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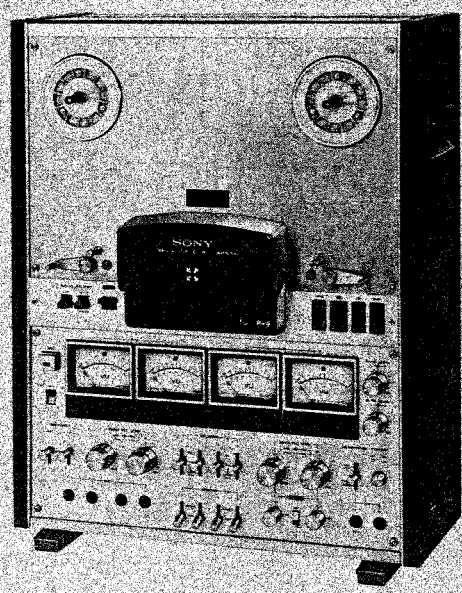
TC-788-4

Canada Model
USA Model



4-CHANNEL STEREO TAPECORDER

SPECIFICATIONS

Power Requirements: 120 V AC, 60 Hz, 120 W

Track System: Four-track four-channel stereo and monaural

Reels: 270 mm (10 1/2 inches) or smaller

Tape Speeds: 38 cm/s (15 ips), 19 cm/s (7 1/2 ips)

Recording Time: (with 3,600 ft. tape)
4-channel stereo recording:
90 minutes at 19 cm/s (7 1/2 ips)
2-channel stereo recording:
180 minutes at 19 cm/s (7 1/2 ips)

Frequency Response: According to NAB standards
(with SONY SLH tape)
20 ~ 35,000 Hz at 38 cm/s (15 ips)
20 ~ 28,000 Hz at 19 cm/s (7 1/2 ips)
(with normal tape)
20 ~ 30,000 Hz at 38 cm/s (15 ips)
20 ~ 23,000 Hz at 19 cm/s (7 1/2 ips)

Signal-to-Noise Ratio: 56 dB (with SONY SLH tape)
53 dB (with normal tape)

Wow and Flutter: 0.04 % (RMS) weighted at 38 cm/s (15 ips)
0.06 % (RMS) weighted at 19 cm/s (7 1/2 ips)

Harmonic Distortion: 1.2 %

Record Bias Frequency: Approximately 160 kHz

Inputs: MIC (4)
For low impedance microphone
Sensitivity: −72 dB (0.2 mV)
LINE IN (4)
Impedance: 100 kΩ
Sensitivity: −22 dB (0.06 V)

Outputs: LINE OUT (4)
Impedance: 100 kΩ
Normal level: − 5 dB (0.44 V) with 100 kΩ load
HEADPHONE
Impedance: 8 Ω
Normal level: − 25 dB (44 mV)

AC Outlet: Unswitched, 300 W maximum

Heads: Record : RP138-2904
Playback : PP138-4204
Erase : EF137-2904

Motors: Capstan : IC-624G (AC servo-controlled)
Reel : IC-638R (2)

Semiconductors: 13 ICs, 4 FETs, 103 transistors, 67 diodes

Dimensions: 440 (w) x 558 (h) x 221 (d) mm
17 3/8 (w) x 22 (h) x 8 3/4 (d) inches

Weight: 26.5 kg, 58 lb 7 oz

SONY®

SERVICE MANUAL

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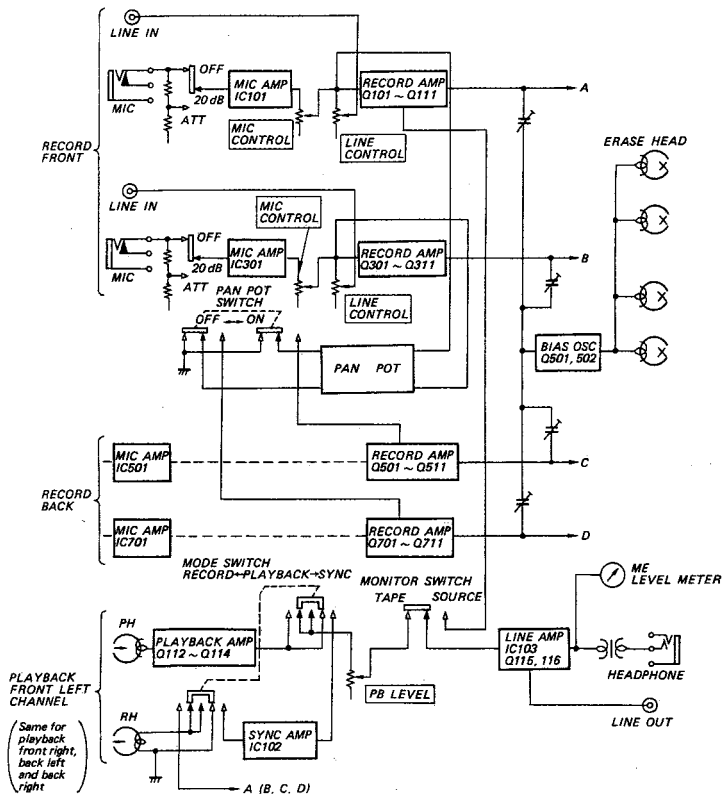
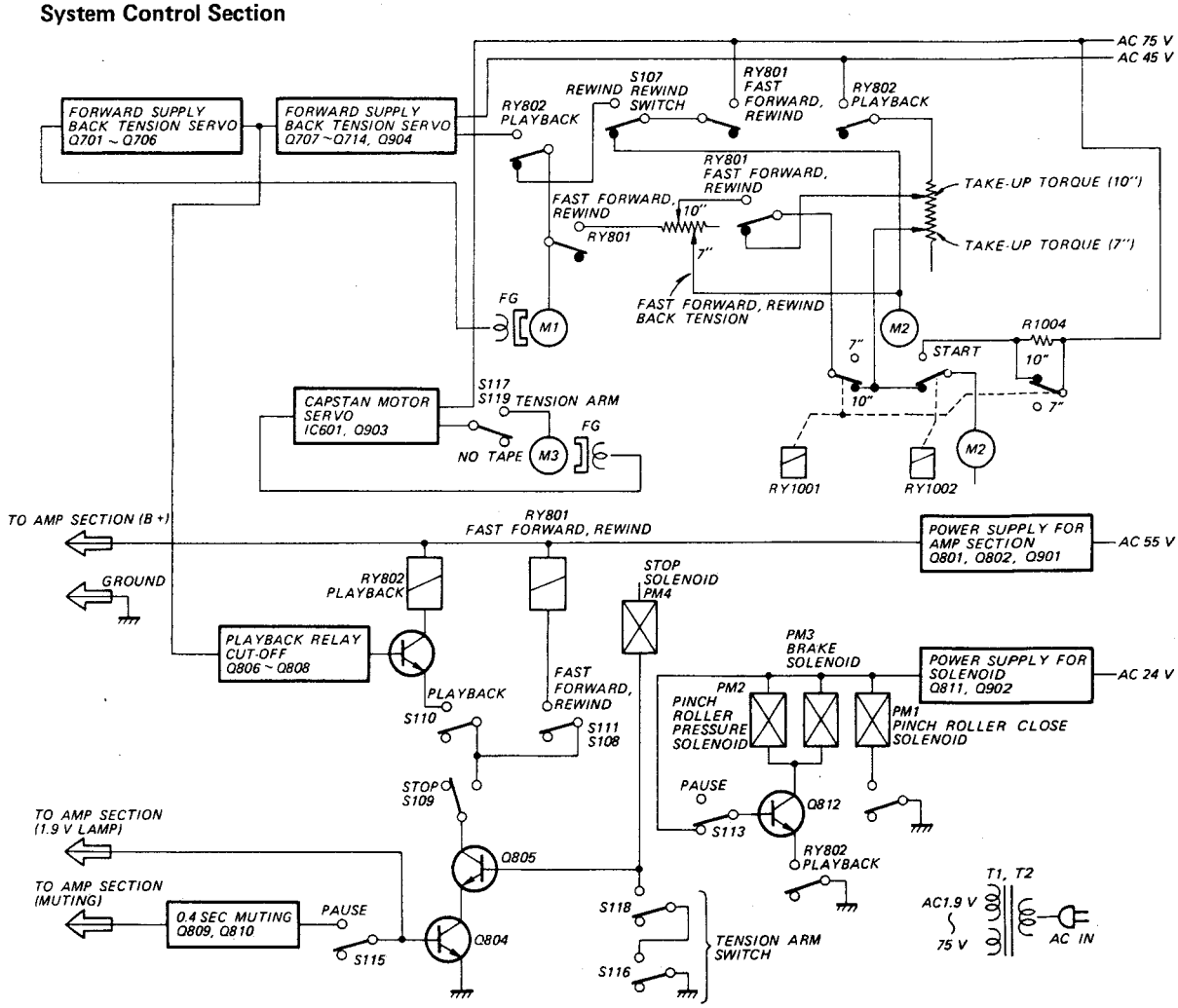
1. BLOCK DIAGRAMS

Amplifier Section

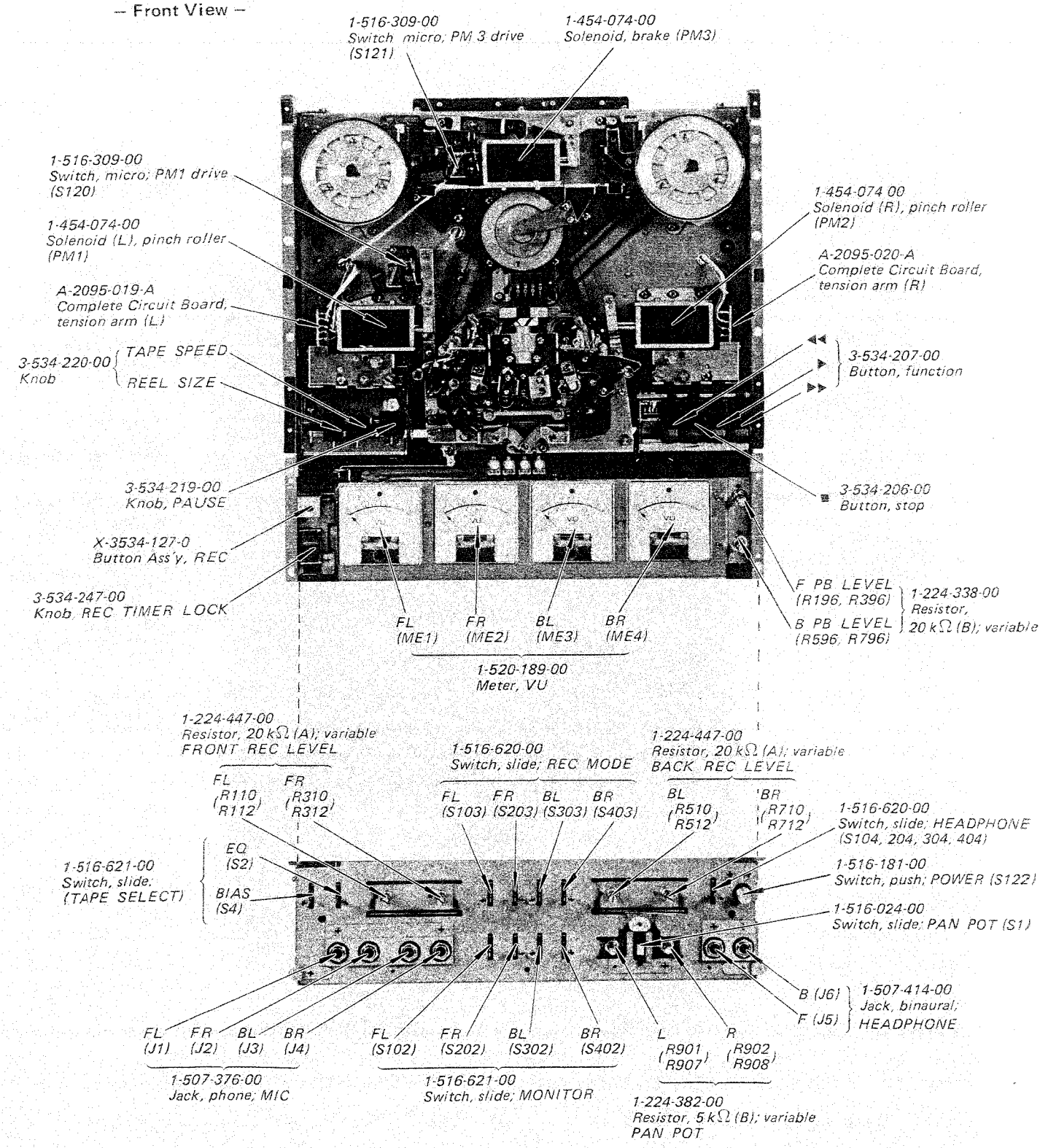


System Control Section

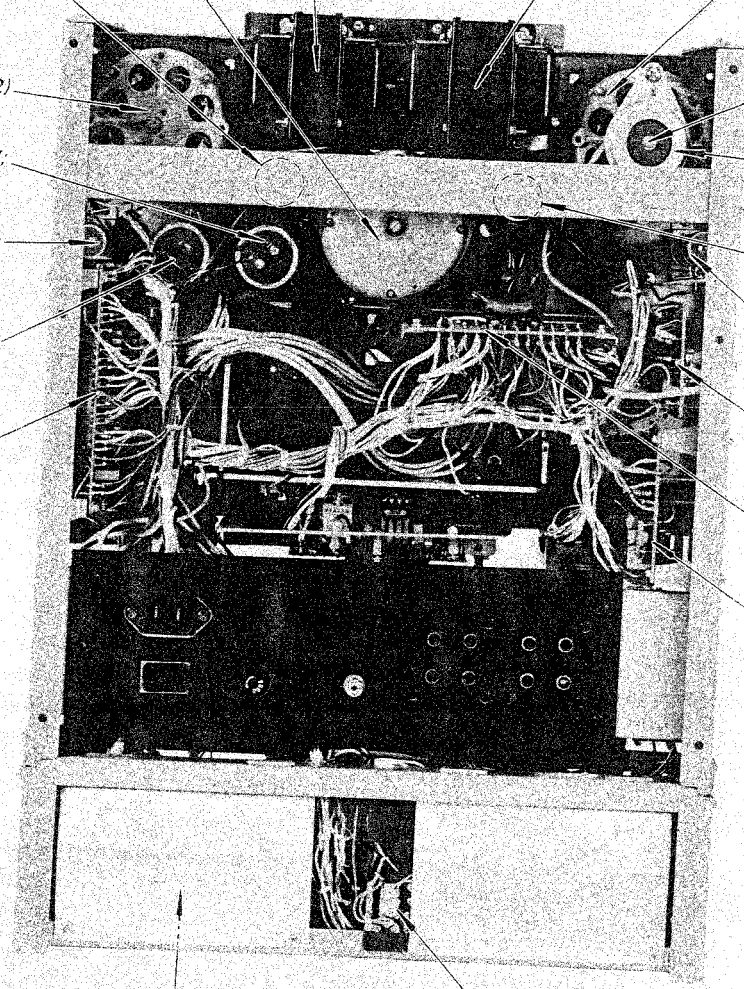


2. INTERNAL VIEWS

– Front View –



— Rear View —



8-832-624-21
Motor, IC-624G (M3)

1-442-360-00
Transformer, power (T1)

1-442-361-00
Transformer, power (T2)

8-832-638-01
Motor, IC-638R (M1)
reel

1-121-004-00
Capacitor, 220 µF 160 V;
elect (C902)

8-832-638-01
Motor, IC-638R (M2)
reel

1-452-072-00
Ring, magnet

1-117-100-11
Capacitor, 10 µF 150 V;
metalized paper (C903)

X-3534-140-0
Coil Ass'y, frequency
generator

1-205-523-00
Resistor, 820 Ω 35 W;
wirewound (R901)

1-117-036-22
Capacitor, 1.5 µF + 0.5 µF
250 V; metalized paper (905)

1-117-100-11
Capacitor, 10 µF 150 V;
metalized paper (C904)

1-227-135-00
Resistor, 100 Ω 35 W;
wirewound (R902)

A-2019-026-A
Complete Circuit Board,
system control

A-2095-016-A
Complete Circuit Board,
tension regulator

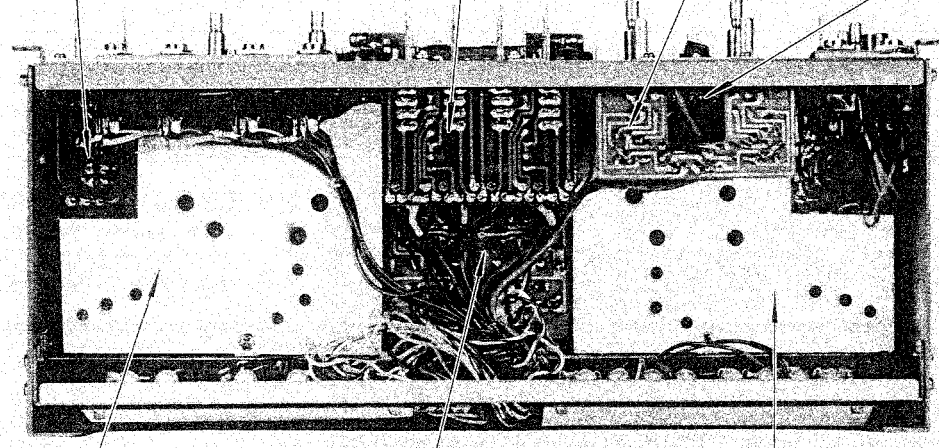
1-582-864-00
Printed Circuit Board,
terminal

A-2020-002-A
Complete Circuit Board,
servo amp

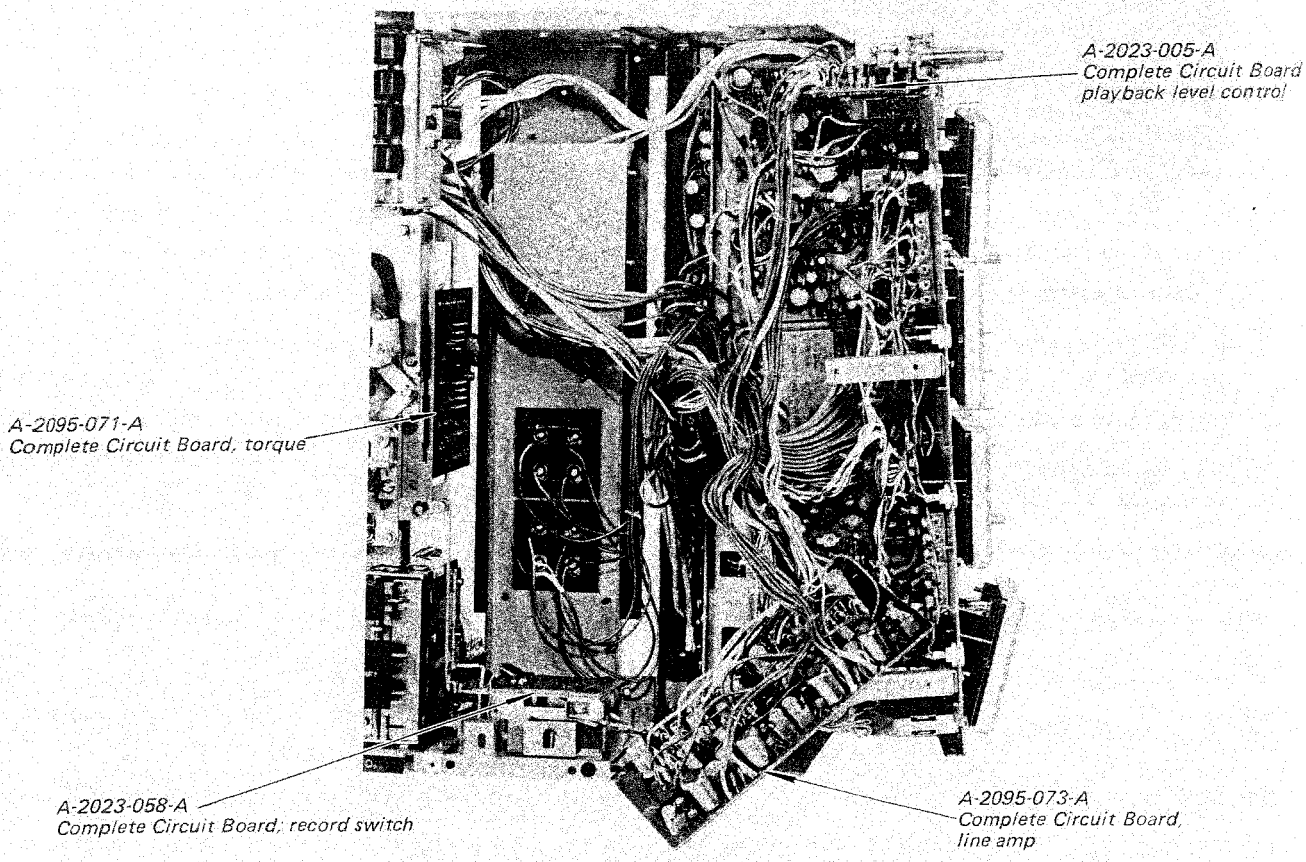
A-2008-019-A
Complete Circuit Board
playback/EQ

A-2095-075-A
Complete Circuit Board,
sync

– Bottom View –



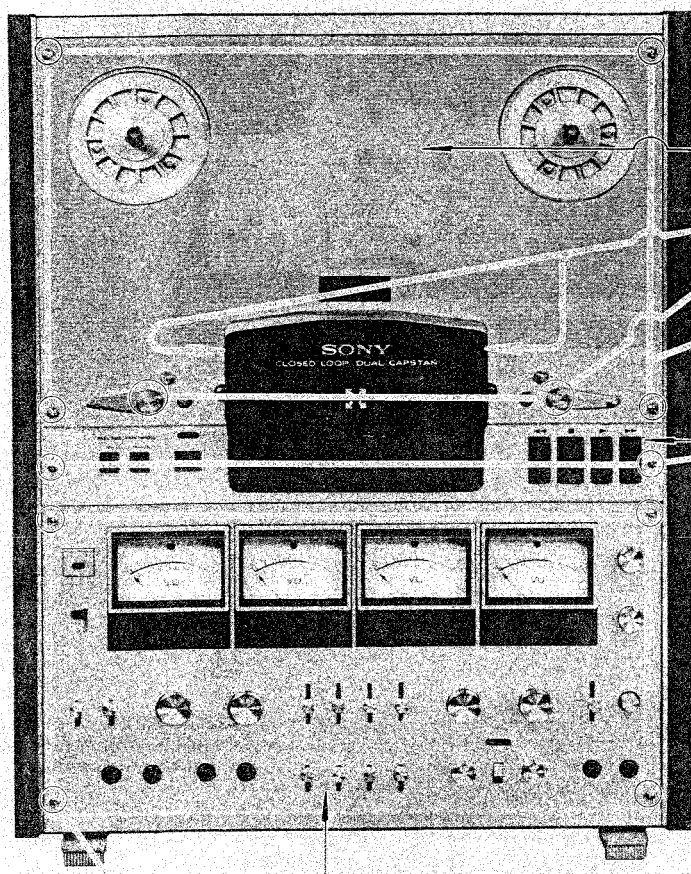
– Front View – with amp chassis removed



3. DISASSEMBLY

Cabinet Removal

Remove six screws on the rear and six screws on the both sides of the cabinet.



Reel Panel Removal

1. Turn the nuts counterclockwise by using a pin-fase nut-driver and remove the tension arm.
2. Loosen the setscrews and remove the head cover.
3. Remove the four screws RK 3 x 8.

Control Panel Removal

Remove the two screws B 3 x 6.

Note: The control panel is removed along with the lower head-cover.

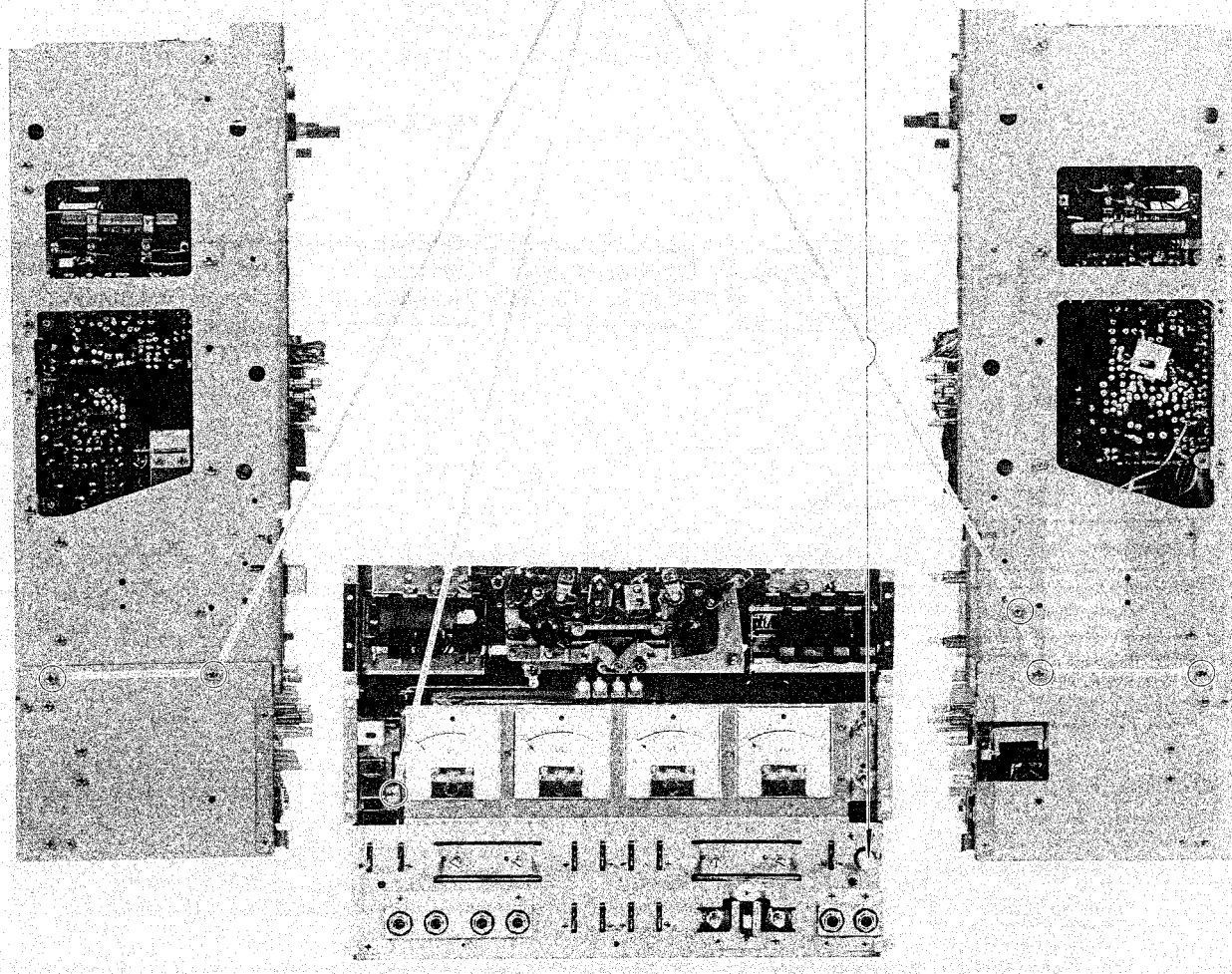
Amp Panel Removal

1. Remove each control knob by loosening the setscrew.
2. Pull off the knob of each lever switch.
3. Remove the four screws RK 3 x 8.

Amp Chassis Removal

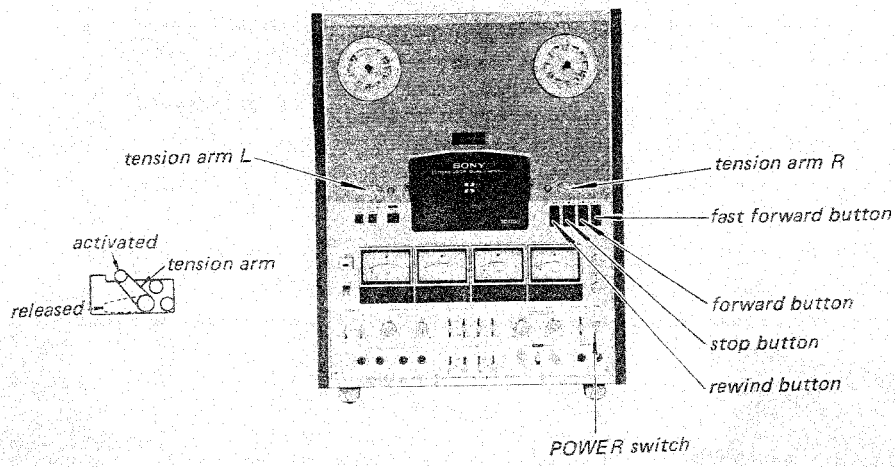
Remove the six screws PS 3 x 6.

Note: With the amp chassis removed, the torque circuit board, playback level control circuit board, record switch circuit board, and line amp circuit board can be checked.



4. MECHANICAL ADJUSTMENTS

Function Switch Check



1. Activate both tension arms. → Turn POWER switch ON. → Release both tension arms. → Press each function button. → The mechanism should not operate and function buttons should not lock.

2. With POWER switch turned ON.

Activate tension arm L. ┐
Activate tension arm R. ├→ STOP solenoid should be energized.
Activate both tension arms L and R. ┘

3. With POWER switch turned ON and with either tension arm activated.

Press forward button. → Forward button should lock. → Release the tension arm. → Forward button should release.

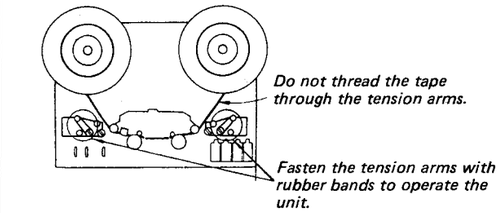
Press forward button. → Press stop button. → Forward button should release.

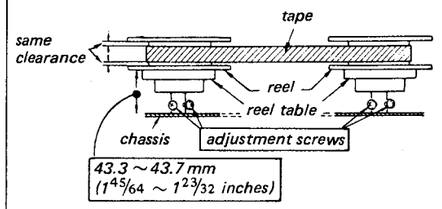
Press forward button. → Turn POWER switch OFF. → Forward button keeps lock. → Turn POWER switch ON. → Forward button keeps lock.

Press fast forward button.	Fast forward button should lock.	Release the tension arm.	Fast forward button should release.
Press fast forward button.	Press stop button.	Fast forward button should release.	
Press rewind button.	Rewind button should lock.	Release the tension arm.	Rewind button should release.
Press rewind button.	Press stop button.	Rewind button should release.	

MEMO

Reel Table Height Adjustment
– Playback, Fast Forward, Rewind Modes –

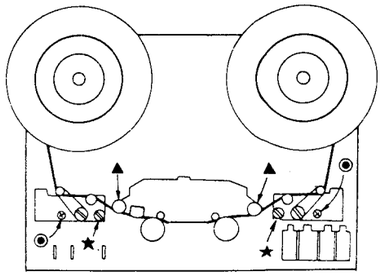




If necessary, loosen the adjustment screws and adjust the reel table height.

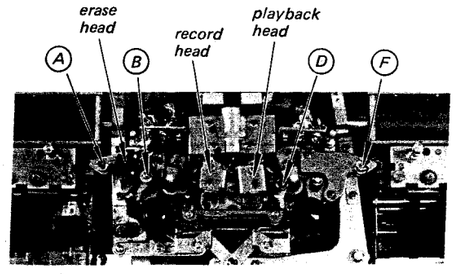
Tape Guides Adjustment (1)

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 2½ 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-guide screws indicated by ▲ for fine adjustment, so that the tape travels in the center of the guides without tape curl in forward playback mode.
5. When the tape curls, repeat the above steps.
6. After adjustment, lock the screws indicated by ◉ with locking compound.



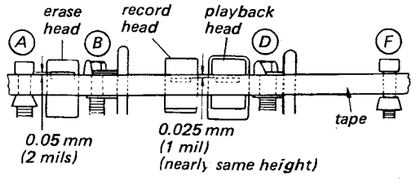
Tape Guide Adjustment (2)
– Playback Mode –

1. Make sure that tape does not curl at tape guides Ⓐ, Ⓑ, Ⓓ and Ⓕ.



If tape curls, perform the reel table height adjustment and the tape guide adjustment (1), and then adjust the tape guides Ⓐ, Ⓑ and Ⓕ relative to tape guide Ⓓ.

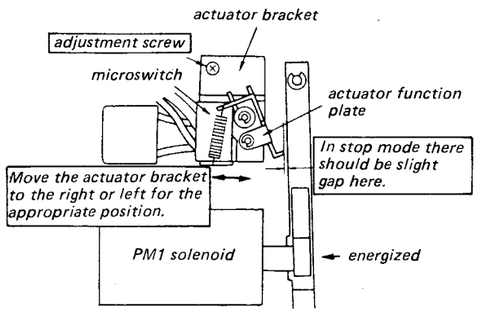
2. Make sure that the head height is as shown.



Note: If all the tape guides and the heads are not correctly positioned, adjust them so that the tape travels at the middle of the pinch roller rim.

Actuator Adjustment (1)

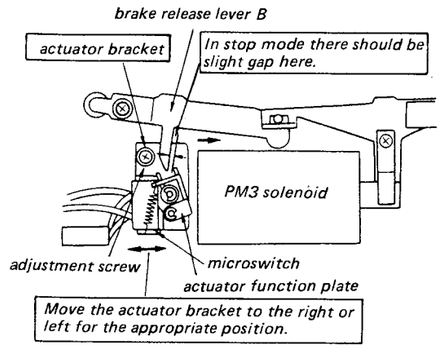
Perform this adjustment after the Pinch Roller (L) Solenoid (PM1) Position Adjustment. After the adjustment, apply locking compound to the adjusted screw.



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

Actuator Adjustment (2)

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

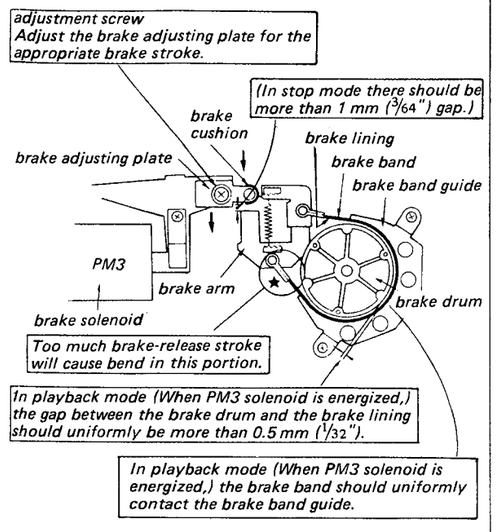


Note: The microswitch should turn OFF (click) in 0.5 to 2 seconds after forward button is pushed.

