



STEREO CASSETTE DECK
MODEL CS-702D

| | | |
|------------------|--------------------------------|-----------|
| SECTION 1 | SERVICE MANUAL | 3 |
| SECTION 2 | PARTS LIST | 23 |
| SECTION 3 | SCHEMATIC DIAGRAM | 36 |

SECTION 1

SERVICE MANUAL

TABLE OF CONTENTS

| | | |
|-------|---|----|
| I. | TECHNICAL DATA | 4 |
| II. | DISMANTLING OF UNIT | 5 |
| III. | CONTROLS | 6 |
| IV. | PRINCIPAL PARTS LOCATION | 7 |
| V. | OPERATION OF AUTO STOP MECHANISM | 8 |
| VI. | MECHANISM ADJUSTMENT | 10 |
| | 1. FLYWHEEL THRUST LOOSE PLAY ADJUSTMENT | 10 |
| | 2. PINCH ROLLER PRESSURE MEASUREMENT | 11 |
| | 3. ADJUSTMENT OF GAP BETWEEN THE PINCH ROLLER ARM AND STOPPER | 11 |
| | 4. TAKE-UP TORQUE AT VARIOUS MODES | 11 |
| | 5. TAPE SPEED ADJUSTMENT | 11 |
| VII. | HEAD ADJUSTMENT | 11 |
| | 1. RECORDING/PLAYBACK HEAD AZIMUTH ALIGNMENT ADJUSTMENT | 11 |
| | 2. HEAD ADJUSTMENT PRECAUTIONS | 11 |
| VIII. | AMPLIFIER ADJUSTMENT | 12 |
| IX. | DC RESISTANCE OF VARIOUS COILS | 15 |
| X. | CLASSIFICATION OF VARIOUS P.C BOARDS | 15 |
| | 1. RELATION OF P.C BOARD TITLE AND IDENTIFICATION NUMBER | 15 |
| | 2. COMPOSITION OF VARIOUS P.C. BOARDS | 16 |

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

I. TECHNICAL DATA

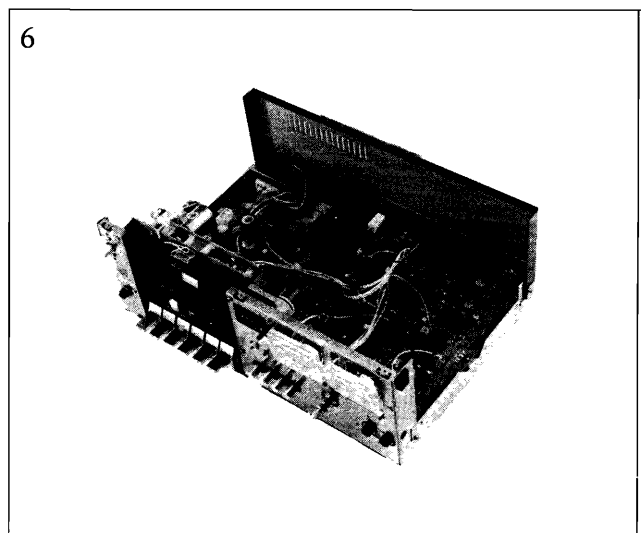
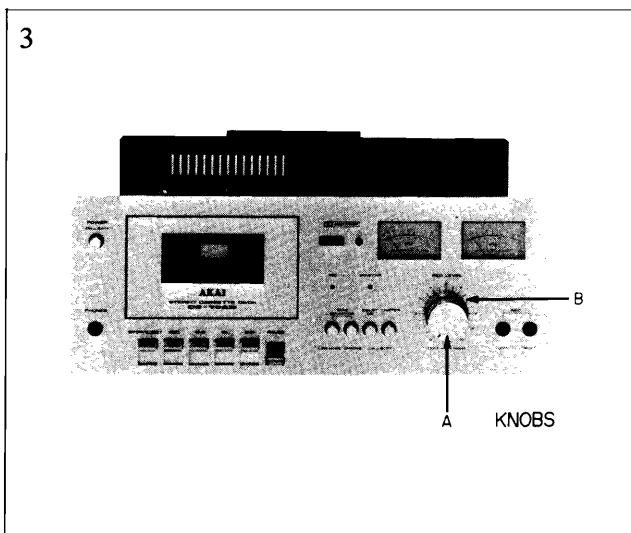
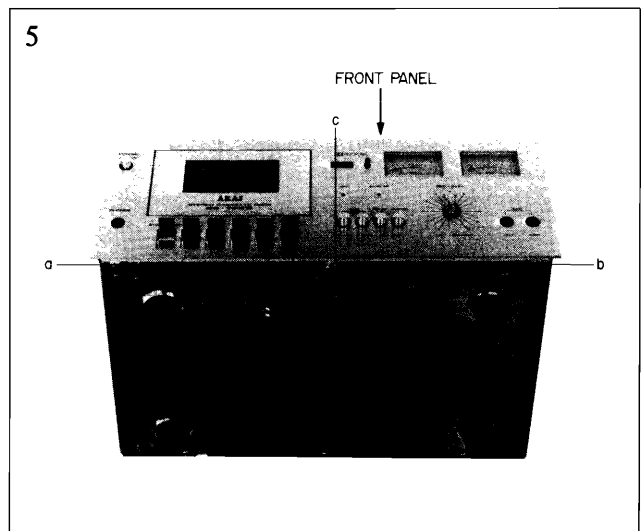
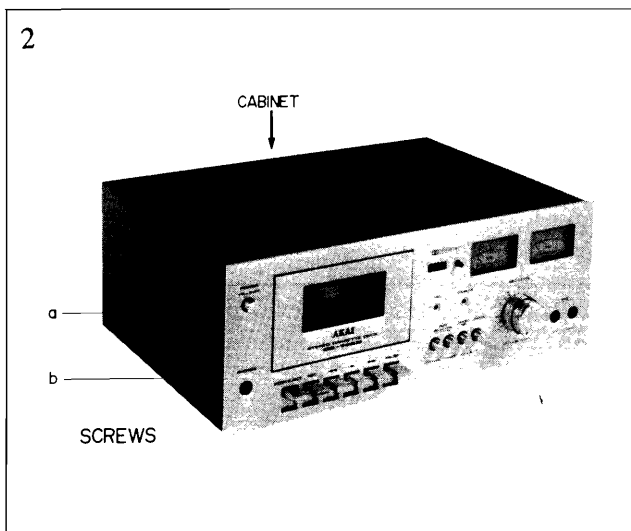
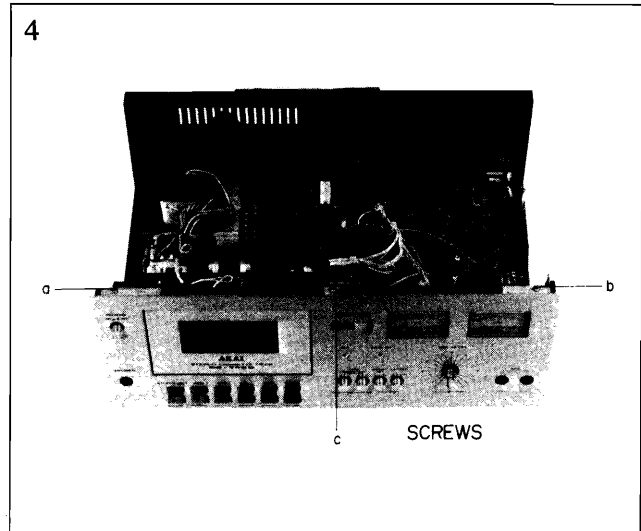
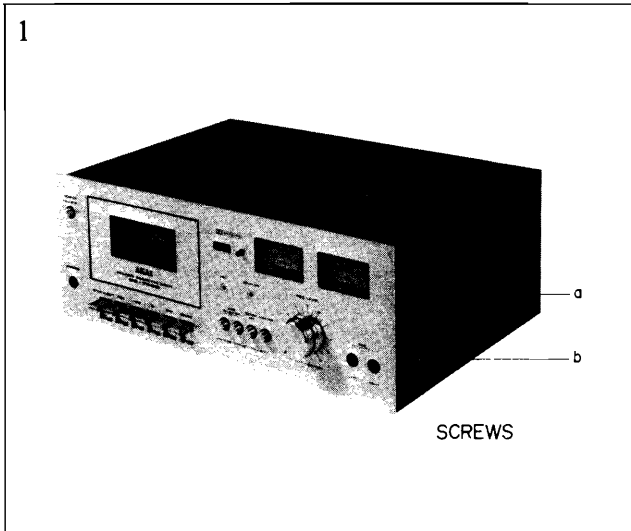
| | |
|-----------------------|---|
| TRACK SYSTEM | 4 track 2 channel stereo system |
| TAPE | Philips type cassette tape |
| TAPE SPEED | 1-7/8 ips |
| WOW AND FLUTTER | Less than 0.08% WRMS, Less than 0.2% |
| FREQUENCY RESPONSE | 40 to 13,000 Hz \pm 3 dB using LN tape 40 to 15,000 Hz \pm 3 dB using CrO ₂ (SA) tape |
| DISTORTION | Less than 1.5% using LN tape (1,000 Hz "0" VU) Less than 2.0% using CrO ₂ (SA) tape (1,000 Hz "0" VU) |
| SIGNAL TO NOISE RATIO | Better than 50 dB using LN tape Better than 51 dB using CrO ₂ (SA) tape (Measured via tape with peak recording level of +3 VU) Dolby NR Switch ON: Improves up to 10 dB above 5 kHz |
| ERASE RATIO | Better than 70 dB |
| BIAS FREQUENCY | 85 kHz |
| HEADS | (2) One recording/playback head, one erase head |
| MOTOR | Electronically speed controlled DC motor |
| FF AND RWD TIME | 120 seconds using a C-60 cassette tape |
| OUTPUT JACKS | Line (2): 410 mV ("0" VU), Required load impedance: More than 20 k ohms Phone (1): 50 mV/8 ohms |
| INPUT JACKS | Microphone (2): 0.3 mV/2.2 k ohms, Required microphone impedance: 600 ohms Line (2): 70 mV/100 k ohms |
| DIN JACK | Input: 0.3 mV/2.2 k ohms, Output: 410 mV Required load impedance: More than 20 k ohms |
| SEMI-CONDUCTORS | Transistors 18, Diodes 10, EETs 2, ICs 2 |
| POWER REQUIREMENTS | CSA, UL and LA models: 120V, 60 Hz only CEE models: 220V, 50 Hz only Other models: 110V/120V/220V/240V, 50/60 Hz (Switchable) |
| DIMENSIONS | 380 (W) x 157 (H) x 287 (D)mm (15 x 16.2 x 11.3") |
| WEIGHT | 6.5 kg. (14.4 lbs) |

* For improvement purposes, specifications and design are subject to change without notice.

* Noise reduction circuit made under license from Dolby Laboratories Inc. The word 'DOLBY' and the Double-D symbol are trademarks of Dolby Laboratories Inc.

II. DISMANTLING OF UNIT

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



III. CONTROLS

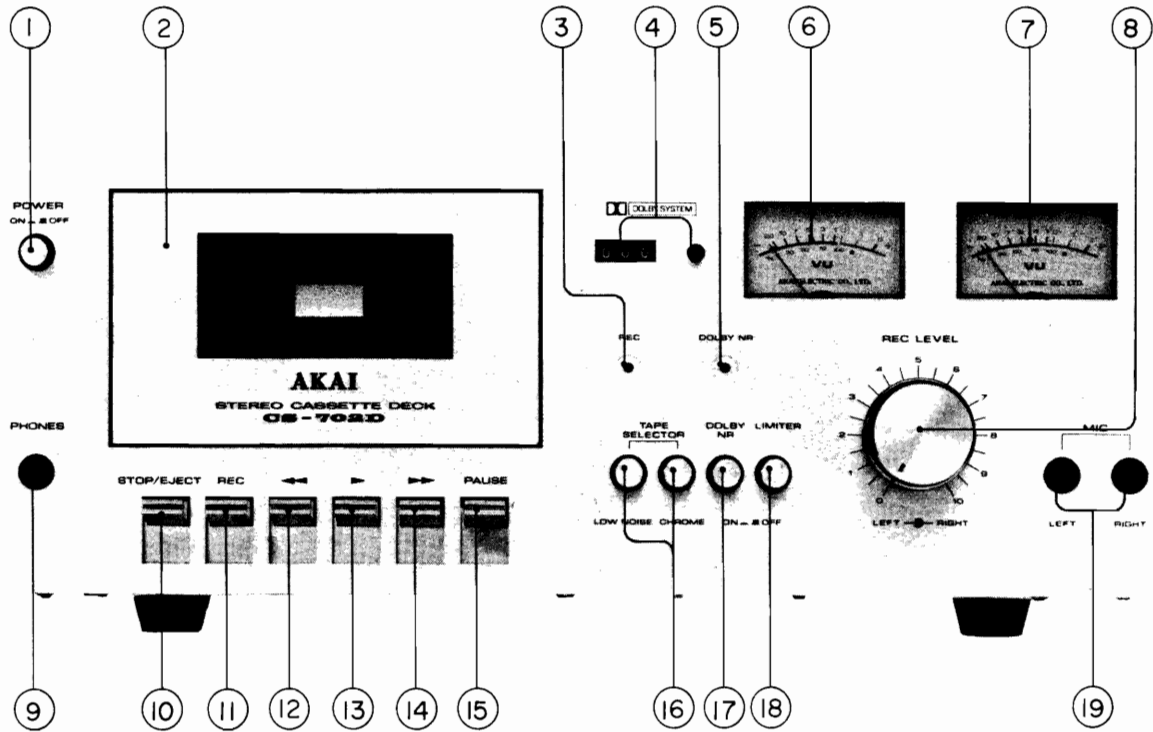


Fig. 1 Controls

1. POWER SWITCH
2. CASSETTE RECEPTACLE
(with tape view window)
3. RECORDING INDICATOR LAMP
4. INDEX COUNTER AND RESET BUTTON
5. DOLBY N.R. INDICATOR LAMP
6. LEFT VU METER
7. RIGHT VU METER
8. RECORDING LEVEL CONTROLS
(left and right)
9. HEADPHONE JACK
10. STOP/EJECT KEY
11. RECORDING (REC) KEY
12. REWIND KEY
13. PLAY KEY
14. FAST FORWARD KEY
15. PAUSE KEY
16. TAPE SELECTOR SWITCHES
17. DOLBY N.R. SWITCH
18. LIMITER SWITCH
19. MICROPHONE JACKS
(left and right)

