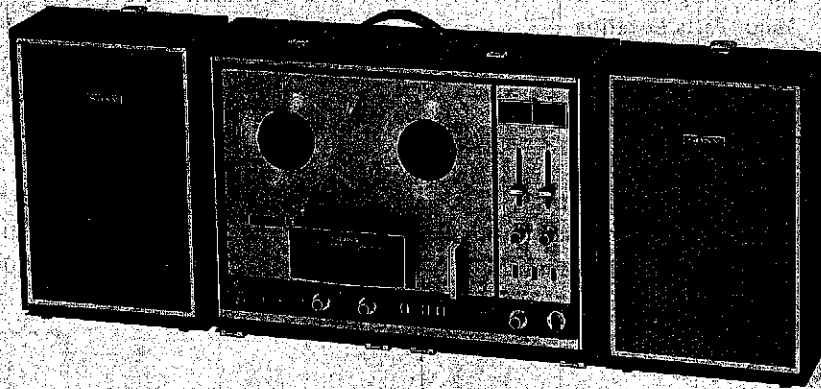


TC-570

*AEP Model
Canada Model*



STEREO TAPECORDER

SPECIFICATIONS

Power Requirements:	AC 120 V, 60 Hz (Canada) AC 110, 127, 220, 240 V, 100 W 50/60 Hz (AEP)		LINE Inputs	
Track System:	4 track, 2 channel stereo		Impedance:	560 k Ω
Reel Size:	7" (18 cm) maximum		Maximum sensitivity:	0.06 V (–22 dB)
Tape Speed:	7 $\frac{1}{2}$ ips (19 cm/s) 3 $\frac{3}{4}$ ips (9.5 cm/s) 1 $\frac{7}{8}$ ips (4.8 cm/s)		PHONO inputs	
Frequency Response:	NAB	DIN	Impedance:	12 k Ω
	<u>SONY SLH tapes</u>		Maximum sensitivity:	1.1 mV (–57 dB)
	25 ~ 28,000 Hz (30 ~ 25,000 Hz $\pm$ 3 dB)	40 ~ 20,000 Hz at 19 cm/s (7 $\frac{1}{2}$ ips)	TUNER inputs	
	30 ~ 20,000 Hz	40 ~ 15,000 Hz at 9.5 cm/s (3 $\frac{3}{4}$ ips)	Impedance:	100 k Ω
	<u>Standard tapes</u>		Maximum sensitivity:	0.06 V (–22 dB)
	25 ~ 25,000 Hz (30 ~ 20,000 Hz $\pm$ 3 dB)	40 ~ 15,000 Hz at 19 cm/s (7 $\frac{1}{2}$ ips)	Outputs:	LINE OUTPUTS
	30 ~ 17,000 Hz	40 ~ 11,000 Hz at 9.5 cm/s (3 $\frac{3}{4}$ ips)	Load impedance:	10 k Ω or more
	30 ~ 9,000 Hz at 4.8 cm/s (1 $\frac{7}{8}$ ips)		Output level:	0.775 V (0 dB) with 100 k Ω load
Signal-to-Noise Ratio:	55 dB or better (with SONY SLH tape) 52 dB or better (with standard tape)			HEADPHONE outputs
Wow and Flutter:	NAB	DIN	Load impedance:	8 Ω
	0.12 %	0.18 % at 19 cm/s (7 $\frac{1}{2}$ ips)	Output level:	30.8 mV (–28 dB)
	0.15 %	0.25 % at 9.5 cm/s (3 $\frac{3}{4}$ ips)	SPEAKER outputs	
	0.2 %	at 4.8 cm/s (1 $\frac{7}{8}$ ips)	Load impedance:	8 Ω
Recording Bias Frequency:	Approx. 160 kHz		Speakers:	6 $\frac{1}{2}$ " (16 cm) 16 Ω Lid speaker x 2
Power Output:	15 W maximum per channel Dynamic power 20 W per channel		Semiconductors:	32 transistors and 11 diodes
Inputs:	MICROPHONE inputs Impedance: low impedance Maximum sensitivity: 0.2 mV (–72 dB)		Dimensions:	20 $\frac{3}{8}$ " (W) x 15 $\frac{3}{8}$ " (H) x 10 $\frac{3}{16}$ " (D) (513 x 390 x 259 mm)
			Weight:	41 lb 4 oz (18.7 kg) (AEP) 38 lb 10 oz (17.3 kg) (Canada)

SONY
SERVICE MANUAL

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TC-570 uses a power transistor protecting circuit which stops power amplifier operation when SPEAKER jack is short-circuited.

If short circuit of SPEAKER jack make protecting circuit operate, turn POWER switch OFF to reset it.

When ordering replacement parts, use PART NUMBERS listed in Parts Lists or shown in EXPLODED VIEWS.

Parts List reference numbers should not be used.

Note: *All screws in this service manual are Phillips type (cross recess type) unless otherwise indicated.*

(—) : slotted head

SECTION 1 OUTLINE

1-1. BLOCK DIAGRAM

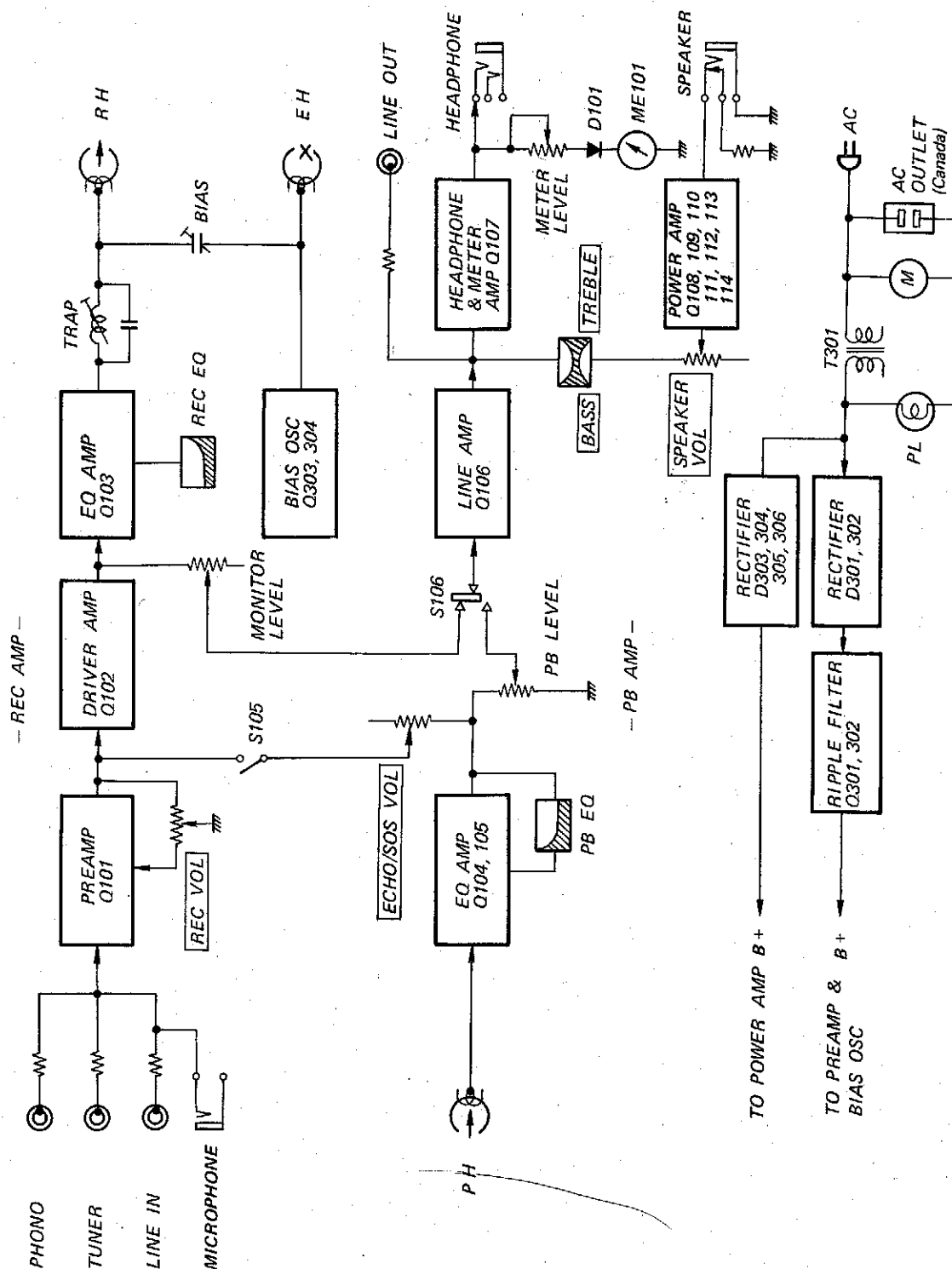
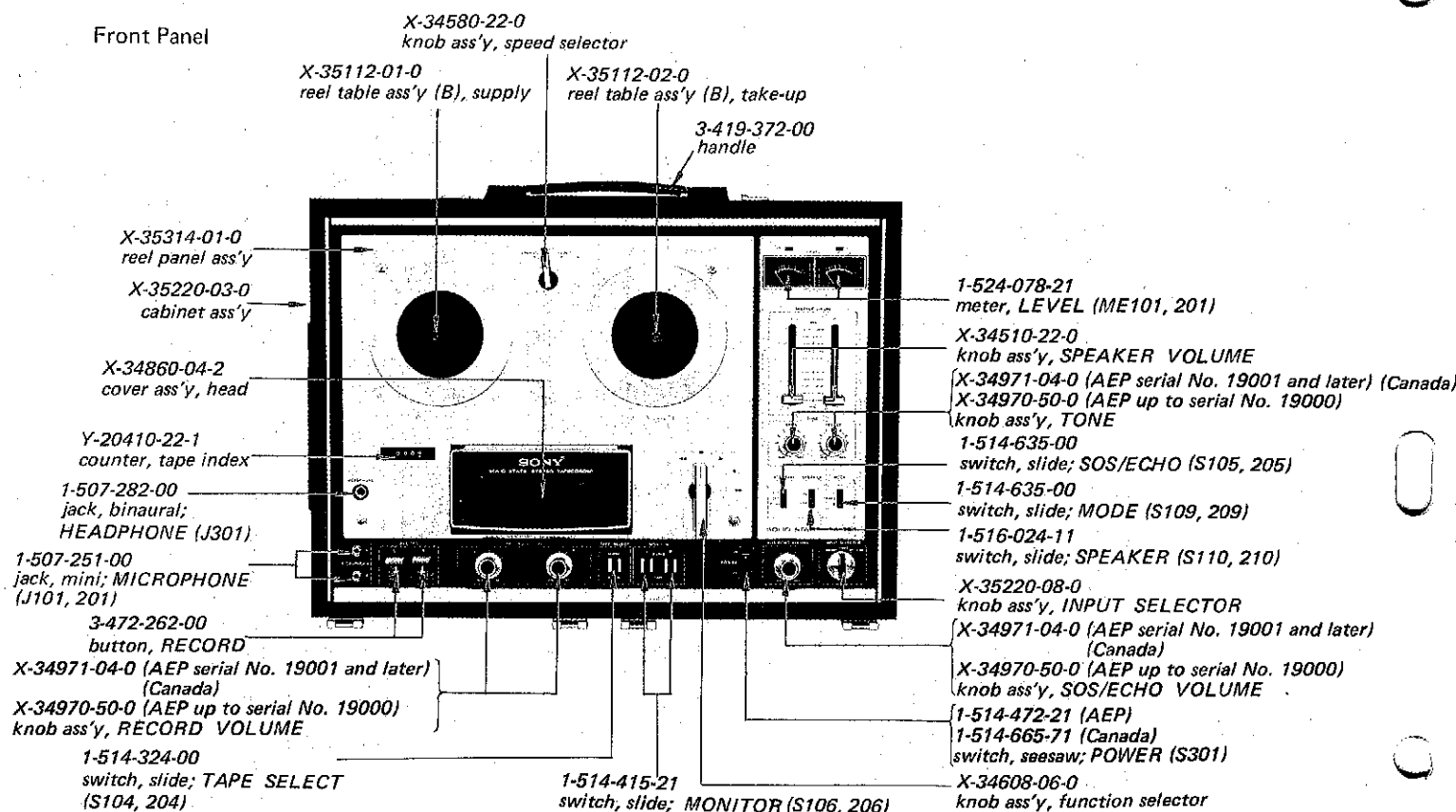


Diagram shows L-CH only.

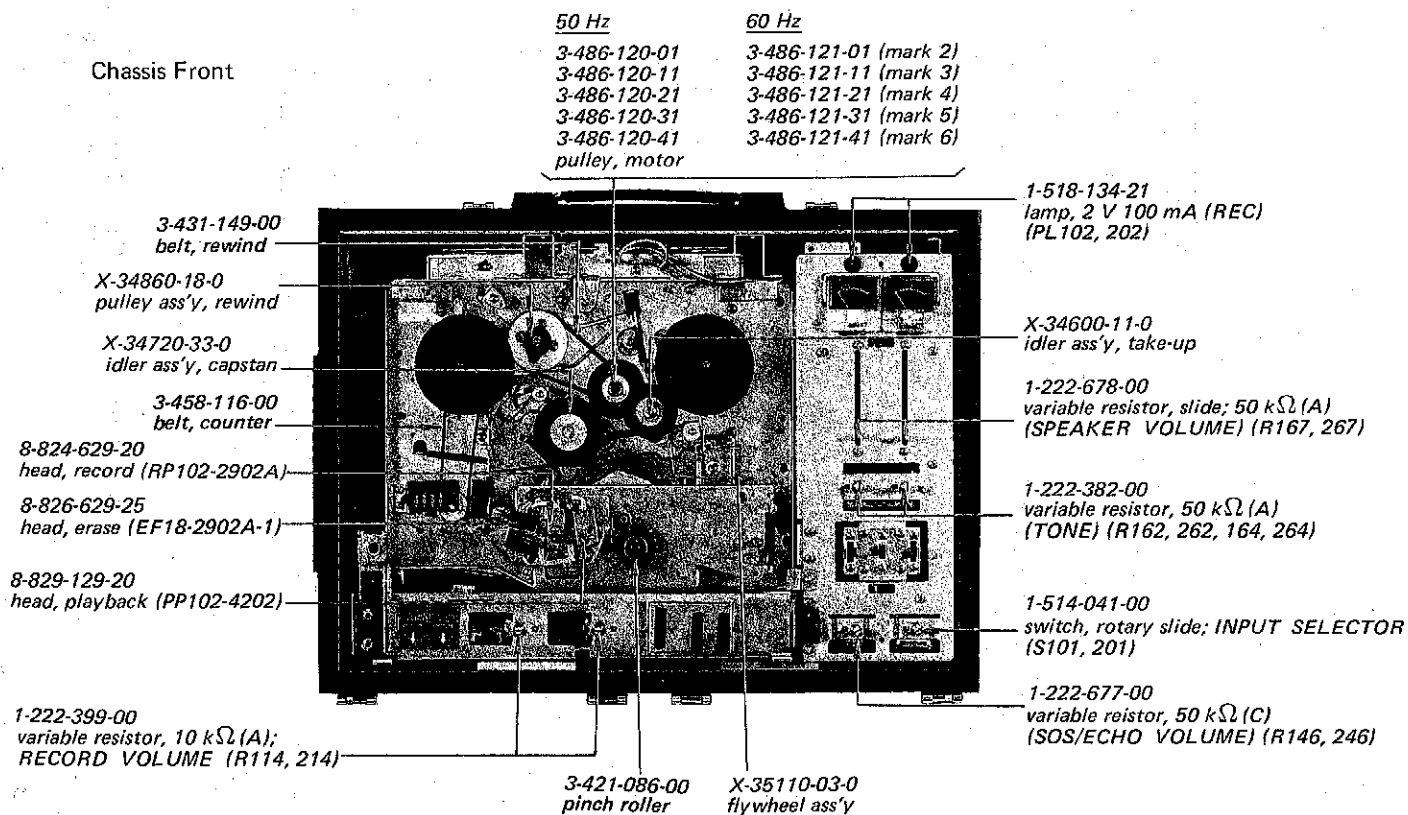
S105—OFF POSITION

S106—SOURCE POSITION

1-2. MAJOR PARTS LOCATION



Chassis Front



Chassis Rear

1-121-300-21
capacitor, 2200 μ F 70 V; elect (C316)

1-117-036-22 (AEP)
capacitor, 1.5 + 0.5 μ F 250 V; MP (C301)
1-117-034-22 (Canada)
capacitor, 1.5 μ F 250 V; MP (C301)

X-35314-52-0
mounted circuit board,
power-amp

1-442-117-11 (Canada)
1-441-926-00 (AEP)
transformer, power (T301)

8-832-624-25
motor, IC 624 H

X-35314-53-0
mounted circuit board,
tone control

1-514-079-00
switch, micro,
auto shut-off (S302)

X-35314-54-0
mounted circuit board,
switch control

X-35314-55-0
mounted circuit board,
input selector

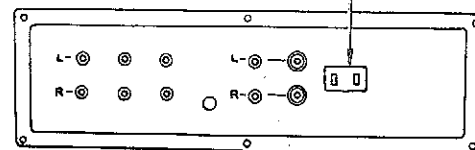
1-514-967-00
switch, rotary; muting
(S108, 208)

X-35314-51-0
mounted circuit board,
preamp

Side Panel

1-509-341-00 (Canada)
connector, AC outlet

1-509-359-00 (AEP)
connector, REC/PB (CNJ301)



1-507-142-13
jack, 2 p phono; LINE IN
(CNJ103, 203)

1-507-142-13
jack, 2 p phono; TUNER
(CNJ101, 201)

1-507-142-13
jack 2 p phono; PHONO
(CNJ102, 202)

3-521-055-00
terminal, push; GND

1-509-482-00
socket, power voltage selector
(VS301) (AEP)

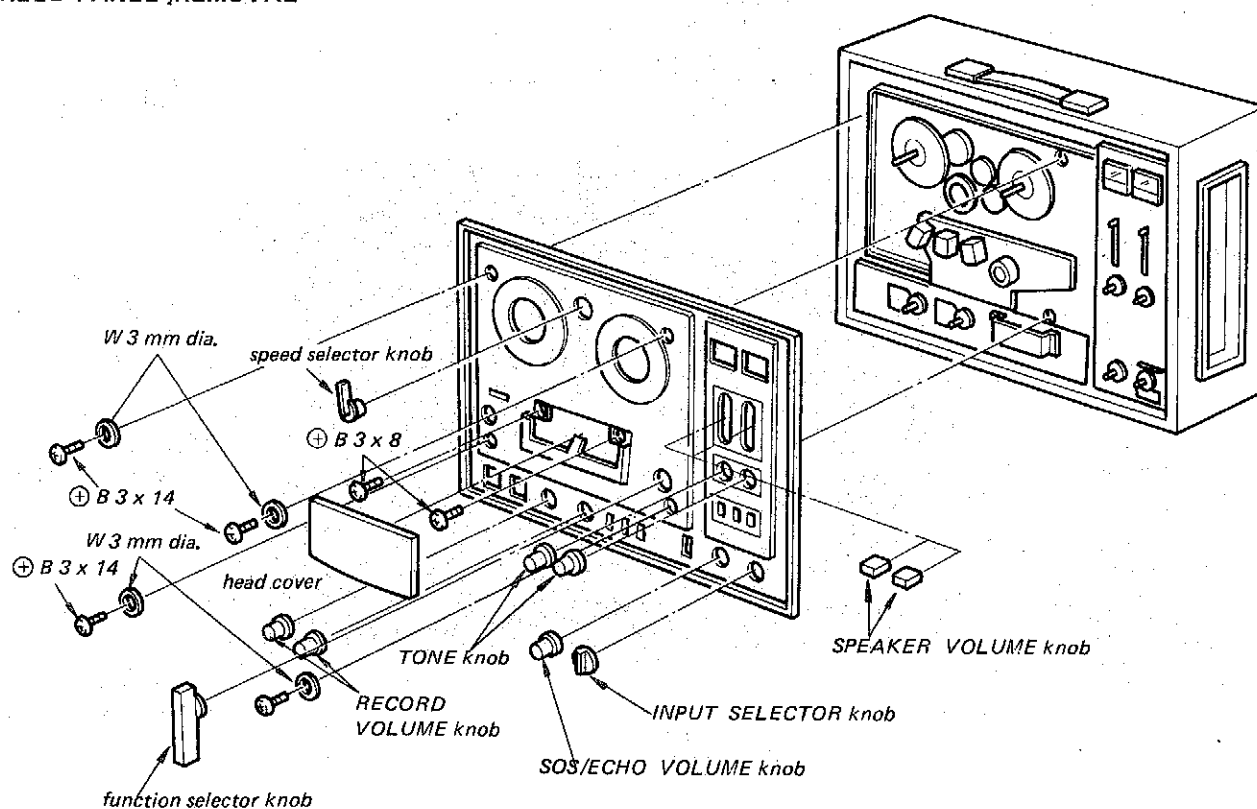
1-509-445-00
connector, 3 p; AC IN
(CNJ302) (AEP)

