RUB5062B  | LEVER                      |         | 265      | XTW2-8S   | SCREW                   |         |
| 211      | IUB00882A | ARM (R)                    |         | 266      | XYC2-JF16 | SCREW                   |         |
| 211-1    | RJW1412A  | SPRING                     |         | 267      | RHD26002  | SCREW                   |         |
| 212      | IUB00872A | ARM (F)                    |         | 268      | RJS10772A | CONNECTOR (10P), J971   |         |
| 212-1    | RJW1402C  | SPRING                     |         |          |           |                         |         |
| 213      | RUB5412B  | EJECT ROD (L)              |         |          |           |                         |         |
| 214      | RNL12D    | DAMPER ARM                 |         |          |           |                         |         |
| 215      | RUB5032D  | MAIN LEVER                 |         |          |           |                         |         |
| 216      | RZUSY380  | CHASSIS                    |         |          |           |                         |         |
| 217      | RJW1422A  | SPRING                     |         |          |           |                         |         |
| 218      | RUD1052A  | SPRING                     |         |          |           |                         |         |
| 219      | RJW1672A  | SPRING                     |         |          |           |                         |         |
| 220      | RJW1392A  | SPRING                     |         |          |           |                         |         |
| 221      | RFML332A  | DC MOTOR                   |         |          |           |                         |         |
| 222      | IUED0152A | PLUNGER                    |         |          |           |                         |         |
| 223      | RUB4282E  | MOVING IRON CORE           |         |          |           |                         |         |
| 224      | RUL1030YA | ANGLE                      |         |          |           |                         |         |
| 225      | RMD60142C | ANGLE                      |         |          |           |                         |         |
| 226      | RDG59272G | GEAR                       |         |          |           |                         |         |
| 227      | IDW00372A | FLYWHEEL (F)               |         |          |           |                         |         |
| 227-1    | RNW1392A  | WASHER                     |         |          |           |                         |         |
| 228      | IDW00382A | FLYWHEEL (R)               |         |          |           |                         |         |
| 228-1    | RNW1382A  | WASHER                     |         |          |           |                         |         |
| 229      | IDG00062A | REEL TABLE GEAR            |         |          |           |                         |         |
| 230      | RUB5132D  | ARM                        |         |          |           |                         |         |
| 231      | IUB00912A | LEVER                      |         |          |           |                         |         |
| 231-1    | RJW1462A  | SPRING                     |         |          |           |                         |         |
| 232      | IDR00112A | MAIN PULLEY                |         |          |           |                         |         |
| 233      | RDV902B   | BELT                       |         |          |           |                         |         |
| 234      | RDG57692A | REEL TABLE GEAR            |         |          |           |                         |         |
| 235      | RJQ1112B  | SPRING                     |         |          |           |                         |         |
| 236      | RJW1452A  | SPRING                     |         |          |           |                         |         |
| 237      | IUB00902A | ROD                        |         |          |           |                         |         |
| 237-1    | RUB5122B  | F. F. ROD                  |         |          |           |                         |         |
| 238      | RDG57732B | GEAR                       |         |          |           |                         |         |
| 239      | RJQ1122A  | SPRING                     |         |          |           |                         |         |
| 240      | RUS6092C  | TAPE PRESSURE SPRING       |         |          |           |                         |         |



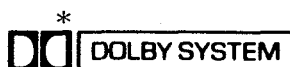
# Service Manual

0845 ORDER NO. AD9205150S8

Cassette Deck

RS-X102

Supplement

Dolby NR-Equipped  
Stereo Double Cassette Deck

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Please file and use this supplement manual together with the service manual for Model No. RS-X102, Order No. AD9103044C8.

