

# SERVICE MANUAL

## PARTS LIST

*RTV servis Horvat*

Kešinci, 31402 Semeljci

Tel : 031-856-637

Tel / fax : 031-856-139

Mob : 098-788-319

[rtv-servis-horvat@os.tel.hr](mailto:rtv-servis-horvat@os.tel.hr)

**MODEL GXC-709D**

**AKAI**

**ALSO APPLICABLE TO BLACK MODEL**



## AKAI STEREO CASSETTE DECK

# MODEL GXC-709D

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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

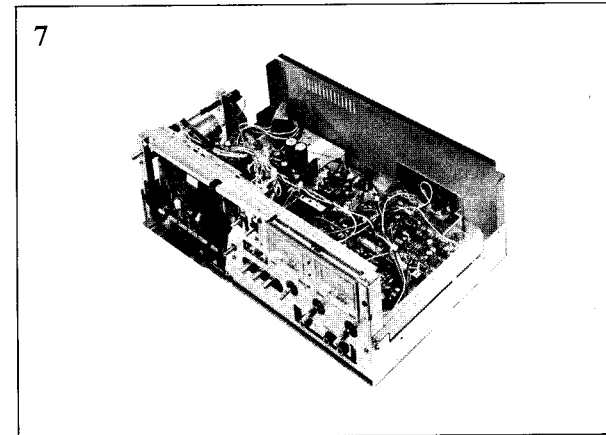
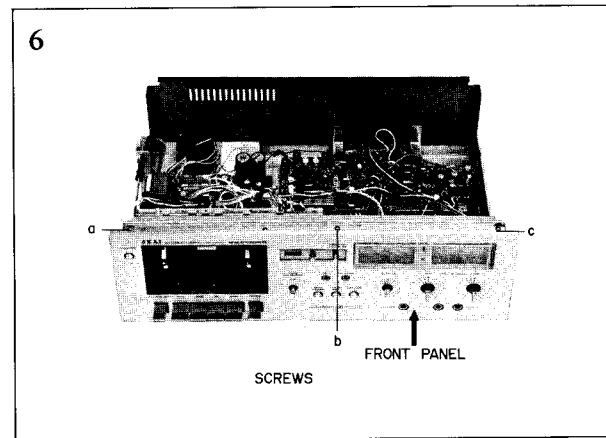
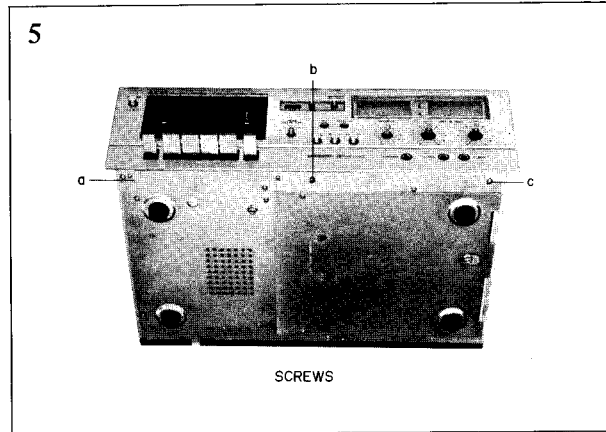
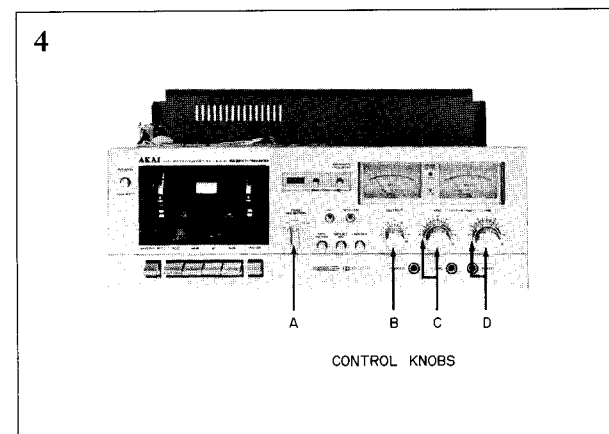
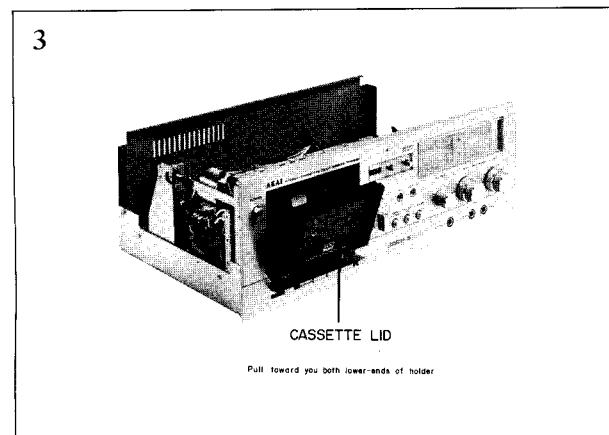
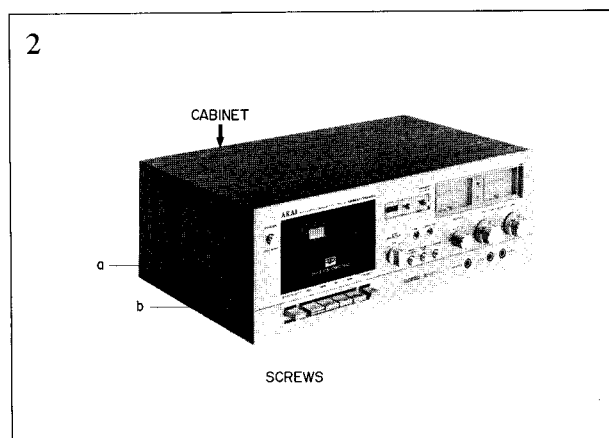
TRACK SYSTEM	4 track 2 channel stereo system
TAPE	Philips type cassette
TAPE SPEED	1-7/8 ips
WOW AND FLUTTER	Less than 0.06% WRMS 0.18% (DIN 45500, 45507)
FREQUENCY RESPONSE	35 to 14,000 Hz $\pm$ 3 dB using LN tape 35 to 14,000 Hz $\pm$ 3 dB using LH tape 35 to 15,000 Hz $\pm$ 3 dB using CrO <sub>2</sub> (SA) tape 35 to 16,000 Hz $\pm$ 3 dB using Fe-Cr tape
DISTORTION	Less than 1.5% using LN tape (1,000 Hz 0 VU) Less than 1.5% using LH tape (1,000 Hz 0 VU) Less than 2.0% using CrO <sub>2</sub> (SA) tape (1,000 Hz 0 VU) Less than 2.0% using Fe-Cr tape (1,000 Hz 0 VU)
SIGNAL TO NOISE RATIO	Better than 50 dB using LN tape Better than 50 dB using LH tape Better than 51 dB using CrO <sub>2</sub> (SA) tape Better than 51 dB using Fe-Cr tape (measured via tape with peak recording level of +3 VU) Dolby N.R. switch ON: Improves up to 10 dB above 5 kHz
ERASE RATIO	Better than 70 dB
BIAS FREQUENCY	85 kHz
HEADS	(2) One GX recording/playback head, one erase head
MOTOR	(1) Electronically speed controlled DC motor
FF AND RWD TIME	100 sec. using a C-60 cassette tape
OUTPUT JACKS	Line (2): 410 mV (0 VU) Required load impedance: More than 20 kohms Phone (1): 100 mV/8 ohms
INPUT JACKS	Microphone (2): 0.3 mV (Input impedance 2.2 kohms) Required microphone impedance: 600 ohms Line (2): 70 mV (Input impedance 150 kohms)
DIN JACK	Input: 0.3 mV (Input impedance 2.2 kohms) Output: 410 mV Required load impedance: More than 20 kohms
SEMI-CONDUCTORS	Transistors 28, Diodes 36, FETs 2, ICs 2
POWER REQUIREMENTS	CSA, UL and LA models: 120V 60 Hz only CEE models: 220V 50 Hz only Other models: 110/120/220/240V (Switchable), 50/60 Hz
DIMENSIONS	440(W) $\times$ 165(H) $\times$ 285 (D) mm (17.3 $\times$ 6.5 $\times$ 11.2")
WEIGHT	6.5 kg (14.4 lbs)

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

\* "Dolby" and the Double D symbol are trade marks of Dolby Laboratories. (Under license from Dolby Laboratories.)

## 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

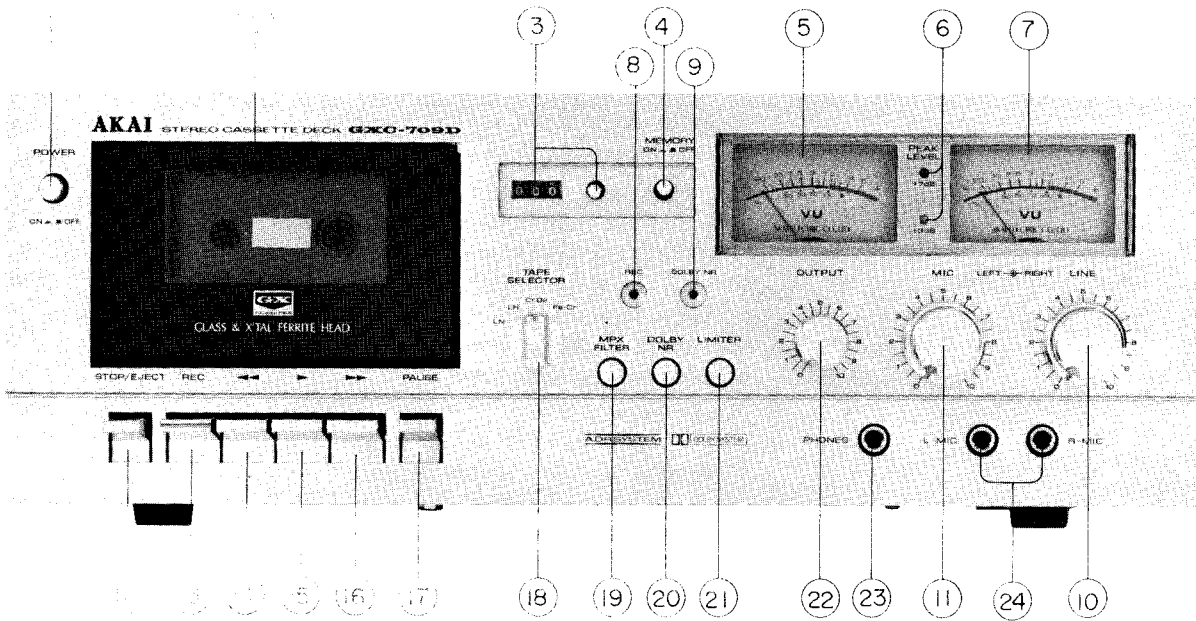


Fig. 1 Front View

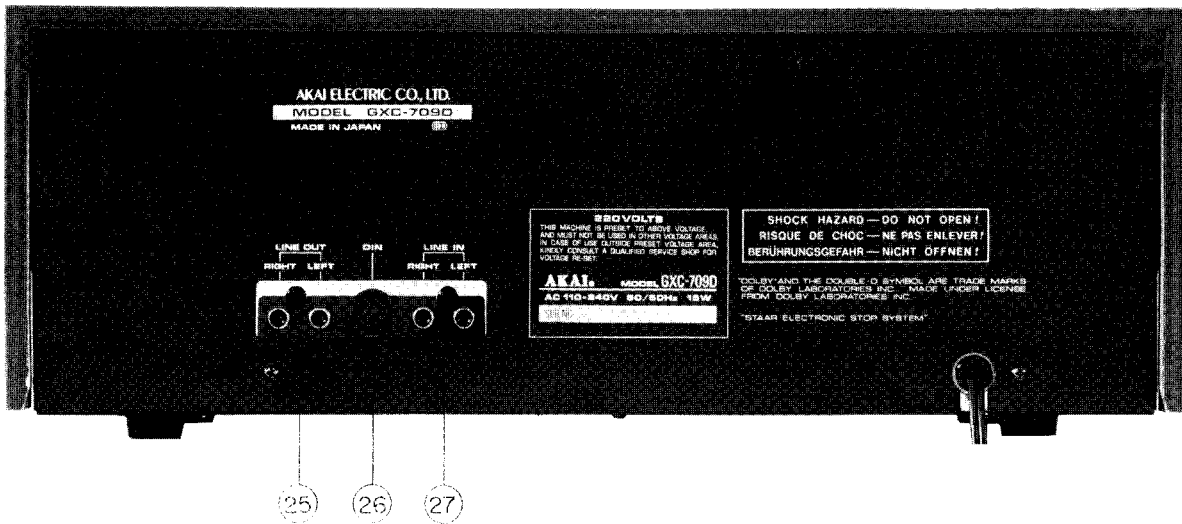


Fig. 2 Rear View

- |  |   |
|--|---|
| <ol style="list-style-type: none"> <li>1. POWER SWITCH</li> <li>2. CASSETTE RECEPTACLE</li> <li>3. INDEX COUNTER AND PRESET BUTTON</li> <li>4. MEMORY REWIND BUTTON</li> <li>5. LEFT VU METER</li> <li>6. PEAK LEVEL INDICATORS<br/>+7 dB (Red lamp)<br/>+3 dB (Yellow lamp)</li> <li>7. RIGHT VU METER</li> <li>8. RECORDING INDICATOR LAMP</li> <li>9. DOLBY NR INDICATOR LAMP</li> <li>10. LINE RECORDING LEVEL CONTROLS (left and right)</li> <li>11. MICROPHONE RECORDING LEVEL CONTROLS (left and right)</li> <li>12. STOP/EJECT KEY</li> <li>13. RECORDING (REC) KEY</li> </ol> | <ol style="list-style-type: none"> <li>14. REWIND (◀◀) KEY</li> <li>15. PLAY (▶) KEY</li> <li>16. FAST FORWARD (▶▶) KEY</li> <li>17. PAUSE KEY</li> <li>18. TAPE SELECTOR SWITCHES</li> <li>19. MPX FILTER SWITCH</li> <li>20. DOLBY NR SWITCH</li> <li>21. LIMITER SWITCH</li> <li>22. OUTPUT LEVEL CONTROL</li> <li>23. HEADPHONE JACK</li> <li>24. MICROPHONE JACKS (left and right)</li> <li>25. LINE OUTPUT JACKS (left and right)</li> <li>26. DIN JACK</li> <li>27. LINE INPUT JACKS (left and right)</li> </ol> |
|--|---|

