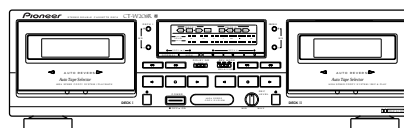


Service Manual

Pioneer



ORDER NO.
RRV2186

STEREO DOUBLE CASSETTE DECK

CT-W208R

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

Type	Model	Power Requirement	Remarks
	CT-W208R		
KUXJ	○	AC120V	
KCXJ	○	AC120V	
HYXJ	○	AC220-230V	
HVXJ	○	AC230-240V	

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T-ZZR AUG. 1999 Printed in Japan

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 safely 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 safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65

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.

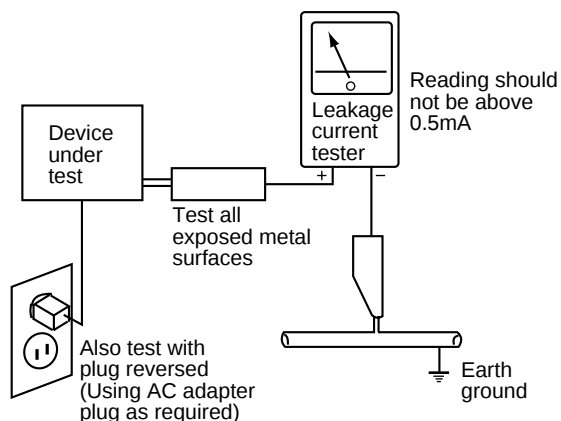
(FOR USA MODEL ONLY)

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.

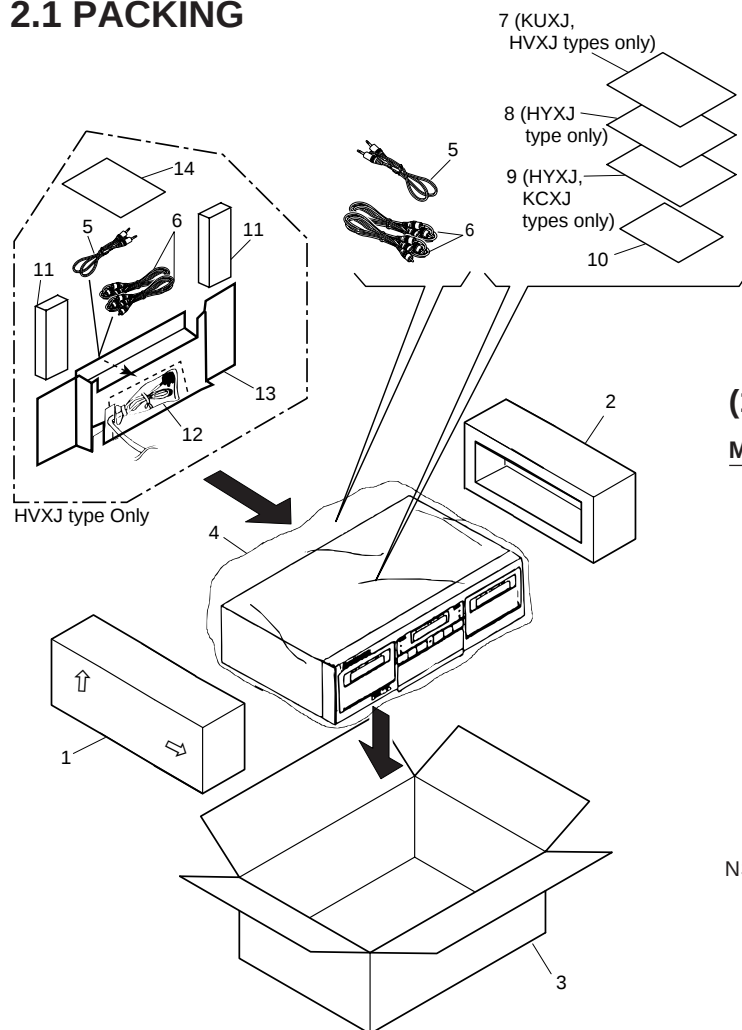
The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

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) PACKING PARTS LIST

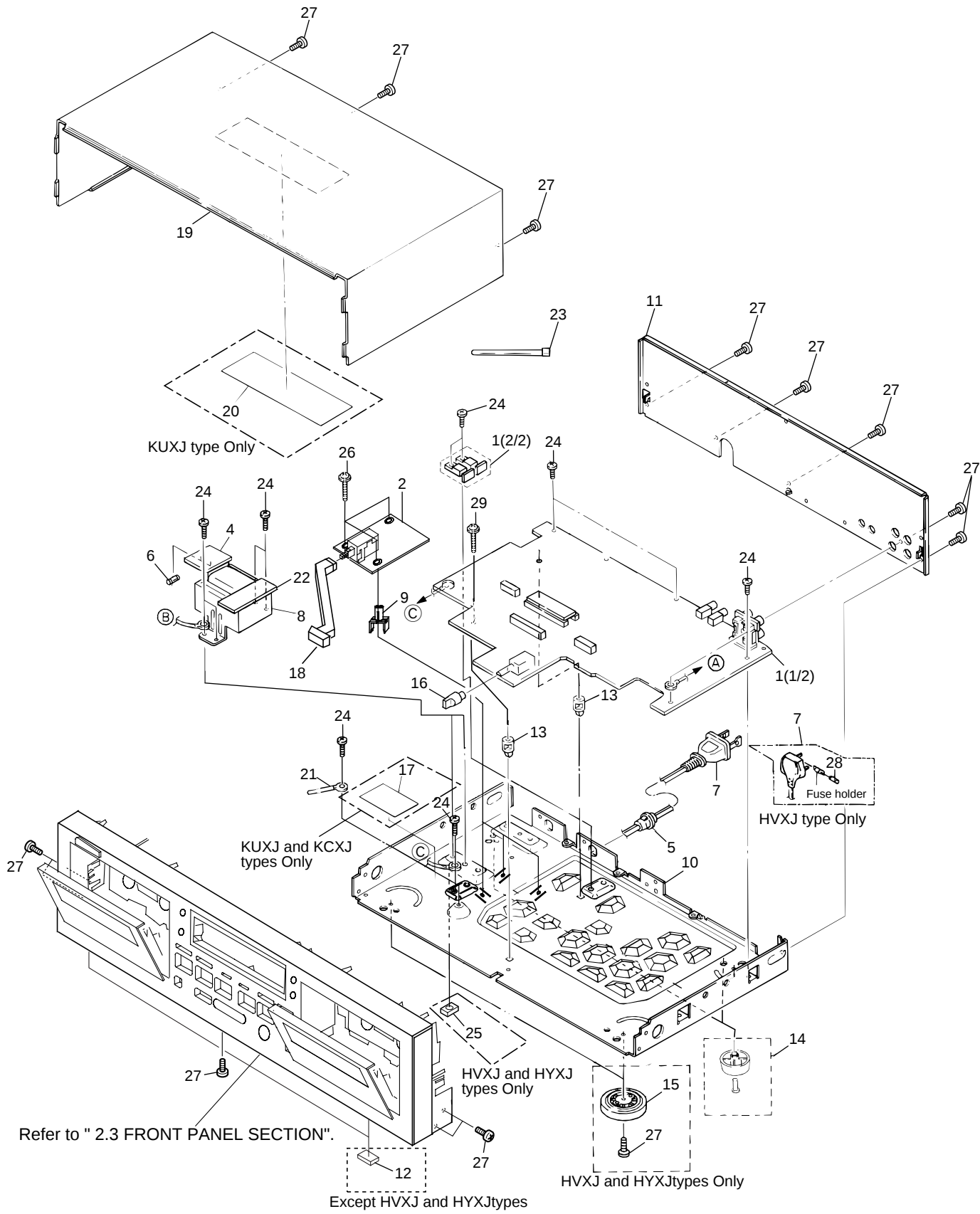
Mark	No.	Description	Part No.
	1	Pad L	RHA1115
	2	Pad R	RHA1116
	3	Packing Case	See Contrast table (2)
	4	Mirror Mat Sheet (750x600x0.5)	Z23-007
	5	Control Cable (L=1.0m)	PDE1267
	6	Connection cord with Pin-plug (L=1.0m)	RDE1036
	7	Operating Instructions (English)	See Contrast table (2)
	8	Operating Instructions (Spanish/Portuguese/Dutch/Swedish /German/Italian)	See Contrast table (2)
	9	Operating Instructions (English/French)	See Contrast table (2)
NSP	10	Warranty Card	See Contrast table (2)
	11	Spacer A	See Contrast table (2)
	12	Polyethylene Bag (115x270x0.05)	See Contrast table (2)
	13	Spacer B	See Contrast table (2)
	14	Caution Card	See Contrast table (2)

(2) CONTRAST TABLE

CT-W208R/KUXJ, KCXJ, HXJ and HVXJ are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.				Remarks
			KUXJ type	KCXJ type	HXJ type	HVXJ type	
NSP	3	Packing Case	RHG1912	RHG1912	RHG1910	RHG1911	
	7	Operating Instructions (English)	RRB1198	Not used	Not used	RRB1198	
	8	Operating Instructions (Spanish/Portuguese/Dutch/Swedish /German/Italian)	Not used	Not used	RRD1218	Not used	
	9	Operating Instructions (English/French)	Not used	RRE1179	RRE1179	Not used	
	10	Warranty Card	ARY7023	ARY7024	ARY7022	ARY7022	
	11	Spacer A	Not used	Not used	Not used	RHC1032	
	12	Polyethylene Bag (115X270X0.05)	Not used	Not used	Not used	Z21-013	
	13	Spacer B	Not used	Not used	Not used	RHC1033	
	14	Caution Card	Not used	Not used	Not used	RRN1001	

