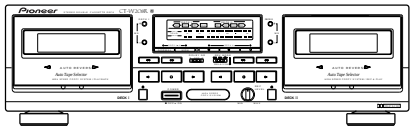
Service Manual



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	

CONTENTS

PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
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PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936

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.

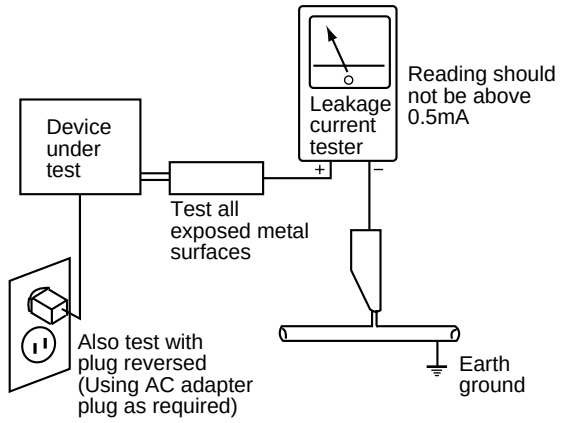
(FOR USA MODEL ONLY)

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 ⚠ on the schematics and on the parts list in this Service Manual.

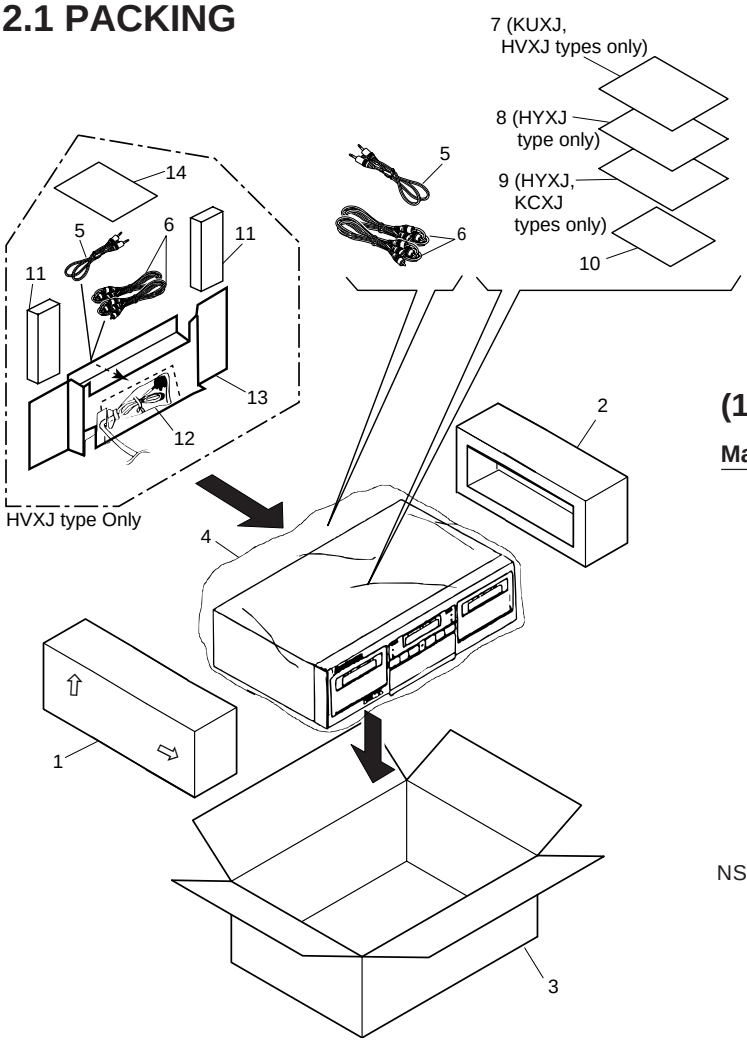
The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

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 ⚠ 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

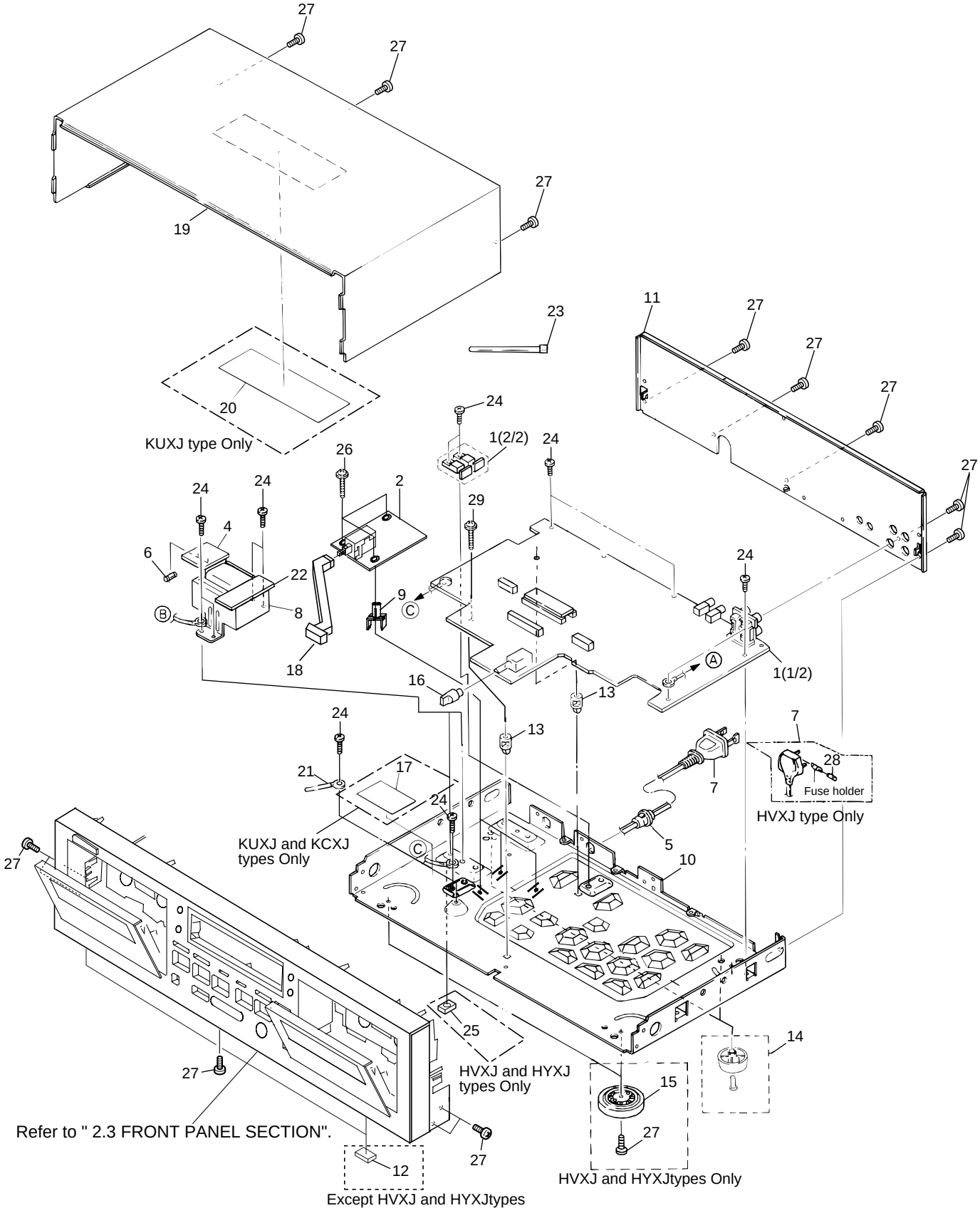
Mark	No.	Description	Part No.
	1	Pad L	RHA1115
	2	Pad R	RHA1116
	3	Packing Case	See Contrast table (2)
	4	Mirror Mat Sheet (750x600x0.5)	Z23-007
	5	Control Cable (L=1.0m)	PDE1267
	6	Connection cord with Pin-plug (L=1.0m)	RDE1036
	7	Operating Instructions (English)	See Contrast table (2)
	8	Operating 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, 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	
	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	
NSP	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


27
27
27
19
23
11
27
27
27
20
KUXJ type Only
24
1(2/2)
24
26
2
24
24
29
4
6
22
9
C
8
B
18
24
16
13
A
1(1/2)
24
13
7
28
Fuse holder
HVXJ type Only
21
17
24
7
5
KUXJ and KCXJ
types Only
C
10
27
25
14
HVXJ and HYXJ
types Only
15
27
27
Refer to " 2.3 FRONT PANEL SECTION".
12
27
HVXJ and HYXJtypes Only
Except HVXJ and HYXJtypes

(1) EXTERIOR PARTS LIST

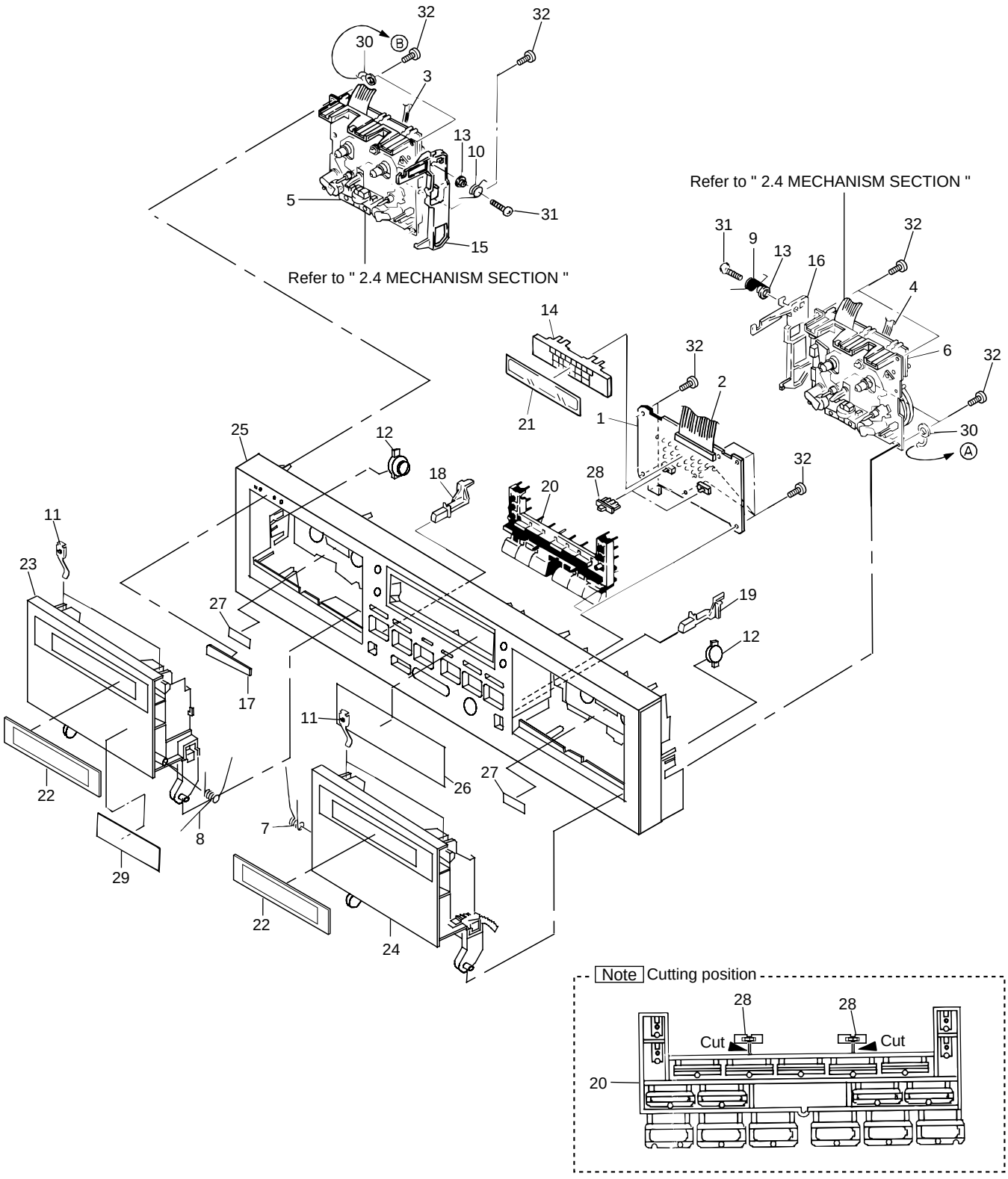
Mark	No.	Description	Part No.
	1	MAIN UNIT	See Contrast table (2)
NSP	2	POWER SWITCH UNIT	See Contrast table (2)
	3	• • • • •	
NSP	4	Transformer 2 UNIT	See Contrast table (2)
	5	Cord Stopper	See Contrast table (2)
⚠	6	Fuse (FU1, FU2, 1.25A)	See Contrast table (2)
⚠	7	AC Power Cord	See Contrast table (2)
⚠	8	Power Transformer	See Contrast table (2)
	9	PCB Mold	AMR2533
NSP	10	Chassis	RNB1144
	11	Rear Panel	See Contrast table (2)
	12	Rubber Sheet	See Contrast table (2)
NSP	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)
	21	Cord Clamper	RNH1005
NSP	22	Transformer 1 PCB	RNZ3340
NSP	23	Binder	ZCA–T18S
	24	Screw	BBZ30P060FMC
	25	Disc Guard	See Contrast table (2)
	26	Screw	IBZ30P180FCC
	27	Screw	BBZ30P080FZK
⚠	28	Fuse (T5A) (For AC Power Cord)	See Contrast table (2)
	29	Screw	IBZ30P150FCC

