

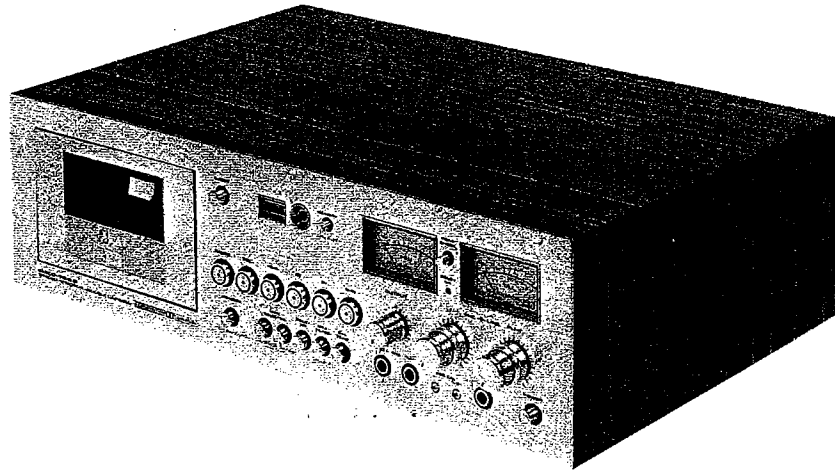
SERVICE MANUAL

PARTS LIST

MODEL GXC-760D

AKAI

GXC-760D



**CASSETTE STEREO
TAPE DECK**

MODEL GXC-760D

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SECTION 1

SERVICE MANUAL

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For basic adjustments, measuring methods, and operating principles, refer to GENERAL OPERATING PRINCIPLES AND ADJUSTMENTS.

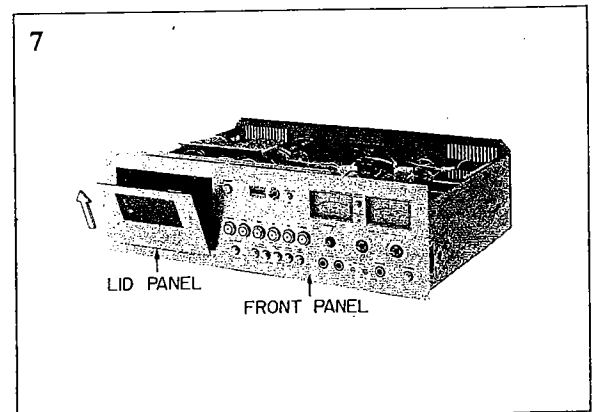
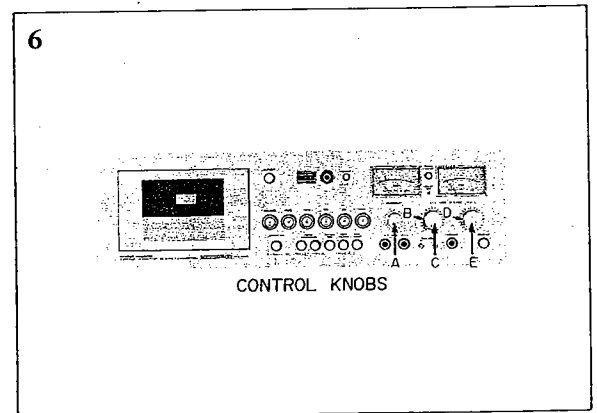
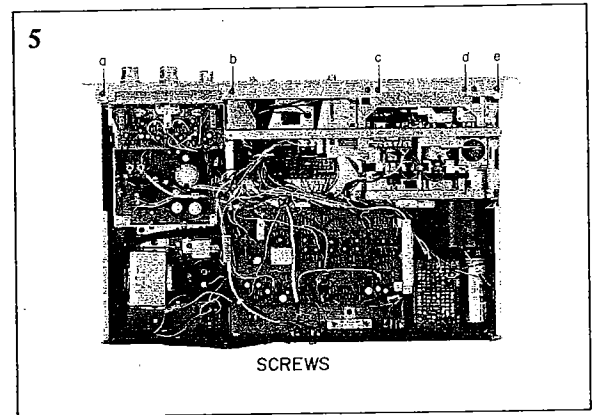
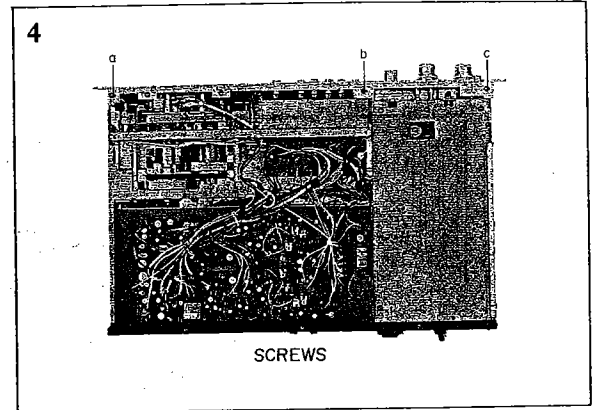
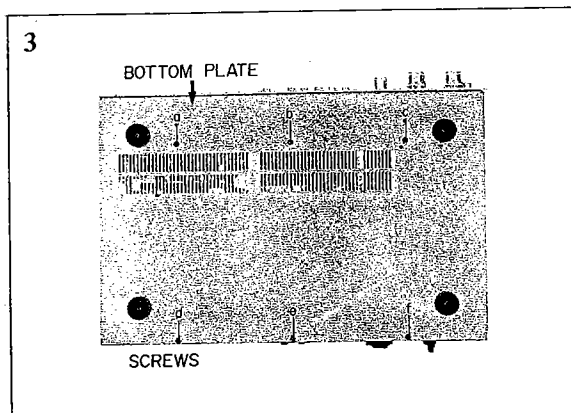
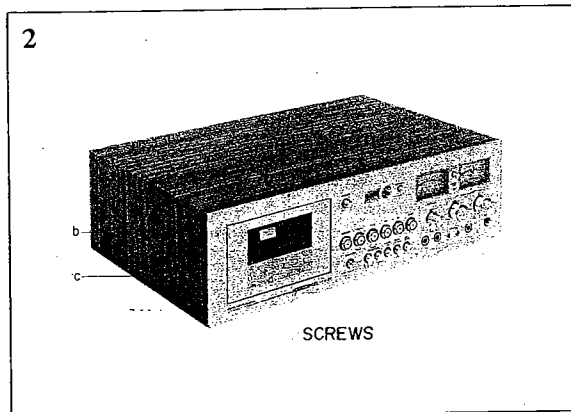
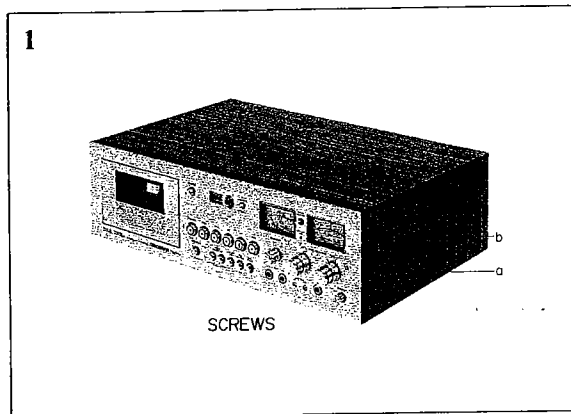
I. TECHNICAL DATA

| | |
|------------------------------|--|
| TRACK SYSTEM | 4 track 2 channel stereo system |
| TAPE | Philips type cassette |
| TAPE SPEED | 1-7/8 ips |
| WOW AND FLUTTER | Less than 0.06% WRMS Less than 0.17% (DIN 45500) |
| FREQUENCY RESPONSE | 30 Hz to 15,000 Hz (± 3 dB) using low noise tape 30 Hz to 16,000 Hz (± 3 dB) using CrO ₂ tape 30 Hz to 19,000 Hz (± 3 dB) using Fe-Cr tape |
| DISTORTION | Less than 1% (1,000 Hz "0" VU) using low noise tape |
| SIGNAL TO NOISE RATIO | Better than 51 dB (measured via tape with peak recording of +5 VU) Dolby Switch ON: Improves up to 10 dB above 5 kHz |
| ERASE RATIO | Better than 70 dB |
| BIAS FREQUENCY | 100 kHz |
| HEADS | GX recording/playback head and erase head (3 head system) |
| MOTOR | One AC Servo outer-rotor motor for capstan drive, and two DC motor for reel drive |
| FAST FORWARD AND REWIND TIME | 70 seconds using C-60 cassette tape |
| OUTPUT JACKS | Line (2): 0.775V ("0" VU) Required load impedance: More than 20 k ohms Phones (1): 50 mV/8 ohms |
| INPUT JACKS | Microphone (2): 0.3 mV Required microphone impedance: 600 ohms Line (2): 70 mV/100 k ohms |
| TRANSISTOR | 2SA628(E) (F) 2 2SB605(K) (L) 2 2SC458LG(C) 8 2SC945L(P) 2 2SC945L(Q) (R) 47 2SC1175(E) (F) 2 2SC1211(E) (F) 1 2SC1222(E) (F) 4 2SC1647(S) (E) 6 2SC1683(P) (Q) 1 2SD360(D) (E) 1 2SD361(D) (E) 2 2SD401(K) (L) 1 2SD571(K) (L) 4 |
| FET | 2SK30A(D) 4 2SK68A(L) (M) 2 |
| DIODE | 1N34A 4 1S2473 45 1S2473VE 67 10D05 4 10D4 5 WZ085 2 WZ240 2 |
| POWER REQUIREMENTS | CSA, UL and LA Models: 120V, 60 Hz only CEE Models: 220V, 50 Hz only Other Models: 100 to 240V, 50/60 Hz (Switchable) |
| DIMENSIONS | 440(W) x 142(H) x 306(D)mm (17.3 x 5.6 x 12.0) inches |
| WEIGHT | 11.1 kg (24.4 lbs) |

- NOTES: 1. For improvement purposes, specifications and design are subject to change without notice.
2. Dolby is a trademark of Dolby Laboratories, Inc. Under License from Dolby Laboratories, Inc.
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II. DISMANTLING OF UNIT

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



III. ARRANGEMENT OF PRINCIPAL PARTS

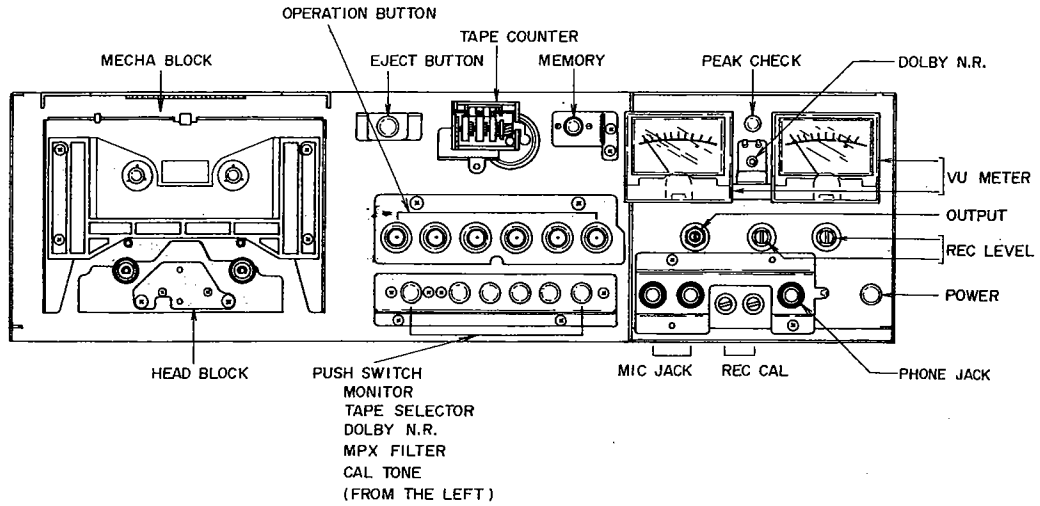


Fig. 1 Front View

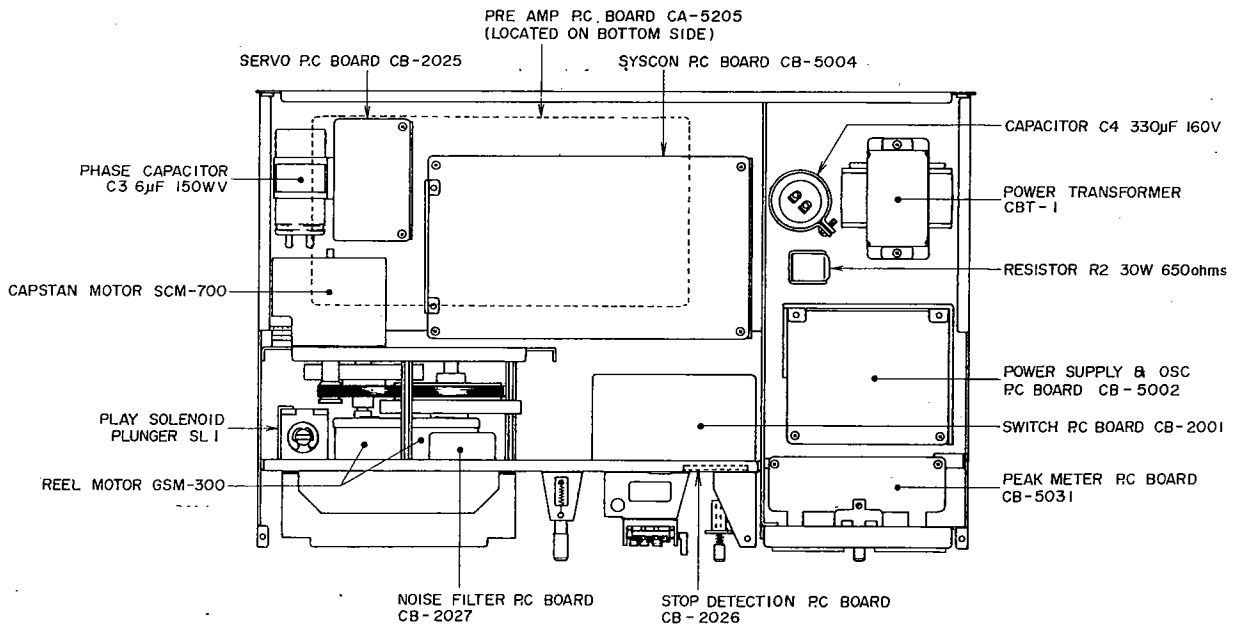
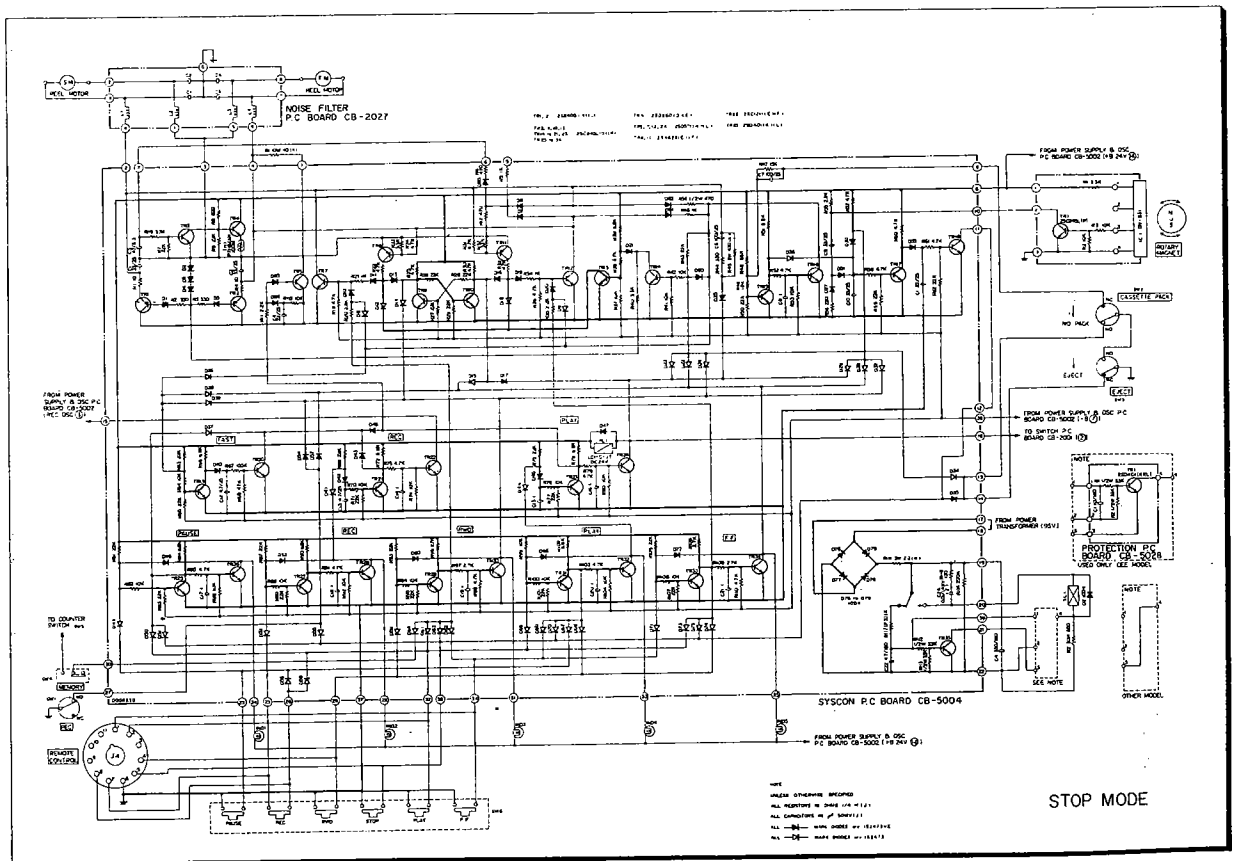
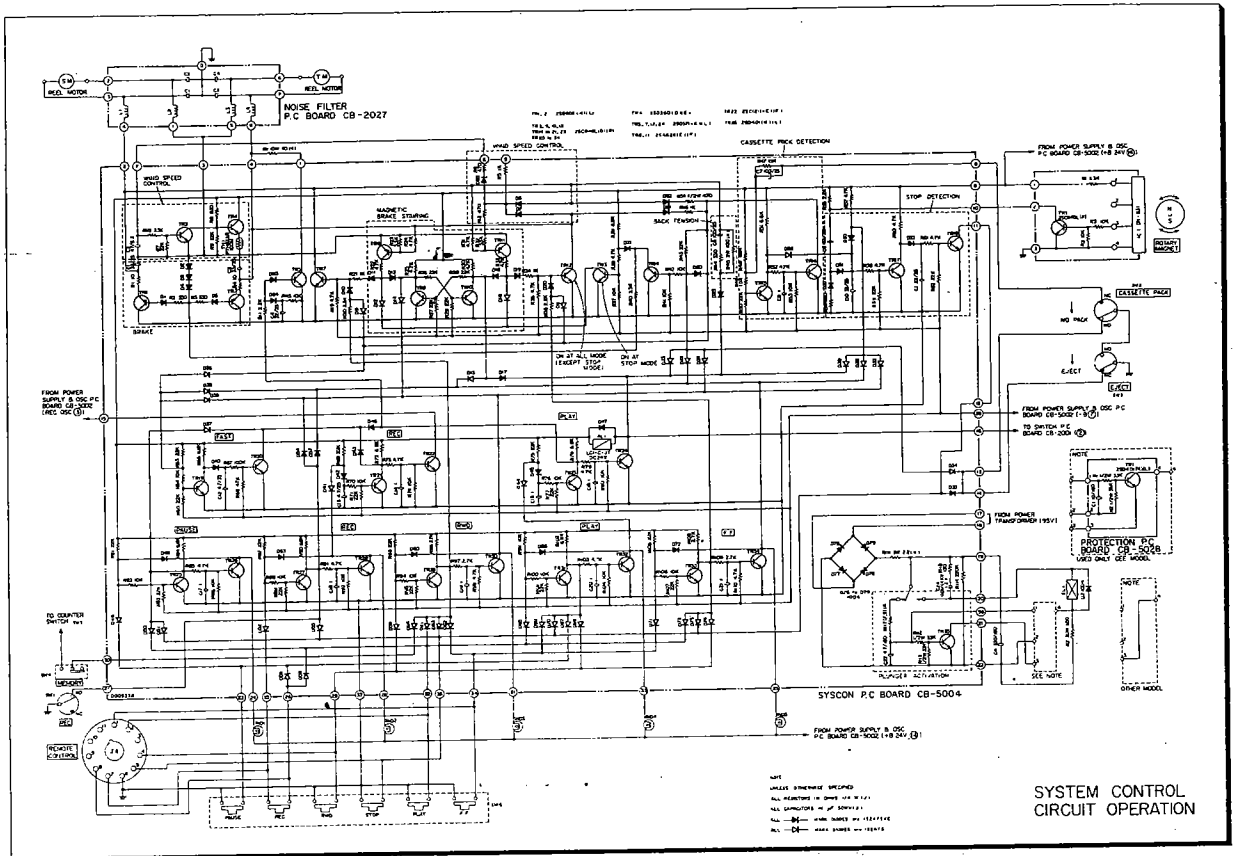
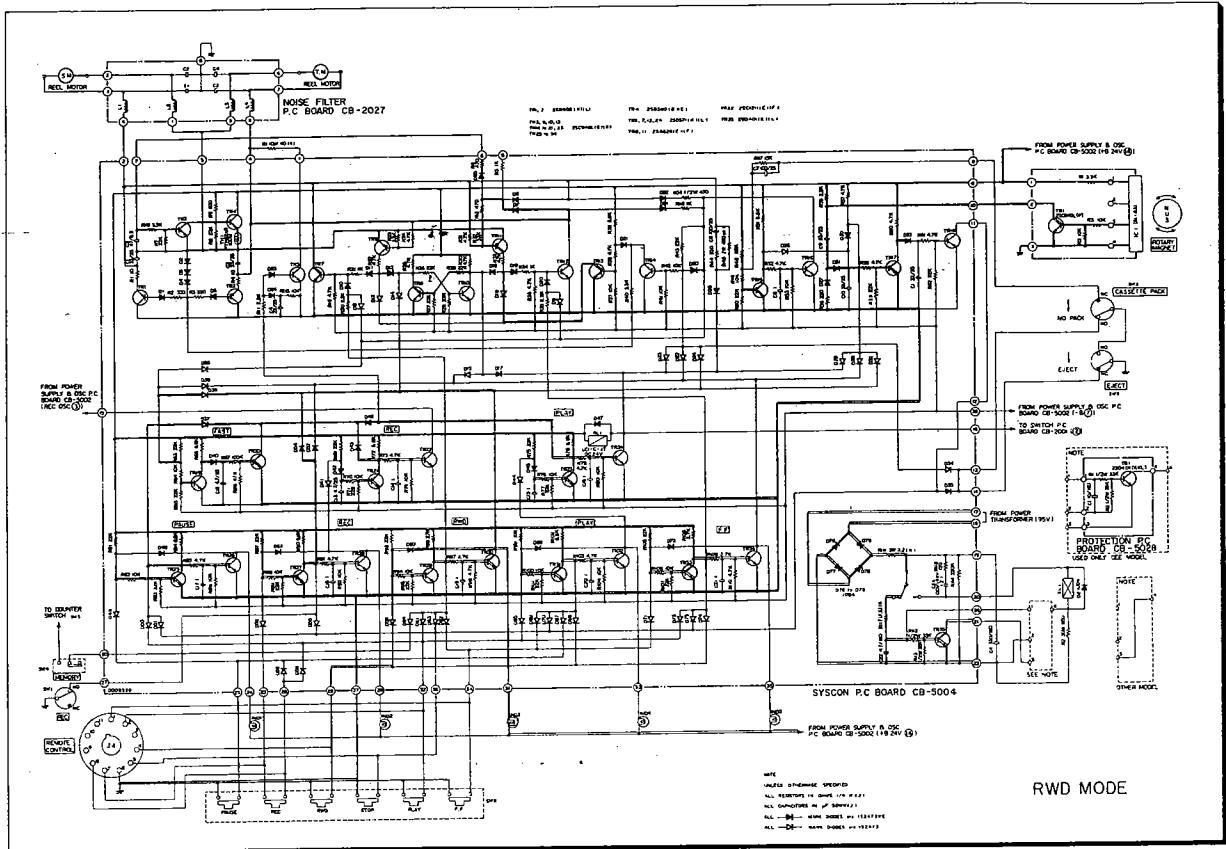


Fig. 2 Top View

IV. SYSTEM CONTROL OPERATING PRINCIPLES





1. TAPE SLACK ELIMINATION CIRCUIT

- 1) Because this deck employs a double capstan drive system, if tape with a great deal of slack is used, trouble with the tape tangling around the capstan is likely to occur. Even if only slight tape slack exists, it takes time after effecting a forward mode to obtain proper tape tension, which results in a continuous poor head-to-tape contact condition. The purpose of this circuit is to prevent such trouble by taking up tape slack prior to operation for proper tape tension at all times.
- 2) When a cassette is not loaded, TR15 assumes an ON condition and TR16 an OFF condition. When a cassette is loaded, cassette detection micro switch SW2 contacts NC side (contact point), and a charge current flows to C7. Within this charge current period, TR15 is turned OFF and collector voltage increases. Charge current flows to R52 and C8 and at the end of the charge current period, TR16 is turned ON and collector current flows. This current passes D81, causing the take-up motor to rotate, and at the same time passes D82, causing the supply motor to rotate. Thus, the tape is pulled from both directions, and any existing slack is eliminated. This process continues until the C7 charge current ends, at which time the circuit returns to its previous state, stopping both reel motors.

2. PINCH ROLLER OPERATION AND REEL MOTOR ROTATION TIMING CIRCUIT

- 1) If reel motor starts to rotate before the pinch roller reaches the capstan, momentary brake tension will be applied, causing the tape to break or stretch. This circuit is for the purpose of eliminating such trouble by activating reel motor revolutions after the pinch roller has contacted the capstan when playback mode is effected.
- 2) When the deck is set to Play mode, TR23 collector voltage is increased, TR24 is turned ON, the relay functions, and the pinch roller plunger operates. At the same time, as a result of an increase in TR23 collector voltage, charge current passes R11 and D84 and flows to C4. During the period of this flow of charge current, TR5 base voltage is lowered, and because TR5 is turned OFF, the take-up motor does not rotate. However, at the end of this flow of charge current, TR5 base voltage increases, TR5 is turned ON, and motor starts to rotate.
The period of time until TR5 is turned ON is about 0.1 to 0.2 seconds.

3. FAST FORWARD AND REWIND SPEED CONTROL CIRCUIT

1) The reel motors employed in this deck are DC motors which at a non-load condition rotates at about 3,000 rpm. Consequently, when Fast Forward or Rewind is effected, there is a possibility of tape damage due to a gradual build-up of inertia and increased revolutions. This circuit is for the purpose of controlling supply voltage to the take-up reel motor for suppression of increased motor revolutions.

2) When the deck is set to Fast Forward mode, TR12 is turned ON and the take-up motor begins to rotate. When the supply reel motor is not rotating, because bias is not supplied to the base of TR3, the resistance between TR3 collector and emitter is infinite, and a fixed bias is supplied to TR4 through R8 and R9, a fixed DC voltage is supplied to the take-up reel motor, and there is a build-up of inertia and gradual increase in motor revolutions.

