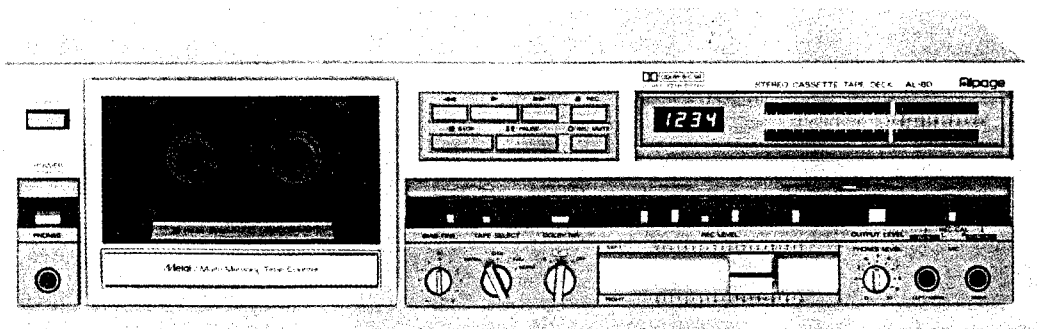


# SERVICE MANUAL

Alpage

STEREO  
CASSETTE  
DECK

AL80



ALPINE ELECTRONICS INC.

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## Specifications

Power Consumption . . . . .	35W
Power Source . . . . .	110/127/220/240V AC 50/60 Hz (For Multi Voltage Model only) 120V AC 60 Hz (For Single Voltage Model only)
Tape Speed (MTT-111) . . . . .	4.76 cm/sec. $\pm 2\%$
Wow & Flutter (JIS, WRMS, MTT-111) . . . . .	0.05%
FF/REW Time (C-60) . . . . .	100 sec.
Frequency Response (Metal) ( $\pm 3$ dB) . . . . .	20 Hz to 19 KHz
Take-Up Torque . . . . .	35 – 60 gcm.
Output Level/Impedance . . . . .	Line . . . . . 1000mV $\pm 2$ dB/100K ohm Mic. . . . . 80mV/8 ohm
Signal to Noise Ratio (NR OFF) . . . . .	54 dB
(NR B) . . . . .	59 dB
(NR C) . . . . .	64 dB
Record/Playback Head . . . . .	Two Gap Combination Ferrite Core
Erase Head . . . . .	Double Gaps Ferrite Core
Distortion . . . . .	3%
Stereo Separation . . . . .	35 dB
Input Sensitivity/Impedance . . . . .	Line; 100mV/50K ohm; Mic; 0.3mV/600 ohm
Semi-conductors . . . . .	17 IC's, 68 Transistors, 50 Diodes, 4 Zener Diodes, 1 Bridge Diode
Dimensions . . . . .	435(W) x 116(H) x 254(D) mm
Weight . . . . .	5.6kg

## Parts Locations and Disassembly Instructions

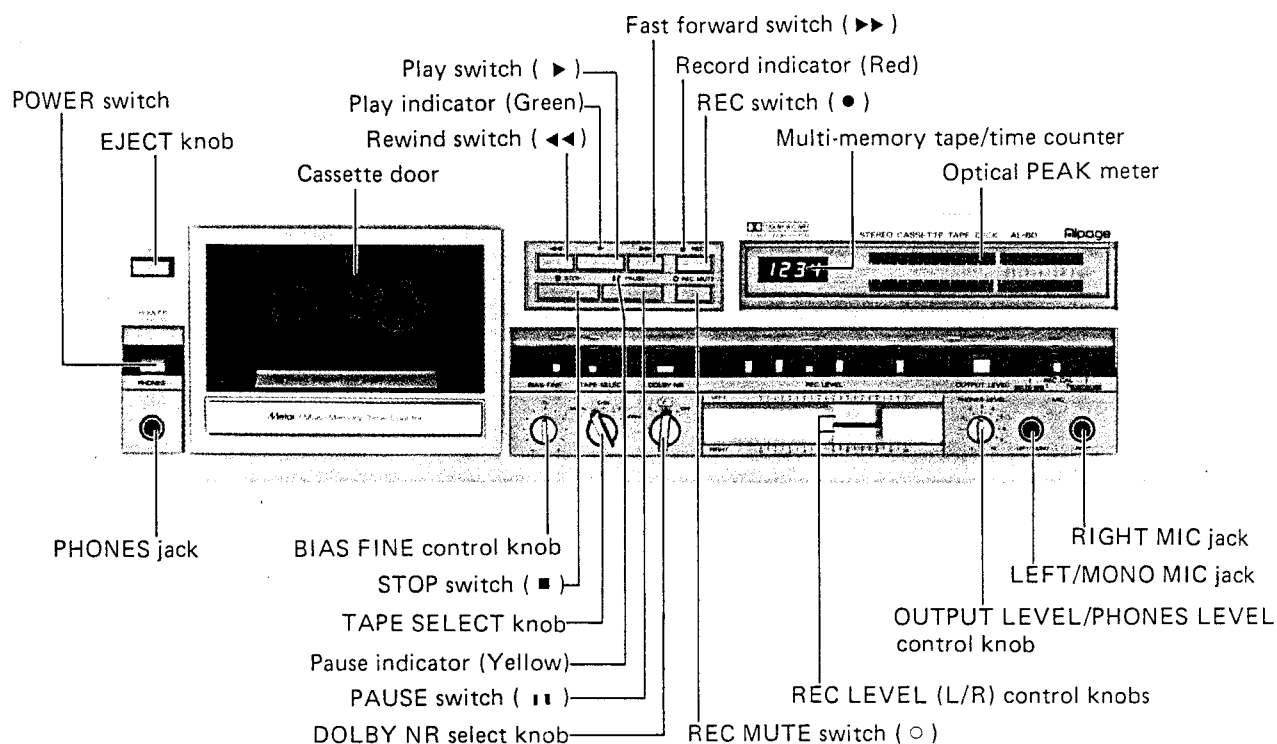


Figure 1

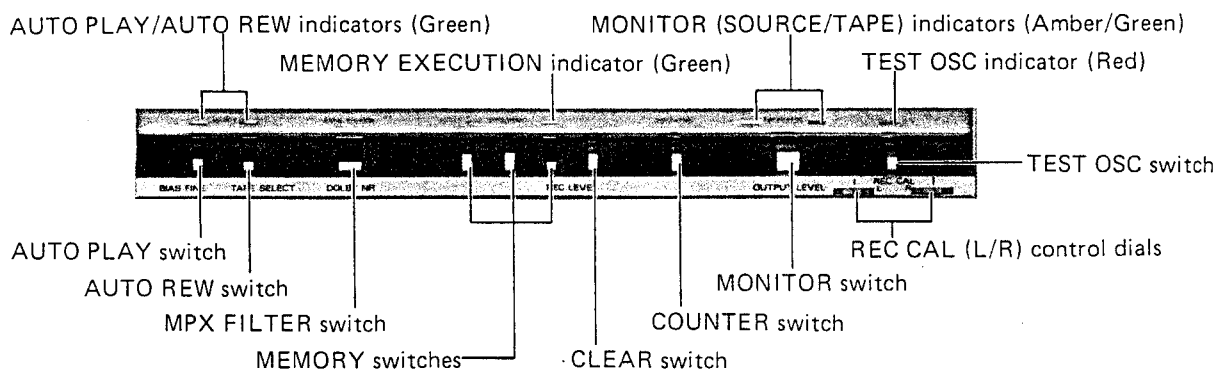


Figure 2

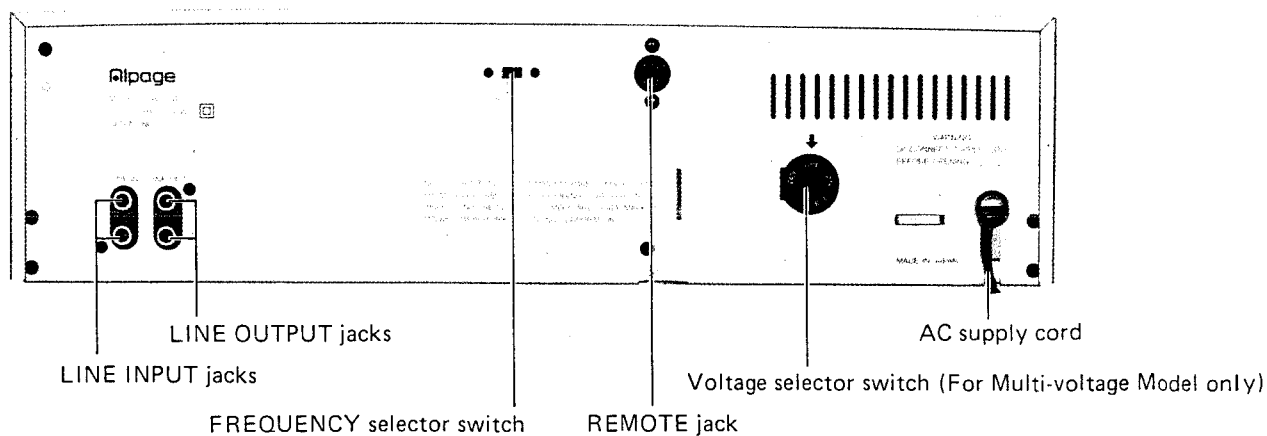


Figure 3

### 1. Removal of Top Cover

- (1) Remove six screws marked "○" as shown in Figures 4 and 5.
- (2) Remove the top cover in the direction of the arrow as shown in Figure 4.

### 2. Removal of Front Panel, Keyboard Switch P.C. Board, REC CAL P.C. Board and Dolby (C) LED P.C. Board

- (1) Pull out four knobs as shown in Figure 4.
- (2) Remove the cassette door upward as shown in Figure 4.
- (3) Remove the link spring as shown in Figure 10.
- (4) Remove eight screws marked "□" as shown in Figures 5 and 6.
- (5) Disconnect all connectors from the REC CAL P.C. Board, Keyboard Switch P.C. Board and Dolby (C) LED P.C. Board.
- (6) Remove the front panel from the chassis.
- (7) Remove a tack, remove the REC CAL P.C. Board as shown in Figure 7.
- (8) Remove a screw marked "φ", remove the Dolby (C) LED P.C. Board as shown in Figure 7.
- (9) Pull the Keyboard Switch P.C. Board winding the hooks carefully as shown in Figure 7.

### 3. Removal of Rear Cover

- (1) Remove ten screws marked "△" as shown in Figure 5.
- (2) Remove two tacks as shown in Figure 5.
- (3) Remove the rear cover.

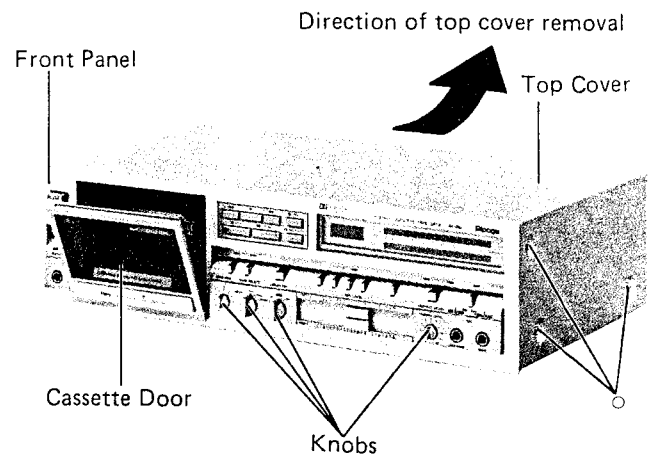


Figure 4

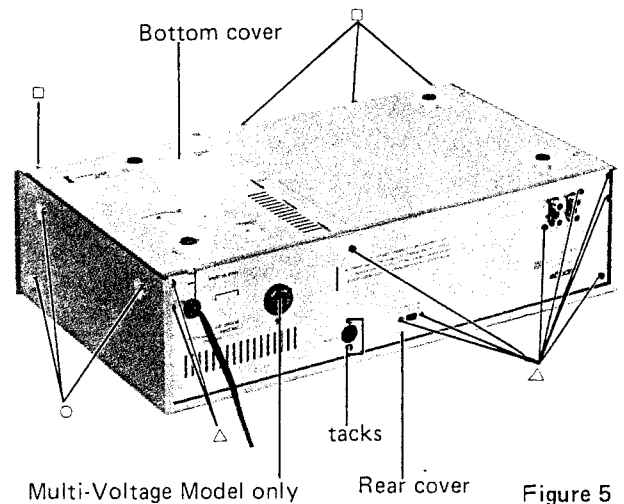


Figure 5

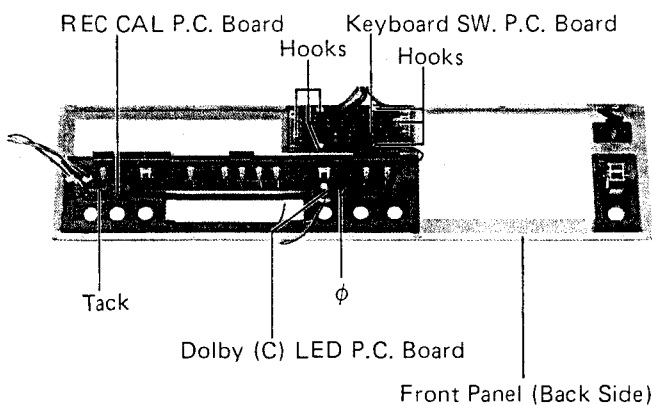


Figure 7

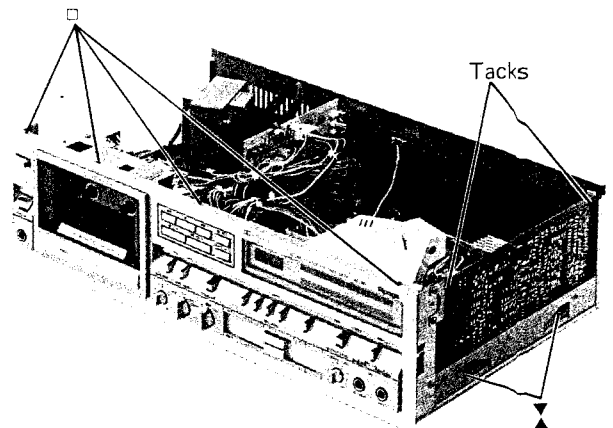


Figure 6



#### 4. Removal of Optical Meter with Lamp P.C. Board and FL Counter P.C. Board

- (1) Remove two screws marked "※" as shown in Figure 8.
- (2) Remove the crystal meter and frame meter as shown in Figure 9.
- (3) Pull out the optical meter as shown in Figure 8.
- (4) Disconnect all wires from the optical meter and both P.C. Boards.
- (5) Remove the optical meter with Lamp P.C. Board, and FL Counter P.C. Board.

#### 5. Removal of Master Board P.C. Board

- (1) Remove four screws marked "✕" as shown in Figures 6 and 8.
- (2) Remove two tacks as shown in Figure 6.
- (3) Remove two mic jack stoppers as shown in Figure 9.
- (4) Remove two nuts (Bias Fine/Phone Level) as shown in Figure 9.
- (5) Remove two screws marked "⊗" as shown in Figure 9.
- (6) Disconnect all wires from the P.C. Board.

#### 6. Removal of Power & Control P.C. Board

- (1) Remove three screws marked "#" as shown in Figure 8.
- (2) Disconnect all wires from the P.C. Board.

#### 7. Removal of REC Volume P.C. Board

- (1) Remove two screws marked "☆" as shown in Figure 9.
- (2) Remove the slide volume panel.
- (3) Remove four screws marked "▲" as shown in Figure 9.
- (4) Disconnect all wires from the P.C. Board.

#### 8. Removal of Switch P.C. Board

- (1) Remove four screws marked "◇" as shown in Figure 9.
- (2) Disconnect all wires from the P.C. Board.

#### 9. Removal of Phones P.C. Board

- (1) Remove phones P.C. Board stopper as shown in Figure 9.
- (2) Disconnect all wires from the P.C. Board.

#### 10. Removal of Cassette Deck

- (1) Remove four screws marked "⌢" as shown in Figure 8.
- (2) Disconnect all wires from the cassette deck.

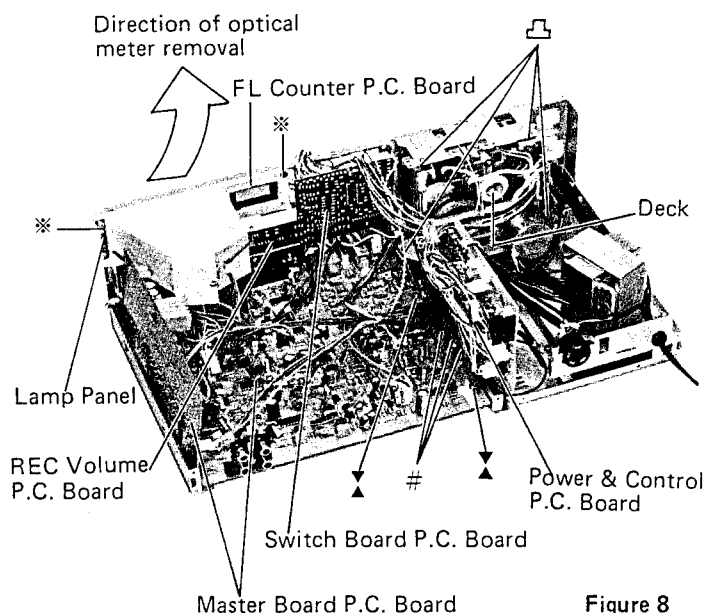


Figure 8

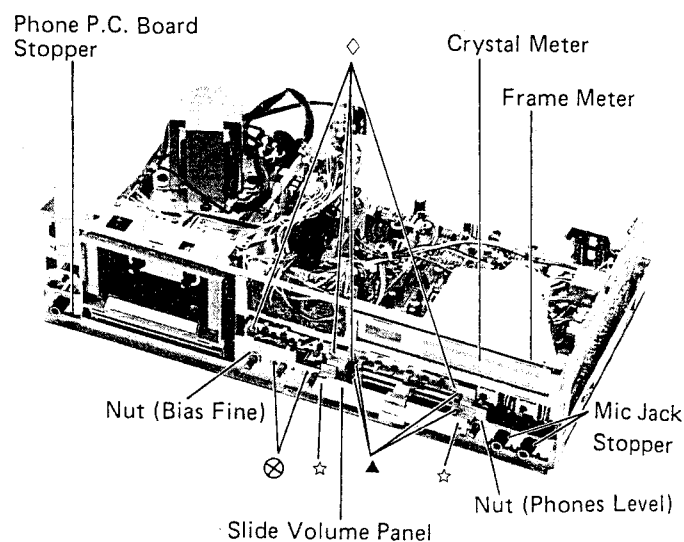


Figure 9

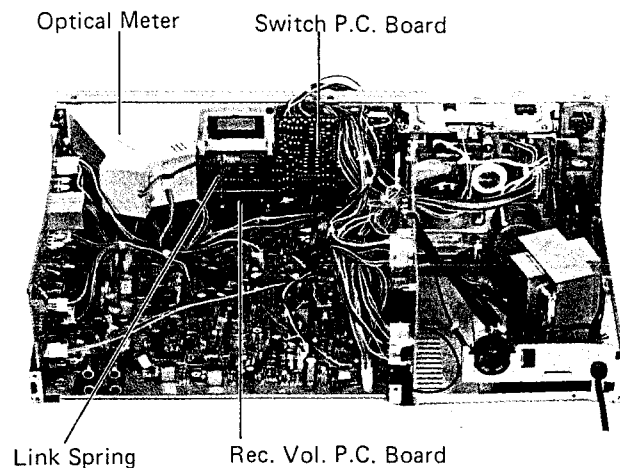


Figure 10

## Adjustment Procedures

Step	Description	Mode	Adjust Points		Test Points	Connection Instruction	Remarks
1	Tape Speed Adjustment	See FL Cassette Deck of ALPAGE TECHNICAL GUIDE.					
2	Head Height and Tilt Angle Adjustment						
3	Head Azimuth Adjustment						
4	Playback Level Adjustment	Playback Tape: Nor. NR: OFF Moni: Tape	1	VR251 VR252	T.P.5 T.P.6	Figure 11	Test Tape: MTT-150 Adjust for 580mV
			2	VR351 VR352	T.P.7 T.P.8	Figure 11	Adjust for 580mV
5	Playback Adjustment (Refer to Figure 14)	Playback Tape: Nor. NR: OFF Moni: Tape	1	C251 C252	T.P.13 T.P.14	Figure 12	Test Signal Input: 23 KHz, non clipping Level Select capacitance of C251 and C252 for 23 KHz at the peak point. <23KHz: Increase the capacitance >23KHz: Decrease the capacitance
			2	R251 R253 R289 R252 R254 R290	T.P.13 T.P.14	Figure 12	Select resistor at the peak point to 5 ~ 6 dB from bottom of EQ curve and connect it with dipping solder. <5 dB: Increase the resistance >6 dB: Decrease the resistance
			3			Figure 12	Change tape position to CrO <sub>2</sub> position. Confirm -3.5 dB from normal level at the level point of 14 KHz.
6	Rec. Level Adjustment	Rec/Pause Tape: Nor. NR: OFF Moni: Source Bias: OFF (See Note)	1	VR201-1 VR202-2	T.P.1 T.P.2	Figure 13	Test Signal Input : 400 Hz, 300mV Adjust for 580mV
			2	VR301 VR302	T.P.3 T.P.4	Figure 13	Adjust for 580mV
7	Level Meter Adjustment	Rec/Pause Tape: Nor. NR: OFF Moni: Source Bias: OFF	VR401 VR402		Level Meter	Figure 13	Conditions at step 6. Adjust for 0 dB ( □□ Mark)
8	TEST OSC Adjustment	Stop Tape: Nor. NR: OFF Moni: Source Test OSC: ON Bias: OFF	VR801 VR802		Level Meter		Adjust for 0 dB ( □□ Mark)
9	Rec. Peak Adjustment	Rec/Pause Tape: Nor. NR: OFF Moni: Source Bias: OFF	L501 L502		T.P.9 T.P.10	figure 13	Test Signal Input : 23 KHz, 17mV (300mV -25 dB) Adjust for peak point come to 23 KHz.

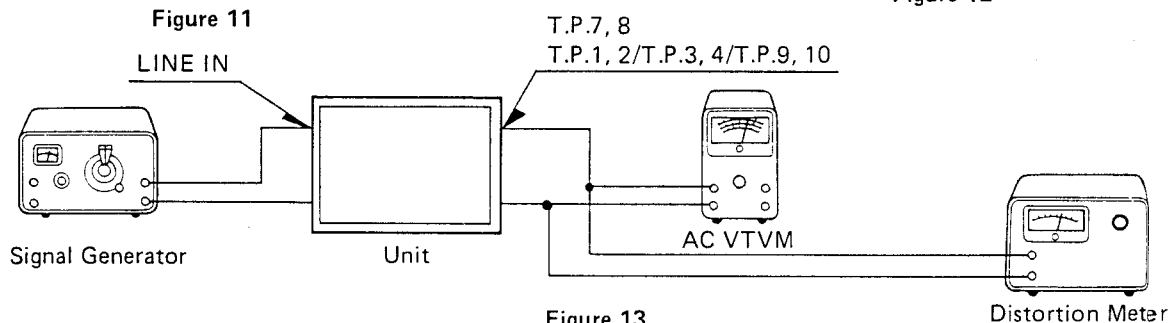
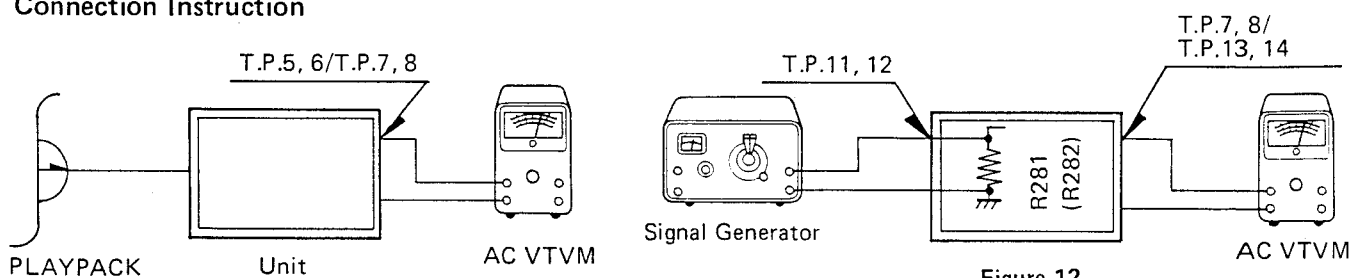
Step	Description		Mode		Adjust Points	Test Points	Connection Instruction	Remarks		
10	Rec/Play output level & Frequency Response Adjustment		Rec/Play NR: OFF				Figure 13			
	(1)	Bias Pre-Set	1	Tape: Metal	VR519 VR520	T.P.9 T.P.10		Test Signal Input : 400 Hz, 300mV Adjust for 8mV		
			2	Tape: Metal	L503 L504	T.P.9 T.P.10		Adjust for max. and repeat step (1).		
			3	Tape: CrO <sub>2</sub>	VR517 VR518	T.P.9 T.P.10		Adjust for 4.8mV (8mV -4.5 dB)		
			4	Tape: CrO <sub>2</sub>	VR501 VR502 (Rec. CAL VR)	T.P.7 T.P.8		Adjust for 580mV		
			5	Tape: Metal	VR513 VR514	T.P.7 T.P.8		Adjust for 580mV		
			6	Tape: Metal	VR519 VR520	T.P.7 T.P.8		Adjust for max. output, and adjust for 1% distortion from max. output level by VR519, VR520.		
			7	Tape: CrO <sub>2</sub>					Repeat Step (4)	
			8	Tape: Metal					Repeat Step (5)	
			9	Tape: CrO <sub>2</sub>	VR517 VR518	T.P.9 T.P.10		Adjust for 4.8mV (8mV -4.5 dB)		
			10	Tape: FeCr	VR522	T.P.9 T.P.10		Adjust for 4.3mV (8mV -5.5 dB)		
			11	Tape: Nor.	VR521	T.P.9 T.P.10		Adjust for 3.4mV (8mV -7.5 dB)		
	(2)	Rec/Play Output Level Adjustment	1	Tape: CrO <sub>2</sub>	VR501 VR502	T.P.7 T.P.8		Test Signal Input 400 Hz, 300mV. Adjust for 580mV		
			2	Tape: Metal	VR513 VR514	T.P.7 T.P.8		Adjust for 580mV		
			3	Tape: FeCr	VR507 VR508	T.P.7 T.P.8		Adjust for 580mV		
			4	Tape: Nor.	VR503 VR504	T.P.7 T.P.8		Adjust for 580mV		
	(3)	Record/Play Frequency Response Adjustment	Tape: Metal		VR515 VR516	T.P.9 T.P.10		FREQUENCY RESPONSE (±3dB)	20~19000Hz	Test Signal Input: Frequency Response Band, 17mV (300mV, -25 dB) Adjust for flat of frequency Response
			Tape: CrO <sub>2</sub>		VR511 VR512				20~18000Hz	
			Tape: FeCr		VR509 VR510				20~18000Hz	
			Tape: Nor.		VR505 VR506				20~17000Hz	
When the frequency response becomes up or down because of unevenness of the head or tape running, readjust following instruction. Refer to Figure 15, 17.										
1. Up or down less than 10 KHz. Readjust by VR515 and VR516. (Metal)										
CrO <sub>2</sub> ..... VR511, 512 } EQ FeCr..... VR509, 510 } Volume Nor..... VR505, 506 }										

Step	Description	Mode	Adjust Points	Test Points	Connection Instruction	Remarks
10	2. Up or Down about 14 KHz. Refer to Figure 16, 17. Readjust by VR519 and VR520. (Metal)				CrO <sub>2</sub> . . . . . VR517, 518 FeCr . . . . . VR522 Nor. . . . . VR521	Bias Volume
11	Bias Trap Adjustment	Rec/Play Tape: Metal NR: C position		T.P.7 T.P.8	Figure 13	Test Signal Input : 400 Hz, 17mV (300mV -25 dB)
	(1) Pre Amp.		L251 L252			Adjust for min. output
	(2) Dolby		L351 L352			Adjust for min. output

Note: Bias: OFF

Remove "A" connector from the master P.C. Board to the erase head.

