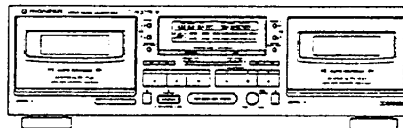


Service Manual

 **PIONEER**
The Art of Entertainment



ORDER NO.
RRV1540

STEREO DOUBLE CASSETTE DECK

CT-W205R

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

Type	Model	Power Requirement	Remarks
	CT-W205R		
KUXJ	○	AC120V	_____
KCXJ	○	AC120V	_____
HVXJ	○	AC230-240V	_____
HYXJ	○	AC220-230V	_____
HPWXJ	○	AC230-240V	_____
SDXJ	○	AC110V/120-127V/220V/230-240V	With voltage selector
SLXJ	○	AC110V/120-127V/220V/230-240V	With voltage selector

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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 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

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.

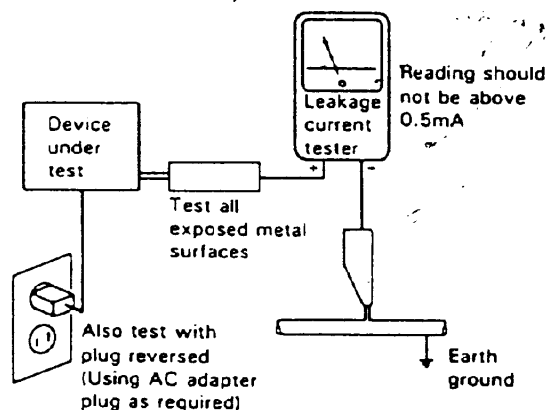
(FOR USA MODEL ONLY)

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 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, PACKING 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 parts. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

1. EXTERIOR AND PACKING

■ CONTRAST OF KUXJ, KCXJ, HVXJ, HXJ, HPWXJ, SDXJ AND SLXJ TYPES

KUXJ, KCXJ, HVXJ, HXJ, HPWXJ, SDXJ and SLXJ types have the same construction except for the following:

Mark	No.	Symbol & Description	Part No.							Remarks
			KUXJ type	KCXJ type	HVXJ type	HXJ type	HPWXJ type	SDXJ type	SLXJ type	
NSP	1	Main Unit	RWZ3930	RWZ3930	RWZ3727	RWZ3727	RWZ3952	RWZ3728	RWZ3728	
	2	SUB Unit	RWZ3931	RWZ3931	RWZ3729	RWZ3729	RWZ3953	RWZ3730	RWZ3730	
	4	Transformer 2 Unit	RWZ3872	RWZ3872	RWZ3772	RWZ3772	RWZ3954	RWZ3954	RWZ3954	
	5	Strain Relief	CM-22C	CM-22C	CM-22B	CM-22B	CM-22B	CM-22B	CM-22B	
	6	Fuse (FU1, FU2, 1.25A)	REK1076	REK1076	Not used	Not used	Not used	Not used	Not used	
	6	Fuse (FU1, FU2, T1.25A)	Not used	Not used	REK1023	REK1023	REK1023	REK1023	REK1023	
	7	AC Power Cord	PDG1015	PDG1015	PDG1055	PDG1043	ADG1159	ADG1157	PDG1043	
	9	Power Transformer (AC120V)	RTT1311	RTT1311	Not used	Not used	Not used	Not used	Not used	
	9	Power Transformer (AC220-230V/230-240V)	Not used	Not used	RTT1312	RTT1312	RTT1312	Not used	Not used	
	9	Power Transformer (AC110/120-127/220/230-240V)	Not used	Not used	Not used	Not used	Not used	RTT1313	RTT1313	
NSP	12	Rubber Sheet	AEB1111	AEB1111	Not used	Not used	AEB1111	AEB1111	AEB1111	
	13	Foot Assy	AEC1531	AEC1531	Not used	Not used	AEC1531	AEC1531	AEC1531	
	28	Power Knob	RAC1883	RAC1883	RAC2110	RAC2110	RAC1883	RAC1883	RAC1883	
	32	Front Panel	RAH2704	RAH2704	RAH2703	RAH2703	RAH2704	RAH2704	RAH2704	
	38	Rear Panel	RNA2050	RNA2050	RNA2053	RNA2049	RNA2053	RNA2051	RNA2052	
	42	Operating Instructions (English)	RRB1169	RRB1169	RRB1169	Not used	RRB1169	Not used	Not used	
	42	Operating Instructions (French)	Not used	RRD1186	Not used	Not used	Not used	Not used	Not used	
	42	Operating Instructions (Dutch/Italian/German/Swedish/Spanish/Portuguese)	Not used	Not used	Not used	RRE1131	Not used	Not used	Not used	
	42	Operating Instructions (English/French)	Not used	Not used	Not used	RRE1132	Not used	Not used	Not used	
	42	Operating Instructions (English/Spanish/Chinese)	Not used	Not used	Not used	Not used	Not used	RRE1130	RRE1130	
NSP	45	Packing Case	RHG1717	RHG1717	RHG1758	RHG1716	RHG1719	RHG1718	RHG1718	
	51	65 Label	ORW1069	ORW1069	Not used	Not used	Not used	Not used	Not used	
	63	Fuse Caution Label	RRW-111	RRW-111	Not used	Not used	Not used	Not used	Not used	
	64	Transformer 1 PCB	RNZ3046	RNZ3046	RNZ3041	RNZ3041	RNZ3041	Not used	Not used	
	64	Transformer 1 Unit	Not used	Not used	Not used	Not used	Not used	RWZ3731	RWZ3731	
	75	Line Voltage Selector (AC110/120-127/220/230-240V)	Not used	Not used	Not used	Not used	Not used	RSB1022	RSB1022	
	76	Insulator (Foot)	Not used	Not used	PNW1912	PNW1912	Not used	Not used	Not used	
	77	LED Lens Cover	Not used	Not used	RNK2206	RNK2206	Not used	Not used	Not used	
	78	Vinyl bag (115 x 270 x 0.05)	Not used	Not used	Z21-013	Not used	Not used	Not used	Not used	
	79	Spacer A	Not used	Not used	RHC1032	Not used	RHC1032	Not used	Not used	
NSP	80	Spacer B	Not used	Not used	RHC1033	Not used	RHC1033	Not used	Not used	
	81	Caution Card	Not used	Not used	RRN1001	Not used	Not used	Not used	Not used	
	82	Caution 220V label	Not used	Not used	Not used	Not used	Not used	ARR1003	ARR1003	
	83	Fuse (T5A)	Not used	Not used	PEK1003	Not used	Not used	Not used	Not used	
	83	Fuse (T5A)	Not used	Not used	PEK1003	Not used	Not used	Not used	Not used	

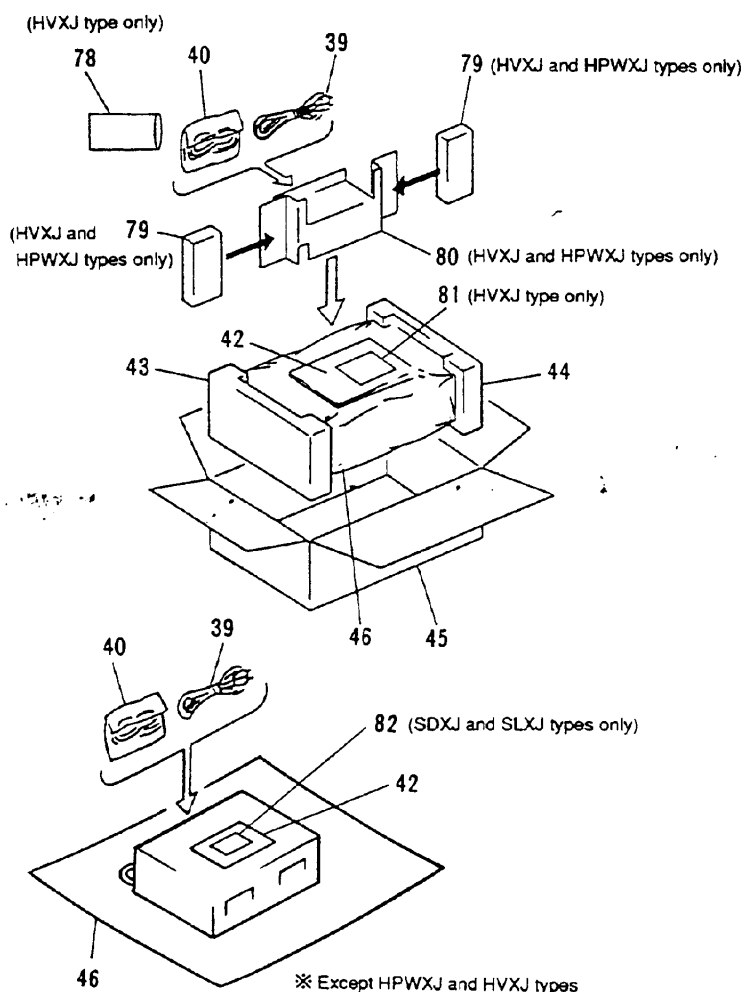
CT-W205R

• Parts List for KUXJ type

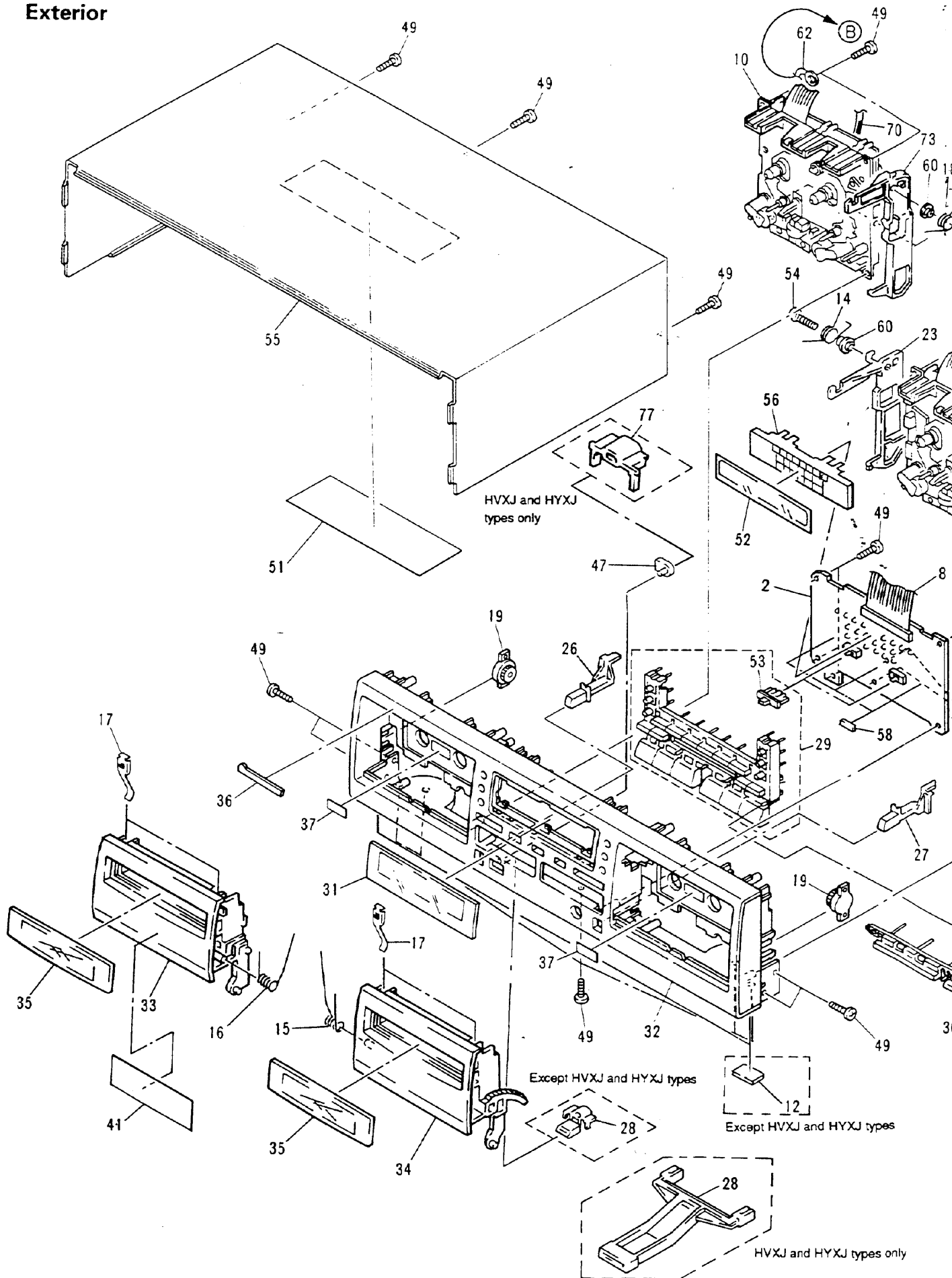
Mark	No.	Description	Parts No.
	1	Main Unit	RWZ3930
	2	Sub Unit	RWZ3931
	3	.....	
NSP	4	Transformer 2 Unit	RWZ3872
Δ	5	Strain Relief	CM-22C
Δ	6	Fuse (FU1, FU2, 1.25A)	REK1076
Δ	7	AC Power Cord	PDG1015
	8	Lead Card 18P	RDD1355
Δ	9	Power Transformer	RTT1311
	10	1 Mechanism Unit	RYM1237
	11	2 Mechanism Unit	RYM1238
	12	Rubber Sheet	AEB1111
	13	Foot Assy	AEC1531
	14	Eject Spring L	RBH1379
	15	Door Spring L	RBH1304
	16	Door Spring R	RBH1305
	17	Half Pressure Spring	RBK1004
	18	Eject Spring R	RBH1380
	19	Damper Assy	REC1267
NSP	20	Cord clamper	RNH1005
	21	.....	
	22	.....	
	23	Eject Lever L	RNK2203
	24	Cord Clamper	RNH-184
	25	Balance Knob	RAC1705
	26	Eject Konb L	RAC1881
	27	Eject Konb R	RAC1882
	28	Power Knob	RAC1883
	29	Control Knob	RAC1919
	30	REC Knob B	RAC1788
	31	Meter Lens	RAH2705
	32	Front Panel	RAH2704
	33	Door Pocket L	RAH2690
	34	Door Pocket R	RAH2691
	35	Door Lens	RAH2687
	36	Name Plate	RAM1007
	37	Remain Display Paper	REE-113
	38	Rear Panel	RNA2050
	39	Connection Cord with Mini Plug	PDE1267
	40	Connection Cord Assy	RDE1036
	41	Getter (PVC)	RAX1051
	42	Operating Instructions (English)	RRB1169
	43	Pad	RHA1115
	44	Pad R	RHA1116
	45	Packing Case	RHG1717
	46	Sheet	Z23-007
	47	LED Lens	PNW2019
	48	Screw	BBZ30P060FMC
	49	Screw	BBZ30P080FZK
	50	Screw	IBZ30P150FCC

Mark	No.	Description	Parts No.
	51	65 Label	ORW1069
	52	Meter Panel	RAH2702
	53	Slide Knob	REA1078
	54	Screw	BSZ26P120FMC
	55	Bonnet	REA1077
	56	LED holder	RNK2194
	57	.....	
	58	Knob spacer	REC1195
	59	.....	
	60	Eject Collar	RLA1283
	61	.....	
NSP	62	Earth Lead Unit	DE015VF0
NSP	63	Fuse Caution Label	RRW-111
NSP	64	Transformer 1 PCB	RNZ3046
	65	.....	
	66	.....	
	67	.....	
NSP	68	PCB Spacer	PNY-404
NSP	69	Chassis	RNB1100
	70	Connector Assy 3P	RKP1678
	71	Connector Assy 5P	RKP1677
NSP	72	Binder	ZCA-T18S
	73	Eject Lever R	RNK2202