# IV. PRINCIPAL PARTS LOCATION

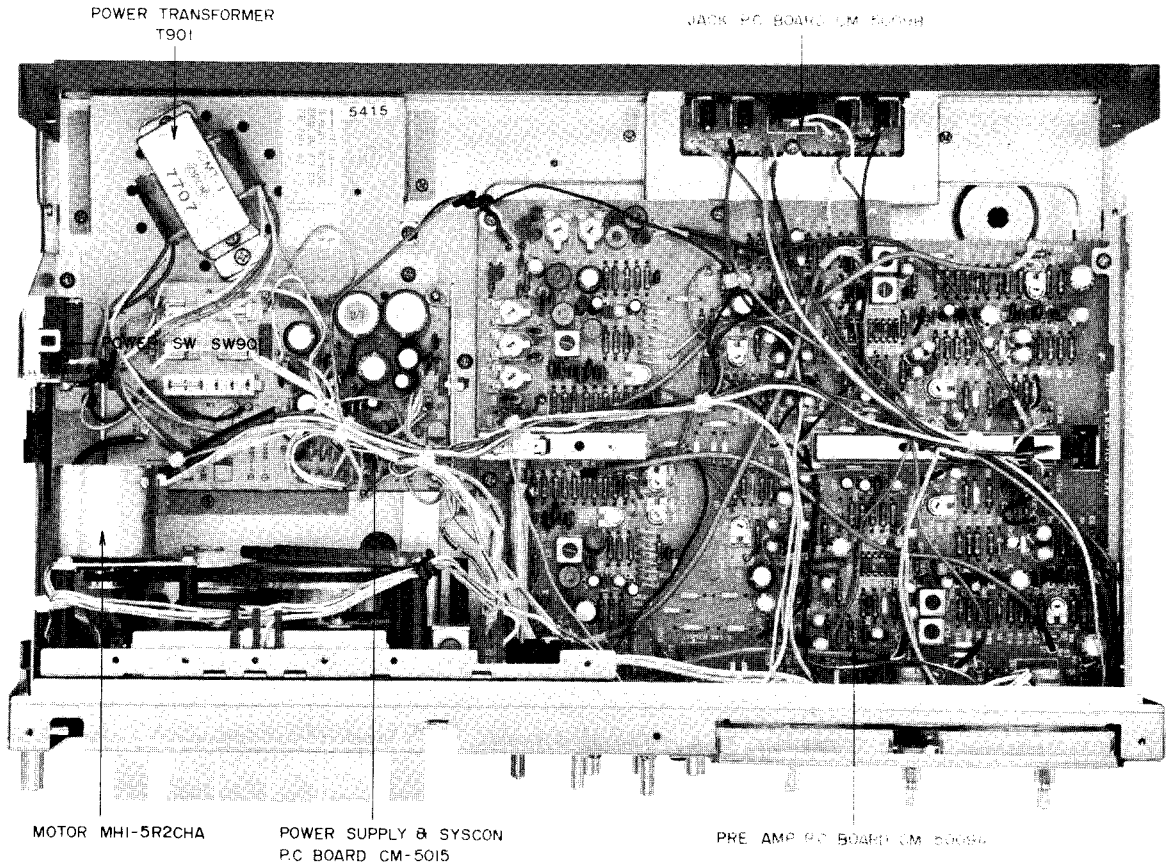


Fig. 3 Top View

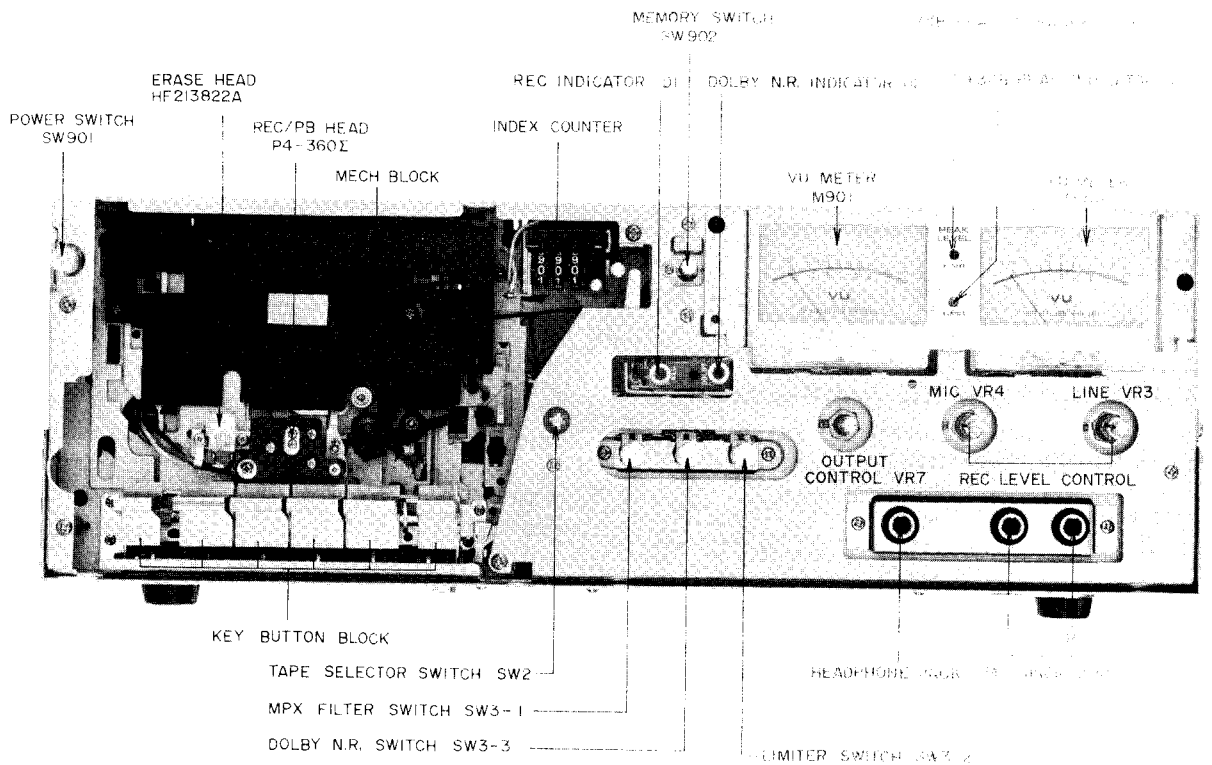


Fig. 4 Front View

## V. MECHANISM ADJUSTMENTS

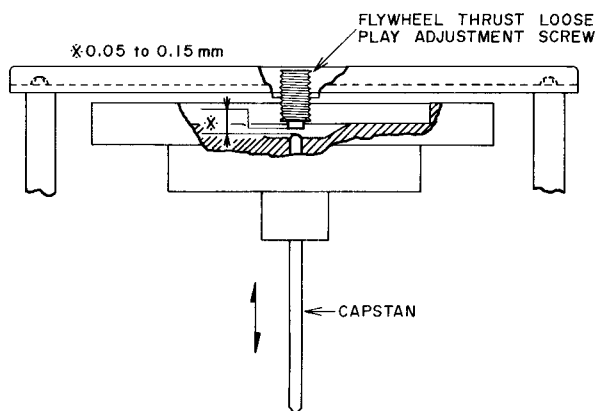


Fig. 5 Flywheel Thrust Loose Play Adjustment

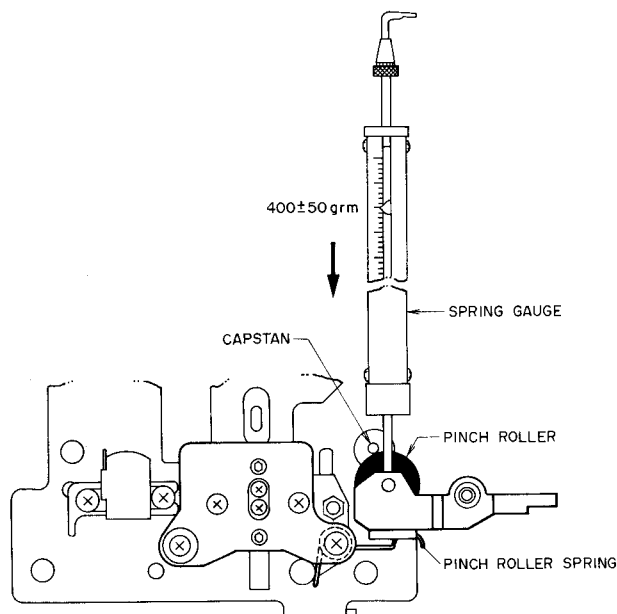


Fig. 6 Pinch Roller Pressure Measurement

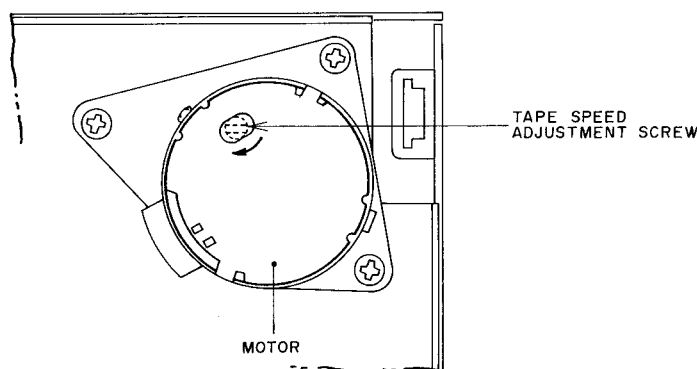


Fig. 7 Tape Speed Adjustment

### 1. FLYWHEEL THRUST LOOSE PLAY ADJUSTMENT (Refer to Fig. 5)

Adjust by turning flywheel thrust loose play adjustment screw to obtain a 0.05 to 0.15 mm of loose play when the flywheel is moved as indicated by the arrow mark.

Paint lock the adjustment screw.

### 2. PINCH ROLLER PRESSURE MEASUREMENT (Refer to Fig. 6)

At playback mode, push the pinch roller with a spring gauge until the pinch roller separates from the capstan by about 1 mm to 2 mm and then gently return. Take a reading of the spring gauge indication at the moment the pinch roller touches the capstan and begins to rotate.

Specified Pinch Roller Pressure:  $400 \pm 50$  gm

In case specified pressure cannot be attained, replace the pinch roller spring.

### 3. TAKE-UP TORQUE AT VARIOUS MODES

Playback mode: 35 to 55 gm-cm

Fast Forward mode: 70 to 130 gm-cm

Rewind mode: 70 to 130 gm-cm

In case specified take-up torque cannot be attained,

Playback mode: Replace Take-up reel table Block Comp.

Fast Forward or Rewind mode: Replace entire supply reel assembly.

### 4. TAPE SPEED ADJUSTMENT (Refer to Fig. 7)

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



## VI. HEAD ADJUSTMENTS

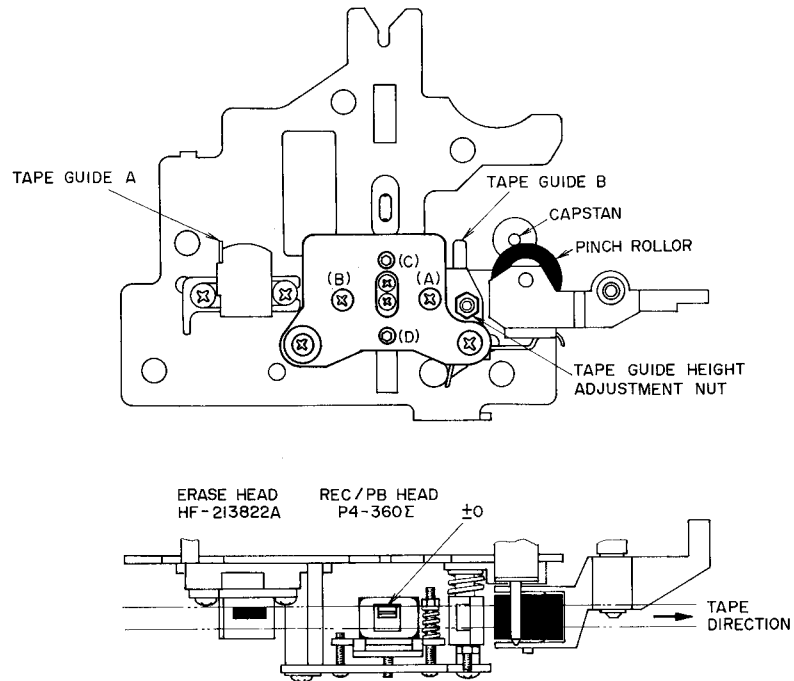


Fig. 8 Head Adjustments

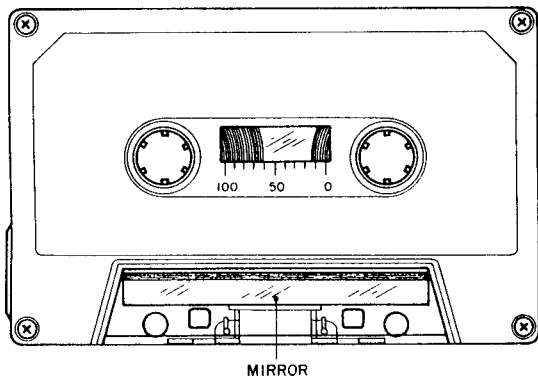


Fig. 9

### 1. TAPE GUIDE HEIGHT ADJUSTMENT (Refer to Fig. 8 and Fig. 9)

- 1) When using an ordinary cassette, the tape guides and heads, etc. are not visible. As shown in Fig. 9 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 Tape guide (A) shown in Fig. 8 as standard for height, adjust tape guide (B) height with tape guide height adjustment nut so that the tape runs smoothly and does not catch on the tape guides.

### 2. RECORDING/PLAYBACK HEAD HEIGHT ADJUSTMENT (Refer to Fig. 8)

- 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. 8, adjust head height with screws (A), (B), (C) and (D) until the upper edge of the tape is the same height as the upper edge of the left channel REC/PB head core.

### 3. RECORDING/PLAYBACK HEAD AZIMUTH ALIGNMENT ADJUSTMENT (Refer to Fig. 8)

- 1) Playback a 10 kHz pre-recorded cassette azimuth alignment test tape and adjust screw (A) shown in Fig. 8 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) After adjustment, better to check again head height and azimuth alignment.

#### 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. 9 is required, it can be ordered from AKAI Electric Co.

# VII. AMPLIFIER ADJUSTMENTS

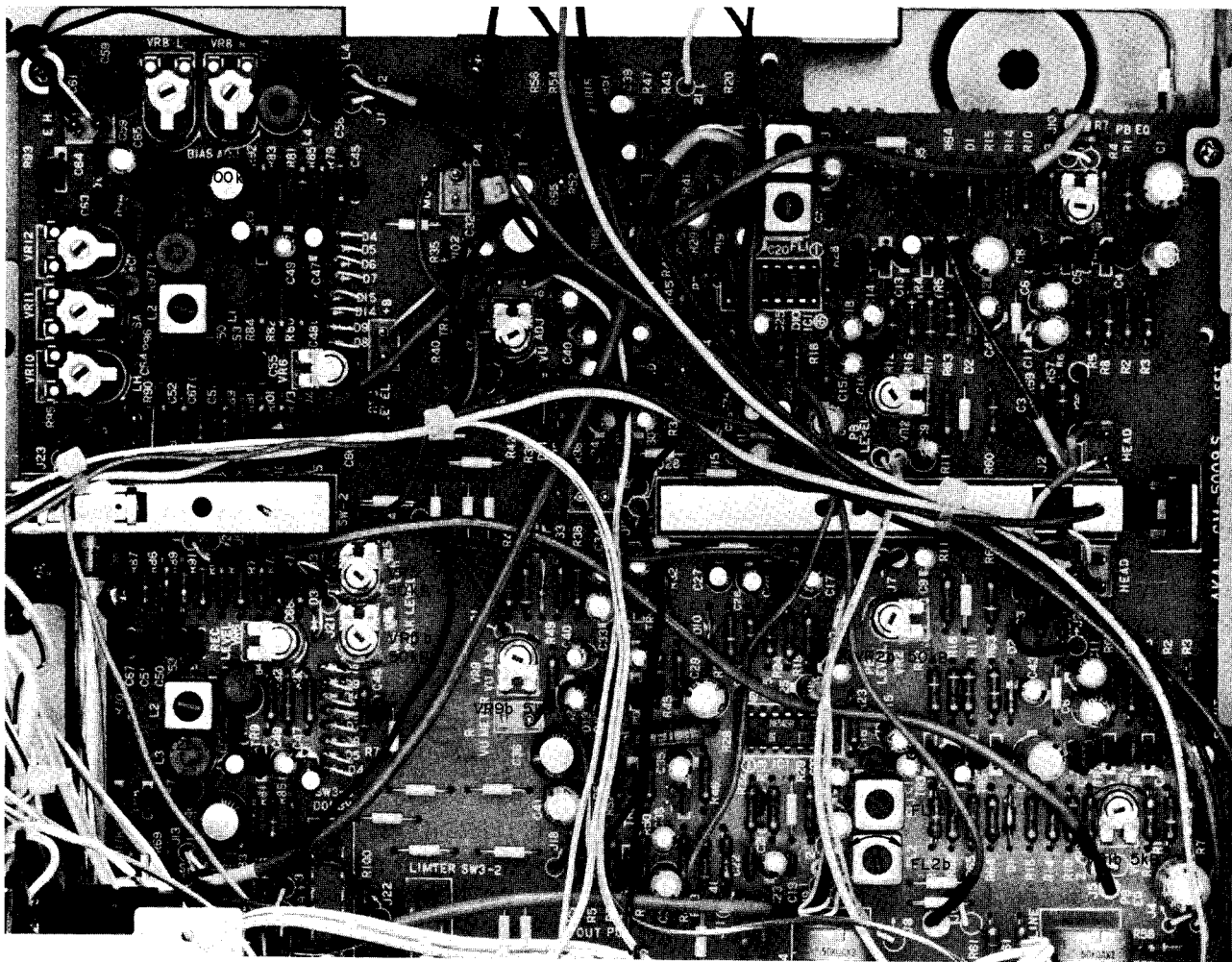


Fig. 10 Pre Amp P.C Board CM-5009A

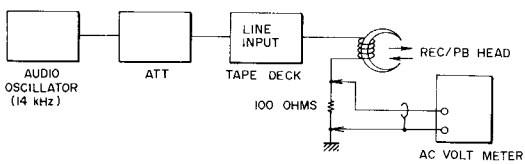
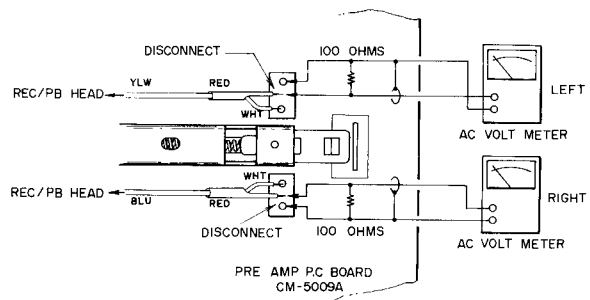