(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	
	1	MAIN UNIT	RWZ4352	RWZ4352	RWZ4348	RWZ4393	
NSP	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

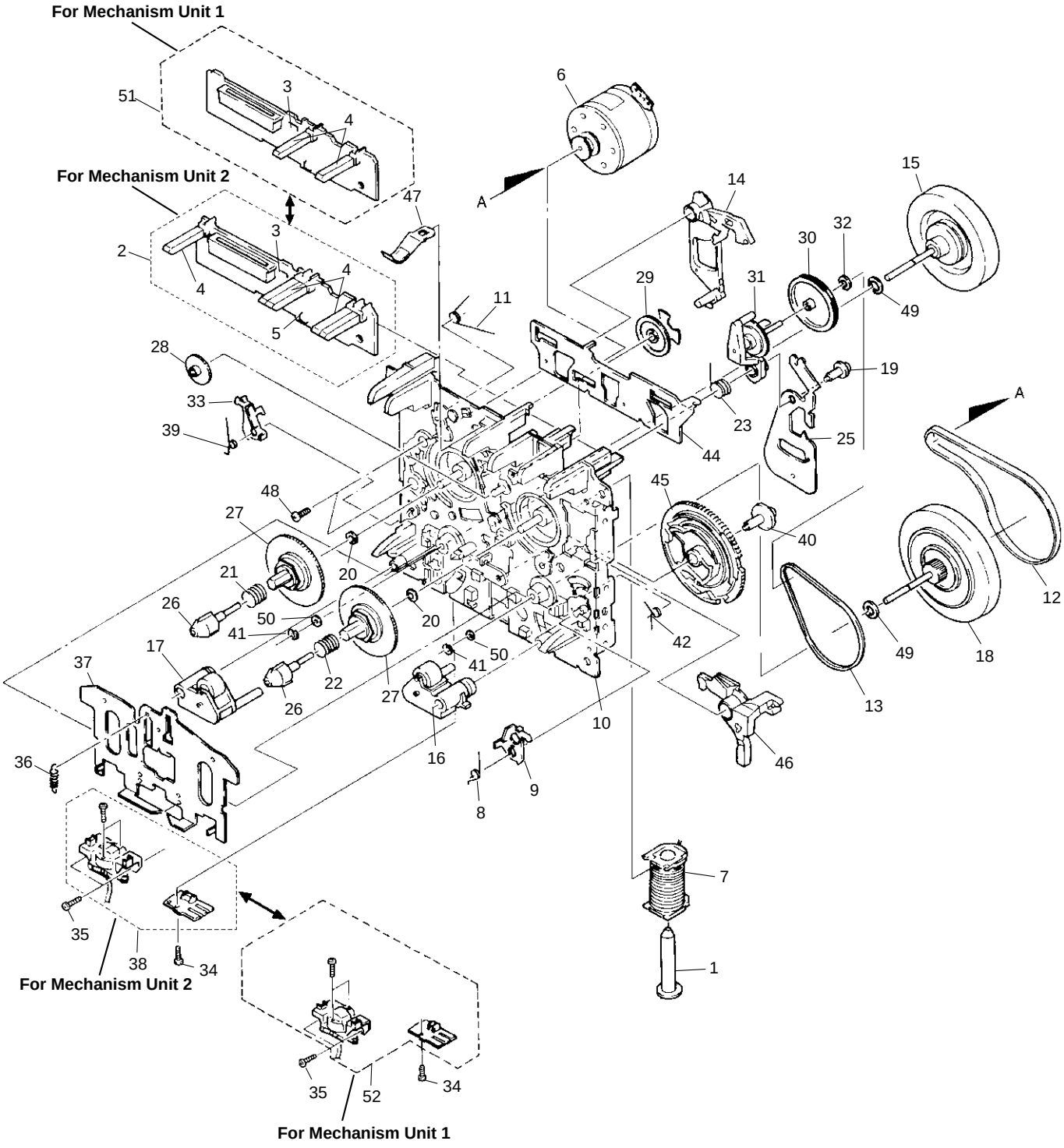
Mark	No.	Description	Part No.
	1	SUB UNIT	See Contrast table (2)
	2	18P F.F.C/60V	RDD1355
	3	Connector Assy 3P	RKP1678
	4	Connector Assy 5P	RKP1677
	5	Mechanism Unit 1 (P)	RYM1261
	6	Mechanism Unit 2 (R/P)	RYM1262
	7	Door Spring L	RBH1304
	8	Door Spring R	RBH1305
	9	Eject Spring L	RBH1379
	10	Eject Spring 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, 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	
	1	SUB UNIT	RWZ4353	RWZ4353	RWZ4349	RWZ4394	
	25	Front Panel	RAH2902	RAH2902	RAH2899	RAH2899	
	29	Getter	RAX1082	RAX1082	RAX1081	RAX1081	

