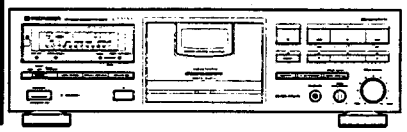
PIONEER®
The Art of Entertainment

Service Manual



STEREO CASSETTE DECK

CT-S520
CT-S420

CT-S520 AND CT-S420 HAVE THE FOLLOWING:

Type	Model		Power Requirement	Remarks
	CT-S520	CT-S420		
HEM	O	O	AC220 – 230V, 230 – 240V (switchable) *	
HB	O	O	AC220 – 230V, 230 – 240V (switchable) *	

*Change the connection of the power transformer's primary wiring.

- **This manual is applicable to the following: CT-S520/HEM and HB; CT-S420/HEM and HB.**
- **The models and their types in this manual indicate the following:**
  CT-S520; CT-S520/HEM and HB types.
  CT-S420; CT-S420/HEM and HB types.
  HEM type; CT-S520/HEM and CT-S420/HEM.
  HB type; CT-S520/HB and CT-S420/HB.

CONTENTS

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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.

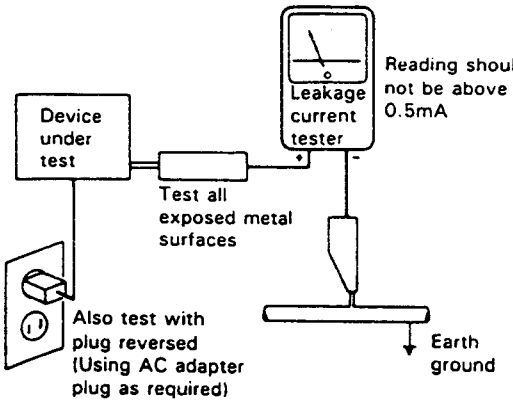
(FOR USA MODEL ONLY)

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

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

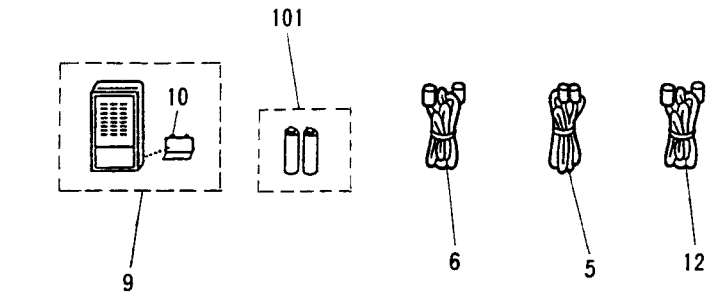
2. PACKING AND PARTS LIST

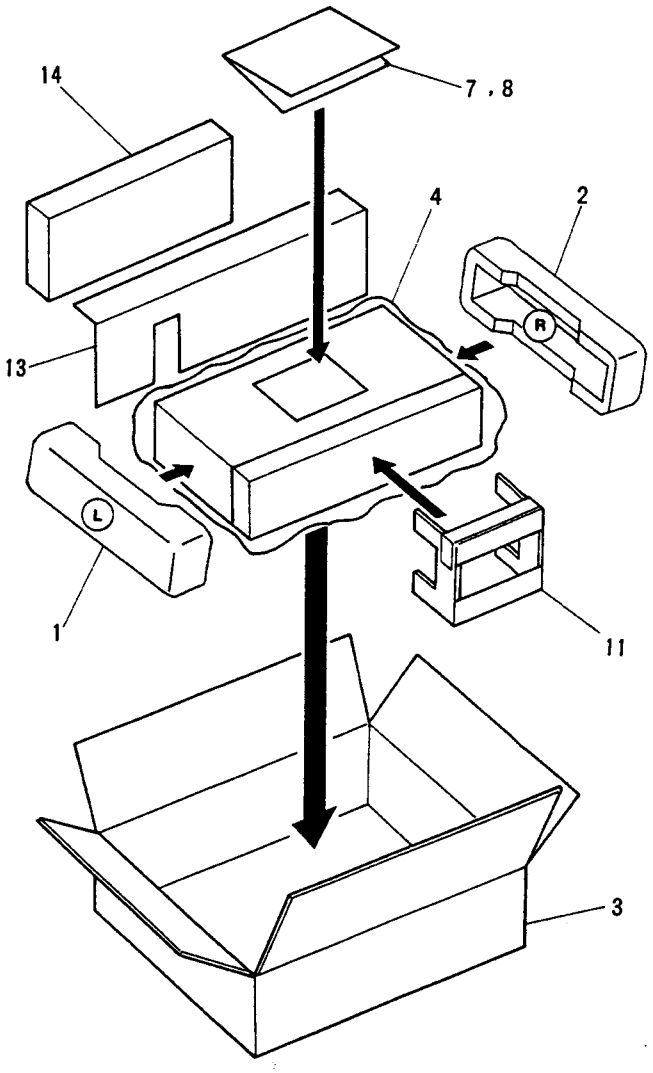
NOTES:

- 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.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

Parts List

Mark	No.	Description	Part No.
	1	Pad (L)	RHA1111
	2	Pad (R)	RHA1112
	3	Packing case (For CT-S520/HEM)	RHG1452
	3	Packing case (For CT-S520/HB)	RHG1459
	3	Packing case (For CT-S420/HEM)	RHG1453
	3	Packing case (For CT-S420/HB)	RHG1460
	4	Sheet	RHX – 034
	5	Connection cord (For AUDIO)	RDE – 010
	6	Control cord (For CD • DECK SYNCHRO)	RDE1030
	7	Operating instructions (German/Italian/Dutch/ Swedish/Spanish/Portuguese) (HEM type only)	RRD1135
	8	Operating instructions (English/French)	RRE1076
	9	Remote control unit (CT-S520 only)	RPX1066
	10	Battery cover (CT-S520 only)	RZN1007
	11	Spacer A	RHC1044
	12	Cord with mini plug (For SR cord) (CT-S420 only)	PDE – 319
	13	Pad spacer A (HB type only)	RHC1039
	14	Pad spacer B (HB type only)	RHC1041
NSP	101	Battery (R6P, AA) (CT-S520 only)	VEM – 013





3. EXPLODED VIEWS AND PARTS LIST

3.1 EXTERIOR

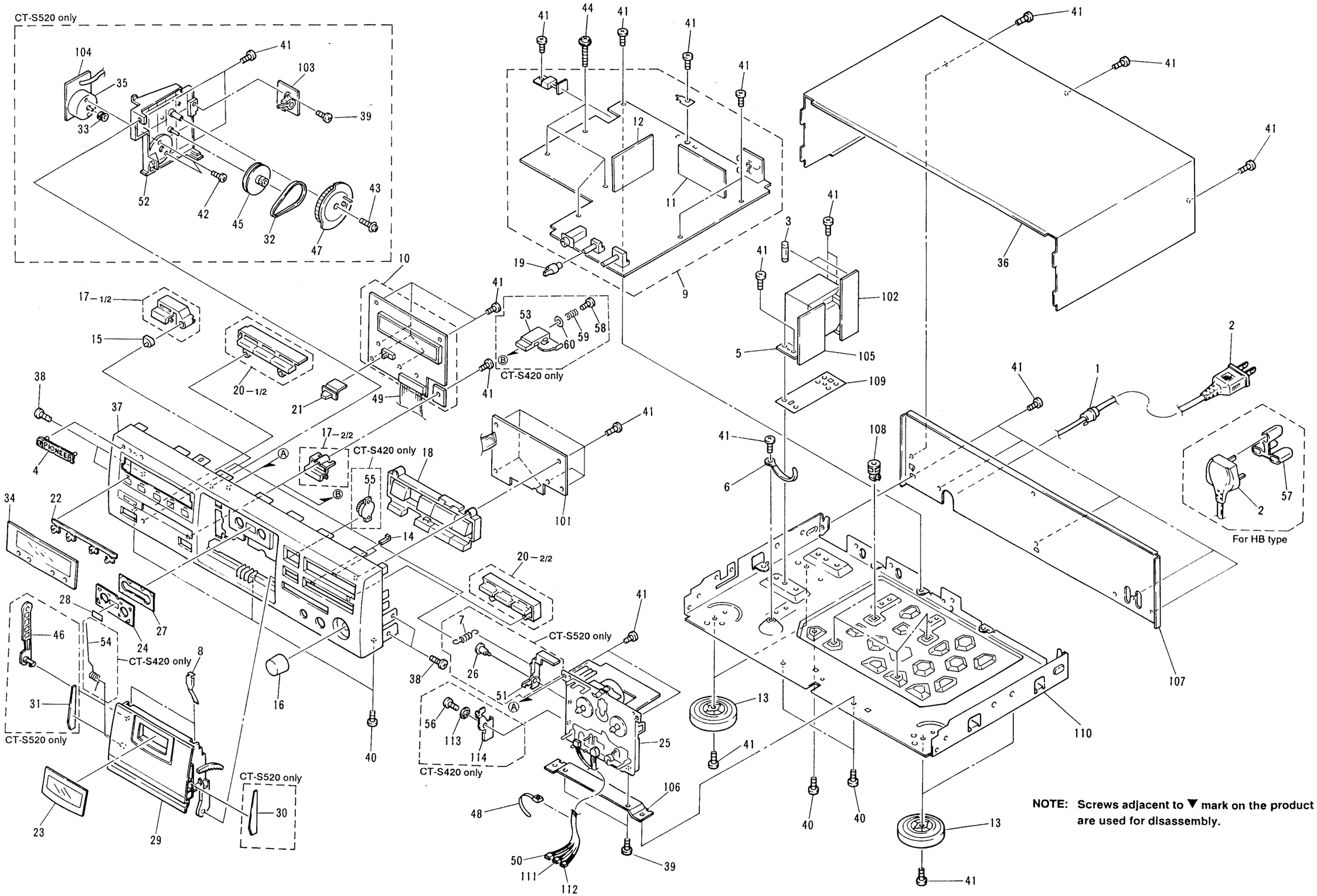
NOTES:

- 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.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