Brake Adjustment (1)

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

– Playback Mode –



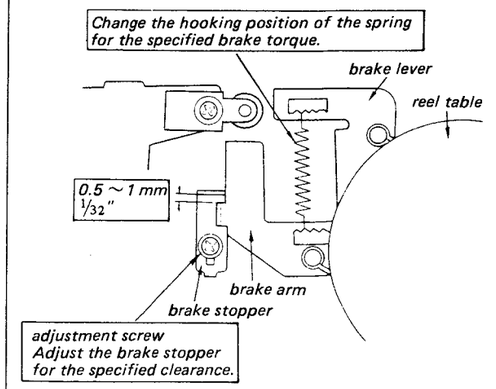
Brake Adjustment (2)

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

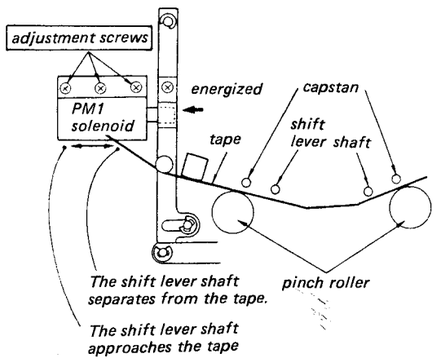
Specification:

Take-up Reel	Supply Reel	Brake Torque
clockwise	counterclockwise	1,800 ~ 2,500 g·cm (25.1 ~ 34.8 oz·inch)
counterclockwise	clockwise	600 ~ 700 g·cm (8.3 ~ 9.7 oz·inch)

– Stop Mode –



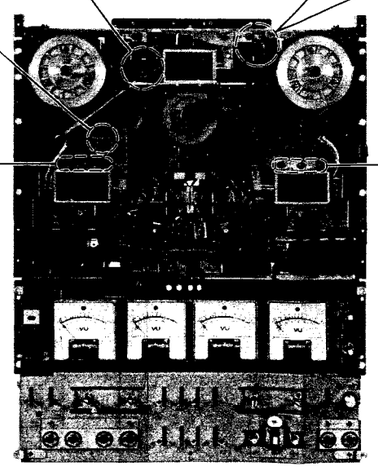
Pinch Roller (L) Solenoid (PM1) Position Adjustment



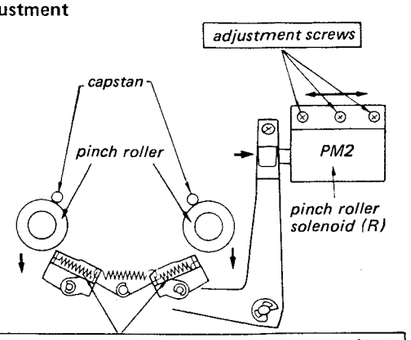
– Playback Mode –

With PAUSE lever depressed:

The shift lever shaft should not contact the tape and also the pinch rollers should separate from the capstans.
If necessary, loosen the adjustment screws and adjust the solenoid position.
After the adjustment, apply locking compound to the adjusted screws.



Pinch Roller (R) Solenoid (PM2) Position Adjustment



Specification as a reference:

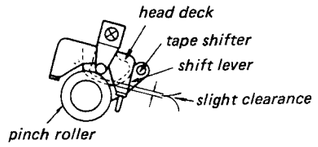
Pinch roller pressure: 1000 g ~ 1600 g
(2 lb 3 oz ~ 3 lb 8 oz)

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

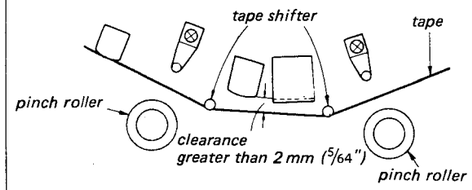
Tape Shifter Position Check

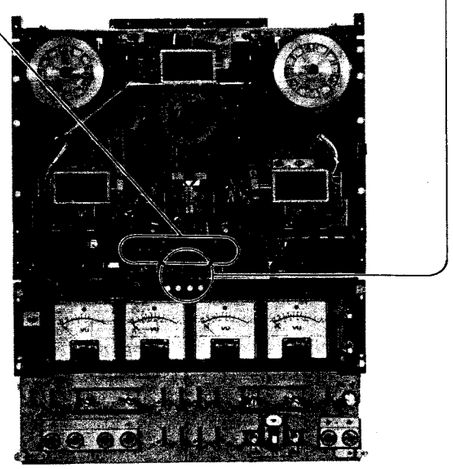
Perform this check for both left and right tape shifter in the horizontal operation.

1. – Playback Mode –



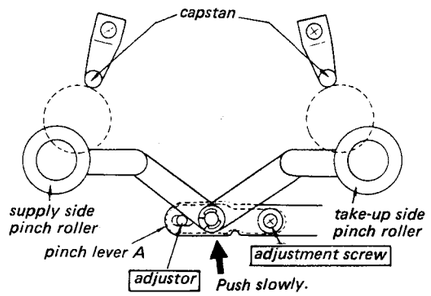
2. – Fast Forward and Rewind Modes – at the end of tape





Adjustor Adjustment
– Playback Mode –

With PAUSE button depressed:

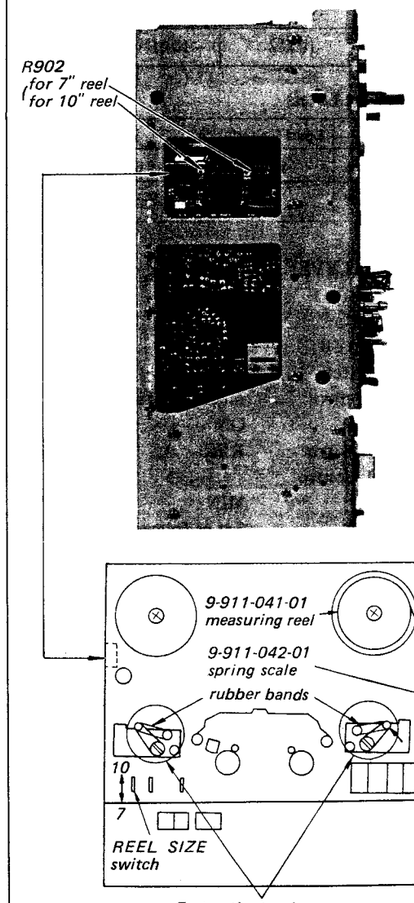


Adjustment	Pinch roller-to-capstan contact	Remarks
correct	Take-up side is a little later than supply side.	Within 0.5 mm (1/64") clearance on take-up side just when supply side begins to contact.
correct	Both sides are in simultaneous contact.	
wrong	Supply side is later than take-up side.	

Adjustment:

Loosen the adjustment screw and adjust by sliding the adjustor to the left or the right.

Playback Take-up Torque Adjustment



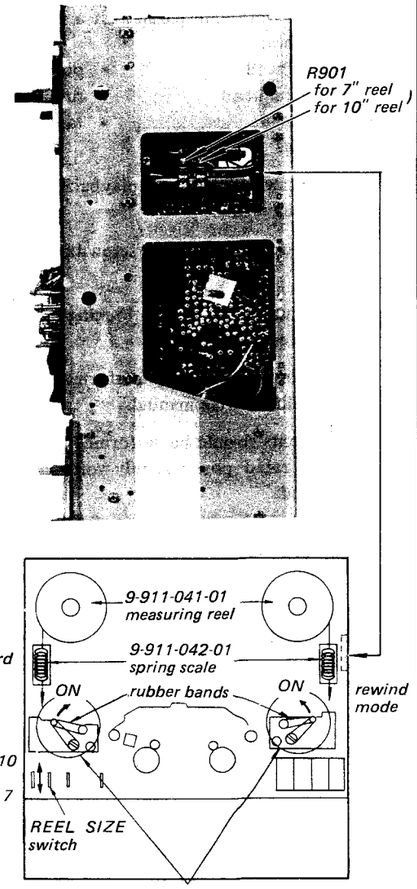
Fasten the tension arms with rubber bands to operate the unit.

Specification:

REEL SIZE switch	Take-up Torque
10	580 to 620 g·cm (8.05 to 8.61 oz·inch)
7	280 to 320 g·cm (3.89 to 4.45 oz·inch)

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

Fast Forward and Rewind Back-Tension Adjustment



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

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).

5. ELECTRICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a swab moistened with alcohol:
   * record head
   * playback head
   * erase heads
   * capstans
   * pinch rollers
   * rubber belts
   * tape guides
2. Demagnetize record and playback 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 should be performed for each channel with the rated power supply voltage unless otherwise noted.
7. Unless otherwise noted, switches and controls should be set as follows:

REEL SIZE switch:	7
TAPE SPEED switch:	19 cm, 7½
PAUSE lever:	released
TAPE SELECT switch:	BIAS: LOW EQ: SPECIAL
REC TIMER LOCK lever:	released
PULL ATT 20 dB:	not pulled
MONITOR switch:	TAPE
PB LEVEL control:	mechanical mid
PAN POT switch:	OFF
POWER switch:	ON

8. **Sony Test Tapes**

J-19-F2

Tone	1st	2nd	3rd	4th	5th	6th	7th
Frequency (Hz)	400	400	10 k	12.5 k	7 k	80	40
Level (dB)	0	−10	−10	−10	−10	−10	−10

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

9. **Normal Input Levels**

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

10. **Normal Output Levels**

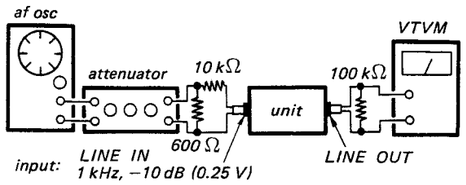
	Load Impedance	Level
LINE OUT	100 kΩ	−5 dB (0.44 V)
HEADPHONES	8 Ω	−25 dB (44 mV)

11. **Normal REC LEVEL Control Setting**

Settings:

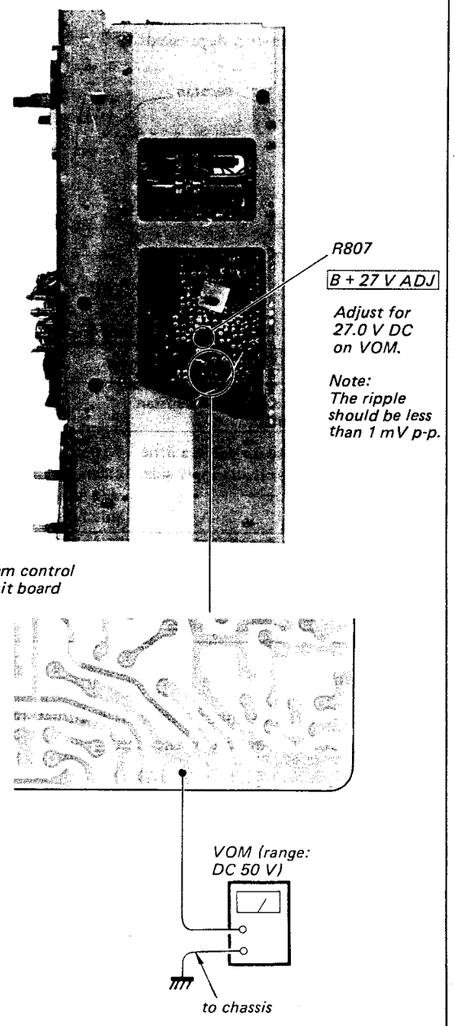
PULL ATT 20 dB:	not pulled
MONITOR switch:	SOURCE
PB LEVEL control:	mechanical mid
POWER switch:	ON
REC MODE switch:	REC
REC LEVEL control	
MIC:	MIN
LINE:	Set as follows:

Mode: record



Set LINE REC LEVEL control for −5 dB (0.44 V) VTVM reading.
If VU meters are correctly calibrated, set LINE REC LEVEL control for 0 VU on the VU meter.

1. B + 27 V Adjustment



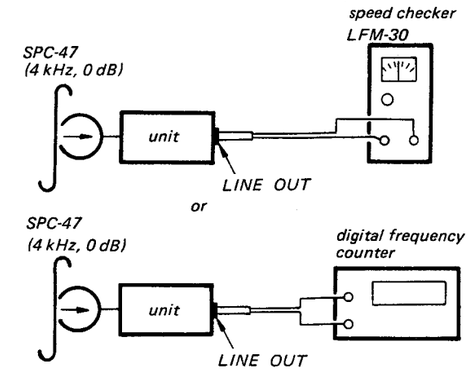
2. Tape Speed Adjustment

Settings:

TAPE SPEED switch:	38 cm, 15 and 19 cm, 7½
REC MODE switch:	PB

Procedure:

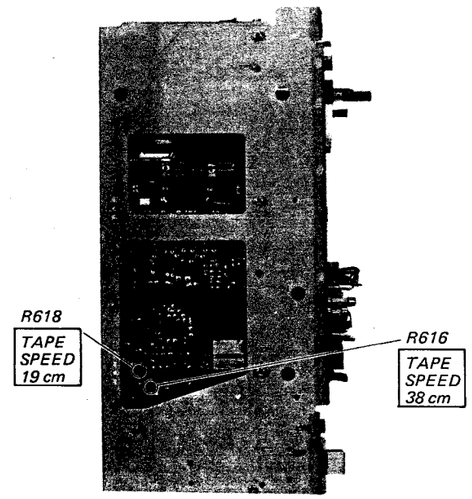
Mode: playback



TAPE SPEED switch	Adjust	Speed checker reading	Digital freq. counter reading
38 cm, 15	R616	−0.5 ~ +0.5 %	7,960 ~ 8,040 Hz
19 cm, 7½	R618	−1.0 ~ +1.0 %	3,960 ~ 4,040 Hz

Note: Difference between readings at the beginning and the end of tape:
within 40 Hz at 38 cm/s, 15 ips
within 40 Hz at 19 cm/s, 7½ ips

Adjustment Location:



3. VU Meter Calibration

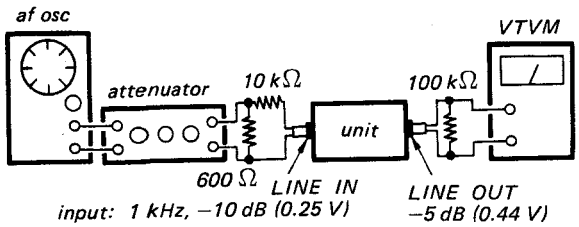
Settings:

MONITOR switch: SOURCE
REC MODE switch: REC

Procedure:

1. Calibrate the VU meters for 0 % indication with POWER switch OFF.
2. Mode: record

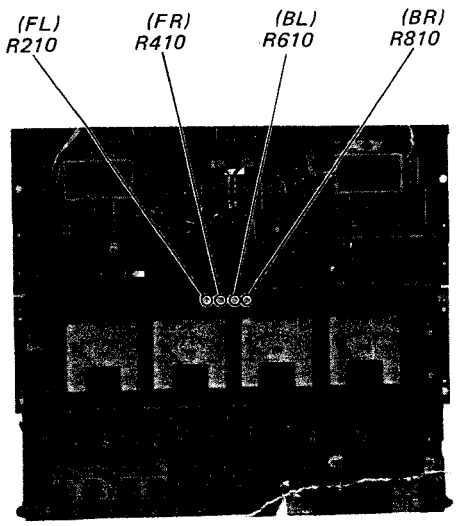
   Adjust LINE REC LEVEL control for −5 dB (0.44 V) VTVM reading.



3.

Channel	Adjust	Remarks
FRONT-L	R210	Adjust for 0 VU on VU meter.
FRONT-R	R410	
BACK-L	R610	
BACK-R	R810	

Adjustment Location:



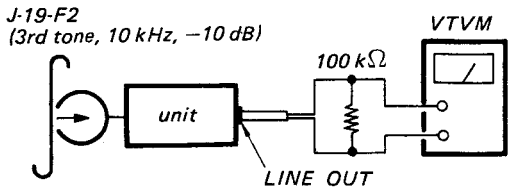
4. Playback Head Angle Adjustment

Settings:

REC MODE switch: PB

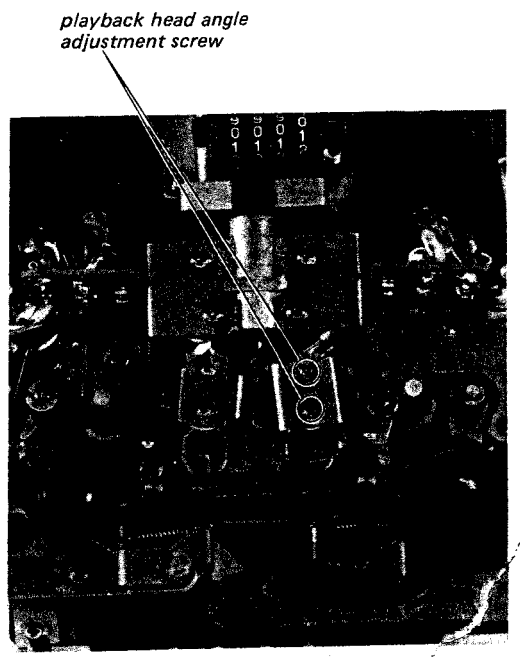
Procedure:

Mode: playback



Loosen the adjustment screws and adjust the playback head position for maximum VTVM reading.

Note: When slightly touching the supply reel, the output level should not drop more than 1 dB.



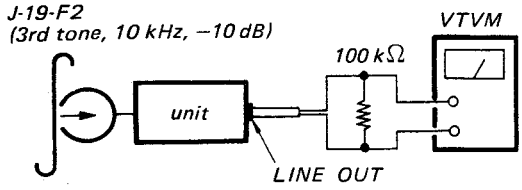
5. Playback Head Azimuth Adjustment

Settings:

REC MODE switch: PB

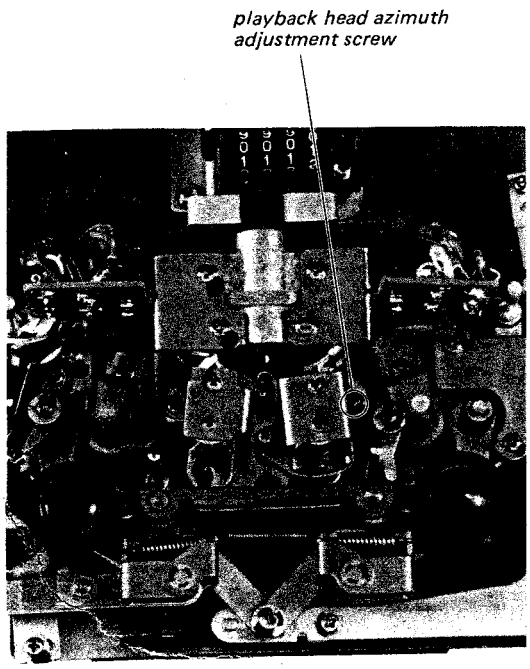
Procedure:

Mode: playback



Adjust the adjustment screw for maximum VTVM reading.

Note: If the maximum readings for all the channels can not be obtained at the same screw position, set the screw at the mid between both extreme positions of the screw.



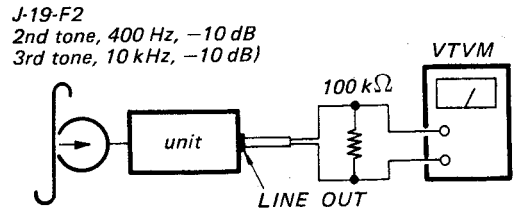
6. Playback Equalizer Adjustment

Settings:

TAPE SELECT (EQ) switch: NORMAL
REC MODE switch: PB

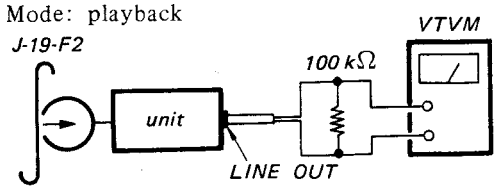
Procedure:

1. Mode: playback

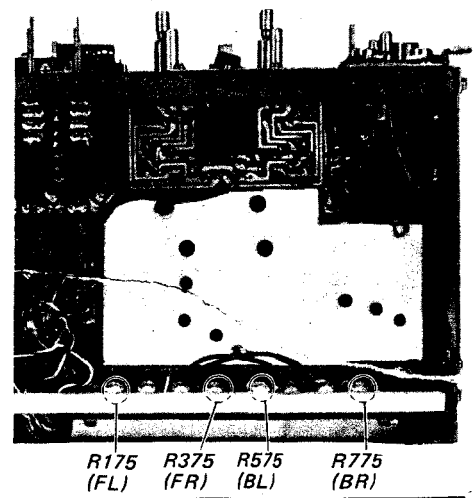


Playback	Adjust	Remarks
2nd tone 400 Hz	———	Memorize VTVM reading.
3rd tone 10 kHz	R175 (FRONT-L) R375 (FRONT-R) R575 (BACK-L) R775 (BACK-R)	Adjust for the same VTVM reading as 400 Hz playback level.

2. Check the following:
Mode: playback



Playback	Frequency	Level deviation
2nd tone	400 Hz	0 dB (reference)
3rd tone	10 kHz	0 ± 1.0 dB
4th tone	12.5 kHz	− 0.5 ± 1.5 dB
5th tone	7 kHz	0 ± 1.5 dB
6th tone	80 Hz	+ 2.0 ± 2.0 dB
7th tone	40 Hz	+ 2.5 ± 2.0 dB



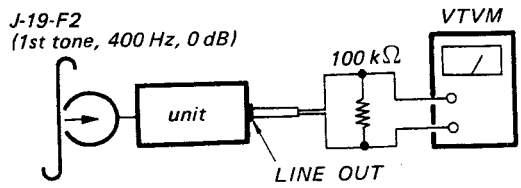
7. Playback Level Adjustment

Settings:

TAPE SELECT (EQ) switch: NORMAL
REC MODE switch: PB

Procedure:

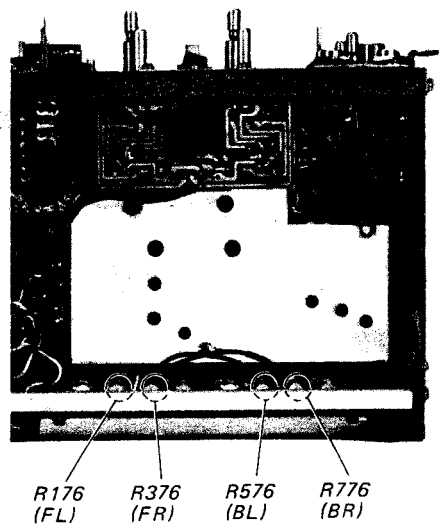
1. Mode: playback



Adjust	Remarks
R176 (FRONT-L) R376 (FRONT-R) R576 (BACK-L) R776 (BACK-R)	Adjust for −5 dB (0.44 V) VTVM reading.

Note: Difference among channels should be within 1.0 dB.

2. Turn TAPE SELECT (EQ) switch to SPECIAL and make sure that the output level drops by 2.5 ± 1.0 dB.



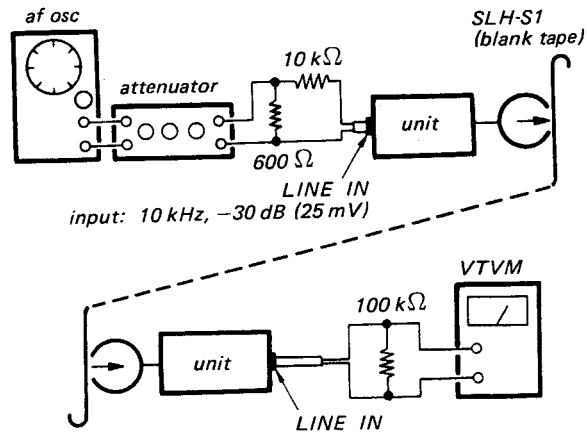
8. Record Head Angle Adjustment

Settings:

REC MODE switch: REC
REC LEVEL control
MIC: MIN
LINE: normal record setting
(See page 15.)

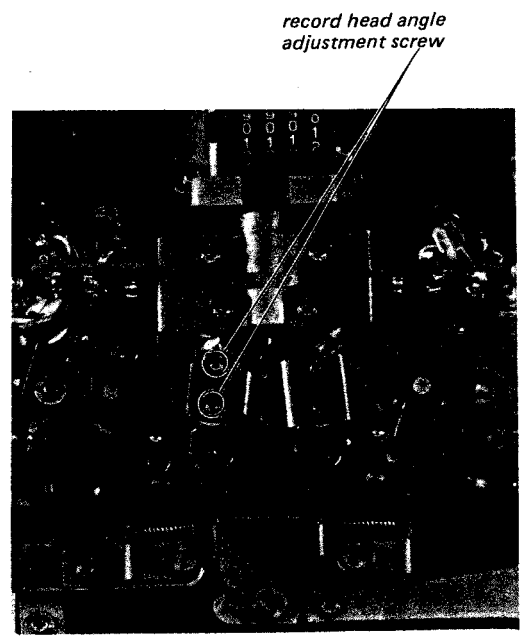
Procedure:

Mode: record



Loosen the adjustment screws and adjust the record head position for maximum VTVM reading.

Note: When slightly touching the supply reel, the output level should not drop more than 1 dB.



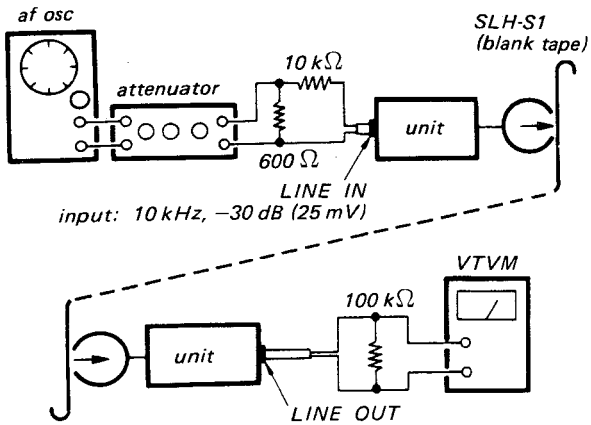
9. Record Head Azimuth Adjustment

Settings:

REC MODE switch: REC
REC LEVEL control
MIC: MIN
LINE: normal record setting
(See page 15.)

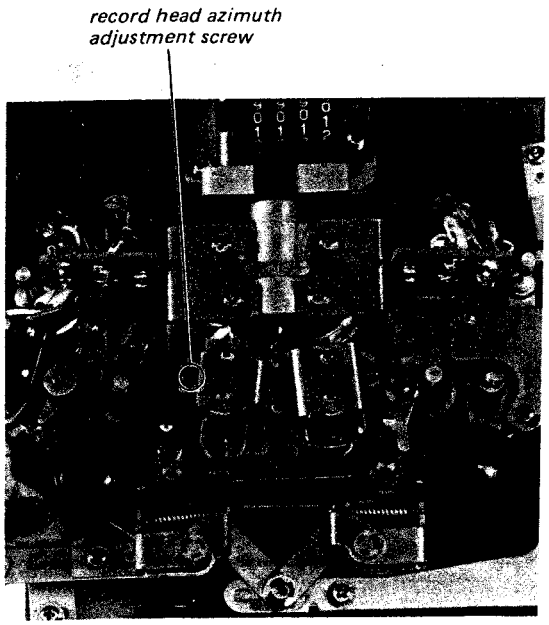
Procedure:

Mode: record



Adjust the adjustment screw for maximum VTVM reading.

Note: If the maximum readings for all the channels can not be obtained at the same screw position, set the screw at the mid between both extreme positions of the screw.



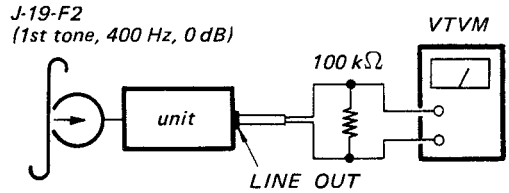
10. SYNCRO Level Adjustment

Settings:

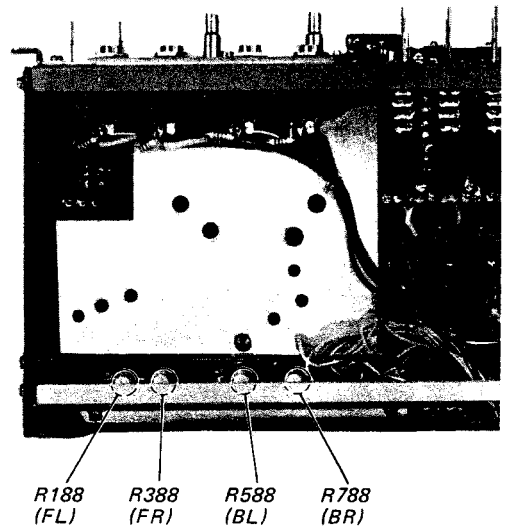
REC MODE switch: SYNCRO TRAK

Procedure:

Mode: playback



Adjust	Remarks
R188 (FRONT-L) R388 (FRONT-R) R588 (BACK-L) R788 (BACK-R)	Adjust for −5 dB (0.44 V) VTVM reading.



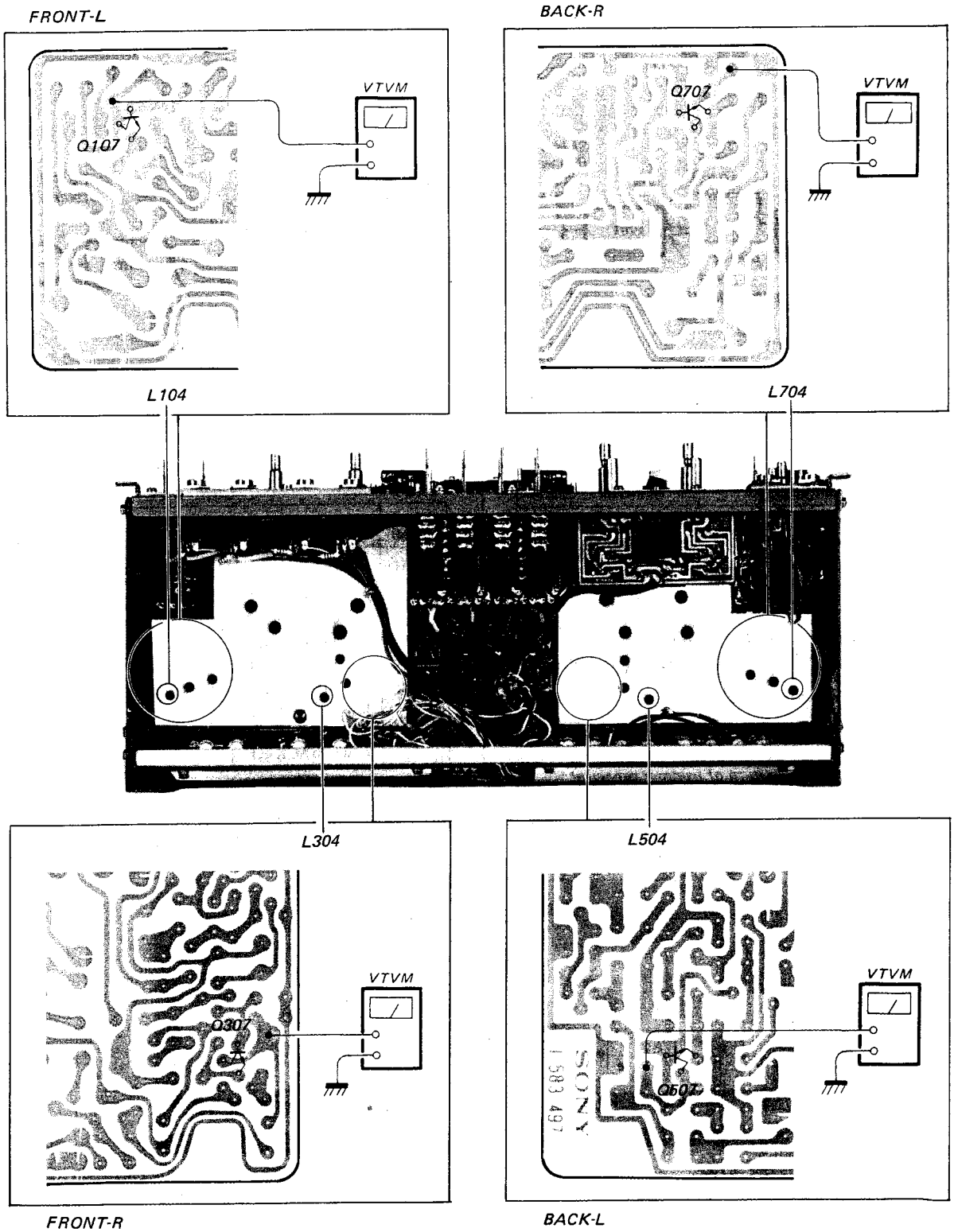
11. Record Bias Trap Adjustment

Settings:

REC MODE switch: REC

Procedure:

Mode: record with no signal input
Adjust for minimum VTVM reading.



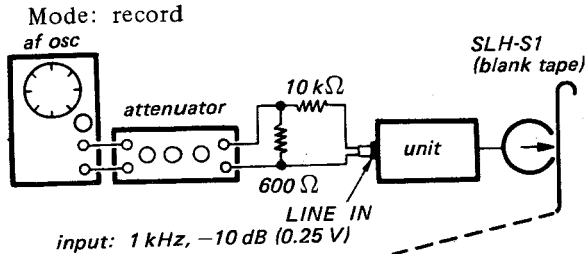
12. Record Bias Adjustment

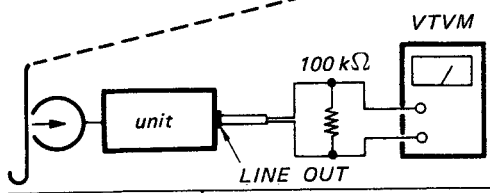
Settings:

REC MODE switch:	REC
REC LEVEL control	
MIC:	MIN
LINE:	normal record setting (See page 15.)

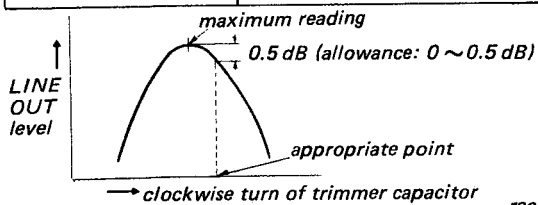
Procedure:

Mode: record





Adjust	Remarks
C904 (FRONT-L) C905 (FRONT-R) C906 (BACK-L) C907 (BACK-R)	Slowly turn the trimmer capacitor clockwise until VTVM reads 0.5 dB below and beyond the maximum reading.



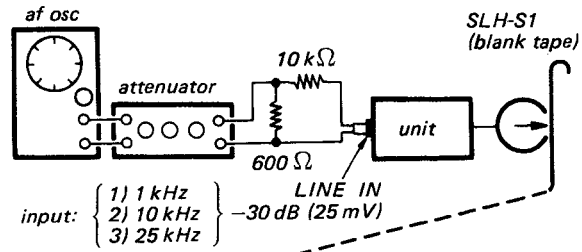
13. Record Equalizer Adjustment (38 cm/s, 15 ips)

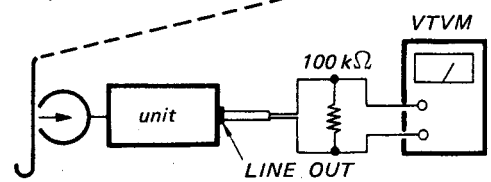
Settings:

TAPE SPEED switch:	38 cm, 15
REC MODE switch:	REC
REC LEVEL control	
MIC:	MIN
LINE:	normal record setting (See page 15.)

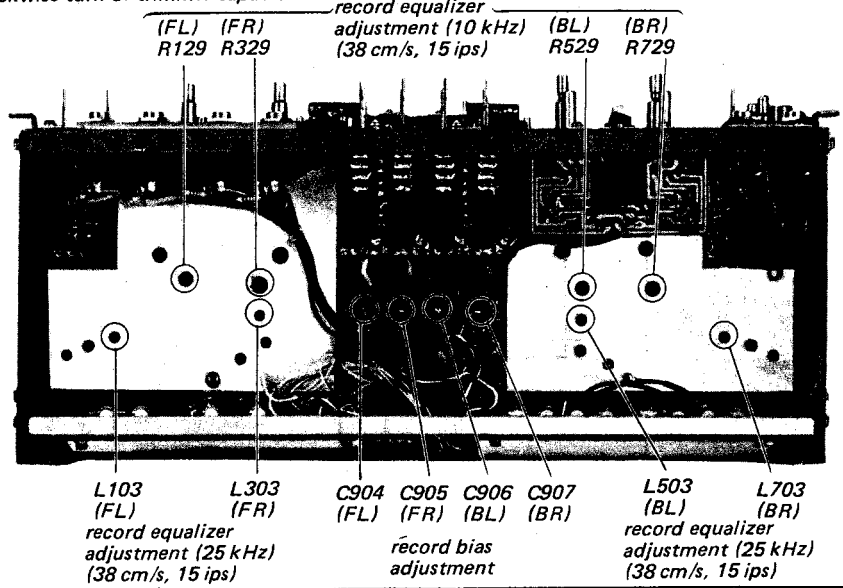
Procedure:

Mode: record





Input Signal	Adjust	Remarks
1 kHz	———	Memorize the output level.
10 kHz	R129 (FRONT-L) R329 (FRONT-R) R529 (BACK-L) R729 (BACK-R)	Adjust for the same level as 1-kHz output level.
25 kHz	L103 (FRONT-L) L303 (FRONT-R) L503 (BACK−L) L703 (BACK-R)	



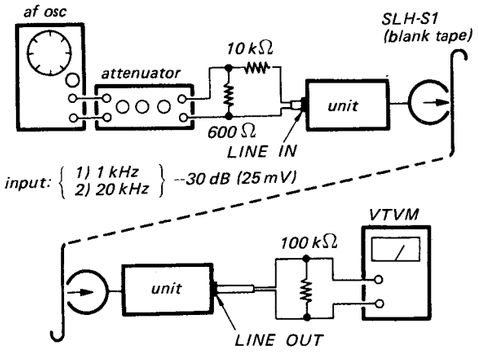
14. Record Equalizer Adjustment (19 cm/s, 7½ ips)

Settings:

TAPE SPEED switch:	19 cm, 7½
REC MODE switch:	REC
REC LEVEL control	
MIC:	MIN
LINE:	normal record setting (See page 15.)