### Connection Instruction



### Frequency Respose

- Playback EQ Frequency Response.

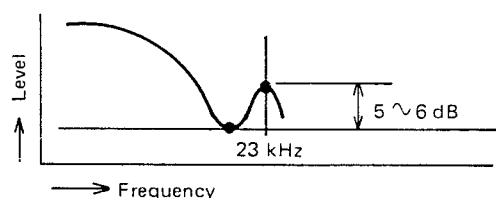


Figure 14

- When changing under 10 kHz, adjust the EQ volume.

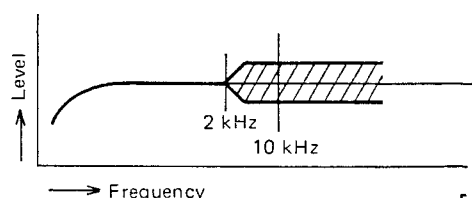


Figure 15

- When changing around 14 kHz, adjust the bias volume.

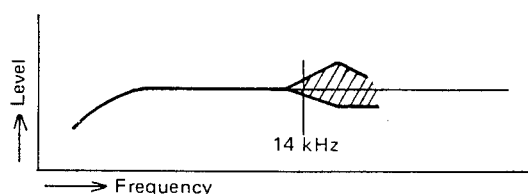
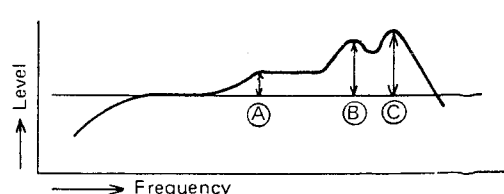


Figure 16

- Examples: R/P Frequency Response



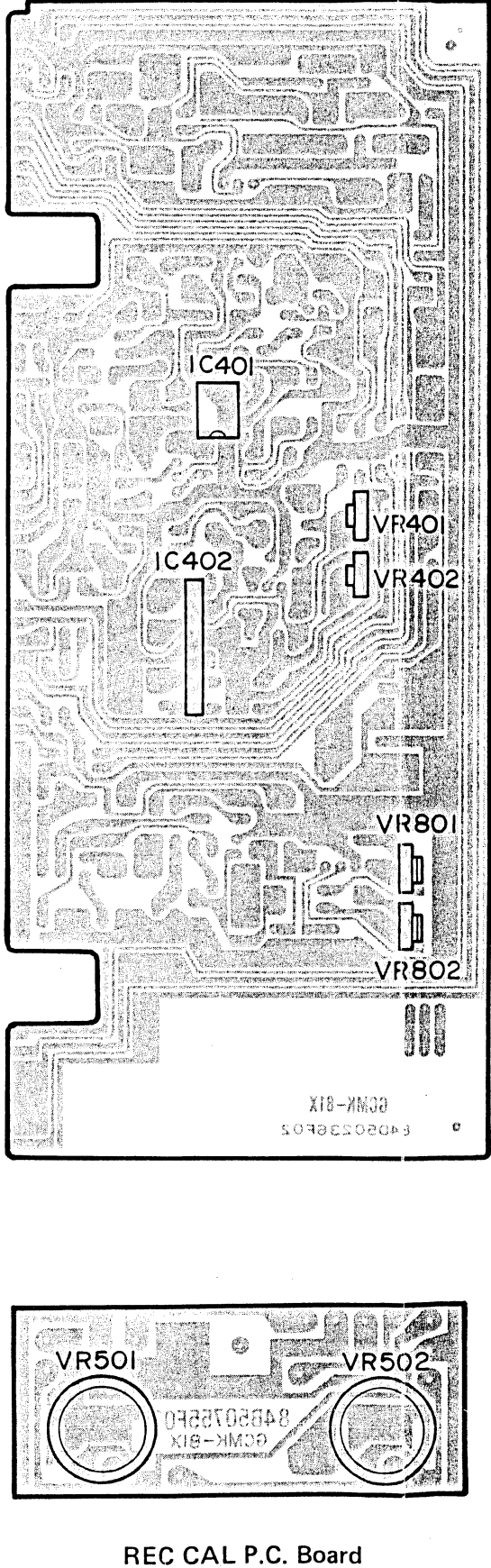
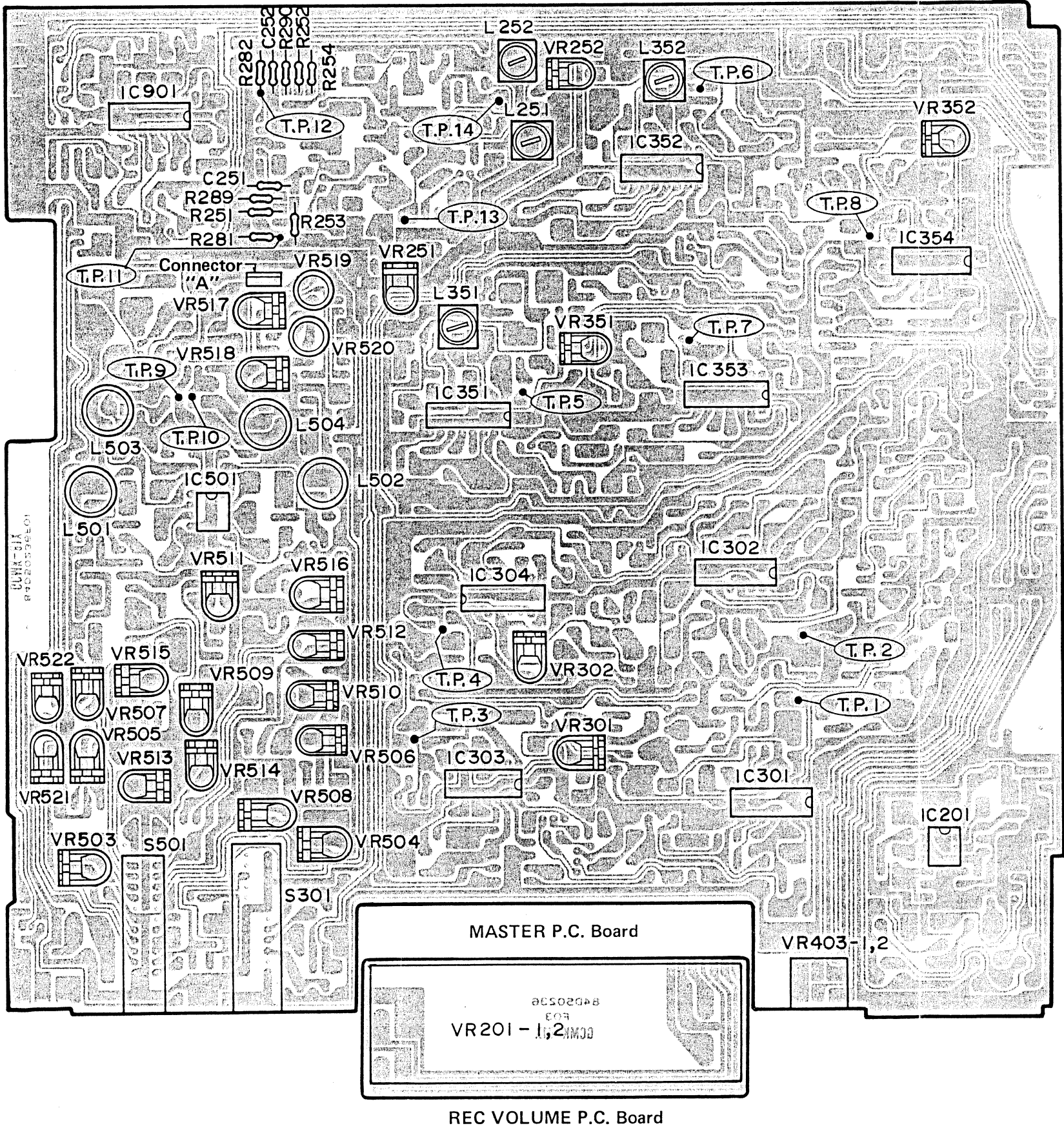
Ⓐ . . . . . Flattens with EQ volume.

Ⓑ . . . . . Flattens with bias volume.

Ⓒ . . . . . Check the peak point of playback and recording.

Figure 17

Adjustment Locations



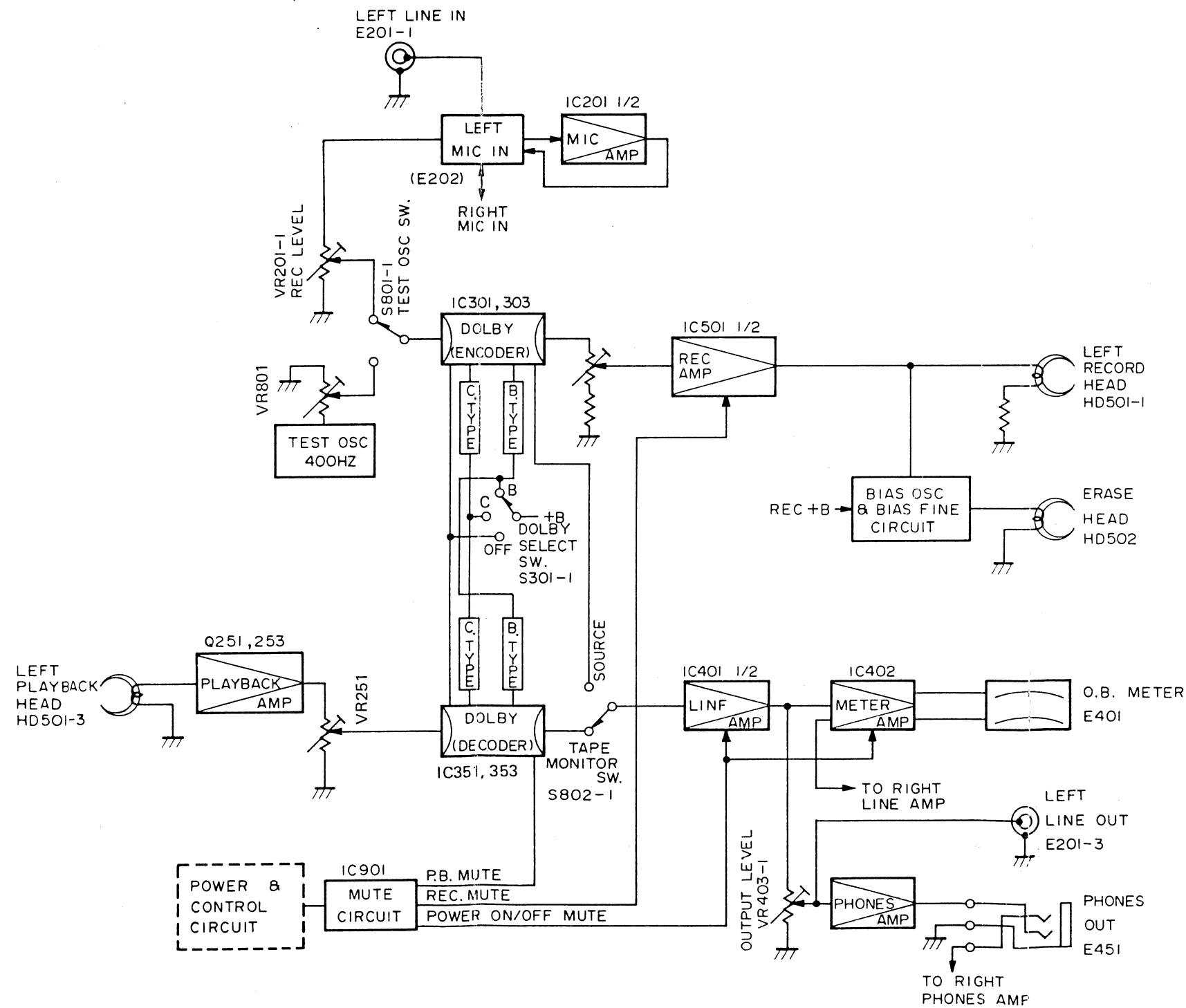
ADJUSTMENT ITEMS		ADJUSTMENT POINTS.
Playback Level		VR251 VR252 VR351 VR352
Playback EQ		C251 C252 R251 R252 R253 R254 R289 R290
Rec Level		VR201-1 VR201-2 VR301 VR302
Level Meter		VR401 VR402
Test OSC		VR801 VR802
Rec Peak		L501 L502
Bias Trap		L503 L504 L251 L252 L351 L352
Rec Bias	(Metal)	VR519 VR520
	(CrO <sub>2</sub> )	VR517 VR518
	(FeCr)	VR522
	(Nor.)	VR521
Rec/Play Output Level	(Metal)	VR513 VR514
	(CrO <sub>2</sub> )	VR501 VR502
	(FeCr)	VR507 VR508
	(Nor.)	VR503 VR504
Rec/Play Frequency Response	(Metal)	VR515 VR516
	(CrO <sub>2</sub> )	VR511 VR512
	(FeCr)	VR509 VR510
	(Nor.)	VR505 VR506

AL-80

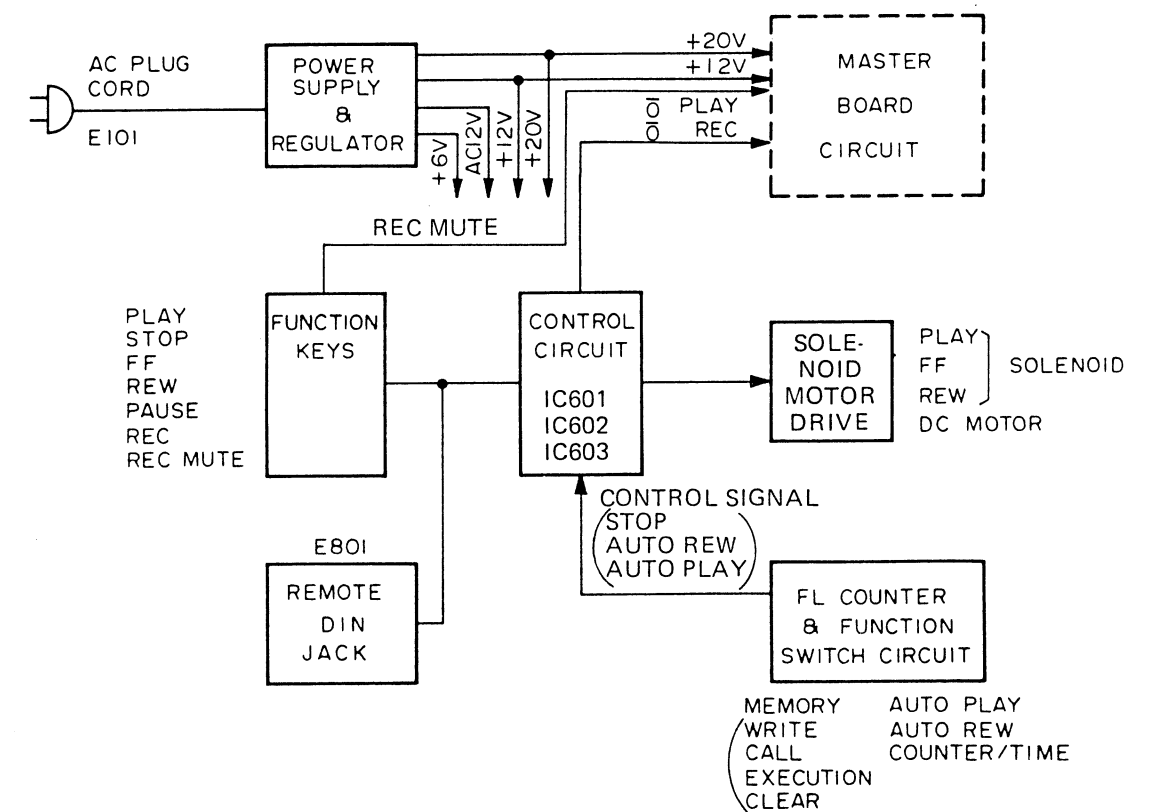
AL-80

# Block Diagram

MASTER BOARD



POWER & CONTROL



## Replacement of Mechanical Parts

### Removal of Cassette Deck

Prior to Replacement Procedures, remove the cassette deck assembly according to "Removal of Cassette Deck" on page 5.

### Replacement of Head

- (1) Remove two screws marked "★" from the cassette door bracket of the cassette deck as shown in Figure 18 and the cassette door can be removed.

- (2) Remove two screws marked "○" and wires from both sides of the R/P head "A" as shown in Figure 19, and it can be removed, with head P.C. Board. Remove the head from the P.C. Board with a soldering iron.

Remove two screws marked "●" and wires from both sides of the erase head "B" as shown in Figure 19, and it can be removed.

- (3) After finishing assembling, adjust head azimuth, height and tilt angle.

Apply screw-lock after adjustment.

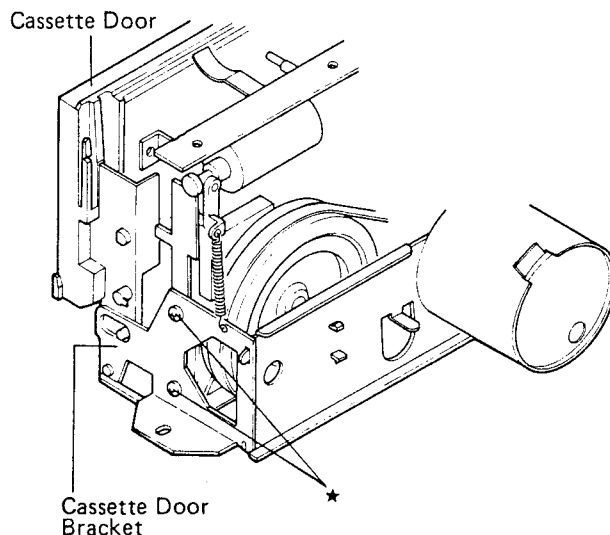


Figure 18

### Replacement of Belt and Flywheel

- (1) Remove screw marked "□" and the motor bracket, two belts and the flywheel can be removed as shown in Figure 20.
- (2) After replacing the belt and flywheel, clean them with isopropyl alcohol.
- (3) After finishing assembling, confirm tape speed and wow/flutter with test tape (MTT-111).

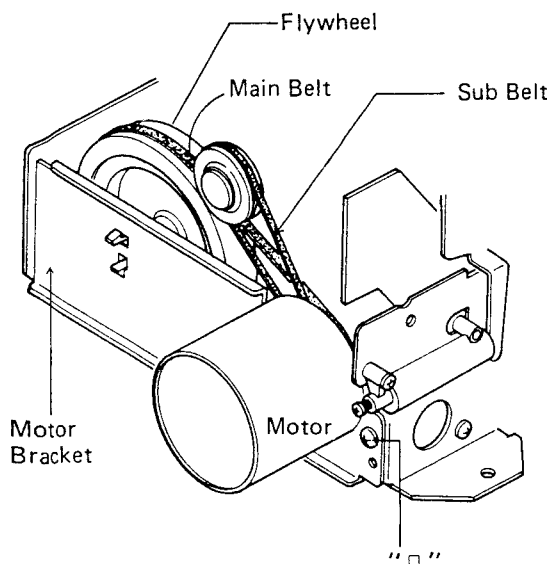


Figure 20

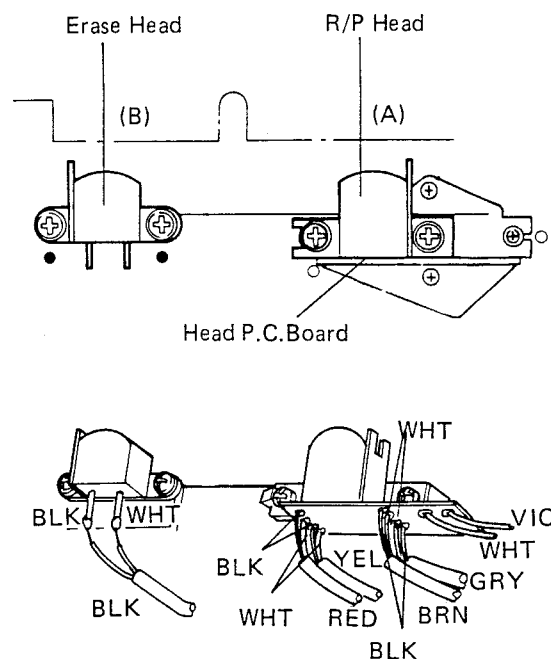


Figure 19

### Replacement of Motor

- (1) Remove a screw marked "□" as shown in Figure 20 and two screws marked "★" and two wires (white, white/red) from motor side as shown in Figure 21, and the motor can be removed.
- (2) After finishing assembling, confirm tape speed and wow/flutter with test tape (MTT-111).

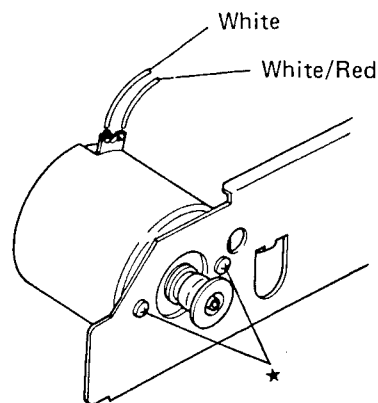


Figure 21

### Replacement of Pinch Roller

- (1) Remove a washer to take off pinch roller assembly from the cassette deck as shown in Figure 22.
- (2) After replacing the pinch roller, clean it with isopropyl alcohol.
- (3) After finishing assembling, confirm tape speed and wow/flutter with test tape (MTT-111).