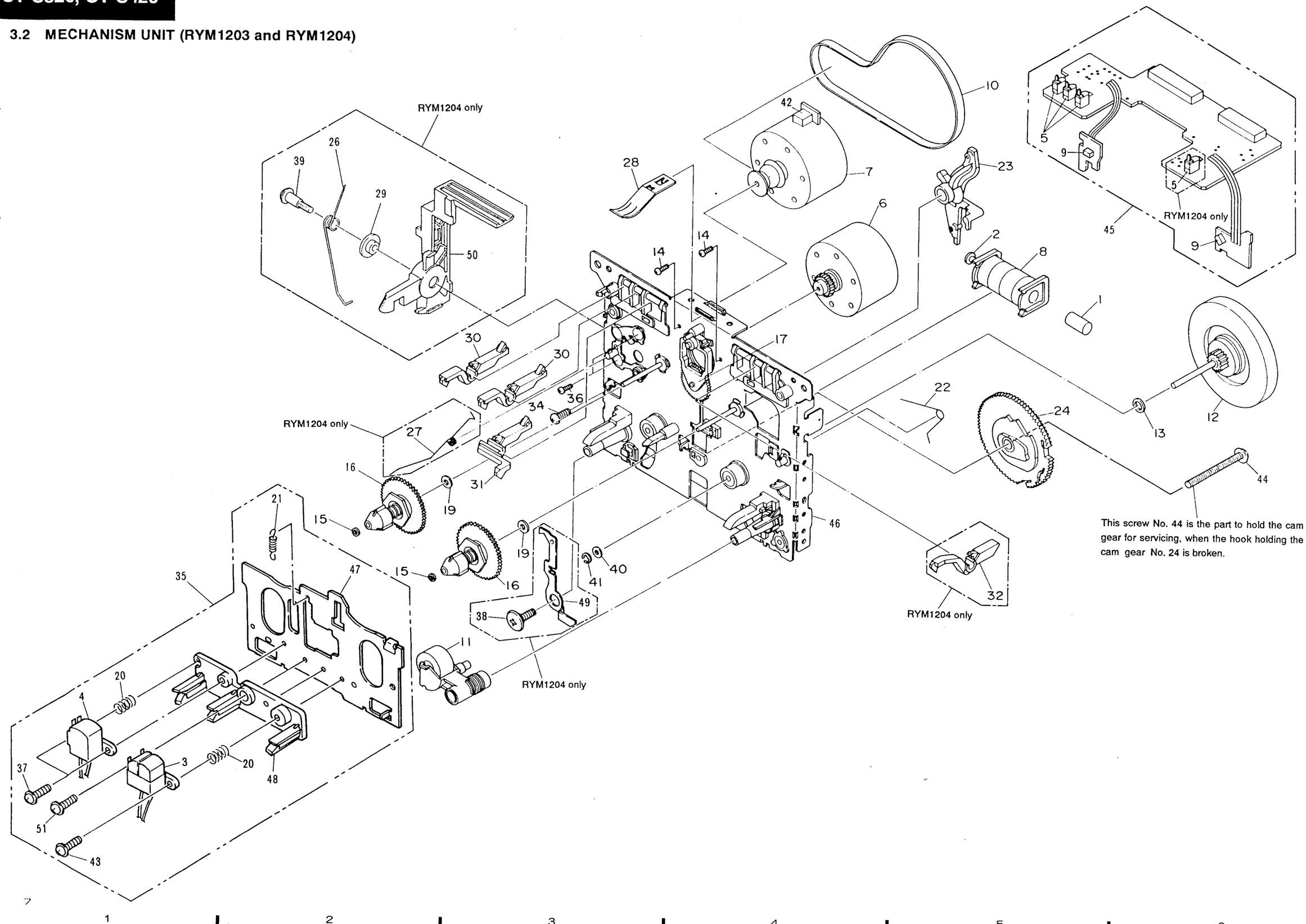
Parts List

Mark	No.	Description	Part No.
⚠	1	Strain relief	CM – 22B
⚠	2	AC power cord (For HEM type)	RDG1026
⚠	2	AC power cord (For HB type)	RDG1024
⚠	3	FU801, FU803 Fuse (T1AL250V)	REK – 100
	4	Name plate	RAM1007
⚠	5	Power transformer (T1)	RTT1221
	6	Cord clamper	RNH – 184
	7	Ratchet spring (CT-S520 only)	RBH1008
	8	Half pressure spring	RBK1004
	9	Main unit (For CT-S520)	RWZ2885
	9	Main unit (For CT-S420)	RWZ2877
	10	DISP unit (For CT-S520)	RWZ2887
	10	DISP unit (For CT-S420)	RWZ2879
	11	1/f unit	RWX1086
⊙	12	HX unit	RWX1069
	13	Insulator	PNW1912
	14	Lens S	PNW1893
	15	LED lens	PNW2019
	16	VR knob	RAC1707
	17	Power knob	RAC1809
	18	Operation knob	RAC1795
	19	Balance knob	RAC1705
	20	Mode knob A (For CT-S520)	RAC1798
	20	Mode knob A (For CT-S420)	RAC1800
	21	Slide knob	RAC1713
	22	Mode knob B	RAC1808
	23	Door lens (For CT-S520)	RAH2265
	23	Door lens (For CT-S420)	RAH2171
	24	Stabilizer panel	RAH1483
⊙	25	Mechanism unit (For CT-S520)	RYM1203
⊙	25	Mechanism unit (For CT-S420)	RYM1204
	26	Screw (CT-S520 only)	PBA – 125
	27	Stabilizer B	REB1085
	28	Remain display paper	REE – 113
	29	Door pocket (For CT-S520)	RAH2243
	29	Door pocket (For CT-S420)	RAH2230
	30	Door side panel R (CT-S520 only)	RAH2261
	31	Door side panel L (CT-S520 only)	RAH2262
	32	Rubber belt (CT-S520 only)	PEB1127
	33	Motor pulley (CT-S520 only)	PNW1634
	34	FL lens (For CT-S520)	RAH2239
	34	FL lens (For CT-S420)	RAH2291
	35	DC motor (CT-S520 only)	PXM1010
	36	Bonnet	REA1077
	37	Front panel (For CT-S520)	RAH2234
	37	Front panel (For CT-S420)	RAH2235
	38	Screw	ABZ30P080FMC
	39	Screw	BBZ26P060FMC
	40	Screw	BBZ30P060FZK
	41	Screw	BBZ30P080FMC
	42	Screw	BMZ26P040FMC
	43	Screw	IPZ20P080FMC
	44	Screw	IBZ30P150FCU
	45	Pulley gear (CT-S520 only)	RNK1517
	46	Joint (CT-S520 only)	RNK1895
	47	Cam gear (CT-S520 only)	RNK1896
	48	Binder	REC – 371
	49	Lead card 33P	RDD1284
	50	Connector assembly 2P	RKP1384
	51	SW lever (CT-S520 only)	RNK1897
	52	Loading base assembly (CT-S520 only)	RXA1548
	53	Eject knob (CT-S420 only)	RAC1772
	54	Door spring L (CT-S420 only)	RBH1341
	55	Damper assembly (CT-S420 only)	REC1005
	56	Screw (CT-S420 only)	BCZ26P050FMC
	57	Pin cap (HB type only)	VEC1616
	58	Screw (CT-S420 only)	IBZ26P080FMC
	59	Eject spring (CT-S420 only)	RBH1342
	60	Washer (CT-S420 only)	WA52D080D025
NSP	101	OPSW unit	RWZ2888
NSP	102	TRN 2 unit	RWZ2890
NSP	103	MECS unit (CT-S520 only)	RWZ2891
NSP	104	MECM unit (CT-S520 only)	RWZ2892
NSP	105	TRN 1 PCB	RNZ2390
NSP	106	Mechanism bracket	RNE1601
NSP	107	Rear panel (For CT-S520)	RNA1681
NSP	107	Rear panel (For CT-S420)	RNA1682
NSP	108	PCB spacer	PNY – 404
NSP	109	Trans shield plate	RNE1451
NSP	110	Main chassis	RNB1090
NSP	111	Connector assembly 4P	RKP1111
NSP	112	Connector assembly 4P	RKP1112
NSP	113	Arm Collar (CT-S420 only)	RLA1124
NSP	114	Eject arm (CT-S420 only)	RNE1597

Exterior

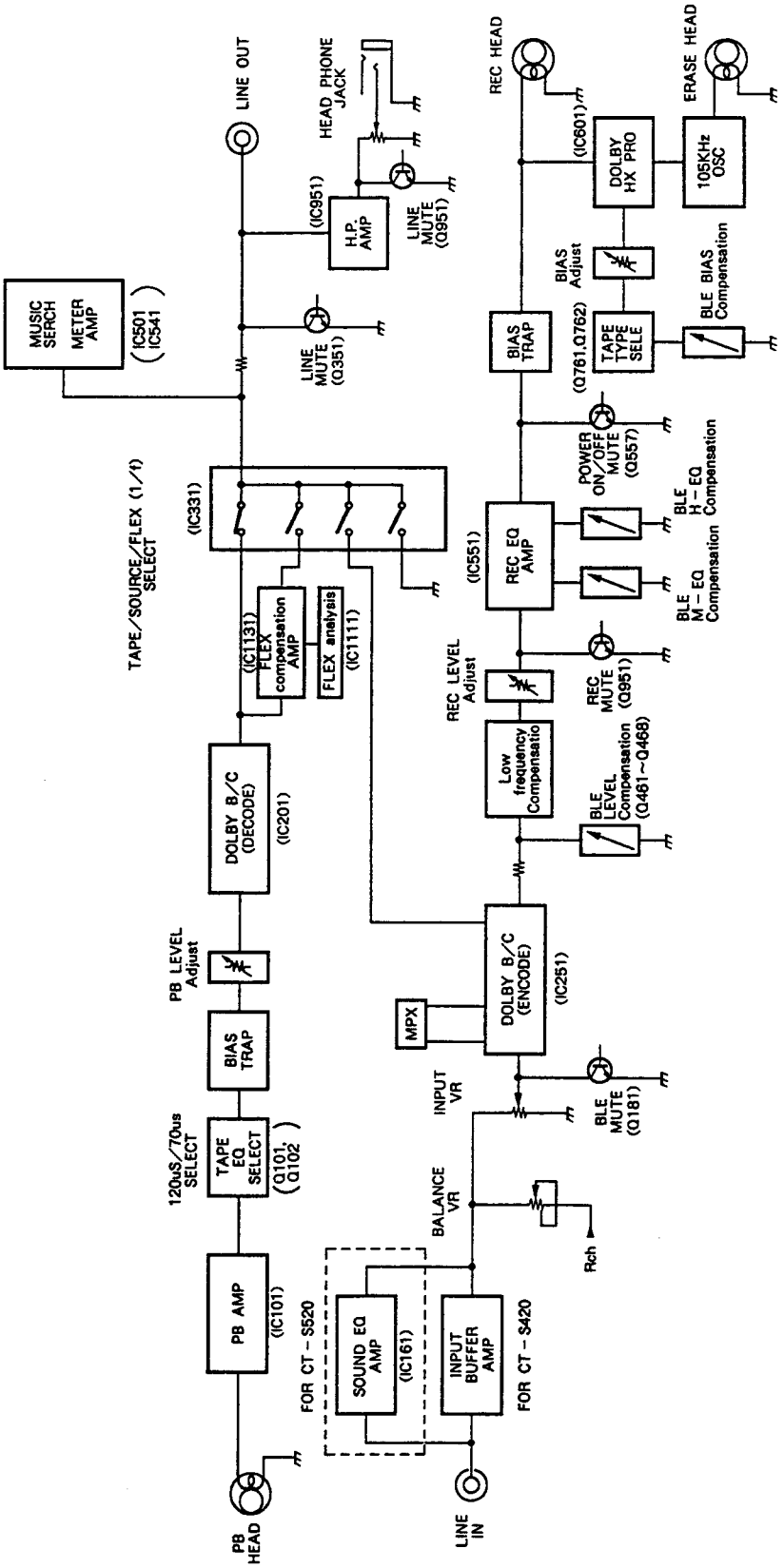

CT-S520 only
CT-S420 only
For HB type
NOTE: Screws adjacent to ▼ mark on the product are used for disassembly.

3.2 MECHANISM UNIT (RYM1203 and RYM1204)



This screw No. 44 is the part to hold the cam gear for servicing, when the hook holding the cam gear No. 24 is broken.

