



STEREO CASSETTE RECORDER

MODEL GX-9

SECTION 1	AUTO TUNING SYSTEM SUMMARY	3
SECTION 2	SERVICE MANUAL	9
SECTION 3	PARTS LIST	27

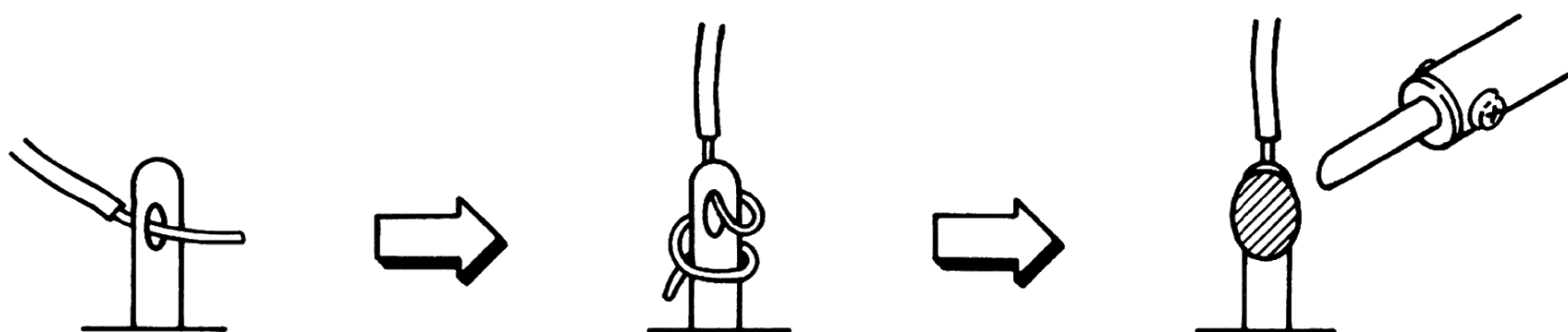
SAFETY INSTRUCTIONS

SAFETY CHECK AFTER SERVICING

Confirm the specified insulation resistance between power cord plug prongs and externally exposed parts of the set is greater than 10 Mohms, but for equipment with external antenna terminals (tuner, receiver, etc.) and is intended for **C** or **A**, specified insulation resistance should be more than 2.2 Mohms (ground terminals, microphone jacks, headphone jacks, line-in-out jacks etc.)

PRECAUTIONS DURING SERVICING

1. Parts identified by the $\triangle$ symbol parts are critical for safety.
Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation. These must also be replaced only with specified replacements.
Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
 - 1) Wires covered with PVC tubing
 - 2) Double insulated wires
 - 3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
 - 1) Insulation Tape
 - 2) PVC tubing
 - 3) Spacers (Insulating Barriers)
 - 4) Insulation sheets for transistors
 - 5) Plastic screws for fixing microswitch (especially in turntable)
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.

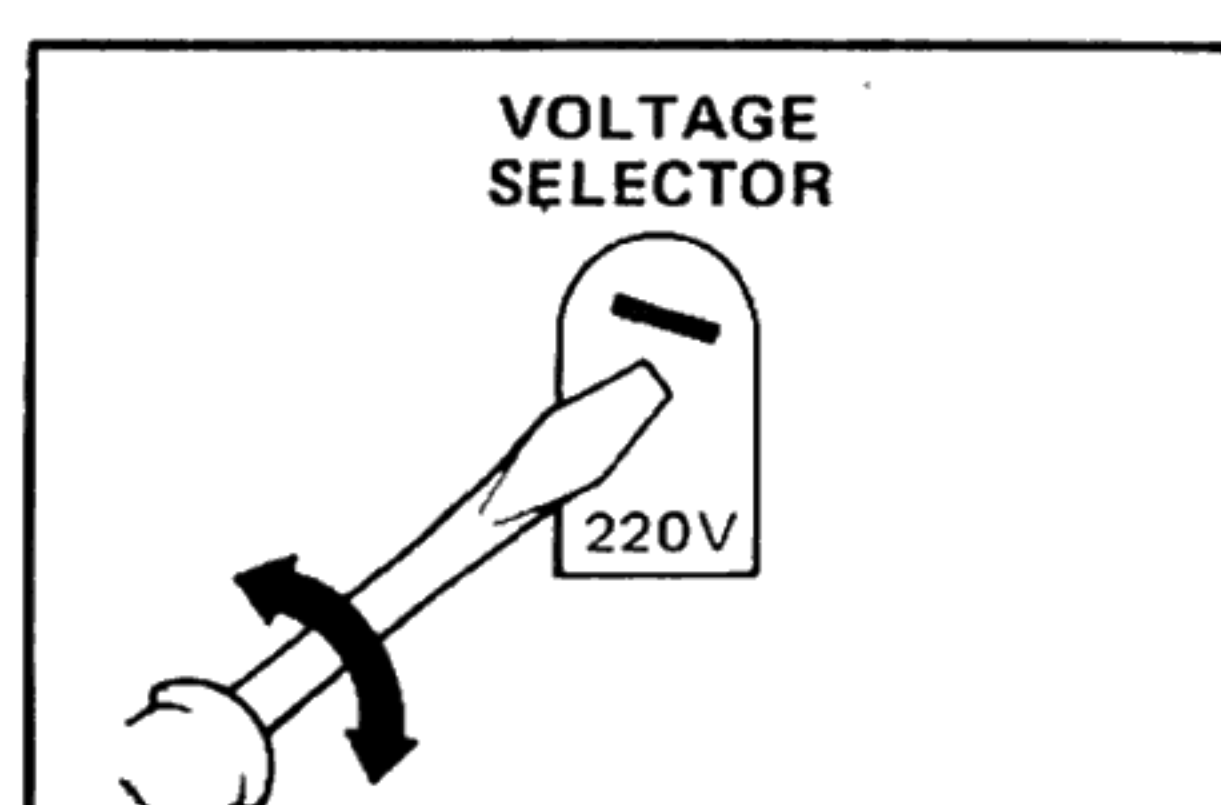


6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

VOLTAGE CONVERSION

Models for Japan, Canada, USA, Europe, UK and Australia are not equipped with this facility. Each machine is preset at the factory according to its destination, but some machines can be set to 110V, 120V, 220V, or 240V as required. If you machine's voltage can be converted:

Before connecting the power cord, turn the **VOLTAGE SELECTOR** located on the rear panel with a screwdriver until the correct voltage is indicated.



CYCLE CONVERSION

With DC MOTOR, CYCLE CONVERSION is not necessary.

SECTION 1

AUTO TUNING SYSTEM SUMMARY

TABLE OF CONTENTS

1. OUTLINE OF THE SYSTEM	4
2. EXPLANATION OF SYSTEM	7
3. ADJUSTMENT TIME	8
4. INDICATOR PROCESSING	8
5. A/D CONVERTER	8

1. OUTLINE OF THE SYSTEM

Fig. 1-1 shows the block diagram of the auto tuning system. Fig. 1-2 shows its flow chart.

When the REC KEY is pressed and if the tuning micro-processor is ready, the system control turns to recording condition. When in recording condition, test signals are recorded. Test signals are 1kHz and 10kHz. The 1kHz signal is for level adjustment and the 10kHz signal is for equalizer adjustment. Correct the recording data of both signals so that playback signal levels of 1kHz and 10kHz are as close as possible to the reference values.

As shown in Fig. 1-2, this tuning system does not have an error display. If an error occurs, the reference data sets the system to recording stand-by. Adjustment is 3 bit in 8 stages.

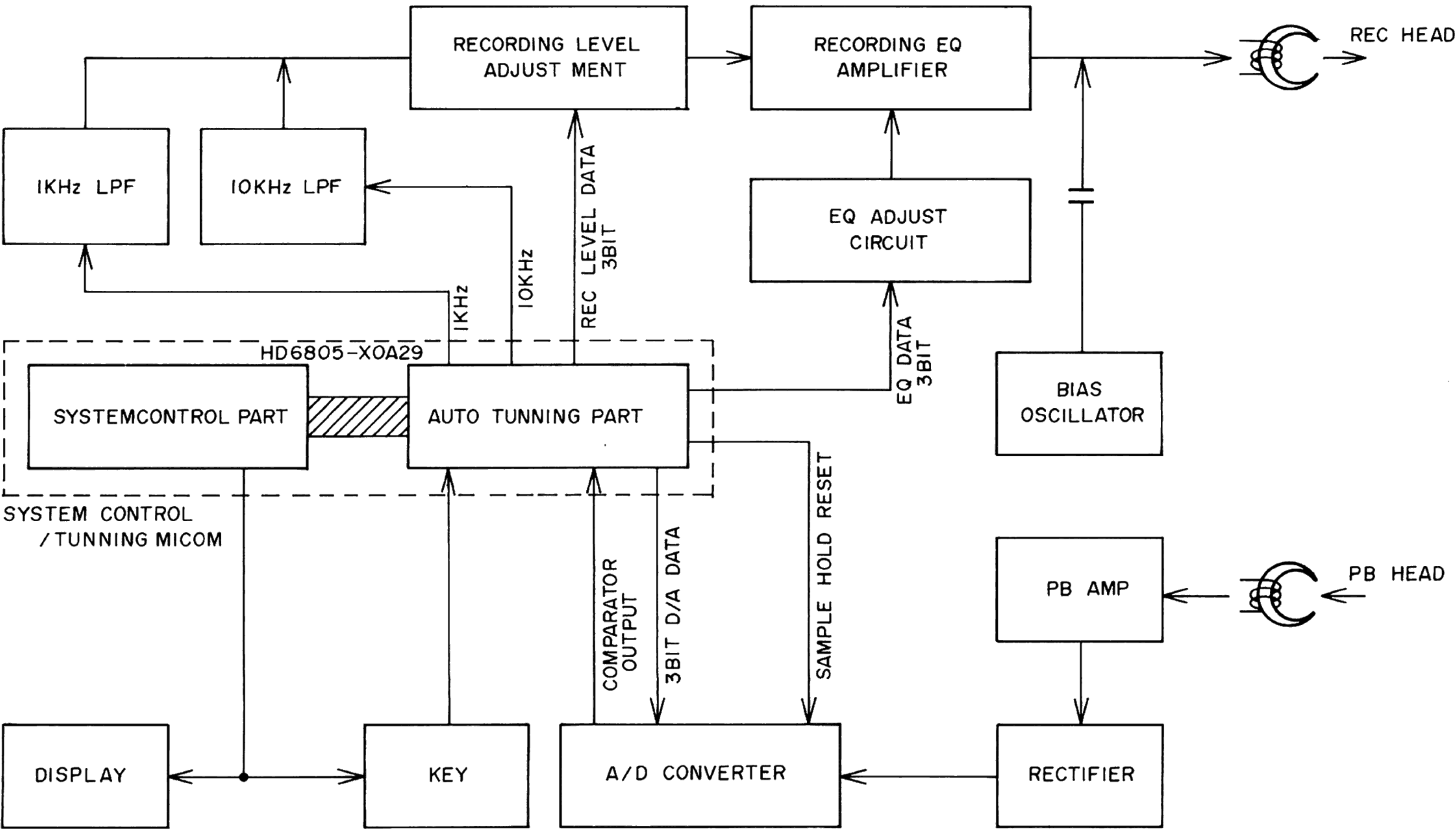


Fig. 1-1 Auto Tuning Block Diagram

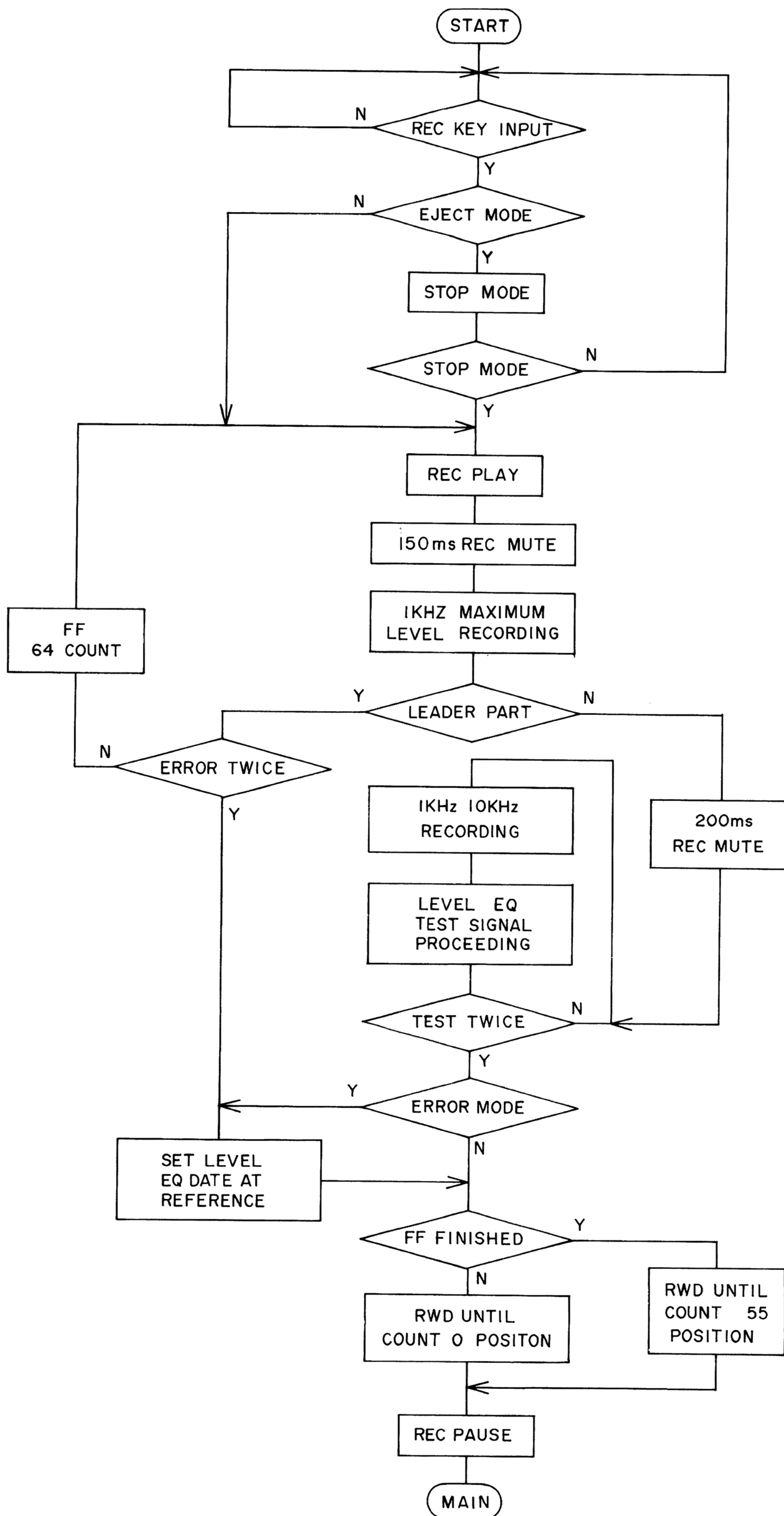
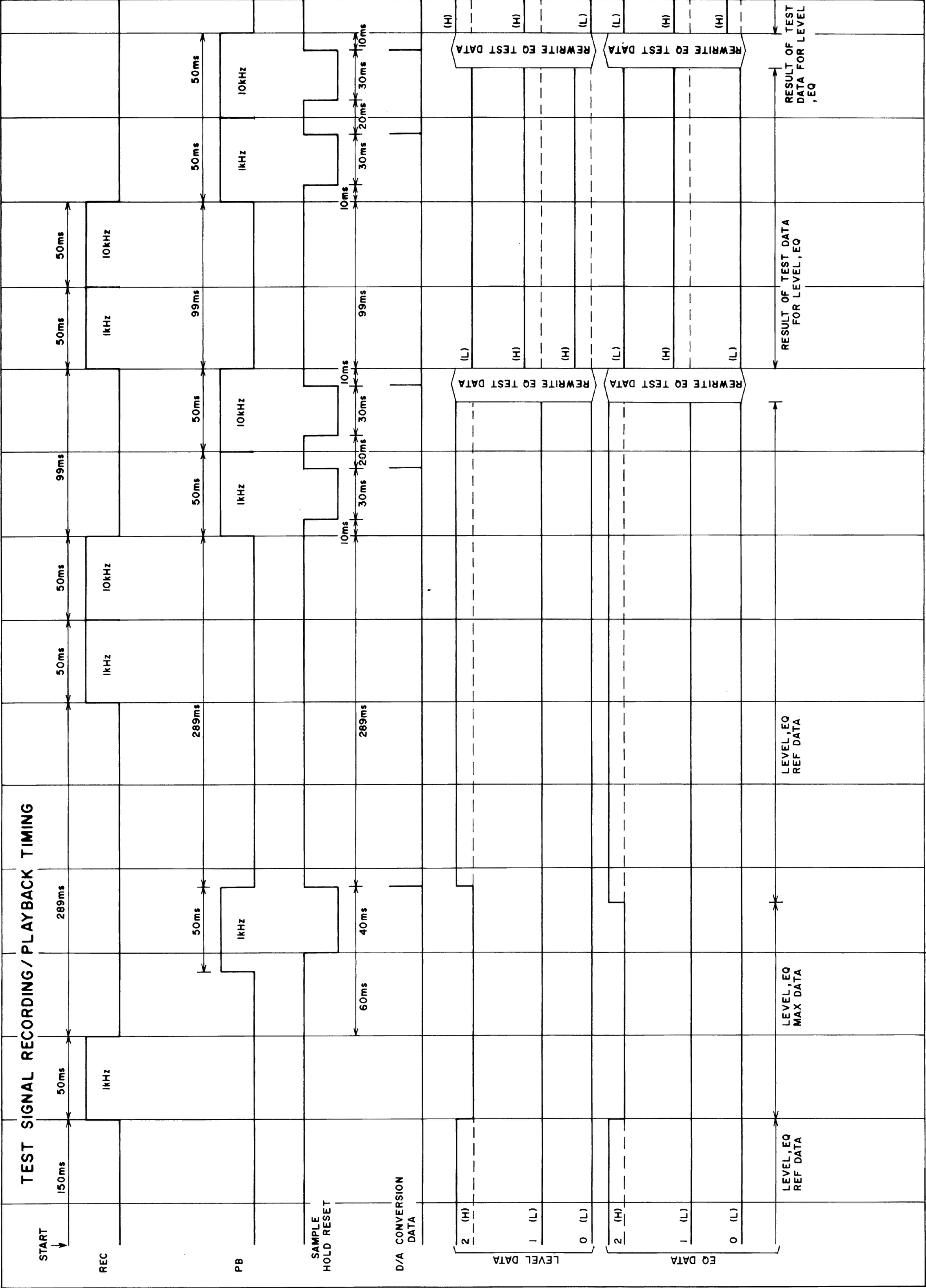


Fig. 1-2

Chart 2-1



2. EXPLANATION OF SYSTEM

2-1. To begin turning

Three seconds after the power is turned on, the turning microprocessor begins to receive the key if REC mode is possible.
Start turning, when the timer REC key is on, or when the REC key is pressed during the turning indicator is not lit (no tuning data kept).
However, the timer will only function once when the power is on. Turning is possible after four seconds of Auto Mute.

2-2. Test Signals

Record 1kHz for 50ms at the level data maximum, or if the tape is not at the leader section, record 1kHz and 10kHz for 50ms each.

2-3. Processing of Playback Signals

The playback signals are rectified after amplification and are converted to digital by the A/D convertor, A/D is of the follow-up comparison type.
When the signals from the rough level adjustment (leader detection) are played back, they are deemed to indicate the leader section if there is no inversion of comparator. In this condition, fast forward for 64 counts and repeat the procedures from 2-2.
Using the timing chart (Chart 2-1), play back the 1kHz and 10kHz signals. Both signals should be recorded twice in case of drop out and should be adjusted while rectifying the play back signals.
Compare the playback level of the 1kHz signal with the reference value (4) and adjust the level data so that it is as close as possible to the reference value. Adjust the EQ data of the 10kHz signal in the same way.

(Calculation example of Level and EQ Data)
If the playback level which is recorded at the reference data (4), is 110 (6), which is two steps higher than the recorded reference data therefore the present data 110 (6) is selected.

LEVEL, EQ DATA = RECORDING LEVEL, EQ DATA – (REF – D/A DATA)

(6) = (4) – [(4) – (6)]

D/A DATA	REF	REF – D/A DATA	RECORDING LEVEL, EQ DATA									
			0				1	2	3	4	5	6
0	4	4	LEVEL, EQ DATA	0	0	0	0	0	1	2	3	
1		0		0	0	0	1	2	3	4		
2		0		0	0	1	2	3	4	5		
3		0		0	1	2	3	4	5	6		
4		0		0	1	2	3	4	5	6	7	
5		1		1	2	3	4	5	6	7	7	
6		2		2	3	4	5	6	7	7	7	
7		3		3	4	5	6	7	7	7	7	

Chart 2-2

If there is no error, the position for recording stand-by is at the tuning start position. If there are errors then it should be at the 55 counts from the tuning start position.

3. ADJUSTMENT TIME

Fig. 3-1 shows shortest tuning time.

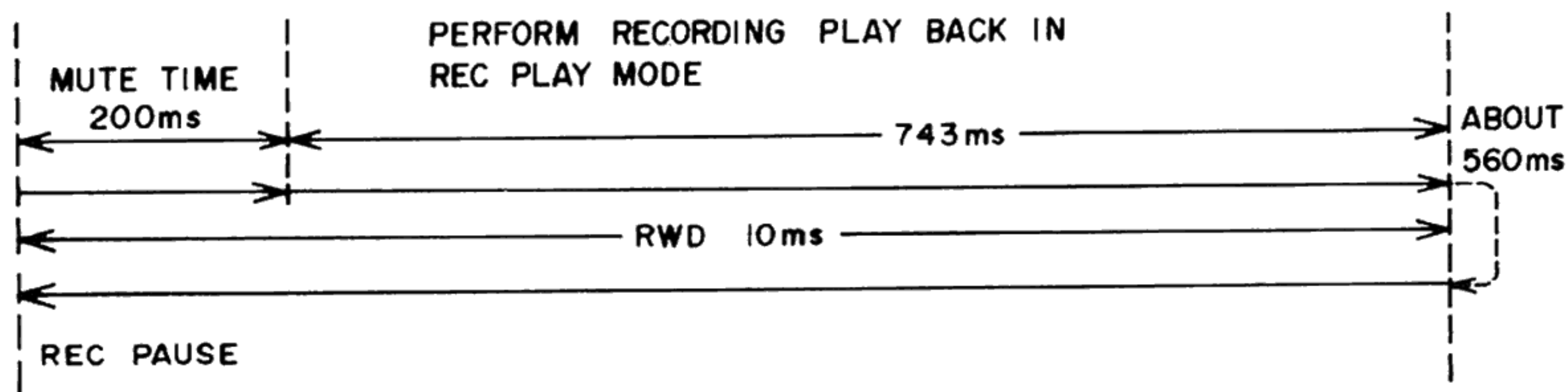


Fig. 3-1

Key Chattering	30 ms
Stop → Rec Play	280 ms
Mute time	150 ms
Test time	743 ms
Rec Play RWD	400 ms
RWD time	10 ms
RWD → REC PAUSE	120 ms
Adjustment time	about 1733 ms

Auto Tuning takes about 1.8 seconds.

4. INDICATOR PROCESSING

The indicator in this system is only for tuning. While testing the tuning indicator flashes at a frequency of about 200 ms. After testing, the tuning indicator lights up and this shows that tuning is completed. If there is an error, the indicator does not light up and the system goes into STOP mode.

The tape counter display flickers so blank is output during auto tuning.

While the 10kHz signal is oscillating, all the indicators are tuned off. (DIGIT All 'H')

5. A/D CONVERTER

The A/D converter is of the follow-up comparison type. change the D/A converter comparison input from the minimum value to the maximum value and observe the comparator output. Final comparison input datas are deemed as a PB level when the comparator output inverts.

However, after changing the D/A steps for about 50μs, detection of comparator output is forbidden. This is the value taking account of the comparator through-rate (1.1 V/μs).

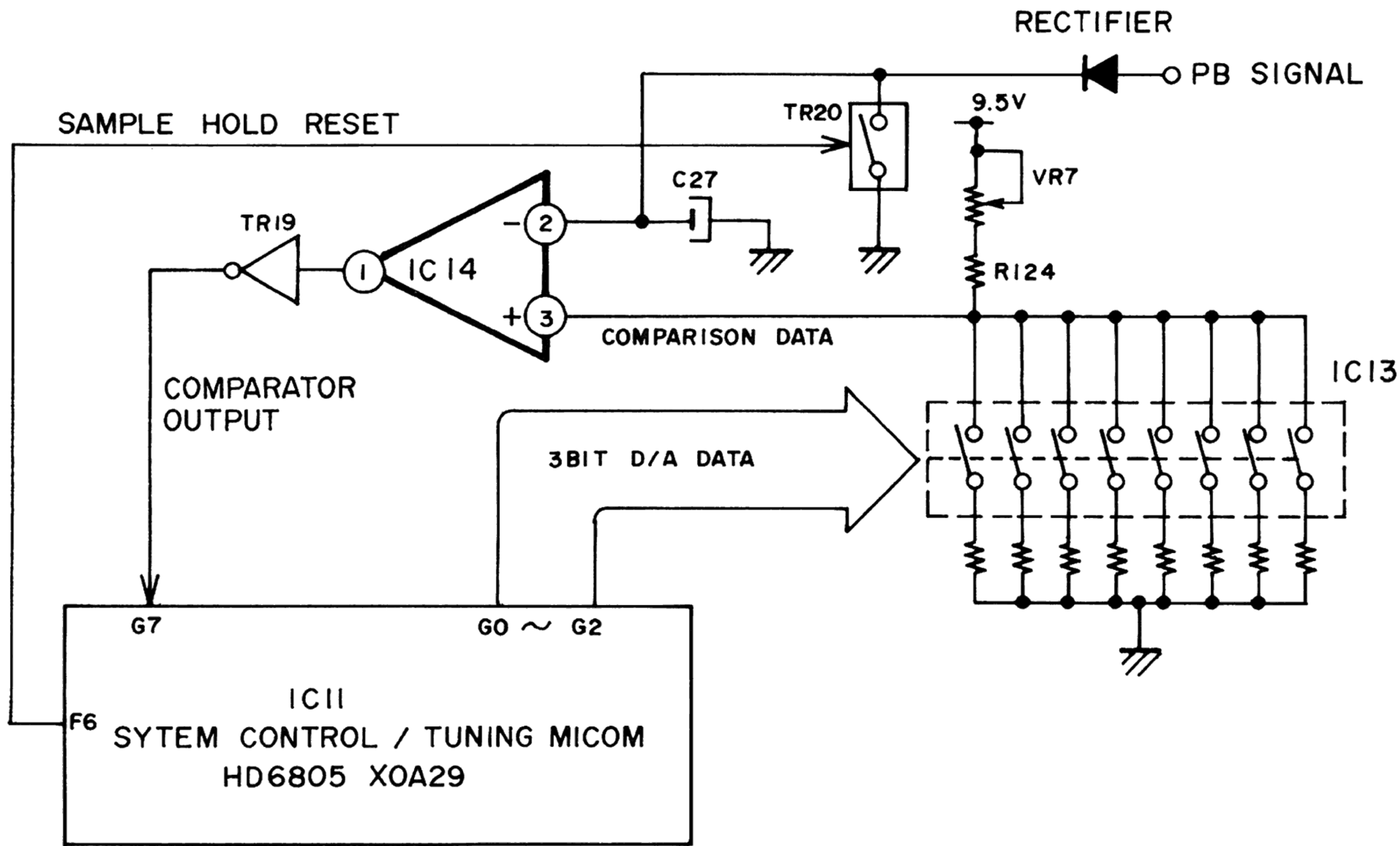


Fig. 5-1

SECTION 2

SERVICE MANUAL

TABLE OF CONTENTS

I. SPECIFICATIONS 10

II. DISMANTRING OF UNIT 11

III. CONTROLS 12

IV. PRINCIPAL PARTS LOCATION 13

V. MECHANICAL ADJUSTMENT 14

5-1. PINCH ROLLER PRESSURE MEASUREMENT 14

5-2. WINDING TORQUE MEASUREMENT IN EACH MODE 14

5-3. TAPE SPEED ADJUSTMENT 14

5-4. HOW TO INSTALL VOLUME (VR 901) AND CAM WHEEL 15

5-5. POTENTIOMETER PRESET VOLTAGE ADJUSTMENT 16

VI. HEAD ADJUSTMENT 17

6-1. REC/PB HEAD PROJECTION ADJUSTMENT 17

6-2. TAPE GUIDE HEIGHT ADJUSTMENT 17

6-3. REC/PB HEAD HEIGHT ADJUSTMENT 17

6-4. REC/PB HEAD ALIGNMENT ADJUSTMENT 17

VII. ELECTRICAL ADJUSTMENT 18

7-1. HOW TO SET THE REFERENCE (REF) MODE 18

7-2. PRE-AMP PCB ADJUSTMENT POINTS 19

7-3. FILTER ADJUSTMENT 22

7-4. SYS-CON & TUNING PCB ADJUSTMENT POINTS 24

VIII. PC BOARD TITLES AND IDENTIFICATION NUMBERS 26

For basic adjustments, measuring methods, and operating principles, refer to GENERAL TECHNICAL MANUAL.

