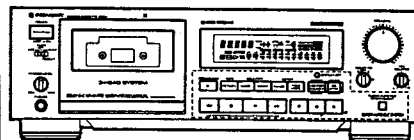


Service Manual

 **PIONEER®**
The Art of Entertainment



ORDER NO.
ARP2464

STEREO CASSETTE DECK

CT-S810S

- This manual is applicable to CT-S810S/HEM.
- Ce manuel pour le service comprend les explications de réglage en français.
- Este manual de servicio trata del método ajuste escrito en español.

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1. EXPLODED VIEWS, PACKING AND PARTS LIST

NOTES:

- The parts with an encircled number 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.

1.1 EXTERIOR

Parts List

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
Δ	1	Strain relief	CM - 22B	⊙	36	Mechanism unit	RYM1153
Δ	2	AC Power cord	PDG1003		37	Screw	FBT40P080FZK
Δ	3	FU703 Fuse (T1.25A)	REK - 101		38	Screw	ABZ26P080FZK
Δ	4	FU701, FU702 (T400mA)	REK - 096		39	Screw	BBT30P060FCC
Δ	5	T1 Power transformer	RTT1187		40	Screw	BBT30P100FZK
	6	Absorb plate (B)	PNB1109		41	Screw	BBZ30P100FZK
	7	VR ring (ABS)	RAT1007		42	Screw	IBZ30P060FCC
	8	Button spring	RBH1144		43	Screw	IBZ30P150FCC
	9	Knob (B) assembly	RXA1430		44	Screw	BBZ30P080FCC
	10	Door spring (R)	RBH1223		45	Screw	BBZ30P100FCC
⊙	11	SUBB unit	RWX1058		46	Screw	BBZ30P060FCC
⊙	12	Dolby S unit	RWM1457		47	Protector	RED1020
	13	Door cushion	REB1174		48	Jack nut	RBN - 006
	14	Spacer	REC1086		49	Binder	REC - 371
	15						
	16	Panel stay	RNT1134		101	HPHN unit	RWZ2473
	17	Counter reset knob	RAA1009		102	PWSW unit	RWZ2474
	18	Power button	RAC1410		103	TIMS unit	RWZ2475
	19	Function knob	RAC1411		104	MAIN unit	RWZ2588
	20	Push knob	RAC1413		105	TRN 2 unit	RWZ2478
	21	Knob (B)	RAC1414		106	TRN 1 unit	RWZ2477
	22	Mode knob	RAC1552		107	Capacitor cover	REC - 150
	23	Slide SW knob	RAC1562		108	PCB spacer	PNY - 404
	24	FL filter	RAH1542		109	Rubber spacer (A)	REB1057
	25	Door (ABS)	RAH1988		110	Mechanism sheet (2)	REE1015
	26	Side rubber	REB1094		111	Main chassis	RNB1060
	27	Door sheet (B)	REB1170		112	Rear panel	RNA1501
	28	VR knob	RAC1363		113	FL shield plate	RNE1349
	29				114	Name plate	PAN1035
	30	Leg assembly	AMR1159		115	Front panel	RAH1984
	31	Door lens	RLP1026		116	Ring	RBH1300
	32	FL lens	RLP1027		117		
	33				118	Unit holder	RNC1063
	34	Bonnet	RXX1378		119	Binder	RNE1277
	35	Front panel assembly	RXX1463		120	Transformer shield plate	RNE1451
					121	Stopper	RNE - 605

Exterior

A

B

C

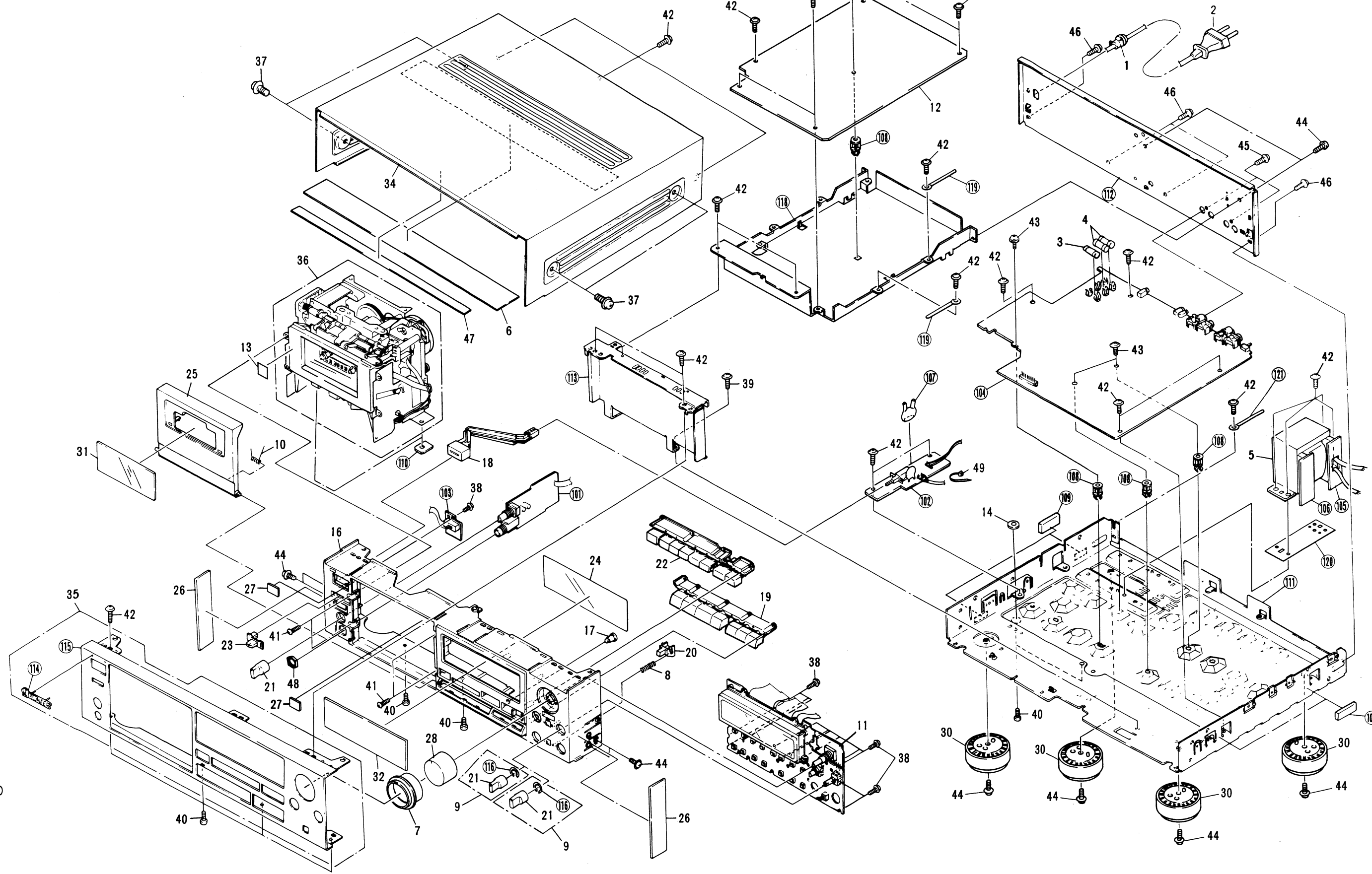
D

A

B

C

D



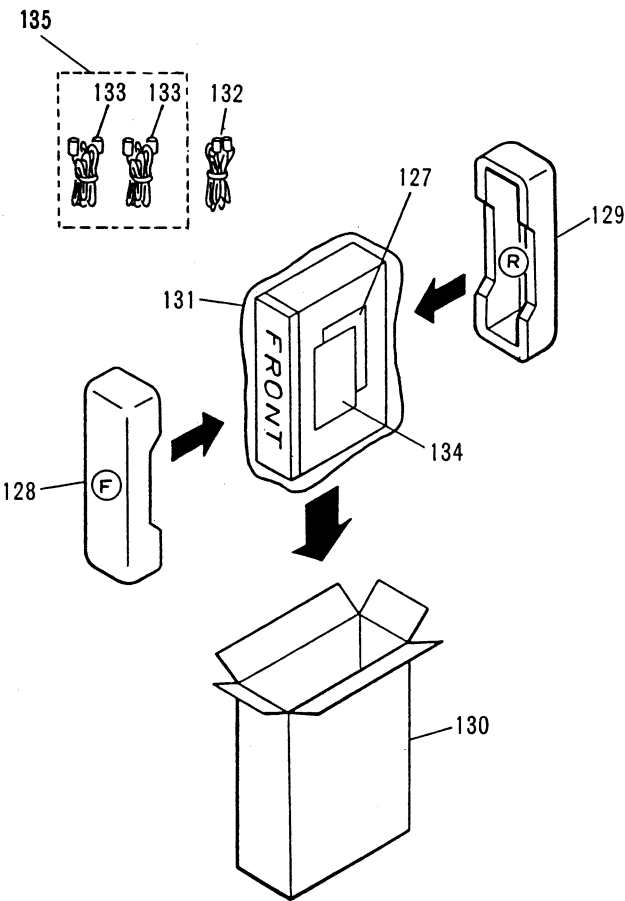
1.2 MECHANISM UNIT (RYM1153) AND PACKING SECTION