4. BLOCK DIAGRAM

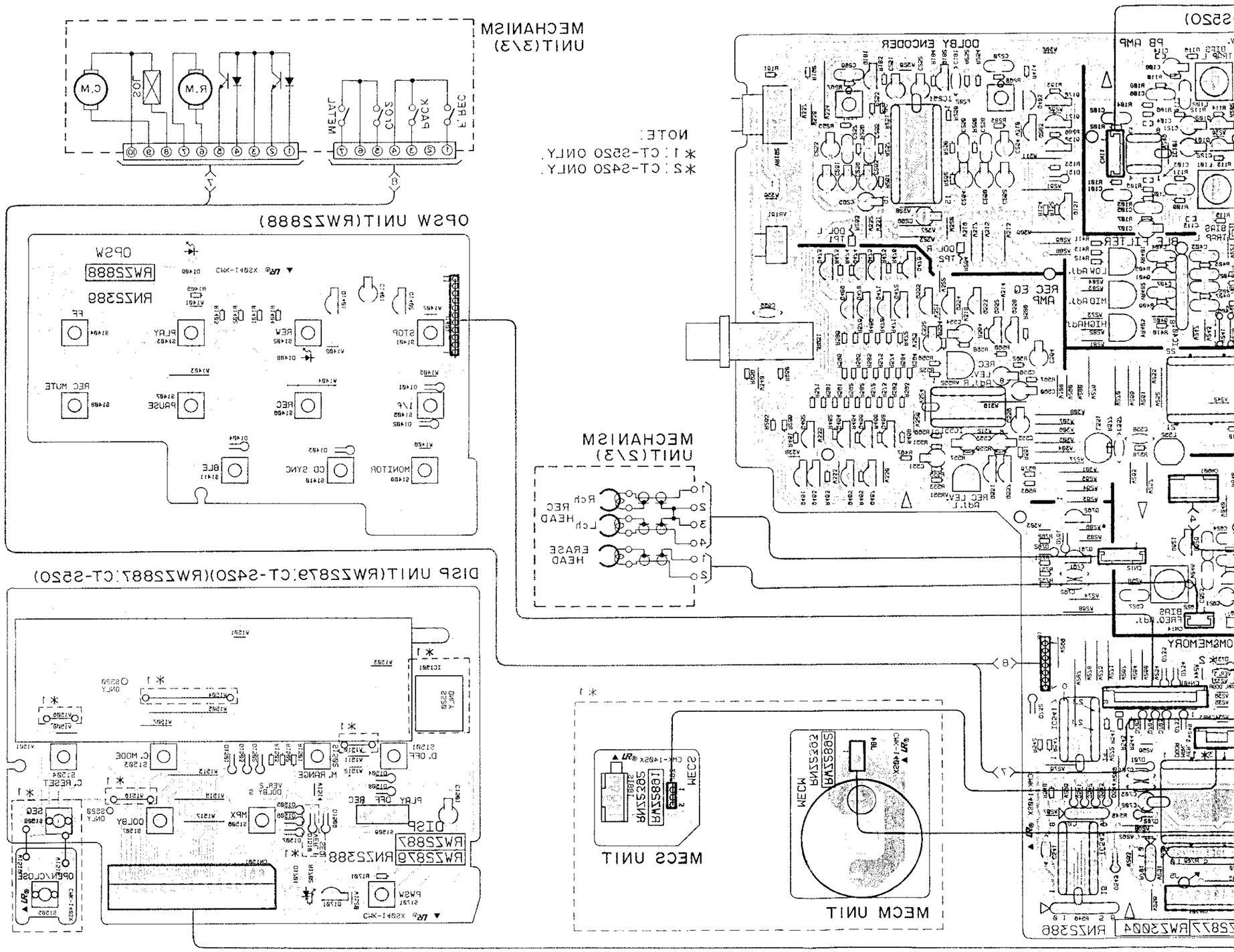


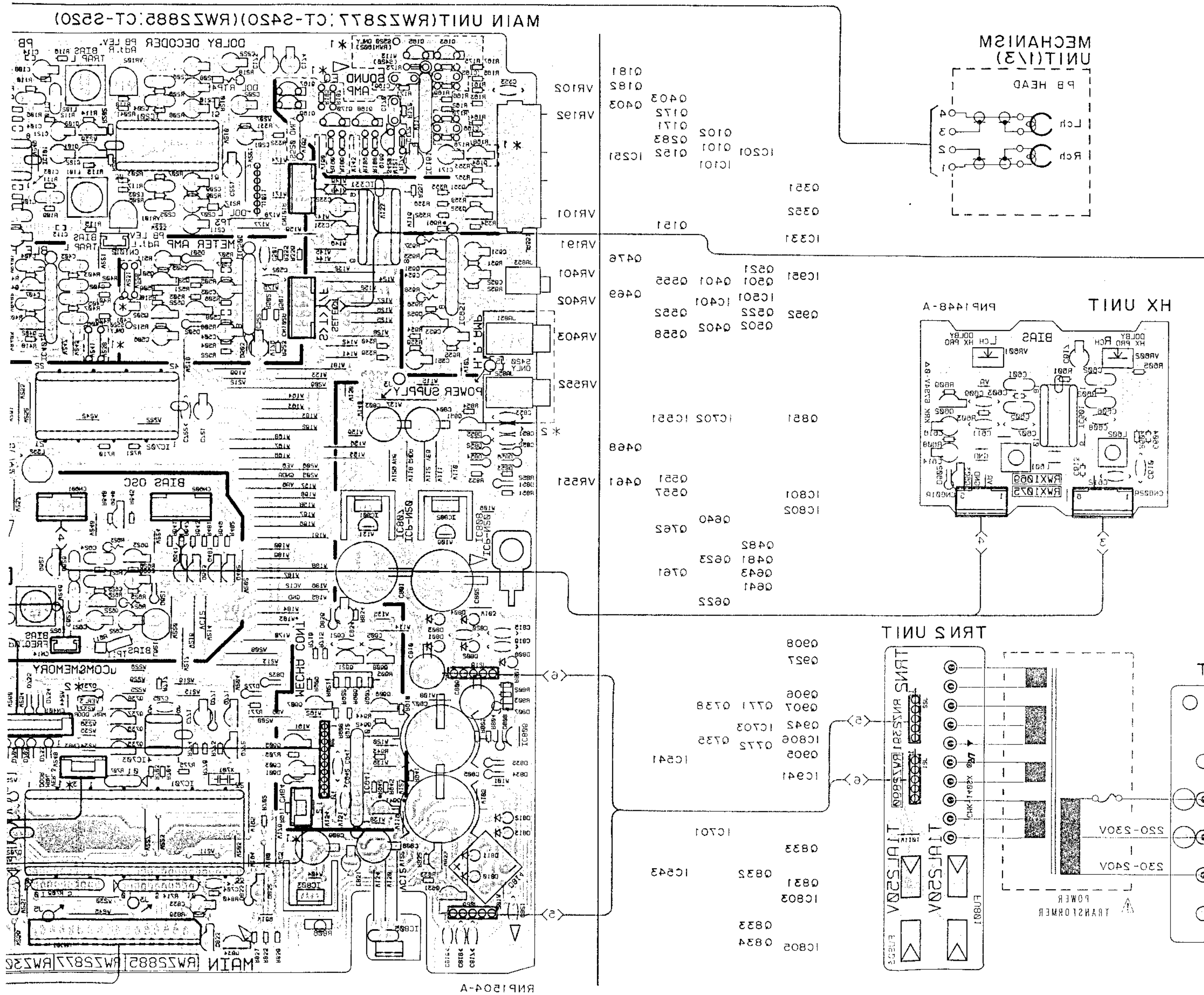
Parts List

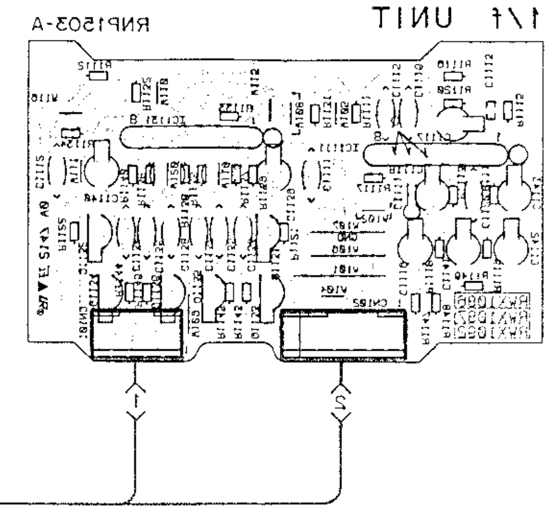
Mark	No.	Description	Part No.
	1	Fixed core	RLA1130
	2	Planger	RLA1132
	3	Head (R/P)	RPB1047
	4	Head (E)	RPB1040
	5	Push SW	RSG1018
	6	MTR reel BLK	RXM1057
	7	MTR main BLK	RXM1058
	8	Solenoid BLK	RXP1010
	9	Photo – transistor	SPI33534FG
	10	Main belt	REB1163
	11	Pinch roller ass'y	RXA1183
	12	F/W ass'y	RXA1346
	13	Washer	WA26D045D025
	14	Pan 2.6 × 6.4 ZN	RBA1076
	15	Washer	RBF – 057
	16	Reel base BLK	RXA1184
	17	Idler BLK	RXA1248
	18	·····	
	19	Washer	RBF1038
	20	Azimuth SP	RBH1076
	21	Head base SP	RBL1003
	22	Slide SP	RBH1239
	23	Play arm	RNK1525
	24	Cam gear (3R)	RNK1672
	25	·····	
	26	Lever SP (L) (EJECT)	RBH1262 (RYM1204 only)
	27	Eject prevention spring (L)	RBH1234 (RYM1204 only)
	28	Spring (CASSETTE)	RBK1048
	29	Lever collar B	RLA1146 (RYM1204 only)
	30	Detector lever (REC)	RNK1527
	31	Metal detector lever (L)	RNK1529
	32	Detector lever (P)	RNK1543 (RYM1204 only)
	33	·····	
	34	Screw	RBA1101
	35	Plate HD BLK	RXA1488
	36	Screw	PMA26P050FMC
	37	F lock screw	RBA1031
	38	Screw (7.7)	RBA1048 (RYM1204 only)
	39	Screw	RBA1078 (RYM1204 only)
	40	Washer	WA26D047D050
	41	Washer	YE15FUC
	42	Holder cushion (L)	RED1027
	43	F lock screw	RBA1102
	44	Screw	RBA1068
	45	PCB control BLK	RXA1556 (RYM1203 only) RXA1487 (RYM1204 only)
	46	Chassis base BLK	RXA1557
	47	Head base	RNE1390
	48	Head spacer	RNK1836
	49	Eject prevention arm (L)	RNE1199 (RYM1204 only)
	50	Lever (L) (EJECT)	RNK1593 (RYM1204 only)
	51	Screw	PMZ20P080FMC

5. PCB CONNECTION DIAGRAM

- View from soldering side







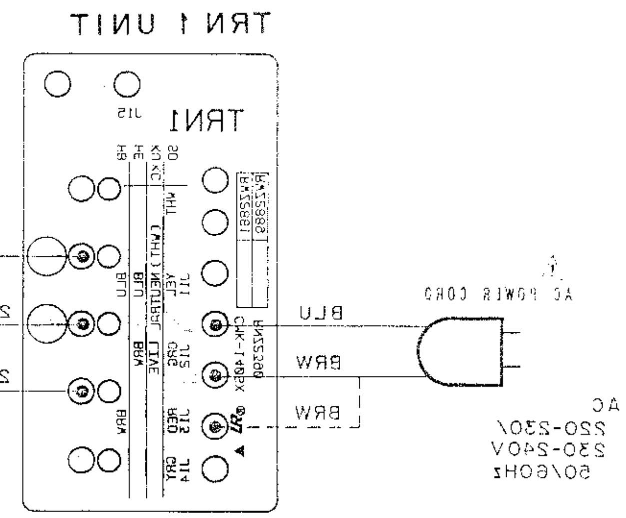
Line Voltage Selection

Line voltage can be changed with the following steps.
1. Disconnect the AC power cord.
2. Remove the Top cover
3. Change the position of the AC power cord as follows.

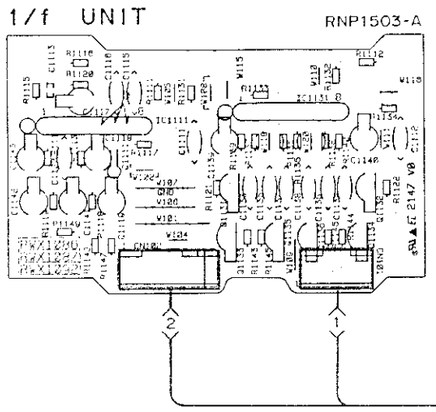
Voltage	Terminal No.of TRN 1 UNIT
220V-230V	J 1 2
230V-240V	J 1 3

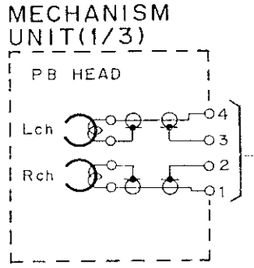
4. Stick the line voltage label on the rear panel.

