SONY-00527

TC-765

UK Model
AEP Model
US Model
Canadian Model
PX Model

STEREO TAPE DECK

SPECIFICATIONS

GENERAL

Power Requirements: 120V ac, 60 Hz (US, Canadian model)
110V, 120V, 220V, 240V ac, 50/60 Hz (UK, AEP, PX model)

Power Consumption: 110W (US, Canadian model)
90W (UK, AEP model)
80W (PX model)

AC Outlet: 300W, unswitched (US, Canadian model)

Dimensions: Approx. 445 (w) x 525 (h) x 235 (d) mm
17 1/2 (w) x 20 5/8 (h) x 9 1/4 (d) inches
including projecting parts and controls

Weight: 26.5 kg, 58 lb 7 oz (US, Canadian model)
27 kg, 58 lb 8 oz (UK, AEP, PX model)

Track: 4-track 2-channel stereo recording and playback

Tape Speed: 19 cm/s (7½ ips)
9.5 cm/s (3¾ ips)

Fast Forward and Rewind Time: Approx. 150 seconds with 740 m (2,400 ft) tape

Recording Time: With 1,100 m (3,600 ft), 27 cm reel
Stereo recording
180 minutes at 19 cm/s
Mono recording
720 minutes at 9.5 cm/s

Heads: Record head 1, Playback head 1
Erase head 1

Motors: AC servo-controlled capstan motor 1
Induction reel motor 2

Reel: Up to 27 cm (10½-inch)

– Continued on page 2 –

SONY

SERVICE MANUAL

Frequency Response: With Sony Ferri-Chrome tape
30—25,000 Hz ± 3 dB at 19 cm/s
30—18,000 Hz ± 3 dB at 9.5 cm/s
With SLH tape
30—25,000 Hz ± 3 dB at 19 cm/s
30—18,000 Hz ± 3 dB at 9.5 cm/s
With regular tape
30—18,000 Hz ± 3 dB at 19 cm/s
30—15,000 Hz ± 3 dB at 9.5 cm/s

Wow and Flutter: NAB
0.04% WRMS at 19 cm/s
0.08% WRMS at 9.5 cm/s
DIN
±0.07% at 19 cm/s
±0.15% at 9.5 cm/s

S/N Ratio: 61 dB (NAB) with Sony Ferri-Chrome Tape
61 dB (DIN 1975 rev.) with Sony Ferri-Chrome Tape
56 dB (DIN, old)

Total Harmonic Distortion: 0.7%

Bias Frequency: 160 kHz

Equalization: 3,180 μS + 50 μS (19 cm/s)
3,180 μS + 90 μS (9.5 cm/s)

Inputs: MIC (two phone jacks)
Sensitivity: 0.2 mV (-72 dB)
Impedance: for low-impedance microphone
LINE IN (two phono jacks)
Sensitivity: 0.06 V (-22 dB)
Impedance: 100 kΩ
REC/PB (connector) (UK, AEP, PX model)
Input impedance: less than 10 kΩ

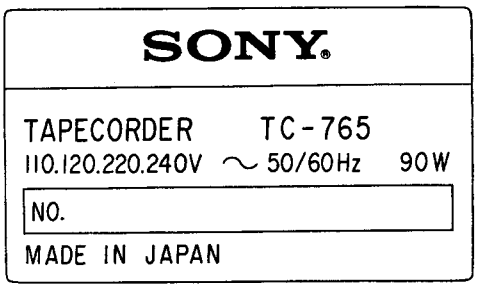
Outputs: LINE OUT (two phono jacks)
Normal level: 0.435 V (-5 dB) with PB LEVEL control set to center detent position
0.775 V (0 dB) with PB LEVEL control set to "10"
Load impedance: 100 kΩ
Suitable load impedance: more than 10 kΩ
HEADPHONES (binaural jack)
Load impedance: for low-impedance headphones
REC/PB (connector) (UK, AEP, PX model)
Output impedance: less than 10 kΩ

Other Jack: 11-pin remote control connector

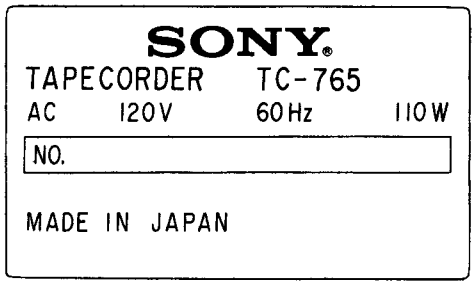
0 dB = 0.775 V

MODEL IDENTIFICATION
Specification label

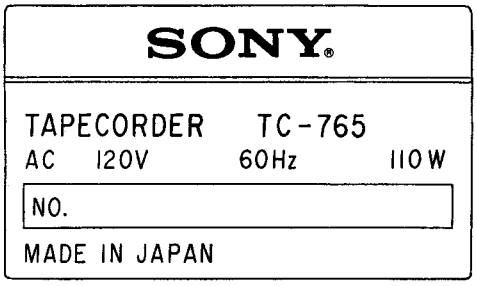
UK, AEP model



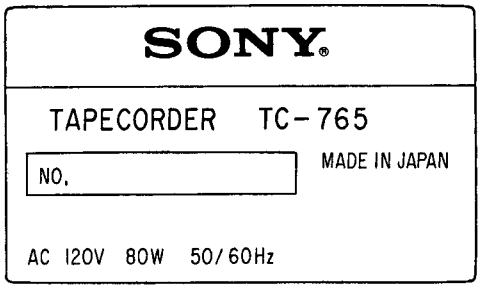
US model



Canadian model

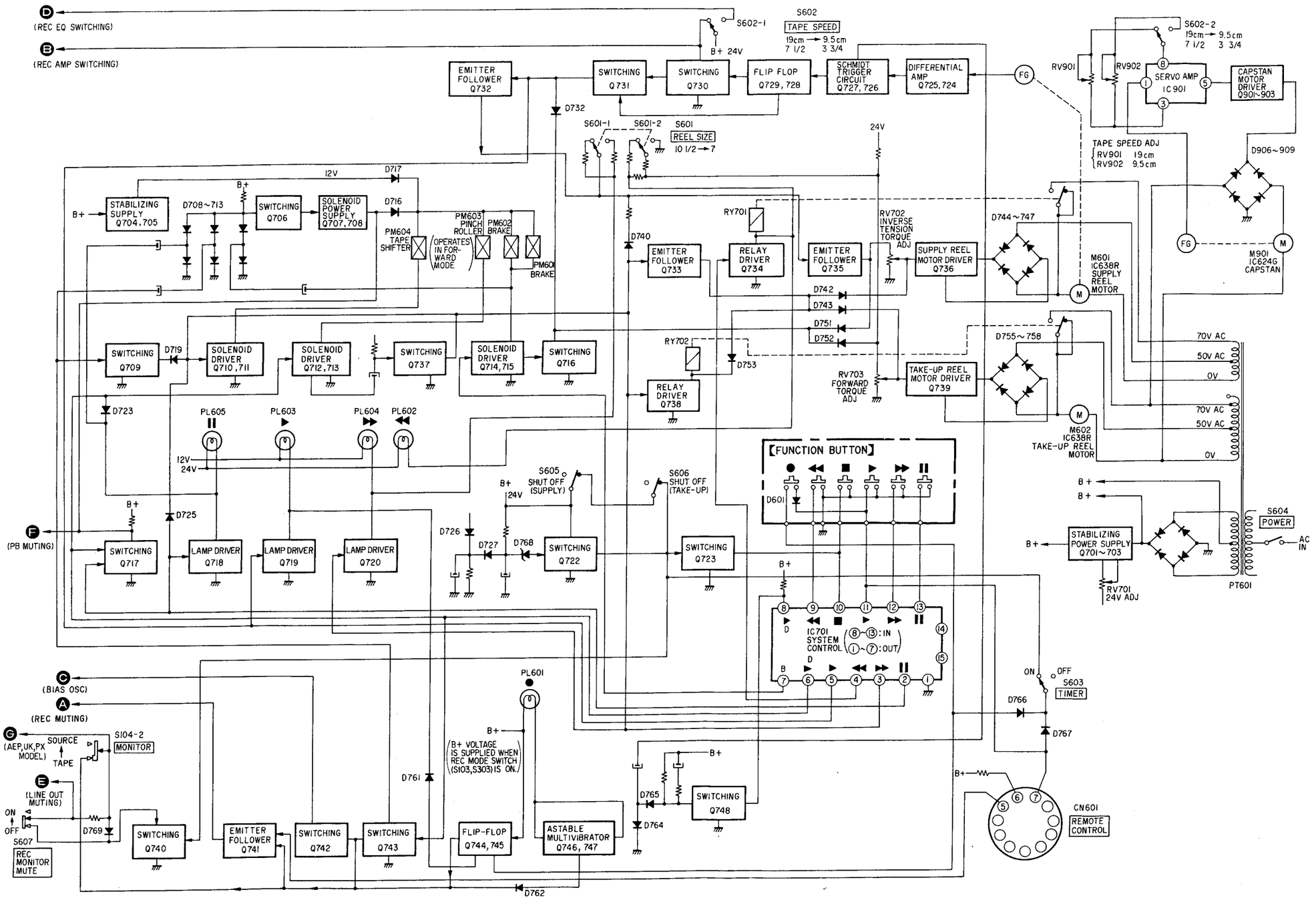


PX model

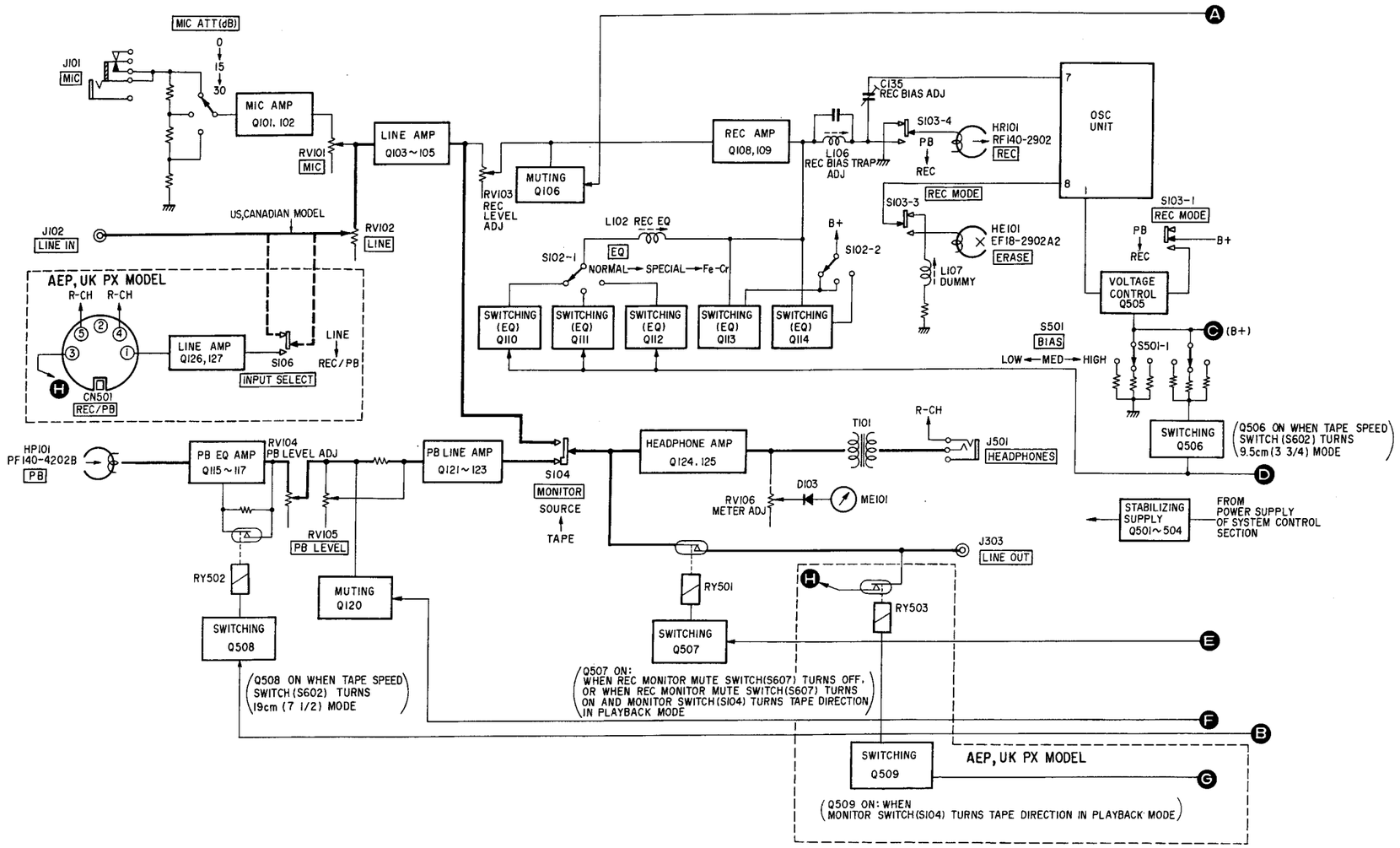


SECTION 1
OUTLINE

1-1. BLOCK DIAGRAM — System Control Section —



1-2. BLOCK DIAGRAM — Amplifier Section —



1-3. NOTE ON REPAIRING

NOTE ON REPAIRING

1. This set does not change playback level when TAPE SELECT switches are changed.
2. The LINE OUT signal is cut when REC MONITOR MUTE switch (S607) on the rear panel is turned ON except when MONITOR switch is in TAPE position in playback mode.
3. If TIMER switch is previously set to ON position, it may happen to erase test tapes because the set becomes automatically in the auto playback (awakening) or auto record mode determined by REC MODE switch position when POWER switch is turned ON.
4. PB LEVEL controls on the front panel control LINE OUT and HEADPHONES levels, and also VU meters indicate the amount of PB LEVEL controlling. When PB LEVEL is in the center-click positions, LINE OUT levels are standard 0.44V (-5 dB) and VU meters indicate "0". When PB LEVEL controls are in their full-clockwise stops, LINE OUT levels are 0.775V (0 dB).
5. Three kinds of hexagonal-socket screwdrivers are needed for the following adjustment/removal.

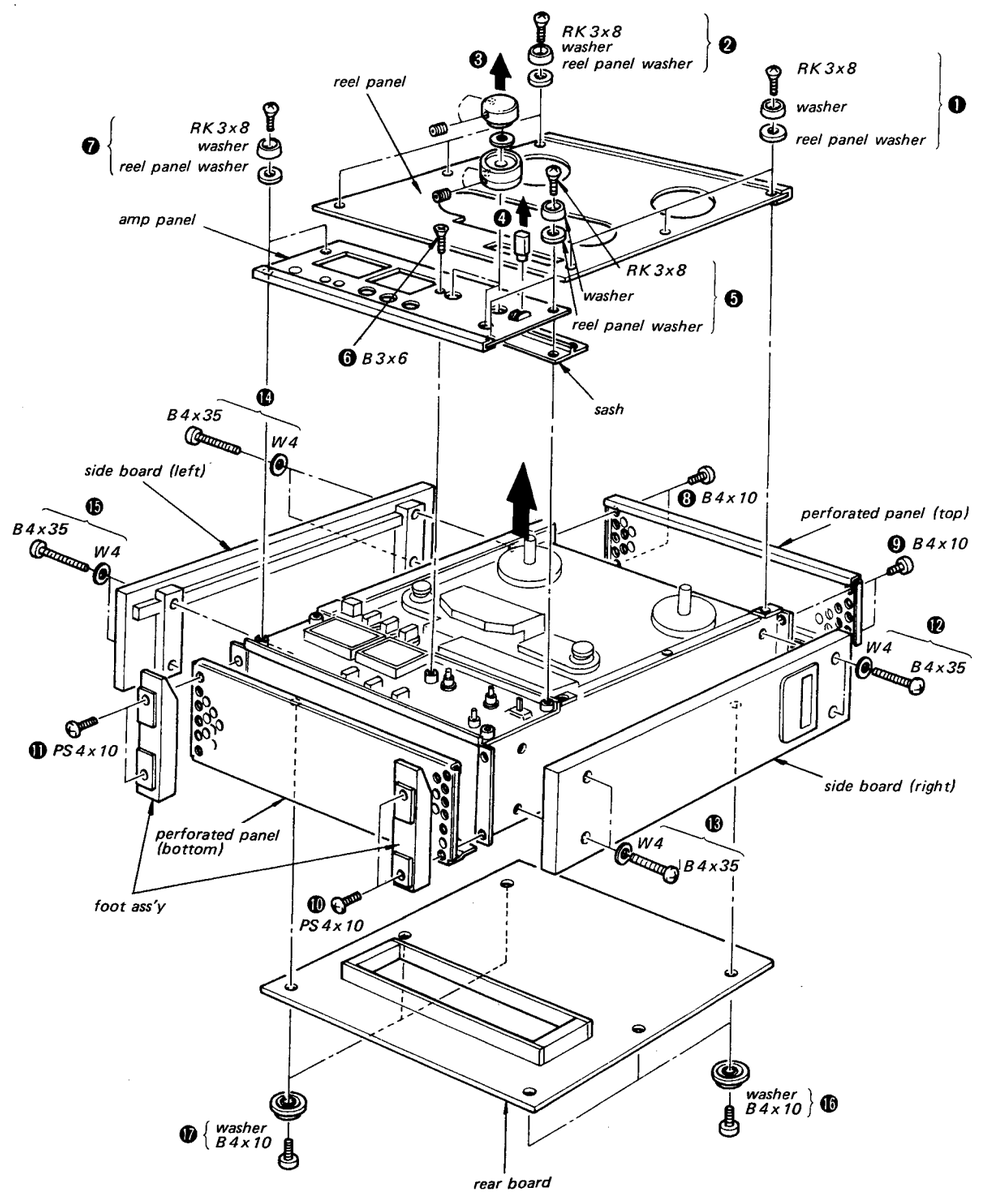
Screwdriver	Adjustment/removal
⬡ 1.27 mm	Tension-arm pin Intermediate pin Switch knob Switch lever
⬡ 1.5 mm	Head azimuth FG-holding boss Control knob Motor pulley
⬡ 2.0 mm	Reel drum

6. Tape BIAS/EQ recommendations
The following list shows the recommended settings, which have been determined through critical listening tests and electrical characteristic measurements on commercially available tapes. The setting can be changed according to the personal preference. For Sony tapes, be sure to use the recommended settings to obtain the optimum tape characteristics.

BIAS \ EQ	NORMAL	SPECIAL	Fe-Cr
LOW	SONY PR	BASF LH, LHS AGFA PE, PEM MEMOREX	SCOTCH #211, #212, #213 AMPEX 406, 407
MED	SCOTCH #218	SONY SLH SCOTCH CLASSIC TDK AUDUA	SONY DUAD SCOTCH #206, #207 MAXELL UD
HIGH			SCOTCH #250

SECTION 2
DISASSEMBLY

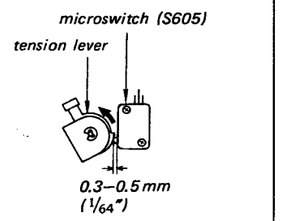
Reel Panel Removal:	❶, ❷	(to Mechanical Adjustment)
Amp Panel Removal:	❸, ❹, ❺, ❻, ❼	(to VU Meter and Variable Resistor Replacement)
Perforated Panel (top) Removal:	❽, ❾	(to Fuse Replacement)
Perforated Panel (bottom) Removal:	❿, ⓫	(to Audio Amp Board Check)
Side Board (right) Removal:	⓬, ⓭	(to Tape Speed and Forward Torque Adjustments)
Side Board (left) Removal:	⓮, ⓯	(to B+ and Supply Reel Back Tension Adjustments)
Rear Board Removal:	⓰, ⓱	(to System Control Board Checking)

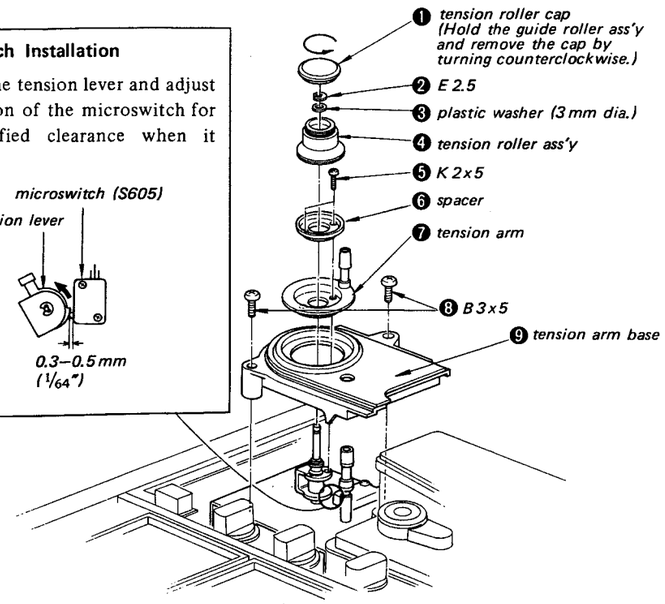


TENSION ARM BASE REMOVAL

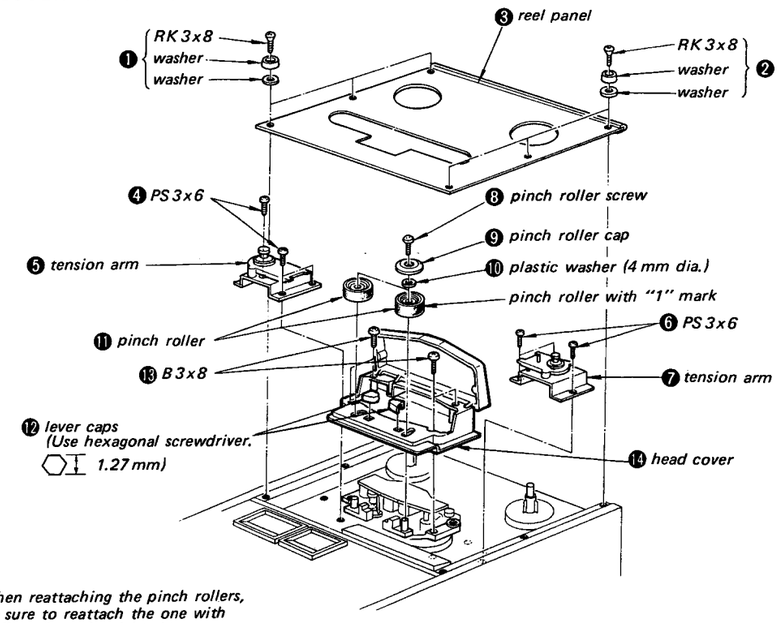
Microswitch Installation

Turn the tension lever and adjust the position of the microswitch for the specified clearance when it switches.