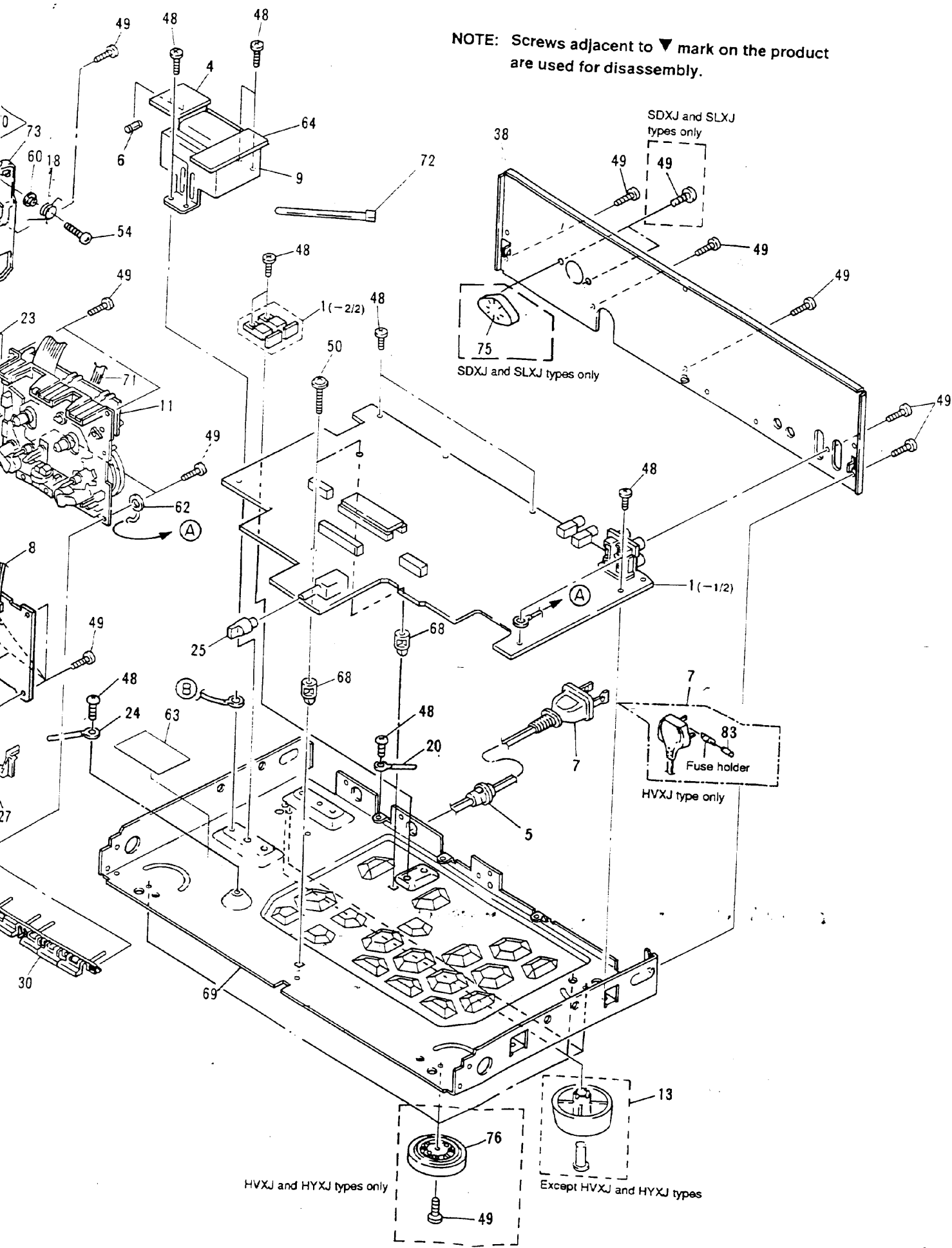
Packing



Exterior

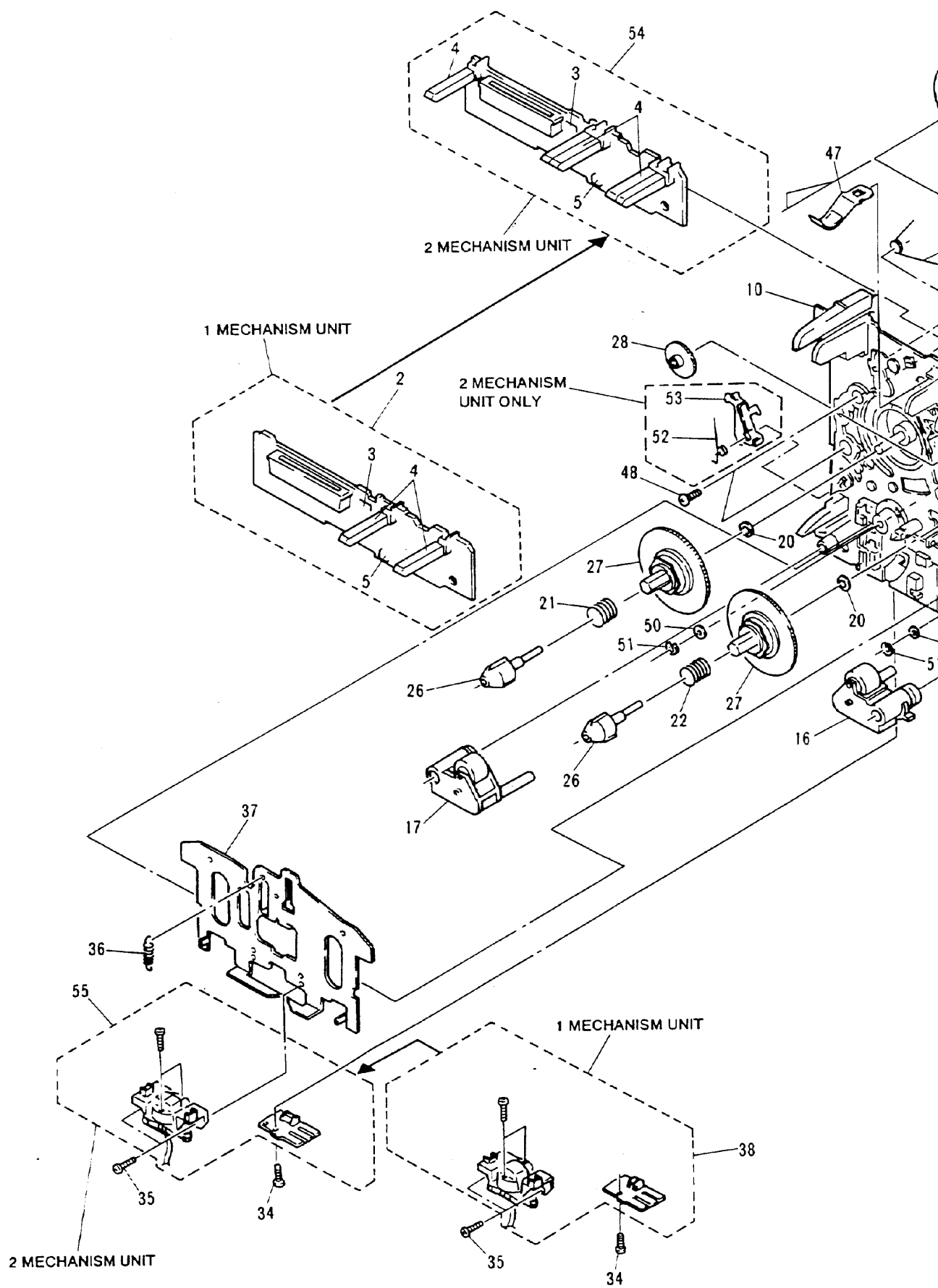


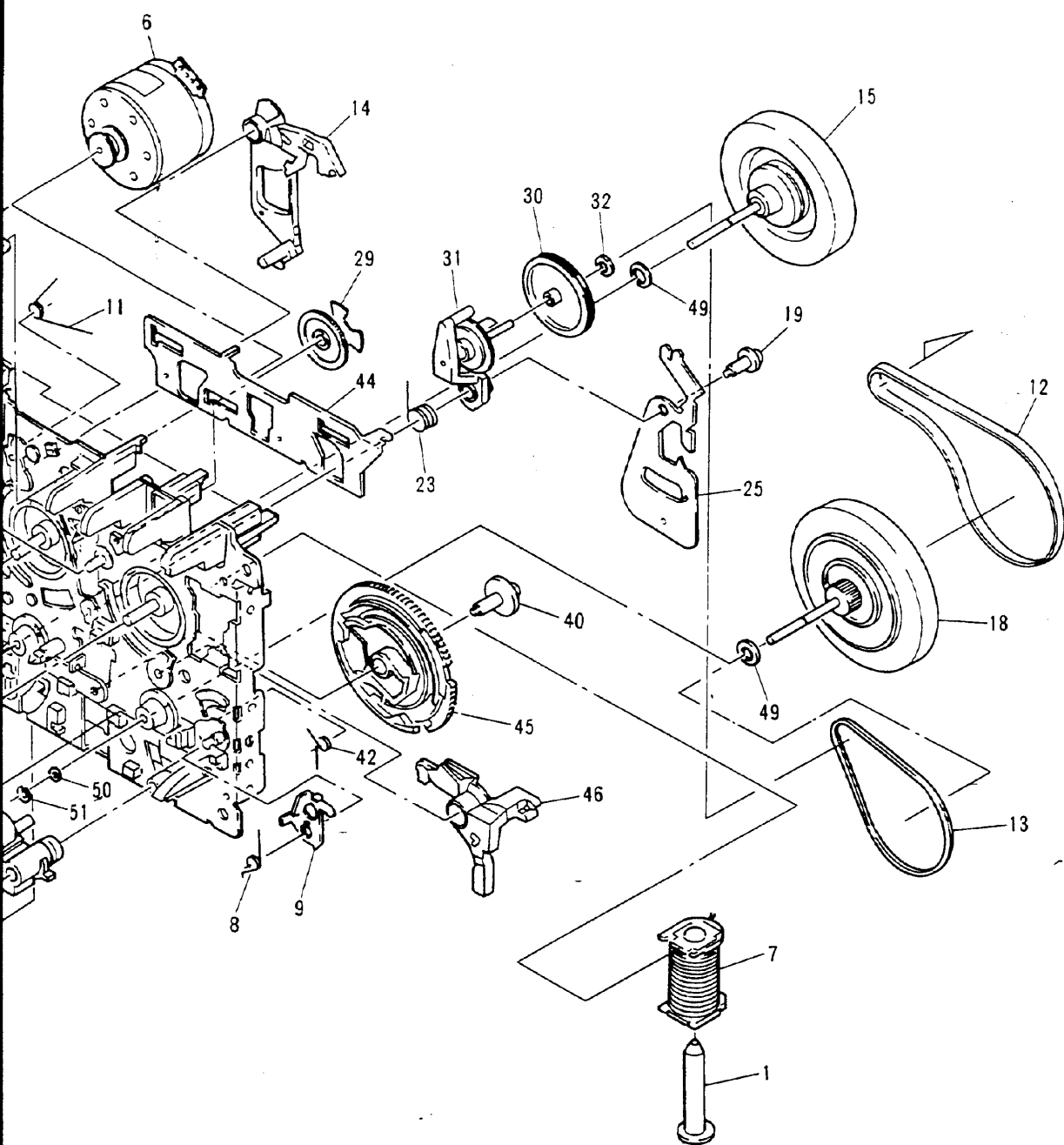
NOTE: Screws adjacent to ▼ mark on the product are used for disassembly.



CT-W205R

2. 1 MECHANISM UNIT AND 2 MECHANISM UNIT

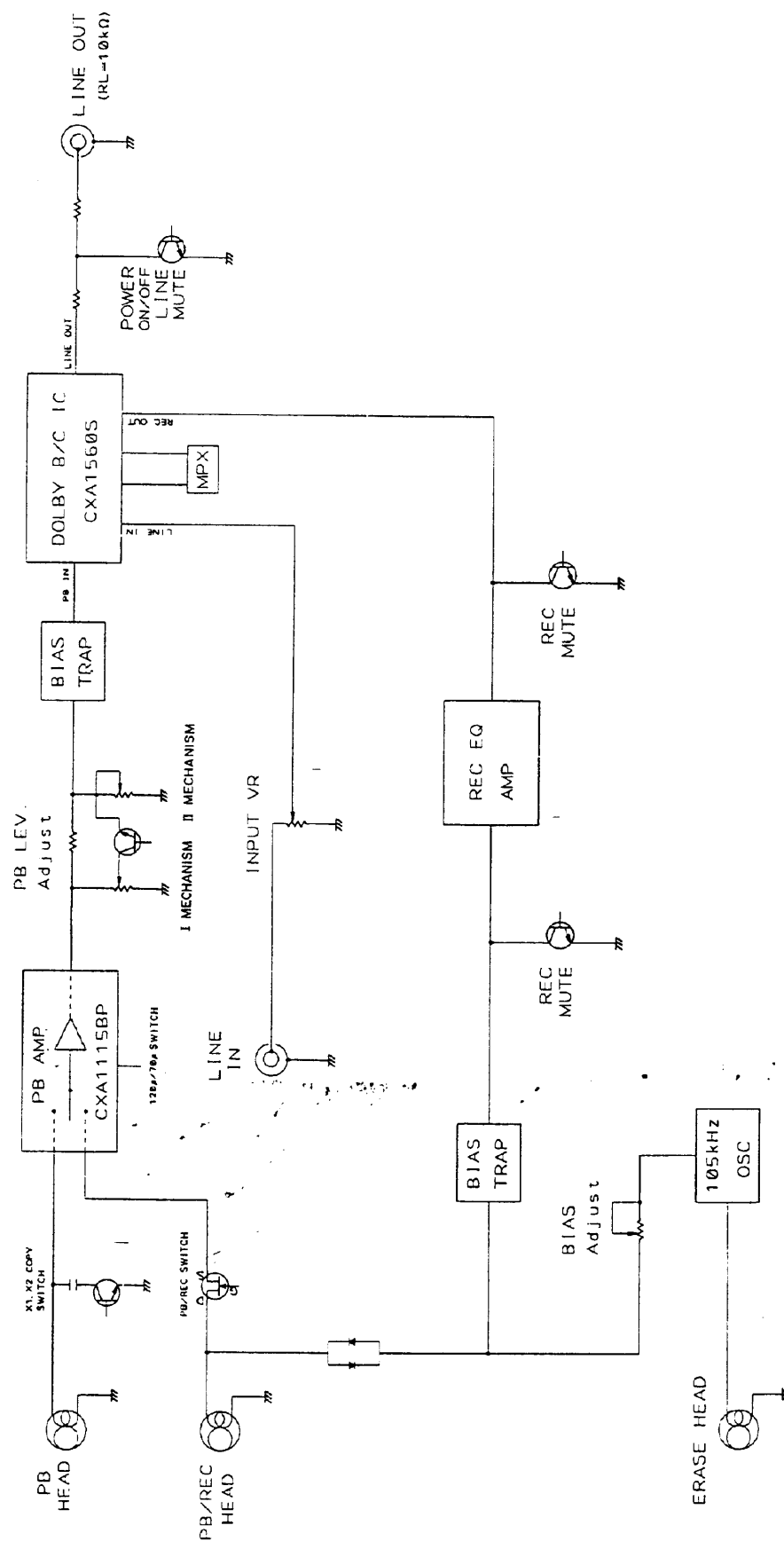




Parts List

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	PLUNGER	RLA1288		51	STOP RING	YE15FUC
	2	PCB CONTROL BLK (1 MECHANISM UNIT)	RXA1623		52	SPRING INTERLOCK L (2 MECHANISM UNIT ONLY)	RBH1385
	3	PUSH SWITCH	RSG1018		53	ARM INTERLOCK L (2 MECHANISM UNIT ONLY)	RNE1780
	4	SPLF	RSN1023		54	PCB CONTROL BLK (2 MECHANISM UNIT)	RXA1733
	5	PHOTO - TRANSISTOR	SPI33534FG		55	PLATE HD BLK (2 MECHANISM UNIT)	RXA1683
	6	MTR MAIN BLK	RXM1081				
	7	SOLENOID BLK	RXP1021				
	8	SPRING INTERLOCK R	RBH1386				
	9	ARM INTERLOCK R	RNE1781				
	10	CHASSIS BASE BLK	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 BLK R	RXA1628				
	17	PINCH ROLLER BLK L	RXA1629				
	18	CLUTCH BLK 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 BLK ASSY	RXA1632				
	32	WASHER	WA17D040D025				
	33	.....					
	34	SCREW	PCZ20P040FMC				
	35	SCREW	PMZ20P060FMC				
	36	SPRING HB	RBH1390				
	37	HEAD BASE	RNE1783				
	38	PLATE HD BLK (1 MECHANISM UNIT)	RXA1682				
	39	.....					
	40	SCREW	RBA1121				
	41	.....					
	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				

3. BLOCK DIAGRAM



4. TEST MODE

4.1 Entering the Test Mode

STOP Mode

- Press the STOP key of deck I, MUTE, and PAUSE keys of deck II simultaneously to enter the test mode.