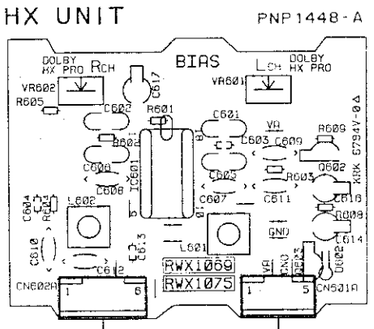
Parts No	Description
AAX-193	220 V label
AAX-192	240 V label

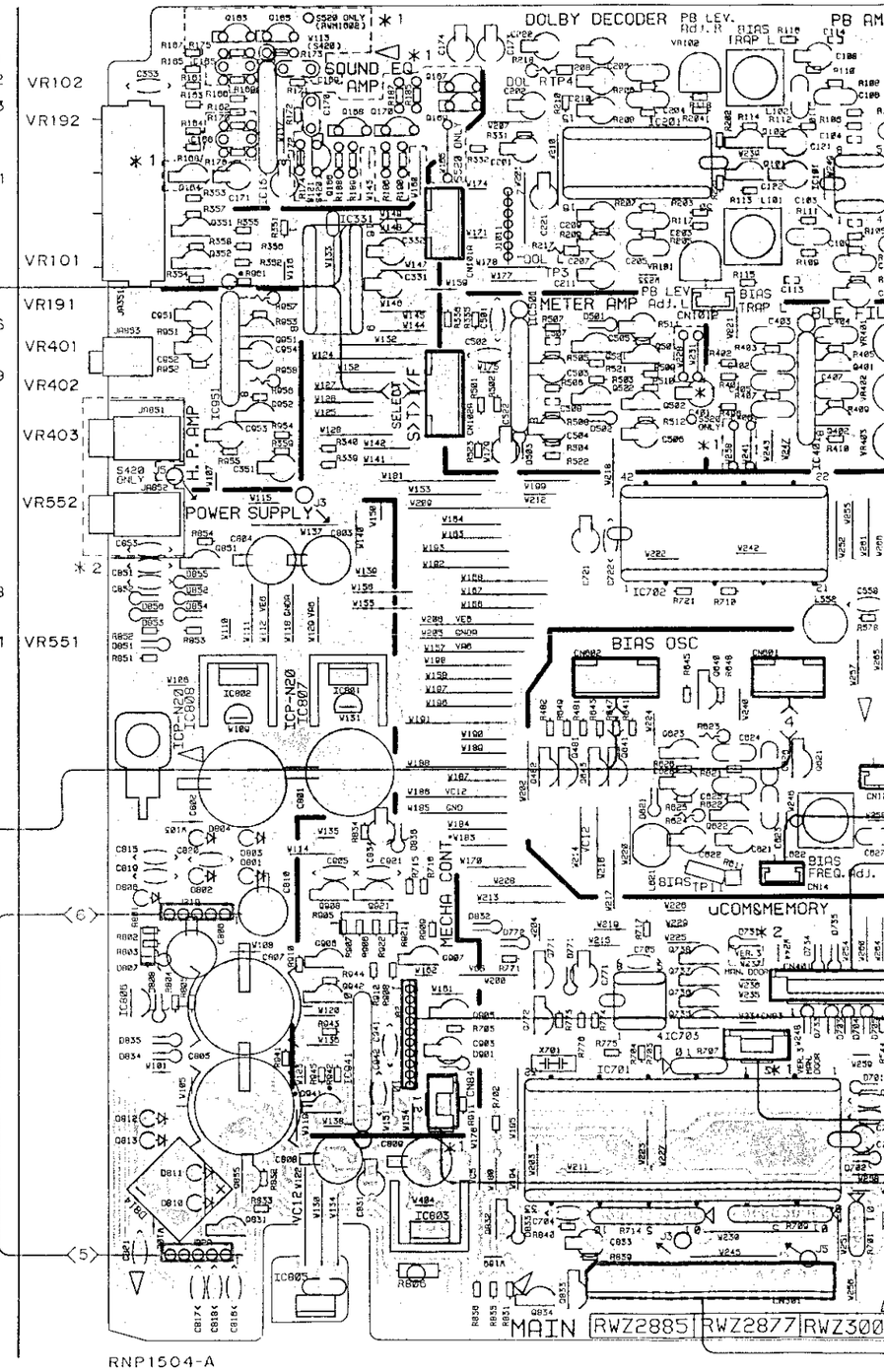


- View from component side









Line Voltage Selection

Line voltage can be changed with the following steps.
1. Disconnect the AC power cord.
2. Remove the Top cover
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Voltage	Terminal No. of TRN 1 UNIT
220V-230V	J 1 2
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Parts No	Description
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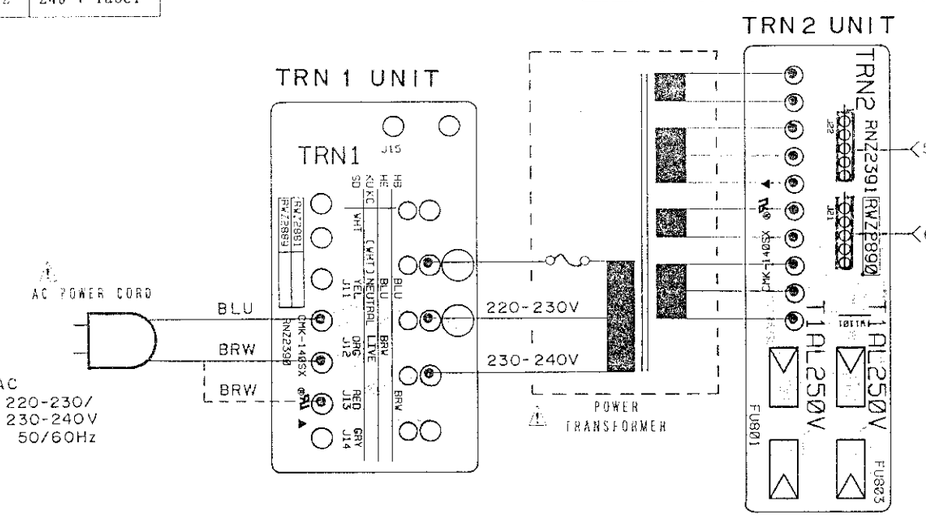
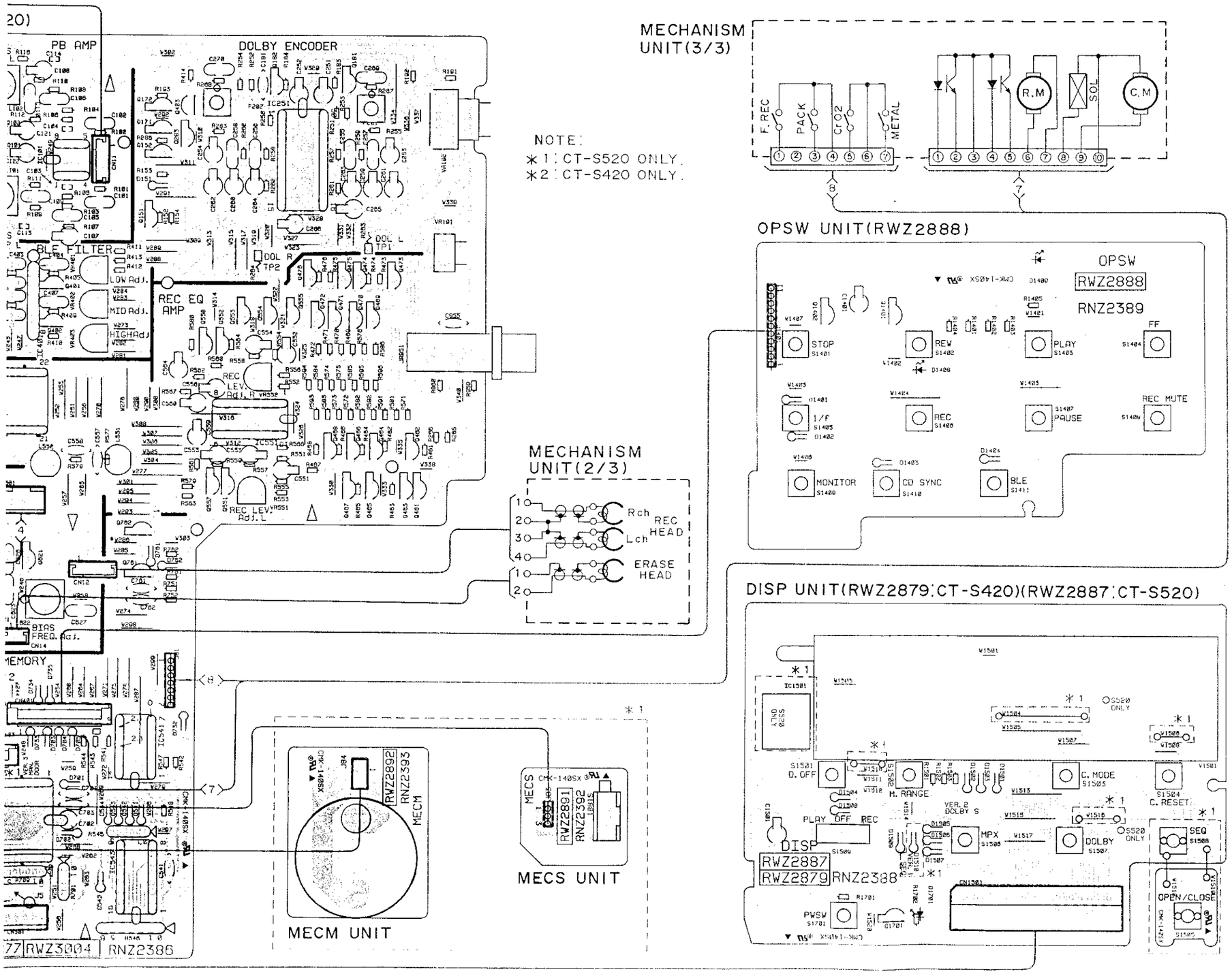
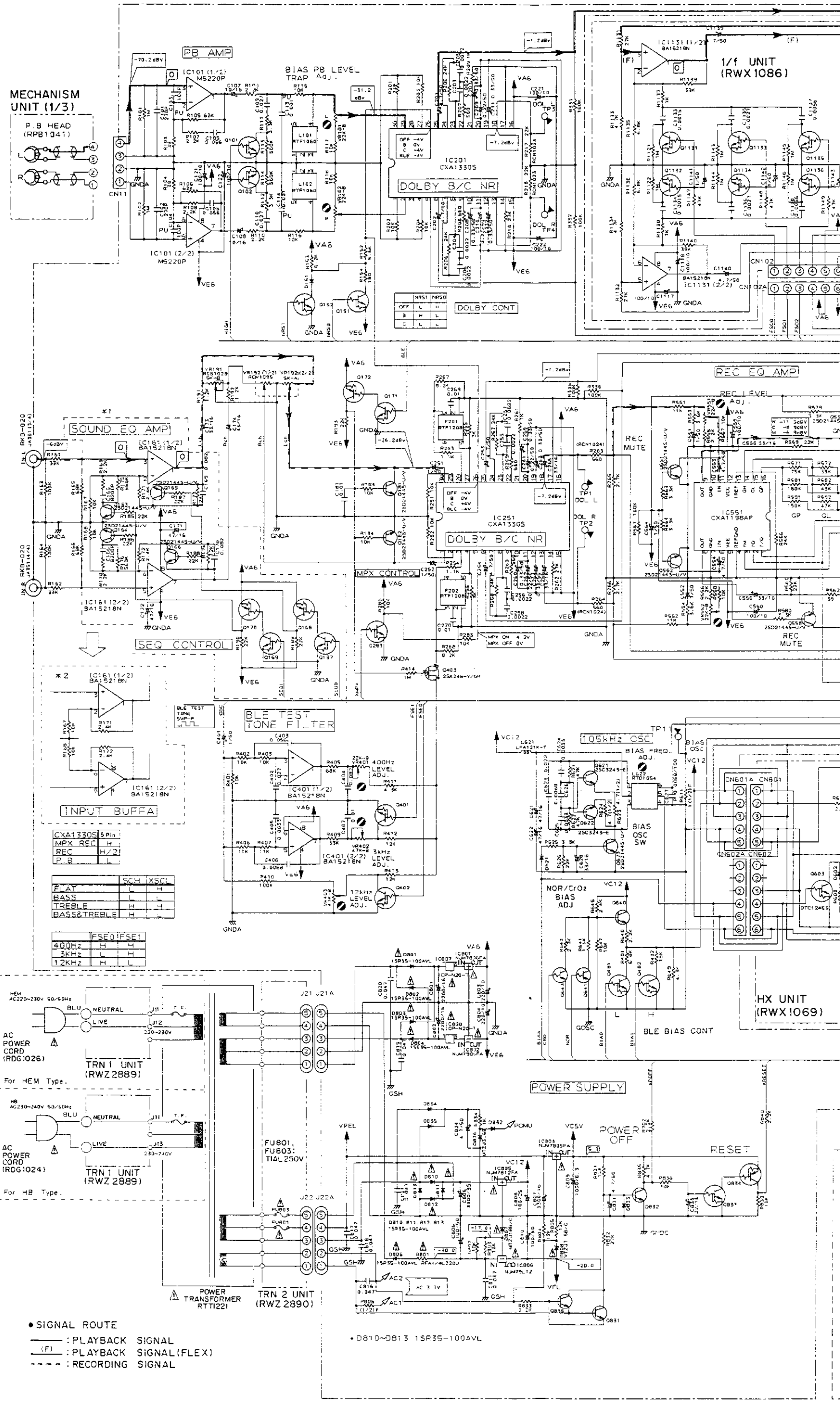




