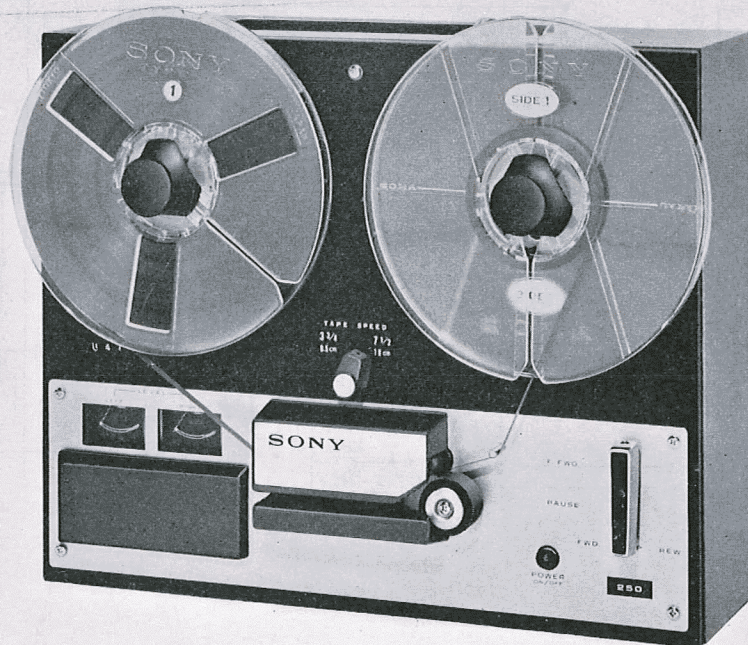


# TC-250A

FROM SERIAL NUMBER  
00001 TO 60500

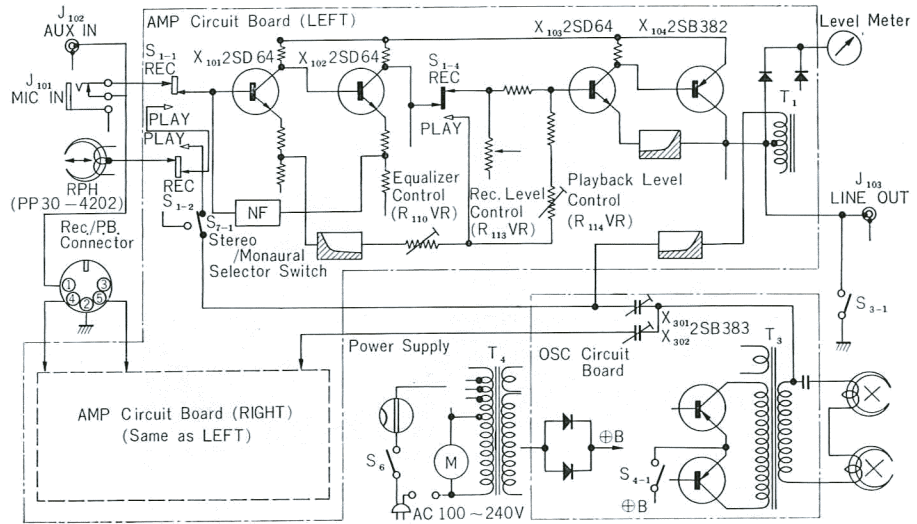


## Specifications

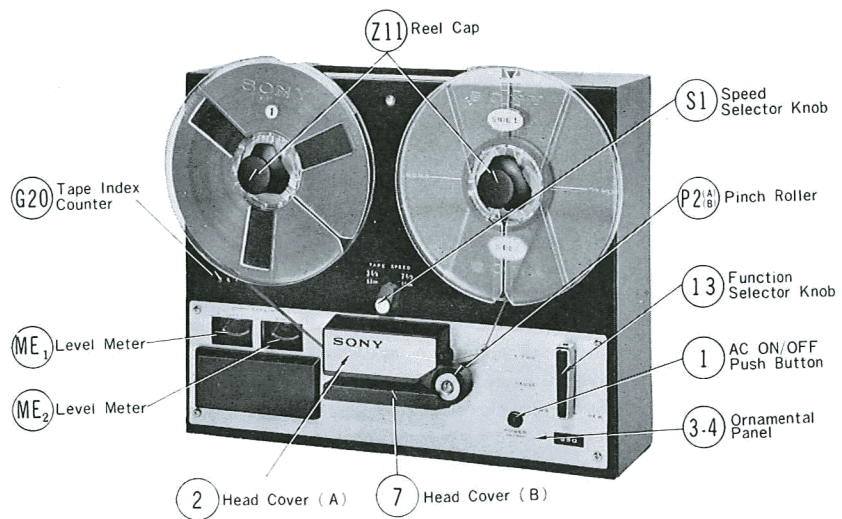
<b>Power Requirement :</b>	100, 110, 121, 220 or 240 volts (Voltage selector provided in the set) AC 50 c/s or 60 c/s (Convertible, see page 5) (Only AC 117V 60 c/s for U. S. A.) 40 watts
<b>Tape Speeds :</b>	Instantaneous selection 7-1/2 ips or 3-3/4 ips (19 or 9.5 cm/s)
<b>Frequency Response :</b>	30~18,000 c/s at 7-1/2 ips $\pm 3$ dB 50~15,000 c/s at 7-1/2 ips 30~13,000 c/s at 3-3/4 ips
<b>Signal-to-Noise Ratio :</b>	Better than 50 dB
<b>Flutter and Wow :</b>	Less than 0.19% at 7-1/2 ips Less than 0.25% at 3-3/4 ips
<b>Bias Frequency :</b>	Approx. 55 Kc
<b>Level Indication :</b>	Two VU Meters (calibrated to 0 dB at 12 dB below saturation)
<b>Inputs :</b>	Microphone inputs (low impedance) Auxiliary inputs (high impedance)
<b>Output :</b>	Line outputs (low impedance) Auxiliary Record/Playback Connector
<b>Transistors :</b>	2SD64 ( $\times 6$ ), 2SB382 ( $\times 2$ ), 2SB383 ( $\times 2$ )
<b>Weight :</b>	Approx. 16.9 lbs. (7.7 Kg)
<b>Dimensions :</b>	14.2" W $\times$ 11.4" D $\times$ 6.3" H (360 W $\times$ 287 D $\times$ 158 H mm)

**SONY**<sup>®</sup>  
**SERVICING GUIDE**

## Block Diagram

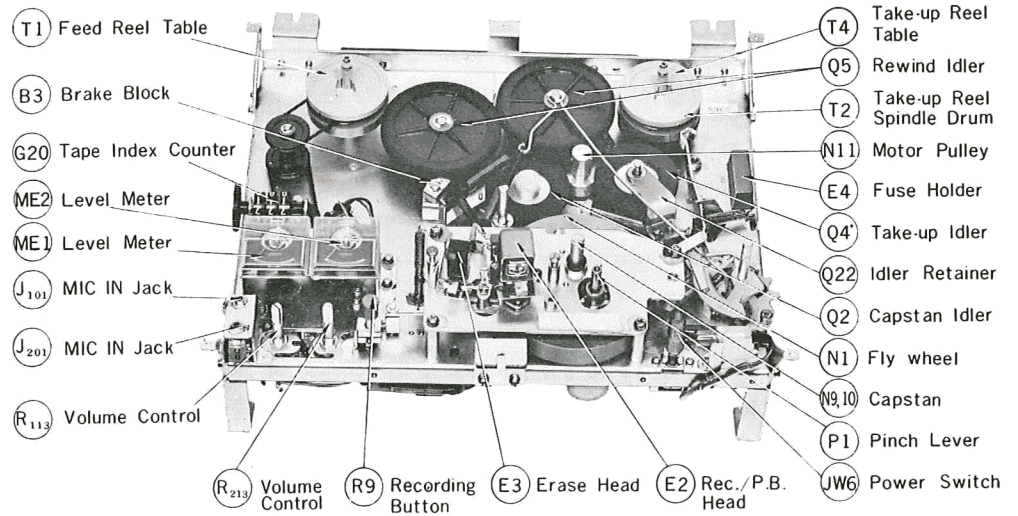


## CABINET



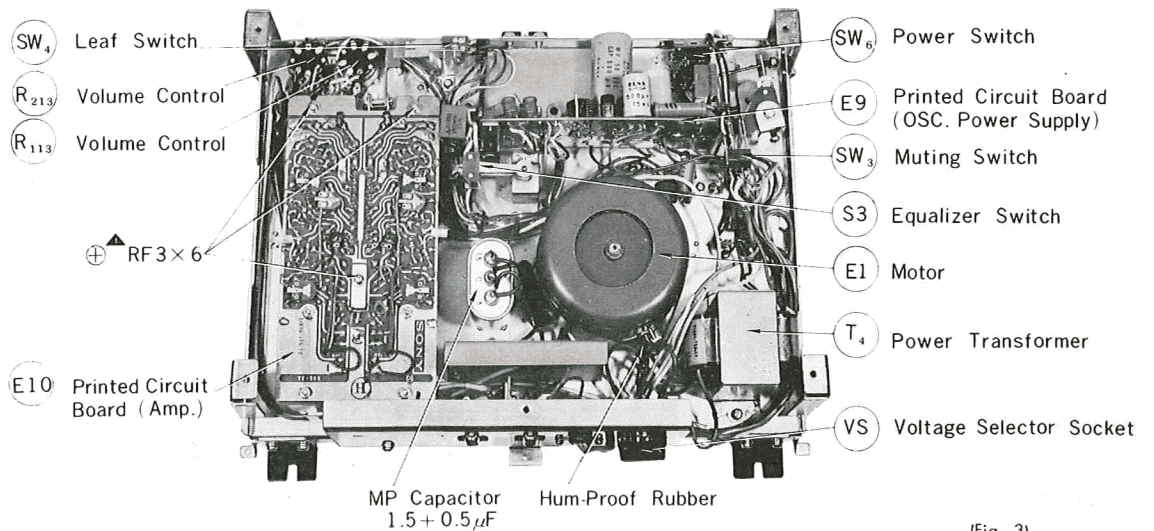
(Fig. 1)

**MECHANICAL SECTION**



(Fig. 2)

**AMPLIFIER SECTION**



(Fig. 3)

## Removal of Cabinet

1. Turn up-side down the recorder on a soft pad.
2. Remove four Screw ( $\blacktriangle +RF4 \times 18$ ) with four Rubber Feet and one Screw ( $\triangle +RF4 \times 8$ ) with  $5\phi$  Washers as shown in Fig. 4.
3. Lift up the Cabinet gently.