However, at Fast Forward Mode, the supply reel motor of this deck functions as a generator. Consequently, the electromotive force generated by the supply reel motor passes D6, D85, R6 and R119 and becomes TR3 base bias, and the resistance between TR3 collector and emitter is varied proportionately according to the extent of the generator's electromotive force.

That is to say, R9 and the resistance between TR3 collector and emitter becomes parallel composite resistance and bias to TR4 is varied by this composite resistance. Momentarily, when the take-up reel motor begins to rotate at high speed, this counterbalanced electromotive force is generated by the supply reel motor and this generated voltage increases the resistance between TR4 collector and emitter and the supply voltage to the take-up reel motor is decreased. Thus, motor revolutions are slowed for a decrease in speed. In this manner, the take-up speed always corresponds with the supply reel motor speed, thus avoiding high speed motor revolutions.

3) Speed control also functions in exactly the same way at Rewind mode. However, in this case, the right hand side reel motor functions as a generator, and left hand side reel motor revolutions are controlled by means of supply voltage control. Therefore, Rewind speed is controlled in the same way as at Fast Forward.

4. MAGNETIC BRAKING CIRCUIT

1) This deck differs from other 3 motor system decks to date in that instead of a mechanical braking system, tape travel is stopped electrically, and a magnetic braking system is employed. When Fast Forward or Rewind is being effected, the take-up motor rotates while being controlled by the rotation of the supply side motor.

This circuit is for the purpose of applying magnetic braking to the proper motor when stop mode

is being effected from Fast Forward or Rewind.

2) At Fast Forward, TR12 is turned ON and the take-up motor rotates. The supply side motor rotates and functions as a generator to maintain proper take-up motor revolutions. At this time, the magnetic braking circuit maintains TR8 and TR10 at ON, and TR9 and TR11 at OFF condition. D12 is grounded through D13 and D12 anode becomes identical to grounding electrical potential. Consequently, TR7 assumes an OFF condition. (In other words, current does not flow to the supply side motor).

3) When the deck is stopped from Fast Forward mode, TR12 is turned OFF, and the current to the take-up motor ceases. Also TR14 is turned ON and TR13 turned OFF, and at the same time, D1 anode assumes a floating condition. Current flows by means of the electromotive force from the take-up side motor, and this current turns ON TR7 and voltage is supplied to the supply side motor. This voltage becomes the braking voltage of the supply side motor.

4) When magnetic braking is first applied, because the take-up motor is rotating fairly fast, a large electromotive force is generated, TR17 is turned completely ON, and maximum voltage is supplied to the supply side motor. Thus, speed is reduced and at the same time, this voltage is decreased. Also the take-up motor electromotive force disappears, and at the same time, the supply side motor rotation stops.

5) When the deck is stopped from Fast Forward mode, the operation is the same as described above. Only the circuit components differ.

5. AUTOMATIC SHUT-OFF MECHANISM CIRCUIT

1) This circuit is for the purpose of effecting automatic shut-off when tape travel has stopped after play, recording, fast forward, or rewind mode.

2) During tape travel, because the rotary magnet rotates, Stop Detection circuit TR1 performs the ON ↔ OFF switching operation. Also during tape travel, because D30 anode becomes grounding electrical potential, TR17 is turned OFF. However, charge and discharge current alternately flows to C9 by means of the Stop Detection circuit. At charging time, current flows to R55 → C9 → D31 → C10, and TR17 is turned ON. At discharging time, current flows to R56 → D27 → C9 → TR1 (stop detection circuit). During this time, C10 discharge current passes R58 and TR17 is maintained at ON condition. When tape travel has stopped, C9 charge and discharge current will not flow, C10 discharge current also ends, and TR17 is turned OFF. Then TR18 is turned ON, and the diode connected to TR18 collector for instance, if automatic shut off is effected from play mode, D70 is grounded, play circuit TR32 is turned OFF, and Shut-off mode is effected.

V. MECHANISM ADJUSTMENT

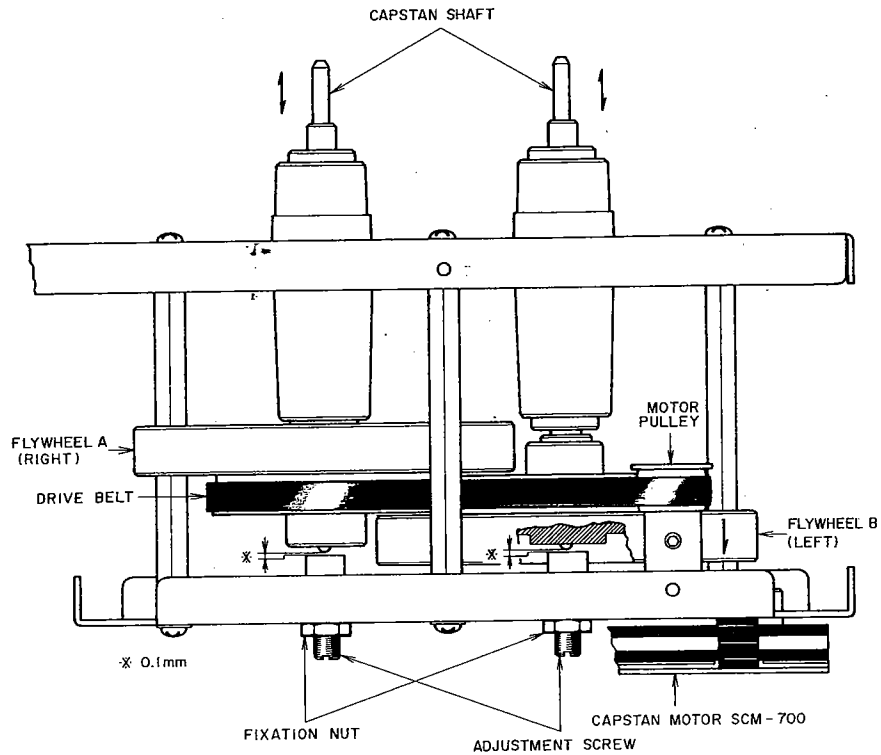


Fig. 3

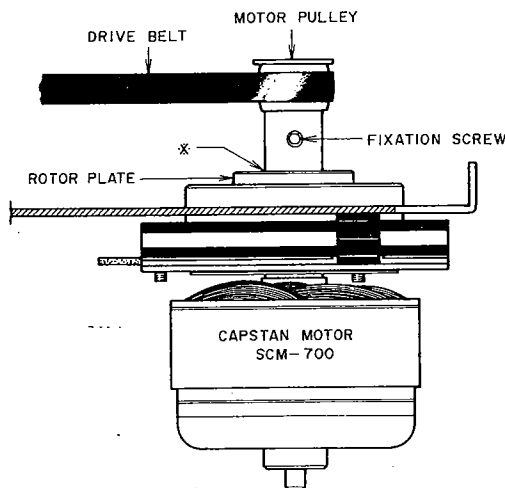


Fig. 4

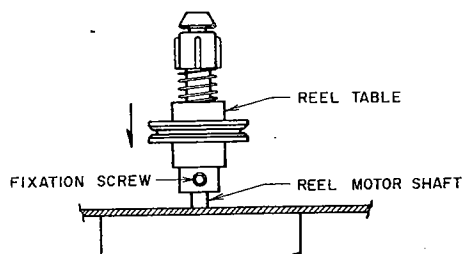


Fig. 5

1. CAPSTAN SHAFT LOOSE PLAY ADJUSTMENT (Refer to Fig. 3)

Adjust by turning adjustment screws to obtain a 0.1 mm degree of loose play (space indicated by * mark in figure) when the capstan shaft is moved as indicated by the arrow mark. Tighten fixation nut to maintain optimum adjusted condition.

NOTE: This deck employs 2 kinds of Flywheels
 Flywheel A Take up side
 Flywheel B Supply side

2. MOTOR PULLEY INSTALLATION POSITION ADJUSTMENT (Refer to Fig. 4)

Tighten fixation screw at position at which the parts indicated by the * mark in the figure makes contact with the rotor plate.

NOTE: After above adjustment, in case the drive belt does not run on the center of Motor Pulley, re-adjust installation position of Motor Pulley so that the drive belt comes to the center of the Pulley. (Refer to Fig. 4)

3. REEL TABLE INSTALLATION POSITION ADJUSTMENT (Refer to Fig. 5)

As shown in Fig. 5, with reel table firmly and completely fitted on motor shaft, tighten fixation screw.

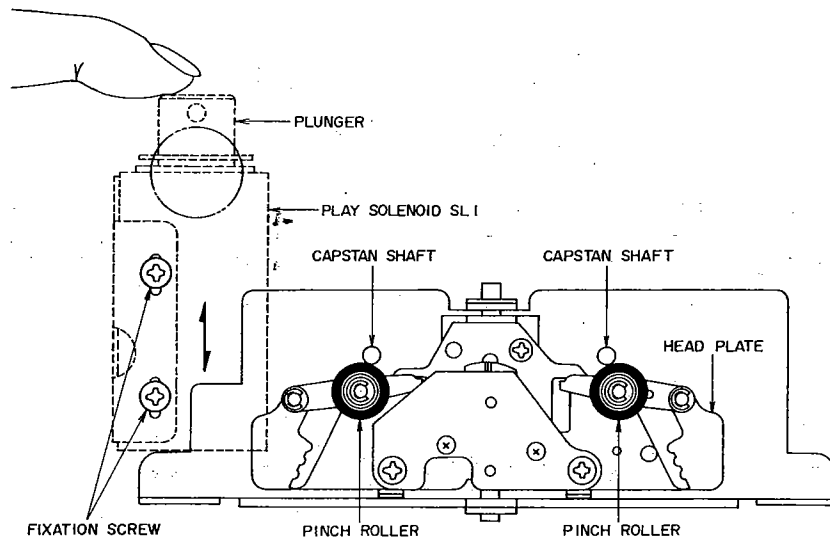


Fig. 6

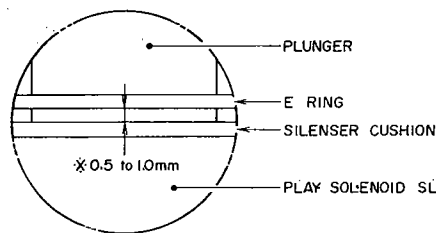


Fig. 7

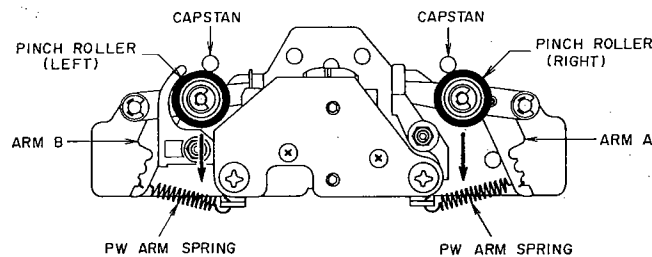


Fig. 8

4. PLAY SOLENOID INSTALLATION POSITION ADJUSTMENT (Refer to Fig. 6 and 7)

As shown in Fig. 6, at stop mode, when the tip of plunger is gently depressed, the pinch roller contacts the capstan shaft, at this time confirm that the gap between "E" ring and silencer cushion is 0.5 to 1.0 mm (See Fig. 7).

If not, adjust play solenoid installation position as indicated by the arrow mark in Fig. 6 to obtain specified gap.

5. PINCH ROLLER PRESSURE

ADJUSTMENT (Refer to Fig. 8)

Pull back the Pinch Roller with a spring gauge, and then return. Take a reading of the spring gauge scale indication at the moment the Pinch Roller touches the capstan and begins to rotate. Adjust pressure to specified value by changing position of the PW ARM SPRING.

Specified Pinch Roller Pressure:

Pinch Roller (right) 400 ± 50 gram
Pinch Roller (left) 300 ± 50 gram

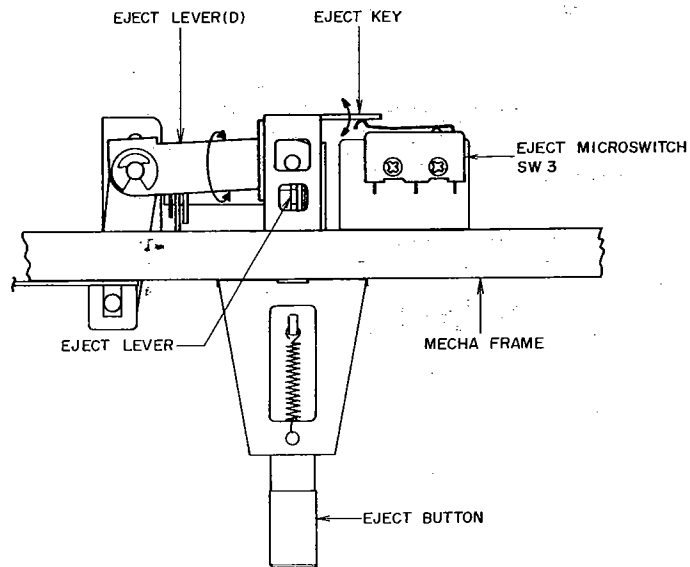


Fig. 9

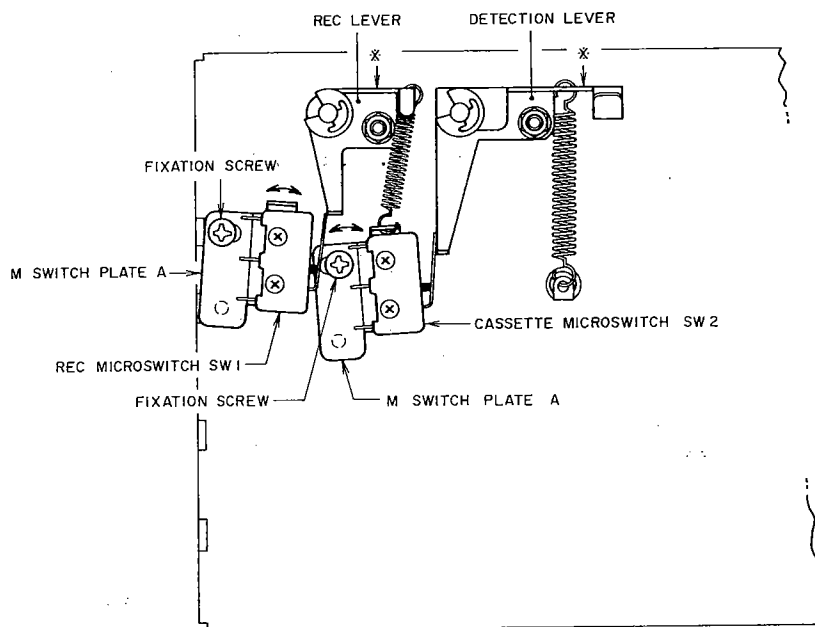


Fig. 10

6. ADJUSTMENT OF EJECT MICRO SWITCH ACTUATING POSITION (Refer to Fig. 9)

Adjust by bending Eject Key so that when the Eject Key is depressed, Eject Micro Switch (SW3) shown in Fig. 9 is perfectly actuated.

After adjustment, depress Eject Button and confirm that Eject Micro Switch (SW3) switches before the Eject Lever operates.

7. ADJUSTMENT OF RECORDING MICRO SWITCH (SW1) AND CASSETTE MICRO SWITCH (SW2)

ACTUATING POSITION (Refer to Fig. 10)

Move M Switch Plate A as indicated by the arrow marks in the figure and adjust so that when the parts of Recording and Detection Levers marked with * mark in Fig. 10 are at a horizontal level, Recording Micro Switch (SW1) and Cassette Micro Switch (SW2) are turned ON respectively. Further, confirm that when a cassette from which the recording safety tabs have been removed is loaded, Recording Micro Switch (SW1) switches, and when the cassette is removed, Cassette Micro Switch (SW2) switches. Tighten fixation screws to maintain ideally adjusted positions of M Switch Plates A.

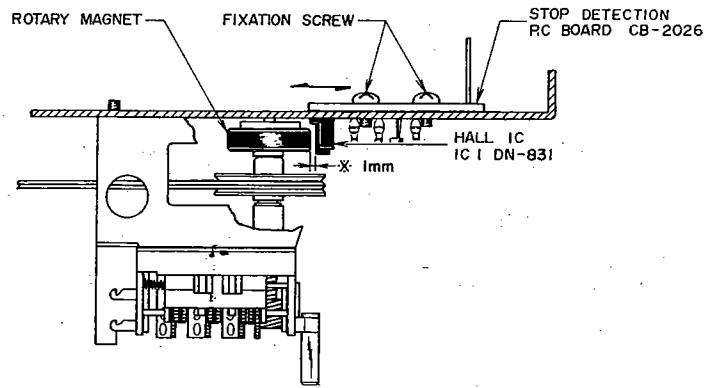


Fig. 11

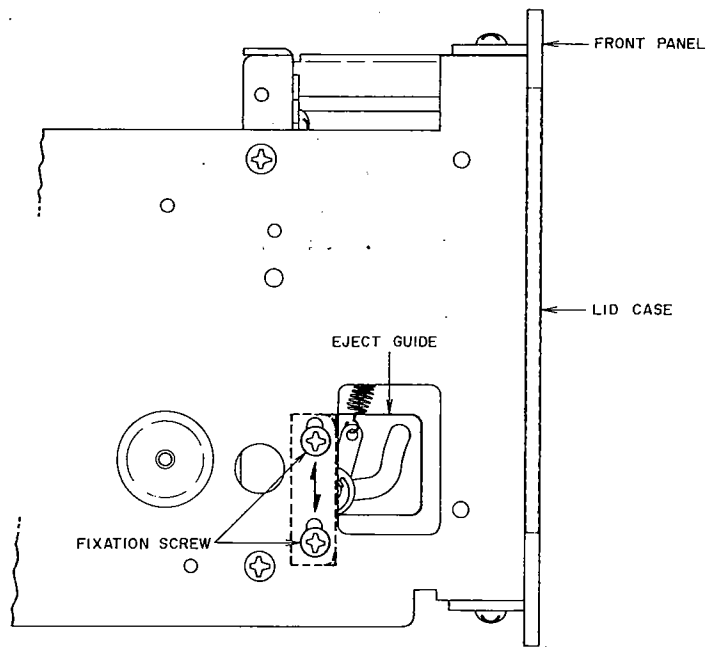


Fig. 12 Left Side of The Deck

8. CLEARANCE ADJUSTMENT BETWEEN HALL IC AND ROTARY MAGNET

(Refer to Fig. 11)

This adjustment is necessary for the perfection of the Automatic Stop Function. If adjustment is necessary due to poor Automatic Stop Function or instability, proceed as follows:

- 1) As shown in Fig. 11 move Stop Detection P.C Board as indicated by the arrow mark in the figure, and adjust position so that the clearance between the Hall IC and rotary magnet is 1 mm.
- 2) In case this clearance is over 1 mm, faulty Automatic Stop Function will occur.

9. POSITION ADJUSTMENT OF LID CASE

(Refer to Fig. 12)

Move the Eject Guide shown in Fig. 12 (direction indicated by arrow mark) up and down and adjust Lid case so that it is even with the front panel.

If the upper part of Lid case comes too far inward, raise the eject guide, and if too far outward, lower eject guide.

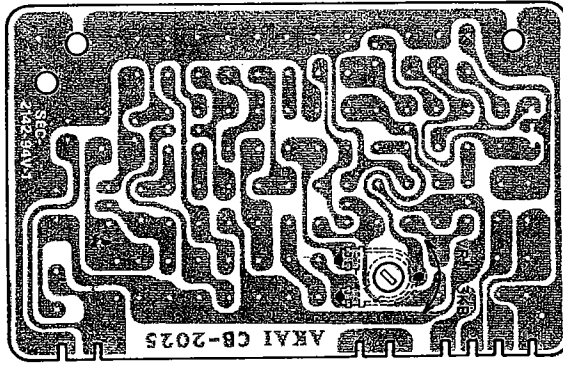


Fig. 13 Servo P.C Board CB-2025

10. REEL MOTOR (GSM-300)

REPLACEMENT

While the reel motors of this Deck are basically the same, because left and right characteristics differ, check as described below prior to replacement.

Supply reel motor: marked with L on thrust cap

Take-up reel motor: no marking

NOTE: If same type motor is not used, brush noise will occur.

11. TAPE SPEED ADJUSTMENT

(Refer to Fig. 13)

Playback a 1,000 Hz pre-recorded test tape and adjust Servo P.C Board (CB-2025) semi-fixed resistor VR1, 3 k Ω shown in Fig. 13 to obtain a tape speed of 1,000 Hz \pm 0.5%.

VI. HEAD ADJUSTMENT

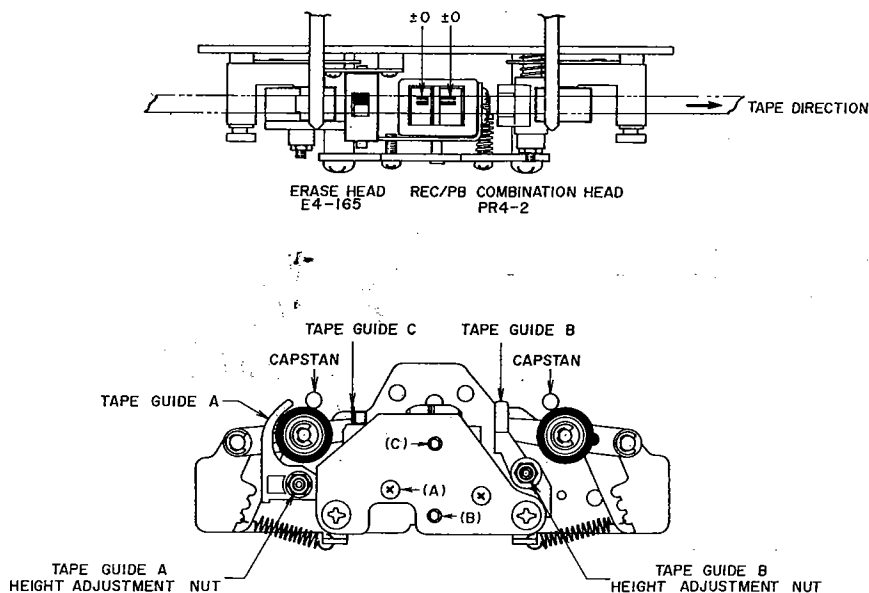


Fig. 14

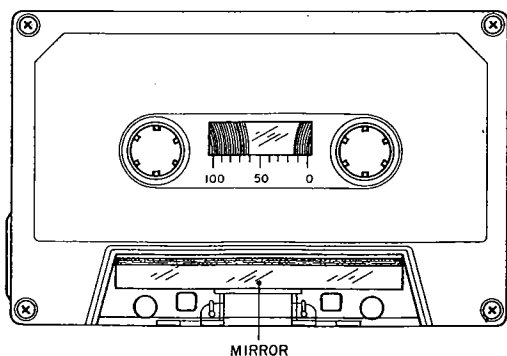


Fig. 15

1. TAPE GUIDE HEIGHT ADJUSTMENT

(Refer to Fig. 14 and Fig. 15)

- 1) When using an ordinary cassette, the tape guides and heads, etc. are not visible. As shown in Fig. 15, use a cassette tape from which part of the cassette case has been cut out and a mirror installed for easy visibility of the head area when making tape guide height adjustment.
- 2) At playback mode, using the erase head guide C shown in Fig. 14 as standard for height, adjust tape guide A and tape guide B height with tape guide height adjustment nuts so that the tape runs smoothly and does not catch on the tape guides.

2. HEIGHT ADJUSTMENT OF RECORDING/PLAYBACK COMBINATION HEAD

(Refer to Fig. 14)

- 1) Utilize the cassette tape used in Tape Guide Height Adjustment above, and playback the leader tape part of cassette tape.
- 2) As shown in Fig. 14, adjust head height with screws (A), (B), and (C) until the upper edge of the tape is the same height as the upper edge of the left channel REC/PB Comb. head core.

3. AZIMUTH ALIGNMENT ADJUSTMENT OF RECORDING/PLAYBACK COMBINATION HEAD (Refer to Fig. 14)

COMBINATION HEAD (Refer to Fig. 14)

- 1) Playback a 10 kHz pre-recorded cassette azimuth alignment test tape and adjust screw (A) shown in Fig. 14 to obtain maximum output on both channels.
- 2) Invert cassette and confirm that the output level does not change from that obtained in Item 3-1). above. If the output level differs, adjust in the same way as in Item 3-1). above until both sides of the test tape display equal output.
- 3) Supply a 10 kHz signal from an audio frequency oscillator to the line inputs and record at -20 VU on a blank tape.
- 4) Set Monitor Switch to "TAPE" position and adjust screw (A) shown in Fig. 14 to obtain maximum output on both left and right channels.
- 5) The recording and playback heads are joined to form a single structure. Therefore, when making azimuth alignment adjustments, because both head cores (recording and playback) move, repeat adjustments outlined in Items 3-1). through 3-4). above until optimum azimuth alignment of the two head cores are obtained.

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.

