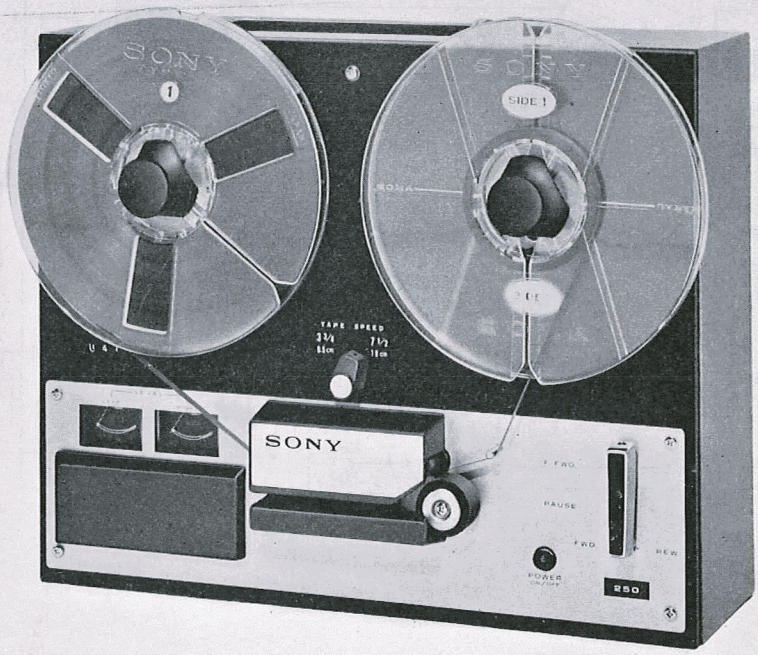
TC-250A

FROM SERIAL NUMBER

00001 TO 60500



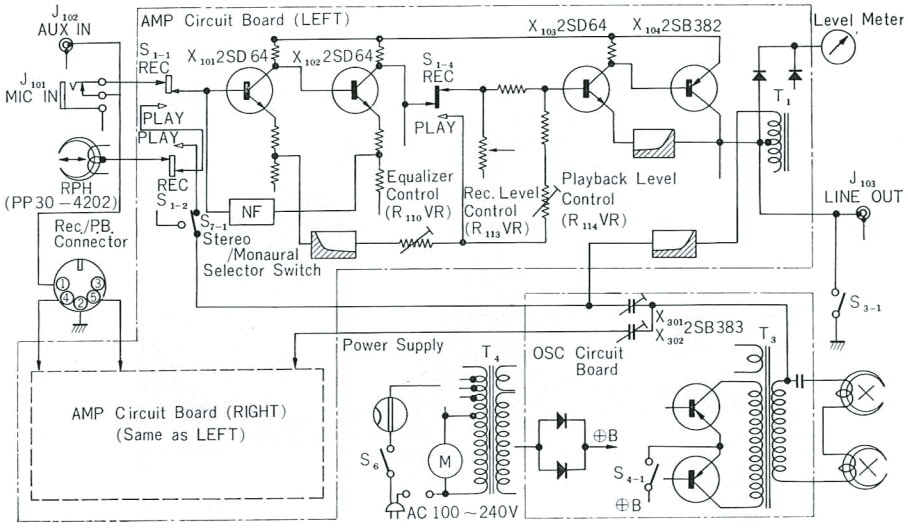
Specifications

Power Requirement :	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
Tape Speeds :	Instantaneous selection 7-1/2 ips or 3-3/4 ips (19 or 9.5 cm/s)
Frequency Response :	30~18,000 c/s at 7-1/2 ips
	±3 dB 50~15,000 c/s at 7-1/2 ips
	30~13,000 c/s at 3-3/4 ips
Signal-to-Noise Ratio :	Better than 50 dB
Flutter and Wow :	Less than 0.19% at 7-1/2 ips
	Less than 0.25% at 3-3/4 ips
Bias Frequency :	Approx. 55 Kc
Level Indication :	Two VU Meters (calibrated to 0 dB at 12 dB below saturation)
Inputs :	Microphone inputs (low impedance)
	Auxiliary inputs (high impedance)
Output :	Line outputs (low impedance)
	Auxiliary Record/Playback Connector
Transistors :	2SD64 (×6), 2SB382 (×2), 2SB383 (×2)
Weight :	Approx. 16.9 lbs. (7.7 Kg)
Dimensions :	14.2″ W×11.4″ D×6.3″ H
	(360 W×287 D×158 H mm)

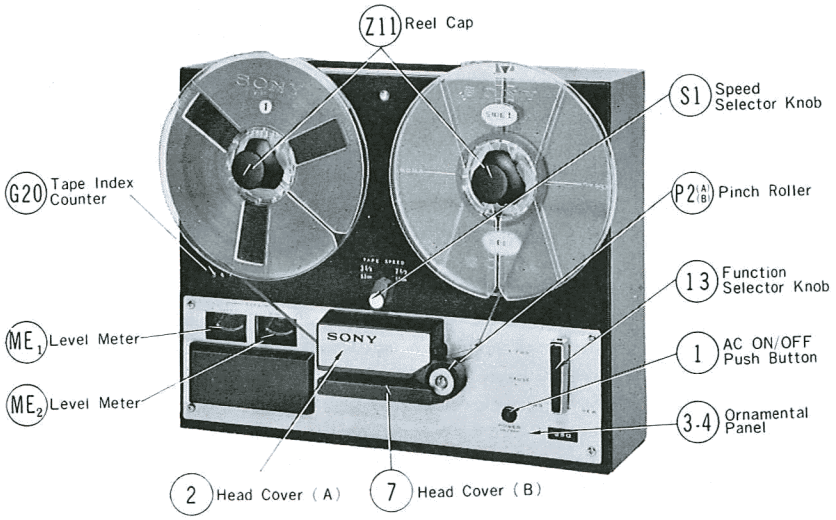
SONY®

SERVICING GUIDE

Block Diagram

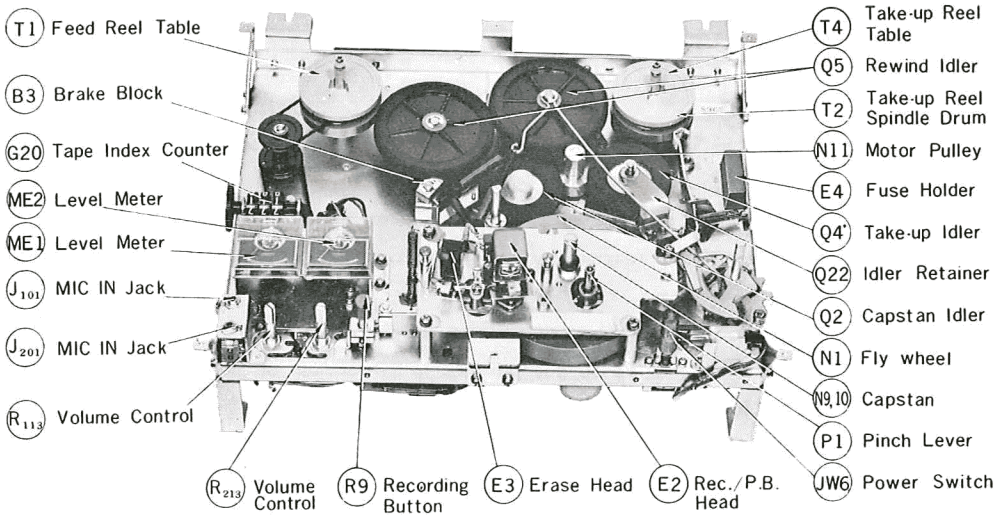


CABINET



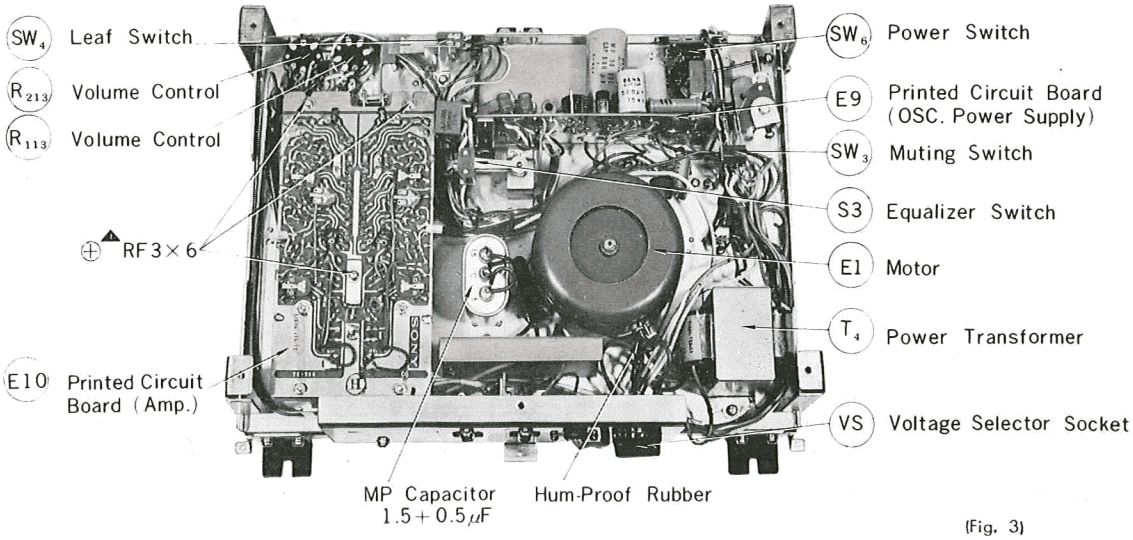
(Fig. 1)

MECHANICAL SECTION



(Fig. 2)

AMPLIFIER SECTION



(Fig. 3)

Removal of Cabinet

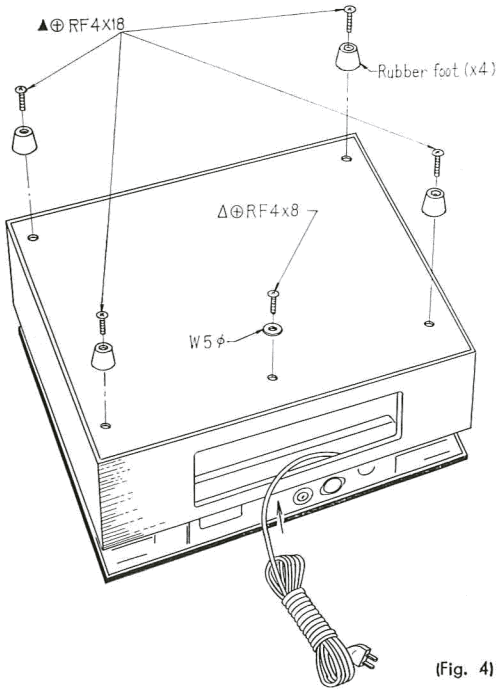
1. Turn up-side down the recorder on a soft pad.
2. Remove four Screw (▲+RF 4×18) with four Rubber Feet and one Screw (△+RF4×8) with 5ϕ Washers as shown in Fig. 4.
3. Lift up the Cabinet gently.

