TC-755A

AEP Model

STEREO TAPECORDER

SPECIFICATIONS

Power Requirements:	AC 110, 127, 220, or 240 V, 50/60 Hz
Power Consumption:	110 W
Track System:	Four-track two-channel stereo and monaural
Reels:	270 mm (10½ inches) or smaller
Tape Speed:	19 cm/s (7½ ips), 9.5 cm/s (3¾ ips)
Recording Time:	6 hours total at 9.5 cm/s (3¾ ips), stereo recording, with 1,100 m (3360 ft.) tape of 270 mm (10½ inch) reel
Frequency Response:	With Sony Ferri-Chrome Tape 30–27,000 Hz at 19 cm/s (7½ ips) 30–18,000 Hz at 9.5 cm/s (3¾ ips) With SLH tape 30–25,000 Hz at 19 cm/s (7½ ips) 30–16,000 Hz at 9.5 cm/s (3¾ ips) With Regular Tape 30–20,000 Hz at 19 cm/s (7½ ips) 30–13,000 Hz at 9.5 cm/s (3¾ ips)
Signal-to-Noise Ratio:	58 dB with Sony Ferri-Chrome Tape
Wow and Flutter:	±0.07 % at 19 cm/s (7½ ips) ±0.10 % at 9.5 cm/s (3¾ ips)
Record Bias Frequency:	Approximately 160 kHz
Equalization:	NAB standard
Total Harmonic Distortion:	0.8 %
Fast Winding Time:	2 min. 30 sec. with 740 m tape (10½ inch reel)

Inputs:	MIC (2)	
	Impedance:	low
	Maximum sensitivity:	-72 dB (0.2 mV)
	LINE IN (2)	
	Impedance:	100 kΩ
	Maximum sensitivity:	-22 dB (60 mV)
Outputs:	LINE OUT (2)	
	Impedance:	10 kΩ or more
	With 100 kΩ load	
	Level	PB LEVEL control
	-5 dB (0.44 V)	detent position
	0 dB (0.775 V)	MAX
	HEADPHONES	
	Impedance:	8 Ω
REC/PB (DIN) Connector:	Input impedance:	Less than 10 kΩ
	Output impedance:	Less than 10 kΩ
Dimensions:	435 (w) x 451 (h) x 221 (d) mm 17⅛ (w) x 17¾ (h) x 8¾ (d) inches	
Weight:	24 kg, 52 lb 15 oz	

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SERVICE MANUAL

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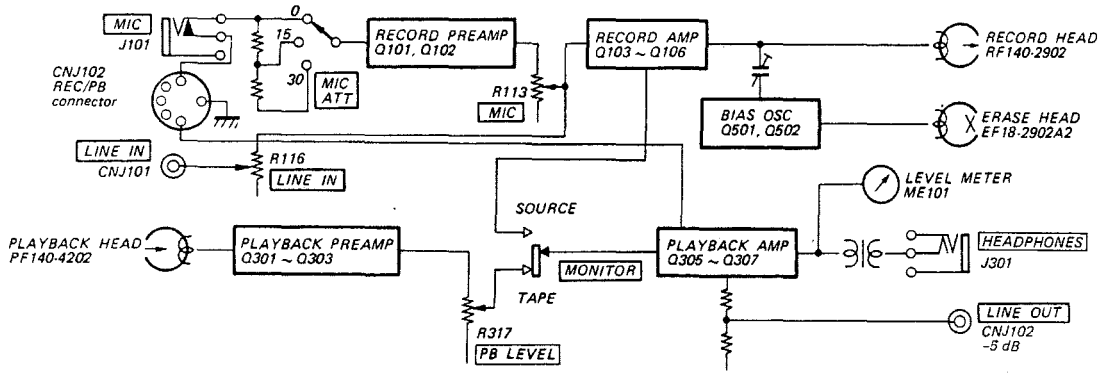
When ordering replacement parts, use PART NUMBERS listed in Parts Lists or shown in EXPLODED VIEWS.
Parts List reference numbers should not be used.

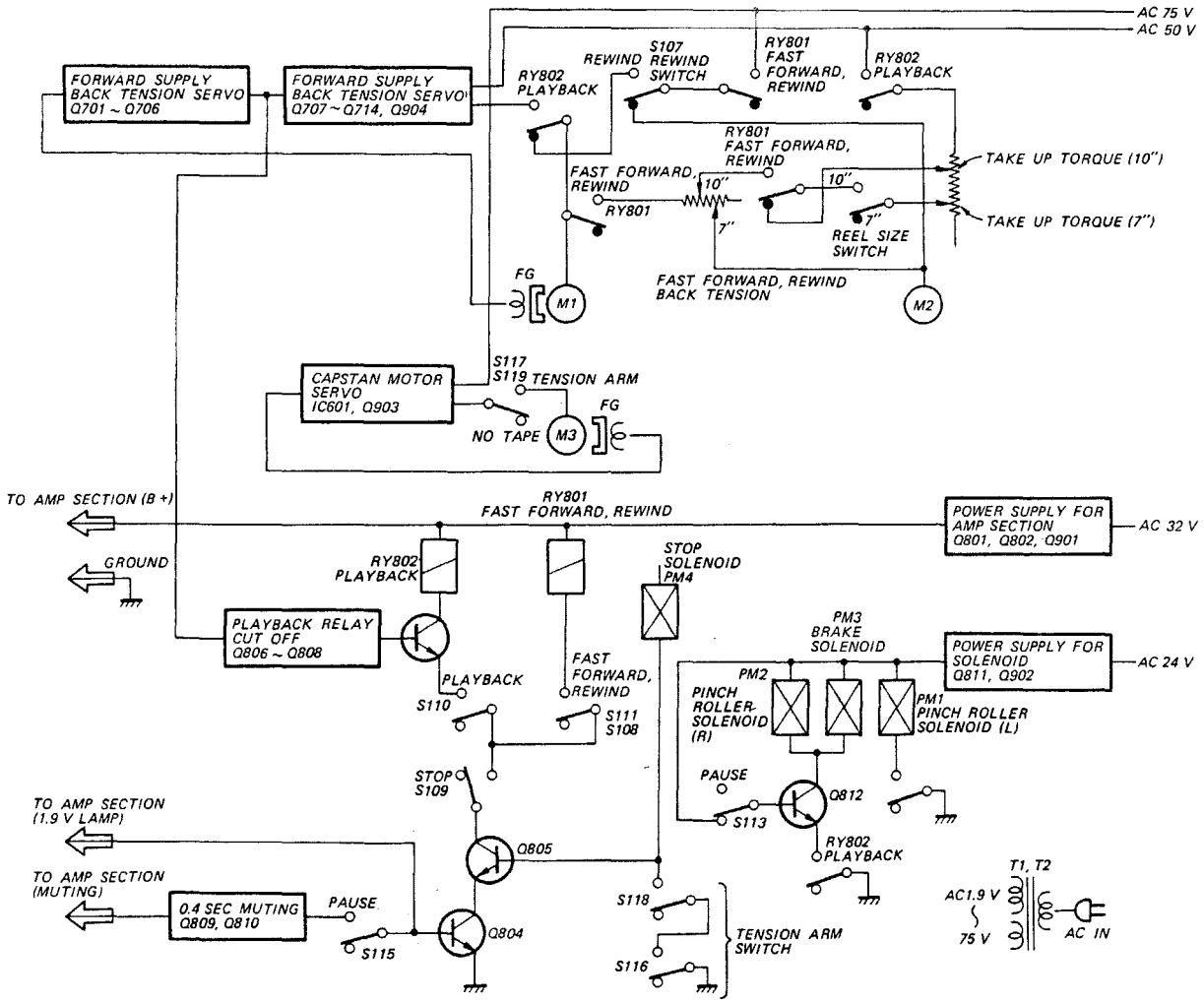
SECTION 1
DIAGRAMS

1-1. BLOCK DIAGRAMS

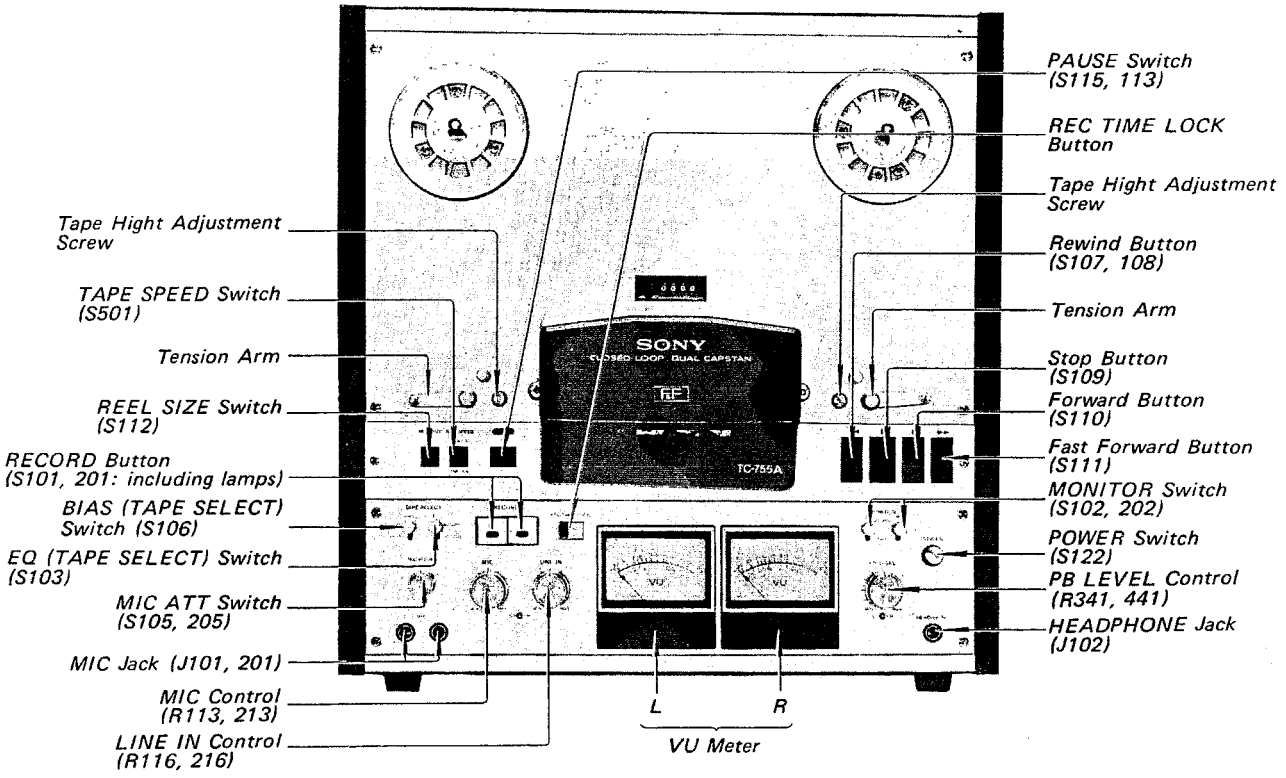
Amp Section



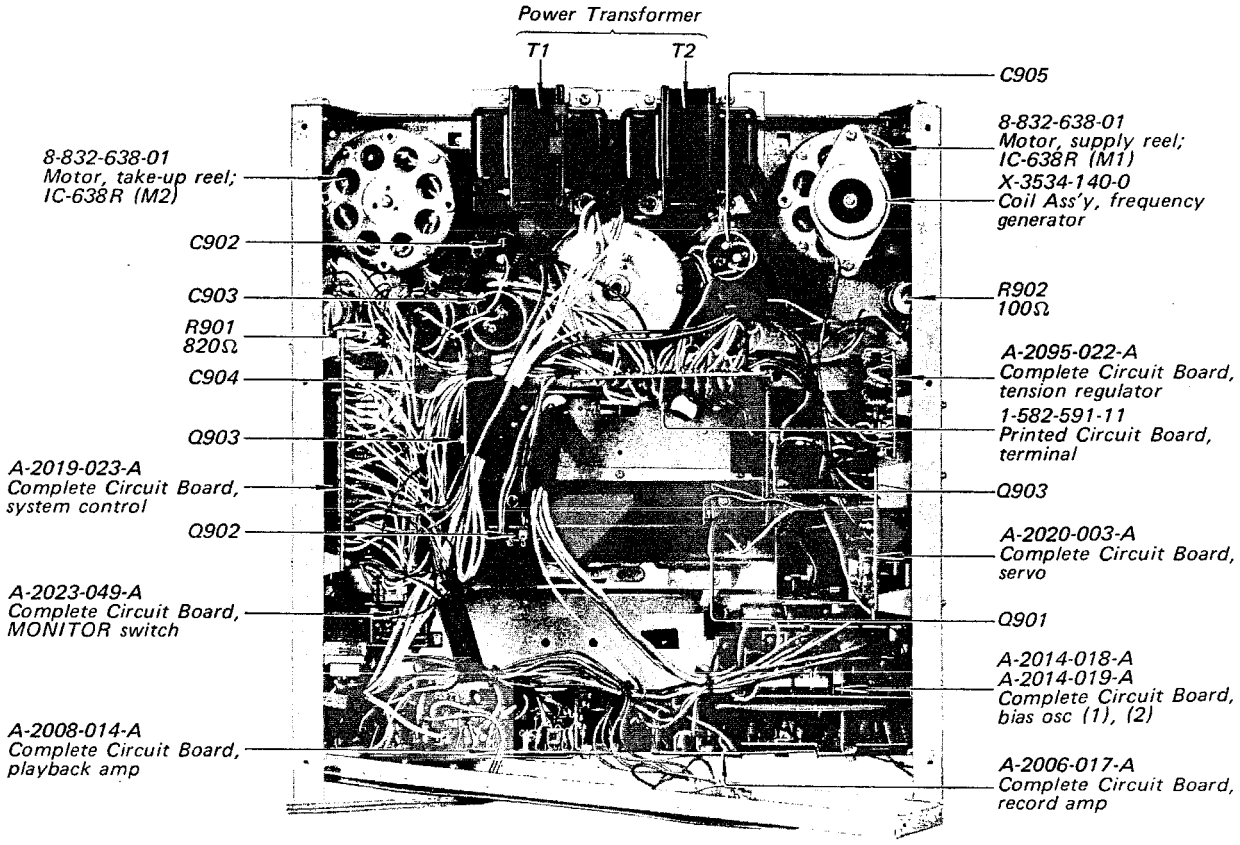
System Control Section



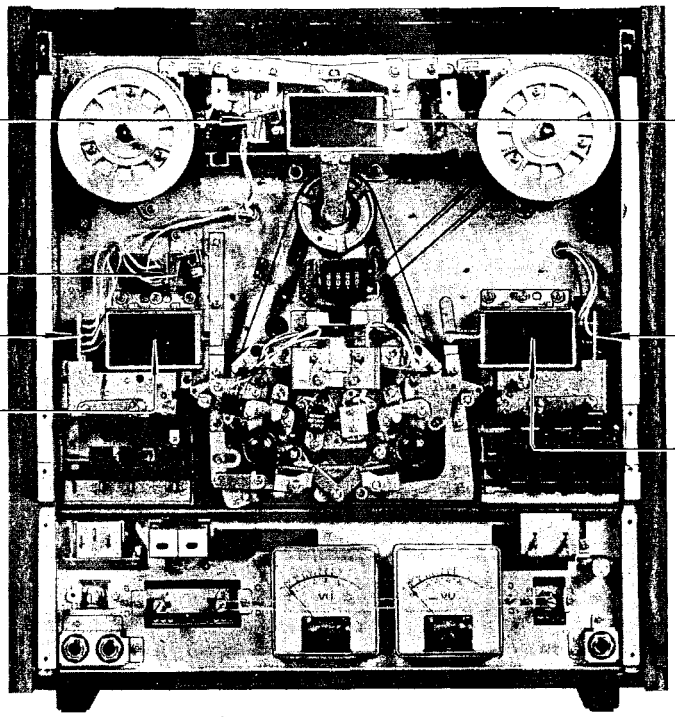
1-2. EXTERNAL VIEW



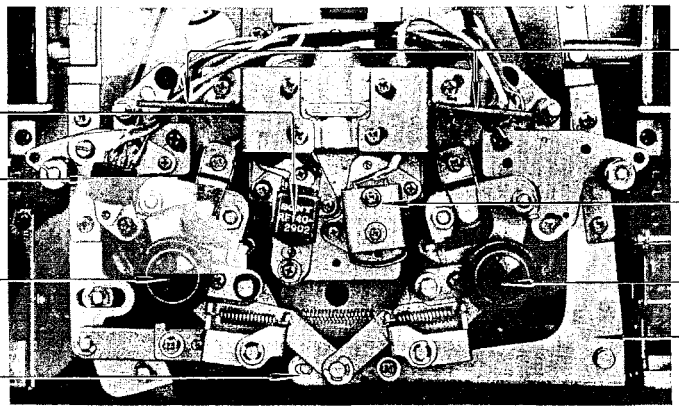
1-3. INTERNAL VIEW (1)



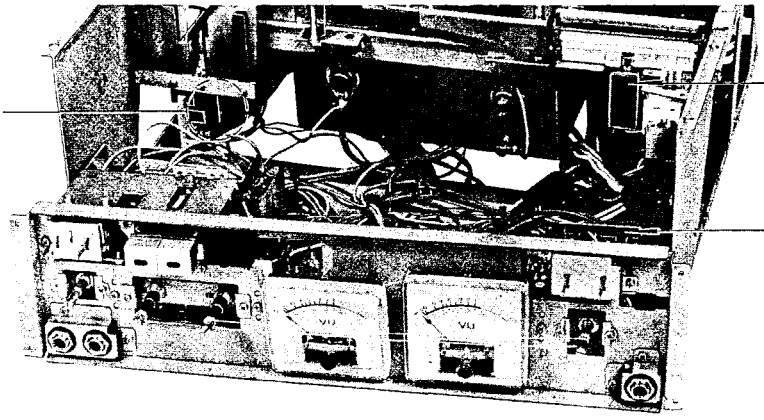
1-4. INTERNAL VIEW (2)



1-5. INTERNAL VIEW (3)

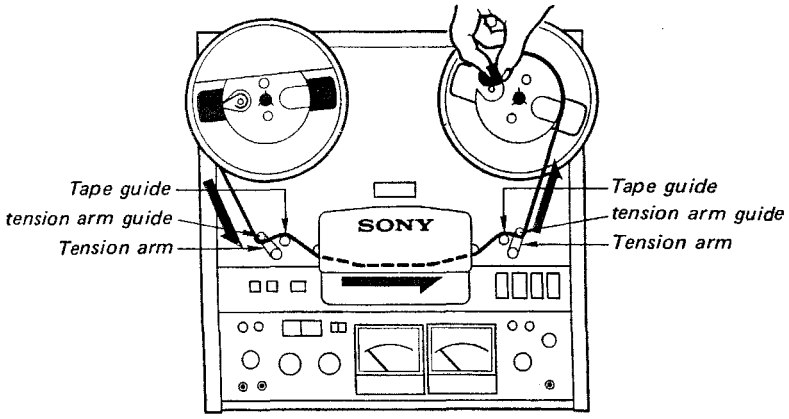


1-6. INTERNAL VIEW (4)



1-7. NOTES ON OPERATION

1. For 270 mm (10½ inch) metal reel, use a reel spacer and a Sony Reel Adaptor RAD-10.
2. Thread a tape as illustrated. Be sure to pass the tape under the tension-arm guides, and above the tape guides.



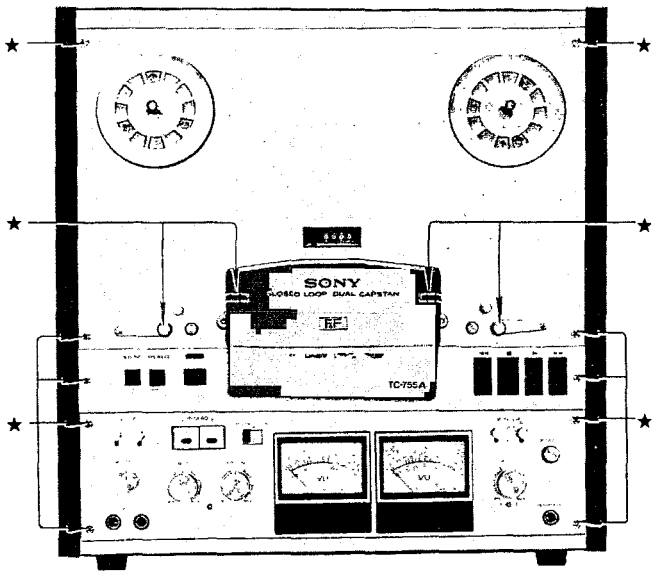
3. For protection against the high bias voltage the upper head cover is fastened with the two head cover bosses.
4. Set the BIAS and EQ (TAPE SELECT) switches according to the tape used.

Tapes	BIAS	EQ
SONY PR other regular tapes	NORMAL	NORMAL
SONY SLH MAXELL LNE 35 BASF 35 LH SCOTCH 212, CLASSIC TDK SD 150 AGFA PE 36 other Low-noise High-output tapes	NORMAL	SPECIAL
Sony Ferri-Chrome Tape	NORMAL	Fe-Cr
SCOTCH 206, 218	HIGH	NORMAL

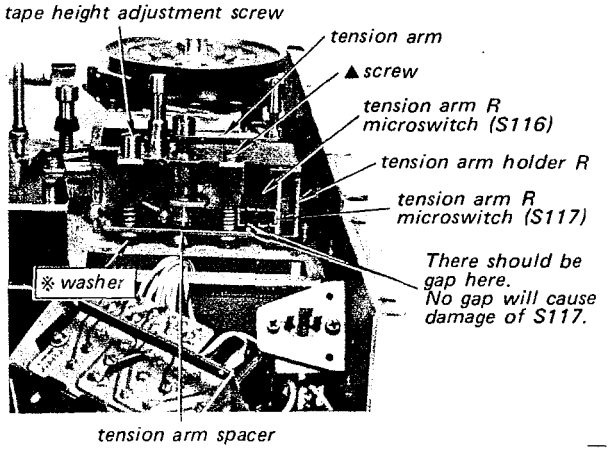
5. Do not leave the TC-755A in PAUSE mode for a long time, since the normal rated voltages are still applied to the reel motors in PAUSE mode. Place the TC-755A in stop mode instead.
6. REC TIMER LOCK button can be moved to the right only when L and/or R RECORD buttons are pushed in stop mode. Once the RECORD buttons are locked, they cannot be released and remain illuminated even though any function button (stop, fast forward, rewind or forward button) is pushed. The TC-755A can be placed in record mode only by pushing the forward button, but not by pushing the stop, fast forward or rewind button.
7. Before setting the timer-activated recording, be sure to turn POWER switch OFF. Otherwise the tension arms may be turned OFF by the momentary tape slack and the TC-755A may be placed in stop mode.
8. PB LEVEL controls adjust the playback signal level at the LINE OUTputs and the HEADPHONE jack. This adjustment reflects on VU meters with a 0 VU reading corresponding to 0.43 volt output. During normal use, set the inner knob (R channel) to the center click position and align the outer knob (L channel) with the inner knob.
9. The TC-755A is designed only for vertical use, and therefore no rubber feet are provided for horizontal use.
10. All function buttons except the stop button have self lock mechanisms.

1-8. NOTES ON REPAIR

1. Disassembly
   To remove the reel panel, unscrew the 14 screws indicated by ★ in the photo below. To remove the cabinet, unscrew the 10 screws attached to the cabinet (4 screws on both sides and 6 screws on the back).



2. When turning the tape height adjustment screw, the following precaution must be taken: After the screw is turned clockwise as far as it will go, it must not be turned counterclockwise more than 3½ turns. The tape height may be adjusted with this screw within these limits. If the screw is turned beyond these limits, the washer indicated by ※ will be damaged. (See photo.)
   The screw indicated by ▲ has been adjusted at the factory and should not be turned. If, however, it happens to be turned, care must be taken that the microswitch (S117) is not touched by the tension arm spacer even if the tape height adjustment screw is turned within the limits mentioned above. Otherwise S117 will be damaged.



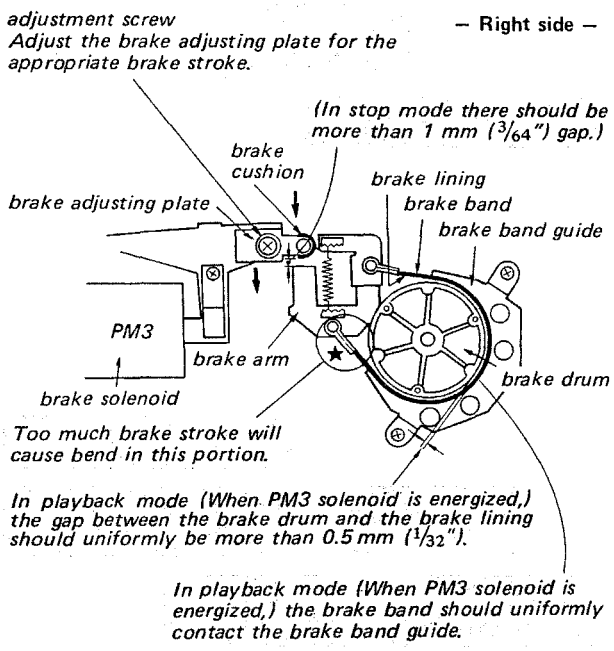
SECTION 2
ADJUSTMENTS

2-1. MECHANICAL ADJUSTMENTS

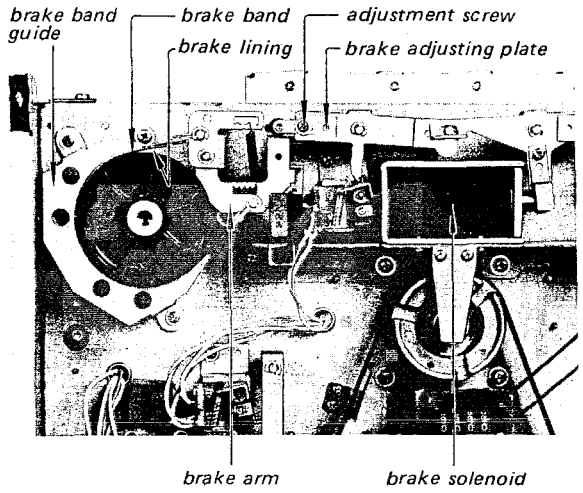
1. Brake Adjustment (1)

Perform this adjustment for both left and right brakes. After the adjustment, apply locking compound to the adjusted screw.

