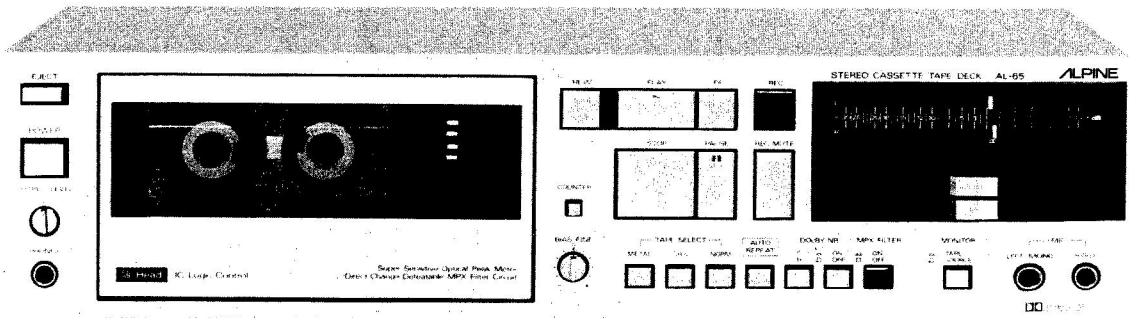
SERVICE MANUAL ALPINE

STEREO CASSETTE DECK AL-65



ALPINE

Contents

Specifications

Power Source	120V, AC 60 Hz (For Single Voltage Model only) 110/127/220/240V AC 50 Hz (For Multi Voltage Model only)
Power Consumption	30W
Tape Speed	4.76 cm/sec. ±2.0%
Wow & Flutter (JIS WRMS Playback Mode)	0.05%
FF/REW Time (C-60)	100 sec.
Frequency Response	Norm: 31.5 Hz ∿ 17 kHz, CrO_2: 31.5 Hz ∿ 18 kHz, Metal: 31.5 Hz ∿ 19 kHz
Rec/Play Head	Two gap combination ferrite and hard permalloy core
Erase Head	Double gaps ferrite core
Load Impedance	Line Out: 100K ohm, Head Phone: 8 ohm
S/N Ratio	NR-Off: Norm: 52 dB, CrO_2/Metal: 54 dB NR-B: Norm: 57 dB, CrO_2/Metal: 59 dB NR-C: Norm: 62 dB, CrO_2/Metal: 64 dB
Input Sensitivity	Mic: 0.3mV Line: 100mV
Output Level	Line Out: 550mV ±1.5 dB, Head Phone: 80mV ±2 dB
Stereo Separation	35 dB
Distortion	3%
Semiconductors	7 IC's, 52 Transistors, 16 Diodes, 6 Zener Diodes, 1 Bridge Diode
Dimensions	435(W) x 106(H) x 254(D) mm
Weight	4.9 Kg

Parts Locations and Disassembly Instructions

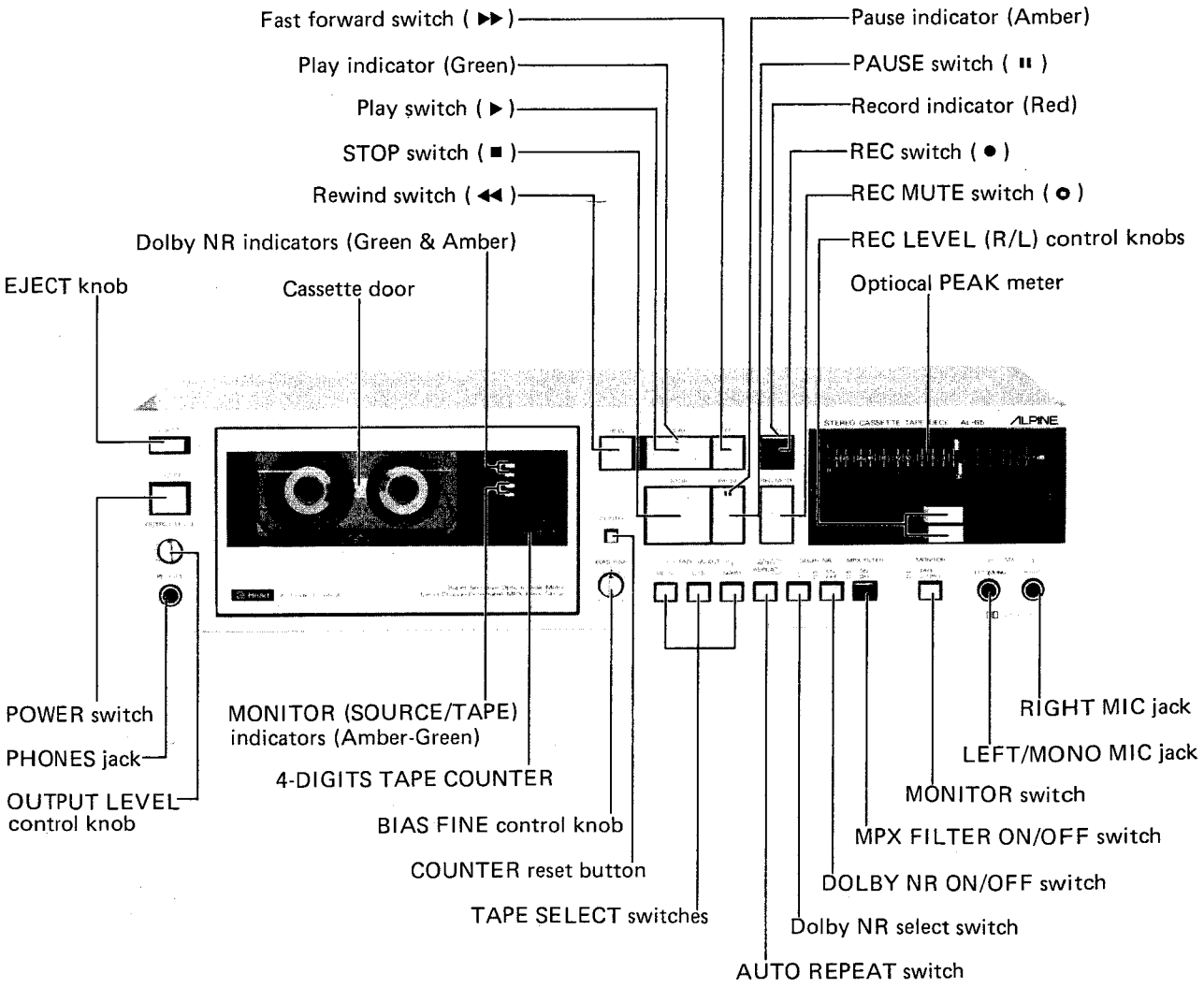


Figure 1

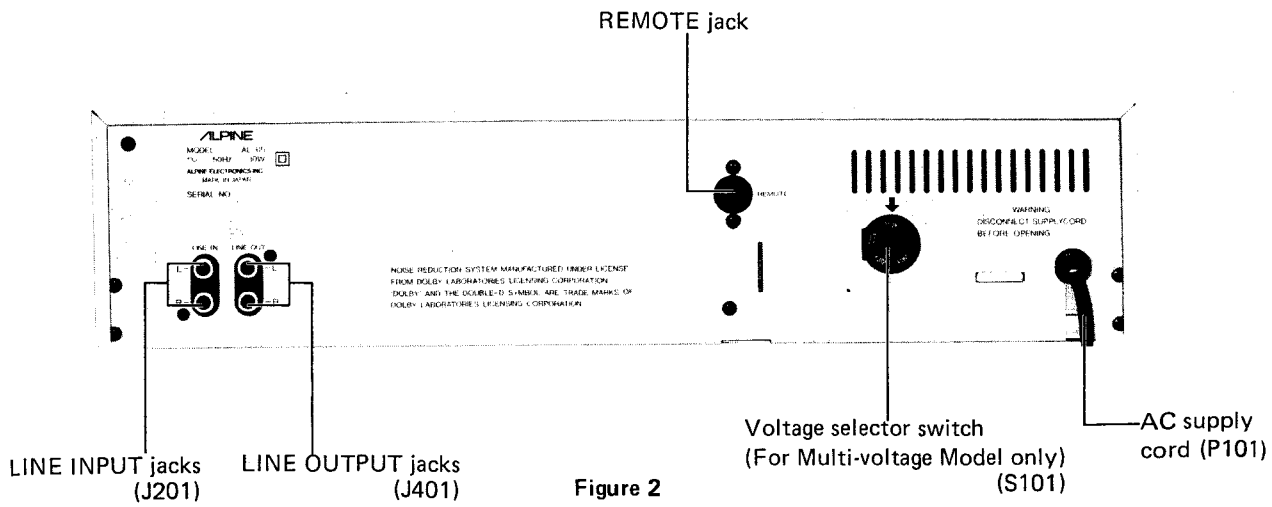


Figure 2

1. Removal of Top Cover

(1) Remove four screws marked " ○ " as shown in Figure 3 and 4.

(2) Lift up the top cover in the direction of the arrow in Figure 3.

2. Removal of Front Panel

(1) After removal of top cover, remove one screw marked " # " as shown in Figure 5.

(2) Remove two connectors as shown in Figure 5.

(3) Remove seven screws marked " △ " as shown in Figure 5 and 6.

(4) Remove the front panel from the main chassis in the direction of the arrow as shown in Figure 3.

3. Removal of Meter Optical

(1) After removal of top cover and front panel, remove three screws marked " ∞ " as shown in Figure 5.

(2) Then remove meter optical with the Lamp P.C. Board.

(3) Disconnect all wires from the meter optical and Lamp P.C. Board.

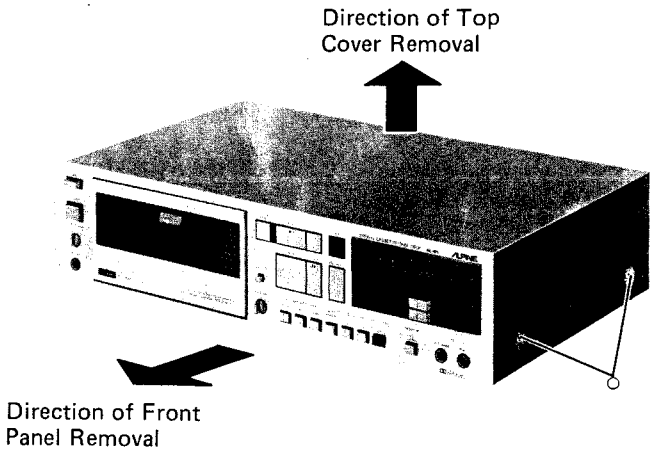


Figure 3

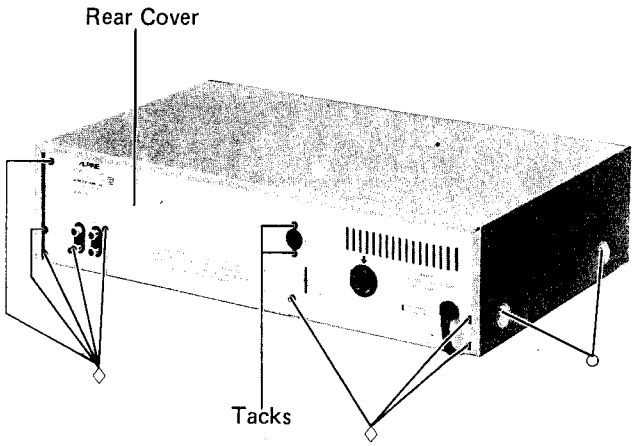


Figure 4

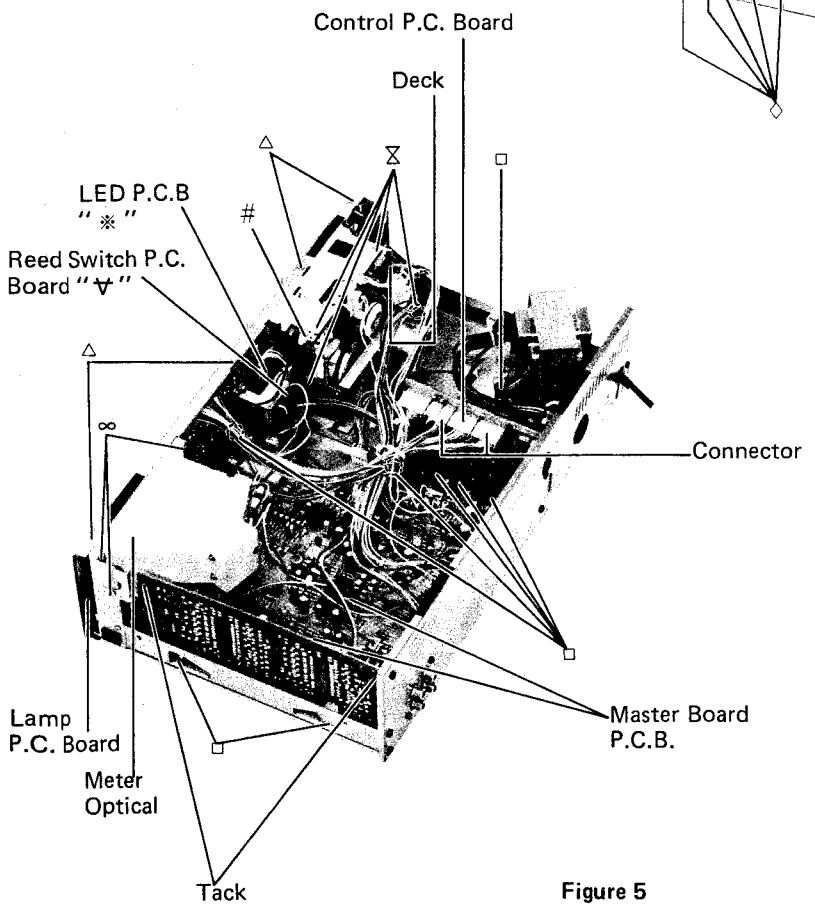


Figure 5

4. Removal of REC. VR

(1) After removal of front panel, remove four screws marked " ☆ " as shown in Figure 7.

(2) Disconnect all wires from the REC. VR.

5. Removal of Rear Cover

(1) After removal of top cover, remove eight screws marked " ◇ " as shown in Figure 4.

(2) Removal two tacks as shown in Figure 4.

6. Removal of Master Board P.C. Board

(1) After removal of top cover, rear cover and front panel, remove ten screws marked " □ " from the master board P.C. Board as shown in Figure 5 and 7.

(2) Remove bias fine knob as shown in Figure 7.

(3) Remove two tacks as shown in Figure 5.

(4) Then remove master board P.C. Board with the control P.C. Board.

(5) Disconnect all wires from the master board P.C. Board and control P.C. Board.

(6) Their P.C. Board can be completely removed from the chassis.

7. Removal of Key Board P.C. Board

(1) Remove seven screws marked " ▲ " as shown in Figure 8.

(2) Disconnect all wires from the key Board P.C. Board.

8. Removal of Reed Switch P.C. Board

(1) Remove one screw marked " ∀ " as shown in Figure 5.

(2) Disconnect all wires from the reed switch P.C. Board.

9. Removal of L.E.D. P.C. Board

(1) Remove one screw marked " ※ " as shown in Figure 5.

(2) Disconnect all wires from the L.E.D. P.C. Board.

10. Removal of Cassette Deck

(1) Lift up the cassette door in the direction of the arrow in Figure 7.

(2) Remove four screws marked " ⧖ " as shown in Figure 5.

(3) Disconnect all wires from the cassette deck.

(4) The cassette deck can be completely removed from the chassis.

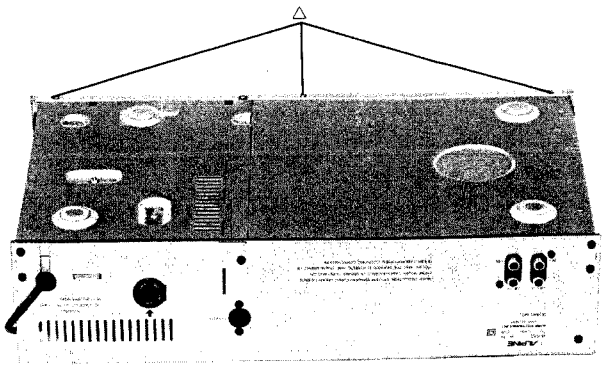


Figure 6

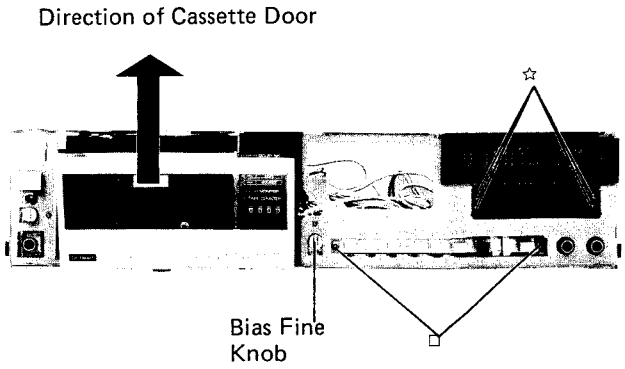


Figure 7

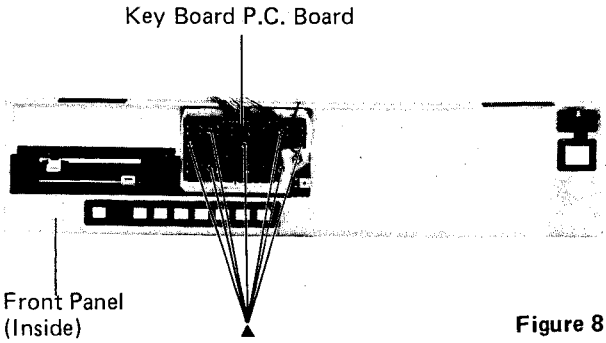


Figure 8

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 9 and the cassette door can be removed.

(2) Remove four screws marked " ○ " and wires from both sides of the R/P head " A ", as shown in Figure 10, 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 " Ⓑ " as shown in Figure 10, and it can be removed.

(3) After finishing assembling, adjust head azimuth, height and tilt angle.
Apply screw-lock after adjustment.

Replacement of Belt and Flywheel

(1) Remove a screw marked " □ " and the motor bracket, and two belts can be removed as shown in Figure 11.

(2) Remove a washer marked " △ " as shown in Figure 13 and the flywheel can be removed.

(3) After replacing the belt and flywheel, clean them with absolute alcohol.

(4) After finishing assembling, confirm tape speed and wow/flutter with test tape (MTT-111).