Fig. 11 Instruments Connections

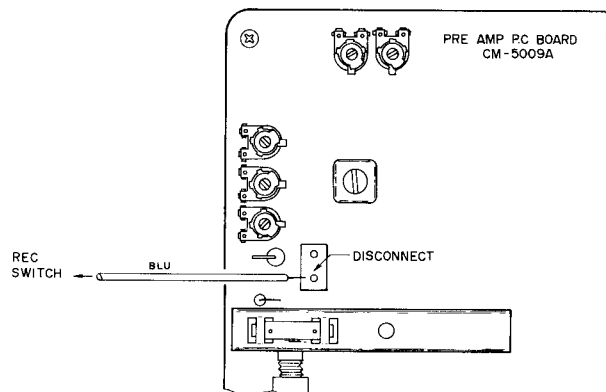


Fig. 12 Rec Peaking Adjustment

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 kB	-5.5 ± 0.5 dBm (410 mV)	
2	VU Meter sensitivity adjustment	333 Hz, 0 VU Test Tape	PLAY	VR9 5 kB	0 VU indication	
3	Playback equalizer adjustment	10 kHz Test Tape	PLAY	VR1 5 kB	-19 dBm	
4	LN Position frequency response adjustment	Low Noise Blank tape, 1,000 Hz, 10,000 Hz, -20 VU recording	REC/ PLAY	VR8 100 kB	1,000 Hz to 10,000 Hz flat response	
5	LH Position frequency response adjustment	LH Blank tape, 1,000 Hz, 10,000 Hz, -20 VU recording	REC/ PLAY	VR10 500B	1,000 Hz to 10,000 Hz flat response	Set tape selector to LH. (Refer to NOTE 5)
6	CrO <sub>2</sub> Position frequency response adjustment	CrO <sub>2</sub> Blank tape, 1,000 Hz, 10,000 Hz, -20 VU recording	REC/ PLAY	VR11 100B	1,000 Hz to 10,000 Hz flat response	Set tape selector to CrO <sub>2</sub> . (Refer to NOTE 5)
7	Fe-Cr Position frequency response adjustment	Fe-Cr Blank tape, 1,000 Hz, 10,000 Hz, -20 VU recording	REC/ PLAY	VR12 500B	1,000 Hz to 10,000 Hz flat response	Set tape selector to Fe-Cr. (Refer to NOTE 5)
8	Recording level adjustment	Low Noise Blank tape, 1,000 Hz 0 VU recording	REC/ PLAY	VR6 20 kB	-5.5 ± 0.5 dBm (410 mV)	
9	Rec peaking adjustment	14 kHz from an oscillator	REC	L2 33Y-740	Maximum AC volt meter indication	(Refer to NOTE 8 and Figs. 11, 12.)
10	Bias leak adjustment		REC	FL1 KM-10D85B	Minimum AC voltmeter indication	
11	19 kHz filter adjustment	19 kHz from an oscillator	REC	FL2 KM-10D19B	Minimum AC volt meter indication	MPX Filter Switch to ON. (Refer to NOTE 9)
12	Peak level indicator adjustment	1,000 Hz, +8 VU from an oscillator	REC	VR5 50 kB	+7 dB Peak level indicator lights continuously	

Chart-

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- NOTES: 1. Except for Steps 6 thru 8, set tape selector to Low Noise position.
2. Set Dolby N.R. Switch to OFF.
  3. Set Limiter Switch to OFF.
  4. Except for Step 11 set MPX Filter at OFF position.
  5. If a flat characteristic cannot be obtained from 1,000 Hz to 10,000 Hz at LH, CrO<sub>2</sub>, or Fe-Cr positions, fine adjust at VR10 (LH), VR11 (CrO<sub>2</sub>), or VR12 (Fe-Cr) respectively.
  6. 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.
  7. Use the following cassette measuring tape:

LN Tape:	Fuji FL C-60
LH Tape:	Maxell UD C-60
CrO <sub>2</sub> Tape:	TDK SA C-60
Fe-Cr Tape:	SONY Duad C-60
  8. Stop recording bias oscillator while making Rec Peaking Adjustment (Refer to Figs. 11, 12).
  9. Unless the core is moved intentionally this adjustment is not necessary.

## ***RTV servis Horvat***

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## VIII. DC RESISTANCE OF VARIOUS COILS

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Parts	Designation	DC Resistance
Recording/Playback Head	P4-360Σ	370 ohms
Erase Head	HF213822A	4.5 ohms
Automatic Stop Plunger	0730PHT1	15 ohms ±10%

Chart-2

## IX. CLASSIFICATION OF VARIOUS P.C BOARDS

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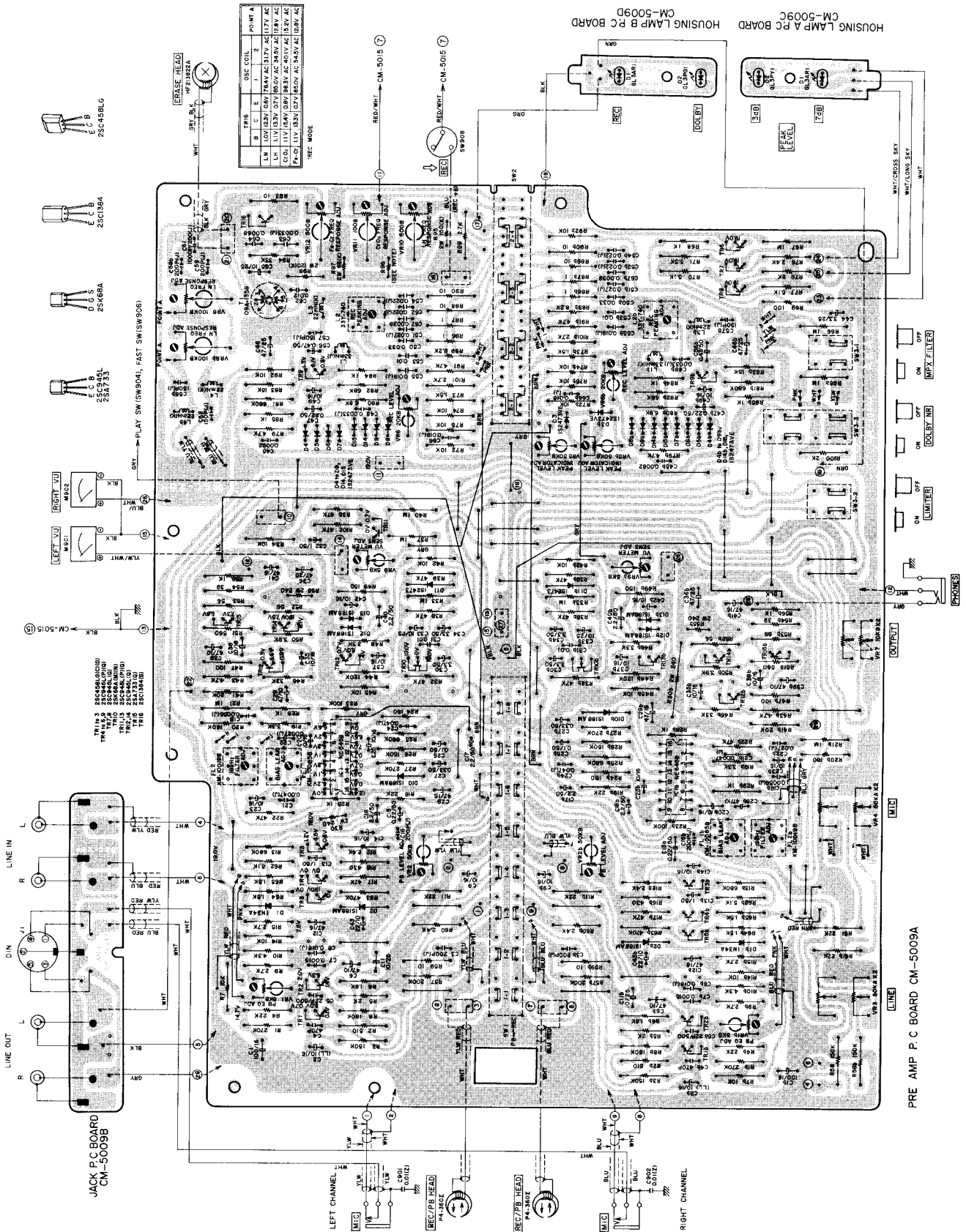
### 1. RELATION OF P.C BOARD TITLE AND IDENTIFICATION NUMBER

P.C Board Title	P.C Board Number
Pre Amp P.C Board	CM-5009A
Jack P.C Board	CM-5009B
Housing Lamp (A) P.C Board	CM-5009C
Housing Lamp (B) P.C Board	CM-5009D
Power Supply & Sys. Con P.C Board	CM-5015
Lamp P.C Board	CM-1034

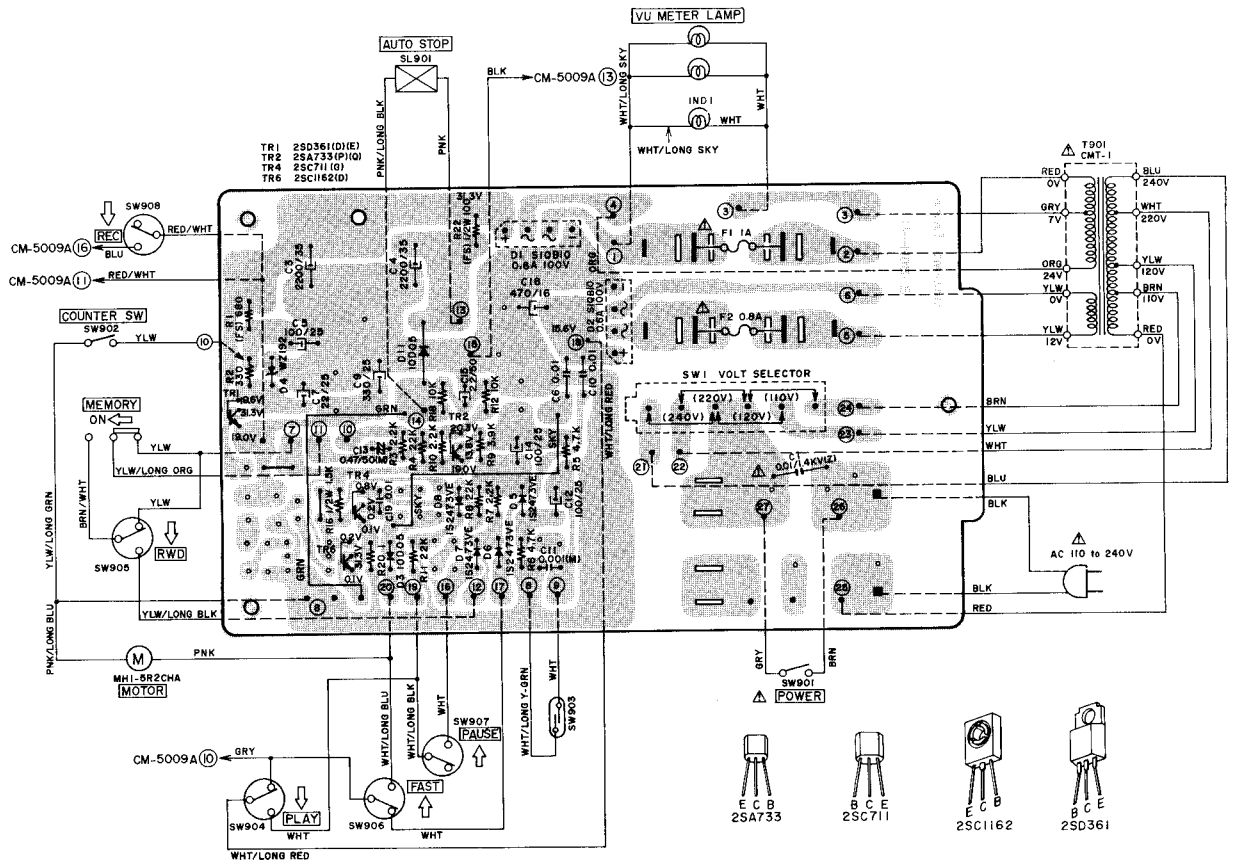
Chart-3

## 2. COMPOSITION OF VARIOUS P.C BOARDS

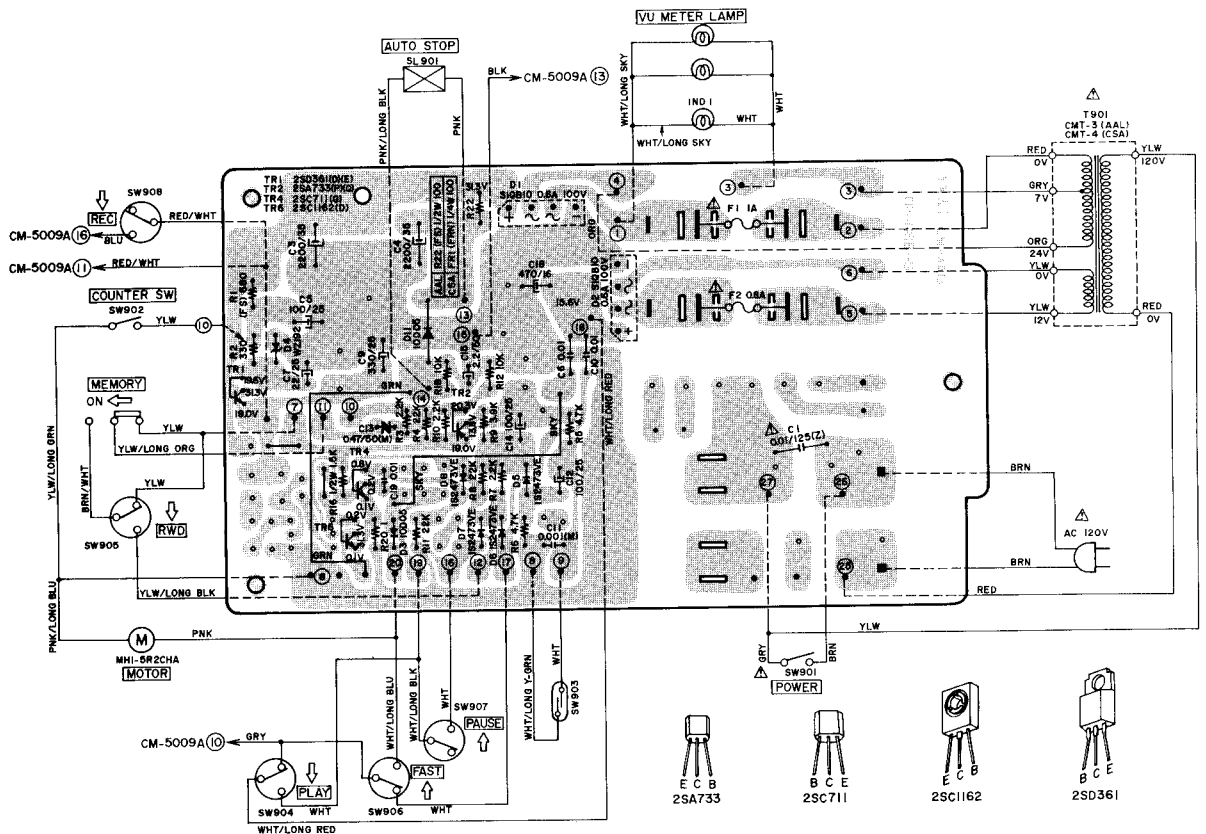
- 1) PRE AMP P.C BOARD CM-5009A, JACK P.C BOARD CM-5009B, HOUSING LAMP (A) P.C BOARD CM-5009C AND HOUSING LAMP (B) P.C BOARD CM-5009D



