

SERVICE MANUAL

TC-511B,S STEREO CASSETTE DECK




SINCE 1887



YAMAHA

NIPPON GAKKI CO., LTD. HAMAMATSU, JAPAN

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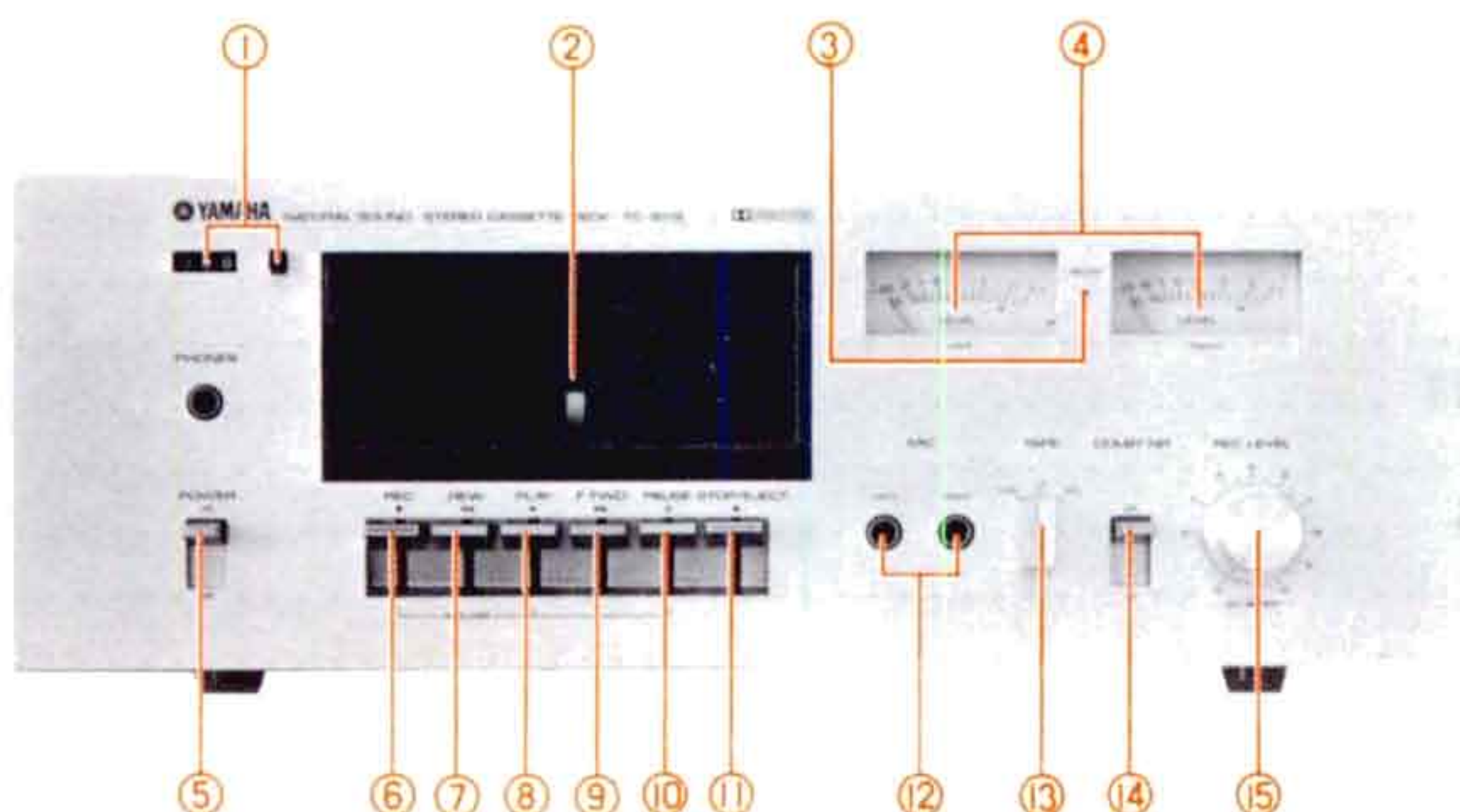
SPECIFICATIONS

Recording System	4 track, 2-channel stereo	Channel Separation	Better than 30 dB (1 KHz)
Tape Speed	4,8 cm/sec (1-7/8 ips)	Output Level/Impedance	Line: 370 mV/50 K Ω (0VU) Phone: 1,6 mV/8 Ω (0VU) 5 mV/150 Ω
Wow & Flutter	Less than 0.07% (W.R.M.S)	Semiconductors	18 Transistors, 4 IC, 21 Diodes
Fast wind, Rewind Time	Within 90 sec (C-60 Tape)	Power Consumption	12W
Frequency Response	30 ~ 13,000 Hz (LH Tape) 30 ~ 15,000 Hz (FeCr Tape)	Power Source	AC 110 ~ 240V, 50/60 Hz
Input Sensitivity/Impedance	Line: 50 mV/100 K Ω Mic: 0.5 mV/5 K Ω	Dimensions (WxHxD)	435(W) x 160(H) x 334(D) mm (110.8" x 40.7" x 85")
Signal-to-Noise Ratio	Dolby off: Better than 53 dB (LH Tape) on: 8 dB (Better than 5 KHz)	Weight	8 Kg, 3,65lbs
Total Distortion	Less than 1.5% (1 KHz, 0VU, LH Tape)	• TC-511B is not different from TC-511S except external view of front panel. Specifications subject to change without notice.	
Bias Frequency	85 KHz		

COMPONENTS LOCATION

FRONT PANEL

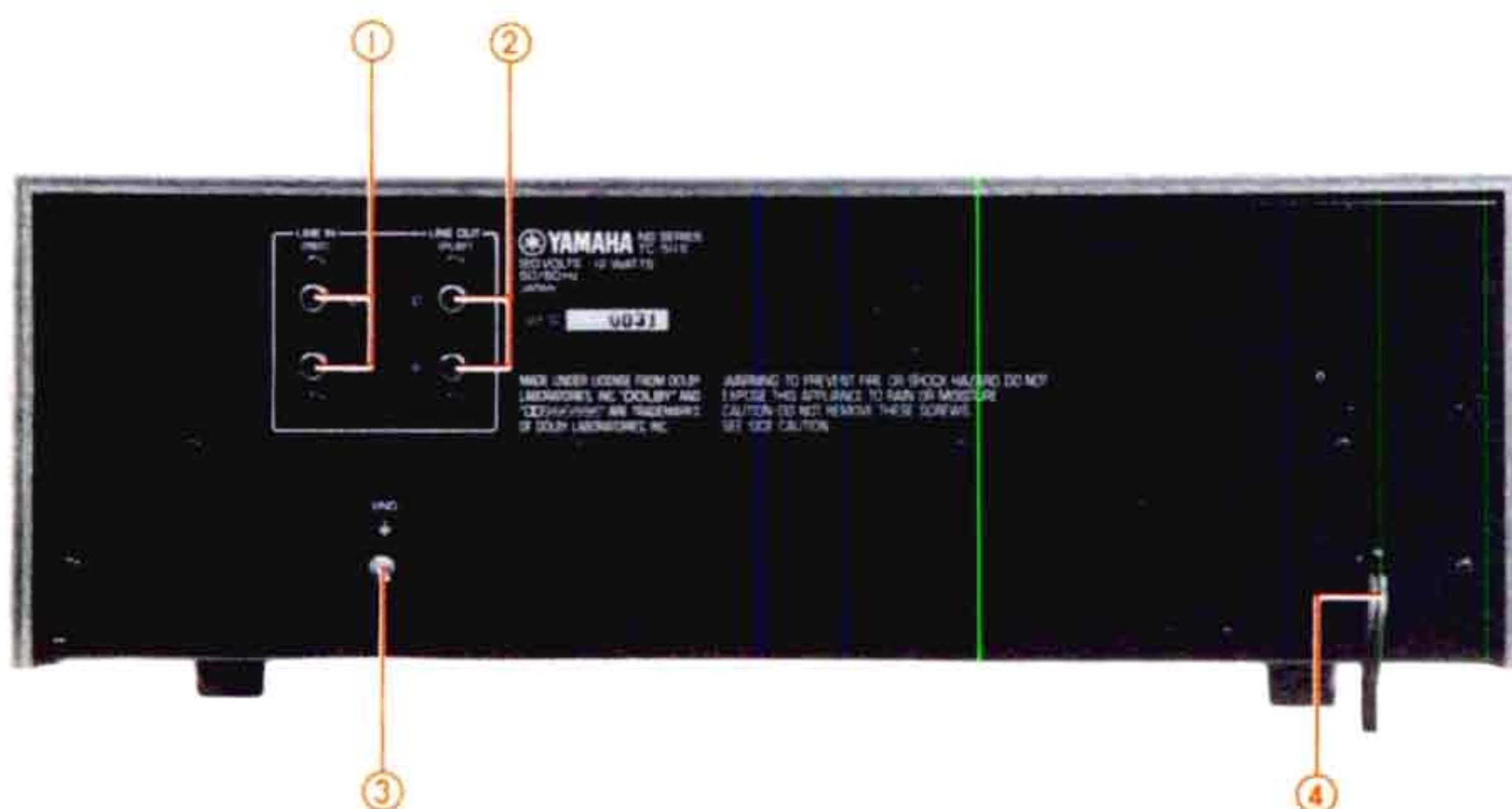
TC-511S



- ① TAPE COUNTER/RESET BUTTON
- ② CASSETTE DOOR
- ③ RECORD INDICATOR
- ④ LEVEL METERS
- ⑤ HEADPHONE JACK
- ⑥ POWER SWITCH
- ⑦ RECORD BUTTON (●)
- ⑧ REWIND BUTTON (◀◀)
- ⑨ PLAY BUTTON (▶)
- ⑩ FAST FORWARD BUTTON (▶▶)
- ⑪ PAUSE BUTTON (||)
- ⑫ STOP/EJECT BUTTON (■)
- ⑬ MICROPHONE INPUT JACKS
- ⑭ TAPE SELECTOR SWITCH
- ⑮ DOLBY NR SWITCH
- ⑯ REC LEVEL CONTROL

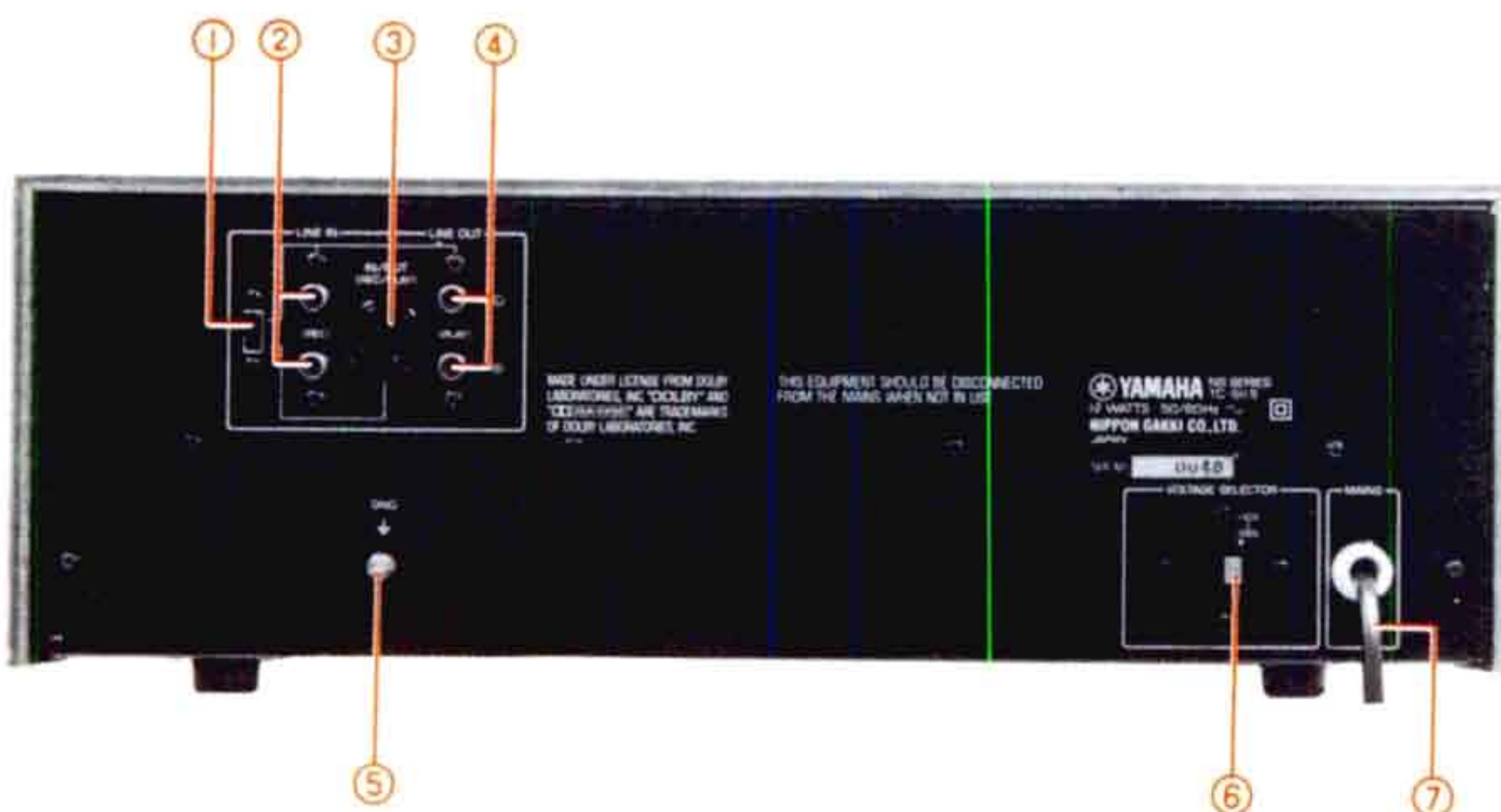
REAR PANEL

U.S. & CANADIAN MODELS



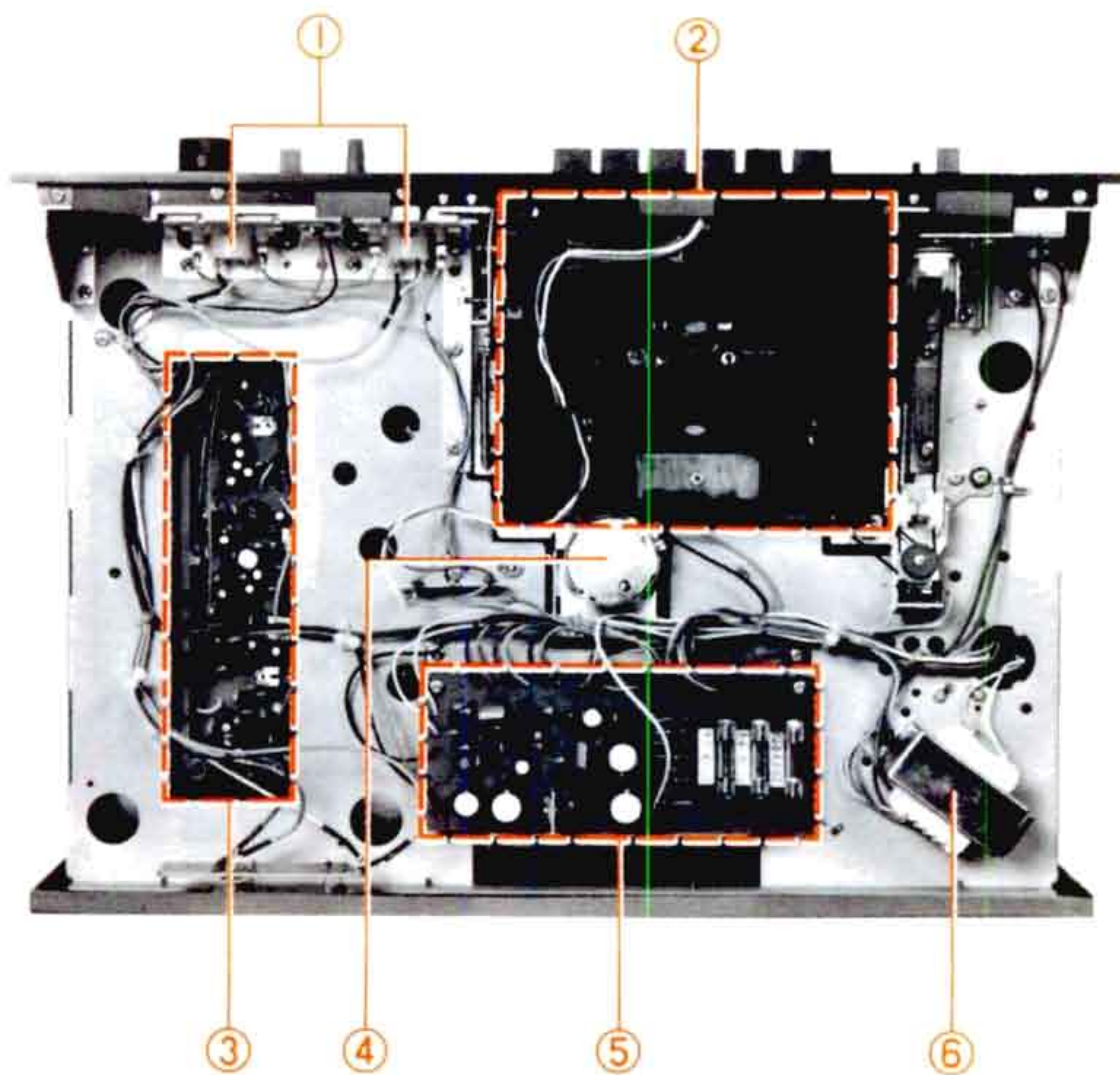
- ① LINE INPUT JACKS
- ② LINE OUTPUT JACKS
- ③ GROUND TERMINAL
- ④ AC CORD

EUROPEAN MODEL



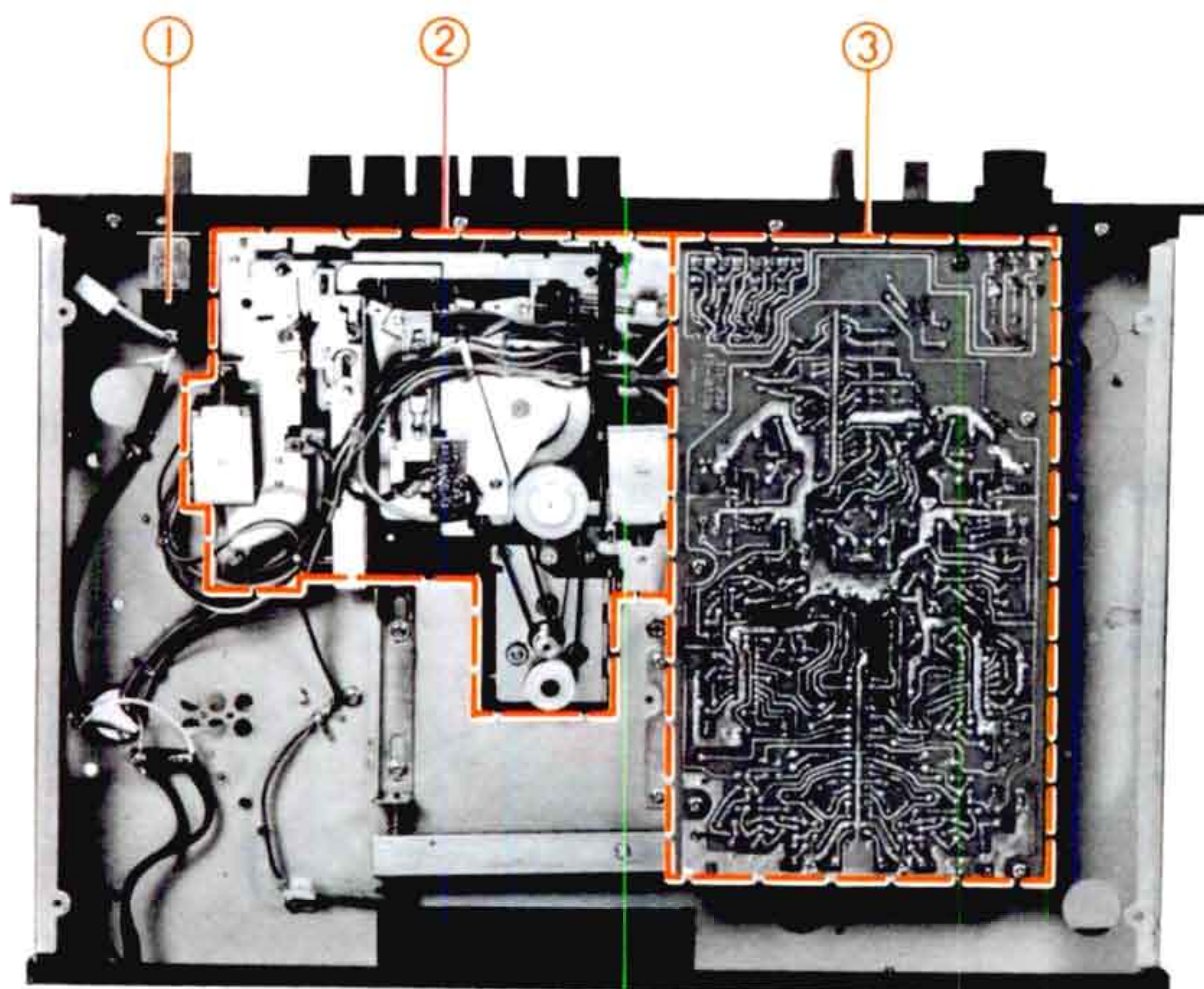
- ① INPUT SELECTOR SWITCH ECTOR
- ② LINE INPUT JACKS
- ③ DIN CONNECTOR
- ④ LINE OUTPUT JACKS
- ⑤ GROUND TERMINAL
- ⑥ VOLTAGE SELECTOR
- ⑦ AC CORD

TOP VIEW



- ① LEVEL METERS
- ② CASSETTE CASE
- ③ REC/PB CIRCUIT BOARD
- ④ MOTOR
- ⑤ POWER CIRCUIT BOARD
- ⑥ POWER TRANSFORMER

BOTTOM VIEW



- ① POWER SWITCH
- ② TAPE MECHANISM
- ③ REC/PB CIRCUIT BOARD

DISASSEMBLY PROCEDURES

1. HOW TO REMOVE THE TOP COVER

- a) Loosen the left and right screws circled in Photo 1, and then remove the upper panel.

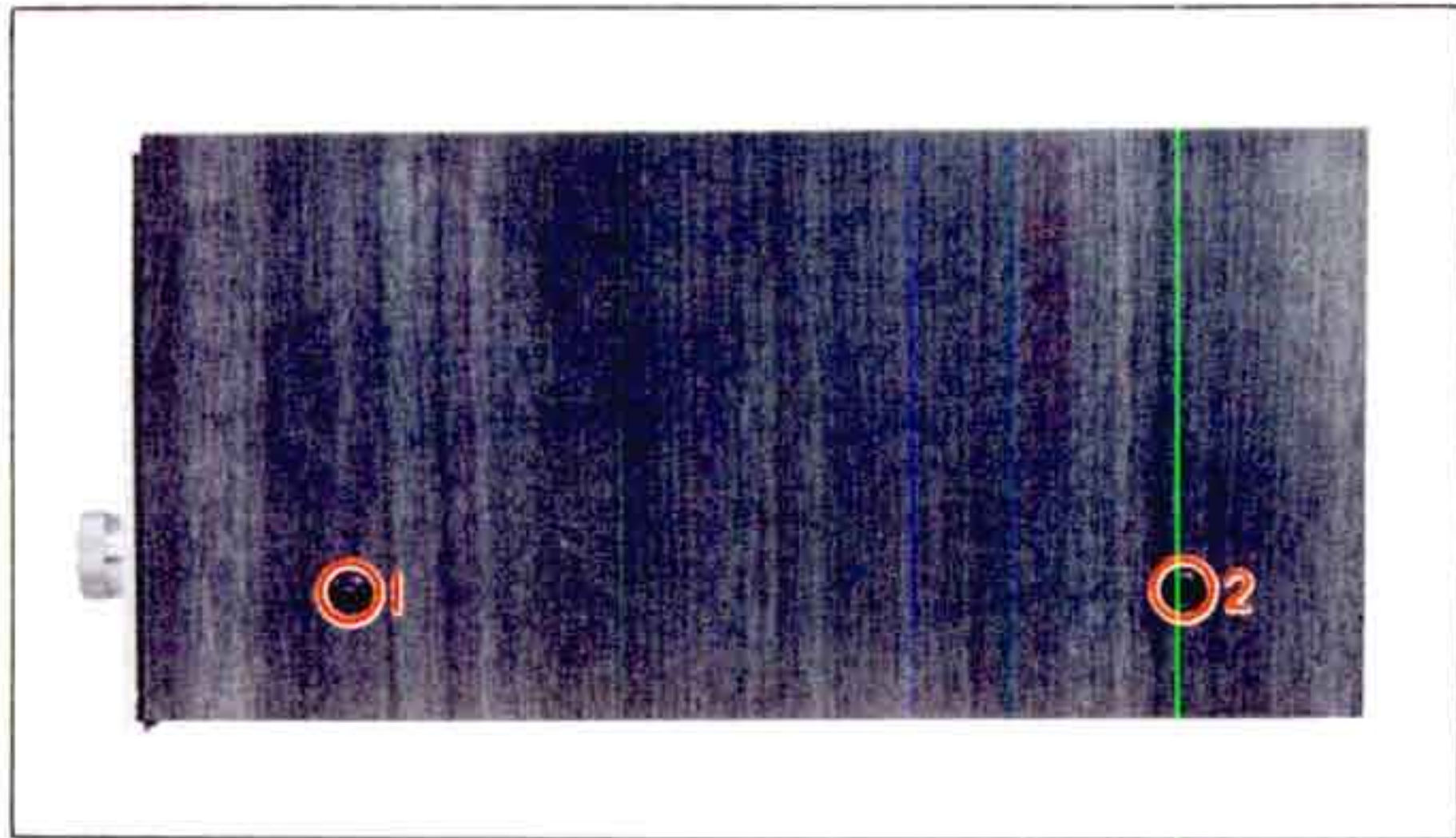


Photo 1

2. HOW TO REMOVE THE BOTTOM COVER

- a) Loosen the screws (1) to (5) shown in Photo 2, and then remove the bottom panel.