1-507-142-13
jack, 2 p phono; LINE OUT
(CNJ104, 204)

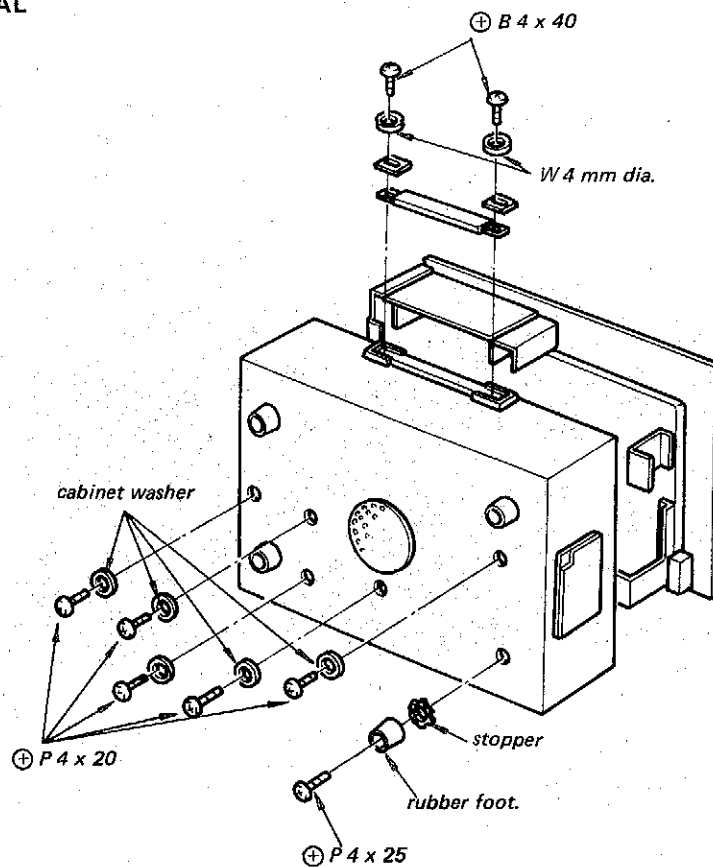
1-507-251-00
jack, mini; SPEAKER 8 Ω
(J102, 202)

SECTION 2 DISASSEMBLY

REEL PANEL REMOVAL



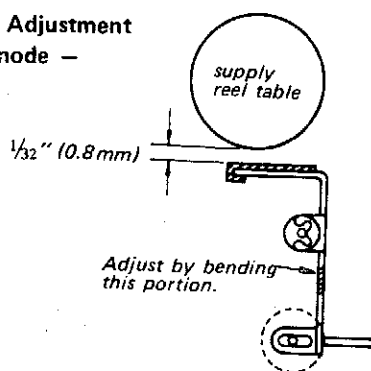
CABINET REMOVAL



SECTION 3 ADJUSTMENTS

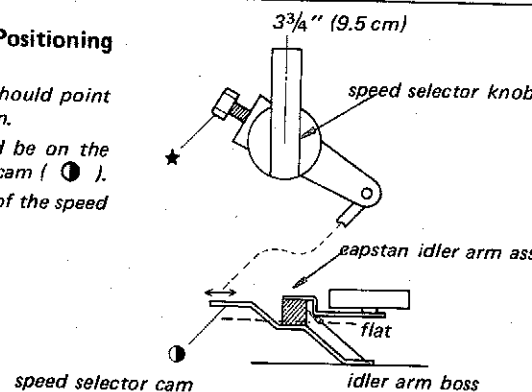
3-1. MECHANICAL ADJUSTMENTS

Brake (Supply) Adjustment — in FF mode —

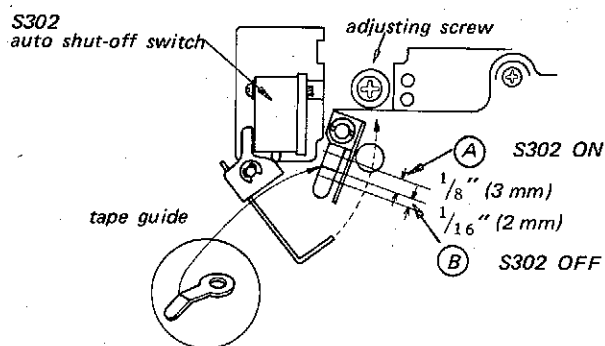


Speed Selector Knob Positioning

1. Speed selector knob should point $3\frac{3}{4}$ " (9.5 cm) position.
2. Idler arm boss should be on the flat of speed selector cam (●).
3. Fasten the screw (★) of the speed selector knob.



Actuator Adjustment



Loosen the screw and adjust auto shut-off switch position.

When actuator comes to the portion (A), auto shut-off switch should be turned ON.

When actuator comes to the portion (B), auto shut-off switch should be turned OFF.

Capstan Idler Position Adjustment in STOP mode

1. Clearance Adjustment

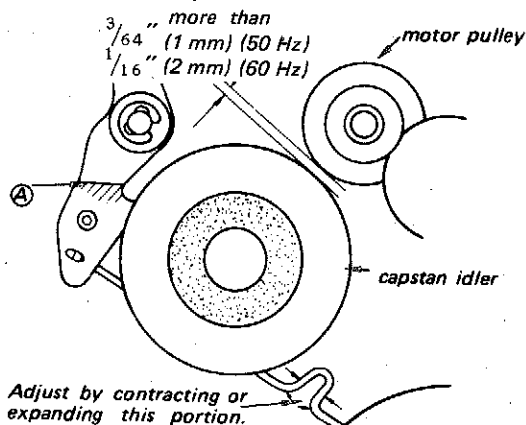


Fig. 1.

2. Height Adjustment

Adjust capstan idler height by bending portion (A) in Fig. 1. In vertical operation, capstan idler bottom should not contact motor pulley. (portion ★ in Fig. 2)

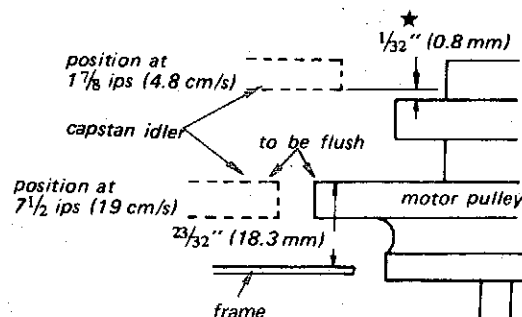
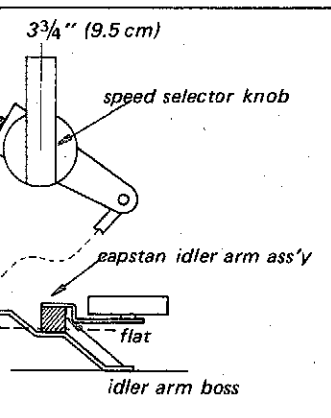
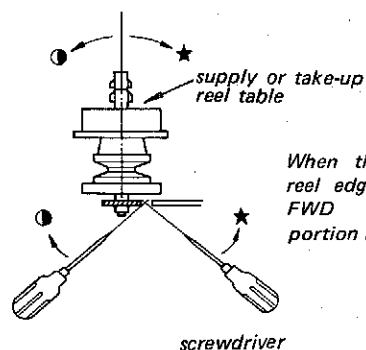


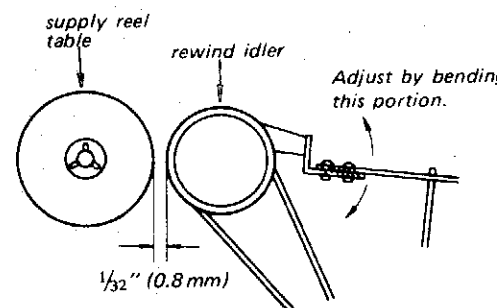
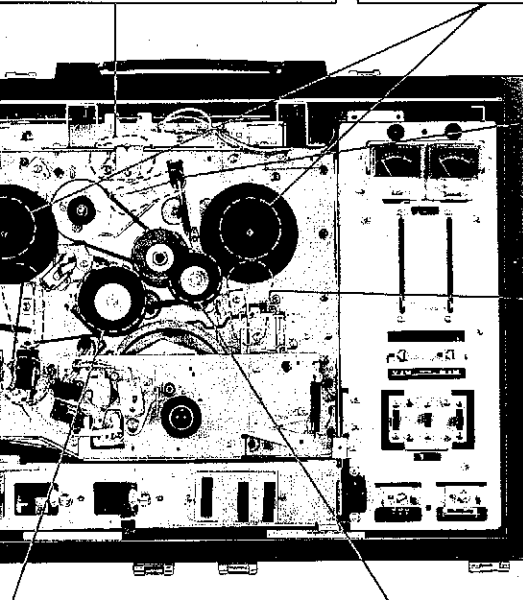
Fig. 2.



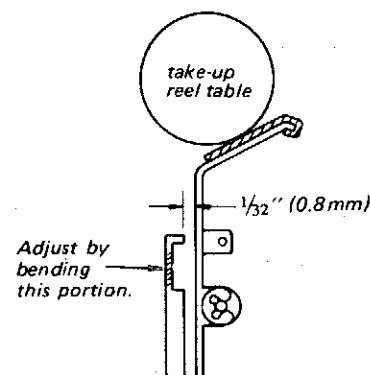
Reel Table Adjustment



Rewind Idler Adjustment in STOP mode



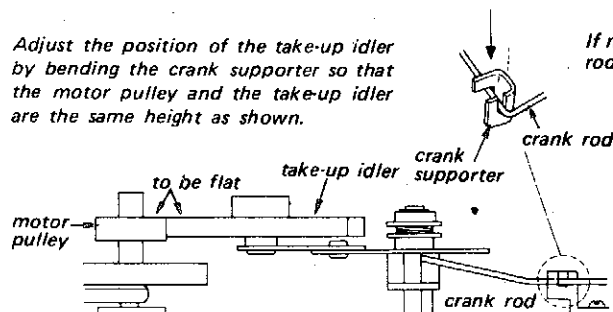
Brake (Take-up) Adjustment in STOP mode



Take-up Idler Position Adjustment — in FF and STOP modes —

1. Height Adjustment — in FF mode —

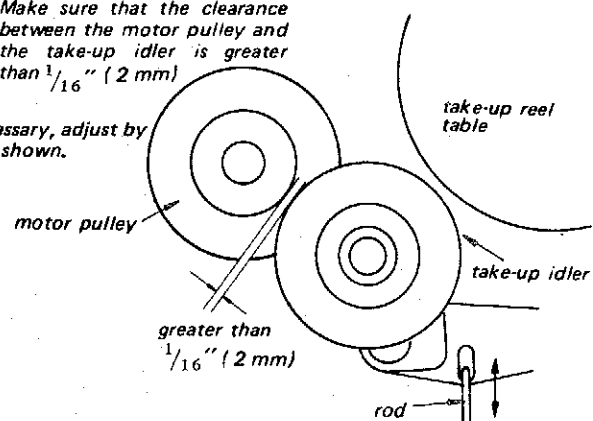
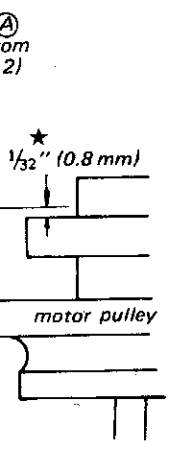
Adjust the position of the take-up idler by bending the crank supporter so that the motor pulley and the take-up idler are the same height as shown.



2. Position Check — in STOP mode —

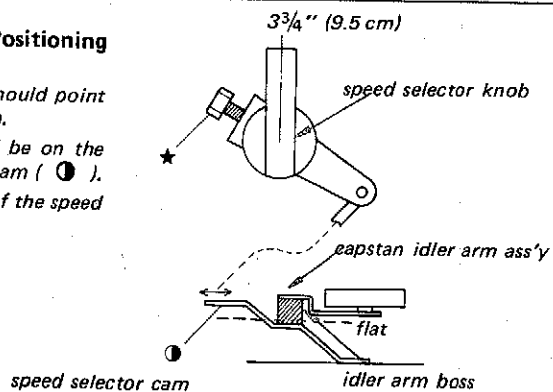
Make sure that the clearance between the motor pulley and the take-up idler is greater than $\frac{1}{16}"$ (2 mm).

If necessary, adjust by rod as shown.

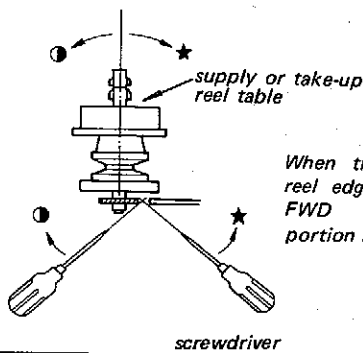


Knob Positioning

Knob should point
position.
should be on the
selector cam (●).
(★) of the speed

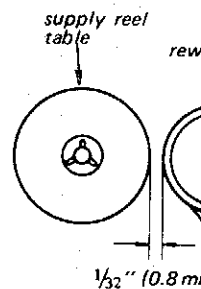


Reel Table Adjustment



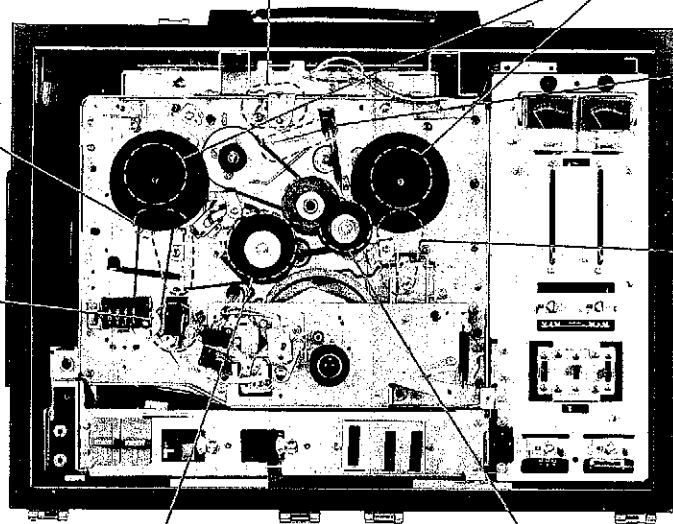
When the tape touches the reel edge in FF, REW and FWD modes, bend the portion shown.

Rewind Idler in STOP



Brake (T) in

Adjust by bending this portion.



height by bending portion (A)
operation, capstan idler bottom
motor pulley. (portion ★ in Fig. 2)

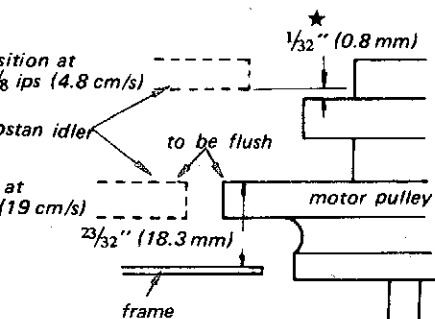


Fig. 2.

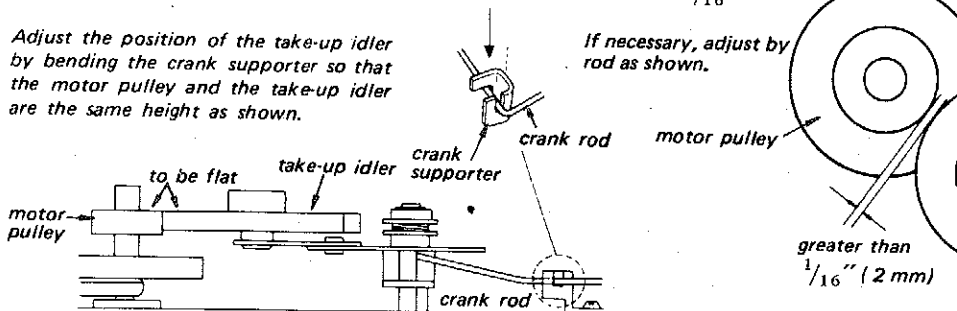
Take-up Idler Position Adjustment — in FF and STOP modes —

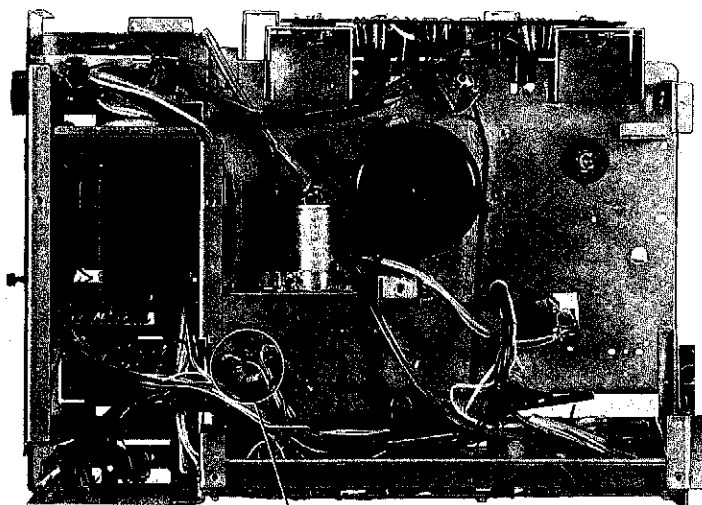
1. Height Adjustment
— in FF mode —

2. Position Check
— in STOP mode —

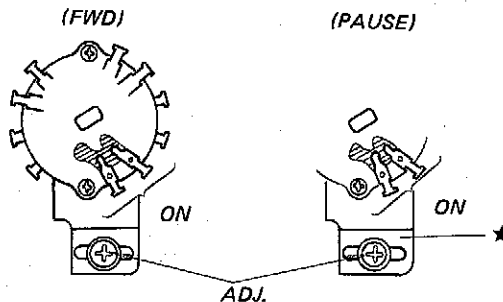
Make sure that the clearance between the motor pulley and the take-up idler is greater than $\frac{1}{16}$ " (2 mm)

Adjust the position of the take-up idler by bending the crank supporter so that the motor pulley and the take-up idler are the same height as shown.