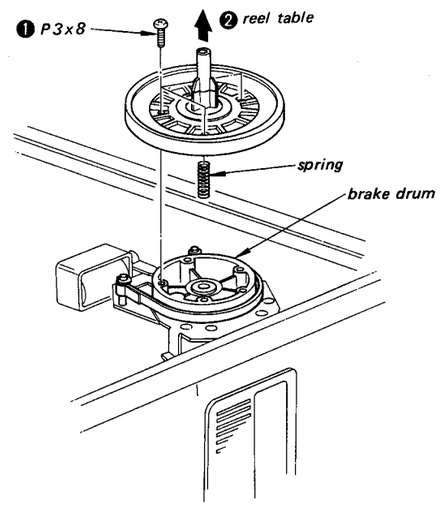


HEAD COVER REMOVAL



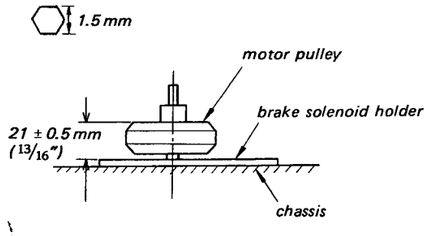
Note: *When reattaching the pinch rollers, be sure to reattach the one with "1" mark at the right side.*

REEL TABLE REMOVAL

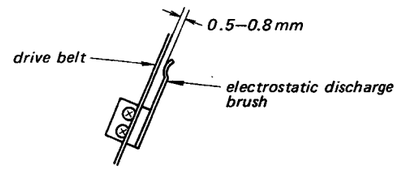


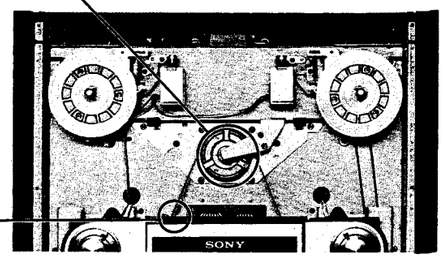
MOTOR PULLEY INSTALLATION

Use a hexagonal screwdriver.



ELECTROSTATIC DISCHARGE BRUSH INSTALLATION



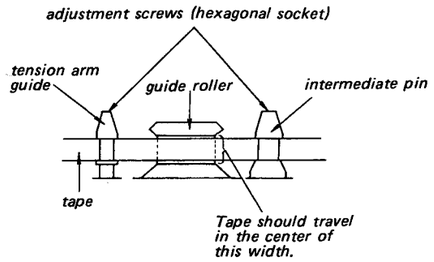


SECTION 3
MECHANICAL ADJUSTMENT

3-1. MECHANICAL ADJUSTMENTS

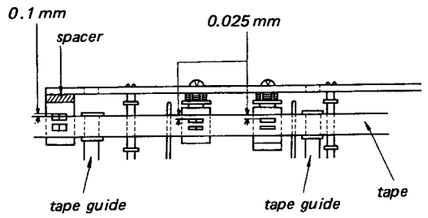
Tape Path Adjustment

1. In playback mode, travel a blank tape SLH-S1, and adjust the positions of the tension-arm guide and intermediate pin.

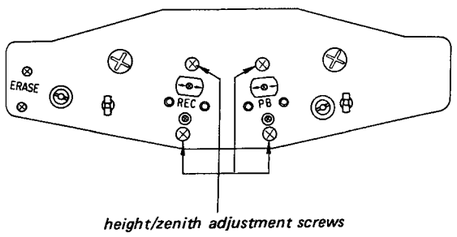


After the adjustment, tighten the adjustment screws.

2. Travel a blank tape SLH7-740 and adjust the position of the tape guides to eliminate tape curls.



3. Travel a blank tape SLH-S1 and adjust the height of each head for the specified clearances. To adjust the erase head height, select appropriate spacer.
To adjust the record and playback heads, turn the height/zenith adjustment screws in the same angle and direction.

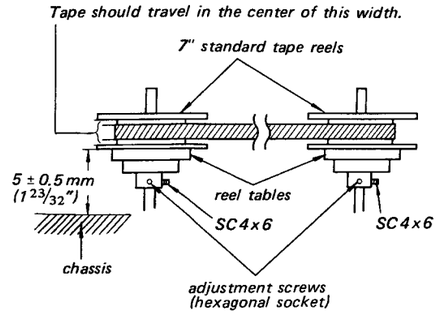


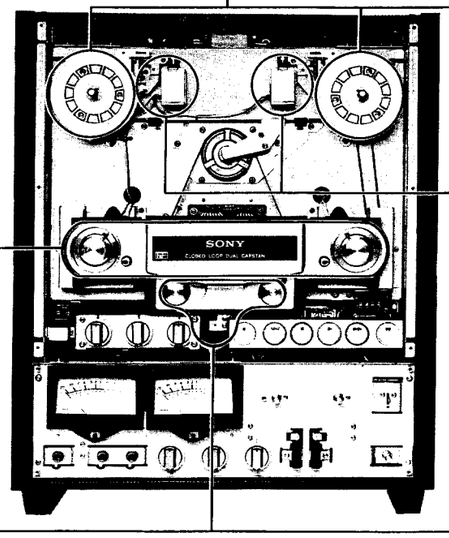
After the adjustment, apply a suitable locking compound to the adjusted screws.

Reel Table Height Adjustment

– playback and rewind modes –

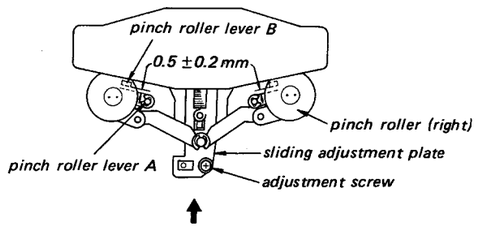
1. Loosen the adjustment screws and adjust the height of the reel tables for the specified height.
2. If the tape touches the reel in playback, fast forward and rewind modes, recheck the tension arms, standard reels and the tape.



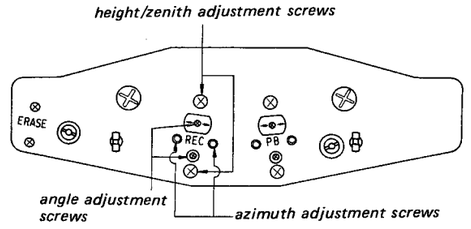


Pinch Roller Lever Position Adjustment

1. Remove the head cover.
2. Reattach both the pinch rollers.
3. Place the set in the playback mode. Check that the solenoid is in on condition (energized).
4. Loosen the adjustment screw and push the slide adjustment plate in the arrowed direction for the specified clearance between the pinch roller levers A and B, and tighten the adjustment screw.
5. After the adjustment, apply a suitable locking compound to the adjustment screw.



Note: *Adjustment screw positions for the 2T PB and 4T PB heads are the same as the 2T REC head.*
Azimuth adjustment screws are so constructed to react each other. Take care in adjusting azimuth adjustment screw.



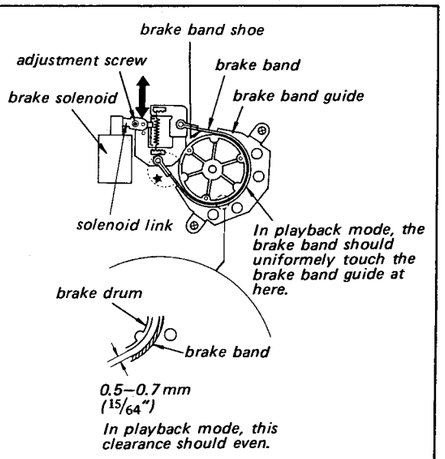
Brake Adjustment (1)

Adjust both the supply- and take-up-side brakes.

1. In stop mode, 0.5–0.7 mm clearance should exist between the brake-band guide and brake band.
2. In playback mode (the brake solenoid should be in ON condition), loosen the adjustment screw and adjust the position of the solenoid link in the arrowed direction so that the brake band and brake-band guide uniformely touch.

Note: If the brake-release stroke is long, the brake band may bend at the position shown with ★. Be sure not to bend the brake band.

3. After the adjustment, apply a suitable locking compound to the adjustment screw.

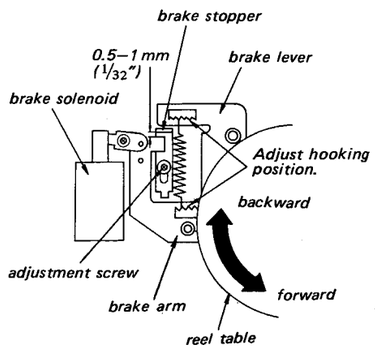


Brake Adjustment (2) and Brake Torque Adjustment

Adjust both the supply- and take-up-side brakes.

1. In stop mode, loosen the adjustment screw and adjust the position of the brake stopper for the specified clearance between the brake stopper and brake lever.
2. After the adjustment, tighten the adjustment screw and apply a suitable locking compound to the screw.
3. Measure both the forward and backward brake torques. Adjust spring-hook position for the specified torques.

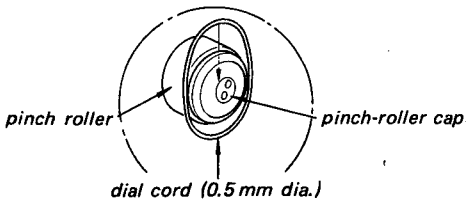
backward torque:	1,800–2,500 g·cm (25–34 oz·inch)
forward torque:	600–700 g·cm (8.5–9.5 oz·inch)



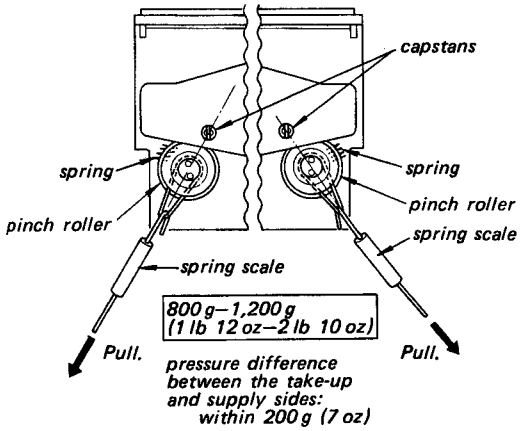
Pinch Roller Pressure Check

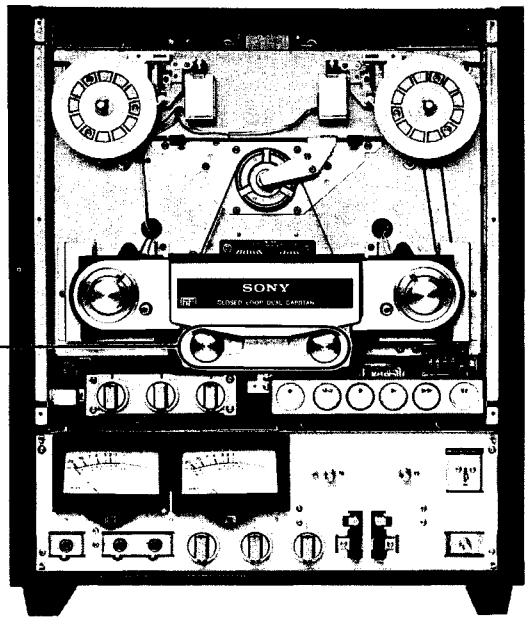
– playback mode –

1. Place the dial-cord ring between the pinch roller and pinch-roller cap.



2. In playback mode, pull the spring scale on the center line made by the centers of the capstan and pinch roller.
3. Slowly return the pinch roller and read the spring scale just when the pinch roller starts to rotate.

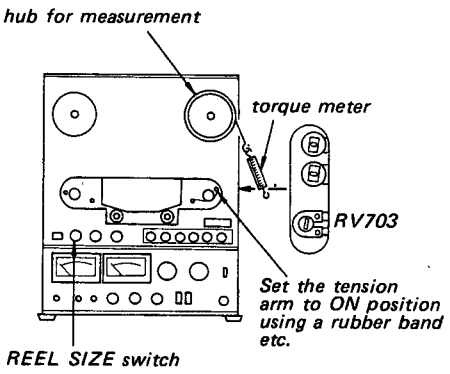




Forward Torque Adjustment

1. Remove the side board (right).
2. Apply the rated ac voltage to the AC IN.
3. Set the TAPE SPEED switch to 19 cm/s and REEL SIZE switch to 10½.
4. In playback mode, adjust RV703 for the specified torques.
5. Set REEL SIZE switch to 7 and check torques.

	REEL SIZE switch	
	10½	7
50 Hz	520–580 g·cm (7.3–8.0 oz·inch)	260–320 g·cm (3.6–4.4 oz·inch)
60 Hz	380–440 g·cm (5.3–6.1 oz·inch)	180–240 g·cm (2.5–3.3 oz·inch)



Supply Reel Back Tension Adjustment

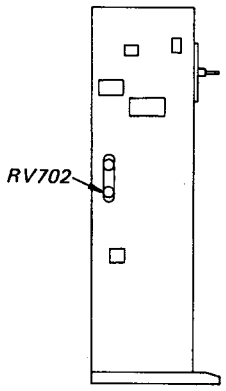
Note: This adjustment requires a ultra-low frequency audio signal generator. If the signal generator is not available, do not attempt this adjustment.

1. Remove the side board (left).
2. Apply the rated ac voltage to AC IN.
3. Set RV702 to the fully-counterclockwise stop.
4. Put a torque meter on the supply reel tape.
5. Unsolder the RED and WHT lead wires from the FG at the system control board.
6. Set the signal generator's frequency to 20.2 Hz and attenuator to -20 dB.
7. Connect the signal generator to the points from where the two lead wires are unsoldered in step 5.
8. Set REEL SIZE switch to 10½ and TAPE SPEED switch to 19 cm.
9. In playback mode, adjust RV702 for specified torque.

	Back tension torque
50 Hz	*150 g·cm (2.1 oz·inch)*
60 Hz	*120 g·cm (1.65 oz·inch)*

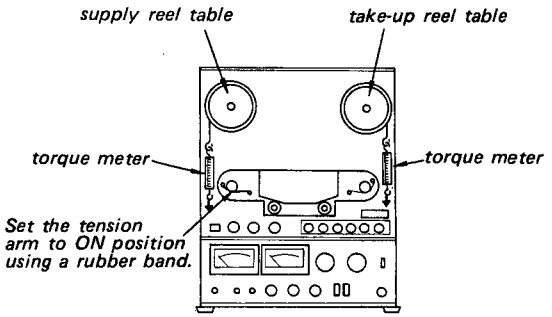
10. Change the audio signal generator's frequency to 7.14 Hz and check the torque meter reeding.

	Torque meter reeding
50 Hz	*280–340 g·cm (3.9–4.7 oz·inch)*
60 Hz	*220–280 g·cm (3.1–3.8 oz·inch)*



Fast Forward and Rewind Back Tesnion Check

1. Apply the rated ac voltage to AC IN.
2. Turn either the left- or right-side tension arm on using a rubber band.
3. Put a torque meter on the supply reel table. In fast forward mode, pull the torque meter in the arrowed direction at a speed of 19–9.5 cm/s and read the fast forward back tension on the torque meter.
4. Put a torque meter on the take-up reel table. In rewind mode, pull the torque meter and read the rewind back tension as in step 3.



	REEL SIZE switch	
	10½	*7*
50 Hz	*110–150 g·cm (1.6–2.0 oz·inch)*	*80–120 g·cm (1.15–1.6 oz·inch)*
60 Hz	*70–110 g·cm (1.0–1.5 oz·inch)*	*50–90 g·cm (0.7–1.2 oz·inch)*

3-2. SYSTEM CONTROL CHECK

System Control Check

Setting:

REEL SIZE switch:	10½
TAPE SPEED switch:	19 cm
TIMER switch:	OFF
MONITOR switch:	TAPE
PB LEVEL control:	center click
REC MONITOR MUTE switch:	OFF
INPUT SELECT switch: (AEP, UK, PX model)	LINE
REC MODE switches:	released positions

Put the 10½-inch blank tapes on the set.

Checking:

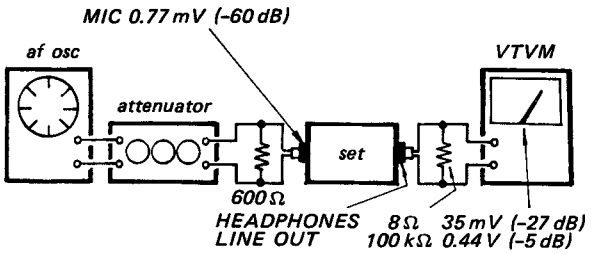
1. Turn POWER switch ON. The VU meter lamps should light up.
2. Depress REC MODE switches. The L-side lamp should light up when the L-side REC MODE switch is depressed, and the R-side lamp should light up when the R-side REC MODE switch is depressed. And the record button lamp should put on and off repeatedly.
3. Depress the pause button. The pause button lamp should light up.
4. Depress the record and forward buttons simultaneously. The record button lamp should turn from flickering to ON. At the same time, the forward button lamp should light up.
5. Press the pause button. The pause button lamp should turn off and the pinch roller should press the capstan and become in forward record mode.
6. Depress the fast forward button. The set should become in the fast forward mode. In this mode, the record button lamp flickers, forward button lamp turns off and the fast forward button lamp turns on.
7. Depress the rewind button. The set should become in the rewind mode. In this mode, the fast forward button lamp should turn off and rewind button lamp turns on.
8. Depress the forward button. The rewind button lamp should turn off and forward button lamp turns on. The tape should once completely stop traveling, and then become in the forward mode.
9. The set should become in the stop mode only when both the tension arm microswitches turn off. The set should not become in the stop mode when one of the tension arm microswitches turns off.
10. Turn TIMER switch ON. Turn POWER switch OFF once, and two to three second later turn POWER switch ON. Now the set should become in the forward record mode automatically.
11. With REC MODE switches released (i.e., in the playback positions), perform the same procedure as shown in step 10. The set should become in forward mode automatically.
12. Place the set in the forward record and simultaneous monitoring mode. Turn REC MONITOR MUTE switch on the rear panel ON. Now the signal should not come out from LINE OUT jacks.
    Rewind the recorded portion of the tape and place the set in the forward mode. Now the signal should come out from LINE OUT jacks.
    Turn REC MONITOR MUTE switch OFF.
13. Depress the forward and pause buttons. Move the recorded portion of the tape back and forth. Sound signal should come out from LINE OUT jacks.

3-3. ELECTRICAL ADJUSTMENTS

Note: The adjustments should be performed in the order given in this service manual. The adjustments should be performed for both L-CH and R-CH.

Standard Record:

Set the REC LEVEL control for the specified output level.



Control and Switch Settings:

Unless otherwise specified, set the controls and switches as follows.

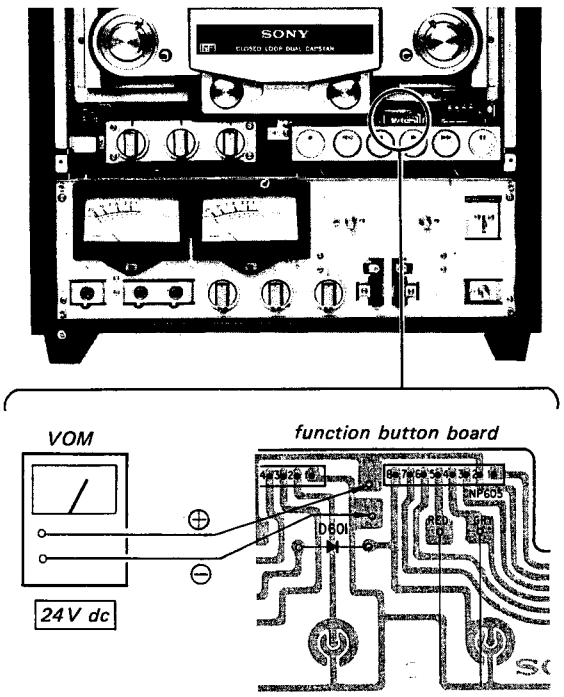
Controls	In playback	In record
MIC REC VOL		The position to produce the rated LINE OUT level with rated MIC input level.
LINE REC VOL		The position to produce the rated LINE OUT level with rated LINE IN level.
PB VOL	center click	center click

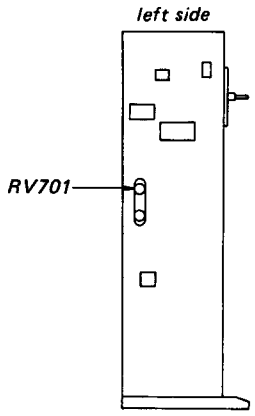
Switch	In playback	In record
POWER	ON	ON
REEL SIZE	7	7
TAPE SPEED	19	19
TIMER	OFF	OFF
MIC ATT		0
TAPE SELECT (BIAS)		MED
TAPE SELECT (EQ)		SPECIAL
REC MODE	PB	REC
MONITOR	TAPE	SOURCE (TAPE)
REC MONITOR MUTE	OFF	OFF
INPUT SELECT (AEP, UK, PX model)	LINE	LINE

B+ Voltage Adjustment

Adjustment Location:

– function button board –

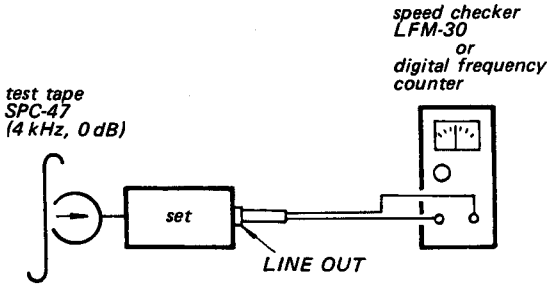




Tape Speed Adjustment

Procedure:

Mode: playback



Use a non-metallic screwdriver. Adjust RV901 (19 cm/s) and RV902 (9.5 cm/s) for 0% checker or 4,000 Hz (19 cm/s) and 2,000 Hz (9.5 cm/s) counter readings.

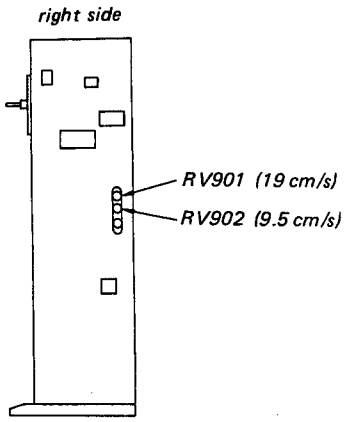
Specification:

Speed checker	Frequency counter
±0.75%	3,970–4,030 Hz (19 cm/s) 1,985–2,015 Hz (9.5 cm/s)

Frequency difference between beginning and end of tape:

19 cm/s: within 0.5% or 20 Hz
9.5 cm/s: within 0.5% or 10 Hz

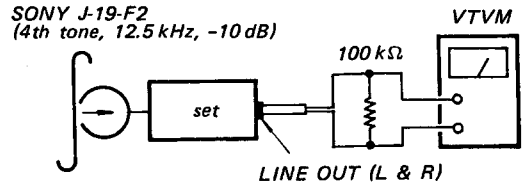
Adjustment Location:



Playback Head Angle Adjustment

Procedure:

Mode: playback

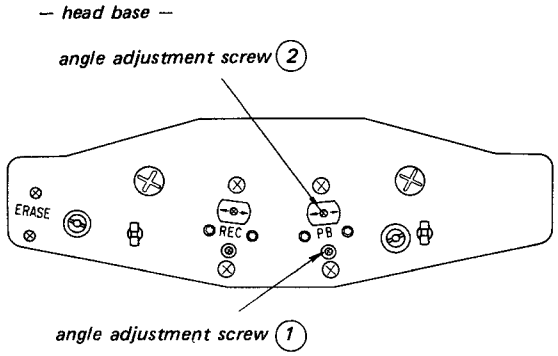


Loosen the adjustment screws (1) and (2) and adjust the position of the PB head by moving the screw (2) in the arrowed direction for the highest VTVM reading.