IV. PRINCIPAL PARTS LOCATION

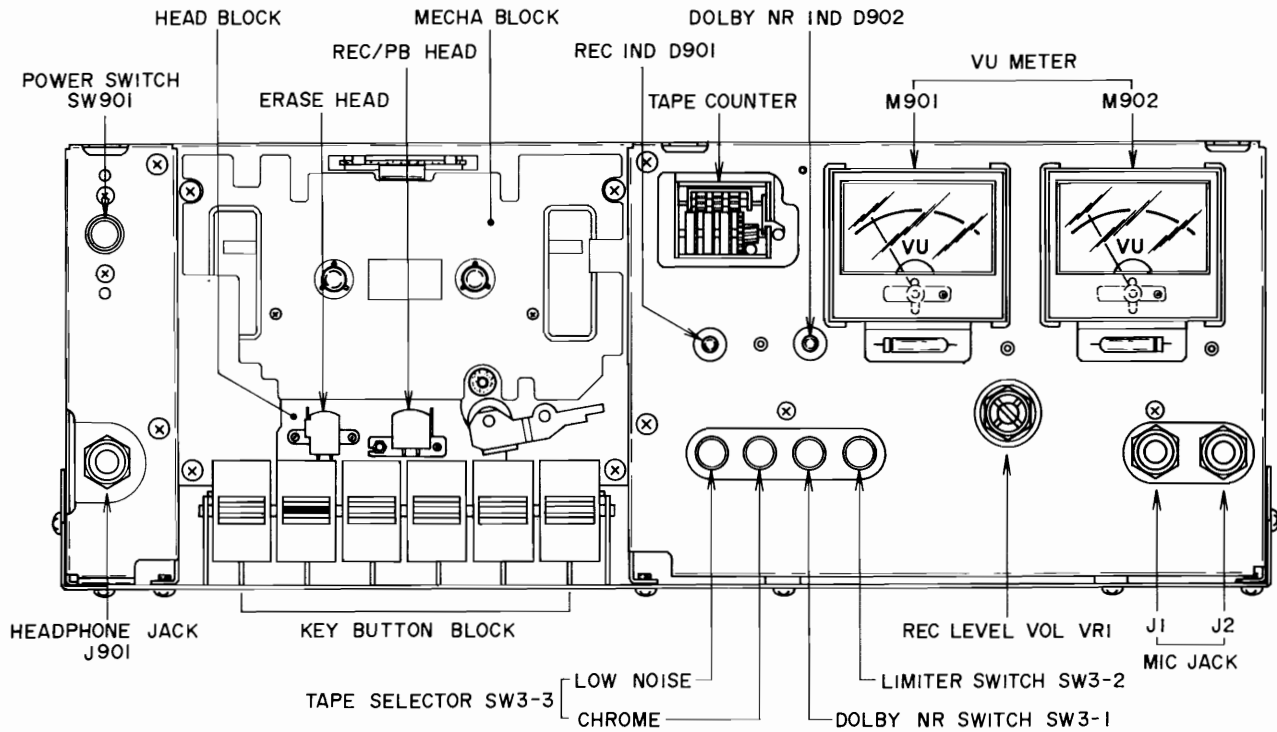


Fig. 2 Front View

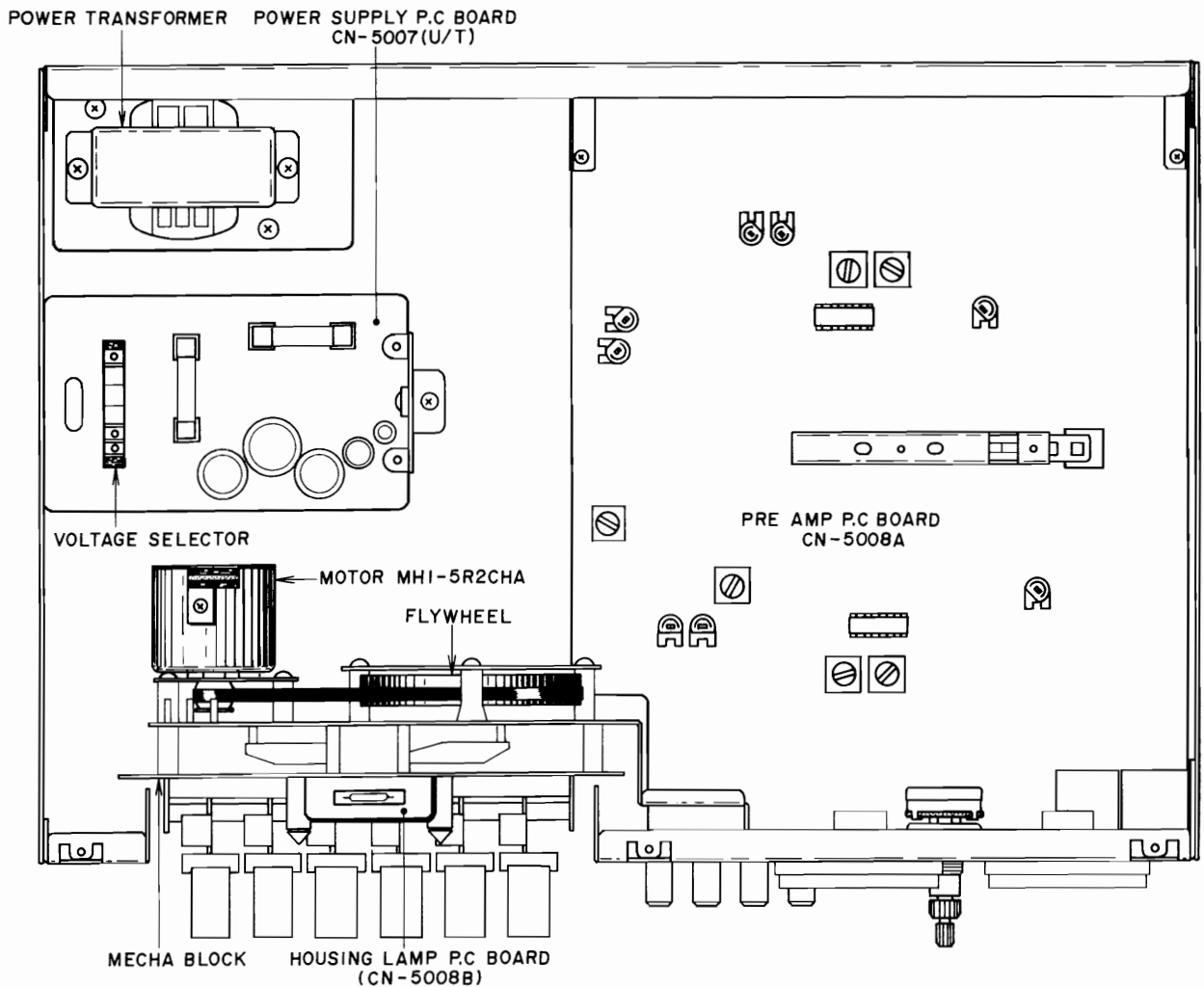


Fig. 3 Top View

V. OPERATION OF AUTO STOP MECHANISM

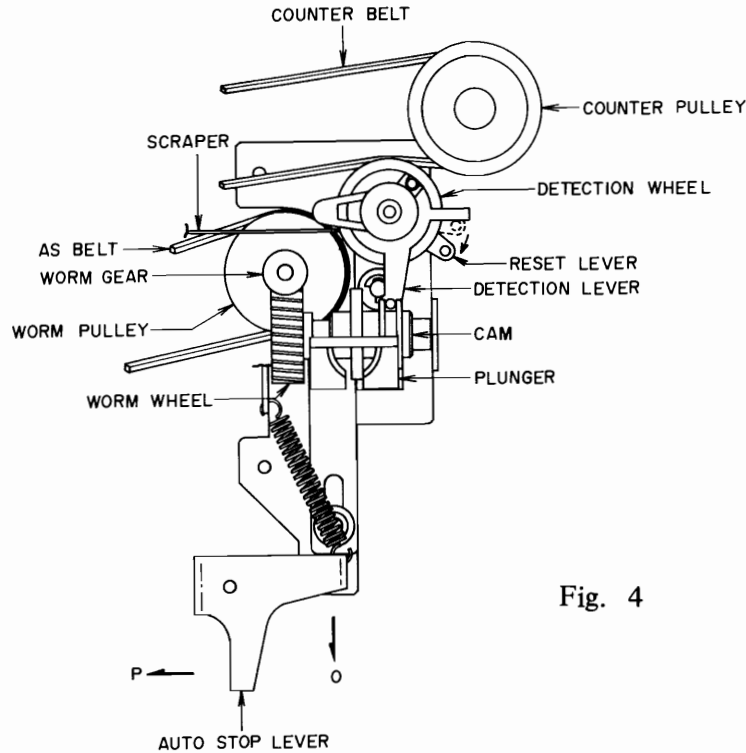


Fig. 4

1. When Play, Rewind or Fast Forward key is depressed, the lever functioning in combination with the depressed key causes the motor switch SW904 to go on, permitting the tape deck motor to start rotating.
2. At the same time, the lever functioning in combination with the depressed key allows the reset lever to move downward as illustrated in Fig. 4.
3. When the motor starts rotating, the worm pulley is driven by the AS belt as shown in Fig. 4, thereby rotating the worm gear to turn the cam. On the other hand, the counter belt permits the detection wheel to rotate.
4. Auto stop operation during Play mode.

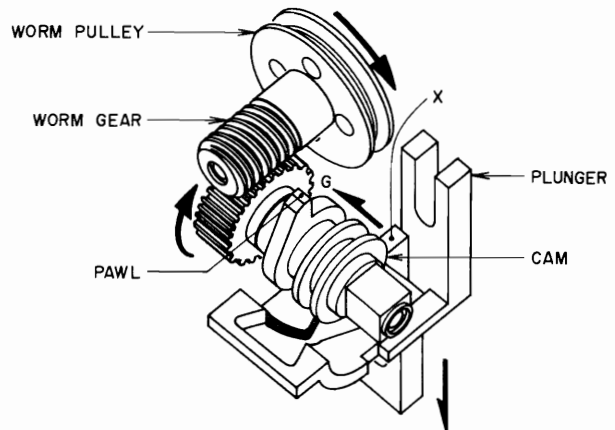


Fig. 6(a)

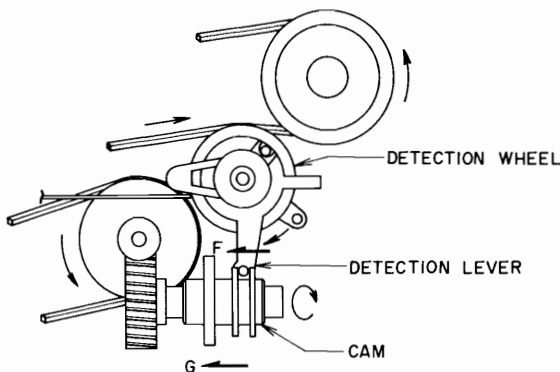


Fig. 5

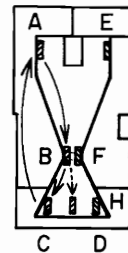


Fig. 6(b) Movement of the pawl mounted on the cam when viewing the plunger from above.

- 1) Because the detection wheel is turning clockwise as indicated in Fig. 5, friction between the detection wheel and the detection lever causes constant pressure to be exerted on the detection lever in the direction of the arrow F, while the detection lever exerts force F on the cam in the direction of the arrow G.

- 2) While the revolution of the worm pulley permits the worm gear and the cam to rotate, the pawl mounted on the cam as illustrated in Fig. 6 revolves inside the plunger (i.e. the part colored in red), while receiving force G as explained above.
- 3) Fig. 6(b) illustrates the motion of the pawl mounted on the cam with the plunger viewed from above. Since force is applied to the pawl in the direction of G as indicated in Fig. 5, the pawl rotates on the left hand of the plunger, in order of A, B and C.
- 4) When the tape transport stops, the detection wheel driven by the counter belt stops rotating and the force in the direction of the arrow G which was exerted on the cam as shown in Fig. 5 ceases.
In this case, the motor continues rotating, keeping the worm pulley turning. Therefore, when the cam continues to rotate with the pawl shifted from A to B position, the pawl does not move in the direction of C but turns in the center of the plunger as shown in Fig. 6(b).
- 5) As the rotation of the cam in the center of the plunger proceeds further, the pawl of the cam engages with part X indicated in Fig. 6(a), thereby pushing the plunger downward.
- 6) Shifted in a downward direction, the plunger removes the auto stop lever in the direction of P as indicated in Fig. 4 to release the Play mode and to thus set the tape deck to the Stop mode.
5. Auto stop operation during Fast Forward mode is performed in the same way as during Play mode.
6. Auto stop operation during Rewind mode

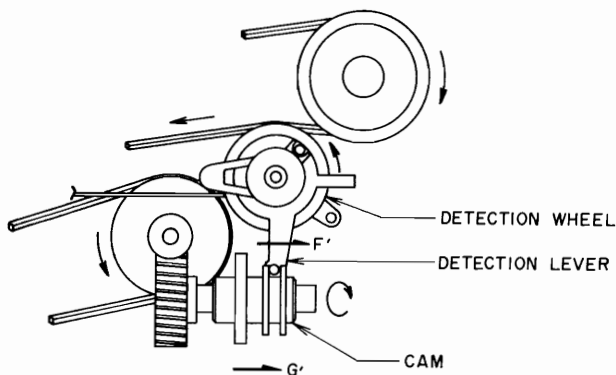


Fig. 7

- 1) Because the detection wheel is turning counter-clockwise as indicated in Fig. 7, friction between the detection wheel and the detection lever causes constant pressure to be exerted on the detection lever in the direction of arrow F', while the detection lever exerts force F' on the cam in the direction of arrow G'.
- In this case, since the direction of tape transport is opposite to that in the aforementioned operation during Play or Fast Forward mode, the auto stop operation is performed in exactly the opposite way.

- 2) The cam rotates, exerting force on the pawl of the cam in the direction of G' as indicated in Fig. 7 causing the pawl to rotate on the right hand of the plunger. The cycle of E, F and H positions are repeated as illustrated in Fig. 6(b).
 - 3) When tape transport stops, the detection wheel driven by the counter belt ceases rotating, and the force in the direction of the arrow G' which was exerted on the cam as shown in Fig. 7 ceases. In this case, the motor continues rotating, keeping the worm pulley turning. Therefore, when the cam continues to rotate with the pawl shifted from E to F position, the pawl does not move in the direction of C but turns in the center of the plunger.
 - 4) As the rotation of the cam in the center of the plunger proceeds further, the pawl of the cam engages with part X indicated in Fig. 6(a), thereby pushing the plunger downward.
 - 5) Shifted in a downward direction, the plunger removes the auto stop lever in the direction of P as indicated in Fig. 4 to release the Rewind mode and to thus set the tape deck to the Stop mode.
7. Operation in the Pause mode

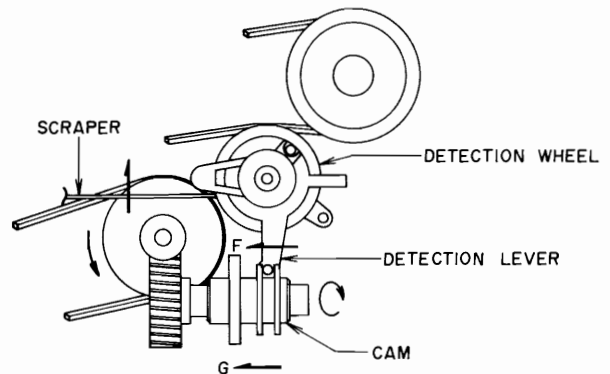


Fig. 8

- 1) When Pause key is depressed in the Play mode, tape transport stops, and the detection wheel ceases rotating. This sets the tape deck in the same condition as when the end of the tape is reached, so that the auto stop mechanism is actuated. However, depressing Pause key causes the scraper to push the detection lever in the direction of G as illustrated in Fig. 8. As a result, the cam is constantly pushed in the direction of G, permitting the auto stop mechanism to function in the same way as in the same way as in the Play or Fast Forward mode and thus preventing the auto stop operation from being executed.
- 2) If Pause Key is depressed in the Fast Forward or Rewind mode, the scraper permits the detection lever to push the cam in the direction of G. Therefore, the auto stop operation is not performed even when the tape transport is stopped.