Timing Rotary Switch Adjustment (S303)



Adjust ★ portion by screw so that the switch should be ON in FWD and PAUSE modes.

Torque Measurement

Take-up torque: 300 ± 25 g·cm (4.2 ± 0.3 oz·inch)
 Fast forward torque: $1,200 \pm 100$ g·cm (16.8 ± 1.4 oz·inch)
 Rewind torque: $1,400 \pm 100$ g·cm (19.6 ± 1.4 oz·inch)

Back Tension (supply reel table) Measurement

In forward mode: $80 \sim 120$ g·cm ($1.1 \sim 1.7$ oz·inch)

Pinch Roller Pressure Measurement

$1,200 \sim 1,500$ g ($2.6 \sim 3.3$ lb)

3-2. ELECTRICAL ADJUSTMENTS/ MEASUREMENTS

Precaution:

- Before making the following adjustments, clean the record head and the playback head with a soft cloth or swab dampened with denatured alcohol, and demagnetize the heads with a head demagnetizer (SONY Model HE-2).
- The adjustments should be made in numerical order and for both R-CH and L-CH, unless otherwise noted.
- After the adjustments, apply lock paint to the parts adjusted.
- The adjustments require the test equipment as follows:
 - * Audio oscillator
 - * Attenuator 600 Ω
 - * VTVM
 - * SONY alignment tapes J-19-F1, WS-19-7, WS-9-7
 - * Blank tapes (SONY Super 150 and SLH)
 - * Resistors 600 Ω and 100 k Ω
 - * 1 kHz band pass filter
 - * Screwdriver for adjustment
- TAPE SELECT and TAPE SPEED switches should be set as follows unless otherwise specified.

TAPE SELECT: NORMAL
 TAPE SPEED: 7 1/2 ips (19 cm/s)

- Rated input and output levels are as follows:

	Input Level (Signal Source Impedance)	Output Level (Load Resistor)
MIC	-60 dB, 0.78 mV (600 Ω)	LINE OUT 0 dB, 0.775 V (100 k Ω)
LINE IN	-10 dB, 0.24 V (10 k Ω)	

- SONY alignment tapes:

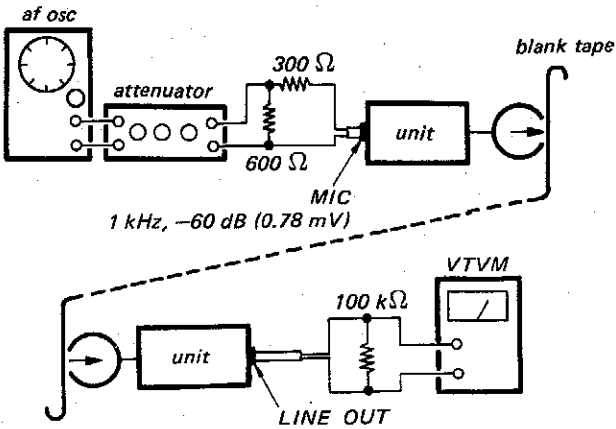
J-19-F1

	1	2	3	4	5	6	7
Frequency (Hz)	10 k	400	400	10 k	7 k	80	40
Level (dB)	-10	0	-10	-10	-10	-10	-10

- RECORD VOLUME control should be set as follows unless otherwise specified.

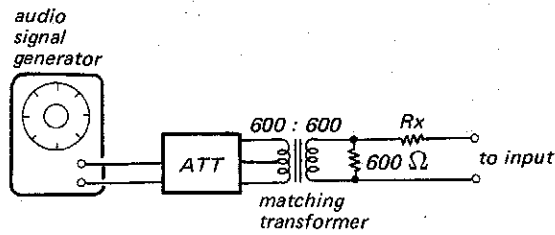
Position to obtain -5 dB (0.44 V) LINE output for 1 kHz, -60 dB (0.78 mV) MIC input in record mode.

TAPE SELECT switch: NORMAL
 MONITOR switch: TAPE

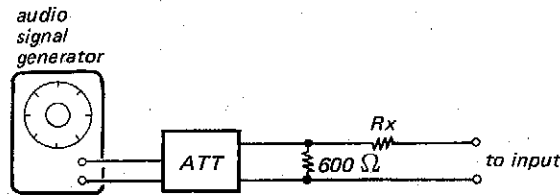


- Input connection as follows:

a. for balanced attenuator.

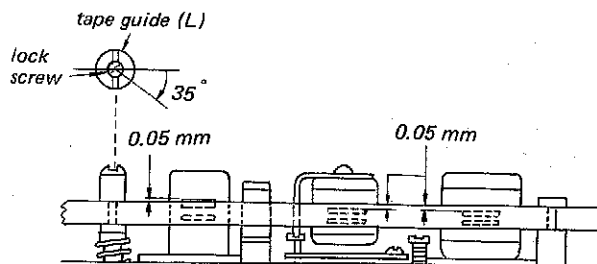


b. for unbalanced attenuator.



Input	MIC & PHONO	LINE IN & TUNER
Value of Rx	300 Ω	10 k Ω

1. Tape Path Adjustment



Procedure:

1. Thread a tape and place unit in playback mode.
2. Loosen the lock screw and align the upper edge of the erase head core and that of the tape by turning the tape guide (L).
3. Turn the tape guide (L) clockwise by approximately 35 degrees from the position obtained in the preceding step so that the upper edge of the tape is approximately 0.05 mm lower than that edge of the erase head core.
4. Fix the tape guide with the lock screw.

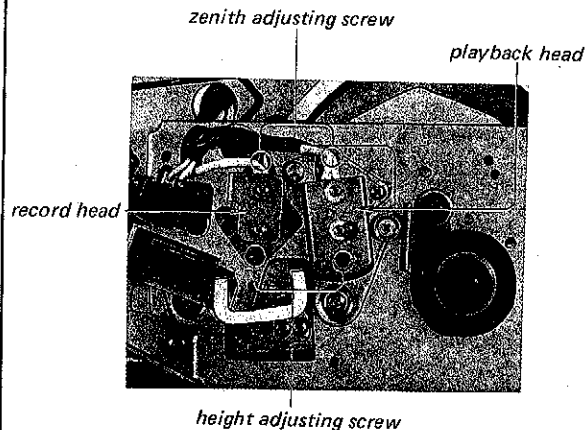
2. Record and Playback Head Preadjustment (Rough adjustment for Playback Head Angle Adjustment and Playback Head Azimuth Adjustment)

Note: This adjustment and the following adjustments (Playback Head Angle Adjustment and Playback Head Azimuth Adjustment) should be repeated alternately several times.

Procedure:

1. Align the upper edges of the record and playback head cores and upper edge of the tape by turning the height and zenith adjusting screws.
2. Turn the height and zenith adjusting screws clockwise by approximately 35 degrees from the positions obtained in the preceding step 1 so that the upper edge of the tape is approximately 0.05 mm higher than that of the record and the playback head cores.

Adjustment Location:



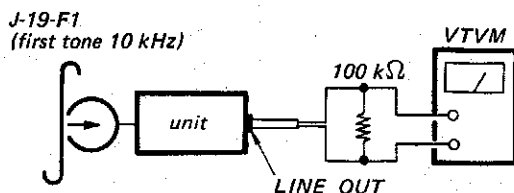
3. Playback Head Angle Adjustment

Control/Switch Setting:

TAPE SELECT switch: NORMAL
 TAPE SPEED switch: 7 1/2 ips (19 cm/s)
 MONITOR switch: TAPE

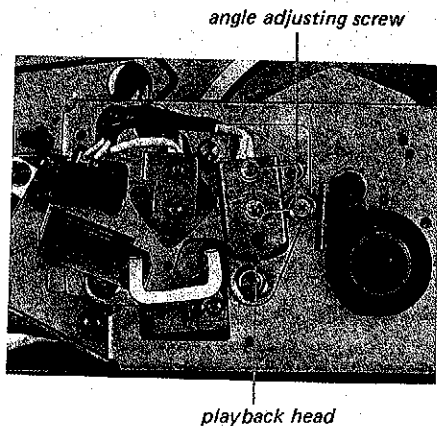
Procedure:

1. Mode: playback



2. Adjust the angle adjusting screws for maximum VTVM reading.

Adjustment Location:



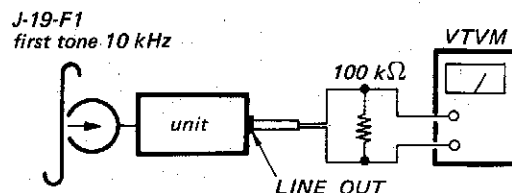
4. Playback Head Azimuth Adjustment

Control/Switch Setting:

TAPE SELECT switch: NORMAL
 TAPE SPEED selector: 7 1/2 ips (19 cm/s)
 MONITOR switch: TAPE

Procedure:

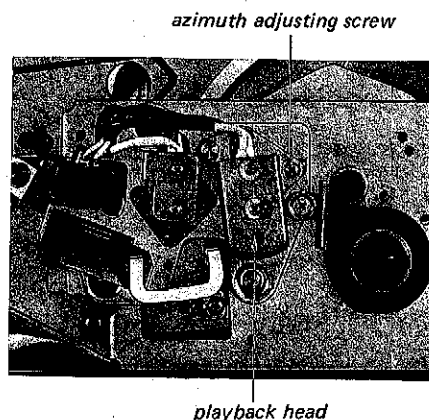
1. Mode: playback



2. Adjust the azimuth adjusting screw for maximum VTVM reading.

Note: If the azimuth angles of L-CH and R-CH are not the same, set the screw midway between two screw positions.

Adjustment Location:



5. Playback Output Level Adjustment and Level Meter Calibration

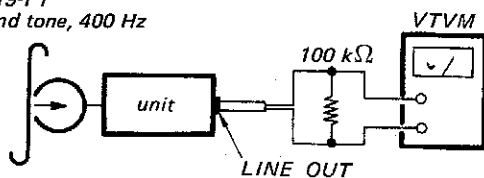
Control/Switch Setting

TAPE SELECT switch: NORMAL
 TAPE SPEED switch: 7 1/2 ips (19 cm/s)
 MONITOR switch: TAPE

Procedure:

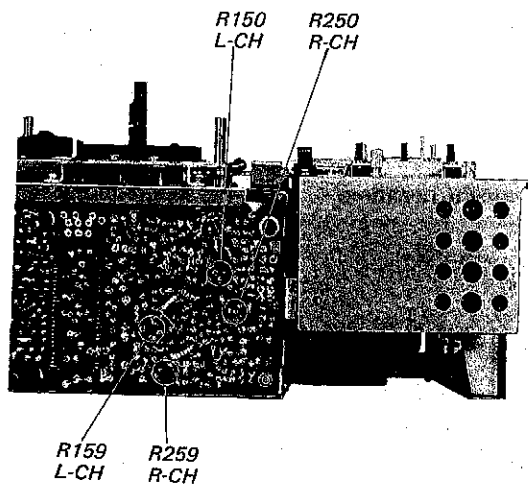
1. Mode: playback

J-19-F1
 2nd tone, 400 Hz



2. Adjust R150, R250 for 0 dB (0.775 V) VTVM reading.
3. Adjust R159, R259 for 0 reading on RECORD LEVEL meters.

Adjustment Location:



6. Playback Equalizer Adjustment

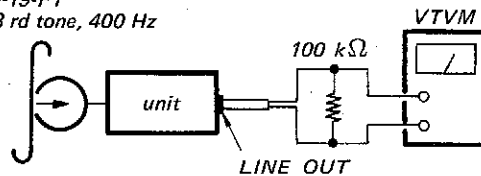
Control/Switch Setting:

TAPE SELECT switch: NORMAL
 TAPE SPEED selector: 7 1/2 ips (19 cm/s)
 MONITOR switch: TAPE

Procedure:

- 1.

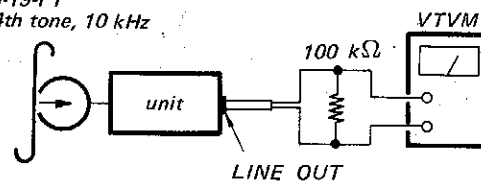
J-19-F1
 3rd tone, 400 Hz



Memorize the VTVM reading.

- 2.

J-19-F1
 4th tone, 10 kHz

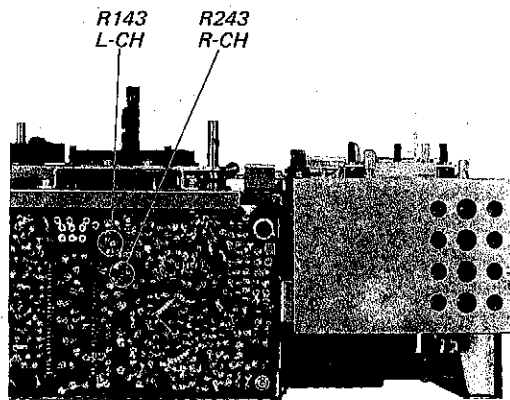


Adjust R143, R243 to obtain the same VTVM reading as step 1.

3. Playback the following tones and make sure that each tone output level deviation against 3rd tone is as follows.

J-19-F1	Tone Frequency(Hz)	4	5	6	7
		10 k	7 k	80	40
Level Deviation from 3rd tone (400 Hz)	L-CH	0 dB	0 ±2dB	+3 ±2dB	+4.5 ±2dB
	R-CH			+3.5 ±2dB	+5 ±2dB

Adjustment Location:



7. Trap Coil Adjustment

Control/Switch Setting:

TAPE SELECT switch: NORMAL
 TAPE SPEED switch: 7 1/2 ips (19 cm/s)
 RECORD VOLUME control: MIN
 (fully counterclockwise)

Procedure:

1. Connect a VTVM across the check point and ground as shown.

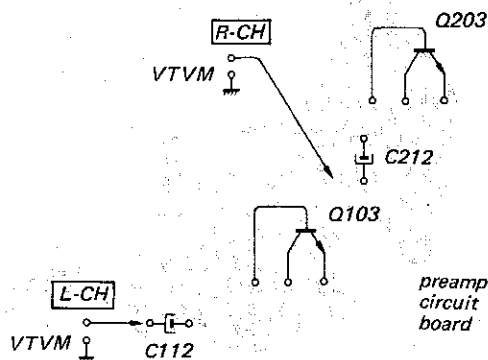
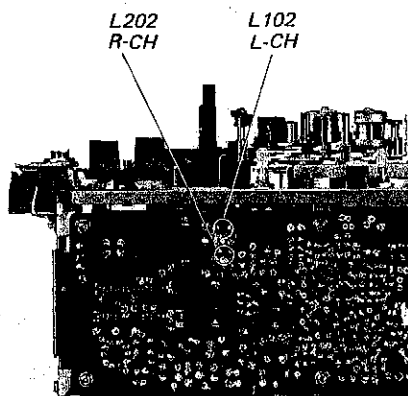


Fig. 3-2-12. Trap coil adjustment

2. Place unit in record mode without tape.
3. Adjust L102 (L202) to obtain the minimum VTVM reading (less than -10 dB, 0.24 V).

Adjustment Location:



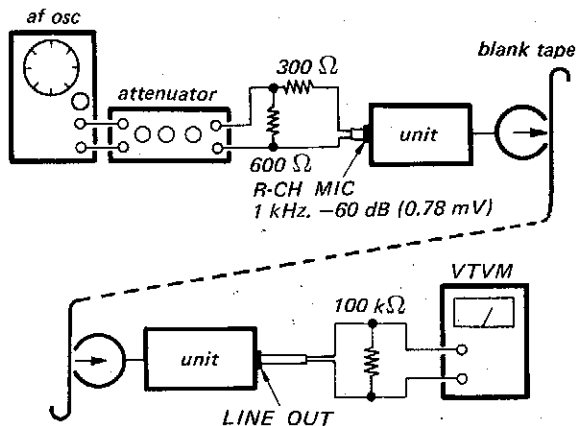
8. Record Head Height Adjustment

Control/Switch Setting:

TAPE SELECT switch: NORMAL
 TAPE SPEED switch: 7 1/2 ips (19 cm/s)
 MONITOR switch: TAPE
 RECORD VOLUME control: See page 10.

Procedure:

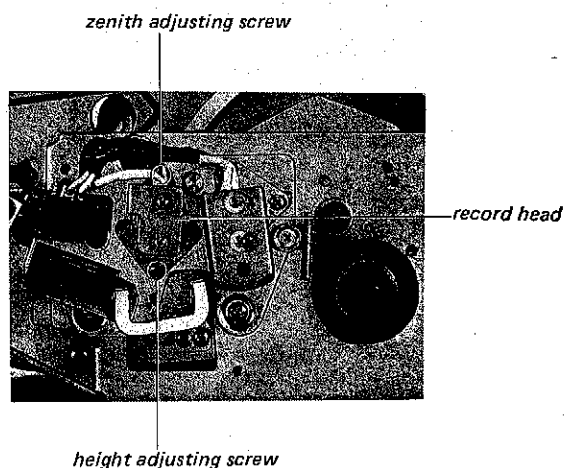
1. Mode : record



Adjust the record head height adjusting screw to obtain a maximum VTVM reading.

2. Turn the zenith adjusting screw by the same turns in the same direction as in step 1.

Adjustment Location:



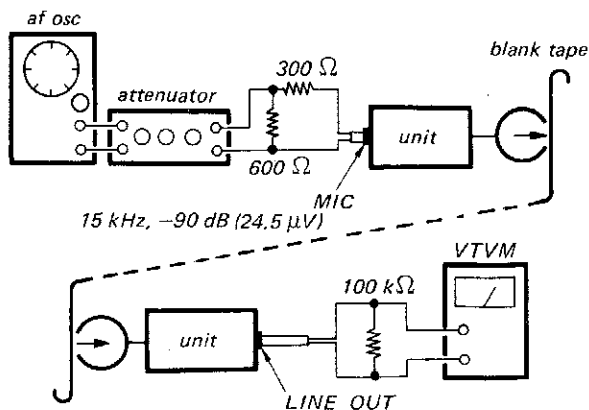
9. Record Head Angle Adjustment

Control/Switch Setting:

TAPE SELECT switch: NORMAL
 TAPE SPEED selector: 7 1/2 ips (19 cm/s)
 MONITOR switch: TAPE
 RECORD VOLUME control: See page 10.

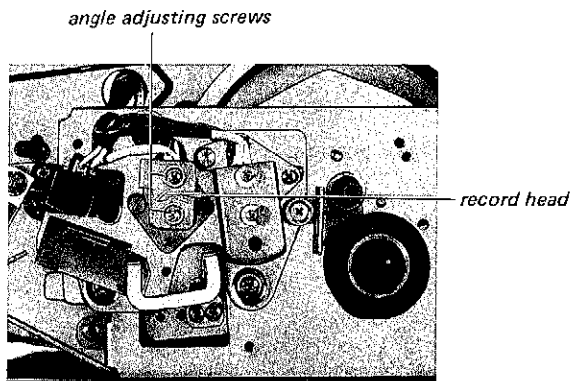
Procedure:

1. Mode : record



Adjust the angle adjusting screws for maximum VTVM reading.