Colour

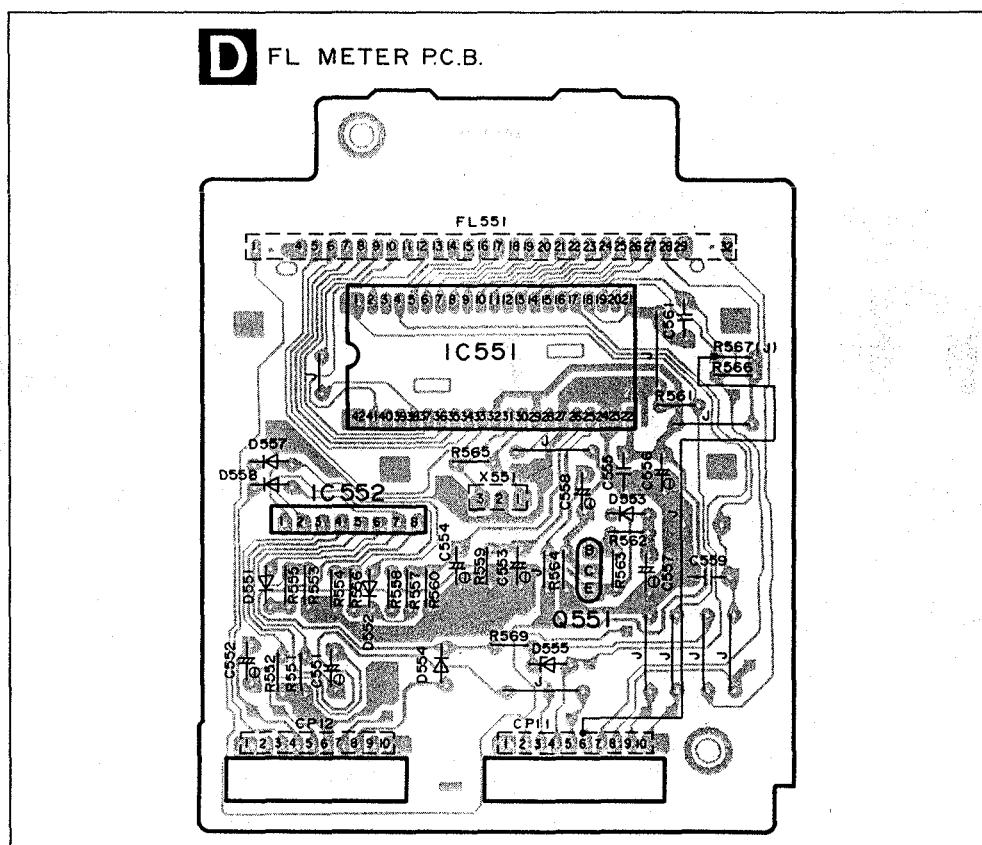
(K) ... Black Type

Area

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

Note: • This supplement manual shows the "FL METER P.C.B." of the 1st product through the 1000th product. From 1001st product onward, please refer to the "FL METER P.C.B." on pages 16 and 17 of the original service manual.

## PRINTED CIRCUIT BOARDS



Technics

Printed in Japan  
H920512000 SN/HH

# Service Manual

Cassette Deck

## RS-X102

**Supplement**

Dolby NR-Equipped  
Stereo Double Cassette Deck



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

Please file and use this supplement manual together with the service manual for Model No. RS-X102, Order No. AD9103044C8.

Colour

(K)... Black Type

Area

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

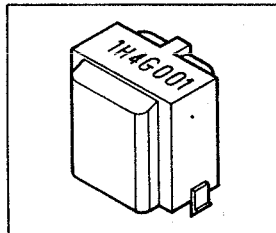
### Notes:

- This supplement is issued to inform you that the "MAIN CIRCUIT", "MAIN P.C.B." and "REPLACEMENT PARTS LIST" are changed in this unit for the power transformer has been changed in order to standardize it.
  - The new transformer's shape is different from original one.
- Therefore, be sure to check if the transformer to be replaced is the original or new one before ordering or replacing it.

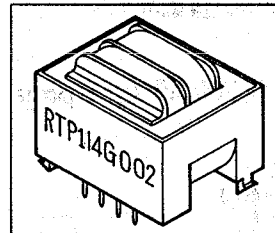
### How to distinguish new power transformer from original one

Identify by the part number found on the power transformer or the part No. shown below.

(ORIGINAL)



(NEW)



## CHANGES

### CHANGE IN REPLACEMENT PARTS LIST

**Note:** • Important safety notice:

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

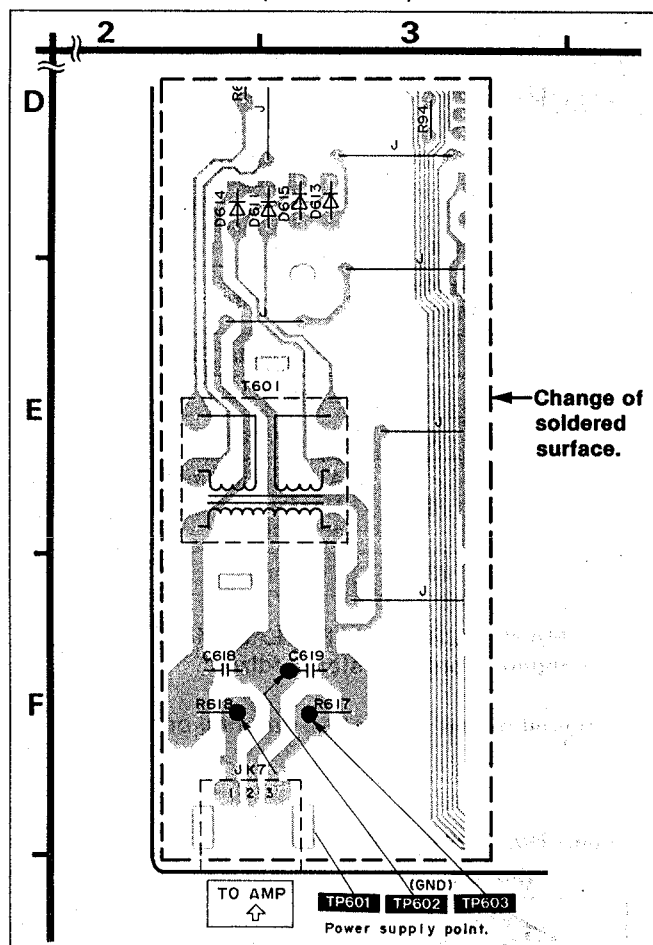
| Ref. No.       | Change of Part No. |            | Part Name & Description | Remarks |
|----------------|--------------------|------------|-------------------------|---------|
|                | ORIGINAL           | NEW        |                         |         |
| TRANSFORMER(S) |                    |            |                         |         |
| T601           | RTP1H4G001         | RTP1H4G002 | POWER TRANSFORMER       | ⚠       |
| RESISTOR       |                    |            |                         |         |
| R631           | ERD25FVJ2R7T       | ERG1SJ120E | M. RESISTOR, 1W, 12Ω    | ⚠       |