VI. MECHANISM ADJUSTMENT

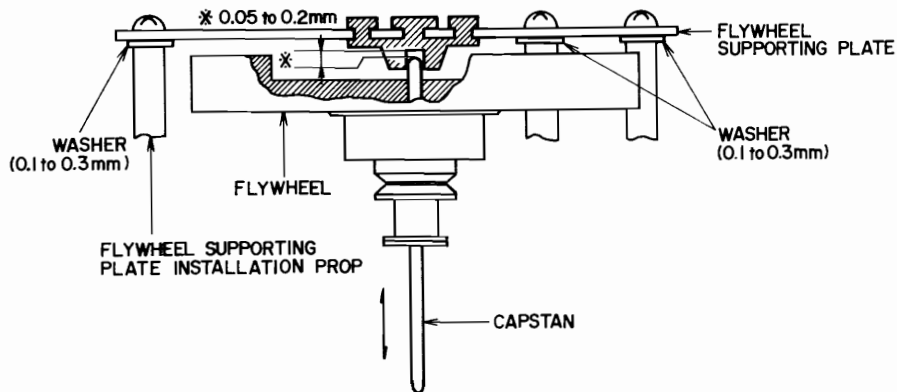


Fig. 9 Flywheel Thrust Loose Play Adjustment
(Prior to serial No. 20317-0500)

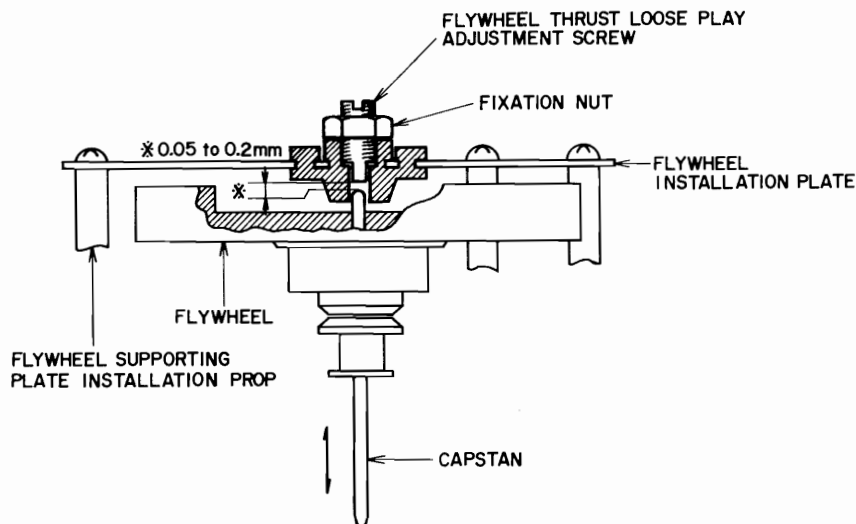


Fig. 10 Flywheel Thrust Loose Play Adjustment
(from serial No. 20420-0001)

Note: Because flywheel loose play adjustment method differs according to serial no, make adjustment only after checking the serial number.

1. FLYWHEEL THRUST LOOSE PLAY ADJUSTMENT

- 1) Prior to Serial No. 20317-0500 (Refer to Fig. 9)
Adjust by inserting 0.1 to 0.3 mm washers in the places designated in the figure so that when the flywheel is moved as indicated by the arrow marks, loose play is within 0.05 to 0.2 mm.
* When inserting washers, be sure to use washers of the same thickness and insert in all three places.
- 2) From Serial No. 20420-0001 (Refer to Fig. 10)
Adjust flywheel thrust loose play adjustment screw so that when the flywheel is moved as indicated by the arrow marks, loose play is within 0.05 to 0.2 mm'
* Tighten fixation nut following adjustment.

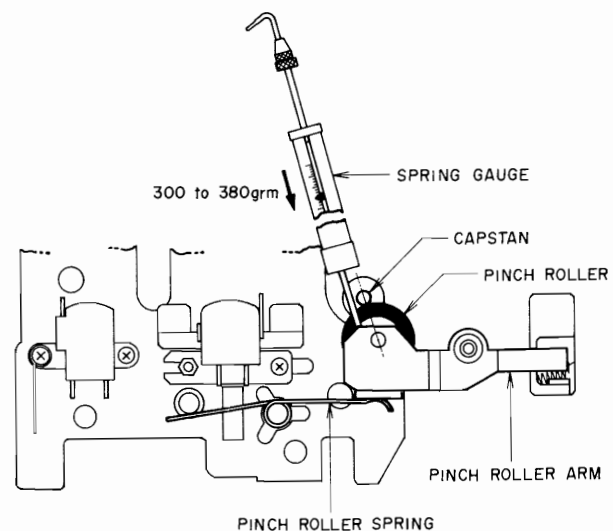


Fig. 11 Pinch Roller Pressure Measurement

2. PINCH ROLLER PRESSURE MEASUREMENT (Refer to Fig. 11)

At playback mode, with a 500g spring gauge, push the pinch roller arm downward in direction of the dotted line in the figure and gently release. Take a reading of the spring gauge scale just as the pinch roller contacts the capstan and begins to rotate.

Proper pinch roller pressure: 300 to 380 grams

If not within specifications, replace pinch roller spring.

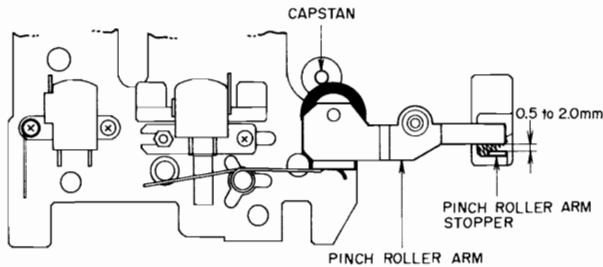


Fig. 12 Gap between pinch roller arm and stopper

3. ADJUSTMENT OF GAP BETWEEN THE PINCH ROLLER ARM AND STOPPER (Refer to Fig. 12)

Adjust by bending the pinch roller arm stopper so that a 0.5 to 2.0 mm gap is definitely obtained between the pinch roller arm and the pinch roller arm stopper when the deck is set to play mode.

4. TAKE-UP TORQUE AT VARIOUS MODES

Playback mode: 40 to 60 gram-cm

Fast Forward mode: 70 to 130 gram-cm

Rewind mode: 70 to 130 gram-cm

In case specified take-up torque cannot be attained,
Playback mode: Replace Take-up reel table Block Comp.

Fast Forward

or Reqid mode: Replace entire supply reel assembly or Middle Lever Block Comp.

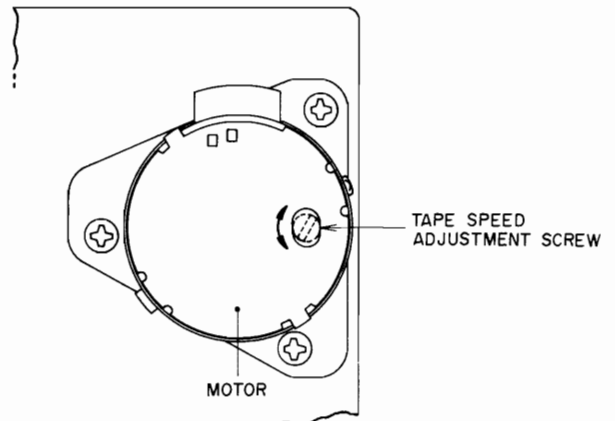


Fig. 13 Tape speed adjustment

5. TAPE SPEED ADJUSTMENT (Refer to Fig. 13)

Playback a 1,000 Hz pre-recorded test tape and adjust tape speed adjustment screw to obtain a tape speed of 1,000 Hz $\pm 2\%$.

VII. HEAD ADJUSTMENT

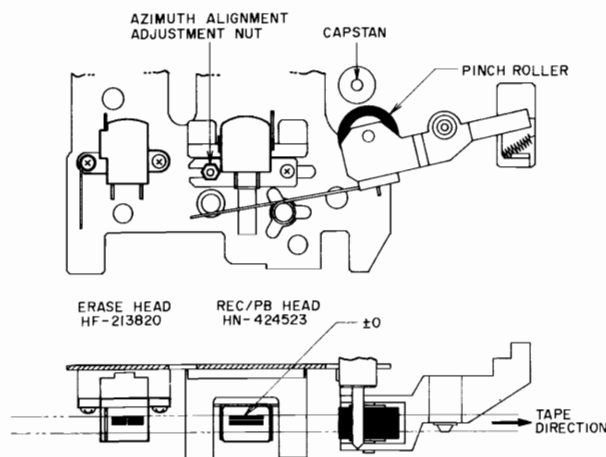


Fig. 14 Head Adjustment

1. RECORDING/PLAYBACK HEAD AZIMUTH ALIGNMENT ADJUSTMENT

Playback a 10 kHz pre-recorded azimuth alignment cassette test tape and adjust recording/playback head azimuth alignment adjustment nut to obtain maximum output.

2. HEAD ADJUSTMENT PRECAUTIONS

* Be sure to clean the heads prior to adjustment.

* As the use of a magnetized driver or other magnetized tools in the vicinity of the heads will cause the heads to become magnetized, use only demagnetized tools for head adjustment.

VIII AMPLIFIER ADJUSTMENT

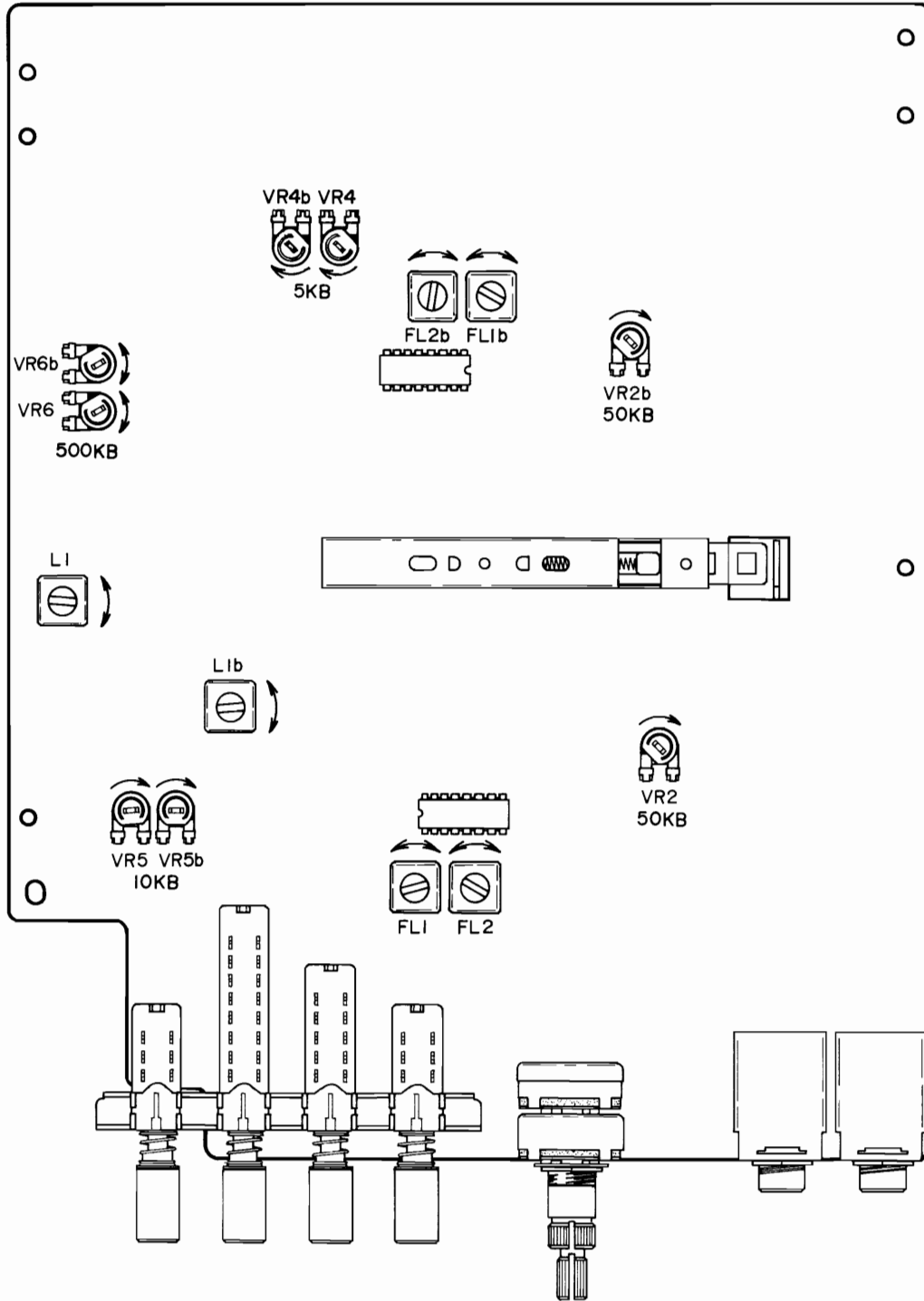


Fig. 15 Pre Amp P.C Board CN-5008A

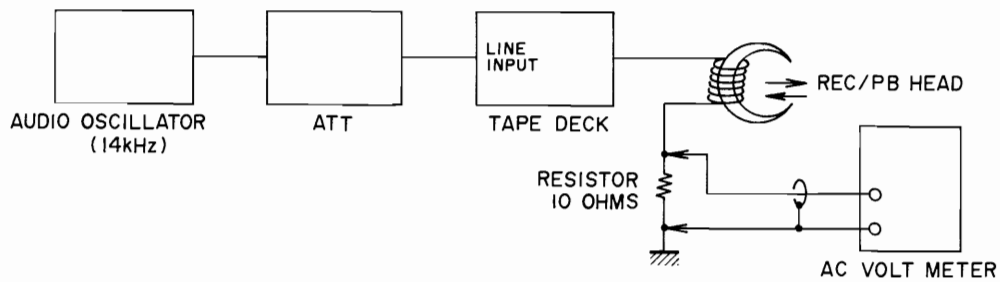
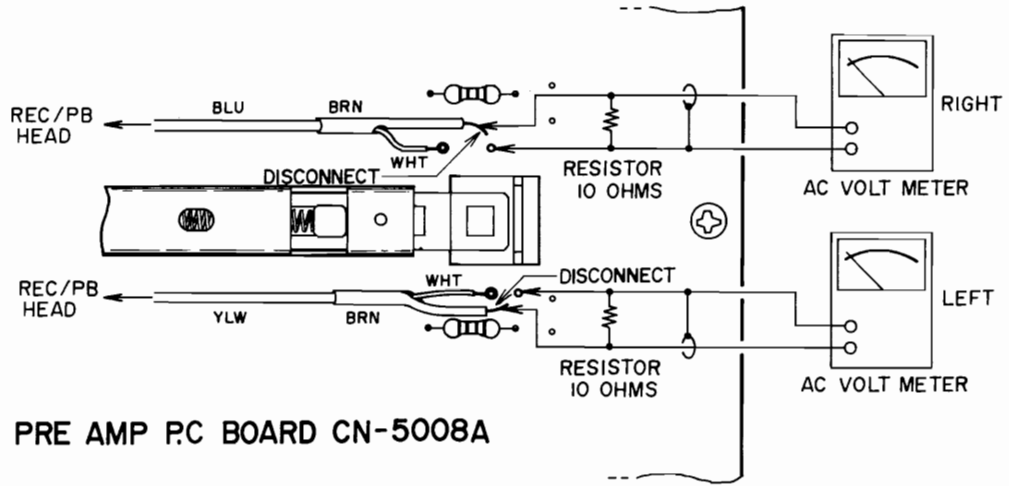
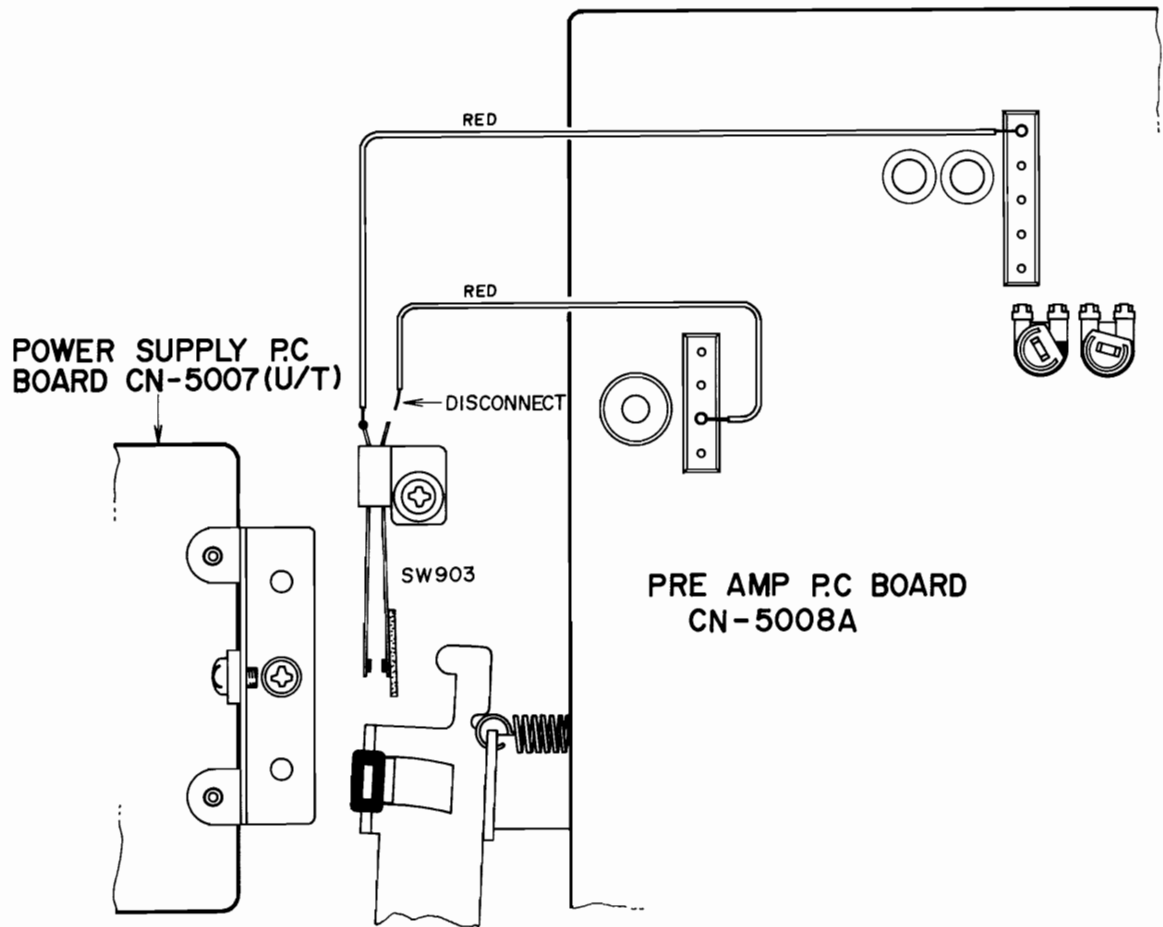