2.4 MECHANISM SECTION

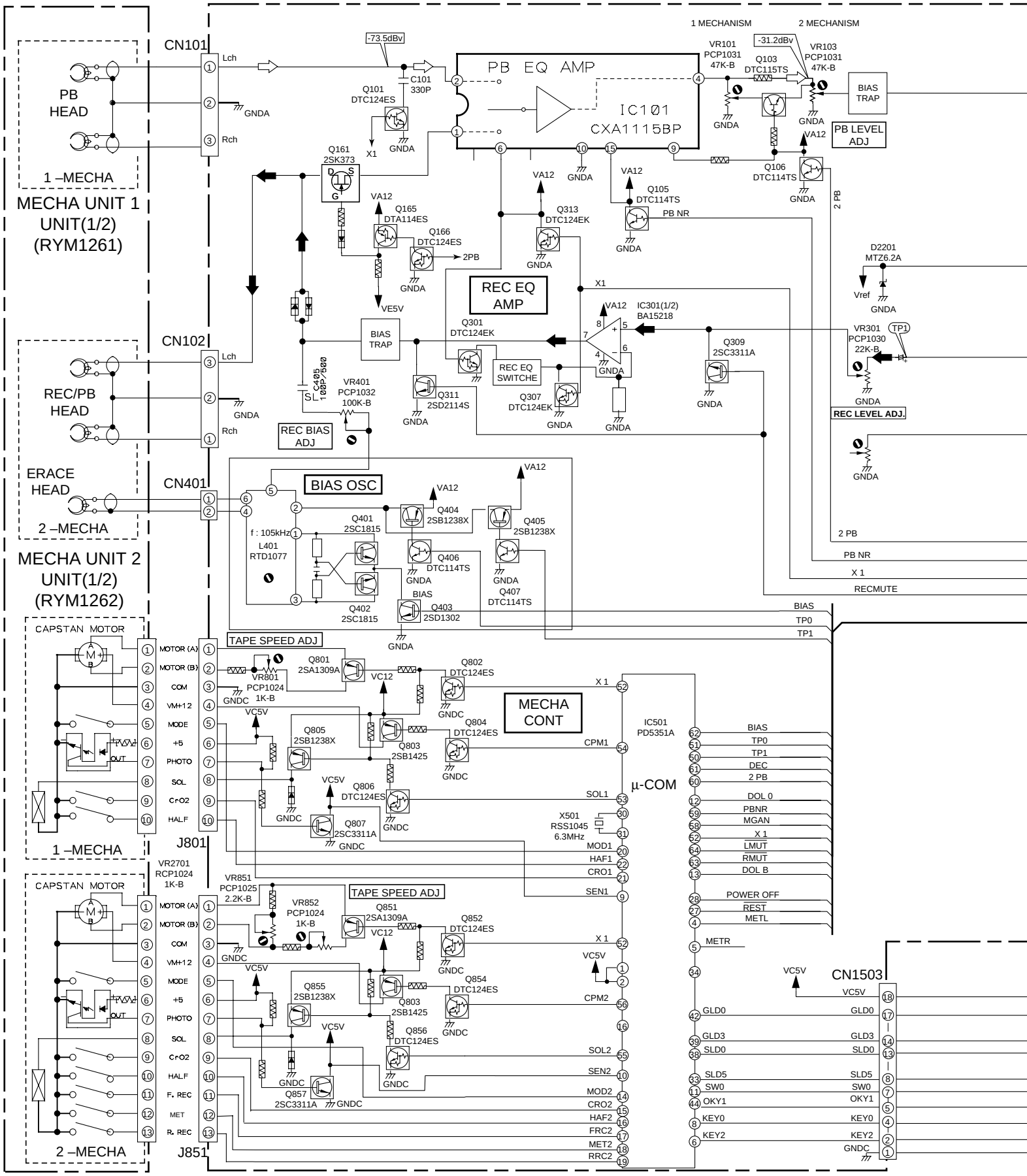


MECHANISM UNIT PARTS LIST

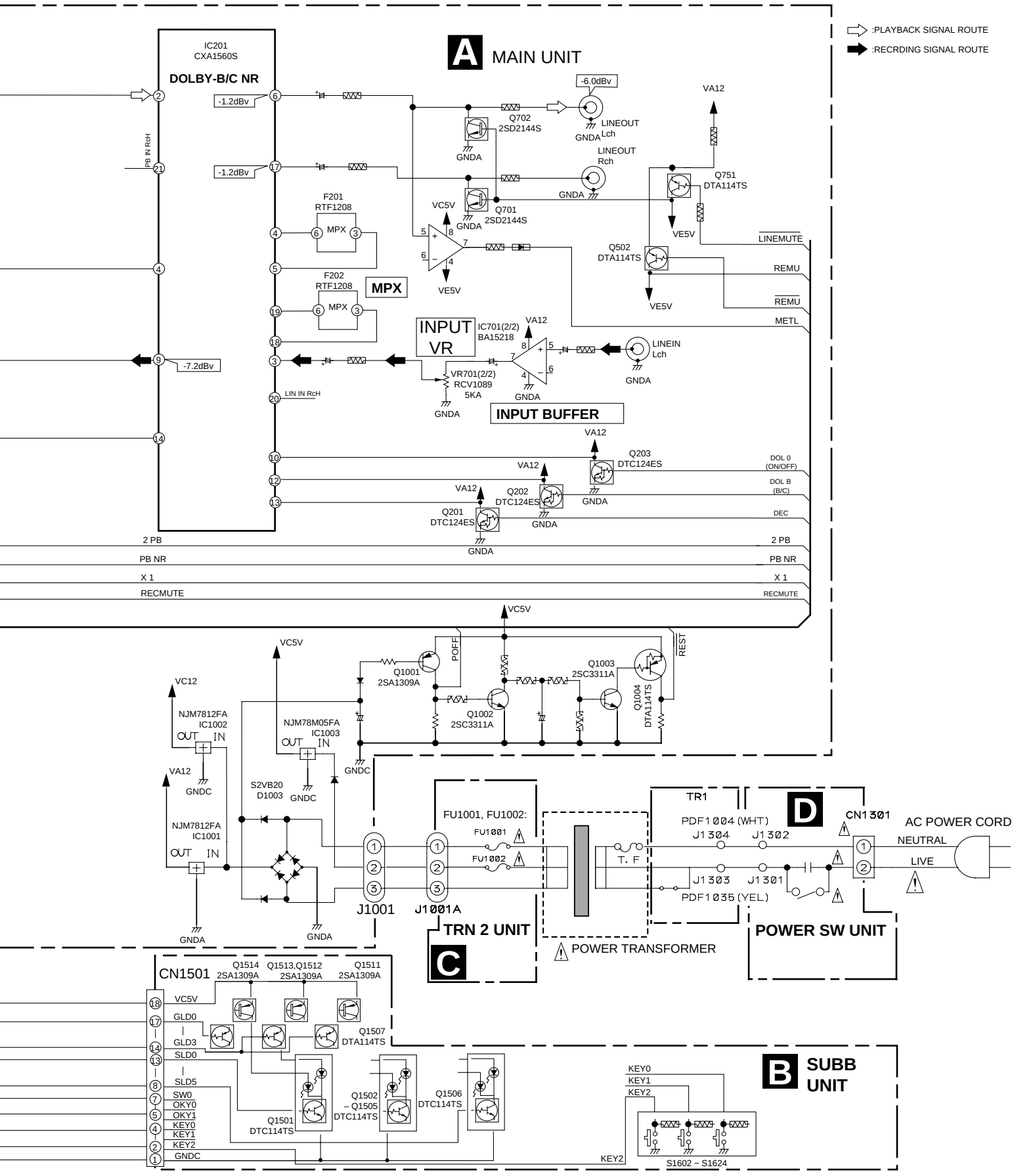
Mark	No.	Description	Part No.
	1	Plunge	RLA1288
	2	PCB CONTROL BLOCK (For Mechanism Unit 2)	RXA1733
	3	Push Switch	RSG1018
	4	SPLF	RSN1023
	5	PHOTO–TRANSISTOR	SPI33534FG
	6	MTR Main Block	RXM1075
	7	Solenoid Block	RXP1021
	8	Spring Interlock R	RBH1386
	9	Arm Interlock R	RNE1781
	10	Chassis Base Block	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	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
	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 Mechanism Unit 1)	RXA1623
	52	Plate HD Block (For Mechanism Unit 1)	RXA1682

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

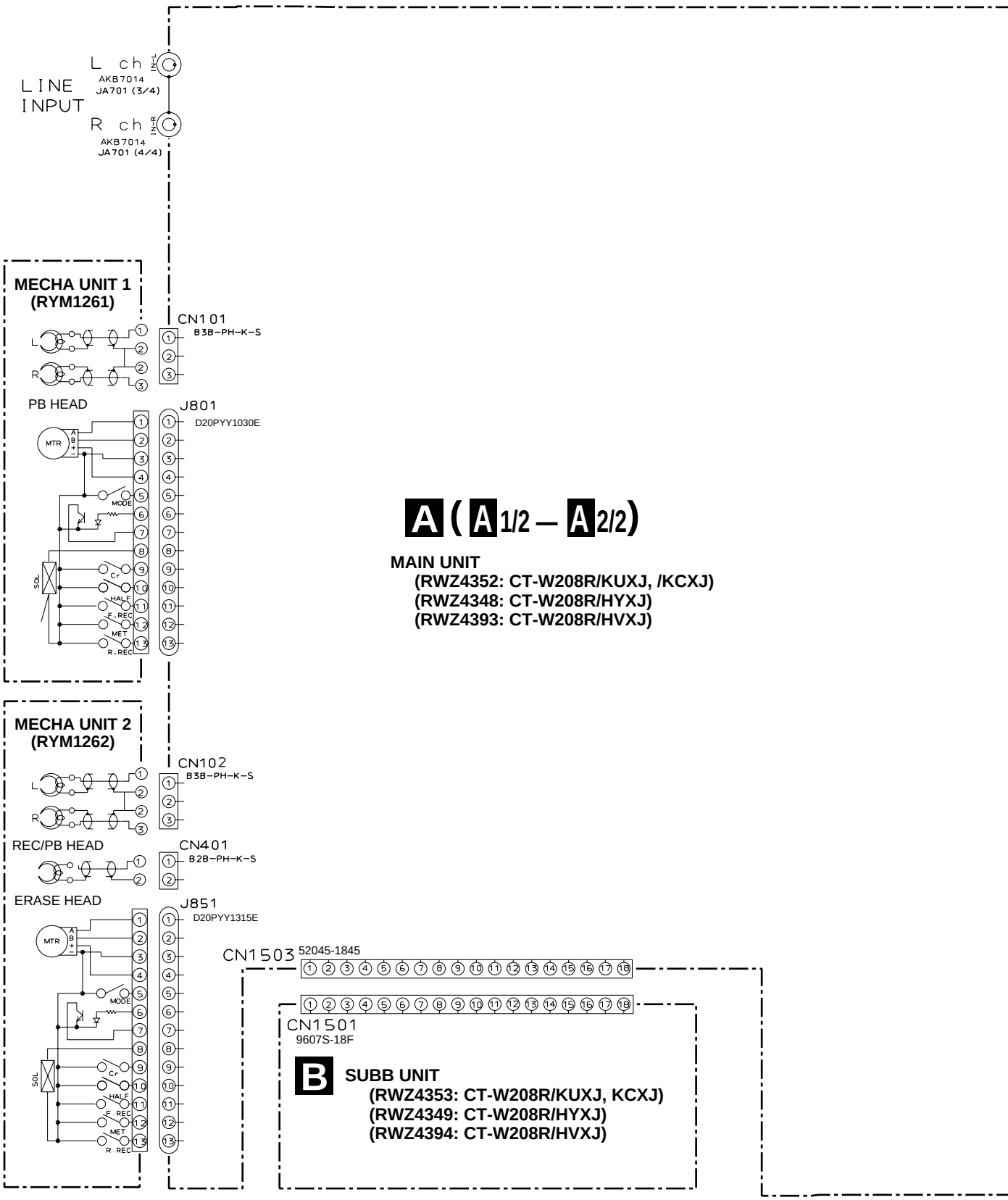
3.1 BLOCK DIAGRAM



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

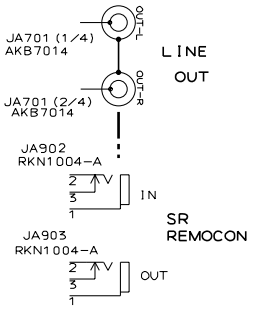


3.2 OVERALL WIRING DIAGRAM



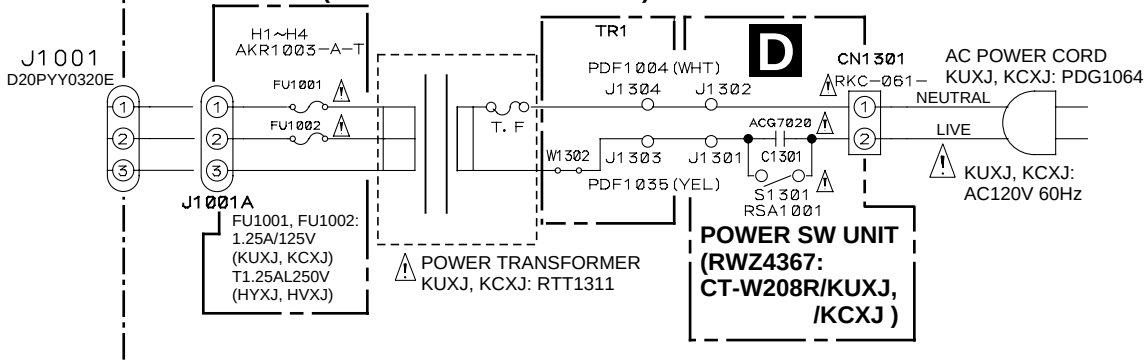
A (A1/2 – A2/2)

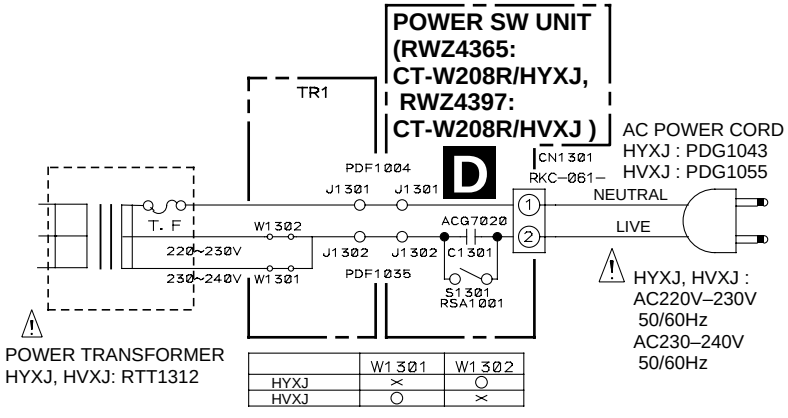
MAIN UNIT
(RWZ4352: CT-W208R/KUXJ, /KCXJ)
(RWZ4348: CT-W208R/HYXJ)
(RWZ4393: CT-W208R/HVXJ)