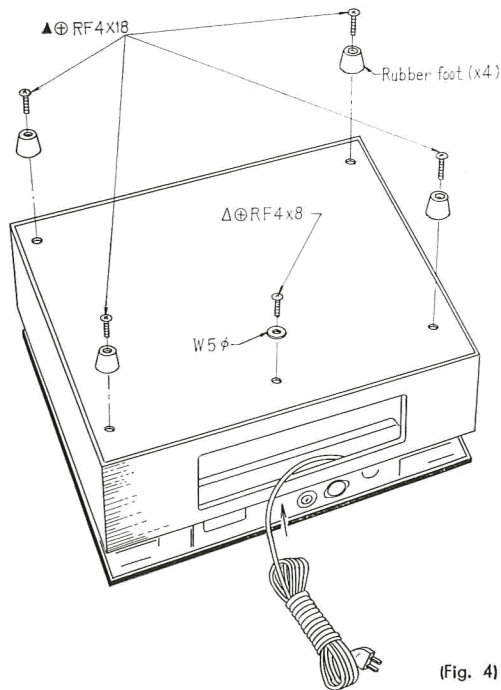
## Removal of Reel Panel

1. Remove two Head Covers.
2. Remove Function Selector Knob, Speed Selector Knob and Pinch Roller by loosening the respective Set Screws.
3. Remove four Screws marked with  $\blacktriangle$  in Fig. 5.
4. Open the Rec. Control Cover and pull out two Rec. Lever Control Knobs.

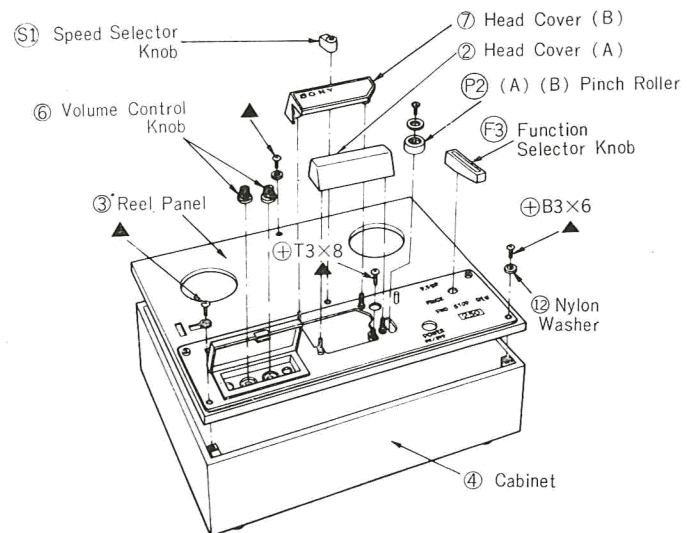
**Note:** If the Knobs are too tight to remove, try to lift the Reel Panel up slightly, and the Knobs will come up for easy removal.

5. Now Reel Panel can be removed and main mechanism can be checked.

**Note:** When re-assembling the Reel Panel, pay attention to the location of the holes so that the Rec. Level Control Knobs are located just at the center of the respective holes.



(Fig. 4)



(Fig. 5)

## Removal of Printed Circuit Boards

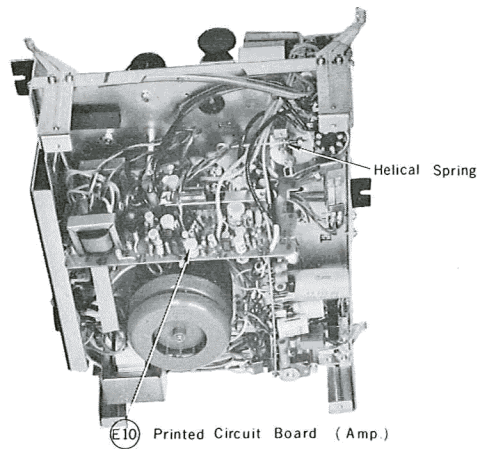
Printed Circuit Boards can be checked without disassembled. When it is necessary to remove the Circuit Boards, proceed as follows ;

### Circuit Board for Power Supply and OSC Section

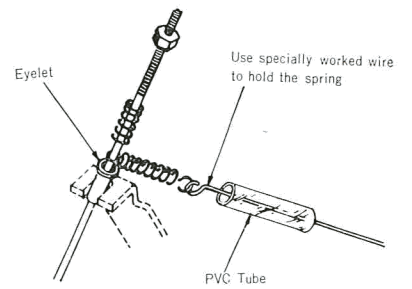
Take out two Holding Screws and remove the Circuit Board taking care not to cut the attached leads.

### Circuit Board for AUX INPUT Section

Take out two Holding Screws and remove the Circuit Board, taking care not to cut the attached leads.



(Fig. 6)



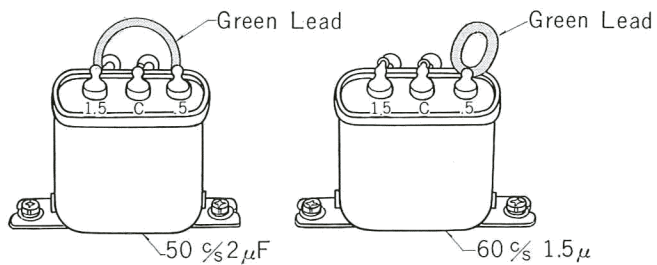
(Fig. 7)

**Modification to different power line frequency**

**Circuit Board for Amplifier Section**

1. Remove three Screws marked with ▲ in Fig. 3.
2. Remove Helical Spring covered with a PVC Tube, for Rec./P.B. Selector Switch shown in Fig. 6, from the Circuit Board Mounting Bracket.
3. Raise the Circuit Board gently, taking care not to cut the attached leads.  
Now desired parts can be replaced.
4. When re-assembling the Circuit Board, NEVER FAIL TO put the PVC Tube on the spring and to put the Eyelet on the Pull Rod to the Recording Lever as shown in Fig. 7.

	For 50 c/s	For 60 c/s
1. Connection between two terminals of the metal cased capacitor (MP.)	Connected (2 $\mu$ F)	Disconnected (1.5 $\mu$ F)
2. Pinch Roller	0-027-476-01	0-027-477-01
3. Capstan	0-027-483-05 (Red)	0-027-483-06 (White)



(Fig. 8)

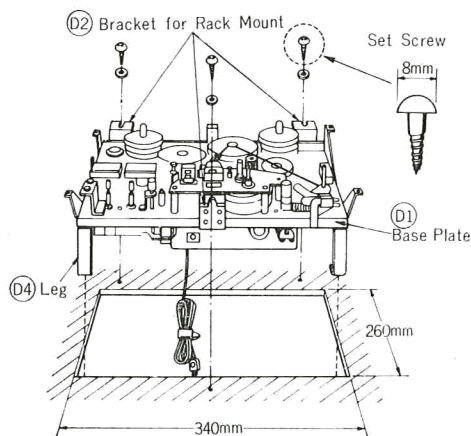
### To Install the Unit to other Equipment

When it is desired to install the unit to other equipment, proceed as follows ;

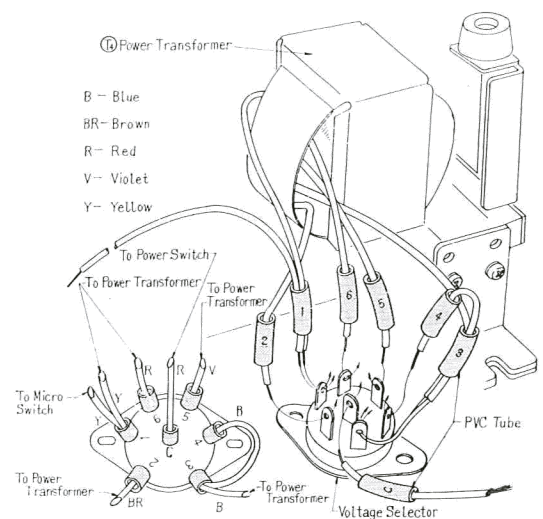
1. Remove the Reel Panel referring to Fig. 5.
2. Remove the Cabinet referring to Fig. 4.
3. Install the unit in the opening (340 × 260 mm, 13.4" × 10.2") on the Board with three Wood Screws, ((+)B 3×6) and Rack Mounting Brackets as shown in Fig. 9.

### Lead Connection for Voltage Selector Socket

When Power Transformer Voltage Selector Switch is replaced, wire the leads as shown in Fig. 10.



(Fig. 9)



(Fig. 10)

### Alignment Procedure

The alignment is to be performed at a tape speed of 7-1/2 ips unless otherwise specified. Connect an 100 K $\Omega$  load resistor in parallel with the VTVM terminals and connect the VTVM to the LINE OUT Jack.

#### Elevation Alignment

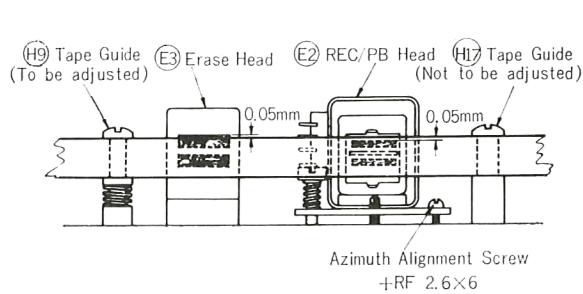
The exact vertical positionings of the Heads are adjusted at the factory and should never need readjustment. However, when replacing Head or Tape Guide, height of the replaced part in relation to the tape must be checked as follows ;

1. Thread a tape
2. Align the upper edges of the Erase Head Core and Rec./P.B. Head Core and upper edge of the tape by turning the Tape Guide located on the left side of the Erase Head.
3. Turn the Tape Guide clockwise by approximately 30° from the position obtained in the preceding process, so that the upper edge of the tape is approximately 0.05 mm lower than that of the Erase Head Core.

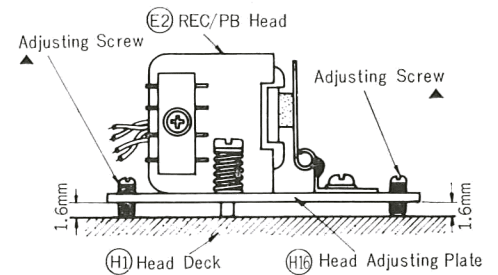
### Azimuth Alignment

1. Playback a 10 Kc signal recorded on the first section of the SONY alignment tape "N-19-F1"
2. Turn the azimuth alignment Screw located on the right side of the playback Head to obtain the maximum recording on the VTVM.