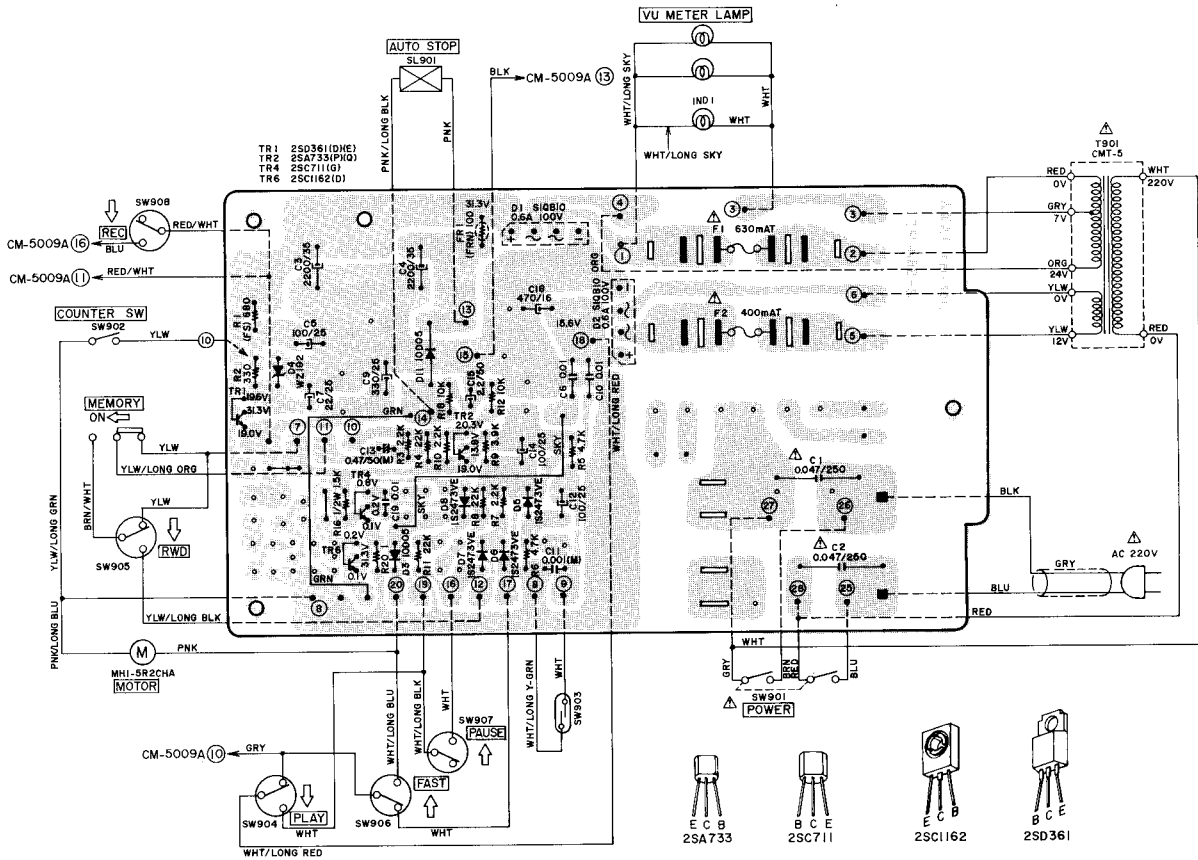
## 2) POWER SUPPLY & SYS. CON P.C BOARD CM-5015 (U/T)



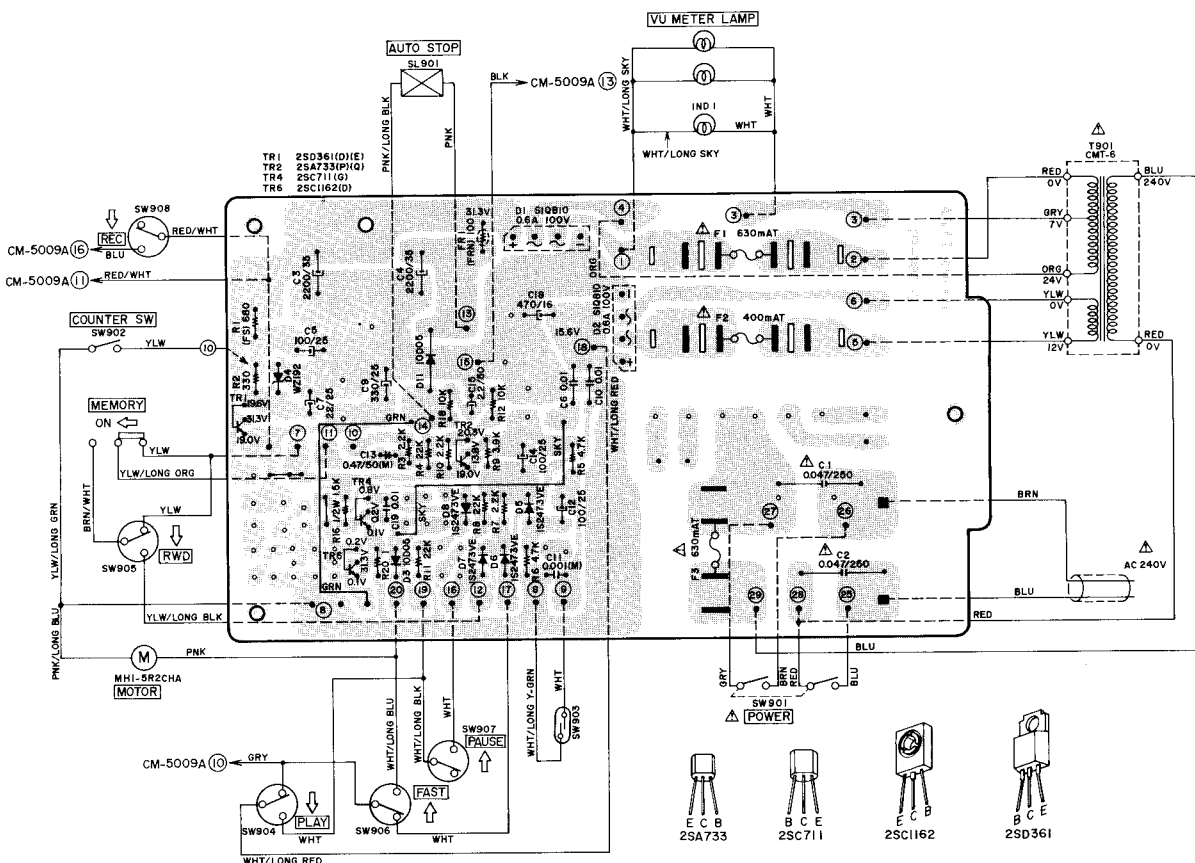
## 3) POWER SUPPLY & SYS. CON P.C BOARD CM-5015 (AAL, CSA)



#### 4) POWER SUPPLY & SYS. CON P.C BOARD CM-5015 (CEE)

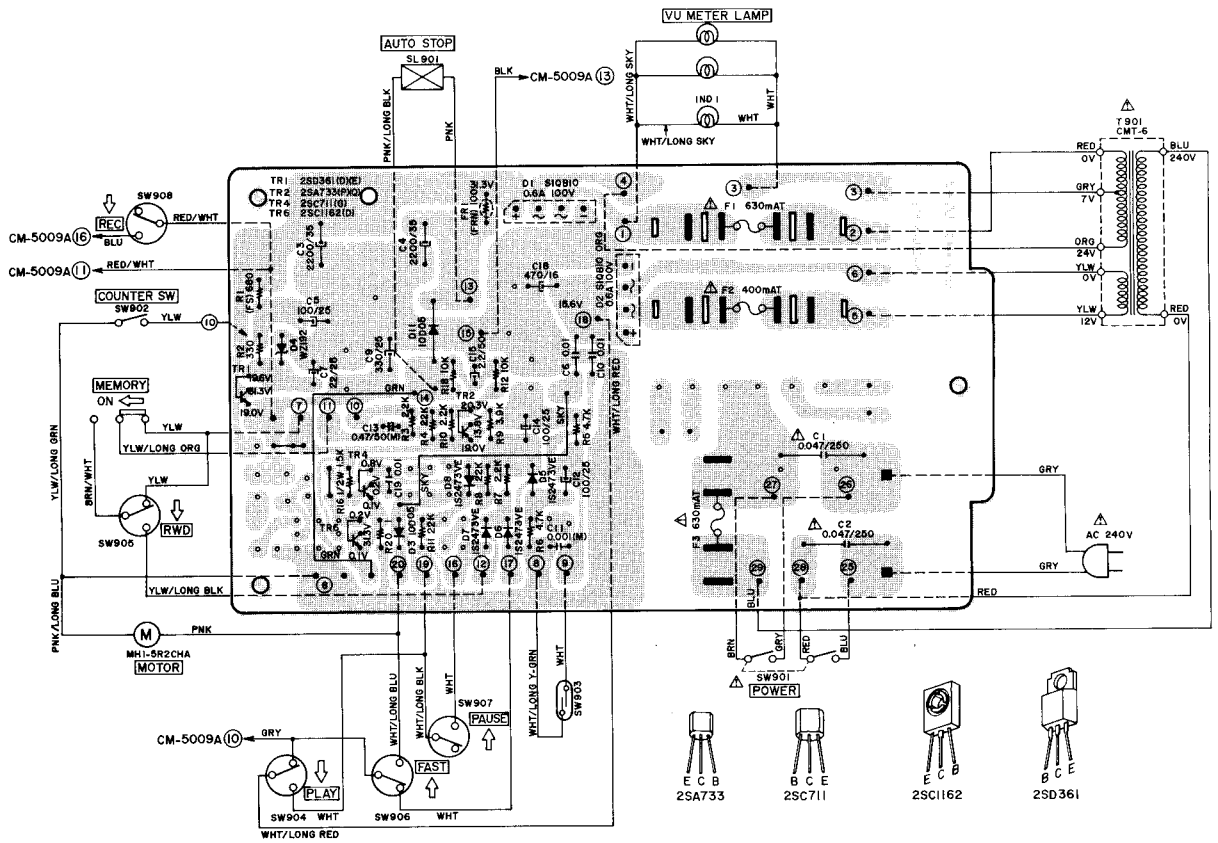


#### 5) POWER SUPPLY & SYS. CON P.C BOARD CM-5015 (BEAB)

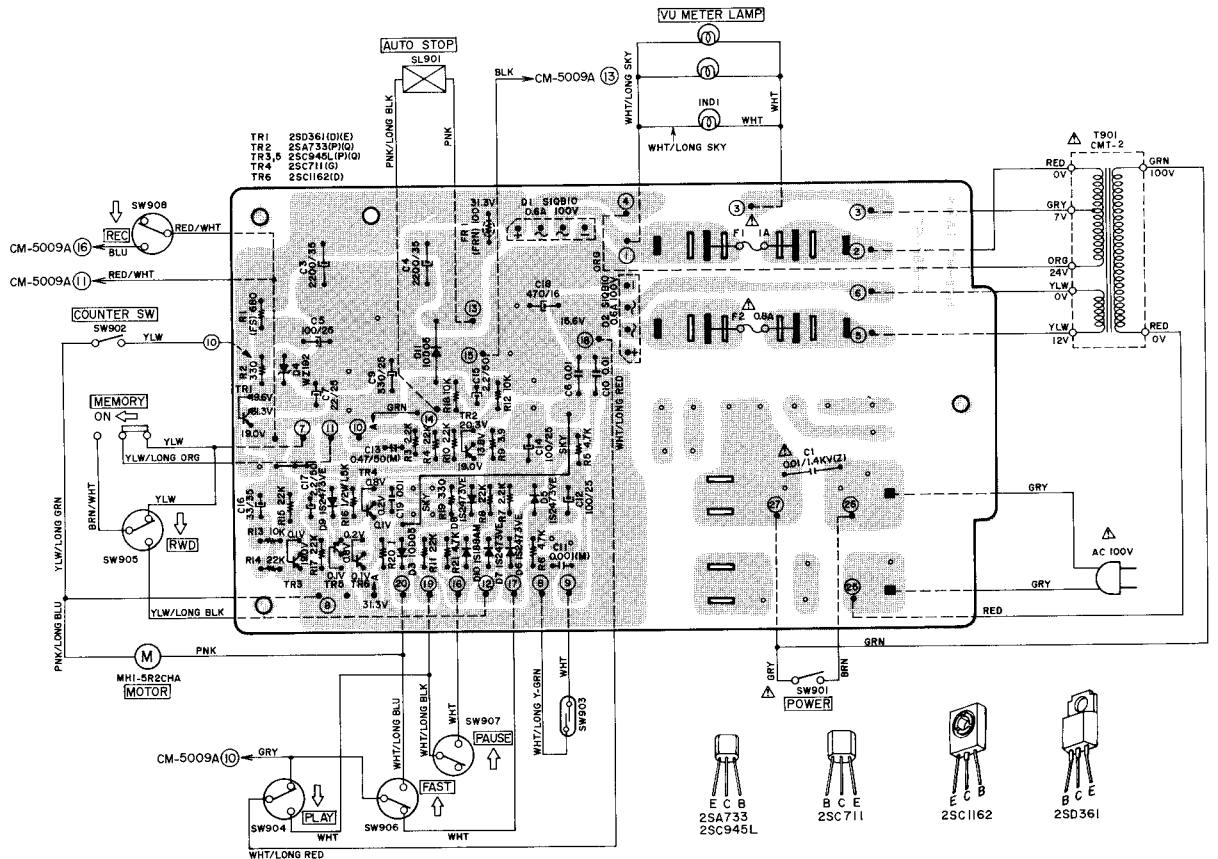




### 6) POWER SUPPLY & SYS. CON P.C BOARD CM-5015 (SAA)



### 7) POWER SUPPLY & SYS. CON P.C BOARD CM-5015 (JPN)



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SECTION 2

**PARTS LIST**

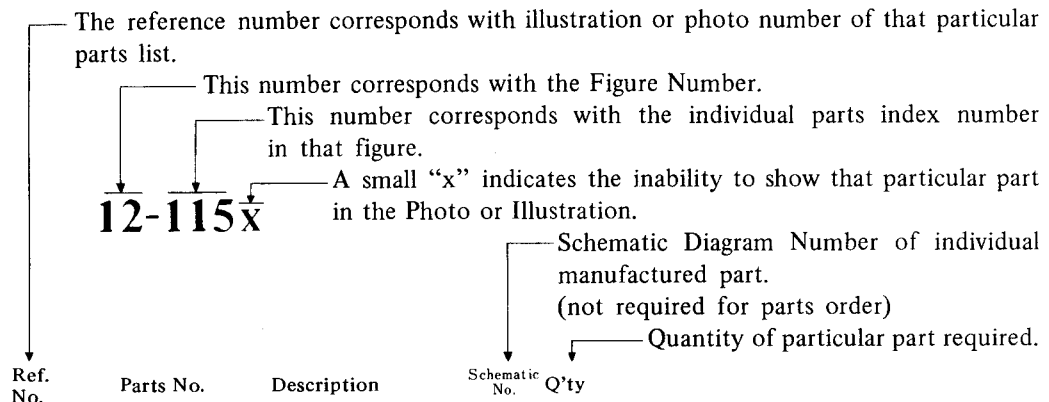
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Resistor and Capacitor which is not listed in this parts list, please refer to COMMON LIST FOR SERVICE PARTS.

