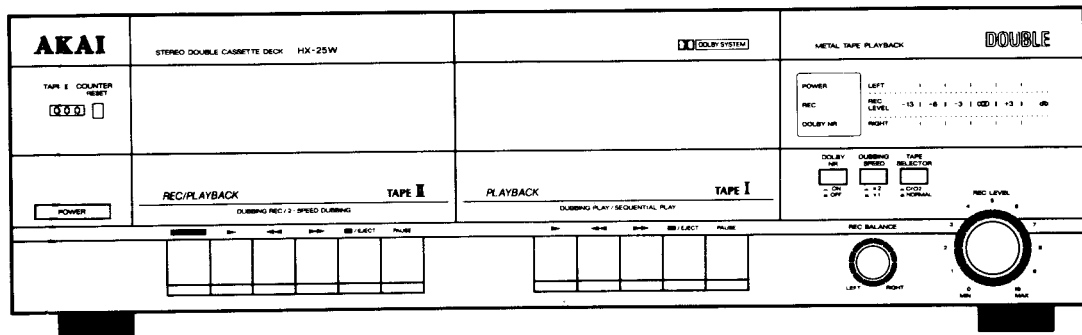


# AKAI SERVICE MANUAL



## STEREO DOUBLE CASSETTE DECK

## MODEL HX-25W

### SPECIFICATIONS

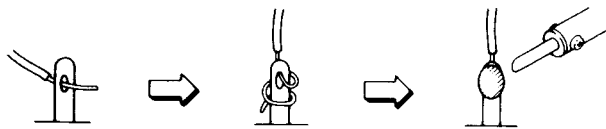
Track system .....	4 track 2 channel stereo	Input sensitivity /	
Heads .....	HD head for playback × 1 HD head for recording & playback × 1 Erase head × 1	Impedance .....	70 mV / 50 k ohms
Motors.....	DC motor × 2 (for capstan & reel)	Power requirements ...	220 V, 50 Hz for Europe except UK 240 V, 50 Hz for UK and Australia 110 V-120 V / 220 V-240 V, 50/60 Hz convertible for other countries
Wow & flutter.....	0.16 % (DIN)	Dimensions.....	425(W)×132(H)×265(D) mm (16.7×5.2×10.4 inches)
S/N .....	57 dB (Measured via tape with peak recording level) Dolby NR switch ON: Improves up to 5 dB at 1 kHz, 10 dB above 5 kHz	Weight.....	4.4 kg (9.7 lbs)
T.H.D .....	Less than 0.9 %	<b>Standard accessories</b>	
Frequency response		Operator's manual .....	1
Normal.....	30 Hz to 14,000 Hz ± 3 dB	Pin plug cord .....	2

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

# ★ SAFETY INSTRUCTIONS

## PRECAUTIONS DURING SERVICING

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



6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).

7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

## SAFETY CHECK AFTER SERVICING

After servicing, make measurements of leakage-current or resistance in order to determine that exposed parts are acceptably insulated from the supply circuit.

The leakage-current measurement should be done between accessible metal parts (such as chassis, ground terminal, microphone jacks, signal-input/output connectors, etc.) and the earth ground through a resistor of 1500 ohms paralleled with a 0.15  $\mu$ F capacitor, under the unit's normal working conditions. The leakage-current should be less than 0.5 mA rms AC.

The resistance measurement should be done between accessible exposed metal parts and power cord plug prongs with the power switch (if included) "ON". The resistance should be more than 2.2 Mohms.

## ★ INFORMATION

### SYMBOLS FOR PRIMARY DESTINATION

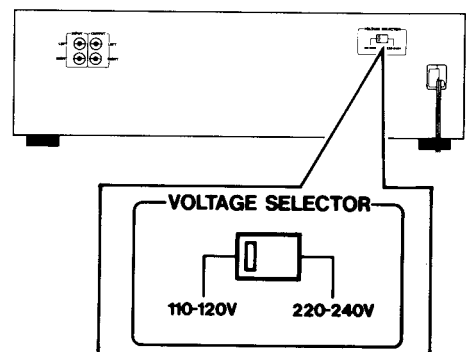
Alphabet indicates the destination of the units as listed below.

Symbols	Principal Destinations
<b>A</b>	USA
<b>B</b>	UK
<b>C</b>	Canada
<b>E</b>	Europe (except UK)
<b>J</b>	Japan
<b>S</b>	Australia
<b>V</b>	W. Germany only
<b>U</b>	Universal Area
<b>Y*</b>	Custom version

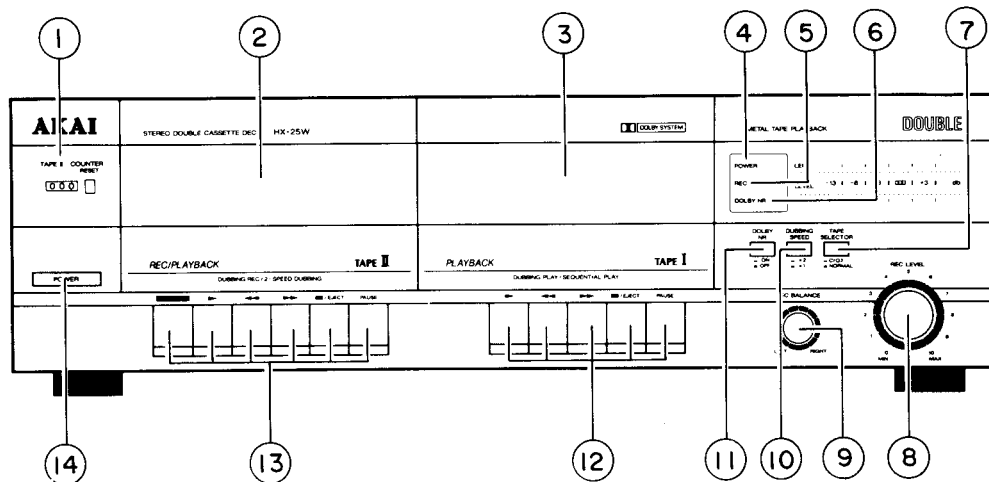
### VOLTAGE CONVERSION

(**U** Model only)

Before connecting the power cord. Set the VOLTAGE SELECTOR located on the rear panel with a screwdriver so that the correct voltage is indicated.



# I. CONTROLS



**1 TAPE COUNTER and RESET Button for the TAPE II deck**  
Tells you how much tape has run during playback or recording. Use the RESET button to reset the tape counter to "000".

**2 TAPE II Cassette Holder and Lid**  
Load a cassette tape here for recording and playback. Does not include auto tape selector.

**3 TAPE I Cassette Holder and Lid**  
Load a cassette tape here for playback. Includes built-in auto tape selector.

**4 POWER Indicator**  
Tells you the cassette deck is turned on.

**5 REC Indicator**  
Tells you the cassette deck is in the recording mode.

**6 LED (Light Emitting Diode) PEAK Level Meter (L: Left/R: Right)**  
Shows recording and playback levels.

**7 TAPE SELECTOR Switch for TAPE II Deck (CrO<sub>2</sub> / NORMAL)**  
To select the tape position (equalization and bias) according to the cassette tape being used.  
**Attention:** Do not change the switch during recording as this may result in the recording and playback head being magnetized.

**8 REC LEVEL Control**  
To set the recording input level. Right and left channel levels are adjusted equally.

**9 REC BALANCE Control (L: Left/R: Right)**  
To set the recording level balance of the left and right channels. Set the control to its center click position for stereo recording.

**10 DUBBING SPEED Switch (x2 / x1)**  
To select the dubbing speed.

**11 DOLBY NR Switch (ON/OFF) and Indicator**  
To record or playback with DOLBY B-type NR system. The indicator will light up when the switch is turned on.

**12 TAPE I Deck Tape Operation Buttons (PAUSE, EJECT, and REVERSE)**  
For tape winding and playback operations.

**13 TAPE II Deck Tape Operation Buttons (REC, PAUSE, EJECT, and REVERSE)**  
For winding tape, playback and recording operations.

**14 POWER Button**  
To turn the power on and off.

## II. DISASSEMBLY

### 1-1 Removal of Top and Bottom Covers

- 1) Remove the screws ① as shown in Fig.1-1 and remove the top cover by sliding it off to the rear.
- 2) The bottom cover can be removed by removing the 6 screws ②

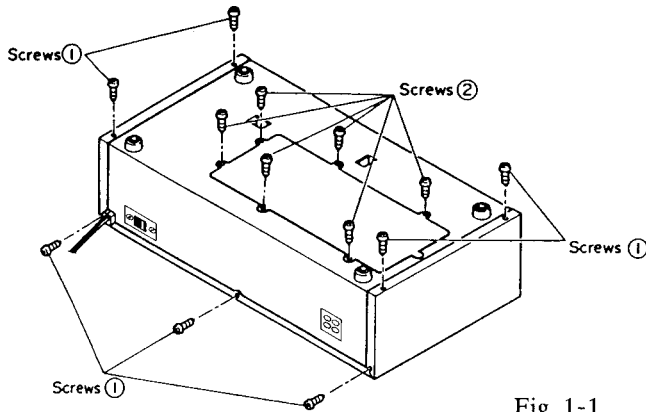


Fig. 1-1

### 1-2 Removal of Front Panel

- 1) Remove the 2 screws ③ on either side of the front panel. The 3 screws ④ on the bottom, and the 1 screw ⑤ on the top, as shown in Fig 1-2.
- 2) Disconnecting all wiring from the Main P.C.B. and the ground lead connected to the mechanism chassis will permit removal of the front panel.