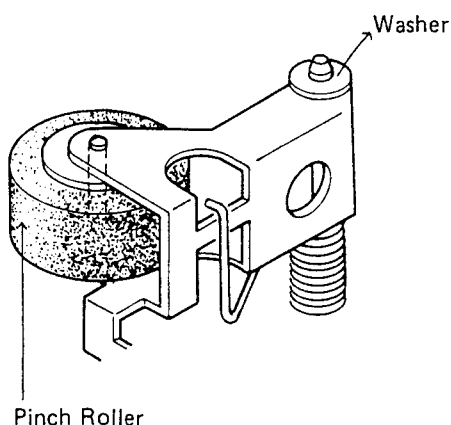
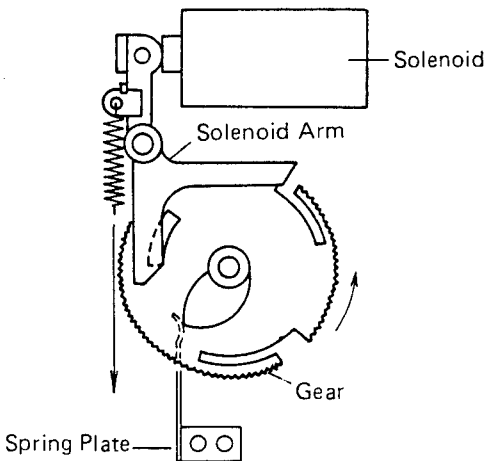
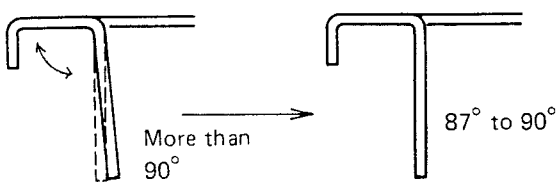
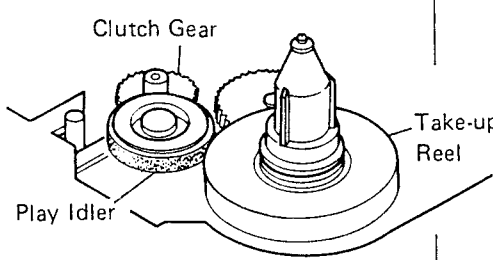


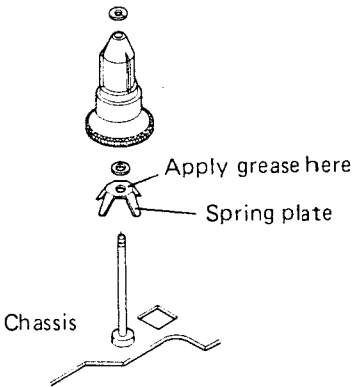
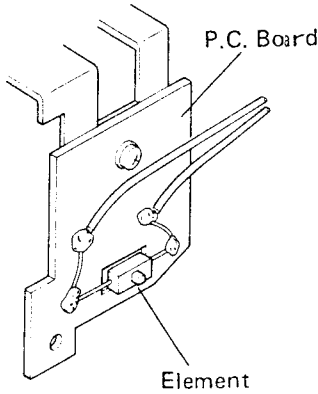
Figure 22

## Trouble Shooting Guide

Symptom	Possible Cause	Remedy
No power.	<ol style="list-style-type: none"> <li>1. Defective power switch (S101).</li> <li>2. Disconnected Fuse (F101 ~ 103). (For multi-voltage model only).</li> <li>3. Defective DC supply block.</li> <li>4. Defective power connections.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace switch.</li> <li>2. Replace fuse.</li> <li>3. Check and repair DC power.</li> <li>4. Check and repair wiring.</li> </ol>
Capstan shaft does not rotate.	<ol style="list-style-type: none"> <li>1. Main belt out of place or its disconnection.</li> <li>2. Defective motor.</li> <li>3. Burning of flywheel shaft.</li> </ol>	<ol style="list-style-type: none"> <li>1. Reinstall or replace main belt.</li> <li>2. Replace motor.</li> <li>3. Lubricate or replace flywheel shaft.</li> </ol>



Symptom	Possible Cause	Remedies
<p>Head base does not go up.</p>	<ol style="list-style-type: none"> <li>1. Defective play solenoid (SL1).</li> <li>2. Defective control circuit.</li> <li>3. Deformation of spring plate.</li> <li>4. Deformation of assist base stopper.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace play solenoid.</li> <li>2. Check and repair.</li> <li>3. Modify spring plate.</li> <li>4. Modify the angle of bending part of assist base stopper.</li> </ol>  
<p>Cassette tape does not run. (No taking up operation).</p>	<ol style="list-style-type: none"> <li>1. Sub belt out of place or its disconnection.</li> <li>2. Slippage of play idler.</li> <li>3. Defective take-up reel.</li> </ol> 	<ol style="list-style-type: none"> <li>1. Reinstall or replace sub belt.</li> <li>2. Clean play idler.</li> <li>3. Replace take-up reel.</li> </ol>

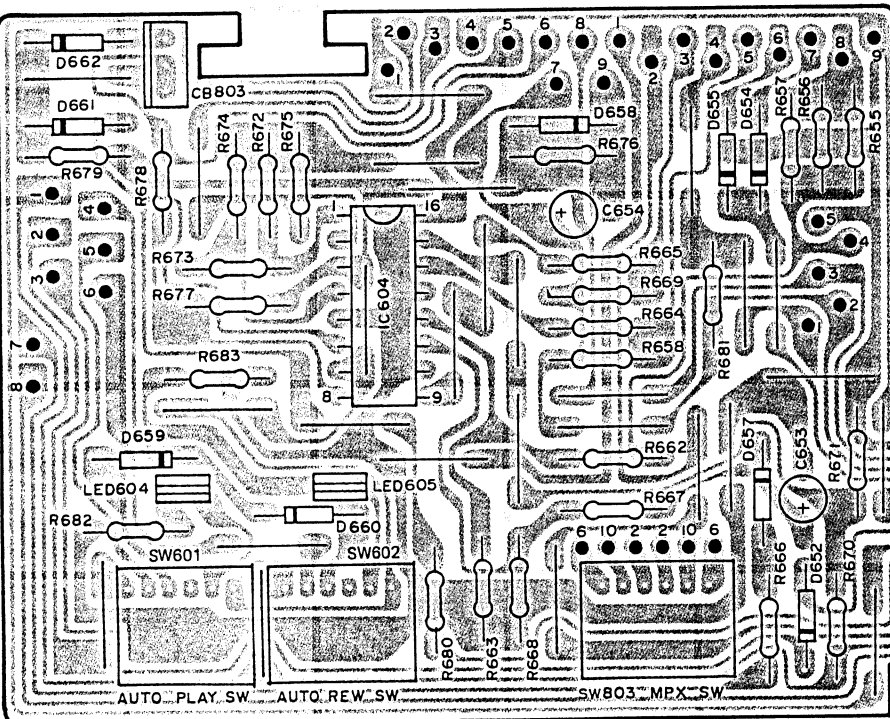
Symptom	Possible Cause	Remedies
FF/REW does not function.	<ol style="list-style-type: none"> <li>1. Defective FF (SL3)/REW (SL2) solenoids.</li> <li>2. Defective control circuit.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace them.</li> <li>2. Check and repair.</li> </ol>
Excessive wow/flutter.	<ol style="list-style-type: none"> <li>1. Defective flywheel assembly.</li> <li>2. Defective motor.</li> <li>3. Defective drive belt.</li> <li>4. Defective pinch roller assembly.</li> <li>5. Slippage between tape and pinch roller.</li> <li>6. Swing of center clutch.</li> <li>7. Swing of back tension.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace flywheel assembly.</li> <li>2. Replace motor.</li> <li>3. Replace drive belt.</li> <li>4. Replace pinch roller assembly.</li> <li>5. Clean pinch roller.</li> <li>6. Replace center clutch.</li> <li>7. Modify back tension spring and apply grease on the spring plate.</li> </ol> 
Photo sensor mismoves during PLAY FF or REW mode.	<ol style="list-style-type: none"> <li>1. Misdirection of radiational and receptional elements (Q1, D1).</li> <li>2. Defective elements (Q1, D1).</li> </ol>	<ol style="list-style-type: none"> <li>1. Fix radiational and receptional elements on the best suitable position.</li> <li>2. Exchange elements.</li> </ol> 

Symptom	Possible Cause	Remedies
Photo sensor (electric counter) Overruns.	<ol style="list-style-type: none"> <li>1. Defective brake on reel plate.</li> <li>2. Brake arm does not slide smoothly.</li> <li>3. Foreign substance is adhered to brake.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace brake.</li> <li>2. Apply grease.</li> <li>3. Take off foreign substance.</li> </ol>
Playback does not function.	<ol style="list-style-type: none"> <li>1. Dirty recording/playback head.</li> <li>2. Defective recording/playback head.</li> <li>3. Disconnected wire between recording/playback head and playback amplifier.</li> <li>4. Defective playback level adjustment volumes (VR251, 252, 351, 352) or their slippage.</li> <li>5. Defective playback amplifier.</li> <li>6. Defective Dolby circuit.</li> <li>7. Defective contact of monitor switch (S802) or its defect.</li> <li>8. Defective skewing amplifier.</li> <li>9. Defective muting circuit.</li> <li>10. Defective output level volume (VR403).</li> <li>11. Defective contact of line-out jack or its defect.</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean head.</li> <li>2. Replace head.</li> <li>3. Check wiring and repair.</li> <li>4. Readjust or replace volumes.</li> <li>5. Repair or replace.</li> <li>6. Repair or replace.</li> <li>7. Repair or replace.</li> <li>8. Repair or replace.</li> <li>9. Repair or replace.</li> <li>10. Replace volume.</li> <li>11. Repair or replace.</li> </ol>
Erasing does not function. (No signal input)	<ol style="list-style-type: none"> <li>1. Defective rec. inh. switch (S2).</li> <li>2. Removal of safety tabs of cassette tape.</li> <li>3. Dirty erase head.</li> <li>4. Defective erase head.</li> <li>5. Wire disconnection to erase head.</li> <li>6. Defective bias OSC.</li> <li>7. Defective bias OSC trans.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace switch.</li> <li>2. Fix tabs.</li> <li>3. Clean head.</li> <li>4. Replace head.</li> <li>5. Check wiring and repair.</li> <li>6. Check and repair.</li> <li>7. Replace trans.</li> </ol>
Recording does not function.	<ol style="list-style-type: none"> <li>1. Defective contact of line-in jack or its defect.</li> <li>2. Defective contact of mic jack or its defect and defect of mic amplifier.</li> <li>3. Defective rec volume (VR201).</li> <li>4. Defective contact of rec. cal. switch (S801) or its defect.</li> <li>5. Defective Dolby circuit.</li> <li>6. Slippage of rec. level adjusting volumes (VR301, 302) or their defect.</li> </ol>	<ol style="list-style-type: none"> <li>1. Repair or replace.</li> <li>2. Repair or replace.</li> <li>3. Replace volume.</li> <li>4. Repair or replace.</li> <li>5. Repair or replace.</li> <li>6. Readjust or replace.</li> </ol>

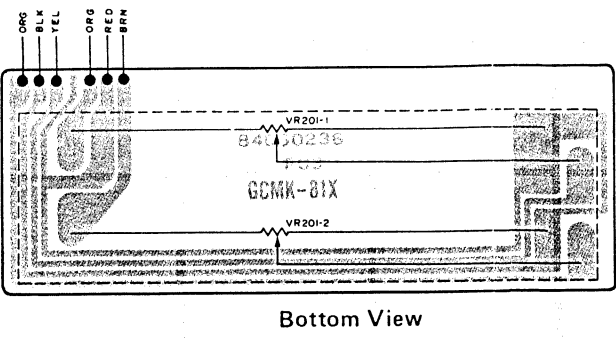
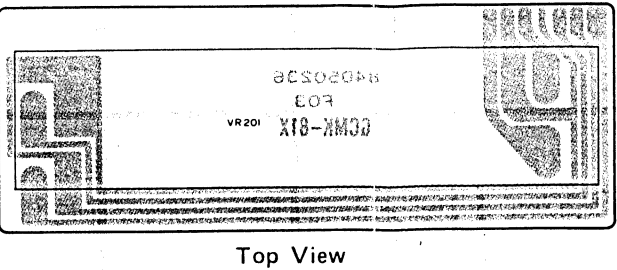
Symptom	Possible Cause	Remedies
	<ul style="list-style-type: none"> <li>7. Slippage of rec/play output level adjusting volumes (VR501, 502, 503, 504, 507, 508, 513, 514) or their defect.</li> <li>8. Defective rec. amplifier.</li> <li>9. Slippage of rec. bias adjusting volumes (VR517 ~ 522) or their defect.</li> <li>10. Disconnected wire between recording/playback head and record amplifier.</li> <li>11. Dirty recording/playback head.</li> <li>12. Defective recording/playback head.</li> </ul>	<ul style="list-style-type: none"> <li>7. Readjust or replace.</li> <li>8. Repair or replace.</li> <li>9. Repair or replace.</li> <li>10. Check wiring and repair.</li> <li>11. Clean head.</li> <li>12. Replace head.</li> </ul>
Distorted Sound.	<ul style="list-style-type: none"> <li>1. Distortion of input signal.</li> <li>2. Level-over of input signal.</li> <li>3. Bias is too small or not flowing.</li> <li>4. Misposition of rec. bias adjusting volumes (VR517 ~ 522).</li> <li>5. Large distortion of bias waveforms.</li> <li>6. Magnetization of recording/playback head.</li> <li>7. Dirty recording/playback head.</li> </ul>	<ul style="list-style-type: none"> <li>1. Check input signal.</li> <li>2. Lower input level.</li> <li>3. Adjust to suitable bias.</li> <li>4. Adjust to suitable bias.</li> <li>5. Check bias OSC.</li> <li>6. Demagnetize with head eraser.</li> <li>7. Clean head.</li> </ul>

Parts Layout on P.C. Boards

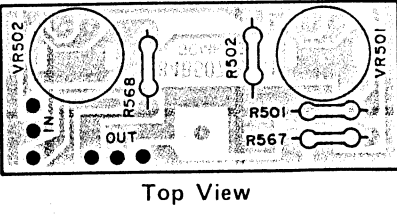
Switch P.C. Board



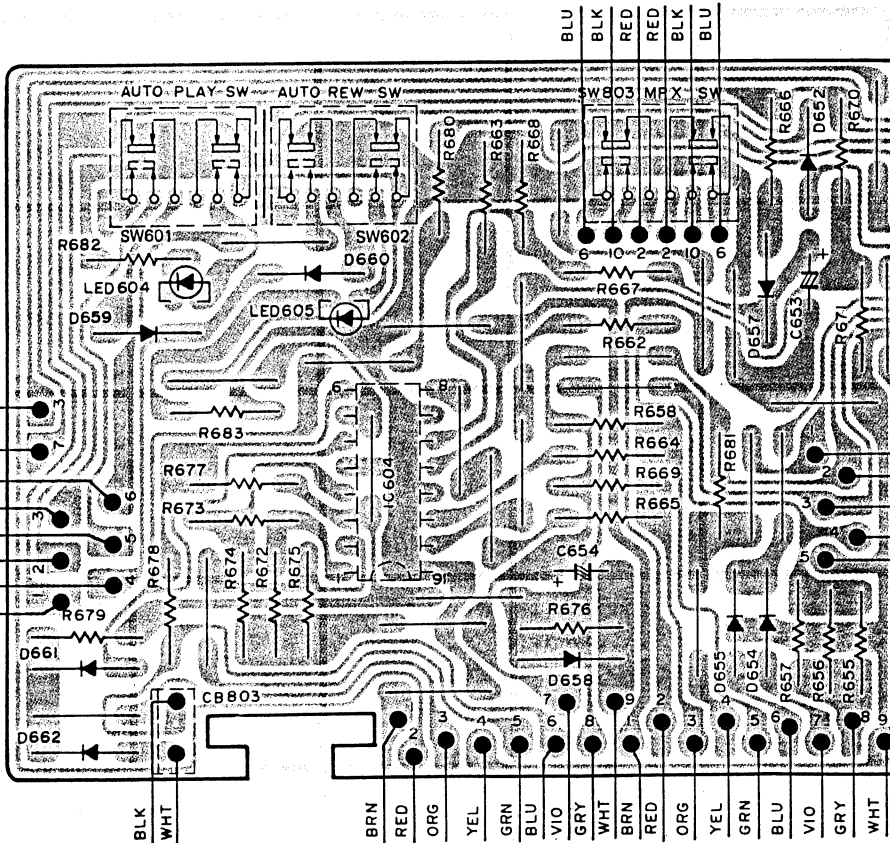
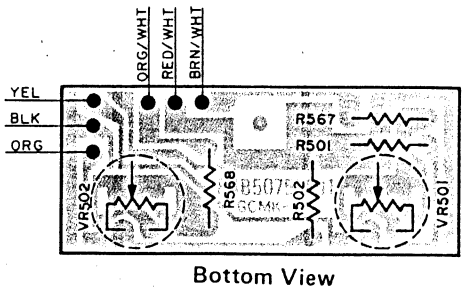
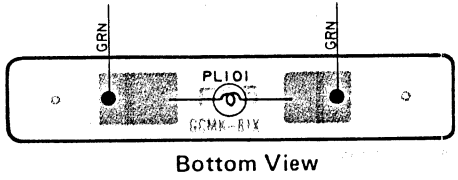
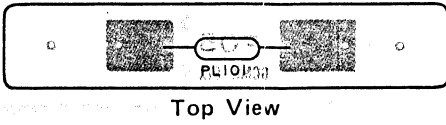
Rec/Volume P.C. Board



Rec/Calibration P.C. Board

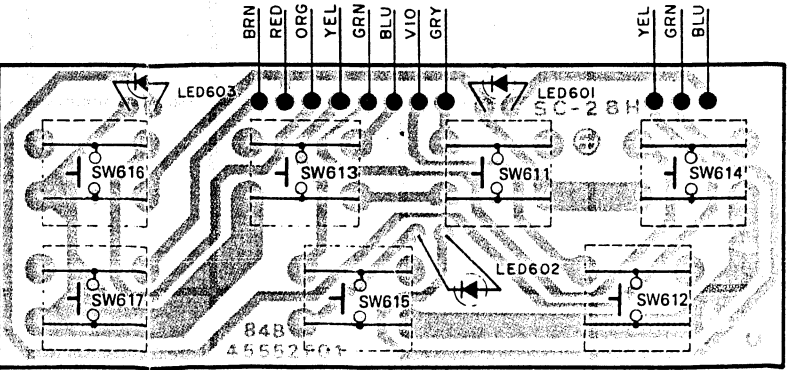
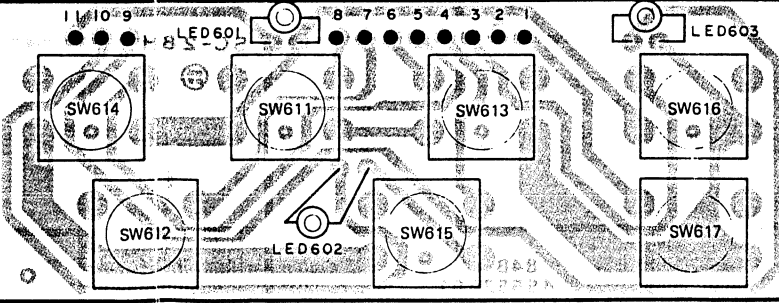