## 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



<b>FLYWHEEL BLOCK #13</b>				
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.

**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.

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

**AVERTISSEMENT:** ⚠ IL INDIQU LES COMPOSANTS CRITIQUES DE SURETE. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT.

## AC INLET SYSTEM

This model is equipped with an AC INLET SYSTEM. Please refer to the AC INLET SYSTEM CHART below for the specific type. By the AC INLET SYSTEM, AC (mains) cord can be connected to and disconnected from the model because the model is provided with socket exclusively for AC (mains) cord on its main body.

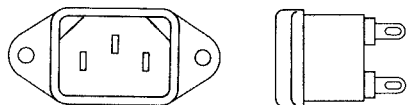
Please note, however, that certain models are not equipped with this system and has a built-in AC (mains) cord as before.

### AC INLET SYSTEM CHART

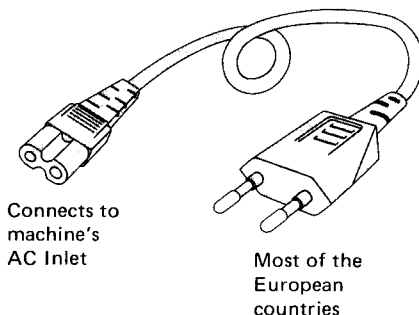
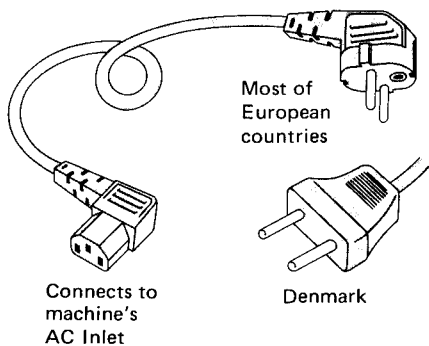
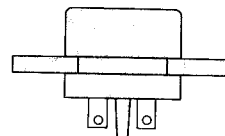
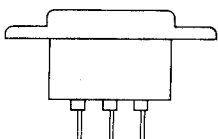
#### CLASS I

#### CLASS II

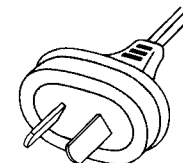
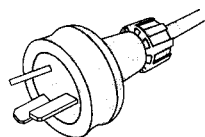
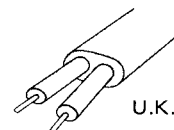
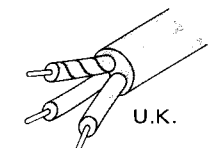
☐ This mark indicating double insulation will be attached to machine's rear panel



Picture 1  
AC INLET  
to be  
installed  
on machines



Picture 2  
AC (mains)  
cord



Australia  
differs according  
to wall socket

Australia  
differs according  
to wall socket

#### Parts List for AC (mains) Cord Set

Standard		Description	Type of AC Inlet	Parts No.
Class I	CEE	Cord Set CEE (3 cores)	3P	EW302993
	BEAB	Cord Set BEAB (3 cores)	3P	EW302994
	SAA	Cord Set SAA (3 cores)	3P	EW302996
	U/T	Cord Set U/T (3 cores)	3P	EW302646
Class II	CEE	Cord Set CEE (2 cores)	2P	EW638144
	BEAB	Cord Set BEAB (2 cores)	2P	EW302995
	SAA	Cord Set SAA (2 cores)	2P	EW302991
	U/T	Cord Set U/T (2 cores)	2P	EW302899

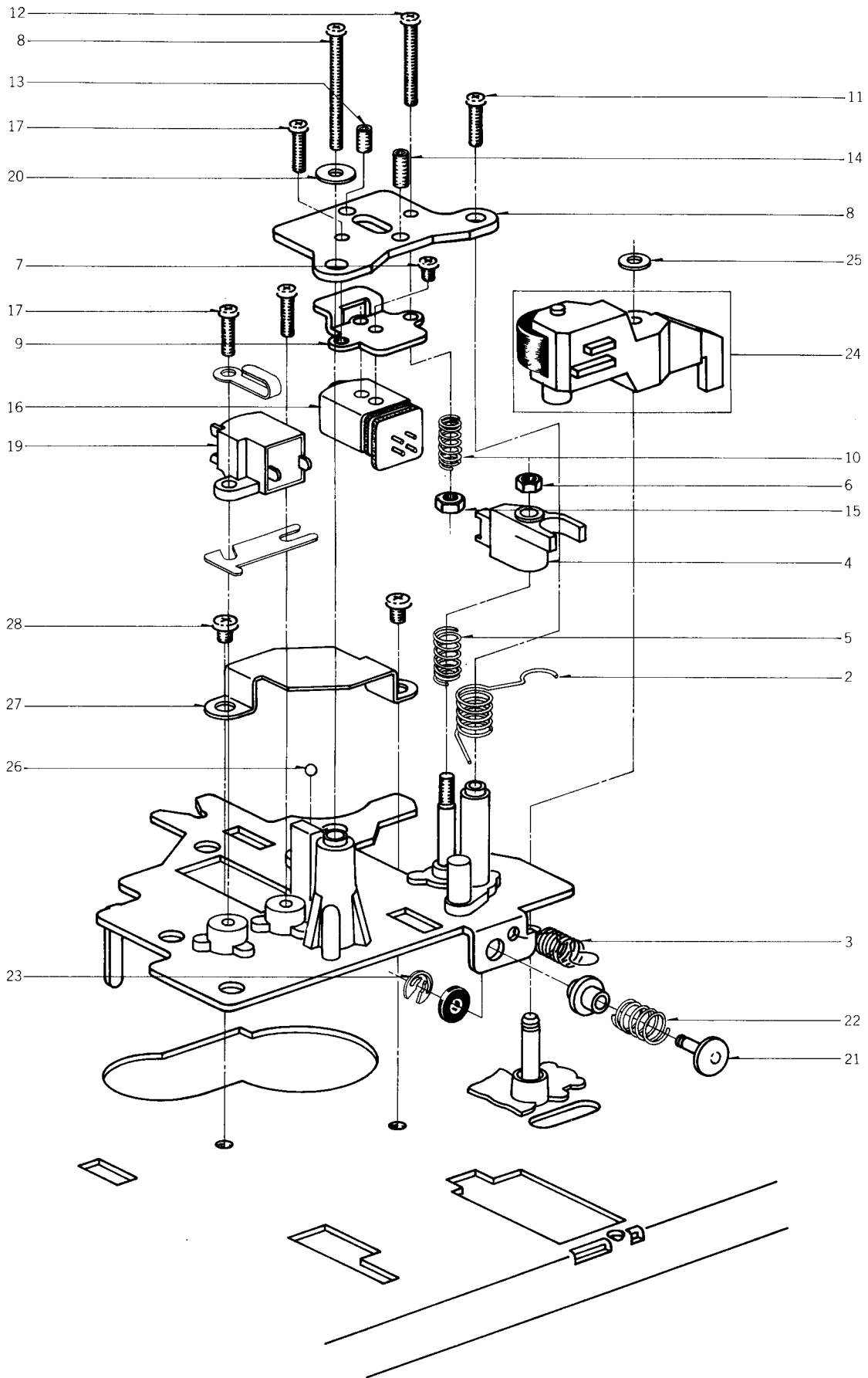
## 1. RECOMMENDED SPARE PARTS LIST

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
BA300217	Pre Amp P.C Board Comp. CM-5009A	(U/T, AAL)
BA300712	Pre Amp P.C Board Comp. CM-5009A	(JPN, CSA)
BA302100	Pre Amp P.C Board Comp. CM-5009A	(CEE, BEAB, SAA)
BA300061	Power Supply & Sys. Con P.C Board Comp. CM-5015	(U/T)
BA300060	Power Supply & Sys. Con P.C Board Comp. CM-5015	(JPN)
BA300059	Power Supply & Sys. Con P.C Board Comp. CM-5015	(CSA)
BA301521	Power Supply & Sys. Con P.C Board Comp. CM-5015	(AAL)
BA300221	Power Supply & Sys. Con P.C Board Comp. CM-5015	(CEE)
BA300220	Power Supply & Sys. Con P.C Board Comp. CM-5015	(BEAB, SAA)
BH304347	Head Base Block Comp.	
BK300207	Keyboard Block Comp. CM-3001	GXC-709D
BK305210	Keyboard Block Comp. (B) CM-3001	GXC-709D-BL
BL297562	Take-up Lever Part-G CM-1048	
BL297573	Wind Arm Comp.-G CM-1049	
BM300213	Motor Block Comp.	
BM283206	Motor MHI-5R2CHA	
BR297540	Take-up Reel Table Block Comp.-G CM-1046	
BR297551	Supply Reel Table Block Comp.-G CM-1047	
BT295345	⚠ Power Trans. CMT-1	(U/T)
BT294052	⚠ Power Trans. CMT-2	(JPN)
BT295380	⚠ Power Trans. CMT-4	(CSA)
BT295367	⚠ Power Trans. CMT-3	(AAL)
BT295402	⚠ Power Trans. CMT-5	(CEE)
BT295424	⚠ Power Trans. CMT-6	(BEAB, SAA)
BZ300249	Pinch Roller Block Comp. CN-9708	
ED562386	Germanium Diode 1S188AM	
ED498150	Zener Diode WZ-192	
ED249581	Silicon Diode SIQB20 0.6A 200V	
ED494583	Silicon Diode 10D05	
EL283184	Lamp (Lead Type) 8V 100 mA	
EM295828	VU Meter D34A72R	GXC-709D (JPN)
EM295817	VU Meter D34A73R	
EM305208	VU Meter D34A94R	GXC-709D-BL
EO283050	Osc Coil 09A-1359	
ER283386	Dolby Filter KM-10D85B	
ER283105	Dolby Filter KM-10D19B	
ER564772	Fuse/R. FRN50 1/4W 100 ohms (K) 200 mA	(JPN, CSA, CEE, BEAB, SAA)
ES293703	⚠ Push SW. SDV1P TV-5 (w/o label)	SW901 (U/T, JPN, CSA)
ES280258	⚠ Push SW. SDV1P TV-5 (w/label)	SW901 (AAL)
ES665807	⚠ Push SW. SDG-5P 5A/80A 250V	SW901 (CEE, BEAB, SAA)

Parts No.	Description	Note
ES619053	Push SW. SPJ-10114B	SW902
ES295547	Push SW. SUE-34	SW3
ES516036	Reed SW. ORD-225	SW903
ES295536	Slide SW. 162008	SW1
ES295525	Rotary Slide SW. SRZ-L084	SW2
ES295773	Skeleton SW. MSW-S201U	SW904, 906
ES295784	Skeleton SW. MSW-S202U	SW905, 907, 908
ET522268	Transistor 2SA733 (Q)	
ET554657	Transistor 2SA733 (P) (Q)	
ET391768	Transistor 2SC458LG (C) (D)	
ET399870	Transistor 2SC711 (G)	
ET638504	Transistor 2SC945L (P)	
ET399846	Transistor 2SC945L (Q)	
ET301468	Transistor 2SC1162 (D)	
ET301013	Transistor 2SC1384 (S)	
ET537300	Transistor 2SD361 (D) (E)	
ET295255	FET 2SK68A (M) (N)	
EV300633	Double axial 2 throw Vol. DM20R 50 kA×2	VR3, 4
EV295492	Single axial 2 throw Vol. DM70R 10 kB×2	VR7
HE266466	ERASE HEAD HF213822A	
HP300795	REC/PB Head P4-360Σ	
MB296458	Counter Belt CM-1023	
MB699118	Drive Belt (8) CG-1831	
MC295942	Counter SMP390-116	GXC-709D
MC305211	Counter SMP390-116B	GXC-709D-BL
MI285928	Flywheel CM-1015	
MR289855	Motor Pulley CM-7002	

## 2. ILLUSTRATION OF HEAD BASE BLOCK

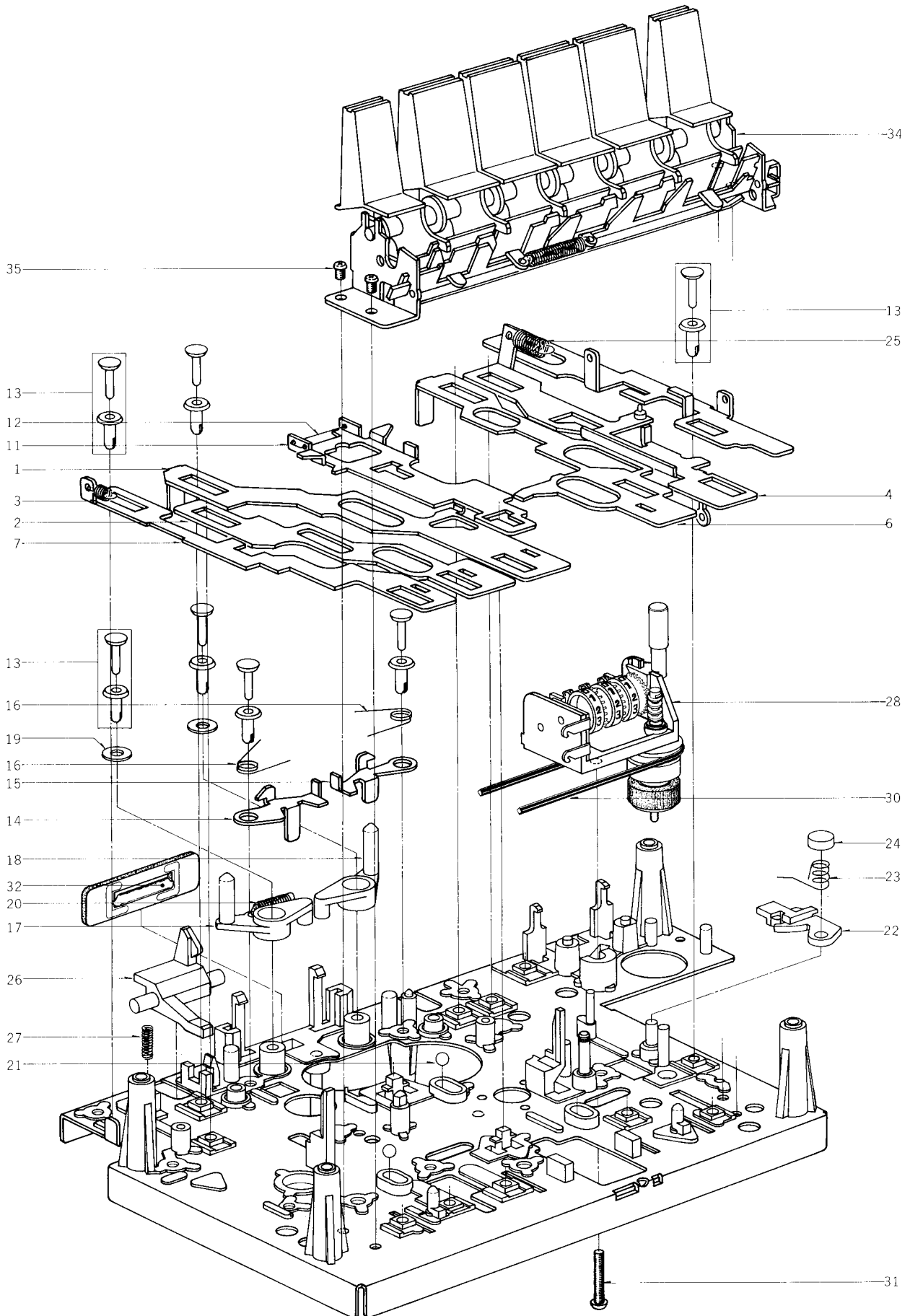


## 2) HEAD BASE BLOCK

Ref. No.	Parts No.	Description	Schematic No.
2-1x	BH304347	Head Base Block Comp. GXC-709D	
2-2	ZS296515	Pinch Roller Spring	CM-1028
2-3	ZG369112	Head Base Return Spring	RCC-1035
2-4	TC286007	Tape Guide (B)	CM-0002
2-5	ZG289236	Tape Guide Spring	CM-0005
2-6	ZW273734	Nut #1, M2	
2-7	ZS300626	Screw, pan head 2x2.5 (Camera Standard)	
2-8	HZ304225	Head Hanger	CM-0014
2-9	HA304226	PB Head Angle	CM-0015
2-10	ZG465636	Angle Adjust Spring	CG-0029
2-11	ZS391522	Screw, pan head 2.3x8	
2-12	ZS303625	Screw, pan head 2.3x16	
2-13	ZS356804	Set screw, hexagon socket 3x4 (CUP/P.)	
2-14	ZS356815	Set Screw, hexagon socket 3x6 (CUP/P.)	
2-15	ZW273690	Nut #1, M2.3	
2-16	HP300795	REC/PB HEAD P4-360Σ	
2-17	ZS300436	Tapping Screw #2, 2.3x8 (Bind)	
2-18	ZS303660	Screw, pan head 2.3x23	
2-19	HE266466	ERASE HEAD HF213822A	37-2-8
2-20	ZW452395	Washer (SPC) D2.3x7x0.5t	
2-21	MS302907	Spring Shaft (B)	CM-0209
2-22	ZG289596	Pressure Spring	CM-0006
2-23	SZ301996	'C' Ring (2)	
2-24	BL300249	Pinch Roller Block Comp. GXC-709D	CN-9708
2-25	ZW282407	Push Washer (B)	CN-1056
2-26	MV357208	Steel Ball D2	
2-27	ZG286018	Head Spring	CM-1012
2-28	ZS592378	Screw, pan head 2.6x3	