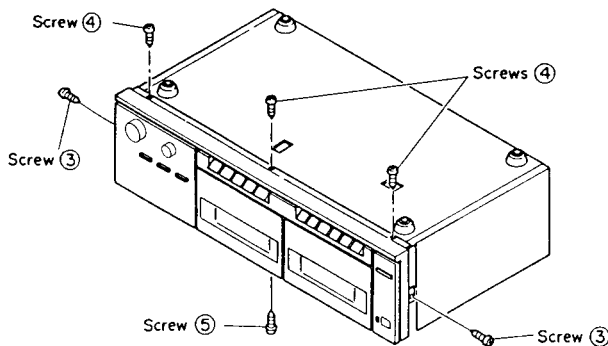


Fig. 1-2

### 1-3 Removal of Mechanism Section

#### 1-3-1 Removal of Mechanism Assembly

- 1) Remove the front panel, following the procedures in section 2.
- 2) The mechanism assembly can be removed by pushing the EJECT button, and removing the 6 screws ⑥ which secure the mechanism assembly. (Fig. 1-3)

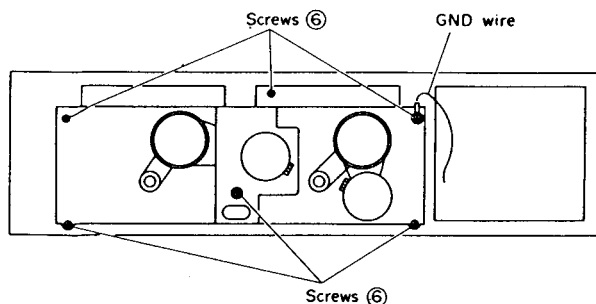


Fig. 1-3

### 1-3-2 Removal of REC/PB, Erase Head and Pinch Roller

- 1) The button assembly can be removed by removing the 2 screws ⑦.
- 2) The REC/PB and Erase heads can be removed by removing their securing screws ⑧ (2 each).
- 3) After replacing the REC/PB head, be sure to carry out the head azimuth adjustment.
- 4) Removing the pinch roller by removing the 1 screw ⑨.

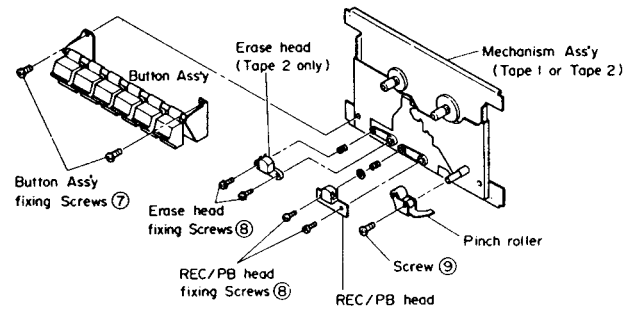


Fig. 1-4

### 1-3-3 Removal of Motor, Flywheel

- 1) Removing the 2 screws ① which secure the motor plate will allow disassembly of the plate with the motor 1 still attached.
- 2) Removing the 2 screws ② which secure the motor 1 will allow the motor 1 to be removed from the plate.
- 3) After the motor 1 has been removed, flywheel 1 can be removed.
- 4) Removing the 6 screws ③ which secure the motor plate will allow disassembly of the plate with the motor 2 still attached.
- 5) Removing the 3 screws ④ which secure the motor 2 will allow the motor 2 to be removed from the plate.
- 6) After the motor 2 has been removed, the flywheel 2 can be removed.

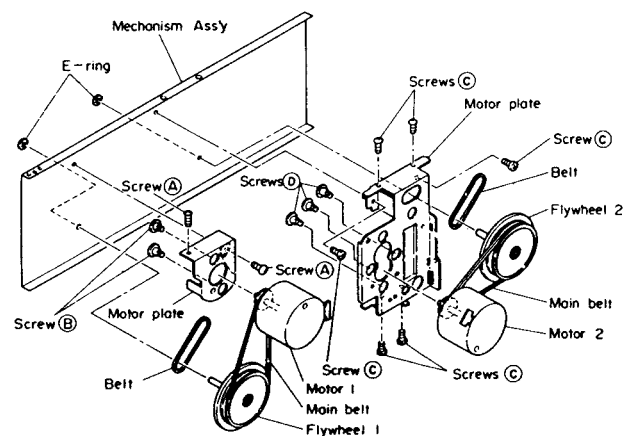


Fig. 1-5

### III. PRINCIPAL PARTS LOCATION

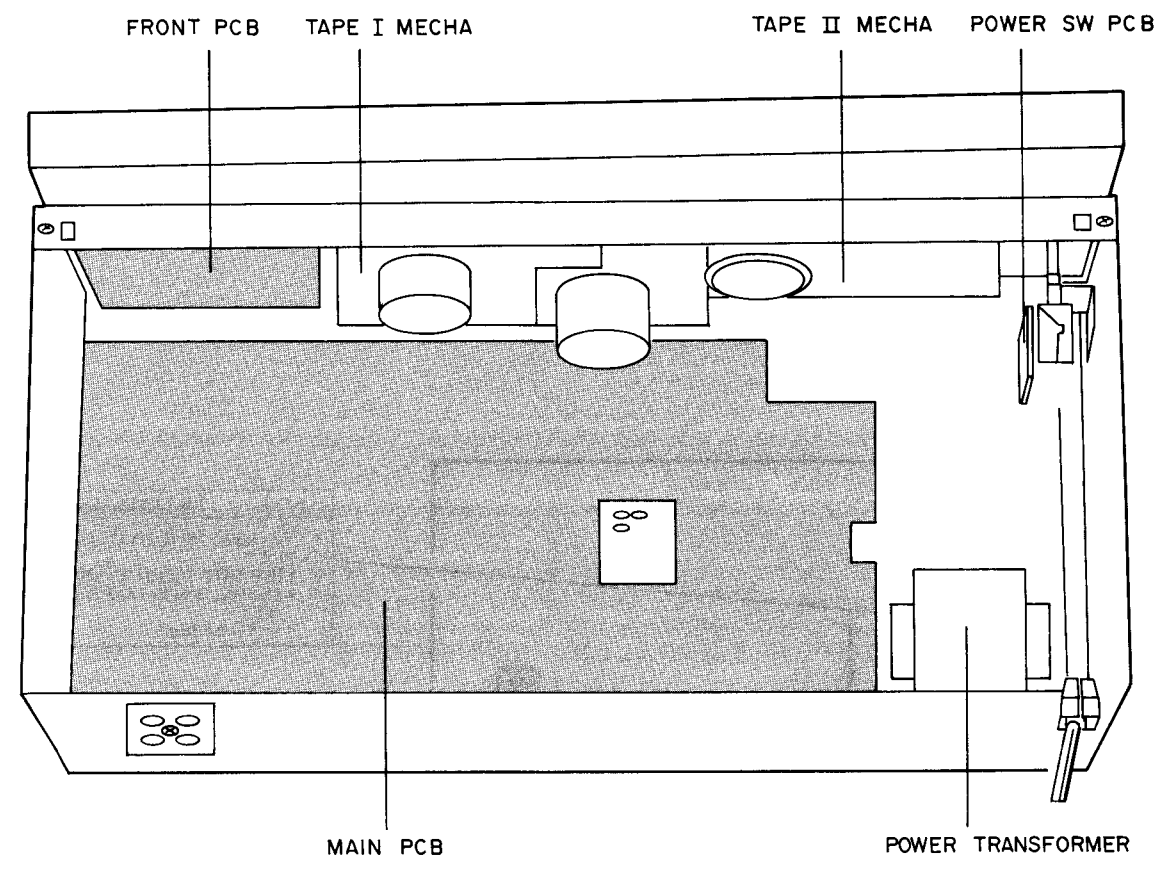


Fig.3-1

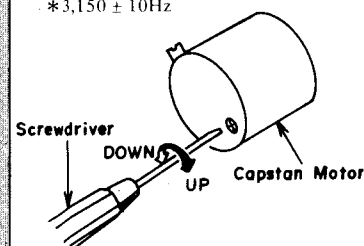
# IV. ADJUSTMENT

Step	Adjustment Item
1.	Test Tape, Input signal
2.	Mode
3.	Test point & Adjustment point
4.	Result & Remarks