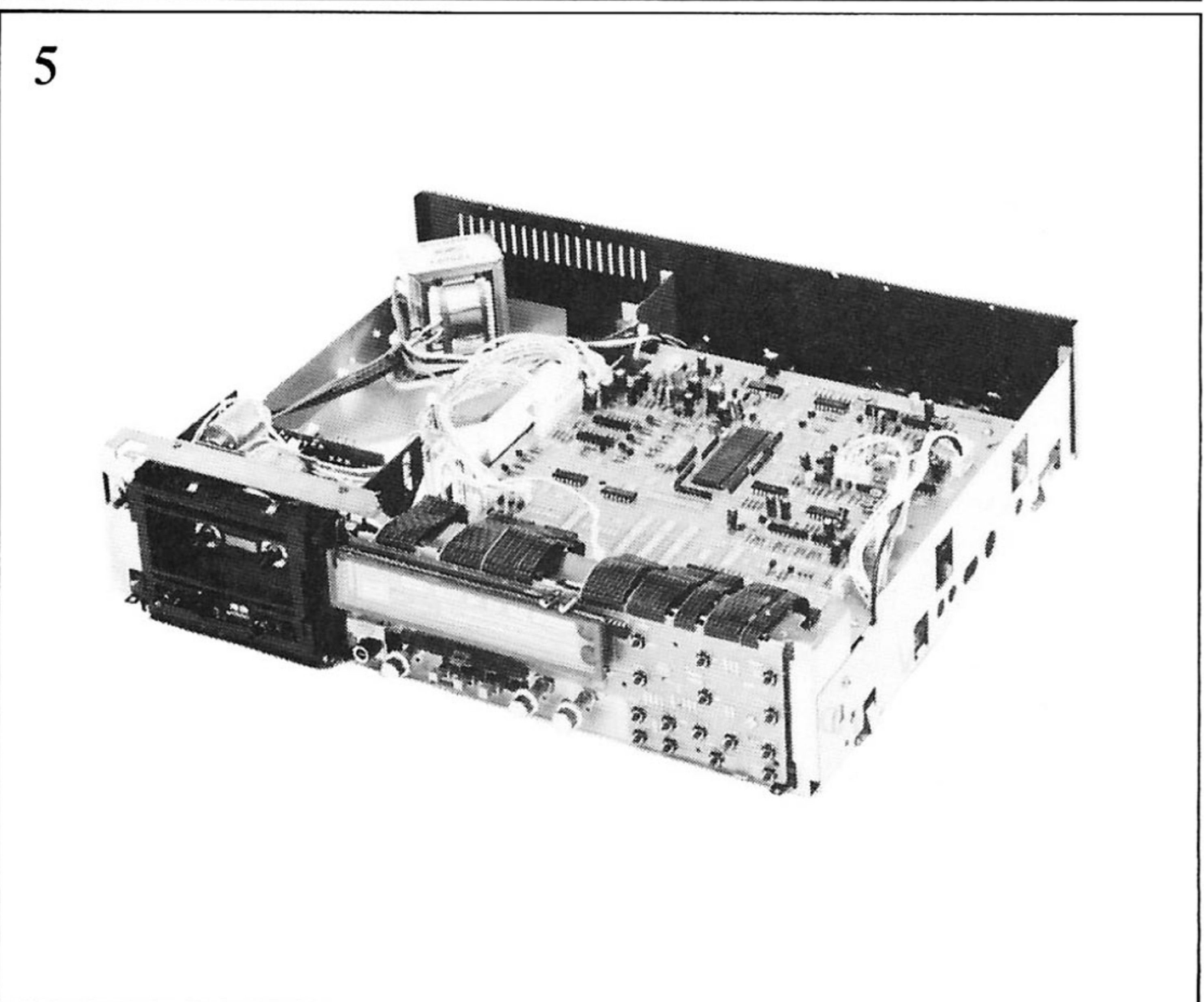
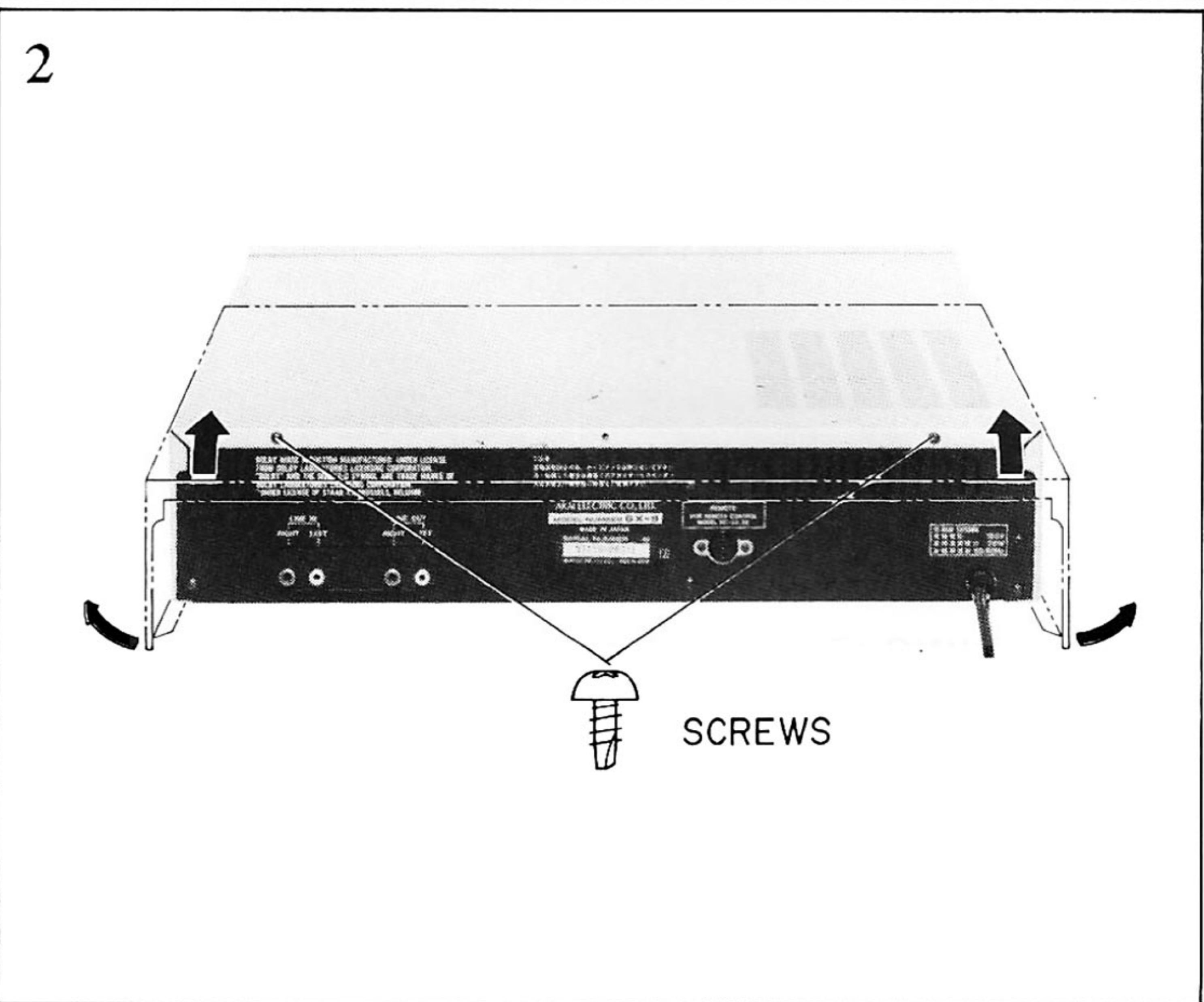
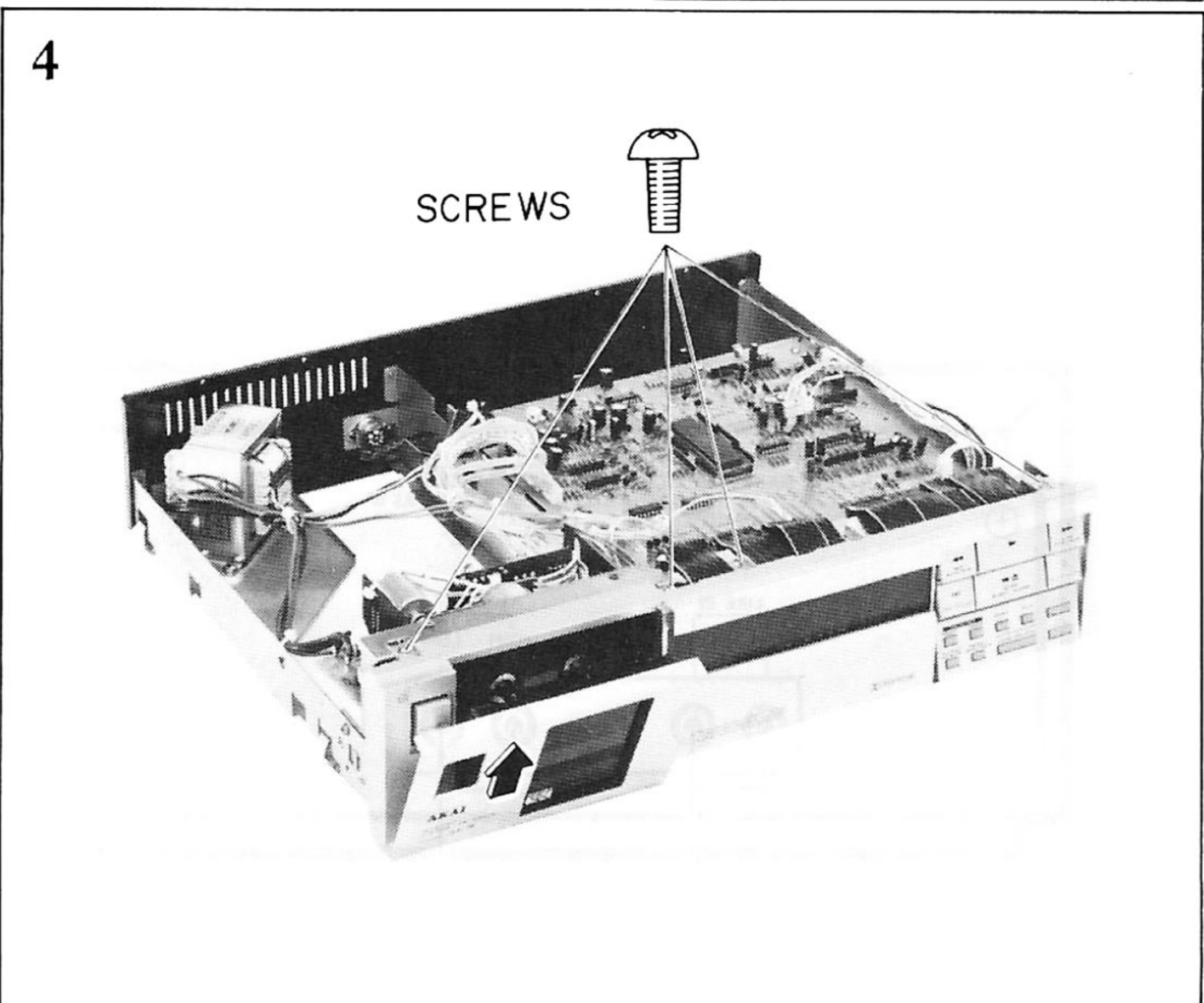
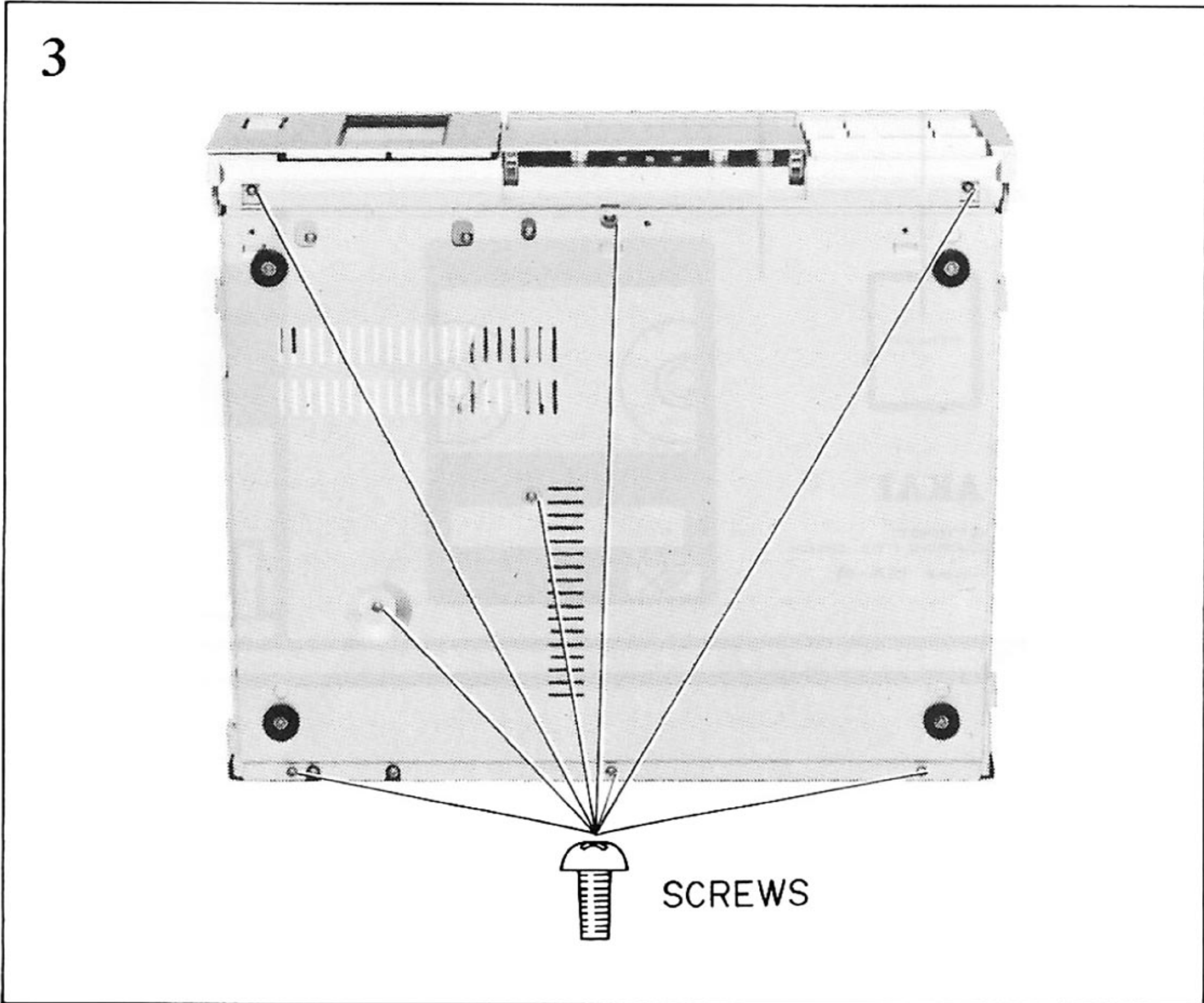
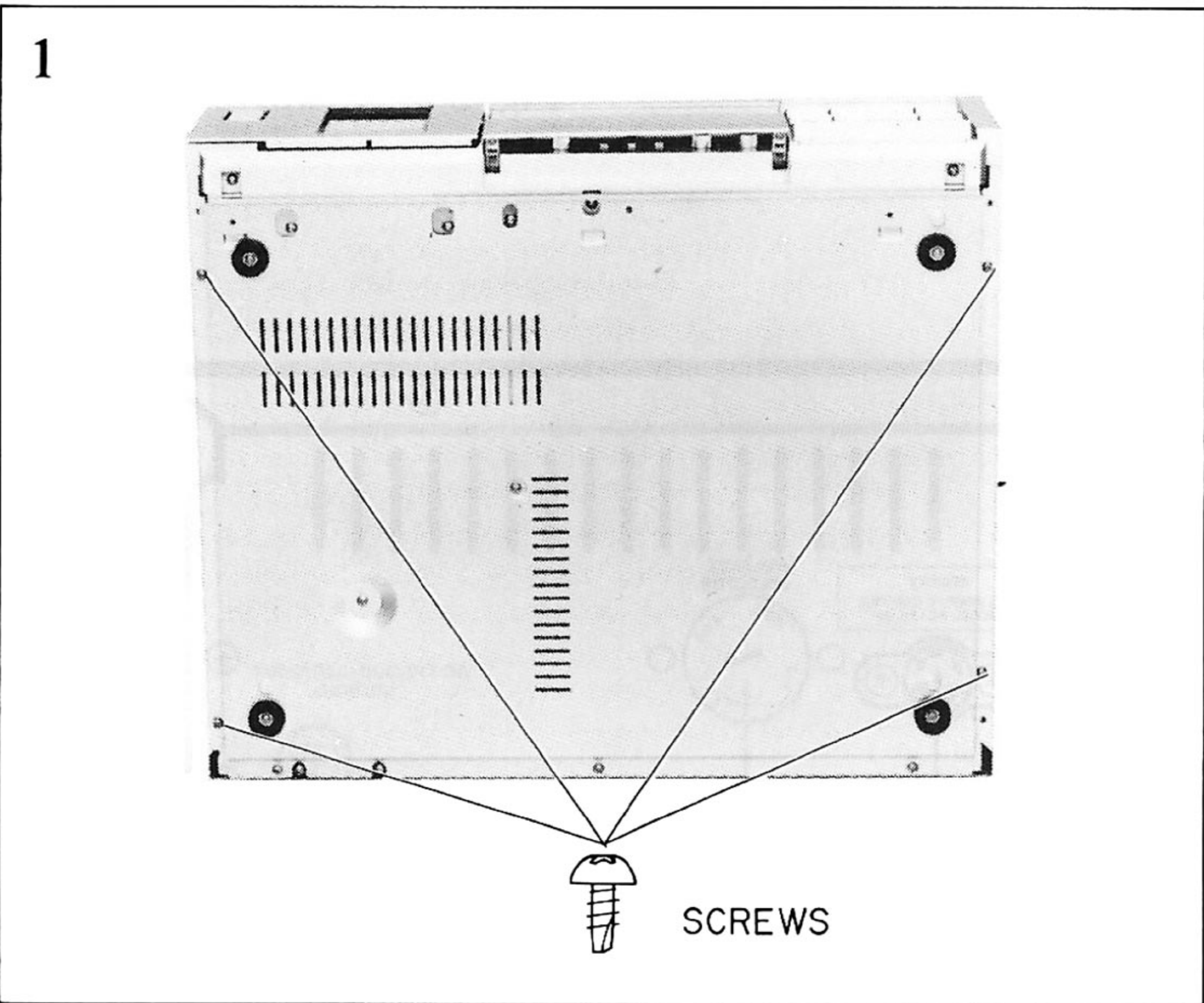
I. SPECIFICATIONS

MOTORS	FG servo direct drive motor for capstan drive x1 DC motor for reel drive x1 DC motor for mechanism drive x 1
HEADS	Super GX head for recording x1 Super GX head for playback x1 Erase head x1
WOW & FLUTTER	0.025% WRMS (JIS), 0.04% (DIN)
DISTORTION	0.6% (Metal)
FREQUENCY RESPONSE	Metal 20Hz to 21,000Hz ± 3dB CrO ₂ 20Hz to 20,000Hz ± 3dB Normal 20Hz to 19,000Hz ± 3dB
S/N	Metal 60dB Dolby C type NR ON: Improves up to 15dB at 500Hz, 20dB at 1kHz to 10kHz Dolby B type NR ON: Improves up to 5dB at 1kHz, 10dB above 5kHz
INPUT SENSITIVITY/IMPEDANCE	LINE IN 70mV/47kohms
OUTPUT SENSITIVITY/IMPEDANCE	LINE OUT 390mV/1kohms PHONES 1.3mW (at 8ohms)/83.2ohms
POWER REQUIREMENTS	100V, 50/60Hz for Japan 120V, 60Hz for USA & Canada 220V, 50Hz for Europe except UK 240V, 50Hz for UK & Australia 110/120/220/240, 50/60Hz switchable for other countries
DIMENSIONS	440 (W) × 105 (H) × 372 (D) mm (17.3 × 4.1 × 14.6 inches)
WEIGHT	7.0kg (15.2 lbs)

- * For improvement purposes, specifications and design are subject to change without notice.
- * Noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. “Dolby” and the double-D symbol are trade marks of Dolby Laboratories Licensing Corporation.

II. DISMANTLING OF UNIT

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs. Reassemble in reverse order.



III. CONTROLS

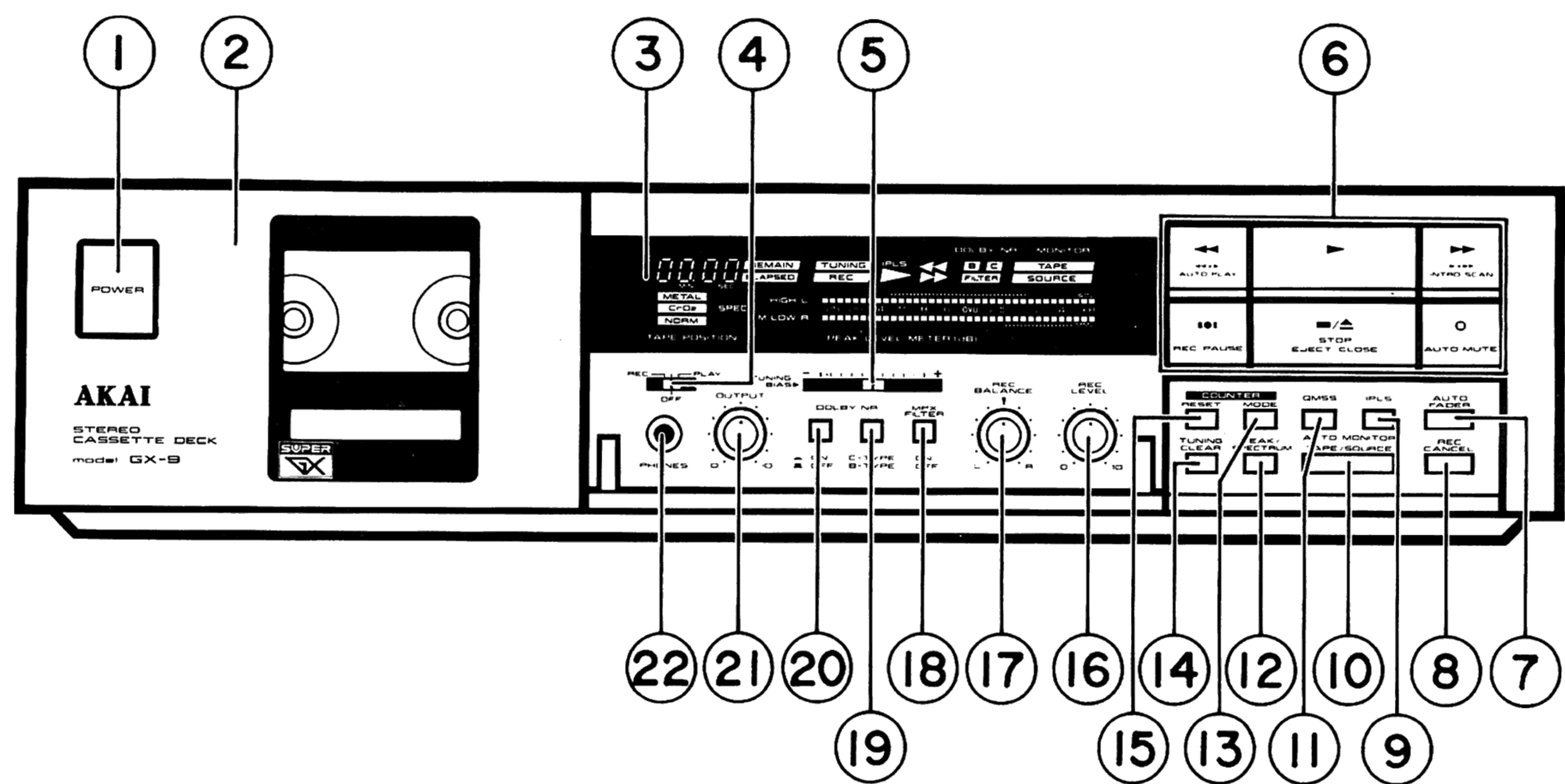


Fig. 3-1 Front View

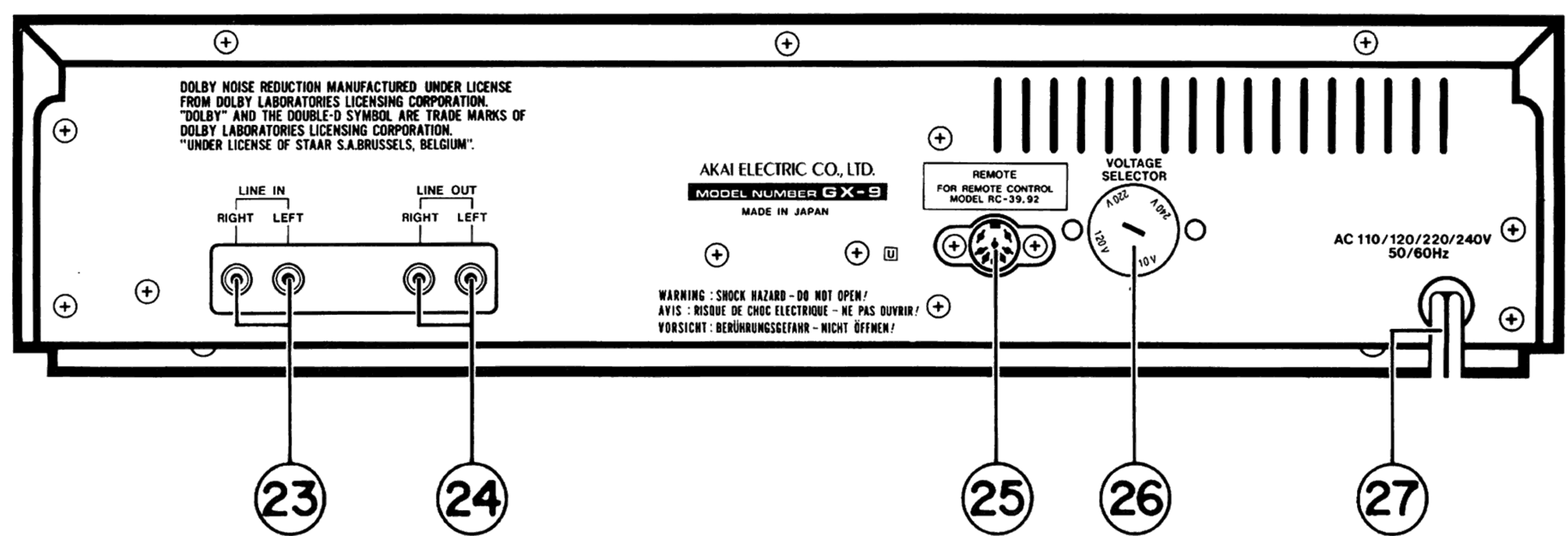


Fig. 3-2 Rear View

- | | |
|--|---|
| 1. POWER SW | 14. TUNING (Data) CLEAR SW |
| 2. CASSETTE LID | 15. COUNTER RESET |
| 3. FLD DISPLAY | 16. REC LEVEL CONTROL VOLUME |
| 4. TIMER SW (REC, PLAY) | 17. REC BALANCE CONTROL VOLUME |
| 5. TUNING BIAS VOLUME | 18. MPX (Multiplex) FILTER SW |
| 6. OPERATION (TAPE TRANSPORT) SW | 19. DOLBY B/C SW |
| 7. AUTO FADER SW | 20. DOLBY ON/OFF SW |
| 8. REC CANCEL SW | 21. OUTPUT LEVEL CONTROL VOLUME |
| 9. IPLS (Instant Program Locating System) SW | 22. HEAD PHONE JACK |
| 10. AUTO MONITOR (TAPE/SOURCE) SW | 23. LINE IN (L R) JACKS |
| 11. QMSS (Quick Memory Search System) SW | 24. LINE OUT (L R) JACKS |
| 12. PEAK SPECTRUM SW | 25. REMOTE CONTROL JACK |
| 13. COUNTER MODE SW | 26. VOLTAGE SELECTOR (☐ MODEL only) |

IV. PRINCIPAL PARTS LOCATION

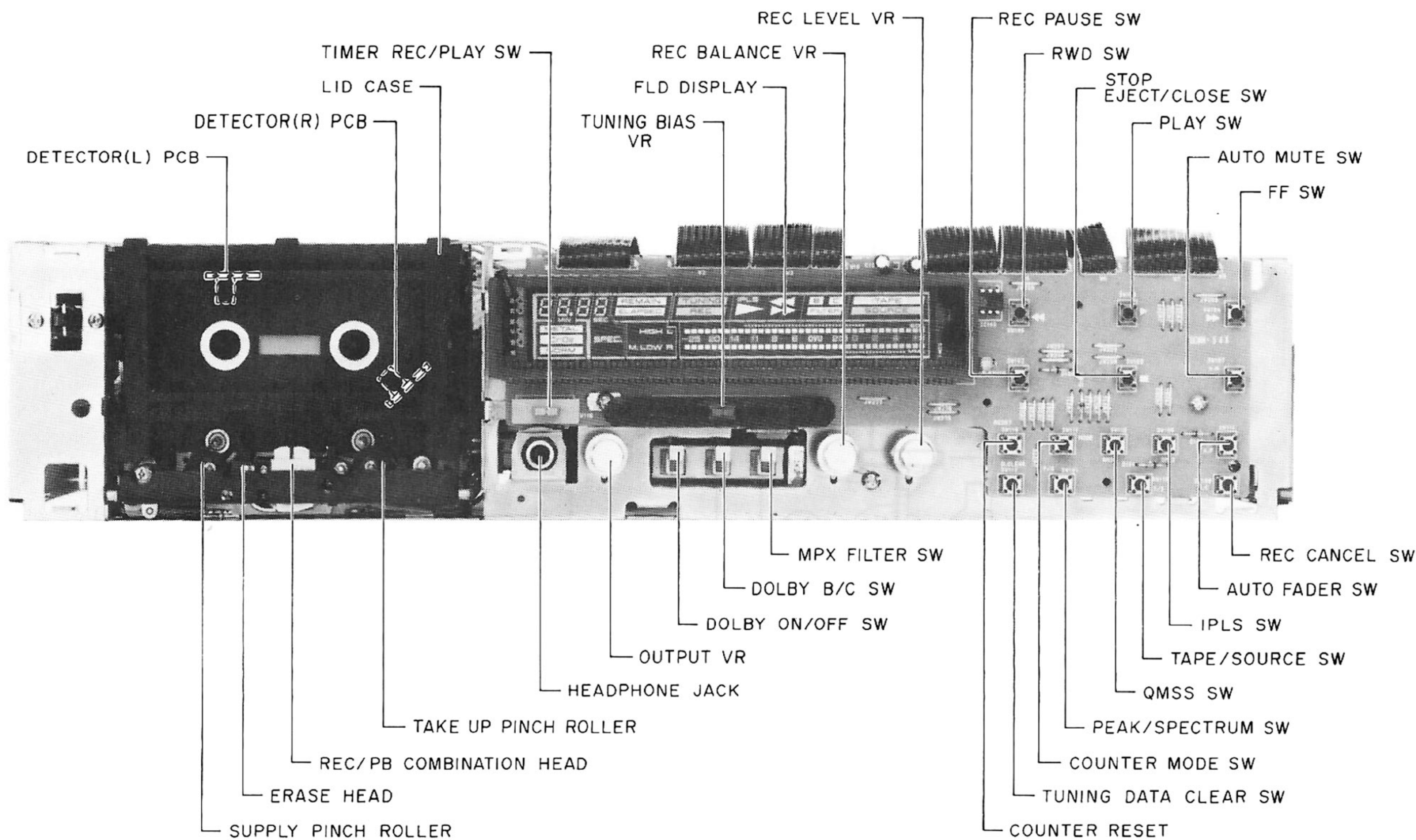


Fig. 4-1 Upper View

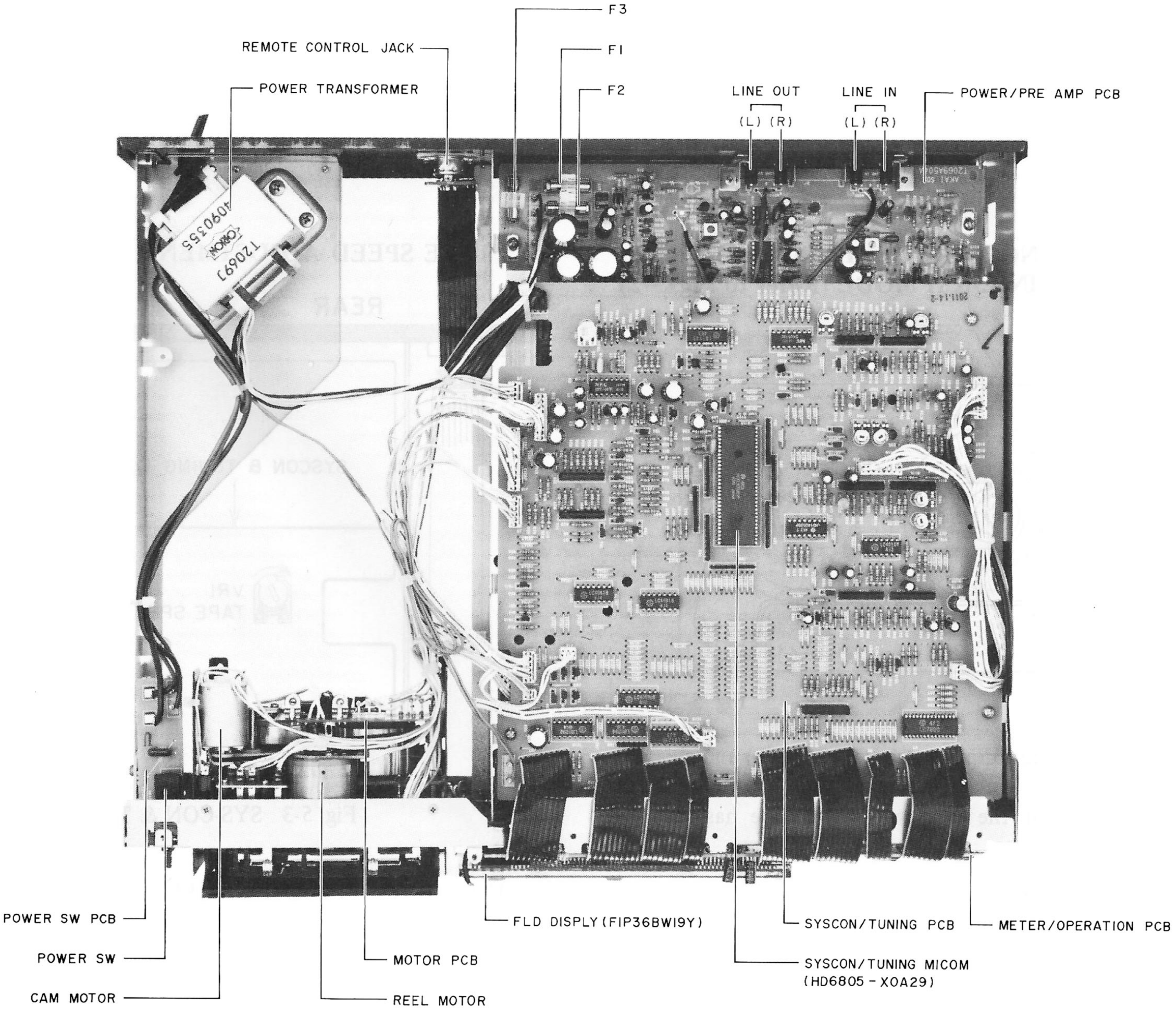


Fig. 4-2 Front View

V. MECHANICAL ADJUSTMENT

5-1. PINCH ROLLER PRESSURE MEASUREMENT (Refer to Fig. 5-1)

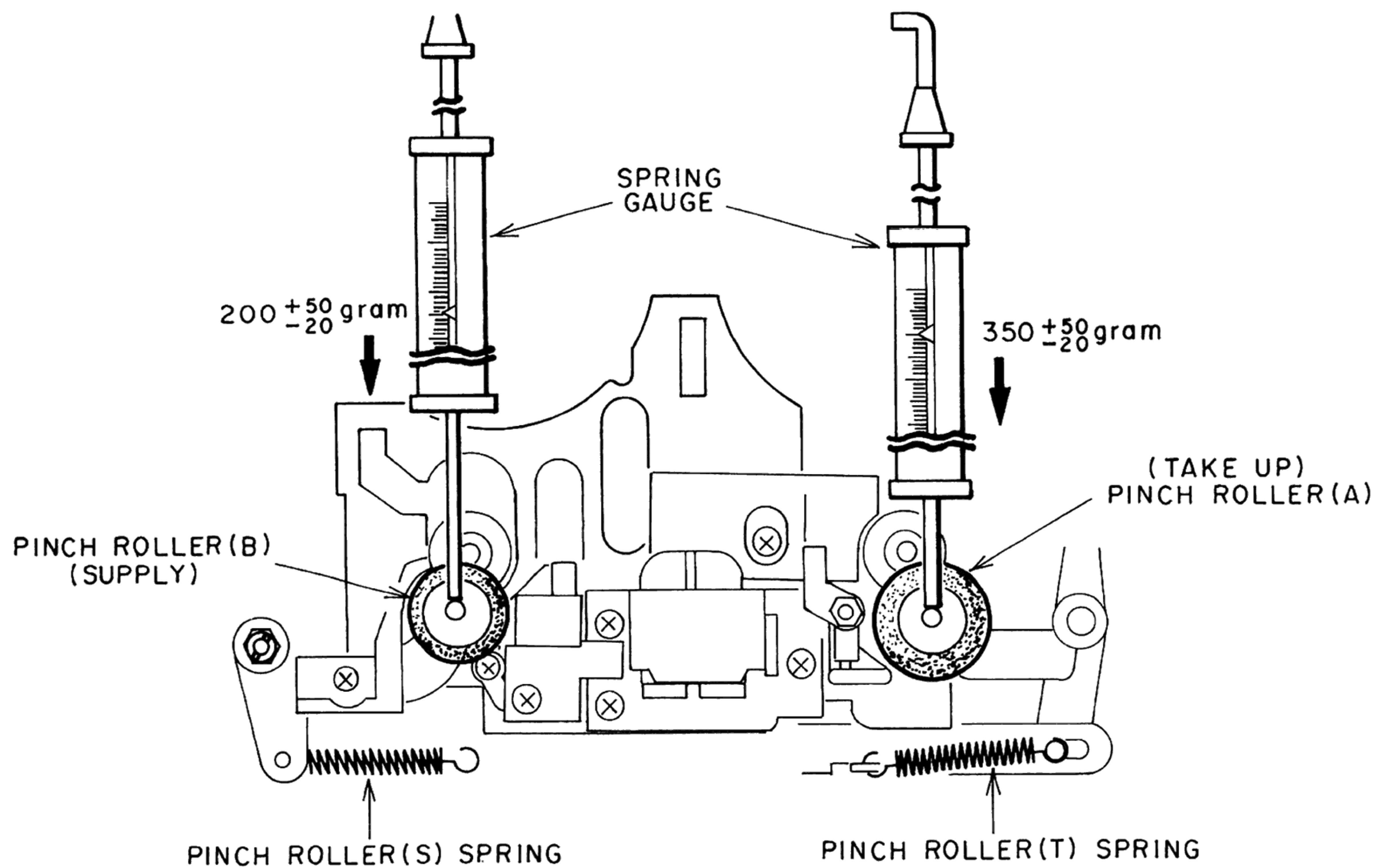


Fig. 5-1

Put in PLAY mode. Push pinch roller arm down with the spring gauge push the pinch roller 1 or 2 mm from the capstan and release slowly. Read the spring gauge at the moment the pinch roller touches the capstan and begins to rotate.

Specified pressure: 350 ⁺⁵⁰/₋₂₀ gram (Take up)
200 ⁺⁵⁰/₋₂₀ gram (Supply)

If there is no measurement obtained, replace the pinch roller spring.

5-2. WINDING TORQUE MEASUREMENT IN EACH MODE (Refer to Fig. 5-2)

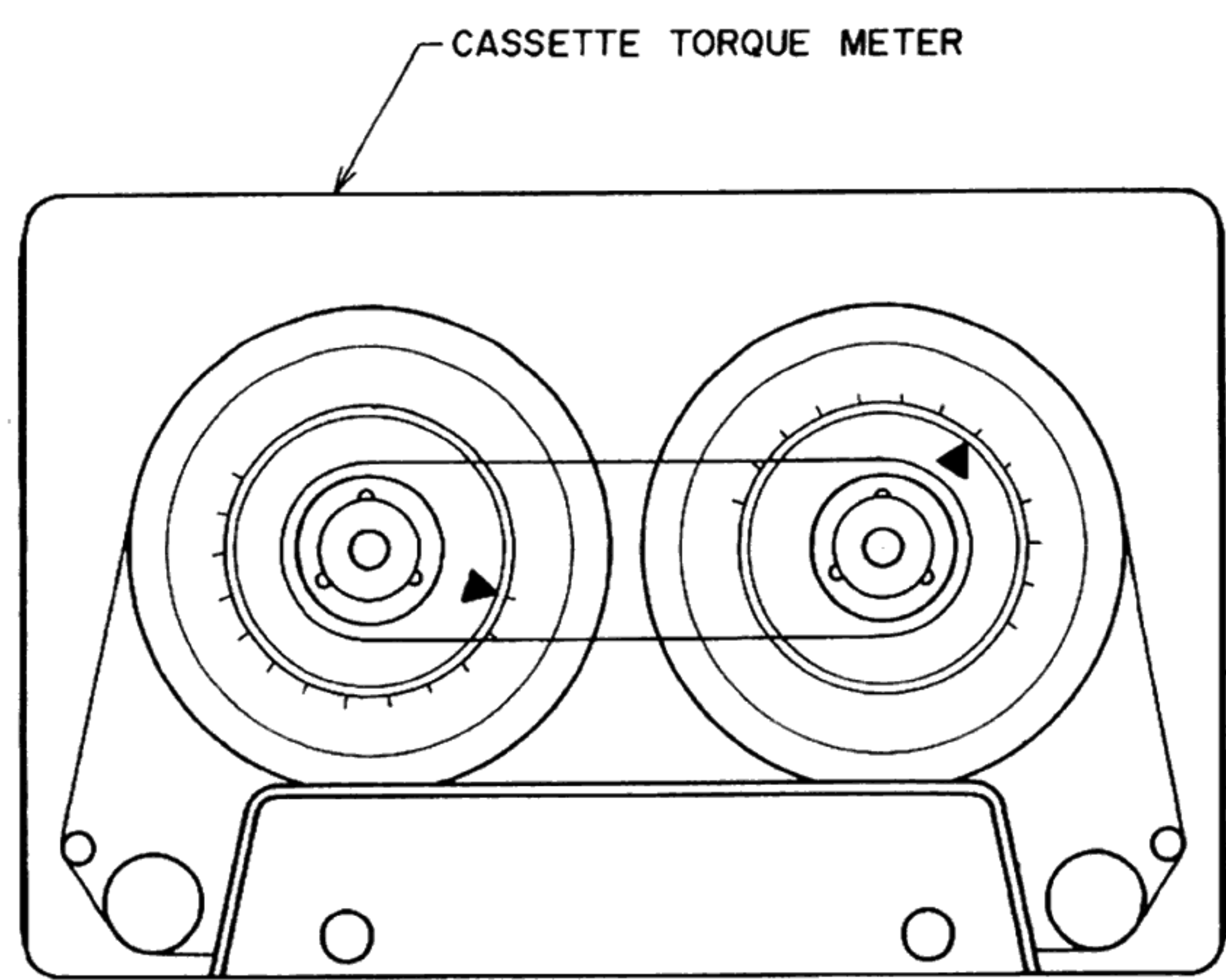


Fig. 5-2

Insert a cassette torque metter (AJ-751179) and measure in each mode. For Fast Forward and Rewind, measure at the end of the tape when the tape has stopped running.

