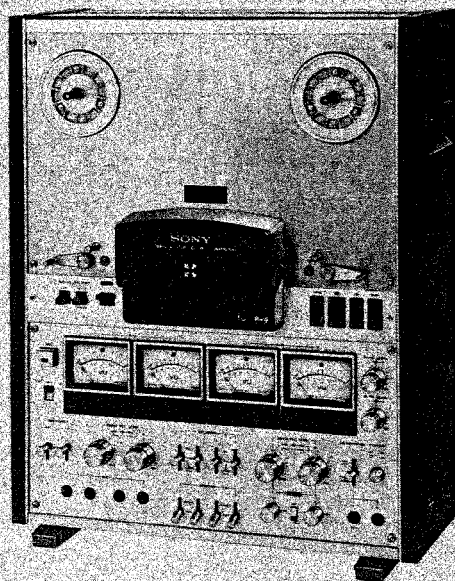


# TC-788-4

Canada Model  
USA Model



## 4-CHANNEL STEREO TAPECORDER

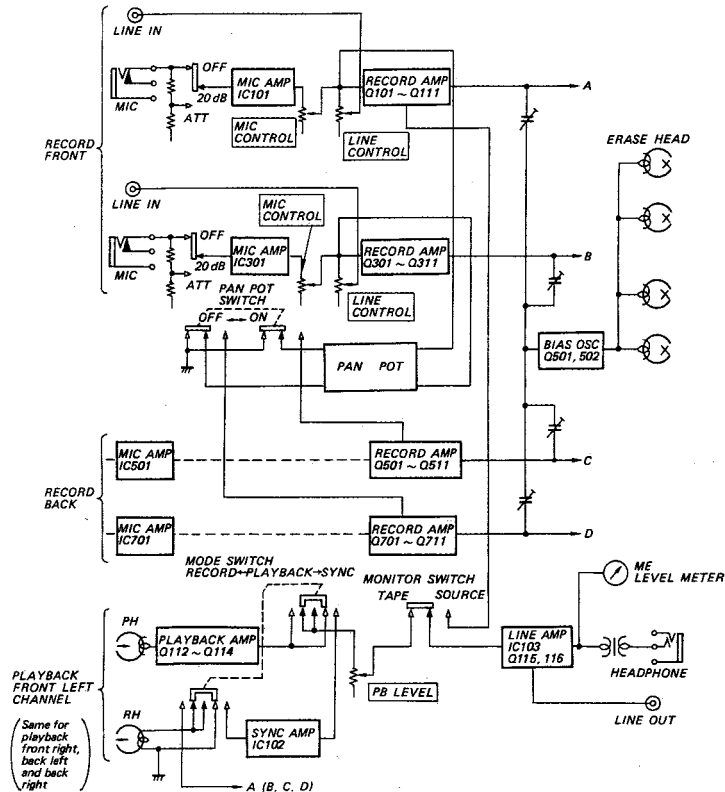
### SPECIFICATIONS

|                                                 |                                                                                                                                                                                                                                        |                        |                                                                                                    |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|----------------------------------------------------------------------------------------------------|
| <b>Power Requirements:</b>                      | 120 V AC, 60 Hz, 120 W                                                                                                                                                                                                                 | <b>Outputs:</b>        | LINE OUT (4)<br>Impedance: 100 k $\Omega$<br>Normal level: -5 dB (0.44 V) with 100 k $\Omega$ load |
| <b>Track System:</b>                            | Four-track four-channel stereo and monaural                                                                                                                                                                                            | <b>HEADPHONE</b>       | Impedance: 8 $\Omega$<br>Normal level: -25 dB (44 mV)                                              |
| <b>Reels:</b>                                   | 270 mm (10 1/2 inches) or smaller                                                                                                                                                                                                      | <b>AC Outlet:</b>      | Unswitched, 300 W maximum                                                                          |
| <b>Tape Speeds:</b>                             | 38 cm/s (15 ips), 19 cm/s (7 1/2 ips)                                                                                                                                                                                                  | <b>Heads:</b>          | Record : RP138-2904<br>Playback : PP138-4204<br>Erase : EF137-2904                                 |
| <b>Recording Time:</b><br>(with 3,600 ft. tape) | 4-channel stereo recording:<br>90 minutes at 19 cm/s (7 1/2 ips)<br>2-channel stereo recording:<br>180 minutes at 19 cm/s (7 1/2 ips)                                                                                                  | <b>Motors:</b>         | Capstan : IC-624G (AC servo-controlled)<br>Reel : IC-638R (2)                                      |
| <b>Frequency Response:</b>                      | According to NAB standards<br>(with SONY SLH tape)<br>20 ~ 35,000 Hz at 38 cm/s (15 ips)<br>20 ~ 28,000 Hz at 19 cm/s (7 1/2 ips)<br>(with normal tape)<br>20 ~ 30,000 Hz at 38 cm/s (15 ips)<br>20 ~ 23,000 Hz at 19 cm/s (7 1/2 ips) | <b>Semiconductors:</b> | 13 ICs, 4 FETs, 103 transistors, 67 diodes                                                         |
| <b>Signal-to-Noise Ratio:</b>                   | 56 dB (with SONY SLH tape)<br>53 dB (with normal tape)                                                                                                                                                                                 | <b>Dimensions:</b>     | 440 (w) x 558 (h) x 221 (d) mm<br>17 3/8 (w) x 22 (h) x 8 3/4 (d) inches                           |
| <b>Wow and Flutter:</b>                         | 0.04 % (RMS) weighted at 38 cm/s (15 ips)<br>0.06 % (RMS) weighted at 19 cm/s (7 1/2 ips)                                                                                                                                              | <b>Weight:</b>         | 26.5 kg, 58 lb 7 oz                                                                                |
| <b>Harmonic Distortion:</b>                     | 1.2 %                                                                                                                                                                                                                                  |                        |                                                                                                    |
| <b>Record Bias Frequency:</b>                   | Approximately 160 kHz                                                                                                                                                                                                                  |                        |                                                                                                    |
| <b>Inputs:</b>                                  | MIC (4)<br>For low impedance microphone<br>Sensitivity: -72 dB (0.2 mV)<br>LINE IN (4)<br>Impedance: 100 k $\Omega$<br>Sensitivity: -22 dB (0.06 V)                                                                                    |                        |                                                                                                    |

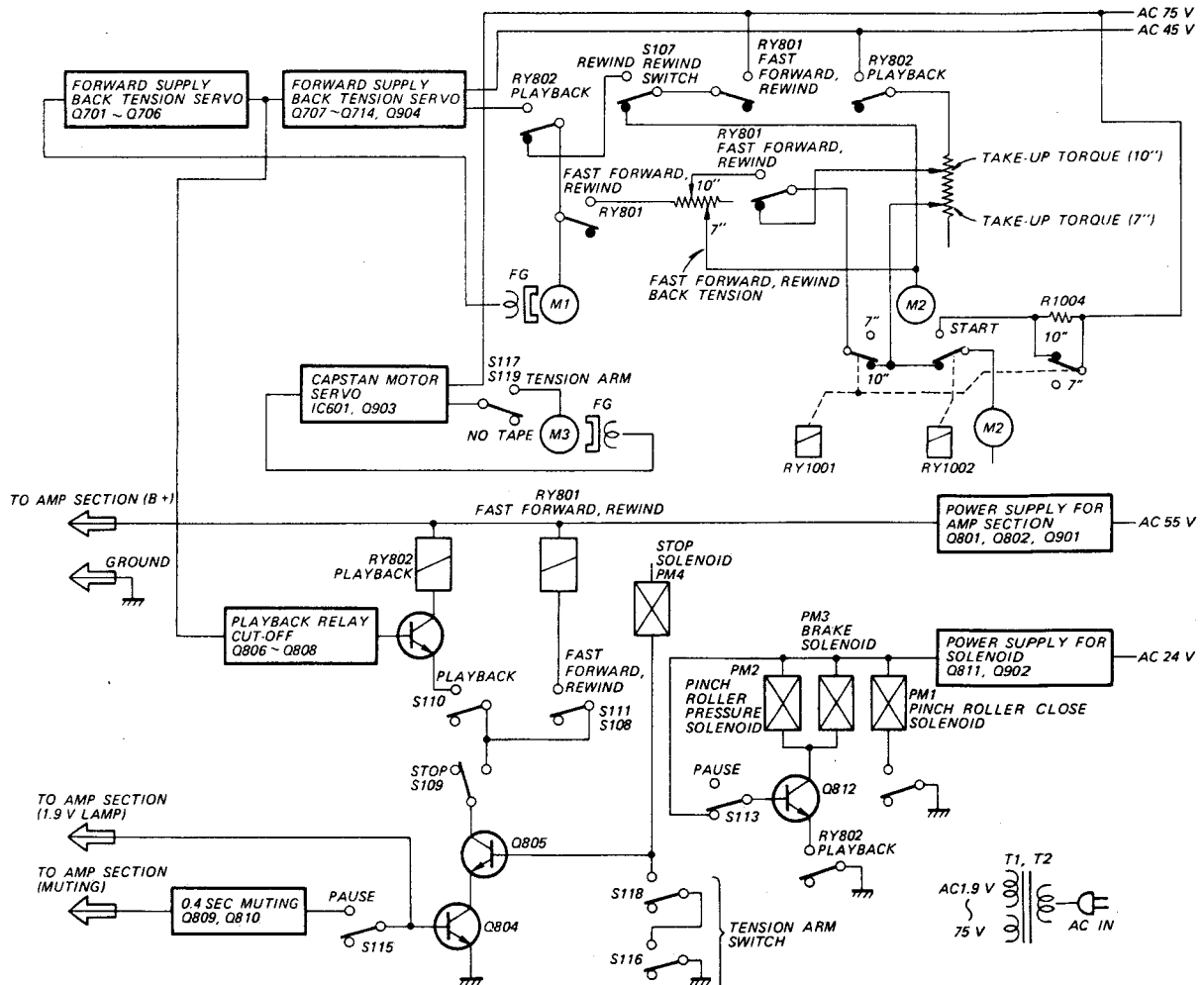
# SONY

## SERVICE MANUAL

## 1. BLOCK DIAGRAMS Amplifier Section

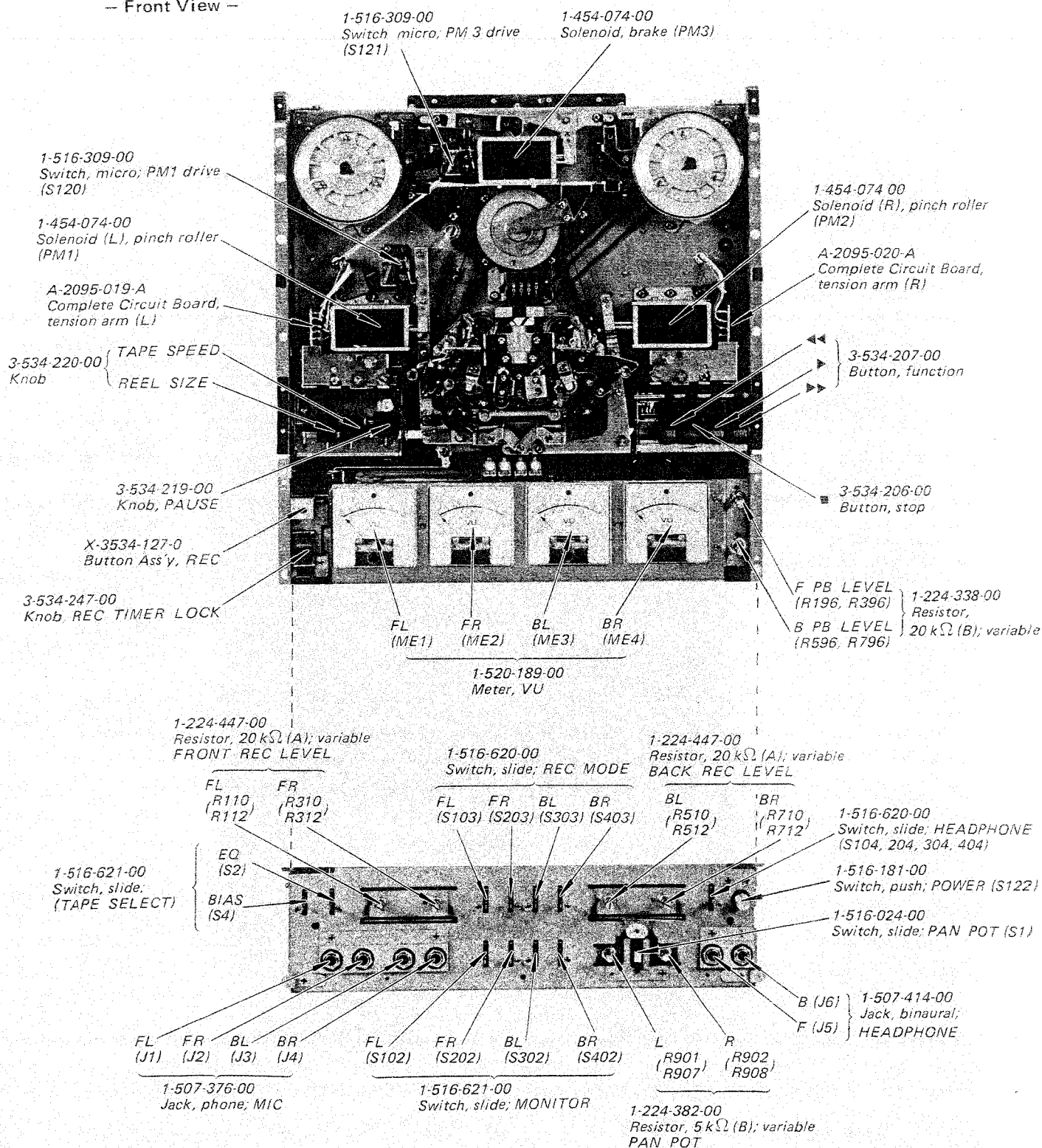


## System Control Section

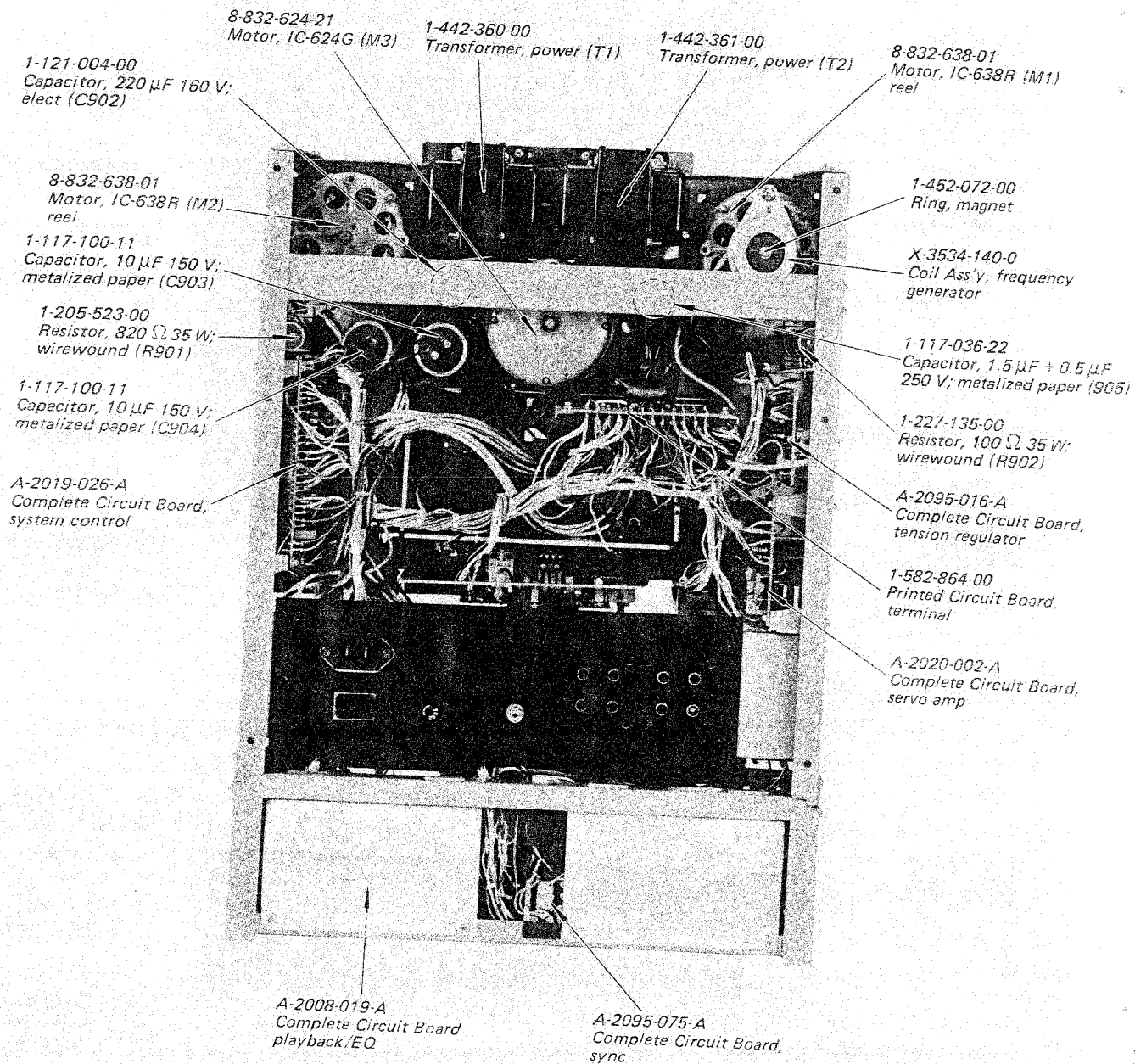


## 2. INTERNAL VIEWS

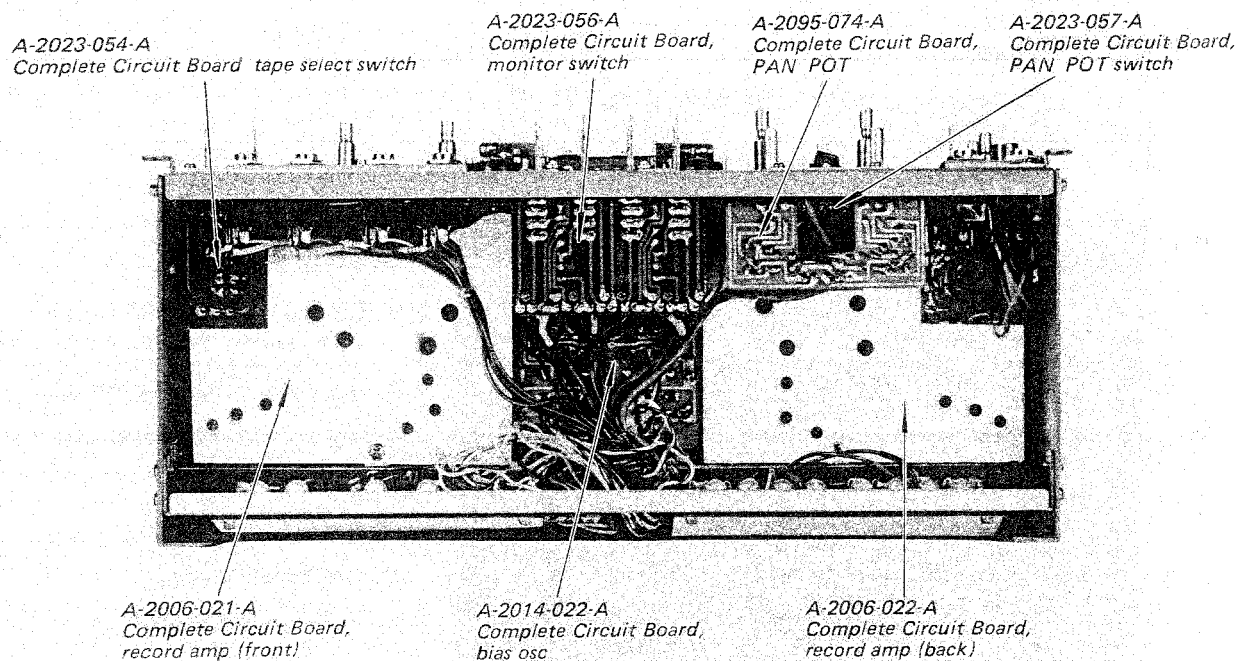
— Front View —



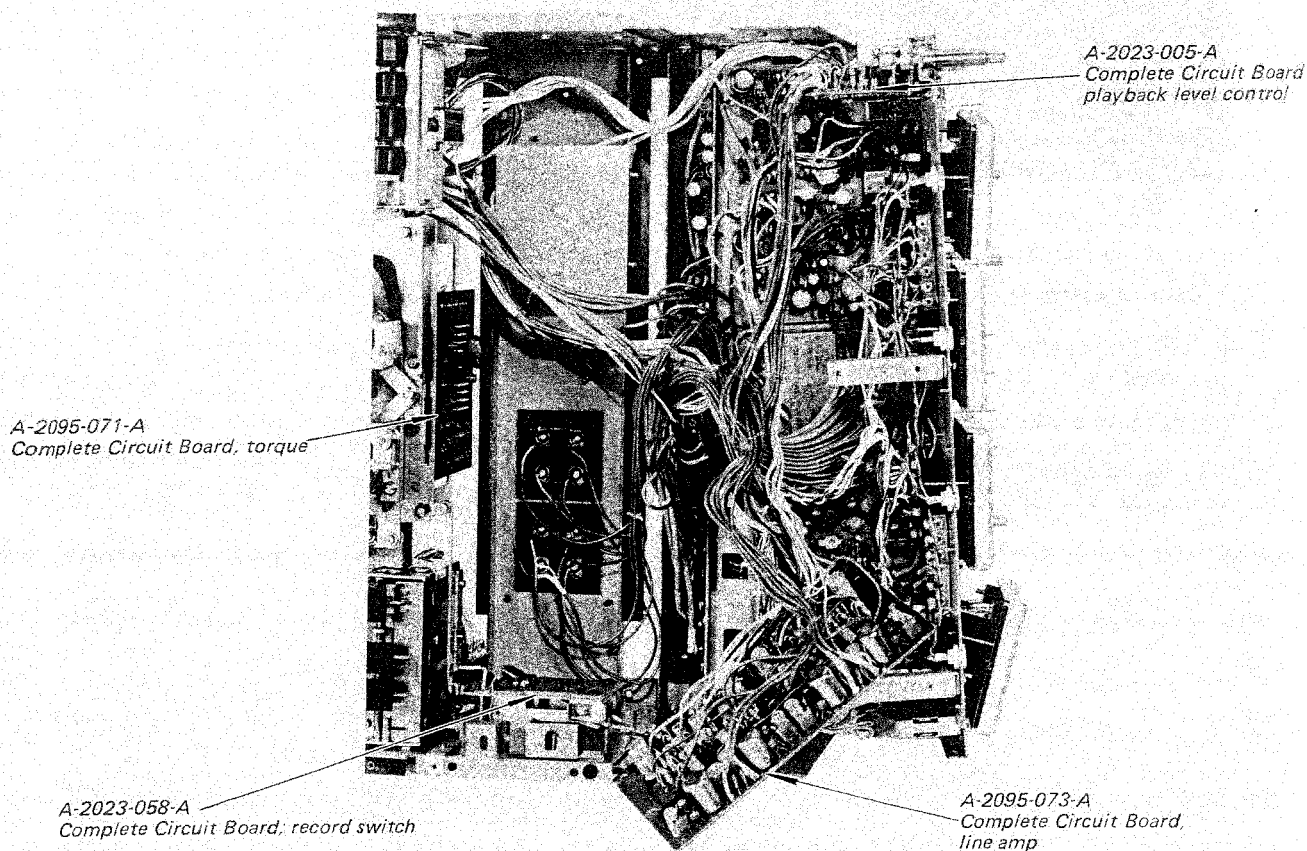
— Rear View —



— Bottom View —



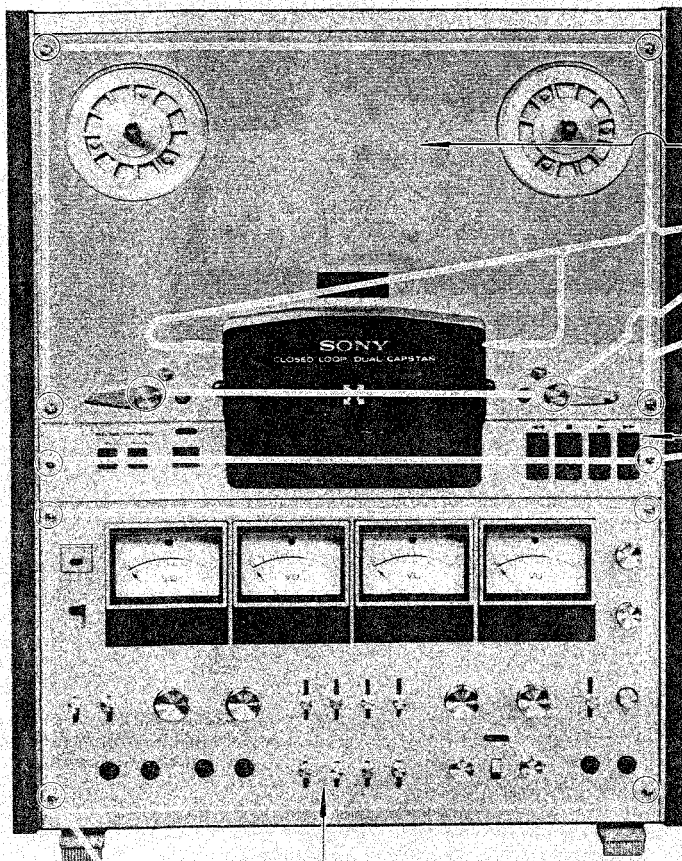
— Front View — with amp chassis removed



## 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-fuse 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.

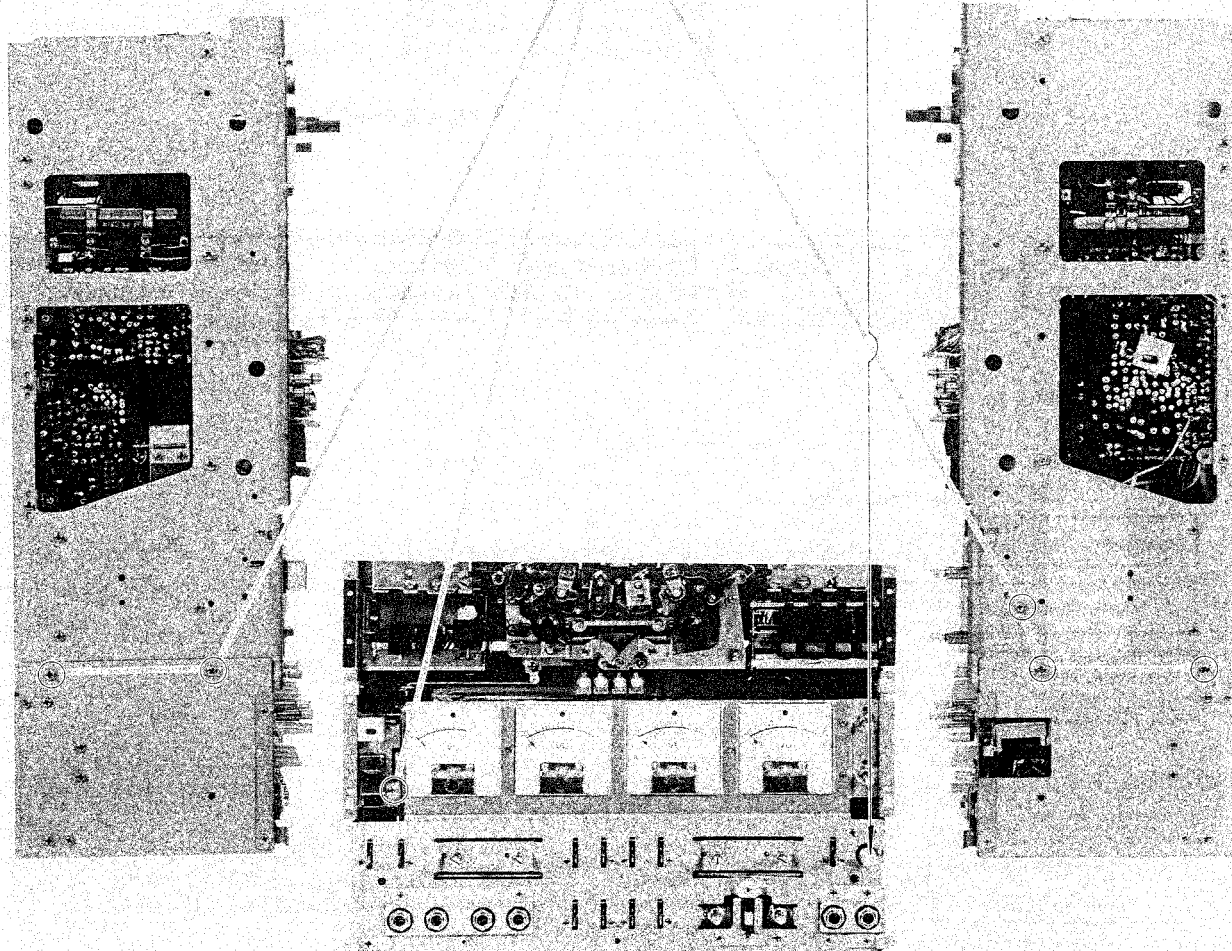
### Amp Panel Removal

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.

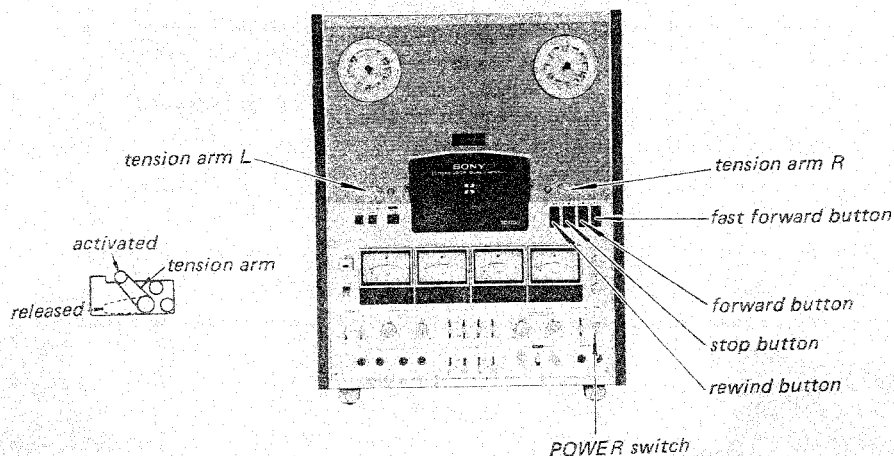
### Amp Chassis Removal

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.



