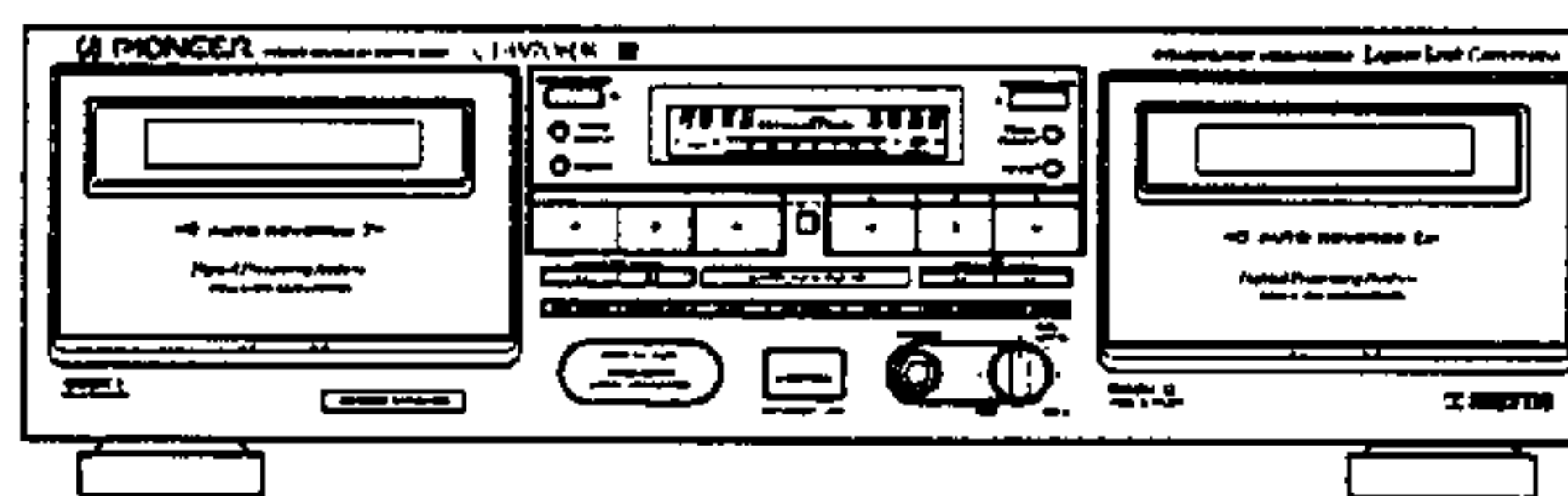


Service Manual

PIONEER
The Art of Entertainment



• The above illustration shows CT-W706DR.

ORDER NO.
RRV1784

STEREO DOUBLE CASSETTE DECK

CT-W706DR

CT-W606DR

CT-05D

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model			Power requirement	Remarks
	CT-W706DR	CT-W606DR	CT-05D		
HYXJ	○	○	—	AC 220-230V	—
HVXJ	—	○	—	AC 230-240V	—
HPWXJ	—	○	—	AC 230-240V	—
SDXJ	○	○	—	AC 110/120-127/220/230-240V	With the voltage selector
SLXJ	—	○	—	AC 110/120-127/220/230-240V	With the voltage selector
KUXJ/CA	—	—	○	AC 120V	—

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1. SAFETY INFORMATION

This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safety repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safety, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5). When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols  (fast operating fuse) and/or  (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible  (fusible de type rapide) et/ou  (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

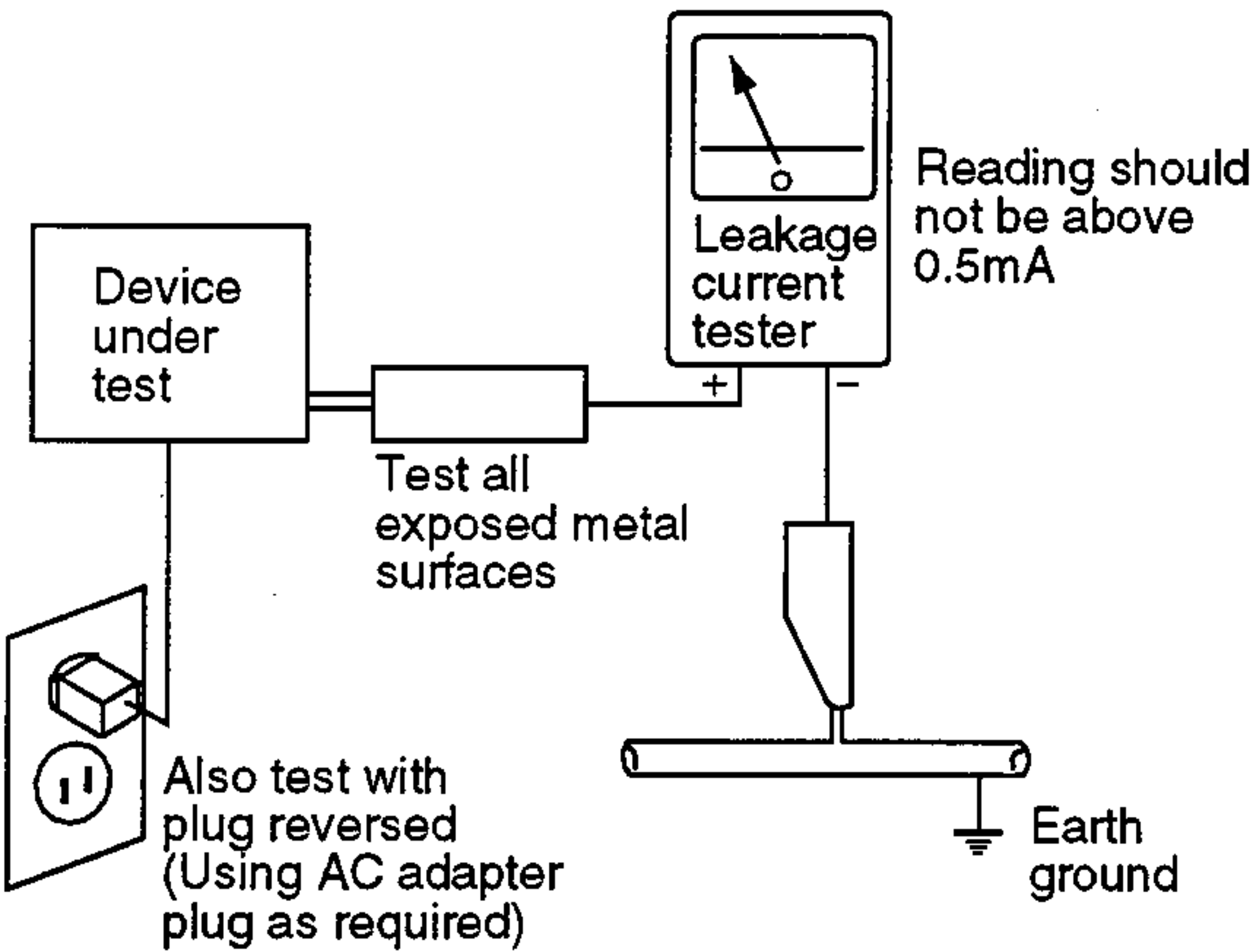
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a Δ on the schematics and on the parts list in this Service Manual. The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

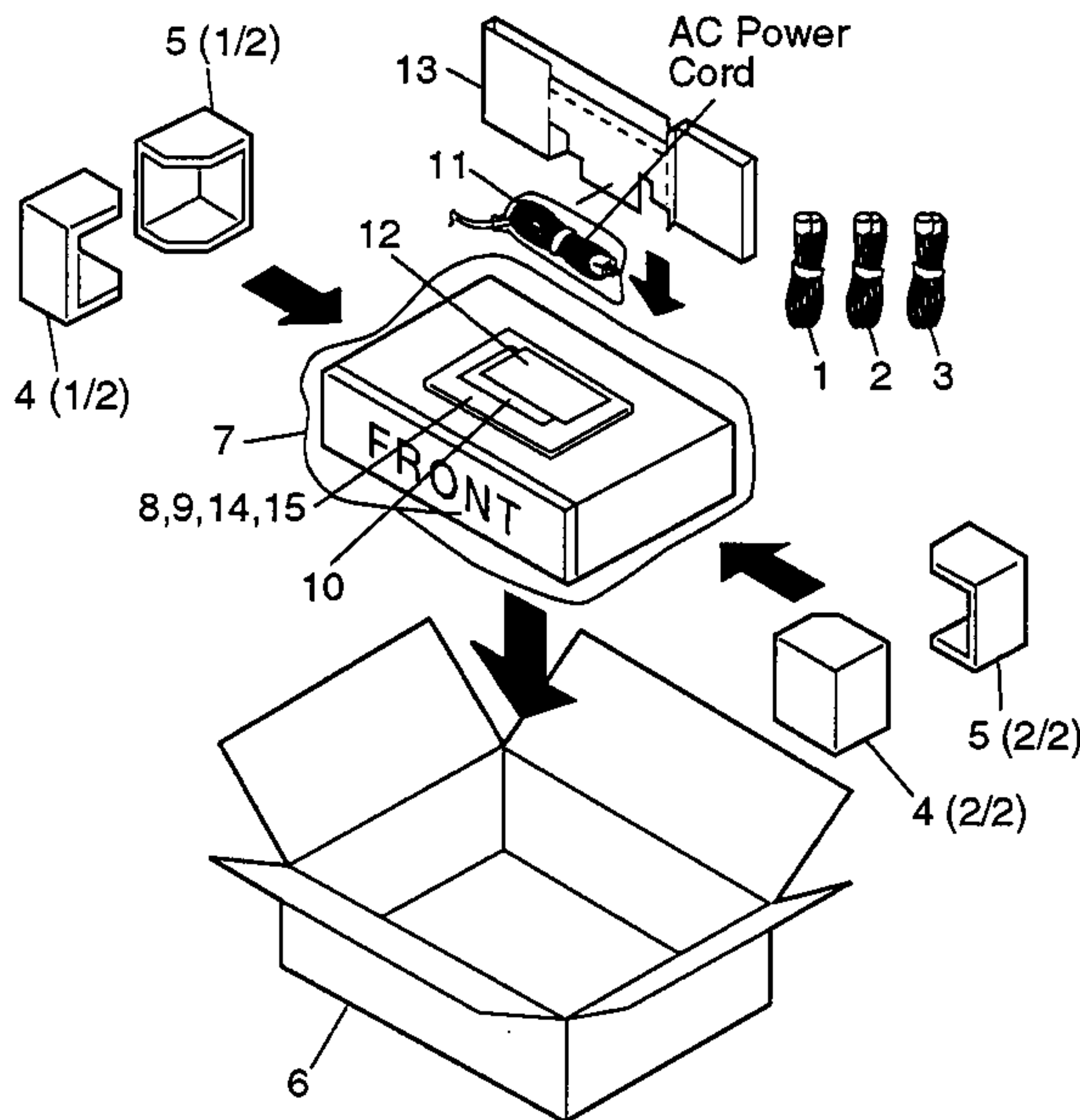
Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. EXPLODED VIEWS AND PARTS LIST

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Screws adjacent to ∇ mark on the product are used for disassembly.

2.1 PACKING



(1) PARTS LIST

Mark	No.	Description	Part No.
	1	Connection Cord with Pin Plug (L=0.9 m)	RDE1036
	2	Remote Control Cord (L=1.0 m)	PDE1267
	3	CD-Deck Synchro Control Cord (L=0.9 m)	RDE1044
	4	Pad F	RHA1219
	5	Pad R	RHA1236
	6	Packing Case	See Contrast table (2)
	7	Seat (750×600×0.5)	Z23-007
	8	Operating Instructions (German/Italian/Dutch/Swedish/Spanish/Portuguese)	See Contrast table (2)
	9	Operating Instructions (English/French)	See Contrast table (2)
NSP	10	Warranty Card	See Contrast table (2)
	11	Vinyl Bag	See Contrast table (2)
	12	Caution 220V Label	See Contrast table (2)
	13	Spacer	See Contrast table (2)
	14	Operating Instructions (English/Spanish/Chinese)	See Contrast table (2)
	15	Operating Instructions (English)	See Contrast table (2)

(2) CONTRAST TABLE

● For CT-W706DR and CT-05D

CT-W706DR/HYXJ,SDXJ and CT-05D/KUXJ/CA have the same construction except for the following :

Mark	No.	Symbol and Description	Part No.			Remarks
			CT-W706DR		CT-05D	
			HYXJ	SDXJ	KUXJ/CA	
NSP	6	Packing Case	RHG1807	RHG1825	RHG1808	
	8	Operating Instructions (German/Italian/Dutch/Swedish/Spanish/Portuguese)	RRD1190	Not used	Not used	
	9	Operating Instructions (English/French)	RRE1148	Not used	RRE1150	
	10	Warranty Card	ARY7009	Not used	ARY7007	
	11	Vinyl Bag	Not used	Not used	Not used	
	12	Caution 220V Label	Not used	ARR1003	Not used	
	13	Spacer	Not used	Not used	Not used	
	14	Operating Instructions (English/Spanish/Chinese)	Not used	RRE1153	Not used	
	15	Operating Instructions (English)	Not used	Not used	Not used	

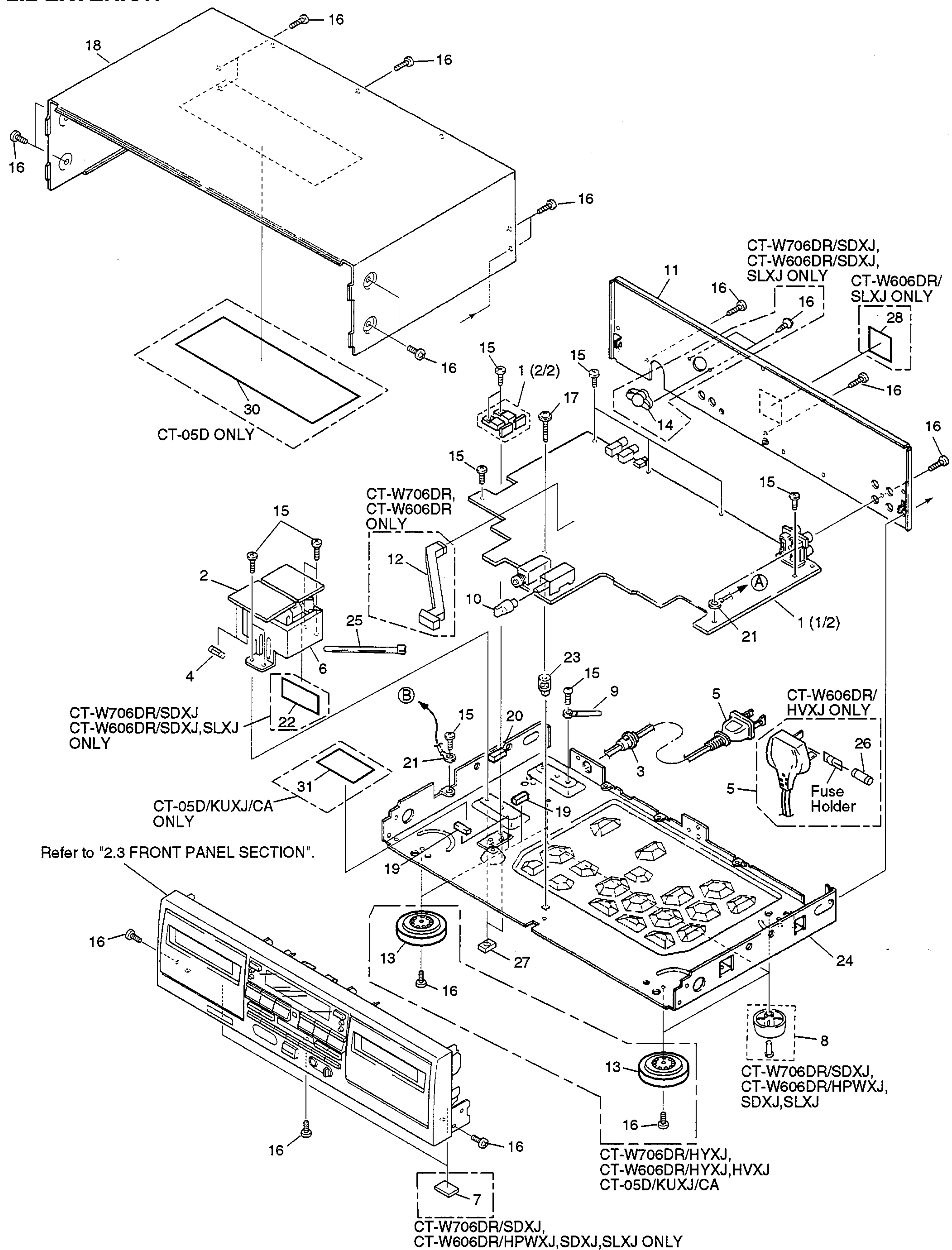
● For CT-W606DR

CT-W606DR/HYXJ,HVXJ, HPWXJ, SDXJ and SLXJ have the same construction except for the following :

Mark	No.	Symbol and Description	Part No.				Remarks
			CT-W606DR				
			HYXJ	HVXJ	HPWXJ	SDXJ, SLXJ	
NSP	6	Packing Case	RHG1803	RHG1826	RHG1802	RHG1801	
	8	Operating Instructions (German/Italian/Dutch/Swedish/Spanish/Portuguese)	RRD1190	Not used	Not used	Not used	
	9	Operating Instructions (English/French)	RRE1148	Not used	Not used	Not used	
	10	Warranty Card	ARY7009	ARY7009	PRY1003	Not used	
	11	Vinyl Bag	Not used	Z21-013	Not used	Not used	
	12	Caution 220V Label	Not used	Not used	Not used	ARR1003	
	13	Spacer	Not used	RHC1071	RHC1071	Not used	
	14	Operating Instructions (English/Spanish/Chinese)	Not used	Not used	Not used	RRE1153	
	15	Operating Instructions (English)	Not used	RRB1176	RRB1176	Not used	

CT-W706DR, CT-W606DR, CT-05D

2.2 EXTERIOR



(1) PARTS LIST

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	MAIN Unit	See Contrast table (2)		16	Screw	BBZ30P080FZK
NSP	2	TRANS Unit	See Contrast table (2)		17	Screw	IBZ30P150FCC
△	3	Strain Relief	See Contrast table (2)		18	Bonnet	REA1254
△	4	Fuse (FU1001, FU1002)	See Contrast table (2)	NSP	19	Spacer (CR)	REB1267
△	5	AC Power Cord	See Contrast table (2)		20	Spacer	REB1171
△	6	Power Transformer	See Contrast table (2)	NSP	21	Earth Lead Wire	DE010VFO
	7	Sheet Rubber	See Contrast table (2)	NSP	22	Plate	See Contrast table (2)
	8	Foot Assy	See Contrast table (2)	NSP	23	PCB Spacer	PNY-404
	9	Cord Holder	RNH-184	NSP	24	Main Chassis	RNB1091
	10	Rotary Knob	See Contrast table (2)	NSP	25	Binder	ZCA-T18S
	11	Rear Panel	See Contrast table (2)	△	26	Fuse (T5A) (For AC Power Cord)	See Contrast table (2)
	12	Power Button P	See Contrast table (2)		27	Disc Guard	REC1305
	13	Insulator	See Contrast table (2)	NSP	28	SISIR Registration	See Contrast table (2)
△	14	Voltage Selector	See Contrast table (2)		29	.....	
	15	Screw	BBZ30P060FMC		30	65 Label	See Contrast table (2)
				NSP	31	Fuse Caution Label	See Contrast table (2)

(2) CONTRAST TABLE

● For CT-W706DR and CT-05D

CT-W706DR/HYXJ,SDXJ and CT-05D/KUXJ/CA have the same construction except for the following :

Mark	No.	Symbol and Description	Part No.			Remarks
			CT-W706DR		CT-05D	
			HYXJ	SDXJ	KUXJ/CA	
NSP	1	MAIN Unit	RWZ4108	RWZ4111	RWZ4125	
△	2	TRANS Unit	RWZ4105	RWZ4112	RWZ4115	
△	3	Strain Relief	CM-22B	CM-22B	CM-22C	
△	4	Fuse (T1.6AL250V, FU1001,FU1002)	REK1024	REK1024	Not used	
△	4	Fuse (1.5A/250V, FU1001,FU1002)	Not used	Not used	REK1059	
△	5	AC Power Cord	PDG1058	ADG1157	PDG1015	
△	6	Power Transformer	RTT1334	RTT1335	RTT1333	
	7	Sheet Rubber	Not used	AEB1111	Not used	
	8	Foot Assy	Not used	AEC1531	Not used	
	10	Rotary Knob	RAC1903	RAC1903	Not used	
	10	Headphone Knob	Not used	Not used	VNK1262	
	11	Rear Panel	RNA2152	RNA2166	RNA2153	
	12	Power Button P	RAC2156	RAC2156	Not used	
△	13	Insulator	PNW1912	Not used	PNW1912	
	14	Voltage Selector (AC110V/120-127V/220V/230-240V)	Not used	RSB1022	Not used	
NSP	22	Plate	Not used	DEC1158	Not used	
	30	65 Label	Not used	Not used	ORW1069	
NSP	31	Fuse Caution Label	Not used	Not used	RRW-111	

● For CT-W606DR

CT-W606DR/HYXJ,HVXJ, HPWXJ, SDXJ and SLXJ have the same construction except for the following :

Mark	No.	Symbol and Description	Part No.					Remarks
			CT-W606DR					
			HYXJ	HVXJ	HPWXJ	SDXJ	SLXJ	
NSP △ △ △ △ △ △ △	1	MAIN Unit	RWZ4113	RWZ4113	RWZ4113	RWZ4117	RWZ4117	
	2	TRANS Unit	RWZ4105	RWZ4105	RWZ4105	RWZ4112	RWZ4112	
	3	Strain Relief	CM-22B	CM-22B	CM-22B	CM-22B	CM-22B	
	4	Fuse (T1.6AL250V, FU1001,FU1002)	REK1024	REK1024	REK1024	REK1024	REK1024	
	4	Fuse (1.5A/250V, FU1001,FU1002)	Not used	Not used	Not used	Not used	Not used	
	5	AC Power Cord	PDG1058	PDG1055	ADG1159	ADG1157	PDG1058	
	6	Power Transformer	RTT1334	RTT1334	RTT1334	RTT1335	RTT1335	
	7	Sheet Rubber	Not used	Not used	AEB1111	AEB1111	AEB1111	
	8	Foot Assy	Not used	Not used	AEC1531	AEC1531	AEC1531	
	10	Rotary Knob	RAC1903	RAC1903	RAC1903	RAC1903	RAC1903	
	10	Headphone Knob	Not used	Not used	Not used	Not used	Not used	
	11	Rear Panel	RNA2148	RNA2167	RNA2147	RNA2145	RNA2146	
	12	Power Button P	RAC2156	RAC2156	RAC2156	RAC2156	RAC2156	
	13	Insulator	PNW1912	PNW1912	Not used	Not used	Not used	
14	Voltage Selector (AC110V/120-127V/220V/230-240V)	Not used	Not used	Not used	RSB1022	RSB1022		
NSP △ NSP	22	Plate	Not used	Not used	Not used	DEC1158	DEC1158	
	26	Fuse (T5A) (For AC Power Cord)	Not used	PEK1003	Not used	Not used	Not used	
	28	SISIR Registration	Not used	Not used	Not used	Not used	RRW1283	
	30	65 Label	Not used	Not used	Not used	Not used	Not used	

2.3 FRONT PANEL SECTION.



(1) PARTS LIST for CT-W706DR

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	SUBB Unit	RWZ4109		29	.....	
	2	Joint Arm	RNK2243		30	Indicator Lens	RAC2157
	3	Lead Card 33P	RDD1372		31	Screw	BBZ30P080FZK
	4	1 Mechanism Unit (P)	RYM1261		32	Function Button C	RAC2154
	5	2 Mechanism Unit (R/P)	RYM1262		33	.....	
	6	.....			34	.....	
	7	.....			35	Eject Button	REA1267
	8	.....		NSP	36	Earth Lead Wire	DE010VFO
	9	Half Pressure Spring	RBK1004		37	Connector Assy 3P	RKP1678
	10	.....			38	Connector Assy 5P	RKP1677
	11	.....			39	.....	
	12	.....			40	.....	
	13	.....			41	Loading Base Assy 1	RXA1741
	14	.....			42	Loading Base Assy 2	RXA1750
	15	.....			43	Screw	BBZ30P100FMC
	16	.....		NSP	44	EJECT 1 Unit	RWZ4123
	17	.....		NSP	45	EJECT 2 Unit	RWZ4124
	18	.....			46	DC Motor / 0.75W	PXM1010
	19	Function Button A	RAC2172		47	Rubber Belt	PEB1127
	20	Function Button B	RAC2173		48	Motor Pulley	PNW1634
	21	FL Lens	See Contrast table (2)		49	Pulley Gear	RNK1517
	22	Front Panel	See Contrast table (2)		50	Arm Gear	RNK2242
	23	Door Pocket L	RAH2792	NSP	51	MOTOR 1 Unit	RWZ4191
	24	Door Pocket R	RAH2793	NSP	52	MOTOR 2 Unit	RWZ4192
	25	Door Lens	RAH2782		53	.....	
	26	Name Plate	PAM1608		54	Screw	IPZ20P080FMC
	27	Remain Display Paper	REE-113		55	Screw	BMZ26P040FMC
	28	.....			56	Screw	BBZ26P060FMC

(2) CONTRAST TABLE for CT-W706DR

CT-W706DR/HYXJ and SDXJ have the same construction except for the following :

Mark	No.	Symbol and Description	Part No.		Remarks
			CT-W706DR		
			HYXJ	SDXJ	
	21	FL Lens	RAH2810	RAH2809	
	22	Front Panel	RAH2800	RAH2828	