PLAY mode

Take up Torque : 40 ⁺¹⁵/₋₁₀ g-cm
Back tension torque: 10 ⁺¹⁰/₋₀ g-cm

FAST FORWARD, REWIND mode

Take up Torque : 120 ⁺¹³⁰/₋₅₀ g-cm

5-3. TAPE SPEED ADJUSTMENT

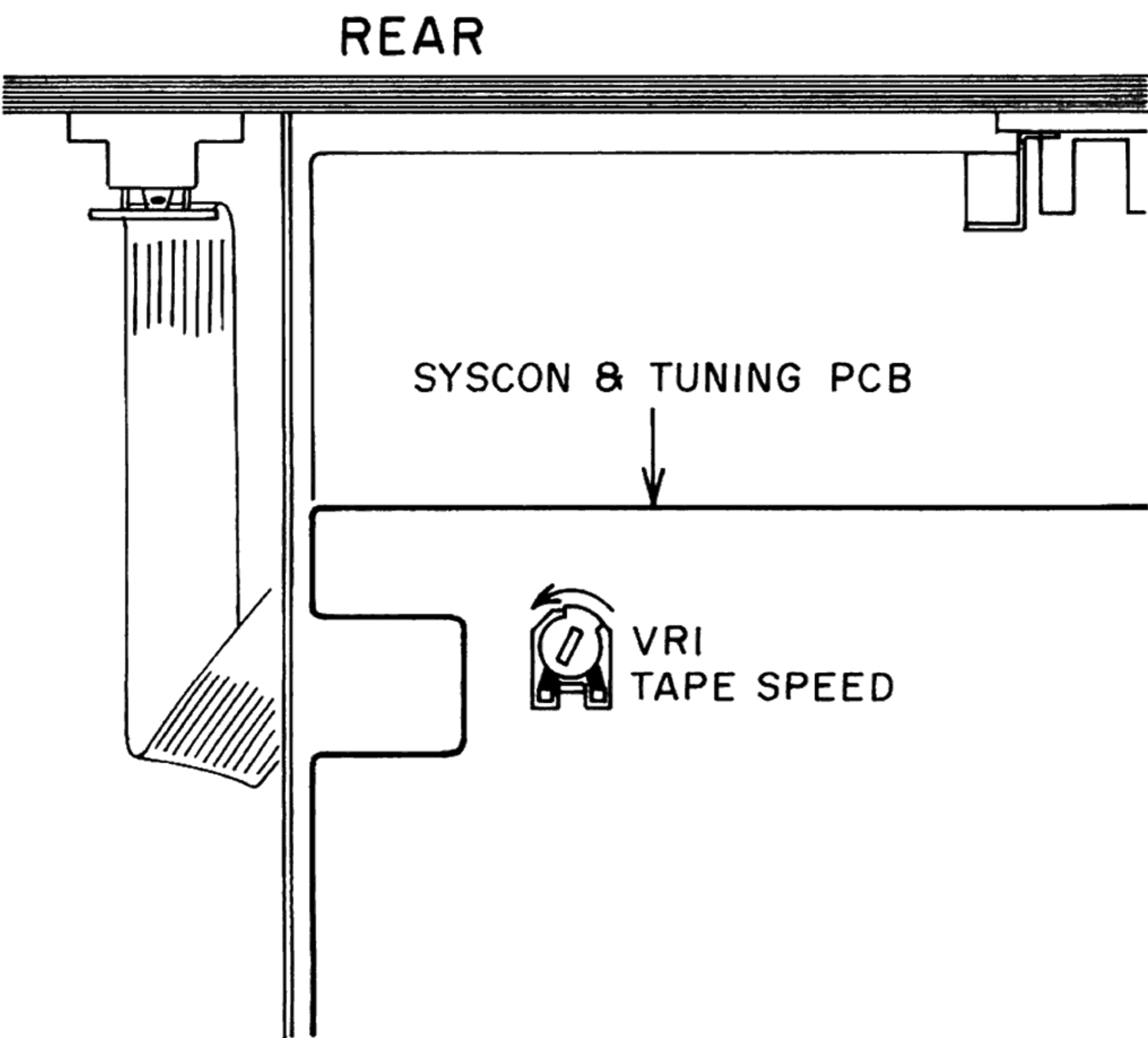


Fig. 5-3 SYS-CON & TUNING PCB

Connect a frequency counter to LINE OUTPUT terminals. Play back a 3,150Hz pre-recorded test tape (AT-751263) or a 1,000Hz pre-recorded test tape (AT-750774) and adjust tape speed adjustment Volume (SYS-CON & TUNING PCB VR1) to obtain a tape speed of 3,155 ± 5Hz (3,150Hz to 3,160Hz) or 1,002 ± 2Hz (1,000Hz to 1,004Hz).

5-4. HOW TO INSTALL VOLUME (VR 901) AND CAM WHEEL

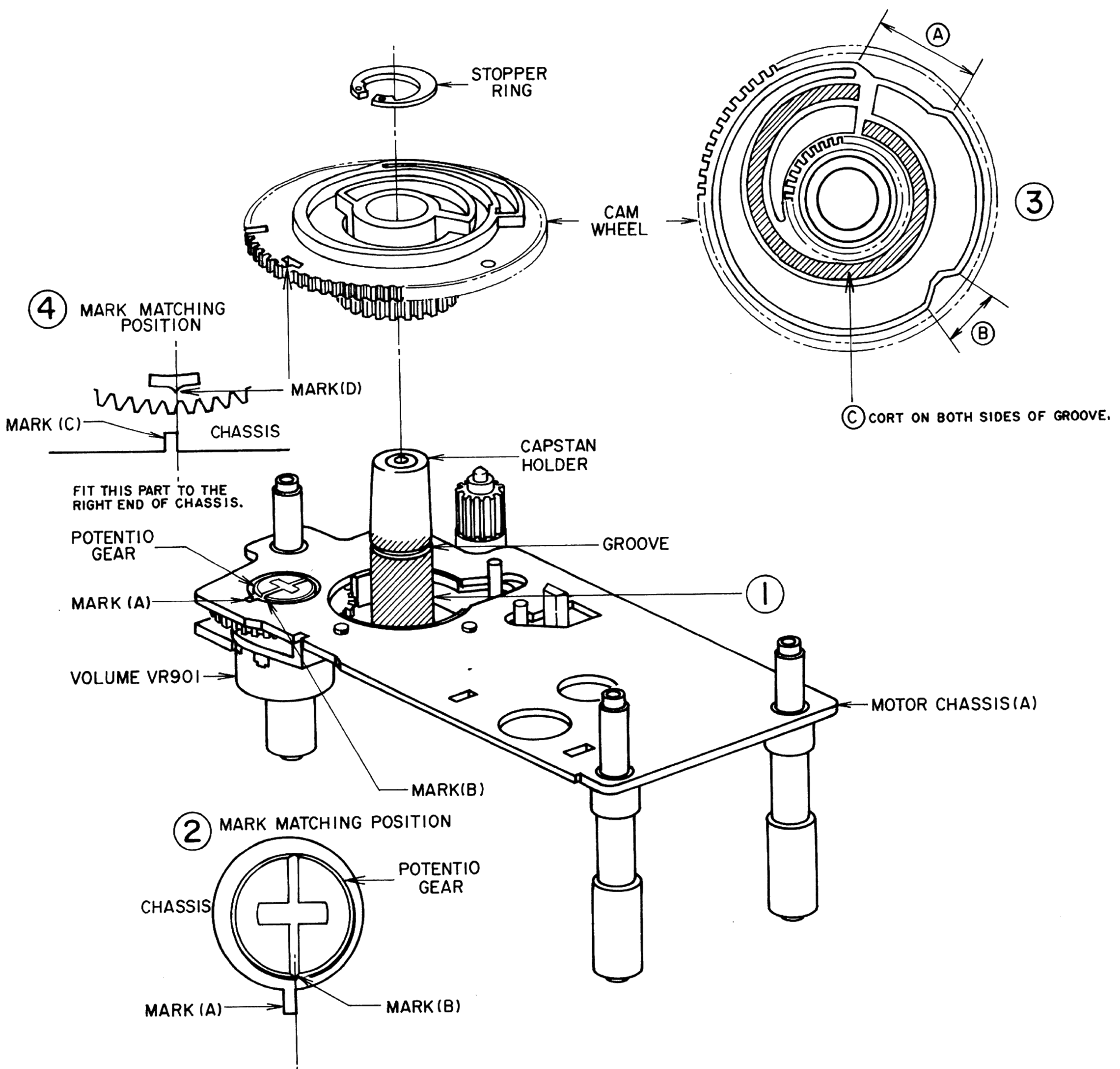


Fig. 5-4

- 1) Apply Molybdenum coat on the capstan holder
Apply Molybdenum coat on the area of 360° from the bottom to the upside 2mm of groove as shown in the figure. (Fig. 5-4- ①)
- 2) Fitting position volume (potention gear)
Fit the right end of Mark (A) to the center of Mark (B) as shown in the figure. (Fig. 5-4- ②)
- 3) Apply Molybdenum coat on ①, ② and ③ shown in Fig. 5-4- ③.
- 4) Set the cam wheel on the capstan wheel (Ensure that the cam wheel and potentiometer gear are meshed properly). When the cam wheel is set properly, fit the

- center of Mark (D) to the right end of Mark (C). (Fig. 5-4- ④)
- 5) Fit the stopper ring in the groove of the capstan holder.

CAUTIONS:

1. Make sure that the teeth on the periphery of cam wheel and the cam are absolutely free from any scratch, cut, etc.
2. Make sure that Molybdenum coat is applied on the specified area only.

5-5. POTENTIOMETER PRESET VOLTAGE ADJUSTMENT (Refer to Figs. 5-5 to 5-6)

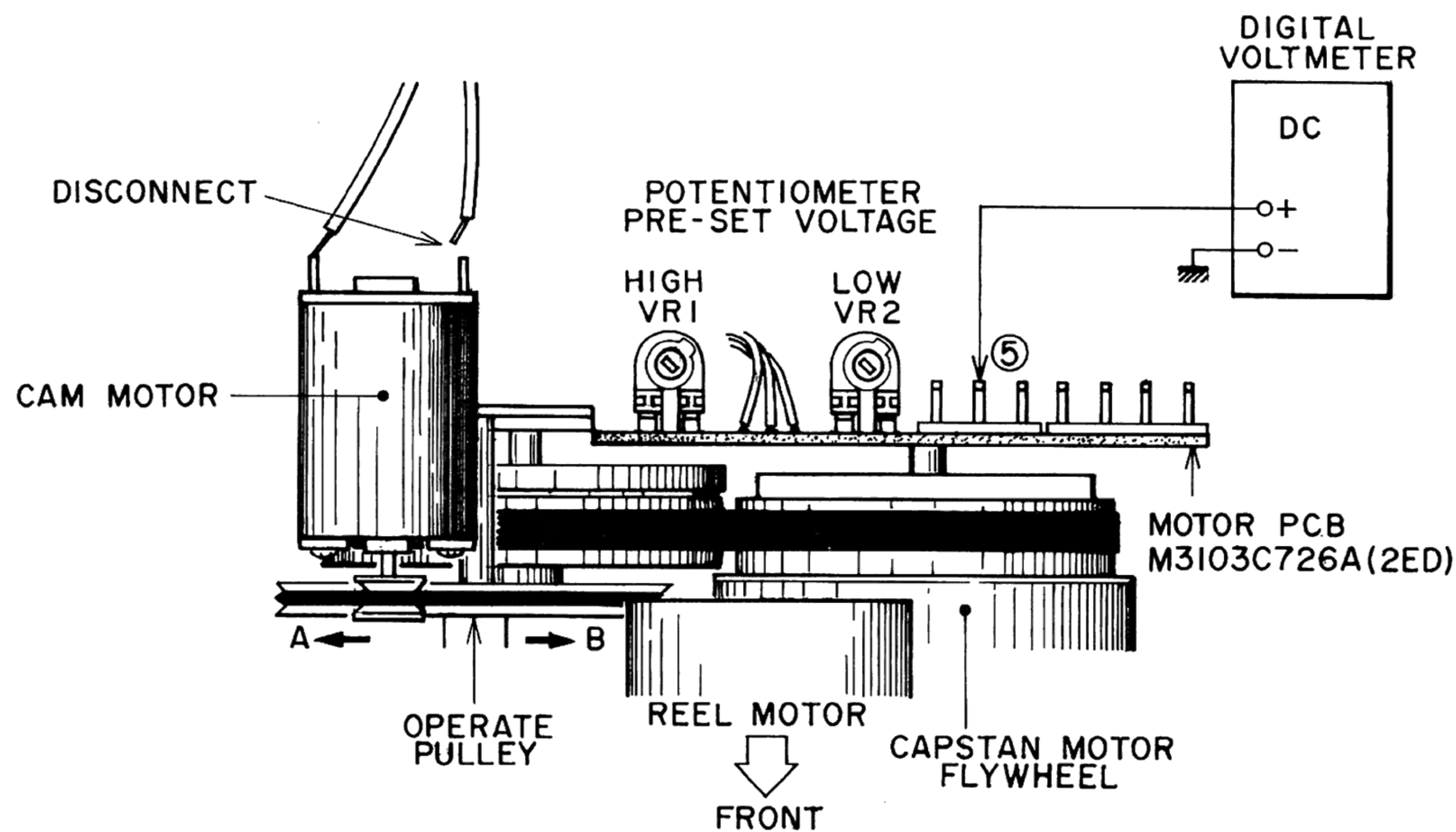


Fig. 5-5

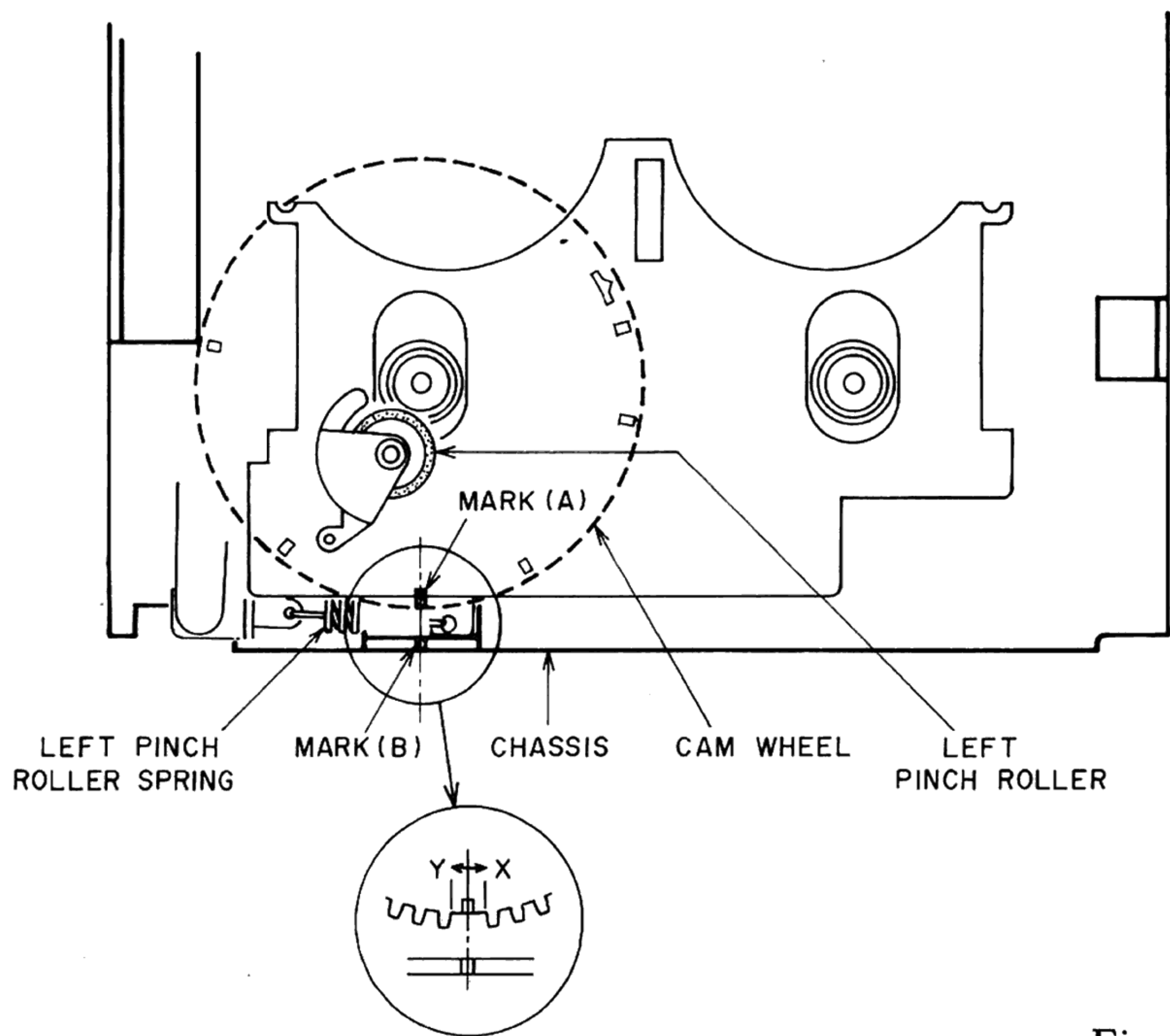


Fig. 5-6

1) LOW VOLTAGE ADJUSTMENT

- a. With power OFF, remove the connecting cord of the cam motor and turn the operate pulley fully with your fingers in A direction. (EJECT DIRECTION)
- b. Connect the digital voltmeter as shown in Fig. 5-5.
- c. With power ON, adjust VR2 so that the voltage reading will be 0.94V (DC).

2) HIGH VOLTAGE ADJUSTMENT

- a. With power OFF, turn the operate pulley fully with your fingers in B direction. (PLAY DIRECTION)
- b. With power ON, adjust VR1 so that the voltage reading will be 8.08V (DC).

3) Repeat Items 1) and 2).

- 4) a. With Power OFF, connect the connecting cord of the motor.
- b. Remove the digital voltmeter.

- 5) Remove the Cassette lid, Front panel and Bottom cover.

- 6) a. Set power to ON.
- b. Adjust VR1 slightly so that the center of Marker (A) coincides with the center of Marker (B) (should be within the range between X and Y) at STOP Mode as shown in Fig. 5-6. (The marker (STOP) on the CAM WHEEL can be seen clearly by lighting it from the back.)
- c. Set the IPLS switch to ON.
- d. Confirm that head and pinch rollers do not move up and down when the FF and REW switches are alternately depressed.
- e. Turn the reel with fingers in STOP Mode to check that the brake works sufficiently. When the brake acts normally, the take-up reel does not turn clockwise while the supply reel does not rotate counterclockwise.

VI. HEAD ADJUSTMENT

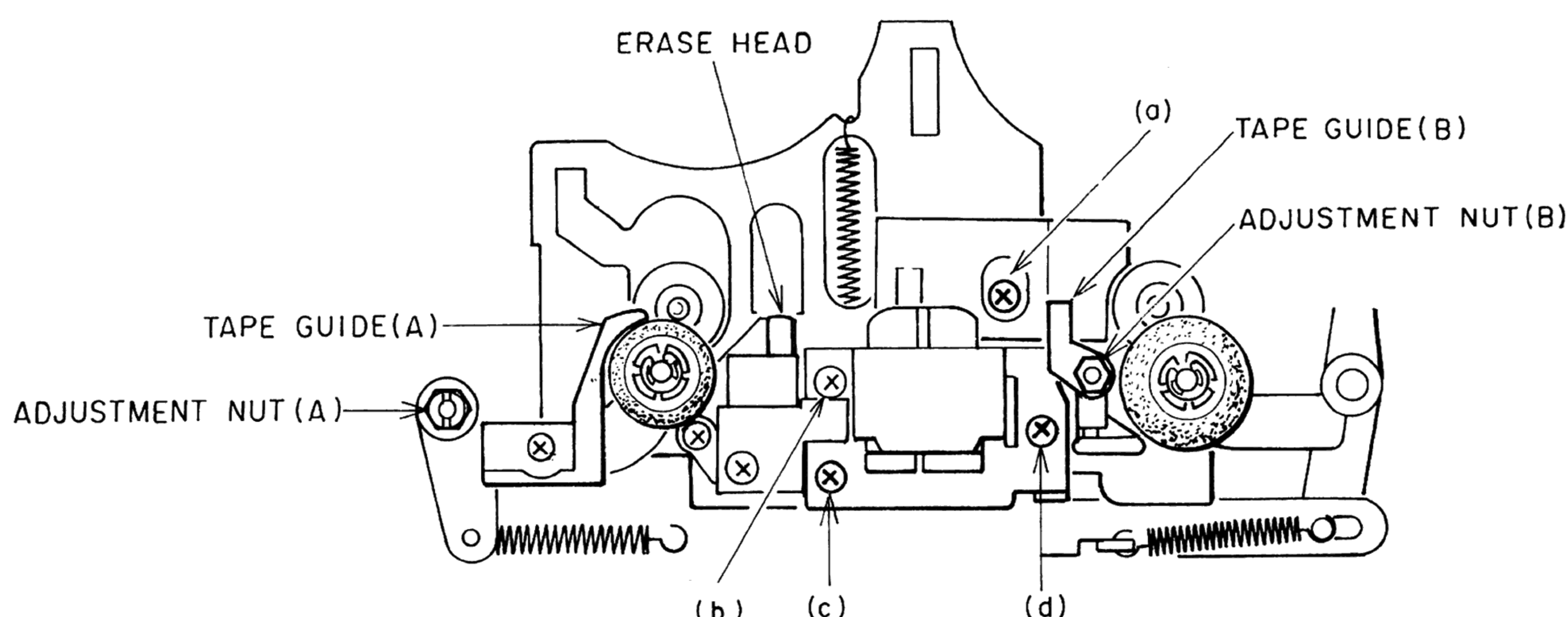


Fig. 6-1

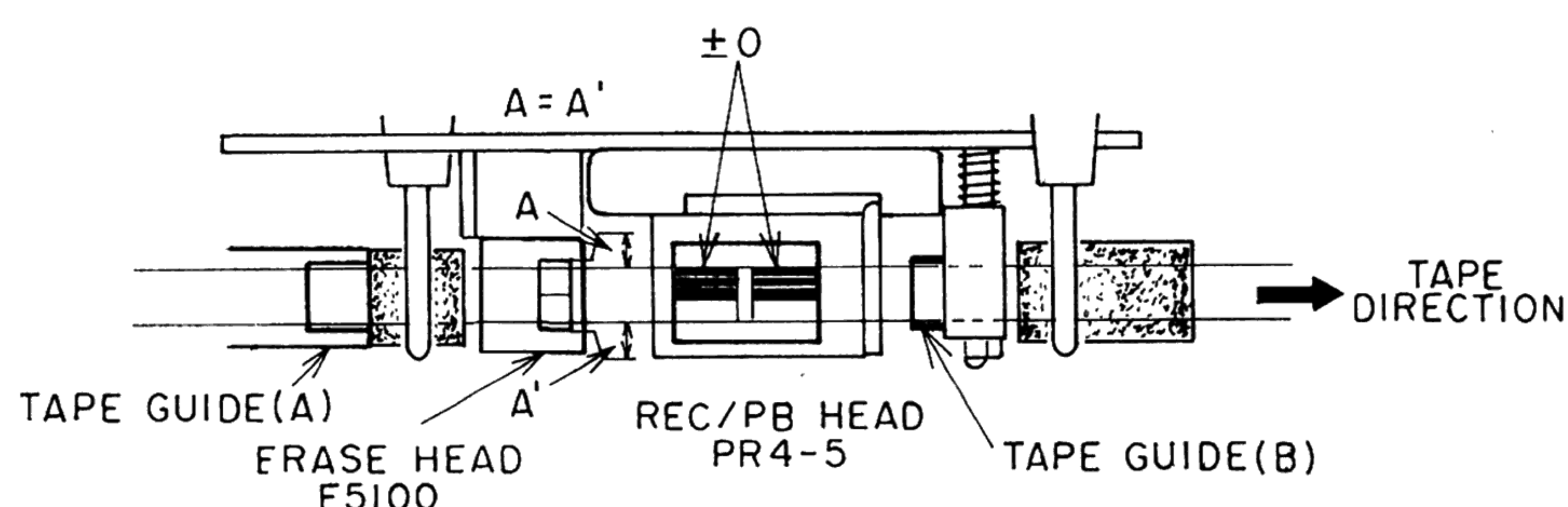


Fig. 6-2

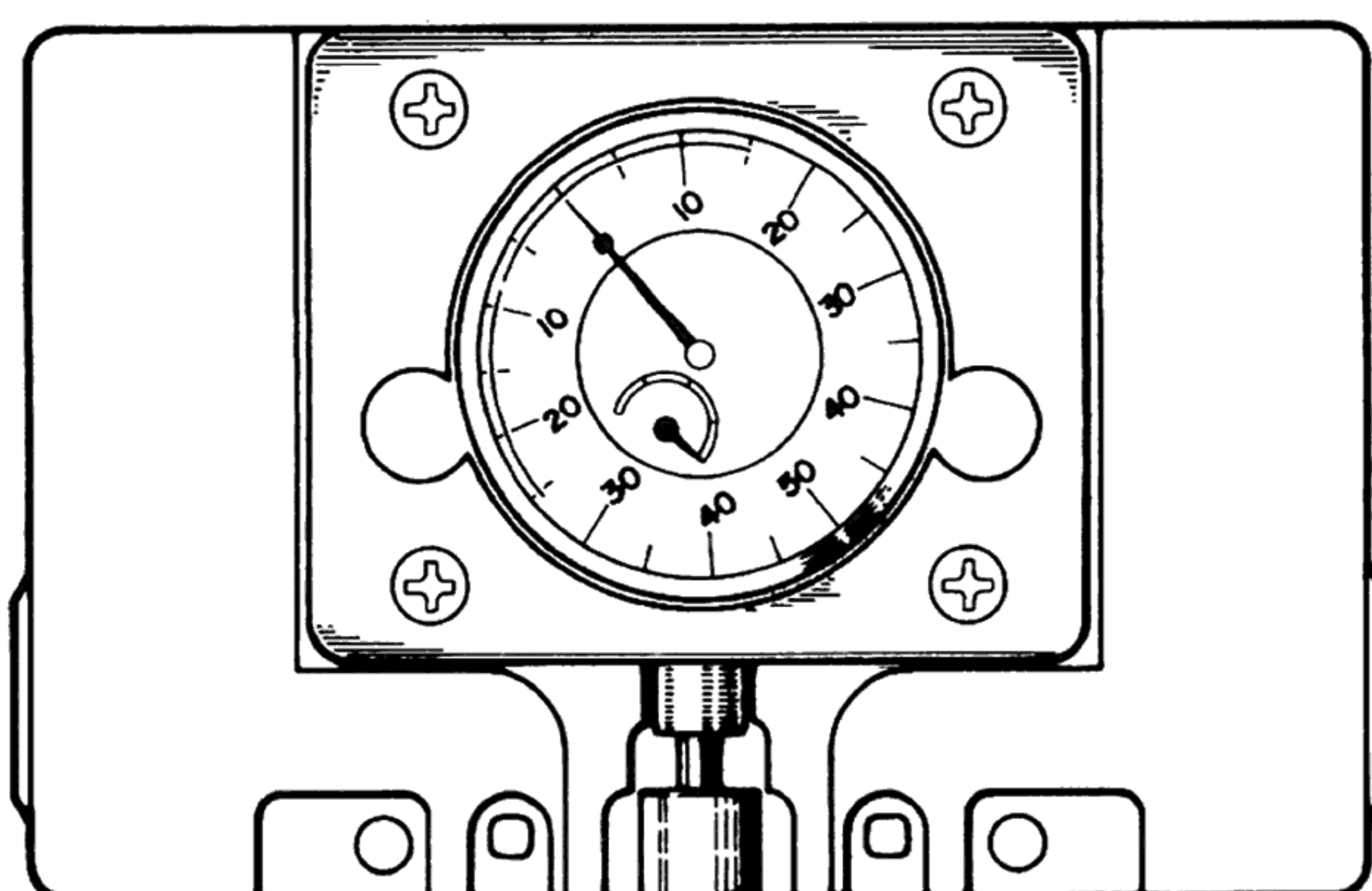


Fig. 6-3 Cassette Head Projection Gauge (AJ-751180)

6-1. REC/PB HEAD PROJECTION ADJUSTMENT

Take off the LID CASE and set the cassette head projection gauge (AJ-751180) and set to PLAY mode. Loosen the screw (a) and adjust so that the gauge indication at that time will be 3.2 ± 0.1 mm. After adjustment, apply paintlock on the screw (a).

6-2. TAPE GUIDE HEIGHT ADJUSTMENT

- 1) Set the mirror cassette tape (AJ-751178) and set to PLAY mode.
- 2) Adjust the tape guide (A) so that the parts of the erase head coming out of both sides of the tape (A and A' in Fig. 6-2) will be equal. For the adjustment, use the adjustment nut (A).
- 3) Adjust the tape guide (B) so that the tape runs smoothly and is not hitched by the tape guide. For the adjustment, use the adjustment nut (B).

- 4) After adjustment, paint-lock the adjustment nuts (A) and (B).

6-3. REC/PB HEAD HEIGHT ADJUSTMENT

- 1) Set the mirror cassette tape and set to PLAY mode.
- 2) Adjust the screws (b), (c) and (d) so that the upper edge of REC/PB head Lch core and the upper side of the tape is in alignment.
- 3) Playback the head height adjustment tape (4 Track 1,000Hz) (AT-750775), and fine-adjust the screws (b), (c) and (d) so that the largest output is obtained for both channels.

6-4. REC/PB HEAD AZIMUTH ALIGNMENT ADJUSTMENT

- 1) Playback a 10kHz Head Azimuth Alignment Tape (AT-750778) and adjust the screw (d) until the output levels of both channels are at maximum.
- 2) Record a 10kHz, -20VU signal from the audio frequency oscillator.
- 3) Rewind and check for any fluctuation in the output level at playback.
- 4) After adjustment, paintlock the screws (b), (c) and (d).

- NOTES:**
1. Be sure to clean the heads prior to head adjustment.
 2. Be careful not to use a magnetized driver or other magnetized tools in the vicinity of the heads.
 3. Be sure to demagnetize the heads with a Head Demagnetizer before and after head adjustment.

VII. ELECTRICAL ADJUSTMENT

7-1. HOW TO SET THE REFERENCE (REF) MODE

Push up the CrO₂ detection lever (see Fig. 7-1) with a finger or the tape shown in Fig. 7-2, and turn on the power switch is on (While the tape counter is flashing). The Model GX-9 will be set in the REF mode.