Removal of Reel Panel

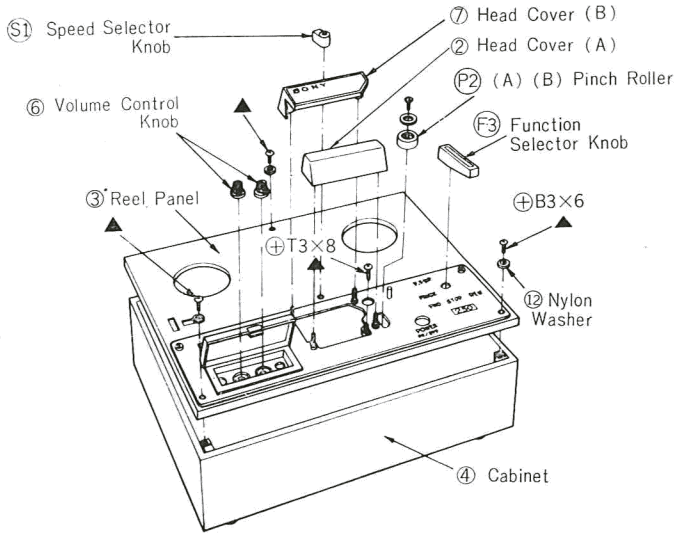
1. Remove two Head Covers.
2. Remove Function Selector Knob, Speed Selector Knob and Pinch Roller by loosening the respective Set Screws.
3. Remove four Screws marked with ▲ in Fig. 5.
4. Open the Rec. Control Cover and pull out two Rec. Lever Control Knobs.

   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-assemblying 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

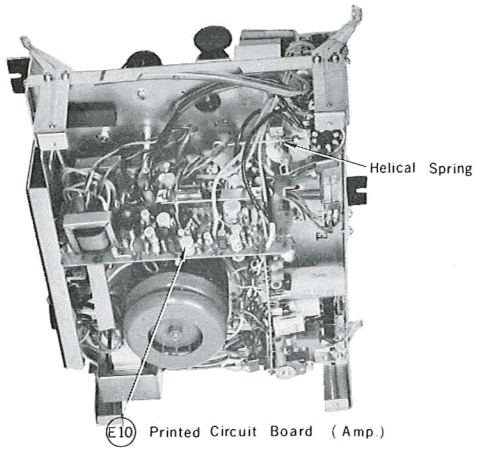
Printed Circuit Boards can be checked without disassembled. When it is necessary to remove the Circuit Boards, proceed as follows ;

Circuit Board for Power Supply and OSC Section

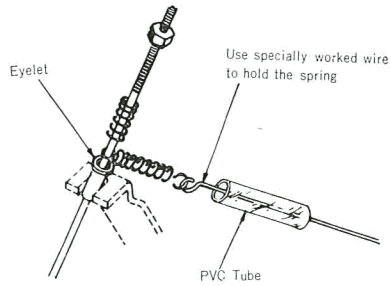
Take out two Holding Screws and remove the Circuit Board taking care not to cut the attached leads.

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)



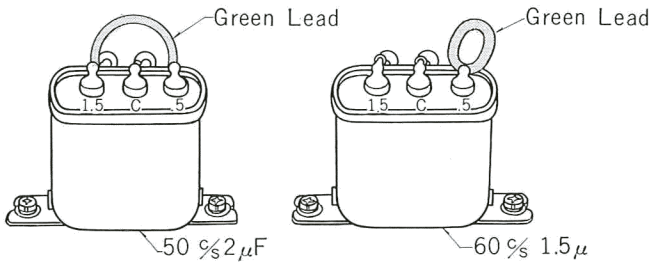
(Fig. 7)

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-assemblying 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 (2μF)	Disconnected (1.5μF)
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)

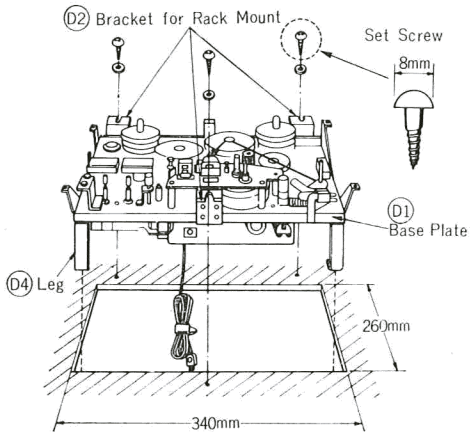
To Install the Unit to other Equipment

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

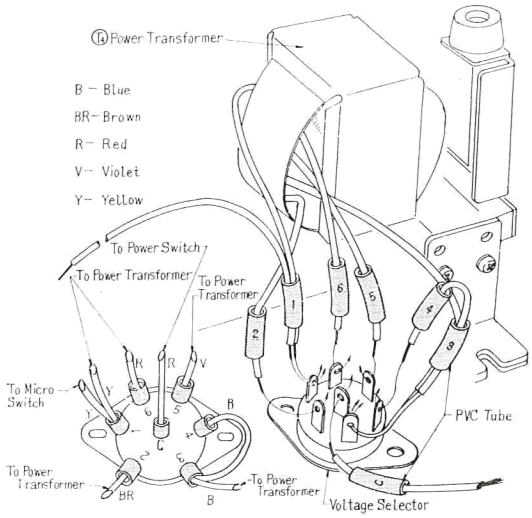
1. Remove the Reel Panel refering to Fig. 5.
2. Remove the Cabinet refering to Fig. 4.
3. Install the unit in the opening (340 × 260 mm, 13.4″ × 10.2″) on the Board with three Wood Screws, ((+)B 3×6) and Rack Mounting Brackets as shown in Fig. 9.

Lead Connection for Voltage Selector Socket

When Power Transformer Voltage Selec'or 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 KΩ, load resistor in parallel with the VTVM terminals and connect the VTVM to the LINE OUT Jack.

Elevation Alignment

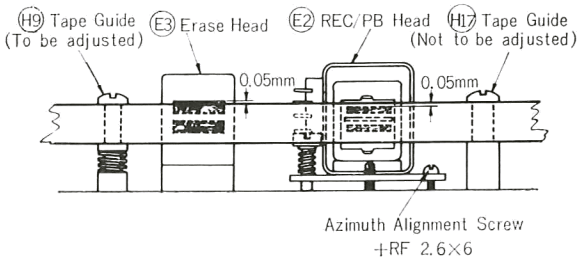
The exact vertical positionings of the Heads are adjusted at the factory and should never need readjustment. However, when replacing Head or Tape Guide, height of the replaced part in relation to the tape must be checked as follows ;

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.

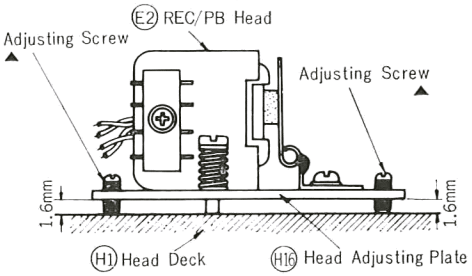
Azimuth Alignment

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 hight 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.



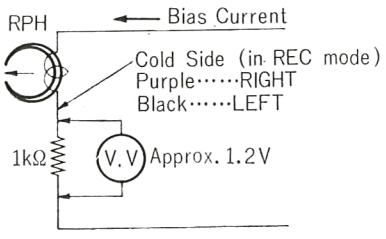
(Fig. 11)



(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 KΩ resistor in parallel between the Rec./P.B. Head and the unsoldered lead. (See Fig. 13)
3. Place the recorder is record mode.
4. Adjust Trimmer Capacitor(s) (RIGHT...C_{309}, LEFT...C_{308}) shown on page 12 to obtain 1.2 V reading on the VTVM.



(Fig. 13)

Meter Calibration

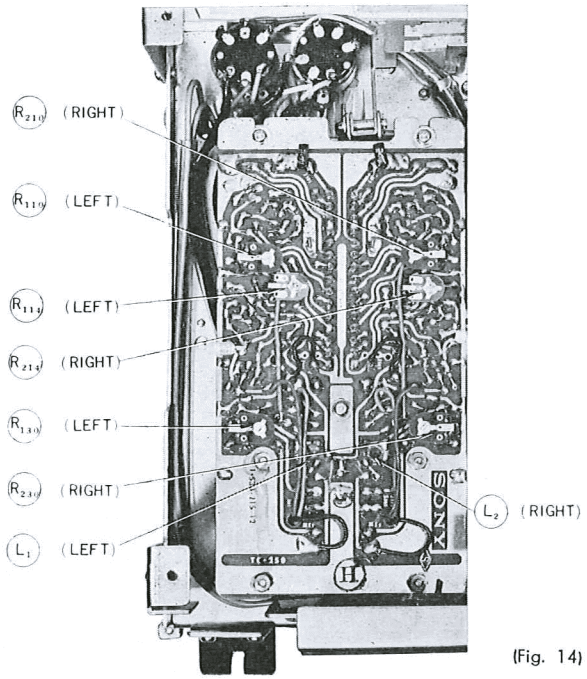
1. Playback record section of the alignment Tape " N-19-F1 " (700 c/s, −12 dBs).
2. Adjust the Potentiometer R_{114} (R_{214}) shown in Fig. 14 so that the VTVM indicates 0 dBs (0.775 V).
3. Adjust the potentiometer R_{113} (R_{213}) shown in Fig. 14 so that the Level Meter leads 0 VU (100%).

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.