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

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

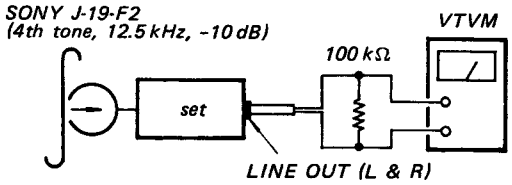
Adjustment Location:



Playback Head Azimuth and Phase Adjustment

Procedure:

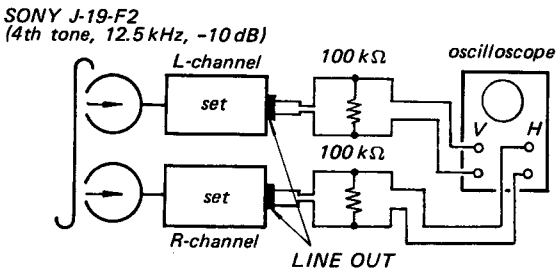
1. Mode: playback



Turn the adjustment screws of the PB head for the highest VTVM reading. If the highest peaks for L and R do not coincide, place the adjustment screw to the point where both L and R outputs are same and within 1 dB from the peaks.

Note: The two adjustment screws are so constructed to react each other. When one side screw is loosened, tighten another screw in the same angle.

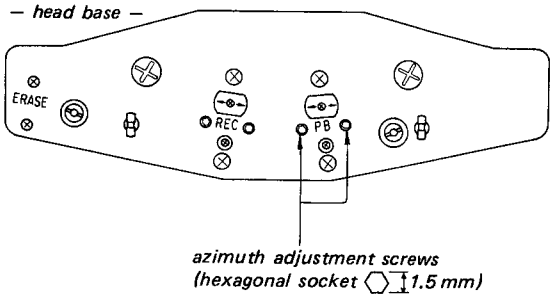
2. Mode: playback



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

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

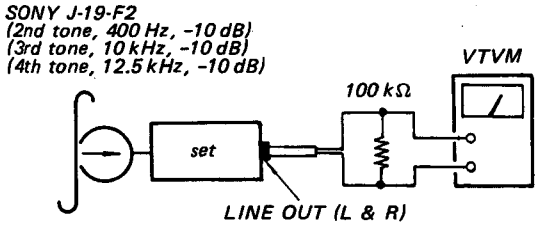
Adjustment Location:



Playback Frequency Response Adjustment

Procedure:

Mode: playback
PLAYBACK HEAD switch: 2 TRACK

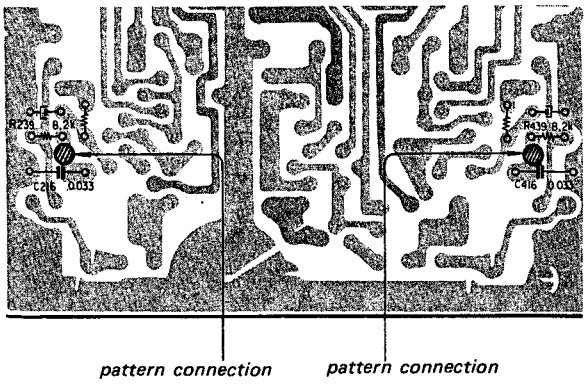


Adjust the pattern connections to obtain the specified values.

Playback	Level difference from 400 Hz
10 kHz 12.5 kHz	within ± 2 dB

Adjustment Location:

– audio amp board –

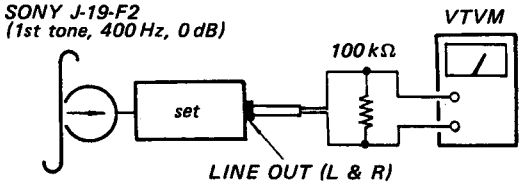


Note: After this adjustment perform the playback level adjustment.

Playback Level Adjustment

Procedure:

Mode: playback

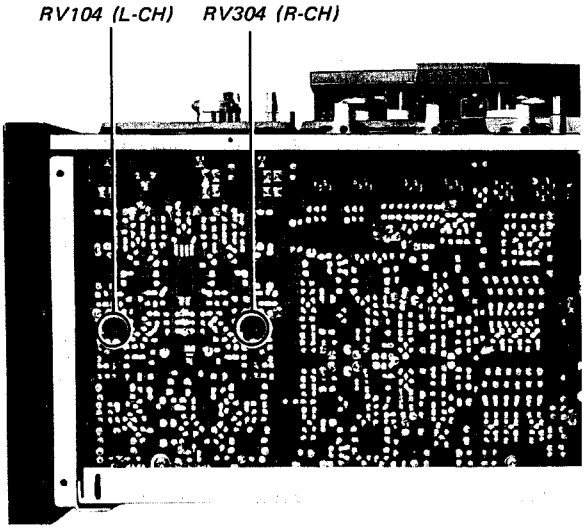


Adjust	VTVM reading
RV104 (L-CH) RV304 (R-CH)	0.44 V (-5 dB) allowance: ± 1 dB (0.39–0.49 V)

Note: Level difference between L and R channels should be within 1 dB.

Adjustment Location:

– audio amp board –



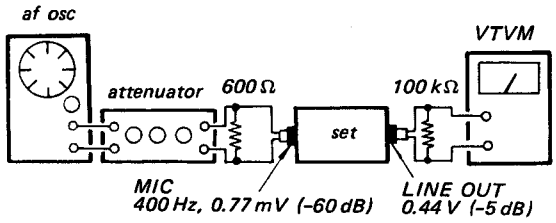
VU Meter Calibration

Setting:

MONITOR switch: SOURCE

Procedure:

1. Mode: record

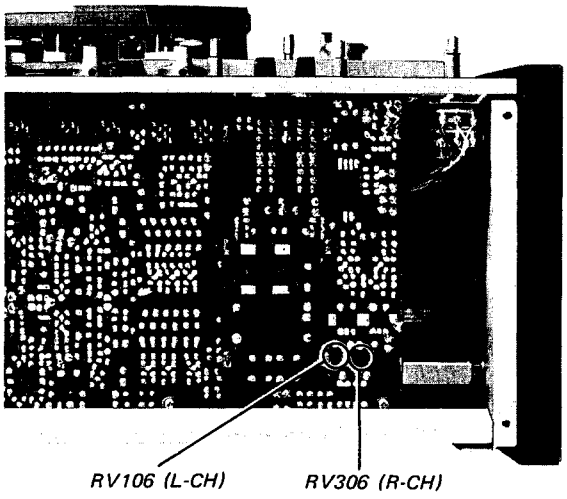


2.

Adjust	VU meter indication
RV106 (L-CH) RV306 (R-CH)	"0"

Adjustment Location:

– audio amp board –



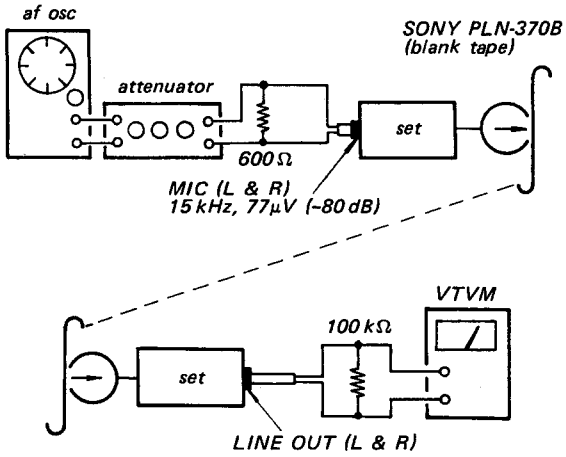
Record Head Angle Adjustment

Setting:

MONITOR switch: TAPE

Procedure:

Mode: record and simultaneous playback
PLAYBACK HEAD switch: 2T REC



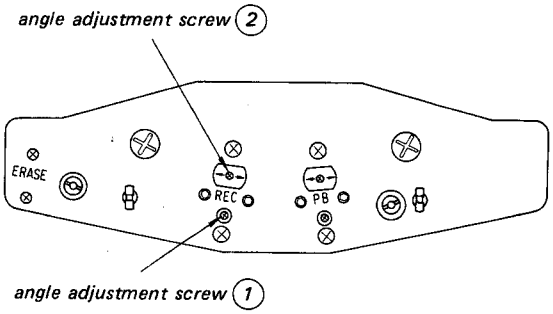
Loosen the adjustment screws ① and ②. Correctly position the record head by moving the adjustment screw ② in the arrowed directions for the highest VTVM reading.

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

After the adjustment, apply a suitable locking compound to the screws.

Adjustment Location:

– head base –



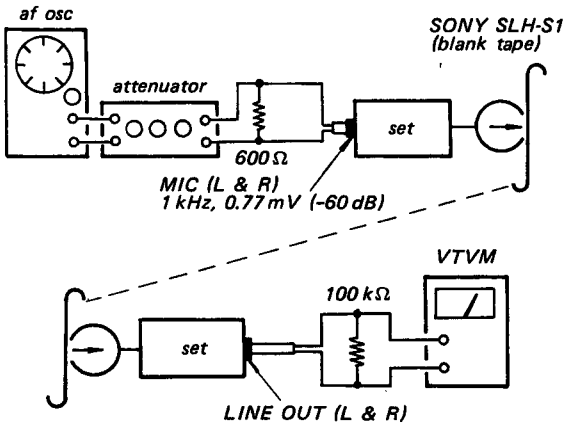
Record Head Height and Zenith Adjustment

Setting:

MONITOR switch: TAPE

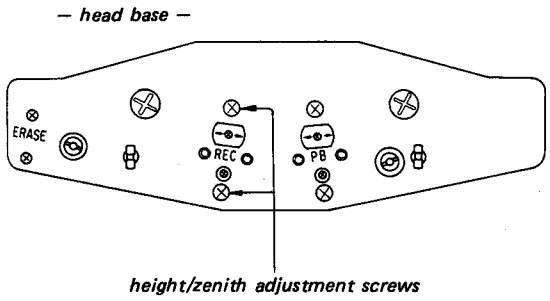
Procedure:

Mode: record and simultaneous playback
PLAYBACK HEAD switch: 2 TRACK



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

Adjustment Location:



Record Head Azimuth and Phase Adjustments

Setting:

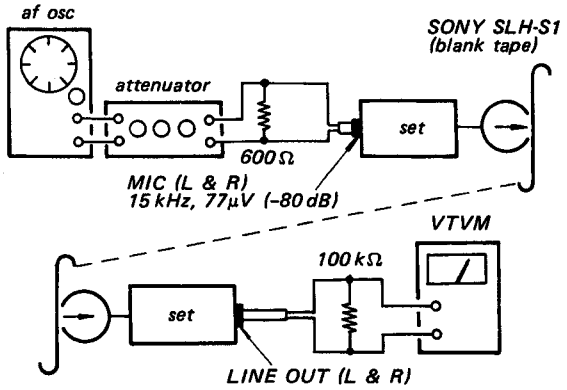
MONITOR switch: TAPE

Procedure:

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

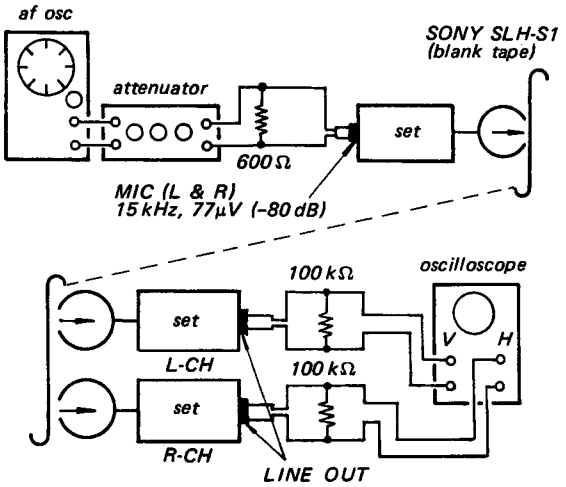
Note: The two adjustment screws are so constructed to react each other. When one side screw is loosened, tighten another screw in the same angle.

1. Mode: record and simultaneous playback



Turn the adjustment screws for the highest VTVM reading. If the highest peaks for L and R do not coincide, place the adjustment screws to the point where both L and R outputs are same and within 1 dB from the peaks.

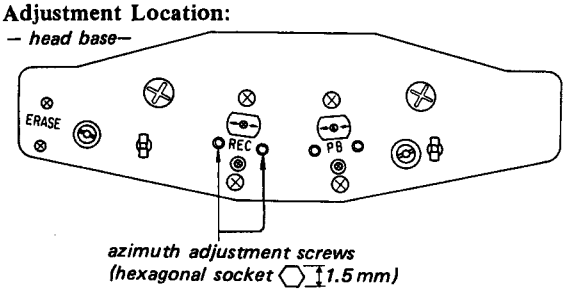
2. Mode: record and simultaneous playback



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

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

Adjustment Location:



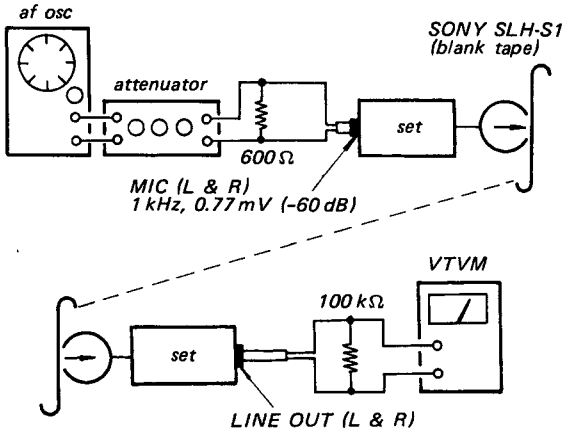
Record Bias Adjustment

Setting:

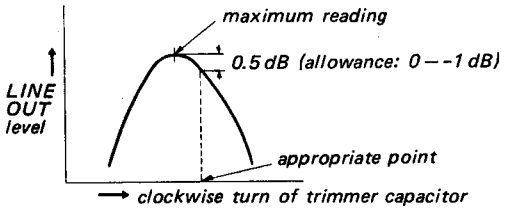
MONITOR switch: TAPE

Procedure:

Mode: record and simultaneous playback

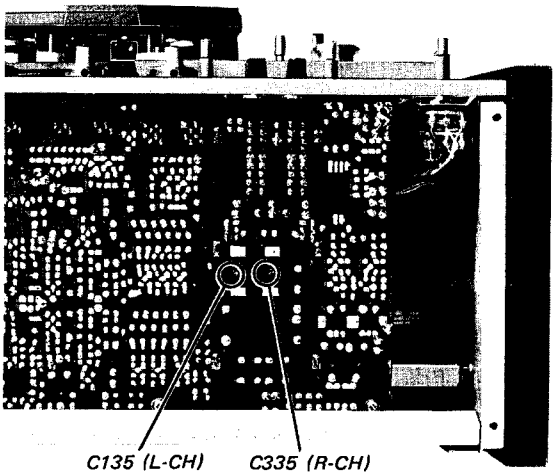


As trimmer capacitor C135 (L-CH) or C335 (R-CH) is slowly turned clockwise, VTVM reading will go up to a maximum and then start falling again. Adjust the capacitor until VTVM reads 0.5 dB below and beyond the maximum reading.



Adjustment Location:

– audio amp board –



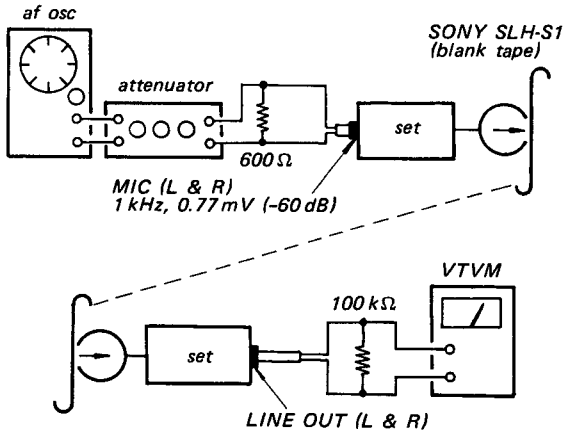
Record Level Adjustment

Setting:

MONITOR switch: TAPE

Procedure:

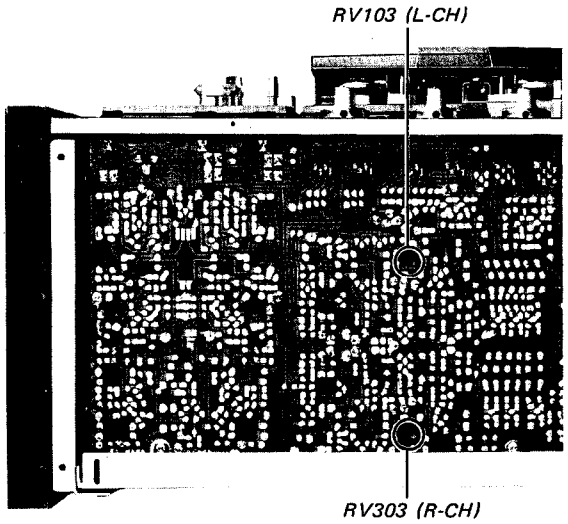
Mode: record and simultaneous playback



Adjust	VTVM reading
RV103 (L-CH) RV303 (R-CH)	0.44 V (–5 dB)

Adjustment Location:

– audio amp board –



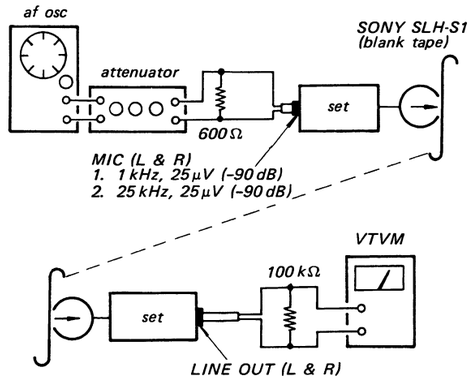
Record Equalizer Adjustment

Setting:

MONITOR switch: TAPE

Procedure:

Mode: record and simultaneous playback

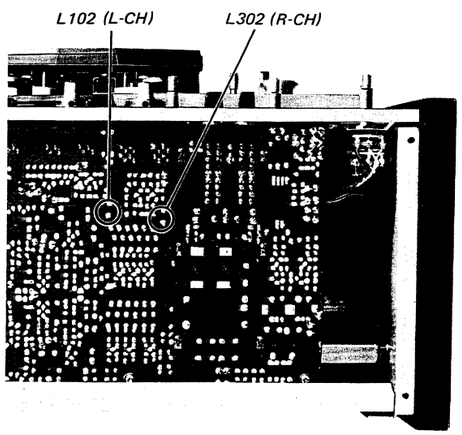


	Adjust	Remarks
1 kHz 25 kHz	L102 (L-CH) and L302 (R-CH)	Same LINE OUT level at both frequencies.

Level-difference allowance of 25 kHz signal from 1 kHz: 0 dB – -3 dB

Adjustment Location:

– audio amp board –



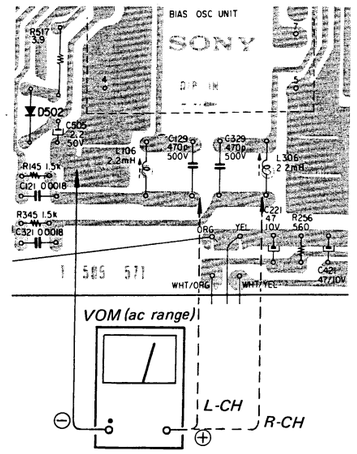
Record Bias Trap Adjustment

Setting:

MIC REC control: 0
LINE REC control: 0

Procedure:

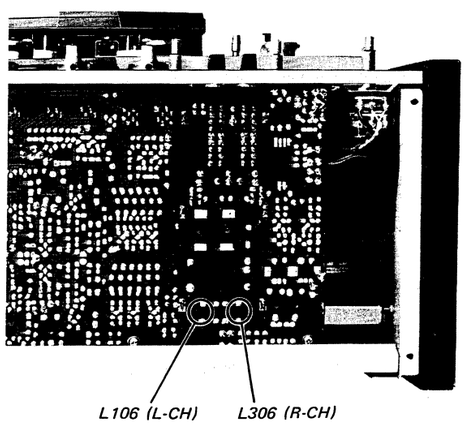
Mode: record



Adjust	VTVM reading
L106 (L-CH) L306 (R-CH)	minimum

Adjustment Location:

– audio amp board –



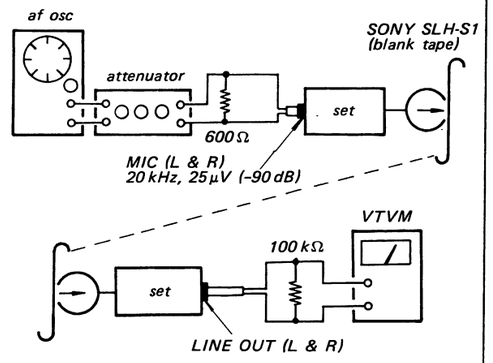
Dummy Coil Adjustment

Setting:

MONITOR switch: TAPE

Procedure:

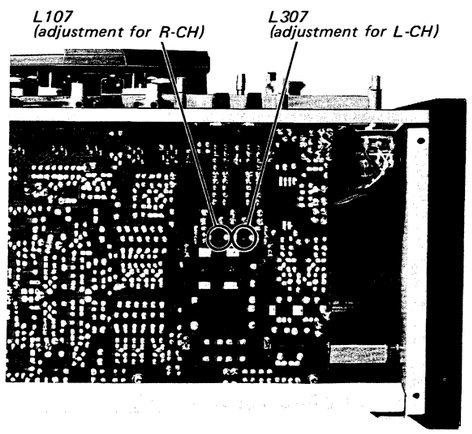
Mode: record and simultaneous playback



Step	Mode	Adjust	Remarks
1	stereo record and simultaneous playback	–	Record VTVM reading.
2	L channel record and simultaneous playback	L307	same VTVM reading as in step 1.
3	R channel record and simultaneous playback	L107	

Adjustment Location:

– audio amp board –



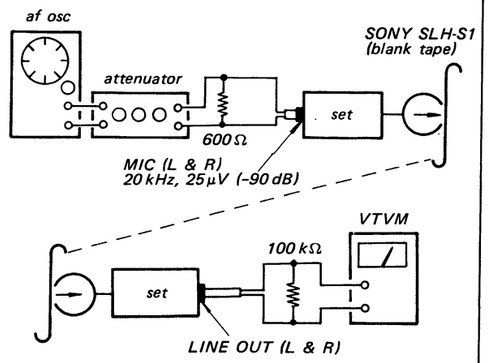
Dummy Coil Adjustment

Setting:

MONITOR switch: TAPE

Procedure:

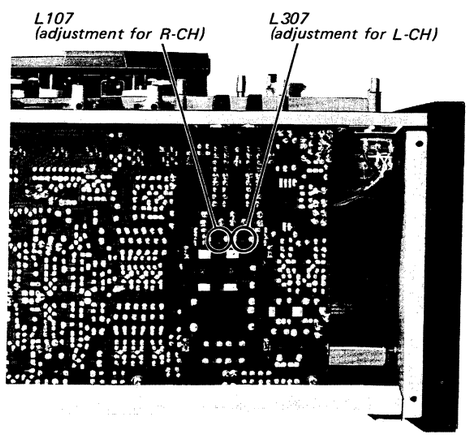
Mode: record and simultaneous playback



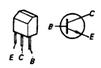
Step	Mode	Adjust	Remarks
1	stereo record and simultaneous playback	–	Record VTVM reading.
2	L channel record and simultaneous playback	L307	same VTVM reading as in step 1.
3	R channel record and simultaneous playback	L107	

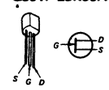
Adjustment Location:

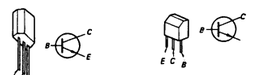
– audio amp board –

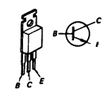


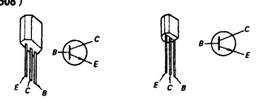
MEMO

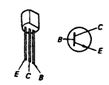


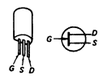


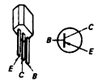


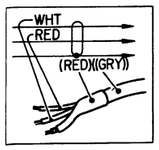


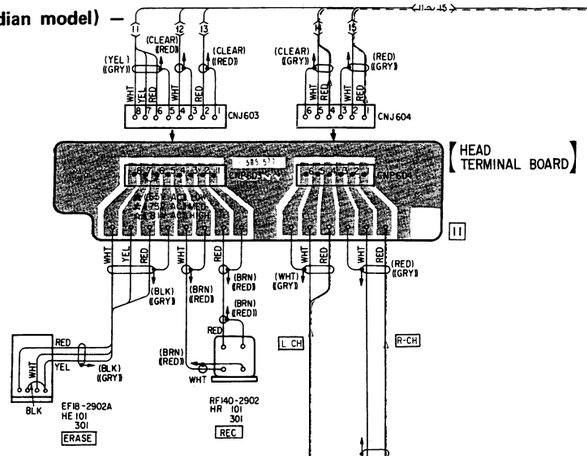


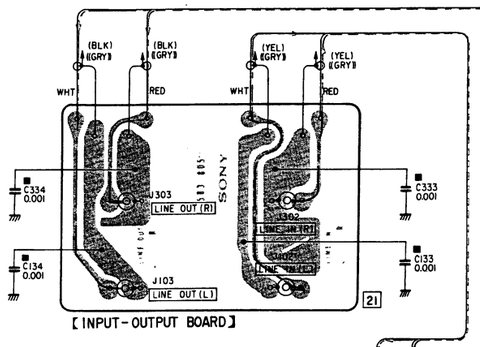


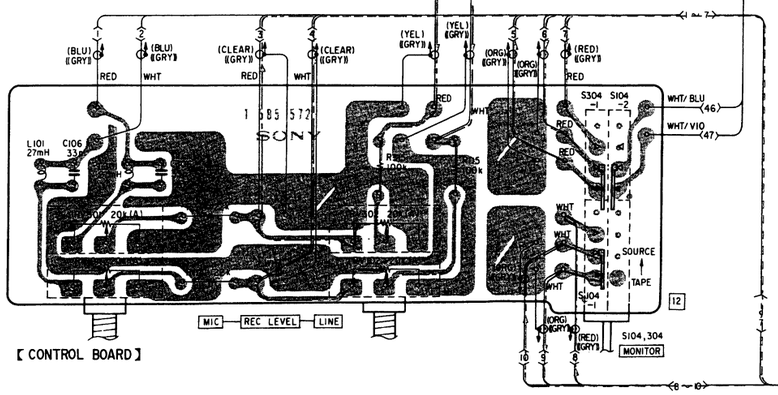


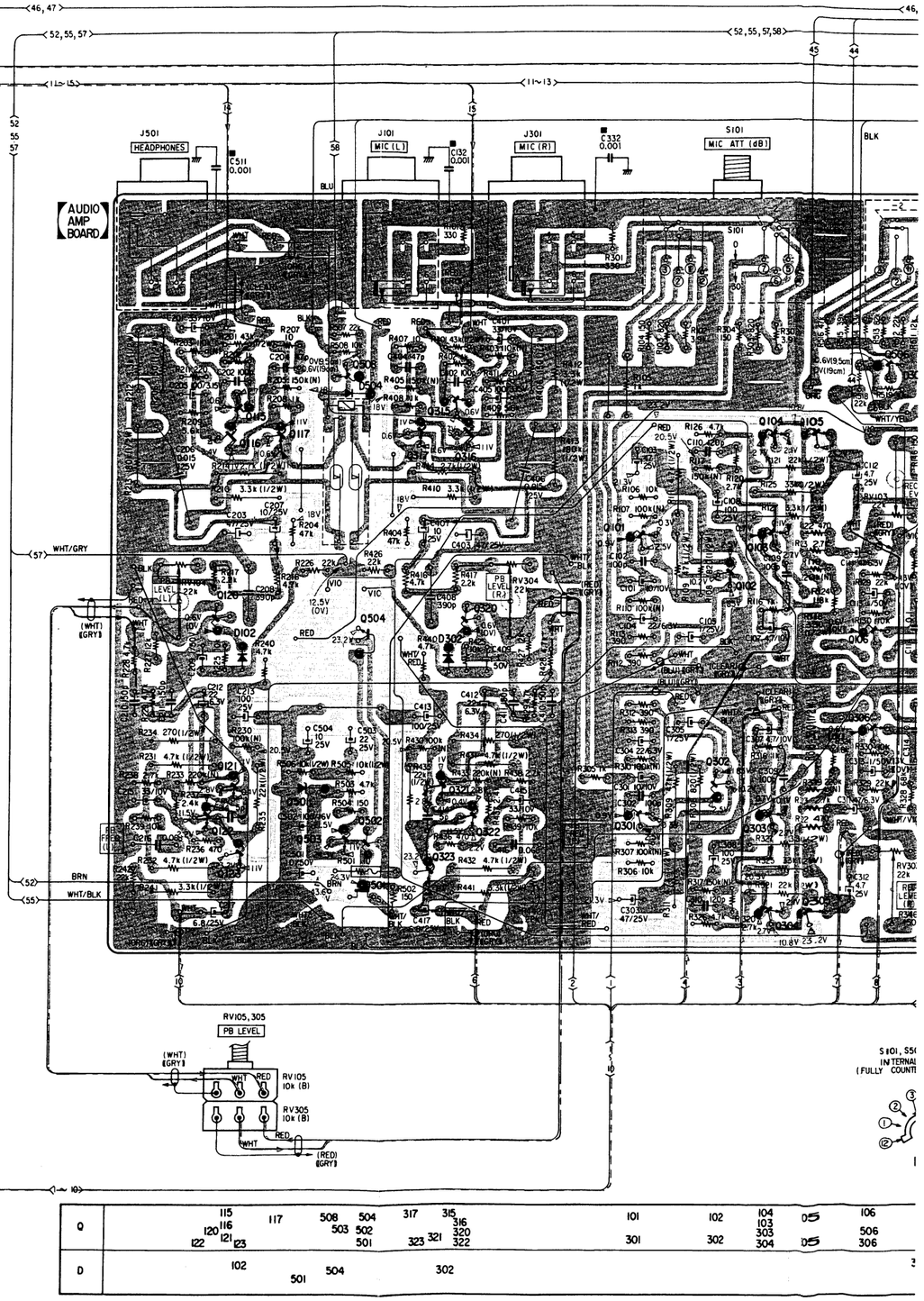












SECTION 4
DIAGRAMS

4-1. MOUNTING DIAGRAM – Amplifier Section (US, Canadian model) –

– Conductor Side –

Replacement Semiconductors
For replacement, use semiconductors except in ( ).

Q101, 103, 104
Q115, 121, 122
Q301, 303, 304
Q315, 321, 322 : 2SC1345-E
Q102, 108
Q302, 308 : 2SC1345-E (2SC458D)

Q501: 2SK30A

Q105, 109
Q123, 124
Q305, 309
Q323, 324 : 2SC634A (2SC458D)

Q504: 2SC1173

Q125, 325: 2SC1475 (2SC1318)
Q505: 2SC1475–13 (2SC1475)

(After replacing Q505, perform the record bias adjustment on page 22.)

Q106
Q110–114, 120
Q306
Q310–314, 320 : 2SC634A (2SC1363)
Q502, 503
Q506–508 : 2SC634A (2SC1364)

D101, 102
D301, 302
D502–504 : 1S1555 (1T40)
D103
D303 : 1T22A (1T22)

Q116, 316: 2SK43-13 (2SK43)

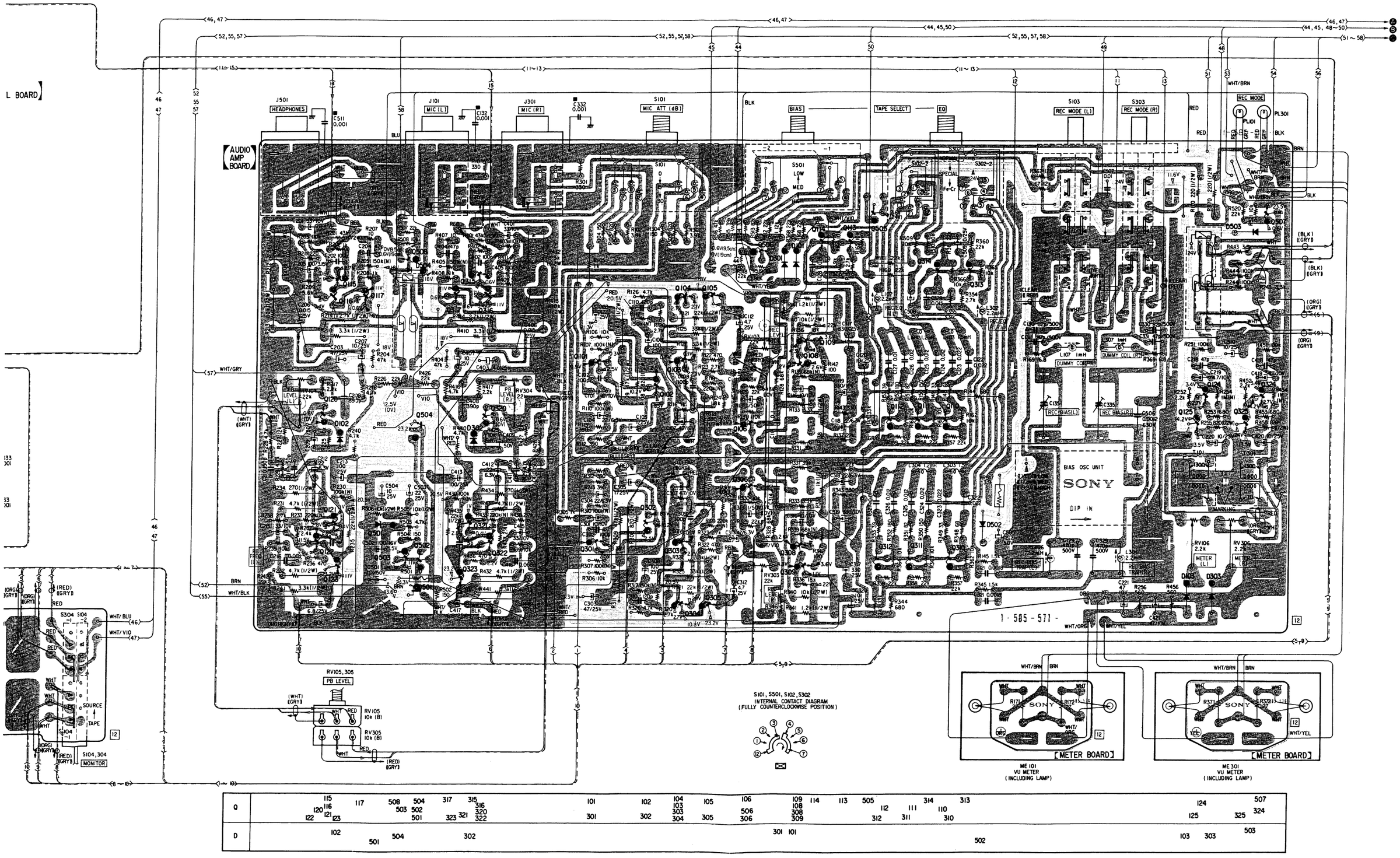
Q117, 317: 2SA705

D501: EQB01-11Z (EQA01-11S)

Note:

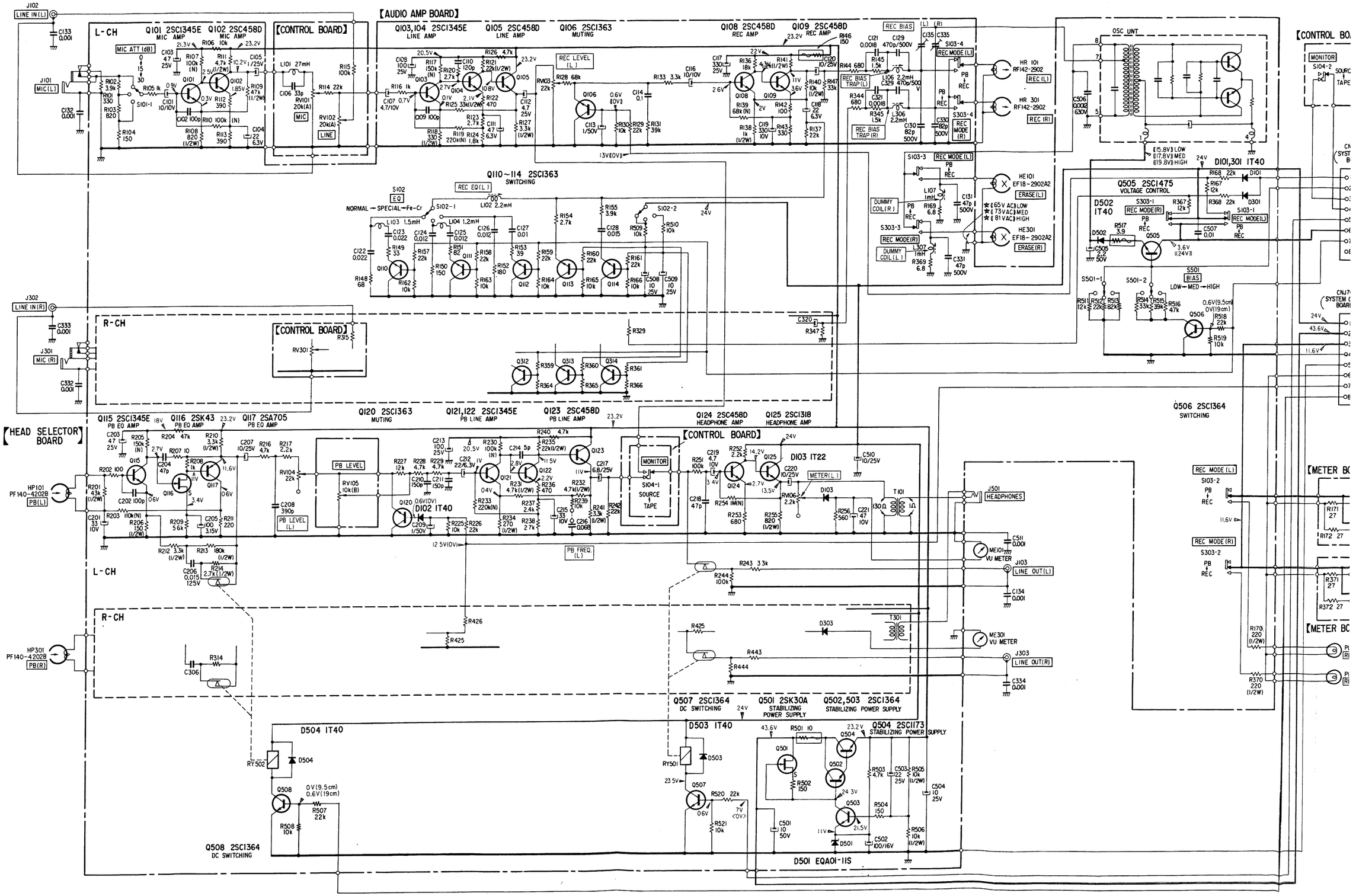
- ▪: part mounted on the conductor side.
- ▨ B+ pattern.
- ⇨ : signal path (both channel)
  ⇨ : L-CH
  ⇨ : R-CH
- DC resistance measurements are with coils connected on the circuit board, and are approximate.
- Color code of sleeving over the end of the jacket.

- Readings are taken under no signal conditions and in stop mode with a VOM (20 kΩ/V).
  (( )): record mode.
  ( ): forward mode.
  ⟨ ⟩: S607 is ON.
- AC voltage readings indicated by ☆ in the bias oscillator circuit are taken with a VTVM.

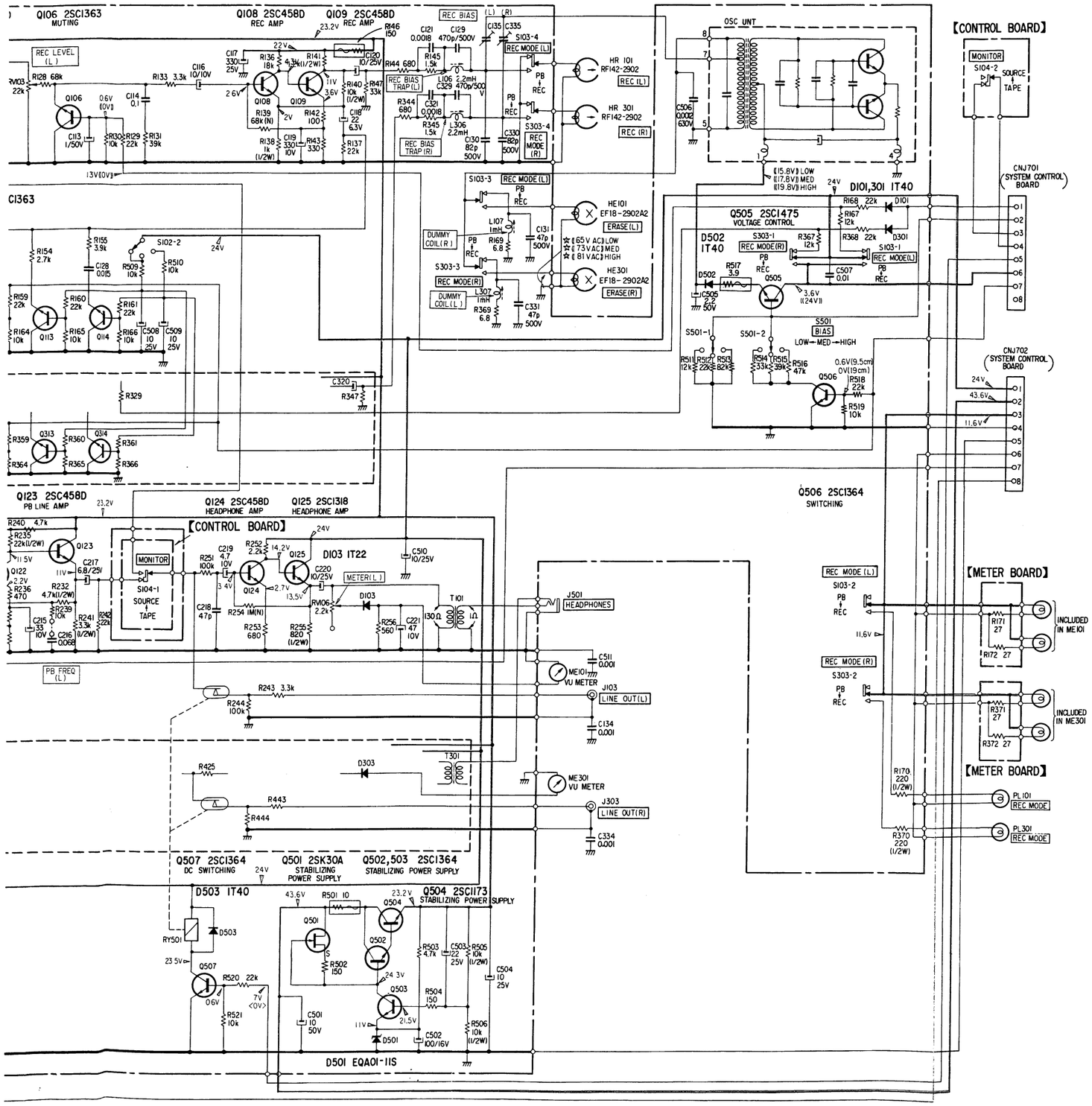


Q	115 116 120 121 122 123	117	508 503	504 502 501	317 323	315 316 321 320 322	101 301	102 302	104 103 303 304	105 305	106 506 306	109 108 308 309	114	113	505 312	112	111 311	314 110 310	313	124 125		325	507 324
D	102	501	504			302						301 101							502	103	303	503	

4-2. SCHEMATIC DIAGRAM — Amplifier Section (US, Canadian model) —



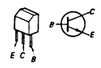
TC-765

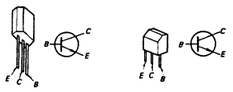


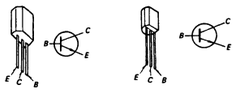
Note:

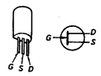
- Components for right channel have the same values as for left channel. Reference numbers are coded from 301 (REC AMP or PB AMP) or 401 (PB AMP).
- All capacitors are in μF unless otherwise noted. pF = μμF 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ = 1000Ω, MΩ = 1000kΩ
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ⏦ : fusible resistor.
- (N) : low-noise capacitor and resistor.
- ▭ : B+ bus.
- ▭ : panel designation.
- ▭ : adjustment for repair.
- ⏚ : chassis ground.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no signal conditions and in stop mode with a VOM (20kΩ/V).
  (( )) : record mode.
  ( ) : forward mode.
  〈 〉 : S607 is ON.
- AC voltage readings indicated by ☆ in the bias oscillator circuit are taken with a VTVM.
- Voltage variations may be noted due to normal production tolerances.
- Switch

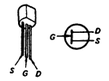
Ref. No.	Switch	Position
S101,301	MIC ATT	0 (dB)
S102,302	EQ	NORMAL
S103,303	REC MODE	PB
S104,304	MONITOR	TAPE
S501	BIAS	MED

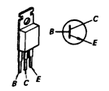


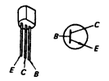


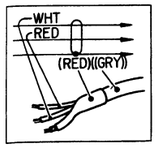


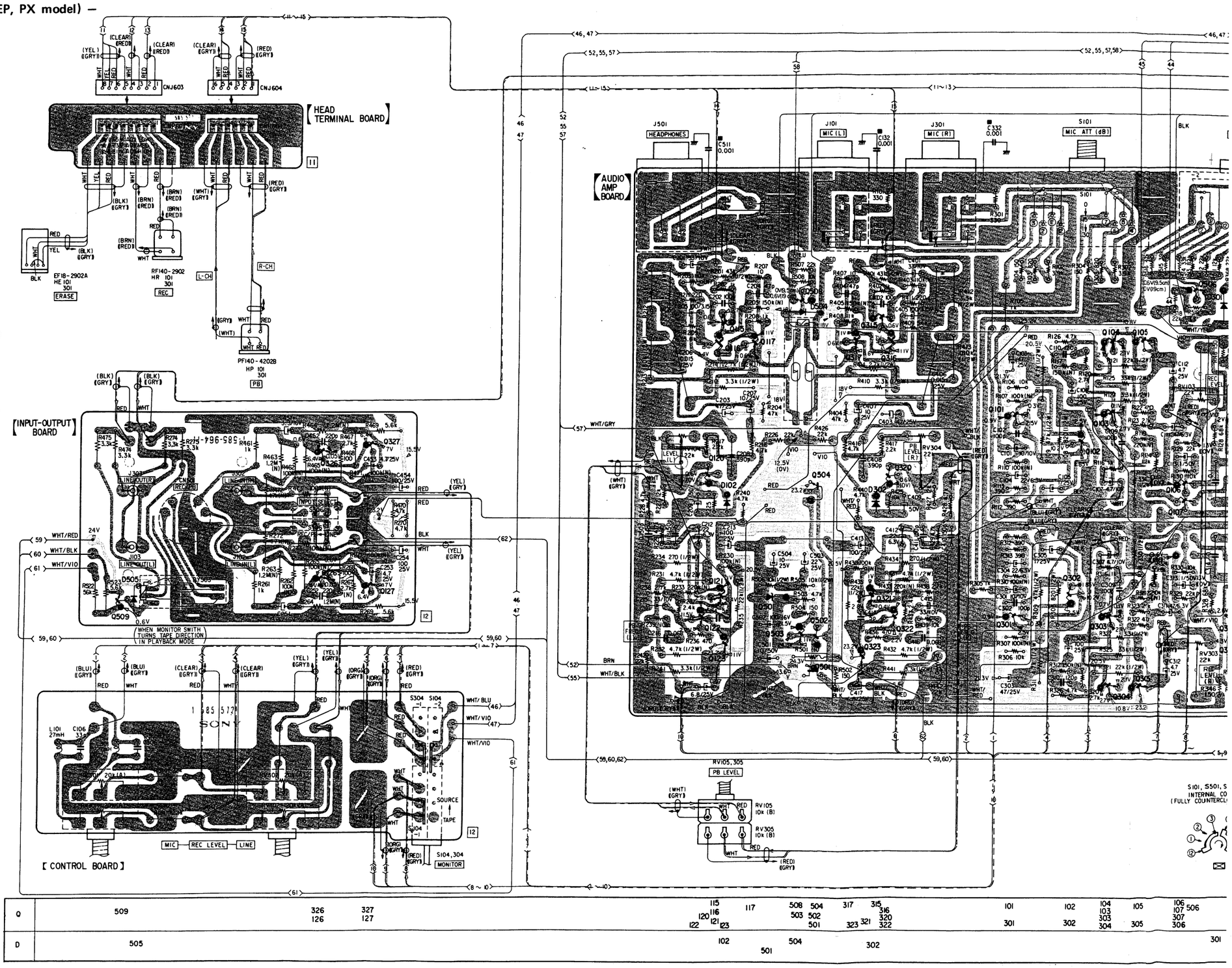












4-3. MOUNTING DIAGRAM – Amplifier Section (UK, AEP, PX model) –

– Conductor Side –

Replacement Semiconductors
For replacement, use semiconductor except in ( ).