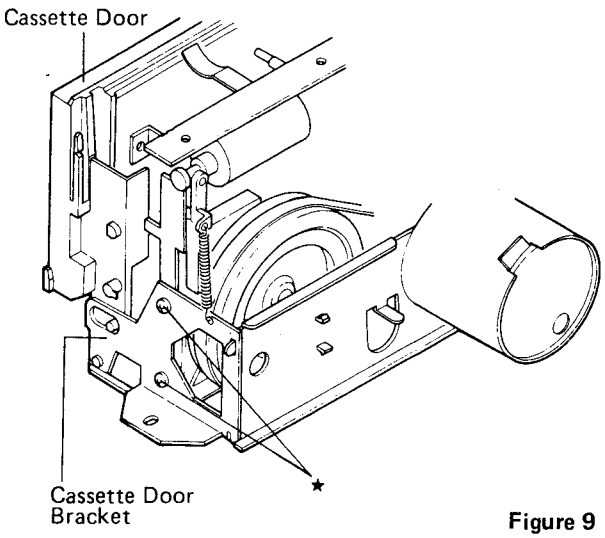
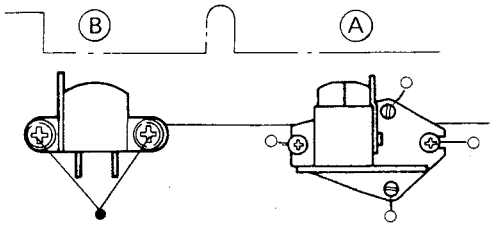


Figure 9



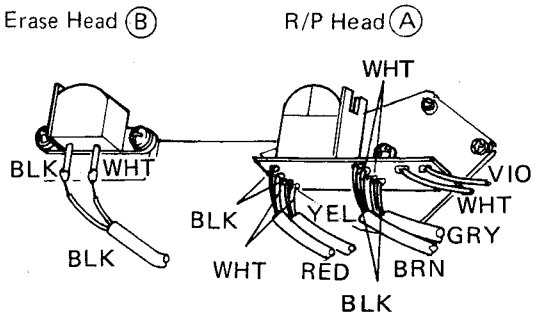


Figure 10

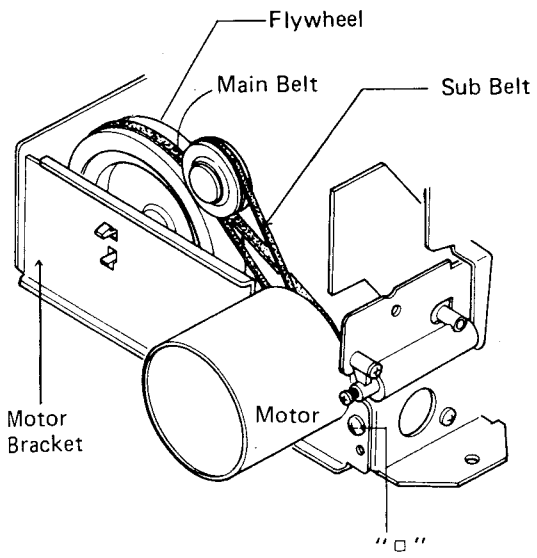


Figure 11

Replacement of Motor

(1) Remove a screw marked " □ " as shown in Figure 11 and two screws marked " ☆ " and two wires (white, white/red) from terminal P.C. Board as shown in Figure 12, and the motor can be removed.
(2) After finishing assembling, confirm tape speed and wow/flutter with test tape (MTT-111).

Replacement of Pinch Roller

(1) Remove a washer marked " ▲ " to take off pinch roller assembly from the cassette deck as shown in Figure 13.
(2) After replacing the pinch roller, clean it with absolute alcohol.
(3) After finishing assembling, confirm tape speed and wow/flutter with test tape (MTT-111).

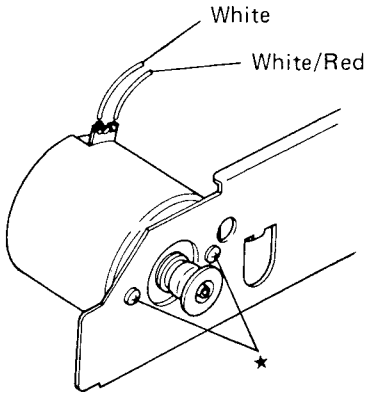


Figure 12

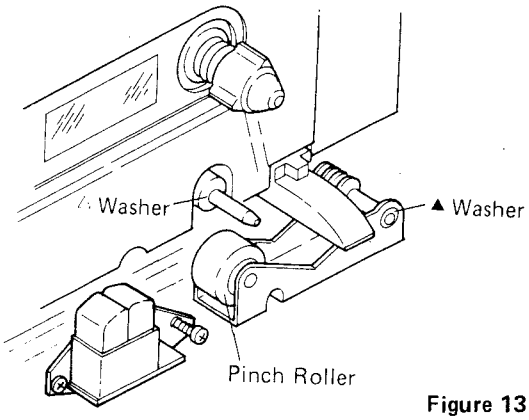
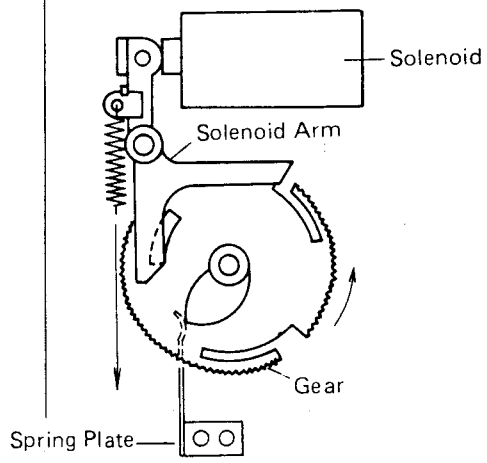
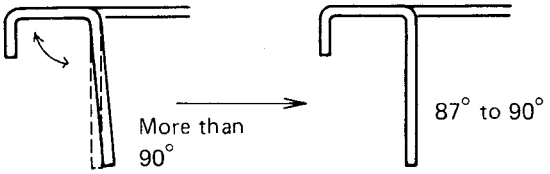
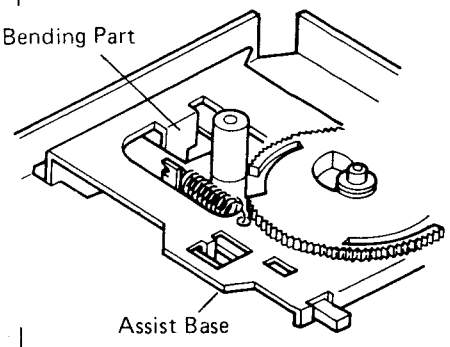
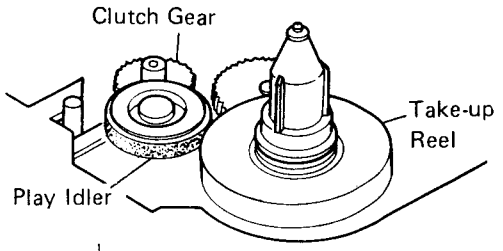
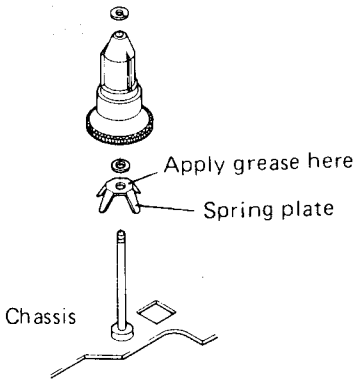


Figure 13

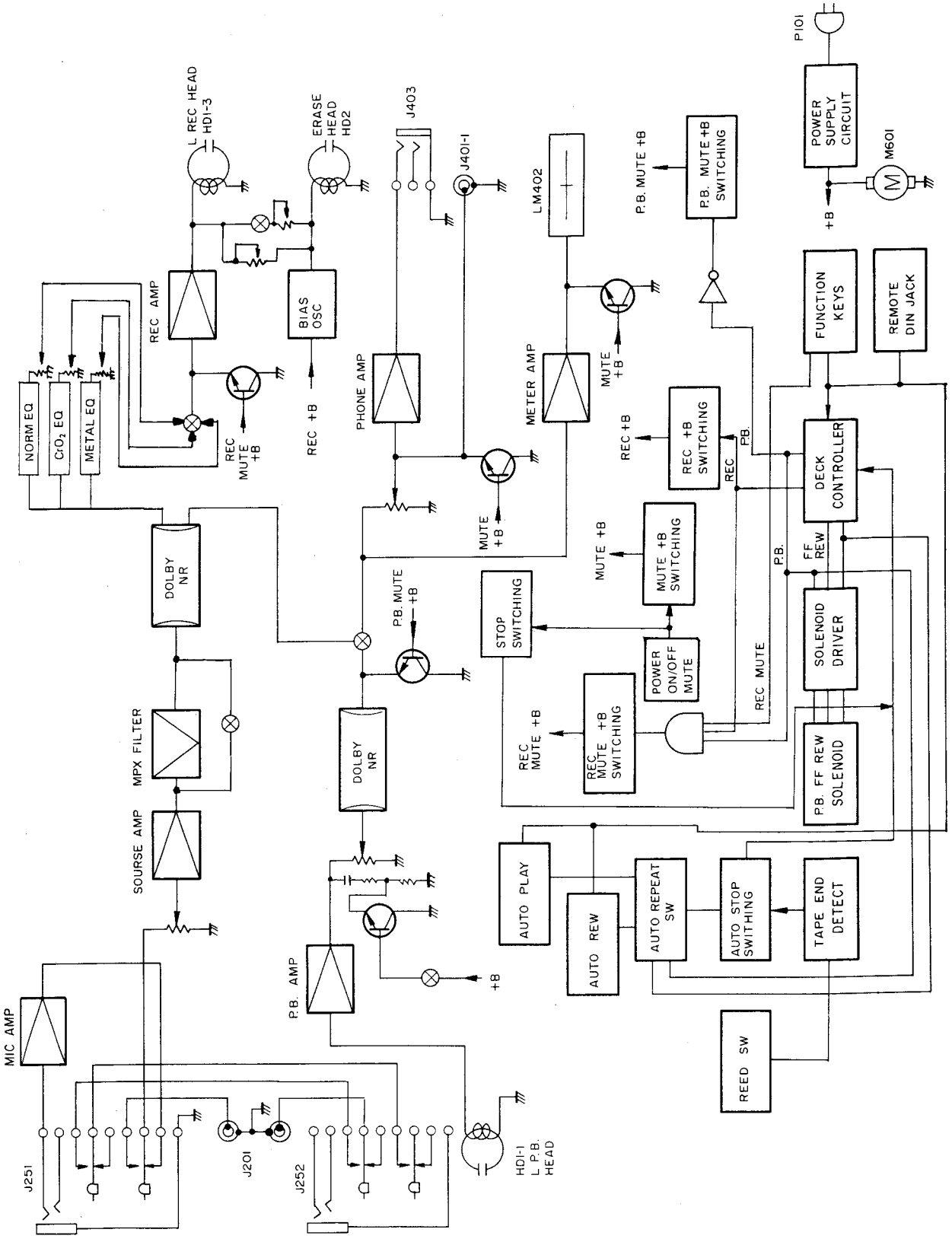
Trouble Shooting Guide

Symptom	Possible Cause	Remedies
No power.	1. Defective power switch (S101). 2. Disconnected Fuse (F101 ∿ 103). (For multi-voltage model only). 3. Defective DC supply block. 4. Defective power connections.	1. Replace switch. 2. Replace fuse. 3. Check and repair DC power. 4. Check and repair wiring.
Capstan shaft does not rotate.	1. Main belt out of place or its disconnection. 2. Defective motor. 3. Burning of flywheel shaft.	1. Reinstall or replace main belt. 2. Replace motor. 3. Lubricate or replace flywheel shaft.
Head base does not go up.	1. Defective play solenoid (SD601). 2. Defective control circuit. 3. Deformation of spring plate.	1. Replace play solenoid. 2. Check and repair. 3. Modify spring plate. 
	4. Deformation of assist base stopper. 	4. Modify the angle of bending part of assist base stopper. 

Symptom	Possible Cuase	Remedies
Cassette tape does not run. (No taking up operation).	1. Sub belt out of place or its disconnection. 2. Slippage of play idler. 3. Defective take-up reel.	1. Reinstall or replace sub belt. 2. Clean play idler. 3. Replace take-up reel. 
FF/REW does not funciton.	1. Defective FF (SD603)/REW (SD602) solenoids. 2. Defective control circuit.	1. Replace them. 2. Check and repair.
Excessive wow/flutter.	1. Defective flywheel assembly. 2. Defective motor. 3. Defective drive belt. 4. Defective pinch roller assembly. 5. Slippage between tape and pinch roller. 6. Swing of center clutch. 7. Swing of back tension.	1. Replace flywheel assembly. 2. Replace motor. 3. Replace drive belt. 4. Replace pinch roller assembly. 5. Clean pinch roller. 6. Replace center clutch. 7. Modify back tension spring and apply grease on the spring plate. 
Playback does not function.	1. Dirty recording/playback head. 2. Defective recording/playback head. 3. Disconnected wire between recording/playback head and playback amplifier. 4. Defective playback level adjustment volumes (VR201, 202) or their slippage. 5. Defective playback amplifier. 6. Defective Dolby circuit. 7. Defective muting cirucit. 8. Defective contact of line-out jack of its defect.	1. Clean head. 2. Replace head. 3. Check wiring and repair. 4. Readjust or replace volumes. 5. Repair or replace. 6. Repair or replace. 7. Repair or replace. 8. Repair or replace.

Symptom	Possible Cause	Remedies
Erasing does not function. (No signal input)	1. Defective rec. inh. switch (S602). 2. Removal of safety tabs of cassette tape. 3. Dirty erase head. 4. Defective erase head. 5. Wire disconnection to erase head. 6. Defective bias OSC. 7. Defective bias OSC trans.	1. Replace switch. 2. Fix tabs. 3. Clean head. 4. Replace head. 5. Check wiring and repair. 6. Check and repair. 7. Replace trans.
Recording does not function.	1. Defective contact of line-in jack or its defect. 2. Defective contact of mic jack or its defect and defect of mic amplifier. 3. Defective rec volume (VR251, 252). 4. Defective Dolby circuit. 5. Slippage of rec. current adjusting volumes (VR501, 502) or their defect. 6. Defective rec. amplifier. 7. Slippage of rec. bias adjusting volumes (VR503 ∿ 508) or their defect. 8. Disconnected wire between recording/playback head and record amplifier. 9. Dirty recording/playback head. 10. Defective recording/playback head.	1. Repair or replace. 2. Repair or replace. 3. Replace volume. 4. Repair or replace. 5. Readjust or replace. 6. Repair or replace. 7. Repair or replace. 8. Check wiring and repair. 9. Clean head. 10. Replace head.
Distorted Sound.	1. Distortion of input signal. 2. Level-over of input signal. 3. Bias is too small or not flowing. 4. Misposition of rec. bias adjusting volume (VR503 ∿ 508). 5. Large distortion of bias waveforms. 6. Magnetization of recording/playback head. 7. Dirty recording/playback head.	1. Check input signal. 2. Lower input level. 3. Adjust to suitable bias. 4. Adjust to suitable bias. 5. Check bias OSC. 6. Demagnetize with head eraser. 7. Clean head.

Block Diagram



Adjustment Procedures

Step	Description	Mode	Adjust Points	Test Points	Connection Instruction	Remarks
1	Tape Speed Adjustment	Playback Tape: Nor NR: Off	Round hole on the rear of the motor (Figure 15)	Line Out	Figure 16	Test Tape: MTT-111 (3 kHz) Adjust for 3000 ±30 Hz
2	Head Height and Tilt Angle Adjustment	Turn the screw A and B to adjust the head height and tilt angle. (Figure 14) Use M-300 check bar to check the head height. The tip face of the check bar should stay parallel to the head surface to cheak the tilt angle. (See Note [II])				
3	Head Azimuth Adjustment	Playback Tape: Nor NR: Off	Head Azimuth Screw "C" (Figure 14)	Line Out	Figure 16	Turn the screw until the left and right signal levels become maximum and still more with the phase when reproducing MTT-114 (10 kHz) (It is necessary to readjust the head height as it moves if azimuth adjustment is too large.)
4	Playback Level Adjustment	Playback Tape: Nor NR: Off Monitor : Tape	VR201 VR202	T.P.3 T.P.4	Figure 17	Test Tape: MTT-150 Adjsut for 580mV
5	Playback Adjustment (Refer to Figure 20)	Playback Tape: Nor NR: Off Monitor : Tape	1 C201 C202	T.P.3 T.P.4	Figure 18	Test Signal Input: 23 kHz, non cliping Level Select capacitance of C201 for 23 kHz at the peak point. < 23 kHz: Increase the capacitance > 23 kHz: Decrease the capacitance
			2 {R241 R203 {R242 R204	T.P.3 T.P.4	Figure 18	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 18	Change tape position to CrO_2 position. Confilm –3.5 dB from normal level at the level point of 14 kHz
6	Rec. Level Adjustment	Rec/Pause Tape: Nor NR: Off Monitor : Source Bias: Off (See Note [1])	VR251 VR252	T.P.1 T.P.2	Figure 19	Test signal input: 400 Hz, 300mV Adjust for 580mV

Step	Description		Mode		Adjust Points	Test Points	Connection Instruction	Remarks		
7	Level Meter Adjustment		Rec/Pause Tape: Nor NR: Off Monitor : Source Bias: Off		VR403 VR404	Level Meter Reading	Figure 19	Conditions at step 6 Adjust for 0 dB (□□ Mark)		
8	Rec. Peak Adjustment		Rec/Pause Tape: Nor NR: Off Monitor : Source Bias: Off		L501 L502	T.P.5 T.P.6	Figure 19	Test Signal Input: 23 kHz, 17mV (300mV –25 dB) Adjust for peak point come to 23 kHz		
9	Rec. Current Adjustment		1	Rec/Play Tape : Nor NR: Off Bias: Off	VR501 VR502	T.P.5 T.P.6	Figure 19	Test Signal Input: 400 Hz, 300mV Adjust for 1mV		
			2	Rec/Play Tape : CrO_2 NR: Off Bias: Off	VR503 VR504	T.P.5 T.P.6	Figure 19	Adjust for 1.3mV		
			3	Rec/Play Tape : Metal NR: Off Bias: Off	VR505 VR506	T.P.5 T.P.6	Figure 19	Adjust for 1.3mV		
10	(1)	Record/Play Bias Adjustment	1	Rec/Play Tape : Nor NR: Off	VR507 VR508	T.P.5 T.P.6	Figure 19	Test Signal Input: 400 Hz, 300mV Adjust for 6mV (14mV – 7.5 dB)		
			2	Rec/Play Tape : CrO_2 NR: Off	VR551	T.P.5 T.P.6	Figure 19	Adjust for 8mV (14mV – 4.5 dB)		
			3	Rec/Play Tape : Metal NR: Off	VR509 VR510	T.P.5 T.P.6	Figure 19	Adjust for 14mV		
			4	Rec/Play Tape : Metal NR: Off	L503 L504	T.P.5 T.P.6	Figure 19	Adjust for max. and repeat Step (3).		
	(2)	Record/Play Frequency Response Adjustment	Rec/Play NR: Off Tape: Nor		VR507 VR508	T.P.5 T.P.6	Figure 19	Frequency Response (± 3dB)	20 ∿ 17000 Hz	Test Signal Input: Frequency Response Band 17mV (300mV –25 dB) Adjust for flat of Response
			Rec/Play NR: Off Tape: CrO_2		VR551	T.P.5 T.P.6	Figure 19		20 ∿ 18000 Hz	
			Rec/Play NR: Off Tape: Metal		VR509 VR510	T.P.5 T.P.6	Figure 19		20 ∿ 19000 Hz	

Step	Description	Mode	Adjust Points	Test Points	Connection Instruction	Remarks
10	When the frequency response becomes up or down because of unevenness of the head or tape running, readjust following instruction. Refer to Figure 21, 23. 1. Up or down less than 10 kHz. Readjust by VR505, 506 (Metal). 2. Up or down about 14 kHz. Refer to Figure 22, 23. Readjust by VR509, 510 (Metal)				CrO_2 . . . . . VR503, 504 Nor. . . . . VR501, 502 CrO_2 . . . . . VR551 Nor. VR507, 508	EQ Volume Bias Volume
11	Bias Trap Adjustment	Rec/Play Tape: Metal NR : C position		T.P.3 T.P.4	Figure 19	Test Signal Input: 400 Hz, 17mV (300mV –25 dB)
	(1) Pre Amp		L201 L202			Adjust for min. output
	(2) Dolby		L203 L204			Adjust for min. output

Note [I]: Bias: Off
Remove "A" connector from the master P.C. Board to the erase head.