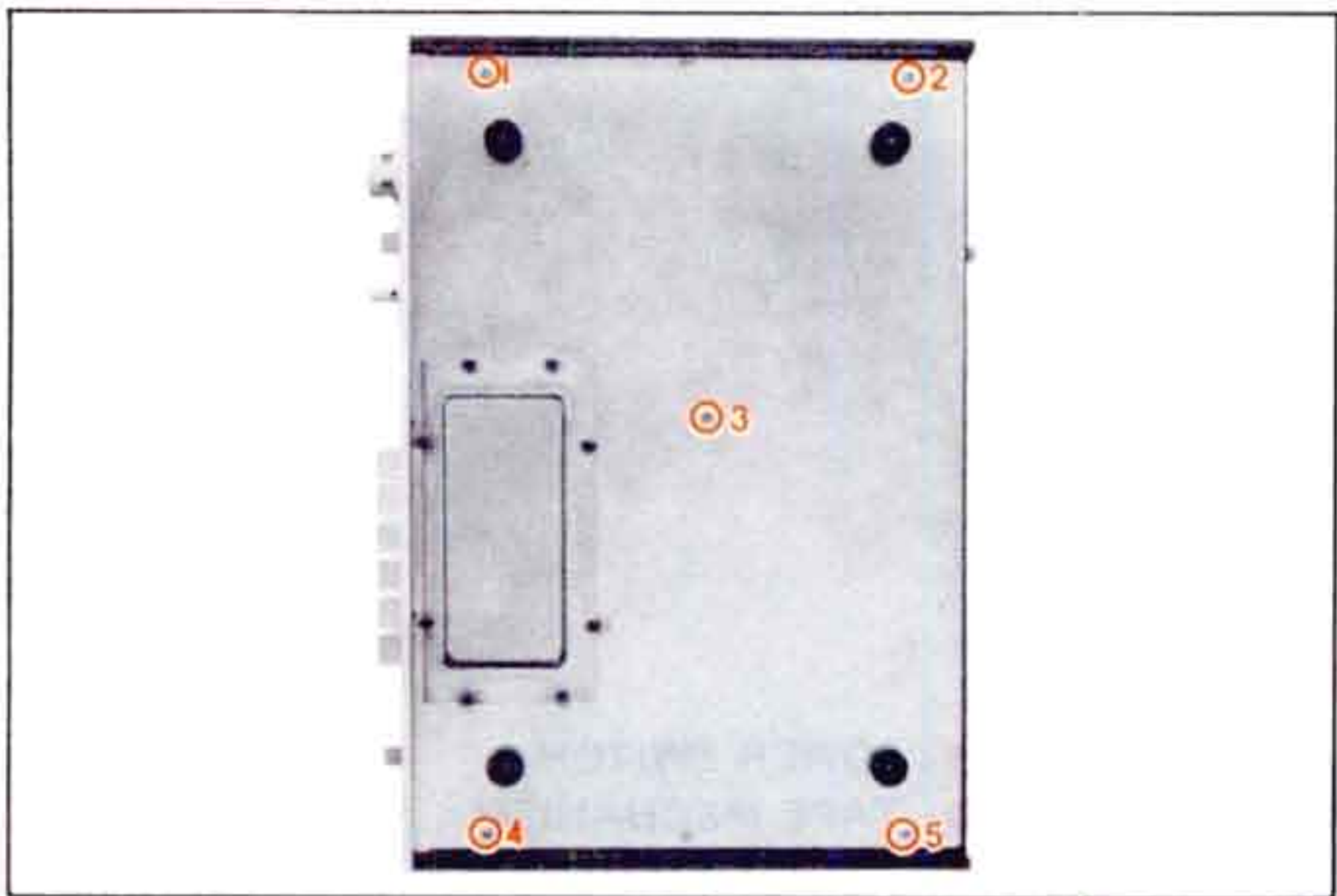


Photo 2

3. HOW TO REMOVE THE FRONT PANEL

- a) Remove the top and bottom covers according to the procedures 1 and 2.
b) Then, remove the TAPE and REC LEVEL knobs shown in Photo 3. (To loosen the screws of the TAPE knob, use a hexagonal wrench.)



Photo 3

- c) Loosen the screws (1) to (8) shown in Photo 4 and those (1) to (4) in Photo 5, and then take out the front panel to this side.
• Take much care not to scratch the acryl-coated area when the front panel is removed. The spring of the cassette door is easily detached itself.

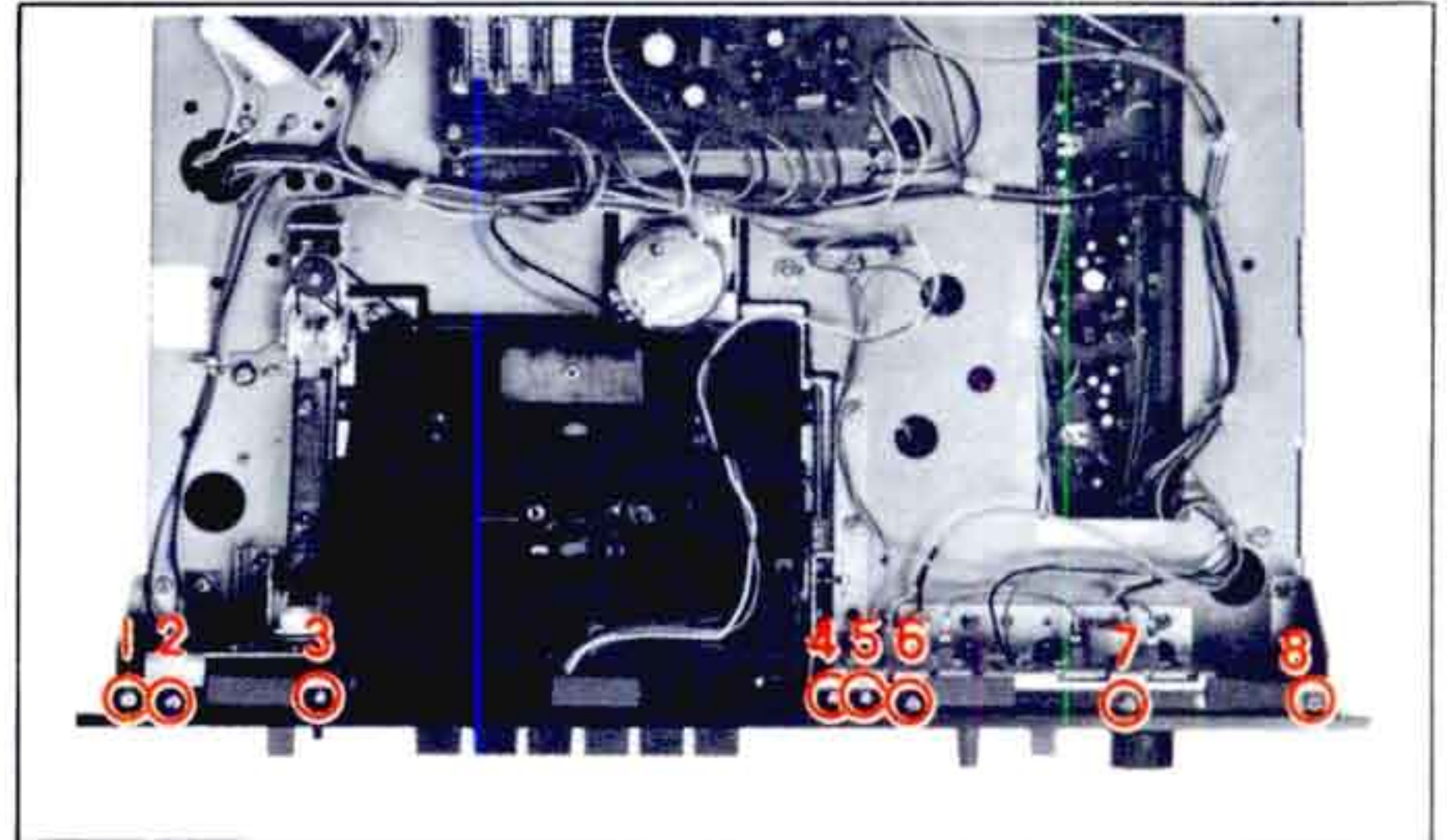


Photo 4

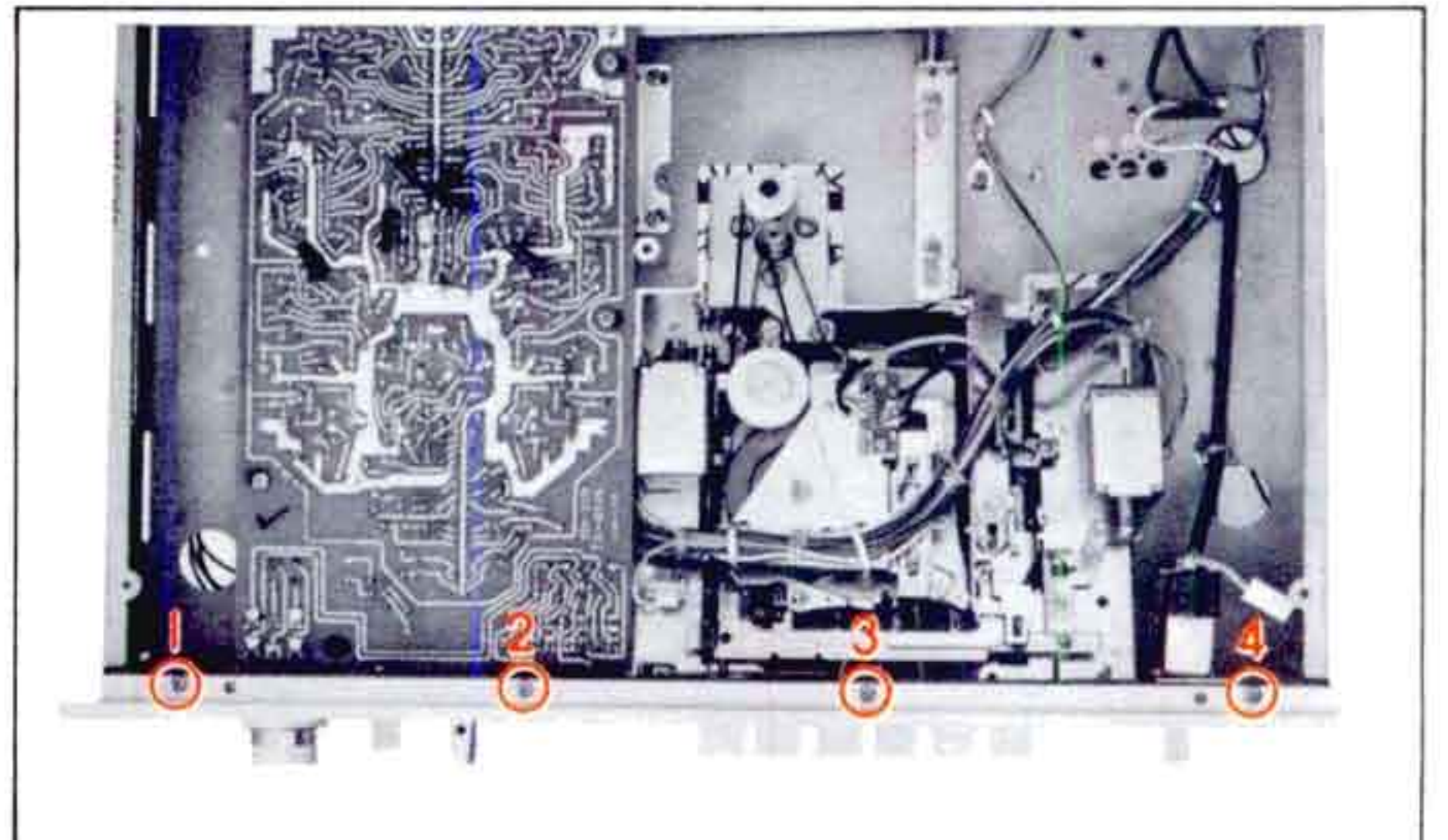
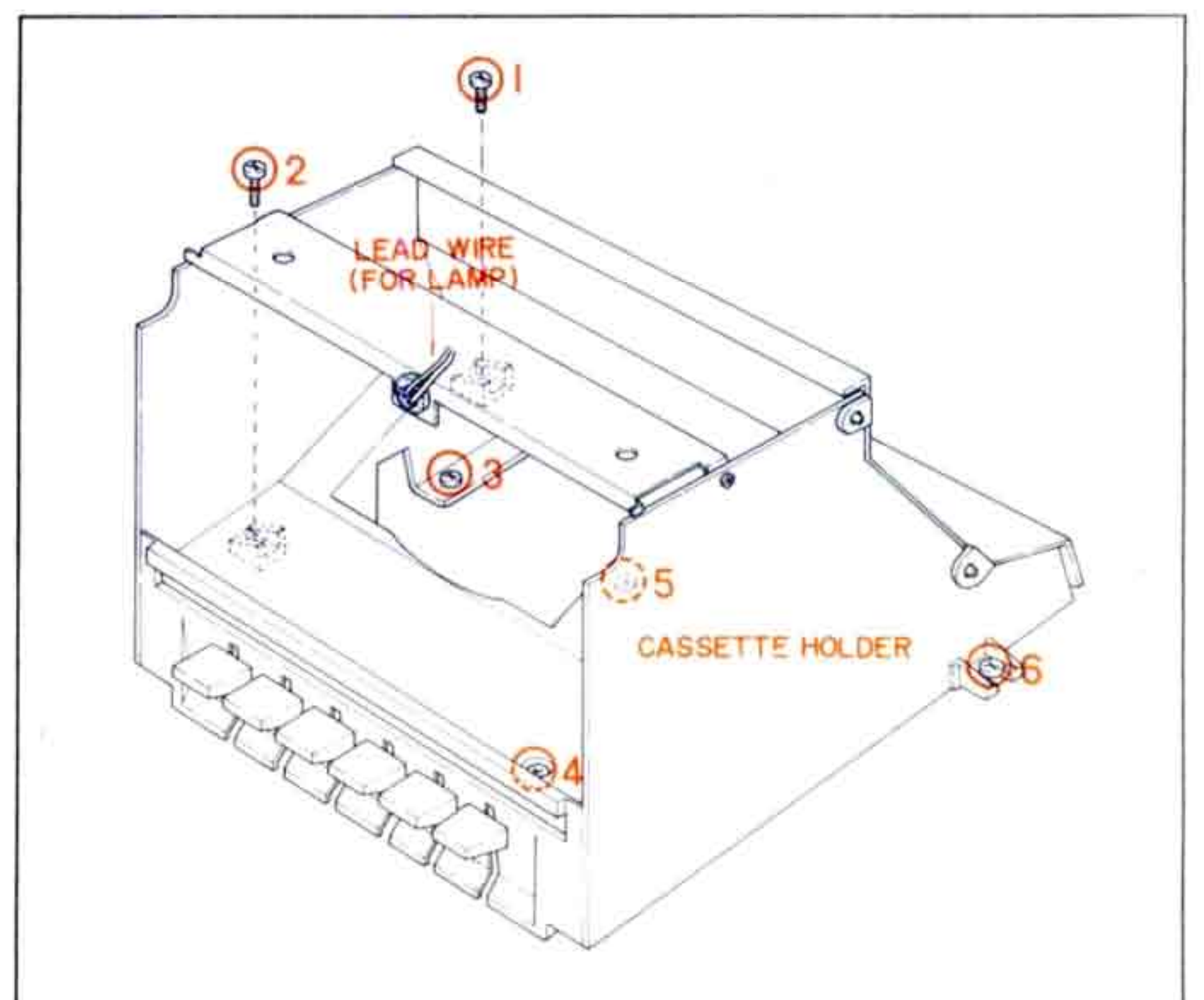


Photo 5

4. HOW TO REMOVE THE CASSETTE HOUSING

- a) Remove the front panel according to the procedure 3.
b) Turn the cassette door lever to the right, and then remove the cassette door.



c) The cassette housing can be removed by loosening the screws (1) to (6) shown in Fig. 1.

- 1. When the cassette housing is removed, be sure to take off a strip of Scotch tape fixing down a reed wire for the illumination lamp.
- 2. Be sure, too, to take out the cassette housing so carefully that the tape control lever is bent.

5. HOW TO REMOVE THE TAPE MECHANISM UNIT

- a) Remove the cassette housing according to the procedure 4.
- b) Then, remove the soldered terminals of recording/reproduction head, erasure head, motor switch, etc. shown in Photo 6, and the clamber of reed wire mounted on the flywheel installation board.
- c) Take out the rubber belt (1) shown in Photo 7.
- Take out the belt (2) before the belt (1).

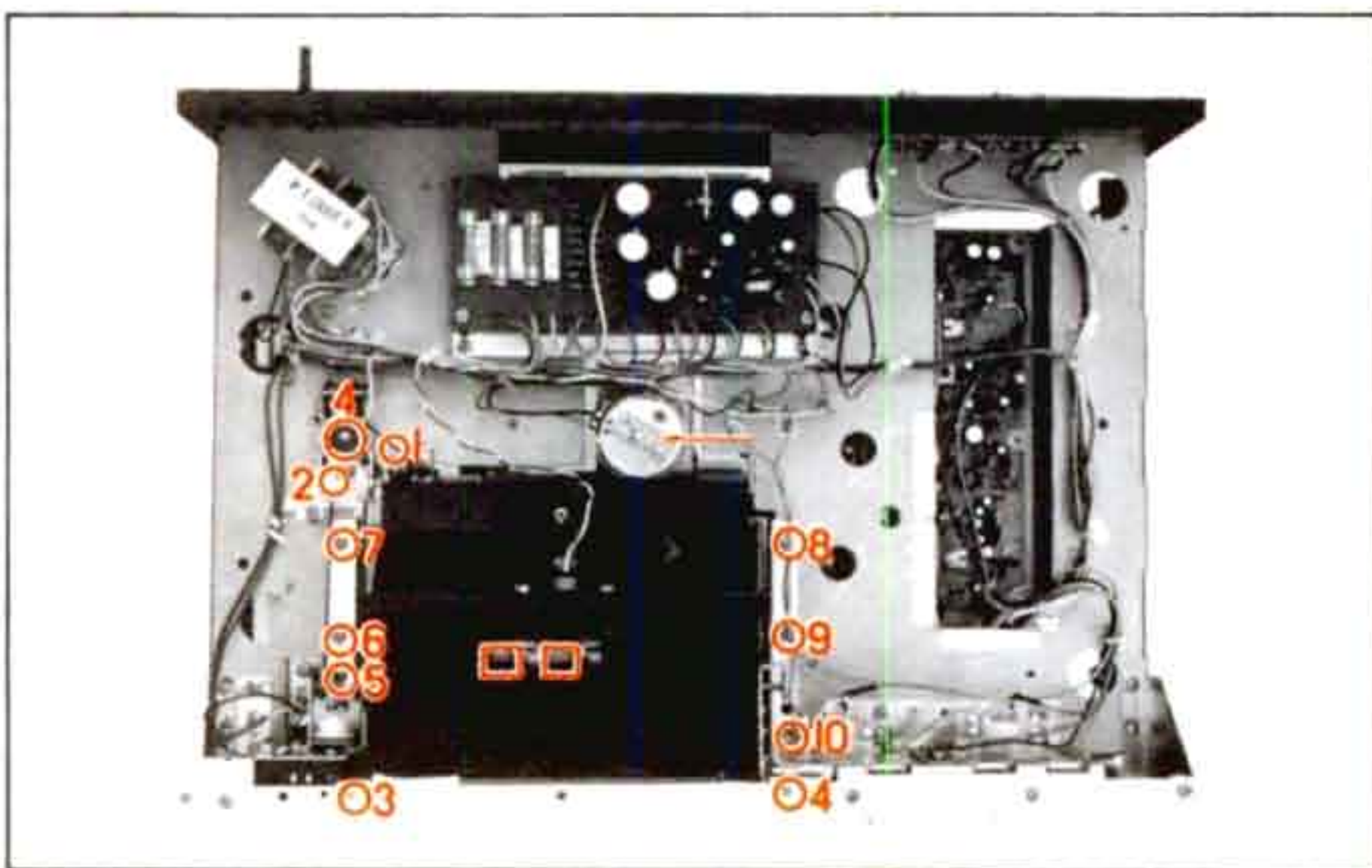


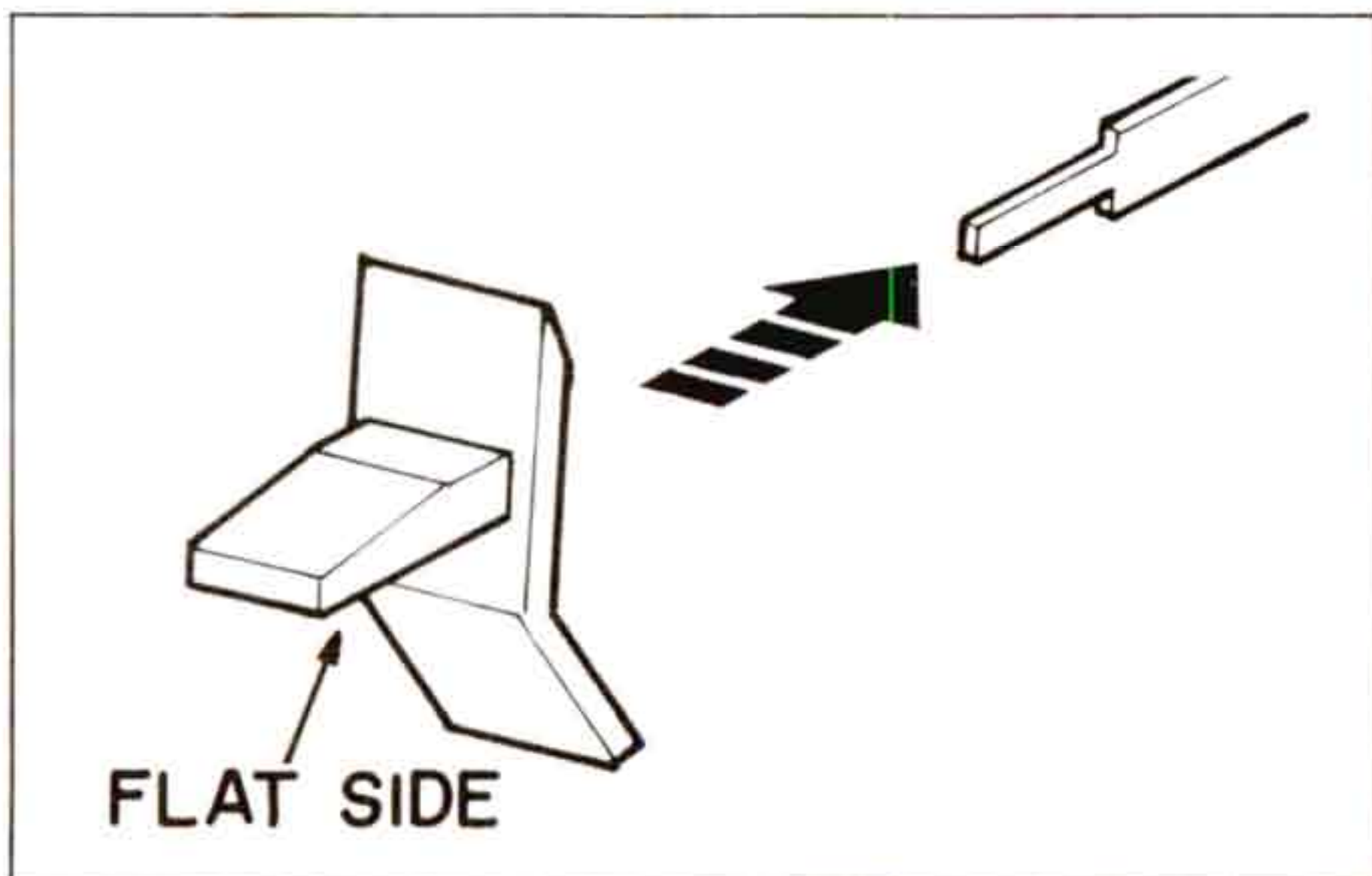
Photo 6

d) Loosen the screws (3) to (10) in Photo 6 and remove the tape mechanism unit.

- Keep the washers for the screws (3) and (4) for reassembly.

6. HOW TO REMOVE THE RECORDING/REPRODUCTION CIRCUIT BOARD

- a) Take the lever knob (1) off the DOLBY NR switch of the front panel.
- Install the lever knob according to the Fig. 2.



b) Loosen and remove the screws (1) and (3) shown in Photo 7.

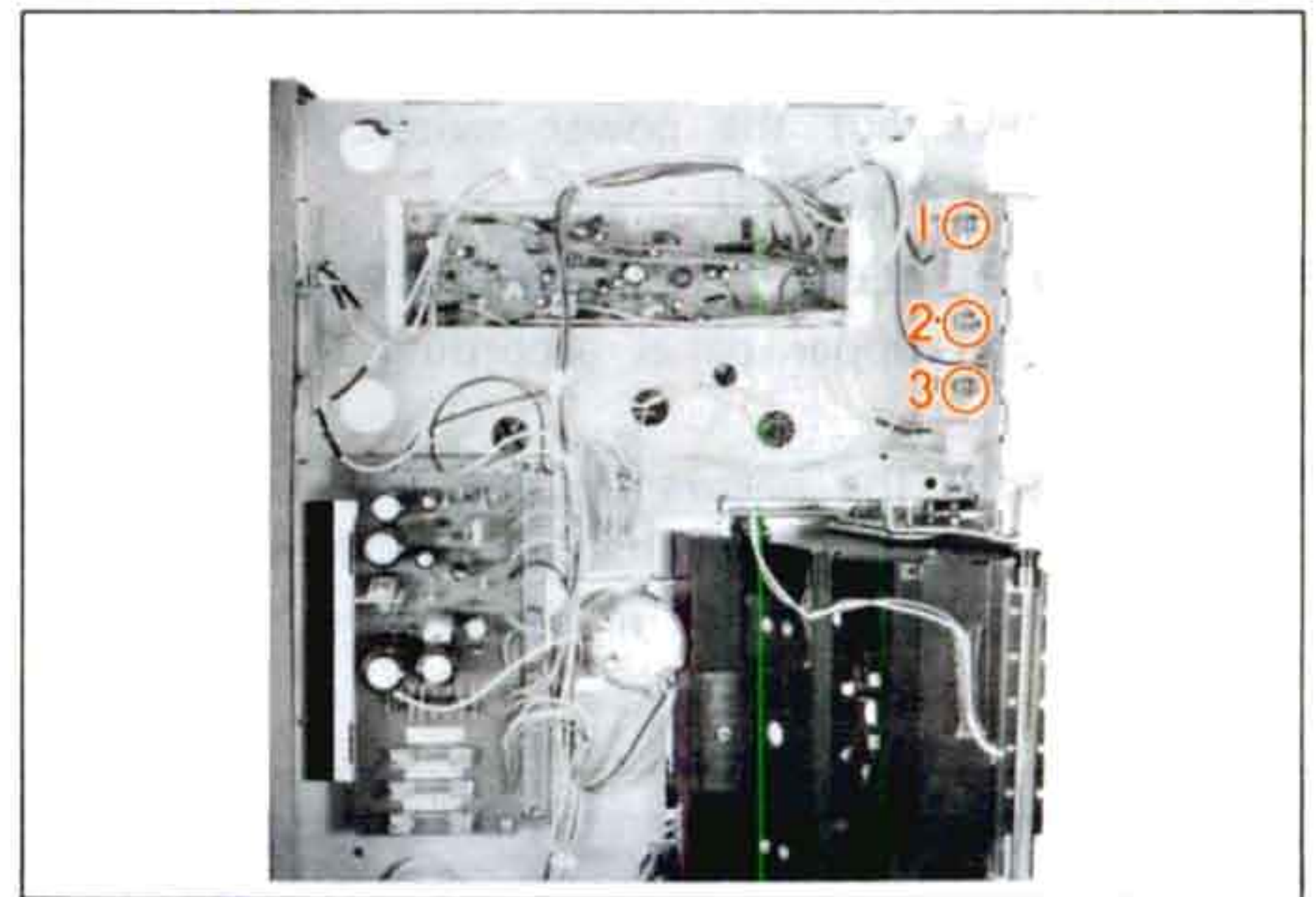


Photo 7

c) Loosen and remove the screws (1) to (4) shown in Photo 8, and take out the recording/reproduction circuit board.