Procedure:

Mode: record



Input Signal	Adjust	Remarks
1 kHz		Memorize the output level.
20 kHz	L102 (FRONT-L) L302 (FRONT-R) L502 (BACK-L) L702 (BACK-R)	Adjust for the same level as 1-kHz output level.

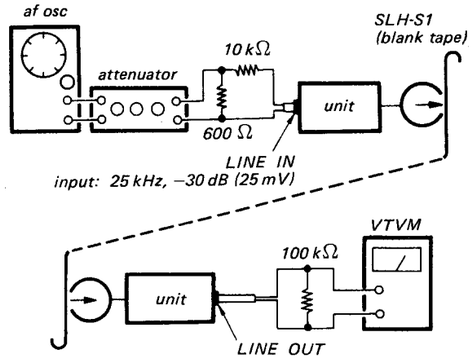
15. Dummy Coil Adjustment

Settings:

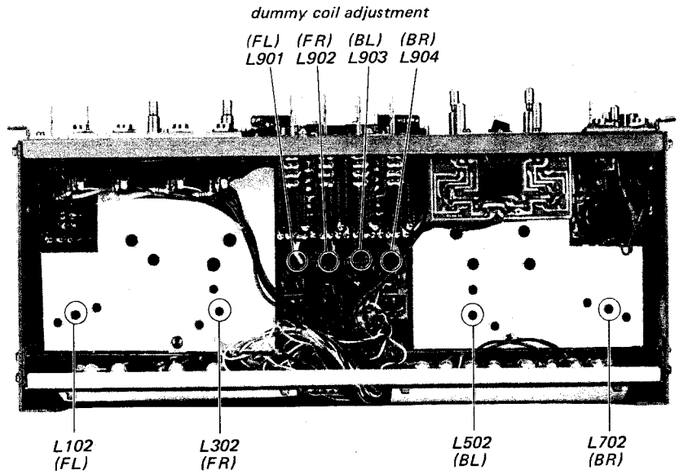
TAPE SPEED switch:	38 cm, 15
REC MODE switch:	REC
REC LEVEL control	
MIC:	MIN
LINE:	normal record setting (See page 15.)

Procedure:

Mode: record



REC MODE switch	Adjust	Remarks
all channel: REC	——	Memorize the output level.
FL only: PB	L901	Adjust for the same level as 1-kHz output level.
FR only: PB	L902	
BL only: PB	L903	
BR only: PB	L904	



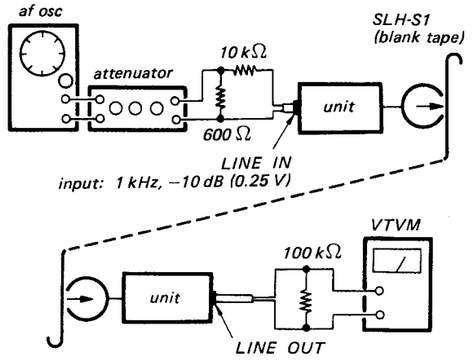
16. Record Level Adjustment

Settings:

TAPE SPEED switch:	38 cm, 15
REC MODE switch:	REC
REC LEVEL control	
MIC:	MIN
LINE:	normal record setting (See page 15.)

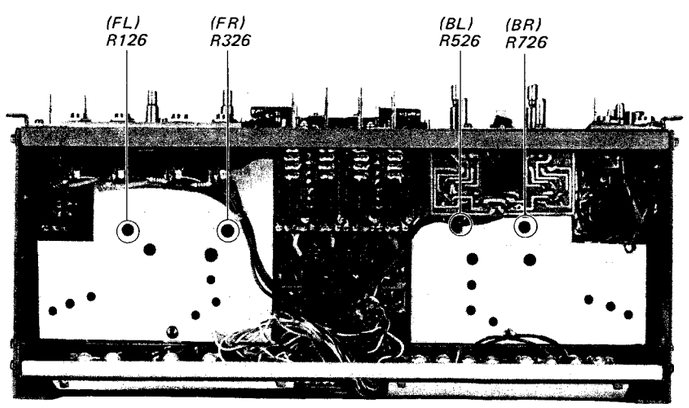
Procedure:

Mode: record



Adjust	Remarks
R126 (FRONT-L) R326 (FRONT-R) R526 (BACK-L) R726 (BACK-R)	Adjust for –5 dB (0.44 V) VTVM reading.

Note: Level difference among channels should be within 2 dB.



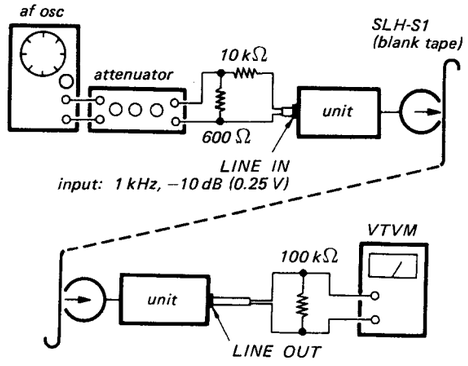
16. Record Level Adjustment

Settings:

TAPE SPEED switch:	38 cm, 15
REC MODE switch:	REC
REC LEVEL control	
MIC:	MIN
LINE:	normal record setting (See page 15.)

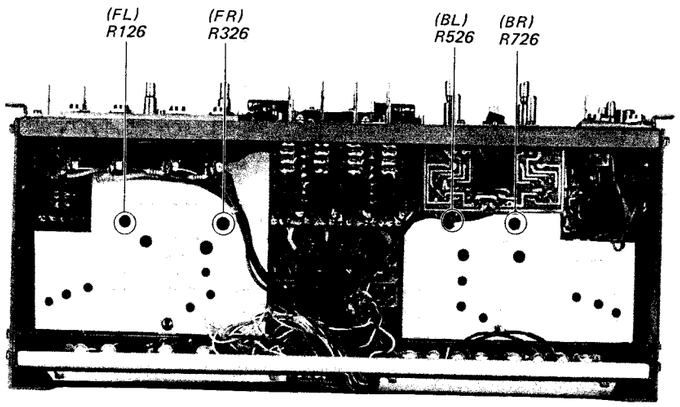
Procedure:

Mode: record



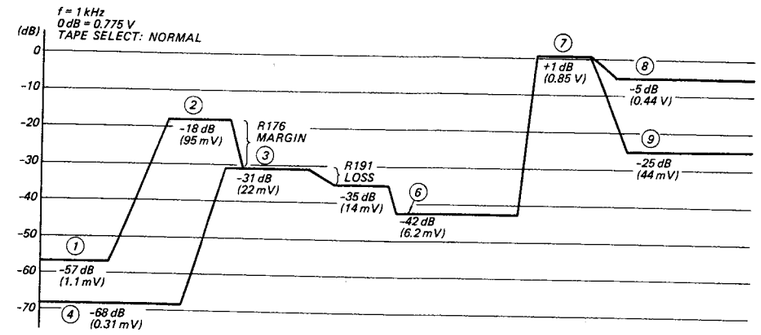
Adjust	Remarks
R126 (FRONT-L) R326 (FRONT-R) R526 (BACK-L) R726 (BACK-R)	Adjust for –5 dB (0.44 V) VTVM reading.

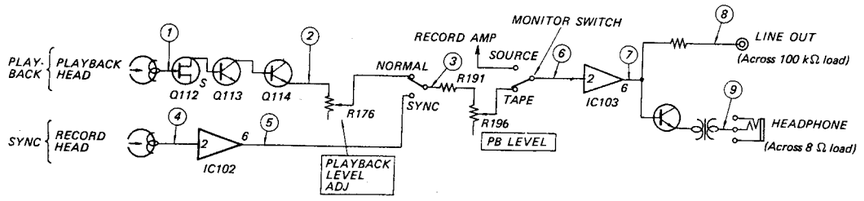
Note: Level difference among channels should be within 2 dB.



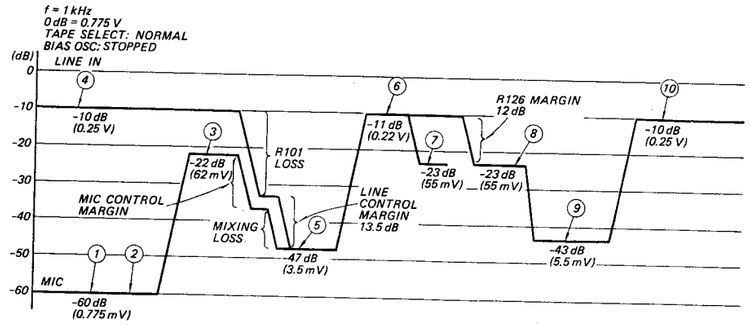
6. LEVEL DIAGRAMS

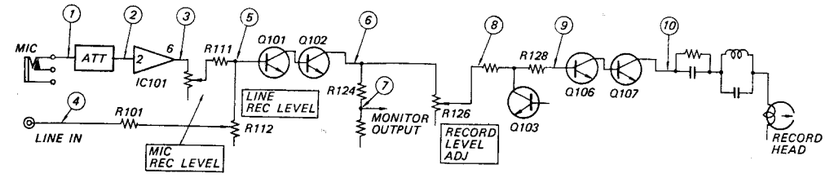
Playback Mode





Record Mode

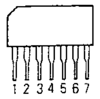




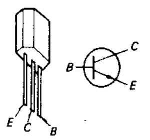
7. MOUNTING DIAGRAM (1) – Amplifier Section (1) –

– Conductor Side –

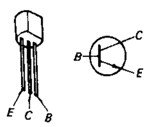
IC101, 301, 501, 701,
102, 302, 502, 702,
103, 303, 503, 703 : TA7122AP



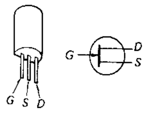
Q101, 301, 701,
501 (back record amp section),
113, 313, 513, 713 : 2SC632A
Q102 ~ 111,
302 ~ 311,
502 (back record amp section),
503 ~ 511,
702 ~ 711,
114, 314, 514, 714,
115, 315, 515, 715,
116, 316, 516, 716,
717,
118, 318, 518, 718,
119, 319, 519, 719 : 2SC634A



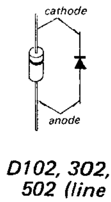
Q501 (bias osc section),
Q502 (bias osc section) : 2SC1475



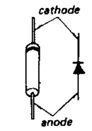
Q112, 312, 512, 712 : 2SK43



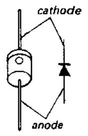
D101, 301, 501, 701 : IS2076

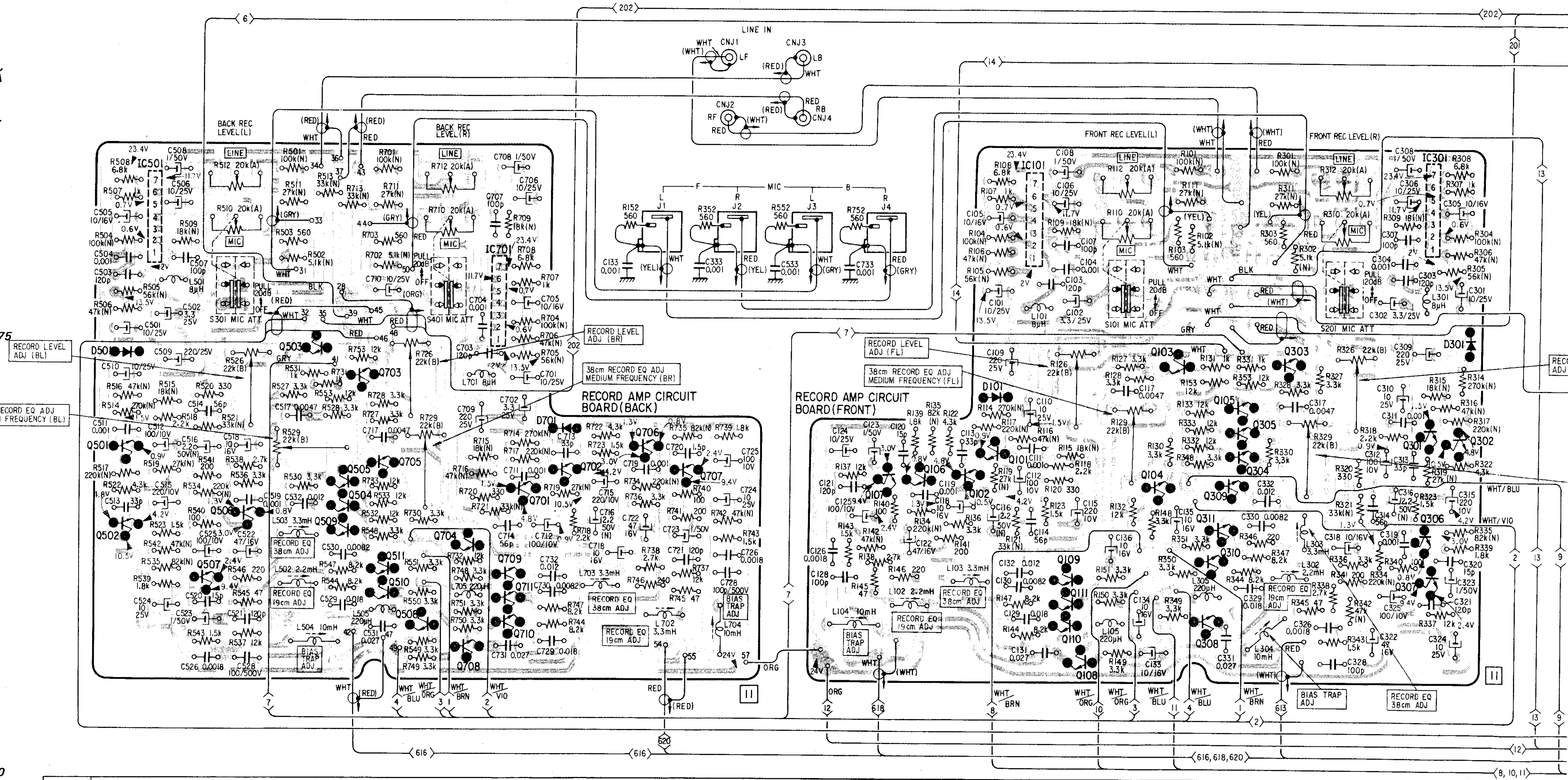


D102, 302, 702,
502 (line amp section),
103, 303, 703,
503 (line amp section) : 1T22
D104, 304, 504, 704,
105, 305, 505, 705,
501 (SYNC section),
503 (SYNC section),
503 (tape select section),
504 (tape select section) : 1T40



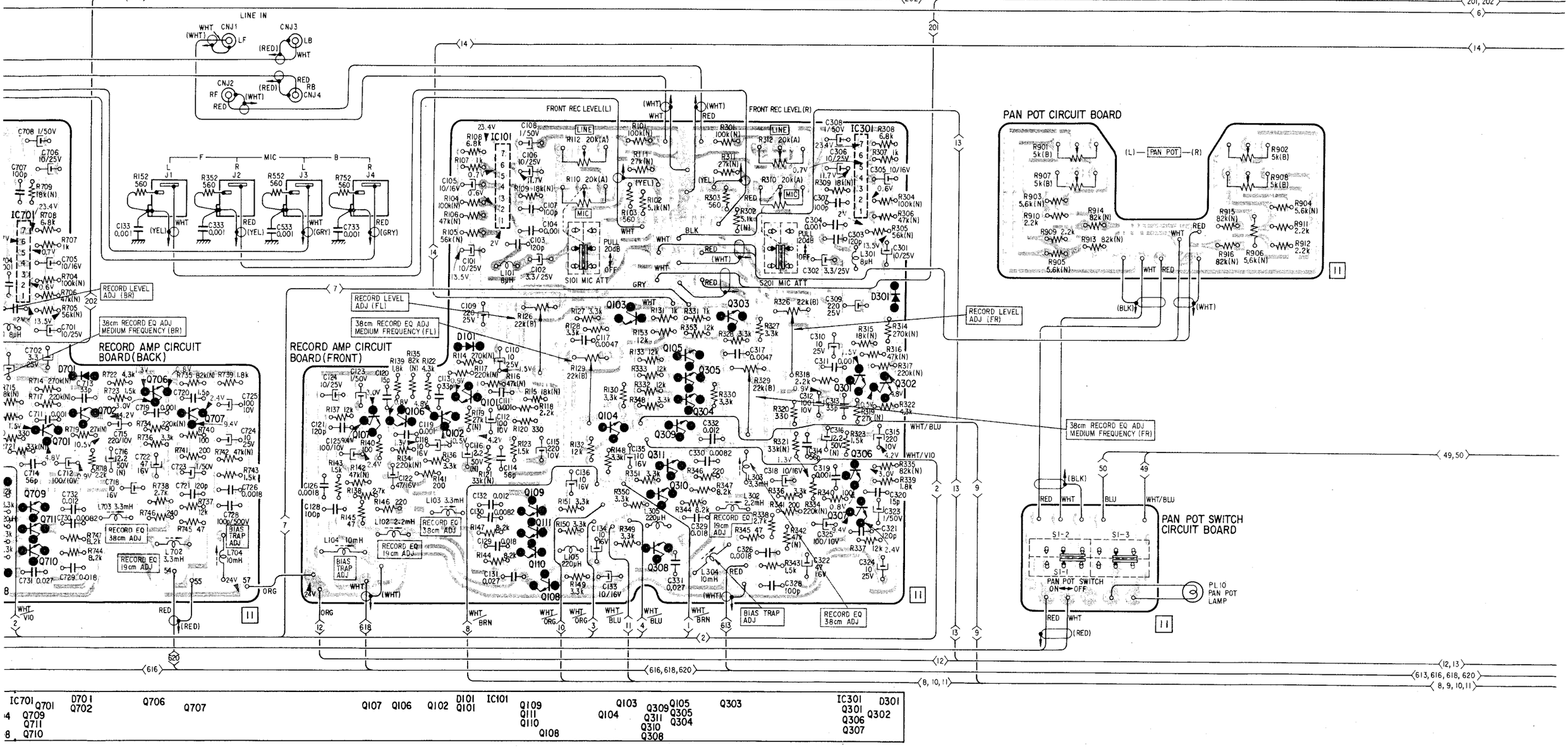
D502 (SYNC section) : 10E-2





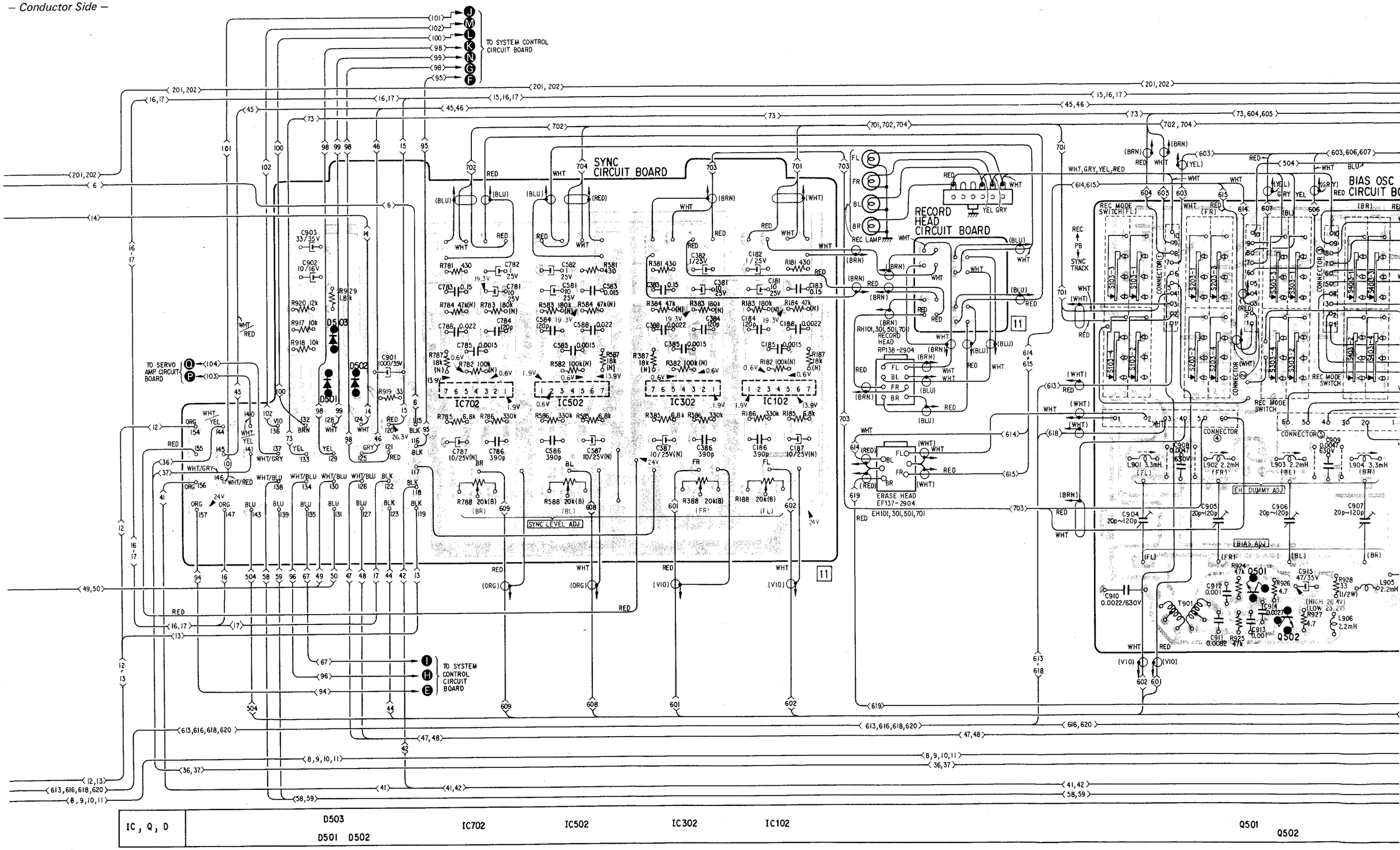
IC,Q,D	IC501 D501 Q501 Q502	Q507	Q506	Q503	Q703 Q705 Q505 Q504 Q509	Q511 Q510	Q508	Q704 Q708	IC701 Q709 Q711 Q710	Q701	D701 Q702	Q706	Q707	Q107	Q106	Q102	D101 Q101	IC101	Q109 Q111 Q110	Q108	Q104	Q103	Q309 Q311 Q310 Q308	Q105 Q305 Q304	Q303	IC301 Q301 Q306 Q307	D301 Q302

Note: Color in ( ) indicates color of tube which covers end of shielded wire.


LINE IN
CNJ1
CNJ2
CNJ3
CNJ4
F MIC L B R
J1
J2
J3
J4
FRONT REC LEVEL(L)
FRONT REC LEVEL(R)
IC101
IC301
LINE
MIC
PULL 20dB
S101 MIC ATT
S201 MIC ATT
PAN POT CIRCUIT BOARD
PAN POT
RECORD AMP CIRCUIT BOARD(BACK)
RECORD AMP CIRCUIT BOARD(FRONT)
RECORD LEVEL ADJ (BR)
RECORD LEVEL ADJ (FL)
RECORD LEVEL ADJ (FR)
38cm RECORD EQ ADJ MEDIUM FREQUENCY (BR)
38cm RECORD EQ ADJ MEDIUM FREQUENCY (FL)
38cm RECORD EQ ADJ MEDIUM FREQUENCY (FR)
RECORD EQ 38cm ADJ
RECORD EQ 19cm ADJ
BIAS TRAP ADJ
PAN POT SWITCH CIRCUIT BOARD
PAN POT SWITCH ON-OFF
PL10 PAN POT LAMP
IC701 Q701 Q709 Q711 Q710
D701 Q702
Q706
Q707
Q107 Q106 Q102
D101 Q101
IC101
Q109 Q111 Q110 Q108
Q103 Q104
Q309 Q311 Q310 Q308
Q105 Q305 Q304
Q303
IC301 Q301 Q306 Q307
D301 Q302

8. MOUNTING DIAGRAM (2) – Amplifier Section (2) –

– Conductor Side –



IC, Q, D	D503 D501 D502	IC702	IC502	IC302	IC102	Q501 Q502

M CONTROL BOARD

SYNC CIRCUIT BOARD

RECORD HEAD CIRCUIT BOARD

BIAS OSC CIRCUIT BOARD

RECORD SWITCH CIRCUIT BOARD

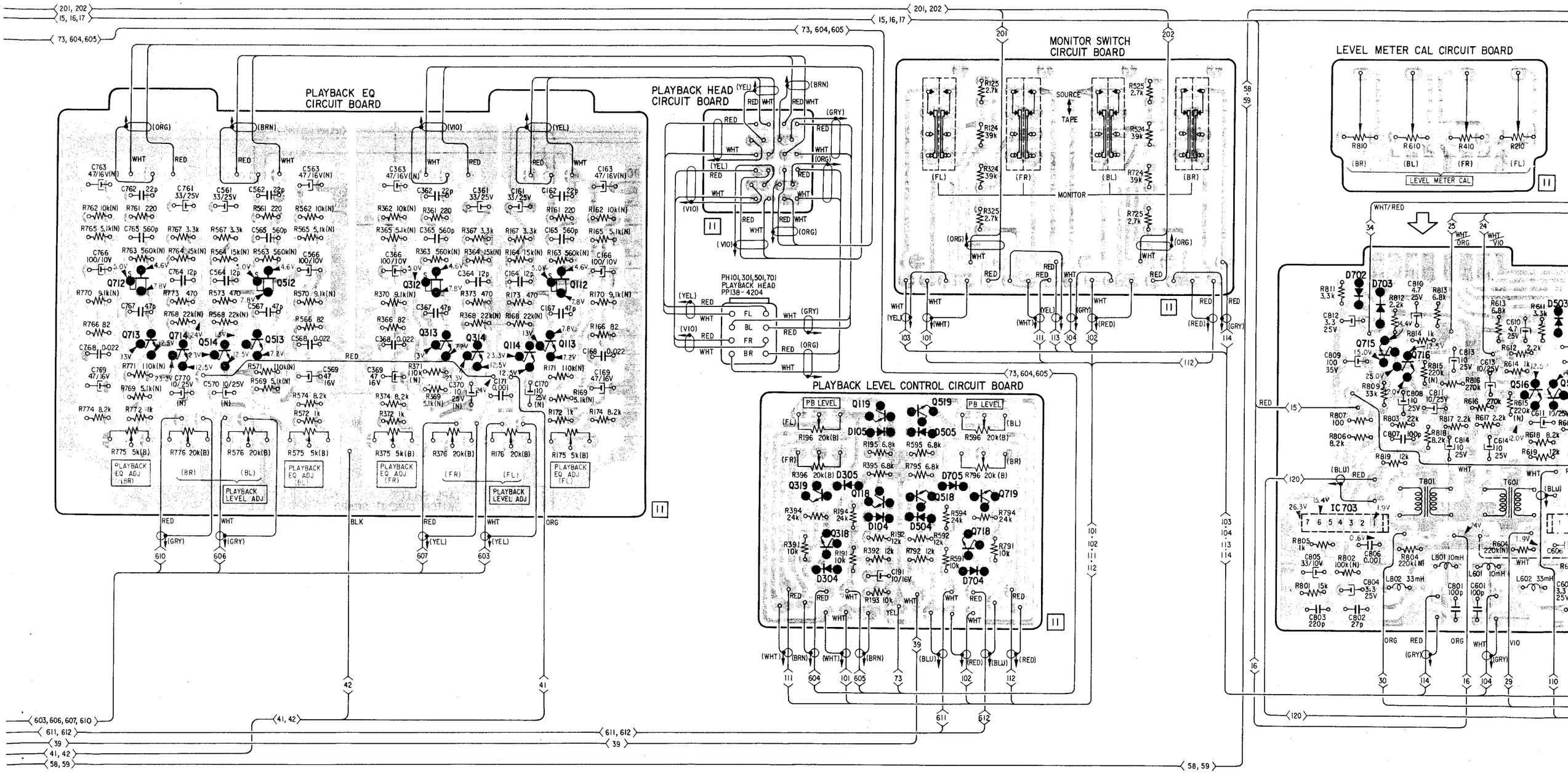
TAPE SELECT SWITCH CIRCUIT BOARD

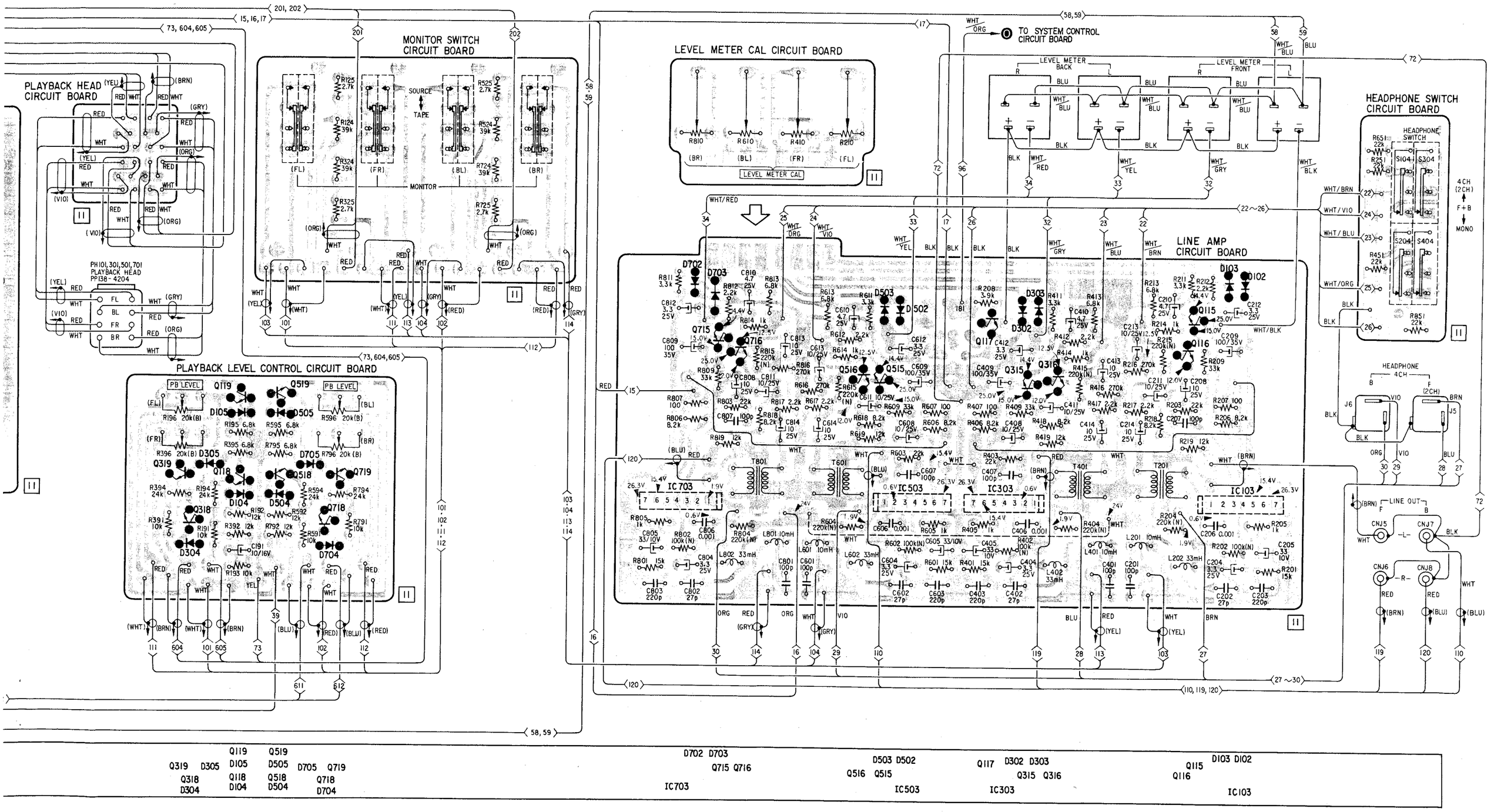
IC502 IC302 IC102 Q501 Q502 D504 D503

Note: Color in ( ) indicates color of tube which covers end of shielded wire.

9. MOUNTING DIAGRAM (3) – Amplifier Section (3) –

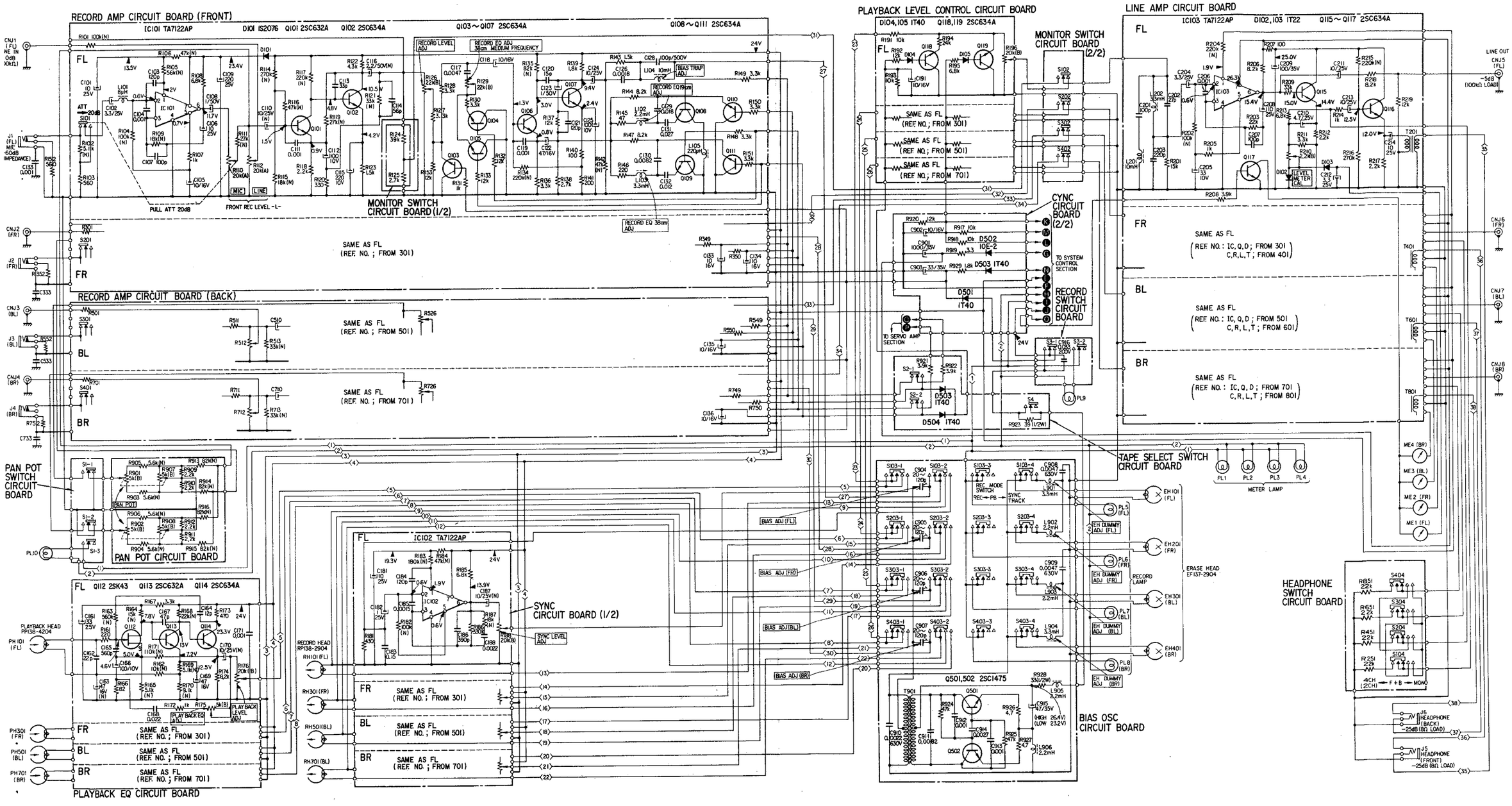
– Conductor Side –





Note: Color in ( ) indicates color of tube which covers end of shielded wire.