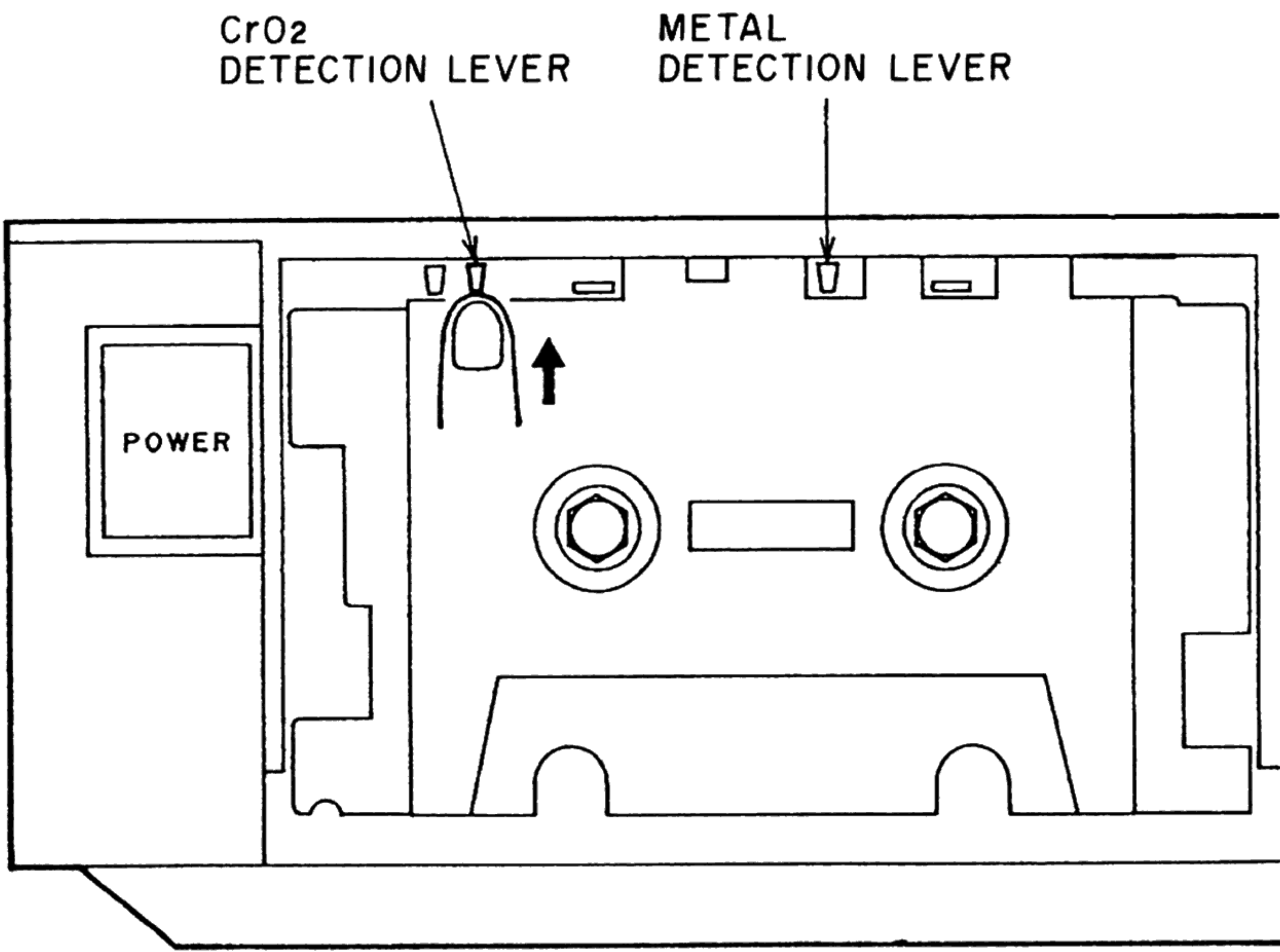


Fig. 7-1

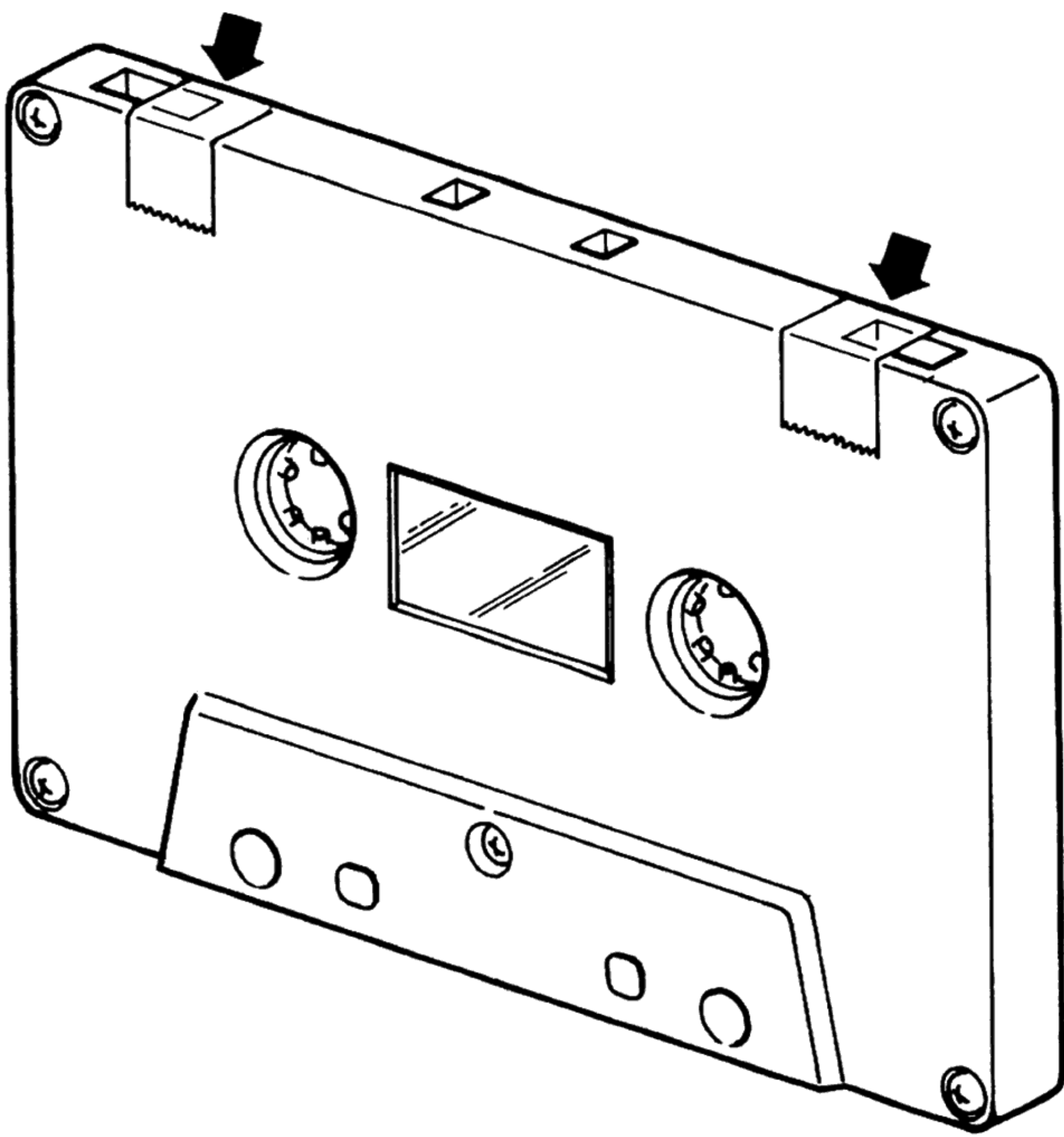


Fig. 7-2

- NOTES:**
- 1. REF mode will not be canceled unless the power is turned off.
 - 2. When the REC PAUSE button is depressed in REF mode, Tuning indicator is lit as in normal mode, however, only REC PAUSE mode will take place without tuning operation.

7-2. PRE-AMP PCB ADJUSTMENT POINTS

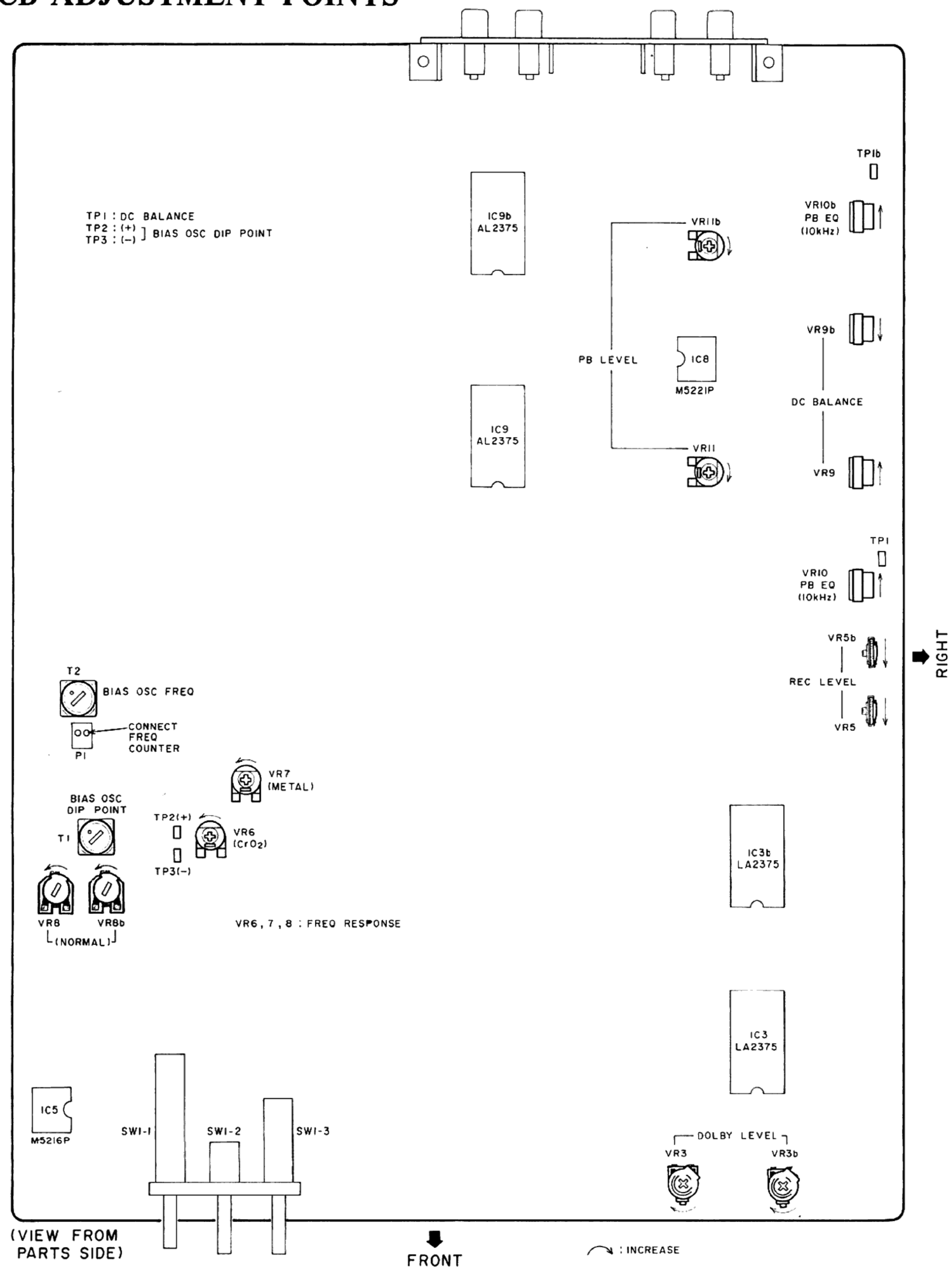


Fig. 7-3 PRE-AMP adjustment points

NOTE: Adjustment points shown in Fig. 7-3 is illustrated as the SYS-CON & TUNING PCB opened. However, some adjustments can be excuted without opening the SYS-CON & TUNING PCB as indicated in the chart below.

Adjustment	From Pattern Side	From Right Side	Through The SYS-CON & TUNING PCB
FREQ RESPONSE (NORMAL) VR8 VR8b			○
(CrO ₂) VR6	○		○
(METAL) VR7	○		○
PB EQ VR10 VR10b		○	
DC BALANCE VR9 VR9b		○	
REC LEVEL VR5 VR5b		○	
PB LEVEL VR11 VR11b	○		○

PRE-AMP PCB ADJUSTMENT

Step	Adjustment Item	Mode	Test Tape & Supply Signal	Adjustment Point	Test Point	Result	Remarks
1	BIAS OSC FREQUENCY	REC	METAL Blank Tape NO SIGNAL	T2	P1	100kHz ± 0.2kHz	Connect a Freq counter between P1 and GND.
2	BIAS OSC DIP POINT	REC	METAL Blank Tape NO SIGNAL	T1	TP2 (+) TP3 (-)	Minimum	Connect a Digital volt-meter (DC range) between TP2 (+) and TP3 (-)
3	DC Balance	PLAY	Without Cassette Tape NO SIGNAL	VR9 (Lch) VR9b(Rch)	TP1	0V ± 50mV	Connect a Digital Volt-meter (DC range) between TP1 and GND.
4	PB Level	PLAY	315Hz, 0VU Test Tape or 333Hz 0VU Test tape	VR11 (Lch) VR11b(Rch)	LINE OUT	-6.0 ± 0.2dBm (315Hz) or -6.6 ± 0.2dBm (333Hz)	LINE OUTPUT VR maximum.
5	PB EQ	PLAY	10kHz, -15VU Test Tape	VR10 (Lch) VR10b(Rch)	LINE OUT	-21.0 ± 0.2dBm	Confirm the PB level when the VR10 is turned extremely.
6	NORMAL POSITION FREQUENCY RESPONSE	IN REF mode REC/PB (TUNING BIAS VR AT CENTER)	NORMAL Blank Tape 1kHz, 10kHz -26.0dBm	VR8 (Lch) VR8b(Rch)	LINE OUT	1kHz, 10kHz Flat ± 0.2dBm	* See How to set the REF mode.
7	CrO ₂ POSITION FREQUENCY RESPONSE	IN REF mode REC/PB (TUNING BIAS VR AT CENTER)	CrO ₂ Blank Tape 1kHz, 10kHz -26.0dBm	VR6	LINE OUT	1kHz, 10kHz Flat ± 0.5dBm	* See How to set the REF mode.
8	METAL POSITION FREQUENCY RESPONSE	IN REF mode REC/PB (TUNING BIAS VR AT CENTER)	METAL Blank Tape 1kHz, 10kHz -26.0dBm	VR7	LINE OUT	1kHz, 10 kHz Flat ± 0.5dBm	* See How to set the REF mode.
9	REC LEVEL	IN REF mode REC/PB	NORMAL Blank Tape 1kHz, -6.0dBm	VR5 (Lch) VR5b(Rch)	LINE OUT	-6.0 ± 0.2dBm	* See How to set the REF mode.

Step	Adjustment Item	Mode	Test Tape & Supply Signal	Adjustment Point	Test Point	Result	Remarks
10	DOLBY Level	IN REF mode REC DOLBY-C	NORMAL Blank Tape 400Hz, -4dBm (Line Output) AT SOURCE MONITOR	VR3 (Lch) VR3b(Rch)	LINE OUT	SAME LEVEL AS DOLBY-C ON AND DOLBY OFF	Confirm with DOLBY-B ON.
11	Bias Filter (Confirmation)	REC (REC VR AT MAX)	METAL Blank Tape NO SIGNAL	NONE	LINE OUT	Less than -30dBm	If not at successful in the RESULT, see the FILTER ADJUST SECTION (SECTION 7-3).

- NOTES:**
- When not adjust Bias OSC FREQUENCY, turn the VR6, VR7 and VR8 at center position and adjust Bias OSC FREQUENCY.
 - Use the following cassette measuring tapes:

Normal Tape : Maxell UDI C-60
 CrO₂ Tape : TDK SA C-60
 Metal Tape : TDK MA C-60
 - Refer to Fig. 7-2 for the adjustment points.

7-3. FILTER ADJUSTMENT

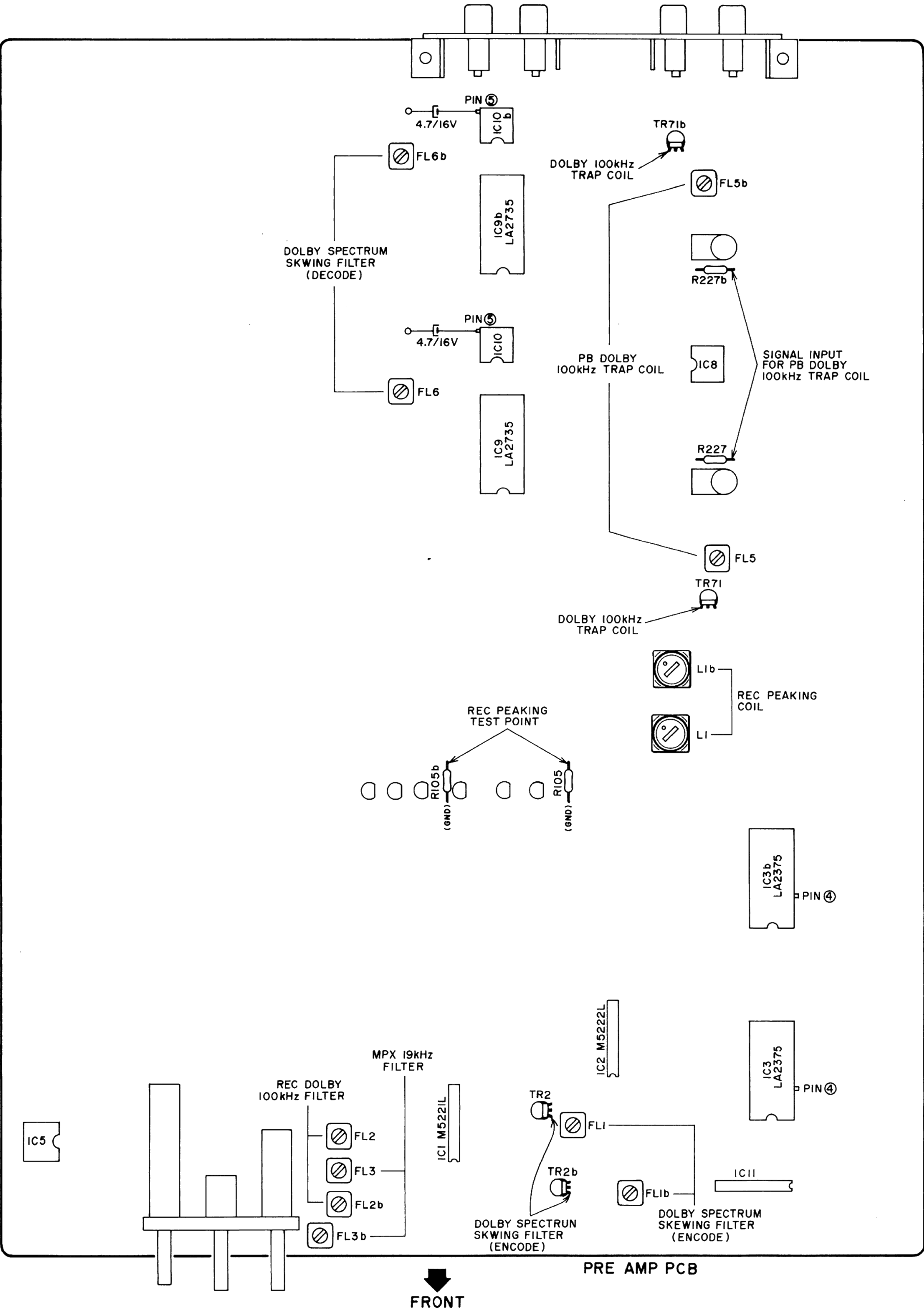


Fig. 7-4 FILTER adjustment points

FILTER ADJUSTMENT (on PRE AMP PCB)

The adjustments of Filters and Coils (FL1 to FL3, FL5, FL6 and L1) on the PRE AMP PCB are not necessary in normal conditions since those filters by themselves are pre-adjusted by the filter manufacturer. However, if this adjustment is necessary, adjust them as follows:

Step	Adjustment Item	Mode	Input Point	Supply Signal	Adjustment Point	Test Point	Result
1	DOLBY SPECTRUM SKEWING FILTER (DECODE)	DOLBY-C PLAY	IC10 pin ⑤ (Lch) IC10b pin ⑤ (Rch) (throttle capacitor)	without cassette tape line out level is -18.3dBm at 1kHz	FL6 (Lch) FL6b (Rch)	LINE OUT	$-10.0\pm0.5\text{dBm}$ at 17kHz (8.3dB up) *See NOTES 1.
2	DOLBY SPECTRUM SKEWING FILTER	DOLBY-C STOP	LINE IN	without cassette tape TR2's emitter level is -10.0dBm at 1kHz	FL1 (Lch) FL1b (Rch)	TR2 Emitter (Lch) TR2b Emitter (Rch)	$-18.3\pm0.5\text{dBm}$ at 17kHz (8.3dB down)
3	REC DOLBY 100kHz FILTER	DOLBY OFF MPX OFF STOP	LINE IN	without cassette tape 100kHz $\pm 0.1\text{kHz}$	FL2 (Lch) FL2b (Rch)	IC3 Pin ④ (Lch) IC3b Pin ④ (Rch)	Minimum
4	MPX 19kHz FILTER	DOLBY OFF MPX ON STOP (SOUCE)	LINE IN	without cassette tape 19kHz $\pm 0.1\text{kHz}$	FL3 (Lch) FL3b (Rch)	IC3 Pin ④ (Lch) IC3b Pin ④ (Rch)	Minimum (more than 40dB)
5	NORMAL REC EQ PEAKING COIL	IN REF mode DOLBY OFF MPX OFF REC	LINE IN	NORMAL Blank Tape Under SOURCE MONITOR Condition Bar meter level is -20VU at 18.2kHz $\pm 0.1\text{kHz}$	L1 (Lch) L1b (Rch)	R105 (Lch) R105b (Rch)	Maximum
6	CrO ₂ REC EQ PEAKING COIL (confirmation)	IN REF mode DOLBY OFF MPX OFF REC	LINE IN	CrO ₂ Blank Tape Under SOURCE MONITOR condition Bar meter level is -20VU at 19.5kHz	NONE	R105 (Lch) R105b (Rch)	Maximum

Step	Adjustment Item	Mode	Input Point	Supply Signal	Adjustment Point	Test Point	Result
7	METAL REC EQ PEAKING COIL (confirmation)	IN REF mode DOLBY OFF MPX OFF REC	LINE IN	METAL Blank Tape Under SOURCE MONITOR condition Bar meter level is -20VU at 21.5kHz	NONE	R105 (Lch) R105b (Rch)	Maximum
8	PB DOLBY 100kHz TRAP COIL	DOLBY OFF MPX OFF STOP	R227 (Lch) R277b (Rch)	without cassette tape 100kHz ± 0.1kHz	FL5	TR71 Emitter (Lch) TR71b Emitter (Rch)	Minimum

- NOTES:**
- In step 1, disconnect IC9 PIN 3 from the circuits (due to low impedance).
 - Readjust Bias OSC Frequency, Bias OSC DIP point and Frequency Respnse (NORMAL, CrO₂ and METAL), after adjustment steps 1 to 8 are finished.
 - Use the following cassette measuring tapes:

NORMAL Tape : Maxell UDI C-60
 CrO₂ Tape : TDK SA C-60
 METAL Tape : TDK MA C-60
 - Refer to Fig. 7-4 for the adjustment points.

7-4. SYS-CON & TUNING PCB ADJUSTMENT POINTS

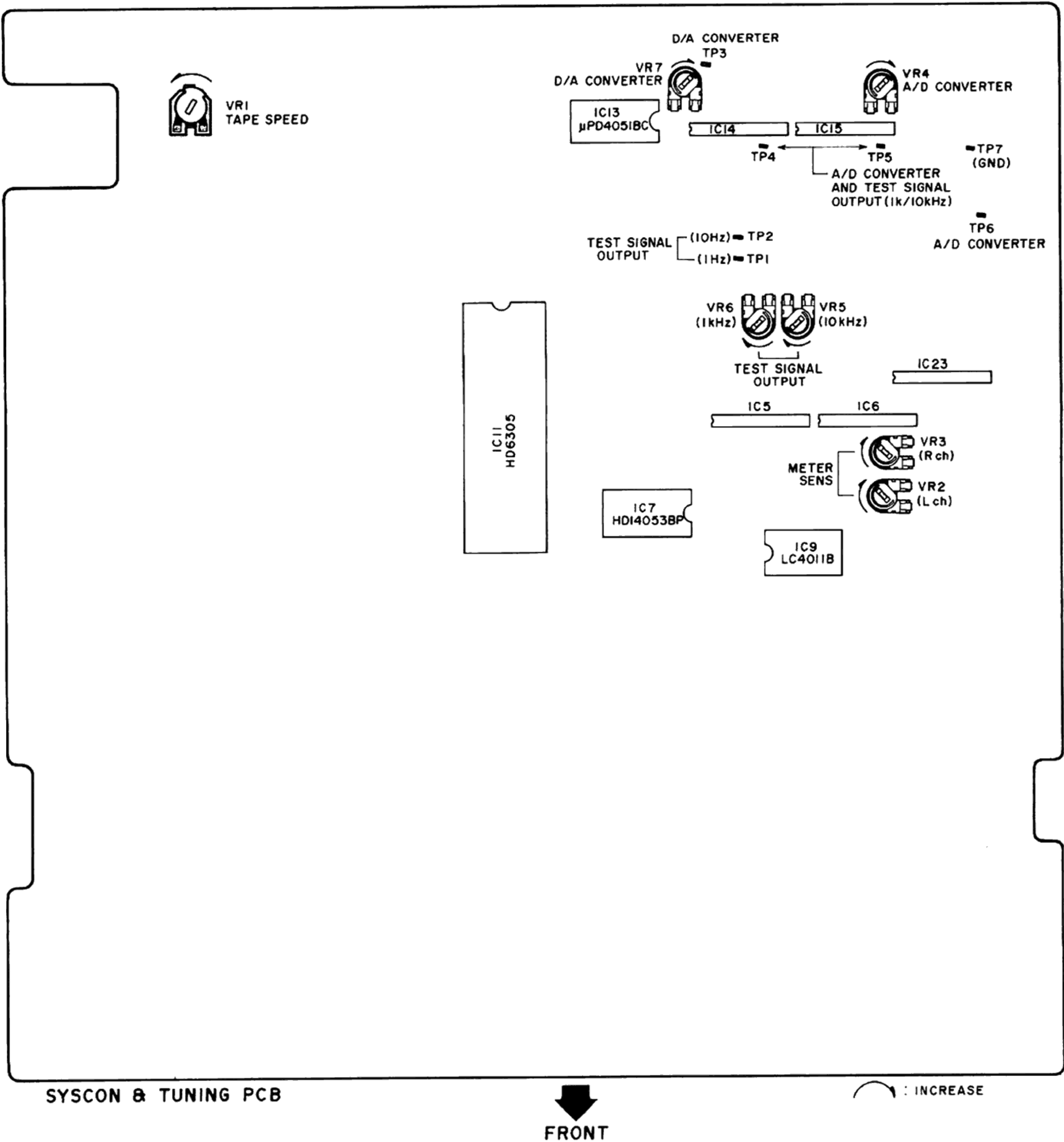
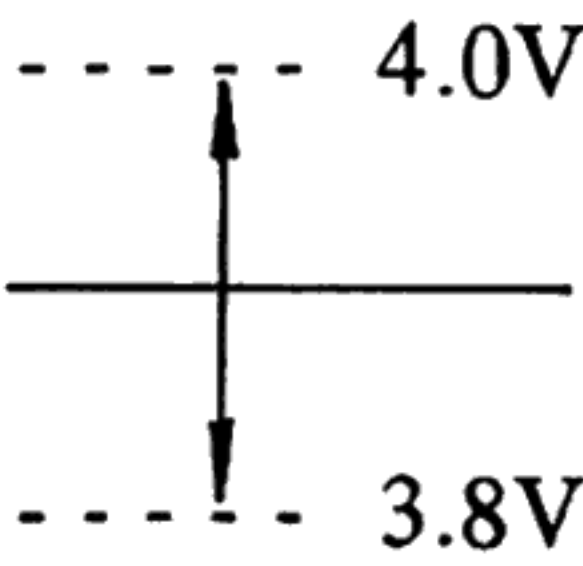
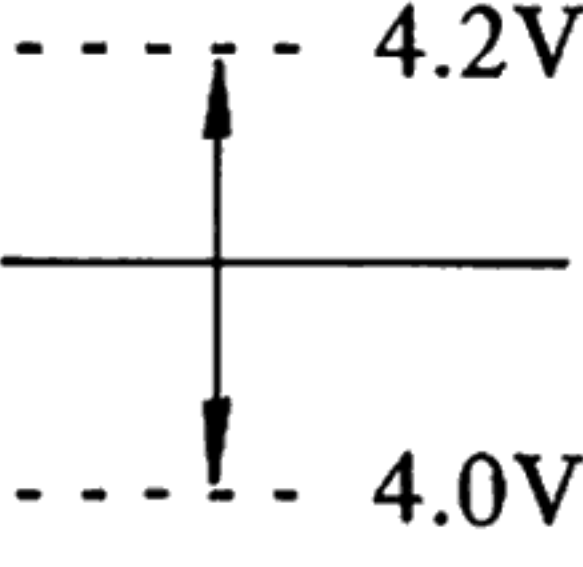


Fig. 7-5 SYS-CON & TUNING adjustment points

SYS-CON and TUNING PCB ADJUSTMENT

Step	Adjustment Item	Mode	Test Tape & Supply Signal	Adjustment Point	Test Point	RESULT	Remarks
1	D/A CONVERTER	IN REF mode EJECT→STOP (Confirmation)	without Cassette Tape. NO SIGNAL	VR7	TP3	2.54V ± 0.01V 4.22V ± 0.01V (EJECT →STOP)	* See How to set the REF mode. Connect a Digital Volt- meter (DC range) between TP3 and GND (TP7).
2	A/D CONVERTER	IN REF mode STOP	Connect an oscillator and an AC voltmeter between TP6 and GND. Set the Sine wave oscillator output 1kHz, −26.0dBm on AC Voltmeter reading.	VR4	TP4	4.02V ± 0.01V	* See How to set the REF mode. Connect a Digital Volt- meter.(DC range) between TP4 and GND (TP7). Connect TP5 to GND (TP7).
3	TEST SIGNAL OUTPUT (1kHz)	IN REF mode REC-PAUSE → AUTO-MUTE (TWICE DEPRESS)	NORMAL Blank Tape. Square wave between TP1 and GND. (1kHz, 1.4Vp-p)	VR6	TP4	Maximum DC Fluctuating level is 4.0V 	* See How to set the REF mode. Connect an oscilloscope between TP4 and GND. Connect TP5 to GND (TP7).
4	TEST SIGNAL OUTPUT (10kHz)	IN REF mode REC-PAUSE → AUTO-MUTE (TWICE DEPRESS)	NORMAL Blank Tape. Square wave between TP2 and GND. (10kHz, 1.4Vp-p)	VR5	TP4	Maximum DC Fluctuating level is 4.2V 	* See How to set the REF mode. Connect an oscilloscope between TP4 and GND. Connect TP5 to GND (TP7).
5	METER SENSITIVITY	SOURCE MONITOR STOP	1kHz Sine wave. LINE OUT level −6.0dBm	VR2 (Lch) VR3 (Rch)	BAR METER	0VU indicator is lit. (0VU indicator goes out when LINE OUT level is −6.1dBm)	LINE OUTPUT VR MAX.

- NOTES:** 1. All adjustments are carried out in DOLBY SW off position.
2. Use the following cassette measuring tapes.
 NORMAL Tape : Maxell UDI C-60
 CrO₂ Tape : TDK SA C-60
 METAL Tape : TDK MA C-60
3. Refer to Fig. 7-5 for the adjustment points.

VIII. PC BOARD TITLES AND IDENTIFICATION NUMBERS

PC Board Title		PC Board Number
PRE AMP / POWER	PC Board	T2069A504A (2ED)
SYSTEM CONTROL / TUNING	PC Board	T2069A503A
METER / OPERATION	PC Board	T2069A503B
DETECTOR (R)	PC Board	T2069D5010
DETECTOR (L)	PC Board	T2069D5020
REMOTE CONTROL	PC Board	T2069A503C
MOTOR	PC Board	M3103C7260 (2ED)
POWER SW	PC Board	T2069A503D
POTENTION	PC Board	M3103D7010
HEAD PHONE	PC Board	T2069A504B

SECTION 3

PARTS LIST

TABLE OF CONTENTS

RECOMMENDED SPARE PARTS 29

1. MECHA BLOCK 30

2. MOTOR BLM310B BLOCK 32

3. PC BOARD BLOCK 33

4. PRE AMP/POWER PC BOARD 33

5. SYSCON/TUNING PC BOARD 35

6. METER/OPERATION PC BOARD 35

7. MOTOR PC BOARD 35

8. HEAD PHONE PC BOARD 36

9. REMOTE CONTROL PC BOARD 36

10. POWER SW PC BOARD 36

11. DETECTOR (L) PC BOARD 36

12. DETECTOR (R) PC BOARD 36

13. FILTER PC BOARD 36

14. ASSEMBLY BLOCK 36

15. FINAL ASSEMBLY BLOCK 38

INDEX 39

Resistors and Capacitors which are not listed in this parts list, please refer to COMMON LIST FOR SERVICE PARTS.

ATTENTION

- 1. When placing an order for parts, be sure to list the parts no. model no., and description of each part. If any of this information is omitted, there are instances in which parts cannot be shipped or the wrong parts will be delivered.
- 2. Please be careful not to make a mistake in the parts no. If the parts no. is in error, a part different from the one ordered may be delivered.
- 3. Because part numbers and part definitions and supply in the Preliminary Parts List may have been the subject of changes, please use this parts list for all future reference.

HOW TO USE THIS PARTS LIST

- 1. This Parts List shows those parts which are considered necessary for repairs. Other parts, such as resistors and capacitors, are shown in the "Common List for Service Parts" from which these parts should be selected and parts.
- 2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
- 3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
- 4. How to read the parts list
 - a) Mechanism Block
 - b) P.C Board Block

2. HEAD BASE BLOCK

REF. NO.	PART NO.	DESCRIPTION
2-1x	BH-T2023A320A	HEAD BASE BLOCK GX-F66R
2-2	HP-H2206A010A	HEAD R/P PR4-8FU C
2-3	ZS-477876	PAN20x03STL CMT
2-4	ZS-536488	BID20x08STL CMT
2-5	ZG-402895	CS ANGLE ADJUST SPRING

SP (Service Parts) Classification

A small "x" indicates the inability to show that particular part in the Photo or Illustration.

This number corresponds with the individual parts index number in that figure

This number corresponds with the Figure Number

6. SYS. CON. P C BOARD BLOCK

REF. NO.	PART NO.	DESCRIPTION
6-1	BA-T2034A070A	PC SYS CON BLK GX-F44R
6-IC1	EI-324536	IC HD14049BP
6-IC2	EI-336801	IC MB8841-564M
6-IC3	EI-331661	IC SN7405N
6-IC4	EI-336725	IC M54527P
6-TR1to4	ET-200985	TR 2SC2603 F,G
6-TR5to28	ET-554657	TR 2SA733A P,Q
6-D1	ED-318292	D SILICON H 1S2473T-77 T26
6-D2to4	ED-308952	D GERMA V 1K34A-LR F07
6-D5to10	ED-318292	D SILICON H 1S2473T-77 T26
6-X1	EI-318384	OSC X'TAL NC-18C 3.579545MHZ

SP (Service Parts) Classification

These reference symbols correspond with component symbols in the Schematic Diagrams.

- 5. The kind of part and its installation position can both be determined by the Part Number. To determine where a part number is listed, utilize the Parts Index at the end of the Parts List. It is necessary first of all to find the Part Number. This can be accomplished by using the Reference Number listed at the right of the part number in the Parts Index.

WARNING

⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE’S RECOMMENDED PARTS

AVERTISSEMENT

⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

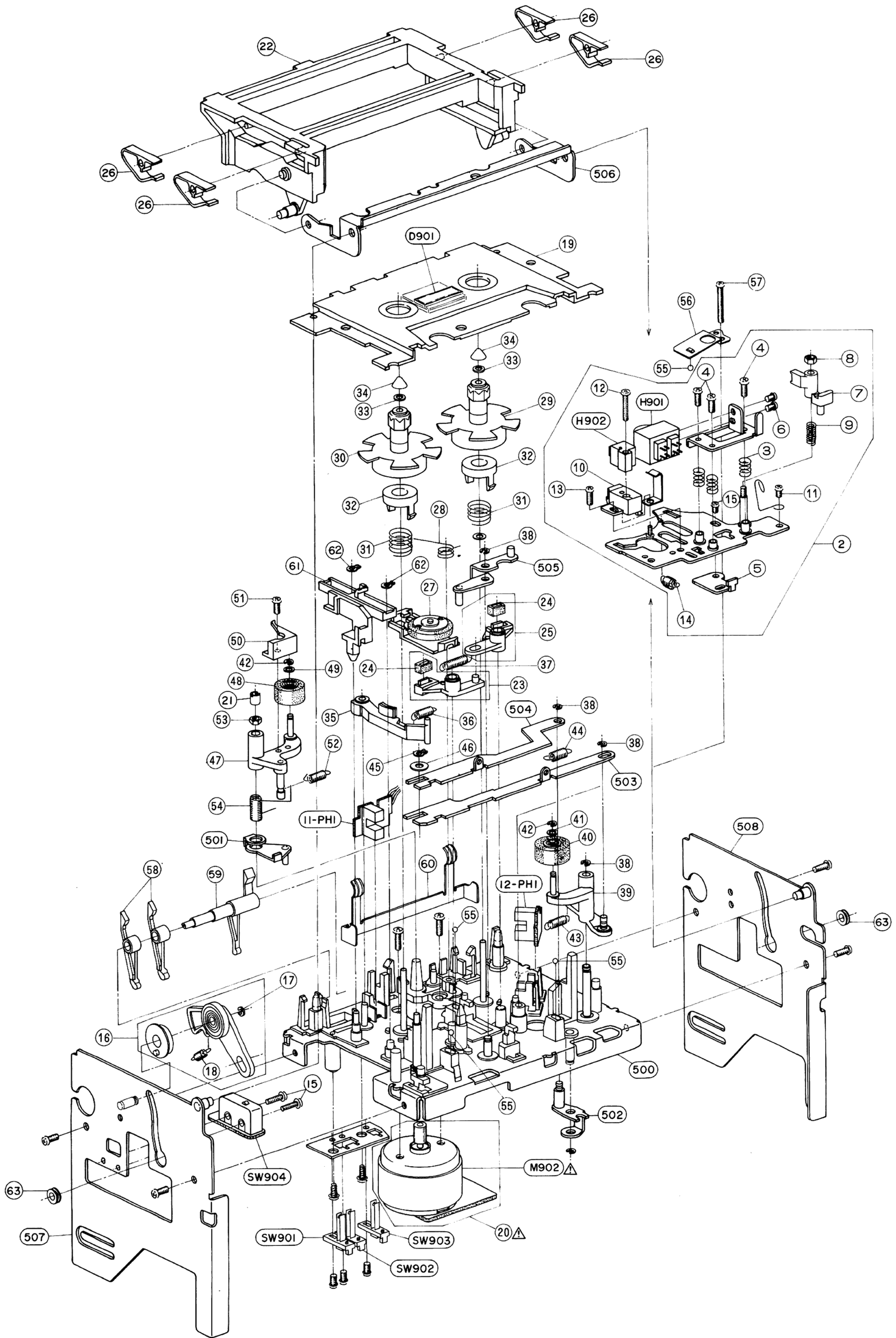
RECOMMENDED SPARE PARTS

Because, if the parts listed below are on hand, almost any repair can be accomplished, we suggest that you stock these Recommended Spare Parts Items.