– Playback mode –



– Left side –



2. Brake Adjustment (2)

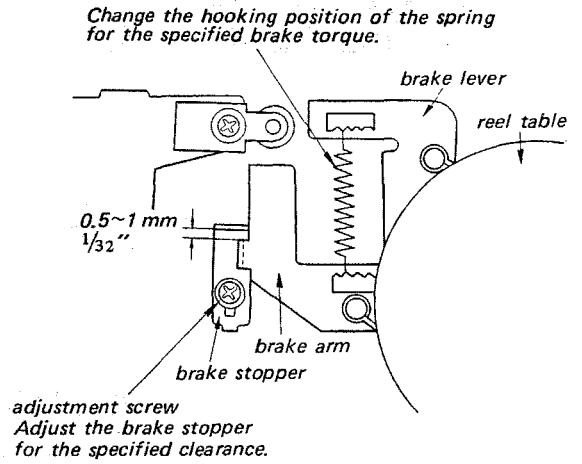
Perform this adjustment for both left and right brakes. After the adjustment, apply locking compound to the adjusted screw.

Specification:

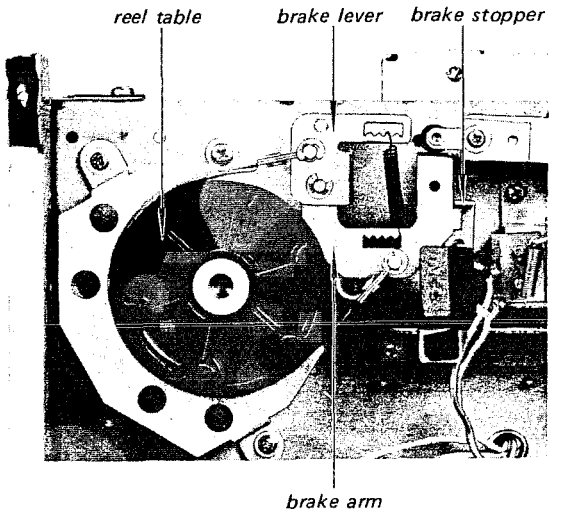
Take-up Reel	Supply Reel	Brake Torque
clockwise	counterclockwise	1,800~2,500 g·cm (25.0~34.8 oz·inch)
counterclockwise	clockwise	600~700 g·cm (8.3~9.7 oz·inch)

– Stop mode –

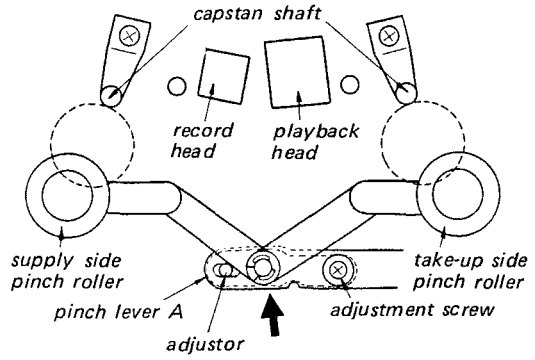
– Right side –



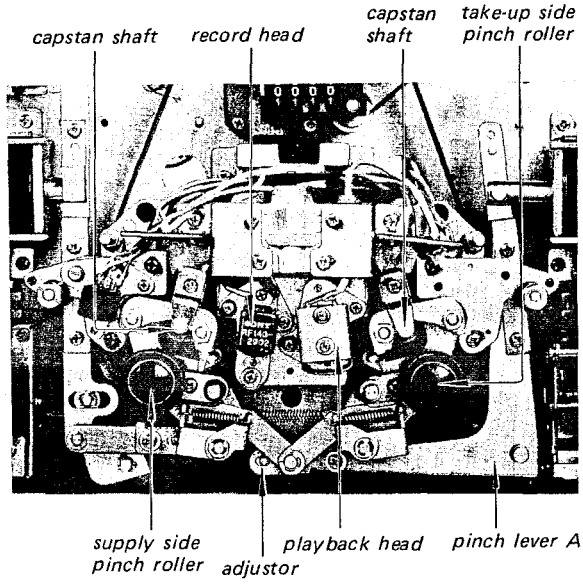
– Left side –



3. Adjustor Adjustment

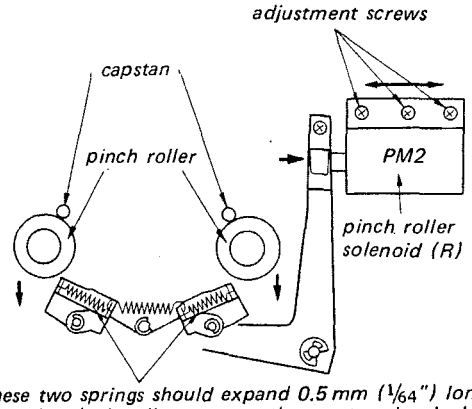


In playback mode and with PAUSE switch to ON, slowly push the pinch lever A in the direction shown by the arrow. When the supply side pinch roller contacts the capstan shaft and starts to rotate, the gap between the take-up side pinch roller and the capstan shaft should be less than 0.5 mm (1/64"), so that the take-up side pinch roller starts rotating slightly after or almost simultaneously with the start of the supply side pinch roller, if necessary, adjust the adjustor.



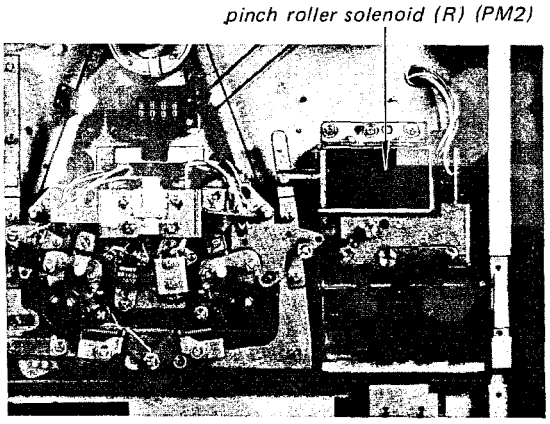
4. Pinch Roller Solenoid (R) (PM2) Position Adjustment

After the adjustment, apply locking compound to the adjusted screws.



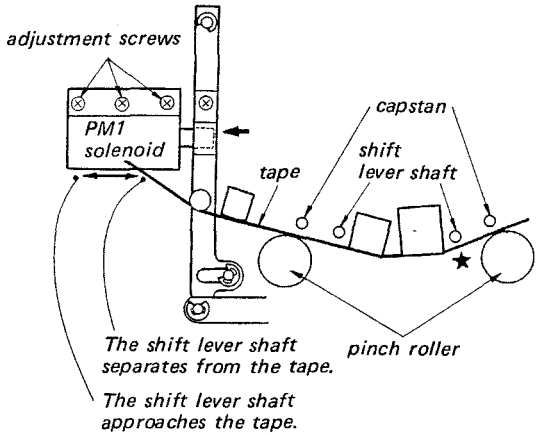
These two springs should expand 0.5 mm (1/64") longer after the pinch rollers contact the capstans in playback mode. If necessary, adjust the PM2 solenoid position.

Specification for your reference:
Pinch roller pressure: 1000 g ~ 1600 g (2 lb 3 oz ~ 3 lb 8 oz)



5. Pinch Roller Solenoid (L) (PM1) Position Adjustment

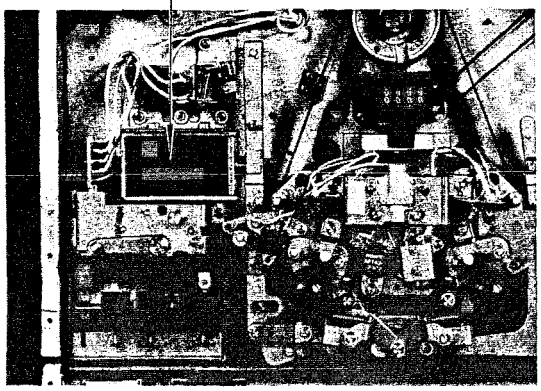
After the adjustment, apply locking compound to the adjusted screws.



With a tape threaded along the tape path and in playback mode (PM1 solenoid should be energized), turn PAUSE switch ON. At this time the shift lever shafts should not contact the tape and the pinch rollers should separate from the capstans. If necessary, adjust the PM1 solenoid position.

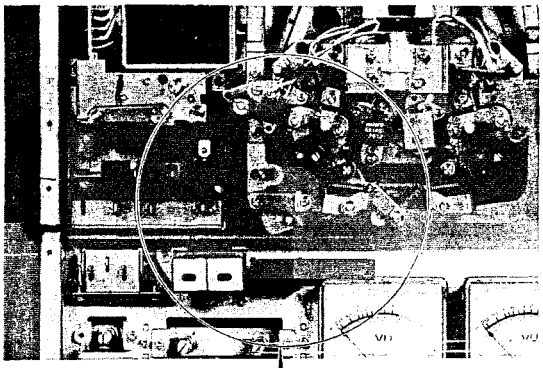
Note: The shift lever shaft indicated by ★ in the above figure may slightly contact the tape but the other one should not.

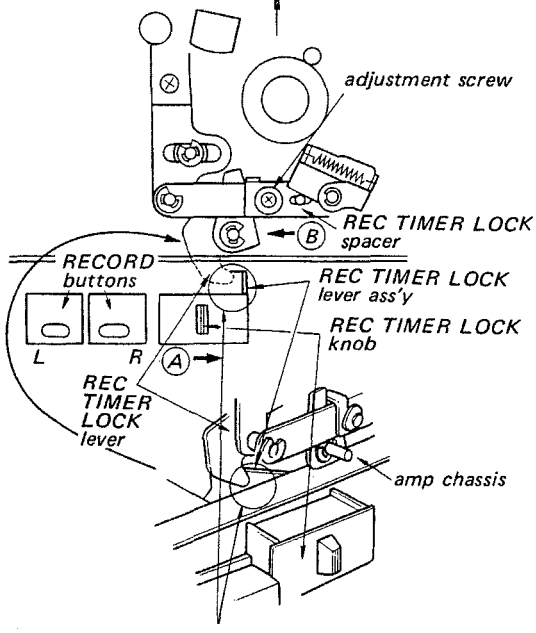
Pinch Roller Solenoid (L) (PM1)



6. RECORD Button Lock Adjustment

After the adjustment, apply locking compound to the adjusted screw.





Push L and R RECORD buttons, move REC TIMER LOCK knob in the direction shown by arrow Ⓐ and then push the 'forward' button.
At this time REC TIMER LOCK lever should slightly contact REC TIMER LOCK lever ass'y as shown.
If necessary, adjust the REC TIME LOCK spacer.

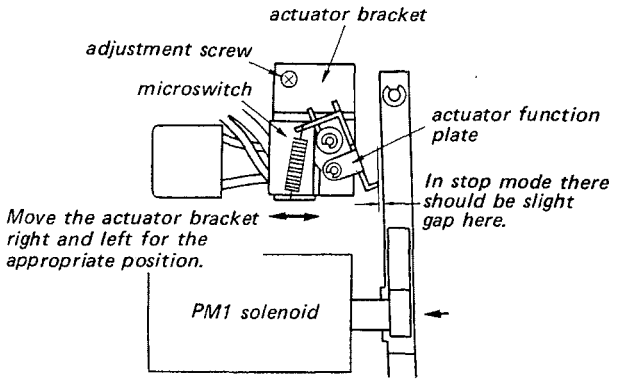
Note:

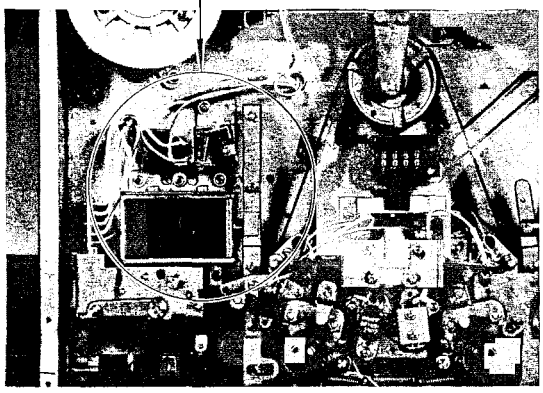
After the adjustment, and with the L and R RECORD buttons pushed and the REC TIMER LOCK knob pushed in the direction shown by arrow Ⓐ , and also the forward button pushed, make sure of the following functions.

1. RECORD buttons cannot be released by releasing REC TIMER LOCK knob.
2. REC TIMER LOCK knob cannot be released by moving the REC TIMER LOCK knob further in the direction shown by the arrow Ⓐ .
3. Push L and R RECORD buttons and then push forward button. At this time the RECORD buttons should not be released.
4. In stop mode L and R RECORD buttons should be released.
5. When L and R RECORD buttons are released, REC TIMER LOCK knob cannot be moved in the direction shown by the arrow Ⓐ .

7. Actuator Adjustment (1)

Perform this adjustment after the Pinch Roller Solenoid (L) (PM1) Position Adjustment. After the adjustment, apply locking compound to the adjusted screw.

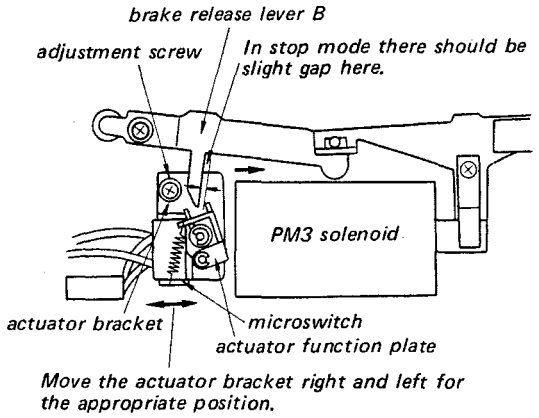


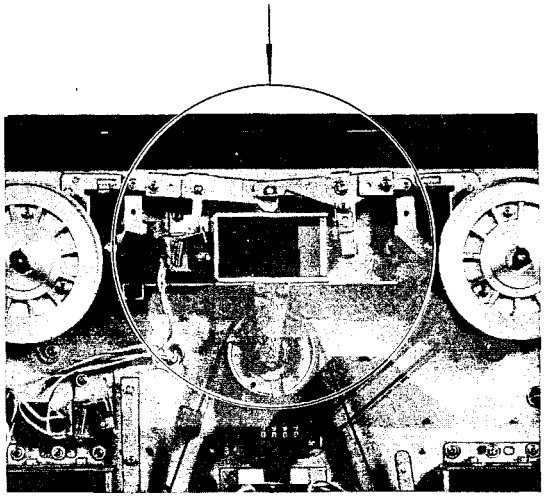


Note: The microswitch should turn OFF (click) in 0.5 to 2 seconds after forward button is pushed.

8. Actuator Adjustment (2)

Perform this adjustment after the Brake Adjustments (1) and (2). After the adjustment, apply locking compound to the adjusted screw.





Note: The microswitch should turn OFF (click) in 0.5 to 2 seconds after forward button is pushed.

9. Fast Forward and Rewind Back-Tension Adjustment

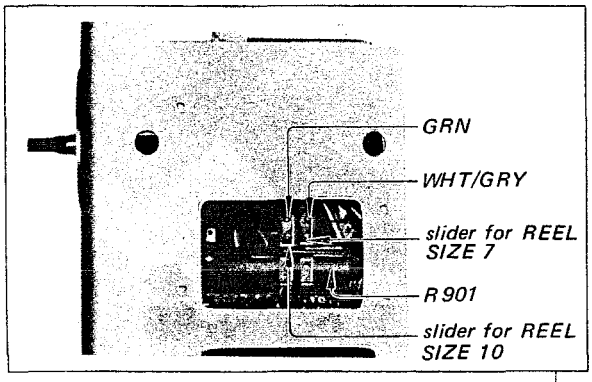
1. Supply the rated power voltage.
2. Fasten the tension arms with rubber bands as shown, thus activating them.
3. Pull the spring scale at a speed of between 9.5 cm/s to 19 cm/s in the direction shown by the arrow for rewind or fast forward mode with REEL SIZE switch at "7" and "10". Measure the back tension torque for rewind and fast forward modes. Torques should be as shown in the following table.

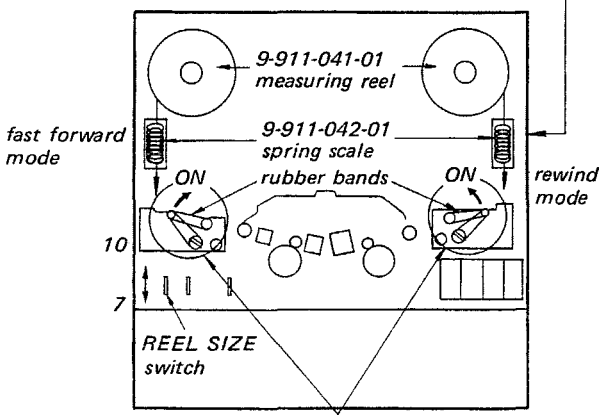
Specification:

Mode	REEL SIZE Switch	Back-Tension Torque
rewind	10	110 to 140 g · cm (1.53 to 1.95 oz · inch)
	7	80 to 100 g · cm (1.11 to 1.39 oz · inch)
fast forward	10	110 to 140 g · cm (1.53 to 1.95 oz · inch)
	7	80 to 100 g · cm (1.11 to 1.39 oz · inch)

If necessary, adjust the torque by moving the sliders of the adjustable resistor (R901).

– Right side –





Fasten the tension arms with rubber bands to operate the unit.

10. Playback Take-up Torque Adjustment

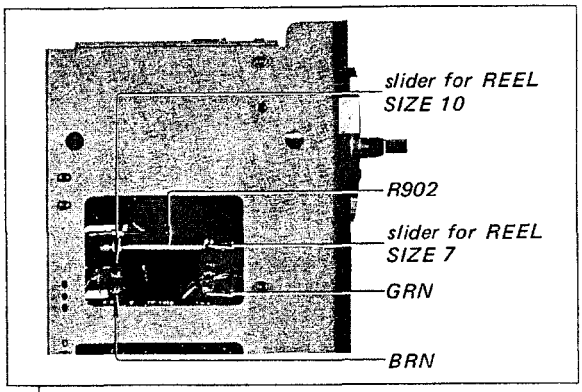
1. Supply the rated power voltage.
2. Fasten the tension arms with rubber bands as shown, thus activating them.
3. Turn the TAPE SPEED switch to "19 cm 7½."
4. Place the unit in playback mode.
5. Pull the spring scale in the direction shown by the arrow and measure the take-up torque with REEL SIZE switch at "10" and "7". Torques should be as shown in the following table.

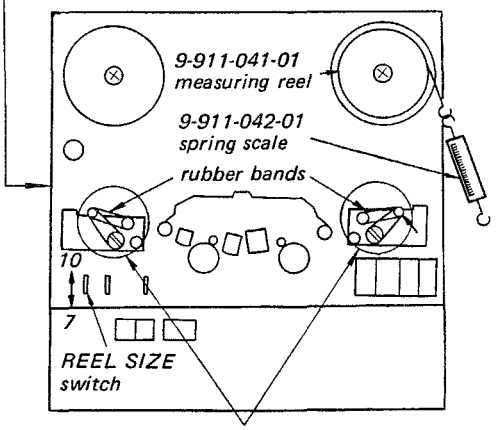
Specification:

REEL SIZE switch	Take-up Torque
10	580 to 620 g · cm (8.06 to 8.61 oz · inch)
7	280 to 320 g · cm (3.89 to 4.44 oz · inch)

If necessary, adjust the torque by moving the sliders of the adjustable resistor (R902).

– Left side –



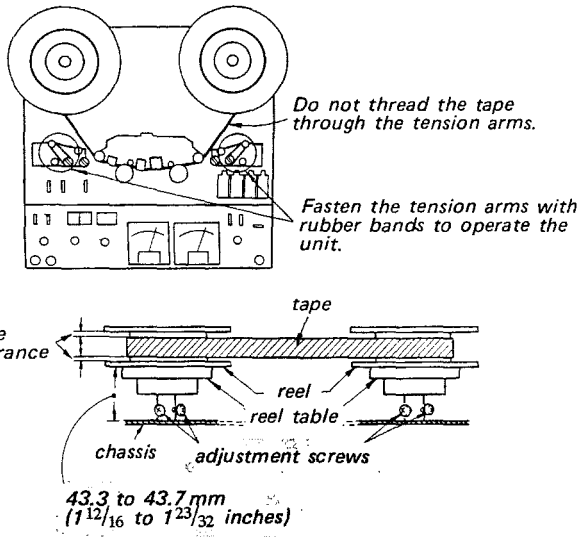


Fasten the tension arms with rubber bands to operate the unit.

11. Reel Table Height Adjustment

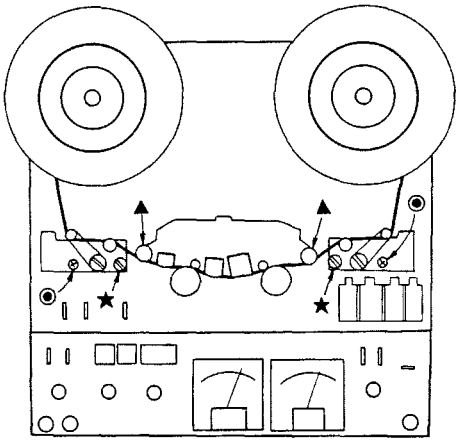
After the adjustment, apply locking compound to the adjusted screws.

1. Thread the tape from a 180 mm (7 inches) plastic reel as shown.
2. Fasten the tension arms with rubber bands as shown.
3. Adjust the reel table height so that the tape travels in the center of both reel flanges in fast forward and rewind modes.



12. Tape Guides Adjustment (1)

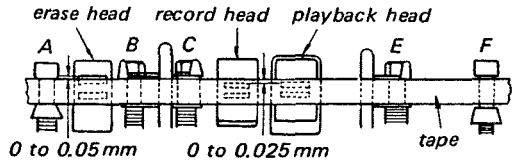
1. Thread the tape from a 180 mm (7 inches) plastic reel as shown.
2. Turn the two screws indicated by ★ counterclockwise until it stops, and then turn them clockwise in 1¾ turns.
3. Turn the two screws indicated by ◉ so that the tape travels in the center of both reel flanges in rewind and fast forward modes.
4. Turn the two tape guides indicated by ▲ , for fine adjustment, so that the tape travels in the center of the guides without tape curl in playback mode.
5. When the tape curls, repeat the above steps.

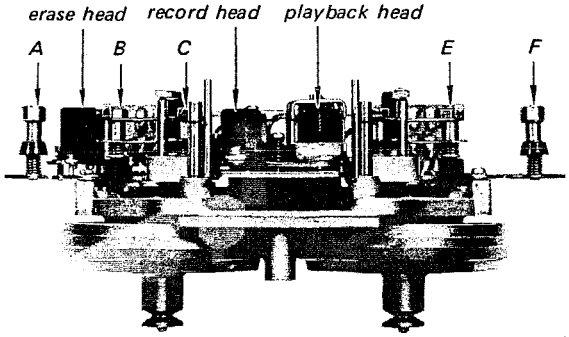


13. Tape Guide Adjustment (2)

Perform this adjustment after the reel table height adjustment and the tape guides adjustment (1) are completed. Tape should not curl at each tape guide B, C, and E.

Note: 1. Make sure that the three heads are correctly positioned as specified. If necessary, perform the head height adjustments on page 19 and 21.
2. If all the tape guides B, C and E are not correctly positioned, adjust them so that the tape travels in the center of the pinch roller.

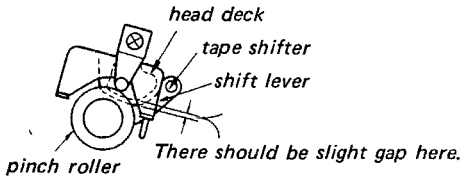




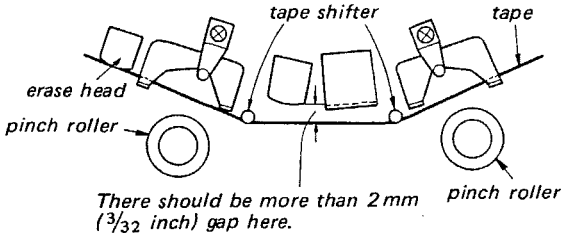
14. Tape Shifter Position Check.

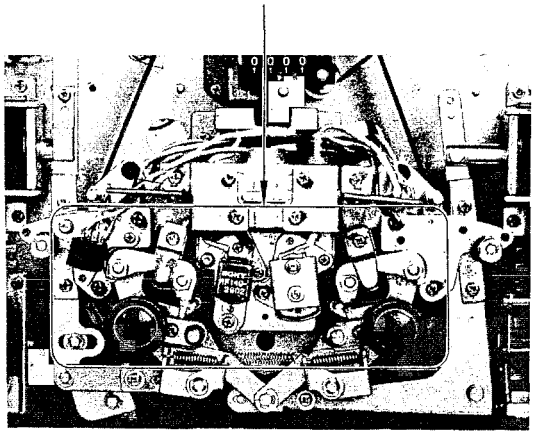
Perform this check for both left and right shifters with the unit in horizontal position.

1. In playback mode the shift levers should not touch the head deck.



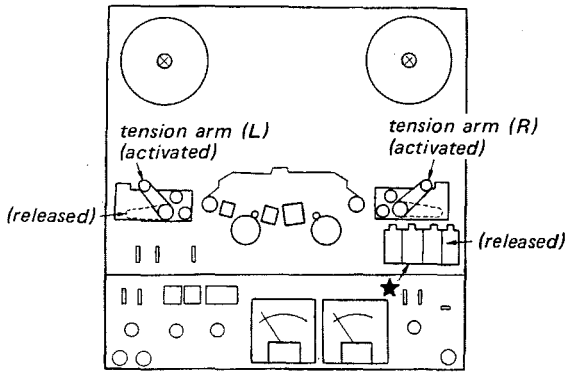
2. At tape end in rewind and fast forward modes, there should be more than 2 mm ($^3/_{32}$ inch) gap between the tape and the record and playback heads. At this time the tape may touch the erase head.