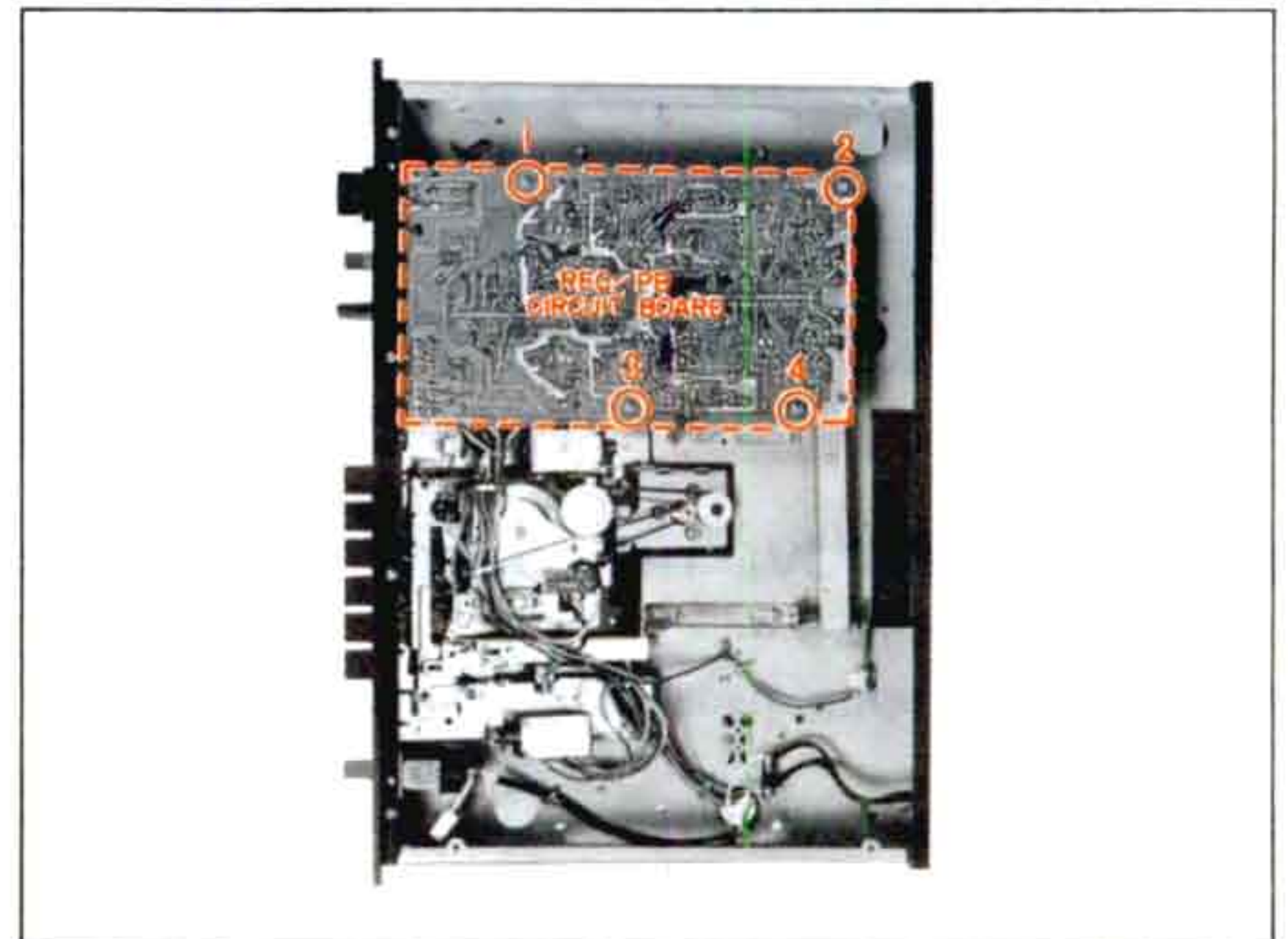


Photo 8

7. HOW TO REMOVE THE METERS

- a) First, remove the front panel according to the procedure 3.
- b) Before removing the meters, take off a strip of Scotch tape below them.

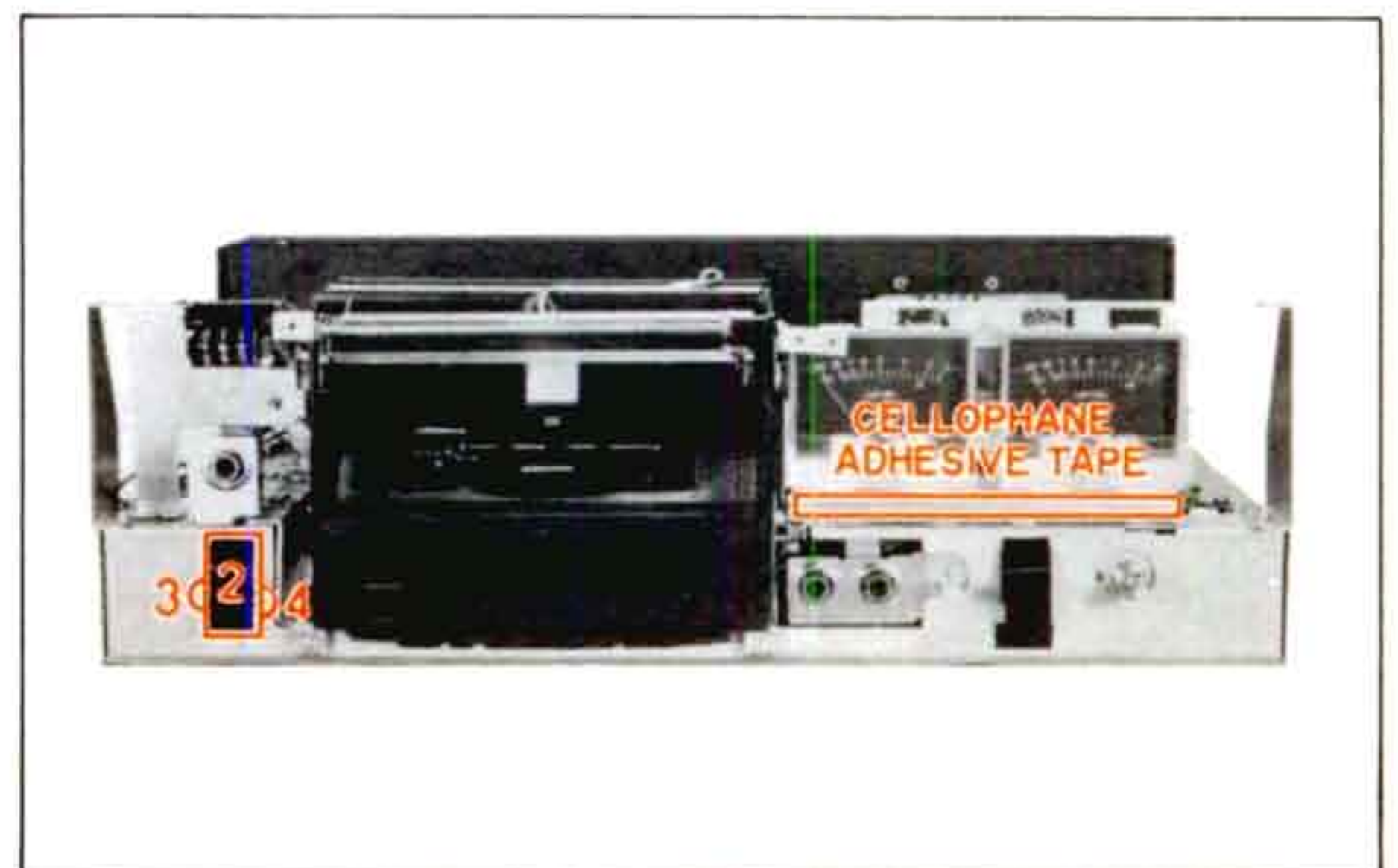


Photo 9

8. HOW TO REMOVE THE POWER SWITCH

- a) Remove the front panel according to the procedure 3.
- b) Then, take off the lever knob (2) shown in Photo 9, and take out the power switch by loosening the screws (3) and (4).

9. HOW TO REMOVE THE POWER CIRCUIT BOARD

- a) Remove the upper panel according to the procedure 1.
- b) Then, loosen the screws (1) and (2) in Photo 10, and take out the power circuit board in the direction shown by an arrow in the Photo.

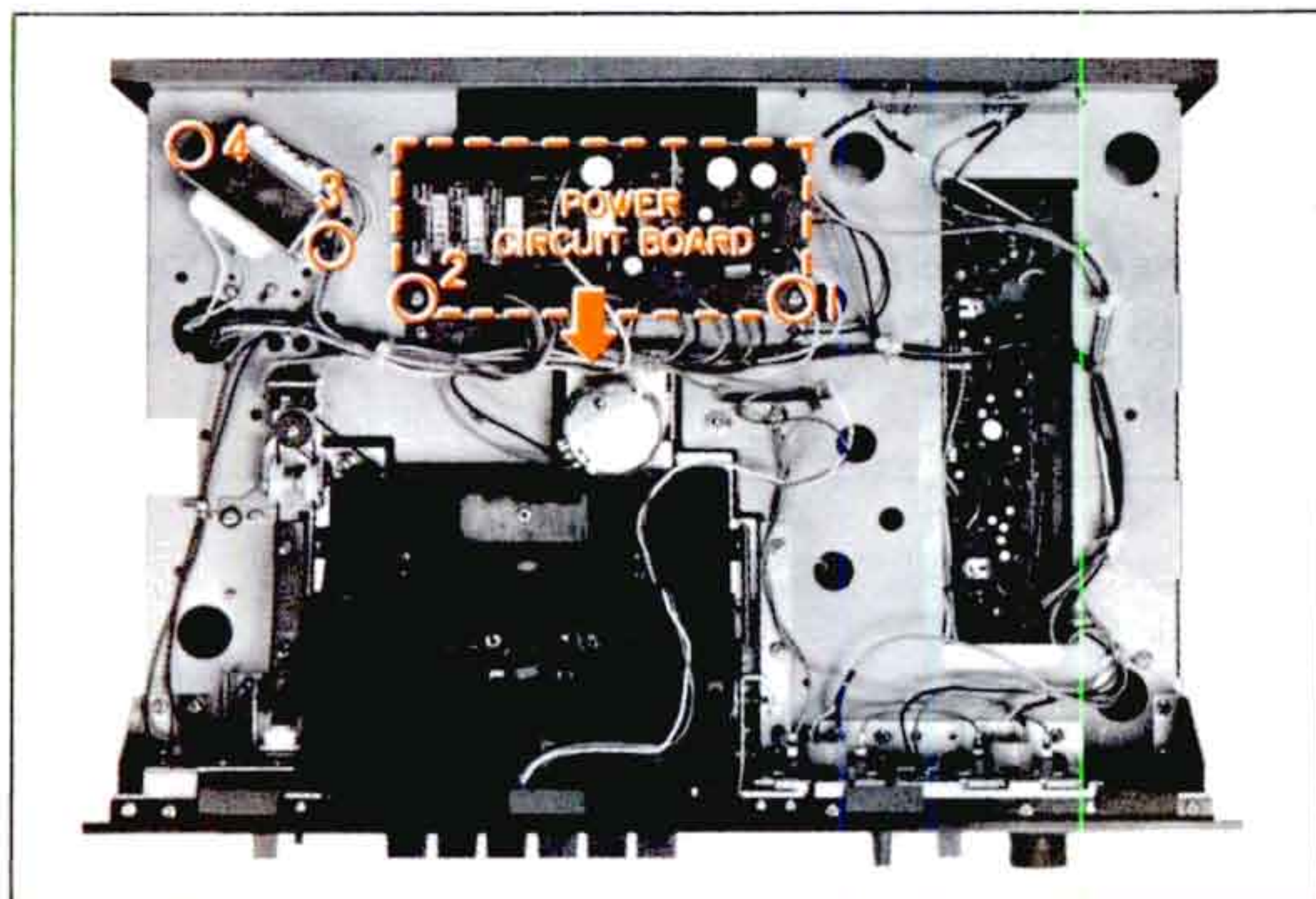


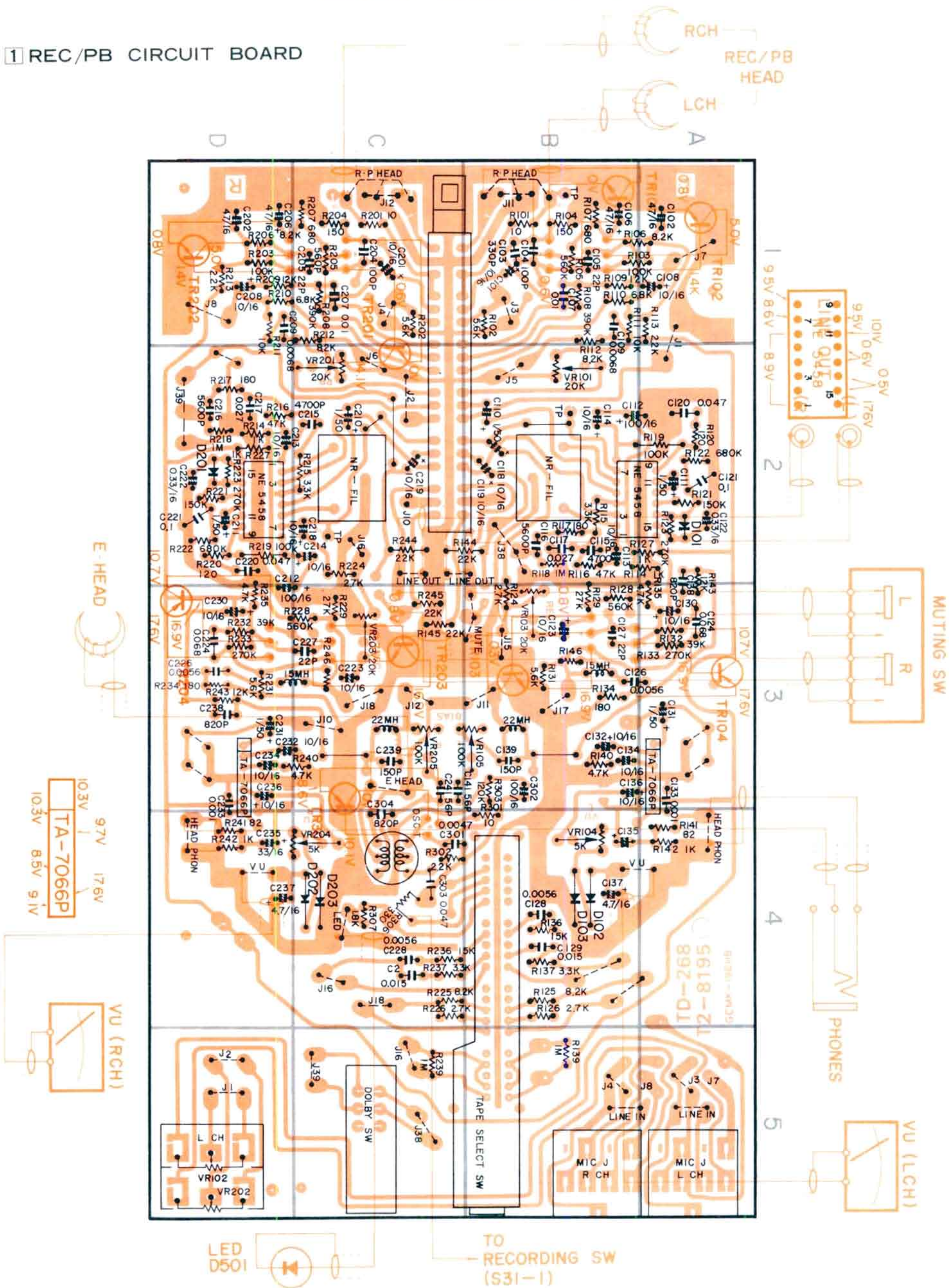
Photo 10

10. HOW TO REMOVE THE POWER TRANSFORMER

- a) Remove the upper panel according to the procedure 1.
- b) Take out the power transformer by loosening the screws (3) and (4) in Photo 10.

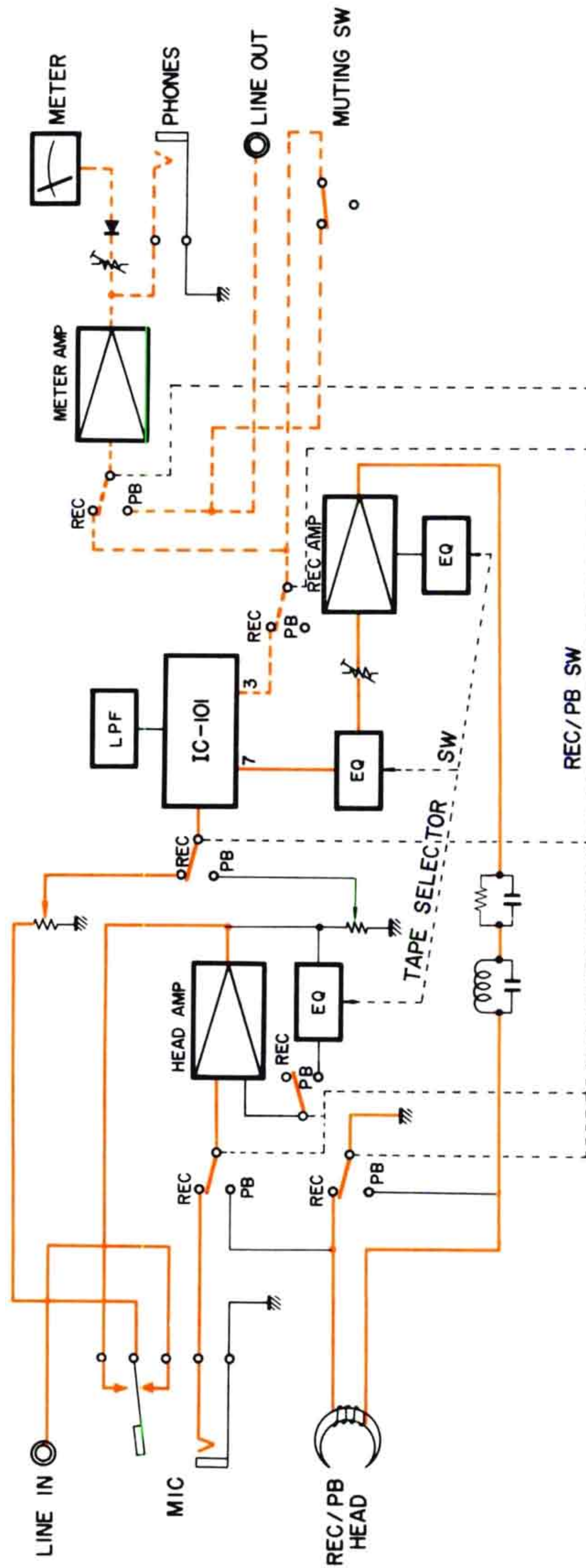
CIRCUIT DESCRIPTIONS

1 REC/PB CIRCUIT BOARD

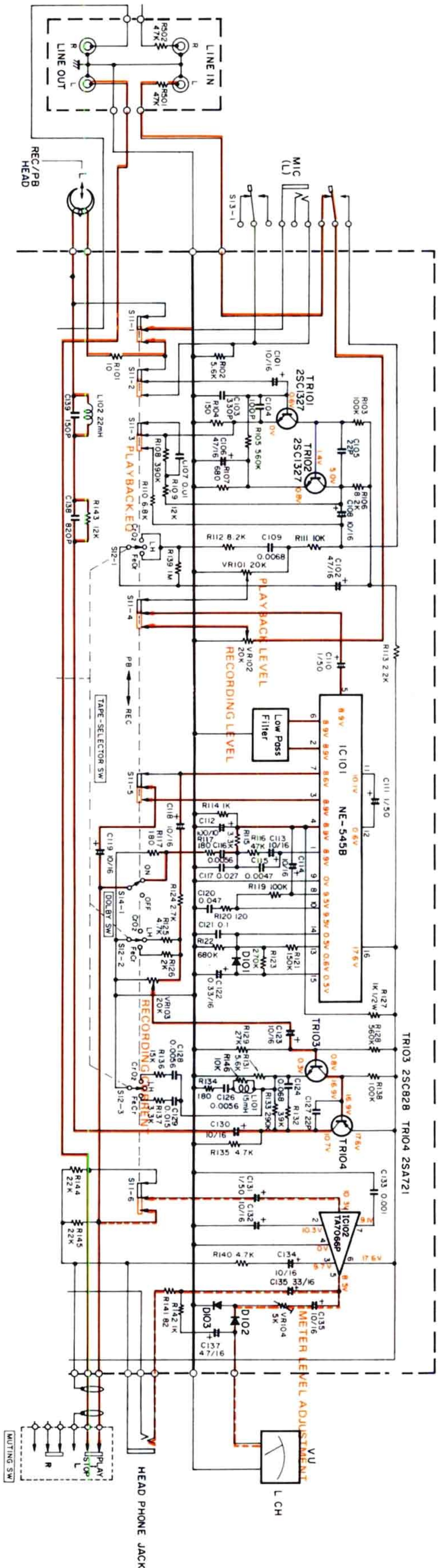


2 RECORDING SECTION

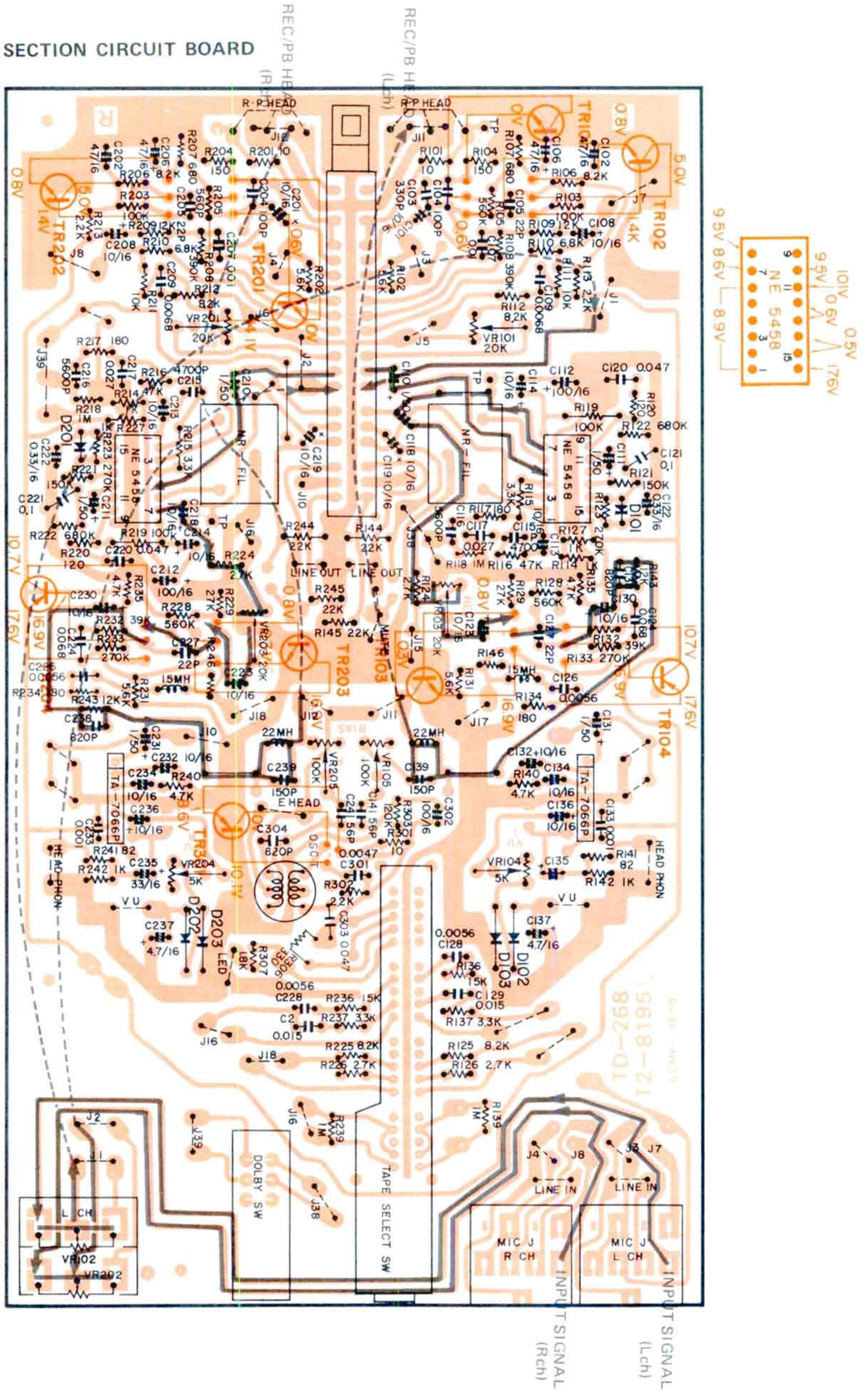
2-1 RECORDING SECTION BLOCK DIAGRAM



2-2 RECORDING SECTION SCHEMATIC DIAGRAM



2-3 RECORDING SECTION CIRCUIT BOARD

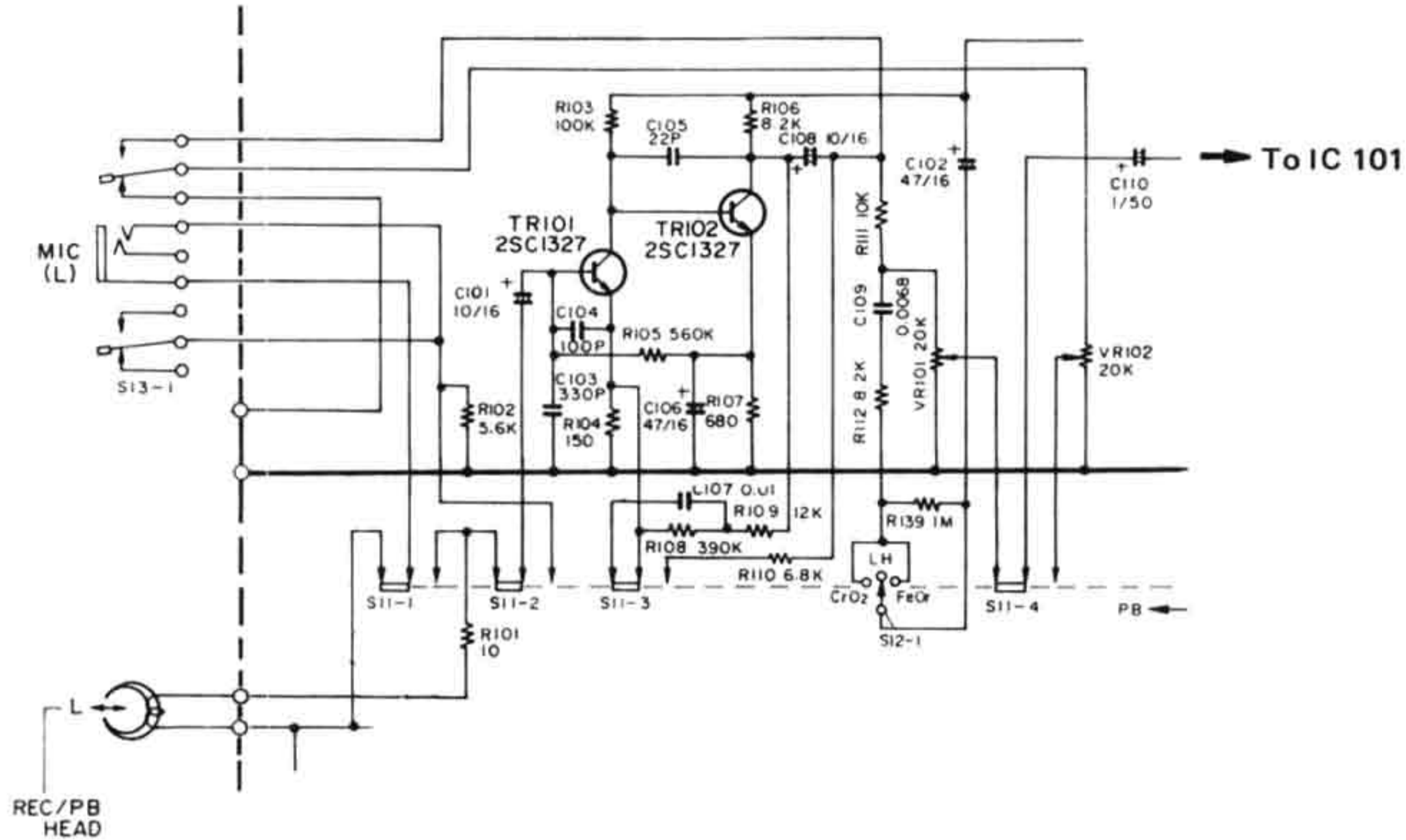


2-4 MICROPHONE HEAD AMP (A, B-1, LCH, C, D-1, RCH)

This circuit functions only when the microphone plug is kept inserted to the microphone jack during recording. The signal which has entered the microphone jack is fed to the base of TR101, via S11-2 and C101. TR101 and TR102 are dual-direct-coupled microphone amps. The signal which has entered the base of TR101 is then taken out from the collector of TR102. The signal thus obtained goes along C108 and S13-1, and then is adjusted to an adequate level by the

RECORD LEVEL controller of VR102. This signal is finally fed to the DOLBY recording/reproduction circuit, via S11-4 and C110.