C TRN 2 UNIT

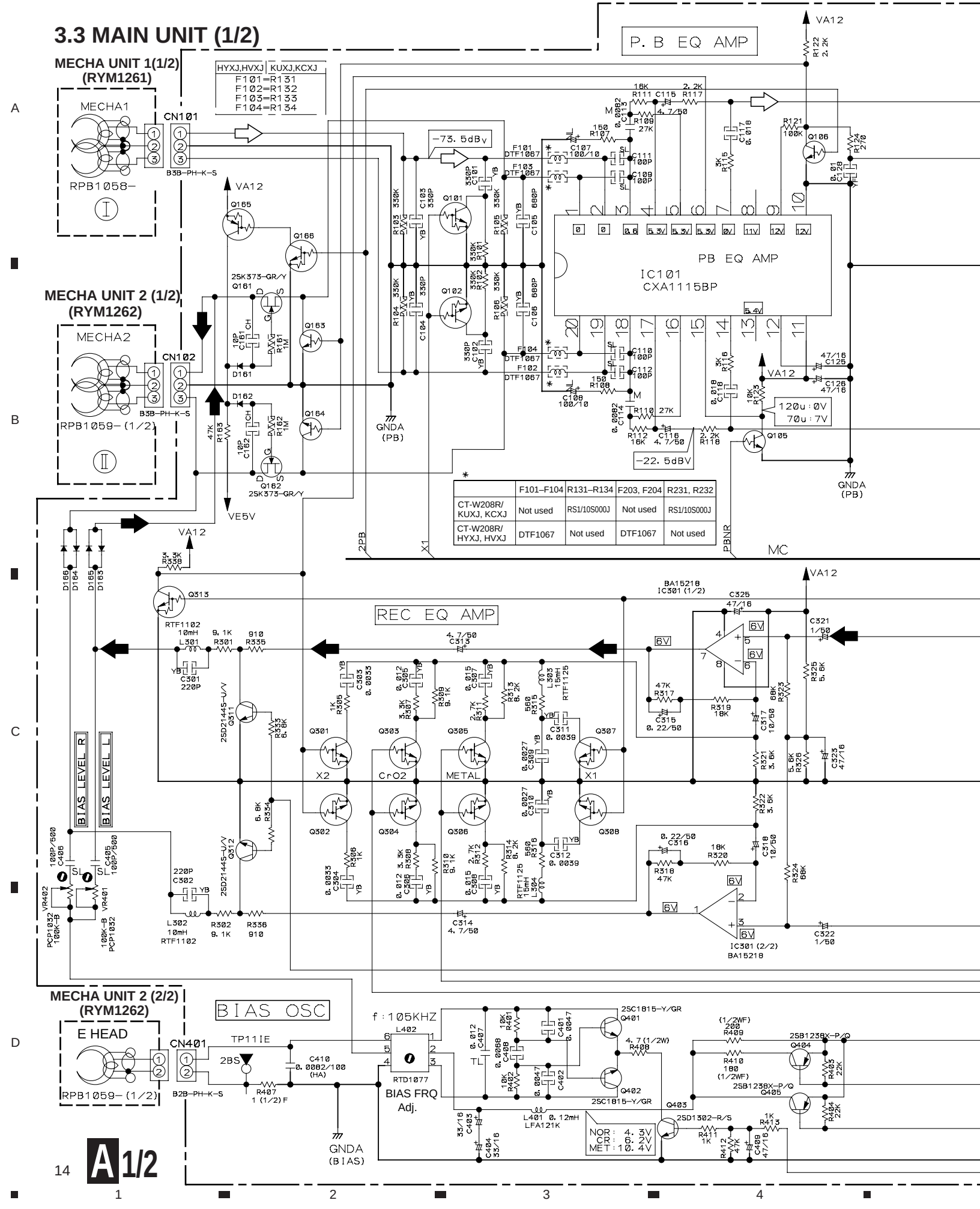
(RWZ4351: CT-W208R/KUXJ, KCXJ)
(RWZ4350: CT-W208R/HYXJ)
(RWZ4396: CT-W208R/HVXJ)





	W1301	W1302
HYXJ	×	○
HVXJ	○	×

3.3 MAIN UNIT (1/2)



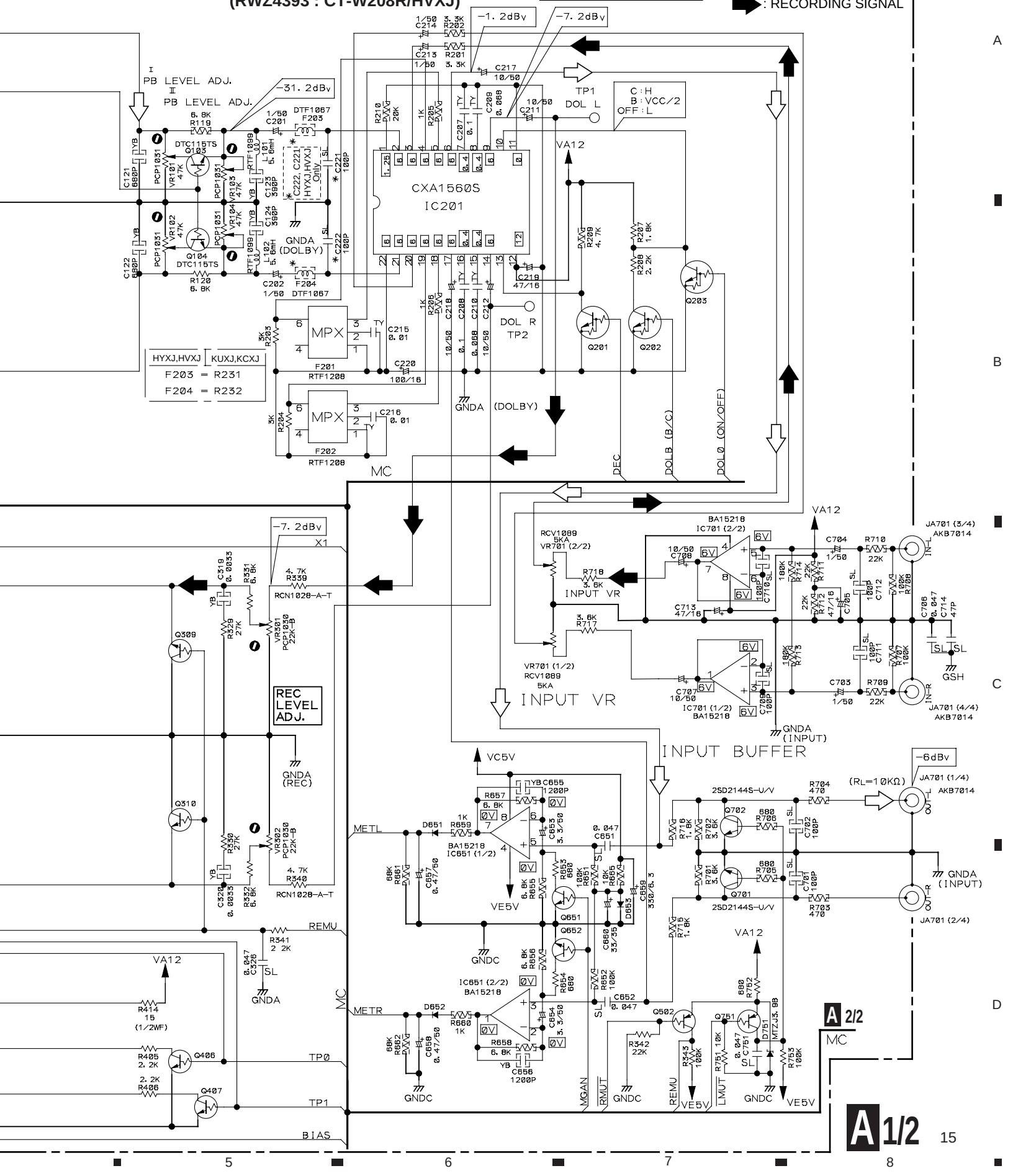
	F101–F104	R131–R134	F203, F204	R231, R232
CT-W208R/ KUXJ, KCXJ	Not used	RS1/10S000J	Not used	RS1/10S000J
CT-W208R/ HYXJ, HVXJ	DTF1067	Not used	DTF1067	Not used

A 1/2 MAIN UNIT (1/2)

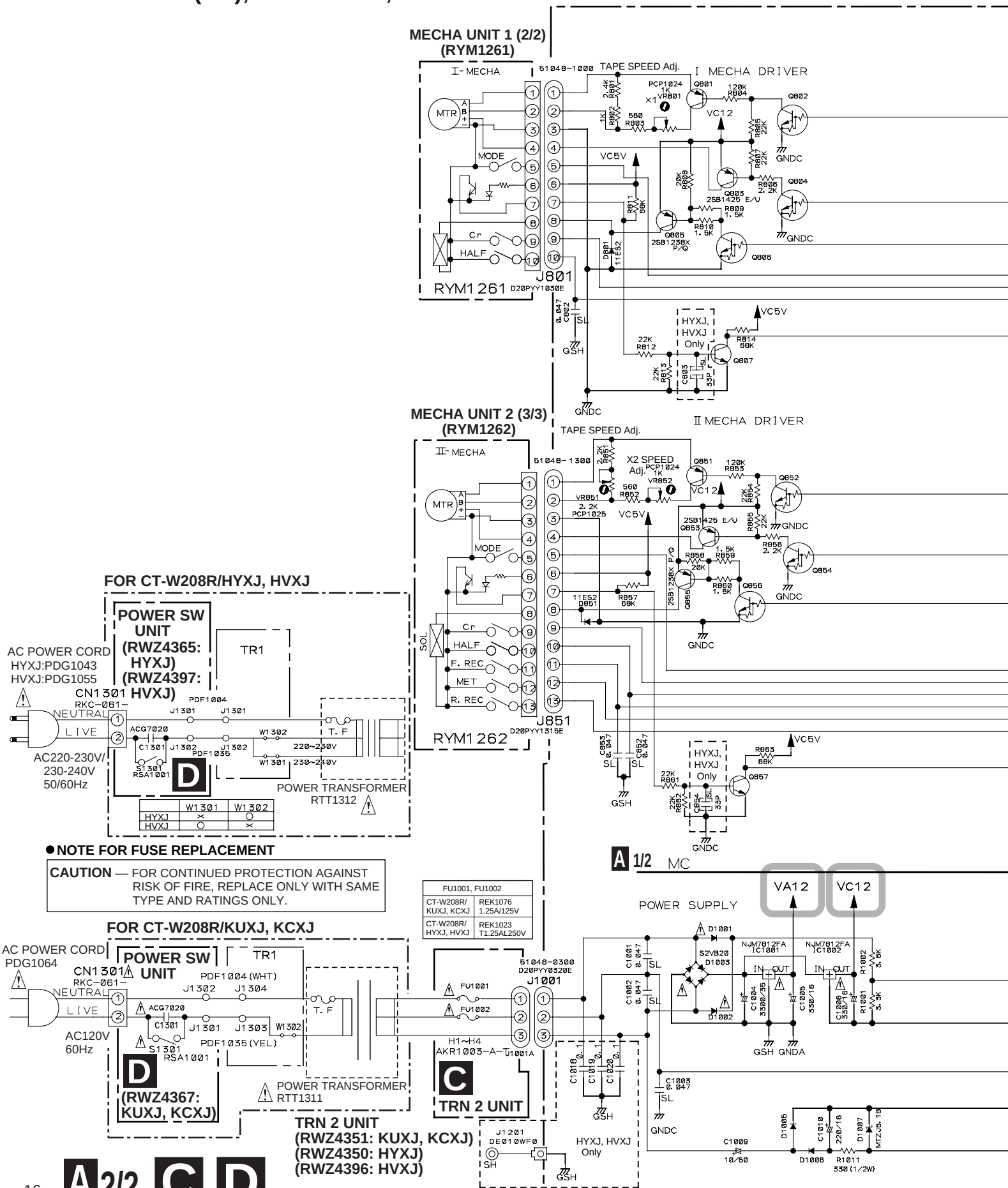
(RWZ4352 : CT-W208R/KUXJ, /KCXJ)
(RWZ4348 : CT-W208R/HYXJ)
(RWZ4393 : CT-W208R/HVXJ)