Alignment Location

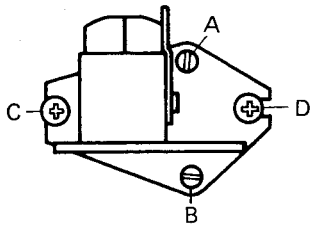


Figure 14

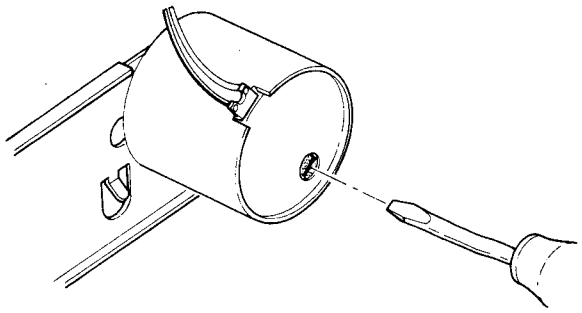


Figure 15

Connection Instruction

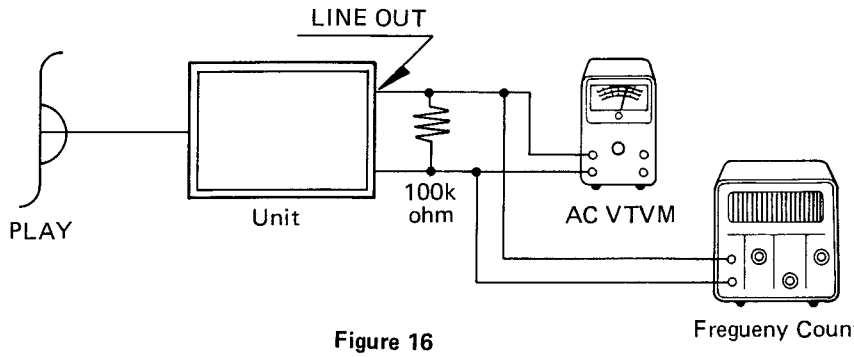


Figure 16

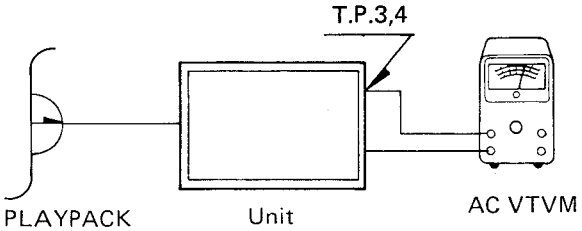


Figure 17

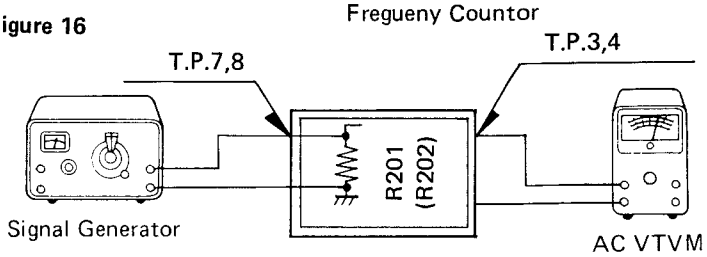


Figure 18

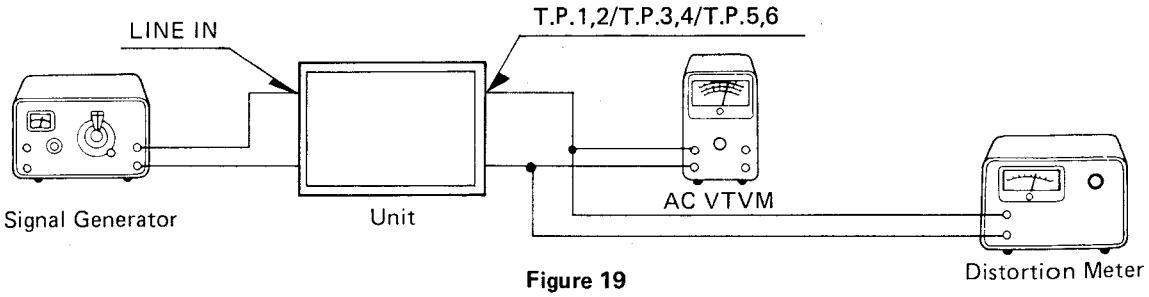


Figure 19

Frequency Response

- Playback EQ Frequency Response.

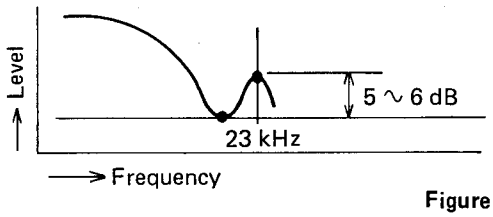


Figure 20

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

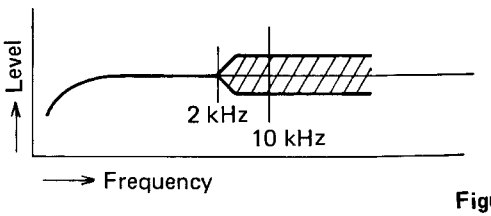


Figure 21

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

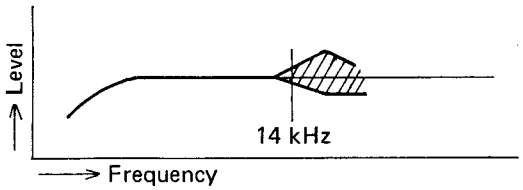
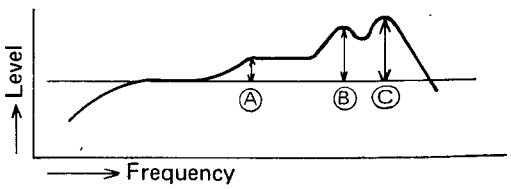


Figure 22

- Examples: R/P Frequency Response



Ⓐ. . . . . Flattens with EQ volume.
Ⓑ. . . . . Flattens with bias volume.
Ⓒ. . . . . Check the peak point of playback and recording.

Figure 23

Note [II]

Initial Setup

1. Place the gauge plate in a tape transport just as a cassette tape is normally inserted. (Some transports may require cover removal to make easy access to the head and guide area.)
2. Firmly seat the gauge plate on the horizontal locating-surface. The gauge plate has been machined flat to within ±0.051 millimeters; therefore, it will indicate any height errors to the locating surfaces. The gauge plate should not rock if the transports cassette locating surfaces are properly adjusted.
3. Bring the heads into the normal play/record position before taking any measurements as detailed in the procedures to follow.

Tape Guide Measurement (Figure 24)

Place the guide-check bar on its side on the top surface to the gauge plate and slide the bar up to the record head's tape guide fingers. The bar will exactly slide into these fingers if they are at the proper height. This will indicate the guide height with respect to the top gauge plate surface. This height is chosen as the nominal lower tape edge position with respect to the Phillips standards. If the guides are high or low, adjust the head and/or adjust the tape guide to the indicated height.

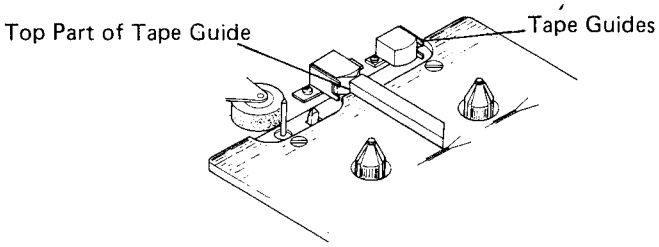


Figure 24

Head Perpendicularity Measurement (Figure 25 and 26)

1. Position the square end of the guide-check bar against the head surface at its apex.
2. Observe the tilt of the head by using a flashlight to back-illuminate the head-to-bar interface. When the head is properly adjusted, no light will show.
3. If required, place shims under the head fixture on the transport to eliminate tilt. An offset dental mirror is useful for checking head tilt.

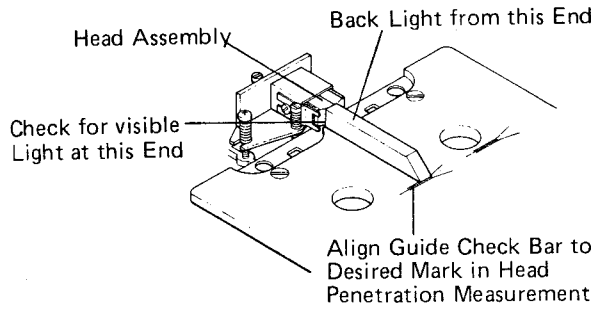


Figure 25

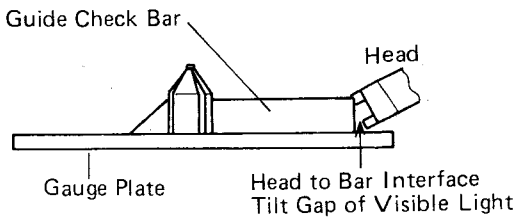


Figure 26

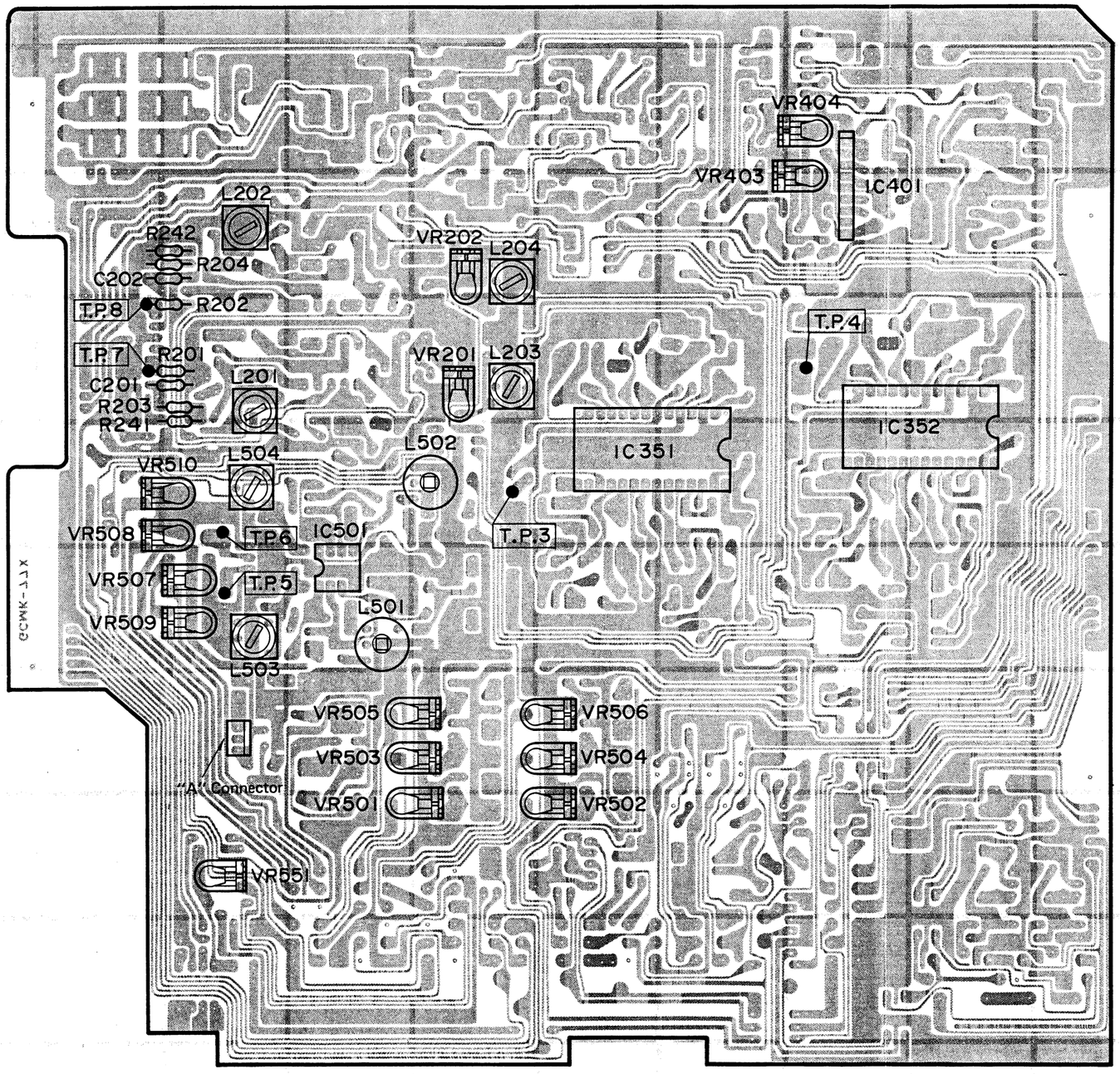
Head Penetration Measurement

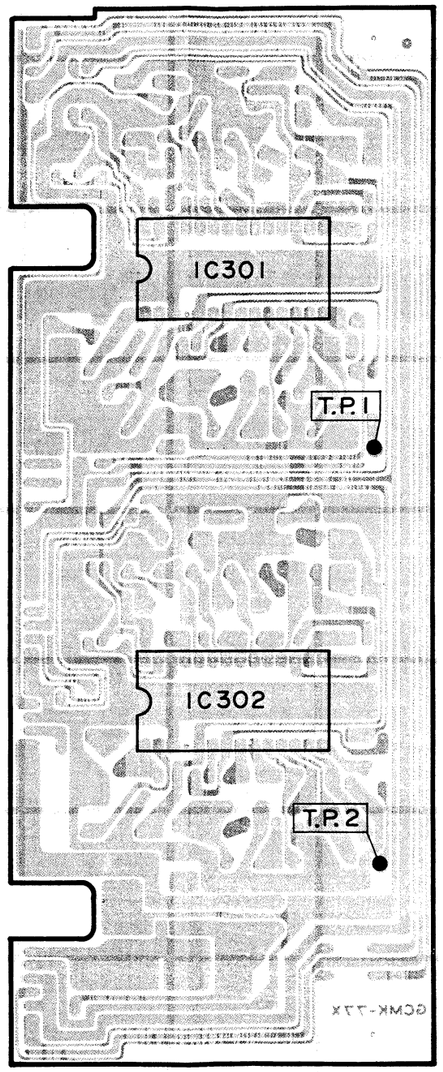
Head perpendicularity must be checked before making this measurement. Refer to Figures 25 & 26 for head perpendicularity measurement during this procedure.

1. Place the guide-check bar squarely against the head apex with the knife-edge firmly held against the reference etch marks.
2. Verify that the knife edge lies within the MAX, O, MIN reference etch marks.
3. Adjust the head position if the knife-edge is not in the indicated range.
4. Ensure that the bar is perpedicular to the head when taking this measurement.