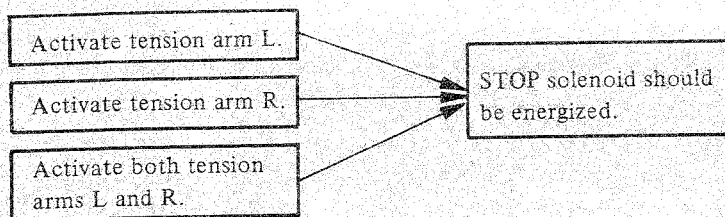
## 4. MECHANICAL ADJUSTMENTS Function Switch Check



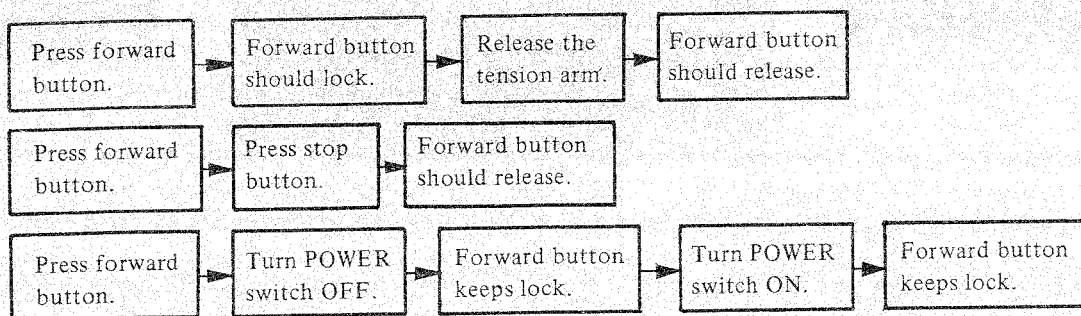
1. 

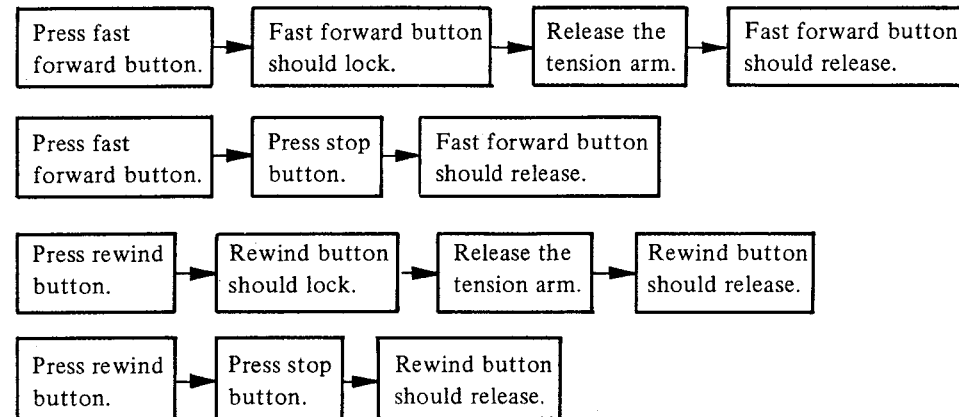
|                             |                       |                            |                             |                                                                        |
|-----------------------------|-----------------------|----------------------------|-----------------------------|------------------------------------------------------------------------|
| 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.



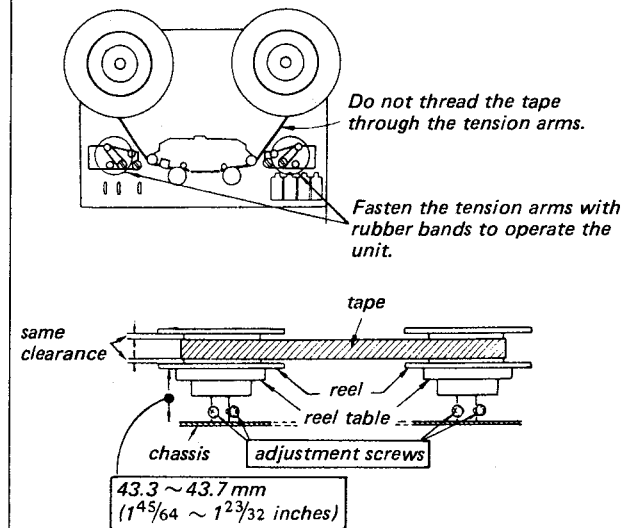
3. With POWER switch turned ON and with either tension arm activated.





MEMO

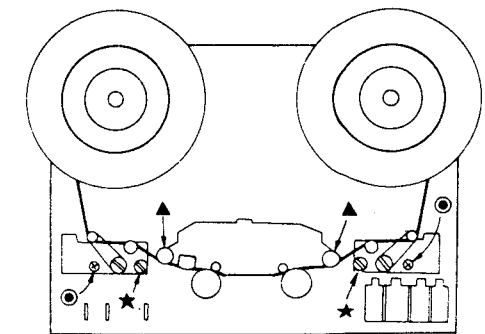
### Reel Table Height Adjustment — Playback, Fast Forward, Rewind Modes —



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

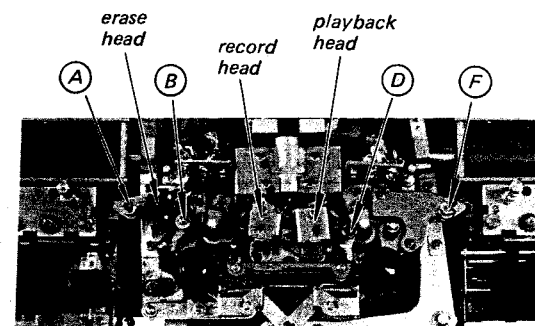
### Tape Guides Adjustment (1)

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.



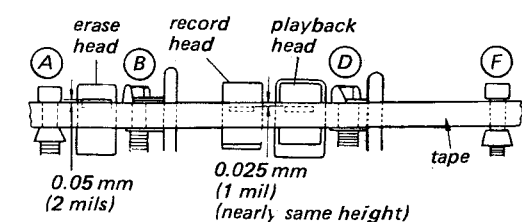
### Tape Guide Adjustment (2) — Playback Mode —

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



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

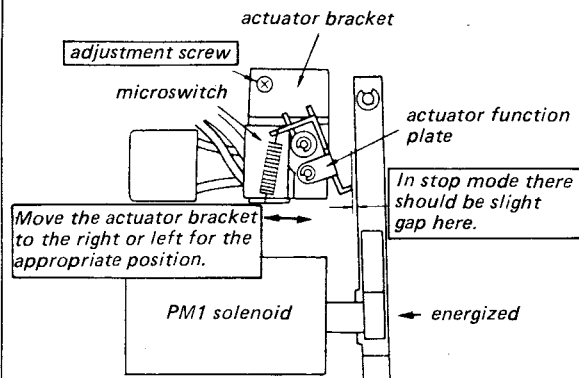
2. Make sure that the head height is as shown.



**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)

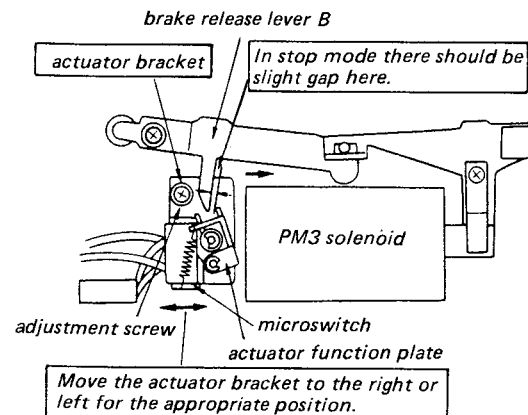
Perform this adjustment after the Pinch Roller (L) Solenoid (PM1) Position Adjustment. After the adjustment, apply locking compound to the adjusted screw.



**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.

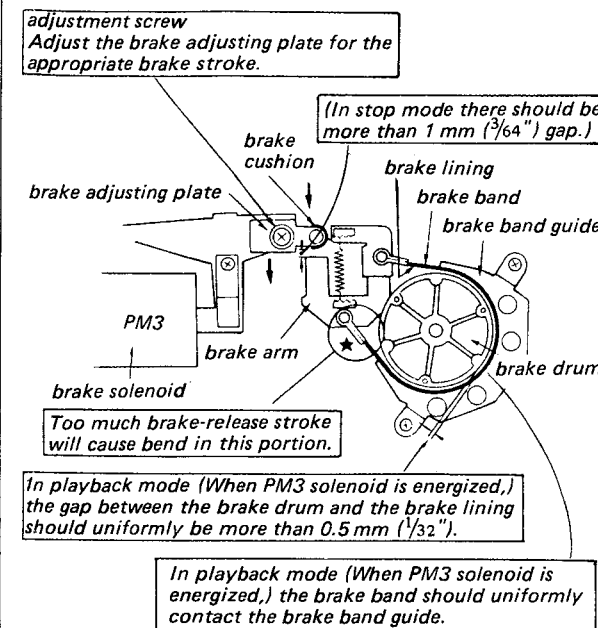


**Note:** The microswitch should turn OFF (click) in 0.5 to 2 seconds after forward button is pushed.

### Brake Adjustment (1)

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

— Playback Mode —



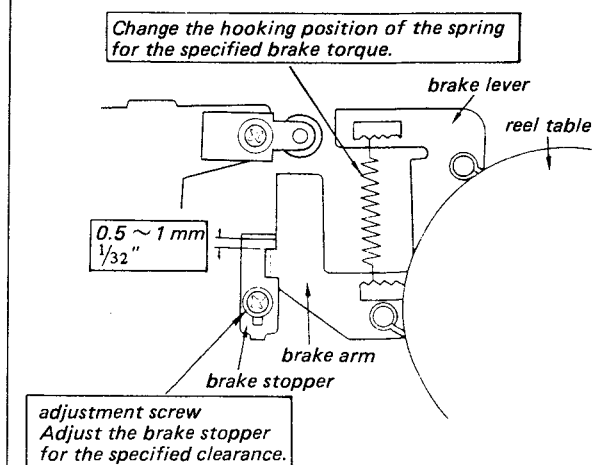
### Brake Adjustment (2)

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

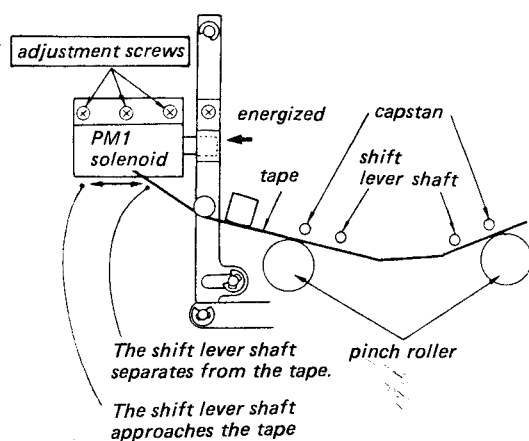
Specification:

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

— Stop Mode —



### Pinch Roller (L) Solenoid (PM1) Position Adjustment



— Playback Mode —

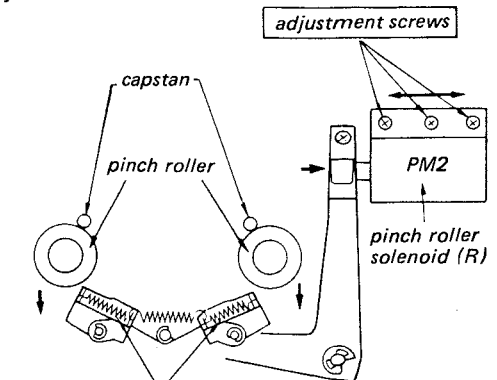
With PAUSE lever depressed:

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

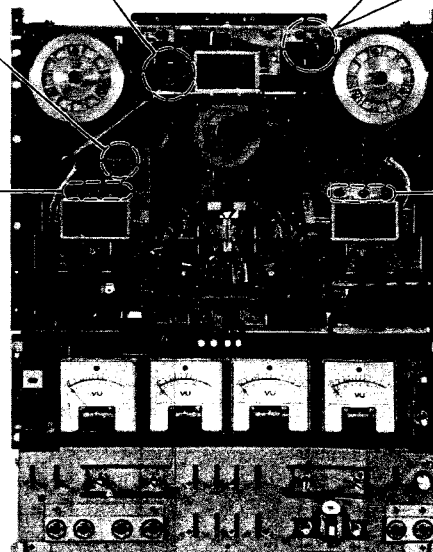


These two springs should expand 0.3 ~ 0.5 mm ( $\frac{1}{64}$ " ) longer after the pinch rollers contact the capstans in playback mode. If necessary, adjust the PM2 solenoid position.

Specification as a reference:

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

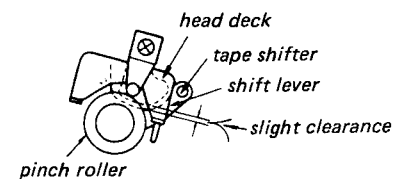
After the adjustment, apply locking compound to the adjusted screws.



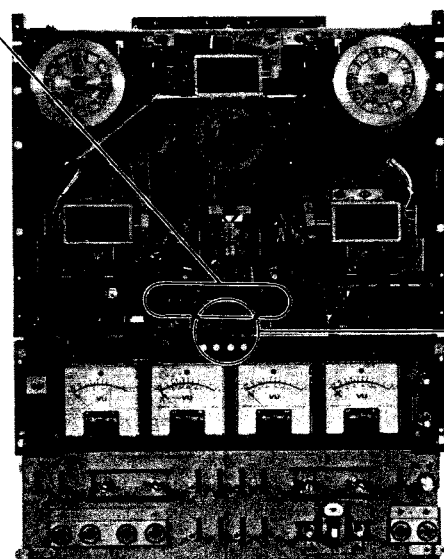
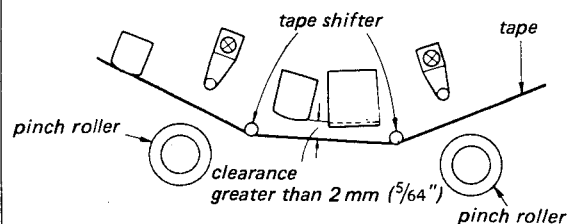
### Tape Shifter Position Check

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

#### 1. — Playback Mode —

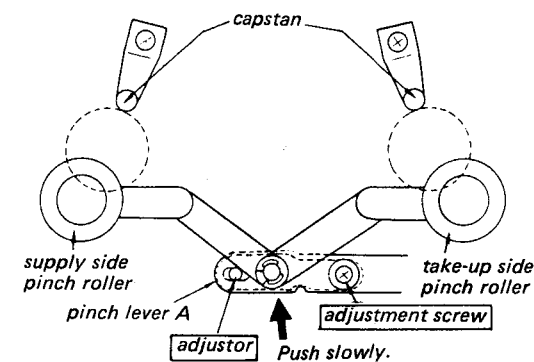


#### 2. — Fast Forward and Rewind Modes — at the end of tape



### Adjustor Adjustment — Playback Mode —

With PAUSE button depressed:

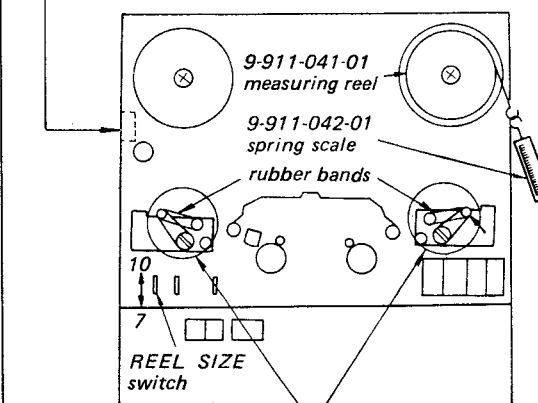
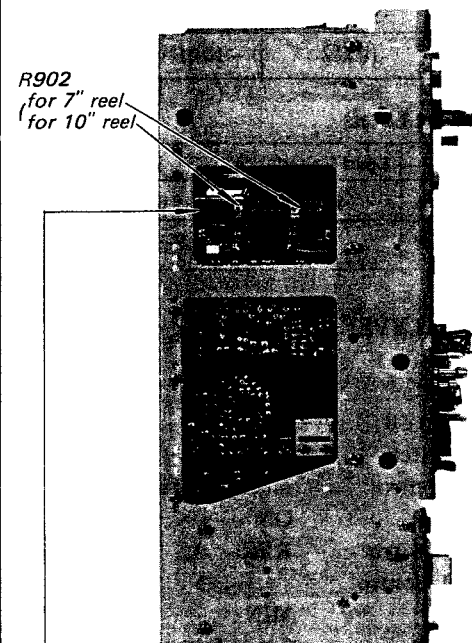


| Adjustment | Pinch roller-to-capstan contact                  | Remarks                                                                                  |
|------------|--------------------------------------------------|------------------------------------------------------------------------------------------|
| 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



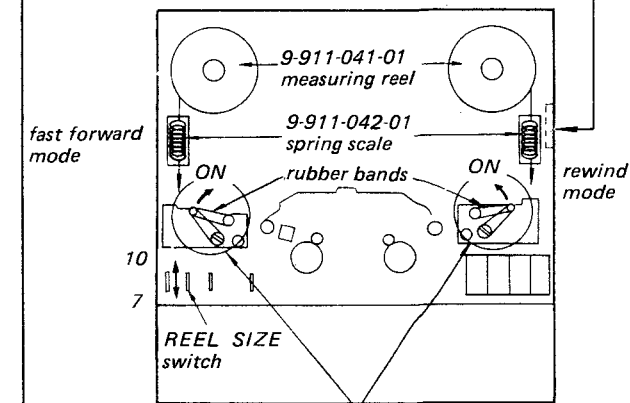
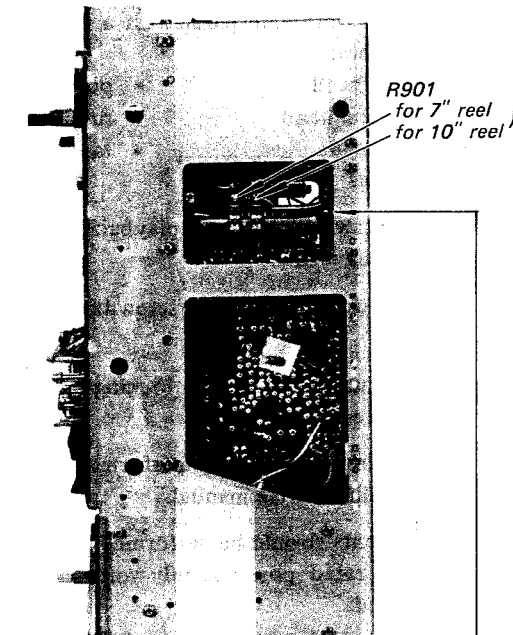
Fasten the tension arms with rubber bands to operate the unit.

#### Specification:

| REEL SIZE switch | Take-up Torque                             |
|------------------|--------------------------------------------|
| 10               | 580 to 620 g.cm<br>(8.05 to 8.61 oz.-inch) |
| 7                | 280 to 320 g.cm<br>(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<br>(1.53 to 1.95 oz.-inch) |
|              | 7                | 80 to 100 g.cm<br>(1.11 to 1.39 oz.-inch)  |
| fast forward | 10               | 110 to 140 g.cm<br>(1.53 to 1.95 oz.-inch) |
|              | 7                | 80 to 100 g.cm<br>(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, 7 1/2              |
| PAUSE lever:          | released                  |
| TAPE SELECT switch:   | BIAS: LOW<br>(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 $\Omega$  | -60 dB (0.77 mV) |
| LINE IN | 10 k $\Omega$ | -10 dB (0.25 V)  |

## 10. Normal Output Levels

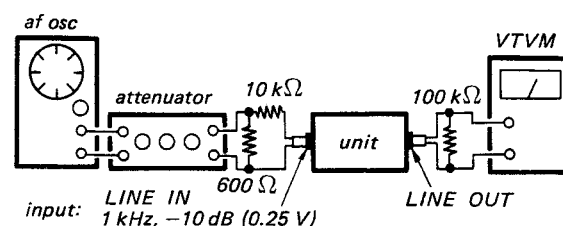
|            | Load Impedance | Level          |
|------------|----------------|----------------|
| LINE OUT   | 100 k $\Omega$ | −5 dB (0.44 V) |
| HEADPHONES | 8 $\Omega$     | −25 dB (44 mV) |

## 11. Normal REC LEVEL Control Setting

**Settings:**

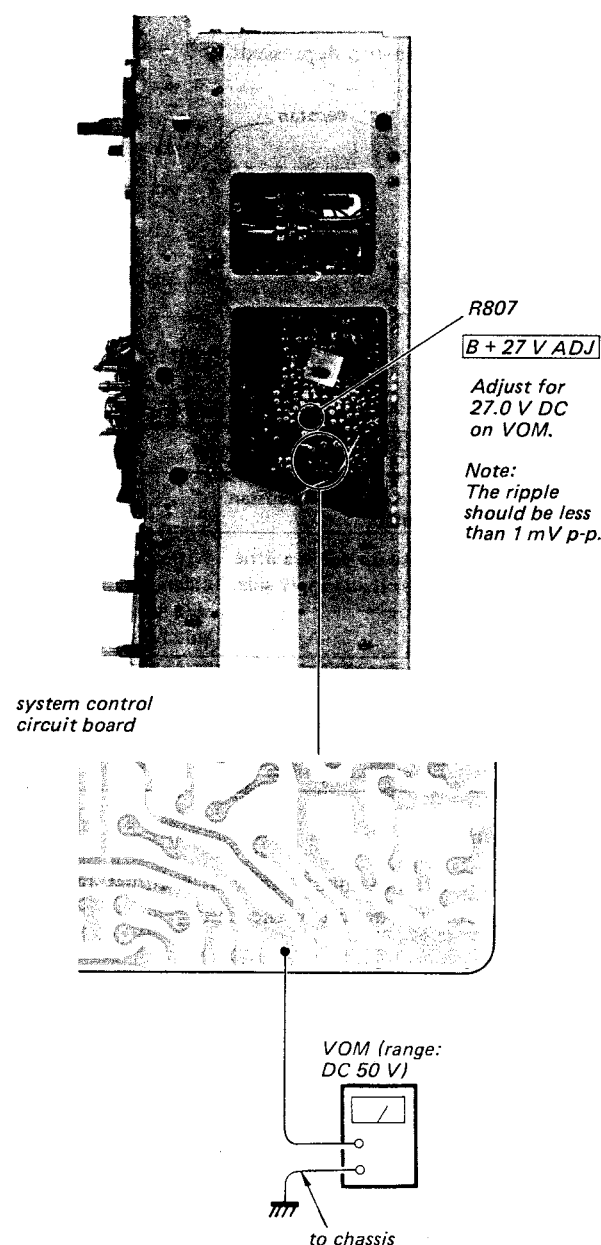
|                   |                 |
|-------------------|-----------------|
| PULL ATT 20 dB:   | not pulled      |
| MONITOR switch:   | SOURCE          |
| PB LEVEL control: | mechanical mid  |
| POWER switch:     | ON              |
| REC MODE switch:  | REC             |
| REC LEVEL control |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

Mode: record



Set LINE REC LEVEL control for  $-5\text{ dB}$  ( $0.44\text{ V}$ ) VTVM reading.  
If VU meters are correctly calibrated, set LINE REC LEVEL control for  $0\text{ VU}$  on the VU meter.

### 1. B + 27 V Adjustment



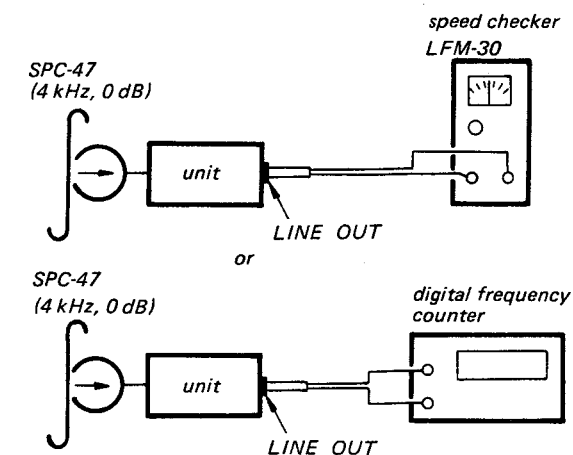
## 2. Tape Speed Adjustment

**Settings:**

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

**Procedure:**

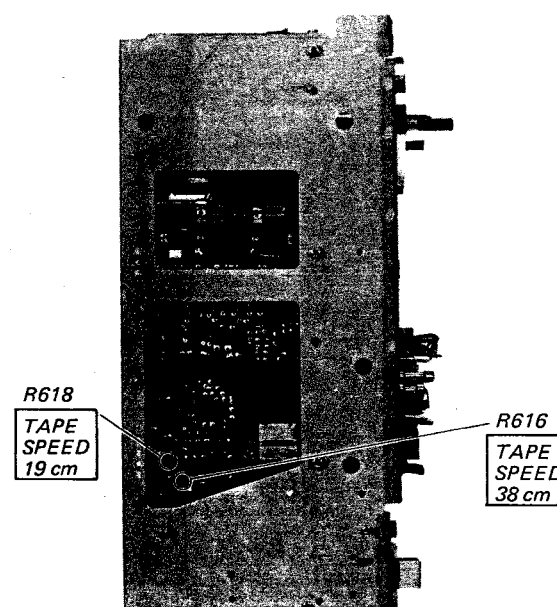
Mode: playback



| TAPE<br>SPEED<br>switch              | Adjust | Speed checker<br>reading | Digital freq.<br>counter reading |
|--------------------------------------|--------|--------------------------|----------------------------------|
| 38 cm, 15                            | R616   | -0.5 ~ +0.5 %            | 7,960 ~ 8,040 H                  |
| 19 cm, 7 <sup>1</sup> / <sub>2</sub> | R618   | -1.0 ~ +1.0 %            | 3,960 ~ 4,040 H                  |

**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, 7½ips

**Adjustment Location:**



### 3. VU Meter Calibration

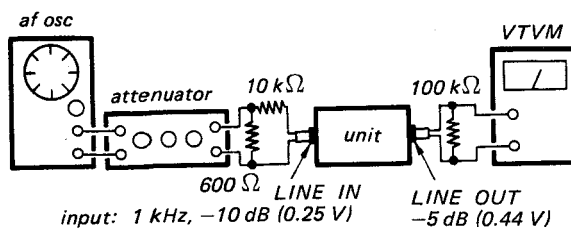
#### Settings:

MONITOR switch: SOURCE  
REC MODE switch: REC

#### Procedure:

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

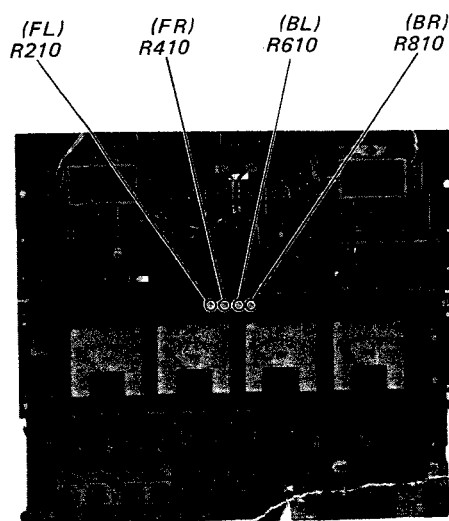
Adjust LINE REC LEVEL control for -5 dB (0.44 V) VTVM reading.



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

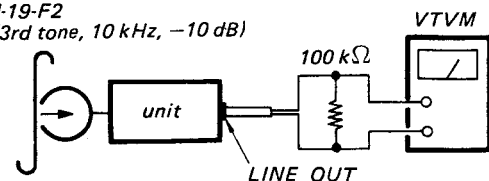
#### Settings:

REC MODE switch: PB

#### Procedure:

Mode: playback

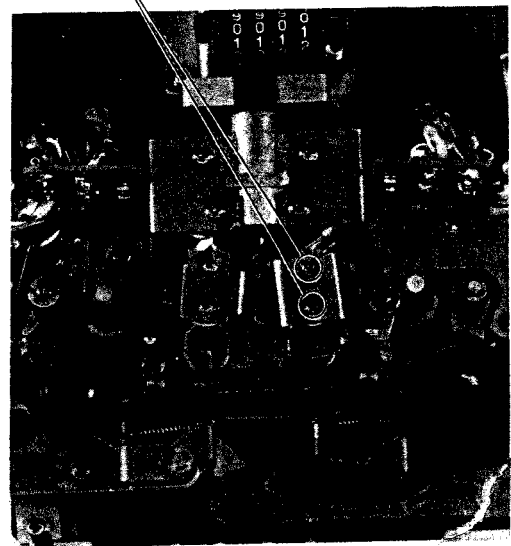
J-19-F2  
(3rd tone, 10 kHz, -10 dB)



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.

playback head angle  
adjustment screw



## 5. Playback Head Azimuth Adjustment

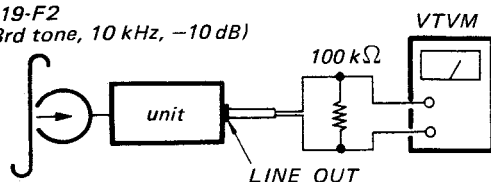
### Settings:

REC MODE switch: PB

### Procedure:

Mode: playback

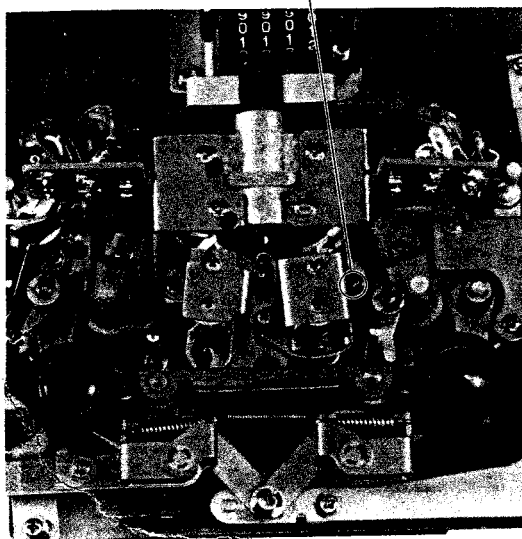
J-19-F2  
(3rd tone, 10 kHz, -10 dB)



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.

playback head azimuth adjustment screw



## 6. Playback Equalizer Adjustment

### Settings:

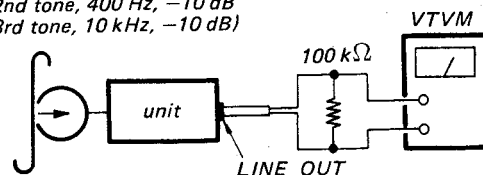
TAPE SELECT (EQ) switch: NORMAL

REC MODE switch: PB

### Procedure:

1. Mode: playback

J-19-F2  
2nd tone, 400 Hz, -10 dB  
3rd tone, 10 kHz, -10 dB

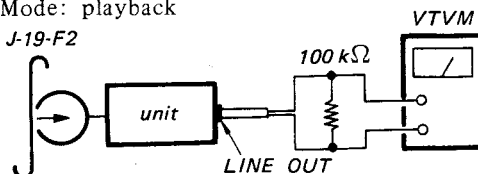


| Playback           | Adjust                                                             | Remarks                                                    |
|--------------------|--------------------------------------------------------------------|------------------------------------------------------------|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

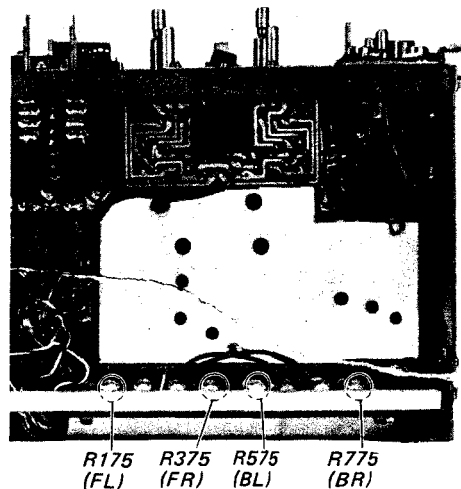
2. Check the following:

Mode: playback

J-19-F2



| 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

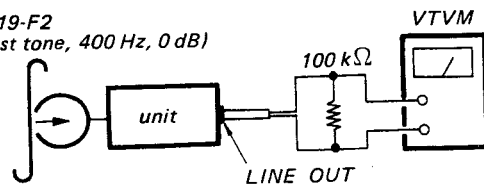
### Settings:

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

### Procedure:

1. Mode: playback

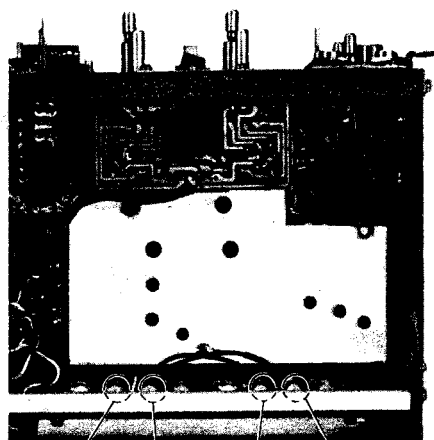
J-19-F2  
(1st tone, 400 Hz, 0 dB)



| Adjust                                                             | Remarks                                 |
|--------------------------------------------------------------------|-----------------------------------------|
| R176 (FRONT-L)<br>R376 (FRONT-R)<br>R576 (BACK-L)<br>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  $2.5 \pm 1.0$  dB.



