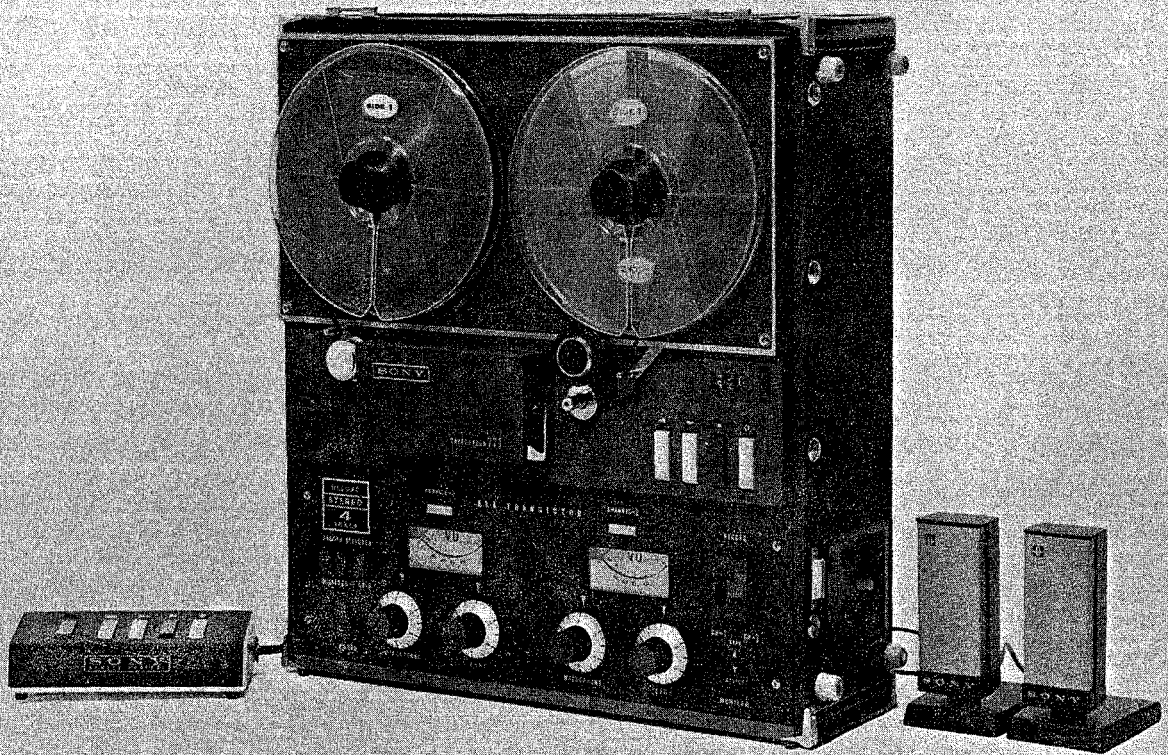


# TC-777S-4J



## Specifications

Power Requirement :	85 Watts, 100-117 Volts AC, 60 c/s (50 c/s optional)
Tape Speeds :	7-1/2 ips or 3-3/4 ips, instantaneous switching
Frequency Response :	30~18,000 cps at 7-1/2 ips $\pm 2$ dB 40~15,000 cps at 7-1/2 ips 30~13,000 cps at 3-3/4 ips
Signal to Noise Ratio :	Better than 50 dB
Flutter and Wow :	Less than 0.12% at 7-1/2 ips Less than 0.18% at 3-3/4 ips
Bias Frequency :	Approx. 90 Kc
Level Indication :	VU Meters, calibrated to 0 dB at 12 dB below saturation
Inputs :	Microphone $-65$ dB (0.44 mV), 600 $\Omega$ (unbalanced) Line $-12$ dB (0.2 V), 10 K $\Omega$ (unbalanced) Rec/PB Connector (DIN)
Outputs :	Line Output (switched) 0 dB (0.775 V), 600 $\Omega$ (unbalanced) 0 dB (0.775 V), 10 K $\Omega$ (unbalanced) Binaural Monitor $-3$ dB (0.55 V), 10 K $\Omega$ (unbalanced)
Motors :	1-Hysteresis-synchronous 2 speed drive motor 2-Four pole induction reel spindle motors
Operating Position :	Either horizontal and vertical
Transistors :	2SB51 ( $\times 8$ ), 2SB52 ( $\times 14$ ), 2SC42 ( $\times 2$ )
Diodes :	1T2011 ( $\times 4$ ), 1T2013 ( $\times 1$ )
Dimensions :	17.5" W $\times$ 8.7" H $\times$ 17.9" D (445 W $\times$ 220 H $\times$ 455 D mm)
Weight :	Approx. 42 lbs. (19 Kg) (without accessories)

**SONY**  
**SERVICING GUIDE**

## **MECHANICAL DISASSEMBLY PROCEDURE**

### **1. Removal of Chassis from Case**

- 1) Remove A. C. cord from chassis.
- 2) Remove lid.
- 3) Remove fuse and cap.
- 4) Depress Impedance Selector Switch Button.
- 5) Disconnect A. C. defeat connector.
- 6) Carefully place recorder face down on soft cloth.
- 7) Remove Phillips head screws—four each—on right and left side of recorder.
- 8) Slide case upwards smoothly and evenly.

### **2. Removal of Perforated Top Cover Panel**

- 1) Remove four screws (one in each corner) and lift out.

### **3. Removal of Control Panel**

- 1) Remove Volume Control knobs.
- 2) Remove Record Lock frame by using tip of screw driver under outer edge as lever.
- 3) Remove four screws located on face of panel and lift off.

### **4. Removal of Head Cover**

- 1) Loosen two screws on rear of head cover.
- 2) Pull up head cover evenly from both sides.

### **5. Removal of Pinch Roller**

- 1) Unscrew (clockwise) cap screw on top of pinch roller.
- 2) Lift pinch roller off.

### **6. Removal of Capstan Sleeve**

**Note:** Some models are equipped with removable capstan sleeve for change to 50 cycle (60 cycle) operation. Remove as follows:

- 1) Unscrew (clockwise) knurled screw on top of capstan.
- 2) Turn large serrated nut (counter-clockwise) until capstan sleeve is dislodged.

### **7. Removal of Drive Belt**

- 1) Remove perforated top cover panel.
- 2) Slip belt from motor pulley.
- 3) Remove from flywheel on rear side.
- 4) Clean thoroughly before replacement.

## 8. Detaching Amplifier Section from Transport

- 1) Detach all connector plugs. (see figure 1)
- 2) Unscrew four screws shown in Fig. 2.

## 9. Removal of Flywheel & Capstan Shaft Assembly

- 1) Loosen two screws on flange of flywheel sufficiently to clear groove on capstan shaft and lift off.
- 2) Remove retaining ring (use needle-nose pliers). Ball bearing and shaft may now be removed.
- 3) Top brass bushing may be removed by gentle pressure from flywheel side of bearing holder, taking precaution against loss of small "key" located in keyway of bushing.

## 10. Removal of Flutter Filter Assembly

- 1) Loosen two set screws on inside flange of flywheel sufficiently to prevent damage of shaft "finish" when removing. Hold flywheel and pull shaft and pulley from top side of recorder. Take precaution against loss of small fiber washer and also small ball bearing held in shaft race by heavy grease.
- 2) Remove retaining ring above tension arm using needle-nose pliers or equivalent. Tension arm may then be removed. Take care not to distort spring.
- 3) To disassemble brass backing, remove three screws holding triangular bracket. When reassembling, adjust clearance as follows: Loosen lock nut on thrust-bearing screw. Adjust thrust-bearing screw so that there is approximately .025" clearance between aluminum pulley and "casting". Hold pulley and shaft against thrust bearing. Slide flywheel against bushing and tighten flywheel set screws. Back off thrust-bearing screw approximately .010" and tighten lock nut. This should leave approximately .010" play in entire assembly.

## 11. Removal of Reel Spindles

- 1) Remove chassis from case.
- 2) Remove perforated top cover panel.
- 3) Loosen two set screws on inner flange of reel spindle and pull off. (Accessibility is easiest from top of chassis when in vertical position.)

**Note:** Before removing, make note of dimension from reel table to casting face, when chassis is in horizontal position. This will facilitate replacement at proper level for tape-to-tape reel centering.

## 12. Removal of Motors

- 1) Remove chassis from case.
- 2) Remove perforated top cover panel.
- 3) Each motor is secured to the base by four Phillips head screws.
- 4) To remove spooling motor, first remove reel spindle, then remove the four Phillips head screws.
- 5) To remove drive motor, first disengage belt, then remove the four Phillips head screws.

### 13. Removal of Automatic Cut-off Tension Arm & Cam

- 1) Remove perforated top cover panel.
- 2) Remove Phillips head screw from pivot shaft. Note position of coil spring adjustment lug and duplicate for proper tension when reassembling.
- 3) Remove two small flat head Phillips head screws holding tension arm to phenolic switch cam. Remove tension arm and then switch cam and spring.

### 14. Removal of Brake Solenoid

- 1) Remove perforated top cover panel.
- 2) Remove the snap washer from the pivot shaft of each brake arm.
- 3) Slide both brake arms from respective pivots.
- 4) Remove four side screws holding solenoid to brackets.

**Note:** Solenoid and plunger are a matched pair and replacement is available as one unit # 1-454-003.

### 15. Removal of Head Assembly

1. Remove chrome decorative strip held by two Phillips head screws.
2. Remove four Phillips head screws holding base plate, one at each corner, and lift out.

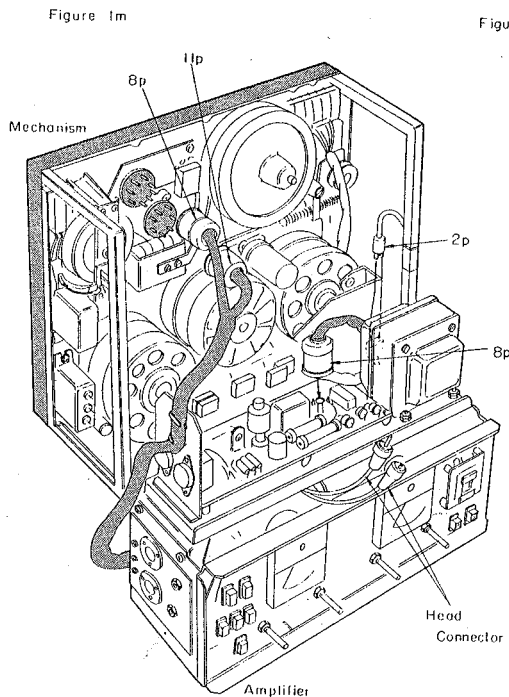
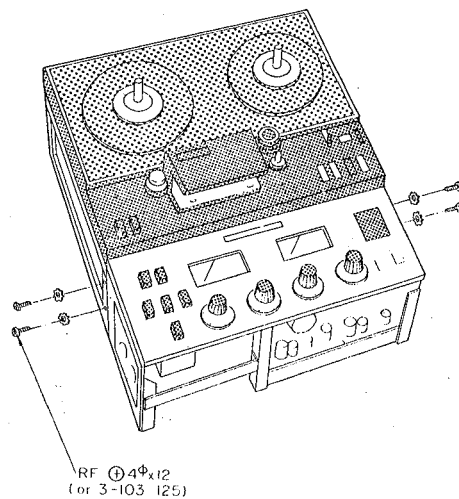


Figure 2m



(Fig. 1)

(Fig. 2)

## **ALIGNMENT PROCEDURE**

### **1 : 1 GENERAL PRECAUTIONS**

- 1) Demagnetize all tools which will be used to repair or adjust instrument.
- 2) Do not connect input leads while recording.
- 3) Do not saturate the Record Amplifier with abnormally high input signals.
- 4) Do not test continuity of the heads with an ohmmeter or multi-tester.