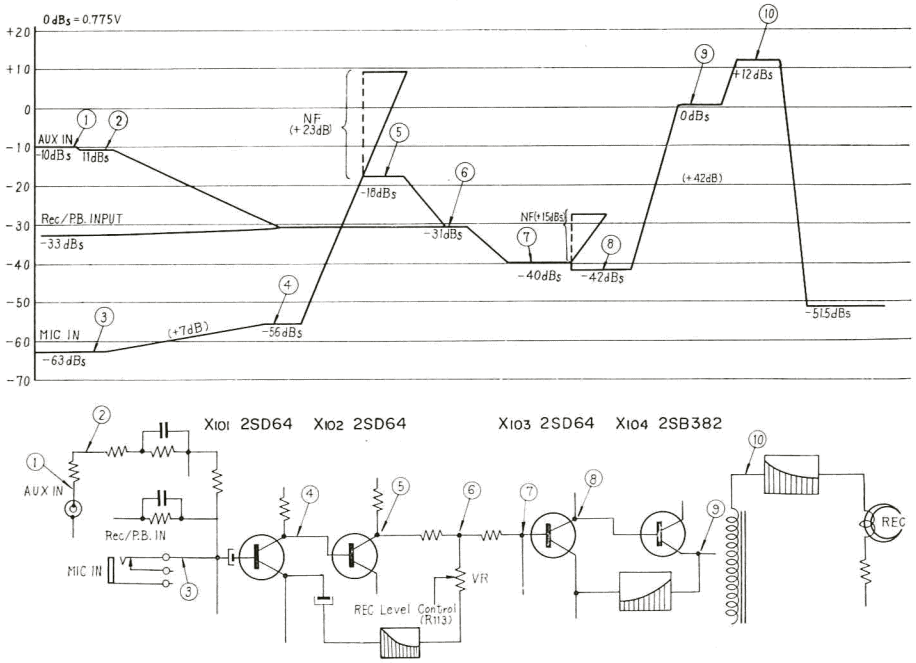
Bias Trap Adjustment

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.

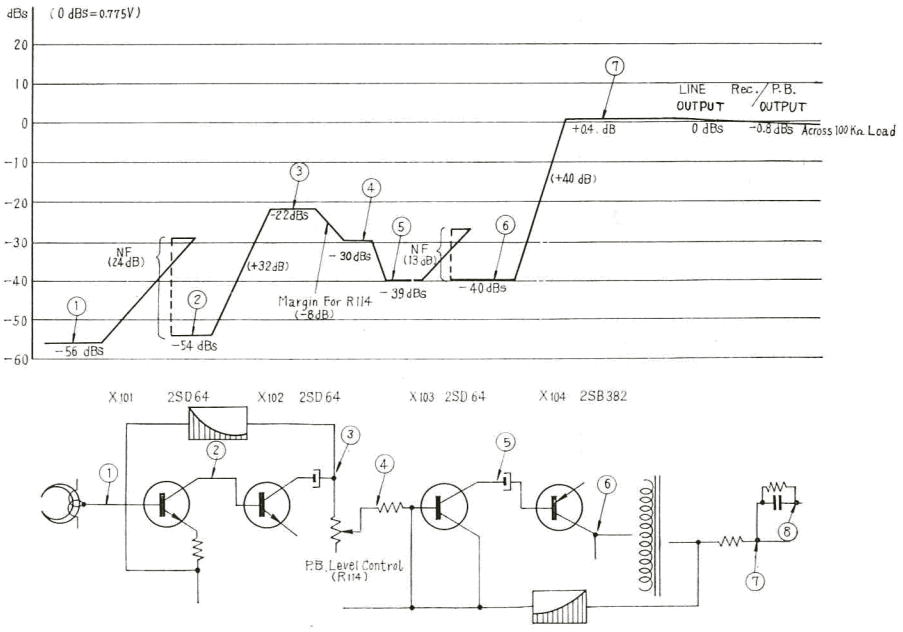


(Fig. 14)