SIGNAL ROUTE
: PLAYBACK SIGNAL
: RECORDING SIGNAL

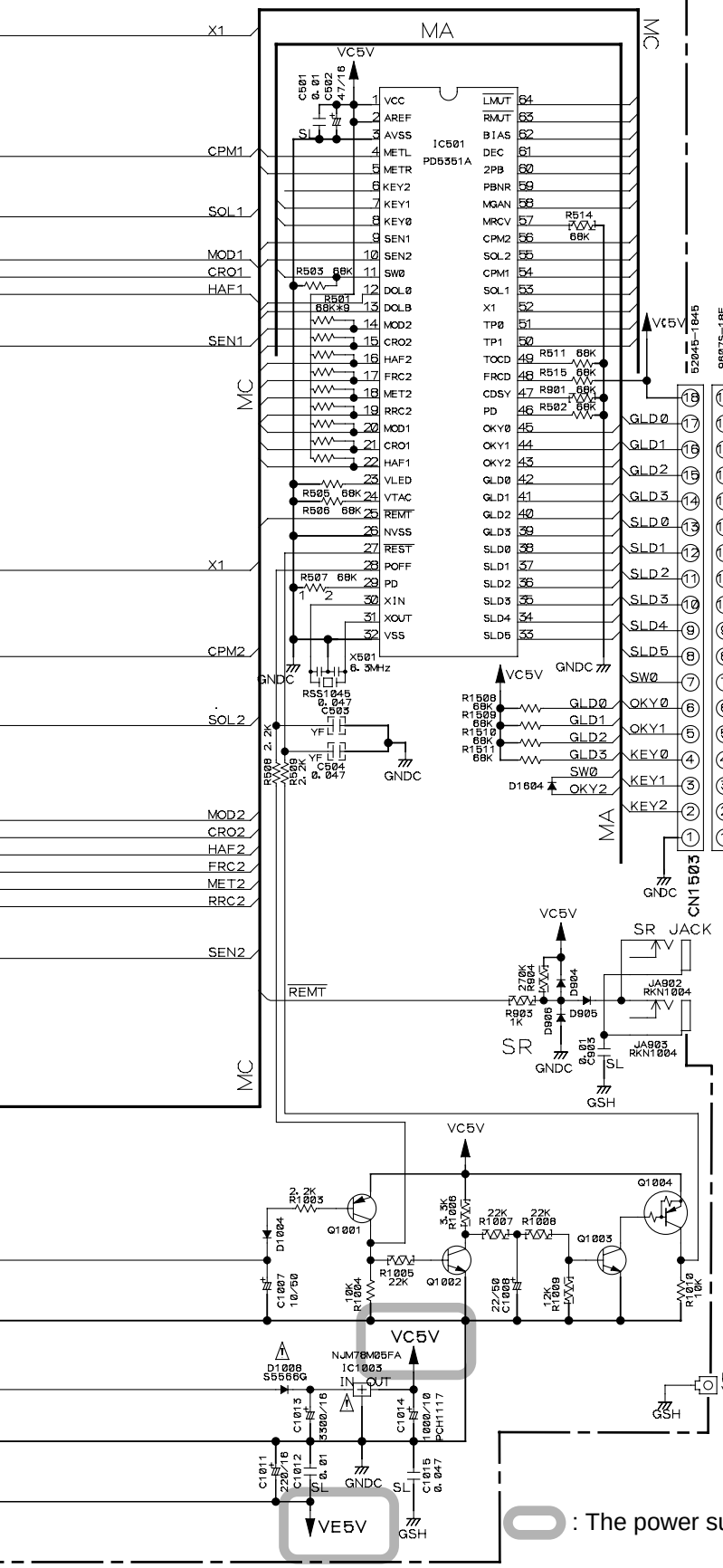
DOLBY B/C NR



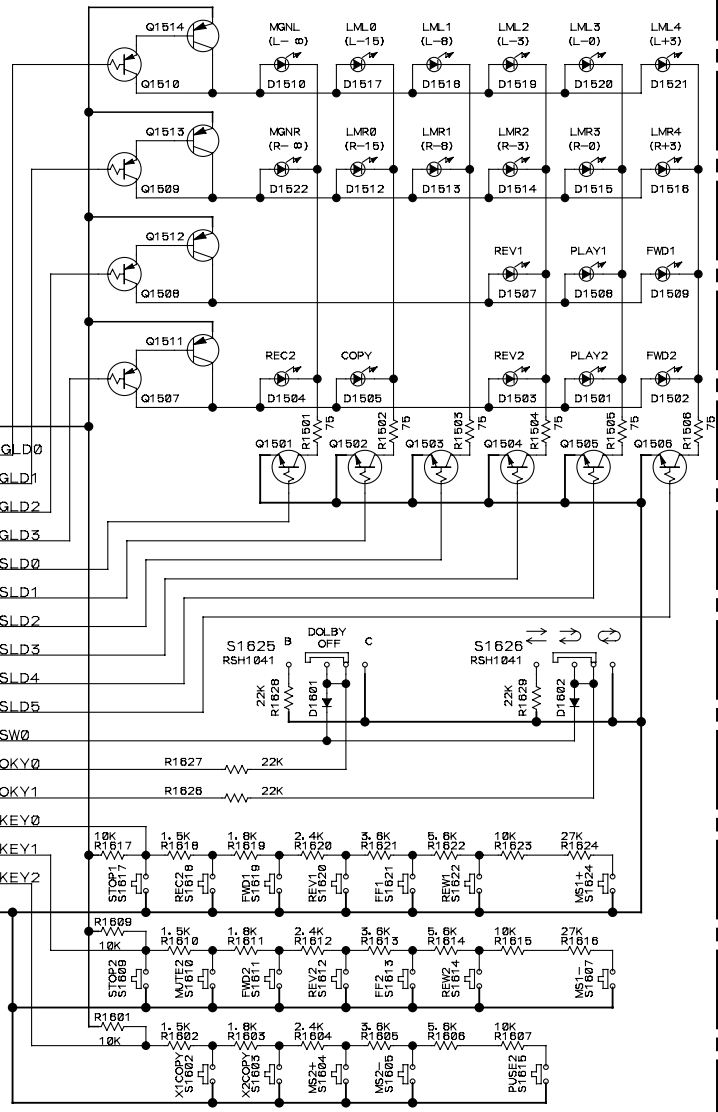
3.4 MAIN UNIT (2/2), SUBB NUIT, POWER SW UNIT and TRANS 2 UNIT



A 2/2 MAIN UNIT (2/2)
(RWZ4352 : CT-W208R/KUXJ, /KCXJ)
(RWZ4348 : CT-W208R/HYXJ)
(RWZ4393 : CT-W208R/HVXJ)



B SUBB UNIT
(RWZ4353 : CT-W208R/KUXJ, /KCXJ)
(RWZ4349 : CT-W208R/HYXJ)
(RWZ4394 : CT-W208R/HVXJ)



D1504, 1505, 1515, 1516, 1520, 1521 : MVR5074X–TS (RED)
D1501~1503, 1507~1510, 1512~1514, 1517~1519, 1522 : MAY5074X–TS (ORANGE) ; KUXJ, KCXJ
: MPG5074X–TS (GREEN) ; HYXJ, HVXJ
S1602~1607、1609~1622、1624 : VSG1009

NOTE
If the parts are not identified in the diagram the followings are used.
- 2SC3311A(R/S)
- 2SA1309A(R/S)
- DTC114TS
- DTA114TS
- DTC124ES
- DTA124ES
- 1SS254

SWITCHES
(Underline indicates switch position):
SUBB UNIT
DECK I
S1617: ■ STOP
S1619: ▶ (FWD)
S1620: ◀ (REV)
S1621: ▶▶ FF
S1622: ◀◀ REW
S1624: MS +
S1607: MS –
DECK II
S1609: ■ STOP
S1611: ○ MUTE
S1618: ● REC
S1611: ▶ (FWD)
S1612: ◀ (REV)
S1613: ▶▶ FF
S1614: ◀◀ REW
S1615: ▮▮ PAUSE
S1604: MS +
S1605: MS –
S1602: X1 COPY
S1603: X2 COPY

: The power supply is shown with the marked box.

4. PCB CONNECTION DIAGRAM

4.1MAIN UNIT

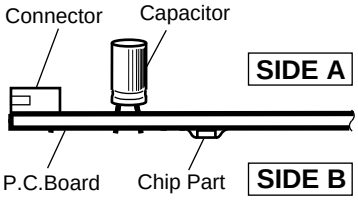
A MAIN UNIT

NOTE FOR PCB DIAGRAMS :

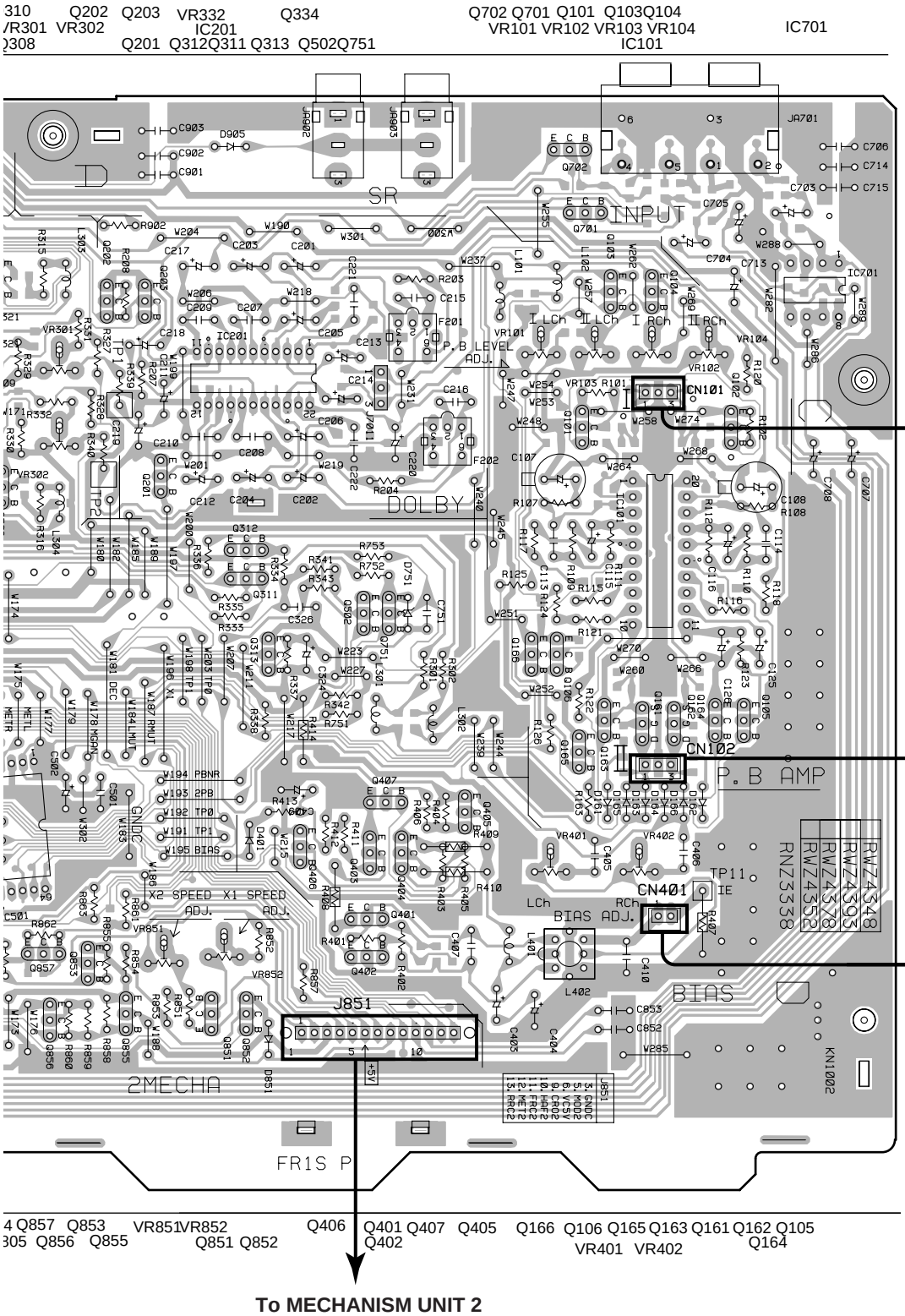
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	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.