Lamp P.C. Board



1	16.8V
2	12.6V
3	12.6V
4	13.3V
5	0V
6	12.0V
7	20.1V
8	12.5V
9	0V
10	0V
11	0V
12	0V
13	0V
14	11.0V
15	0V
16	0V

Key Board Switch P.C. Board

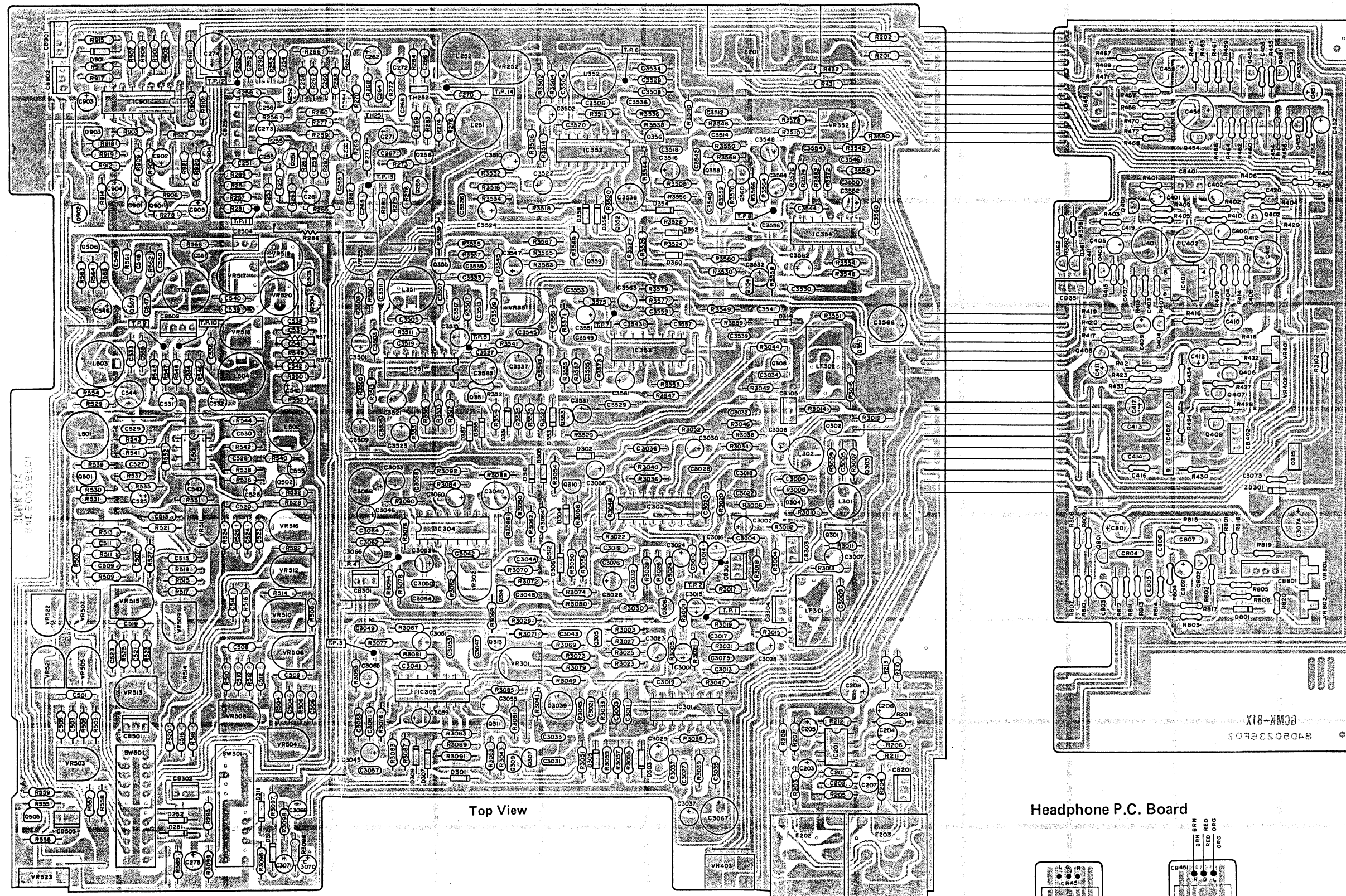




AL-80

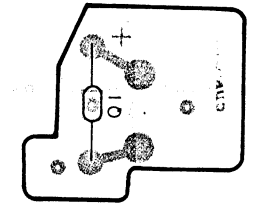
AL-80

## Master P.C. Board

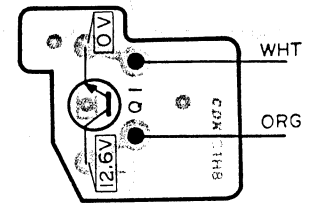


Top View

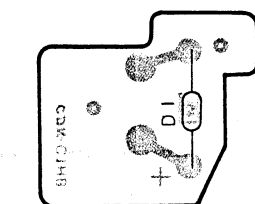
## Sensor P.C. Board



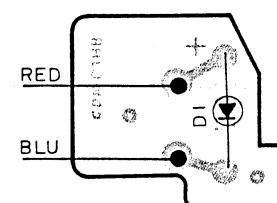
Top View



Bottom View



Top View

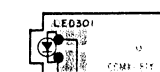


Bottom View

## Dolby (C) LED P.C. Board

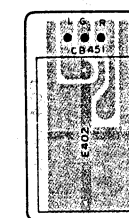


Top View

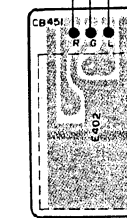


Bottom View

## Headphone P.C. Board

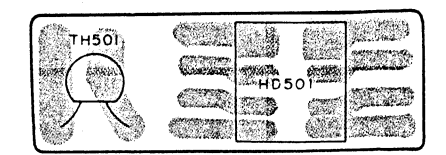


Top View



Bottom View

## Rec/Play Head P.C. Board



Top View



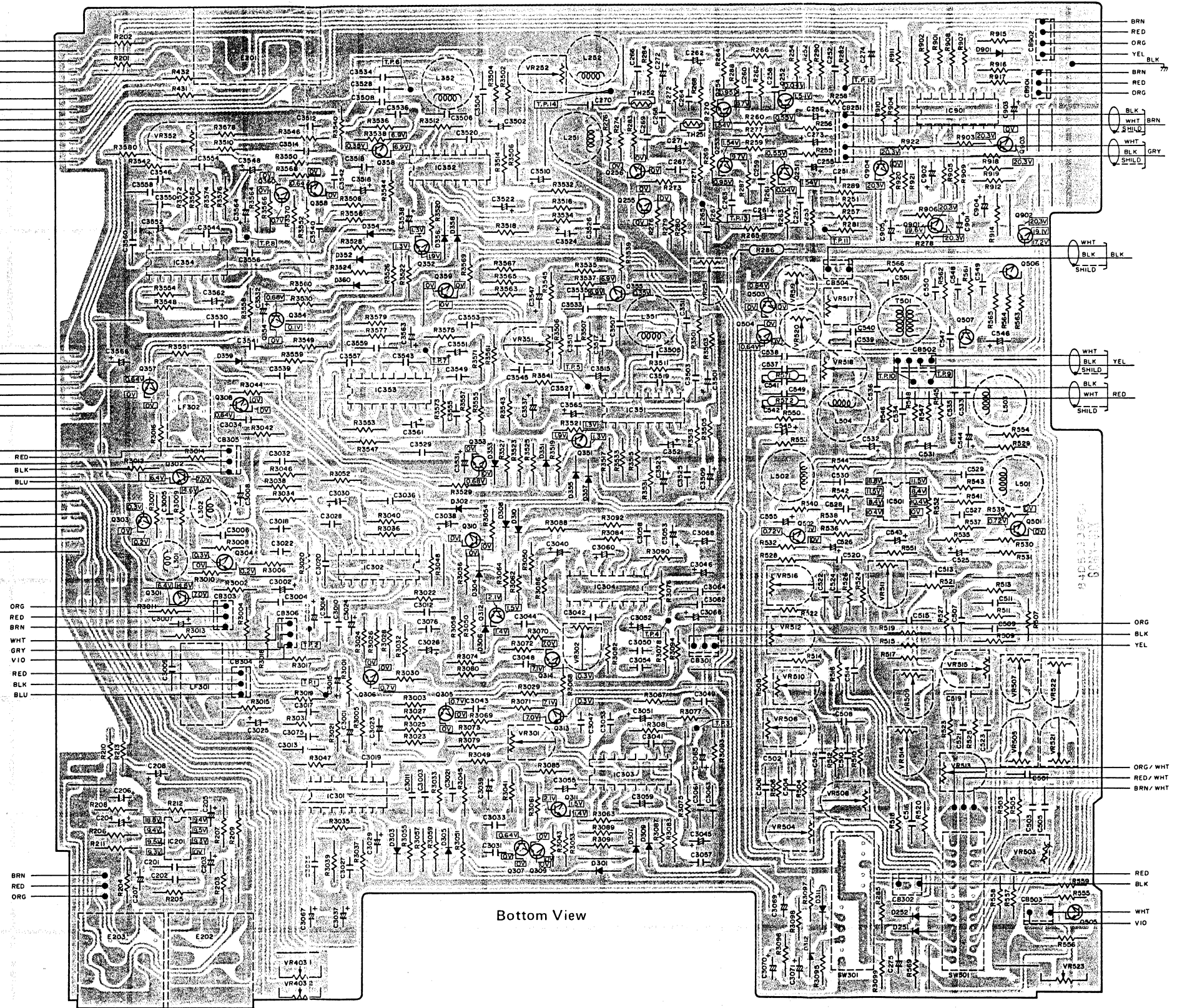
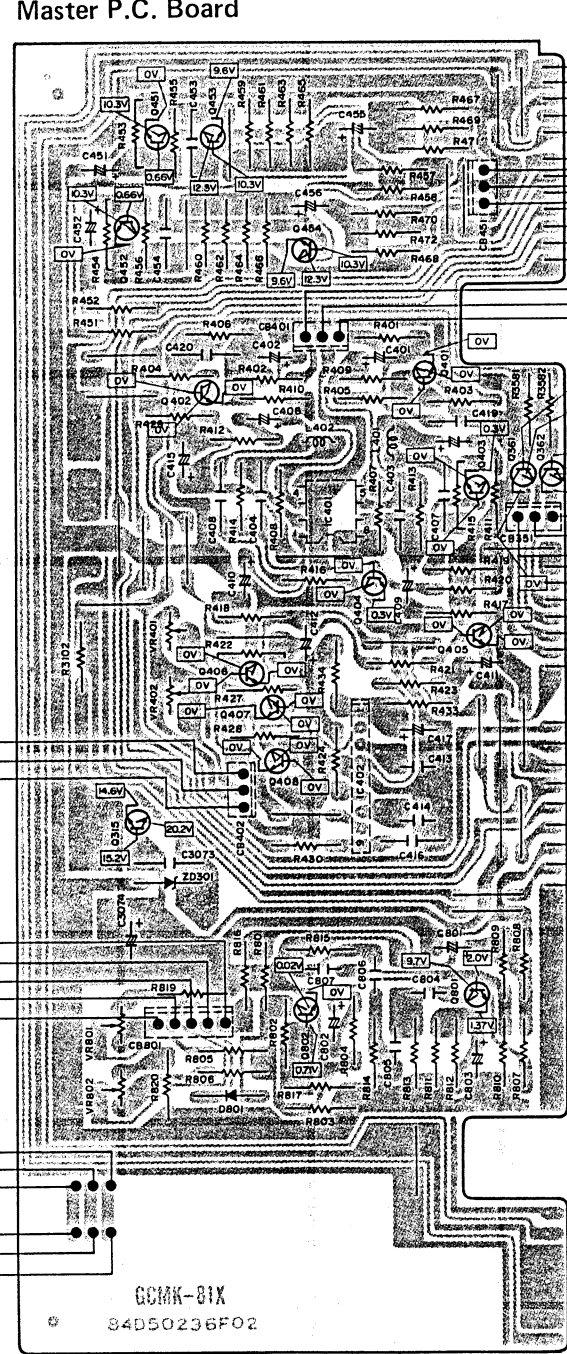
# Master P.C. Board

IC401

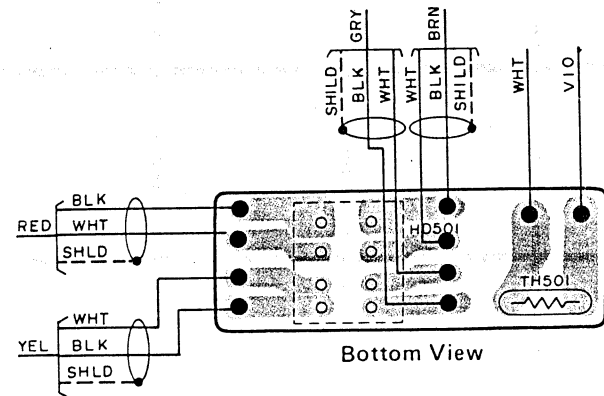
1	9.3V
2	9.2V
3	9.3V
4	16.6V
5	9.3V
6	9.3V
7	9.2V
8	0V

IC402

1	8.2V
2	0V
3	0.37V
4	8.1V
5	0.0V
6	8.1V
7	0.26V
8	0V
9	16.4V



Bottom View



Bottom View

IC301, 302

1	7.0V	9	0V
2	7.1V	10	7.0V
3	7.1V	11	7.2V
4	7.1V	12	1.4V
5	7.0V	13	1.4V
6	7.1V	14	1.4V
7	7.0V	15	5.3V
8	7.0V	16	14.6V

IC303, 304

1	7.0V	9	0V
2	7.1V	10	7.1V
3	7.1V	11	7.2V
4	7.1V	12	1.4V
5	7.0V	13	1.4V
6	7.1V	14	1.4V
7	7.0V	15	5.3V
8	7.1V	16	14.6V

IC351, 352

1	6.9V	9	0V
2	7.0V	10	6.9V
3	7.1V	11	6.8V
4	7.0V	12	1.4V
5	7.0V	13	1.4V
6	7.0V	14	5.5V
7	7.0V	15	5.3V
8	6.9V	16	14.6V

IC353, 354

1	6.9V	9	0V
2	6.9V	10	6.9V
3	6.9V	11	6.9V
4	6.9V	12	1.5V
5	—	13	1.5V
6	—	14	4.1V
7	7.0V	15	4.0V
8	6.9V	16	14.6V

RECORD

	Q505			Q506			Q507		
	E	C	B	E	C	B	E	C	B
NORN	9.8V	20.3V	9.8V	1.8V	8.73V	-0.13V	1.8V	8.73V	-0.13V
FeCr	10.6V	20.3V	10.6V	1.31V	9.48V	-0.16V	1.31V	9.48V	-0.16V
CrO2	14.1V	20.3V	14.1V	1.92V	12.97V	-0.27V	1.92V	12.97V	-0.27V
Metal	14.3V	20.3V	14.3V	1.95V	13.23V	-0.31V	1.95V	13.23V	-0.31V

IC901

1	0V	9	—
2	0V	10	20.3V
3	0.73V	11	0V
4	0V	12	10.5V
5	0V	13	0.73V
6	0.7V	14	0V
7	0V	15	0V
8	0V	16	20.3V

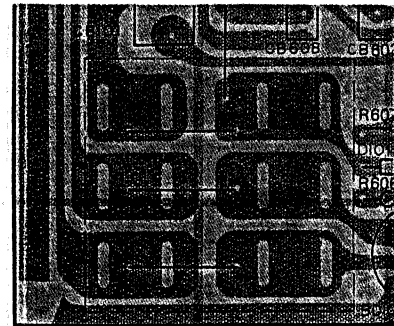


AL-80

AL-80

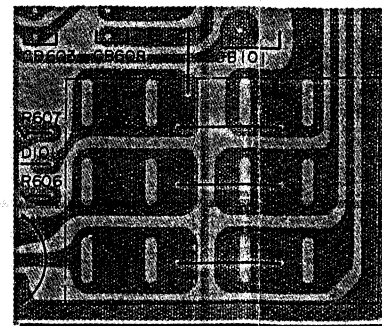
## Power &amp; Control P.C. Board

For single-voltage model

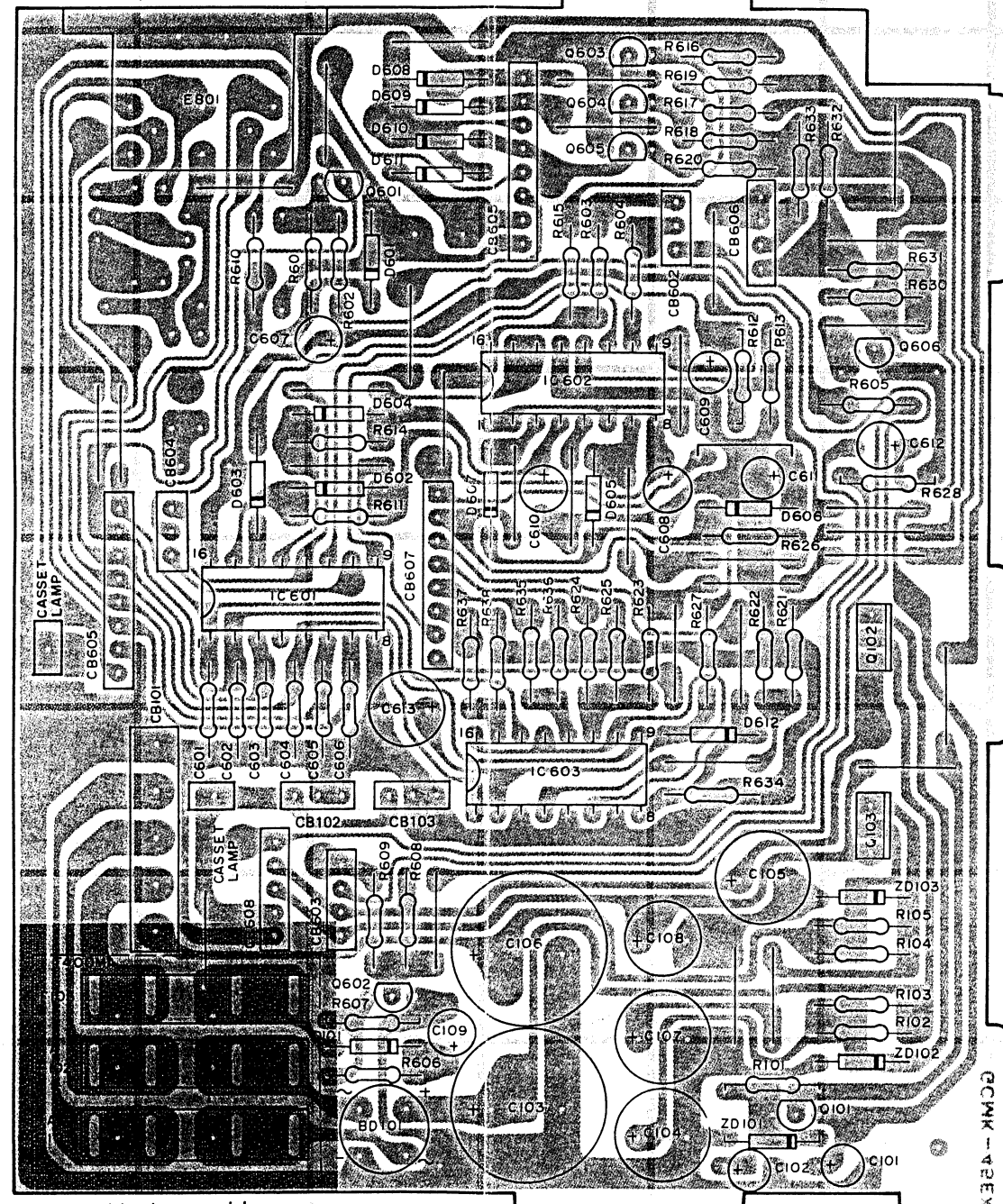


Top View

For single-voltage model



Bottom View



For multi-voltage model

Top View

IC 602			
1	12.6V	9	12.6V
2	12.6V	10	12.6V
3		11	PAUSE 4.8V Other 0V
4	REW 4.5V Other 0V	12	FF, REW 4.8V Other 0V
5		13	0V
6	12.6V	14	PLAY 4.5V Other 0V
7	FF 4.0V Other 0V	15	PLAY 4.5V Other 0V
8	FF 4.6V Other 0V	16	PLAY 3.8V Other 0V

Q 603			
B	PLAY 1.5V Other 0V		
C	PLAY 0.77V Other 12.6V		
E	0V		

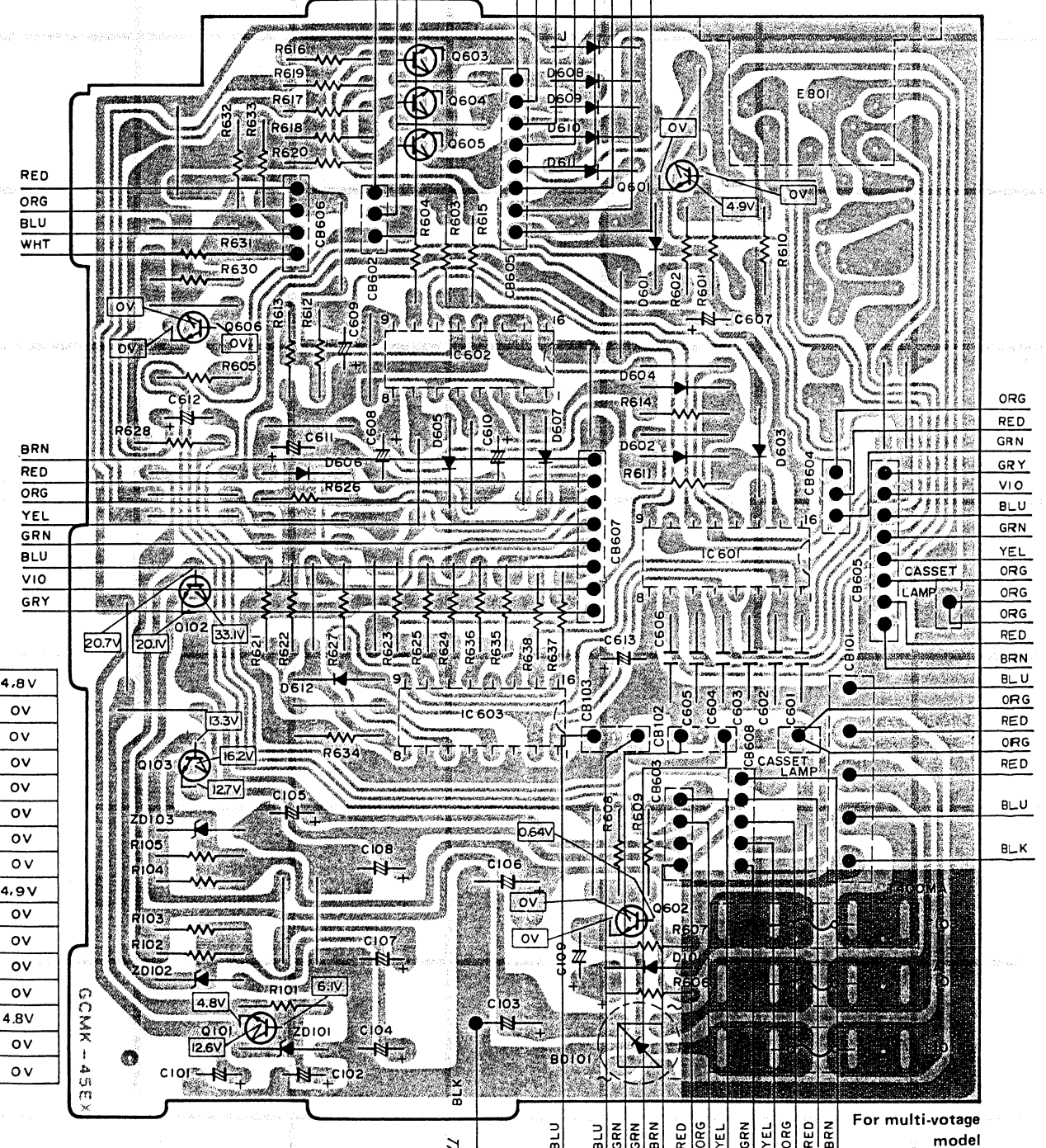
Q 604			
B	REW 1.5V Other 0V		
C	REW 0.78V Other 12.6V		
E	0V		

Q 605			
B	FF 1.5V Other 0V		
C	FF 0.78V Other 0V		
E	0V		

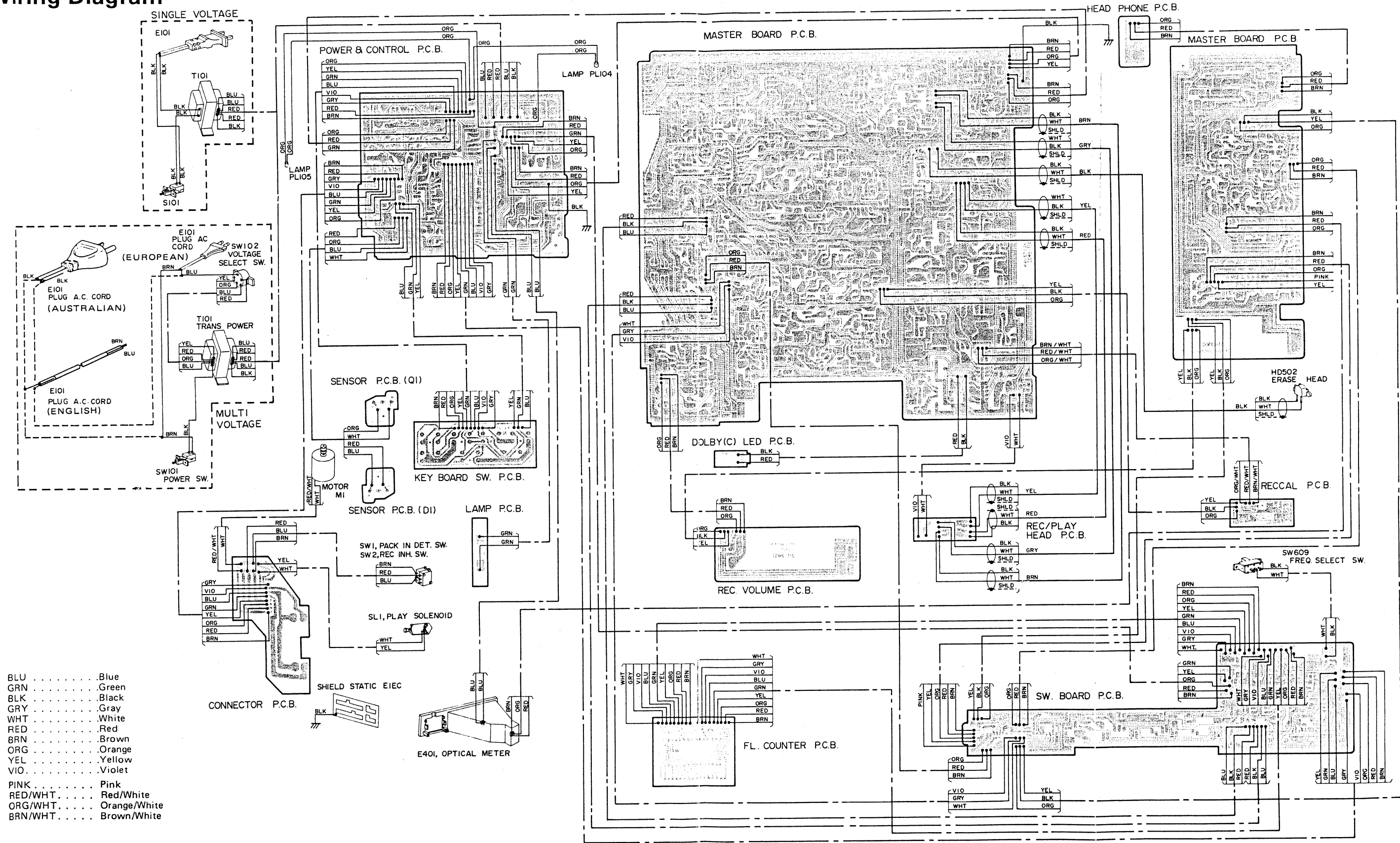
IC 601			
1	4.8V	9	4.8V
2	4.8V	10	0V
3	4.8V	11	0V
4	0V	12	0V
5	4.8V	13	0V
6	4.8V	14	0V
7	4.8V	15	0V
8	0V	16	4.8V



Bottom View



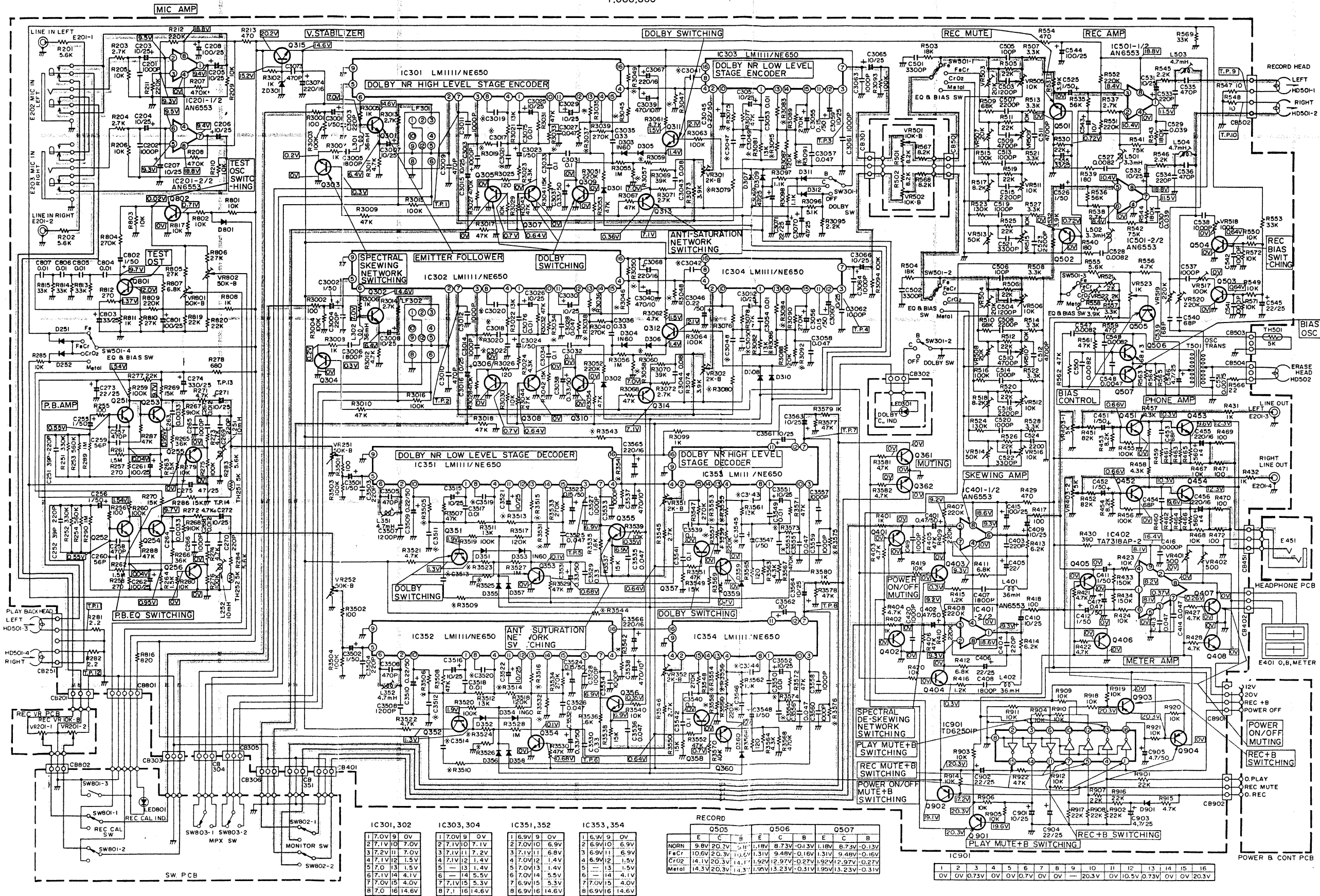
Wiring Diagram



## Schematic Diagram (1/2)

## NOTES:

1. All resistance values are in ohms.  $K = 1,000$
2. All capacitance values are in microfarads.  $P = \frac{1}{1,000,000}$



(3) Semiconductors	
IC201, 401, 501	AN6553
IC301 to 304, 351 to 354	LM1111/NE650
IC402	TA7318P
IC901	TD62501P
Q251, 252	SC2263U
Q253, 254	2SC1222E/2SC900E/ 2SC7328L
Q301, 302, 311, 312 Q351, 352, 451, 452	2SC1815V/2SD636Q
Q315	2SC1983
Q255, 256, 303 to 310, 313, Q314, 353 to 362, 401 to 408, Q501, 502, 802	2SC1815V/2SC945/ 2SD636Q
Q453, 454	SC509Y
Q505	SD89J
Q506, 507	SC1318P
Q901 to 904	SA733P
Q303, 304, 353, 354	1N60/DA95
D251, 252, 305 to 312, 351, Q352, 355 to 360, 801, 901	DS4428T/MA150
ZD301	H2161/H215-3

REF. NO.	IC	LM111	NE650
C3017, 3018, 3047, 3048, C3513, 3514, 3553, 3554		0.03	0.0056
R3019, 3020, 3079, 3080, R3509, 3510, 3575, 3576		JUMPER	180
C3021, 3022, 3049, 3050, C3511, 3512, 3545, 3546			0.027
C3019, 3020, 3041, 3042, C3519, 3520, 3543, 3544		100P	
R3033, 3034, 3075, 3076, R3505, 3506, 3573, 3574		100K	
R3037, 3038, 3091, 3092, R3511, 3512, 3557, 3558		330K	
R3035, 3036, 3083, 3084, R3515, 3516, 3553, 3554		150K	
R3045, 3046, 3085, 3086, R3513, 3514, 3555, 3556		180K	
R3047, 3048, 3049, 3050, R3541, 3542, 3543, 3544		1K	
R3057, 3058, 3525, 3526		22K	47K
R3059, 3060, 3523, 3524		22K	2.2K

Schematic Diagram (2/2)

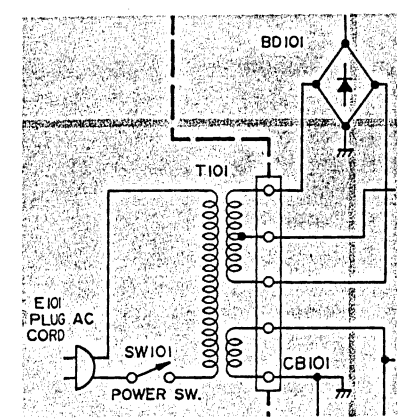
Notes:  
(1) All resistance values are in ohms, K = 1,000, M = 1,000,000.  
(2) All resistance values are in microfarads, P = 1/1,000,000.