P.C.B. pattern diagram indication	Corresponding part symbol	Part name
		Transistor
		FET
		Diode
		Zener diode
		LED
		Varactor
		Tact switch
		Inductor
		Coil
		Transformer
		Filter
		Ceramic capacitor
		Mylar capacitor
		Styron capacitor
		Electrolytic capacitor (Non polarized)
		Electrolytic capacitor (Bi-polar)
		Electrolytic capacitor (Polarized)
		Electrolytic capacitor (Mini axial)
		Mylar capacitor
		Semi-fixed resistor
		Resistor array
		Resistor
		Resonator
		Thermistor

1 This P.C.B. connection diagram is viewed from the parts mounted side.
2 The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the above Table.
3 The capacitor terminal marked with [ ] shows negative terminal.
4 The diode marked with ▷ shows cathode side.
5 The transistor terminal marked with ( ) shows emitter.

6. SCHEMATIC DIAGRAM



IC201, IC251 (CXA1330S)

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0	16	6.0
2	0	17	0
3	0	18	0
4	0	19	−5.5
5	−6.0	20	−5.5
6	0	21	0
7	0	22	0
8	0	23	0
9	0	24	0
10	0	25	0
11	−5.5	26	0
12	−5.5	27	0
13	0	28	0
14	−4.7	29	0
15	−6.0	30	0

IC551 (CXA1198AP)

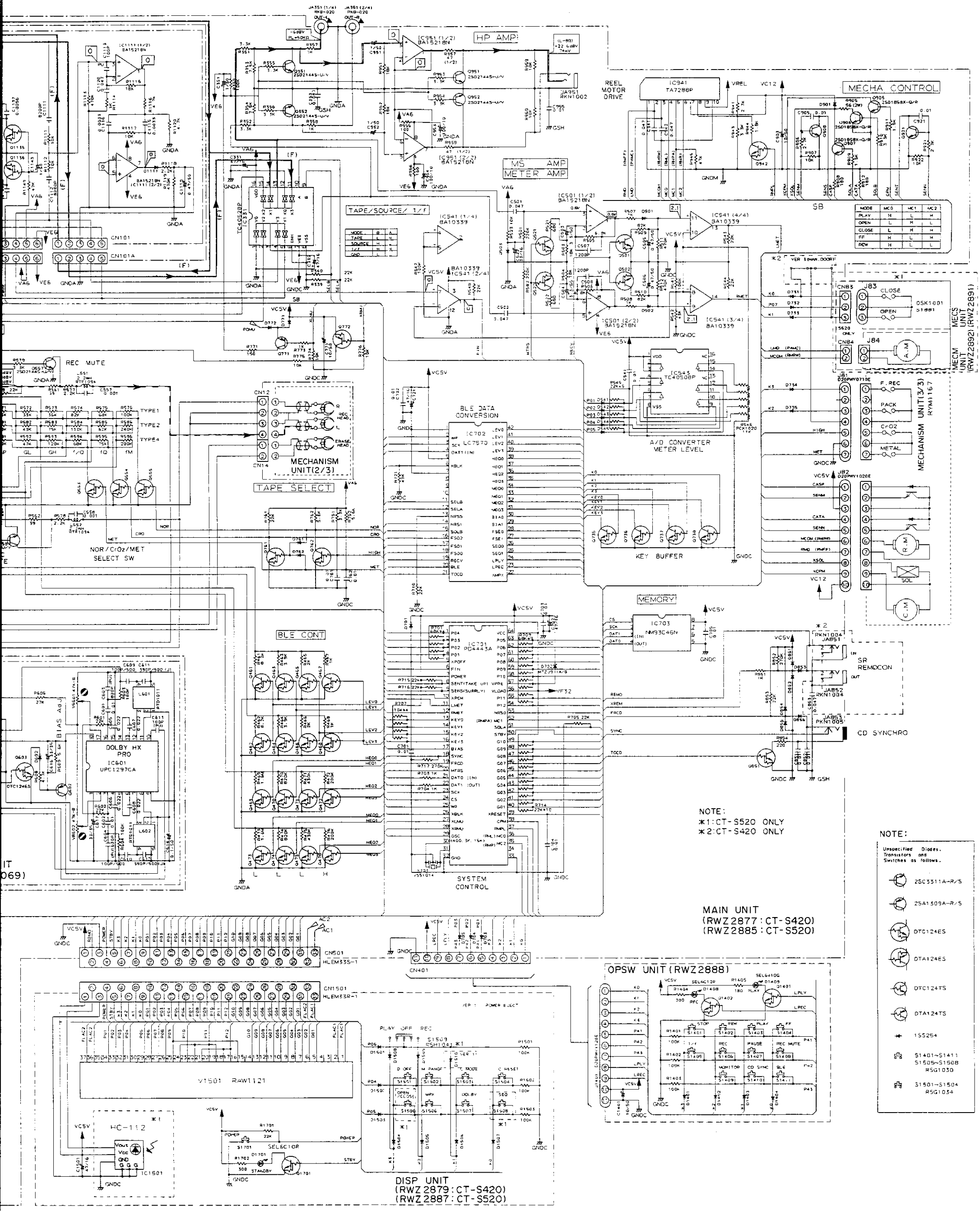
Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	1.3	9	0
2	1.3	10	0
3	1.3	11	0
4	0	12	6.0
5	−6.0	13	1.3
6	0	14	1.3
7	0	15	1.3
8	0	16	1.3

IC941 (TA7288P)

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0	6	0
2	0.5	7	12.0
3	0.5	8	6.6
4	0	9	12.7
5	0	10	0.5

IC601 (UPC1297CA)

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	4.4	10	1.7
2	0	11	0
3	4.4	12	0
4	0.6	13	0
5	0	14	0
6	0	15	0.6
7	0	16	4.4
8	0	17	0
9	0	18	12.0


HP AMP
MS AMP
METER AMP
TAPE/SOURCE/ I/F
REEL MOTOR DRIVE
MECHA CONTROL
SB
REC MUTE
TYPE1
TYPE2
TYPE4
MECHANISM UNIT(2/3)
TAPE SELECT
NOR / CrO2 / MET SELECT SW
BLE CONT
BIAS Adj
DOLBY HX PRO
IC601 UPC1297CA
BLE DATA CONVERSION
IC702 LC7570
A/D CONVERTER METER LEVEL
KEY BUFFER
SYSTEM CONTROL
MEMORY
IC703 NM93C46N
SR REMOCON
CD SYNCHRO
MECS UNIT (RWZ2892) (RWZ2891)
MECHANISM UNIT(3/3) RYM1167
MAIN UNIT
(RWZ2877 : CT-S420)
(RWZ2885 : CT-S520)
OPSW UNIT (RWZ2888)
DISP UNIT
(RWZ2879 : CT-S420)
(RWZ2887 : CT-S520)
V1501 RAW1121
IC1501 HC-112
NOTE:
*1 : CT-S520 ONLY
*2 : CT-S420 ONLY
NOTE:
Unspecified Diodes, Transistors and Switches as follows.
2SC3311A-R/S
2SA1509A-R/S
DTC124ES
DTA124ES
DTC124TS
DTA124TS
1SS254
S1401~S1411 S1505~S1508 RSG1030
S1501~S1504 RSG1034

7. 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.
- 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 → 56 × 10¹ → 561 ····· RD1/8PM 5 6 1 J
47k Ω → 47 × 10³ → 473 ····· RD1/4PS 4 7 3 J
0.5 Ω → 0R5 ····· RN2H 0 R 5 K
1 Ω → 010 ····· RS1P 0 1 0 K

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

5.62k Ω → 562 × 10¹ → 5621 ····· RN1/4PC 5 6 2 1 F

Mark	No.	Description	Part No.

LIST OF ASSEMBLIES

• CT-S520

NSP	MOTHER UNIT	RWM1602
	├MAIN UNIT	RWZ2885
⊙	│ ├HX UNIT	RWX1069
	│ └1/f UNIT	RWX1086
	├DISP UNIT	RWZ2887
NSP	├OPSW UNIT	RWZ2888
NSP	├TRN 2 UNIT	RWZ2890
NSP	├MECS UNIT	RWZ2891
NSP	└MECM UNIT	RWZ2892

• CT-S420

NSP	MOTHER UNIT	RWM1612
	├MAIN UNIT	RWZ2877
⊙	│ ├HX UNIT	RWX1069
	│ └1/f UNIT	RWX1086
	├DISP UNIT	RWZ2879
NSP	├OPSW UNIT	RWZ2888
NSP	└TRN 2 UNIT	RWZ2890

MAIN UNIT (For CT-S520)

SEMICONDUCTORS

	IC541	BA10339
	IC161, IC401, IC501, IC951	BA15218N
	IC551	CXA1198AP
	IC201, IC251	CXA1330S
⚠	IC807, IC808	ICP-N20
	IC702	LC7570
	IC101	M5220P
⚠	IC803	NJM7805FA
⚠	IC801	NJM7806FA
⚠	IC805	NJM7812FA
⚠	IC802	NJM7906FA
⚠	IC806	NJM79L12A
	IC703	NM93C46N
	IC701	PD4443A
	IC941	TA7288P
	IC543	TC4050BP
	IC331	TC4052BP
	Q771	2SA1309A
	Q621, Q622	2SC3243
	Q640, Q831, Q832, Q835, Q908, Q921	2SC3311A
	Q905-Q907	2SD1858X
	Q163-Q166, Q181, Q182, Q351, Q352, Q551, Q552, Q557, Q558, Q623, Q951, Q952	2SD2144S
	Q403	2SK246
	Q168, Q170, Q172, Q772, Q834	DTA124ES
	Q101, Q102, Q151, Q152, Q167, Q169, Q171, Q283, Q401, Q402, Q461-Q476, Q481, Q482, Q501, Q502, Q521, Q522, Q553-Q555, Q735-Q738, Q761, Q762, Q833, Q851, Q942	DTC124ES
	Q641, Q643	DTC124TS
⚠	D801-D804, D806, D810-D813	1SR35-100AVL
	D151, D501-D503, D541-D545, D621, D701, D703-D705, D731-D735, D761, D762, D771, D772, D832-D835, D851-D856, D901,	1SS254
⚠	D807	MTZJ18B
⚠	D836	MTZJ3.6B
⚠	D808	MTZJ7.5B
	D702	MTZJ9.1A