C107, R108 and R109 installed between the TR102's collector and the TR101's emitter are equalizers for reproducing a recorded tape. They do not function during recording. For further details of this circuit, refer to the instructions on the reproduction system.



2-5 DOLBY RECORDING CIRCUIT (A, B-2, LCH, C, D-2, RCH)

The signal which has entered the IC-101's pin (5) is taken out from the pins (7) and (3) as two portions of output. The output signal from the pin (7) is fed to the recording amp, via C118, while that from the pin (3) is divided into those for Line Out, the head-phone amp and the level meter amp. When S14-1 of Dolby SW is ON, a Dolby-ized signal is obtained in the pin (7), while the same level of signal as the F of

a non-Dolby-ized input comes to the pin (3).

Low Pass Filter set between the pins (6) and (2), and a counter-grounding is the filter which shows the operating characteristics described in Fig. 1. This filter functions to protect the Dolby circuit from malfunctioning through a leakage of the tuner's 19 KHz pilot signal or of the tape deck's 85 KHz bias signal.

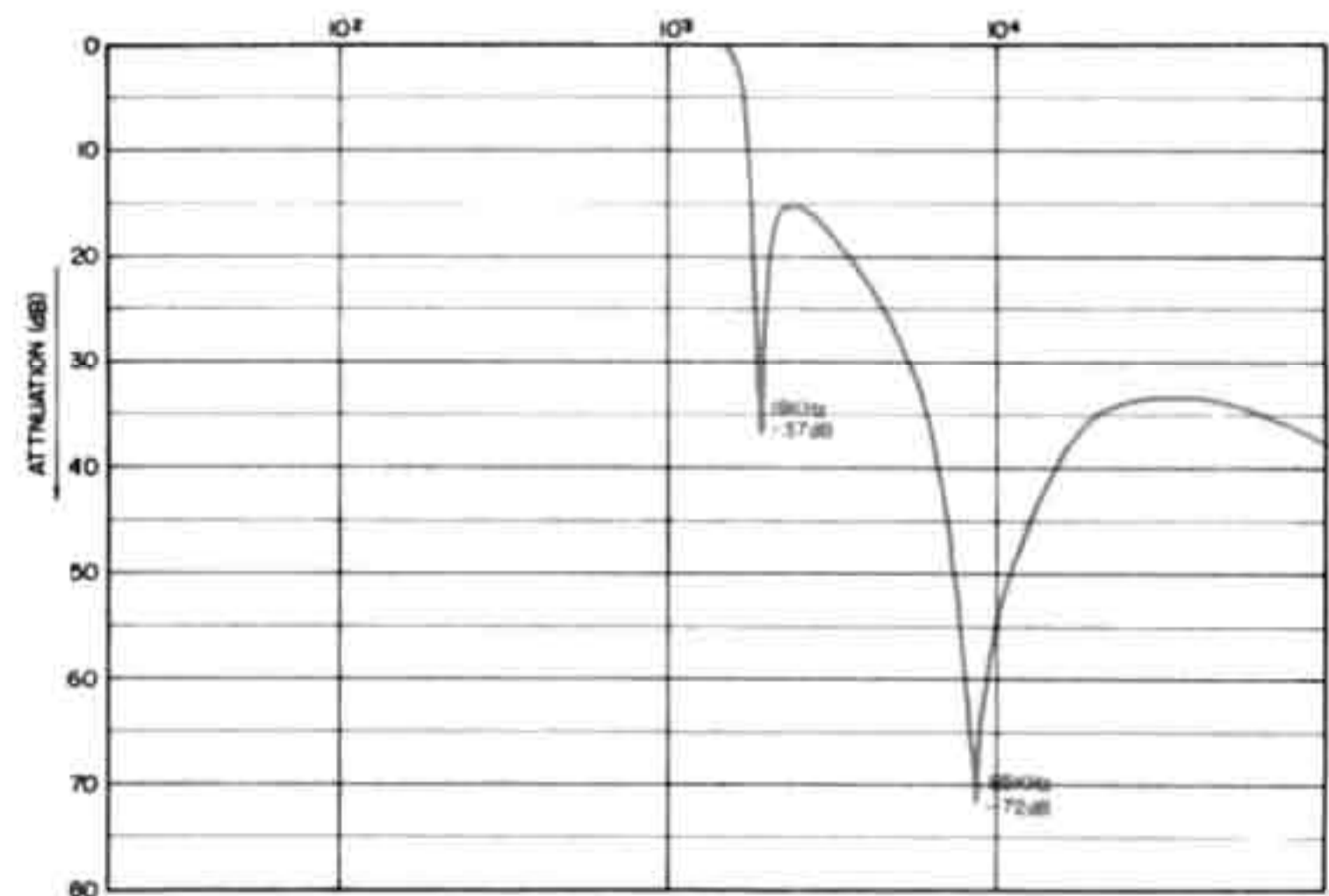
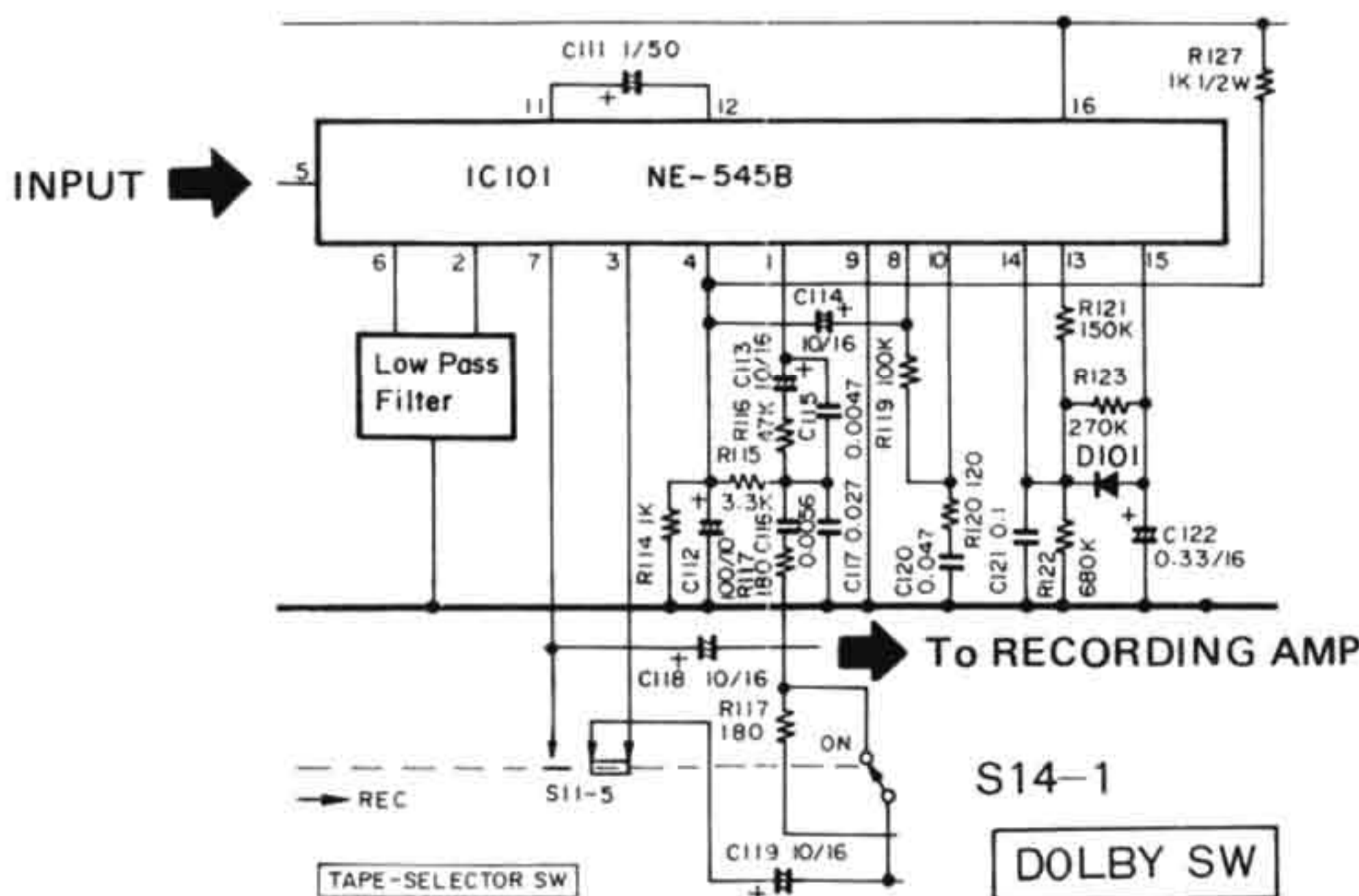
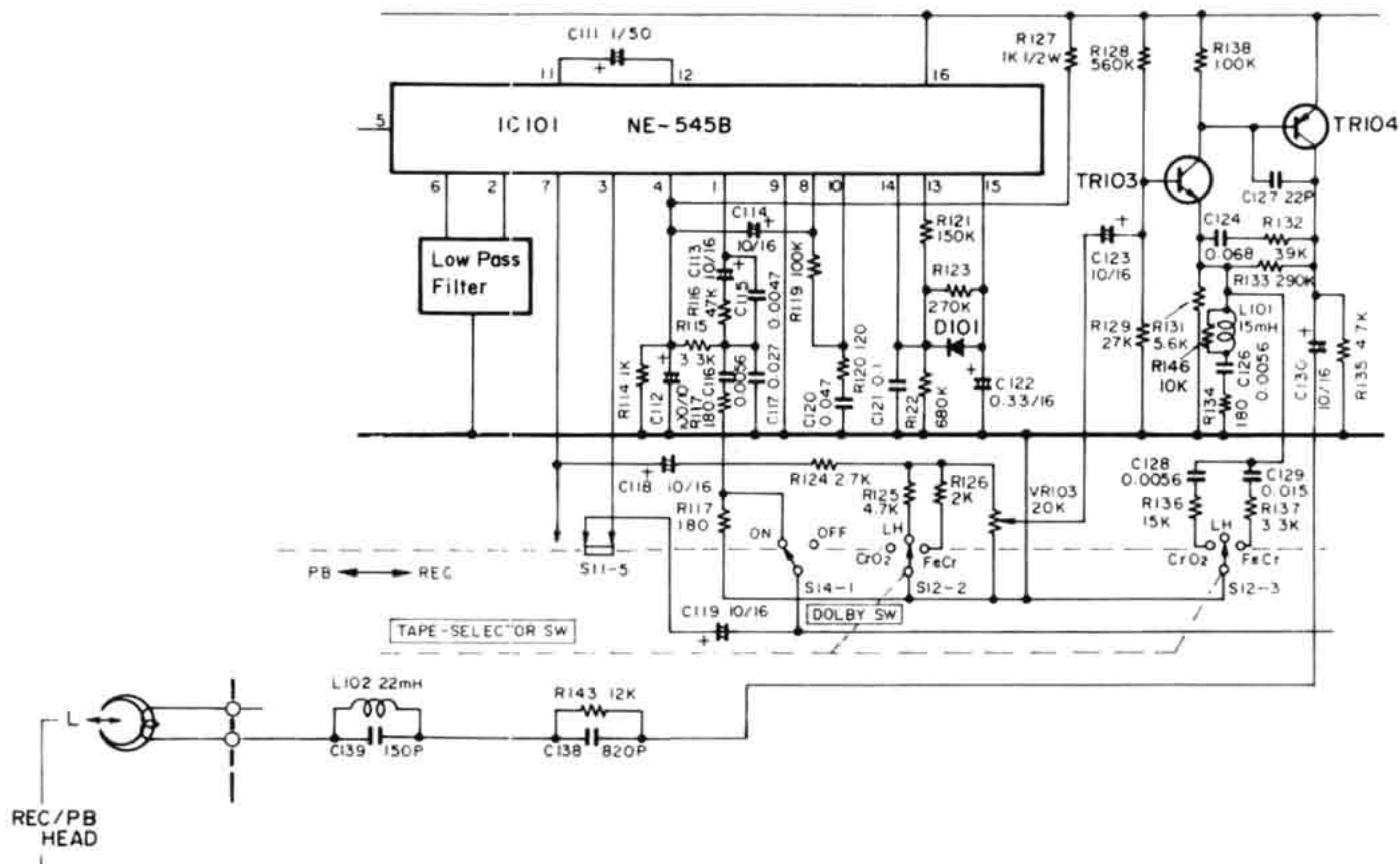


Fig. 1

2-6 RECORDING AMP CIRCUIT (A, B-3, LCH, C, D-3, RCH)

The signal from the IC-101's pin (7) is fed to the recording amp circuit, via C118 and R124. R125, R126 and S12-2 are sensitivity adjustment circuits designed to eliminate variations in reproduced volume of sound, according to the sensitivity of CrO₂, LH and FeCr tapes. VR103 is intended to adjust a recording level and sets at 0VU both the recording and reproducing levels. The signal base VR103 is fed to the base of TR103, via C123. TR103 and TR104 are dual-direct-coupled amps. The signal which has entered the base of TR103 is taken out from the collector of TR104. The signal thus taken out goes along High Pass Filter composed of R143 and C138, and then is fed to the head, via the bias trap circuit composed

of L102 and C139. R143 and C138 are the compensation circuits capable of protecting high ranges from being attenuated by the head coils. L102 and C139, on the other hand, makes the recording amp circuit immune to a flow of the 85 KHz signal from the bias oscillation circuit to the recording amp circuit. What is more, R132, R133, R134, R136, R137, C124, C126 (C128, C129) and L101, all mounted between the TR104's collector and the TR103's emitter, boost the intermediate and high ranges during recording. They are grouped into the NFB loop. The acoustic curve in the intermediate range is connected by C128 and R136, or C129 and R137, while that in the high range is by L101, C126 and R134. This is due to the type of tapes used – CrO₂ and FeCr.

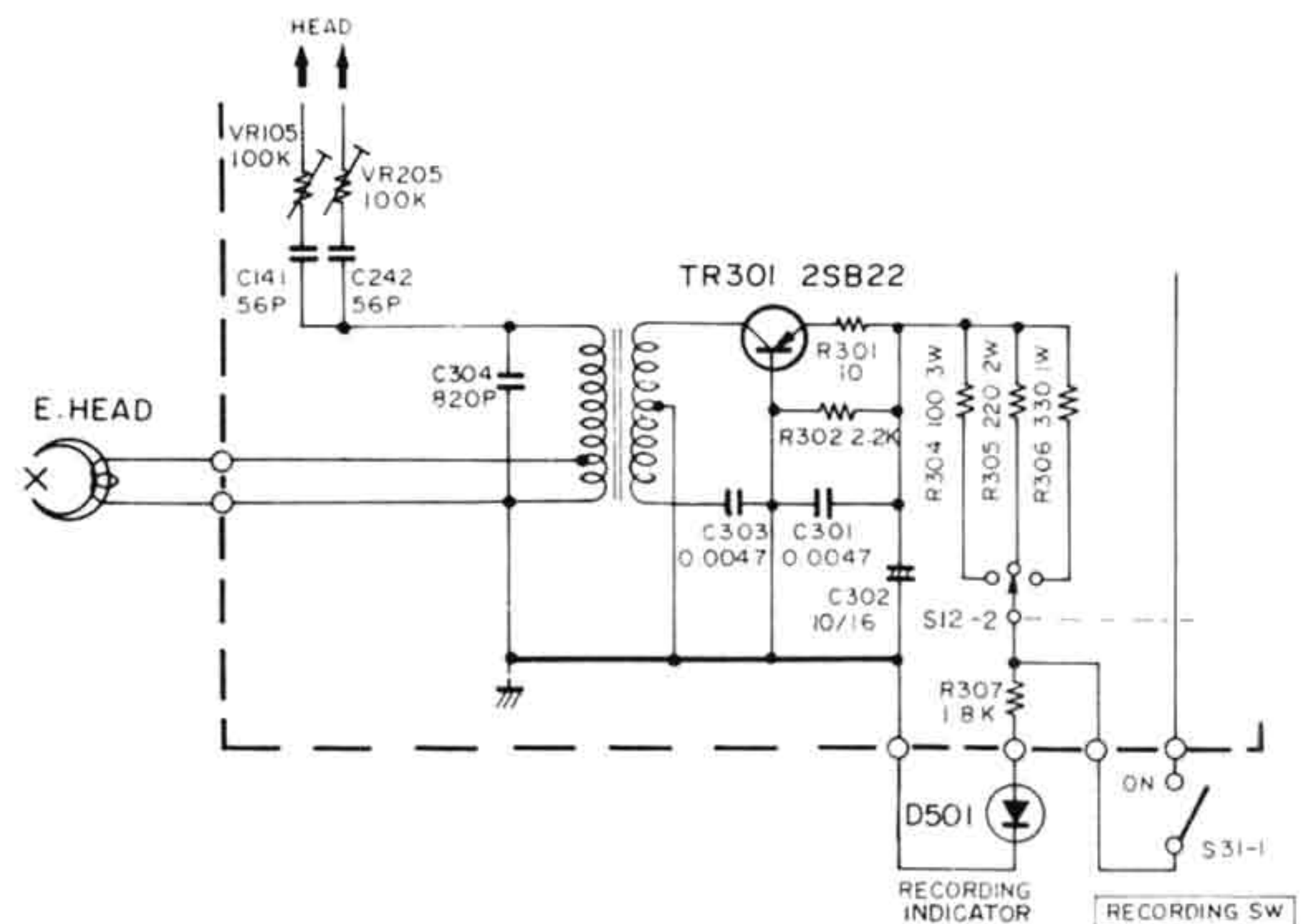


2-7 BIAS OSCILLATION CIRCUIT (B, C-3.4)

When the REC button is pressed, the S31-1's RECORDING SW is turned on to feed +B voltage to the bias oscillation circuit. As a result, TR301 and its surrounding devices function to oscillate the frequencies in the vicinity of 85 KHz, and consequently feed them to the erasure head and the recording/reproduction head.

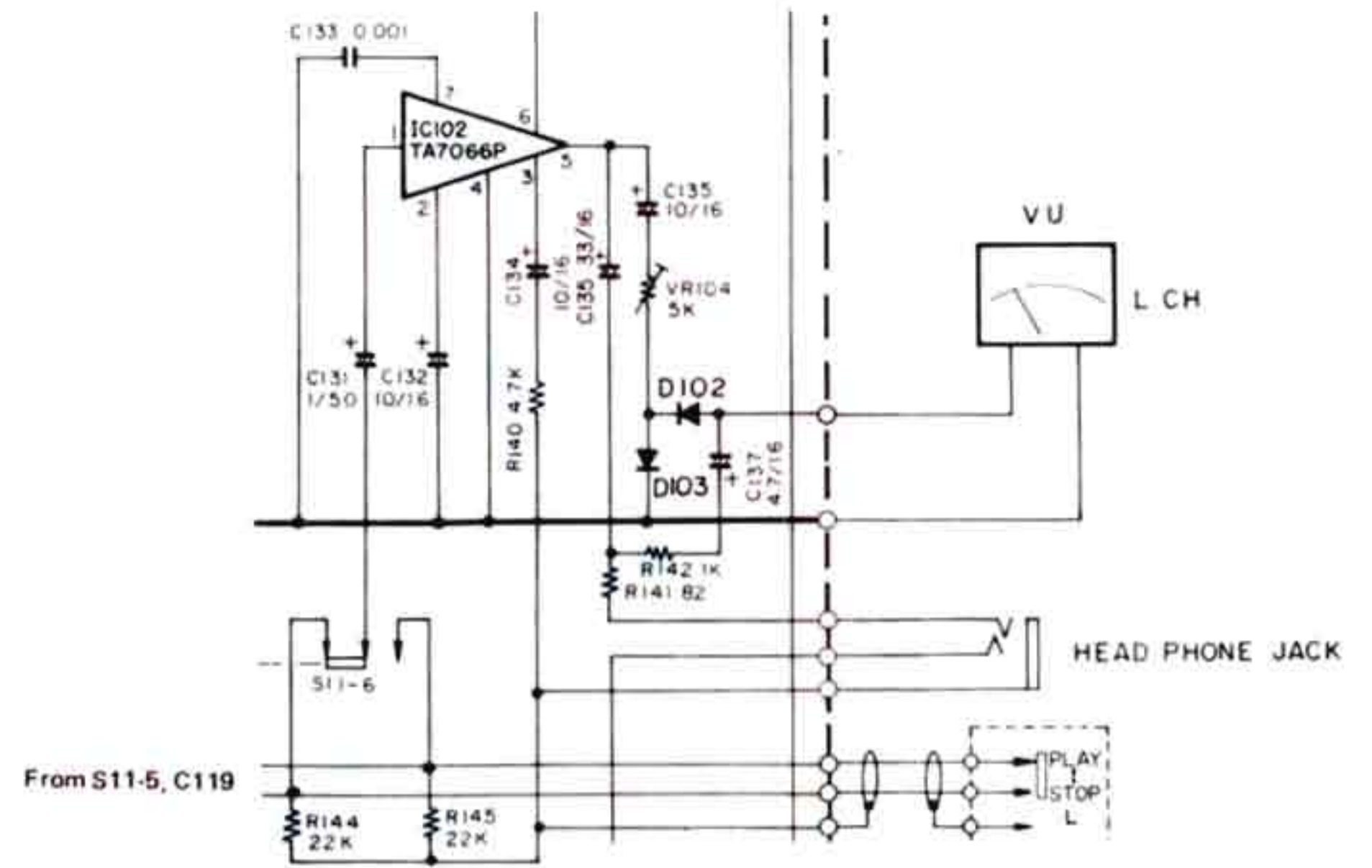
R304, R305 and R306 connected with each other in the neighborhood of S12-2 are designed to alter the level of bias frequency according to CrO₂, LH and FeCr tapes. VR105 and VR205, on the other hand, control the level of bias frequency flowing into the recording/reproduction head.

When the RECORDING SW is turned on, the current is applied to the D501's light-emitting diode (LED), via R307, to illuminate the RECORD indicator lamp of the front panel.