Fig. 16 Instrument Connections



(a)



(b)

Fig. 17 Rec Peaking Adjustment

| Step | Adjustment Item | Test Tape Supply Signal | Mode | Adjustment Point | Result | Remarks |
|------|---------------------------------|---|----------|------------------|-------------------------------------|-----------------------------------|
| 1 | Playback level adjustment | 333 Hz, 0 VU Test Tape | Play | VR2, 50 kΩ | -5.5 ±0.5dBm (410 mV) | |
| 2 | VU Meter Sensitivity adjustment | 333 Hz, 0 VU Test Tape | Play | VR4, 5 kΩ | 0 VU indication | |
| 3 | Recording level adjustment | Low noise blank tape, 1,000 Hz, 0 VU recording | Rec/Play | VR5, 10 kΩ | -5.5 ±0.5dBm (410 mV) | Refer to Note 6) |
| 4 | Frequency response adjustment | Low noise blank tape, 1,000 Hz, 10,000 Hz, -20 VU recording | Rec/Play | VR6, 500 kΩ | 1,000 Hz to 10,000 Hz flat response | Refer to Note 6) |
| 5 | Rec peaking adjustment | 14 kHz from an oscillator | Rec | L1 3.3 mH | Maximum AC voltmeter indication | Refer to Note 7) and Figs. 16, 17 |
| 6 | Bias leak adjustment | | Rec | FL2 | Minimum AC voltmeter indication | |
| 7 | 19 kHz filter adjustment | 19 kHz from an oscillator | Rec | FI1 | Minimum AC voltmeter indication | Refer to Note 8) |

Chart 1

- NOTES:
- 1) Set Tape Selector to Low Noise.
 - 2) Set Dolby N.R. Switch to OFF.
 - 3) Set Limiter Switch to OFF.
 - 4) After Recording Level and Frequency Response Adjustments have been made with Low Noise Tape, confirm with Chrome tape only.
 - 5) 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.
 - 6) Use the following cassette measuring tape:
Low Noise Tape: Fuji FL C-60
Chrome Tape: TDK SA C-60, BASF Chromdioxid C-60
 - 7) Stop recording bias oscillator while making Rec Peaking Adjustment (Refer to Figs. 16, 17)
 - 8) Unless the core is moved intentionally this adjustment is not necessary.

IX. DC RESISTANCE OF VARIOUS COILS

| Part | Designation | DC Resistance |
|-------------------------|-------------|---------------------|
| Recording/Playback Head | MH-424523 | 170 ohms $\pm 20\%$ |
| Erase Head | HF-213822 | 4.5 ohms |

Chart 2

X. CLASSIFICATION OF VARIOUS P.C BOARDS

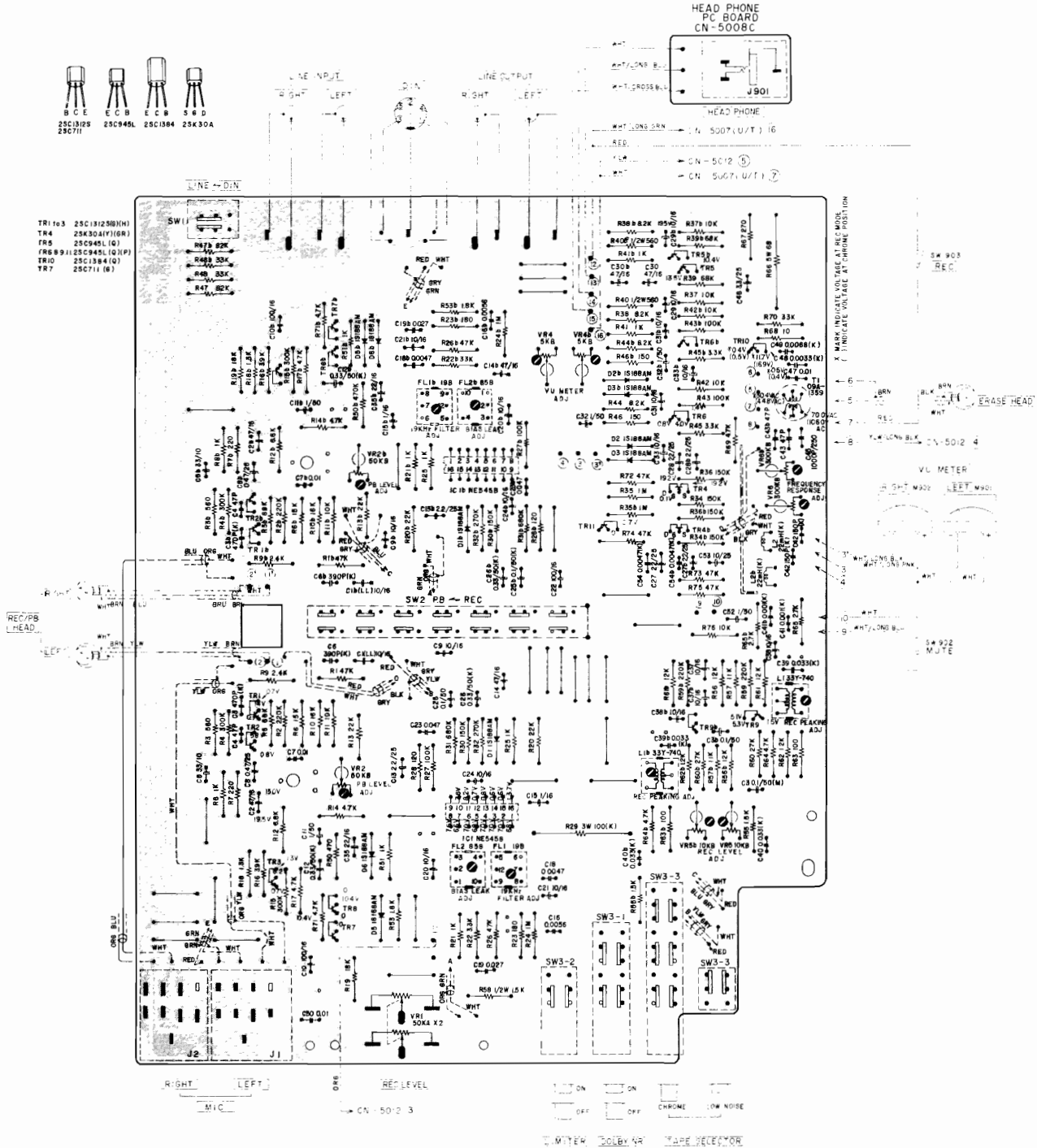
1. RELATION OF P.C BOARD TITLE AND IDENTIFICATION NUMBER

| P.C Board | Number of P.C Board |
|---------------------------------|---------------------|
| Pre Amp P.C Board | CN-5008A |
| Housing Lamp P.C Board | CN-5008B |
| Headphone P.C Board | CN-5008C |
| Power Supply P.C Board (U/T) | CN-5007 |
| Power Supply P.C Board (others) | CN-5006 |
| VU Lamp P.C Board | CN-5012 |

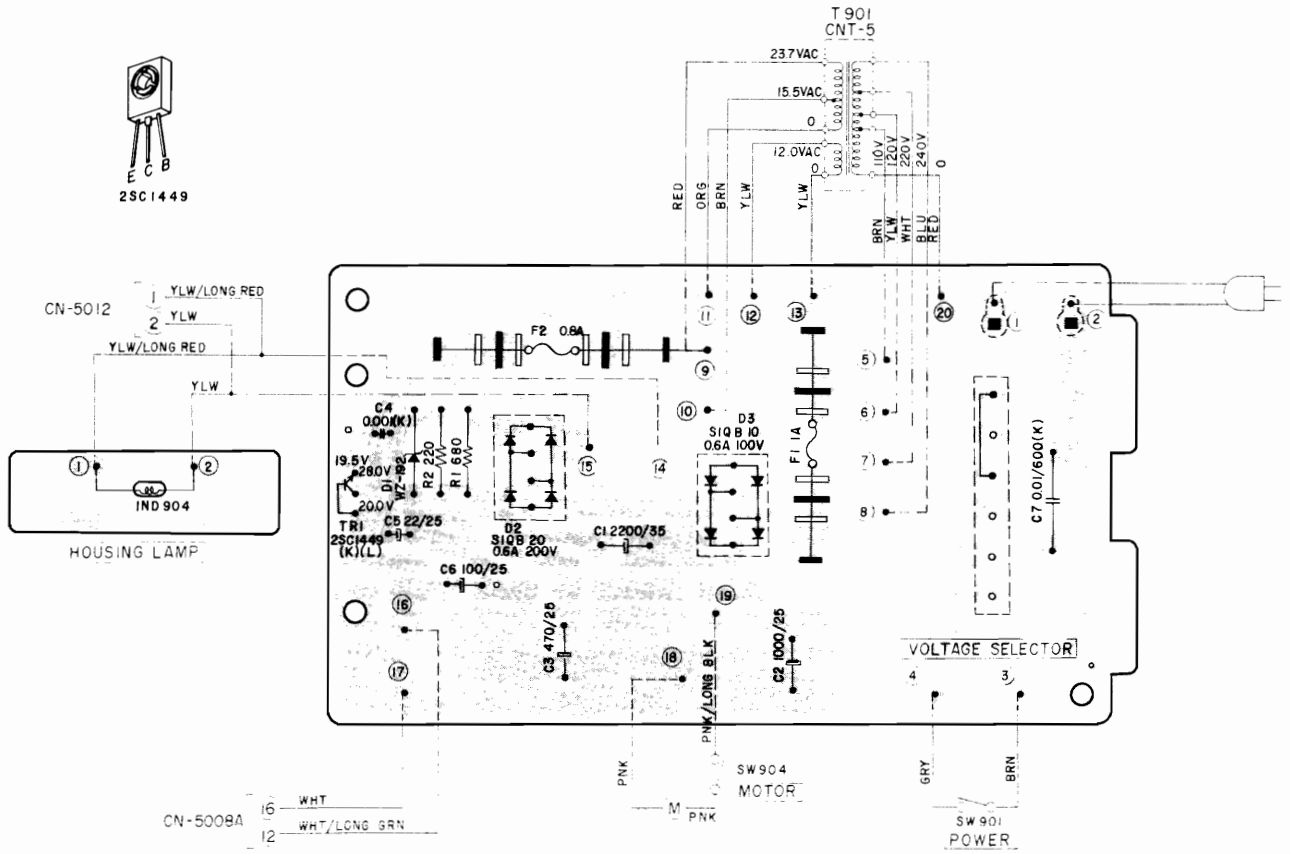
Chart 3

2. COMPOSITION OF VARIOUS P.C BOARD

1) PRE AMP P.C BOARD CN-5008A & HEADPHONE P.C BOARD CN-5008C



2) POWER SUPPLY P.C BOARD CN-5007 (U/T) &
HOUSING LAMP P.C BOARD CN-5008B



SECTION 2

PARTS LIST

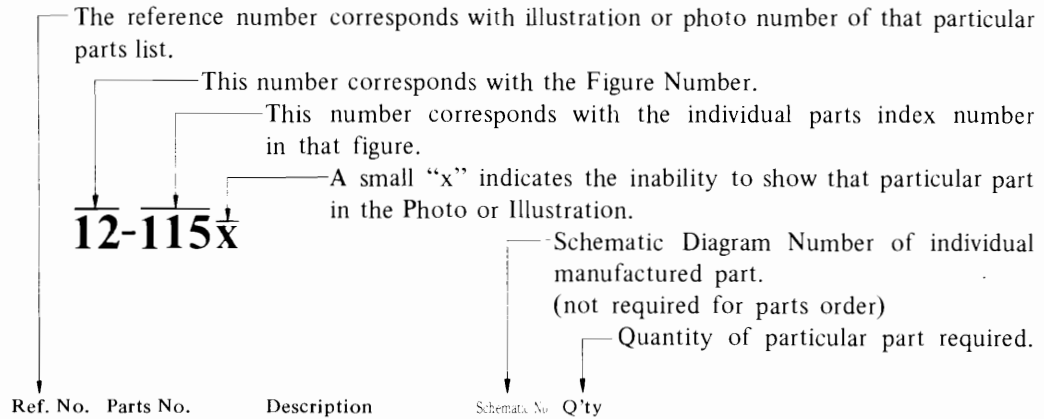
TABLE OF CONTENTS

| | | |
|----|--|----|
| 1. | RECOMMENDED SPARE PARTS LIST | 25 |
| 2. | HEAD BASE BLOCK | 26 |
| 3. | FLYWHEEL/MOTOR BLOCK | 27 |
| 4. | MECHA FRAME BLOCK | 28 |
| 5. | P.C BOARDS | 30 |
| | (1) PRE AMP P.C BOARD (CN-5008A) BLOCK | 30 |
| | (2) POWER SUPPLY P.C BOARD (CN-5007)(CN-5006) BLOCK. . | 30 |
| | (3) VU LAMP P.C BOARD (CN-5012) BLOCK | 30 |
| 6. | AMP ASSEMBLY BLOCK | 31 |
| 7. | FINAL ASSEMBLY BLOCK | 33 |
| 8. | LIST OF INTERCHANGEABLE SEMICONDUCTORS | 34 |
| | INDEX | 35 |

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. The indications of Resistors and Capacitors in the photos of P.C. Board are being eliminated.
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.