CT-W706DR, CT-W606DR, CT-05D

(3) PARTS LIST for CT-W606DR and CT-05D

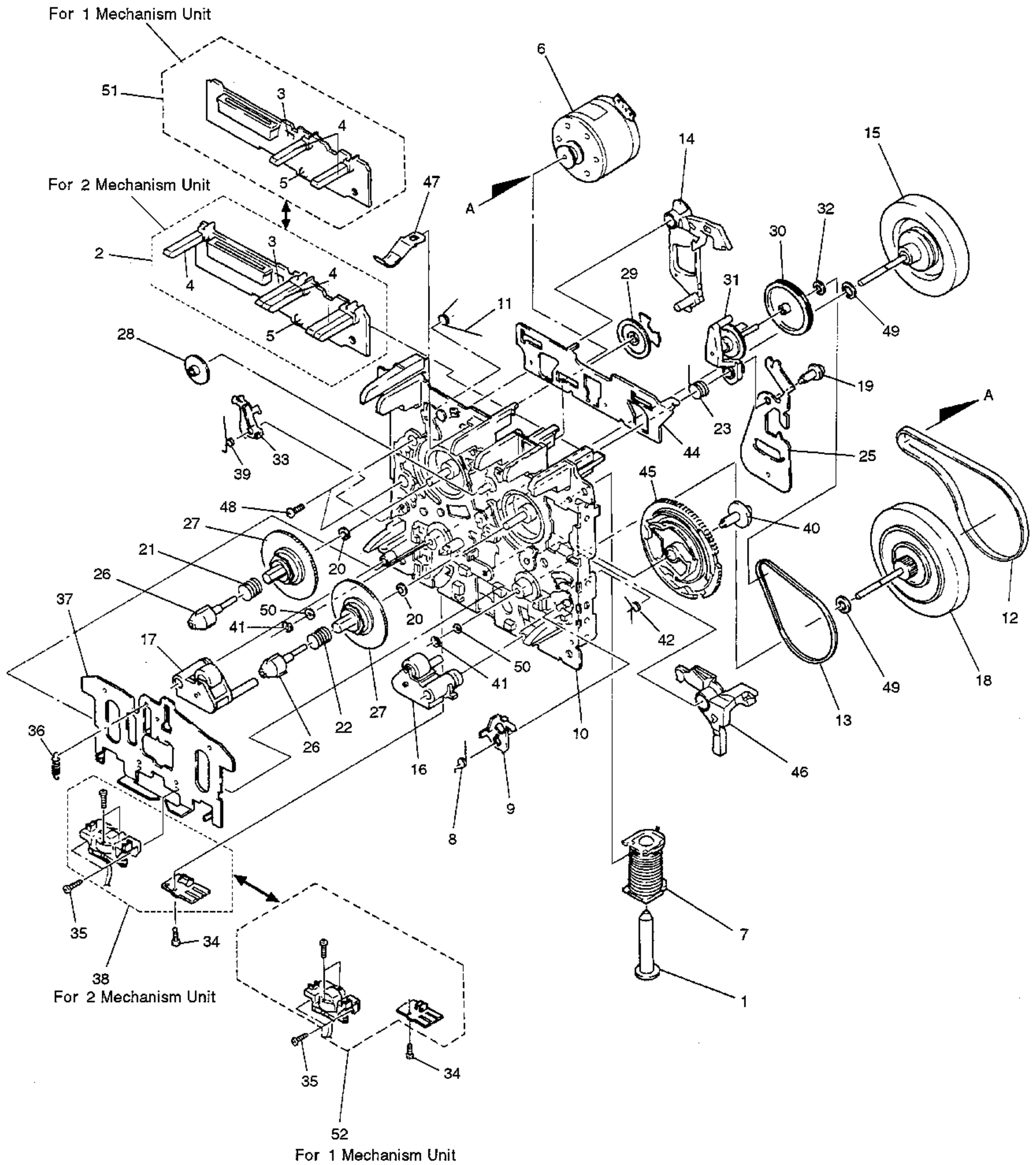
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	SUBB Unit	See Contrast table (4)		29	Eject Lever R	RNK2247
	2	•••••			30	Indicator Lens	RAC2157
	3	Lead Card 33P	RDD1372		31	Screw	BBZ30P080FZK
	4	1 Mechanism Unit (P)	RYM1261		32	Function Button C	RAC2154
	5	2 Mechanism Unit (R/P)	RYM1262		33	Cushion	See Contrast table (4)
	6	Door Spring L	RBH1304		34	Sealing Panel	See Contrast table (4)
	7	Door Spring R	RBH1305		35	Eject Button	RAC2158
	8	Eject Spring L	RBH1441	NSP	36	Earth Lead Wire	DE010VFO
	9	Half Pressure Spring	RBK1004		37	Connector Assy 3P	RKP1678
	10	Eject Spring R	RBH1442		38	Connector Assy 5P	RKP1677
	11	•••••			39	Cushion	See Contrast table (4)
	12	Damper Assy	REC1267		40	Sealing Spring	See Contrast table (4)
	13	Eject Collar	RLA1283		41	•••••	
	14	Arm Collar	RLA1290		42	•••••	
	15	Eject Arm	RNE1909		43	•••••	
	16	Screw	BCZ26P050FMC		44	•••••	
	17	Screw	BSZ26P120FMC		45	•••••	
	18	Power Button	See Contrast table (4)		46	•••••	
	19	Function Button A	RAC2172		47	•••••	
	20	Function Button B	RAC2173		48	•••••	
	21	FL Lens	See Contrast table (4)		49	•••••	
	22	Front Panel	See Contrast table (4)		50	•••••	
	23	Door Pocket L	See Contrast table (4)		51	•••••	
	24	Door Pocket R	See Contrast table (4)		52	•••••	
	25	Door Lens	RAH2782		53	•••••	
	26	Name Plate	PAM1608		54	•••••	
	27	Remain Display Paper	REE-113		55	•••••	
	28	Eject Lever L	RNK2246		56	•••••	

(4) CONTRAST TABLE for CT-W606DR and CT-05D

CT-W606DR/HYXJ, HVXJ, HPWXJ, SDXJ, SLXJ and CT-05D/KUXJ/CA have the same construction except for the following :

Mark	No.	Symbol and Description	Part No.			Remarks
			CT-W606DR		CT-05D	
			HYXJ, HVXJ	HPWXJ, SDXJ, SLXJ	KUXJ/CA	
	1	SUBB Unit	RWZ4114	RWZ4114	RWZ4107	
	18	Power Button	Not used	Not used	RAC2179	
	21	FL Lens	RAH2811	RAH2808	RAH2808	
	22	Front Panel	RAH2803	RAH2826	RAH2819	
	23	Door Pocket L	RAH2792	RAH2792	RAH2797	
	24	Door Pocket R	RAH2793	RAH2793	RAH2798	
	33	Cushion	Not used	Not used	PDE-049	
	34	Sealing Panel	Not used	Not used	RAH2799	
	39	Cushion	Not used	Not used	RED1040	
	40	Sealing Spring	Not used	Not used	RBH1439	

2.4 1 MECHANISM AND 2 MECHANISM UNITS



CT-W706DR, CT-W606DR, CT-05D

Parts List

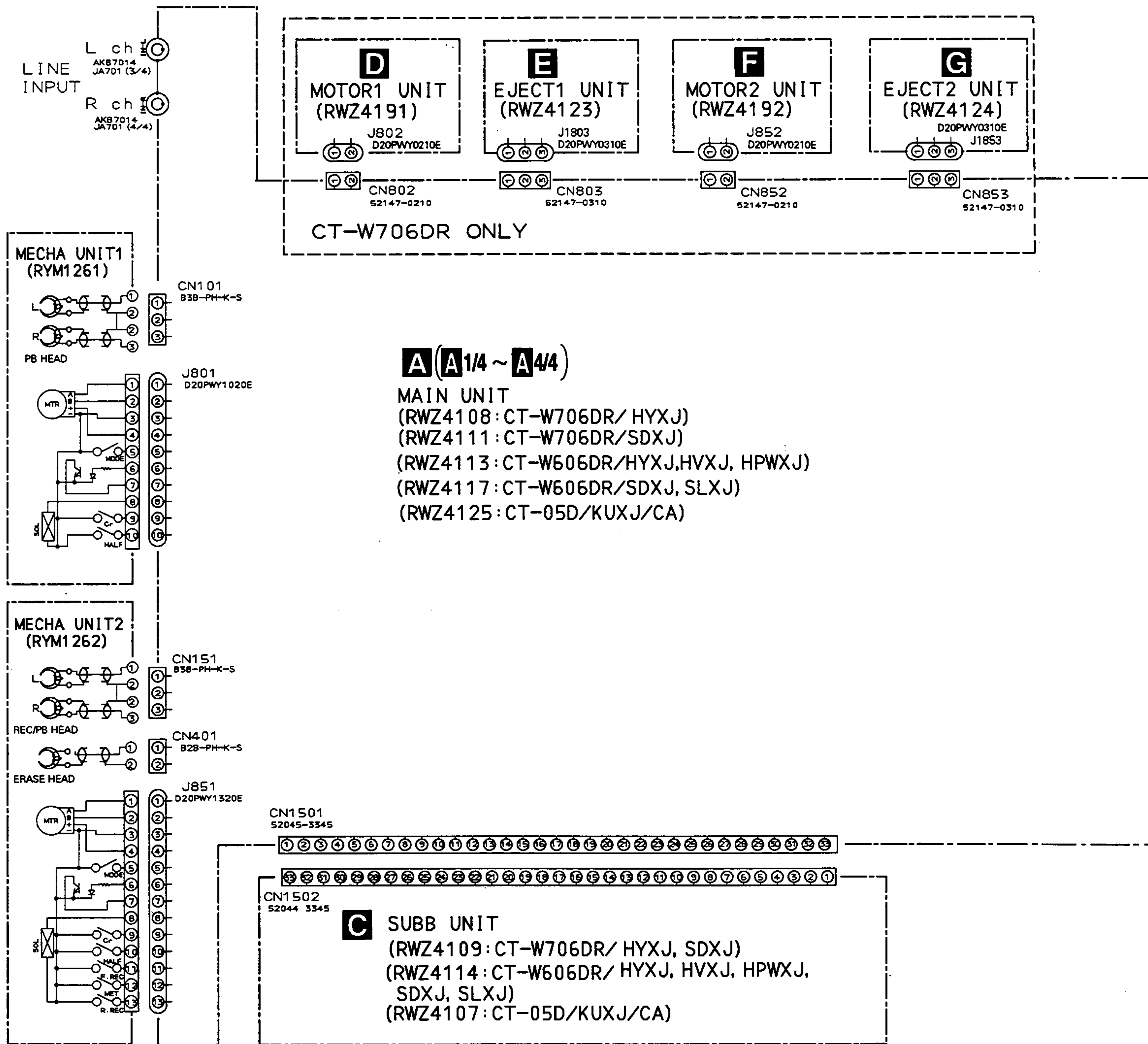
Mark	No.	Description	Part No.
	1	Plunger	RLA1288
	2	PCB Control Block (For 2 Mechanism Unit)	RXA1733
	3	Push Switch	RSG1018
	4	SPLF	RSN1023
	5	Photo-Transistor	SPI33534FG
	6	MTR Main Block	RXM1075
	7	Solenoid Block	RXP1021
	8	Spring Interlock R	RBH1386
	9	Arm Interlock R	RNE1751
	10	Chassis Base Block	RXA1626
	11	Spring Brake	RBH1387
	12	Main Belt	REB1157
	13	F/R Belt	REB1254
	14	Lever Brake	RNK2071
	15	F/W Assy	RXA1295
	16	Pinch Roller Block R	RXA1628
	17	Pinch Roller Block L	RXA1629
	18	Clutch Block Assy	RXA1631
	19	Screw	RBA1120
	20	Washer	W41D065D025
	21	Spring Reel (L)	RBH1388
	22	Spring Reel (R)	RBH1389
	23	Cam Spring	RBH1393
	24	•••••	
	25	Lever F/R	RNE1782
	26	Reel Feather	RNK2072
	27	Reel Base	RNK2073
	28	Play Gear (A)	RNK2074
	29	FF Gear (A)	RNK2075
	30	F/R Pulley	RNK2076
	31	Clutch Block Assy	RXA1632
	32	Washer	WA17D040D025
	33	Arm Interlock L	RNE1780
	34	Screw	PCZ20P040FMC
	35	Screw	PMZ20P060FMC
	36	Spring HB	RBH1390
	37	Head Base	RNE1783
	38	Plate HD Block (For 2 Mechanism Unit)	RXA1683
	39	Spring Interlock L	RBH1385
	40	Screw	RBA1121

Mark	No.	Description	Part No.
	41	Stop Ring	YE15FUC
	42	Spring Arm Play	RBH1392
	43	•••••	
	44	Plate Slide	RNE1785
	45	Cam Gear	RNK2078
	46	Arm Play	RNK2079
	47	Spring Cassette	RNE1786
	48	Screw	BMZ26P040FZK
	49	Washer	WA26D045D025
	50	Washer	WA26D047D050
	51	PCB Control Block (For 1 Mechanism Unit)	RXA1623
	52	Plate HD Block (For 1 Mechanism Unit)	RXA1682

3. SCHEMATIC DIAGRAM

3.1 OVERALL WIRING DIAGRAM

Note : When ordering service parts, be sure to refer to
"EXPLODED VIEWS AND PARTS LIST" or "PCB PARTS LIST"



A (A1/4 ~ A4/4)

MAIN UNIT

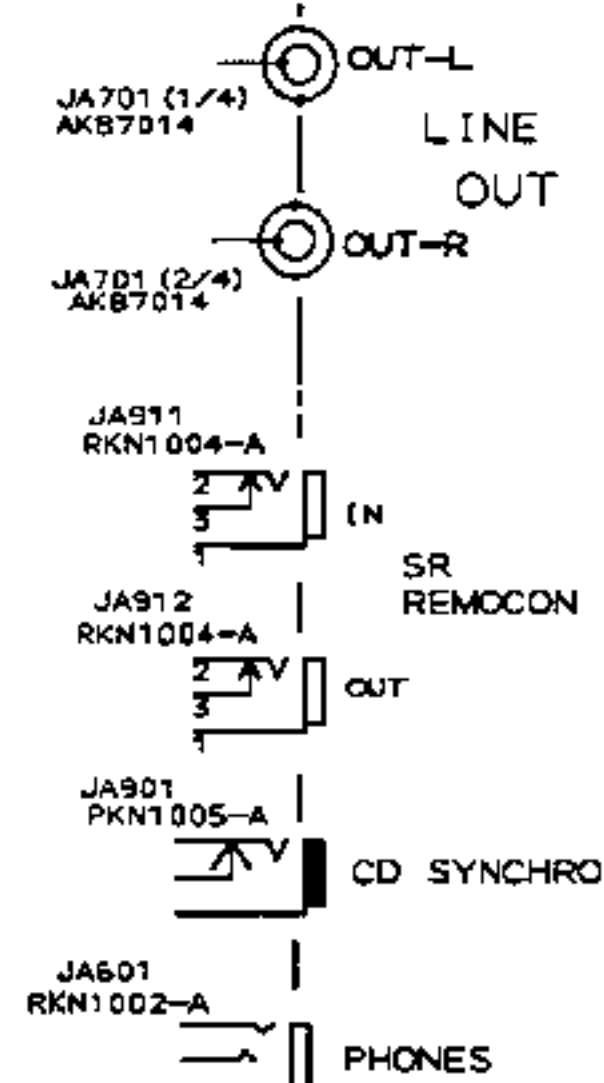
(RWZ4108: CT-W706DR/ HYXJ)

(RWZ4111: CT-W706DR/SDXJ)

(RWZ4113: CT-W606DR/HYXJ, HVXJ, HPWXJ)

(RWZ4117: CT-W606DR/SDXJ, SLXJ)

(RWZ4125: CT-05D/KUXJ/CA)



B TRANS UNIT

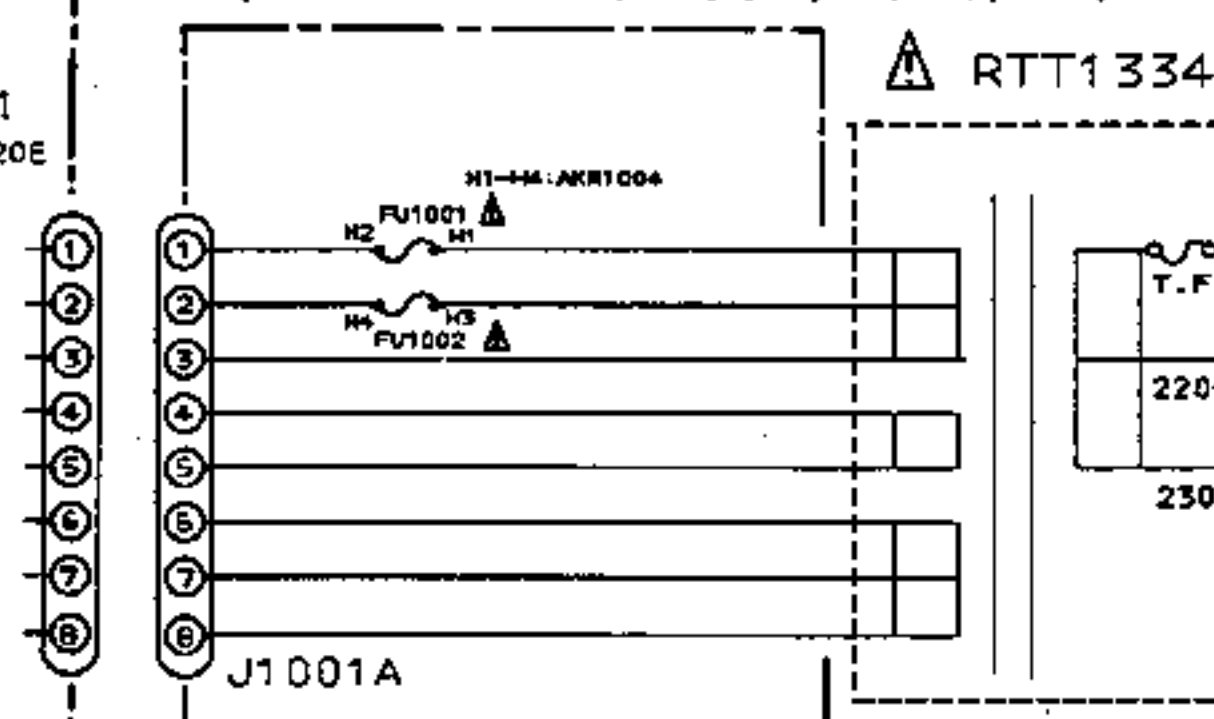
(RWZ4105: CT-W706DR/HYXJ,
CT-W606DR/HYXJ, HVXJ, HPWXJ)

(RWZ4112: CT-W706DR/SDXJ,
CT-W606DR/SDXJ, SLXJ)

(RWZ4115: CT-05D/KUXJ/CA)