Adjustment Location:



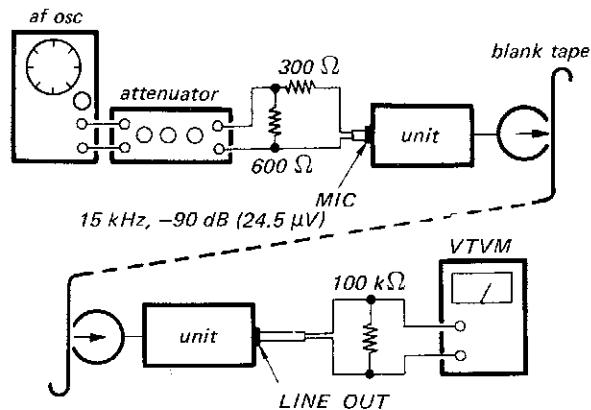
10. Record Head Azimuth Adjustment

Control/Switch Setting:

TAPE SELECT switch: NORMAL
 TAPE SPEED switch: 7 1/2 ips (19 cm/s)
 MONITOR switch: TAPE
 RECORD VOLUME control: See page 10.

Procedure:

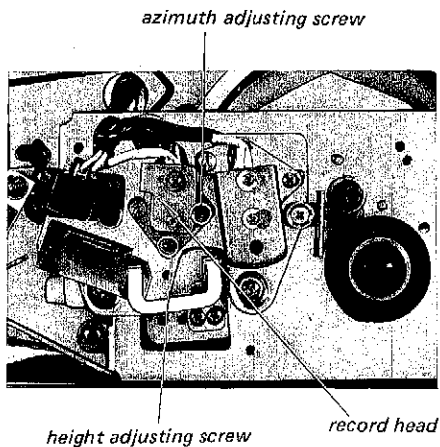
1. Mode : record



Adjust the azimuth adjusting screw for maximum VTVM reading.

- Note:** 1. If the maximum value of L-CH and R-CH outputs can not be obtained at the same angle, adjust the screw midway between two screw positions.
2. When the azimuth adjusting screw is turned more than one turn, make the record head height adjustment.

Adjustment Location:



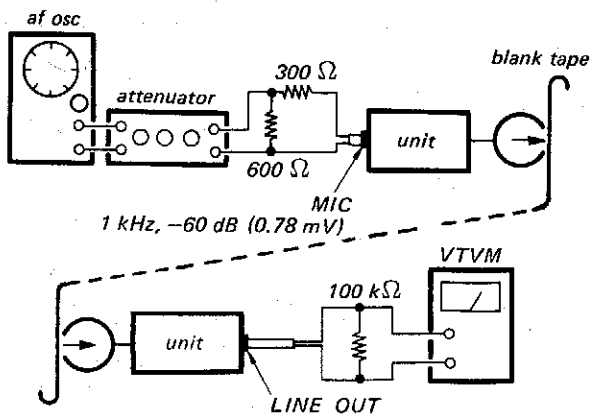
11. Bias Adjustment

Control/Switch Setting:

TAPE SELECT switch: NORMAL
 TAPE SPEED switch: 7 1/2 ips (19 cm/s)
 MONITOR switch: TAPE
 RECORD VOLUME control: See page 10.

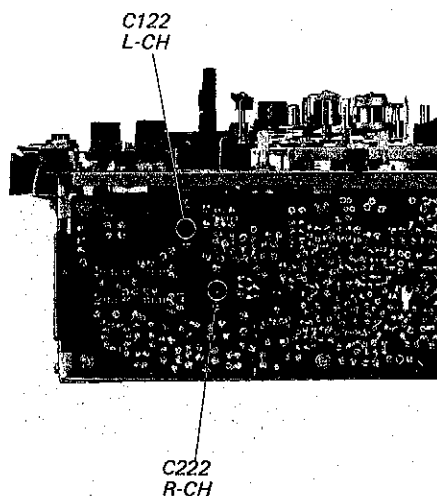
Procedure:

1. Mode : record



2. Turn the bias adjusting trimmer capacitors C'22, C222 clockwise for maximum VTVM reading and then turn the capacitor clockwise until VTVM reading drops 0.5 dB.

Adjustment Location:



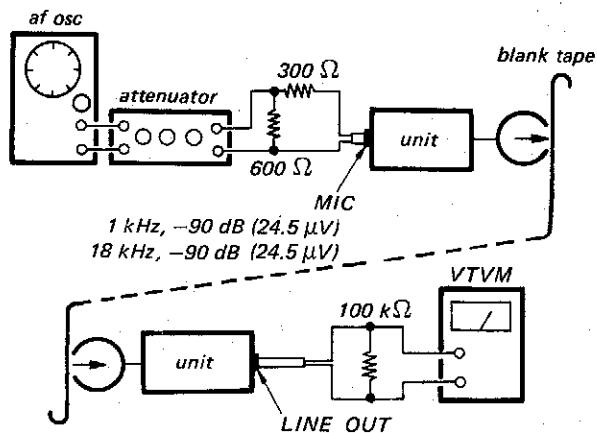
12. Record Equalizer Adjustment

Control/Switch Setting:

TAPE SELECT switch: NORMAL
 TAPE SPEED selector: 7 1/2 ips (19 cm/s)
 MONITOR switch: TAPE
 RECORD VOLUME control: See page 10.

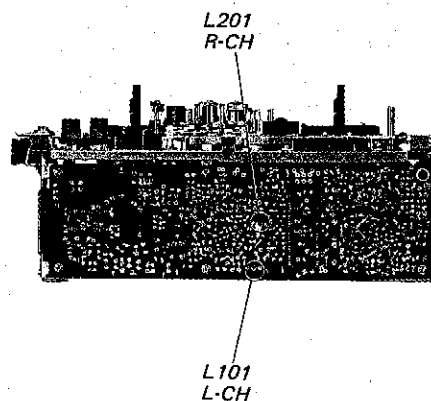
Procedure:

1. Mode : record



2. Adjust L101 and L201 so that the same VTVM reading of 1 kHz and 18 kHz signals is obtained.
3. Vary the input signal frequency from 10 kHz to 20 kHz and make sure that output level deviation of any frequency between 10 kHz and 20 kHz from the output level of 1 kHz signal is between +3 dB and -3 dB. If not, check the tape path.

Adjustment Location:



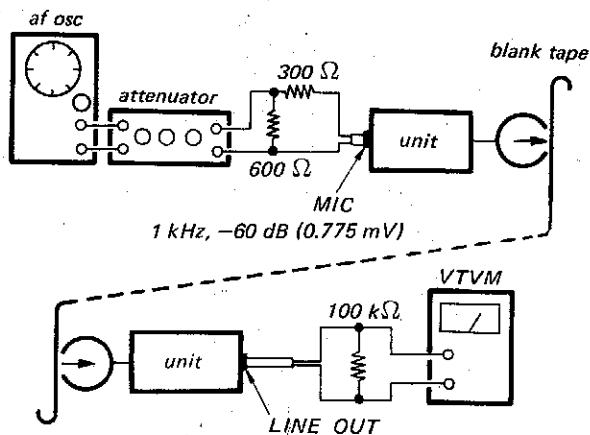
13. Source Monitor Level Adjustment

Control/Switch Setting:

TAPE SELECT switch: NORMAL
 TAPE SPEED switch: 7 1/2 ips (19 cm/s)
 MONITOR switch: SOURCE (step 2)
 TAPE (step 3)
 RECORD VOLUME control: See page 10.

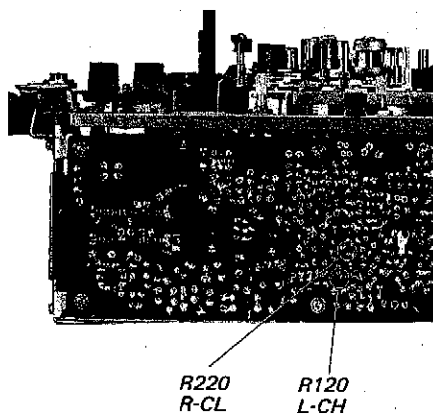
Procedure:

1. Mode : record



2. Adjust R120, R220 for 0 dB (0.775 V) VTVM reading.
3. Set the MONITOR switch to TAPE position and make sure that the VTVM reads 0 dB (0.775 V). If not, repeat step 2.

Adjustment Location:



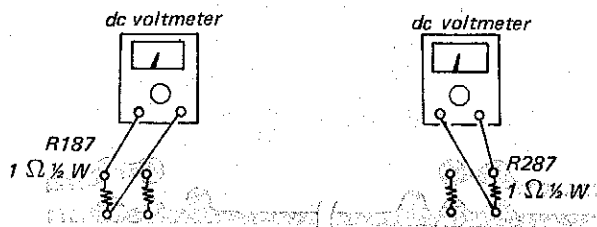
14. Power Amp Idling Current Adjustment

Control/Switch Setting:

RECORD VOLUME control: MIN
 (fully counter clockwise)

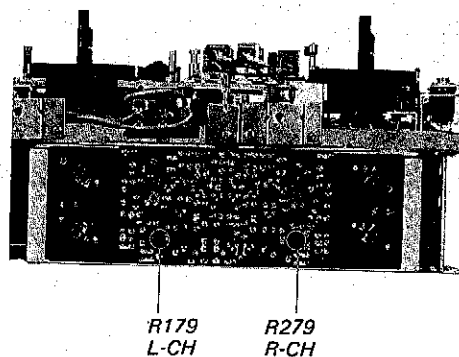
Procedure:

1. Connect dc voltmeter to R187 and R287 in parallel.
2. Adjust R179 and R279 for 20 mV meter reading.



Idling current adjustment
 (Power amplifier circuit board)

Adjustment Location:



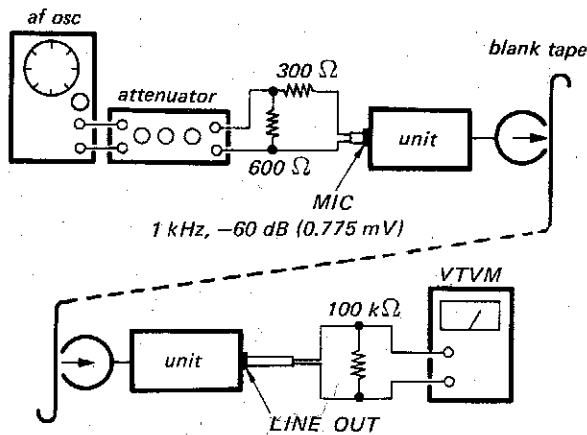
13. Source Monitor Level Adjustment

Control/Switch Setting:

TAPE SELECT switch: NORMAL
 TAPE SPEED switch: 7 1/2 ips (19 cm/s)
 MONITOR switch: SOURCE (step 2)
 TAPE (step 3)
 RECORD VOLUME control: See page 10.

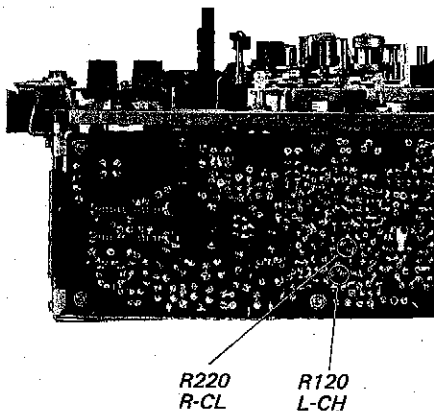
Procedure:

1. Mode : record



2. Adjust R120, R220 for 0 dB (0.775 V) VTVM reading.
3. Set the MONITOR switch to TAPE position and make sure that the VTVM reads 0 dB (0.775 V). If not, repeat step 2.

Adjustment Location:



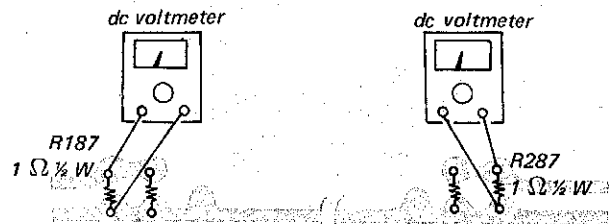
14. Power Amp Idling Current Adjustment

Control/Switch Setting:

RECORD VOLUME control: MIN
 (fully counter clockwise)

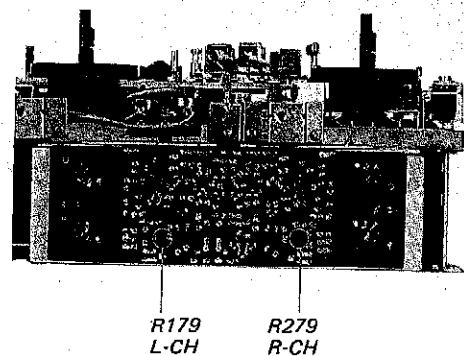
Procedure:

1. Connect dc voltmeter to R187 and R287 in parallel.
2. Adjust R179 and R279 for 20 mV meter reading.



Idling current adjustment
 (Power amplifier circuit board)

Adjustment Location:



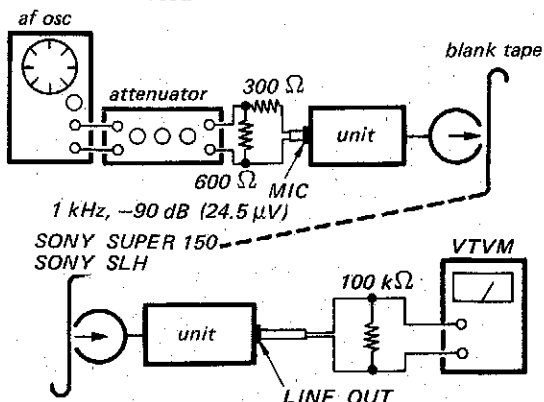
15. Overall Frequency Response Measurement

Control/Switch Setting:

TAPE SELECT switch: NORMAL and SPECIAL
 TAPE SPEED switch: 7 1/2 ips (19 cm/s)
 3 3/4 ips (9.5 cm/s)
 and 1 7/8 ips (4.8 cm/s)
 MONITOR switch: TAPE
 RECORD VOLUME control: See page 10.

Procedure:

1. Mode : record



2. Vary the input signal frequency (input signal level: -90 dB, 24.5 μV) and read the output level deviation of the each frequency from the output level of 1 kHz signal. The deviation should be as following table.

Note: When recording the signal on the SONY tape "super 150", set the TAPE SELECT switch to NORMAL and on the SONY SLH tape, to SPECIAL.

Tape Speed	Frequency	Deviation from 1 kHz Signal	
		SUPER 150	SLH
7 1/2 ips (19 cm/s)	55 Hz	0 ⁺³ ₋₅ dB	0±3 dB
	12 kHz	0±3 dB	0±3 dB
	18 kHz (20 kHz ... SLH)	0 ⁺³ ₋₆ dB	0 ⁺³ ₋₆ dB
3 3/4 ips (9.5 cm/s)	100 Hz	0±3 dB	0±3 dB
	6 kHz	0±3 dB	0±3 dB
1 7/8 ips (4.8 cm/s)	100 Hz	0±3 dB	0±3 dB
	1 kHz	0 ⁺³ ₋₁₀ dB	0 ⁺³ ₋₁₀ dB

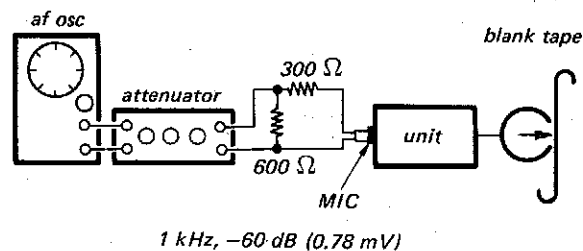
16. Overall Signal-to-Noise Ratio Measurement

Control/Switch Setting:

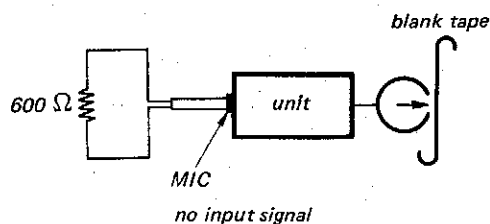
TAPE SELECT switch: NORMAL
 TAPE SPEED selector: 7 1/2 ips (19 cm/s)
 MONITOR switch: TAPE
 RECORD VOLUME: See page 10.

Procedure:

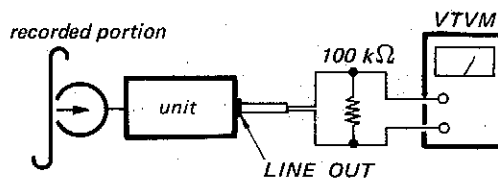
1. Mode: record



2. Mode: record



3. Mode: playback



Recorded Signal	VTVM reading
1 kHz	Adjust VOLUME control for -5 dB (0.44V)
no signal	-50.5 dB (2.3 mV) or less

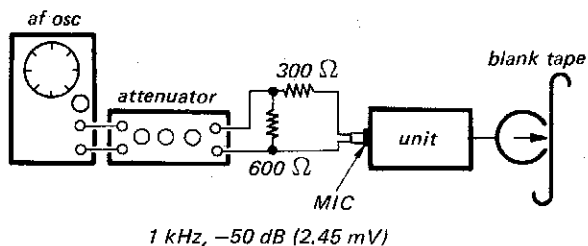
17. Erase Ratio Measurement

Control/Switch Setting:

TAPE SELECT switch: NORMAL or SPECIAL
 TAPE SPEED selector: 7 1/2 ips (19 cm/s)
 MONITOR switch: TAPE
 RECORD VOLUME control: See page 10.

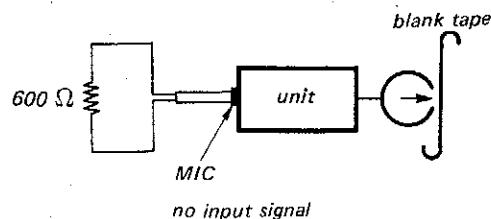
Procedure:

1. Mode: record

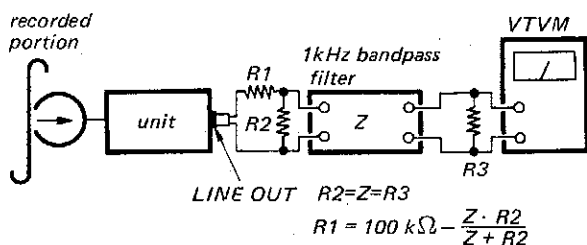


2. Rewind half of the recorded part.

3. Mode: record (erase)



4. Mode: playback



Recorded Signal	VTVM Reading	
1 kHz	Adjust VOLUME control for -5 dB (0.44 V)	
no signal	SPECIAL	-65 dB (0.44 mV) or less
	NORMAL	-70 dB (0.25 mV) or less

18. Wow and Flutter Measurement

Control/Switch Setting:

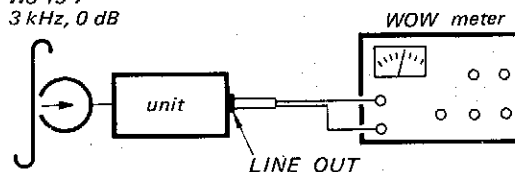
TAPE SELECT switch: NORMAL
 MONITOR switch: TAPE
 RECORD VOLUME control: See page 10.

Procedure:

Note: Measure wow and flutter for beginning, midway and end portion of tape in both vertical and horizontal operation.