15. Function Switch Operation Check

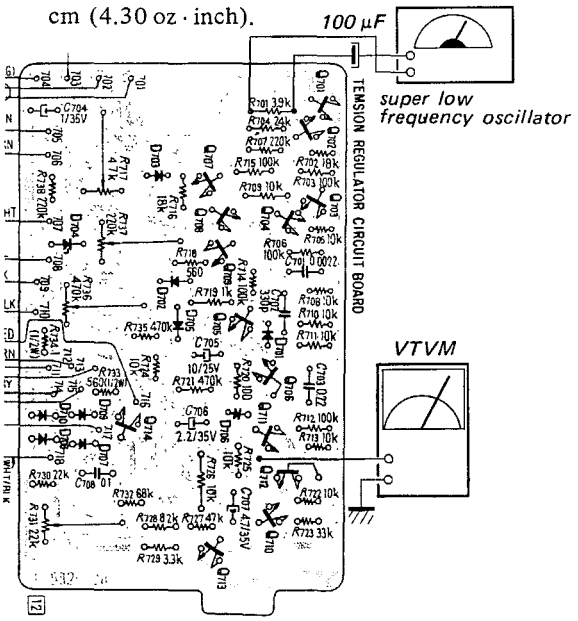
1. Push the POWER switch ON with the tension arms released. Next push each function button. No operation should take place, and each function button should not lock.
2. When the tension arm L and/or R are activated, the stop solenoid should be de-energized. The solenoid can be seen when looked at in the direction of the arrow indicated by ★. When the solenoid is de-energized, a click can be heard.
3. Activate the tension arm L or R, and make sure of the following functions.
   - 3-1. Push the forward button. The button should lock. When the activated tension arm is released, the locked button should release itself
   - 3-2. Push the forward button. Then push the stop button. At this time, the locked forward button should release itself.
   - 3-3. Push the forward button. Then push the POWER switch OFF. The locked forward button should remain locked. Next push the POWER switch ON. The forward button should still remain locked.
   - 3-4. Push the fast forward button. The button should lock. When the activated tension arm is released, the locked button should release itself.
   - 3-5. Push the fast forward button. Then push the stop button. At this time the locked button should release itself.
   - 3-6. Push the rewind button. The button should lock. When the activated tension arm is released, the locked button should release itself.
   - 3-7. Push the rewind button. Then push the stop button. At this time the locked button should release itself.



16. Tension Regulator Adjustment (Not normally performed)

Note: For this adjustment a super low frequency oscillator (3 Hz to 10 Hz) is required. Without the oscillator, do not perform this adjustment and only replace the defective parts. When adjusting adjustable resistors, turn them in the direction of increasing torque, so that the torque rises to the specified value.

1. Supply the rated power voltage.
2. Unsolder the three lead wires of the FG (frequency generator) coil in the supply reel motor M1, connect a super low frequency oscillator of 1 Vp-p output across R701 through a 100μF electrolytic capacitor.
3. Set TAPE SPEED switch to "9.5 cm 3¾" and REEL SIZE switch to "10".
4. Adjust the oscillator frequency so that the voltage between the emitter of Q712 transistor and the chassis ground is 9 volts in playback mode.
5. With the frequency adjusted in step 4, adjust R731 so that the supply motor torque is 250 g. cm (3.47 oz · inch).
6. Change the oscillator frequency to 10 Hz and adjust R717 so that the torque is 80 g. cm (1.11 oz · inch).
7. Change the oscillator frequency to 3.3 Hz and adjust R736 so that the torque is 310 g · cm (4.30 oz · inch).
8. Repeat steps 6 and 7 once more.
9. Set TAPE SPEED switch to "19 cm 7½" and change the oscillator frequency to 6.6 Hz. Then adjust R737 so that the torque is 310 g · cm (4.30 oz · inch).



2-2. ELECTRICAL ADJUSTMENTS

Precaution:

1. Clean the following parts with a swab moistened with alcohol:
   record head — pinch roller
   playback head — rubber belts
   erase head — idlers
   capstan — tape guides
2. Demagnetize record, playback and erase heads with a head demagnetizer.
3. Do not use magnetized screwdriver for adjustments.
4. After adjustments, apply locking compounds to the adjusted parts.
5. Adjustments should be performed in the order listed in this service manual.
6. Adjustments and measurements should be performed for each L and R channel with the rated power supply voltage unless otherwise specified.
7. Switches and controls, which are not given in "Settings" for the each adjustment, can be set in any modes or positions. Power switch, however, should be ON unless otherwise noted.

Test Equipment/Tools Required:

audio oscillator (af osc)
VTVM
VOM
attenuator (600Ω)
digital frequency counter or speed checker (SONY LFM-30)
oscilloscope
resistors: 600 Ω, 10 kΩ, 100 kΩ
SONY test tape
J-19-F2

Tone:	1	2	3	4	5	6	7
Frequency: (Hz)	400	400	10 k	12.5 k	7 k	80	40
Level (dB):	0	-10	-10	-10	-10	-10	-10

J-19-A2 (12.5 kHz, -10 dB)
SPC-47 (4 kHz, 0 dB)
blank tapes (completely erased)
NPS-1 (for NORMAL record)
SLH-S1 (for SPECIAL record)

Normal Input Level

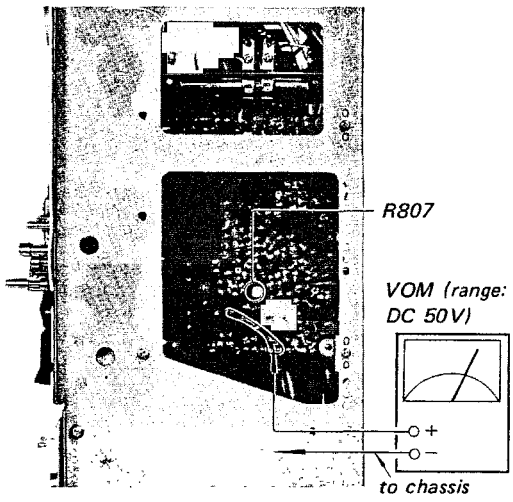
	Impedance	Level
MIC	300 Ω	-60 dB (0.77 mV)
LINE IN	10 kΩ	-10 dB (0.25 V)

Normal Output Level

	Load Impedance	Level
LINE OUT	100 kΩ	-5 dB (0.44 V)
HEADPHONES	8 Ω	-28 dB (31 mV)

1. B + 25 V Adjustment

Settings:



Procedure:

Adjust R807 for 25 V DC on VOM.

Note: The ripple voltage should be less than 1 mV p-p.

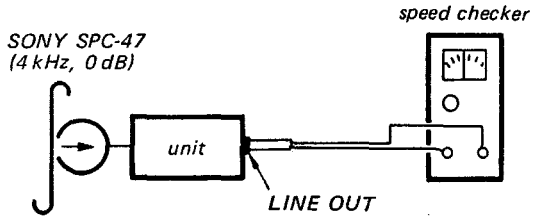
2. Tape Speed Adjustment

Settings:

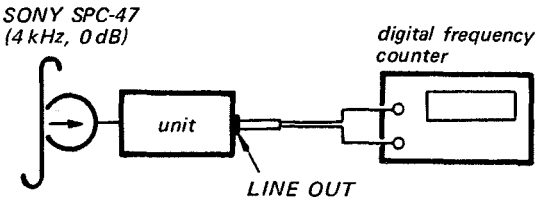
REEL SIZE switch:	7
TAPE SPEED switch:	19 cm, 7½ and 9.5 cm, 3¾
EQ (TAPE SELECT) switch:	NORMAL
MONITOR switch:	TAPE
PB LEVEL control:	mechanical mid

Procedure:

Mode: playback

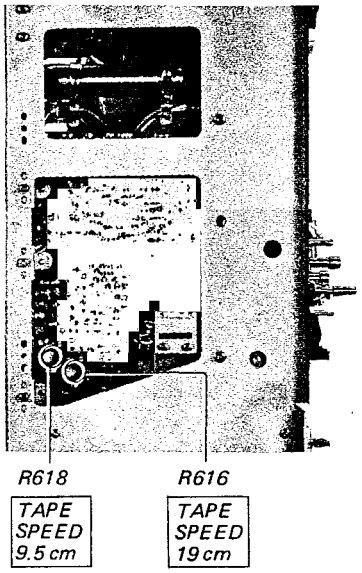


or



TAPE SPEED	Adjust	Specification	
		speed checker	digital frequency counter
19 cm, 7½	R616	-1 ~ +1%	3,960 ~ 4,040 Hz
9.5 cm, 3¾	R618	-1 ~ +1%	1,980 ~ 2,020 Hz

Adjustment Location:



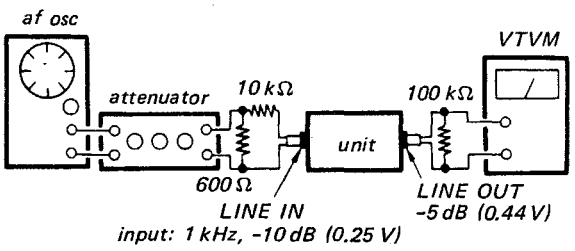
3. Meter Level Adjustment

Settings:

EQ (TAPE SELECT) switch:	NORMAL
MONITOR switch:	SOURCE
PB LEVEL control:	mechanical mid

Procedure:

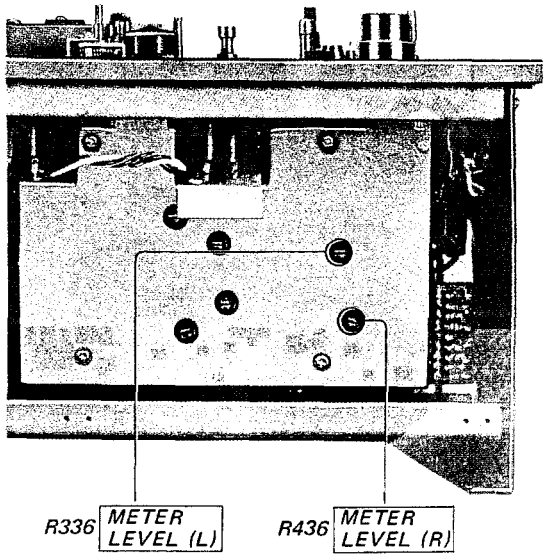
1. Calibrate the level meters for 0 % indication with POWER switch OFF.
2. Adjust LINE IN control for -5 dB (0.44 V).



3.

Adjust	Remarks
R336 (L channel)	0 VU on the level meters
R436 (R channel)	

Adjustment Location:



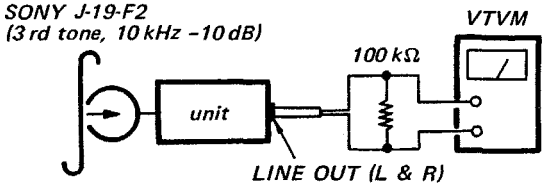
4. Playback Head Angle Adjustment

Settings:

REEL SIZE switch:	7
TAPE SPEED switch:	19 cm, 7½
EQ (TAPE SELECT) switch:	NORMAL
MONITOR switch:	TAPE
PB LEVEL control:	mechanical mid

Procedure:

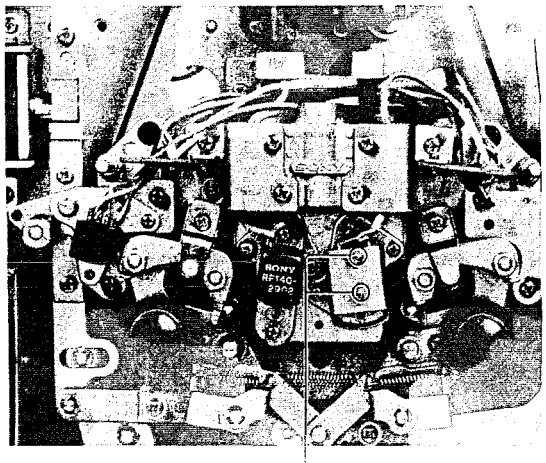
Mode: playback



Loosen the adjustment screws and correctly position the playback head for the highest VTVM reading.

Note: Slightly touch the supply reel and at this time the VTVM reading deviation should be less than 1 dB.

Adjustment Location:



playback head angle adjustment screws.

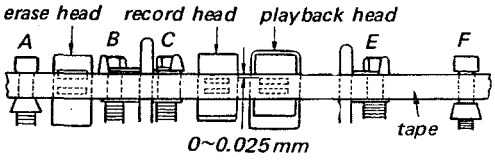
5. Playback Head Height Adjustment

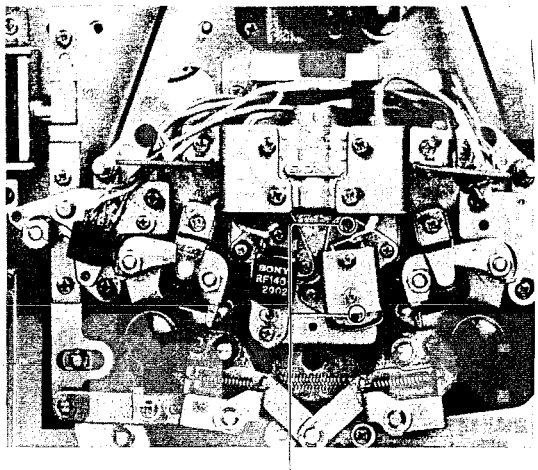
Settings:

REEL SIZE switch:	7
TAPE SPEED switch:	19 cm, 7½

Procedure:

Play back a tape and align the tape edge and the playback head core as shown by turning the height and zenith adjustment screws.





playback head height and zenith adjustment screws.

6. Playback Head Azimuth and Phase Adjustments

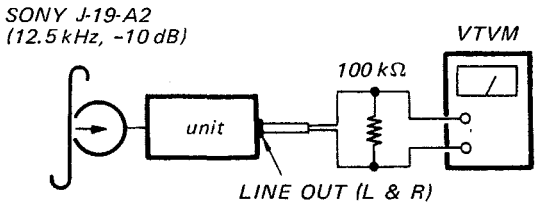
Settings:

REEL SIZE switch:	7
TAPE SPEED switch:	19 cm, 7½
EQ (TAPE SELECT) switch:	NORMAL
MONITOR switch:	TAPE
PB LEVEL control:	mechanical mid

Procedure:

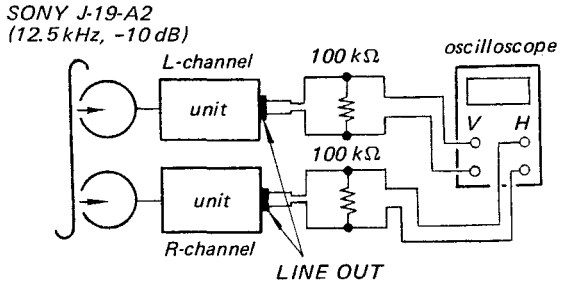
If an oscilloscope is available, employ Procedure 2. If a simplified test is to be made, follow Procedure 1.

1. Mode: playback



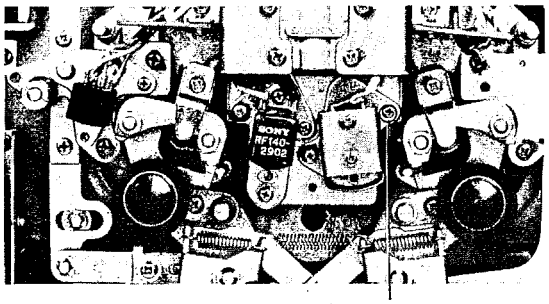
Turn the adjustment screw shown in the photo below for the highest VTVM reading. If the highest peaks for L and R do not coincide, place the adjustment screw to the mechanical mid of the two positions for the peaks.

2. Mode: playback



Adjust	On the oscilloscope			
azimuth adjustment screw	in-phase	30°	90°	more than 90°
	good			wrong

Adjustment Location:



playback head azimuth adjustment screw.

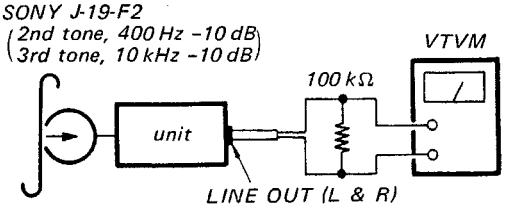
7. Playback Equalizer Adjustment

Settings:

REEL SIZE switch:	7
TAPE SPEED switch:	19 cm, 7½
EQ (TAPE SELECT) switch:	NORMAL
MONITOR switch:	TAPE
PB LEVEL control:	mechanical mid

Procedure:

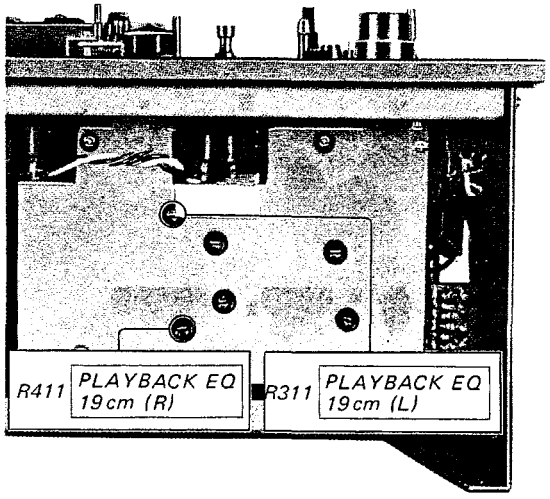
Mode : playback



	Adjust	VTVM reading
2nd tone 400 Hz	PB LEVEL control	0 dB (0.775 V)
3rd tone 10 kHz	R311 (L channel) R411 (R channel)	-0.5 dB (0.73 V)

Specification for your reference in case of a more detailed test:

J-19-F2 (TAPE SPEED: 19 cm, 7½)		J-9-F1 (TAPE SPEED: 9.5cm, 3¾)	
400 Hz	0 dB (standard)	400 Hz	0 dB (standard)
10 kHz	-0.5 ± 1 dB	5 kHz	0 ± 2 dB
12.5 kHz	-0.5 ± 1.5 dB	3 kHz	0 ± 1.5 dB
7 kHz	-0.5 ± 1.5 dB	200 Hz	0 ± 1.5 dB
80 Hz	+2 ± 2 dB	80 Hz	+1 ± 2 dB
40 Hz	+1.5 ± 2 dB		



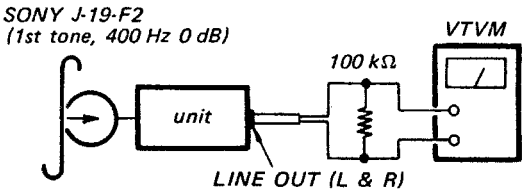
8. Playback Level Adjustment

Settings:

REEL SIZE switch:	7
TAPE SPEED switch:	19 cm, 7½
EQ (TAPE SELECT) switch:	NORMAL
MONITOR switch:	TAPE
PB LEVEL control:	mechanical mid

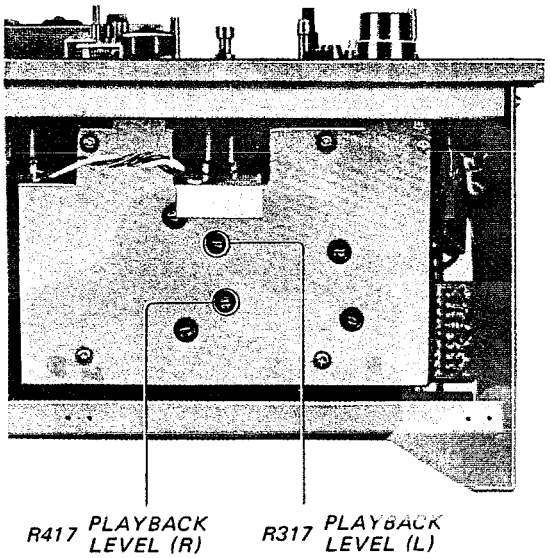
Procedure:

Mode: playback



Adjust	VTVM reading
R317 (L channel) R417 (R channel)	-5 dB (0.44V) allowance : ±1 dB

Note: 1. Turn the EQ (TAPE SELECT) switch to SPECIAL position and make sure that the output level lowers by 2.4 ± 1 dB.
2. Difference between L and R channels should be within 1 dB.



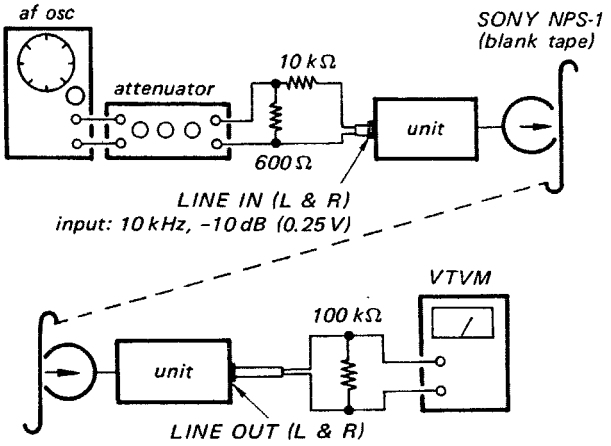
9. Record Head Angle Adjustment

Settings:

REEL SIZE switch:	7
TAPE SPEED switch:	19 cm, 7½
BIAS (TAPE SELECT) switch:	NORMAL
EQ (TAPE SELECT) switch:	NORMAL
MONITOR switch:	TAPE
LINE IN control:	mechanical mid
PB LEVEL control:	mechanical mid

Procedure:

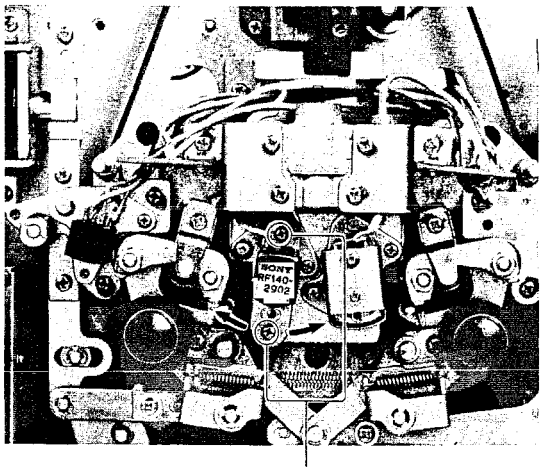
Mode: record and simultaneous playback



Loosen the adjustment screws and correctly position the record head for the highest VTVM reading.

Note: Slightly touch the supply reel and at this time the VTVM reading deviation should be less than 1 dB.

Adjustment Location:



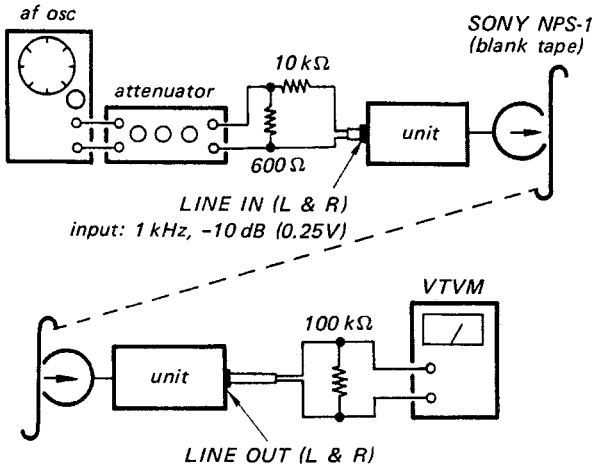
10. Record Head Height Adjustment

Settings:

REEL SIZE switch:	7
TAPE SPEED switch:	19 cm, 7½
BIAS (TAPE SELECT) switch:	NORMAL
EQ (TAPE SELECT) switch:	NORMAL
MONITOR switch:	TAPE
LINE IN control:	mechanical mid
PB LEVEL control:	mechanical mid

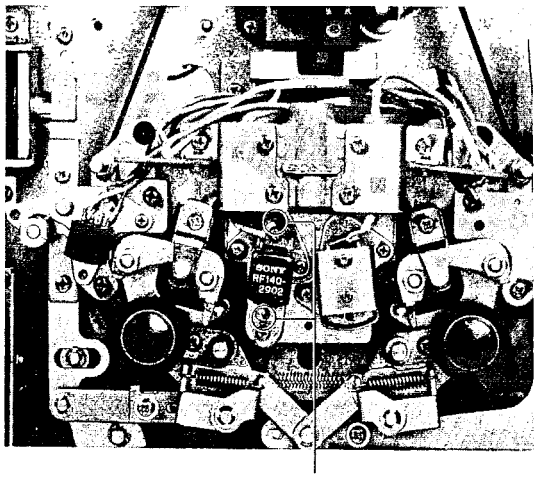
Procedure:

Mode: record and simultaneous playback



Turn the height and zenith adjustment screws for the highest VTVM reading.

Adjustment Location:



record head height and zenith adjustment screws

11. Record Head Azimuth and Phase Adjustments

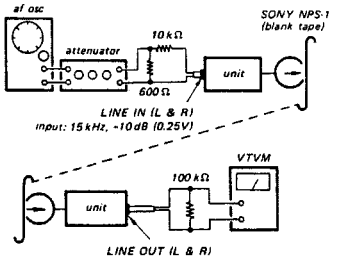
Settings:

REEL SIZE switch:	7
TAPE SPEED switch:	19 cm, 7½
BIAS switch:	NORMAL
TAPE SELECT (EQ) switch:	NORMAL
MONITOR switch:	TAPE
LINE IN control:	mechanical mid
PB LEVEL control:	mechanical mid

Procedure:

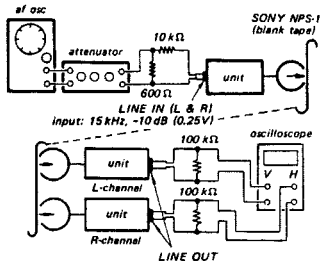
When an oscilloscope is available, employ Procedure 2. When a simplifed test is made, follow Procedure 1.

1. Mode: record and simultaneous playback



Turn the adjustment screw for the highest VTVM reading. If the highest peaks for L and R do not coincide, place the adjustment screw to the mechanical mid of the two positions for the peaks.

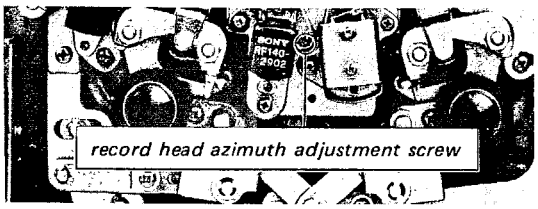
2. Mode: record and simultaneous playback



Adjust	On the oscilloscope			
azimuth adjustment screw	in-phase	30°	90°	more than 90°
	good			wrong

Note: Difference between the highest levels of L and R and the finally adjusted level should be within 1 dB.