J1 001
020PWW0620E

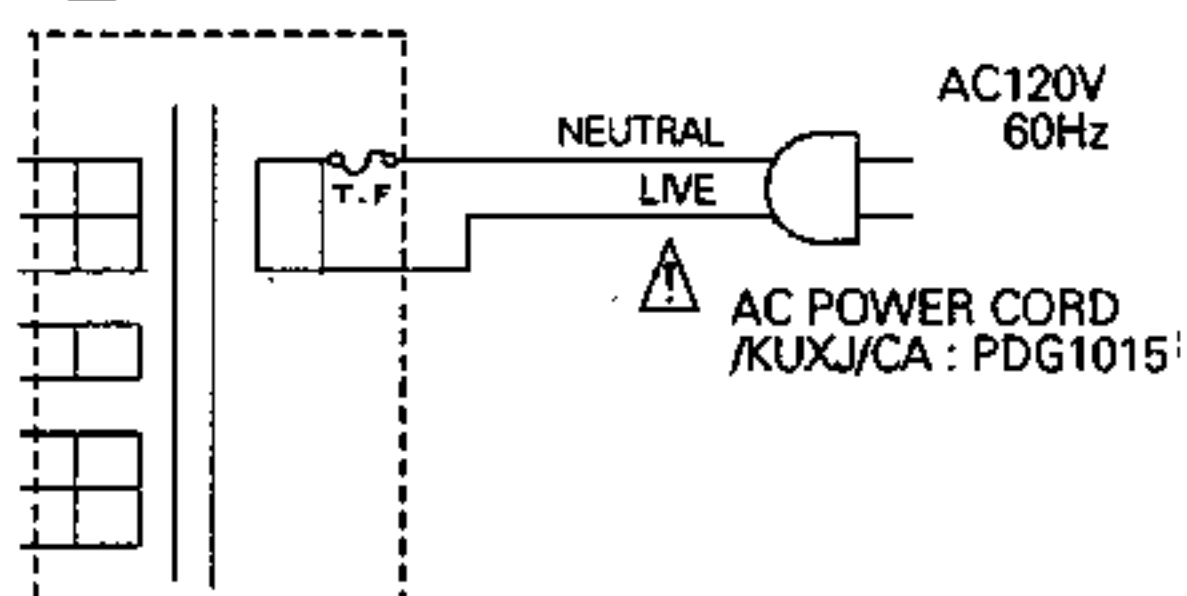
RTT1334



AC220-230/230-240V
50/60Hz

AC POWER CORD
/HYXJ: PDG1058
/HVXJ: PDG1055
/HPWXJ: ADG1159

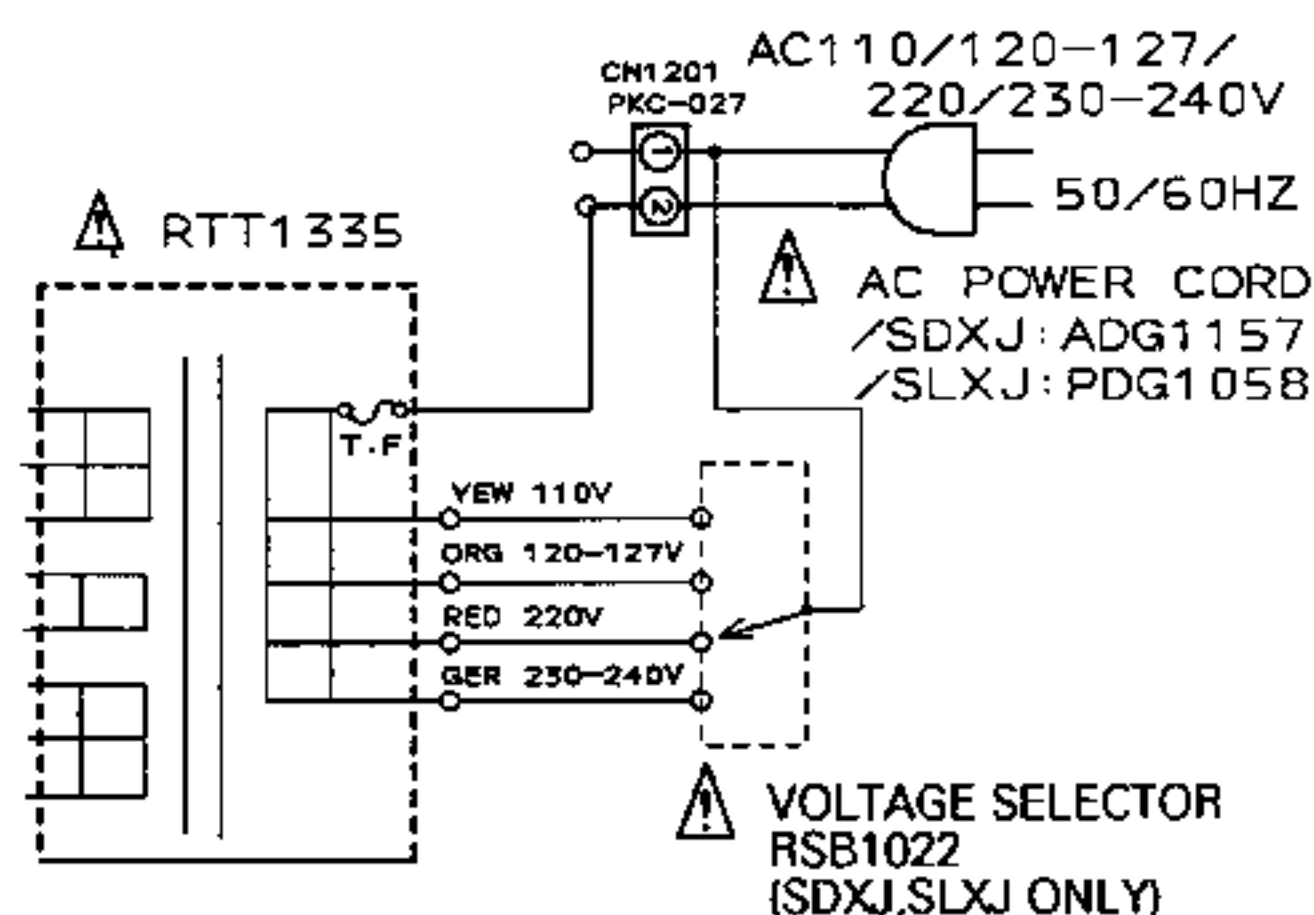
RTT1333



AC120V
60Hz

AC POWER CORD
/KUXJ/CA: PDG1015

RTT1335

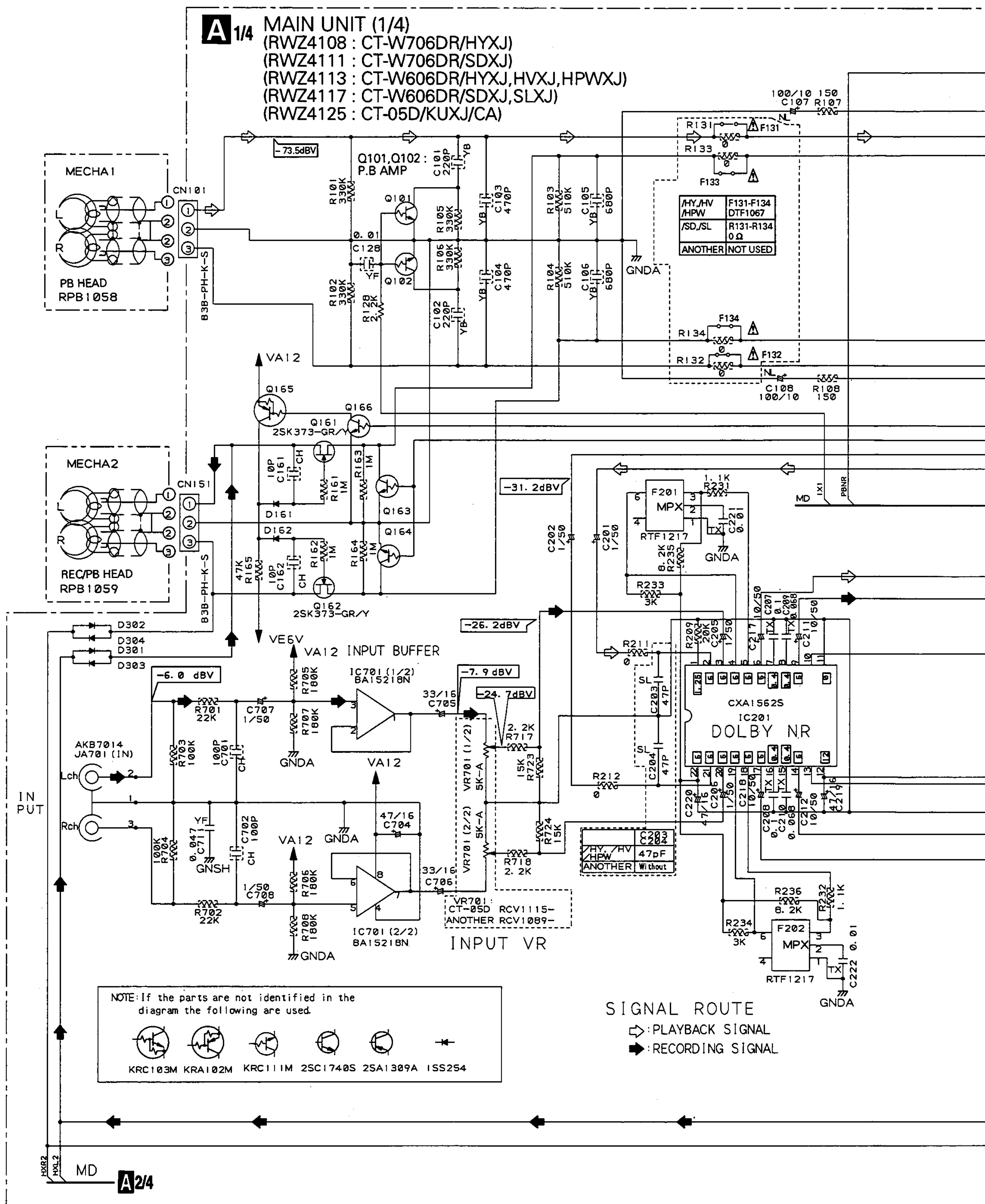


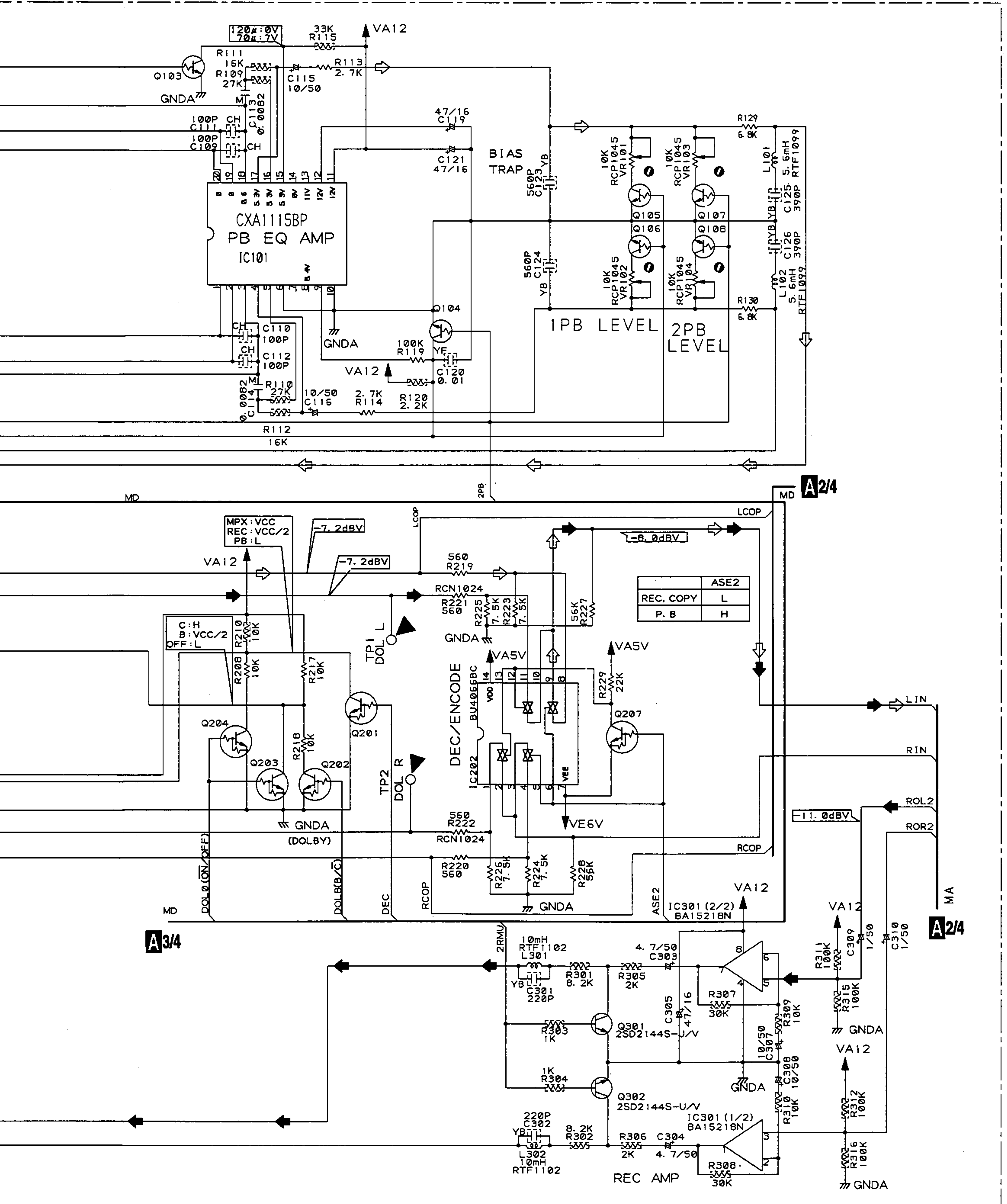
AC POWER CORD
/SDXJ: ADG1157
/SLXJ: PDG1058

VOLTAGE SELECTOR
RSB1022
(SDXJ, SLXJ ONLY)

CT-W706DR, CT-W606DR, CT-05D

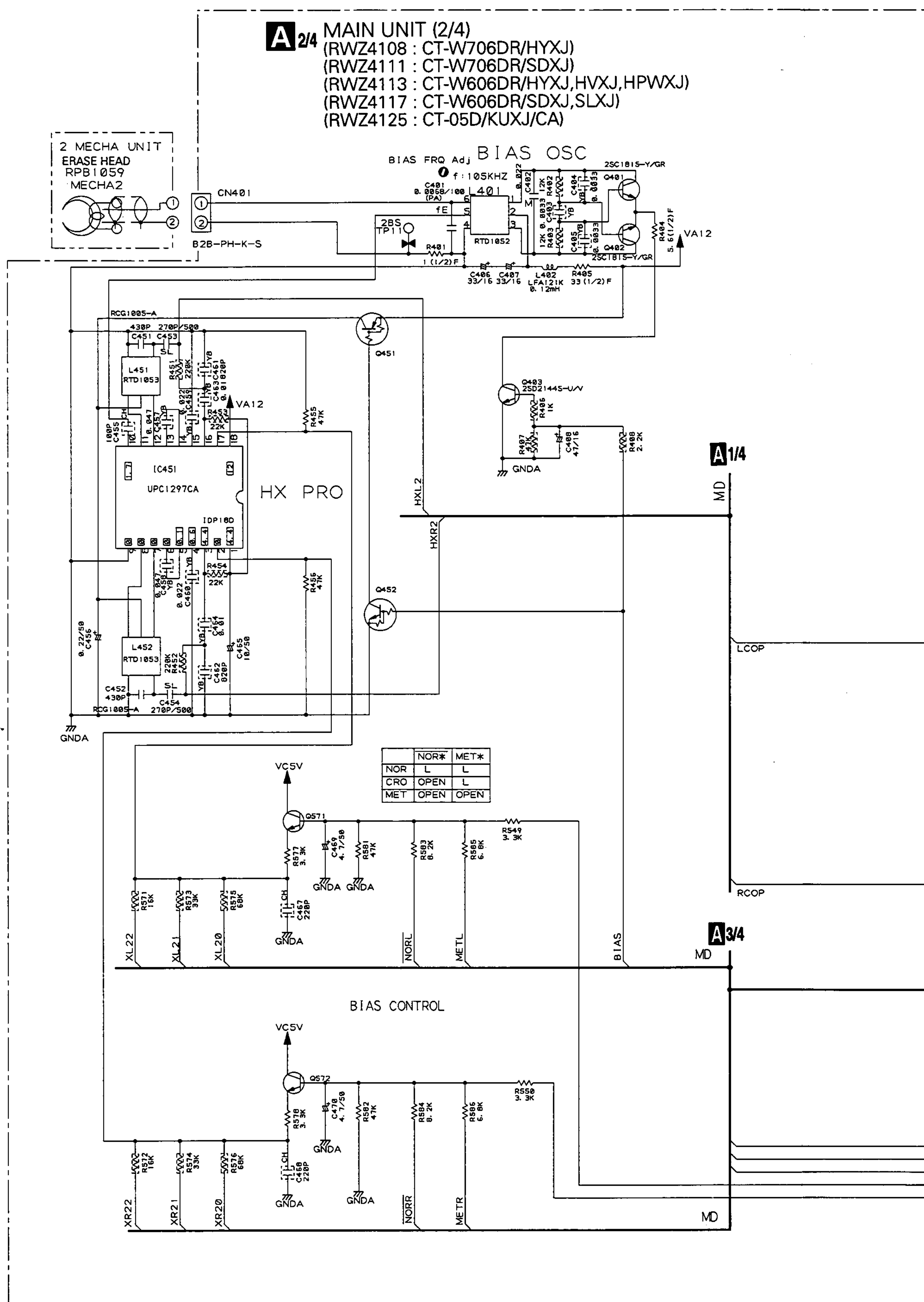
3.2 MAIN UNIT (1/4)

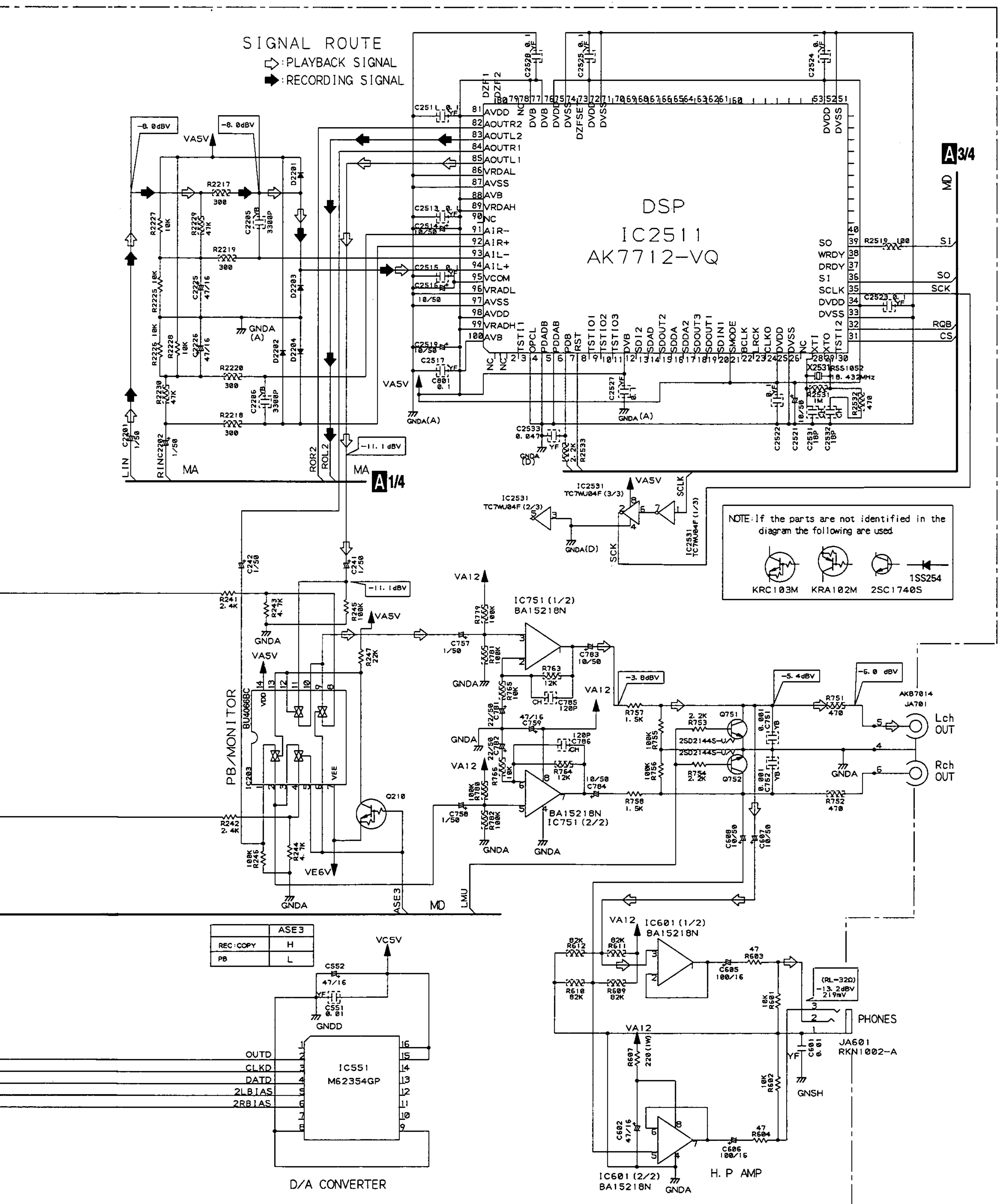




CT-W706DR, CT-W606DR, CT-05D

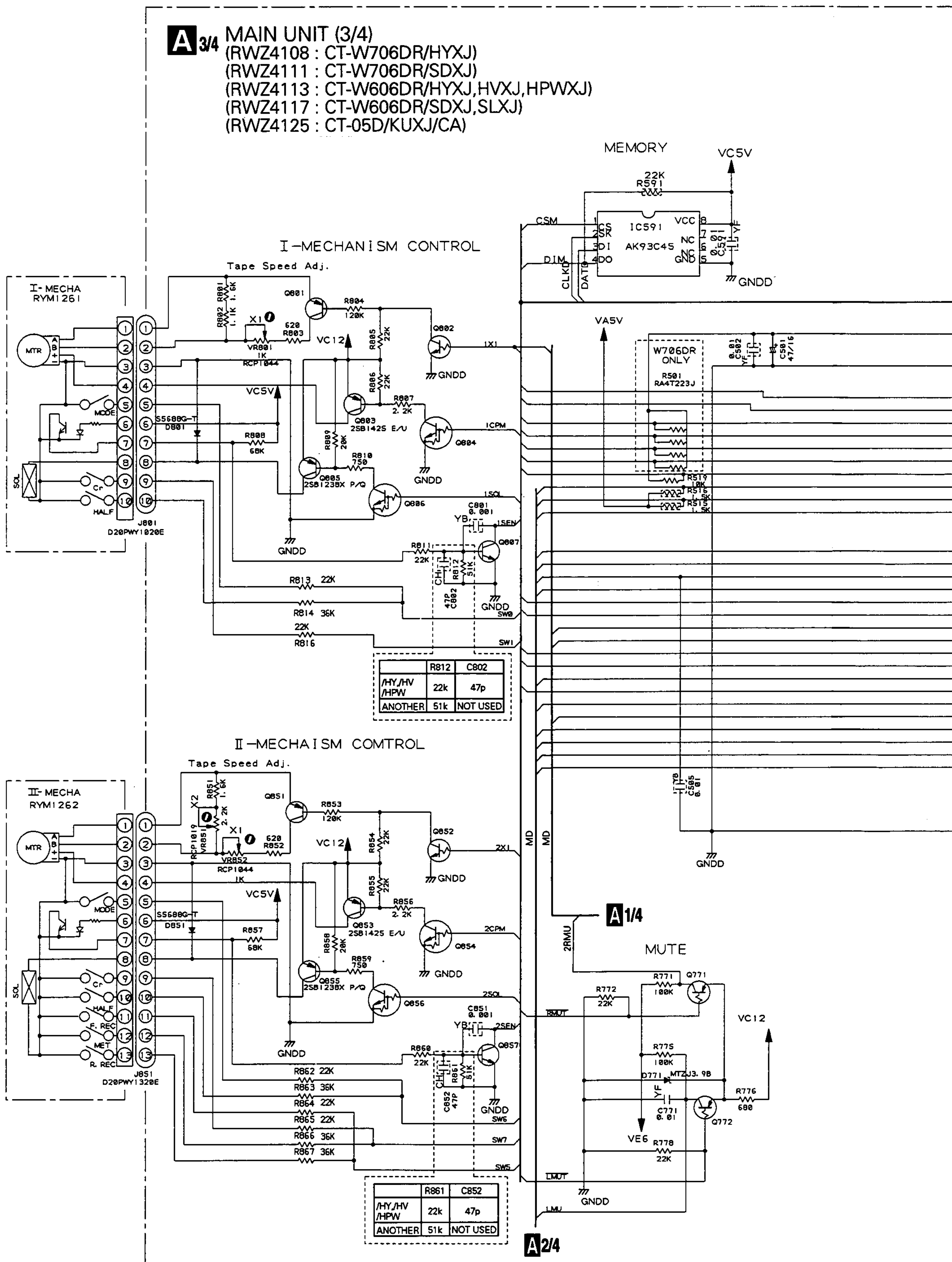
3.3 MAIN UNIT (2/4)