CAUTION:

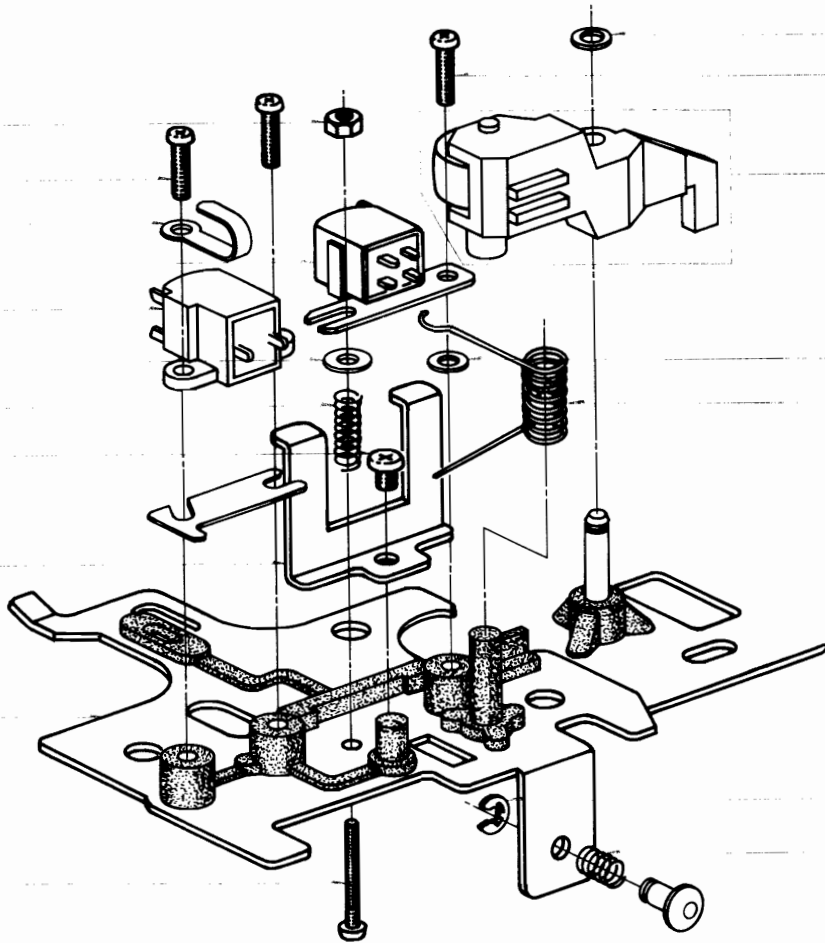
1. When placing an order for parts, be sure to list the parts no., model no., and description. There are instances in which if any of this information is omitted, parts cannot be shipped or the wrong parts will be delivered.
2. Please be careful not to make a mistake in the parts no. If the parts no. is in error, a part different from the one ordered may be delivered.
3. Because parts number and parts unit supply in the Preliminary Service Manual (Basic Parts List) may be partially changed, please use this parts list for all future reference.

1. RECOMMENDED SPARE PARTS LIST

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.

| Parts No. | Description | Note |
|-----------|--------------------------------------|------------------------|
| BA274061 | Power Supply P.C Board Comp. CN-5007 | U/T |
| BA274116 | Power Supply P.C Board Comp. CN-5006 | JPN |
| BA274105 | Power Supply P.C Board Comp. CN-5006 | AAL |
| BA274094 | Power Supply P.C Board Comp. CN-5006 | CSA |
| BA274083 | Power Supply P.C Board Comp. CN-5006 | CEE |
| BA268492 | Power Supply P.C Board Comp. CN-5006 | BEAB |
| BA274004 | Pre Amp P.C Board Comp. CN-5008A | |
| BD273870 | Front Panel Block Comp. | |
| BD300297 | Lid Case Comp. | |
| BF274217 | Flywheel Block Comp. | |
| BL274263 | Pinch Roller Arm Block Comp. CN-9708 | |
| BL282510 | Middle Lever Block Comp. | |
| BM302788 | Motor Block Comp. | |
| BR282475 | Take-up Reel Table Comp. | |
| BR282497 | Supply Reel Table Comp. | |
| BT283004 | Power Trans. CNT-1 | CSA |
| BT283015 | Power Trans. CNT-2 | CEE |
| BT283026 | Power Trans. CNT-3 | BEAB |
| BT283037 | Power Trans. CNT-4 | JPN |
| BT283048 | Power Trans. CNT-5 | U/T |
| BT301773 | Power Trans. CNT-6 | AAL |
| BZ282881 | Auto Stop Comp. CN-3014 | |
| BD249377 | LED GL-3AR1 | D901 (CN-5012) |
| ED249581 | Silicon Diode SIQB20 0.6A 200V | D2 (CN-5007/5006) |
| ED284095 | Silicon Diode SIQB10 0.6A 100V | D3 (CN-5007/5006) |
| ED283138 | LED GL-32PG | D902 (CN-5012) |
| ED498150 | Zener Diode WZ-192 | D1 (CN-5007/5006) |
| ED560913 | Silicon Diode 1S2473VE | D4 (CN-5008A) |
| ED562386 | Germanium Diode 1S188AM | D1to3, 5, 6 (CN-5008A) |
| EJ249232 | Headphone Jack | J1 (CN-5008C) |
| EL283184 | Lamp (Reed Type) 8V 100 mA | IND901, 902, 904 |
| EO283050 | Oscillator Coil 09A-1359 | T1 (CN-5008A) |
| ER283105 | Dolby Filter KM-10D1.9B | FL1 (CN-5008A) |
| ER283386 | Dolby Filter KM-10D85B | FL2 (CN-5008A) |
| EM213175 | VU Meter 190-1 | (JPN) M901, 902 |
| EM265116 | VU Meter 190-1-PG | (Others) M901, 902 |
| ES280258 | Push SW. SDV1P TV-5 | SW901 |
| ES283072 | Slide SW. SSC22LP | SW1 (CN-5008A) |
| ES283083 | Slide SW. 140025 | SW2 (CN-5008A) |
| ES283116 | Push SW. CVE-42 | SW3 (CN-5008A) |
| ES283151 | Leaf SW. BSW-31PL | SW904 |
| ES283173 | Leaf SW. BSW-31PLC | SW902 |
| ES592964 | Leaf SW. BSW-1FTX | SW903 |
| ES665807 | Push SW. SDG-5P | SW901 (CEE) |
| ET241334 | Transistor 2SC1384(Q) | TR10 (CN-5008A) |
| ET399846 | Transistor 2SC945L(Q) | TR5 (CN-5008A) |
| ET399870 | Transistor 2SC711(G) | TR7 (CN-5008A) |
| ET603257 | Transistor 2SC1312S(G)(H) | TR1to3 (CN-5008A) |
| ET552870 | FET 2SK30A(Y)(GR) | TR4 (CN-5008A) |
| ET639437 | Transistor 2SC945L(Q)(P) | TR6 (CN-5008A) |
| EV283127 | Volume 50 kAx2 | VR1 (CN-5008A) |
| HE266466 | ERASE HEAD HF-213820 | |
| HP266477 | REC/PB HEAD MH-424523 | |
| MB282093 | Capstan Belt | |
| MB282284 | Counter Belt CN-1039 | |
| MB283421 | AS Belt CN-1059 | |
| MC280260 | Counter MP-390-211 | |
| MR282767 | Motor Pulley CN-7002 | |

2. ILLUSTRATION OF HEAD BASE BLOCK

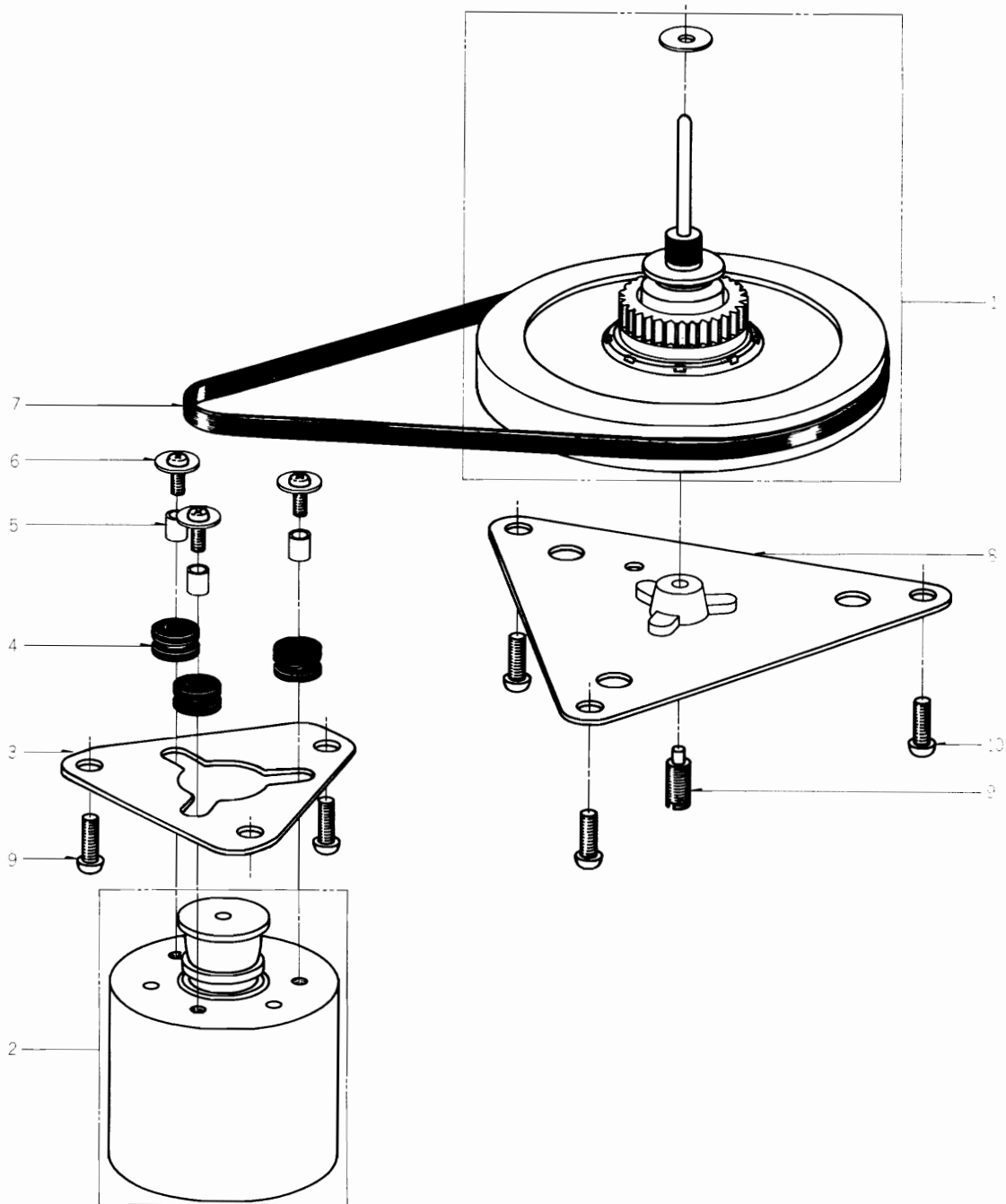


2.) HEAD BASE BLOCK

| Ref. No. | Parts No. | Description | Schematic Q'ty No. | Ref. No. | Parts No. | Description | Schematic Q'ty No. |
|----------|-----------|-------------------------|--------------------|----------|-----------|------------------------|--------------------|
| 2-1x | BH274252 | Head Base Block Comp. | 1 | 2-23 | MS282374 | Pinch Roller Spring | CN-1053 1 |
| 2-2 | BZ280304 | Head Chassis Comp. | CN-0001 1 | 2-24 | ZW282407 | Push Washer (B) | CN-1056 1 |
| 2-3 | TC282025 | Safety Base | CN-0003 1 | 2-25 | ZS523664 | Tapping Screw #2, 3x10 | 3 |
| 2-4 | ZS432674 | Screw, pan head 3x3 | 1 | | | (BR) | |
| 2-5 | HE266466 | ERASE HEAD HF213820 | 37-2-8 1 | 2-26 | ZS650013 | Tapping Screw #1, 3x25 | 1 |
| 2-6 | HZ301161 | Head Wiring Hook | CN-0008 1 | | | (BR) | |
| 2-7 | ZS300436 | Tapping Screw #2, 2.3x8 | 2 | | | | |
| | | (Bind) | | | | | |
| 2-8 | ZG282036 | Adjust. Spring | CN-0004 1 | | | | |
| 2-9 | HR266477 | REC/PB HEAD | | | | | |
| | | MH424523 | 37-2-9 1 | | | | |
| 2-10 | ZW609311 | Nut M2, #1 | 1 | | | | |
| 2-11 | ZW300888 | Qasher D2.3x6x0.4t | 1 | | | | |
| 2-12 | ZS522180 | Tapping Screw #2, 2x8 | 1 | | | | |
| | | (Pan) | | | | | |
| 2-13 | ZW300883 | Washer D2.3x6x0.1t | 1 | | | | |
| 2-14x | ZW300884 | Washer D2.3x6x0.15t | 1 | | | | |
| 2-15x | ZW300885 | Washer D2.3x6x0.2t | 1 | | | | |
| 2-16x | ZW300886 | Washer D2.3x6x0.25t | 1 | | | | |
| 2-17x | ZW300887 | Washer D2.3x6x0.3t | 1 | | | | |
| 2-18 | ZS300435 | Screw, pan head 2x12 | 1 | | | | |
| 2-19x | ZG298350 | Spring (B) | CN-1068 1 | | | | |
| 2-20 | ZG282183 | Spring | CN-1028 1 | | | | |
| 2-21 | ZW270088 | 'E' Ring 1.9M | 6-1-9 1 | | | | |
| 2-22 | BZ274263 | Pinch Roller Arm Block | | | | | |
| | | Comp. | CN-9708 1 | | | | |

When ordering parts, please describe Parts Number, Description, and Model Number in detail.