4.2 Exiting the Test Mode

- Press the STOP keys of deck 1 and deck 2 together. (Because the RESET key is not provided for this unit)
- Inputting the STANDBY Key (If the STANDBY key is available)
- Power OFF

The test mode can be exited by any one of the above.

4.3 Main Test Mode Items

- SW Check

4.3.1 SW Operation Check

SW operations are as follows in the test mode.

Display	Input Key	Check
$-\infty$ goes off	All keys except REWIND AUTO PLAY	• In this mode, the mechanism operates without the half. • SW check When the switch is pressed, the level meter lights up or blinks as shown in Table 1, enabling switch operations to be checked.

Table 1

Meter	-15	-8	-3	0	+3
L ch	When DOLBY NR is set to B : Blinks quickly C : Blinks slowly		Lights up when the half switch of deck I is pressed.	Lights up when the CrO ₂ switch of deck I is pressed.	When the REV mode is set to = : Blinks quickly ○ : Blinks slowly
R ch	Lights up when forward recording inhibit switch of deck II is pressed.	Lights up when the metal switch of deck II is pressed.	Lights up when the half switch of deck II is pressed.	Lights up when the CrO ₂ switch of deck II is pressed.	Lights up when reverse recording inhibit switch of deck II is pressed.

4.3.2 x2 Speed Check

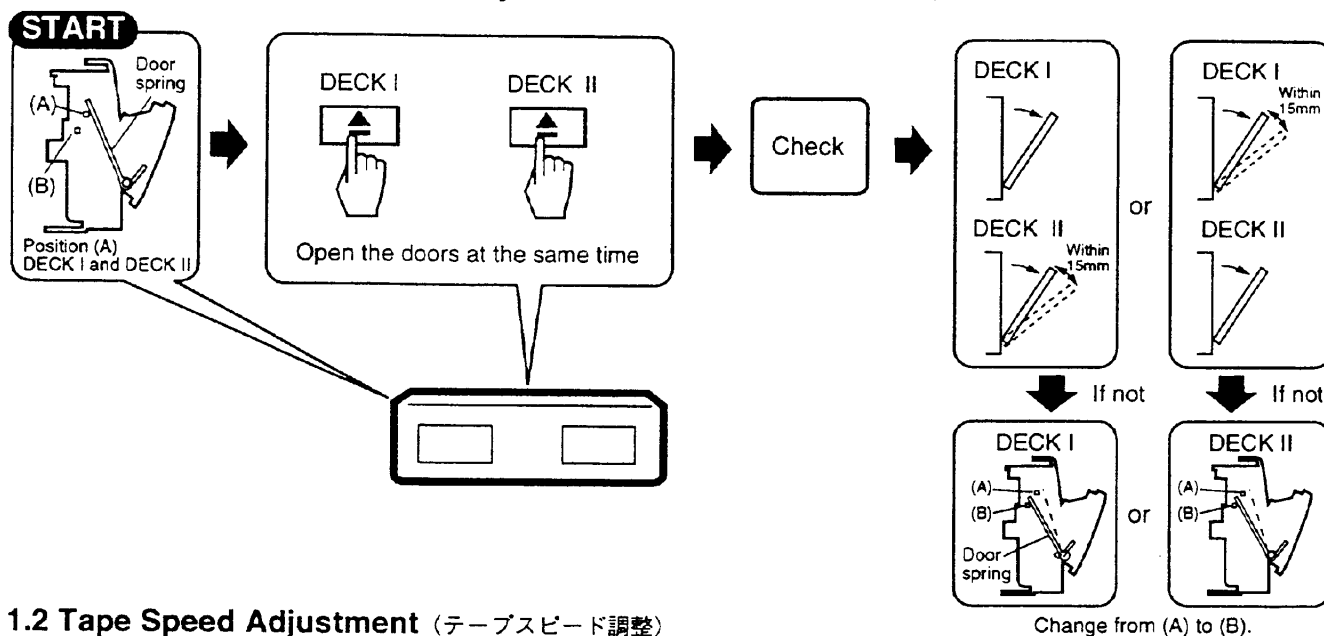
In the test mode, play the unit and complete assist operations (to stabilize mechanism operations), and then press ff or rew to set x2 speed play.

Press PLAY again to set normal speed play.

5. ADJUSTMENTS (調整方法)

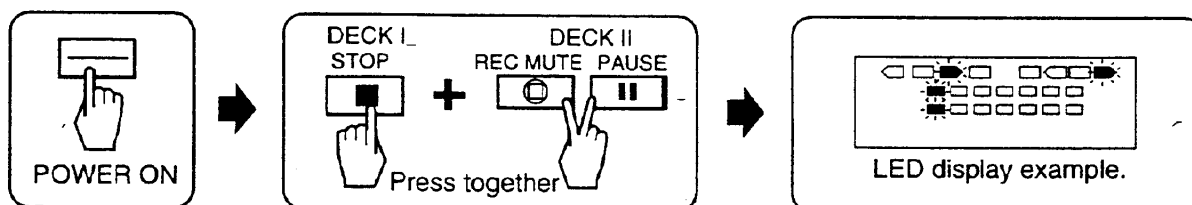
1. MECHANICAL ADJUSTMENT (機構系の調整)

1.1 Door Damping Check and Adjustment (ドアダンブ確認および調整)

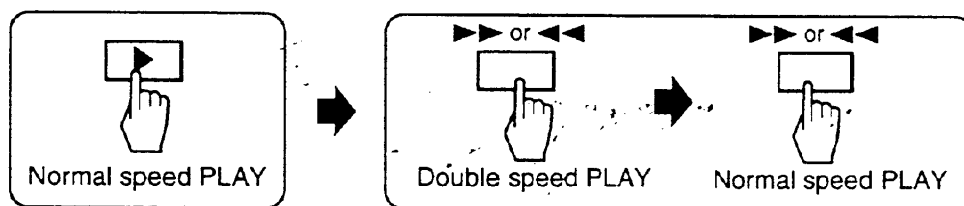


1.2 Tape Speed Adjustment (テープスピード調整)

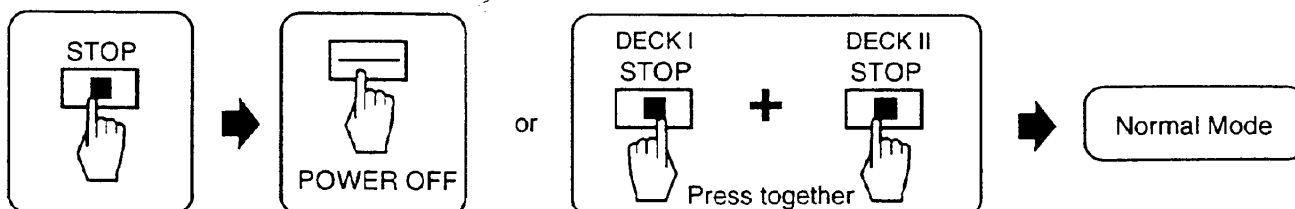
TEST MODE: ON



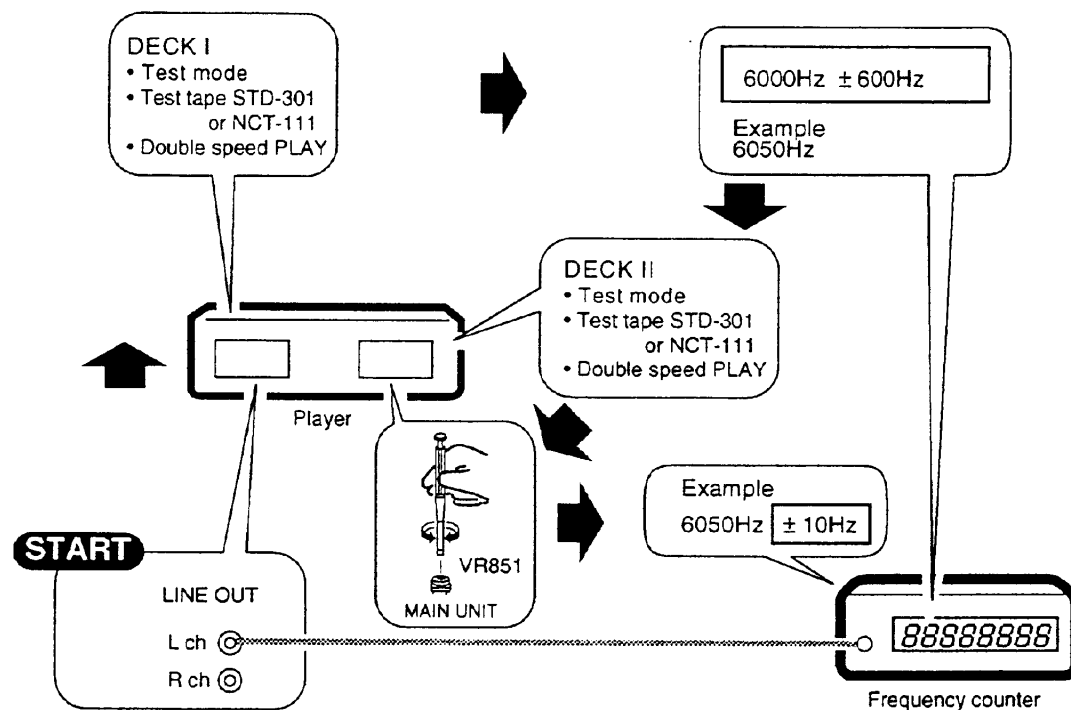
TEST MODE: DOUBLE SPEED PLAY



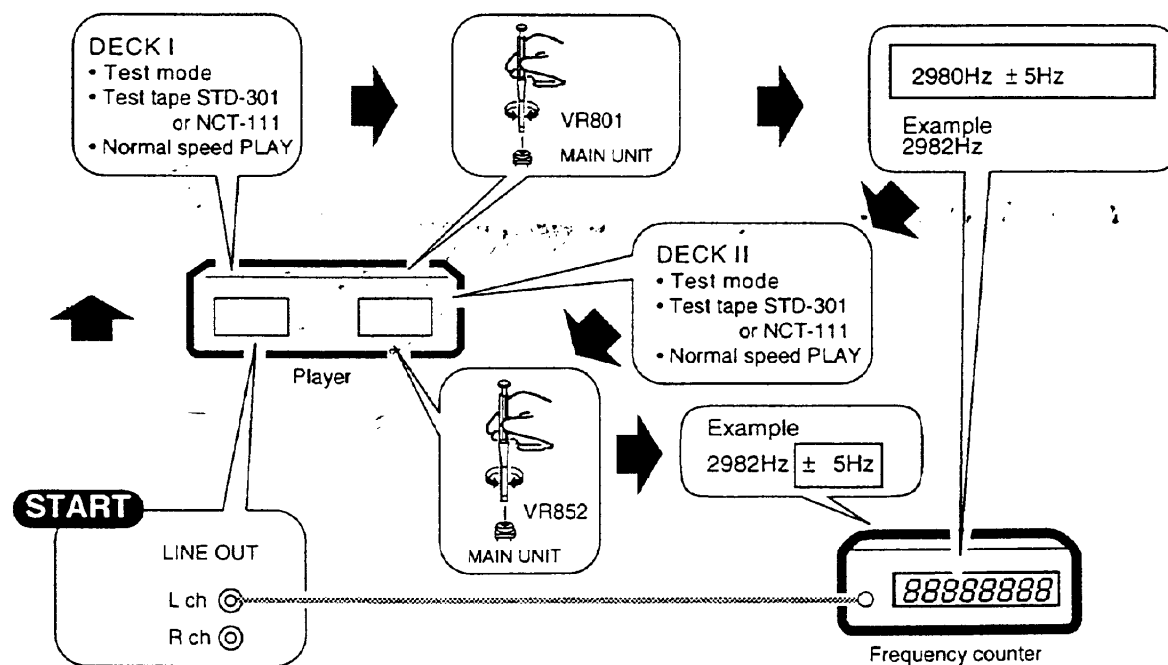
TEST MODE: STOP > CANCEL



① Double speed PLAY (倍速PLAY)



② Normal speed PLAY (定速PLAY)



2. ELECTRICAL ADJUSTMENT (電気系の調整)

Adjustment Conditions (調整条件)

1. The mechanical adjustments must be completed first.
(メカ系の調整が完了していること。)
 2. The head must be cleaned and demagnetized.
(ヘッドの清掃と消磁が行われていること。)
 3. Turn power on allow the deck to warm up for at least a few minutes before commencing any electrical adjustments.
(調整の前に、セットを数分間エージングすること。)
 4. The reference signal is 0 dBV=1Vrms.
(信号レベルは、0dBV=1Vrmsとする。)
 5. Connect a 10 kΩ load resistance to the OUTPUT terminals.
(ライン出力端子に10kΩの負荷抵抗を接続する。)
 6. Unless otherwise specified, the switches listed below are left in the positions indicated.
(特に指定のない場合は全てDOLBY NRスイッチOFFとする。)
- DOLBY NR : OFF
TAPE SELECTOR : NORM

NOTE: This unit has an automatic tape selection feature.

オートテープセレクト機能付です

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.