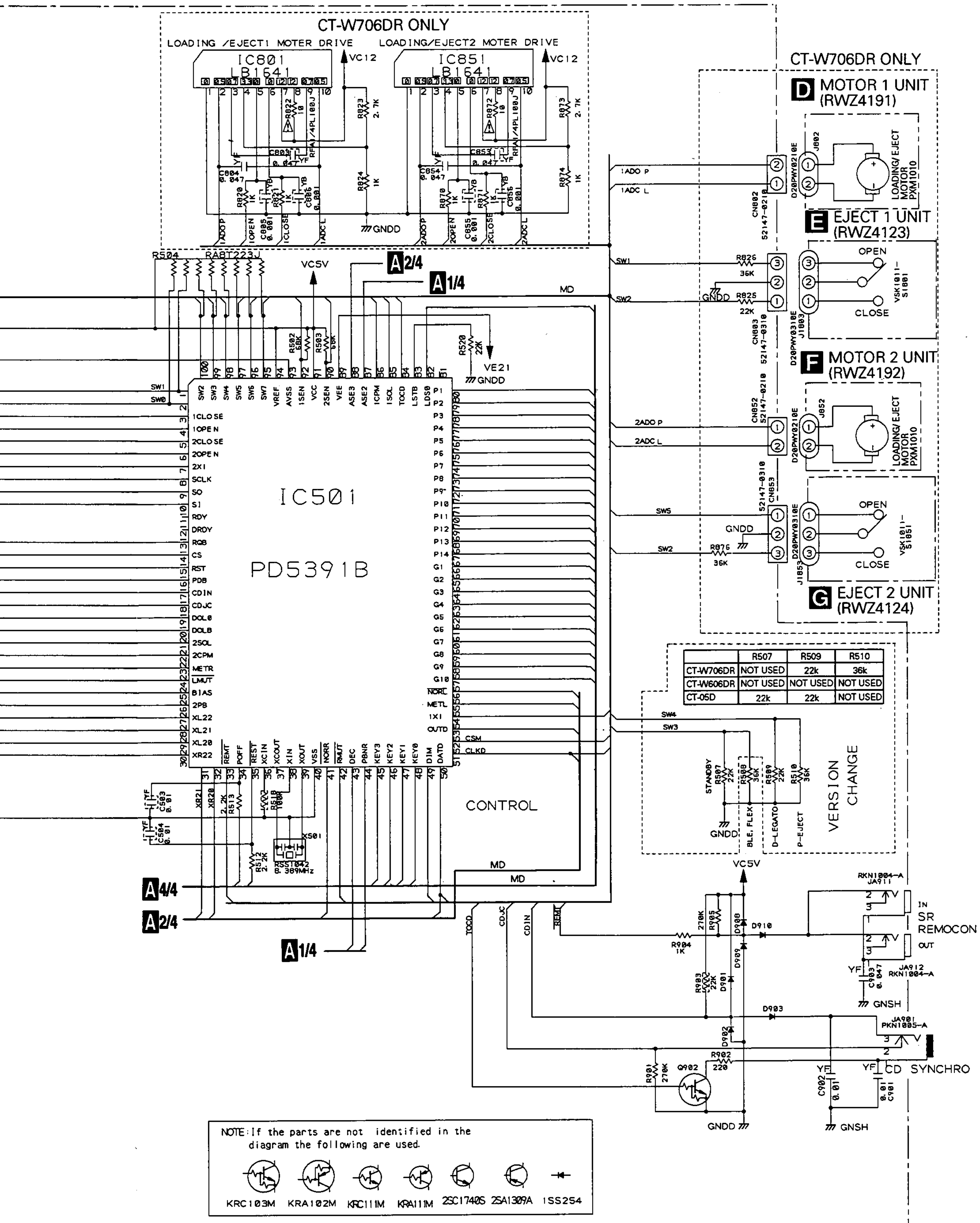




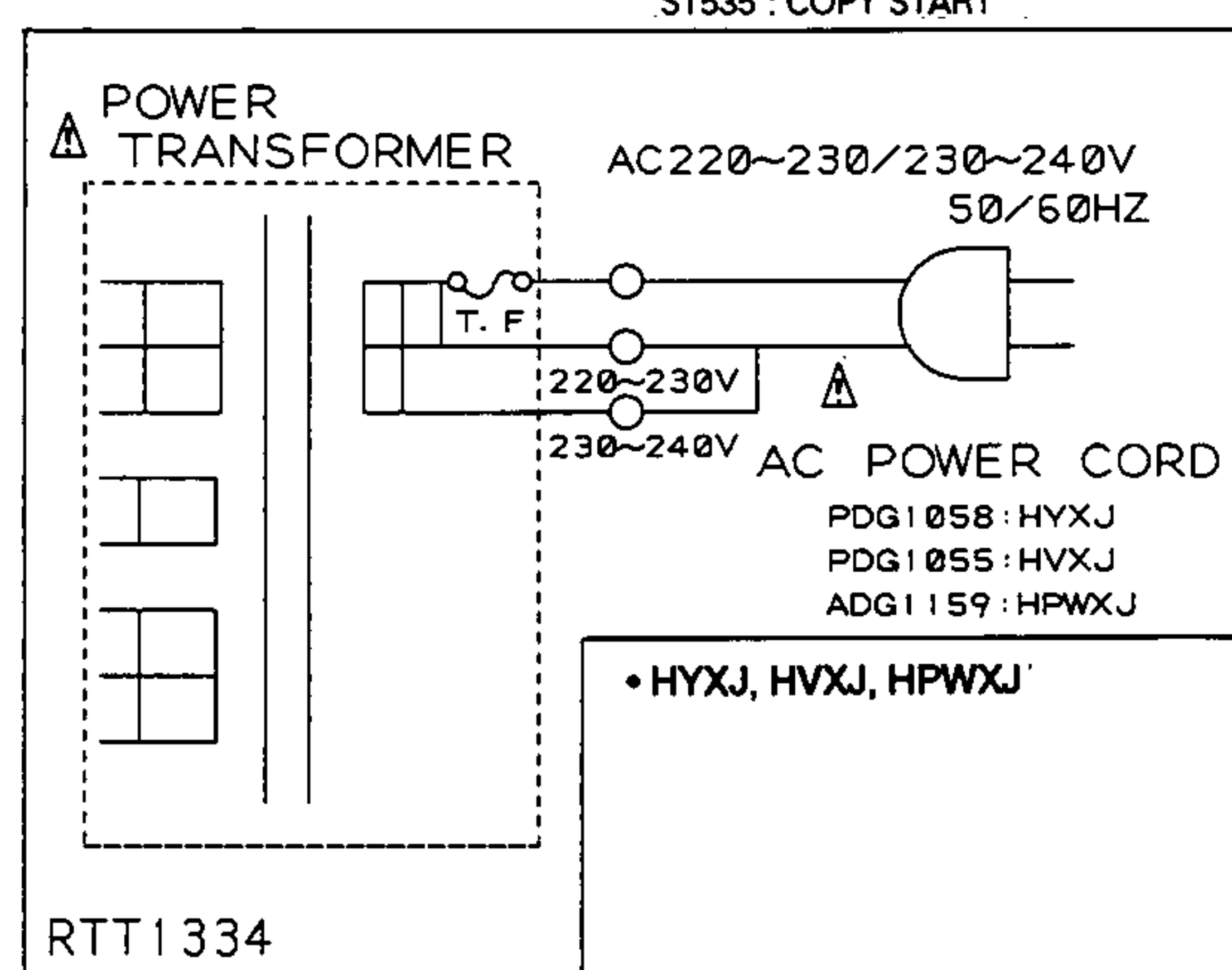
CT-W706DR, CT-W606DR, CT-05D

3.4 MAIN UNIT (3/4), MOTOR 1, MOTOR 2, EJECT 1 AND EJECT 2 UNITS

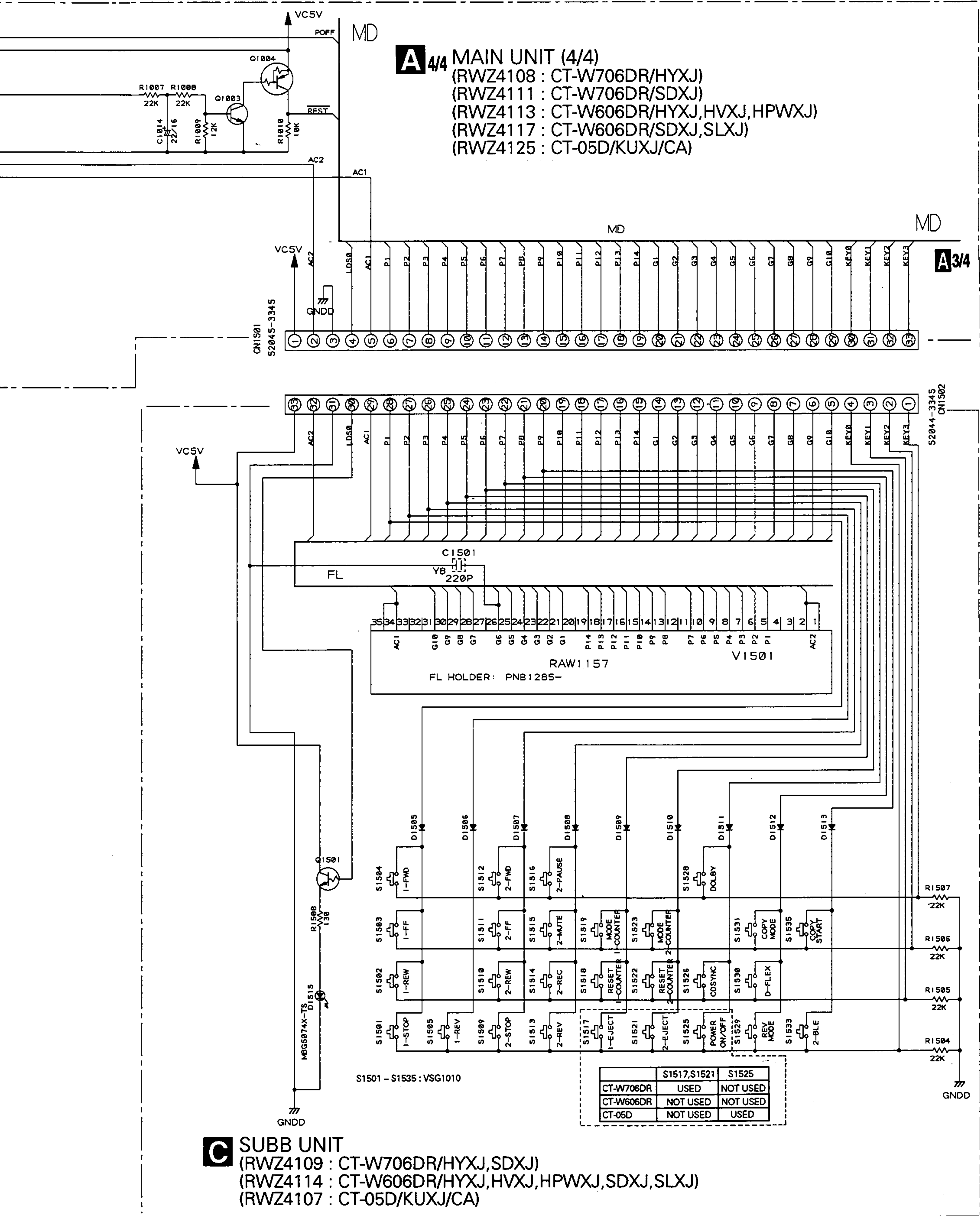




3.5 MAIN UNIT (4/4), SUBB AND TRANS UNITS

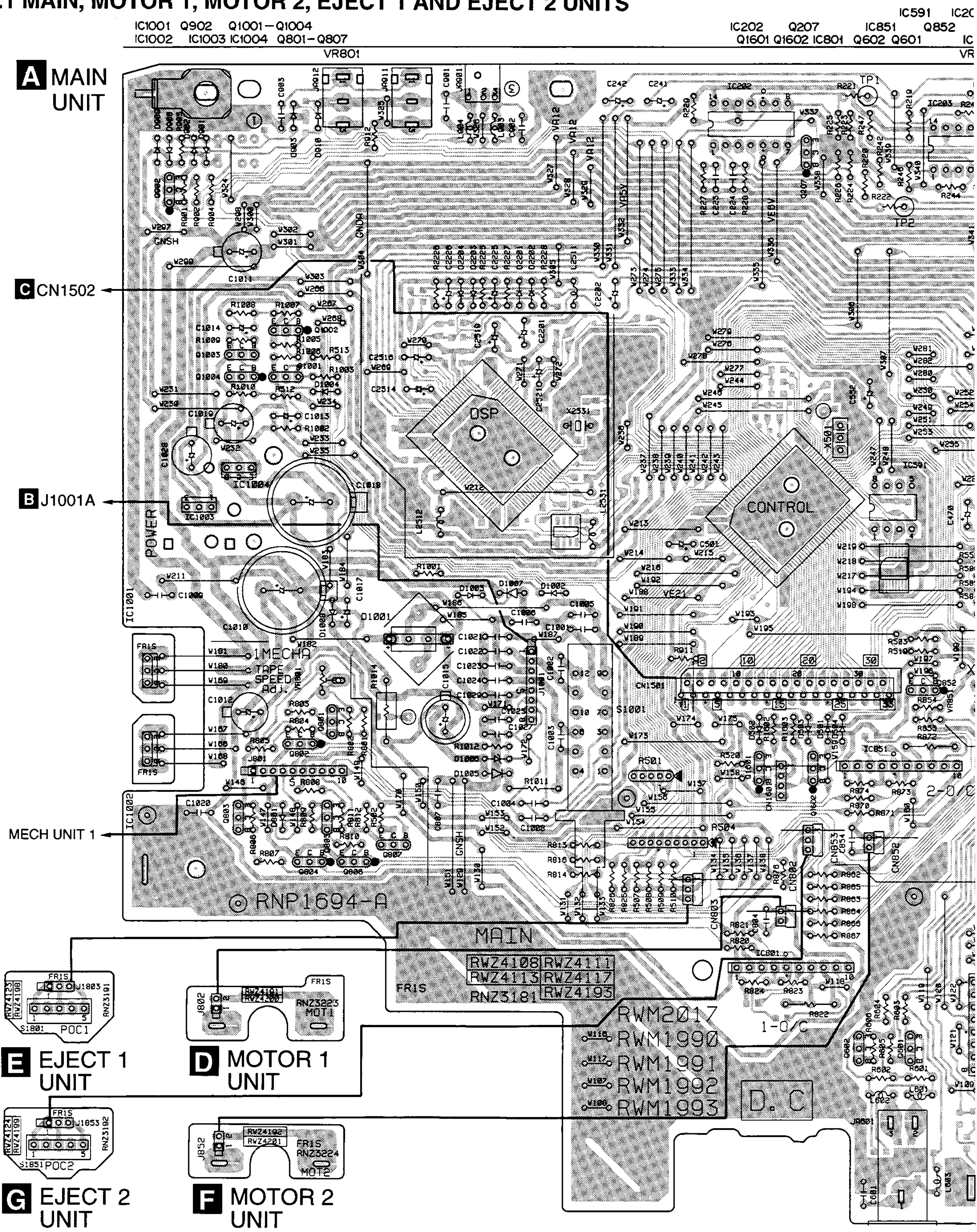


RC103M KRA102M KFC111M KRA111M 2SC1740S 2SA1309A 1SS2

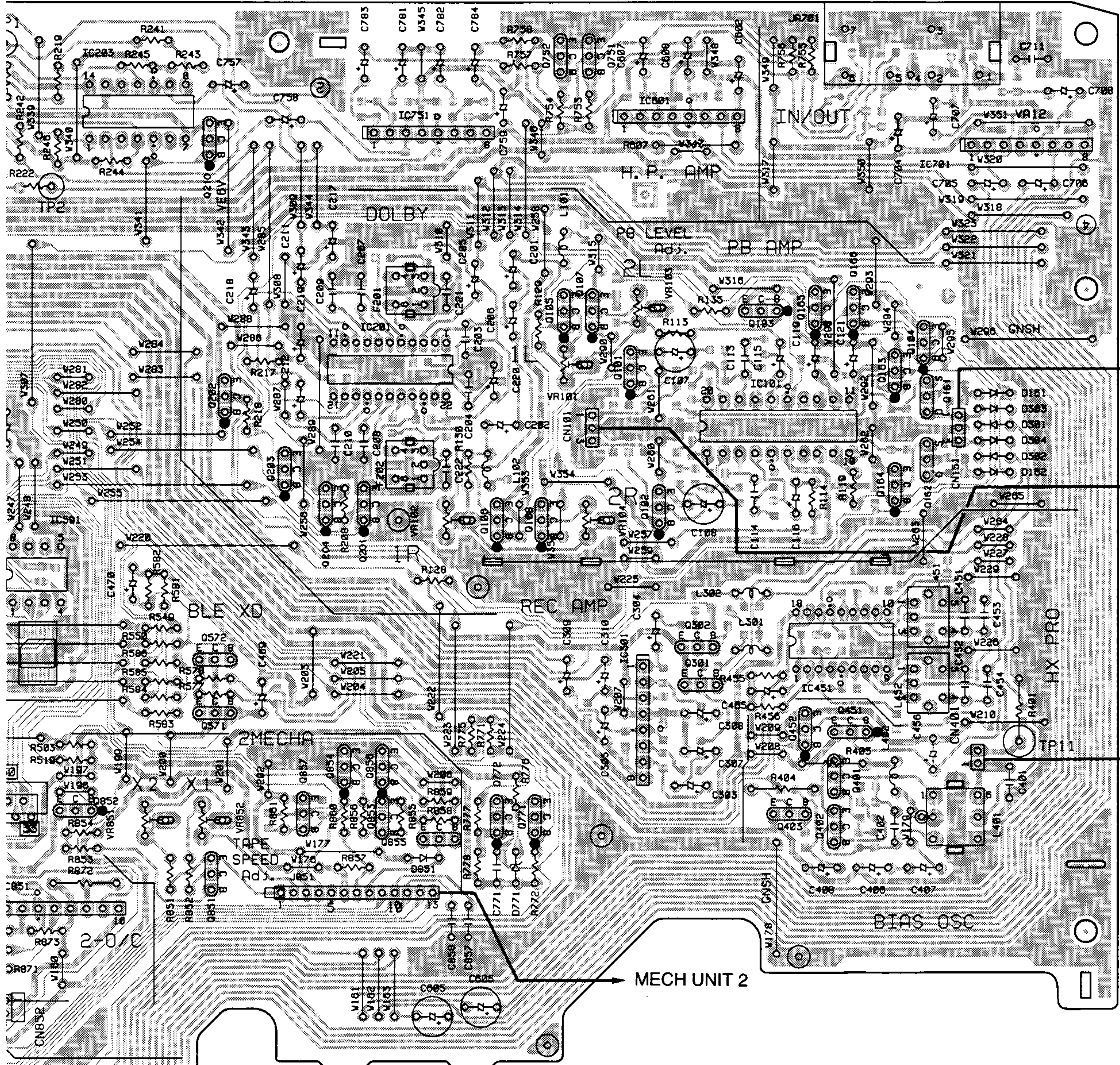


4. PCB CONNECTION DIAGRAM

4.1 MAIN, MOTOR 1, MOTOR 2, EJECT 1 AND EJECT 2 UNITS



IC591 IC203 Q210 Q202 IC201 IC751 Q752 Q751 IC601 IC101 Q103 Q161-Q166 Q104 IC701
C851 Q852 Q571 Q572 Q203 Q204 Q201 Q106 Q108 Q105 Q107 Q101 Q102 Q452 IC451 Q451
Q2 Q601 IC702 Q851 Q853-Q857 Q772 Q771 IC301 Q302 Q301 Q401-Q403
VR851 VR701 VR852 VR102 VR101 VR104 VR103

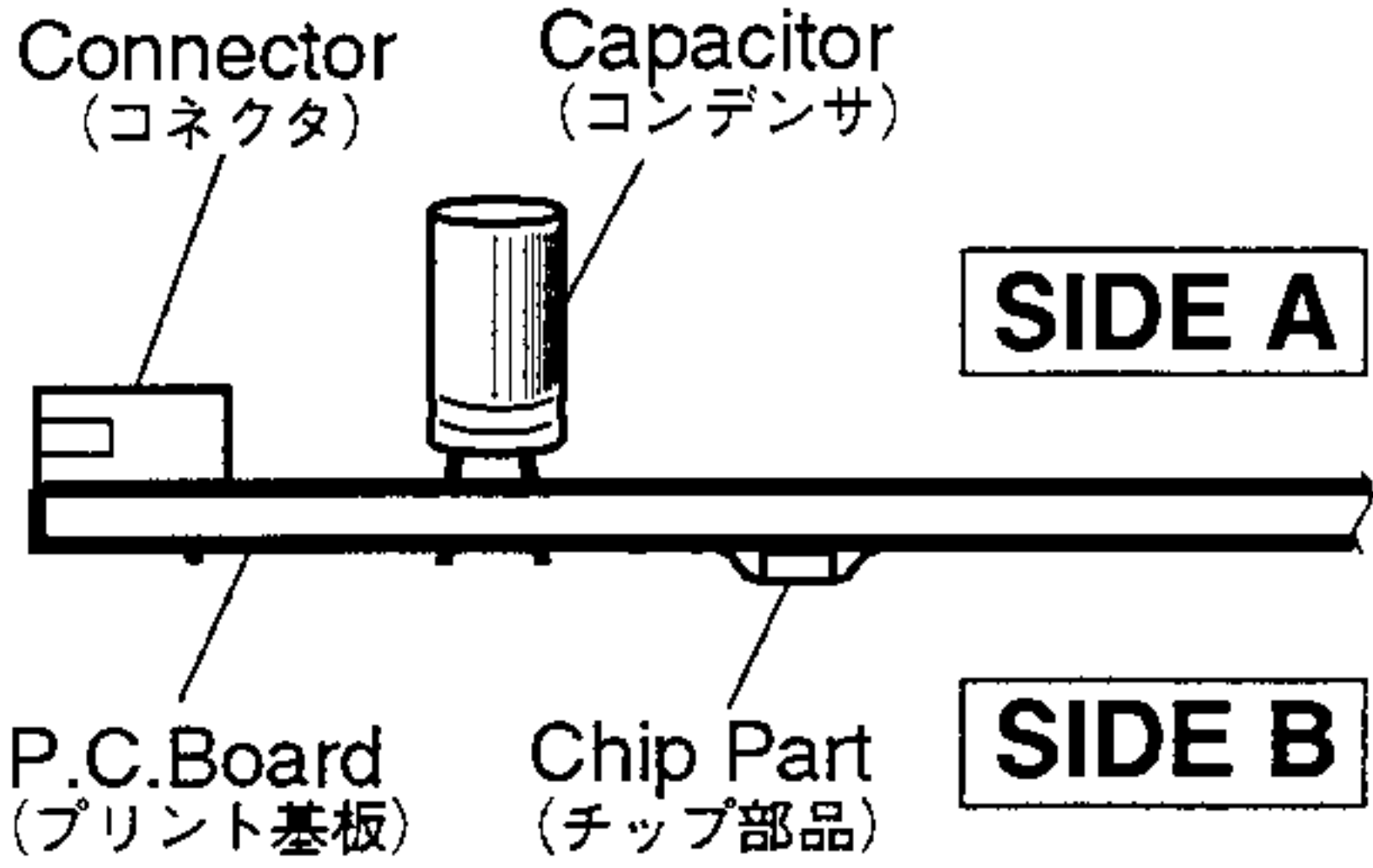


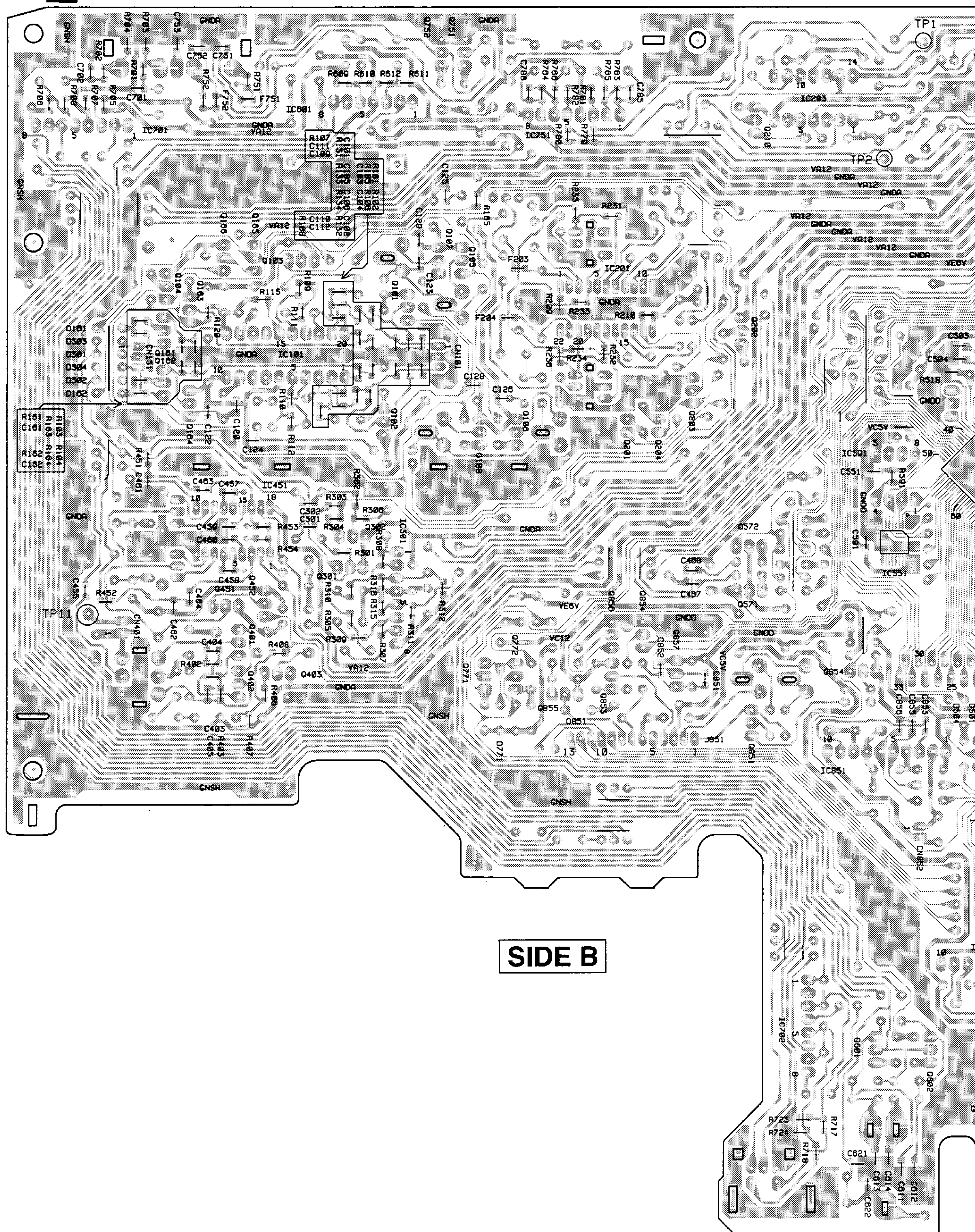
NOTE FOR PCB DIAGRAMS :

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destinations.
For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.



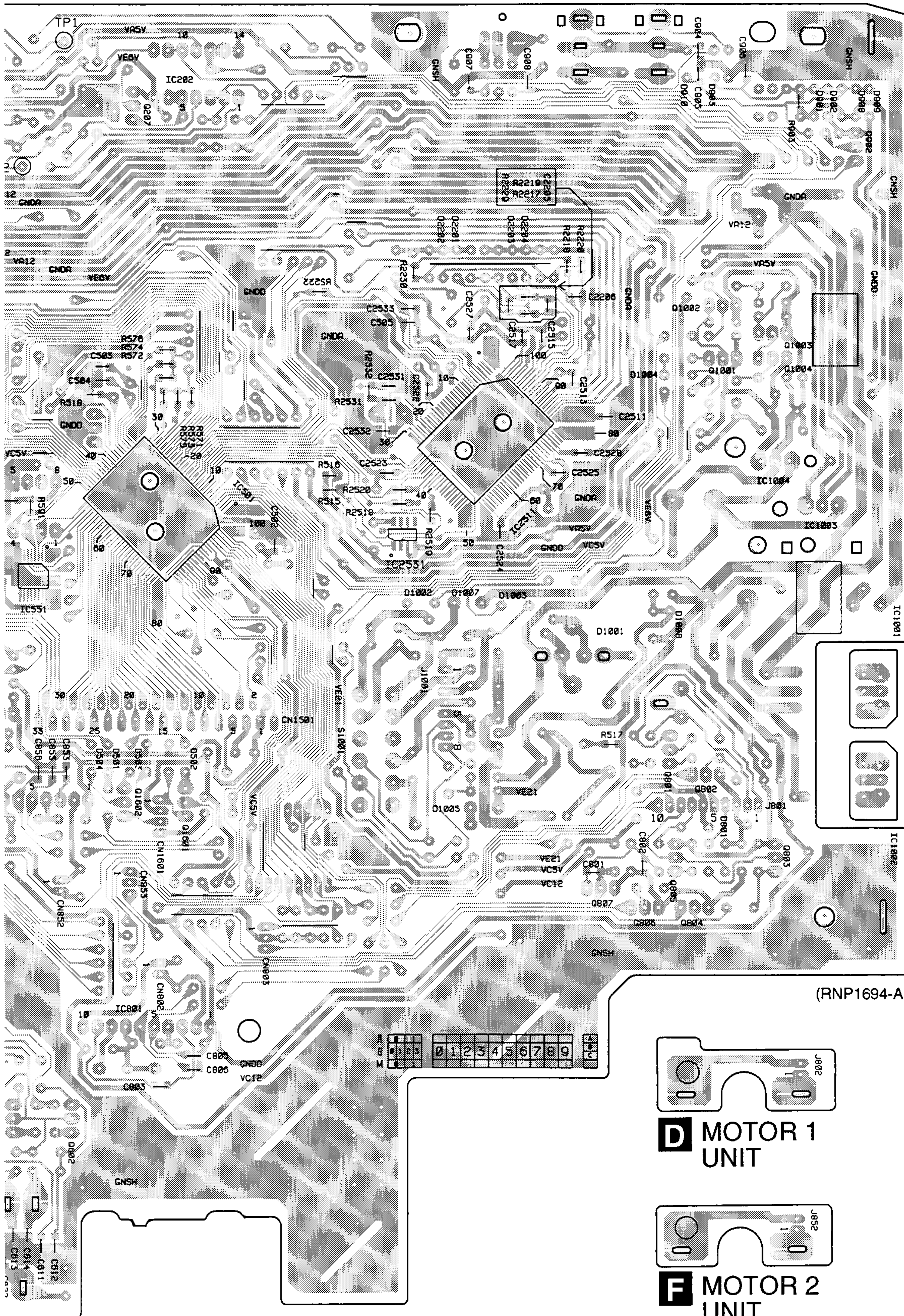


IC551

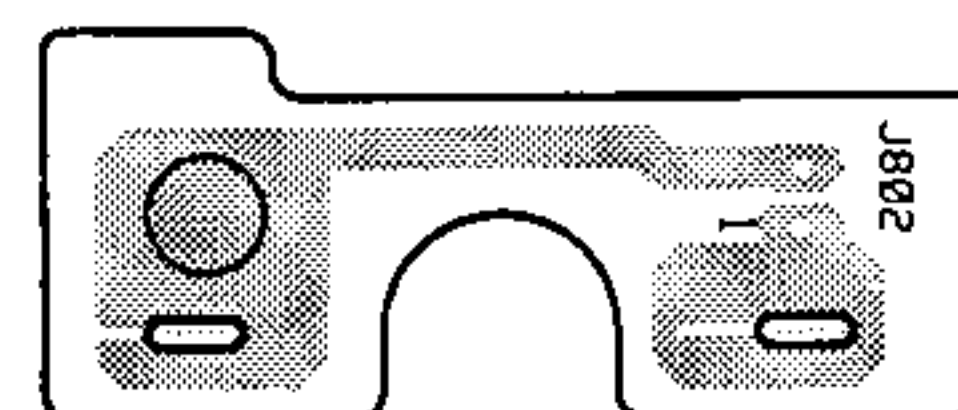
1C501

IC2531

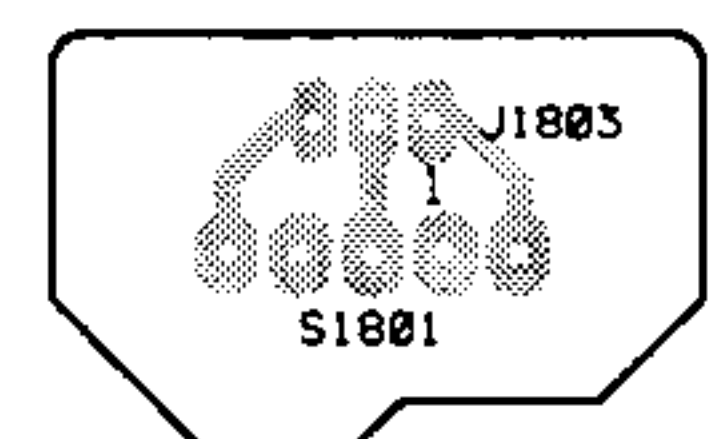
IC2511



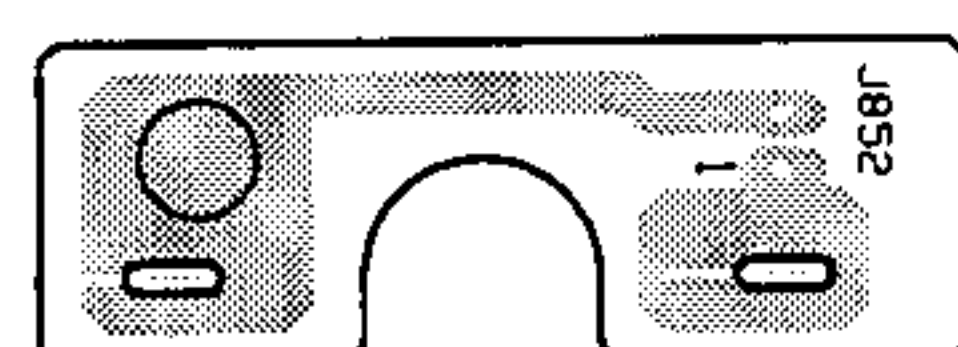
(RNP1694-A)