2.2 EXTERIOR



(1) EXTERIOR PARTS LIST

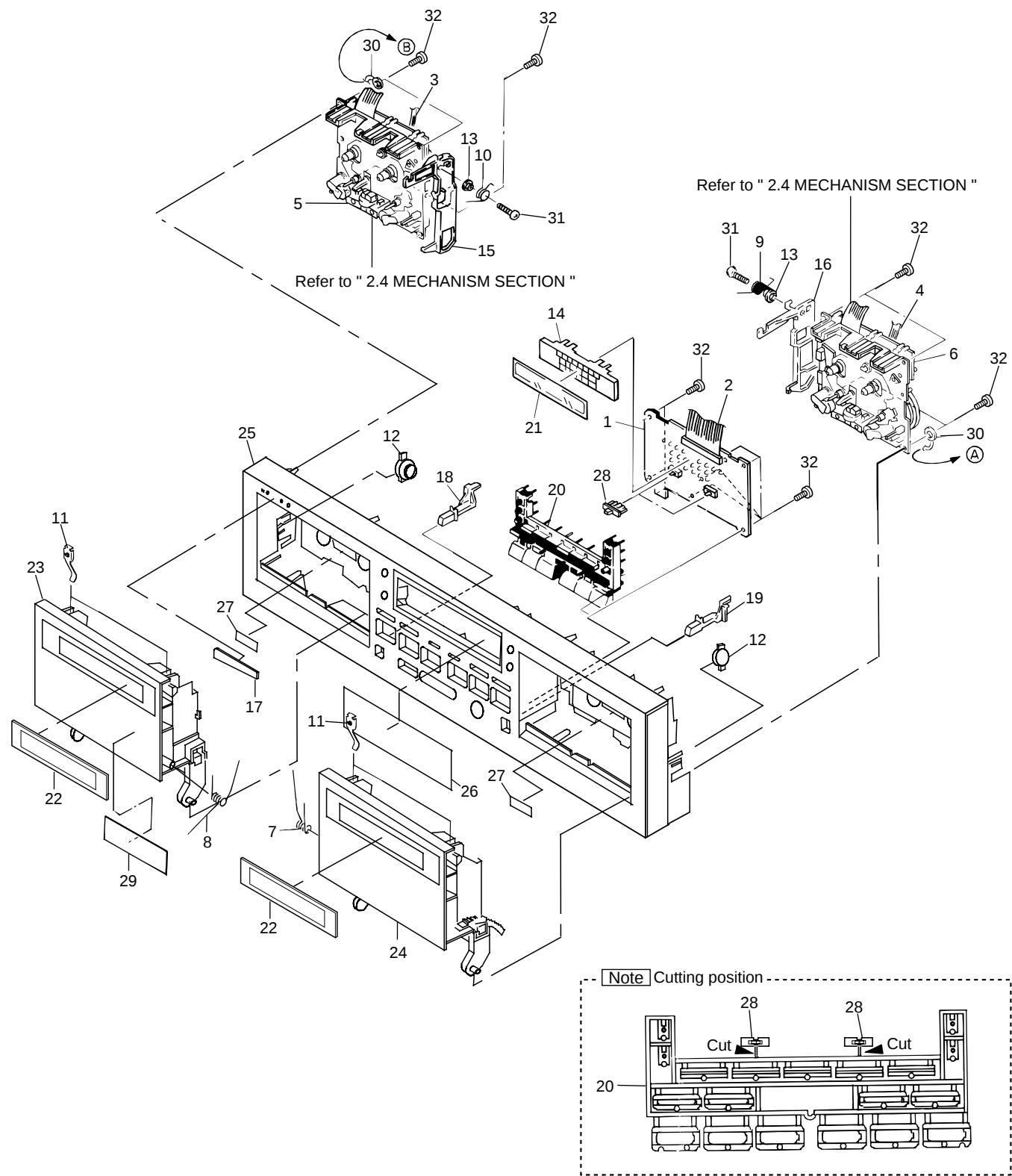
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
NSP	1	MAIN UNIT	See Contrast table (2)	NSP	21	Cord Clamper	RNH1005
	2	POWER SWITCH UNIT	See Contrast table (2)		22	Transformer 1 PCB	RN23340
	3	•••••			23	Binder	ZCA-T18S
NSP	4	Transformer 2 UNIT	See Contrast table (2)	NSP	24	Screw	BBZ30P060FMC
	5	Cord Stopper	See Contrast table (2)		25	Disc Guard	See Contrast table (2)
△	6	Fuse (FU1, FU2, 1.25A)	See Contrast table (2)	△	26	Screw	IBZ30P180FCC
△	7	AC Power Cord	See Contrast table (2)		27	Screw	BBZ30P080FZK
△	8	Power Transformer	See Contrast table (2)		28	Fuse (T5A) (For AC Power Cord)	See Contrast table (2)
NSP	9	PCB Mold	AMR2533	NSP	29	Screw	IBZ30P150FCC
	10	Chassis	RNB1144				
NSP	11	Rear Panel	See Contrast table (2)				
	12	Rubber Sheet	See Contrast table (2)				
	13	PCB Spacer	PNY-404				
	14	Foot Assy	REC1263				
	15	Insulator	See Contrast table (2)				
	16	Balance Knob	RAC1705				
	17	Fuse Caution Label	See Contrast table (2)				
	18	Power Button	RAC2221				
	19	Bonnet	REA1292				
	20	65 Label	See Contrast table (2)				

(2) CONTRAST TABLE

CT-W208R/KUXJ, KCXJ, HYXJ and HVXJ are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.				Remarks
			KUXJ type	KCXJ type	HYXJ type	HVXJ type	
NSP	1	MAIN UNIT	RWZ4352	RWZ4352	RWZ4348	RWZ4393	
	2	POWER SWITCH UNIT	RWZ4367	RWZ4367	RWZ4365	RWZ4397	
NSP	4	Transformer 2 UNIT	RWZ4351	RWZ4351	RWZ4350	RWZ4396	
△	5	Cord Stopper	CM-22C	CM-22C	CM-22B	CM-22B	
	6	Fuse (FU1, FU2, 1.25A)	REK1076	REK1076	REK1023	REK1023	
△	7	AC Power Cord	PDG1064	PDG1064	PDG1043	PDG1055	
△	8	Power Transformer	RTT1311	RTT1311	RTT1312	RTT1312	
	11	Rear Panel	RNA2245	RNA2245	RNA2243	RNA2244	
	12	Rubber Sheet	AEB1111	AEB1111	Not used	Not used	
	15	Insulator	Not used	Not used	PNW2766	PNW2766	
	17	Fuse Caution Label	RRW-111	RRW-111	Not used	Not used	
△	20	65 Label	ARW7050	Not used	Not used	Not used	
	25	Disc Guard	Not used	Not used	REC1305	REC1305	
	28	Fuse (T5A) (For AC Power Cord)	Not used	Not used	Not used	PEK1003	

2.3 FRONT PANEL SECTION



(1) FRONT PANEL SECTION PARTS LIST

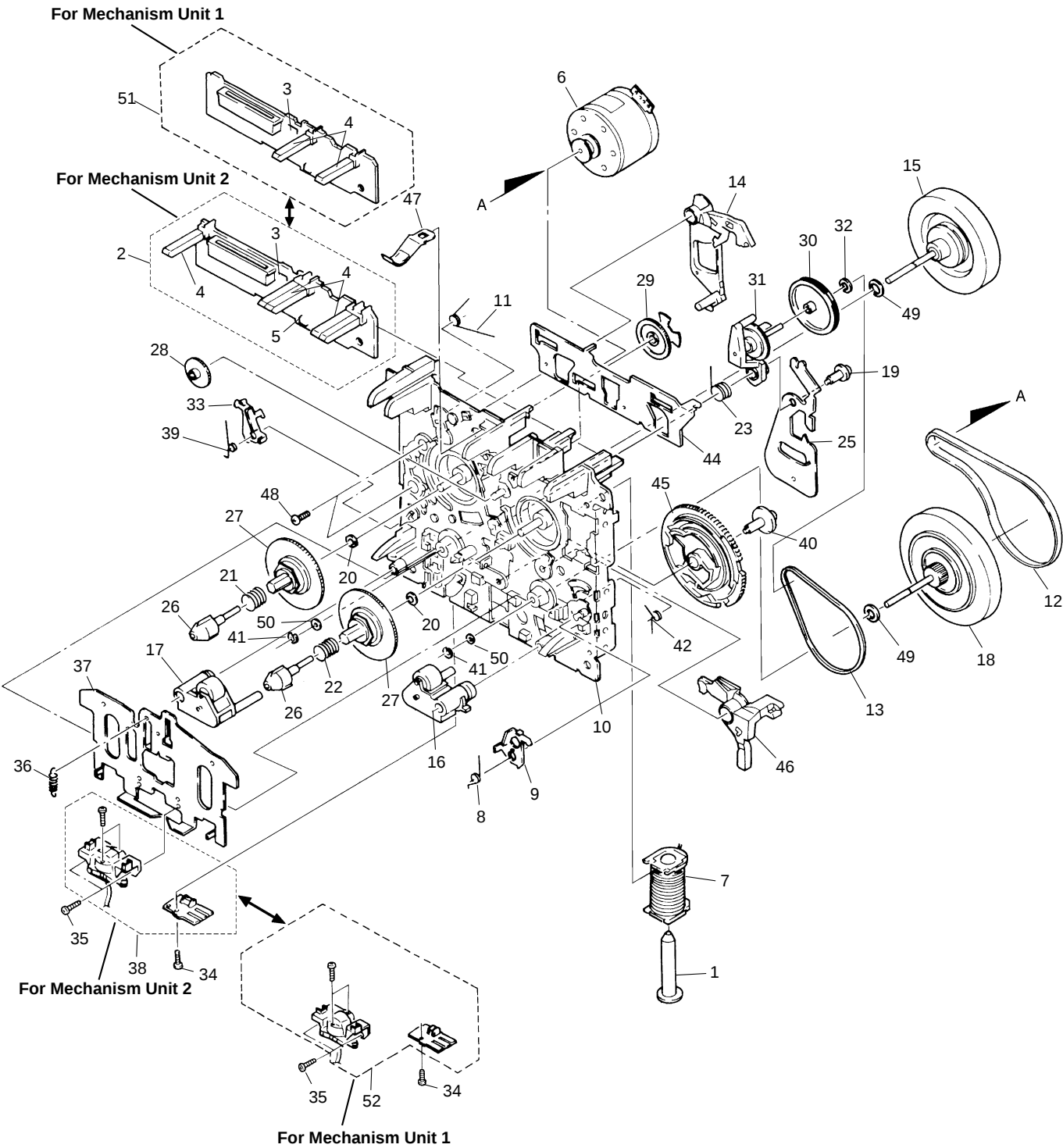
Mark	No.	Description	Part No.
	1	SUB UNIT	See Contrast table (2)
	2	18P F.F.C/60V	RDD1355
	3	Connector Assy 3P	RKP1678
	4	Connector Assy 5P	RKP1677
	5	Mechanism Unit 1 (P)	RYM1261
	6	Mechanism Unit 2 (R/P)	RYM1262
	7	Door Spring L	RBH1304
	8	Door Spring R	RBH1305
	9	Eject Spring L	RBH1379
	10	Eject Spring R	RBH1380
	11	Half Pressure Spring	RBK1004
	12	Damper Assy	REC1267
	13	Eject Collar	RLA1283
	14	LED Holder	RNK2194
	15	Eject Lever R	RNK2202
	16	Eject Lever L	RNK2203
	17	Name Plate	PAM1776
	18	Eject Konb L	RAC1881
	19	Eject Konb R	RAC1882
	20	Control Button	RAC2220
	21	Meter Panel	RAH2702
	22	Door Lens	RAH2782
	23	Door Pocket L	RAH2900
	24	Door Pocket R	RAH2901
	25	Front Panel	See Contrast table (2)
	26	Meter Lens	RAH2903
	27	Remain Display Paper	REE-113
	28	Slide Knob	REA1293
	29	Getter	See Contrast table (2)
NSP	30	Earth Lead Wire	DE015VF0
	31	Screw	BSZ26P120FMC
	32	Screw	BBZ30P080FZK