Q101, 103, 104
Q115, 121, 122
Q126
Q301, 303, 304
Q315, 321, 322
Q326 : 2SC1345-E

Q102, 108
Q302, 308 : 2SC1345-E (2SC458D)

Q501: 2SK30A

Q105, 109
Q123, 124
Q305, 309
Q323, 324 : 2SC634A (2SC458D)

Q504: 2SC1173

Q125, 325: 2SC1475 (2SC1318)
Q505: 2SC1475-13 (2SC1475)

(After replacing Q505, perform the record bias adjustment on page 22.)

Q106
Q110–114, 120
Q306
Q310–314, 320 : 2SC634A (2SC1363)

Q502, 503
Q506–509 : 2SC634A (2SC1364)

D101, 102
D301, 302
Q502–505 : 1S1555 (1T40)

D103
D303 : 1T22A (1T22)

Q116, 316: 2SK43-13 (2SK43)

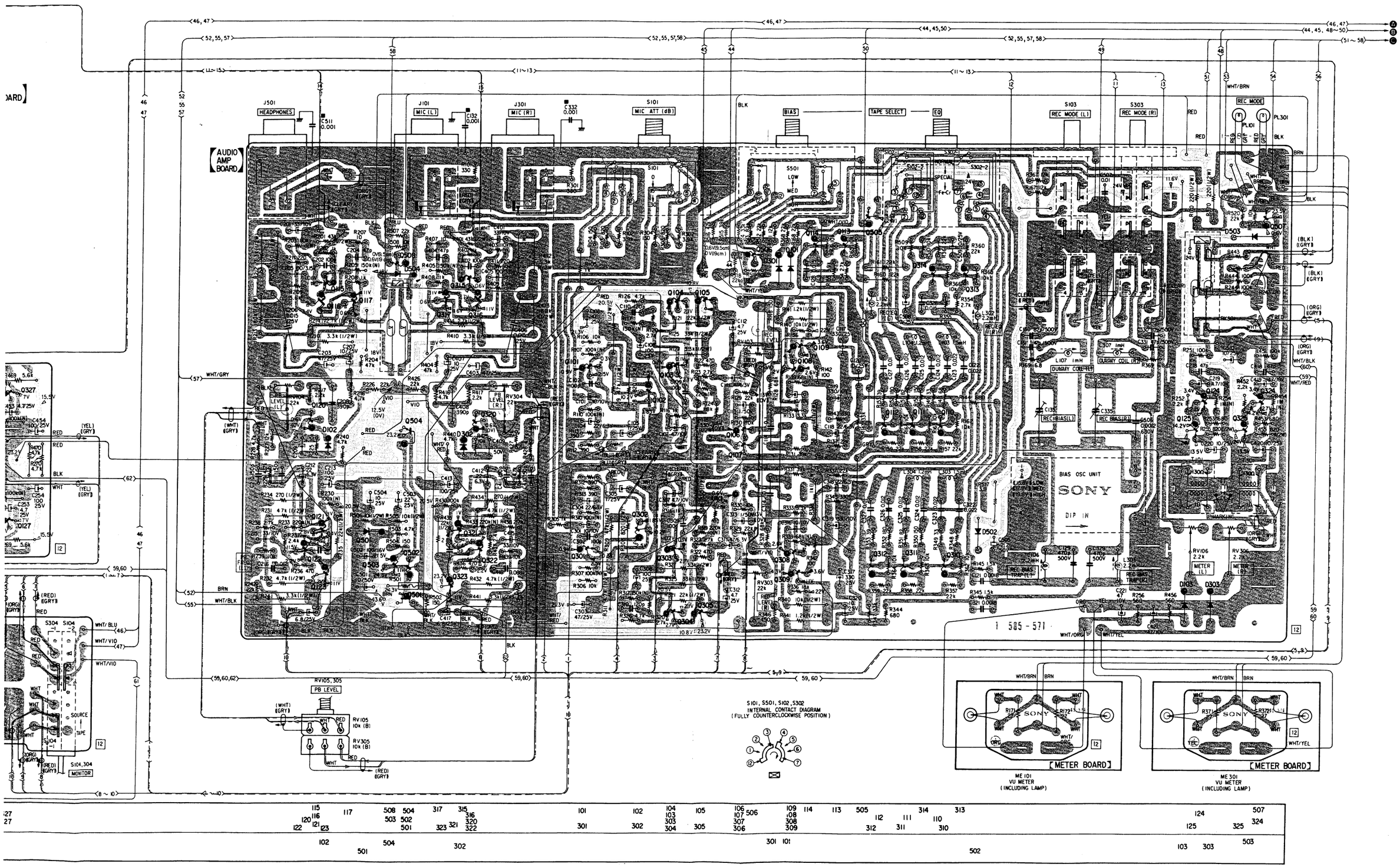
Q117, 317: 2SA705
Q127, 327: 2SA678 (2SA677)

D501: EQB01-11Z (EQA01-11S)

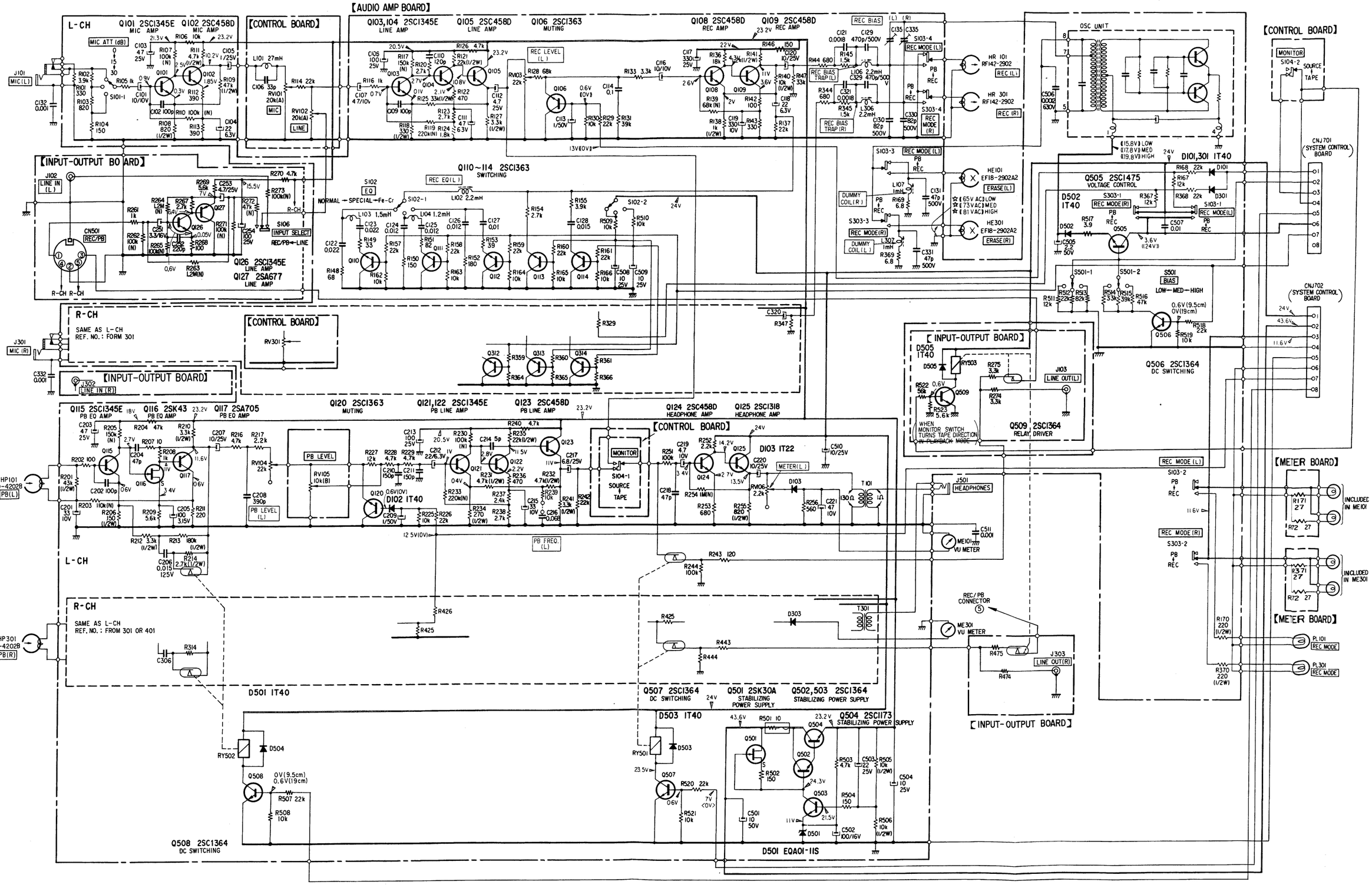
Note:

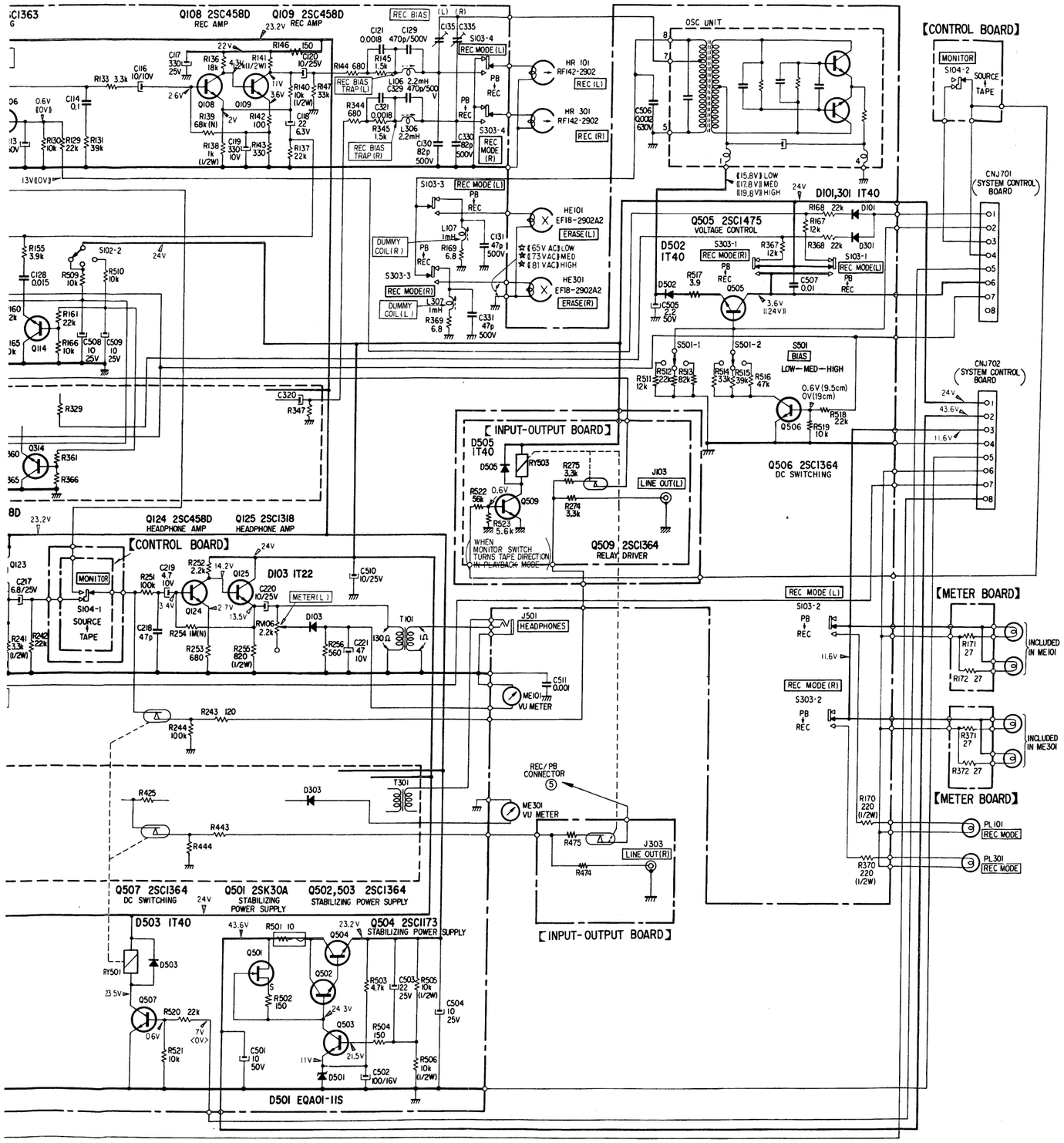
- ■: part mounted on the conductor side.
- ▨ : B+ pattern.
- ⇨ : signal path (both channel)
  ⇨ : L-CH
  ⇨ : R-CH
- DC resistance measurements are with coils connected on the circuit board, and are approximate.
- Color code of sleeving over the end of the jacket.

- Readings are taken under no signal conditions and in stop mode with a VOM (20 kΩ/V).
  (( )): record mode.
  ( ): forward mode.
  ⟨ ⟩: S607 is ON.
- AC voltage readings indicated by ⭑ in the bias oscillator circuit are taken with a VTVM.



4-4. SCHEMATIC DIAGRAM — Amplifier Section (UK, AEP, PX model) —





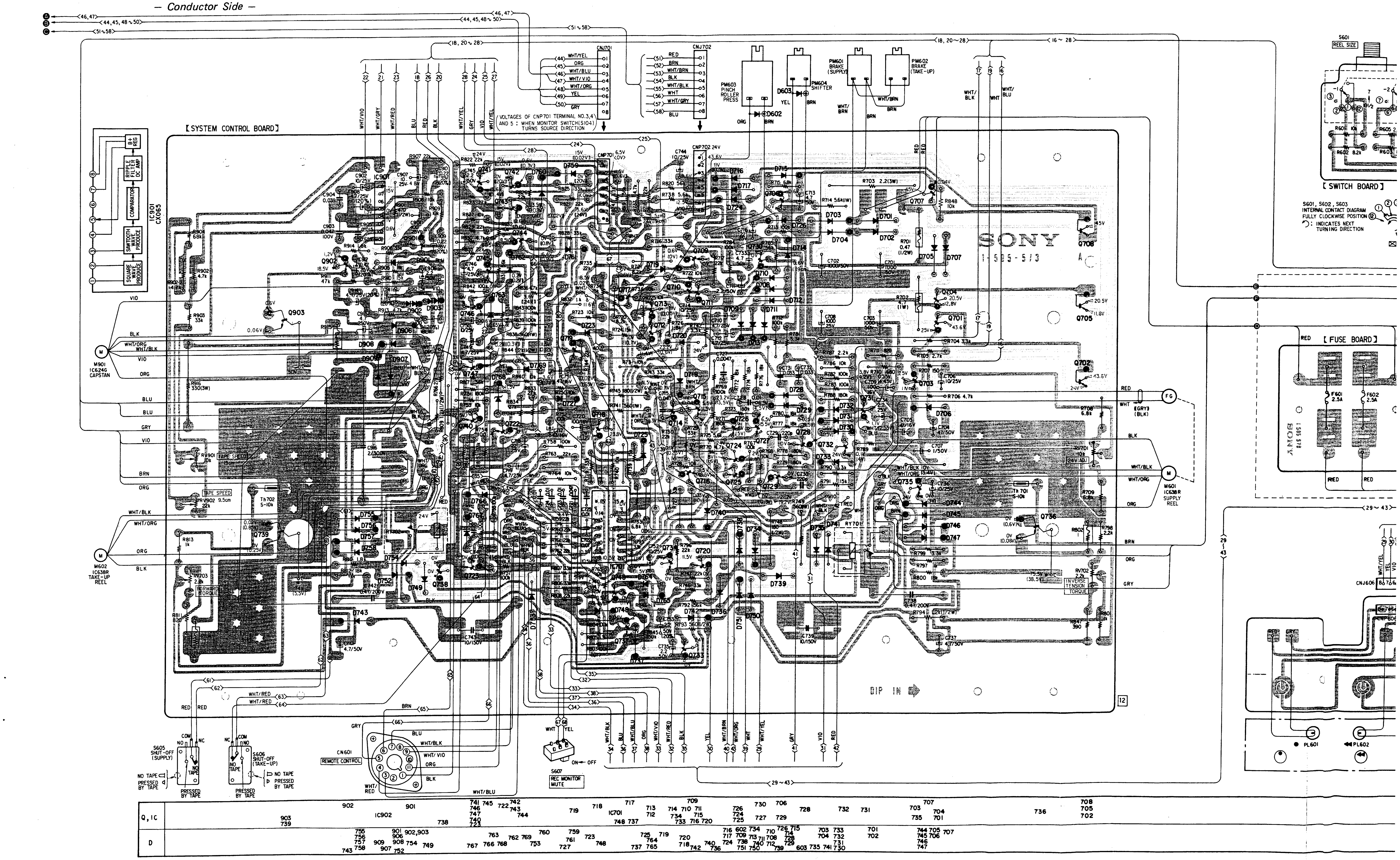
Note:

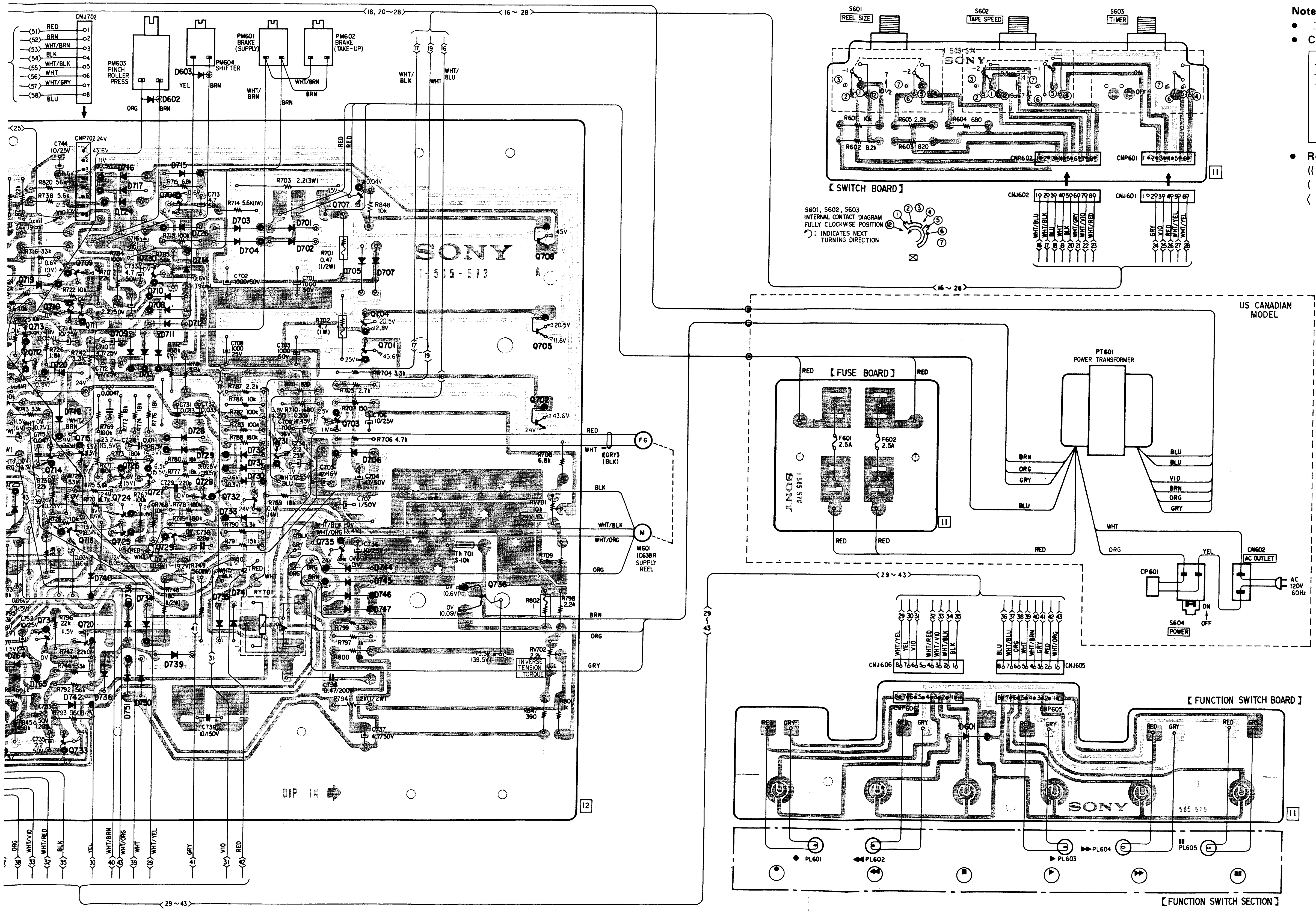
- Components for right channel have the same values as for left channel. Reference numbers are coded from 301 (REC AMP or PB AMP) or 401 (PB AMP).
- All capacitors are in μF unless otherwise noted. pF = μμF 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ = 1000Ω, MΩ = 1000 kΩ
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- (N) : low-noise capacitor and resistor.
- ▨ : B+ bus.
- ▭ : panel designation.
- ▭ : adjustment for repair.
- ⏚ : chassis ground.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no signal conditions and in stop mode with a VOM (20 kΩ/V).
  (( )) : record mode.
  ( ) : forward mode.
  〈 〉 : S607 is ON.
- AC voltage readings indicated by ☆ in the bias oscillator circuit are taken with a VTVM.
- Voltage variations may be noted due to normal production tolerances.
- Switch

Ref. No.	Switch	Position
S101,301	MIC ATT	0 (dB)
S102,302	EQ	NORMAL
S103,303	REC MODE	PB
S104,304	MONITOR	TAPE
S106,306	INPUT SELECT	LINE
S501	BIAS	MED

4-5. MOUNTING DIAGRAM – System Control Section –

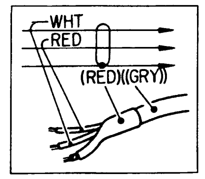
– Conductor Side –


[SYSTEM CONTROL BOARD]
[SWITCH BOARD]
[FUSE BOARD]
(VOLTAGES OF CNP701 TERMINAL NO.3,4 AND 5 : WHEN MONITOR SWITCH(S10-4) TURNS SOURCE DIRECTION)
S601, S602, S603 INTERNAL CONTACT DIAGRAM FULLY CLOCKWISE POSITION
: INDICATES NEXT TURNING DIRECTION
M901 IC624G CAPSTAN
M602 IC638R TAKE-UP REEL
M601 IC638R SUPPLY REEL
PM603 PINCH ROLLER PRESS
PM604 SHIFTER
PM601 BRAKE (SUPPLY)
PM602 BRAKE (TAKE-UP)
S605 SHUT-OFF (SUPPLY)
S606 SHUT-OFF (TAKE-UP)
CN601 REMOTE CONTROL
S607 REC MONITOR MUTE
DIP IN
Q, IC
D

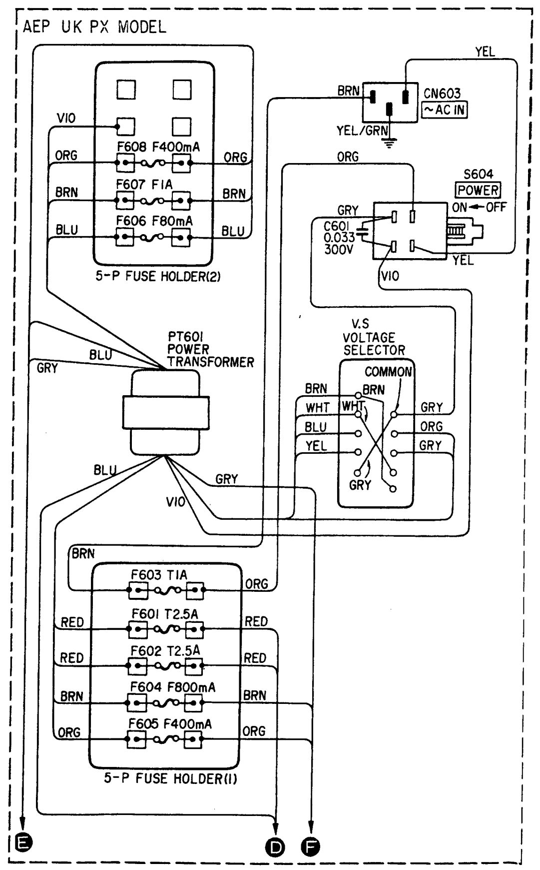


Note:

- ▭ : B+ pattern.
- Color code of sleeving over the end of the jacket.