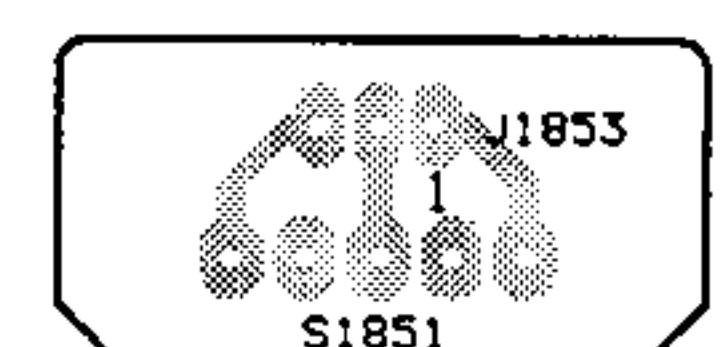
D MOTOR 1
UNIT



EJECT 1 UNIT



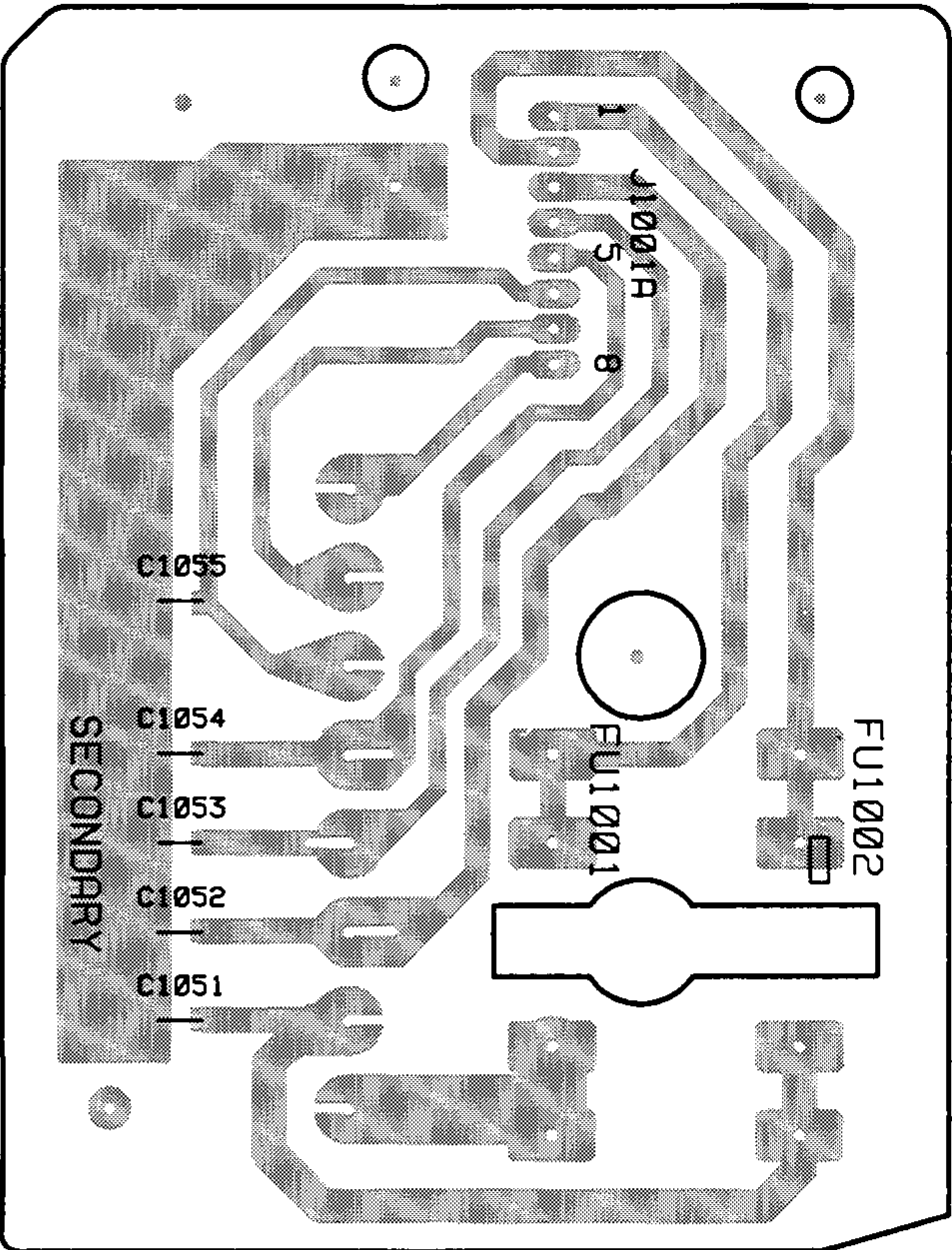
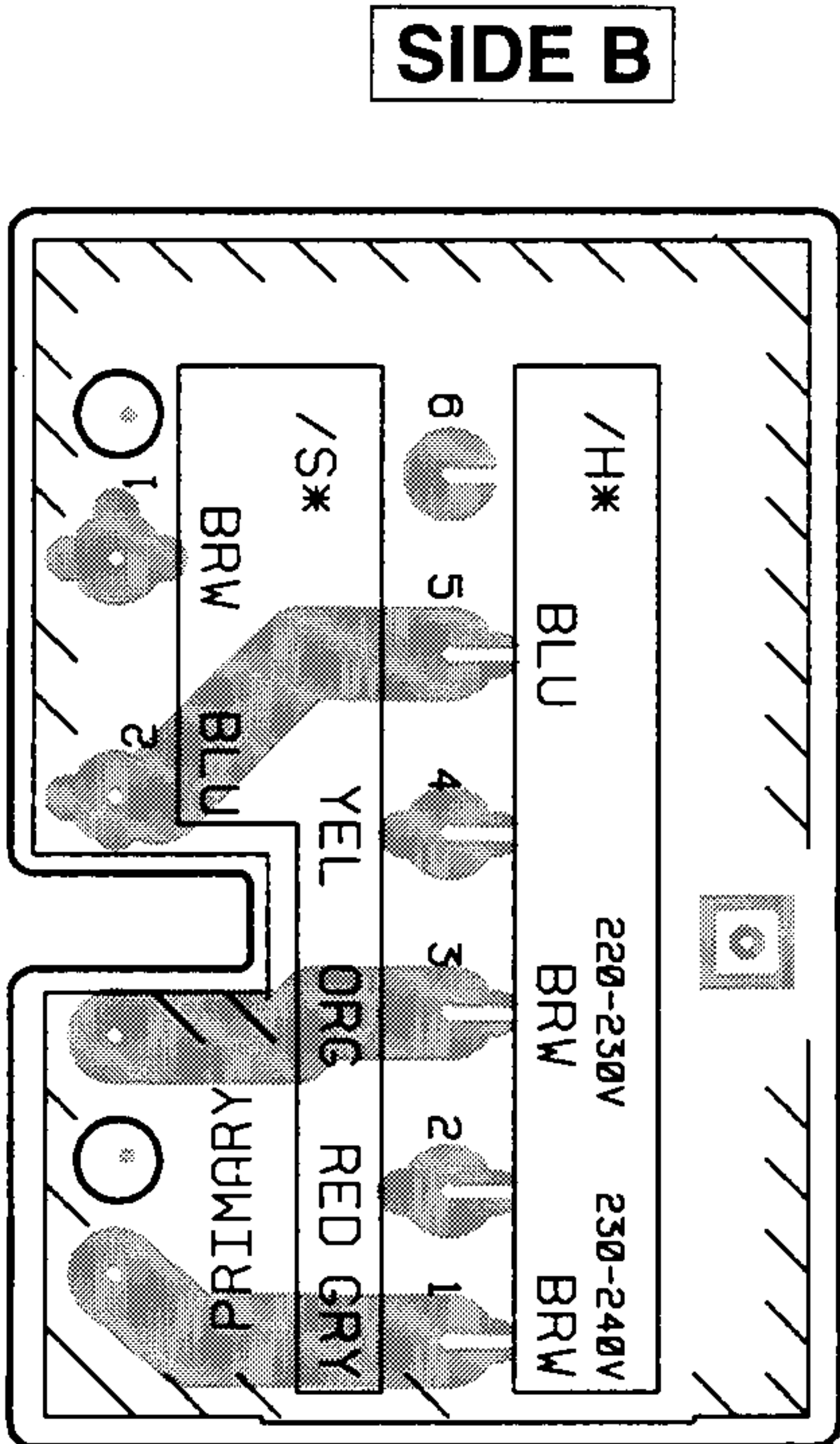
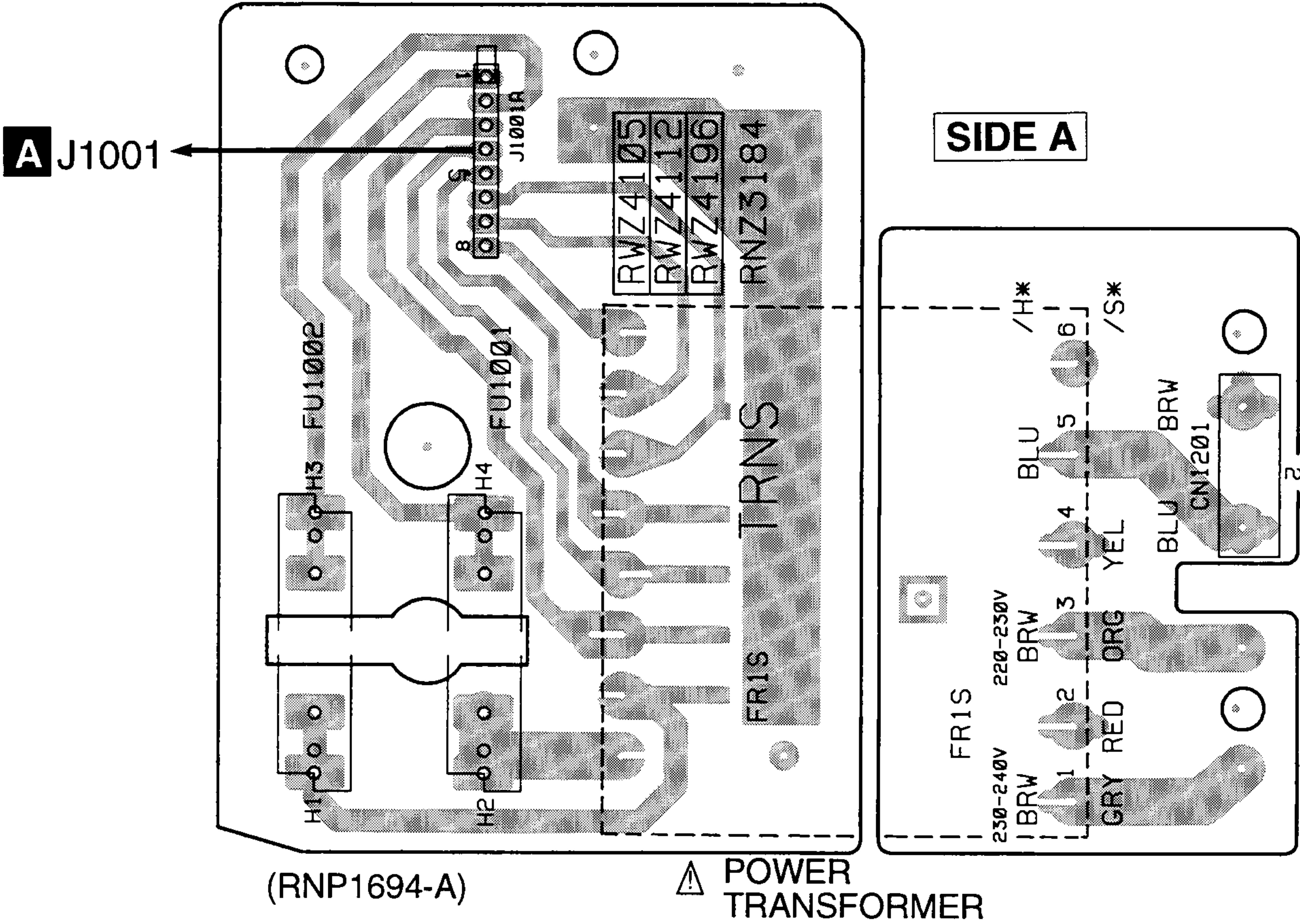
F MOTOR 2
UNIT



G EJECT 2 UNIT

4.2 TRANS UNIT

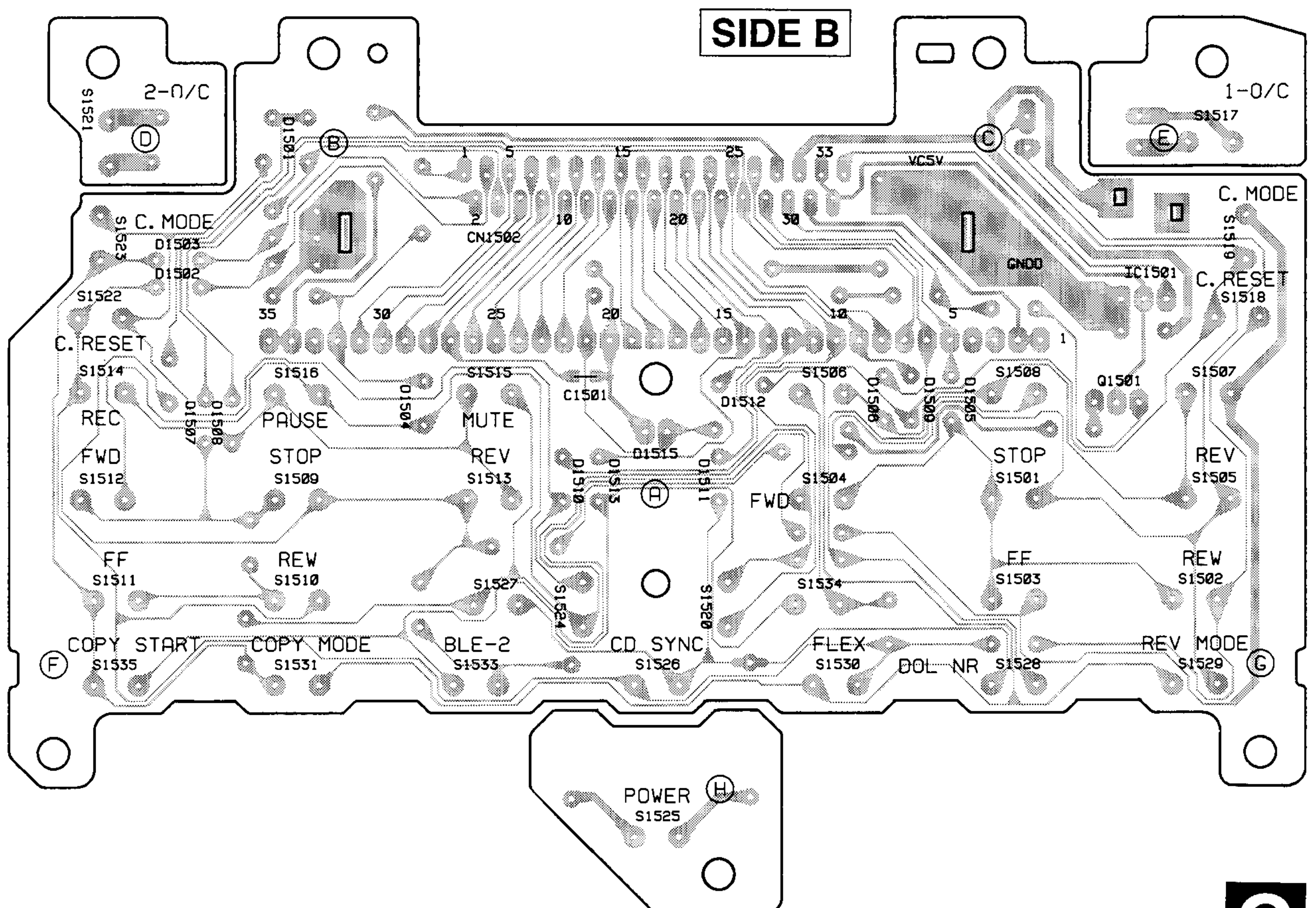
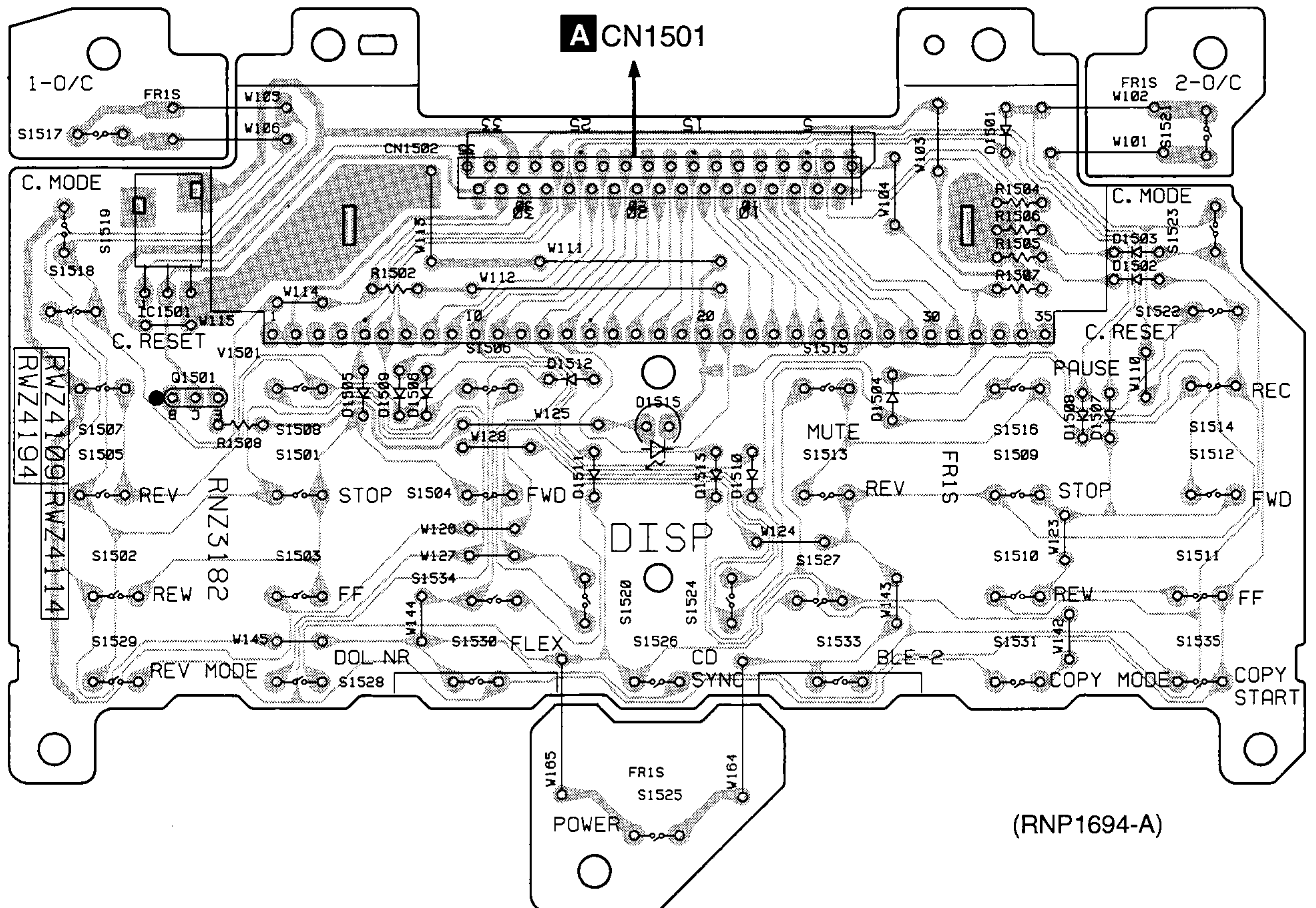
B TRANS UNIT



4.3 SUBB UNIT

C SUBB UNIT

SIDE A



5. PCB PARTS LIST

NOTES: • Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.

- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω $\rightarrow$ 56×10^1 $\rightarrow$ 561 RD1/4PU 5 6 1 J

47k Ω $\rightarrow$ 47×10^3 $\rightarrow$ 473 RD1/4PU 4 7 3 J

0.5 Ω $\rightarrow$ R50 RN2H R 5 0 K

1 Ω $\rightarrow$ 1R0 RS1P 1 R 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω $\rightarrow$ 562×10^1 $\rightarrow$ 5621 RN1/4PC 5 6 2 1 F

5.1 LIST OF WHOLE PCB ASSEMBLIES

Mark	Symbol and Description	Part No.					Remarks
		CT-W706DR		CT-W606DR		CT-05D	
		HYXJ	SDXJ	HYXJ, HVXJ, HPWXJ	SDXJ, SLXJ	KUXJ/CA	
NSP	MOTHER UNIT	RWM1990	RWM1991	RWM1992	RWM1993	RWM1996	*
	— MAIN UNIT	RWZ4108	RWZ4111	RWZ4113	RWZ4117	RWZ4125	
NSP	— TRANS UNIT	RWZ4105	RWZ4112	RWZ4105	RWZ4112	RWZ4115	
	— SUBB UNIT	RWZ4109	RWZ4109	RWZ4114	RWZ4114	RWZ4107	
NSP	— MOTOR 1 UNIT	RWZ4191	RWZ4191	Not used	Not used	Not used	
NSP	— EJECT 1 UNIT	RWZ4123	RWZ4123	Not used	Not used	Not used	
NSP	— MOTOR 2 UNIT	RWZ4192	RWZ4192	Not used	Not used	Not used	
NSP	— EJECT 2 UNIT	RWZ4124	RWZ4124	Not used	Not used	Not used	

Note * : Although TRANS UNIT (RWZ4105), (RWZ4112) and (RWZ4115) are different in part number, they have the same service parts.

5.2 CONTRAST OF PCB ASSEMBLIES

MAIN UNIT

RWZ4108, RWZ4111, RWZ4113, RWZ4117 and RWZ4125 have the same construction except for the following :

Mark	Symbol and Description	Part No.					Remarks
		RWZ4108	RWZ4111	RWZ4113	RWZ4117	RWZ4125	
Δ	IC801,IC851	LB1641	LB1641	Not used	Not used	Not used	
	S1001 Power Switch	RSA1002	RSA1002	RSA1002	RSA1002	Not used	
	F131-F134 Chip Bead	DTF1067	Not used	DTF1067	Not used	Not used	
	C203,C204	CCCSL470J50	Not used	CCCSL470J50	Not used	Not used	
	C802,C852	CCSQCH470J50	Not used	CCSQCH470J50	Not used	Not used	
	C803,C853	CKSQYF473Z50	CKSQYF473Z50	Not used	Not used	Not used	
	C804,C854	CKCYF473Z50	CKCYF473Z50	Not used	Not used	Not used	
	C805,C806,C855,C856	CKSQYB102K50	CKSQYB102K50	Not used	Not used	Not used	
	C1001-C1004	CKCYF473Z50	CKCYF473Z50	CKCYF473Z50	CKCYF473Z50	Not used	
	R131-R134	Not used	RS1/10S0R0J	Not used	RS1/10S0R0J	Not used	
	R501	RA4T223J	RA4T223J	Not used	Not used	Not used	
	R507	Not used	Not used	Not used	Not used	RD1/4PU223J	
	R509	RD1/4PU223J	RD1/4PU223J	Not used	Not used	RD1/4PU223J	
	R510,R826,R876	RD1/4PU363J	RD1/4PU363J	Not used	Not used	Not used	
	R812,R861	RD1/4PU223J	RD1/4PU513J	RD1/4PU223J	RD1/4PU513J	RD1/4PU513J	
	R820,R821,R824	RD1/4PU102J	RD1/4PU102J	Not used	Not used	Not used	
	R870,R871,R874	RD1/4PU102J	RD1/4PU102J	Not used	Not used	Not used	
	R822,R872	RFA1/4PL100J	RFA1/4PL100J	Not used	Not used	Not used	
	R823,R873	RD1/4PU272J	RD1/4PU272J	Not used	Not used	Not used	
	R825	RD1/4PU223J	RD1/4PU223J	Not used	Not used	Not used	
	VR701 (5k Ω)	RCV1089	RCV1089	RCV1089	RCV1089	RCV1115	
	CN802,CN852	52147-0210	52147-0210	Not used	Not used	Not used	
	2P Jumper Connector						
	CN803,CN853	52147-0310	52147-0310	Not used	Not used	Not used	
	3P Jumper Connector						

SUBB UNIT

RWZ4109, RWZ4114 and RWZ4107 have the same construction except for the following :

Mark	Symbol and Description	Part No.			Remarks
		RWZ4109	RWZ4114	RWZ4107	
	S1517,S1521 S1525	VSG1010 Not used	Not used Not used	Not used VSG1010	

5.3 PARTS LIST FOR CT-W706DR/HYXJ

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
A MAIN UNIT							
SEMICONDUCTORS							
	IC2511		AK7712-VQ		L301, L302		RTF1102
	IC591		AK93C45		F201, F202		RTF1217
	IC301, IC601, IC701, IC751		BA15218N	SWITCH			
	IC202, IC203		BU4066BC		S1001		RSA1002
	IC101		CXA1115BP	CAPACITORS			
	IC201		CXA1562S		C453, C454		CCCSL271K2H
	IC801, IC851		LB1641		C203, C204		CCCSL470J50
	IC551		M62354GP		C161, C162		CCSQCH100D50
△	IC1001, IC1002		NJM7812FA		C109-C112, C455, C701, C702		CCSQCH101J50
△	IC1003, IC1004		NJM78M05FA		C785, C786		CCSQCH121J50
	IC501		PD5391B		C2531, C2532		CCSQCH180J50
	IC2531		TC7WU04F		C467, C468		CCSQCH221J50
	IC451		UPC1297CA		C802, C852		CCSQCH470J50
	Q1001, Q801, Q851		2SA1309A		C107, C108		CEANL101M10
	Q805, Q855		2SB1238X		C1013, C115, C116, C211, C212		CEAS100M50
	Q803, Q853		2SB1425		C217, C218, C2514, C2516, C2519		CEAS100M50
	Q1003, Q571, Q572, Q807, Q857		2SC1740S		C2521, C307, C308, C465		CEAS100M50
	Q401, Q402		2SC1815		C607, C608, C783, C784		CEAS100M50
	Q301, Q302, Q403, Q751, Q752		2SD2144S		C605, C606		CEAS101M16
	Q161, Q162		2SK373		C201, C202, C205, C206		CEAS1R0M50
	Q1004, Q165, Q451		KRA102M		C2201, C2202, C241, C242		CEAS1R0M50
	Q771, Q772		KRA111M		C309, C310, C707, C708		CEAS1R0M50
	Q1002, Q201-Q204, Q207, Q210		KRC103M		C757, C758		CEAS1R0M50
	Q452, Q804, Q806, Q854, Q856		KRC103M		C1014		CEAS220M16
	Q902		KRC103M		C781, C782		CEAS220M50
	Q101-Q108, Q163, Q164, Q166		KRC111M		C1015		CEAS221M35
	Q802, Q852		KRC111M		C406, C407, C705, C706		CEAS330M16
△	D1005, D1007		1SR35-100AVL		C1011, C1012, C1019, C1028		CEAS331M16
△	D1002, D1003		1SS254		C1017, C119, C121, C219, C220		CEAS470M16
	D1004, D161, D162, D2201-D2204		1SS254		C2225, C2226, C305, C408, C501		CEAS470M16
	D301-D304, D901-D903		1SS254		C552, C602, C704, C759		CEAS470M16
	D908-D910		1SS254		C303, C304, C469, C470		CEAS4R7M50
	D771		MTZJ3. 9B		C456		CEASR22M50
△	D1006, D1008		MTZJ5. 6B		C221, C222		CFTXA103J50
△	D1001		S2VB20		C207, C208		CFTXA104J50
	D801, D851		S5688G		C209, C210		CFTXA683J50
COILS AND FILTERS					C601, C771, C901, C902		CKCYF103Z50
△	F131-F134 CHIP BEAD		DTF1067		C1001-C1006, C1008, C1020-C1024		CKCYF473Z50
	L402		LFA121K		C1027, C1029, C711, C804, C854		CKCYF473Z50
	X501 CERAMIC RESONATOR (8.389MHz)		RSS1042		C903		CKCYF473Z50
	X2531 CRYSTAL RESONATOR (18.432MHz)		RSS1052		C751, C752, C801, C805, C806		CKSQYB102K50
	L401		RTD1052		C851, C855, C856		CKSQYB102K50
	L451, L452		RTD1053		C463, C464, C505		CKSQYB103K50
	L101, L102		RTF1099		C101, C102, C301, C302		CKSQYB221K50
					C459, C460		CKSQYB223K50
					C2205, C2206, C403-C405		CKSQYB332K50
					C125, C126		CKSQYB391K50
					C103, C104		CKSQYB471K50
					C457, C458		CKSQYB473K50