(2) CONTRAST TABLE

CT-W208R/KUXJ, KCXJ, HXXJ and HVXJ are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.				Remarks
			KUXJ type	KCXJ type	HXXJ type	HVXJ type	
	1	SUB UNIT	RWZ4353	RWZ4353	RWZ4349	RWZ4394	
	25	Front Panel	RAH2902	RAH2902	RAH2899	RAH2899	
	29	Getter	RAX1082	RAX1082	RAX1081	RAX1081	

2.4 MECHANISM SECTION



MECHANISM UNIT PARTS LIST

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	Plunge	RLA1288		41	Stop Ring	YE15FUC
	2	PCB CONTROL BLOCK (For Mechanism Unit 2)	RXA1733		42	Spring ARM Play	RBH1392
	3	Push Switch	RSG1018		43	•••••	
	4	SPLF	RSN1023		44	Plate Slide	RNE1785
	5	PHOTO-TRANSISTOR	SPI33534FG		45	CAM Gear	RNK2078
	6	MTR Main Block	RXM1075		46	ARM Play	RNK2079
	7	Solenoid Block	RXP1021		47	Spring Cassette	RNE1786
	8	Spring Interlock R	RBH1386		48	Screw	BMZ26P040FZK
	9	Arm Interlock R	RNE1781		49	Washer	WA26D045D025
	10	Chassis Base Block	RXA1626		50	Washer	WA26D047D050
	11	Spring Brake	RBH1387		51	PCB Control Block (For Mechanism Unit 1)	RXA1623
	12	Main Belt	REB1157		52	Plate HD Block (For Mechanism Unit 1)	RXA1682
	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	F/W ASSY(Clutch)	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 Mechanism Unit 2)	RXA1683				
	39	Spring Interlock L	RBH1385				
	40	Screw	RBA1121				

3.1 BLOCK DIAGRAM

D

1



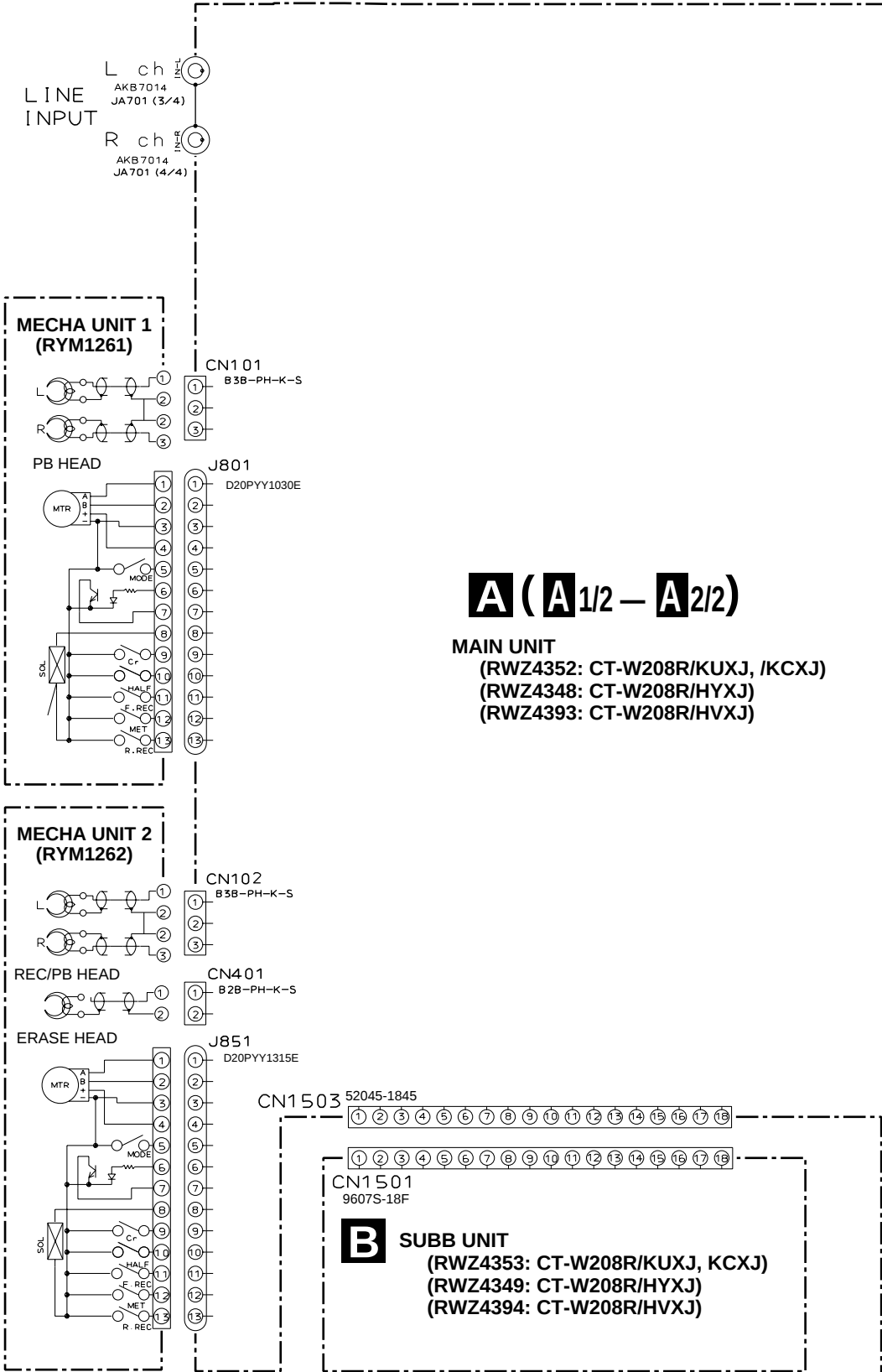
3.2 OVERALL WIRING DIAGRAM

A

B

C

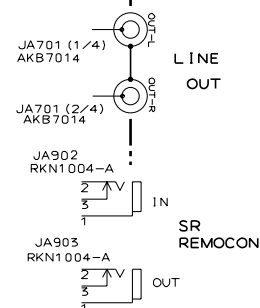
D



A (A_{1/2} – A_{2/2})

MAIN UNIT

(RWZ4352: CT-W208R/KUXJ, /KCXJ)
(RWZ4348: CT-W208R/HYXJ)
(RWZ4393: CT-W208R/HVXJ)

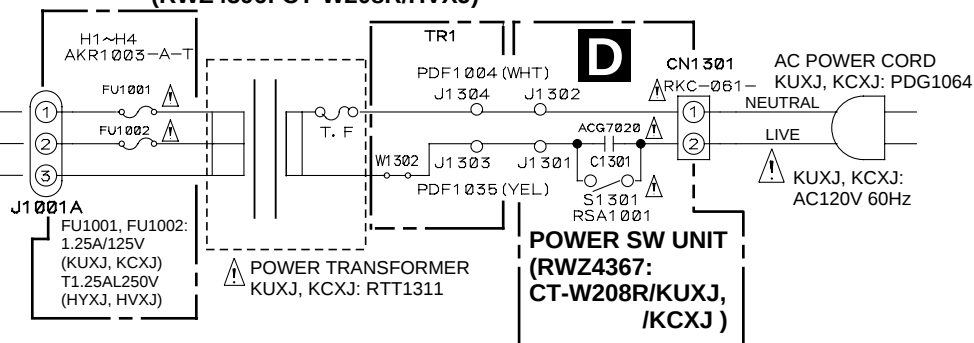


C

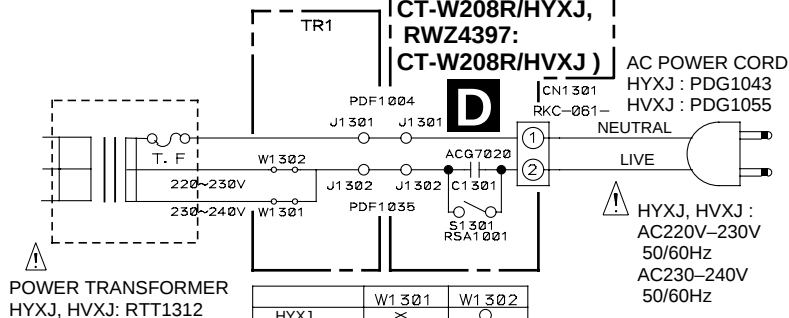
TRN 2 UNIT

(RWZ4351: CT-W208R/KUXJ, KCXJ)
(RWZ4350: CT-W208R/HYXJ)
(RWZ4396: CT-W208R/HVXJ)

J1001
D20PYY0320E

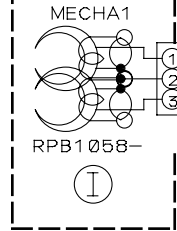
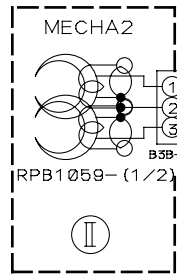


POWER SW UNIT (RWZ4365: CT-W208R/HYXJ, RWZ4397: CT-W208R/HVXJ)



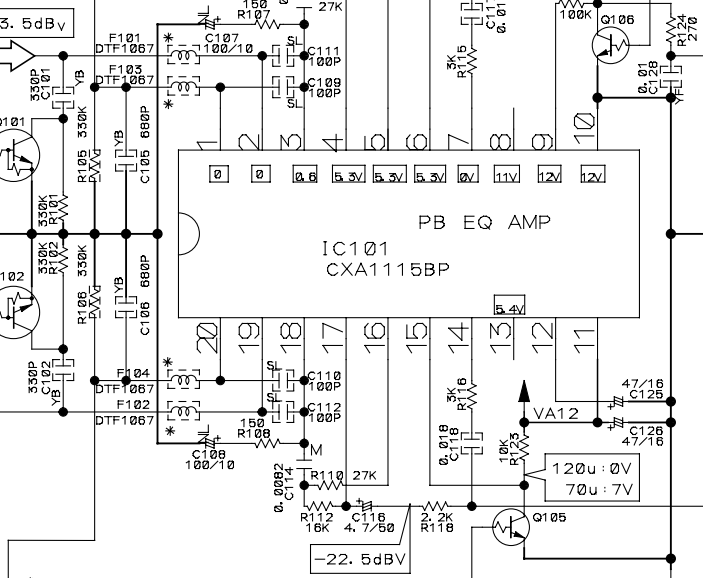
	W1301	W1302
HYXJ	×	○
HVXJ	○	×

3.3 MAIN UNIT (1/2)

MECHA UNIT 1(1/2)
(RYM1261)MECHA UNIT 2 (1/2)
(RYM1262)