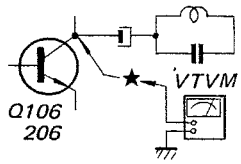
Adjustment Location:

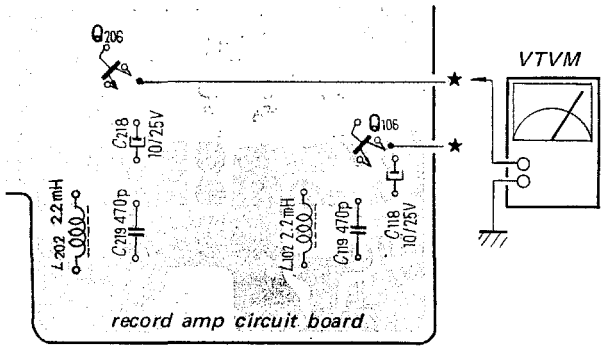


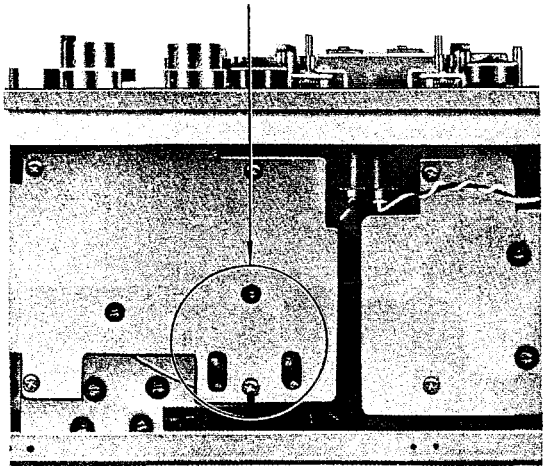
record head azimuth adjustment screw

12. Bias Trap Adjustment

Settings:



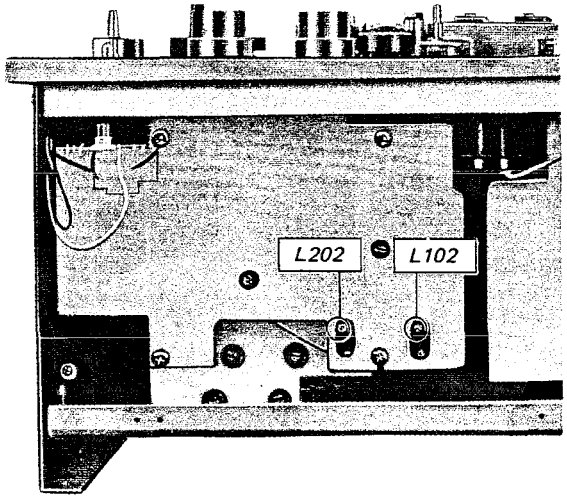




Procedure:

In record mode turn L102 (L-channel) and L202 (R-channel) for the lowest VTVM reading (–40 dB (7.7 mV) or less).

Adjustment Location:



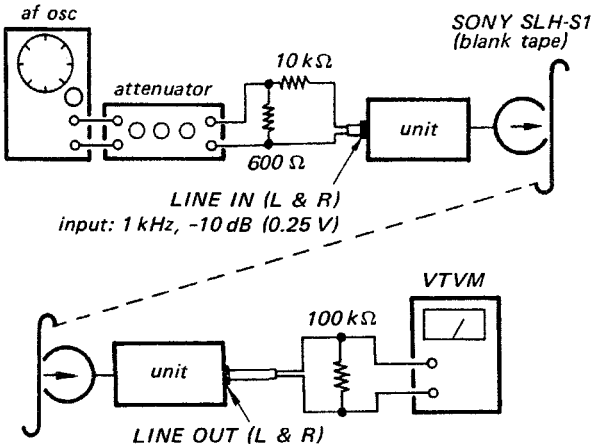
13. Record Bias Adjustment

Settings:

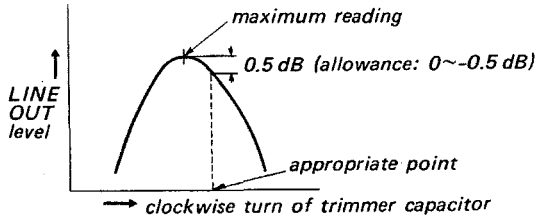
REEL SIZE switch:	7
TAPE SPEED switch:	19 cm 7½
BIAS (TAPE SELECT) switch:	NORMAL
EQ (TAPE SELECT) switch:	SPECIAL
MONITOR switch:	TAPE
LINE IN control:	mechanical mid
PB LEVEL control:	mechanical mid

Procedure:

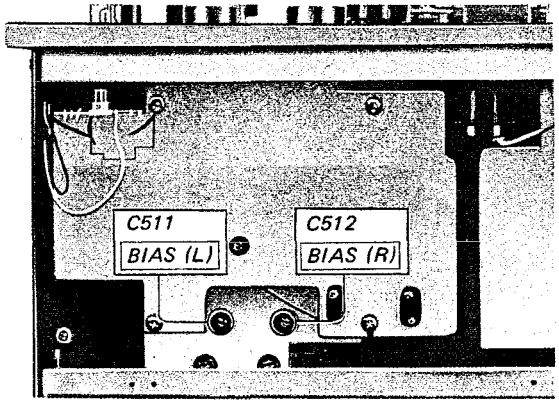
Mode: record and simultaneous playback



As trimmer capacitor C511 (L-channel) or C512 (R-channel) is slowly turned clockwise, VTVM reading will go up to a maximum and then start falling again. Adjust the capacitor until VTVM reads 0.5 dB below and beyond the maximum reading.



Adjustment Location:



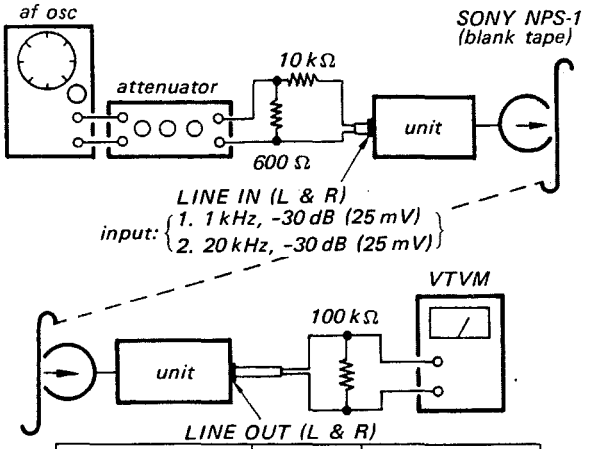
14. Overall Frequency Response (NORMAL RECORD EQ) Adjustment

Settings:

REEL SIZE switch:	7
TAPE SPEED switch:	19 cm 7½
BIAS (TAPE SELECT) switch:	NORMAL
EQ (TAPE SELECT) switch:	NORMAL
MONITOR switch:	TAPE
LINE IN control:	mechanical mid
PB LEVEL control:	mechanical mid

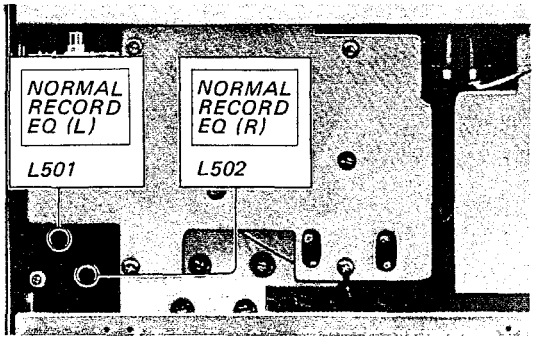
Procedure:

Mode: record and simultaneous playback



Adjust	Output	VTVM reading
L501 (L channel)	1 kHz	reference
L502 (R channel)	20 kHz	-1 dB (0.69 V)

Adjustment Location:



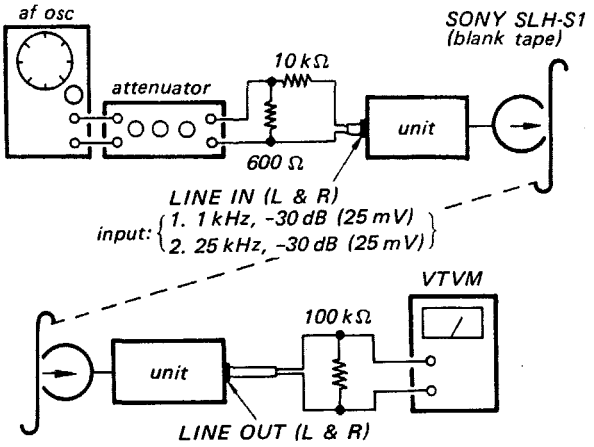
15. Overall Frequency Response (SPECIAL RECORD EQ) Adjustment

Settings:

REEL SIZE switch:	7
TAPE SPEED switch:	19 cm 7½
BIAS (TAPE SELECT) switch:	NORMAL
EQ (TAPE SELECT) switch:	SPECIAL
MONITOR switch:	TAPE
LINE IN control:	mechanical mid
PB LEVEL control:	mechanical mid

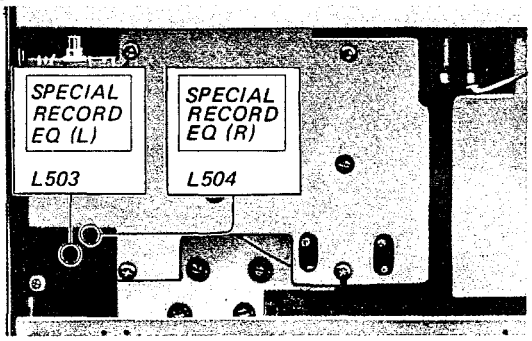
Procedure:

Mode: record and simultaneous playback



	Adjust	Remarks
1 kHz	L503 (L channel) and L504 (R channel)	Same LINE OUT level at both frequencies.
25 kHz		

Adjustment Location:



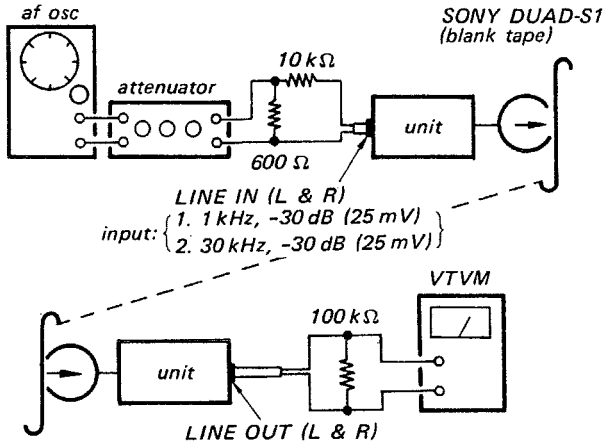
16. Overall Frequency Response (Fe-Cr RECORD EQ) Adjustment

Settings:

REEL SIZE switch:	7
TAPE SPEED switch:	19 cm 7½
BIAS (TAPE SELECT) switch:	NORMAL
EQ (TAPE SELECT) switch:	Fe-Cr
MONITOR switch:	TAPE
LINE IN control:	mechanical mid
PB LEVEL control:	mechanical mid

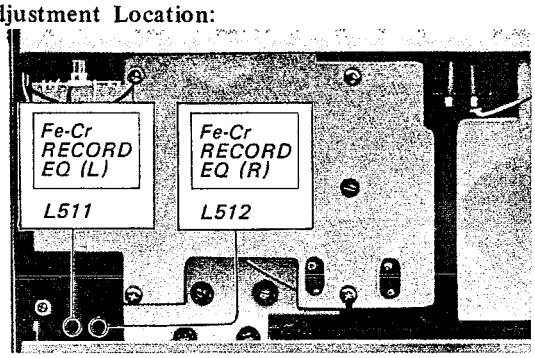
Procedure:

Mode: record and simultaneous playback



Adjust	Output	VTVM reading
L511 (L channel)	1 kHz	reference
L512 (R channel)	30 kHz	-1 dB (0.69 V)

Adjustment Location:



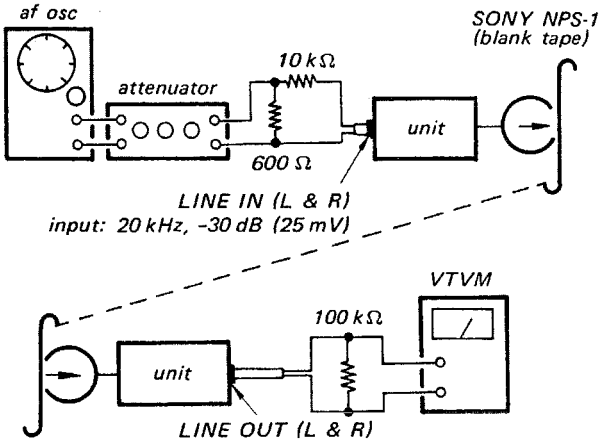
17. Dummy Coil Adjustment

Settings:

REEL SIZE switch:	7
TAPE SPEED switch:	19 cm, 7½
BIAS (TAPE SELECT) switch:	NORMAL
EQ (TAPE SELECT) switch:	NORMAL
MONITOR switch:	TAPE
LINE IN control:	mechanical mid
PB LEVEL control:	mechanical mid

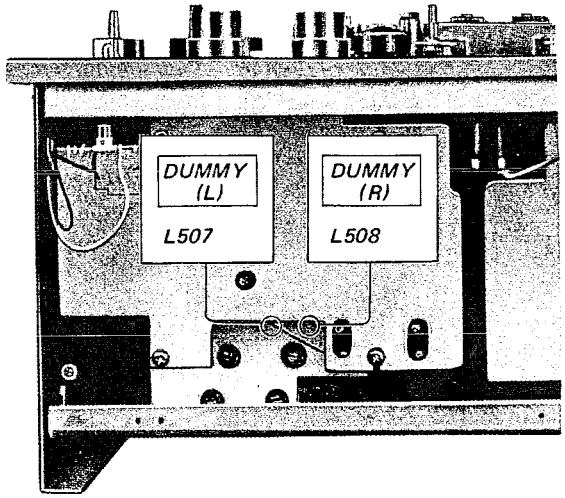
Procedure:

Mode: record and simultaneous playback



Step	Mode	Adjust	Remarks
1	stereo record and simultaneous playback	—	same VTVM reading
2	L channel record and simultaneous playback	L508	
3	R channel record and simultaneous playback	L507	

Adjustment Location:



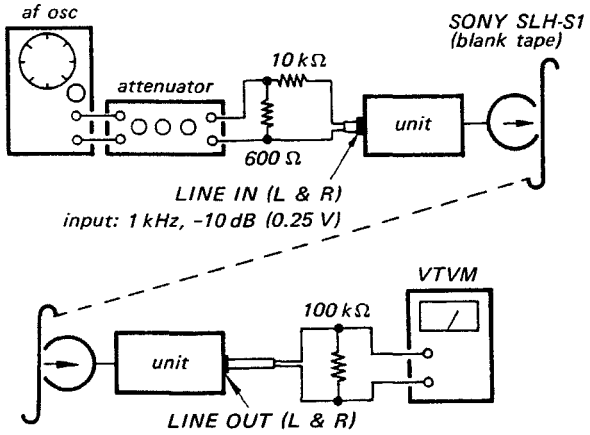
18. Record Level Adjustment

Settings:

REEL SIZE switch:	7
TAPE SPEED switch:	19 cm, 7½
BIAS (TAPE SELECT) switch:	NORMAL
EQ (TAPE SELECT) switch:	SPECIAL
MONITOR switch:	TAPE
LINE IN control:	mechanical mid
PB LEVEL control:	mechanical mid

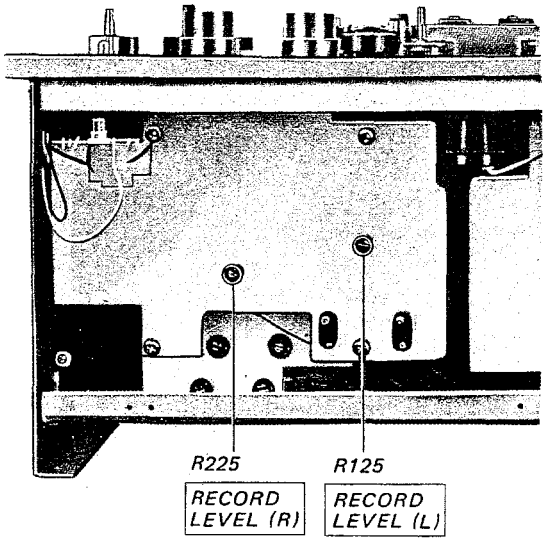
Procedure:

Mode: record and simultaneous playback



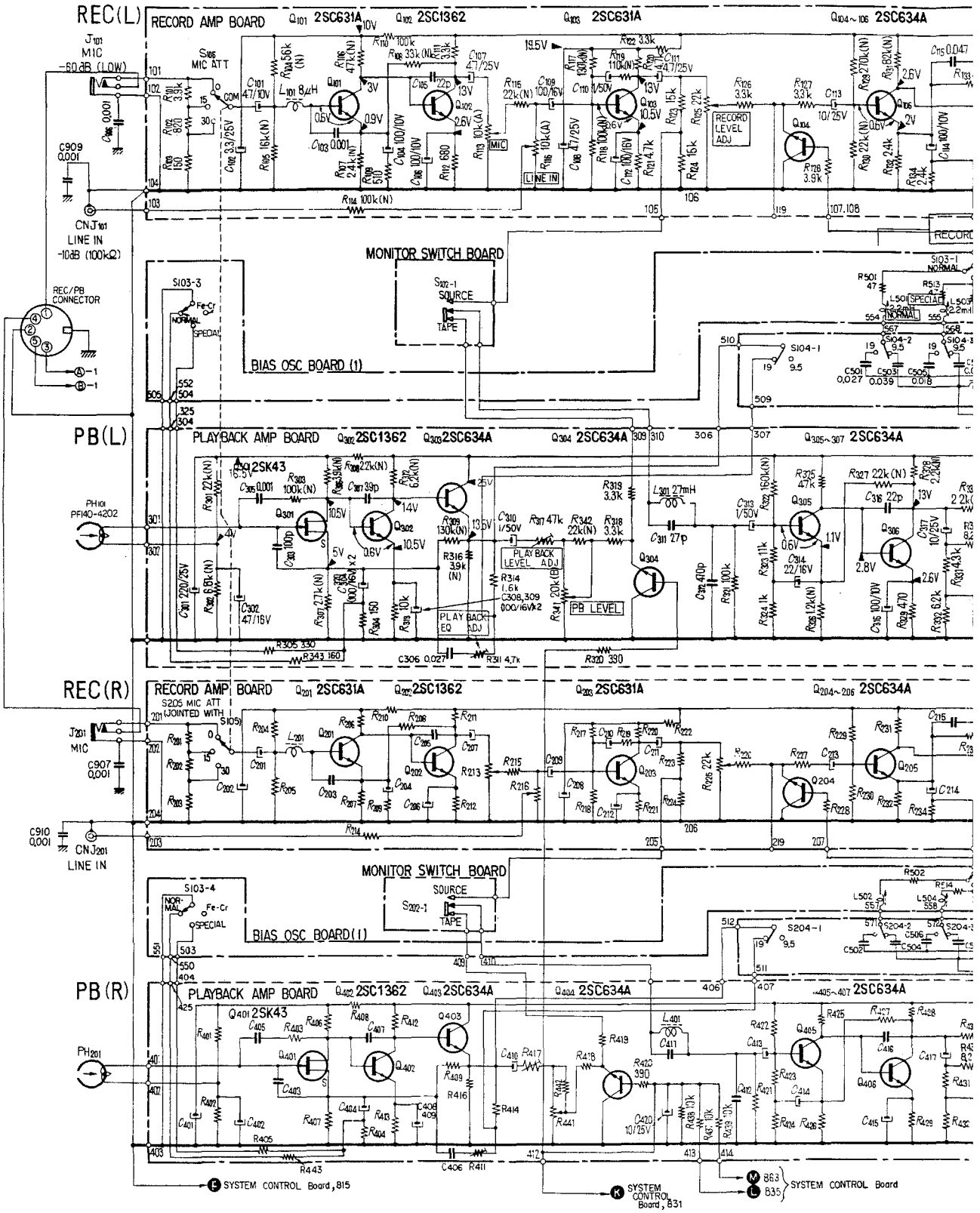
Adjust	VTVM reading
R125 (L channel) R225 (R channel)	- 5 dB (0.44 V)

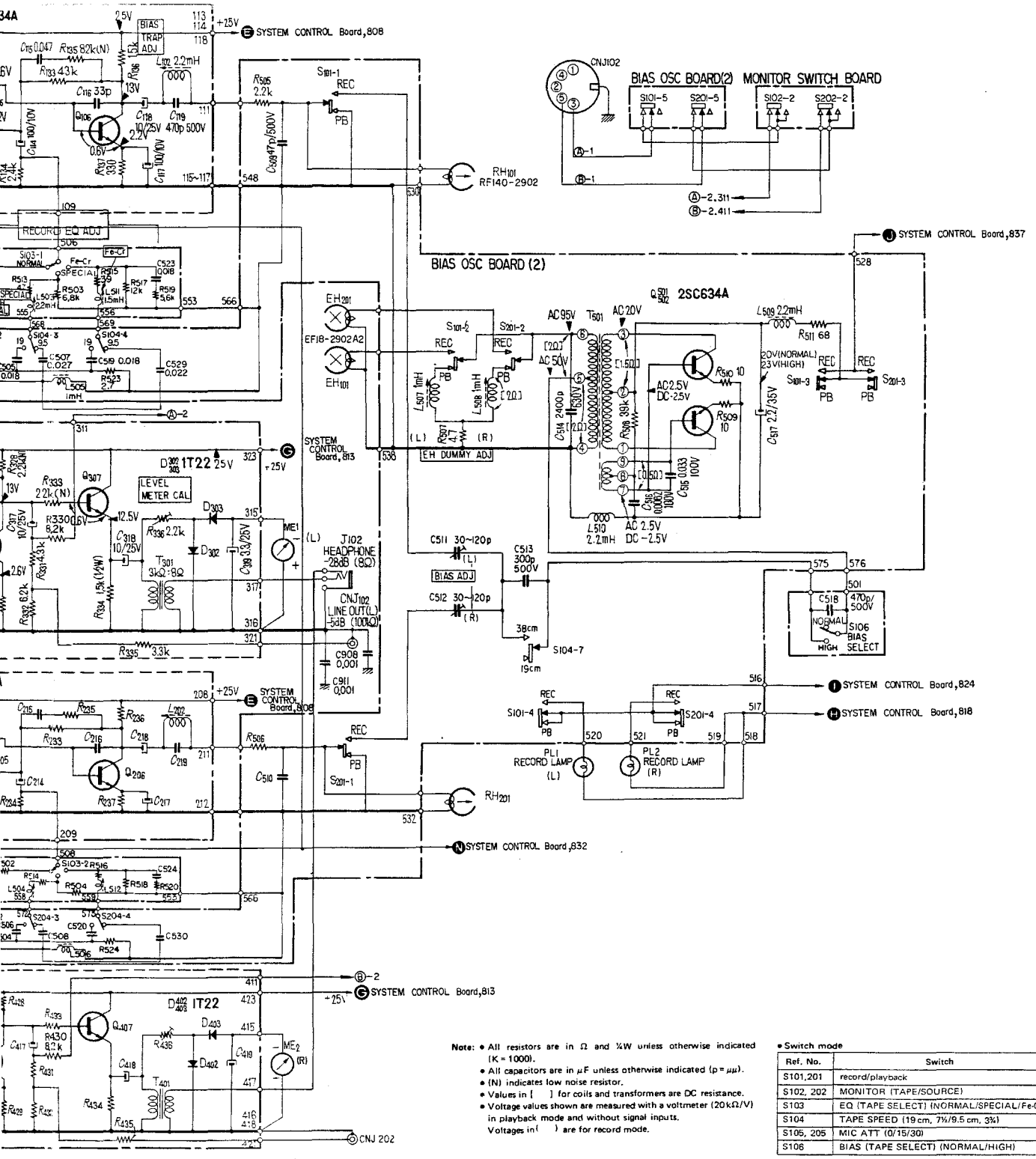
Adjustment Location:



SECTION 3
DIAGRAMS

3-1. SCHEMATIC DIAGRAM – AMP SECTION –





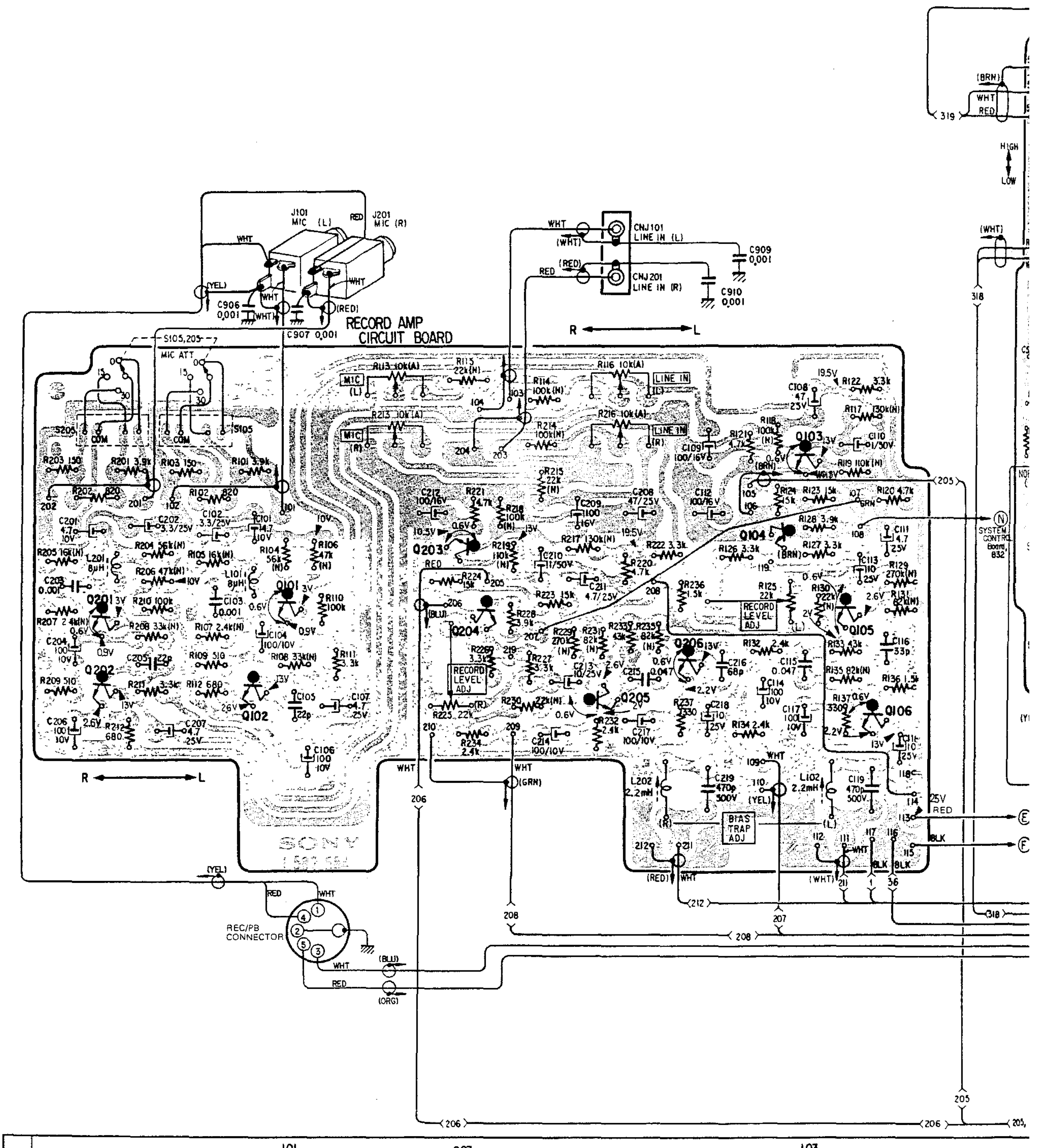
Note:
- All resistors are in Ω and ¼W unless otherwise indicated (K = 1000).
- All capacitors are in μF unless otherwise indicated (p = μμ).
- (N) indicates low noise resistor.
- Values in [ ] for coils and transformers are DC resistance.
- Voltage values shown are measured with a voltmeter (20kΩ/V) in playback mode and without signal inputs. Voltages in ( ) are for record mode.