# Technics

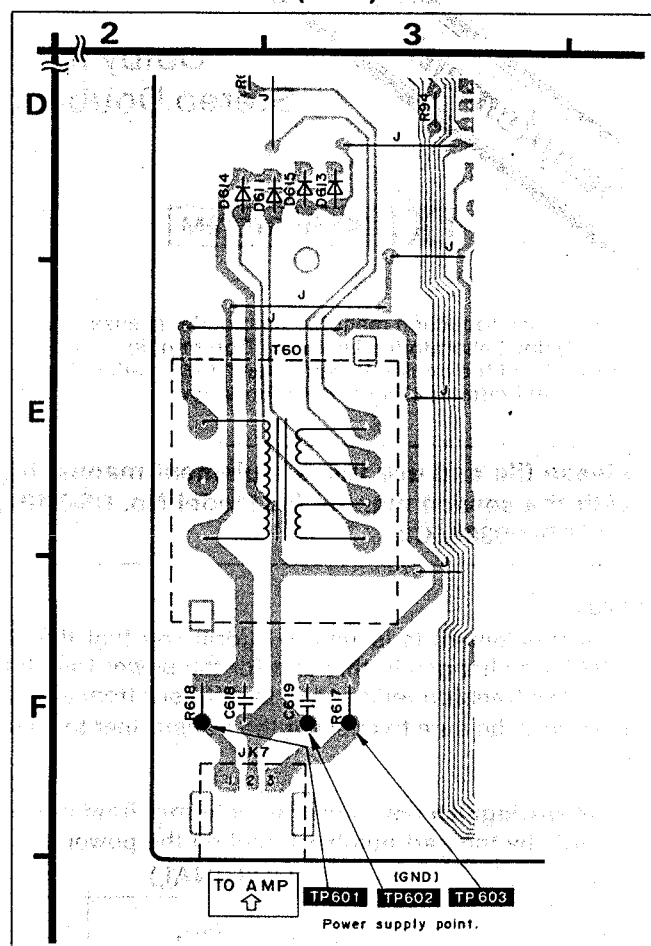
# PRINTED CIRCUIT BOARDS (See page 15.)

## A MAIN P.C.B.

(ORIGINAL)



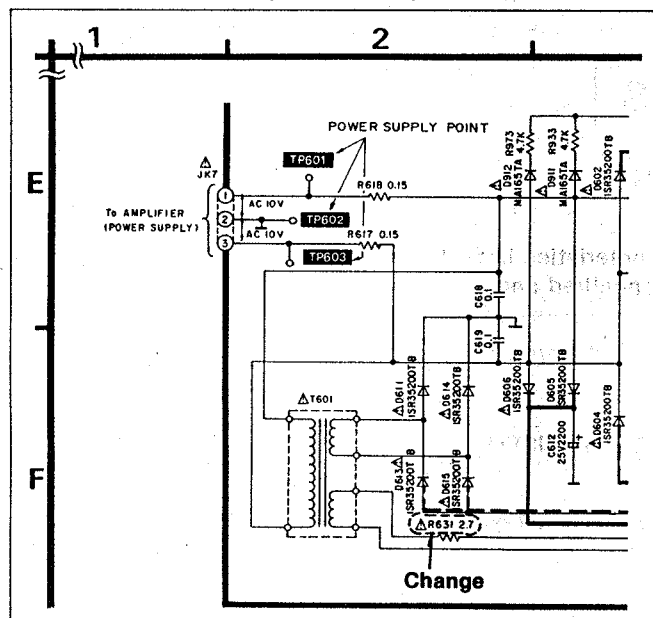
(NEW)



## SCHEMATIC DIAGRAM (See page 19.)

## A MAIN CIRCUIT

(ORIGINAL)



(NEW)