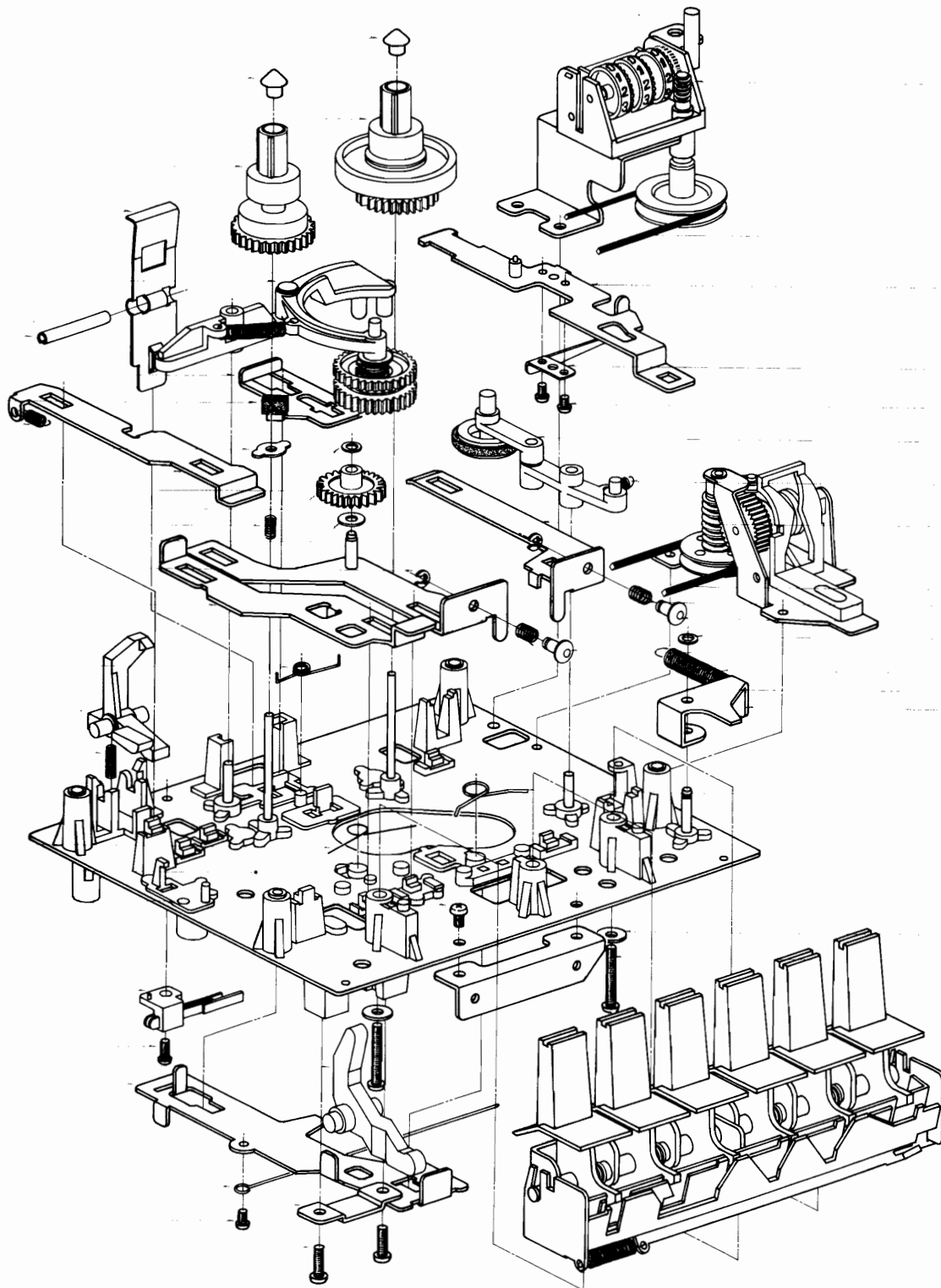
3. ILLUSTRATION OF FLYWHEEL/MOTOR BLOCK

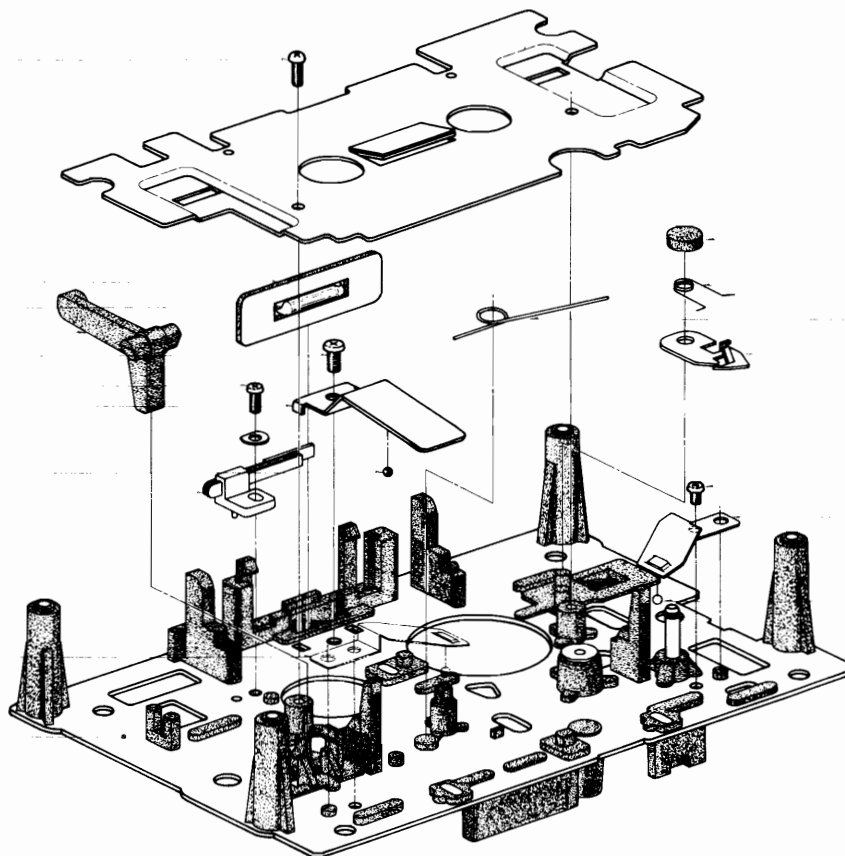


3.) FLYWHEEL/MOTOR BLOCK

| Ref. No. | Parts No. | Description | Schematic No. | Q'ty |
|----------|-----------|------------------------------|---------------|------|
| 3-1 | BF274217 | Flywheel Block Comp. | | 1 |
| 3-2 | BM302788 | Motor Block Comp. | | 1 |
| 3-3 | TC282756 | Motor Mt. Plate | CN-7001 | 1 |
| 3-4 | MB282778 | Rubber Bush | CN-7003 | 3 |
| 3-5 | ZW283195 | Spacer 2.6x4 | 7-2-6 | 3 |
| 3-6 | ZS296482 | Screw, pan head 2.6x6 PW | | 3 |
| 3-7 | MB282093 | Capstan Belt | CN-1017 | 1 |
| 3-8 | BZ280337 | Flywheel Holderplate Comp. | CN-1018 | 1 |
| 3-9 | ZS297628 | Adjust Screw | CN-1069 | 1 |
| 3-10 | ZS447840 | Tapping Screw #2 3x8 (BR) | | 6 |

4. ILLUSTRATION OF MECHA FRAME BLOCK





4.) MECHA FRAME BLOCK

| Ref. No. | Parts No. | Description | Schematic Q'ty No. | Ref. No. | Parts No. | Description | Schematic Q'ty No. |
|----------|-----------|-----------------------------|--------------------|----------|-----------|---------------------------------|--------------------|
| 4-1 | BZ280326 | Chassis (A) Comp. | CN-1001 | 4-35 | TC282194 | F.F Slide | CN-1029 |
| 4-2 | TC282047 | Brake Slide (B) | CN-1012 | 4-36 | BL282508 | Take-up Lever Comp. | CN-2022 |
| 4-3 | TC282238 | Reset Spoke | CN-1034 | 4-37 | MB283421 | AS Belt | CN-1066 |
| 4-4 | ZS417251 | Screw, binding head 2.3x3 | 1 | 4-38 | ZG282431 | REC Safety Spring | CN-1059 |
| 4-5 | ML282328 | Rec Lever | CN-1043 | 4-39 | ML282240 | REC Safety Lever | CN-1035 |
| 4-6 | MZ282330 | Rec Lever Stopper | CN-1044 | 4-40 | ZG282251 | Cassette Stopping Spring | CN-1036 |
| 4-7 | ZS447840 | Tapping Screw #2 3x8 (BR) | 2 | 4-41 | MH284185 | Spring Pin | 1 |
| 4-8 | ES283151 | Leaf SW, BSW-31(PL) | 25-10-25 | 4-42 | ZG387178 | Idler Tension Spring | CS-1106 |
| 4-9 | ZS537085 | Screw, binding head 2x5 | 1 | 4-43 | TC268468 | Pause Slide Part CN | CN-1031 |
| 4-10 | MC280260 | Counter MP-390-211 | 9-1-53 | 4-44 | TC282227 | Scraper | CN-1033 |
| 4-11x | ZS417216 | Screw, pan head 3x4 | 5 | 4-45 | ZS374646 | Screw, pan head 2x2 | 1 |
| 4-12 | BZ282881 | Auto Stop Comp. | CN-3014 | 4-46 | ML282273 | Auto Stop Lever | CN-1038 |
| 4-13x | ZS432843 | Screw, pan head 2.6x4 | 2 | 4-47 | ZG606723 | Spring T | KJ-2059 |
| 4-14 | ZG282115 | Brake Spring | CN-1021 | 4-48 | BZ280315 | Mecha Chassis (B) Comp. | CN-1004 |
| 4-15 | TC282262 | Brake Slide (A) | CN-1037 | 4-49 | ML282295 | Eject Lever | CN-1040 |
| 4-16 | MB282104 | Brake Rubber | CN-1020 | 4-50 | ES283173 | Leaf SW. BSW-3/PLC | 25-10-26 |
| 4-17 | ZG282464 | Return Spring (B) | CN-1065 | 4-51 | ZS537085 | Screw, binding head 2x5 | 1 |
| 4-18 | ZW282407 | Push Washer (B) | CN-1056 | 4-52 | EA283408 | Housing Lamp P.C Board | CN-5008B |
| 4-19 | TC282161 | RWD Wheel | CN-1026 | 4-53 | EL283184 | Lamp (Reed Type) 8V 100 mA | 28-2-59 |
| 4-20 | ZW694798 | Washer (Teflon) D3.1x7x0.2t | 1 | 4-54 | TC515575 | SW. Lock Cam B | CG-2301 |
| 4-21 | ZW270088 | 'E' Ring 1.9M | 6-1-9 | 4-55 | ZG632553 | Button Lock Spring C | CG-2303 |
| 4-22 | ZG282183 | Spring | CN-1028 | 4-56 | TC282396 | Cap | CN-1055 |
| 4-23 | MS282172 | Spring Shaft | CN-1027 | 4-57 | MV357208 | Steel Ball D2 | 6 |
| 4-24 | ZG282418 | Back Tension Spring | CN-1057 | 4-58 | ZG282341 | Head Return Spring | CN-1048 |
| 4-25 | ZW282420 | Spring Spot Facing Washer | CN-1058 | 4-59 | ZG282352 | Head Base Stopping Spring | CN-1049 |
| 4-26 | BR282497 | Supply Reel Table Comp. | CN-2021 | 4-60 | ZS417216 | Screw, pan head 3x4 | 3 |
| 4-27 | MT282468 | Reel Cap | CN-2008 | 4-61 | BK282870 | Keyboard Comp. | CN-3011 |
| 4-28 | BL282510 | Middle Lever Comp. | CN-2023 | 4-62 | ZW550642 | Washer (SPC) D3.1x7.9x0.5t | 3 |
| 4-29 | BR282475 | Take-up Reel Table Comp. | CN-2001 | 4-63 | ZS608253 | Screw, pan head 3x20 | 3 |
| 4-30 | MB282284 | Counter Belt | CN-1039 | 4-64 | ZS265307 | Tapping Screw #2, 2.3x6 (Truss) | 2 |
| 4-31 | ZG282126 | Return Spring | CN-1022 | 4-65x | ZW287458 | Washer D3.3x6x0.3t | 1 |
| 4-32 | TC282137 | Rec Slide | CN-1023 | 4-66 | ZG300881 | Head Retaining Spring (A) | CN-1070 |
| 4-33 | ZG385986 | Safety Lever Return Spring | CS-2539 | 4-67 | ZG300882 | Head Retaining Spring (B) | CN-1070 |
| 4-34 | TC282205 | Eject Slide | CN-1030 | 4-68 | ZS201407 | Screw, pan head 2.3x3 | 2 |

When ordering parts, please describe Parts Number, Description, and Model Number in detail.

5. P.C BOARDS

(1) PRE AMP P.C BOARD (CN-5008A) BLOCK

| Symbol No. | Parts No. | Description | Schematic No. | Q'ty |
|------------|-----------|--|---------------|------|
| (1)-1 | BA274004 | Pre Amp P.C Board Comp. (CN-5008) | | 1 |
| (1)-IC1 | EI605013 | IC NE545B | 45-8-117 | 2 |
| (1)-TR1to3 | ET603257 | Transistor 2SC1312S(G)(H) | 45-1-182 | 6 |
| (1)-TR4 | ET552870 | FET 2SK30A(Y)(GR) | 45-12-4 | 2 |
| (1)-TR5 | ET399846 | Transistor 2SC945L(Q) | 45-1-85 | 2 |
| (1)-TR6 | ET639437 | Transistor 2SC945L(Q)(P) | 45-1-85 | 2 |
| (1)-TR7 | ET399870 | Transistor 2SC711(G) | 45-1-67 | 2 |
| (1)-TR8,9 | ET639437 | Transistor 2SC945L(Q)(P) | 45-1-85 | 4 |
| (1)-TR10 | ET241334 | Transistor 2SC1384(Q) | 45-1-173 | 1 |
| (1)-TR11 | ET603257 | Transistor 2SC1312(G)(H) | 45-1-182 | 1 |
| (1)-D1to3 | ED562386 | Germanium Diode 1S188AM | 45-3-24 | 6 |
| (1)-D5,6 | ED562386 | Germanium Diode 1S188AM | 45-3-24 | 4 |
| (1)-VR2 | EV464220 | Semi-fixed/Vol. V8K4-1 50 k Ω | 36-10-266 | 2 |
| (1)-VR4 | EV464207 | Semi-fixed/Vol. V8K4-1 5 k Ω | 36-10-266 | 2 |
| (1)-VR5 | EV520806 | Semi-fixed/Vol. V8K4-1 10 k Ω | 36-10-266 | 2 |
| (1)-VR6 | EV300270 | Semi-fixed/Vol. V8K4-1 300 k Ω | 36-10-266 | 2 |
| (1)-T1 | EO283050 | OSC Coil 33Y-1007A | 23-4-40 | 1 |
| (1)-L1 | EO692741 | Ferri Inductor 33Y-740 | 23-1-254 | 2 |
| (1)-L2 | EP656943 | Inductor 22MH(J) | 23-1-245 | 2 |
| (1)-FL1 | ER283105 | Dolby Filter FB-1802M | 53-1-115 | 2 |
| (1)-FL2 | ER283386 | Dolby Filter KM-10D85B | 53-1-115 | 2 |
| (1)-SW1 | ES283072 | Slide SW. SSC22LP | 25-3-131 | 1 |
| (1)-SW2 | ES283083 | Slide SW. 140025 | 25-3-132 | 1 |
| (1)-2 | MZ287471 | Base Post BCC-5 | 42-1-101 | 1 |
| (1)-3 | EZ245924 | Base Post BCC-4 | 42-1-101 | 1 |
| (1)-4 | MZ287460 | Base Post BCC-3 | 42-1-101 | 1 |
| (1)-5 | MZ277482 | Base Post BCC-2 | 42-1-101 | 4 |
| (1)-6 | TC297257 | OSC Shield Plate (B) | CN-5024 | 1 |
| (1)-R29 | ER280710 | Metal Oxide Film/R. 3W 100 ohms (J) | 35-15-19 | 1 |
| (1)-R66 | ER538121 | Cement/R. 5W 68 ohms (K)(Wire-wound Type) | 35-16-3 | 1 |
| (1)-C3 | EC280383 | Styrol/C. 470PF(K) 50WV (w/rubber) | 24-11-12 | 2 |
| (1)-C6 | EC280361 | Styrol/C. 390PF(K) 50WV (w/rubber) | 24-11-12 | 2 |
| (1)-C42 | EC265421 | Styrol/C. 150PF(K) 50WV (w/rubber) | 24-11-12 | 2 |
| (1)-C45 | EC284152 | Styrol/C. 1000PF(J) 250WV (w/rubber) | 24-11-12 | 1 |