The record and playback heads may become magnetized due to any of the above or other reasons. This condition will cause an increase in noise level and may partially erase high frequencies on pre-recorded tapes ; therefore, these heads should be demagnetized periodically or when necessary, as follows :

With the recorder switched off and in STOP position, plug a head demagnetizer into an AC outlet.

Bring the tips of the demagnetizer into close proximity but not in contact with the head core stacks. Move the tips of the demagnetizer up and down the entire length of the core stack three or four times. Pull back the demagnetizer very slowly until it is about three feet from the heads before disconnecting it from the AC outlet. Repeat if necessary.

### **1 : 2 TEST EQUIPMENTS**

Test Equipments needed for the proper alignment.

- a) Audio Oscillator
- b) Head Demagnetizer
- c) VTVM
- d) Step Attenuator
- e) Alignment Tape SONY "N-19-F2"
- f) High Frequency Ammeter (1.5A full scale)
- g) Blank Tape

### **1 : 3 PLAYBACK AMPLIFIER ALIGNMENT**

#### **A. Playback Reference Level**

##### **Switch Setting :**

- 1) Speed Selector Switch ... high
- 2) Monitor Switch ... tape
- 3) Record Selector Switch ... either
- 4) Impedance Selector Switch ... high

##### **Procedure :**

- 1) Connect VTVM(s) to the LINE OUT Jack(s) J<sub>108</sub>. (Fig. 9).
- 2) Using the alignment tape, playback the second tone which is a 700 c/s signal recorded at normal operating level.
- 3) With the VTVM on the 1 V scale, adjust the Playback Volume Control(s) R<sub>123</sub> (Fig. 16) to obtain the reading of 0 dBs (0.775 V) on each channel. The Volume Controls are now properly set and should not be altered for the remainder of the record/playback alignment procedure. (It is advisable to mark this setting for continued reference.)

## B. Azimuth Alignment

The 1st tone of the alignment tape is 10 kc and used for this purpose. The azimuth alignment adjusting screw is located on the right side of the Playback Head.

With the VTVM set to the 0.3 V scale, turn the screw to obtain a maximum output while playing this portion of the tape.

After proper adjustment has been made, seal the adjustment screw with nail polish or similar sealer.

## C. Meter Calibration

- 1) Playback a 700 c/s signal recorded on the 2nd portion of the alignment tape.
- 2) Adjust potentiometer(s)  $R_{145}$  (Fig. 4) to obtain a reading of 100% or 0 VU on the VU meters. Be sure the playback volume Control (s) have not been moved from preliminary setting in A.

## D. Playback Frequency Response

**Switch Setting:** Same as A.

Following the 700 c/s tone on the alignment tape, there is a sequence of tones used for the frequency response check.

These tones range from 10 kc down to 50 c/s and are recorded 10 dB below operating level. With the VTVM set to the 0.3 V range, playback 700 c/s tone recorded on the third portion of the alignment tape and adjust Potentiometers  $R_{152}$  on the printed circuit board (Fig. 4) to obtain reading (s) of 0 dB.

After this adjustment has been made, check the remainder of the frequencies (10 kc, 7.5 kc, 1 kc and 50 c/s) to see that they fall within a  $\pm 2.5$  dB range.

# 1: 4 RECORD AMPLIFIER ALIGNMENT

## A. Erase-Current Adjustment

MEASURING EQUIPMENT ..... High Frequency Ammeter (thermo-couple type, 1.5 A full scale)

**Switch Settings:**

- 1) Speed Selector Switch ..... high
- 2) Monitor Switch ..... tape
- 3) Record Selector Switch ..... Stereo
- 4) Impedance Selector Switch ..... high

**Procedure:**

- 1) Remove the AMP Connector marked with "40" on the printed circuit board of the power supply.
- 2) Insert the Ammeter between the detached connector and the circuit board.
- 3) Thread a blank tape and place the unit in record mode.
- 4) Adjust the slide resistor  $R_{206}$  (Fig. 7) to obtain a reading of 1 A on the ammeter.
- 5) Change the channel selector switch from Stereo to CH-1.
- 6) Adjust the dummy coil  $L_{228}$  (Fig. 7) with a core adjusting tool to obtain a 1 A reading on the ammeter.
- 7) Change the channel selector switch to CH-2.
- 8) Adjust the dummy coil  $L_{227}$  (Fig. 7) to obtain a 1 A reading on the ammeter.

**Note:** The preceding steps (6~9) is preliminary adjustments. These coils will be fine-tuned later in the alignment procedure.

## B. Bias Trap Adjustment (Power Supply)

MEASURING EQUIPMENT ..... VTVM

Switch Setting: Same as 1 : 4

### Procedure :

- 1) Connect the plus  $\oplus$  lead of the VTVM to AMP connection marked with " 30 " on the printed circuit board. (Do not remove connector from board and the minus  $\ominus$  lead to chassis ground).
- 2) Thread a blank tape and place unit in record mode.
- 3) Adjust the core of  $L_{201}$  (Fig. 7) to obtain the minimum reading on the VTVM. This reading must be below 6 V.
- 4) Connect the plus  $\oplus$  lead of the VTVM to AMP connection marked with " 32 " on the printed circuit board.
- 5) Adjust the core of  $L_{202}$  (Fig. 7) to obtain the minimum reading on the VTVM. This reading must be below 6 V.

**Note :** In the above adjustments, an alignment core tool made of stainless steel, brass or plastic must be used. An iron tool will cause maladjustment.

## C. Bias Trap Adjustment (Amplifier Section)

Switch Setting: Same as 1 : 4 A

### Procedure :

- 1) Connect the plus  $\oplus$  lead of the VTVM to the collector of  $X_{105}$  in CH-1 of the printed circuit board and the minus  $\ominus$  lead to chassis ground.
- 2) Thread a blank tape and place unit in record mode.
- 3) Adjust  $L_{102}$  (Fig. 4) in CH-1 (with alignment core tool) for the minimum reading on the VTVM.
- 4) Connect the VTVM to the similar point in CH-2 and repeat the above procedure 3).

## D. Adjustment of Bias Resonant Circuit

Switch Setting: Same as 1 : 4 A

### Procedure :

- 1) Connect the plus  $\oplus$  lead of the VTVM to the terminal of Record Head for CH-1, to which a white lead covered with yellow tube is soldered, and the minus  $\ominus$  lead to chassis ground.
- 2) Turn the  $R_{223}$  to the extreme counter-clockwise position.
- 3) Thread a blank tape and place unit in record mode.
- 4) Adjust  $L_{223}$  (Fig. 7) for minimum reading on the VTVM.
- 5) Adjust  $L_{227}$  (Fig. 7) carefully so that there will be little or no variation on the VU Meter when the channel selector switch is changed between CH-1 and stereo modes. (Variation must be within 1V.)
- 6) Connect the plus  $\oplus$  lead of the VTVM to the terminal of Record Head for CH-2, to which a white lead covered with black tube is soldered, and the minus  $\ominus$  lead to chassis ground.
- 7) Repeat steps 2), 3) and 4) above, adjusting  $L_{224}$  (Fig. 7) for minimum reading on the VTVM. (approx. 10 V)
- 8) Adjust the dummy coil  $L_{228}$  (Fig. 7) carefully so that there will be little or no variation on the VTVM when the channel selector switch is changed between CH-2 and stereo modes. (Variation must be within 1V.)

## E. Recording Bias Adjustment

### Switch Setting :

- 1) Speed Selector Switch ..... high
- 2) Monitor Switch ..... source
- 3) Record Selector Switch ..... stereo
- 4) Impedance Selector Switch ..... high

### Procedure :

- 1) Connect the VTVM (s) to the LINE OUT Jack (s), J<sub>108</sub>.
- 2) Feed a 1 kc signal of -30 dBs (2.45 mV) into the Line Input Jack (s), J<sub>101</sub>.
- 3) Adjust the Record Level Control (s) R<sub>162</sub> so that VU Meters indicate 100%.
- 4) Thread a blank tape and place unit in record mode.
- 5) Set the monitor Switch to "TAPE".
- 6) Set the VTVM on 1 V range.
- 7) To adjust bias for CH-1, start with Potentiometer R<sub>223</sub> (Fig. 5) at extreme counter-clockwise position.
- 8) Turn the Potentiometer R<sub>223</sub> clockwise slowly. The VTVM reading will go up, reaching a maximum and then falling again. Continue to turn the R<sub>223</sub> until the VTVM reads 0.5 dB below the maximum reading. (Fig. 6)
- 9) To adjust bias for CH-2, repeat the above procedures 7) and 8) adjusting the Potentiometer R<sub>224</sub> in similar manner.
- 10) Change input signal from 1 Kc to 12 Kc and adjust L<sub>101</sub> (Fig. 4) to obtain maximum reading on the VTVM (s).

## F. Recording Level Adjustment

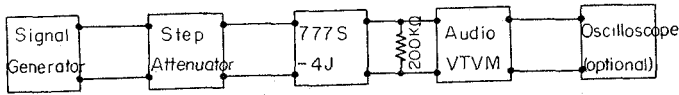
### Switch Setting : Same as 1 : 4 A

### Procedure :

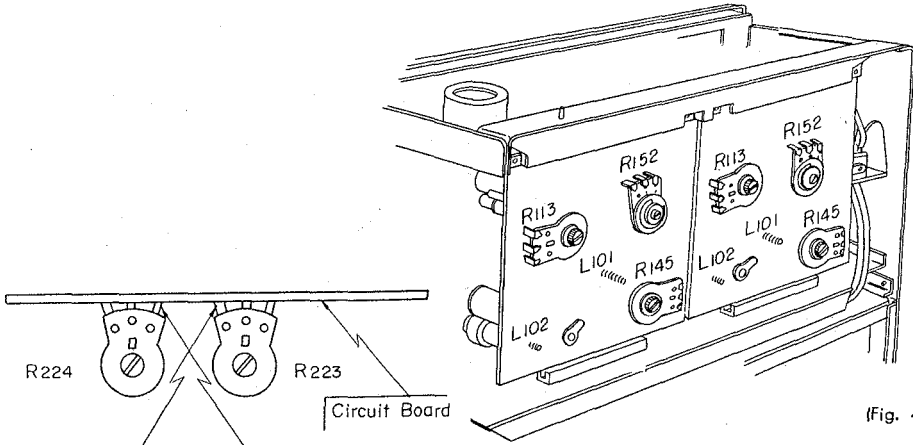
- 1) Connect the VTVM (s) to the LINE OUT Jack (s) J<sub>108</sub>.
- 2) Thread a blank tape and place unit in record mode.
- 3) Set the Monitor Switch to TAPE.
- 4) Feed 1 Kc signal of -10 dBs (0.245 V) into the Line Input Jack (s), J<sub>101</sub>.
- 5) Adjust the Record Level Controls R<sub>107</sub> (Fig. 16) to obtain the reading of 0 dBs (0.775 V) on the VTVM. VU Meters should read 100% ; if not, readjust R<sub>145</sub> as in paragraph 1 : 3C.  
**CAUTION :** Be sure the Playback Volume Controls R<sub>123</sub> (Fig. 16) have not been moved from preliminary setting on 1 : 3 A.
- 6) Change the Monitor Switch to SOURCE.
- 7) Adjust the Potentiometer R<sub>113</sub> (Fig. 4) to obtain the reading of 100% (0 VU) on the VU Meter.