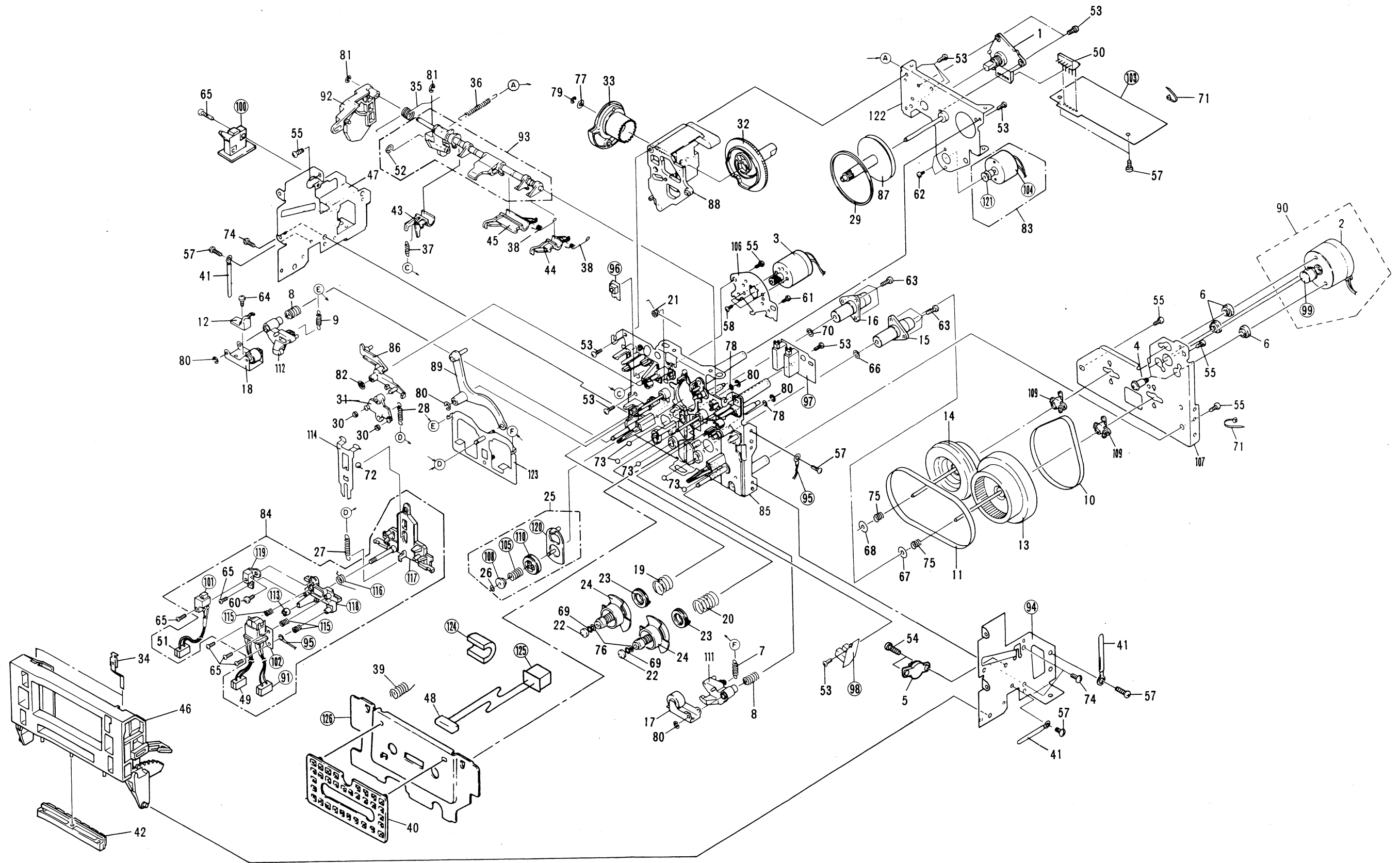
Parts List

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	Rotary encoder	RSX1004		51	Connector assembly (2P)	RKP1384
	2	Capstan motor	RXM1054		52	Washer	RBF - 057
	3	Reel motor assembly	RXM1018		53	Screw	BBZ26P080FZK
	4	Step screw	RBA - 064		54	Screw	PBZ20P060FMC
	5	Damper assembly	VXA1153		55	Screw	BBZ30P080FZK
	6	Rubber cushion	REB1125		56		
	7	Pinch spring	RBL - 028		57	Screw	BCZ30P060FMC
	8	Pinch thrust spring	RBL - 030		58	Screw	BMZ26P030FZK
	9	Sub - pinch spring	RBL - 098		59		
	10	Capstan belt	REB1143		60	Screw	BMZ26P060FZK
	11	Capstan belt (A)	REB - 509		61	Screw	BMZ30P080FZK
	12	Tape guide	RNK1823		62	Screw	JGZ20P025FMC
	13	Flywheel assembly	RXA1374		63	Screw	PMA26P050FZK
	14	Sub - flywheel assembly	RXA1375		64	Screw	PMA26P060FZK
	15	Metal holder assembly(A)	RXA1342		65	Screw	PMZ20P080FZK
	16	Metal holder assembly(B)	RXA1343		66	Washer	RBF - 030
	17	Pinch roller arm (R) assembly	RXB - 876		67	Thrust washer (A)	RBF - 069
	18	Pinch roller arm (A) assembly	RXB - 877		68	Thrust washer (B)	RBF - 070
	19	BT spring (A)	RBL - 031		69	Washer	RBF - 076
	20	BT spring (B)	RBL - 032		70	Washer	RBF1040
	21	Idler pressure spring	RBL - 033		71	Binder	REC - 371
	22	Reel shaft cap (B)	RNK - 815		72	Steel ball (3mm)	REF - 022
	23	BT disk assembly	RXB - 751		73	Steel ball (4mm)	REF - 023
	24	Reel base assembly	RXB - 874		74	Screw	VCT30P060FZK
	25	Take - up idler assembly	RXB - 875		75	Thrust spring	RBL - 044
	26	Washer	RBF - 065		76	Washer	WA21D040D013
	27	Head base spring	RBL - 037		77	Washer	WA26N070W040
	28	Brake spring	RBL - 038		78	Washer	WA32D080D050
	29	Drive belt	REB1169		79	E ring	YE20FUC
	30	Brake shoe	REB - 511		80	E ring	YE25FUC
	31	Brake	RNL - 723		81	E ring	YE30FUC
	32	Cam gear	RNK1640		82	Snapring	YS24FBT
	33	Side cam gear assembly	RXA1349		83	Power motor assembly	RXX1055
	34	Half pressure spring	RBK1004		84	Head base assembly	RXX1333
	35	Eject spring	RBH1303		85	Mechanism chassis assembly	RXA1366
	36	Half set arm spring	RBL - 040		86	Brake lever	RNK1638
	37	REC functioning spring	RBL - 041		87	Second pulley assembly	RXA1350
	38	Detection functioning spring	RBL - 042		88	Gear base assembly	RXA1351
	39	Earth spring	RBL - 059		89	Pinch lever assembly	RXA1360
	40	Stabilizer (B)	REB1038		90	Capstan motor assembly	RXX1491
	41	Cord clammer	RNH - 184		91	Connector assembly (4P)	RKP1111
	42	Stabilizer	REB1161		92	Eject lever	RNL - 738
	43	REC detector arm	RNL - 733		93	Shift shaft assembly	RXB - 885
	44	Chrom detector arm	RNL - 734		94	Door frame (R)	RNE1325
	45	Metal detector arm	RNL - 735		95	Earth lead assembly	RDF - 001
	46	Door pocket	RNT1101		96	REC switch unit	RWZ1749
	47	Door frame (L)	RNE1442		97	Tape selector unit	RWZ1750
	48	LED	SLF - 401C		98	Sensor unit (A)	RWZ1752
	49	Connector assembly (4P)	RKP1383		99	Motor pulley	RNK1676
	50	2.5mm pitch sidepost (5P)	BS5P - SHF - 1		100	Door switch unit	RWZ1754

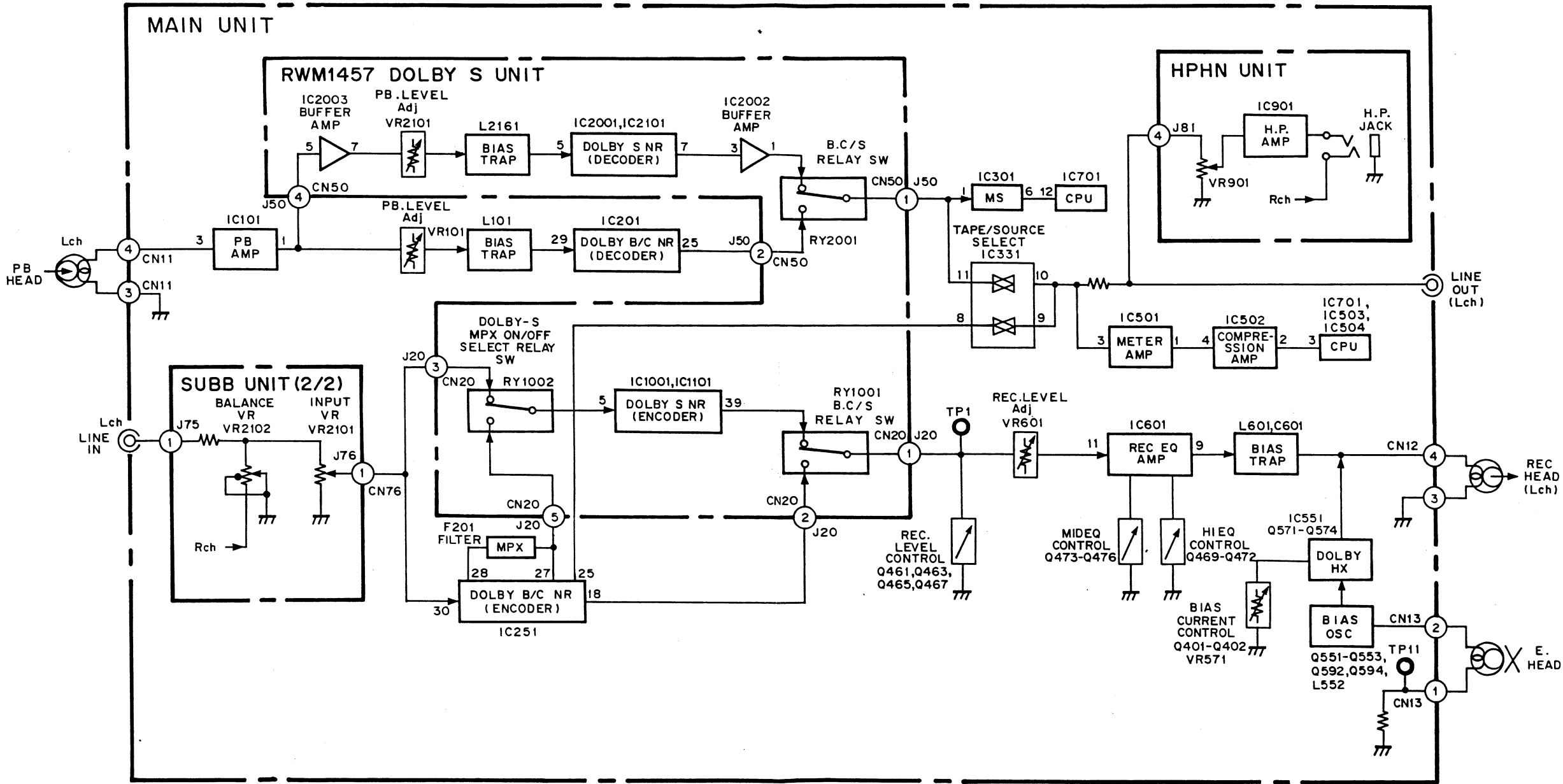
Mark	No.	Description	Part No.
	101	E head	RPB1042
	102	R & P head	RPB1041
	103	Connector unit	RWZ1771
	104	Power motor	RXM1019
	105	Spring	RBL - 047
	106	Reel motor mounting plate	RNE1169
	107	Flywheel holder	RNH - 304
	108	Spring cup	RNL - 012
	109	Thrust holder	RNL - 743
	110	Idle pulley	RNL - 549
	111	Pressure arm (R)	RNL - 725
	112	Pressure arm (L)	RNL - 726
	113	Adjustment nut	RBA1047
	114	Head base set spring	RBL - 026
	115	Head adjustment spring (C)	RBL - 034
	116	Hight spring	RBL - 036
	117	Head base	RNK1645
	118	Sub - head base	RNG - 335
	119	E head base	RNG1033
	120	Idler arm	RNL - 722
	121	First pulley	RNL - 727
	122	Gear chassis assembly	RXA1171
	123	Pinch base assembly	RXB - 878
	124	Lead wire holder	RNL - 793
	125	Connector assembly (2P)	RKP - 895
	126	Cassette plate	RAH1306
	127	Operating instructions (English/French)	RRE1051
	128	Pad (F)	RHA1021
	129	Pad (R)	RHA1022
	130	Packing case	RHG1316
	131	Sheet	RHX - 034
	132	Control cord	RDE1030
	133	Connection cord	RDE - 010
	134	Operating instructions (German/Italian/Dutch/Swedish/Spanish/Portuguese)	RRD1118
	135	Connection assembly	RDE1002