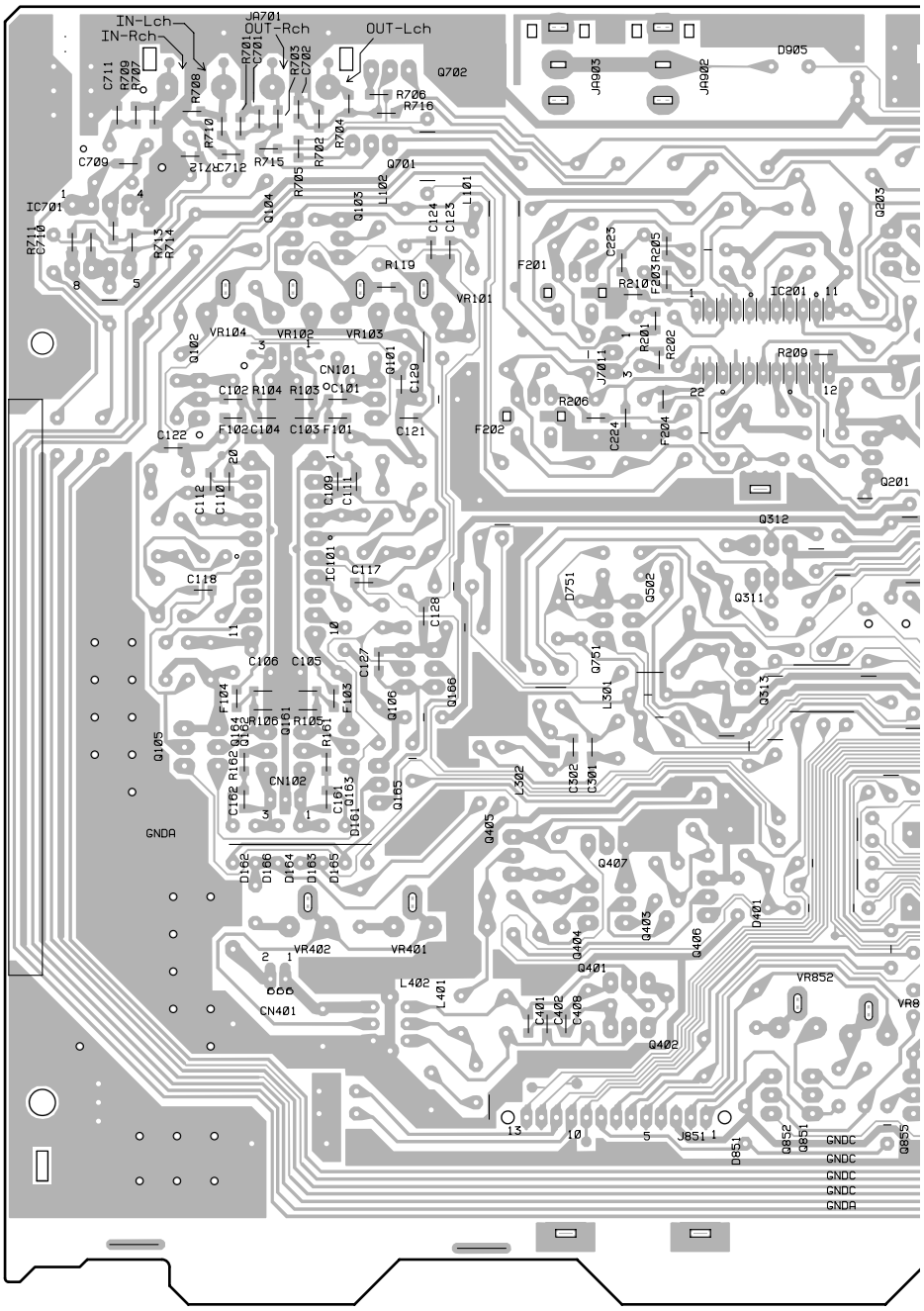


SIDE A

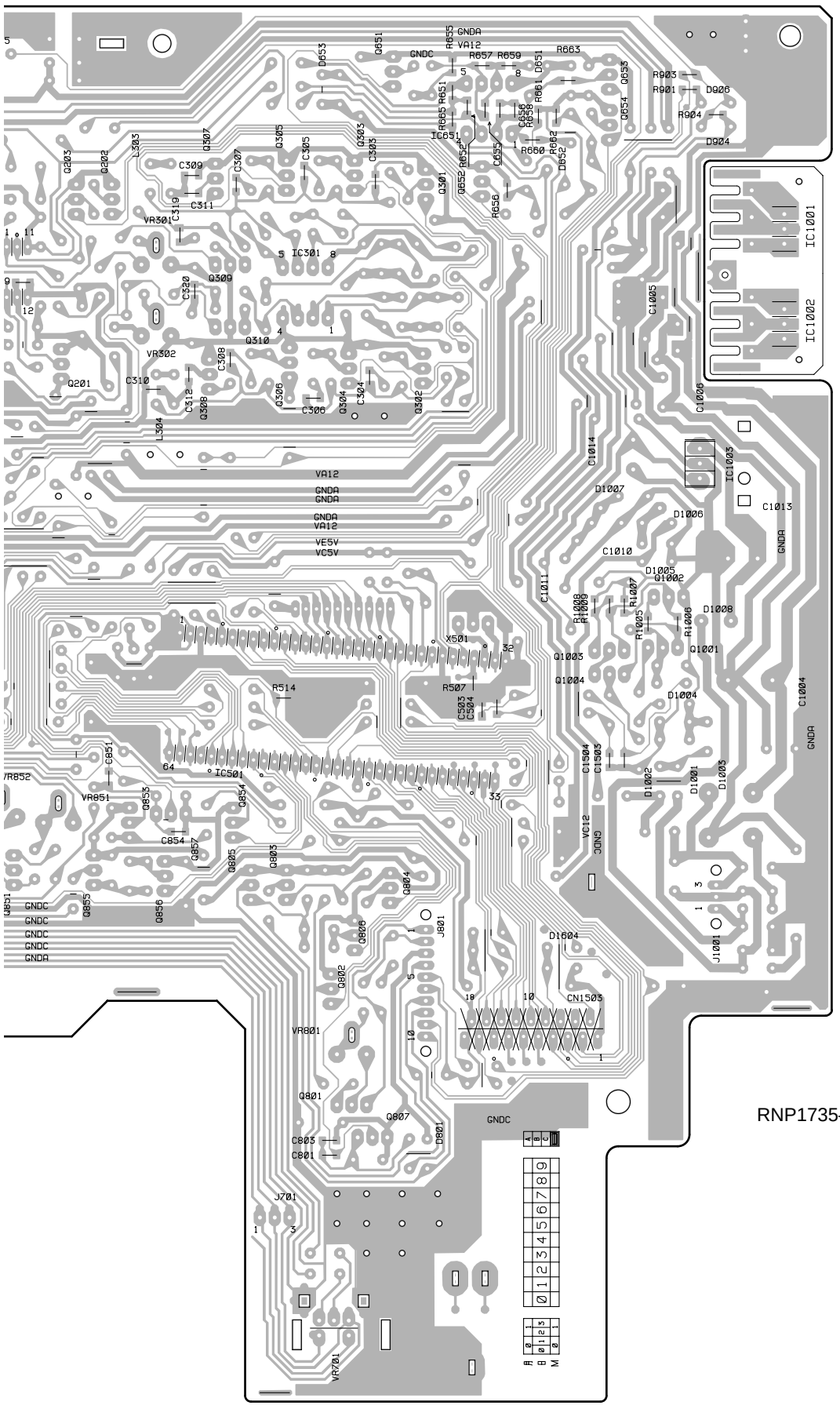


RNP1735–A

A MAIN UNIT


IN-Lch
IN-Rch
OUT-Rch
OUT-Lch
JA701
IC701
IC201
Q702
Q701
Q201
Q312
Q311
Q502
Q751
Q407
Q401
Q402
VR101
VR102
VR103
VR104
VR401
VR402
VR852
CN101
CN102
CN401
F101
F102
F103
F104
F201
F202
F204
L301
L401
L402
L502
D751
D905
JA902
JA903
J7011
J851
GNDA
GNDC