< **NOTE:** M-300 gauge is supplied from Alpine. Refer to International Marketing Department if necessary. >

Adjustment Locations

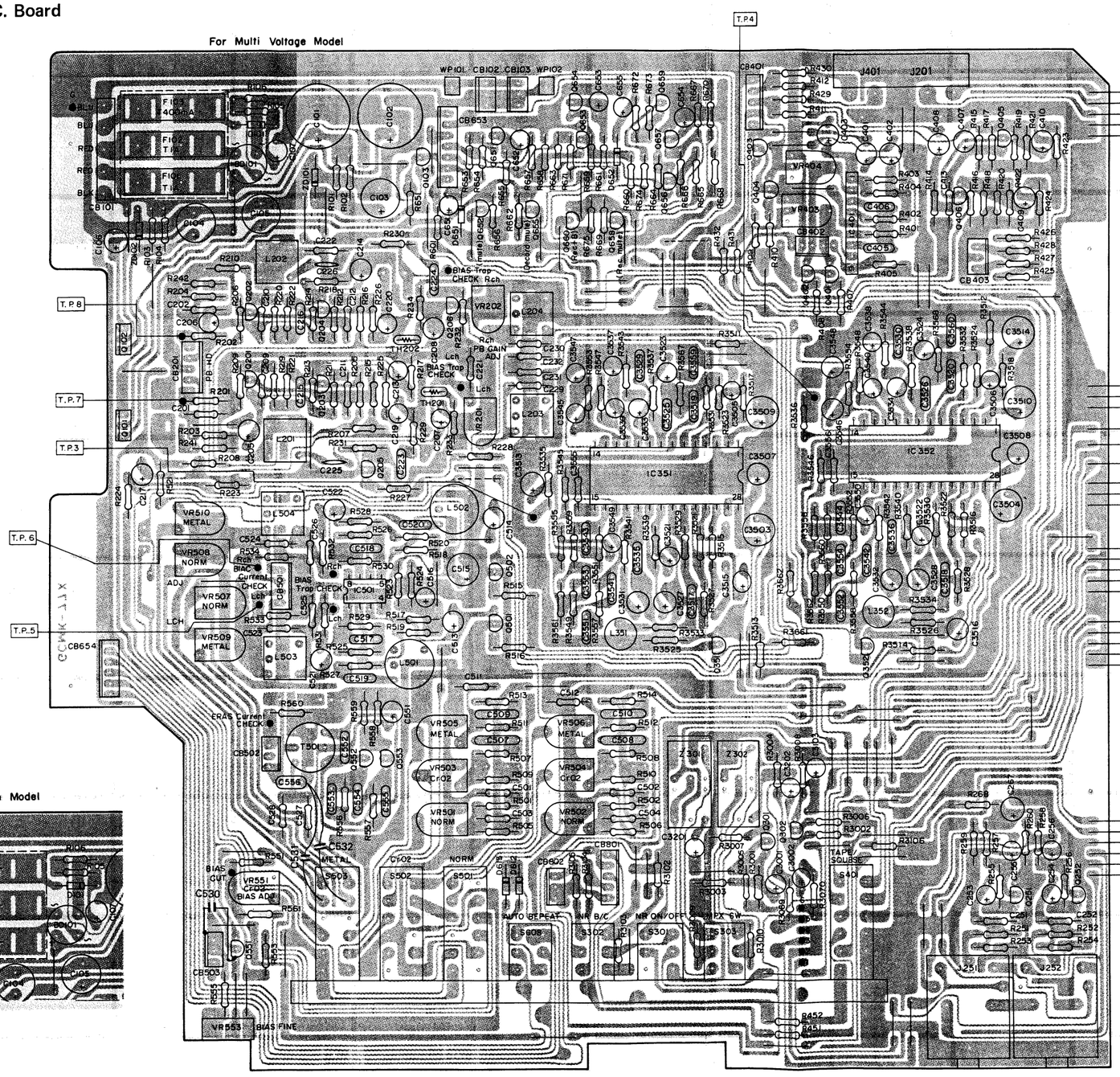




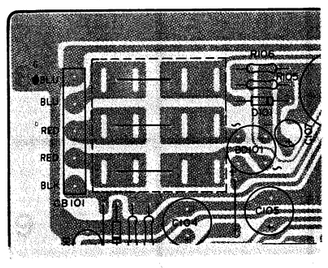
Parts Layout on P.C. Boards

- Master (1) P.C. Board

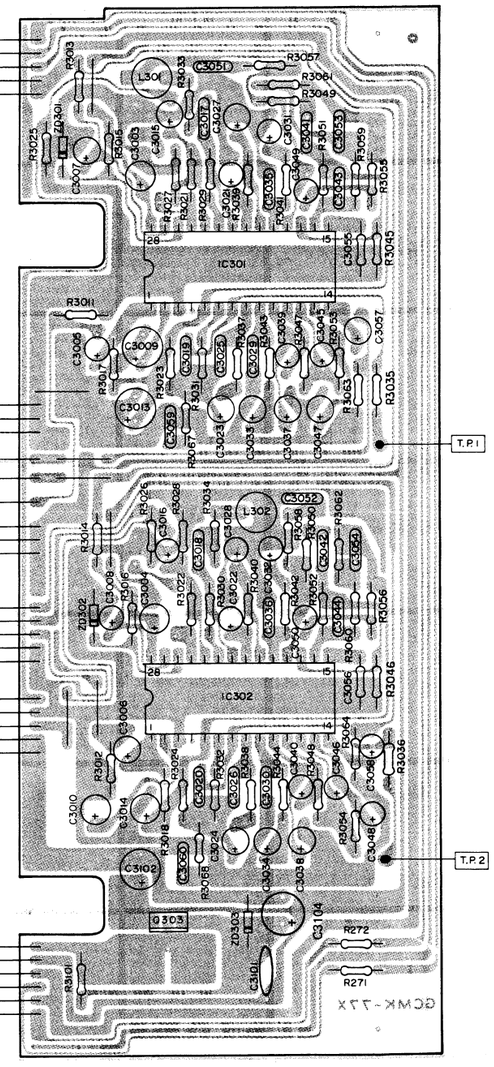
For Multi Voltage Model

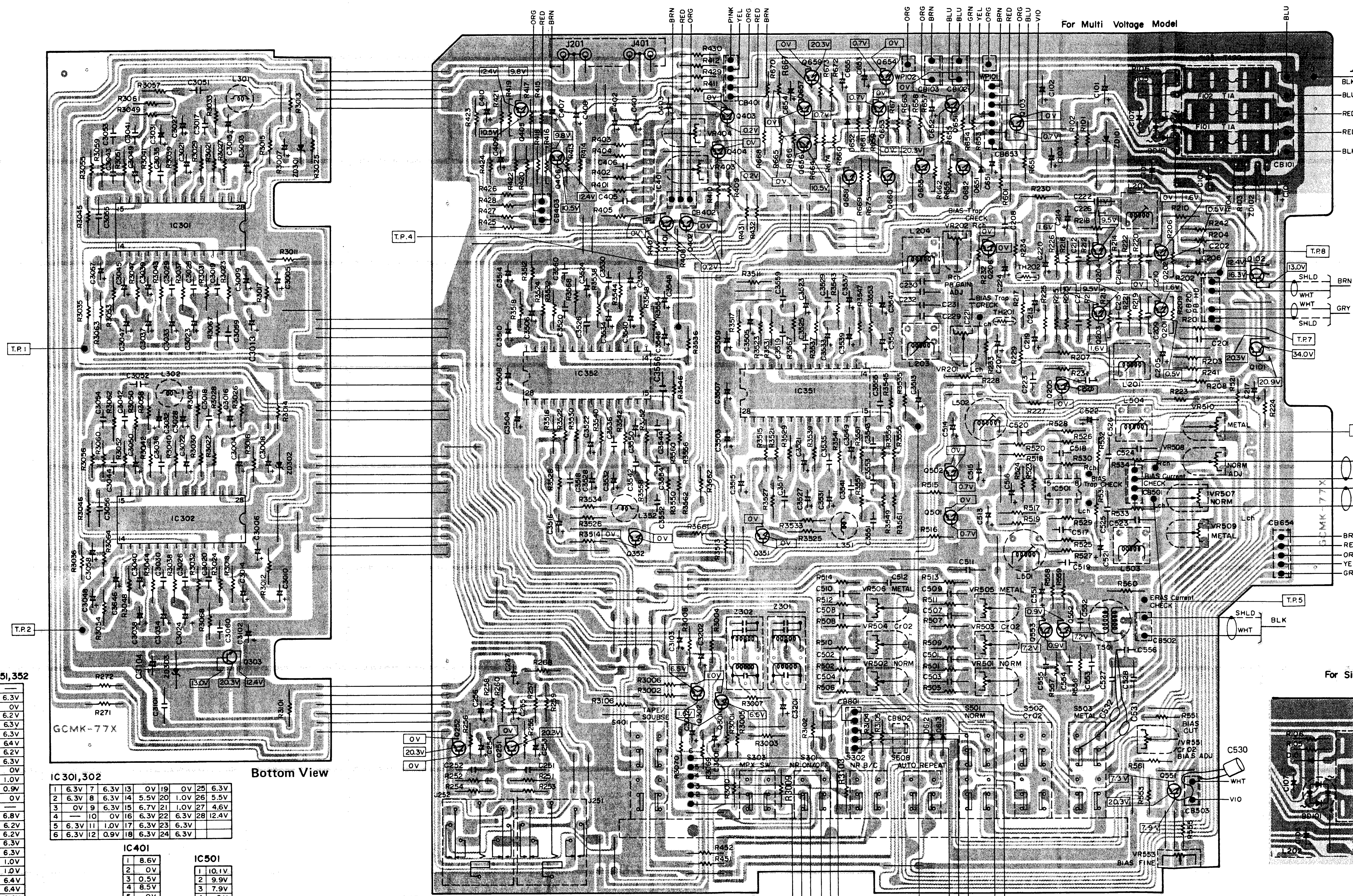


For Single Voltage Model



- Master (2) P.C. Board





IC351,352	
1	—
2	6.3V
3	0V
4	6.2V
5	6.3V
6	6.3V
7	6.4V
8	6.2V
9	6.3V
10	0V
11	1.0V
12	0.9V
13	0V
14	—
15	6.8V
16	6.2V
17	6.2V
18	6.3V
19	6.3V
20	1.0V
21	1.0V
22	6.4V
23	6.4V
24	6.4V
25	6.4V
26	0V
27	4.6V
28	12.4V

IC 301,302

1	6.3V	7	6.3V	13	0V	19	0V	25	6.3V		
2	6.3V	8	6.3V	14	5.5V	20	1.0V	26	5.5V		
3	0V	9	6.3V	15	6.7V	21	1.0V	27	4.6V		
4	—	10	0V	16	6.3V	22	6.3V	28	12.4V		
5	6.3V	11	1.0V	17	6.3V	23	6.3V				
6	6.3V	12	0.9V	18	6.3V	24	6.3V				

IC401

1	8.6V
2	0V
3	0.5V
4	8.5V
5	0V
6	8.5V
7	0.7V
8	0V
9	17.1V

IC501

1	10.1V
2	9.9V
3	7.9V
4	0V
5	7.9V
6	9.9V
7	10.1V
8	19.0V

Q652

E	C	B
20.3V	0.8V	20.3V
mute		

Q655

E	C	B
20.3V	20.3V	19.6V
Decode mute		

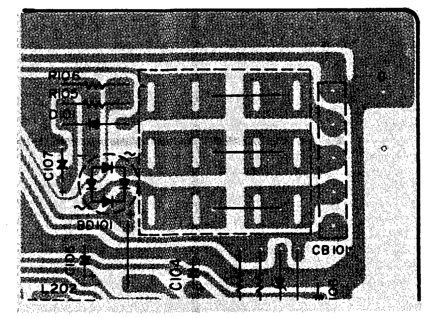
Q658

E	C	B
20.3V	20.3V	19.6V
Rec mute		

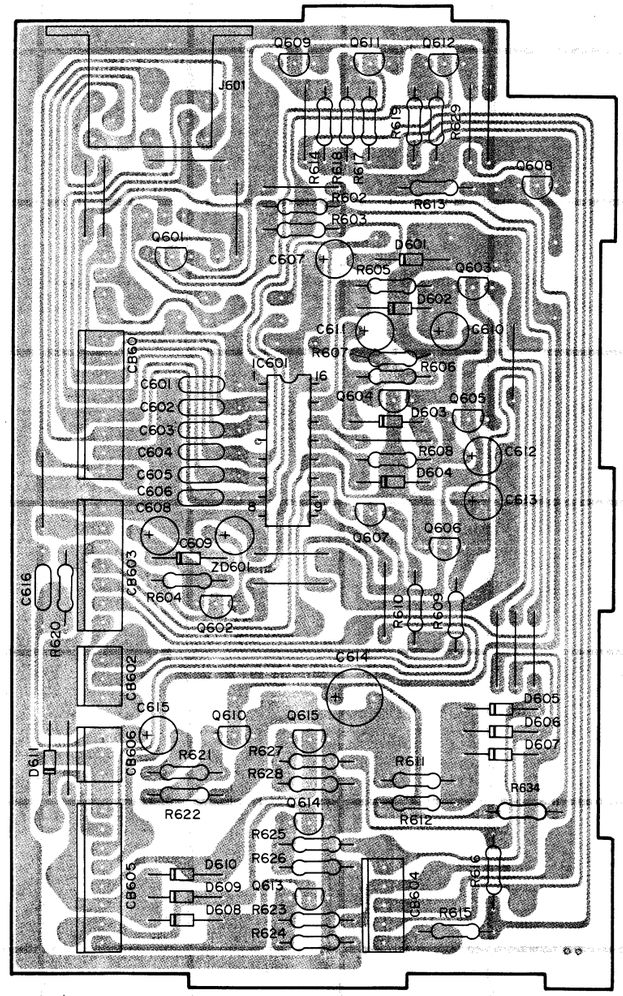
Q660

E	C	B
20.3V	0V	20.3V
Rec +B		

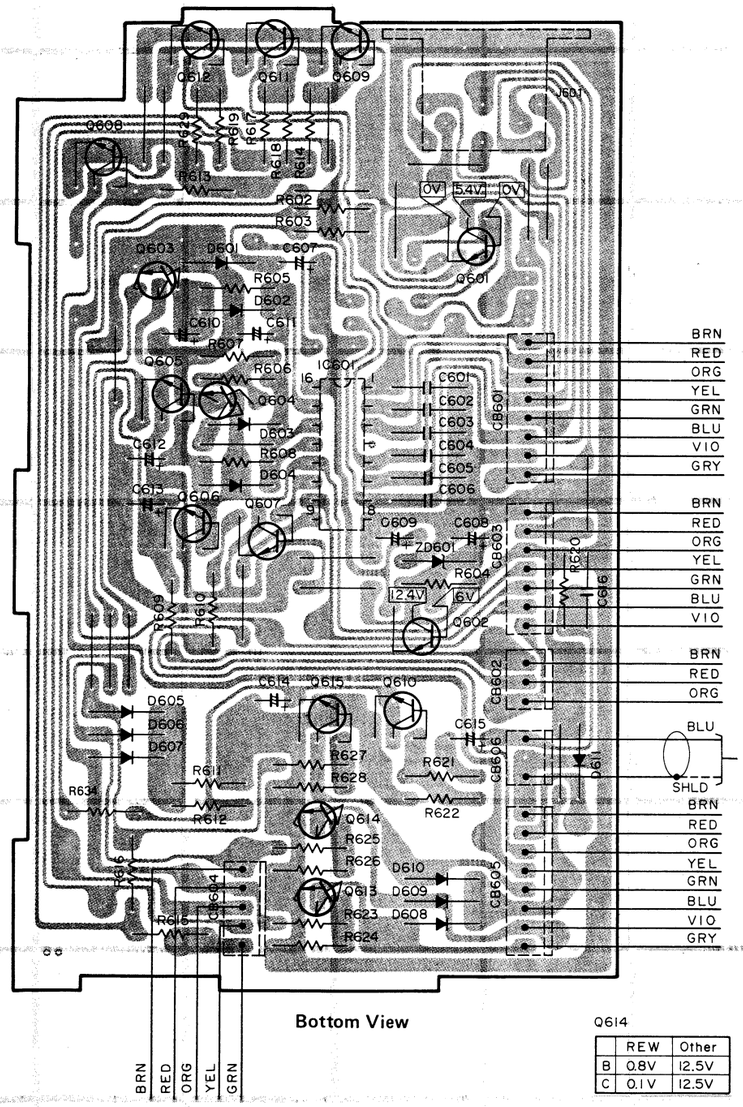
For Single Voltage Model



- **Control P.C. Board**



Top View



Bottom View

IC601

				Other
1	5.4V	10	REC/PLAY, REC/PAUSE 4.8V	0V
2	5.4V			
3	5.4V	11	PAUSE, REC/PAUSE 5.3V	0V
4	—			
5	5.4V	12	PLAY, REC/PAUSE 4.9V	0V
6	5.4V			
7	5.4V	13	REW 5.3V	0V
8	0 V	14	FF. REW 5.1V	0V
9	5.4V	15	FF 5.3V	0V
		16	5.4V	—