CT-W706DR, CT-W606DR, CT-05D

Mark	No.	Description	Part No.
	C123, C124		CKSQYB561K50
	C105, C106		CKSQYB681K50
	C461, C462		CKSQYB821K50
	C120, C128, C502-C504, C551		CKSQYF103Z50
	C591		CKSQYF103Z50
	C2511, C2513, C2515, C2517		CKSQYF104Z25
	C2522-C2525, C2527, C2528		CKSQYF104Z25
	C2533, C803, C853		CKSQYF473Z50
	C402		COMA223J50
	C113, C114		COMA822J50
	C401		CQPA682J2A
	C1010		DCH1063
	C451, C452 (430pF, 500V)		RCG1005
	C1018		RCH1148
RESISTORS			
	R501		RA4T223J
	R504		RA8T223J
	R221, R222 (560Ω)		RCN1024
	R401		RD1/2LMF1R0J
	R405		RD1/2LMF330J
△	R404		RD1/2LMF5R6J
△	R822, R872		RFA1/4PL100J
	R1011		RFA1/4PL470J
	R211, R212		RS1/10S0R0J
	R2519		RS1/10S101J
	R303, R304, R406		RS1/10S102J
	R210, R309, R310, R765, R766		RS1/10S103J
	R311, R312, R315, R316, R518		RS1/10S104J
	R703, R704, R779-R782		RS1/10S104J
	R161-R164, R2531		RS1/10S105J
	R231, R232		RS1/10S112J
	R402, R403, R763, R764		RS1/10S123J
	R107, R108		RS1/10S151J
	R515, R516		RS1/10S152J
	R723, R724		RS1/10S153J
	R111, R112, R571, R572		RS1/10S163J
	R705-R708		RS1/10S184J
	R305, R306		RS1/10S202J
	R209		RS1/10S203J
	R120, R2533, R408, R717, R718		RS1/10S222J
	R453, R454, R591, R701, R702		RS1/10S223J
	R903		RS1/10S223J
	R451, R452		RS1/10S224J
	R109, R110		RS1/10S273J
	R2217-R2220		RS1/10S301J
	R233, R234		RS1/10S302J
	R307, R308		RS1/10S303J
	R115, R573, R574		RS1/10S333J
	R101, R102, R105, R106		RS1/10S334J
	R2532, R751, R752		RS1/10S471J
	R165, R2229, R2230, R407		RS1/10S473J
	R103, R104		RS1/10S514J
	R575, R576		RS1/10S683J
	R235, R236, R301, R302		RS1/10S822J
	R609-R612		RS1/10S823J
	R1014		RS1LMF102J
	R607		RS1LMF221J
	VR851 (2.2kΩ)		RCP1019
	VR801, VR852 (1kΩ)		RCP1044
	VR101-VR104 (10kΩ)		RCP1045
	VR701 (5kΩ)		RCV1089
	Other Resistors		RD1/4PU□□□J

Mark	No.	Description	Part No.
OTHERS			
	CN1501	33P FFC CONNECTOR	52045-3345
	CN802, CN852	2P JUMPER CONNECTOR	52147-0210
	CN803, CN853	3P JUMPER CONNECTOR	52147-0310
	JA701	PIN JACK 4P	AKB7014
	CN401	KR CONNECTOR 2P	B2B-PH-K-S
	CN101, CN151	KR CONNECTOR 3P	B3B-PH-K-S
	JA901	MINI JACK	PKN1005
	JA601	HEADPHONE JACK	RKN1002
	JA911, JA912	JACK	RKN1004
	PCB BINDER		VEF1008
	GROUND PLATE		VNF-091
B TRANS UNIT			
OTHERS			
	H1-H4	FUSE CLIP	AKR1004
C SUBB UNIT			
SEMICONDUCTORS			
	Q1501		KRC111M
	D1505-D1513		1SS254
	D1515		MBG5074X
SWITCHES			
	S1501-S1505, S1509-S1519		VSG1010
	S1521-S1523, S1526, S1528-S1531		VSG1010
	S1533, S1535		VSG1010
CAPACITOR			
	C1501		CKSQYB221K50
RESISTORS			
	All Resistors		RD1/4PU□□□J
OTHERS			
	CN1502	33P FFC CONNECTOR	52044-3345
	V1501	FL TUBE	RAW1157
D MOTOR 1 UNIT			
This unit has no service parts.			
E EJECT 1 UNIT			
SWITCH			
	S1801	LEAF SWITCH	VSK1011
F MOTOR 2 UNIT			
This unit has no service parts.			
G EJECT 2 UNIT			
SWITCH			
	S1851	LEAF SWITCH	VSK1011

6. ADJUSTMENT

- Adjustment points and Measurement points are shown in Fig. 6-6.

6.1 MECHANICAL ADJUSTMENT

6.1.1 Door Damping Check and Adjustment (except CT-W706DR)

Set the door spring of the DECK I side to position (A) as shown in Fig. 6-1. Then, erect the front panel assembly vertically.

Open the doors of DECK I and DECK II at the same time. At this point, confirm that the difference between the door completely opened and the other door is within 15 mm. If this standard is not satisfied install the door spring of DECK I at another position and adjust as follows:

- When the door of DECK I opens later than that of DECK II :
Change the door spring of DECK II from (A) to (B).
- When the door of DECK I opens faster than that of DECK II :
Change the door spring of DECK I from (A) to (B).

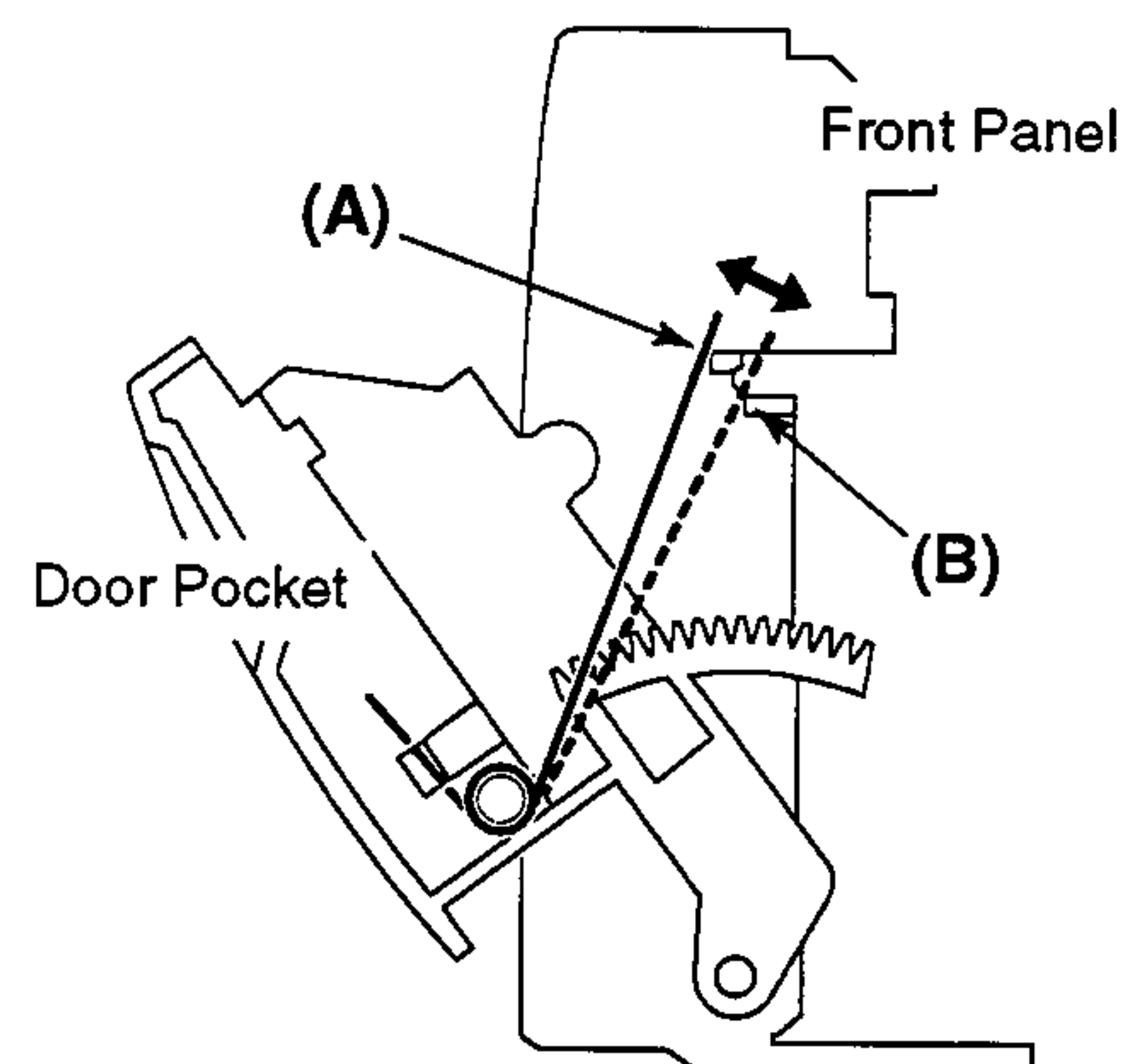


Fig. 6-1

6.1.2 Tape Speed Adjustment

- Perform this adjustment in the test mode.

- Test Mode Setting

- (1) Press the TIME/COUNT and RESET keys of DECK I together with the PAUSE key of DECK II .
- (2) The speed becomes normal when the PLAY key is pressed, and double when the FF key is pressed.
- (3) To cancel the TEST mode, press the RESET key of DECK I or turn off the power.

No.	DECK	Mode	Test Tape	Adjusting Point	Specifications / Ratings (Playback Frequency)	Remarks
1	I	Double Speed PLAY	STD-301 (3 kHz) or NCT-111	Check	5100Hz ± 510Hz	
2	II			VR851	Within ±10Hz against the measurement value of the step 1 (DECK I).	
3	I	Normal Speed PLAY		VR801	2980Hz ± 5Hz	
4	II			VR852	Within ± 5Hz against the measurement value of the step 3 (DECK I).	

6.2 ELECTRICAL ADJUSTMENT

Adjustment Conditions

- (1) The mechanical adjustments must be completed first.
- (2) The head must be cleaned and demagnetized.
- (3) Turn the power on allow the deck to warm up for at least a few minutes before commencing any electrical adjustments.
- (4) The reference signal is 0 dBV = 1 Vrms.
- (5) Connect a 10 k Ω load resistance to the OUTPUT terminals.
- (6) Unless otherwise specified, the switches listed below are left in the positions indicated.
DOLBY NR : OFF
TAPE SELECTOR : NORM

Test Tape

- STD-331E : Playback adjustment (See Fig. 6-2)
STD-632 : NORMAL blank tape
STD-622 : CrO2 blank tape
STD-611 : METAL blank tape

* As the reference recording level is 250 nwb/m for STD - 331E, the recording level will be higher by 4 dB for STD - 331B (160nwb/m). When adjusting, pay careful attention to the type of tape used.

List of Adjustments

■ Playback Section

- (1) Head Azimuth Adjustment
- (2) Playback Level Adjustment

■ Recording Section

- (1) Bias Oscillator Adjustment
- (2) Recording Bias and Recording Level Automatic Adjustment
- (3) Level Meter Check

NOTE : This unit has an automatic tape selection feature.

*Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.
"DOLBY", the double-D symbol and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.*

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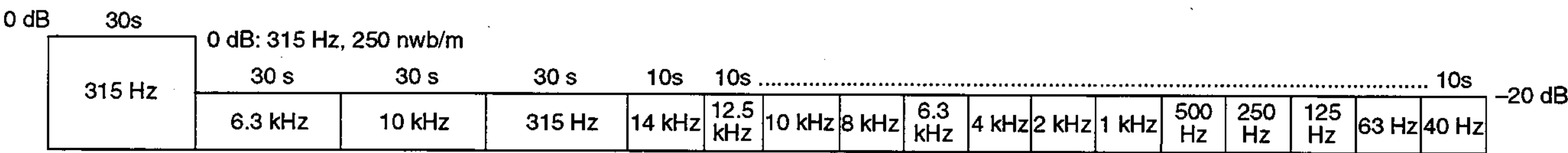


Fig. 6-2 Constants of the Test Tape STD-331E

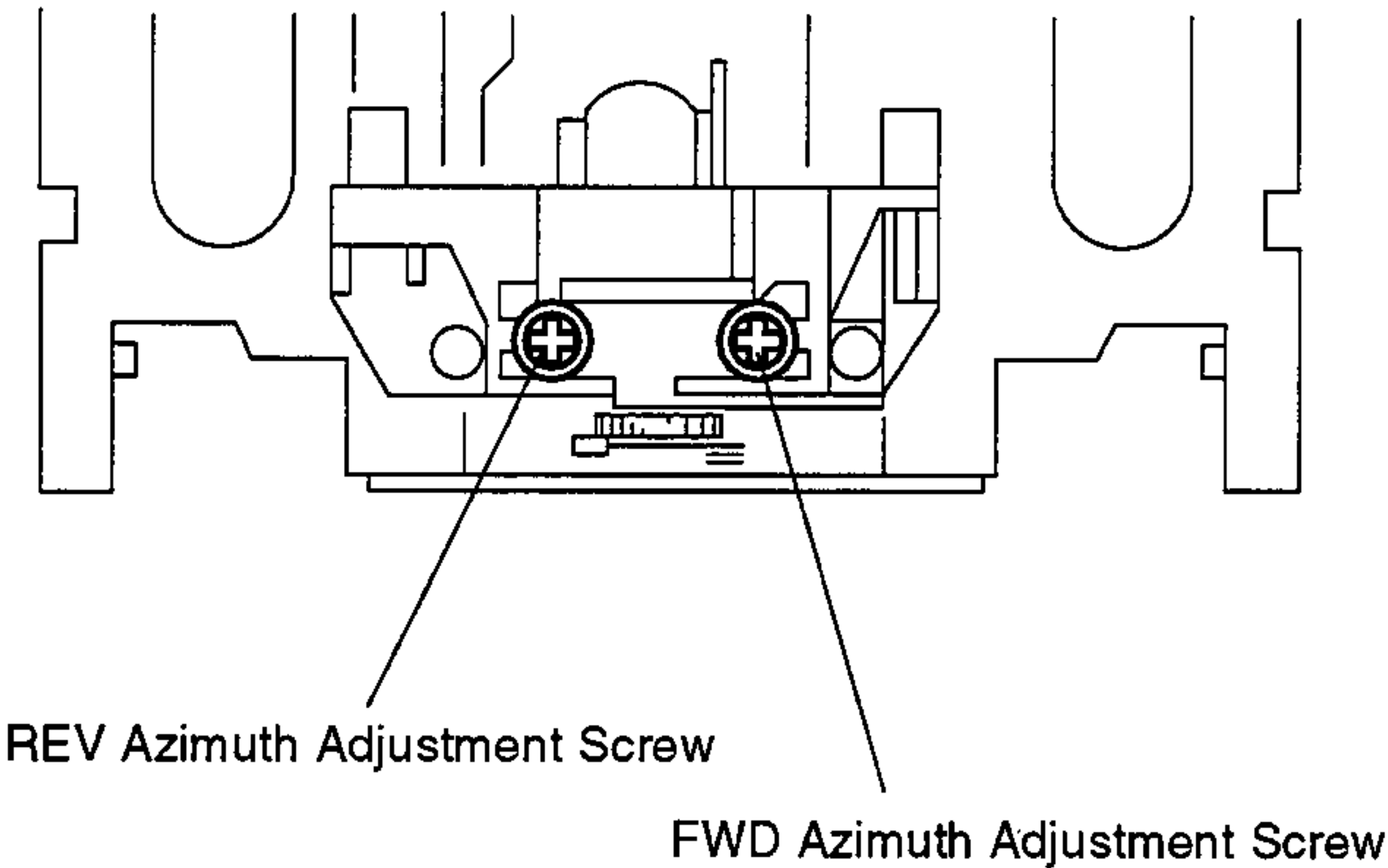
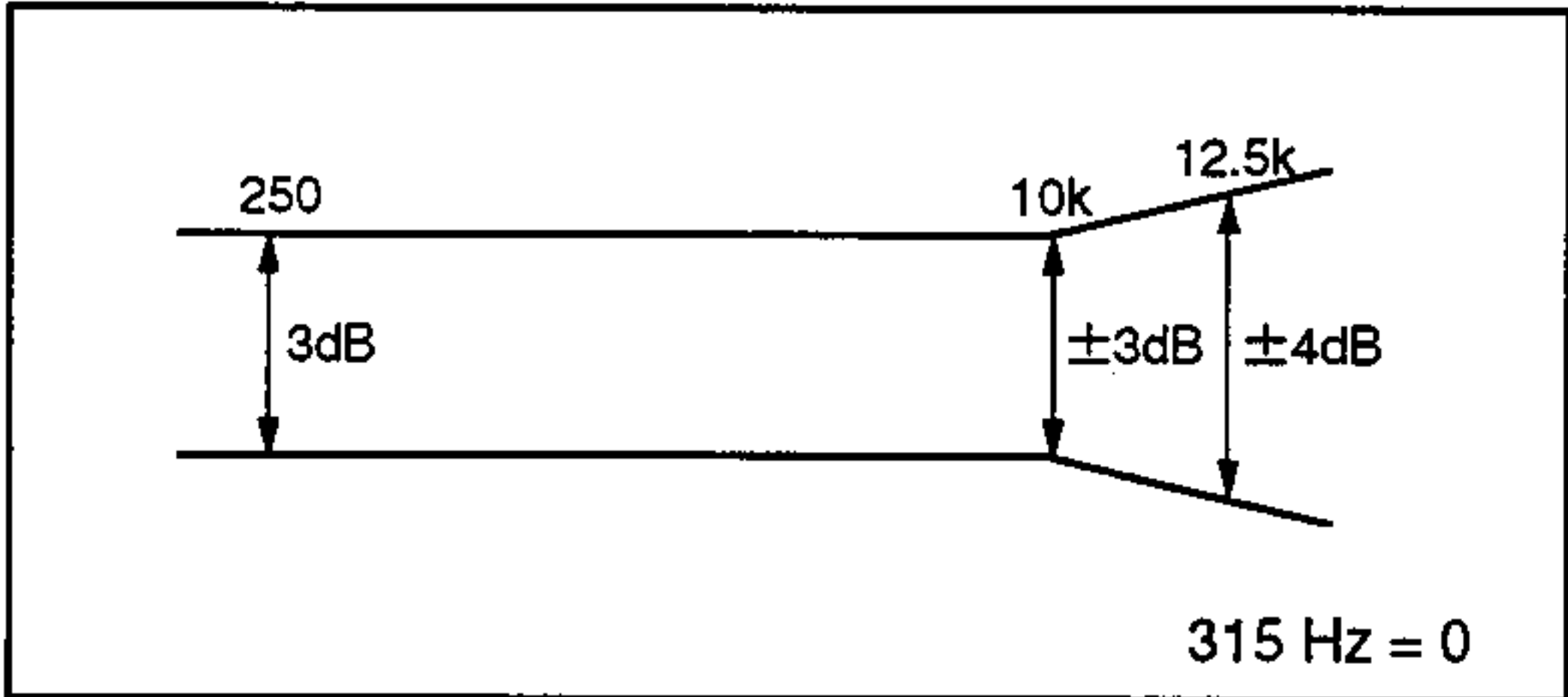


Fig. 6-3 Head Azimuth Adjustment

PLAY BACK



RECORDING

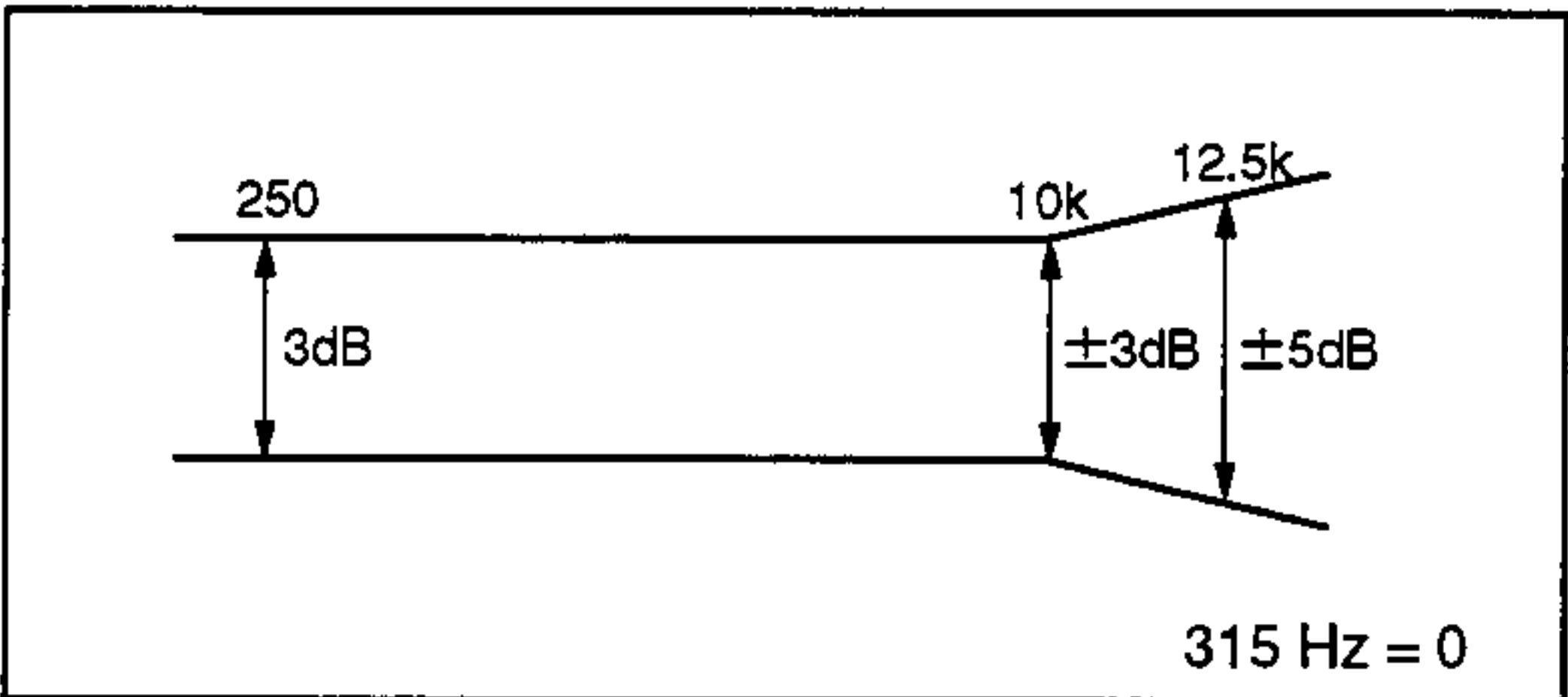


Fig. 6-4 Frequency Response Zone

6.2.1 Playback Section

(1) Head Azimuth Adjustment

- Turn VR101, VR102 (DECK I) or VR103, VR104 (DECK II) to mechanical center positions.

No.	Mode	Input Signal and Test Tape	Adjustment Location	Measurement Location	Adjustment Value	Remarks
1	PLAY	Play the 10kHz / - 20dB section of STD-331E test tape.	Head azimuth adjustment screw (See Fig. 6-3)	LINE OUT	Maximum playback signal level	
2	STOP	Lock the screw with silicon bond after completing adjustment.				

(2) Playback Level Adjustment

- This adjustment determines the DOLBY NR level, and must be performed with great care.

No.	Mode	Input Signal and Test Tape	Adjustment Location	Measurement Location	Adjustment Value	Remarks
1	PLAY	Play the 315Hz / 0dB section of the STD-331E test tape.	DECK I	VR101 (L ch) VR102 (R ch)	TP 1 (L ch) TP 2 (R ch)	- 6.7dBV
			DECK II	VR103 (L ch) VR104 (R ch)		

6.2.2 Recording Section

(1) Bias Oscillator Adjustment

No.	Mode	Input Signal and Test Tape	Adjustment Location	Measurement Location	Adjustment Value	Remarks
1	REC	Load the STD- 611 test tape with no input signal.	DECK II	L401	TP 11	107kHz ± 0.3kHz

If the adjustment value on the left cannot be obtained values within 107kHz ^{+2.3}/_{-0.3} kHz are also satisfactory.

(2) Recording Bias and Recording Level Automatic Adjustment

REC Adjustment Check

1. Test tape DECK II STD-632 set in.

2. Test mode setting.

① Press the test mode, set both TIME/COUNT and RESET keys of DECK I together with the PAUSE key of DECK II all together.

↓

② Set COPY START key is press push.

↓

③ When the REC key (DECK II) is pressed, "B" flashes on the counter, and adjustment of bias and recording level is started automatically.

- When correct adjustment has been completed, the mechanism stops for about 50 seconds, and "PBR" lights on the DECK II side counter to indicate that all adjustments have been completed.
- At this time, flashing of "B" indicates a bias adjustment error, while flashing of "R" indicates a recording level error.

↓

④ With correct adjustment, "PBR" lights on the DECK II side of the counter. When the DECK II side counter does not light, no adjustment value is written into the memory.