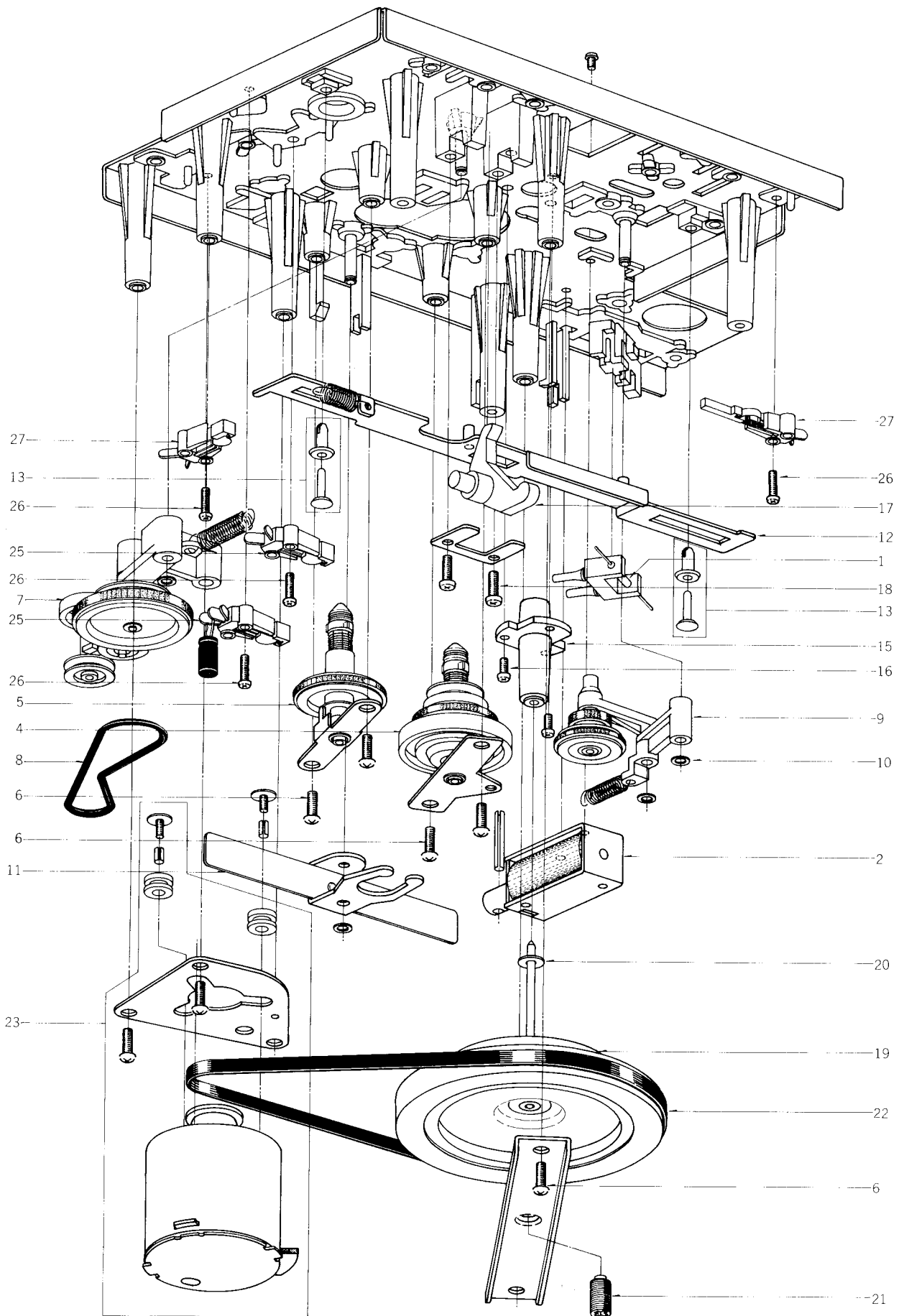
### 3. ILLUSTRATION OF MECHA FRAME BLOCK (1)



### 3) MECHA FRAME BLOCK (1)

Ref. No.	Parts No.	Description	Schematic No.
3-1	TC285974	Rewind Slide	CM-1002
3-2	TC285930	Rec Slide	CM-1003
3-3	ZG300206	Eject Spring	CM-1053
3-4	ML300163	Pause Slide Part CM	CM-1005
3-5x	TC285917	Selector Plate (JPN)	CM-1010
3-6	TC285963	FF Slide	CM-1006
3-7	TC285941	Eject Slide	CM-1009
3-8x	ZG300162	Selector Spring (JPN)	CM-1051
3-9x	ZW290283	'U' Ring 2.85M (JPN)	6-1-1
3-10x	ML300068	Pause Interlocking Plate Part CM (JPN)	CM-1045
3-11	TC285952	Brake Slide	CM-1008
3-12	ZG289934	Cassette Support Spring	CM-1032
3-13	ZW295907	Nylon Rivet CM-1	2-7-59
3-14	TC289888	Brake (1)	CM-1017
3-15	TC289890	Brake (2)	CM-1018
3-16	ZG286187	Brake Spring	CM-1027
3-17	ML286176	Cassette Support (1)	CM-1020
3-18	TC286165	Cassette Support (2)	CM-1021
3-19	ZW460787	Washer (Polyslider) D3.1x8x0.25t	
3-20	ZG394378	Return Spring	CS-2106
3-21	MV296403	Steel Ball D3.5	
3-22	TC289675	Lock Cam	CM-1041
3-23	ZG289822	Lock Cam Spring	CM-1030
3-24	TC282396	Cap	CN-1055
3-25	ZG303257	Pause Slide Spring	CM-1055
3-26	TC286020	Rec Detaction Piece	CM-1013
3-27	ZG296447	Rec Safety Spring	CM-1044
3-28	MC295942	Counter SMP390-116	9-1-54
3-29x	MC305211	Counter SMP390-116B (BL)	9-1-54
3-30	MB296458	Counter Belt	CM-1023
3-31	ZS422965	Screw, pan head 3x15	
3-32	EL283184	Lamp (L/T) 8V 100 mV	28-2-59
3-33	BK300207	Keyboard Block Comp. CM	CM-3001
3-34x	BK305210	Keyboard Block Comp. (B) CM-BL	25-5-273
3-35	ZS592378	Screw, pan head 2.6x3	

#### 4. ILLUSTRATION OF MECHA FRAME BLOCK (2)



#### 4) MECHA FRAME BLOCK (2)

Ref. No.	Parts No.	Description	Schematic No.
4-1	ES516036	Reed SW. ORD-225	25-11-1
4-2	EP300424	Plunger Solenoid 0730PHTI	44-1-88
4-3x	ZS592378	Screw, pan head 2.6x3	
4-4	BR297540	Take-up Reel Table Block	
		Comp.-G	CM-1046
4-5	BR297551	Supply Reel Table Block	
		Comp.-G	CM-1047
4-6	ZS447840	Tapping Screw #2, 3x8 (BR)	
4-7	BL297573	Wind Arm Comp.-G	CM-1049
4-8	MB304807	Wind Belt	CM-1057
4-9	BL297562	Take-up Lever Part-G	CM-1048
4-10	ZW282407	Push Washer (B)	CN-1056
4-11	BL305015	Middle Lever Comp. CM	CM-1039
4-12	ML300166	Wind Slide Part CM	CM-1004
4-13	ZW295907	Nylon Rivet CM-1	2-7-59
4-14x	ZG580770	Pinch Roller Spring	TD-2078
4-15	MZ300158	Main Case Part CM	CM-1036
4-16	ZS479474	Screw, pan head 2.6x5	
4-17	TC286031	Rec Lever	CM-1014
4-18	ZS523664	Tapping Screw #2, 3x10(BR)	
4-19	MI285928	Flywheel	CM-1015
4-20	ZW301934	Thrust Washer (Nylon)	CM-1054
4-21	ZG289811	Box Screw	CM-1024
4-22	MB699118	Drive Belt (8)	CG-1831
4-23	BM300213	Motor Block Comp. GXC-709D	
4-24x	ZS608106	Screw, pan head 2x6	
4-25	ES295773	Skeleton SW. MSW-S201U	25-1-43
4-26	ZS484918	Screw, pan head 2x8	
4-27	ES295784	Skeleton SW. MSW-S202U	25-1-42
4-28x	ZS608220	Screw, pan head 2.6x6 (BL-U/T)	

## 5. PRE AMP P.C BOARD (CM-5009A) BLOCK

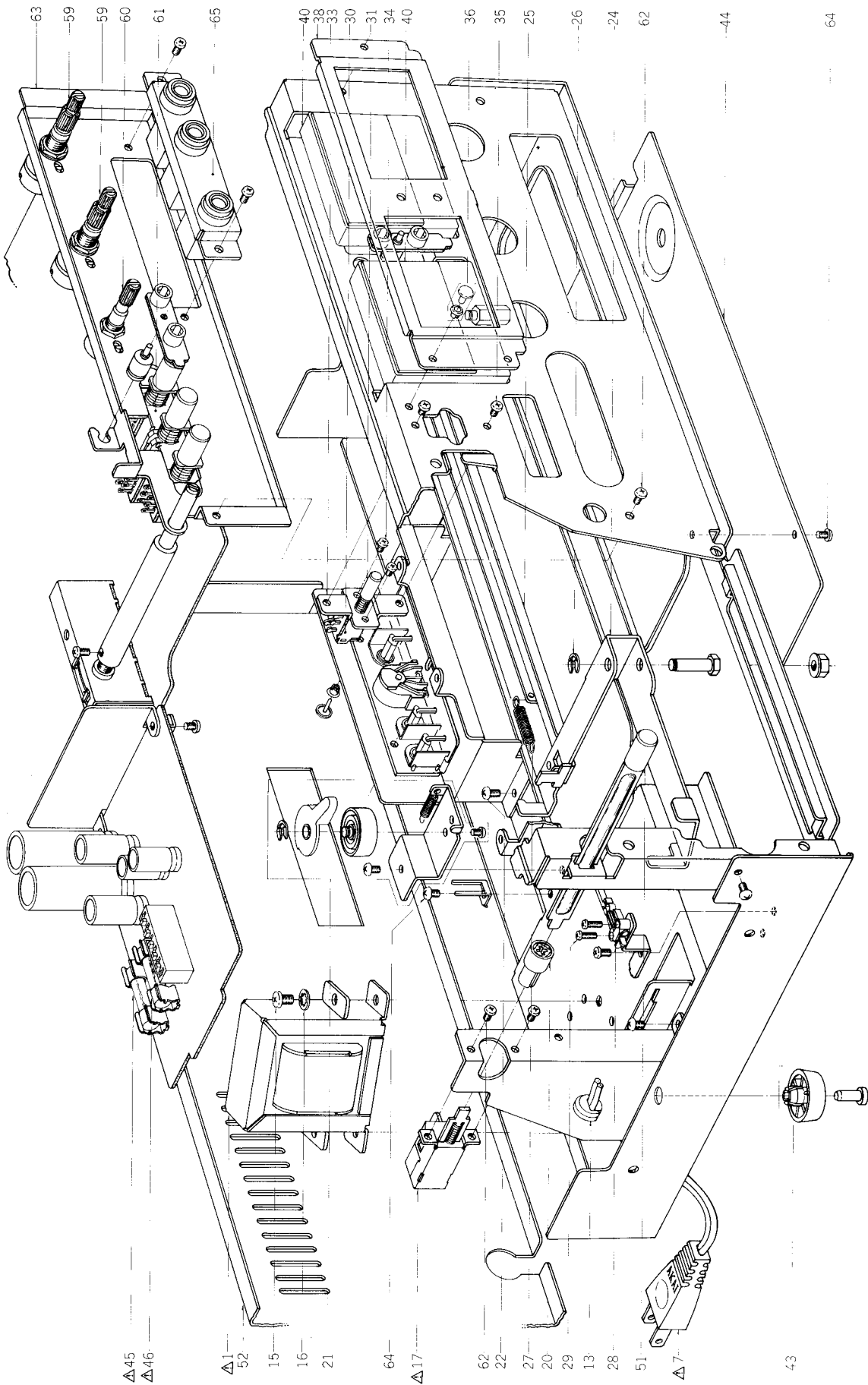
Symbol No.	Parts No.	Description	Schematic No.	Symbol No.	Parts No.	Description	Schematic No.
5-1	BA300217	Pre Amp P.C Board Comp. GXC-709D(U/T) (AAL)		5-R55	ER498363	Metal Oxide Film/R. 2W 240 ohms (J)	35-15-6
5-2	BA300712	Pre Amp P.C Board Comp. GXC-709D(JPN) (CSA)		5-R95	ER441156	Metal Oxide Film/R. 2W 150 ohms (K)	35-15-6
5-3	BA302100	Pre Amp P.C Board Comp. GXC-709D(CEE) (BEAB, SAA)		5-R96	ER672300	Carbon/R. (F) 1/2W 27 ohms (J) (U/T)	35-11-13
5-IC1	EI605013	IC NE545B	45-8-117	5-R97	ER427972	Metal Oxide Film/R. 2W 68 ohms (K)	35-15-8
5-TR1to3	ET391768	Transistor 2SC458LG (C) (D)	45-1-29	5-R98	ER658091	Metal Oxide Film/R. 2W 120 ohms (K)	35-15-18
5-TR4to6	ET639437	Transistor 2SC945L(Q)(P)	45-1-85	5-FR1	ER300637	Fuse/R. FRN1/4W 27 ohms (K) 450MA (JPN)	35-14-21
5-TR7,8	ET399846	Transistor 2SC945L(Q)	45-1-85	5-C3	EC295694	Styrol/C. (w/rubber) 200PF (J) 50WV	24-11-12
5-TR9	ET639437	Transistor 2SC945L(Q)(P)	45-1-85	5-C4	EC280383	Styrol/C. (w/rubber) 470PF (K) 50WV	24-11-12
5-TR10	ET295255	FET 2SK68A (M) (N)	45-12-9	5-C15	EC233526	Elect./C. (KA Type) 0.22μF (K) 50WV	24-20-13
5-TR11	ET639437	Transistor 2SC945L(Q)(P)	45-1-85	5-C16	EC295694	Styrol/C. (w/rubber) 200PF (J) 50WV	24-11-12
5-TR12	ET638504	Transistor 2SC945L(P)	45-1-85	5-C26	EC283061	Elect./C. (KA Type) 0.1μF (K) 50WV	24-20-13
5-TR13	ET398711	Transistor 2SC945L(Q)(R)	45-1-85	5-C27	EC265432	Elect./C. (KA Type) 0.33μF (K) 50WV	24-20-13
5-TR14	ET399846	Transistor 2SC945L(Q)	45-1-85	5-C57,58	EC295716	Styrol/C. (w/rubber) 150PF (J) 50WV	24-11-12
5-TR15	ET522268	Transistor 2SA733(Q)	45-1-124	5-C59	EC295694	Styrol/C. (w/rubber) 200PF (J) 50WV	24-11-12
5-TR16	ET301013	Transistor 2SC1384(S)	45-1-173	5-C61	EC284152	Styrol/C. (w/rubber) 1000PF (J) 250WV	24-11-12
5-D1	ED219464	Germanium Diode 1N34A	45-3-1	5-8	EJ295470	Jack (3 throw) GXC-709	31-2-81
5-D2	ED562386	Germanium Diode 1S188AM	45-3-24	<b>JACK P.C BOARD BLOCK</b>			
5-D3to9	ED560913	Silicon Diode 1S2473VE	45-3-23	5-J1	EJ283094	4P Pin Jack 1-01-0107-00	31-5-137
5-D10	ED562386	Germanium Diode 1S188AM	45-3-24	<b>INDICATOR P.C BOARD (A)/(B) BLOCK</b>			
5-D11	ED624903	Silicon Diode 1S2473	45-3-28	5-D1	ED249377	LED GL-3AR1 (A) (B)	45-15-14
5-D12,13	ED562386	Germanium Diode 1S188AM	45-3-24	5-D2	ED303005	LED GL-3PY1 (A)	45-15-18
5-D14,15	ED560913	Silicon Diode 1S1473VE	45-3-23	5-D2	ED283138	LED GL-3PG1 (B)	45-15-15
5-VR1	EV464207	Semi-fixed/Vol. V8K4-1 5 kB	36-10-266				
5-VR2	EV464220	Semi-fixed/Vol. V8K4-1 50 kB	36-10-266				
5-VR3,4	EV300633	Double axial 2 throw Vol. DM20R 50 kA x 2	36-18-5				
5-VR5	EV464220	Semi-fixed/Vol. V8K4-1 50 kB	36-10-266				
5-VR6	EV522797	Semi-fixed/Vol. V8K4-1 20 kB	36-10-266				
5-VR7	EV295492	Single axial 2 throw Vol. GM70R 10 kB x 2	36-22-24				
5-VR8	EV550023	Semi-fixed/Vol. V10K8-4-2 100 kB	36-10-250				
5-VR9	EV464207	Semi-fixed/Vol. V8K4-1 5 kB	36-10-266				
5-VR10	EV499375	Semi-fixed/Vol. V10K8-4-2 500 ohmsB	36-10-250				
5-VR11	EV560103	Semi-fixed/Vol. V10K8-4-2 100 ohmsB	36-10-250				
5-VR12	EV499375	Semi-fixed/Vol. V10K8-4-2 500 ohmsB	36-10-250				
5-T1	EO283050	Osc. Coil 09A-1359	23-4-40				
5-FL1	ER283386	Dolby Filter KM-10D85B	53-1-115				
5-FL2	ER283105	Dolby Filter KM-10D19B	54-1-115				
5-L1	EO368403	Ferri Inductor FL9H 33MH(J)	23-1-4				
5-L2	EO692741	Ferri Inductor 33Y-740	23-1-254				
5-L3	EO656943	Inductor RCP-095 22MH(K)	23-1-245				
5-TH1	ED560147	Thermister (Special) 100PD-81 B9220 (CEE, BEAB, SAA)	45-14-2				
5-SW1	ES295536	Slide SW. 162008	25-3-133				
5-SW2	ES295525	Rotary Slide SW. SRZ-L084	25-6-106				
5-SW3	ES295547	Push SW. SUE-34	25-5-245				
5-4	ZS422076	Screw, pan head 3x5					
5-5	TC289271	Vol. Bracket	CM-5011				
5-6	ZS325495	Tapping Screw #2, 3x6 (BR)					
5-7	ZS421806	Screw, pan head 3x8					
5-R30	ER498363	Metal Oxide Film/R. 2W 240 ohms (J)	35-15-6				