Q603

	FF	Other
B	5V	0V
E	4.3V	0V

Q605

	REW	Other
B	5V	0V
E	4.3V	0V

Q604

B	FF, REW 0.7 V	Other 0V
E	0V	—

Q606

	PLAY, REC/PLAY	Other
B	4.9V	0V
E	4.2V	0V

Q607

	REC/PAUSE , PAUSE	Other
B	5.3V	0V
E	4.6V	0.4V

Q608

C	PLAY, REC/PLAY 2.6V REW 2.3V FF 3.2V Others 0V	
B		0V

Q610

B	REW, FF, PLAY REC/PLAY	2V
C		0V

Q613

	PLAY , REC/PLAY	Other
B	0.8V	0V
C	0.1V	12.5V

Q614

	REW	Other
B	0.8V	12.5V
C	0.1V	12.5V

Q615

	FF	Other
B	0.8V	0V
C	0.1V	12.5V

Q609

E	PLAY, REC/PLAY 2.6V REW 2.3V FF 3.2V Others 0V	
C		5.4V
B	FF 3.6V Other 0V	

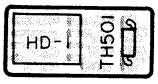
Q611

E	PLAY, REC/PLAY 2.6V REW 2.3V FF 3.2V Others 0V	
C		5.4V
B		0V

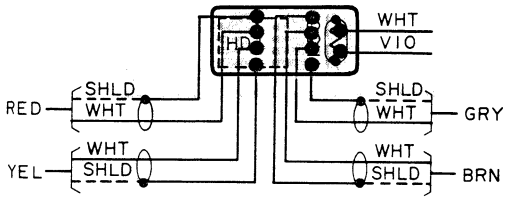
Q612

E	PLAY, REC/PLAY 2.6V REW 2.3V FF 3.2V Others 0V	
C		5.4V
B		0V

- REC/Play Head P.C. Board

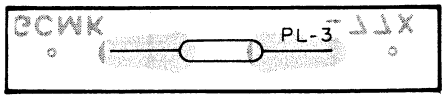


Top View

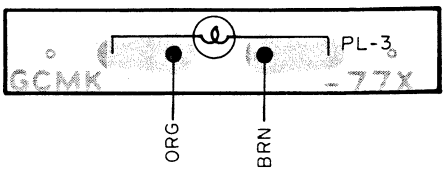


Bottom View

- Lamp P.C. Board

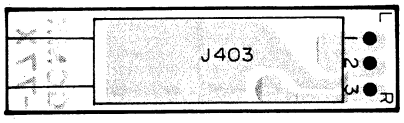


Top View

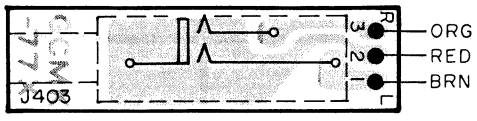


Bottom View

- Headphone P.C. Board

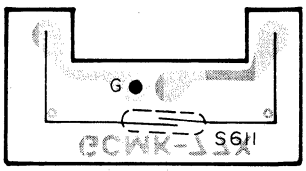


Top View

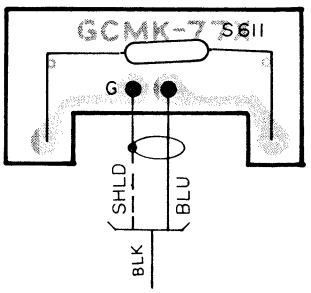


Bottom View

- Reed Switch P.C. Board

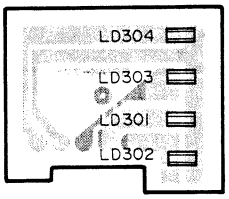


Top View

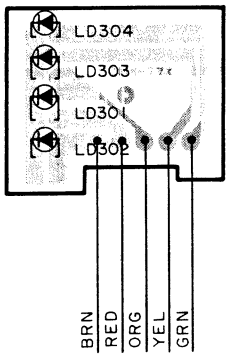


Bottom View

- LED P.C. Board

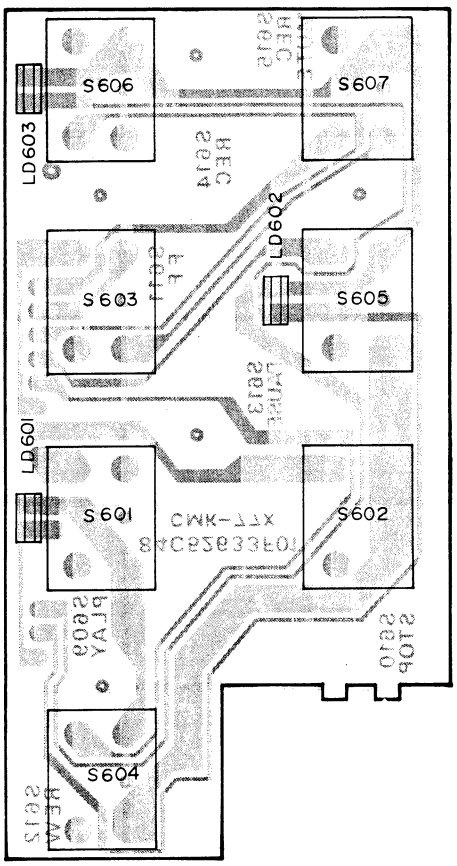


Top View

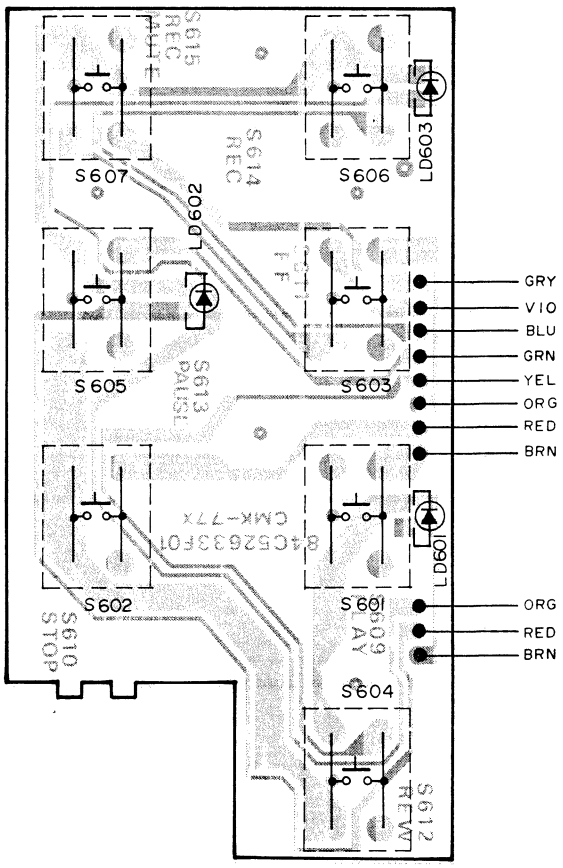


Bottom View

- Key Board P.C. Board

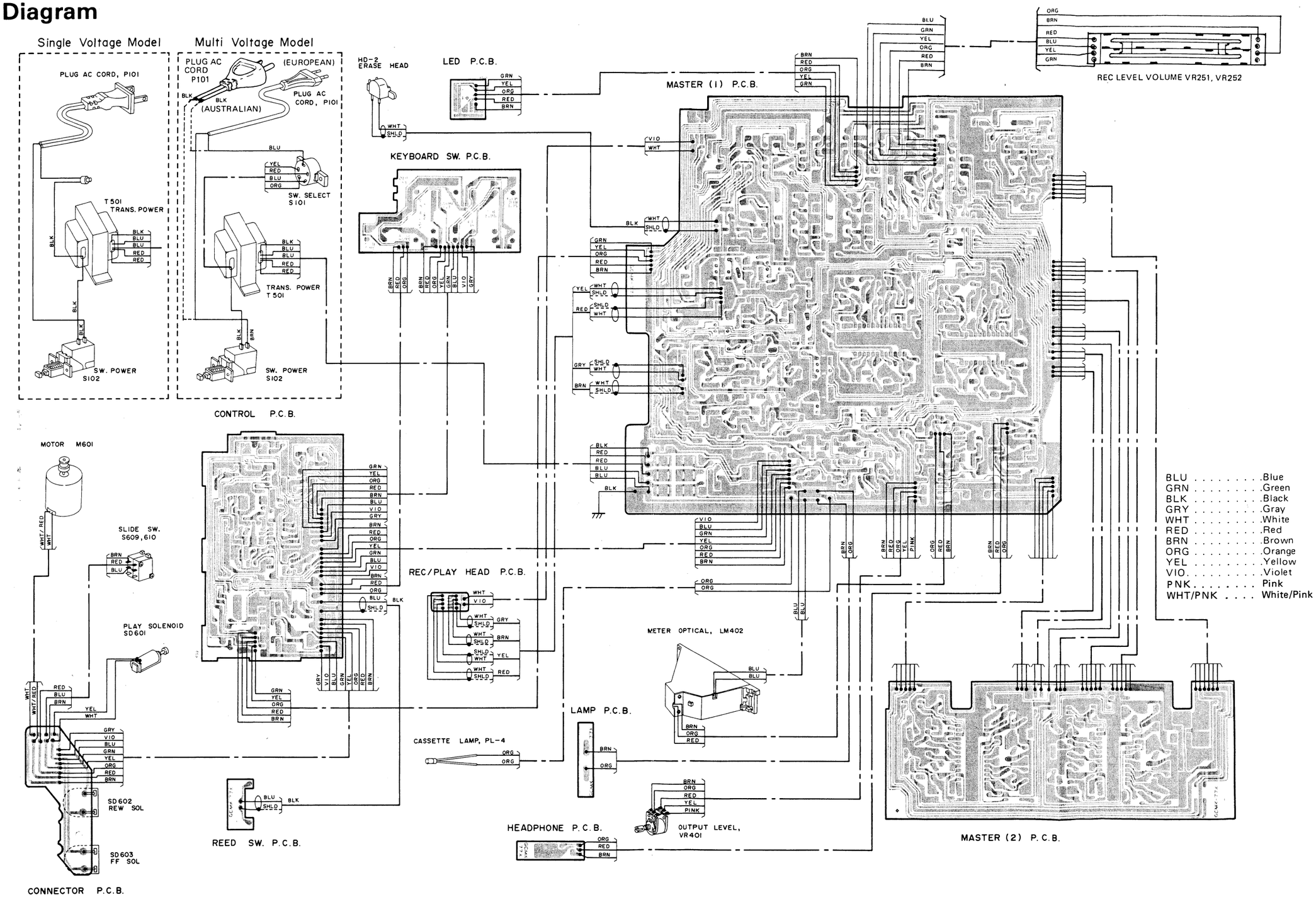


Top View

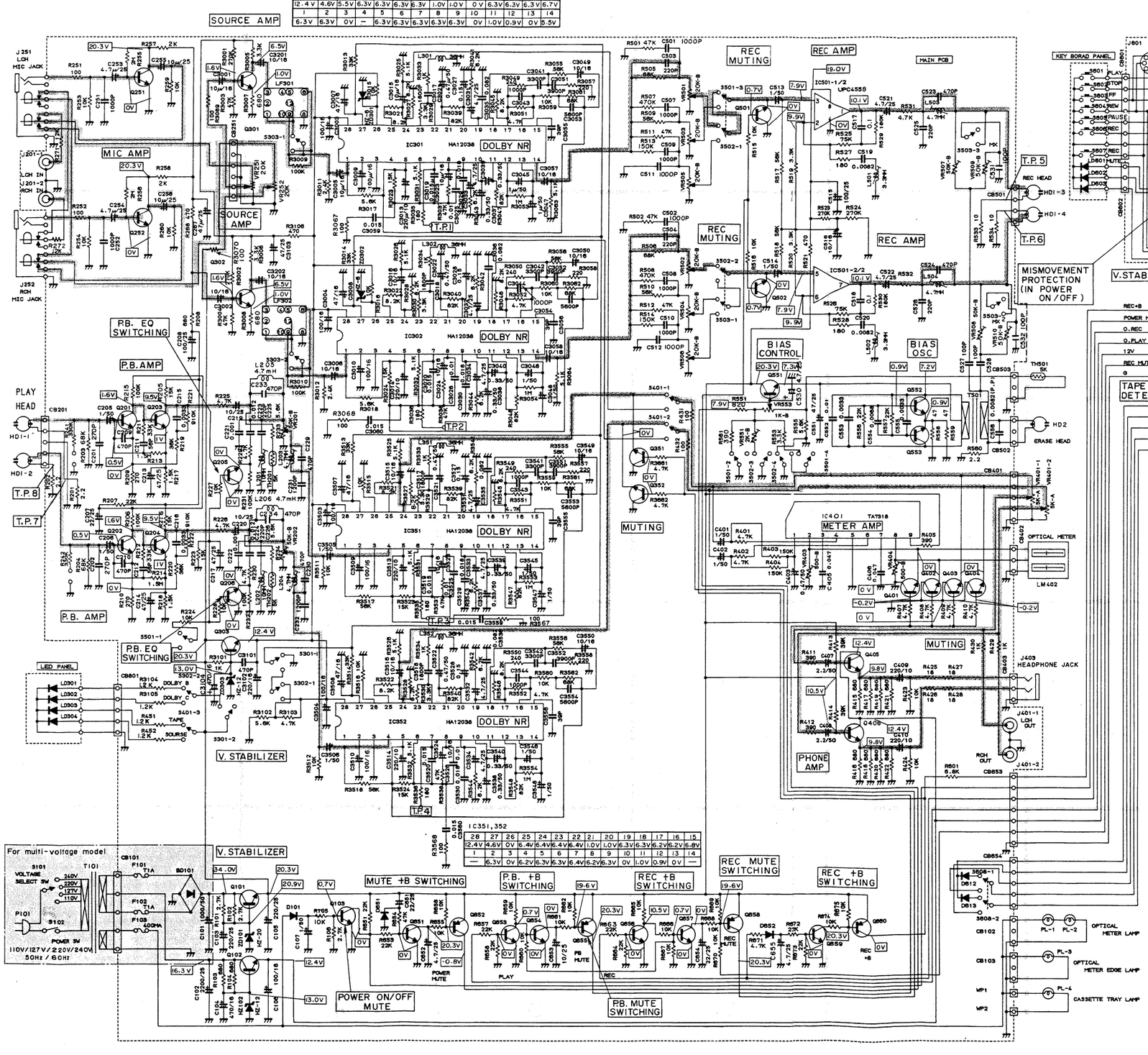


Bottom View

Wiring Diagram



Schematic Diagram



IC301, 302

28	27	26	25	24	23	22	21	20	19	18	17	16	15
12.4V	4.6V	5.5V	6.3V	6.3V	6.3V	6.3V	1.0V	1.0V	0V	6.3V	6.3V	6.3V	6.7V
1	2	3	4	5	6	7	8	9	10	11	12	13	14
6.3V	6.3V	0V	—	6.3V	6.3V	6.3V	6.3V	6.3V	0V	1.0V	0.9V	0V	5.5V

IC351, 352

28	27	26	25	24	23	22	21	20	19	18	17	16	15
12.4V	4.6V	0V	6.4V	6.4V	6.4V	6.4V	1.0V	1.0V	6.3V	6.3V	6.2V	6.2V	6.8V
1	2	3	4	5	6	7	8	9	10	11	12	13	14
—	6.3V	0V	6.2V	6.3V	6.3V	6.4V	6.2V	6.3V	0V	1.0V	0.9V	0V	—

IC601

			Other
1	5.4V	10 REC/PLAY	4.8V 0V
2	5.4V	REC/PAUSE	
3	5.4V	11 PAUSE	5.3V 0V
4	—	REC/PAUSE	
5	5.4V	12 PLAY	4.9V 0V
6	5.4V	REC/PAUSE	
7	5.4V	13 REW	5.3V 0V
8	0V	14 FF. REW	5.1V 0V
9	5.4V	15 FF.	5.3V 0V
		16	5.4V —

Q603

	FF	Other
B	5.0V	0V
E	4.3V	0V

Q605

	REW	Other
B	5.0V	0V
E	4.3V	0V

Q604

B	FF. REW	0.7V	Other 0V
E	0V		—

Q606

	PLAY, REC/PLAY	Other
B	4.9V	0V
E	4.2V	0V

Q607

	REC/PAUSE, PAUSE	Other
B	5.3V	0V
E	4.6V	0.4V

Q608

C	PLAY, REC/PLAY	2.6V
	REW	2.3V
	FF	3.2V
	Others	0V
B		0V

Q610

B	REW, FF, PLAY	2.0V
C	REC/PLAY	
		0V

Q613

	PLAY, REC/PLAY	Other
B	0.8V	0V
C	0.1V	12.5V

Q614

	REW	Other
B	0.8V	12.5V
C	0.1V	12.5V

Q615

	FF	Other
B	0.8V	0V
C	0.1V	12.5V

IC401

1	2	3	4	5	6	7	8	9
8.6V	0V	0.5V	8.5V	0V	8.5V	0.7V	0V	17.1V

NOTE

1 TRANSISTOR
- A Q203.204.251.252.301.302 ---------- 2SC1842/2SC1843
- B Q351.352.401-404, Q501.502.205,206,601.603-612, Q851.103.853.854.858.857.859 ---------- 2SC1815/2SC945
- C Q405.406.551.552,553,602,613~615 ---------- 2SC1318/2SC509
- D Q852.855.858.860 ---------- 2SA733
- E Q101.102 ---------- 2SD880
- F Q303 ---------- 2SC1963
- G Q201.202 ---------- 2SC2263

2 DIODE
- A BD101 ---------- VL-02
- B D101.606-611 ---------- GP10
- C D601-607.612.613.651.652 ---------- MA-150/DS442-BT

3 SWITCH

S301	DOLBY ON/OFF	SW	(OFF	POSITION)
S302	DOLBY B/C	SW	(DOLBY B	POSITION)
S303	MPX ON/OFF	SW	(OFF	POSITION)
S401	TAPE/SOURSE	SW	(TAPE	POSITION)
S501	PE203	SW	(ON	POSITION)
S502	CR02	SW	(OFF	POSITION)
S503	METAL	SW	(OFF	POSITION)
S608	AUTO REPEAT	SW	(OFF	POSITION)

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

Electrical Parts List

Resistors (All resistors are carbon film, ¼W, ±5% unless otherwise noted.)
uF = microfarads, pF = picofarads

Symbol No.	Part No.	Description
Master P.C. Board		
ICs		
IC301	51T52160F01	HA12038-01
IC302	51T52160F01	HA12038-01
IC351	51T52160F01	HA12038-01
IC352	51T52160F01	HA12038-01
IC401	51T41803U01	TA7318AP-2
IC501	51S43471U02	μPC4558C
Transistors		
Q101	48T42620F02	2SD880-Y
or	48T42620F03	2SD880-GR
Q102	48T42620F02	2SD880-Y
or	48T42620F03	2SD880-GR
Q103	48S43525F05	2SC1815-Y
or	48S44578J01	2SC945L
Q201	48T41195U04	2SC2263-U
Q202	48T41195U04	2SC2263-U
Q203	48S47708F04	2SC1842-E
or	48S47706F04	2SC1843-E
Q204	48S47708F04	2SC1842-E
or	48S47706F04	2SC1843-E
Q205	48S43525F05	2SC1815-Y
or	48S44578J01	2SC945L
Q206	48S43525F05	2SC1815-Y
or	48S44578J01	2SC945L
Q251	48S47708F04	2SC1842-E
or	48S47706F04	2SC1843-E
Q252	48S47708F04	2SC1842-E
or	48S47706F04	2SC1843-E
Q301	48S47708F04	2SC1842-E
or	48S47706F04	2SC1843-E
Q302	48S47708F04	2SC1842-E
or	48S47706F04	2SC1843-E
Q303	48T40469U01	2SC1983
Q351	48S43525F05	2SC1815-Y
or	48S44578J01	2SC945L
Q352	48S43525F05	2SC1815-Y
or	48S44578J01	2SC945L

Symbol No.	Part No.	Description
Q401	48S43525F05	2SC1815-Y
or	48S44578J01	2SC945L
Q402	48S43525F05	2SC1815-Y
or	48S44578J01	2SC945L
Q403	48S43525F05	2SC1815-Y
or	48S44578J01	2SC945L
Q404	48S43525F05	2SC1815-Y
or	48S44578J01	2SC945L
Q405	48S40832F04	2SC1318NC-S
or	48S40832F03	2SC1318NC-R
or	48S43239G02	2SC509-Y
Q406	48S40832F04	2SC1318NC-S
or	48S40832F03	2SC1318NC-R
or	48S43239G02	2SC509-Y
Q501	48S43525F05	2SC1815-Y
or	48S44578J01	2SC945L
Q502	48S43525F05	2SC1815-Y
or	48S44578J01	2SC945L
Q551	48S40832F04	2SC1318NC-S
or	48S40832F03	2SC1318NC-R
or	48S43239G02	2SC509-Y
Q552	48S40832F04	2SC1318NC-S
or	48S40832F03	2SC1318NC-R
Q553	48S40832F04	2SC1318NC-S
or	48S40832F03	2SC1318NC-R
Q651	48S43525F05	2SC1815-Y
or	48S44578J01	2SC945L
Q652	48T40081T03	2SA733P
Q653	48S43525F05	2SC1815-Y
or	48S44578J01	2SC945L
Q654	48S43525F05	2SC1815-Y
or	48S44578J01	2SC945L
Q655	48T40081T03	2SA733P
Q656	48S43525F05	2SC1815-Y
or	48S44578J01	2SC945L
Q657	48S43525F05	2SC1815-Y
or	48S44578J01	2SC945L
Q658	48T40081T03	2SA733P
Q659	48S43525F05	2SC1815-Y
or	48S44578J01	2SC945L
Q660	48T40081T03	2SA733P