Packing

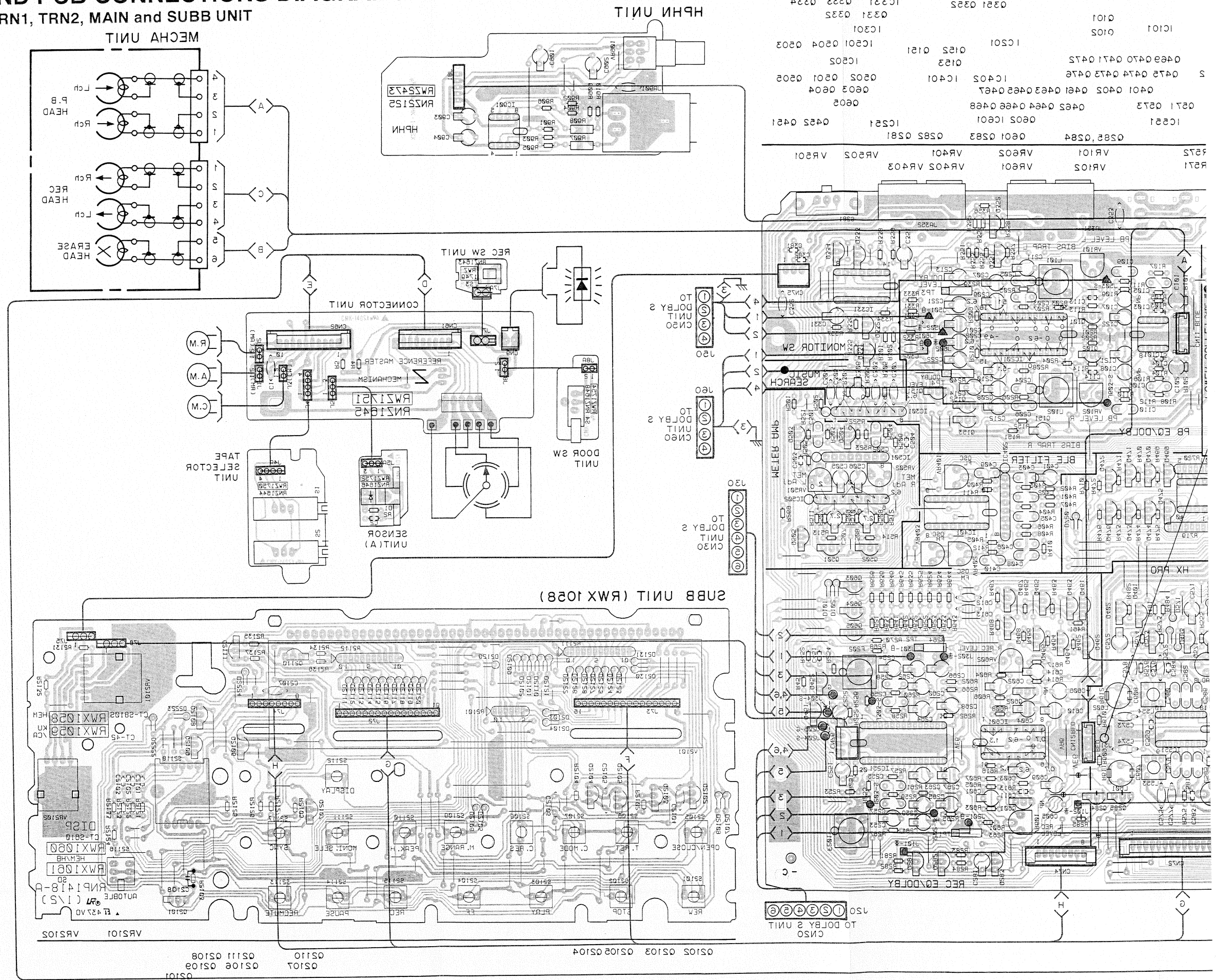




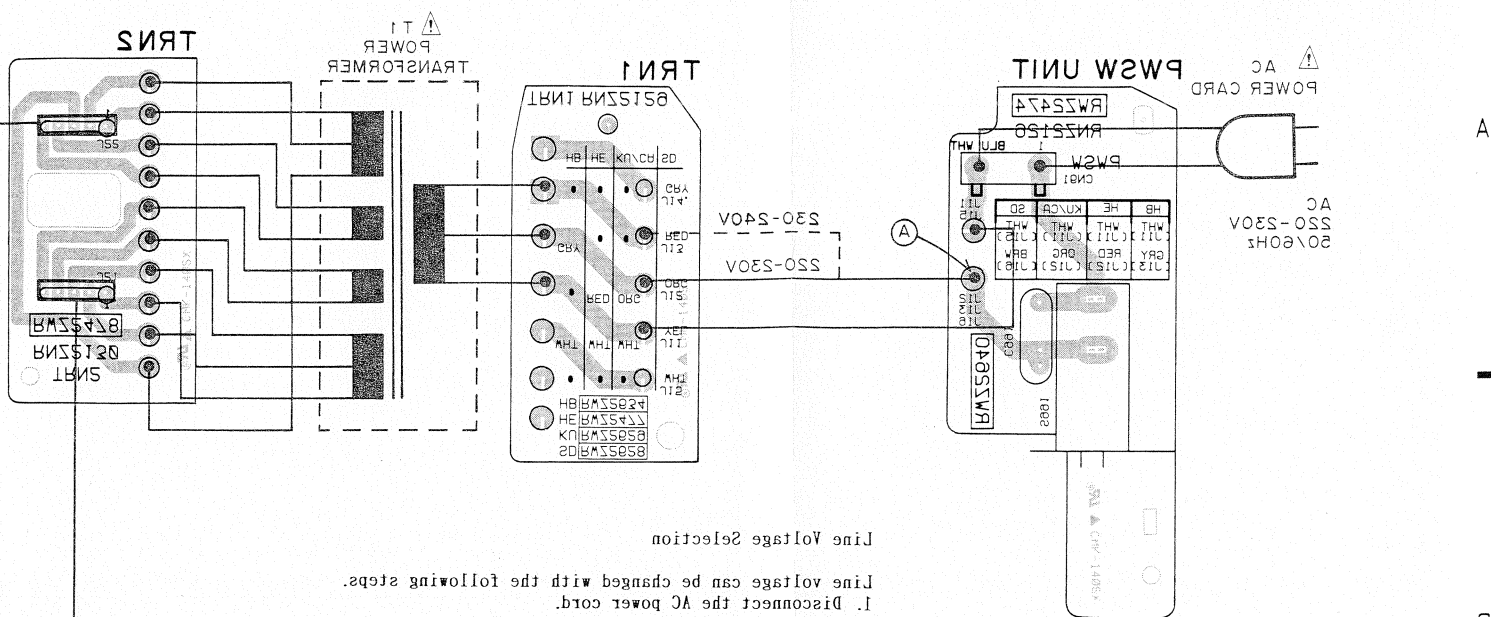
2. BLOCK DIAGRAM



3.1 HPHN, PWSW, TMS, TRN1, TRN2, MAIN and SUBB UNIT



• View from soldering side

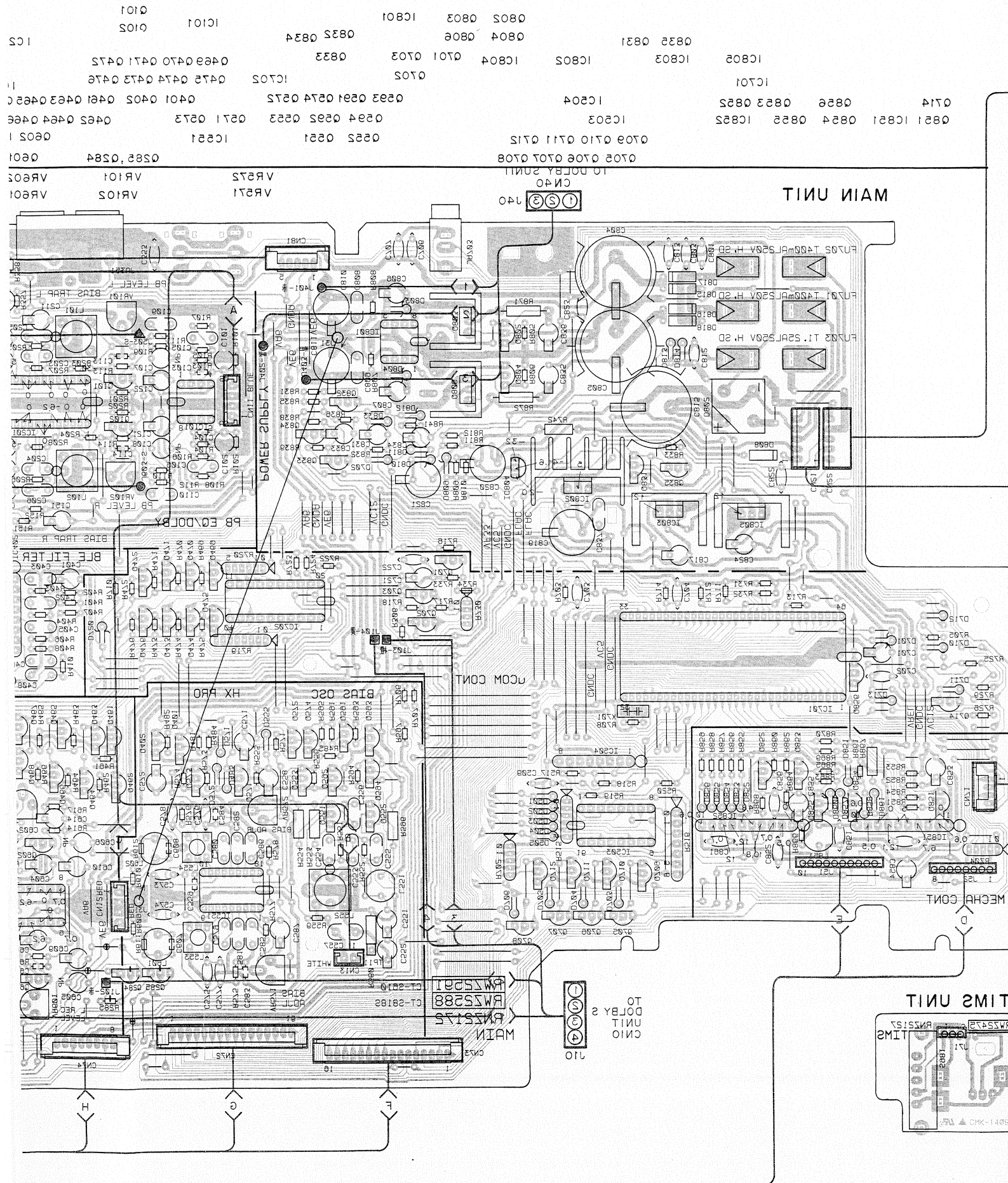


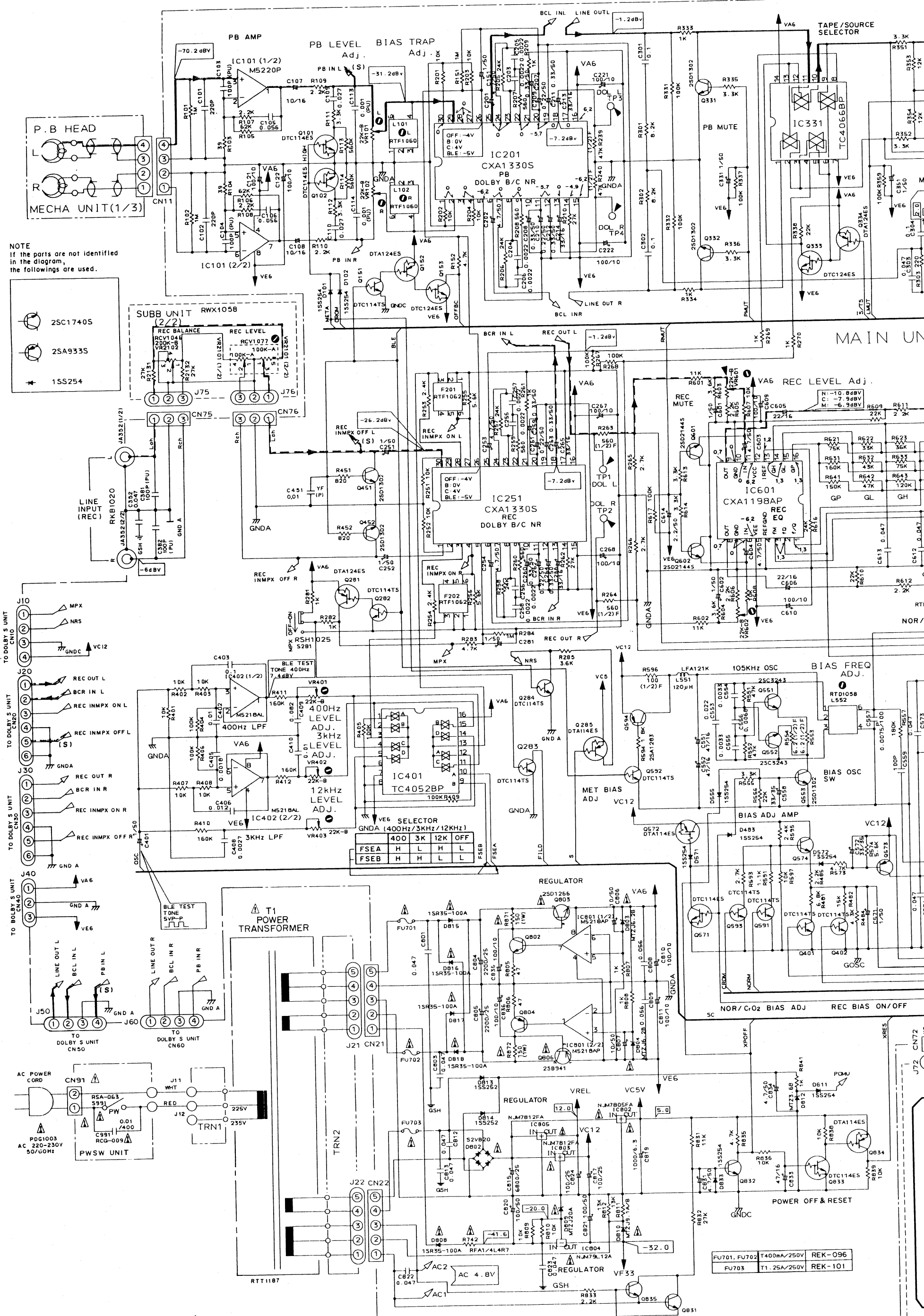
Line Voltage Selection