ADJUSTMENT PART →  
← TEST POINT

### TAPE SPEED ADJUSTMENT

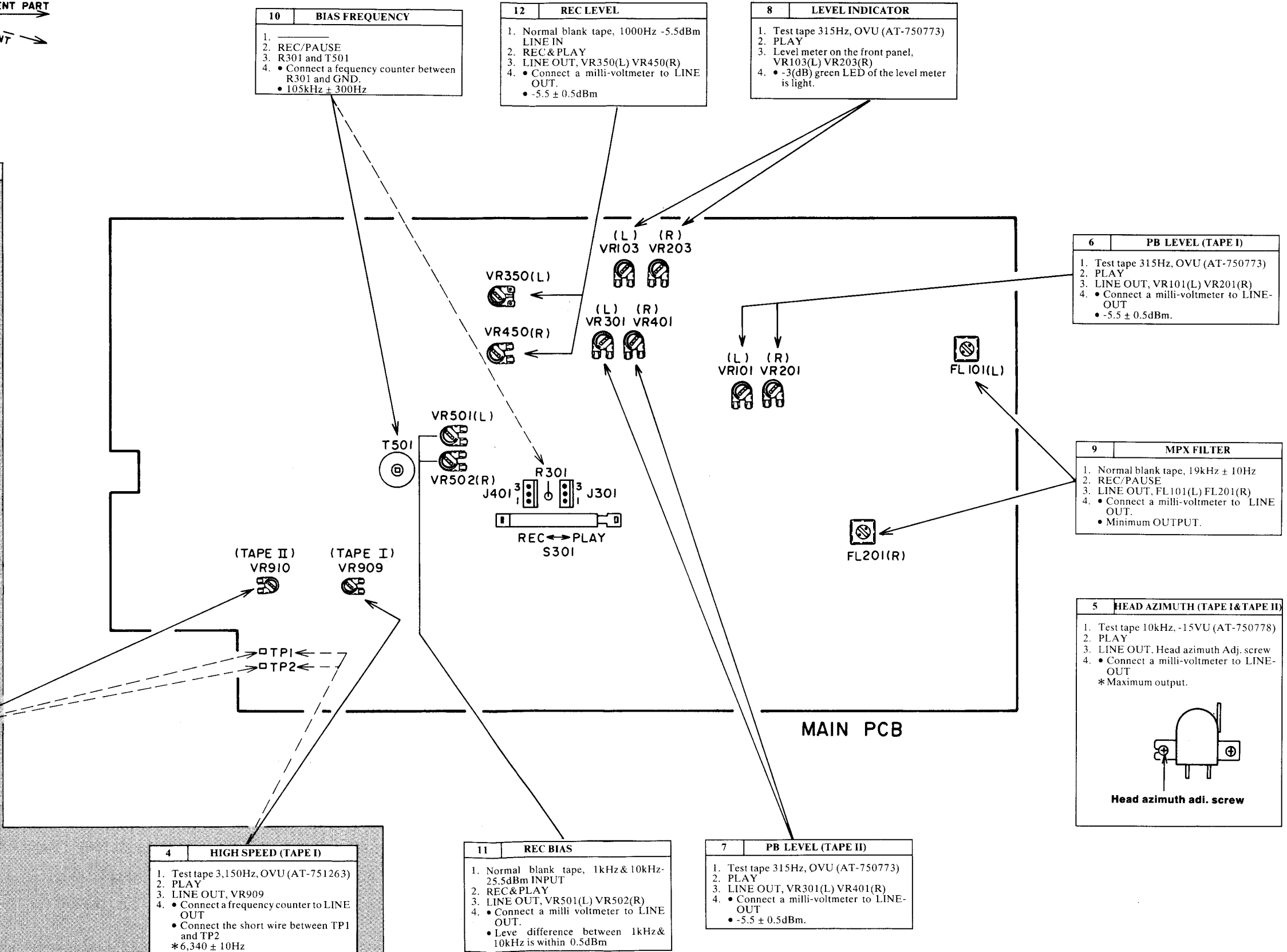
1	NORMAL TAPE SPEED (TAPE II)
1.	Test tape 3,150Hz, OVU (AT-751263)
2.	PLAY
3.	LINE OUT, Capstan motor (TAPE II)
4.	• Connect a frequency counter to LINE OUT. *3,150 ± 10Hz



2	NOMAL TAPE SPEED (TAPE I)
1.	Test tape 3,150Hz, OVU (AT-751263)
2.	PLAY
3.	LINE OUT, Capstan motor (TAPE I)
4.	• Connect a frequency counter to LINE OUT. *3,170 ± 10Hz

3	HIGH SPEED (TAPE II)
1.	Test tape 3,150Hz, OVU (AT-751263)
2.	PLAY
3.	LINE OUT, VR910
4.	• Connect a frequency counter to LINE OUT. • Connect the short wire between TP1 and TP2. *6,300 ± 10Hz

4	HIGH SPEED (TAPE I)
1.	Test tape 3,150Hz, OVU (AT-751263)
2.	PLAY
3.	LINE OUT, VR909
4.	• Connect a frequency counter to LINE OUT. • Connect the short wire between TP1 and TP2. *6,340 ± 10Hz



# V. PARTS LIST

**ATTENTION**

1. When placing an order for parts, be sure to list Part No., Model No. and the description of each part. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.
2. Please make sure that Part No. is correct when ordering. If not, a part different from the one you ordered may be delivered.
3. Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.

## HOW TO USE THIS PARTS LIST

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
4. How to read the Parts List.

a) Mechanism Block

### 2. HEAD BASE BLOCK

REF. NO.	PART NO.	DESCRIPTION
1	BH-T2023A320A	HEAD BASE BLOCK
2	HP-H2206A010A	HEAD R/P PR4-8FU C
3	ZS-477876	PAN20×03STL CMT
4	ZS-536488	BID20×08STL CMT
5	ZG-402895	SP CS ANGLE ADJUST

↑ SP (Service Parts) Classification  
 This number corresponds with the individual parts index number in that figure.

b) PC Board

### 6. MAIN PC BOARD

REF. NO.	PART NO.	DESCRIPTION
IC1	EI-324536	IC HD14049BP
IC2	EI-336801	IC MB8841-564M
C1A	EC-338399	C MMY V 223M 250AC [U,E,B,S]
C1B	EC-350949	C MMY V 223M 250DC [J]
C1C	EC-338397	C MMY V 223M 125AC [C,A]
X1	EI-318384	OSC X'TAL NC-18C

↑ Symbols for primary destination  
 [A]: AAL (U.S.A)    [S]: SAA (Australia)  
 [B]: BEAB (England) [U]: U/T (Universal Area)  
 [C]: CSA (Canada)    [V]: VDE (W. Germany)  
 [E]: CEE (Europe)    [J]: JPN (Japan)    [Y]: Custom Version  
 ↑ SP (Service Parts) Classification  
 These reference symbols correspond with component symbols in the Schematic Diagrams.

The available PC Board Blocks are listed separately.

5. When Part No. is known, Parts Index at end of Parts List can be used to locate where that part is shown in Parts List by its Reference No. listed at right of Part No.

**WARNING**

**△(\*) INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS.**

**AVERTISSEMENT**

**△(\*) IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.**

## 1. RECOMMENDED SPARE PARTS

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

Ref. No.	Part No.	Description
1	*BA-729389T	TRANS POW HX-25W (E,V) [E,V]
2	*BA-729387T	TRANS POW HX-25W(U) [U]
3	BB-729380T	MECHA BLK HX-25W
4	BM-720761	MOTOR M9H12U16-4CCW
5	*BT-729388T	TRANS POW HX-25W(B,S) [B,S]
6	ED-720783	D LED LTL-3233A GREEN
7	ED-720784	D LED LTL-3293A YELLOW
8	ED-327057	D SILICON H DS442X
9	*ED-348990	D SILICON H DS446
10	*ED-720805	D SILICON H 1N5393
11	ED-720799	D ZENER H RD11E B3
12	ED-724103J	D ZENER RD15ES B3
13	*EF-358641	FUSE BET T 250V 800MA
14	EH-720815	FILTER KM-10DF
15	EI-345551	IC LB1403
16	EI-709250	IC M51522L
17	EI-310036	IC TC4066BP
18	EI-720804	IC UPC1210C
19	EO-720816	COIL OSC MC-129J [BIAS OSC]
20	ES-720768	SW LEAF MSW-1275
21	ES-720769	SW LEAF MSW-1373NBK [PLAY]
22	ES-726489J	SW LEAF MSW-1541T
23	ES-726523J	SW LEAF MSW-1664 [TAPE SELECTOR]
24	ES-722984T	SW PUSH [REC]
25	*ES-720817	SW PUSH 125V 10A
26	*ES-725477T	SW SLIDE [U]
27	ES-720798	SW SLIDE CL104K E8234438M [REC/PB]
28	*ET-375780	TR FET 2SK381 E F05
29	ET-308472	TR 2SA1115 E,F,G F05
30	*ET-666393	TR 2SC1211 E,F
31	ET-338410	TR 2SC2878 A,B
32	ET-360137	TR 2SC3330 U,V F05
33	*ET-371028	TR 2SD1266 P,Q
34	EV-725459T	VR [REC BALANCE]
35	EV-727058T	VR W VB161GPV25F-15A 503 [REC LEVEL]
36	*EZ-371605	BUSH CORD 2271
37	HE-720760	HEAD E
38	HP-720759	HEAD R/P HX-A305W
39	MB-720770	BELT COUNTER
40	MB-717803	BELT MAIN
41	MB-717820	BELT MAIN P
42	MB-726455J	BELT RF
43	MC-720777	COUNTER HX-A305W
44	MR-719575	MOTOR PULLEY