↓

⑤ When the STOP key is pressed, the automatic adjustment mode is cancelled. At this time, the counter display becomes "10" on the DECK I side and "TUNE" on the DECK II side. (See Fig. 6-5)

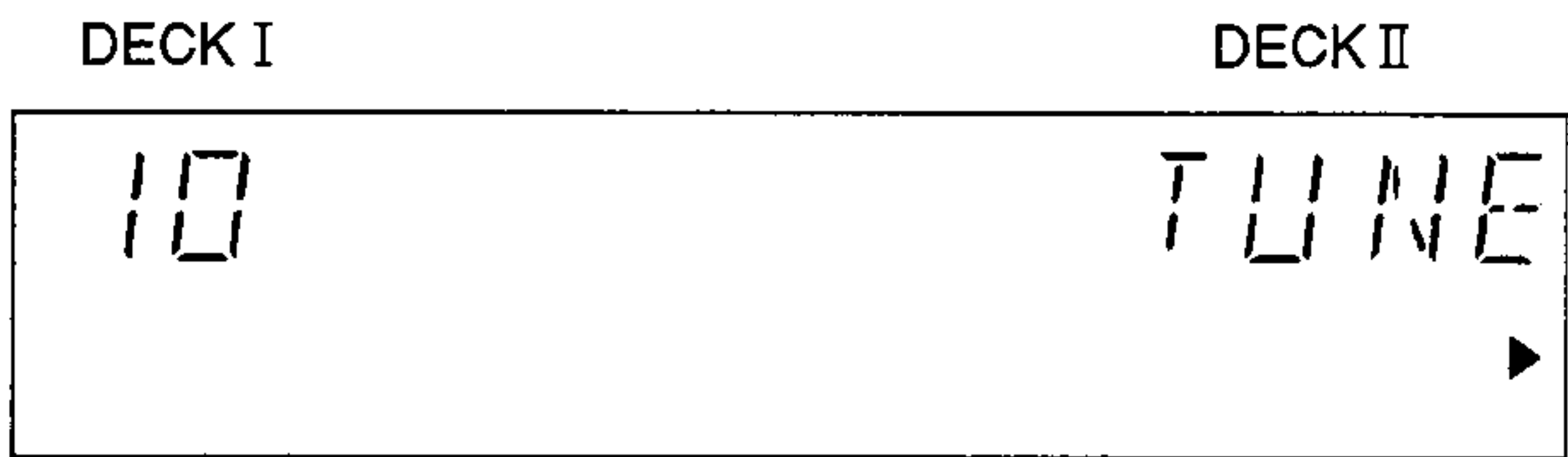


Fig. 6-5 FL Display Example

↓

⑥ Press the RESET Key at the DECK I, canceling the test mode.

Adjustment NG : The following are possible reasons.

- No recording
- No adjustment tape. Near the tape end.
- Tape is extremely damaged.
- Circuit trouble (defective contact etc.)

Note: For repeat adjustment, press the STOP key (DECK II) to leave automatic adjustment mode, and then start again.

(3) Level Meter Check

No.	Mode	Input Signal and Test Tape	Adjustment Location	Measurement Location	Adjustment Value	Remarks
1	REC PAUSE	Apply a 315Hz / - 6dBV (500 mV) signal to the LINE INPUT terminals.	REC level control volume	TP 1 (L ch) TP 2 (R ch)	Check that the level meters "0 dB" light up within - 7.2dBV ± 2dB of the signal output level.	

MAIN Unit

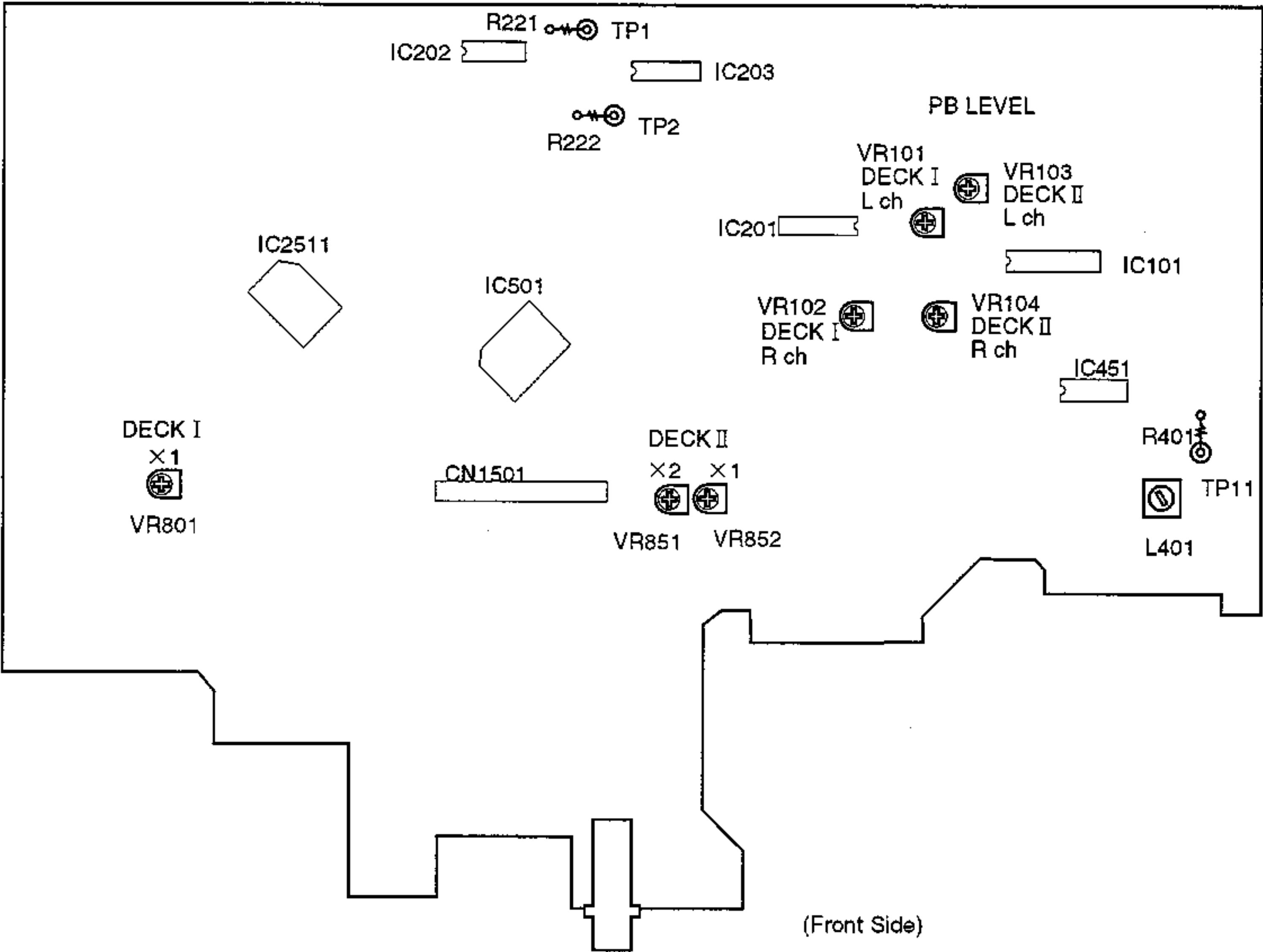


Fig. 6-6 Adjustment Points and Measurement Points

7. GENERAL INFORMATION

7.1 PARTS

7.1.1 IC

■ PD5391B (MAIN UNIT : IC501)

● System Control Microcomputer

● Pin Function

- The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

No.	Name	I/O	Description												
1	SW1	I	The terminals 1 and 2 use the internal ADC to convert the analog input from the SW input terminals to digital data.												
2	SW0	I													
3	1CLOSE	O	Cassette door control terminal During Door open: OPEN =“H”, CLOSE = “L” During Door close: OPEN =“H”, CLOSE = “L”												
4	1OPEN	O													
5	2CLOSE	O													
6	2OPEN	O													
7	2×1	O	Speed control terminal for the mechanism on side 2. Normally, “H” is put out, and “L” is put out at the time of high-speed copying.												
8	SCLK	O	DSP (IC2511) communication “SCLK” terminal												
9	SO	O	DSP (IC2511) communication “SO” terminal												
10	SI	I	DSP (IC2511) communication “SI” terminal												
11	RDY	I	DSP (IC2511) communication “RDY” terminal (Not used)												
12	DRDY	I	DSP (IC2511) communication “DRDY” terminal (Not used)												
13	RQB	O	DSP (IC2511) communication “RQB” terminal												
14	CS	O	DSP (IC2511) communication “CS” terminal												
15	RST	O	DSP (IC2511) communication “RST” terminal												
16	PDB	O	DSP (IC2511) communication “PDB” terminal												
17	CDIN	I	CD synchro, Control signal input from CD.												
18	CDJC	I	CD synchro, Code detection signal input												
19	DOL0	O	DOLBY position control terminals <table><tr><td></td><td>DOLB</td><td>DOL0</td></tr><tr><td>OFF</td><td>L</td><td>H</td></tr><tr><td>B</td><td>H</td><td>L</td></tr><tr><td>C</td><td>L</td><td>L</td></tr></table>		DOLB	DOL0	OFF	L	H	B	H	L	C	L	L
	DOLB	DOL0													
OFF	L	H													
B	H	L													
C	L	L													
20	DOLB	O													
21	2SOL	O	Mechanism 2 solenoid terminal. “H” output at the time of mechanical assistance.												
22	2CPM	O	Mechanism 2 capstan motor terminal. “H” output during operation of the mechanism.												

No.	Name	I/O	Description
23	METR	O	Bias control terminal. "OPEN" status at the time of TYPE IV tape recording.
24	LMUT	O	Line output mute terminal. MUTE with "L" output
25	BIAS	O	Bias control terminal. "H" output at the time of recording.
26	2PB	O	Switching playback terminal. "H" output at the time of 2 side playback.
27	XL22	O	XD control terminal At the time of XD OFF recording, all ports are open, and at the time of XD ON recording, they are open or "L" output is executed according to the input signal.
28	XL21	O	
29	XL20	O	
30	XR22	O	
31	XR21	O	
32	XR20	O	
33	REMT	I	SR input terminal. "H" when there is no input.
34	POFF	I	Power OFF detection signal input terminal. Power OFF processing is executed with "H" input.
35	REST	I	Reset signal input terminal. Reset status is reached with "L" input, and each output port becomes open.
36	XCIN	I	Sub clock input terminal (Not used)
37	XCOU	I	
38	XIN	I	Clock input terminal
39	XOUT	I	
40	Vss	I	Connected to GND.
41	NORR	O	Bias control terminal. "L" output at the time of TYPE I tape recording.
42	RMUT	O	REC output mute terminal. Muting with "L" output.
43	DEC	O	DOLBY IC (IC201) encode/decode switching terminal. "H" output at the time of decoding.
44	PBNR	O	"H" output at the time of TYPE I tape playback.

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No.	Name	I/O	Description
45 48	KEY3 KEY0	I	Key scan input terminal
49	DIM	I	Memory (IC591) communication data input terminal
50	DATD	O	Memory (IC591) communication data output and bias control DAC (IC551) communication data output terminal.
51	CLKD	O	Memory (IC591) communication data output and bias control DAC (IC551) communication CLK output terminal
52	CSM	O	Memory (IC591) communication CS output terminal
53	OUTD	O	DAC (IC551) for bias control communication, enable output terminal.
54	1×1	O	Speed control terminal for the mechanism on side I. Normally, “H” is put out, and “L” is put out at the time of high-speed copying.
55	METL	O	Bias control terminal. “OPEN” status at the time of TYPE IV tape recording.
56	NORL	O	Bias control terminal. “L” output at the time of TYPE I tape recording.
57 | 66	G10 | G1	O	FL display segment output and key scan output
67 | 80	P14 | P1	O	FL display segment output and key scan output
81	NC	O	OPEN
82	LDS0	O	DIGITAL IND (LED) control terminal. ON with “H”.
83	LSTB	O	Connected to GND through a resistor.
84	TOCD	O	CD synchro. Output terminal for the control signal to the CD.
85	1SOL	O	Mechanism 1 solenoid terminal. “H” output at the time of mechanical assistance.
86	1CPM	O	Mechanism 1 capstan motor terminal. “H” output during operation of the mechanism.

No.	Name	I/O	Description									
87	ASE2	O	Line Input/ Output selection terminal <table border="1"><tr><td></td><td>ASE2</td><td>ASE3</td></tr><tr><td>Playback</td><td>H</td><td>L</td></tr><tr><td>Recording, Copy</td><td>L</td><td>H</td></tr></table>		ASE2	ASE3	Playback	H	L	Recording, Copy	L	H
	ASE2	ASE3										
Playback	H	L										
Recording, Copy	L	H										
88	ASE3	O										
89	VEE	I	Power supply for the built-in resistance drive of the FL drive terminals (terminals 57 to 80). Connect to −21 V.									
90	2SEN	I	2 mechanism unit reel sensor input terminal									
91	Vcc	I	Connected to +5V.									
92	1SEN	I	1 mechanism unit reel sensor input terminal									
93	AVss	I	Built-in ADC power supply terminal Connected to GND.									
94	VREF	I	Built-in ADC power supply terminal Connected to +5V.									
95 100	SW7 SW2	I	Each SW input terminal Conversion of analog input to digital data by the built-in ADC.									

■ AK7712-VQ (MAIN UNIT : IC2511)

● DSP

● Pin Function

No.	Name	I/O	Description
1 | 3			
4	OPCL	I	Built-in ADC, DAC connection selection terminal. Connection with "L".
5	PDADB	I	Built-in ADC reset input terminal. "L" input.
6	PDDAB	I	Built-in DAC reset input terminal. "L" input.
7	PDB	I	Power-down terminal. "L" input only at the time of power ON.
8	RST	I	Reset terminal. "L" input other than at the time of PLAY and REC.
9 | 11			
12	DVB	I	Connected to +5V (digital).
13 | 20			
21	SMODE	I	Master/slave mode switching. "H" input.
22 | 24			
25	DVDD	I	Connected to +5V (digital).
26	DVSS	I	Connected to GND (digital).
27			
28	XTI	I	Connected to Crystal resonator (18.432MHz).
29	XTO	O	
30			
31	CS	I	Microcomputer (PD5391B) communication "CS" terminal
32	RQB	I	Microcomputer (PD5391B) communication "RQB" terminal
33	DVSS	I	Connected to GND (digital).
34	DVDD	I	Connected to +5V (digital).
35	SCLK	I	Microcomputer (PD5391B) communication "SCLK" terminal.

No.	Name	I/O	Description
36	SI	I	Microcomputer (PD5391B) communication "SO" terminal. Connected to "SI" of the microcomputer.
37	DRDY	O	Microcomputer (PD5391B) communication "DRDY" terminal. (Not used)
38	WRDY	O	Microcomputer (PD5391B) communication "WRDY" terminal. (Not used)
39	SO	I	Microcomputer (PD5391B) communication "S0" terminal. Connected to "S1" of the microcomputer.
40 | 50			
51	DVSS	I	Connected to GND (digital).
52	DVDD	I	Connected to +5V (digital).
53 | 70			
71	DVSS	I	Connected to GND (digital).
72	DVDD	I	Connected to +5V (digital).
73			
74	DVSS	I	Connected to GND (digital).
75	DVDD	I	Connected to +5V (digital).
76 | 77	DVB	I	Connected to +5V (digital).
78 | 80			
81	AVDD	I	Connected to +5V (analog).
82	AOUTR2	O	Analog 2 "R ch" output (LINE output)
83	AOUTL2	O	Analog 2 "L ch" output (LINE output)
84	AOUTR1	O	Analog 1 "R ch" output (REC AMP output)
85	AOUTL1	O	Analog 1 "L ch" output (REC AMP output)
86	VRDAL	I	DAC power supply. Connected to GND (analog).
87	AVSS	I	Connected to GND (analog).

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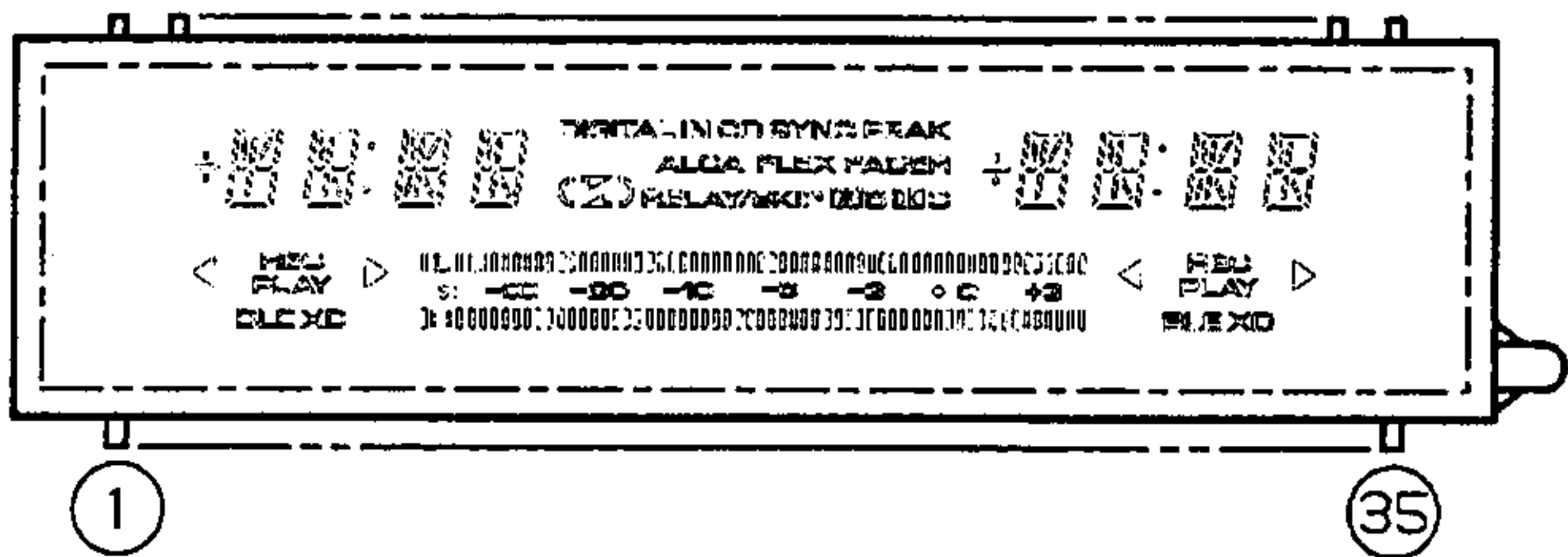
No.	Name	I/O	Description
88	AVB	I	Connected to +5V (analog).
89	VRDAH	I	DAC power supply. Connected to +5V (analog).
90			
91	AIR –	I	Analog “R ch” input. (Reversed input)
92	AIR +	I	Analog “R ch” input. (Not reversed input)
93	AIL –	I	Analog “L ch” input. (Reversed input)
94	AIL +	I	Analog “L ch” input. (Not reversed input)
95	VCOM	I	Common ground pin. Insert a 0.1 μ and 10 μ capacitor between this pin and analog ground.
96	VRADL	I	ADC power supply. Connected to GND (analog).
97	AVSS	I	Connected to GND (analog).
98	AVDD	I	Connected to +5V (analog).
99	VRADH	I	ADC power supply. Connected to +5V (analog).
100	AVB	I	Connected to +5V (analog).

7.1.2 DISPLAY

■ RAW1157 (SUBB UNIT : V1501)

● FL Tube

● Pin Assignment

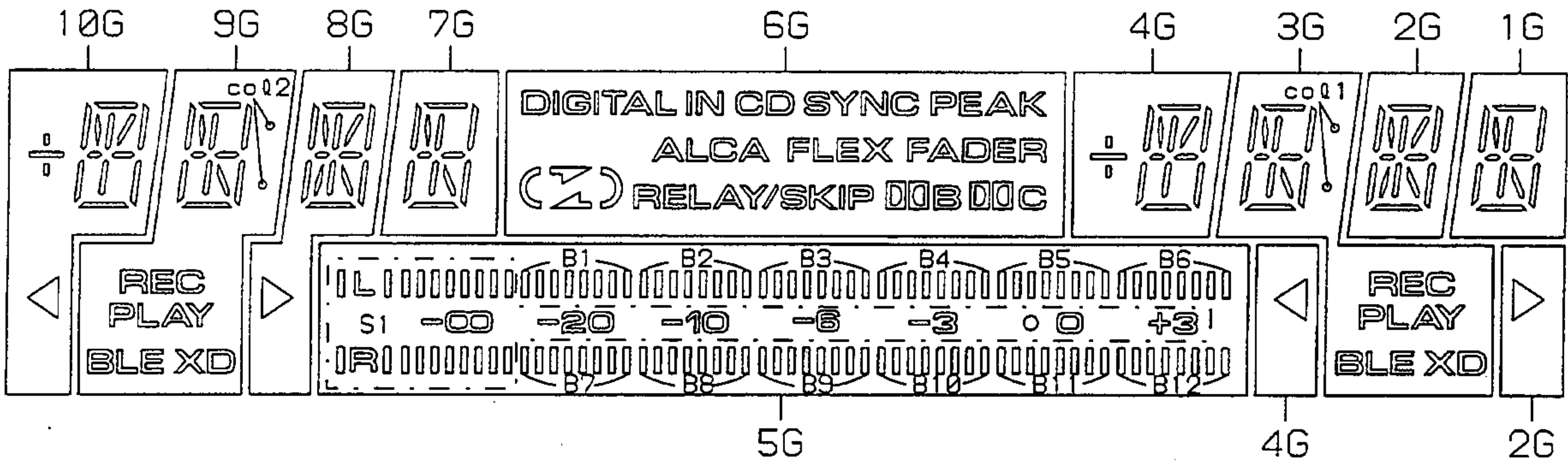


NOTE 1) F1,F2 - Filament
2) NP ---- No pin
3) NC ---- No connection
4) DL ---- Datum Line
5) 1G~10G-- Grid

● Pin Connection

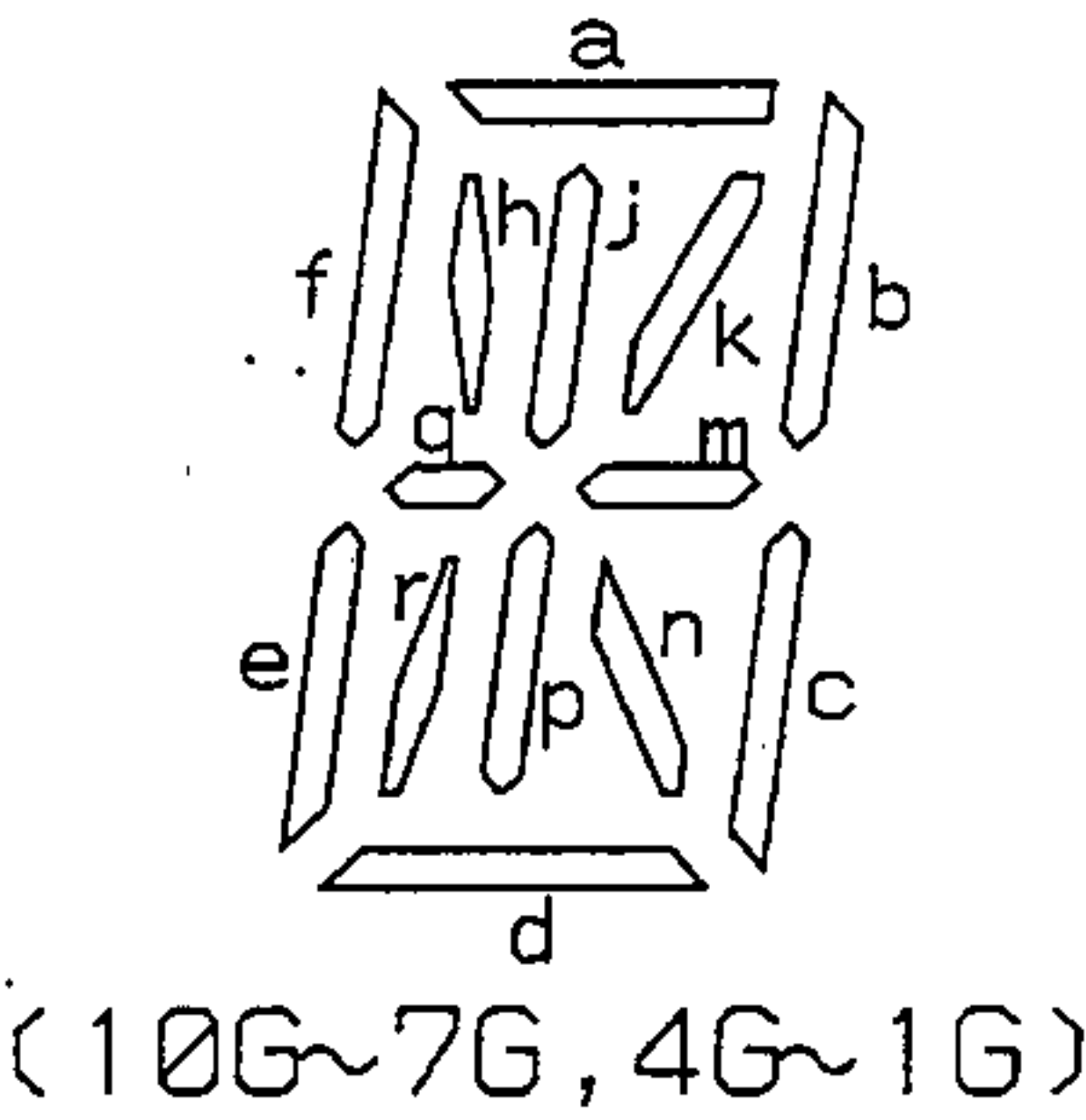
PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
CONNECTION	F1	F1	N1	N1	P1	P2	P3	P4	P5	P6	P7	N1	P8	P9	P10	P11	P12	P13	P14	N1	N1	1G	2G	3G	4G	5G	6G	7G	8G	9G	01	N1	N1	F2	F2

● Grid Assignment



● Anode Connection

	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	a	a	a	a	DIGITAL	B1	a	a	a	a
P2	b	b	b	b	IN	B2	b	b	b	b
P3	f	f	f	f	CD	B3	f	f	f	f
P4	g	g, m	g	g	SYNC	B4	g	g, m	g	g
P5	c	c	c	c	PEAK	B5	c	c	c	c
P6	e	e	e	e	FADER	B6	e	e	e	e
P7	d	d	d	d	FLEX	S1	d	d	d	d
P8	j, p	j, p	j, p	j, p	ALCA	-	j, p	j, p	j, p	j, p
P9	m	col2	m	m	DOB	B7	m	col1	m	m
P10	h	h, n	h	h	DDC	B8	h	h, n	h	h
P11	k	REC	k	-	(	B9	k	REC	k	-
P12	l	PLAY	n	n	)	B10	l	PLAY	n	n
P13	-	BLE	r	-	)	B11	-	BLE	r	-
P14	<	XD	>	-	RELAY/SKIP	B12	<	XD	>	-



7.2 TEST MODE

7.2.1 Entering the Test Mode

While both mechanisms are stop, press the TIME/COUNT, RESET keys of DECK I and PAUSE key of DECK II together to enter the test mode. (Refer to Fig. 1)

7.2.2 Exiting the Test Mode

- Press the RESET key of DECK I.
- Press the STANDBY key.
- Turn off the power.