SIDE B



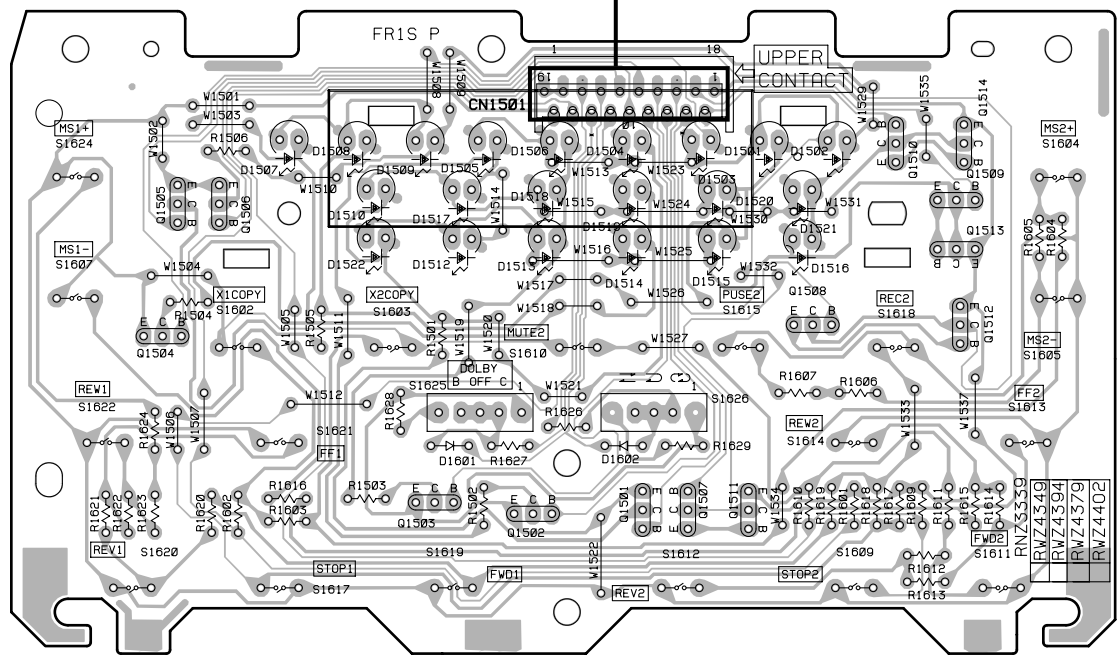
RNP1735–A

4.2 SUBB UNIT

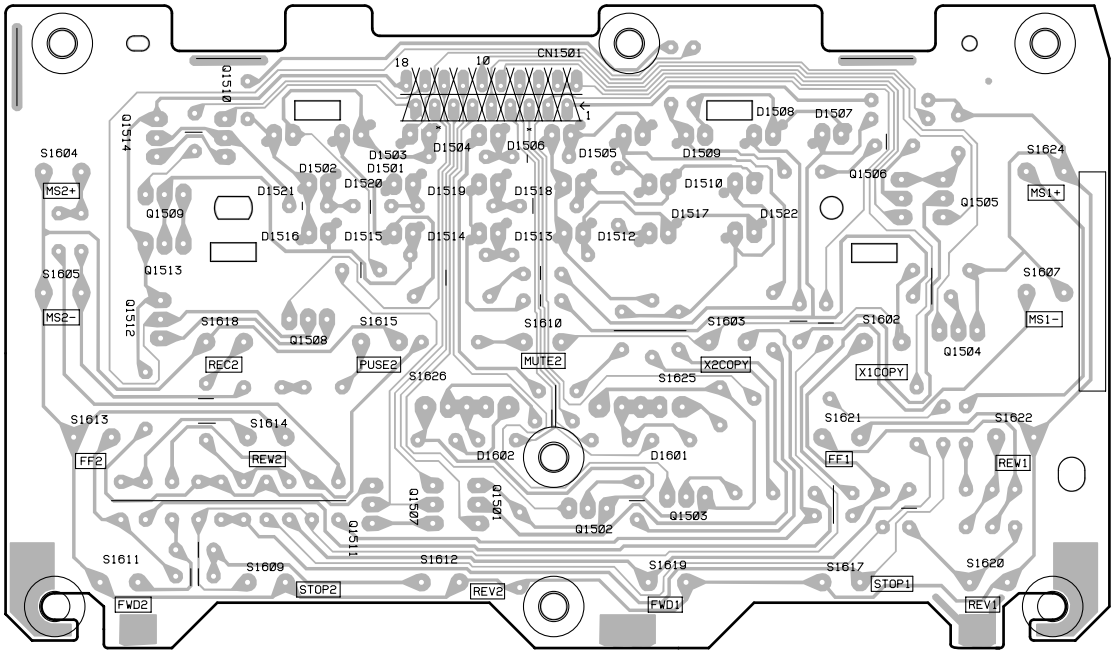
B SUBB UNIT

A CN1503

SIDE A



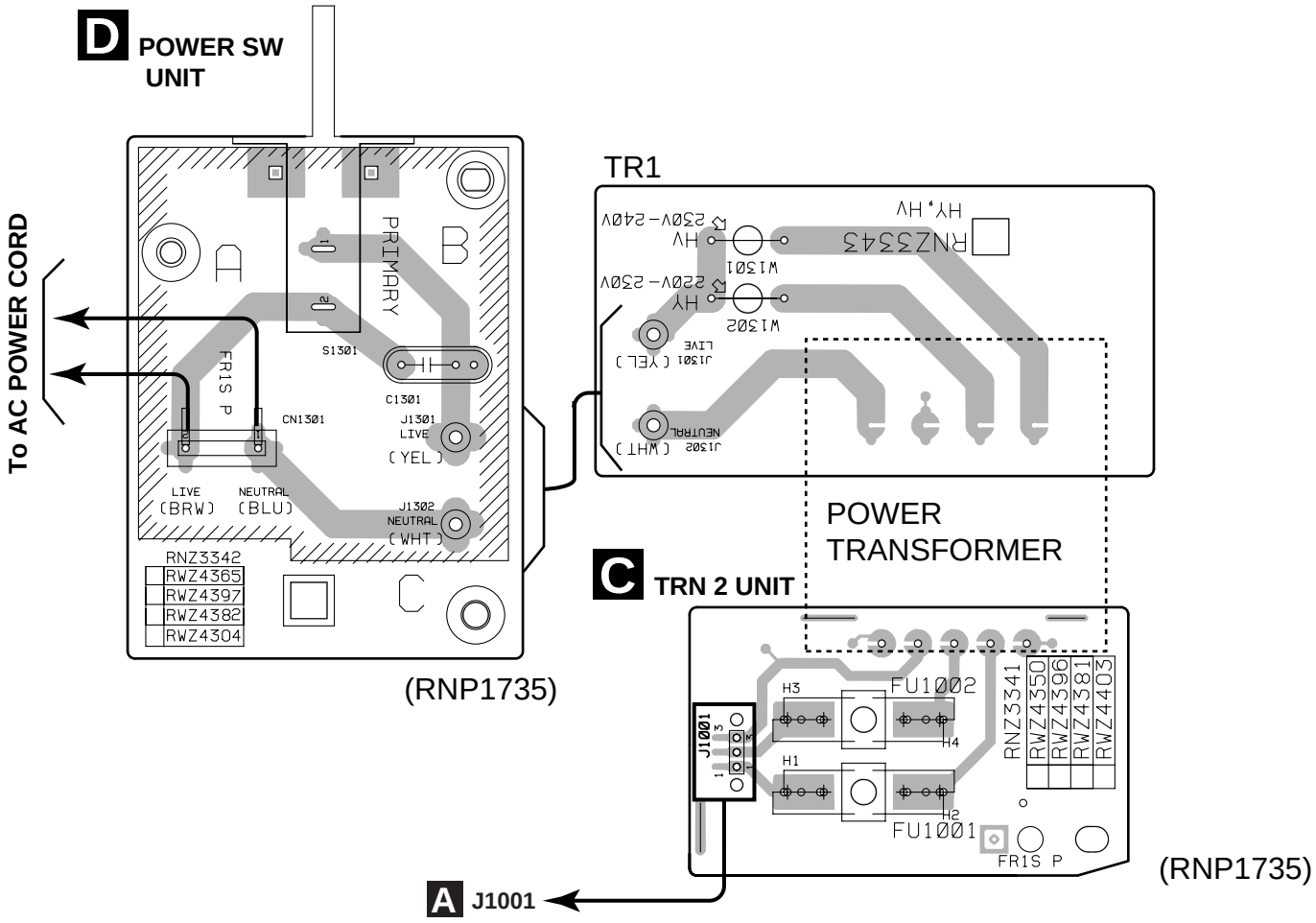
SIDE B



(RNP1735)

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 ⚠ 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 → 56×10^1 → 561 ..... RD1/4PU [5][6][1] J
47k Ω → 47×10^3 → 473 ..... RD1/4PU [4][7][3] J
0.5 Ω → R50 ..... RN2H [R][5][0] K
1 Ω → 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 → 562×10^1 → 5621 ..... RN1/4PC [5][6][2][1] F

■ LIST OF HOLE PCB ASSEMBLIES

Mark	Symbol and Description	Part No. CT-W208R KUXJ	KCXJ	HYXJ	HVXJ	Remarks
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. RWZ4353	RWZ4349	RWZ4394	Remarks
	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. RWZ4352	RWZ4348	RWZ4393	Remarks
	C221, C222	Not used	CCCSL101J50	CCCSL101J50	
	C803, C854	Not used	CCSQSL330J50	CCSQSL330J50	
	C1018– C1020	Not used	CFTLA104J50	CFTLA104J50	
	F101– F104, F203, F204 (CHIP BEAD)	Not used	DTF1067	DTF1067	
NSP	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.

■ PCB PARTS LIST FOR CT-W208R/KUXJ

A MAIN UNIT (RWZ4352)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	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

Mark	No.	Description	Part No.
	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

Mark	No.	Description	Part No.
	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		CQMBA822J50
	C1014	(1000µF/10V)	PCH1117

RESISTORS

Mark	No.	Description	Part No.
	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

Mark	No.	Description	Part No.
	R1005, R1007, R1008, R709– R712		RS1/10S223J
	R904		RS1/10S274J
	R1006, R201, R202		RS1/10S332J
	R103– R106		RS1/10S334J
	R701, R702		RS1/10S362J
	R703, R704		RS1/10S471J
	R209		RS1/10S472J
	R705, R706		RS1/10S681J
	R119, R655– R658		RS1/10S682J
	R507, R514, R661, R662, R901		RS1/10S683J
	VR801, VR852 (1.0 kΩ)		PCP1024
	VR851 (2.2 kΩ)		PCP1025
	VR301, VR302 (22 kΩ)		PCP1030
	VR101– VR104 (47 kΩ)		PCP1031
	VR401, VR402 (100 kΩ)		PCP1032
	VR701 (5.0 kΩ)		RCV1089
	Other Resistors		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)	RSS1045
		PCB BINDER	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		2SA1309A
	Q1507– Q1510		DTA114TS
	Q1501– Q1506		DTC114TS
	D1601, D1602		1SS254
	D1501– D1503, D1507– D1510		MAY5074X
	D1512– D1514, D1517– D1519, D1522		MAY5074X
	D1504, D1505, D1515, D1516		MVR5074X
	D1520, D1521		MVR5074X

SWITCHES

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

RESISTORS

	Other Resistors		RD1/4PU□□□J

OTHERS

	CN1501	18P CONNECTOR	9607S-18F

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).

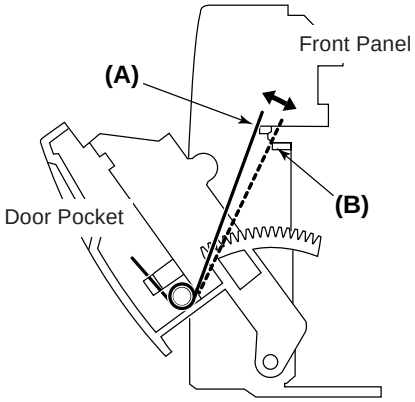


Fig. 6–1

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 kΩ 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.

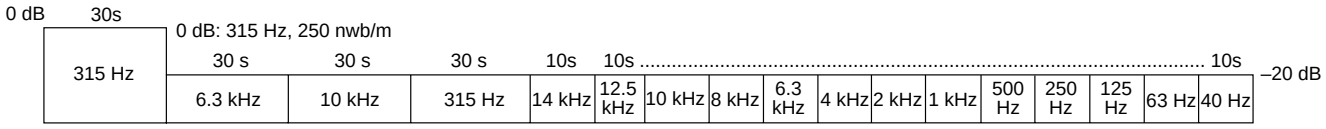


Fig. 6–2 Constants of the Test Tape STD–331E

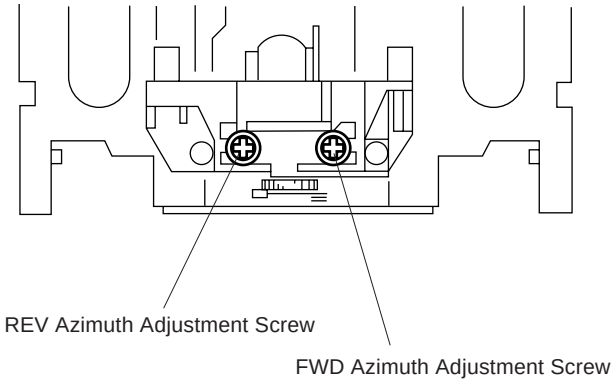


Fig. 6–3 Head Azimuth Adjustment

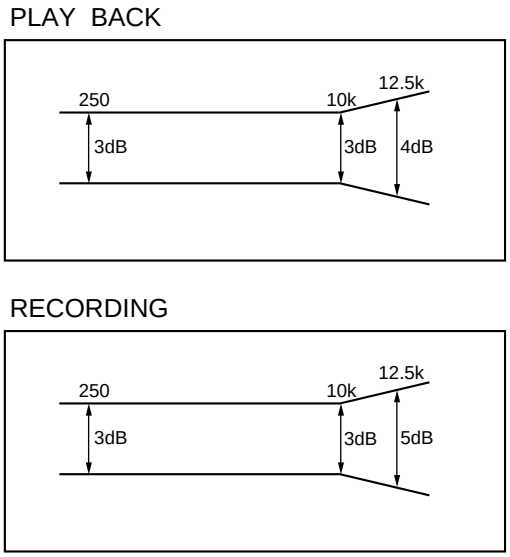


Fig. 6–4 Frequency Response Zone

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)	TP 1 (L ch) TP 2 (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