The voltage value is the reference value measured when no signal is put in or when the mode is STOP if not specified.

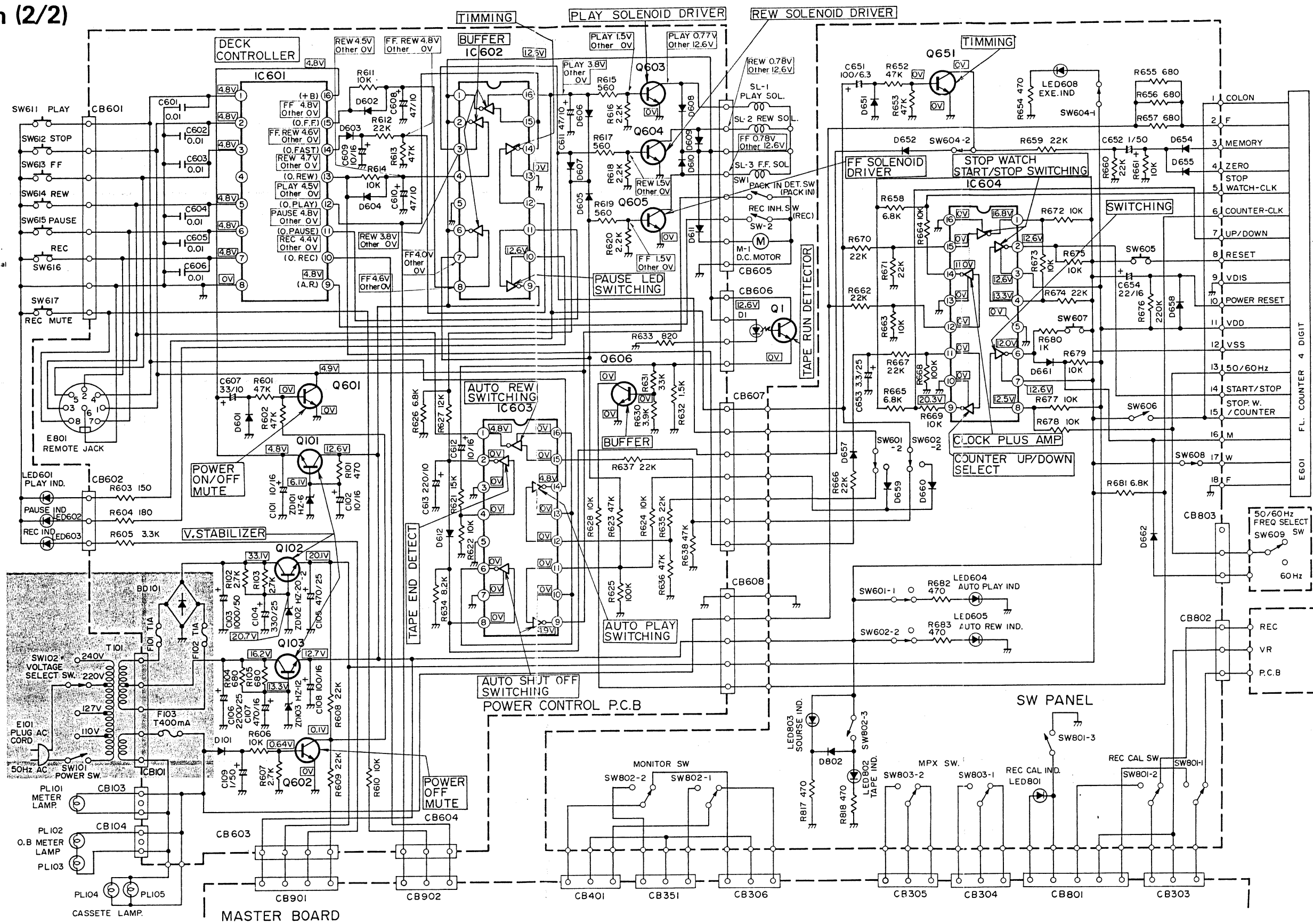
Semiconductors

D101, 608, 609, 610, 611	1N4003/10E2
D601 ~ 607, 612, 651, 652, D654, 655, 657 ~ 662, 802	MA150/DS442-BT
ZD101	HZ6
ZD102	HZ220-2
ZD103	HZ128-2
BD101	WL02
Q101, 603 ~ 605	2SD893
Q102, 103	2SC1983
Q601, 602, 606	2SC1815/2SC945L
Q651	2SD636
IC601	BA843
IC602 ~ 604	TD62507P

For multi-voltage model



For single-voltage model





# Electrical Parts List

Resistors (All resistors are carbon film, 1/4W, ±5% unless otherwise noted.)  
 uF = microfarads, pF = picofarads

Symbol No.	Part No.	Description
<b>Master P.C.B. Assembly</b>		
<b>IC's</b>		
IC201	51T50235F01	AN6553
IC301	51S47808F01	Dolby LM1111A
IC302	51S47808F01	Dolby LM1111A
IC303	51S47808F01	Dolby LM1111A
IC304	51S47808F01	Dolby LM1111A
IC351	51S47808F01	Dolby LM1111A
IC352	51S47808F01	Dolby LM1111A
IC353	51S47808F01	Dolby LM1111A
IC354	51S47808F01	Dolby LM1111A
R3033	6S40106T14	Res., C.F. 100K ohm
R3034	6S40106T14	Res., C.F. 100K ohm
R3035	6S44594P18	Res., C.F. 150K ohm
R3036	6S44594P18	Res., C.F. 150K ohm
R3037	6S44594P26	Res., C.F. 330K ohm
R3038	6S44594P26	Res., C.F. 330K ohm
R3057	6S44593P97	Res., C.F. 22K ohm
R3058	6S44593P97	Res., C.F. 22K ohm
R3059	6S44593P97	Res., C.F. 22K ohm
R3060	6S44593P97	Res., C.F. 22K ohm
R3075	6S40106T14	Res., C.F. 100K ohm
R3076	6S40106T14	Res., C.F. 100K ohm
R3083	6S44594P18	Res., C.F. 150K ohm
R3084	6S44594P18	Res., C.F. 150K ohm
R3091	6S44594P26	Res., C.F. 330K ohm
R3092	6S44594P26	Res., C.F. 330K ohm
R3505	6S40106T14	Res., C.F. 100K ohm
R3506	6S40106T14	Res., C.F. 100K ohm
R3515	6S44594P18	Res., C.F. 150K ohm
R3516	6S44594P18	Res., C.F. 150K ohm
R3523	6S44593P97	Res., C.F. 22K ohm
R3524	6S44593P97	Res., C.F. 22K ohm
R3525	6S44593P97	Res., C.F. 22K ohm
R3526	6S44593P97	Res., C.F. 22K ohm
R3531	6S44594P26	Res., C.F. 330K ohm
R3532	6S44594P26	Res., C.F. 330K ohm 1/8W
R3553	6S44594P18	Res., C.F. 150K ohm 1/8W
R3554	6S44594P18	Res., C.F. 150K ohm 1/8W
R3557	6S44594P26	Res., C.F. 330K ohm 1/8W
R3558	6S44594P26	Res., C.F. 330K ohm 1/8W
R3573	6S40106T14	Res., C.F. 100K ohm 1/8W

Symbol No.	Part No.	Description
R3574	6S40106T14	Res., C.F. 100K ohm 1/8W
C3017	8S40656F19	Cap., Mylar 0.033 uF
C3018	8S40656F19	Cap., Mylar 0.033 uF
C3019	8S44505P49	Cap., Ceramic 1000 pF
C3020	8S44505P49	Cap., Ceramic 1000 pF
C3041	8S44505P49	Cap., Ceramic 1000 pF
C3042	8S44505P49	Cap., Ceramic 1000 pF
C3047	8S40656F19	Cap., Mylar 0.033 uF
C3048	8S40656F19	Cap., Mylar 0.033 uF
C3513	8S40656F19	Cap., Mylar 0.033 uF
C3514	8S40656F19	Cap., Mylar 0.033 uF
C3519	8S44505P49	Cap., Ceramic 1000 pF
C3520	8S44505P49	Cap., Ceramic 1000 pF
C3543	8S44505P49	Cap., Ceramic 1000 pF
C3544	8S44505P49	Cap., Ceramic 1000 pF
C3553	8S40656F19	Cap., Mylar 0.033 uF
C3554	8S40656F19	Cap., Mylar 0.033 uF
or		
IC301	51T40114T03	NE650N
IC302	51T40114T03	NE650N
IC303	51T40114T03	NE650N
IC304	51T40114T03	NE650N
IC351	51T40114T03	NE650N
IC352	51T40114T03	NE650N
IC353	51T40114T03	NE650N
IC354	51T40114T03	NE650N
R3019	6S44593P47	Res., C.F. 180 ohm
R3020	6S44593P47	Res., C.F. 180 ohm
R3045	6S44594P20	Res., C.F. 180K ohm
R3046	6S44594P20	Res., C.F. 180K ohm
R3047	6S44593P65	Res., C.F. 1K ohm
R3048	6S44593P65	Res., C.F. 1K ohm
R3049	6S44593P65	Res., C.F. 1K ohm

Symbol No.	Part No.	Description
R3050	6S44593P65	Res., C.F. 1K ohm
R3057	6S44594P06	Res., C.F. 47K ohm
R3058	6S44594P06	Res., C.F. 47K ohm
R3059	6S44593P73	Res., C.F. 2.2K ohm
R3060	6S44593P73	Res., C.F. 2.2K ohm
R3079	6S44593P47	Res., C.F. 180 ohm
R3080	6S44593P47	Res., C.F. 180 ohm
R3085	6S44594P20	Res., C.F. 180K ohm
R3086	6S44594P20	Res., C.F. 180K ohm
R3509	6S44593P47	Res., C.F. 180 ohm
R3510	6S44593P47	Res., C.F. 180 ohm
R3513	6S44594P20	Res., C.F. 180K ohm
R3514	6S44594P20	Res., C.F. 180K ohm
R3523	6S44593P73	Res., C.F. 2.2K ohm
R3524	6S44593P73	Res., C.F. 2.2K ohm
R3525	6S44594P06	Res., C.F. 47K ohm
R3526	6S44594P06	Res., C.F. 47K ohm
R3541	6S44593P65	Res., C.F. 1K ohm
R3542	6S44593P65	Res., C.F. 1K ohm
R3543	6S44593P65	Res., C.F. 1K ohm
R3544	6S44593P65	Res., C.F. 1K ohm
R3555	6S44594P20	Res., C.F. 180K ohm
R3556	6S44594P20	Res., C.F. 180K ohm
R3575	6S44593P47	Res., C.F. 180 ohm
R3576	6S44593P47	Res., C.F. 180 ohm
C3017	8S40656F10	Cap., Mylar 0.0056 uF
C3018	8S40656F10	Cap., Mylar 0.0056 uF
C3021	8S40656F18	Cap., Mylar 0.027 uF
C3022	8S40656F18	Cap., Mylar 0.027 uF
C3047	8S40656F10	Cap., Mylar 0.0056 uF
C3048	8S40656F10	Cap., Mylar 0.0056 uF
C3049	8S40656F18	Cap., Mylar 0.027 uF
C3050	8S40656F18	Cap., Mylar 0.027 uF
C3511	8S40656F18	Cap., Mylar 0.027 uF
C3512	8S40656F18	Cap., Mylar 0.027 uF
C3513	8S40656F10	Cap., Mylar 0.0056 uF
C3514	8S40656F10	Cap., Mylar 0.0056 uF
C3545	8S40656F18	Cap., Mylar 0.027 uF
C3546	8S40656F18	Cap., Mylar 0.027 uF
C3553	8S40656F10	Cap., Mylar 0.0056 uF
C3554	8S40656F10	Cap., Mylar 0.0056 uF
IC401	51T50235F01	AN6553
IC402	51T41803U01	TA7318AP-2
IC501	51T50235F01	AN6553
IC901	51T50259F01	TD62501P

Symbol No.	Part No.	Description
<b>Transistors</b>		
Q251	48T41195U04	2SC2263-U
Q252	48T41195U04	2SC2263-U
Q253	48S40246G01	2SC732-BL
or	48S40149P01	2SC900-E
or	48T40021U03	2SC1327-U
or	48S47708F04	2SC1842E
or	48S47706F04	2SC1843E
Q254	48S40246G01	2SC732-BL
or	48S40149P01	2SC900-E
or	48S40929P01	2SC1222-E
or	48S47708F04	2SC1842E
or	48S47706F04	2SC1843E
Q255	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q256	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q301	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q302	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q303	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q304	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q305	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q306	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q307	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q308	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q

Symbol No.	Part No.	Description
Q309	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q310	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q311	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q312	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q313	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q314	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q315	48T40469U01	2SC1983
Q351	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q352	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q353	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q354	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q355	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q356	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q357	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q358	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q359	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q360	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q

Symbol No.	Part No.	Description
Q361	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q362	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q401	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q402	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q403	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q404	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q405	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q406	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q407	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q408	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q451	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q452	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q453	48S43239G02	2SC509-Y
Q454	48S43239G02	2SC509-Y
Q501	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q
Q502	48S44578J01	2SC945L-P
or	48T43525F02	2SC1815-Y
or	48T40627U01	2SD636-Q

Symbol No.	Part No.	Description
Q503 or Q504 or Q505 or	48T41196U03 48T43394P01 48T41196U03 48T43394P01 48T41365F03 48T41365F02	2SC1980-T 2SC1890-E-F 2SC1980-T 2SC1890-E-F 2SD893-R 2SD893-Q
Q506 Q507 Q801 or Q802 or or	48T40832F03 48T40832F03 48T41196U03 48T43394P01 48S44578J01 48T43525F02 48T40627U01	2SC1318NC-R 2SC1318NC-R 2SC1890-T 2SC1890-E-F 2SC945L-P 2SC1815-Y 2SD636-Q
Q901 Q902 Q903 Q904	48T40081T03 48T40081T03 48T40081T03 48T40081T03	2SA733(P) 2SA733(P) 2SA733(P) 2SA733(P)
<b>Diodes</b>		
D251 or D252 or D301 or	48T51582F01 48T51881F01 48T51582F01 48T51881F01 48T51582F01 48T51881F01	MA-150 DS442-BT MA-150 DS442-BT MA-150 DS442-BT
D302 or D303 or D304 or	48T51582F01 48T51881F01 48B41768G01 48T43982F01 48B41768G01 48T43982F01	MA-150 DS442-BT 1N60 GE OA95 1N60 GE OA95

Symbol No.	Part No.	Description
D305 or D306 or D307 or	48T51582F01 48T51881F01 48T51582F01 48T51881F01 48T51582F01 48T51881F01	MA-150 DS442-BT MA-150 DS442-BT MA-150 DS442-BT
D308 or D309 or D310 or	48T51582F01 48T51881F01 48T51582F01 48T51881F01 48T51582F01 48T51881F01	MA-150 DS442-BT MA-150 DS442-BT MA-150 DS442-BT
D311 or D312 or D351 or	48T51582F01 48T51881F01 48T51582F01 48T51881F01 48T51582F01 48T51881F01	MA-150 DS442-BT MA-150 DS442-BT MA-150 DS442-BT
D352 or D353 or D354 or	48T51582F01 48T51881F01 48B41768G01 48T43982F01 48B41786G01 48T43982F01	MA-150 DS442-BT 1N60 GE OA95 1N60 GE OA95
D355 or D356 or D357 or	48T51582F01 48T51881F01 48T51582F01 48T51881F01 48T51582F01 48T51881F01	MA-150 DS442-BT MA-150 DS442-BT MA-150 DS442-BT
D358 or D359 or D360 or	48T51582F01 48T51881F01 48T51582F01 48T51881F01 48T51582F01 48T51881F01	MA-150 DS442-BT MA-150 DS442-BT MA-150 DS442-BT
D801 or D901 or ZD301 or	48T51582F01 48T51881F01 48T51582F01 48T51881F01 48T40150U72 48T40150U73	MA-150 DS442-BT MA-150 DS442-BT Zener HZ15-3 Zener HZ16-1

Symbol No.	Part No.	Description
<b>Coils</b>		
L251	24T51914F02	Trap 10mH
L252	24T51914F02	Trap 10mH
L301	24T47741F01	36mH
L302	24T47741F01	36mH
L351	24T51914F01	Trap 4.7mH
L352	24T51914F01	Trap 4.7mH
L401	24T47741F01	36mH
L402	24T47741F01	36mH
L501	24S41199U07	3.3mH
L502	24S41199U07	3.3mH
L503	24T51914F01	Trap 4.7mH
L504	24T51914F01	Trap 4.7mH
<b>Transformer &amp; Thermistors</b>		
T501	25T50643F01	O.S.C.
TH251	48S42931U33	5.0K
TH252	48S42931U33	5.0K
<b>Filters &amp; Switches</b>		
LF301	51T42537U01	MPX LP-V20
LF302	51T42537U01	MPX LP-V20
SW301	40T50490F01	Rotary, SRZ S043S (Dolby)
SW501	40T50491F01	Rotary, SRZ S044S (Tape Select)
<b>Plate &amp; Jacks</b>		
E201	9T50231F02	Phone 4P
E202	9T45549F02	Microphone
E203	9T45549F02	Microphone
<b>Capacitors</b>		
C201	8S44505P49	Ceramic, 1000 pF
C202	8S44505P49	Ceramic, 1000 pF
C203	23S40657F 17	Electrolytic 10 uF/ 25V
C204	23S40657F 17	Electrolytic 10 uF/ 25V
C205	23S40657F17	Electrolytic, 10 uF/25V
C206	23S40657F17	Electrolytic, 10 uF/25V
C207	23S40657F 17	Electrolytic, 10 uF/25V
C208	23S40657F21	Electrolytic, 100 uF/25V

Symbol No.	Part No.	Description
C251	21C41701J74	Ceramic 82 pF
or	21C41701J76	Ceramic 39 pF
or	21C41701J18	Ceramic 47 pF
or	21C41701J56	Ceramic 56 pF
or	21C41701J47	Ceramic 68 pF
or	21C41701J57	Ceramic 100 pF
or	21C41701J88	Ceramic 120 pF
or	21C41701J89	Ceramic 150 pF
or	21C41701J91	Ceramic 220 pF
C252	21C41701J74	Ceramic 82 pF
or	21C41701J76	Ceramic 39 pF
or	21C41701J18	Ceramic 47 pF
or	21C41701J56	Ceramic 56 pF
or	21C41701J47	Ceramic 68 pF
or	21C41701J57	Ceramic 100 pF
or	21C41701J88	Ceramic 120 pF
or	21C41701J89	Ceramic 150 pF
or	21C41701J91	Ceramic 220 pF
C255	23T40475U05	Electrolytic 1 uF/50V
C256	23T40475U05	Electrolytic 1 uF/50V
C257	8S44505P45	Ceramic 470 pF
C258	8S44505P45	Ceramic 470 pF
C259	8S44505P31	Ceramic 56 pF
C260	8S44505P31	Ceramic 56 pF
C261	23S40657F 21	Electrolytic 100 uF/25V
C262	23S40657F 21	Electrolytic 100 uF/25V
C263	8S40656F07	Mylar 0.0033 uF
C264	8S40656F07	Mylar 0.0033 uF
C265	8S44505P49	Ceramic 1000 pF
C266	8S44505P49	Ceramic 1000 pF
C267	8S40656F14	Mylar 0.012 uF
C268	8S40656F14	Mylar 0.012 uF
C269	8S44505P41	Ceramic 220 pF
C270	8S44505P41	Ceramic 220 pF
C271	23S40657F17	Electrolytic 10 uF/25V
C272	23S40657F17	Electrolytic 10 uF/25V
C273	23S40657F 18	Electrolytic 22 uF/25V
C274	23S41198U49	Electrolytic 330 uF/25V
C275	23S40657F20	Electrolytic 47 uF/25V
C401	23S40657F27	Electrolytic 0.47 uF/50V
C402	23S40657F27	Electrolytic 0.47 uF/50V
C403	8S44505P41	Ceramic 220 pF
C404	8S44505P41	Ceramic 220 pF

Symbol No.	Part No.	Description
C405	23S40657F18	Electrolytic 22 uF/25V
C406	23S40657F18	Electrolytic 22 uF/25V
C407	8S44505P52	Ceramic 1800 pF
C408	8S44505P52	Ceramic 1800 pF
C409	23S40657F17	Electrolytic 10 uF/25V
C410	23S40657F17	Electrolytic 10 uF/25V
C411	23S40657F28	Electrolytic 1 uF/50V
C412	23S40657F28	Electrolytic 1 uF/50V
C413	8S40656F21	Mylar 0.047 uF
C414	8S40656F21	Mylar 0.047 uF
C415	23S40657F21	Electrolytic, 100 uF/25V
C416	8S44505P61	Ceramic 10000 pF
C417	23S40657F27	Electrolytic 0.47 uF/50V
C419	8S44505P49	Ceramic 1000 pF
C420	8S44505P49	Ceramic 1000 pF
C451	23S40657F28	Electrolytic 1 uF/50V
C452	23S40657F28	Electrolytic 1 uF/50V
C453	8S44505P33	Ceramic 68 pF/50V
C454	8S44505P33	Ceramic 68 pF/50V
C455	23S41198U41	Electrolytic 220 uF/16V
C456	23S41198U41	Electrolytic 220 uF/16V
C501	8S44505P55	Ceramic 3300 pF
C502	8S44505P55	Ceramic 3300 pF
C503	8S44505P50	Ceramic 1200 pF
C504	8S44505P50	Ceramic 1200 pF
C505	8S44505P37	Ceramic 100 pF
C506	8S44505P37	Ceramic 100 pF
C507	8S44505P53	Ceramic 2200 pF
C508	8S44505P53	Ceramic 2200 pF
C509	8S44505P57	Ceramic 4700 pF
C510	8S44505P57	Ceramic 4700 pF
C511	8S44505P57	Ceramic 4700 pF
C512	8S44505P57	Ceramic 4700 pF
C513	8S44505P49	Ceramic 1000 pF
C514	6S44505P49	Ceramic 1000 pF
C515	8S44505P53	Ceramic 2200 pF
C516	8S44505P53	Ceramic 2200 pF
C519	8S44505P49	Ceramic 1000 pF
C520	8S44505P49	Ceramic 1000 pF
C521	8S44505P55	Ceramic 3300 pF
C522	8S44505P55	Ceramic 3300 pF
C523	8S44505P53	Ceramic 2200 pF
C524	8S44505P53	Ceramic 2200 pF
C525	23S40657F28	Electrolytic 1 uF/50V
C526	23S40657F28	Electrolytic 1 uF/50V