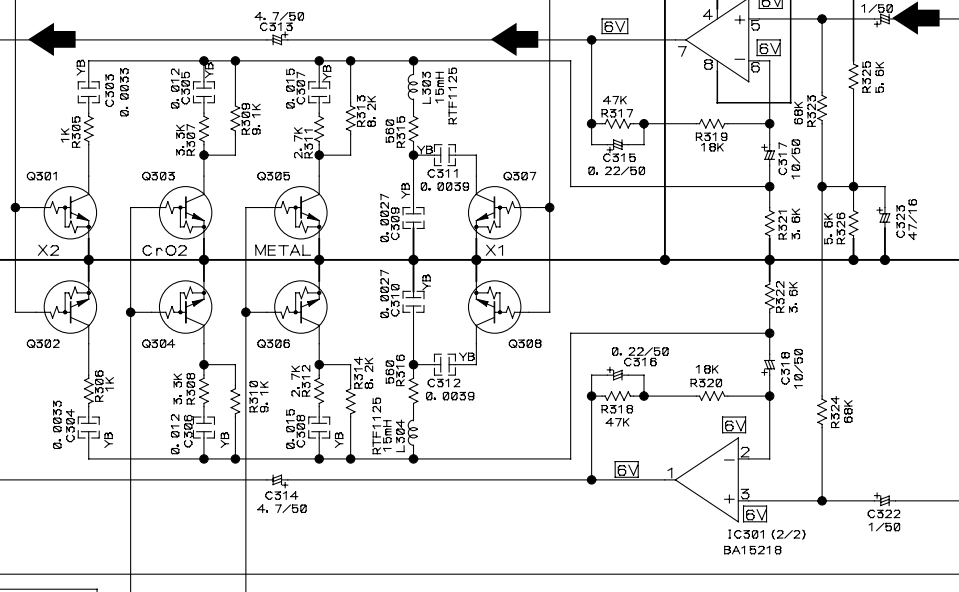
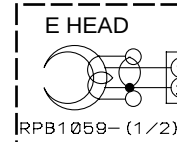
P. B EQ AMP

HYXJ, HVXJ KUXJ, KCXJ
 F101=R131
 F102=R132
 F103=R133
 F104=R134



	F101-F104	R131-R134	F203, F204	R231, R232
CT-W208R/ KUXJ, KCXJ	Not used	RS1/10S000J	Not used	RS1/10S000J
CT-W208R/ HYXJ, HVXJ	DTF1067	Not used	DTF1067	Not used

REC EQ AMP

MECHA UNIT 2 (2/2)
(RYM1262)

BIAS OSC

f: 105KHZ
 L402
 RTD1077
 BIAS FRQ
 Adj.

GNDA
(BIAS)



17

4. PCB CONNECTION DIAGRAM

4.1MAIN UNIT

IC1001 Q1002 Q653 Q1003 Q301 Q651 Q303 Q305 Q307 Q309 Q310 Q2C
IC1002 IC1003 Q1001 Q654 Q1004 IC651 Q652 Q804 Q807 Q801 Q304 Q306 Q808 Q308 VR301 VR30

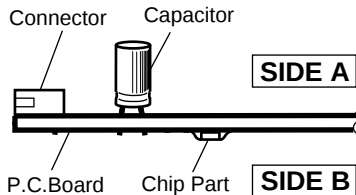
A MAIN UNIT

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

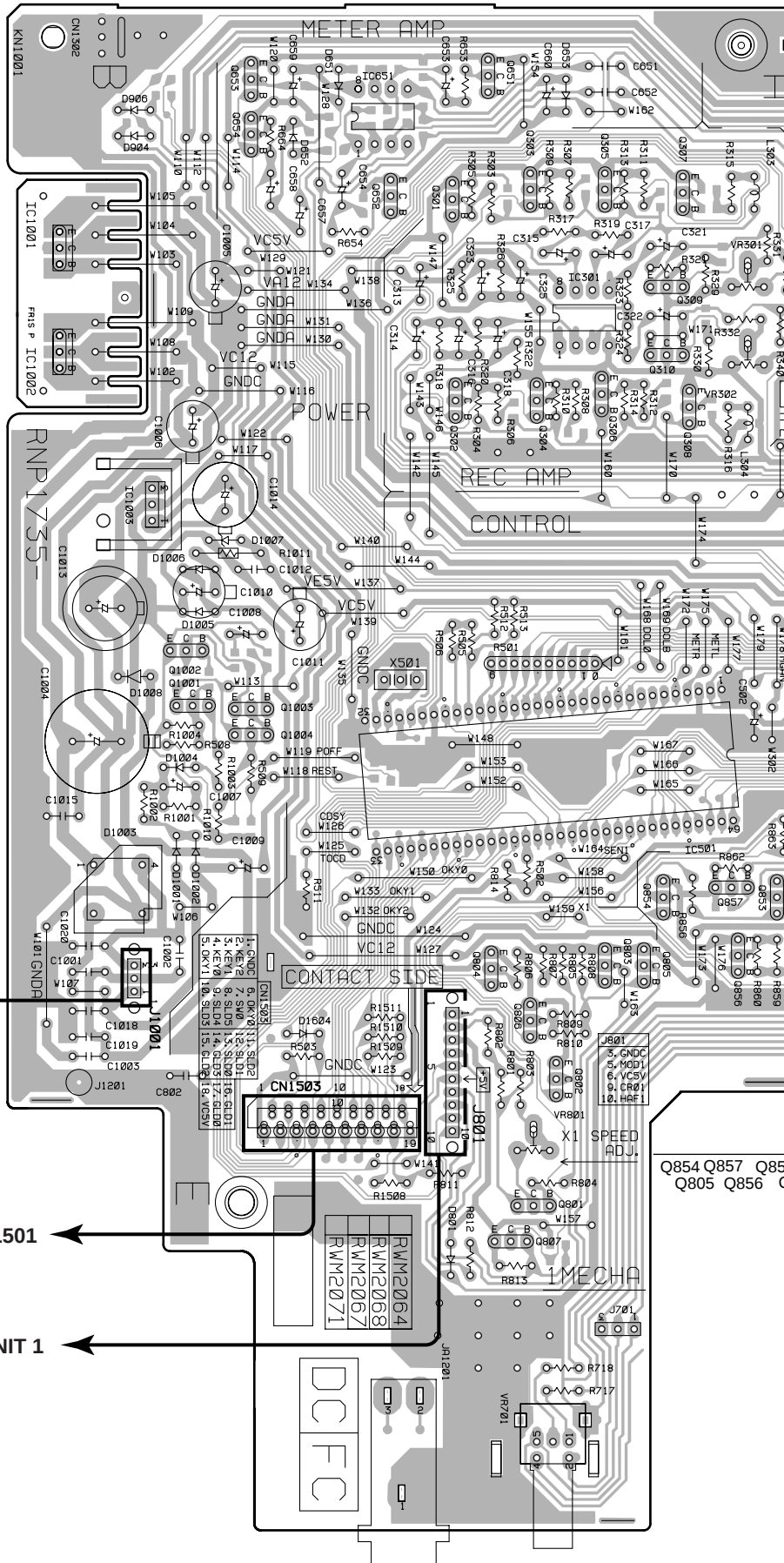
3. The parts mounted on this PCB include all necessary parts for several destinations.
For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.