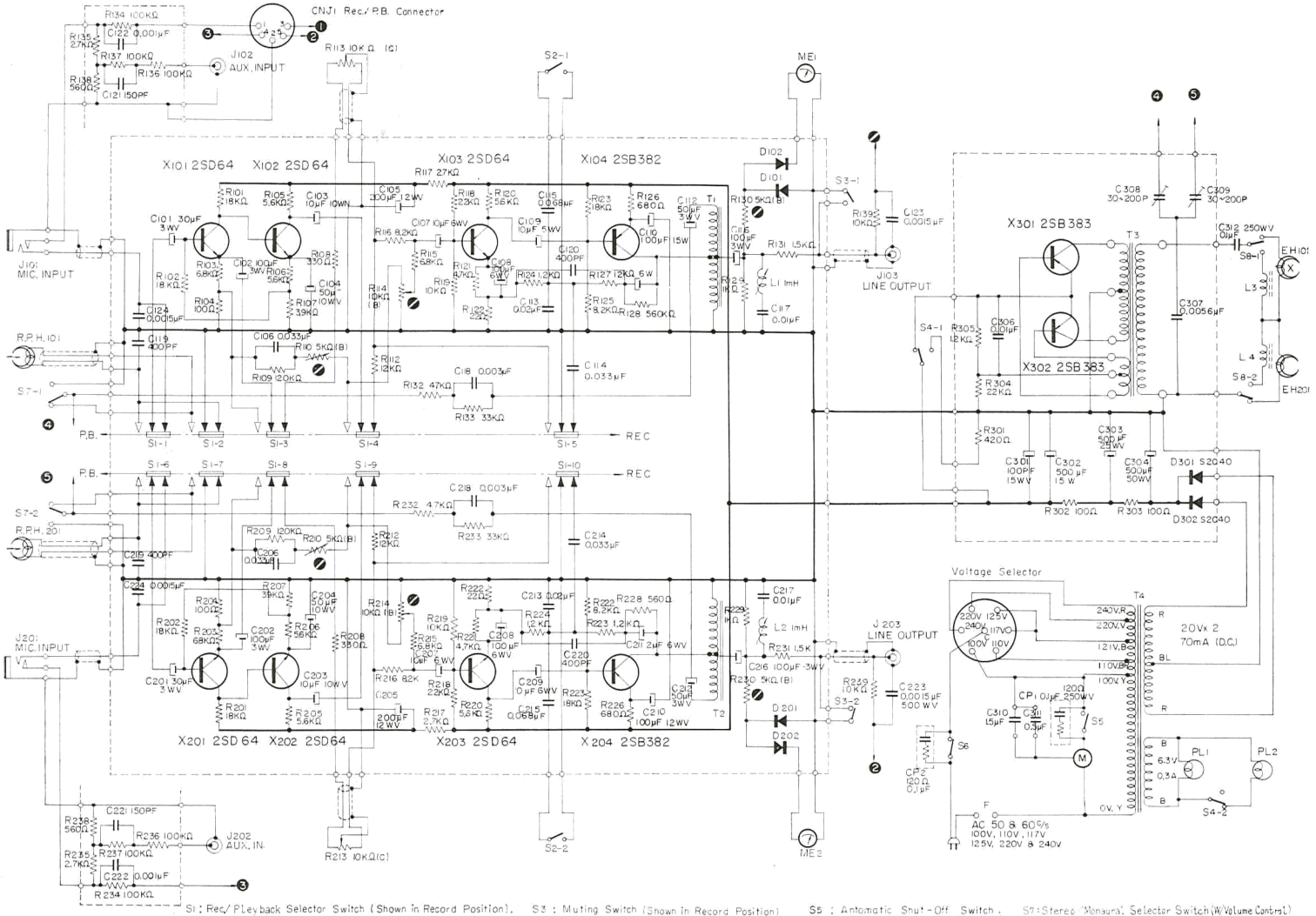
Recording Level Diagram



Playback Level Diagram



Circuit Schematic

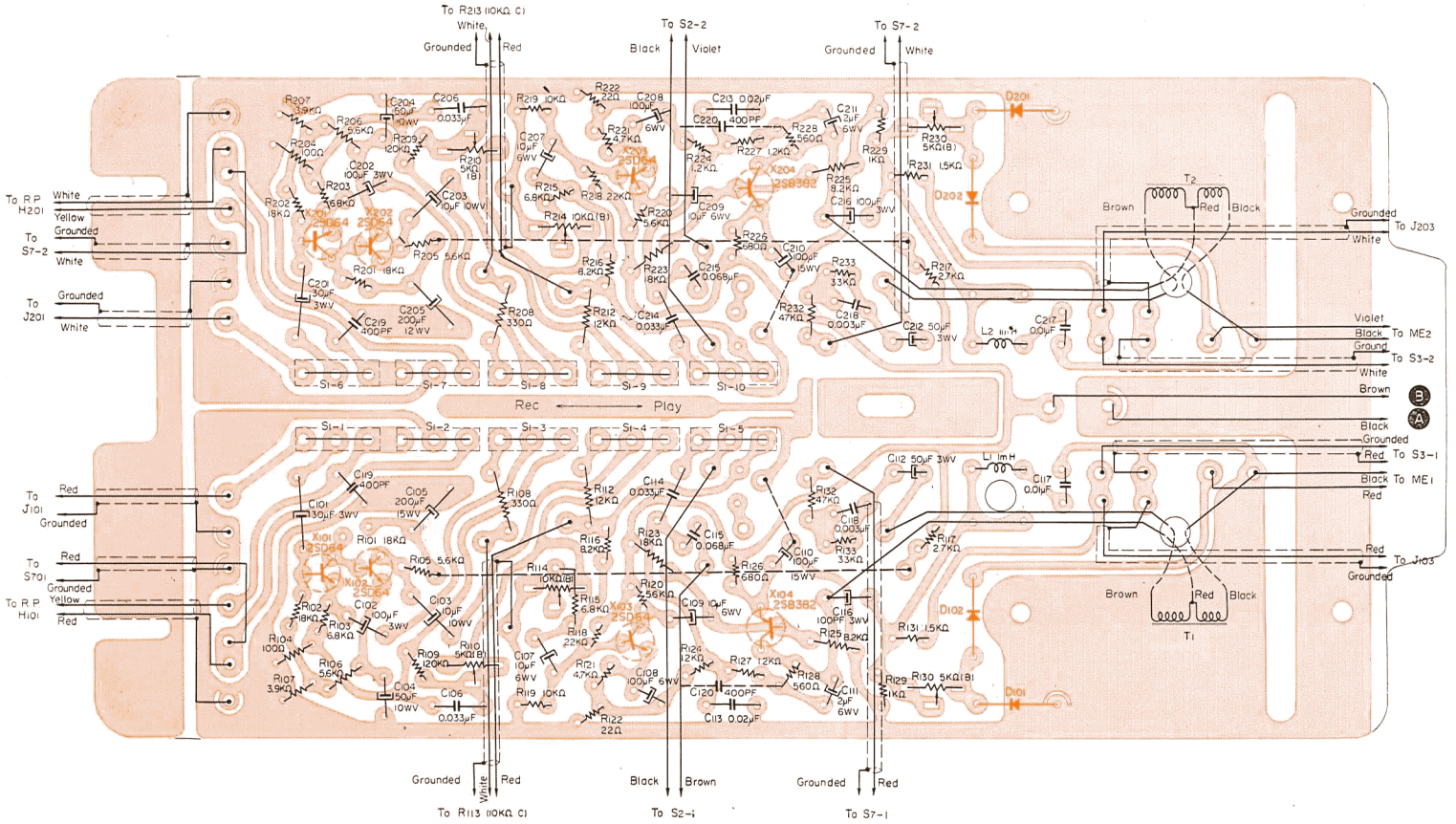


S1 : Rec./Playback Selector Switch (Shown in Record Position). S3 : Muting Switch (Shown in Record Position) S5 : Automatic Shut-Off Switch. S7 : Stereo/Monaural Selector Switch (W/Volume Control)
S2 : Equalizer Switch (Shown in 7-1/2 ips Position). S4 : Record Lamp/OSC Switch (Shown in Record Position). S6 : A.C. Power ON/OFF Switch.