ドルビーノイズリダクション及びHX PROヘッドルームエクステンションはドルビーラボラトリーズライセンシングコーポレーションからの実施権に基づき製造されています。HX PROはバングアンドオルフセンの考案です。ドルビー、DOLBY、ダブルD記号及びHX PROはドルビーラボラトリーズライセンシングコーポレーションの商標です。

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

※ STD-331Eは、基準録音レベルが250nwb/mとなっており、STD-331B (160nwb/m) に対して、4dB録音レベルが高くなっています。調整時には、テープの種類に十分注意して下さい。

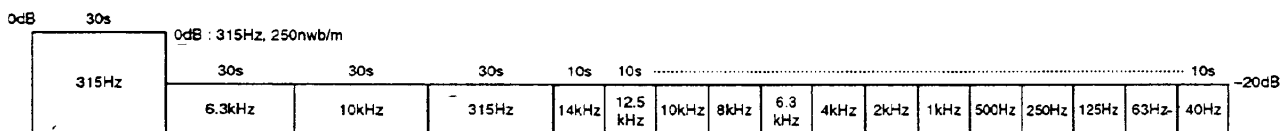
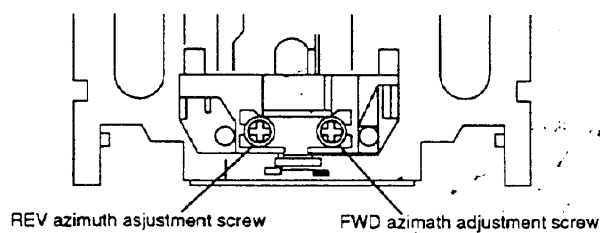
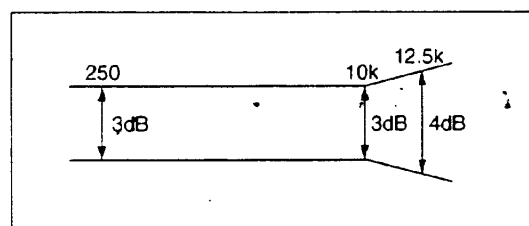


Fig. 1 Test tape STD-331E

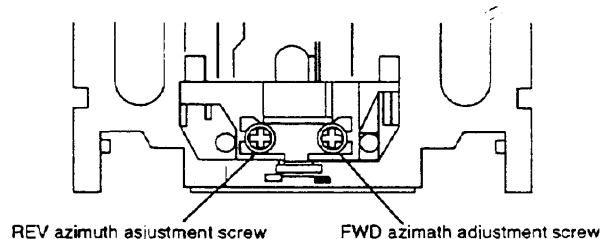
DECK I



PLAY BACK



DECK II



RECORDING

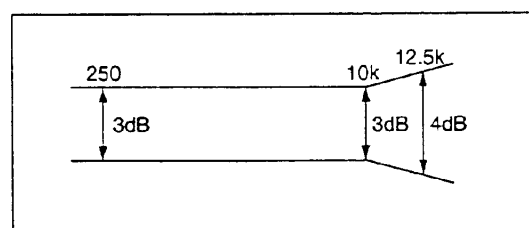
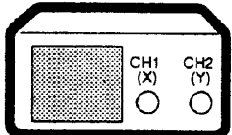
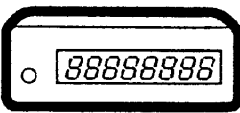
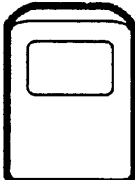
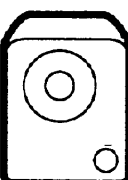
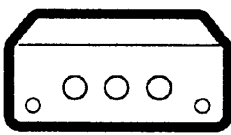


Fig.2 Head azimuth adjustment

Fig.3 Frequency response zone

JIGS AND MEASURING INSTRUMENTS (調整に必要な治工具類)

 Test tape (STD-331E)	 Test tape (STD-631 or STD-632) (Normal blank tape)	 Test tape (STD-622) (CrO ₂ blank tape)	 Test tape (STD-611) (Metal blank tape)
 ⊖ Screwdriver (medium)	 ⊖ Screwdriver (small)	 ⊖ Precise screwdriver	 ⊕ Screwdriver (medium)
 ⊕ Screwdriver (large)	 Dual-trace oscilloscope	 Frequency counter	 10kΩ Load resistance
 AC millivoltmeter	 Low-frequency oscillator	 Attenuator	

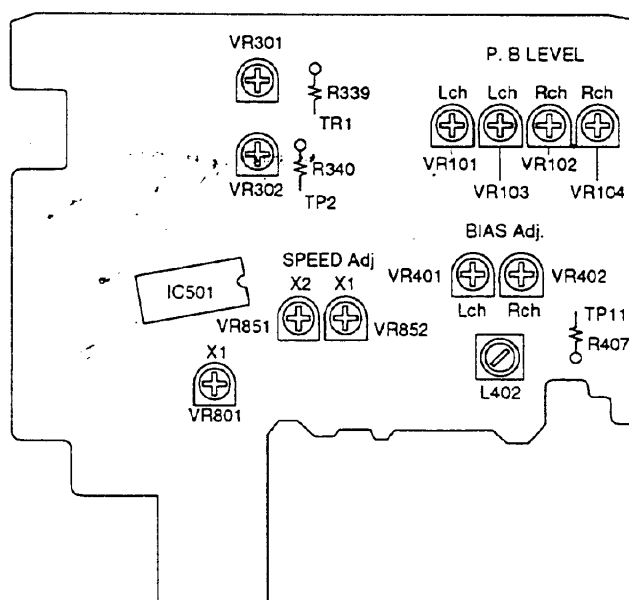
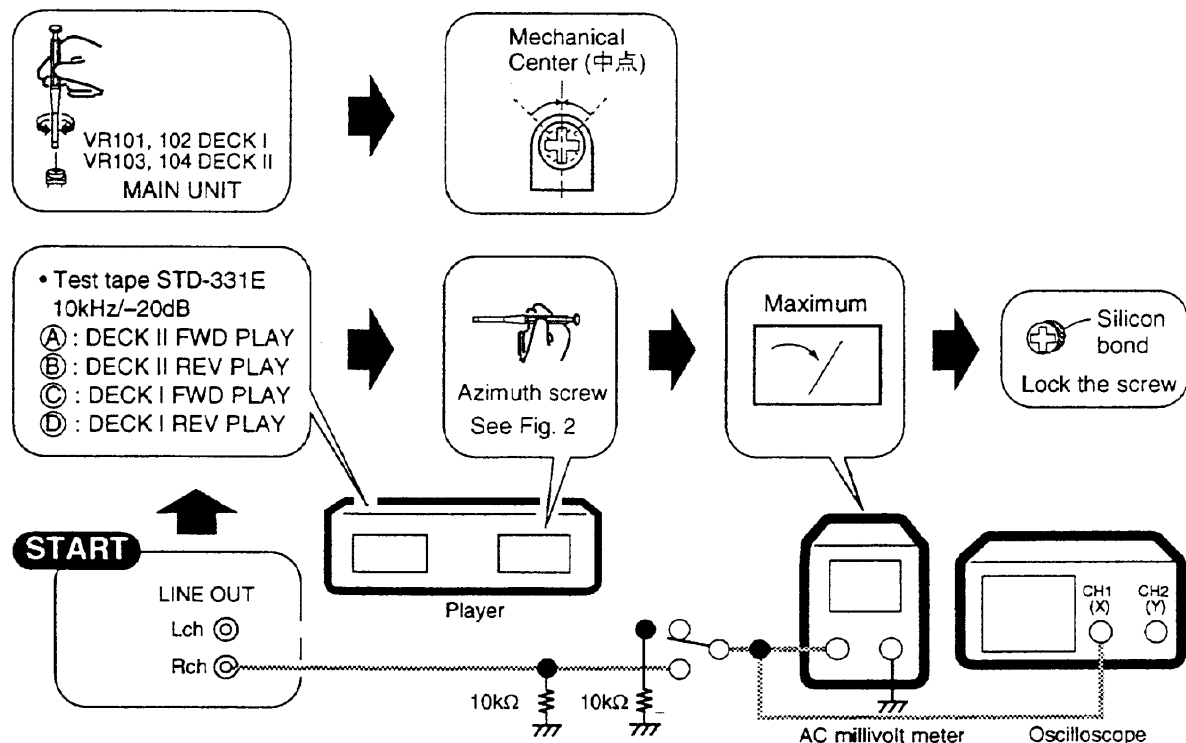


Fig.4 Adjustment points

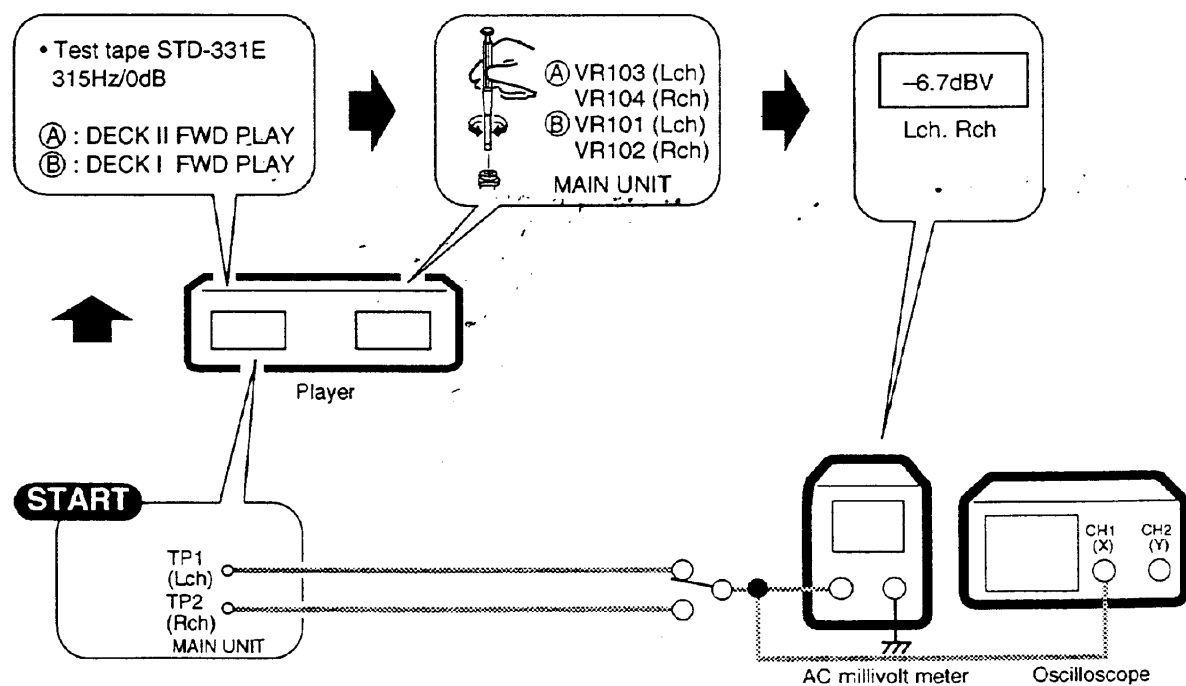
2.1 Playback Section (再生系)

① Head Azimuth Adjustment (ヘッド角度調整)



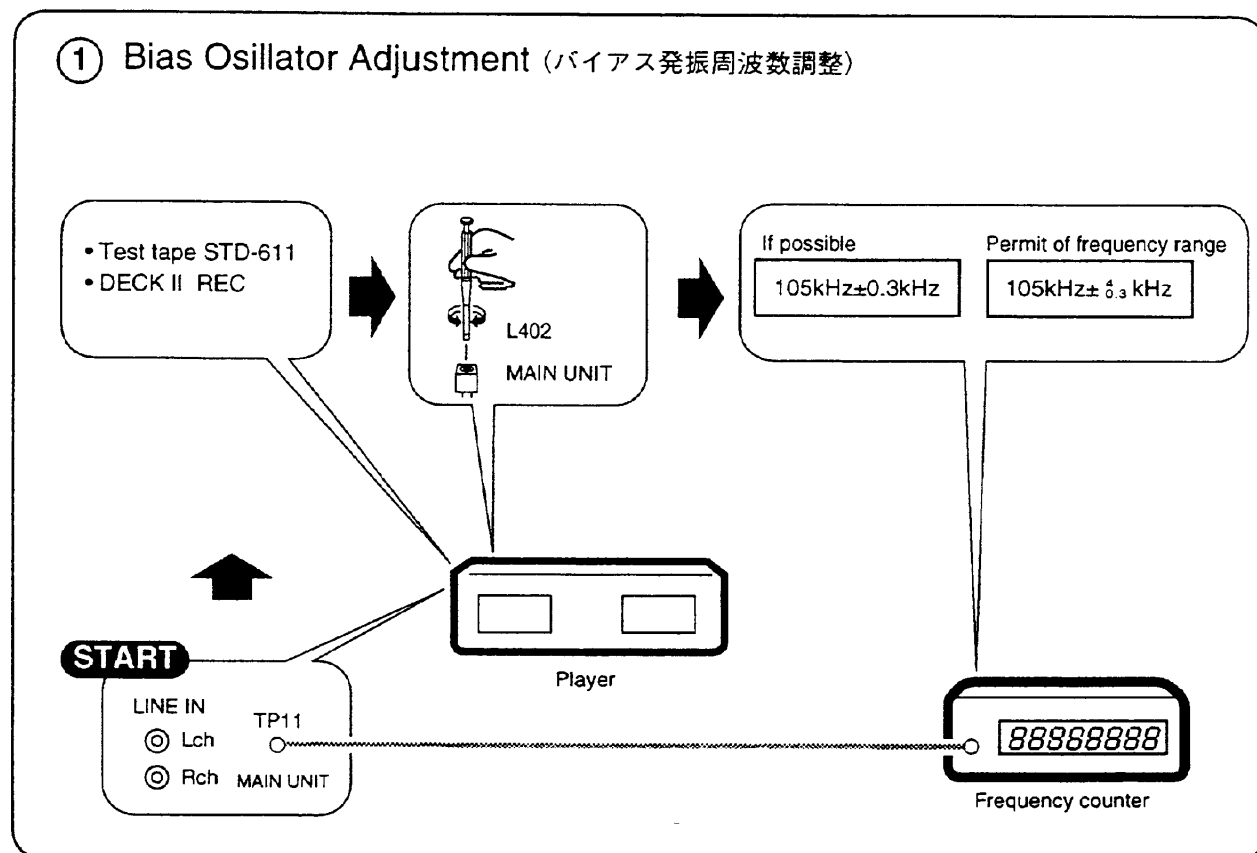
② Playback Level Adjustment (再生レベル調整)

• This adjustment determines the DOLBY NR level, and must be performed with great care.
(ドルビーレベル設定となるため、確実に行うこと。)