## 2. MECHA BLOCK

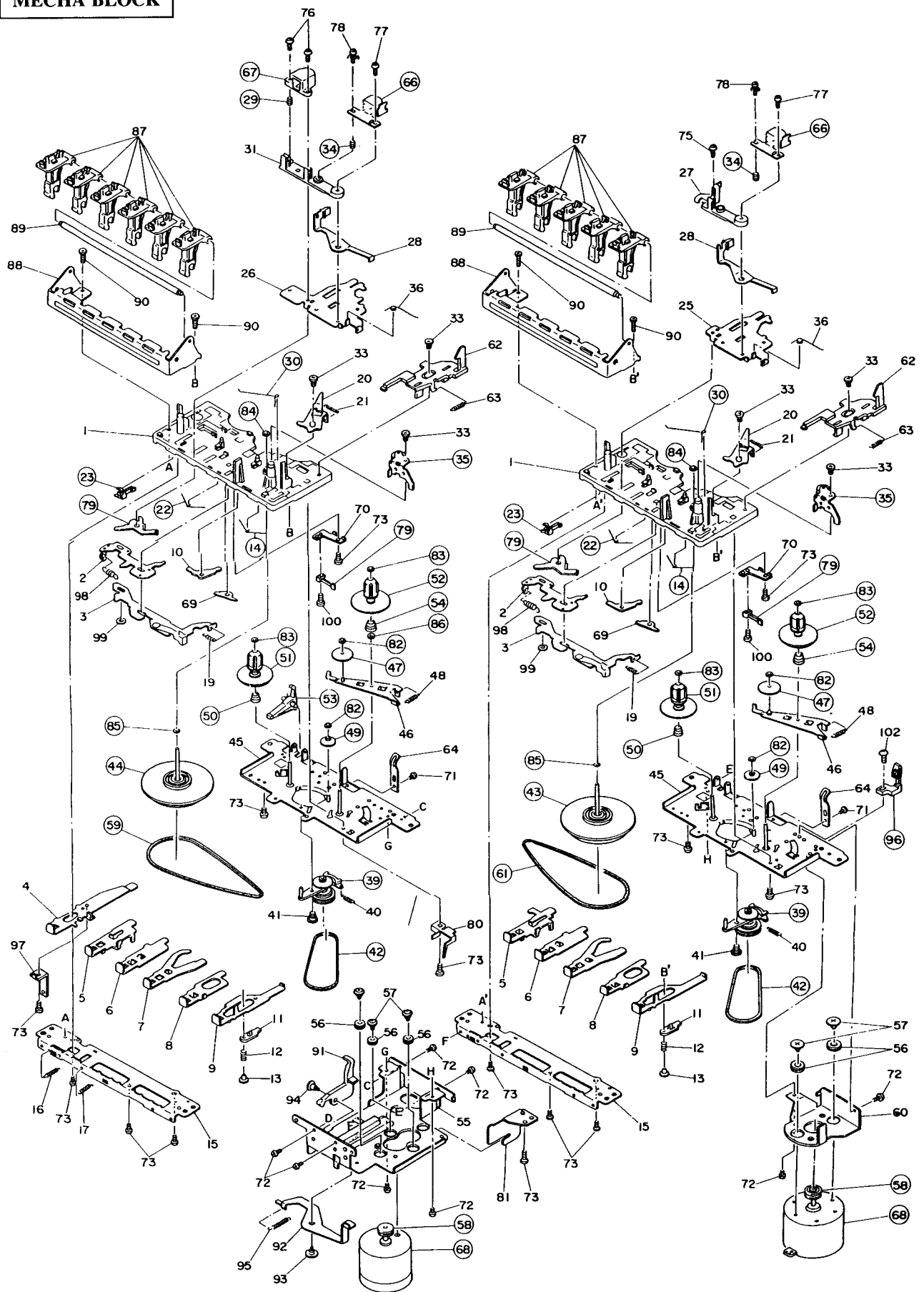
Ref. No.	Part No.	Description
11	ML-717774	LEVER PAUSE
12	ZG-717775	SP PAUSE LEVER
13	MZ-717776	STOPPER PAUSE
14	ZG-717777	SP BUTTON LEVER(C)
22	ZG-726488J	SP BUTTON LEVER (E)
23	ES-726489J	SW LEAF MSW-1541T
27	HZ-717780	HEAD BASE
28	ML-717781	LEVER DETECTION
29	ZG-717782	SP EH
30	ZG-717784	SP HEAD PANEL (S)
31	HZ-717785	HEAD BASE
34	ZG-717786	SP AZIMUTH
35	ML-717787	ARM PINCH ROLLER PART R/P
36	ZG-717788	SP PINCH ROLLER R/P
39	BL-721068	PULLEY RF ASSY
40	ZG-726497J	SP RF PULLEY ARM
42	MB-726455J	BELT RF
43	BF-717792	FLYWHEEL PART P
44	BF-717793	FLYWHEEL ASSY
47	MI-726456J	GEAR TAKE-UP
49	MZ-717796	GEAR FF
50	ZG-726504J	SP BACK TENSION
51	BR-726505J	SUPPLY REEL ASSY
52	BR-717799	TAKE-UP REEL TABLE BLK
53	ML-717800	LEVER REC DETECTION
54	ZG-717801	SP BACK TENSION TU
56	MB-726509J	CUSHION MOTOR
57	ZS-725791J	SCREW COLLAR
58	MR-719575	MOTOR PULLEY
59	MB-717803	BELT MAIN
61	MB-717820	BELT MAIN P
62	ML-726511J	LEVER EJECT SLIDE
63	ZG-717806	SP LEVER SLIDE EJECT
64	SP-726512J	SP CASSETTE PACK
66	HP-720759	HEAD R/P HX-A305W
67	HE-720760	HEAD E
68	BM-720761	MOTOR M9H12U16-4CCW
78	ZS-717809	SCREW AZIMUTH
79	ES-720769	SW LEAF MSW-1373NBK [PLAY]
82	ZW-720762	PW12X030X025NYL
83	ZW-720763	PW 12X20X04NYL
84	ZW-726518J	WASHER CUT1.55X3.8X0.5
85	ZW-720766	PW205X400X040NYL
87	ML-717811	LEVER OPERATION
90	ZS-362011	(+)PAN20X07STL BNI
96	ES-726523J	SW LEAF MSW-1664 [TAPE SELECTOR]
142	ML-361092	LEVER OPERATION (2) PART
150	ML-361090	LEVER OPERATION (1) PART

### NOTE:

Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.



**MECHA BLOCK**



### 3. P.C BOARD BLOCK

Ref. No.	Part No.	Description
1A	BA-729386T	PC MAIN BLK HX-25W (B,E,S,V)
1B	BA-729385T	PC MAIN BLK HX-25W (U)