Mounting Diagram

Amplifier Section

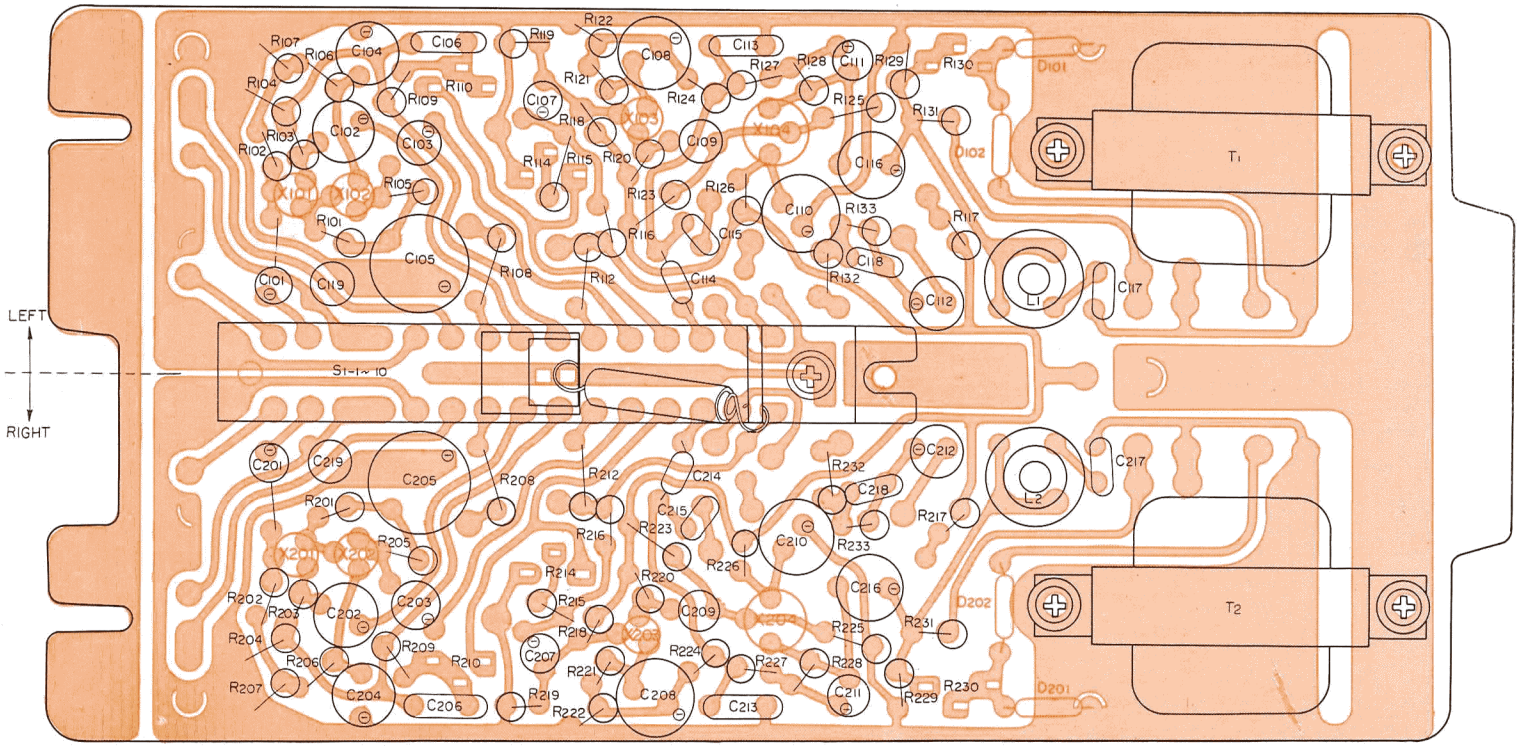
—Printed Side—



Mounting Diagram

Amplifier Section

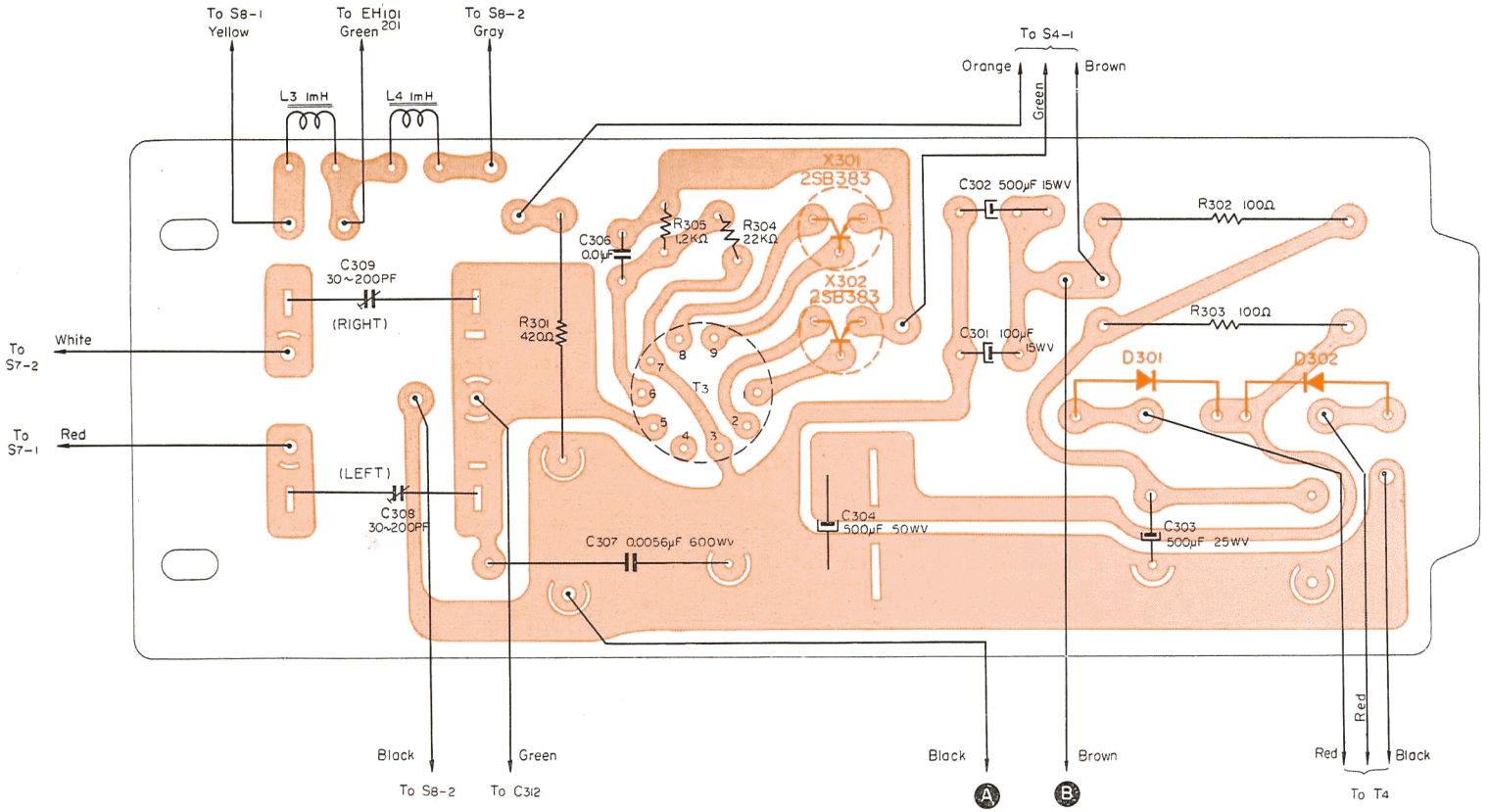
—Parts Side—



Mounting Diagram

Power Supply and OSC Section

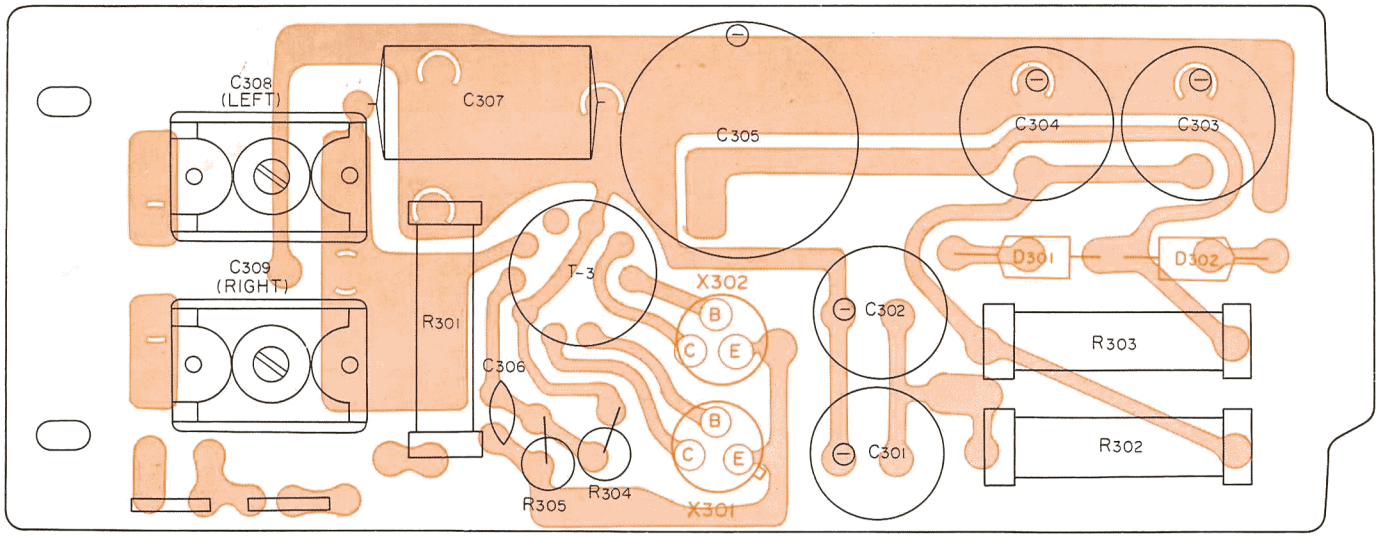
—Printed Side—



Mounting Diagram

Power Supply and OSC Section

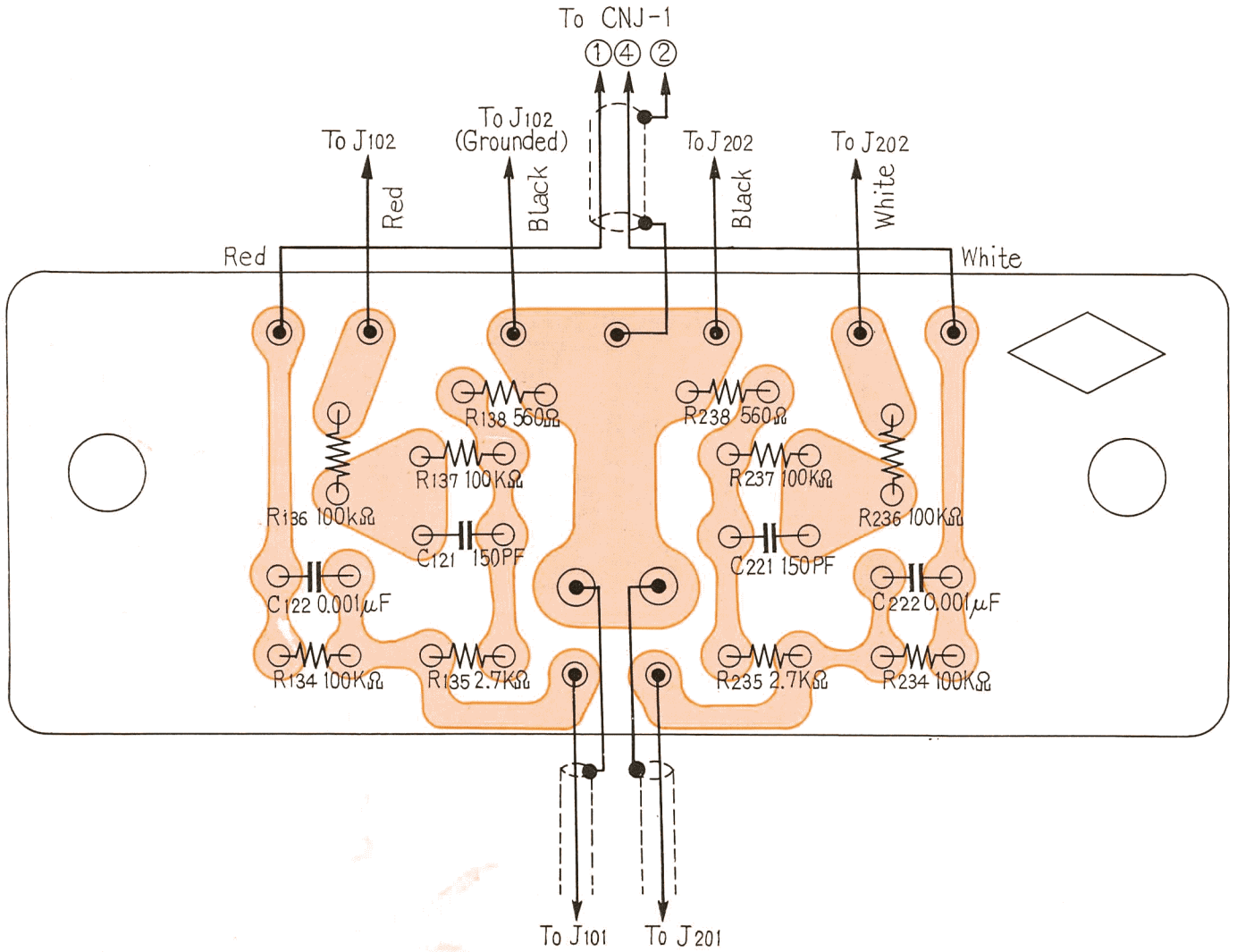
—Parts Side—



Mounting Diagram

Aux Input Section

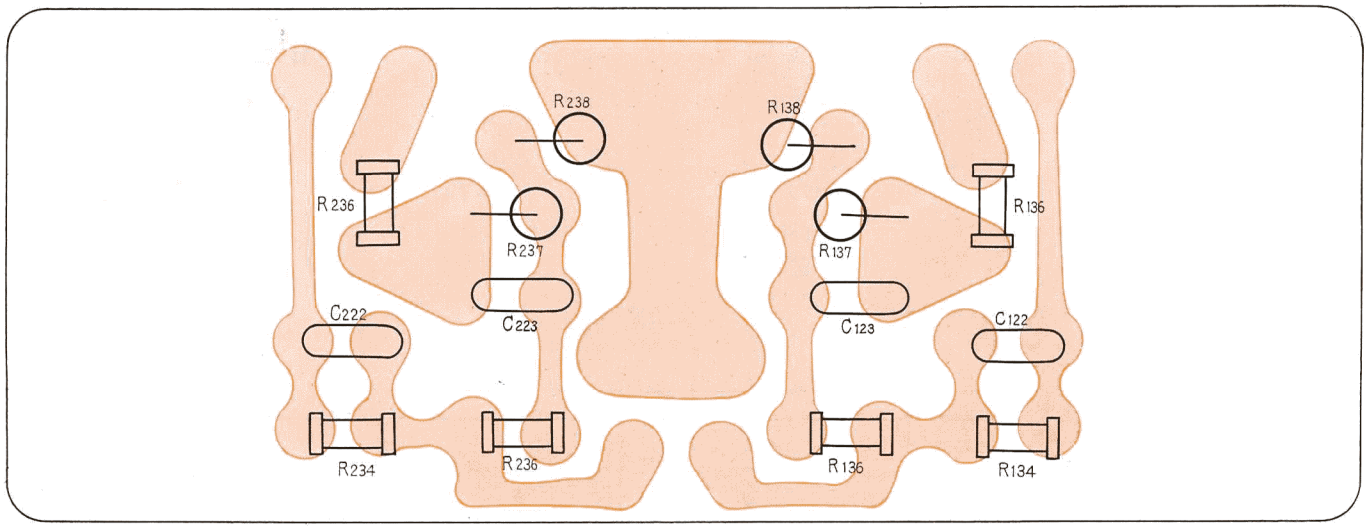
—Printed Side—



Mounting Diagram

Aux Input Section

—Parts Side—



Parts List

Electrical Parts

Symbol No.	Description	Q'ty	Remarks
	E. Electrical Parts (General)		
E–1	Motor IC-624	1	
E–2	Rec./P.B. Head PP30-4202	1	II-H–20
E–3	Erase Head EF18-2902 (H)	1	II-H–21
E–4	Fuse Holder	1	
E–5	Fuse 0.8A	1	
E–6	Power Cord with Plug	1	
E–7	Terminal Strip IL-2P	2	
E–8	Pilot Lamp Socket	2	
E–9	Printed Circuit Board (OSC, Power Supply)	1	
E–10	Printed Circuit Board (Amplifier)	1	
E–11	Printed Circuit Board (AUX INPUT)	1	
E–12	Encapsulated Component 0.1μF+120 ohms	2	
X_{101}	Transistor 2SD64-3	1	
X_{102}	// 2SD64-3	1	
X_{103}	// 2SD64-5	1	
X_{104}	// 2SB382-2	1	
X_{201}	// 2SD64-3	1	
X_{202}	// 2SD64-3	1	
X_{203}	// 2SD64-5	1	
X_{204}	// 2SB382-2	1	
X_{301}	// 2SB383-1	1	
X_{302}	// 2SB383-1	1	
D_{101}	Diode 1T206	1	
D_{102}	// 1T206	1	
D_{201}	// 1T206	1	
D_{202}	// 1T206	1	
D_{301}	Power Diode S2C40	1	
D_{302}	// S2C40	1	
J_{101}	Miniature Jack	1	
J_{102}	2 Pin Jack	1	
J_{103}	2 Pin Jack	1	
J_{201}	Miniature Jack	1	
J_{202}	2 Pin Jack	1	
J_{203}	2 Pin Jack	1	
PL_1	Pilot Lamp	1	
PL_2	//	1	
SW_1	Rec./P.B. Selector Switch	1	
SW_{3-1}	Leaf Switch (Muting)	1	
SW_4	// (OSC/Meter Lamp)	1	
SW_5	Pilot Lamp Switch	1	
SW_6	Power ON/OFF Switch	1	
SW_7	Stereo/monural Selector Switch (w/Volume Control)	1	
ME_1	Level Meter	1	
ME_2	//	1	
S_2	Equalizer Switch A		
S_3	Equalizer Switch B		
VS	Voltage Selector Socket	1	
CNJ_1	Rec./P.B. Connector	1	
T_1	Output Transformer	1	
T_2	Output Transformer	1	
T_3	Oscillation Transformer	1	
T_4	Power Transformer	1	
L_1	Trap Coil 1 mH	1	
L_2	Trap Coil 1 mH	1	
L_3	Dummy Coil 1 mH	1	
L_4	Dummy Coil 1 mH	1	
	C. Capacitors		
$C_{101, 201}$	Electrolytic Capacitor 30μF 3WV	2	
$C_{102, 202}$	// 100μF 3WV	2	
$C_{103, 203}$	// 10μF 10WV	2	
$C_{104, 204}$	// 50μF 10WV	2	
$C_{105, 205}$	// 200μF 12WV	2	
$C_{106, 206}$	Mylar Capacitor 0.033μF 50WV	2	
$C_{107, 207}$	Electrolytic Capacitor 10μF 6WV	2	
$C_{108, 208}$	// 100μF 6WV	2	
$C_{109, 209}$	// 10μF 15WV	2	
$C_{110, 210}$	// 100μF 15WV	2	
$C_{111, 211}$	// 2μF 6WV	2	
$C_{112, 212}$	// 50μF 3WV	2	
$C_{113, 213}$	Mylar Capacitor 0.02μF 50WV	2	
$C_{114, 214}$	// 0.033μF 50WV	2	
$C_{115, 215}$	// 0.068μF 50WV	2	
$C_{116, 216}$	Electrolytic Capacitor 100μF 3WV	2	
$C_{117, 217}$	Mylar Capacitor 0.01μF 50WV	2	
$C_{118, 218}$	// 0.003μF 50WV	2	
$C_{119, 219}$	Polyethylene Film Capacitor 400PF 50WV	2	
$C_{120, 220}$	400PF 50WV	2	
$C_{121, 221}$	Silvered Mica Capacitor 150PF 500WV	2	
$C_{122, 222}$	Mylar Capacitor 0.001μF 500WV	2	
$C_{123, 223}$	// 0.0015μF 500WV	2	
C_{301}	Electrolytic Capacitor 100μF 15WV	1	
C_{302}	// 500μF 15WV	1	
C_{303}	// 500μF 25WV	1	
C_{304}	// 500μF 25WV	1	
C_{306}	Mylar Capacitor 0.01μF 50WV	1	
C_{307}	Polyethylene Capacitor 0.0056μF 600WV	1	
C_{308}	Trimmer Capacitor	1	
C_{309}	Trimmer Capacitor	1	
$C_{310, 311}$	MP Capacitor 1.5μF+0.5μF	1	
C_{312}	MP Capacitor 0.1μF	1	
	R. Resistors		
$R_{101, 201}$	Carbon 18 KΩ RD1/8RL	2	
$R_{102, 202}$	// 18 KΩ //	2	
$R_{103, 203}$	// 6.8 KΩ //	2	
$R_{104, 204}$	Composition 100 Ω RC1/4	2	
$R_{105, 205}$	// 5.6 KΩ RC1/2	2	
$R_{106, 206}$	// 5.6 KΩ //	2	
$R_{107, 207}$	// 3.9 KΩ //	2	
$R_{108, 208}$	// 330 Ω RC1/4	2	
$R_{109, 209}$	// 120 KΩ //	2	
$R_{110, 210}$	Adjustable 5 KΩ	2	
$R_{112, 212}$	Composition 12 KΩ RC1/2	2	
$R_{113, 213}$	Volume Control 10 KΩ (C)	2	
$R_{114, 214}$	Adjustable 10 KΩ (B)	2	
$R_{115, 215}$	Composition 6.8 KΩ RC1/2	2	
$R_{116, 216}$	// 8.2 KΩ //	2	

Parts List

Symbol No.	Description	Q'ty	Remarks
$R_{117, 217}$	Composition 2.7 KΩ RC1/4	2	
$R_{118, 218}$	Carbon 22 KΩ RD1/8RL	2	
$R_{119, 219}$	〃 10 KΩ 〃	2	
$R_{120, 220}$	〃 5.6 KΩ 〃	2	
$R_{121, 221}$	Composition 4.7 KΩ RC1/2	2	
$R_{122, 222}$	〃 22Ω RC1/4	2	
$R_{123, 223}$	〃 18 KΩ 〃	2	
$R_{124, 224}$	〃 1.2 KΩ 〃	2	
$R_{125, 225}$	〃 8.2 KΩ RC1/2	2	
$R_{126, 226}$	〃 680Ω 〃	2	
$R_{127, 227}$	〃 1.2 KΩ RC1/4	2	
$R_{128, 228}$	〃 560Ω 〃	2	
$R_{129, 229}$	〃 1 KΩ 〃	2	
$R_{130, 230}$	Adjustable 5 KΩ (B)	2	
$R_{131, 231}$	Composition 1.5 KΩ RC1/4	2	
$R_{132, 232}$	Composition 47 KΩ RC1/4	2	
$R_{133, 233}$	〃 33 KΩ 〃	2	
$R_{134, 234}$	Carbon 100 KΩ RD1/8RL	2	
$R_{135, 235}$	〃 2.7 KΩ 〃	2	
$R_{136, 236}$	〃 100 KΩ 〃	2	
$R_{137, 237}$	〃 100 KΩ 〃	2	
$R_{138, 238}$	〃 560Ω 〃	2	
$R_{139, 239}$	〃 10 KΩ RD1/8L	2	
R_{301}	Carbon 420Ω RD 1 L	1	
R_{302}	〃 100Ω 〃	1	
R_{303}	〃 100Ω 〃	1	
R_{304}	〃 22 KΩ RC1/2	1	
R_{305}	〃 1.2 KΩ RC1/4	1	

Parts List

Mechanical Parts

Symbol No.	Description	Q'ty	Remarks
	B. Brake Block		
B–1	Brake Lever Assembly, including	1	
B–1–1	Brake Lever	(1)	
B–1–2	Brake Felt	(1)	
B–2	Push Rod for Pause	1	
B–3	Brake Block	1	
B–4	Brake Block Spring	1	
B–5	Split Nut	3	