1. at 7 1/2 ips (19 cm/s)

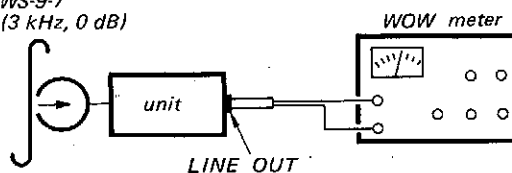
Mode: playback

WS-19-7
3 kHz, 0 dB

Specification: 0.19 % RMS or less

2. at 3 3/4 ips (9.5 cm/s)

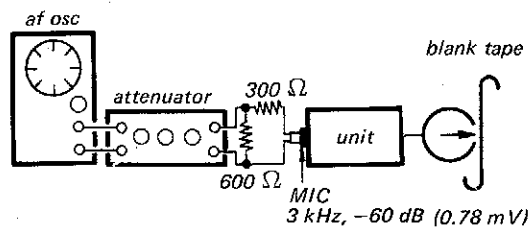
Mode: playback

WS-9-7
(3 kHz, 0 dB)

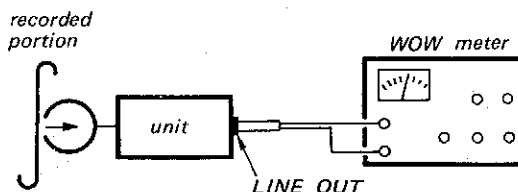
Specification: 0.24 % RMS or less

3. at 1 7/8 ips (4.8 cm/s)

Mode: record



Mode: playback

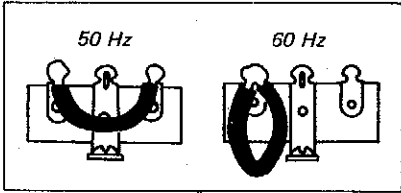
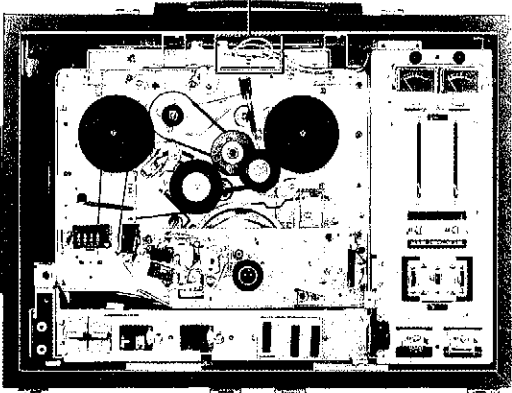
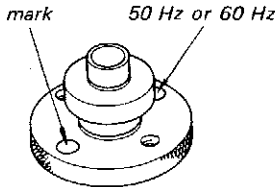


Specification: 0.4 % RMS or less

3-3. POWER FREQUENCY ADAPTATION

The MOTOR PULLEY and tapping of the MOTOR STARTING CAPACITOR TERMINALS must be altered if the power frequency differs from what the recorder is set for.

The above operation is done by removing the reel panel.

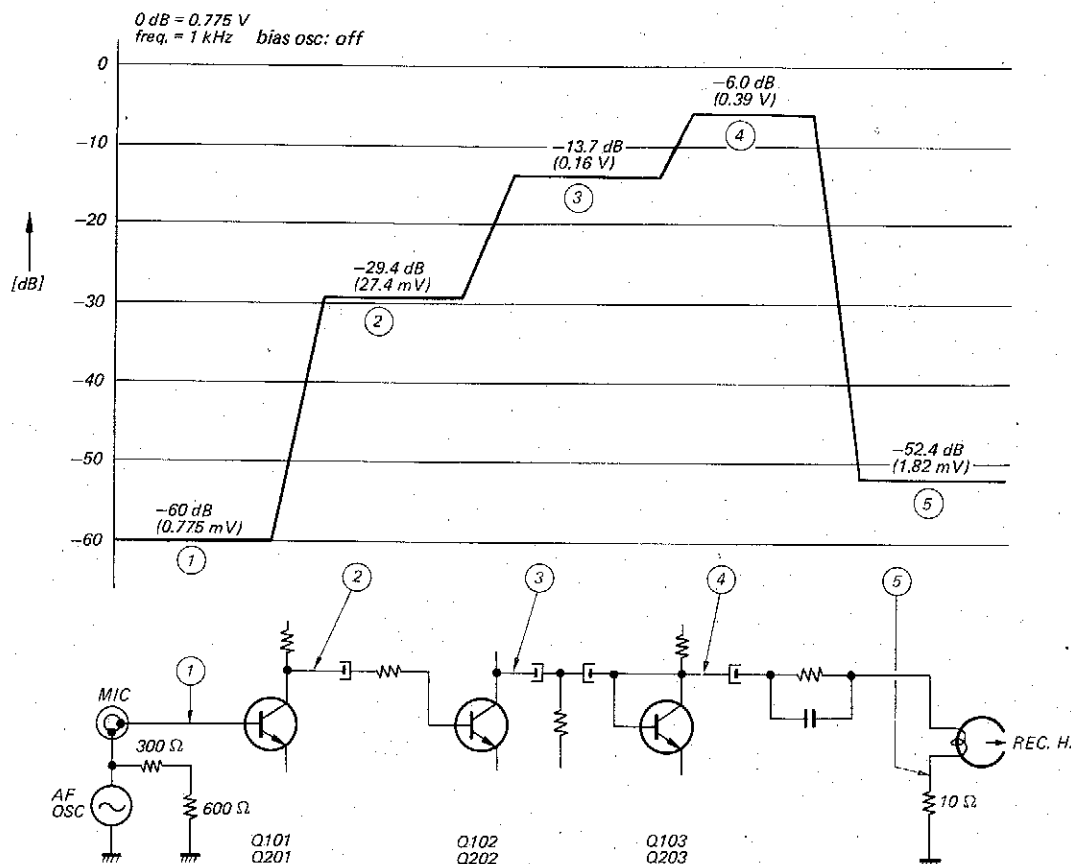
Connection of Motor Starting Capacitor	Motor Pulley																								
<p>green jumper wire is connected 50 Hz green jumper wire is removed 60 Hz</p> <p><i>green jumper wire</i></p>  	<p>Change motor pulley. Use motor pulley with same mark of 2 ~ 6.</p> <p>50 Hz</p> <table border="0"> <thead> <tr> <th>(mark)</th> <th>(Part No.)</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>3-486-120-01</td> </tr> <tr> <td>3</td> <td>3-486-120-11</td> </tr> <tr> <td>4</td> <td>3-486-120-21</td> </tr> <tr> <td>5</td> <td>3-486-120-31</td> </tr> <tr> <td>6</td> <td>3-486-120-41</td> </tr> </tbody> </table> <p>60 Hz</p> <table border="0"> <thead> <tr> <th>(mark)</th> <th>(Part No.)</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>3-486-121-01</td> </tr> <tr> <td>3</td> <td>3-486-121-11</td> </tr> <tr> <td>4</td> <td>3-486-121-21</td> </tr> <tr> <td>5</td> <td>3-486-121-31</td> </tr> <tr> <td>6</td> <td>3-486-121-41</td> </tr> </tbody> </table>  <p><i>motor pulley</i></p>	(mark)	(Part No.)	2	3-486-120-01	3	3-486-120-11	4	3-486-120-21	5	3-486-120-31	6	3-486-120-41	(mark)	(Part No.)	2	3-486-121-01	3	3-486-121-11	4	3-486-121-21	5	3-486-121-31	6	3-486-121-41
(mark)	(Part No.)																								
2	3-486-120-01																								
3	3-486-120-11																								
4	3-486-120-21																								
5	3-486-120-31																								
6	3-486-120-41																								
(mark)	(Part No.)																								
2	3-486-121-01																								
3	3-486-121-11																								
4	3-486-121-21																								
5	3-486-121-31																								
6	3-486-121-41																								

SECTION 4

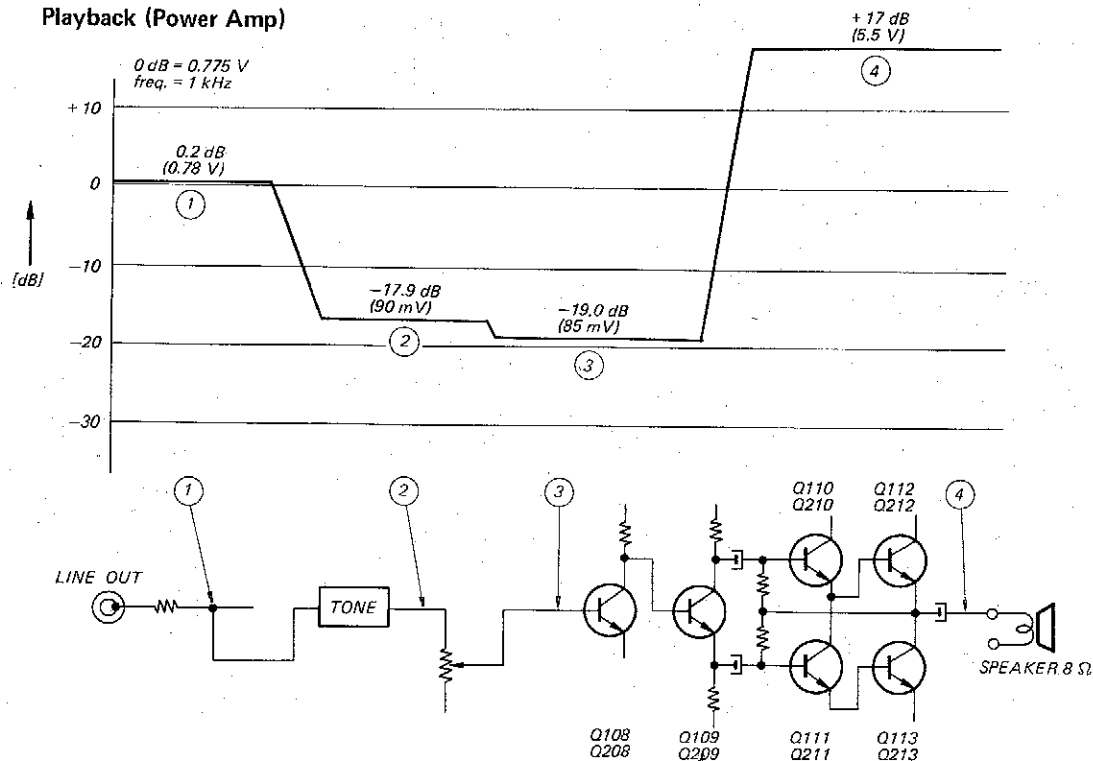
DIAGRAMS

4-1. LEVEL DIAGRAMS

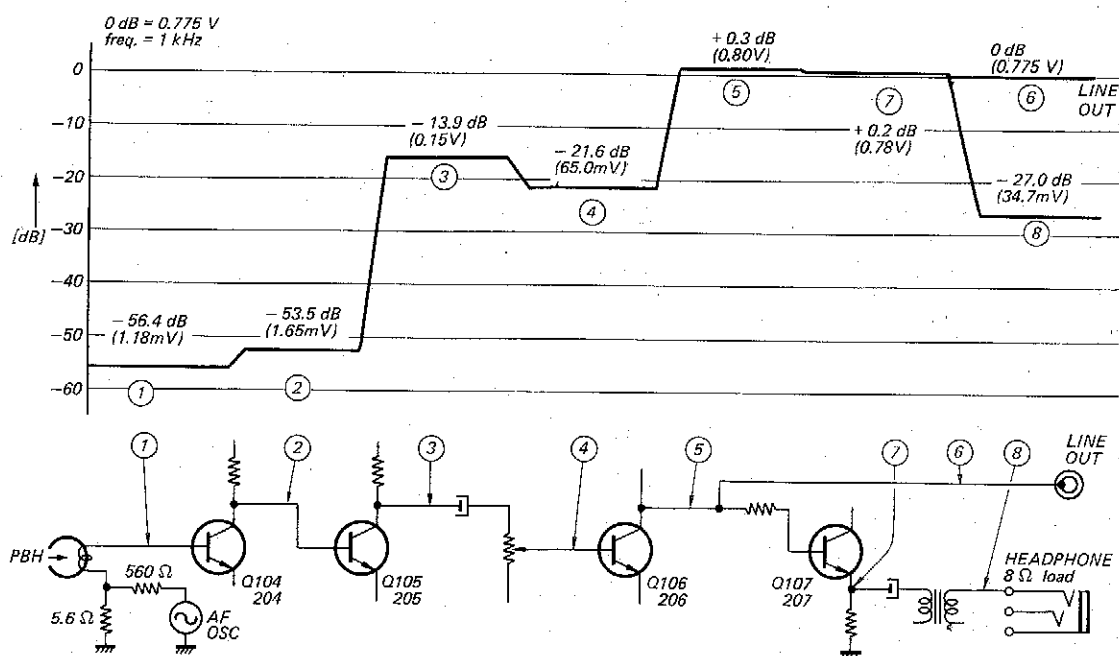
Record



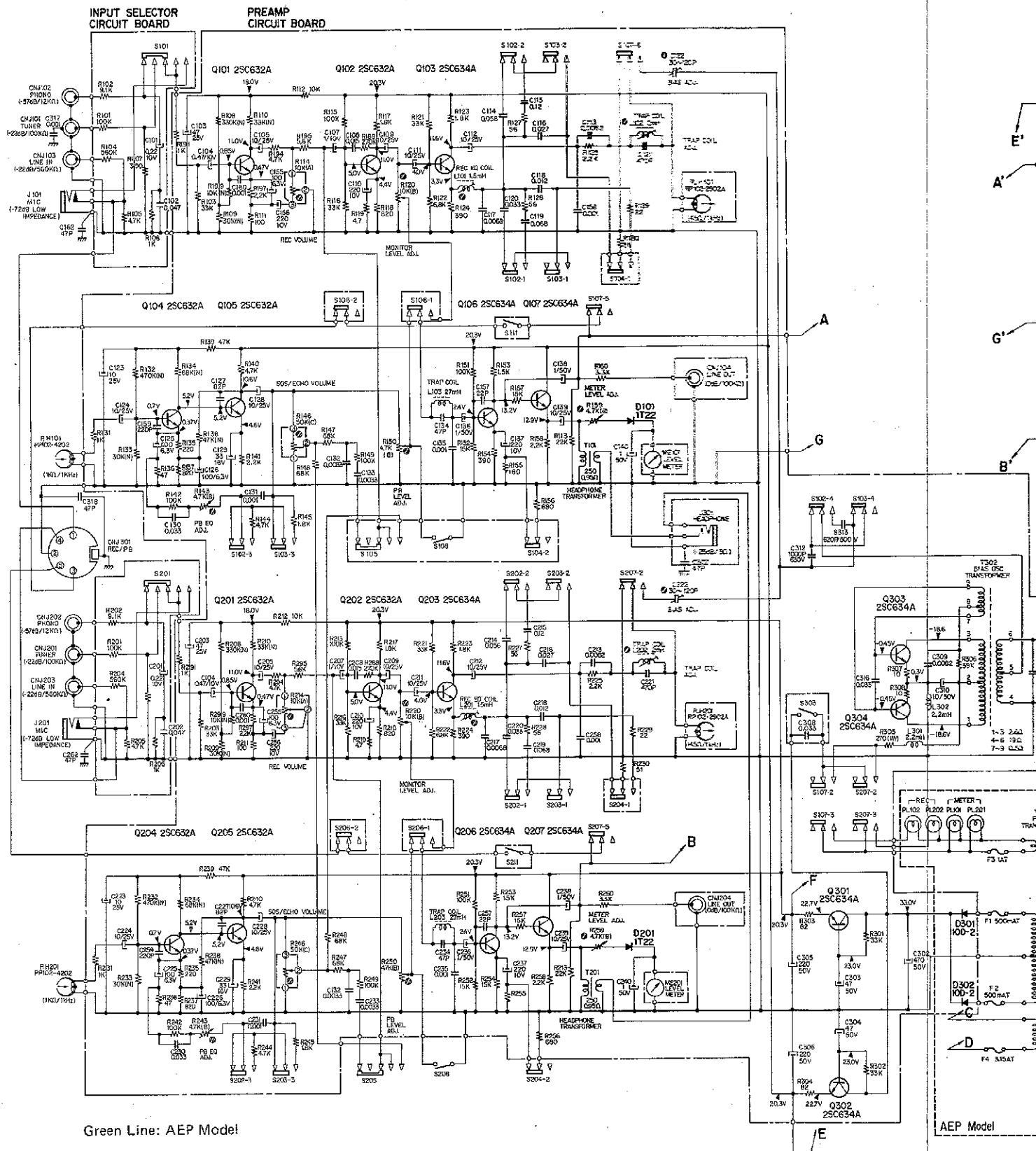
Playback (Power Amp)



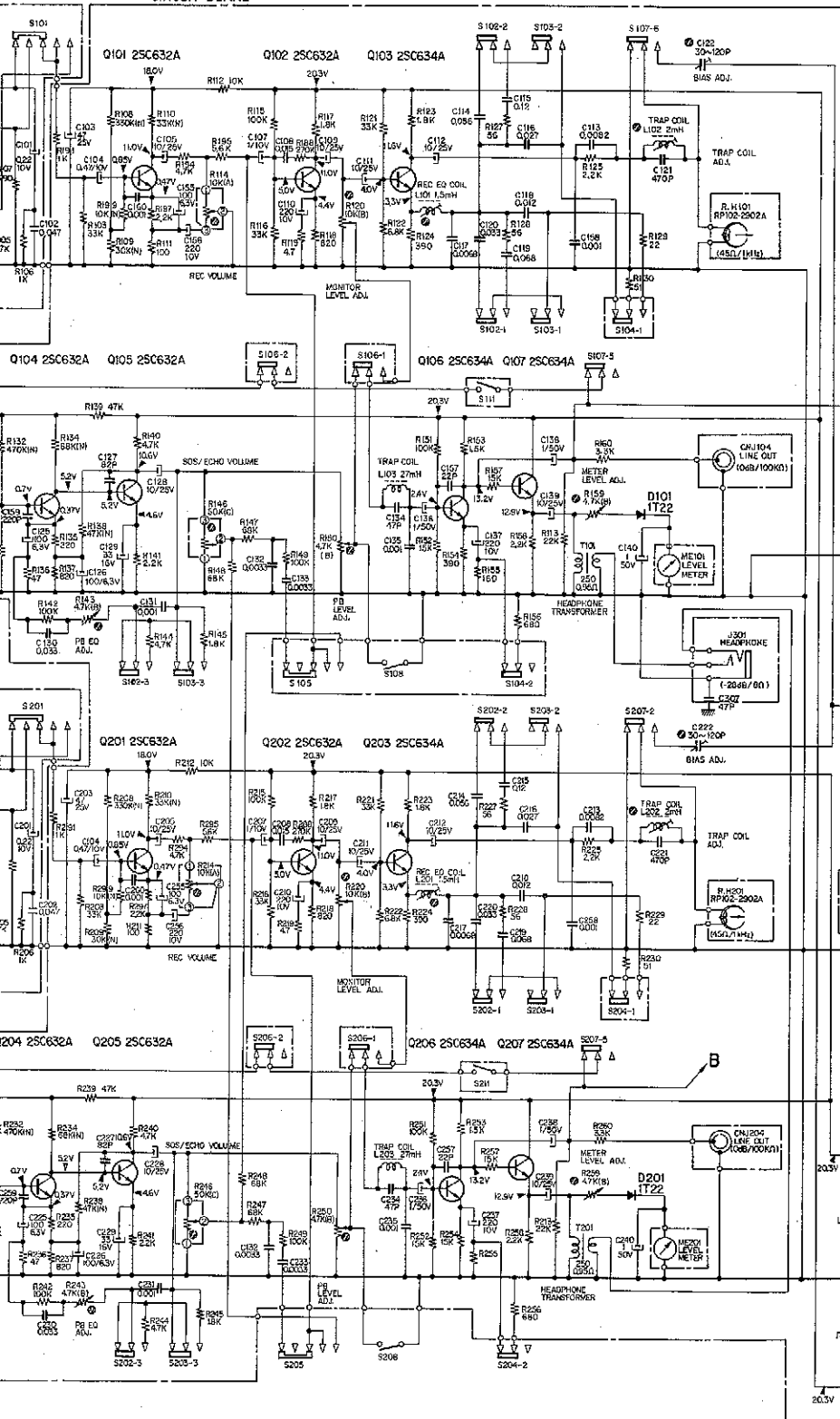
Playback (Preamp)