Symbol No.	Part No.	Description
Diodes		
D101	48T55186F01	GP10D
D612	48T51582F01	MA-150
or	48T51881F01	DS442-BT
D613	48T51582F01	MA-150
or	48T51881F01	DS442-BT
D651	48T51582F01	MA-150
or	48T51881F01	DS442-BT
D652	48T51582F01	MA-150
or	48T51881F01	DS442-BT
ZD101	48T52739F86	Zener HZ20-2
ZD102	48T52739F74	Zener HZ12B-2
ZD301	48T52739F38	Zener HZ6B-2
ZD302	48T52739F38	Zener HZ6B-2
ZD303	48T52739F74	Zener HZ12B-2
BD101	48T50629F01	Bridge WL-02
Switches, Fuse & Jumper		
S301 ~ 303 S401 S501 ~ 503 S608	40T53108F01	Switch, Push
F101 ●	65T42077U16	Fuse, 1A
F102 ●	65T42077U16	Fuse, 1A
F103 ●	65T42077U12	Fuse, 400mA
■	30A44183F06	Jumper, Wire (# 0.6)
Jacks, Plate & Filters		
J201 J401	9T50231F02	Plate, Phone (4P)
J251	9T55174F02	Jack, Microphone 6.5 (Metal)
J252	9T55174F02	Jack, Microphone 6.5 (Metal)
LF301	51T42537U01	Filter, MPX LP-V20
LF302	51T42537U01	Filter, MPX LP-V20
Transformer & Thermistors		
T501	25T53107F01	Transformer, O.S.C.
TH201	48S42931U33	Thermistor, 5K ohm
TH202	48S42931U33	Thermistor, 5K ohm

Symbol No.	Part No.	Description
Coils		
L201	24T51914F02	Inductor, 10mH (Trap)
L202	24T51914F02	Inductor, 10mH (Trap)
L203	24T51914F01	Inductor, 4.7mH (Trap)
L204	24T51914F01	Inductor, 4.7mH (Trap)
L205	24S41448F81	Inductor, 4.7mH
L206	24S41448F81	Inductor, 4.7mH
L301	24T47741F01	Inductor, 36mH
L302	24T47741F01	Inductor, 36mH
L351	24T47741F01	Inductor, 36mH
L352	24T47741F01	Inductor, 36mH
L501	24S41199U07	Inductor, 3.3mH
L502	24S41199U07	Inductor, 3.3mH
L503	24T51914F01	Inductor, 4.7mH (Trap)
L504	24T51914F01	Inductor, 4.7mH (Trap)
Capacitors		
C101	23S41198U67	Electrolytic 1000 uF/50V
C102	23S41198U72	Electrolytic 2200 uF/25V
C103	23S41198U42	Electrolytic 220 uF/25V
C104	23S41198U56	Electrolytic 470 uF/16V
C105	23S41198U42	Electrolytic 220 uF/25V
C106	23S40657F14	Electrolytic 100 uF/16V
C107	23S40657F28	Electrolytic 1 uF/50V
C201	8S44505P42	Ceramic 270 pF
C202	8S44505P42	Ceramic 270 pF
C205	23T42478F24	Electrolytic 1 uF/50V
C206	23T42478F24	Electrolytic 1 uF/50V
C207	23S40657F18	Electrolytic 22 uF/25V
C208	23S40657F21	Electrolytic 100 uF/25V
C209	8S44505P45	Ceramic 470 pF
C210	8S44505P45	Ceramic 470 pF
C211	8S44505P31	Ceramic 56 pF
C212	8S44505P31	Ceramic 56 pF
C213	23S40657F20	Electrolytic 47 uF/25V
C214	23S40657F20	Electrolytic 47 uF/25V
C215	8S40656F07	Mylar 0.0033 uF
C216	8S40656F07	Mylar 0.0033 uF
C217	23S40657F20	Electrolytic 47 uF/25V
C219	23T43248F11	Electrolytic 10 uF/25V
C220	23T43248F11	Electrolytic 10 uF/25V
C221	8S44505P49	Ceramic 1000 pF

● : For multi-voltage model only. ■: Single voltage model only Others : Common

Symbol No.	Part No.	Description
C222	8S44505P49	Ceramic 1000 pF
C223	8S40656F14	Mylar 0.012 uF
C224	8S40656F14	Mylar 0.012 uF
C225	8S44505F03	Ceramic 220 pF
C226	8S44505F03	Ceramic 220 pF
C229	8S44505P45	Ceramic 470 pF
C230	8S44505P45	Ceramic 470 pF
C231	8S44505P50	Ceramic 1200 pF
C232	8S44505P50	Ceramic 1200 pF
C233	8S40805F05	Ceramic 470 pF
C234	8S40805F05	Ceramic 470 pF
C251	8S44505P49	Ceramic 1000 pF
C252	8S44505P49	Ceramic 1000 pF
C253	23T43248F09	Electrolytic 4.7 uF/25V
C254	23T43248F09	Electrolytic 4.7 uF/25V
C255	23T43248F11	Electrolytic 10 uF/25V
C256	23T43248F11	Electrolytic 10 uF/25V
C267	23S40657F20	Electrolytic 47 uF/25V
C401	23S40657F28	Electrolytic 1 uF/50V
C402	23S40657F28	Electrolytic 1 uF/50V
C403	23S40657F27	Electdolytic 0.47 uF/50V
C405	8S40656F21	Mylar 0.047 uF
C406	8S40656F21	Mylar 0.047 uF
C407	23S40657F29	Electrolytic 2.2 uF/50V
C408	23S40657F29	Electrolytic 2.2 uF/50V
C409	23S40657F09	Electrolytic 220 uF/10V
C410	23S40657F09	Electrolytic 220 uF/10V
C501	8S44505P49	Ceramic 1000 pF
C502	8S44505P49	Ceramic 1000 pF
C503	8S44505P41	Ceramic 220 pF
C504	8S44505P41	Ceramic 220 pF
C507	8S40656F01	Mylar 0.001 uF
C508	8S40656F01	Mylar 0.001 uF
C509	8S40656F01	Mylar 0.001 uF
C510	8S40656F01	Mylar 0.001 uF
C511	8S44505P49	Ceramic 1000 pF
C512	8S44505P49	Ceramic 1000 pF
C513	23T43248F24	Electrolytic 1 uF/50V
C514	23T43248F24	Electrolytic 1 uF/50V
C515	23S40657F21	Electrolytic 100 uF/25V
C516	23S40657F10	Electrolytic 10 uF/16V
C517	8S40656F25	Mylar 0.1 uF
C518	8S40656F25	Mylar 0.1 uF
C519	8S40656F12	Mylar 0.0082 uF
C520	8S40656F12	Mylar 0.0082 uF
C521	23T43248F09	Electrolytic 4.7 uF/25V
C522	23T43248F09	Electrolytic 4.7 uF/25V

Symbol No.	Part No.	Description
C523	8S44505P45	Ceramic 470 pF
C524	8S44505P45	Ceramic 470 pF
C525	8S44505P41	Ceramic 220 pF
C526	8S44505P41	Ceramic 220 pF
C527	8S44505P37	Ceramic 100 pF
C528	8S44505P37	Ceramic 100 pF
C530	23S40657F16	Electrolytic 4.7 uF/25V
C531	8S44505P37	Ceramic 100 pF
C532	8S44505P37	Ceramic 100 pF
C551	23S40657F20	Electrolytic 47 uF/25V
C552	8S40656F13	Mylar 0.01 uF
C553	8S40656F07	Mylar 0.0033 uF
C554	8S40656F11	Mylar 0.0068 uF
C555	8S40656F07	Mylar 0.0033 uF
C556	8T52448F35	Polystyrol 0.0082 uF
C651	23S40657F18	Electrolytic 22 uF/25V
C652	23S40657F16	Electrolytic 4.7 uF/25V
C653	23S40657F17	Electrolytic 10 uF/25V
C654	23S40657F18	Electrolytic 22 uF/25V
C655	23S40657F16	Electrolytic 4.7 uF/25V
C3001	23T43248F05	Electrolytic 10 uF/16V
C3002	23T43248F05	Electrolytic 10 uF/16V
C3003	23S40657F14	Electrolytic 100 uF/16V
C3004	23S40657F14	Electrolytic 100 uF/16V
C3005	23T43248F05	Electrolytic 10 uF/16V
C3006	23T43248F05	Electrolytic 10 uF/16V
C3007	23S40657F13	Electrolytic 47 uF/16V
C3008	23S40657F13	Electrolytic 47 uF/16V
C3009	23S40657F14	Electrolytic 100 uF/16V
C3010	23S40657F14	Electrolytic 100 uF/16V
C3013	23S40657F09	Electrolytic 220 uF/10V
C3014	23S40657F09	Electrolytic 220 uF/10V
C3015	23S40657F10	Electrolytic 10 uF/16V
C3016	23S40657F10	Electrolytic 10 uF/16V
C3017	8S40656F04	Mylar 0.0018 uF
C3018	8S40656F04	Mylar 0.0018 uF
C3019	8S40656F15	Mylar 0.015 uF
C3020	8S40656F15	Mylar 0.015 uF
C3021	23S40657F27	Electrolytic 0.47 uF/50V
C3022	23S40657F27	Electrolytic 0.47 uF/50V
C3023	23S40657F10	Electrolytic 10 uF/16V
C3024	23S40657F10	Electrolytic 10 uF/16V
C3025	8S40656F13	Mylar 0.01 uF
C3026	8S40656F13	Mylar 0.01 uF
C3027	23T42478F19	Electrolytic 0.15 uF/50V
C3028	23T42478F19	Electrolytic 0.15 uF/50V
C3029	8S40656F16	Mylar 0.018 uF
C3030	8S40656F16	Mylar 0.018 uF

Symbol No.	Part No.	Description
C3031	23S40657F16	Electrolytic 4.7 uF/25V
C3032	23S40657F16	Electrolytic 4.7 uF/25V
C3033	23S40657F16	Electrolytic 4.7 uF/25V
C3034	23S40657F16	Electrolytic 4.7 uF/25V
C3035	8S40656F24	Mylar 0.082 uF
C3036	8S40656F24	Mylar 0.082 uF
C3037	23T43247F21	Electrolytic 0.33 uF/50V
C3038	23T43247F21	Electrolytic 0.33 uF/50V
C3039	23T43247F21	Electrolytic 0.33 uF/50V
C3040	23T43247F21	Electrolytic 0.33 uF/50V
C3041	8S40656F07	Mylar 0.0033 uF
C3042	8S40656F07	Mylar 0.0033 uF
C3043	8S40656F01	Mylar 0.001 uF
C3044	8S40656F01	Mylar 0.001 uF
C3045	23S40657F28	Electrolytic 1 uF/50V
C3046	23S40657F28	Electrolytic 1 uF/50V
C3047	23S40657F28	Electrolytic 1 uF/50V
C3048	23S40657F28	Electrolytic 1 uF/50V
C3049	23S40657F10	Electrolytic 10 uF/16V
C3050	23S40657F10	Electrolytic 10 uF/16V
C3051	8S40656F08	Mylar 0.0039 uF
C3052	8S40656F08	Mylar 0.0039 uF
C3053	8S40656F10	Mylar 0.0056 uF
C3054	8S40656F10	Mylar 0.0056 uF
C3055	8S44505P27	Ceramic 39 pF
C3056	8S44505P27	Ceramic 39 pF
C3057	23S40657F10	Electrolytic 10 uF/16V
C3058	23S40657F10	Electrolytic 10 uF/16V
C3059	8S40656F15	Mylar 0.015 uF
C3060	8S40656F15	Mylar 0.015 uF
C3101	8S44505P45	Ceramic 470 pF
C3102	23S41198U41	Electrolytic 220 uF/16V
C3103	23S40657F20	Electrolytic 47 uF/25V
C3104	23S41198U56	Electrolytic 470 uF/16V
C3201	23T43248F05	Electrolytic 10 uF/16V
C3202	23T43248F05	Electrolytic 10 uF/16V
C3503	23S40657F14	Electrolytic 100 uF/16V
C3504	23S40657F14	Electrolytic 100 uF/16V
C3505	23T43248F24	Electrolytic 1 uF/50V
C3506	23T43248F24	Electrolytic 1 uF/50V
C3507	23S40657F13	Electrolytic 47 uF/16V
C3508	23S40657F13	Electrolytic 47 uF/16V
C3509	23S40657F14	Electrolytic 100 uF/16V
C3510	23S40657F14	Electrolytic 100 uF/16V
C3513	23S40657F09	Electrolytic 220 uF/10V
C3514	23S40657F09	Electrolytic 220 uF/10V

Symbol No.	Part No.	Description
C3515	23S40657F10	Electrolytic 10 uF/16V
C3516	23S40657F10	Electrolytic 10 uF/16V
C3517	8S40656F04	Mylar 0.0018 uF
C3518	8S40656F04	Mylar 0.0018 uF
C3519	8S40656F15	Mylar 0.015 uF
C3520	8S40656F15	Mylar 0.015 uF
C3521	23S40657F27	Electrolytic 0.47 uF/50V
C3522	23S40657F27	Electrolytic 0.47 uF/50V
C3523	23S40657F10	Electrolytic 10 uF/16V
C3524	23S40657F10	Electrolytic 10 uF/16V
C3525	8S40656F13	Mylar 0.01 uF
C3526	8S40656F13	Mylar 0.01 uF
C3527	23T42478F19	Electrolytic 0.15 uF/50V
C3528	23T42478F19	Electrolytic 0.15 uF/50V
C3529	8S40656F16	Mylar 0.018 uF
C3530	8S40656F16	Mylar 0.018 uF
C3531	23S40657F16	Electrolytic 4.7 uF/25V
C3532	23S40657F16	Electrolytic 4.7 uF/25V
C3533	23S40657F16	Electrolytic 4.7 uF/25V
C3534	23S40657F16	Electrolytic 4.7 uF/25V
C3535	8S40656F24	Mylar 0.082 uF
C3536	8S40656F24	Mylar 0.082 uF
C3537	23T43247F21	Electrolytic 0.33 uF/50V
C3538	23T43247F21	Electrolytic 0.33 uF/50V
C3539	23T42478F21	Electrolytic 0.33 uF/50V
C3540	23T42478F21	Electrolytic 0.33 uF/50V
C3541	8S40656F07	Mylar 0.0033 uF
C3542	8S40656F07	Mylar 0.0033 uF
C3543	8S40656F01	Mylar 0.001 uF
C3544	8S40656F01	Mylar 0.001 uF
C3545	23S40657F28	Electrolytic 1 uF/50V
C3546	23S40657F28	Electrolytic 1 uF/50V
C3547	23S40657F28	Electrolytic 1 uF/50V
C3548	23S40657F28	Electrolytic 1 uF/50V
C3549	23S40657F10	Electrolytic 10 uF/16V
C3550	23S40657F10	Electrolytic 10 uF/16V
C3551	8S40656F08	Mylar 0.0039 uF
C3552	8S40656F08	Mylar 0.0039 uF
C3553	8S40656F10	Mylar 0.0056 uF
C3554	8S40656F10	Mylar 0.0056 uF
C3555	8S44505P27	Ceramic 39 pF
C3556	8S44505P27	Ceramic 39 pF
C3559	8S40656F15	Mylar 0.015 uF
C3560	8S40656F15	Mylar 0.015 uF

Symbol No.	Part No.	Description
Resistors		
R101	6S44593P75	2.7K ohm
R102	6S44593P75	2.7K ohm
R103	6S44593P61	680 ohm
R104	6S44593P61	680 ohm
R105	6S44593P89	10K ohm
R106	6S44593P75	2.7K ohm
R201	6S44593P01	2.2 ohm
R202	6S44593P01	2.2 ohm
R203	6S44594P10	68K ohm
R204	6S44594P10	68K ohm
R205	6S44593P93	15K ohm
R206	6S44594P14	100K ohm
R207	6S44593P97	22K ohm
R208	6S44593P61	680 ohm
R209	6S44593P51	270 ohm
R210	6S44593P51	270 ohm
R211	6S44594P02	33K ohm
R212	6S44594P02	33K ohm
R213	6S44594P42	1.5M ohm
R214	6S44594P42	1.5M ohm
R215	6S44594P14	100K ohm
R216	6S44593P93	15K ohm
R217	6S44593P69	1.5K ohm
R218	6S44593P69	1.5K ohm
R219	6S44594P03	36K ohm
R220	6S44594P03	36K ohm
R221	6S44594P37	910K ohm
R222	6S44594P37	910K ohm
R223	6S44593P93	15K ohm
R224	6S44593P89	10K ohm
R225	6S44593P81	4.7K ohm
R226	6S44593P81	4.7K ohm
R227	6S44593P89	10K ohm
R228	6S44593P89	10K ohm
R229	6S44593P81	4.7K ohm
R230	6S44593P81	4.7K ohm
R231	6S44594P14	100K ohm
R232	6S44594P14	100K ohm
R233	6S44593P83	5.6K ohm
R234	6S44593P83	5.6K ohm