B–6	Spring for Push Rod	1	
B–7	Spring for Brake Lever	1	
	F. Function Selector Mechanism		
F–1	Muting Switch Assembly	1	
F–2	Function Selector Cam Assembly, including	1	
F–2–1	Function Selector Cam Boss	(1)	
F–2–2	Fast Forward Cam	(1)	
F–3	Function Selector Knob Assembly, including	1	
F–3–1	Function Selector Knob	(1)	
F–3–2	Set Screw for Function Selector Knob	(1)	
F–4	Cam for Actuator	1	
F–5	Muting Switch Holding Bracket	1	
F–6	Cam Shaft	1	
F–7	Cam for Muting Switch	1	
F–8	Stepper Spring	1	
F–9	Stepper Shaft	1	
F–10	Stepper Arm	1	
	G. Deck		
G–1	Base Plate Assembly, including	1	
G–1–1	Thrust Washer	(1)	
G–2	Rack Mounting Holding Bracket Assembly, including	3	
G–2–1	Rack Mounting Holding Bracket	(1)	
G–2–2	Rack Mounting Cushion	(1)	
G–3	Metal Leg (A)	2	
G–4	Metal Leg (B)	2	
G–5	Jack Holding Bracket	1	
G–6	Level Meter Holder	1	
G–7	Tape Counter Holding Bracket	1	
G–8	Meter Lamp Holder	1	
G–9	Pilot Lamp Holder	1	
G–10	Cushion for Level Meter	2	
G–11	Idler Guide Bracket	1	Q–11
G–12	Idler Guide	2	Q–12
G–13	Polyethylene Washer for Reel Panel	1	
G–14	Miniature Input Jack Spacer	1	
G–15	Idler Guide (B)	1	Q–20
G–16	Counter Belt	2	
G–17	Counter Belt Pulley	2	
G–18	Counter Pulley Spacer	1	
G–19	Counter Pulley Shaft	1	
G–20	Tape Index Counter	1	
G–21	Slide Switch Holding Bracket	1	R–6
G–22	Cushion for Output Transformer	2	
G–23	Cord Stopper	1	
G–24	Lug Plate	1	
G–25	Shielding Plate	1	
G–26	Counter Pulley Spacer	1	
	H. Head Deck		
H–1	Head Deck Assembly	1	
H–2	Head Pad Hinge	1	
H–3	Panel Spacer	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
H–11	Tape Guard (B)	1	
H–12	Tape Guide Shaft	1	
H–13	Head Terminal Plate	1	
H–14	Shield Case (A)	1	
H–15	Erase Head Sheet	1	
H–16	Rec./P.B. Head Adjusting Plate	1	
H–17	Tape Guide (Right)	1	
H–18	Spacer for Rec./P.B. Head Holding Bracket	1	
H–19	Head Shield Plate (s)	1	
H–20	Rec./P.B. Head PP30-4202	1	III-E–2
H–21	Erase Head EF18-2902 (H)	1	III-E–3
H–22	Head Pad	1	
H–23	Felt for Oil Retainer	1	
	N. Capstan and Flywheel		
N–1	Drive Shaft Assembly	1	
N–2	Bearing Retainer	1	
N–3	Bearing Cover	1	
N–4	Adjustment Washer	1	
N–5	Drive Shaft Bearing Metal	1	
N–6	Set Screw for Motor Pulley	1	
N–7	Oil Retainer Cover	1	
N–8	Oil Retainer	1	
N–9	Capstan 50 c/s	1	
N–10	// 60 c/s	1	
N–11	Motor Pulley	1	
N–12	Set Screw for Capstan	1	
N–13	Hum-Proof Belt for Capstan Motor	1	
N–14	Hum-Proof Belt Holding Plate	1	
	P. Pinch Roller		
P–1	Pinch Lever Assembly	1	
P–2 (A)	Pinch Roller (50 c/s)	1	
(B)	Pinch Roller (60 c/s)	1	
P–3	Pinch Roller Spacer	1	
P–4	Pinch Lever Spring	1	
P–5	Pinch Roller Oil Absorber	1	
P–6	Pinch Roller Covering Plate	1	
	Q. Idler Mechanism		
Q–1	Idler Arm Assembly (A)	1	
Q–2	Capstan Idler Assembly	1	
Q–3	Idler Plate Assembly	1	
Q–4	Take-up Idler Assembly, including	1	
Q–5	Rewind Idler Assembly	2	
Q–5–1	Idler Tire	(1)	
Q–5–2	Idler	(1)	
Q–6	Idler Arm Assembly (B)	1	
Q–7	Pull Rod (for Take-up Idler)	1	
Q–8	Pull Rod (for Capstan Idler)	1	
Q–9	Rewind Control Rod	1	
Q–10	Idler Shaft Assembly	1	
Q–11	Idler Guide Bracket	1	G–11
Q–12	Idler Guide	2	G–12
Q–13	Thin Washer 5ϕ	2	
Q–14	Helical Spring (A)	1	
Q–15	Oil Absorber	2	
Q–16	Paper Washer 5ϕ	2	
Q–17	Paper Washer	2	
Q–18	Idler Spring (A)	1	
Q–19	Idler Spring (B)	1	
Q–20	Idler Guide (B)	1	G–15
Q–21	Idler Cushion	1	
O–22	Idler Retainer (A)	1	
O–23	Rewind Spring	1	
O–24	Idler Retainer Cushion	1	
O–25	Oil Retainer for Capstan Idler	1	
	R. Recording Mechanism		
R–1	Recording Shaft Stopper Assembly, including	1	
R–1–1	Recording Shaft Stopper	(1)	
R–1–2	Screw ⊕RF 2.6ϕ×6	(1)	
R–2	Record Switching Lever Holder	1	
R–3	Leaf Switch Holding Bracket (for S_4)	1	
R–4	Record Switching Lever	1	
R–5	Recording Lever	1	
R–6	Slide Switch Holding Bracket	1	G–21
R–7	Recording Rod	1	
R–8	Slide Switch Control Rod	1	
R–9	Recording Button	1	I-6
R–10	Spring for Recording Lever	1	
R–11	Split Nut	1	
R–12	Spring for Slide Switch Control Rod	3	
R–13	Spring for Slide Switch	1	
R–14	Lock Lever Spring	1	
	S. Speed Selector Mechanism		
S–1	Speed Selector Knob Assembly, including	1	
S–1–1	Speed Selector Knob	(1)	
S–1–2	Decoration Plate for Speed Selector Knob	(1)	
S–1–3	Screw for Speed Selector Knob	(1)	
S–2	Equalizer Switch (A)	1	III-SW_2
S–3	// (B)	1	III-SW_3
S–4	Speed Selector Shaft Spring	1	
S–5	Speed Selector Shaft Pin	1	
S–6	Speed Selector Shaft Washer	1	
S–7	Equalizer Switch Holding Bracket	1	
S–8	Speed Selector Shaft	1	
	T. Reel Table Block		
T–1	Feed Reel Table Assembly, including	1	
T–1–1	Reel Table Spring	(1)	
T–1–2	Feed Reel Table	(1)	
T–1–3	Feed Table (Lower Part)	(1)	
T–1–4	Thrust Washer for Reel Table	(1)	
T–1–5	Friction Felt (s)	(1)	
T–1–6	Reel Table (Upper Part)	(1)	
T–1–7	Retaining Ring E-8	(1)	
T–2	Take-up Spindle Drum Assembly, including	1	
T–2–1	Friction Felt (Upper Side)	(1)	
T–2–2	Friction Felt (Lower Side)	(1)	
T–2–3	Oil Absorber	(1)	
T–2–4	Take-up Spindle Drum	(1)	
T–3	Feed Spindle Deck Assembly, including	1	
T–3–1	Feed Spindle Deck	(1)	
T–3–2	Feed Spindle Felt	(1)	
T–4	Take-up Reel Table Assembly, including	1	
T–4–1	Friction Felt for Reel Table	(1)	
T–4–2	Reel Table (Upper Part)	(1)	
T–4–3	Reel Table Deck	(1)	
T–4–4	Reel Table (Middle Part)	(1)	