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

## 6. POWER SUPPLY & SYS. CON P.C BOARD (CM-5015) BLOCK

Symbol No.	Parts No.	Description	Schematic No.
6-1	BA300061	Power Supply & Sys. Con P.C Board Comp. GXC-709D (U/T)	CM-9751
6-2	BA300060	Power Supply & Sys. Con P.C Board Comp. GXC-709D (JPN)	CM-9751
6-3	BA300059	Power Supply & Sys. Con P.C Board Comp. GXC-709D (CSA)	CM-9751
6-4	BA301521	Power Supply & Sys. Con P.C Board Comp. GXC-709D (AAL)	CM-9751
6-5	BA300221	Power Supply & Sys. Con P.C Board Comp. GXC-709D (CEE)	CM-9751
6-6	BA300220	Power Supply & Sys. Con P.C Board Comp. GXC-709D (BEAB, SAA)	CM-9751
6-TR1	ET537300	Transistor 2SD361 (D) (E)	45-1-143
6-TR2	ET554657	Transistor 2SA733 (P) (Q)	45-1-124
6-TR3,5	ET639437	Transistor 2SC945L (Q) (P) (JPN)	45-1-85
6-TR4	ET399870	Transistor 2SC711 (G)	45-1-67
6-TR6	ET301468	Transistor 2SC1162 (D)	45-1-268
6-D1,2	ED249581	Silicon Diode SIQB20 0.6A 200V (RED)	45-2-74
6-D3	ED494583	Silicon Diode 10D05	45-2-42
6-D4	ED498150	Zener Diode WZ-192	45-6-67
6-D5to9	ED560913	Silicon Diode 1S2473VE	45-3-23
6-D10	ED562386	Germanium Diode 1S188AM (JPN)	45-3-24
6-D11	ED494583	Silicon Diode 10D05	45-2-42
6-R1	ER663513	Carbon/R. (Insu. Type) (F) 1/4W 680 ohms (J)	35-11-12
6-R22	ER651532	Carbon/R. (Insu. Type) (F) 1/2W 100 ohms (J)	35-11-13
6-FR1	ER564772	Fuse/R. FRN50 1/4W 100 ohms (K) 200MA (JPN CSA, CEE, BEAB, SAA)	35-14-9
6-C1	EC551160	△ Ceramic/C. DB821 NA 0.01μF (Z) 1.4 kWV	24-5-55
6-C1	EC286198	△ Ceramic/C. AL-10 0.01μF (Z) 125WV (CSA, AAL)	24-5-69
6-C1,2	EC283375	△ MP/C. PME271M547 0.047μF 250WV (CEE, BEAB, SAA)	24-9-118
6-C3,4	EC295997	Elect./C. (Vert. Type) 2200μF 35WV	24-12-9
6-C13	EC487157	NP/C. (Vert. Type) 0.47μF (M) 50WV	24-17-17
6-7	ZS421806	Screw, pan head 3x8	
6-8	ZW516611	Nut M3	
6-9	ZS379350	Screw, pan head 3x6	

## 7. ILLUSTRATION OF POWER/AMP CHASSIS BLOCK

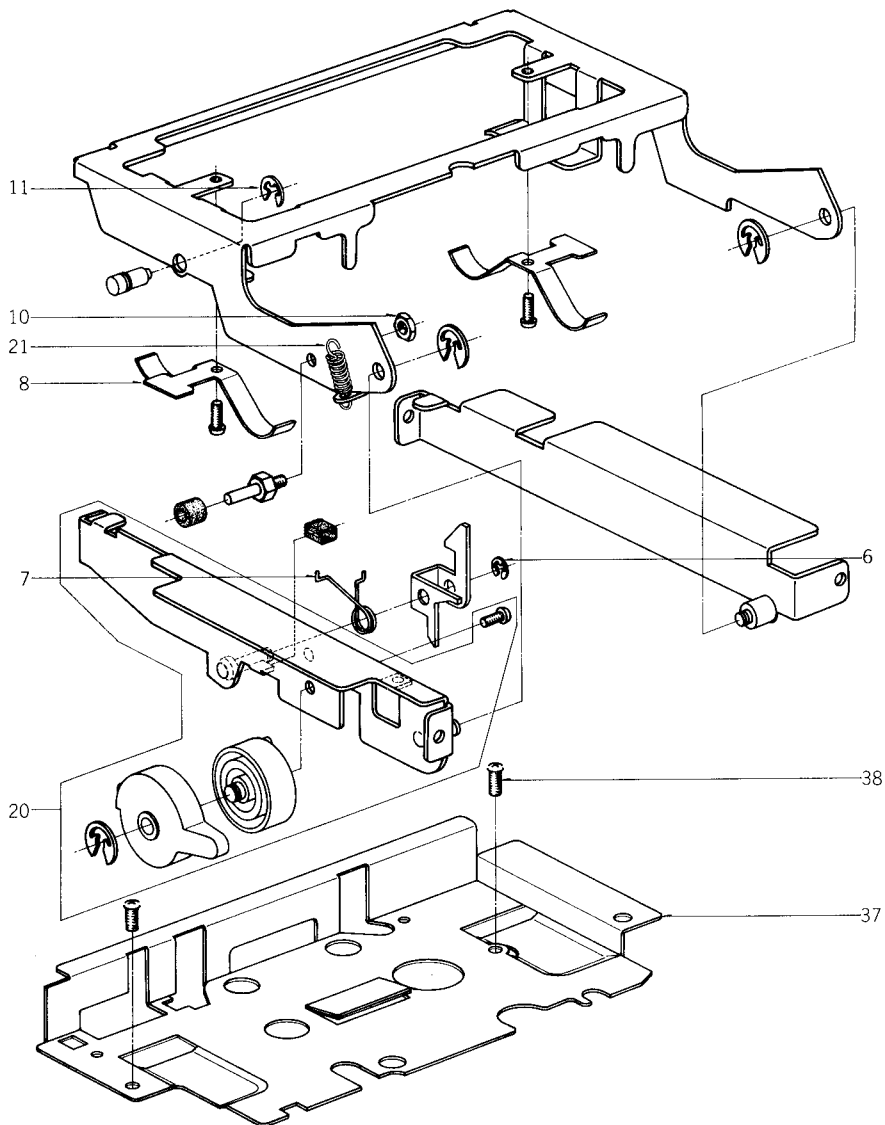
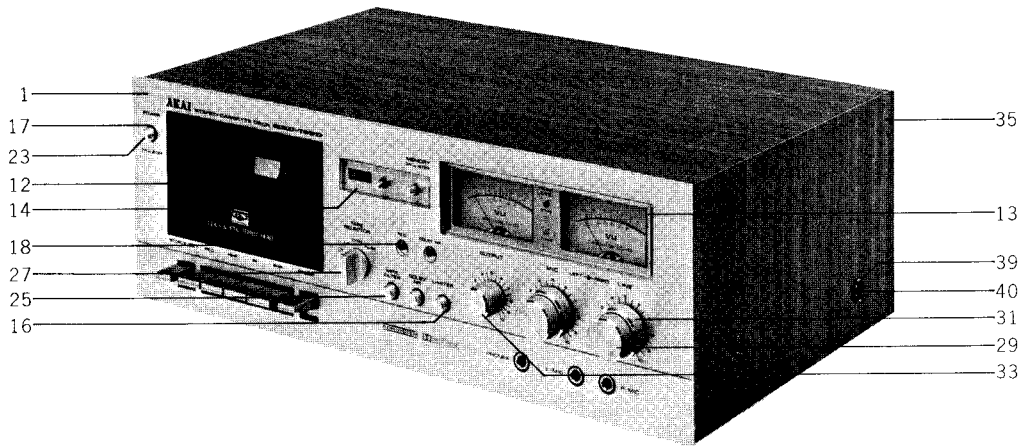


## 7) POWER/AMP CHASSIS BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Ref. No.	Parts No.	Description	Schematic No.
<b>POWER CHASSIS BLOCK</b>							
7-1	BT295345	△ Power Trans. CMT-1 (U/T)	38-4-475	7-58x	ZS447761	Tapping Screw #2, 3x6 (BR) (BLACK)	
7-2	BT294052	△ Power Trans. CMT-2 (JPN)	38-4-476	7-59	EV300633	Double axial 2 throw Vol. DM20R 50kAx2	36-18-5
7-3x	BT295380	△ Power Trans. CMT-4 (CSA)	38-4-478	7-60	EV295492	Single axial 2 throw Vol. GM70R 10kBx2	36-22-24
7-4x	BT295367	△ Power Trans. CMT-3 (AAL)	38-4-477	7-61	ES295547	Push SW. SUE-34	25-5-245
7-5x	BT295402	△ Power Trans. CMT-5 (CEE)	38-4-479	7-62	ZS422076	Screw, pan head 3x4	
7-6x	BT295424	△ Power Trans. CMT-6 (BEAB, SAA)	38-4-480	7-63	TC289271	Vol. Bracket	CM-5011
7-7	EW540123	△ AC Cord (CUL) 2.5M (U/T)	26-3-20	7-64	ZS325495	Tapping Screw #2, 3x6 (BR)	
7-8x	EW524845	△ AC Cord (J) 2.5M (JPN)	26-3-31				
7-9x	EW207742	△ AC Cord CUL (CSA, AAL)	26-3-45				
7-10x	EW604618	△ AC Cord (EC) VM-0064 (CEE)	26-3-34				
7-11x	EW232244	△ AC Cord Basec 2 Core (BEAB)	26-3-46				
7-12x	EW284084	△ AC Cord CN (SAA)	26-3-52				
7-13	EZ631945	Strain Relief SR-4N-4	2-7-49				
7-14x	EJ692908	Strain Relief SR-5N-4 (BEAB)	2-7-60				
7-15	ZS301576	Tapping Screw #3, 4x10 (Pan)					
7-16	ZW273892	Toothed Lock Washer M4					
7-17	ES293703	△ Push SW. SDV1P TV-5 (w/o label) (U/T, JPN, CSA)	25-5-254				
7-18x	ES280258	△ Push SW. SDV1P TV-5 (w/label) (AAL)	25-5-243				
7-19x	ES665807	△ Push SW. SDG-5P 5A/80A 250V (CEE, BEAB, SAA)	25-5-182				
7-20	TC289484	SW. Connection Plate	CM-6015				
7-21	TC300710	Oil Clutch (B) Comp.-G CM	CI-2218				
<b>AMP CHASSIS BLOCK</b>							
7-22	ZS300506	Tapping Screw #3, 3x5 (Pan)					
7-23x	ZS447840	Tapping Screw #2, 3x8 (BR)					
7-24	MC289620	Rec Lever	CM-5001				
7-25	TC289541	Rec Slide	CM-5006				
7-26	ZW290283	'U' Ring 2.85M	6-1-1				
7-27	ZG294030	Rec Spring	CM-5017				
7-28	ES295784	Skeleton SW. MSW-S202U	25-1-42				
7-29	ZS484918	Screw, pan head 2x8					
7-30	ES619053	Push SW. SPJ-10114B	25-5-144				
7-31	SK302459	Memory Cap (B)	CI-5236				
7-32x	SK305206	Memory Cap (C) (BL)	CI-5236				
7-33	ML304168	Memory Base (B)	CM-1056				
7-34	ZS460440	Screw, pan head 2x4					
7-35	ZS417216	Screw, pan head 3x4					
7-36	ZW302909	Nylon Rivet (FNPR) 3x3.5 (BLK)	2-7-54				
7-37x	ZW263946	Nylon Rivet 4x5	2-7-57				
7-38	SP303073	Meter Panel (A)	CM-5020/5021				
7-39x	SP303074	Meter Panel (B) (BL)	CM-5020/5021				
7-40	EM295817	VU Meter D34A73R	46-1-153				
7-41x	EM295828	VU Meter D34A72R (JPN)	46-1-166				
7-42x	EM305208	VU Meter D34A94R (BL)	46-1-177				
7-43	SA300573	Rubber Foot	2-6-17				
7-44	TC289721	Bottom Board	CM-5013				
7-45	EF563681	△ Fuse 1A 250V (U/T, JPN)	39-1-50				
7-46	EF575932	△ Fuse 0.8A 250V (U/T, JPN)	39-1-50				
7-47x	EF511637	△ Fuse ULMF61M 250V 1A (CSA, AAL)	39-1-45				
7-48x	EF511626	△ Fuse ULMF61M 250V 0.8A (CSA, AAL)	39-1-45				
7-49x	EF601942	△ Fuse (SEMKO T Type) 630MAT (CEE, BEAB, SAA)	39-1-53				
7-50x	EF668474	△ Fuse (SEMKO T Type) 400MAT (CEE, BEAB, SAA)	39-1-53				
7-51	SK303165	Push Button (A) Comp. GXC-709D	CM-6060				
7-52	SP305166	Rear Panel (F) (U/T)	CM-6068				
7-53x	SP289743	Rear Panel (A) (JPN)	CM-6031				
7-54x	SP293973	Rear Panel (B) (AAL)	CM-6032				
7-55x	SP305164	Rear Panel (D) (CEE)	CM-6066				
7-56x	SP293995	Rear Panel (C) (CSA)	CM-6033				
7-57x	SP305165	Rear Panel (E) (BEAB, SAA)	CM-6067				