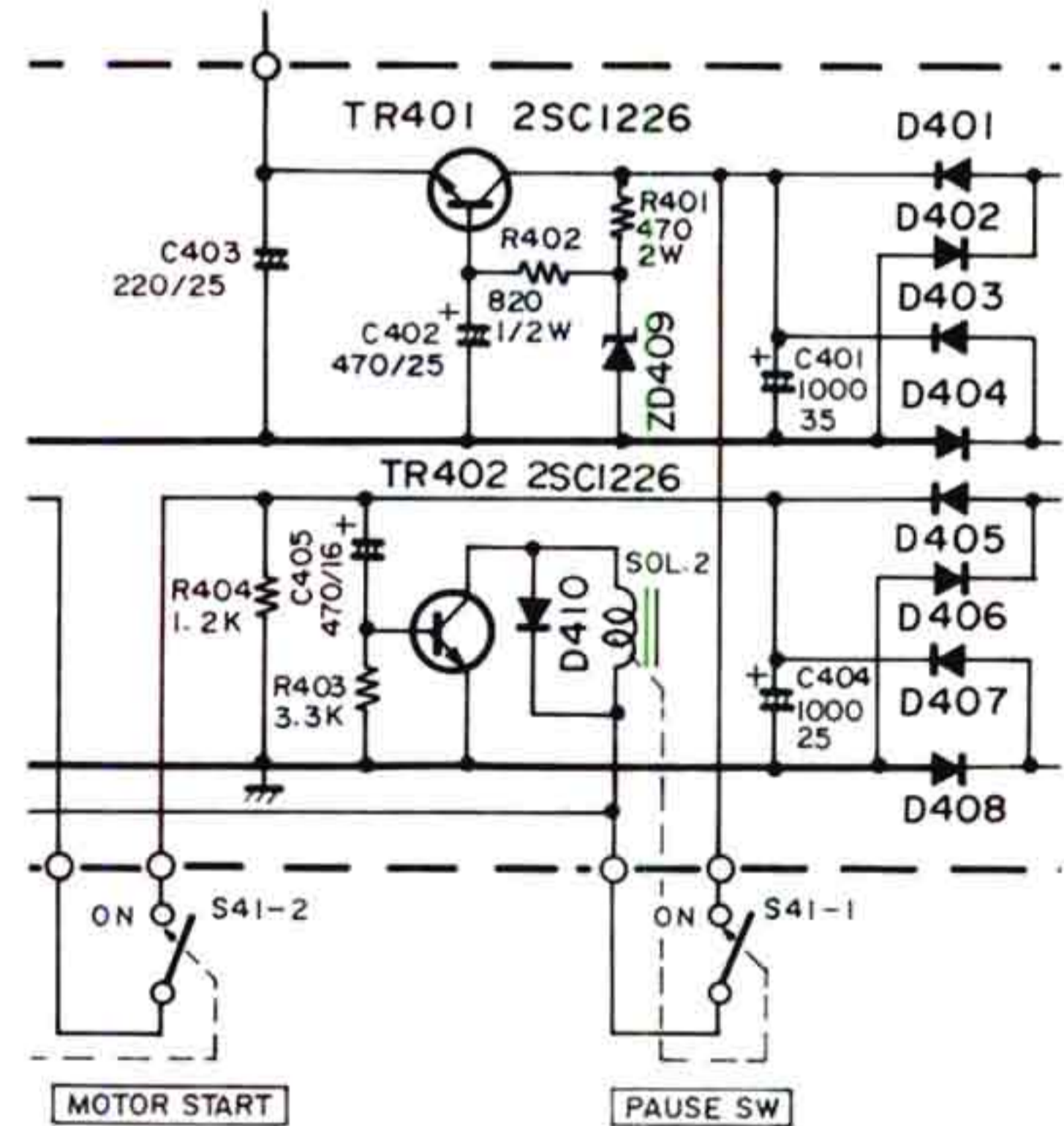
2-8 HEADPHONES, LEVEL METER CIRCUITS (A, B-3.4, LCH, C, D-3.4, RCH)

The signal from the IC101's pin (3) goes along S11-5, S11-6 and C131, and then is divided into two portions – one is fed to the IC102's pin (1) functioning both as a headphone amp and a level meter amp, and the other fed directly to Line Out, via MUTING SW. The divided signal of the IC102's pin (1) is obtained from the pin (5), and further separated into two portions – one is fed to Head Phone Jack, via C135 and R141, while the other to the level meter after it is attenuated by C136, C137, D102 and D103. VR104 is designed to adjust a swing of the level meter. With the tape deck set to the recording condition, it feeds a specified level of signal to Line In, and thus controls to set the level meter at 0 VU.

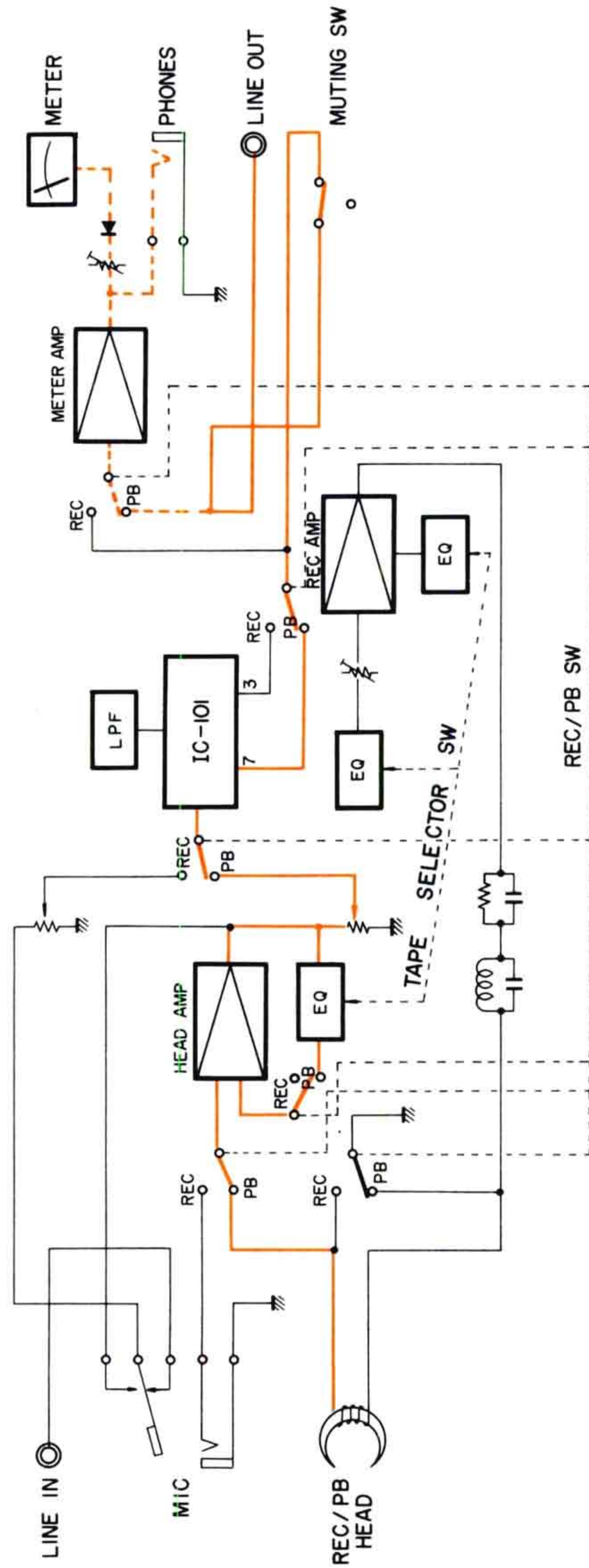


3. AUTOMATIC RECORDING CIRCUIT

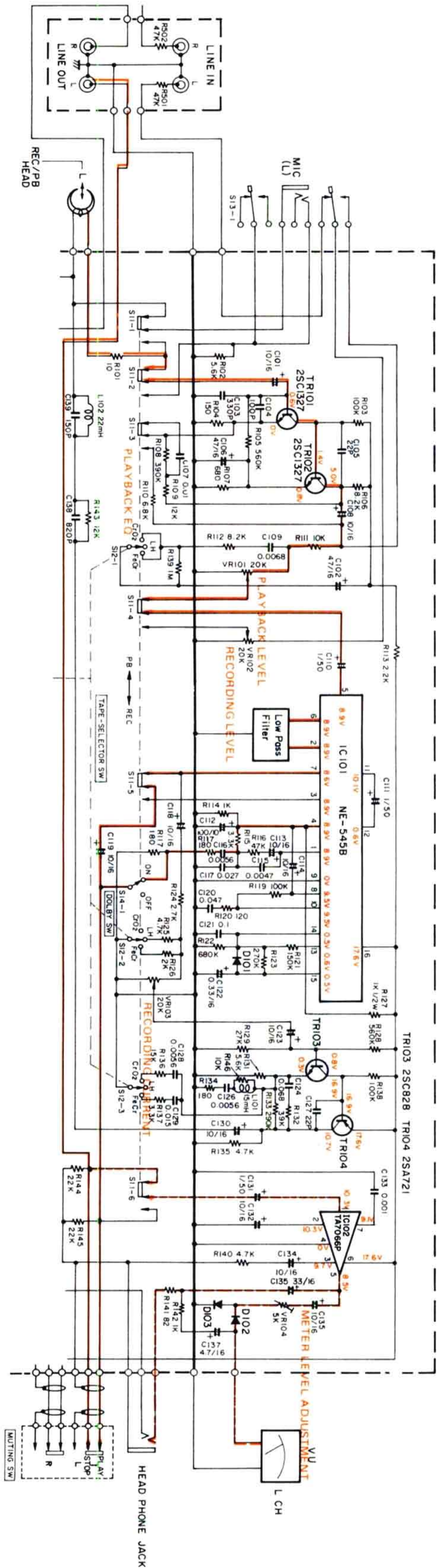
When the PAUSE button is pressed with the power switch ON, PAUSE SW is turned on. TIME SW, then, functions to apply a power of 100V and actuate C405, R403 and R404. The voltage kept applied to the base of TR402 until the recharging of C405 is completed, which is done by the time constant determined by C405, R403 and R404. Therefore, the PAUSE button is released with the current fed to SOL-2.



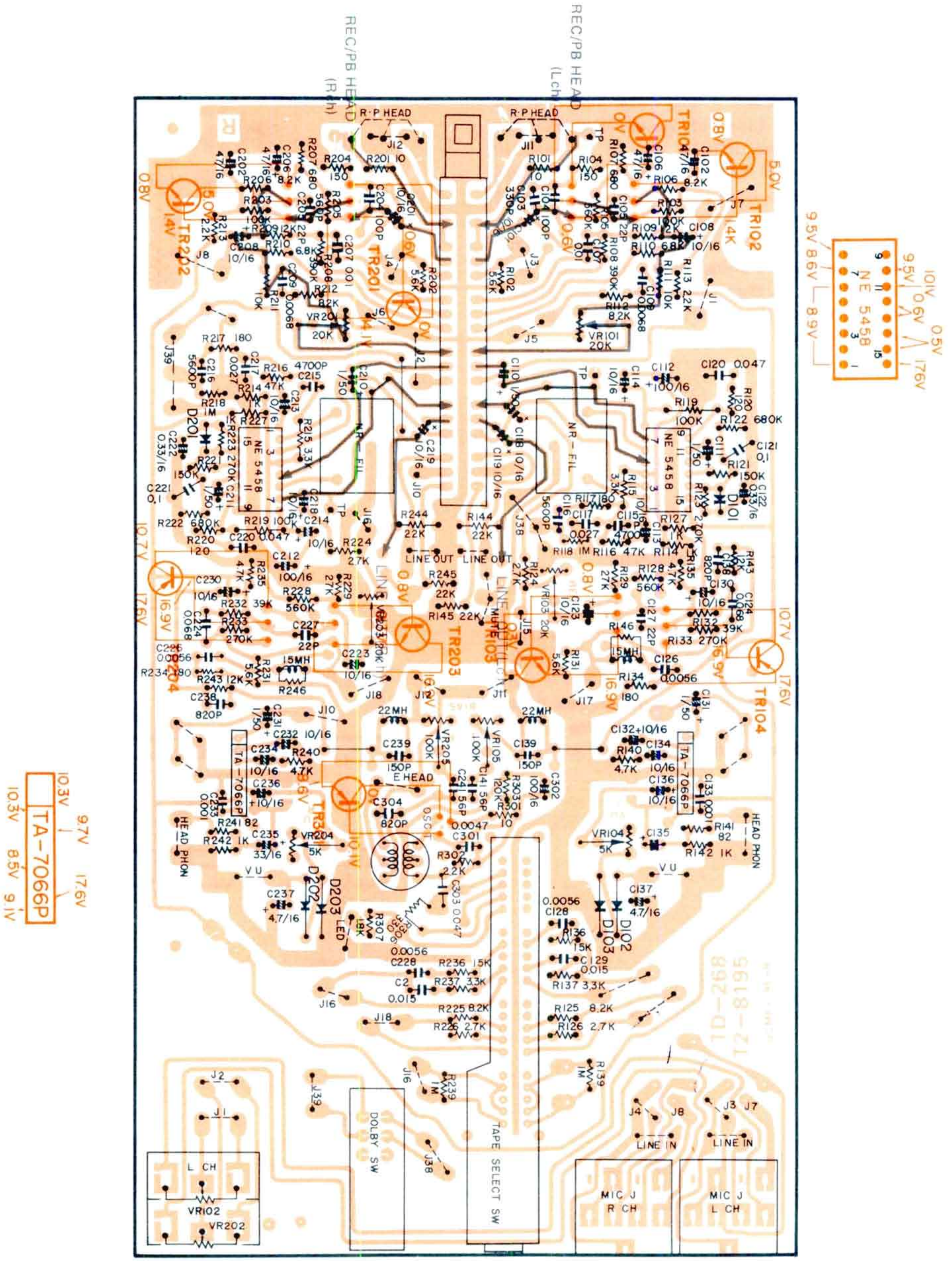
4-1 PLAYBACK SECTION BLOCK DIAGRAM



4-2 PLAYBACK SECTION SCHEMATIC DIAGRAM



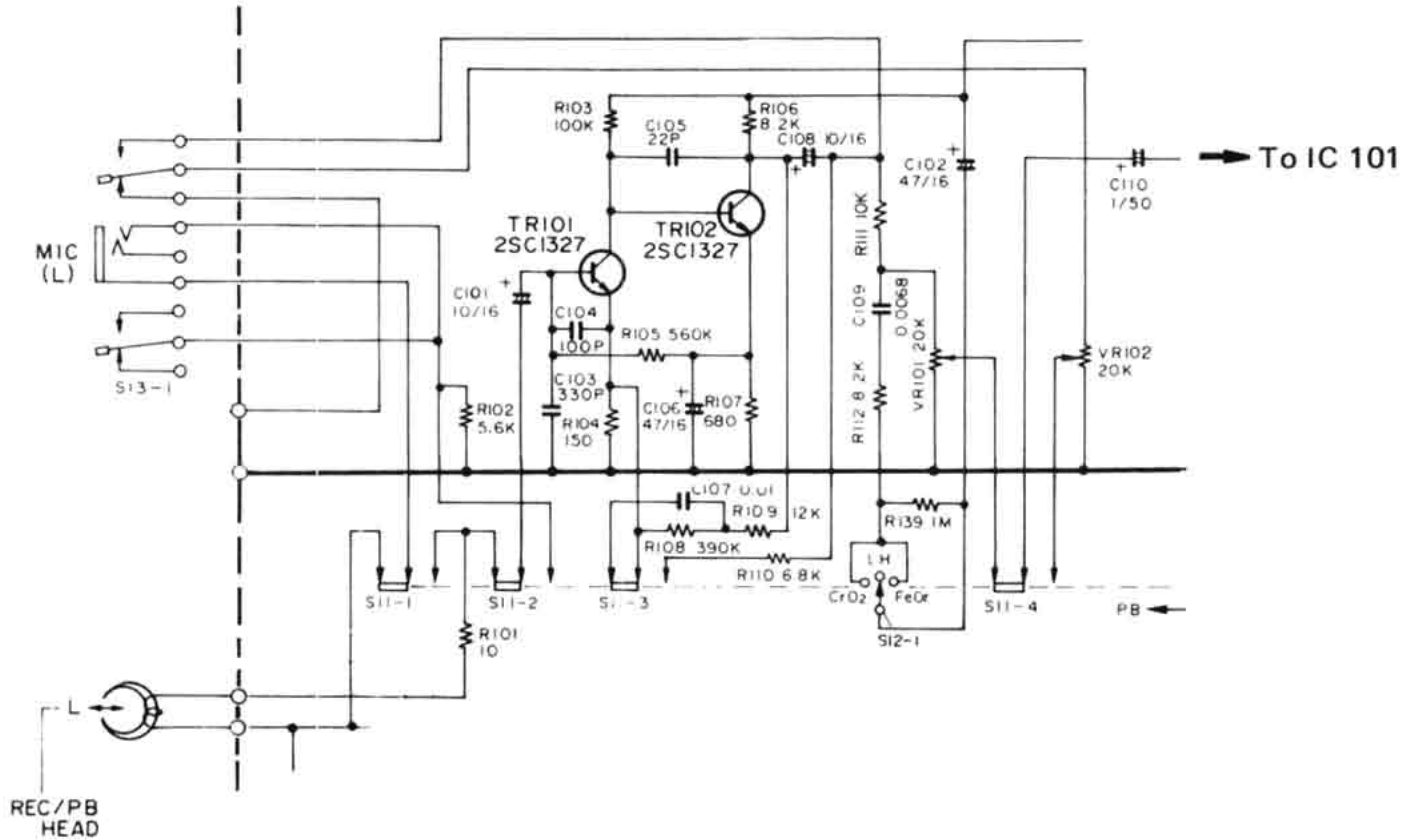
4-3 PLAYBACK SECTION CIRCUIT BOARD



4.4 HEAD AMP

The output of the recording/reproduction head is fed from C101 to the TR101's base, via R101 and S11-2. TR101 and TR102 are dual-direct-coupled amps. The signal which has entered the TR101's base is taken out from the TR102's collector. The signal thus obtained is fed to the Dolby recording/reproduction circuit, via C108, R111, VR101, S11-4 and C110. VR101, intended to adjust the reproduction level, reproduces the test tape for adjustment.

R108, R109 and C107 between the TR102's collector and the TR101's emitter are the devices which level off the intermediate and high ranges once boosted during tape recording. These devices are grouped into the NFB loop to level off much of the intermediate and high ranges, and attenuate them. C109 and R112 are high-range correction circuit to make the high-range characteristics of CrO₂ and FeCr tapes identical to that of LH tape.

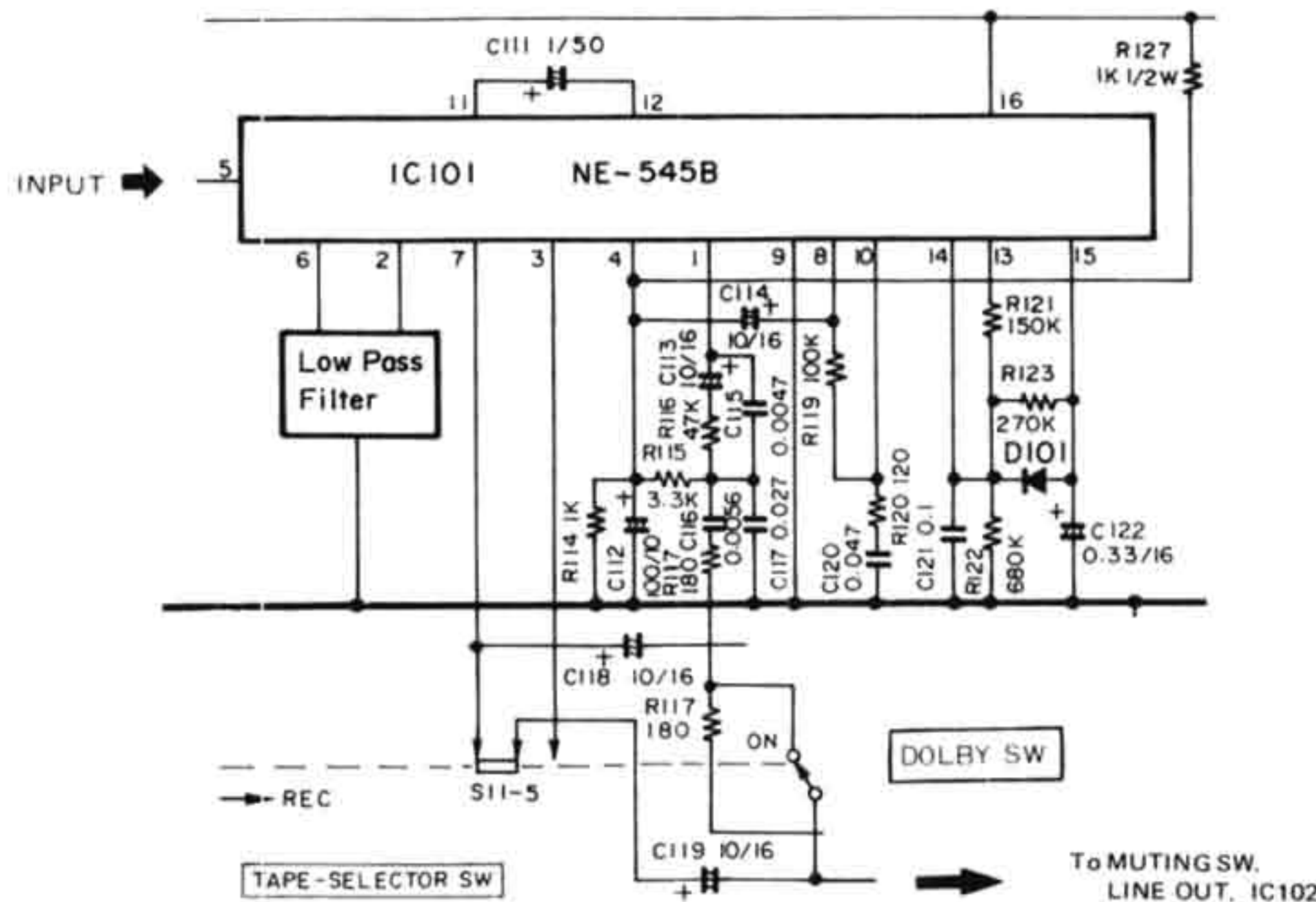


4.5 DOLBY REPRODUCTION CIRCUIT

The signal which has entered the IC-101's pin (5) is taken out from the pin (7) as an output. The signal thus obtained is fed separately to the Line Out terminal, via S11-5 and C119, the headphones and the meter

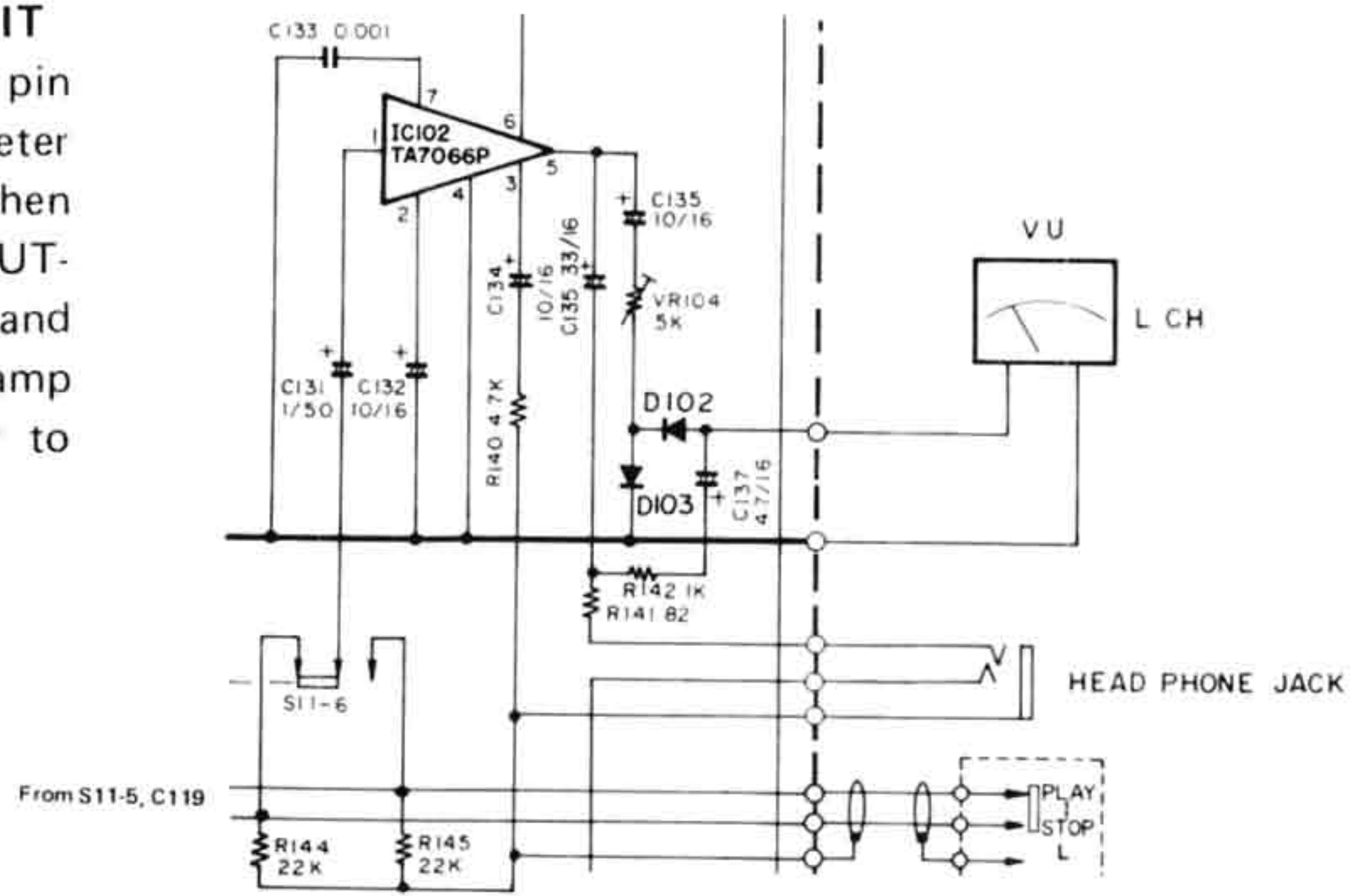
amp circuit.

In this case, the signal past C118 flows into the recording amp. However, it does not affect the recording/reproduction head, because the output of the recording amp is sufficiently grounded by S11-1.