Line voltage can be changed with the following steps.
1. Disconnect the AC power cord.
2. Remove the top cover.
3. Change the connection wire from PWSW UNIT (Terminal No. ①) to TRN1 UNIT (Terminal No. 112 and 113) as follows.

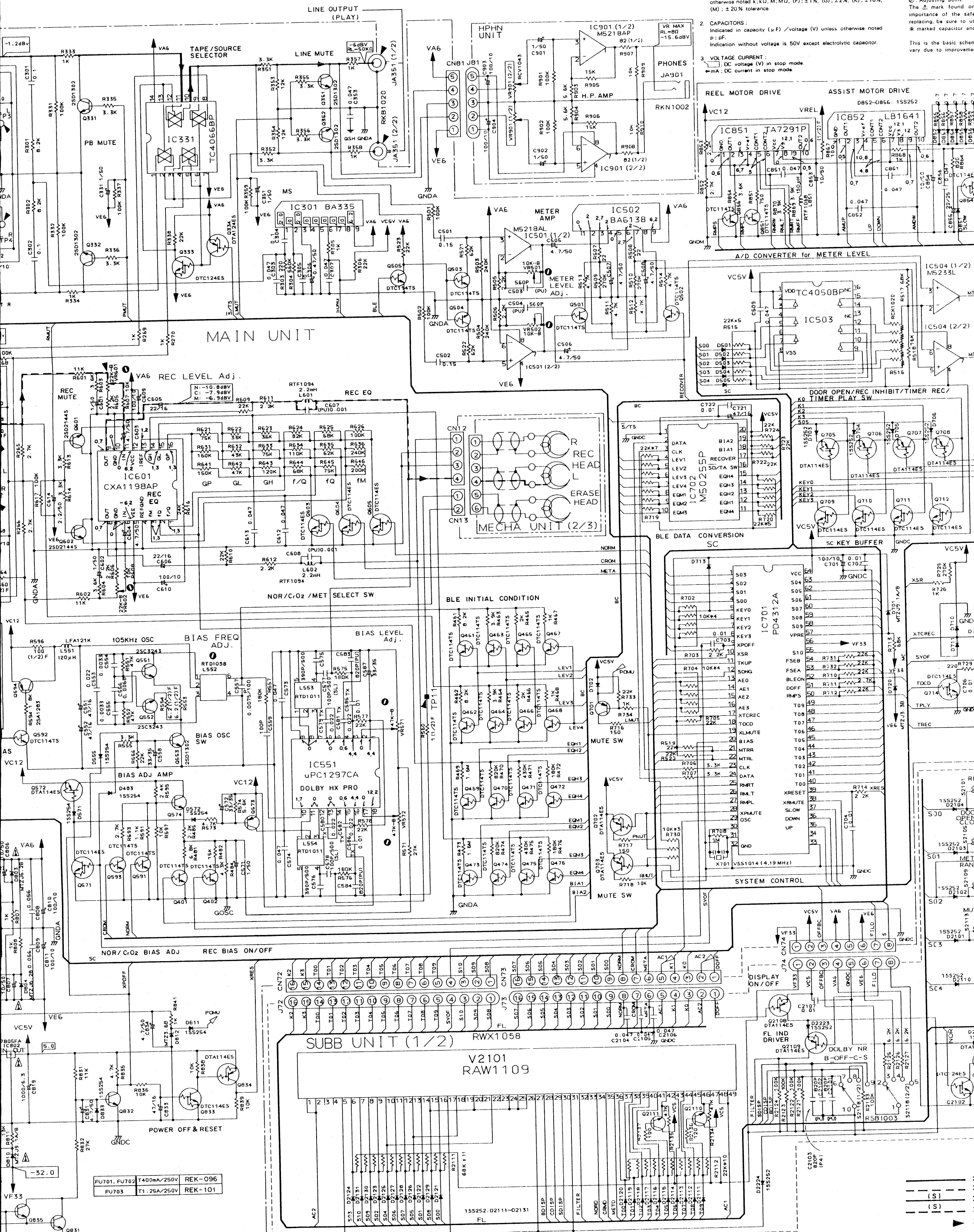
Voltage	Terminal No. of TRN1 UNIT
250-250V	1 1 3
250-250V	1 1 2