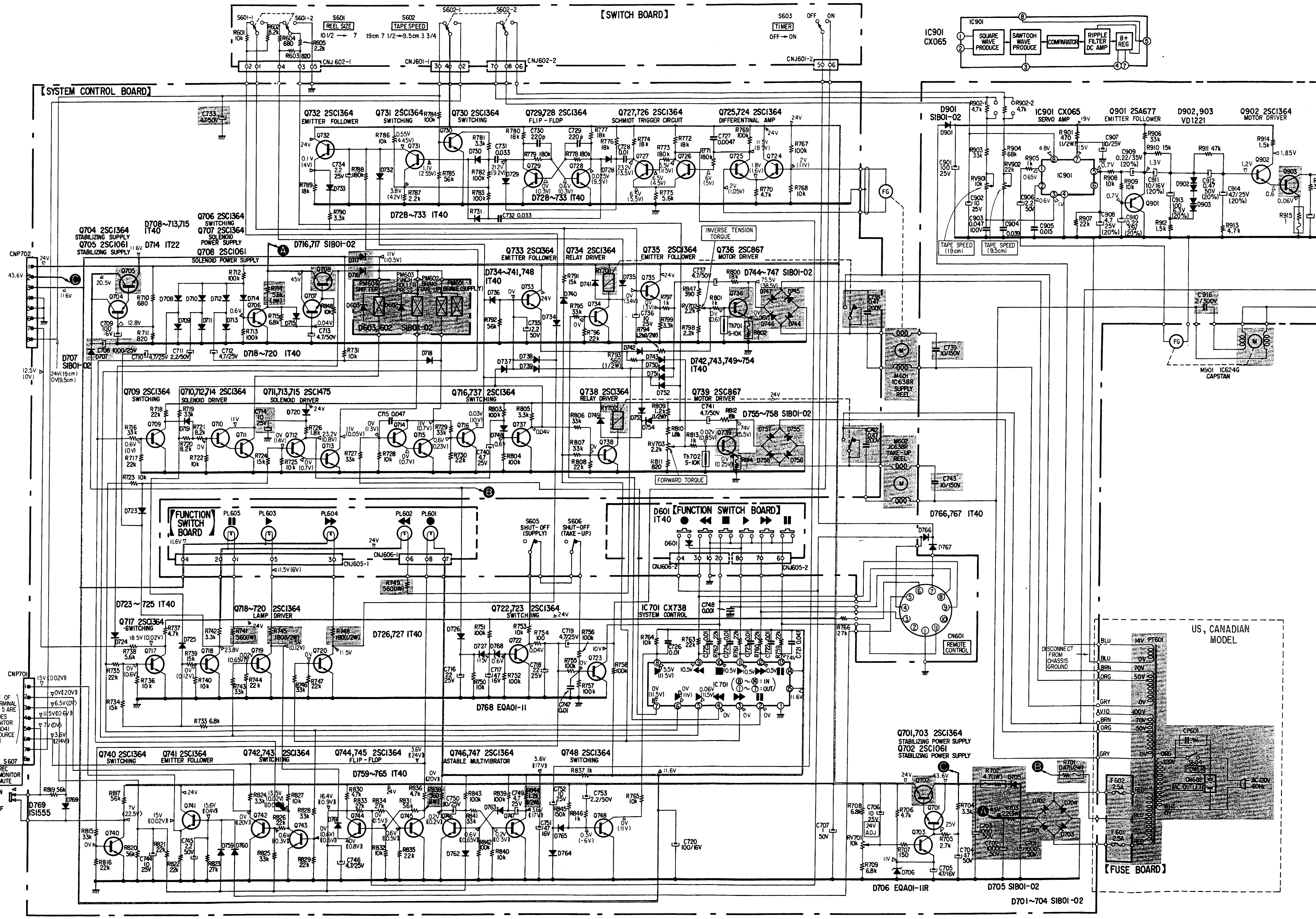


- Readings are taken in stop mode with a VOM (20 kΩ/V).
  (( )) : record mode.
  ( ) : forward mode.
  〈 〉 : S607 is ON.



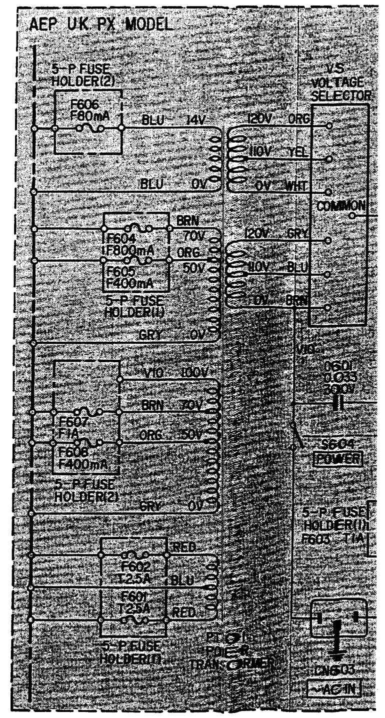
7 713 712 709 714 734 733 710 716 711 715 720 726 724 725 730 727 706 729 728 732 731 703 707 735 704 701 736 708 705 702	Q, IC
37 725 764 765 719 720 718 742 740 736 716 717 724 602 709 738 751 734 713 750 740 711 710 708 712 726 739 715 714 728 729 603 735 703 704 741 733 732 731 730 701 702 744 745 746 747 705 706 707 601	D

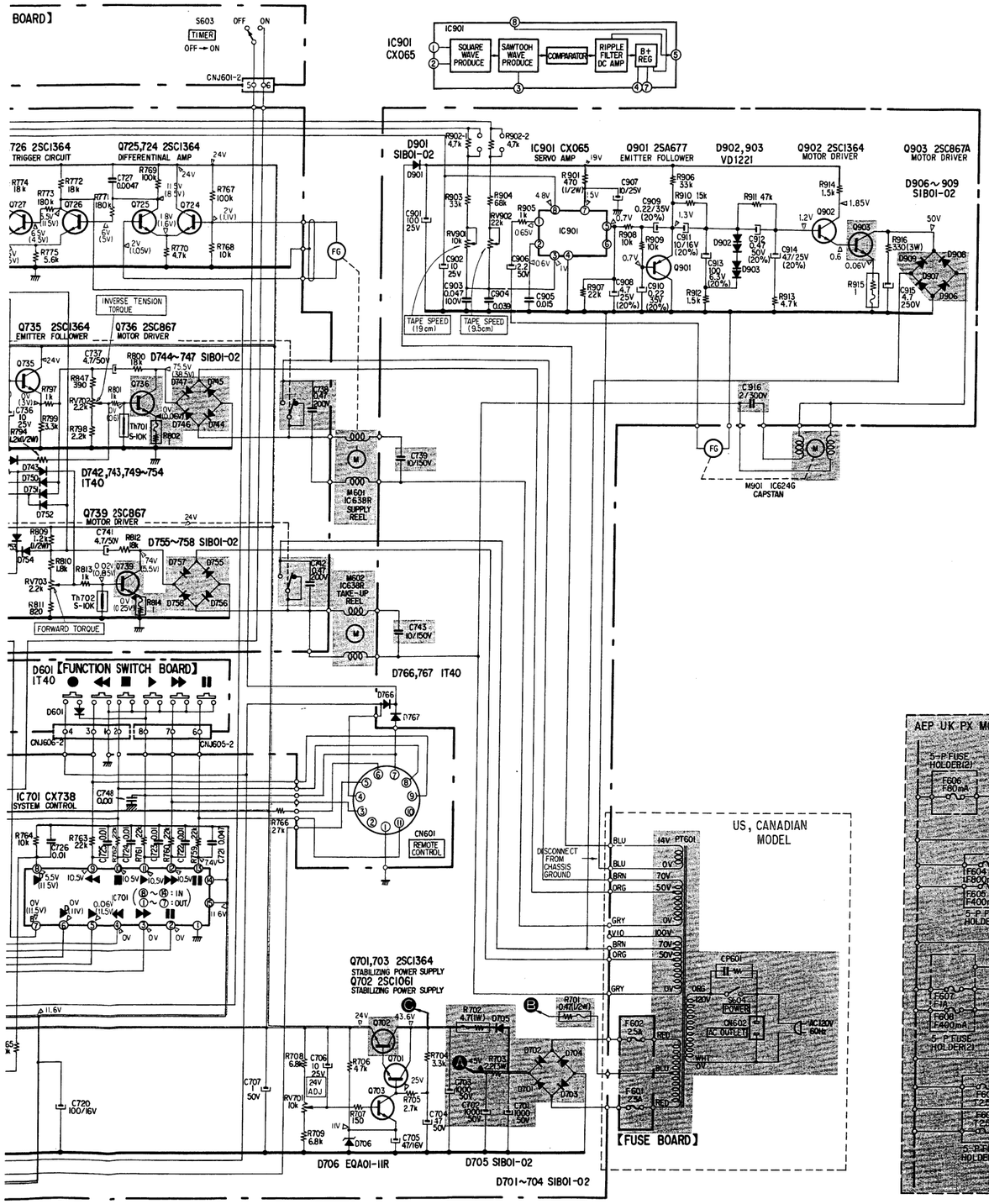
4-6. SCHEMATIC DIAGRAM – System Control Section –



Note:
- All capacitors are
  50WV or less are
- All resistors are in
  kΩ = 1000Ω, MΩ
- : fusible re
- (N) : low-noise ca
- 20% indicates con
- : B+ bus.
- : panel des
- : adjustmen
- : direct conn
  chassis.
- : chassis grou
- Voltages are dc w
  noted.
- Readings are taken
  (( )) : record mo
  ( ) : forward m
  ⟨ ⟩ : S607 is ON
- Voltage variations
  tion tolerances.
- Switch

Ref. No.	
S601	R
S602	T
S603	T
S604	P
S605	S
S606	S
S607	R

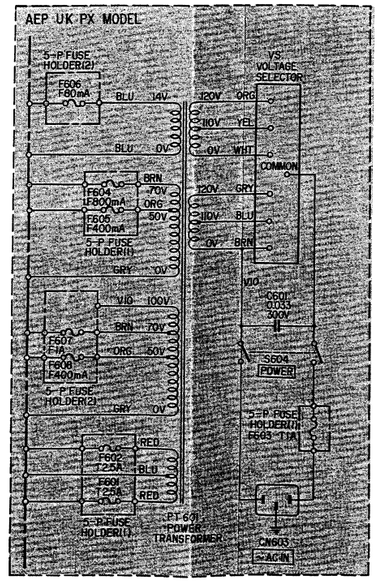




Note:

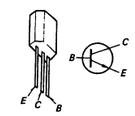
- All capacitors are in μF unless otherwise noted. pF = μμF 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ = 1000Ω, MΩ = 1000kΩ
- : fusible resistor.
- (N) : low-noise capacitor and resistor.
- 20% indicates component tolerance.
- : B+ bus.
- : panel designation.
- : adjustment for repair.
- : direct connection to points marked on the chassis.
- : chassis ground.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken in stop mode with a VOM (20kΩ/V).
  (( )) : record mode.
  ( ) : forward mode.
  〈 〉: S607 is ON.
- Voltage variations may be noted due to normal production tolerances.
- Switch

Ref. No.	Switch	Position
S601	REEL SIZE	10½
S602	TAPE SPEED	19cm
S603	TIMER	OFF
S604	POWER	OFF
S605	SHUT-OFF (SUPPLY)	OFF
S606	SHUT-OFF (TAKE-UP)	OFF
S607	REC MONITOR MUTE	OFF

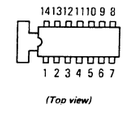


Replacement Semiconductor
For replacement, use semiconductors except in ( ).

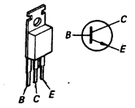
Q701, 703, 704
Q706, 707, 709
Q716–720, 722–735
Q737, 738, 740–748
Q902 : 2SC634A (2SC1364)



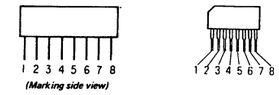
IC701: CX738



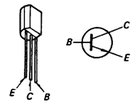
Q702, 705, 708: 2SC1061



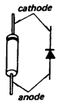
IC901: CX065A (CX065)



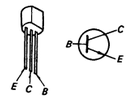
Q710, 712, 714: 2SC1364 (BLUE) (2SC1364)



D601, 708–713
D715, 718–720
D723–743
D748–754
D759–767
D714: 1T22A (1T22)
D769: 1S1555
: 1S1555 (1T40)



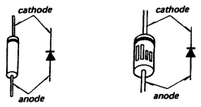
Q711, 713, 715: 2SC1475-13 (2SC1475)



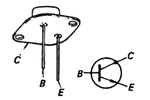
After replacing Q711, 713 or Q715, change the resistor as follows.

Q711: R722 10kΩ → 8.2kΩ
Q713: R725 10kΩ → 8.2kΩ
Q715: R728 10kΩ → 8.2kΩ

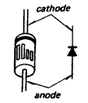
D602, 603
D701–705
D707, 716, 717
D744–747
D755–758
D901, 906–909
: 10E2 (SIB01-02)



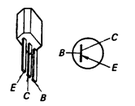
Q736, 739: 2SC867A (2SC867)
Q903: 2SC867A



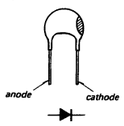
D706, 768: EQB01-11Z (EQA01-11R)



Q901: 2SA678 (2SA677)



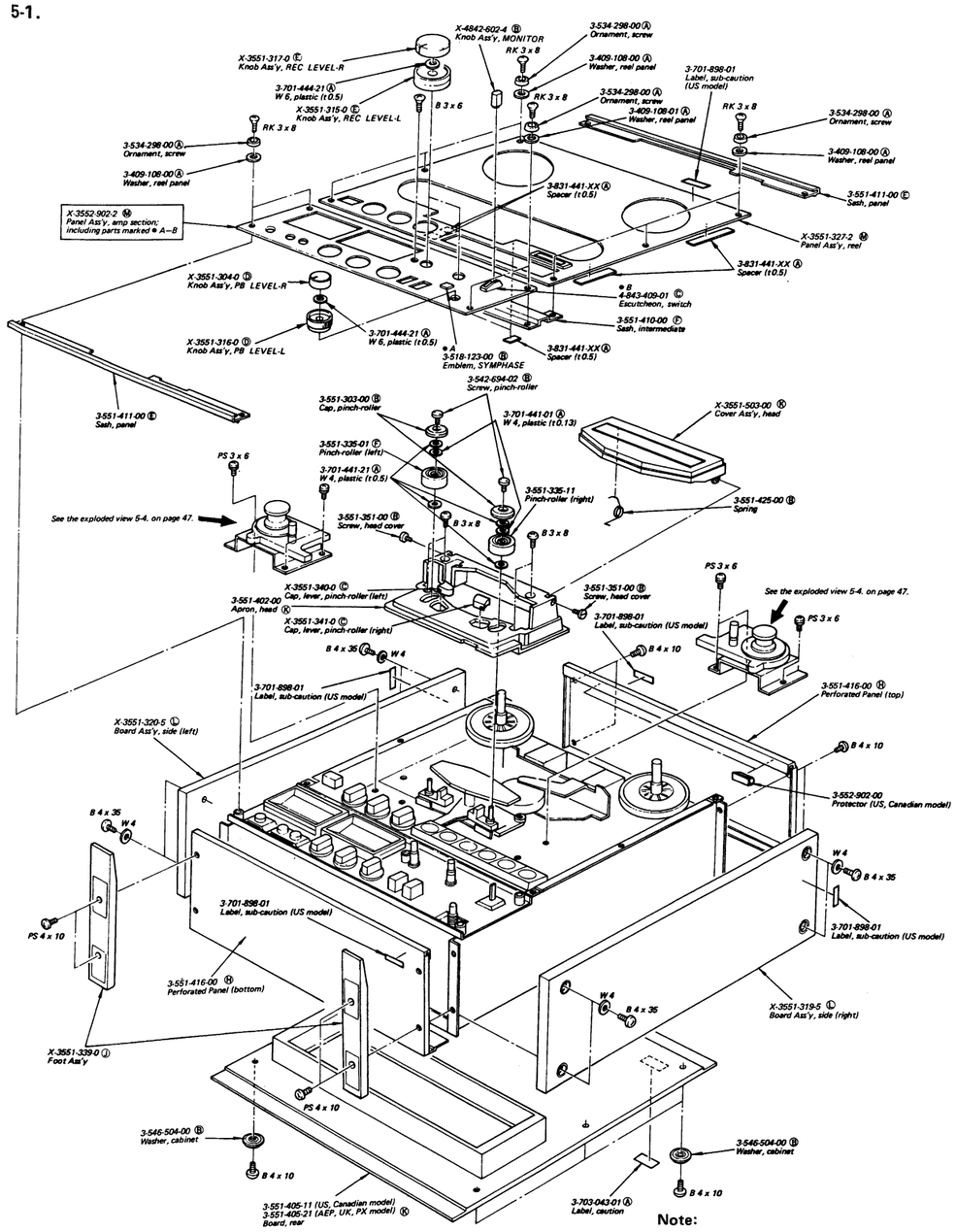
D904, 905: VD1221 x 2



Note: The components identified by shading are critical for safety. Replace only with part number specified.

SECTION 5
EXPLODED VIEWS

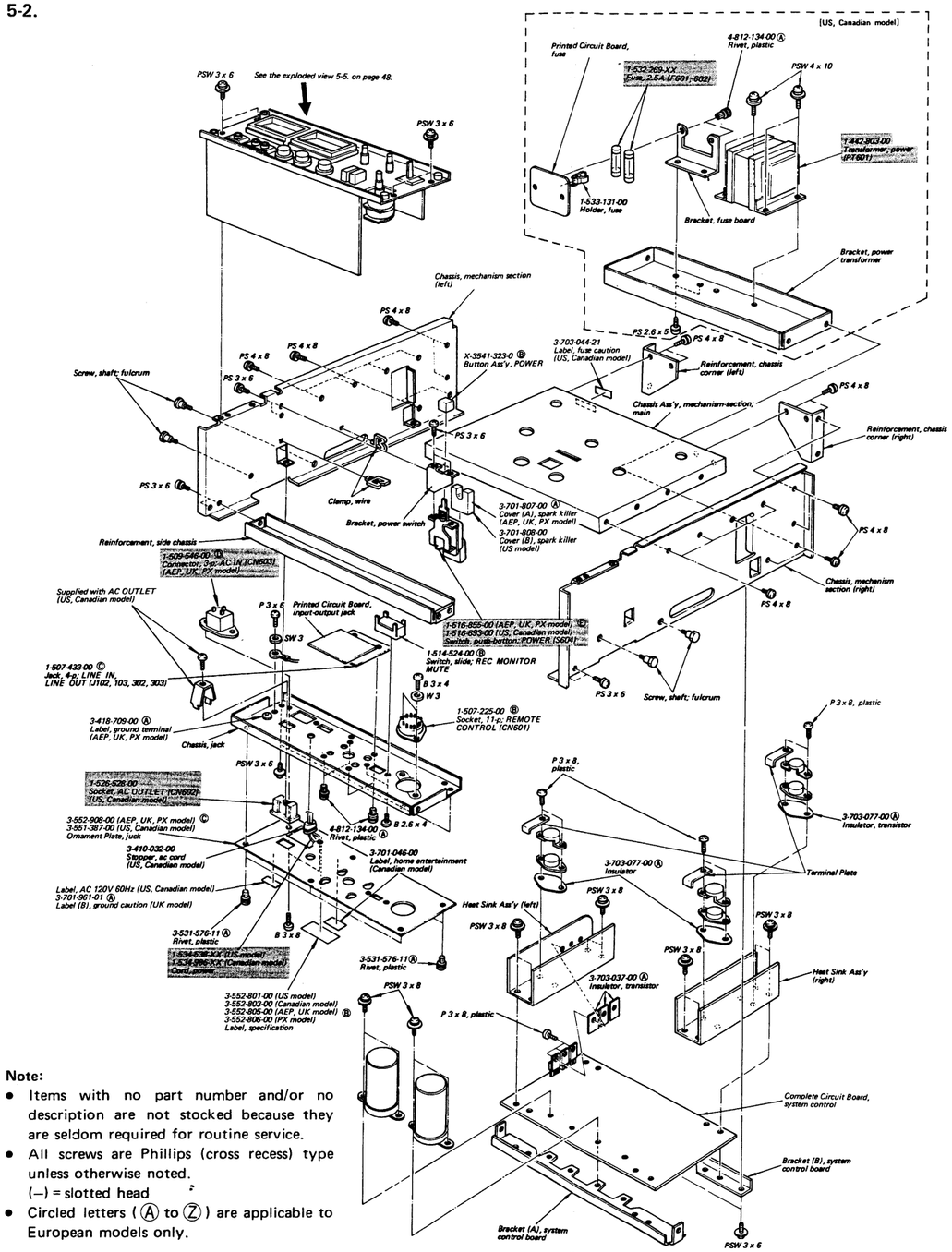
5-1.