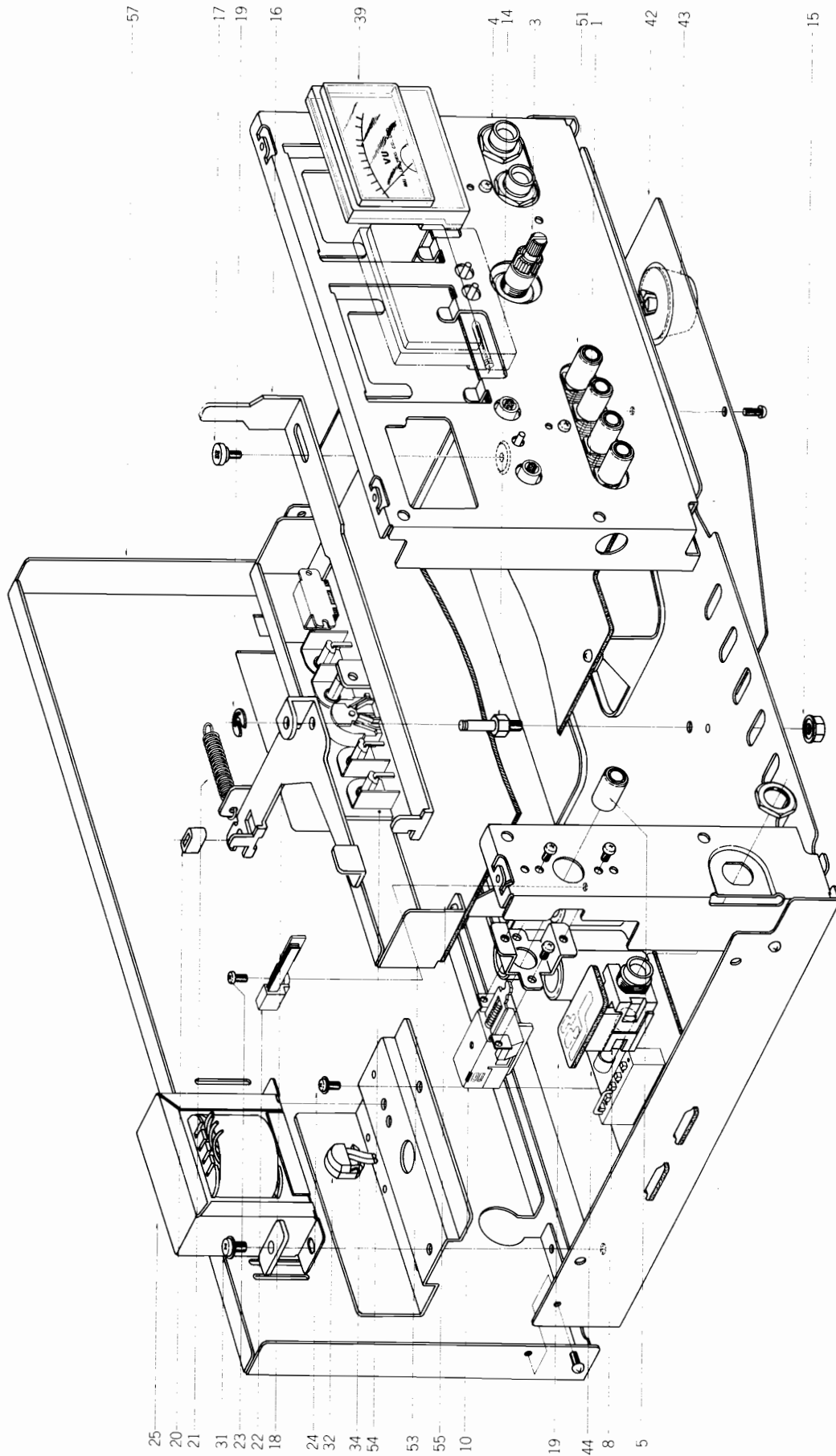
(2) POWER SUPPLY P.C BOARD (CN-5007) BLOCK (CN-5006)

| Symbol No. | Parts No. | Description | Schematic No. | Q'ty |
|------------|-----------|---|---------------|------|
| (2)-1 | BA274061 | Power Supply P.C Board Comp. (CN-5007) | | 1 |
| (2)-2 | BA274116 | Power Supply P.C Board Comp. (CN-5006)(JPN) | | 1 |
| (2)-3 | BA274105 | Power Supply P.C Board Comp. (CN-5006) (AAL) | | 1 |
| (2)-4 | BA274049 | Power Supply P.C Board Comp. (CN-5006) (CSA) | | 1 |
| (2)-5 | BA274083 | Power Supply P.C Board Comp. (CN-5006) (CEE) | | 1 |
| (2)-6 | BA268492 | Power Supply P.C Board Comp. (CN-5006) (BEAB) | | 1 |
| (2)-TR1 | ET649034 | Transistor 2SC1449(K)(L) | 45-1-214 | 1 |
| (2)-D1 | ED498150 | Zener Diode WZ-192 | 45-6-67 | 1 |
| (2)-D2 | ED249581 | Silicon Diode SIQB20 0.6A 200V (Red) | 45-2-74 | 1 |
| (2)-D3 | ED284095 | Silicon Diode SIQB20 0.6A 100V (Blk) | 45-2-74 | 1 |
| (2)-7 | MZ283140 | Voltage Charger 12M-60031 (U/T) | 40-2-13 | 1 |
| (2)-8 | EZ282532 | Heat-sink | CN-5005 | 1 |
| (2)-9 | ZS558101 | Screw, pan head 3x6 w/washer | | 1 |
| (2)-10 | ZS379350 | Screw, pan head 3x6 | | 2 |
| (2)-11 | EJ514822 | Fuse Holder, P.C Board S-N5051 (U/T, JPN, AAL, CSA) | 40-1-28 | 4 |
| (2)-12 | EJ592503 | Fuse Clip, P.C Board H0426 (CEE) | 40-1-37 | 4 |
| (2)-13 | EJ592503 | Fuse Clip, P.C Board H0426 (BEAB) | 40-1-37 | 6 |
| (2)-C7 | EC699298 | PE-9P Film/C. 0.1 μ F(K) 600WV (U/T, CEE) | 24-3-8 | 1 |

(3) VU LAMP P.C BOARD (CN-5012) BLOCK

| Symbol No. | Parts No. | Description | Schematic No. | Q'ty |
|----------------|-----------|--------------------------------------|---------------|------|
| (3)-1 | BA274050 | VU Lamp P.C Board Comp. (CN-5012) | | 1 |
| (3)-D901 | ED249377 | LED GL-3ARI | 45-15-14 | 1 |
| (3)-D902 | ED283138 | LED GL-32PG | 45-15-15 | 1 |
| (3)-IND901,902 | EL283184 | Lamp (Reed Type) 8V 100 mA | 28-2-59 | 2 |
| (3)-2 | TC282554 | Lamp Holder | CN-5013 | 2 |

6. ILLUSTRATION OF AMP ASSEMBLY BLOCK



6.) AMP ASSEMBLY BLOCK

| Ref. No. | Parts No. | Description | Schematic No. | Q'ty | Ref. No. | Parts No. | Description | Schematic No. | Q'ty |
|----------------------------------|-----------|---|---------------|------|----------------------|-----------|-------------------------------|---------------|------|
| VOL. RETAINING BASE BLOCK | | | | | PRE AMP BLOCK | | | | |
| 6-1 | ES283116 | Push SW. CVE-42 | 25-5-242 | 1 | 6-53 | TC282813 | Jack Plate Mt. Base | CN-5021 | 1 |
| 6-2x | ZS323728 | Screw, binding head 3x5 | | 2 | 6-54 | EJ283094 | 4P Pin Jack 1-01-0107-00 | 31-5-137 | 1 |
| 6-3 | EV283127 | Double axial 2 throw | | | 6-55 | ZS325495 | Tapping Screw #2, 3x6 (BR) | | 4 |
| | | Vol. 50 kAx2 | 36-3-77 | 1 | | | | | |
| 6-4 | EJ280293 | Mic. Jack LJ255-1-16 | 31-2-77 | 2 | 6-56x | ZW273802 | Toothed Lock Washer | | 2 |
| FRONT CHASSIS (L) BLOCK | | | | | | | | | |
| 6-5 | SK631304 | Push Button Knob 1 MY-2 | 91-5051 | 1 | 6-57 | SP280247 | Rear Panel (B) | CN-6019B1 | 1 |
| 6-6x | SB645232 | Selector Button (CEE) | CA-6011 | 1 | 6-58 | SP282835 | Rear Panel (AAL) | CN-6019 | 1 |
| 6-7x | ZS422076 | Screw, pan head 3x5 | | 4 | | | | | |
| 6-8 | EJ249232 | Headphone Jack MU | 31-2-77 | 1 | | | | | |
| 6-9 | EA283410 | Headphone P.C Board | CN-5008C | 1 | | | | | |
| 6-10 | ES293703 | Push SW. SDVIP TV-5 | 25-5-254 | 1 | | | | | |
| 6-11x | ES665807 | Push SW. SDG-5P (CEE) | 25-5-182 | 1 | | | | | |
| 6-12x | ES280258 | Push SW. SDVIP TV-5 | | | | | | | |
| | | (AAL) | 25-5-243 | 1 | | | | | |
| 6-13x | ZS674537 | Tapping Screw #2, 3x6 (BR) w/washer | | 1 | | | | | |
| AMP CHASSIS BLOCK | | | | | | | | | |
| 6-14 | MH282587 | REC Lever Prop | CN-5020 | 1 | | | | | |
| 6-15 | ZW413267 | Flange Nut M4 | | 1 | | | | | |
| 6-16 | TC282521 | REC Slide | CN-5002 | 1 | | | | | |
| 6-17 | ZS469710 | MR Graduated Screw | MR-254 | 1 | | | | | |
| 6-18 | ML282936 | REC Lever | CN-5003 | 1 | | | | | |
| 6-19 | ZW290283 | 'U' Ring 2.85M | 6-1-1 | 1 | | | | | |
| 6-20 | MB510164 | Cussion Rubber | CG-7306 | 1 | | | | | |
| 6-21 | ZG323763 | REC. Lever Return Spring, MRA | MR-554 | 1 | | | | | |
| 6-22 | ES301747 | Leaf SW. BSW-1F TX-2 | 25-10-30 | 1 | | | | | |
| 6-23 | ZS323728 | Screw, binding head 3x5 | | 1 | | | | | |
| 6-24 | ZS201767 | Screw, pan head 4x6 w/washer | | 2 | | | | | |
| 6-25 | BT283048 | Power Trans. CNT-5 | 38-4-470 | 1 | | | | | |
| 6-26x | BT283037 | Power Trans. CNT-4 (JPN) | 38-4-469 | 1 | | | | | |
| 6-27x | BT301773 | Power Trans. CNT-6 (AAL) | 38-4-501 | 1 | | | | | |
| 6-28x | BT283004 | Power Trans. CNT-1 (CSA) | 38-4-466 | 1 | | | | | |
| 6-29x | BT283015 | Power Trans. CNT-2 (CEE) | 38-4-467 | 1 | | | | | |
| 6-30x | BT283026 | Power Trans. CNT-3 (BEAB) | 38-4-468 | 1 | | | | | |
| 6-31 | ZS558101 | Screw, pan head 3x6 w/washer | | 2 | | | | | |
| 6-32 | ZS631945 | Strain Relief SR-4N-N | 2-7-49 | 1 | | | | | |
| 6-33x | EJ692908 | Strain Relief SR-5N-4 (BEAB) | 2-7-60 | 1 | | | | | |
| 6-34 | EW540123 | AC Cord (CUL) 2.5M | 26-3-20 | 1 | | | | | |
| 6-35x | EW557640 | AC Cord (J) 2.5M | 26-3-32 | 1 | | | | | |
| 6-36x | EW516475 | AC Cord (CSA) 2.5M | 26-3-45 | 1 | | | | | |
| 6-37x | EW604618 | AC Cord (KMA) VM-0064 | 26-3-34 | 1 | | | | | |
| 6-38x | EW232244 | AC Cord Basec 2 Core | 26-3-46 | 1 | | | | | |
| 6-39 | EM265116 | VU Meter 190-1-PG | 46-1-146 | 2 | | | | | |
| 6-40x | EM213175 | VU Meter 190-1 (JPN) | 46-1-142 | 2 | | | | | |
| 6-41x | ZS325495 | Tapping Screw #2 3x6 (BR) | | 5 | | | | | |
| 6-42 | SP300625 | Lower Cover (B) | CN-6029 | 1 | | | | | |
| 6-43 | SA300573 | Rubber, Foot (8MM) | 2-6-17 | 4 | | | | | |
| | SA280282 | Rubber, Foot (12MM) | 2-6-16 | 4 | | | | | |
| 6-44 | EF563681 | Fuse 1A 250V (U/T, JPN) | 39-1-50 | 1 | | | | | |
| 6-45x | EF575932 | Fuse 0.8A 250V (U/T, JPN) | 39-1-50 | 1 | | | | | |
| 6-46x | EF304626 | Fuse ST-4 1A (AAL, CSA) | 39-1-28 | 1 | | | | | |
| 6-47x | EF277424 | Fuse ST-4 0.8A (AAL, CSA) | 39-1-28 | 1 | | | | | |
| 6-48x | EF601942 | Fuse 630MAT (SEMKO T Type) (CEE, BEAB) | 39-1-53 | 1 | | | | | |
| 6-49x | EF668474 | Fuse 400MAT (SEMKO T Type) (CEE, BEAB) | 39-1-53 | 1 | | | | | |
| 6-50x | EF601942 | Fuse 630MAT (SEMKO T Type) (BEAB) | 39-1-53 | 1 | | | | | |
| 6-51 | SK634410 | Push Button Knob J TE | 91-5051 | 4 | | | | | |
| 6-52x | ZS523664 | Tapping Screw 2, 3x10 (BR) | | 2 | | | | | |

When ordering parts, please describe Parts Number, Description, and Model Number in detail.

7. PHOTO OF FINAL ASSEMBLY BLOCK



7.) FINAL ASSEMBLY BLOCK

| Ref. No. | Parts No. | Description | Schematic Q'ty No. |
|-----------------------------|-----------|-----------------------------------|--------------------|
| FRONT PANEL BLOCK | | | |
| 7-1 | BD273870 | Front Panel Block Comp. | 1 |
| 7-2 | SE282701 | Escutcheon (A) | CN-6015 1 |
| 7-3x | TC282611 | Stopper Holder | CN-6003 1 |
| 7-4x | MZ282633 | Stopper | CN-6005 2 |
| 7-5x | ZS608275 | Screw, pan head 3x5, w/washer | 2 |
| 7-6x | TC281024 | Pin Stand (L) Part CN | CN-6007 1 |
| 7-7x | TC281035 | Pin Stand (R) Part CN | CN-6007 1 |
| FINAL ASSEMBLY BLOCK | | | |
| 7-8x | ZS608275 | Screw, pan head 3x5, w/washer | 6 |
| 7-9x | ZW259492 | Washer (PBP) D3.1x8x0.3t | 2 |
| 7-10x | TC282824 | Lid Frame | CN-6010 1 |
| 7-11x | ZG282690 | Set Spring | CN-6009 2 |
| 7-12x | ZS201407 | Screw, pan head 2.3x3 | 2 |
| 7-13x | MB282778 | Rubber Bush | CN-7003 2 |
| 7-14x | ZG282644 | Lid Frame Spring (L) | CN-6006 1 |
| 7-15x | ZG282655 | Lid Frame Spring (R) | CN-6006 1 |
| 7-16x | ZW290283 | 'U' Ring 2.85M | 6-1-1 2 |
| 7-17 | BD300297 | Lid Case Comp. CN | 1 |
| 7-18x | ZS325495 | Tapping Screw #2 3x6 (BR) | 12 |
| 7-19x | ZS523664 | Tapping Screw #2 3x10 (BR) | 4 |
| 7-20x | ZS327835 | Screw, countersunk head 3x5 | 1 |
| 7-21x | ZW603797 | Adjust. Washer (U) D4x13x0.5t | 2 |
| 7-22x | ZW413190 | Adjust. Washer (U) D4x13x0.8t | 2 |
| 7-23x | ZW330423 | Adjust. Washer (U) D4x13x0.25t | 2 |
| 7-24 | SK639977 | Double Knob (Lower) | TY-6009 1 |
| 7-25 | SK639988 | Double Knob (Upper) | TY-6008 1 |
| 7-26 | TC282925 | Upper Cover | CN-6017 1 |
| 7-27x | TC301674 | Upper Cover (B) (AAL) | CN-6017 1 |
| 7-28 | ZS290553 | Screw, binding head 4x8 (W=10) | 4 |

8. LIST OF INTERCHANGEABLE SEMICONDUCTORS

As far as service is 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. |
| 2SC711 (G) | ET399870 | CN-5008A | 2SC536 (G) (H) 2SC1647 (S) (E) (U) | ET403391 ET601312 |
| 2SC945L (Q) | ET399846 | CN-5008A | 2SC711 (E) (F) 2SC1647 (R) (S) (E) | ET453486 ET623733 |
| 2SC945L (Q) (P) | ET639437 | CN-5008A | 2SC711 (E) (F) 2SC1647 (R) (S) (E) | ET453486 ET623733 |
| 2SC1312S (G) (H) | ET603257 | CN-5008A | 2SC458LG (C) 2SC693U (F) | ET234854 ET315472 |
| 2SC1384 (Q) | ET241334 | CN-5008A | 2SC1211 (C) (D) 2SD400 (K) | ET430907 ET631877 |
| 2SC1449 (K) (L) | ET649034 | CN-5007 (U/T) CN-5006 (Other) | 2SD313 (E) (F) | ET452531 |
| 2SK30A (Y) (GR) | ET552870 | CN-5008A | | |
| NE545B | EI605013 | CN-5008A | | |
| SIQB20 0.6A 200V (RED) | ED249581 | CN-5007 (U/T) CN-5006 (Other) | SIQB10 0.6A 100V (BLK) | ED284095 |
| WZ-192 | ED498150 | CN-5007 (U/T) CN-5006 (Other) | | |
| GL-3AR1 | ED249377 | CN-5012 | | |
| GC-3PG1 | ED283138 | CN-5012 | | |
| 1S188AM | ED562386 | CN-5008A | 1N34A 1N60 | ED417442 ED428264 |