Parts List

Symbol No.	Description	Q'ty	Remarks
T-4-5	Thrust Washer for Reel Table	(1)	
T-4-6	Reel Table Spring	(1)	
T-4-7	Retaining Ring E-8	(1)	
T-5	Take-up Spindle	1	
T-6	Feed Spindle	1	
T-7	Feed Spindle Spacer	1	
T-8	Take-up Spindle Spacer	1	
T-9	Reel Cap Spacer (A)	2	
T-10	// (B)	2	
	V. Automatic Shut-off Actuator		
V-1	Automatic Shut-off Actuator Assembly	1	
V-2	Actuator Lever	1	
V-3	Actuator Cam	1	
V-4	Automatic Shut-off Switch Lever Shaft	1	
V-5	Pull Rod for Actuator Lever	1	
	Y. Screws, Wires & Miscellaneous		
	Screw		
	⊖R 2φ×5	2	
	⊕RF 2φ×3	2	
	// 2φ×6	4	
	// 3φ×5	2	
	// 3φ×5	6	
	// 3φ×5	25	
	// 3φ×6	5	
	// 3φ×6	6	
	// 3φ×8	4	
	// 3φ×8	1	
	// 3φ×14	2	
	// 2.6φ×4	2	
	// 2.6φ×4	1	
	// 4φ×6	8	
	// 4φ×6	2	
	// 4φ×8	13	
	// 4φ×12	1	
	// 4φ×8	4	
	// 3φ×12	2	
	⊕K 2φ×5	1	
	// 2φ×6		
	// 2φ×20		
	⊕RK 2φ×10	2	
	⊕F 2.6φ×6	1	
	⊕B 3φ×5	2	
	// 3φ×6	5	
	// 3φ×12	4	
	⊕T 3φ×6	2	
	// 3φ×8	1	
	⊕RF 2φ×8	1	
	Setting Screw 3φ×6	2	
	Washer		
	2φ	5	
	3φ	26	
	4φ (Small)	2	
	6φ	1	
	3φ (Star Washer)	1	
	Spring Washer		
	2φ	3	
	2.6φ	2	

Symbol No.	Description		Q'ty	Remarks
	3φ		60	
	4φ		23	
	Nut			
	3φ		13	
	3φ (Lock Nut)		5	
	4φ		2	
	Retaining Ring			
	E-3		9	
	E-5		18	
	Eyelet			
	2.5φ×6		1	
	P. V. C. Wire		mm	
	11/0.16×1.45	Black	1,500	
	//	Brown	720	
	//	Red	840	
	//	Orange	350	
	//	Green	850	
	//	Blue	1,820	
	//	Violet	400	
	//	Gray	180	
	//	White	250	
	11/0.16×2.4	Yellow	400	
	//	Green	70	
	//	White	320	
	P. V. C. Tube			
	3.2φ	Clear	16	
	4φ	//	640	
	4.5φ	//	17	
	5.2φ	//	58	
	6φ	//	150	
	6.2φ	//	83	
	7φ	//	110	
	7.2φ	//	44	
	10φ	//	230	
	12φ	//	33	
	1φ	Black	11	
	3φ	//	22	
	4φ	//	62	
	5φ	Yellow	14	
	1φ	//	1,000	
	Spaghetti Tube		mm	
	1φ	Yellow	72	
	Shielded Wire (Single Conductor)		mm	
	0.12/16×2.6φ	Red	1,220	
	//	White	1,240	
	Shielded Wire (Two Conductor)		mm	
	0.18/12×2.6φ	Red & White	390	
	0.12/16×3φ	Red & Yellow	260	
	//	White & Yellow	170	
	Z. Accessaries & Packing Materials			
Z-1	Carton Assembly, including		1	
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	Accessary 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					