**Note:** The Rec./P.B. Head Mounting Plate must always be kept 1.6 mm high from the Head Deck as shown in Fig. 12, which is set in the factory. As the correct positioning is very difficult without Jig, take care NOT TO TURN THE ADJUSTMENT SCREWS, marked with ▲ shown in Fig. 12 even in replacing the Rec./P.B. Head.



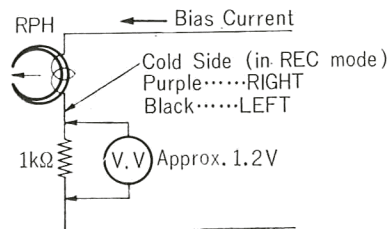
(Fig. 11)



(Fig. 12)

### Recording Bias Adjustment

1. Unsolder the ground lead(s) (Violet for RIGHT and Black for LEFT) on the terminal of Rec./P.B. Head.
2. Insert a VTVM and a 1 K $\Omega$  resistor in parallel between the Rec./P.B. Head and the unsoldered lead. (See Fig. 13)
3. Place the recorder in record mode.
4. Adjust Trimmer Capacitor(s) (RIGHT...C<sub>309</sub>, LEFT...C<sub>308</sub>) shown on page 12 to obtain 1.2 V reading on the VTVM.



(Fig. 13)

### Meter Calibration

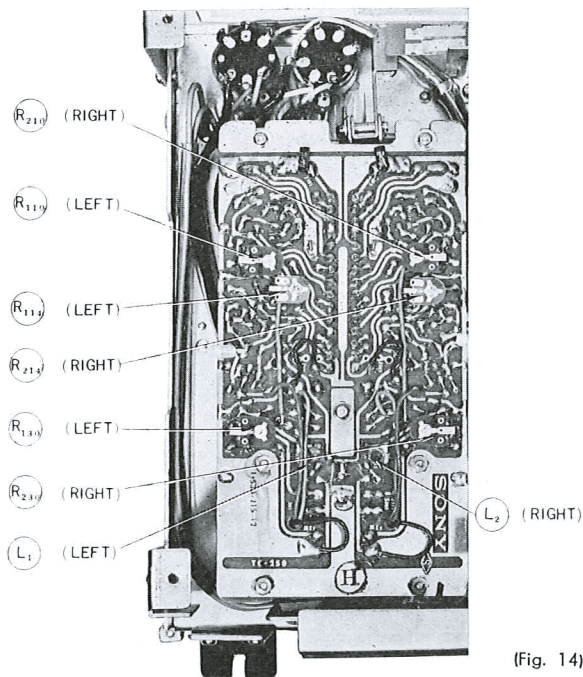
1. Playback record section of the alignment Tape "N-19-F1" (700 c/s, -12 dBs).
2. Adjust the Potentiometer  $R_{114}$  ( $R_{214}$ ) shown in Fig. 14 so that the VTVM indicates 0 dBs (0.775 V).
3. Adjust the potentiometer  $R_{113}$  ( $R_{213}$ ) shown in Fig. 14 so that the Level Meter leads 0 VU (100%).

### Equalizer Adjustment

1. Playback the 3rd section (700 c/s, -22 dBs) and the 4th section (10 Kc/s, -22 dBs) of the Alignment Tape "N-19-F1" and adjust the Potentiometer  $R_{110}$  ( $R_{210}$ ) shown in Fig. 14 to obtain the same readings on the VTVM for both the 3rd and the 4th sections of the alignment Tape.

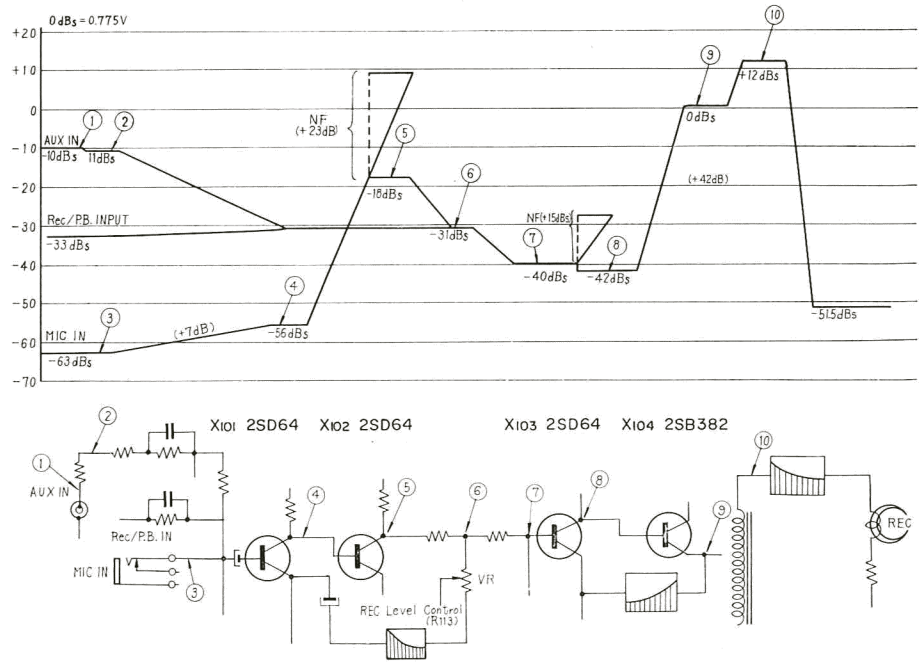
### Bias Trap Adjustment

1. Place the recorder in record mode without loading tape.
2. Adjust the Trap Coil  $L_1$  ( $L_2$ ) shown in Fig. 14 for minimum reading on the VTVM.