NO.	PART NO.	DESCRIPTION
1	BF-B336024	FLYWHEEL (A) PART
2	N BH-T2047A060B	HEAD BLK GX-9
3	N BM-B345196	△ MOTOR OPERATION (PULLEY) PART
4	BM-B336989	△ REEL MOTOR (PULLEY) PART
5	N BT-356307	△ TRANS POWER T2069AC [C,A]
6	N BT-356311	△ TRANS POWER T2069BS [B,S]
7	N BT-356309	△ TRANS POWER T2069EV [E]
8	N BT-356306	△ TRANS POWER T2069J [J]
9	N BT-356305	△ TRANS POWER T2069U [U]
10	ED-349662	△ D SILICON DS135E-FA6 100/1.0A
11	ED-309070	△ D ZENER H HZ24 1
12	ED-319167	△ D ZENER H HZ6 C3
13	ED-344244	D LED SLF601C AMBER
14	ED-345555	D SILICON DBB10C 200/1.0A
15	ED-301911	D SILICON H DS448
16	ED-344280	D SILICON GMA-01-FY2 F05
17	ED-624903	D SILICON H 1S2473
18	ED-347767	D SILICON V MC911 DOUBLE
19	ED-306109	D SILICON W03B 100/1.0A
20	ED-316389	D ZENER H HZ11 A2
21	ED-328486	D ZENER H HZ15 3
22	ED-315759	D ZENER H HZ16 1
23	ED-322046	D ZENER H HZ18 1
24	ED-329449	D ZENER H HZ18 3
25	ED-338561	D ZENER H HZ2 F10 B2
26	ED-331626	D ZENER H HZ3 B2
27	ED-337776	D ZENER H HZ3 C1
28	ED-346598	D ZENER H HZ4 C2
29	ED-302269	D ZENER H HZ5 A2
30	ED-329058	D ZENER H HZ5 C1
31	ED-306316	D ZENER H HZ5 C2
32	ED-309959	D ZENER H HZ5 C3
33	ED-309069	D ZENER H HZ6 B2
34	ED-337266	D ZENER H HZ9 A1
35	ED-346609	D ZENER H HZ9 C1
36	EF-341264	△ FUSE GGS A 125V 1.60A [U,J,C,A]
37	EF-318608	△ FUSE GGS A 250V 1.00A [U,J,C,A]
38	EF-601942	△ FUSE SEMKO T 630MA 250V [E,B,S]
39	EF-258344	△ FUSE SEMKO T 800MA 250V [E,B,S]
40	EH-328491	FILTER DB D07-003K 100KHZ
41	EH-328490	FILTER DB Z07-001K 19KHZ
42	N EH-355694	FILTER DB 404116006
43	N EI-356303	△ IC HD6305-XOA29P
44	N EI-355602	△ IC LB1649
45	EI-337568	HALL ELEMENT DHD-H070
46	N EI-356304	IC AN6876
47	N EI-356327	IC HA12067
48	N EI-328593	IC HD14053BP
49	EI-358464	IC LA2735
50	EI-336761	IC LA6458S
61	EI-336794	IC LB1240
52	EI-337013	IC LB1290
53	EI-345765	IC LB1292
54	EI-343417	IC LB1294
55	N EI-338171	IC LC4069UB
56	N EI-356114	IC LC4081B
57	EI-337008	IC LC7800
58	N EI-357498	IC M51143AL
59	N EI-356160	IC M5216P
60	EI-337228	IC M5218L)
61	EI-349719	IC M5218P
62	N EI-355598	IC M5221L
63	N EI-355697	IC M5221P
64	EI-354280	IC M5222L

NO.	PART NO.	DESCRIPTION
65	EI-201940	IC NJM4558S
66	EI-336992	IC μPC1043C
67	N EI-338238	IC μPD4051BC
68	EI-349372	OSC CE CSA4.00MG 4MHZ
69	N EM-356300	IND FL FIP36BW19Y DOUBLE
70	EO-315758	COIL TUN 1 100Z-431 100.00KHZ
71	ER-328278	△ R FUSE ERD2FC 1/4W 10R0G
72	N ES-356115	△ SW PUSH J-U3066#01 01-1
73	ES-305733	△ SW SELECTOR HXW0131-260 01-4 [U]
74	ES-336990	SW LEAF BSW-169 01-1 NO
75	ES-337427	SW MICRO SS-01-E
76	N ES-354646	SW PUSH SPUN32038A 3-THROW
77	N ES-356301	SW SLIDE 00230875
78	N ES-355604	SW TACT B3F-1020
79	ET-345626	△ TR 2SA1248 S,T
80	ET-345625	△ TR 2SC3116 S,T
81	N ET-357845	△ TR 2SC3242A F,G
82	ET-349979	△ TR 2SD794 P,Q,R
83	ET-345091	PHOTO SENSOR SPI-201-40 B,C
84	ET-337235	TR FET 2SK170 BL,V
85	ET-334742	TR FET 2SK240 GR,BL
86	ET-308472	TR 2SA1115 E,F,G
87	ET-349605	TR 2SA1346
88	ET-349626	TR 2SA1347
89	ET-349593	TR 2SA1348
90	ET-349725	TR 2SA1391 S,T
91	ET-349718	TR 2SA1392 S,T
92	ET-337760	TR 2SA984K F
93	ET-337968	TR 2SA999 E,F
94	ET-308977	TR 2SC2274K F
95	ET-349705	TR 2SC2320 E,F,G
96	ET-308141	TR 2SC2603 G
97	ET-349883	TR 2SC3243 D,E
98	ET-349080	TR 2SC3382 S,T
99	ET-349081	TR 2SC3383 S,T
100	ET-350795	TR 2SC3399
101	ET-352994	TR 2SC3401
102	ET-349366	TR 2SC3402
103	ET-338324	TR 2SD1012-V H
104	ET-310148	TR 2SD612K E,F
105	EV-336854	R S-FIX H KVSF807U 3P 104
106	EV-336847	R S-FIX H KVSF807U 3P 502
107	EV-336849	R S-FIX H KVSF807V 3P 203
108	EV-341226	R S-FIX H KVSF807V 3P 204
109	EV-337993	R S-FIX H RVF8P01 3P 203
110	EV-330531	R S-FIX H TM8KV2-1S 3P 0.50W 503
111	N EV-357837	R S-FIX H V8K4-11(1S) 3P 104
112	EV-338463	R S-FIX H V8K4-11(1S) 3P 203
113	EV-338462	R S-FIX H V8K4-11(1S) 3P 503
114	N EV-355700	R S-FIX V H1052A 3P 0.15W 101
115	EV-325994	R S-FIX V H1052A 3P 0.15W 103
116	EV-344828	R S-FIX V RVF8W01 3P 203
117	EV-464253	R S-FIX V V8K1-1 3P 202
118	N EV-354648	VR ROTARY 12P20×OD M503 N503
119	N EV-354649	VR ROTARY 12P20×OE A103
120	N EV-354647	VR ROTARY 12P20×OF A503
121	EV-337052	VR ROTARY 16L10×OR B103
122	N EV-356302	VR SLIDE 30P1SVOE B103
123	HE-337837	HEAD E E51005770
124	HP-H2402A010A	HEAD COMBO PR4-5
125	MB-336026	BELT CAPSTAN
126	N MB-336021	BELT OPERATION
127	MB-330911B	CUSHION RUBBER (BL)
128	MB-330911	CUSHION RUBBER
129	MI-336025	FLYWHEEL (B)
130	MP-336153	PINCH ROLLER (A)
131	MP-336204	ROLLER PINCH (B)
132	MR-336019	PULLEY OPERATE
133	MZ-336006	CAM WHEEL
134	MZ-336005	GEAR POTENTION
135	TC-336605	WIND IDLER ASSY

“NOTE” N: New Parts



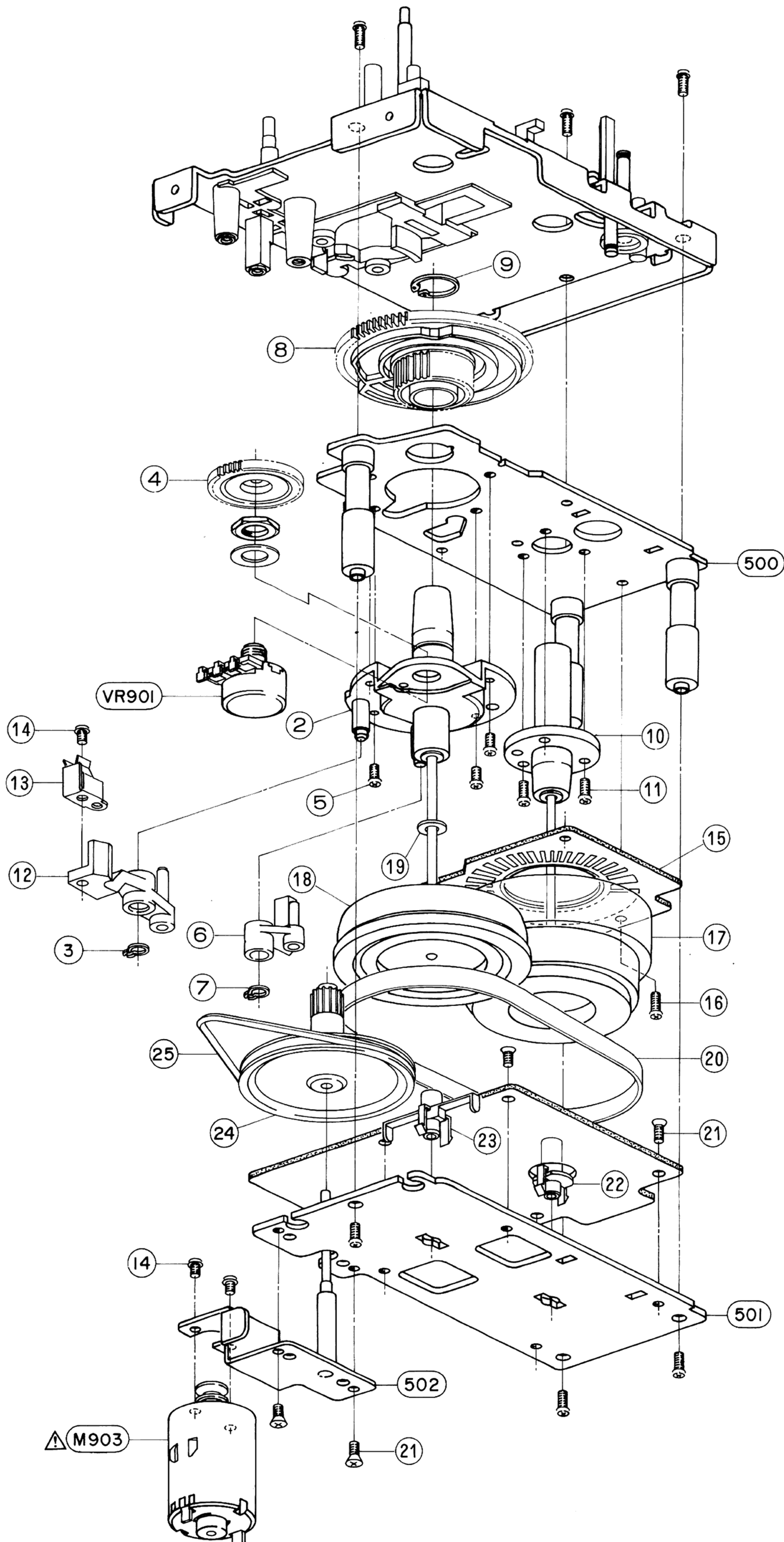
1. MECHA BLOCK

REF. NO.	PART NO.	DESCRIPTION
1-1	BB-T2047A020B	MECHA BLK GX-9
1-2	BH-T2047A060B	HEAD BLK GX-9
1-3	ZG-336127	SP PUSH HEAD
1-4	ZS-608095	PAN20×05STL CMT
1-5	HZ-336132	ADJUST PLATE
1-6	ZS-477876	PAN20×03STL CMT
1-7	HZ-336129	GUIDE TAPE
1-8	ZW-618884	N20STL CMT 1
1-9	ZG-336130	SP PUSH GUIDE
1-10	HZ-343000	HOLDER E HEAD
1-11	ZS-201407	PAN23×03STL CMT
1-12	ZS-342086	PLX PAN26×12STL CMT
1-13	ZS-499331	PAN23×05STL CMT
1-14	ZG-341972	SP PULL HEAD RETURN
1-15	ZS-310337	PAN20×08STL CMT
1-16	BZ-T2030A110A	OIL CLUTCH BLK GX-F51
1-17	ZW-270088	RING E 190SUP CMT
1-18	ZG-341970	SP PULL OIL CLUTCH
1-19	BD-B336162A	LID DECORATION (A) PART
1-20	BM-T2030A120C	△ REEL MOTOR BLK GX-9
1-21	ZW-356166	NUT
1-22	SP-336163	LID CASE
1-23	BL-T2030A160A	LEVER BRAKE (A) BLK GX-F51
1-24	TC-336146	BRAKE RUBBER
1-25	BL-T2030A170A	LEVER BRAKE (B) BLK GX-F51
1-26	ZG-336615	SP PLATE CASSETTE HOLDER (B)
1-27	TC-336605	WIND IDLER ASSY
1-28	ZG-336140	SP TORSION IDLER
1-29	BR-T2069A360A	REEL TABLE BLK GX-9
1-30	BR-T2069A360A	REEL TABLE BLK GX-9
1-31	ZG-336141	SP PUSH BT
1-32	TC-336142	HOLDER BT SP
1-33	ZW-330073	PW21×040×020
1-34	MT-305793	REEL CAP
1-35	BL-B336196	LEVER BT PART
1-36	ZG-330078	SP T2-03.2/0.20-09.0 T2-038
1-37	ZG-312946	SP T1-03.2/0.29-16.0 T1-062
1-38	ZW-270088	RING E 190SUP CMT
1-39	BL-B336150	ARM PINCH ROLLER (A) PART
1-40	MP-336153	PINCH ROLLER (A)
1-41	ZW-305546	PW21×040×025PSL
1-42	ZW-356657	RING E 150SUP CMT
1-43	ZG-336175	SP PULL PINCH ROLLER (T)
1-44	ZG-321534	SP T2-03.2/0.29-12.5 T2-060
1-45	ZW-336603	RING GRIP 285SUP ACP
1-46	ZW-306464	PW31×070×050STL CMT
1-47	BL-B336202	ARM PINCH ROLLER (B) PART
1-48	MP-336204	ROLLER PINCH (B)
1-49	ZW-381644	PW21×040×013PSL
1-50	HZ-336205	GUIDE TAPE (B)
1-51	ZS-608095	PAN20×05STL CMT
1-52	ZG-336206	SP TORSION RETURN
1-53	ZW-618884	N20STL CMT 1
1-54	ZG-336208	SP PULL PINCH ROLLER (S)
1-55	MV-357208	BALL200STL
1-56	ZG-336157	SP PLATE HEAD HOLD
1-57	ZS-342002	ST PAN26×16STL CMT
1-58	ML-336158	LEVER DETECTION (B)
1-59	ML-336159	LEVER DETECTION (A)
1-60	ZG-336160	SP PLATE CASSETTE HOLDER (A)
1-61	TC-336161	SLIDE EJECT
1-62	ZW-329422	RING CS0300
1-63	SZ-336166	COLLAR LID
1-M902	BM-B336989	△ REEL MOTOR (PULLEY) PART
1-H901	HP-H2402A010A	HEAD COMBO RP4-5 [REC/PB HEAD]
1-H902	HE-337837	HEAD E E51005770 [ERASE HEAD]
1-D901	ED-344244	D LED SLF601C AMBER [HOUSING LED]
1-SW901	ES-336990	SW LEAF BSW-169 01-1 NO [ANTI REC]

REF. NO.	PART NO.	DESCRIPTION
1-SW902	ES-336990	SW LEAF BSW-169 01-1 NO [DETECTOR CR02]
1-SW903	ES-336990	SW LEAF BSW-169 01-1 NO [DETECTOR METAL]
1-SW904	ES-337427	SW MICRO SS-01-E [LOADING SW]
11-PH1	ET-345091	PHOTO SENSOR SPI-201-40 B,C [DETECTOR L PCB]
12-PH1	ET-345091	PHOTO SENSOR SPI-201-40 B,C [DETECTOR R PCB]

NOTE: Parts listed in 1 to PH1 on the exploded view and list are normaly stocked for replacement purpose. The remaining parts shown in this manual are not normaly stocked, because they are seldom required for routine service.

MOTOR BLM310B BLOCK



2. MOTOR BLM310B BLOCK

REF. NO.	PART NO.	DESCRIPTION
2-1	BM-M3104A010B	MOTOR BLM-310B
2-2	TC-B336004A	HOLDER CAPSTAN (C-1) PART
2-3	ZW-653163	RING CS280STL PKR
2-4	MZ-336005	GEAR POTENTION
2-5	ZS-432843	PAN26×04STL CMT
2-6	BL-B336007	LEVER BRAKE CAM PART
2-7	ZW-653163	RING CS280STL PKR
2-8	MZ-336006	CAM WHEEL
2-9	ZW-336604	RING S930SUP ACP
2-10	TC-336002	HOLDER CAPSTAN (B)
2-11	ZS-479474	PAN26×05STL CMT
2-12	BL-B336009	LEVER EJECT CAM PART
2-13	ZG-336011	SP PLATE CAM LEVER
2-14	ZS-477876	PAN20×03STL CMT
2-15	EA-336012	PC FG
2-16	ZS-479474	PAN26×05STL CMT
2-17	BF-B336024	FLYWHEEL (A) PART
2-18	MI-336025	FLYWHEEL (B)
2-19	ZW-309295	THRUST WASHER
2-20	MB-336026	BELT CAPSTAN
2-21	ZS-477887	CTS26×05STL CMT
2-22	TC-336016	HOLDER THRUST (A)
2-23	TC-336027	HOLDER THRUST (B)
2-24	MR-336019	PULLEY OPERATE
2-25	MB-336021	BELT OPERATION
2-VR901	EV-337052	VR ROTARY 16L10×OR B103
2-M903	BM-B345196	△ MOTOR OPERATION (PULLEY) PART
2-L1x	EO-336986	COIL FIX 3 D012XT [MOTOR PCB]
2-L2x	EO-336986	COIL FIX 3 D012XT [MOTOR PCB]

NOTE: Parts listed in 1 to L2 on the exploded view and list are normaly stocked for replacement purpose. The remaining parts shown in this manual are not normaly stocked, because they are seldom required for routine service.

3. PC BOARD BLOCK

REF. NO.	PART NO.	DESCRIPTION
3-1A	BA-T2069A020A	PC PRE AND POWER BLK GX-9
3-2A	BA-T2069A030A	PC SYSCON TUNING BLK GX-9 (U,J)
3-2B	BA-T2069A030B	PC SYSCON TUNING BLK GX-9 (C,A)
3-2C	BA-T2069A030C	PC SYSCON TUNING BLK GX-9 (E,B,S)

- NOTES: (1) PC PRE AND POWER BLK consists of following PC BOARDS.
- PRE AMP/POWER PC BOARD
 - HEAD PHONE PC BOARD
- (2) PC SYSCON TUNING BLK consists of following PC BOARDS.
- SYSCON/TUNING PC BOARD
 - METER/OPERATION PC BOARD
 - REMOTE CONTROL PC BOARD
 - POWER SW PC BOARD

4. PRE AMP/POWER PC BOARD

REF. NO.	PART NO.	DESCRIPTION
4-IC1	EI-355598	IC M5221L
4-IC2	EI-354280	IC M5222L
4-IC3	EI-358464	IC LA2735
4-IC4	EI-355598	IC M5221L
4-IC5	EI-356160	IC M5216P
4-IC6	EI-357498	IC M51143AL
4-IC7	EI-337228	IC M5218L0
4-IC8	EI-355697	IC M5221P
4-IC9	EI-358464	IC LA2735
4-IC10	EI-349719	IC M5218P
4-IC11	EI-337228	IC M5218L0
4-TR1,2	ET-349081	TR 2SC3383 S,T
4-TR3	ET-349605	TR 2SA1346
4-TR4	ET-350795	TR 2SC3399
4-TR5	ET-349081	TR 2SC3383 S,T
4-TR7	ET-349593	TR 2SA1348
4-TR10,11	ET-349081	TR 2SC3383 S,T
4-TR12	ET-349979	△ TR 2SD794 P,Q,R
4-TR13,14	ET-337235	TR FET 2SK170 BL,V
4-TR15,16	ET-349081	TR 2SC3383 S,T
4-TR17	ET-349605	TR 2SA1346
4-TR18to28	ET-349081	TR 2SC3383 S,T
4-TR29	ET-349718	TR 2SA1392 S,T
4-TR30,31	ET-349081	TR 2SC3383 S,T
4-TR32	ET-349718	TR 2SA1392 S,T
4-TR33	ET-349081	TR 2SC3383 S,T
4-TR36	ET-349705	TR 2SC2320 E,F,G
4-TR37	ET-338324	TR 2SD1012-V H
4-TR38	ET-349366	TR 2SC3402
4-TR39	ET-352994	TR 2SC3401
4-TR40	ET-337968	TR 2SA999 E,F
4-TR41to43	ET-349366	TR 2SC3402
4-TR44	ET-357845	△ TR 2SC3242A F,G
4-TR45,46	ET-349883	TR 2SC3243 D,E
4-TR47to49	ET-349366	TR 2SC3402
4-TR50	ET-357845	△ TR 2SC3242A F,G
4-TR51,52	ET-349883	TR 2SC3243 D,E
4-TR60	ET-354742	TR FET 2SK240 GR,BL

REF. NO.	PART NO.	DESCRIPTION
4-TR61	ET-349080	TR 2SC3382 S,T
4-TR62,63	ET-349725	TR 2SA1391 S,T
4-TR64to66	ET-349080	TR 2SC3382 S,T
4-TR67	ET-349725	TR 2SA1391 S,T
4-TR68	ET-349080	TR 2SC3382 S,T
4-TR69	ET-349725	TR 2SA1391 S,T
4-TR70	ET-349080	TR 2SC3382 S,T
4-TR71,72	ET-349081	TR 2SC3383 S,T
4-TR76	ET-349081	TR 2SC3383 S,T
4-TR80	ET-308141	TR 2SC2603 G
4-TR81	ET-308472	△ TR 2SA1115 E,F,G
4-TR82	ET-310148	△ TR 2SD612K E,F
4-TR83	ET-349725	TR 2SA1391 S,T
4-TR84	ET-349080	TR 2SC3382 S,T
4-TR85	ET-345625	△ TR 2SC3116 S,T
4-TR86	ET-345626	△ TR 2SA1248 S,T
4-TR87	ET-349080	△ TR 2SC3382 S,T
4-TR88	ET-349725	△ TR 2SA1391 S,T
4-TR89	ET-349080	TR 2SC3382 S,T
4-TR90,91	ET-349725	TR 2SA1391 S,T
4-TR92	ET-349080	TR 2SC3382 S,T
4-TR93	ET-308141	△ TR 2SC2603 G
4-TR95	ET-308472	TR 2SA1115 E,F,G
4-TR96	ET-349979	△ TR 2SD794 P,Q,R
4-TR97	ET-308141	△ TR 2SC2603 G
4-D1	ED-346598	D ZENER H HZ4 C2
4-D4	ED-329058	D ZENER H HZ5 C1
4-D5to8	ED-347767	D SILICON V MC911 DOUBLE
4-D9,10	ED-624903	D SILICON H 1S2473
4-D11	ED-306316	D ZENER H HZ5 C2
4-D15	ED-316389	D ZENER H HZ11 A2
4-D16	ED-319167	△ D ZENER H HZ6 C3
4-D17	ED-345555	△ D SILICON DBB10C 200/1.0A
4-D18,19	ED-349662	△ D SILICON DS135E-FA6 100/1.0A
4-D20	ED-345555	D SILICON DBB10C 200/1.0A
4-D22,23	ED-302269	D ZENER H HZ5 A2
4-D24	ED-319167	△ D ZENER H HZ6 C3
4-D25	ED-344280	D SILICON H GMA-01-FY2 F05
4-D26	ED-624903	D SILICON H 1S2473
4-D27	ED-345555	△ D SILICON DBB10C 200/1.0A
4-D28	ED-309070	△ D ZENER H HZ24 1
4-D30	ED-306109	D SILICON W03B 100/1.0A
4-D31	ED-624903	D SILICON H 1S2473
4-D32	ED-322046	D ZENER H HZ18 1
4-SW1	ES-354646	SW PUSH SPUN32038A 3-THROW
4-VR1	EV-354647	VR ROTARY 12P20xOF A503
4-VR2	EV-354648	VR ROTARY 12P20xOD M503 N503
4-VR3	EV-337993	R S-FIX H RVF8P01 3P 203
4-VR4	EV-354649	VR ROTARY 12P20xOE A103
4-VR5	EV-344828	R S-FIX V RVF8W01 3P 203
4-VR6	EV-338462	R S-FIX H V8K4-11(1S) 3P 503
4-VR7	EV-338463	R S-FIX H V8K4-11(1S) 3P 203
4-VR8	EV-330531	R S-FIX H TM8KV2-1S 3P 0.50W 503
4-VR9	EV-355700	R S-FIX V H1052A 3P 0.15W 101
4-VR10	EV-325994	R S-FIX V H1052A 3P 0.15W 103
4-VR11	EV-357837	R S-FIX H V8K4-11(1S) 3P 104
4-FL1	EH-355694	FILTER DB 404116006
4-FL2	EH-328491	FILTER DB D07-003K 100KHZ
4-FL3	EH-328490	FILTER DB Z07-001K 19KHZ
4-FL4	EO-315758	COIL TUN 1 100Z-431 100.00KHZ
4-FL5	EH-328491	FILTER DB D07-003K 100KHZ
4-FL6	EH-355694	FILTER DB 404116006
4-T1	EO-348101	COIL OSC 2 25-5060-02
4-T2	EO-348100	COIL OSC 1 25-5059-22
4-L1	EO-355695	COIL VARI 1 25A-5156-01 3R3MH
4-L2,3	EO-355696	COIL FIX 1 LAL04SK 330K
4-FR1,2	ER-328278	△ R FUSE ERD2FC 1/4W 10R0G
4-R1	ER-314629	R MF H 1/4W 2402F
4-R2	ER-355703	R MF H F10 1/4W 1202G
4-R3	ER-314598	R MF H 1/4W 1303F
4-R18	ER-311760	R MF H 1/4W 1802F

REF. NO.	PART NO.	DESCRIPTION
4-R23	ER-311762	R MF H 1/4W 9101F
4-R70,74	ER-357830	R MF H F10 1/4W 9103G
4-R82	ER-356256	R MF H F10 1/4W 3302G
4-R83	ER-356255	R MF H F10 1/4W 4702G
4-R84	ER-357674	R MF H F10 1/4W 2000G
4-R85	ER-338225	R MF H F10 1/4W 331J
4-R86	ER-312461	R MF H 1/4W 8200F
4-R87	ER-338222	R MF H F10 1/4W 390J
4-R88	ER-356254	R MF H F10 1/4W 1000G
4-R89	ER-311771	R MF H 1/4W 1500F
4-R102	ER-314626	R MF H 1/4W 1801F
4-R103	ER-356252	R MF H F10 1/4W 4701G
4-R104	ER-341399	R MF H 1/4W 1502F
4-R105	ER-356251	R MF H F10 1/4W 1002G
4-R106	ER-338227	R MF H F10 1/4W 332J
4-R107	ER-355711	R MF H F10 1/4W 2702G
4-R108	ER-356723	R MF H F10 1/4W 3741G
4-R110	ER-356724	R MF H F10 1/4W 8871G
4-R111	ER-355711	R MF H F10 1/4W 2702G
4-R122,123	ER-338498	R MF H F10 1/4W 102J
4-R124	ER-338109	R MF H 1/4W 4703F
4-R125	ER-314601	R MF H 1/4W 2001F
4-R126	ER-314586	R MF H 1/4W 5101F
4-R127	ER-356247	R MF H F10 1/4W 2701G
4-R128	ER-312461	R MF H 1/4W 8200F
4-R135	ER-355716	R MF H 1/4W 223J
4-R163	ER-356258	R MF H F10 1/4W 4302G
4-R200	ER-357494	R MF H 1/4W 114J
4-R201,202	ER-346954	R MF H 1/4W 102J
4-R203,204	ER-355717	R MF H F10 1/4W 36R0G
4-R205	ER-356529	R MF H F10 1/4W 8201G
4-R206	ER-356251	R MF H F10 1/4W 1002G
4-R207	ER-338498	R MF H F10 1/4W 102J
4-R208	ER-314626	R MF H 1/4W 1801F
4-R209	ER-311763	R MF H 1/4W 2401F
4-R210,211	ER-314606	R MF H 1/4W 3601F
4-R212	ER-350688	R MF H 1/4W 222J
4-R213	ER-357836	R MF H 1/4W 514J
4-R214,215	ER-337863	R MF H 1/4W 101J
4-R216	ER-355723	R MF H F10 1/4W 3603G
4-R217	ER-356252	R MF H F10 1/4W 4701G
4-R218	ER-355722	R MF H 1/4W 361J
4-R221	ER-338498	R MF H F10 1/4W 102J
4-R222	ER-311762	R MF H 1/4W 9101F
4-R223	ER-314628	R MF H 1/4W 9100F
4-R224	ER-355703	R MF H F10 1/4W 1202G
4-R258,259	ER-357834	R MF H F10 1/4W 6651G
4-R277,278	ER-357835	R MF H 1/4W 151J
4-R295to297	ER-333368	R CB H S10 FS RDS 1/4W 132J
4-R303,304	ER-357835	R MF H 1/4W 151J
4-C3to5	EC-300193	C EC V F05 NP SM 100M 16DC
4-C37	EC-307684	C EC V F05 NP SM R47M 50DC
4-C42	EC-345607	C PP V F05 PP 152J 50DC
4-C44	EC-350682	C COMP V AWS 153J 50DC
4-C45	EC-350680	C COMP V AWS 123J 50DC
4-C46	EC-351996	C COMP V AWS 822J 50DC
4-C47	EC-355728	C COMP V AWS 222J 50DC
4-C48	EC-355527	C COMP V AWS 392J 50DC
4-C49	EC-351996	C COMP V AWS 822J 50DC
4-C52	EC-300193	C EC V F05 NP SM 100M 16DC
4-C53	EC-357826	C PP V F05 PP 393J 50DC
4-C54	EC-357828	C COMP V AWS 563J 50DC
4-C57	EC-357825	C PP V F05 PP 122J 50DC
4-C86	EC-335310	C STY V F05 CQ09S 122J 500DC
4-C111	EC-338506	C COMP V AWS 103J 50DC
4-C116	EC-355729	C PP V F05 PP 162J 50DC
4-C117	EC-344155	C PP V F05 PP 181J 50DC
4-C118	EC-355730	C PP V F05 PP 182J 50DC
4-C119	EC-347471	C PP V F05 PP 471J 50DC
4-C120	EC-351993	C COMP V AWS 562J 50DC
4-C124	EC-300193	C EC V F05 NP SM 100M 16DC
4-C136	EC-307684	C EC V F05 NP SM R47M 50DC
4-C154	EC-356419	C EC V CUT 472M 16.0DC
4-C159,160	EC-315967	C EC V CUT SM 332M 16.0DC
4-C168	EC-323847	C EC V CUT SM 102M 35.0DC
4-J2	EJ-354925	PIN J 4P PINJACK P 4P
4-1	EZ-200473	SILICON RUBBER SHEET TC-30

REF. NO.	PART NO.	DESCRIPTION
4-2	MB-355095	SHEET RUBBER TO-126
4-F1A	EF-318608	△ FUSE GGS A 250V 1.00A [U,J,C,A]
4-F1B	EF-601942	△ FUSE SEMKO T 630MA 250V [E,B,S]
4-F2A	EF-341264	△ FUSE GGS A 125V 1.60A [U,J,C,A]
4-F2B	EF-258344	△ FUSE SEMKO T 800MA 250V [E,B,S]
4-F3A	EF-341264	△ FUSE GGS A 125V 1.60A [U,J,C,A]
4-F3B	EF-258344	△ FUSE SEMKO T 800MA 250V [E,B,S]

5. SYS CON/TUNING PC BOARD

REF. NO.	PART NO.	DESCRIPTION
5-IC1	EI-336992	IC μPC1043C
5-IC2	EI-355602	△ IC LB1649
5-IC3to6	EI-336761	IC LA6458S
5-IC7	EI-328593	IC HD14053BP
5-IC8	EI-356304	IC AN6876
5-IC9	EI-330689	IC LC4011B
5-IC10	EI-345765	IC LB1292
5-IC11	EI-356303	△ IC HD6305-XOA29P
5-IC12	EI-338171	IC LC4069UB
5-IC13	EI-338238	IC μPD4051BC
5-IC14,15	EI-336761	IC LA6458S
5-IC16	EI-337008	IC LC7800
5-IC17,18	EI-356114	IC LC4081B
5-IC19	EI-337013	IC LB1290
5-IC20,21	EI-336761	IC LA6458S
5-IC22	EI-343417	IC LB1294
5-IC23	EI-336761	IC LA6458S
5-TR1	ET-308141	TR 2SC2603 G
5-TR2,3	ET-350795	TR 2SC3399
5-TR4	ET-349626	TR 2SA1347
5-TR5to9	ET-338324	TR 2SD1012-V H
5-TR10to14	ET-308141	TR 2SC2603 G
5-TR15	ET-350795	TR 2SC3399
5-TR16to18	ET-349626	TR 2SA1347
5-TR19	ET-350795	TR 1SC3399
5-TR20to22	ET-308141	TR 2SC2603 G
5-TR23to27	ET-349626	TR 2SA1347
5-TR28to31	ET-350795	TR 2SC3399
5-TR32	ET-308472	TR 2SA1115 E,F,G
5-TR33	ET-308977	TR 2SC2274K F
5-TR34	ET-308141	TR 2SC2603 G
5-TR35	ET-350795	TR 2SC3399
5-D1	ED-346609	D ZENER H HZ9 C1
5-D2	ED-337266	D ZENER H HZ9 A1
5-D3	ED-331626	D ZENER H HZ3 B2
5-D4to11	ED-301911	D SILICON H DS448
5-D12	ED-337776	D ZENER H HZ3 C1
5-D13	ED-301911	D SILICON H DS448
5-D14to18	ED-329058	D ZENER H HZ5 C1
5-D19to32	ED-301911	D SILICON H DS448
5-D33,34	ED-309069	D ZENER H HZ6 B2
5-D35to38	ED-301911	D SILICON H DS448
5-D39	ED-329449	D ZENER H HZ18 3
5-D40	ED-328486	D ZENER H HZ15 3
5-D41,42	ED-301911	D SILICON H DS448
5-D43	ED-309959	D ZENER H HZ5 C3
5-D44	ED-315759	D ZENER H HZ16 1
5-VR1	EV-330531	R S-FIX H TM8KV2-1S 3P 0.50W 503
5-VR2,3	EV-336849	R S-FIX H KVSF807V 3P 203
5-VR4	EV-341226	R S-FIX H KVSF807V 3P 204
5-VR5,6	EV-336854	R S-FIX H KVSF807U 3P 104