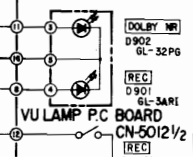
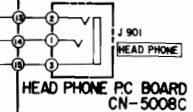
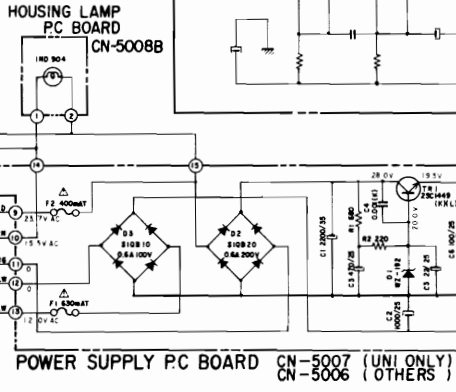
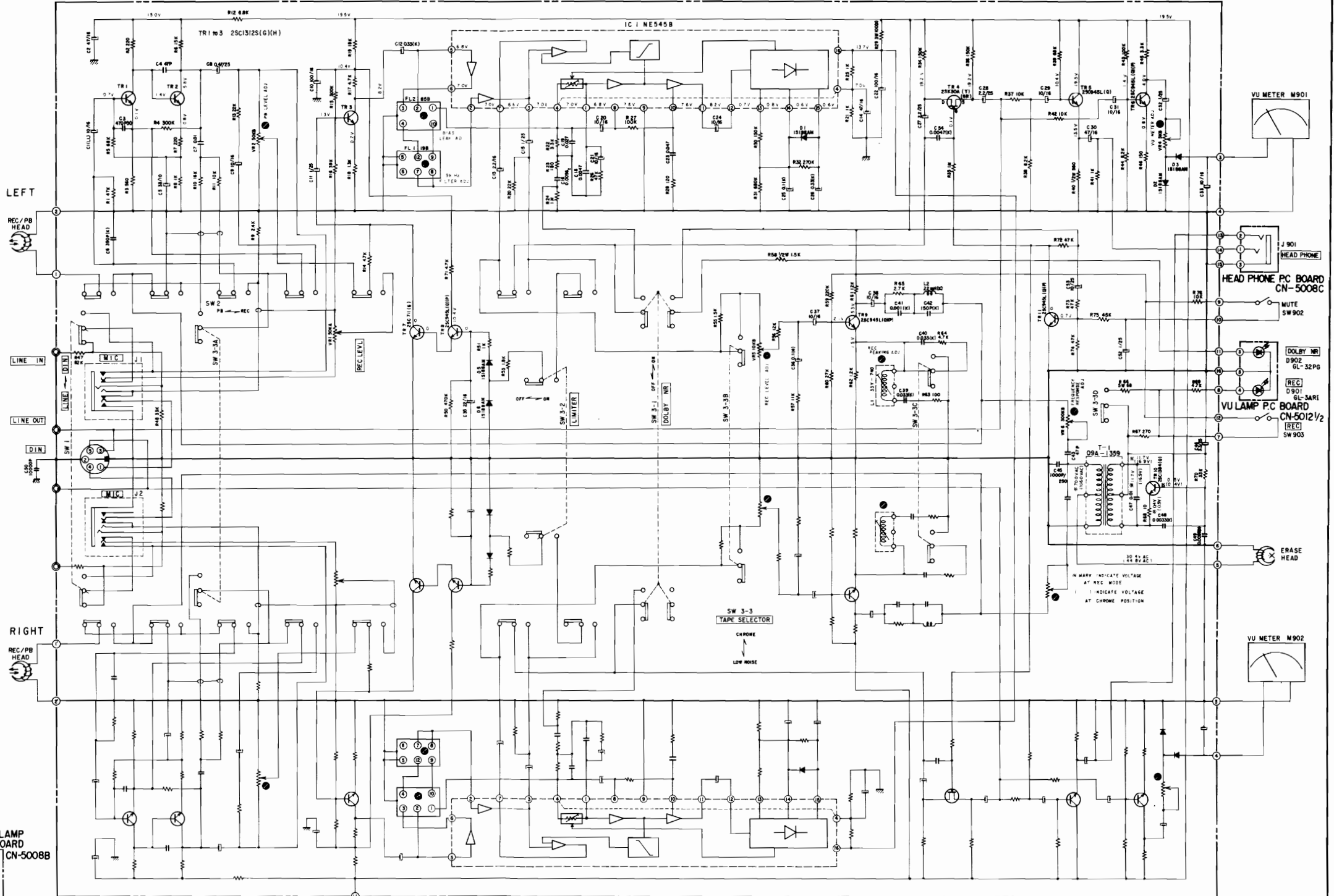
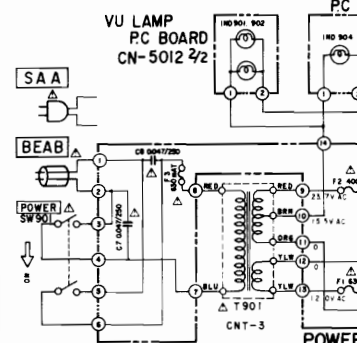
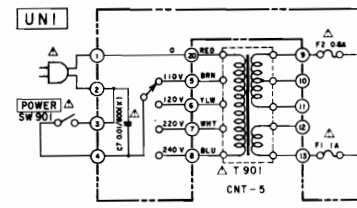
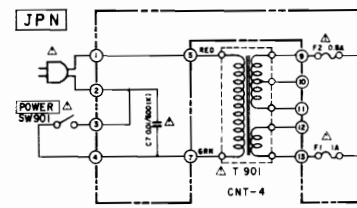
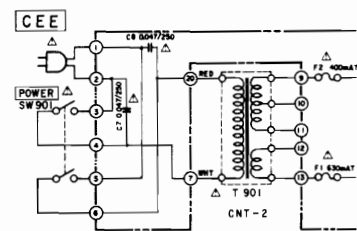
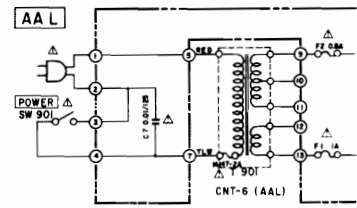
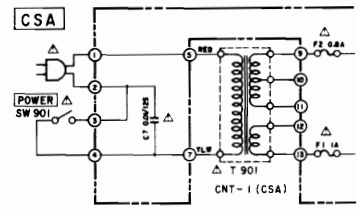
INDEX

| 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. |
|-----------|-----------------------|-----------|-----------------------|-----------|-----------------------|-----------|-----------------------|-----------|-----------------------|
| BA268492 | (2)-6 | ET399846 | (1)-TR5 | TC301674 | 7-27x | ZW330423 | 7-23x | | |
| BA274004 | (1)-1 | ET399870 | (1)-TR7 | TC515575 | 4-54 | ZW413190 | 7-22x | | |
| BA274050 | (3)-1 | ET552870 | (1)-TR4 | ZG282036 | 2-8 | ZW413267 | 6-15 | | |
| BA274061 | (2)-1 | ET603257 | (1)-TR1to3 | ZG282115 | 4-14 | ZW550642 | 4-62 | | |
| BA274083 | (2)-5 | ET603257 | (1)-TR11 | ZG282126 | 4-31 | ZW603797 | 7-21x | | |
| BA274094 | (2)-4 | ET639437 | (1)-TR6 | ZG282183 | 2-20 | ZW609311 | 2-10 | | |
| BA274105 | (2)-3 | ET639437 | (1)-TR8, 9 | ZG282183 | 4-22 | ZW694798 | 4-20 | | |
| BA274116 | (2)-2 | ET649034 | (2)-TR1 | ZG282251 | 4-40 | | | | |
| BD273870 | 7-1 | EV283127 | 6-3 | ZG282341 | 4-58 | | | | |
| BD300297 | 7-17 | EV300270 | (1)-VR6 | ZG282352 | 4-59 | | | | |
| BF274217 | 3-1 | EV464207 | (1)-VR4 | ZG282418 | 4-24 | | | | |
| BH274252 | 2-1x | EV464220 | (1)-VR2 | ZG282431 | 4-38 | | | | |
| BK282870 | 4-61 | EV520806 | (1)-VR5 | ZG282464 | 4-17 | | | | |
| BL282508 | 4-36 | EW232244 | 6-38x | ZG282644 | 7-14x | | | | |
| BL282510 | 4-28 | EW516475 | 6-36x | ZG282655 | 7-15x | | | | |
| BM302788 | 3-2 | EW540123 | 6-34 | ZG282690 | 7-11x | | | | |
| BR282475 | 4-29 | EW557640 | 6-35x | ZG298350 | 2-19x | | | | |
| BR282497 | 4-26 | EW604618 | 6-37x | ZG300881 | 4-66 | | | | |
| BT283004 | 6-28x | EZ245924 | (1)-3 | ZG300882 | 4-67 | | | | |
| BT283015 | 6-29x | EZ282532 | (2)-8 | ZG323763 | 6-21 | | | | |
| BT283026 | 6-30x | EZ631945 | 6-32 | ZG385986 | 4-33 | | | | |
| BT283037 | 6-26x | HE266466 | 2-5 | ZG387178 | 4-42 | | | | |
| BT283048 | 6-25 | HR266477 | 2-9 | ZG606723 | 4-47 | | | | |
| BT301773 | 6-27x | HZ301161 | 2-6 | ZG632553 | 4-55 | | | | |
| BZ274263 | 2-22 | MB282093 | 3-7 | ZS201407 | 4-68 | | | | |
| BZ280304 | 2-2 | MB282104 | 4-16 | ZS201407 | 7-12x | | | | |
| BZ280315 | 4-48 | MB282284 | 4-30 | ZS201767 | 6-24 | | | | |
| BZ280326 | 4-1 | MB282778 | 3-4 | ZS265307 | 4-64 | | | | |
| BZ280337 | 3-8 | MB282778 | 7-13x | ZS290553 | 7-28 | | | | |
| BZ282881 | 4-12 | MB283421 | 4-37 | ZS296482 | 3-6 | | | | |
| EA283408 | 4-52 | MB510164 | 6-20 | ZS297628 | 3-9 | | | | |
| EA283410 | 6-9 | MC280260 | 4-10 | ZS300435 | 2-18 | | | | |
| EC265421 | (1)-C42 | MH282587 | 6-14 | ZS300436 | 2-7 | | | | |
| EC280361 | (1)-C6 | MH284185 | 4-41 | ZS323728 | 6-2x | | | | |
| EC280383 | (1)-C3 | ML282240 | 4-39 | ZS323728 | 6-23 | | | | |
| EC284152 | (1)-C45 | ML282273 | 4-46 | ZS325495 | 6-41x | | | | |
| EC699298 | (2)-C7 | ML282295 | 4-49 | ZS325495 | 6-55 | | | | |
| ED249377 | (3)-D901 | ML282328 | 4-5 | ZS325495 | 7-18x | | | | |
| ED249581 | (2)-D2 | ML282936 | 6-18 | ZS327835 | 7-20x | | | | |
| ED283138 | (3)-D902 | MS282172 | 4-23 | ZS374646 | 4-45 | | | | |
| ED284095 | (2)-D3 | MS282374 | 2-23 | ZS379350 | (2)-10 | | | | |
| ED498150 | (2)-D1 | MT282486 | 4-27 | ZS417216 | 4-11x | | | | |
| ED562386 | (1)-D1to3 | MV357208 | 4-57 | ZS417216 | 4-60 | | | | |
| ED562386 | (1)-D5, 6 | MZ282330 | 4-6 | ZS417251 | 4-4 | | | | |
| EF277424 | 6-47x | MZ282633 | 7-4x | ZS422076 | 6-7x | | | | |
| EF304626 | 6-46x | MZ283140 | (2)-7 | ZS432674 | 2-4 | | | | |
| EF563681 | 6-44 | MZ287460 | (1)-4 | ZS432843 | 4-13x | | | | |
| EF575932 | 6-45x | MZ287471 | (1)-2 | ZS447840 | 3-10 | | | | |
| EF601942 | 6-48x | MZ287482 | (1)-5 | ZS447840 | 4-7 | | | | |
| EF601942 | 6-50x | SA300573 | 6-43 | ZS469710 | 6-17 | | | | |
| EF668474 | 6-49x | SB645232 | 6-6x | ZS522180 | 2-12 | | | | |
| EI605013 | (1)-IC1 | SE282701 | 7-2 | ZS523664 | 2-25 | | | | |
| EJ249232 | 6-8 | SK631304 | 6-5 | ZS523664 | 6-52x | | | | |
| EJ280293 | 6-4 | SK634410 | 6-51 | ZS523664 | 7-19x | | | | |
| EJ283094 | 6-54 | SK639977 | 7-24 | ZS537085 | 4-9 | | | | |
| EJ514822 | (2)-11 | SK639988 | 7-25 | ZS537085 | 4-51 | | | | |
| EJ592503 | (2)-12 | SP280247 | 6-57 | ZS558101 | (2)-9 | | | | |
| EJ592503 | (2)-13 | SP282835 | 6-58x | ZS558101 | 6-31 | | | | |
| EJ692908 | 6-33x | SP300625 | 6-42 | ZS608253 | 4-63 | | | | |
| EL283184 | 4-53 | TC268468 | 4-43 | ZS608275 | 7-5x | | | | |
| EL283184 | (3)-IND901, 902 | TC281024 | 7-6x | ZS608275 | 7-8x | | | | |
| EM213175 | 6-40x | TC281035 | 7-7x | ZS650013 | 2-26 | | | | |
| EM265116 | 6-39 | TC282025 | 2-3 | ZS674537 | 6-13x | | | | |
| EO283050 | (1)-T1 | TC282047 | 4-2 | ZW259492 | 7-9x | | | | |
| EO692741 | (1)-L1 | TC282137 | 4-32 | ZW270088 | 2-21 | | | | |
| EP656943 | (1)-L2 | TC282161 | 4-19 | ZW270088 | 4-21 | | | | |
| ER280710 | (1)-R29 | TC282194 | 4-35 | ZW273802 | 6-56x | | | | |
| ER283105 | (1)-FL1 | TC282205 | 4-34 | ZW282407 | 2-24 | | | | |
| ER283386 | (1)-FL2 | TC282227 | 4-44 | ZW282407 | 4-18 | | | | |
| ER538121 | (1)-R66 | TC282238 | 4-3 | ZW282420 | 4-25 | | | | |
| ES280258 | 6-12x | TC282262 | 4-15 | ZW283195 | 3-5 | | | | |
| ES283072 | (1)-SW1 | TC282396 | 4-56 | ZW287458 | 4-65x | | | | |
| ES283083 | (1)-SW2 | TC282521 | 6-16 | ZW290283 | 6-19 | | | | |
| ES283116 | 6-1 | TC282554 | (3)-2 | ZW290283 | 7-16x | | | | |
| ES283151 | 4-8 | TC282611 | 7-3x | ZW300883 | 2-13 | | | | |
| ES283173 | 4-50 | TC282756 | 3-3 | ZW300884 | 2-14x | | | | |
| ES293703 | 6-10 | TC282813 | 6-53 | ZW300885 | 2-15x | | | | |
| ES301747 | 6-22 | TC282824 | 7-10x | ZW300886 | 2-16x | | | | |
| ES665807 | 6-11x | TC282925 | 7-26 | ZW300887 | 2-17x | | | | |
| ET241334 | (1)-TR10 | TC297257 | (1)-6 | ZW300888 | 2-11 | | | | |

SECTION 3

SCHEMATIC DIAGRAM

CS-702D SCHEMATIC DIAGRAM 1541206A



- NOTE
- UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W (J)
ALL CAPACITORS IN μ F 50 WV (J)
P = μ F
 - LL INDICATES LOW LEAKAGE CAPACITORS
 - TEMPERATURE FUSE IS INCLUDED IN THE
POWER TRANSFORMER. FUSE CANNOT BE
CHANGED SEPARATELY
 - POWER TRANSFORMER IS DIFFERENT ACCORDING
TO AREA

WARNING: Δ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

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

CS-702D
SCHEMATIC DIAGRAM
No. 1541206A