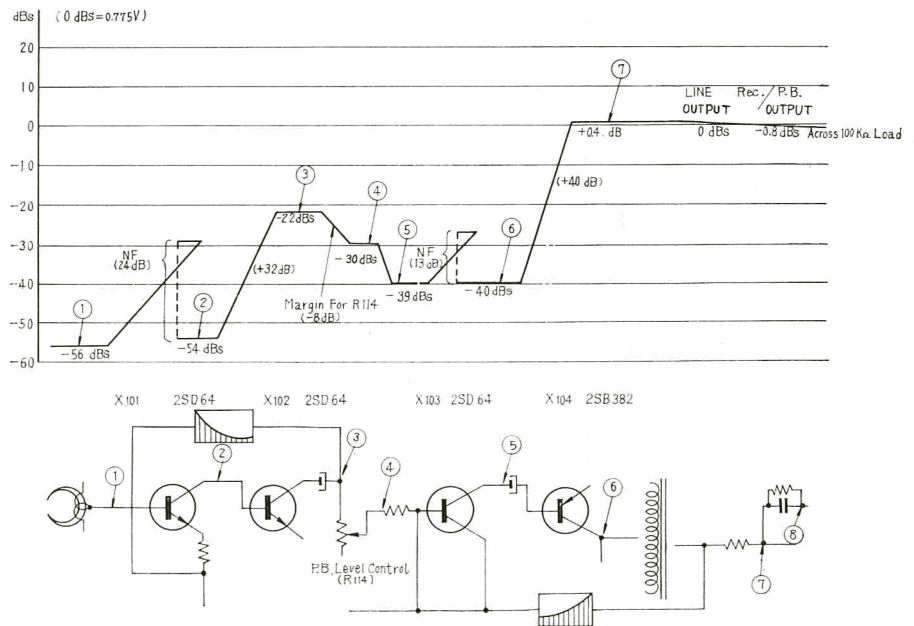




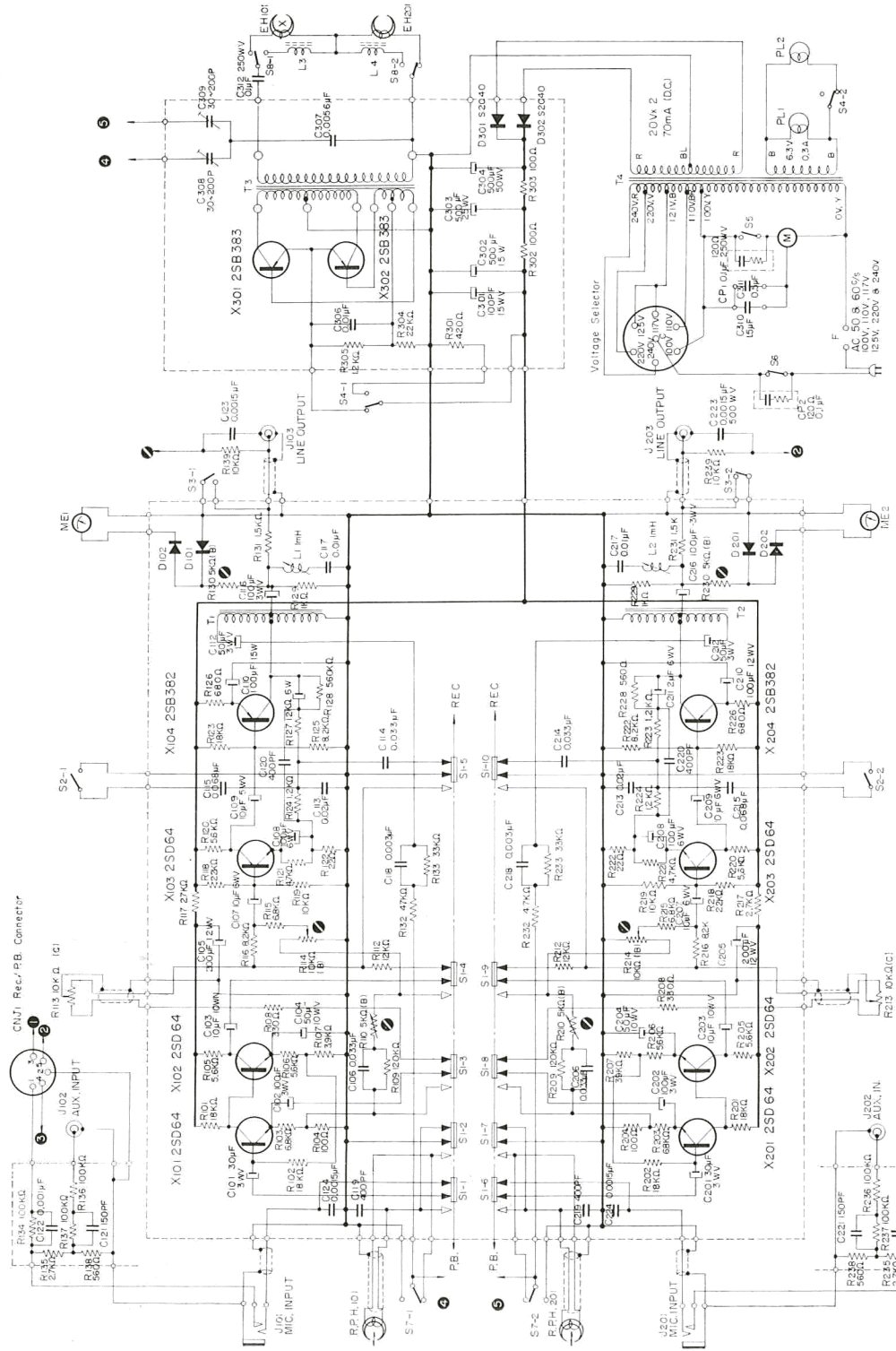
## Recording Level Diagram



## Playback Level Diagram

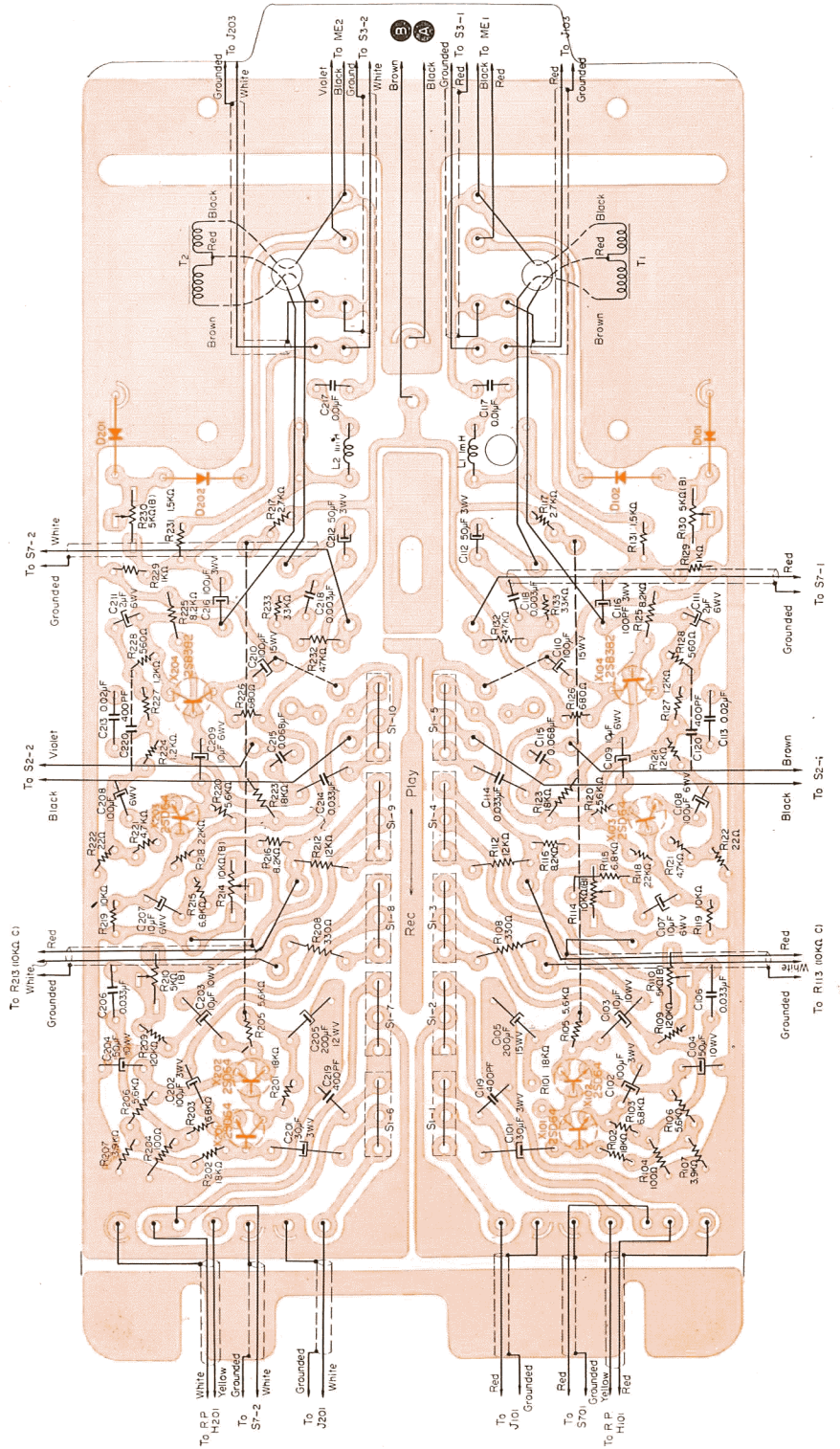


# Circuit Schematic



S1: Rec./Play/Back Selector Switch (Shown in Record Position). S2: Equalizer Switch (Shown in 7-1/2ips Position). S3: Fluting Switch (Shown in Record Position). S4: Record Lamp / OSC Switch (Shown in Record Position). S5: Automatic Stop-Off Switch. SFC: Stereo Minus/Selector Switch (Volume Control).  
 REC: Record Lamp / OSC Switch (Shown in Record Position). S4: AC Power On/Off Switch.

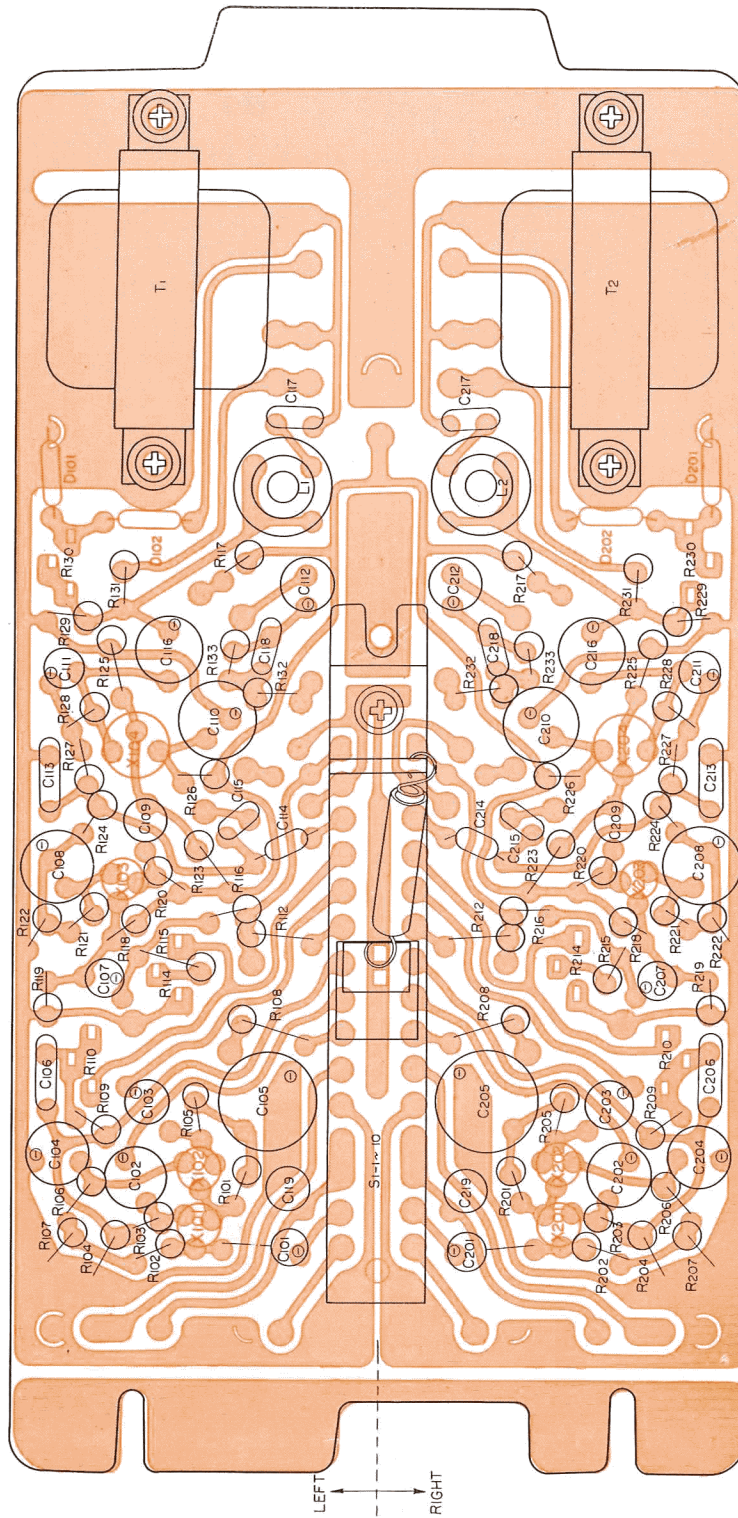
**Mounting Diagram**  
**Amplifier Section**  
 — Printed Side —



**Mounting Diagram**

**Amplifier Section**

—Parts Side—

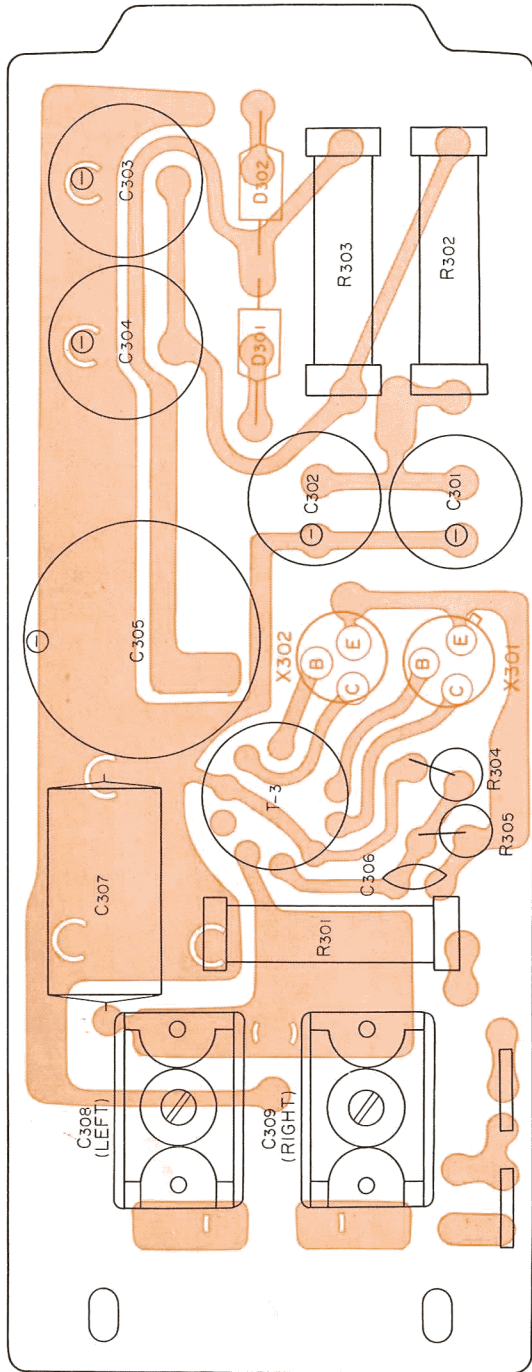




### Mounting Diagram

#### Power Supply and OSC Section

—Parts Side—



**Mounting Diagram**

**Aux Input Section**

—Printed Side—

To CNJ-1

① ④ ②

To J102  
(Grounded)