REF. NO.	PART NO.	DESCRIPTION
5-VR7	EV-336847	R S-FIX H KVSF807U 3P 502
5-X1	EI-349372	OSC CE CSA4.00MG 4MHZ
5-IB1	EH-356312	COMP R 8A103M
5-IB2	EH-356313	COMP R 9A103M
5-IB3	EH-356314	COMP R 9A243M
5-IB4	EH-356313	COMP R 9A103M
5-IB5	EH-356315	COMP R 10A472M
5-IB6	EH-356316	COMP R 9E392J
5-IB7	EH-356317	COMP R 9A473M
5-IB8	EH-356318	COMP R 6E473J
5-R37	ER-337256	R MF H F10 1/4W 5361F
5-R38	ER-337255	R MF H F10 1/4W 2872F
5-R39	ER-337254	R MF H F10 1/4W 2261F
5-R40	ER-337253	R MF H F10 1/4W 1331F
5-R41	ER-311760	R MF H 1/4W 1802F
5-R42	ER-310324	R MF H 1/4W 1001F
5-R116	ER-314606	R MF H 1/4W 3601F
5-R117	ER-311761	R MF H 1/4W 4301F
5-R118	ER-314586	R MF H 1/4W 5101F
5-R119	ER-314609	R MF H 1/4W 6201F
5-R120	ER-356529	R MF H F10 1/4W 8201G
5-R121	ER-356251	R MF H F10 1/4W 1002G
5-R122	ER-314597	R MF H 1/4W 1302F
5-R123	ER-311760	R MF H 1/4W 1802F
5-C8	EC-347590	C COMP V AWS 273J 50DC
5-C16	EC-300193	C EC V F05 NP SM 100M 16DC
5-C18	EC-312012	C STY V S05 CQFS 561J 50DC
5-C19	EC-300193	C EC V F05 NP SM 100M 16DC
5-C22,23	EC-200948	C EC V F05 NP SM 1R0M 50DC
5-C24,25	EC-307684	C EC V F05 NP SM R47M 50DC
5-C29	EC-200948	C EC V F05 NP SM 1R0M 50DC
5-C30,37	EC-307684	C EC V F05 NP SM R47M 50DC
5-C64,65	EC-343855	C EC V F05 NP SM R22M 50.0DC

6. METER/OPERATION PC BOARD

REF. NO.	PART NO.	DESCRIPTION
6-IC101	EI-356327	IC HA12067
6-IC102	EI-336794	IC LB1240
6-IC103	EI-337013	IC LB1290
6-D101	ED-301911	D SILICON H DS448
6-D105	ED-329449	D ZENER H HZ18 3
6-SW101to115	ES-355604	SW TACT B3F-1020
6-SW116	ES-356301	SW SLIDE 00230875
6-VR101	EV-356302	VR SLIDE 30P1SVOE B103
6-IN1	EM-356300	IND FL FIP36BW19Y DOUBLE

7. MOTOR PC BOARD

REF. NO.	PART NO.	DESCRIPTION
7-IC1,2	EI-201940	IC NJM4558S
7-IC3,4	EI-337568	HALL ELEMENT DHD-H070
7-TR1	ET-308977	TR 2SC2274K F
7-TR2	ET-337760	TR 2SA984K F
7-TR3	ET-308977	TR 2SC2274K F
7-TR4	ET-337760	TR 2SA984K F
7-D5	ED-338561	D ZENER H HZ2 F10 B2
7-VR1,2	EV-464253	R S-FIX V V8K1-1 3P 202

8. HEAD PHONE PC BOARD

REF. NO.	PART NO.	DESCRIPTION
8-J1	EJ-348846	PHONE J 3P HLJ0540 6.3

9. REMOTE CONTROL PC BOARD

REF. NO.	PART NO.	DESCRIPTION
9-J1	EJ-344282	DIN J TCS1891-01-1011 P 8P

10. POWER SW PC BOARD

REF. NO.	PART NO.	DESCRIPTION
10-SW301	ES-356115	△ SW PUSH J-U3066#01 01-1
10-C301A	EC-350949	△ C MMY V ECQ-E 223M 250DC [U,J]
10-C301B	EC-338397	△ C MMY V ECQUE 223M 125AC [C,A]
10-C301C	EC-337681	△ C MMY V ECQEW 223M 250AC [E,B,S]

11. DETECTOR (L) PC BOARD

REF. NO.	PART NO.	DESCRIPTION
11-PH1	ET-345091	PHOTO SENSOR SPI-201-40 B,C

12. DETECTOR (R) PC BOARD

REF. NO.	PART NO.	DESCRIPTION
12-PH1	ET-345091	PHOTO SENSOR SPI-201-40 B,C

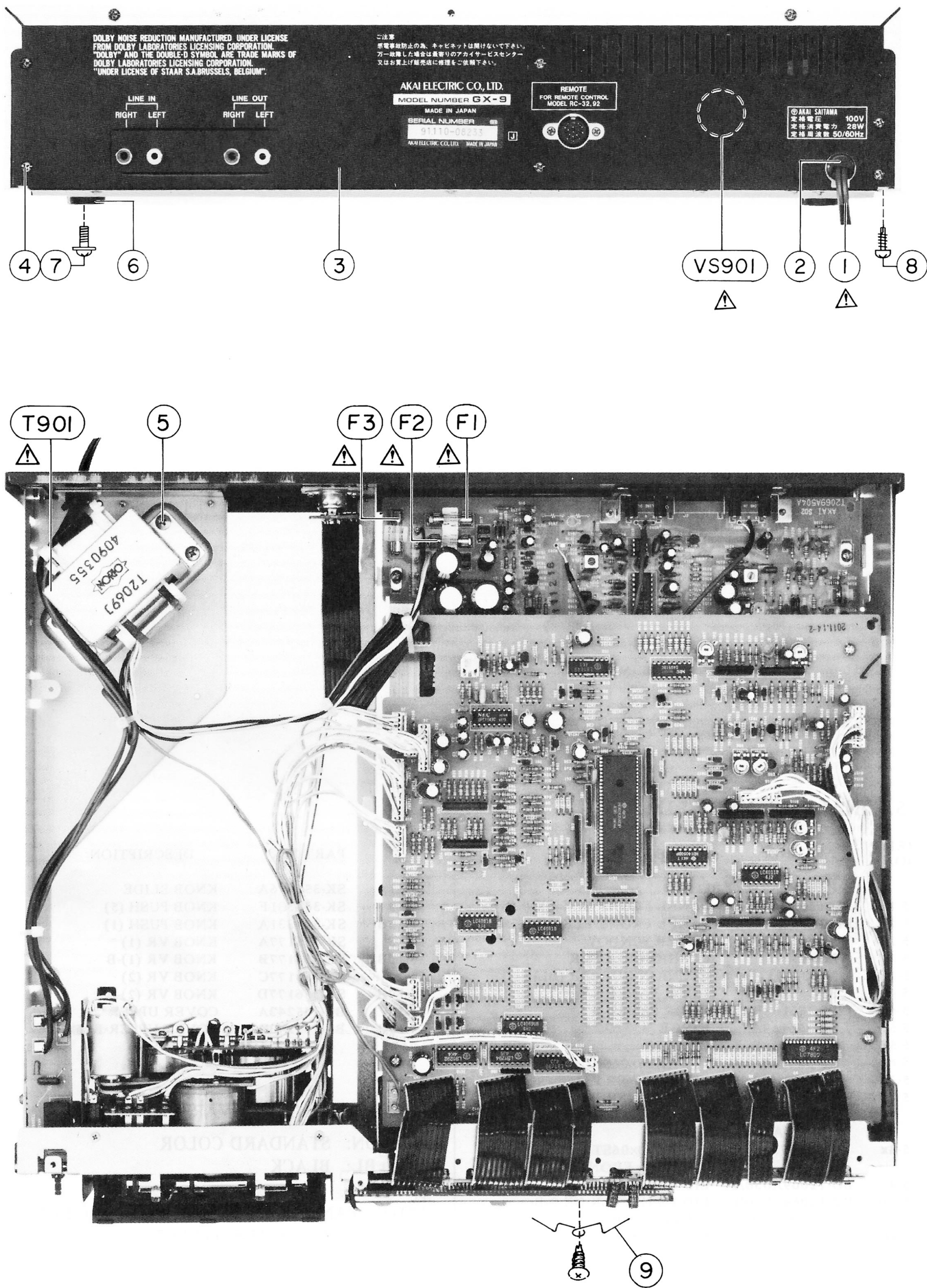
13. FILTER PC BOARD

REF. NO.	PARTS NO.	DESCRIPTION
13-L1,2	EO-669273	COIL FIX 2 FL5R200 180

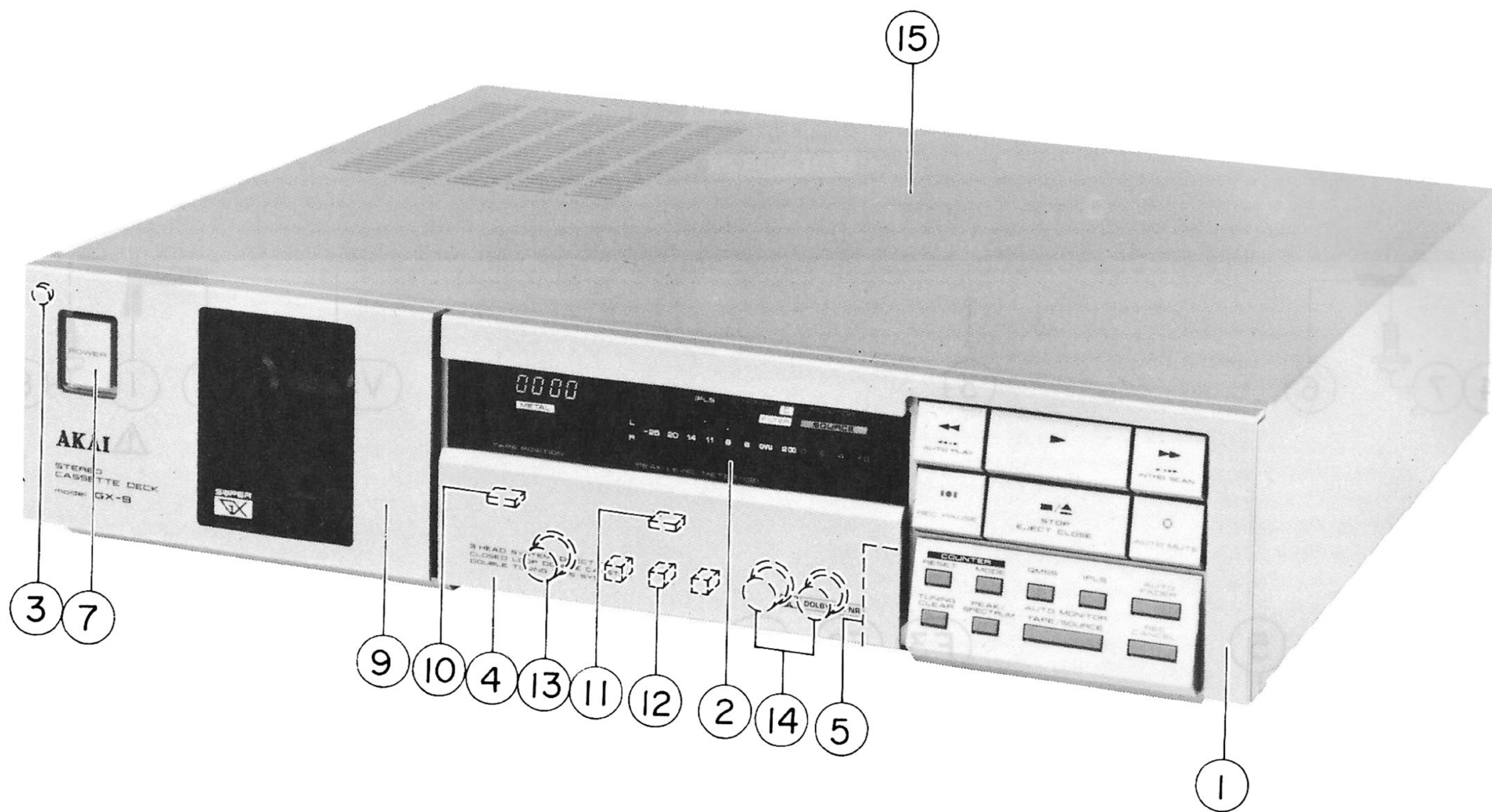
14. ASSEMBLY BLOCK

REF. NO.	PART NO.	DESCRIPTION
14-1A	EW-524845	△ AC CORD 2 CORES VM1165B, VFF J [J]
14-1B	EW-374894	△ AC CORD 2 CORES VM-0129A, VFF U/T [U]
14-1C	EW-352237	△ AC CORD 2 CORES KP-8, SPT-2 UC [C,A]
14-1D	EW-336923	△ AC CORD 2 CORES KP-419C, LTCE-2F EV [E]
14-1E	EW-346249	△ AC CORD 2 CORES LCFL2×0.75 B [B]
14-1F	EW-347898	△ AC CORD 2 CORES VM-0436, LCFL S [S]
14-2	EZ-631945	STRAIN RELIEF SR-4N-4
14-3A	SP-336213H	PANEL REAR GX-9 (J)
14-3B	SP-336213G	PANEL REAR GX-9 (U)
14-3C	SP-336213J	PANEL REAR GX-9 (C,A)
14-3D	SP-336213L	PANEL REAR GX-9 (E,V)
14-3E	SP-336213M	PANEL REAR GX-9 (B,S)
14-4	ZS-447761	T2BR30×06STL BNI
14-5	ZS-301398	ST BID40×08STL CMT
14-6	SA-349332	FOOT [HINGE FIX]
14-7	ZS-320906	ST BR30×06STL CMT
14-8	ZS-325495	T2BR30×06STL CMT
14-9	ZG-358698	SP EARTH
14-T901A	BT-356306	△ TRANS POWER T2069J [J]
14-T901B	BT-356305	△ TRANS POWER T2069U [U]
14-T901C	BT-356307	△ TRANS POWER T2069AC [C,A]
14-T901D	BT-356309	△ TRANS POWER T2069EV[E]
14-T901E	BT-356311	△ TRANS POWER T2069BS [B,S]
14-VS901	ES-305733	△ SW SELECTOR HXW0131-260 01-4 [U]
14-F1A	EF-318608	△ FUSE GGS A 250V 1.00A [U,J,C,A]
14-F1B	EF-601942	△ FUSE SEMKO T 630MA 250V [E,B,S]
14-F2A	EF-341264	△ FUSE GGS A 125V 1.60A [U,J,C,A]
14-F2B	EF-258344	△ FUSE SEMKO T 800MA 250V [E,B,S]
14-F3A	EF-341264	△ FUSE GGS A 125V 1.60A [U,J,C,A]
14-F3B	EF-258344	△ FUSE SEMKO T 800MA 250V [E,B,S]

ASSEMBLY BLOCK



FINAL ASSEMBLY BLOCK



15. FINAL ASSEMBLY BLOCK

REF. NO.	PART NO.	DESCRIPTION
PANEL FRONT BLOCK		
15-1	BD-T2069A040A	PANEL FRONT BLK GX-9 (U)
15-1B	BD-T2069A040B	PANEL FRONT BLK GX-9-B
15-2	SP-356173	METER WINDOW
15-3	MB-330911	CUSHION RUBBER
15-3B	MB-330911B	CUSHION RUBBER (BL)
15-4	SP-356168A	DOOR PANEL
15-4B	SP-356168B	DOOR PANEL-B
15-5	SZ-356169A	HINGE
15-5B	SZ-356169B	HINGE-B
15-6x	ZS-336613	PT PAN26x06STL CMT [15-5 FIX]
15-7	SK-B345231A	KNOB POWER PART
15-7B	SK-B345231C	KNOB POWER-B PART
FINAL ASSEMBLY BLOCK		
15-8x	ZS-344754	ST PAN30x06STL CMT C080 [PANEL FRONT SET SCREW]
15-9	BD-T2069A050A	LID PANEL BLK GX-9
15-9B	BD-T2069A050B	LID PANEL BLK GX-9-B
15-10	SK-356183A	KNOB TIMER
15-10B	SK-356183B	KNOB TIMER-B

REF. NO.	PART NO.	DESCRIPTION
15-11	SK-356176A	KNOB SLIDE
15-12	SK-344331F	KNOB PUSH (5)
15-12B	SK-344331A	KNOB PUSH (1)
15-13	SK-356177A	KNOB VR (1)
15-13B	SK-356177B	KNOB VR (1)-B
15-14	SK-356177C	KNOB VR (2)
15-14B	SK-356177D	KNOB VR (2)-B
15-15	BC-345243A	COVER UPPER
15-15B	BC-345243C	COVER UPPER-B

SYMBOL FOR COLOR VARIATION

NON: STANDARD COLOR
B or BL: BLACK

NOTE: PANEL FRONT BLK consists of 15-2, 15-3, 15-4, 15-5, 15-6, and 15-7.

INDEX

PART NO.	REF. NO.	PART NO.	REF. NO.	PART NO.	REF. NO.	PART NO.	REF. NO.
BA-T2069A020A	3-1A	ED-301911	5-D29	EF-318608	14-F1A	ER-311761	5-R117
BA-T2069A030A	3-2A	ED-301911	5-D36	EF-341264	4-F2A	ER-311762	4-R23
BA-T2069A030B	3-2B	ED-301911	5-D26	EF-341264	4-F3A	ER-311762	4-R222
BA-T2069A030C	3-2C	ED-301911	5-D28	EF-341264	14-F2A	ER-311763	4-R209
BB-T2047A020B	1-1	ED-301911	5-D25	EF-341264	14-F3A	ER-311771	4-R89
BC-345243A	15-15	ED-301911	5-D27	EF-601942	4-F1B	ER-312461	4-R86
BC-345243C	15-15B	ED-301911	5-D19	EF-601942	14-F1B	ER-312461	4-R128
BD-B336162A	1-19	ED-301911	5-D23	EH-328490	4-FL3	ER-314586	4-R126
BD-T2069A040A	15-1	ED-301911	5-D24	EH-328491	4-FL2	ER-314586	5-R118
BD-T2069A040B	15-1B	ED-301911	5-D10	EH-328491	4-FL5	ER-314597	5-R122
BD-T2069A050A	15-9	ED-301911	5-D6	EH-355694	4-FL1	ER-314598	4-R3
BD-T2069A050B	15-9B	ED-301911	5-D13	EH-355694	4-FL6	ER-314601	4-R125
BF-B336024	2-17	ED-301911	5-D35	EH-356312	5-IB1	ER-314606	4-R210
BH-T2047A060B	1-2	ED-301911	5-D7	EH-356313	5-IB2	ER-314606	4-R211
BL-B336007	2-6	ED-301911	5-D30	EH-356313	5-IB4	ER-314606	5-R116
BL-B336009	2-12	ED-301911	5-D4	EH-356314	5-IB3	ER-314609	5-R119
BL-B336150	1-39	ED-301911	5-D9	EH-356315	5-IB5	ER-314626	4-R208
BL-B336196	1-35	ED-301911	5-D5	EH-356316	5-IB6	ER-314626	4-R102
BL-B336202	1-47	ED-301911	5-D22	EH-356317	5-IB7	ER-314628	4-R223
BL-T2030A160A	1-23	ED-301911	5-D31	EH-356318	5-IB8	ER-314629	4-R1
BL-T2030A170A	1-25	ED-301911	5-D20	EI-201940	7-IC1	ER-328278	4-FR1
BM-B336989	1-M902	ED-301911	5-D8	EI-201940	7-IC2	ER-328278	4-FR2
BM-B345196	2-M903	ED-301911	5-D32	EI-328593	5-IC7	ER-333368	4-R295
BM-M3104A010B	2-1	ED-301911	5-D11	EI-330689	5-IC9	ER-333368	4-R296
BM-T2030A120C	1-20	ED-301911	5-D38	EI-336761	5-IC20	ER-333368	4-R297
BR-T2069A360A	1-29	ED-301911	5-D37	EI-336761	5-IC23	ER-337253	5-R40
BR-T2069A360A	1-30	ED-301911	5-D21	EI-336761	5-IC3	ER-337254	5-R39
BT-356305	14-T901B	ED-301911	6-D103	EI-336761	5-IC6	ER-337255	5-R38
BT-356306	14-T901A	ED-301911	6-D104	EI-336761	5-IC5	ER-337256	5-R37
BT-356307	14-T901C	ED-301911	6-D102	EI-336761	5-IC4	ER-337863	4-R214
BT-356309	14-T901D	ED-301911	6-D101	EI-336761	5-IC21	ER-337863	4-R215
BT-356311	14-T901E	ED-302269	4-D22	EI-336761	5-IC14	ER-338109	4-R124
BZ-T2030A110A	1-16	ED-302269	4-D23	EI-336761	5-IC15	ER-338222	4-R87
EA-336012	2-15	ED-306109	4-D30	EI-336794	6-IC102	ER-338225	4-R85
EC-200948	5-C23	ED-306316	4-D11	EI-336992	5-IC1	ER-338227	4-R106
EC-200948	5-C29	ED-309069	5-D34	EI-337008	5-IC16	ER-338498	4-R122
EC-200948	5-C22	ED-309069	5-D33	EI-337013	5-IC19	ER-338498	4-R123
EC-300193	4-C124	ED-309070	4-D28	EI-337013	6-IC103	ER-338498	4-R207
EC-300193	4-C3	ED-309959	5-D43	EI-337228	4-IC11	ER-338498	4-R221
EC-300193	4-C4	ED-315759	5-D44	EI-337228	4-IC7	ER-341399	4-R104
EC-300193	4-C5	ED-316389	4-D15	EI-337568	7-IC3	ER-346954	4-R201
EC-300193	4-C52	ED-319167	4-D16	EI-337568	7-IC4	ER-346954	4-R202
EC-300193	5-C16	ED-319167	4-D24	EI-338171	5-IC12	ER-350688	4-R212
EC-300193	5-C19	ED-322046	4-D32	EI-338238	5-IC13	ER-355703	4-R2
EC-307684	4-C136	ED-328486	5-D40	EI-343417	5-IC22	ER-355703	4-R224
EC-307684	4-C37	ED-329058	4-D4	EI-345765	5-IC10	ER-355711	4-R107
EC-307684	5-C25	ED-329058	5-D14	EI-349372	5-X1	ER-355711	4-R109
EC-307684	5-C24	ED-329058	5-D17	EI-349719	4-IC10	ER-355711	4-R111
EC-307684	5-C37	ED-329058	5-D18	EI-354280	4-IC2	ER-355716	4-R135
EC-307684	5-C30	ED-329058	5-D15	EI-355598	4-IC1	ER-355717	4-R203
EC-312012	5-C18	ED-329058	5-D16	EI-355598	4-IC4	ER-355717	4-R204
EC-315967	4-C159	ED-329449	5-D39	EI-355602	5-IC2	ER-355722	4-R218
EC-315967	4-C160	ED-329449	6-D105	EI-355697	4-IC8	ER-355723	4-R216
EC-323847	4-C168	ED-329449	6-D106	EI-356114	5-IC18	ER-356247	4-R127
EC-335310	4-C86	ED-331626	5-D3	EI-356114	5-IC17	ER-356251	4-R105
EC-337681	10-C301C	ED-337266	5-D2	EI-356160	4-IC5	ER-356251	4-R206
EC-338397	10-C301B	ED-337776	5-D12	EI-356303	5-IC11	ER-356251	5-R121
EC-338506	4-C111	ED-338561	7-D5	EI-356304	5-IC8	ER-356252	4-R103
EC-343855	5-C64	ED-344244	1-D901	EI-356327	6-IC101	ER-356252	4-R217
EC-343855	5-C65	ED-344280	4-D25	EI-357498	4-IC6	ER-356254	4-R88
EC-344155	4-C117	ED-345555	4-D17	EI-358464	4-IC9	ER-356255	4-R83
EC-345607	4-C42	ED-345555	4-D20	EI-358464	4-IC3	ER-356256	4-R82
EC-347471	4-C119	ED-345555	4-D27	EJ-344282	9-J1	ER-356258	4-R163
EC-347590	5-C8	ED-346598	4-D1	EJ-348846	8-J1	ER-356529	4-R205
EC-350680	4-C45	ED-346609	5-D1	EJ-354925	4-J2	ER-356529	5-R120
EC-350682	4-C44	ED-347767	4-D5	EM-356300	6-IN1	ER-356723	4-R108
EC-350949	10-C301A	ED-347767	4-D6	EO-315758	4-FL4	ER-356724	4-R110
EC-351993	4-C120	ED-347767	4-D7	EO-336986	2-L1x	ER-357494	4-R200
EC-351996	4-C46	ED-347767	4-D8	EO-336986	2-L2x	ER-357674	4-R84
EC-351996	4-C49	ED-349662	4-D18	EO-348100	4-T2	ER-357830	4-R70
EC-355727	4-C48	ED-349662	4-D19	EO-348101	4-T1	ER-357830	4-R74
EC-355728	4-C47	ED-624903	4-D9	EO-355695	4-L1	ER-357834	4-R258
EC-355729	4-C116	ED-624903	4-D10	EO-355696	4-L2	ER-357834	4-R259
EC-355730	4-C118	ED-624903	4-D26	EO-355696	4-L3	ER-357835	4-R277
EC-356419	4-C154	ED-624903	4-D31	EO-669273	13-L2	ER-357835	4-R278
EC-357825	4-C57	EF-258344	4-F3B	EO-669273	13-L1	ER-357835	4-R303
EC-357826	4-C53	EF-258344	4-F2B	ER-310324	5-R42	ER-357835	4-R304
EC-357828	4-C54	EF-258344	14-F3B	ER-311760	4-R18	ER-357836	4-R213
ED-301911	5-D41	EF-258344	14-F2B	ER-311760	5-R123	ES-305733	14-VS901
ED-301911	5-D42	EF-318608	4-F1A	ER-311760	5-R41	ES-336990	1-SW901

INDEX

PART NO.	REF. NO.	PART NO.	REF. NO.	PART NO.	REF. NO.	PART NO.	REF. NO.
ES-336990	1-SW902	ET-349081	4-TR2	EV-356302	6-VR101	ZG-341972	1-14
ES-336990	1-SW903	ET-349081	4-TR5	EV-357837	4-VR11	ZG-358698	14-9
ES-337427	1-SW904	ET-349081	4-TR10	EV-464253	7-VR2	ZS-201407	1-11
ES-354646	4-SW1	ET-349081	4-TR11	EV-464253	7-VR1	ZS-301398	14-5
ES-355604	6-SW106	ET-349081	4-TR15	EW-336923	14-1D	ZS-310337	1-15
ES-355604	6-SW103	ET-349081	4-TR16	EW-346249	14-1E	ZS-320906	14-7
ES-355604	6-SW102	ET-349081	4-TR18	EW-347898	14-1F	ZS-325495	14-8
ES-355604	6-SW113	ET-349081	4-TR19	EW-352237	14-1C	ZS-336613	15-6x
ES-355604	6-SW111	ET-349081	4-TR20	EW-374894	14-1B	ZS-342002	1-57
ES-355604	6-SW108	ET-349081	4-TR21	EW-524845	14-1A	ZS-342086	1-12
ES-355604	6-SW110	ET-349081	4-TR22	EZ-200473	4-1	ZS-344754	15-8x
ES-355604	6-SW101	ET-349081	4-TR23	EZ-631945	14-2	ZS-432843	2-5
ES-355604	6-SW105	ET-349366	4-TR38	HE-337837	1-H902	ZS-447761	14-4
ES-355604	6-SW112	ET-349366	4-TR41	HP-H2402A010A	1-H901	ZS-477876	1-6
ES-355604	6-SW107	ET-349366	4-TR42	HZ-336129	1-7	ZS-477876	2-14
ES-355604	6-SW115	ET-349366	4-TR43	HZ-336132	1-5	ZS-477887	2-21
ES-355604	6-SW114	ET-349366	4-TR47	HZ-336205	1-50	ZS-479474	2-16
ES-355604	6-SW109	ET-349366	4-TR48	HZ-343000	1-10	ZS-479474	2-11
ES-355604	6-SW104	ET-349366	4-TR49	MB-330911	15-3	ZS-499331	1-13
ES-356115	10-SW301	ET-349593	4-TR7	MB-330911B	15-3B	ZS-608095	1-4
ES-356301	6-SW116	ET-349605	4-TR3	MB-336021	2-25	ZS-608095	1-51
ET-308141	4-TR80	ET-349605	4-TR17	MB-336026	2-20	ZW-270088	1-17
ET-308141	4-TR93	ET-349626	5-TR24	MB-355095	4-2	ZW-270088	1-38
ET-308141	4-TR97	ET-349626	5-TR23	MI-336025	2-18	ZW-305546	1-41
ET-308141	5-TR20	ET-349626	5-TR16	ML-336158	1-58	ZW-306464	1-46
ET-308141	5-TR1	ET-349626	5-TR26	ML-336159	1-59	ZW-309295	2-19
ET-308141	5-TR10	ET-349626	5-TR27	MP-336153	1-40	ZW-329422	1-62
ET-308141	5-TR22	ET-349626	5-TR17	MP-336204	1-48	ZW-330073	1-33
ET-308141	5-TR21	ET-349626	5-TR4	MR-336019	2-24	ZW-336603	1-45
ET-308141	5-TR14	ET-349626	5-TR18	MT-305793	1-34	ZW-336604	2-9
ET-308141	5-TR34	ET-349626	5-TR25	MV-357208	1-55	ZW-356166	1-21
ET-308141	5-TR13	ET-349705	4-TR36	MZ-336005	2-4	ZW-356657	1-42
ET-308141	5-TR11	ET-349718	4-TR29	MZ-336006	2-8	ZW-381644	1-49
ET-308141	5-TR12	ET-349718	4-TR32	SA-349332	14-6	ZW-618884	1-8
ET-308472	4-TR81	ET-349725	4-TR62	SK-B345231A	15-7	ZW-618884	1-53
ET-308472	4-TR95	ET-349725	4-TR63	SK-B345231C	15-7B	ZW-653163	2-3
ET-308472	5-TR32	ET-349725	4-TR67	SK-344331A	15-12B	ZW-653163	2-7
ET-308977	5-TR33	ET-349725	4-TR69	SK-344331F	15-12		
ET-308977	7-TR3	ET-349725	4-TR83	SK-356176A	15-11		
ET-308977	7-TR1	ET-349725	4-TR88	SK-356177A	15-13		
ET-310148	4-TR82	ET-349725	4-TR90	SK-356177B	15-13B		
ET-337235	4-TR13	ET-349725	4-TR91	SK-356177C	15-14		
ET-337235	4-TR14	ET-349883	4-TR45	SK-356177D	15-14B		
ET-337760	7-TR4	ET-349883	4-TR46	SK-356183A	15-10		
ET-337760	7-TR2	ET-349883	4-TR51	SK-356183B	15-10B		
ET-337968	4-TR40	ET-349883	4-TR52	SP-336163	1-22		
ET-338324	4-TR37	ET-349979	4-TR12	SP-336213G	14-3B		
ET-338324	5-TR5	ET-349979	4-TR96	SP-336213H	14-3A		
ET-338324	5-TR9	ET-350795	4-TR4	SP-336213J	14-3C		
ET-338324	5-TR6	ET-350795	5-TR28	SP-336213L	14-3D		
ET-338324	5-TR8	ET-350795	5-TR29	SP-336213M	14-3E		
ET-338324	5-TR7	ET-350795	5-TR31	SP-356168A	15-4		
ET-345091	11-PH1	ET-350795	5-TR30	SP-356168B	15-4B		
ET-345091	12-PH1	ET-350795	5-TR35	SP-356173	15-2		
ET-345091	11-PH1	ET-350795	5-TR15	SZ-336166	1-63		
ET-345091	12-PH1	ET-350795	5-TR19	SZ-356169A	15-5		
ET-345625	4-TR85	ET-350795	5-TR3	SZ-356169B	15-5B		
ET-345626	4-TR86	ET-350795	5-TR2	TC-B336004A	2-2		
ET-349080	4-TR61	ET-352994	4-TR39	TC-336002	2-10		
ET-349080	4-TR64	ET-354742	4-TR60	TC-336016	2-22		
ET-349080	4-TR65	ET-357845	4-TR44	TC-336027	2-23		
ET-349080	4-TR66	ET-357845	4-TR50	TC-336142	1-32		
ET-349080	4-TR68	EV-325994	4-VR10	TC-336146	1-24		
ET-349080	4-TR70	EV-330531	4-VR8	TC-336161	1-61		
ET-349080	4-TR84	EV-330531	5-VR1	TC-336605	1-27		
ET-349080	4-TR87	EV-336847	5-VR7	ZG-312946	1-37		
ET-349080	4-TR89	EV-336849	5-VR3	ZG-321534	1-44		
ET-349080	4-TR92	EV-336849	5-VR2	ZG-330078	1-36		
ET-349081	4-TR24	EV-336854	5-VR5	ZG-336011	2-13		
ET-349081	4-TR25	EV-336854	5-VR6	ZG-336127	1-3		
ET-349081	4-TR26	EV-337052	2-VR901	ZG-336130	1-9		
ET-349081	4-TR27	EV-337993	4-VR3	ZG-336140	1-28		
ET-349081	4-TR28	EV-338462	4-VR6	ZG-336141	1-31		
ET-349081	4-TR30	EV-338463	4-VR7	ZG-336157	1-56		
ET-349081	4-TR31	EV-341226	5-VR4	ZG-336160	1-60		
ET-349081	4-TR33	EV-344828	4-VR5	ZG-336175	1-43		
ET-349081	4-TR71	EV-354647	4-VR1	ZG-336206	1-52		
ET-349081	4-TR72	EV-354648	4-VR2	ZG-336208	1-54		
ET-349081	4-TR76	EV-354649	4-VR4	ZG-336615	1-26		
ET-349081	4-TR1	EV-355700	4-VR9	ZG-341970	1-18		

AKAI

MODEL GX-9

SCHEMATIC DIAGRAM AND PC BOARDS

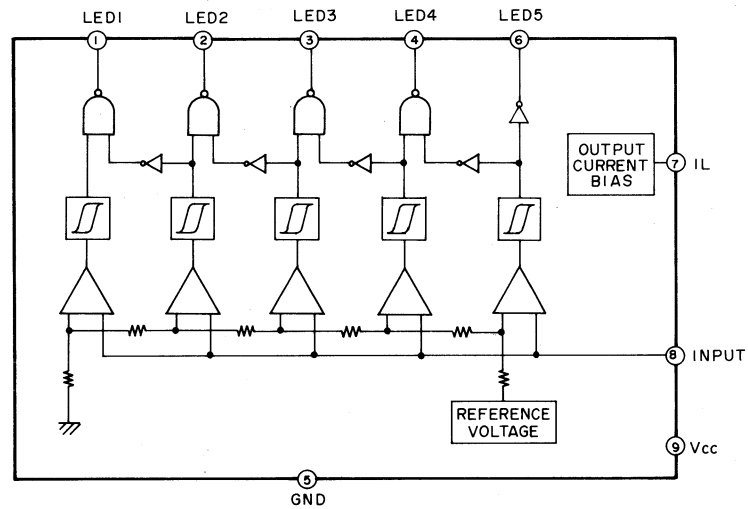
TABLE OF CONTENTS

1. SCHEMATIC DIAGRAM OF ICs	2
2. MI-CON OUTPUT TIMING CHART (1)	8
3. MI-CON OUTPUT TIMING CHART (2)	9
4. MI-CON OUTPUT TIMING CHART (3)	10
5. MI-CON OUTPUT TIMING CHART (4)	11
6. CONNECTION DIAGRAM	12
7. METER/OPERATION PC BOARD, POWER SWITCH PC BOARD, REMOTE CONTROL PC BOARD, MOTOR PC BOARD	13
8. PRE AMP/POWER SCHEMATIC DIAGRAM	14
9. PRE AMP/POWER PC BOARD, HEAD PHONE PC BOARD	15
10. SYSCON/TUNING SCHEMATIC DIAGRAM	16
11. SYSCON/TUNING PC BOARD	17