R176 (FL) R376 (FR) R576 (BL) R776 (BR)

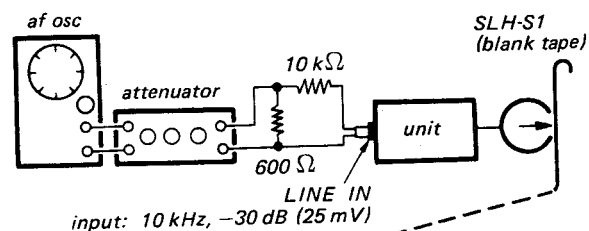
## 8. Record Head Angle Adjustment

### Settings:

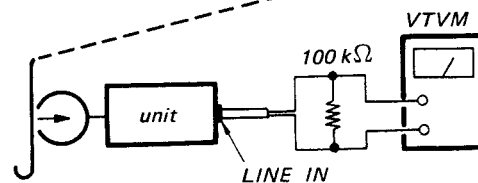
REC MODE switch: REC  
REC LEVEL control  
MIC: MIN  
LINE: normal record setting (See page 15.)

### Procedure:

- Mode: record



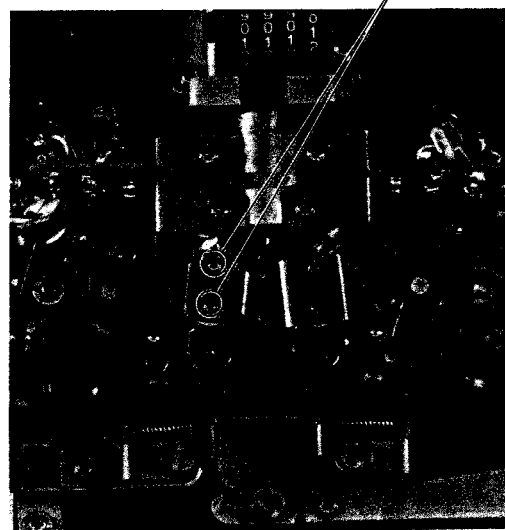
input: 10 kHz, -30 dB (25 mV)



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.

record head angle  
adjustment screw



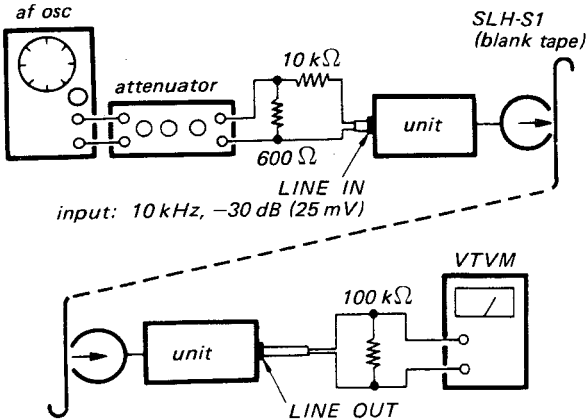
9. Record Head Azimuth Adjustment

Settings:

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

Procedure:

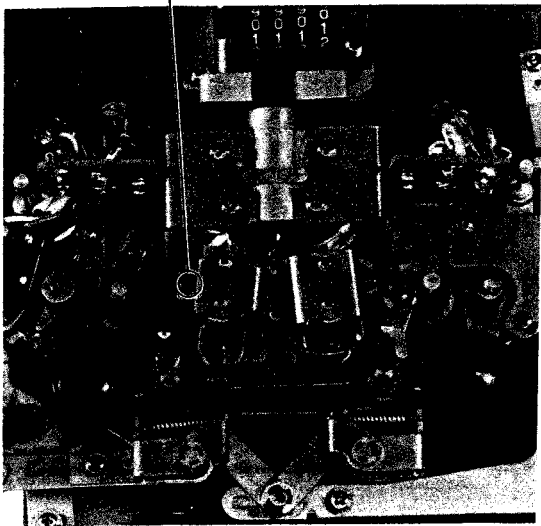
Mode: record



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.

record head azimuth adjustment screw



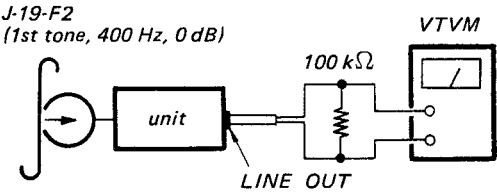
10. SYNCRO Level Adjustment

Settings:

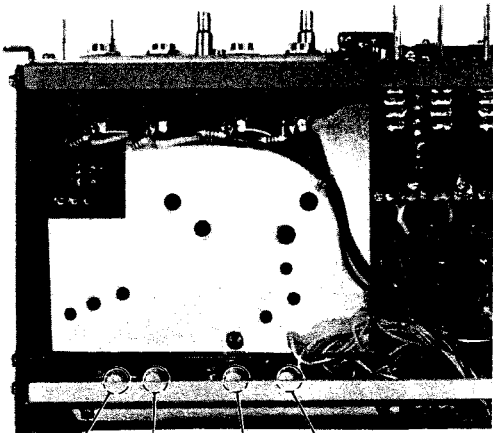
REC MODE switch: SYNCRO TRAK

Procedure:

Mode: playback



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



R188 (FL) R388 (FR) R588 (BL) R788 (BR)

# 11. Record Bias Trap Adjustment

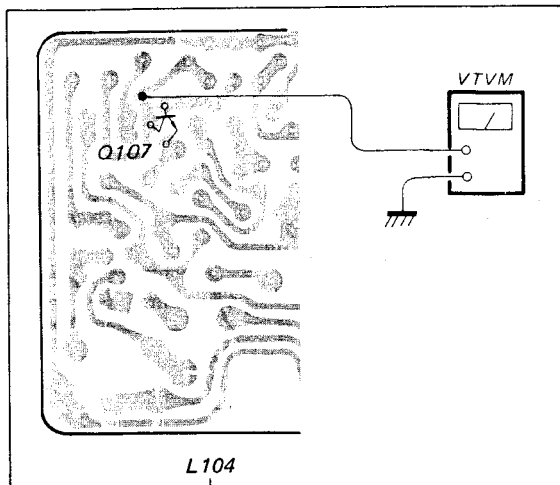
## Settings:

REC MODE switch: REC

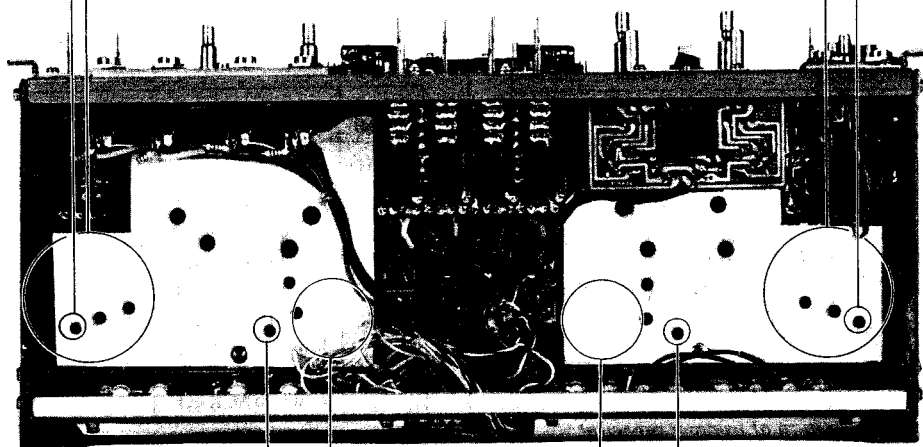
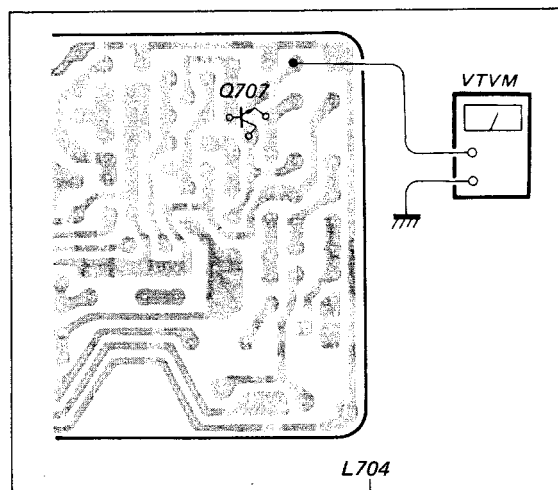
## Procedure:

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

FRONT-L



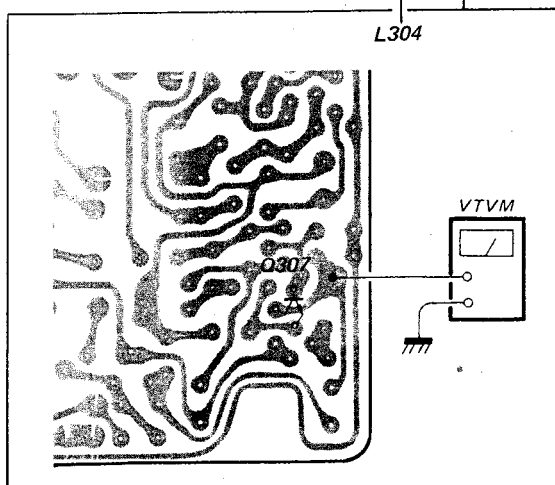
BACK-R



L104

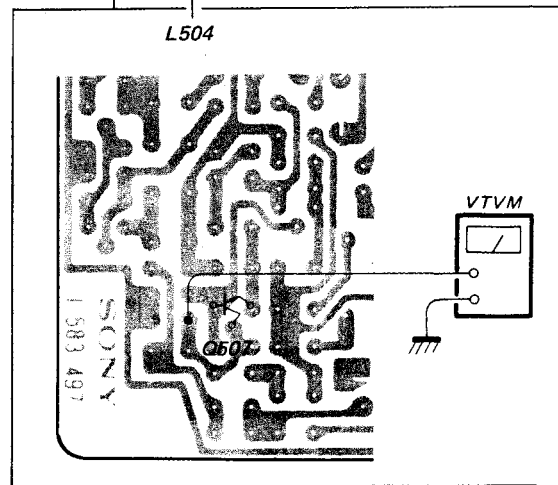
L704

L304



FRONT-R

L504



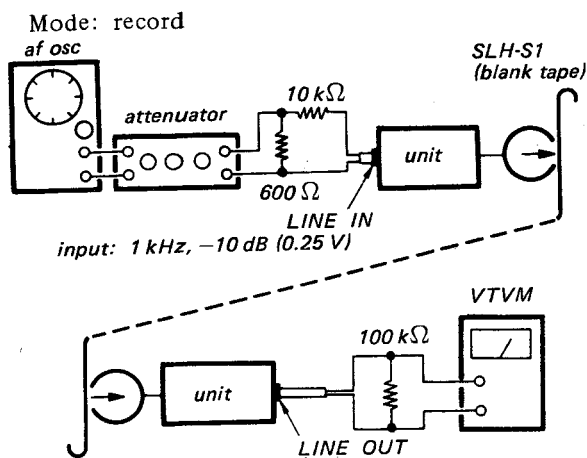
BACK-L

## 12. Record Bias Adjustment

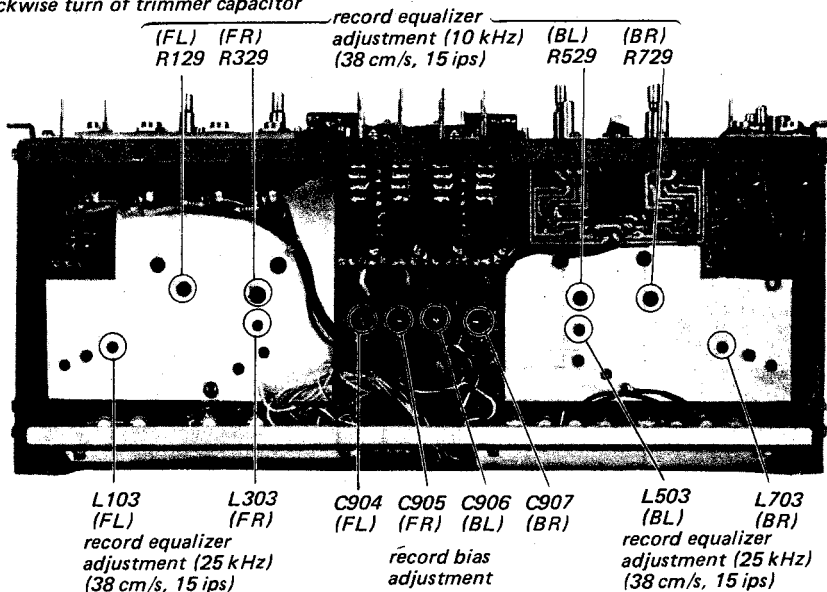
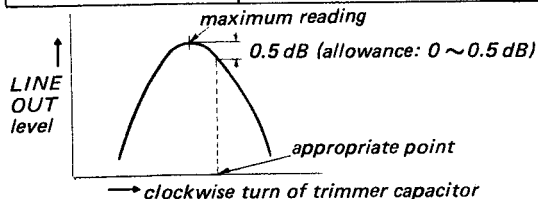
### Settings:

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

### Procedure:



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

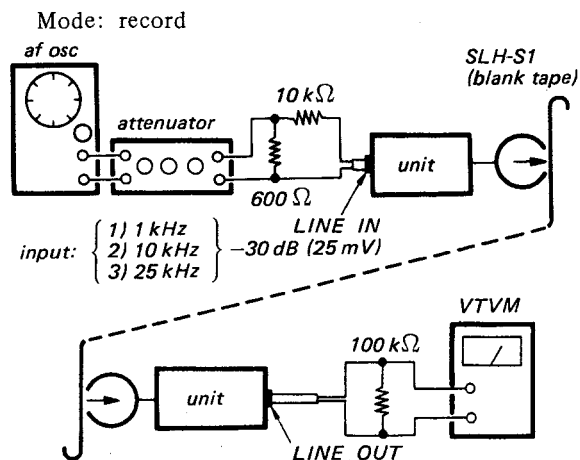


## 13. Record Equalizer Adjustment (38 cm/s, 15 ips)

### Settings:

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

### Procedure:



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

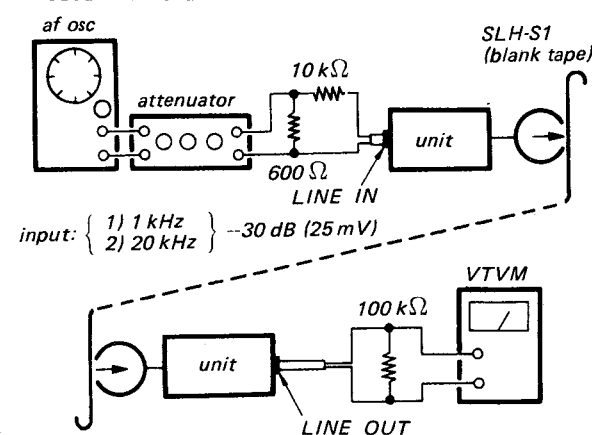
#### 14. Record Equalizer Adjustment (19 cm/s, 7 1/2 ips)

##### Settings:

TAPE SPEED switch: 19 cm, 7 1/2  
 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)<br>L302 (FRONT-R)<br>L502 (BACK-L)<br>L702 (BACK-R) | Adjust for the same level as 1-kHz output level. |

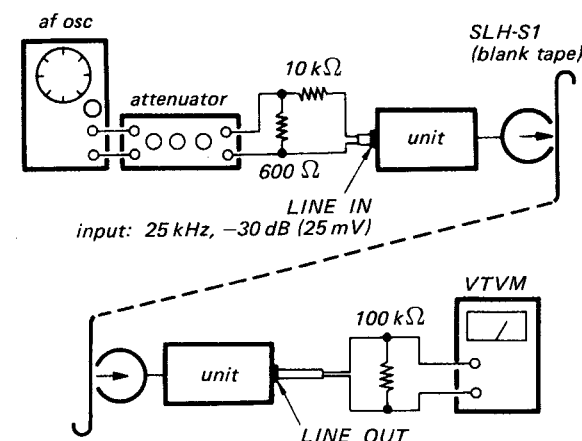
#### 15. Dummy Coil Adjustment

##### Settings:

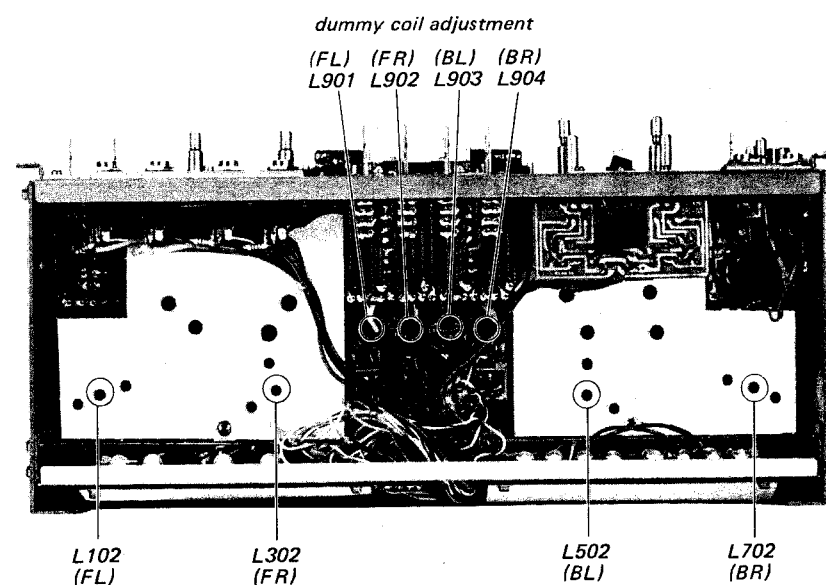
TAPE SPEED switch: 38 cm, 15  
 REC MODE switch: REC  
 REC LEVEL control  
 MIC: MIN  
 LINE: normal record setting  
 (See page 15.)

##### 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   |                                                  |



record equalizer adjustment  
 (20 kHz, 19 cm/s, 7 1/2 ips)

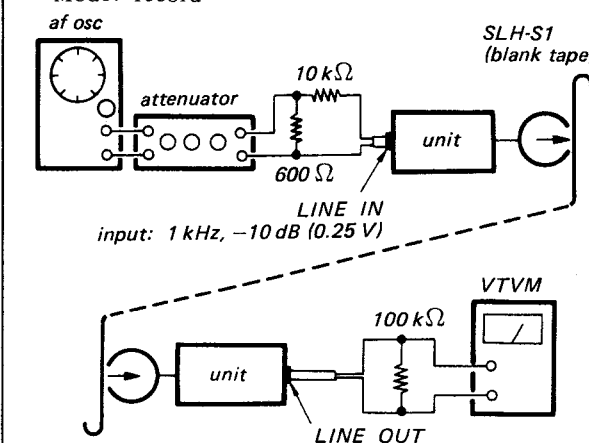
#### 16. Record Level Adjustment

##### Settings:

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

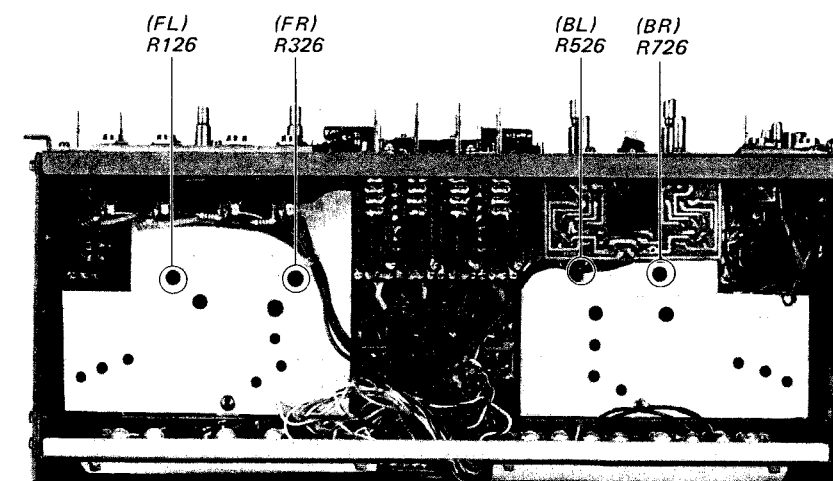
##### Procedure:

Mode: record



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

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

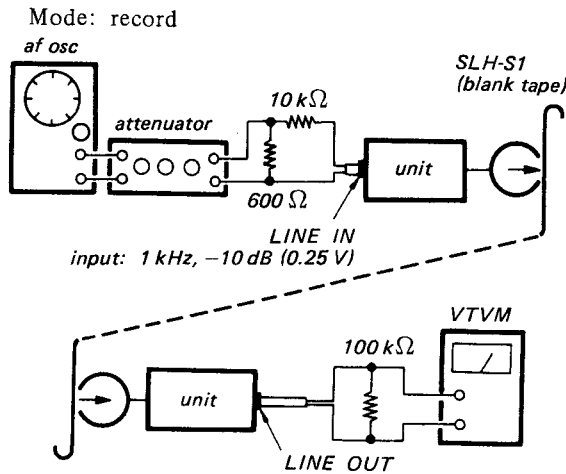


16. Record Level Adjustment

Settings:

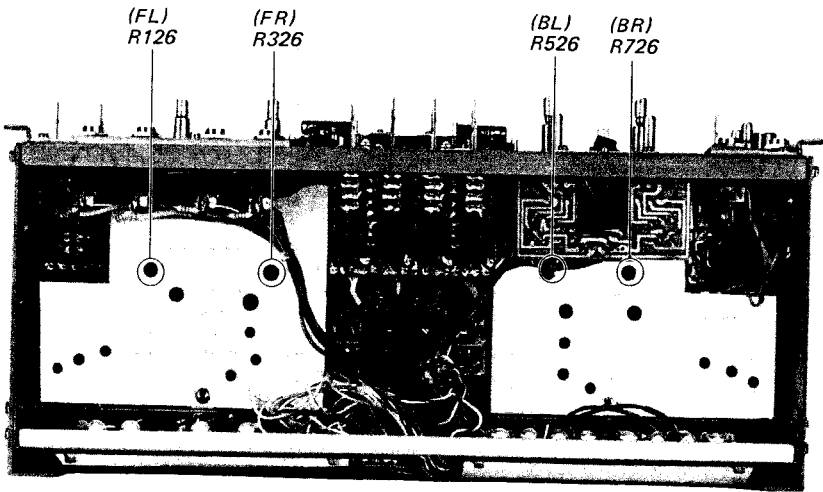
TAPE SPEED switch: 38 cm, 15  
REC MODE switch: REC  
REC LEVEL control  
MIC: MIN  
LINE: normal record setting  
(See page 15.)

Procedure:



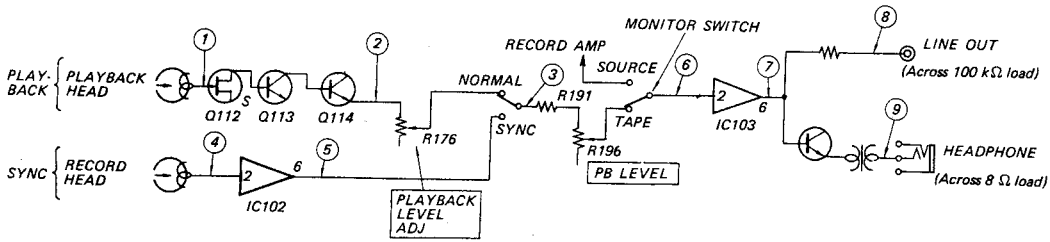
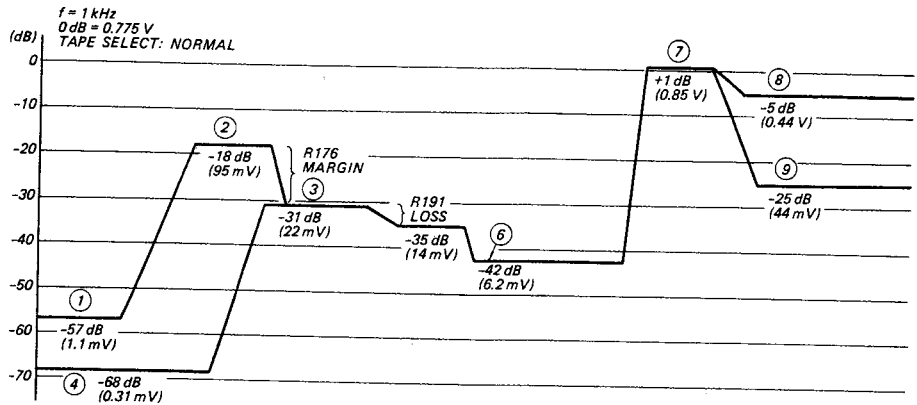
| Adjust                                                             | Remarks                                    |
|--------------------------------------------------------------------|--------------------------------------------|
| R126 (FRONT-L)<br>R326 (FRONT-R)<br>R526 (BACK-L)<br>R726 (BACK-R)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

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

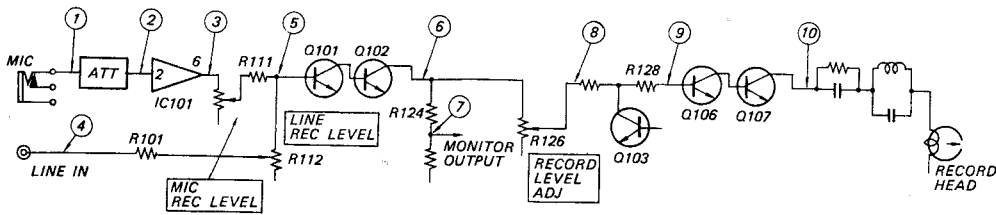
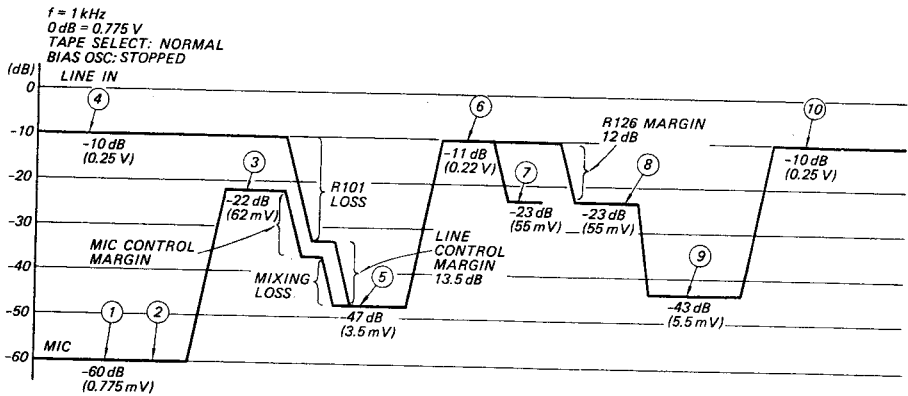


6. LEVEL DIAGRAMMS

Playback Mode



Record Mode

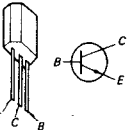


7. MOUNTING DIAGRAM (1) — Amplifier Section (1) —  
— Conductor Side —

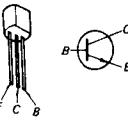
IC101, 301, 501, 701,  
102, 302, 502, 702,  
103, 303, 503, 703 : TA7122AP



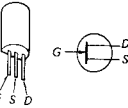
Q101, 301, 701,  
501 (back record amp section),  
113, 313, 513, 713 : 2SC632A  
Q102 ~ 111,  
302 ~ 311,  
502 (back record amp section),  
503 ~ 511,  
702 ~ 711,  
114, 314, 514, 714,  
115, 315, 515, 715,  
116, 316, 516, 716,  
717,  
118, 318, 518, 718,  
119, 319, 519, 719 : 2SC634A



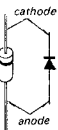
Q501 (bias osc section),  
Q502 (bias osc section) : 2SC1475