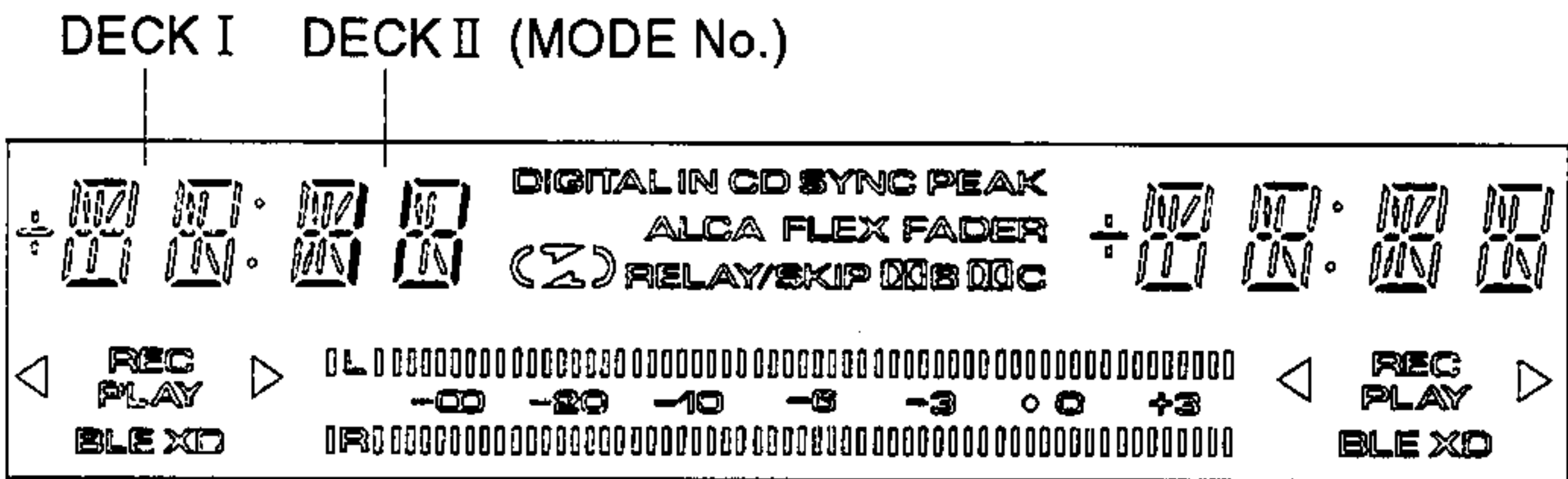
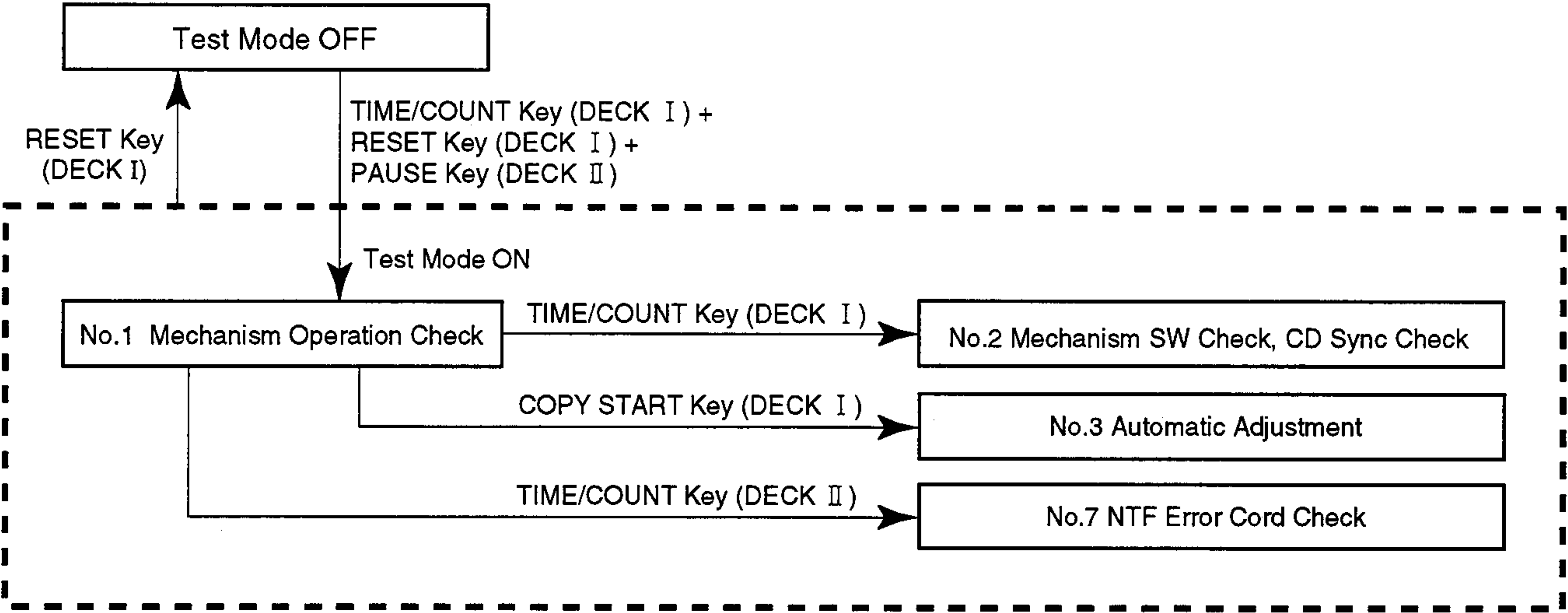


Fig. 1 FL Display Example

7.2.3 Shifting to Test Mode State



* During the test mode, pressing the STOP key (DECK I or DECK II) will set test mode No. 1.

7.2.4 Main Test Mode Items

- Test mode No.1 Mechanism Operation Check
- Test mode No.2 Mechanism SW Check, CD Sync Check
- Test mode No.3 Automatic Adjustment
- Test mode No.7 NTF Error Code Check

7.2.5 Test Mode No. 1 (Mechanism Operation Check)

■ Operations specifications

DECK I Display	DECK II Display	Input Key	Adjustment and Check
10	(TUNE)	STOP FWD REV FF REW REC PAUSE MUTE COPY MODE COPY START	◇ The mechanism operates without the half in this mode. ◇ Test speed adjustment • During PLAY (except in assisting), when FF or REW key is pressed, ×2 speed PLAY is set. • During ×2 speed PLAY, when FWD or REV key is pressed, constant speed PLAY is set. ◇ Auto stop check • Sets RELAY ON forcibly. However no relay during REC. • Even at tape end directly after PLAY, the auto stop time is 1 second. (Normally 4 seconds) • Reverse operations are normally performed.

When automatic adjustment has been completed, “TUNE” lights on the DECK II counter.

7.2.6 Test Mode No. 2 (Mechanism SW Check, CD Sync Check)

■ Entering the Mechanism SW check mode

Press the TIME/COUNT key.

■ Exiting the Mechanism SW check mode

When the STOP key (DECK I or DECK II) is pressed, test mode No. 1 is set.

■ Operations specifications

DECK I Display	DECK II Display	Input Key	Line Mute	REC Mute	Bias	Adjustment and Check
20			ON	ON	OFF	◇ SW check - When there is a half, each counter shows “H” at the second digit from the left. - Accidental erasure detection check FWD recordable: " ► " lights up (DECK II) REV recordable: " ◀ " lights up (DECK II) - Tape type check When there is a tape, display is made at the first digit from the left on the counter. NORMAL TAPE : " n " CrO2 TAPE : " C " METAL TAPE : " M " ◇ Door open / close check (CT-W706DR only) When the side 1 door is open /close, display is made at the 3rd digit from the left on the side 2 counter. When the side 2 door is open /close, display is made at the 4th digit from the left on the side 2 counter. OPEN : "O" CLOSE : "C"
		CD SYNC				◇ CD sync check When the cord whose input and output are short-circuited is connected, and the CD SYNCHRO key is pressed, " CD SYNC " display lights up.

7.2.7 Test Mode No. 3 (Automatic Adjustment)

For details, refer to " 6. ADJUSTMENT".

DECK I Display	DECK II Display	Input Key	Adjustment and Check
PBR	PBR	STOP FWD REV REC	① Press the COPY START key to enter the test mode. ② When the REC key (DECK II) is pressed. ④ Execute adjustment of recording bias and recording level. ⑤ When all adjustments have been completed, “PBR” lights on the DECK II side counter. ⑥ When the STOP key (DECK I or DECK II) is pressed, test mode No. 1 is set.

7.2.8 Test Mode No. 7 (NTF Error Code Check Mode)

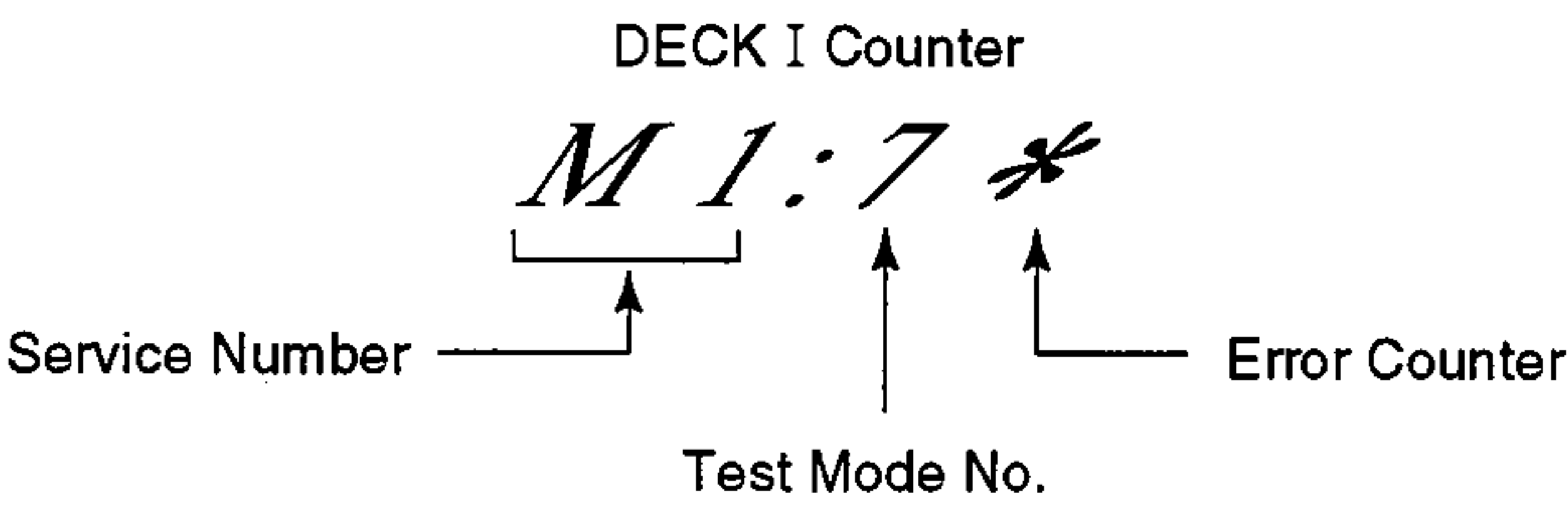
■ Entering the NTF error code check mode

Press the TIME/COUNT key of DECK II .
When pressed again, the counter changes as follows.
1 ⇒ 2 ⇒ 3 ⇒ 1

■ Exiting the NTF error code check mode

- When the STOP key (DECK I) is pressed, test mode No. 1 is set.
- When repair has been completed, reset the recorded error. (Press the STOP key, and press the TIME/COUNT key (DECK I) and the MUTE key (DECK II) immediately after entry into test mode.)

■ NTF error code check mode display



■ Operations specifications

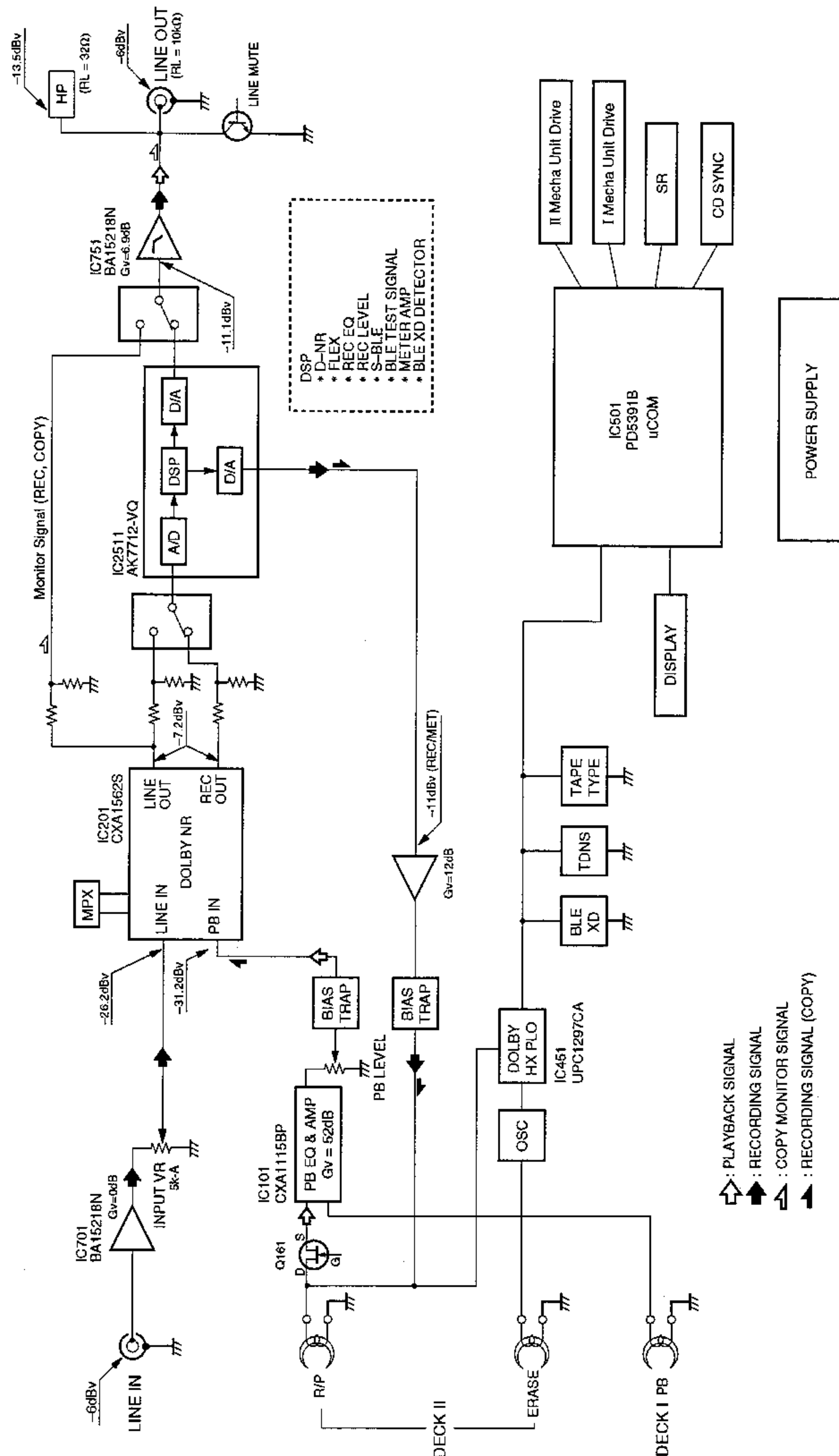
Error Location	Service No.	State of Unit	Cause
BLE	B1 (DECK II) B3 (DECK I)	BLE Adjustment Error	• The take-up side reel table stops during BLE operations. • The sensor at the reel table is faulty. • Tape end is set.
	B2 (DECK II) B4 (DECK I)	BLE Adjustment Error	• The signals were not recorded during BLE operations.
Mechanism	M3	DECK I is locked	• The mechanism and the half are engaged in DECK I .
	M4	DECK II is locked	• The mechanism and the half are engaged in DECK II .
Cassette door	L1	Door loading of side 1	• It put top and bottom of Tape adversely and was going to close a door .
	L2	Door loading of side 2	• A door hits an obstacle, and a door doesn't finish opening .

* B3 and B4 on the DECK I side and B1 and B2 on the DECK II side light for the error No. of BLE errors.

■ Resetting the error code

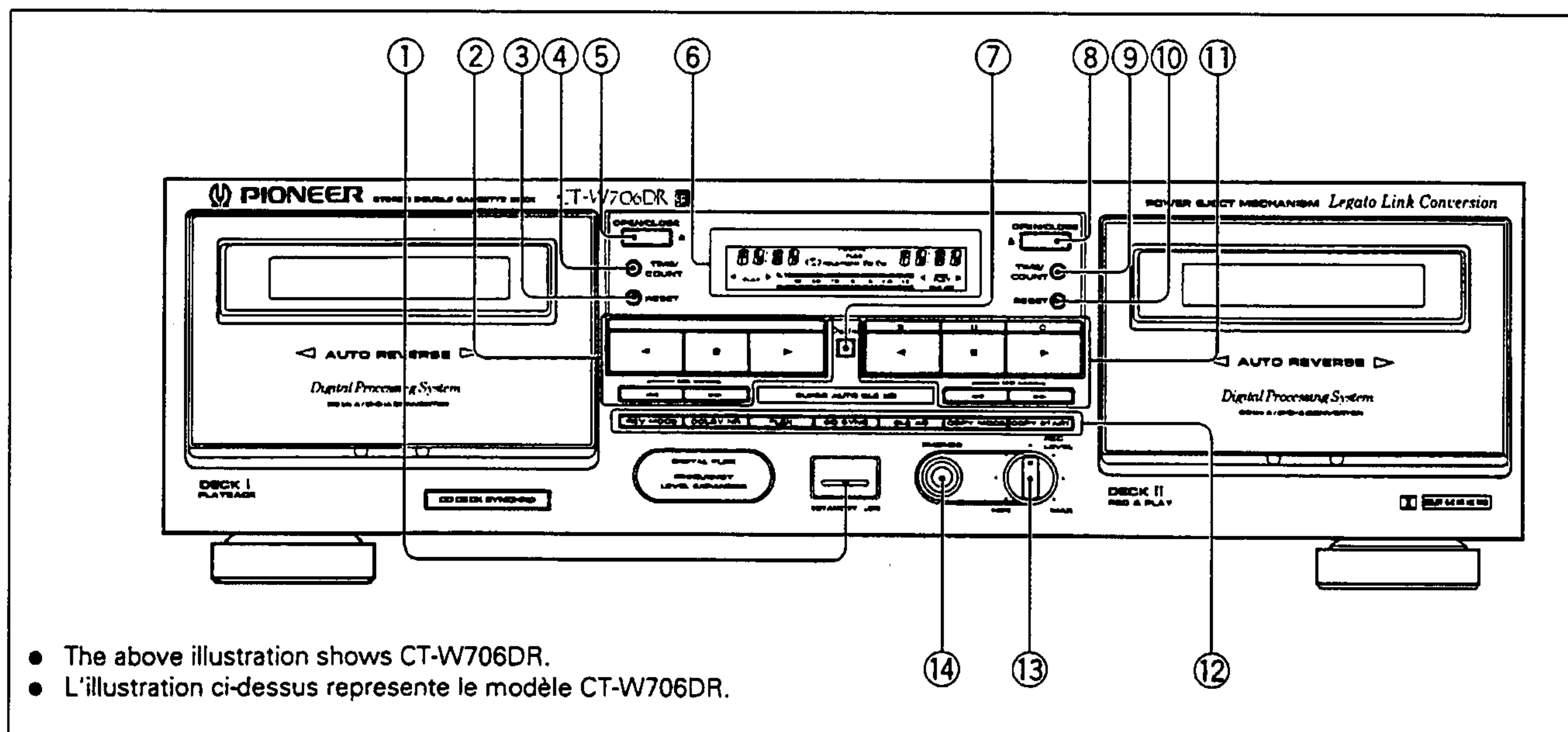
To reset, press the TIME/COUNT key of DECK I and MUTE key of DECK II together.

7.3 BLOCK DIAGRAM



8. PANEL FACILITIES AND SPECIFICATIONS

■ PANEL FACILITIES



① STANDBY/ON switch

The STANDBY/ON switch activates the secondary transformer only. Even when the switch is in the STANDBY position, there will be a power flow to the deck's circuits as long as the power cord is connected to a power outlet. When the STANDBY/ON switch is left ON, standby mode is controlled by the connected amplifier's System Remote Control (SRC) function. Press the POWER button on the remote control unit to select the standby mode. This mode is displayed as "ST-BY" on the DECK II counter. (except for Canadian model)

② Deck I operation buttons

- ◀ : Reverse playback
- : Stop
- ▶ : Forward playback
- ◀◀/MS : Fast reverse/music search
- ▶▶/MS : Fast forward/music search

③ DECK I counter reset button (RESET)

④ DECK I counter mode button (TIME/COUNT)

⑤ DECK I OPEN/CLOSE button (CT-W706DR)

DECK I EJECT button (CT-W606DR, CT-W616DR) (▲)

- If the tape is moving (playback, tape winding, etc.), press the stop (■) button before pressing this button.

NOTE:

If the power is turned off while the tape is moving, the cassette door may remain locked. In this case, turn the power on before pressing the eject (▲) button.

⑥ Function display

⑦ Digital indicator

Turns off while the Digital-NR is OFF.

⑧ DECK II OPEN/CLOSE button (CT-W706DR)

DECK II EJECT button (CT-W606DR, CT-W616DR) (▲)

- If the tape is moving (recording, playback, tape winding, etc.), press the stop (■) button before pressing this button.

NOTE:

If the power is turned off while the tape is moving, the cassette door may remain locked. In this case, turn the power on before pressing the eject (▲) button.

⑨ DECK II counter mode button (TIME/COUNT)

⑩ DECK II counter reset button (RESET)

⑪ DECK II operation buttons

- ◀ : Reverse playback
- : Stop
- ▶ : Forward playback
- ◀◀/MS : Fast reverse/music search
- ▶▶/MS : Fast forward/music search
- : Recording mute
- || : Pause
- : Recording

⑫ REV MODE button

DOLBY* NR button (OFF/B/C)

- * *Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.*
- "DOLBY", the double-D symbol and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

FLEX button

CD-DECK SYNCHRO recording button (CD SYNC).

BLE XD button

COPY MODE button

- TDNS : TDNS copy (Normal speed copy).
- NOR : Normal speed copy.
- HI : High speed copy.

COPY START button

⑬ Recording level control (REC LEVEL)

⑭ Headphones jack (PHONES)

SPECIFICATIONS

System	4-track, 2-channel stereo
Heads	"Hard Permalloy" recording/playback head x 1 "Hard Permalloy" playback head x 1 "Ferrite" erasing head x 1
Motor	DC servo motor x 2 Loading motor x 2 (CT-W706DR)
Wow and Flutter	0.09% (WRMS) ±0.19% (DIN)
Fast Winding Time	Approximately 100 seconds (C-60 tape)
Frequency Response	
-20 dB recording:	
TYPE IV (Metal) tape	20 to 20,000 Hz
TYPE II (High/CrO ₂) tape	20 to 19,000 Hz
TYPE I (Normal) tape	20 to 18,000 Hz
Signal-to-Noise Ratio	
Dolby NR OFF	More than 57 dB
Signal-to-Noise Ratio (when Digital NR ON)	
Dolby NR B or C-type ON	90 dB
Dolby NR OFF	82 dB
(TYPE I tape, 3rd distortion 3%, IEC. DIN AUDIO)	
Harmonic Distortion	No more than 0.8% (at -4 dB: 160 nwb/m)
Input (Sensitivity)	
LINE (INPUT)	100 mV (Input impedance 53 kΩ)
Output (Reference level)	
LINE (OUTPUT)	0.5 V (Output impedance 1.9 kΩ)
Headphones	1.33 mW (Load impedance 32 Ω)

Miscellaneous

Power Requirements	
Canadian model	AC 120 V, 60 Hz
European models	AC 220-230 V, 50/60 Hz
Multi-voltage models	AC 110/120-127/220/230-240V (switchable), 50/60 Hz
Power Consumption	
Canadian model	17 W
European models	19 W
Multi-voltage models	19 W
Dimensions	420(W) x 125(H) x 250(D) mm 16-1/2 (W) x 4-15/16 (H) x 9-13/16 (D) in

Weight (without package)	
Canadian models	4.4kg (9 lb 11 oz)
European model	4.4kg (9 lb 11 oz)
Multi-voltage models	4.4kg (9 lb 11 oz)

Subfunctions

- Automatic reverse
- DOLBY HX PRO system
- DOLBY B/C type NR systems
- Music search up to ±15 selections
- Synchronized copy start
- High-speed and normal-speed copy (DECK I → DECK II)
- Relay playback/blank skip
- CD•DECK SYNCHRO recording capability
- Peak level meter with peak-hold function
- Automatic space recording mute
- Automatic tape selector
-  System remote control available
- 2-mode electronic 4-digit twin tape counter
- Headphone jack
- DIGITAL FLEX system (Frequency Level Expander)
- DIGITAL TDNS system (Tape Duplication Noise Suppressor)
- DIGITAL SUPER AUTO BLE XD system
- LAST MEMORY
- DIGITAL NR
- Legato Link Conversion (CT-W706DR, CT-05D)
- Power Loading/Eject (CT-W706DR)
- MPX filter (Interlocks with DOLBY NR)

Accessories

Operating instructions	1
Connection cord with pin plugs	2
 Remote control cord	1
CD•DECK SYNCHRO control cord	1

NOTE:

Specifications and design subject to possible modifications without notice, due to improvements.