Symbol No.	Part No.	Description
R241	6S44594P26	330K ohm
R242	6S44594P26	330K ohm
R251	6S44593P41	100 ohm
R252	6S44593P41	100 ohm
R253	6S44593P89	10K ohm
R254	6S44593P89	10K ohm
R255	6S44594P45	2M ohm
R256	6S44594P45	2M ohm
R257	6S44593P72	2K ohm
R258	6S44593P72	2K ohm
R259	6S44593P89	10K ohm
R260	6S44593P89	10K ohm
R268	6S44593P57	470 ohm
R271	6S44593P91	12K ohm
R272	6S44593P91	12K ohm
R401	6S44593P81	4.7K ohm
R402	6S44593P81	4.7K ohm
R403	6S44594P18	150K ohm
R404	6S44594P18	150K ohm
R405	6S44593P55	390 ohm
R407	6S44593P81	4.7K ohm
R408	6S44593P81	4.7K ohm
R409	6S44593P81	4.7K ohm
R410	6S44593P81	4.7K ohm
R411	6S44593P55	390 ohm
R412	6S44593P55	390 ohm
R413	6S44594P04	39K ohm
R414	6S44594P04	39K ohm
R415	6S44593P61	680 ohm
R416	6S44593P61	680 ohm
R417	6S44593P61	680 ohm
R418	6S44593P61	680 ohm
R419	6S44593P61	680 ohm
R420	6S44593P61	680 ohm
R421	6S44593P61	680 ohm
R422	6S44593P61	680 ohm
R423	6S44593P89	10K ohm
R424	6S44593P89	10K ohm
R425	6S44593P23	18 ohm
R426	6S44593P23	18 ohm
R427	6S44593P23	18 ohm
R428	6S44593P23	18 ohm
R429	6S44593P65	1K ohm
R430	6S44593P65	1K ohm
R431	6S44593P41	100 ohm

Symbol No.	Part No.	Description
R3553	6S44594P38	1M ohm
R3554	6S44594P38	1M ohm
R3555	6S44594P08	56K ohm
R3556	6S44594P08	56K ohm
R3557	6S44593P49	220 ohm
R3558	6S44593P49	220 ohm
R3559	6S44593P89	10K ohm
R3560	6S44593P89	10K ohm
R3561	6S44594P10	68K ohm
R3562	6S44594P10	68K ohm
R3567	6S44593P41	100 ohm
R3568	6S44593P41	100 ohm
R3661	6S44593P81	4.7K ohm
R3662	6S44593P81	4.7K ohm
VR201	18C42061J15	Variable 50K ohm-B
VR202	18C42061J15	Variable 50K ohm-B
VR403	18C42061J23	Variable 500 ohm-B
VR404	18C42061J23	Variable 500 ohm-B
VR501	18C42061J24	Variable 20K ohm-B
VR502	18C42061J24	Variable 20K ohm-B
VR503	18C42061J24	Variable 20K ohm-B
VR504	18C42061J24	Variable 20K ohm-B
VR505	18C42061J24	Variable 20K ohm-B
VR506	18C42061J24	Variable 20K ohm-B
VR507	18C42061J15	Variable 50K ohm-B
VR508	18C42061J15	Variable 50K ohm-B
VR509	18C42061J15	Variable 50K ohm-B
VR510	18C42061J15	Variable 50K ohm-B
VR551	18C42061J12	Variable 2K ohm-B

Symbol No.	Part No.	Description
Control P.C. Board		
IC & Transistors		
IC601	51S47110F01	IC, BA843
Q601	48S43525F05	Transistor, 2SC1815-Y, GR
or	48S44578J01	Transistor, 2SC945L-P
Q602	48S43239G02	Transistor, 2SC509-Y
or	48S40832F03	Transistor, 2SC1318NC-R
or	48S40832F04	Transistor, 2SC1318NC-S
Q603	48S43525F05	Transistor, 2SC1815-Y, GR
or	48S44578J01	Transistor, 2SC945L-P
Q604	48S43525F05	Transistor, 2SC1815-Y, GR
or	48S44578J01	Transistor, 2SC945L-P
Q605	48S43525F05	Transistor, 2SC1815-Y, GR
or	48S44578J01	Transistor, 2SC945L-P
Q606	48S43525F05	Transistor, 2SC1815-Y, GR
or	48S44578J01	Transistor, 2SC945L-P
Q607	48S43525F05	Transistor, 2SC1815-Y, GR
or	48S44578J01	Transistor, 2SC945L-P
Q608	48S43525F05	Transistor, 2SC1815-Y, GR
or	48S44578J01	Transistor, 2SC945L-P
Q609	48S43525F05	Transistor, 2SC1815-Y, GR
or	48S44578J01	Transistor, 2SC945L-P
Q610	48S43525F05	Transistor, 2SC1815-Y, GR
or	48S44578J01	Transistor, 2SC945L-P
Q611	48S43525F05	Transistor, 2SC1815-Y, GR
or	48S44578J01	Transistor, 2SC945L-P
Q612	48S43525F05	Transistor, 2SC1815-Y, GR
or	48S44578J01	Transistor, 2SC945L-P
Q613	48S43239G02	Transistor, 2SC509-Y
or	48S40832F03	Transistor, 2SC1318NC-R
or	48S40832F04	Transistor, 2SC1318NC-S
Q614	48S43239G02	Transistor, 2SC509-Y
or	48S40832F03	Transistor, 2SC1318NC-R
or	48S40832F04	Transistor, 2SC1318NC-S
Q615	48S43239G02	Transistor, 2SC509-Y
or	48S40832F03	Transistor, 2SC1318NC-R
or	48S40832F04	Transistor, 2SC1318NC-S

Symbol No.	Part No.	Description
Jack & Diodes		
J601	9T50261F01	Jack, Control (Remote)
D601	48T51582F01	Diode, MA-150
or	48T51881F01	Diode, DS442-BT
D602	48T51582F01	Diode, MA-150
or	48T51881F01	Diode, DS442-BT
D603	48T51582F01	Diode, MA-150
or	48T51881F01	Diode, DS442-BT
D604	48T51582F01	Diode, MA-150
or	48T51881F01	Diode, DS442-BT
D605	48T51582F01	Diode, MA-150
or	48T51881F01	Diode, DS442-BT
D606	48T51582F01	Diode, MA-150
or	48T51881F01	Diode, DS442-BT
D607	48T51582F01	Diode, MA-150
or	48T51881F01	Diode, DS442-BT
D608	48T55186F01	Diode, GP10D
D609	48T55186F01	Diode, GP10D
D610	48T55186F01	Diode, GP10D
D611	48T55186F01	Diode, GP10D
ZD601	48T52739F39	Diode, Zener HZ6B-3
Capacitors		
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	23S40657F05	Electrolytic 22 uF/10V
C608	23S40657F10	Electrolytic 10 uF/16V
C609	23S40657F10	Electrolytic 10 uF/16V
C610	23S40657F07	Electrolytic 47 uF/10V
C611	23S40657F10	Electrolytic 10 uF/16V
C612	23S40657F07	Electrolytic 47 uF/10V
C613	23S40657F07	Electrolytic 47 uF/10V
C614	23S40657F09	Electrolytic 220 uF/10V
C615	23S40657F10	Electrolytic 10 uF/16V
C616	8S44505P61	Ceramic 10000 pF

Symbol No.	Part No.	Description
Resistors		
R602	6S44594P06	47K ohm
R603	6S44594P06	47K ohm
R604	6S44593P57	470 ohm
R605	6S44593P89	10K ohm
R606	6S44593P97	22K ohm
R607	6S44594P06	47K ohm
R608	6S44593P89	10K ohm
R609	6S44593P47	180 ohm
R610	6S44593P47	180 ohm
R611	6S44593P85	6.8K ohm
R612	6S44593P91	12K ohm
R613	6S44593P85	6.8K ohm
R614	6S44594P14	100K ohm
R615	6S44593P89	10K ohm
R616	6S44593P97	22K ohm
R617	6S44593P97	22K ohm
R618	6S44594P06	47K ohm
R619	6S44593P97	22K ohm
R620	6S44593P77	3.3K ohm
R621	6S44593P93	15K ohm
R622	6S44593P89	10K ohm
R623	6S44593P59	560 ohm
R624	6S44593P73	2.2K ohm
R625	6S44593P59	560 ohm
R626	6S44593P73	2.2K ohm
R627	6S44593P59	560 ohm
R628	6S44593P73	2.2K ohm
R629	6S44594P06	47K ohm
R634	6S44593P85	6.8K ohm

Symbol No.		Part No.	Description
Miscellaneous Parts			
HD1		88T53111F01	Head, R/P Combination CWJ
HD2		FU163-11	Head, Erase
J403		9T55174F12	Jack, Headphone
LD301		48T45249F01	LED, PG4632KX (GRN) (DOLBY B)
LD302		48T45250F01	LED, AY4632K (YEL) (DOLBY C)
LD303		48T45249F01	LED, PG4632KX (GRN) (TAPE)
LD304		48T45250F01	LED, AY4632K (YEL) (SOURCE)
LD601		48T51833F03	LED, BG4524K (GRN) (PLAY)
LD602		48T51833F01	LED, PY4524K (YEL) (PAUSE)
LD603		48T51833F02	LED, PR4524K (RED) (REC)
LM402		72T52634F01	Meter, Optical (Include PL-1, 2)
M601		F064-093	Assembly, Motor
P101	○	28T43812P02	Plug, AC Cord
	■	28T40916U01	Plug, AC Cord
	△	28T45338F01	Plug, AC Cord
PL-3		65T50260F01	Lamp, Pilot
PL-4		65C42544U04	Lamp, Pilot 14V-50mA
S101	●	40T40705T01	Switch, Voltage Select
S102	●	40T45561F01	Switch, Power (SDL1P)
	■	40T47454F01	Switch, Power (SDL1P, UL)
S601		40T44505F01	Switch, KHG (Play)
S602		40T44505F01	Switch, KHG (Stop)
S603		40T44505F01	Switch, KHG (FF)
S604		40T44505F01	Switch, KHG (Rew)
S605		40T44505F01	Switch, KHG (Pause)
S606		40T44505F01	Switch, KHG (Rec)
S607		40T44505F01	Switch, KHG (Rec Mute)
S609		FE173-11	Switch, Slide (PACK IN)
S610		FE173-11	Switch, Slide (REC. INH.)
S611		40T47104F01	Switch, Reed
SD601		F082-044	Assembly, Solenoid (Play)
SD602		PKA16106	Assembly, Solenoid (Rew)
SD603		PKA16106	Assembly, Solenoid (FF)
T101	●	25T44724F03	Trans, Power
	■	25T50265F03	Trans, Power
TH501		EZ15E-00	Thermistor
VR401		18T50614F01	Volume, Rotary 5K-A (Output)
VR251		18T52629F01	Volume, Slide S60B2PA 20K x 2 (Rec Level)
VR252		18T52629F01	Volume, Slide S60B2PA 20K x 2 (Rec Level)
VR553		18T52943F01	Volume, Rotary 1K-B (Bias)

Symbol No.	Part No.	Description

● : For multi-voltage model only. ■ : Single voltage only. Others: Common

○ : General Foreign model.

△ : Australian model

Cabinet Assembly Parts List

Index	Symbol No.		Part No.	Description
2-B	1		※	Chassis, Front
	2		3S44205G05	Screw, Pan (M3 x 5)
	3		75A42565P15	Cushion, Rubber
2-B	4		36A45460F03	Knob, Power
3-B	5		1V56300F03	Assembly,, Door
	6		3S44205G16	Screw, Flat (M3 x 6)
	7		36A47129F03	Knob, Bias
4-B	8		1V54200F55	Assembly, Front Panel
5-B	9		36A52480F03	Knob, Push
5-B	10		36A52480F02	Knob, Push
2-B	11		42A56014F01	Blet, Counter
2-B	12		72T52627F01	Counter, Tape
3-B	13		34A52482F01	Scale, Meter
4-B	14		7B52483F01	Frame, Meter
	15		75B44632G04	Pad, Cushion
5-B	16		36A52479F01	Knob, Rec Level Volume
	17		3S40036U15	Screw, W/Washer (M4 x 8)
1-C	18		15D52460F01	Cover, Top
1-C	19		42A52623F02	Belt, Counter
2-C	20		75A42565P14	Cushion, Rubber
	21		3C40014G04	Screw, W/Washer (M3 x 6)
	22		3S40012G41	Screw, Tapping (M3 x 8)
3-C	23		※	Panel, LED
3-C	24		1V54200F47	Assembly,Counter Escutcheon
4-C	25		26A56263F01	Shield, Static
	26		29A41814G01	Lug
4-C	27		36A52481F01	Knob, Counter
4-C	28		41A41324F01	Spring, Push
5-C	29		75B44632G17	Pad, Cushion
1-C	30		4A41345P02	Washer, Lock (M1.7)
2-C	31		49A52624F01	Pulley, Counter
2-C	32		※	Bracket, Counter
	33		3S40012G03	Screw, Tapping (M3 x 6)
2-C	34		※	Bracket, Volume
4-C	35		36A52473F01	Knob, FF
4-C	36		36A52474F01	Knob, Rew
4-C	37		1A55327F01	Assembly, Play Knob
2-C	38		※	Panel, Reed Switch
2-C	39		41A56247F01	Spring, Knob
3-C	40		84D53105F05	Panel, Headphone

Index	Symbol No.		Part No.	Description
4-D	41		※	Panel, Key Board
4-C	42		1A55328F01	Assembly, Record Knob
4-C	43		36A52478F01	Knob, Rec Mute
5-C	44		1A55329F01	Assembly, Pause Knob
5-C	45		36A52476F01	Knob, Stop
5-C	46		43A52485F01	Spacer, Knob
2-D	47		43A41728U09	Bush, Lamp
2-D	48		1V53600F22	Assembly, Dust Cover
	49		3S40036U03	Screw, W/Washer (M3 x 6)
3-D	50		※	Bracket, Bias Volume
5-D	51		※	Bracket, Slide Volume
5-D	52		3C40014G12	Screw, W/Washer (M2.6 x 4)
3-D	53		43A51937F01	Spacer, Eject
3-D	54		81T53110F01	Deck, Cassette (FL87E32A)
3-D	55		※	Bracket, P.C. Board
5-D	56		3S40018G02	Screw, Tapping (M3 x 8)
3-E	58		45B50460F01	Lever, Power Switch
4-E	59		※	Chassis, Bottom
4-E	60		3S44205G08	Screw, Pan (3 x 12)
2-E	61		1V54200F52	Assembly, Control Panel
	62		3C42723U01	Screw, Cup (M3 x 6)
2-E	63		※	Support, P.C. Board
	64		3S40036U07	Screw, W/Washer (M4 x 12)
2-E	65		※	Support, Trans (U)
	66		7A40871F01	Support Trans Washer
3-E	67	■ ●	※	Bracket, Trans
	68		75A44348F01	Pad, Felt
4-E	69		84D53105F06	Panel, Lamp
4-E	70		3S40018G01	Screw, Tapping (M3 x 6)
3-F	71	● ■	43B41625J02 43B41625J01	Support, Cord Support, Cord
2-G	72		7A51010F01	Bracket, P.C. Board
2-G	73		※	Heat Sink, Transistor
2-G	74		3S44205G38	Screw, Bind (M3 x 6)
3-G	75		26A55841F01	Shield, Panel
3-G	76		3A43146G01	Screw, Round (M2 x 6)
3-G	77		43A43182P01	Spacer, Transistor
3-G	78		14A40472G02	Insulator, Transistor
	79		※	Bracket, Heat Sink

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

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

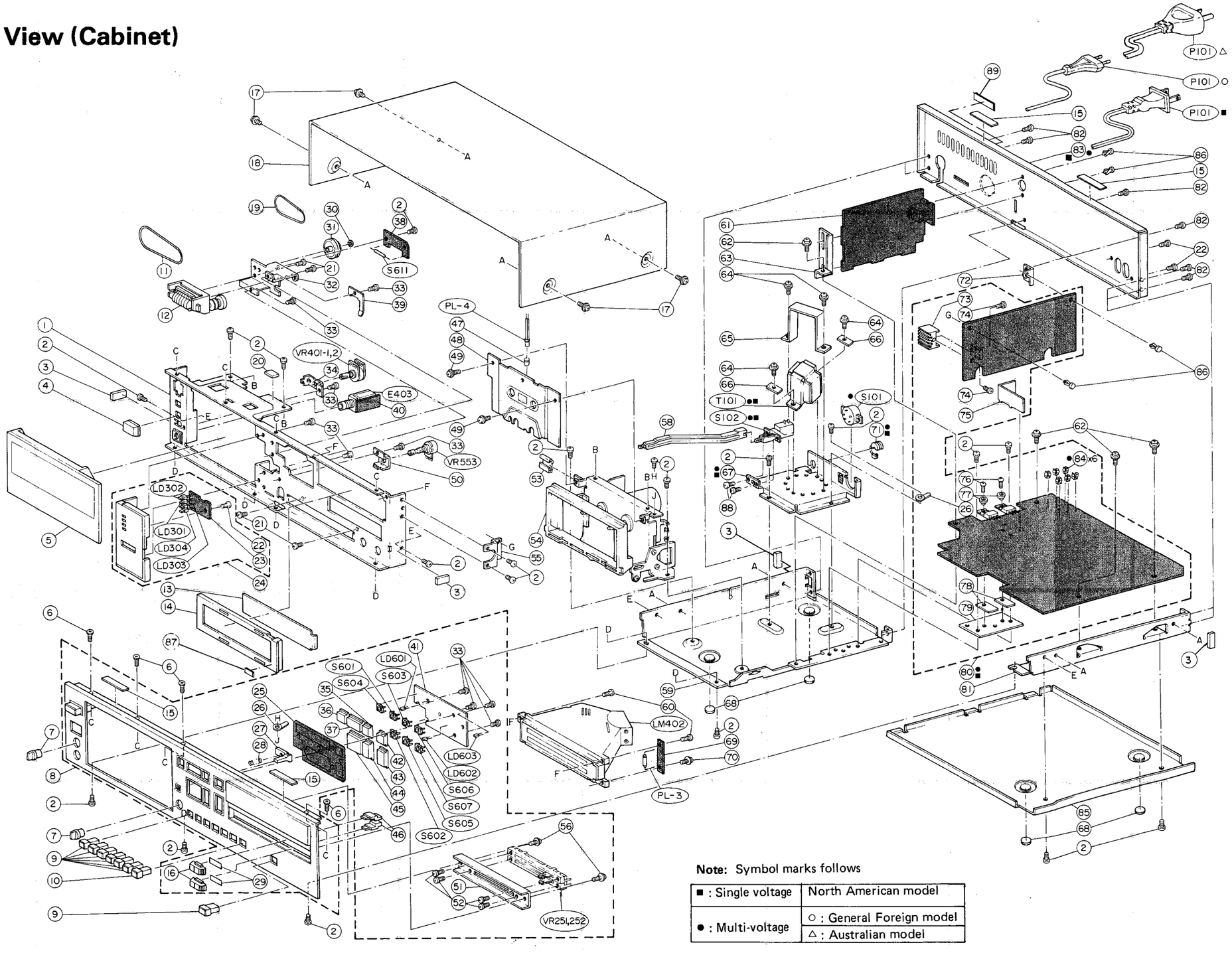
Index	Symbol No.		Part No.	Description
4-G	80	●	1V54200F49	Assembly, Master Board
		■	1V56900F01	Assembly, Master Board
4-G	81		※	Chassis, Side
	82		3S44205G40	Screw, Bind (M3 x 4)
1-G	83	●	15C52461F03	Cover, Rear
		■	15C52461F04	Cover, Rear
3-G	84	●	9T45548F01	Holder, Fuse
5-G	85		※	Cover, Bottom
	86		5B41635J02	Rivet, Push
4-B	87		14S53017F87	Insulator (3 x 5)
3-E	88		3S40014G09	Screw, W/Washer (M3 x 5)
1-G	89		75A42565P17	Cushion, Rubber