Q112, 312, 512, 712 : 2SK43



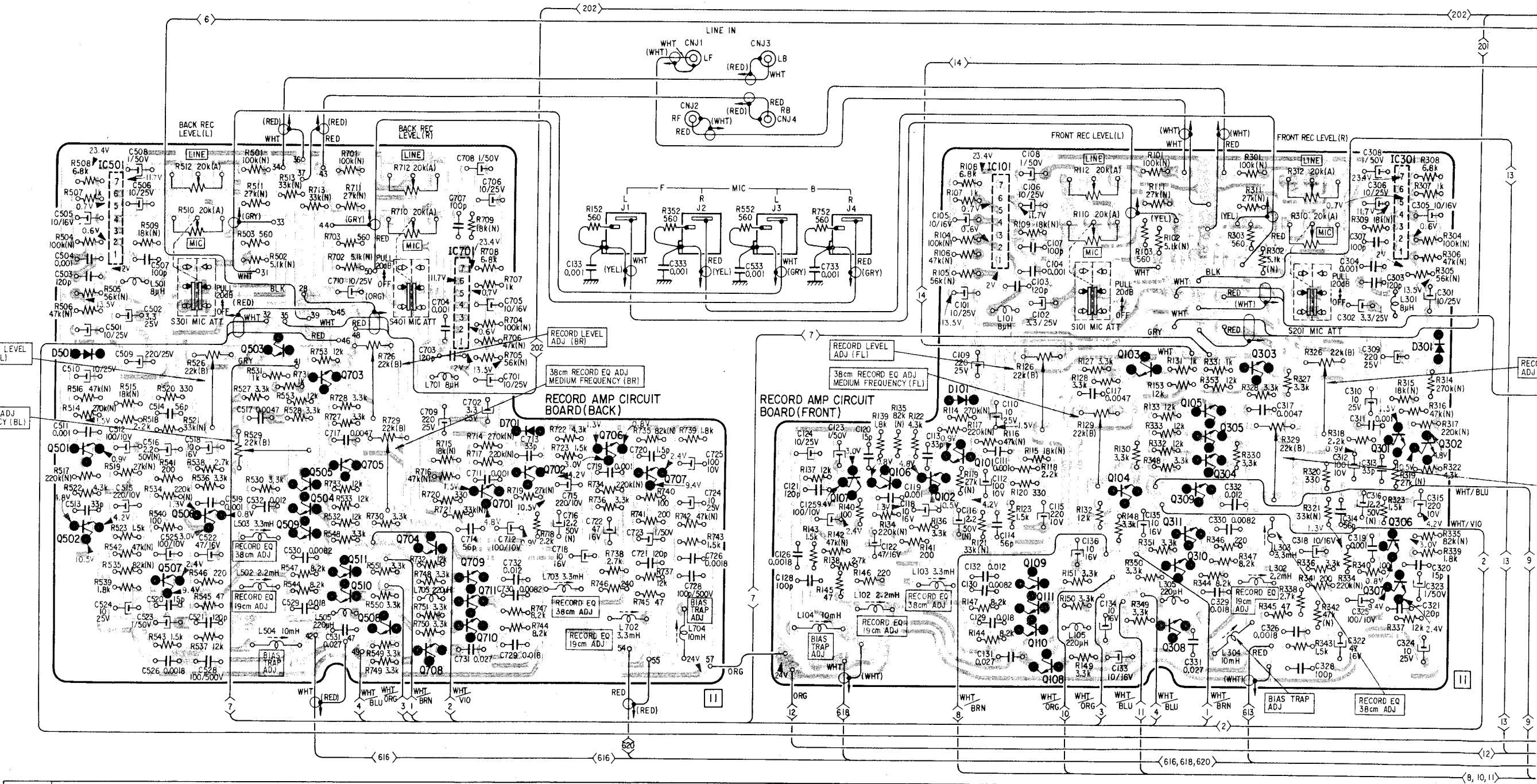
D101, 301, 501, 701 : IS2076



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

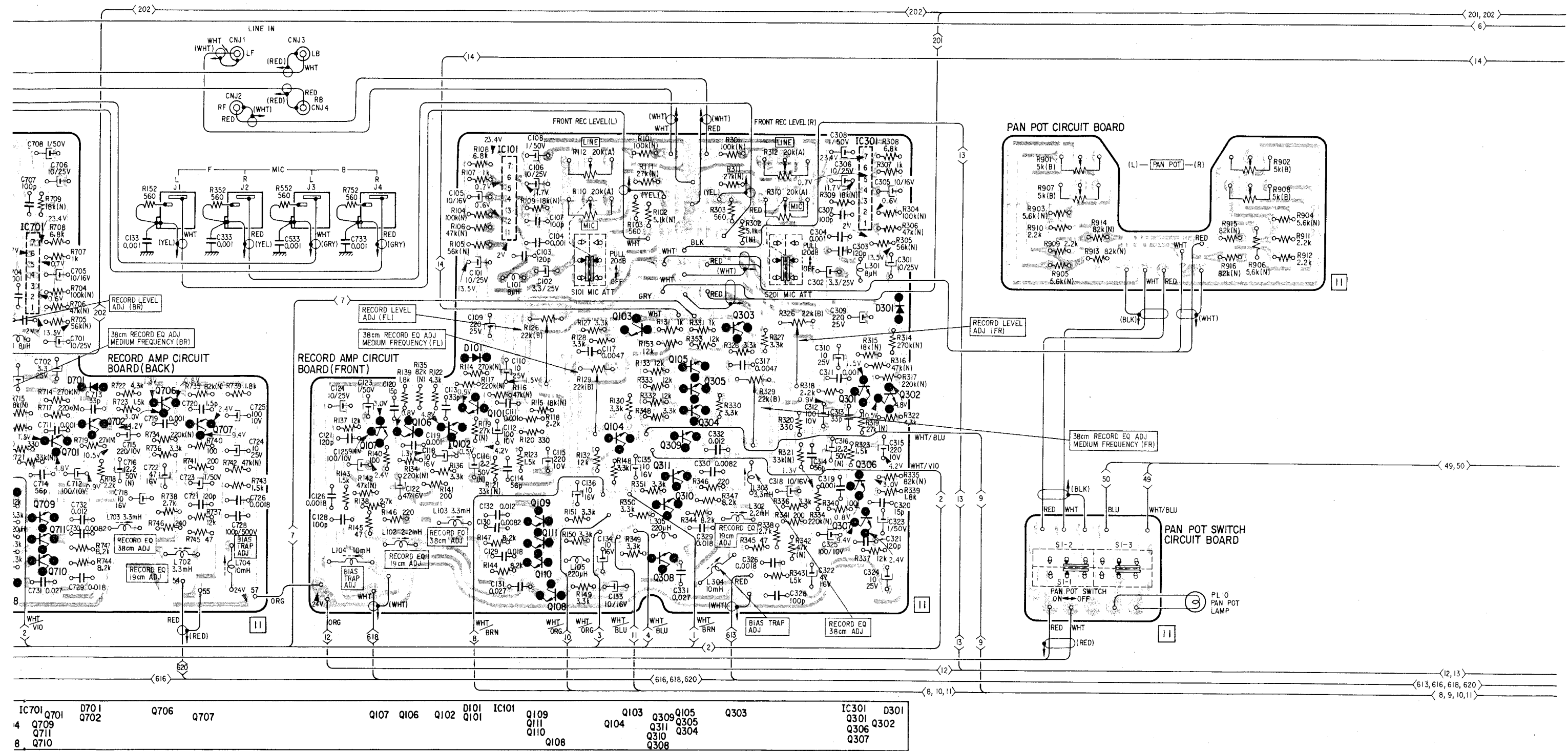


D502 (SYNC section) : 10E-2

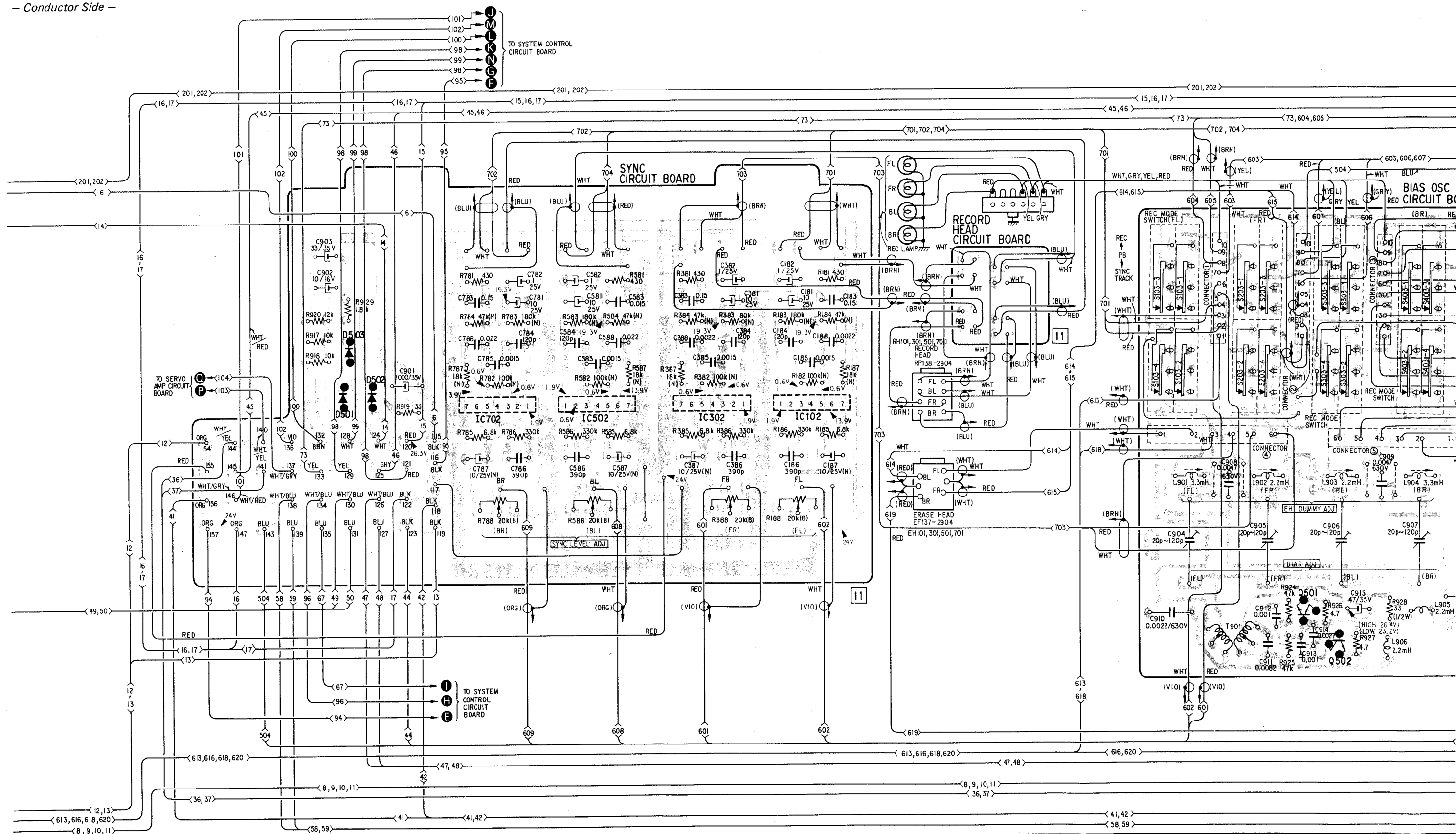


| IC, Q, D | IC501 | Q503 | Q703 | Q705 | IC701 | Q701 | D701 | Q706 | Q707 | Q107 | Q106 | Q102 | D101 | IC101 | Q109 | Q111 | Q110 | Q108 | Q104 | Q309 | Q105 | Q305 | Q304 | Q303 | IC301 | D301 | Q301 | Q311 | Q306 | Q302 | Q307 |
|----------|-------|------|------|------|-------|------|------|------|------|------|------|------|------|-------|------|------|---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

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

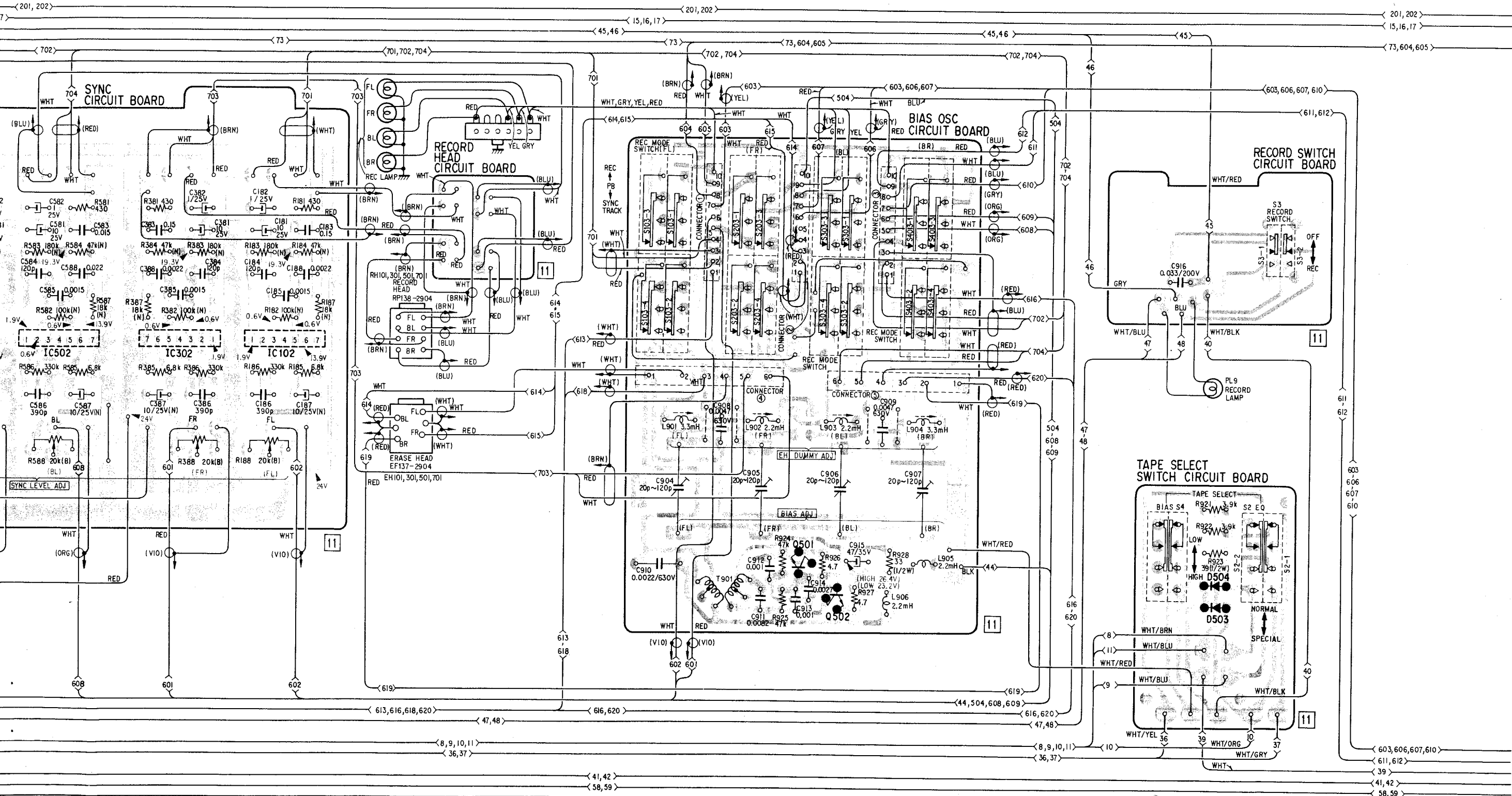


8. MOUNTING DIAGRAM (2) – Amplifier Section (2) –  
– Conductor Side –



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

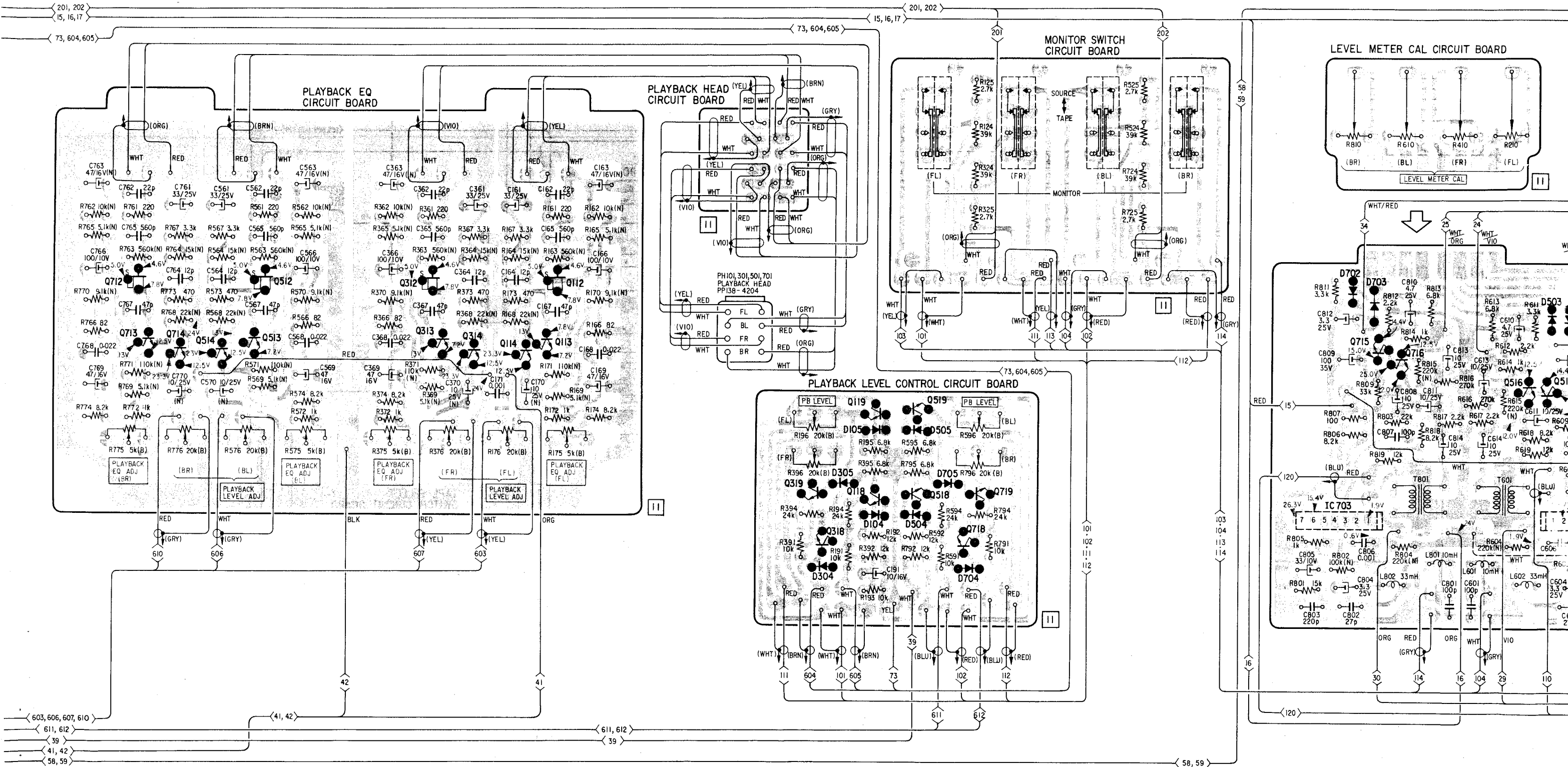
M CONTROL BOARD

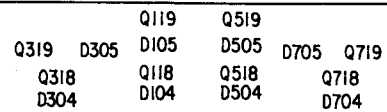


- IC502
- IC302
- IC102
- Q501
- Q502
- D504
- D503

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

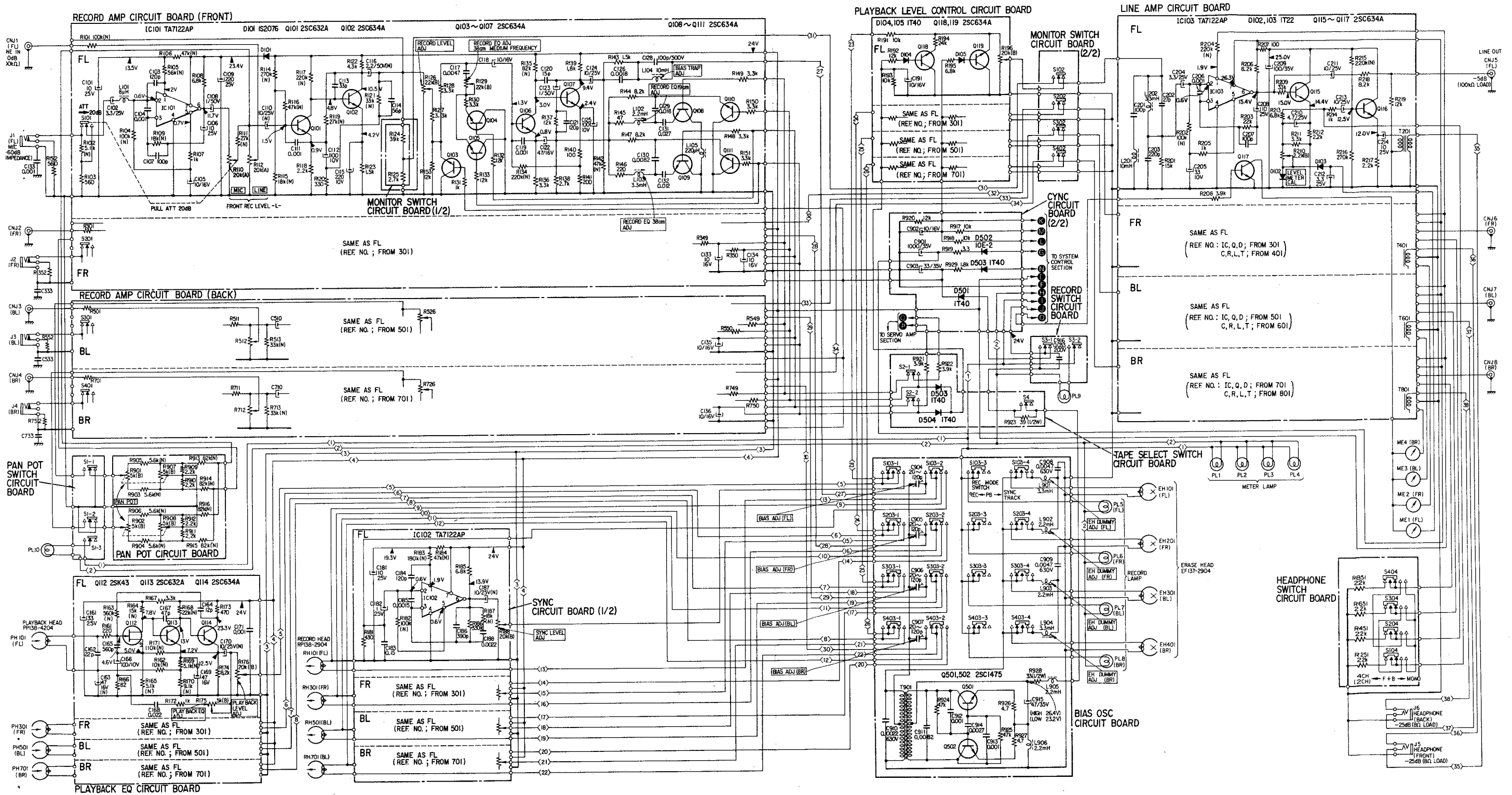
9. MOUNTING DIAGRAM (3) – Amplifier Section (3) –  
– Conductor Side –





**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  $\mu\text{F}$  unless otherwise noted.  
 $p = \mu\text{F}$

○ All resistors are in  $\Omega$ ,  $\text{k}\Omega$ ,  $\text{M}\Omega$ , unless otherwise noted.  
 $k = 1,000$   $M = 1,000,000$

○ (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  $\text{k}\Omega/\text{V}$ ). Readings in ( ) are in record mode.

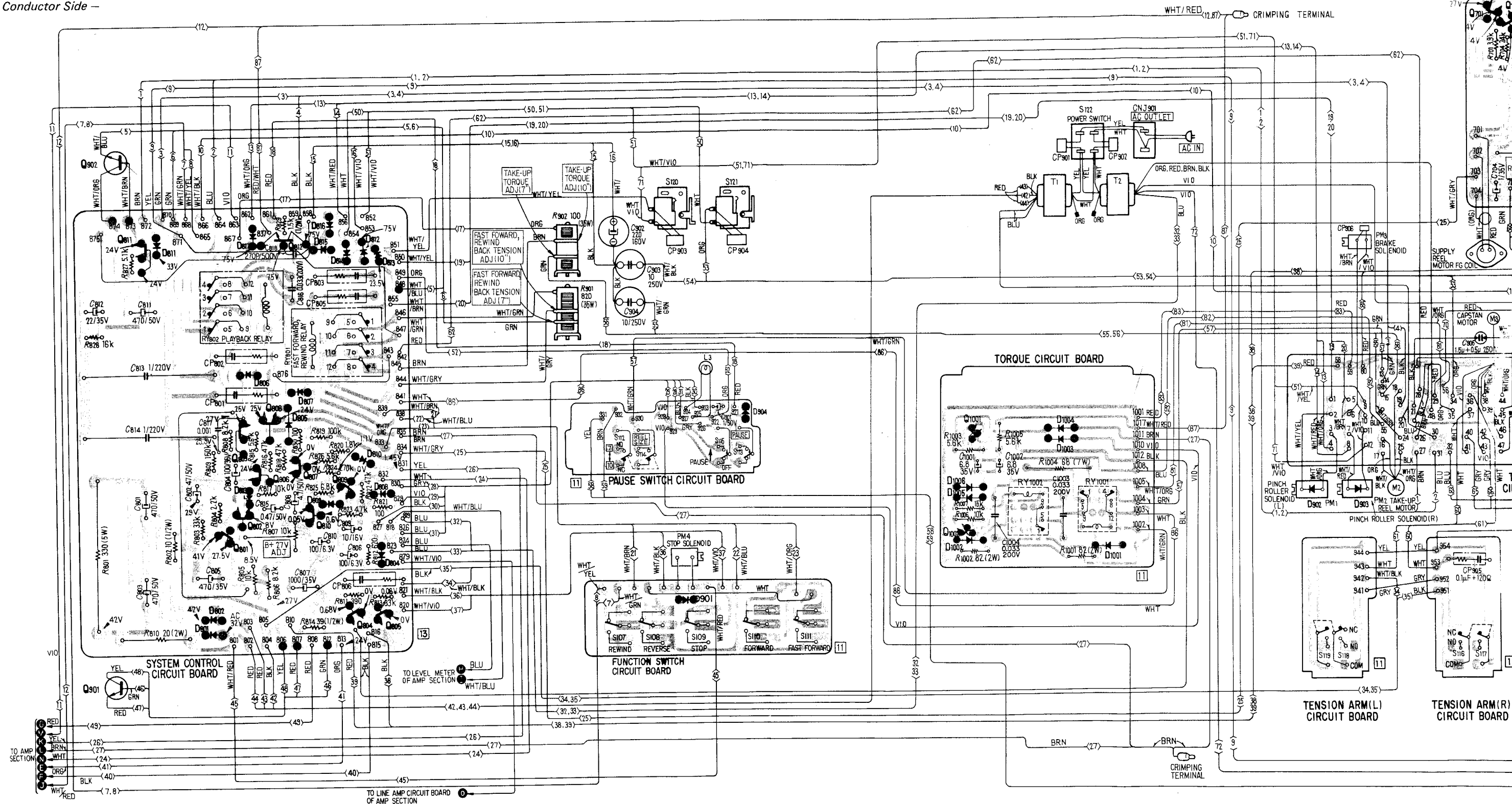
Voltage variations may be noted due to normal production tolerances.