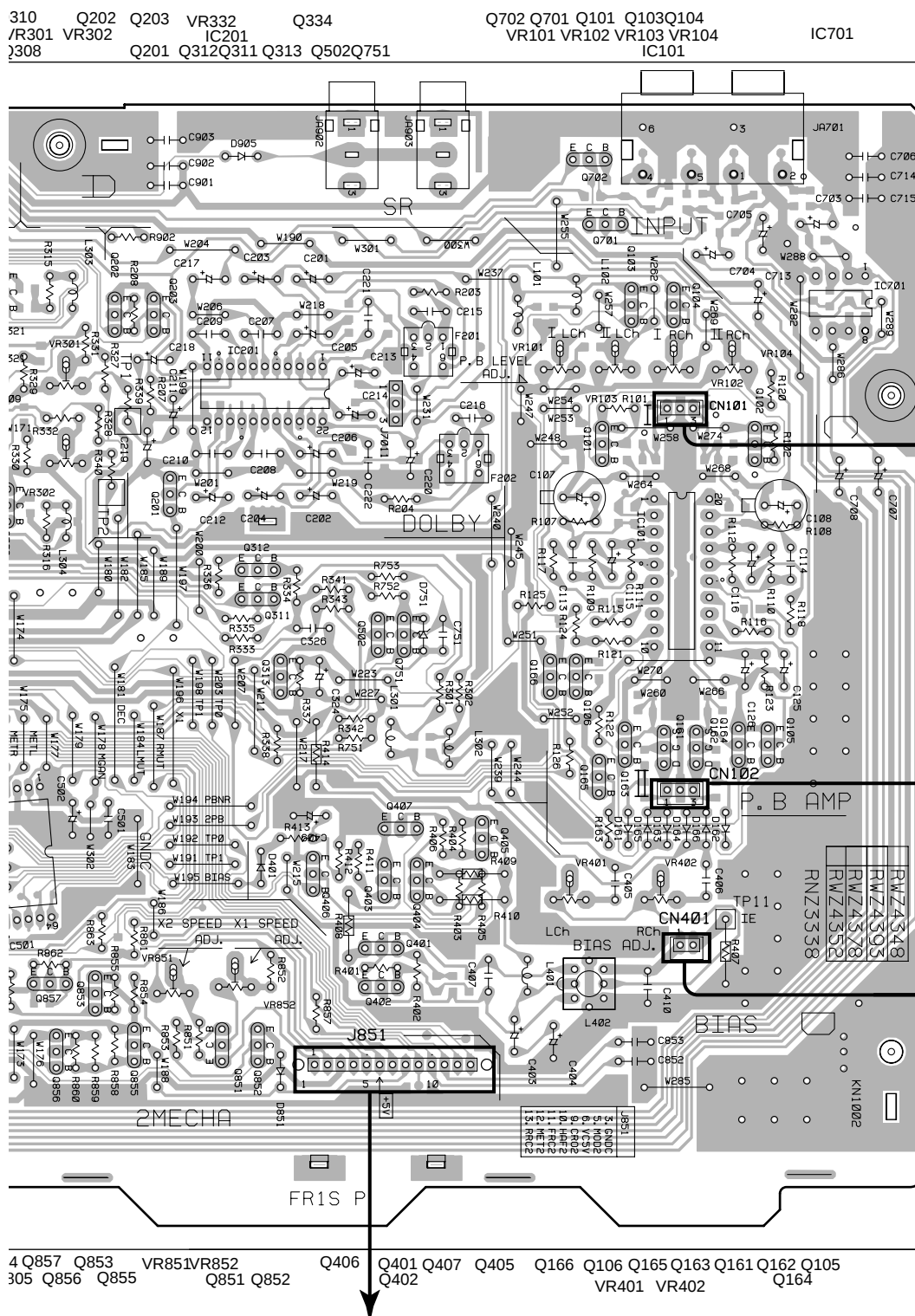
C J1001A

B CN1501

To MECHANISM UNIT 1

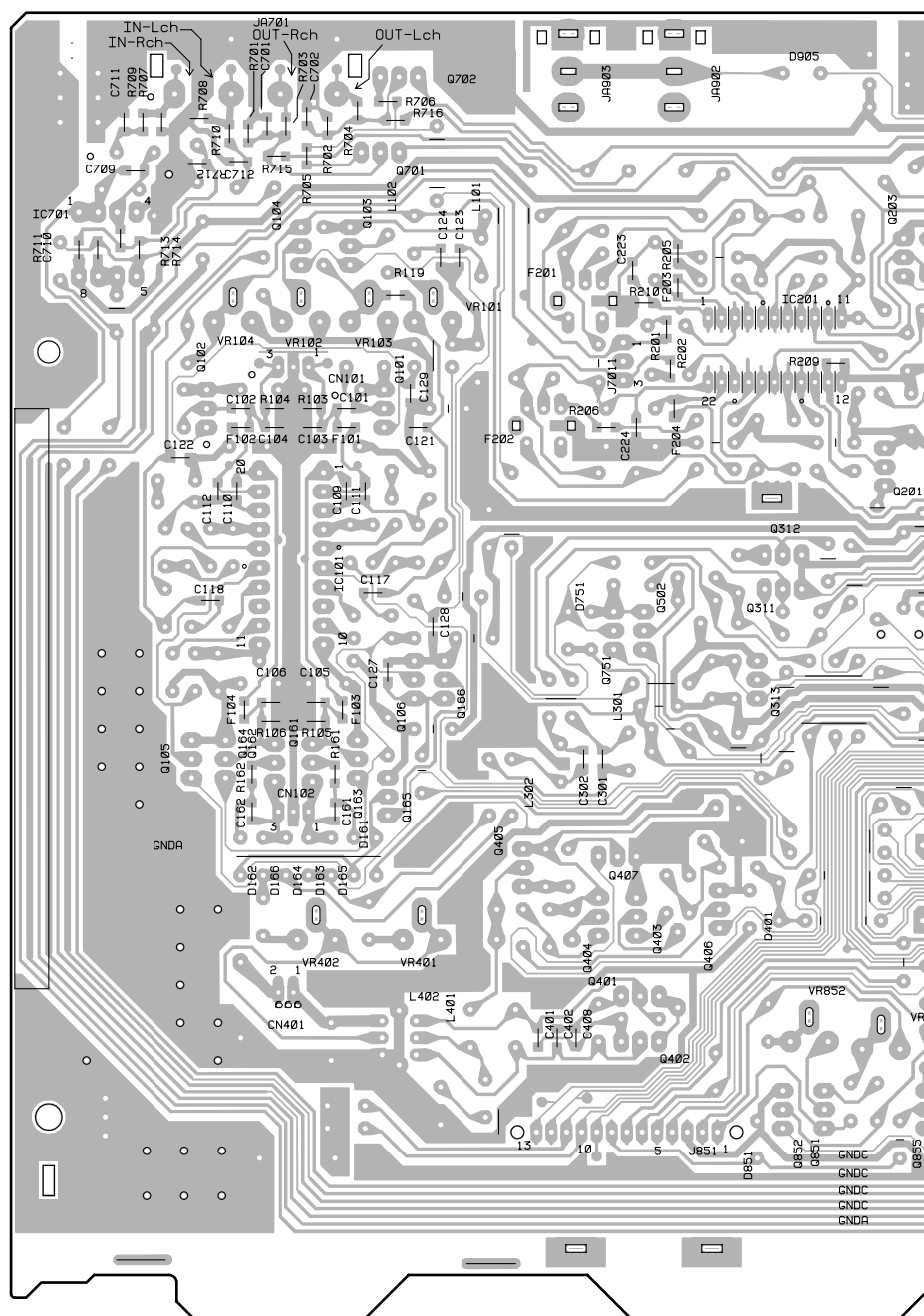


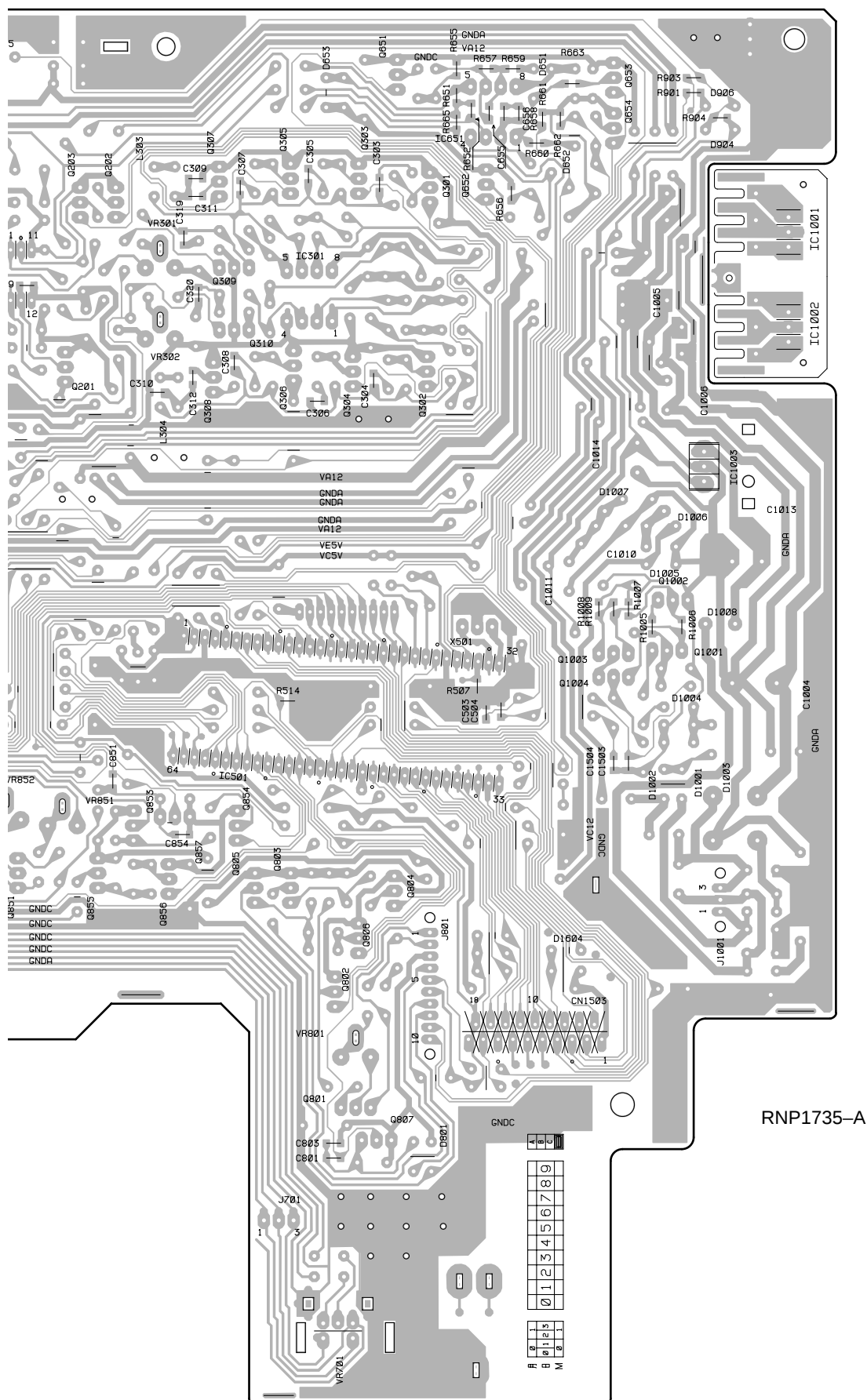
SIDE A



To MECHANISM UNIT 2

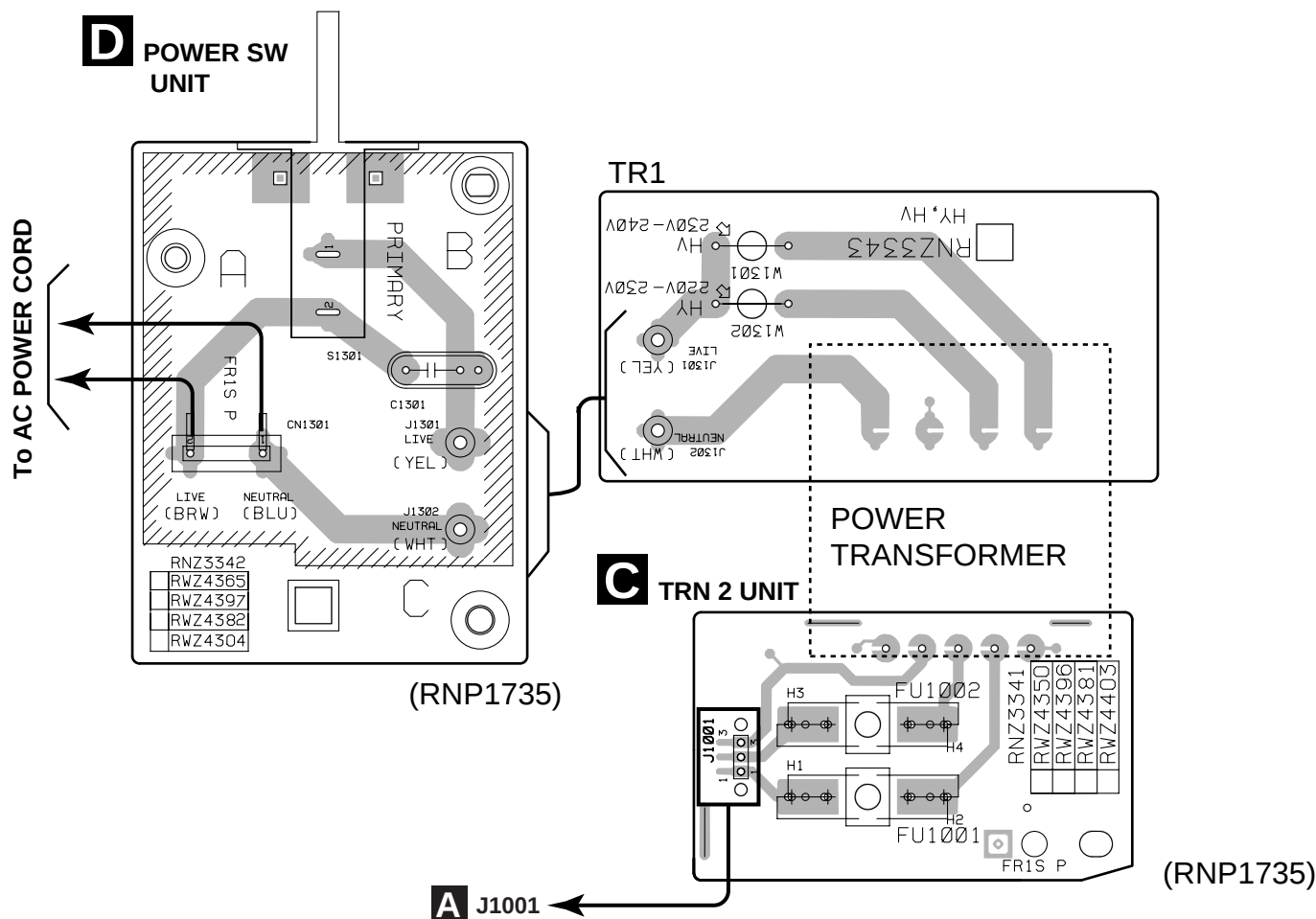
RNP1735-A





4.3 TRN 2 UNIT and POWER SW 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 $\boxed{5} \boxed{6} \boxed{1} J$

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

0.5 Ω $\rightarrow$ R50 RN2H $\boxed{R} \boxed{5} \boxed{0} K$

1 Ω $\rightarrow$ 1R0 RS1P $\boxed{1} \boxed{R} \boxed{0} K$

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 $\boxed{5} \boxed{6} \boxed{2} \boxed{1} F$