10. SCHEMATIC DIAGRAM (1) – Amplifier Section –



Note:

FL : Front Left
FR : Front Right
BL : Back Left
BR : Back Right

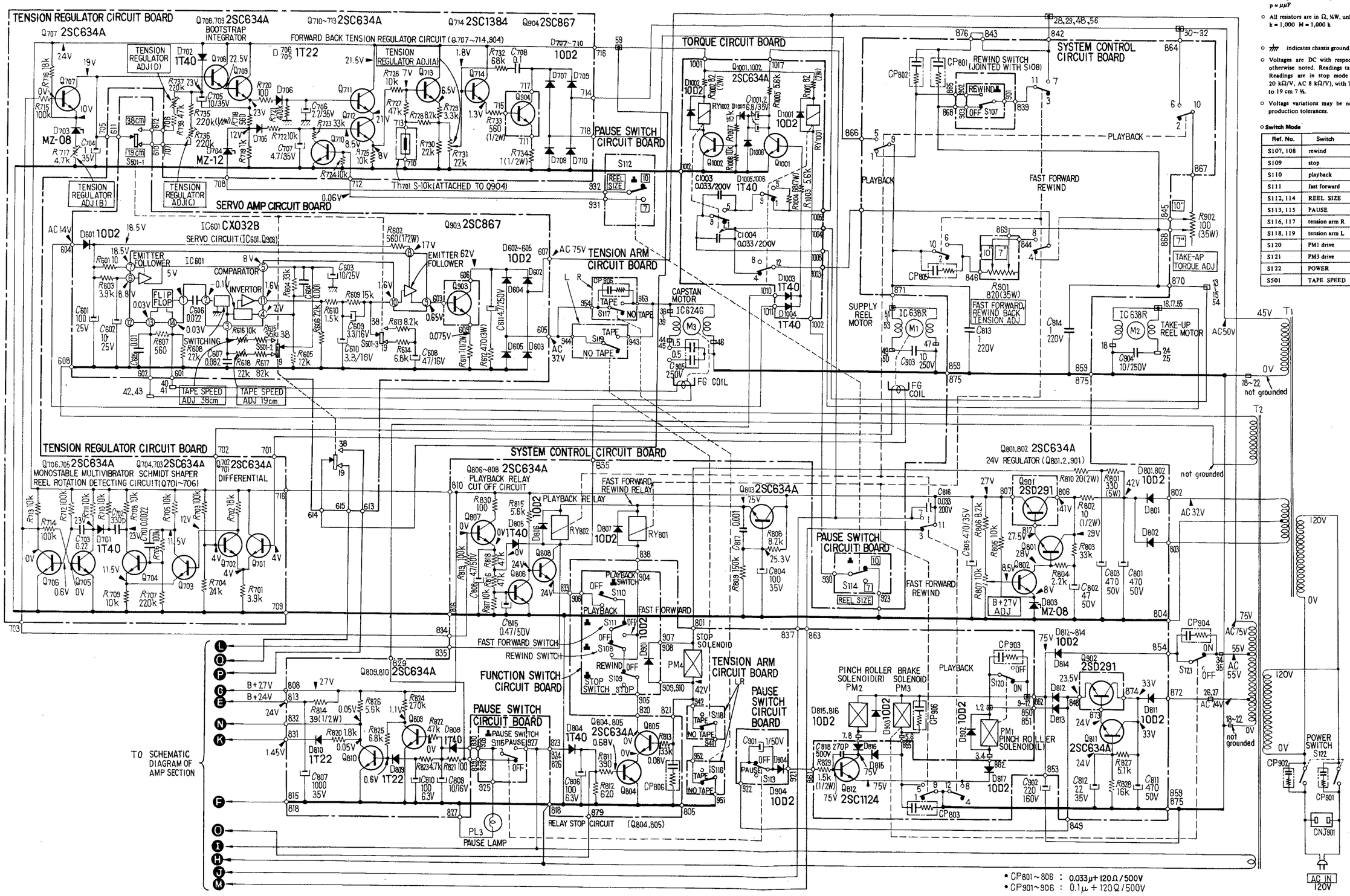
- All capacitors are in μF unless otherwise noted. p = μμF
- All resistors are in Ω, ¼W, unless otherwise noted. k = 1,000 M = 1,000 k
- (N) indicates a low-noise resistor.
- ⏚ indicates chassis ground.
- Voltages are DC with respect to ground unless otherwise noted. Readings taken under no-signal conditions with a VOM (20 kΩ/V). Readings in ( ) are in record mode.

  Voltage variations may be noted due to normal production tolerances.

○ Switch Mode

Ref. No.	Switch	Mode
S101, 201 S301, 401	MIC PULL ATT 20 dB	0 dB
S102, 202 S302, 402	MONITOR	TAPE
S103, 203 S303, 403	REC MODE	PB
S104, 204 S304, 404	HEADPHONE	4 CH (2 CH)
S1	PAN POT	OFF
S2	EQ, TAPE SELECT	NORMAL
S3	REC	OFF
S4	BIAS, TAPE SELECT	LOW

11. SCHEMATIC DIAGRAM (2) – System Control Section –



Note:

- All capacitors are in μF unless otherwise noted. p = μμF
- All resistors are in Ω, ¼W, unless otherwise noted. k = 1,000 M = 1,000 k
- ⏚ indicates chassis ground.
- Voltages are DC with respect to ground unless otherwise noted. Readings taken under no-signal. Readings are in stop mode with a VOM (DC 20 kΩ/V, AC 8 kΩ/V), with TAPE SPEED switch to 19 cm 7 ½.
- Voltage variations may be noted due to normal production tolerances.

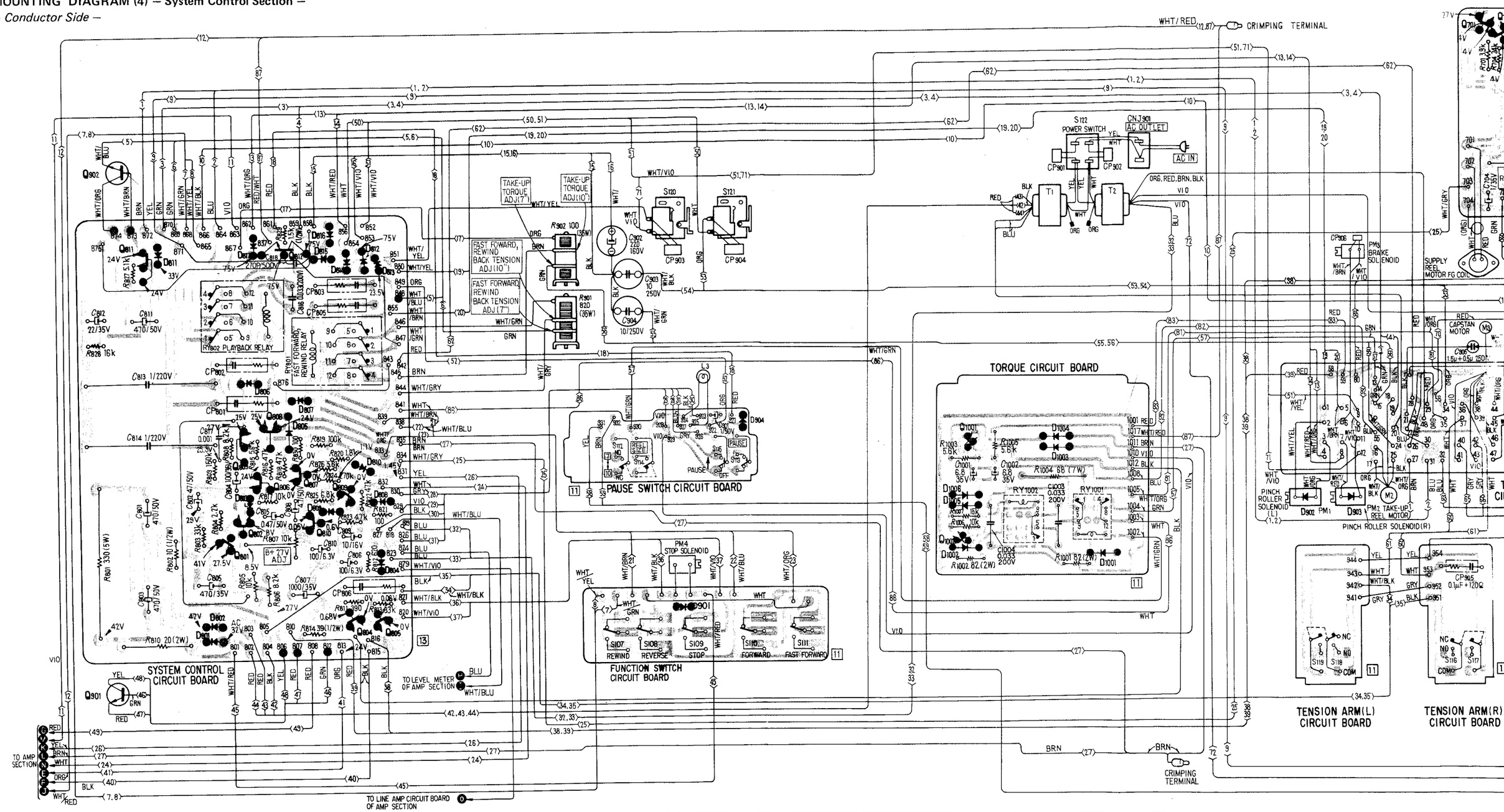
Switch Mode

Ref. No.	Switch	Mode
S107, 108	rewind	OFF
S109	stop	OFF
S110	playback	OFF
S111	fast forward	OFF
S112, 114	REEL SIZE	10 ½
S113, 115	PAUSE	OFF
S116, 117	tension arm R	OFF
S118, 119	tension arm L	OFF
S120	PM1 drive	ON
S121	PM3 drive	ON
S122	POWER	OFF
S501	TAPE SPEED	19 cm 7 ½

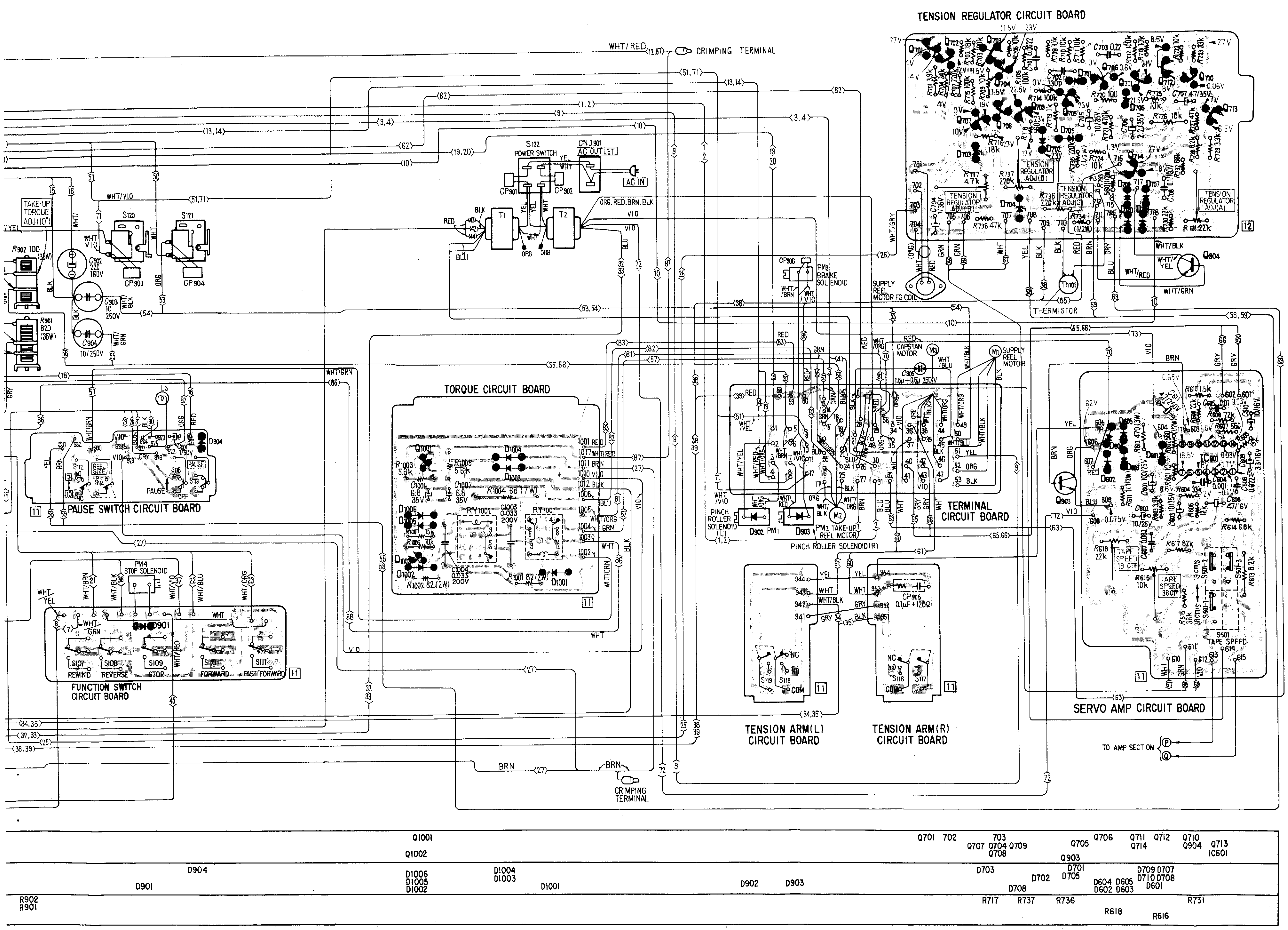
• CP801~806 : 0.033μ+120Ω/500V
• CP901~906 : 0.1μ+120Ω/500V

12. MOUNTING DIAGRAM (4) – System Control Section –

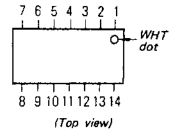
– Conductor Side –



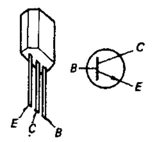
Q, IC	Q902 Q811 Q901 Q803 Q802 Q801 Q808 Q806 Q812 Q807 Q809 Q810 Q804 Q805 Q1001 Q1002 Q701
D	D811 D802 D801 D817 D806 D803 D807 D805 D816 D815 D809 D814 D812 D813 D810 D808 D804 D904 D901 D1006 D1005 D1002 D1004 D1003 D1001 D902 D903
ADJ	R902 R901



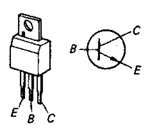
IC601 : CX032B



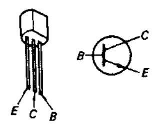
Q701 ~ 713,
801 ~ 811,
1001, 1002 : 2SC634A



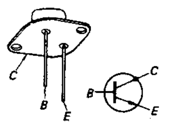
Q812 : 2SC1124



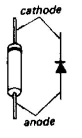
Q714 : 2SC1384



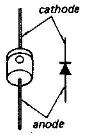
Q903, 904 : 2SC867
Q901, 902 : 2SD291



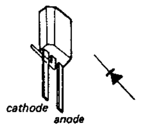
D705, 706, 809, 810 : 1T22
D701, 702, 804, 805,
808, 1003 ~ 1006 : 1T40



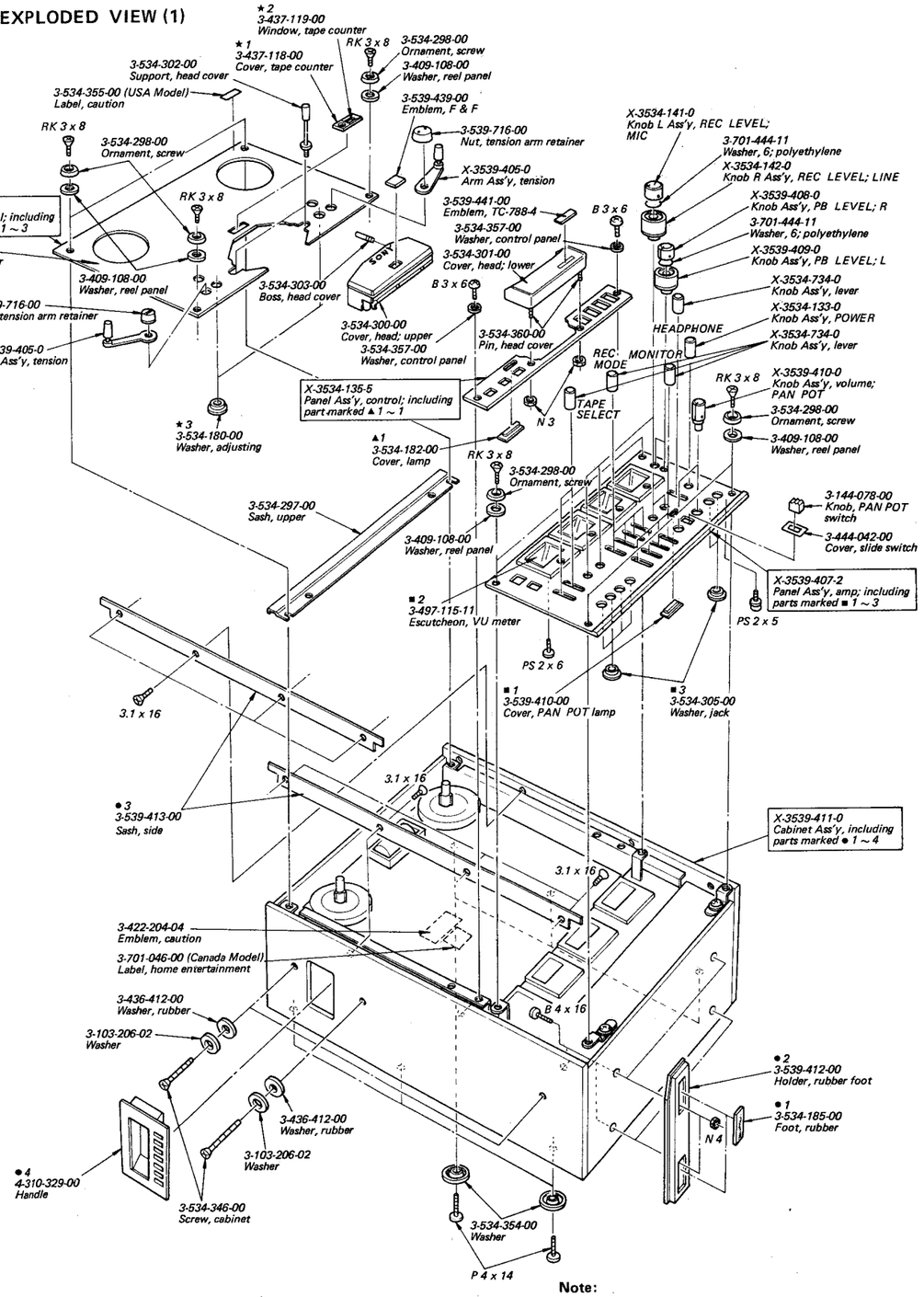
D601 ~ 605,
707 ~ 710,
801, 802, 806, 807,
811 ~ 817,
901 ~ 904,
1001, 1002 : 10D-2



D703, 803 : MZ08
D704 : MZ12



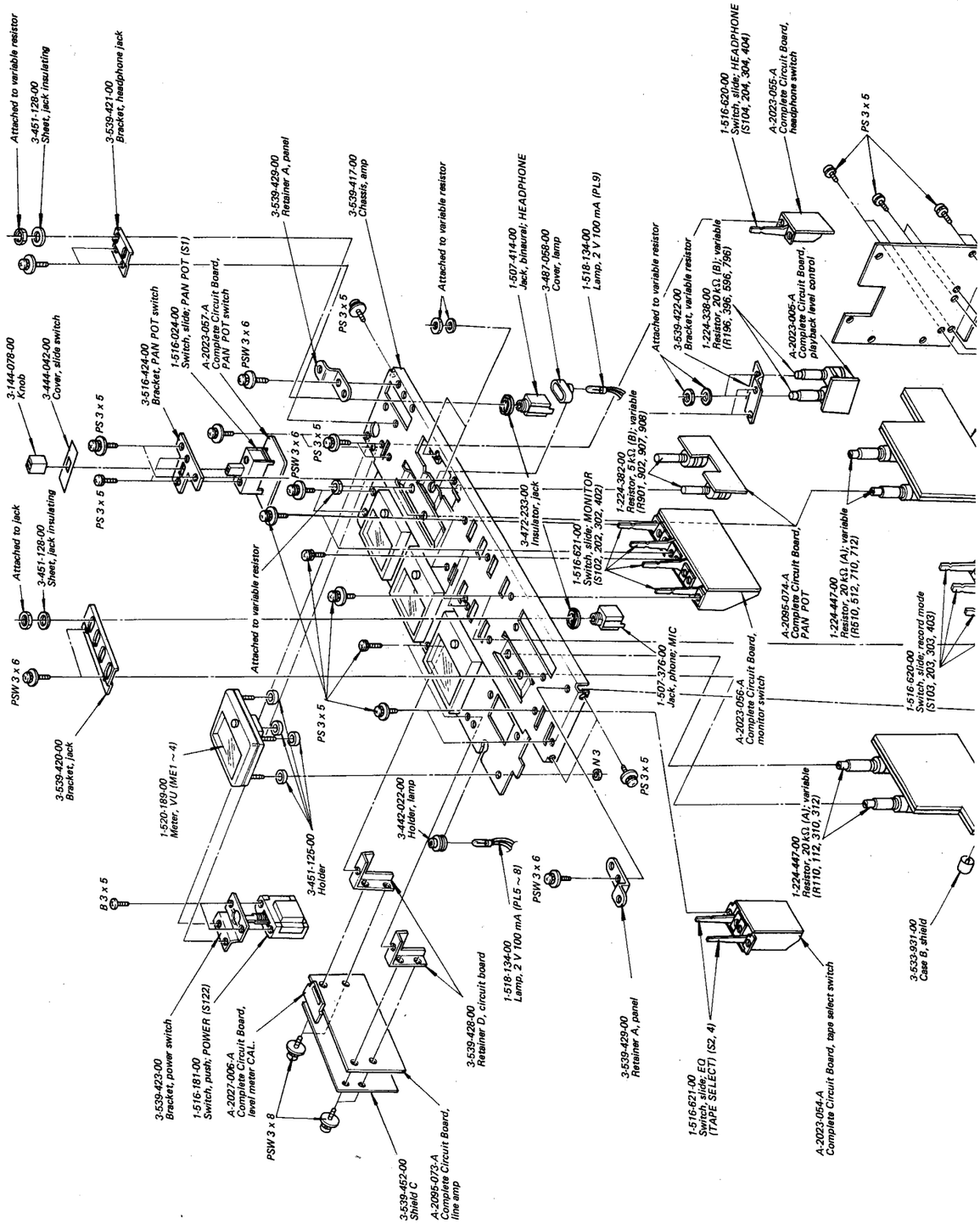
13. EXPLODED VIEW (1)



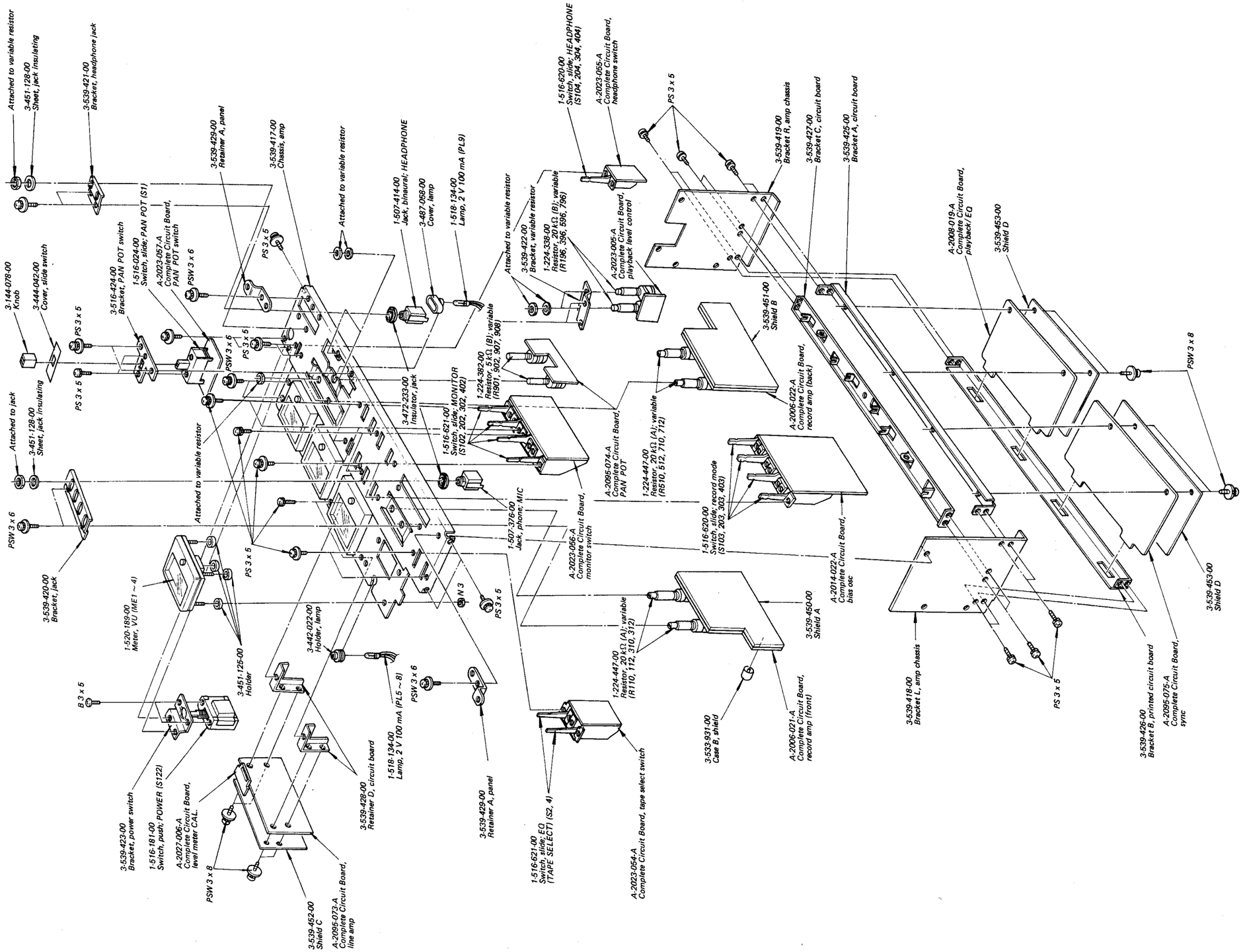
Note:

- ○ Items without part number and description are not available.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

14. EXPLODED VIEW (2)



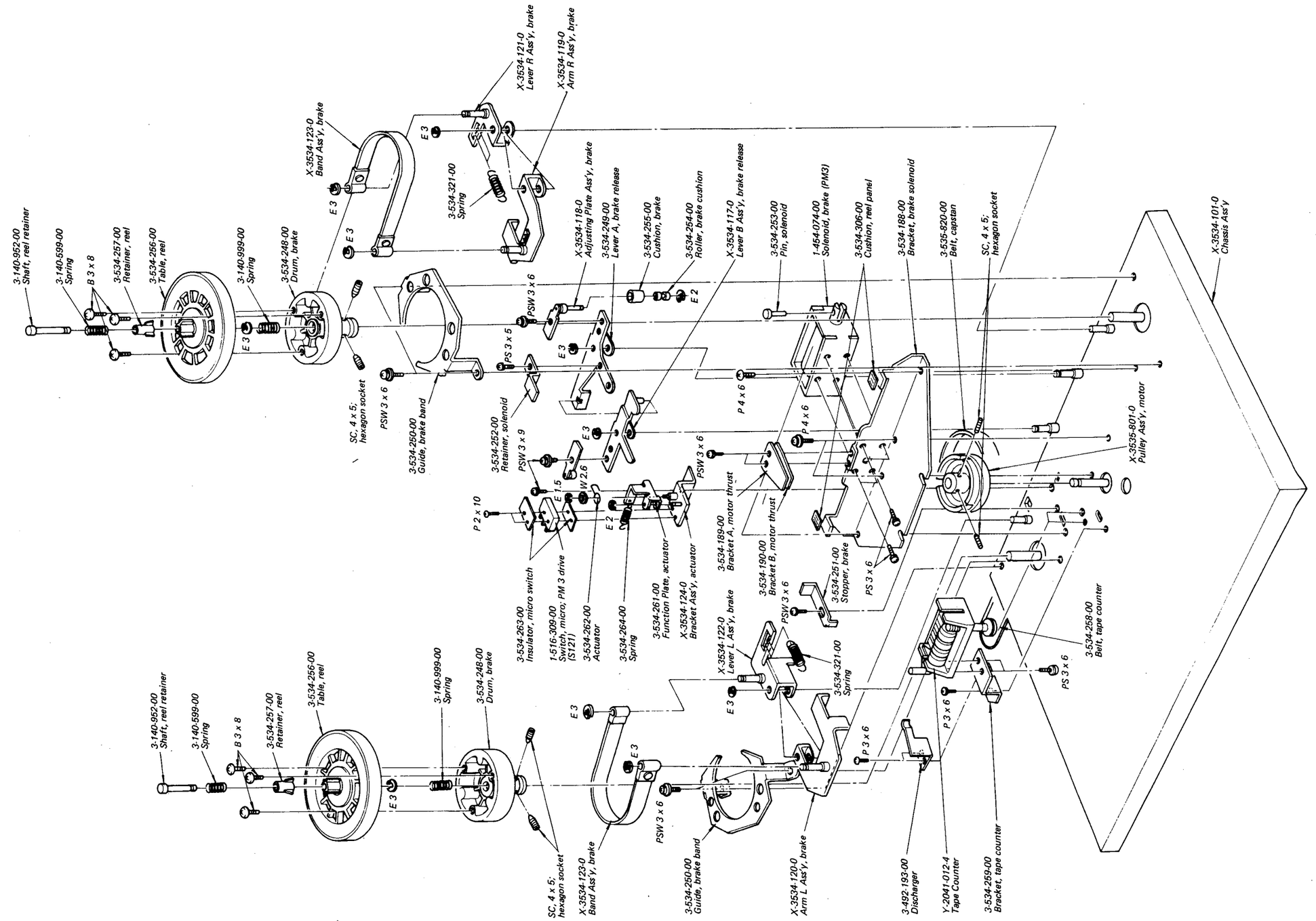
14. EXPLODED VIEW (2)



Note:

- ○ Items without part number and description are not available.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

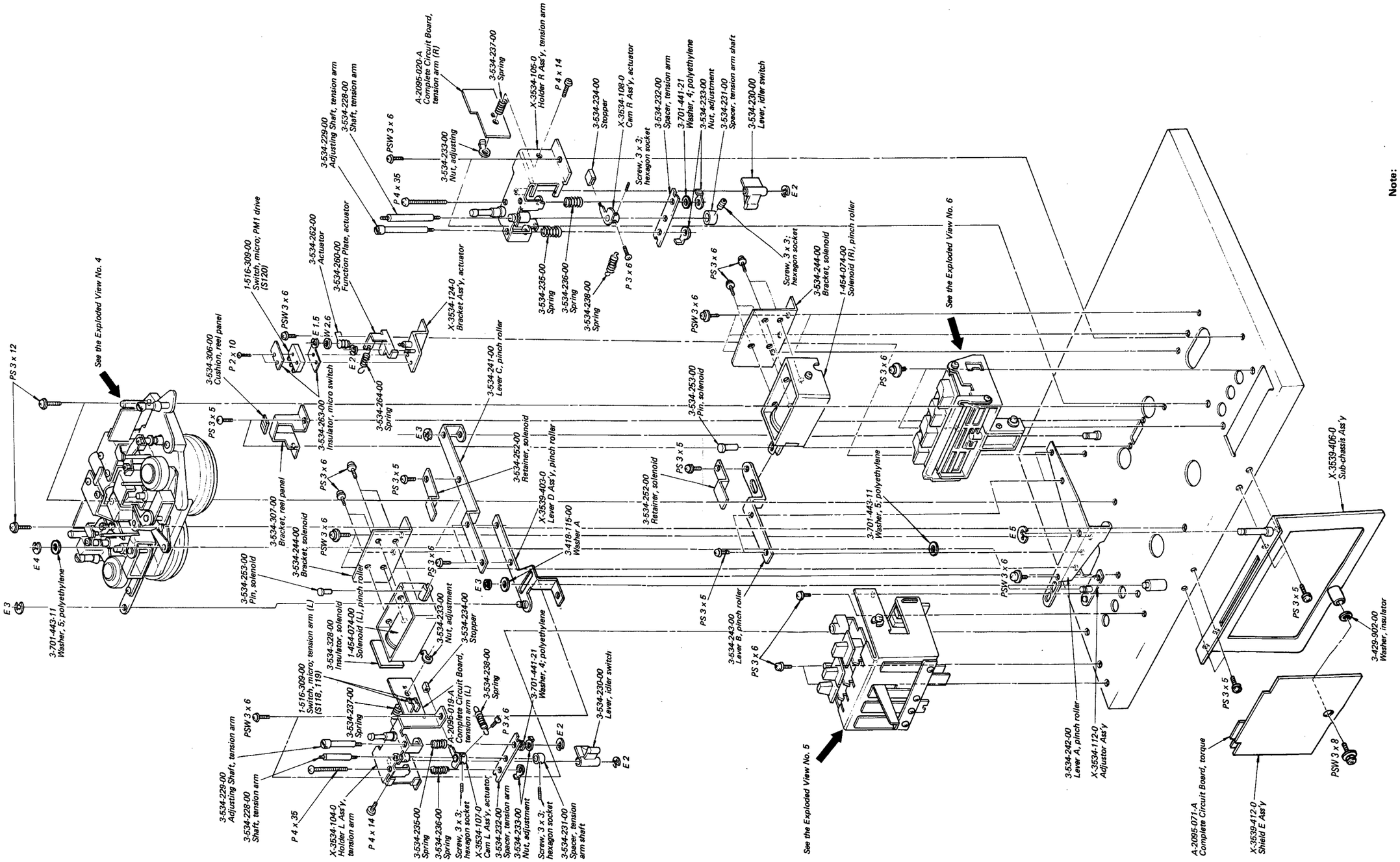
15. EXPLODED VIEW (3)



Note:

- Items without part number and description are not available.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