Switch Mode

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



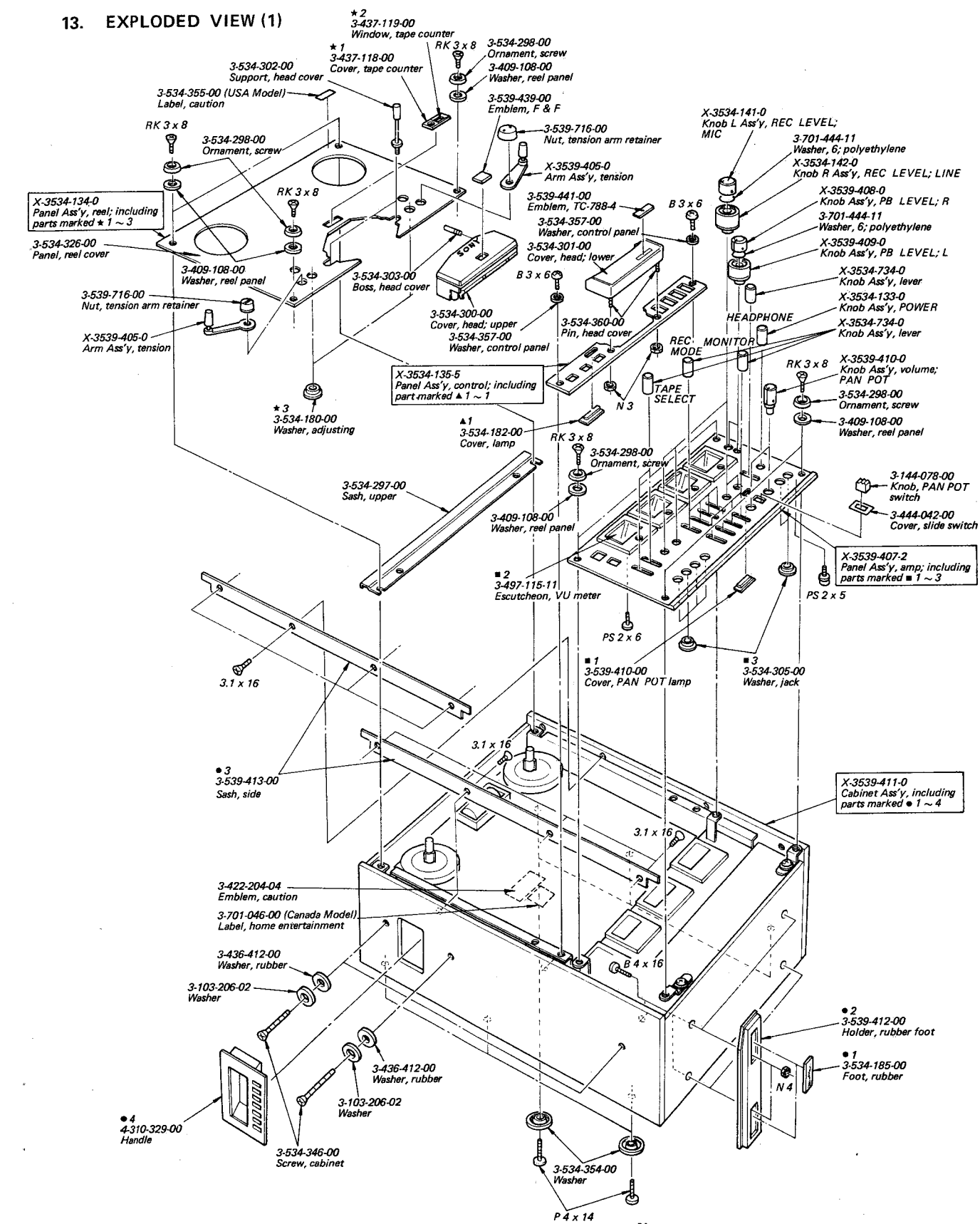
12. MOUNTING DIAGRAM (4) — System Control Section —  
— Conductor Side —



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



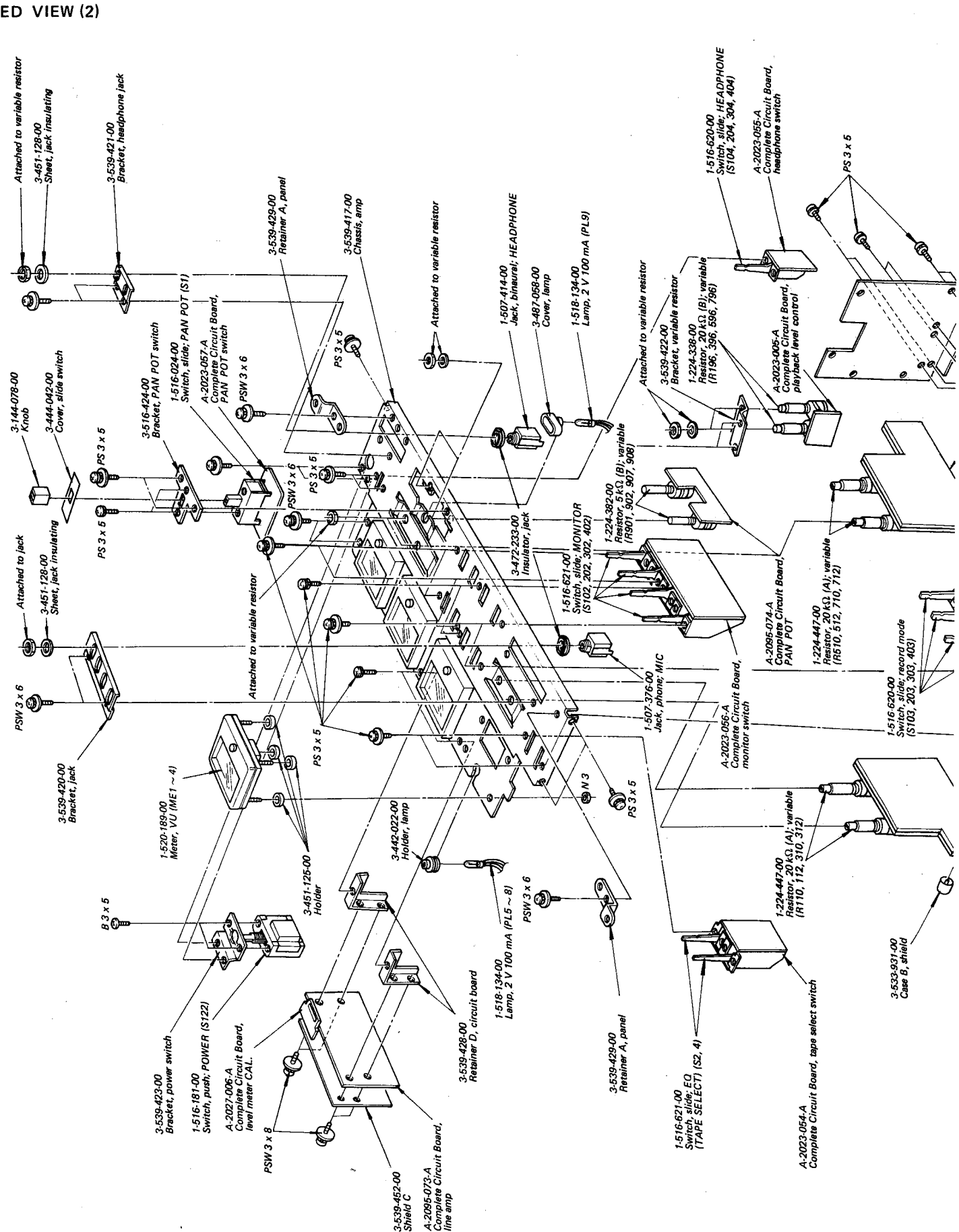
13. EXPLODED VIEW (1)



Note:

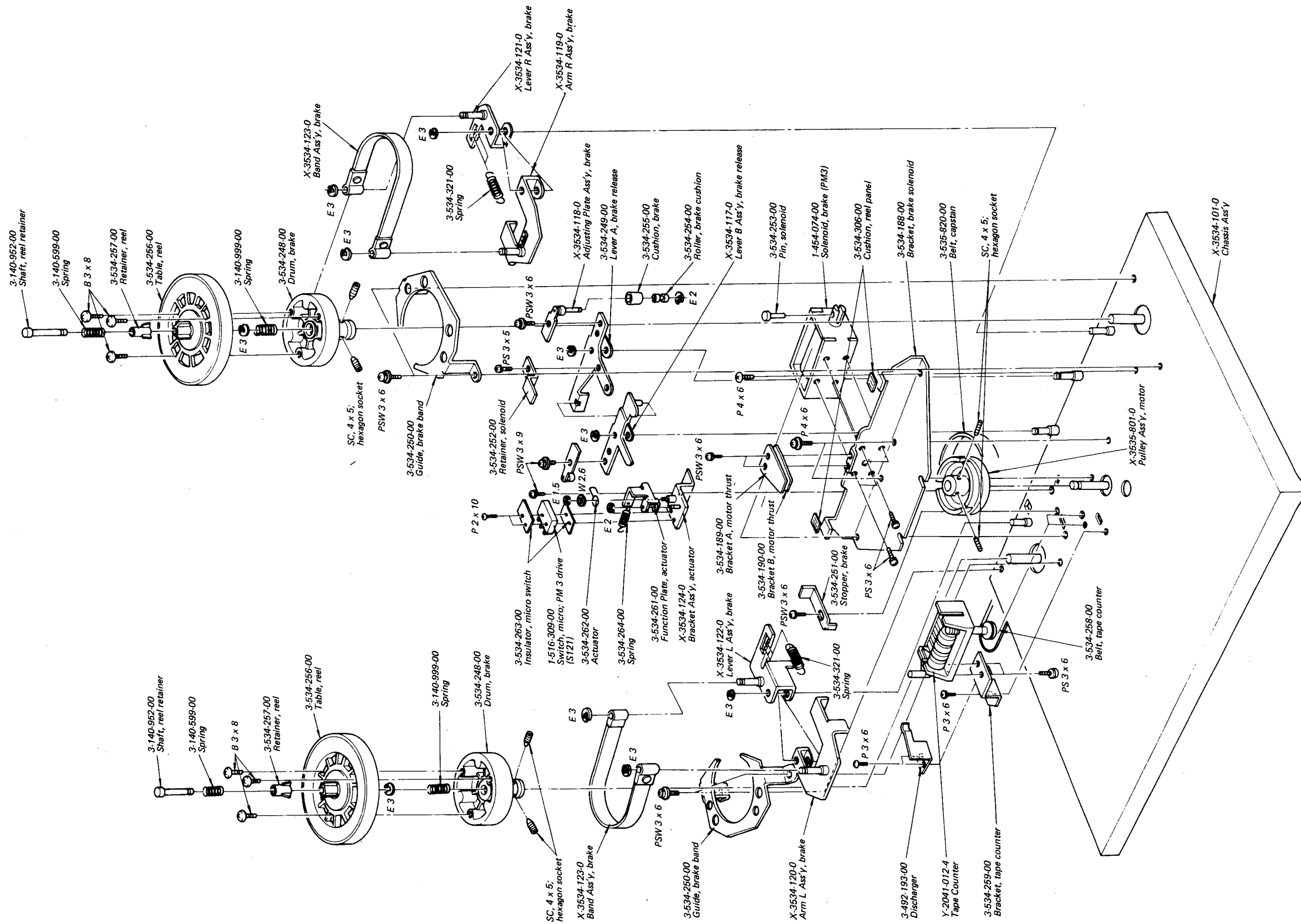
- Items without part number and description are not available.
- All screws are Phillips (cross recess) type unless otherwise noted.
- (-) = slotted head

14. EXPLODED VIEW (2)



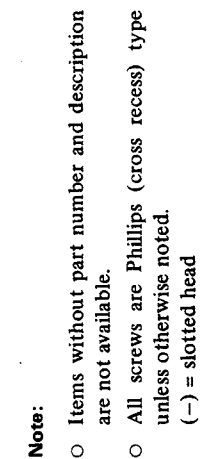


15. EXPLODED VIEW (3)



Note:

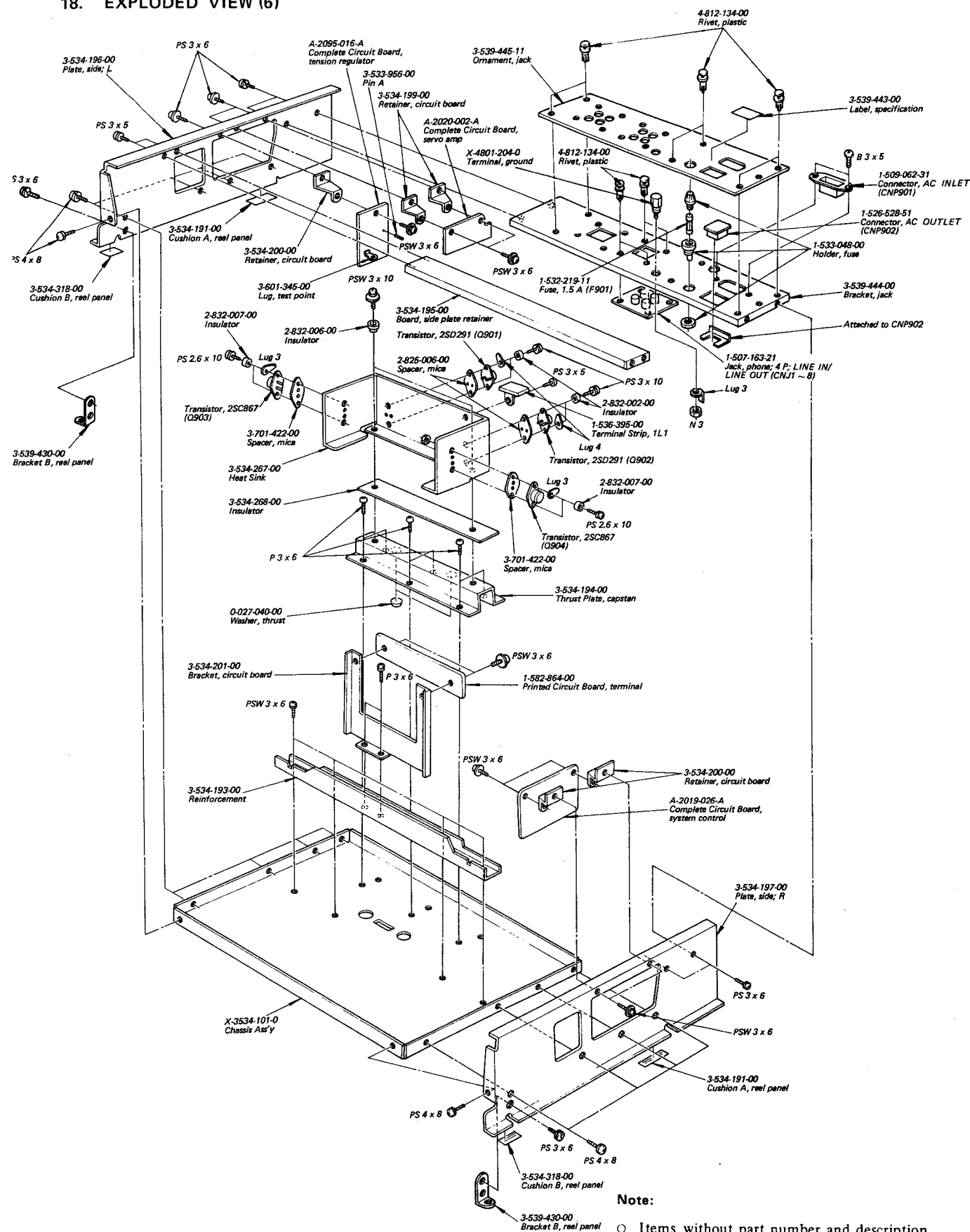
- Items without part number and description are not available.
- All screws are Phillips (cross recess) type unless otherwise noted.
- (-) = slotted head





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

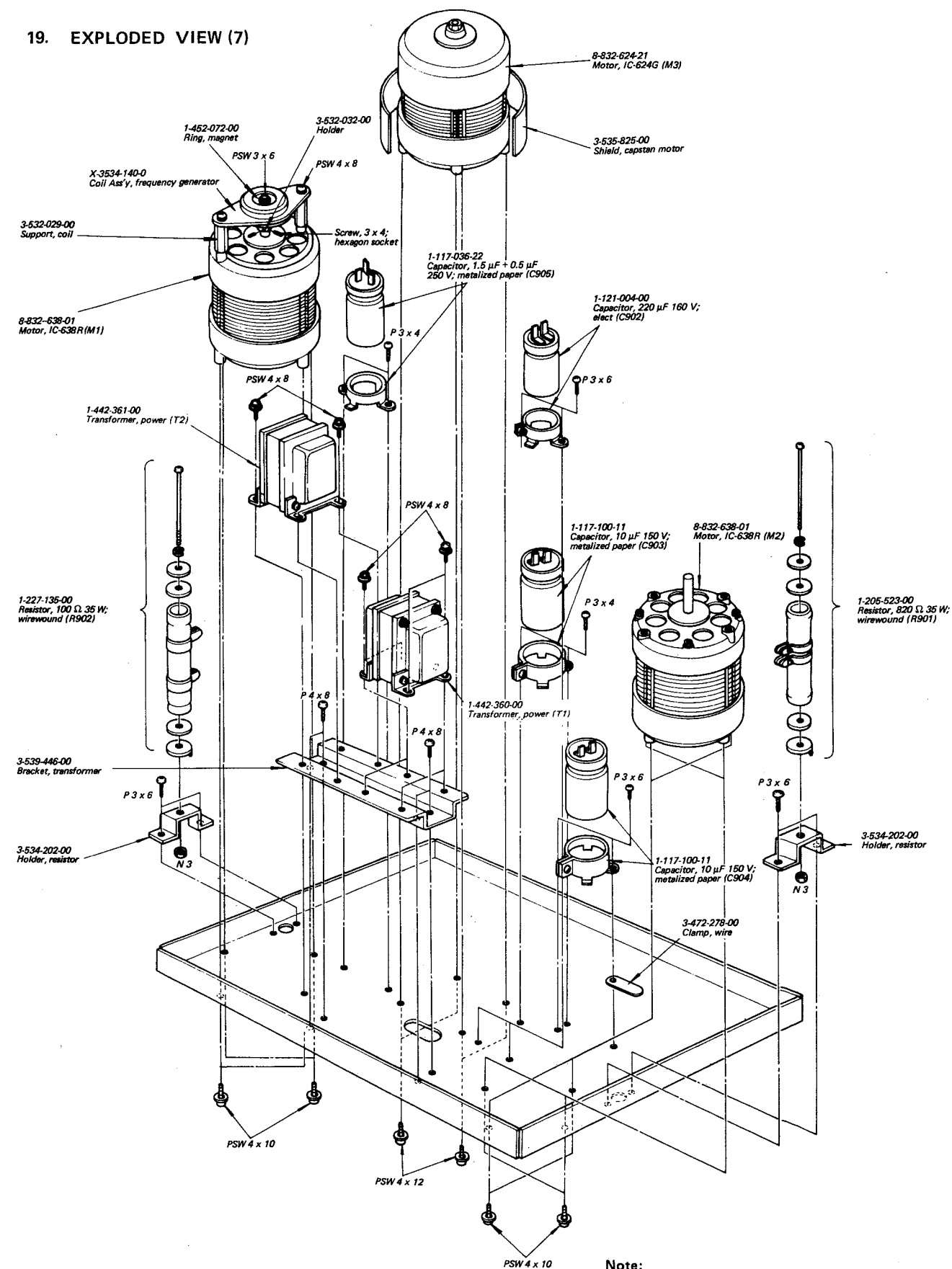
18. EXPLODED VIEW (6)



Note:

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

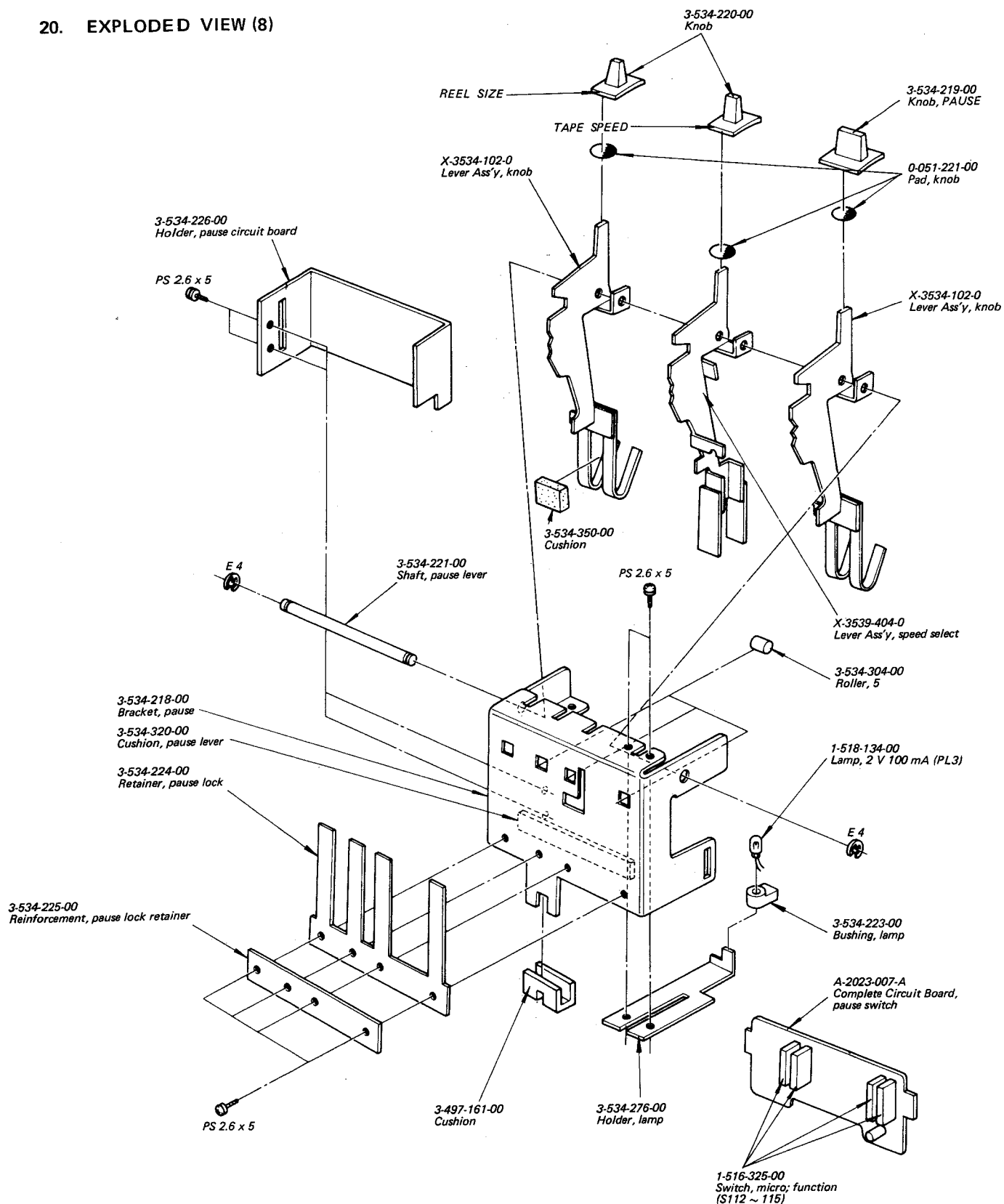
19. EXPLODED VIEW (7)



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)

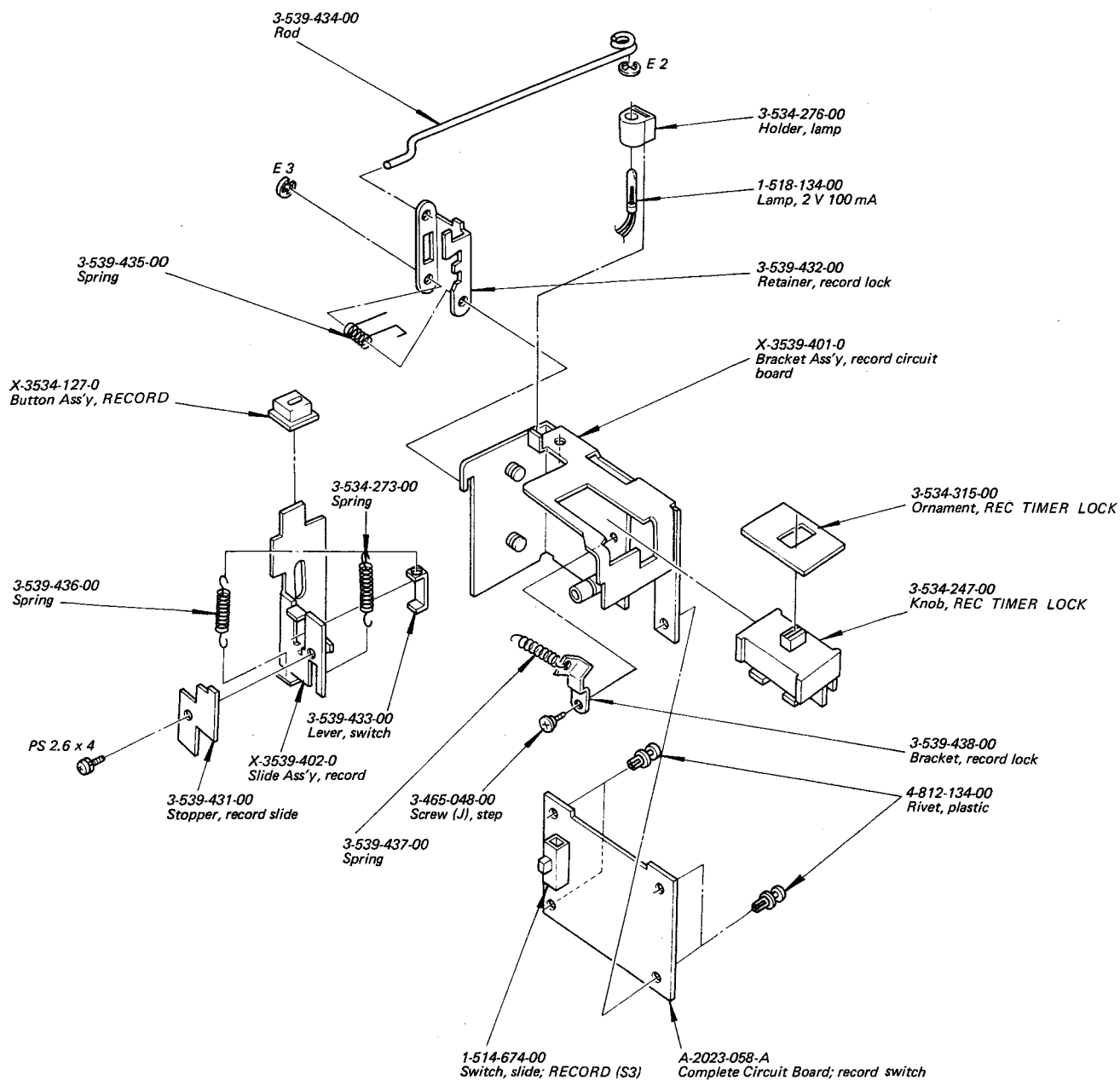


**Note:**

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



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

Ref. No.   Part No.   Description

Q113, 313,  
 Q513, 713   Transistor   2SC632A  
 Q114, 314,  
 Q514, 714   Transistor   2SC634A

#### Line Amp Section

Q115, 315, 515, 715 }  
 Q116, 316, 516, 716 }   Transistor   2SC634A  
 Q117, 317, 517, 717 }  
 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 }   Transistor   2SC634A  
 Q518, 718 }  
 Q519, 719 }  
 D104, 304 }  
 D504, 704 }   Diode   1T40  
 D105, 305 }  
 D505, 705 }

#### 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 | IC    | TA7122AP |
| IC502, 702 |       |          |

#### 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 | 1-407-519-00 | 8 $\mu$ H   | microinductor     |
| L501, 701 |              |             |                   |
| L102, 302 | 1-407-269-00 | 2.2 mH      | variable inductor |
| L502, 702 |              |             |                   |
| L103, 303 | 1-407-270-00 | 3.3 mH      | variable inductor |
| L503, 703 |              |             |                   |
| L104, 304 | 1-407-290-00 | 10 mH       | variable inductor |
| L504, 704 |              |             |                   |
| L105, 305 | 1-407-173-00 | 220 $\mu$ H | microinductor     |
| L505, 705 |              |             |                   |
| L201, 401 | 1-407-504-00 | 10 mH       | microinductor     |
| L601, 801 |              |             |                   |
| L202, 402 | 1-407-561-00 | 33 mH       | microinductor     |
| L602, 802 |              |             |                   |
| 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 | 1-427-270-00 | Output   |
| T601, 801 |              |          |
| T901      | 1-433-171-00 | Bias Osc |

#### CAPACITORS

All capacitors are in  $\mu$ F unless otherwise indicated.

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

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

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

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

## Playback EQ Section

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

## Sync Section

|                        |              |      |                     |
|------------------------|--------------|------|---------------------|
| C181, 381<br>C581, 781 | 1-121-398-11 | 10   | 25 V elect          |
| C182, 382<br>C582, 782 | 1-131-236-11 | 1    | 25 V solid tantalum |
| C183, 383<br>C583, 783 | 1-105-687-12 | 0.15 | 50 V mylar          |

| <u>Ref. No.</u>        | <u>Part No.</u> | <u>Description</u> |                    |
|------------------------|-----------------|--------------------|--------------------|
| C184, 384<br>C584, 784 | 1-107-133-11    | 120 p              | 50 V silvered mica |
| C185, 385<br>C585, 785 | 1-105-663-11    | 0.0015             | 50 V mylar         |
| C186, 386<br>C586, 786 | 1-107-242-11    | 390 p              | 50 V silvered mica |
| C187, 387<br>C587, 787 | 1-121-748-11    | 10                 | 25 V elect         |
| C188, 388<br>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<br>C601, 801                           | 1-107-131-11 | 100 p | 50 V silvered mica |
| C202, 402<br>C602, 802                           | 1-107-117-11 | 27 p  | 50 V silvered mica |
| C203, 403<br>C603, 803                           | 1-107-139-11 | 220   | 50 V silvered mica |
| C204, 404<br>C604, 804                           | 1-121-392-11 | 3.3   | 25 V elect         |
| C205, 405<br>C605, 805                           | 1-121-402-11 | 33    | 10 V elect         |
| C206, 406<br>C606, 806                           | 1-105-661-12 | 0.001 | 50 V mylar         |
| C207, 407<br>C607, 807                           | 1-105-131-12 | 100 p | 50 V mylar         |
| C208, 408<br>C608, 808                           | 1-121-398-11 | 10    | 25 V elect         |
| C209, 409<br>C609, 809                           | 1-121-357-11 | 100   | 35 V elect         |
| C210, 410<br>C610, 810                           | 1-121-395-11 | 4.7   | 25 V elect         |
| C211, 411<br>C611, 811                           | 1-121-398-11 | 10    | 25 V elect         |
| C212, 412<br>C612, 812                           | 1-121-392-11 | 3.3   | 25 V elect         |
| C213, 413<br>C214, 414<br>C613, 813<br>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 |

| <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> |                     |
|-----------------|-----------------|--------------------|---------------------|
| 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 |

| <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> |  |
|-----------------|-----------------|--------------------|--|
|-----------------|-----------------|--------------------|--|

**RESISTORS**

All resistors are in  $\Omega$ .  $\frac{1}{4}$  W,  $\pm 5\%$  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<br>R501, 701 | 1-242-721-09 | 100 k    | low noise      |
| R102, 302<br>R502, 702 | 1-242-690-09 | 5.1 k    | low noise      |
| R104, 304<br>R504, 704 | 1-242-721-09 | 100 k    | low noise      |
| R105, 305<br>R505, 705 | 1-242-715-09 | 56 k     | low noise      |
| R106, 306<br>R506, 706 | 1-242-713-09 | 47 k     | low noise      |
| R109, 309<br>R509, 709 | 1-242-703-09 | 18 k     | low noise      |
| R110, 310<br>R510, 710 | 1-224-447-00 | 20 k (A) | variable; MIC  |
| R111, 311<br>R511, 711 | 1-242-707-09 | 27 k     | low noise      |
| R112, 312<br>R512, 712 | 1-224-447-00 | 20 k (A) | variable; LINE |
| R113, 313<br>R513, 713 | 1-242-709-09 | 33 k     | low noise      |
| R114, 314<br>R514, 714 | 1-242-731-09 | 270 k    | low noise      |
| R115, 315<br>R515, 715 | 1-242-703-09 | 18 k     | low noise      |
| R116, 316<br>R516, 716 | 1-242-713-09 | 47 k     | low noise      |
| R117, 317<br>R517, 717 | 1-242-729-09 | 220 k    | low noise      |
| R119, 319<br>R519, 719 | 1-242-707-09 | 27 k     | low noise      |
| R121, 321<br>R521, 721 | 1-242-709-09 | 33 k     | low noise      |
| R126, 326<br>R526, 726 | 1-222-775-00 | 22 k     | adjustable     |
| R129, 329<br>R529, 729 | 1-222-775-00 | 22 k     | adjustable     |
| R134, 334<br>R534, 734 | 1-242-729-09 | 220 k    | low noise      |
| R135, 335<br>R535, 735 | 1-242-719-09 | 82 k     | low noise      |
| R142, 342<br>R542, 742 | 1-242-713-09 | 47 k     | low noise      |

**Playback EQ Section**

|                        |              |       |           |
|------------------------|--------------|-------|-----------|
| R162, 362<br>R562, 762 | 1-242-697-09 | 10 k  | low noise |
| R163, 363<br>R563, 763 | 1-242-739-09 | 560 k | low noise |