4. When a mirror installed cassette test tape as shown in Fig. 15 is required, it can be ordered from AKAI Electric Co.

VII. AMPLIFIER ADJUSTMENT

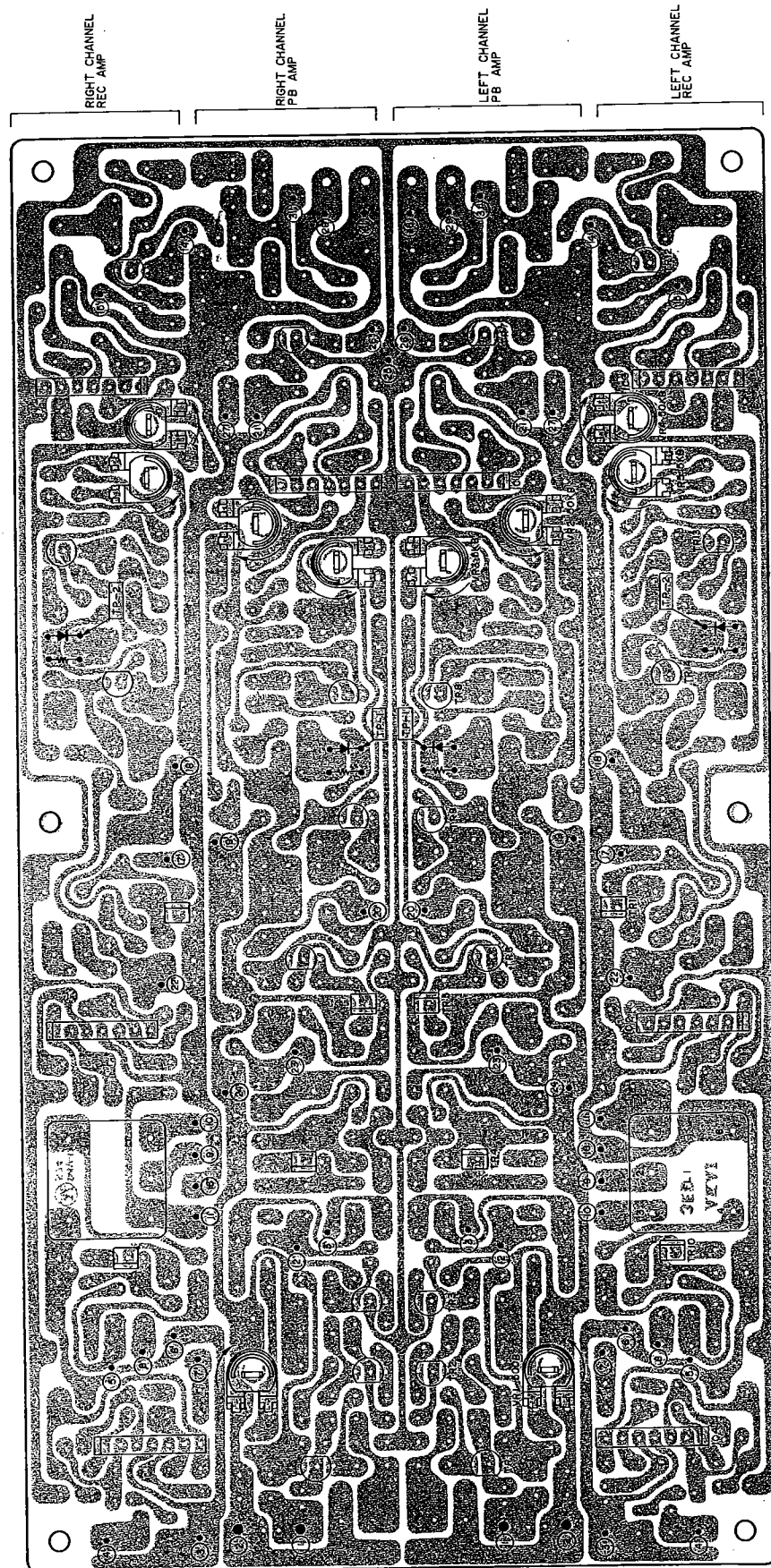


Fig. 16 Pre Amp P.C Board CA-5205

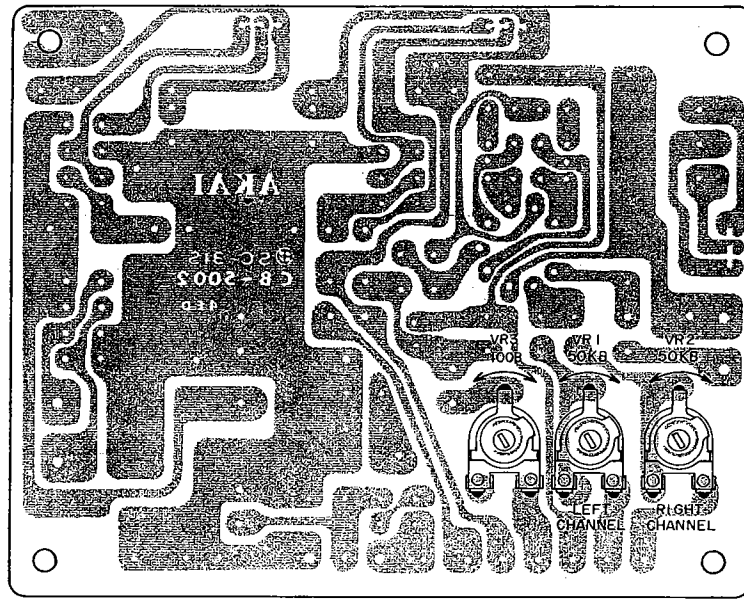


Fig. 17 Power Supply & Osc P.C Board CB-5002

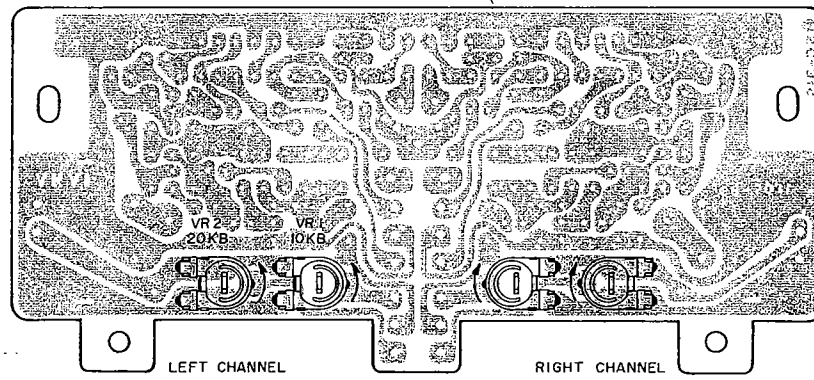


Fig. 18 Peak Meter P.C Board CB-5013

1. RECORDING/PLAYBACK AMPLIFIER ADJUSTMENT (Refer to Fig. 16, 17 and 18 and Chart-1)

| Step | Adjustment Item | Test Tape Supply Signal | Mode | Adjustment Point | Result | Remarks |
|------|--|--|------|--|--|---|
| 1 | Playback Level Adjustment | 333 Hz 0 VU Test Tape | PLAY | VR1, 500B (CA-5205) | 0 ± 0.5 dBm (0.775V) | Set Monitor Switch to "TAPE". |
| 2 | Recording Level Adjustment (low noise tape) | Low Noise Blank Tape 1,000 Hz 0 VU recording | REC | VR4, 5 kB (left channel) VR5, 5 kB (right channel) | 0 ± 0.5 dBm (0.775V) | Set Monitor Switch to "TAPE". Refer to Note-1) |
| 3 | Recording Level Adjustment (chrome tape) | Chrome Blank Tape 1,000 Hz 0 VU recording | REC | None | 0 ± 3.5 dBm | Set Monitor Switch to "TAPE". Refer to Note-2) |
| 4 | Frequency Response Adjustment (low noise tape) | Low Noise Blank Tape 1,000 Hz 10,000 Hz -20 VU recording | REC | VR1, 50 kB (left channel) VR2, 50 kB (right channel) (CB-5002) | 1,000 Hz 10,000 Hz Flat response | Set Tape Selector to "LOW NOISE" |
| 5 | Frequency Response Adjustment (chrome tape) | Chrome Blank Tape 1,000 Hz, 10,000 Hz -20VU recording | REC | VR3 100B (CB-5002) | 1,000 Hz 10,000 Hz Flat response | Set Tape Selector to "CHROME" |
| 6 | Recording Level Confirmation (low noise tape) | Low Noise Blank Tape 1,000 Hz 0 VU recording | REC | VR4, VR5, 5 kB (Front Panel) | 0 ± 0.5 dBm | Refer to Note-3) |
| 7 | VU Meter Sensitivity Adjustment | 1,000 Hz | STOP | VR2, 20 kB (CB-5031) | 0 VU | Refer to Note-4) |
| 8 | Peak Meter Indication Adjustment | 1,000 Hz | STOP | VR1, 10 kB (CB-5031) | -8 VU | Refer to Note-4) |

Chart-1

NOTES:

- Recording level adjustment volumes (REC CAL) VR4 and VR5 are not located on the pre-amp P.C Board as in the case of an ordinary tape deck, but are installed on the front panel.
- After low noise tape adjustments, confirm recording level only.
- Following Step 4 frequency response adjustment, because the recording level may be slightly changed, confirm level and if necessary, carry out Step 2 adjustment again.
- Set Monitor Switch to "SOURCE" and supply a 1,000 Hz signal to line input to obtain a 0 dBm line output level.
- Because each of these adjustments are vital to perfect Dolby N.R. circuit operation, be sure that they are carried out with as little error as possible.
- Use the following cassette measuring tape:
 - Low Noise Tape: Fuji C-60LN
 - Chrome Tape: BASF #SM Chrome C-60

2. DOLBY NOISE REDUCTION CIRCUIT ADJUSTMENT (Refer to Fig. 16)

NOTES:

1. Because the establishment of the (5 kHz) adjustment signal and level etc. is vital to correct Dolby Noise Reduction circuit adjustment, use only calibrated measuring instruments.
2. Level deviation must be within ± 0.5 dB.
3. After Dolby Noise Reduction circuit adjustments have been made, do not change recording and playback levels.
4. Set output control to maximum position prior to adjustments.

1) RECORDING DOLBY NOISE REDUCTION

AMPLIFIER ADJUSTMENT (Refer to Fig. 16)

- a. Set Monitor Switch to "SOURCE", and Tape Selector Switch to "LOW NOISE".
- b. Ground test point TP2 and turn adjustment semi-fixed resistor VR4, 50 k Ω and VR5, 5 k Ω as far as they will go in the direction of the arrow mark.
- c. With Recording Level Control set to 12 o'clock position, supply a 5 kHz signal to the line input and obtain a -28.5 dBm line output level.
- d. Connect an AC Voltmeter to the center terminal of front panel "REC CAL" Volume VR4 (left channel) and VR5 (right channel), and adjust "REC CAL" Volumes to obtain a -30 dBm AC Voltmeter indication.
- e. With the Dolby Noise Reduction Switch at ON, adjust semi-fixed resistor VR4, 50 k Ω shown in Fig. 16 to obtain a -20 dBm level at center terminal of "REC CAL" Volume.
- f. Disconnect test point TP2 from ground and adjust semi-fixed resistor VR5, 5 k Ω shown in Fig. 16 to obtain a -22 dBm level at center terminal of "REC CAL" Volume.

2) PLAYBACK DOLBY NOISE REDUCTION

AMPLIFIER ADJUSTMENT (Refer to Fig. 16)

- a. Set Monitor Switch to "TAPE" and Tape Selector switch to "LOW NOISE".
- b. Ground test point TP1 and turn adjustment semi-fixed resistors VR2, 50 k Ω and VR3, 5 k Ω as far as they will go in the direction of the arrow mark.
- c. Set deck to playback mode.
- d. Supply a 5 kHz signal to terminal (13) shown in Fig. 16 and obtain a -20.5 dBm line output level.
- e. Set the Dolby Noise Reduction Switch to ON and adjust semi-fixed resistor VR2, 50 k Ω shown in Fig. 16 to obtain a -30.5 dBm line output level.
- f. Disconnect test point TP1 from ground and adjust semi-fixed resistor VR3, 5 k Ω shown in Fig. 16 to obtain a -28.5 dBm line output level.

VIII. DC RESISTANCE OF VARIOUS COILS

| Part | Designation | DC Resistance |
|--------------------------------------|-------------|---|
| Main Motor | SCM-700 | Between YLW-BLU 210 ohms Between YLW-RED 197 ohms Between RED-BLU 190 ohms Pick-up coil 670 ohms |
| Play Solenoid | 1660THT2 | 700 ohms $\pm 10\%$ |
| Relay | MTS-2 | 1,000 ohms $\pm 10\%$ |
| Relay | LC1-CJT | 1,140 ohms $\pm 10\%$ |
| Headphone Output Transformer | N19-349S | Primary 160 ohms $\pm 15\%$ Secondary 0.64 ohms $\pm 15\%$ |
| Oscillator Coil | OT-925 | Between 1-3 0.3 ohms Between 4-6 1.5 ohms Between 7-9 6.1 ohms |
| Recording, Playback Combination Head | PR4-2 | Recording 22 ohms $\pm 5\%$ Playback 250 ohms $\pm 5\%$ |
| Erase Head | E4-165 | 2.5 ohms |

Chart-2

IX. CLASSIFICATION OF VARIOUS P.C BOARDS

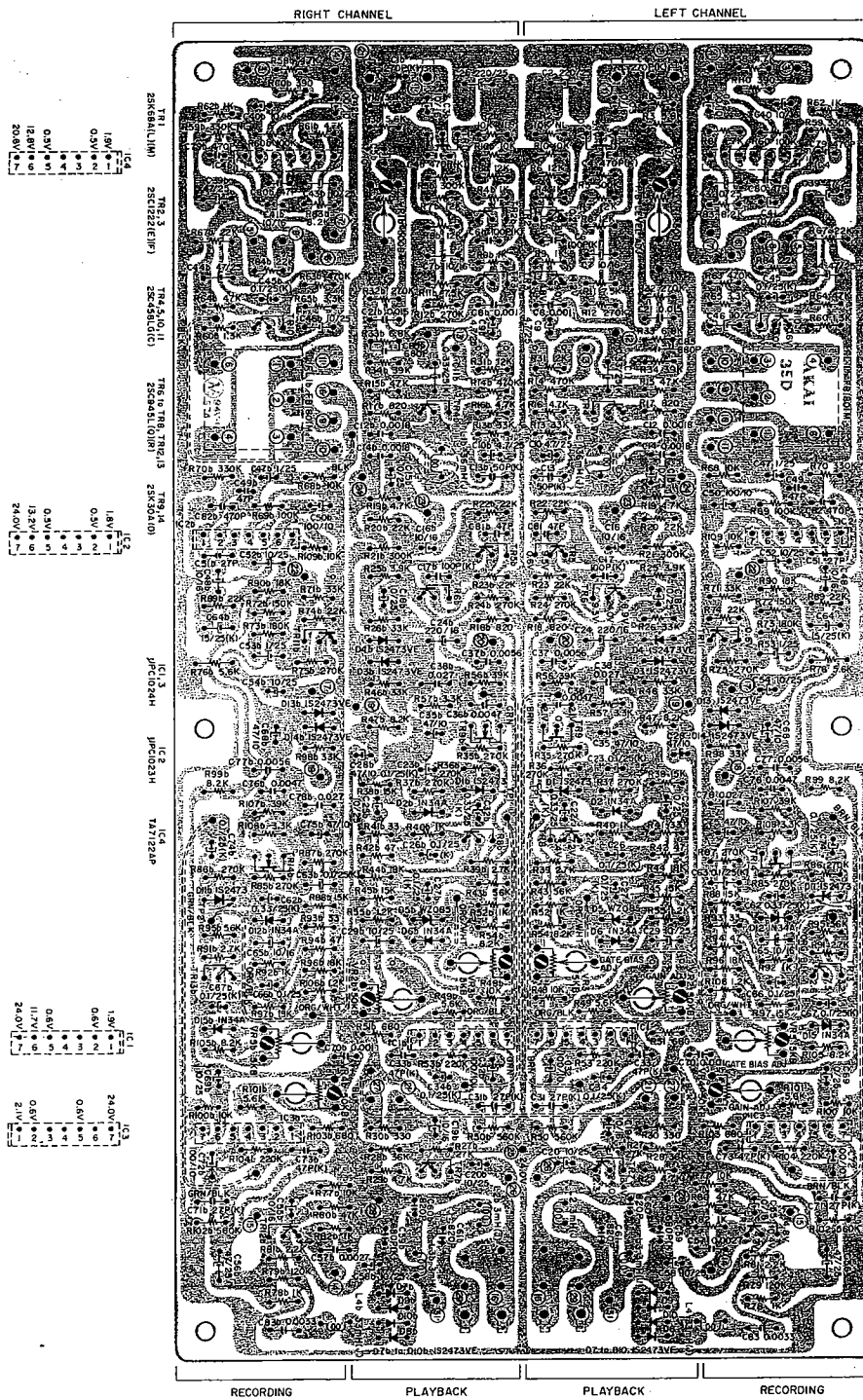
1. RELATION OF P.C BOARD TITLE AND NUMBER

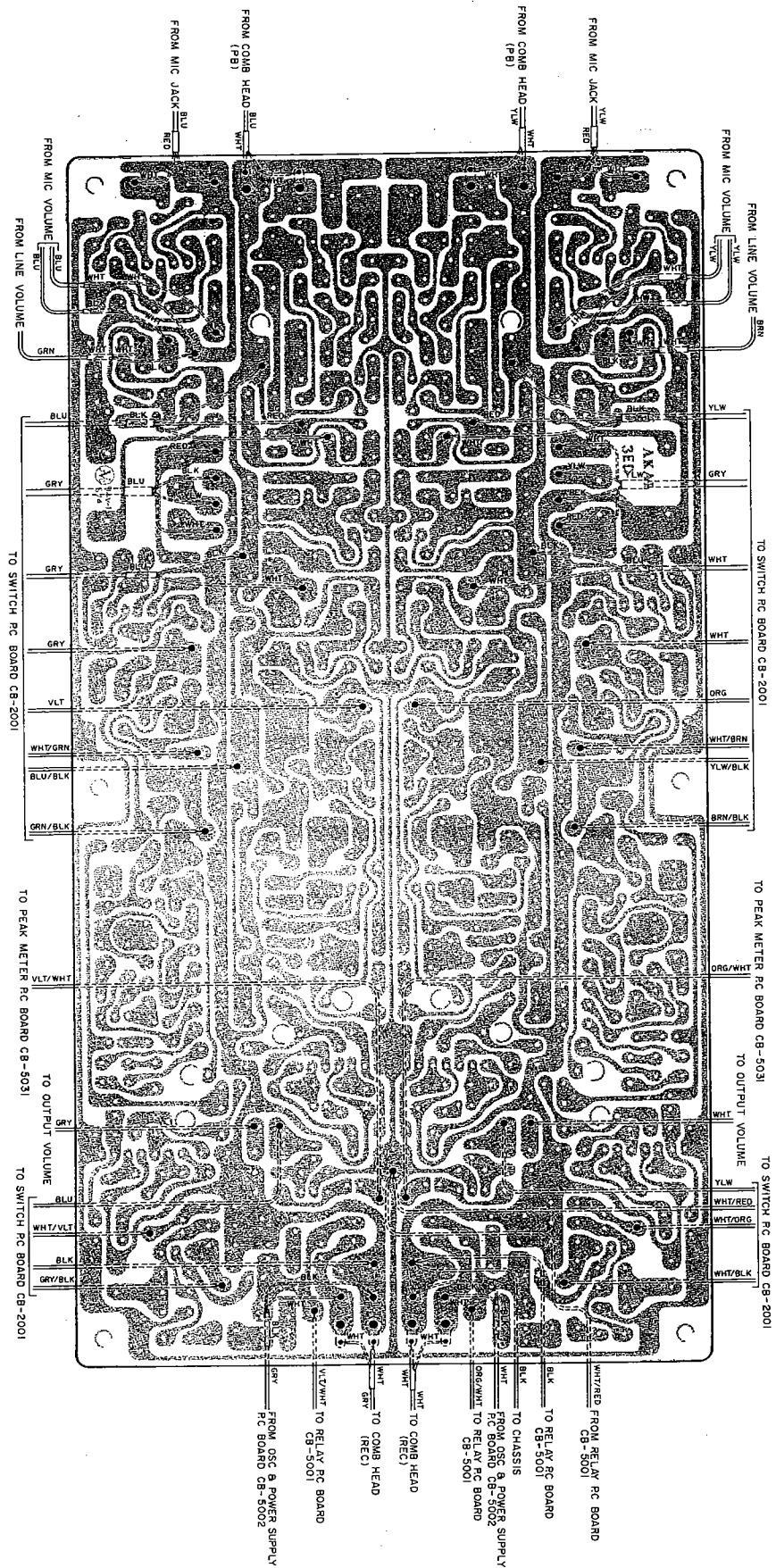
| P.C Board Title | P.C Board Number |
|------------------------------|------------------|
| Pre Amp P.C Board | CA-5205 |
| Power Supply & Osc P.C Board | CB-5002 |
| Peak Meter P.C Board | CB-5031 |
| SW. P.C Board | CB-2001 |
| Relay P.C Board | CB-5001 |
| Sys. Con P.C Board | CB-5004 |
| Servo P.C Board | CB-2025 |
| Noise Filter P.C Board | CB-2027 |
| Stop Detection P.C Board | CB-2026 |
| Lamp P.C Board | CB-2002 |
| LED P.C Board | CA-2051 |

Chart-3

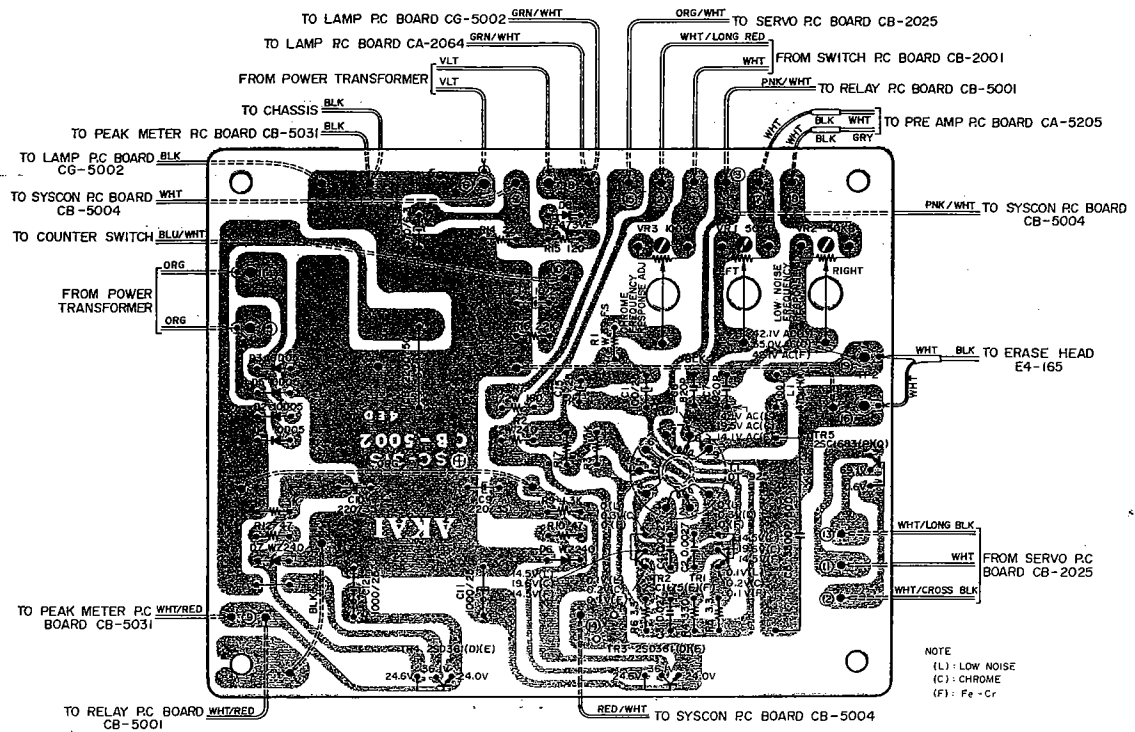
2. COMPOSITION OF VARIOUS P.C BOARDS

1) PRE AMP P.C BOARD CA-5205

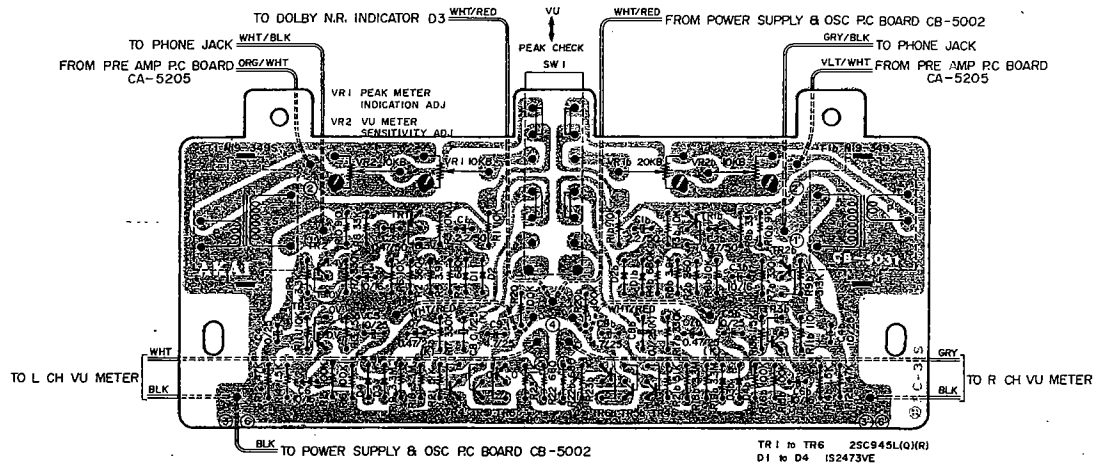




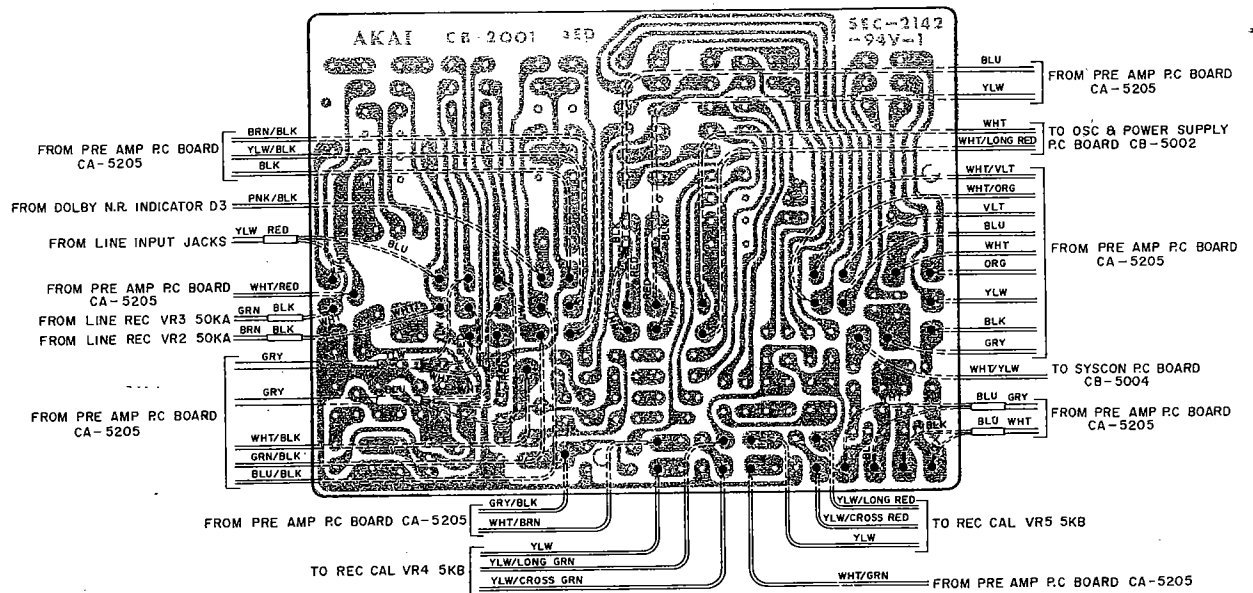
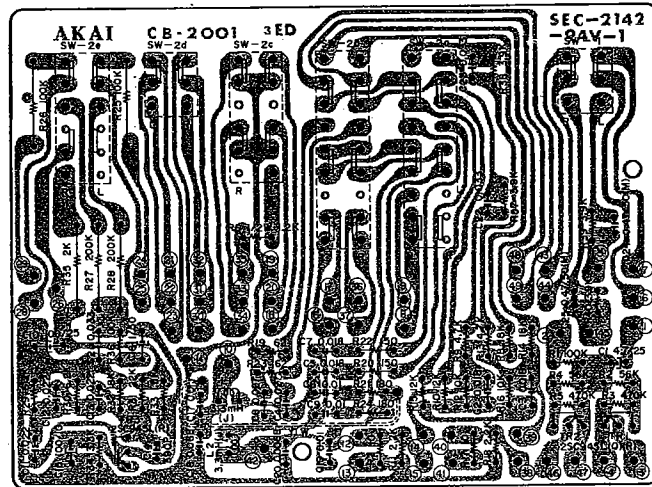
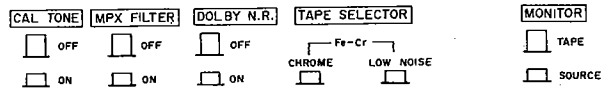
2) POWER SUPPLY OSC P.C BOARD CB-5002