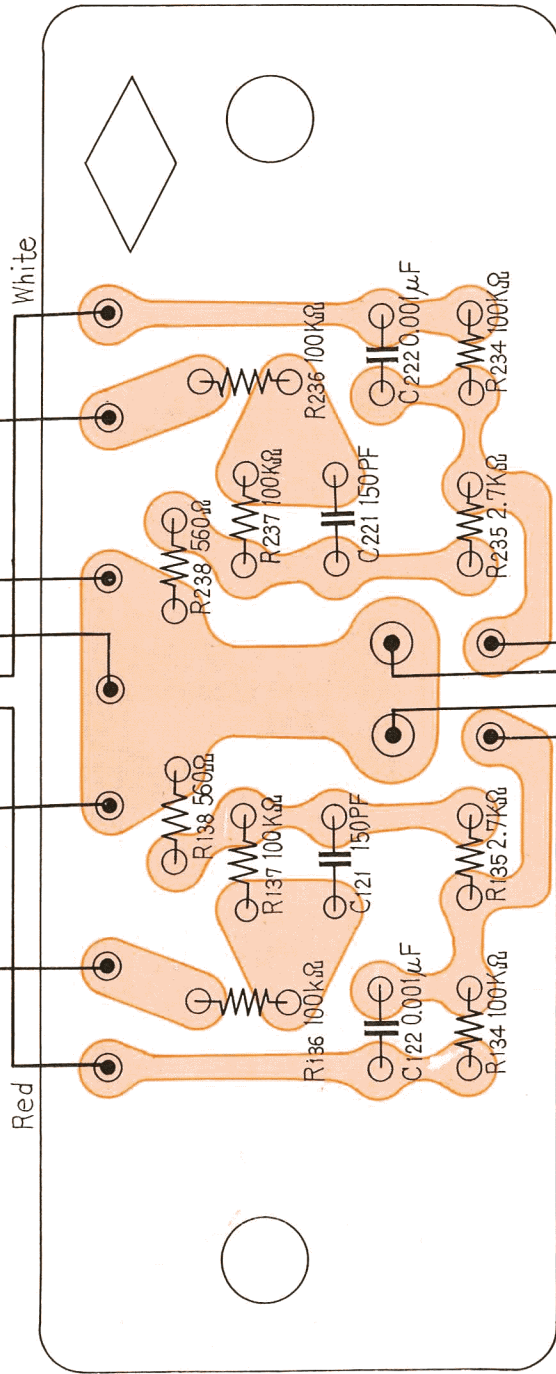
Red

To J202

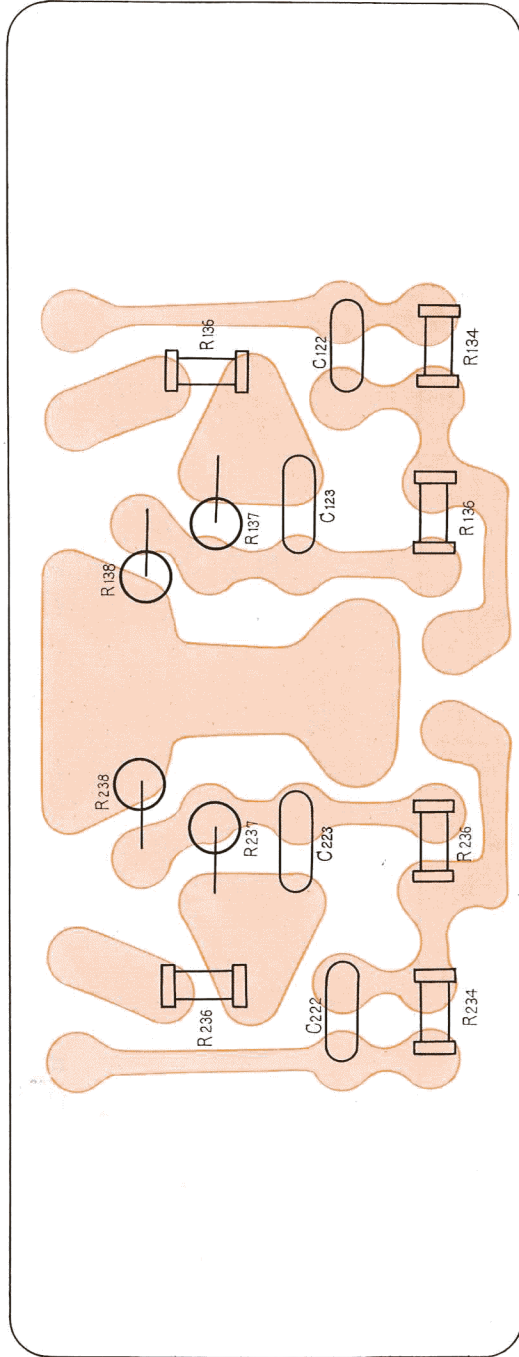
Black

To J202

White



**Mounting Diagram**  
**Aux Input Section**  
— Parts Side —





**Parts List**

**Electrical Parts**

Symbol No.	Description	Q'ty	Remarks	Symbol No.	Description	Q'ty	Remarks
<b>E. Electrical Parts (General)</b>				T <sub>3</sub>	Oscillation Transformer	1	
E-1	Motor IC-624	1		T <sub>4</sub>	Power Transformer	1	
E-2	Rec./P.B. Head PP30-4202	1	II-H-20	L <sub>1</sub>	Trap Coil 1 mH	1	
E-3	Erase Head EF18-2902 (H)	1	II-H-21	L <sub>2</sub>	Trap Coil 1 mH	1	
E-4	Fuse Holder	1		L <sub>3</sub>	Dummy Coil 1 mH	1	
E-5	Fuse 0.8A	1		L <sub>4</sub>	Dummy Coil 1 mH	1	
E-6	Power Cord with Plug	1		<b>C. Capacitors</b>			
E-7	Terminal Strip IL-2P	2		C <sub>101, 201</sub>	Electrolytic Capacitor 30 μF 3WV	2	
E-8	Pilot Lamp Socket	2		C <sub>102, 202</sub>	" 100 μF 3WV	2	
E-9	Printed Circuit Board (OSC, Power Supply)	1		C <sub>103, 203</sub>	" 10 μF 10WV	2	
E-10	Printed Circuit Board (Amplifier)	1		C <sub>104, 204</sub>	" 50 μF 10WV	2	
E-11	Printed Circuit Board (AUX INPUT)	1		C <sub>105, 205</sub>	" 200 μF 12WV	2	
E-12	Encapsulated Component 0.1 μF + 120 ohms	2		C <sub>106, 206</sub>	Mylar Capacitor 0.033 μF 50WV	2	
X <sub>101</sub>	Transistor 2SD64-3	1		C <sub>107, 207</sub>	Electrolytic Capacitor 10 μF 6WV	2	
X <sub>102</sub>	" 2SD64-3	1		C <sub>108, 208</sub>	" 100 μF 6WV	2	
X <sub>103</sub>	" 2SD64-5	1		C <sub>109, 209</sub>	" 10 μF 15WV	2	
X <sub>104</sub>	" 2SB382-2	1		C <sub>110, 210</sub>	" 100 μF 15WV	2	
X <sub>201</sub>	" 2SD64-3	1		C <sub>111, 211</sub>	" 2 μF 6WV	2	
X <sub>202</sub>	" 2SD64-3	1		C <sub>112, 212</sub>	" 50 μF 3WV	2	
X <sub>203</sub>	" 2SD64-5	1		C <sub>113, 213</sub>	Mylar Capacitor 0.02 μF 50WV	2	
X <sub>204</sub>	" 2SB382-2	1		C <sub>114, 214</sub>	" 0.033 μF 50WV	2	
X <sub>301</sub>	" 2SB383-1	1		C <sub>115, 215</sub>	" 0.068 μF 50WV	2	
X <sub>302</sub>	" 2SB383-1	1		C <sub>116, 216</sub>	Electrolytic Capacitor 100 μF 3WV	2	
D <sub>101</sub>	Diode 1T206	1		C <sub>117, 217</sub>	Mylar Capacitor 0.01 μF 50WV	2	
D <sub>102</sub>	" 1T206	1		C <sub>118, 218</sub>	" 0.003 μF 50WV	2	
D <sub>201</sub>	" 1T206	1		Polyethylene Film Capacitor			
D <sub>202</sub>	" 1T206	1		C <sub>119, 219</sub>	400PF 50WV	2	
D <sub>301</sub>	Power Diode S2C40	1		C <sub>120, 220</sub>	400PF 50WV	2	
D <sub>302</sub>	" S2C40	1		C <sub>121, 221</sub>	Silvered Mica Capacitor 150PF 500WV	2	
J <sub>101</sub>	Miniature Jack	1		C <sub>122, 222</sub>	Mylar Capacitor 0.001 μF 500WV	2	
J <sub>102</sub>	2 Pin Jack	1		C <sub>123, 223</sub>	" 0.0015 μF 500WV	2	
J <sub>103</sub>	2 Pin Jack	1		C <sub>301</sub>	Electrolytic Capacitor 100 μF 15WV	1	
J <sub>201</sub>	Miniature Jack	1		C <sub>302</sub>	" 500 μF 15WV	1	
J <sub>202</sub>	2 Pin Jack	1		C <sub>303</sub>	" 500 μF 25WV	1	
J <sub>203</sub>	2 Pin Jack	1		C <sub>304</sub>	" 500 μF 25WV	1	
PL <sub>1</sub>	Pilot Lamp	1		C <sub>306</sub>	Mylar Capacitor 0.01 μF 50WV	1	
PL <sub>2</sub>	"	1		C <sub>307</sub>	Polyethylene Capacitor 0.0056 μF 600WV	1	
SW <sub>1</sub>	Rec./P.B. Selector Switch	1		C <sub>308</sub>	Trimmer Capacitor	1	
SW <sub>3-1</sub>	Leaf Switch (Muting)	1		C <sub>309</sub>	Trimmer Capacitor	1	
SW <sub>4</sub>	" (OSC/Meter Lamp)	1		C <sub>310, 311</sub>	MP Capacitor 1.5 μF + 0.5 μF	1	
SW <sub>5</sub>	Pilot Lamp Switch	1		C <sub>312</sub>	MP Capacitor 0.1 μF	1	
SW <sub>6</sub>	Power ON/OFF Switch	1		<b>R. Resistors</b>			
SW <sub>7</sub>	Stereo/monural Selector Switch (w/Volume Control)	1		R <sub>101, 201</sub>	Carbon 18 K Ω RD <sup>1</sup> / <sub>8</sub> RL	2	
ME <sub>1</sub>	Level Meter	1		R <sub>102, 202</sub>	" 18 K Ω "	2	
ME <sub>2</sub>	"	1		R <sub>103, 203</sub>	" 6.8 K Ω "	2	
S <sub>2</sub>	Equalizer Switch A			R <sub>104, 204</sub>	Composition 100 Ω RC <sup>1</sup> / <sub>4</sub>	2	
S <sub>3</sub>	Equalizer Switch B			R <sub>105, 205</sub>	" 5.6 K Ω RC <sup>1</sup> / <sub>2</sub>	2	
VS	Voltage Selector Socket	1		R <sub>106, 206</sub>	" 5.6 K Ω "	2	
CNJ <sub>1</sub>	Rec./P.B. Connector	1		R <sub>107, 207</sub>	" 3.9 K Ω "	2	
T <sub>1</sub>	Output Transformer	1		R <sub>108, 208</sub>	" 330 Ω RC <sup>1</sup> / <sub>4</sub>	2	
T <sub>2</sub>	Output Transformer	1		R <sub>109, 209</sub>	" 120 K Ω "	2	
				R <sub>110, 210</sub>	Adjustable 5 K Ω	2	
				R <sub>112, 212</sub>	Composition 12 K Ω RC <sup>1</sup> / <sub>2</sub>	2	
				R <sub>113, 213</sub>	Volume Control 10 K Ω (C)	2	
				R <sub>114, 214</sub>	Adjustable 10 K Ω (B)	2	
				R <sub>115, 215</sub>	Composition 6.8 K Ω RC <sup>1</sup> / <sub>2</sub>	2	
				R <sub>116, 216</sub>	" 8.2 K Ω "	2	