■ LIST OF HOLE PCB ASSEMBLIES

Mark	Symbol and Description	Part No.				Remarks
		CT-W208R				
		KUXJ	KCXJ	HYXJ	HVXJ	
NSP	MOTHER UNIT	RWM2064	RWM2064	RWM2063	RWM2068	
	└ MAIN UNIT	RWZ4352	RWZ4352	RWZ4348	RWZ4393	
	└ SUBB UNIT	RWZ4353	RWZ4353	RWZ4349	RWZ4394	
NSP	└ TRN 2 UNIT	RWZ4351	RWZ4351	RWZ4350	RWZ4396	
NSP	└ POWER SW UNIT	RWZ4367	RWZ4367	RWZ4365	RWZ4397	

■ CONTRAST OF PCB ASSEMBLIES

SUBB UNIT

RWZ4353, RWZ4349 and RWZ4394 are constructed the same except for the following:

Mark	Symbol and Description	Part No.			Remarks
		RWZ4353	RWZ4349	RWZ4394	
	D1501– D1503, D1507– D1510	MAY5074X	MPG5074X	MPG5074X	
	D1512– D1514, D1517– D1519	MAY5074X	MPG5074X	MPG5074X	
	D1522	MAY5074X	MPG5074X	MPG5074X	

MAIN UNIT

RWZ4352, RWZ4348 and RWZ4393 are constructed the same except for the following:

Mark	Symbol and Description	Part No.			Remarks
		RWZ4352	RWZ4348	RWZ4393	
NSP	C221, C222	Not used	CCCSL101J50	CCCSL101J50	
	C803, C854	Not used	CCSSQL330J50	CCSSQL330J50	
	C1018– C1020	Not used	CFTLA104J50	CFTLA104J50	
	F101– F104, F203, F204 (CHIP BEAD)	Not used	DTF1067	DTF1067	
	J1201	Not used	DE010WF0	DE010WF0	
	R131– R134, R231, R232	RS1/10S0R0J	Not used	Not used	

TRN 2 UNIT

Although RWZ4351, RWZ4350 and RWZ4396 are different in part number, they consist of the same components.

POWER SW UNIT

Although RWZ4367, RWZ4365 and RWZ4397 are different in part number, they consist of the same components.

Mark	No.	Description	Part No.
------	-----	-------------	----------

■ PCB PARTS LIST FOR CT-W208R/KUXJ

A

MAIN UNIT (RWZ4352)

SEMICONDUCTORS

	IC301, IC651, IC701	BA15218
	IC101	CXA1115BP
	IC201	CXA1560S
△	IC1001, IC1002	NJM7812FA
△	IC1003	NJM78M05FA
	IC501	PD5351A
	Q1001, Q801, Q851	2SA1309A
	Q404, Q405, Q805, Q855	2SB1238X
	Q803, Q853	2SB1425
	Q401, Q402	2SC1815
	Q1002, Q1003, Q807, Q857	2SC3311A
	Q403	2SD1302
	Q311, Q312, Q701, Q702	2SD2144S
	Q161, Q162	2SK373
	Q1004, Q165	DTA114ES
	Q502, Q751	DTA114TS
	Q105, Q106, Q163, Q164	DTC114TS
	Q309, Q310, Q406, Q407	DTC114TS
	Q651, Q652	DTC114TS
	Q103, Q104	DTC115TS
	Q101, Q102, Q166, Q201– Q203	DTC124ES
	Q301– Q308, Q313, Q802, Q804	DTC124ES
	Q806, Q852, Q854, Q856	DTC124ES
	D801, D851	11ES2
△	D1001, D1002	1SS254
	D1004– D1006, D1604, D161– D166	1SS254
	D651– D653, D904– D906	1SS254
	D751	MTZJ3.9B
	D1007	MTZJ5.1B
△	D1003	S2VB20
△	D1008	S5566G

COILS AND FILTERS

L401	LFA121K
L402 (OSC. COIL)	RTD1077
L101, L102 (5.6 mH)	RTF1099
L301, L302 (10 mH)	RTF1102
L303, L304 (15 mH)	RTF1125
F201, F202 (MPX. FILTER)	RTF1208

CAPACITORS

C405, C406	CCCSL101K2H
C714	CCCSL470J50
C161, C162	CCSQCH100D50
C109– C112, C701, C702	CCSQSL101J50
C709– C712	CCSQSL101J50
C107, C108	CEANL101M10
C1007, C1009, C211, C212	CEAT100M50
C217, C218, C317, C318	CEAT100M50
C707, C708	CEAT100M50
C220	CEAT101M16
C201, C202, C213, C214	CEAT1R0M50
C321, C322, C703, C704	CEAT1R0M50
C1008	CEAT220M50

C1010, C1011	CEAT221M16
C403, C404	CEAT330M16
C660	CEAT330M35
C1005, C1006	CEAT331M16
C659	CEAT331M6R3
C1013	CEAT332M16
C1004	CEAT332M35
C653, C654	CEAT3R3M50
C125, C126, C219, C323, C325	CEAT470M16
C409, C502, C705, C713	CEAT470M16
C115, C116, C313, C314	CEAT4R7M50
C315, C316	CEATR22M50
C657, C658	CEATR47M50
C407	CFTLA123J50
C215, C216	CFTYA103J50
C207, C208	CFTYA104J50
C209, C210	CFTYA683J50
C1012, C501, C903	CKCYF103Z50
C1001– C1003, C1015, C326	CKCYF473Z50
C651, C652, C706, C751, C802	CKCYF473Z50
C852, C853	CKCYF473Z50
C655, C656	CKSQYB122K50
C305, C306	CKSQYB123K50
C307, C308	CKSQYB153K50
C117, C118	CKSQYB183K50
C301, C302	CKSQYB221K50
C309, C310	CKSQYB272K50
C101– C104	CKSQYB331K50
C303, C304, C319, C320	CKSQYB332K50
C123, C124	CKSQYB391K50
C311, C312	CKSQYB392K50
C401, C402	CKSQYB472K50
C105, C106, C121, C122	CKSQYB681K50
C408	CKSQYB682K50
C128	CKSQYF103Z50
C503, C504	CKSQYF473Z50
C410	CQHA822J2A
C113, C114	CQMA822J50
C1014 (1000μF/10V)	PCH1117

RESISTORS

R501 (68kΩ)	RA9T683J
R339, R340 (4.7kΩ)	RCN1028
R414	RD1/2LMF150J
R410	RD1/2LMF181J
R407	RD1/2LMF1R0J
R409	RD1/2LMF201J
R1011	RD1/2LMF331J
R408	RD1/2LMF4R7J
R131– R134, R231, R232	RS1/10S0R0J
R205, R206, R659, R660, R903	RS1/10S102J
R665	RS1/10S103J
R651, R652, R707, R708	RS1/10S104J
R161, R162	RS1/10S105J
R1009	RS1/10S123J
R715, R716	RS1/10S182J
R713, R714	RS1/10S184J
R210	RS1/10S203J

CT-W208R

Mark	No.	Description	Part No.
	R1005, R1007, R1008, R709– R712 R904 R1006, R201, R202 R103– R106 R701, R702		RS1/10S223J RS1/10S274J RS1/10S332J RS1/10S334J RS1/10S362J
	R703, R704 R209 R705, R706 R119, R655– R658 R507, R514, R661, R662, R901		RS1/10S471J RS1/10S472J RS1/10S681J RS1/10S682J RS1/10S683J
	VR801, VR852 (1.0 kΩ) VR851 (2.2 kΩ) VR301, VR302 (22 kΩ) VR101– VR104 (47 kΩ) VR401, VR402 (100 kΩ)		PCP1024 PCP1025 PCP1030 PCP1031 PCP1032
	VR701 (5.0 kΩ) Other Resistors		RCV1089 RD1/4PU□□□J

OTHERS

CN1503	18P CONNECTOR	52045-1845
701	4P PIN JACK	AKB7014
CN401	CONNECTOR POST	B2B-PH-K-S
CN101, CN102	CONNECTOR POST	B3B-PH-K-S
J1001	2mm JUMPER WIRE	D20PYY0325E
J801	10P JUMPER WIRE	D20PYY1030E
J851	13P JUMPER WIRE	D20PYY1315E
JA902, JA903	JACK	RKN1004
X501	CERAMIC RES.(6.3MHz) PCB BINDER	RSS1045 VEF1040
KN1001	EARTH METAL FITTING	VNF1084
	3P CABLE HOLDER	51048-0300
	10P CABLE HOLDER	51048-1000
	13P CABLE HOLDER	51048-1300

B SUBB UNIT (RWZ4353)

SEMICONDUCTORS

Q1511– Q1514 Q1507– Q1510 Q1501– Q1506 D1601, D1602 D1501– D1503, D1507– D1510		2SA1309A DTA114TS DTC114TS 1SS254 MAY5074X
D1512– D1514, D1517– D1519, D1522 D1504, D1505, D1515, D1516 D1520, D1521		MAY5074X MVR5074X MVR5074X

SWITCHES

S1625, S1626 S1602– S1605, S1607, S1609– S1615 S1617– S1622, S1624		RSH1041 VSG1009 VSG1009
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RESISTORS

Other Resistors		RD1/4PU□□□J
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OTHERS

CN1501	18P CONNECTOR	9607S-18F
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Mark	No.	Description	Part No.
C	TRN 2 UNIT		
OTHERS			
	H1- H4	FUSE CLIP	AKR1003
D	POWER SW UNIT		
SWITCHES			
	S1301		RSA1001
CAPACITORS			
	C1301	CKA(10000P/AC250V)	ACG7020
OTHERS			
	1301	TERMINAL	RKC-061

6. ADJUSTMENT

- Adjustment points and Measurement points are shown in Fig. 6-5.

6.1 MECHANICAL ADJUSTMENT

6.1.1 Door Damping Check and Adjustment

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).