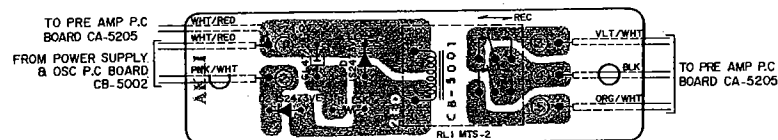
3) PEAK METER P.C BOARD CB-5031



4) SW. P.C BOARD CB-2001

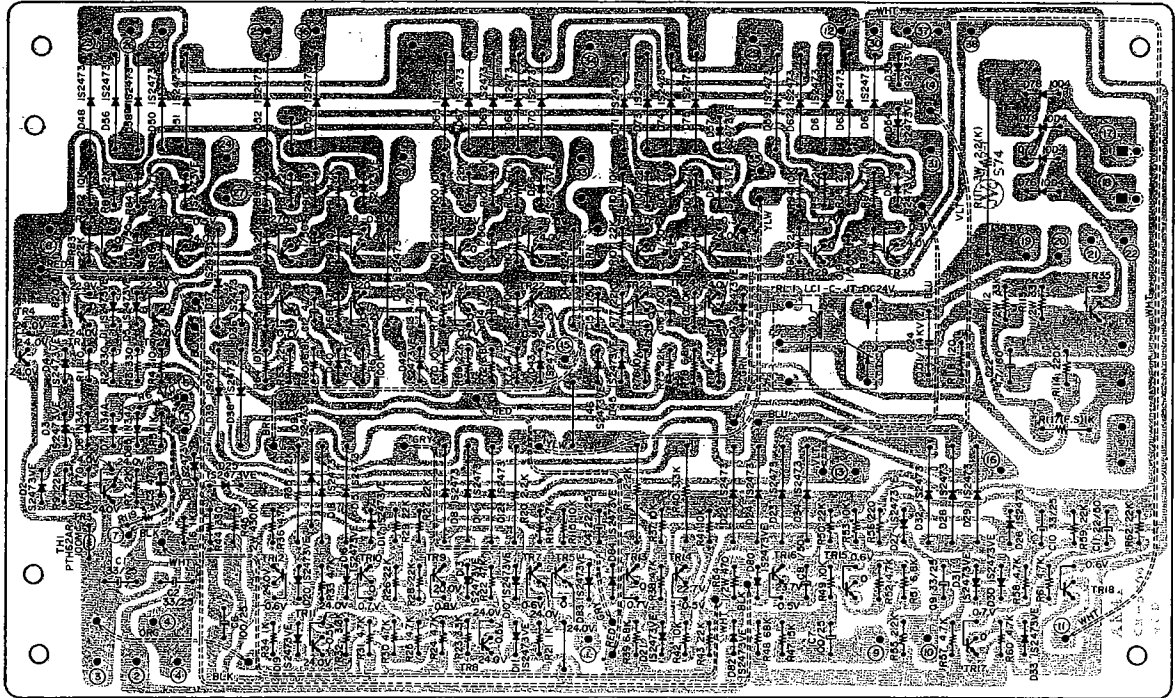


5) RELAY P.C BOARD CB-5001

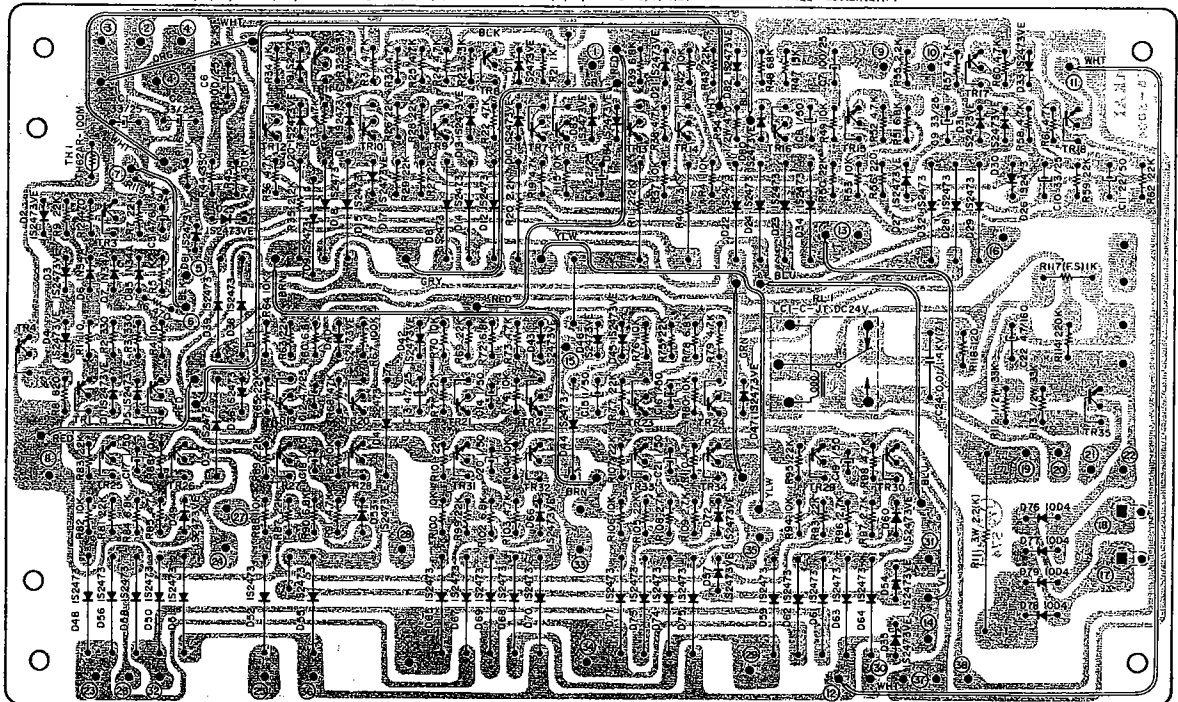


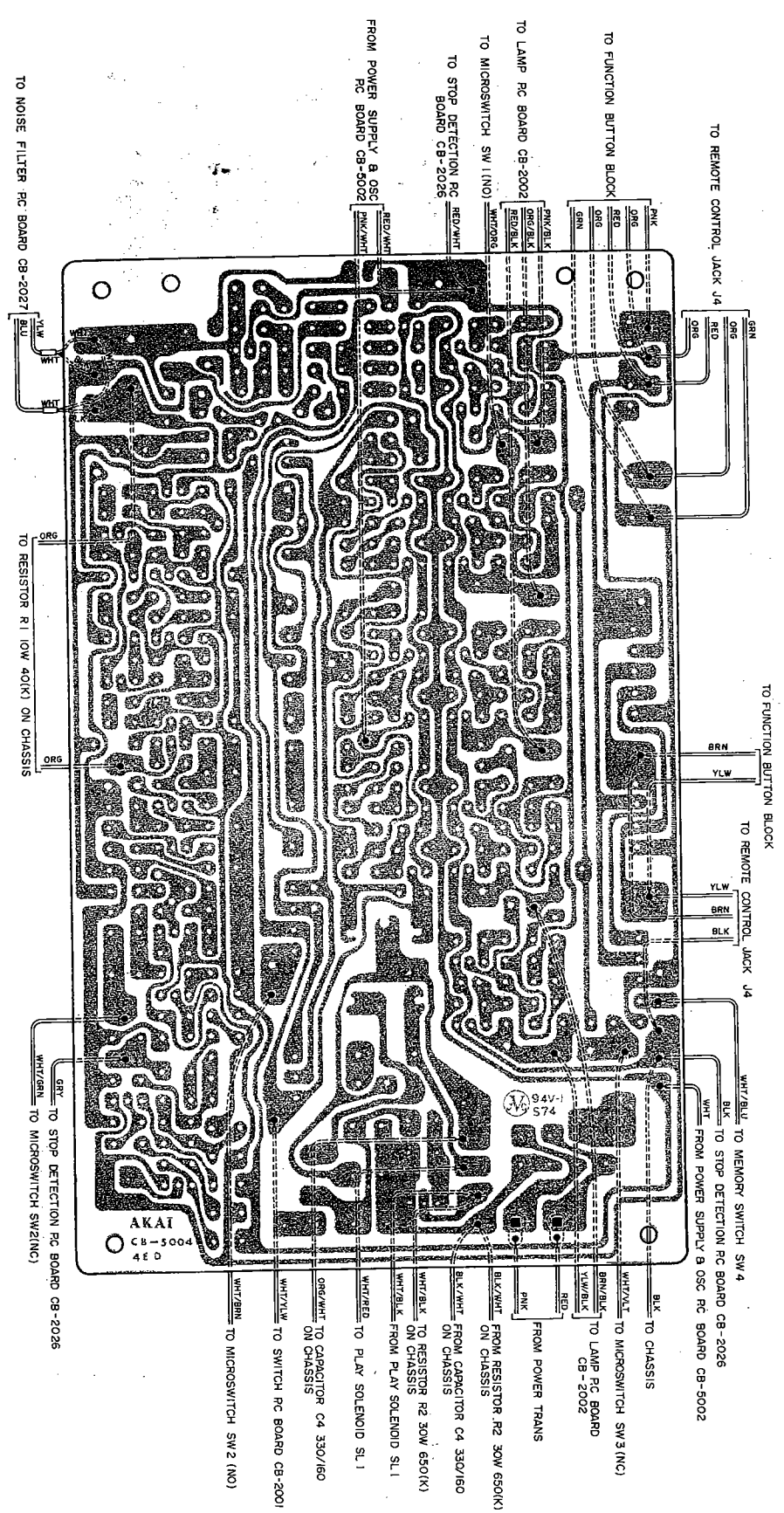
6) SYS. CON P.C BOARD CB-5004

TR1, TR2 25B605(K)(L) - TR3, TR9, TR10, TR13 to TR21, TR23, TR25 to TR34 25C945L(Q)(R) TR4 25D360(D)(E) TR5, TR7, TR12, TR24 25D571(K)(L) TR8, TR11 25A628(E)(F) TR22 25C1211(E)(F)

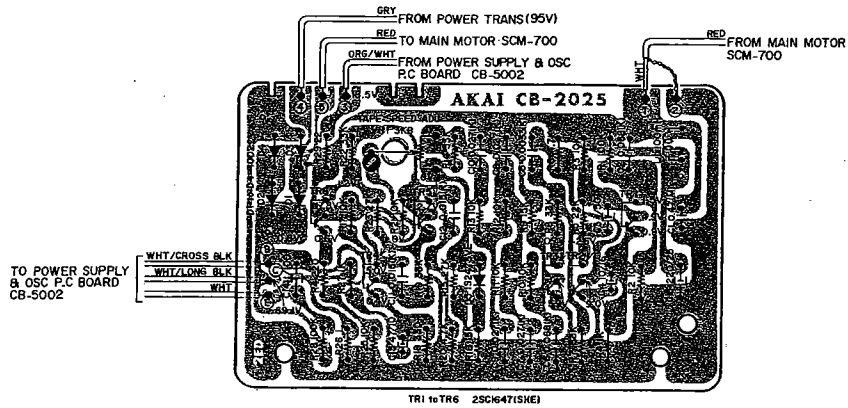


TR1, 2 25B605(K)(L) TR3, 9, 10, 13 to 21, 23, 25 to 34 25C945L(Q)(R) TR4 25D360(D)(E) TR5, 7, 12, 24 25D571(K)(L) TR8, 11 25A628(E)(F) TR22 25C1211(E)(F)

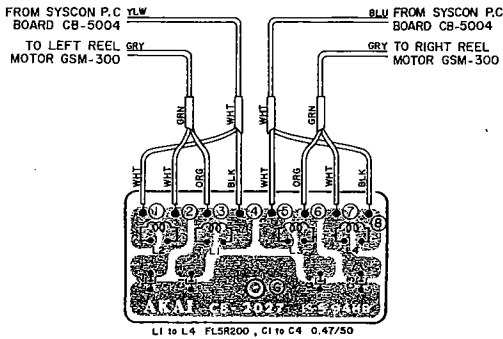




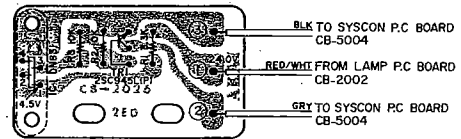
7) SERVO P.C BOARD CB-2025



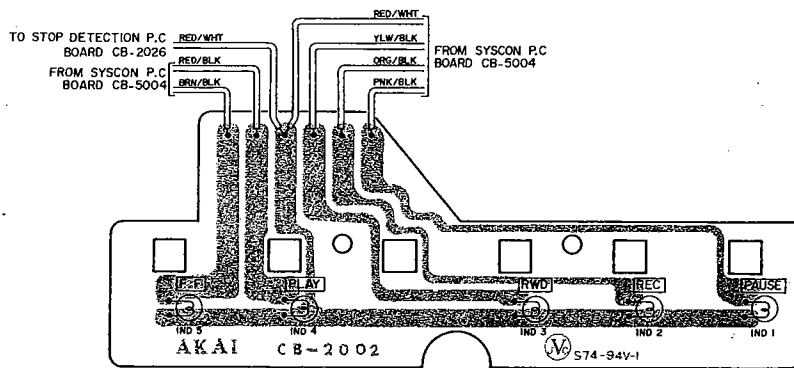
8) NOISE FILTER P.C BOARD CB-2027



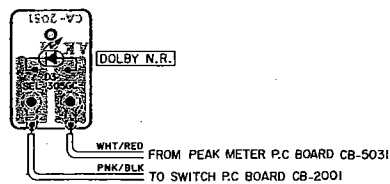
9) STOP DETECTION P.C BOARD CB-2026



10) LAMP P.C BOARD CB-2002



11) LED P.C BOARD CA-2051



MEMO

MEMO

MEMO

MEMO

SECTION 2

PARTS LIST

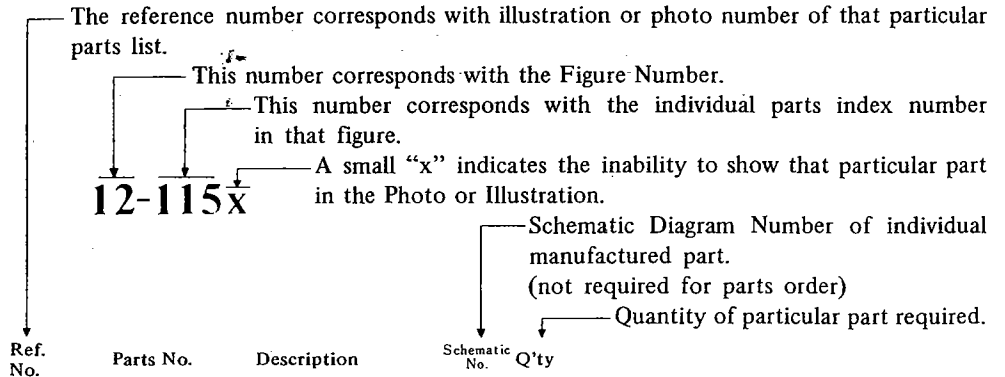
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| | (3) PEAK METER P.C BOARD (CB-5031) BLOCK | 42 |
| | (4) SW. P.C BOARD (CB-2001) BLOCK | 42 |
| | (5) RELAY P.C BOARD (CB-5001) BLOCK | 42 |
| | (6) SYS. CON P.C BOARD (CB-5004) BLOCK | 43 |
| | (7) SERVO P.C BOARD (CB-2025) BLOCK | 43 |
| | (8) NOISE FILTER P.C BOARD (CB-2027) BLOCK | 43 |
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| 12 | LIST OF INTERCHANGEABLE SEMICONDUCTORS | 48 |
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Resistor and Capacitor which is not listed in this parts list, please refer to COMMON LIST FOR SERVICE PARTS.

HOW TO USE THIS PARTS LIST

1. This parts list is compiled by various individual blocks based on assembly process.
2. When ordering parts, please describe parts number, serial number, and model number in detail.
3. How to read List



FLYWHEEL BLOCK #13

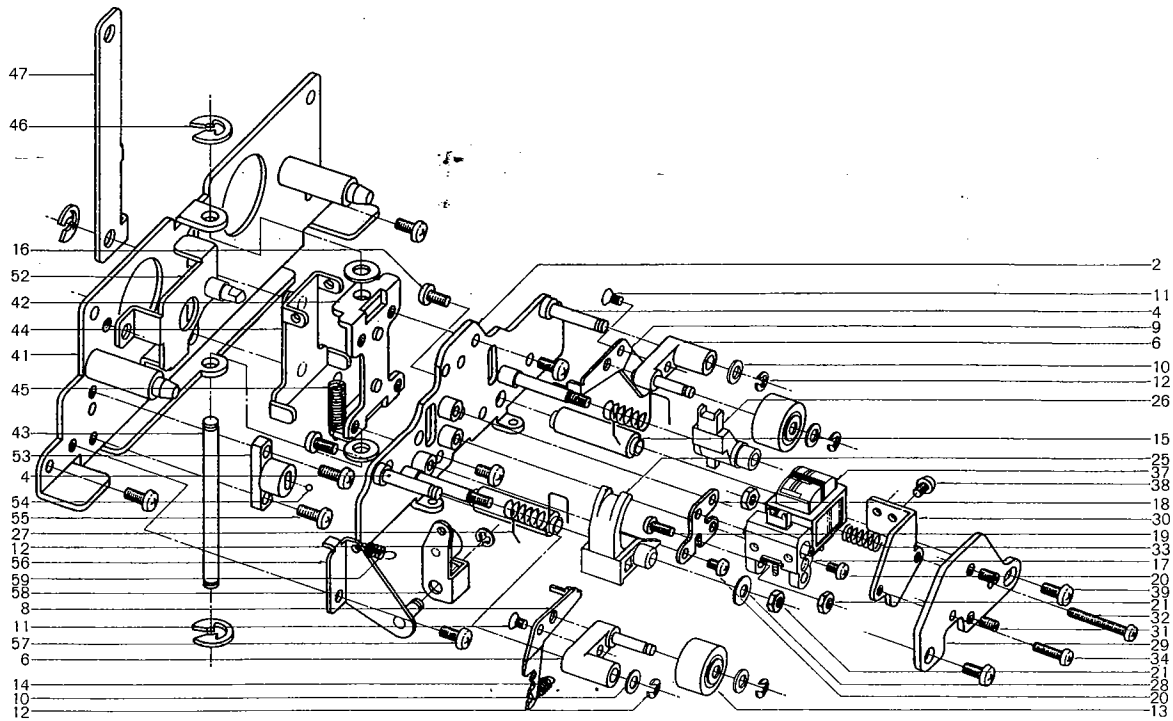
| | | | | |
|---------|--------|----------------------------|---------|---|
| 12-115x | 800425 | Flywheel Block Assy. Comp. | RDG #13 | 1 |
| 12-116 | 244506 | Flywheel Only | RD-233 | 1 |
| 12-117x | 244754 | Felt, Flywheel | RD-275 | 1 |
| 12-118 | 251324 | Main Metal Case | RD-236 | 1 |
| 12-119 | 253080 | Main Metal | RD-237 | 1 |

4. The symbol numbers shown on the P.C. Board list can be matched with the Composite Views of Components of the Schematic Diagram or Service Manual.
5. Please utilize separate "Common List for Service Parts" for Resistor Parts orders.
6. The shape of the parts and parts name, etc. can be confirmed by comparing them with the parts shown on the Electrical Parts Table of P.C. Board.
7. Both the kind of part and installation position can be determined by the Parts Number. To determine where a parts number is listed, utilize Parts Index at end of Parts List.
It is necessary first of all to find the Parts Number. This can be accomplished by using the Reference Number listed at right of parts number in the Parts Index. (meaning of ref. no. outlined in Item 3 above).
8. Utilize separate "Price List for Parts" to determine unit price. The most simple method of finding parts Price is to utilize the reference number.

BASIC PARTS LIST

| Parts Nomenclature | Parts No. | Parts Nomenclature | Parts No. |
|--------------------------------------|-----------|---|-----------|
| Cabinet CA-6008 | BC647076 | Power Transformer CBT-3 | BT666731 |
| Front Panel CB-6001 | BZ670386 | Power Transformer CBT-2 | BT666720 |
| Bottom Plate CA-6009 | SP647054 | Relay LC1-C-JT DC24V | EP616500 |
| Circular Foot A CA-6014 | SZ645243 | Relay MTS-2 | EP621808 |
| Lid Panel B Block Comp. | BD681491 | Solenoid Plunger 1660THT2 | EP537906 |
| Stop Detection P.C Board CB-2026 | BA670195 | 2-axial 2-throw Volume V24L5DWTN A50kx2 | EV669756 |
| Lamp P.C Board CB-2002 | BA670217 | Co-axial 2-throw Volume GJ10E B10kx2 | EV645851 |
| Switch P.C Board CB-2001 | BA670228 | Volume V12M4-1N15FH B5k | EV669868 |
| Noise Filter P.C Board CB-2027 | BA670230 | VU Meter KL-243S-30 | EM684450 |
| Servo P.C Board CB-2025 | BA670252 | Reel Table Block | BR670173 |
| Syscon P.C Board CB-5004 | BA670263 | Main Motor SCM-700 | BM670151 |
| Pre Amp P.C Board CA-5205 | BA671523 | Main Motor SCM-700 (CSA) | BM670162 |
| Relay P.C Board CB-5001 | BA670274 | Reel Motor GSM-300R | BM670140 |
| Peak Meter P.C Board CB-5031 | BA680027 | Reel Motor GSM-300L | BM670138 |
| Power Supply & OSC P.C Board CB-5002 | BA670331 | Flywheel CB-1018 | BF667618 |
| Protection P.C Board CB-5028 | BA671207 | Capstan Shaft CB-1022 | MS667631 |
| LED P.C Board CA-2051 | EA647188 | Steel Ball | MV666887 |
| Rec, PB Combination Head PR4-2 | HP671174 | Capstan Belt CB-1034 | MB669036 |
| Erase Head E4-165 | HE636963 | Counter Belt CC-1034 | MB415743 |
| Head Base Block Comp. | BH661285 | Counter SMP-390-79 | MC666674 |
| Push Button Knob J | SK634410 | MP Capacitor 6 μ F 150WV AC | EC412582 |
| Push Button Knob I | SK631304 | Microswitch SS-5GL | ES477966 |
| Single Knob B CA-6013 | SK645030 | Microswitch SS-5GL-13 | ES494188 |
| Double Knob (Upper) CA-6201 | SK669993 | Push Switch SPJ-10114B | ES619053 |
| Double Knob (Lower) CA-6202 | SK654750 | Push Switch TV-3 JH5 | ES479395 |
| Rec CAL Knob CA-5203 | SK669971 | Push Switch JS-09 | ES499972 |
| Memory Cap CA-6010 | SZ645221 | Lamp 24V 35MA | EL619064 |
| Operate Button Block | BZ670206 | MPX Filter FB1801M | ER669734 |
| Power Transformer CBT-1 | BT664718 | | |