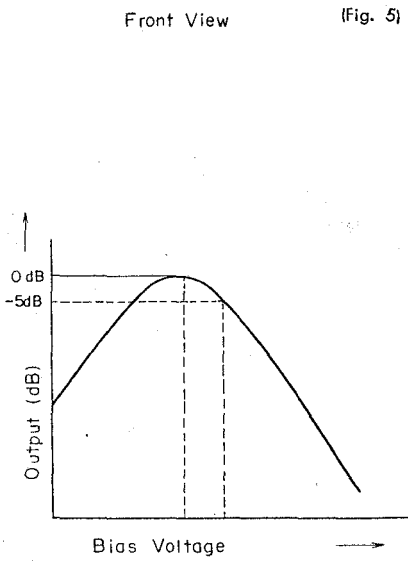
# Measuring Circuit



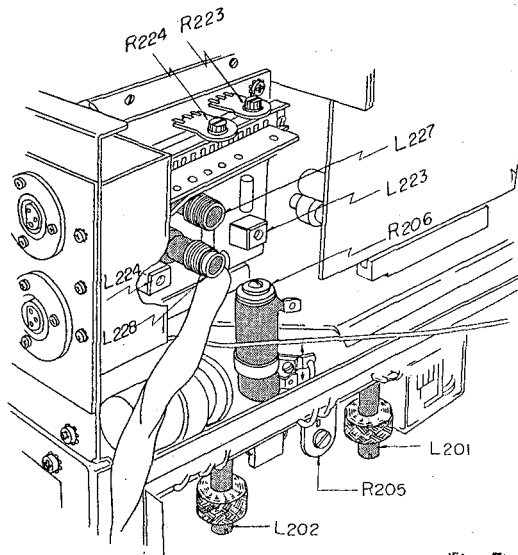
(Fig. 3)



(Fig. 4)



(Fig. 5)

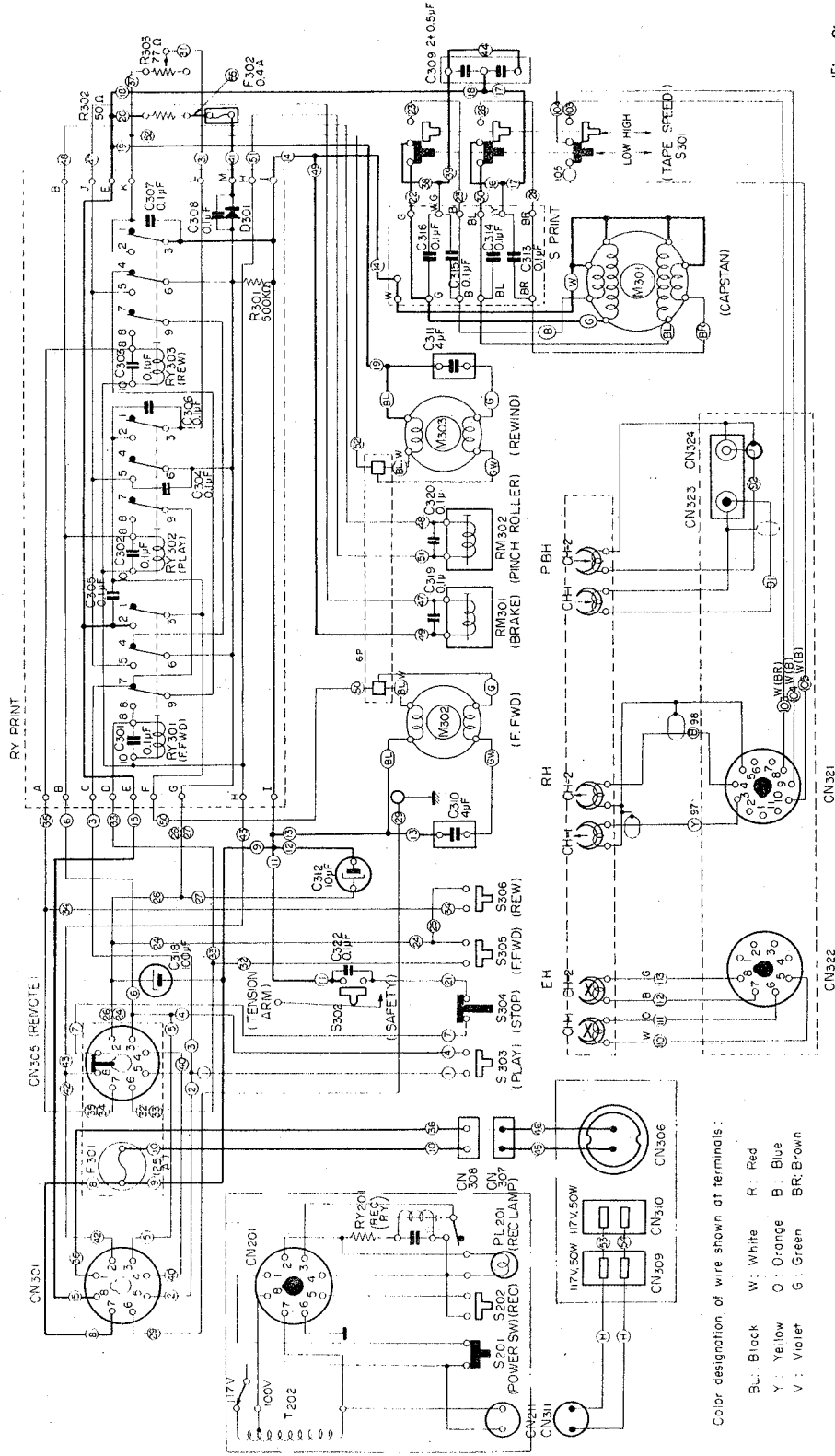


(Fig. 7)

(Fig. 6)

# Schematic Diagram

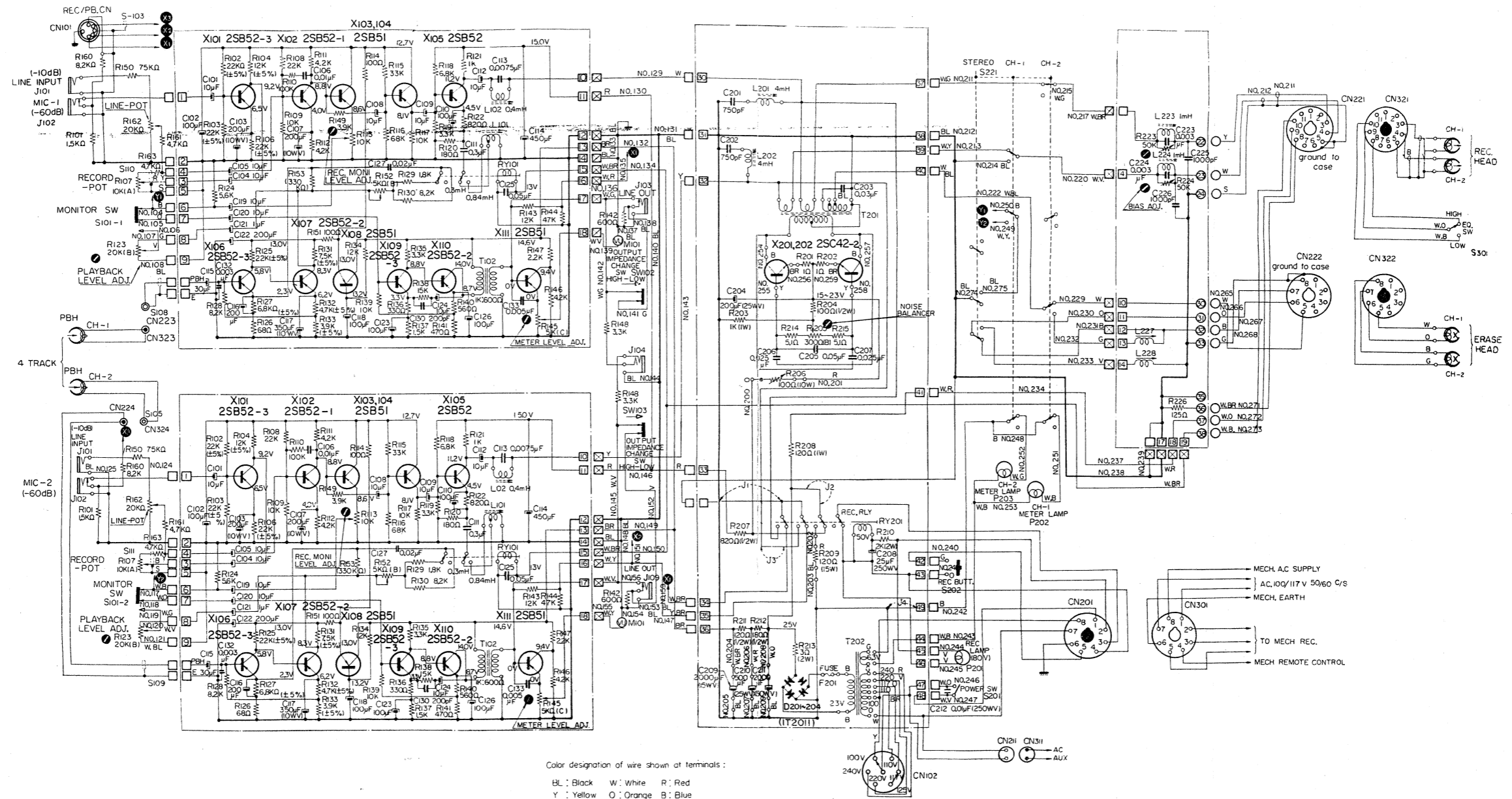
## Tape Transport Control Circuit



(Fig. 8)