4-2. SCHEMATIC DIAGRAM



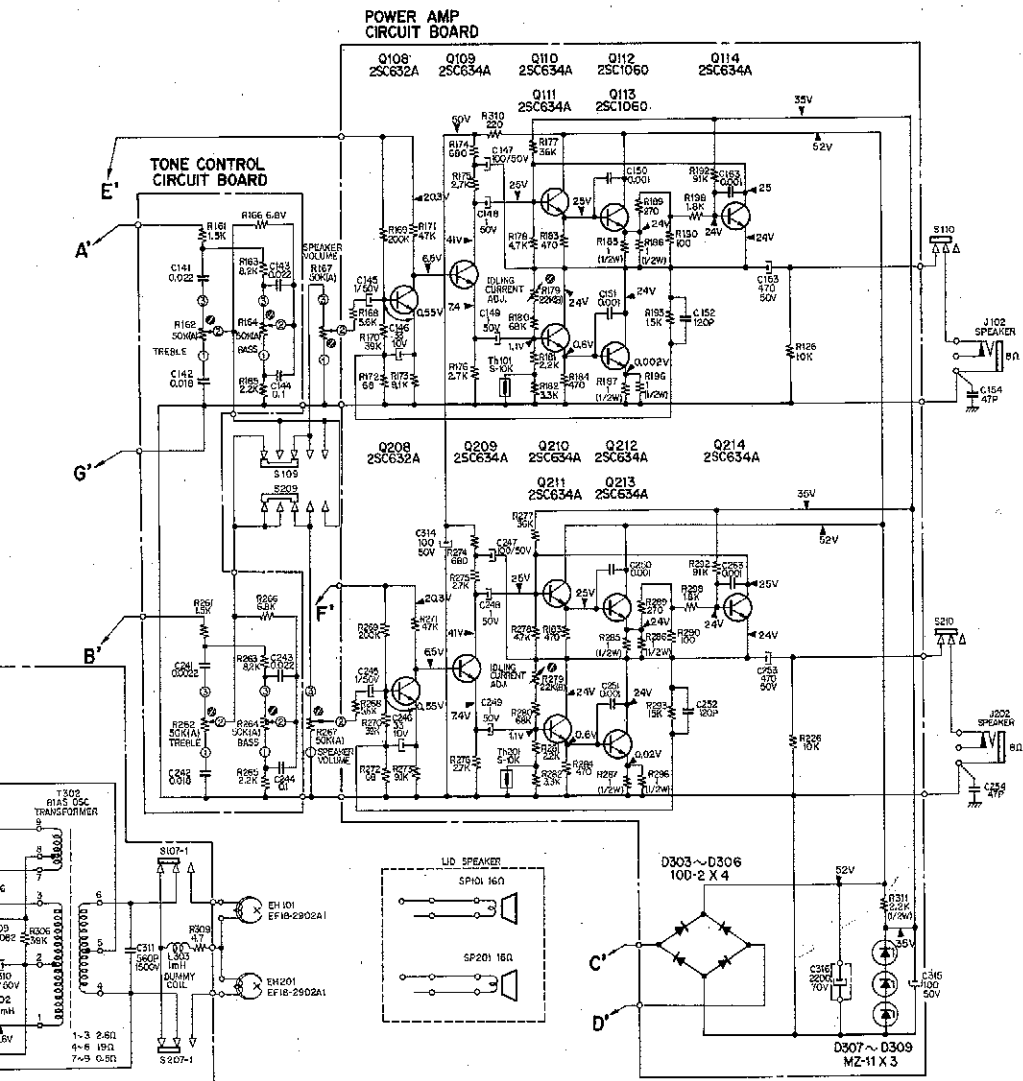
C DIAGRAM

SELECTOR
BOARDPREAMP
CIRCUIT BOARD

ne: AEP Model

AEP Model

POWER AMP
CIRCUIT BOARD



Note:

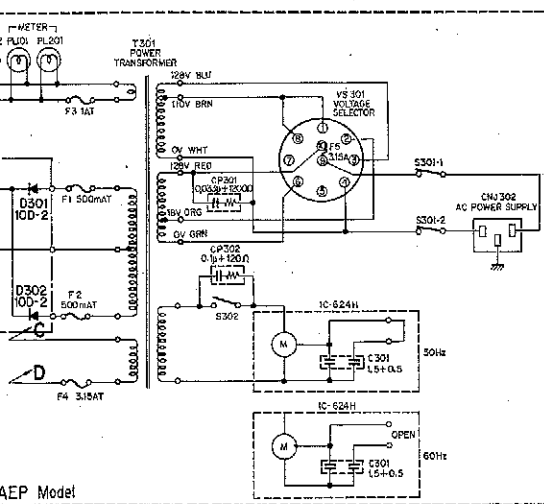
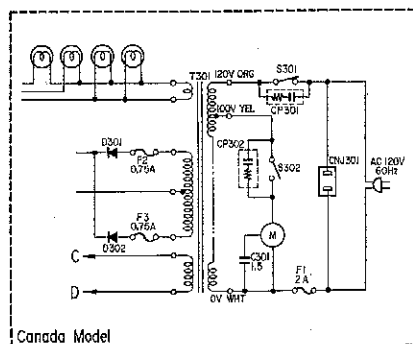
- All resistors and capacitors are rated in Ω and μF , unless otherwise specified.
- The letter (A), (B), or (C) suffixed to rating value of variable or semi-fixed resistor indicates its characteristics.
- Voltage values shown are measured with a voltmeter (20 k Ω/V) in playback mode. Variations may be noted because of normal production tolerances.

4. Symbols

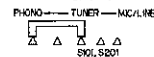
- $\text{---}\text{---}\text{---}$: Chassis ground
- (N) : Low noise resistor
- $\text{---}\text{---}\text{---}$: Adjustable

5. Switch position

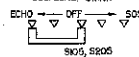
Ref. No.	Description	Position
S101, 201	INPUT SELECTOR	PHONO
S102, 202	equalizer	19cm/sec(7% ips), 9.5cm/sec(3% ips), 19cm/sec(7% ips)
S103, 203	equalizer	
S104, 204	TAPE SELECT	NORMAL
S105, 205	SOS/ECHO	ECHO
S106, 206	MONITOR	TAPE
S107, 207	record	OFF
S108, 208	mating	OFF
S109, 209	MODE	R-CHANNEL
S110, 210	SPEAKER	ON
S111, 211	record/playback connector ON/OFF	OFF
S301	POWER	ON
S302	auto shut off	OFF
S303	bias	OFF