1 ILLUSTRATION OF HEAD BASE/SUB FRAME BLOCK

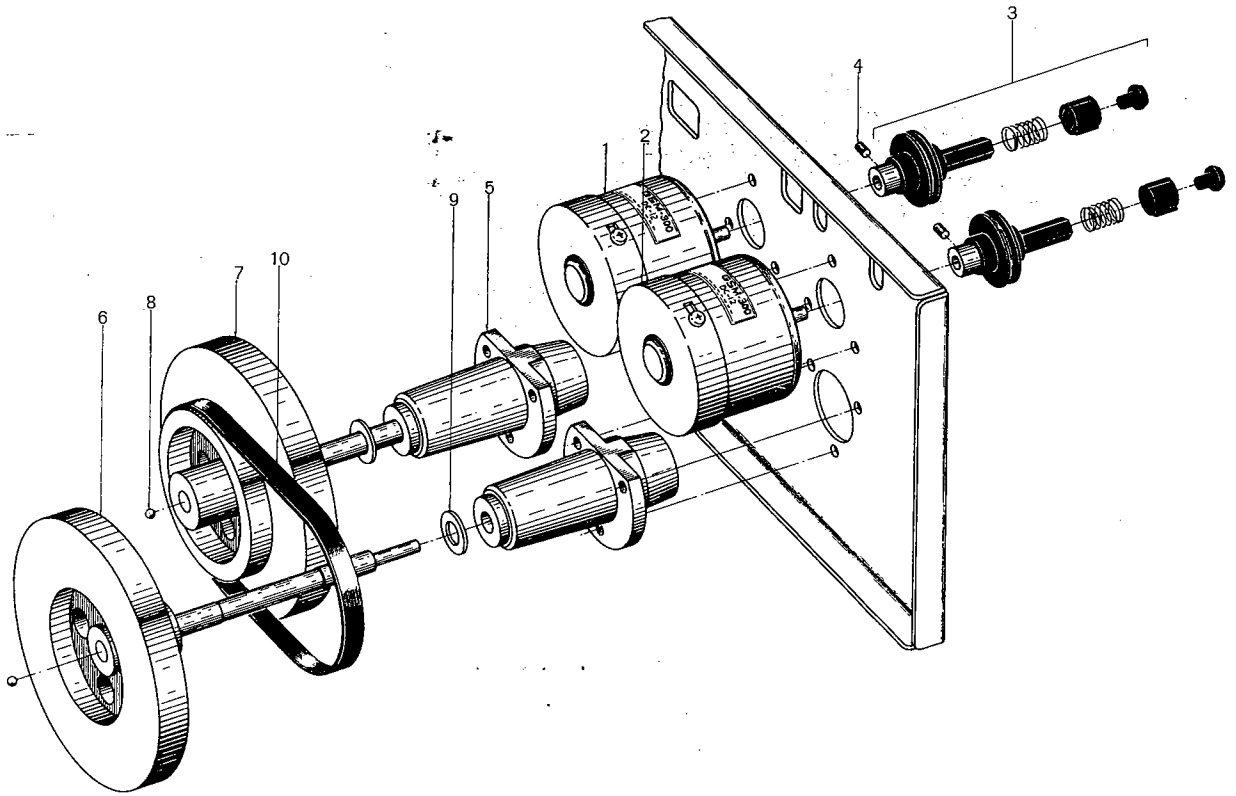


1) HEAD BASE/SUB FRAME BLOCK

| Ref. No. | Parts No. | Description | Schematic No. | Q'ty | Ref. No. | Parts No. | Description | Schematic No. | Q'ty |
|------------------------|-----------|---|---------------|------|------------------------|-----------|-------------------------------|---------------|------|
| HEAD BASE BLOCK | | | | | SUB FRAME BLOCK | | | | |
| 1-1x | BZ211105 | Head Base Block Comp. | CA2,CB,CI | 1 | 1-32 | ZS303625 | Screw, pan head 2.3x16 | | 1 |
| 1-2 | HZ227158 | Head Table D (New) | CA-0018 | 1 | 1-33 | ZG465636 | Angle Adjust Spring | CG-0029 | 1 |
| 1-3x | HZ683673 | Head Table B, w/shaft (old) | CA-0001 | 1 | 1-34 | ZS391522 | Screw, pan head 2.3x8 | | 1 |
| 1-4 | MS227136 | PW Arm Shaft B | CA-0017 | 2 | 1-35x | ZW562476 | Earth Lug M3 | | 1 |
| 1-5x | ZW273756 | Nut M3 | | 2 | 1-36x | ZS417216 | Screw, pan head 3x4 | | 2 |
| 1-6 | ML645063 | PW Arm, w/shaft | CA-0004 | 2 | 1-37 | BH671174 | REC/PB HEAD PR4-2 | CW,CA2,CB,CI | 1 |
| 1-7x | ZW273745 | Spring-Washer M3 | | 2 | 1-38 | ZS461395 | Screw, round head 2x3 | | 2 |
| 1-8 | ML641621 | Arm A | CA-0006 | 1 | 1-39 | ZS379350 | Screw, pan head 3x6 | | 2 |
| 1-9 | ML641632 | Arm B | CA-0006 | 1 | 1-40x | EA669510 | PR4-1 Terminal P.C Board | CW-0045 | 1 |
| 1-10 | ZW364364 | Washer (Polyslider) D3.1x5x0.25t | | 4 | SUB FRAME BLOCK | | | | |
| 1-11 | ZS524812 | Screw, countersunk head 2x4 | | 4 | 1-41 | TC668092 | Sub Frame, w/pin | CB-0001 | 1 |
| 1-12 | ZW270088 | 'E' Ring 1.9M | 6-1-9 | 5 | 1-42 | TC667416 | Head Table Guide | CB-0002 | 1 |
| 1-13 | MP612628 | Pinch Roller | CW-0010 | 2 | 1-43 | MS667473 | Guide Shaft B | CB-0007 | 1 |
| 1-14 | ZG644411 | PW Arm Spring | CA-0009 | 2 | 1-44 | TC667427 | Head Table Slide 1, w/pin 3 | CB-0003 | 1 |
| 1-15 | HZ644400 | Head Hanger Post | CA-0007 | 2 | 1-45 | ZG542215 | Spring B | CZ-1011 | 2 |
| 1-16 | ZS379405 | Screw, binding head 3x6 | | 2 | 1-46 | ZW290283 | 'U' Ring 2.85M | 6-1-1 | 4 |
| 1-17 | HE636963 | ERASE HEAD E4-165 | CW,CA2,CB,CI | 1 | 1-47 | TC667451 | Play Lever Joint | CB-0006 | 1 |
| 1-18 | HZ227103 | Erase Head Plate B (New) | CA-0213 | 1 | 1-48x | ZW450753 | Washer (Nylon) D4.1x9x1t | | 1 |
| 1-19 | ZS464692 | Screw, binding head 2.3x6 | | 1 | 1-49x | ZW222388 | Washer (Rubber) | 24X-739 | 1 |
| 1-20 | ZS477876 | Screw, pan head 2x3 | | 2 | 1-50x | ZW562476 | Earth Lug M3 | | 1 |
| 1-21 | ZW485728 | Nut M2.3 | | 4 | 1-51x | ZS325495 | Tapping Screw #2 3x6 (BR) | | 1 |
| 1-22x | ZS608106 | Screw, pan head 2x6 | | 1 | 1-52 | TC667438 | Reference Table, w/pin | CB-0004 | 1 |
| 1-23x | ZG227114 | EH Adjust Spring (New) | CA-0214 | 1 | 1-53 | MS645153 | Ball Guide | CA-2013 | 1 |
| 1-24x | ZW273666 | Spring Washer M2.3 | | 1 | 1-54 | MV522235 | Steel Ball 3/32 inch | | 1 |
| 1-25 | MS659913 | Tape Guide B | CA-0208 | 1 | 1-55 | ZS422076 | Screw, pan head 3x5 | | 4 |
| 1-26 | MS659902 | Tape Guide | CA-0207 | 1 | 1-56 | MZ642104 | Arm Shaft Bracket, w/shaft | CA-2016 | 1 |
| 1-27 | ZG659880 | Tape Guide Spring | CA-0205 | 2 | 1-57 | ZS417216 | Screw, pan head 3x4 | | 1 |
| 1-28 | ZW669148 | Washer D2.3x7x0.3t | | 2 | 1-58 | TC642115 | Pressure Roller Arm, w/roller | CA-2018 | 1 |
| 1-29 | HZ669892 | Head Hanger B | CA-0201 | 1 | 1-59 | ZG569384 | Selector Spring | CP-1166 | 1 |
| 1-30 | HZ669903 | Head Mt. Parts | CA-0203 | 1 | 1-60x | ZG386335 | Stop Lever Spring | CS-3011 | 1 |
| 1-31 | ZS356804 | Set Screw, hexagon socket 3x4 (cup/p.) | | 2 | 1-61x | HZ567202 | Erase Head Plate (old) | CP-0029 | 1 |

When ordering parts, Please describe Parts Number, Serial Number, and Model Number in detail.

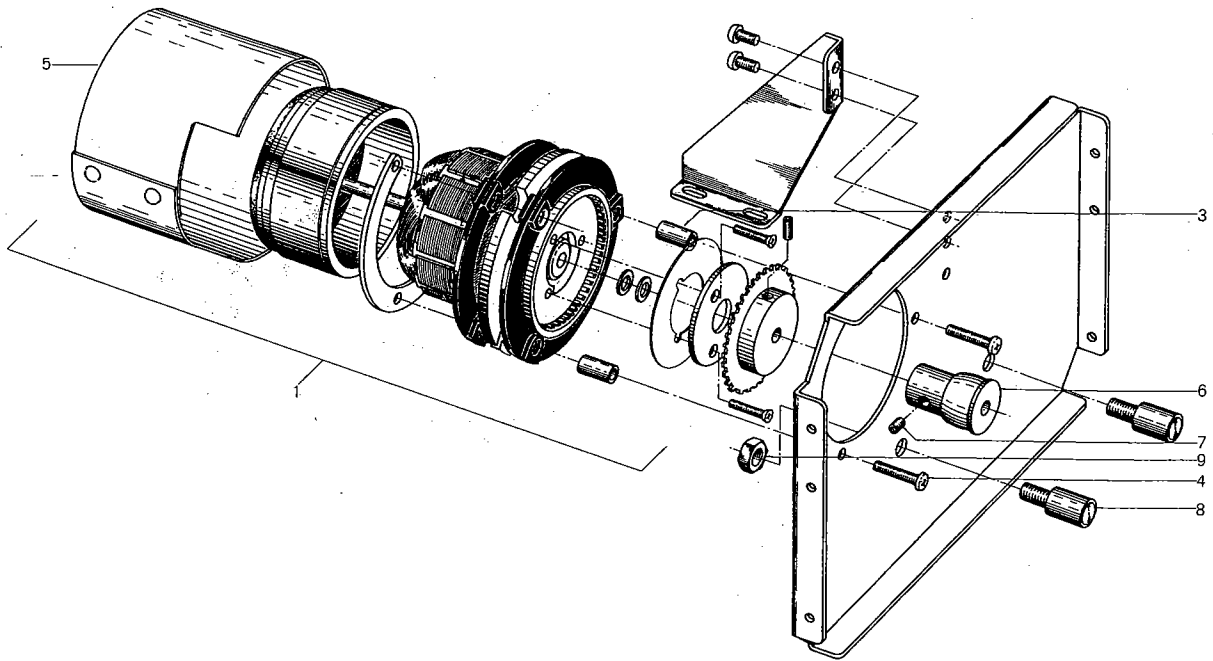
2 ILLUSTRATION OF REEL MOTOR/TABLE BLOCK



2) REEL MOTOR/TABLE BLOCK

| Ref. No. | Parts No. | Description | Schematic No. | Qty |
|-------------------------|-----------|---|---------------|-----|
| REEL MOTOR BLOCK | | | | |
| 2-1 | BM670140 | Motor (GSM-300R) Block | | 1 |
| | | Comp. | CB, CI | |
| 2-2 | BM670138 | Motor (GSM-300L) Block | | 1 |
| | | Comp. | CB, CI | |
| REEL TABLE BLOCK | | | | |
| 2-3 | BR670173 | Reel Table Block Comp. | CB, CI | 1 |
| 2-4 | ZS521987 | Set Screw, hexagon socket 2.6x4 (cup/p.) | | 1 |
| 2-5 | TC667620 | Min Case | CB-1020 | 2 |
| 2-6 | BF667618 | Flywheel A | CB-1018 | 1 |
| 2-7 | BF668790 | Flywheel B | CB-1018 | 1 |
| 2-8 | MV666887 | Steel Ball D2.5 | | 2 |
| 2-9 | ZW597543 | Thrust Washer A (Nylon) 1t | KJ-7009 | 2 |
| 2-10 | MB669036 | Capstan Belt | CB-1034 | 1 |

3 ILLUSTRATION OF MOTOR BLOCK

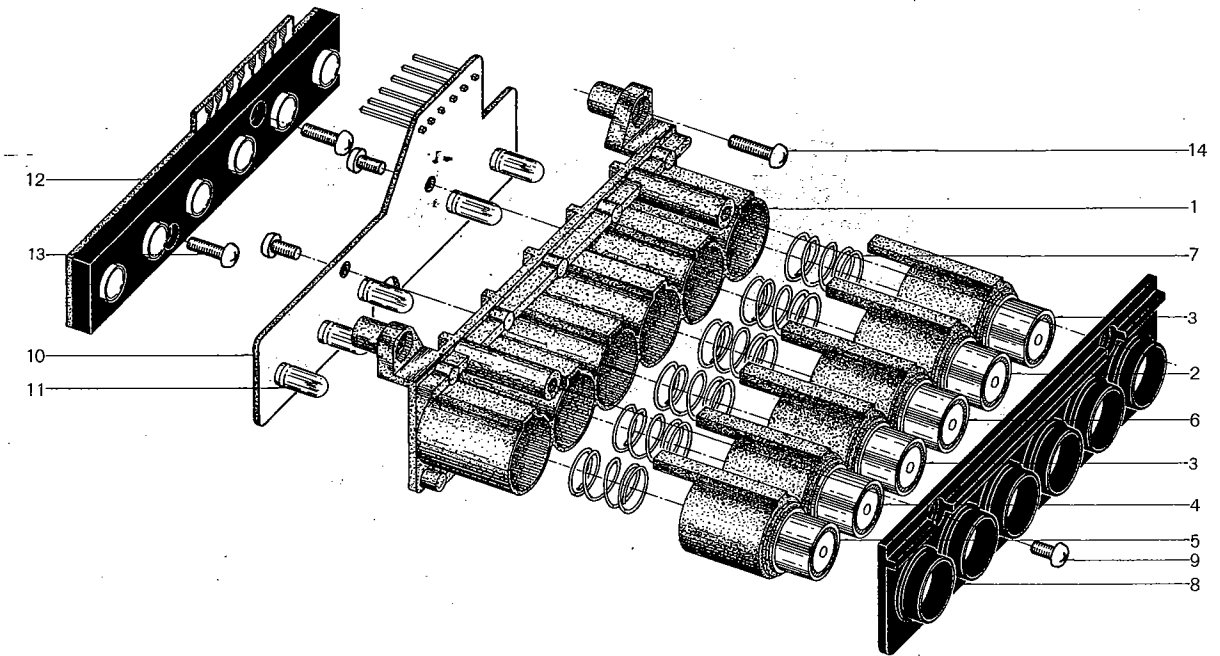


3) MOTOR BLOCK

| Ref. No. | Parts No. | Description | Schematic No. | Q'ty |
|----------|-----------|---|---------------|------|
| 3-1 | BM670151 | Motor Block Comp. (SCM-700) | | 1 |
| 3-2x | BM670162 | Motor Block Comp. (SCM-700) (CSA) | | 1 |
| 3-3 | MZ659981 | Stop Tube | CA-2205 | 3 |
| 3-4 | ZS422965 | Screw, pan head 3x15 | | 3 |
| 3-5 | MZ668968 | Motor Shield | CB-7034 | 1 |
| 3-6 | MR668068 | Motor Pulley | CB-7003 | 1 |
| 3-7 | ZS356804 | Set Screw, hexagon socket 3x4 (cup/p.) | | 2 |
| 3-8 | MZ668057 | Capstan Support | CB-7002 | 2 |
| 3-9 | ZW668452 | Metal Nut | 7-1-64 | 2 |

When ordering parts, Please describe Parts Number, Serial Number, and Model Number in detail.

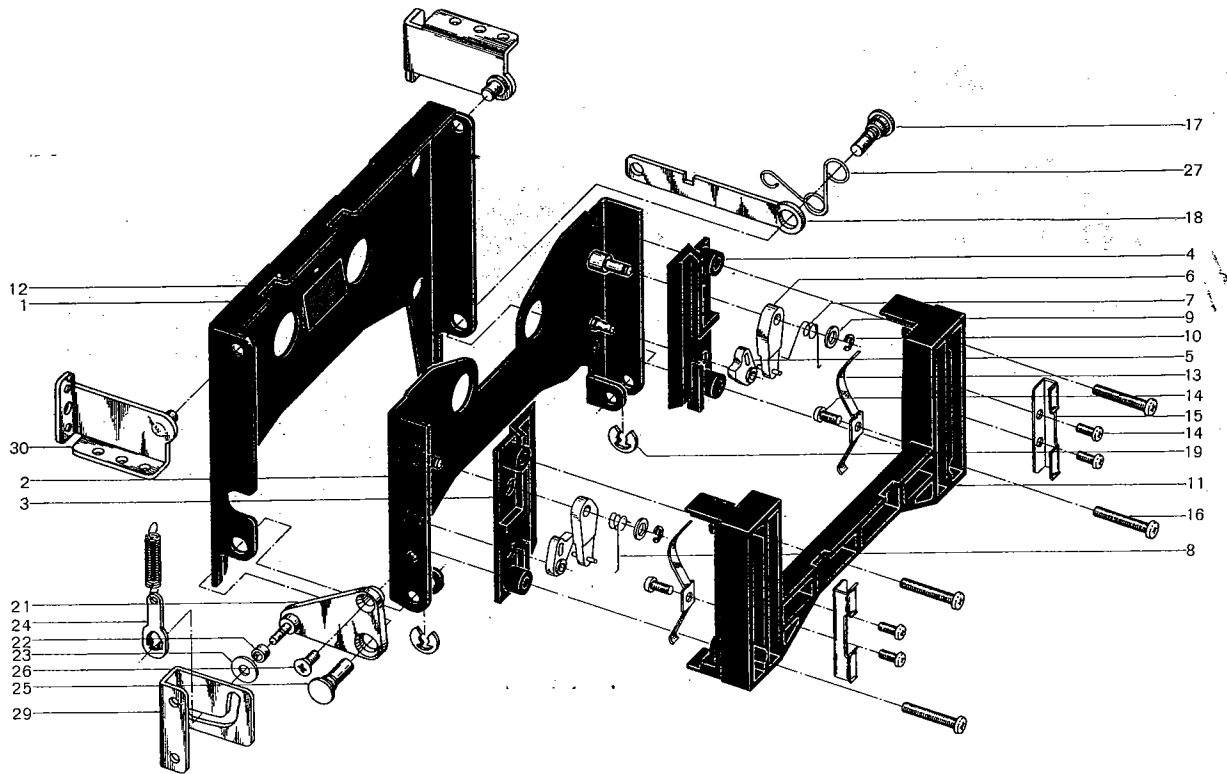
4 ILLUSTRATION OF OPERATE BUTTON BLOCK



4) OPERATE BUTTON BLOCK

| Ref. No. | Parts No. | Description | Schematic No. | Q'ty |
|----------|-----------|----------------------------------|---------------|------|
| 4-1 | TC668125 | Button Base | CB-2004 | 1 |
| 4-2 | BZ667844 | Button Color Comp. A | CB-2012 | 1 |
| 4-3 | BZ667855 | Button Color Comp. B | CB-2012 | 2 |
| 4-4 | BZ667866 | Button Color Comp. C | CB-2012 | 1 |
| 4-5 | BZ667877 | Button Color Comp. D | CB-2012 | 1 |
| 4-6 | BZ667888 | Button Color Comp. E | CB-2012 | 1 |
| 4-7 | ZG667811 | Button Spring | CB-2009 | 6 |
| 4-8 | SZ684696 | Button Cover | CB-2013 | 1 |
| 4-9 | ZS325495 | Tapping Screw #2 3x6 (BR) | | 4 |
| 4-10 | BA670217 | Lamp P.C Board Comp. | CB-2002 | 1 |
| 4-11 | EL619064 | Lamp (L/T) 24V 35MA | 28-2-40 | 5 |
| 4-12 | ES666685 | Keyboard SW. CB | 25-5-198 | 1 |
| 4-13 | ZS666336 | Tapping Screw #2 3x8 Pan head | | 2 |
| 4-14 | ZS462802 | Tapping Screw #2 3x15 (BR) | | 3 |

5 ILLUSTRATION OF CASSETTE HOLDER BLOCK

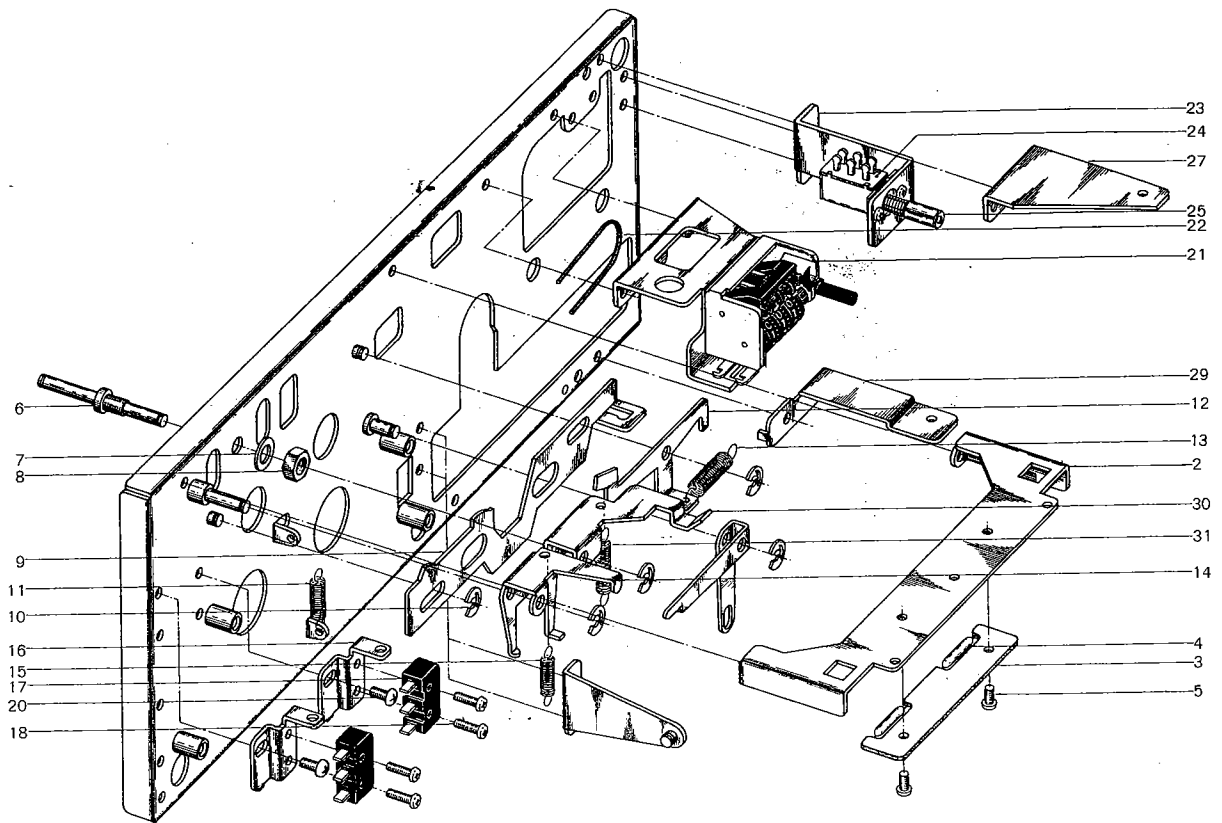


5) CASSETTE HOLDER BLOCK

| Ref. No. | Parts No. | Description | Schematic No. | Q'ty |
|----------|-----------|------------------------------------|---------------|------|
| 5-1 | TC646931 | Trap, w/boss | CA-2020 | 1 |
| 5-2 | TC646920 | Cassette Holder | CA-2023 | 1 |
| 5-3 | MS595563 | Cassette Guide L | CH-2007 | 1 |
| 5-4 | MS595552 | Cassette Guide R | CH-2006 | 1 |
| 5-5 | ML595574 | Detector Lever A | CH-2008 | 2 |
| 5-6 | ML595585 | Cassette Lever B | CH-2009 | 2 |
| 5-7 | ZG595618 | Spring A | CH-2004 | 1 |
| 5-8 | ZG595620 | Spring B | CH-2005 | 1 |
| 5-9 | ZW592391 | Washer (PBP) D3.2x6x0.3t | | 2 |
| 5-10 | ZW270088 | 'E' Ring 1.9M | 6-1-9 | 2 |
| 5-11 | TC647065 | Cassette Case | CA-2024 | 1 |
| 5-12 | TC645186 | Reflector | CA-2071 | 1 |
| 5-13 | ZG207257 | Sheet Spring B | CI-2019 | 2 |
| 5-14 | ZS669104 | Tapping Screw #2 2.3x6 pan head | | 6 |
| 5-15 | TC642148 | Lid Chuck | CA-2026 | 2 |
| 5-16 | ZS592402 | Screw, pan head 3x18 | | 4 |
| 5-17 | MH664064 | Hinge Pin B | CB-2029 | 1 |
| 5-18 | TC666156 | Band Plate B | CB-2024 | 1 |
| 5-19 | ZW290283 | 'U' Ring 2.85M | 6-1-1 | 1 |
| 5-20x | ZW260122 | Washer (Nylon) D6.1x10x1t | | 1 |
| 5-21 | ML699412 | Eject Guide Arm A | CA-2027 | 1 |
| 5-22 | MR203804 | Roller | CB-1056 | 1 |
| 5-23 | ZW259503 | Washer (Nylon) D3.1x8x0.5t | | 1 |
| 5-24 | MZ203815 | Spring Hook | CB-1057 | 1 |
| 5-25 | MH644916 | Hinge Pin | CA-2028 | 1 |
| 5-26 | ZS414033 | Screw, countersunk head 3x8 | | 1 |
| 5-27 | ZG227452 | Spring D | CA-2031 | 1 |
| 5-28x | ZW322110 | Washer (Nylon) D6.1x10x1.0t | | 1 |
| 5-29 | MS642374 | Eject Guide | CA-2066 | 1 |
| 5-30 | TC642071 | Pin Stand | CA-1099 | 2 |

When ordering parts, Please describe Parts Number, Serial Number, and Model Number in detail.

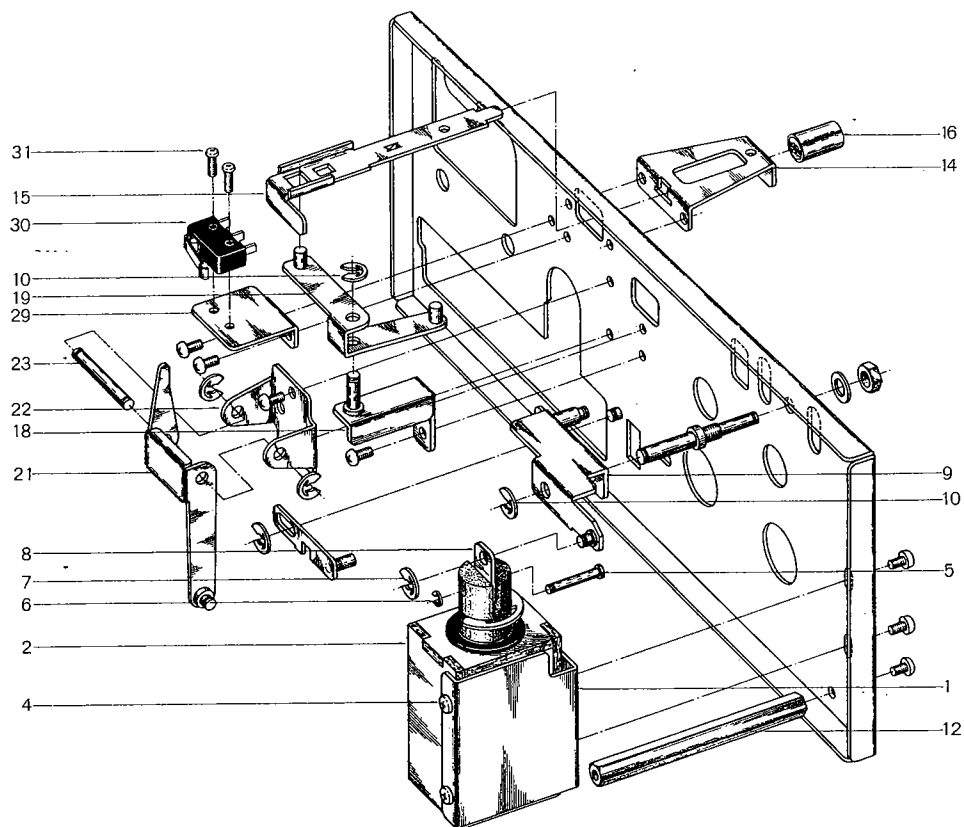
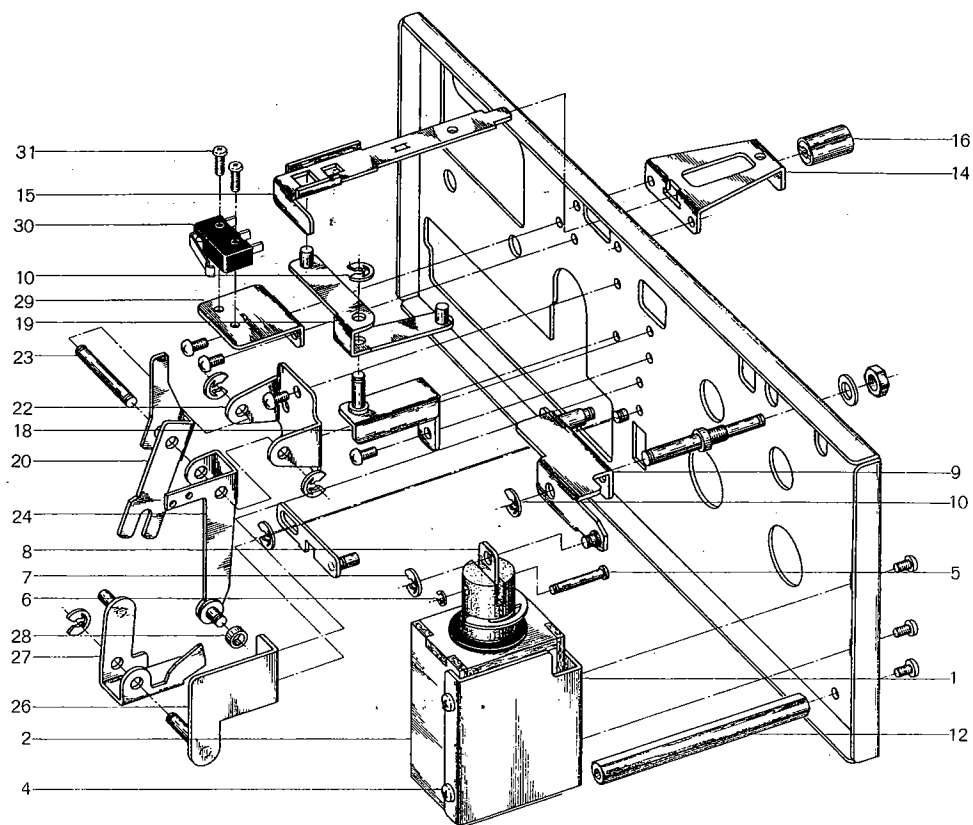
6 ILLUSTRATION OF MECHA FRAME BLOCK (1)