4-6 HEADPHONES, LEVEL METER AMP CIRCUIT

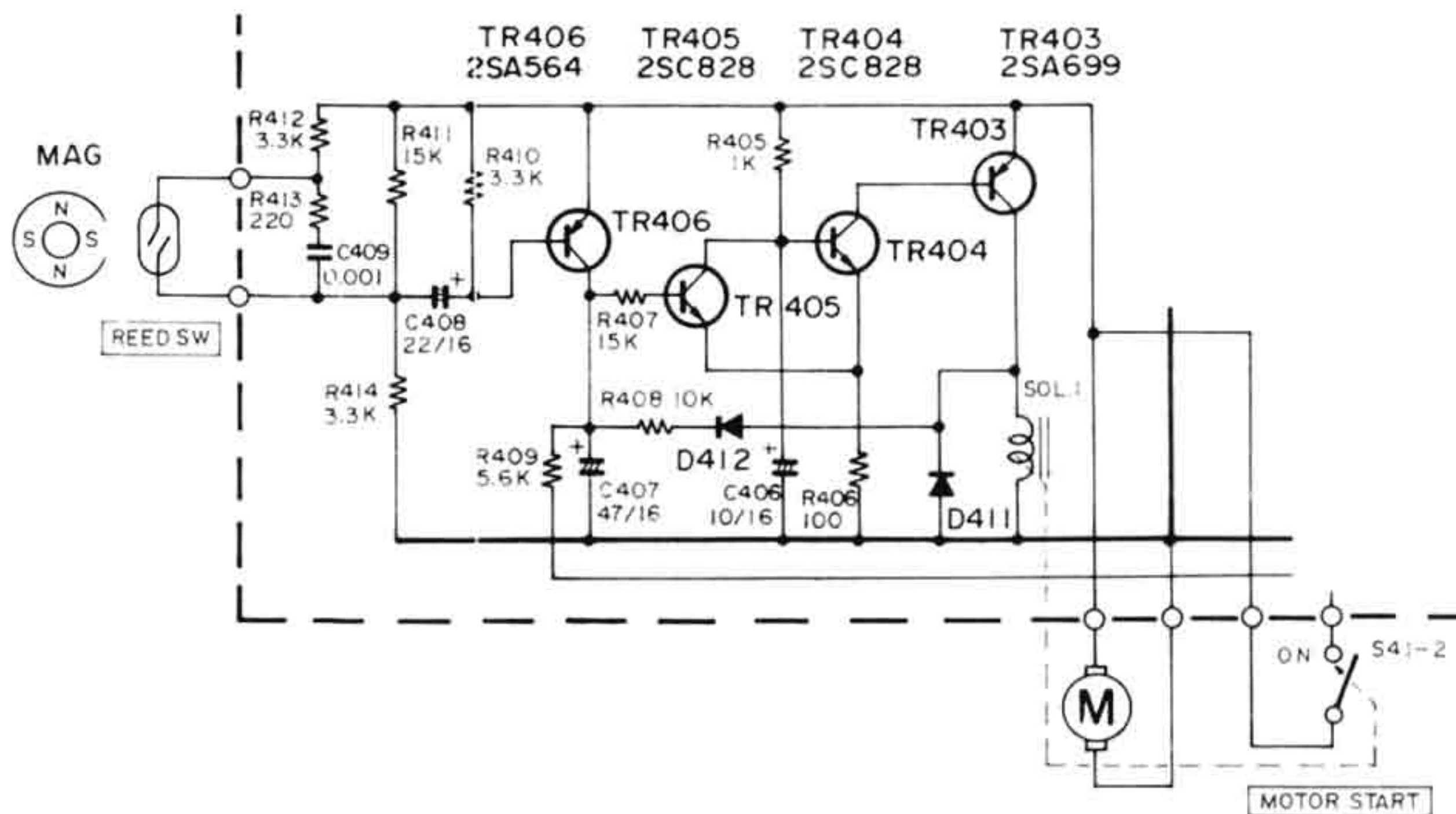
The signal from the Dolby reproduction circuit's pin (7) is fed to the headphones and the level meter amp circuit, via S11-5 and C119. This signal is then separately fed to the Line Out terminal, via the MUTING SW, and to the IC102's pin (1), via SH-6 and S131. Operations of headphones and level meter amp are exactly the same as those in recording. Refer to the instructions on the recording system.



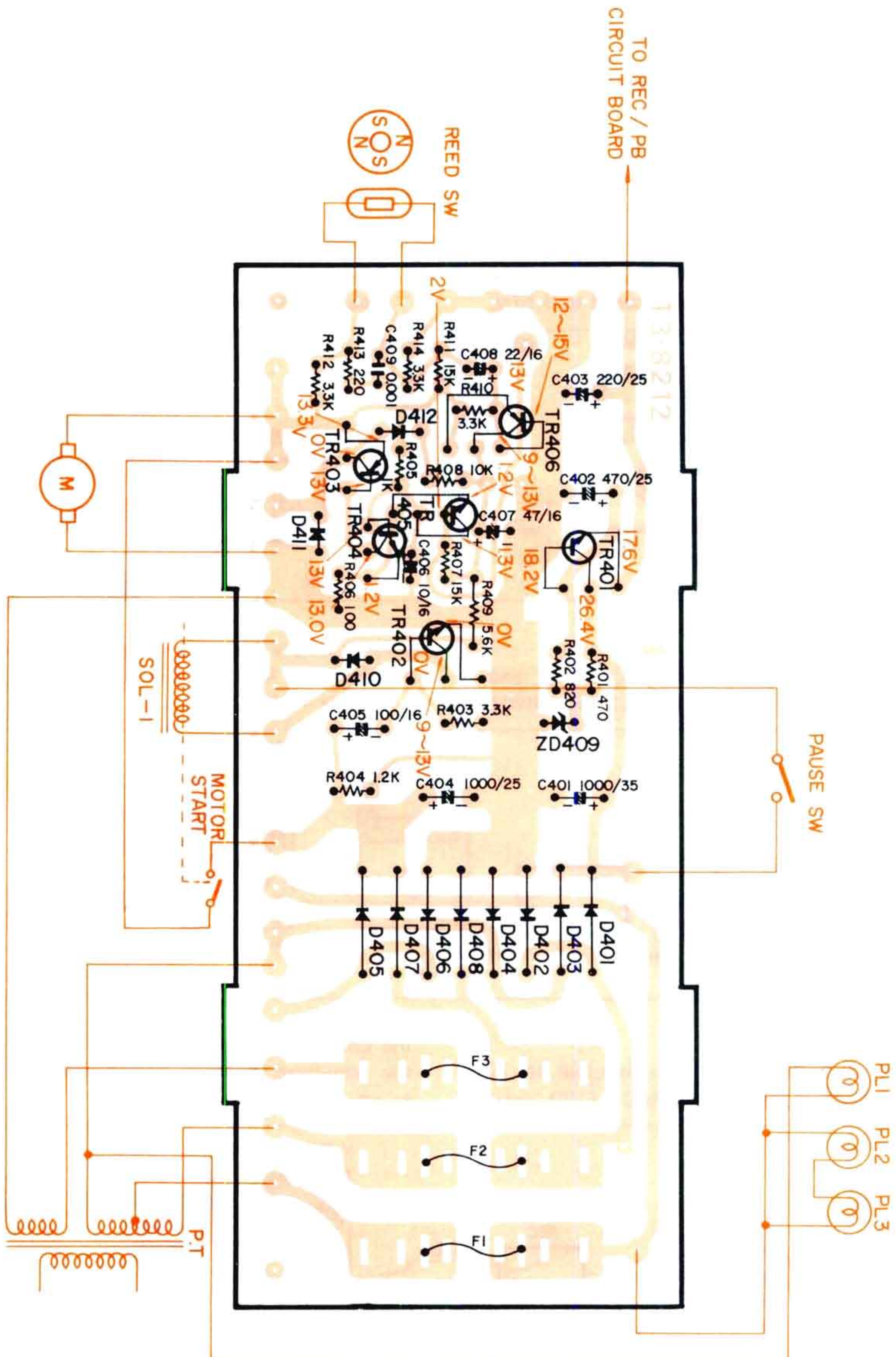
5. FULL-AUTOMATIC, SHUT-OFF CIRCUIT

During the tape is running, MAGNET, belt-linked to the axis on the rewinding side, keeps rotating to change over REED SW between ON and OFF, and the bias attenuated by C406 is applied to the base of TR406. Consequently, when the tape is running, TR406 and TR405 are ON. When TR is ON, the collector of TR405 (the base of TR404) lowers its voltage, thereby turning off TR404 and TR403.

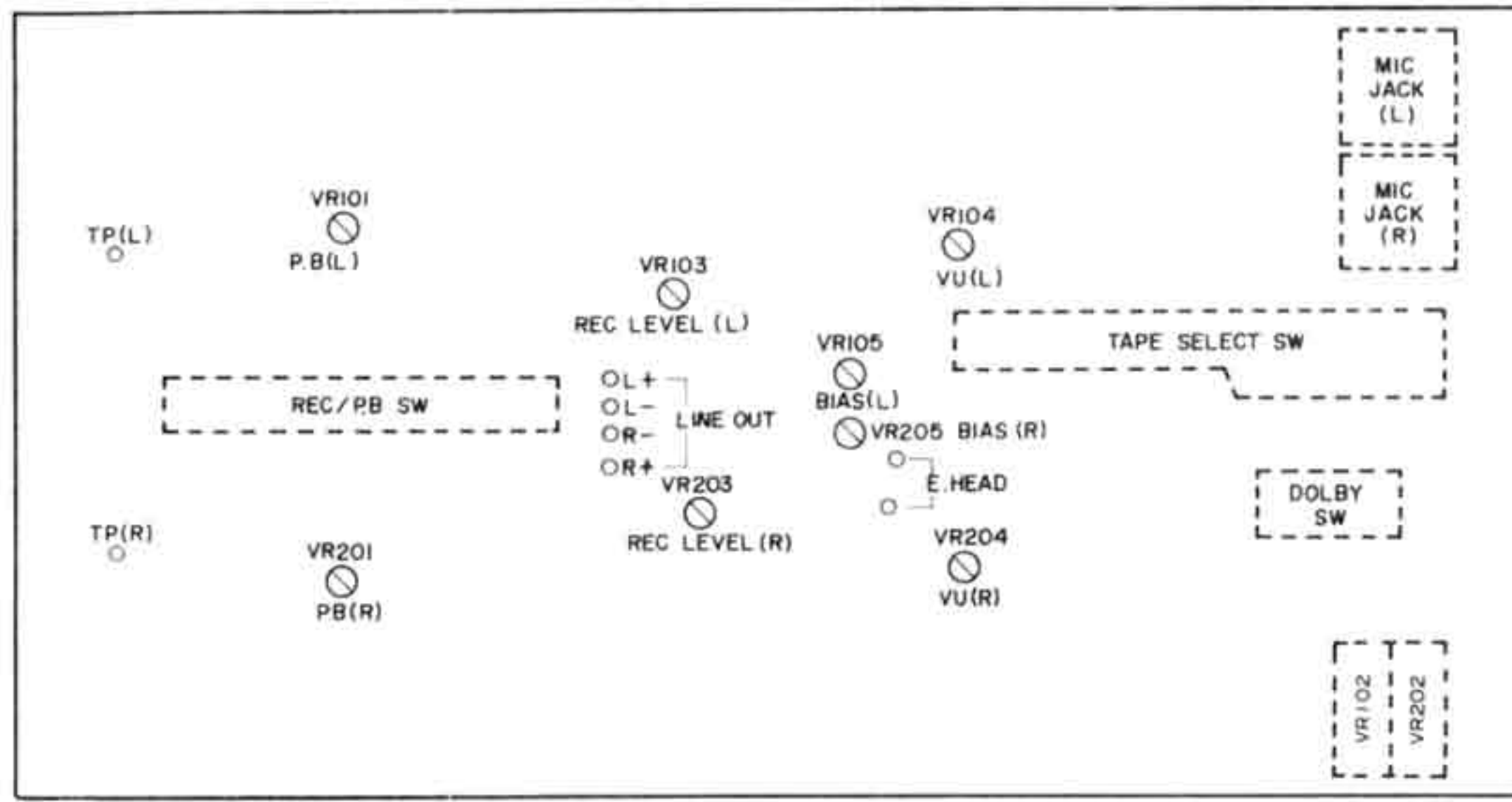
When the tape comes to an end, MAGNET stops rotating and applies no bias to the base of TR405, thus turning off TR406 and TR405. The OFF condition of TR405, in turn, activate both TR404 and TR403, and applies the current to SOL-1. Consequently, a full-automatic shut-off mechanism starts to function. Since MOTOR START SW is directly coupled to SOL-1, it is turned off simultaneously with the current flowing to SOL-1.



POWER SUPPLY CIRCUIT BOARD



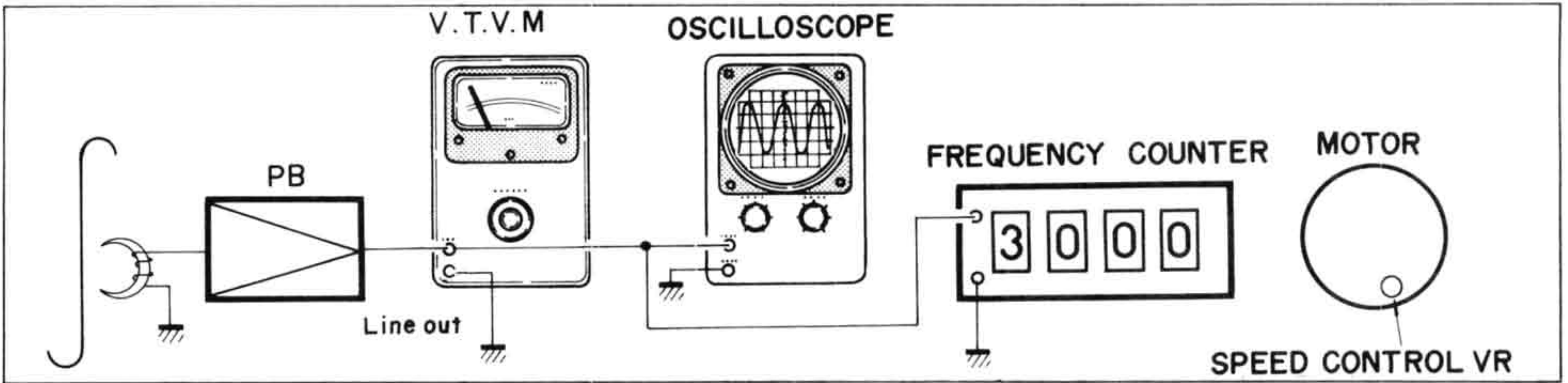
ELECTRICAL CHECKS AND ADJUSTMENTS



1. TAPE SPEED

Reproduce the central part of the LCT-3001 test tape (3 KHz). Adjust the motor revolution speed to 3 KHz.

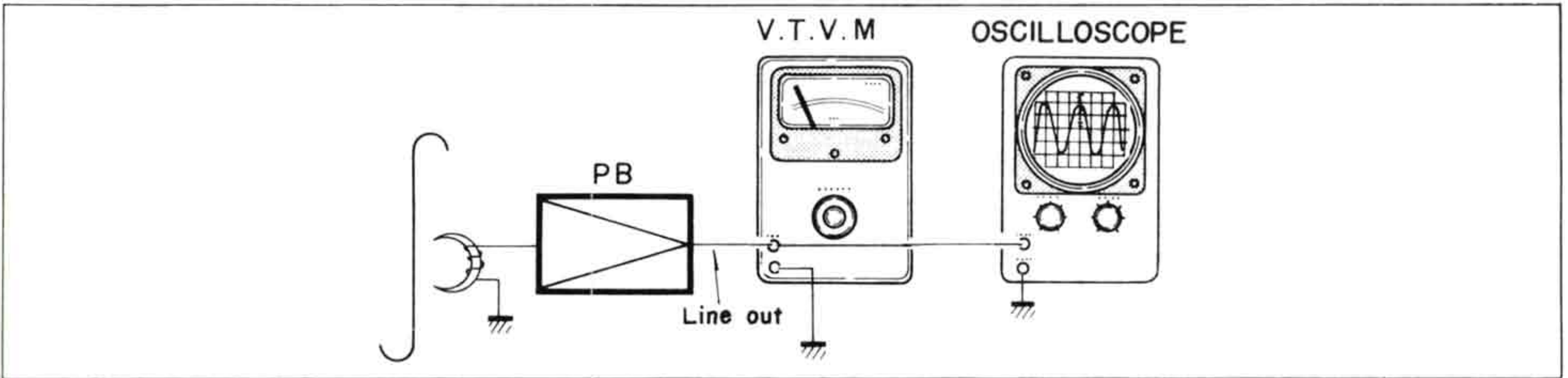
- For controlling the tape speed, the MTT-111 test tape can be alternative to the LCT-3001.



2. REPRODUCTION LEVEL

Reproduce the LCT-3003 (333 Hz) test tape, and adjust the semi-fixed resistors VR101 (L) and VR201

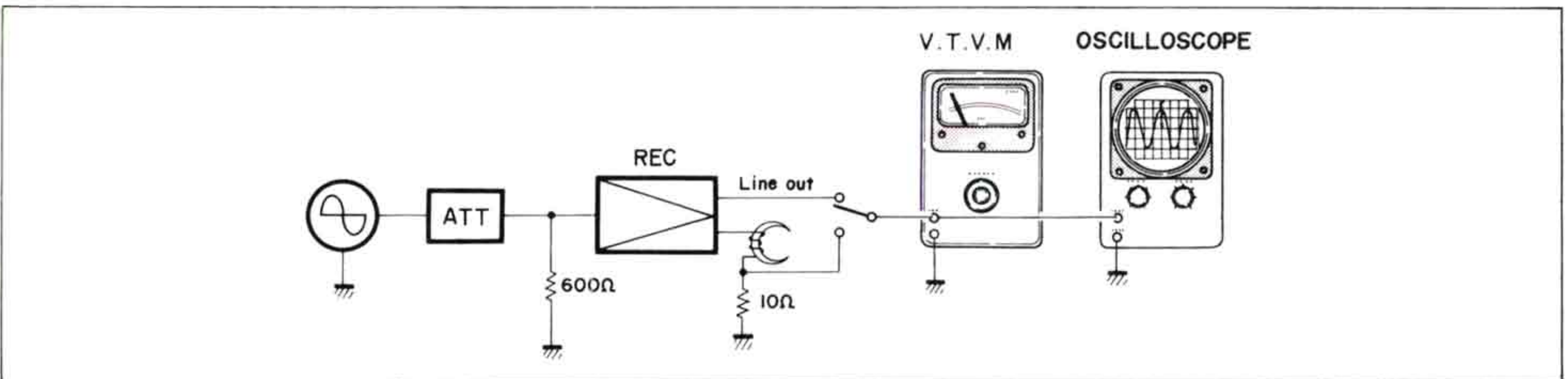
- (R), to set the Line Out's output at -6.5 dBm.
- When the MTT112 test tape is used, the output level is -2.5 dB.



3. VU METER

Apply a level of 1 KHz, -20 dBm to LINE IN in the recording condition, and adjust REC LEVEL until

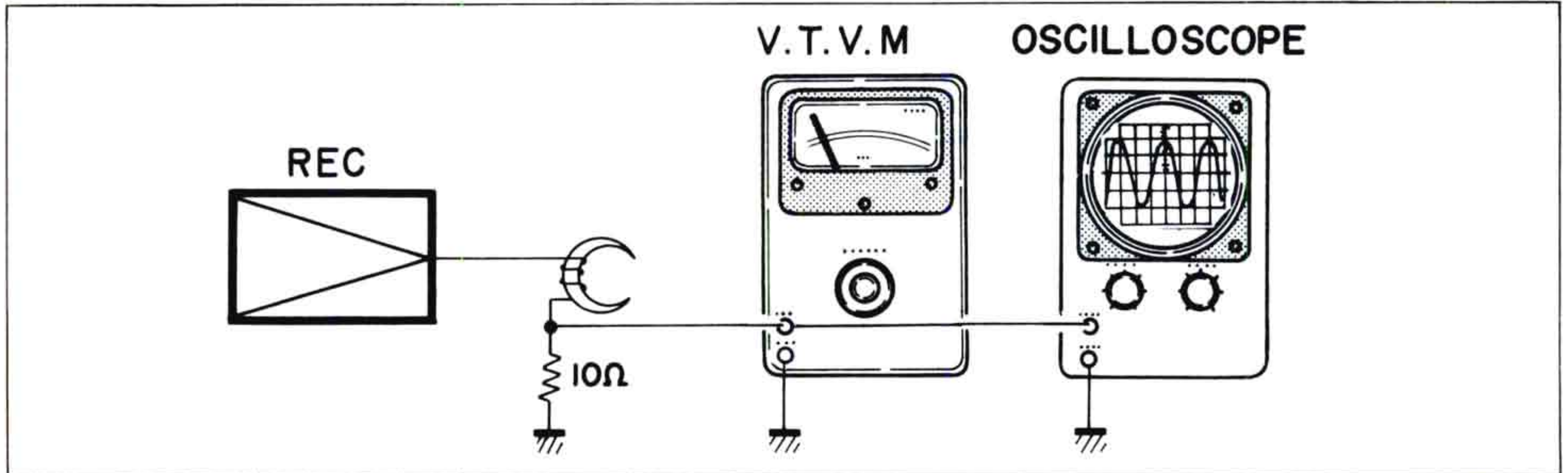
- the Line Out's output obtains -6.5 dBm. Then, adjust the semi-fixed resistors, VR104 (L) and VR204 (R), to set the level meter at 0 VU.



4. BIAS CURRENT

Control the bias voltage of the recording/reproduction terminal (10Ω) in the non-signal recording condition. (TP1, TP2)

	L	R	
LH	VR105	VR205	-46dBm
FeCr			-44.5dBm
CrO ₂			-42.5dBm

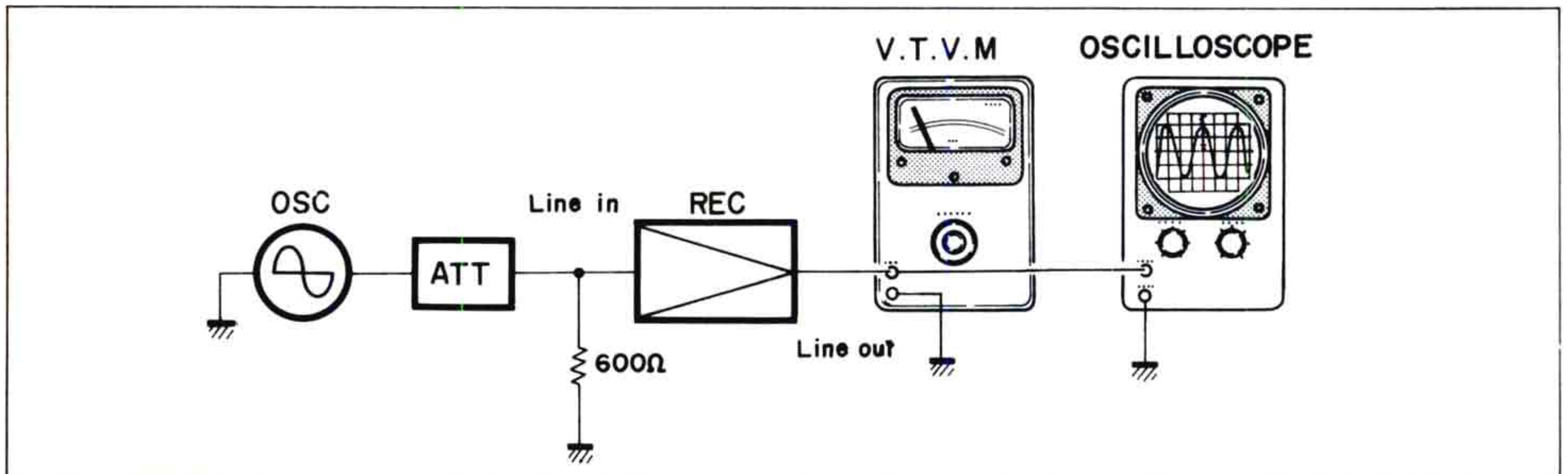


5. RECORDING CURRENT

In the recording condition, apply a level of 1 KHz, -20 dBm to Line In, and adjust REC LEVEL until the Line Out's output obtains -6.5 dBm. Then, adjust temporarily the semi-fixed resistors, VR103 (L) and VR203 (R), for the recording current of the recording/reproduction head terminal (10Ω).

	L	R	
LH	VR103	VR203	-65.5dBm
FeCr			-66dBm
CrO ₂			-62dBm

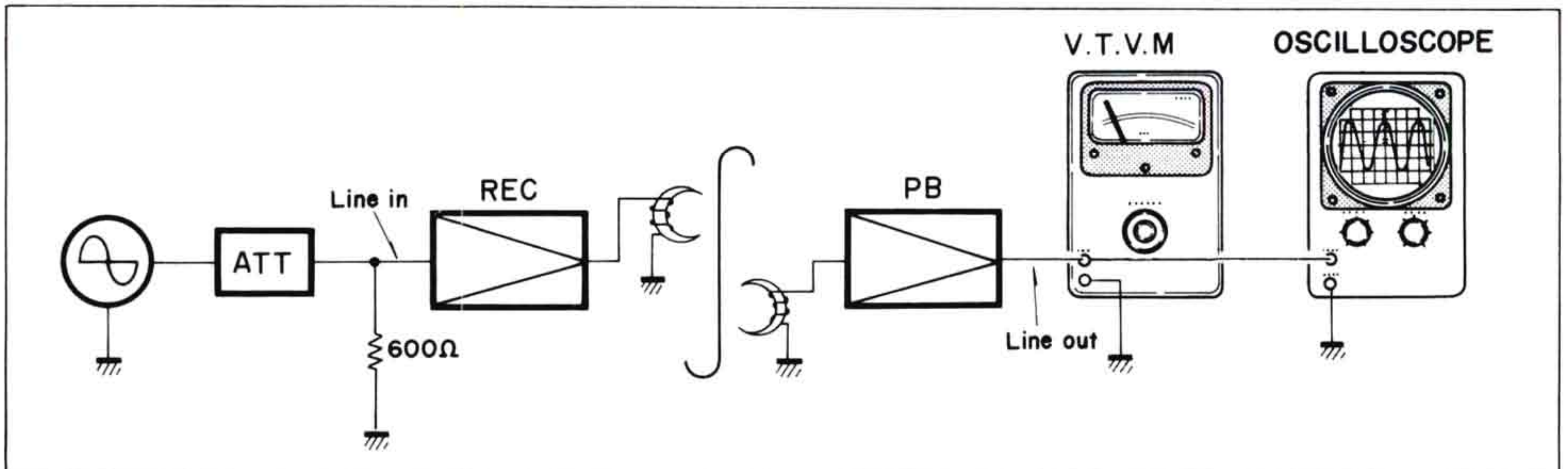
- During this control, be sure that the bias oscillation is inoperative, through short-circuiting the erasure head.