### 4. MAIN P.C BOARD

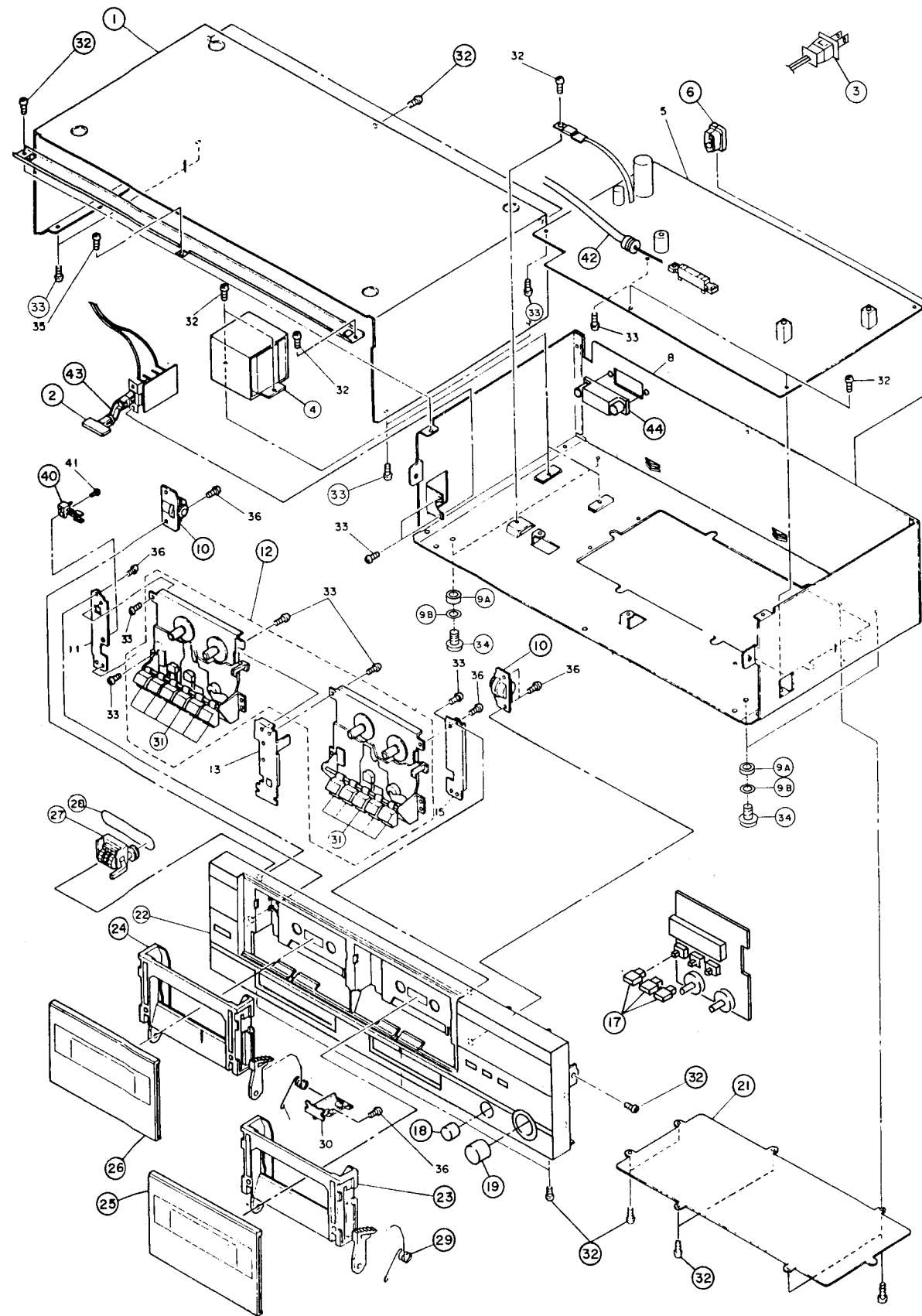
Ref. No.	Part No.	Description
D301	ED-327057	D SILICON H DS442X
D302	ED-327057	D SILICON H DS442X
D303	ED-327057	D SILICON H DS442X
D501	ED-327057	D SILICON H DS442X
D502	ED-327057	D SILICON H DS442X
D601	*ED-720805	D SILICON H 1N5393
D602	*ED-720805	D SILICON H 1N5393
D603	*ED-348990	D SILICON H DS446
D604	ED-724103J	D ZENER RD15ES B3
D605	ED-720799	D ZENER H RD11E B3
D606	ED-327057	D SILICON H DS442X
D607	*ED-348990	D SILICON H DS446
D901	ED-327057	D SILICON H DS442X
D902	ED-327057	D SILICON H DS442X
D903	ED-327057	D SILICON H DS442X
D904	ED-327057	D SILICON H DS442X
D905	ED-327057	D SILICON H DS442X
D906	ED-327057	D SILICON H DS442X
D907	ED-327057	D SILICON H DS442X
D908	ED-327057	D SILICON H DS442X
D909	ED-327057	D SILICON H DS442X
D910	ED-327057	D SILICON H DS442X
D911	ED-327057	D SILICON H DS442X
D912	ED-327057	D SILICON H DS442X
D915	ED-327057	D SILICON H DS442X
FL101	EH-720815	FILTER KM-10DF
FL201	EH-720815	FILTER KM-10DF
IC101	EI-709250	IC M51522L
IC102	EI-310036	IC TC4066BP
IC103	EI-720804	IC UPC1210C
IC203	EI-720804	IC UPC1210C
IC301	EI-709250	IC M51522L
IC302	EI-310036	IC TC4066BP
L350	EO-720814	COIL FIX 153J V3615031-G
L351	EO-720813	COIL FIX 472J
L450	EO-720814	COIL FIX 153J V3615031-G
L451	EO-720813	COIL FIX 472J
Q101	ET-360137	TR 2SC3330 U,V F05
Q102	ET-360137	TR 2SC3330 U,V F05
Q103	ET-360137	TR 2SC3330 U,V F05
Q104	ET-338410	TR 2SC2878 A,B
Q105	ET-360137	TR 2SC3330 U,V F05
Q106	ET-360137	TR 2SC3330 U,V F05
Q201	ET-360137	TR 2SC3330 U,V F05
Q202	ET-360137	TR 2SC3330 U,V F05
Q203	ET-360137	TR 2SC3330 U,V F05
Q204	ET-338410	TR 2SC2878 A,B
Q205	ET-360137	TR 2SC3330 U,V F05
Q301	ET-360137	TR 2SC3330 U,V F05
Q302	ET-308472	TR 2SA1115 E,F,G F05
Q303	ET-360137	TR 2SC3330 U,V F05
Q350	ET-360137	TR 2SC3330 U,V F05
Q351	ET-360137	TR 2SC3330 U,V F05
Q352	ET-360137	TR 2SC3330 U,V F05
Q353	ET-360137	TR 2SC3330 U,V F05
Q401	ET-360137	TR 2SC3330 U,V F05
Q450	ET-360137	TR 2SC3330 U,V F05
Q451	ET-360137	TR 2SC3330 U,V F05
Q452	ET-360137	TR 2SC3330 U,V F05
Q453	ET-360137	TR 2SC3330 U,V F05
Q501	ET-360137	TR 2SC3330 U,V F05
Q502	ET-330225	TR 2SC1815 BL
Q503	ET-330225	TR 2SC1815 BL
Q504	ET-360137	TR 2SC3330 U,V F05

Ref. No.	Part No.	Description
Q601	*ET-375780	TR FET 2SK381 E F05
Q602	*ET-666393	TR 2SC1211 E,F
Q603	*ET-371028	TR 2SD1266 P,Q
Q604	*ET-360137	TR 2SC3330 U,V F05
Q605	ET-360137	TR 2SC3330 U,V F05
Q606	ET-360137	TR 2SC3330 U,V F05
Q901	ET-308472	TR 2SA1115 E,F,G F05
Q902	ET-360137	TR 2SC3330 U,V F05
Q903	ET-360137	TR 2SC3330 U,V F05
Q904	ET-308472	TR 2SA1115 E,F,G F05
Q906	ET-360137	TR 2SC3330 U,V F05
Q907	ET-360137	TR 2SC3330 U,V F05
Q909	ET-308472	TR 2SA1115 E,F,G F05
Q910	ET-308472	TR 2SA1115 E,F,G F05
R927	ER-720801	R THERMO H 1/4S 150-J LT2600
R928	ER-720801	R THERMO H 1/4S 150-J LT2600
R929	ER-720800	R THERMO 1/4S 1.6K-J LT0700
R930	ER-720800	R THERMO 1/4S 1.6K-J LT0700
S301	ES-720798	SW SLIDE CL104K E8234438M [REC/PB]
T501	EO-720816	COIL OSC MC-129J [BIAS OSC]
VR101	EV-720807	R S-FIX H V8EK-PV 0.20W 223
VR103	EV-720809	R S-FIX H V8EK-PV 0.20W 473
VR201	EV-720807	R S-FIX H V8EK-PV 0.20W 223
VR203	EV-720809	R S-FIX H V8EK-PV 0.20W 473
VR301	EV-720807	R S-FIX H V8EK-PV 0.20W 223
VR350	EV-720807	R S-FIX H V8EK-PV 0.20W 223
VR401	EV-720807	R S-FIX H V8EK-PV 0.20W 223
VR450	EV-720807	R S-FIX H V8EK-PV 0.20W 223
VR501	EV-355120	R S-FIX H V8EK-PV 0.20W 104
VR502	EV-355120	R S-FIX H V8EK-PV 0.20W 104
VR909	EV-371287	R S-FIX H VM6CKPVB 0.30W 204
VR910	EV-371287	R S-FIX H VM6CKPVB 0.30W 204
F1	*EF-358641	FUSE BET T 250V 800MA

### 5. FRONT P.C BOARD

Ref. No.	Part No.	Description
D701	ED-720783	D LED LTL-3233A GREEN
D702	ED-720783	D LED LTL-3233A GREEN
D703	ED-720783	D LED LTL-3233A GREEN
D704	ED-720784	D LED LTL-3293A YELLOW
D705	ED-720784	D LED LTL-3293A YELLOW
D801	ED-720783	D LED LTL-3233A GREEN
D802	ED-720783	D LED LTL-3233A GREEN
D803	ED-720783	D LED LTL-3233A GREEN
D804	ED-720784	D LED LTL-3293A YELLOW
D805	ED-720784	D LED LTL-3293A YELLOW
D930	ED-720784	D LED LTL-3293A YELLOW [REC]
D940	ED-720784	D LED LTL-3293A YELLOW [POWER]
D950	ED-720783	D LED LTL-3233A GREEN [DOLBY NR]
IC701	EI-345551	IC LB1403
IC801	EI-345551	IC LB1403
S930	ES-722984T	SW PUSH [REC]
S940	ES-722984T	SW PUSH [DUB SPEED]
S950	ES-722984T	SW PUSH [DOLBY NR]
VR1	EV-725459T	VR [REC BALANCE]
VR2	EV-727058T	VR W VB161GPV25F-15A 503 [REC LEVEL]

**FINAL ASSEMBLY BLOCK**



**6. POWER SW P.C BOARD**

Ref. No.	Part No.	Description
C1	*EC-338496	C CE V DE7 FZ 472P 400AC
S1	*ES-720817	SW PUSH 125V 10A

**7. FINAL ASSEMBLY BLOCK**

Ref. No.	Part No.	Description
1	SP-727052T	COVER UPPER HX-A335W
2	SK-720593	KNOB POWER
3A	*EW-374894	AC CORD 2C VM-0129A,VFF U/T [U]
3B	*EW-347897	AC CORD 2 CORES VM0364,LCFL EV [E,V]
3C	*EW-727063T	AC CORD BS6500 (B) [B]
3D	*EW-347898	AC CORD 2 CORES VM-0436,LCFL S [S]
4A	*BA-729387T	TRANS POW HX-25W(U) [U]
4B	*BA-729389T	TRANS POW HX-25W (E,V) [E,V]
4C	*BT-729388T	TRANS POW HX-25W(B,S) [B,S]
6	*EZ-371605	BUSH CORD 2271
9-A	SA-729420T	LEG AM-25
9-B	SA-729419T	CUSHION LEG
10	MZ-720774	DUMPER
12	BB-729380T	MECHA BLK HX-25W
17	SK-725476T	KNOB PUSH-B
18	SK-727055T	KNOB BALANCE
19	SK-727056T	KNOB TONE
21	SP-727062T	LOWER COVER HX-A335W
22	BD-729382T	PANEL FRONT BLK HX-25W
23	SZ-721063	HOLDER PL
24	SZ-721063	HOLDER PL
25	BD-729378T	LID CASSETTE TAPE-1
26	BD-729379T	LID CASSETTE TAPE-2
27	MC-720777	COUNTER HX-A305W
28	MB-720770	BELT COUNTER
29	ZG-729384T	SP T.D.C.
31	SK-729381T	KNOB DECK
32	ZS-447761	T2BR30X08STL BNI
33	ZS-366385	T2BR30X08STL BNI PROJECTION
34	ZS-346048	T2BR30X08STL BNI C080
40	ES-720768	SW LEAF MSW-1275
42	MZ-720772	JOINT REC
43	MZ-727061T	LINK POWER
44	*ES-725477T	SW SLIDE [U]
100	EW-728318T	CORD PIN-PIN/2P