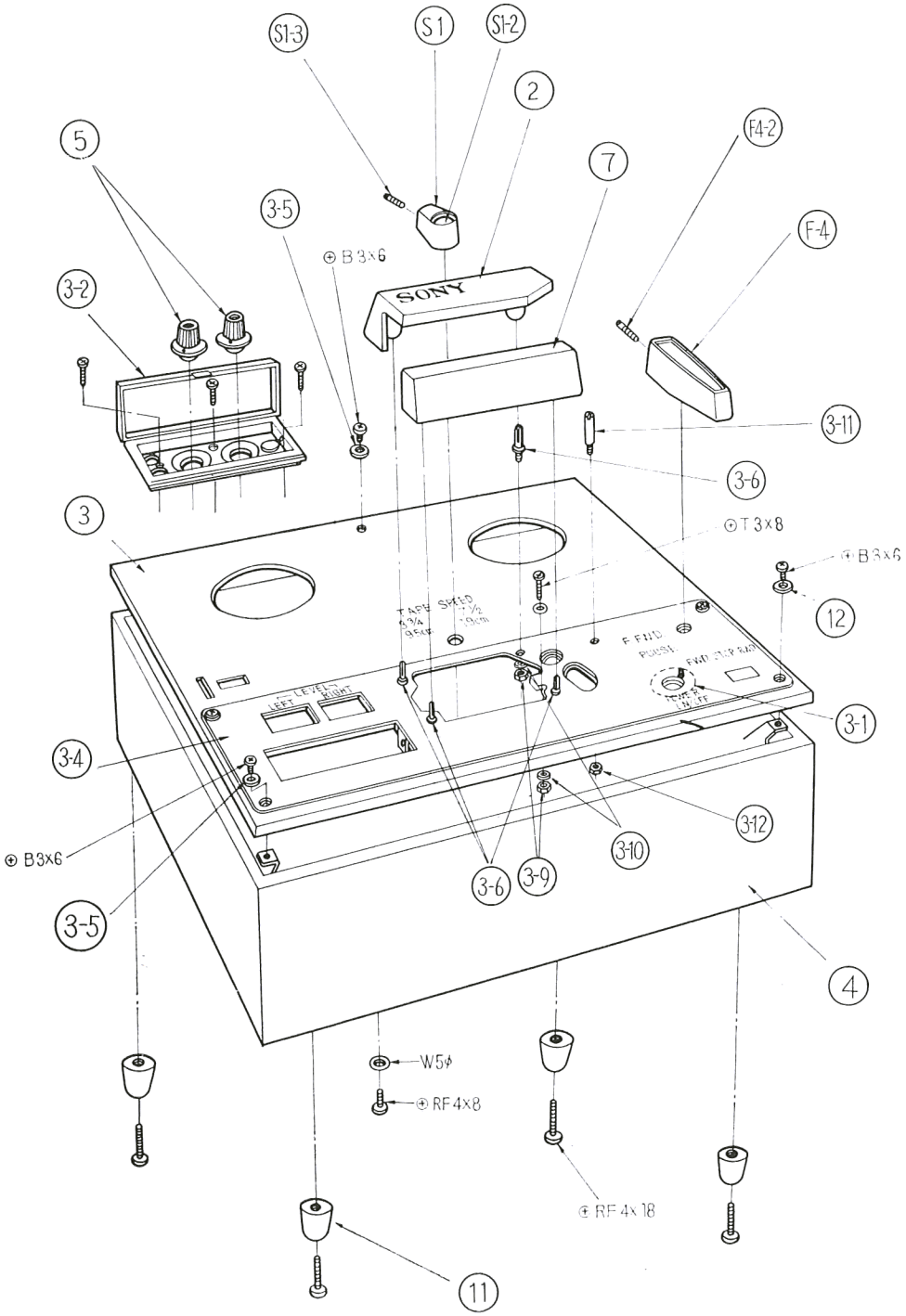
Parts List

Cabinet & Appearance Items

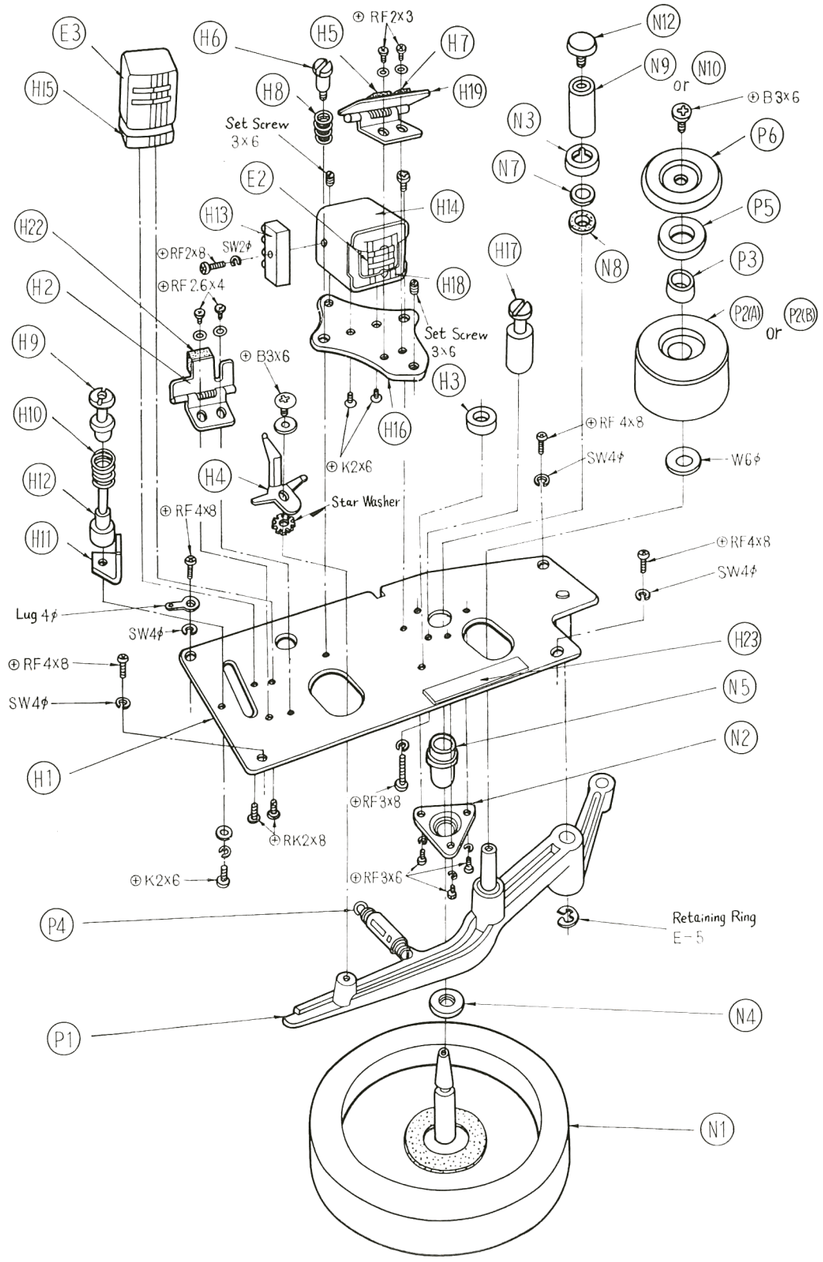
Symbol No.	Description	Q'ty	Remarks	Symbol No.	Description	Q'ty	Remarks
1	AC ON/OFF Push Button Assembly	1		4	Cabinet Assembly, including	1	
2	Head Cover (A) Assembly, including	1		4-1	Cabinet	(1)	
2-1	Head Cover Name Plate	(1)		4-2	Fan Cover	(1)	
2-2	Head Cover (A)	(1)		4-3	Washer 3ϕ	(4)	
3	Reel Panel Assembly, including	1		4-4	Spring Washer	(4)	
3-1	Pilot lamp Cover	(1)		4-5	Nut 3ϕ	(4)	
3-2	Recording Box	(1)		4-6	Screw ⊕B 3×12	(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 ⊕RF 2ϕ×8	(3)		8	Sticker (on Cabinet Bottom)	1	
3-8	Screw ⊕B 3ϕ×5	(2)		9	Serial No. Plate	1	
3-9	Nut 3ϕ	(6)		10	Head Cover Mounting Stud	4	
3-10	Spring Washer 3ϕ	(4)		11	Rubber Foot	4	
3-11	Tape Guide	(1)		12	Washer for Reel Panel	5	
3-12	Lock Nut 2.6ϕ	(1)		13	Function Selector Knob Assembly	1	II-F-4
3-13	Nut Plate	(3)					

Exploded Diagram

(1)



Exploded Diagram
(2)



Exploded Diagram
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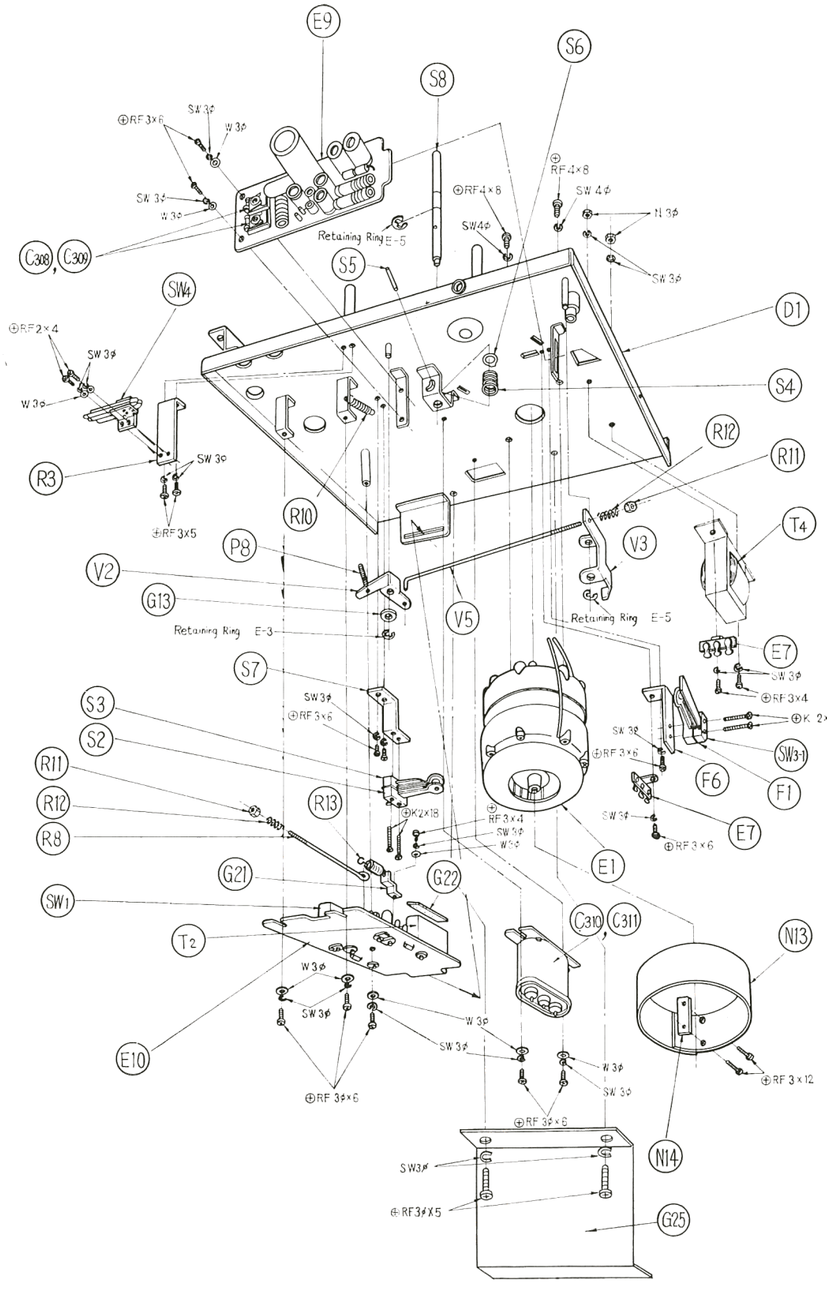


Exploded Diagram
(4)

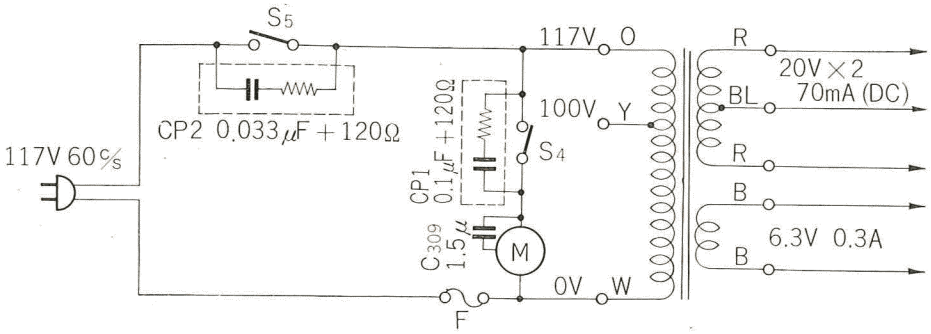
SONY CORPORATION

f-O Oct-1966

Printed in Japan

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_1	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