• Switch mode

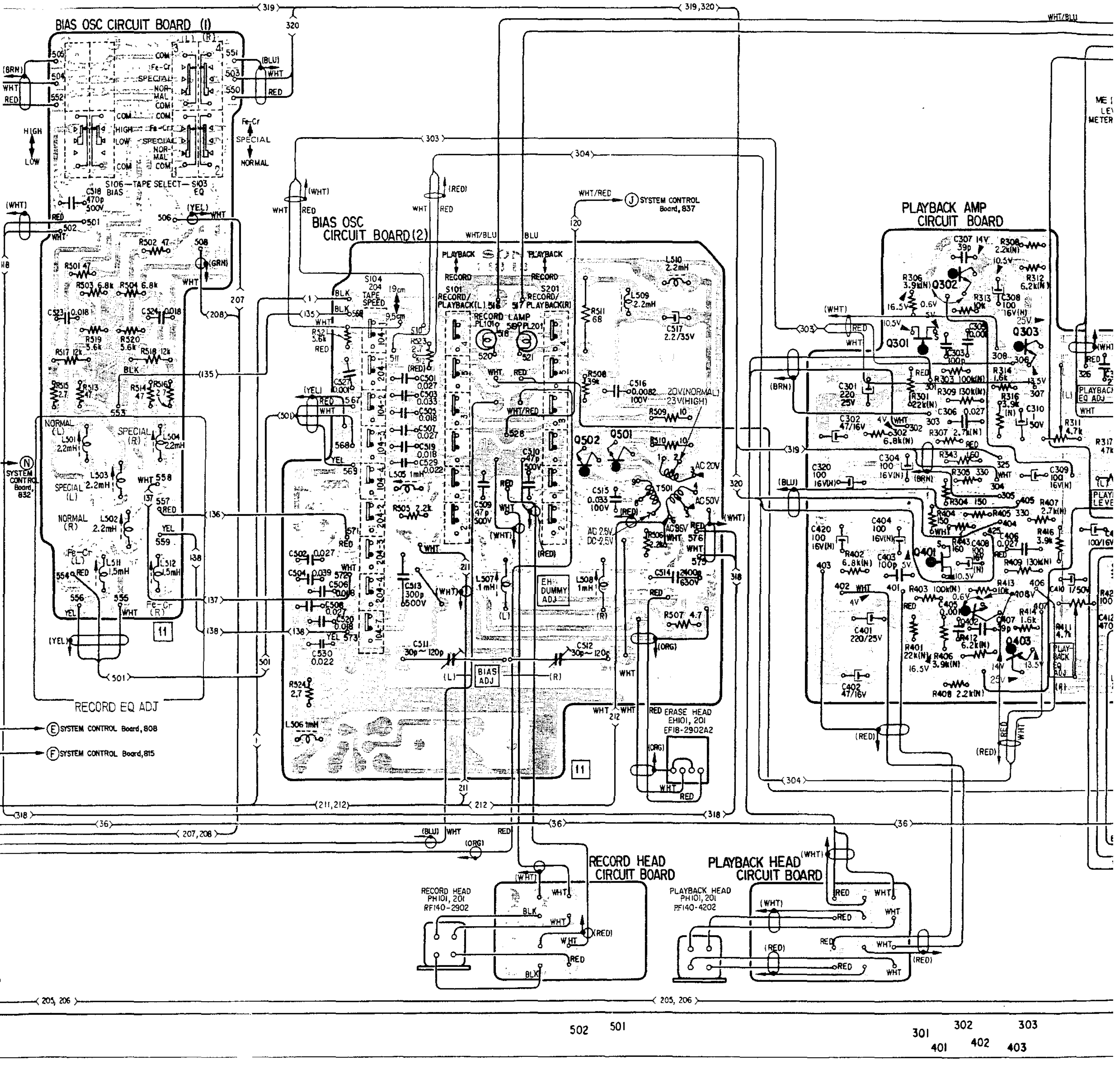
Ref. No.	Switch	Mode
S101,201	record/playback	playback
S102, 202	MONITOR (TAPE/SOURCE)	TAPE
S103	EQ (TAPE SELECT) (NORMAL/SPECIAL/Fe-Cr)	NORMAL
S104	TAPE SPEED (19 cm, 7½/9.5 cm, 3¾)	19 cm, 7½
S105, 205	MIC ATT (0/15/30)	0
S106	BIAS (TAPE SELECT) (NORMAL/HIGH)	NORMAL

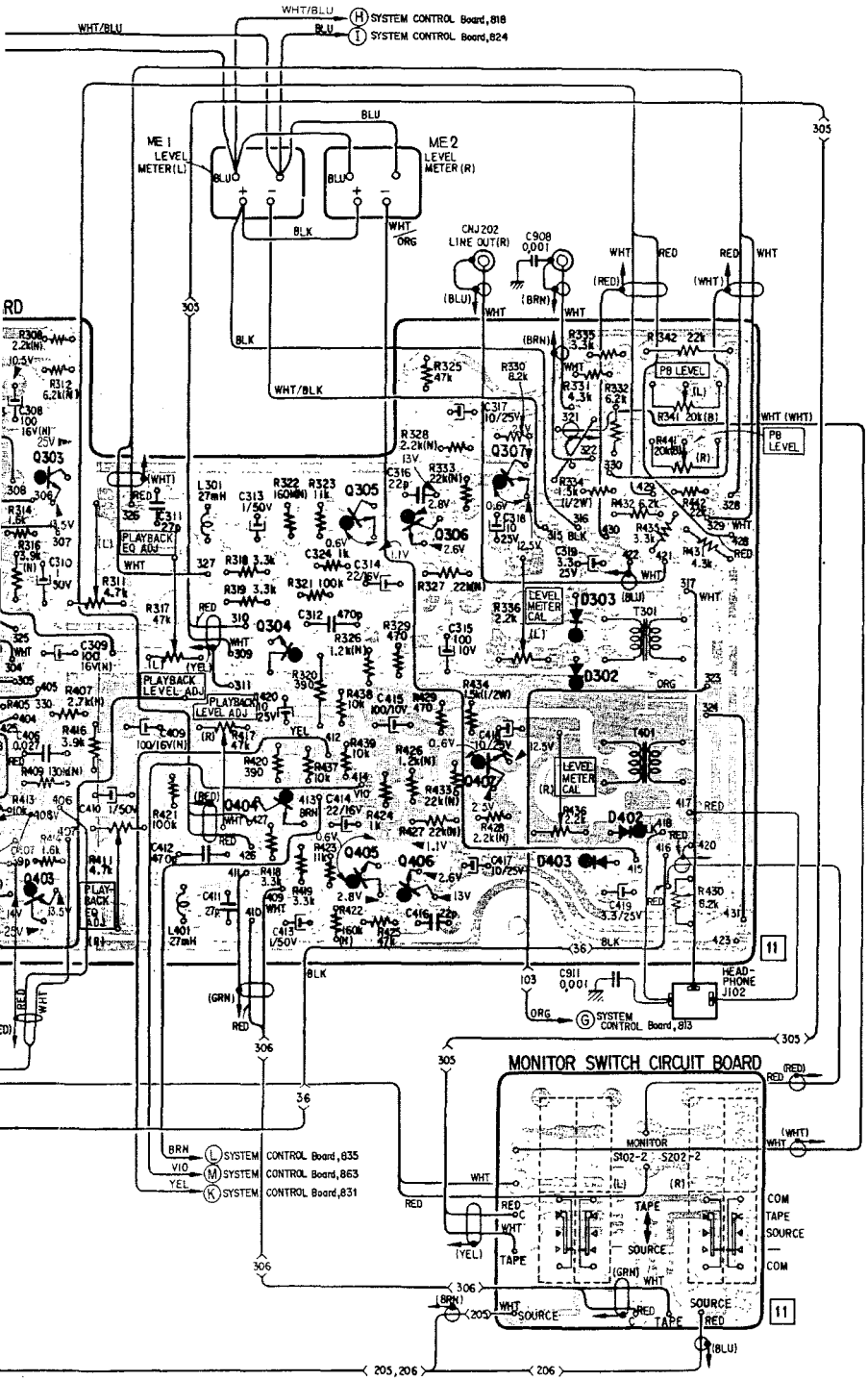
3-2. MOUNTING DIAGRAM – AMP SECTION –

– Conductor Side –



Q	201 202	101 102	203 204	205	206	104	103 105 106
D							

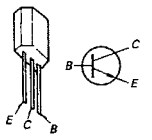

BIAS OSC CIRCUIT BOARD (1)
BIAS OSC CIRCUIT BOARD (2)
PLAYBACK AMP CIRCUIT BOARD
RECORD HEAD CIRCUIT BOARD
PLAYBACK HEAD CIRCUIT BOARD
RECORD EQ ADJ
SYSTEM CONTROL Board, 808
SYSTEM CONTROL Board, 815
SYSTEM CONTROL Board, 837
S106—TAPE SELECT—S103
ERASE HEAD EH101, 201 EF18-2902A2
RECORD HEAD PH101, 201 RF140-2902
PLAYBACK HEAD PH101, 201 RF140-4202
RECORD LAMP
BIAS ADJ
EH DUMMY ADJ
502 501
301 302 303
401 402 403



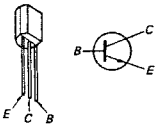
303	304	305	306	307		Q
403	404	405	406	407		
					303 302 403 402	D

2SC631A: { Q101,103 Q201,203

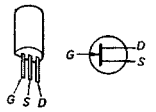
2SC634A: { Q104,105,106 Q204,205,206 Q303,304,305 Q306,307 Q403,404,405 Q406,407 Q501,502