# TC-788-4

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

| <u>Ref. No.</u>            | <u>Part No.</u> | <u>Description</u>                                      |      |                   |
|----------------------------|-----------------|---------------------------------------------------------|------|-------------------|
| 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<br>S302, 402     | 1-516-621-00    | Slide, MONITOR                                          |      |                   |
| S103, 203<br>S303, 403     | 1-516-620-00    | Slide, record mode                                      |      |                   |
| S104, 204<br>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 phonop, LINE IN/LINE OUT                            |      |                   |
| MISCELLANEOUS              |                 |                                                         |      |                   |
| CNP901                     | 1-509-062-31    | Connector, AC INLET                                     |      |                   |
| CNP902                     | 1-526-528-51    | Connector, AC OUTLET                                    |      |                   |
| CP801 ~ 803<br>CP805 ~ 806 | 1-231-057-00    | Encapsulated Component, C-R;<br>0.033 μF + 120 Ω, 500 V |      |                   |
| CP901 ~ 906                | 1-101-534-00    | Encapsulated Component, C-R;<br>0.1 μF + 120 Ω, 500 V   |      |                   |

| <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u>           |
|-----------------|-----------------|------------------------------|
| 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      | 1-515-127-00    | Relay                        |
| RY1001,         |                 |                              |
| RY1002          |                 |                              |
|                 |                 |                              |
|                 |                 |                              |
|                 | 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      | 8-827-729-40    | Head, record; RP138-2904     |
| RH501, 701      |                 |                              |
| PH101, 301      | 8-829-342-00    | Head, playback; PP138-4204   |
| PH501, 701      |                 |                              |

## 20. ACCESSORIES AND PACKING MATERIALS

| <u>Part No.</u> | <u>Description</u>                                                            |
|-----------------|-------------------------------------------------------------------------------|
| 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 <span style="background-color: black; color: black;">XXXXXXXXXX</span> |
| 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

| <u>Part No.</u> | <u>Description</u> |
|-----------------|--------------------|
|-----------------|--------------------|

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

MEMO

MEMO

**SONY**  
SERVICE MANUAL



Model

101 ~ 10300  
101 ~ 10550

number, 1975

MEMO

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

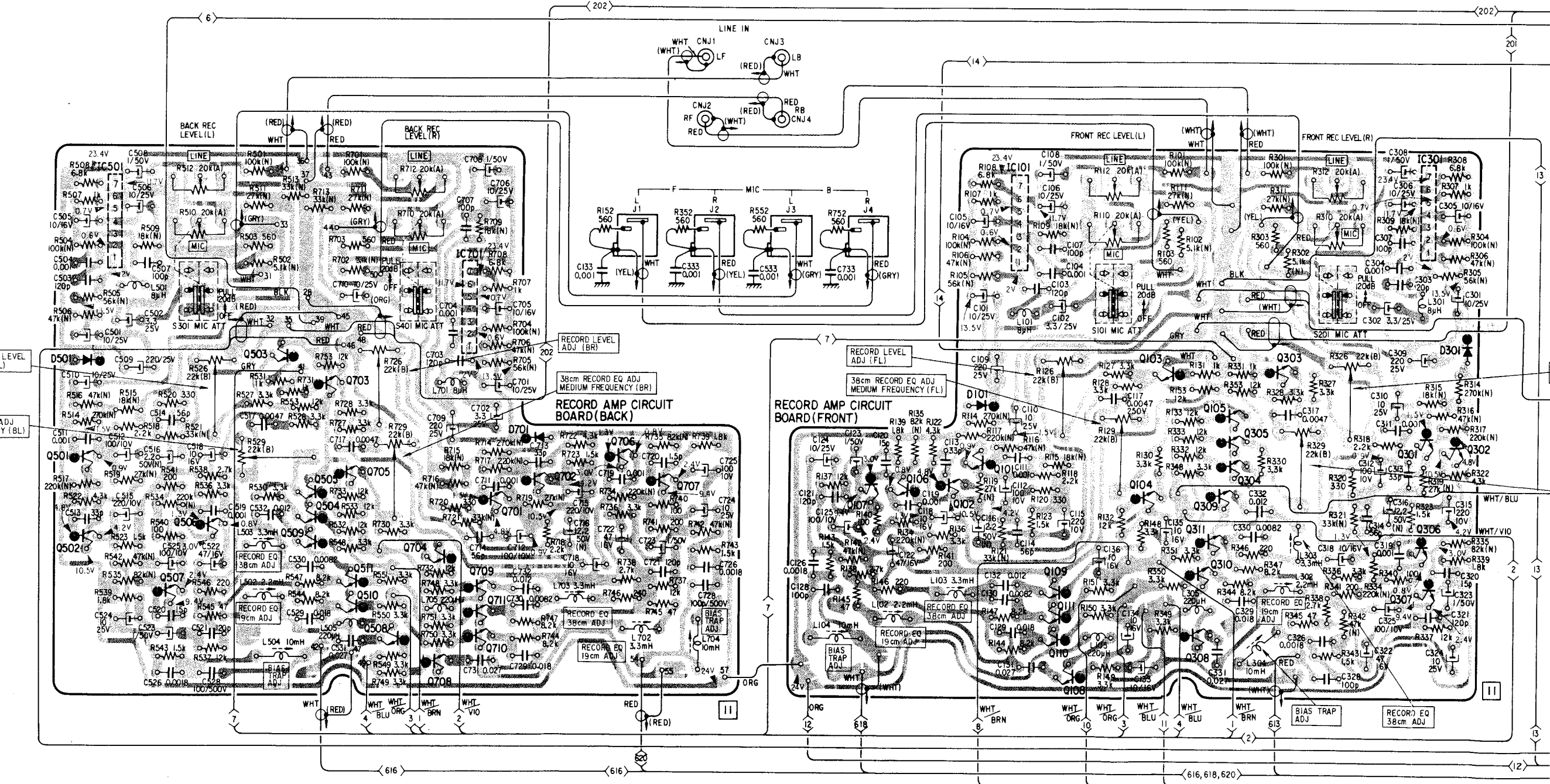


D102, 302, 702,  
502 (line amp section),  
103, 303, 703,  
503 (line amp section) : 1T22

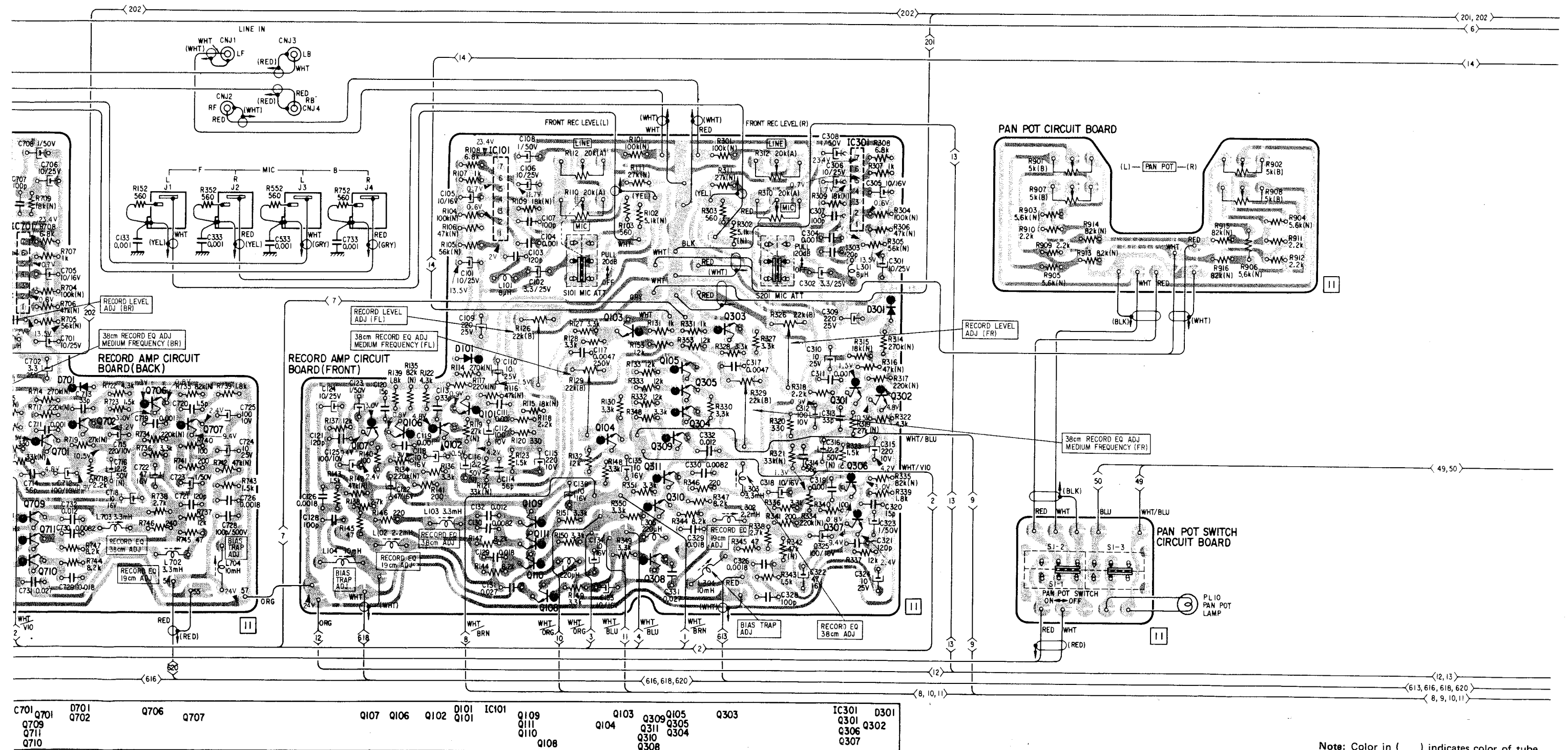
D104, 304, 504, 704,  
105, 305, 505, 705,  
501 (SYNC section),  
503 (SYNC section),  
504 (tape select section) : 1T40



D502 (SYNC section) : 10E-2



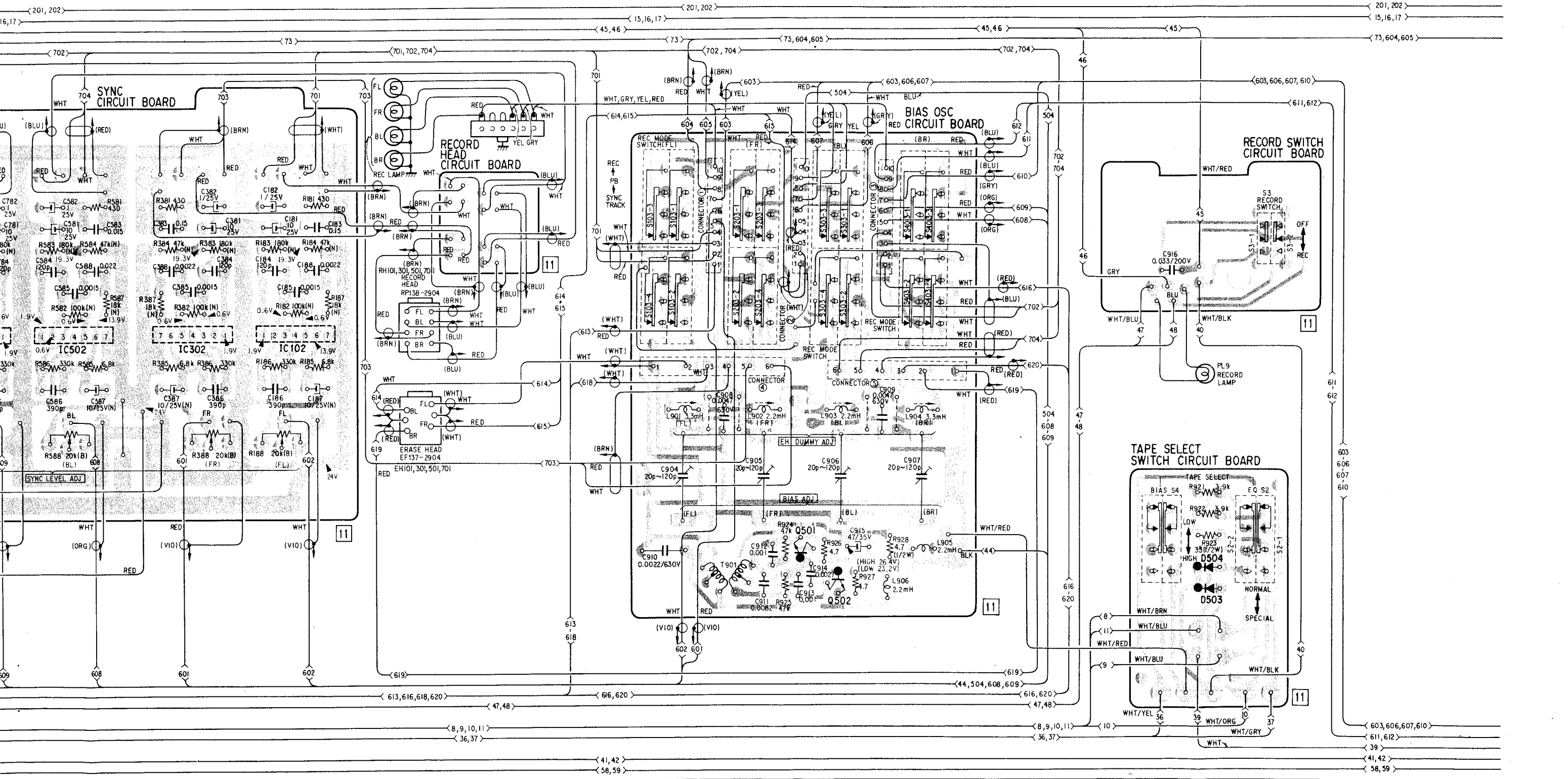
|          |       |      |      |      |       |      |      |      |      |      |      |      |      |       |      |      |      |      |      |      |      |      |      |       |      |      |      |      |
|----------|-------|------|------|------|-------|------|------|------|------|------|------|------|------|-------|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|
| IC, Q, D | IC501 | Q503 | Q703 | Q705 | IC701 | Q701 | Q702 | Q706 | Q707 | Q107 | Q106 | Q102 | Q101 | IC101 | Q109 | Q111 | Q110 | Q108 | Q103 | Q309 | Q105 | Q305 | Q303 | IC301 | D301 | Q301 | Q302 | Q307 |
|          | D501  | Q506 | Q505 | Q511 | Q704  | Q709 |      |      |      |      |      |      |      |       |      |      |      |      |      |      |      |      |      |       |      |      |      |      |
|          | Q502  | Q507 | Q504 | Q510 | Q708  | Q710 |      |      |      |      |      |      |      |       |      |      |      |      |      |      |      |      |      |       |      |      |      |      |
|          |       |      | Q509 |      |       |      |      |      |      |      |      |      |      |       |      |      |      |      |      |      |      |      |      |       |      |      |      |      |



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



STEM CONTROL  
JIT BOARD



IC502

IC302

IC102

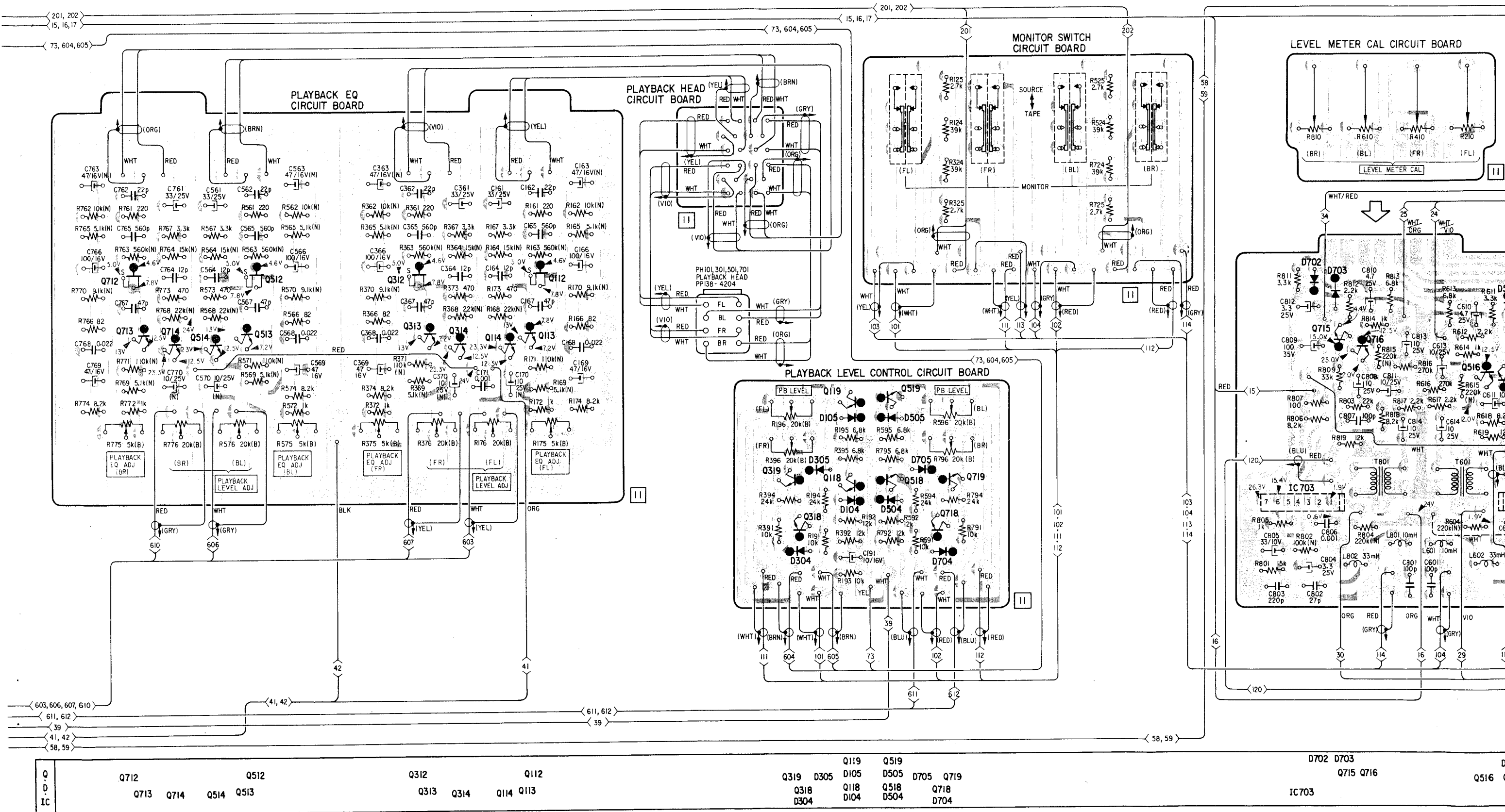
Q501

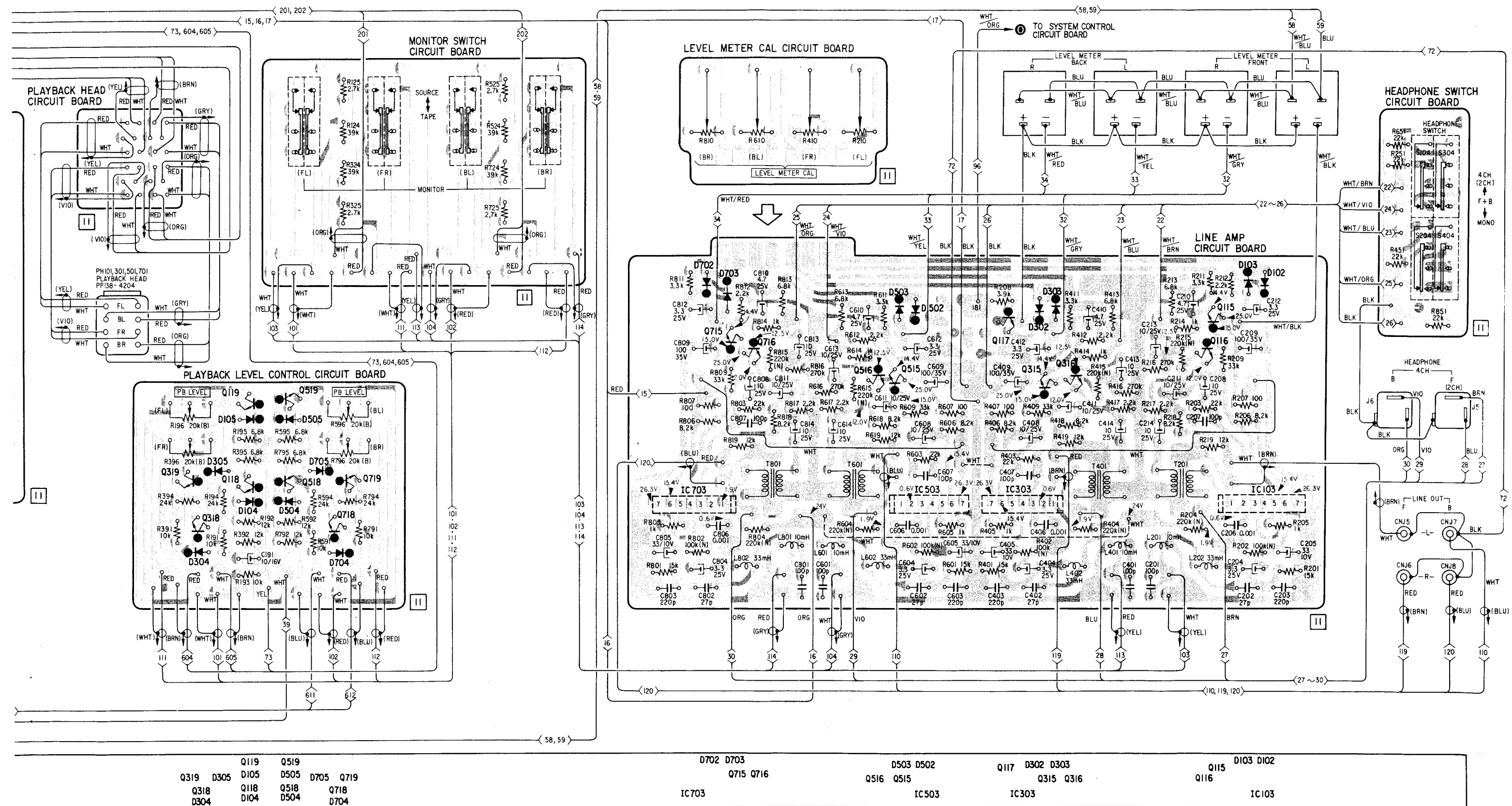
Q502

D504  
D503

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

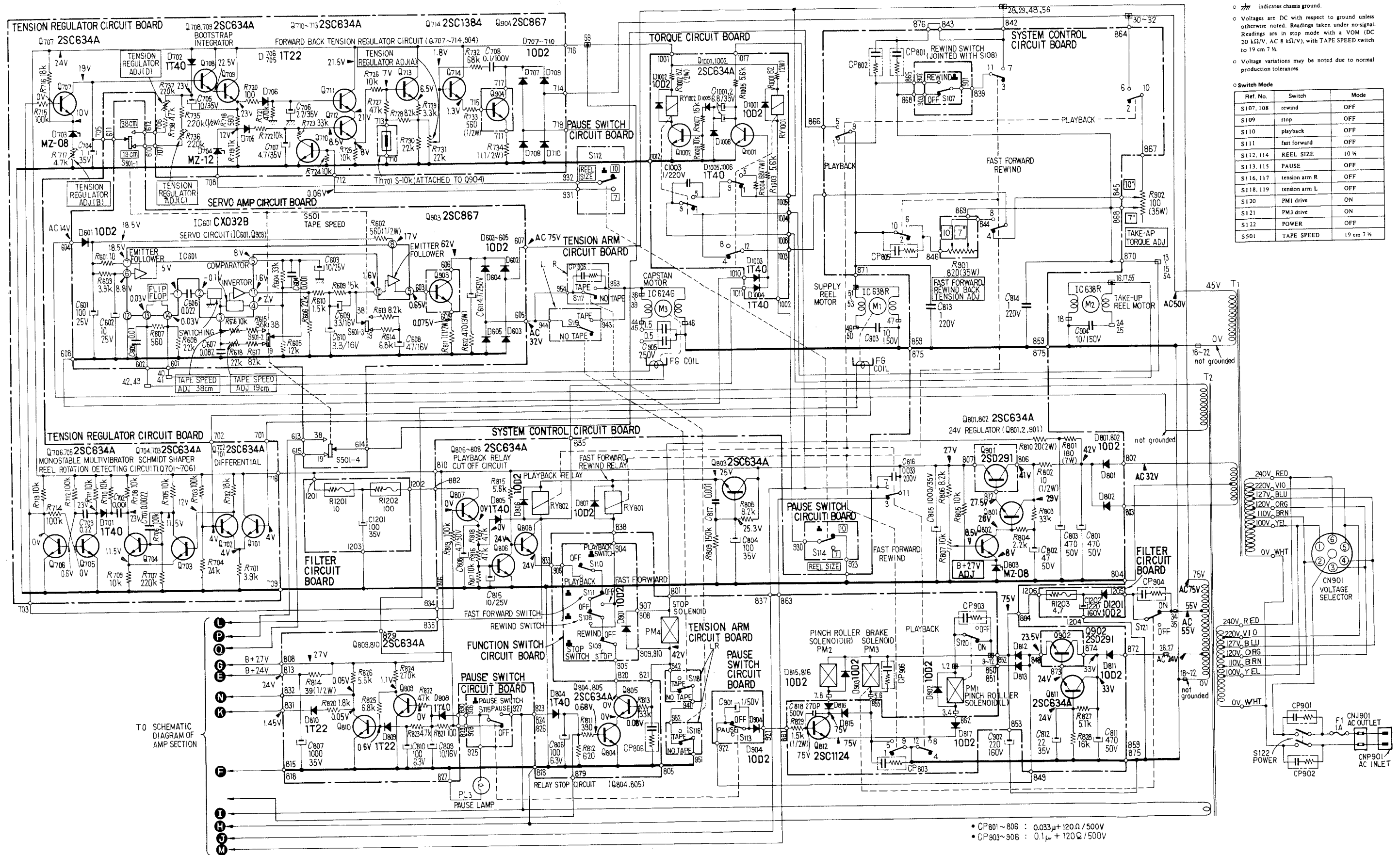
4. MOUNTING DIAGRAM (3) – Amplifier Section (3) –  
– Conductor Side –



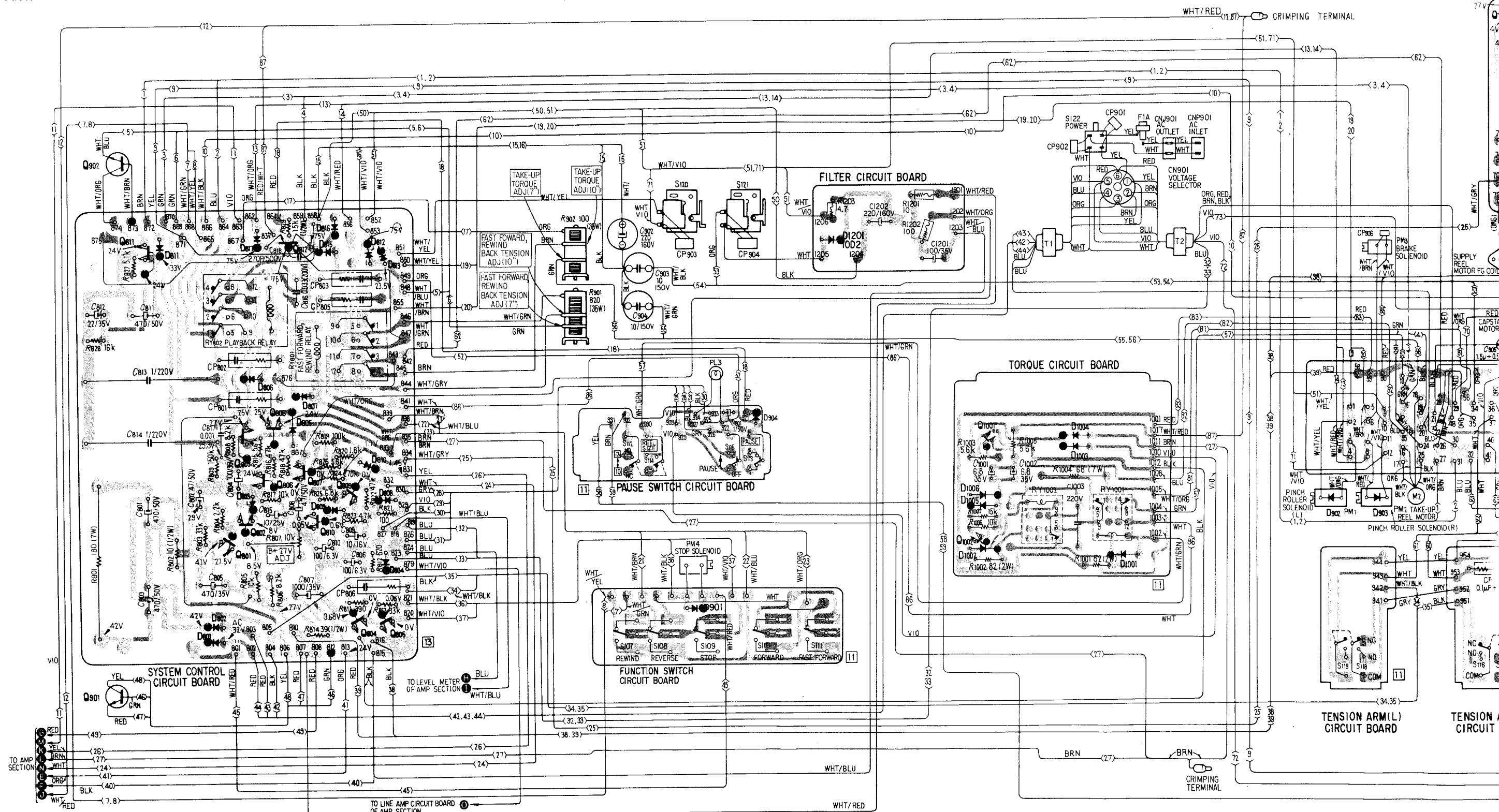


Note: Color in ( ) indicates color of tube which covers end of shielded wire.