COILS AND FILTERS

	L621	LFA121K
	L622	RTD1054
	L101, L102	RTF1060
	L551, L552	RTF1094
	F201, F202	RTF1208

CAPACITORS

	C351, C401, C551, C552, C564	CEAS010M50
	C771, C903	CEAS100M50
	C121, C122, C221, C222, C559, C560, C953, C954	CEAS101M10
	C808	CEAS101M2S
	C806, C810	CEAS101M50
	C809	CEAS102M6R3
	C833	CEAS220M16
	C628	CEAS330M16
	C807	CEAS332M16
	C805	CEAS332M25
	C503, C504	CEAS3R3M50
	C171, C172, C331, C332, C522, C621, C622, C702, C721	CEAS470M16
	C831, C834	CEAS4R7M50
	C209, C210, C261, C262	CEASR22M50
	C207, C208, C211, C212, C259, C260, C263, C264	CEASR33M50
	C505, C506	CEASR47M50
	C803, C804	CENA221M10
	C801, C802	CENA222M16
	C269, C270, C407	CFTXA103J50
	C203-C206, C255-C258	CFTXA222J50
	C405, C624, C625	CFTXA332J50
	C403	CFTXA563J50
	C406, C626	CFTXA682J50
	C165, C166	CFTXA822J50
	C623	CFTYA223J50
	C109, C110, C402	CFTYA273J50
	C105, C106	CFTYA563J50
	C169, C170, C404	CFTYA823J50
	C501, C502	CGCYX473K25
	C557, C558	CKCYB102K50
	C507, C508	CKCYB122K50
	C181, C541, C701, C703-C705, C722, C761, C762, C851, C852, C905, C921, C955	CKCYF103Z50
	C353, C815-C821, C941, C942	CKCYF473Z50
	C103, C104	CKPUYB101K50
	C113, C114	CKPUYB102K50
	C101, C102	CQPA271J100
	C627	CQPA682J100

MAIN UNIT (For CT-S420)

RWZ2877 (for CT-S420) and RWZ2885 (for CT-S5
for the following:

Mark	Symbol & Description	
		RV
	Q163 – Q166	2S
	Q167, Q169	DT
	Q168, Q170	DT
	C165, C166	CFT
	C169, C170	CFT
	C853	
	R169, R170	RD1
	R173, R174	RD1
	R175, R176	RD1
	R185 – R190	RD1
	JA851, JA852	

(For SCHEMATIC DIAGRAM)

Note: (Type 6)

1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or μF unless otherwise noted.
   Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.
   Rated voltage: 50V except for electrolytic capacitors.
5. **COILS:**
   Unit: m:mH or μH unless otherwise noted.
6. **VOLTAGE AND CURRENT:**
   ⎓ : DC voltage (V) in STOP mode unless otherwise noted.
   ⇦ mA or ⇨ mA: DC current in STOP mode unless otherwise noted.
7. **OTHERS:**
   - ➡ : Signal route.
   - ⊘ : Adjusting point.
   - ▼ (Red) : Measurement point.
   - The ⚠ 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.
8. **SWITCHES** (Underline indicates switch position):

OPSW UNIT
S1401 : ■
S1402 : ◀◀
S1403 : ▶
S1404 : ▶▶
S1405 : FLEX (ℓ/f)
S1406 : REC
S1407 : ▮▮
S1408 : REC MUTE
S1409 : MONITOR
S1410 : CD SYNCHRO
S1411 : AUTO BLE

DISP UNIT
S1501 : DISP OFF
S1502 : METER RANGE
S1503 : COUNTER MODE
S1504 : COUNTER RESET
S1505 : OPEN/CLOSE
S1506 : MPX FILTER
S1507 : DOLBY NR OFF/B/C
S1508 : SOUND EQ
S1509 : TIMER (REC – <u>OFF</u> – PLAY)

S1701 : POWER

CT-S520) have the same construction except

Part No.		Remarks
RWZ2885	RWZ2877	
2SD2144S	.....	
DTC124ES	.....	
DTA124ES	.....	
CFTXA822J50	.....	
CFTYA823J50	.....	
.....	CKCYF473Z50	
RD1/6PM222J	.....	
RD1/6PM123J	.....	
RD1/6PM564J	.....	
RD1/6PM223J	.....	
.....	RKN1004	

Mark	No.	Description	Part No.
	C251, C252, C951, C952 (C=1, V(DC)=50)		RCH1079
	C107, C108 (C=10, V(DC)=50)		RCH1080
	C201, C202, C253, C254, C553, C554		RCH1090
	(4.7, V(DC)=50)		
	C173, C174, C265, C266, C555, C556		RCH1091
	(C=33, V(DC)=16)		
	RESISTORS		
	R714 (22K)		RA10T223J
	R707 (10K)		RA4T103J
	R701 (68K)		RA4T683J
	R545 (22K)		RA5T223J
	R709 (68K)		RA9T683J
	R623, R624 (4.7Ω)		RCN1022
	R217, R218 (22K)		RCN1023
	R263, R264 (560Ω)		RCN1024
	R957, R958 (47Ω)		RCN1054
	R546 (11K/22K)		RCX1020
	R611, R806		RD1/2LF0103J
⚠	R801 (22Ω)		RFA1/4L220J
	R905 (56Ω)		RS2LMF560J
	VR101, VR102, VR401, VR551, VR552		RCP1046
	(22K)		
	VR402, VR403 (47K)		RCP1047
	R=47K, B= 0.1, MAKER=		
	VR191 (BALANCE VR)		RCS1028
	VR192 REC VR)		RCV1095
	OTHER RESISTORS		RD1/6PM□□□J
	OTHERS		
	CN501 CONNECTOR(33P)		HLEM33S-1
	JA853 MINI JACK		PRN1005
	JA351 PIN JACK(4P)		RKB-020
	JA951 HEADPHONE JACK		RKN1002
	X701 CERAMIC RESONATOR (4.19MHz)		VSS1014

Mark	No.	Description	Part No.
		HX UNIT	
		SEMICONDUCTORS	
	IC601		UPC1297CA
	Q602		2SA1309A
	Q603		DTC124ES
	D602		1SS254
		COILS	
	L601, L602 (L=4.6MHz, Q=75, F=105KHz)		RTD1011
		CAPACITORS	
	C609, C610		CCCSL101K500
	C616, C617		CEAS330M35
	C614		CEASR10M50
	C601, C602		CFTXA103J50
	C605, C606		CFTXA223J50
	C607, C608		CGCYX223K25
	C613		CKPUYB101K50
	C603, C604		CKPUYB821K50
	C611, C612 (C=390P, V(DC)=500)		RCG1004
		RESISTORS	
	VR601, VR602		VRTB6HS473
	OTHER RESISTORS		RD1/6PM□□□J
		1/f UNIT	
		SEMICONDUCTORS	
	IC1111, IC1131		BA1521BN
	Q1131-Q1136		DTC124ES
	D1111		1SS254
		CAPACITORS	
	C1141-C1143		CEAS010M50
	C1117, C1118		CEAS1D1M10
	C1139, C1140		CEASR47M50
	C1119		CEASR47M50
	C1133, C1134		CGCYX152K25
	C1135, C1136		CGCYX272K25
	C1115, C1116		CGCYX332K25
	C1120		CGCYX473K25
	C1137, C1138		CGCYX562K25
	C1111, C1112		CGCYX822K25
	C1113		CKPUYB101K50
		RESISTORS	
	ALL RESISTORS		RD1/6PM□□□J
		DISP UNIT (For CT-S520 and CT-S420)	
		SEMICONDUCTORS	
	Q1701		DTC124ES
	D1501-D1509		1SS254
	D1510(CT-S520 only)		1SS254
	D1701		SEL6C10R
		SWITCHES	
	S1505, S1508(CT-S520 only)		RSG1030
	S1506, 1507, S1701		RSG1030
	S1501-S1504		RSG1034
	S1509		RSH1041

Mark	No.	Description	Part No.
		CAPACITORS	
	C1501		CEAS470M16
		RESISTORS	
	ALL RESISTORS		RD1/6PM□□□J
		OTHERS	
	CN1501 CONNECTOR (33P)		HLEM33R-1
	V1501 FL INDICATOR TUBE		RAM1121
	REMOTE CONTROL SENSOR (CT-S520 only)		HC-112
		OPSW UNIT	
		SEMICONDUCTORS	
	Q1401, Q1402		DTC124ES
	D1401-D1404		1SS254
	D1409		SEL6410G
	D1408		SEL6C10R
		SWITCHES	
	S1401-S1411		RSC1030
		CAPACITORS	
	C1401		CEAS100M50
		RESISTORS	
	ALL RESISTORS		RD1/6PM□□□J
		TRN 2 UNIT	
	TRN 2 unit has no service part.		
		MECS UNIT	
		SWITCHES	
	S1881		VSK1011
		MECM UNIT	
	MECM unit has no service part.		

(For SCHEMATIC DIAGRAM)

Note: (Type 6)

1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or μF unless otherwise noted.
   Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.
   Rated voltage: 50V except for electrolytic capacitors.
5. **COILS:**
   Unit: m:mH or μH unless otherwise noted.
6. **VOLTAGE AND CURRENT:**
   ⌐¬ : DC voltage (V) in STOP mode unless otherwise noted.
   ⇦ mA or ⊢ mA: DC current in STOP mode unless otherwise noted.
7. **OTHERS:**
   - ➡ : Signal route.
   - ⊘ : Adjusting point.
   - ▼ (Red) : Measurement point.
   - The ⚠ 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.
8. **SWITCHES** (Underline indicates switch position):

OPSW UNIT
S1401 : ■
S1402 : ◀◀
S1403 : ▶
S1404 : ▶▶
S1405 : FLEX (1/f)
S1406 : REC
S1407 : ❚❚
S1408 : REC MUTE
S1409 : MONITOR
S1410 : CD SYNCHRO
S1411 : AUTO BLE

DISP UNIT
S1501 : DISP OFF
S1502 : METER RANGE
S1503 : COUNTER MODE
S1504 : COUNTER RESET
S1505 : OPEN/CLOSE
S1506 : MPX FILTER
S1507 : DOLBY NR OFF/B/C
S1508 : SOUND EQ
S1509 : TIMER (REC – OFF – PLAY)

S1701 : POWER

8. ADJUSTMENTS

8.1 MECHANICAL ADJUSTMENT

1. Tape Speed Adjustment			
Mode	Test tape	Adjustment position	Specification rating (playback frequency)
PLAY	Play the STD-301 tape (3kHz)	Tape speed adjustment hole	3000Hz ± 5Hz