Symbol No.	Part No.	Description
C527	8S40656F12	Mylar 0.0082 uF
C528	8S40656F12	Mylar 0.0082 uF
C529	8S40656F20	Mylar 0.039 uF
C530	8S40656F20	Mylar 0.039 uF
C531	23S40657F17	Electrolytic 10 uF/25V
C532	23S40657F17	Electrolytic 10 uF/25V
C533	8S44505P41	Ceramic 220 pF
C534	8S44505P41	Ceramic 220 pF
C535	8S44505P45	Ceramic 470 pF
C536	8S44505P45	Ceramic 470 pF
C537	8S44505P49	Ceramic 1000 pF
C538	8S44505P49	Ceramic 1000 pF
C539	8S44505P33	Ceramic 68 pF/50V
C540	8S44505P33	Ceramic 68 pF/50V
C541	8S44505P49	Ceramic, 1000 pF
C542	8S44505P49	Ceramic, 1000 pF
C543	23S40657F17	Electrolytic 10 uF/25V
C544	23S40657F21	Electrolytic 100 uF/25V
C545	23S40657F18	Electrolytic 22 uF/25V
C546	23S40657F16	Electrolytic 4.7 uF/25V
C547	8S40656F12	Mylar 0.0082 uF
C548	8S40656F09	Mylar 0.0047 uF
C549	8S40656F12	Mylar 0.0082 uF
C550	8S40656F12	Mylar 0.0082 uF
C551	8T44481F34	Polypropylene 0.0075 uF
C555	23S40657F19	Electrolytic 33 uF/25V
C801	23S40657F21	Electrolytic 100 uF/25V
C802	23S40657F28	Electrolytic 1 uF/50V
C803	23S40657F19	Electrolytic 33 uF/25V
C804	8S40656F13	Mylar 0.01 uF
C805	8S40656F13	Mylar 0.01 uF
C806	8S40656F13	Mylar 0.01 uF
C807	8S40656F13	Mylar 0.01 uF
C901	23S40657F17	Electrolytic 10 uF/25V
C902	23S40657F18	Electrolytic 22 uF/25V
C903	23S40657F16	Electrolytic 4.7 uF/25V
C904	23S40657F18	Electrolytic 22 uF/25V
C905	23S40657F16	Electrolytic 4.7 uF/25V
C3001	23S40657F28	Electrolytic 1 uF/50V
C3002	23S40657F28	Electrolytic 1 uF/50V
C3003	8S44505P41	Ceramic 220 pF
C3004	8S44505P41	Ceramic 220 pF
C3005	8S44505P52	Ceramic 1800 pF
C3006	8S44505P52	Ceramic 1800 pF
C3007	23S40657F17	Electrolytic 10 uF/25V



Symbol No.	Part No.	Description
C3008	23S40657F17	Electrolytic 10 uF/25V
C3009	8S44505P45	Ceramic 470 pF
C3010	8S44505P45	Ceramic 470 pF
C3011	8S44505P49	Ceramic 1000 pF
C3012	8S44505P49	Ceramic 1000 pF
C3013	8S44505P49	Ceramic 1000 pF
C3014	8S44505P49	Ceramic 1000 pF
C3015	23S40657F17	Electrolytic 10 uF/25V
C3016	23S40657F17	Electrolytic 10 uF/25V
C3023	23S40657F28	Electrolytic 1 uF/50V
C3024	23S40657F28	Electrolytic 1 uF/50V
C3025	23S40657F17	Electrolytic 10 uF/25V
C3026	23S40657F17	Electrolytic 10 uF/25V
C3027	8S40656F21	Mylar 0.047 uF
C3028	8S40656F21	Mylar 0.047 uF
C3029	23S40657F17	Electrolytic 10 uF/25V
C3030	23S40657F17	Electrolytic 10 uF/25V
C3031	8S40656F25	Mylar 0.1 uF
C3032	8S40656F25	Mylar 0.1 uF
C3033	8S40656F25	Mylar 0.1 uF
C3034	8S40656F25	Mylar 0.1 uF
C3035	8T50579F19	T.F. 0.33 uF
C3036	8T50579F19	T.F. 0.33 uF
C3037	23T40475U03	Electrolytic 0.33 uF/50V
C3038	23T40475U03	Electrolytic 0.33 uF/50V
C3039	23S41198U55	Electrolytic 470 uF/10V
C3040	23S41198U55	Electrolytic 470 uF/10V
C3043	8S40656F16	Mylar 0.018 uF
C3044	8S40656F16	Mylar 0.018 uF
C3045	23T40475U02	Electrolytic 0.22 uF/50V
C3046	23T40475U02	Electrolytic 0.22 uF/50V
C3051	23S40657F17	Electrolytic 10 uF/25V
C3052	23S40657F17	Electrolytic 10 uF/25V
C3053	8S40656F13	Mylar 0.01 uF
C3054	8S40656F13	Mylar 0.01 uF
C3055	8T50579F15	T.F. 0.15 uF/50V
C3056	8T50579F15	T.F. 0.15 uF/50V
C3057	8S40656F21	Mylar 0.047 uF
C3058	8S40656F21	Mylar 0.047 uF
C3059	23S40657F17	Electrolytic 10 uF/25V
C3060	23S40657F17	Electrolytic 10 uF/25V
C3061	8S44505P49	Ceramic 1000 pF
C3062	8S44505P49	Ceramic 1000 pF
C3063	8S44505P49	Ceramic 1000 pF
C3064	8S44505P49	Ceramic 1000 pF

Symbol No.	Part No.	Description
C3065	23S40657F17	Electrolytic 10 uF/25V
C3066	23S40657F17	Electrolytic 10 uF/25V
C3067	23S41198U41	Electrolytic 220 uF/16V
C3068	23S41198U41	Electrolytic 220 uF/16V
C3069	23S40657F20	Electrolytic 47 uF/25V
C3070	23S40657F20	Electrolytic 47 uF/25V
C3071	23S40657F18	Electrolytic 22 uF/25V
C3073	8S44505P45	Ceramic 470 pF
C3074	23S41198U41	Electrolytic 220 uF/16V
C3075	8S40656F13	Mylar 0.01 uF
C3076	8S40656F13	Mylar 0.01 uF
C3501	23S40657F28	Electrolytic 1 uF/50V
C3502	23S40657F28	Electrolytic 1 uF/50V
C3503	8S44505P41	Ceramic 220 pF
C3504	8S44505P41	Ceramic 220 pF
C3505	8S44505P45	Ceramic 470 pF
C3506	8S44505P45	Ceramic 470 pF
C3507	8S44505P50	Ceramic 1200 pF
C3508	8S44505P50	Ceramic 1200 pF
C3509	23T40475U02	Electrolytic 0.22 uF/50V
C3510	23T40475U02	Electrolytic 0.22 uF/50V
C3515	23S40657F17	Electrolytic 10 uF/25V
C3516	23S40657F17	Electrolytic 10 uF/25V
C3517	8S40656F13	Mylar 0.01 uF
C3518	8S40656F13	Mylar 0.01 uF
C3521	23S40657F17	Electrolytic 10 uF/25V
C3522	23S40657F17	Electrolytic 10 uF/25V
C3523	8T50579F15	T.F. 0.15 uF/50V
C3524	8T50579F15	T.F. 0.15 uF/50V
C3525	8S40656F21	Mylar 0.047 uF
C3526	8S40656F21	Mylar 0.047 uF
C3527	8S44505P49	Ceramic 1000 pF
C3528	8S44505P49	Ceramic 1000 pF
C3529	8T50579F19	T.F. 0.33 uF
C3530	8T50579F19	T.F. 0.33 uF
C3531	23T40475U03	Electrolytic 0.33 uF/50V
C3532	23T40475U03	Electrolytic 0.33 uF/50V
C3533	8S44505P49	Ceramic 1000 pF
C3534	8S44505P49	Ceramic 1000 pF
C3535	8S40656F21	Mylar 0.047 uF
C3536	8S40656F21	Mylar 0.047 uF
C3537	23S41198U55	Electrolytic 470 uF/10V
C3538	23S41198U55	Electrolytic 470 uF/10V
C3539	8S40656F25	Mylar 0.1 uF
C3540	8S40656F25	Mylar 0.1 uF

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
C3541	8S40656F25	Mylar 0.1 uF	R258	6S44593P51	270 ohm
C3542	8S40656F25	Mylar 0.1 uF	R259	6S40106T14	100K ohm
C3547	23S40657F28	Electrolytic 1 uF/50V	R260	6S40106T14	100K ohm
C3548	23S40657F28	Electrolytic 1 uF/50V	R261	6S40106T42	1.5M ohm
C3549	8S40656F13	Mylar 0.01 uF	R262	6S40106T42	1.5M ohm
C3550	8S40656F13	Mylar 0.01 uF	R263	6S44593P69	1.5K ohm
C3551	23S40657F17	Electrolytic 10 uF/25V	R264	6S44593P69	1.5K ohm
C3552	23S40657F17	Electrolytic 10 uF/25V	R265	6S44594P03	36K ohm
C3555	8S40656F21	Mylar 0.047 uF	R266	6S44594P03	36K ohm
C3556	8S40656F21	Mylar 0.047 uF	R267	6S44594P37	910K ohm
C3557	8S44505P49	Ceramic 1000 pF	R268	6S44594P37	910K ohm
C3558	8S44505P49	Ceramic 1000 pF	R269	6S44593P93	15K ohm
C3559	8S44505P49	Ceramic 1000 pF	R270	6S44593P93	15K ohm
C3560	8S44505P49	Ceramic 1000 pF	R271	6S44593P81	4.7K ohm
C3561	23S40657F17	Electrolytic 10 uF/25V	R272	6S44593P81	4.7K ohm
C3562	23S40657F17	Electrolytic, 10 uF/25V	R273	6S44593P81	4.7K ohm
C3563	23S40657F17	Electrolytic, 10 uF/25V	R274	6S44593P81	4.7K ohm
C3564	23S40657F17	Electrolytic, 10 uF/25V	R275	6S40106T14	100K ohm
C3565	23S41198U41	Electrolytic, 220 uF/16V	R276	6S40106T14	100K ohm
C3566	23S41198U41	Electrolytic, 220 uF/16V	R277	6S44593P97	22K ohm
Resistors			R278	6S44593P61	680 ohm
R201	6S44593P83	5.6K ohm	R279	6S44593P89	10K ohm
R202	6S44593P83	5.6K ohm	R280	6S44593P89	10K ohm
R203	6S44593P75	2.7K ohm	R281	6S44593P01	2.2 ohm
R204	6S44593P75	2.7K ohm	R282	6S44593P01	2.2 ohm
R205	6S44593P89	10K ohm	R283	6S44593P83	5.6K ohm
R206	6S44593P89	10K ohm	R284	6S44593P83	5.6K ohm
R207	6S44594P30	470K ohm	R285	6S44593P89	10K ohm
R208	6S44594P30	470K ohm	R286	6S40150T93	15K ohm
R209	6S44593P89	10K ohm	R287	6S40106T06	47K ohm
R210	6S44593P89	10K ohm	R288	6S40106T06	47K ohm
R211	6S44594P22	220K ohm	R289	6S44594P38	1M ohm
R212	6S44594P22	220K ohm	R290	6S44594P38	1M ohm
R213	6S44593P57	470 ohm	R401	6S44593P65	1K ohm
R251	6S44594P26	330K ohm	R402	6S44593P65	1K ohm
R252	6S44594P26	330K ohm	R403	6S44593P81	4.7K ohm
R253	6S44594P32	560K ohm	R404	6S44593P81	4.7K ohm
R254	6S44594P32	560K ohm	R405	6S40106T06	47K ohm
R255	6S44593P41	100 ohm	R406	6S40106T06	47K ohm
R256	6S44593P41	100 ohm	R407	6S44594P22	220K ohm
R257	6S44593P51	270 ohm	R408	6S44594P22	220K ohm
			R409	6S44594P22	220K ohm
			R410	6S44594P22	220K ohm
			R411	6S44593P85	6.8K ohm
			R412	6S44593P85	6.8K ohm

Symbol No.	Part No.	Description
R413	6S44593P84	6.2K ohm
R414	6S44593P84	6.2K ohm
R415	6S44593P67	1.2K ohm
R416	6S44593P67	1.2K ohm
R417	6S44593P41	100 ohm
R418	6S44593P41	100 ohm
R419	6S44593P89	10K ohm
R420	6S44593P89	10K ohm
R421	6S44593P81	4.7K ohm
R422	6S44593P81	4.7K ohm
R423	6S44593P89	10K ohm
R424	6S44593P89	10K ohm
R427	6S44593P81	4.7K ohm
R428	6S44593P81	4.7K ohm
R429	6S44593P57	470 ohm
R430	6S44593P55	390 ohm
R431	6S44593P65	1K ohm
R432	6S44593P65	1K ohm
R433	6S44594P18	150K ohm
R434	6S44594P18	150K ohm
R451	6S44594P12	82K ohm
R452	6S44594P12	82K ohm
R453	6S44593P87	8.2K ohm
R454	6S44593P87	8.2K ohm
R455	6S40106T14	100K ohm
R456	6S40106T14	100K ohm
R457	6S44593P80	4.3K ohm
R458	6S44593P80	4.3K ohm
R459	6S44593P59	560 ohm
R460	6S44593P59	560 ohm
R461	6S44593P59	560 ohm
R462	6S44593P59	560 ohm
R463	6S44593P59	560 ohm
R464	6S44593P59	560 ohm
R465	6S44593P59	560 ohm
R466	6S44593P59	560 ohm
R467	6S44593P89	10K ohm
R468	6S44593P89	10K ohm
R469	6S44593P41	100 ohm
R470	6S44593P41	100 ohm
R471	6S44593P41	100 ohm
R472	6S44593P41	100 ohm
R503	6S44593P95	18K ohm
R504	6S44593P95	18K ohm

Symbol No.	Part No.	Description
R505	6S44593P97	22K ohm
R506	6S44593P97	22K ohm
R507	6S44593P77	3.3K ohm
R508	6S44593P77	3.3K ohm
R509	6S44594P10	68K ohm
R510	6S44594P10	68K ohm
R511	6S44593P97	22K ohm
R512	6S44593P97	22K ohm
R513	6S44593P77	3.3K ohm
R514	6S44593P77	3.3K ohm
R515	6S40106T14	100K ohm
R516	6S40106T14	100K ohm
R517	6S44593P87	8.2K ohm
R518	6S44593P87	8.2K ohm
R519	6S44593P97	22K ohm
R520	6S44593P97	22K ohm
R521	6S44593P77	3.3K ohm
R522	6S44593P77	3.3K ohm
R523	6S44594P17	130K ohm
R524	6S44594P17	130K ohm
R525	6S44593P97	22K ohm
R526	6S44593P97	22K ohm
R527	6S44593P77	3.3K ohm
R528	6S44593P77	3.3K ohm
R529	6S44593P81	4.7K ohm
R530	6S44593P97	22K ohm
R531	6S44593P79	3.9K ohm
R532	6S44593P79	3.9K ohm
R535	6S44594P08	56K ohm
R536	6S44594P08	56K ohm
R537	6S44593P75	2.7K ohm
R538	6S44593P75	2.7K ohm
R539	6S44593P47	180 ohm
R540	6S44593P47	180 ohm
R541	6S44594P11	75K ohm
R542	6S44594P11	75K ohm
R543	6S44594P20	180K ohm
R544	6S44594P20	180K ohm
R545	6S44593P73	2.2K ohm
R546	6S44593P73	2.2K ohm
R547	6S44593P17	10 ohm
R548	6S44593P17	10 ohm
R549	6S44593P89	10K ohm
R550	6S44593P89	10K ohm
R551	6S44594P22	220K ohm

Symbol No.	Part No.	Description
R552	6S44594P22	220K ohm
R553	6S44594P02	33K ohm
R554	6S44593P57	470 ohm
R555	6S44593P83	5.6K ohm
R556	6S44593P81	4.7K ohm
R557	6S44593P77	3.3K ohm
R558	6S44593P79	3.9K ohm
R559	6S44593P57	470 ohm
R561	6S40106T06	47K ohm
R562	6S40106T06	47K ohm
R563	6S44593P37	68 ohm
R564	6S44593P37	68 ohm
R565	6S44593P37	68 ohm
R566	6S44593P01	2.2 ohm
R569	6S44594P02	33K ohm
R571	6S40150T89	10K ohm
R572	6S40150T89	10K ohm
R801	6S44593P89	10K ohm
R802	6S44593P89	10K ohm
R803	6S44593P89	10K ohm
R804	6S44594P24	270K ohm
R805	6S44593P99	27K ohm
R806	6S44593P99	27K ohm
R807	6S44593P85	6.8K ohm
R808	6S44593P65	1K ohm
R809	6S44594P22	220K ohm
R810	6S44593P99	27K ohm
R811	6S44593P65	1K ohm
R812	6S44593P51	270 ohm
R813	6S44594P02	33K ohm
R814	6S44594P02	33K ohm
R815	6S44594P02	33K ohm
R816	6S44593P63	820 ohm
R817	6S44593P89	10K ohm
R819	6S44593P97	22K ohm
R820	6S44593P97	22K ohm
R901	6S44593P97	22K ohm
R902	6S44593P97	22K ohm
R903	6S44593P89	10K ohm
R904	6S44593P89	10K ohm
R905	6S44593P89	10K ohm
R906	6S44593P89	10K ohm
R907	6S44593P97	22K ohm
R908	6S44593P97	22K ohm
R909	6S44593P89	10K ohm
R910	6S44593P89	10K ohm

Symbol No.	Part No.	Description
R911	6S44593P89	10K ohm
R912	6S44593P89	10K ohm
R914	6S44593P89	10K ohm
R915	6S44593P81	4.7K ohm
R916	6S44593P97	22K ohm
R917	6S44593P97	22K ohm
R918	6S44593P89	10K ohm
R919	6S44593P89	10K ohm
R920	6S44593P89	10K ohm
R921	6S44593P89	10K ohm
R922	6S40106T06	47K ohm
R3001	6S44593P41	100 ohm
R3002	6S44593P41	100 ohm
R3003	6S40106T14	100K ohm
R3004	6S40106T14	100K ohm
R3005	6S44593P65	1K ohm
R3006	6S44593P65	1K ohm
R3007	6S44593P65	1K ohm
R3008	6S44593P65	1K ohm
R3009	6S40106T06	47K ohm
R3010	6S40106T06	47K ohm
R3011	6S44593P81	4.7K ohm
R3012	6S44593P81	4.7K ohm
R3013	6S44593P75	2.7K ohm
R3014	6S44593P75	2.7K ohm
R3015	6S40106T14	100K ohm
R3016	6S40106T14	100K ohm
R3017	6S40106T06	47K ohm
R3018	6S40106T06	47K ohm
R3021	6S44593P92	13K ohm
R3022	6S44593P92	13K ohm
R3023	6S44593P80	4.3K ohm
R3024	6S44593P80	4.3K ohm
R3025	6S44593P43	120 ohm
R3026	6S44593P43	120 ohm
R3027	6S44594P30	470K ohm
R3028	6S44594P30	470K ohm
R3029	6S44593P89	10K ohm
R3030	6S44593P89	10K ohm
R3031	6S40106T06	47K ohm
R3032	6S40106T06	47K ohm
R3039	6S44594P24	270K ohm
R3040	6S44594P24	270K ohm
R3041	6S44593P93	15K ohm
R3042	6S44593P93	15K ohm
R3043	6S40106T06	47K ohm

Symbol No.	Part No.	Description
R3044	6S40106T06	47K ohm
R3051	6S44594P22	220K ohm
R3052	6S44594P22	220K ohm
R3053	6S40106T06	47K ohm
R3054	6S40106T06	47K ohm
R3055	6S44594P38	1M ohm
R3056	6S44594P38	1M ohm
R3061	6S44593P81	4.7K ohm
R3062	6S44593P81	4.7K ohm
R3063	6S40106T14	100K ohm
R3064	6S40106T14	100K ohm
R3067	6S40106T06	47K ohm
R3068	6S40106T06	47K ohm
R3069	6S44594P04	39K ohm
R3070	6S44594P04	39K ohm
R3071	6S44593P75	2.7K ohm
R3072	6S44593P75	2.7K ohm
R3073	6S44593P79	3.9K ohm
R3074	6S44593P79	3.9K ohm
R3077	6S40106T06	47K ohm
R3078	6S40106T06	47K ohm
R3081	6S44593P92	13K ohm
R3082	6S44593P92	13K ohm
R3087	6S44594P16	120K ohm
R3088	6S44594P16	120K ohm
R3089	6S44594P24	270K ohm
R3090	6S44594P24	270K ohm
R3093	6S40106T14	100K ohm
R3094	6S40106T14	100K ohm
R3095	6S44593P73	2.2K ohm
R3096	6S44593P82	5.1K ohm
R3097	6S44593P66	1.1K ohm
R3098	6S44593P66	1.1K ohm
R3099	6S44593P65	1K ohm
R3102	6S44593P65	1K ohm
R3501	6S44593P41	100 ohm
R3502	6S44593P41	100 ohm
R3503	6S40106T14	100K ohm
R3504	6S40106T14	100K ohm
R3507	6S40106T06	47K ohm
R3508	6S40106T06	47K ohm
R3511	6S44593P92	13K ohm
R3512	6S44593P92	13K ohm
R3517	6S44594P16	120K ohm
R3518	6S44594P16	120K ohm

Symbol No.	Part No.	Description
R3519	6S40106T14	100K ohm
R3520	6S40106T14	100K ohm
R3521	6S44593P81	4.7K ohm
R3522	6S44593P81	4.7K ohm
R3527	6S44594P38	1M ohm
R3528	6S44594P38	1M ohm
R3529	6S40106T06	47K ohm
R3530	6S40106T06	47K ohm
R3533	6S44594P24	270K ohm
R3534	6S44594P24	270K ohm
R3535	6S44593P70	1.6K ohm
R3536	6S44593P70	1.6K ohm
R3537	6S44593P93	15K ohm
R3538	6S44593P93	15K ohm
R3539	6S44593P89	10K ohm
R3540	6S44593P89	10K ohm
R3545	6S44593P75	2.7K ohm
R3546	6S44593P75	2.7K ohm
R3547	6S44594P24	270K ohm
R3548	6S44594P24	270K ohm
R3549	6S44593P93	15K ohm
R3550	6S44593P93	15K ohm
R3551	6S40106T06	47K ohm
R3552	6S40106T06	47K ohm
R3559	6S44594P22	220K ohm
R3560	6S44594P22	220K ohm
R3561	6S44593P92	13K ohm
R3562	6S44593P92	13K ohm
R3563	6S44593P80	4.3K ohm
R3564	6S44593P80	4.3K ohm
R3565	6S44593P43	120 ohm
R3566	6S44593P43	120 ohm
R3567	6S44594P30	470K ohm
R3568	6S44594P30	470K ohm
R3569	6S44593P89	10K ohm
R3570	6S44593P89	10K ohm
R3571	6S40106T06	47K ohm
R3572	6S40106T06	47K ohm
R3577	6S40106T06	47K ohm
R3578	6S40106T06	47K ohm
R3579	6S44593P65	1K ohm
R3580	6S44593P65	1K ohm
R3581	6S44593P81	4.7K ohm
R3582	6S44593P81	4.7K ohm
VR251	18C42061J15	Variable 50K ohm