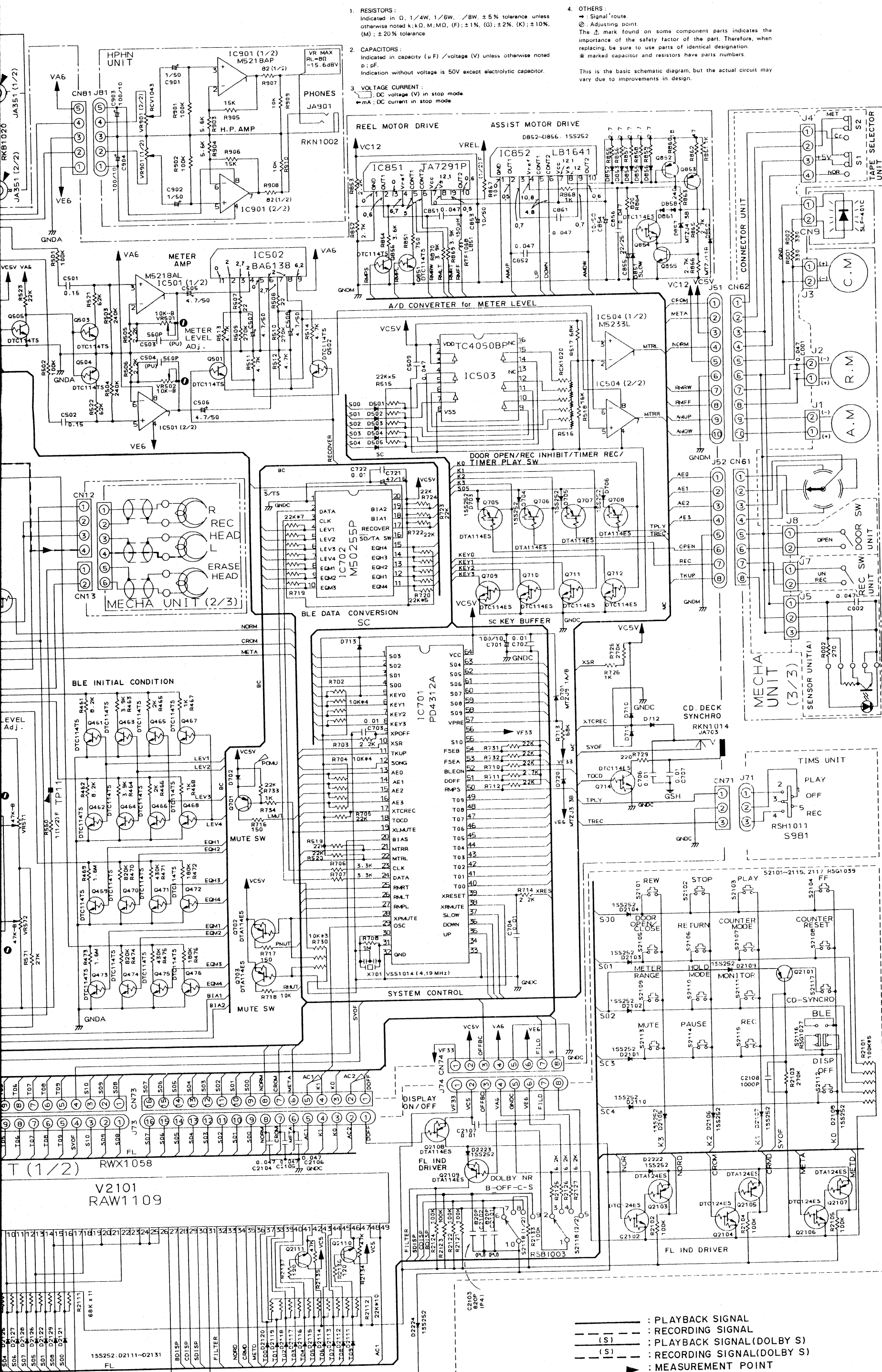
4. Stick the line voltage label on the rear panel.

Port No.	Description
AAX-103	250V Label
AAX-102	250V Label









A

B

C

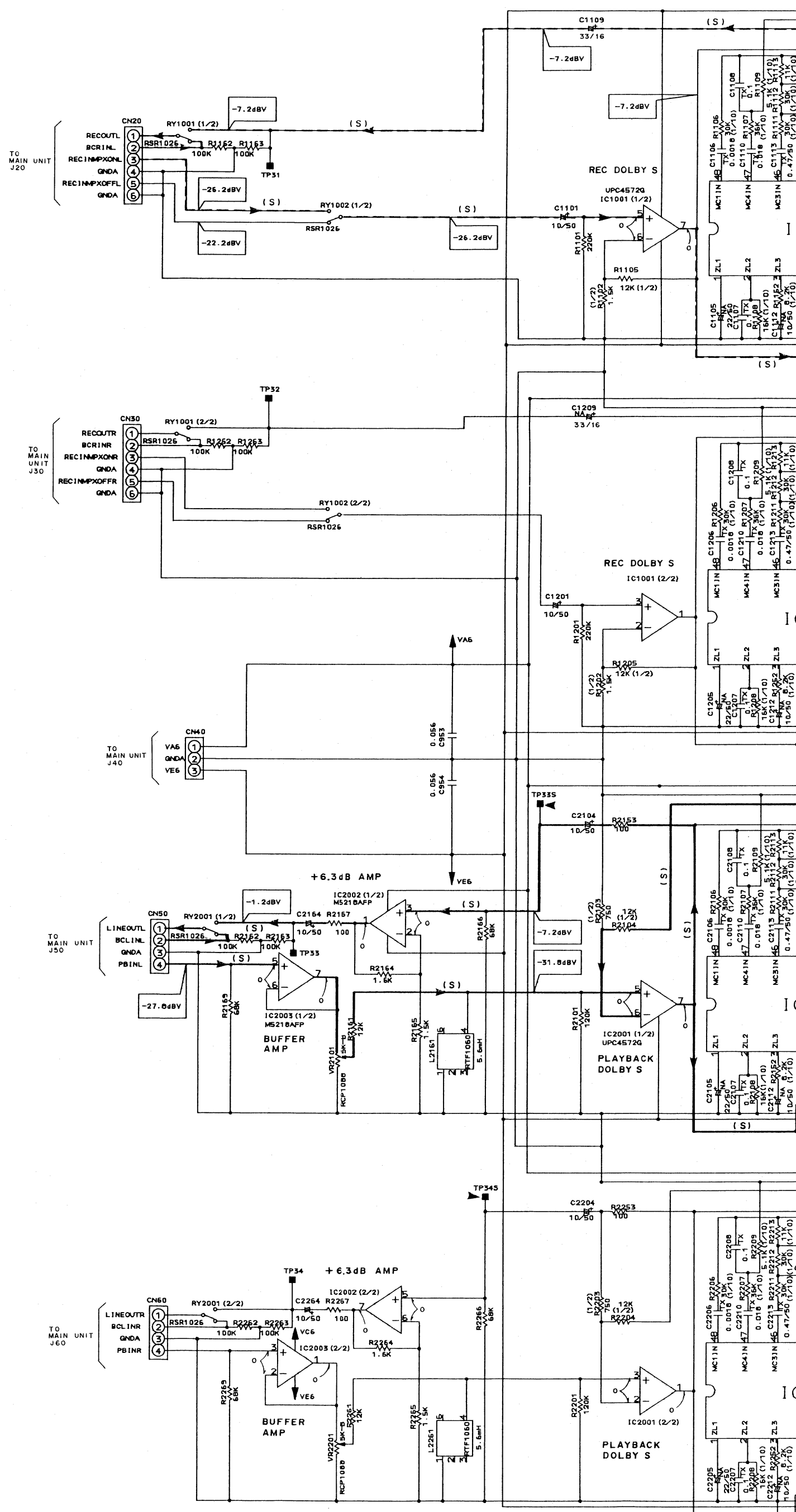
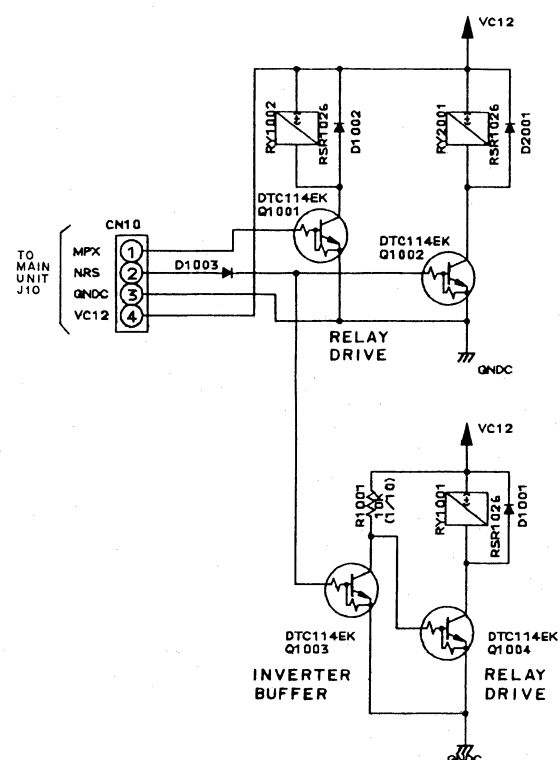
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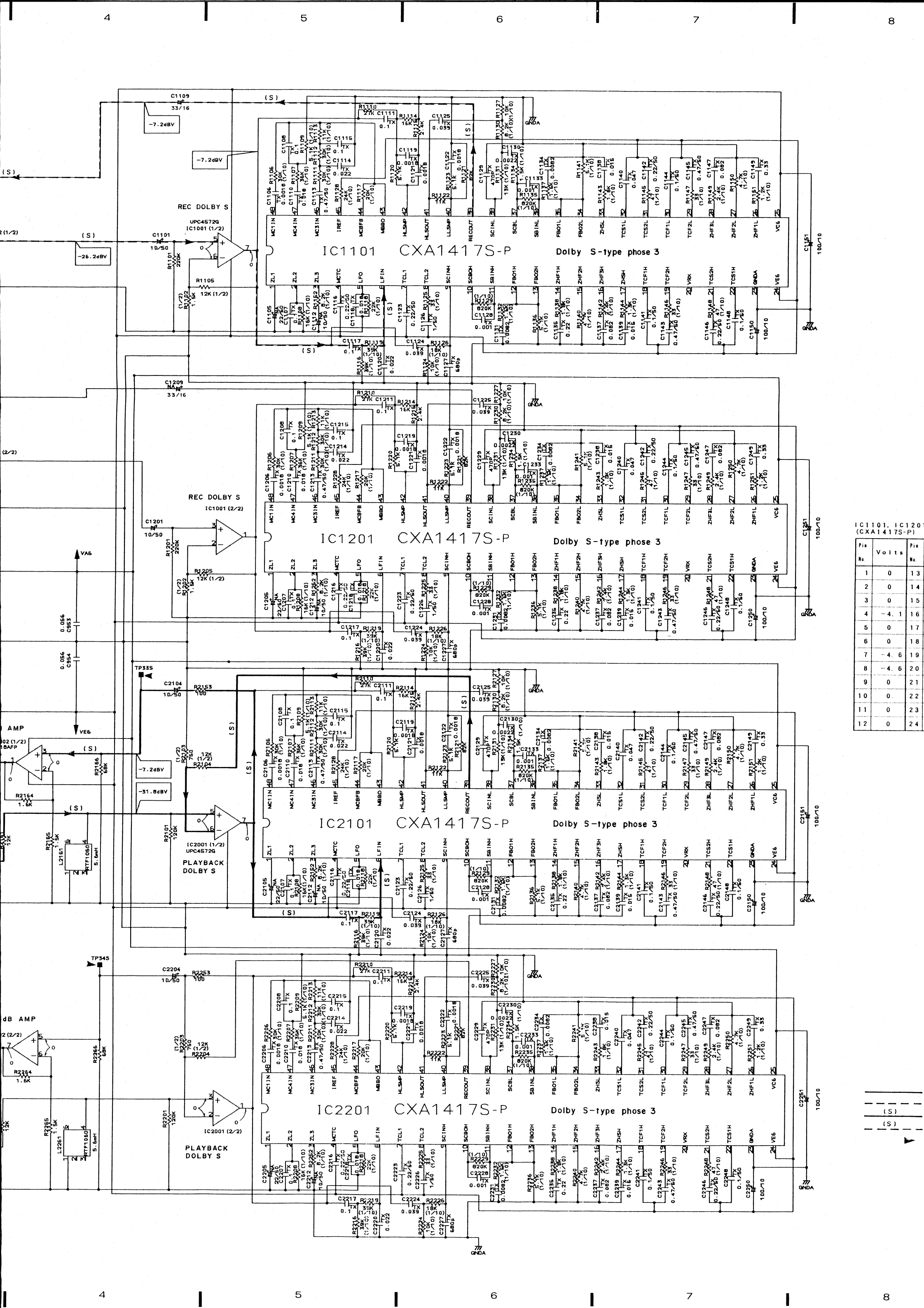
E