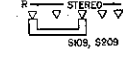
INPUT SELECTOR Switch



SOS/ECHO Switch

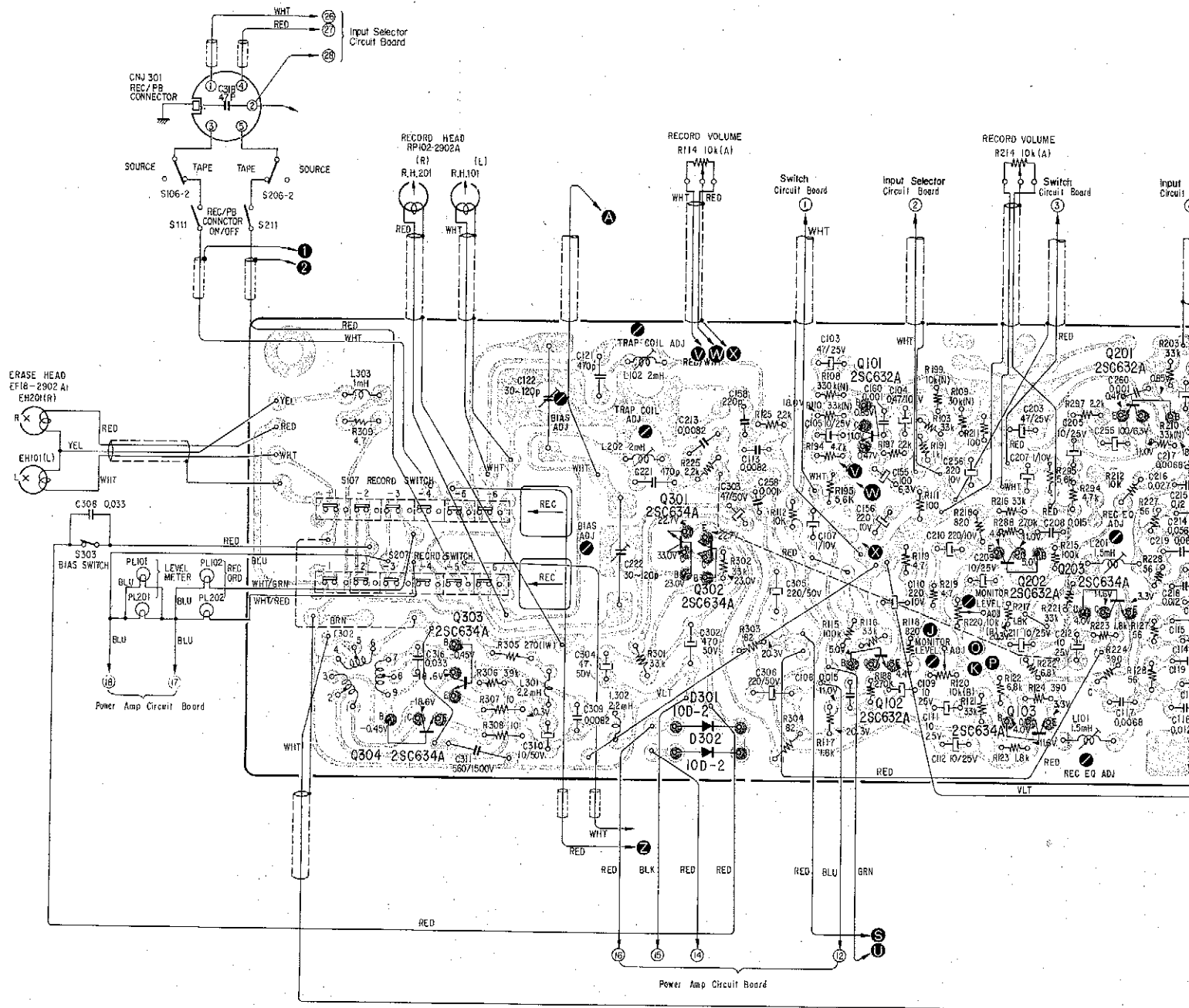


MODE Switch



4.3. MOUNTING DIAGRAMS – *Conductor Side* –

4-3-1. Preamp Circuit Board



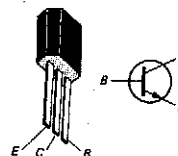
Green Line: AEP Model

2SC632A

Q101, 102, 104, 105,
Q201, 202, 204, 205,

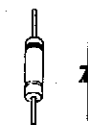
2SC634A

Q103, 106, 107,
Q203, 206, 207,
Q301, 302, 303
Q304,



IT22

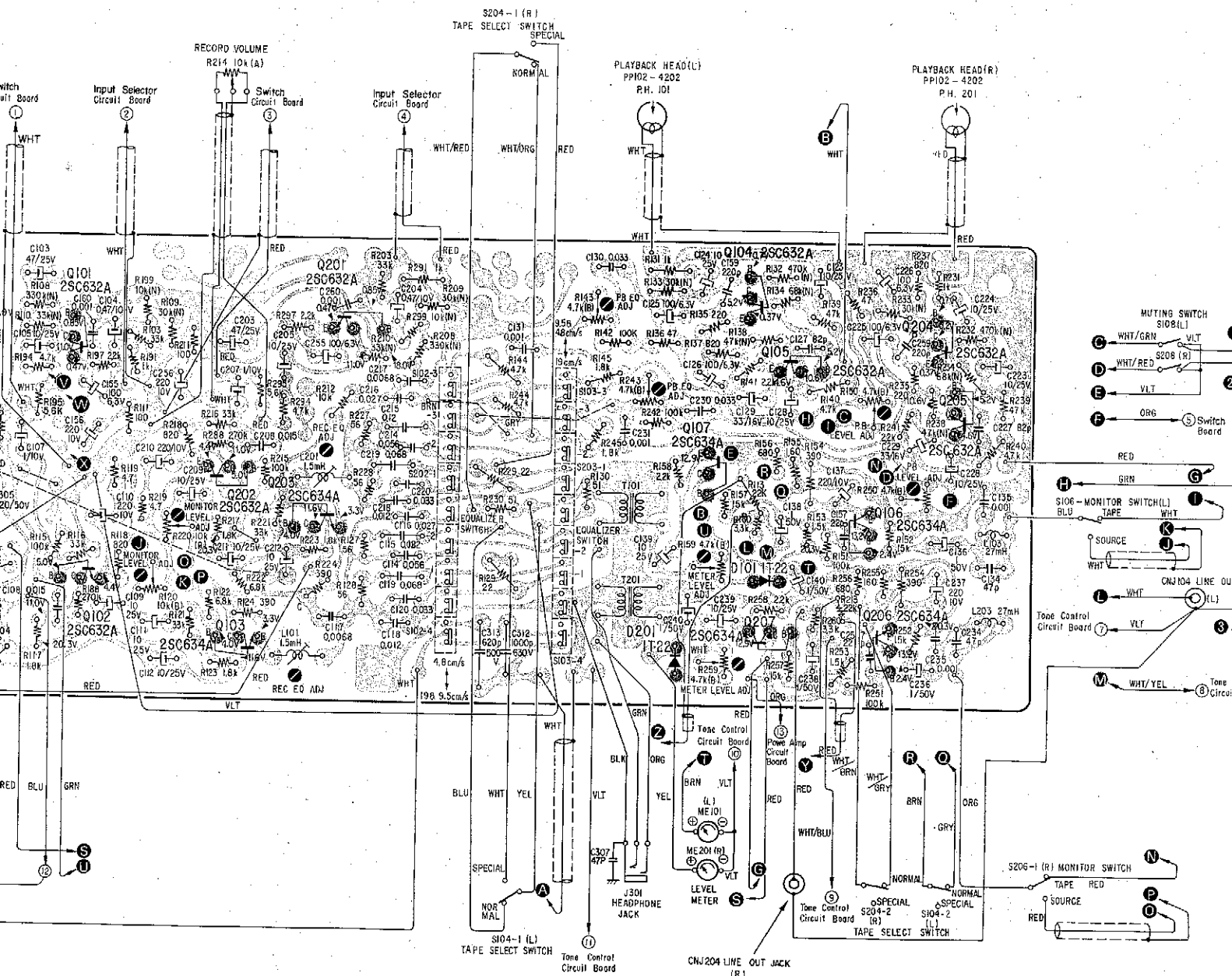
D101, 201



10D2

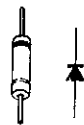
D301,





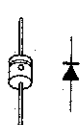
1T22

D101, 201



10D2

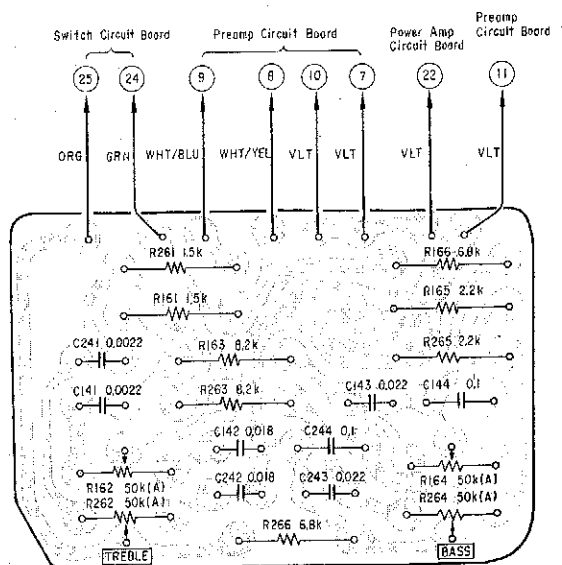
D301, 302



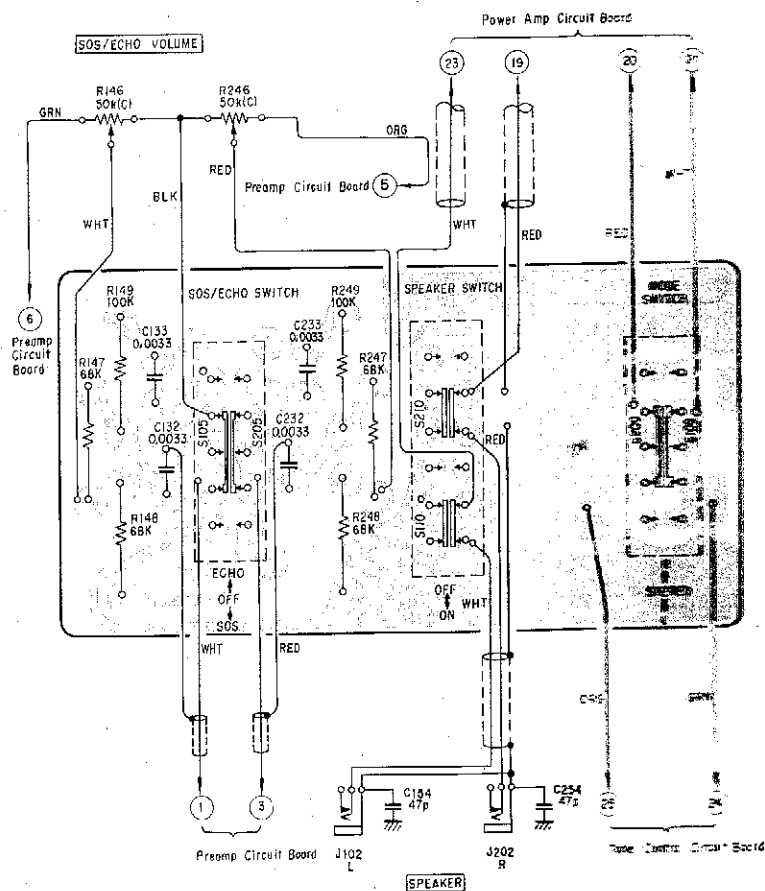
4-3



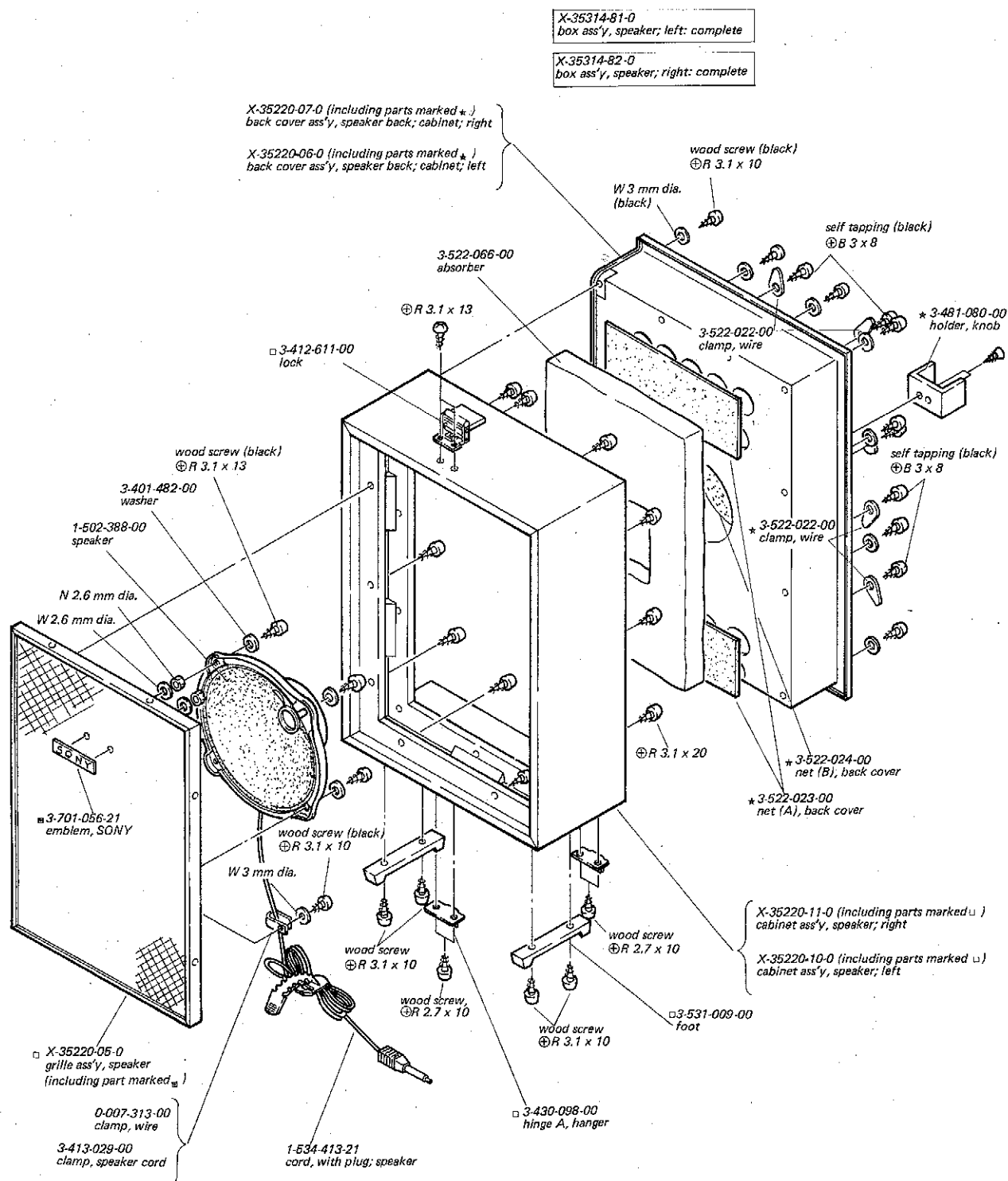
4-3-3. Tone Control Circuit Board



4-3-4. Switch Circuit Board

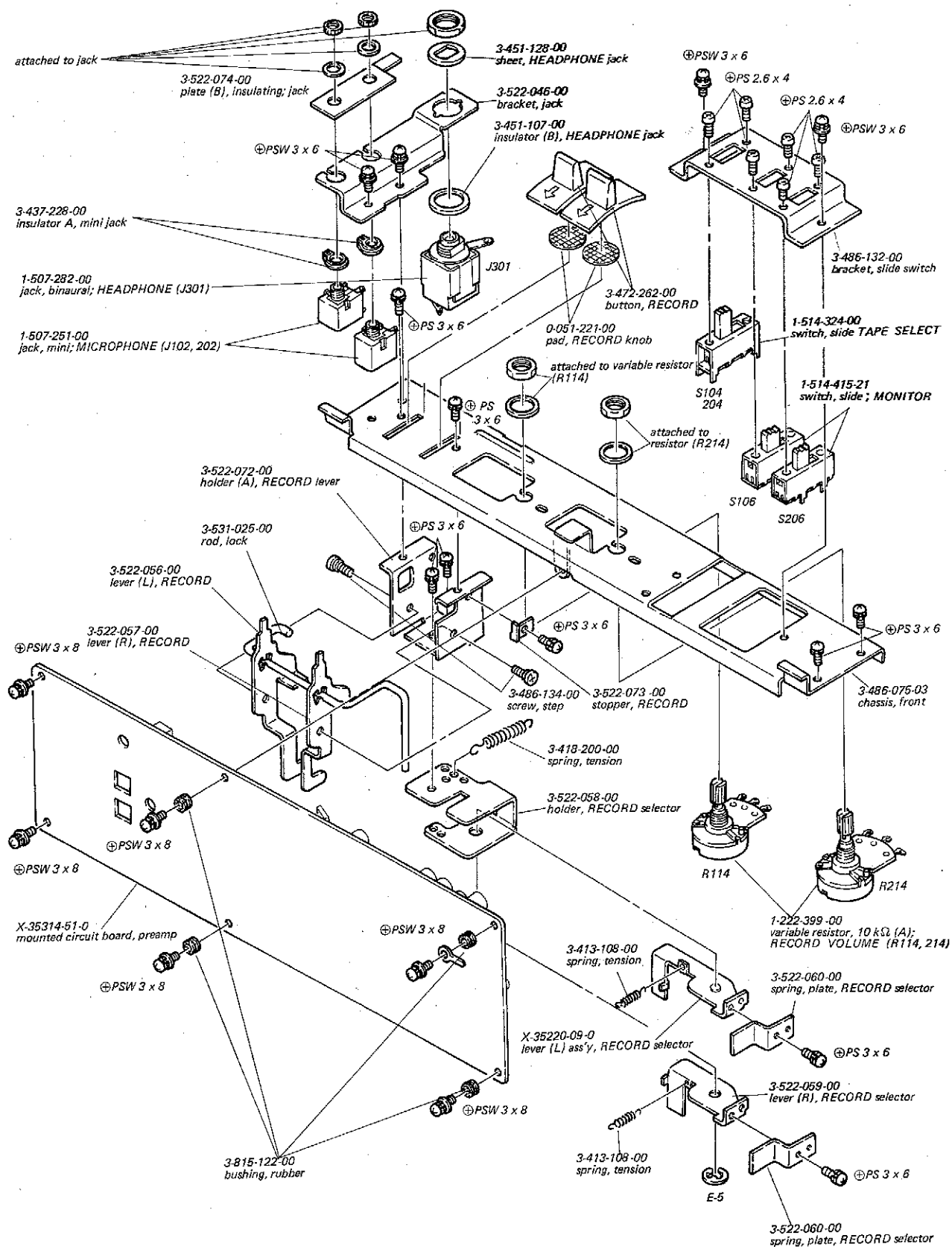


5-2. SPEAKER

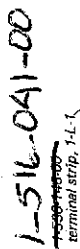




5-3. CHASSIS — Front —

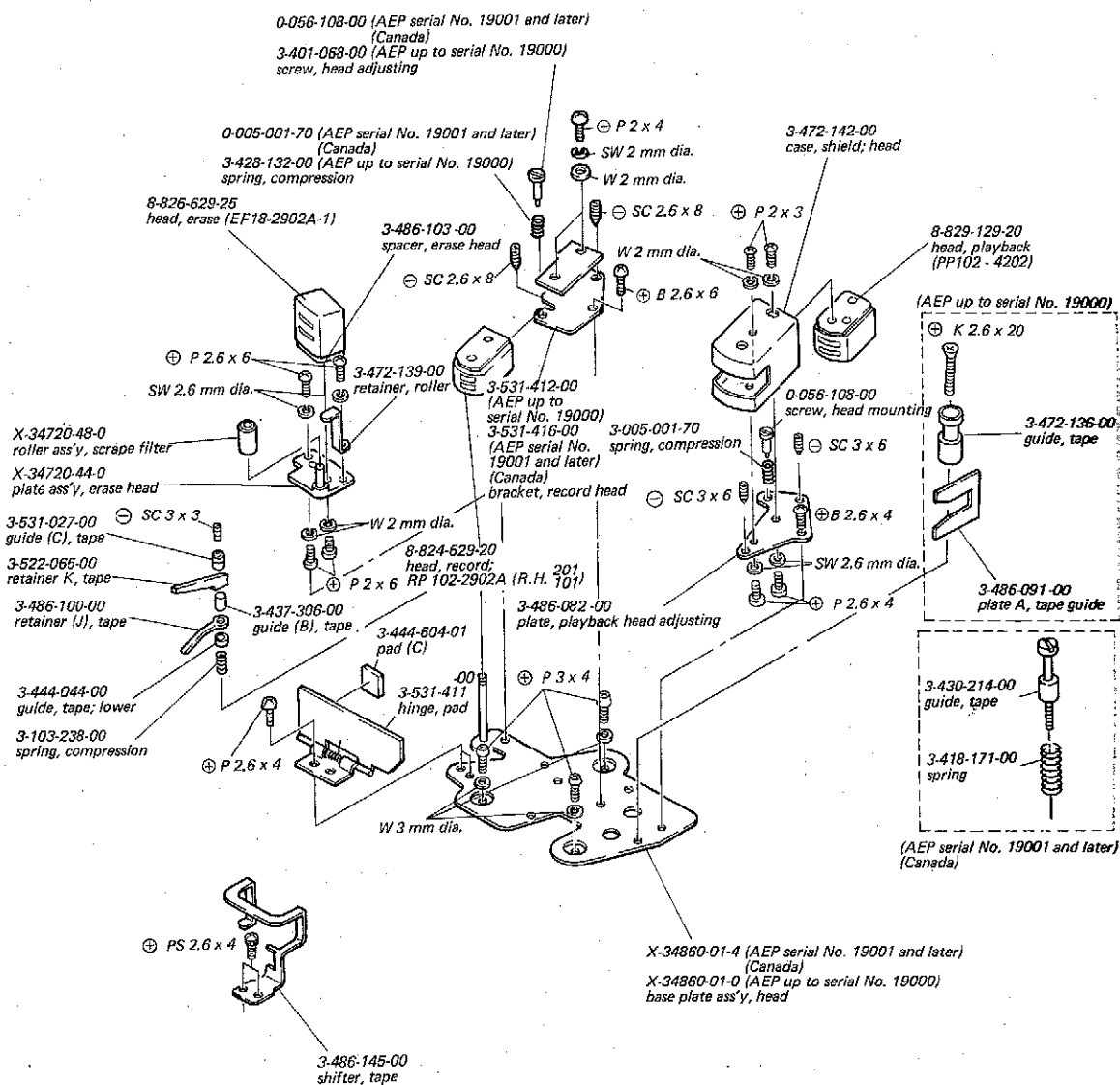


1-518-134-21
lamp, 2 V 100 mA (REC) (PL102, 202)

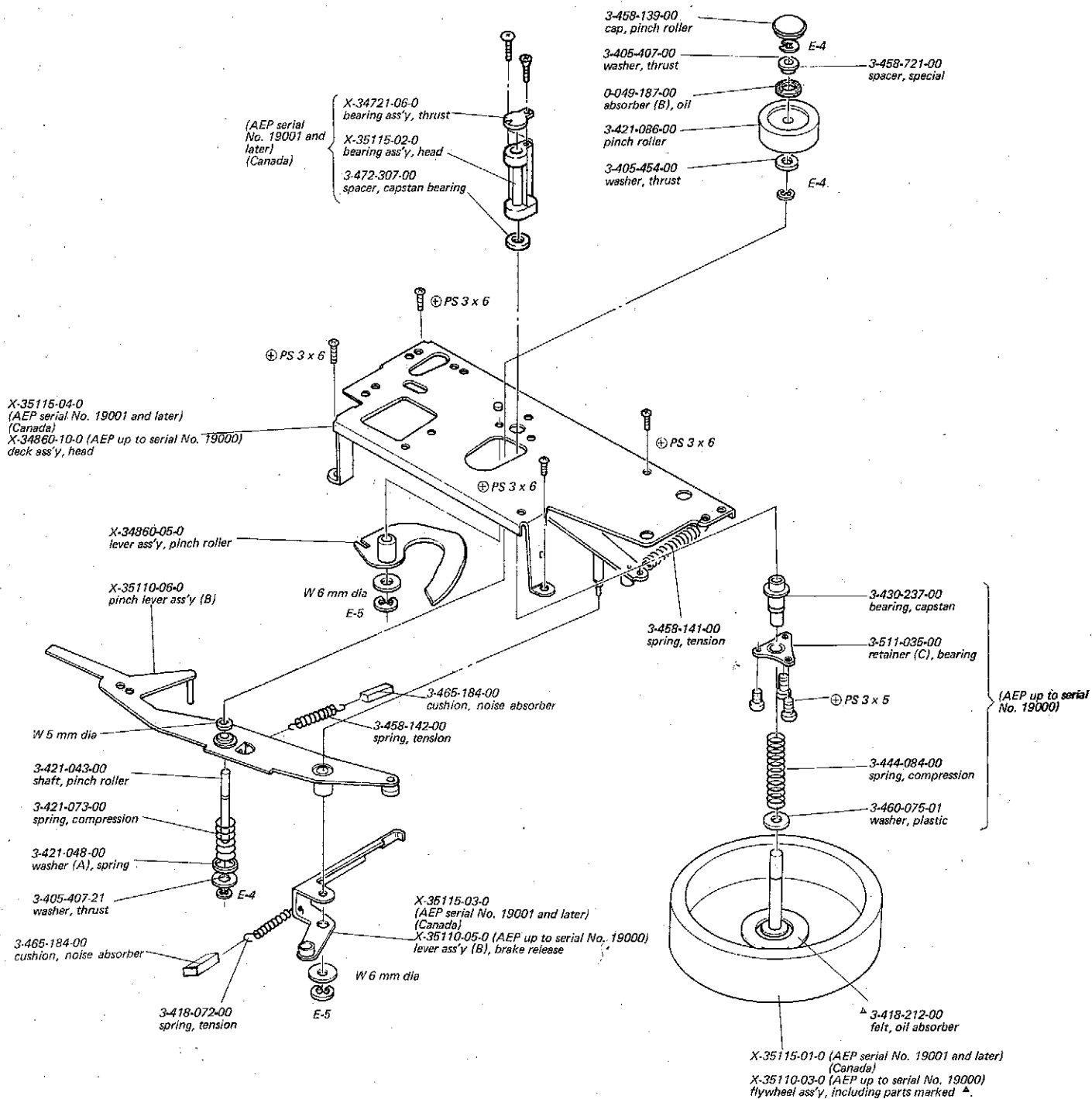


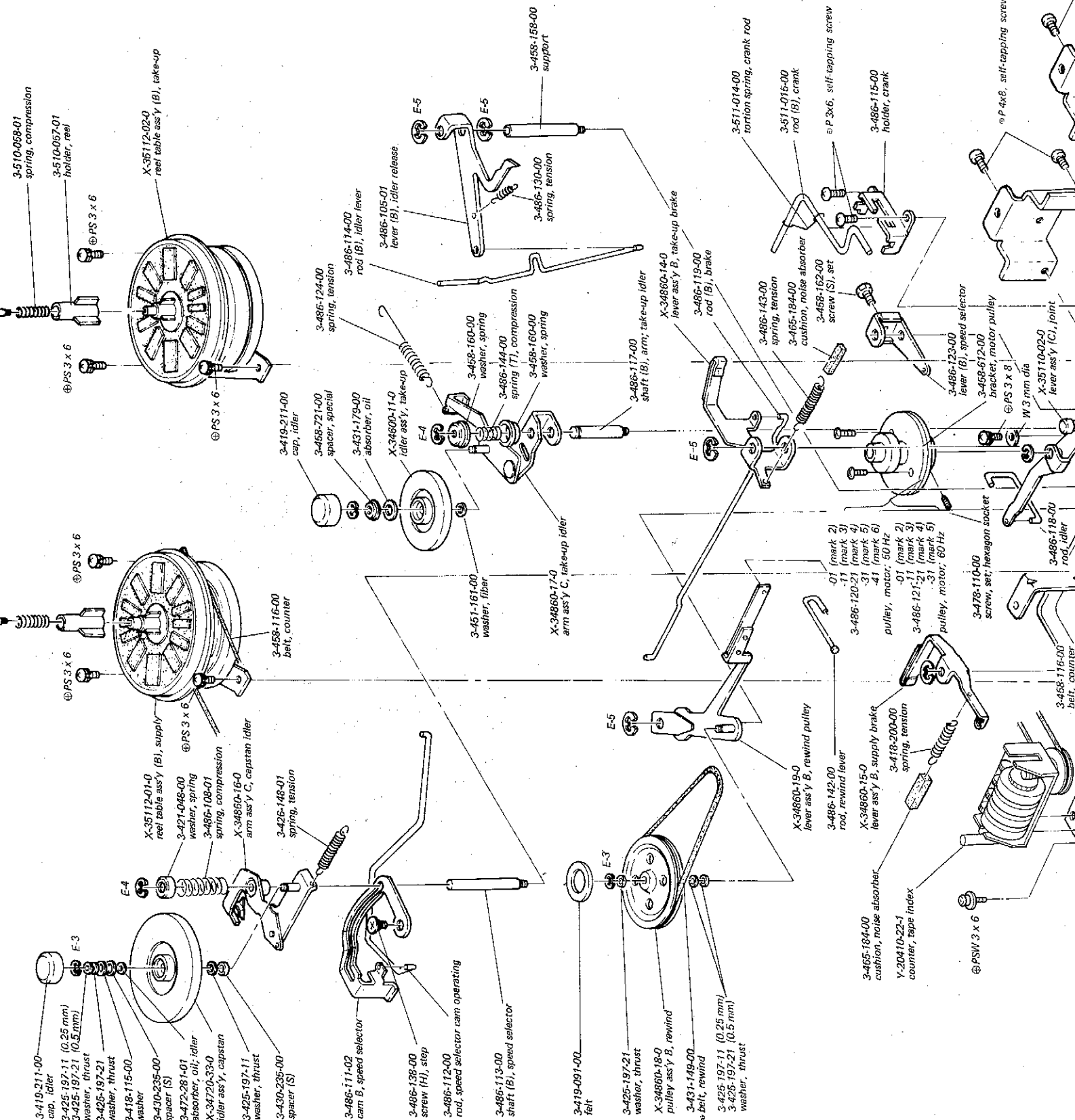


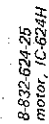
5-5. HEAD DECK - Upper -



5-6. HEAD DECK — Lower —







5-9. PACKING

3-793-106-00 (Canada)
cord, guaranty

3-793-105-00 (Canada)
list, warranty station

3-790-463-31 (Canada)
3-790-463-12 (AEP)
manual, instruction

3-793-010-00
booklet, tape talk

3-701-020-00
bag, check sheet

X-37010-18-2
cleaner ass'y, head

3-793-510-00 (Canada)
leaflet

3-793-506-11
card, power voltage indicating

3-522-070-00
board, carton; top

3-793-124-00
card, caution

3-522-069-00
cushion

3-522-069-00
cushion

unit
3-430-226-00
bag, polyethylene

3-423-117-00
bag, polyethylene

X-24400-15-0
reel, 7ES

8-893-602-00
tape, demonstration;
DS-721

01
3-486-121-5 (AEP)
41
pulley, motor

3-103-191-00
bag, polyethylene

1-534-049-31
cord, connection; RK-74

2-509-111-00
bag, polyethylene

8-811-258-00
microphone, F-25

3-522-071-00
case, accessory

2-060-032-00
bag, polyethylene

X-35314-81-0
bax ass'y, speaker; left

3-522-068-00
cushion, speaker

2-060-032-00
bag, polyethylene

X-35314-82-0
bax ass'y, speaker; right

3-522-068-00
cushion, speaker

3-531-409-00
carton, individual

1-534 -00
cord, power



1-534-765-00



1-534-766-00



1-534-767-00



1-534-768-00

AEP

SECTION 6

ELECTRICAL PARTS LIST

Ref. No. Part No. Description

MOUNTED CIRCUIT BOARDS

X-35314-51-0 preamp
X-35314-52-0 power-amp
X-35314-53-0 tone control
X-35314-54-0 switch control
X-35314-55-0 input selector

SEMICONDUCTORS

Q101,201	transistor	2SC632A
Q102,202	transistor	2SC632A
Q103,203	transistor	2SC634A
Q104,204	transistor	2SC632A
Q105,205	transistor	2SC632A
Q106,206	transistor	2SC634A
Q107,207	transistor	2SC634A
Q108,208	transistor	2SC632A
Q109,209	transistor	2SC634A
Q110,210	transistor	2SC634A
Q111,211	transistor	2SC634A
Q112,212	transistor	2SC1060
Q113,213	transistor	2SC1060
Q114,214	transistor	2SC634A
Q301	transistor	2SC634A
Q302	transistor	2SC634A
Q303	transistor	2SC634A
Q304	transistor	2SC634A
D101,201	diode	1T22
D301	diode	10D2
D302	diode	10D2
D303	diode	10D2
D304	diode	10D2
D305	diode	10D2
D306	diode	10D2
D307	diode	MZ-11
D308	diode	MZ-11
D309	diode	MZ-11

Th101	1-800-206-11	thermister	S-10 k
Th201	1-800-206-11	thermister	S-10 k

COILS

L101,201	1-407-285-00	equalizer, 1.5 mH
L102,202	1-409-130-00	trap, 2 mH
L103,203	1-407-593-11	micro inductor, 27 mH
L301	1-407-198-21	micro inductor, 2.2 mH
L302	1-407-198-21	micro inductor, 2.2 mH
L303	1-431-038-21	dummy, 1 mH

TRANSFORMERS

T101,201	1-427-299-00	output
T301	1-441-926-00	power (AEP)
	1-442-117-11	power (Canada)
T302	1-433-140-00	bias osc

Ref. No. Part No. Description

CAPACITORS

All capacitors are microfarads unless otherwise noted.