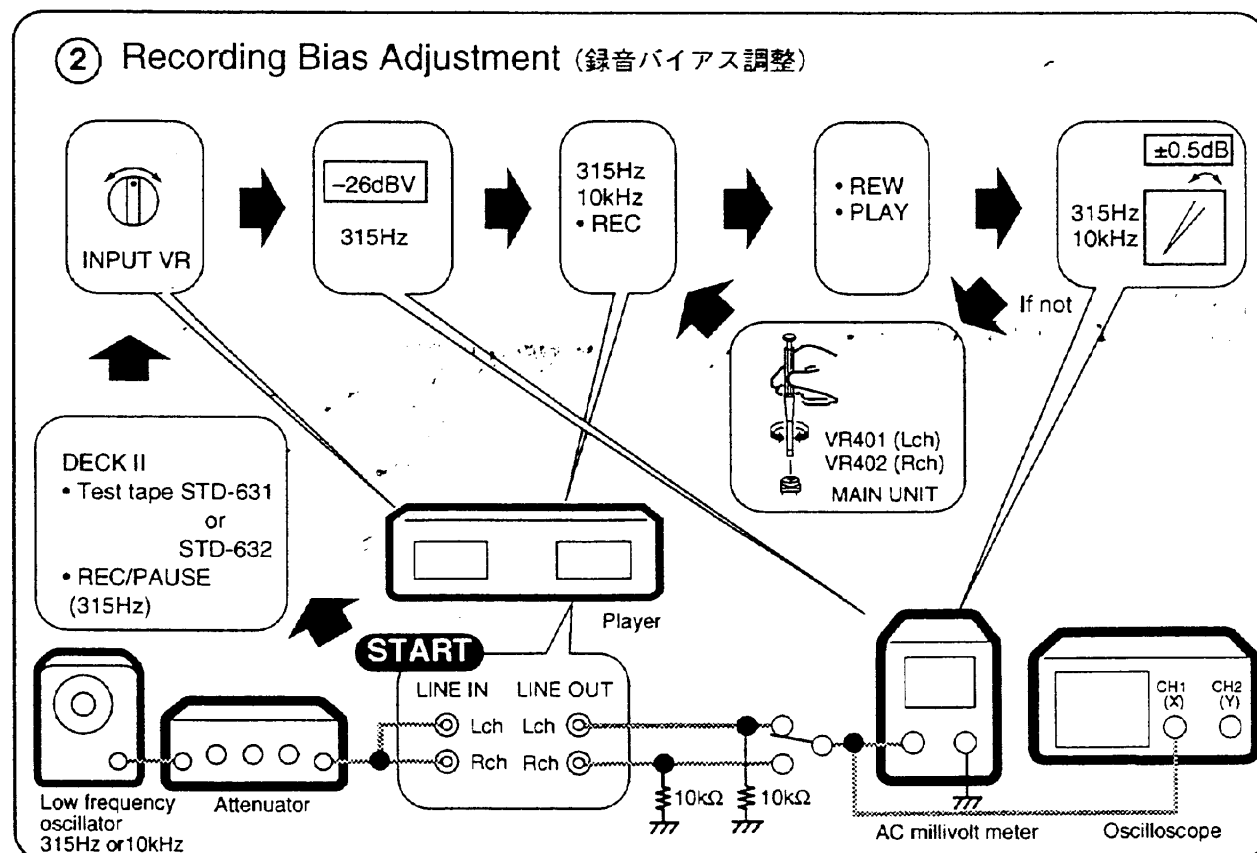


2.2 Recording Section (録音系)

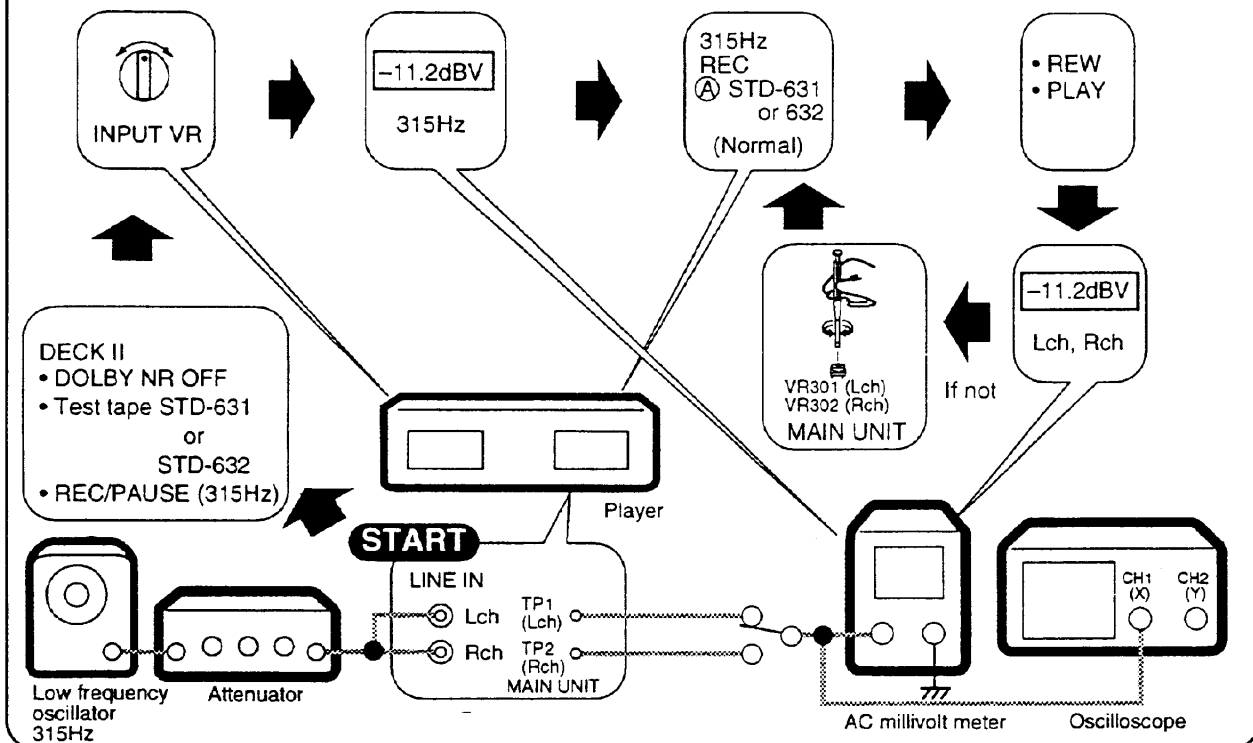
① Bias Oscillator Adjustment (バイアス発振周波数調整)



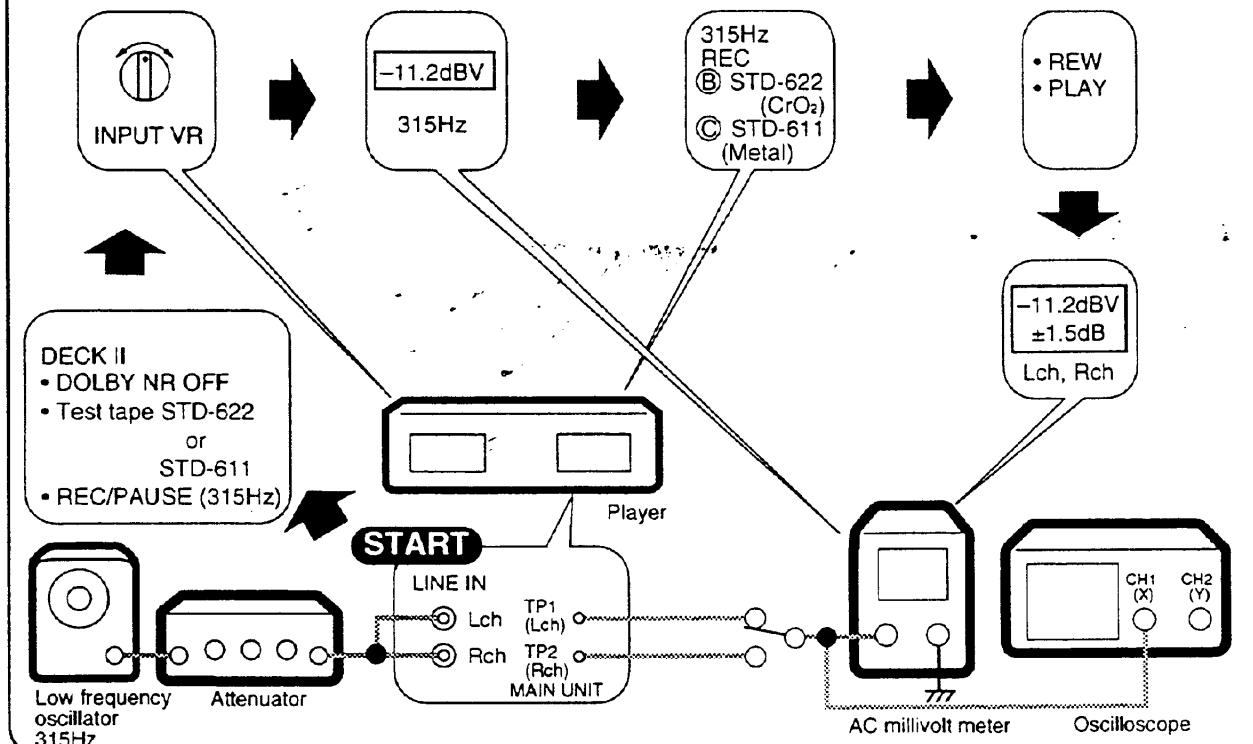
② Recording Bias Adjustment (録音バイアス調整)



③ Recording Level Adjustment (録音レベル調整)



④ Recording Level Check (録音レベル確認)

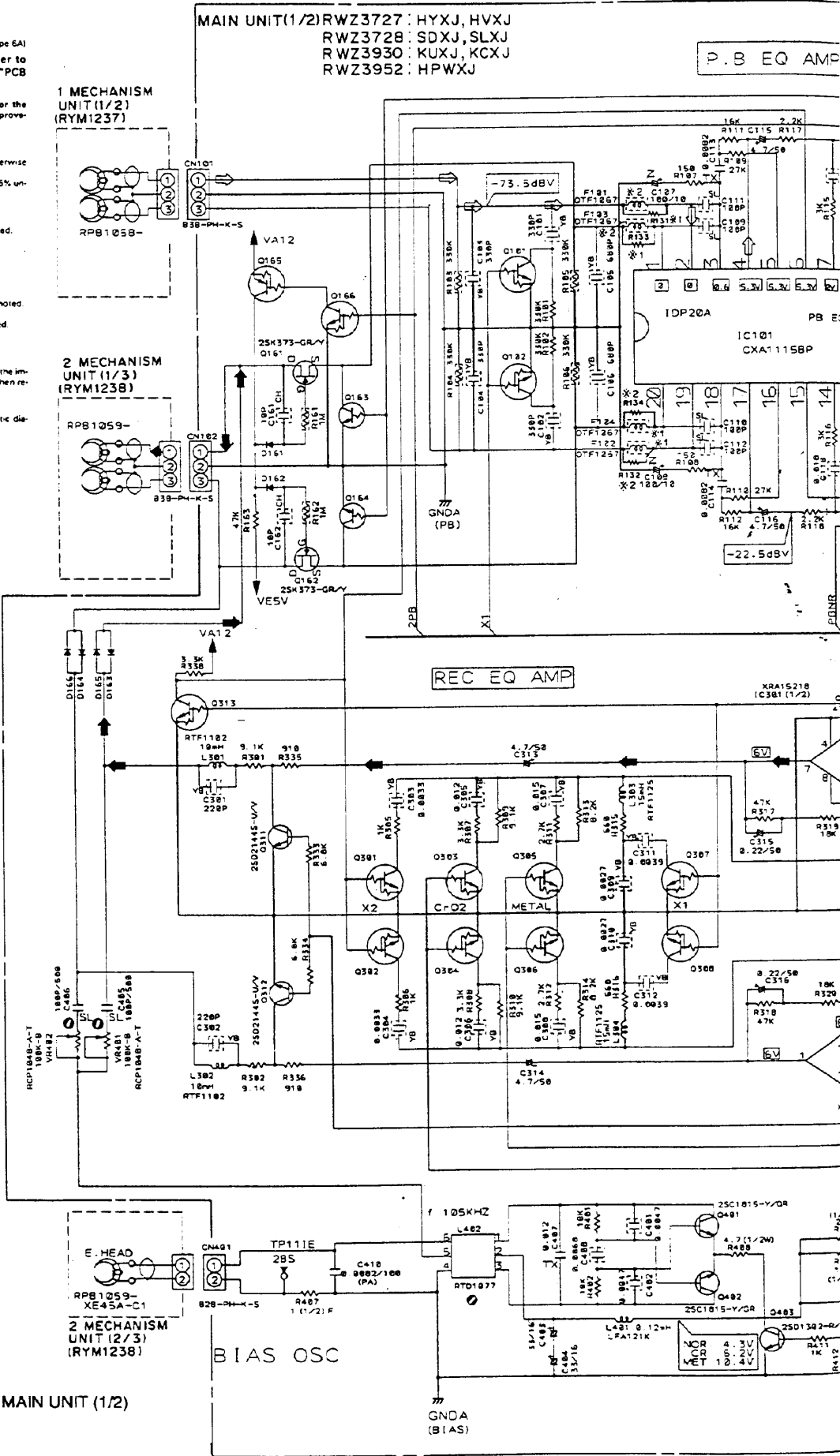


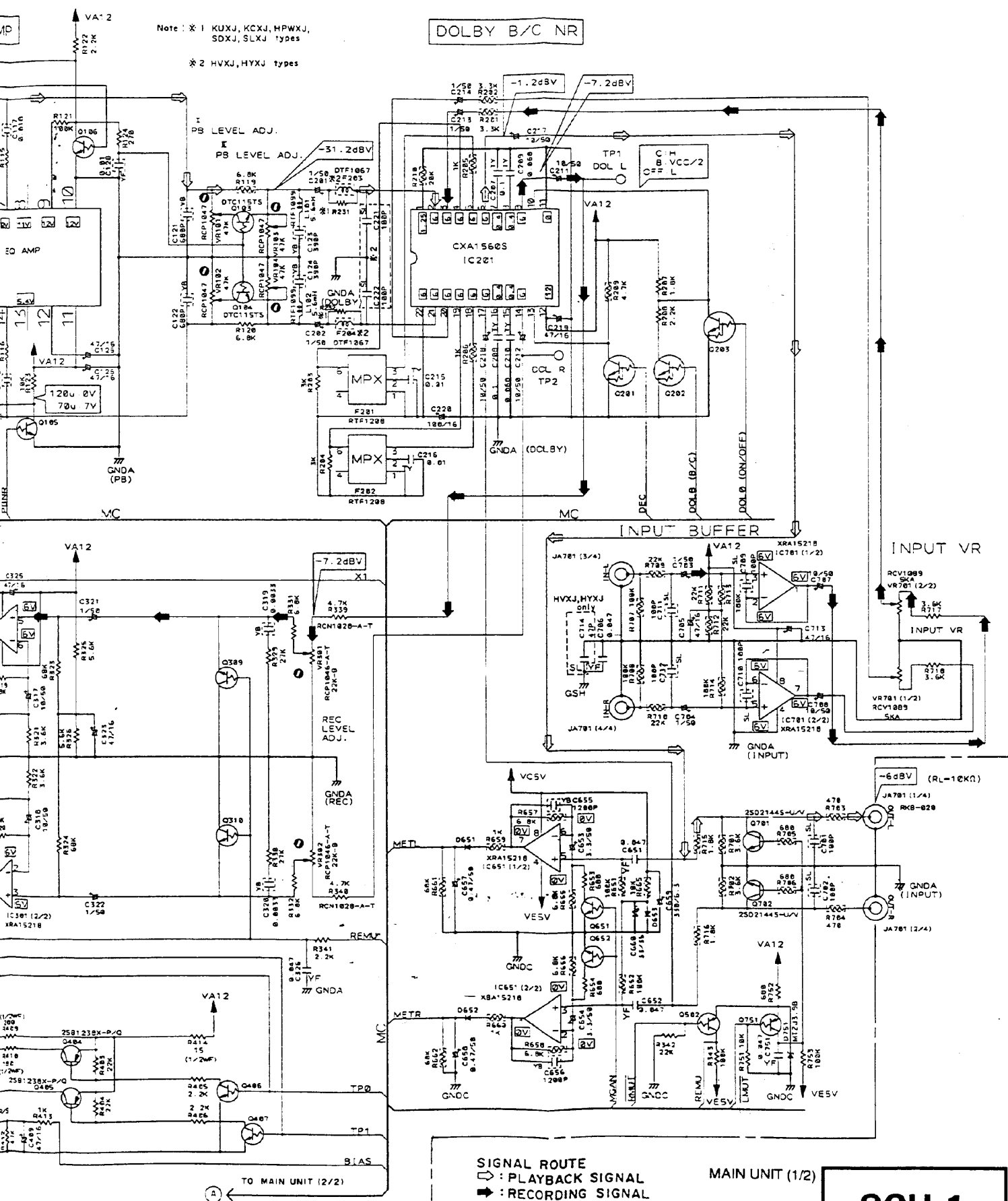
6. SCHEMATIC DIAGRAMS

6.1 MAIN UNIT (1/2)

NOTE FOR SCHEMATIC DIAGRAMS (Type 6A)

- When ordering service parts, be sure to refer to "PARTS LIST OF EXPLODED VIEWS" or "PCB PARTS LIST".
- Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.
- RESISTORS:**
Unit: Ω , $k\Omega$, $M\Omega$, or Ω unless otherwise noted.
Rated power: 1/4W, 1/2W, 1/8W, 1/10W unless otherwise noted.
Tolerance: (F) $\pm 1\%$, (G) $\pm 2\%$, (K) $\pm 10\%$, (M) $\pm 20\%$ or $\pm 5\%$ unless otherwise noted.
- CAPACITORS:**
Unit: p, μ F or μ F unless otherwise noted.
Ratings: capacitor (pF) voltage (V) unless otherwise noted.
Rated voltage: 50V except for electrolytic capacitors.
- COILS:**
Unit: mH or μ H unless otherwise noted.
- VOLTAGE AND CURRENT:**
 $\square$ or $\square$: DC voltage (V) in STOP mode unless otherwise noted.
 $\square$ mA or $\square$ mA : DC current in STOP mode unless otherwise noted.
- OTHERS:**
• $\square$ or $\square$: Adjusting point.
• Δ : Measurement point.
• The Δ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
- SCH- $\square$ ON THE SCHEMATIC DIAGRAM:**
• SCH- $\square$ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)
- SWITCHES (Underline indicates switch position):**
SUB UNIT
S1601 POWER (STANDBY $\rightarrow$ ON)
S1602 COPY NORMAL
S1603 COPY HIGH
S1604 DECK II MS -
S1605 DECK II MS -
S1606 REWIND AUTO PLAY 2
S1607 DECK I MS -
S1609 STOP 2
S1610 MUTE 2
S1611 FWD 2
S1612 REV 2
S1613 FF 2
S1614 REW 2
S1615 PAUSE
S1616 REWIND AUTO PLAY 1
S1617 STOP 1
S1618 REC 2
S1619 FWD 1
S1620 REV 1
S1621 FF 1
S1622 REW 1
S1624 DECK I MS +
S1625 CLOREY NR (B-OFF C)
S1626 REV MODE (RELAY SKIP)