# Schematic Diagram

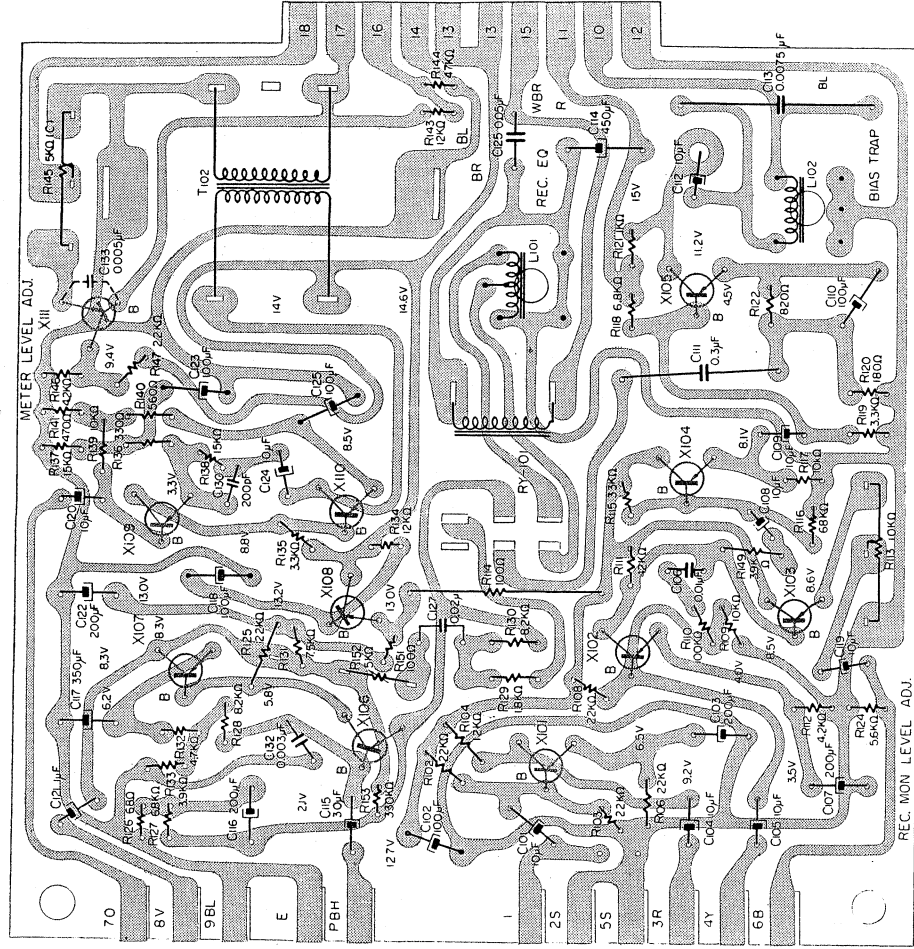
## —Amplifier Circuit—



(Fig. 9)

**Mounting Diagram**

—Printed Side—  
—Amplifier Section—



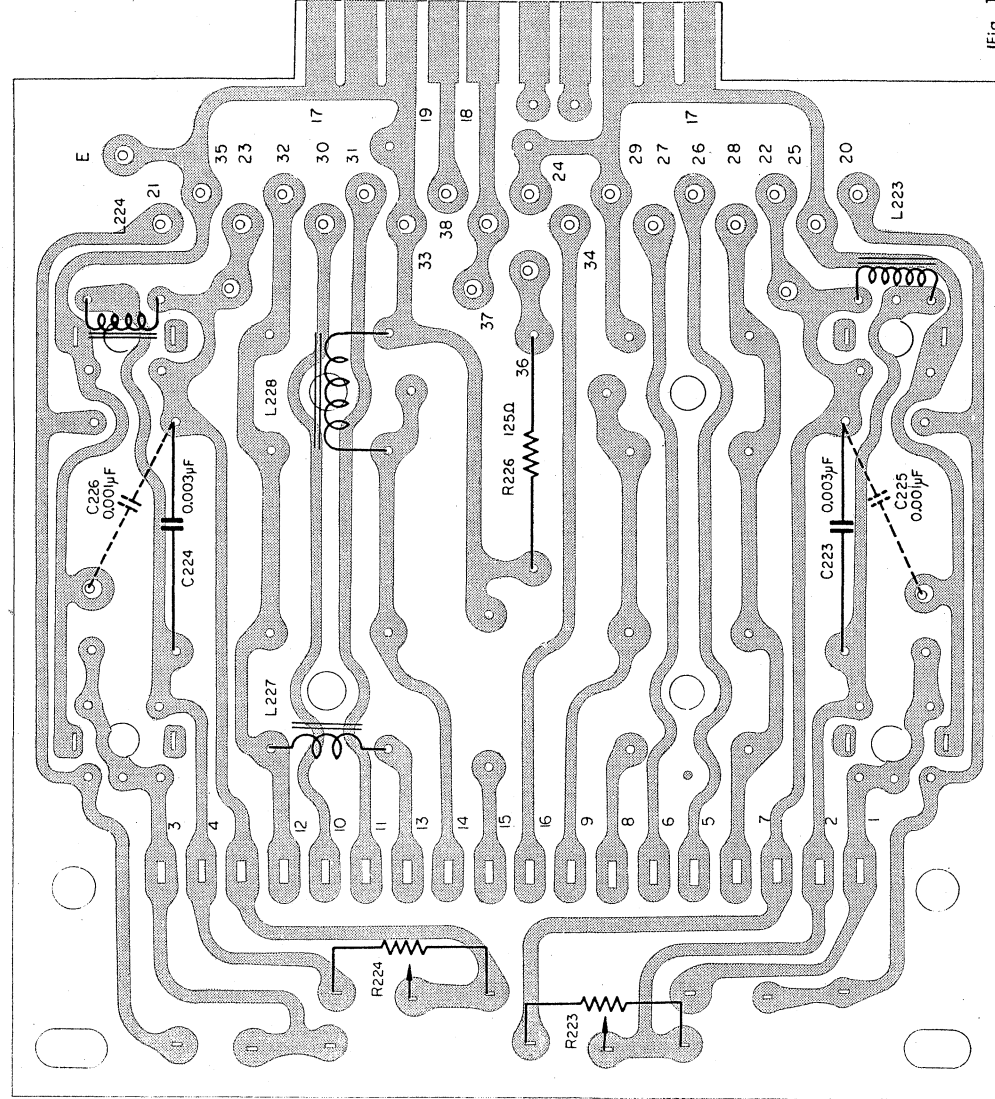
★ C133 is to be mounted on the printed side.

★ Voltages shown are measured by VTVM across ground when in low speed recording mode.

(Fig. 10)

**Mounting Diagram**

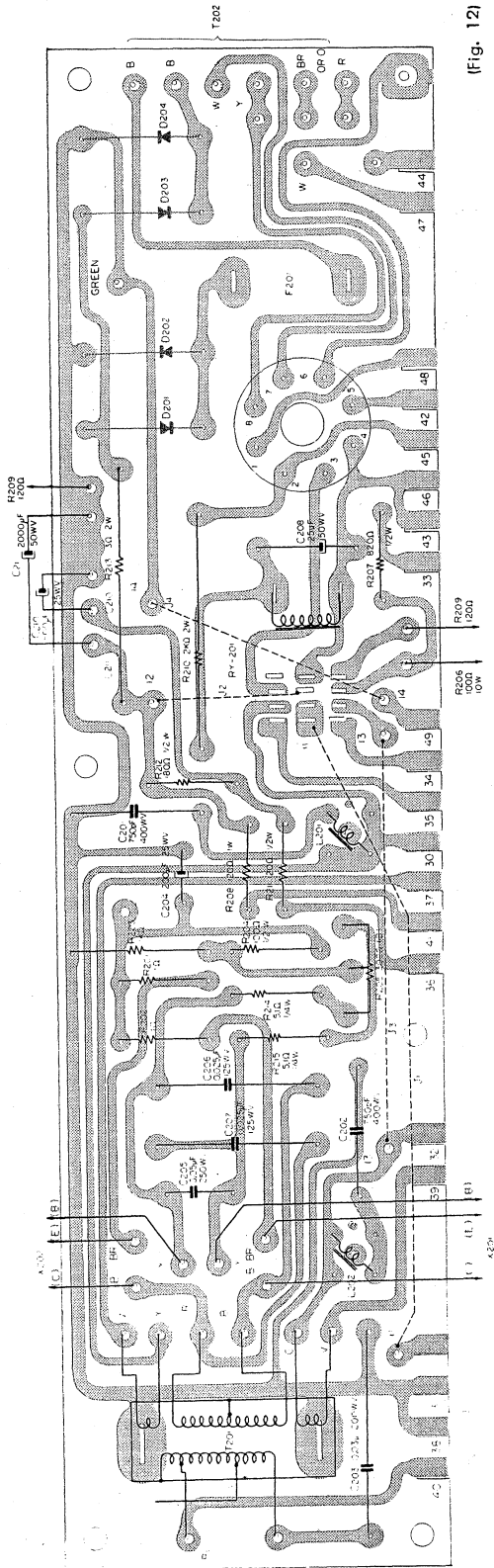
—Printed Side—  
—Bias Adjustment Section—



(Fig. 11)

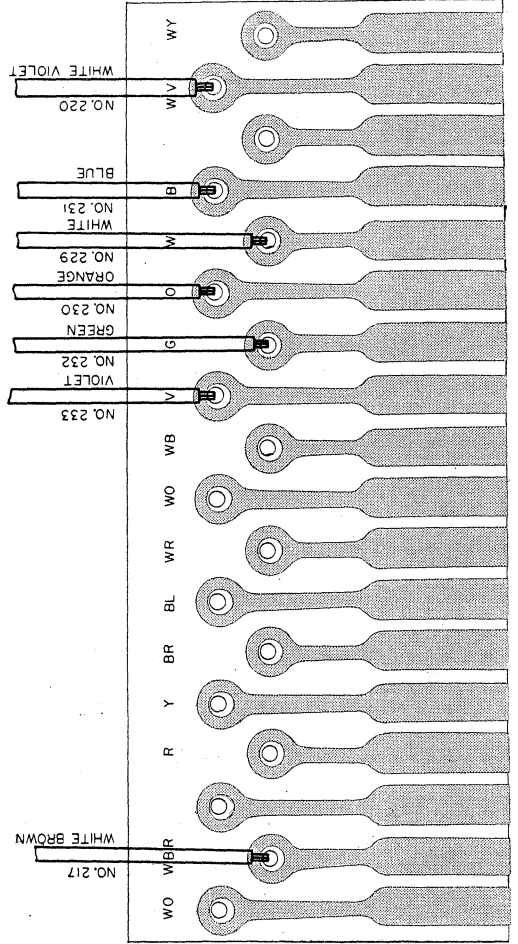
# Mounting Diagram

—Printed Side—  
—Power Supply Section—



(Fig. 12)

— 18P Connection —



(Fig. 13)