Symbol No.	Part No.	Description

● : For multi-voltage model only. ■ : Single voltage model only. Others: Common

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

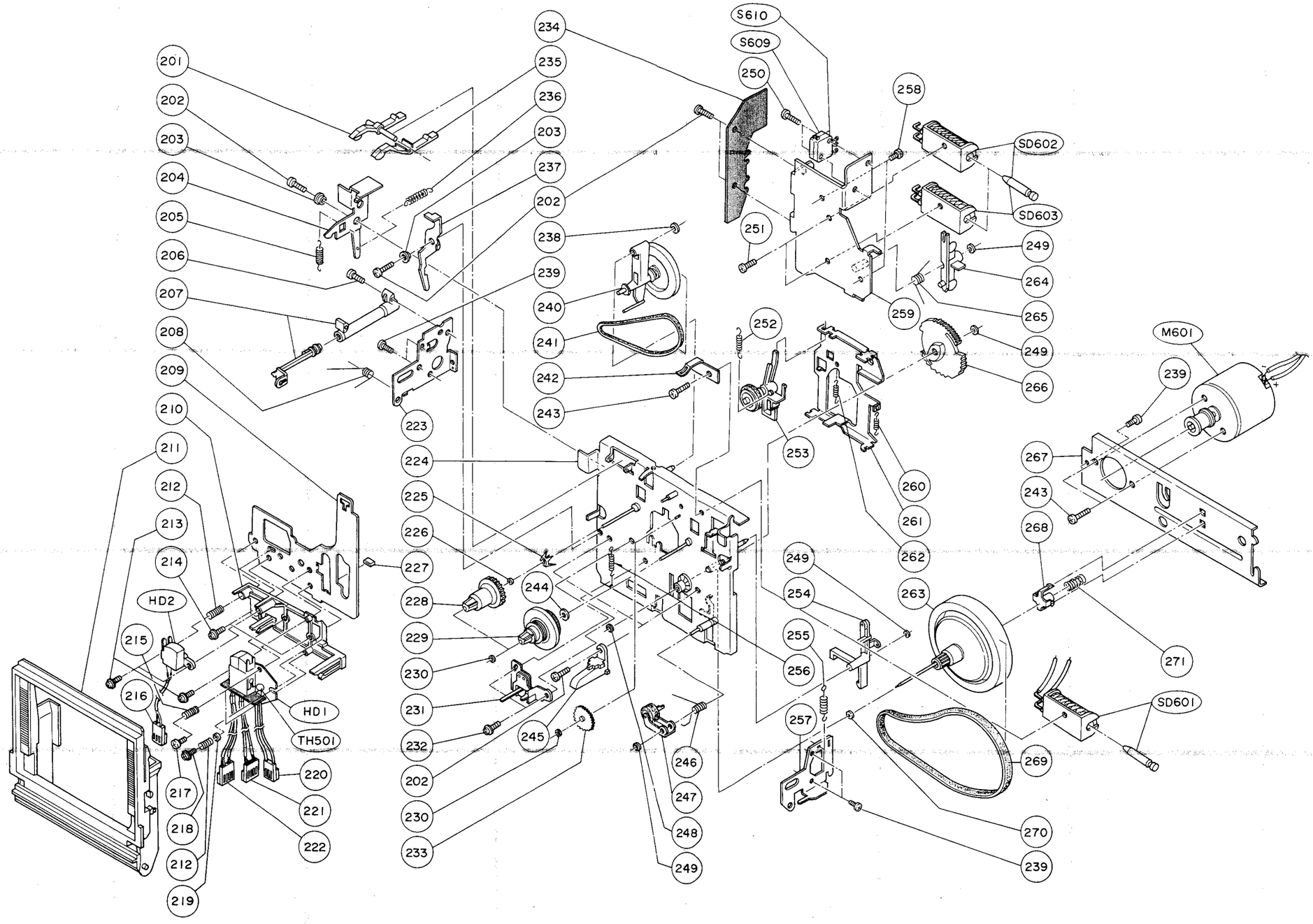
Exploded View (Cabinet)



Note: Symbol marks follows

■ : Single voltage	North American model
● : Multi-voltage	○ : General Foreign model
	△ : Australian model

Exploded View (Tape Mechanism)

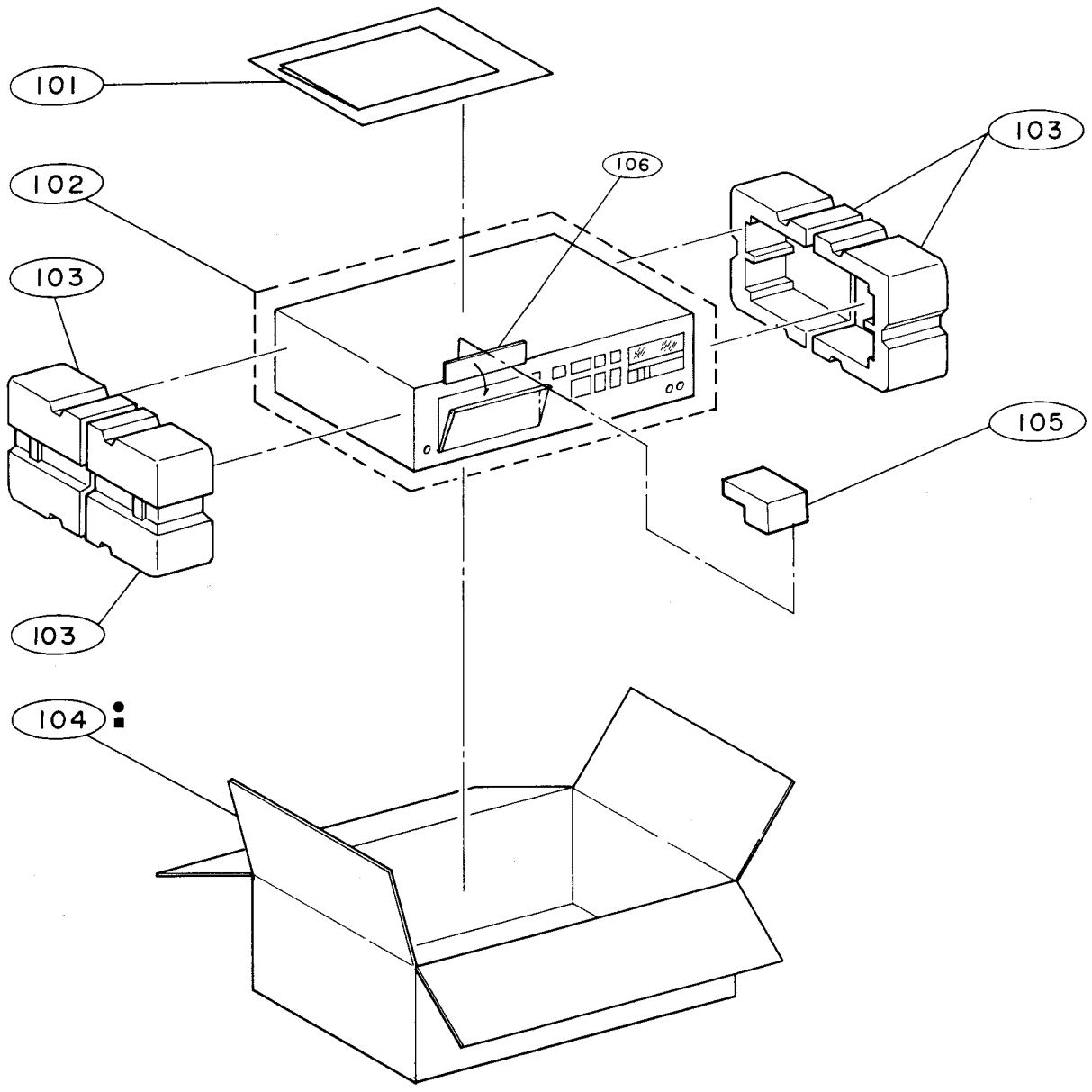


Cassette Deck Assembly Parts List

Index	Simbol No.	Part No.	Description
1-B	201	FD17T-12	Arm, Record
	202	KG194-12	Screw, Pan (M3 x 6)
	203	FM296-11	Spacer
2-B	204	FC11H-12	Arm, Eject Lock
2-B	205	FK573-11	Spring, Arm Lock
2-B	206	UG11D-11	Screw, Pan (M2 x 12)
2-B	207	FP472-11	Assembly, Dumper
2-B	208	FK568-11	Spring, Door
3-B	209	FC17D-12	Base, Head
3-B	210	FD14U-13	Spacer, Head
3-B	211	F027-064	Assembly, Frame Door
	212	FK572-11	Spring, Azimuth Adjustment
3-B	213	UG11K-11	Screw, Bind (M2 x 11.5)
4-B	214	FG137-13	Screw, F-Lock (M2 x 5)
4-B	215	FK11F-23	Spring, Tilt
4-B	216	WH17T-00	Cable, Connector (E)
5-B	217	UG11M-11	Screw, Tilt
5-B	218	UG11K-12	Screw, Bind (M2 x 18)
5-B	219	FJ151-11	Washer, Flat
5-C	220	WH17W-00	Connector, Cable (Thermistor)
5-C	221	WH17V-00	Connector, Cable (P.B.)
5-C	222	WH17U-00	Connector, Cable (Rec.)
3-C	223	FR349-13	Bracket, Dumper
3-C	224	F011-139	Assembly, Chassis
3-C	225	FK579-13	Spring, Back Tension
3-C	226	FJ111-18	Washer, Polyslider (M2)
4-C	227	FP464-11	Pad, Cushion
4-C	228	FR12P-11	Assembly, Supply Reel
4-C	229	FR12N-11	Assembly, Take-up Reel
	230	FJ124-14	Washer, Lock (M1.7)
4-C	231	FR13V-12	Assembly, Tension Arm
4-C	232	FG137-12	Screw, F-Lock (M2 x 4)
5-C	233	FN154-13	Gear, Idler
1-D	234	FP11N-11	Panel, Terminal
1-D	235	FR356-14	Arm, Switch
1-D	236	FK11C-11	Spring, Brake Arm
2-D	237	FR352-11	Lever, Safety
2-D	238	FJ123-19	Washer, Lock (M3.5)
	239	KG189-11	Screw, Pan
2-D	240	FP470-11	Assembly, Clutch

Index	Symbol No.	Part No.	Description
2-D	241	FP463-11	Belt, Sub
3-D	242	FK551-13	Spring, Cassette
	243	FG114-15	Screw, W/Washer (M2.6 x 4.5)
4-D	244	FJ111-12	Washer, Polyslider (M2.1)
4-D	245	FR360-12	Guide, Cassette
5-E	246	FK569-13	Spring, Pinch Roller
5-E	247	F014-053	Assembly, Pinch Roller
5-E	248	FJ141-12	Washer, Oil Shield
	249	FJ123-21	Washer, Lock (M2.6)
1-E	250	FG143-26	Screw, Pan (M2.6 x 15)
2-E	251	FG143-17	Screw, Pan (M2.6 x 3)
2-E	252	FK575-11	Spring, Play Idler
3-E	253	FP469-12	Assembly, Idler
4-E	254	FR359-12	Arm, Play Solenoid
4-E	255	FK576-12	Spring, Play Solenoid Arm
4-E	256	FK578-13	Spring, Head Base Holding
4-E	257	FR350-12	Bracket, Door
1-F	258	KG194-46	Screw, Pan (M3 x 4.5)
2-F	259	F214-011	Bracket, Solenoid
3-F	260	FK574-12	Spring, Assisr Base
3-F	261	FR346-11	Base, Assist
4-F	262	FK577-12	Spring, Head Base
4-F	263	FR13L-11	Assembly, Flywheel
2-F	264	FR355-14	Arm, F.F. Solenoid
2-F	265	FK570-12	Spring, Solenoid Bracket
3-F	266	FN153-11	Gear, Play
3-F	267	FR347-12	Bracket, Motor
3-F	268	FM281-11	Spacer, Flywheel
5-F	269	FP462-11	Belt, Main
5-F	270	FJ111-14	Washer, Polyslider (M2.5)
4-G	271	FK11F-16	Spring, Thrust

Packing Method View



Packing Assembly Parts List

Symbol No.		Part No.	Description
101		1V54200F58	Assembly, Pamphlet
101-1		28T44352F01	Plug, Output Cord
101-2		※	Sack, Polyethylene
101-3		68P52551F16	Manual, Owner's
102		56B40230G23	Sack, Polyethylene
103		56C44350F01	Tray, Packing
104	●	56C50570F30	Carton, Packing
	■	56C50570F31	Carton, Packing
105		56A56430F01	Tray, Packing (Door)
106		15A41885U01	Cover, Door
Labels			
	■	54A41728P01	Label, Caution (A)
	■	54A41728P03	Label, Caution (B)
	■	54A44553G01	Label, CSA
	△	54A50155F01	Label, As.

Symbol No.	Part No.	Description

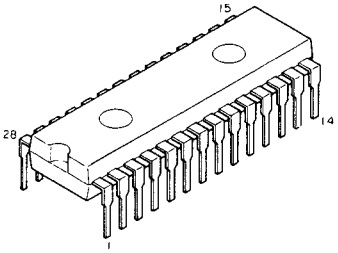
●: For multi-voltage model only
┌○ : General Foreign model
└△ : Australian model

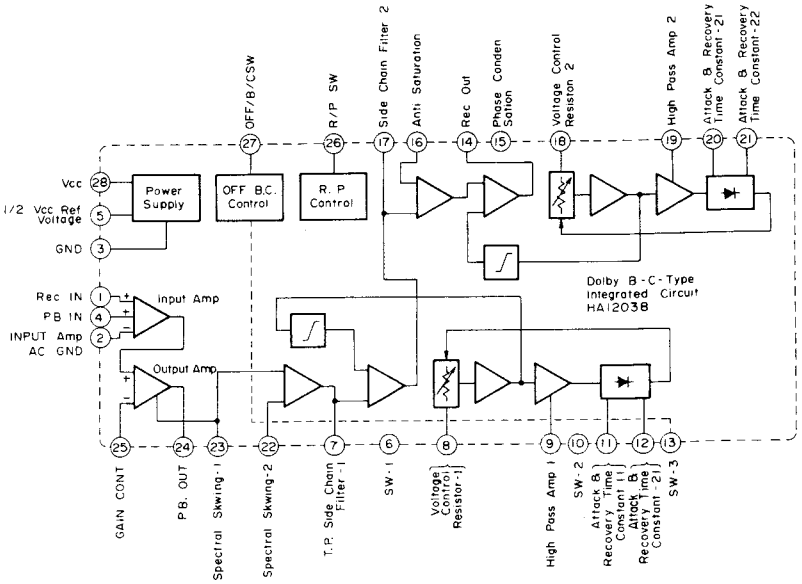
■: For single voltage model only Others: Common

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

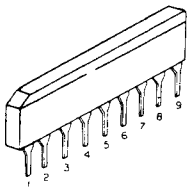
Semi-Conductor Lead Identifications

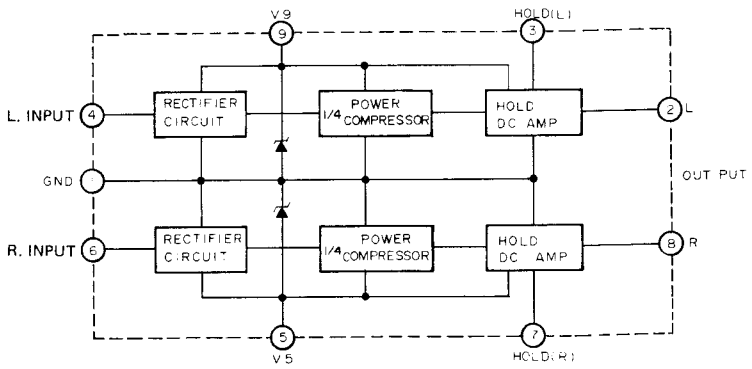
HA12038-01: IC301, 302, 351, 352



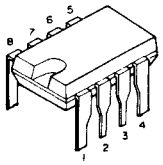


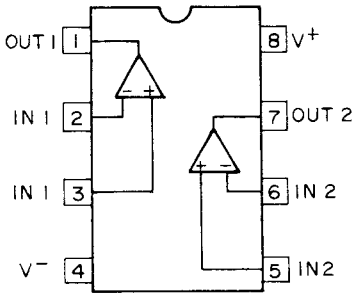
TA7318AP: IC401



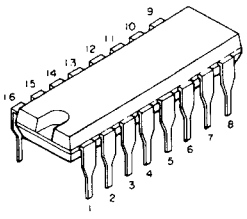


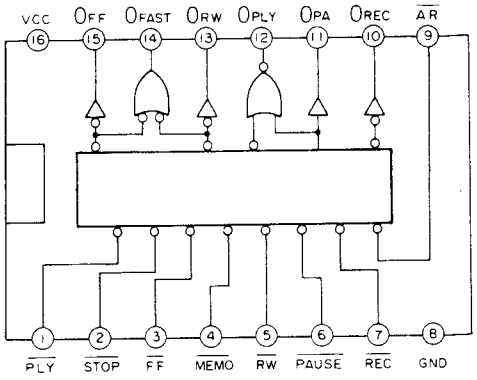
μPC4558C: IC501



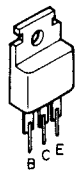


BA843: IC601

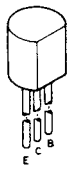




2SD880: Q101, 102



2SC1815, 2SC945: Q103, 205, 206, 351, 352, 401 ∿ 404, 501, 502, Q601, 603 ∿ 612, 651, 653, 654, 656, 657, 659
2SC2263: Q201, 202
2SC1842, 2SC1843: Q203, 204, 251, 252, 301, 302
2SC1318, 2SC509: Q405, 406, 551, 552, 553, 602, 613 ∿ 615
2SA733: Q652, 655, 658, 660



2SC1983: Q303