6.2 MAIN (2/2), SUB AND TRANSFORMER 2 UNIT

Line Voltage Selection

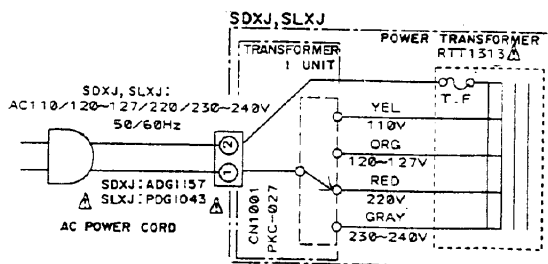
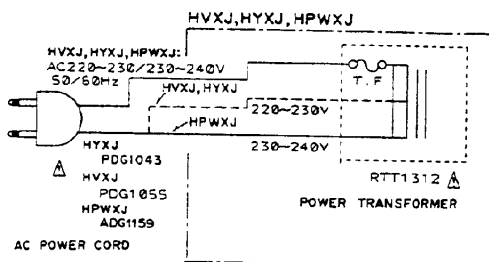
Line voltage can be changed by the following modification:

1. Disconnect the AC power cord.
2. Remove the cover.
3. Change the transformer wiring as follows.

Voltage	Terminal No.	Terminal No.
220V	RED WIRE	GRAY WIRE
240V	GRAY WIRE	RED WIRE

4. Stick a line voltage label on the rear panel.

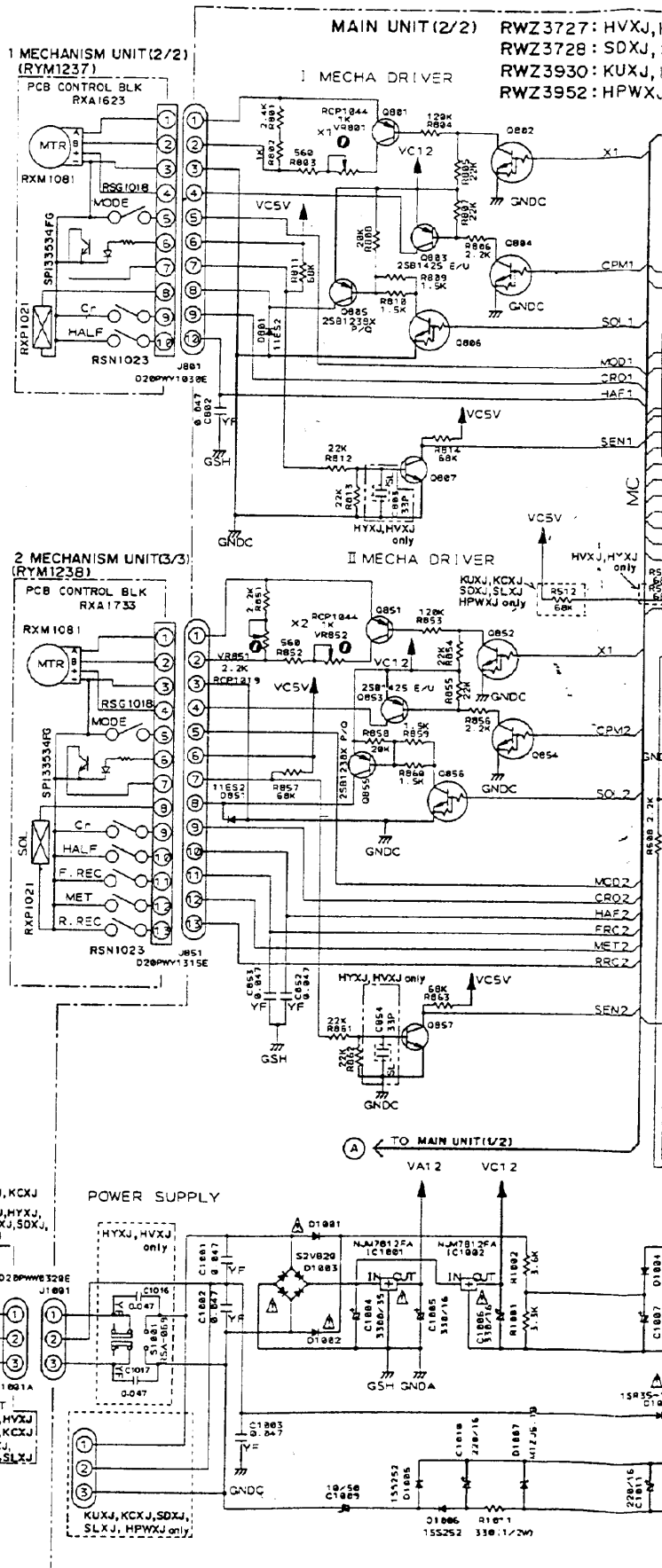
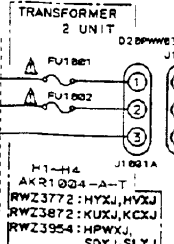
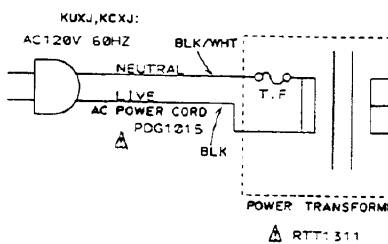
Part No.	Description
AAX-193	220V label
AAX-192	240V label

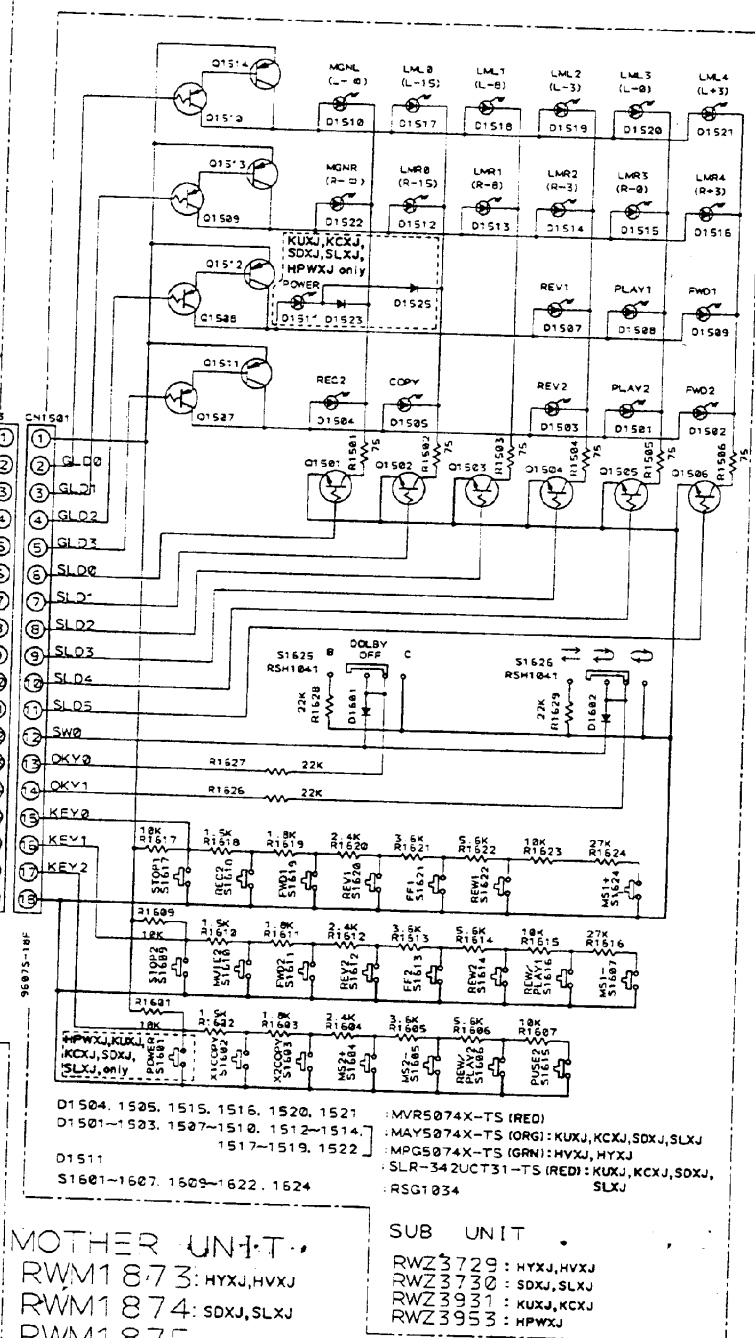
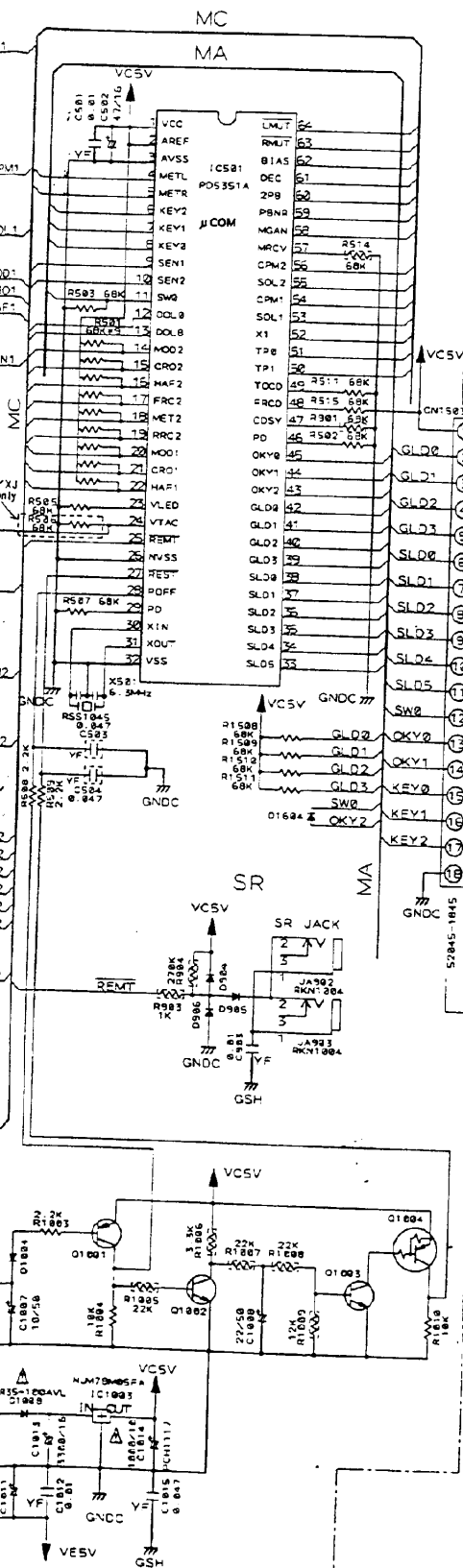


FU1001, FU1002

1.25A/125V (REK1076) KUXJ, KCXJ

T1. 25AL250V (REK1023) HVXJ, HXXJ, HPWXJ, SDXJ, SLXJ





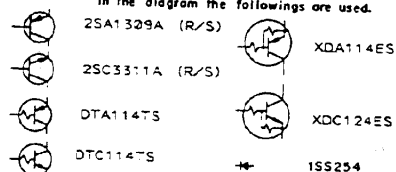
MOTHER UNIT.

RWM1 873: HYXJ, HVXJ
RWM1 874: SDXJ, SLXJ
RWM1 875: KUXJ, KCXJ
RWM1 936: HPWXJ

SUB UNIT

RWZ3729 : HYXJ, HVXJ
RWZ3730 : SDXJ, SLXJ
RWZ3931 : KUXJ, KCXJ
RWZ3953 : HPWXJ

NOTE: If the parts are not identified
in the diagram the followings are used.



MAIN UNIT (2/2),
SUB UNIT,
TRANSFORMER 2 UNIT

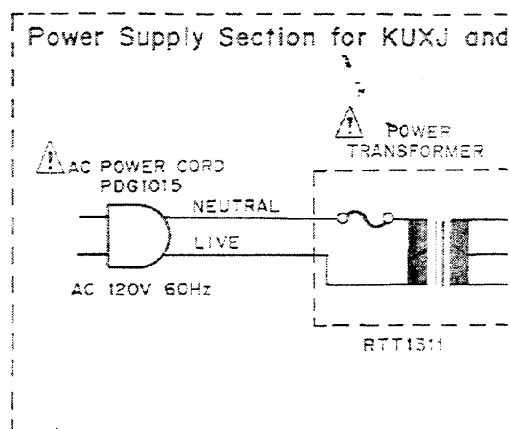
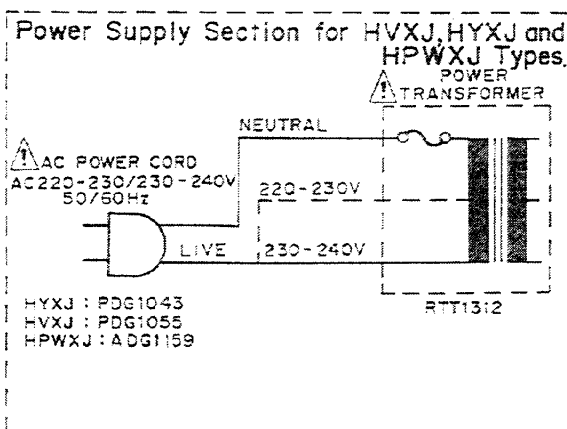
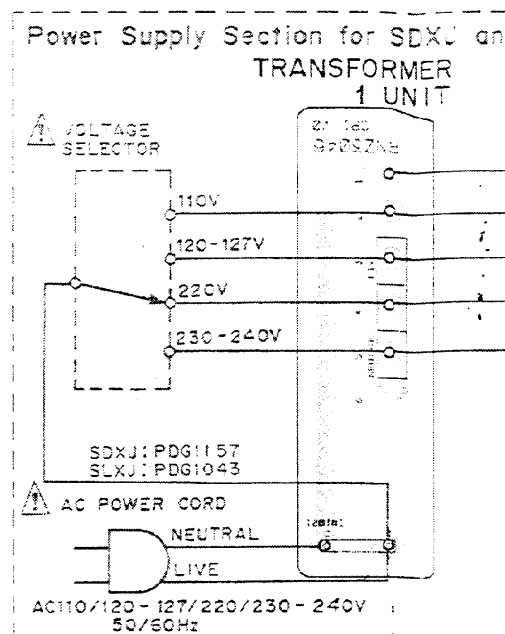
SCH-2

7. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS:

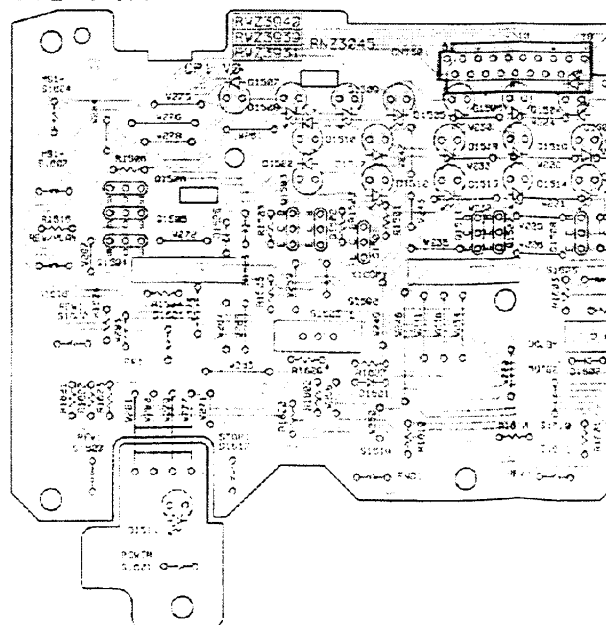
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