Symbol No.	Description	Q'ty	Remarks	Symbol No.	Description	Q'ty	Remarks
X <sub>101</sub>	Transistor 2SB52-3 with yellow mark	2		F <sub>302</sub>	Fuse 0.4 A	1	
X <sub>102</sub>	" 2SB52-1 "	2		PS <sub>201</sub>	Pilot Lamp Socket	1	
X <sub>103</sub>	" 2SB51 "	2		PL <sub>201</sub>	Pilot Lamp	1	
X <sub>104</sub>	" 2SB51 "	2		CN <sub>101</sub>	REC PB Connector (DIN 5P)	1	
X <sub>105</sub>	" 2SB52-1 with blue mark	2		CN <sub>102</sub>	Voltage Selector Socket	1	
X <sub>106</sub>	" 2SB52-3 with yellow mark	2		CN <sub>103</sub>	Receptacle Connector 10 P	1	
X <sub>107</sub>	" 2SB52-2 "	2		CN <sub>104</sub>	" " "	1	
X <sub>108</sub>	" 2SB51 "	2		CN <sub>201</sub>	" " 8 P (male)	1	
X <sub>109</sub>	" 2SB52-3 with blue mark	2		CN <sub>211</sub>	" " 2 P (female)	1	
X <sub>110</sub>	" 2SB52-2 "	2		CN <sub>221</sub>	" " 11 P ( " )	1	
X <sub>111</sub>	" 2SB51 "	2		CN <sub>222</sub>	" " 8 P ( " )	1	
X <sub>201</sub>	" 2SC42-2 "	1		CN <sub>226</sub>	" " 10 P	1	
X <sub>302</sub>	" 2SC42-2 "	1		MC	Multi-Connector 18 P	1	
D <sub>201</sub>	Silicon Diode 1T2011	1		CN <sub>301</sub>	Receptacle Connector 8 P (female)	1	
D <sub>202</sub>	" 1T2011 "	1		CN <sub>305</sub>	Receptacle Connector 8 P	1	
D <sub>203</sub>	" 1T2011 "	1			with Switch for Remote Control	1	
D <sub>204</sub>	" 1T2011 "	1		CN <sub>306</sub>	AC Input Connector 2 P (male)	1	
D <sub>301</sub>	" 1T2014 "	1		CN <sub>307</sub>	AC Connector 2 P (female)	1	
D <sub>302</sub>	" 1T2014 "	1		CN <sub>308</sub>	AC Connector 2 P (male)	1	
				CN <sub>309</sub>	AC Outlet Socket	1	
M <sub>301</sub>	Capstan Motor HC-634D3	1		CN <sub>310</sub>	" "	1	
M <sub>302</sub>	Reel Motor IC-524R1	1		CN <sub>311</sub>	AC Connector 1P (male)	1	
M <sub>303</sub>	" IC-524R1 "	1		CN <sub>321</sub>	Receptacle Connector 11 P (male)	1	
RH	Recording Head RP15-2902	1		CN <sub>322</sub>	" " 8 P (male)	1	
PBH	Playback Head PP15-4202L	1		CN <sub>323</sub>	Pin Jack Connector for PB Head	1	
EH	Erase Head EF13-2902	1		CN <sub>324</sub>	(female and male)	1	
T <sub>102</sub>	Output Transformer	2		E <sub>1</sub>	Terminal Strip	3	
T <sub>201</sub>	Oscillation Transformer	1		E <sub>2</sub>	" 6 P	1	E <sub>4</sub>
T <sub>202</sub>	Power Transformer	1		E <sub>3</sub>	" "	2	
L <sub>101</sub>	Record Equalizer Chcke Coil (0.84mH-0.3mH)	2		E <sub>4</sub>	" 6 P	2	E <sub>2</sub>
L <sub>102</sub>	Chcke Coil (0.4 mH)	2		<b>Potentiometers</b>			
L <sub>201</sub>	" (4 mH)	1		R <sub>107</sub>	10 K $\Omega$	2	
L <sub>202</sub>	" (4 mH)	1		R <sub>113</sub>	10 K $\Omega$ (semi fixed)	2	
L <sub>223</sub>	" (1 mH)	1		R <sub>123</sub>	20 K $\Omega$ ( " )	2	
L <sub>224</sub>	" (1 mH)	1		R <sub>145</sub>	5 K $\Omega$ ( " )	2	
L <sub>227</sub>	Dummy Coil	1		R <sub>152</sub>	5 K $\Omega$ ( " )	2	
L <sub>228</sub>	" "	1		R <sub>162</sub>	20 K $\Omega$	2	
M <sub>101</sub>	VU Meter	2		R <sub>205</sub>	300 $\Omega$ (semi fixed)	1	
PM <sub>301</sub>	Brake Solenoid	1	D57	R <sub>223</sub>	50 K $\Omega$ ( " )	1	
PM <sub>302</sub>	Pinch Roller Solenoid	1	D56	R <sub>224</sub>	50 K $\Omega$ ( " )	1	
J <sub>101</sub>	Line Input Jack	2		<b>Resistors</b>			
J <sub>102</sub>	MIC Input	2		R <sub>101</sub>	1.5 K $\Omega$ $\frac{1}{4}$ W Composition	2	
J <sub>103</sub>	Line Output Jack	2		R <sub>102</sub>	22 K $\Omega$ " "	2	
J <sub>104</sub>	Binaural Jack	1		R <sub>103</sub>	22 K $\Omega$ " "	2	
S <sub>101</sub>	Monitor Switch	2		R <sub>104</sub>	12 K $\Omega$ " "	2	
S <sub>102</sub>	Output Impedance Change Switch	1		R <sub>105</sub>	—deleted—		
S <sub>103</sub>	" "	1		R <sub>106</sub>	22 K $\Omega$ $\frac{1}{4}$ W Composition	2	
S <sub>201</sub>	Power Switch	1		R <sub>108</sub>	22 K $\Omega$ $\frac{1}{8}$ W " "	2	
S <sub>202</sub>	Recording Switch	1		R <sub>109</sub>	10 K $\Omega$ " Carbon	2	
S <sub>221</sub>	Record Selector Switch	1		R <sub>110</sub>	100 K $\Omega$ $\frac{1}{4}$ W Composition	2	
S <sub>301-1-3</sub>	Speed Change Switch	3		R <sub>111</sub>	4.2 K $\Omega$ " "	2	
S <sub>302</sub>	Safety Switch	1		R <sub>112</sub>	4.2 K $\Omega$ " "	2	
S <sub>303</sub>	Play Switch	1		R <sub>114</sub>	100 $\Omega$ " "	2	
S <sub>304</sub>	Stop Switch	1		R <sub>115</sub>	33 K $\Omega$ " "	2	
S <sub>305</sub>	Fast Forward Switch	1		R <sub>116</sub>	68 K $\Omega$ " "	2	
S <sub>306</sub>	Rewind Button Switch	1		R <sub>117</sub>	10 K $\Omega$ " "	2	
RY <sub>101</sub>	Relay, 2 pole	2		R <sub>118</sub>	6.8 K $\Omega$ " "	2	
RY <sub>201</sub>	Relay, 4 pole	1		R <sub>119</sub>	3.3 K $\Omega$ " "	2	
RY <sub>301-303</sub>	Relay for F•FWD, Play & Rewind	3	D58	R <sub>120</sub>	180 $\Omega$ " "	2	
FH <sub>201</sub>	Fuse Holder with Cover	1		R <sub>121</sub>	1 K $\Omega$ " "	2	
F <sub>201</sub>	Fuse 0.8 A	1		R <sub>122</sub>	820 $\Omega$ " "	2	
FH <sub>301</sub>	Fuse Holder	1		R <sub>124</sub>	5.6 K $\Omega$ " "	2	
F <sub>301</sub>	Fuse 2.5 A	1		R <sub>125</sub>	22 K $\Omega$ $\frac{1}{8}$ W Carbon (noiseless)	2	
FH <sub>302</sub>	Fuse Holder	1		R <sub>126</sub>	68 $\Omega$ $\frac{1}{4}$ W Composition	2	
				R <sub>127</sub>	6.8 K $\Omega$ " "	2	

Symbol No.	Description	Q'ty	Remarks	Symbol No.	Description	Q'ty	Remarks
R <sub>128</sub>	8.2 KΩ ¼W Composition	2		C <sub>119</sub>	10μF 15 V Electrolytic	2	
R <sub>129</sub>	1.8 KΩ " "	2		C <sub>120</sub>	10μF 15 V "	2	
R <sub>130</sub>	8.2 KΩ " "	2		C <sub>121</sub>	1μF 12 V "	2	
R <sub>131</sub>	7.5 KΩ " "	2		C <sub>122</sub>	200μF 15 V "	2	
R <sub>132</sub>	4.7 KΩ ⅛W Carbon (noiseless)	2		C <sub>123</sub>	100μF 15 V "	2	
R <sub>133</sub>	3.9 KΩ " " "	2		C <sub>124</sub>	10μF 25 V "	2	
R <sub>134</sub>	12 KΩ ¼W Composition	2		C <sub>125</sub>	0.05μF Mylar	2	
R <sub>135</sub>	3.3 KΩ " "	2		C <sub>126</sub>	100μF 15 V Electrolytic	2	
R <sub>136</sub>	330Ω " "	2		C <sub>127</sub>	0.02μF Mylar	2	
R <sub>137</sub>	1.5 KΩ " "	2		C <sub>128</sub>	—deleted—		
R <sub>138</sub>	15 KΩ " "	2		C <sub>129</sub>	—deleted—		
R <sub>139</sub>	10 KΩ " "	2		C <sub>130</sub>	200PF Styrol	2	
R <sub>140</sub>	560Ω " "	2		C <sub>131</sub>	—deleted—		
R <sub>141</sub>	470Ω " "	2		C <sub>132</sub>	0.003μF Mylar	2	
R <sub>142</sub>	600Ω " "	2		C <sub>133</sub>	0.005μF "	2	
R <sub>143</sub>	12 KΩ " "	2		C <sub>201</sub>	750PF Mica	1	
R <sub>144</sub>	47 KΩ " "	2		C <sub>202</sub>	750PF "	1	
R <sub>146</sub>	4.2 KΩ " "	2		C <sub>203</sub>	0.03μF Polyethylene	1	
R <sub>147</sub>	2.2 KΩ " "	2		C <sub>204</sub>	200μF 25 V Electrolytic	1	
R <sub>148</sub>	3.3 KΩ " "	2		C <sub>205</sub>	0.05μF Mylar	1	
R <sub>149</sub>	3.9 KΩ " "	2		C <sub>206</sub>	0.025μF Polyethylene	1	
R <sub>150</sub>	75 KΩ " "	2		C <sub>207</sub>	0.025μF "	1	
R <sub>151</sub>	100Ω " "	2		C <sub>208</sub>	25μF 50 V Electrolytic	1	
R <sub>153</sub>	220 KΩ ⅛W Carbon	2		C <sub>209</sub>	2,000μF 15 V "	1	
R <sub>160</sub>	8.2 KΩ ¼W Composition	2		C <sub>210</sub>	500μF 25 V "	1	
R <sub>161</sub>	4.7 KΩ " "	2		C <sub>211</sub>	2,000μF 50 V "	1	
R <sub>163</sub>	4.7 KΩ " "	2		C <sub>212</sub>	0.01μF Mylar	1	
R <sub>201</sub>	1Ω Wire Wound	1		C <sub>223</sub>	0.003μF Polyethylene	1	
R <sub>202</sub>	1Ω " "	1		C <sub>224</sub>	0.003μF "	1	
R <sub>203</sub>	1 KΩ 1W Composition	1		C <sub>225</sub>	1,000PF Mica	1	
R <sub>204</sub>	100Ω ⅜W "	1		C <sub>226</sub>	1,000PF "	1	
R <sub>206</sub>	100Ω 10W Enameled	1		C <sub>301-307</sub>	0.1μF 250 V MP	7	
R <sub>207</sub>	820Ω ⅜W Composition	1		C <sub>308</sub>	0.1μF 250 V "	1	
R <sub>208</sub>	120Ω 1W "	1		C <sub>309</sub>	2+0.5μF " (Block Type)	1	
R <sub>209</sub>	120Ω 15W Enameled (semi-fixed)	1		C <sub>310</sub>	4μF "	1	
R <sub>210</sub>	2 KΩ 2W Carbon	1		C <sub>311</sub>	4μF "	1	
R <sub>211</sub>	120Ω ⅜W Composition	1		C <sub>312</sub>	100μF 150 V Electrolytic	1	
R <sub>212</sub>	180Ω " "	1		C <sub>313-316</sub>	0.1μF 250 V MP	4	
R <sub>213</sub>	3Ω 2 W Carbon	1		C <sub>317</sub>	—deleted—		
R <sub>214</sub>	5.1Ω ¼W Composition	1		C <sub>318</sub>	100μF 150 V Electrolytic	1	
R <sub>215</sub>	5.1Ω " "	1		C <sub>319</sub>	0.1μF 250 V MP	1	
R <sub>226</sub>	125Ω 2.5W Wire Wound	1		C <sub>320</sub>	0.1μF 250 V "	1	
R <sub>301</sub>	500 KΩ ¼W Composition	1		C <sub>321</sub>	—deleted—		
R <sub>302</sub>	50Ω 5W Enameled	1		C <sub>322</sub>	0.1μF 250 V MP	1	
R <sub>303</sub>	77Ω " " (adjustable)	1					
<b>Capacitors</b>				<b>Screws, Washers &amp; Miscellaneous</b>			
C <sub>101</sub>	10μF 15 V Electrolytic	2		<b>Screws</b>			
C <sub>102</sub>	100μF 15 V "	2		⊕ RF 2 × 3		4	
C <sub>103</sub>	200μF 10 V "	2		⊕ RF 2 × 4		4	
C <sub>104</sub>	10μF 15 V "	2		⊕ RF 2.6 × 4		3	
C <sub>105</sub>	10μF 15 V "	2		⊕ RF 2.6 × 14		2	
C <sub>106</sub>	0.01μF Mylar	2		⊕ RF 3 × 4		2	
C <sub>107</sub>	200μF 10 V Electrolytic	2		⊕ RF 3 × 5		2	
C <sub>108</sub>	10μF 15 V "	2		⊕ RF 3 × 6		33	
C <sub>109</sub>	10μF 15 V "	2		⊕ RF 3 × 6		46	
C <sub>110</sub>	100μF 15 V "	2		⊕ RF ~ × 8		15	
C <sub>111</sub>	0.3μF Mylar	2		⊕ RF 3 × 8		13	
C <sub>112</sub>	10μF 15 V Electrolytic	2		⊕ RF 3 × 10		2	
C <sub>113</sub>	0.0075μF Polyethylene	2		⊕ RF 3 × 12		13	
C <sub>114</sub>	450μF 15 V Electrolytic	2		⊕ RF 3 × 12		1	
C <sub>115</sub>	30μF 12 V "	2		⊕ RF 3 × 14		8	
C <sub>116</sub>	200μF 10 V "	2		⊕ RF 3 × 16		2	
C <sub>117</sub>	350μF 10 V "	2		⊕ RF 3 × 20		4	
C <sub>118</sub>	100μF 15 V "	2					