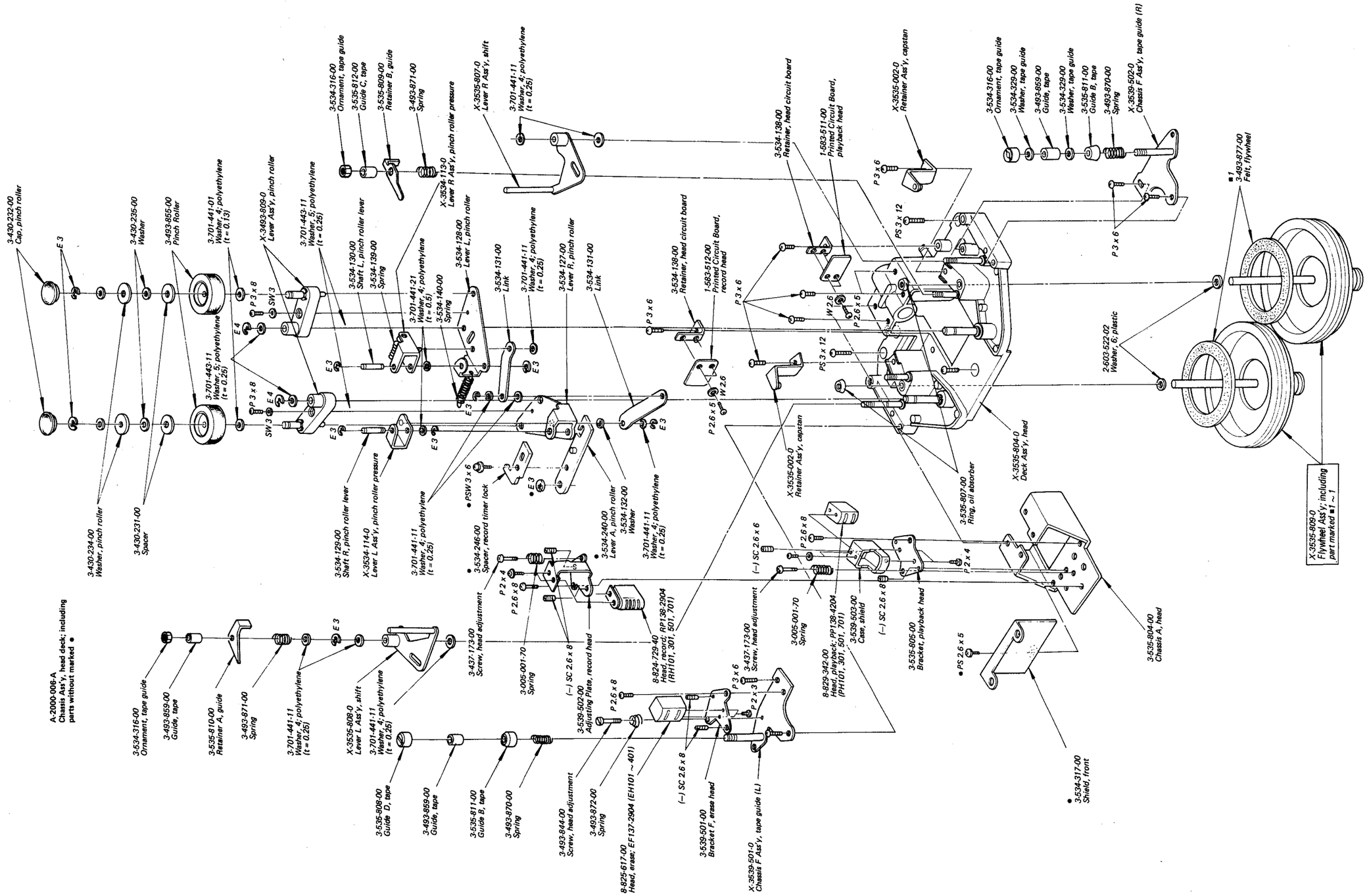
16. EXPLODED VIEW (4)



Note:

- ○ Items without part number and description are not available.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

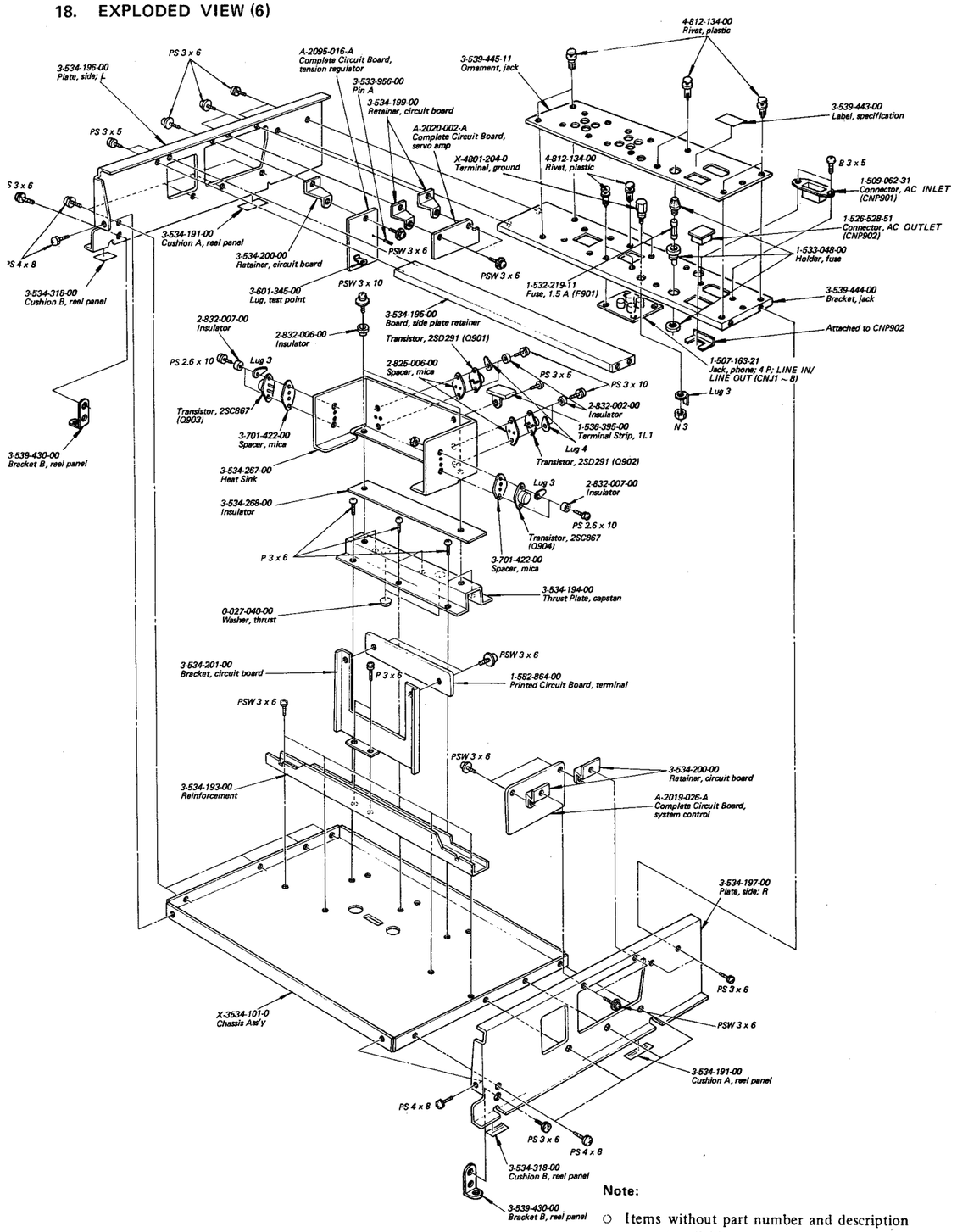
17. EXPLODED VIEW (5)



Note:

- Items without part number and description are not available.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

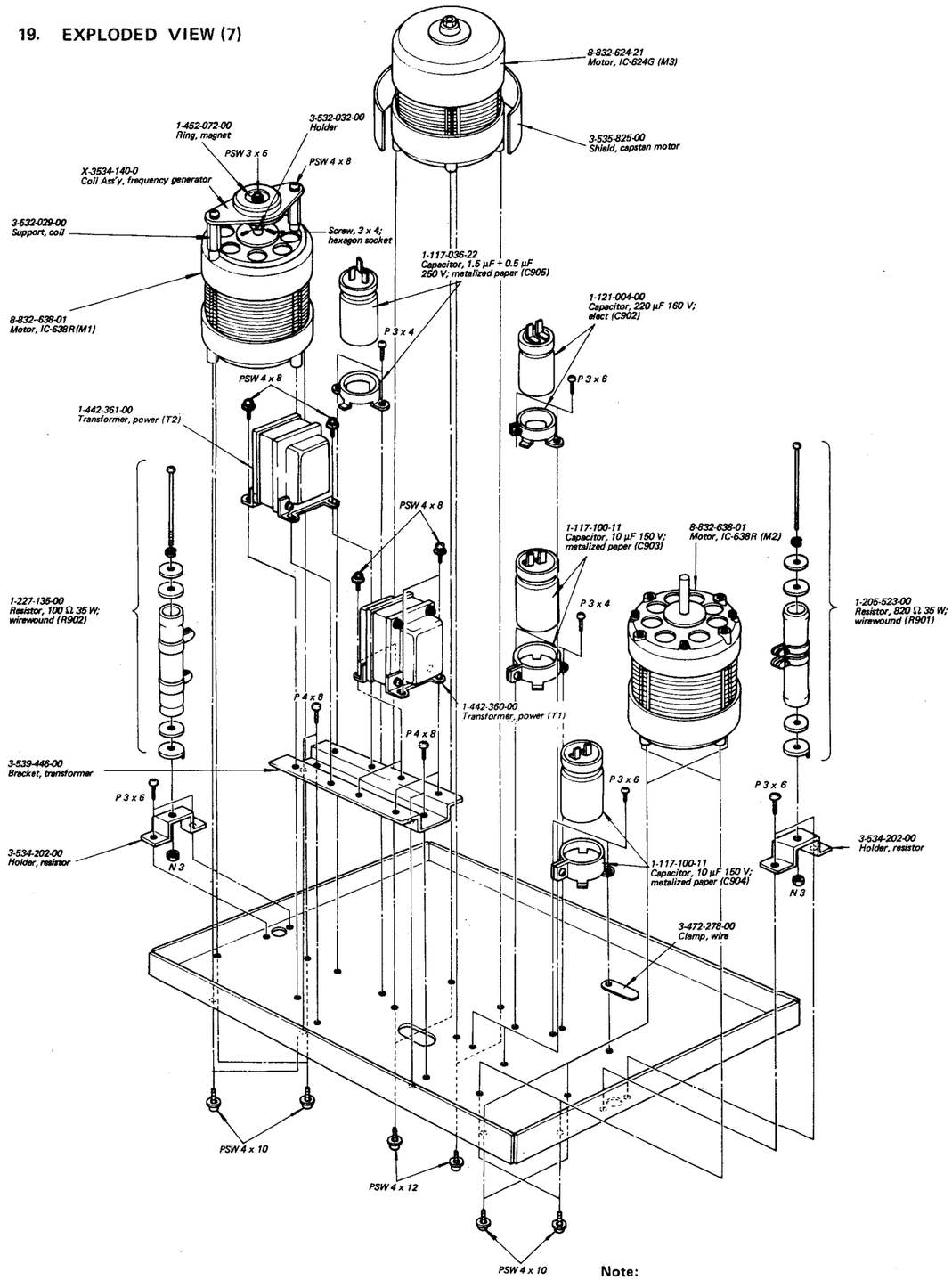
18. EXPLODED VIEW (6)



Note:

- ○ Items without part number and description are not available.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

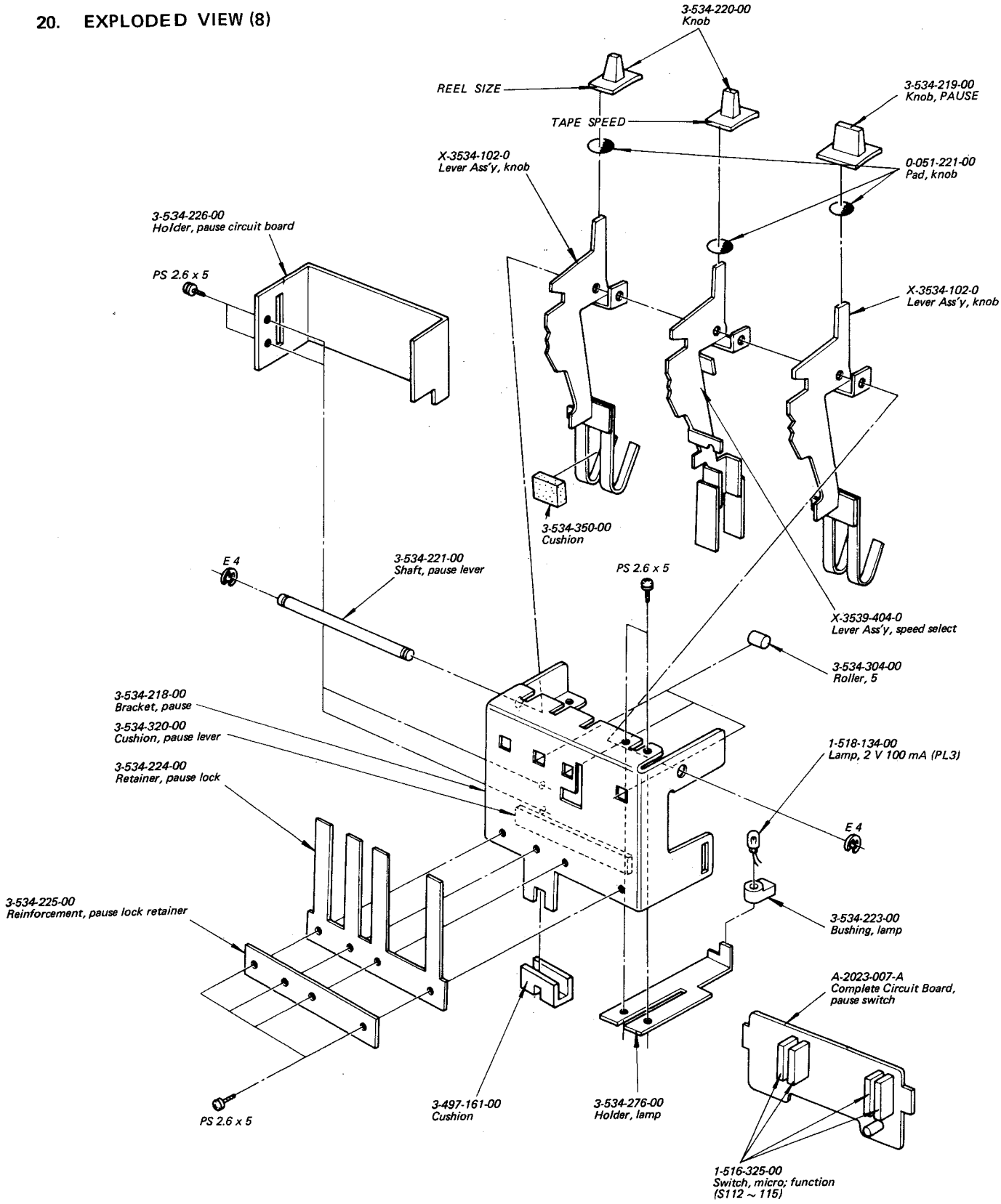
19. EXPLODED VIEW (7)



Note:

- ○ Items without part number and description are not available.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

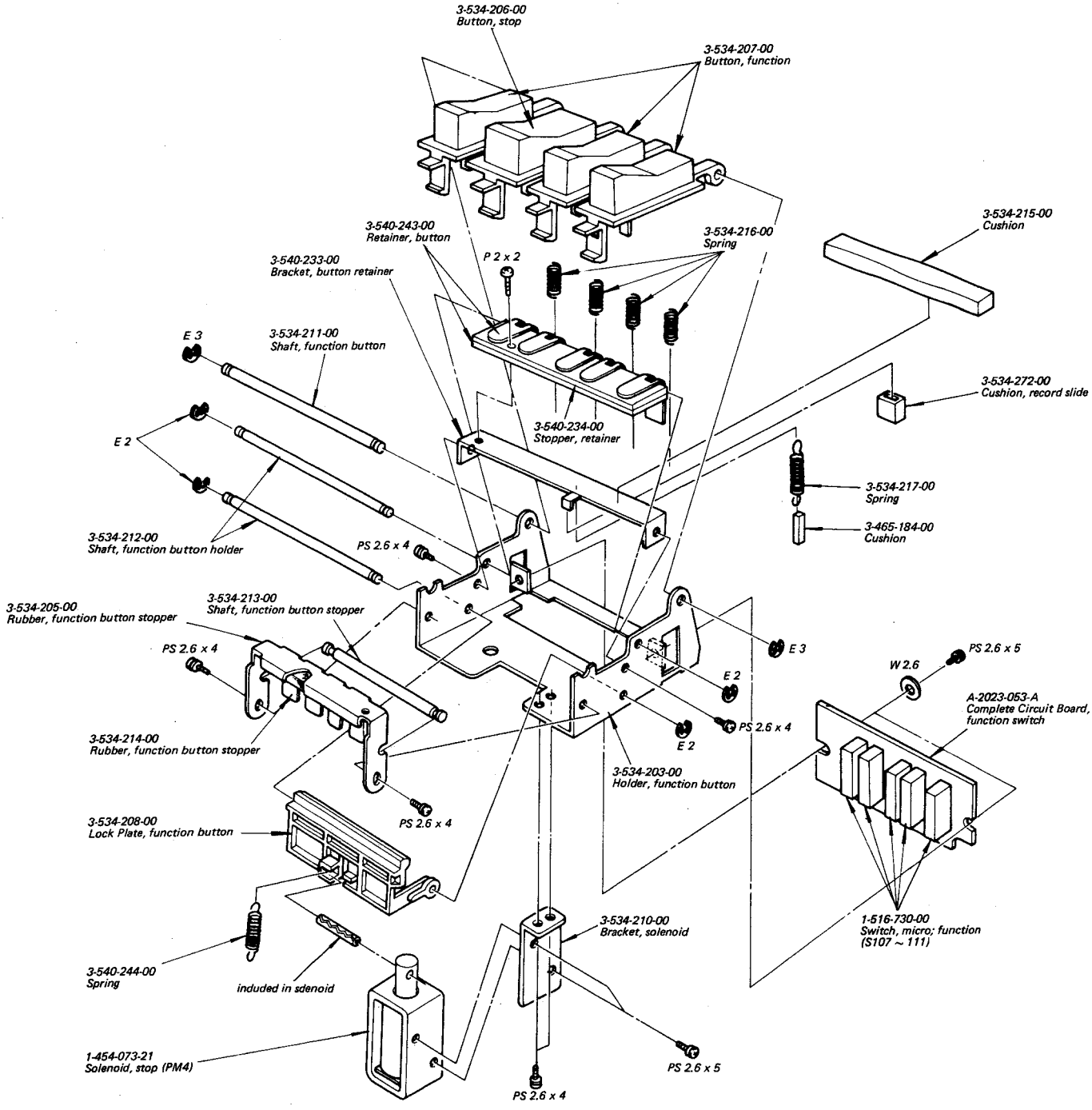
20. EXPLODED VIEW (8)



Note:

- Items without part number and description are not available.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

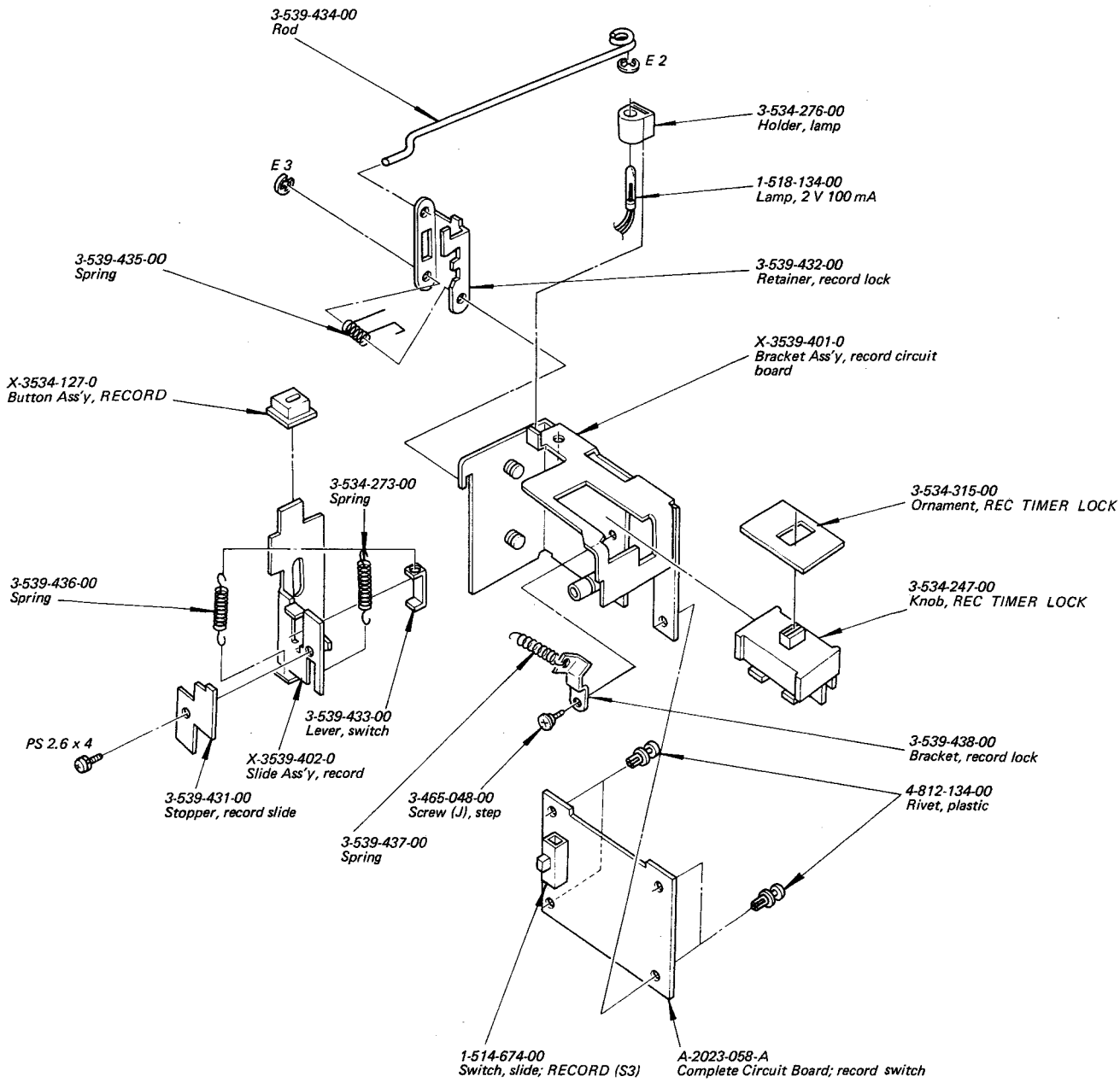
21. EXPLODED VIEW (9)



Note:

- Items without part number and description are not available.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

22. EXPLODED VIEW (10)



Note:

- Items without part number and description are not available.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

23. ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description	
		COMPLETE CIRCUIT BOARDS	
	A-2006-021-A	Record Amp (Front)	
	A-2006-022-A	Record Amp (Back)	
	A-2008-019-A	Playback EQ	
	A-2014-022-A	Bias Osc	
	A-2019-026-A	System Control	
	A-2020-002-A	Servo Amp	
	A-2023-005-A	Playback Level Control	
	A-2023-007-A	Pause Switch	
	A-2023-053-A	Function Switch	
	A-2023-054-A	Tape Select Switch	
	A-2023-055-A	Headphone Switch	
	A-2023-056-A	Monitor Switch	
	A-2023-057-A	PAN POT Switch	
	A-2023-058-A	Record Switch	
	A-2027-006-A	Level Meter CAL.	
	A-2095-016-A	Tension Regulator	
	A-2095-019-A	Tension Arm (L)	
	A-2095-020-A	Tension Arm (R)	
	A-2095-071-A	Torque	
	A-2095-073-A	Line Amp	
	A-2095-074-A	PAN POT	
	A-2095-075-A	Sync	
		PRINTED CIRCUIT BOARD	
	1-582-864-00	Terminal	
		SEMICONDUCTORS	
		Record Amp (Front) Section	
Q101, 301		Transistor	2SC632A
Q102~111, Q302~311		Transistor	2SC634A
D101, 301		Diode	1S2076
IC101, 301		IC	TA7122AP
		Record Amp (Back) Section	
Q501, 701		Transistor	2SC632A
Q502~511, Q702~711		Transistor	2SC634A
D501, 701		Diode	1S2076
IC501, 701		IC	TA7122AP
		Playback EQ Section	
Q112, 312, Q512, 712		Transistor	2SK43
Q113, 313, Q513, 713		Transistor	2SC632A
Q114, 314, Q514, 714		Transistor	2SC634A
		Line Amp Section	
Q115, 315, 515, 715; Q116, 316, 516, 716; Q117, 317, 517, 717		Transistor	2SC634A
D102, 302, 502, 702, D103, 303, 503, 703		Diode	1T22
IC103, 303, IC503, 703		IC	TA7122AP
		Bias Osc Section	
Q501, 502		Transistor	2SC1475
		Playback Level Control Section	
Q118, 318; Q119, 319; Q518, 718; Q519, 719		Transistor	2SC634A
D104, 304; D504, 704; D105, 305; D505, 705		Diode	1T40
		Tension Regulator Section	
Q701~713		Transistor	2SC634A
Q714		Transistor	2SC1384
D701, 702		Diode	1T40
D703		Diode	MZ08
D704		Diode	MZ12
D705, 706		Diode	1T22
D707~710		Diode	10D-2
		System Control Section	
Q801~811		Transistor	2SC634A
Q812		Transistor	2SC1124
D801, 802		Diode	10D-2
D803		Diode	MZ08
D804, 805		Diode	1T40
D806, 807		Diode	10D-2
D808		Diode	1T40
D809, 810		Diode	1T22
D811~817		Diode	10D-2

Ref. No.	Part No.	Description	
Chassis Section			
Q901, 902		Transistor	2SD291
Q903, 904		Transistor	2SC867
D902, 903		Diode	10D-2
Torque Section			
Q1001, 1002		Transistor	2SC634A
D1001, 1002		Diode	10D-2
D1003~1006		Diode	1T40
Sync Section			
D501		Diode	1T40
D502		Diode	10E-2
D503		Diode	1T40
IC102, 302 IC502, 702		IC	TA7122AP
Tape Select Switch Section			
D503, 504		Diode	1T40
Servo Amp Section			
D601~605		Diode	10D-2
IC601		IC	CX032B
Function Switch Section			
D901		Diode	10D-2
Pause Switch Section			
D904		Diode	10D-2
Th701	1-800-204-00	Thermistor	S-10 k
COILS			
L101, 301 L501, 701	1-407-519-00	8 μH	microinductor
L102, 302 L502, 702	1-407-269-00	2.2 mH	variable inductor
L103, 303 L503, 703	1-407-270-00	3.3 mH	variable inductor
L104, 304 L504, 704	1-407-290-00	10 mH	variable inductor
L105, 305 L505, 705	1-407-173-00	220 μH	microinductor
L201, 401 L601, 801	1-407-504-00	10 mH	microinductor
L202, 402 L602, 802	1-407-561-00	33 mH	microinductor
L901	1-407-270-00	3.3 mH	microinductor
L902, 903	1-407-269-00	2.2 mH	microinductor
L904	1-407-270-00	3.3 mH	microinductor
L905, 906	1-407-198-00	2.2 mH	microinductor

Ref. No.	Part No.	Description
TRANSFORMERS		
T1	1-442-360-00	Power
T2	1-442-361-00	Power
T201, 401 T601, 801	1-427-270-00	Output
T901	1-433-171-00	Bias Osc

CAPACITORS

All capacitors are in μF unless otherwise indicated.
(p = μμ, elect = electrolytic)

Record Amp (Front) & Record Amp (Back) Section

C101, 301 C501, 701	1-121-398-11	10	25 V	elect
C102, 302 C502, 702	1-131-206-11	3.3	25 V	elect
C103, 303 C503, 703	1-107-133-11	120 p	50 V	silvered mica
C104, 304 C504, 704	1-105-661-12	0.001	50 V	mylar
C105, 305 C505, 705	1-121-651-11	10	16 V	elect
C106, 306 C506, 706	1-121-398-11	10	25 V	elect
C107, 307 C507, 707	1-107-131-11	100 p	50 V	silvered mica
C108, 308 C508, 708	1-121-391-11	1	50 V	elect
C109, 309 C509, 709	1-121-422-11	220	25 V	elect
C110, 310 C510, 710	1-121-748-11	10	25 V	elect
C111, 311 C511, 711	1-105-661-12	0.001	50 V	mylar
C112, 312 C512, 712	1-121-414-11	100	10 V	elect
C113, 313 C513, 713	1-107-119-11	33 p	50 V	silvered mica
C114, 314 C514, 714	1-107-125-11	56 p	50 V	silvered mica
C115, 315 C515, 715	1-121-420-11	220	10 V	elect
C116, 316 C516, 716	1-121-050-11	2.2	50 V	elect
C117, 317 C517, 717	1-105-669-12	0.0047	50 V	mylar
C118, 318 C518, 718	1-121-651-11	10	16 V	elect
C119, 319 C519, 719	1-105-661-12	0.001	50 V	mylar
C120, 320 C520, 720	1-107-111-11	15 p	50 V	silvered mica
C121, 321 C521, 721	1-107-133-11	120 p	50 V	silvered mica

Ref. No.	Part No.	Description		
C122, 322 C522, 722	1-121-409-11	47	16 V	elect
C123, 323 C523, 723	1-121-391-11	1	50 V	elect
C124, 324 C524, 724	1-121-398-11	10	25 V	elect
C125, 325 C525, 725	1-121-414-11	100	10 V	elect
C126, 326 C526, 726	1-105-664-12	0.0018	50 V	mylar
C127, 327 C527, 727	----------			
C128, 328 C528, 728	1-107-004-11	100 p	500 V	silvered mica
C129, 329 C529, 729	1-105-516-12	0.018	50 V	mylar
C130, 330 C530, 730	1-105-512-12	0.0082	50 V	mylar
C131, 331 C531, 731	1-105-518-12	0.027	50 V	mylar
C132, 332 C532, 732	1-105-514-12	0.012	50 V	mylar
C133, 333 C533, 733	1-101-445-11	0.001	50 V	ceramic

Playback EQ Section

C161, 361 C561, 761	1-121-404-11	33	25 V	elect
C162, 362 C562, 762	1-107-115-11	22 p	50 V	silvered mica
C163, 363 C563, 763	1-123-055-11	47	16 V	elect
C164, 364 C564, 764	1-107-109-11	12 p	50 V	silvered mica
C165, 365 C565, 765	1-102-115-11	560 p	50 V	ceramic
C166, 366 C566, 766	1-121-414-11	100	10 V	elect
C167, 367 C567, 767	1-107-123-11	47 p	50 V	silvered mica
C168, 368 C568, 768	1-105-517-12	0.022	50 V	mylar
C169, 369 C569, 769	1-121-409-11	47	16 V	elect
C170, 370 C570, 770	1-121-748-11	10	25 V	elect
C171	1-105-661-12	0.001	50 V	mylar

Sync Section

C181, 381 C581, 781	1-121-398-11	10	25 V	elect
C182, 382 C582, 782	1-131-236-11	1	25 V	solid tantalum
C183, 383 C583, 783	1-105-687-12	0.15	50 V	mylar
C184, 384 C584, 784	1-107-133-11	120 p	50 V	silvered mica
C185, 385 C585, 785	1-105-663-11	0.0015	50 V	mylar
C186, 386 C586, 786	1-107-242-11	390 p	50 V	silvered mica
C187, 387 C587, 787	1-121-748-11	10	25 V	elect
C188, 388 C588, 788	1-105-665-12	0.0022	50 V	mylar
C901	1-121-388-11	1000	35 V	elect
C902	1-121-651-11	10	16 V	elect
C903	1-121-652-11	33	35 V	elect

Playback Level Control Section

C191	1-121-651-11	10	16 V	elect

Line Amp Section

C201, 401 C601, 801	1-107-131-11	100 p	50 V	silvered mica
C202, 402 C602, 802	1-107-117-11	27 p	50 V	silvered mica
C203, 403 C603, 803	1-107-139-11	220	50 V	silvered mica
C204, 404 C604, 804	1-121-392-11	3.3	25 V	elect
C205, 405 C605, 805	1-121-402-11	33	10 V	elect
C206, 406 C606, 806	1-105-661-12	0.001	50 V	mylar
C207, 407 C607, 807	1-105-131-12	100 p	50 V	mylar
C208, 408 C608, 808	1-121-398-11	10	25 V	elect
C209, 409 C609, 809	1-121-357-11	100	35 V	elect
C210, 410 C610, 810	1-121-395-11	4.7	25 V	elect
C211, 411 C611, 811	1-121-398-11	10	25 V	elect
C212, 412 C612, 812	1-121-392-11	3.3	25 V	elect
C213, 413 C214, 414 C613, 813 C614, 814	1-121-398-11	10	25 V	elect

Servo Amp Section

C601	1-121-935-11	100	25 V	elect
C602, 603	1-121-398-11	10	25 V	elect
C604	1-105-661-12	0.001	50 V	mylar
C605	1-105-673-12	0.01	50 V	mylar
C606	1-106-677-12	0.022	50 V	mylar
C607	1-108-550-11	0.082	50 V	mylar

Ref. No.	Part No.	Description		
C608	1-121-409-11	47	16 V	elect
C609, 610	1-131-197-11	3.3	16 V	solid tantalum
C611	1-121-900-11	4.7	250 V	elect
	Tension Regulator Section			
C701	1-105-665-12	0.0022	50 V	mylar
C702	1-102-112-11	330 p	50 V	ceramic
C703	1-105-529-12	0.22	50 V	mylar
C704	1-131-215-11	1	35 V	solid tantalum
C705	1-131-238-11	10	25 V	solid tantalum
C706	1-131-217-11	2.2	35 V	solid tantalum
C707	1-131-219-11	4.7	35 V	solid tantalum
C708	1-105-725-12	0.1	100 V	mylar
	System Control Section			
C801	1-121-983-11	470	50 V	elect
C802	1-121-411-11	47	50 V	elect
C803	1-121-810-11	470	50 V	elect
C804	1-121-357-11	100	35 V	elect
C805	1-121-388-11	1000	35 V	elect
C806	1-121-980-11	100	6.3 V	elect
C807	1-121-388-11	1000	35 V	elect
C808	1-121-954-11	4.7	50 V	elect
C809	1-121-651-11	10	16 V	elect
C810	1-121-980-11	100	6.3 V	elect
C811	1-121-983-11	470	50 V	elect
C812	1-121-662-11	22	35 V	elect
C813, 814	1-113-072-11	1	220 V	metalized paper
C815	1-121-726-11	0.47	50 V	elect
C816	1-105-919-12	0.033	200 V	mylar
C817	1-105-821-12	0.001	50 V	mylar
C818	1-107-179-11	270 p	500 V	silvered mica
	Bias Osc Section			
C904~907	1-141-034-00	20 p~120 p		trimmer
C908, 909	1-129-710-11	0.0047	630 V	polypropylene
C910	1-129-706-11	0.0022	630 V	polypropylene
C911	1-105-672-12	0.0082	50 V	mylar
C912, 913	1-105-661-12	0.001	50 V	mylar
C914	1-105-666-12	0.0027	50 V	mylar
C915	1-121-653-11	47	35 V	elect
	Record Switch Section			
C916	1-105-919-12	0.033	200 V	mylar
	Pause Switch Section			
C901	1-121-391-11	1	50 V	elect
	Torque Section			
C1001, 1002	1-131-239-11	6.8	35 V	solid tantalum
C1003, 1004	1-105-919-12	0.033	200 V	mylar
	Chassis Section			
C902	1-121-004-00	220	160 V	elect
C903, 904	1-117-100-11	10	150 V	metalized paper
C905	1-117-036-22	1.5 + 0.5	250 V	metalized paper