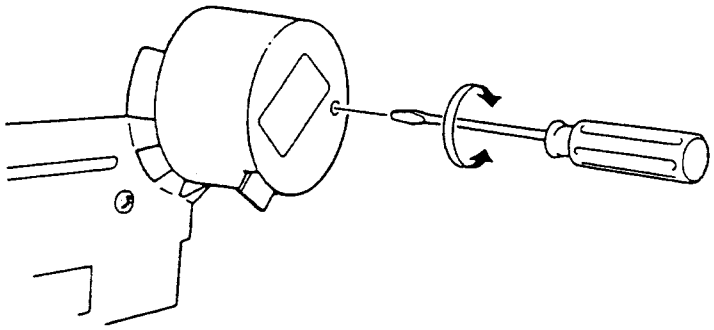


Fig. 8–1 Tape speed adjustment

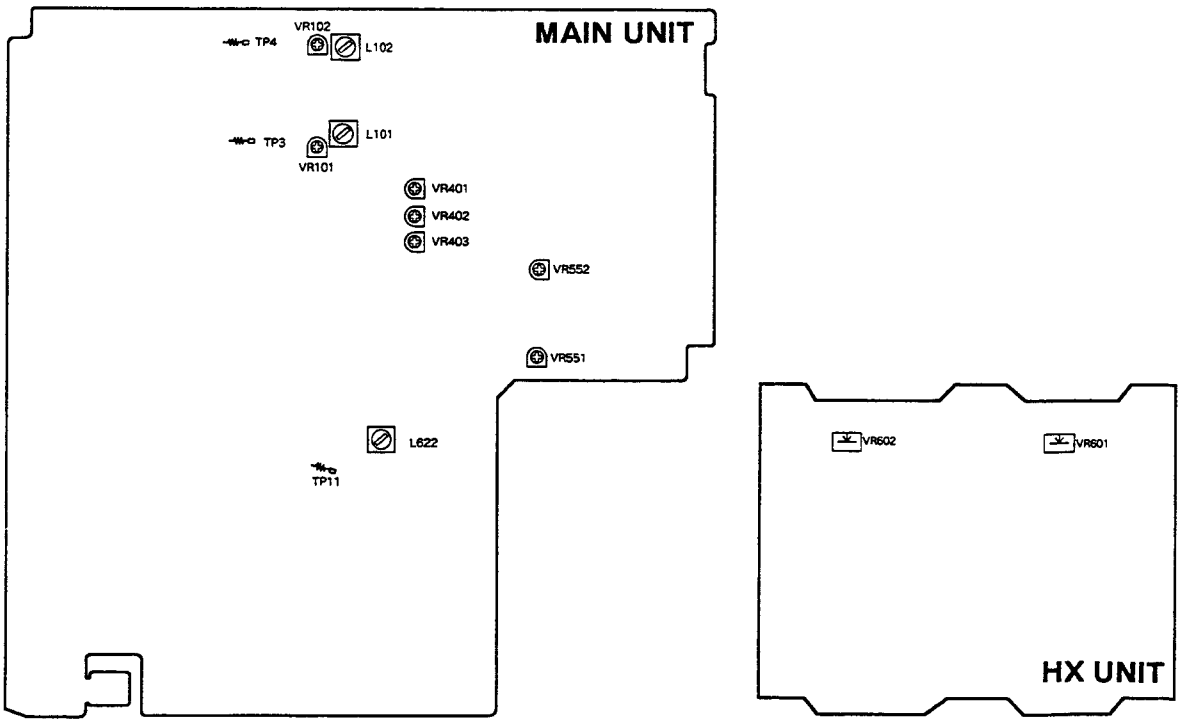


Fig. 8–2 Adjusting points

8.2 ELECTRICAL ADJUSTMENTS

Adjustment Conditions

1. The mechanical adjustments must be completed first.
2. The head must be cleaned and demagnetized.
3. Turn 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 50 kΩ (or between 47k to 52 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 Tapes

STD–331E : Playback adjustments (See Fig. 8–3)
STD–631 : NORMAL blank tape
STD–621 : CrO_2 blank tape
STD–610 : 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 (160 nwb/m). When adjusting, pay carefull attention to the type of tape used.

List of Adjustments

Playback sections

1. Head azimuth adjustment.
2. Playback level adjustment.

Recording sections

1. Bias oscillator adjustment.
2. Bias trap adjustment.
3. Recording bias adjustment.
4. Recording level adjustment.
5. AUTO BLE adjustment

NOTE: This unit has an automatic tape selection feature.

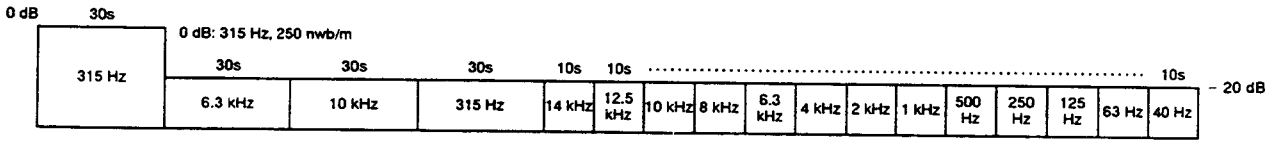


Fig. 8–3 Constants of the test tape STD–331E

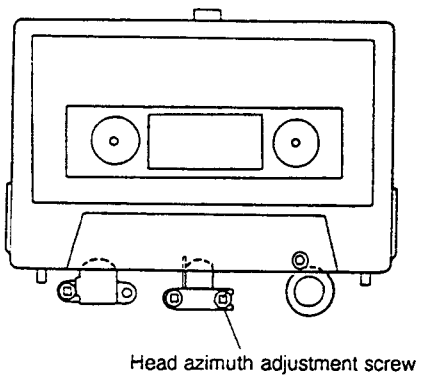


Fig. 8–4 Head azimuth adjustment

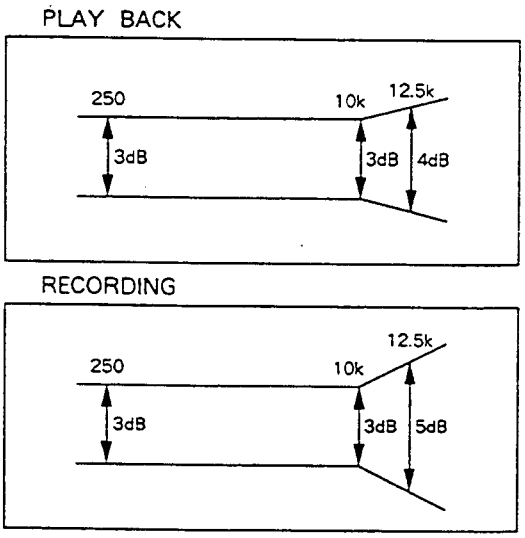


Fig. 8–5 Frequency response zone

PLAYBACK SECTION

1. Head Azimuth Adjustment

- Turn VR101, 102 to mechanical center positions.

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	PLAY	Play the 10 kHz/–20 dB section of STD–331E test tape.	Head azimuth adjustment screw. (See Fig. 8–4)	LINE OUT	Maximum playback signal level.	
2.	STOP	Lock the screw with screw lock after completing adjustment.				

2. Playback Level Adjustment

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

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	PLAY	Play the 315 Hz/0 dB section of the STD–331E test tape.	Deck	VR101 (Lch) VR102 (Rch)	TP. 3 (Lch) TP. 4 (Rch)	–6.7 dBV	This adjustment must be performed accurately for proper Dolby lever setting.

RECORDING SECTION

1. Bias Oscillator Adjustment

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	REC	Load the STD–610 test tape with no input signal.	Deck	L622	TP. 11	105 kHz ± 0.3 kHz	

2. Bias Trap Adjustment

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	REC	Load the STD–610 test tape with no input signal.	Deck	L101 (Lch) L102 (Rch)	LINE OUT	Minimum output	

3. 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 location		Measuring location	Adjustment value	Remarks
1.	REC/ PAUSE	Apply a 315 Hz and 10 kHz signal to the line input terminals, load the STD-631 test tape.	REC level control volume		LINE OUT	– 26 dBV	
2.	REC	Record the above signal onto the STD-631 test tape, and playback	Deck	VR601 (Lch) VR602 (Rch)		Repeatedly record, playback and adjust so that the playback level of 10 kHz signal becomes 0 dB ± 0.5 dB when compared with the 315 Hz signal.	

4. Recording Level Adjustment

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	REC/ PAUSE	Apply a 315 Hz signal to the line input terminals, load the STD-631 test tape.	REC level control volume		LINE OUT	-10.0 dBV	
2.	REC/ PLAY	Record the above signal onto the STD-631 test tape, and playback.	Deck	VR551 (Lch) VR552 (Rch)	TP. 3 (Lch) TP. 4 (Rch)	Repeatedly record, playback and adjust so that the playback signal level becomes -11.2 dBV.	
3.	REC/ PLAY	Record the above signal onto the STD-621 test tape, and playback.	Check		TP. 3 (Lch) TP. 4 (Rch)	-11.2 dBV ± 1.5 dB	
4.	REC/ PLAY	Record the above signal onto the STD-610 test tape, and playback.	Check		TP. 3 (Lch) TP. 4 (Rch)	-11.2 dBV ± 1.5 dB	

5. AUTO BLE Adjustment

- BLE adjustment should be performed after all other adjustments are completed.
- This adjustment should be performed in the test mode.
- Entering the Test Mode.
  Turn on the power, and after more than 4 seconds, press the "COUNTER RESET" button, "COUNTER MODE" button and ▮▮ (PAUSE) button simultaneously.
- Releasing the Test Mode.
  Press the "COUNTER RESET" button.

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	-	Set to test mode.	-	-	-	
2.		Press the AUTO BLE key on the front panel.	VR401	Level meter Rch	Adjust the Lch segment which is lit until Rch is not lighting up. → Lch ■□ Rch ■■□■■ (■: light up □: not light up)	400 Hz adjustment (FL indication 1)
3.		Press the AUTO BLE key on the front panel.	VR402			3 kHz adjustment (FL indication 2)
4.		Press the AUTO BLE key on the front panel.	VR403			15 kHz adjustment (FL indication 3)

9. IC INFORMATION

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

1. PD4443A (IC701)
System Control (CPU)

● Pin Function

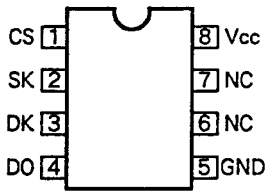
Pin No.	Pin Name	Functions
1	P04	FL segment output (*1) A/D 5-bit level scan output (*2) Key scan output (*3)
2	P03	
3	P02	
4	P01	
5	XPOFF	POWER OFF detection ⅂ (L: EDGE)
6	FIN	Level scan input for the 1/f high frequency level
7	POWER	POWER KEY input detection ⅂ (L: EDGE)
8	SENT	TAKE-UP side reel sense input. For the auto stop electronic counter
9	SENS	Supply side reel sense input. For measuring the remain counter.
10	XREM	Remote control unit input
11	LMET	Lch level scan input
12	RMET	Rch level scan input
13	KEY0	4-bit key scan input (L: EDGE)
14	KEY1	
15	KEY2	
16	KEY3	
17	BIAS	Bias oscillation drive. H: ON
18	SYNC	CD-SYNCHRO code in detection. L: IN
19	FRCD	CONT to CD (for CD-SYNCHRO) INPUT
20	MTRS	Meter amplifier gain selection.
21	DAT0	Data input from the memory IC (NM93C46N).
22	DAT1	Data output to NM93C46N and LC7570.
23	SCK	Clock for communicating with NM93C46N and LC7570
24	CS	Chip select for communicating with NM93C46N
25	WR	Data latch for communicating with LC7570
26	XBLK	L CONT of all outputs of LC7570
27	XLMU	LINE MUTE. L: ON
28	XRMU	REC MUTE. L: ON
29	OSC	TEST signal output for the auto BLE (400 Hz, 3 kHz, 15 kHz)
30	—	Clock input for the CPU (4.19 MHz)
31	—	
32	GND	To GNDC

Pin No.	Pin Name	Function
33	—	To GNDC
34	—	Non connection
35	MC2	Motor CONTs for the door and reel
36	MC0	
37	RMPL	Reel motor PLAY torque selection. H: ON
38	CPM	Mechanism capstan motor driving. H: ON
39	XRESET	For resetting the CPU. L: Resetting
40	G01	Output for the FL grid
41	G02	
42	G03	
43	G04	
44	G05	
45	G06	
46	G07	
47	G08	
48	G09	
49	G10	
50	STBY	LED driving for the POWER STANDBY. H: ON
51	SDLA	Solenoid driving for the mechanism. H: ON
52	MC1	Motor CONTs for the door and reel
53	NRS0	1 bit of the 2-bit Dolby NR selection
54	P12	FL segment (*1)
55	P11	
56	VLOAD	For FL. VF
57	VPRE	CPU internal FL output buffer power supply (Approx. –4V)
58	P10	FL segmerit output (*1)
59	P09	
60	P08	FL segment output (*1) Key scan output (*3)
61	P07	
62	P06	
63	P05	FL segment output (*1) Level scan (*2) Key scan output (*3)
64	Vcc	To Vcc +5V