(p = $\mu\mu$, elect = electrolytic)

C101,201	1-127-020-11	0.22	10 V	solid aluminum elect
C102,202	1-105-681-51	0.047	50 V	mylar
C103,203	1-121-410-51	47	25 V	elect
C104,204	1-127-022-11	0.47	10 V	solid aluminum elect
C105,205	1-121-398-51	10	25 V	elect
C106,206		-----		
C107,207	1-127-023-11	1	10 V	solid aluminum elect
C108,208	1-105-675-51	0.015	50 V	mylar
C109,209	1-121-398-51	10	25 V	elect
C110,210	1-121-420-51	220	10 V	elect
C111,211	1-121-398-51	10	25 V	elect
C112,212	1-121-398-51	10	25 V	elect
C113,213	1-105-672-12	0.0082	50 V	mylar
C114,214	1-105-682-12	0.056	50 V	mylar
C115,215	1-105-686-51	0.12	50 V	mylar
C116,216	1-105-678-12	0.027	50 V	mylar
C117,217	1-105-671-51	0.0068	50 V	mylar
C118,218	1-105-674-12	0.012	50 V	mylar
C119,219	1-105-683-51	0.068	50 V	mylar
C120,220	1-105-679-51	0.033	50 V	mylar
C121,221	1-107-244-51	470 p	50 V	silvered mica
C122,222	1-141-069-00	30 - 120 p	500 V	trimmer
C123,223	1-121-398-51	10	25 V	elect
C124,224	1-121-398-51	10	25 V	elect
C125,225	1-121-413-51	100	6.3 V	elect
C126,226	1-121-413-51	100	6.3 V	elect
C127,227	1-107-129-51	82 p	50 V	silvered mica
C128,228	1-121-398-51	10	25 V	elect
C129,229	1-121-403-51	33	16 V	elect
C130,230	1-105-679-51	0.033	50 V	mylar
C131,231	1-105-661-51	0.001	50 V	mylar
C132,232	1-105-667-51	0.0033	50 V	mylar
C133,233	1-105-667-51	0.0033	50 V	mylar
C134,234	1-107-123-51	47 p	50 V	silvered mica
C135,235	1-105-661-51	0.001	50 V	mylar
C136,236	1-121-391-51	1	50 V	elect
C137,237	1-121-420-51	220	10 V	elect
C138,238	1-121-391-51	1	50 V	elect
C139,239	1-121-398-51	10	25 V	elect
C140,240	1-121-391-51	1	50 V	elect
C141,241	1-105-665-51	0.0022	50 V	mylar
C142,242	1-105-676-12	0.018	50 V	mylar
C143,243	1-105-677-51	0.022	50 V	mylar
C144,244	1-105-685-51	0.1	50 V	mylar
C145,245	1-121-391-51	4.7	25 V	elect
C146,246	1-121-402-51	33	10 V	elect
C147,247	1-121-417-51	100	50 V	elect
C148,248	1-121-391-51	1	50 V	elect

C149,
C150,
C151,
C152,
C153,
C154,
C155,
C156,
C157,
C158,
C159,
C160,
C161,
C162,
C163,
C301
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C308
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C311
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C315
C316
C317
C318

All resis
R101,2
R102,2
R103,2
R104,2
R105,2
R106,2
R107,2
R108,2
R109,2
R110,2
R111,2
R112,2
R113,2
R114,2
R115,2
R116,2
R117,2

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>		<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
C149,249	1-121-391-51	1	50 V elect	R118,218	1-242-671-51	820
C150,250	1-105-661-51	0.001	50 V mylar	R119,219	1-242-617-51	4.7
C151,251	1-105-661-51	0.001	50 V mylar	R120,220	1-222-701-00	10 k (B), adjustable (MONITOR LEVEL ADJ)
C152,252	1-107-087-51	120 p	50 V silvered mica	R121,221	1-242-709-51	33 k
C153,253	1-121-810-51	470	50 V elect	R122,222	1-242-693-51	6.8 k
C154,254	1-107-123-11	47 p	50 V silvered mica	R123,223	1-242-679-51	1.8 k
C155,255	1-121-413-51	100	6.3 V elect	R124,224	1-242-663-51	390
C156,256	1-121-420-51	220	10 V elect	R125,225	1-242-681-51	2.2 k
C157,257	1-107-127-51	68 p	50 V silvered mica	R126,226	1-242-697-51	10 k
C158,258	1-105-661-51	0.001 p	50 V mylar	R127,227	1-242-643-51	56
C159,259	1-107-139-51	220 p	50 V silvered mica	R128,228	1-242-643-51	56
C160,260	1-105-661-51	0.001	50 V mylar	R129,229	1-242-633-51	22
C161,261		-----		R130,230	1-242-642-51	51
C162,262	1-107-123-11	47 p	50 V silvered mica	R131,231	1-242-673-71	1 k, low noise
C163,263	1-105-661-12	0.001	50 V mylar	R132,232	1-242-737-71	470 k, low noise
C301	1-117-036-22	1.5 + 0.5 μ F	250 V MP (AEP)	R133,233	1-242-708-71	30 k, low noise
	1-117-034-22	1.5 μ F	250 V MP (Canada)	R134,234	1-242-717-71	68 k, low noise
C302	1-121-810-51	470	50 V elect	R135,235	1-242-657-51	220
C303	1-121-411-51	47	50 V elect	R136,236	1-242-641-51	47
C304	1-121-411-51	47	50 V elect	R137,237	1-242-671-51	820
C305	1-121-388-51	100	35 V elect	R138,238	1-242-713-71	47 k, low noise
C306	1-121-388-51	100	35 V elect	R139,239	1-242-713-51	47 k
C307	1-107-123-11	47 p	50 V silvered mica	R140,240	1-242-689-51	4.7 k
C308	1-105-679-12	0.033	50 V mylar	R141,241	1-242-681-51	2.2 k
C309	1-105-672-12	0.0082	50 V mylar	R142,242	1-242-721-51	100 k
C310	1-121-738-51	10	50 V elect	R143,243	1-221-978-00	4.7 k (B), adjustable (PB EQ ADJ)
C311	1-107-221-11	560 p	1500 V silvered mica	R144,244	1-242-689-51	4.7 k
C312	1-129-702-11	1000 p	630 V polyethylene film	R145,245	1-242-679-51	1.8 k
C313	1-107-188-51	620 p	500 V silvered mica	R146,246	1-222-677-00	50 k (C), variable (SOS/ECHO VOLUME)
C314	1-121-810-11	470	50 V elect	R147,247	1-244-717-51	68 k
C315	1-121-810-11	470	50 V elect	R148,248	1-244-717-51	68 k
C316	1-121-300-21	2200	70 V elect	R149,249	1-244-721-51	100 k
C317	1-107-661-12	47 p	50 V silvered mica	R150,250	1-221-978-00	4.7 k (B), adjustable (PB LEVEL ADJ)
C318	1-107-123-11	47 p	50 V silvered mica	R151,251	1-242-721-51	100 k

RESISTORS

All resistors are 1/4 W carbon type and in Ω unless otherwise noted.

R101,201	1-244-721-51	100 k	R152,252	1-242-701-51	15 k
R102,202	1-244-696-51	9.1 k	R153,253	1-242-677-51	1.5 k
R103,203	1-242-709-51	33 k	R154,254	1-242-663-51	390
R104,204	1-244-739-51	560 k	R155,255	1-242-654-51	160
R105,205	1-244-689-51	4.7 k	R156,256	1-242-669-51	680
R106,206	1-244-673-51	1 k	R157,257	1-242-701-51	15 k
R107,207	1-244-663-51	390	R158,258	1-242-681-51	2.2 k
R108,208	1-242-733-71	330 k, low noise	R159,259	1-221-978-00	4.7 k (B), adjustable (METER LEVEL ADJ)
R109,209	1-242-708-71	30 k, low noise	R160,260	1-242-685-51	3.3 k
R110,210	1-242-709-71	33 k, low noise	R161,261	1-244-677-51	1.5 k
R111,211	1-242-649-51	100	R162,262	1-222-382-00	50 k (A), variable (TONE)
R112,212	1-242-697-51	10 k	R163,263	1-244-695-51	8.2 k
R113,213	1-242-705-11	22 k	R164,264	1-222-382-00	50 k (A), variable (TONE)
R114,214	1-222-399-00	10 k (A), variable (RECORD VOLUME)	R165,265	1-244-681-51	2.2 k
R115,215	1-242-721-51	100 k	R166,266	1-244-693-51	6.8 k
R116,216	1-242-709-51	33 k	R167,267	1-222-678-00	50 k (A), variable (SPEAKER VOLUME)
R117,217	1-242-679-51	1.8 k	R168,268	1-242-691-51	5.6 k
			R169,269	1-242-728-51	200 k

Ref. No.	Part No.	Description
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R170,270	1-242-711-51	39 k
R171,271	1-242-713-51	47 k
R172,272	1-242-645-51	68
R173,273	1-242-696-51	9.1 k
R174,274	1-242-669-51	680
R175,275	1-242-683-51	2.7 k
R176, 276	1-242-683-51	2.7 k
R177,277	1-242-710-51	36 k
R178,278	1-242-689-51	4.7 k
R179,279	1-222-775-11	22 k, adjustable
R180,280	1-242-717-51	68 k
R181,281	1-242-681-51	2.2 k
R182,282	1-242-685-51	3.3 k
R183,283	1-242-665-51	470
R184,284	1-242-665-51	470
R185,285	1-244-801-11	1 1/2 W
R186,286	1-244-801-11	1 1/2 W
R187,287	1-244-801-11	1 1/2 W
R188,288	1-244-731-51	270
R189,289	1-242-659-51	270
R190,290	1-242-649-51	100 k
R191,291	1-244-673-51	1 k
R192,292	1-242-719-51	91 k
R193,293	1-242-701-51	15 k
R194,294	1-244-689-51	4.7 k
R195,295	1-242-691-51	5.6 k
R196,296	1-244-801-11	1 1/2 W
R197,297	1-242-681-51	2.2 k
R198,298	1-242-679-51	1.8 k
R199,299	1-242-697-71	10 k, low noise

R301	1-242-709-51	33 k
R302	1-242-709-51	33 k
R303	1-242-647-51	82
R304	1-242-647-51	82
R305	1-209-090-11	560/1 W
R306	1-242-711-51	39 k
R307	1-242-625-51	10
R308	1-242-625-51	10
R309	1-242-617-51	4.7
R310	1-242-657-51	220
R311	1-244-881-11	2.2 k

SWITCHES

S101,201	1-514-041-00	slide, rotary-slide, INPUT SELECTOR
S102,202	1-514-813-22	slide, EQUALIZER
S103,203	1-514-813-22	slide, EQUALIZER
S104,204	1-514-324-00	slide, TAPE SELECT
S105,205	1-514-635-00	slide, SOS/ECHO
S106,206	1-514-415-21	slide, MONITOR
S107,207	1-514-861-22	slide, RECORD
S108,208	1-514-967-00	rotary, muting

Ref. No.	Part No.	Description
S109,209	1-514-635-00	slide, MODE
S110,210	1-516-024-11	slide, SPEAKER
S111,211	1-514-967-00	rotary, record/playback
S301	1-514-472-21	seesaw, POWER (AEP)
	1-514-655-71	seesaw, POWER (Canada)
S302	1-514-079-00	micro, auto shut-off
S303	1-514-967-00	rotary, bias

JACKS

J101,201	1-507-251-00	mini, MICROPHONE
J102,202	1-507-251-00	mini, SPEAKER 8 Ω
J301	1-507-282-00	binaural, HEADPHONE
CNJ101,201	1-507-142-13	2 p phono, TUNER
CNJ102,202	1-507-142-13	2 p phono, PHONO
CNJ103,203	1-507-142-13	2 p phono, LINE IN
CNJ104,204	1-507-142-13	2 p phono, LINE OUT
CNJ301	1-509-341-00	connector AC outlet (Canada)
	1-509-359-00	connector, REC/PB (AEP)
CNJ302	1-509-445-00	connector 3 p, AC IN (AEP)
VS301	1-509-482-00	socket, power voltage selector (AEP)

MISCELLANEOUS

CP301	1-231-057-31	encapsulated component C-R 0.033 μ F + 120 Ω (AEP)
CP302	1-101-534-31	encapsulated component C-R 0.1 μ + 120 Ω (AEP)
SP101,201	1-502-388-00	speaker (included in X-35314-81 and -82)
CP301, 302	1-101-534-31	encapsulated component C-R 0.1 μ + 120 Ω (Canada)
PL101,201	1-518-052-00	lamp, 2.5 V/250 mA (METER)
PL102,202	1-518-134-21	lamp, 2 V/100 mA (REC)
ME101,201	1-524-078-21	meter, LEVEL
RH101,201	8-824-629-20	head, record (RP102-2902A)
EH101,201	8-826-629-25	head, erase (EF18-2902A-1)
PH101,201	8-829-129-20	head, playback (PP102-4202)
	1-526-198-00	socket, transistor
F1, 2	1-532-279-00	fuse, 500 mA T (AEP)
F3	1-532-078-00	fuse, 1 AT (AEP)
F4	1-532-237-00	fuse, 3.15 AT (AEP)
F5	1-532-278-00	fuse, 3.15 A (AEP)
F1	1-532-268-00	fuse, 2.0 A (Canada)
F2, 3	1-532-264-00	fuse, 0.75 A (Canada)
	1-533-069-00	holder, fuse 4 p (AEP)
	1-517-003-00	socket, lamp
	1-534-413-21	cord, speaker; with plug (included in X-35314-81 and -82)
	1-534-538-21	cord, power (Canada)
	1-536-146-00	terminal strip
	1-536-189-00	terminal strip
	8-832-624-25	motor, IC624H
	1-534-765-00	cord, power; 3-wire with plug (2 pin/earth)
	1-534-766-00	cord, power; 2-wire with plug (pin)
	1-534-767-00	cord, power; 2-wire with plug (blade)
	1-534-768-00	cord, power; 3-wire without plug

SECTION 7

HARDWARE

Part No. Description

SCREWS

7-621-255-15	⊕ P 2 x 3
7-621-255-25	⊕ P 2 x 4
7-621-255-35	⊕ P 2 x 5
7-621-259-22	⊕ P 2.6 x 4
7-621-259-35	⊕ P 2.6 x 5
7-621-259-45	⊕ P 2.6 x 6
7-621-560-22	⊕ K 2.6 x 20
7-621-712-65	⊖ SC 2.6 x 8
7-621-843-25	⊕ R 3.1 x 10, wood
7-621-843-59	⊕ R 3.1 x 20, wood
7-628-254-05	⊕ PS 2.6 x 5
7-682-145-01	⊕ P 3 x 4
7-682-147-01	⊕ P 3 x 6
7-682-148-01	⊕ P 3 x 8
7-682-149-01	⊕ P 3 x 8
7-682-166-01	⊕ P 4 x 20
7-682-161-01	⊕ P 4 x 8
7-682-249-01	⊕ K 3 x 10
7-682-550-03	⊕ B 3 x 12
7-682-551-04	⊕ B 3 x 14
7-682-561-01	⊕ B 4 x 10
7-682-570-05	⊕ B 4 x 40
7-682-646-01	⊕ PS 3 x 5
7-682-647-01	⊕ PS 3 x 6
7-682-648-01	⊕ PS 3 x 8
7-682-649-01	⊕ PS 3 x 10
7-682-661-01	⊕ PS 4 x 8
7-682-662-01	⊕ PS 4 x 10
7-682-947-01	⊕ PSW 3 x 6
7-682-948-01	⊕ PSW 3 x 8
7-683-137-00	⊖ SC 3 x 3
7-683-140-20	⊖ SC 3 x 6
7-685-144-51	⊕ P 3 x 5 (FT)
7-685-145-51	⊕ P 3 x 6 (FT)

Part No.

Description

NUTS

7-622-307-01	2.6 mm dia
7-622-308-02	3 mm dia (L)
7-684-013-01	3 mm dia
7-684-014-01	4 mm dia

WASHERS

7-623-105-12	2 mm dia
7-623-108-02	3 mm dia (small)
7-623-108-12	3 mm dia
7-623-108-20	3 mm dia
7-623-110-02	4 mm dia (small)
7-623-110-12	4 mm dia
7-623-112-12	5 mm dia
7-623-113-18	6 mm dia (t = 0.5)
7-623-113-22	6 mm dia (t = 0.3)
7-623-205-22	2 mm dia, spring
7-623-207-22	2.6 mm dia, spring
7-623-208-27	3 mm dia, spring
7-623-210-22	4 mm dia
7-623-308-04	3 mm dia, int. tooth
7-623-408-04	3 mm dia, ext. tooth
	5 mm dia (small) (t = 0.8)

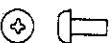
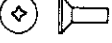
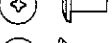
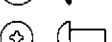
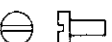
LUG

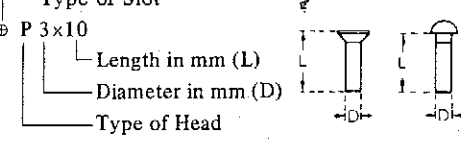
7-623-508-11	3 mm dia
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RETAINING RINGS

7-624-104-01	E-2
7-624-108-01	E-4
7-624-109-01	E-5

Hardware Nomenclature

P — Pan Head Screw		SC — Set Screw	
PS — Pan Head Screw with Spring Washer		E — Retaining Ring (E Washer)	
K — Flat Countersunk Head Screw		W — Washer	
B — Binding Head Screw		SW — Spring Washer	
RK — Oval Countersunk Head Screw		LW — Lock Washer	
T — Truss Head Screw		N — Nut	
R — Round Head Screw			
F — Flat Fillister Head Screw			

— Example —	
⊕ P 3 x 10	

SONY CORPORATION