6. RECORDING LEVEL

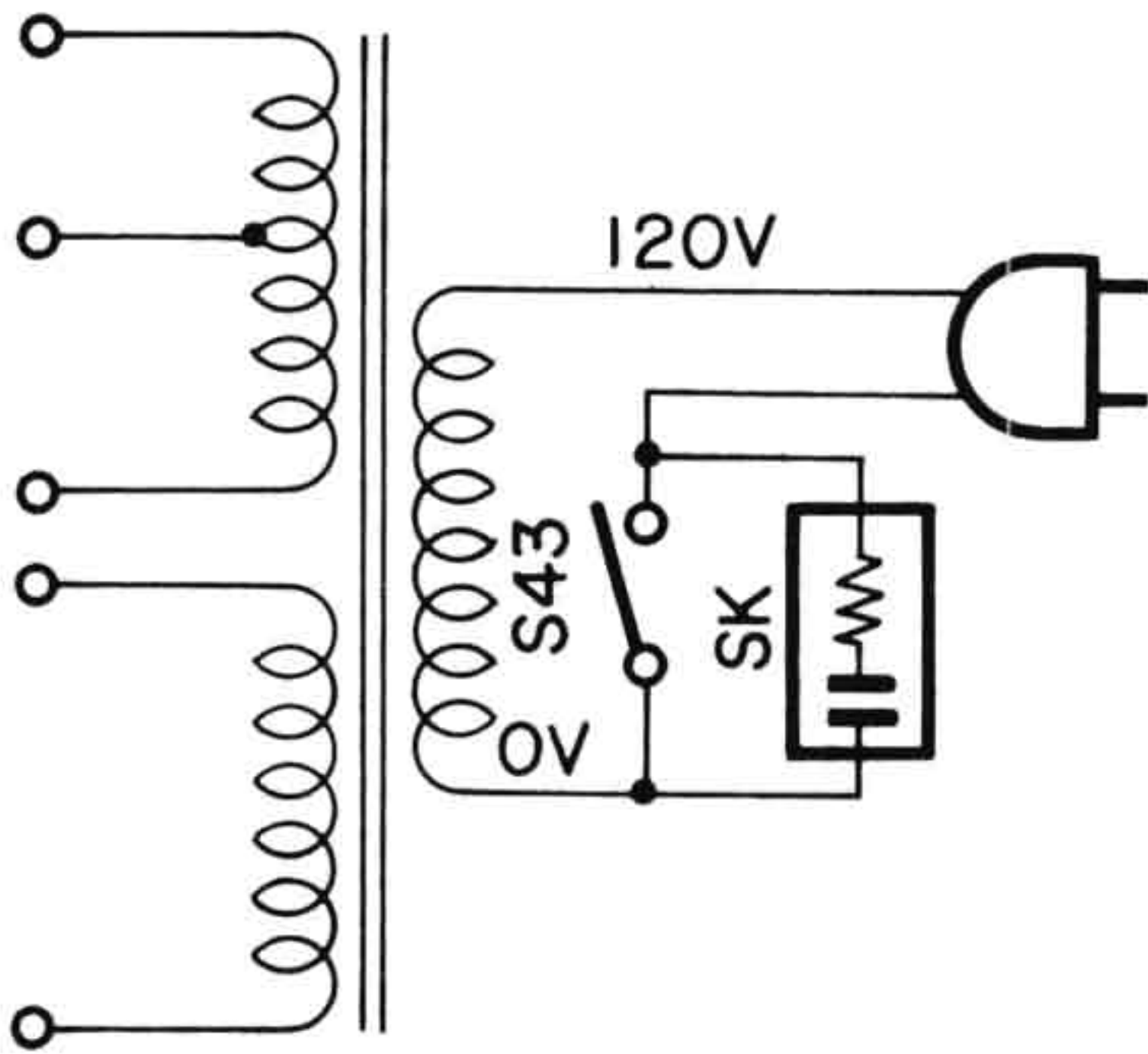
After the recording current is temporarily adjusted in the preceding control of the recording current,

record the 333 Hz. Next, reproduce it, and adjust the semi-fixed resistors, VR103 (L) and VR203 (R), until the Line Out's output obtains a -6.5 dBm.