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

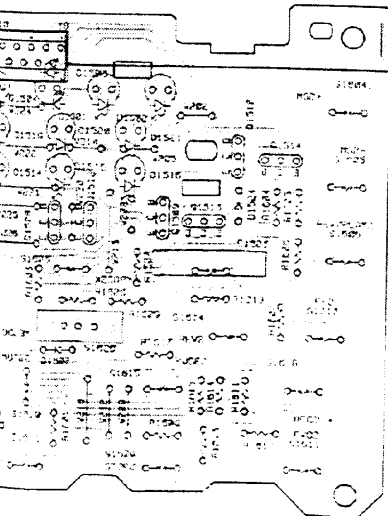


SUB UNIT

Q1506 Q1503 Q1510
Q1505 Q1511 Q1514
Q1504 Q1507 Q1513
Q1502 Q1501 Q1512
Q1508

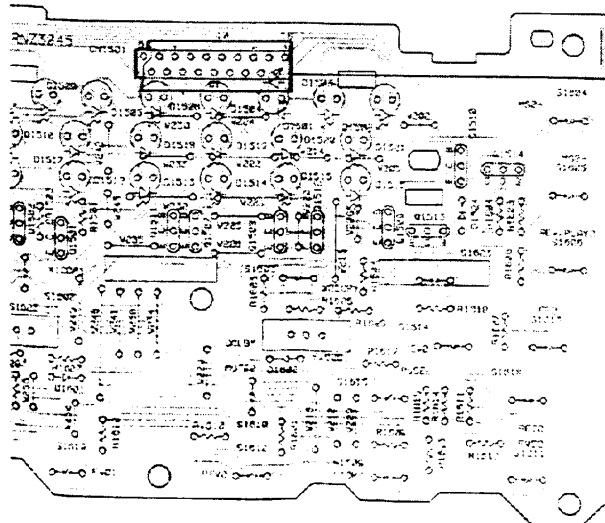
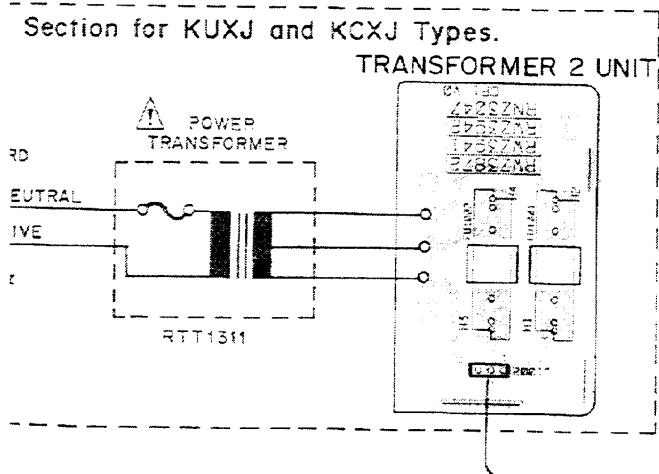
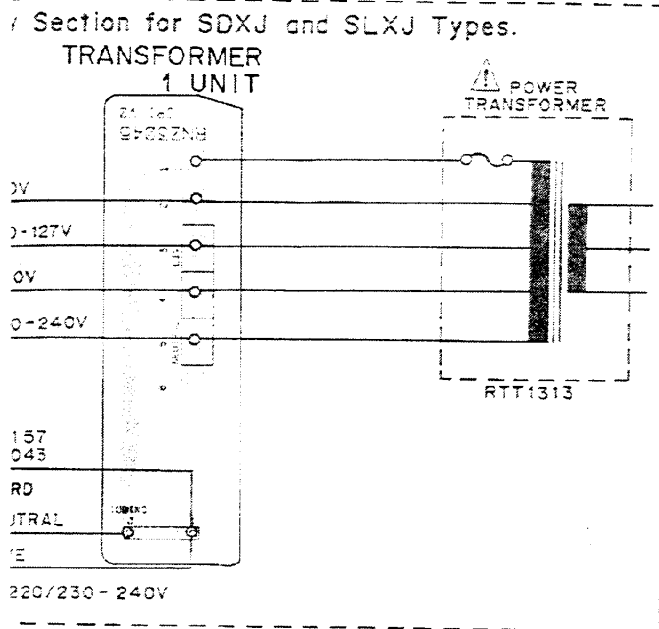


MER
NIT

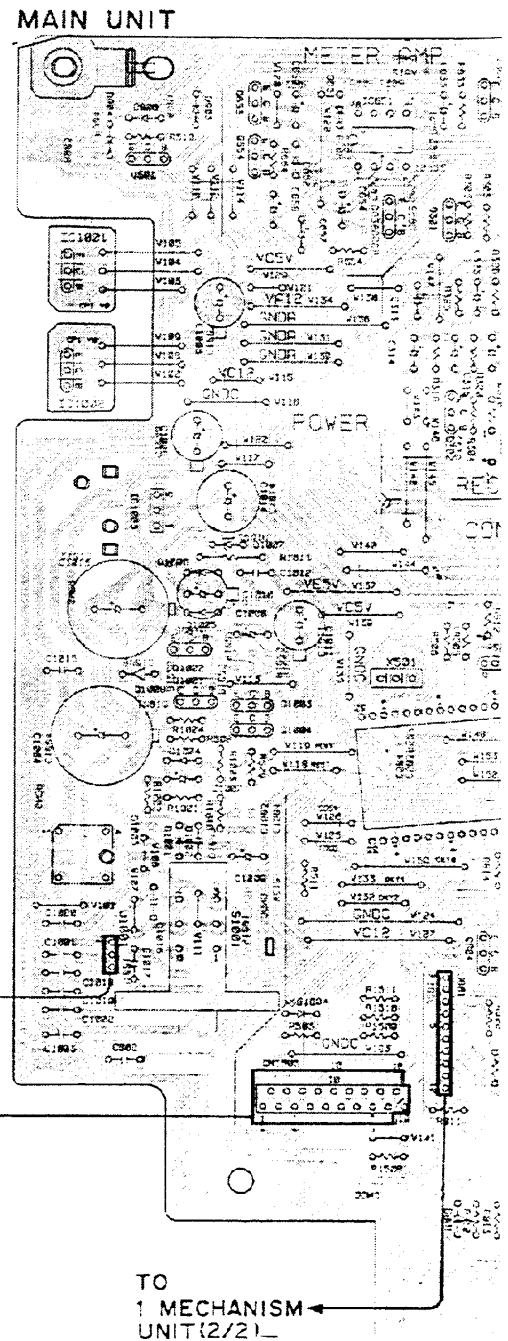


TO
1 MECHANISM
UNIT(2/2)

• This diagram is viewed from the mounted parts side

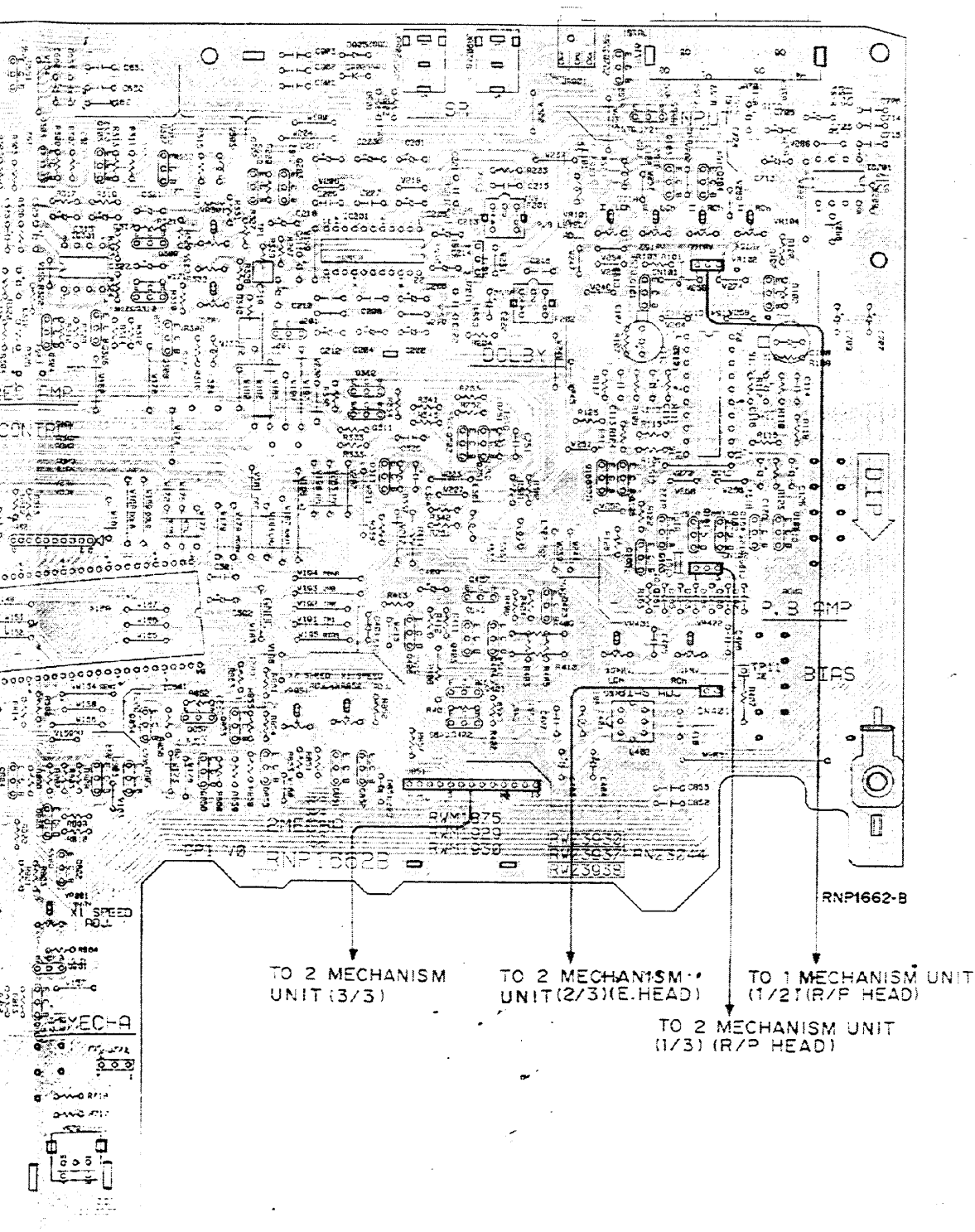


Q651	Q702
IC651	Q701
Q652	Q103
Q301	Q104
Q303	Q701
Q305	Q202
IC1001	Q203
IC301	IC201
IC1002	Q309
Q302	Q310
Q304	Q102
Q306	Q201
IC1003	Q312
	Q311
	Q502
	Q751
	Q313
Q1002	Q166
Q1001	Q165
Q1003	Q163
Q1004	Q161
	Q162
	Q164
	Q105
IC501	Q407
	Q854
	Q405
	Q857
	Q406
	Q853
	Q403
	Q803
	Q404
	Q805
	Q401
	Q856
	Q402
Q804	Q855
Q806	Q851
Q802	Q852



side.

- 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.



8. 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.
 - Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
 - 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 $\rightarrow$ $56 \times 10^1 \rightarrow 561$ RD1/4PU 561 J
- 47 k Ω $\rightarrow$ $47 \times 10^3 \rightarrow 473$ RD1/4PU 473 J
- 0.5 Ω $\rightarrow$ 0R5RN2H 0R5 K
- 1 Ω $\rightarrow$ 1R0RS1P 1R0 K
- Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).
- 5.62 k Ω $\rightarrow$ $562 \times 10^1 \rightarrow 5621$ RN1/4PC 5621 F

■ LIST OF WHOLE PCB ASSEMBLIES

Mark	PCB Assemblies	Part No.							Remarks
		KUXJ type	KCXJ type	HVXJ type	HYXJ type	HPWXJ type	SDXJ type	SLXJ type	
NSP	MOTHER UNIT	RWM1875	RWM1875	RWM1873	RWM1873	RWM1936	RWM1874	RWM1874	
NSP	— TRANSFORMER 2 UNIT	RWZ3872	RWZ3872	RWZ3732	RWZ3732	RWZ3954	RWZ3954	RWZ3954	
	— MAIN UNIT	RWZ3930	RWZ3930	RWZ3727	RWZ3727	RWZ3952	RWZ3728	RWZ3728	
	— SUB UNIT	RWZ3931	RWZ3931	RWZ3729	RWZ3729	RWZ3953	RWZ3730	RWZ3730	
NSP	— TRANSFORMER 1 UNIT	Not used	Not used	Not used	Not used	Not used	RWZ3731	RWZ3731	

■ CONTRAST OF PCB ASSEMBLIES

TRANSFORMER 2 UNIT

TRANSFORMER 2 UNIT has no service part.

MAIN UNIT

- Although RWZ3930, RWZ3952 and RWZ3728 are different in part number, they consist of the same components.
- RWZ3930 and RWZ3727 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		RWZ3930	RWZ3727	
	F101-F104, F203, F204	Not used	DTF1067	
	S1001	Not used	RSA-069	
	C221, C222	Not used	CCCSL101J50	
	C714	Not used	CCCSL470J50	
	C803, C854	Not used	CCSQSL330J50	
	C1016, C1017	Not used	CKCYF473Z50	
	R131-R134, R231, R232	RS1/10S000J	Not Used	
	R506	Not Used	RD1/6PM683J	
	R512	RD1/6PM683J	Not Used	

SUB UN

- Although
- RWZ393

Mark	
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TRANSF

TRANSFO

■ PAR

Mark N

TRANS

TRANSFO

MAIN U

SEMICON

IC1

IC2

IC1

IC1

IC3

IC3

Q1

Q4

Q8

Q4

Q1

Q4

Q3

Q1

Q5

Q1

Q3

Q6

Q1

Q1

Q1

Q1

Q3

Q8

D8

D1

Δ

Δ

Δ

D1

D1

D1

D9

D7

UNIT

Although RWZ3931, RWZ3953 and RWZ3730 are different in part number, they consist of the same components.
RWZ3931 and RWZ3729 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		RWZ3931	RWZ3729	
	D1501-D1503, D1507-D1510, D1512-D1514, D1517-D1519, D1522	MAY5074X	MPG5074X	
	D1511	SLR-342UCT31	Not Used	
	D1523, D1525	1SS254	Not Used	
	S1501	RSG1034	Not Used	

TRANSFORMER 1 UNIT

TRANSFORMER 1 UNIT has no service part.

PARTS LIST FOR KUXJ TYPE

Mark	No.	Description	Parts No.
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TRANSFORMER 2 UNIT

TRANSFORMER 2 UNIT has no service part.