F

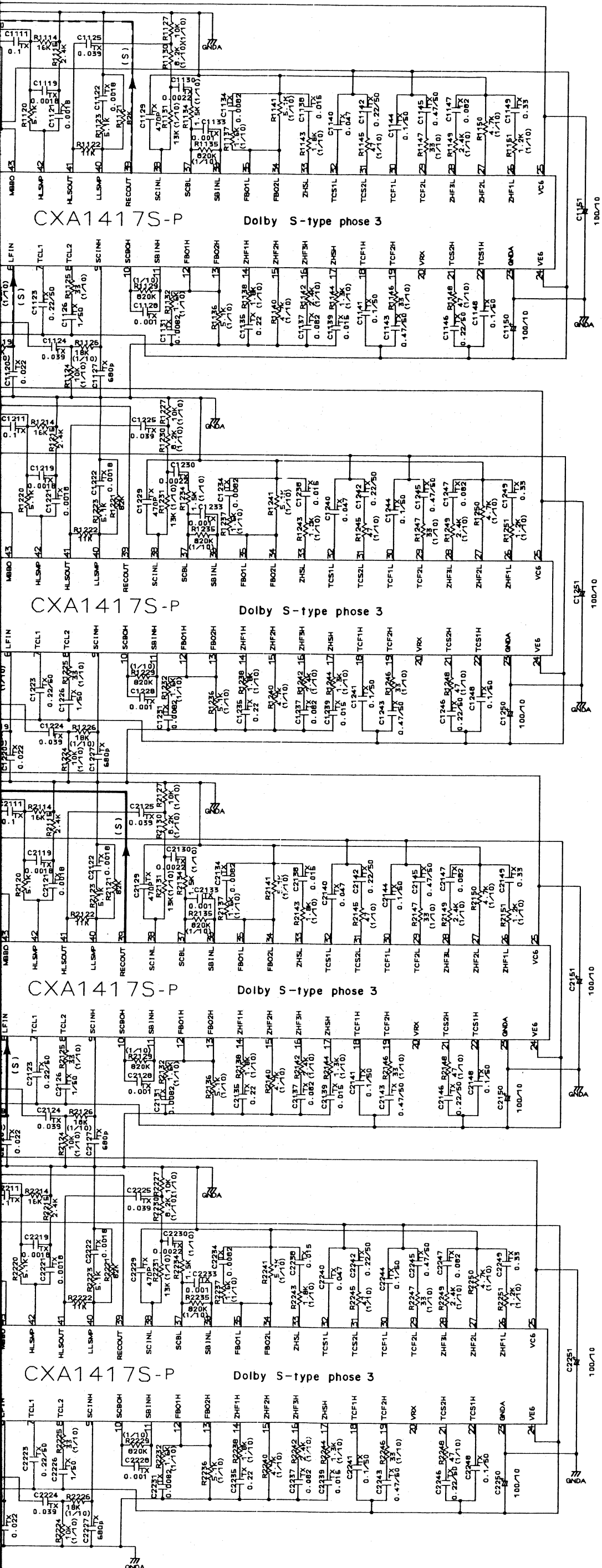
— : PLAYBACK SIGNAL
— : RECORDING SIGNAL
(S) : PLAYBACK SIGNAL(DOLBY S)
(S) : RECORDING SIGNAL(DOLBY S)
▲ : MEASUREMENT POINT

3.2 DOLBY S UNIT





IC1101, IC1201, IC2101 (CXA1417S-P)		
Pin No.	Volts	Pin No.
1	0	13
2	0	14
3	0	15
4	-4.1	16
5	0	17
6	0	18
7	-4.6	19
8	-4.6	20
9	0	21
10	0	22
11	0	23
12	0	24

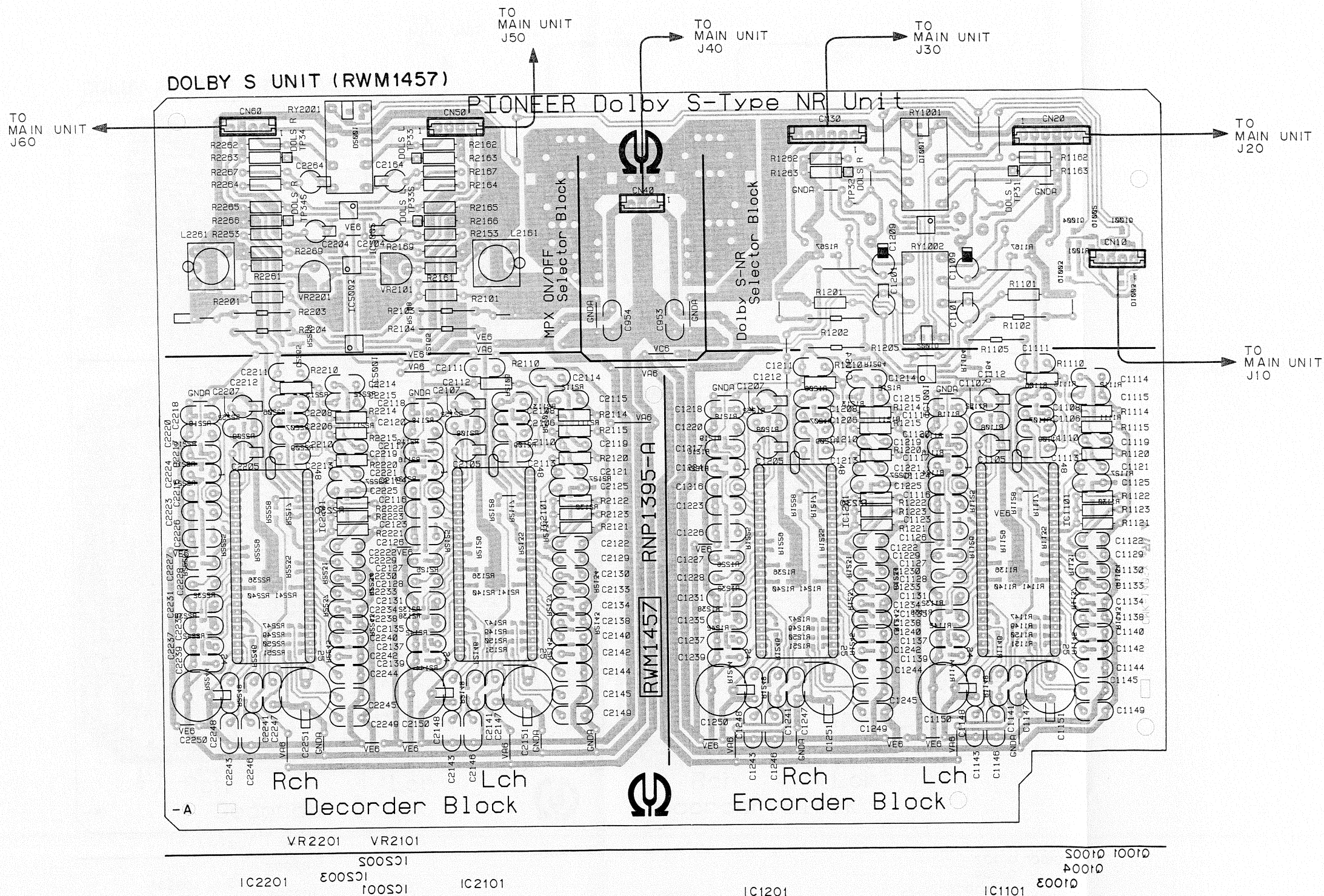


IC1101, IC1201, IC2101, IC2201
(CXA1417S-P)