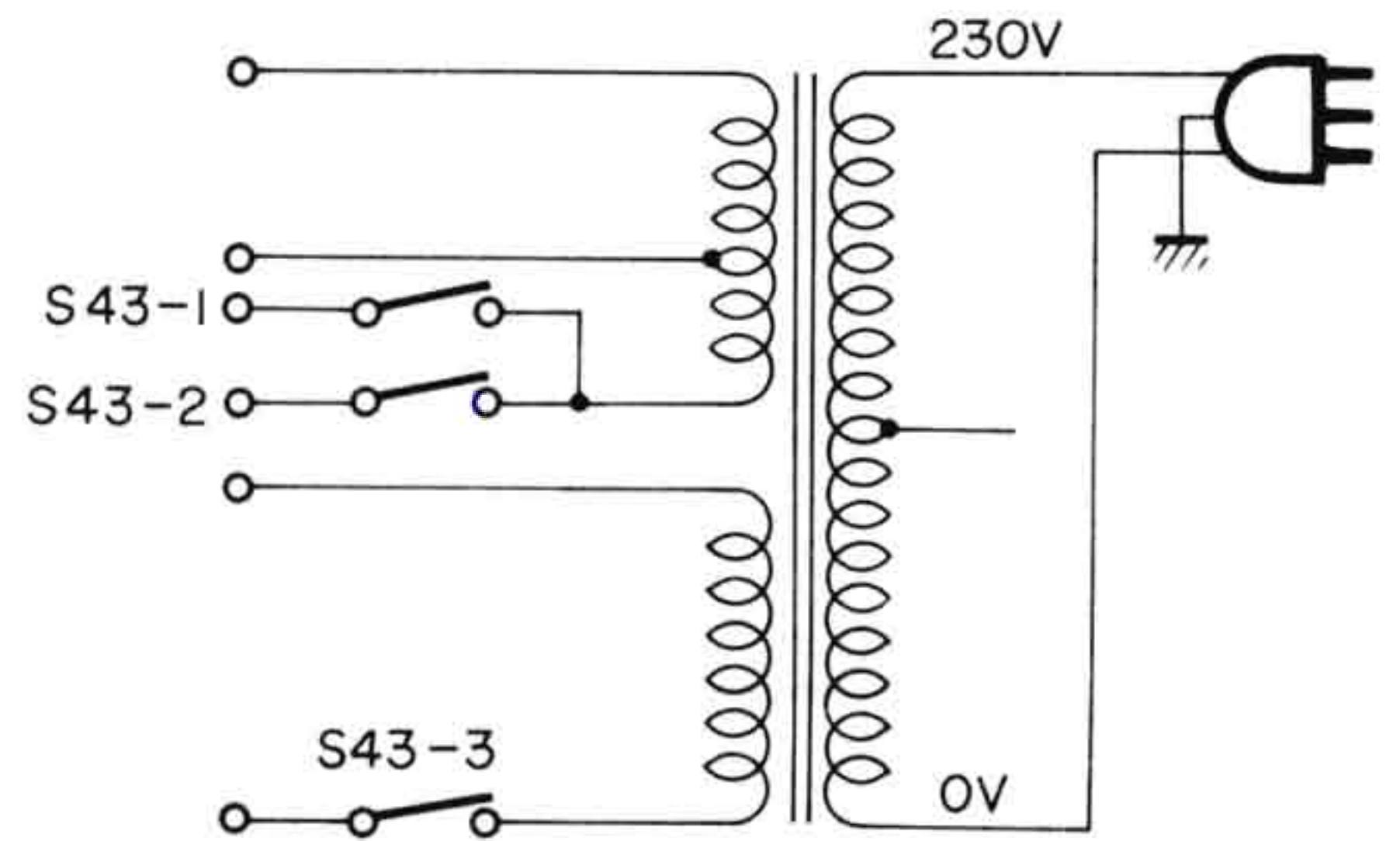


LINE VOLTAGE CONVERSION

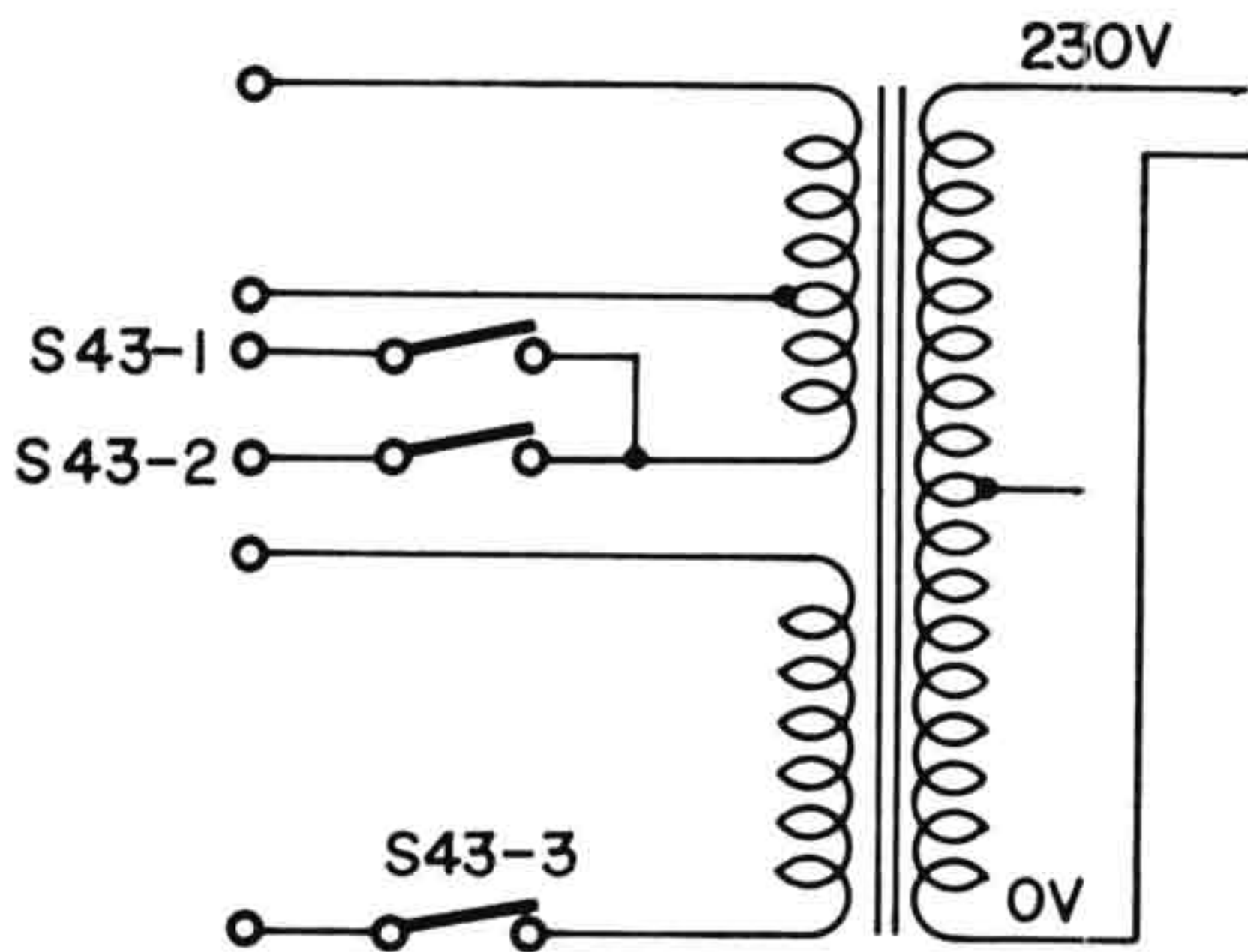
▼ U.S. & CANADIAN MODELS



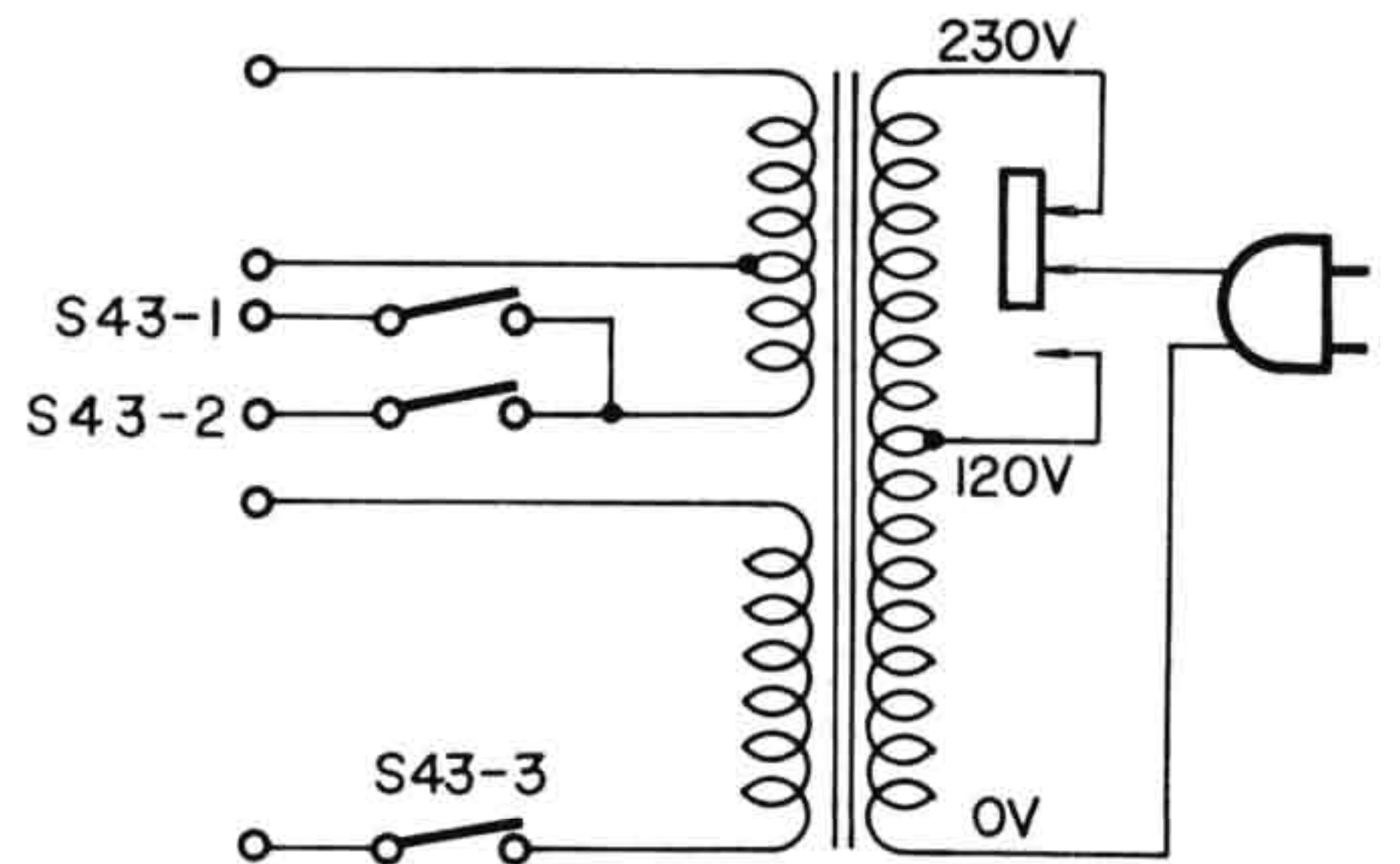
▼ AUSTRALIAN MODEL



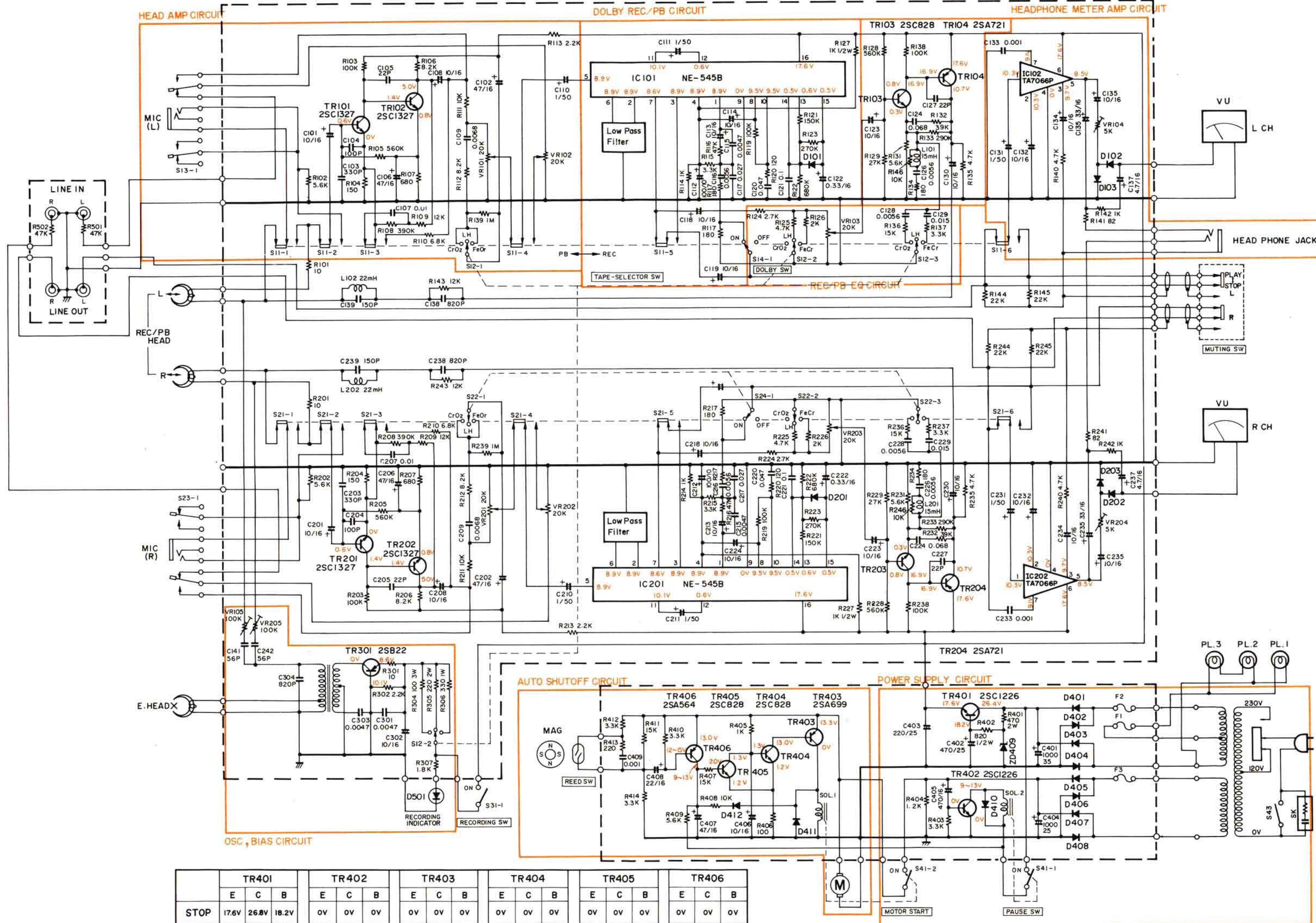
▼ BRITISH MODEL



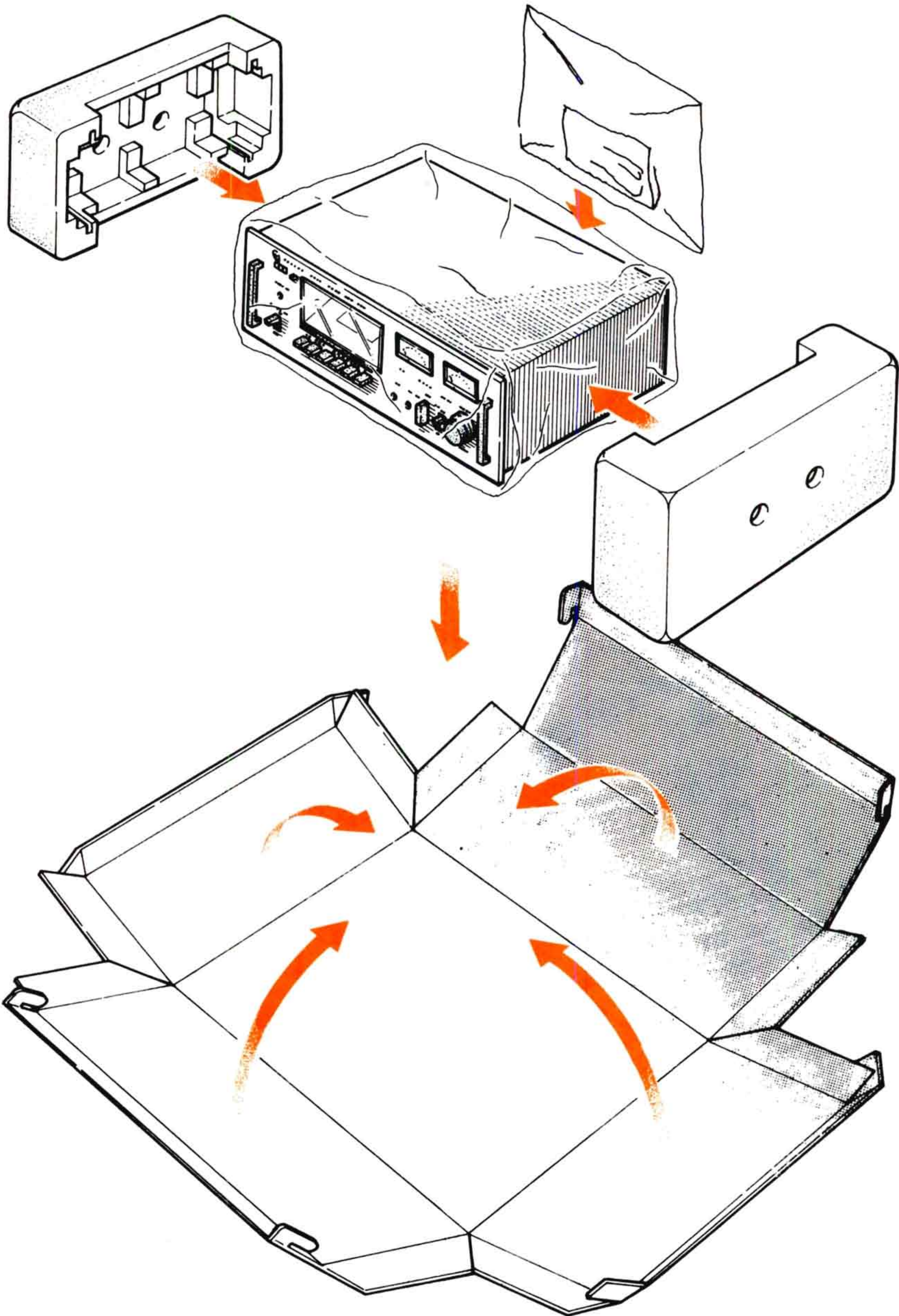
▼ EUROPEAN MODEL



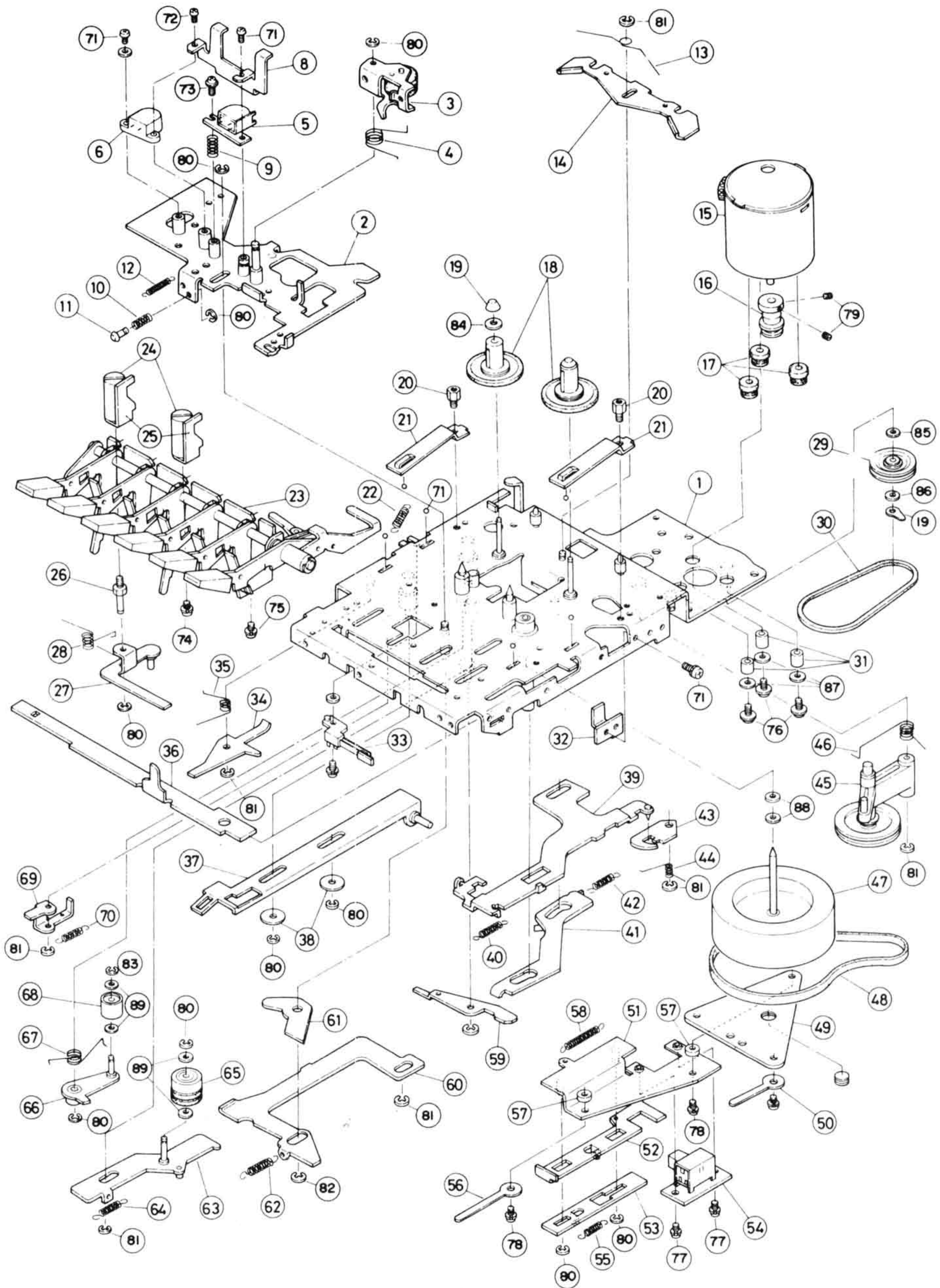
SCHEMATIC DIAGRAM



PACKAGE

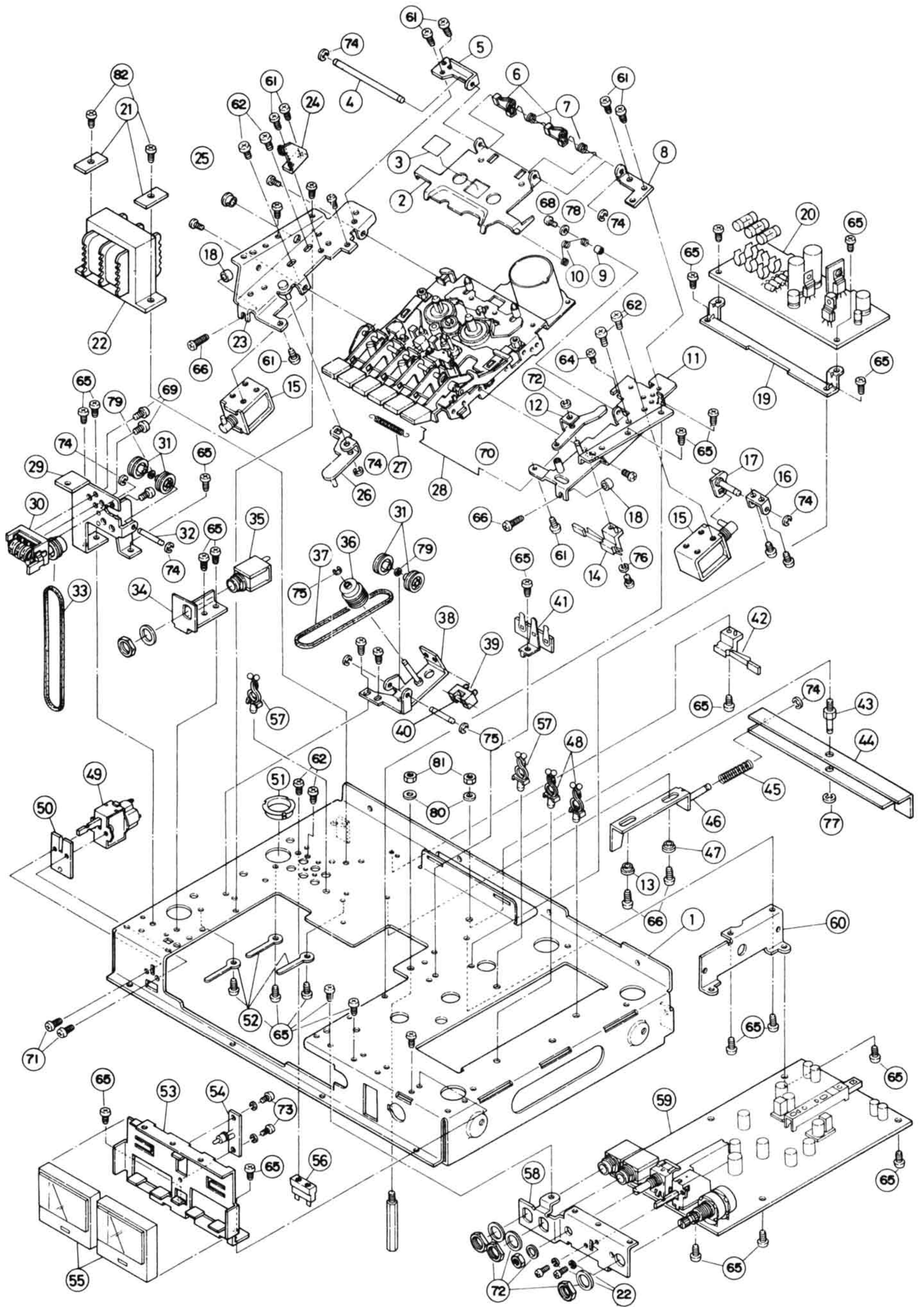


Ref. No.	Part No.	Description	Remarks	Common Models
1	42:00:00 SX 98:20:20	Cabinet Wooden Case	外 装 カ バ ー	
2	42:00:00 SX 98:20:30	Cassette Housing S	カセットハウジングS	
2	42:00:00 SX 98:20:40	Cassette Housing B	カセットハウジングB	
3	42:00:00 SX 98:20:50	Timing Arm Holder Plate	タイミングアーム 取 付 板 組 立	
4	42:00:00 SX 98:20:60	Spring for Pause Lock Plate	ボ ー ズ ロ ッ ク 板	
5	42:00:00 SX 98:20:70	Spring for Lock Plate	ロ ッ ク 板 バ ネ	
6	42:00:00 SX 98:20:80	Door Timing Arm Ass'y	ドアータイミング ア ー ム 組 立	
7	42:00:00 SX 98:20:90	Spring for Timing Arm	タイミングアームバネ	
8	42:00:00 SX 98:21:00	Housing shaft	ハウジングシャフト	
9	42:00:00 SX 98:21:10	Housing Cover	ハウジングカバー	
10	42:00:00 SX 98:21:20	Lamp Tube D	ラングチューブD	
11	42:00:00 SX 98:21:30	Pilot Lamp	パイロットランプ	
12	42:00:00 SX 98:21:40	Lamp Cover	ラ ッ プ カ バ ー	
13	42:00:00 SX 98:21:50	Mirror	ミ ラ ー	
14	42:00:00 SX 98:21:60	Spring Pressure	カセット押シバネ	
15	42:00:00 SX 98:21:80	Back Panel	リ ア バ ネ ル	US/Canadian models
15	42:00:00 SX 98:21:90	Back Panel	"	European model
15	42:00:00 SX 98:22:00	Back Panel	"	Australian model
15	42:00:00 SX 98:22:10	Back Panel	"	General model
16	42:00:00 SX 98:22:20	Cord Bussing	コードブッシング (ヘイコ)	
16	42:00:00 SX 98:22:30	Cord Bussing	コードブッシング (エピック)	
17	42:00:00 SX 98:22:50	AC Cord	電 源 コ ー ド	US/Canadian models
17	42:00:00 SX 98:22:60	AC Cord	"	Australian model
17	42:00:00 SX 98:22:70	AC Cord	"	European model
17	42:00:00 SX 98:22:80	AC Cord	"	BS model
18	42:00:00 SX 98:22:90	Cover Cushion A	外装カバークッションA	
19	42:00:00 SX 98:23:00	Pin Jack Plate Ass'y 4P	入出力ジャック板 Ass'y	
20	42:00:00 SX 98:23:10	Pin Jack Plate Ass'y 4P	"	
20	42:00:00 SX 98:23:20	Pin Jack C, B	ジャックP. C. B 組立	
21	42:00:00 SX 98:23:30	Door	ド ア ー	
22	42:00:00 SX 98:23:40	Door Support Shaft	ドアー支持軸	
23	42:00:00 SX 98:23:50	Spring, Door	ドアーバネ	
24	42:00:00 SX 98:23:60	Door Support Plate Right	ドアー支持板R	
25	42:00:00 SX 98:23:70	Door Support Plate Left	ドアー支持板L	
26	42:00:00 SX 98:23:80	Panel Holder Plate A	パネル取付板A	
27	42:00:00 SX 98:23:90	Panel Holder Plate B	パネル取付板B	
28	42:00:00 SX 98:24:00	Front Panel S ⇒NB07469	表面パネルS	
28	42:00:00 SX 98:24:10	Front Panel B ⇒NB07648	表面パネルB	
29	42:00:00 SX 98:24:20	Cover Cushion	外装カバークッション	
30	42:00:00 SX 98:24:30	Handle ⇒CB07774	取 手 B	
30	42:00:00 SX 98:24:40	Handle ⇒CB07665	"	
31	42:00:00 SX 98:24:50	Lever Knob Silver	レバ ー ツ マ ミ S	
31	42:00:00 SX 98:24:60	Lever Knob Black	レバ ー ツ マ ミ B	
32	42:00:00 SX 98:24:70	Knob, Tape SW Silver ⇒BA06441	テープSW用ツマミS	
32	42:00:00 SX 98:24:80	Knob, Tape SW Black ⇒BA06848	テープSW用ツマミB	
33	42:00:00 SX 98:24:90	Knob, REC Level Silver BA06862	RECレベル用ツマミ S 1	
33	42:00:00 SX 98:25:00	Knob, REC Level Black BA06861	RECレベル用ツマミ B 1	
34	42:00:00 SX 98:25:10	Knob, REC Level ⇒BA06816 Silver	RECレベル用ツマミ S 2	
34	42:00:00 SX 98:25:20	Knob, REC Level ⇒BA06850 Black	RECレベル用ツマミ B 2	



Ref. No.	Part No.	Description	Remarks	Common Models
1	42 00 00 SX 98 32 50	Chassis Ass'y	メカシャーシ組立	
2	42 00 00 SX 98 32 60	Head Base Ass'y	ヘッドベース組立	
3	42 00 00 SX 98 32 70	Arm Ass'y, Pinch Roller	ピンチローラアーム組立	
4	42 00 00 SX 98 32 80	Spring, Pinch Roller	ピンチローラバネ	
5	42 00 00 SX 98 32 90	Head, REC/PB	録再ヘッド	
6	42 00 00 SX 98 33 00	Head, Erase	消去ヘッド	
7	42 00 00 SX 98 33 10	Protector, Cassette	カセットプロテクター	
8	42 00 00 SX 98 33 20	Spring, Head Control	ヘッド調整バネ	
9	42 00 00 SX 98 33 30	Spring, Head Base Shaft	ヘッドベース軸バネ	
10	42 00 00 SX 98 33 40	Head Base Shaft	ヘッドベース軸	
11	42 00 00 SX 98 33 50	Spring, Head Base	ヘッドベースバネ	
12	42 00 00 SX 98 33 60	Spring, Brake Lever	ブレーキレバーバネ	
13	42 00 00 SX 98 33 70	Brake Lever	ブレーキレバー	
14	42 00 00 SX 98 33 80	Motor Ass'y	モーター	
15	42 00 00 SX 98 33 90	Motor Pulley	モータープーリー	
16	42 00 00 SX 98 34 00	Rubber, Motor Holder	モーター取付ゴム	
17	42 00 00 SX 98 34 10	Reel Tablet Ass'y B	リール受台B組立	
18	42 00 00 SX 98 34 20	Cap, Reel Shaft	リール軸キャップ	
19	42 00 00 SX 98 34 30	Screw, Spring	バネ押エスクリュー	
20	42 00 00 SX 98 34 40	Spring, Head Base	ヘッドベース押エバネ	
21	42 00 00 SX 98 34 50	Spring B, REC Lever	RECレバーバネB	
22	42 00 00 SX 98 34 60	Push button Ass'y S	押しボタン ブロック組立S	
23	42 00 00 SX 98 34 70	Push button Ass'y B	押しボタン ブロック組立B	
24	42 00 00 SX 98 34 80	Support, Push button	押しボタン補強サポート	
25	42 00 00 SX 98 34 90	Reinforce Plate, Push button	押しボタン補強板	
26	42 00 00 SX 98 35 00	Shaft, Mute Timing Lever	ミュートタイミング レバー軸	
27	42 00 00 SX 98 35 10	Mute Timing Lever Ass'y	ミュートタイミング レバー組立	
28	42 00 00 SX 98 35 20	Spring, Mute Lever	ミュートレバーバネ	
29	42 00 00 SX 98 35 30	RWD Idler Ass'y	巻取アイドル組立	
30	42 00 00 SX 98 35 40	Belt for RWD Pulley	巻取プーリーベルト	
31	42 00 00 SX 98 35 50	Spacer	モーター取付ガラン	
32	42 00 00 SX 98 35 60	Holder for Pause Lever	ポーズ作動レバー押エ	
33	42 00 00 SX 98 35 70	Leaf Switch	モーター駆動用 リーフSW	
34	42 00 00 SX 98 35 80	REC Lever B5	RECレバーB5	
35	42 00 00 SX 98 35 90	Spring B	RECレバーバネB	
36	42 00 00 SX 98 36 00	Plate, Auto Stop	オートストップ作動板	
37	42 00 00 SX 98 36 10	REC Slide Plate A Ass'y	RECスライド板 A組立	
38	42 00 00 SX 98 36 20	Flat Washer	平座金	
39	42 00 00 SX 98 36 30	Pause Differential Lever Ass'y	ポーズ作動レバー組立	
40	42 00 00 SX 98 36 40	Spring, Pause Lever	ポーズ作動レバーバネ	
41	42 00 00 SX 98 36 50	FF Connecting Lever Ass'y	FF連動レバー組立	
42	42 00 00 SX 98 36 60	Spring, FF Lever	FF連動レバーバネ	
43	42 00 00 SX 98 36 70	Locking Plate, Pause	ポーズロック板	
44	42 00 00 SX 98 36 80	Spring, Locking Plate	ポーズロック板バネ	
45	42 00 00 SX 98 36 90	Tension Arm Ass'y	テンションアーム組立	
46	42 00 00 SX 98 37 00	Spring, Roller	駆動ローラアームバネ	
47	42 00 00 SX 98 37 10	Flywheel Ass'y	フライホイール組立	
48	42 00 00 SX 98 37 20	Belt, Flywheel	フライホイールベルト	
49	42 00 00 SX 98 37 30	Spring, Flywheel	フライホイール受板	

Ref. No.	Part No.	Description	Remarks	Common Models
50	42 00 00 SX 98 37 40	Holder, Wire		
51	42 00 00 SX 98 37 50	Slide Plate Ass'y	スライド板取付組立	
52	42 00 00 SX 98 37 60	Differential Plate A Slide SW	スライドSW作動板A	
53	42 00 00 SX 98 37 70	Differential Plate B Slide SW	スライドSW作動板B	
54	42 00 00 SX 98 37 80	Muting Circuit Board	ミューティング P. C. B組立	
55	42 00 00 SX 98 37 90	Spring B	スライド板バネB	
56	42 00 00 SX 98 38 00	Cord Cramper	コードクランパー	
57	42 00 00 SX 98 38 10	Spacer	カ ラ ー	
58	42 00 00 SX 98 38 20	Spring A	スライド板バネA	
59	42 00 00 SX 98 38 30	FF Lever	F F レ バ ー	
60	42 00 00 SX 98 38 40	Brake Lever	ブレーキ作動レバー	
61	42 00 00 SX 98 38 50	Lock Safty Plate	同時ロック防止板	
62	42 00 00 SX 98 38 60	Spring, Brake Lever	ブレーキ作動レバーバネ	
63	42 00 00 SX 98 38 70	FR Lever Ass'y	FRレバーブロック組立	
64	42 00 00 SX 98 38 80	Spring D, FF Lever	FRレバーバネD	
65	42 00 00 SX 98 38 90	Idler A Ass'y	アイドラーA組立	
66	42 00 00 SX 98 39 00	Idler B Ass'y	アイドラーB組立	
67	42 00 00 SX 98 39 10	Spring, Idler B Lever	アイドラーBレバーバネ	
68	42 00 00 SX 98 39 20	Idler B	アイドラーB	
69	42 00 00 SX 98 39 30	REW Lever B	R E W レ バ ー B	
70	42 00 00 SX 98 39 40	Spring REW Lever	R E W レ バ ー バ ネ	
71	42 00 00 ED 02 00 60	Binding Head Screw	M2 x 6	バインド小ネジ
72	42 00 00 ED 02 00 80	- do. -	M3 x 6	バインド小ネジ
73	42 00 00 EH 02 00 50	Sews Screw	M2 x 5	セムス小ネジ
74	42 00 00 EH 02 60 80	- do. -	M2, 6 x 8	セムス小ネジ
75	42 00 00 EH 02 60 40	- do. -	M2, 6 x 4	セムス小ネジ
76	42 00 00 EH 03 60 70	- do. -	M2, 6 x 7	セムス小ネジ
77	42 00 00 EH 02 60 60	- do. -	M2, 6 x 6	セムス小ネジ
78	42 00 00 EH 02 61 00	- do. -	M2, 6 x 10	セムス小ネジ
79	42 00 00 EZ 00 04 50		M2 x 3	セットスクリュー
80	42 00 00 EV 50 02 00	Ring E	2φ	E リ ン グ
81	42 00 00 EV 50 02 50	- do. -	2.5φ	E リ ン グ
82	42 00 00 EV 50 04 00	- do. -	4φ	E リ ン グ
83	42 00 00 EV 50 01 50	- do. -	1.5φ	E リ ン グ
84	42 00 00 EV 20 01 60	Flat Washer	1.6φ	平 座 金
85	42 00 00 EV 90 06 00	- do. -	1.6φ x 6φ x 0.5	平 座 金
86	42 00 00 EV 90 04 00	- do. -	1.6φ x 4φ x 0.3	平 座 金
87	42 00 00 EV 20 02 60	- do. -	2.6φ	平 座 金
88	42 00 00 EV 20 02 50	- do. -	2.5φ	平 座 金
89	42 00 00 EV 20 02 10	- do. -	2.1φ	平 座 金



Ref. No.	Part No.	Description	Remarks	Common Models
1	42 00 00 SX 98 25 60	Main Chassis	メインシャーシ	
2	42 00 00 SX 98 25 70	Cassette Holder Plate	カセット受板	
3	42 00 00 SX 98 25 80	Ornament Plate, Cassette	カセット飾り板	
4	42 00 00 SX 98 25 90	Shaft for SX98057	カセット受板軸	
5	42 00 00 SX 98 26 00	Fixing Board for SX98059	カセット受板取付板A	
6	42 00 00 SX 98 26 10	Cassette Holder	カセット押工具	
7	42 00 00 SX 98 26 20	Spring for SX98061	カセット押工具 トーションバネ	
8	42 00 00 SX 98 26 30	Fixing Board B	カセット受板取付板B	
9	42 00 00 SX 98 26 40	Spacer for Click Spring	クリックバネ取付ガラン	
10	42 00 00 SX 98 26 50	Click Spring, Cassette Holder	カセット受板 クリックバネ	
11	42 00 00 SX 98 26 60	Fixing Plate Ass'y R	メカ取付板R組立	
12	42 00 00 SX 98 26 70	Eject Check Arm	エジェクト防止アーム	
13	42 00 00 SX 98 26 80	Slide Board Fixing Collar	スライド板固定カラー	
14	42 00 00 SX 98 26 90	Reaf SW, Pause	ポーズ用リーフSW	
15	42 00 00 SX 98 27 00	Plunger (P14V)	プランジャー(P14V)	
16	42 00 00 SX 98 27 10	Holder Plate, REC Arm	録音アーム支持板	
17	42 00 00 SX 98 27 20	Time REC Arm Ass'y	タイム録音アーム組立	
18	42 00 00 SX 98 27 30	Fixing Collar, Holder Plate	取付板固定カラー	
19	42 00 00 SX 98 27 40	Amp Fixing Plate C	アンプ取付板C	
20	42 00 00 SX 98 27 50	Power Circuit Board	電源P. C. B組立	
21	42 00 00 SX 98 27 60	Transformer Holder	トランス押エ	
22	42 00 00 SX 98 27 80	Power Transformer	電源トランス	US/Canadian models
22	42 00 00 SX 98 27 90	Power Transformer	"	General model
22	42 00 00 SX 98 28 00	Power Transformer Class 2	"	Australian, European, B.S models
23	42 00 00 SX 98 28 10	Fixing Board Ass'y L	メカ取付板L組立	
24	42 00 00 SX 98 28 20	Stopper, Cassette Holder	カセット受取 ストップバー	
25	42 00 00 SX 98 28 30	Miniature Bussing	ミニチュアブッシング	
26	42 00 00 SX 98 28 40	Autostop Arm Ass'y	オートストップ アーム組立	
27	42 00 90 SX 98 28 50	Spring, Differential Plate	作動板バネ	
28	32 00 00 SX 98 28 60	Eject Contact Lever	エジェクト連結バー	
29	42 00 00 SX 98 28 70	Counter Holder Plate Ass'y	カウンター取付板組立	
30	42 00 00 SX 98 28 80	Index Counter	カウンター	
31	42 00 00 SX 98 28 90	Counter Pulley B	カウンタープーリーB	
32	42 00 00 SX 98 29 00	Shaft, Counter Pulley B	カウンタープーリーB軸	
33	42 00 00 SX 98 29 10	Belt, Index Counter 103.5	カウンターベルト φ103.5	
34	42 00 00 SX 98 29 20	Juck Holder Plate	ジャック取付板	
35	42 00 00 SX 98 29 30	Head Phone Jack	ヘッドフォンジャック	
36	42 00 00 SX 98 29 40	Index Counter Pulley A	カウンタープーリーA	
37	42 00 00 SX 98 29 50	Belt, Index Counter 70.3	カウンターベルト φ70.3	
38	42 00 00 SX 98 29 60	Contact Pulley Holder Plate	中継プーリー 取付板組立	
39	42 00 00 SX 98 29 70	SW Holder Plate	スイッチ受座	
40	42 00 00 SX 98 29 80	Reed Switch	リードSW MAH-16	
41	42 00 00 SX 98 29 90	Lug Terminal 1-L-1	ラグ端子 1-L-1	
42	42 00 00 SX 98 30 00	Reaf Switch	リーフSW	
43	42 00 00 SX 98 30 10	Shaft, REC Arm	REC 作動アーム固定軸	
44	42 00 00 SX 98 30 20	REC Differential Arm	REC作動アーム	
45	42 00 00 SX 98 30 30	Spring, REC	REC圧縮バネ	
46	42 00 00 SX 98 39 40	REC Slide Plate B Ass'y	REC スライド板B組立	
47	42 00 00 SX 98 30 50	Fixing Spacer A	固定カラーA	

Ref. No.	Part No.	Description	Remarks	Common Models
48	42:00:00 SX 98:30:60	Lock NO-249	バースロックNo.249	
49	42:00:00 SX 98:30:70	Power SW SY-02	電源スイッチSY02	General model
49	42:00:00 SX 98:30:80	Power SW	電源スイッチSY02-2	General model
49	42:00:00 SX 98:31:00	Power SW	"	US/Canadian models
49	42:00:00 SX 98:31:10	Power SW	"	B.S model
49	42:00:00 SX 98:31:20	Power SW	"	Australian & European models
50	42:00:00 SX 98:31:30	Spacer for Power SW	パワーSW 取付スペーサー	
51	42:00:00 SX 98:31:40	Bushing S	ショーティーブッシング	
52	42:00:00 SX 98:31:50	Cord Cranper	コードクランパー	
53	42:00:00 SX 98:31:60	Plate for VU Meter	VUメーター取付板B	
54	42:00:00 SX 98:31:70	LED Circuit Board	LED P.C.B組立	
55	42:00:00 SX 98:31:80	VU Meter TD-268S	TD268S V UメーターS	
55	42:00:00 SX 98:31:90	VU Meter TC-268B	TD268B V UメーターB	
56	42:00:00 SX 98:32:00	Stand, Terminal	カラー端子台	
57	42:00:00 SX 98:32:10	Lock	バースロック	
58	42:00:00 SX 98:32:20	Amp Holder A	アンプ取付板A	
59	42:00:00 SX 98:32:30	Main Circuit Board	メインP.C.B組立	
60	42:00:00 SX 98:32:40	Amp Holder B	アンプ取付板B	
61	42:00:00 ED 03:00:40	Binding Head Screw M3 x 4	バインド小ネジ	
62	42:00:00 ED 03:00:60	- do. - M3 x 6	バインド小ネジ	
63	42:00:00 ED 02:60:40	- do. - M2.6 x 4	バインド小ネジ	
64	42:00:00 ED 03:00:30	- do. - M2.6 x 3	バインド小ネジ	
65	42:00:00 E I 03:00:60	Binding Tapping Screw M3 x 6	バインドタッピングネジ	
66	42:00:00 E I 03:01:00	- do. - M3 x 10	バインドタッピングネジ	
67	42:00:00 ED 02:60:60	Binding Head Screw M2.6 x 6	バインド小ネジ	
68	42:00:00 ED 02:60:70	- do. - M2.6 x 7	バインド小ネジ	
69	42:00:00 EA 03:00:50	Pan Head Screw M3 x 5	ナベ小ネジ	
70	42:00:00 EV 02:61:50	Binding Head Screw M2.6 x 15	バインド小ネジ	
71	42:00:00 EA 03:00:80	Pan Head Screw M3 x 8	ナベ小ネジ	
72	42:00:00 EH 03:00:50	Sews Screw	セムス小ネジ	
73	42:00:00 EV 02:60:40	- do. -	セムス小ネジ	
74	42:00:00 EV 50:02:00	Ring E	Eリング	
75	42:00:00 EV 50:01:50	- do. -	Eリング	
76	42:00:00 EV 50:02:60	- do. -	Eリング	
77	42:00:00 EV 50:04:00	- do. -	Eリング	
78	42:00:00 EV 20:02:60	Flat Washer 2.6φ	平座金	
79	42:00:00 EV 20:02:10	- do. - 2.1φ	平座金	
80	42:00:00 EV 20:04:00	- do. -	平座金	
81	42:00:00 EV 10:04:00	Hexagonal Nut M4	六角ナット	
82	42:00:00 E I 04:00:80	Binding Tapping Screw M4 x 8	バインドタッピングネジ	

Ref. No.	Part No.	Description	Remarks	Common Models
	42 00 00 SX 98 32 30	Main Circuit Board	メインP.C.B組立	
	42 00 00 IA 07 21 00	Transistor 2SA721	2 S A 7 2 1	
	42 00 00 IB 00 22 00	- do. - 2SB22	2 S B 2 2	
	42 00 00 IC 08 28 00	- do. - 2SC828	2 S C 8 2 8	
	42 00 00 IC 13 27 00	- do. - 2SC1327	2 S C 1 3 2 7	
	42 00 00 IF 00 03 30	Diode 1S188	1 S 1 8 8 A M o r O A 9 0	
	42 00 00 IG 99 00 20	IC NE545B	I C N E 5 4 5 B	
	42 00 00 IG 99 00 30	- do. - TA7066P	T A 7 0 6 6 P	
	42 00 00 SX 98 39 50	Radiator 2SB22	放熱フィン 2SB22用	
	42 00 00 SX 98 39 60	REC/PB Switch	録再スイッチ (2列12回路2接点)	
	42 00 00 SX 98 40 00	Volume 50KA	ボリューム50KA (2軸2連16φ)	
			"	
	42 00 00 SX 98 39 70	Rotary SW	ロータリースイッチ (8回路3接点)	
	42 00 00 SX 98 39 80	Lever SW	レバースイッチ (2回路2接点)	
	42 00 00 SX 98 39 90	Mic Jack	マイクロフォンジャック	
			半固定ボリューム8φ	
	42 00 00 SX 98 40 10	Semi Volume 8φ 5KB	5 K B	
	42 00 00 SX 98 40 20	- do. - 20KB	2 0 K B	
	42 00 00 SX 98 40 30	- do. - 200KB	2 0 0 K B	
			ドルビーローパス フィルター	
	42 00 00 SX 98 40 40	DOLBY Low Pass Filter LPF0038		
	42 00 00 SX 98 40 40		VSL200-15D	
	42 00 00 SX 98 40 50	Bias Oscillation Coil	バイアスOSCコイル	
	42 00 00 SX 98 40 60	Coil 15mH ± 10% (153K)	固定インダクター	
	42 00 00 SX 98 40 70		20mH ± 10% (223K)	
	42 00 00 SX 98 23 20	Jack Circuit Board	ジャックP.C.B組立	
	42 00 00 SX 98 23 00	Jack Board Ass'y (Input & Output)	入出力ジャック板 Ass'y	
	42 00 00 SX 98 40 80	Slide Switch	スライドスイッチ (2回路2接点)	

Ref. No.	Part No.	Description	Remarks	Common Models
	42:00:00 SX 98:31:70	LED Circuit Board	LED P.C.B組立	
	42:00:00 IF 00:06:80	- do. -	LED SLT-132B	
	42:00:00 IF 00:05:20	- do. -	LED GD-4-203RD	
	42:00:00 SX 98:27:50	Power Circuit Board	電源P. C. B組立	
	42:00:00 IA 05:64:70	Transistor 2SA564	トランジスタ 2SA 564	
	42:00:00 IA 06:99:00	- do. - 2SA699	トランジスタ 2SA 699	
	42:00:00 IC 08:28:00	- do. - 2SC828	トランジスタ 2SC 828	
	42:00:00 IC 12:26:00	- do. - 2SC1226 (Q.R)	トランジスタ 2SC1226(Q. R)	
	42:00:00 IH 00:00:60	Diode IN4002 (4003)	ダイオード IN4002(4003)	SERVICING 10D-4
	42:00:00 IH 00:00:60	- do. - 10D-1	ダイオード 10D-1	
	42:00:00 IF 99:01:10	- do. - TD960016-1	ダイオード TD-960016-1	
	42:00:00 IF 99:01:00	Zener Diode WZ182	ダイオード ZDI WZ-182	
	42:00:00 SX 98:40:90	Heat Sink	放熱板 2SC1226用	
	42:00:00 SX 98:37:80	Meeting Circuit Board	ミュートイングP.C.B	