IN UNIT

CONDUCTORS

IC101	CXA1115BP
IC201	CXA1560S
IC1001, IC1002	NJM7812FA
IC1003	NJM78M05FA
IC501	PD5351A
IC301, IC651, IC701	XRA15218
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
Q502, Q751	DTA114TS
Q105, Q106, Q163, Q164	DTC114TS
Q309, Q310, Q406, Q407	DTC114TS
Q651, Q652	DTC114TS
Q103, Q104	DTC115TS
Q1004, Q165	XDA114ES
Q101, Q102, Q166, Q201-Q203	XDC124ES
Q301-Q308, Q313, Q802, Q804	XDC124ES
Q806, Q852, Q854, Q856	XDC124ES
D801, D851	11ES2
D1008	ISR35-100AVL
D1005, D1006	1SS252
D1001, D1002, D1004	1SS254
D1604, D161-D166, D651-D653	1SS254
D904-D906	1SS254
D751	MTZJ3.9B

Mark	No.	Description	Parts No.
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△	D1007	MTZJ5.1B
△	D1003	S2VB20

COILS AND FILTERS

L401	LFA121K
L402	RTD1077
L101, L102	RTF1099
L301, L302	RTF1102
L303, L304	RTF1125
F201, F202	RTF1208

CAPACITORS

C405, C406	CCCSL101K500
C161, C162	CCSQCH100D50
C109-C112, C701, C702	CCSQSL101J50
C709-C712	CCSQSL101J50
C803, C854	CCSQSL330J50
C107, C108	CEANL101M10
C201, C202, C213, C214	CEAS010M50
C321, C322, C703, C704	CEAS010M50
C1007, C1009, C211, C212	CEAS100M50
C217, C218, C317, C318	CEAS100M50
C707, C708	CEAS100M50
C220	CEAS101MT6
C1008	CEAS220M50
C1010, C1011	CEAS221M16
C403, C404	CEAS330M16
C660	CEAS330M35
C1005, C1006	CEAS331M16
C659	CEAS331M6R3
C1013	CEAS332M16
C1004	CEAS332M35
C653, C654	CEAS3R3M50
C125, C126, C219, C323, C325	CEAS470M16
C409, C502, C705, C713	CEAS470M16
C115, C116, C313, C314	CEAS4R7M50
C315, C316	CEASR22M50

RESISTORS

C657,
C407
C113,
C215,
C207,
C209,
C1012
C1001
C651,
C852,
C655,
C305,
C307,
C117,
C301,
C309,
C101-
C305,
C123,
C311,
C401,
C105,
C408
C128
C503,
C410
C1014
R501
R339,
R407
R414
R410
R409
R1011
R408
R305,
R1002
R751
R121,
R804,
R107,
R809,
R111,
R207
R319,
R808,
R1002
R341,
R806,
R342,
R812,
R861,
R801
R124

Mark

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D1007
D1003

COILS AND FILTERS

RESIST

CAPACITORS

C405, C406	CCCSL101K500
C161, C162	CCSQCH100D50
C109-C112, C701, C702	CCSSQL101J50
C709-C712	CCSSQL101J50
C803, C854	CCSSQL330J50

C107, C108	CEANL101M10
C201, C202, C213, C214	CEAS010M50
C321, C322, C703, C704	CEAS010M50
C1007, C1009, C211, C212	CEAS100M50
C217, C218, C317, C318	CEAS100M50

C707, C708	CEAS100M50
C220	CEAS101M16
C1008	CEAS220M50
C1010, C1011	CEAS221M16
C403, C404	CEAS330M16

C660	CEAS330M35
C1005, C1006	CEAS331M16
C659	CEAS331M6R3
C1013	CEAS332M16
C1004	CEAS332M35

C653, C654	CEAS3R3M50
C125, C126, C219, C323, C325	CEAS470M16
C409, C502, C705, C713	CEAS470M16
C115, C116, C313, C314	CEAS4R7M50
C315, C316	CEASR22M50

Mark	No.	Description	Parts No.
	C657, C658 C407 C113, C114 C215, C216 C207, C208	CEASR47M50 CFTXA123J50 CFTXA822J50 CFTYA103J50 CFTYA104J50	
	C209, C210 C1012, C501, C903 C1001-C1003, C1015-C1017, C326 C651, C652, C706, C751, C802 C852, C853	CFTYA683J50 CKCYF103Z50 CKCYF473Z50 CKCYF473Z50 CKCYF473Z50	
	C655, C656 C305, C306 C307, C308 C117, C118 C301, C302	CKSQYB122K50 CKSQYB123K50 CKSQYB153K50 CKSQYB183K50 CKSQYB221K50	
	C309, C310 C101-C104 C303, C304, C319, C320 C123, C124 C311, C312	CKSQYB272K50 CKSQYB331K50 CKSQYB332K50 CKSQYB391K50 CKSQYB392K50	
	C401, C402 C105, C106, C121, C122 C408 C128 C503, C504	CKSQYB472K50 CKSQYB681K50 CKSQYB682K50 CKSQYF103Z50 CKSQYF473Z50	
	C410 C1014 (1000 μ F/10V)	CQPA822J100 PCH1117	
RESISTORS			
	R501 R339, R340 (4.7k Ω) R407 R414 R410	RA9T683J RCN1028 RD1/2LMF010J RD1/2LMF150J RD1/2LMF181J	
	R409 R1011 R408 R305, R306, R411, R413, R802 R1004, R1010, R123, R401, R402	RD1/2LMF201J RD1/2LMF331J RD1/2LMF4R7J RD1/6PM102J RD1/6PM103J	
	R751 R121, R343, R753 R804, R853 R107, R108 R809, R810, R859, R860	RD1/6PM103J RD1/6PM104J RD1/6PM124J RD1/6PM151J RD1/6PM152J	
	R111, R112 R207 R319, R320 R808, R858 R1003, R117, R118, R122, R208	RD1/6PM163J RD1/6PM182J RD1/6PM183J RD1/6PM203J RD1/6PM222J	
	R341, R405, R406, R508, R509 R806, R851, R856 R342, R403, R404, R805, R807 R812, R813, R854, R855 R861, R862	RD1/6PM222J RD1/6PM222J RD1/6PM223J RD1/6PM223J RD1/6PM223J	
	R801 R124	RD1/6PM242J RD1/6PM271J	

Mark	No.	Description	Parts No.
	R311, R312 R109, R110, R329, R330 R115, R116, R203, R204		RD1/6PM272J RD1/6PM273J RD1/6PM302J
	R1001, R307, R308, R338 R101, R102 R1002, R321, R322, R717, R718 R163, R317, R318, R412 R315, R316, R803, R852		RD1/6PM332J RD1/6PM334J RD1/6PM362J RD1/6PM473J RD1/6PM561J
	R325, R326 R653, R654, R752 R120, R331-R334 R1508-R1511, R323, R324 R502, R503, R505, R511, R512		RD1/6PM562J RD1/6PM681J RD1/6PM682J RD1/6PM683J RD1/6PM683J
	R515, R811, R814, R857, R863 R313, R314 R335, R336 R301, R302, R309, R310 VR851 (2.2k Ω)		RD1/6PM683J RD1/6PM822J RD1/6PM911J RD1/6PM912J RCP1019
	VR801, VR852 (1.0k Ω) VR301, VR302 (22k Ω) VR101-VR104 (47k Ω) VR401, VR402 (100k Ω) VR701 (5k Ω)		RCP1044 RCP1046 RCP1047 RCP1048 RCV1089
	Other Resistors		RS1/10S□□□□

OTHERS

CN1503	18P CONNECTOR	52045-1845
CN401	CONNECTOR POST	B2B-PH-K-S
CN101, CN102	CONNECTOR POST 3P	B3B-PH-K-S
JA701	4P PIN JACK	RKB-020
JA902, JA903	REMOTE CONTROL JACK	RKN1004
X501	CERAMIC RESONATOR	RSS1045
	PCB BINDER	VEF1040
	EARTH METAL FITTING	VNF-091

SUB UNIT

SEMICONDUCTORS

Q1511-Q1514	2SA1309A
Q1507-Q1510	DTA114TS
Q1501-Q1506	DTC114TS
D1523, D1525, D1601, D1602	1SS254
D1501, D1503, D1507-D1510	MAY5074X
D1512-D1514, D1517-D1519, D1522	MAY5074X
D1504, D1505, D1515, D1516	MVR5074X
D1520, D1521	MVR5074X
D1511	SLR-342UCT31

SWITCHES AND RELAYS

S1601-S1607, S1609-S1622, S1624	RSG1034
S1625, S1626	RSH1041

RESISTORS

All Resistors	RD1/6PM□□□□
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OTHERS

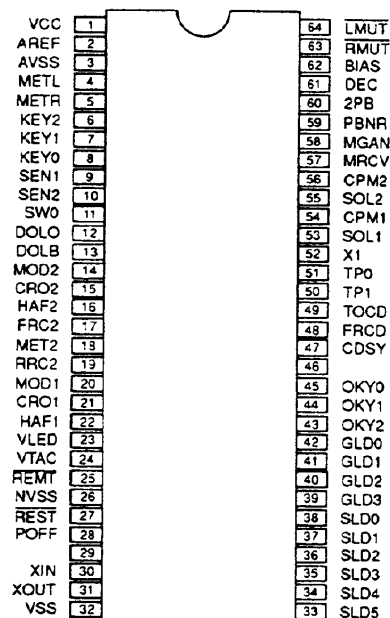
CN1501	18P CONNECTOR	9607S-18F
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9. IC INFORMATION

• 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 Arrangement (Top View)



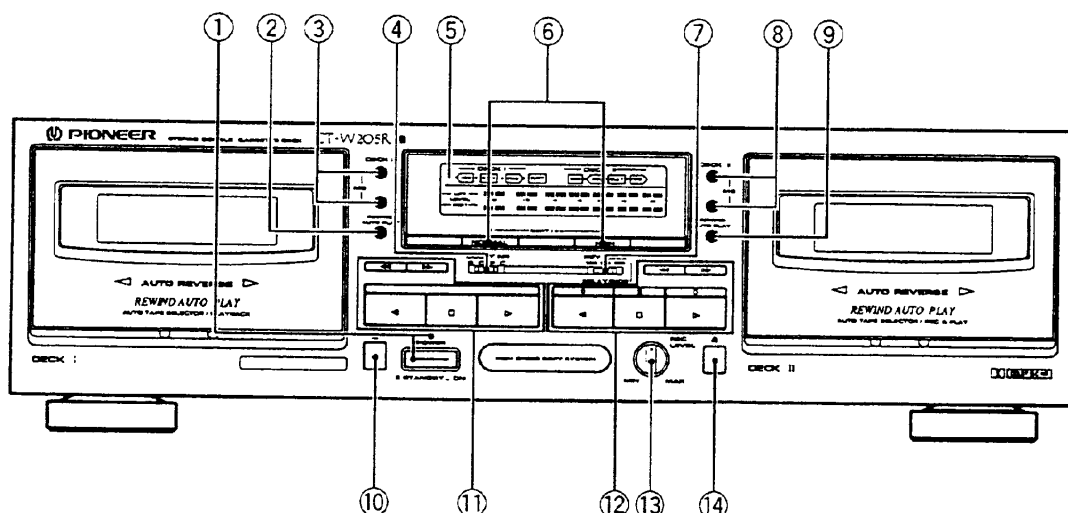
● Pin Function

Pin No.	Name	I/O	Function
1	VCC	I	Power supply 5V
2	AREF	I	AREF is connected to 5V, AVSS is connected to GND.
3	AVSS	I	Power supply for the built-in A/D converter.
4	METL	I	Lch level meter input
5	METR	I	Rch level meter input
6	KEY2	I	Key scanning input (Key switch A/D input)
7	KEY1	I	
8	KEY0	I	
9	SEN1	I	Take-up side sensing pulse. Primary side input
10	SEN2	I	Take-up side sensing pulse. Secondary side input
11	SW0	I	Dolby NR SW, REVRS SW DC input
12	DOLO	O	Dolby NR control When Dolby NR OFF, DOLO: "H". When Dolby NR B, DOLB: "H".
13	DOLB	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.
15	CRO2	I	
16	HAF2	I	
17	FRC2	I	
18	MET2	I	
19	RRC2	I	
20	MOD1	I	"L" when all the following SWs are ON. Mode SW, chrome SW, half SW.
21	CRO1	I	
22	HAF1	I	

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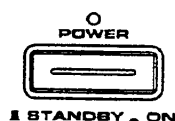
Pin No.	Pin Name	I/O	Pin Function				
23	VLED	I	Power supply SW version select input				
24	VTAC	I		POWER SW (tact)	POWER SW (mechanical)		H: 5V L: GND
				With LED	With LED	Without LED	
			VTAC	H	L	L	
VLED	H or L	H	L				
25	REMT	I	Remote commander signal input				
26	NVSS	I	Chip operation mode control. Connected to GND.				
27	REST	O	Reset signal input. ("L" when reset.)				
28	POFF	I	Power off signal input. ("H" when power off.)				
29		O	Connected to a pull-down resistor.				
30	XIN	I	Connected to the main clock (6.3 MHz).				
31	XOUT	O					
32	VSS	I	Power supply GND				
33	SLD5	O	Display output (Soft scanning output)				
34	SLD4	O					
35	SLD3	O					
36	SLD2	O					
37	SLD1	O					
38	SLD0	O					
39	GLD3	O					
40	GLD2	O					
41	GLD1	O	Output for detecting Dolby NR SW, REVRS SW.				
42	GLD0	O					
43	OKY2	O					
44	OKY1	O	Connected to a pull-down resistor.				
45	OKY0	O					
46		O	Connected to a pull-down resistor.				
47	CDSY	I	CD SYNCHRO input/output				
48	FRCD	I	When SYNCHRO jack IN, "L" input.				
49	TOCD	O	During CD play, "L" input.				
50	TP1	O		NOR	CRO	MET	H: 5V L: GND
			TP0	L	H	L	
			TP1	L	L	H	
51	TP0	O					
52	X1	O	Motor speed adjustment. When X1 speed, "H".				
53	SOL1	O	Deck 1 side mechanical control output				
54	CPM1	O	Solenoid control				
55	SOL2	O	Capstan motor control				
56	CPM2	O	Deck 2 side mechanical control output				
			Solenoid control				
			Capstan motor control				
57	MRCV	O	Meter circuit recovery time control. (When recovery FAST, "H".)				
58	MGAN	O	Meter circuit gain select. (When MS, "H".)				
59	PBNR	O	When a normal tape is played back, "H" is output.				
60	2PB	O	When deck 2 is played back, "H" is output.				
61	DEC	O	DECODE/ENCODE output. When DECODE, "H". When ENCODE, "L".				
62	BIAS	O	Bias control. (When bias ON, "H".)				
63	RMUT	O	REC MUTE control. (When MUTE ON, "L".)				
64	LMUT	O	LINE MUTE control. (When MUTE ON, "L".)				

10. PANEL FACILITIES

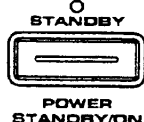


● Illustration shows U.K. model.

<U.K. model>



<U.S., Canadian and Australian models>



① POWER (■STANDBY -ON) switch (U.K. model)

POWER STANDBY/ON switch (U.S., Canadian Australian models)

The POWER 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. The indicator lights when the unit functions enter STANDBY, and it goes off when the power is turned on.

② DECK I REWIND AUTO PLAY button

③ DECK I MS(music search) +,- buttons

④ 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.

⑤ Function display

⑥ Synchro copy buttons (COPY I ▶ II)

NORMAL: Normal speed copy

HIGH : Double speed copy

⑦ Reverse mode switch (REV MODE RELAY/SKIP)

⑧ DECK II MS(music search) +,- buttons

⑨ DECK II REWIND AUTO PLAY button

⑩ 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.

⑪ Deck I operation buttons

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

⑫ DECK II operation buttons

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

⑬ Recording level control (REC LEVEL)

⑭ 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.

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11. 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
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
- Synchronized copy start
- 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
-  System remote control available
- Rewind -Auto play

Miscellaneous

Power Requirements

U.K. and Australian models AC 220 ~ 230 volts, 50/60 Hz

U.S. and Canadian models AC 120 volts, 60 Hz

Power Consumption 16W

Dimensions 420 (W) x 125 (H) x 250 (D) mm

16 - 9/16 (W) x 4 - 7/8 (H) x 9 - 13/16 (D)

Weight (without package)

U.K. and Australian models 3.9 kg

(8 lb 10 oz)

U.S. and Canadian models 3.8 kg

(8 lb 6 oz)

Accessories

Operating instructions 1

Connection cord with pin plugs 2

 Remote control cord 1

NOTE:

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