NOTE:  
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

# INDEX

Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
BA-729385T	3-1B	EI-720804	1-18	EV-371287	4-VR909	ZS-366385	7-33
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ED-327057	4-D502	ES-725477T	7-44	HZ-717785	2-31		
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ED-327057	4-D901	ES-726489J	2-23	MB-717803	2-59		
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ED-327057	4-D903	ES-726523J	2-96	MB-717820	2-61		
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EI-345551	5-IC801	ET-666393	1-30	ZG-726504J	2-50		
EI-709250	1-16	ET-666393	4-Q602	ZG-729384T	7-29		
EI-709250	4-IC101	EV-355120	4-VR501	ZS-346048	7-34		
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# MEMO

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**MEMO**

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# ABBREVIATIONS FOR SERVICE MANUAL (CASSETTE)

Abbreviation	Explanation	Abbreviation	Explanation
AC	Alternating Current	MIN	MINute
A/D	Analog/Digital	MML	Maximum Modulation Level
AF	Auto Fader	MOL	Maximum Output Level
AMP	AMPlifier	MPX	Multi PleX
AR	Anti Recording	NC	Not Connected (No Connection)
AT BIAS	Auto Turning BIAS	NFB	Negative Feed Back
ATT	ATTenuator	NORM	NORMal
BAL	BALance	NR	Noise Reduction
BEF	Band Elimination Filter	OSC	OSCillator (OSCillation)
BSS	Blank Search System	P	Pulse
CAP M	CAPstan Motor	PB	Play Back
CH	CHannel	QMSS	Quick Memory Search System
COMP	COMParator	QR	Quick Reverse
CONT	CONTinuance	R CH	Right CHannel
CRLP	Computer Recording Level Proces- sing	REC	RECOrd (RECOding)
CS	Chip Select	REV	REVerse
D/A	Digital/Analog	ROT	ROtation
DC	Direct current	REW	REWind
DET	DETECTOR	SEC	SECOnd
DISCRI	DISCRIminator	SELE	SELEctor
DUB	DUBbing	SENS	SENSitivity
EQ	EQualizer	SEPP	Single Ended Push Pull
FF (or F.FWD)	Fast Foward	SIG	SIGnal
FLD	FLuoresent Display	SPECT	SPECTrum
FREQ	FREQUency	STD	STANdard
FWD	ForWARd	SW	SWitch
GND	GrouND	SYSCON	SYStem CONtrol
H	High	TP	Test Point
HPF	High Pass Filter	TRIG	TRIGa
IND	INDicator	VCA	Voltage Control Attenuator
IPLS	Instant Program Location System	VOL	VOLume
L	Low	VOLT	VOLTage
L CH	Left CHannel	VR	Variable Resistor
LED	Light Emitining Diode	X'TAL	cysTAL
MEMO	MEMOry	X1	Normal speed
MICOM	MICROCOMputer	X2	Dubble speed

# **AKAI**

**MODEL HX-25W**

## **SCHEMATIC DIAGRAMS AND PC BOARDS**

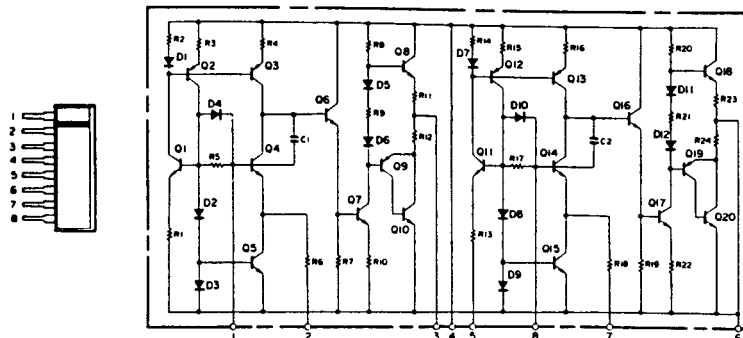
### TABLE OF CONTENTS

1. ICs .....	2
2. BLOCK DIAGRAM .....	3
3. SCHEMATIC DIAGRAM.....	4
4. MAIN PC BOARD, FRONT END PC BOARD AND POWER PC BOARD .....	5
5. WIRING DIAGRAM .....	6