6) MECHA FRAME BLOCK (1)

| Ref. No. | Parts No. | Description | Schematic No. | Q'ty | Ref. No. | Parts No. | Description | Schematic No. | Q'ty |
|---------------------------|-----------|-------------------------|---------------|------|----------|-----------|---------------------------------------|---------------|------|
| LAMP STAND BLOCK | | | | | | | | | |
| 6-1x | BZ681917 | Lamp Stand Block Comp. | CB | 1 | 6-16 | TC667574 | M SW. Table A | CB-1012 | 2 |
| 6-2 | TC642363 | Lamp Stand | CA-2065 | 1 | 6-17 | ES477966 | Micro SW. SS-5GL | 25-1-23 | 2 |
| 6-3 | EA647190 | Lamp P.C Board | CA-2064 | 1 | 6-18 | ZS487091 | Screw, pan head 2.3x8 | | 4 |
| 6-4 | EL295312 | Lamp (L/T) 8V 0.2A | 28-2-8 | 2 | 6-19x | ZW273633 | Earth Lug M2.3 | | 1 |
| 6-5 | ZS417161 | Screw, pan head 2.3x4 | | 3 | 6-20 | ZS325495 | Tapping Screw #2 3x6 (BR) | | 4 |
| MECHA. FRAME BLOCK | | | | | | | | | |
| 6-6 | MH667506 | Head Table Arm Prop | CB-1004 | 1 | 6-21 | BZ699996 | Counter Block Comp. | CB-1048 | 1 |
| 6-7 | ZW675033 | Washer D5.1x10.3x0.8t | | 1 | 6-22 | MB415743 | Counter Belt A D96x1x1 | CC-1034 | 1 |
| 6-8 | ZW668452 | Metal Nut | 7-1-64 | 1 | 6-23 | TC667721 | SW. Bracket | CB-1031 | 1 |
| 6-9 | TC693303 | Joint Slide | CI-1006 | 1 | 6-24 | ES619053 | Push SW. SPJ-10114B | 25-5-144 | 1 |
| 6-10 | ZW290283 | 'U' Ring 2.85M | 6-1-1 | 2 | 6-25 | SZ645221 | Memory Cap | CA-6010 | 1 |
| 6-11 | ZG224796 | New Spring D | MMH-142 | 1 | 6-26x | BZ651240 | Spacer 3x10 | 7-2-6 | 3 |
| 6-12 | TC690412 | Protector Plate | CI-1017 | 1 | 6-27 | TC667642 | Panel Support A | CB-1023 | 1 |
| 6-13 | ZG217337 | Belt Return Spring | 4TR-224 | 1 | 6-28x | MT553948 | Wire Band B | 2-35-3 | 2 |
| 6-14 | ML667462 | Rec Lever, w/pin (2) | CB-1006 | 1 | 6-29 | TC220871 | Panel Support C | CB-1058 | 1 |
| 6-15 | ZG359638 | FF Idler Wheel A Spring | PX-146 | 1 | 6-30 | ML667528 | Detector Lever, w/pin (2) | CB-1007 | 1 |
| | | | | | 6-31 | ZG392804 | Auto. Change Lever E Return Spring | CS-2566 | 1 |

7 ILLUSTRATION OF MECHA FRAME BLOCK (2)



When ordering parts, Please describe Parts Number, Serial Number, and Model Number in detail.

7) MECHA FRAME BLOCK (2)

| Ref. No. | Parts No. | Description | Schematic No. | Q'ty |
|--------------------------|-----------|------------------------------|---------------|------|
| PLUNGER BLOCK | | | | |
| 7-1 | TC667956 | Plunger Mount | CB-2023 | 1 |
| 7-2 | EP537906 | Plunger Solenoid 1660THT2 | 44-1-54 | 1 |
| 7-3x | ED224550 | Silicon Diode 10D4 | 45-2-16 | 1 |
| 7-4 | ZS422076 | Screw, pan head 3x5 | | 2 |
| 7-5 | MH533913 | Connecting pin | TW-2010 | 1 |
| 7-6 | ZW270088 | 'E' Ring 1.9M | 6-1-9 | 1 |
| 7-7 | ZW270101 | 'E' Ring 3M | 6-1-9 | 1 |
| 7-8 | TC667945 | Plunger Joint | CB-2022 | 1 |
| 7-9 | ML667675 | Head Table Arm, w/pin A,B | CB-1026 | 1 |
| 7-10 | ZW290283 | 'U' Ring 2.85M | 6-1-1 | 6 |
| 7-11x | MH667506 | Head Table Arm Prop | CB-1004 | 1 |
| MECHA FRAME BLOCK | | | | |
| 7-12 | MH667517 | Motor Prop | CB-1005 | 3 |
| 7-13x | ZS421806 | Screw, pan head 3x8 | | 3 |
| 7-14 | TC642273 | Eject Slot | CA-2052 | 1 |
| 7-15 | TC667653 | Eject Key | CB-1024 | 1 |
| 7-16 | SK631304 | Push Button Knob I | 91-5051 | 1 |
| 7-17x | ZS325495 | Tapping Screw #2 3x6 (BR) | | 10 |
| 7-18 | TC694697 | Eject Lever Table B, w/shaft | CB-1015 | 1 |
| 7-19 | ML693325 | Eject Lever D, w/pin | CI-1009 | 1 |
| 7-20 | ML690232 | Cancellation Lever (New) | CI-1002 | 1 |
| 7-21 | ML641698 | Cancellation Lever (Old) | CA-1037 | 1 |
| 7-22 | TC641700 | Eject Lever Pillow | CA-1038 | 1 |
| 7-23 | MH644646 | Eject Lever Pin | CA-1036 | 1 |
| 7-24 | ML693281 | Spring Lever, w/pin | CI-1004 | 1 |
| 7-25x | ZG314818 | D Lever Spring | MR-114 | 1 |
| 7-26 | TC690221 | Lock Plate Table | CI-1001 | 1 |
| 7-27 | TC221916 | Lock Plate B, w/pin (2) | CB-1060 | 1 |
| 7-28 | MR221927 | Roller | CB-1059 | 1 |
| 7-29 | TC667585 | M SW. Table B | CB-1013 | 1 |
| 7-30 | ES494188 | Micro SW. SS-5GL-13 | 25-1-25 | 1 |
| 7-31 | ZS487091 | Screw, pan head 2.3x8 | | 2 |

8 P.C BOARDS

(1) PRE AMP P.C BOARD (CA-5205) BLOCK

| Symbol No. | Parts No. | Description | Q'ty |
|---------------------------------|-----------|---|------|
| (1)-1 | BA671523 | Pre Amp P.C Board Comp. (CA-5205) | 1 |
| (1)-IC1 | EI669655 | IC μ PC1024H | 2 |
| (1)-IC2 | EI669666 | IC μ PC1023H | 2 |
| (1)-IC3 | EI669655 | IC μ PC1024H | 2 |
| (1)-IC4 | EI669712 | IC TA7122AP | 2 |
| (1)-TR1 | ET669633 | FET Transistor 2SK68A (L) (M) | 2 |
| (1)-TR2,3 | ET459810 | Transistor 2SC1222 (E)(F) | 4 |
| (1)-TR4,5 | ET234854 | Transistor 2SC458LG (C) | 4 |
| (1)-TR6to8 | ET398711 | Transistor 2SC945L (Q) (R) | 6 |
| (1)-TR9 | ET645917 | FET Transistor 2SK30A (D) | 2 |
| (1)-TR10,11 | ET234854 | Transistor 2SC458LG (C) | 4 |
| (1)-TR12,13 | ET398711 | Transistor 2SC945L (Q) (R) | 4 |
| (1)-TR14 | ET645917 | FET Transistor 2SK30A (D) | 2 |
| (1)-D1 | ED557447 | Silicon Diode 1S1588 | 2 |
| (1)-D2 | ED219464 | Germanium Diode 1N34A | 2 |
| (1)-D3,4 | ED560913 | Silicon Diode 1S2473VE | 4 |
| (1)-D5 | ED491130 | Zener Diode WZ-085 | 2 |
| (1)-D6 | ED219464 | Germanium Diode 1N34A | 2 |
| (1)-D7to10 | ED560913 | Silicon Diode 1S2473VE | 8 |
| (1)-D11 | ED624903 | Silicon Diode 1S2473 | 2 |
| (1)-D12 | ED219464 | Germanium Diode 1N34A | 2 |
| (1)-D13,14 | ED560913 | Silicon Diode 1S2473VE | 4 |
| (1)-D15 | ED219464 | Germanium Diode 1N34A | 2 |
| (1)-L1 | EO496350 | Inductor 146LY 36MH (J) | 2 |
| (1)-L2,3 | EO308395 | Ferri Inductor FL7H 3MH (J) | 4 |
| (1)-L4 | EO368403 | Ferri Inductor FL9H 33MH (J) | 2 |
| (1)-VR1 | EV523620 | Semi-fixed/Vol. V8K4-1 500 ohms B | 2 |
| (1)-VR2 | EV464220 | Semi-fixed/Vol. V8K4-1 50 kB | 2 |
| (1)-VR3 | EV464207 | Semi-fixed/Vol. V8K4-1 5 kB | 2 |
| (1)-VR4 | EV464220 | Semi-fixed/Vol. V8K4-1 50 kB | 2 |
| (1)-VR5 | EV464207 | Semi-fixed/Vol. V8K4-1 5 kB | 2 |
| (1)-FL1 | ER669734 | MPX Filter FB1801M | 2 |
| Capacitor, Vertical Type | | | |
| (1)-C1 | EC516723 | Styrol 270PF (K) 50WV | 2 |
| (1)-C4 | EC516767 | Styrol 470PF (K) 50WV | 2 |
| (1)-C9,10 | EC604102 | Solid Aluminum 0.33 μ F (K) 25WV | 2 |
| (1)-C22 | EC604102 | Solid Aluminum 0.33 μ F (K) 25WV | 2 |
| (1)-C23 | EC619650 | Solid Aluminum 0.1 μ F (K) 25WV | 2 |
| (1)-C26,27 | EC619650 | Solid Aluminum 0.1 μ F (K) 25WV | 4 |
| (1)-C34 | EC619650 | Solid Aluminum 0.1 μ F (K) 25WV | 2 |
| (1)-C45 | EC619650 | Solid Aluminum 0.1 μ F (K) 25WV | 2 |
| (1)-C59 | EC516778 | Styrol 680PF (K) 50WV | 2 |
| (1)-C60,61 | EC623002 | Styrol 820PF (K) 50WV | 4 |
| (1)-C62 | EC604102 | Solid Aluminum 0.33 μ F (K) 25WV | 2 |
| (1)-C63 | EC619650 | Solid Aluminum 0.1 μ F (K) 25WV | 2 |
| (1)-C64 | EC662308 | Solid Aluminum 0.15 μ F (K) 25WV | 2 |
| (1)-C66,67 | EC619650 | Solid Aluminum 0.1 μ F (K) 25WV | 4 |
| (1)-C74 | EC619650 | Solid Aluminum 0.1 μ F (K) 25WV | 2 |
| (1)-C79 | EC516767 | Styrol 470PF (K) 50WV | 2 |
| (1)-C82 | EC516767 | Styrol 470PF (K) 50WV | 2 |
| (1)-C85 | EC676754 | Styrol 680PF (J) 50WV | 2 |

(2) POWER SUPPLY & OSC

P.C BOARD (CB-5002) BLOCK

| Symbol No. | Parts No. | Description | Q'ty |
|------------|-----------|---|------|
| (2)-1 | BA670331 | Power Supply & OSC P.C Board Comp. (CB-5002) | 1 |
| (2)-TR1,2 | ET622080 | Transistor 2SC1175 (E) (F) | 2 |
| (2)-D2to5 | ED494583 | Silicon Diode 10D05 | 4 |
| (2)-D6,7 | ED511918 | Zener Diode WZ-240 | 2 |
| (2)-D8 | ED560913 | Silicon Diode 1S2473VE | 1 |
| (2)-T1 | EO620482 | OSC Coil OT-925 | 1 |
| (2)-L1 | EO464668 | Ferri Inductor FL9H 470 μ H (K) | 1 |
| (2)-VR1,2 | EV650891 | Semi-fixed/Vol. V10K8-4-2 50 kB | 2 |
| (2)-C5 | EC460091 | Plastic Film/C. 3300PF (J) 500WV | 1 |
| (2)-C6,7 | EC663715 | Styrol/C. 820PF (J) 50WV (Vert. Type) | 2 |

(3) PEAK METER P.C BOARD (CB-5031)

BLOCK

| Symbol No. | Parts No. | Description | Q'ty |
|------------|-----------|---|------|
| (3)-1 | BA680027 | Peak Meter P.C Board Comp. (CB-5031) | 1 |
| (3)-TR1to6 | ET398711 | Transistor 2SC945L (Q) (R) | 12 |
| (3)-D1to4 | ED560913 | Silicon Diode 1S2473VE | 8 |
| (3)-VR1 | EV520806 | Semi-fixed/Vol. V8K4-1 10 kB | 2 |
| (3)-VR2 | EV522797 | Semi-fixed/Vol. V8K4-1 20 kB | 2 |
| (3)-T1 | BT490702 | Headphone Trans. N19-349S | 2 |
| (3)-SW1 | ES684448 | Push SW. UEG-42N | 1 |
| (3)-2 | TC668013 | SW. Bracket B | 1 |
| (3)-3 | ZS592378 | Screw, pan head 2.6x3 | 2 |
| (3)-C7 | EC675178 | Solid Aluminum/C. 0.47 μ F (K) 25WV (Vert. Type) | 2 |
| (3)-C8 | EC619650 | Solid Aluminum/C. 0.1 μ F (K) 25WV (Vert. Type) | 2 |

(4) SW. P.C BOARD (CB-2001) BLOCK

| Symbol No. | Parts No. | Description | Q'ty |
|------------|-----------|--|------|
| (4)-1 | BA210745 | SW. P.C Board Comp. (CB-2001) | 1 |
| (4)-TR1,2 | ET398711 | Transistor 2SC945L (Q) (R) | 2 |
| (4)-TR3 | ET638504 | Transistor 2SC945L (P) | 1 |
| (4)-L1,2 | EO243988 | Ferri Inductor FL7H 3.3 MH (J) | 2 |
| (4)-SW1 | ES551171 | Push SW. 1FS-2U-12 | 1 |
| (4)-SW2 | ES666696 | Push SW. 5FT-0005DF1320 | 1 |
| (4)-2 | MZ222930 | SW. Mt. Table B | 1 |
| (4)-3 | ZS422076 | Screw, Pan head 3x5 | 4 |
| (4)-C14 | EC514001 | Styrol/C. 390PF (J) 50WV (Vert. Type) | 1 |

(5) RELAY P.C BOARD (CB-5001) BLOCK

| Symbol No. | Parts No. | Description | Q'ty |
|------------|-----------|------------------------------------|------|
| (5)-1 | BA670274 | Relay P.C Board Comp. (CB-5001) | 1 |
| (5)-D1,2 | ED560913 | Silicon Diode 1S2473VE | 2 |
| (5)-RL1 | EP621808 | Relay MTS-2 | 1 |

When ordering parts, Please describe Parts Number, Serial Number, and Model Number in detail.

(6) SYS. CON P.C BOARD (CB-5004) BLOCK

| Symbol No. | Parts No. | Description | Q'ty |
|--------------|-----------|--|------|
| (6)-1 | BA670263 | Sys. Con P.C Board Comp. (CB-5004) | 1 |
| (6)-TR1,2 | ET666415 | Transistor 2SB605 (K) (L) | 2 |
| (6)-TR3 | ET398711 | Transistor 2SC945L (Q) (R) | 1 |
| (6)-TR4 | ET517375 | Transistor 2SD360 (D) (E) | 1 |
| (6)-TR5 | ET666404 | Transistor 2SD571 (K) (L) | 1 |
| (6)-TR7 | ET666404 | Transistor 2SD571*(K) (L) | 1 |
| (6)-TR8 | ET557976 | Transistor 2SA628 (E) (F) | 1 |
| (6)-TR9,10 | ET398711 | Transistor 2SC945L (Q) (R) | 2 |
| (6)-TR11 | ET557976 | Transistor 2SA628 (E) (F) | 1 |
| (6)-TR12 | ET666404 | Transistor 2SC571 (K) (L) | 1 |
| (6)-TR13to21 | ET398711 | Transistor 2SC945L (Q) (R) | 9 |
| (6)-TR22 | ET666393 | Transistor 2SC1211 (E) (F) | 1 |
| (6)-TR23 | ET398711 | Transistor 2SC945L (Q) (R) | 1 |
| (6)-TR24 | ET666404 | Transistor 2SC571 (K) (L) | 1 |
| (6)-TR25to34 | ET398711 | Transistor 2SC945L (Q) (R) | 10 |
| (6)-TR35 | ET666707 | Transistor 2SD401 (K) (L) | 1 |
| (6)-D1to5 | ED560913 | Silicon Diode 1S2473VE | 4 |
| (6)-D6,7 | ED219464 | Germanium Diode 1N34A | 2 |
| (6)-D8,9 | ED624903 | Silicon Diode 1S2473 | 2 |
| (6)-D10,11 | ED560913 | Silicon Diode 1S2473VE | 2 |
| (6)-D12 | ED624903 | Silicon Diode 1S2473 | 1 |
| (6)-D13 | ED560913 | Silicon Diode 1S2473VE | 1 |
| (6)-D14,15 | ED624903 | Silicon Diode 1S2473 | 2 |
| (6)-D16,17 | ED560913 | Silicon Diode 1S2473VE | 2 |
| (6)-D18 | ED624903 | Silicon Diode 1S2473 | 1 |
| (6)-D19to21 | ED560913 | Silicon Diode 1S2473VE | 3 |
| (6)-D22to24 | ED624903 | Silicon Diode 1S2473 | 3 |
| (6)-D25 | ED560913 | Silicon Diode 1S2473VE | 1 |
| (6)-D26 | ED624903 | Silicon Diode 1S2473 | 1 |
| (6)-D27 | ED560913 | Silicon Diode 1S2473VE | 1 |
| (6)-D28,29 | ED624903 | Silicon Diode 1S2473 | 2 |
| (6)-D30,31 | ED560913 | Silicon Diode 1S2473VE | 2 |
| (6)-D32 | ED624903 | Silicon Diode 1S2473 | 1 |
| (6)-D33 | ED560913 | Silicon Diode 1S2473VE | 1 |
| (6)-D34 | ED624903 | Silicon Diode 1S2473 | 1 |
| (6)-D35 | ED560913 | Silicon Diode 1S2473VE | 1 |
| (6)-D36to39 | ED624903 | Silicon Diode 1S2473 | 4 |
| (6)-D40 | ED560913 | Silicon Diode 1S2473VE | 1 |
| (6)-D41 | ED624903 | Silicon Diode 1S2473 | 1 |
| (6)-D42,43 | ED560913 | Silicon Diode 1S2473VE | 2 |
| (6)-D44 | ED624903 | Silicon Diode 1S2473 | 1 |
| (6)-D45to47 | ED560913 | Silicon Diode 1S2473VE | 3 |
| (6)-D48 | ED624903 | Silicon Diode 1S2473 | 1 |
| (6)-D49 | ED560913 | Silicon Diode 1S2473VE | 1 |
| (6)-D50to52 | ED624903 | Silicon Diode 1S2473 | 3 |
| (6)-D53,54 | ED560913 | Silicon Diode 1S2473VE | 2 |
| (6)-D55,56 | ED624903 | Silicon Diode 1S2473 | 2 |
| (6)-D57 | ED560913 | Silicon Diode 1S2473VE | 1 |
| (6)-D58,59 | ED624903 | Silicon Diode 1S2473 | 2 |
| (6)-D60 | ED560913 | Silicon Diode 1S2473VE | 1 |
| (6)-D61to65 | ED624903 | Silicon Diode 1S2473 | 5 |
| (6)-D66 | ED560913 | Silicon Diode 1S2473VE | 1 |
| (6)-D67to71 | ED624903 | Silicon Diode 1S2473 | 5 |
| (6)-D72 | ED560913 | Silicon Diode 1S2473VE | 1 |
| (6)-D73to75 | ED624903 | Silicon Diode 1S2473 | 3 |
| (6)-D76to79 | ED224550 | Silicon Diode 10D4 | 4 |
| (6)-D80to84 | ED560913 | Silicon Diode 1S2473VE | 5 |
| (6)-D85 | ED219464 | Germanium Diode 1N34A | 1 |
| (6)-TH1 | ED650968 | Thermister (Sine) PTH62AR 100M | 1 |
| (6)-RL1 | EP616500 | Relay LC1-C-JT DC24V | 1 |
| (6)-2 | MZ668035 | Heat-sink Plate B | 1 |
| (6)-3 | ZS421806 | Screw, pan head 3x8 | 1 |
| (6)-4 | ZW273756 | Nut M3 | 1 |
| (6)-R45 | ER389507 | Metal Oxide Film/R. 2W 430 ohms (K) | 1 |
| (6)-R111 | ER563253 | Cement/R. 3W 2.2 ohms (K) (Wire-wound Type) | 1 |

(7) SERVO P.C BOARD (CB-2025) BLOCK

| Symbol No. | Parts No. | Description | Q'ty |
|------------|-----------|---------------------------------------|------|
| (7)-1 | BA670252 | Servo P.C Board Comp. (CB-2025) | 1 |
| (7)-TR1to6 | ET592424 | Transistor 2SC1647 (S) (E) | 6 |
| (7)-D1to4 | ED224548 | Silicon Diode 10D2 | 4 |
| (7)-D5 | ED560913 | Silicon Diode 1S2473VE | 1 |
| (7)-L1 | EO538391 | Ferri Inductor FL11H 100MH (J) | 1 |
| (7)-VR1 | EV620493 | Semi-fixed/Vol. V8K4-1 3 kB | 1 |
| (7)-2 | EZ659867 | Heat-sink Plate | 1 |
| (7)-3 | ZS421806 | Screw, pan head 3x8 | 1 |
| (7)-4 | ZW273756 | Nut M3 | 1 |
| (7)-5 | ZS558101 | Screw, pan head 3x6 w/washer | 2 |
| (7)-C1 | EC487157 | NP/C. 0.47μF (M) 50WV (Vert. Type) | 1 |

(8) NOISE FILTER P.C BOARD (CB-2027) BLOCK

| Symbol No. | Parts No. | Description | Q'ty |
|------------|-----------|---|------|
| (8)-1 | BA670230 | Noise Filter P.C Board Comp. (CB-2027) | 1 |
| (8)-T1to4 | EO669273 | Inductor FL5R-200 | 4 |
| (8)-2 | MZ669251 | P.C Board Holder D | 1 |
| (8)-3 | ZS558101 | Screw, pan head 3x6 w/washer | 1 |

(9) STOP DETECTION P.C BOARD (CB-2026) BLOCK

| Symbol No. | Parts No. | Description | Q'ty |
|------------|-----------|---|------|
| (9)-1 | BA670195 | Stop Detection P.C Board Comp. (CB-2026) | 1 |
| (9)-IC1 | EI620640 | IC DN835 | 1 |
| (9)-TR1 | ET638504 | Transistor 2SC945L (P) | 1 |
| (9)-2 | TC613541 | IC Retainer | 1 |

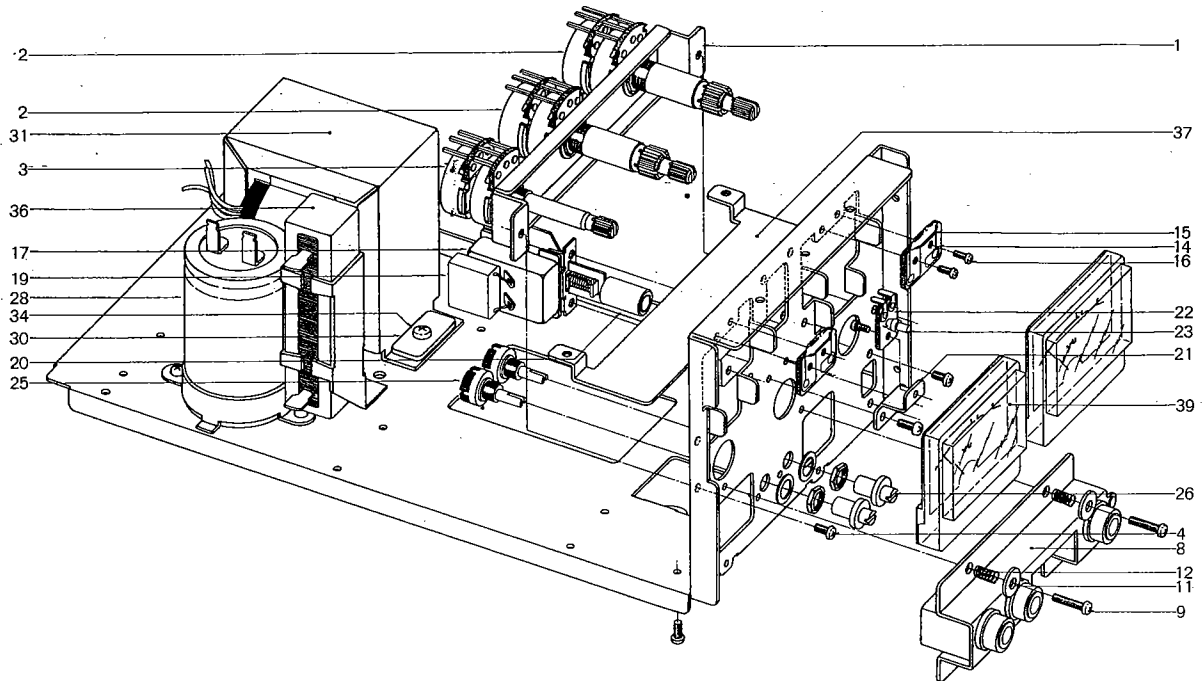
(10) LAMP P.C BOARD (CB-2002) BLOCK

| Symbol No. | Parts No. | Description | Q'ty |
|------------|-----------|-----------------------------------|------|
| (10)-1 | BA670217 | Lamp P.C Board Comp. (CB-2002) | 1 |
| (10)-L1to5 | EL619064 | Lamp (L/T) 24V 35MA | 5 |

(11) PROTECTION P.C BOARD (CB-5028) BLOCK (CSA)

| Symbol No. | Parts No. | Description | Q'ty |
|------------|-----------|---|------|
| (11)-1 | BA671207 | Protection P.C Board Comp. (CB-5028) | 1 |
| (11)-TR1 | ET666707 | Transistor 2SD401 (K) (L) | 1 |