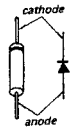
2SC1362: { Q102,202 Q302,402



2SK43: Q301,401

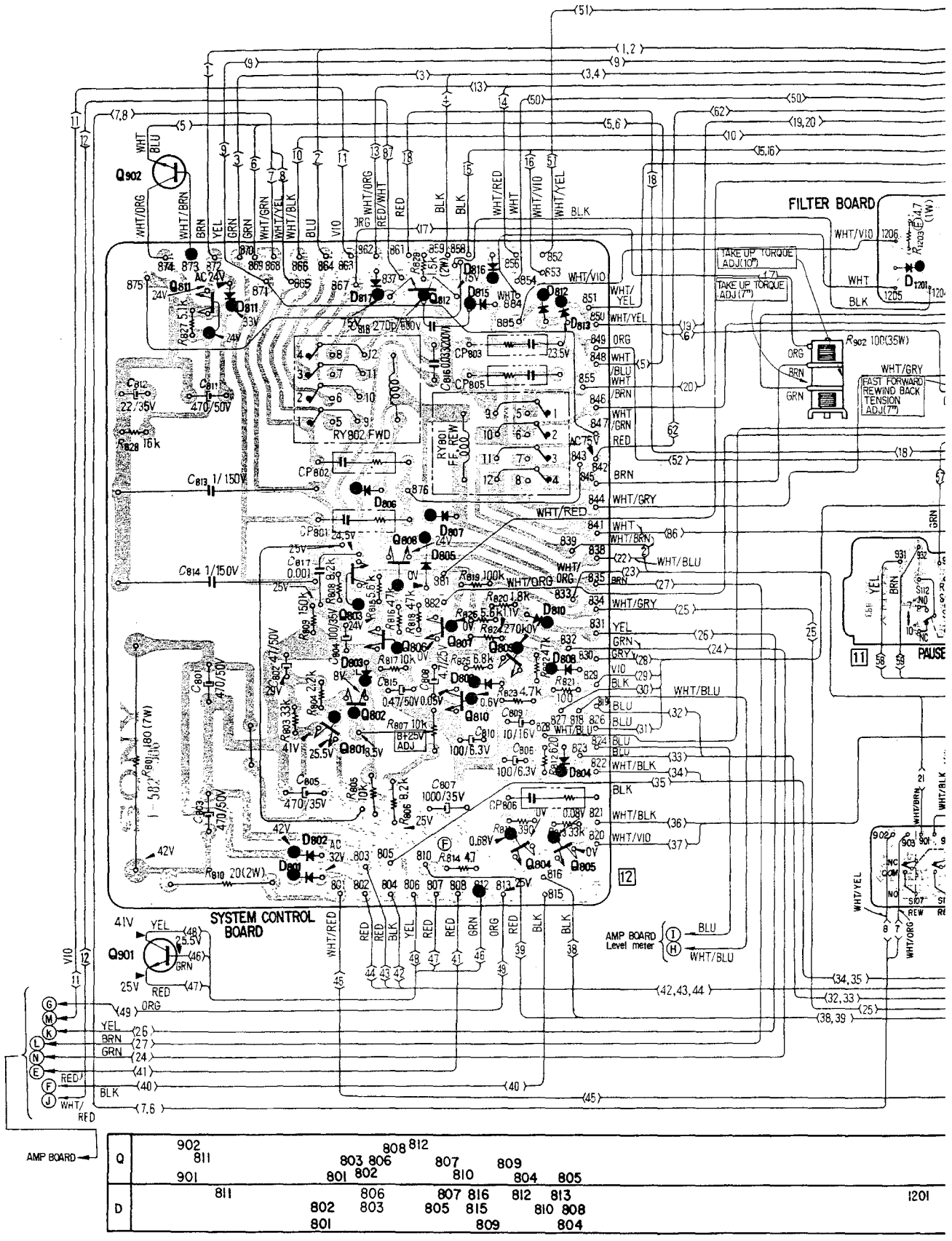


1T22: { D302,303 D402,403

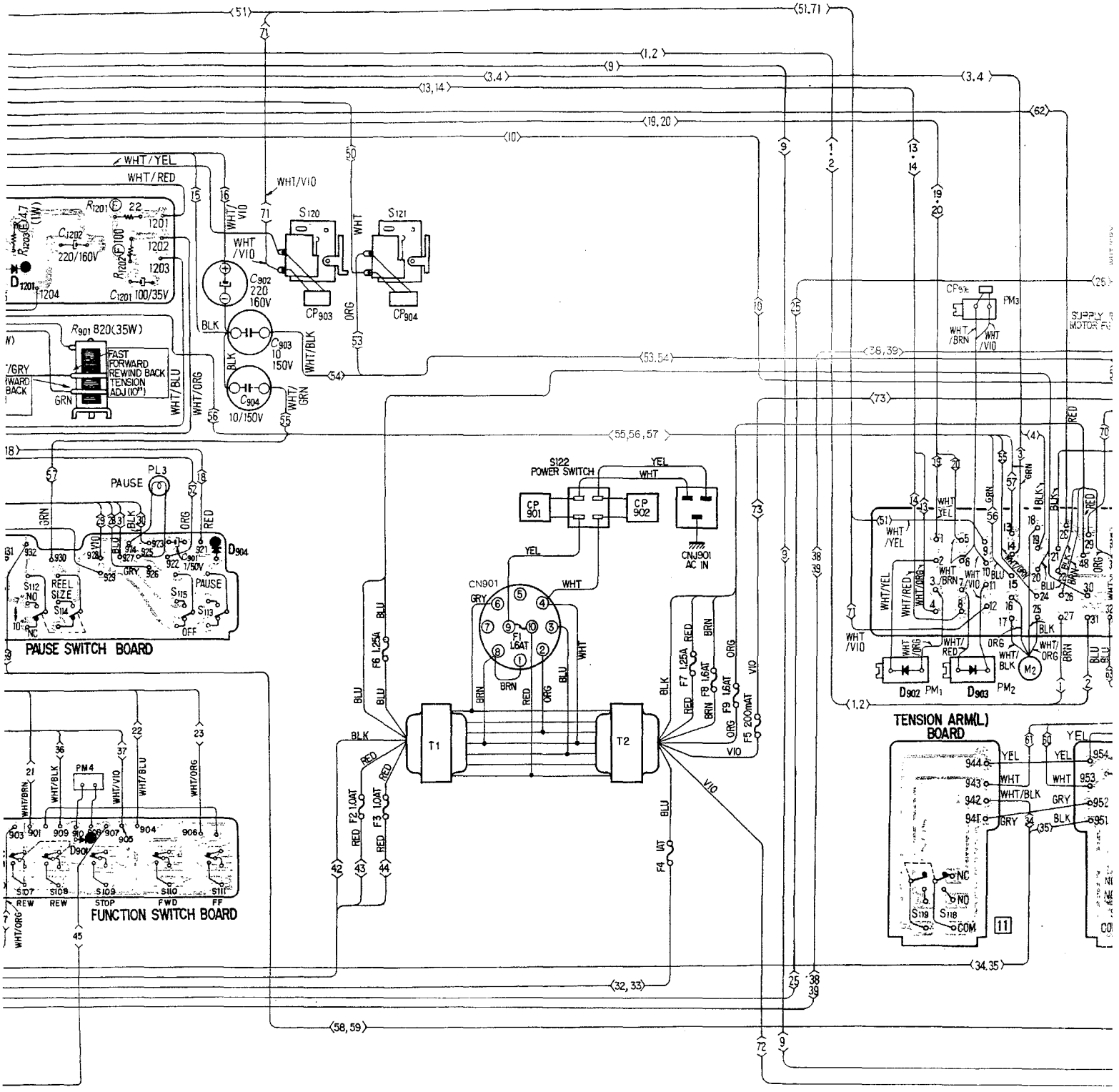


3-3. MOUNTING DIAGRAM – SYSTEM CONTROL SECTION –

– Conductor Side –

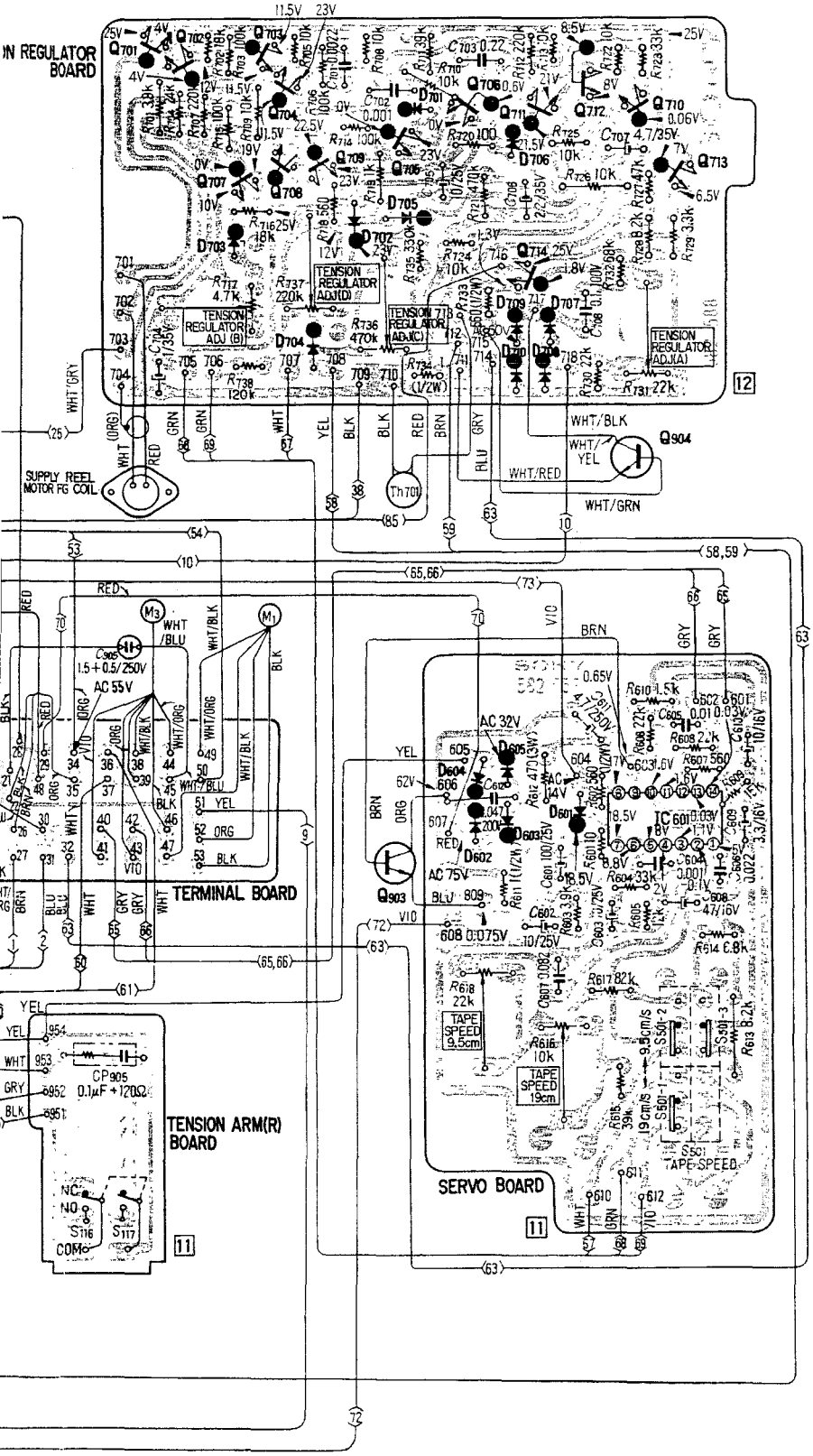


TENSION REGULAT
BOA

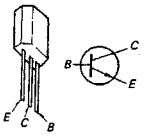


1201 904 902 903

901

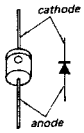


2SC634A: Q701~713, Q801~811

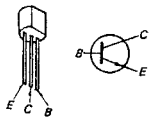


10D-2: D601~605, D707~710, D801,802,806,807, D811~813, D815,816, D901~903

10D-4: D817,904



2SC1384: Q714

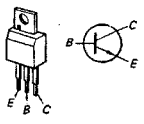


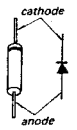
1T40: D701,702, D804,805,808

1T22: D809,810

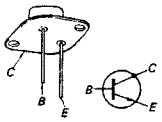
1T22A: D705,706

2SC1124: Q812

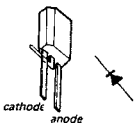




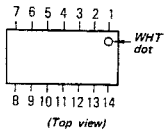
2SC867: Q903,904
2SD291: Q901,902



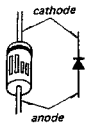
MZ12A: D704
MZ08: D703,803



CX032B: IC601

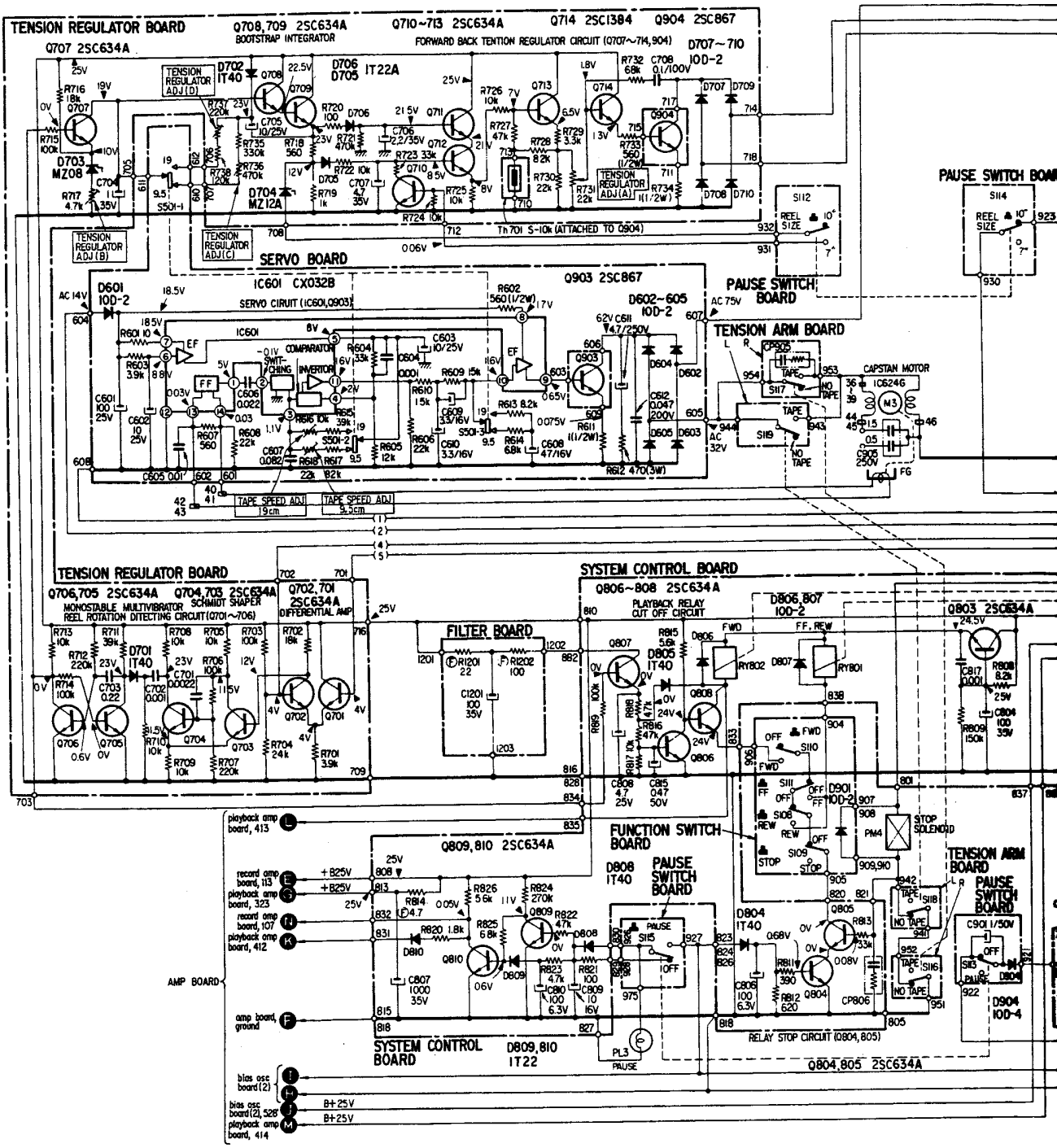


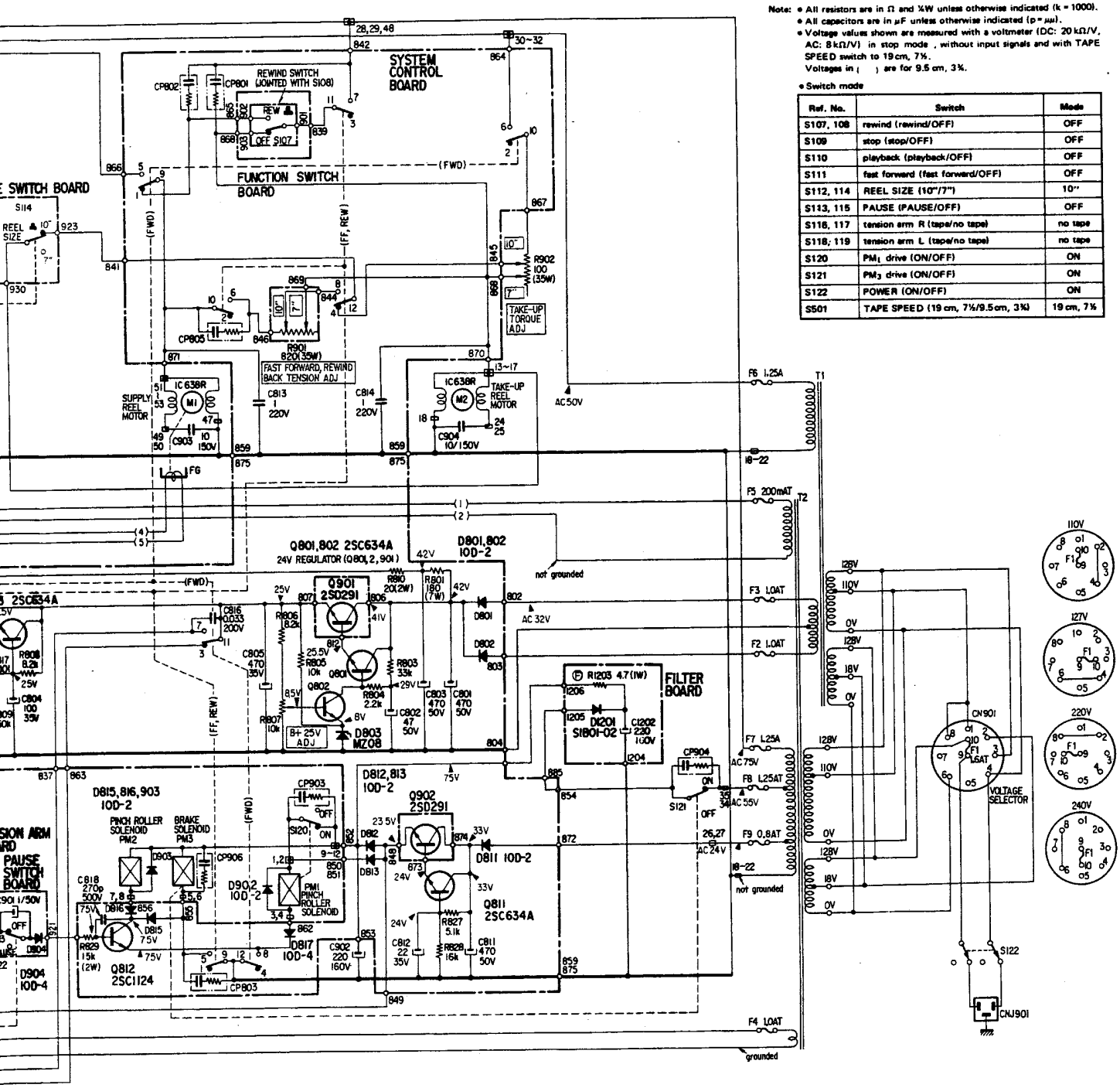
SIB01-02: D1201



601	IC
701 702 703 711 712 710 707 704 709 705 706 714 713 708 903 904	Q
702 701 706 707 703 704 705 604 605 709 708 602 603 710 601	D

3-4. SCHEMATIC DIAGRAM – SYSTEM CONTROL SECTION –



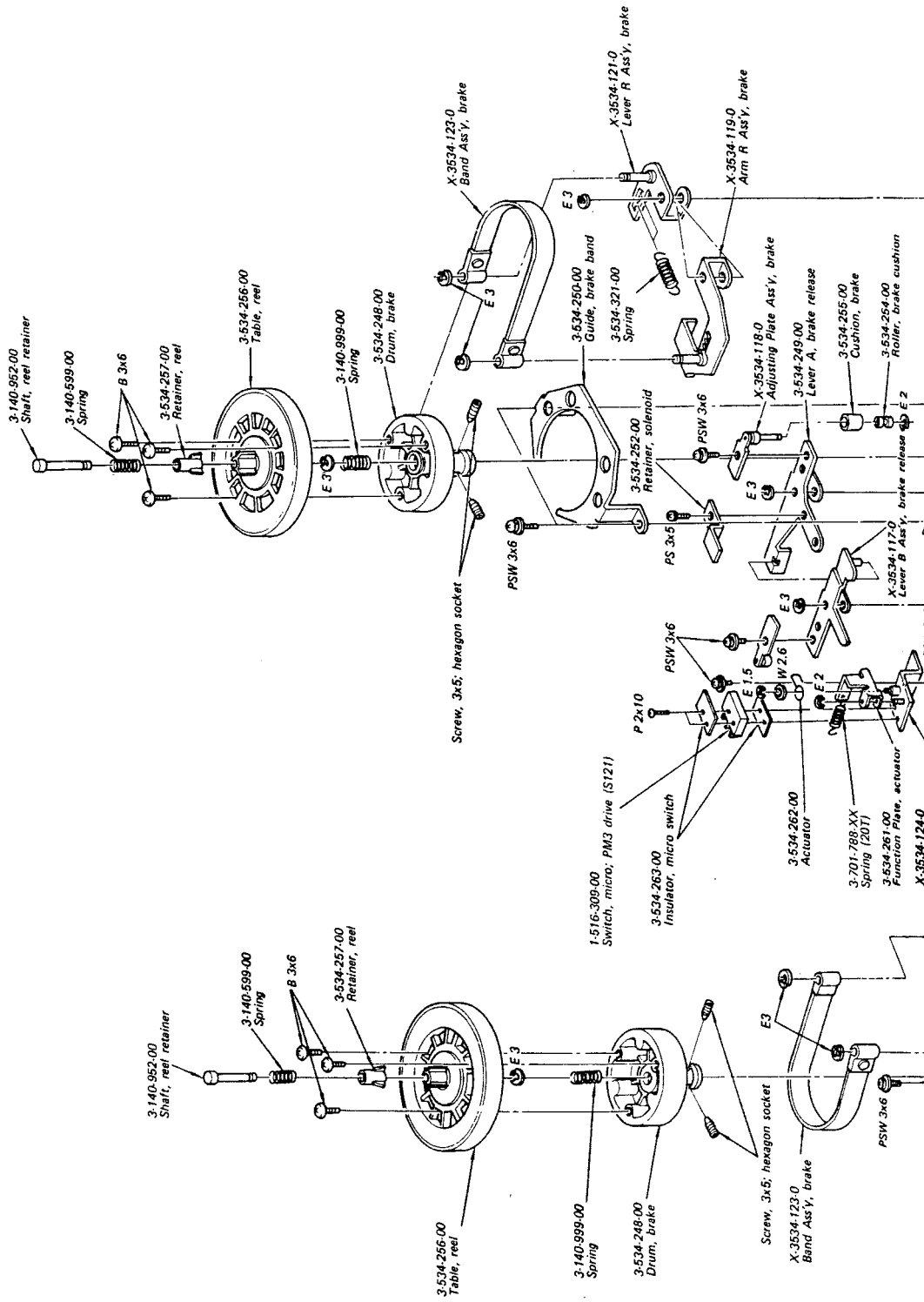


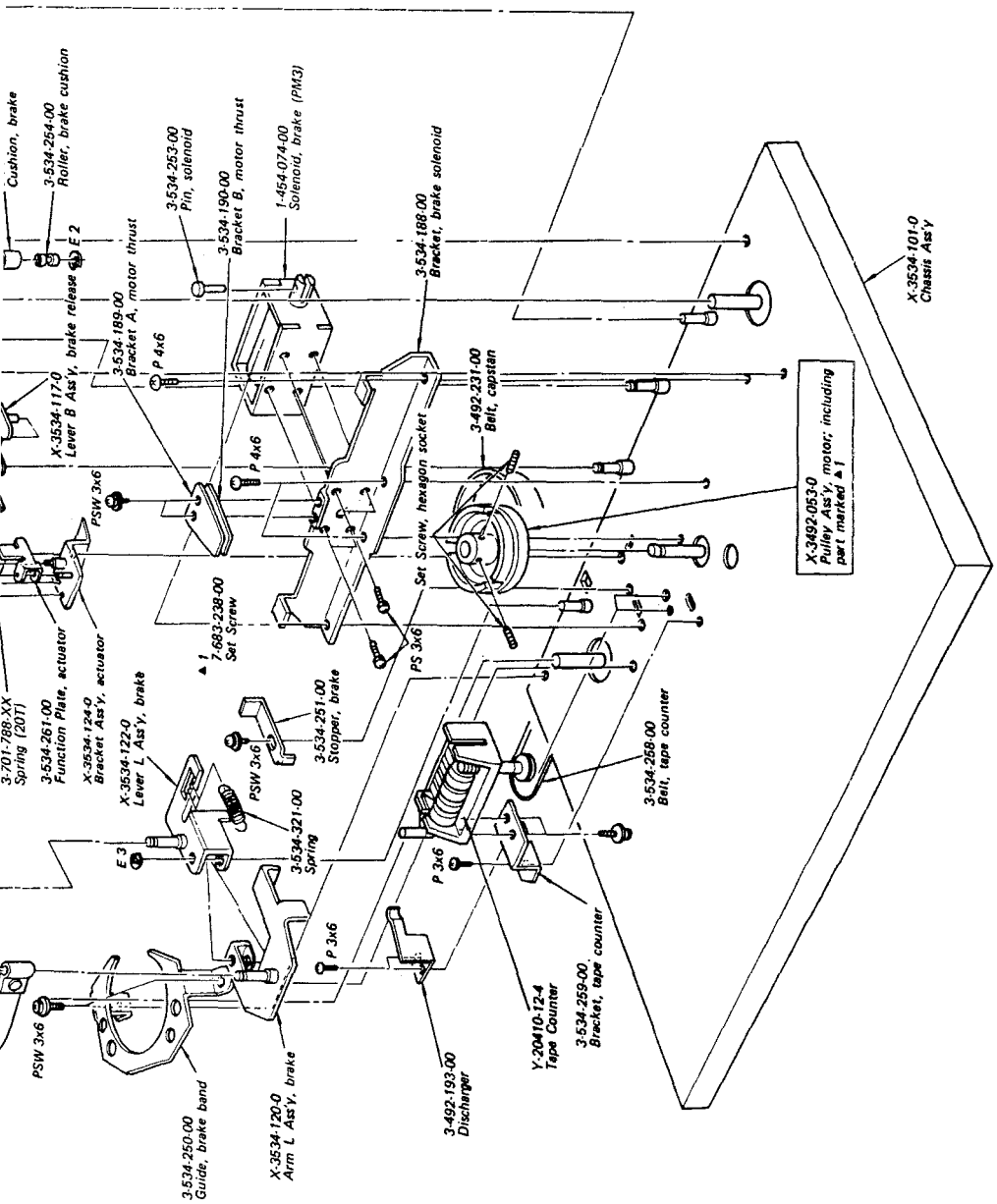
Note: • All resistors are in Ω and ¼W unless otherwise indicated (k = 1000).
• All capacitors are in μF unless otherwise indicated (p = μμ).
• Voltage values shown are measured with a voltmeter (DC: 20 kΩ/V, AC: 8 kΩ/V) in stop mode, without input signals and with TAPE SPEED switch to 19 cm, 7½. Voltages in ( ) are for 9.5 cm, 3¾.

• Switch mode

Ref. No.	Switch	Mode
S107, 108	rewind (rewind/OFF)	OFF
S109	stop (stop/OFF)	OFF
S110	playback (playback/OFF)	OFF
S111	fast forward (fast forward/OFF)	OFF
S112, 114	REEL SIZE (10"/7")	10"
S113, 115	PAUSE (PAUSE/OFF)	OFF
S116, 117	tension arm R (tape/no tape)	no tape
S118, 119	tension arm L (tape/no tape)	no tape
S120	PM_1 drive (ON/OFF)	ON
S121	PM_3 drive (ON/OFF)	ON
S122	POWER (ON/OFF)	ON
S501	TAPE SPEED (19 cm, 7½/9.5 cm, 3¾)	19 cm, 7½

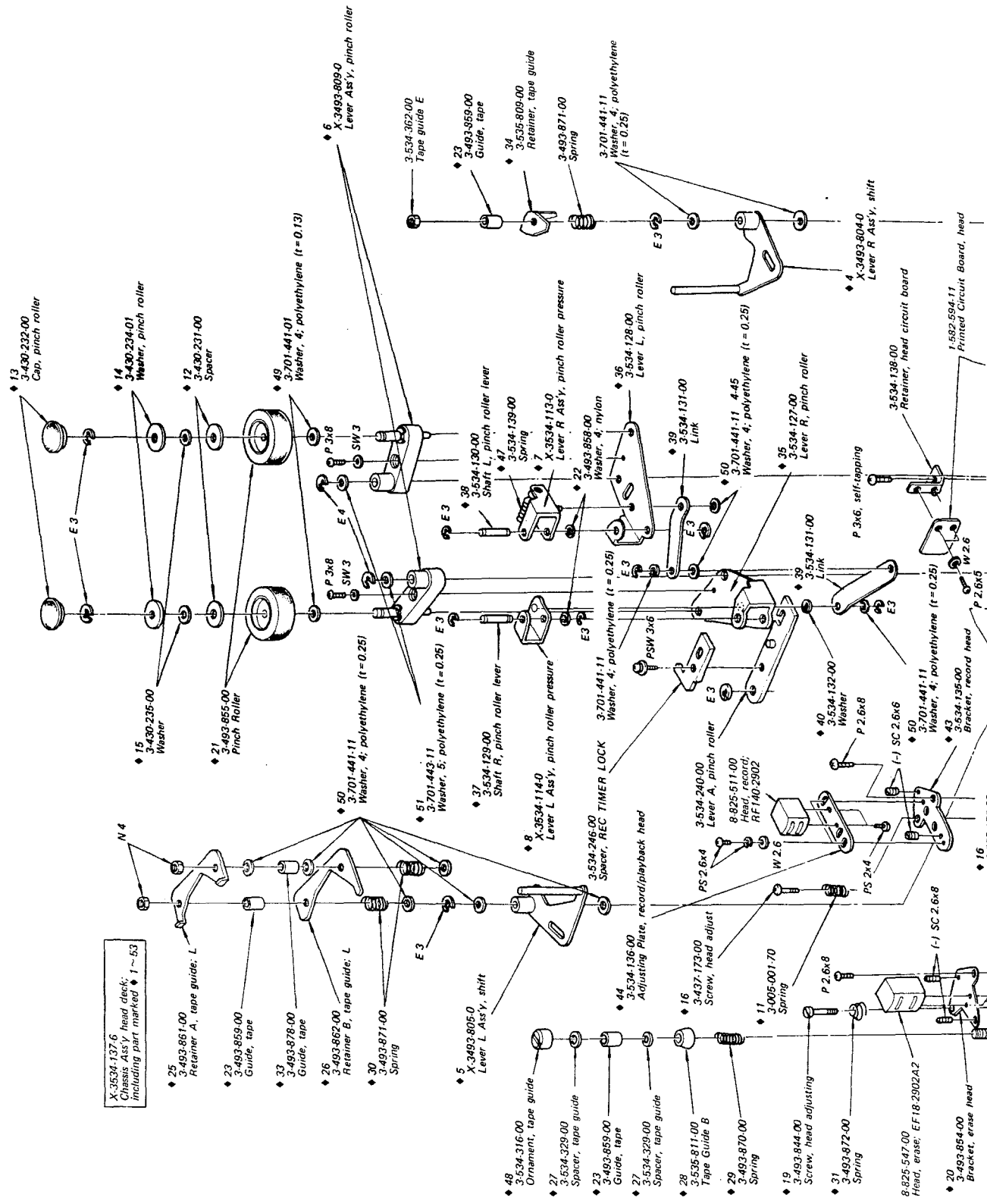
4-2. EXPLODED VIEW (2)

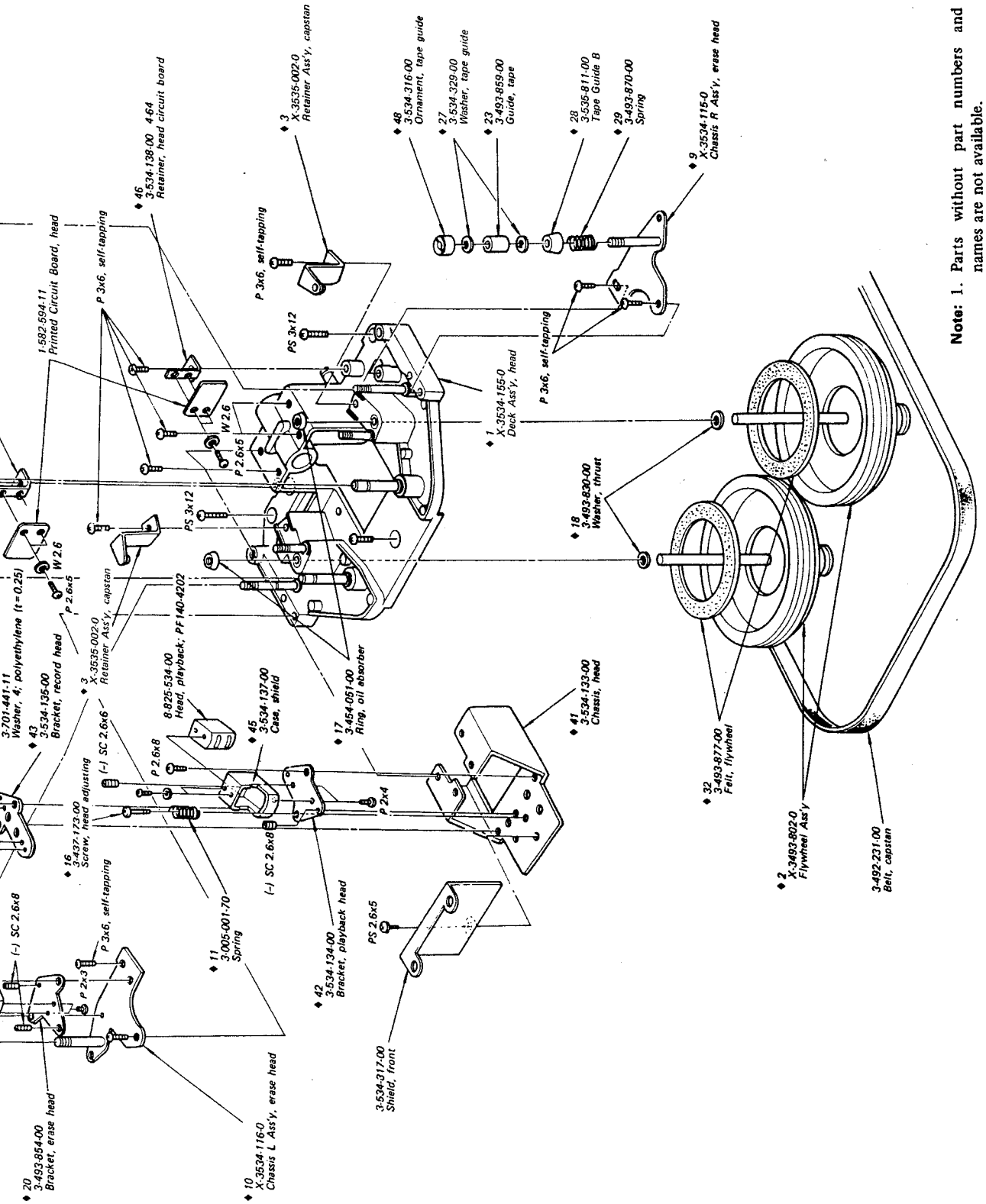




Note: 1. Parts without part numbers and names are not available.
2. All screws are Phillips type (cross recess type) unless otherwise indicated.
(-): slotted head

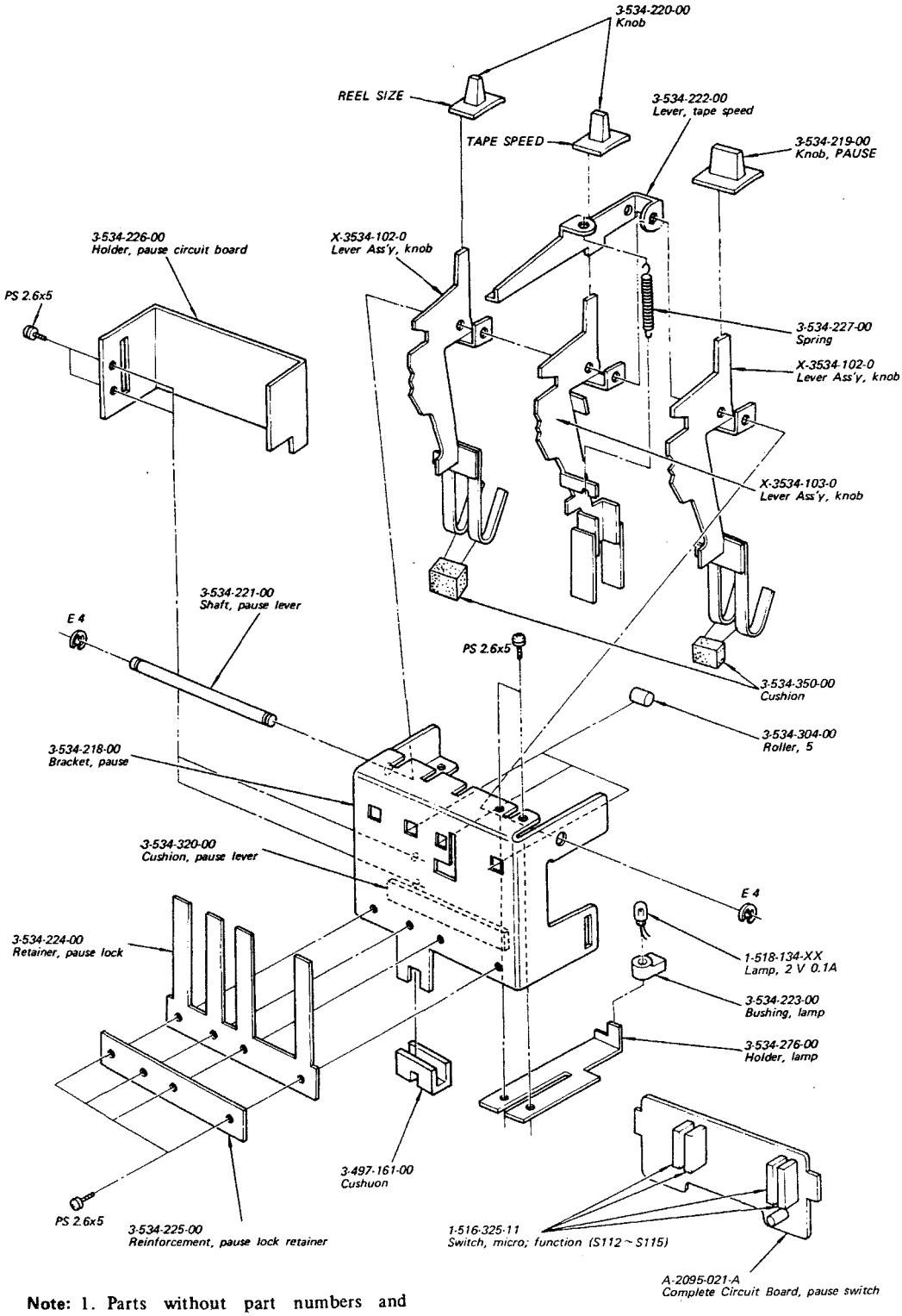
-4. EXPLODED VIEW (4)





Note: 1. Parts without part numbers and names are not available.
2. All screws are Phillips type (cross recess type) unless otherwise indicated.
(-): slotted head

4-5. EXPLODED VIEW (5)

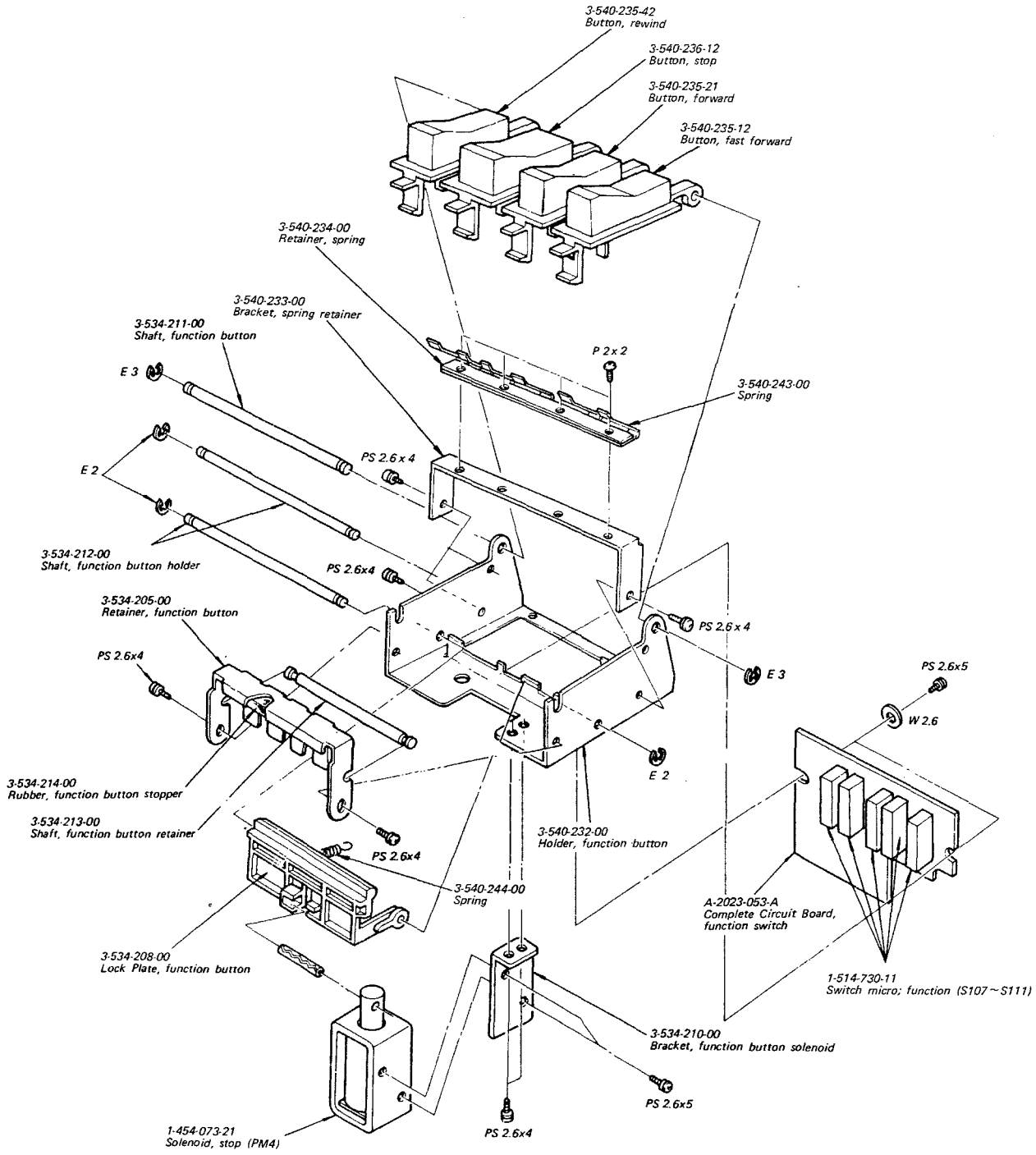


Note: 1. Parts without part numbers and names are not available.