Note:

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

5-2.

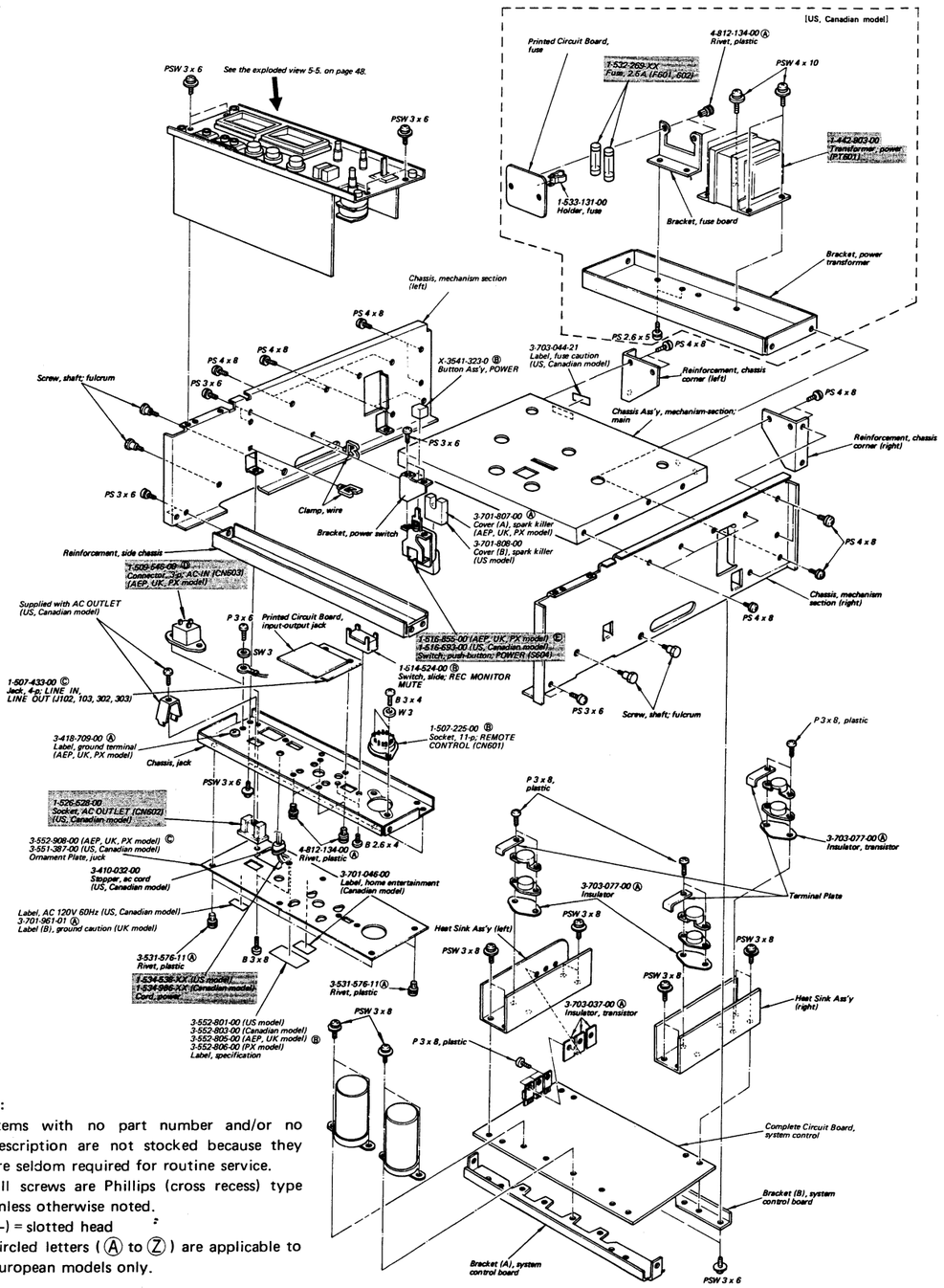


Note:

- 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
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Note: The components identified by shading are critical for safety. Replace only with part number specified.

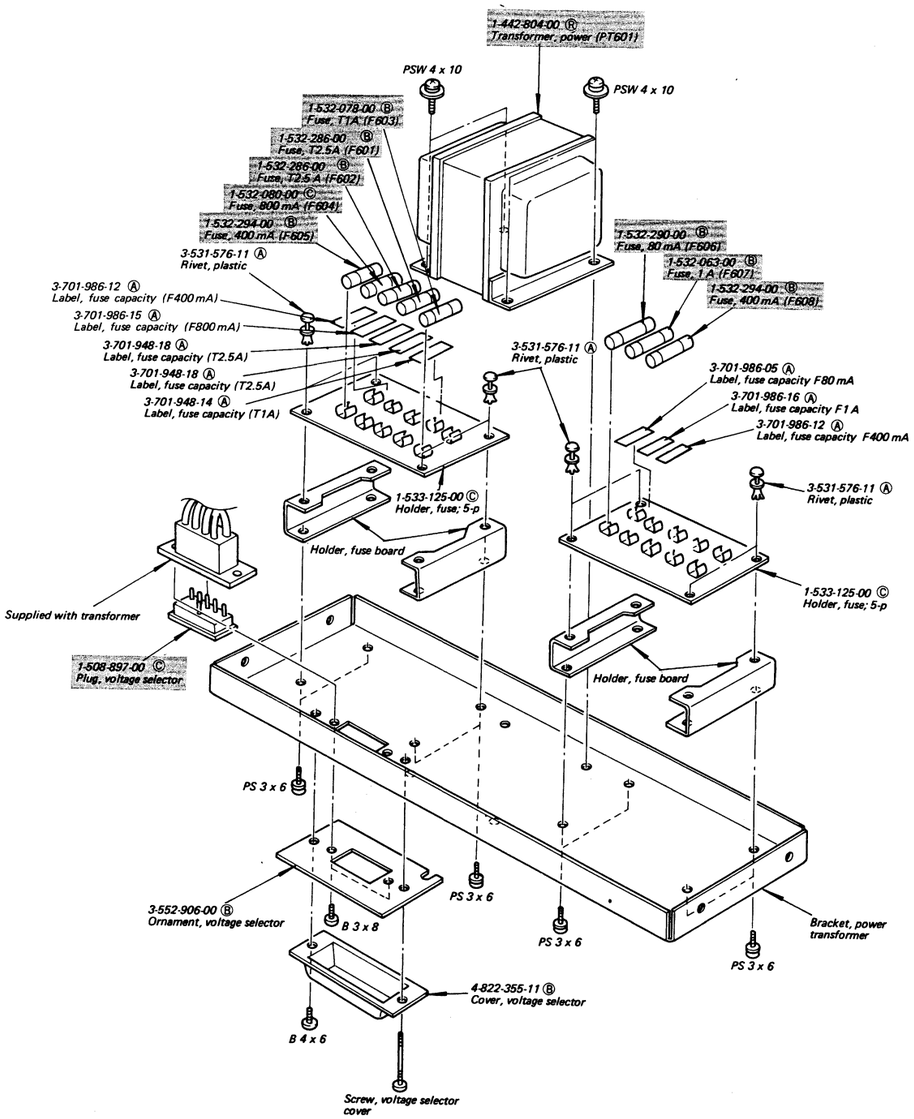
5-2.



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
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Note: The components identified by shading are critical for safety. Replace only with part number specified.

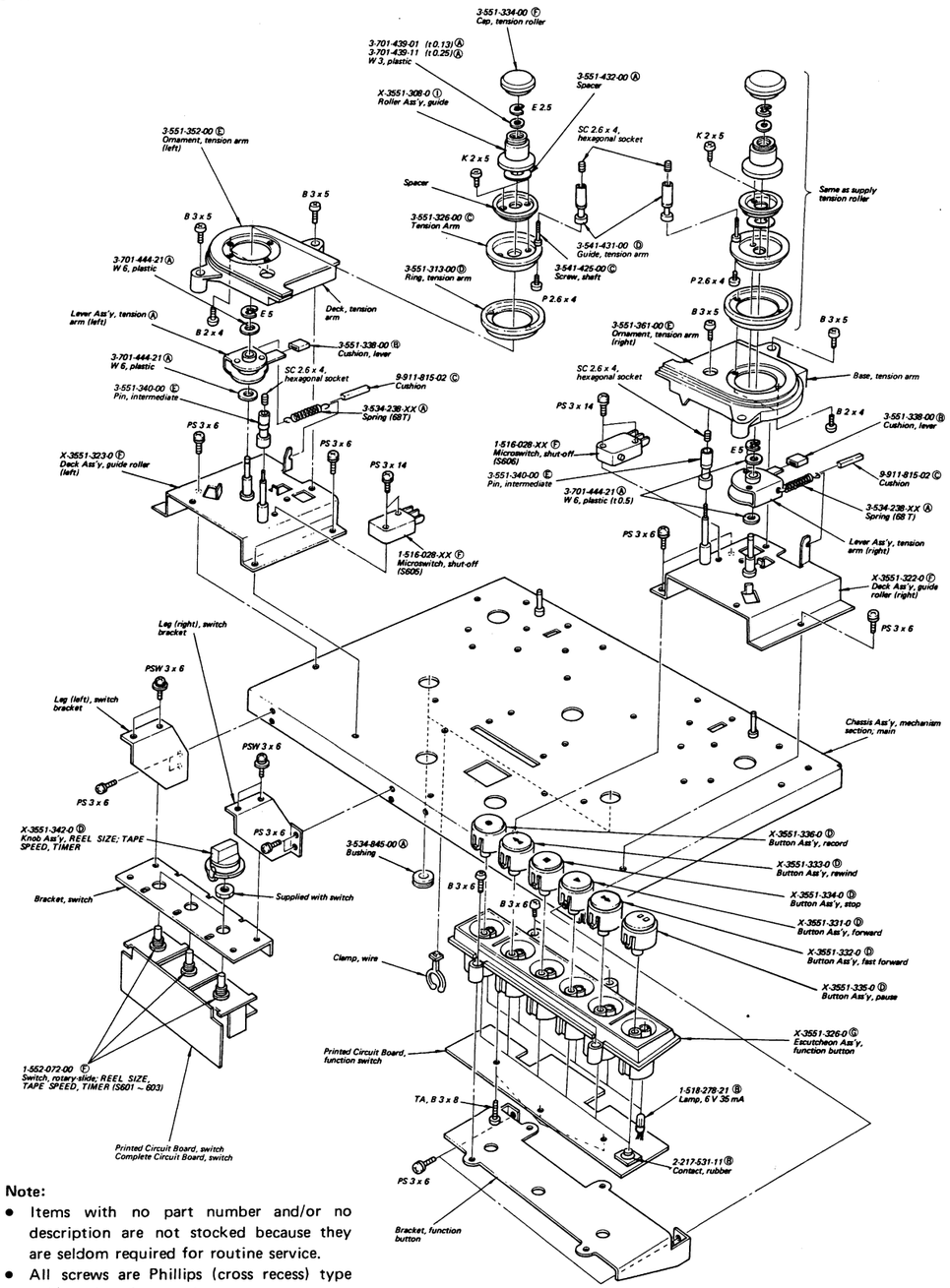
5-3. AEP, UK, PX model



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
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Note: The components identified by shading are critical for safety. Replace only with part number specified.

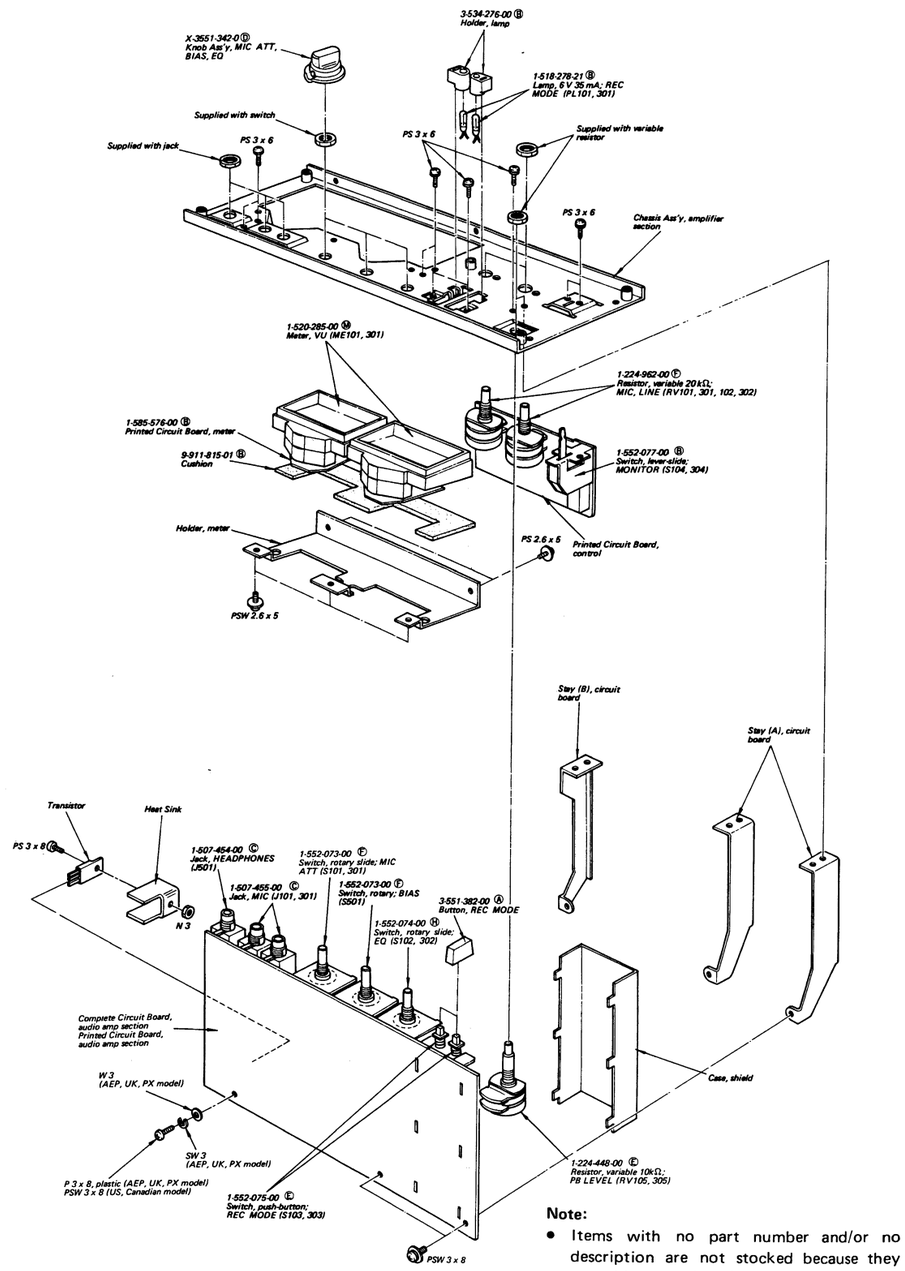
5-4.



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
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.
- (□□T) shows the number of coils in spring.

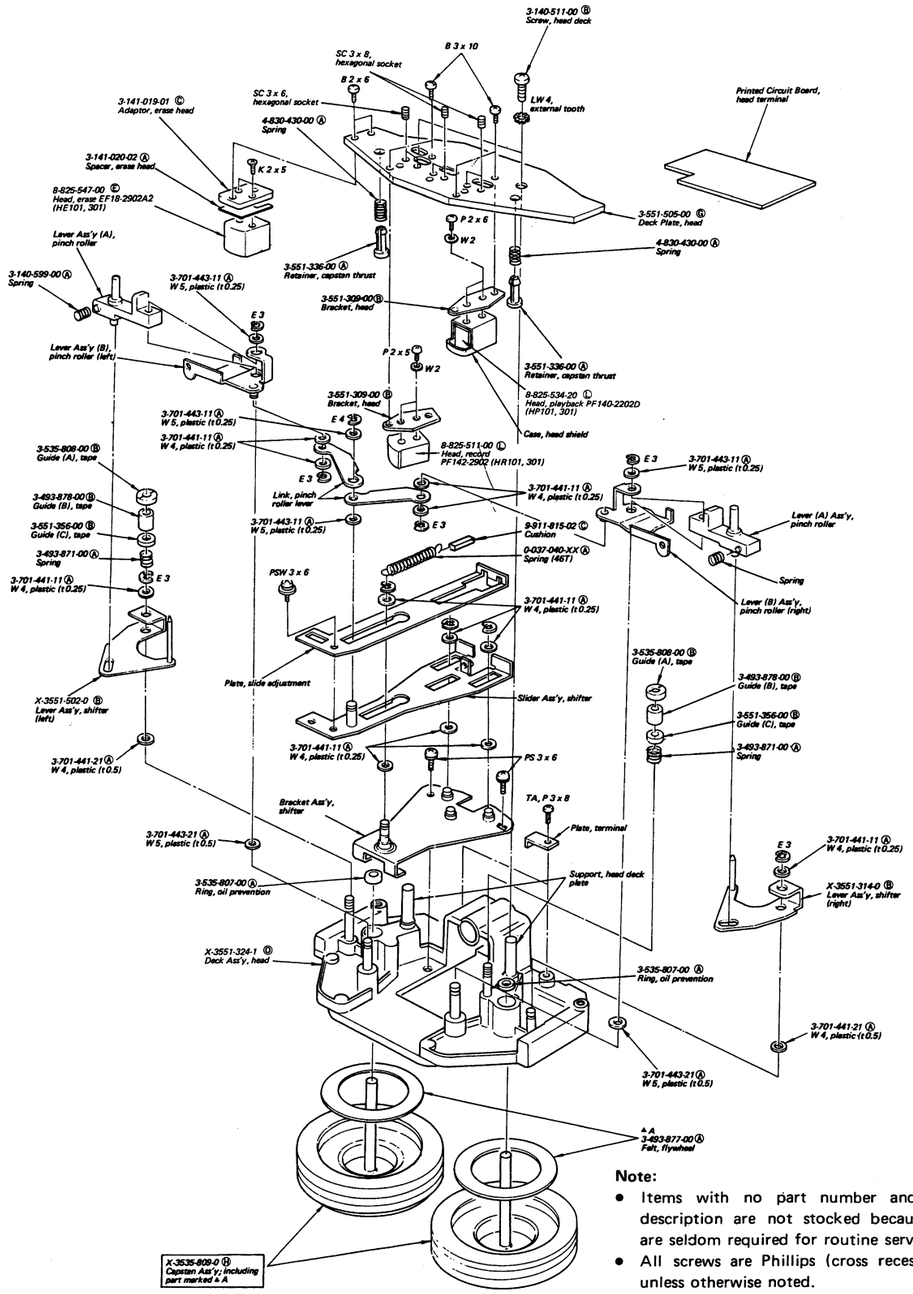
5-5.



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
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

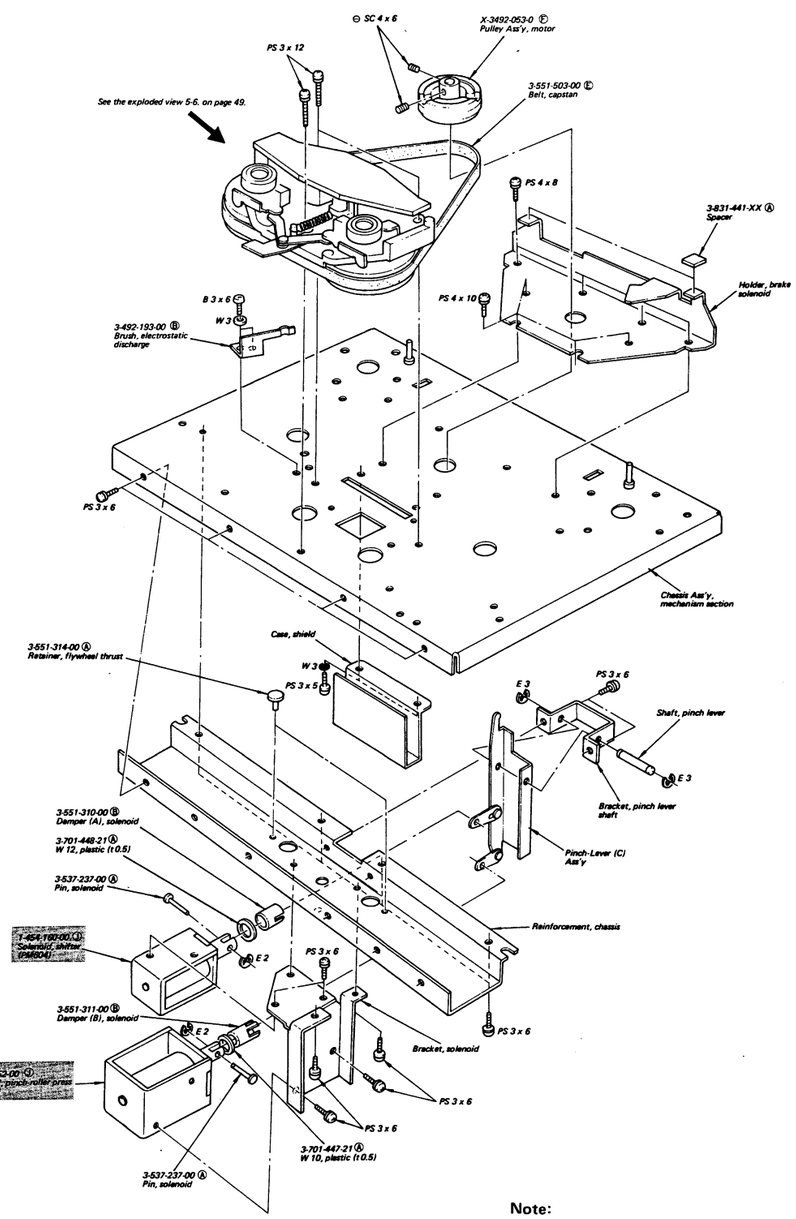
5-6.



Note:

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

5-7.