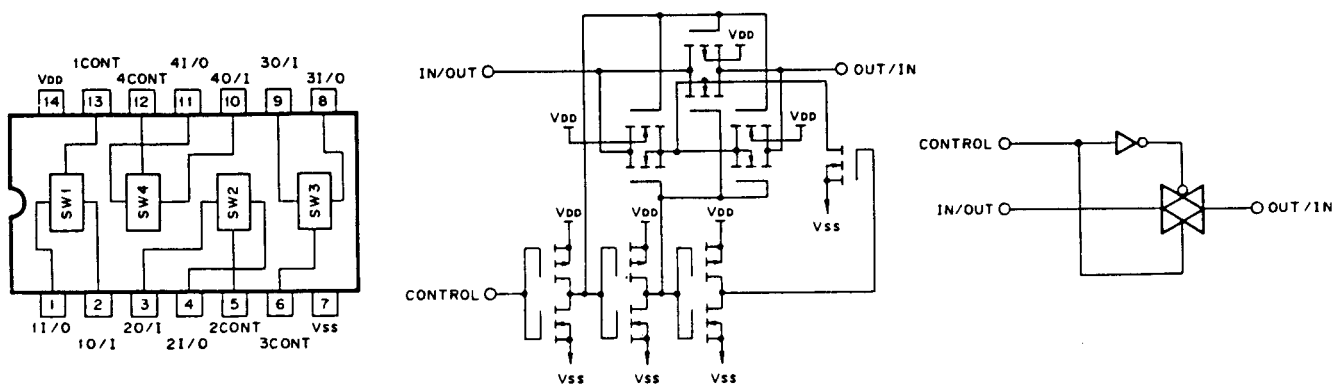


# INTERNAL DIAGRAMS AND PINOUT OF INTEGRATED CIRCUITS

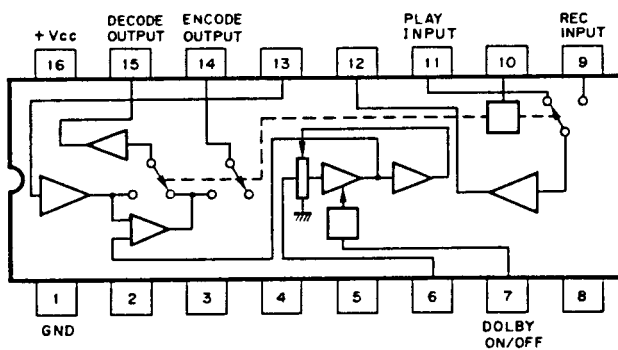
IC101, IC301 : M51522L



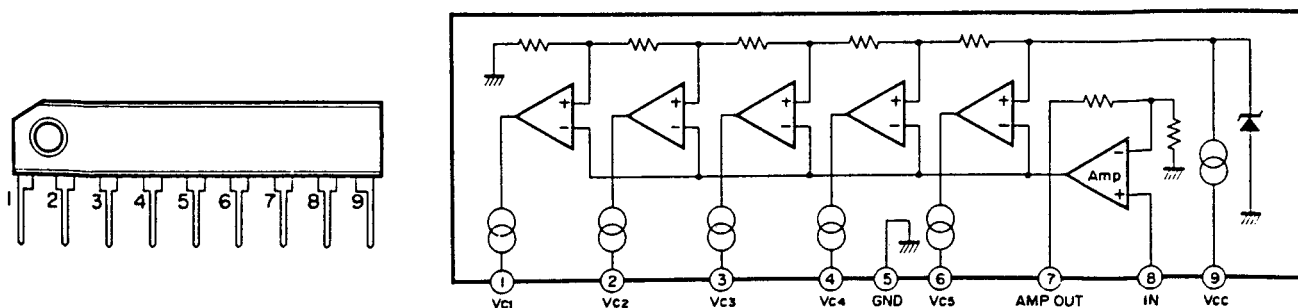
IC102, IC302 : CD4066B, BU4066B

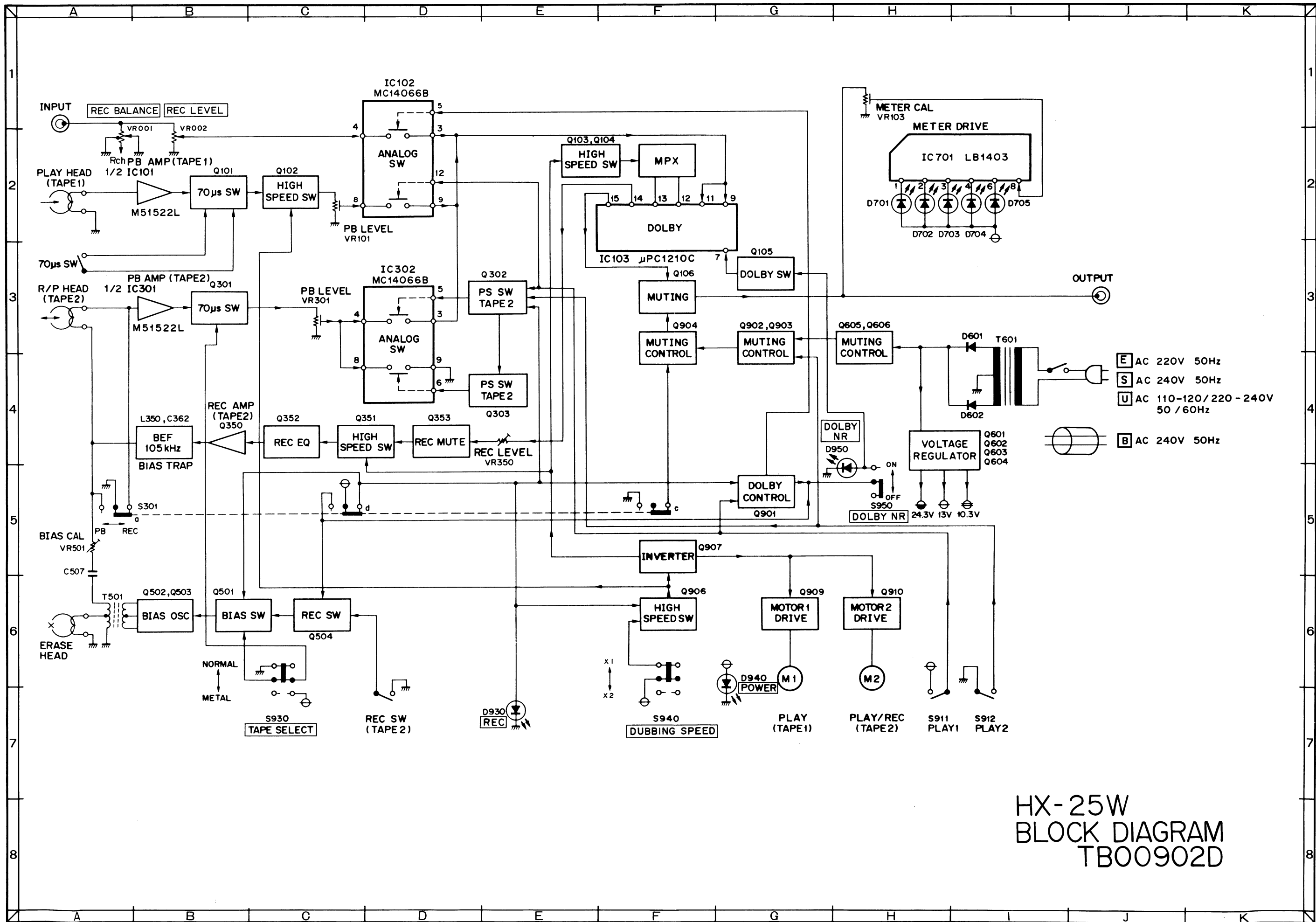


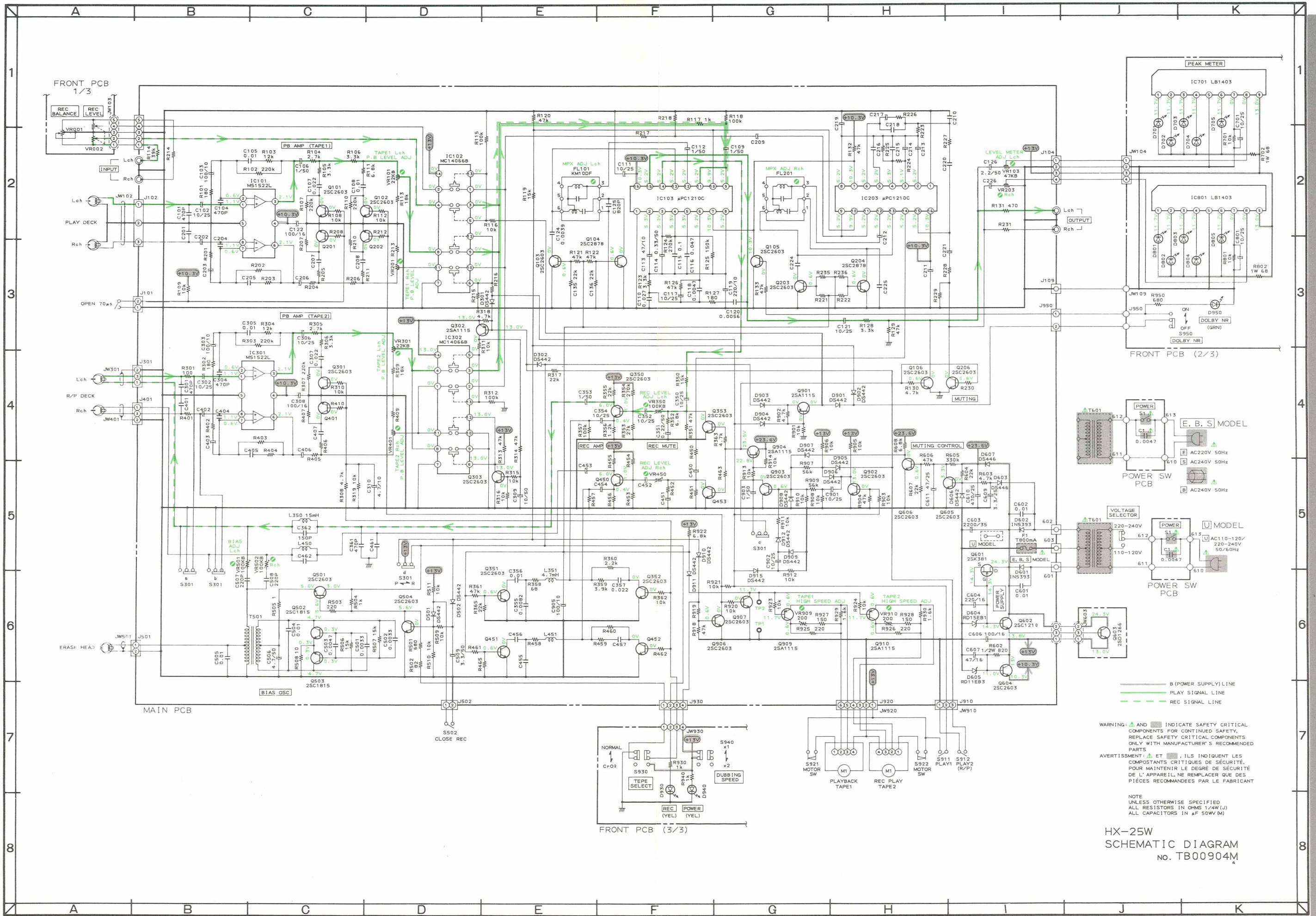
IC103, IC203 :  $\mu$ PC1210C



IC701, IC801 : LB1403







WARNING: AND INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.  
 AVERTISSEMENT: ET ILS INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.

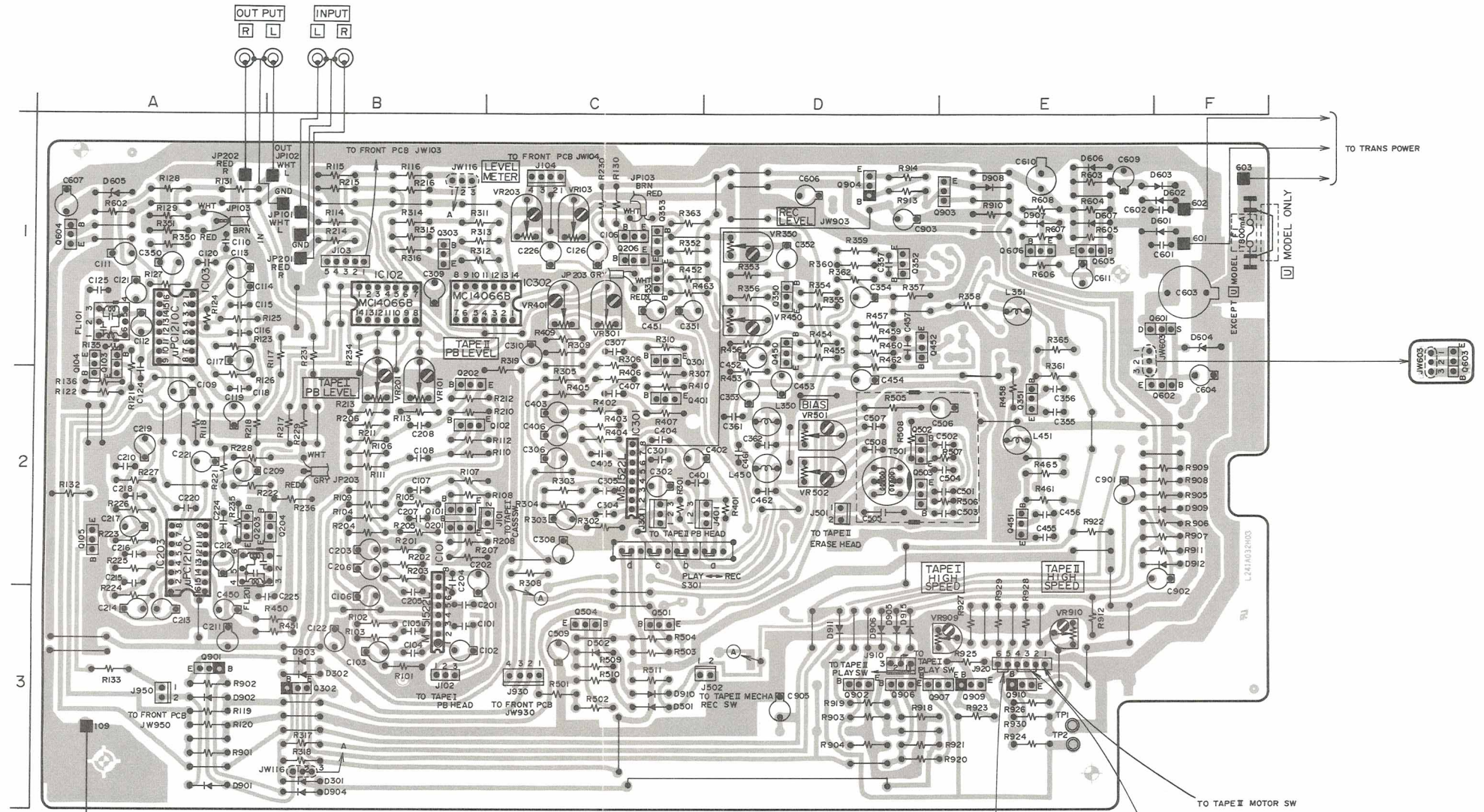
NOTE  
 UNLESS OTHERWISE SPECIFIED  
 ALL RESISTORS IN OHMS 1/4W (J)  
 ALL CAPACITORS IN  $\mu$ F 50WV (M)