9 ILLUSTRATION OF POWER SUPPLY CHASSIS BLOCK

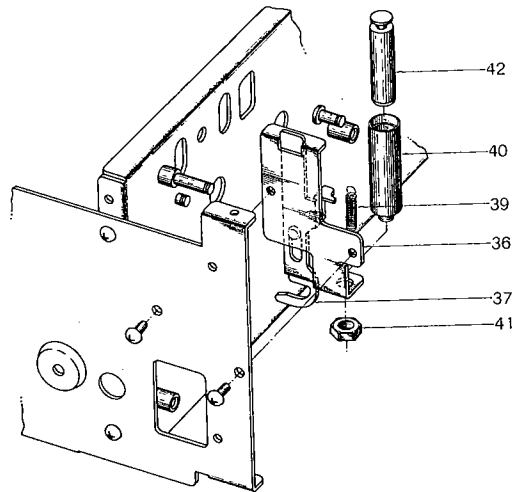
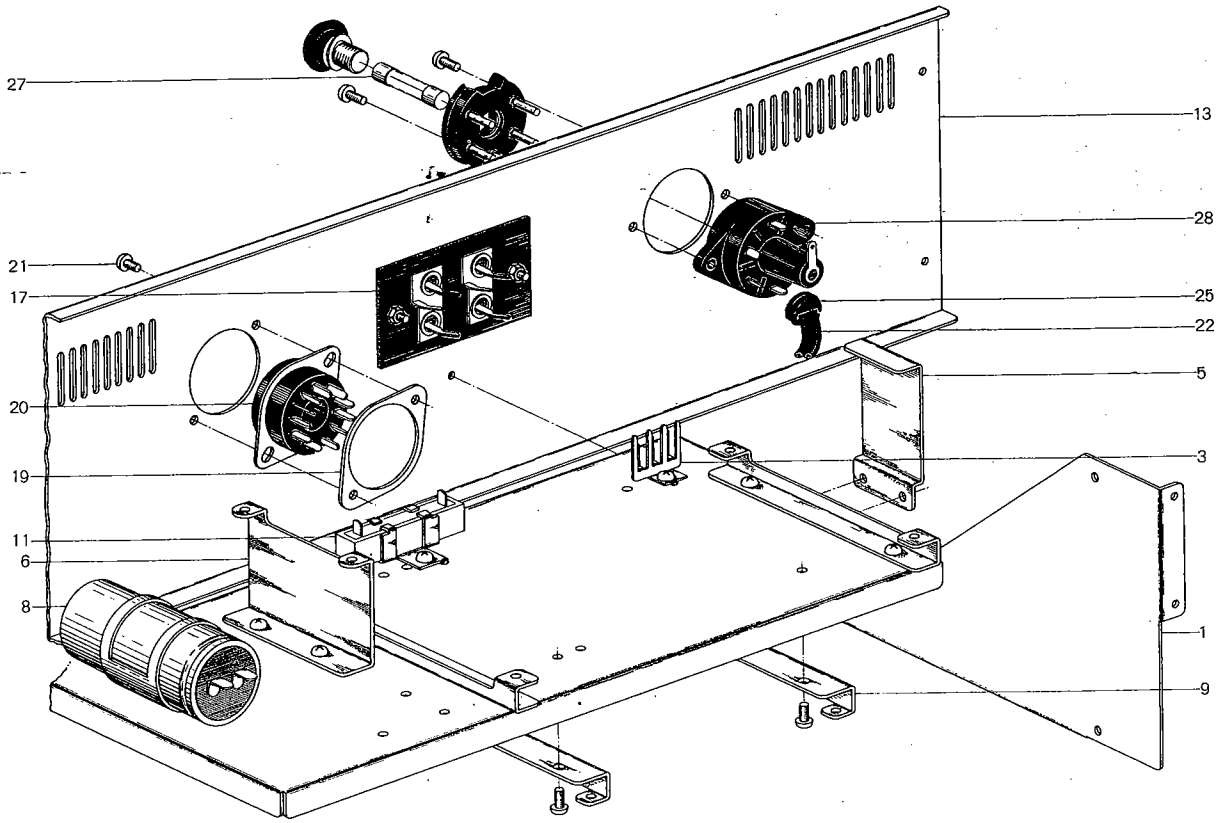


9) POWER SUPPLY CHASSIS BLOCK

| Ref. No. | Parts No. | Description | Schematic No. | Q'ty | Ref. No. | Parts No. | Description | Schematic No. | Q'ty |
|----------|-----------|---|---------------|------|----------|-----------|---|---------------|------|
| 9-1 | TC668002 | Vol. Mt. Base | CB-5015 | 1 | 9-23 | ED656346 | Luminous Diode SEL-305GC | 45-15-10 | 1 |
| 9-2 | EV669756 | 2-axial 2-throw Vol. V24L5DWTN 50 kAx2 | 36-3-67 | 2 | 9-24x | ZW259503 | Washer (Nylon) D3.1x8x0.5t | | 1 |
| 9-3 | EV645851 | Co-axial 2-throw Vol. GJ10E 10 kBx2 | 36-1-40 | 1 | 9-25 | EV669868 | Vol. V12M4-1N15FH 5 kB | 36-7-13 | 2 |
| 9-4 | ZS422076 | Screw, pan head 3x5 | | 8 | 9-26 | SK669971 | Rec. Cal Knob | CA-5203 | 2 |
| 9-5x | BA680027 | Peak Meter P.C Board Comp. | CB-5031 | 1 | 9-27x | TR533564 | Screw, pan head (w/flange) | ED-6006 | 1 |
| 9-6x | SZ645221 | Memory Cap | CA-6010 | 1 | 9-28 | EC684472 | Elect./C. (wrapping type) | | |
| 9-7 | ZS379350 | Screw, pan head 3x6 | | 4 | | | 330µF 160WV | 24-10-108 | 1 |
| 9-8 | EJ645827 | 3-throw Jack B | 31-2-70 | 1 | 9-29x | EZ624047 | Cord Retainer | 2-7-48 | 1 |
| 9-9 | ZS447805 | Tapping Screw L2 3x12 (BR) | | 2 | 9-30 | EZ486617 | Trans. Reinforcement Plate B | LF-5222 | 2 |
| 9-10x | TC676844 | Spacer 3x6 | 7-2-6 | 2 | 9-31 | BT666718 | Power Trans. CBT-1 | 38-4-391 | 1 |
| 9-11 | ZW620627 | Washer (SPC) D4.2x11x0.8t | | 2 | 9-32x | BT666731 | Power Trans. CBT-3 (CEE) | 38-4-393 | 1 |
| 9-12 | ZG580533 | Cramp Spring | TD-2046 | 2 | 9-33x | BT666720 | Power Trans. CBT-2 (CSA, JPN) | 38-4-392 | 1 |
| 9-13x | TC666134 | Illumination for Acrylic | CA-5019 | 1 | 9-34 | ZW413177 | Screw, pan head 4x10 w/washer | | 2 |
| 9-14 | EA457176 | Lamp P.C Board | CG-5003 | 2 | 9-35x | ZW413188 | Nut M4 | | 2 |
| 9-15 | EL295312 | Lamp (L/T) 8V 0.2A | 28-2-8 | 2 | 9-36 | ER666775 | Cement/R. (Wire-wound type) 30W 650 ohms (K) | 35-16-62 | 1 |
| 9-16 | ZS499331 | Screw, pan head 2.3x5 | | 4 | 9-37 | TC669025 | P.C Board Bracket | CB-5027 | 1 |
| 9-17 | ES479395 | Push SW. TV-3 JH5 | 25-5-62 | 1 | 9-38x | ZW321513 | Washer (Nylon) D2.6x8x1t | | 2 |
| 9-18x | ES499972 | Push SW. JS-09 (CEE) | 25-5-67 | 1 | | | | | |
| 9-19 | EC551160 | Ceramic/C. NB821YZ 0.01µF(Z) 1.4 kWV | 24-5-55 | 2 | 9-39 | EM684450 | VU Meter KL-243S-30 | 46-1-123 | 2 |
| 9-20 | SK631304 | Push Button Knob I | 91-5051 | 1 | 9-40x | EM684461 | VU Meter KL-243S-31 (JPN) | 46-1-122 | 2 |
| 9-21 | TC644343 | P.C Board Mount B | CA-5011 | 1 | | | | | |
| 9-22 | EA647188 | LED P.C Board | CA-2051 | 1 | | | | | |

When ordering parts, Please describe Parts Number, Serial Number, and Model Number in detail.

10 ILLUSTRATION OF AMP ASSEMBLY BLOCK

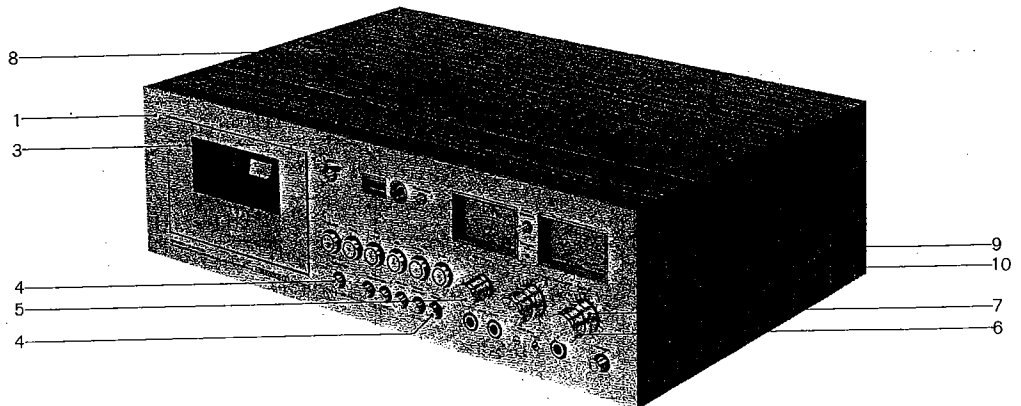


10) AMP ASSEMBLY BLOCK

| Ref. No. | Parts No. | Description | Schematic No. | Q'ty |
|---------------------------|-----------|---|---------------|------|
| AMP CHASSIS BLOCK | | | | |
| 10-1 | TC668114 | Center Angle | CB-5007 | 1 |
| 10-2x | ZS325495 | Tapping Screw #2 3x6 (BR) | | 3 |
| 10-3 | EJ551035 | Wrapping Terminal, 4P | | |
| | | T-5251 | 32-1-36 | 1 |
| 10-4x | EZ624047 | Cord Retainer | 2-7-48 | 3 |
| 10-5 | TC676855 | Varier | CB-5029 | 1 |
| 10-6 | TC668046 | Servo P.C Board Support | CB-5020 | 1 |
| 10-7x | TC667967 | P.C Board Support A | CB-5009 | 2 |
| 10-8 | EC412582 | MP/C. 6 μ F 150WV AC (Lug Type UNI/D.) | 24-9-55 | 1 |
| 10-9 | TC667978 | P.C Board Support B | CB-5010 | 3 |
| 10-10x | TC667980 | P.C Board Support C | CB-5011 | 1 |
| 10-11 | ER666764 | Cement/R. 10W 40+40 ohms (K) | 35-16-22 | 1 |
| 10-12x | MT553948 | Wire Band B-100 | 2-35-3 | 6 |
| REAR CHASSIS BLOCK | | | | |
| 10-13 | SP666437 | Rear Panel A | CB-5018 | 1 |
| 10-14x | SP668237 | Rear Panel E | CB-5018 | 1 |
| 10-15x | SP668215 | Rear Panel C | CB-5018 | 1 |
| 10-16x | SP668204 | Rear Panel B | CB-5018 | 1 |
| 10-17 | EJ669745 | 4P Jack Plate | 31-5-130 | 1 |
| 10-18x | HZ372161 | Hollow Rivet 3x4.5 | | 2 |
| 10-19 | MZ302400 | Remote Control Socket Mt. Plate | RX-515 | 1 |
| 10-20 | EJ222748 | Socket, sub magnale #311SG | 31-1-39 | 1 |
| 10-21 | ZS201150 | Screw, truss head 3x6 (Black) | | 2 |
| 10-22 | EW374894 | AC Cord CUL 3M | 26-3-19 | 1 |
| 10-23x | EW516600 | AC Cord (CEE) VM-0065 | 26-3-28 | 1 |
| 10-24x | EW524845 | AC Cord (J) 2.5M | 26-3-31 | 1 |
| 10-25 | EJ631945 | Strain Relief SR-4N-4 | 2-7-49 | 1 |
| 10-26x | EZ246936 | Strain Relief SR-6W-1 (WG, 3 core) | 2-7-8 | 1 |
| 10-27 | EF590692 | Fuse 1.2A 250V | 39-1-51 | 1 |
| 10-28 | EJ233370 | Volt. Selector S-18010 | 40-2-3 | 1 |
| 10-29x | TC668024 | Fuse Base (CEE, CSA, JPN) | CB-5017 | 1 |
| 10-30x | EJ666753 | 2P Fuse Holder (small) (CEE) | 40-1-91 | 1 |
| 10-31x | EJ666742 | 2P Fuse Holder (large) (CSA, JPN) | 40-1-90 | 1 |
| 10-32x | EF593706 | Fuse (Semko T Type) 500 MAT (CEE) | 39-1-53 | 1 |
| 10-33x | EF623103 | Fuse (Semko T Type) 1 AT (CEE) | 39-1-53 | 1 |
| 10-34x | EF668610 | Fuse ULMF61M 250V 1.2A (CSA) | 39-1-45 | 2 |
| DAMPER BLOCK | | | | |
| 10-35 | EZ681941 | Damper Block Comp. | CB | 1 |
| 10-36 | MZ203872 | Cylinder Mt. Plate, w/pin 3 | CB-1053 | 1 |
| 10-37 | ML203861 | Slide Lever | CB-1054 | 1 |
| 10-38x | ZW290294 | 'U' Ring 2.85M | 6-1-1B | 1 |
| 10-39 | ZG366761 | Spring, Slider D | RCC-1209 | 1 |
| 10-40 | TC691187 | Cylinder | CI-6009 | 1 |
| 10-41 | ZW413278 | Nut M5 | | 1 |
| 10-42 | MH691198 | Damp Pin | CI-6010 | 1 |

When ordering parts, Please describe Parts Number, Serial Number, and Model Number in detail.

11 PHOTO OF FINAL ASSEMBLY BLOCK



11) FINAL ASSEMBLY BLOCK

| Ref. No. | Parts No. | Description | Schematic No. | Q'ty |
|----------|-----------|-----------------------------|---------------|------|
| 11-1 | BD681974 | Front Panel Block Comp. | CB | 1 |
| 11-2x | ZS325495 | Tapping Screw #2 3x6 (BR) | | 6 |
| 11-3 | BD681491 | Lid Panel Block Comp. | CA2,CB | 1 |
| 11-4 | SK634410 | Push Button Knob J | 91-5051 | 6 |
| 11-5 | SK645030 | Single Knob B | CA-6013 | 1 |
| 11-6 | SK669993 | Double Knob (Upper) | CA-6201 | 2 |
| 11-7 | SK654750 | Double Knob (Lower) | CA-6202 | 2 |
| 11-8 | BC647076 | Cabinet | CA-6008 | 1 |
| 11-9 | ZW548010 | Spot Facing Washer | MU-6028 | 4 |
| 11-10 | ZS510344 | Screw, binding head 4x12 | | 4 |
| 11-11x | SP647054 | Bottom Plate | CA-6009 | 1 |
| 11-12x | SZ645243 | Circular Foot A, w/rubber A | CA-6014 | 4 |
| 11-13x | ZS417150 | Screw, pan head 4x6 | | 4 |
| 11-14x | MT553948 | Wire Band B-100 | 2-35-3 | 7 |

12 LIST OF INTERCHANGEABLE SEMICONDUCTORS

As far as service in concerned, in case the original parts cannot be obtained, the interchangeable parts listed below can be substituted.

| Original Parts | | | Interchangeable Parts | |
|------------------------------|----------------------|--|--|----------------------------------|
| Description | Parts No. | Utilizing P.C Board | Description | Parts No. |
| 2SC458LG (C) | ET234854 | CA-5205 | 2SC693U (F) 2SC458 (C) 2SC1312S (G) (H) | ET315472 ET329218 ET603257 |
| 2SC945L (Q) (R) | ET398711 | CA-5205 CB-5031 CB-2001 CB-5004 CB-2026 | 2SC711 (E) (F) 2SC1647 (R) (S) (E) 2SC1641 (R) (S) (E) | ET453486 ET623733 ET603843 |
| 2SC945L (P) | ET638504 | | | |
| 2SC1175 (E) (F) | ET622080 | CB-5002 | 2SC1211 (E) (F) | ET666393 |
| 2SC1211 (E) (F) | ET666393 | CB-5004 | 2SC1175 (E) (F) 2SC1247A (B) (V) | ET622080 ET511920 |
| 2SC1222 (E) (F) | ET469810 | CA-5205 | 2SC458LG (C) 2SC1000GR (BL) | ET234854 ET622181 |
| 2SC1647 (S) (E) | ET592424 | CB-2025 | 2SC945L (K) (P) (Q) 2SC536 (F) (G) (H) | ET632204 ET632215 |
| 2SC1683 (P) (Q) | ET635826 | CB-5002 | T1P47 T1P48 | ET621775 ET621786 |
| 2SA628 (E) (F) | ET557976 | CB-5004 | 2SA564 (Q) (R) 2SA733 (P) (Q) | ET538154 ET554657 |
| 2SB360 (D) (E) | ET517375 | CB-5004 | 2SD325 (D) (E) 2SC1098 (L) (K) | ET631855 ET465208 |
| 2SB605 (K) (L) | ET666415 | CB-5004 | | |
| 2SD361 (D) (E) | ET537300 | CB-5002 | 2SC1098 (L) (M) | ET476886 |
| 2SD401 (K) (L) | ET666707 | CB-5004 CB-5028 | | |
| 2SD571 (K) (L) | ET666404 | CB-5004 | | |
| T1P47 | ET621775 | CB-2025 | T1P48 2SC1683 (P) (Q) | ET621786 ET635826 |
| 2SK30A (O) 2SK68A (L) (M) | ET550798 ET669633 | CA-5205 CA-5205 | 2SK34 (D) | ET603270 |
| μPC1023H | EI669666 | CA-5205 | TA7122P | EI669712 |
| μPC1024H | EI669655 | CA-5205 | TA7129P | EI657000 |
| DN-831 | EI620640 | CB-2026 | | |
| 1N34A | ED219464 | CA-5205 | 1S188AM 1N60 | ED562386 ED428264 |
| 1S2473 | ED624903 | CA-5205 CB-5004 | 1S1588 | ED557447 |
| 1S2473VE | ED560913 | CA-5205 CB-5031 CB-5002 CB-5001 CB-5004 CB-2025 | WG599 1S1588 WG713 | ED514721 ED557447 ED515790 |

| Original Parts | | | Interchangeable Parts | |
|----------------|-----------|---------------------|-----------------------|----------------------|
| Description | Parts No. | Utilizing P.C Board | Description | Parts No. |
| 1S1588 | ED557447 | CA-5205 | 1S2473 WG599 | ED624903 ED514721 |
| 10D05 | ED494583 | CB-5002 | 1N4001 | ED538615 |
| 10D2 | ED224548 | CB-2025 | 1N4003 | ED570295 |
| 10D4 | ED224550 | CB-5004 | 1N4004 | ED570273 |
| WZ085 | ED491130 | CA-5205 | RD9A | ED384096 |
| WZ240 | ED511918 | CB-5002 | RD24A | ED229072 |
| SEL305GC | ED656346 | | | |