### Parts List

Symbol No.	Description	Q'ty	Remarks	Symbol No.	Description	Q'ty	Remarks
R <sub>117, 217</sub>	Composition 2.7 KΩ RC <sup>1</sup> / <sub>4</sub>	2		R <sub>132, 232</sub>	Composition 47 KΩ RC <sup>1</sup> / <sub>4</sub>	2	
R <sub>118, 218</sub>	Carbon 22 KΩ RD <sup>1</sup> / <sub>8</sub> RL	2		R <sub>133, 233</sub>	" 33 KΩ "	2	
R <sub>119, 219</sub>	" 10 KΩ "	2		R <sub>134, 234</sub>	Carbon 100 KΩ RD <sup>1</sup> / <sub>8</sub> RL	2	
R <sub>120, 220</sub>	" 5.6 KΩ "	2		R <sub>135, 235</sub>	" 2.7 KΩ "	2	
R <sub>121, 221</sub>	Composition 4.7 KΩ RC <sup>1</sup> / <sub>2</sub>	2		R <sub>136, 236</sub>	" 100 KΩ "	2	
R <sub>122, 222</sub>	" 22 Ω RC <sup>1</sup> / <sub>4</sub>	2		R <sub>137, 237</sub>	" 100 KΩ "	2	
R <sub>123, 223</sub>	" 18 KΩ "	2		R <sub>138, 238</sub>	" 560 Ω "	2	
R <sub>124, 224</sub>	" 1.2 KΩ "	2		R <sub>139, 239</sub>	" 10 KΩ RD <sup>1</sup> / <sub>8</sub> L	2	
R <sub>125, 225</sub>	" 8.2 KΩ RC <sup>1</sup> / <sub>2</sub>	2		R <sub>301</sub>	Carbon 420 Ω RD 1 L	1	
R <sub>126, 226</sub>	" 680 Ω "	2		R <sub>302</sub>	" 100 Ω "	1	
R <sub>127, 227</sub>	" 1.2 KΩ RC <sup>1</sup> / <sub>4</sub>	2		R <sub>303</sub>	" 100 Ω "	1	
R <sub>128, 228</sub>	" 560 Ω "	2		R <sub>304</sub>	" 22 KΩ RC <sup>1</sup> / <sub>2</sub>	1	
R <sub>129, 229</sub>	" 1 KΩ "	2		R <sub>305</sub>	" 1.2 KΩ RC <sup>1</sup> / <sub>4</sub>	1	
R <sub>130, 230</sub>	Adjustable 5 KΩ (B)	2					
R <sub>131, 231</sub>	Composition 1.5 KΩ RC <sup>1</sup> / <sub>4</sub>	2					

### Parts List

#### Mechanical Parts

Symbol No.	Description	Q'ty	Remarks	Symbol No.	Description	Q'ty	Remarks
	<b>B. Brake Block</b>			G-2-2	Rack Mounting Cushion	(1)	
B-1	Brake Lever Assembly, including	1		G-3	Metal Leg (A)	2	
B-1-1	Brake Lever	(1)		G-4	Metal Leg (B)	2	
B-1-2	Brake Felt	(1)		G-5	Jack Holding Bracket	1	
B-2	Push Rod for Pause	1		G-6	Level Meter Holder	1	
B-3	Brake Block	1		G-7	Tape Counter Holding Bracket	1	
B-4	Brake Block Spring	1		G-8	Meter Lamp Holder	1	
B-5	Split Nut	3		G-9	Pilot Lamp Holder	1	
B-6	Spring for Push Rod	1		G-10	Cushion for Level Meter	2	
B-7	Spring for Brake Lever	1		G-11	Idler Guide Bracket	1	Q-11
	<b>F. Function Selector Mechanism</b>			G-12	Idler Guide	2	Q-12
F-1	Muting Switch Assembly	1		G-13	Polyethylene Washer for Reel Panel	1	
F-2	Function Selector Cam Assembly, including	1		G-14	Miniature Input Jack Spacer	1	
F-2-1	Function Selector Cam Boss	(1)		G-15	Idler Guide (B)	1	Q-20
F-2-2	Fast Forward Cam	(1)		G-16	Counter Belt	2	
F-3	Function Selector Knob Assembly, including	1		G-17	Counter Belt Pulley	2	
F-3-1	Function Selector Knob	(1)		G-18	Counter Pulley Spacer	1	
F-3-2	Set Screw for Function Selector Knob	(1)		G-19	Counter Pulley Shaft	1	
F-4	Cam for Actuator	1		G-20	Tape Index Counter	1	
F-5	Muting Switch Holding Bracket	1		G-21	Slide Switch Holding Bracket	1	R-6
F-6	Cam Shaft	1		G-22	Cushion for Output Transformer	2	
F-7	Cam for Muting Switch	1		G-23	Cord Stopper	1	
F-8	Stepper Spring	1		G-24	Lug Plate	1	
F-9	Stepper Shaft	1		G-25	Shielding Plate	1	
F-10	Stepper Arm	1		G-26	Counter Pulley Spacer	1	
	<b>G. Deck</b>				<b>H. Head Deck</b>		
G-1	Base Plate Assembly, including	1		H-1	Head Deck Assembly	1	
G-1-1	Thrust Washer	(1)		H-2	Head Pad Hinge	1	
G-2	Rack Mounting Holding Bracket Assembly, including	3		H-3	Panel Spacer	1	
G-2-1	Rack Mounting Holding Bracket	(1)		H-4	Tape Pad Shifter	1	
				H-5	Head Pad	1	
				H-6	Head Adjusting Screw	1	
				H-7	Head Pad	1	
				H-8	Rec./P.B. Head Adjusting Spring	1	
				H-9	Tape Guide (B)	1	
				H-10	Tape Guide Adjusting Spring	1	



## Parts List

Symbol No.	Description	Q'ty	Remarks	Symbol No.	Description	Q'ty	Remarks
T-4-5	Thrust Washer for Reel Table	(1)			3φ	60	
T-4-6	Reel Table Spring	(1)			4φ	23	
T-4-7	Retaining Ring E-8	(1)					
T-5	Take-up Spindle	1			<b>Nut</b>		
T-6	Feed Spindle	1			3φ	13	
T-7	Feed Spindle Spacer	1			3φ (Lock Nut)	5	
T-8	Take-up Spindle Spacer	1			4φ	2	
T-9	Reel Cap Spacer (A)	2					
T-10	// (B)	2			<b>Retaining Ring</b>		
	<b>V. Automatic Shut-off Actuator</b>				E-3	9	
V-1	Automatic Shut-off Actuator Assembly	1			E-5	18	
V-2	Actuator Lever	1			<b>Eyelet</b>		
V-3	Actuator Cam	1			2.5φ × 6	1	
V-4	Automatic Shut-off Switch Lever				<b>P. V. C. Wire</b>		
	Shaft	1			11/0.16 × 1.45	mm	
V-5	Pull Rod for Actuator Lever	1			//	Black	1,500
	<b>Y. Screws, Wires &amp; Miscellaneous</b>				//	Brown	720
	<b>Screw</b>				//	Red	840
	⊖R 2φ × 5	2			//	Orange	350
	⊕RF 2φ × 3	2			//	Green	850
	// 2φ × 6	4			//	Blue	1,820
	// 3φ × 5	2			//	Violet	400
	// 3φ × 5	6			//	Gray	180
	// 3φ × 5	25			//	White	250
	// 3φ × 6	5			11/0.16 × 2.4	Yellow	400
	// 3φ × 6	6			//	Green	70
	// 3φ × 8	4			//	White	320
	// 3φ × 8	1			<b>P. V. C. Tube</b>		
	// 3φ × 14	2			3.2φ	Clear	16
	// 2.6φ × 4	2			4φ	//	640
	// 2.6φ × 4	1			4.5φ	//	17
	// 4φ × 6	8			5.2φ	//	58
	// 4φ × 6	2			6φ	//	150
	// 4φ × 8	13			6.2φ	//	83
	// 4φ × 12	1			7φ	//	110
	// 4φ × 8	4			7.2φ	//	44
	// 3φ × 12	2			10φ	//	230
	⊕K 2φ × 5	1			12φ	//	33
	// 2φ × 6	1			1φ	Black	11
	// 2φ × 20	1			3φ	//	22
	⊕RK 2φ × 10	2			4φ	//	62
	⊕F 2.6φ × 6	1			5φ	Yellow	14
	⊕B 3φ × 5	2			1φ	//	1,000
	// 3φ × 6	5			<b>Spaghetti Tube</b>		
	// 3φ × 12	4			1φ	Yellow	mm
	⊕T 3φ × 6	2					72
	// 3φ × 8	1			<b>Shielded Wire (Single Conductor)</b>		
	⊕RF 2φ × 8	1			0.12/16 × 2.6φ	Red	mm
	Setting Screw 3φ × 6	2			//	White	1,220
	<b>Washer</b>						1,240
	2φ	5			<b>Shielded Wire (Two Conductor)</b>		
	3φ	26			0.18/12 × 2.6φ	Red & White	mm
	4φ (Small)	2			0.12/16 × 3φ	Red & Yellow	390
	6φ	1			//	White & Yellow	260
	3φ (Star Washer)	1					170
	<b>Spring Washer</b>				<b>Z. Accessories &amp; Packing Materials</b>		
	2φ	3			Z-1	Carton Assembly, including	1
	2.6φ	2			Z-1-1	Cushion (A)	(1)
					Z-1-2	Cushion (B)	(4)
					Z-1-3	Cabinet Retainer	(1)