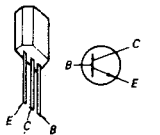
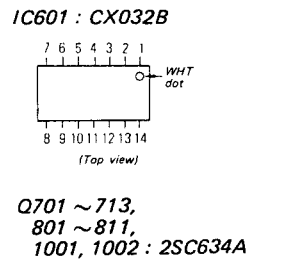
6. SCHEMATIC DIAGRAM (2) — System Control Section —



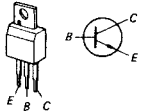
7. MOUNTING DIAGRAM (4) — System Control Section —  
— Conductor Side —



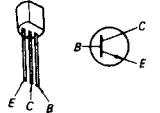
| Q, IC | Q902<br>Q811<br>Q901 | Q803<br>Q802<br>Q801 | Q808<br>Q806<br>Q807 | Q809<br>Q810<br>Q804<br>Q805 | Q1001<br>Q1002       | Q1006<br>Q1005<br>Q1002 | Q1004<br>Q1003 | Q1001 | Q902 | Q903 |
|-------|----------------------|----------------------|----------------------|------------------------------|----------------------|-------------------------|----------------|-------|------|------|
| D     | D811                 | D802<br>D801         | D817<br>D806<br>D803 | D816<br>D815<br>D809         | D812<br>D813<br>D804 | D1006<br>D1005<br>D1002 | D1004<br>D1003 | D1001 | D902 | D903 |
| ADJ   |                      |                      |                      | R902<br>R901                 |                      |                         |                |       |      |      |



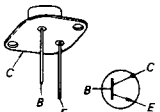
**Q812 : 2SC1124**



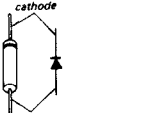
**Q714 : 2SC1384**



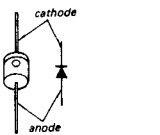
Q903, 904 : 2SC867  
Q901, 902 : 2SD291



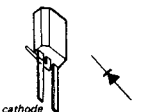
D705, 706, 809, 810 : 17 2  
D701, 702, 804, 805,  
808, 1003 ~ 1006 : 17 2



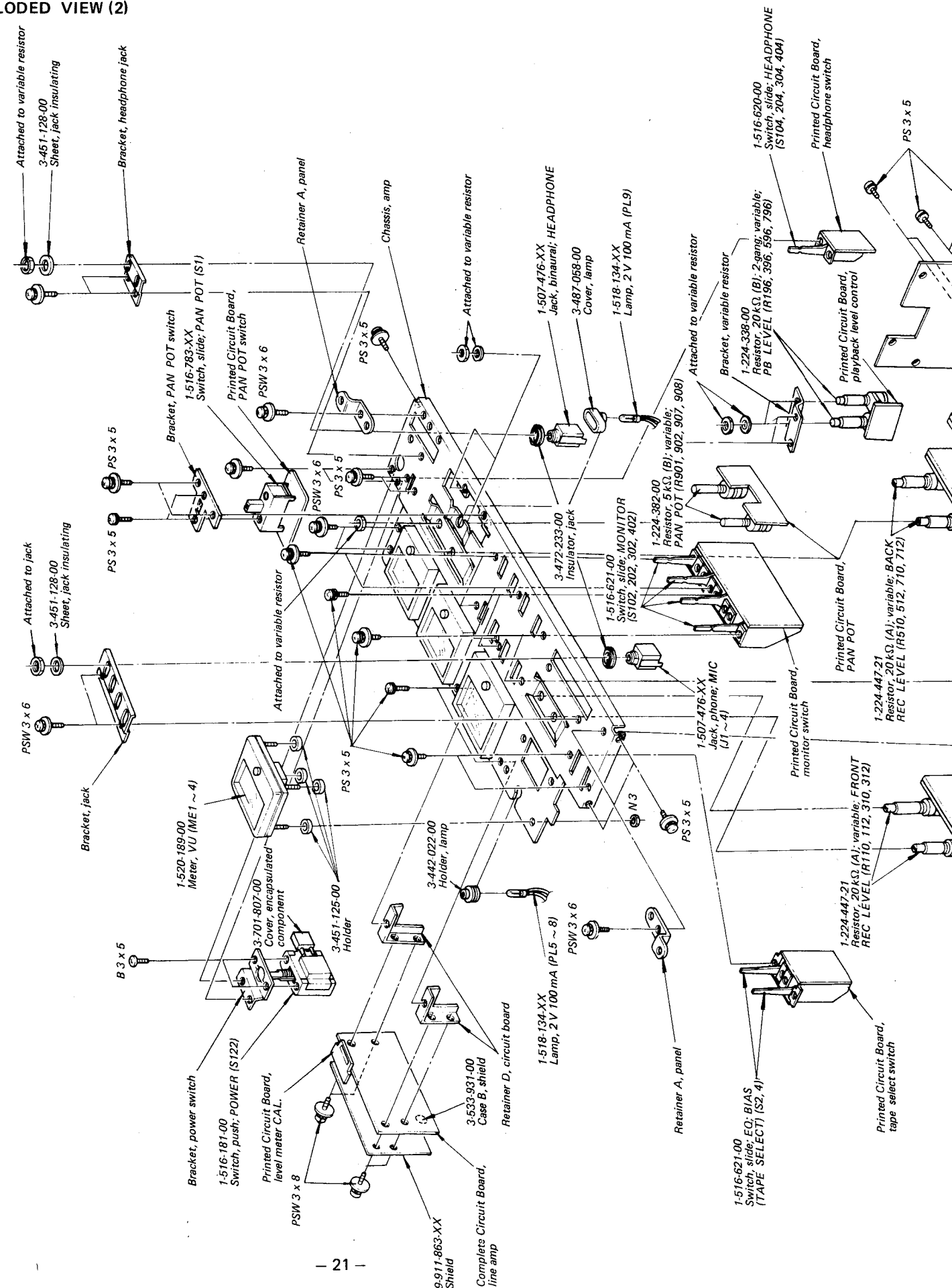
D601 ~ 605,  
707 ~ 710,  
801, 802, 806, 807,  
811 ~ 817,  
901 ~ 904,  
1001, 1002 : 10D-2



D703, 803 : MZ08  
D704 : MZ12

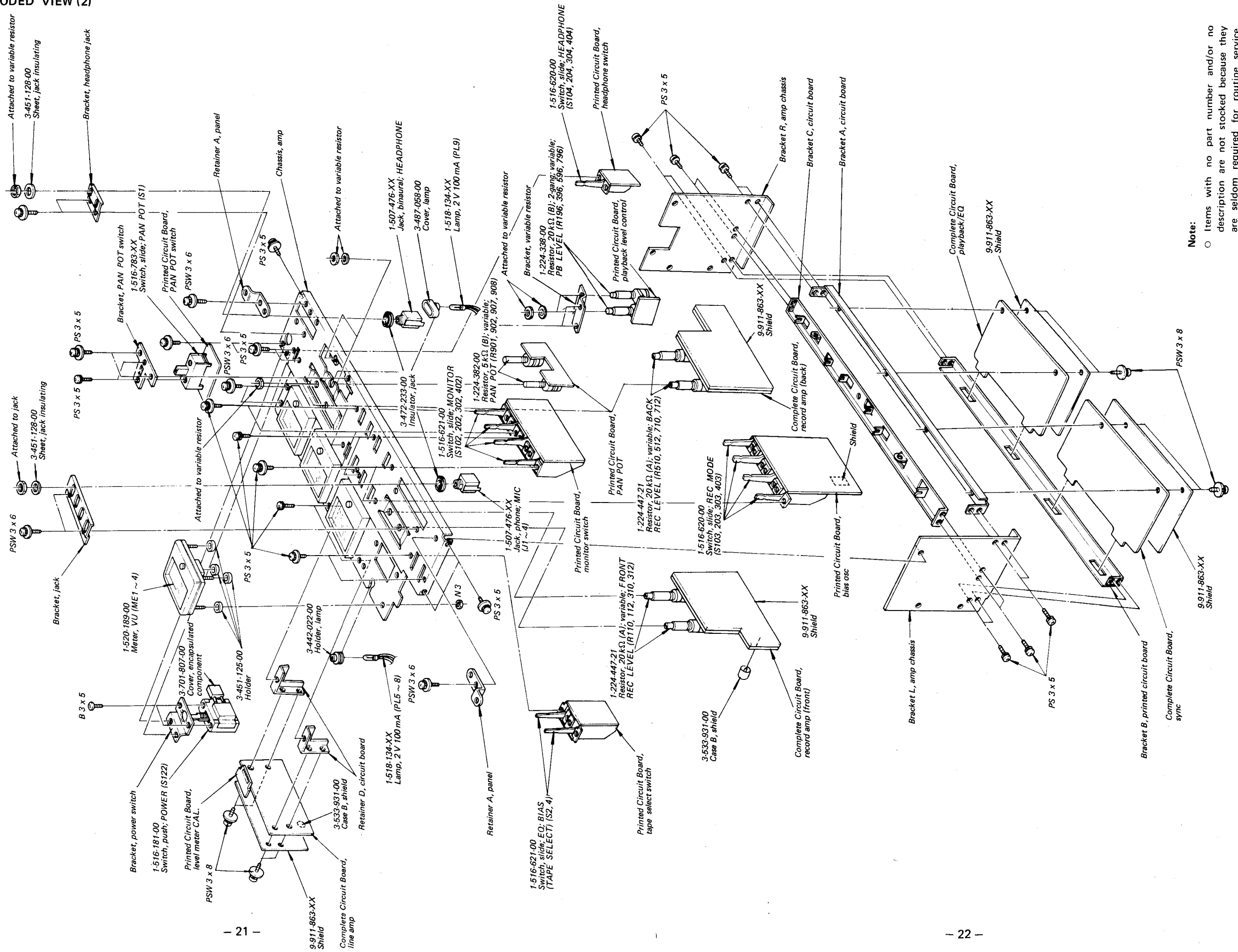


## 9. EXPLODED VIEW (2)



- 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

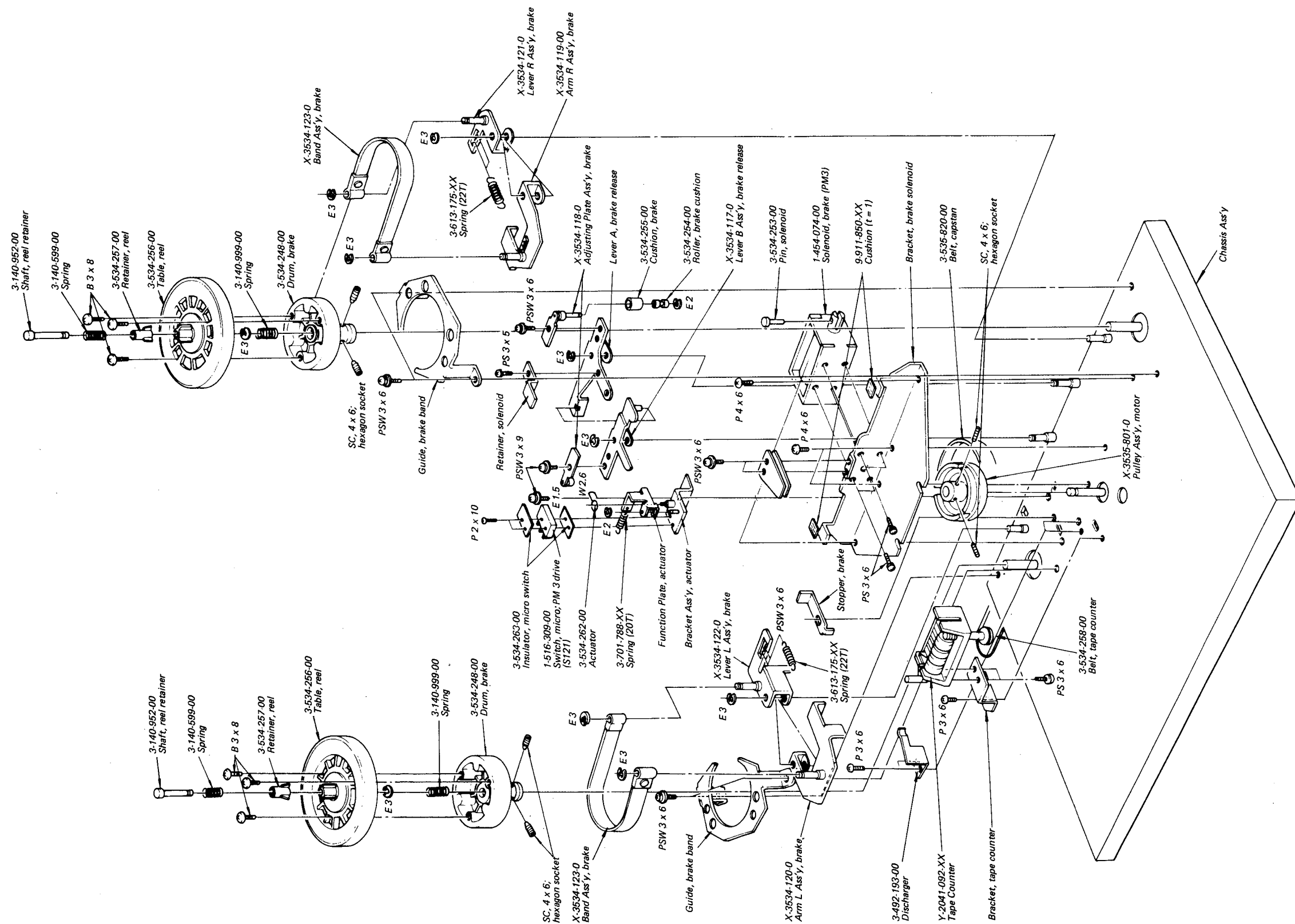
### 9. EXPLODED VIEW (2)



**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

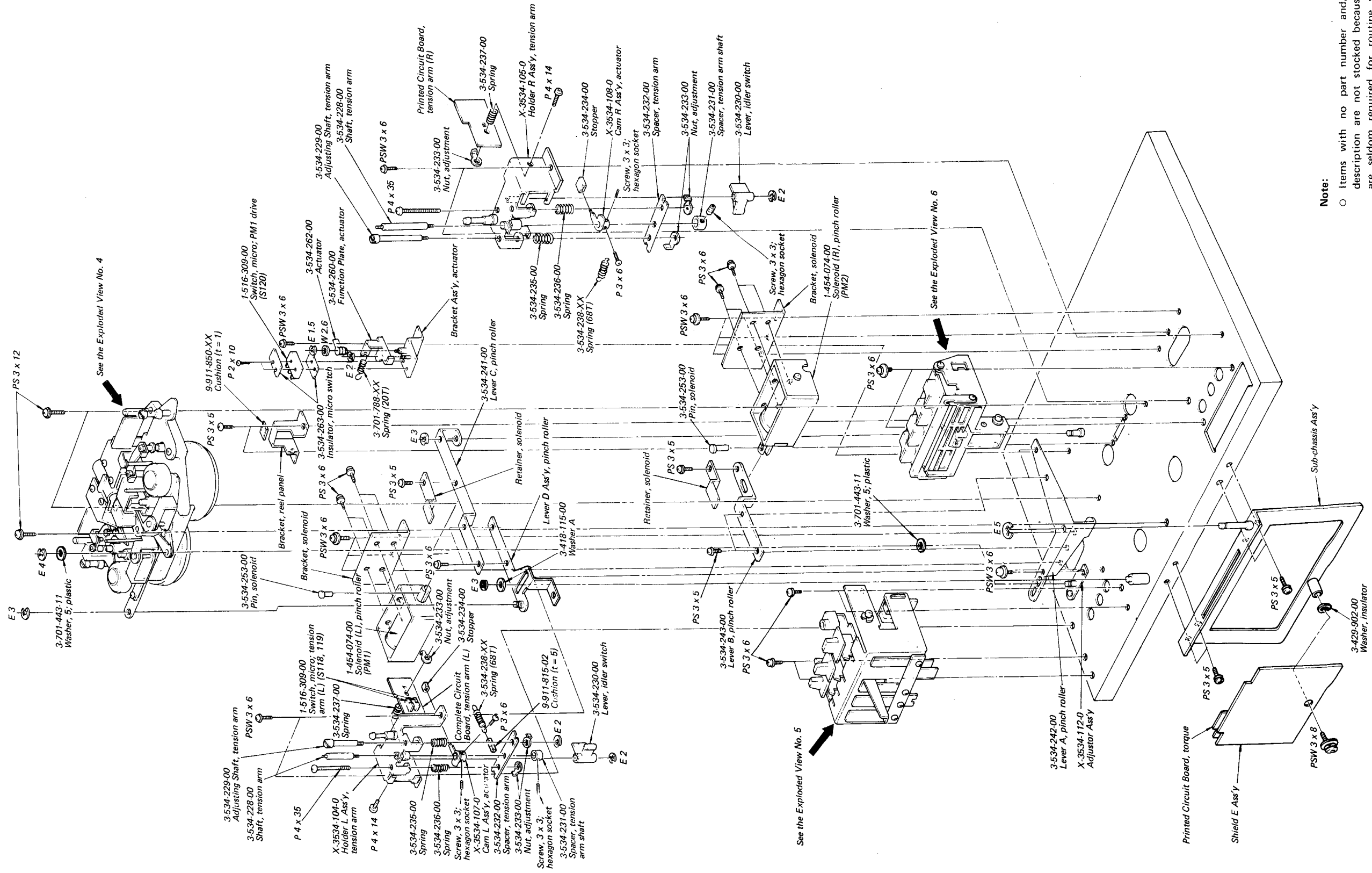
10. EXPLODED VIEW (3)



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
- (□□□) shows the number of coils in spring.

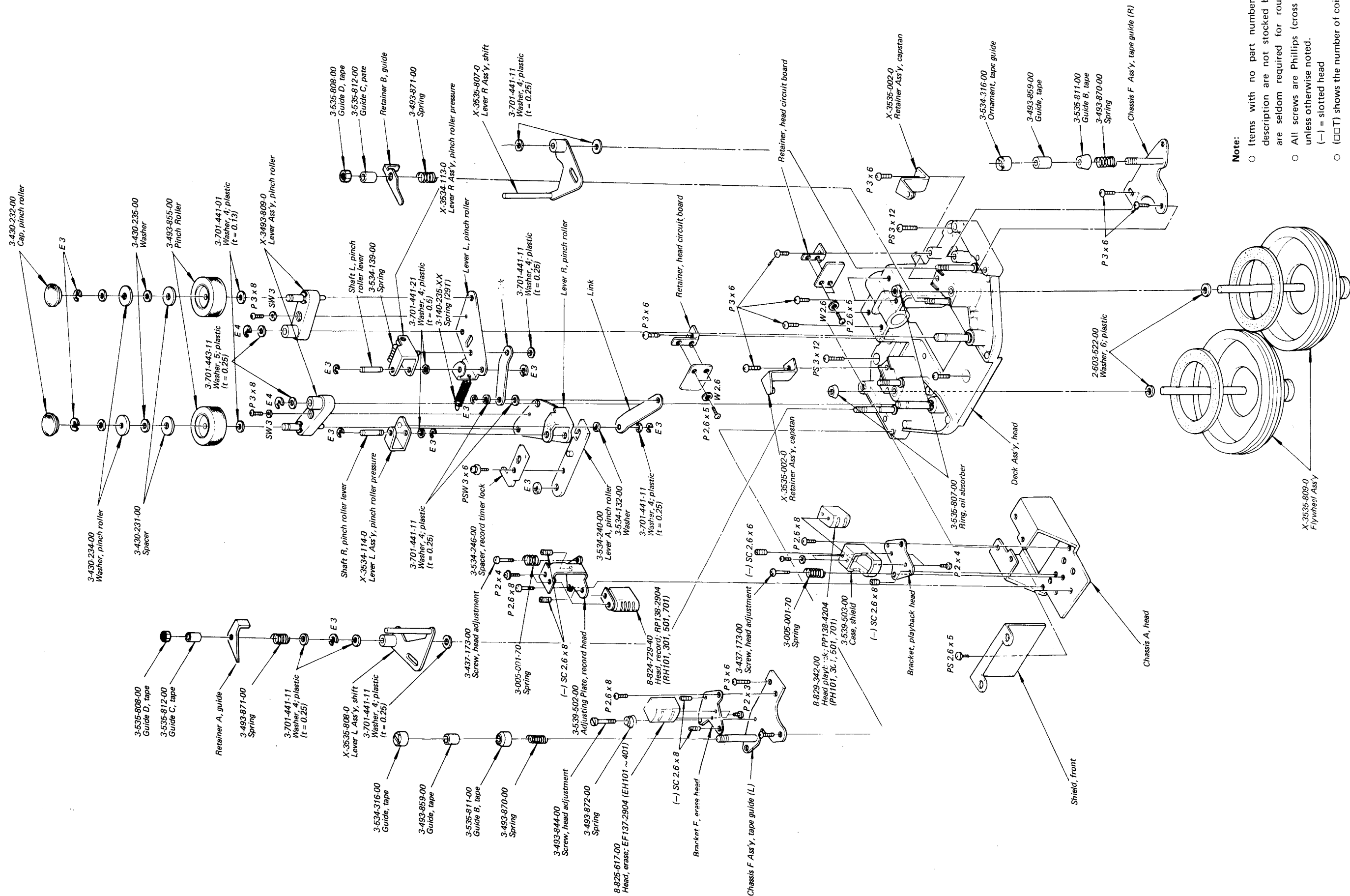
### 11. EXPLODED VIEW (4)



**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.

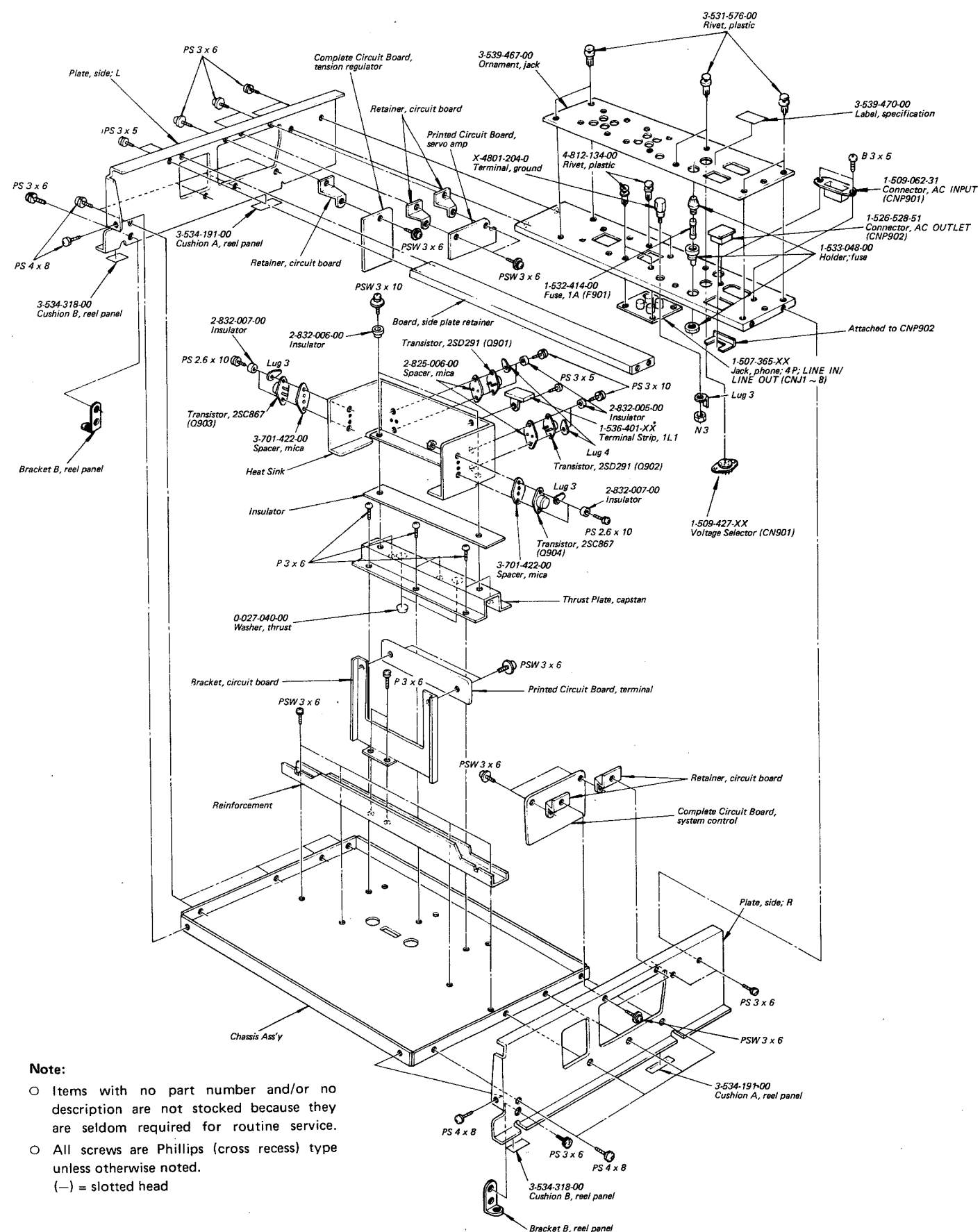
## 12. EXPLODED VIEW (5)



**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.

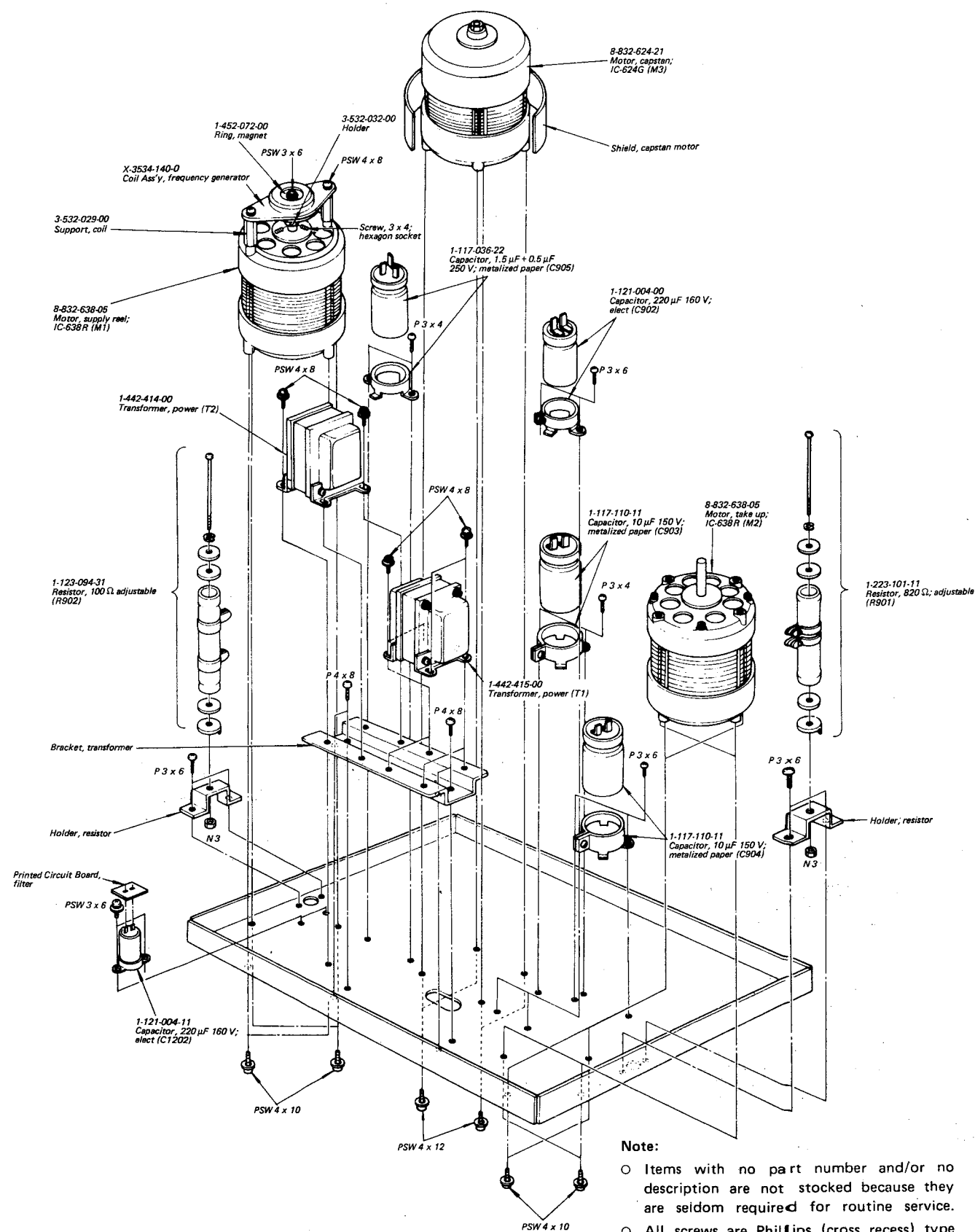
### 13. EXPLODED VIEW (6)



- 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

(—) = slotted head

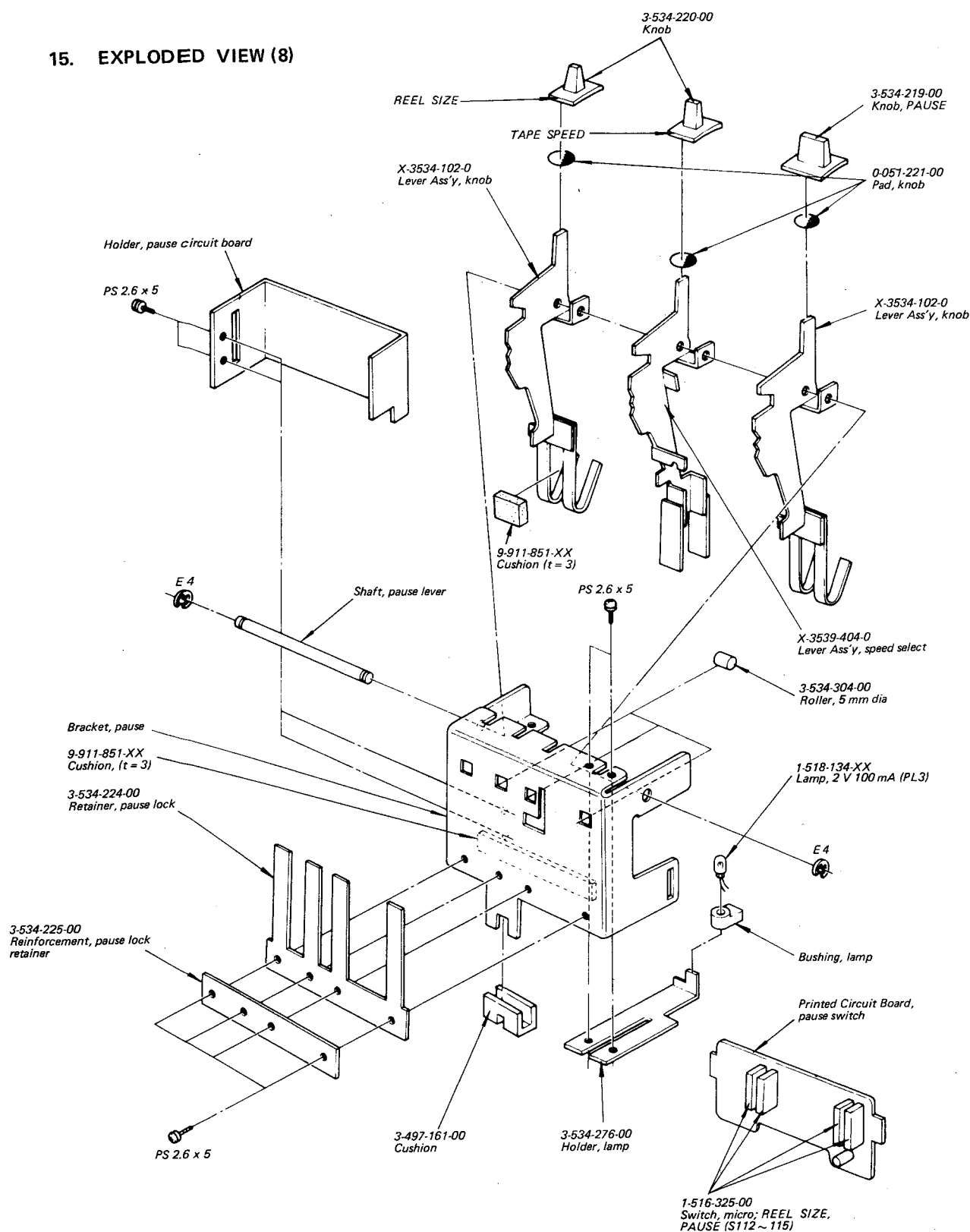
#### 14. EXPLODED VIEW (7)