Ref. No.	Part No.	Description	
	RESISTORS		
All resistors are in Ω. ¼ W, ± 5 % carbon resistors (except particular type) are omitted. Check schematic diagram for the resistance values. k = 1000, M = 1000 k			
	Record Amp (Front) & Record Amp (Back) Section		
R101, 301 R501, 701	1-242-721-09	100 k	low noise
R102, 302 R502, 702	1-242-690-09	5.1 k	low noise
R104, 304 R504, 704	1-242-721-09	100 k	low noise
R105, 305 R505, 705	1-242-715-09	56 k	low noise
R106, 306 R506, 706	1-242-713-09	47 k	low noise
R109, 309 R509, 709	1-242-703-09	18 k	low noise
R110, 310 R510, 710	1-224-447-00	20 k (A)	variable; MIC
R111, 311 R511, 711	1-242-707-09	27 k	low noise
R112, 312 R512, 712	1-224-447-00	20 k (A)	variable; LINE
R113, 313 R513, 713	1-242-709-09	33 k	low noise
R114, 314 R514, 714	1-242-731-09	270 k	low noise
R115, 315 R515, 715	1-242-703-09	18 k	low noise
R116, 316 R516, 716	1-242-713-09	47 k	low noise
R117, 317 R517, 717	1-242-729-09	220 k	low noise
R119, 319 R519, 719	1-242-707-09	27 k	low noise
R121, 321 R521, 721	1-242-709-09	33 k	low noise
R126, 326 R526, 726	1-222-775-00	22 k	adjustable
R129, 329 R529, 729	1-222-775-00	22 k	adjustable
R134, 334 R534, 734	1-242-729-09	220 k	low noise
R135, 335 R535, 735	1-242-719-09	82 k	low noise
R142, 342 R542, 742	1-242-713-09	47 k	low noise
	Playback EQ Section		
R162, 362 R562, 762	1-242-697-09	10 k	low noise
R163. 363 R563, 763	1-242-739-09	560 k	low noise

Ref. No.	Part No.	Description		
R164, 364 R564, 764	1-242-701-09	15 k		low noise
R165, 365 R565, 765	1-242-690-09	5.1 k		low noise
R168, 368 R568, 768	1-242-705-09	22 k		low noise
R169, 369 R569, 769	1-242-690-09	5.1 k		low noise
R170, 370 R570, 770	1-242-696-09	9.1 k		low noise
R171, 371 R571, 771	1-242-722-09	110 k		low noise
R175, 375 R575, 775	1-221-311-00	5 k		adjustable
R176, 376 R576, 776	1-221-630-00	20 k		adjustable
Sync Section				
R182, 382 R582, 782	1-242-721-09	100 k		low noise
R183, 383 R583, 783	1-242-727-09	180 k		low noise
R184, 384 R584, 784	1-242-713-09	47 k		low noise
R187, 387 R587, 787	1-242-703-09	18 k		low noise
R188, 388 R588, 788	1-221-630-00	20 k		adjustable
Playback Level Control Section				
R196, 396 R596, 796	1-224-338-00	20 k (B)		variable; PB LEVEL
Line Amp Section				
R202, 402 R602, 802	1-242-721-09	100 k		low noise
R204, 404 R604, 804	1-242-729-09	220 k		low noise
R215, 415 R615, 815	1-242-729-09	220 k		low noise
Level Meter CAL. Section				
R210, 410 R610, 710	1-222-762-00	2.2 k		adjustable
Servo Amp Section				
R602	1-244-867-11	560	½ W	
R611	1-244-801-11	1	½ W	
R612	1-206-717-11	470	3 W	metal ozide
R616	1-222-774-00	10 k		adjustable
R618	1-222-775-00	22 k		adjustable
Tension Regulator Section				
R717	1-222-773-00	4.7 k		adjustable
R731	1-222-775-00	22 k		adjustable
R733	1-244-867-11	560	½ W	
R734	1-244-801-11	1	½ W	
R736, 737	1-222-778-00	220 k		adjustable

Ref. No.	Part No.	Description		
System Control Section				
R801	1-207-992-11	180	7 W	wirewound
R807	1-222-774-00	10 k		adjustable
R810	1-206-470-11	20	2 W	metal oxide
R814	1-206-477-11	39	½ W	metal oxide
R829	1-244-877-11	1.5 k	½ W	
Chassis Section				
R901	1-205-523-00	820	35 W	wirewound
R902	1-227-135-00	100	35 W	wirewound
PAN POT Section				
R901, 907	1-224-382-00	5 k (B)		variable; PAN POT
R903 ~ 906	1-242-691-09	5.6 k		low noise
R902, 908	1-224-382-00	5 k (B)		variable; PAN POT
R913 ~ 916	1-242-719-09	82 k		low noise
Tape Select Switch Section				
R923	1-244-839-11	39	½ W	
Bias Osc Section				
R928	1-244-837-11	33	½ W	
Torque Section				
R1001, 1002	1-206-485-11	82	2 W	metal oxide
R1004	1-217-343-11	68	7 W	wirewound

SWITCHES

S1	1-516-024-00	Slide, PAN POT
S2	1-516-621-00	Slide, EQ (TAPE SELECT)
S3	1-514-674-00	Slide, RECORD
S4	1-516-621-00	Slide, BIAS (TAPE SELECT)
S102, 202 S302, 402	1-516-621-00	Slide, MONITOR
S103, 203 S303, 403	1-516-620-00	Slide, record mode
S104, 204 S304, 404	1-516-620-00	Slide, HEADPHONE
S107, 108	1-516-730-00	Micro, rewind
S109	1-516-730-00	Micro, stop
S110	1-516-730-00	Micro, playback
S111	1-516-730-00	Micro, fast-forward
S112, 114	1-516-325-00	Micro, REEL SIZE
S113, 115	1-516-325-00	Micro, PAUSE
S116, 117	1-516-309-00	Micro, tension arm (R)
S118, 119	1-516-309-00	Micro, tension arm (L)
S120	1-516-309-00	Micro, PM1 drive
S121	1-516-309-00	Micro, PM3 drive
S122	1-516-181-00	Push, POWER
S501	1-514-673-00	Slide, TAPE SPEED

JACKS

J1 ~ 4	1-507-376-00	Phone, MIC
J5, 6	1-507-414-00	Binaural, HEADPHONE
CNJ1 ~ 8	1-507-163-21	4 p phono, LINE IN/LINE OUT

MISCELLANEOUS

CNP901	1-509-062-31	Connector, AC INLET
CNP902	1-526-528-51	Connector, AC OUTLET
CP801 ~ 803 CP805 ~ 806	1-231-057-00	Encapsulated Component, C-R; 0.033 μF + 120 Ω, 500 V
CP901 ~ 906	1-101-534-00	Encapsulated Component, C-R; 0.1 μF + 120 Ω, 500 V

Ref. No.	Part No.	Description
F	1-532-219-00	Fuse, 1.5 A
M1	8-832-638-01	Motor, supply reel; IC-638R
M2	8-832-638-01	Motor, take-up reel; IC-638R
M3	8-832-624-21	Motor, capstan; IC-624G
ME1～4	1-520-189-00	Meter, VU
PL3,5～10	1-518-134-00	Lamp, 2 V 100 mA
PM1	1-454-074-00	Solenoid, pinch roller (L)
PM2	1-454-074-00	Solenoid, pinch roller (R)
PM3	1-454-074-00	Solenoid, brake
PM4	1-454-073-21	Solenoid, stop
RY801, 802 RY1001, RY1002	1-515-127-00	Relay
	1-452-072-00	Ring, magnet
	1-533-048-00	Holder, fuse
	1-536-395-00	Terminal Strip, 1L1
	1-536-400-00	Terminal Strip, 3L2
EH101～401	8-825-617-00	Head, erase; EF137-2904
RH101, 301 RH501, 701	8-827-729-40	Head, record; RP138-2904
PH101, 301 PH501, 701	8-829-342-00	Head, playback; PP138-4204

20. ACCESSORIES AND PACKING MATERIALS

Part No.	Description
X-2539-413-0	Cushion Ass'y (USA Model)
X-3141-019-0	Adaptor Ass'y, 10″ reel; RAD-10
X-3534-138-0	Reel Ass'y, R-11B
X-3701-018-0	Cleaner Ass'y, head (Canada Model)
1-534-049-31	Cord, connection; RK-74
1-534-262-13	Cord, power (USA Model)
1-534-375-12	Cord, power (Canada Model)
3-401-193-00	Cleaning Ribbon (USA Model)
3-539-464-00	Carton [redacted]
3-701-020-00	Bag, polyethylene
3-701-046-00	Label, home entertainment (Canada Model)
3-701-184-00	Label, cord
3-701-355-00	Label, tack (USA Model)
3-701-356-00	Label, tack (Canada Model)
3-701-623-00	Bag, polyethylene
3-701-649-00	Bag, polyethylene
3-780-501-21	Manual, instruction (USA Model)
3-780-501-31	Manual, instruction (Canada Model)
3-793-010-20	Booklet, tape talk
3-793-044-00	Label, important (USA Model)
3-793-105-00	List, warranty station (Canada Model)
3-793-106-00	Card, guaranty (Canada Model)
3-793-711-11	Card, caution
8-918-222-11	Tape, demonstration

21. HARDWARE

Part No.	Description

All screws are phillips type (cross recess type) unless otherwise indicated. (–) : slotted head.

7-621-712-51	(–) SC 2.6 x 6
7-621-853-47	K 3.6 x 16
7-628-253-95	PS 2.6 x 4
7-628-254-05	PS 2.6 x 5
7-682-124-01	P 2 x 4
7-682-126-01	P 2 x 6
7-682-128-01	P 2 x 10
7-682-147-01	P 3 x 6
7-682-164-01	P 4 x 14
7-682-169-01	P 4 x 35
7-682-170-04	RK 4 x 35
7-682-254-35	PS 2.6 x 10
7-682-546-03	B 3 x 5
7-682-565-01	B 4 x 16
7-682-626-01	PS 2 x 6
7-682-646-01	PS 3 x 5
7-682-647-01	PS 3 x 6
7-682-649-01	PS 3 x 10
7-682-661-01	PS 4 x 8
7-682-947-01	PSW 3 x 6
7-682-948-01	PSW 3 x 8
7-682-949-01	PSW 3 x 10
7-682-960-01	PSW 4 x 6
7-682-961-01	PSW 4 x 8
7-682-962-01	PSW 4 x 10
7-682-963-01	PSW 4 x 12
7-683-237-31	(–) SC 3 x 3
7-683-238-01	(–) SC 3 x 5
7-683-238-31	(–) SC 3 x 4
7-685-145-31	P 3 x 6, self-tapping
7-685-146-21	P 3 x 8, self-tapping
7-685-158-31	P 4 x 6, self-tapping
7-685-159-31	P 4 x 8, self-tapping

WASHERS

7-623-105-11	2 (middle)
7-623-107-18	2.6
7-623-108-18	3

RETAINING RINGS

7-624-102-01	E 1.5
7-624-104-01	E 2
7-624-106-01	E 3
7-624-108-01	E 4
7-624-109-01	E 5

MISCELLANEOUS

7-622-210-02	Nut 4
7-684-014-00	Nut 3
7-623-508-01	Lug, 3
7-671-115-01	Steel Ball, 5

4-CHANNEL STEREO TAPECORDER

TC-788-4

France Model

Serial No. 10101 ~ 10300
and 10401 ~ 10550

SUPPLEMENT

No. 1
November, 1975

This supplement updates the service manual to include production change for these units bearing serial numbers 10101 ~ 10300 and 10401 ~ 10550.

1. SPECIFICATIONS Change

Power Requirements: 100, 110, 120, 127, 220, 240 V ac
50/60 Hz

SONY®
SERVICE MANUAL

MEMO

MEMO

-4

Model

101 ~ 10300
101 ~ 10550

nber, 1975

MEMO

MEMO

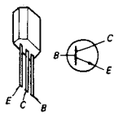
NY®
MANUAL

2. MOUNTING DIAGRAM (1) — Amplifier Section (1) —

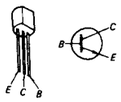
— Conductor Side —

IC101, 301, 501, 701,
102, 302, 502, 702,
103, 303, 503, 703 : TA7122AP

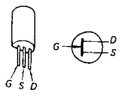
Q101, 301, 701,
501 (back record amp section),
113, 313, 513, 713 : 2SC632A
Q102 ~ 111,
302 ~ 311,
502 (back record amp section),
503 ~ 511,
702 ~ 711,
114, 314, 514, 714,
115, 315, 515, 715,
116, 316, 516, 716,
717,
118, 318, 518, 718,
119, 319, 519, 719 : 2SC634A



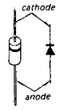
Q501 (bias osc section),
Q502 (bias osc section) : 2SC1475



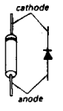
Q112, 312, 512, 712 : 2SK43



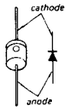
D101, 301, 501, 701 : IS2076

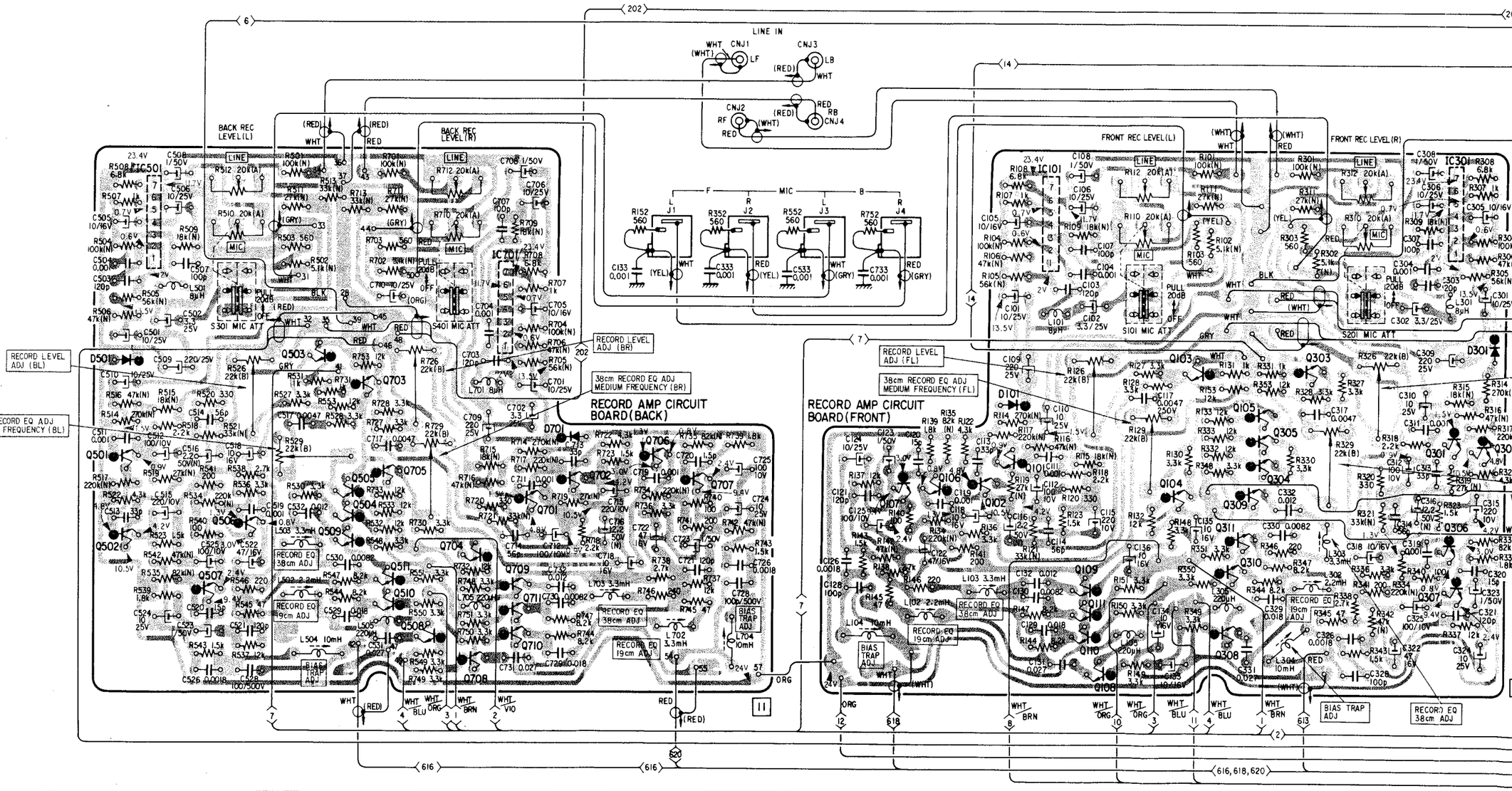


D102, 302, 702,
502 (line amp section),
103, 303, 703,
503 (line amp section) : 1T22
D104, 304, 504, 704,
105, 305, 505, 705,
501 (SYNC section),
503 (SYNC section),
503 (tape select section),
504 (tape select section) : 1T40

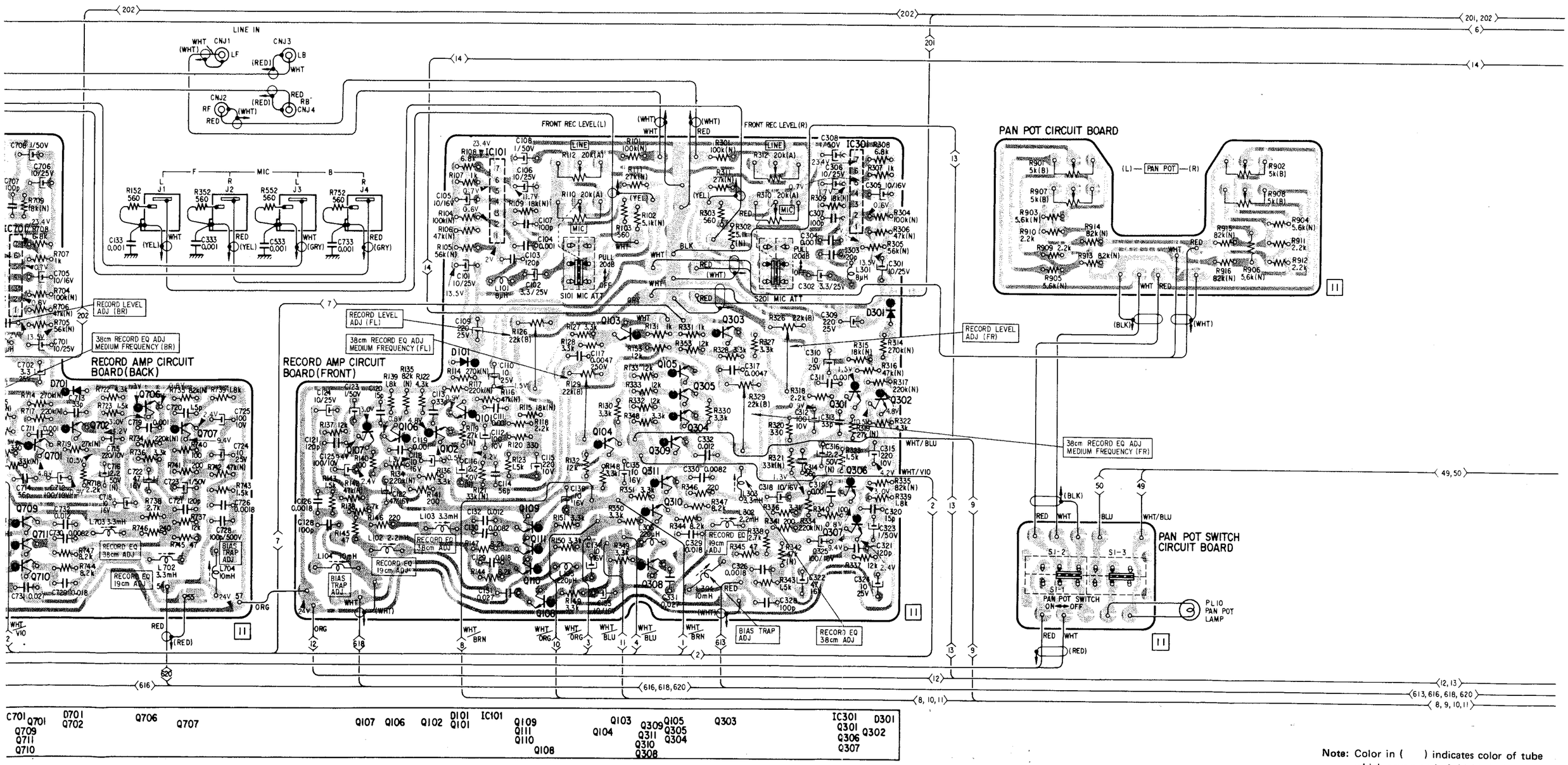


D502 (SYNC section) : 10E-2





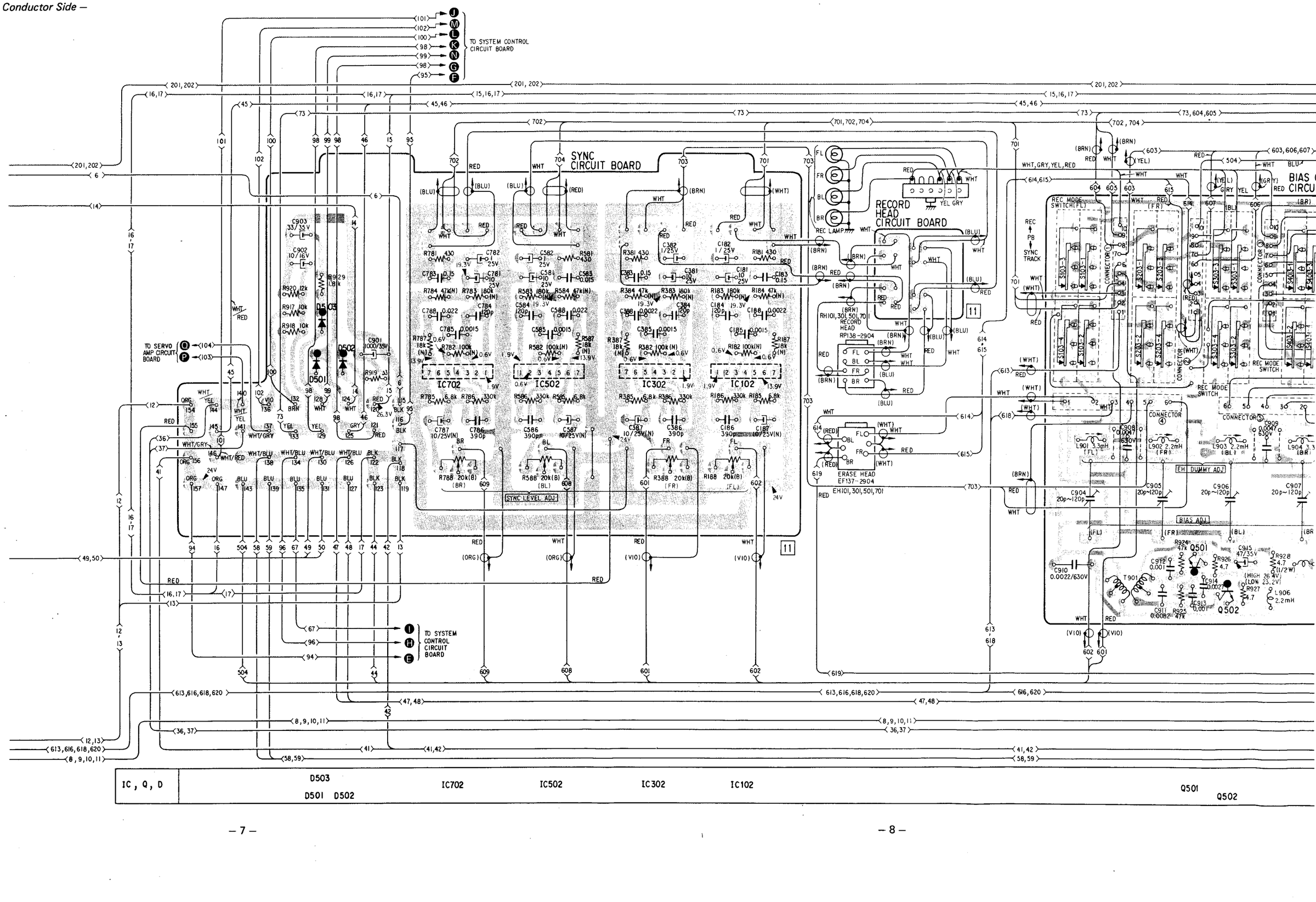
IC, Q, D	
IC501	D501 D501 Q502 Q506 Q507
Q503	Q505 Q504 Q509
Q703	Q705 Q511 Q510 Q508
IC701	Q704 Q708 Q701 Q709 Q711 Q710
D701	Q702
Q706	Q707
Q107	
Q106	
Q102	
D101	Q101
IC101	
Q109	Q111 Q110 Q108
Q103	Q104
Q309	Q311 Q310 Q308
Q105	Q305 Q304
Q303	
IC301	D301 Q301 Q306 Q307 Q302



Note: Color in ( ) indicates color of tube which covers end of shielded wire.

3. MOUNTING DIAGRAM (2) — Amplifier Section (2) —

— Conductor Side —



'STEM CONTROL
JIT BOARD

SYNC CIRCUIT BOARD

RECORD HEAD CIRCUIT BOARD

BIAS OSC CIRCUIT BOARD

RECORD SWITCH CIRCUIT BOARD

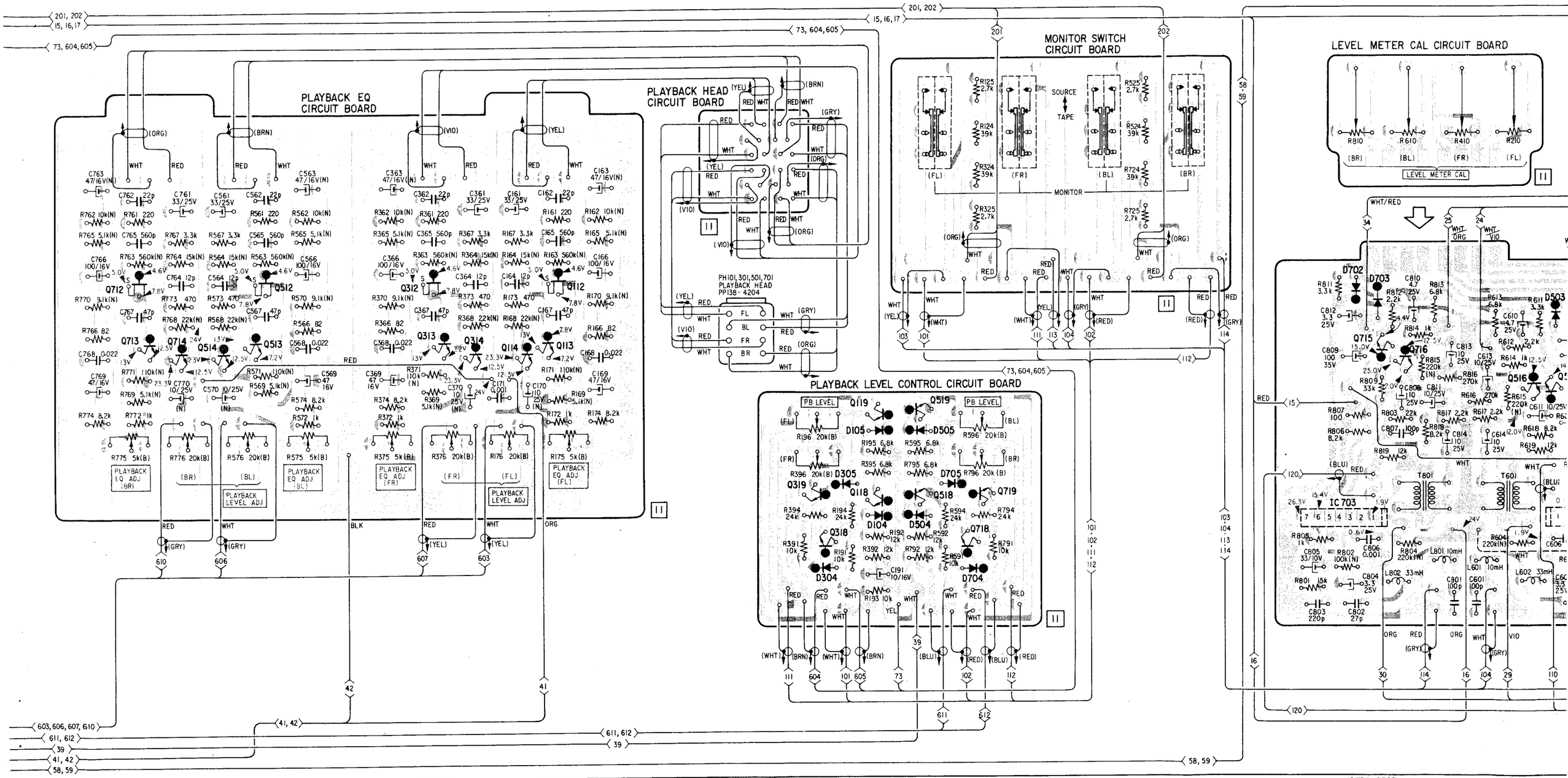
TAPE SELECT SWITCH CIRCUIT BOARD

IC502 IC302 IC102 Q501 Q502 D504 D503

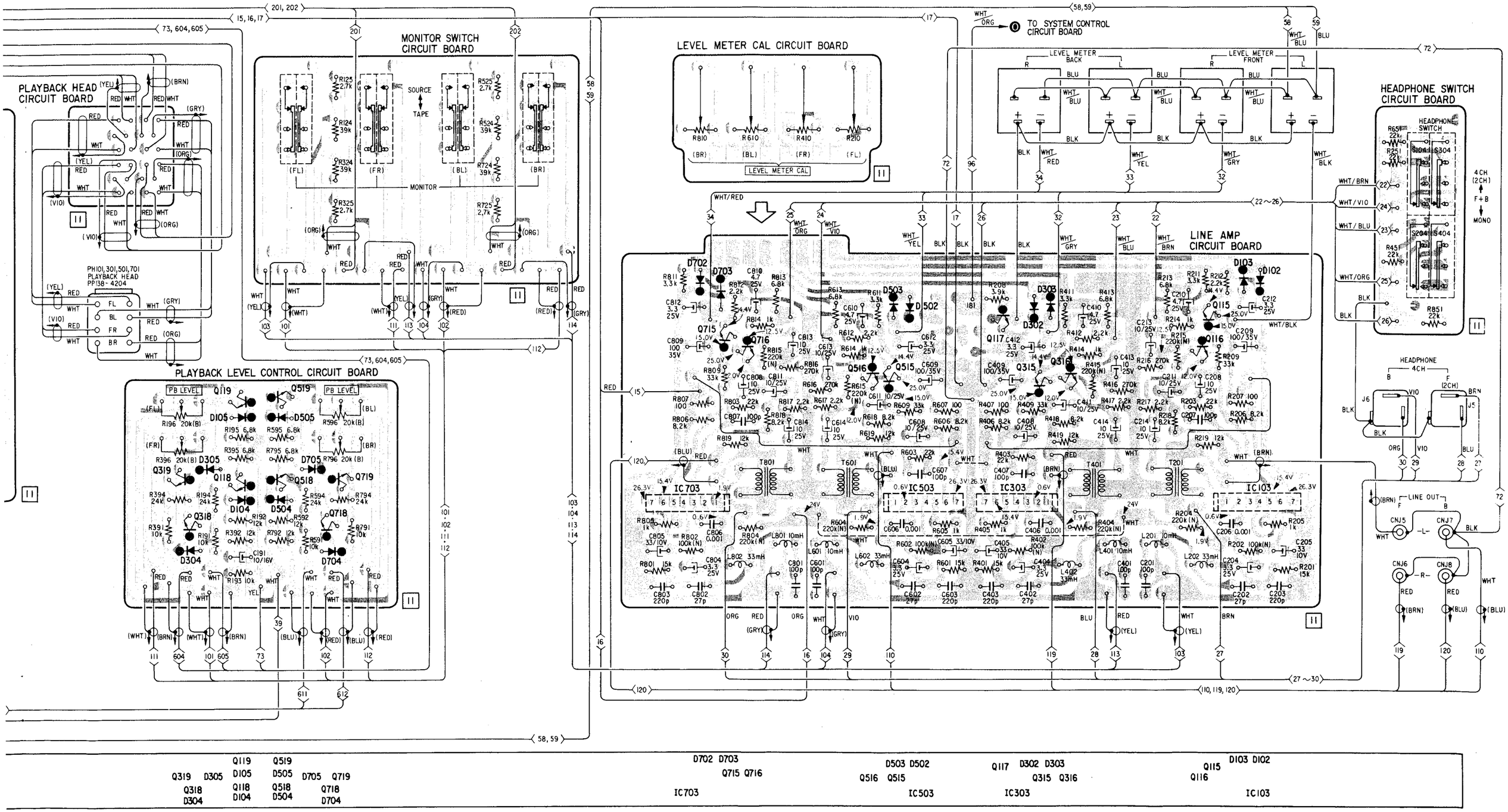
Note: Color in ( ) indicates color of tube which covers end of shielded wire.

4. MOUNTING DIAGRAM (3) – Amplifier Section (3) –

– Conductor Side –

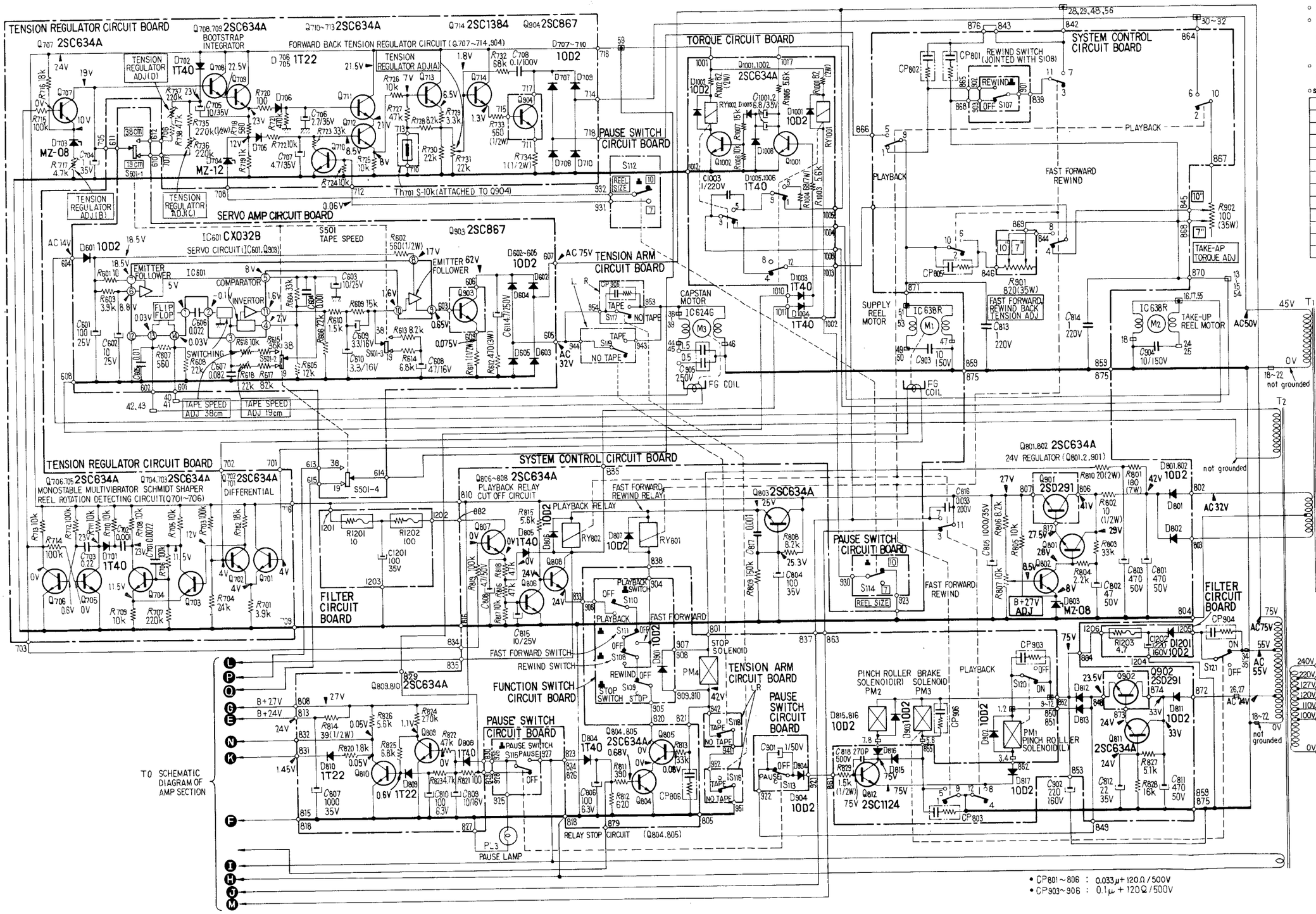


Q D IC	Q712	Q713	Q714	Q514	Q512 Q513	Q312 Q313	Q314	Q114	Q112 Q113	Q319 Q318 D304	D305	Q119 D105 Q118 D104	Q519 D505 Q518 D504	D705	Q719 Q718 D704	D702 D703 Q715 Q716 IC703	D503 Q516 Q515



Note: Color in ( ) indicates color of tube which covers end of shielded wire.