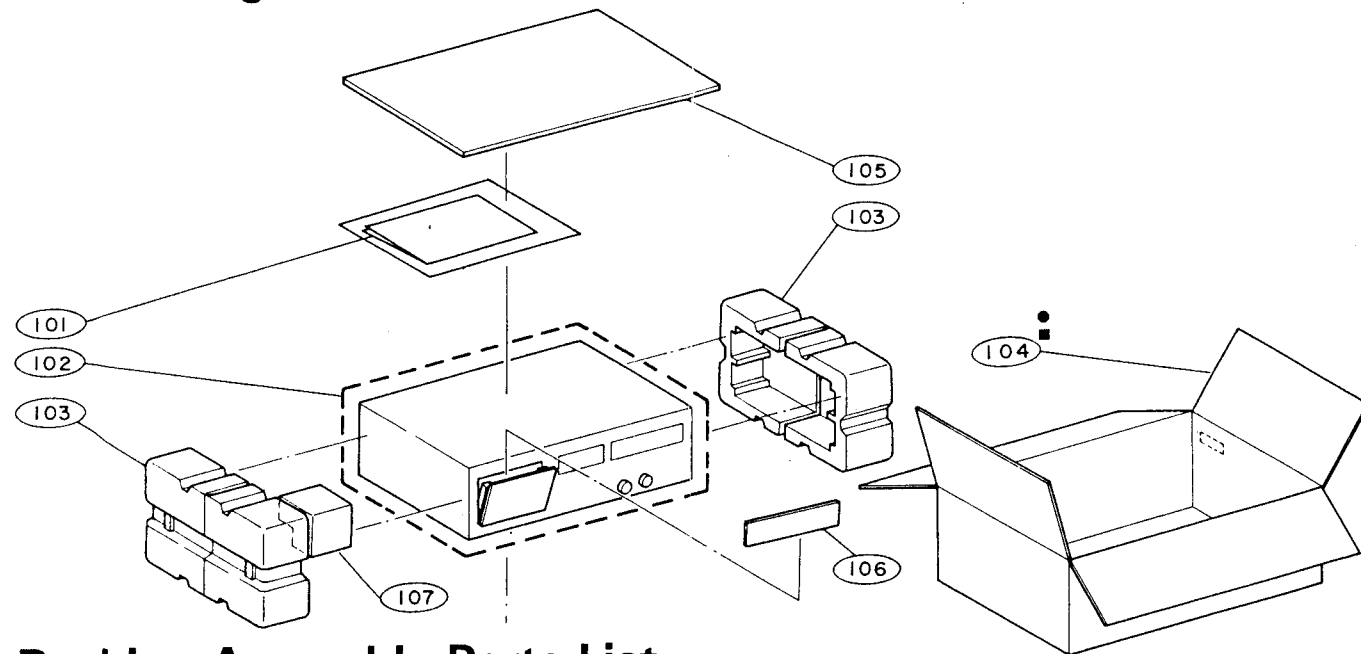
Symbol No.	Part No.	Description
VR252	18C42061J15	Variable 50K ohm
VR301	18C42061J12	Variable 2K ohm
VR302	18C42061J12	Variable 2K ohm
VR351	18C42061J12	Variable 2K ohm
VR352	18C42061J12	Variable 2K ohm
VR401	18C42061J21	Variable 500 ohm
VR402	18C42061J21	Variable 500 ohm
VR403	18T47459F01	Variable 5KA x 2
VR503	18C42061J24	Variable 20K ohm
VR504	18C42061J24	Variable 20K ohm
VR505	18C42061J14	Variable 10K ohm
VR506	18C42061J14	Variable 10K ohm
VR507	18C42061J24	Variable 20K ohm
VR508	18C42061J24	Variable 20K ohm
VR509	18C42061J14	Variable 10K ohm
VR510	18C42061J14	Variable 10K ohm
VR511	18C42061J14	Variable 10K ohm
VR512	18C42061J14	Variable 10K ohm
VR513	18C42061J15	Variable 50K ohm
VR514	18C42061J15	Variable 50K ohm
VR515	18C42061J14	Variable 10K ohm
VR516	18C42061J14	Variable 10K ohm
VR517	18C42061J16	Variable 100K ohm
VR518	18C42061J16	Variable 100K ohm
VR519	18T43406P01	Variable 220K ohm ½W
VR520	18T43406P01	Variable 220K ohm ½W
VR521	18C42061J12	Variable 2K ohm
VR522	18C42061J12	Variable 2K ohm
VR801	18C42061J05	Variable 50K ohm
VR802	18C42061J05	Variable 50K ohm
<b>Power &amp; Control P.C. Board</b>		
<b>IC's</b>		
IC601	51T47110F01	BA843
IC602	51T47738F01	TD62507P
IC603	51T47738F01	TD62507P
<b>Transistors</b>		
Q101	48T41365F03	2SD893-R
or	48T41365F02	2SD893-Q
Q102	48T40469U01	2SC1983
Q103	48T40469U01	2SC1983

Symbol No.	Part No.	Description
Q601	48T43525F02	2SC1815-Y
or	48T44578J01	2SC945L-P
Q602	48T43525F02	2SC1815-Y
or	48T44578J01	2SC945L-P
Q603	48T41365F03	2SD893-R
or	48T41365F02	2SD893-Q
Q604	48T41365F03	2SD893-R
or	48T41365F02	2SD893-Q
Q605	48T41365F03	2SD893-R
or	48T41365F02	2SD893-Q
Q606	48T43525F02	2SC1815-Y
or	48T44578J01	2SC945L-P
<b>Diodes</b>		
D101	48T40477U01	1N4003
or	48C40235G02	10E2
D601	48T51582F01	MA-150
or	48T51881F01	DS442-BT
D602	48T51582F01	MA-150
or	48T51881F01	DS442-BT
D603	48T51582F01	MA-150
or	48T51881F01	DS442-BT
D604	48T51582F01	MA-150
or	48T51881F01	DS442-BT
D605	48T51582F01	MA-150
or	48T51881F01	DS442-BT
D606	48T51582F01	MA-150
or	48T51881F01	DS442-BT
D607	48T51582F01	MA-150
or	48T51881F01	DS442-BT
D608	48T40477U01	1N4003
or	48C40235G02	10E2
D609	48T40477U01	1N4003
or	48C40235G02	10E2
D610	48T40477U01	1N4003
or	48C40235G02	10E2
D611	48T40477U01	1N4003
or	48C40235G02	10E2
D612	48T51582F01	MA-150
or	48T51881F01	DS442-BT
BD101	48T50629F01	Bridge WL-02
ZD101	48T40150U33	Zener HZ 6B-3
ZD102	48T40150U80	Zener HZ 220-2
ZD103	48T40150U65	Zener HZ 12B-2

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
R672	6S44593P89	10K ohm	PL101	65T50260F01	Lamp, Pilot
R673	6S44593P89	10K ohm	PL104	65T51990F01	Lamp, Pilot 14V-80mA
R674	6S44593P97	22K ohm	PL105	65C42544U04	Lamp, Pilot 14V-50mA
R675	6S44593P89	10K ohm	Q1	AZ11H-00	Transistor, Sensor (TPS605)
R676	6S44594P22	220K ohm	R501	6S41042U87	Resistor, C.F. 8.2K ohm 1/8W
R677	6S44593P89	10K ohm	R502	6S41042U87	Resistor, C.F. 8.2K ohm 1/8W
R678	6S44593P89	10K ohm	R567	6S41042U87	Resistor, C.F. 8.2K ohm 1/8W
R679	6S44593P89	10K ohm	R568	6S41042U87	Resistor, C.F. 8.2K ohm 1/8W
R680	6S44593P65	1K ohm	SW1	FE173-11	Switch, Slide
R681	6S44593P85	6.8K ohm	SW2	FE173-11	Switch, Slide
R682	6S44593P57	470 ohm	SW101	● 40T45561F01	Switch, Power (SDL1P)
R683	6S44593P57	470 ohm	■ 40T47454F01	Switch, Power (SDL1P)	
R817	6S44593P57	470 ohm	SW102	● 40T40705T01	Switch, Voltage Select
R818	6S44593P57	470 ohm	SW609	40T50262F01	Switch, Slide (50/60 Hz)
			SW611	40T44505F01	Switch, KHG (Play)
			SW612	40T44505F01	Switch, KHG (Stop)
			SW613	40T44505F01	Switch, KHG (FF)
			SW614	40T44505F01	Switch, KHG (Rew)
			SW615	40T44505F01	Switch, KHG (Pause)
			SW616	40T44505F01	Switch, KHG (Rec)
			SW617	40T40505F01	Switch, KHG (Rec Mute)
			SL1	F082-044	Assembly, Solenoid
			SL2	PKA16106	Assembly, Solenoid
			SL3	PKA16106	Assembly, Solenoid
			T101	● 25T44724F01	Transformer, Power
			■ 25T50265F02	Transformer, Power	
			TH501	EZ15E-00	Thermistor
			VR201	18T50226F01	Volume, Slide S60BIG 301
					10KA x 2 (Rec Level)
			VR501	18T50506F01	Volume, Rotary 10KB
					(Rec Cal)
			VR502	18T50506F01	Volume, Rotary 10KB
					(Rec Cal)
			VR523	18T43904U01	Volume, Rotary Bias 1K
Miscellaneous Parts					
D1	AU11C-00	LED, Sensor (TLN104)			
E401	72T47742F01	Meter, Optical			
E451	9T45549F12	Jack, Mic 6.3			
		(Metal) (Headphone)			
E601	65T47743F01	Counter, FL			
LED301	48T51262F01	LED AY57245 (YEL)			
LED601	48T45518F01	LED 1331G (Grn)			
LED602	48T45519F01	LED 1741Y (Yel)			
LED603	48T45517F01	LED SEL 1112R			
E101	○ 28T43812P02	Plug, AC Cord			
	■ 28T40916U01	Plug, AC Cord			
	☆ 28T44061F02	Plug, AC Cord			
	△ 28T45338F01	Plug, AC Cord			
HD501	FU11L-12	Head, R/P Combination			
HD502	FU163-11	Head, Erase			
M1	F064-093	Assembly, Motor			

●: For multi-voltage model only [○: General foreign model, △: Australian model, ☆: English model], ■: For single voltage model only [North American model] Others: Common

## Packing Method View



## Packing Assembly Parts List

Symbol No.	Part No.	Description
101	1V51200F79	Assembly, Pamphlet
101-1	28T44352F01	Plug, Output Cord
101-2	56B40230G14	Sack, Polyethylene
101-3	68P50150F06	Manual, Owner's
102	56B40442T02	Packing, Front Frame
103	56C45556F01	Tray, Packing
104	56C44544F41	Carton, Packing
	56C50570F09	Carton, Packing
105	56D41118J12	Pad, Packing
106	15A41885U01	Cover, Door
107	56A51982F01	Tray, Packing (Door)
<b>Labels</b>		
	54B43134U25	Label, Fuse TIA (Power & Control P.C. Board)
	54B43134U37	Label, Fuse (Power & Control P.C. Board)

Symbol No.	Part No.	Description
○	54B42541F06	Label, Safety (Rear, Cover)
●	54B42124G02	Label, Date Code (Bottom Chassis)
●	54B42124G01	Label, Serial Number (Rear Cover)
☆	54A40521U01	Label, Made in Japan (Front Panel)
☆	54A47796F01	Label, U.K. (Carton)
△	54A50155F01	Label, AS (Carton)
■	54A44553G01	Label, CSA (Rear Cover)
■	54A41728P01	Label, Caution A (Rear Cover)
■	54A41728P03	Label, Caution B (Rear Cover)
●	54A51850F01	Label, Sticker (Door)
☆	54A47794F01	Label, Fuse
☆	54A47795F01	Label, AC

## Cabinet Assembly Parts List

Index	Symbol No.	Part No.	Description
1-A	1	3S40036U16	Screw, Tap Tite (M4 x 6)
1-A	2	43A41728U09	Bush, Lamp
1-A	3	1V53600F21	Assembly Cover, Dust
2-A	4	3S40036U06	Screw, Tap Tite (M3 x 6)
2-A	5	3S44205G05	Screw, Tap Tite (M3 x 5)

Index	Symbol No.	Part No.	Description
3-A	6	※	Chassis, Front
3-A	7	3C40014G09	Screw, Machine (M3 x 5)
3-A	8	64B47884F01	Panel, Slide Volume
4-A	9	3S44205G16	Screw, Tap Tite (M3 x 6)
4-A	10	45A47879F01	Lever, Arm

●: For multi-voltage model only [○: General foreign model, △: Australian model, ☆: English model], ■: For single voltage model only [North American model] Others: Common

NOTE: ※ The parts without part numbers are not supplied.

Index	Symbol No.	Part No.	Description	Index	Symbol No.	Part No.	Description
4-A	11	75B44632G15	Pad, Teflon	1-E	51	1V51600F41	Assembly, Power & Control P.C. Board
4-A	12	36A47876F01	Knob, Slide		■	1V51800F29	Assembly, Power & Control P.C. Board
4-A	13	1V46400F80	Assembly, Door	2-E	52	9T45548F01	Holder, Fuse
4-B	14	7A50225F01	Bracket, Panel	2-E	53	3C42723U01	Screw, Cup
4-B	15	43A47880F01	Sleeve, Volume	2-E	54	7B47370F01	Support, P.C. Board
5-B	16	36A47129F01	Knob, Bias (Bias Fine, Phones Level)	2-E	55	43B41625J02	Support, Cord
5-B	17	36A47877F01	Knob, Rotary Switch (Tape Select, Dolby NR)		■	43B41625J01	Support, Cord
2-B	18	75B44632G04	Pad, Cushion	2-E	56	※	Bracket, Transformer
2-B	19	43A51937F01	Spacer, Eject	4-E	57	3S44205G38	Screw, Tap Tite (M3 x 6)
2-B	20	81T50753F01	Deck, Cassette (FL87E320)	5-E	58	61B47368F01	Crystal, Meter
2-B	21	13B45448F03	Door, Escutcheon	5-E	59	7B47367F01	Frame, Meter
3-B	22	1V51600F40	Assembly, Switch P.C. Board	3-E	60	14A40472G02	Insulator, Transistor
3-B	23	84D50236F04	Panel, Master (Phones)	3-F	61	※	Bracket, Heat Sink
4-B	24	1V51200F72	Assembly, Front Panel	2-F	62	43A44685F01	Spacer, Switch
4-B	25	29A41814G01	Lug	2-F	63	3A43146G01	Screw, Machine (M2 x 6)
4-B	26	26B51023F01	Shield, Static Electricity	2-F	64	43A43182P01	Spacer, Transistor
4-B	27	36A45454F01	Knob, Function 15 (Rew, FF, Rec, Rec Mute)	2-F	65	26A51309F01	Panel, Shield
4-B	28	36A45455F01	Knob, Function 20	4-F	66	3S40036U13	Screw, Tap Tite (M3 x 12)
4-B	29	36A45456F01	Knob, Function 25.5 (Stop, Pause)		■	3S44205G08	Screw, Tapping (M3 x 12)
2-C	30	45B50264F01	Lever, Power Switch	4-F	67	84D50236F05	Panel, Master (Lamp)
3-C	31	84D50236F03	Panel, Master (Volume)	4-F	68	3S40018G01	Screw, Tapping (M3 x 6)
4-C	32	5B41635J02	Rivet, Push	1-G	69	3S44205G40	Screw, Tap Tite (M3 x 4)
4-C	33	7A51006F01	Bracket, P.C. Board	2-G	70	7A51010F01	Bracket, P.C. Board
4-C	34	36C45466F01	Knob, Function Key	3-G	71	7T41193U01	Sink, Heat
5-C	35	3S40012G28	Screw, Tapping (M3 x 8)	2-H	72	3S43997P88	Screw, Machine (M2 x 4)
5-C	36	84D50236F06	Panel, Master (LED)	2-H	73	3S40012G41	Screw, Tapping (M3 x 8)
3-D	37	※	Support, Tape Deck	2-H	74	15C47881F01	Cover, Rear
3-D	38	※	Chassis, Bottom		■	15C47881F02	Cover, Rear
4-D	39	84B45552F01	Panel, Keyboard Switch	3-H	75	1V51600F39	Assembly, Master P.C. Board
5-D	40	3S43997P63	Screw, Machine (M1.7 x 4)	4-H	76	※	Chassis, Side
5-D	41	4S40070G48	Washer, Flat Metal	5-H	77	※	Cover, Bottom
5-D	42	36A51005F01	Knob, Control (Rec. Cal)	4-A	78	14A40440T10	Fiber, Insulator
5-D	43	84B50755F01	Panel, Rec Control	4-C	79	7A51877F01	Support, Lamp
1-D	44	15D45442F02	Cover, Top	3-C	80	41A51880F01	Spring, Link
2-D	45	※	Support, Transformer	3-C	81	14A40440T09	Fiber, Insulator
2-D	46	3S40036U07	Screw, Tap Tite (M4 x 12)	5-C	82	43A44464P08	Bushing, Pilot Lamp
2-D	47	7A40871F01	Support, Transformer	5-E	83	14A40440T11	Fiber, Insulator
2-D	48	3C40014G04	Screw, Machine (M3 x 6)				
3-D	49	75A42565P13	Cushion, Rubber				
3-D	50	75A44348F01	Pad, Felt				

●: For multi-voltage model only ■: For single voltage model only Others: Common

NOTE: ※ The parts whose part number are not entered are not supplied.



Symbol No.	Part No.	Description
<b>Jacks</b>		
E801	9T50261F01	Jack, Control
<b>Fuses</b>		
F101	● 65T42077U16	(1A)
F102	● 65T42077U16	(1A)
F103	● 65T42077U12	(400mA)
<b>Capacitors</b>		
C101	23S40657F10	Electrolytic 10 uF/16V
C102	23S40657F10	Electrolytic 10 uF/16V
C103	23S41198U67	Electrolytic 1000 uF/50V
C104	23S41198U49	Electrolytic 330 uF/25V
C105	23S41198U57	Electrolytic 470 uF/25V
C106	23S41198U72	Electrolytic 2200 uF/25V
C107	23S41198U56	Electrolytic 470 uF/16V
C108	23S40657F14	Electrolytic 100 uF/16V
C109	23S40657F28	Electrolytic 1 uF/50V
C601	8S44505P61	Ceramic 10000 pF
C602	8S44505P61	Ceramic 10000 pF
C603	8S44505P61	Ceramic 10000 pF
C604	8S44505P61	Ceramic 10000 pF
C605	8S44505P61	Ceramic 10000 pF
C606	8S44505P61	Ceramic 10000 pF
C607	23S40657F06	Electrolytic 33 uF/10V
C608	23S40657F07	Electrolytic 47 uF/10V
C609	23S40657F10	Electrolytic 10 uF/16V
C610	23S40657F07	Electrolytic 47 uF/10V
C611	23S40657F07	Electrolytic 47 uF/10V
C612	23S40657F10	Electrolytic 10 uF/16V
C613	23S40657F09	Electrolytic 220 uF/10V
<b>Resistors</b>		
R101	6S44593P57	470 ohm
R102	6S44593P75	2.7K ohm
R103	6S44593P75	2.7K ohm
R104	6S44593P61	680 ohm
R105	6S44593P61	680 ohm

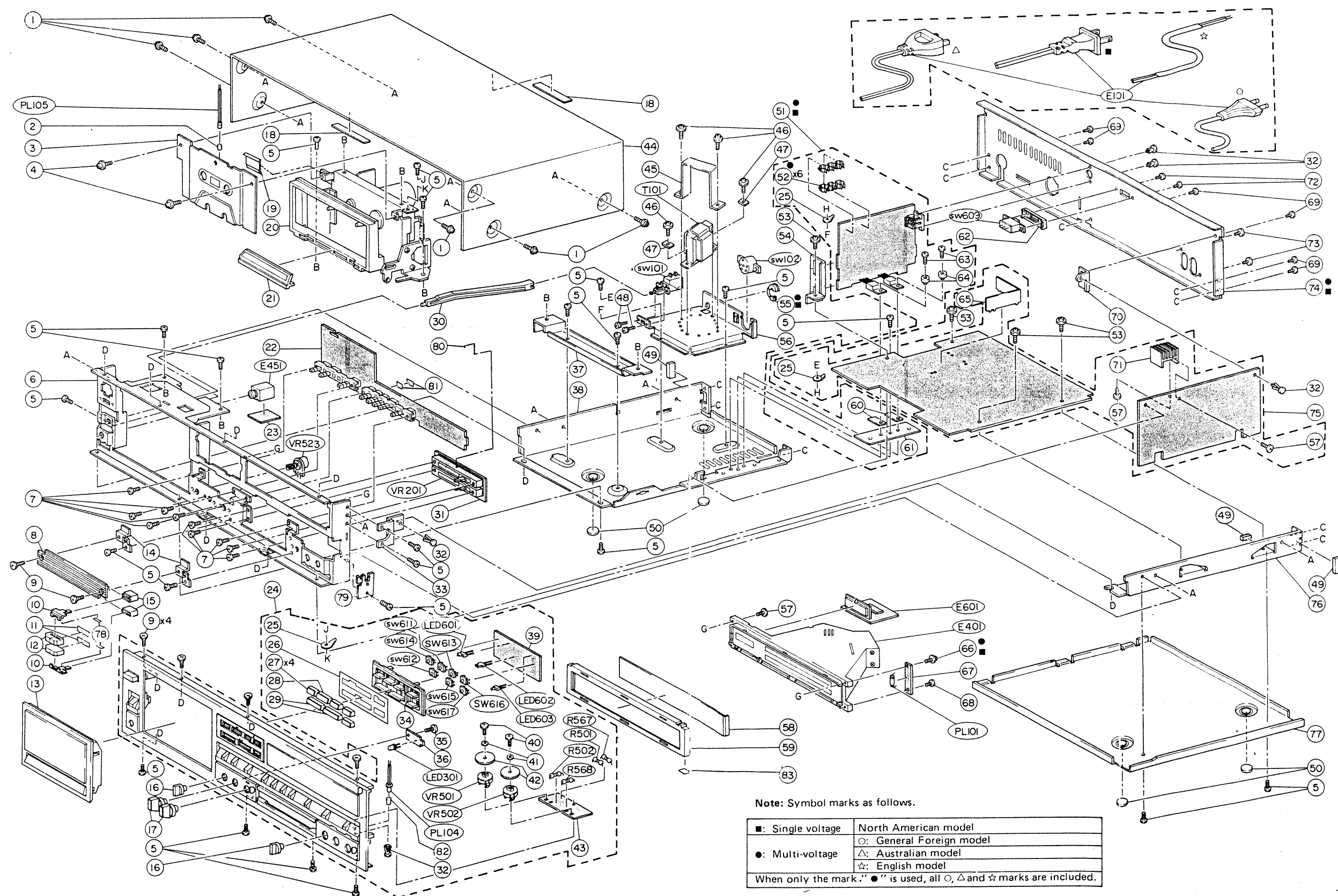
Symbol No.	Part No.	Description
R601	6S44594P06	47K ohm
R602	6S44594P06	47K ohm
R603	6S44593P45	150 ohm
R604	6S44593P47	180 ohm
R605	6S44593P77	3.3K ohm
R606	6S44593P89	10K ohm
R607	6S44593P75	2.7K ohm
R608	6S44593P97	22K ohm
R609	6S44593P97	22K ohm
R610	6S44593P89	10K ohm
R611	6S44593P89	10K ohm
R612	6S44593P97	22K ohm
R613	6S44594P06	47K ohm
R614	6S44593P89	10K ohm
R615	6S44593P59	560 ohm
R616	6S44593P73	2.2K ohm
R617	6S44593P59	560 ohm
R618	6S44593P73	2.2K ohm
R619	6S44593P59	560 ohm
R620	6S44593P73	2.2K ohm
R621	6S44593P93	15K ohm
R622	6S44593P89	10K ohm
R623	6S44594P06	47K ohm
R624	6S44593P89	10K ohm
R625	6S44594P14	100K ohm
R626	6S44593P85	6.8K ohm
R627	6S44593P91	12K ohm
R628	6S44593P89	10K ohm
R630	6S44593P79	3.9K ohm
R631	6S44594P02	33K ohm
R632	6S44593P69	1.5K ohm
R633	6S44593P63	820 ohm
R634	6S44593P87	8.2K ohm
R635	6S44593P97	22K ohm
R636	6S44594P06	47K ohm
R637	6S44593P97	22K ohm
R638	6S44594P06	47K ohm

●: For multi-voltage model only ■: For single voltage model only Others: Common

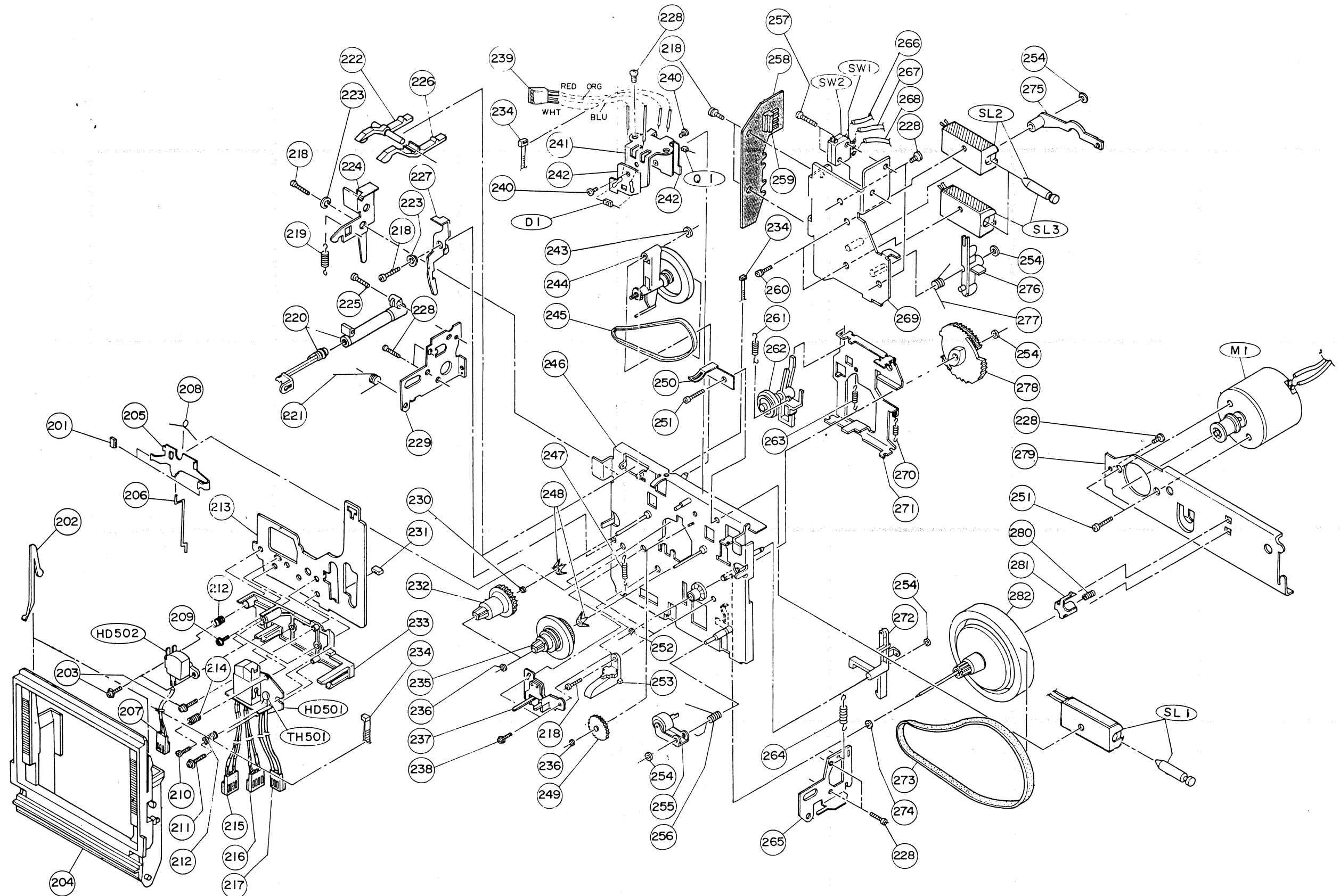
Symbol No.	Part No.	Description
<b>Switch P.C. Board</b>		
<b>IC &amp; Transistor</b>		
IC604	51T47738F01	TD62507P
Q651 or	48T40627U01 48T40627U04	2SD636-Q 2SD636-R
<b>Diodes</b>		
D651 or	48T51582F01 48T51881F01	MA-150 DS442-BT
D652 or	48T51582F01 48T51881F01	MA-150 DS442-BT
D654 or	48T51582F01 48T51881F01	MA-150 DS442-BT
D655 or	48T51582F01 48T51881F01	MA-150 DS442-BT
D657 or	48T51582F01 48T51881F01	MA-150 DS442-BT
D658 or	48T51582F01 48T51881F01	MA-150 DS442-BT
D659 or	48T51582F01 48T51881F01	MA-150 DS442-BT
D660 or	48T51582F01 48T51881F01	MA-150 DS442-BT
D661 or	48T51582F01 48T51881F01	MA-150 DS442-BT
D662 or	48T51582F01 48T51881F01	MA-150 DS442-BT
D802 or	48T51582F01 48T51881F01	MA-150 DS442-BT
<b>LED's</b>		
LED604	48T45564F01	SLP-260C (Auto Play)
LED605	48T45564F01	SLP-260C (Auto Rew.)
LED608	48T45564F01	SLP-260C (Exe. Ind.)
LED801	48T50263F01	SLP-160C (Rec. Cal Ind.)
LED802	48T45564F01	SLP-260C (Tape Ind.)
LED803	48T47746F01	SLP-460C (Source Ind.)