- 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

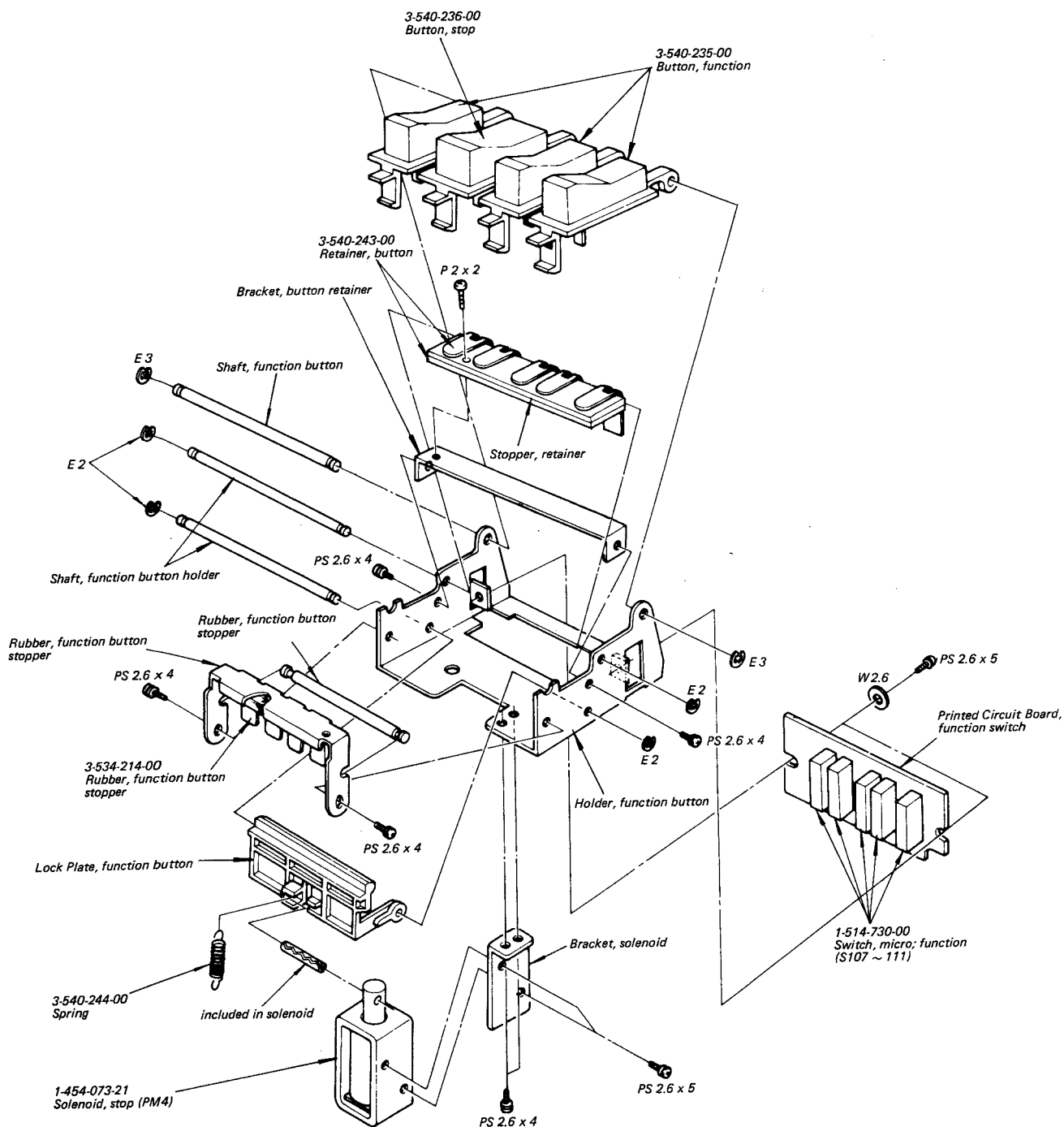
(-) = slotted head

## 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

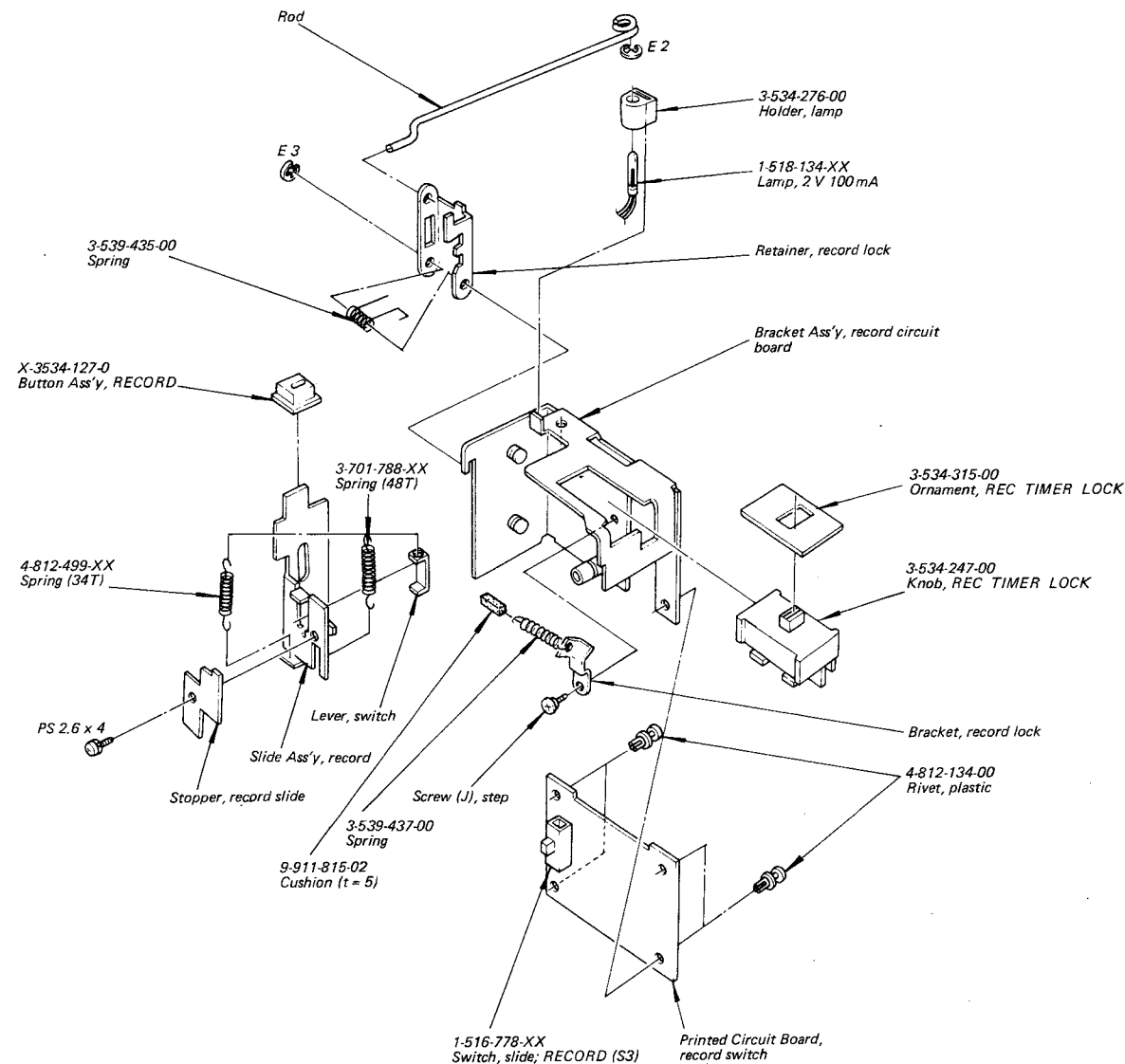
## 16. EXPLODED VIEW (9)



### 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

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

| <u>Ref. No.</u>           | <u>Part No.</u> | <u>Description</u> |         |
|---------------------------|-----------------|--------------------|---------|
| D104, 304                 | }               | Diode              | 1T40    |
| D504, 704                 |                 |                    |         |
| D105, 305                 |                 |                    |         |
| D505, 705                 |                 |                    |         |
| 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                | }               | Diode              | 10D2    |
| D815 ~ 817                |                 |                    |         |
| 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    |

| <u>Ref. No.</u>            | <u>Part No.</u> | <u>Description</u> |                   |
|----------------------------|-----------------|--------------------|-------------------|
| D503                       |                 | Diode              | 1T40              |
| IC102, 302                 |                 | IC                 | TA7122AP          |
| IC502, 702                 |                 |                    |                   |
| 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                  | 1-407-519-00    | 8 μH               | microinductor     |
| L501, 701                  |                 |                    |                   |
| L102, 302                  | 1-407-269-00    | 2.2 mH             | variable inductor |
| L502, 702                  |                 |                    |                   |
| L103, 303                  | 1-407-270-00    | 3.3 mH             | variable inductor |
| L503, 703                  |                 |                    |                   |
| L104, 304                  | 1-407-290-00    | 10 mH              | variable inductor |
| L504, 704                  |                 |                    |                   |
| L105, 305                  | 1-407-173-00    | 220 μH             | microinductor     |
| L505, 705                  |                 |                    |                   |
| L201, 401                  | 1-407-206-XX    | 10 mH              | microinductor     |
| L601, 801                  |                 |                    |                   |
| L202, 402                  | 1-407-561-00    | 33 mH              | microinductor     |
| L602, 802                  |                 |                    |                   |
| 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 |

| Ref. No.                                                                                                                                                                          | Part No.     | Description |               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------|---------------|
| L905                                                                                                                                                                              | 1-407-198-XX | 2.2 mH      | microinductor |
| TRANSFORMERS                                                                                                                                                                      |              |             |               |
| T1                                                                                                                                                                                | 1-442-415-00 | Power       |               |
| T2                                                                                                                                                                                | 1-442-414-00 | Power       |               |
| T201, 401                                                                                                                                                                         | 1-427-270-XX | Output      |               |
| T601, 801                                                                                                                                                                         |              |             |               |
| T901                                                                                                                                                                              | 1-433-171-00 | Bias Osc    |               |
| CAPACITORS                                                                                                                                                                        |              |             |               |
| All capacitors are in $\mu$ F and ceramic type unless otherwise indicated. 50 or less working volts are omitted except for electrolytic type. (elect = electrolytic, p = $\mu$ F) |              |             |               |
| Record Amp (Front) & Record Amp (Back) Section                                                                                                                                    |              |             |               |
| C101, 301                                                                                                                                                                         | 1-121-398-11 | 10          | 25 V elect    |
| C501, 701                                                                                                                                                                         |              |             |               |
| C102, 302                                                                                                                                                                         | 1-131-206-11 | 3.3         | 25 V elect    |
| C502, 702                                                                                                                                                                         |              |             |               |
| C103, 303                                                                                                                                                                         | 1-102-107-11 | 120 p       |               |
| C503, 703                                                                                                                                                                         |              |             |               |
| C104, 304                                                                                                                                                                         | 1-108-825-12 | 0.001       | mylar         |
| C504, 704                                                                                                                                                                         | 1-105-661-12 | 0.001       | mylar         |
| C105, 305                                                                                                                                                                         | 1-121-651-11 | 10          | 16 V elect    |
| C505, 705                                                                                                                                                                         |              |             |               |
| C106, 306                                                                                                                                                                         | 1-121-398-11 | 10          | 25 V elect    |
| C506, 706                                                                                                                                                                         |              |             |               |
| C107, 307                                                                                                                                                                         | 1-102-106-11 | 100 p       |               |
| C507, 707                                                                                                                                                                         |              |             |               |
| C108, 308                                                                                                                                                                         | 1-121-391-11 | 1           | 50 V elect    |
| C508, 708                                                                                                                                                                         |              |             |               |
| C109, 309                                                                                                                                                                         | 1-121-422-11 | 220         | 25 V elect    |
| C509, 709                                                                                                                                                                         |              |             |               |
| C110, 310                                                                                                                                                                         | 1-121-748-11 | 10          | 25 V elect    |
| C510, 710                                                                                                                                                                         |              |             |               |
| C111, 311                                                                                                                                                                         | 1-108-825-12 | 0.001       | mylar         |
| C511, 711                                                                                                                                                                         |              |             |               |
| C112, 312                                                                                                                                                                         | 1-121-414-11 | 100         | 10 V elect    |
| C512, 712                                                                                                                                                                         |              |             |               |
| C113, 313                                                                                                                                                                         | 1-102-969-11 | 33 p        |               |
| C513, 713                                                                                                                                                                         |              |             |               |

| <u>Ref. No.</u>         | <u>Part No.</u> | <u>Description</u> |       |               |
|-------------------------|-----------------|--------------------|-------|---------------|
| C114, 314)<br>C514, 714 | 1-101-885-11    | 56 p               |       |               |
| C115, 315)<br>C515, 715 | 1-121-420-11    | 220                | 10 V  | elect         |
| C116, 316)<br>C516, 716 | 1-123-050-11    | 2.2                | 50 V  | elect         |
| C117, 317)<br>C517, 717 | 1-108-833-11    | 0.0047             |       | mylar         |
| C118, 318)<br>C518, 718 | 1-121-651-11    | 10                 | 16 V  | elect         |
| C119, 319)<br>C519, 719 | 1-108-825-11    | 0.001              |       | mylar         |
| C120, 320)<br>C520, 720 | 1-102-956-11    | 15 p               |       |               |
| C121, 321)<br>C521, 721 | 1-102-107-11    | 120 p              |       |               |
| C122, 322)<br>C522, 722 | 1-121-409-11    | 47                 | 16 V  | elect         |
| C123, 323)<br>C523, 723 | 1-121-391-11    | 1                  | 50 V  | elect         |
| C124, 324)<br>C524, 724 | 1-121-398-11    | 10                 | 25 V  | elect         |
| C125, 325)<br>C525, 725 | 1-121-414-11    | 100                | 10 V  | elect         |
| C126, 326)<br>C526, 726 | 1-108-795-12    | 0.0018             |       | mylar         |
| C128, 328)<br>C528, 728 | 1-107-004-11    | 100 p              | 500 V | silvered mica |
| C129, 329)<br>C529, 729 | 1-108-840-12    | 0.018              |       | mylar         |
| C130, 330)<br>C530, 730 | 1-108-836-12    | 0.0082             |       | mylar         |
| C131, 331)<br>C531, 731 | 1-105-518-12    | 0.027              |       | mylar         |
| C132, 332)<br>C532, 732 | 1-105-514-12    | 0.012              |       | mylar         |
| C133, 134)<br>C135, 136 | 1-121-651-11    | 10                 | 16 V  | elect         |
| Playback EQ Section     |                 |                    |       |               |
| C161, 361)<br>C561, 761 | 1-121-404-11    | 33                 | 25 V  | elect         |

| Ref. No.     | Part No.     | Description |                     |
|--------------|--------------|-------------|---------------------|
| C162, 362    | 1-107-115-11 | 22 p        | 50 V silvered mica  |
| C562, 762    |              |             |                     |
| C163, 363    | 1-123-055-11 | 47          | 16 V elect          |
| C563, 763    |              |             |                     |
| C164, 364    | 1-102-955-11 | 12 p        |                     |
| C564, 764    |              |             |                     |
| C165, 365    | 1-102-115-11 | 560 p       |                     |
| C565, 765    |              |             |                     |
| C166, 366    | 1-121-415-11 | 100         | 16 V elect          |
| C566, 766    |              |             |                     |
| C167, 367    | 1-101-881-11 | 47 p        |                     |
| C567, 767    |              |             |                     |
| C168, 368    | 1-108-808-12 | 0.022       | mylar               |
| C568, 768    |              |             |                     |
| C169, 369    | 1-121-409-11 | 47          | 16 V elect          |
| C569, 769    |              |             |                     |
| C170, 370    | 1-121-748-11 | 10          | 25 V elect          |
| C570, 770    |              |             |                     |
| C171         | 1-108-825-12 | 0.001       | mylar               |
| Sync Section |              |             |                     |
| C181, 381    | 1-121-398-11 | 10          | 25 V elect          |
| C581, 781    |              |             |                     |
| C182, 382    | 1-131-236-11 | 1           | 25 V solid tantalum |
| C582, 782    |              |             |                     |
| C183, 383    | 1-105-687-12 | 0.15        | mylar               |
| C583, 783    |              |             |                     |
| C184, 384    | 1-102-107-11 | 120 p       |                     |
| C584, 784    |              |             |                     |
| C185, 385    | 1-108-827-12 | 0.0015      | mylar               |
| C585, 785    |              |             |                     |
| C186, 386    | 1-102-113-11 | 390 p       |                     |
| C586, 786    |              |             |                     |
| C187, 387    | 1-121-748-11 | 10          | 25 V elect          |
| C587, 787    |              |             |                     |
| C188, 388    | 1-108-829-12 | 0.0022      | mylar               |
| C588, 788    |              |             |                     |
| 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          |

| <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> |
|-----------------|-----------------|--------------------|
|-----------------|-----------------|--------------------|

**Playback Level Control Section**

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

**Line Amp Section**

|                                                  |              |          |       |
|--------------------------------------------------|--------------|----------|-------|
| C201, 401<br>C601, 801                           | 1-102-106-11 | 100 p    |       |
| C202, 402<br>C602, 802                           | 1-102-968-11 | 27 p     |       |
| C203, 403<br>C603, 803                           | 1-102-110-11 | 220 p    |       |
| C204, 404<br>C604, 804                           | 1-121-392-11 | 3.3 25 V | elect |
| C205, 405<br>C605, 805                           | 1-121-402-11 | 33 10 V  | elect |
| C206, 406<br>C606, 806                           | 1-108-825-12 | 0.001    | mylar |
| C207, 407<br>C607, 807                           | 1-102-106-11 | 100 p    |       |
| C208, 408<br>C608, 808                           | 1-121-398-11 | 10 25 V  | elect |
| C209, 409<br>C609, 809                           | 1-121-357-11 | 100 35 V | elect |
| C210, 410<br>C610, 810                           | 1-121-395-11 | 4.7 25 V | elect |
| C211, 411<br>C611, 811                           | 1-121-398-11 | 10 25 V  | elect |
| C212, 412<br>C612, 812                           | 1-121-392-11 | 3.3 25 V | elect |
| C213, 413<br>C214, 414<br>C613, 813<br>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 |

| <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> |
|-----------------|-----------------|--------------------|
|-----------------|-----------------|--------------------|

|           |              |                         |
|-----------|--------------|-------------------------|
| 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 |

| <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> |      |       |  |
|-----------------|-----------------|--------------------|------|-------|--|
| C911            | 1-105-6 72-12   | 0.0082             |      | mylar |  |
| C912, 913       | 1-108-8 25-11   | 0.001              |      | mylar |  |
| C914            | 1-108-8 30-11   | 0.0027             |      | mylar |  |
| C915            | 1-121-6 53-11   | 47                 | 35 V | elect |  |

## Record Switch Section

|      |               |       |       |       |  |
|------|---------------|-------|-------|-------|--|
| C916 | 1-105-9 19-12 | 0.033 | 200 V | mylar |  |
|------|---------------|-------|-------|-------|--|

## Pause Switch Section

|      |               |   |      |       |  |
|------|---------------|---|------|-------|--|
| C901 | 1-121-3 91-11 | 1 | 50 V | elect |  |
|------|---------------|---|------|-------|--|

## Torque Section

|             |               |     |       |                 |  |
|-------------|---------------|-----|-------|-----------------|--|
| C1001, 1002 | 1-131-2 39-11 | 6.8 | 35 V  | solid tantalum  |  |
| C1003       | 1-113-0 72-11 | 1   | 220 V | metalized paper |  |
| C1201       | 1-121-3 57-11 | 100 | 35 V  | elect           |  |
| C1202       | 1-121-0 04-11 | 220 | 160 V | elect           |  |

## Chassis Section

|                        |               |           |       |                 |  |
|------------------------|---------------|-----------|-------|-----------------|--|
| C133, 333<br>C533, 733 | 1-101-4 55-11 | 0.001     |       |                 |  |
| C902                   | 1-121-0 04-00 | 220       | 160 V | elect           |  |
| C903, 904              | 1-117-1 00-11 | 10        | 150 V | metalized paper |  |
| C905                   | 1-117-0 36-22 | 1.5 + 0.5 | 250 V | metalized paper |  |
| C909 ~ 911             | 1-107-1 23-11 | 47 p      | 50 V  | silvered mica   |  |

## RESISTORS

All resistors are in  $\Omega$ . Regular type  $\frac{1}{4}$  W carbon and composition resistors are omitted.  
Check schematic diagram for resistance values.  
(k = 1000)

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

|                        |               |          |                |  |
|------------------------|---------------|----------|----------------|--|
| R110, 310<br>R510, 710 | 1-224-4 47-21 | 20 k (A) | variable; MIC  |  |
| R112, 312<br>R512, 712 | 1-224-4 47-00 | 20 k (A) | variable; LINE |  |
| R126, 326<br>R526, 726 | 1-224-6 46-XX | 22 k     | adjustable     |  |
| R129, 329<br>R529, 729 | 1-224-6 46-XX | 22 k     | adjustable     |  |

| <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> |  |  |  |
|-----------------|-----------------|--------------------|--|--|--|
|-----------------|-----------------|--------------------|--|--|--|

## Playback EQ Section

|                        |               |      |            |  |
|------------------------|---------------|------|------------|--|
| R175, 375<br>R575, 775 | 1-224-6 44-XX | 5 k  | adjustable |  |
| R176, 376<br>R576, 776 | 1-224-6 46-XX | 20 k | adjustable |  |

## Sync Section

|                        |               |      |            |  |
|------------------------|---------------|------|------------|--|
| R188, 388<br>R588, 788 | 1-224-6 46-XX | 20 k | adjustable |  |
|------------------------|---------------|------|------------|--|

## Playback Level Control Section

|                        |               |                                      |  |  |
|------------------------|---------------|--------------------------------------|--|--|
| R196, 396<br>R596, 796 | 1-224-3 38-00 | 20 k (B), 2-gang; variable; PB LEVEL |  |  |
|------------------------|---------------|--------------------------------------|--|--|

## Level Meter CAL. Section

|                        |               |       |            |  |
|------------------------|---------------|-------|------------|--|
| R210, 410<br>R610, 710 | 1-224-6 43-XX | 2.2 k | adjustable |  |
|------------------------|---------------|-------|------------|--|

## Servo Amp Section

|      |               |      |                 |             |
|------|---------------|------|-----------------|-------------|
| R602 | 1-244-8 67-11 | 560  | $\frac{1}{2}$ W |             |
| R611 | 1-244-8 01-11 | 1    | $\frac{1}{2}$ W |             |
| R612 | 1-206-7 17-11 | 470  | 3W              | metal oxide |
| R616 | 1-224-6 45-XX | 10 k |                 | adjustable  |
| R618 | 1-224-6 46-XX | 22 k |                 | adjustable  |

## Tension Regulator Section

|           |               |       |                 |            |
|-----------|---------------|-------|-----------------|------------|
| R717      | 1-224-6 44-XX | 4.7 k |                 | adjustable |
| R731      | 1-224-6 46-XX | 22 k  |                 | adjustable |
| R733      | 1-244-8 67-11 | 560   | $\frac{1}{2}$ W |            |
| R734      | 1-244-8 01-11 | 1     | $\frac{1}{2}$ W |            |
| R736, 737 | 1-222-7 78-00 | 220 k |                 | adjustable |

## System Control Section

|      |               |       |                 |             |
|------|---------------|-------|-----------------|-------------|
| R801 | 1-207-9 92-11 | 180   | 7W              | wirewound   |
| R807 | 1-224-6 45-XX | 10 k  |                 | adjustable  |
| R814 | 1-206-4 77-11 | 39    | $\frac{1}{2}$ W | metal oxide |
| R829 | 1-244-8 77-11 | 1.5 k | $\frac{1}{2}$ W |             |

| <u>Ref. No.</u>            | <u>Part No.</u> | <u>Description</u>        |    |                   |  |
|----------------------------|-----------------|---------------------------|----|-------------------|--|
| 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<br>S302, 402     | 1-516-621-00    | Slide, MONITOR            |    |                   |  |
| S103, 203<br>S303, 403     | 1-516-620-00    | Slide, record mode        |    |                   |  |
| S104, 204<br>S304, 404     | 1-516-620-00    | Slide, HEADPHONE          |    |                   |  |
| S107, 108                  | 1-514-730-00    | Micro, rewind             |    |                   |  |
| S109                       | 1-514-730-00    | Micro, stop               |    |                   |  |

| <u>Ref. No.</u>          | <u>Part No.</u> | <u>Description</u>                                                   |
|--------------------------|-----------------|----------------------------------------------------------------------|
| 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                                                    |
| <b>JACKS</b>             |                 |                                                                      |
| 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                                          |
| <b>MISCELLANEOUS</b>     |                 |                                                                      |
| 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;<br>CP805~806  | 1-231-057-31    | Encapsulated Component, C-R;<br>0.033 $\mu$ F + 120 $\Omega$ , 500 V |
| CP903~906                | 1-101-534-31    | Encapsulated Component, C-R;<br>0.1 $\mu$ F + 120 $\Omega$ , 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<br>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<br>RH501, 701 | 8-827-729-40    | Head, record; RP138-2904                                             |

| <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> |
|-----------------|-----------------|--------------------|
| RY 801, 802     | 1-515-127-XX    | Relay              |
| RY 1001         |                 |                    |
| RY 1002         |                 |                    |
|                 | 1-452-072-00    | Ring, magnet       |

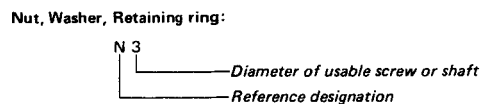
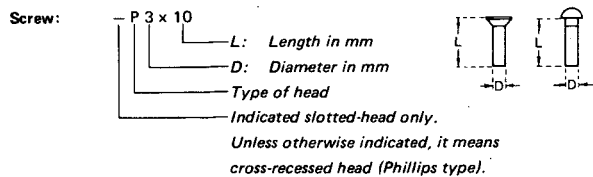
| <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u>  |
|-----------------|-----------------|---------------------|
|                 | 1-508-702-00    | Pin                 |
|                 | 1-533-048-00    | Holder, fuse        |
|                 | 1-536-401-XX    | Terminal Strip, 1L1 |
|                 | 1-536-401-XX    | Terminal Strip, 3L2 |

## ACCESSORIES

| <u>Part No.</u> | <u>Description</u>              |
|-----------------|---------------------------------|
| 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         |

| <u>Part No.</u> | <u>Description</u>  |
|-----------------|---------------------|
| 1-551-114-11    | Cord, power         |
| 3-780-501-61    | Manual, instruction |
| 8-918-222-11    | Tape, demonstration |

## HARDWARE NOMENCLATURE



| Reference Designation | Shape | Description                                 | Remarks                                                            |
|-----------------------|-------|---------------------------------------------|--------------------------------------------------------------------|
| <b>SCREWS</b>         |       |                                             |                                                                    |
| 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<br>PSP             |       | pan-head screw with spring washer           | binding-head (B) screw and spring washer for replacement           |
| PSW<br>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                    |       | brazer-head screw                           |                                                                    |

| Reference Designation      | Shape | Description                                    | Remarks                                                                 |
|----------------------------|-------|------------------------------------------------|-------------------------------------------------------------------------|
| <b>SELF-TAPPING SCREWS</b> |       |                                                |                                                                         |
| 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                  |
| <b>SET SCREWS</b>          |       |                                                |                                                                         |
| SC                         |       | set screw                                      |                                                                         |
| SC                         |       | hexagon-socket set screw                       | ex: SC 2.6 x 4, hexagon socket                                          |
| <b>NUT</b>                 |       |                                                |                                                                         |
| N                          |       | nut                                            |                                                                         |
| <b>WASHERS</b>             |       |                                                |                                                                         |
| W                          |       | flat washer                                    |                                                                         |
| SW                         |       | spring washer                                  |                                                                         |
| LW                         |       | internal-tooth lock washer                     | ex: LW3, internal                                                       |
| LW                         |       | external-tooth lock washer                     | ex: LW3, external                                                       |
| <b>RETAINING RINGS</b>     |       |                                                |                                                                         |
| E                          |       | retaining ring                                 |                                                                         |
| G                          |       | grip-type retaining ring                       |                                                                         |

## CORRECTION

### For TC-788-4 Service Manual

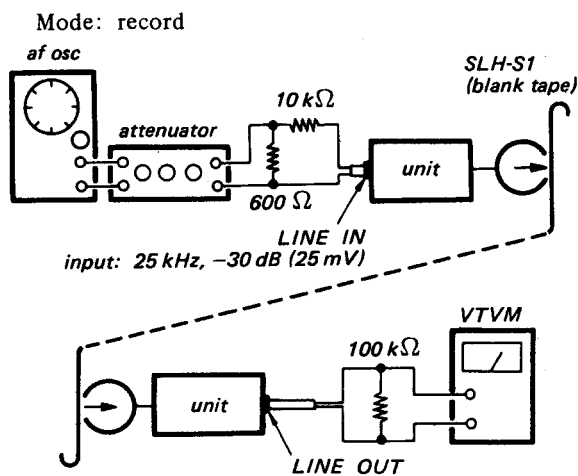
On Page 23:

#### 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:



| 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   |                                           |