6. SCHEMATIC DIAGRAM (2) – System Control Section –



Note:

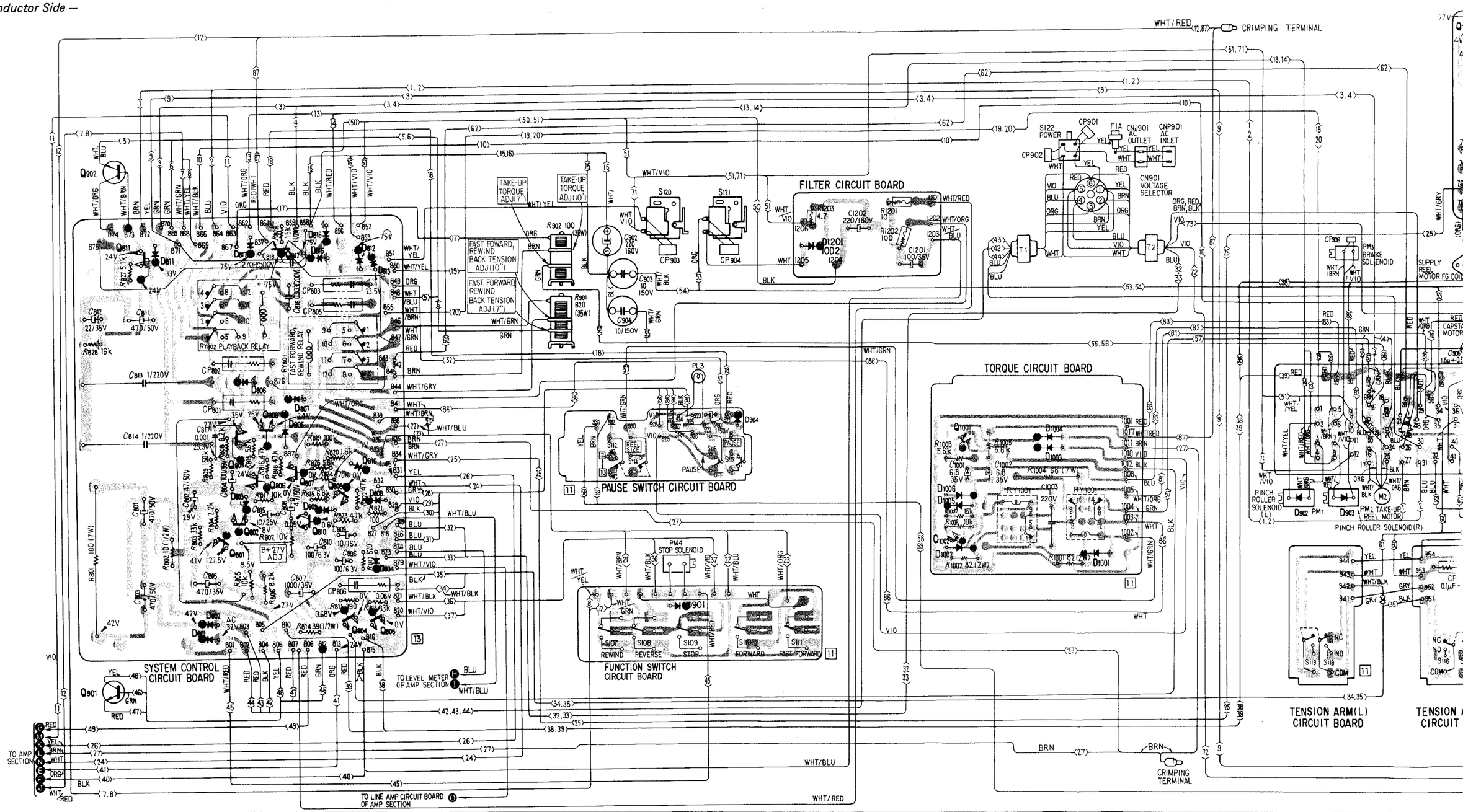
- All capacitors are in μF unless otherwise noted. p = μμF
- All resistors are in Ω, ¼W, unless otherwise noted. k = 1,000 M = 1,000 k
- ⏚ indicates chassis ground.
- Voltages are DC with respect to ground unless otherwise noted. Readings taken under no-signal. Readings are in stop mode with a VOM (DC 20 kΩ/V, AC 8 kΩ/V), with TAPE SPEED switch to 19 cm 7½.
- Voltage variations may be noted due to normal production tolerances.

○ Switch Mode

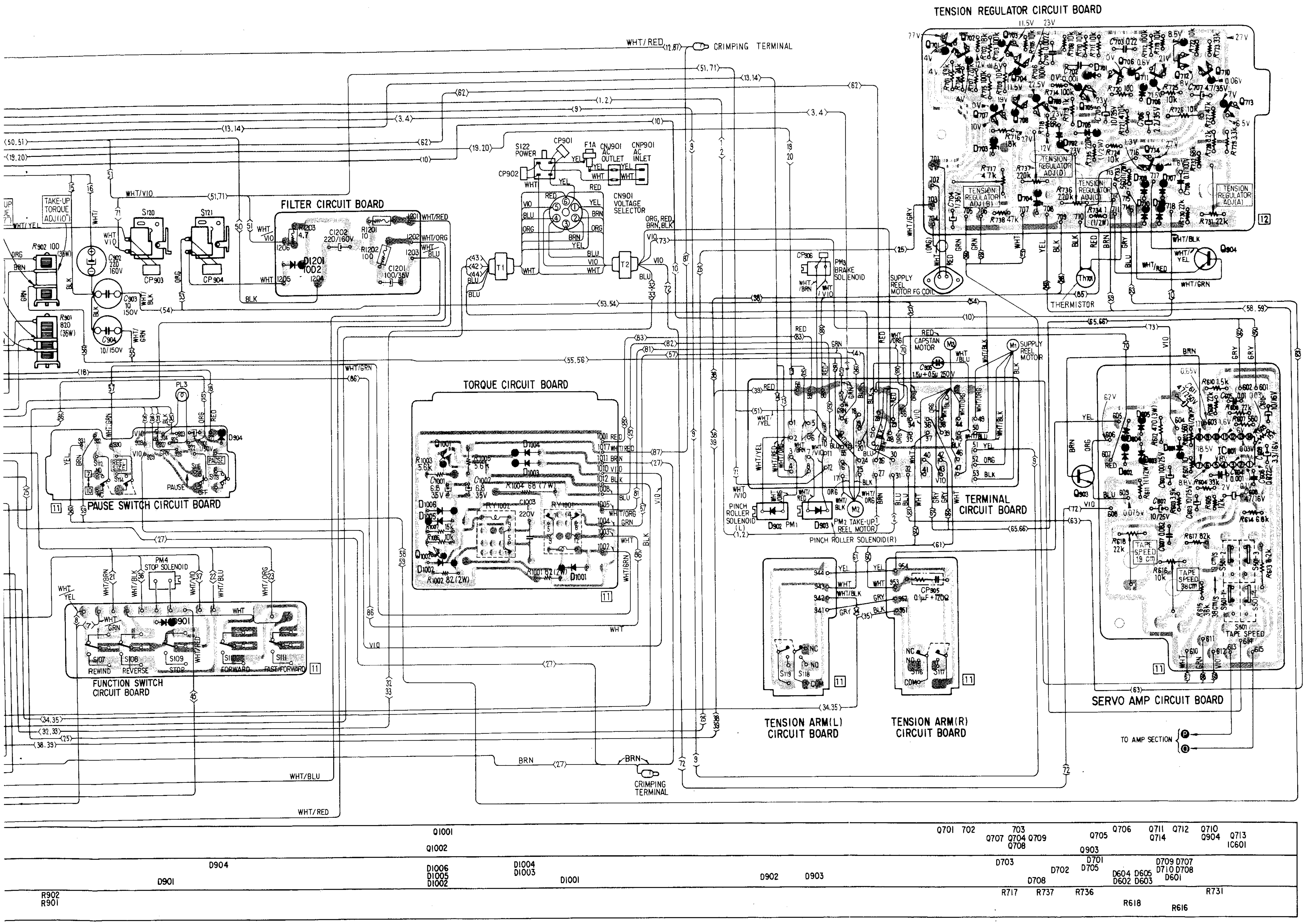
Ref. No.	Switch	Mode
S107, 108	rewind	OFF
S109	stop	OFF
S110	playback	OFF
S111	fast forward	OFF
S112, 114	REEL SIZE	10 ½
S113, 115	PAUSE	OFF
S116, 117	tension arm R	OFF
S118, 119	tension arm L	OFF
S120	PM1 drive	ON
S121	PM3 drive	ON
S122	POWER	OFF
S501	TAPE SPEED	19 cm 7½

7. MOUNTING DIAGRAM (4) — System Control Section —

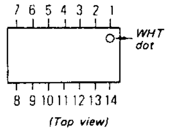
— Conductor Side —



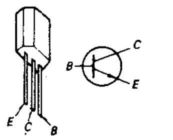
Q, IC	Q902 Q811 Q901 Q803 Q802 Q801 Q808 Q806 Q812 Q807 Q809 Q810 Q804 Q805 Q1001 Q1002
D	D811 D817 D802 D801 D806 D803 D807 D805 D816 D815 D809 D812 D813 D810 D808 D804 D904 D901 D1006 D1005 D1002 D1004 D1003 D1001 D902 D903
ADJ	R902 R901



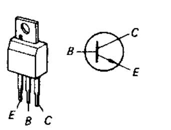
IC601 : CX032B



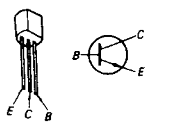
Q701 ~ 713,
801 ~ 811,
1001, 1002 : 2SC634A



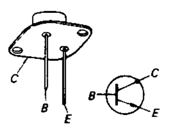
Q812 : 2SC1124



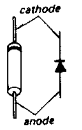
Q714 : 2SC1384



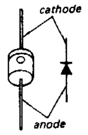
Q903, 904 : 2SC867
Q901, 902 : 2SD291



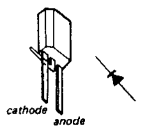
D705, 706, 809, 810 : 1[illegible]2
D701, 702, 804, 805,
808, 1003 ~ 1006 : 1[illegible]



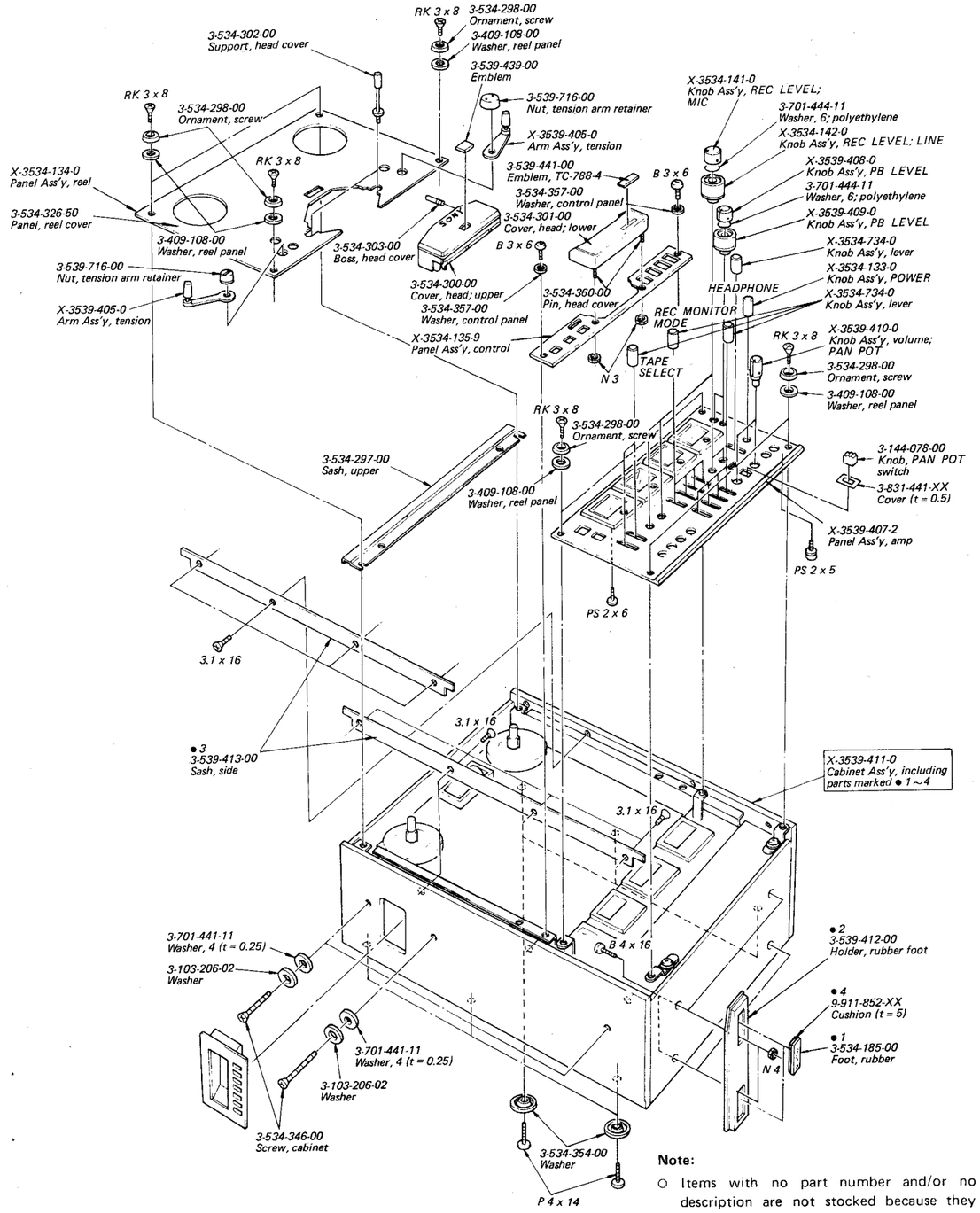
D601 ~ 605,
707 ~ 710,
801, 802, 806, 807,
811 ~ 817,
901 ~ 904,
1001, 1002 : 10D-2



D703, 803 : MZ08
D704 : MZ12



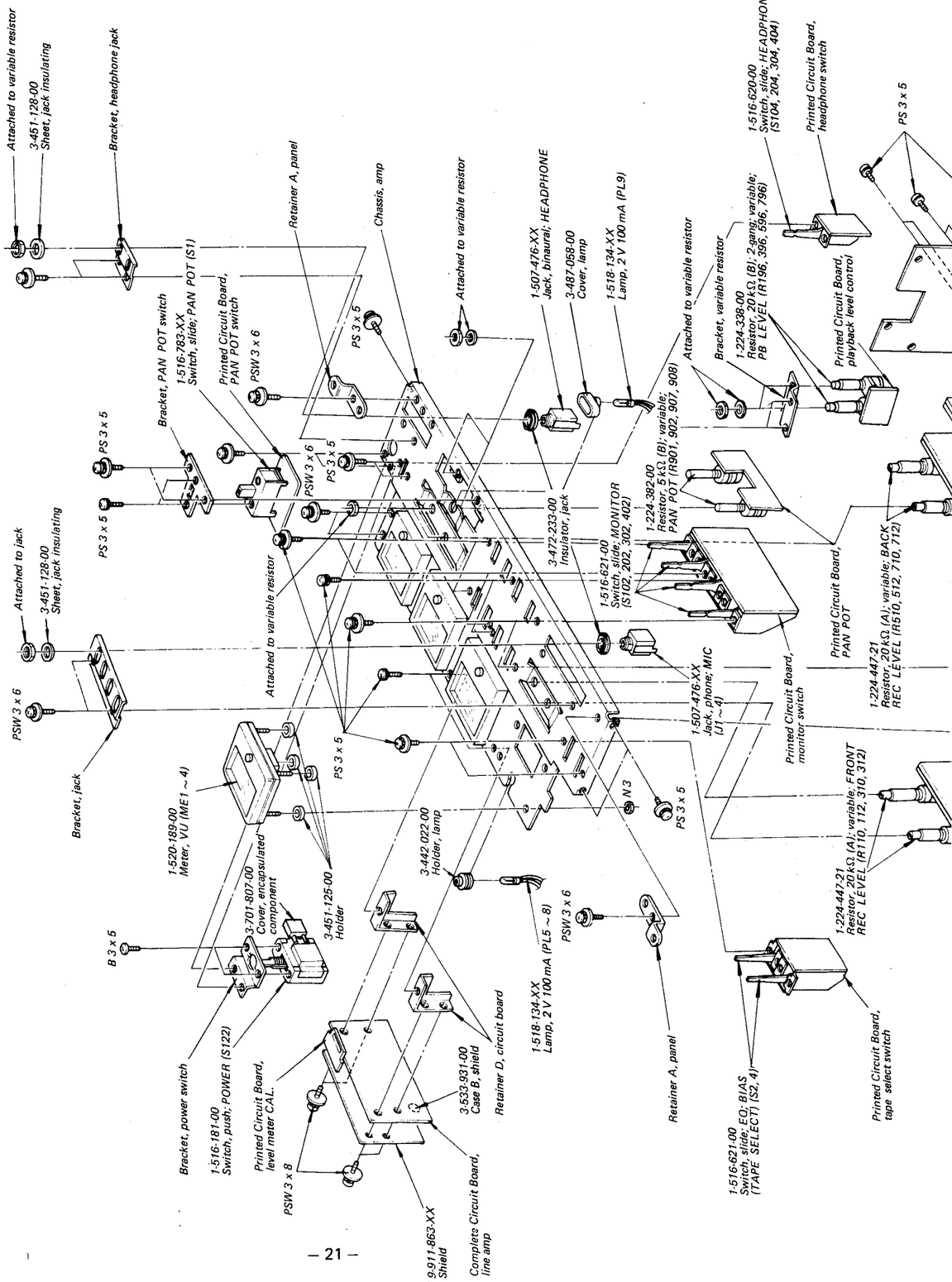
8. EXPLODED VIEW (1)



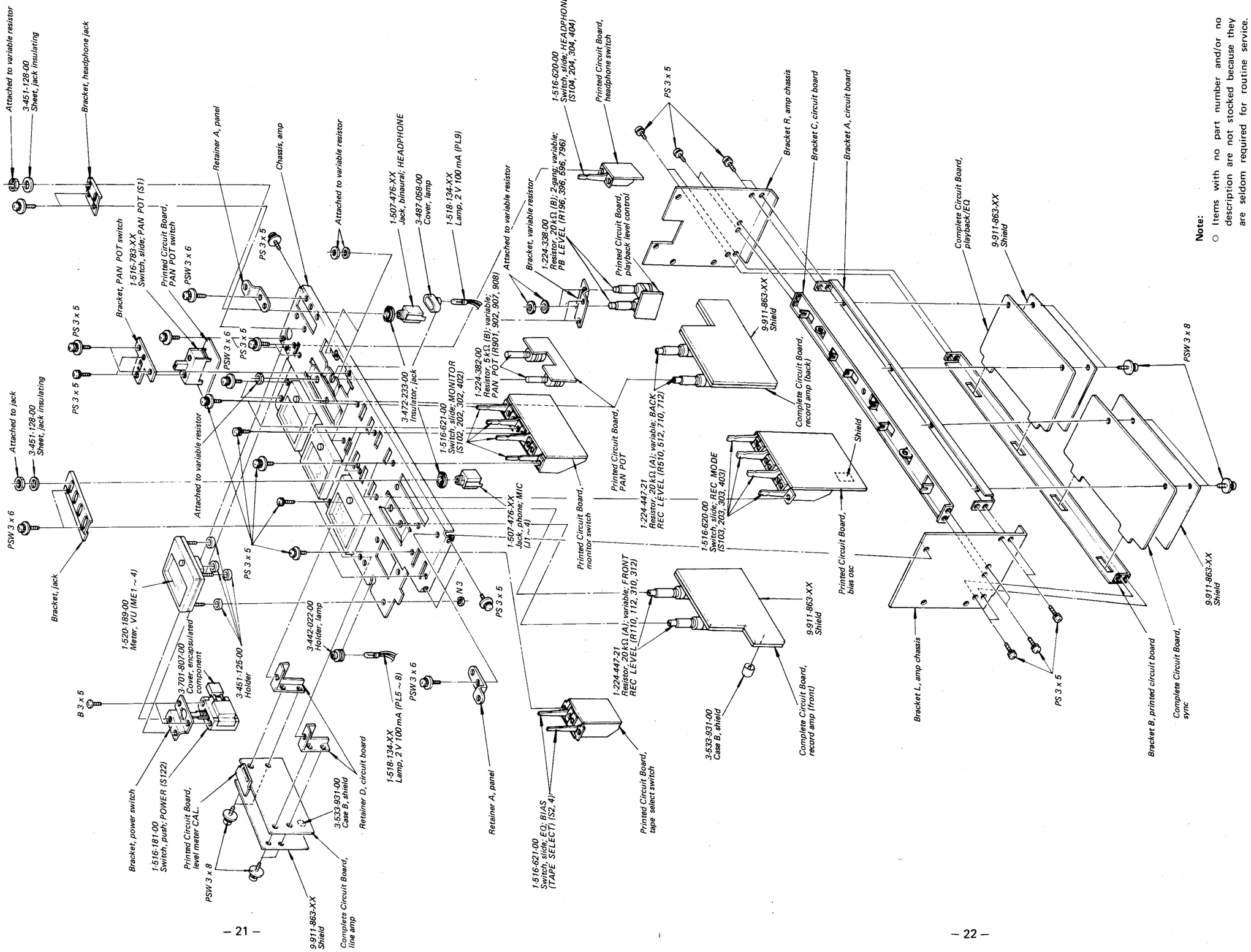
Note:

- ○ Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

9. EXPLODED VIEW (2)



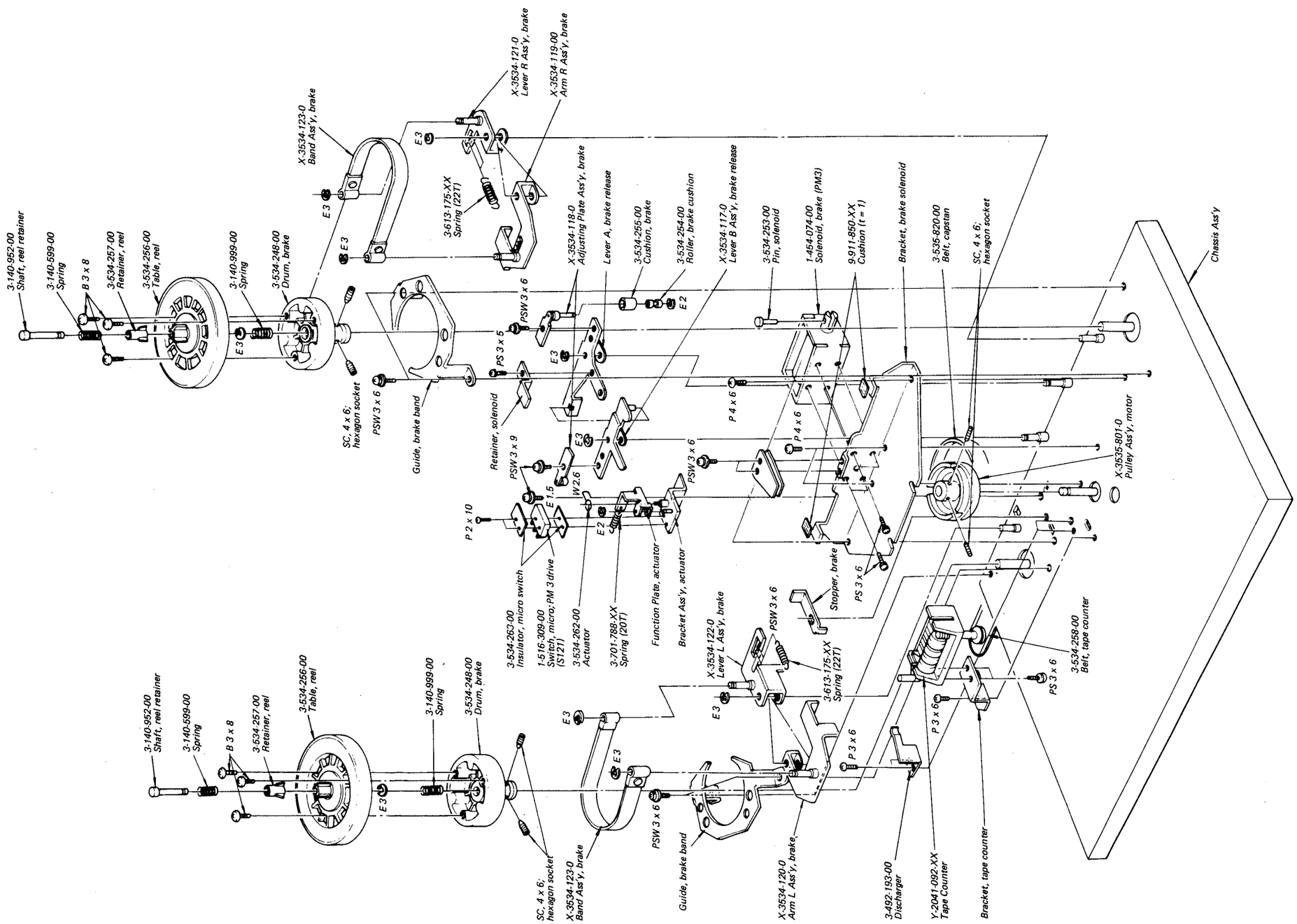
9. EXPLODED VIEW (2)



Note:

- ○ Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
- (—) = slotted head

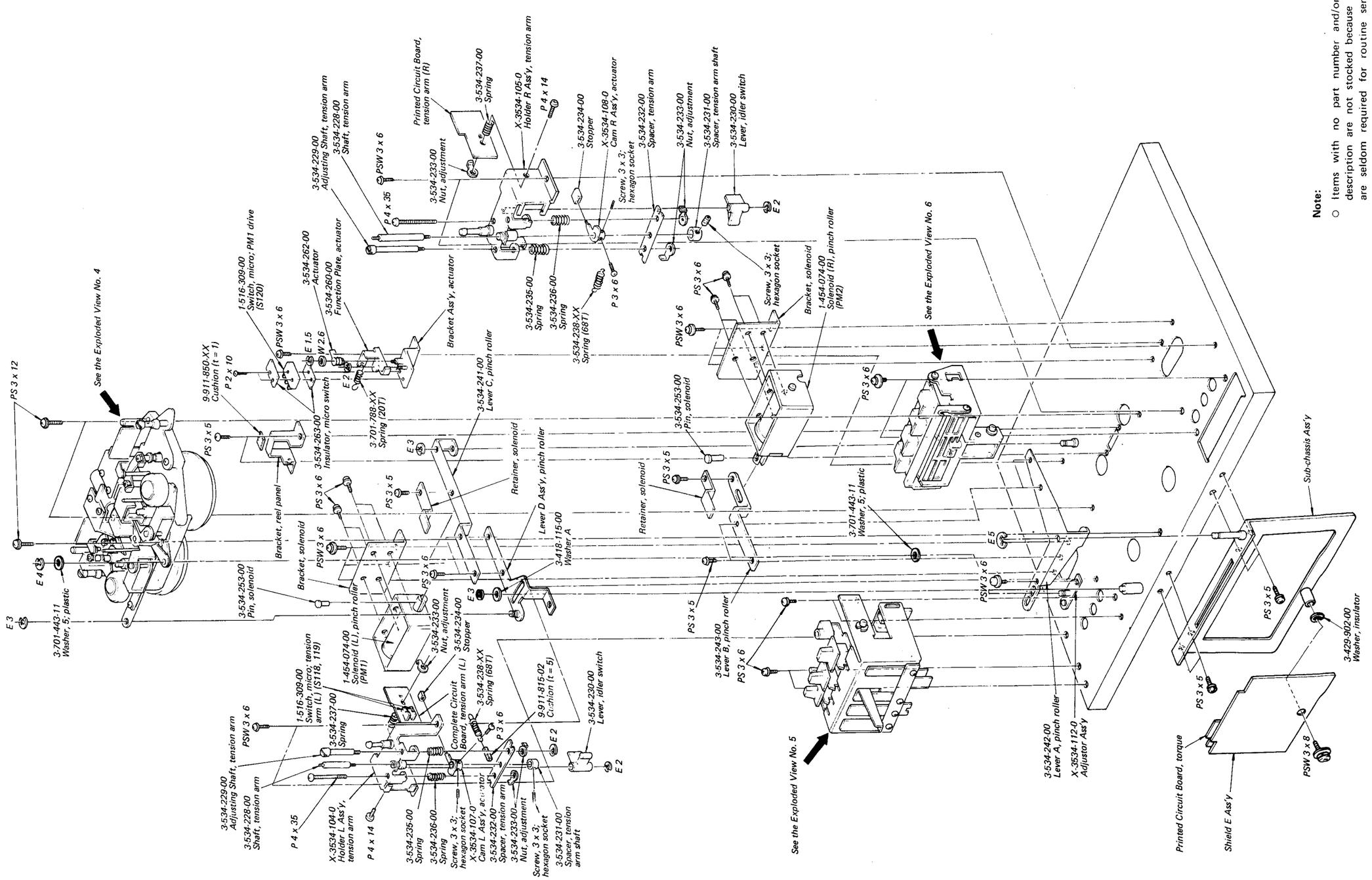
10. EXPLODED VIEW (3)



Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- (□□T) shows the number of coils in spring.

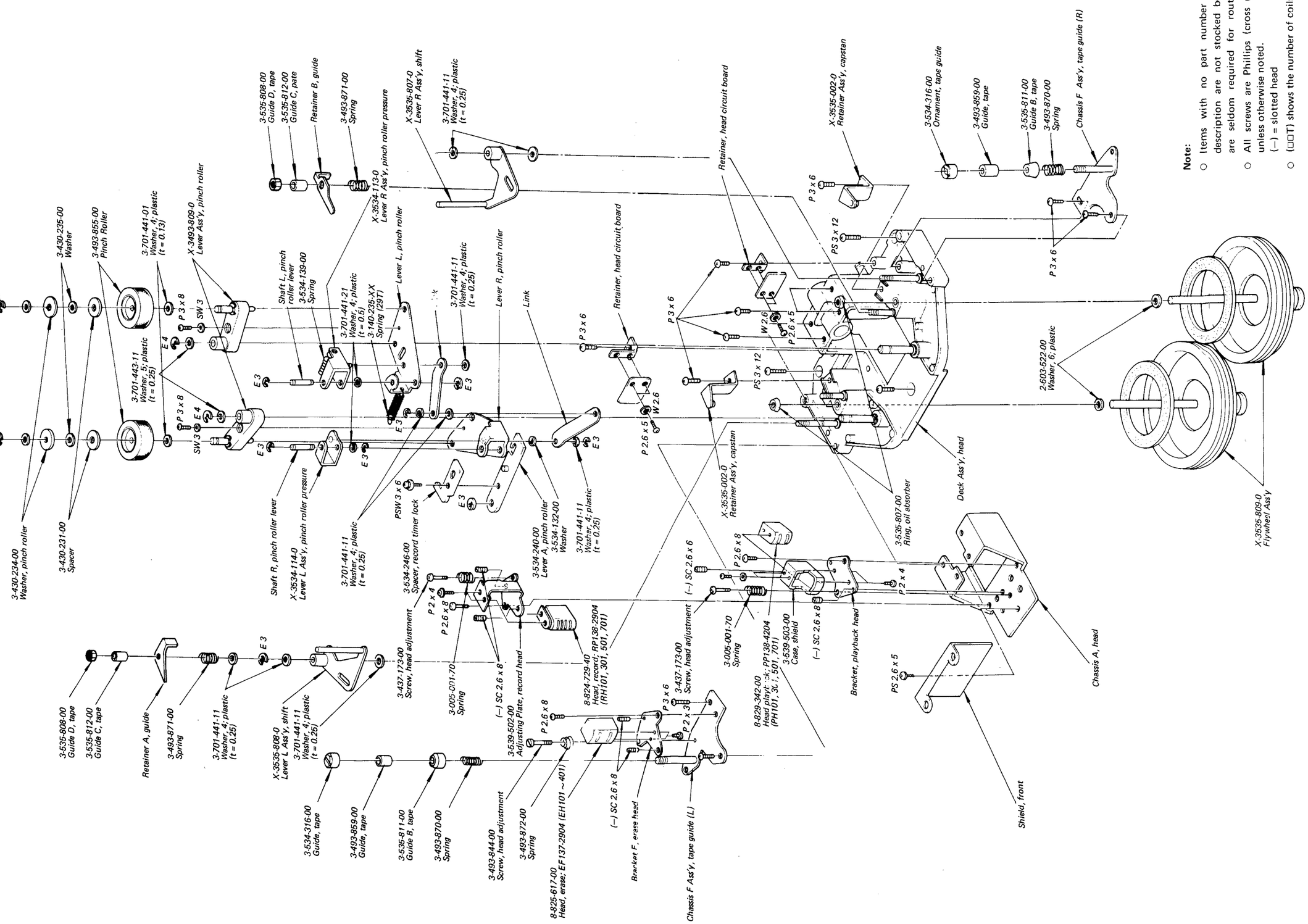
11. EXPLODED VIEW (4)



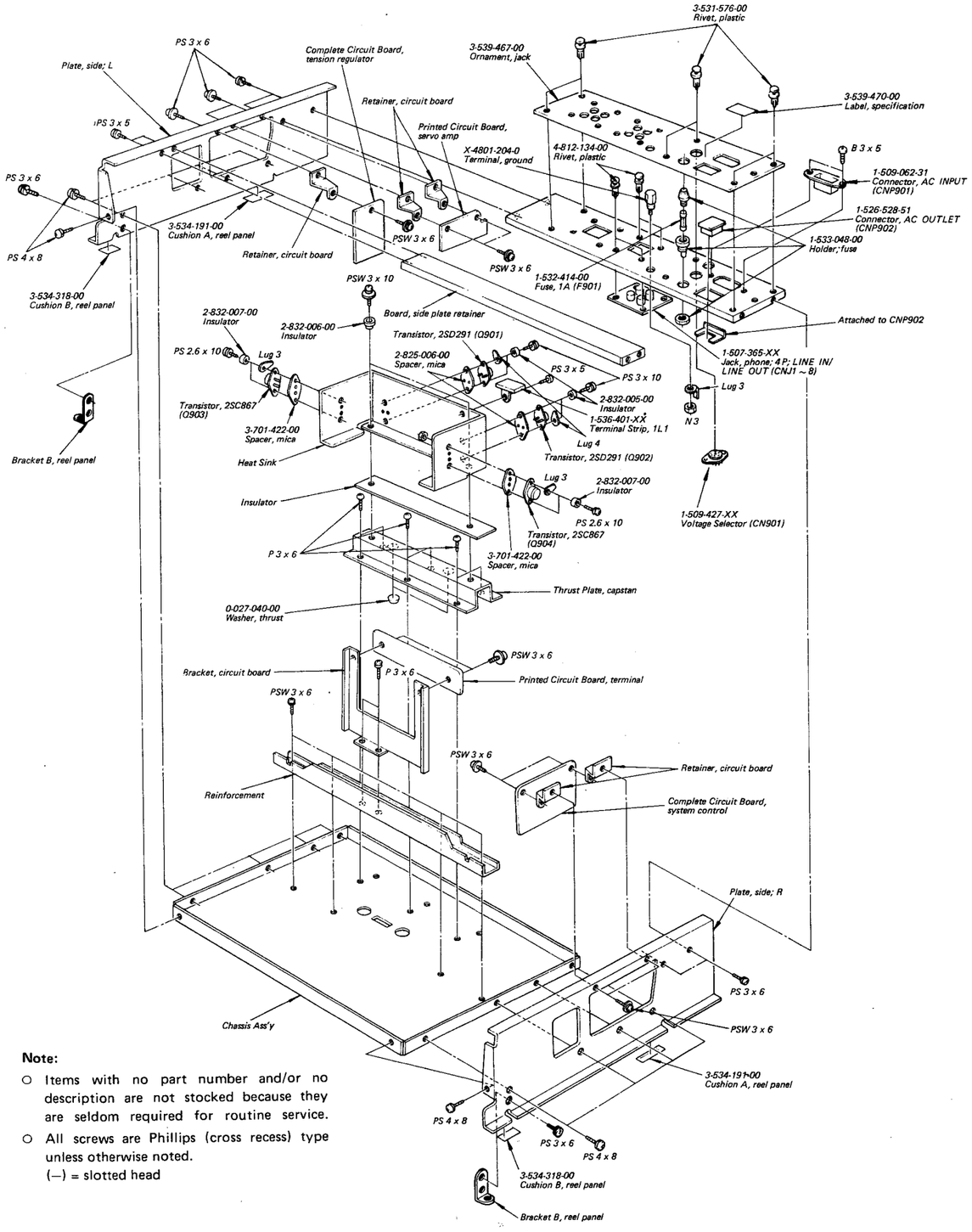
Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- (□□T) shows the number of coils in spring.