Pix No	Volts	Pix No	Volts	Pix No	Volts	Pix No	Volts
1	0	13	0	25	6.1	37	0
2	0	14	0	26	0	38	0
3	0	15	0	27	0	39	0
4	-4.1	16	0	28	0	40	0
5	0	17	0	29	-4.6	41	0
6	0	18	-4.6	30	-4.6	42	0
7	-4.6	19	-4.6	31	-4.6	43	0
8	-4.6	20	-3.6	32	-4.6	44	0
9	0	21	-4.6	33	0	45	-4.9
10	0	22	-4.6	34	0	46	0
11	0	23	0	35	0	47	0
12	0	24	-6.1	36	0	48	0

— : PLAYBACK SIGNAL
 - - - : RECORDING SIGNAL
 (S) : PLAYBACK SIGNAL (DOLBY S)
 (S) : RECORDING SIGNAL (DOLBY S)
 ▲ : MEASUREMENT POINT

• View from component side



4. PCB PARTS LIST

NOTES:

- Parts without part number cannot be supplied.
- Parts marked by “⊙” are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

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

560 $\Omega \rightarrow 56 \times 10^1 \rightarrow 561$ RD1/4PS

5	6	1
---	---	---

 J

47k Ω $\rightarrow 47 \times 10^3 \rightarrow 473$ RD1/4PS

4	7	3
---	---	---

 J

0.5 Ω → 0R5 RN2H 0 R 5 K

1 Ω → 010 RS1P 010K

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

5.62k $\Omega \rightarrow 562 \times 10^1 \rightarrow 5621$ RN1/4SR

5	6	2	1
---	---	---	---

 F

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

LIST OF ASSEMBLIES

Ⓢ DOLBY S UNIT RWM1457

⊙ SUBB UNIT RWX1058

REC SWITCH UNIT
TAPE SELECTOR UNIT
SENSOR UNIT (A)
DOOR SWITCH UNIT
CONNECTOR UNIT

⊙ MOTHER UNIT RWM1500

- HPHN UNIT
- PWSW UNIT
- TIMS UNIT
- MAIN UNIT
- TRN 1 UNIT
- TRN 2 UNIT

C1109	ELECTR. CAPACITOR	CEYA330M16
C1110	AUDIO FILM CAPACITOR	CFTXA183J50
C1111	AUDIO FILM CAPACITOR	CFTXA104J50
C1112	ELECTR. CAPACITOR	CENA100M50
C1113	AUDIO FILM CAPACITOR	CETA4474J50

C1114	AUDIO	FILM	CAPACITOR	CFTXA223J50
C1115	AUDIO	FILM	CAPACITOR	CFTXA104J50
C1116	AUDIO	FILM	CAPACITOR	CFTXA224J50
C1117	AUDIO	FILM	CAPACITOR	CFTXA104J50
C1118	AUDIO	FILM	CAPACITOR	CFTXA183J50

C1119	AUDIO FILM CAPACITOR	CFTXA182J50
C1120	AUDIO FILM CAPACITOR	CFTXA223J50
C1121, 1122	AUDIO FILM CAPACITOR	CFTXA182J50
C1123	AUDIO FILM CAPACITOR	CFTXA224J50
C1124, 1125	AUDIO FILM CAPACITOR	CFTXA393J50

C1126	AUDIO FILM CAPACITOR	CFTXA105J50
C1127		CFTXA681J50
C1128		CFTXA102J50
C1129		CFTXA471J50
C1130	AUDIO FILM CAPACITOR	CFTXA222J50

C1131	AUDIO FILM CAPACITOR	CFTXA822J50
C1133		CFTXA102J50
C1134	AUDIO FILM CAPACITOR	CFTXA822J50
C1135	AUDIO FILM CAPACITOR	CFTXA224J50
C1137	AUDIO FILM CAPACITOR	CFTXA823J50

C1138, 1139 AUDIO FILM CAPACITOR	CFTXA153J50
C1140 AUDIO FILM CAPACITOR	CFTXA473J50
C1141 AUDIO FILM CAPACITOR	CFTXA104J50
C1142 AUDIO FILM CAPACITOR	CFTXA224J50
C1143 AUDIO FILM CAPACITOR	CFTXA474J50

C1144	AUDIO FILM CAPACITOR	CFTXA104J50
C1145	AUDIO FILM CAPACITOR	CFTXA474J50
C1146	AUDIO FILM CAPACITOR	CFTXA224J50
C1147	AUDIO FILM CAPACITOR	CFTXA823J50
C1148	AUDIO FILM CAPACITOR	CFTXA104J50

C1149 AUDIO FILM CAPADITOR	CFTXA334J50
C1150, 1151 ELECTR. CAPACITOR	CEYA101M10
C1201 ELECTR. CAPACITOR	CEYA100M50
C1205 ELECTR. CAPACITOR	CENA220M50
C1206 AUDIO FILM CAPACITOR	CFTXA182J50

C1207,1208 AUDIO FILM CAPACITOR	CFTXA104J50
C1209 ELECTR. CAPACITOR	CEYA330M16

© DOLBY S UNIT (RWM1457)

SEMICONDUCTORS

IC1001	UPC4572G
IC1101	CXA1417S-P
IC1201	CXA1417S-P
IC2001	UPC4572G
IC2002, 2003 OP-AMP, IC	M5218AFP

IC2101	CXA1417S-P
IC2201	CXA1417S-P
Q1001-1004	DTC114EK
D1001-1003 CHIP CIODE ARRAY	DAN202K
D2001 CHIP CIODE ARRAY	DAN202K

RELAYS

RY1001, 1002	RSR1026
RY2001	RSR1026

COILS/TRANSFORMERS

L2161 COIL (5.6mH)	RTF1060
L2261 COIL (5.6mH)	RTF1060

CAPACITORS

C953, 954 AUDIO FILM CAPACITOR	CFTXA563J50
C1101 ELECTR. CAPACITOR	CEYA100M50
C1105 ELECTR. CAPACITOR	CENA220M50
C1106 AUDIO FILM CAPACITOR	CFTXA182J50
C1107, 1108 AUDIO FILM CAPACITOR	CFTXA104J50

Mark	No.	Description	Part No.
	C1210	AUDIO FILM CAPACITOR	CFTXA183J50
	C1211	AUDIO FILM CAPACITOR	CFTXA104J50
	C1212	ELECTR. CAPACITOR	CENA100M50
	C1213	AUDIO FILM CAPACITOR	CFTXA474J50
	C1214	AUDIO FILM CAPACITOR	CFTXA223J50
	C1215	AUDIO FILM CAPACITOR	CFTXA104J50
	C1216	AUDIO FILM CAPACITOR	CFTXA224J50
	C1217	AUDIO FILM CAPACITOR	CFTXA104J50
	C1218	AUDIO FILM CAPACITOR	CFTXA183J50
	C1219	AUDIO FILM CAPACITOR	CFTXA182J50
	C1220	AUDIO FILM CAPACITOR	CFTXA223J50
	C1221, 1222	AUDIO FILM CAPACITOR	CFTXA182J50
	C1223	AUDIO FILM CAPACITOR	CFTXA224J50
	C1224, 1225	AUDIO FILM CAPACITOR	CFTXA393J50
	C1226	AUDIO FILM CAPACITOR	CFTXA105J50
	C1227		CFTXA681J50
	C1228		CFTXA102J50
	C1229		CFTXA471J50
	C1230	AUDIO FILM CAPACITOR	CFTXA222J50
	C1231	AUDIO FILM CAPACITOR	CFTXA822J50
	C1233		CFTXA102J50
	C1234	AUDIO FILM CAPACITOR	CFTXA822J50
	C1235	AUDIO FILM CAPACITOR	CFTXA224J50
	C1237	AUDIO FILM CAPACITOR	CFTXA823J50
	C1238, 1239	AUDIO FILM CAPACITOR	CFTXA153J50
	C1240	AUDIO FILM CAPACITOR	CFTXA473J50
	C1241	AUDIO FILM CAPACITOR	CFTXA104J50
	C1242	AUDIO FILM CAPACITOR	CFTXA224J50
	C1243	AUDIO FILM CAPACITOR	CFTXA474J50
	C1244	AUDIO FILM CAPACITOR	CFTXA104J50
	C1245	AUDIO FILM CAPACITOR	CFTXA474J50
	C1246	AUDIO FILM CAPACITOR	CFTXA224J50
	C1247	AUDIO FILM CAPACITOR	CFTXA823J50
	C1248	AUDIO FILM CAPACITOR	CFTXA104J50
	C1249	AUDIO FILM CAPACITOR	CFTXA334J50
	C1250, 1251	ELECTR. CAPACITOR	CEYA101M10
	C2104	ELECTR. CAPACITOR	CEYA100M50
	C2105	ELECTR. CAPACITOR	CENA220M50
	C2106	AUDIO FILM CAPACITOR	CFTXA182J50
	C2107, 2108	AUDIO FILM CAPACITOR	CFTXA104J50
	C2110	AUDIO FILM CAPACITOR	CFTXA183J50
	C2111	AUDIO FILM CAPACITOR	CFTXA104J50
	C2112	ELECTR. CAPACITOR	CENA100M50
	C2113	AUDIO FILM CAPACITOR	CFTXA474J50
	C2114	AUDIO FILM CAPACITOR	CFTXA223J50
	C2115	AUDIO FILM CAPACITOR	CFTXA104J50
	C2116	AUDIO FILM CAPACITOR	CFTXA224J50
	C2117	AUDIO FILM CAPACITOR	CFTXA104J50
	C2118	AUDIO FILM CAPACITOR	CFTXA183J50
	C2119	AUDIO FILM CAPACITOR	CFTXA182J50
	C2120	AUDIO FILM CAPACITOR	CFTXA223J50
	C2121, 2122	AUDIO FILM CAPACITOR	CFTXA182J50
	C2123	AUDIO FILM CAPACITOR	CFTXA224J50
	C2124, 2125	AUDIO FILM CAPACITOR	CFTXA393J50
	C2126	AUDIO FILM CAPACITOR	CFTXA105J50
	C2127		CFTXA681J50
	C2128		CFTXA102J50
	C2129		CFTXA471J50