HX-25W  
 SCHEMATIC DIAGRAM  
 NO. TB00904M



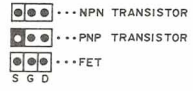
LOCATION OF COMPONENT

IC	CONNECTOR
IC101.....B3	J101.....C2
IC102.....B1	J102.....B3
IC103.....A1	J103.....B1
IC203.....A2	J104.....C1
IC301.....C2	J301.....C2
IC302.....C1	J401.....C2
	J501.....D2
TR	J502.....D3
Q101.....B2	J910.....D3
Q102.....B2	J920.....E3
Q103.....A1	J930.....C3
Q104.....A1	J950.....A3
Q105.....A2	
Q106.....C1	
Q201.....B2	
Q202.....B2	
Q203.....A2	
Q204.....B2	
Q206.....C1	
Q301.....C2	
Q302.....B3	
Q303.....B1	
Q350.....D1	
Q351.....E2	
Q352.....D1	
Q353.....C1	
Q401.....C2	
Q450.....D1	
Q451.....E2	
Q452.....D1	
Q453.....C1	
Q501.....C3	
Q502.....D2	
Q503.....D2	
Q504.....C3	
Q601.....F1	
Q602.....F2	
Q603.....	
Q604.....A1	
Q605.....E1	
Q606.....E1	
Q901.....A3	
Q902.....D3	
Q903.....E1	
Q904.....D1	
Q906.....D3	
Q907.....E3	
Q909.....E3	
Q910.....E3	

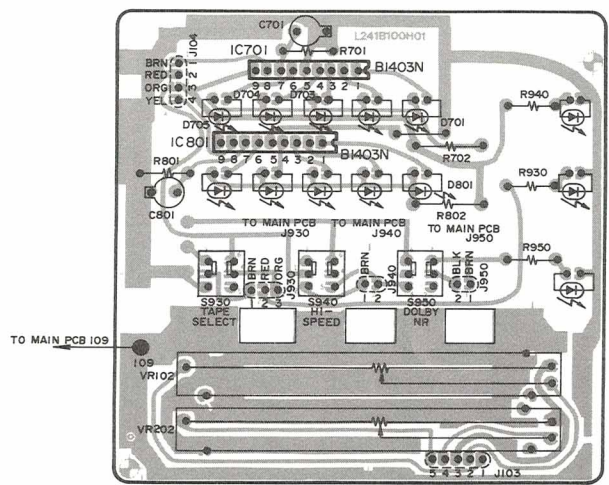


777 CHASSIS GND

MAIN PCB

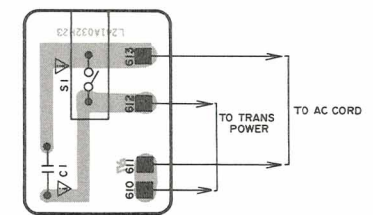


- 2SC2603
- Q101, Q102, Q103, Q105, Q106
- Q201, Q202, Q203, Q206, Q301
- Q303, Q350, Q351, Q352, Q353
- Q401, Q450, Q451, Q452, Q453
- Q501, Q504, Q604, Q605, Q606
- Q902, Q903, Q906, Q907,
- 2SC2878
- Q104, Q204,
- 2SA1115
- Q302, Q901, Q904, Q909, Q910
- 2SC1815
- Q502, Q503
- 2SK381
- Q601
- 2SC1210
- Q602
- 2SD1266
- Q603

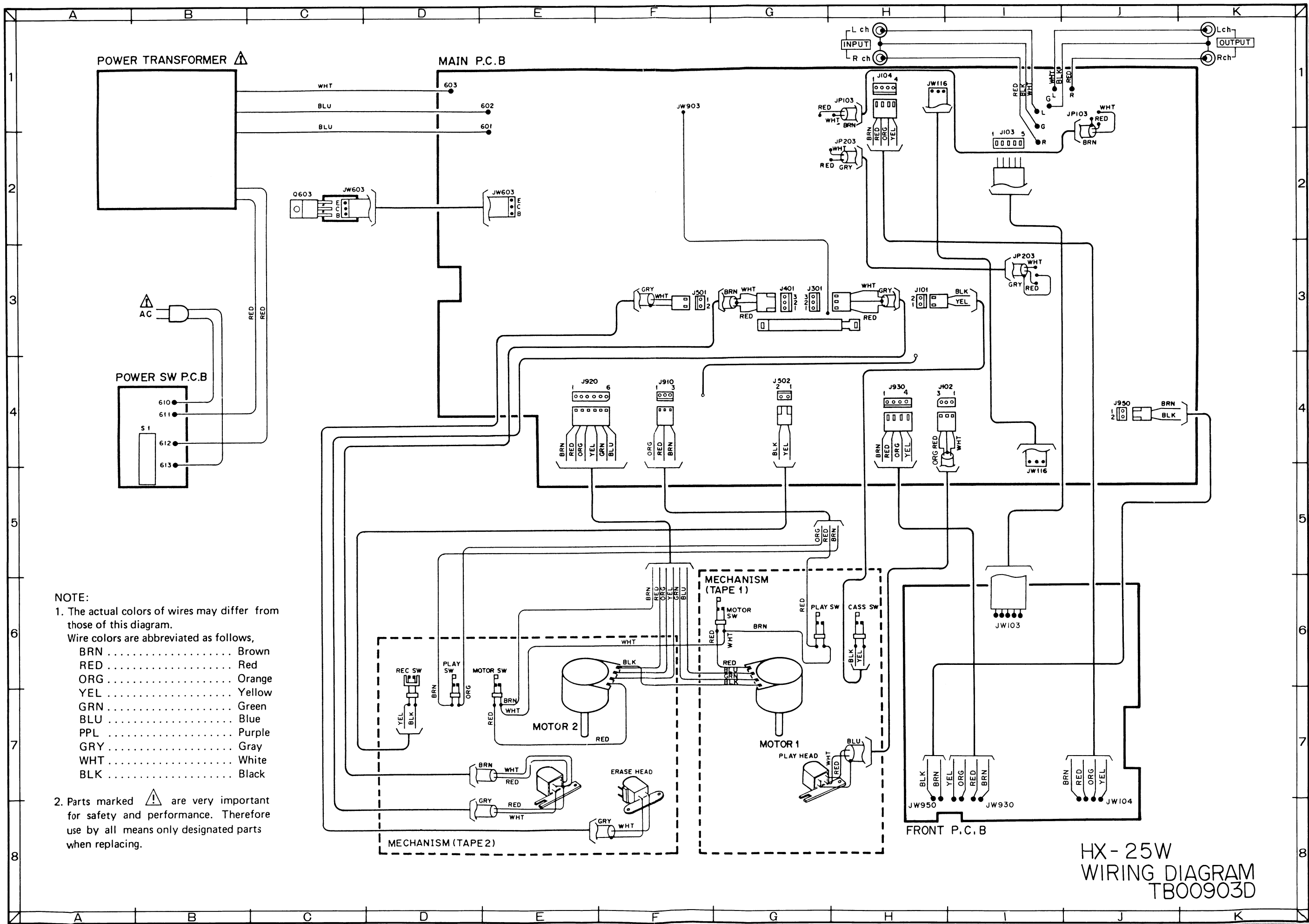


FRONT PCB

WARNING:  $\Delta$  INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.  
 AVERTISSEMENT:  $\Delta$  IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT



POWER SW PCB



**NOTE:**

1. The actual colors of wires may differ from those of this diagram.

- Wire colors are abbreviated as follows,
- BRN ..... Brown
  - RED ..... Red
  - ORG ..... Orange
  - YEL ..... Yellow
  - GRN ..... Green
  - BLU ..... Blue
  - PPL ..... Purple
  - GRY ..... Gray
  - WHT ..... White
  - BLK ..... Black

2. Parts marked are very important for safety and performance. Therefore use by all means only designated parts when replacing.

HX-25W  
WIRING DIAGRAM  
TBO0903D