INDEX

| Parts No. | Ref. No. & Symbol No. | Parts No. | Ref. No. & Symbol No. | Parts No. | Ref. No. & Symbol No. | Parts No. | Ref. No. & Symbol No. | Parts No. | Ref. No. & Symbol No. |
|-----------|-----------------------|-----------|-----------------------|-----------|-----------------------|-----------|-----------------------|-----------|-----------------------|
| BA210745 | (4)-1 | ED557447 | (1)-D1 | EO669273 | (8)-T1to4 | MH533913 | 7-5 | TC666156 | 5-18 |
| BA670195 | (9)-1 | ED560913 | (1)-D3,4 | EP537906 | 7-2 | MH644646 | 7-23 | TC667416 | 1-42 |
| BA670217 | 4-10 | ED560913 | (1)-D7to10 | EP616500 | (6)-RL1 | MH644916 | 5-25 | TC667427 | 1-44 |
| BA670217 | (10)-1 | ED560913 | (1)-D13,14 | EP621808 | (5)-RL1 | MH664064 | 5-17 | TC667438 | 1-52 |
| BA670230 | (8)-1 | ED560913 | (2)-D8 | ER389507 | (6)-R45 | MH667506 | 6-6 | TC667451 | 1-47 |
| BA670252 | (7)-1 | ED560913 | (3)-D1to4 | ER563253 | (6)-R111 | MH667506 | 7-11x | TC667574 | 6-16 |
| BA670263 | (6)-1 | ED560913 | (5)-D1,2 | ER666764 | 10-11 | MH667517 | 7-12 | TC667585 | 7-29 |
| BA670274 | (5)-1 | ED560913 | (6)-D1to5 | ER666775 | 9-36 | MH691198 | 10-42 | TC667620 | 2-5 |
| BA670331 | (2)-1 | ED560913 | (6)-D10,11 | ER669734 | (1)-FL1- | ML203861 | 10-37 | TC667642 | 6-27 |
| BA671207 | (11)-1 | ED560913 | (6)-D13 | ES477966 | 6-17 | ML595574 | 5-5 | TC667653 | 7-15 |
| BA671523 | (1)-1 | ED560913 | (6)-D16,17 | ES479395 | 9-17 | ML595585 | 5-6 | TC667721 | 6-23 |
| BA680027 | (3)-1 | ED560913 | (6)-D19to21 | ES494188 | 7-30 | ML641621 | 1-8 | TC667945 | 7-8 |
| BA680027 | 9-5x | ED560913 | (6)-D25 | ES499972 | 9-18x | ML641632 | 1-9 | TC667956 | 7-1 |
| BC647076 | 11-8 | ED560913 | (6)-D27 | ES551171 | (4)-SW1 | ML641698 | 7-21x | TC667967 | 10-7 |
| BD681917 | 11-3 | ED560913 | (6)-D30,31 | ES619053 | 6-24 | ML645063 | 1-6 | TC667978 | 10-9 |
| BD681974 | 11-1 | ED560913 | (6)-D33 | ES666685 | 4-12 | ML667462 | 6-14 | TC667980 | 10-10 |
| BF667618 | 2-6 | ED560913 | (6)-D35 | ES666696 | (4)-SW2 | ML667528 | 6-30 | TC668002 | 9-1 |
| BF668790 | 2-7 | ED560913 | (6)-D40 | ES684448 | (3)-SW1 | ML667675 | 7-9 | TC668013 | (3)-2 |
| BH671174 | 1-37 | ED560913 | (6)-D42,43 | ET234854 | (1)-TR4,5 | ML690232 | 7-20 | TC668024 | 10-29x |
| BM670138 | 2-2 | ED560913 | (6)-D45to47 | ET234854 | (1)-TR10,11 | ML693281 | 7-24 | TC668046 | 10-6 |
| BM670140 | 2-1 | ED560913 | (6)-D49 | ET398711 | (1)-TR6to8 | ML693325 | 7-19 | TC668092 | 1-41 |
| BM670151 | 3-1 | ED560913 | (6)-D53,54 | ET398711 | (1)-TR12,13 | ML699412 | 5-21 | TC668114 | 10-1 |
| BM670162 | 3-2 | ED560913 | (6)-D57 | ET398711 | (3)-TR1to6 | MP612628 | 1-13 | TC668125 | 4-1 |
| BR670173 | 2-3 | ED560913 | (6)-D60 | ET398711 | (4)-TR1,2 | MR203804 | 5-22 | TC669025 | 9-37 |
| BT490702 | (3)-T1 | ED560913 | (6)-D66 | ET398711 | (6)-TR3 | MR221927 | 7-28 | TC676844 | 9-10 |
| BT666718 | 9-31 | ED560913 | (6)-D72 | ET398711 | (6)-TR9,10 | MR668068 | 3-6 | TC676855 | 10-5 |
| BT666720 | 9-33x | ED560913 | (6)-D80to84 | ET398711 | (6)-TR13to21 | MS227136 | 1-4 | TC690221 | 7-26 |
| BT666731 | 9-32x | ED560913 | (7)-D5 | ET398711 | (6)-TR23 | MS595552 | 5-4 | TC690412 | 6-12 |
| BZ211105 | 1-1x | ED624903 | (1)-D11 | ET398711 | (6)-TR25to34 | MS595563 | 5-3 | TC691187 | 10-40 |
| BZ651240 | 6-26x | ED624903 | (6)-D8,9 | ET459810 | (1)-TR2,3 | MS642374 | 5-29 | TC693303 | 6-9 |
| BZ667844 | 4-2 | ED624903 | (6)-D12 | ET517375 | (6)-TR4 | MS645153 | 1-53 | TC694697 | 7-18 |
| BZ667855 | 4-3 | ED624903 | (6)-D14,15 | ET557976 | (6)-TR8 | MS659902 | 1-26 | TR533564 | 9-27x |
| BZ667866 | 4-4 | ED624903 | (6)-D18 | ET557976 | (6)-TR11 | MS659913 | 1-25 | ZG207257 | 5-13 |
| BZ667877 | 4-5 | ED624903 | (6)-D22to24 | ET592424 | (7)-TR1to6 | MS667473 | 1-43 | ZG217337 | 6-13 |
| BZ667888 | 4-6 | ED624903 | (6)-D26 | ET622080 | (2)-TR1,2 | MT553948 | 6-28x | ZG224796 | 6-11 |
| BZ681917 | 6-1x | ED624903 | (6)-D28,29 | ET638504 | (4)-TR3 | MT553948 | 10-12 | ZG227114 | 1-23x |
| BZ699996 | 6-21 | ED624903 | (6)-D32 | ET638504 | (9)-TR1 | MT553948 | 11-14 | ZG227452 | 5-27 |
| EA457176 | 9-14 | ED624903 | (6)-D34 | ET645917 | (1)-TR9 | MV522235 | 1-54 | ZG314818 | 7-25x |
| EA647188 | 9-22 | ED624903 | (6)-D36to39 | ET645917 | (1)-TR14 | MV666887 | 2-8 | ZG359638 | 6-15 |
| EA647190 | 6-3 | ED624903 | (6)-D41 | ET666393 | (6)-TR22 | MZ203815 | 5-24 | ZG366761 | 10-39 |
| EA669510 | 1-40x | ED624903 | (6)-D44 | ET666404 | (6)-TR5 | MZ203872 | 10-36 | ZG386335 | 1-60x |
| EC412582 | 10-8 | ED624903 | (6)-D48 | ET666404 | (6)-TR7 | MZ222930 | (4)-2 | ZG392804 | 6-31 |
| EC460091 | (2)-C5 | ED624903 | (6)-D50to52 | ET666404 | (6)-TR12 | MZ302400 | 10-19 | ZG465636 | 1-33 |
| EC487157 | (7)-C1 | ED624903 | (6)-D55,56 | ET666404 | (6)-TR24 | MZ642104 | 1-56 | ZG542215 | 1-45 |
| EC514001 | (4)-C14 | ED624903 | (6)-D58,59 | ET666415 | (6)-TR1,2 | MZ659981 | 3-3 | ZG569384 | 1-59 |
| EC516723 | (1)-C1 | ED624903 | (6)-D61to65 | ET666707 | (6)-TR35 | MZ668035 | (6)-2 | ZG580535 | 9-12 |
| EC516767 | (1)-C4 | ED624903 | (6)-D67to71 | ET666707 | (11)-TR1 | MZ668057 | 3-8 | ZG595618 | 5-7 |
| EC516767 | (1)-C79 | ED624903 | (6)-D73to75 | ET669633 | (1)-TR1 | MZ668968 | 3-5 | ZG595620 | 5-8 |
| EC516767 | (1)-C82 | ED650968 | (6)-TH1 | EV464207 | (1)-VR3 | MZ669251 | (8)-2 | ZG644411 | 1-14 |
| EC516778 | (1)-C59 | ED656346 | 9-23 | EV464207 | (1)-VR5 | SK631304 | 7-16 | ZG659880 | 1-27 |
| EC551160 | 9-19 | EF590692 | 10-27 | EV464220 | (1)-VR2 | SK631304 | 9-20 | ZG667811 | 4-7 |
| EC604102 | (1)-C9,10 | EF593706 | 10-32x | EV464220 | (1)-VR4 | SK634410 | 11-4 | ZS201150 | 10-21 |
| EC604102 | (1)-C22 | EF623103 | 10-33x | EV520806 | (3)-VR1 | SK645030 | 11-5 | ZS303625 | 1-32 |
| EC604102 | (1)-C62 | EF668610 | 10-34x | EV522797 | (3)-VR2 | SK654750 | 11-7 | ZS325495 | 1-51 |
| EC619650 | (1)-C23 | EI620640 | (9)-IC1 | EV523620 | (1)-VR1 | SK669971 | 9-26 | ZS325495 | 4-9 |
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| EC619650 | (1)-C34 | EI669655 | (1)-IC3 | EV645851 | 9-3 | SP647054 | 11-11x | ZS325495 | 7-17x |
| EC619650 | (1)-C45 | EI669666 | (1)-IC2 | EV650891 | (2)-VR1,2 | SP666437 | 10-13 | ZS325495 | 10-2 |
| EC619650 | (1)-C63 | EI669712 | (1)-IC4 | EV669756 | 9-2 | SP668204 | 10-16x | ZS325495 | 11-2x |
| EC619650 | (1)-C66,67 | EJ222748 | 10-20 | EV669868 | 9-25 | SP668215 | 10-15x | ZS356804 | 1-31 |
| EC619650 | (1)-C74 | EJ233370 | 10-28 | EW374894 | 10-22 | SP668237 | 10-14x | ZS356804 | 3-7 |
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| EC623002 | (1)-C60,61 | EJ631945 | 10-25 | EW524845 | 10-24x | SZ645221 | 9-6x | ZS379350 | 9-7 |
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| EC675178 | (3)-C7 | EJ666753 | 10-30x | EZ624047 | 9-29x | TC220871 | 6-29 | ZS414033 | 5-26 |
| EC676754 | (1)-C85 | EJ669745 | 10-17 | EZ614047 | 10-4 | TC221916 | 7-27 | ZS417150 | 11-13x |
| EC684472 | 9-28 | EL295312 | 6-4 | EZ659867 | (7)-2 | TC613541 | (9)-2 | ZS417161 | 6-5 |
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| ED219464 | (1)-D6 | EL619064 | 4-11 | HE636963 | 1-17 | TC642071 | 5-30 | ZS417216 | 1-57 |
| ED219464 | (1)-D12 | EL619064 | (10)-L1to5 | HZ227103 | 1-18 | TC642115 | 1-58 | ZS421806 | (6)-3 |
| ED219464 | (1)-D15 | EM684450 | 9-39 | HZ227158 | 1-2 | TC642148 | 5-15 | ZS421806 | (7)-3 |
| ED219464 | (6)-D6,7 | EM684461 | 9-40x | HZ372161 | 10-18x | TC642273 | 7-14 | ZS421806 | 7-13x |
| ED219464 | (6)-D85 | EO243988 | (4)-L1,2 | HZ567202 | 1-61x | TC642363 | 6-2 | ZS422076 | 1-55 |
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| ED224550 | (6)-D76to79 | EO368403 | (1)-L4 | HZ669892 | 1-29 | TC645186 | 5-12 | ZS422076 | 7-4 |
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| ED491130 | (1)-D5 | EO496350 | (1)-L1 | HZ683673 | 1-3x | TC646931 | 5-1 | ZS422965 | 3-4 |
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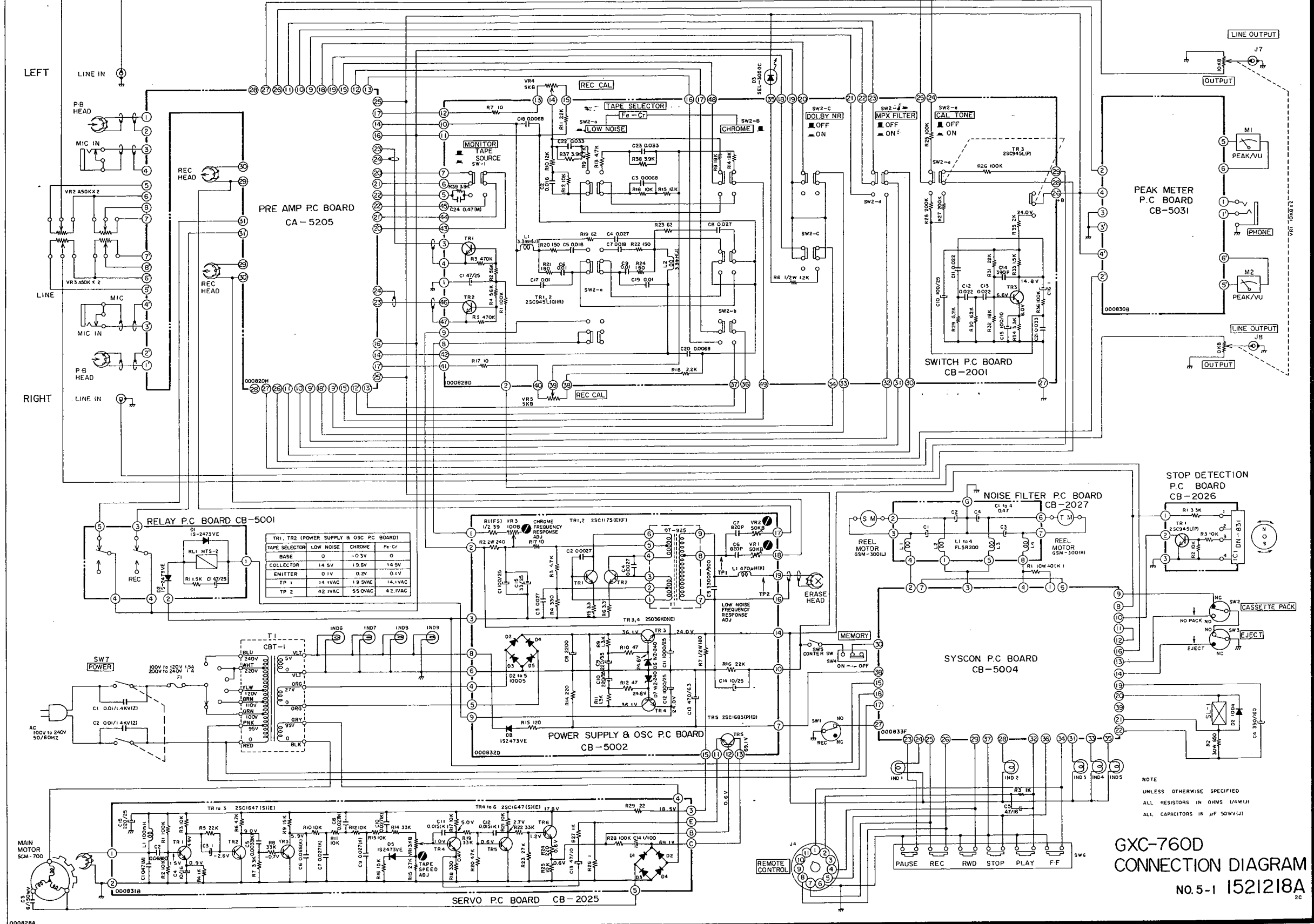
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SECTION 3

SCHEMATIC DIAGRAM

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3. GXC-760D NO. 5-3 1521220A SYSCON SCHEMATIC DIAGRAM
4. GXC-760D NO. 5-4 1521221A PEAK METER SCHEMATIC DIAGRAM
5. GXC-760D NO. 5-5 1521222A POWER SUPPLY SCHEMATIC DIAGRAM

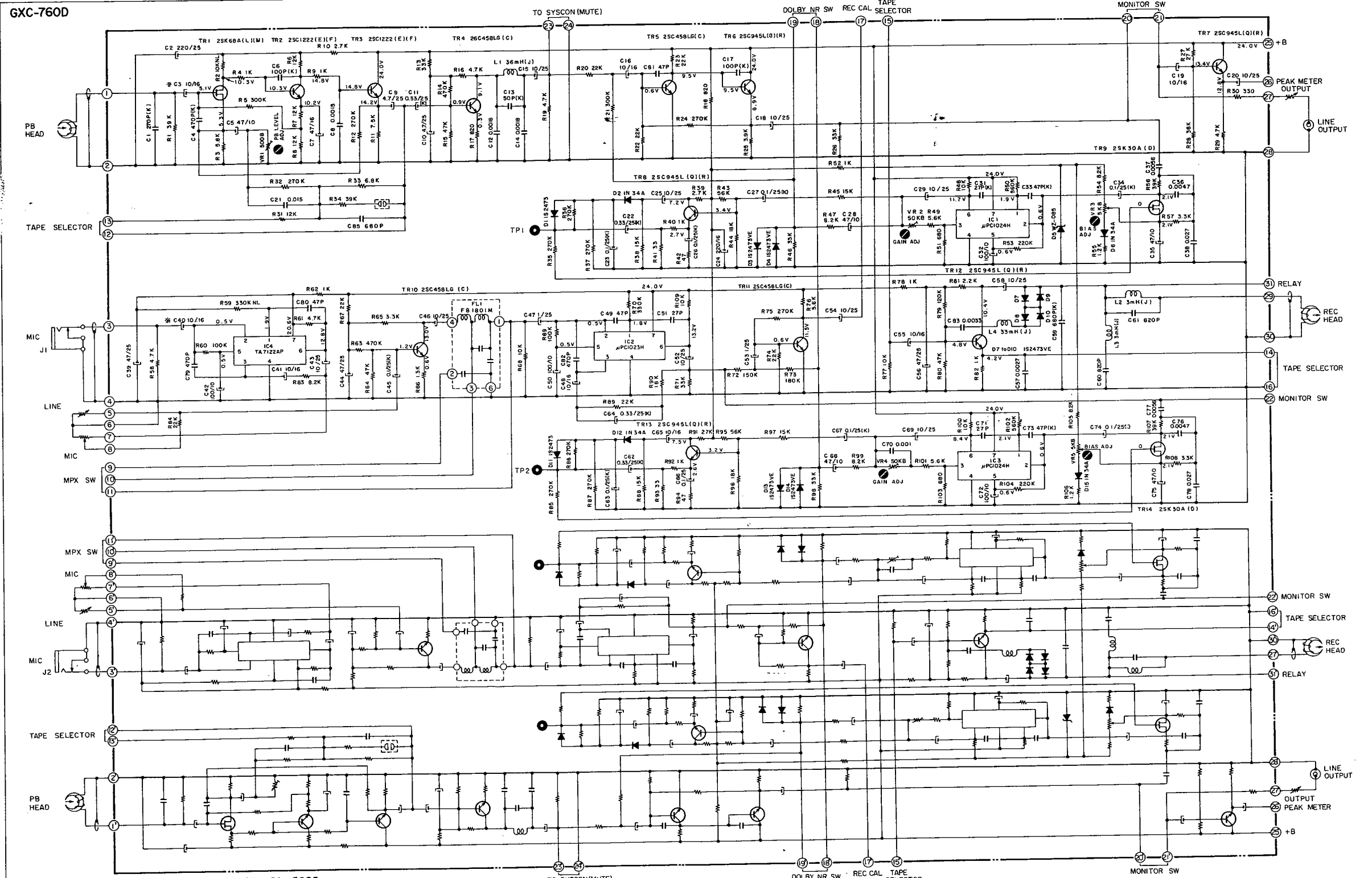
GXC-760D



GXC-760D
CONNECTION DIAGRAM
NO.5-1 1521218A

000828A

GXC-760D

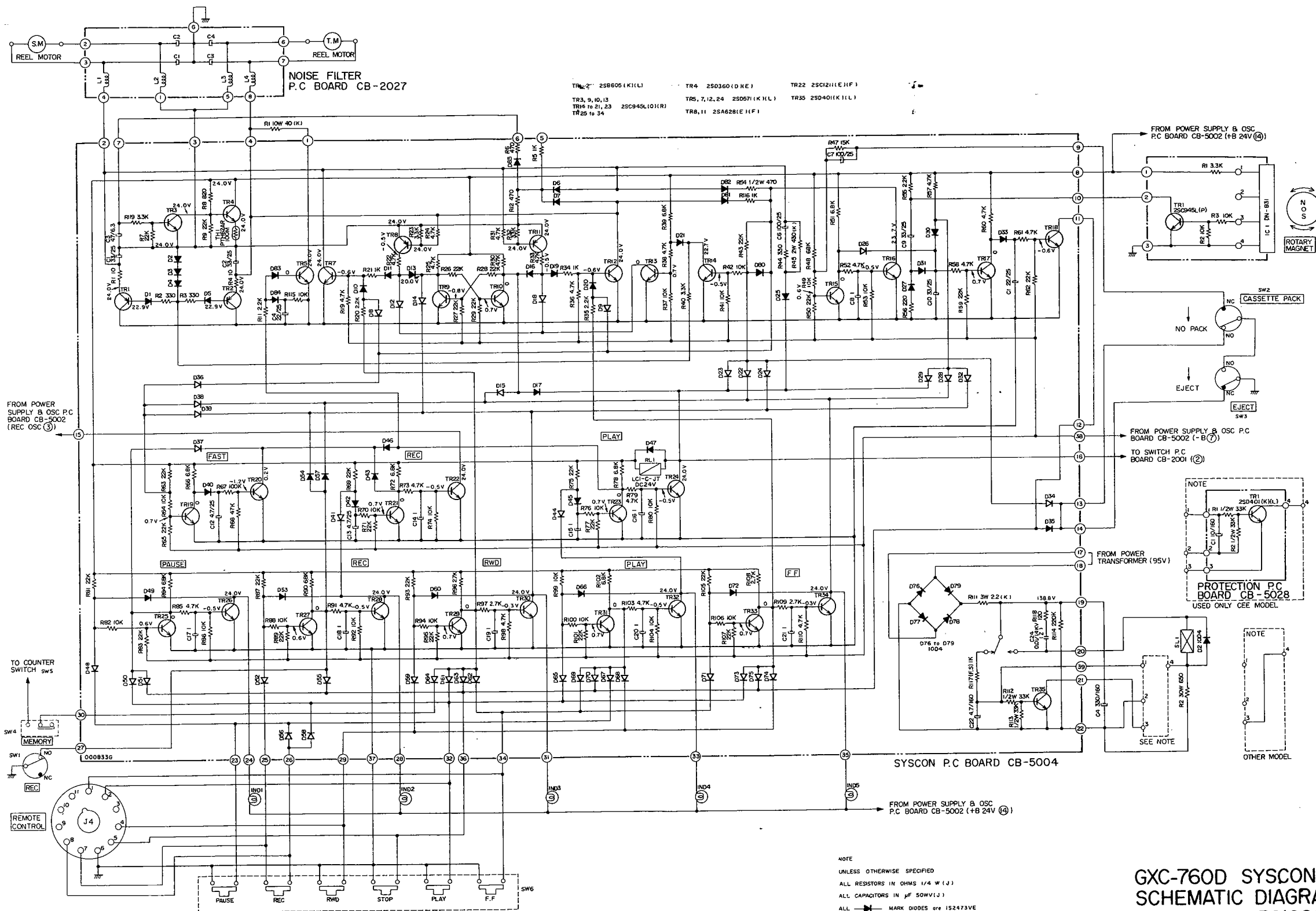


PRE AMP P.C. BOARD CA-5205

- NOTES
1. UNLESS OTHERWISE SPECIFIED ALL RESISTORS IN OHMS (24 J)
 2. * MARK INDICATES LOW LEAKAGE CAPACITORS
 3. NL INDICATES NOISE LESS RESISTORS

GXC-760D PRE AMP
SCHEMATIC DIAGRAM
NO.5-2 1521219A
20

GXC-760D

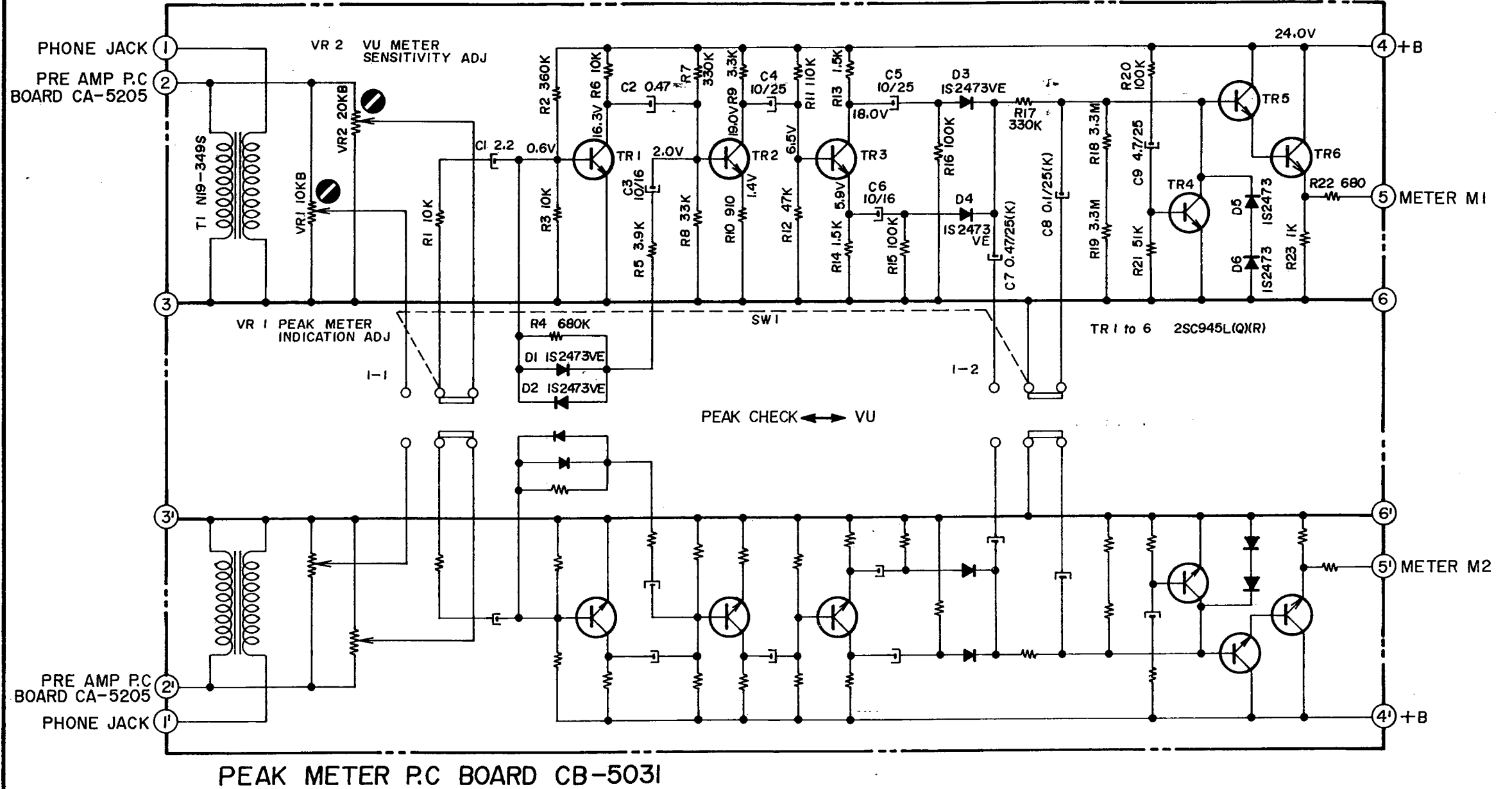


TR2 2N5011 (K.H.L.) TR4 2N5036 (D.R.E.) TR22 2N5011 (E.H.F.)
 TR3, 9, 10, 13 2N5045 (L.O.I.R.) TR5, 7, 12, 24 2N5071 (K.H.L.) TR25 2N5040 (K.H.L.)
 TR6 to 21, 23 2N5045 (L.O.I.R.) TR8, 11 2N5428 (E.H.F.)
 TR25 to 34

NOTE
 UNLESS OTHERWISE SPECIFIED
 ALL RESISTORS IN OHMS 1/4 W (J)
 ALL CAPACITORS IN μF 50WV (J)
 ALL — MARK DIODES are 1S2473VE
 ALL — MARK DIODES are 1S2473

GXC-760D SYSCON
 SCHEMATIC DIAGRAM
 NO. 5-3 1521220A

GXC-760D

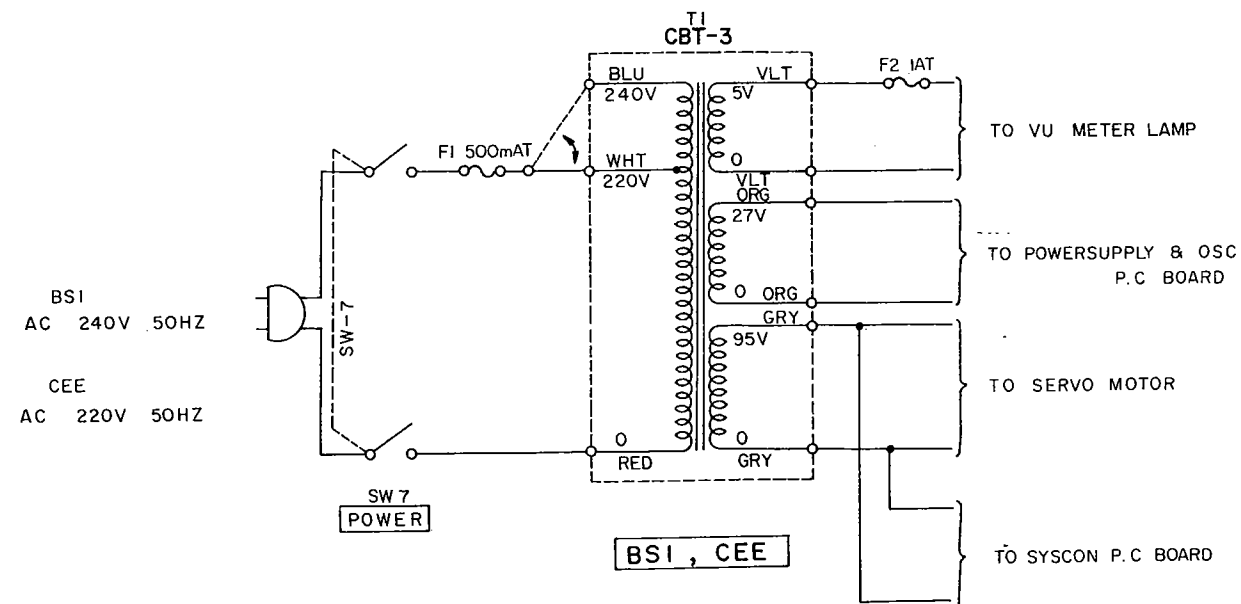
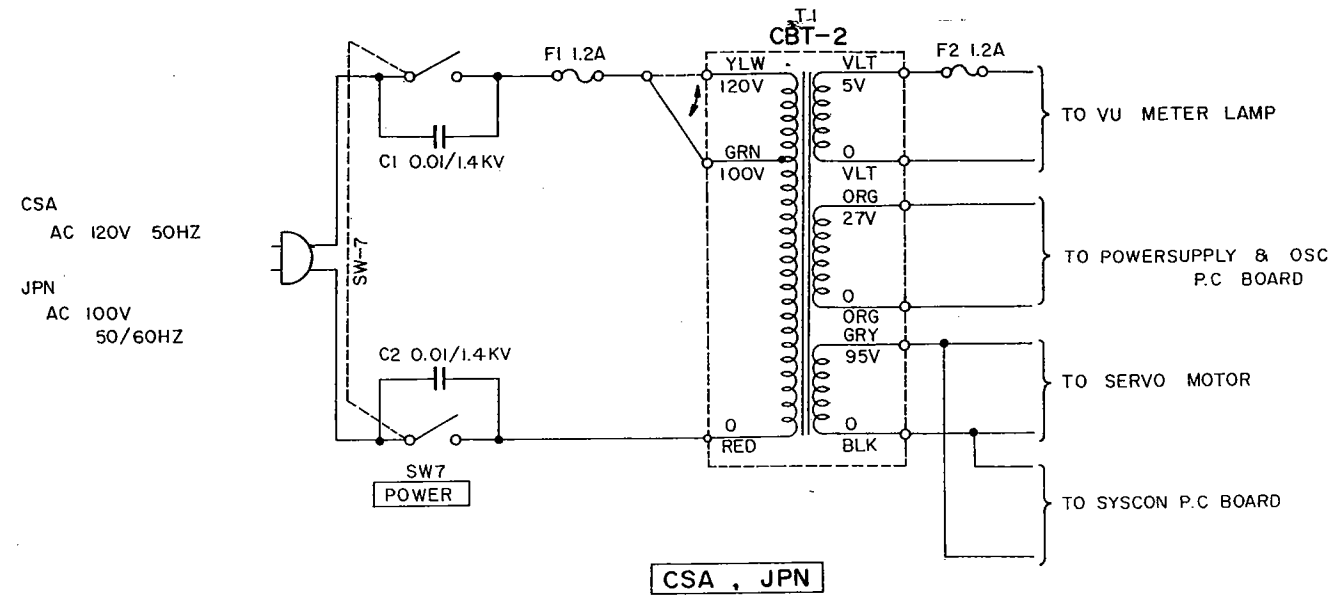


NOTE
 UNLESS OTHERWISE SPECIFIED
 ALL RESISTORS IN OHMS 1/4 W(J)
 ALL CAPACITORS IN μ F 50WV(J) P= μ μ F

GXC-760D
 PEAK METER
 SCHEMATIC DIAGRAM
 NO.5-4 1521221A
 2C

0008308

GXC-760D



NOTE
POWER TRANSFORMER BLOCK IS DIFFERENT
ACCORDING TO AREA

GXC-760D
POWER SUPPLY
SCHEMATIC DIAGRAM
NO.5-5 1521222A

000834
000835A