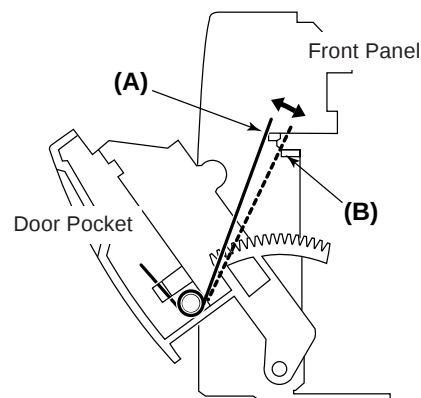


Fig. 6-1

6.1.2 Tape Speed Adjustment

- Perform this adjustment in the test mode.

- Test Mode Setting

- (1) Press the STOP keys of DECK I together with the PAUSE key and the REC MUTE 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 STOP key of DECK I together with the STOP key of DECK II 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	6000Hz ± 600Hz	
2	2			VR851	Within ±10Hz against the measurement value of the step 1 (DECK I).	
3	I	Normal Speed PLAY		VR801	2980Hz ± 5Hz	
4	2			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 Adjustment
- (3) Recording Level Adjustment

NOTE : This unit has an automatic tape selection feature.

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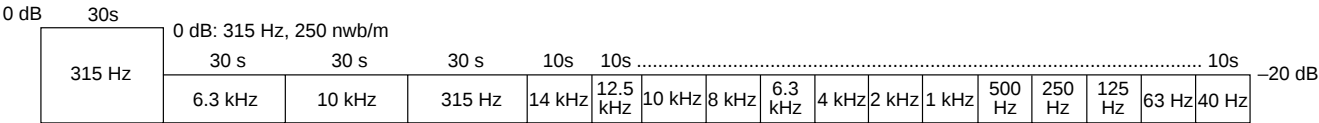


Fig. 6-2 Constants of the Test Tape STD-331E

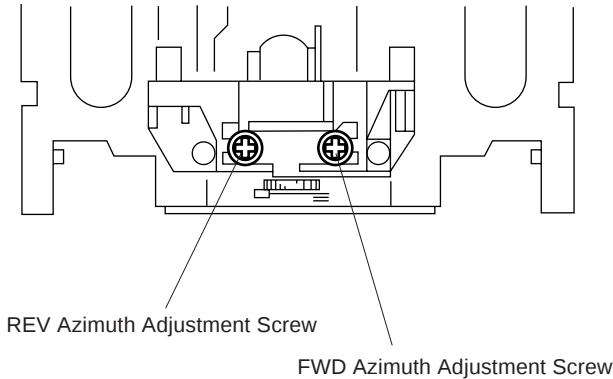
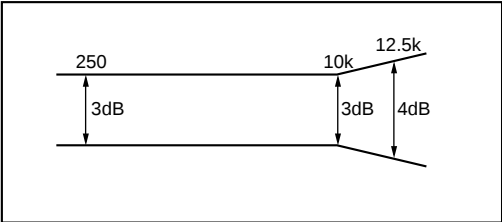


Fig. 6-3 Head Azimuth Adjustment

PLAY BACK



RECORDING

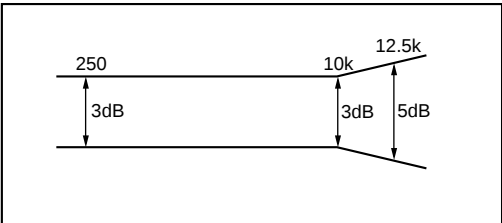


Fig. 6-4 Frequency Response Zone

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.
- DECK II side adjustment is starte next to DECK I side adjustment of playback level.

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)	- 6.7dBV	Digital NR : OFF
			DECK 2	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 2	L402	TP 11	105kHz ± 0.3kHz
						If the adjustment value on the left cannot be obtained, values within 105kHz ^{+4.0} _{-0.3} kHz are also satisfactory.

(2) Recording Bias Adjustment

- After the adjustment, caution should be exercised so as not to become under bias by checking the distortion rate.

No.	Mode	Input Signal/Test Tape	Adjustment Points		Measurement Points	Adjustment Value	Remarks
1	REC/ PAUSE	Input a 315Hz (–26 dBV) signal to the LINE INPUT.	_____		LINE OUT (L, R ch)	–26 dBV	
2	REC → PLAY	Load the STD–632 test tape and record/playback the 315Hz and 10kHz signals. (see the Note below)	L ch	VR401		Repeat adjustment until playback level of the 10kHz signal is within 0dB ± 0.5dB from that of the 315Hz signal.	
			R ch	VR402			

Note: Set the 10kHz input signal level to the same value as the 315Hz input signal level of step 1.

(3) Recording Level Adjustment

No.	Mode	Input Signal/Test Tape	Adjustment Points		Measurement Points	Adjustment Value	Remarks
1	REC/ PAUSE	Input a 315Hz signal to the LINE INPUT.	Input signal level		TP 1 (L ch) TP 2 (R ch) (MAIN UNIT)	–11.2 dBV	
2	REC → PLAY	• STD–632 test tape and record/playback the 315Hz signal. • DOLBY NR : OFF	L ch	VR301		Repeat recording, playback and adjustment until playback level of the 315Hz signal becomes –10dBV ± 0.5dB.	
			R ch	VR302			

(4) Recording Frequency Characteristics Confirmation

No.	Mode	Input Signal/Test Tape	Adjustment Points	Measurement Points	Adjustment Value	Remarks
1	REC → PLAY	• STD–632, STD–622 test tape • Record with –26.0 dBV • DOLBY NR : ON/OFF	_____	LINE OUT (L, R ch)	_____	Check that the frequency characteristic is within the range of Fig. 6-4.