**Parts List**

Symbol No.	Description	Q'ty	Remarks	Symbol No.	Description	Q'ty	Remarks
⊕ RF 4 × 6		2		W 3φ		27	
⊕ RF 4 × 8		12		W 4φ		11	
⊕ RF 4 × 10		9		W 3φ (inside)		9	
⊕ RF 4 × 12		7		W 2.6 (outside)		2	
⊕ RF 4 × 16		4		W 3φ (outside)		119	
⊕ RF 4 × 22		11		W 4φ (outside)		42	
⊕ K 2 × 6		2		<b>Spring Washers</b>			
⊕ K 2.6 × 4		1		SW 2φ		3	
⊕ K 3 × 6		1		SW 3φ		4	
⊕ K 3 × 10		2		<b>Rivet</b>			
⊕ K 3 × 14		1		R 3 × 4		4	
⊕ RK 2 × 3		2		<b>Grounding Lugs</b>			
⊕ RK 2 × 6		2		3φ		5	
⊕ RK 3 × 20		4		4φ		1	
⊕ RK 4 × 20		8		<b>Stop Ring</b>			
⊕ T 3 × 6		4		E-2.3		2	
⊕ T 3 × 25		2		E-4		4	
⊕ B 3 × 6		4		E-6		1	
<b>Set Screws</b>				U-3.2		5	
⊖ 4 × 4		2		U-4		2	
⊖ 4 × 6		12		<b>Steel Ball</b>			
⊖ 4 × 8		2		3φ		1	
<b>Nuts</b>				<b>Eyelets</b>			
N 2.6φ		2		1.7 × 3		34	
N 3φ		25		2 × 3		11	
N 4φ		8		<b>Eyelet with Lug</b>			
<b>Washers</b>				2 × 3		2	
W 2φ		2					

**Mechanical Parts**

Symbol No.	Description	Q'ty	Remarks	Symbol No.	Description	Q'ty	Remarks
	<b>1. Cabinet &amp; Appearance Items</b>			1-24	Cabinet	(1)	
				1-25	Front Grille Metal (upper)	(1)	
				1-26	Front Grille Metal (lower)	(1)	
				1-27	Rubber Foot	(8)	
				1-28	Cover (A) for Sash	(4)	
				1-29	Cover (B) for Sash	(4)	
1	Cabinet Assembly, including			2	Tension Arm with Tape Guide	1	D2
1-1	Dust Proof Cloth (Bottom)	(1)		3	Stabilizer Tension Arm with Tape Guide	1	U2
1-2	" (Back)	(1)		4	Bottom Lid Assembly	1	
1-3	" (Front)	(1)		5	Control Knob with Face Plate	4	
1-4	Sash for Cabinet Cover	(2)		6	Head Cover Pin	2	H1
1-5	Sash for Cabinet	(2)		7	Push Button Damper, Black (Stop, Play, Rec & F • FWD)	4	
1-6	Handle Grip	(1)		8	Push Button Damper, White (Speed Selector...2, Track Selector...3, AC ON/OFF...1)	6	
1-7	Handle Grip Washer	2 sets		9	Reel Panel	1	
1-8	Catch	"		10	Tape Index Counter M-311	1	D19
1-9	Hinge	"		11	Tape Index Counter Cover	1	
1-10	Ventilation Grille (rectangular)	(1)		12	Spacer for SOURCE/MONITOR Switch	2	
1-11	Duct Ventilation Grille	(1)		13	Fiber Spacer for Cabinet	2	
1-12	Front Foot	(2)		14	Cabinet Set Washer	8	
1-13	Reel Retainer	(2)		15	Selector Push Button (S)	6	
1-14	Name Plate "SONY"	2		16	Push Button (s) (Play, Fast Forward, Ivory)	2	
1-15	Input Jack Frame	(1)		17	Push Button (Stop, Dark Gray)	1	
1-16	Output Jack Frame	(1)		18	Push Button (Rewind, Ivory)	1	
1-17	Frame for Power Connector	(1)					
1-18	Cushion	2					
1-19	Ventilation Grille (Back)	(1)					
1-20	AC Cord Retainer	(2)					
1-21	Cabinet Protecting Plate	(1)					
1-22	Badge "STEREO TAPECORDER 777S-4J"	(1)					
1-23	Frame for AC Socket (117V, 50W)	(1)					