Symbol No.	Part No.	Description
<b>Switches</b>		
SW601	40T50228F01	Push SUT32A (Auto Play)
SW602	40T50228F01	Push SUT32A (Auto Rew.)
SW604 2 SW608	40T50229F01	Push SUT51B (Exe., Clear, Counter, Call, Write)
SW801	40T50227F01	Push SUT113 (Rec. Cal)
SW802	40T50227F01	Push SUT113 (Monitor)
SW803	40T50228F01	Push SUT32A (Dolby NR)
<b>Capacitors</b>		
C651	23T43247F15	Electrolytic 100 uF/6.3V
C652	23T43247F05	Electrolytic 1 uF/50V
C653	23T43247F07	Electrolytic 3.3 uF/25V
C654	23T43247F10	Electrolytic 22 uF/16V
<b>Resistors</b>		
R652	6S44594P06	47K ohm
R653	6S44594P06	47K ohm
R654	6S44593P57	470 ohm
R655	6S44593P61	680 ohm
R656	6S44593P61	680 ohm
R657	6S44593P61	680 ohm
R658	6S44593P85	6.8K ohm
R659	6S44593P97	22K ohm
R660	6S44593P97	22K ohm
R661	6S44593P89	10K ohm
R662	6S44593P97	22K ohm
R663	6S44593P89	10K ohm
R664	6S44593P89	10K ohm
R665	6S44593P85	6.8K ohm
R666	6S44593P97	22K ohm
R667	6S44593P97	22K ohm
R668	6S44594P14	100K ohm
R669	6S44593P89	10K ohm
R670	6S44593P97	22K ohm
R671	6S44593P97	22K ohm

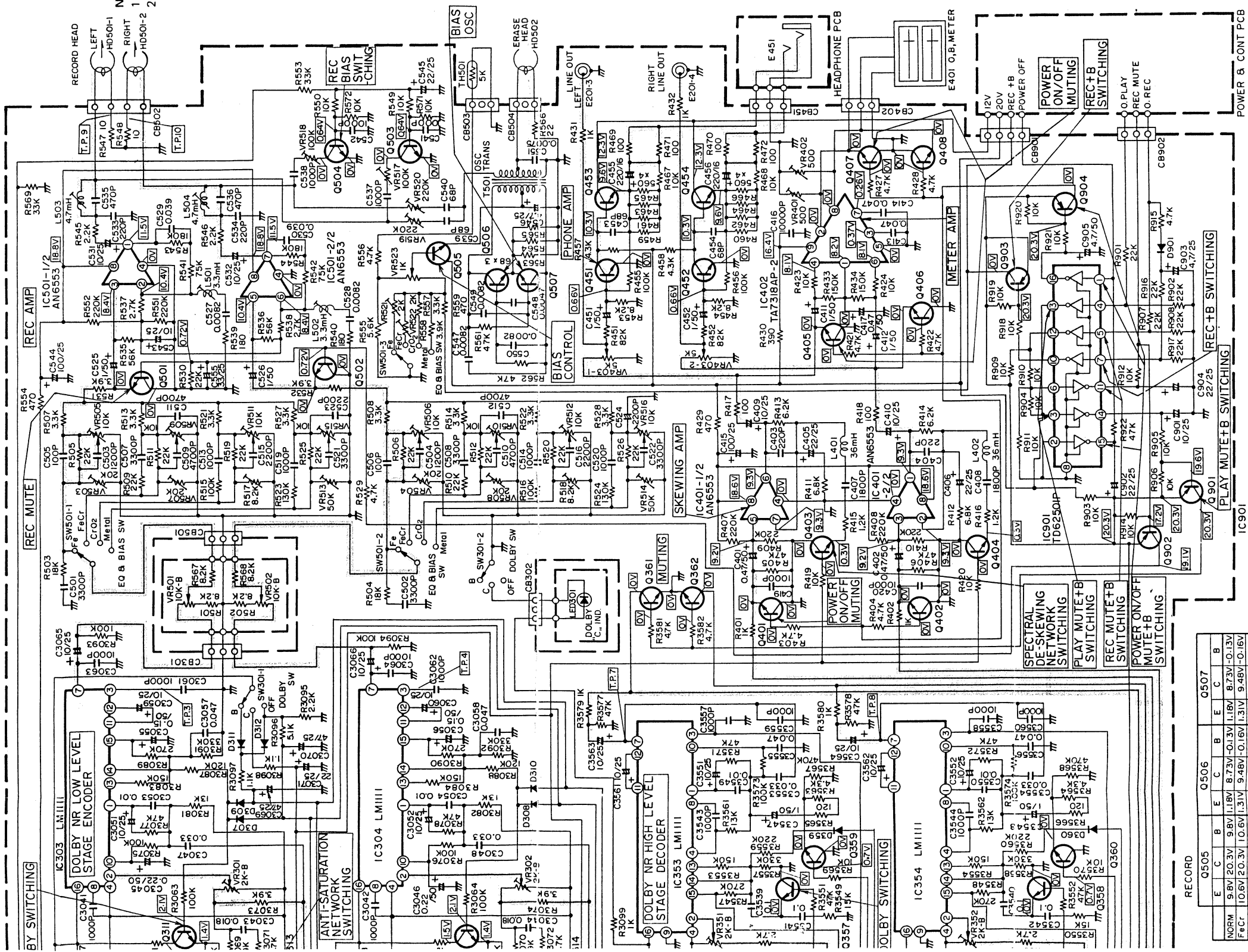
Exploded View (Cabinet)



## Exploded View (Cassette Deck)



IC303, IC304, IC353, IC354	IC401	IC501	IC601	IC402
Q361, 362 Q401 Q358, Q359 Q360	Q501 Q502 Q405, Q406 Q402, Q403 Q404, Q409, Q401	Q505 Q506, Q507 Q453 Q452, Q454	Q507 Q508 Q455 Q456, Q457 Q458, Q459 Q460, Q461	Q504, Q503 Q407, Q408
D307, D308, D311, D312 D308, D310 D359, D360	L3D301	D801		



RECORD	Q505	Q506	Q507
E	C	B	E
C	B	E	C
NORM	9.8V 20.3V 9.8V 1.18V 8.73V -0.13V 8.73V -0.13V		
FAC	10.6V 20.3V 10.6V 1.31V 9.48V -0.16V 9.48V -0.16V		
CI02	14.1V 20.3V 14.1V 1.92V 12.97V -0.27V 12.97V -0.27V		
Metal	14.3V 20.3V 14.3V 1.95V 13.23V -0.31V 13.23V -0.31V		

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
OV	OV	OV	OV	OV	OV	OV	OV	OV	OV	OV	OV	OV	OV	OV	OV

NOTES:  
1. All resistance values are in ohms. K = 1,000  
2. All capacitance values are in microfarads. P = 1,000,000

(3) Semiconductors	
IC201, 401, 501	AN6553
IC301 to 304, 351 to 354	LM1111
IC402	TA7318P
IC901	TD62501P
Q251, 252	SC2263U
Q253, 254	2SC1222E/2SC900E/ 2SC732BL/2SC1842/ 2SC1843
Q301, 302, 311, 312, Q351, 352, 451, 452	2SC1815Y/2SD636Q
Q315	2SC1983
Q255, 256, 303 to 310, Q313, 314, 353 to 362, Q401 to 408, 501, 502, Q802	2SC1815Y, GR/ 2SC945/2SD636Q
Q453, 454	2SC509Y
Q505	2SD893R, Q
Q506, 507	2SC1318R
Q901 to 904	2SA733P
Q303, 304, 353, 354	1N60/OA95
D251, 252, 301, 302, D305 to 312, 351, 352, D355 to 360, 801, 901	DS4428T/MA150
ZD301	HZ16-1/HZ15-3
Q503, 504, 801	2SC1890/2SC1980E, T







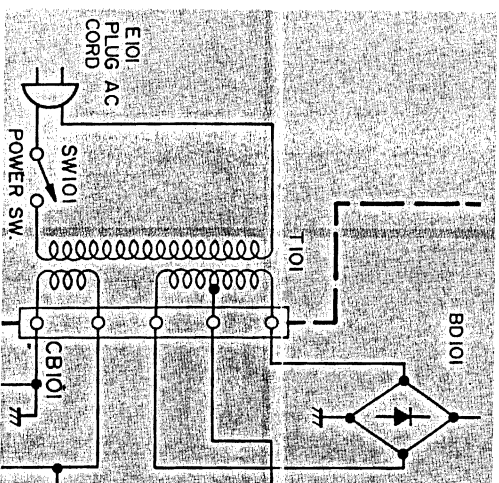
IC	IC 601	IC 602, 603
Transistor	Q102, 103 Q601 Q602 Q101	
Diode (LED)	LED601, 602, 603 BD101 D101 D601 ZD101 ZD103 D603 D604 D612 D606 D605	

Notes:

(1) All resistance values are in ohm, K = 1,000, M = 1,000,000.  
(2) All resistance values are in microfarads, P = 1/1,000,000.  
The voltage value is the reference value measured when no signal is put in or when the mode is STOP if not specified.

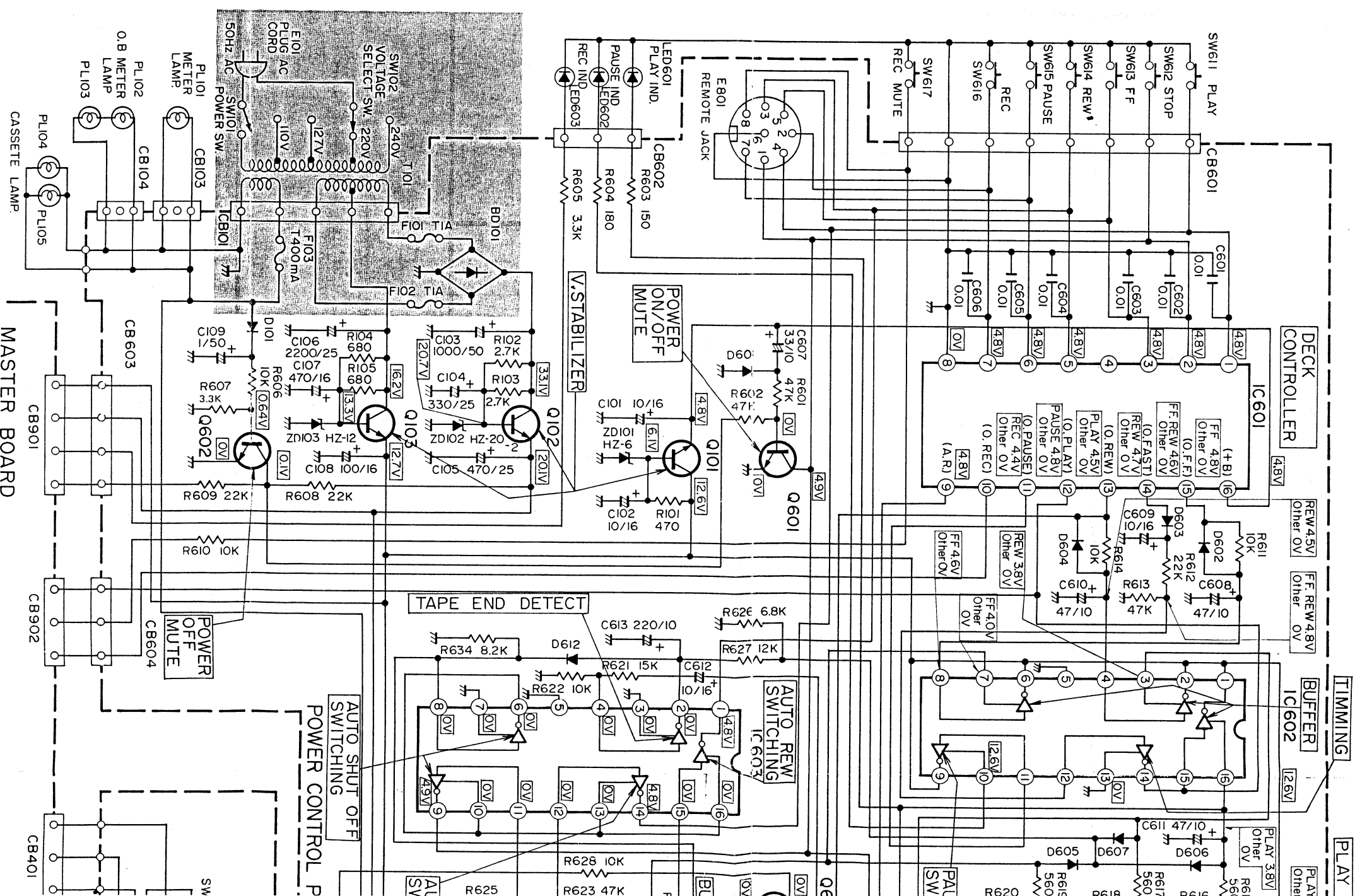
Semiconductors

D101, 608, 609, 610, 611	GP10D
D601 ~ 607, 612, 651, 652	MA150/DS442.8T
D654, 655, 657 ~ 662, 802	
ZD101	HZ6
ZD102	HZ220-2
ZD103	HZ128-2
BD101	WL02
Q101, 603 ~ 605	2SD893R, Q
Q102, 103	2SC1983
Q601, 602, 606	2SC1815/2SC945L
Q651	2SD636Q, R
IC601	BA843
IC602 ~ 604	TD62507P



For multi-voltage model

For single-voltage model





Cassette Deck Assembly Parts List

Index	Symbol No.	Part No.	Description	Index	Symbol No.	Part No.	Description
3-A	201	FF11C-11	Rubber, Brake	1-D	241	FC15H-11	Bracket, Sensor
3-A	202	FK553-12	Spring, Hold	2-D	242	FP11E-11	Panel, Sensor
4-A	203	UG11K-11	Screw, Bind (M2 x 115)	2-D	243	FJ123-19	Washer, Lock (φ3.5)
5-A	204	FR369-11	Frame, Door	2-D	244	FP470-11	Assembly, Clutch
3-B	205	FC15G-11	Lever, Brake	2-D	245	FP463-11	Belt, Sub
3-B	206	FK11Y-11	Rod, Brake	3-D	246	※	Assembly, Chassis
4-B	207	WH17T-00	Cable, Connector (E)	3-D	247	FK578-12	Spring, Head Base Hold
3-B	208	FK12A-11	Spring, Brake	3-D	248	FK579-11	Spring, Back Tension
4-B	209	FG137-13	Screw, F-Lock (M2 x 5)	5-D	249	FN154-13	Gear, Idler
5-B	210	UG11M-11	Screw, Tilt	3-E	250	FK551-13	Spring, Cassette
5-B	211	UG11K-12	Screw, Bind (M2 x 18)	3-E	251	FG114-15	Screw, W/Washer (M2.6 x 4.5)
5-B	212	FK572-11	Spring, Azimuth	4-E	252	FJ141-12	Washer, Oil Shield
3-B	213	※	Base, Head	4-E	253	FR360-12	Guide, Cassette
4-B	214	FK11F-23	Spring, Tilt	5-E	254	FJ123-15	Washer, Lock (φ2.6)
5-B	215	WH17U-00	Connector, Cable (Rec)	5-E	255	F014-053	Assembly, Pinch Roller
5-B	216	WH17V-00	Connector, Cable (P.B.)	5-E	256	FK569-12	Spring, Pinch Roller
5-B	217	WH17W-00	Connector, Cable (Thermistor)	1-E	257	FG143-26	Screw, Machine (M2.6 x 15)
2-C	218	KG194-12	Screw, Tap Tite (M3 x 6)	1-E	258	FP11N-11	Panel, Terminal
2-C	219	FK573-11	Spring, Arm Lock	2-E	259	KY130-11	Base, Connector (8P)
2-C	220	FP472-11	Assembly, Dumper	2-E	260	FG143-17	Screw, Machine (M2.6 x 3)
3-C	221	FK568-11	Spring, Door	2-E	261	FK575-11	Spring, Play Idler
1-C	222	FR357-14	Arm, Record	3-E	262	FP469-11	Assembly, Idler
1-C	223	FM296-11	Spacer	3-E	263	FK577-11	Spring, Head Base
2-C	224	FC11H-12	Arm, Eject Lock	5-E	264	FK576-12	Spring, Play Solenoid Arm
2-C	225	UG11D-11	Screw, Tap Tite (M2 x 12)	5-E	265	FR350-12	Bracket, Door
1-C	226	FR356-13	Arm, Switch	1-F	266	※	Tube, Vinyl (Blue)
2-C	227	FR352-11	Lever, Safety	1-F	267	※	Tube, Vinyl (Brown)
2-C	228	KG194-46	Screw, Tap Tite (M3 x 4.5)	1-F	268	※	Tube, Vinyl (Red)
3-C	229	FR349-13	Bracket, Dumper	2-F	269	※	Bracket, Solenoid
3-C	230	FJ111-19	Slidor, Polyester (φ2 x 0.13) (Supply Reel)	3-F	270	FK574-12	Spring, Assist Base
4-C	231	FP464-11	Pad, Cushion	3-F	271	※	Base, Assist
4-C	232	FR12P-11	Assembly, Supply Reel	4-F	272	FR359-12	Arm, Play Solenoid
4-C	233	FD14U-11	Spacer, Head	5-F	273	FP462-11	Belt, Main
4-C	234	FH126-11	Binder, Wire	5-F	274	FJ111-14	Sider, Polyester (φ2.5 x 0.5)
4-C	235	FR12N-11	Assembly, Take-up Reel	1-G	275	FD12W-11	Arm, Brake
4-C	236	FJ123-14	Washer, Lock (φ1.7)	2-G	276	FR355-13	Arm, F.F. Solenoid
5-C	237	FR13V-11	Assembly, Tension Arm	2-G	277	FK570-12	Spring, Solenoid Bracket
5-C	238	FG137-12	Screw, F-Lock (M2 x 4)	3-G	278	FN153-11	Gear, Play
1-D	239	WH16A-00	Connector, Wire	3-G	279	FR347-12	Bracket, Motor
2-D	240	FG137-11	Screw, F-Lock (M2 x 3)	4-G	280	FK11F-16	Spring, Thrust
				4-G	281	FM281-11	Spacer, Flywheel
				4-G	282	FR13L-11	Assembly, Flywheel

NOTE: ※ The parts whose part number are not entered are not supplied.

Semi-Conductor Lead Identifications

AN6553: IC201, 401, 501

OUT 1 1, IN 1 2, IN 1 3, V- 4, 8 V+, 7 OUT 2, 6 IN 2, 5 IN 2

LM1111A: IC301 to 304, 351 to 354

Positive supply 16, Bias 4, Ground 9, Amp. A. input 5, Amp. A. output 6, Amp. B. input 7, Amp. E.K. output 8, Amp. B. output 9, Bias 10, Variable impedance input 11, Decoupling 12, Amp. D. feed-back decoupling 13, Amp. D. output 14, Rectifier input 15, Rectifier bias 16, Rectifier output 17, Variable impedance control 18

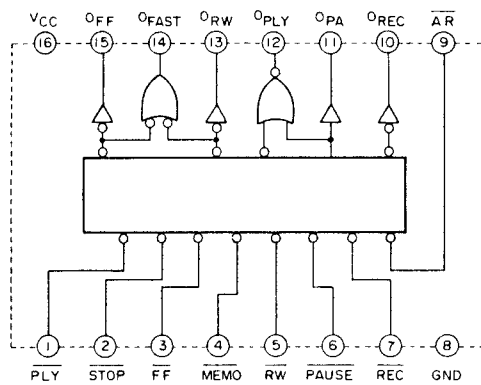
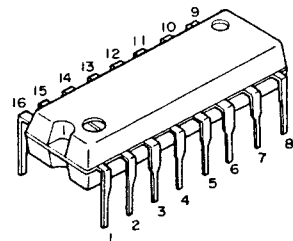
NE650N: IC301 to 304, 351 to 354

V+ 16, GND 9, REFERENCE 4, INPUT AMP 5, A OUTPUT 6, B INPUT 7, B OUTPUT 8, C INPUT 9, C OUTPUT 10, D INPUT 11, D FILTER 12, GND 13, CONTROL OUTPUT 14, OVERSHOOT SUPPRESSOR 15, VARIABLE IMPEDANCE 16, RECTIFIER BUFFER 17, RECTIFIER 18

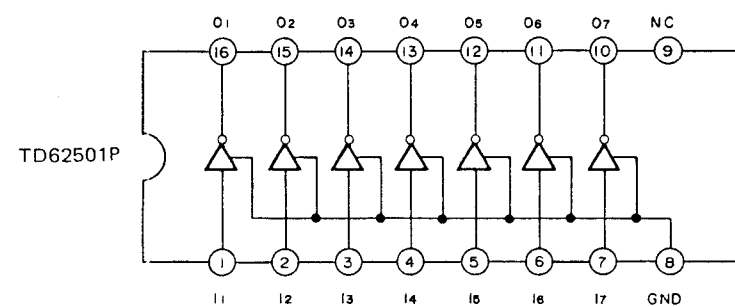
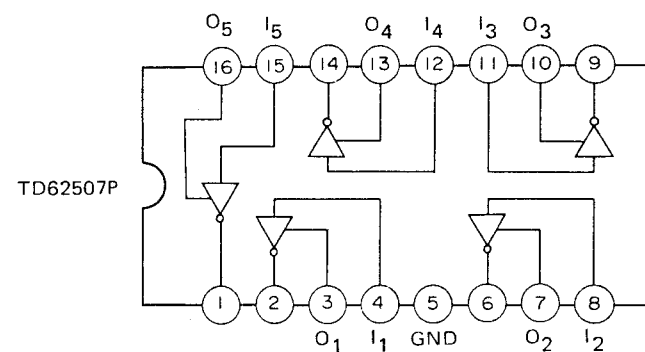
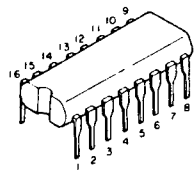
TA7318AP-2: IC402

INPUT 4, GND 1, INPUT 6, V+ 9, HOLD(L) 3, 2 L, 1/4 POWER COMPRESSOR, 1/4 POWER COMPRESSOR, HOLD DC AMP, OUT PUT, 5, HOLD(R)

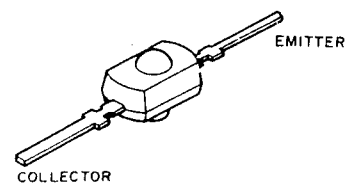
BA843: IC601.



TD62507P: IC602, 603, 604  
TD62501P: IC901



TPS605: Q1



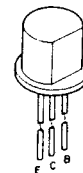
2SD893: Q101, 505, 603, 604, 605  
2SC2263: Q251, 252  
2SC900, 2SC1327: Q253, 254  
2SC1980: Q503, 504, 801  
2SC1318: Q506, 507



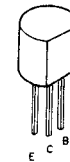
2SC1983: Q102, 103, 315



2SC732: Q253, 254



2SC1842, 2SC1843: Q253, 254



2SC1222: Q253, 254  
2SC945: Q255, 256, 303 to 310, 313,  
Q314, 353 to 362, 401 to 408,  
Q501, 502, 601, 602, 606, 802  
2SA733: Q901 to 904



2SC1815: Q255, 256, 301 to 314,  
Q351 to 362, 401 to 408, 451,  
Q452, 501, 502, 601, 602,  
Q606, 802  
2SC509: Q453, 454



2SC1890: Q503, 504, 801



2SC636: Q255, 256, 301 to 314,  
Q351 to 362, 401 to 408, 451,  
Q452, 501, 502, 651, 802