2. All screws are Phillips type (cross recess type) unless otherwise indicated.

(-): slotted head

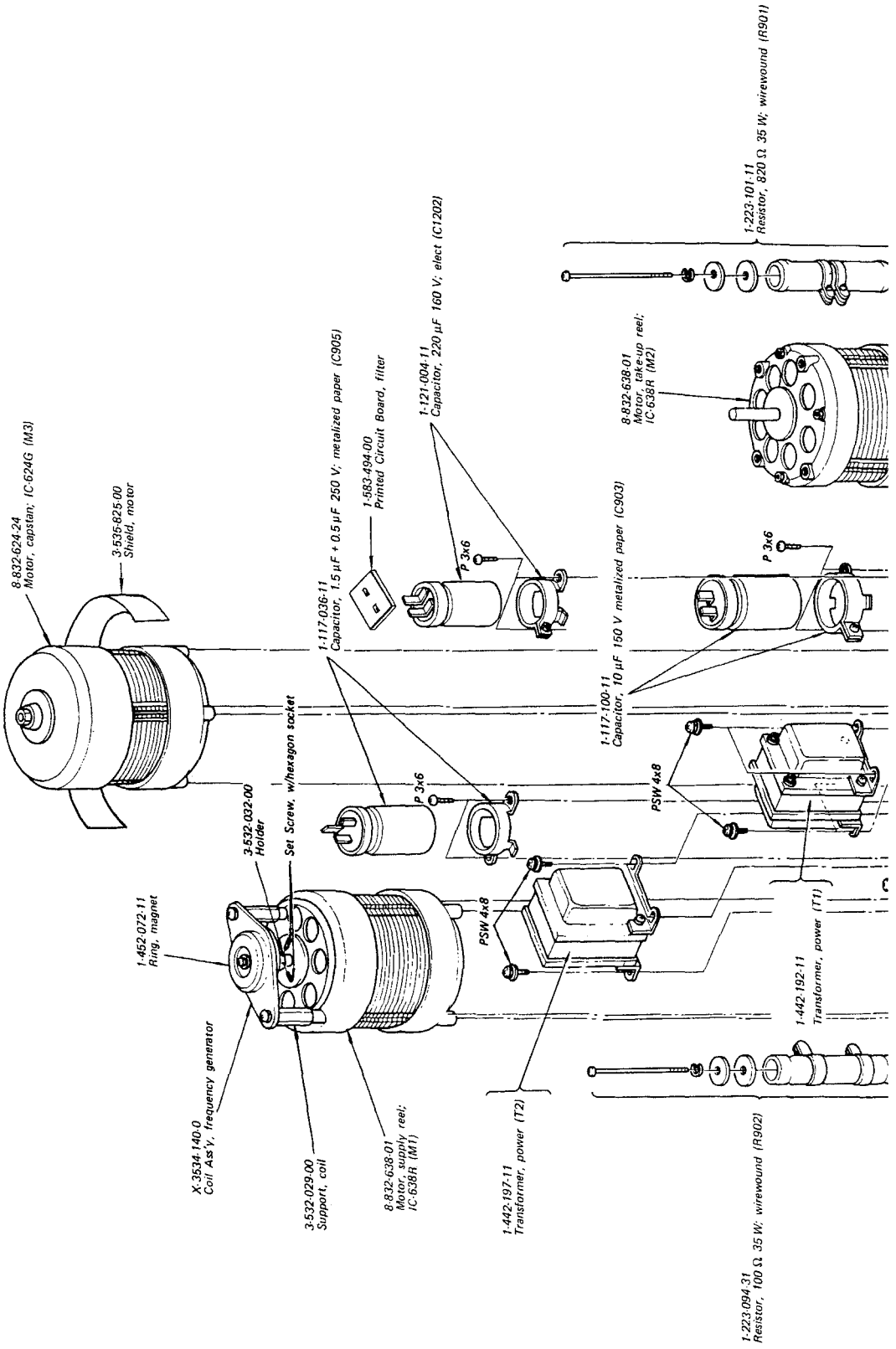
4-6. EXPLODED VIEW (6)

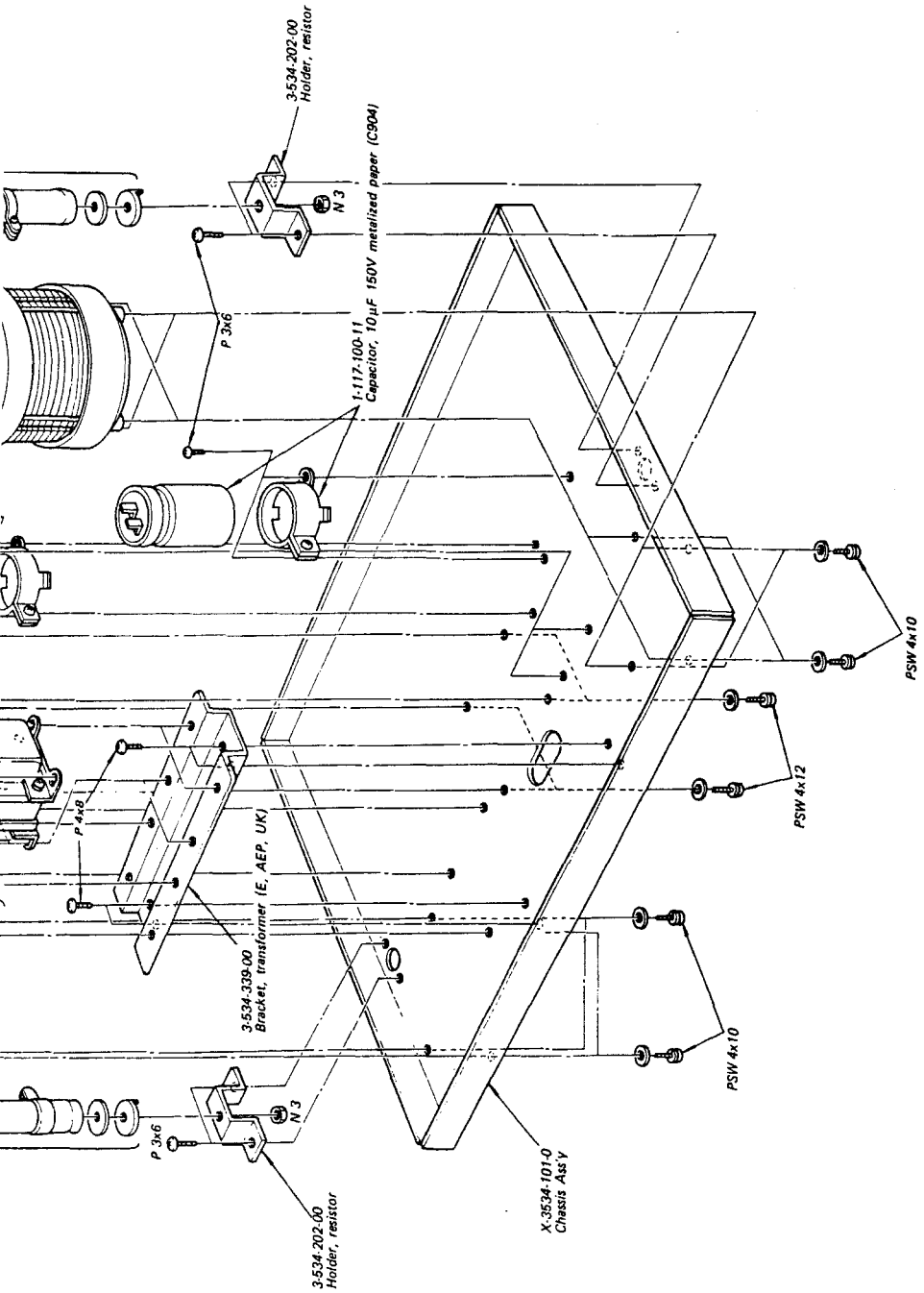


Note: 1. Parts without part numbers and names are not available.

2. All screws are Phillips type (cross recess type) unless otherwise indicated.
(-): slotted head

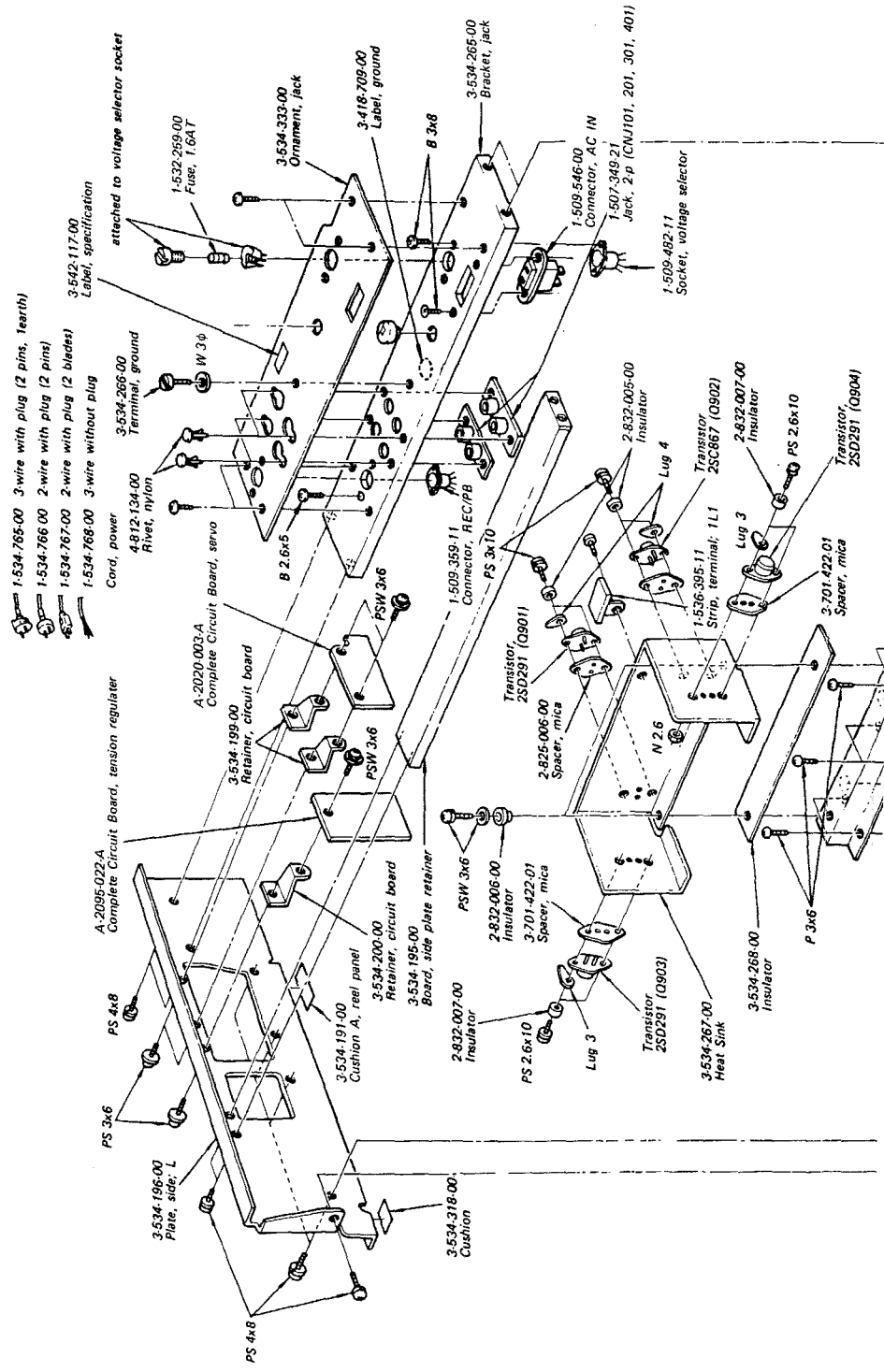
4-7. EXPLODED VIEW (7)

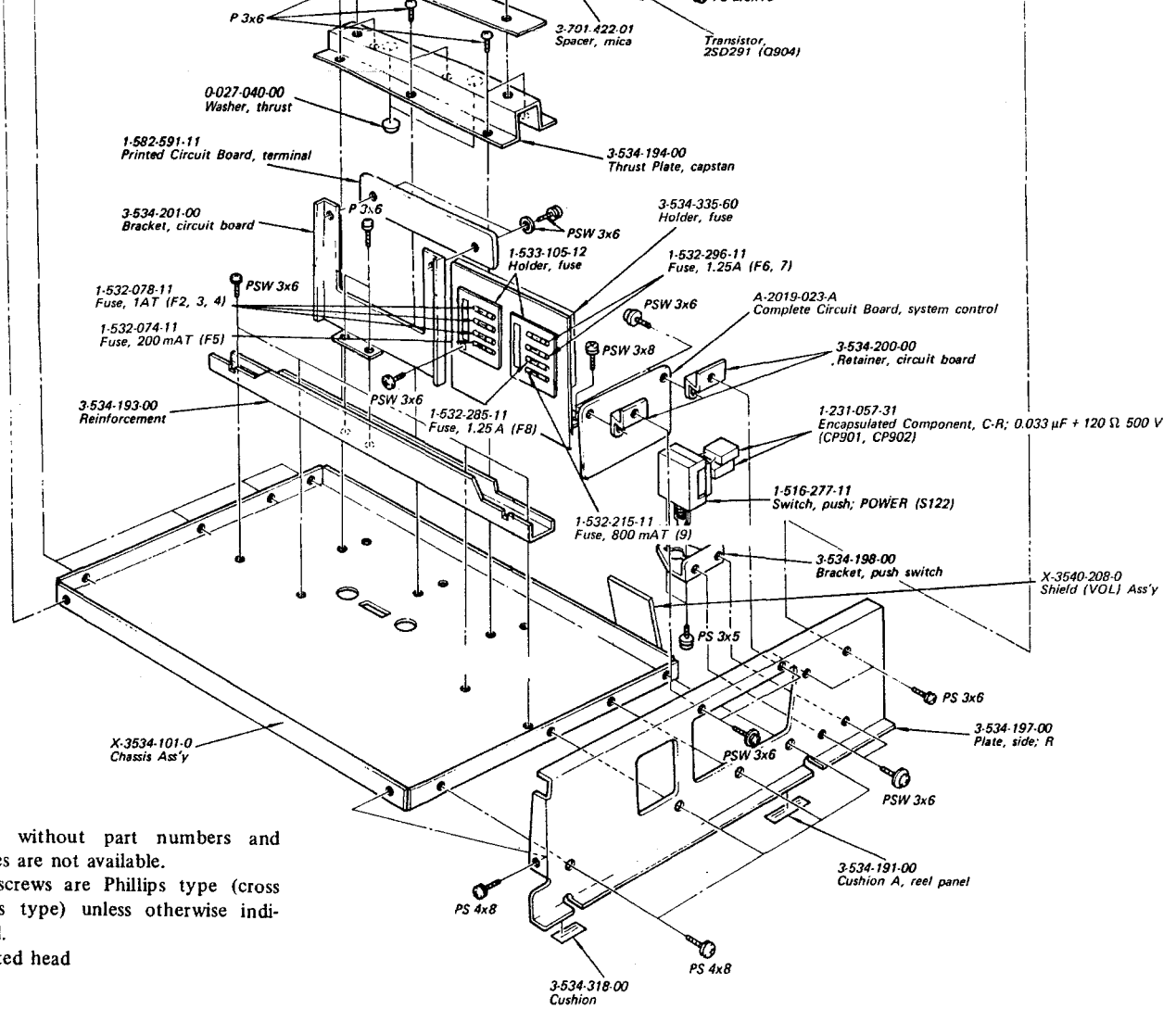




Note: 1. Parts without part numbers and names are not available.
2. All screws are Phillips type (cross recess type) unless otherwise indicated.
(–): slotted head

4-8. EXPLODED VIEW (8)



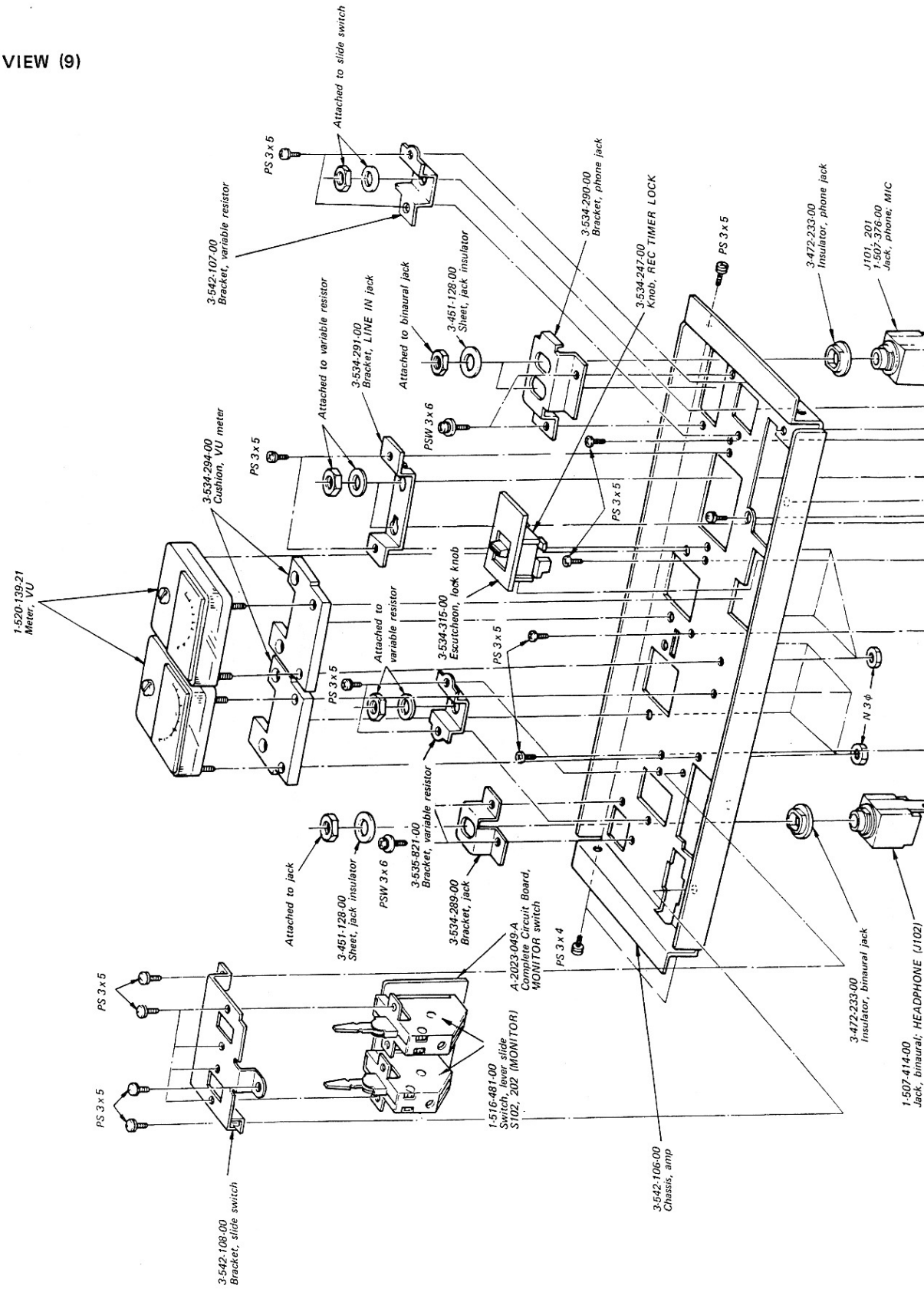


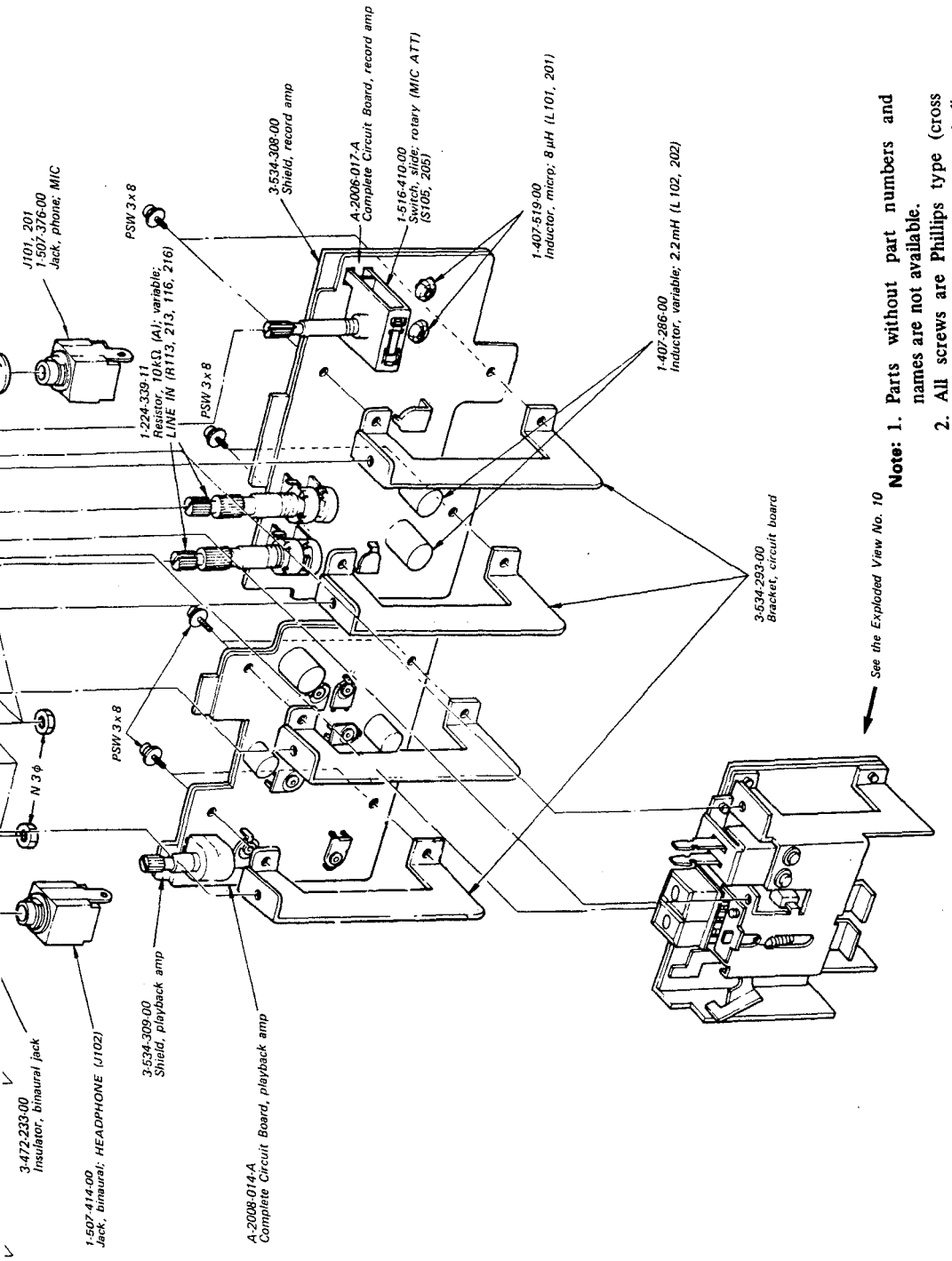
Note: 1. Parts without part numbers and names are not available.