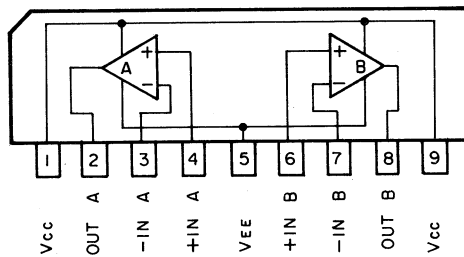
HD6805-X0A29 TERMINALS

PIN	PORT	NAME	DESCRIPTION
1	VSS		GND
2	$\overline{\text{RES}}$		RESET input
3	$\overline{\text{INT}}$		+5V
4	$\overline{\text{STEY}}$		+5V
5	X'TAL		} Oscillator for CLOCK
6	EXTAL		
7	NUM		GND
8	TIMER		+5V
9	A7		Music interval detect input
10	A6		Not used
11	A5	PLAY	PLAY mode
12	A4	STOP	STOP mode
13	A3	SEARCH	SEARCH mode
14	A2	FAST	FAST mode
15	A1	FIX	FIX (STOP) mode
16	A0	EJECT	EJECT mode
			} Comparator reference voltage output for CAM MOTOR.
17	B7	C-STOP	CAM MOTOR rotation finished signal input
18	B6	REEL (R)	REEL MOTOR reverse rotation output
19	B5	REEL (F)	REEL MOTOR forward rotation output
20	B4	VOLTAGE SELECT	Voltage select output for REEL MOTOR
21	B3	SOURCE·M	Source mute output (L: mute on, H: mute off)
22	B2	OSC	Bias oscillator control output (L: oscillation, H: no oscillation)
23	B1	REC MUTE	Mute release output in REC PLAY mode (L: mute on, H: mute off)
24	B0	PB MUTE	Mute release output in PB mode (L: mute on, H: mute off)
25	C7		Not used (+5V)
26	C6	LRSS	Left (supply) Reel Slit Sensor input
27	C5	RRSS	Right (take up) Reel Slit Sensor input
28	C4	DIGIT 4	} DIGIT output for Counter, Indicator STROBE output for input KEY select
29	C3	DIGIT 3	
30	C2	DIGIT 2	
31	C1	DIGIT 1	
32	C0	DIGIT 0	
33	VCC		POWER SUPPLY (+5V)

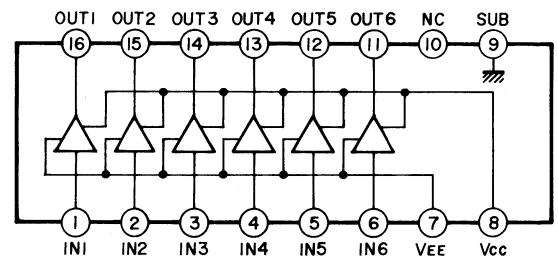
AN6876



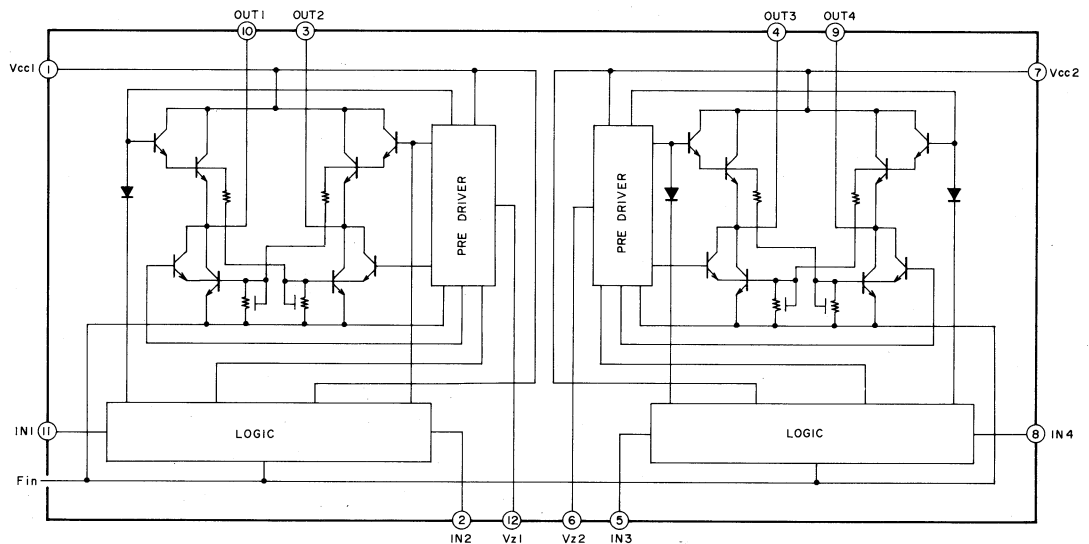
LA6458S/NJM4558S



LB1294

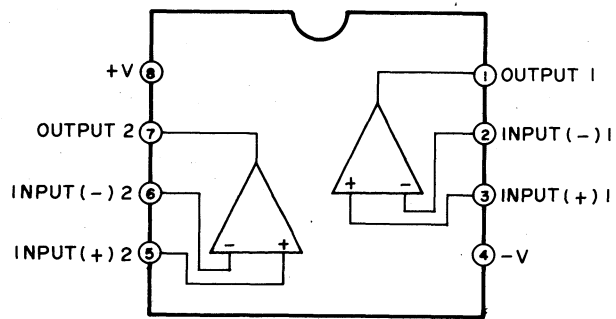


LB1649

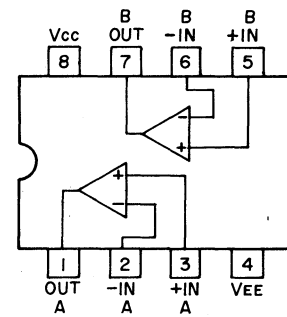


PIN	PORT	NAME	DESCRIPTION
34	D1		} Input for KEY
35	D2		
36	D3		
37	D4		
38	D5		
39	D6		
40	D7		
41	E0	a	} Counter Segment drive Indicator drive
42	E1	b	
43	E2	c	
44	E3	d	
45	E4	e	
46	E5	f	
47	E6	g	
48	E7	h	Min Sec drive
49	F0	LEVEL DATA (1)	Control output for REC level
50	F1	LEVEL DATA (2)	Reference value: 4
51	F2	LEVEL DATA (3)	Minimum 1 1 1 7 Maximum 0 0 0 0
52	F3	EQ DATA (1)	Control output for REC EQ
53	F4	EQ DATA (2)	Reference value: 4
54	F5	EQ DATA (3)	Minimum 1 1 1 7 Maximum 0 0 0 0
55	F6		SAMPLE HOLD RESET output
56	F7		MOL MML display output
57	G7		Input for A/D Converter output (Detect H → L)
58	G6		Control output for AUTO FADER
59	G5		Not used
60	G4		10 kHz (square wave) output for tuning
61	G3		1 kHz (square wave) output for tuning
62	G2	D/A DATA (3)	} D/A Converter control output for A/D Converter
63	G1	D/A DATA (2)	
64	G0	D/A DATA (1)	

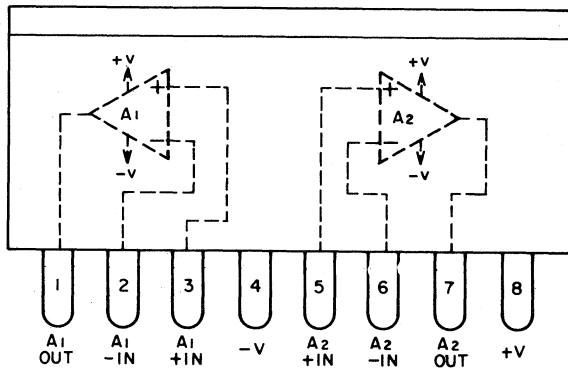
M5216P



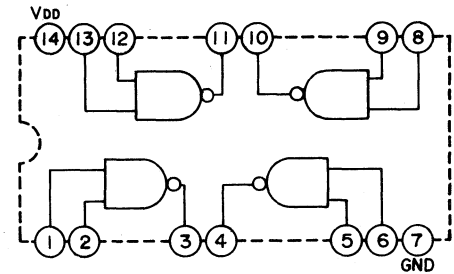
M5218P-21



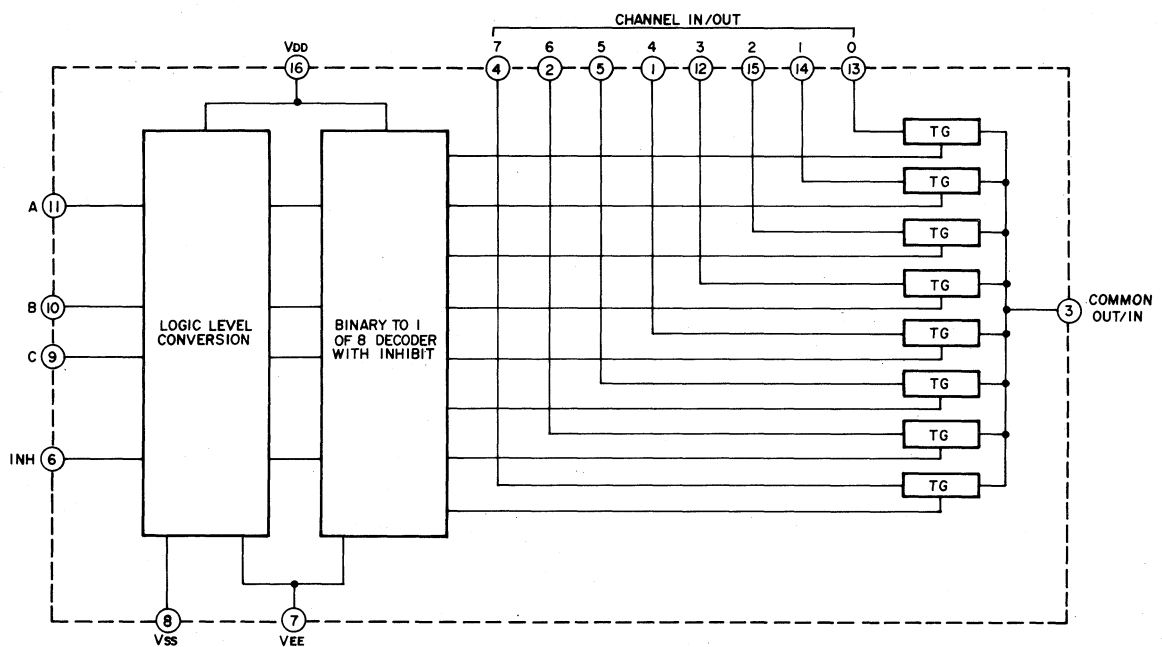
M5218LS



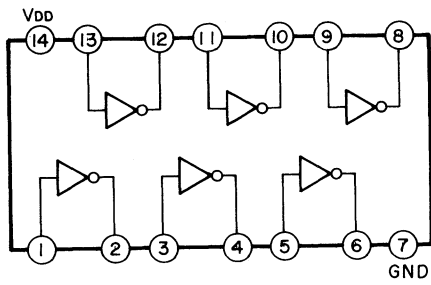
TC4011BP/LC4011B



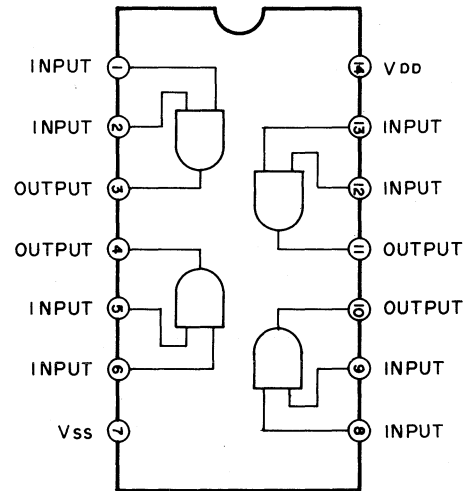
μPD4051



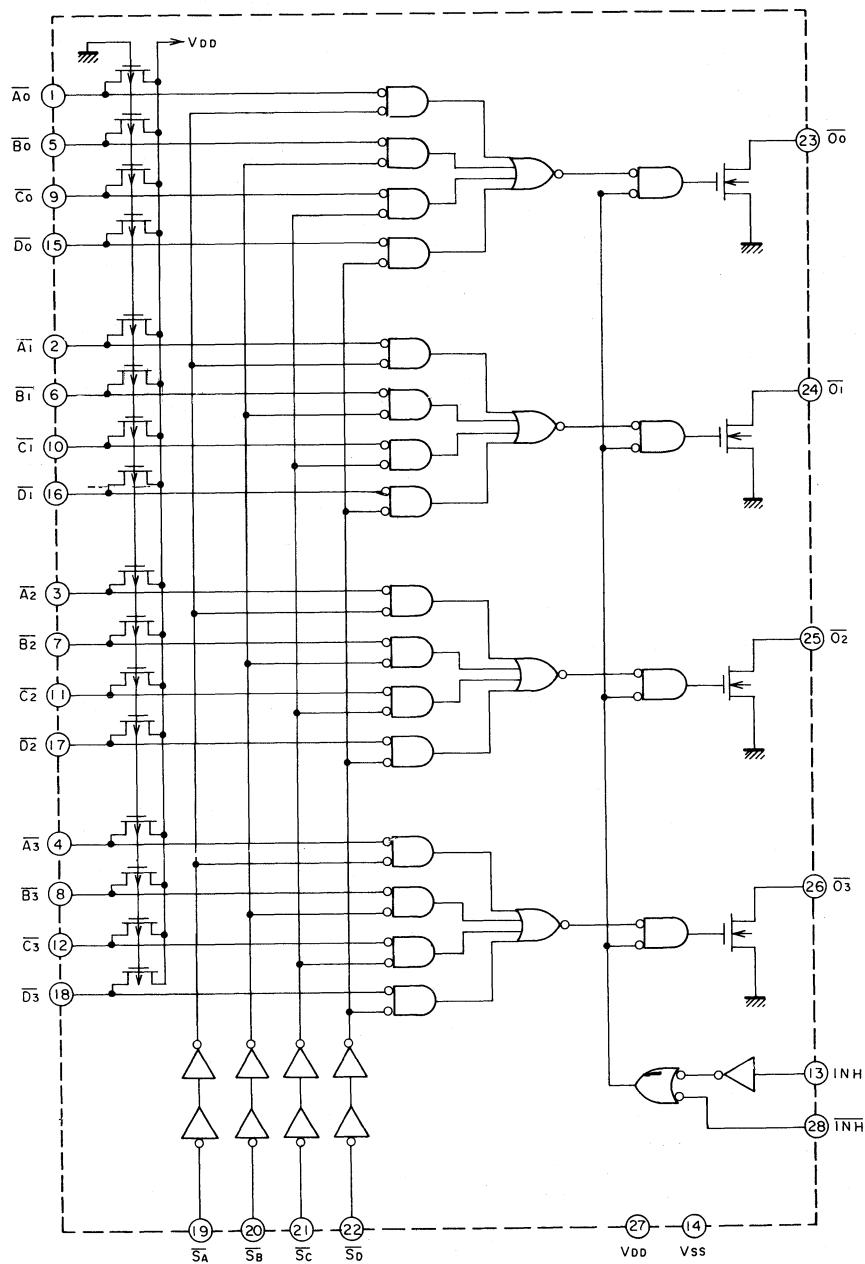
LC4069UB



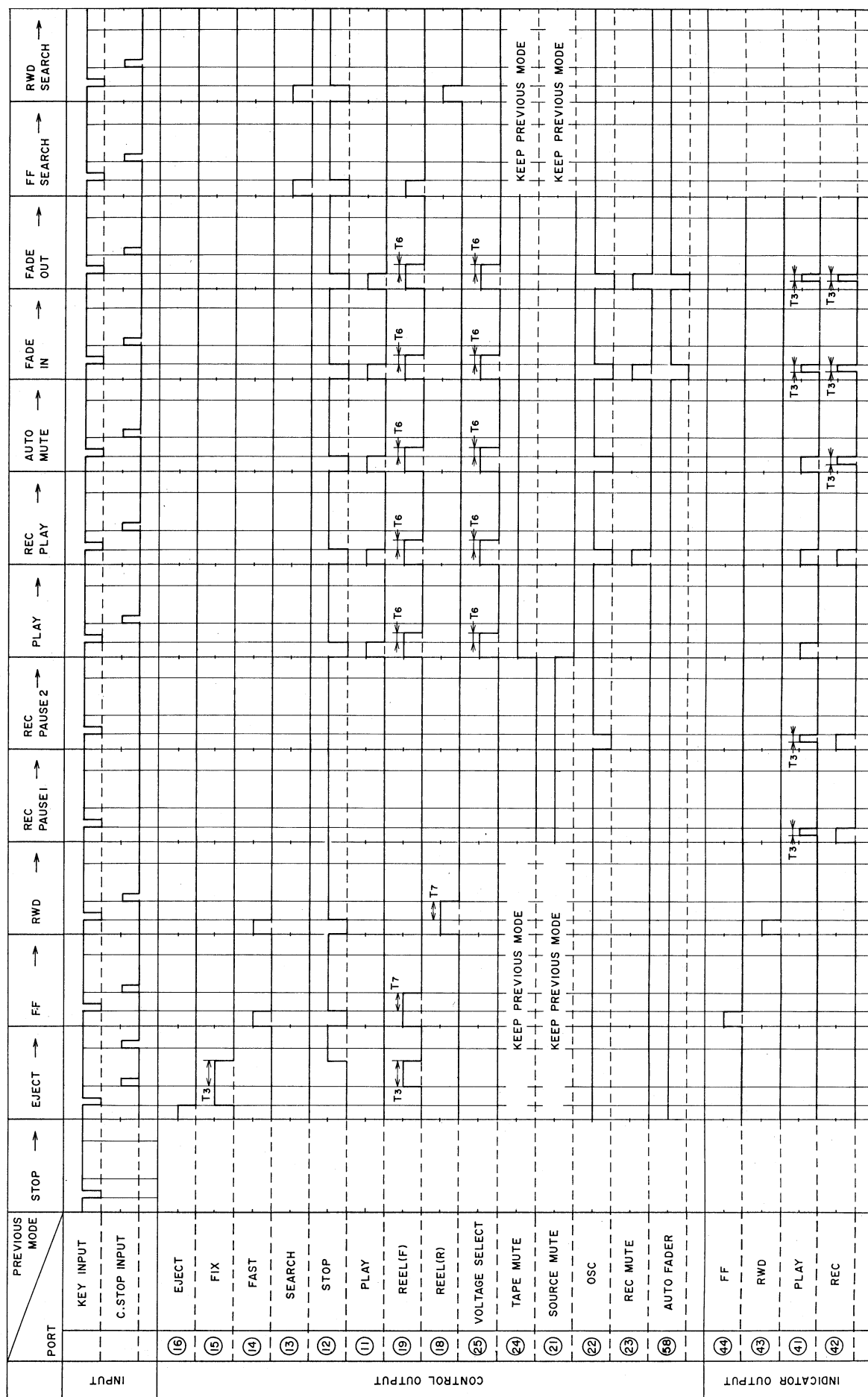
LC4081B



LC7800



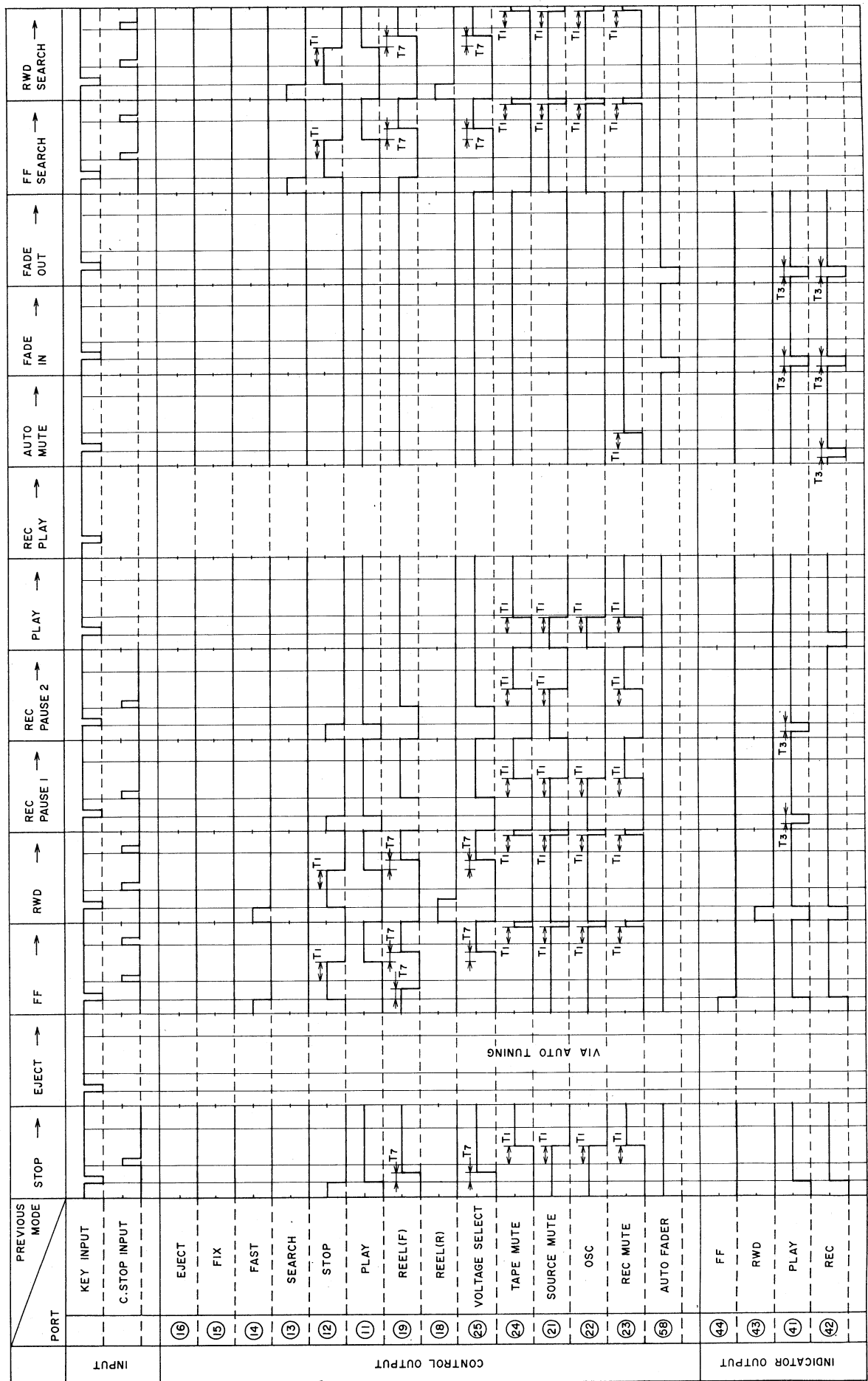
PREVIOUS MODE → STOP



MI-COM OUTPUT TIMING CHART (3)

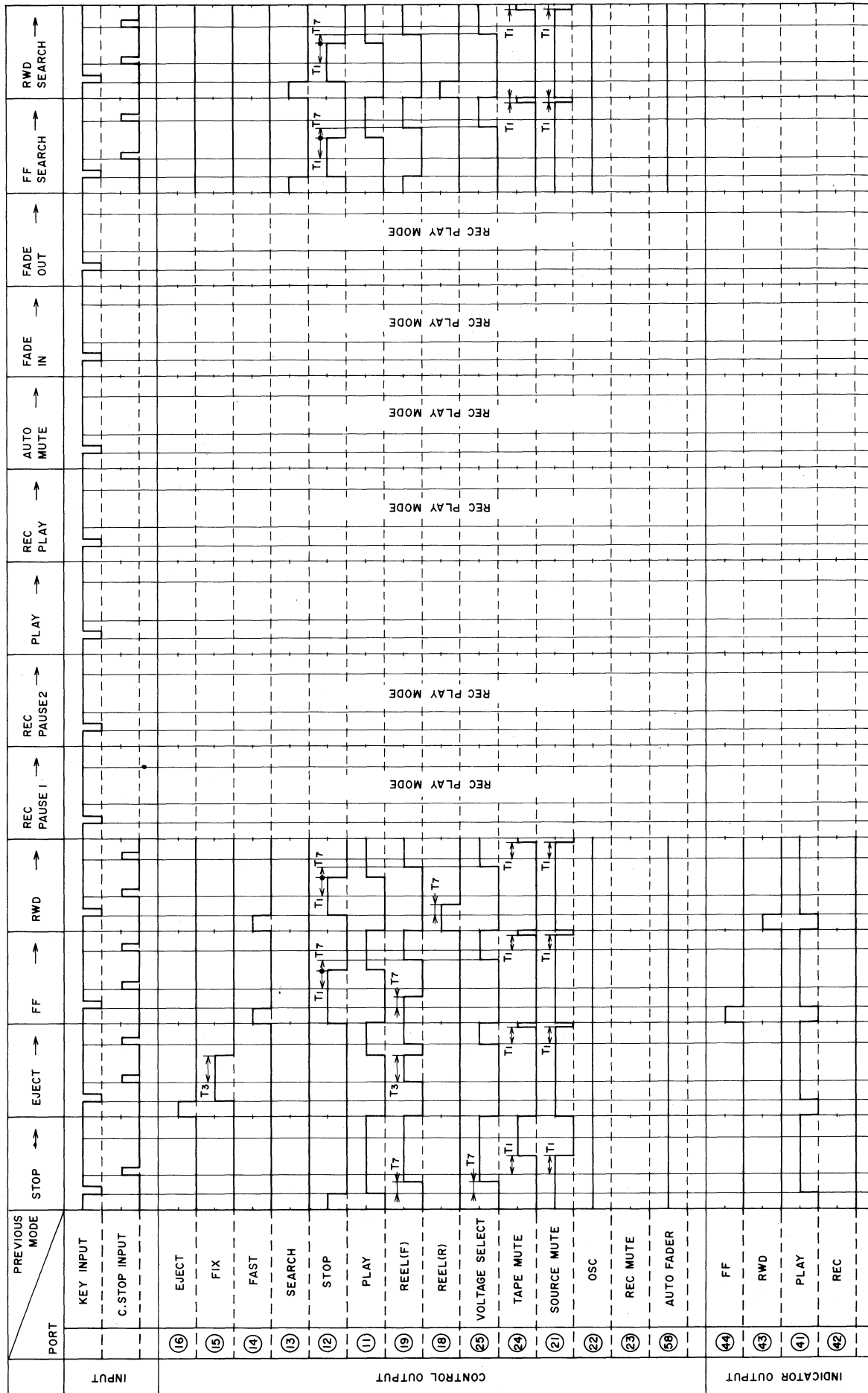
PREVIOUS MODE → REC PLAY

$T_0 = 1.0 \text{ sec}$ $T_4 = 0.15 \text{ sec}$
 $T_1 = 0.1 \text{ sec}$ $T_5 = 0.2 \text{ sec}$
 $T_2 = 0.05 \text{ sec}$ $T_6 = 0.03 \text{ sec}$
 $T_3 = 0.5 \text{ sec}$ $T_7 = 0.04 \text{ sec}$



PREVIOUS MODE → PLAY

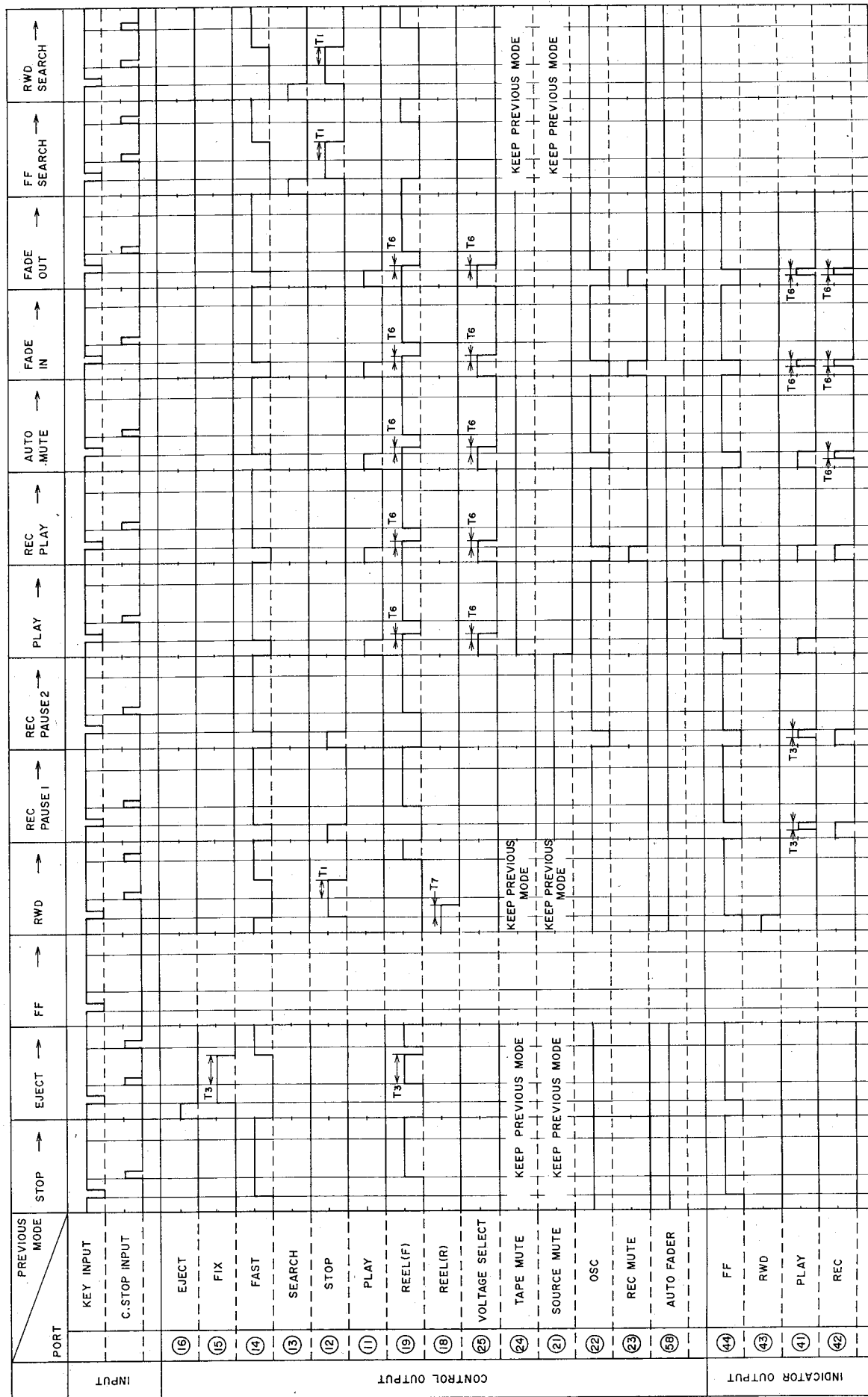
$T_0 = 1.0$	sec	$T_4 = 0.15$	sec
$T_1 = 0.1$	sec	$T_5 = 0.2$	sec
$T_2 = 0.05$	sec	$T_6 = 0.03$	sec
$T_3 = 0.5$	sec	$T_7 = 0.04$	sec

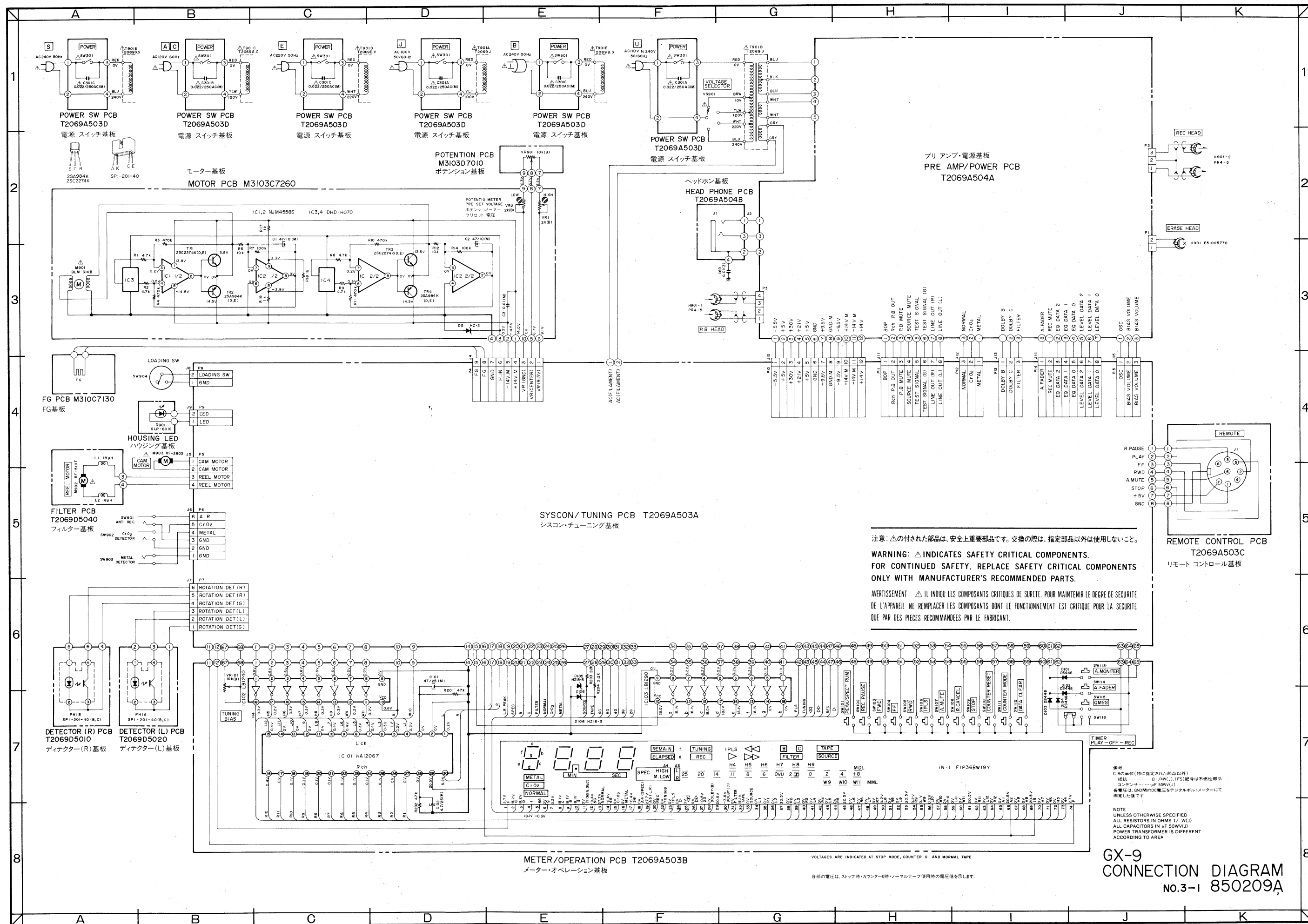


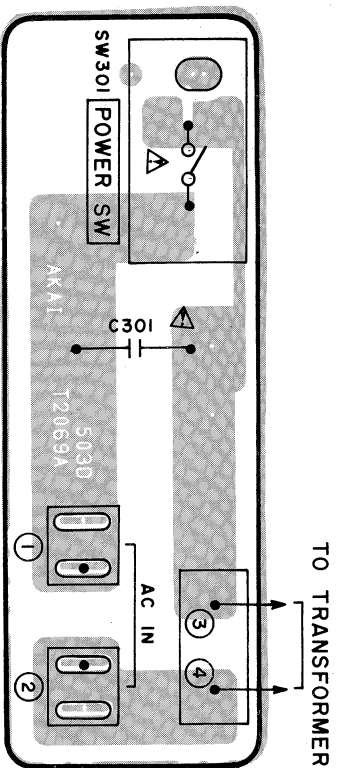
MI-COM OUTPUT TIMING CHART(4)

PREVIOUS MODE → FF

$T_0 = 1.0 \text{ sec}$ $T_4 = 0.15 \text{ sec}$
 $T_1 = 0.1 \text{ sec}$ $T_5 = 0.2 \text{ sec}$
 $T_2 = 0.05 \text{ sec}$ $T_6 = 0.03 \text{ sec}$
 $T_3 = 0.5 \text{ sec}$ $T_7 = 0.04 \text{ sec}$