● Adjustment and Measurement Points

MAIN UNIT

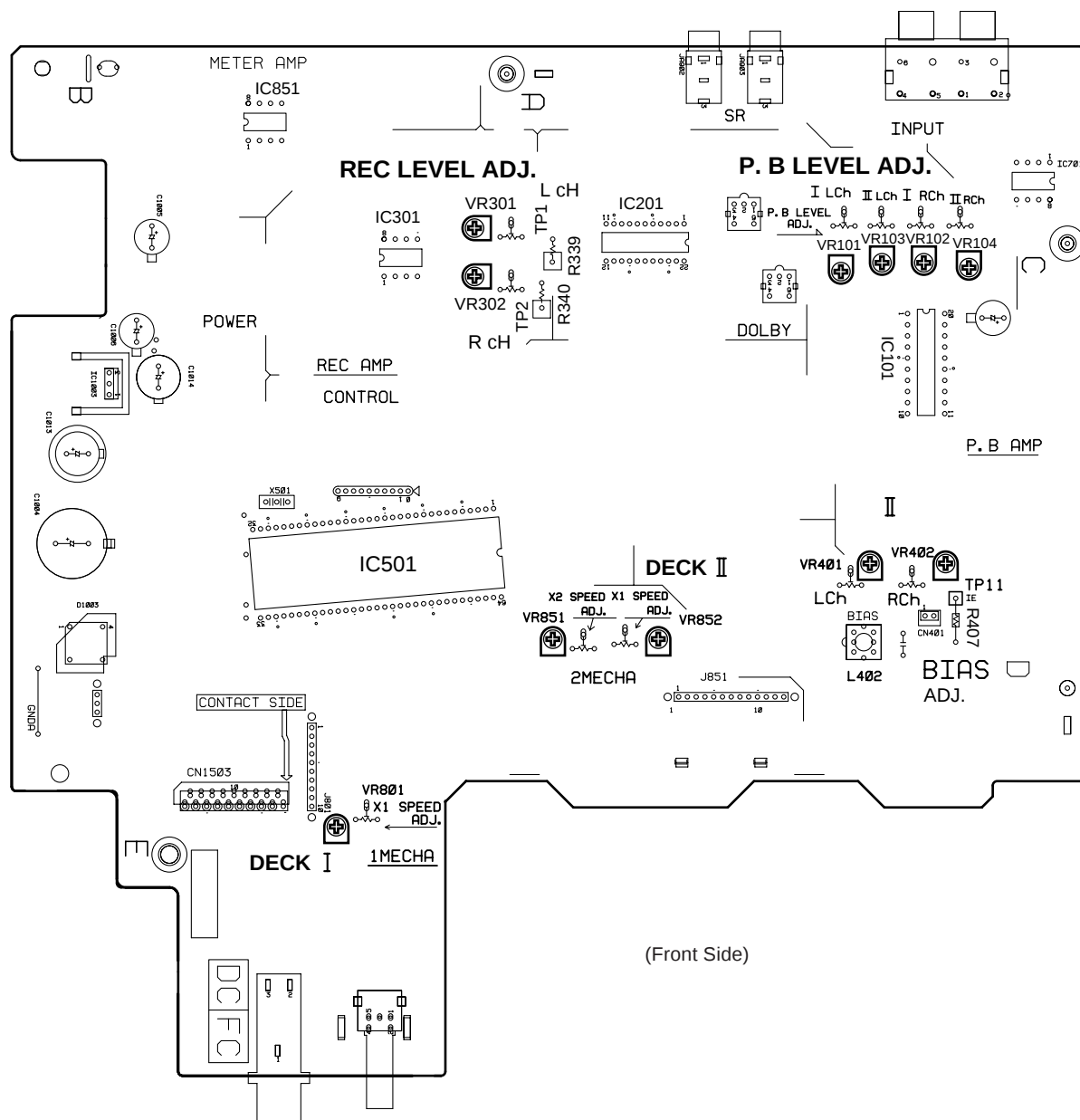


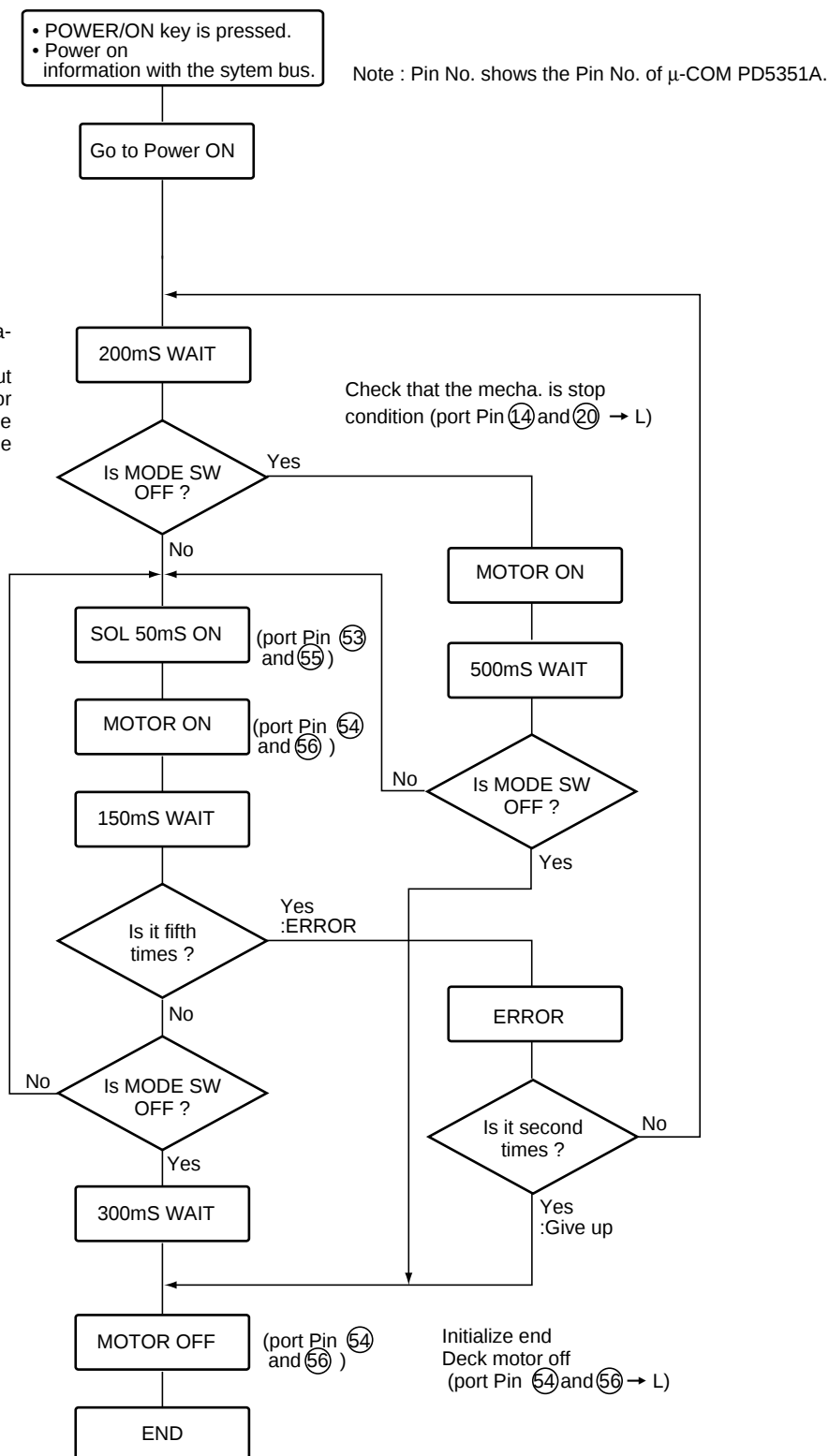
Fig. 6-5 Adjustment Points and Measurement Points

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 POWER ON SEQUENCE

Perform the mechanism initialization every time it power on.
(When the AC outlet is pulled out while raising up the Head Base or the gear comes off, perform the initialization every time because the normal movement can't be done.)



7.2 PARTS

7.2.1 IC

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

■ PD5351A (MAIN UNIT : IC501)

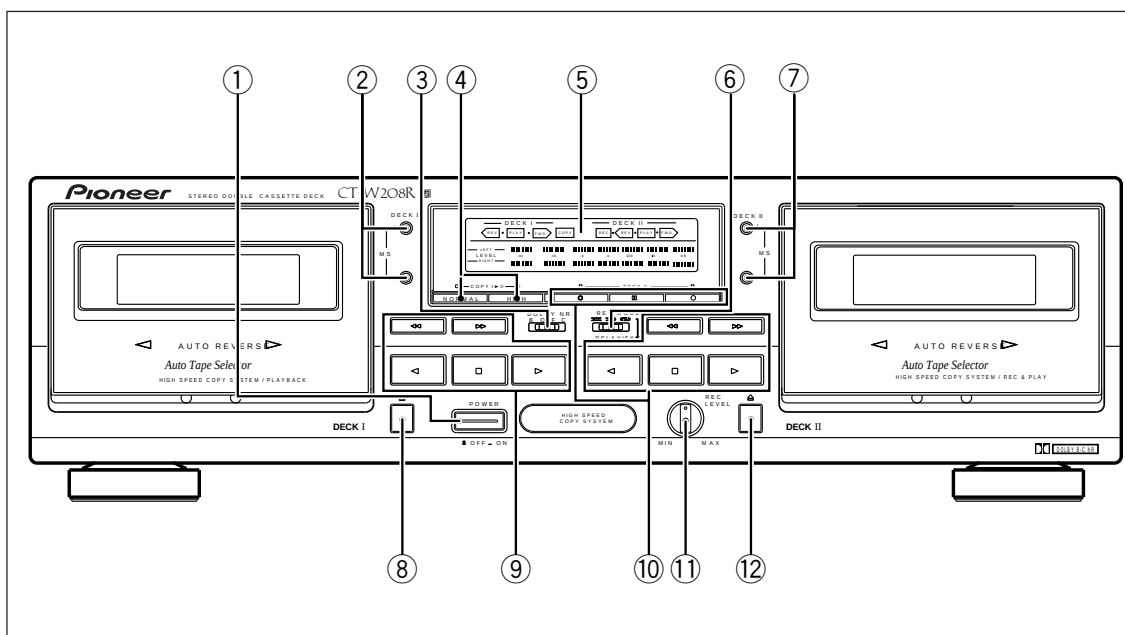
• U-COM IC

●Pin Function

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function															
1	VCC	I	Power supply 5V	33	SLD5	O	Display output (Soft scanning output)															
2	AREF	I	AREF is connected to 5V	34	SLD4	O																
3	AVSS	I	AVSS is connected to GND.	35	SLD3	O																
4	METL	I	L ch level meter input	36	SLD2	O																
5	METR	I	R ch level meter input	37	SLD1	O																
6	KEY2	I	Key scanning input (Key switch A/D input)	38	SLD0	O																
7	KEY1	I		39	GLD3	O																
8	KEY0	I		40	GLD2	O																
9	SEN1	I	Take-up side sensing puise.Primary side input	41	GLD1	O																
10	SEN2	I	Take-up side sensing puise.Secondary side input	42	GLD0	O																
11	SW0	O	DOLBY NR SW, REVERS SW DC input	43	OKY2	O	Output for detecting Dolby NR SW, REVRS SW.															
12	DOLO	O	DOLBY NR control When Dolby NR OFF, DOLO:"H". When Dolby NR B, DOLB: "H".	44	OKY1	O																
13	DOLB	O		45	OKY0	O																
14	MOD2	I	Mechanical SW input voltage "L" when all the following SWs are ON. Mode SW, chrome SW, half SW, forward record disable SW, metal SW, reverse record disable SW.	46	PD	O	Connected to a pull-down ressistor.															
15	CRO2	I		47	CDSY	I	CD SYNCHRO input/output When SYNCHRO jack IN, "L" input. During CD play, "L" input. When SYNCHRO REC, TOCD is output in "H".															
16	HAF2	I		48	FRC2	I																
17	FRC2	I		49	TOCD	O																
18	MET2	I	"L" when all the following SWs are ON. Mode SW, chrome SW, half SW.	50	TP1	O	<table><tr><td></td><td>NOR</td><td>CRO</td><td>MET</td><td></td></tr><tr><td>TP0</td><td>L</td><td>H</td><td>L</td><td>H:5V</td></tr><tr><td>TP1</td><td>L</td><td>L</td><td>H</td><td>L:GND</td></tr></table>		NOR	CRO	MET		TP0	L	H	L	H:5V	TP1	L	L	H	L:GND
	NOR	CRO		MET																		
TP0	L	H	L	H:5V																		
TP1	L	L	H	L:GND																		
19	RRC2	I	51	TP0	O																	
20	MOD1	I	"L" when all the following SWs are ON.	52	X1	O	Motor speed adjustment. When X1, "H"															
21	CRO1	I	Mode SW, chrome SW, half SW.	53	SOL1	O	Deck 1 side mechanical control output Solenoid control															
22	HAF1	I		54	CPM1	O	Capstan motor control															
23	VLED	I	Power supply SW version select input.	55	SOL2	O	Deck 2 side mechanical control output Solenoid control															
24	VTAC	I	Power SW Without LED VTAC: L, VLED: L.	56	CPM2	O	Capstan motor control															
25	REMT	I	Remote commander signal input	57	MRCV	O	Meter circuit recovery time control.															
26	NVSS	I	Chip operation mode control. Connected to GND.	58	MGAN	O	Meter circuit gain select. (When MS, "H")															
27	REST	O	Reset signal input. ("L" when reset.)	59	PBNR	O	When a normal tape is played back, "H"															
28	POFF	I	Power off signal input. ("H" when power off.)	60	2PB	O	When deck 2 is played back, "H" is output															
29	PD	O	Connected to pull-down resistor.	61	DEC	O	DECODE/ENCODE output.															
30	XIN	I	Connected to the main clock (6.3 MHz)	62	BIAS	O	BIAS control.(When bias ON, "H".)															
31	XOUT	O		63	RMUT	O	REC MUTE control. (When MUTE "L".)															
32	VSS	I	Power supply GND	64	LMUT	O	LINE MUTE control. (When MUTE "L".)															

8. PANEL FACILITIES AND SPECIFICATIONS

■ PANEL FACILITIES



① **POWER switch**

② **DECK I MS(music search) +, - buttons**

③ **DOLBY* NR switch (B/OFF/C)**

*

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- *"DOLBY", the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.*

④ **Synchro copy buttons (COPY I > II)**

NORMAL: Normal speed copy

HIGH : Double speed copy

⑤ **Function display**

⑥ **Reverse mode switch (REV MODE RELAY/SKIP)**

⑦ **DECK II MS(music search) +, - buttons**

⑧ **DECK I eject button (▲)**

- 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.

⑨ **Deck I operation buttons**

- ◀ : Reverse playback
- ▶ : Forward playback
- ◀◀ : Fast reverse
- : Stop
- ▶▶ : Fast forward

⑩ **DECK II operation buttons**

- ◀ : Reverse playback
- ▶ : Forward playback
- ◀◀ : Fast reverse
- : Stop
- ▶▶ : Fast forward
- : Recording mute
- || : Pause
- : Recording

⑪ **Recording level control (REC LEVEL)**

⑫ **DECK II eject button (▲)**

- 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.

Subfunctions

- Automatic reverse
- DOLBY B/C type NR
- Music search over ± 15 selections
- High-speed and normal-speed copy
(DECK I $\rightarrow$ DECK II)
- Relay playback/blank skip
- Peak level meter with peak-hold function
- Automatic space recording mute
- Automatic tape selector
-  System remote control available

Power Requirements	
U.K. model	AC 230 ~ 240 volts, 50/60 Hz
European model	AC 220 ~ 230 volts, 50/60 Hz
U.S. and Canadian models	AC 120 V, 60 Hz
Power Consumption	16 W
Dimensions	420 (W) x 125 (H) x 250 (D) mm (16 - 9/16 (W) x 4 - 7/8 (H) x 9 - 13/16 (D) in.)
Weight (without package)	
U.K. model	3.9 kg(8 lb 10 oz)
U.S. model , Canadian model and European model	3.8 kg(8 lb 6 oz)

Operating instructions	1
Connection cord with pin plugs	2
Control cable	1
Warranty card	1

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

Control Cable x1
(PDE1267: L=1.0m)

Connection Cord with Pin-plug x2
(RDE1036) (L=1.0m)

White

Red