*1: To the FL
*2: To the anodes D541 to D545
*3: To each key and SW

2. NM93C46N (IC703)
Memory

● Pin Assignment



Top View

● Pin Function

Pin No.	Pin Name	Functions
1	CS	Chip Select
2	SK	Serial Data Clock
3	DI	Serial Data Input
4	DO	Serial Data Output
5	GND	Ground
6	–	NC
7	–	NC
8	VCC	Power Supply

3. LC7570 (IC702)
BLE Data conversion

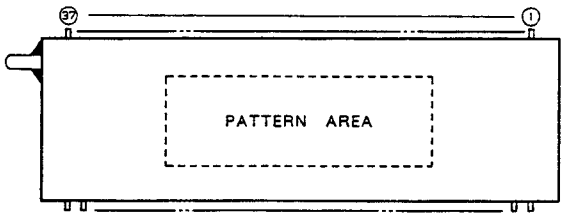
● Pin Function

Pin No.	Pin Name	Functions
1	—	To GNDC
2	WR	For the data in latch from the CPU
3	SCK	For the data in clock from the CPU
4	DAT1	Data in from the CPU
5	—	To Vcc +5V
6	XBLK	All outputs L. REQUEST input
7	GND	To GNDC
8	—	—
9	—	—
10	—	—
11	SELB	2-bit monitor switching selection
12	SELA	
13	NRSS	Not used
14	NRS1	1 bit of the 2-bit Dolby NR selection
15	SOLB	Mechanism solenoid power reduction selection. H: ON
16	FSO2	3-bit 1/f high frequency boost amount selection (3-bit output data=0 to 7) 0: Min 7: Max
17	FSO1	
18	FSO0	
19	RECV	Meter amplifier DC output recovery fast. H: ON
20	BLE	When BLE: H. Circuit selection
21	TOCD	CONT to CD (for CD-SYNCHRO) L: PLAY to CD, REQUEST

Pin No.	Pin Name	Functions
22	XMPX	MPX circuit and LED driving. L: ON
23	LREC	REC IND LED driving. H: ON
24	LPLY	PLAY IND LED driving. H: ON
25	SEQ1	SOUND-EQ type selection (2-bit)
26	SEQ0	
27	FSE1	Filter selection during BLE
28	FSE0	
29	BIA1	Auto BLE compensation data output Bias 2-bit
30	BIA0	
31	MEQ3	Auto BLE compensation data output Mid-EQ 4-bit
32	MEQ2	
33	MEQ1	
34	MEQ0	
35	HEQ3	Auto BLE compensation data output High-EQ 4-bit
36	HEQ2	
37	HEQ1	
38	HEQ0	
39	LEV3	Auto BLE compensation data output Level 4-bit
40	LEV2	
41	LEV1	
42	LEV0	

10. FL INFORMATION

● V1501 (RAW1121)

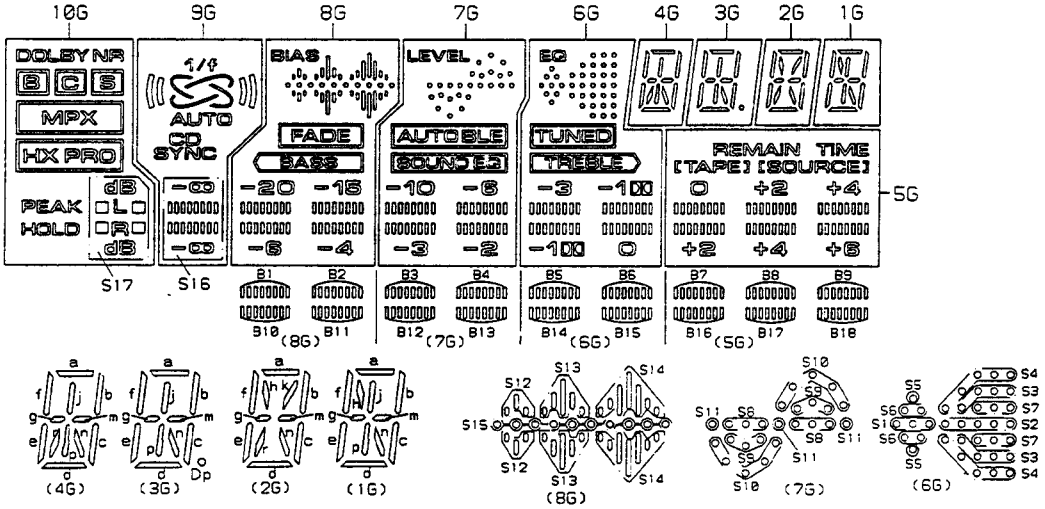


Pin Connection

PIN NO.	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01
CONNECTION	F2	F2	NP	P1	P2	P3	P4	NC	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17	P18	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	NC	NC	P	F1	F1

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

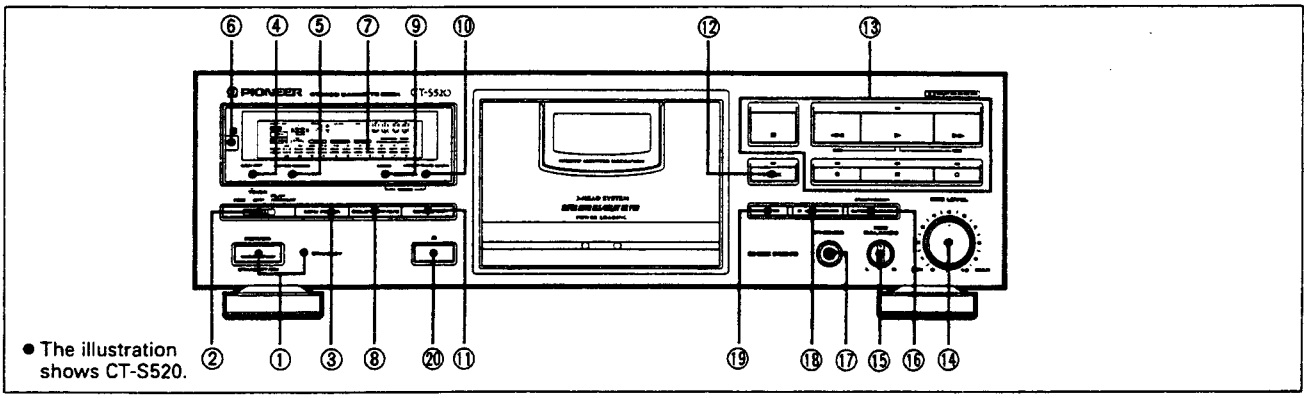
Grid Assignment



Anode Connection

	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	S17	S16	B1	B3	B5	B7	a	a	a	a
P2	HOLD	CD SYNC	B10	B12	B14	B16	b	b	b	b
P3	PEAK	AUTO	B2	B4	B6	B8	f	f	f	f
P4	HX PRO	1/f	B11	B13	B15	B17	g	g	g	g
P5	MPX		-6 -4	-3 -2	-10 0	+2 +4 +6	m	m	m	m
P6	B		-20 -15	-10 -6	-3 -10	0 +2 +4	c	c	c	c
P7	C		BASS	SOUND EQ	TREBLE	B9	e	e	e	e
P8	S		S12	AUTO BLE	TUNED	B18	d	d	d	d
P9	DOLBY NR		S13	S8	S1	REMAIN	j,p	j,p	h	j,p
P10	-		S14	S9	S2	TIME	r	Dp	n	h
P11	-	-	S15	S10	S3	[SOURCE]	n	n	r,k	n
P12	-	-	FADE	S11	S4	[TAPE]	-	-	-	-
P13	-	-	-	-	S5	-	-	-	-	-
P14	-	-	-	-	S6	-	-	-	-	-
P15	-	-	-	-	S7	-	-	-	-	-
P16	-	-	-	-	EQ	-	-	-	-	-
P17	-	-	-	LEVEL	-	-	-	-	-	-
P18	-	-	BIAS	-	-	-	-	-	-	-

11. PANEL FACILITIES



● The illustration shows CT-S520.

① POWER STANDBY/ON switch and STANDBY indicator
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.

② TIMER mode/repeat play switch (TIMER REC/OFF/PLAY-REPEAT)

③ MPX FILTER button

④ Display off button (DISP OFF)
Press to turn the function display on and off.

⑤ Level meter range selector button
Press to select wide or expanded range on the level meter.

⑥ Remote sensor window (CT-S520 only)

⑦ Function display

⑧ Dolby* NR button (DOLBY NR OFF/B/C)

*

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

⑨ Tape counter mode button (COUNTER MODE)

⑩ Counter reset/tape capacity selector button (COUNTER RESET/TAPE CAPA)

⑪ SOUND EQ button (CT-S520 only)

⑫ FLEX (1/f) button

⑬ Operation buttons

◀◀/MS : Rewind/music search
■ : Stop
▶ : When pressed during stop, begins playback.
▶▶/MS : Fast forward/music search
● : Recording
❚❚ : When pressed during playback or recording, pauses playback or recording. When pressed during pause, resumes play or starts recording.
○ : Recording mute

⑭ Recording level control (REC LEVEL)

⑮ Recording balance control (REC BALANCE)

⑯ SUPER AUTO BLE START/CLEAR button

⑰ Headphones jack (PHONES)

⑱ CD · DECK SYNCHRO recording button (CD SYNCHRO)

⑲ Monitor selector button (MONITOR)
Used to monitor the source sound or just recorded source during recording.
- When the unit is set to record or playback mode, the TAPE indicator light up and the monitor mode is automatically selected.

⑳ OPEN/CLOSE button (CT-S520)
If the tape is moving (recording), press the stop (■) button before pressing this button.
If this button is pressed when the unit is in standby mode, the cassette door opens and the function display is turned on automatically.

⑳ Eject button (⏏) (CT-S420)
- If the tape is moving (recording, playback, tape winding, etc.), press the stop (■) button before pressing this button.

12. SPECIFICATIONS

System ..... 4-track, 2-channel stereo
Heads. Combined "Hard Permalloy" recording/playback head × 1
"Ferrite" erasing head × 1
Motor ..... DC servo capstan motor × 1
DC reel motor × 1
DC loading motor × 1 (CT-S520 only)
Wow and Flutter ..... No more than 0.05% (WRMS, JIS)
No more than ±0.14% (DIN)
Fast Winding Time ..... Approx. 90 seconds (C-60 tape)
Frequency Response (at −20 dB recording level)
TYPE IV (Metal) tape ..... 20 to 21,000 Hz (±6 dB)
TYPE II (CrO_2) Tape ..... 20 to 19,000 Hz (±6 dB)
TYPE I (Normal) Tape ..... 20 to 19,000 Hz (±6 dB)
Signal-to-Noise Ratio (Dolby NR OFF) ..... More than 59 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 0.6%
(at −4 dB: 160 nwb/m)
Input (Sensitivity)
LINE (INPUT) ..... 100 mV (Input impedance 50 kΩ)
Output (Reference level)
LINE (OUTPUT) ..... 0.5 V (Output impedance 3.0 kΩ)
Headphones (PHONES) ..... 0.63 mW (Load impedence 8 Ω)

Miscellaneous

Power requirements
U.K., model ..... AC 230—240 Volts~, 50/60 Hz
European model ..... AC 220—230 Volts~, 50/60 Hz
Power consumption ..... 20 W
Dimensions ..... 420 (W)×125 (H)×280 (D) mm
Weight
[CT-S520] ..... 4.2 kg (except for U.K. model)
4.5 kg (U.K. model only)
[CT-S420] ..... 4.1 kg (except for U.K. model)
4.4 kg (U.K. model only)