2. All screws are Phillips type (cross recess type) unless otherwise indicated.

(-): slotted head

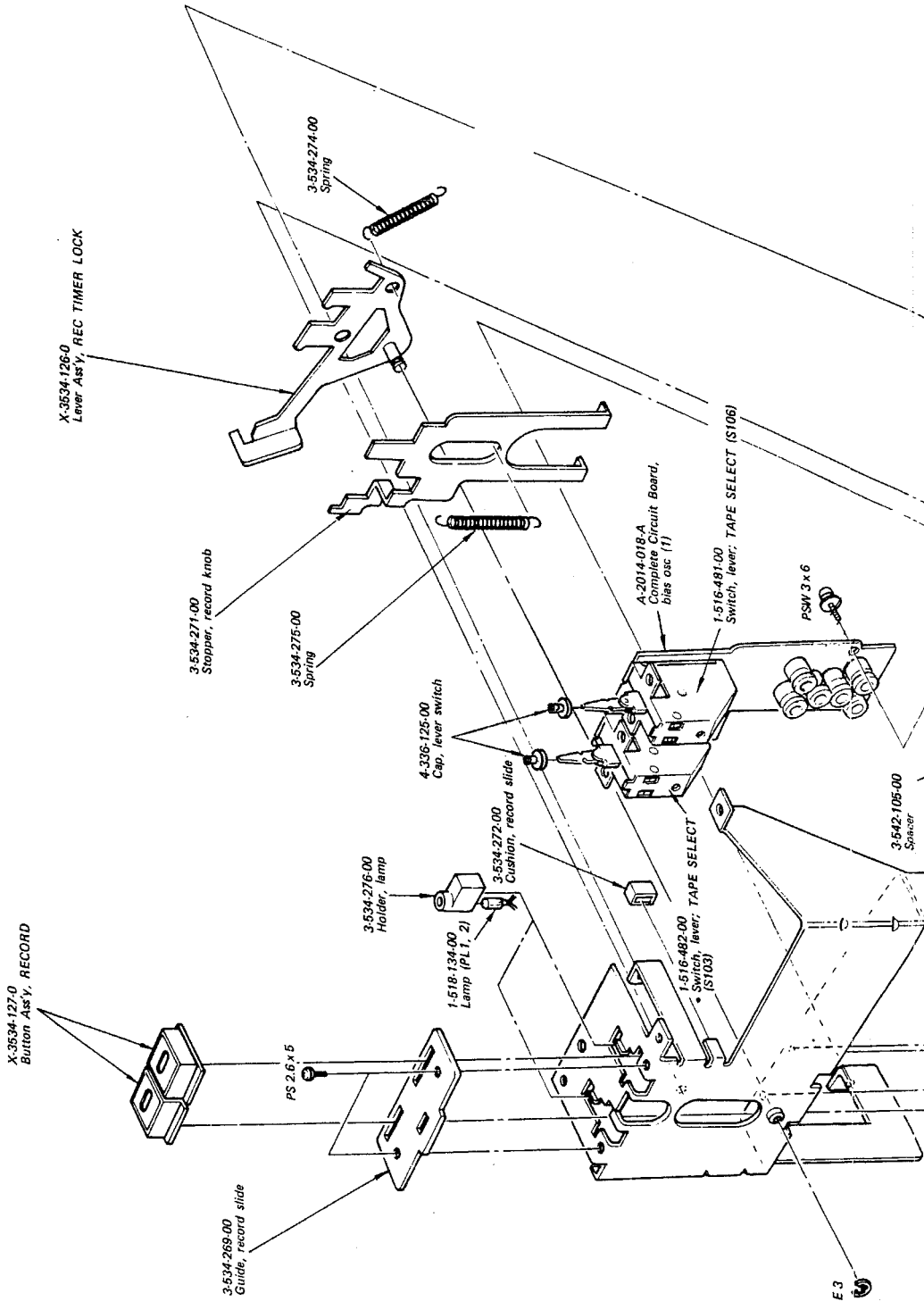
4-9. EXPLODED VIEW (9)

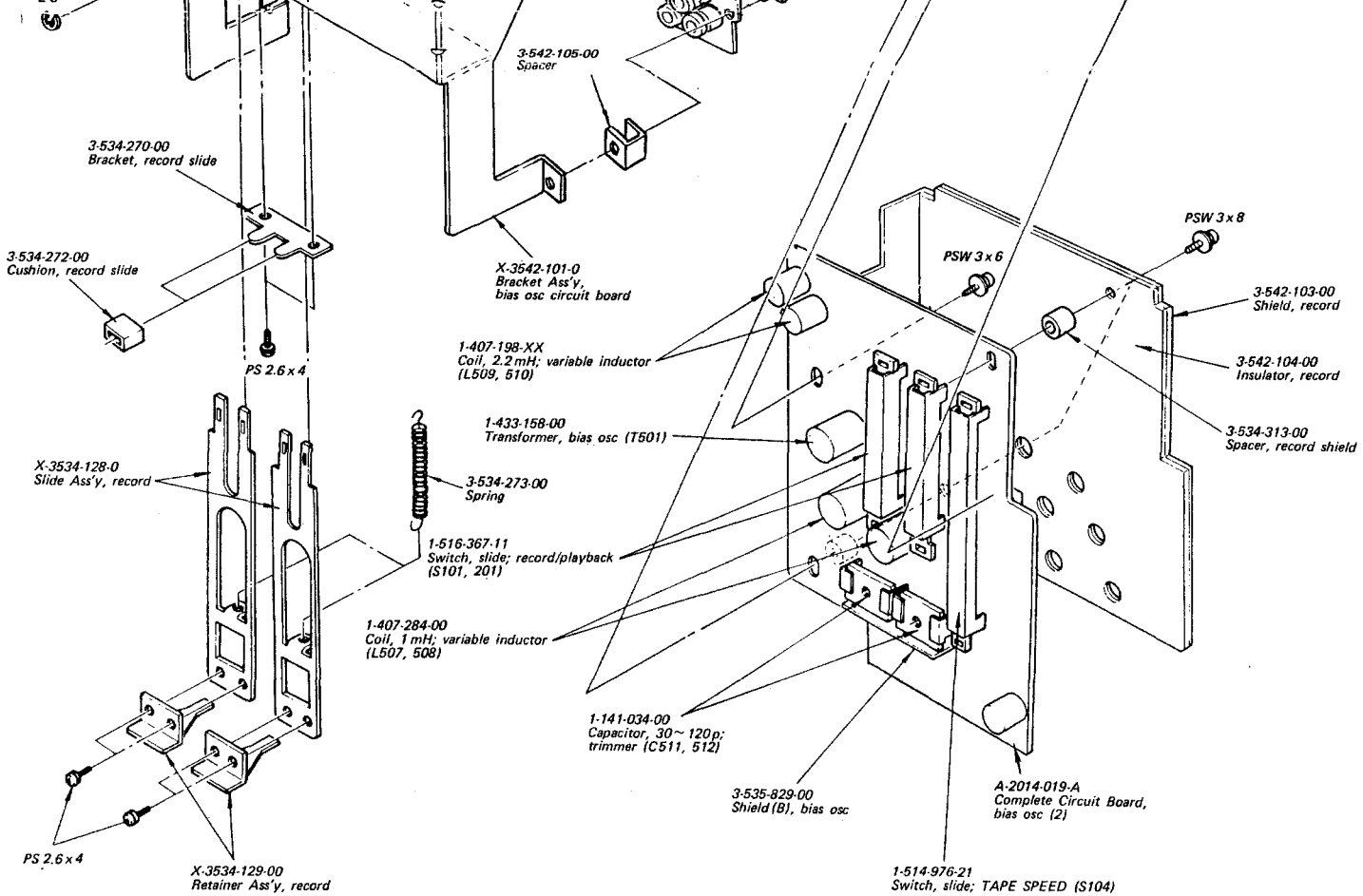




Note: 1. Parts without part numbers and names are not available.
2. All screws are Phillips type (cross recess type) unless otherwise indicated.
(-): slotted head

4-10. EXPLODED VIEW (10)





Note: 1. Parts without part numbers and names are not available.

2. All screws are Phillips type (cross recess type) unless otherwise indicated.
(-): slotted head

SECTION 5
ELECTRICAL PARTS LIST

Ref. No.	*Part No.*	*Description*
		COMPLETE CIRCUIT BOARDS
	A-2095-020-A	Tension Arm (R)
	A-2095-019-A	Tension Arm (L)
	A-2019-023-A	System Control
	A-2020-003-A	Servo
	A-2095-022-A	Tension Regulator
	A-2023-053-A	Function Switch
	A-2095-021-A	Pause Switch
	A-2006-017-A	Record Amp
	A-2008-014-A	Playback Amp
	A-2023-049-A	MONITOR Switch
	A-2014-018-A	Bias osc (1)
	A-2014-019-A	Bias osc (2)
		PRINTED CIRCUIT BOARDS
	1-583-494-00	Filter
	1-582-594-11	Head
	1-582-591-11	Terminal
		SEMICONDUCTORS
		Transistors
Q101,201		2SC631A
Q102,202		2SC1362
Q103,203		2SC631A
Q104,204		2SC634A
Q105,205		2SC634A
Q106,206		2SC634A
Q301,401		2SK43
Q302,402		2SC1362
Q303,403		2SC634A
Q304,404		2SC634A
Q305,405		2SC634A
Q306,406		2SC634A
Q307,407		2SC634A
Q501		2SC634A
Q502		2SC634A
Q701		2SC634A
Q702		2SC634A
Q703		2SC634A
Q704		2SC634A
Q705		2SC634A
Q706		2SC634A
Q707		2SC634A
Q708		2SC634A
Q709		2SC634A
Q710		2SC634A
Q711		2SC634A
Q712		2SC634A
Q713		2SC634A
Q714		2SC1384
Q801		2SC634A
Q802		2SC634A
Q803		2SC634A
Q804		2SC634A
Q805		2SC634A
Q806		2SC634A
Q807		2SC634A
Q808		2SC634A
Q809		2SC634A
Q810		2SC634A
Q811		2SC634A
Q812		2SC1124
Q901		2SD291
Q902		2SD291
Q903		2SC867
Q904		2SC867
		IC
IC601		CX032B
		Diodes
D302,402		1T22
D303,403		1T22

Ref. No.	Part No.	Description
D601		10D-2
D602		10D-2
D603		10D-2
D604		10D-2
D605		10D-2
D701		1T40
D702		1T40
D703,803		MZ08
D704		MZ12A
D705		1T22A
D706		1T22A
D707		10D-2
D708		10D-2
D709		10D-2
D710		10D-2
D801		10D-2
D802		10D-2
D804		1T40
D805		1T40
D806		10D-2
D807		10D-2
D808		1T40
D809		1T22
D810		1T22
D811		10D-2
D812		10D-2
D813		10D-2
D815		10D-2
D816		10D-2
D817		10D-4
D901		10D-2
D902		10D-2
D903		10D-2
D904		10D-4
D1201		S1B01-02

THERMISTOR

Th701	1-800-204-11	Thermistor S10K

Ref. No.	Part No.	Description

COILS

L101,201	1-407-519-11	Inductor, micro 8 μH
L102,202	1-407-286-11	Inductor, variable 2.2 mH
L301,401	1-407-593-11	Microinductor, 27 mH
L501	1-407-269-11	Inductor, variable 2.2 mH
L502	1-407-269-11	Inductor, variable 2.2 mH
L503	1-407-269-11	Inductor, variable 2.2 mH
L504	1-407-269-11	Inductor, variable 2.2 mH
L505	1-407-492-11	Inductor, micro 1 mH
L506	1-407-492-11	Inductor, micro 1 mH
L507	1-407-284-11	Inductor, variable 1 mH
L508	1-407-284-11	Inductor, variable 1 mH
L509	1-407-198-XX	Inductor, micro 2.2 mH
L510	1-407-198-XX	Inductor, micro 2.2 mH
L511	1-407-268-11	Inductor, variable 1.5 mH
L512	1-407-268-11	Inductor, variable 1.5 mH

TRANSFORMERS

T1	1-442-192-11	Power
T2	1-442-197-11	Power
T301,401	1-427-299-11	Headphone
T501	1-433-158-11	Bias Osc

CAPACITORS

All capacitors are in μF unless otherwise noted. 50 or less working volts are omitted except for electrolytic type. (p=μμF, elect=electrolytic)

C101,201	1-131-192-11	4.7		solid tantalum
C102,202	1-121-913-11	3.3	25 V	elect
C103,203	1-108-825-61	0.001		mylar
C104,204	1-121-414-51	100	10 V	elect
C105,205	1-102-967-11	22 p		ceramic
C106,206	1-121-414-51	100	10 V	elect
C107,207	1-121-915-51	4.7	25 V	elect
C108,208	1-121-410-51	47	25 V	elect

Ref. No.	Part No.		Description
C109,209	1-121-415-51	100	16 V elect
C110,210	1-121-391-51	1	50 V elect
C111,211	1-121-915-51	4.7	25 V elect
C112,212	1-121-415-51	100	16 V elect
C113,213	1-121-748-51	10	25 V elect
C114,214	1-121-414-51	100	10 V elect
C115,215	1-105-681-51	0.047	mylar
C116,216	1-107-119-51	33 p	silvered mica
C117,217	1-121-414-51	100	10 V elect
C118,218	1-121-398-51	10	25 V elect
C119,219	1-107-016-11	470 p	500 V silvered mica
C301,401	1-121-422-51	220	25 V elect
C302,402	1-123-055-51	47	16 V elect
C303,403	1-107-131-51	100 p	silvered mica
C304,404	1-123-139-51	100	16 V elect
C305,405	1-108-825-61	0.001	mylar
C306,406	1-108-842-61	0.027	mylar
C307,407	1-107-121-51	39 p	silvered mica
C308,408	1-123-139-51	100	16 V elect
C309,409	1-123-139-51	100	16 V elect
C310,410	1-121-912-51	1	50 V elect
C311,411	1-107-117-51	27 p	silvered mica
C312,412	1-107-244-51	470 p	silvered mica
C313,413	1-121-912-51	1	50 V elect
C314,414	1-121-479-51	22	16 V elect
C315,415	1-121-414-51	100	10 V elect
C316,416	1-107-115-51	22 p	silvered mica
C317,417	1-121-398-51	10	25 V elect
C318,418	1-121-398-51	10	25 V elect
C319,419	1-121-392-51	3.3	25 V elect
C320,420	1-123-139-51	100	16 V elect
C501	1-105-518-12	0.027	mylar
C502	1-105-518-12	0.027	mylar
C503	1-105-520-12	0.039	mylar
C504	1-105-520-12	0.039	mylar
C505	1-105-516-12	0.018	mylar
C506	1-105-516-12	0.018	mylar
C507	1-105-518-12	0.027	mylar
C508	1-105-518-12	0.027	mylar
C509	1-107-015-11	47 p	500 V silvered mica
C510	1-107-015-11	47 p	500 V silvered mica

Ref. No.	Part No.		Description
C511	1-141-034-11	30~120 p	trimmer
C512	1-141-034-11	30~120 p	trimmer
C513	1-107-180-11	300 p	silvered mica
C514	1-129-992-51	2400 p 630 V	polypropylene
C515	1-105-719-12	0.033 100 V	mylar
C516	1-105-712-12	0.0082 100 V	mylar
C517	1-131-217-51	2.2	solid tantalum
C518	1-107-185-11	470 p 500 V	silvered mica
C519	1-105-516-12	0.018	mylar
C520	1-105-516-12	0.018	mylar
C523	1-105-516-12	0.018	mylar
C524	1-105-516-12	0.018	mylar
C529	1-105-517-12	0.022	mylar
C530	1-105-517-12	0.022	mylar
C601	1-121-935-51	100 25 V	elect
C602	1-121-398-51	10 25 V	elect
C603	1-121-398-51	10 25 V	elect
C604	1-105-661-51	0.001	mylar
C605	1-105-673-51	0.01	mylar
C606	1-105-677-51	0.022	mylar
C607	1-108-550-11	0.082	mylar
C608	1-121-409-51	47 16 V	elect
C609	1-131-197-51	3.3	solid tantalum
C610	1-131-197-51	3.3	solid tantalum
C611	1-121-900-11	4.7 250 V	elect
C612	1-105-761-12	0.047 200 V	mylar
C701	1-105-665-51	0.0022	mylar
C702	1-105-501-12	0.001	mylar
C703	1-105-529-12	0.22	mylar
C704	1-131-215-51	1	solid tantalum
C705	1-131-238-51	10	solid tantalum
C706	1-131-217-51	2.2	solid tantalum
C707	1-131-219-51	4.7	solid tantalum
C708	1-105-725-51	0.1 100 V	mylar
C801	1-121-983-51	470 50 V	elect
C802	1-121-411-51	47 50 V	elect
C803	1-121-810-51	470 50 V	elect
C804	1-121-357-51	100 35 V	elect
C805	1-121-361-51	470 35 V	elect
C806	1-121-980-11	100 6.3 V	elect

Ref. No.	Part No.			Description
C807	1-121-388-51	1000	35 V	elect
C808	1-121-961-11	4.7	25 V	elect
C809	1-121-651-51	10	16 V	elect
C810	1-121-980-11	100	6.3 V	elect
C811	1-121-983-51	470	50 V	elect
C812	1-121-662-51	22	35 V	elect
C813	1-113-072-11	1	220 V	metalized paper
C814	1-113-072-11	1	220 V	metalized paper
C815	1-121-726-51	0.47	50 V	elect
C816	1-105-919-12	0.033	200 V	mylar
C817	1-105-821-12	0.001		mylar
C818	1-107-179-11	270 p	500 V	silvered mica
C901	1-121-391-11	1	50 V	elect
C902	1-121-004-12	220	160 V	elect
C903	1-117-100-11	10	150 V	metalized paper
C904	1-117-100-11	10	150 V	metalized paper
C905	1-117-036-22	1.5+0.5	250 V	metalized paper
C906	1-101-455-11	0.001		ceramic
C907	1-101-455-11	0.001		ceramic
C908	1-101-455-11	0.001		ceramic
C909	1-101-455-11	0.001		ceramic
C910	1-101-455-11	0.001		ceramic
C911	1-101-455-11	0.001		ceramic
C1201	1-121-357-11	100	35 V	elect
C1202	1-121-004-11	220	160 V	elect

RESISTORS

All resistors are in Ω. ¼W, ±5% carbon resistors (except particular type) are omitted.
Check schematic diagrams for resistance values.
(k = 1000 M = 1000k)

Ref. No.	Part No.			Description
R104,204	1-242-715-71	56k		low noise
R105,205	1-242-702-71	16k		low noise
R106,206	1-242-713-71	47k		low noise
R107,207	1-242-682-71	2.4k		low noise
R108,208	1-242-709-71	33k		low noise
R113,213	1-224-339-11	10k(A), variable; MIC		
R114,214	1-242-721-71	100k		low noise
R115,215	1-242-705-71	22k		low noise
R116,216	1-224-339-11	10k (A), variable; LINE IN		
R117,217	1-242-724-71	130k		low noise
R118,218	1-242-721-71	100k		low noise
R119,219	1-242-722-71	110k		low noise
R125,225	1-222-775-11	22k (B), adjustable		
R129,229	1-242-731-71	270k		low noise
R130,230	1-242-705-71	22k		low noise
R131,231	1-242-719-71	82k		low noise
R135,235	1-242-719-71	82k		low noise
R301,401	1-242-705-71	22k		low noise
R302,402	1-242-693-71	6.8k		low noise
R303,403	1-242-721-71	100k		low noise
R306,406	1-242-687-71	3.9k		low noise
R307,407	1-242-683-71	2.7k		low noise
R308,408	1-242-681-71	2.2k		low noise
R309,409	1-242-724-71	130k		low noise
R311,411	1-224-644-XX	4.7k (B), adjustable		
R312,412	1-242-692-71	6.2k		low noise
R316,416	1-242-687-71	3.9k		low noise
R317,417	1-224-647-XX	47k (B), adjustable		
R322,422	1-242-726-71	160k		low noise
R326,426	1-242-675-71	1.2k		low noise
R327,427	1-242-705-71	22k		low noise
R328,428	1-242-681-71	2.2k		low noise
R333,433	1-242-705-71	22k		low noise
R334,434	1-244-877-11	1.5k	½W	
R336,436	1-224-643-XX	2.2k (B), adjustable		
R341,441	1-224-338-11	20k (B), variable; PB LEVEL		
R342	1-244-705-71	22k		low noise
R442	1-242-705-71	22k		low noise
R511	1-217-397-11	68		fuse
R602	1-244-867-11	560	½W	
R611	1-244-801-11	1	½W	
R612	1-206-717-11	470	3W	metal oxide
R616	1-224-645-XX	10k (B), adjustable		
R618	1-224-646-XX	22k (B), adjustable		
R717	1-224-644-XX	4.7k (B), adjustable		
R731	1-224-646-XX	22k (B), adjustable		
R733	1-244-867-11	560	½W	
R734	1-244-801-11	1	½W	
R736	1-224-650-XX	470k (B), adjustable		

Ref. No.	Part No.	Description
R737	1-222-778-11	220 k (B), adjustable
R801	1-207-992-11	180 7 W wirewound
R807	1-224-645-XX	10 k (B), adjustable
R810	1-206-470-11	20 2 W metal oxide
R814	1-217-383-11	4.7 fuse
R829	1-244-877-11	1.5 k ½ W
R901	1-223-101-11	820, wirewound; adjustable
R902	1-223-094-31	100, wirewound; adjustable
R1201	1-217-391-11	22 fuse
R1202	1-217-399-11	100 fuse
R1203	1-217-477-11	4.7 1 W fuse

SWITCHES

S101,201	1-516-367-11	Slide, record/playback
S102,202	1-516-481-11	Slide, MONITOR
S103	1-516-482-11	Slide, EQ (TAPE SELECT)
S104	1-514-976-21	Slide, TAPE SPEED
S105,205	1-516-410-11	Rotary Slide, MIC ATT
S106	1-516-481-11	Micro, BIAS (TAPE SELECT)
S107	1-514-730-11	Micro, rewind
S108	1-514-730-11	Micro, rewind
S109	1-514-730-11	Micro, stop
S110	1-514-730-11	Micro, playback
S111	1-514-730-11	Micro, fast forward
S112,114	1-516-325-11	Micro, REEL SIZE
S113,115	1-516-325-11	Micro, PAUSE
S116	1-516-309-11	Micro, tension arm R
S117	1-516-309-11	Micro, tension arm R
S118	1-516-309-11	Micro, tension arm L
S119	1-516-309-11	Micro, tension arm L
S120	1-516-309-11	Micro, PM1 drive
S121	1-516-309-11	Micro, PM3 drive
S122	1-516-277-11	Push, POWER
S501	1-514-673-11	Slide, TAPE SPEED

ENCAPSULATED COMPONENTS

CP801	1-231-057-31	
CP802	1-231-057-31	
CP803	1-231-057-31	
CP805	1-231-057-31	
CP806	1-231-057-31	
CP903	1-101-534-31	
CP904	1-101-534-31	
CP905	1-101-534-31	
CP906	1-101-534-31	

JACKS

J101,201	1-507-376-11	Phono, MIC
J102	1-507-414-11	Binaural, HEADPHONE
	1-509-359-11	Connector, REC/PB
CNJ901	1-509-546-00	Connector, AC IN
CN901	1-509-482-11	Socket, voltage selector
CNJ101,201	1-507-349-21	2 p phono, LINE IN
CNJ102,202	1-507-349-21	2 p phono, LINE OUT

MISCELLANEOUS

EH101,201	8-825-547-00	Head, erase; EF18-2902A2
F1	1-532-259-00	Fuse, 1.6 AT
F2	1-532-078-11	Fuse, 1 AT
F3	1-532-078-11	Fuse, 1 AT
F4	1-532-078-11	Fuse, 1 AT
F5	1-532-074-11	Fuse, 200 mAT
F6	1-532-296-11	Fuse, 1.25 AT
F7	1-532-296-11	Fuse, 1.25 AT
F8	1-532-285-11	Fuse, 1.25 AT
F9	1-532-215-11	Fuse, 800 mAT
M1	8-832-638-01	Motor, supply reel; IC-638R
M2	8-832-638-01	Motor, take-up reel; IC-638R
M3	8-832-624-24	Motor, capstan; IC-624G
PH101,201	8-825-534-00	Head, playback; PF140-4202
ME1,2	1-520-139-21	Meter, VU

Ref. No.	*Part No.*	*Description*
PL1	1-518-134-XX	Lamp, 2 V 0.1 A
PL2	1-518-134-XX	Lamp, 2 V 0.1 A
PL3	1-518-134-XX	Lamp, 2 V 0.1 A
PM1	1-454-074-00	Solenoid (L), pinch roller
PM2	1-454-074-00	Solenoid (R), pinch roller
PM3	1-454-074-00	Solenoid, brake
PM4	1-454-073-21	Solenoid, stop
RH101,201	8-825-511-00	Head, record; RF140-2902
RY801	1-515-127-XX	Relay
RY802	1-515-127-XX	Relay
	1-452-072-11	Ring, magnet
	1-533-105-12	Holder, fuse; 4 p
	1-536-395-11	Strip, terminal; 1L1

Part No.	*Description*
	ACCESSORIES
X-3534-138-0	Reel Ass'y, R-11B
1-534-049-51	Cord, connection; RK-74
3-141-188-00	Spacer, 10" reel
3-542-008-00	Cleaning Tip
3-542-101-00	Adaptor, reel
3-780-831-11	Manual, instruction

– Hardware Nomenclature –

P – Pan Head Screw

PS – Pan Head Screw with Spring Washer

K – Flat Countersunk Head Screw

B – Binding Head Screw

RK – Oval Countersunk Head Screw

T – Truss Head Screw

R – Round Head Screw

F – Flat Fillister Head Screw

SC – Set Screw

E – Retaining Ring (E Washer)

W – Washer
SW – Spring Washer
LW – Lock Washer
N – Nut

– Example –