**Parts List**

Symbol No.	Description	Q'ty	Remarks	Symbol No.	Description	Q'ty	Remarks
Z-1-4	Inner carton	(1)		Z-9	Tape Talk	1	
Z-1-5	Outer Carton	(1)		Z-10	Check Sheet Bag	1	
Z-1-6	Cabinet Retainer	(1)		Z-11	Reel Cap Assembly	2	
Z-2	Tack Label (A)	1		Z-12	Accessory Bag	1	
Z-3	Tack Label (B)	1		Z-13	Capstan (for 50 c/s)	1	N-9
Z-4	Instruction Manual	1			(for 60 c/s)	1	N-10
Z-5	Reel R-7A	1		Z-14	Pinch Roller (for 50 c/s)	1	P-2 (A)
Z-6	Connection Cord RK-56	2			(for 60 c/s)	1	P-2 (B)
Z-7	Polyethylene Bag	1		Z-15	Inspection Card	1	
Z-8	Head Cleaning Ribbon	1					

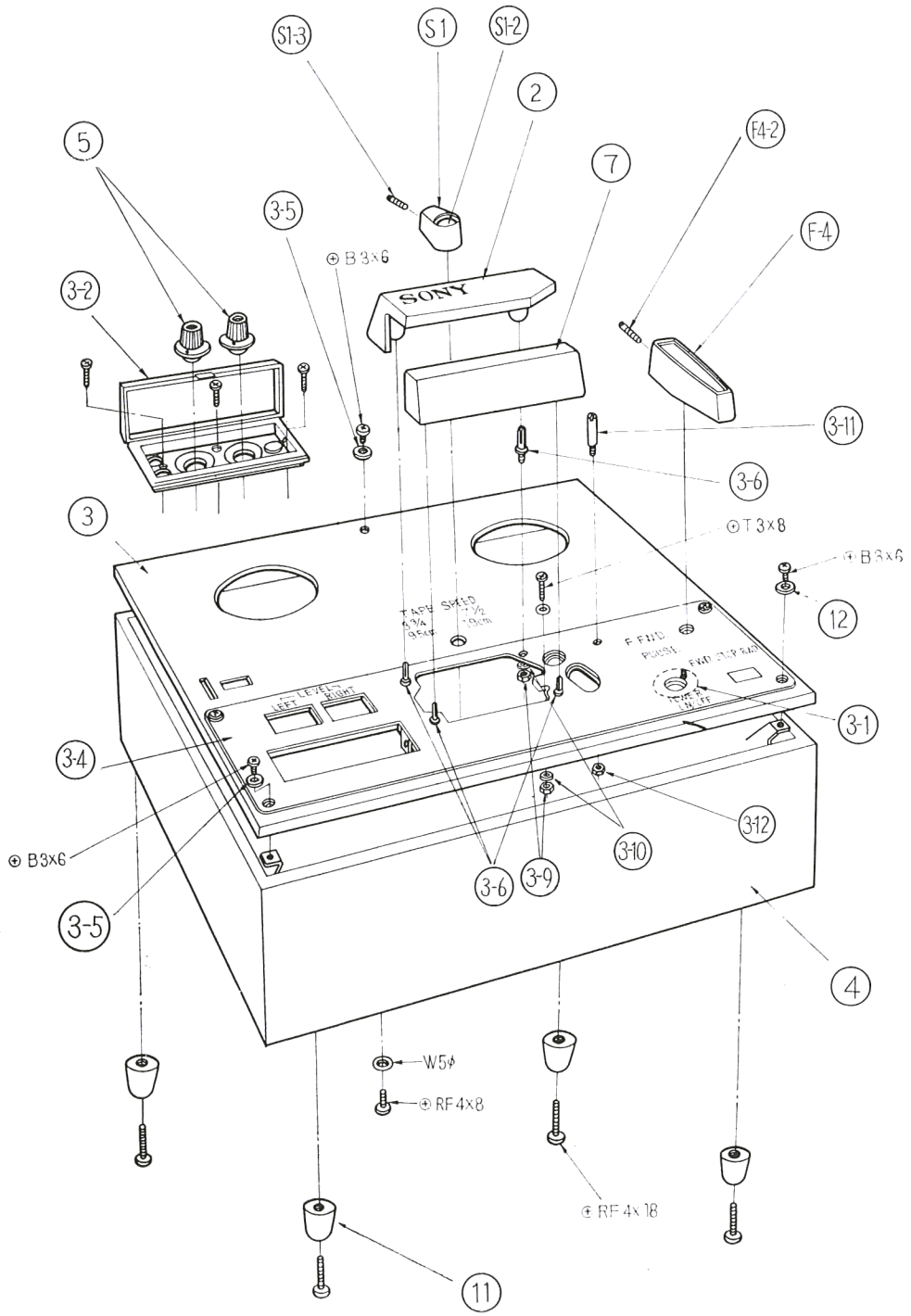
**Parts List**

**Cabinet & Appearance Items**

Symbol No.	Description	Q'ty	Remarks	Symbol No.	Description	Q'ty	Remarks
1	AC ON/OFF Push Button Assembly	1		4	Cabinet Assembly, including	1	
2	Head Cover (A) Assembly, including	1		4-1	Cabinet	(1)	
2-1	Head Cover Name Plate	(1)		4-2	Fan Cover	(1)	
2-2	Head Cover (A)	(1)		4-3	Washer 3 $\phi$	(4)	
3	Reel Panel Assembly, including	1		4-4	Spring Washer	(4)	
3-1	Pilot Lamp Cover	(1)		4-5	Nut 3 $\phi$	(4)	
3-2	Recording Box	(1)		4-6	Screw $\oplus$ B 3 $\times$ 12	(4)	
3-3	Reel Panel	(1)		4-7	Cushion for Circuit Board	(1)	
3-4	Ornamental Panel	(1)		5	Volume Control Knob Assembly	2	
3-5	Washer for Reel Panel	(1)		6	Recording Button	1	II-R-9
3-6	Head Cover (B) Mounting Stud	(4)		7	Head Cover (B)	1	
3-7	Screw $\oplus$ RF 2 $\phi$ $\times$ 8	(3)		8	Sticker (on Cabinet Bottom)	1	
3-8	Screw $\oplus$ B 3 $\phi$ $\times$ 5	(2)		9	Serial No. Plate	1	
3-9	Nut 3 $\phi$	(6)		10	Head Cover Mounting Stud	4	
3-10	Spring Washer 3 $\phi$	(4)		11	Rubber Foot	4	
3-11	Tape Guide	(1)		12	Washer for Reel Panel	5	
3-12	Lock Nut 2.6 $\phi$	(1)		13	Function Selector Knob Assembly	1	II-F-4
3-13	Nut Plate	(3)					

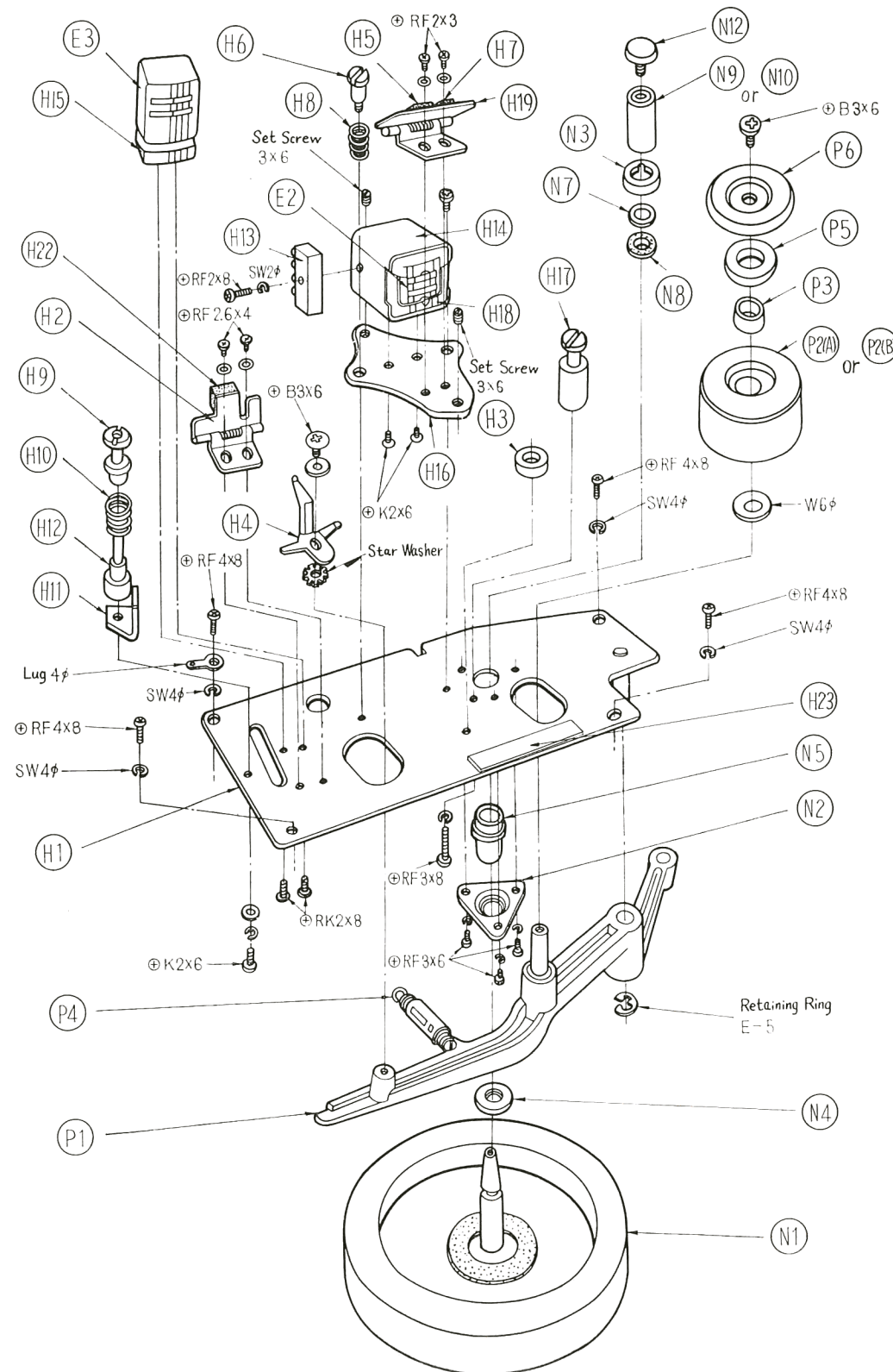
# Exploded Diagram

(1)