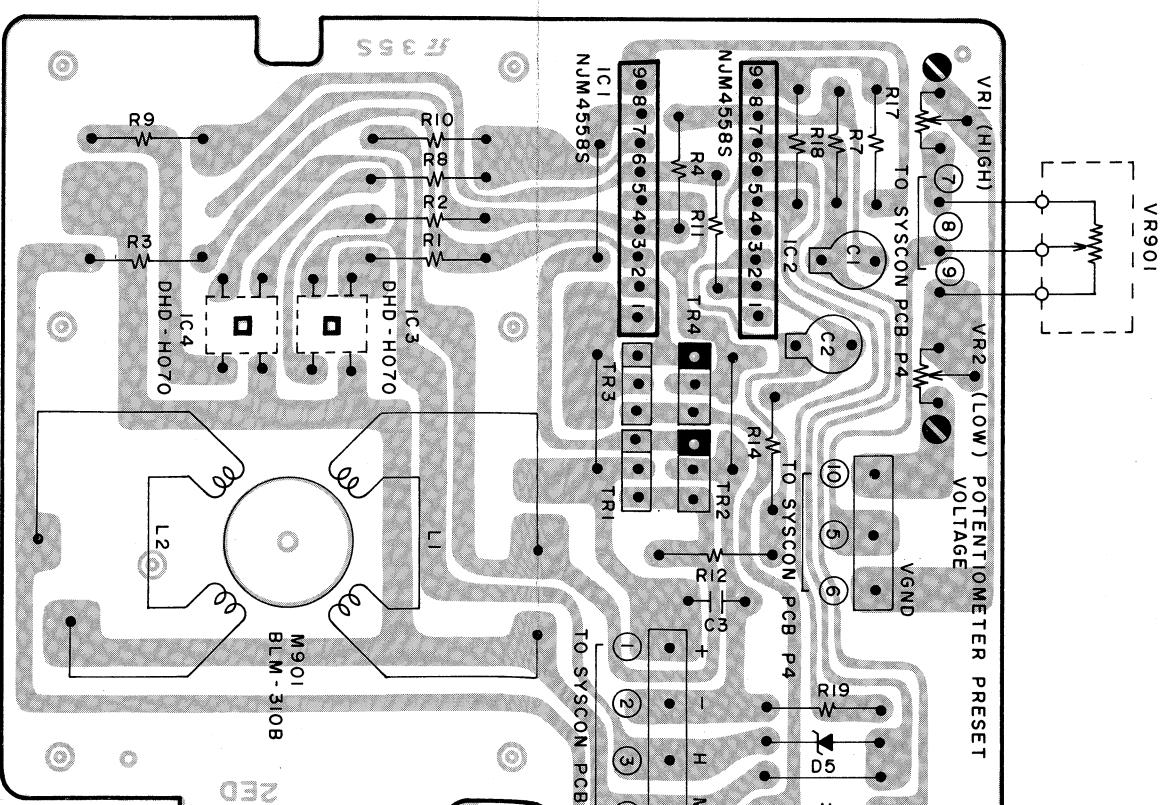






POWER SWITCH PCB
電源 SW基板

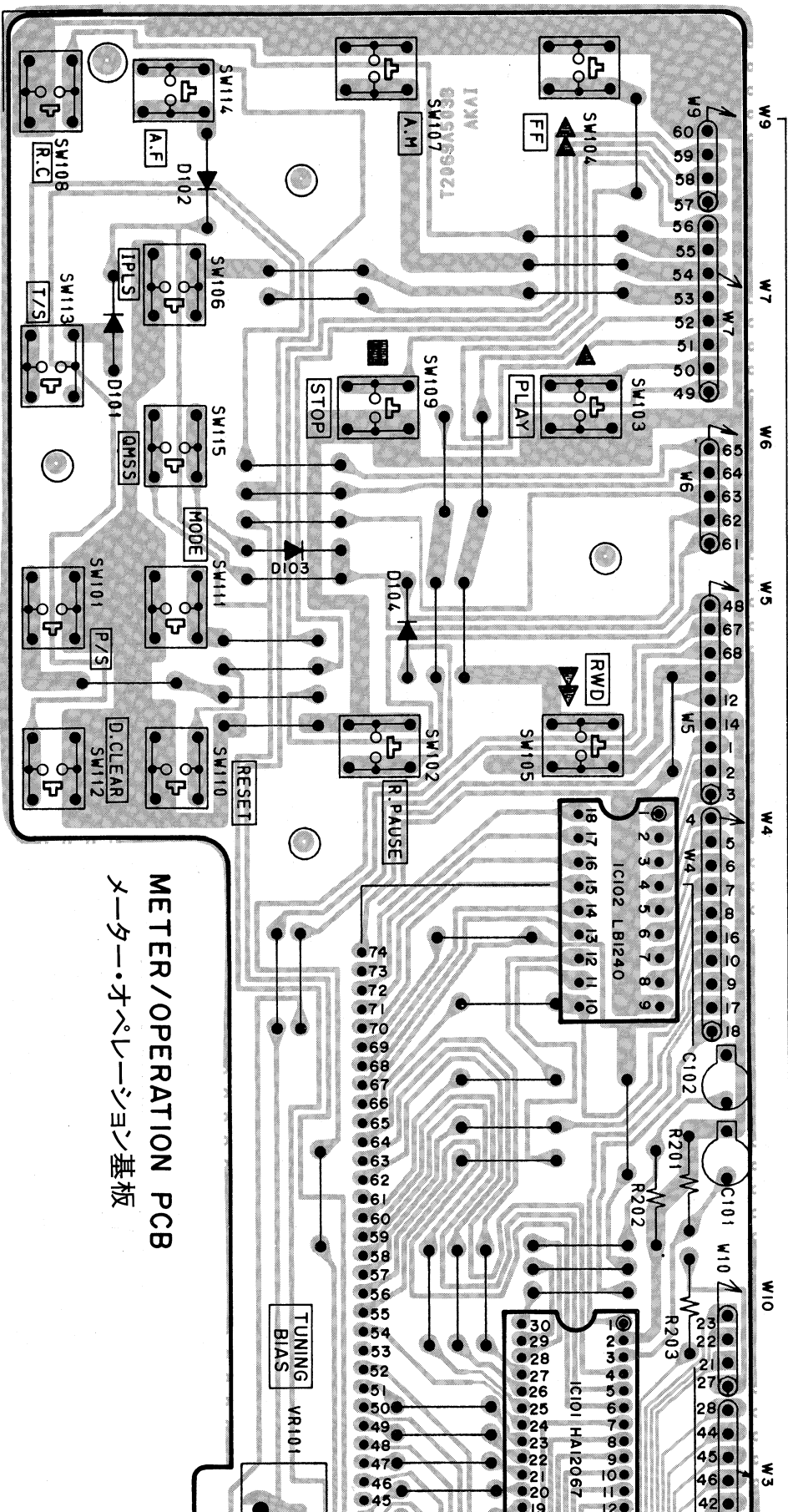
注意: △の付された部品は、安全上重要部品です。交換の際は、指定部品以外は使用しないこと。
WARNING: △ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.
Avertissement: △ Il indique les composants critiques de sécurité. Pour maintenir le degré de sécurité de l'appareil, ne remplacer les composants dont le fonctionnement est critique, pour la sécurité que par des pièces recommandées par le fabricant.



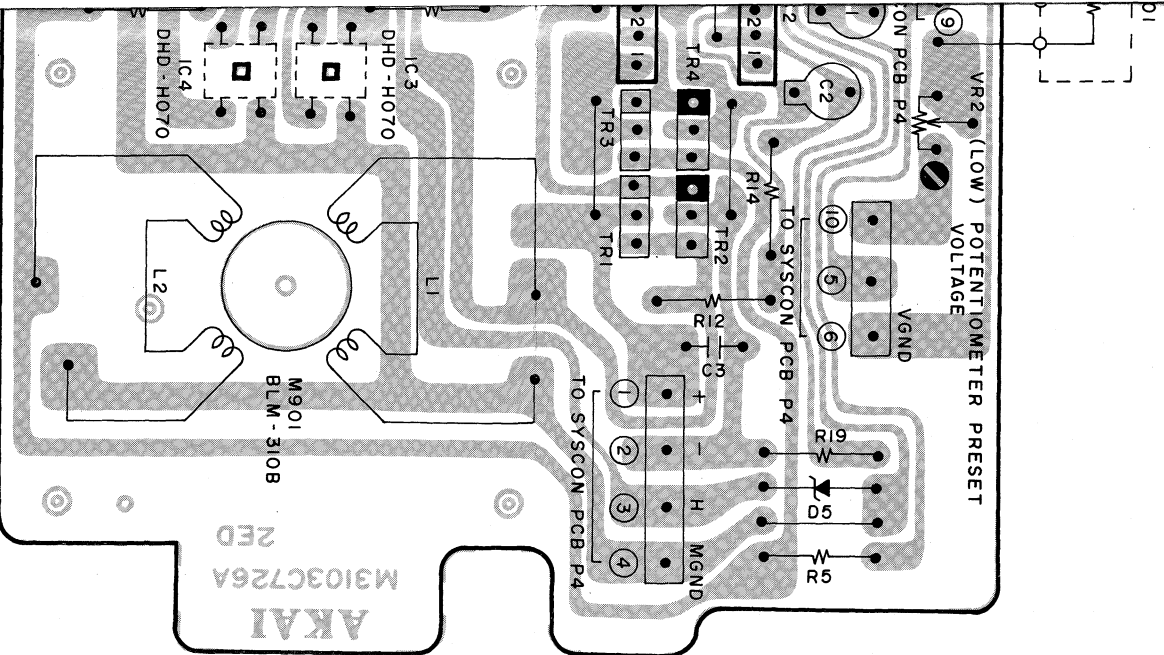
MOTOR PCB M3103C7260 (2ED)
モーター基板

● = PNP TRANSISTOR
● = NPN TRANSISTOR
TR1,3 --- 2SC2274
TR2,4 --- 2SA984

TO SYSCON/TUNING PCB



METER/OPERATION PCB
メーター・オペレーション基板



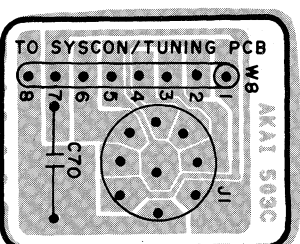
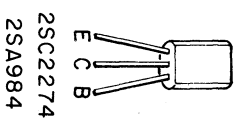
B M3103C7260 (2ED)

TRANSISTOR

TRANSISTOR

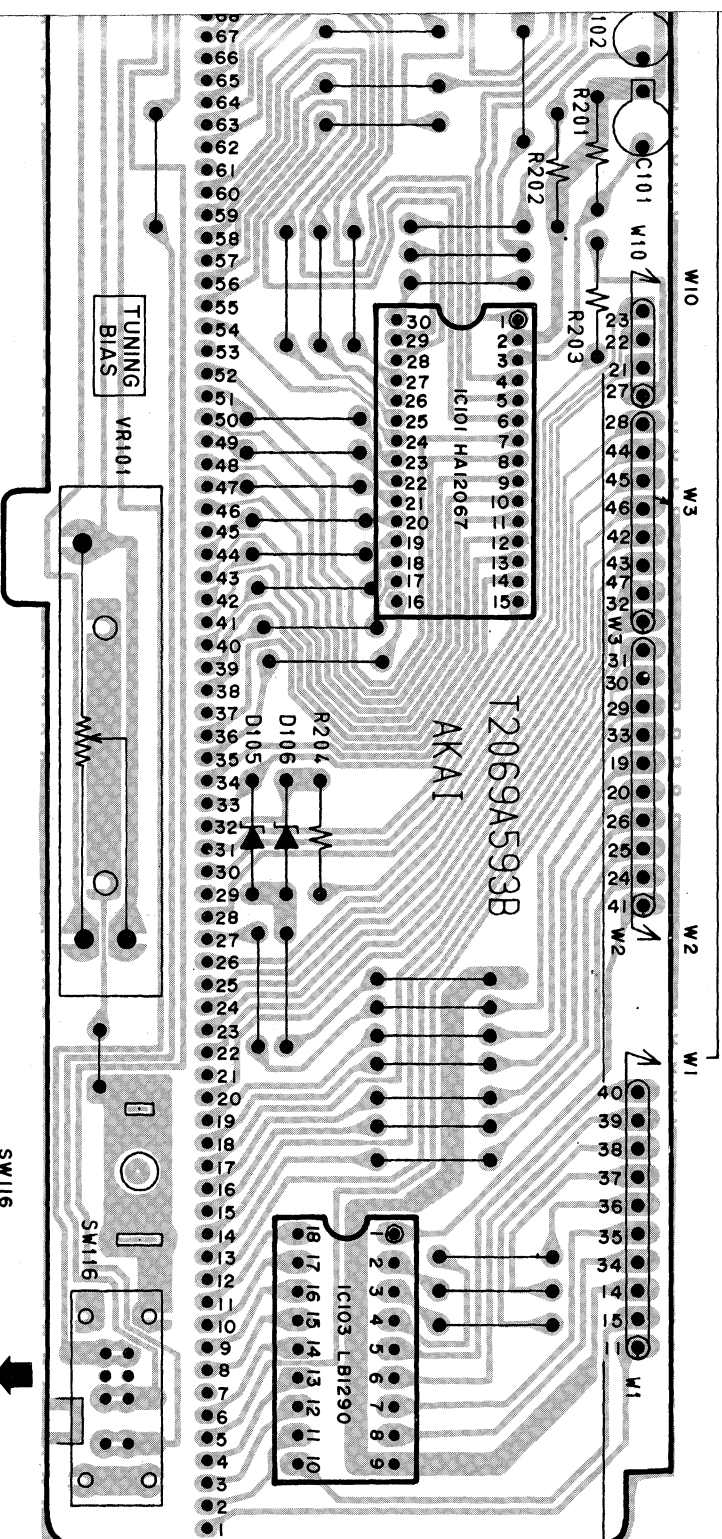
2SC2274

2SA984



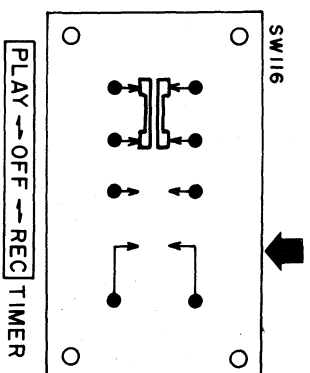
REMOTE CONTROL PCB
リモートコントロール基板

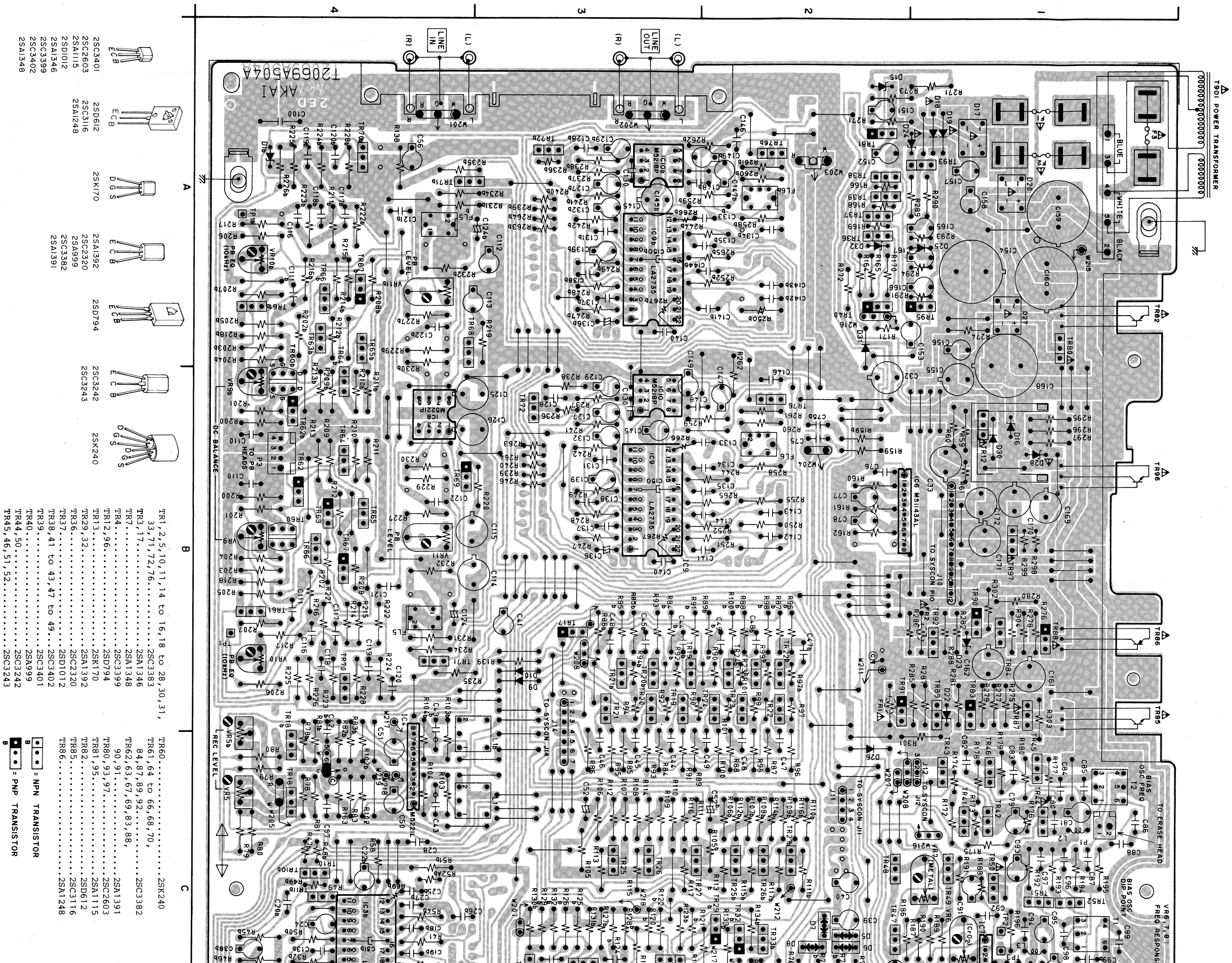
PCB



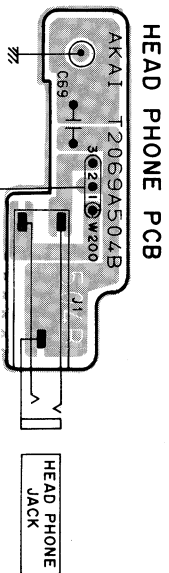
ATION PCB

ーション基板



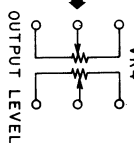


ヘッドホン基板

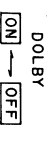


LOCATION OF COMPONENTS

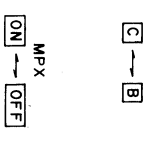
ICs
IC1.....D3
IC2.....D3
IC3.....D4
IC3b.....C4
IC4.....C4
IC5.....D1
IC6.....B2
IC7.....C1
IC8.....B4
IC9.....B3
IC9b.....A3
IC10.....B3
IC10b.....A3
IC11.....D4



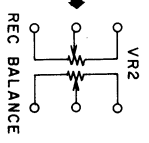
OUTPUT LEVEL



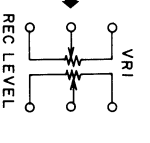
DOLBY
ON — OFF



MPX
ON — OFF



REC BALANCE

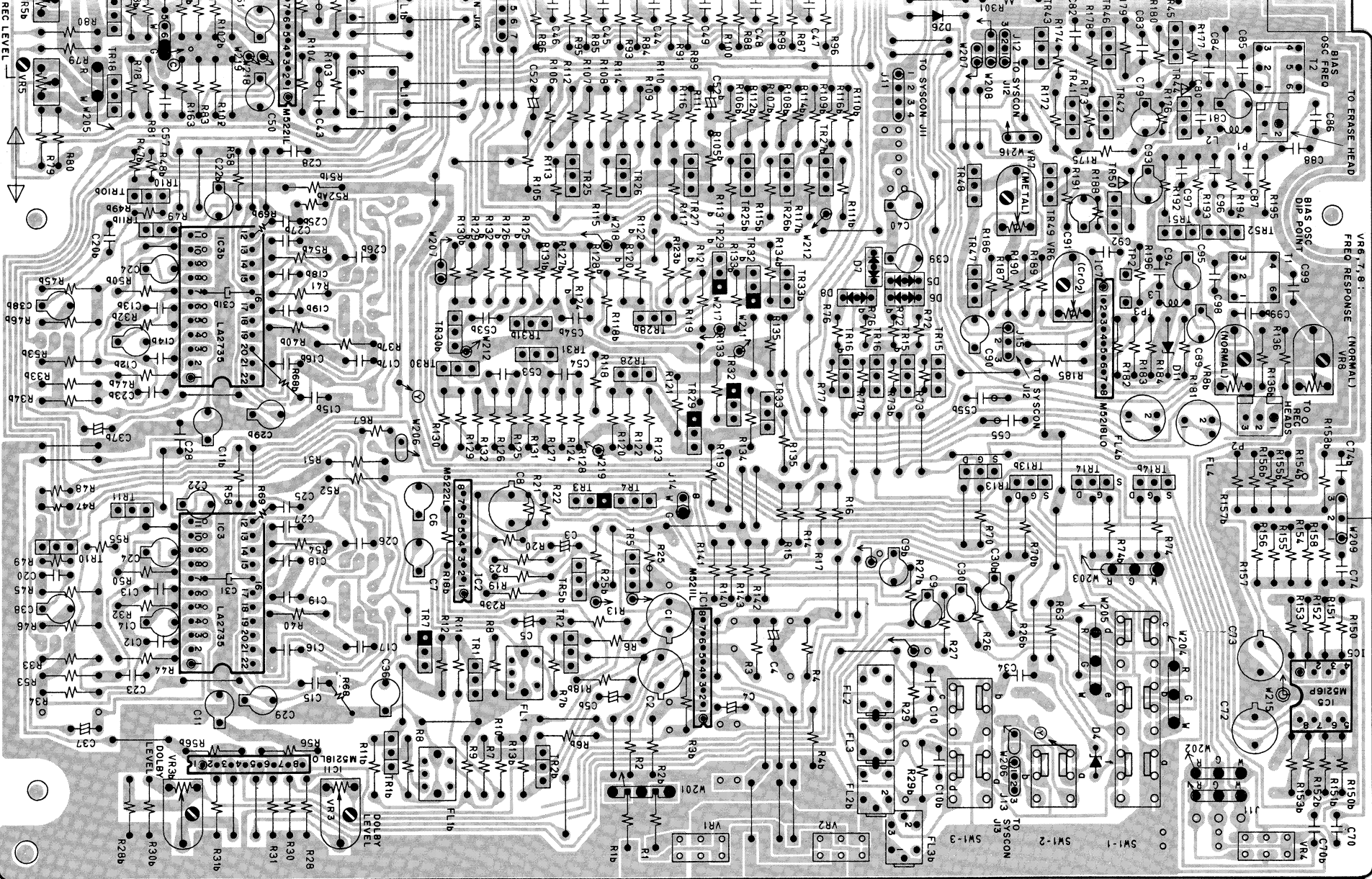


REC LEVEL

TRs
TR1.....D3
TR1b.....D3
TR2.....D3
TR2b.....D3
TR3.....D3
TR4.....D3
TR5.....D3
TR7.....D3
TR10.....D4
TR10b.....C4
TR11.....D4
TR11b.....C4
TR12.....B1
TR13.....D2
TR13b.....D2
TR14.....D1
TR14b.....D1
TR15.....C2
TR15b.....C2
TR16.....C2
TR16b.....C2
TR17.....B3
TR18.....C4
TR18b.....C4
TR19.....B3
TR19b.....B3
TR20.....B3
TR20b.....B3
TR21.....B3
TR21b.....B3
TR22.....B2
TR22b.....B2

TR23.....B2
TR23b.....B2
TR24.....B2
TR24b.....B2
TR25.....C3
TR25b.....C2
TR26.....C2
TR26b.....C2
TR27.....C3
TR27b.....C2
TR28.....C3
TR28b.....C3
TR29.....C3
TR29b.....C2
TR30.....C2
TR30b.....C3
TR31.....C3
TR31b.....C3
TR32.....C2
TR32b.....C2
TR33.....C2
TR33b.....C2
TR36.....A2
TR37.....A2
TR38.....A2
TR39.....A2
TR40.....A2
TR41.....C1
TR42.....C1
TR43.....C1
TR43b.....C1
TR44.....C1
TR45.....C1
TR46.....C1
TR47.....C2
TR48.....C2
TR49.....C1
TR50.....C1
TR51.....C1
TR52.....C1
TR60.....B4
TR60b.....B4

TR61.....B4
TR61b.....B4
TR62.....B4
TR62b.....B4
TR63.....B4
TR63b.....B4
TR64.....B4
TR64b.....B4
TR65.....B4
TR65b.....B4
TR66.....B4
TR66b.....B4
TR67.....B4
TR67b.....B4
TR68.....A4
TR68b.....A4
TR69.....B4
TR70.....B4
TR70b.....B4
TR71.....B3
TR72.....B3
TR72b.....B3
TR73.....B3
TR73b.....B3
TR74.....B3
TR74b.....B3
TR75.....B3
TR75b.....B3
TR76.....B3
TR76b.....B3
TR77.....B3
TR77b.....B3
TR78.....B3
TR78b.....B3
TR79.....B3
TR79b.....B3
TR80.....A1
TR81.....A2
TR82.....A1
TR83.....A1
TR84.....B1
TR85.....B1
TR86.....B1
TR87.....C1
TR88.....B1
TR89.....B1
TR90.....B1
TR91.....C2
TR92.....B1
TR93.....B1
TR94.....A1
TR95.....A1
TR96.....B1
TR97.....B1

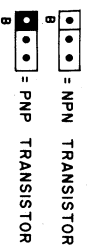


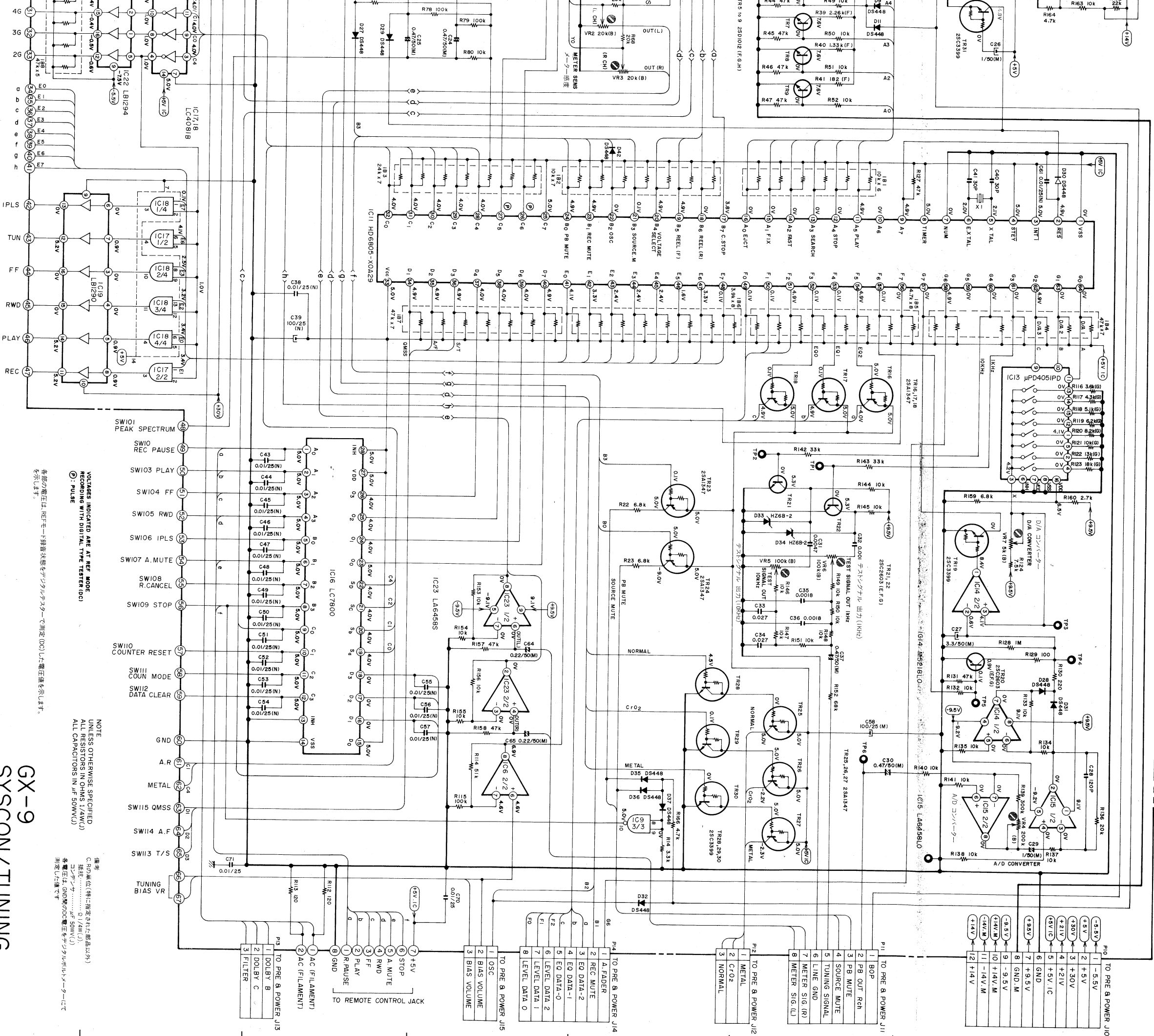
TR60.....2SK240
TR61,64 to 66,68,70,84,87,89,92.....2SC3382
TR62,63,67,69,83,88,90,91.....2SA1391
TR80,93,97.....2SC2603
TR81,95.....2SA1115
TR82.....2SD612
TR85.....2SC3116
TR86.....2SA1248

PRE AMP / POWER PCB T2069A504A
リニア・電源基板

注意: △の付かれた部品は、安全上重要部品です。交換の際は、指定部品以外は使用しないこと。
WARNING: △ INDICATES SAFETY CRITICAL COMPONENTS.
FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURERS RECOMMENDED PARTS.

AVERTISSEMENT: △ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÛRETÉ POUR MAINTENIR LE Degré DE SÛRETÉ DE L'APPAREIL. NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SÛRETÉ QUE PAR DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.



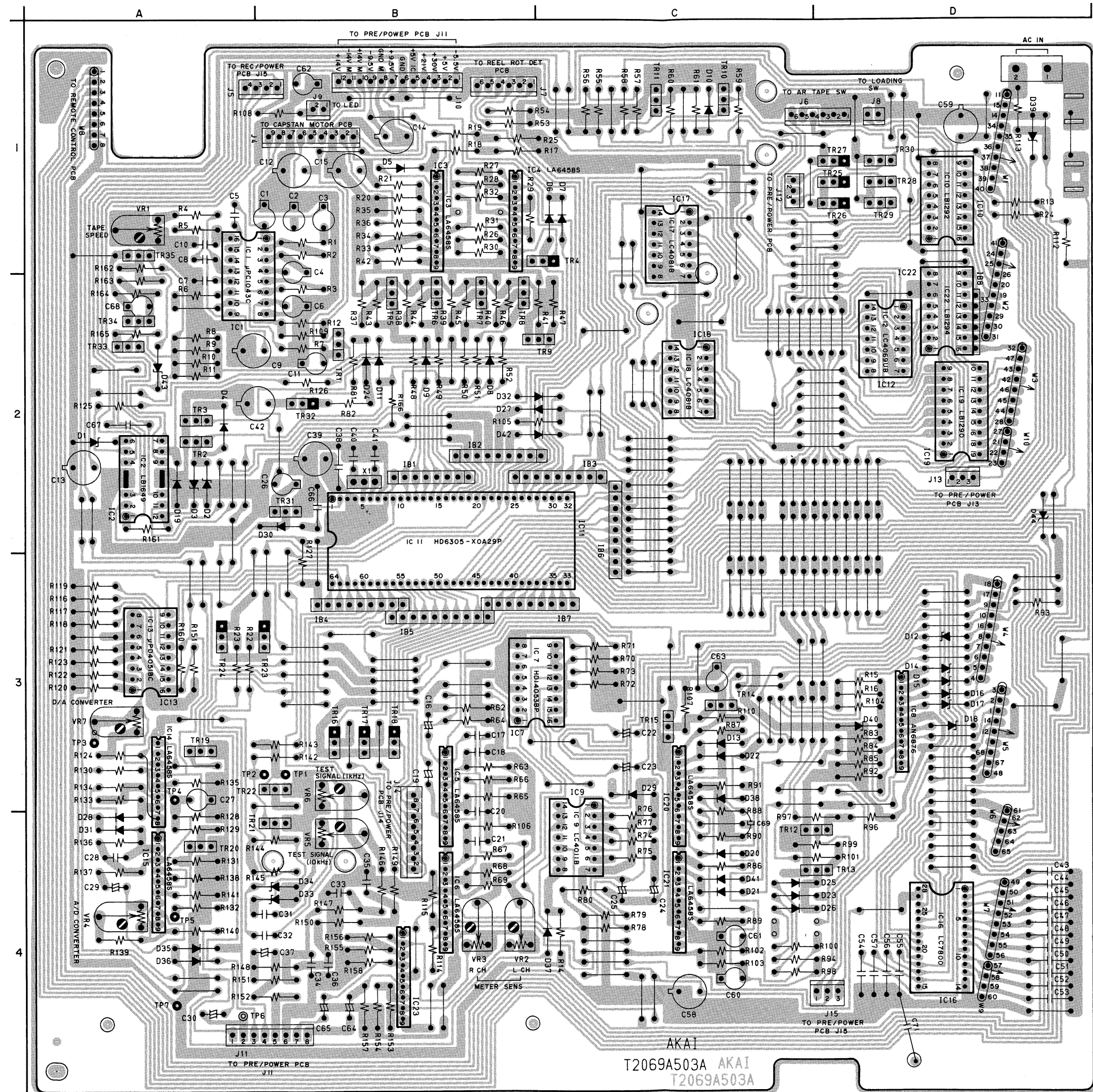


GX-9
SYSCON/TUNING
SCHEMATIC DIAGRAM
NO.3-3 850211A

VOLTAGES INDICATED ARE AT REF. MODE
RECORDING WITH DIGITAL TYPE TESTER (DC)
②: PULSE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS (1/4W, 1/2W)
ALL CAPACITORS IN pF (50WV)

備考
Cの単位(特に指定された部品以外)
抵抗値.....Ω (1/4W, 1/2W)
各電圧は、A/Dコンバータの電源をデジタルマルチメータにて
測定した値です



SYSCON/TUNING PCB T2069A503A
シスコン・チューニング基板

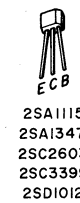
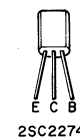
LOCATION OF COMPONENTS

IC

IC1.....A1
IC2.....A2
IC3,4.....B1
IC5.....B3
IC6.....B4
IC7.....B3
IC8.....D3
IC9.....C4
IC10.....D1
IC11.....B2
IC12.....D2
IC13,14.....A3
IC15.....A4
IC16.....D4
IC17.....C1
IC18.....C2
IC19.....D2
IC20.....C3
IC21.....C4
IC22.....D2
IC23.....B4

TR

TR1.....B2
TR2,3.....A2
TR4.....B1
TR5to9.....B2
TR10,11.....C1
TR12,13.....C4
TR14,15.....C3
TR16,17,18...B3
TR19.....A3
TR20.....A4
TR21.....B4
TR22.....B3
TR23,24.....A3
TR25to30.....D1
TR31,32.....B2
TR33,34,35...A2



= NPN TRANSISTOR
 = PNP TRANSISTOR

TR1,10 to 14,20,21,22,34
----- 2SC2603
TR2,3,15,19,28 to 31,35
----- 2SC3399
TR4,16,17,18,23 to 27
----- 2SA1347
TR5 to 9 ----- 2SD1012
TR32 ----- 2SA1115
TR33 ----- 2SC2274