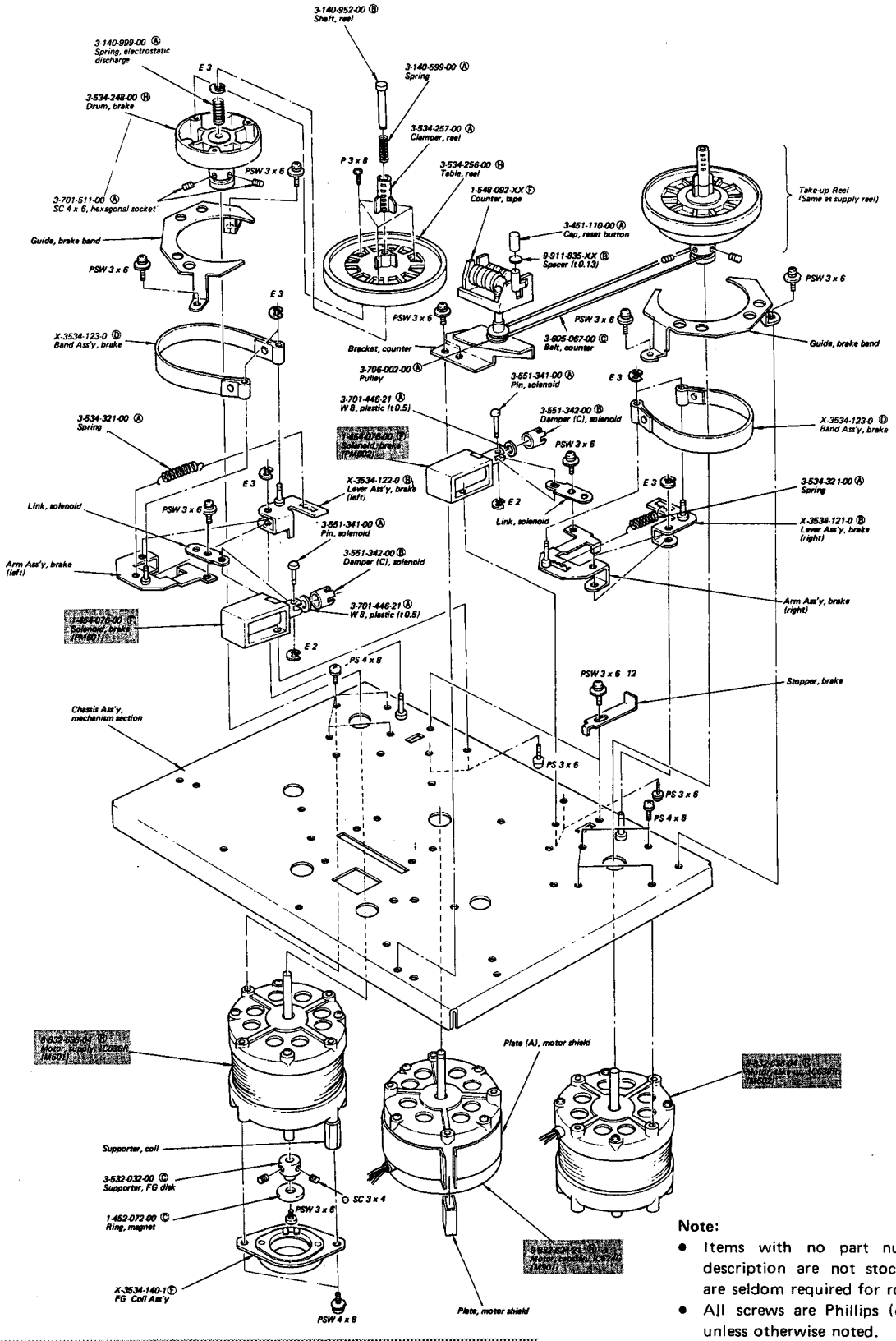


Note: The components identified by shading are critical for safety. Replace only with part number specified.

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
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

5-8.



Note: The components identified by shading are critical for safety. Replace only with part number specified.

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
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

SECTION 6
ELECTRICAL PARTS LIST

Note: Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	Part No.		Description
			PRINTED CIRCUIT BOARD
	1-585-576-00	Ⓑ	Meter
			SEMICONDUCTORS
			Transistors
⇒ Q101–104, ⇒ Q301–304		Ⓑ	2SC1345-E
⇒ Q105,106, ⇒ Q305,306		Ⓑ	2SC634A
⇒ Q108,308		Ⓑ	2SC1345-E
⇒ Q109–114, ⇒ Q309–314		Ⓑ	2SC634A
Q115,315		Ⓑ	2SC1345-E
⇒ Q116,316		Ⓔ	2SK43-13
Q117,317		Ⓑ	2SA705
⇒ Q120,320		Ⓑ	2SC634A
Q121,321, Q122,322		Ⓑ	2SC1345-E
⇒ Q123,323, ⇒ Q124,324		Ⓑ	2SC634A
⇒ Q125,325		Ⓒ	2SC1475
Q126,326		Ⓑ	2SC1345-E (AEP, UK, PX model)
⇒ Q127,327		Ⓒ	2SA678 (AEP, UK, PX model)
Q501		Ⓑ	2SK30A
⇒ Q502,503		Ⓑ	2SC634A
Q504		Ⓒ	2SC1173
⇒ Q505		Ⓒ	2SC1475-13
⇒ Q506–508		Ⓑ	2SC634A
⇒ Q509		Ⓑ	2SC634A (AEP, UK, PX model)
⇒ Q701		Ⓑ	2SC634A
Q702		Ⓓ	2SC1061
⇒ Q703,704		Ⓑ	2SC634A
Q705		Ⓓ	2SC1061
⇒ Q706,707		Ⓑ	2SC634A
Q708		Ⓓ	2SC1061
⇒ Q709		Ⓑ	2SC634A
⇒ Q710		Ⓑ	2SC1364 (blue)
⇒ Q711		Ⓑ	2SC1475-13
⇒ Q712		Ⓑ	2SC1364 (blue)
⇒ Q713		Ⓒ	2SC1475-13
⇒ Q714		Ⓑ	2SC1364 (blue)
⇒ Q715		Ⓒ	2SC1475-13
⇒ Q716–720, ⇒ Q722–735		Ⓑ	2SC634A
⇒ Q736		Ⓖ	2SC867A
⇒ Q737,738		Ⓑ	2SC634A
⇒ Q739		Ⓖ	2SC867A
⇒ Q740–748		Ⓑ	2SC634A
⇒ Q901		Ⓒ	2SA678
⇒ Q902		Ⓑ	2SC634A
Q903		Ⓖ	2SC867A
			ICs
IC701		Ⓚ	CX738
⇒ IC901		Ⓕ	CX065A
			Diodes
⇒ D101,301, ⇒ D102,302		Ⓑ	1S1555
⇒ D103,303		Ⓑ	1T22A
⇒ D501		Ⓑ	EQB01-11Z
⇒ D502–504		Ⓑ	1S1555
⇒ D505		Ⓑ	1S1555 (AEP, UK, PX model)
⇒ D601		Ⓑ	1S1555
⇒ D602,603		Ⓑ	10E2
⇒ D701–705		Ⓑ	10E2
⇒ D706		Ⓑ	EQB01-11Z
⇒ D707		Ⓑ	10E2
⇒ D708–713		Ⓑ	1S1555
⇒ D714		Ⓑ	1T22A
⇒ D715		Ⓑ	1S1555
⇒ D716,717		Ⓑ	10E2
⇒ D718–720, ⇒ D723–743		Ⓑ	1S1555
⇒ D744–747		Ⓑ	10E2

⇒: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

Note: The components identified by shading are critical for safety. Replace only with part number specified.

Note: Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	Part No.		Description
⇒ D748–754		Ⓑ	1S1555
⇒ D755–758		Ⓑ	10E2
⇒ D759–767		Ⓑ	1S1555
⇒ D768		Ⓑ	EQB01-11Z
D769		Ⓑ	1S1555
⇒ D901		Ⓑ	10E2
D904,905		Ⓑ	VD1221
⇒ D906–909		Ⓑ	10E2
Th701,702	1-800-204-00	Ⓑ	Thermistor S-10K

COILS

L101,301	1-407-593-00	Ⓑ	27 mH, microinductor
L102,302	1-407-269-00	Ⓑ	2.2 mH, variable inductor
L103,303	1-407-213-XX	Ⓑ	1.5 mH, microinductor
L104,304	1-407-195-XX	Ⓑ	1.2 mH, microinductor
L106,306	1-407-286-00	Ⓑ	2.2 mH, variable inductor
L107,307	1-407-248-00	Ⓑ	1 mH, variable inductor

TRANSFORMER

PT601	1-442-803-00		Power (US, Canadian model)
	1-442-804-00	Ⓑ	Power (AUS, AEP, PX model)
T101,301	1-427-284-00	Ⓑ	Output

CAPACITORS

All capacitors are in μF and electrolytic unless otherwise noted.
50WV or less are not indicated except for electrolytics tantalum. pF = μμF

C101,301	1-131-193-11	Ⓑ	10	10V	tantalum
C102,302	1-107-131-11	Ⓐ	100p		silvered mica
C103,303	1-121-410-11	Ⓑ	47	25V	
C104,304	1-131-190-11	Ⓑ	22	6.3V	tantalum
C105,305	1-131-236-11	Ⓑ	1	25V	tantalum
C106,306	1-107-073-11	Ⓐ	33p		silvered mica
C107,307	1-131-192-11	Ⓑ	4.7	10V	tantalum
C108,308	1-121-416-11	Ⓑ	100	25V	
C109,309	1-107-131-11	Ⓐ	100p		silvered mica
C110,310	1-107-133-11	Ⓐ	120p		silvered mica
C111,311	1-131-191-11	Ⓑ	47	6.3V	tantalum
C112,312	1-131-207-11	Ⓑ	4.7	25V	tantalum
C113,313	1-121-391-11	Ⓐ	1	50V	
C114,314	1-108-816-12	Ⓑ	0.1		mylar
C116,316	1-131-193-11	Ⓑ	10	10V	tantalum
C117,317	1-121-654-11	Ⓑ	330	25V	
C118,318	1-131-190-11	Ⓑ	22	6.3V	tantalum
C119,319	1-121-805-11	Ⓑ	330	10V	
C120,320	1-131-238-11	Ⓑ	10	25V	tantalum
C121,321	1-108-795-12	Ⓐ	0.0018		mylar
C122,322	1-108-808-12	Ⓐ	0.022		mylar
C123,323	1-108-808-12	Ⓐ	0.022		mylar
C134–126, C324–326	1-108-805-12	Ⓐ	0.012		mylar
C127,327	1-108-804-12	Ⓐ	0.01		mylar
C128,328	1-108-806-12	Ⓐ	0.015		mylar
C129,329	1-107-185-11	Ⓐ	470p		silvered mica
C130,330	1-107-037-11	Ⓐ	82p		silvered mica
C131,331	1-107-163-11	Ⓐ	47p		silvered mica
C132–134, C332–334	1-101-001-11		0.001 (US, Canadian model)		ceramic
C135,335	1-141-010-XX	Ⓑ	Trimmer		
C201,401	1-131-195-11	Ⓑ	33	10V	tantalum
C202,402	1-107-131-11	Ⓐ	100p		silvered mica
C203,403	1-121-410-11	Ⓑ	47	25V	
C204,404	1-107-123-11	Ⓐ	47p		silvered mica
C205,405	1-131-187-11	Ⓑ	100	3.15V	tantalum
C206,406	1-104-052-11	Ⓑ	0.015	125V	polystyrol
C207,407	1-131-238-11	Ⓑ	10	25V	tantalum
C208,408	1-103-765-11	Ⓐ	390p		polystyrol
C209,409	1-121-391-11	Ⓐ	1	50V	
C210,410, C211,411	1-107-135-11	Ⓐ	150p		silvered mica
C212,412	1-131-190-11	Ⓐ	22	6.3V	tantalum
C213,413	1-121-416-11	Ⓑ	100	25V	
C214,414	1-107-102-11	Ⓐ	5p		silvered mica
C215,415	1-131-195-11	Ⓑ	33	10V	tantalum
C216,416	1-108-814-12	Ⓑ	0.068		mylar
C217,417	1-131-208-11	Ⓒ	6.8	25V	tantalum
C218,418	1-107-123-11	Ⓐ	47p		silvered mica
C219,419	1-131-192-11	Ⓑ	4.7	10V	tantalum
C220,420	1-121-398-11	Ⓐ	10	25V	
C221,421	1-121-352-11	Ⓐ	47	10V	

⇒: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

Note: The components identified by shading are critical for safety. Replace only with part number specified.

Note: Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	Part No.		Description
C251,451	1-131-197-11	Ⓑ	3.3 16V tantalum (AEP, UK, PX model)
C252,452	1-107-139-11	Ⓐ	220p silvered mica (AEP, UK, PX model)
C253,453	1-131-207-11	Ⓑ	4.7 25V tantalum (AEP, UK, PX model)
C254,454	1-121-416-11	Ⓑ	100 25V
C501	1-121-738-11	Ⓐ	10 50V
C502	1-121-415-11	Ⓑ	100 16V
C503	1-121-480-11	Ⓐ	22 25V
C504	1-121-398-11	Ⓐ	10 25V
C505	1-121-450-11	Ⓐ	2.2 50V
C506	1-129-703-11	Ⓑ	0.0012 630V polyethylene
C507	1-108-804-12	Ⓐ	0.01 mylar
C508–510	1-121-398-11	Ⓐ	10 25V
C511	1-101-001-11	Ⓐ	0.001 ceramic
C512,513	1-101-001-11	Ⓐ	0.001, ceramic (AEP, UK, PX model)
C601	1-108-750-22	Ⓑ	0.015 300V metalized paper (AEP, UK, PX model)
C701–703	1-121-061-11	Ⓒ	1000 50V
C704	1-121-411-11	Ⓑ	47 50V
C705	1-121-409-11	Ⓐ	47 16V
C706	1-121-398-11	Ⓐ	10 25V
C707	1-121-391-11	Ⓐ	1 50V
C708	1-121-057-11	Ⓒ	1000 25V
C709	1-121-415-11	Ⓑ	100 16V
C710	1-121-395-11	Ⓐ	4.7 25V
C711	1-121-450-11	Ⓐ	2.2 50V
C712	1-121-395-11	Ⓐ	4.7 25V
C713	1-121-396-11	Ⓐ	4.7 50V
C714	1-121-187-11	Ⓐ	10 25V
C715	1-108-246-12	Ⓐ	0.047
C716	1-121-480-11	Ⓐ	22 25V
C717	1-121-409-11	Ⓐ	47 16V
C718	1-121-480-11	Ⓐ	22 25V
C719	1-121-395-11	Ⓐ	4.7 25V
C720	1-121-415-11	Ⓑ	100 16V
C721	1-108-246-12	Ⓐ	0.047 mylar
C722–726	1-108-239-12	Ⓐ	0.01 mylar
C727	1-108-234-12	Ⓐ	0.047 mylar
C728	1-108-239-12	Ⓐ	0.01 mylar
C729,730	1-102-110-11	Ⓐ	220p ceramic
C731,732	1-108-244-12	Ⓐ	0.033 mylar
C733	1-123-182-11	Ⓐ	4.7 50V
C734	1-131-205-11	Ⓑ	2.2 25V tantalum
C735	1-121-450-11	Ⓐ	2.2 50V
C736	1-121-398-11	Ⓐ	10 25V
C737	1-121-396-11	Ⓐ	4.7 50V
C738	1-108-961-11	Ⓒ	0.47 200V polyethylene
C739	1-117-100-11	Ⓑ	10 150V metalized paper
C740,741	1-121-395-11	Ⓐ	4.7 25V
C742	1-108-967-11	Ⓒ	0.47 200V polyethylene
C743	1-117-100-11	Ⓑ	10 150V metalized paper
C744	1-121-398-11	Ⓐ	10 25V
C745	1-121-450-11	Ⓐ	2.2 50V
C746	1-121-395-11	Ⓐ	4.7 25V
C747	1-108-239-12	Ⓐ	0.01 mylar
C748	1-102-074-11	Ⓐ	0.001 ceramic
C749	1-121-395-11	Ⓐ	4.7 25V
C750	1-121-398-11	Ⓐ	10 25V
C751	1-121-409-11	Ⓐ	47 16V
C752	1-121-398-11	Ⓐ	10 25V
C753	1-121-986-11	Ⓐ	2.2 50V
C901	1-121-416-11	Ⓑ	100 25V
C902	1-121-398-11	Ⓐ	10 25V
C903	1-129-793-11	Ⓑ	0.047 100V polyethylene
C904	1-108-593-12	Ⓑ	0.039 mylar
C905	1-108-240-12	Ⓐ	0.015 mylar
C906	1-121-450-11	Ⓐ	2.2 50V
C907	1-121-398-11	Ⓐ	10 25V
C908	1-121-961-11	Ⓐ	4.7 25V
C909,910	1-131-211-11	Ⓑ	0.22 35V tantalum
C911	1-121-968-11	Ⓐ	10 16V
C912	1-121-951-11	Ⓐ	0.47 50V
C913	1-121-980-11	Ⓐ	100 6.3V
C914	1-121-961-11	Ⓐ	4.7 25V
C915	1-121-759-11	Ⓑ	4.7 250V
C916	1-130-076-11		500V polystyrol

Note: The components identified by shading are critical for safety. Replace only with part number specified.

Note: Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	Part No.		Description	
			RESISTORS	
			All resistors are in ohms. Common ¼W carbon resistors are omitted. Check schematic diagram for their values.	
R108,308	1-244-871-11	Ⓐ	820	½W
R109,309	1-244-913-11	Ⓐ	47 k	½W
R111,311	1-244-889-11	Ⓐ	4.7 k	½W
R118,318	1-244-861-11	Ⓐ	330	½W
R121,321	1-244-905-11	Ⓐ	22 k	½W
R125,325	1-244-909-11	Ⓐ	33 k	½W
R127,327	1-244-885-11	Ⓐ	3.3 k	½W
R138,338	1-244-873-11	Ⓐ	1 k	½W
R140,340	1-244-897-11	Ⓐ	10 k	½W
R141,341	1-244-875-11	Ⓐ	1.2 k	½W
R146,346	1-217-401-11		150	¼W fusible (US, Canadian model)
R170,370	1-244-857-11	Ⓐ	220	½W
R201,401	1-244-912-11	Ⓐ	43 k	½W
R206,406	1-244-853-11	Ⓐ	150	½W
R210,410 R212,412	1-244-885-11	Ⓐ	3.3 k	½W
R213,413	1-244-927-11	Ⓐ	180 k	½W
R214,414	1-244-883-11	Ⓐ	2.7 k	½W
R231,431 R232,432	1-244-889-11	Ⓐ	4.7 k	½W
R234,434	1-244-859-11	Ⓐ	270	½W
R235,435	1-244-905-11	Ⓐ	22 k	½W
R241,441	1-244-885-11	Ⓐ	3.3 k	½W
R255,455	1-244-871-11	Ⓐ	820	½W
R501	1-217-387-11	Ⓑ	10	¼W fusible
R505,506	1-244-897-11	Ⓐ	10	½W
R517	1-217-382-11		3.9	¼W fusible (US, Canadian model)

[redacted]

Ref. No.	Part No.		Description	
[redacted]				
R793	1-244-867-11	Ⓐ	560	½W
R794	1-244-875-11	Ⓐ	1.2 k	½W
[redacted]				
R809	1-244-875-11	Ⓐ	1.2 k	½W
[redacted]				
R901	1-244-865-11	Ⓐ	470	½W
R903	1-212-626-11	Ⓑ	33 k	¼W metal oxide
R904	1-212-634-11	Ⓑ	68 k	¼W metal oxide
R915	1-217-375-11	Ⓑ	1	¼W fusible
R916	1-206-713-11	Ⓑ	330	3W metal oxide
RV101,301 RV102,302	1-224-962-00	Ⓕ	20 k, variable; MIC, LINE	
RV103,303 RV104,304	1-224-646-XX	Ⓑ	22 k, adjustable	
RV105,305	1-224-448-00	Ⓔ	10 k, variable; PB LEVEL	
RV106,306	1-224-643-XX	Ⓑ	2.2 k, adjustable	
RV701	1-224-645-XX	Ⓑ	10 k, adjustable	
RV702,703	1-224-643-XX	Ⓑ	2.2 k, adjustable	
RV901	1-224-493-00	Ⓑ	10 k, adjustable	
RV902	1-224-491-00	Ⓑ	22 k, adjustable	
			SWITCHES	
S101,301	1-552-073-00	Ⓕ	Rotary, MIC ATT	
S102,302	1-552-074-00	Ⓗ	Rotary, EQ	
S103,303	1-552-075-00	Ⓔ	Pushbutton, REC MODE	
S104,304	1-552-077-00	Ⓓ	Lever Slide, MONITOR	
S106,306	1-516-778-XX	Ⓒ	Slide, INPUT SELECT AEP, UK, PX model)	
S501	1-552-073-00	Ⓕ	Rotary, BIAS	
S601–603	1-552-072-00	Ⓕ	Rotary-slide, REEL SIZE, TAPE SPEED, TIMER	
[redacted]				
S605,606	1-516-028-XX	Ⓕ	Micro, shut-off	
S607	1-514-524-00	Ⓑ	Slide, REC MONITOR MUTE	

Note: The components identified by shading are critical for safety. Replace only with part number specified.

Note: Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	Part No.		Description	
			JACKS	
J101,301	1-507-455-00	Ⓒ	MIC	
J102,302 J103,303	1-507-433-00	Ⓒ	4p, phone; LINE IN, LINE OUT	
J501	1-507-454-00	Ⓒ	HEADPHONES	
			FUSES	
[redacted]				
[redacted]				
			MISCELLANEOUS	
CN501	1-509-549-00	Ⓑ	Connector, REC/PB (AEP, UK, PX model)	
CN601	1-507-255-00	Ⓑ	Socket, 11-p; REMOTE CONTROL	
[redacted]				
[redacted]				
HE101,301	8-825-547-00	Ⓔ	Head, erase FF18-2902A2	
⇒HP101,301	8-825-534-20	Ⓛ	Head, playback PF140-2202D	
HR101,301	8-825-511-00	Ⓛ	Head, record RF140-2902	

⇒: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

Ref. No.	Part No.		Description	
[redacted]				
ME101,301	1-520-285-00	Ⓜ	Meter, VU	
PL101,301 PL601–605	1-518-278-21	Ⓑ	Lamp, 6V 35 mA PL101,301: REC MODE PL601–605: pilot	
[redacted]				
RY501,502	1-515-267-00	Ⓕ	Reed Relay	
RY503	1-515-267-00	Ⓕ	Reed Relay (AEP, UK, PX model)	
[redacted]				
	1-452-072-00	Ⓒ	Ring, magnet	
	1-464-029-00	Ⓖ	OSC Unit	
[redacted]				
	1-533-125-00	Ⓒ	Holder, fuse 5-p (AEP, UK, PX model)	
	1-533-131-00		Holder, fuse (US, Canadian model)	
[redacted]				
[redacted]				

Note: The components identified by shading are critical for safety. Replace only with part number specified.

Note: Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

ACCESSORIES & PACKING MATERIALS

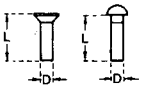
Part No.		*Description*
A-2500-027-A		RM-30 (US, Canadian, PX model)
X-3552-801-0		Carton Ass'y (US model)
X-3552-802-0	Ⓚ	Carton Ass'y (Canadian, AEP, UK model)
X-3552-803-0		Carton Ass'y (PX model)
1-526-565-00		Adaptor, AC plug (PX model)
1-534-049-31	Ⓕ	Cord, connection; RK-74H
1-534-754-00		Cord, power (PX model)
1-534-819-00	Ⓖ	Cord, power 3p (UK model)
3-401-193-00		Ribbon, head cleaning (US model)
3-534-322-00	Ⓐ	Cushion, reel table
3-534-327-00	Ⓒ	Case, reel
3-541-496-00	Ⓓ	Bag, protection
3-542-008-00	Ⓒ	Tips, head cleaning
3-542-101-00	Ⓑ	Adaptor, reel
3-551-428-00	Ⓑ	Cover, sheet
3-551-428-00	Ⓑ	Cushion, lower
3-551-430-00	Ⓓ	Cushion upper
3-552-909-00		Carton, RM-30 (PX, US, Canadian model)
3-701-628-00		Bag, plastic; RM-30 (US, Canadian, PX model)
3-701-632-11	Ⓘ	Manual, instruction (AEP, UK model)
3-770-226-21		Manual, instruction (US model)
3-770-226-31		Manual, instruction (Canadian model)
3-770-226-61		Manual, instruction (PX model)

Note: The components identified by shading are critical for safety. Replace only with part number specified.

HARDWARE NOMENCLATURE

Screw:

P 3 x 10
- *L: Length in mm*
- *D: Diameter in mm*
- *Type of head*
- *Indicated slotted-head only. Unless otherwise indicated, it means cross-recessed head (Phillips type).*



Nut, Washer, Retaining ring:

N 3
- *Diameter of usable screw or shaft*
- *Reference designation*

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

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