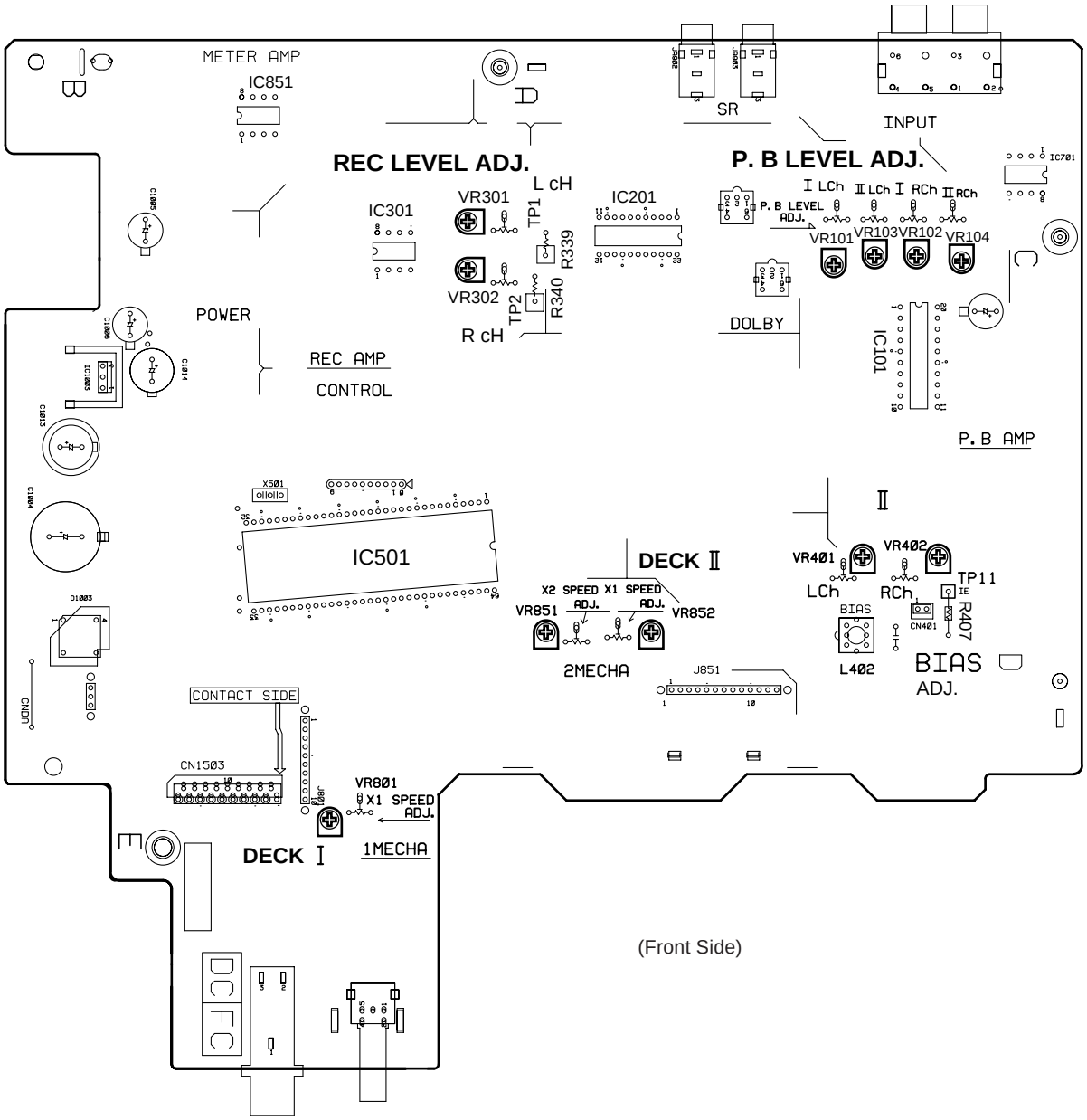
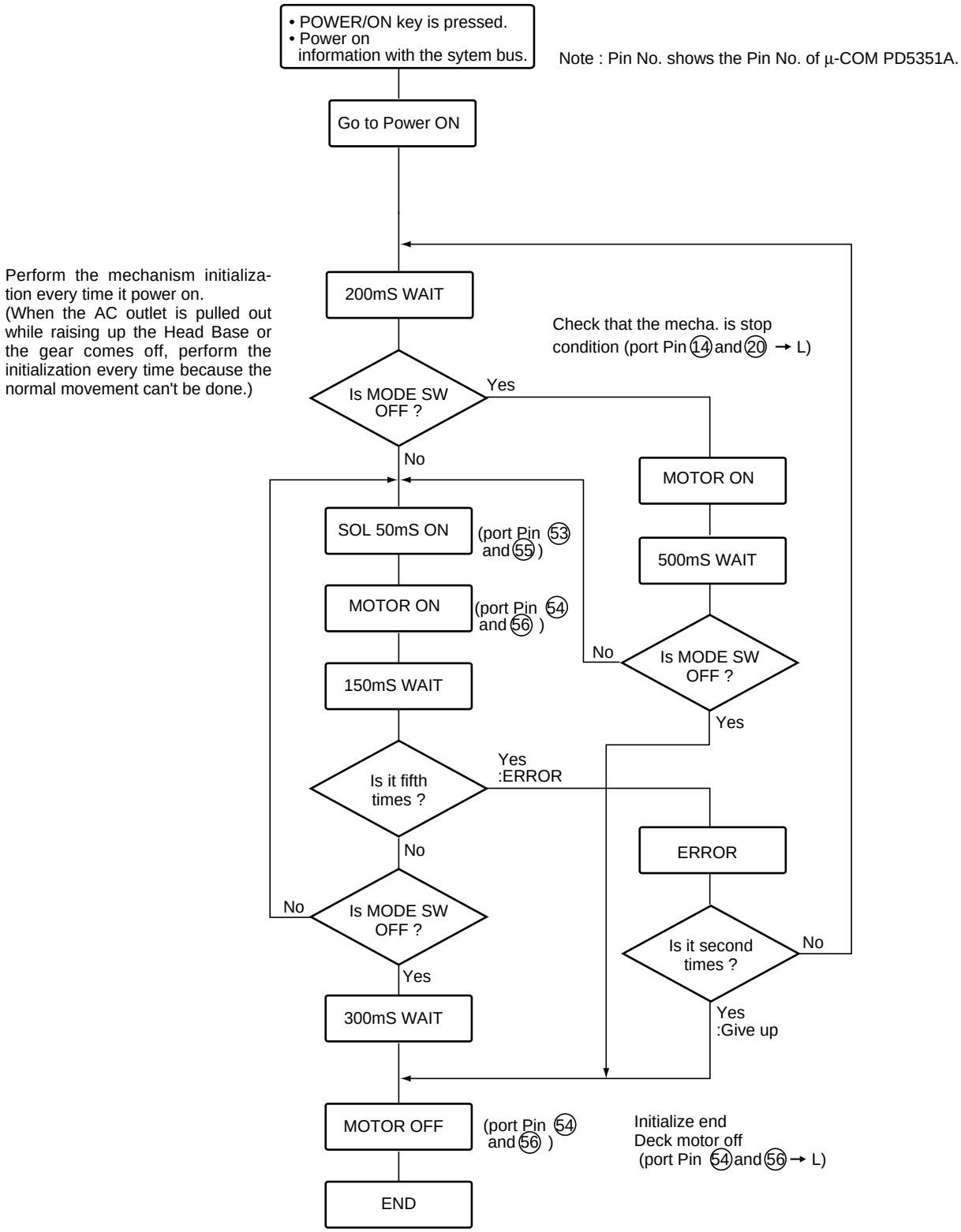


Fig. 6–5 Adjustment Points and Measurement Points

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 POWER ON SEQUENCE



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)

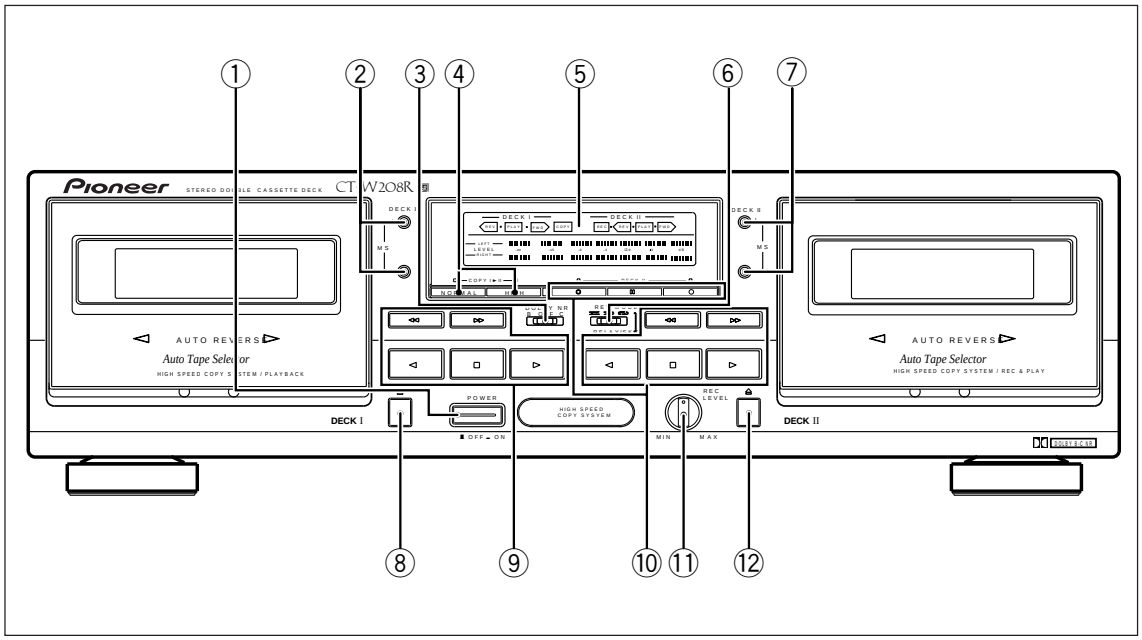
• U-COM IC

●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	FRCD	I	
17	FRC2	I		49	TOCD	O	
18	MET2	I		50	TP1	O	NOR CRO MET TP0 L H L TP1 L L H H:5V L:GND
19	RRC2	I		51	TP0	O	
20	MOD1	I	"L" when all the following SWs are ON. Mode SW, chrome SW, half SW.	52	X1	O	Motor speed adjustment. When X1, "H"
21	CRO1	I		53	SOL1	O	Deck 1 side mechanical control output Solenoid control Capstan motor control
22	HAF1	I		54	CPM1	O	
23	VLED	I	Power supply SW version select input.	55	SOL2	O	Deck 2 side mechanical control output Solenoid control Capstan motor control
24	VTAC	I	Power SW Without LED VTAC: L, VLED: L.	56	CPM2	O	
25	$\overline{\text{REMT}}$	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	$\overline{\text{REST}}$	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"isoutput
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	$\overline{\text{RMUT}}$	O	REC MUTE control. (When MUTE "L".)
32	VSS	I	Power supply GND	64	$\overline{\text{LMUT}}$	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)**

*

- *Dolby noise reduction and manufactured under license from Dolby Laboratories Licensing Corporation.*
- *"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
O : Recording mute
II : 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.

■ SPECIFICATIONS

System ..... 4-track, 2-channel stereoHeads
"Hard Permalloy" recording/playback head x 1
"Hard Permalloy" playback head x 1
"Ferrite" erasing head x 1
Motor ..... DC servo motor x 2
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 16,500 Hz
TYPE II (High/CrO_2) tape ..... 20 to 16,000 Hz
TYPE I (Normal) tape ..... 20 to 16,000 Hz
Signal-to-Noise Ratio
Dolby NR OFF ..... More than 57 dB
Noise Reduction Effect
Dolby B-type NR ON ... More than 10 dB (at 5 kHz)
Dolby C-type NR ON ... More than 19 dB (at 5 kHz)
Harmonic Distortion ..... No more than 0.8%
(at –4 dB: 160 nwb/m)
Input (Sensitivity)
LINE (INPUT) ..... 100 mV (Input impedance 68 kΩ)
Output (Reference level)
LINE (OUTPUT) ... 0.5 V (Output impedance 1.9 kΩ)

Subfunctions

- Automatic reverse
- DOLBY B/C type NR
- Music search over ±15 selections
- High-speed and normal-speed copy

(DECK I → DECK II)

- Relay playback/blank skip
- Peak level meter with peak-hold function
- Automatic space recording mute
- Automatic tape selector
- SR System remote control available

Miscellaneous

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)

Accessories

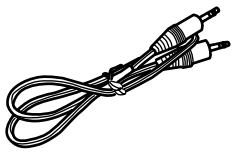
Operating instructions 1
Connection cord with pin plugs 2
Control cable 1
Warranty card 1

NOTE:

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

■ Accessories

Control Cable ×1
(PDE1267: L=1.0m)



Connection Cord with Pin-plug ×2
(RDE1036) (L=1.0m)