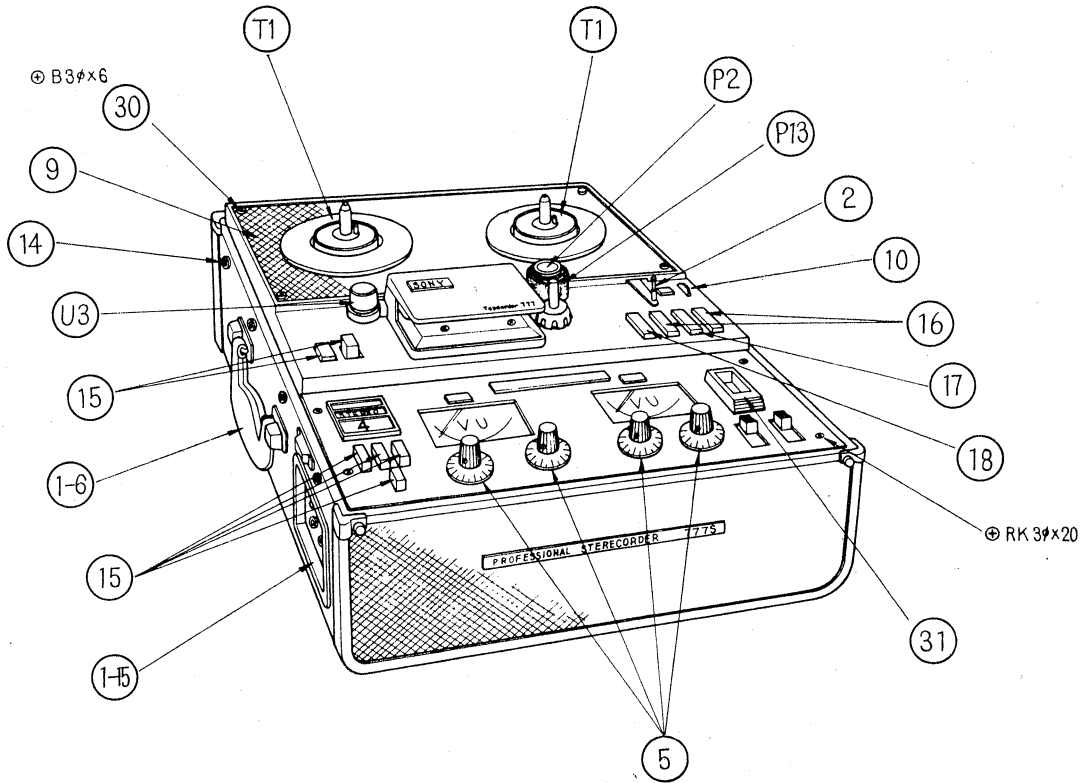


## Parts List

Symbol No.	Description	Q'ty	Remarks	Symbol No.	Description	Q'ty	Remarks
D33	Reinforcing Plate for Base Plate	1		P14	Adjusting Washer	2	
D34	Relay Mounting Angle	1					
D35	Adjustment Washer	1					
D36	Tension Arm Boss (S)	1			<b>R. Recording Mechanism</b>		
D37	Micro Switch Adjusting Plate	1		R1	Record Button Holding Plate	1	
D38	Tension Arm Damper	2		R2	Leaf Spring for Record Button	1	
D39	Damper Boss (S)	2		R3	Spring for Record Button Guard	1	
D40	Channel Selector Spring Holder	1		R4	Spring for Record Button Holding Plate	1	
D41	Solenoid Mounting Angle (S)	1					
D42	Panel Supporting Spacer	4		R5	Record Push Button	1	20
D43	Bush for Panel Supporting Spacer	4		R6	Record Button Guard (A)	1	
D44	Panel Cushion	4					
D45	Record Button Mounting Bracket	1			<b>T. Reel Table Mechanism</b>		
D46	Voltage Selector Mounting Plate	1					
D47	Channel Selector Spring	3		T1	Reel Table	2	
D48	Solenoid Holding Screw	3		T2	Reel Spindle Set Screw	4	
D49	Cushion for Solenoid	3		T3	Rubber Disc on Reel Table	2	
D50	Steel Wire for Channel Selector Switch	1		T4	Tape Counter Belt	1	D20
D51	Solenoid Pin	1	P11	T5	Reel Table Set Spring	2	
D52	Connector Holding Screw	6					
D53	Wire Retainer	5			<b>U. Stabilizer Mechanism</b>		
D54	Pinch Roller Solenoid	1	PM <sub>802</sub>	U1	Stabilizer Metal	1	
D55	Brake Solenoid	1	PM <sub>801</sub>	U2	Stabilizer Tension Arm with Tape Guide	3	
D56	Relay MK-3 type	3	RY <sub>801-803</sub>	U3	Stabilizer Shaft with Cover	1	
D57	Insulator Damper	4		U4	Metal Retainer	1	
	<b>H. Head Deck</b>			U5	Stabilizer Flywheel	1	
H1	Head Cover Pin	1	6	U6	Stabilizer Thrust Support	1	
H2	Head Apron	1		U7	Thrust Adjusting Screw	1	
H3	Shield Plate (B) for Head	1		U8	Thrust Support	1	
H4	Head Plate	1		U9	Lock Nut for Thrust Adjusting Screw	1	
H5	Shield Case for Head	1		U10	Stabilizer Spring	1	
H6	Head Lead Connector Mounting Plate	1		U11	Spacer for Stabilizer Metal	1	
H7	Shield Cover for Head	1		U12	3φ Steel Ball	1	
H8	Tape Guide Spring	1					
H9	Tape Guide Shaft	1			<b>Z. Accessories &amp; Packing Materials</b>		
H10	Tape Guide C	1		Z1	Carton Assembly	1	
H11	Tape Guide D	1		Z2	Reel Cap	1	
H12	Head Cover S	1	19	Z3	Polyethylene Bag (for Cabinet)	1	
H13	Head Shield Plate Reinforcing Plate	1		Z4	Carton for Accessory Bag	1	
H14	Head Adjusting Screw	4		Z5	Accessory Bag	1	
H15	Spacer for Head Mount	3		Z6	Carton for Microphone	2	
H16	Recording Head Fixing Screw	2		Z7	Motor Pulley	1	C15
H17	Spring for Recording Head	2		Z8	"	1	C16
H18	Playback Head PP15-4202L	1	PBH	Z9	Tack Label C	1	
H19	Recording Head RP15-2902	1	RH	Z10	" D	1	
H20	Erase Head EF13-2902	1	EH	Z11	Instruction Manual	1	
	<b>P. Pinch Roller Mechanism</b>			Z12	Earphone Bag	1	
P1	Pinch Roller Arm (S) Assembly	1		Z13	Desiccant	1	
P2	Pinch Roller Cap (B)	1		Z14	Microphone F-81 (LQ)	2	
P3	Pinch Roller Cap Plate	1		Z15	Magnetic Recording Tape Super-7	1	
P4	Pull Rod for Solenoid	1		Z16	Reel R-7A	1	
P5	Pressure Spring	1		Z17	Splicing Tape	1	
P6	Reset Spring	1		Z18	Remote Control	1	
P7	Oil Retainer (Felt)	1		Z19	Tool Set	1	
P8	Felt Washer	1		Z20	Stereo Head Set DR-1C	1	
P9	Vulcanized Fiber Washer (7φ)	1		Z21	AC Power Cord DK-11	1	
P10	Pressure Spring Washer	2		Z22	SONY Rec/PB Cord RC-2	1	
P11	Solenoid Pin	1	D51	Z23	SONY Connection Cord RK-55	1	
P12	6φ Nylon Washer	2		Z24	SONY Oil (OL-1K)	1	
P13	Pinch Roller (S)	1					

Exploded Diagram

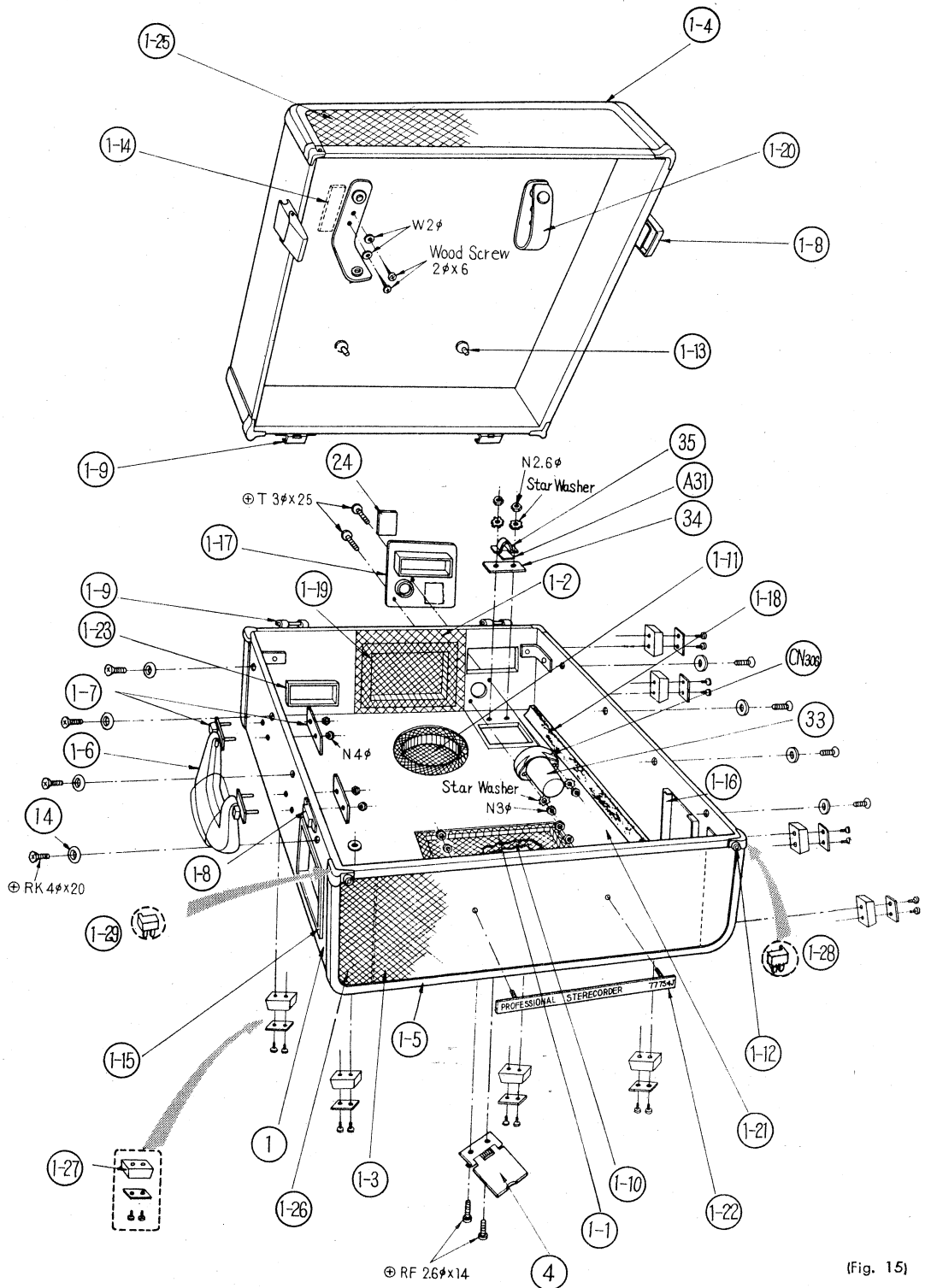
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(Fig. 14)

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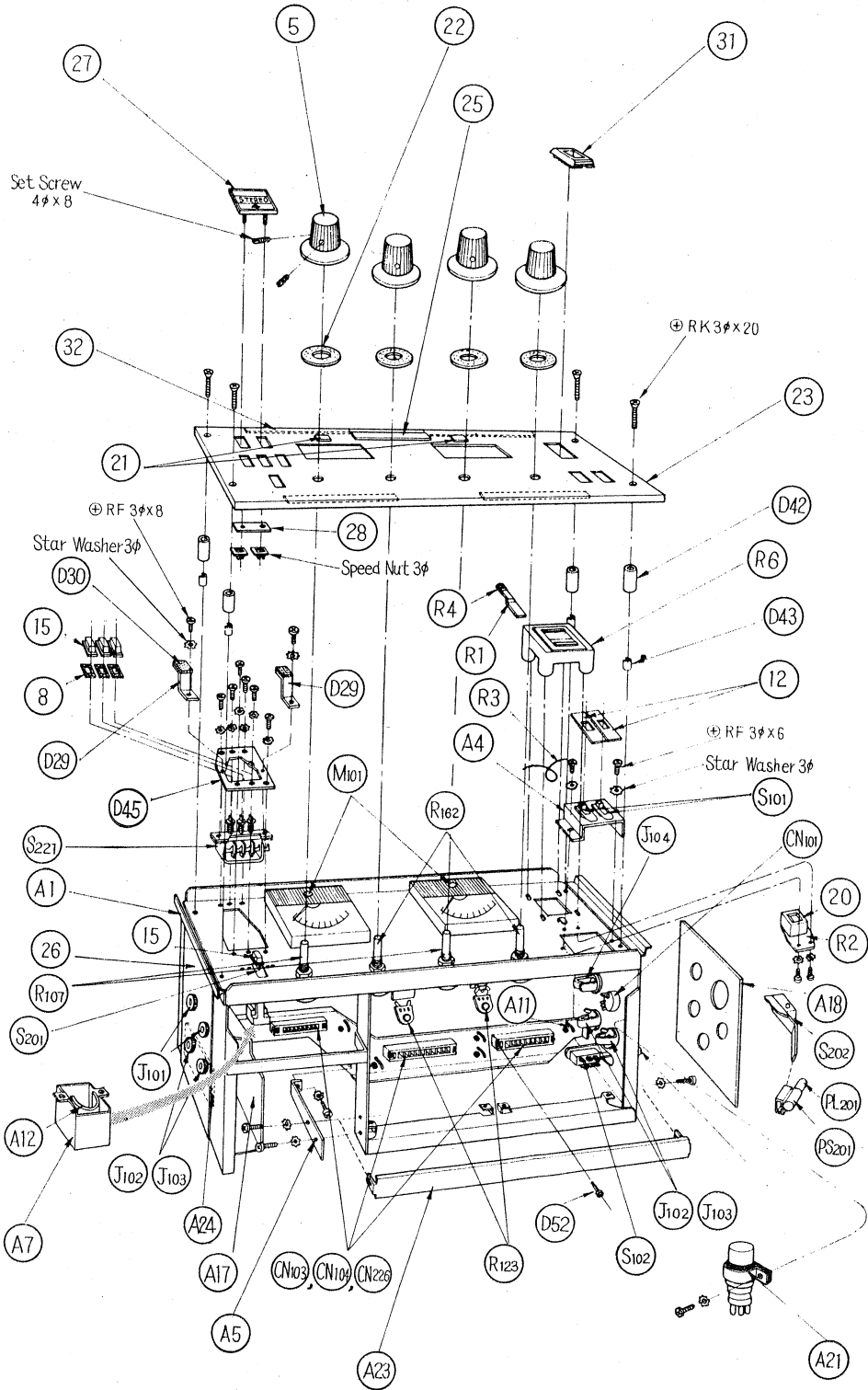
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(Fig. 15)