12. EXPLODED VIEW (5)



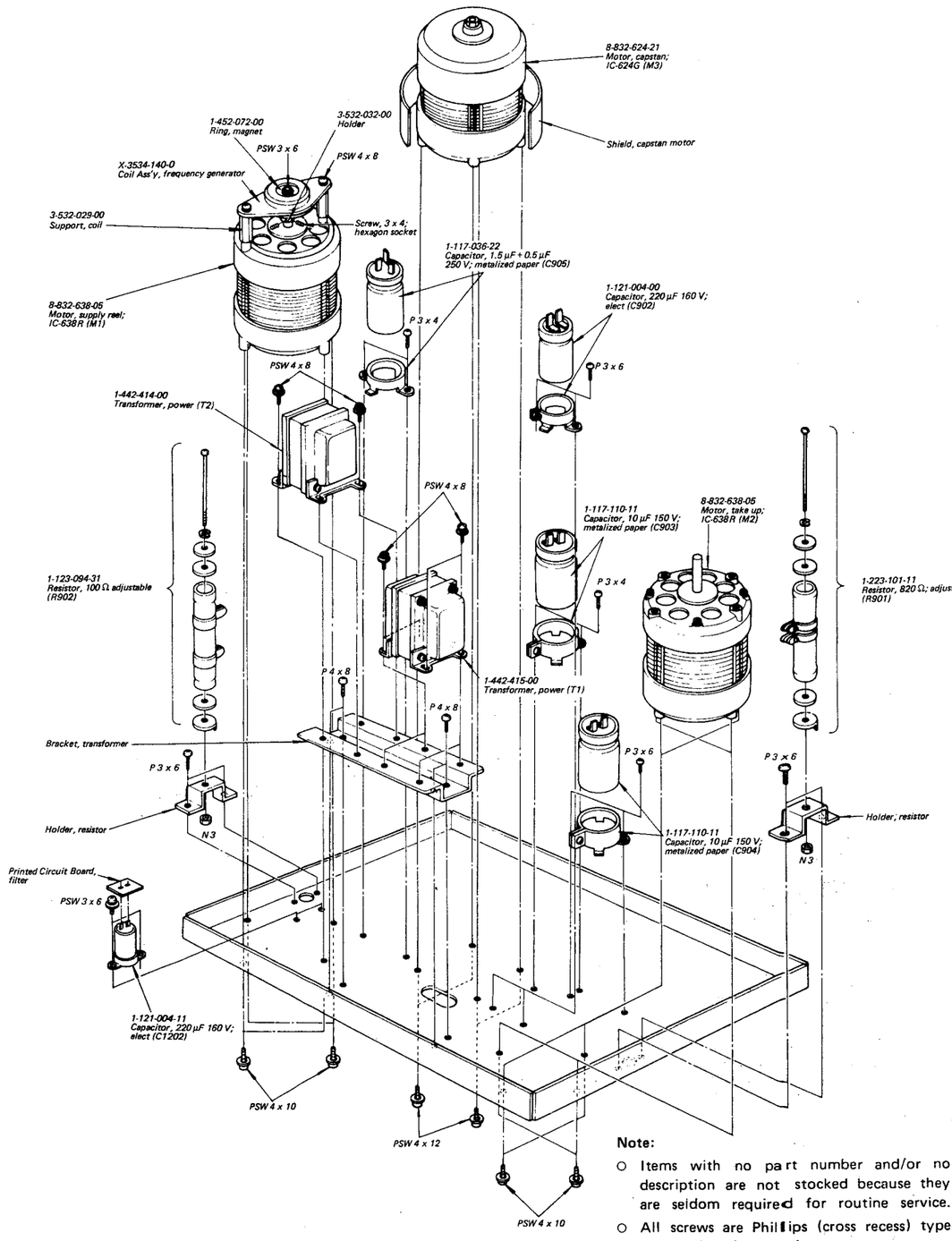
13. EXPLODED VIEW (6)



Note:

- ○ Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (—) = slotted head

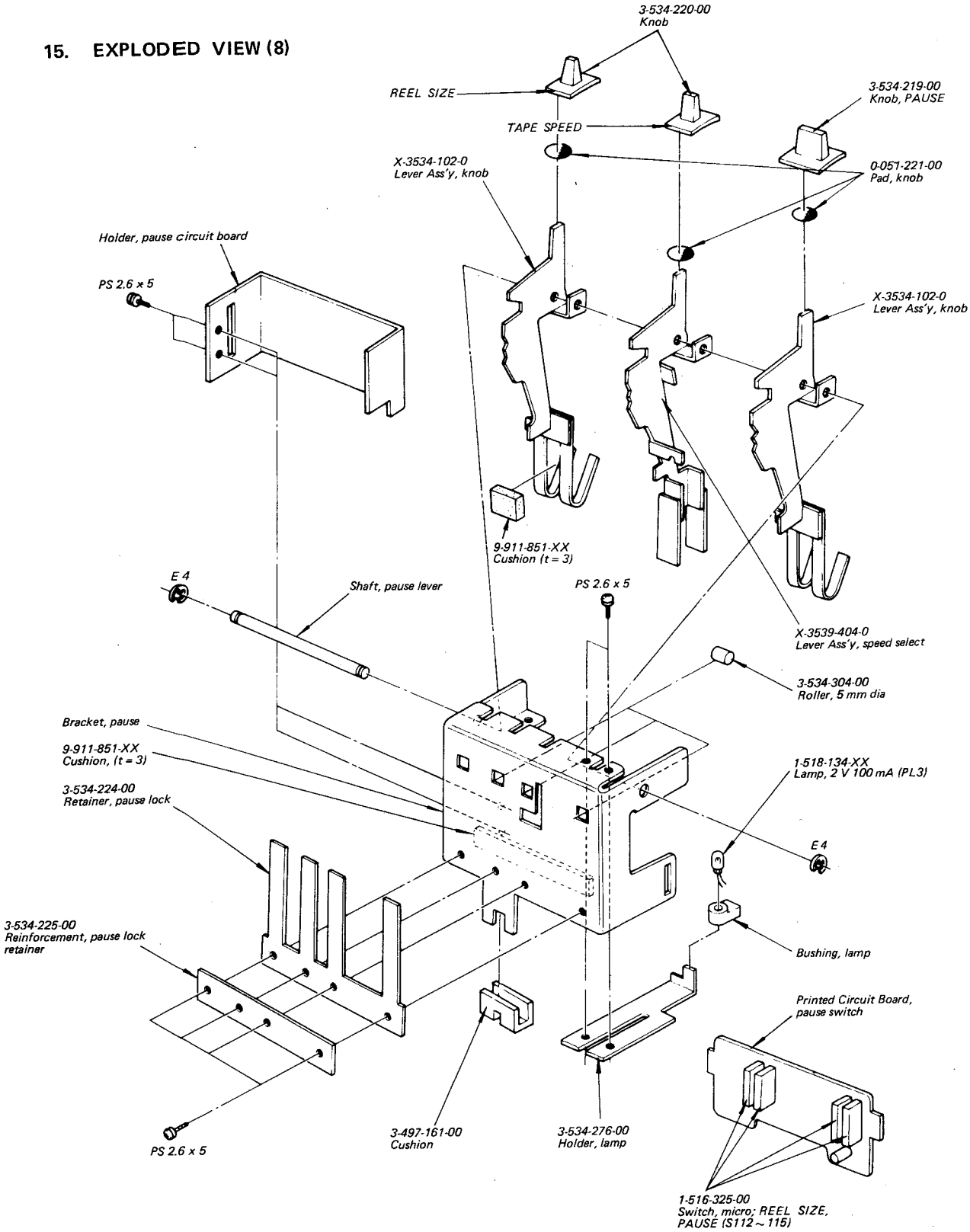
14. EXPLODED VIEW (7)



Note:

- ○ Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (—) = slotted head

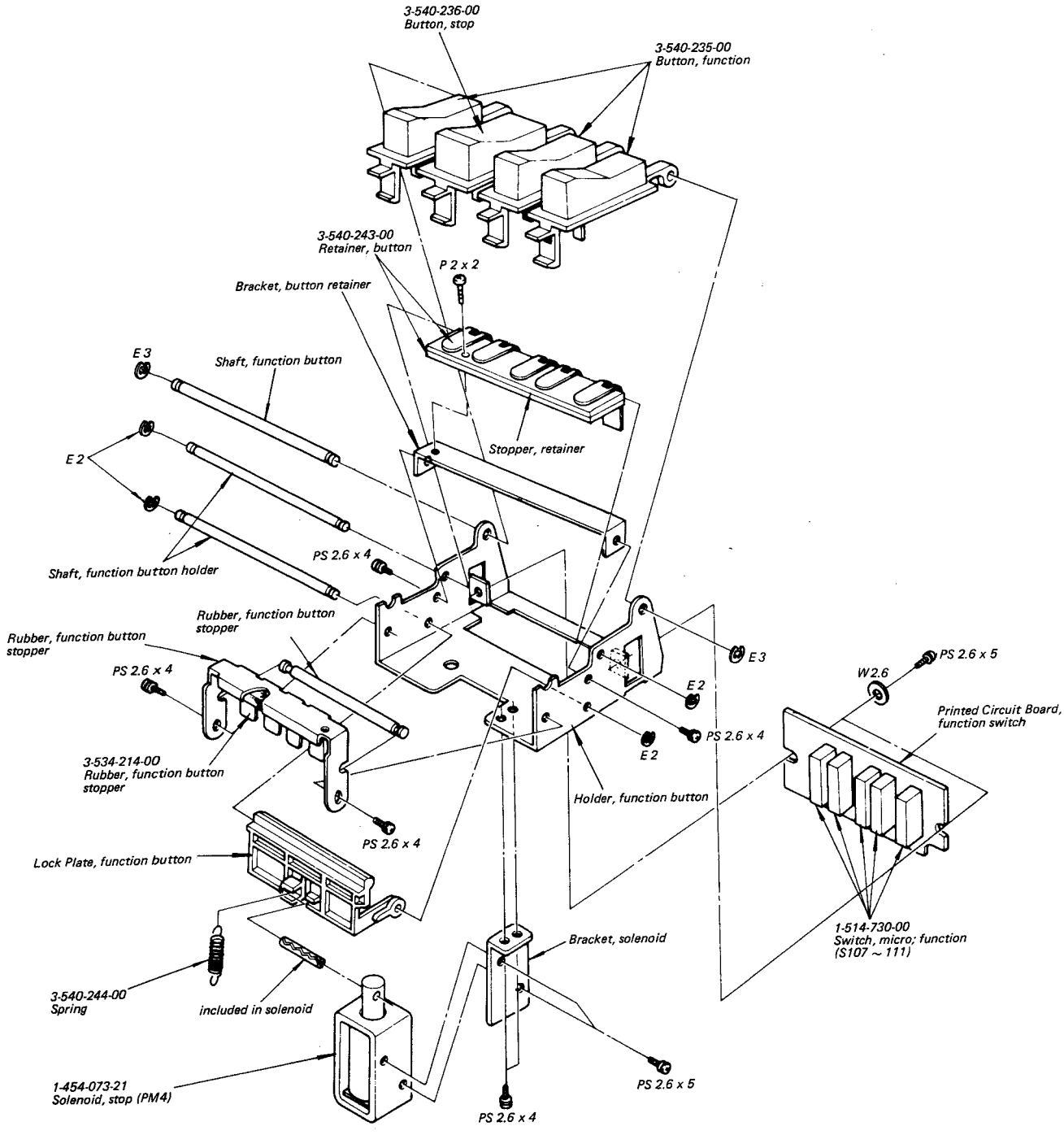
15. EXPLODED VIEW (8)



Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

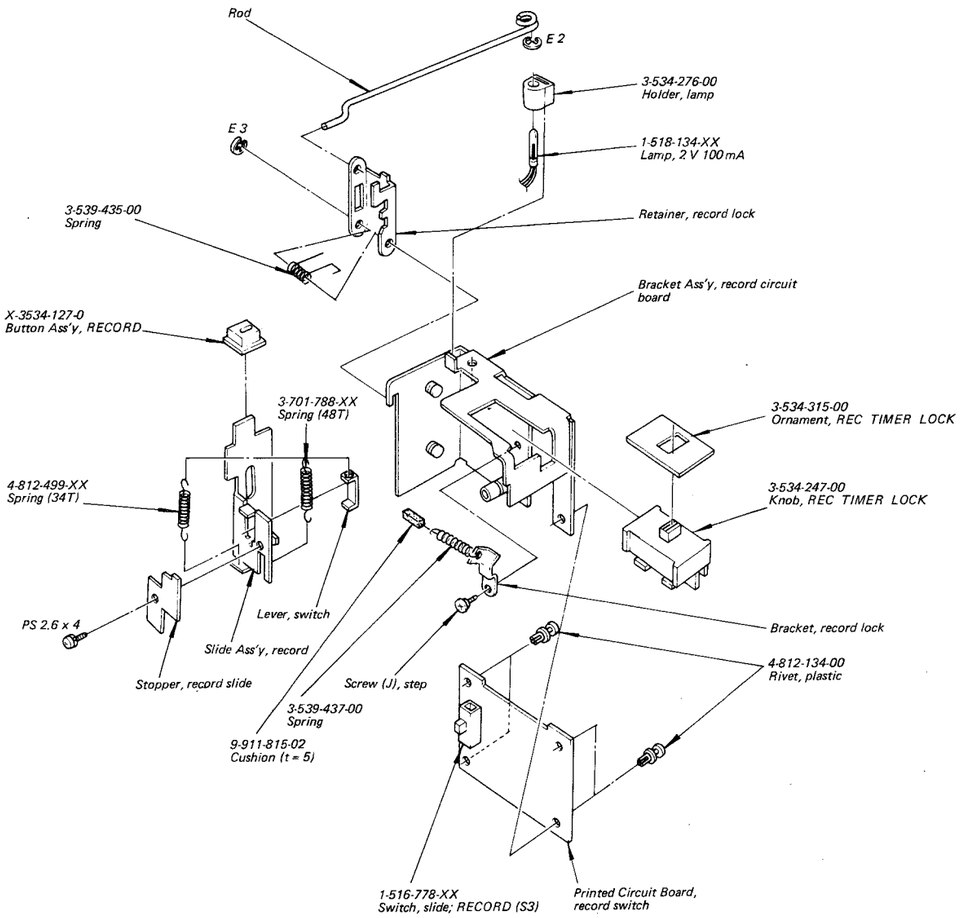
16. EXPLODED VIEW (9)



Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

17. EXPLODED VIEW (10)



- ○ Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (—) = slotted head
- ○ (□□T) shows the number of coils in spring.

18. ELECTRICAL PARTS LIST

Ref. No.	*Part No.*	*Description*	
		SEMICONDUCTORS	
		Record Amp (Front) Section	
Q101, 301		Transistor	2SC632A
Q102 ~ 111, Q302 ~ 311		Transistor	2SC634A
D101, 301		Diode	1S2076
IC101, 301		IC	TA7122AP
		Record Amp (Back) Section	
Q501, 701		Transistor	2SC632A
Q502 ~ 511, Q702 ~ 711		Transistor	2SC634A
D501, 701		Diode	1S2076
IC501, 701		IC	TA7122AP
		Playback EQ Section	
Q112, 312, Q512, 712		Transistor	2SK43
Q113, 313, Q513, 713		Transistor	2SC632A
Q114, 314, Q514, 714		Transistor	2SC634A
		Line Amp Section	
Q115, 315, 515, 715 Q116, 316, 516, 716 Q117, 317, 517, 717		Transistor	2SC634A
D102, 302, 502, 702, D103, 303, 503, 703		Diode	1T22
IC103, 303, IC503, 703		IC	TA7122AP
		Bias Osc Section	
Q501, 502		Transistor	2SC1475
		Playback Level Control Section	
Q118, 318 Q119, 319 Q518, 718 Q519, 719		Transistor	2SC634A

Ref. No.	*Part No.*	*Description*	
D104, 304 D504, 704 D105, 305 D505, 705		Diode	1T40
		Tension Regulator Section	
Q701 ~ 713		Transistor	2SC634A
Q714		Transistor	2SC1384
D701, 702		Diode	1T40
D703		Diode	MZ08
D704		Diode	MZ12
D705, 706		Diode	1T22
D707 ~ 710		Diode	10D2
		System Control Section	
Q801 ~ 811		Transistor	2SC634A
Q812		Transistor	2SC1124
D801, 802		Diode	10D2
D803		Diode	MZ08
D804, 805		Diode	1T40
D806, 807		Diode	10D2
D808		Diode	1T40
D809, 810		Diode	1T22
D811 ~ 813, D815 ~ 817		Diode	10D2
		Chassis Section	
Q901, 902		Transistor	2SD291
Q903, 904		Transistor	2SC867
D902, 903		Diode	10D2
		Torque Section	
Q1001, 1002		Transistor	2SC634A
D1001, 1002		Diode	10D2
D1003 ~ 1006		Diode	1T40
		Sync Section	
D501		Diode	1T40
D502		Diode	10E2

Ref. No.	Part No.	Description	
D503		Diode	1T40
IC102, 302 IC502, 702		IC	TA7122AP

Tape Select Switch Section

D503, 504		Diode	1T40

Servo Amp Section

D601 ~ 605		Diode	10D2
IC601		IC	CX032B

Function Switch Section

D901		Diode	10D2

Pause Switch Section

D904		Diode	10D2
Th701	1-800-204-00	Thermistor	S-10 k

Filter Section

D1201		Diode	10D2

COILS

L101, 301 L501, 701	1-407-519-00	8 μH	microinductor
L102, 302 L502, 702	1-407-269-00	2.2 mH	variable inductor
L103, 303 L503, 703	1-407-270-00	3.3 mH	variable inductor
L104, 304 L504, 704	1-407-290-00	10 mH	variable inductor
L105, 305 L505, 705	1-407-173-00	220 μH	microinductor
L201, 401 L601, 801	1-407-206-XX	10 mH	microinductor
L202, 402 L602, 802	1-407-561-00	33 mH	microinductor
L901	1-407-270-00	3.3 mH	variable inductor
L902, 903	1-407-269-00	2.2 mH	variable inductor
L904	1-407-270-00	3.3 mH	variable inductor
L905	1-407-198-XX	2.2 mH	microinductor

TRANSFORMERS

T1	1-442-415-00	Power
T2	1-442-414-00	Power
T201, 401 T601, 801	1-427-270-XX	Output
T901	1-433-171-00	Bias Osc

CAPACITORS

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

Record Amp (Front) & Record Amp (Back) Section

C101, 301 C501, 701	1-121-398-11	10	25 V	elect
C102, 302 C502, 702	1-131-206-11	3.3	25 V	elect
C103, 303 C503, 703	1-102-107-11	120 p		
C104, 304	1-108-825-12	0.001		mylar
C504, 704	1-105-661-12	0.001		mylar
C105, 305 C505, 705	1-121-651-11	10	16 V	elect
C106, 306 C506, 706	1-121-398-11	10	25 V	elect
C107, 307 C507, 707	1-102-106-11	100 p		
C108, 308 C508, 708	1-121-391-11	1	50 V	elect
C109, 309 C509, 709	1-121-422-11	220	25 V	elect
C110, 310 C510, 710	1-121-748-11	10	25 V	elect
C111, 311 C511, 711	1-108-825-12	0.001		mylar
C112, 312 C512, 712	1-121-414-11	100	10 V	elect
C113, 313 C513, 713	1-102-969-11	33 p		
C114, 314 C514, 714	1-101-885-11	56 p		
C115, 315 C515, 715	1-121-420-11	220	10 V	elect
C116, 316 C516, 716	1-123-050-11	2.2	50 V	elect
C117, 317 C517, 717	1-108-833-11	0.0047		mylar
C118, 318 C518, 718	1-121-651-11	10	16 V	elect
C119, 319 C519, 719	1-108-825-11	0.001		mylar
C120, 320 C520, 720	1-102-956-11	15 p		
C121, 321 C521, 721	1-102-107-11	120 p		
C122, 322 C522, 722	1-121-409-11	47	16 V	elect
C123, 323 C523, 723	1-121-391-11	1	50 V	elect
C124, 324 C524, 724	1-121-398-11	10	25 V	elect
C125, 325 C525, 725	1-121-414-11	100	10 V	elect
C126, 326 C526, 726	1-108-795-12	0.0018		mylar
C128, 328 C528, 728	1-107-004-11	100 p	500 V	silvered mica
C129, 329 C529, 729	1-108-840-12	0.018		mylar
C130, 330 C530, 730	1-108-836-12	0.0082		mylar
C131, 331 C531, 731	1-105-518-12	0.027		mylar
C132, 332 C532, 732	1-105-514-12	0.012		mylar
C133, 134 C135, 136	1-121-651-11	10	16 V	elect

Playback EQ Section

C161, 361 C561, 761	1-121-404-11	33	25 V	elect
C162, 362 C562, 762	1-107-115-11	22 p	50 V	silvered mica
C163, 363 C563, 763	1-123-055-11	47	16 V	elect
C164, 364 C564, 764	1-102-955-11	12 p		
C165, 365 C565, 765	1-102-115-11	560 p		
C166, 366 C566, 766	1-121-415-11	100	16 V	elect
C167, 367 C567, 767	1-101-881-11	47 p		
C168, 368 C568, 768	1-108-808-12	0.022		mylar
C169, 369 C569, 769	1-121-409-11	47	16 V	elect
C170, 370 C570, 770	1-121-748-11	10	25 V	elect
C171	1-108-825-12	0.001		mylar

Sync Section

C181, 381 C581, 781	1-121-398-11	10	25 V	elect
C182, 382 C582, 782	1-131-236-11	1	25 V	solid tantalum
C183, 383 C583, 783	1-105-687-12	0.15		mylar
C184, 384 C584, 784	1-102-107-11	120 p		
C185, 385 C585, 785	1-108-827-12	0.0015		mylar
C186, 386 C586, 786	1-102-113-11	390 p		
C187, 387 C587, 787	1-121-748-11	10	25 V	elect
C188, 388 C588, 788	1-108-829-12	0.0022		mylar
C901	1-121-388-11	1000	35 V	elect
C902	1-121-651-11	10	16 V	elect
C903	1-121-652-11	33	35 V	elect

Ref. No.	Part No.	Description		
	Playback Level Control Section			
C191	1-121-651-11	10	16 V	elect
	Line Amp Section			
C201, 401 C601, 801	1-102-106-11	100 p		
C202, 402 C602, 802	1-102-968-11	27 p		
C203, 403 C603, 803	1-102-110-11	220 p		
C204, 404 C604, 804	1-121-392-11	3.3	25 V	elect
C205, 405 C605, 805	1-121-402-11	33	10 V	elect
C206, 406 C606, 806	1-108-825-12	0.001		mylar
C207, 407 C607, 807	1-102-106-11	100 p		
C208, 408 C608, 808	1-121-398-11	10	25 V	elect
C209, 409 C609, 809	1-121-357-11	100	35 V	elect
C210, 410 C610, 810	1-121-395-11	4.7	25 V	elect
C211, 411 C611, 811	1-121-398-11	10	25 V	elect
C212, 412 C612, 812	1-121-392-11	3.3	25 V	elect
C213, 413 C214, 414 C613, 813 C614, 814	1-121-398-11	10	25 V	elect
	Servo Amp Section			
C601	1-121-935-11	100	25 V	elect
C602, 603	1-121-398-11	10	25 V	elect
C604	1-105-661-12	0.001		mylar
C605	1-105-673-12	0.01		mylar
C606	1-106-677-12	0.022		mylar
C607	1-108-550-11	0.082		mylar
C608	1-121-409-11	47	16 V	elect
C609, 610	1-131-197-11	3.3	16 V	solid tantalum
C611	1-121-900-11	4.7	250 V	elect
C612	1-105-761-12	0.047	200 V	mylar
	Tension Regulator Section			
C701	1-105-665-12	0.0022		mylar
C702	1-105-501-12	0.001		mylar
C703	1-105-529-12	0.22		mylar
C704	1-131-215-11	1	35 V	solid tantalum
C705	1-131-238-11	10	25 V	solid tantalum
C706	1-131-217-11	2.2	35 V	solid tantalum
C707	1-131-219-11	4.7	35 V	solid tantalum
C708	1-105-725-12	0.1	100 V	mylar
	System Control Section			
C801	1-121-983-11	470	50 V	elect
C802	1-121-411-11	47	50 V	elect
C803	1-121-810-11	470	50 V	elect
C804	1-121-357-11	100	35 V	elect
C805	1-121-388-11	1000	35 V	elect
C806	1-121-980-11	100	6.3 V	elect
C807	1-121-388-11	1000	35 V	elect
C808	1-121-954-11	4.7	50 V	elect
C809	1-121-651-11	10	16 V	elect
C810	1-121-980-11	100	6.3 V	elect
C811	1-121-983-11	470	50 V	elect
C812	1-121-662-11	22	35 V	elect
C813, 814	1-113-072-11	1	220 V	metalized paper
C815	1-121-398-11	10	25 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
	Bias Osc Section			
C904 ~ 907	1-141-010-XX	20 p ~ 120 p		trimmer
C908, 909	1-129-710-11	0.0047	630 V	plastic
C910	1-129-706-11	0.0022	630 V	plastic

Ref. No.	Part No.	Description		
C911	1-105-672-12	0.0082		mylar
C912, 913	1-108-825-11	0.001		mylar
C914	1-108-830-11	0.0027		mylar
C915	1-121-653-11	47	35 V	elect
Record Switch Section				
C916	1-105-919-12	0.033	200 V	mylar
Pause Switch Section				
C901	1-121-391-11	1	50 V	elect
Torque Section				
C1001,1002	1-131-239-11	6.8	35 V	solid tantalum
C1003	1-113-072-11	1	220 V	metalized paper
C1201	1-121-357-11	100	35 V	elect
C1202	1-121-004-11	220	160 V	elect
Chassis Section				
C133, 333 C533, 733	1-101-455-11	0.001		
C902	1-121-004-00	220	160 V	elect
C903, 904	1-117-100-11	10	150 V	metalized paper
C905	1-117-036-22	1.5 + 0.5	250 V	metalized paper
C909 ~ 911	1-107-123-11	47 p	50 V	silvered mica

RESISTORS

All resistors are in Ω. Regular type ¼W carbon and composition resistors are omitted.
Check schematic diagram for resistance values.
(k = 1000)

Record Amp (Front) & Record Amp (Back) Section

R110, 310 R510, 710	1-224-447-21	20 k (A)		variable; MIC
R112, 312 R512, 712	1-224-447-00	20 k (A)		variable; LINE
R126, 326 R526, 726	1-224-646-XX	22 k		adjustable
R129, 329 R529, 729	1-224-646-XX	22 k		adjustable

Ref. No.	Part No.	Description		
Playback EQ Section				
R175, 375 R575, 775	1-224-644-XX	5 k		adjustable
R176, 376 R576, 776	1-224-646-XX	20 k		adjustable
Sync Section				
R188, 388 R588, 788	1-224-646-XX	20 k		adjustable
Playback Level Control Section				
R196, 396 R596, 796	1-224-338-00	20 k (B), 2-gang; variable; PB LEVEL		
Level Meter CAL. Section				
R210, 410 R610, 710	1-224-643-XX	2.2 k		adjustable
Servo Amp Section				
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	10 k		adjustable
R618	1-224-646-XX	22 k		adjustable
Tension Regulator Section				
R717	1-224-644-XX	4.7 k		adjustable
R731	1-224-646-XX	22 k		adjustable
R733	1-244-867-11	560	½W	
R734	1-244-801-11	1	½W	
R736, 737	1-222-778-00	220 k		adjustable
System Control Section				
R801	1-207-992-11	180	7W	wirewound
R807	1-224-645-XX	10 k		adjustable
R814	1-206-477-11	39	½W	metal oxide
R829	1-244-877-11	1.5 k	½W	

Ref. No.	Part No.	Description		
		Chassis Section		
R901	1-223-101-11	820		adjustable
R902	1-223-094-31	100		adjustable
		PAN POT Section		
R901, 907	1-224-382-00	5 k (B)		variable; PAN POT
R902, 908	1-224-382-00	5 k (B)		variable; PAN POT
		Tape Select Switch Section		
R923	1-217-440-11	33	½W	fusible
		Bias Osc Section		
R928	1-217-430-11	4.7	½W	fusible
		Torque Section		
R1001,1002	1-206-485-11	82	2W	metal oxide
R1004	1-217-343-11	68	7W	wirewound
		Filter Section		
R1201	1-217-387-11	10		fusible
R1202	1-217-399-11	100		fusible
R1203	1-217-477-11	4.7	1W	fusible
		SWITCHES		
S1	1-516-783-XX	Slide; PAN POT		
S2	1-516-621-00	Slide, EQ (TAPE SELECT)		
S3	1-516-778-XX	Slide, RECORD		
S4	1-516-621-00	Slide, BIAS (TAPE SELECT)		
S102, 202, S302, 402	1-516-621-00	Slide, MONITOR		
S103, 203, S303, 403	1-516-620-00	Slide, record mode		
S104, 204, S304, 404	1-516-620-00	Slide, HEADPHONE		
S107, 108	1-514-730-00	Micro, rewind		
S109	1-514-730-00	Micro, stop		

Ref. No.	Part No.	Description
S110	1-514-730-00	Micro, playback
S111	1-514-730-00	Micro, fast-forward
S112, 114	1-516-325-00	Micro, REEL SIZE
S113, 115	1-516-325-00	Micro, PAUSE
S116, 117	1-516-309-00	Micro, tension arm (R)
S118, 119	1-516-309-00	Micro, tension arm (L)
S120	1-516-309-00	Micro, PM1 drive
S121	1-516-309-00	Micro, PM3 drive
S122	1-516-181-00	Push, POWER
S501	1-516-784-00	Slide, TAPE SPEED
		JACKS
J1 ~ 4	1-507-476-XX	Phone, MIC
J5, 6	1-507-476-XX	Binaural, HEADPHONE
CNJ1 ~ 8	1-507-365-XX	4 p phono, LINE IN/LINE OUT
		MISCELLANEOUS
CN901	1-509-427-XX	Voltage Selector
CNP901	1-509-062-31	Connector, AC INLET
CNP902	1-526-528-51	Connector, AC OUTPUT
CP801~803, CP805~806	1-231-057-31	Encapsulated Component, C-R; 0.033 μF + 120 Ω, 500 V
CP903~906	1-101-534-31	Encapsulated Component, C-R; 0.1 μF + 120 Ω, 500 V
EH101~401	8-825-617-00	Head, erase; EF137-2904
F1	1-532-414-00	Fuse, 1 A
M1	8-832-638-05	Motor, supply reel; IC-638R
M2	8-832-638-05	Motor, take-up reel; IC-638R
M3	8-832-624-21	Motor, capstan; IC-624G
ME1 ~ 4	1-520-189-00	Meter, VU
PH101, 301, PH501, 701	8-829-342-00	Head, playback; PP138-4204
PL3, 5 ~ 10	1-518-134-XX	Lamp, 2 V 100 mA
PM1	1-454-074-00	Solenoid, pinch roller (L)
PM2	1-454-074-00	Solenoid, pinch roller (R)
PM3	1-454-074-00	Solenoid, brake
PM4	1-454-073-21	Solenoid, stop
RH101, 301, RH501, 701	8-827-729-40	Head, record; RP138-2904

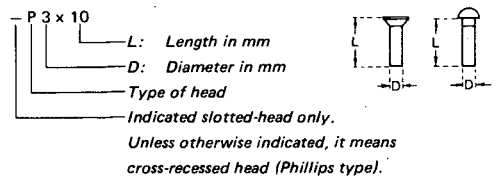
Ref. No.	Part No.	Description
RY801, 802 RY1001 RY1002	1-515-127-XX	Relay
	1-452-072-00	Ring, magnet
	1-508-702-00	Pin
	1-533-048-00	Holder, fuse
	1-536-401-XX	Terminal Strip, 1L1
	1-536-401-XX	Terminal Strip, 3L2

ACCESSORIES

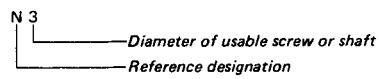
Part No.	Description
X-3141-019-0	Adaptor Ass'y, 10" reel; RAD-10
X-3534-138-0	Reel Ass'y, R-11B
X-3701-018-0	Cleaner Ass'y, head
1-534-049-51	Cord, connection; RK-74
1-551-114-11	Cord, power
3-780-501-61	Manual, instruction
8-918-222-11	Tape, demonstration

HARDWARE NOMENCLATURE

Screw:



Nut, Washer, Retaining ring:



Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		braizer-head screw	

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	

9-954-194-81

Sony Corporation

5L0506-1
Printed in Japan

CORRECTION

For TC-788-4 Service Manual

On Page 23:

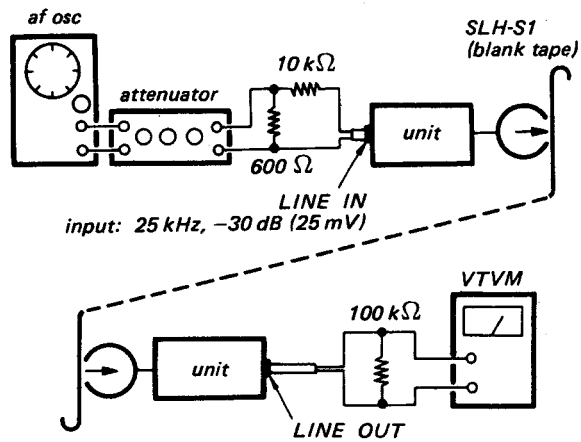
15. Dummy Coil Adjustment

Settings:

TAPE SPEED switch:	38 cm, 15
REC MODE switch:	REC
REC LEVEL control	
MIC:	MIN
LINE:	normal record setting (See page 15.)

Procedure:

Mode: record



Step	REC MODE switch	Input Signal to	Connect VTVM to	Adjust	Remarks
1	all channel: REC	FL	FL	——	Memorize the VTVM reading.
2	FR only: PB	FL	FL	L902	Adjust for the same reading as in Step 1.
3	BL only: PB	FL	FL	L903	
4	BR only: PB	FL	FL	L904	
5	FL only: PB	FR	FR	L901	