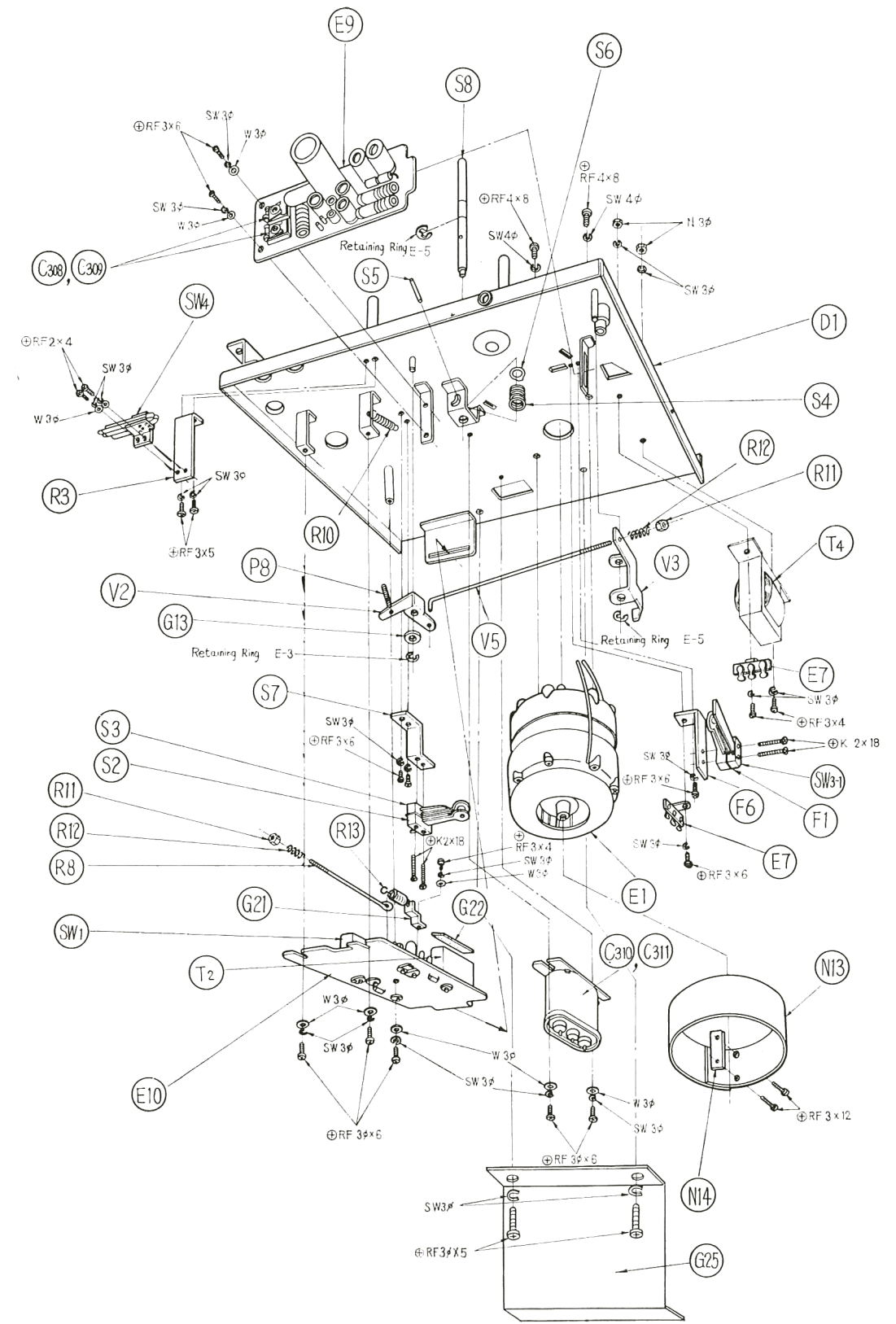
Exploded Diagram

(2)

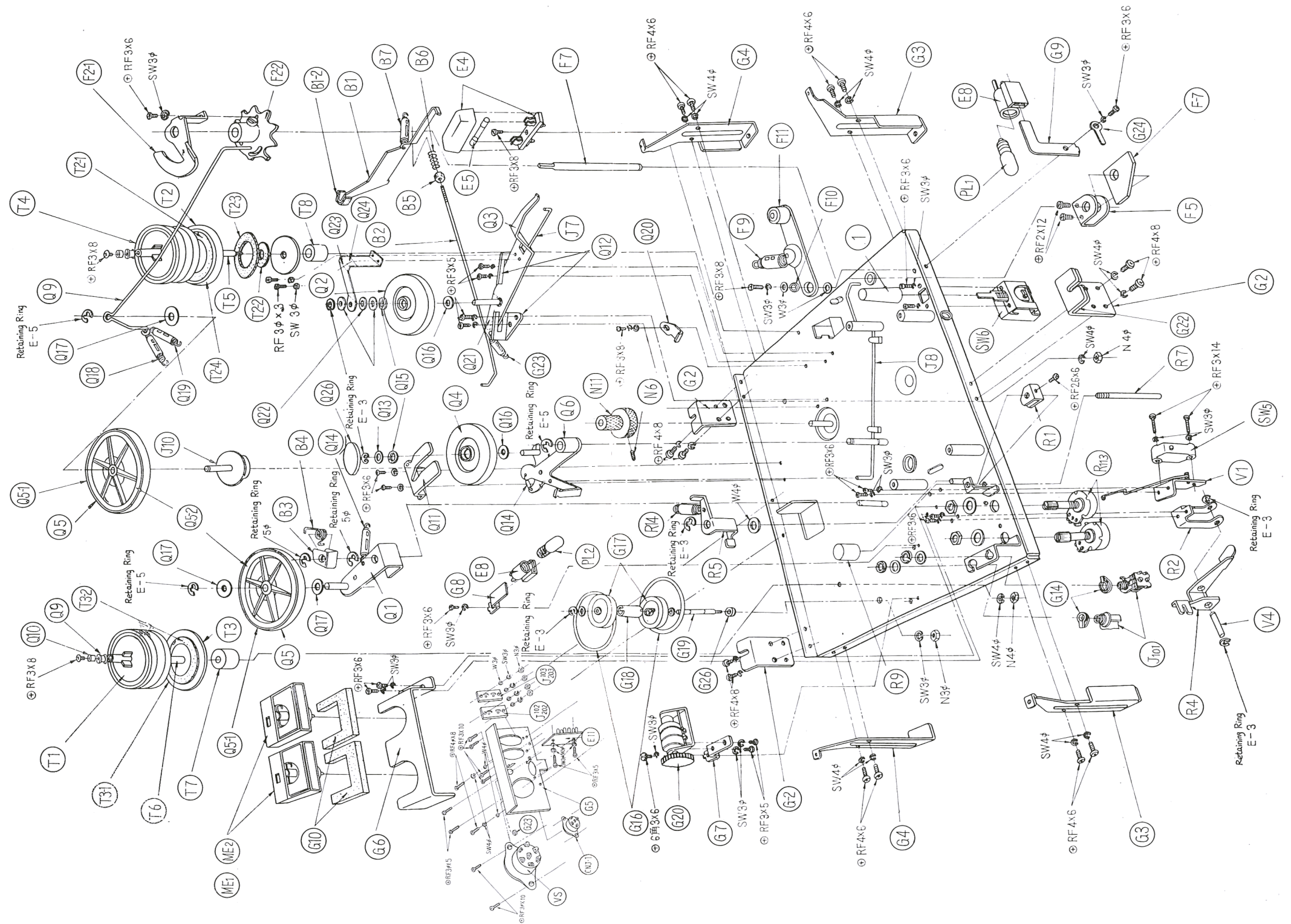


Exploded Diagram

(3)



Exploded Diagram  
(4)

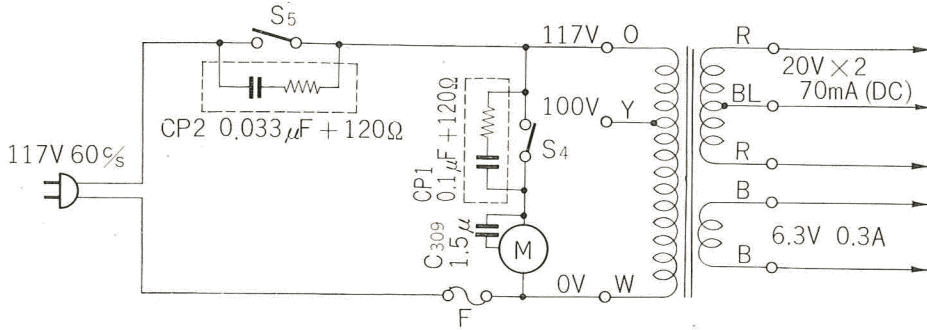


SONY CORPORATION



### Circuit Schematic

—Power Supply Section for U. S. A.—



**NOTE:** This Power Supply Section is common to all serial numbers.

### Parts List for U. S. A. (additional)

Ref. No.	Part No.	Description	Q'ty
	1-441-127-12	TRANSFORMER, power T <sub>1</sub>	1
	1-534-330-11	CORD w/plug, UL	1
	3-790-217-22	INSTRUCTION MANUAL	1
	3-796-111-11	INSPECTION CARD	1
	X-37010-06-	TAG LABEL ASS'Y	1
	X-34038-05-	PINCH ROLLER ASS'Y, 17 screen	1
	3-419-206-	NAME PLATE, UL	1