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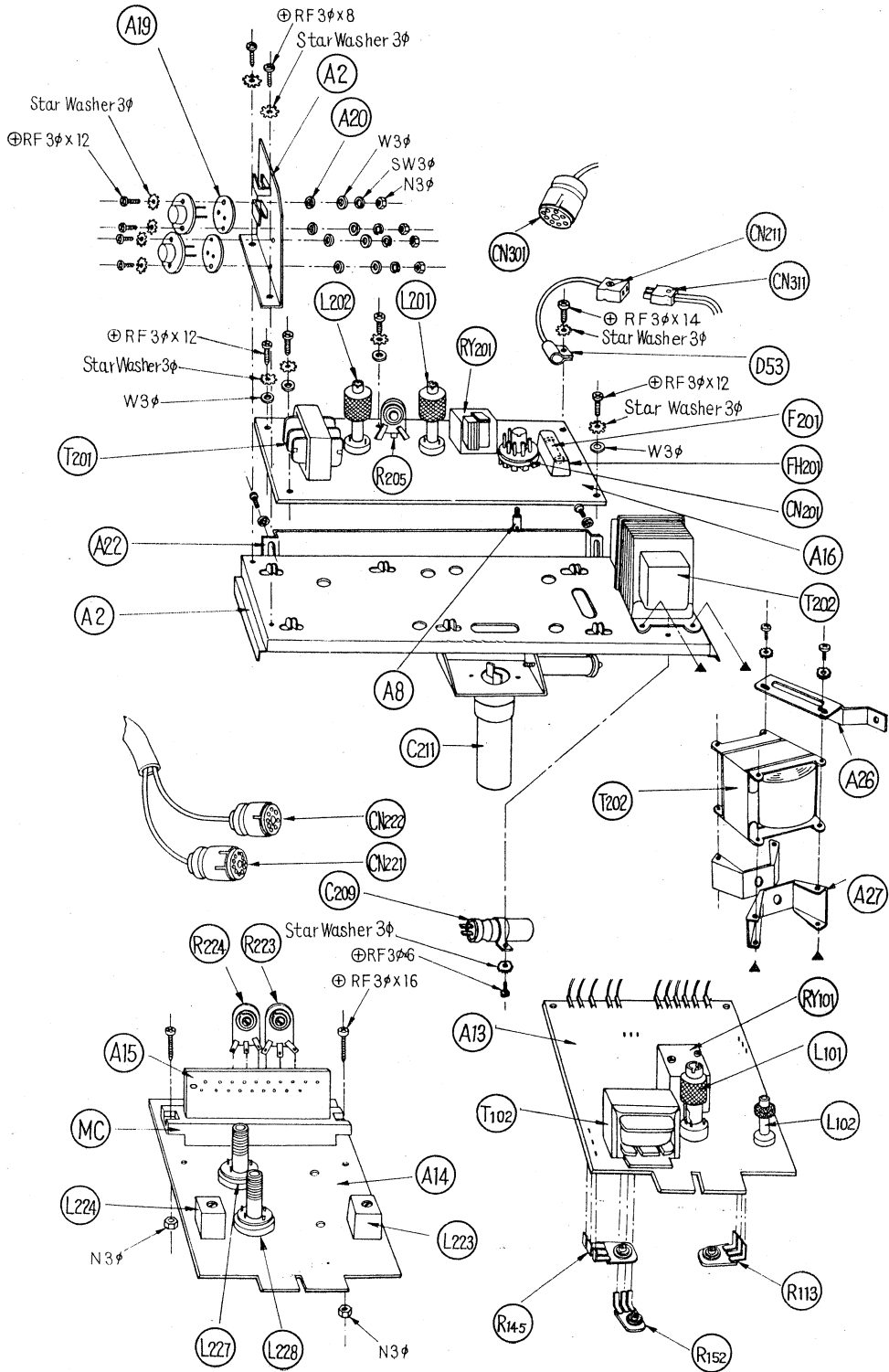
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(Fig. 16)

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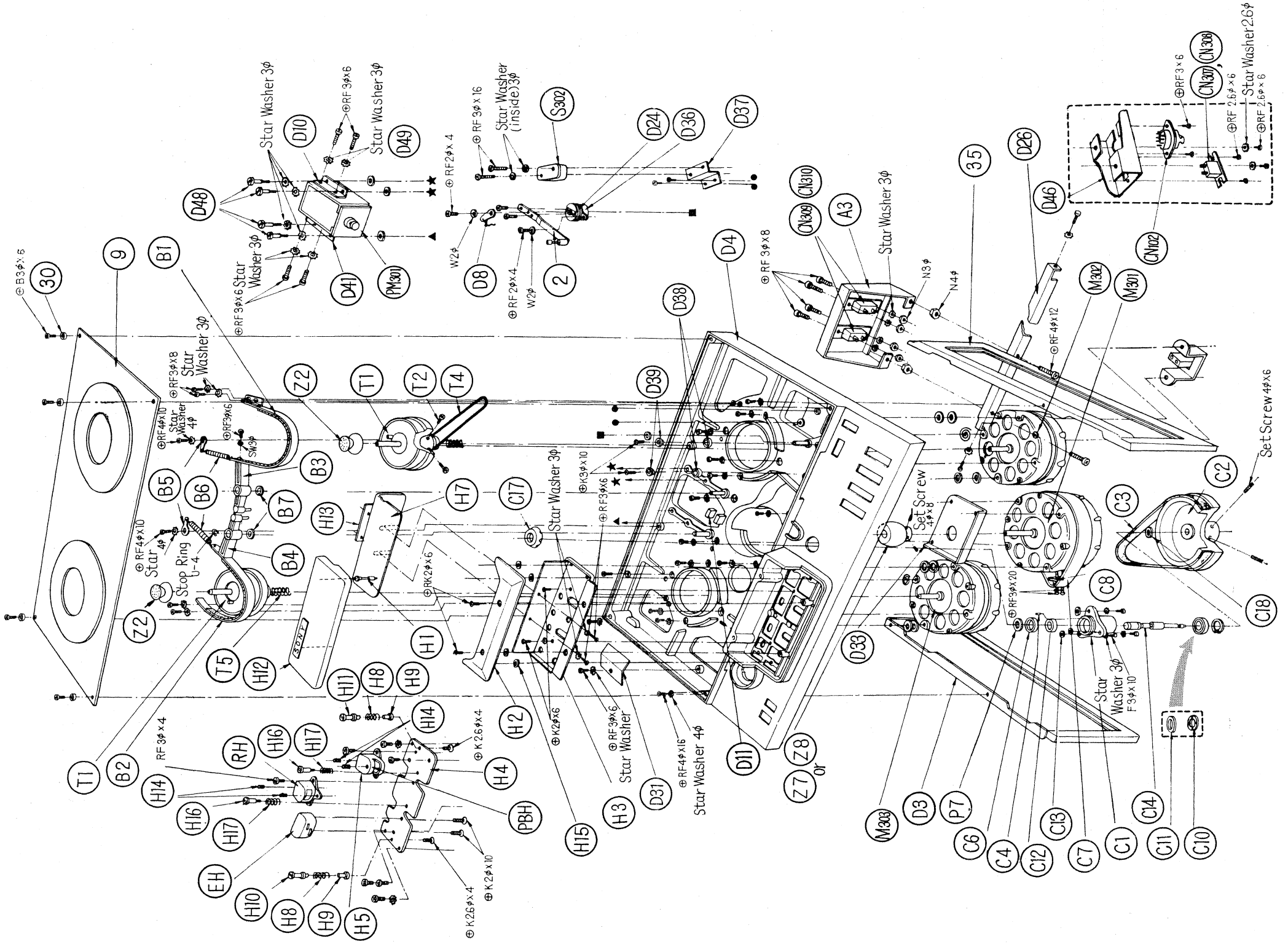
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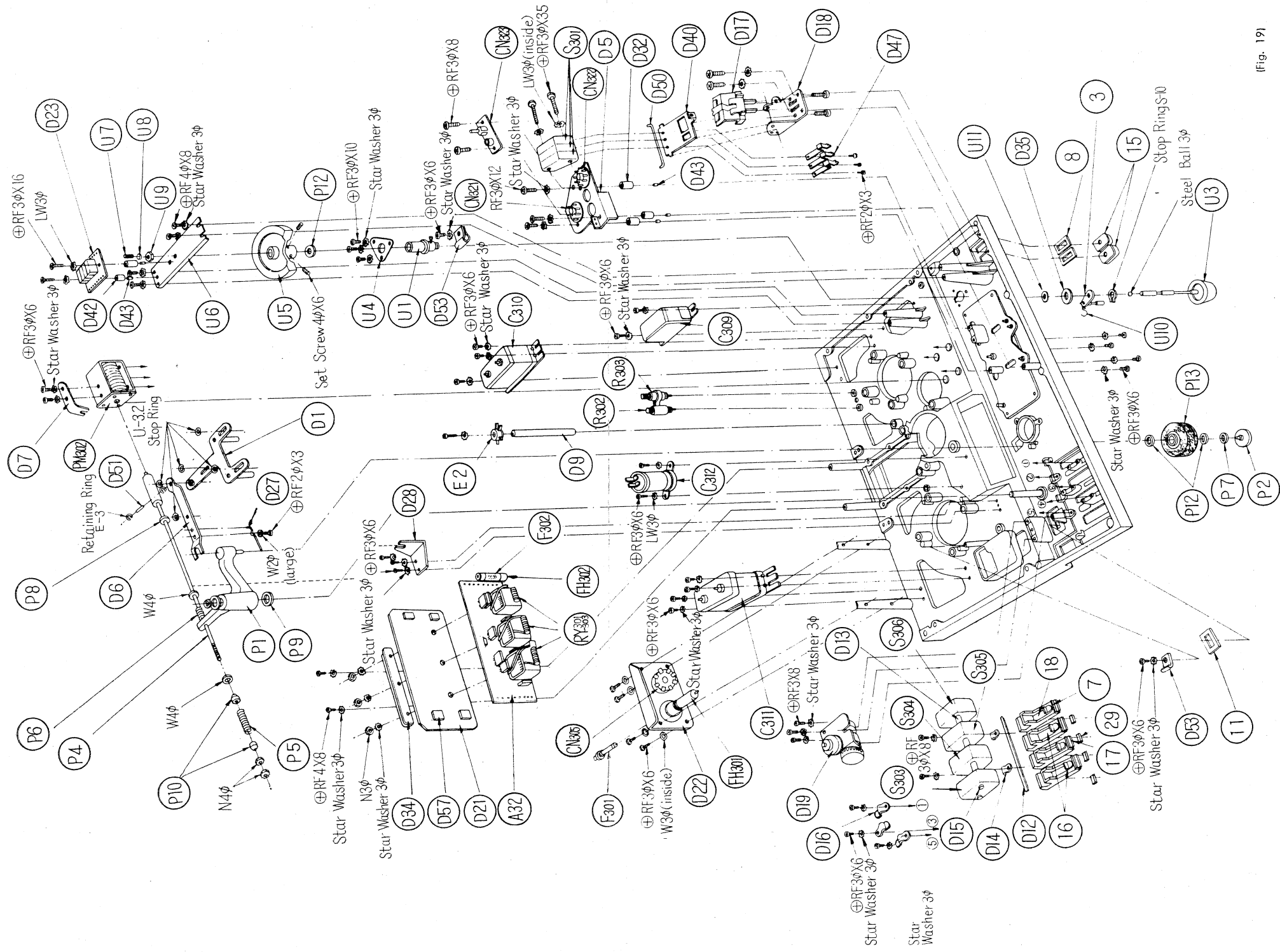
(Fig. 17)

Exploded Diagram

(5)



(Fig. 18)



(Fig. 19)

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