## 8. PHOTO & ILLUSTRATION OF FINAL ASSEMBLY BLOCK



## 8) FINAL ASSEMBLY BLOCK

Ref. No.	Parts No.	Description	Schematic No.
<b>FRONT PANEL BLOCK</b>			
8-1	BD300076	Front Panel Block Comp. GXC-709D(U/T) (CSA,AAL,CEE,BEAB,SAA)	CM-9803
8-2x	BD300077	Front Panel Block Comp. GXC-709D(JPN)	CM-9803
8-3x	BD304908	Front Panel Block Comp. GXC-709DBL(U/T) (CSA,CEE,BEAB,SAA)	CM-9803
8-4x	BD304909	Front Panel Block Comp. GXC-709DBL(JPN)	CM-9803
8-5x	ZS558101	Screw, pan head 3x6 w/washer	
8-6	ZW270088	'E' Ring 1.9M	6-1-9
8-7	ZG300172	Lock Spring	CM-6039
8-8	ZG282690	Set Spring	CN-6009
8-9x	ZS201407	Screw, pan head 2.3x3	
8-10	ZW516611	Nut M3	
8-11	ZW270101	'E' Ring 3M	6-1-9
8-12	BD305888	Lid Panel Comp.	CM-6048/6049
8-13	SZ303075	Meter Cover	CM-6050
8-14	SE303066	Counter Escutcheon (A)	CM-6059
8-15x	SE303067	Counter Escutcheon (B) (BL)	CM-6059
8-16	SE289528	SW. Escutcheon (A)	CM-6001
8-17	SE286885	SW. Escutcheon (B)	CM-6016
8-18	SE303071	LED Escutcheon (A)	CM-6051
8-19x	SE303072	LED Escutcheon (B) (BL)	CM-6051
8-20	TC300777	Oil Clutch (A) Comp.-G CM	13-2-30
8-21	ZG294017	Eject Spring (B)	CM-6025
<b>FINAL ASSEMBLY BLOCK</b>			
8-22x	ZS447840	Tapping Screw #2, 3x8 (BR)	
8-23	SK303165	Push Button (A) Comp. GXC-709D	CM-6060
8-24x	SK305160	Push Button (C) Comp. GXC-709DBL	CM-6060
8-25	SK303166	Push Button (B) Comp. GXC-709D	CM-6060
8-26x	SK304083	Push Button (D) Comp. GXC-709DBL	CM-6060
8-27	SK303064	Selector Knob (A), w/screw	CM-6053
8-28x	SK303065	Selector Knob (B), w/screw(BL)	CM-6053
8-29	SK303094	Double Knob (Upper) (A)	CM-6054
8-30x	SK303093	Double Knob (Upper) (B) (BL)	CM-6054
8-31	SK303098	Double Knob (Lower) (A)	CM-6055
8-32x	SK303097	Double Knob (Lower) (B) (BL)	CM-6055
8-33	SK303069	Vol. Knob (A)	CM-6052
8-34x	SK303070	Vol. Knob (B) (BL)	CM-6052
8-35	BC289293	Cabinet	CM-6021
8-36x	BC305205	Cabinet (B) (BL)	CM-6021
8-37	TC289697	Decoration Plate	CM-1035
8-38	ZS265307	Tapping Screw #2, 2.3x6 (Truss)	
8-39	ZW548010	Spot Facing Washer	MU-6028
8-40	ZS300517	Tapping Screw #3, 4x12 (Pan)	

## 9. 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.
2SA733 (P) (Q) 2SA733 (Q)	ET554657 ET522268	CM-5009A CM-5015	2SA564 (Q) (R) 2SA628 (D) (E) (F) (G)	ET538154 ET539144
2SC458LG (C) (D)	ET391768	CM-5009A	2SC693U (F) 2SC1312 (G) (H)	ET315472 ET517263
2SC711 (G)	ET399870	CM-5015	2SC536 (G) (H) 2SC1647 (S) (E) (U)	ET403391 ET601323
2SC945L (Q) (P) 2SC945L (P) 2SC945L (Q)	ET639437 ET638504 ET399846	CM-5009A CM-5015	2SC536 (F) (G) (H) 2SC711 (E) (F) (G) (H) 2SC1641 (Q) (R) (S) (E)	ET632215 ET619727 ET603843
2SC1162 (C)	ET300636	CM-5015		
2SC1384 (R) (S)	ET300632	CM-5009	2SC1211 (D) (E) 2SD400 (K)	ET511694 ET631877
2SD361 (D) (E)	ET537300	CM-5015	2SC1098 (K) (L) 2SD234 (O) (Y)	ET465208 ET393568
2SK68A (M) (N)	ET295255	CM-5009		
1S188AM	ED562386	CM-5009 CM-5015	1N34A 1N60	ED417442 ED428264
1S2473VE	ED560913	CM-5009 CM-5015	WG599 WG713 1S1588	ED514721 ED515790 ED557447
1S2473	ED624903	CM-5009	1S1588	ED557447
WZ-192	ED498150	CM-5015		
10D05	ED494583	CM-5015	10D1 1N4002	ED224526 ED511907
S1QB20 (RED)	ED249581	CM-5015	S1QB10 (BLK)	ED284095
GL-3AR1	ED249377	CM-5009C/D		
GL-3PY1	ED303005	CM-5009C		
GL-3PG1	ED283138	CM-5009D		

# 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.
BA300059	6-3	EO692741	5-L2	MV357208	2-26	ZS300517	8-40		
BA300060	6-2	EP300424	4-2	MZ300158	4-15	ZS300626	2-7		
BA300061	6-1	ER283105	5-FL2	SA300573	7-43	ZS301576	7-15		
BA300217	5-1	ER283386	5-FL1	SE286885	8-17	ZS303625	2-12		
BA300220	6-6	ER300637	5-FR1	SE289528	8-16	ZS303660	2-18		
BA300221	6-5	ER427972	5-R97	SE303066	8-14	ZS325495	5-6		
BA300712	5-2	ER441156	5-R59	SE303067	8-15x	ZS325495	7-64		
BA301521	6-4	ER498363	5-R30	SE303071	8-18	ZS356804	2-13		
BA302100	5-3	ER498363	5-R55	SE303072	8-19x	ZS356815	2-14		
BC289293	8-35	ER564772	6-FR1	SK302459	7-31	ZS379350	6-9		
BC305205	8-36x	ER651532	6-R22	SK303064	8-27	ZS391522	2-11		
BD300076	8-1	ER658091	5-R98	SK303065	8-28x	ZS417216	7-35		
BD300077	8-2x	ER663513	6-R1	SK303069	8-33	ZS421806	5-7		
BD304908	8-3x	ER672300	5-R96	SK303070	8-34x	ZS421806	6-7		
BD304909	8-4x	ES280258	7-18x	SK303093	8-30x	ZS422076	5-4		
BD305888	8-12	ES293703	7-17	SK303094	8-29	ZS422076	7-62		
BH304347	2-1x	ES295525	5-SW2	SK303097	8-32x	ZS422965	3-31		
BK300207	3-33	ES295536	5-SW1	SK303098	8-31	ZS447761	7-58x		
BK305210	3-34x	ES295547	5-SW3	SK303165	7-51	ZS447840	4-6		
BL297562	4-9	ES295547	7-61	SK303165	8-23	ZS447840	7-23x		
BL297573	4-7	ES295773	4-25	SK303166	8-25	ZS447840	8-22x		
BL300249	2-24	ES295784	4-27	SK304083	8-26x	ZS460440	7-34		
BL305015	4-11	ES295784	7-28	SK305160	8-24x	ZS479474	4-16		
BM300213	4-23	ES516036	4-1	SK305206	7-32x	ZS484918	4-26		
BR297540	4-4	ES619053	7-30	SP289743	7-53x	ZS484918	7-29		
BR297551	4-5	ES665807	7-19x	SP293973	7-54x	ZS523664	4-18		
BT294052	7-2x	ET295255	5-TR10	SP293995	7-56x	ZS558101	8-5x		
BT295345	7-1	ET301013	5-TR16	SP303073	7-38	ZS592378	2-28		
BT295367	7-4x	ET301468	6-TR6	SP303074	7-39x	ZS592378	3-35		
BT295380	7-3x	ET391768	5-TR1to3	SP305164	7-55x	ZS592378	4-3x		
BT295402	7-5x	ET398711	5-TR13	SP305165	7-57x	ZS608106	4-24x		
BT295424	7-6x	ET399846	5-TR7,8	SP305166	7-52	ZS608220	4-28x		
EC233526	5-C15	ET399846	5-TR14	SZ301996	2-23	ZW263946	7-37x		
EC265432	5-C27	ET399870	6-TR4	SZ303075	8-13	ZW270088	8-6		
EC280383	5-C4	ET522268	5-TR15	TC282396	3-24	ZW270101	8-11		
EC283061	5-C26	ET537300	6-TR1	TC285917	3-5x	ZW273690	2-15		
EC283375	6-C1,2	ET554657	6-TR2	TC285930	3-2	ZW273734	2-6		
EC284152	5-C61	ET638504	5-TR12	TC285941	3-7	ZW273892	7-16		
EC286198	6-C1	ET639437	5-TR4to6	TC285952	3-11	ZW282407	2-25		
EC295694	5-C3	ET639437	5-TR9	TC285963	3-6	ZW282407	4-10		
EC295694	5-C16	ET639437	5-TR11	TC285974	3-1	ZW290283	3-9x		
EC295694	5-C59	ET639437	6-TR3,5	TC286007	2-4	ZW290283	7-26		
EC295716	5-C57,58	EV295492	5-VR7	TC286020	3-26	ZW295907	3-13		
EC295997	6-C3,4	EV295492	7-60	TC286031	4-17	ZW295907	4-13		
EC487157	6-C13	EV300633	5-VR3,4	TC286165	3-18	ZW301934	4-20		
EC551160	6-C1	EV300633	7-59	TC289271	5-5	ZW302909	7-36		
ED219464	5-D1	EV464207	5-VR1	TC289271	7-63	ZW452395	2-20		
ED249377	5-D1	EV464207	5-VR9	TC289484	7-20	ZW460787	3-19		
ED249581	6-D1,2	EV464220	5-VR2	TC289541	7-25	ZW516611	6-8		
ED283138	5-D2	EV464220	5-VR5	TC289675	3-22	ZW516611	8-10		
ED303005	5-D2	EV499375	5-VR10	TC289697	8-37	ZW548010	8-39		
ED494583	6-D3	EV499375	5-VR12	TC289721	7-44				
ED494583	6-D11	EV522797	5-VR6	TC289888	3-14				
ED498150	5-D4	EV550023	5-VR8	TC289890	3-15				
ED560147	5-TH1	EV560103	5-VR11	TC300710	7-21				
ED560913	5-D3to9	EW207742	7-9x	TC300777	8-20				
ED560913	5-D14,15	EW232244	7-11x	ZG282690	8-8				
ED560913	6-D5to9	EW284084	7-12x	ZG286018	2-27				
ED562386	5-D2	EW524845	7-8x	ZG286187	3-16				
ED562386	5-D10	EW540123	7-7	ZG289236	2-5				
ED562386	5-D12,13	EW604618	7-10x	ZG289596	2-22				
ED562386	6-D10	EZ631945	7-13	ZG289811	4-21				
ED624903	5-D11	HA304226	2-9	ZG289822	3-23				
EF511626	7-48x	HE266466	2-19	ZG289934	3-12				
EF511637	7-47x	HP300795	2-16	ZG294017	8-21				
EF563681	7-45	HZ304225	2-8	ZG294030	7-27				
EF575932	7-46	MB296458	3-30	ZG296447	3-27				
EF601942	7-49x	MB304807	4-8	ZG300162	3-8x				
EF668474	7-50x	MB699118	4-22	ZG300172	8-7				
EI605013	5-IC1	MC289620	7-24	ZG300206	3-3				
EJ283094	5-J1	MC295942	3-28	ZG303257	3-25				
EJ295470	5-8	MC305211	3-29x	ZG369112	2-3				
EJ692908	7-14x	MI285928	4-19	ZG394378	3-20				
EL283184	3-32	ML286176	3-17	ZG465636	2-10				
EM295817	7-40	ML300068	3-10x	ZG580770	4-14x				
EM295828	7-41x	ML300163	3-4	ZS201407	8-9x				
EM305208	7-42x	ML300166	4-12	ZS265307	8-38				
EO283050	5-T1	ML304168	7-33	ZS296515	2-2				
EO368403	5-L1	MS302907	2-21	ZS300436	2-17				
EO656943	5-L3	MV296403	3-21	ZS300506	7-22				

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***RTV servis Horvat***

**Kešinci, 31402 Semeljci**

**Tel : 031-856-637**

**Tel / fax : 031-856-139**

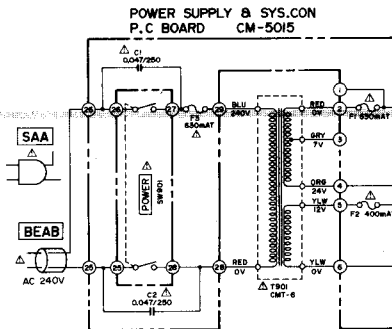
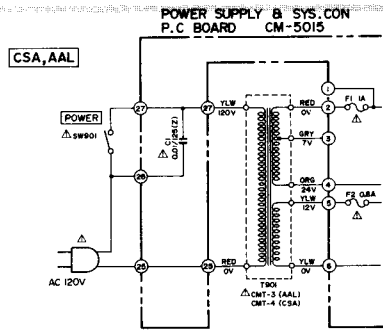
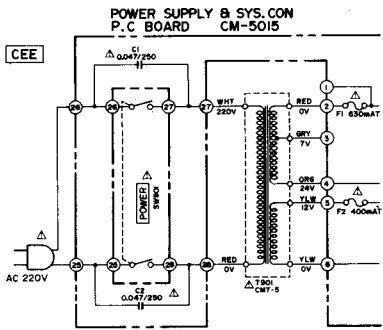
**Mob : 098-788-319**

**[rtv-servis-horvat@os.tel.hr](mailto:rtv-servis-horvat@os.tel.hr)**

**SECTION 3**

**SCHEMATIC DIAGRAM**

- 1. GXC-709D NO. 1560226A SCHEMATIC DIAGRAM**



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

AVERTISSEMENT: IL INDIQUE LES COMPOSANTS CRITIQUES DE SURETE POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL. NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT.