Mark	No.	Description	Part No.
	C2130	AUDIO FILM CAPACITOR	CFTXA222J50
	C2131	AUDIO FILM CAPACITOR	CFTXA822J50
	C2133		CFTXA102J50
	C2134	AUDIO FILM CAPACITOR	CFTXA822J50
	C2135	AUDIO FILM CAPACITOR	CFTXA224J50
	C2137	AUDIO FILM CAPACITOR	CFTXA823J50
	C2138, 2139	AUDIO FILM CAPACITOR	CFTXA153J50
	C2140	AUDIO FILM CAPACITOR	CFTXA473J50
	C2141	AUDIO FILM CAPACITOR	CFTXA104J50
	C2142	AUDIO FILM CAPACITOR	CFTXA224J50
	C2143	AUDIO FILM CAPACITOR	CFTXA474J50
	C2144	AUDIO FILM CAPACITOR	CFTXA104J50
	C2145	AUDIO FILM CAPACITOR	CFTXA474J50
	C2146	AUDIO FILM CAPACITOR	CFTXA224J50
	C2147	AUDIO FILM CAPACITOR	CFTXA823J50
	C2148	AUDIO FILM CAPACITOR	CFTXA104J50
	C2149	AUDIO FILM CAPACITOR	CFTXA334J50
	C2150, 2151	ELECTR. CAPACITOR	CEYA101M10
	C2164	ELECTR. CAPACITOR	CEYA100M50
	C2204	ELECTR. CAPACITOR	CEYA100M50
	C2205	ELECTR. CAPACITOR	CENA220M50
	C2206	AUDIO FILM CAPACITOR	CFTXA182J50
	C2207, 2208	AUDIO FILM CAPACITOR	CFTXA104J50
	C2210	AUDIO FILM CAPACITOR	CFTXA183J50
	C2211	AUDIO FILM CAPACITOR	CFTXA104J50
	C2212	ELECTR. CAPACITOR	CENA100M50
	C2213	AUDIO FILM CAPACITOR	CFTXA474J50
	C2214	AUDIO FILM CAPACITOR	CFTXA223J50
	C2215	AUDIO FILM CAPACITOR	CFTXA104J50
	C2216	AUDIO FILM CAPACITOR	CFTXA224J50
	C2217	AUDIO FILM CAPACITOR	CFTXA104J50
	C2218	AUDIO FILM CAPACITOR	CFTXA183J50
	C2219	AUDIO FILM CAPACITOR	CFTXA182J50
	C2220	AUDIO FILM CAPACITOR	CFTXA223J50
	C2221, 2222	AUDIO FILM CAPACITOR	CFTXA182J50
	C2223	AUDIO FILM CAPACITOR	CFTXA224J50
	C2224, 2225	AUDIO FILM CAPACITOR	CFTXA393J50
	C2226	AUDIO FILM CAPACITOR	CFTXA105J50
	C2227		CFTXA681J50
	C2228		CFTXA102J50
	C2229		CFTXA471J50
	C2230	AUDIO FILM CAPACITOR	CFTXA222J50
	C2231	AUDIO FILM CAPACITOR	CFTXA822J50
	C2233		CFTXA102J50
	C2234	AUDIO FILM CAPACITOR	CFTXA822J50
	C2235	AUDIO FILM CAPACITOR	CFTXA224J50
	C2237	AUDIO FILM CAPACITOR	CFTXA823J50
	C2238, 2239	AUDIO FILM CAPACITOR	CFTXA153J50
	C2240	AUDIO FILM CAPACITOR	CFTXA473J50
	C2241	AUDIO FILM CAPACITOR	CFTXA104J50
	C2242	AUDIO FILM CAPACITOR	CFTXA224J50
	C2243	AUDIO FILM CAPACITOR	CFTXA474J50
	C2244	AUDIO FILM CAPACITOR	CFTXA104J50
	C2245	AUDIO FILM CAPACITOR	CFTXA474J50
	C2246	AUDIO FILM CAPACITOR	CFTXA224J50
	C2247	AUDIO FILM CAPACITOR	CFTXA823J50
	C2248	AUDIO FILM CAPACITOR	CFTXA104J50
	C2249	AUDIO FILM CAPACITOR	CFTXA334J50
	C2250, 2251	ELECTR. CAPACITOR	CEYA101M10

Mark	No.	Description	Part No.
	C2264	ELECTR. CAPACITOR	CEYA100M50
RESISTORS			
	R1001	CHIP RESISTOR	RS1/10S□□□J
	R1101	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R1102	CARBONFILM RESISTOR	RDR1/2PM□□□J
	R1105	CARBONFILM RESISTOR	RDR1/2PM□□□J
	R1106-1109		RS1/10S□□□J
	R1110	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R1111-1113		RS1/10S□□□J
	R1114, 1115	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R1116-1119	CHIP RESISTOR	RS1/10S□□□J
	R1120-1123	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R1124-1132	CHIP RESISTOR	RS1/10S□□□J
	R1134-1138	CHIP RESISTOR	RS1/10S□□□J
	R1140-1152	CHIP RESISTOR	RS1/10S□□□J
	R1162, 1163	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R1201	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R1202	CARBONFILM RESISTOR	RDR1/2PM□□□J
	R1205	CARBONFILM RESISTOR	RDR1/2PM□□□J
	R1206-1209		RS1/10S□□□J
	R1210	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R1211-1213		RS1/10S□□□J
	R1214, 1215	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R1216-1219	CHIP RESISTOR	RS1/10S□□□J
	R1220-1223	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R1224-1232	CHIP RESISTOR	RS1/10S□□□J
	R1234-1238	CHIP RESISTOR	RS1/10S□□□J
	R1240-1252	CHIP RESISTOR	RS1/10S□□□J
	R1262, 1263	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R2101	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R2103, 2104	CARBONFILM RESISTOR	RDR1/2PM□□□J
	R2106-2109		RS1/10S□□□J
	R2110	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R2111-2113		RS1/10S□□□J
	R2114, 2115	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R2116-2119	CHIP RESISTOR	RS1/10S□□□J
	R2120-2123	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R2124-2132	CHIP RESISTOR	RS1/10S□□□J
	R2134-2138	CHIP RESISTOR	RS1/10S□□□J
	R2140-2152	CHIP RESISTOR	RS1/10S□□□J
	R2153	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R2161-2167	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R2169	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R2201	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R2203, 2204	CARBONFILM RESISTOR	RDR1/2PM□□□J
	R2206-2209		RS1/10S□□□J
	R2210	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R2211-2213		RS1/10S□□□J
	R2214, 2215	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R2216-2219	CHIP RESISTOR	RS1/10S□□□J
	R2220-2223	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R2224-2232	CHIP RESISTOR	RS1/10S□□□J
	R2234-2238	CHIP RESISTOR	RS1/10S□□□J
	R2240-2252	CHIP RESISTOR	RS1/10S□□□J
	R2253	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R2261-2267	CARBONFILM RESISTOR	RDR1/4PM□□□J
	R2269	CARBONFILM RESISTOR	RDR1/4PM□□□J
	VR2101	VARIABLE RESISTOR (5K-B)	RCP1088

Mark	No.	Description	Part No.
	VR2201	VARIABLE RESISTOR (5K-B)	RCP1088
◎ SUBB UNIT (RWX1058)			
SEMICONDUCTORS			
	Q2101	TRANSISTOR	2SA933S
	Q2102	TRANSISTOR	DTC124ES
	Q2103	TRANSISTOR	DTA124ES
	Q2104	TRANSISTOR	DTC124ES
	Q2105	TRANSISTOR	DTA124ES
	Q2106	TRANSISTOR	DTC124ES
	Q2107	TRANSISTOR	DTA124ES
	Q2108, 2109	DIGITAL TRANSISTOR	DTA114ES
	Q2110, 2111	TRANSISTOR	2SC1740S
	D2101-2131	DIODE	1SS252
	D2222-2224	DIODE	1SS252
SWITCHES			
	S2101-2115		RSG1039
	S2116	SWITCH	RSG1027
	S2117		RSG1039
	S2118		RSB1003
CAPACITORS			
	C2101-2103	AXIAL CAPACITOR	CKPUYB821K50
	C2104-2106	CERAMIC CAPACITOR	CKCYF473Z50
	C2107	CERAMIC CAPACITOR	CKCYF103Z50
	C2108	CERAMIC CAPACITOR	CKDYB102K50
RESISTORS			
	R2101	RESISTOR ARRAY	RA5T□□□J
	R2102-2105	CARBONFILM RESISTOR	RD1/6PM□□□J
	R2111	RESISTOR ARRAY	RA11T□□□J
	R2112	RESISTOR ARRAY	RA10T□□□J
	R2121-2127	CARBONFILM RESISTOR	RD1/6PM□□□J
	R2131-2137	CARBONFILM RESISTOR	RD1/6PM□□□J
	VR2101	VARIABLE RESISTOR (100K-A×2)	RCV1077
	VR2102	VARIABLE RESISTOR (200K-B)	RCV1046
OTHERS			
	V2101		RAW1109
REC SWITCH UNIT			
SWITCHES			
	S3	SWITCH	RSG-143
TAPE SELECTOR UNIT			
SWITCHES			
	S1, 2		RSH-070
SENSOR UNIT (A)			
SEMICONDUCTORS			
	D1		GP1A51HR
CAPACITORS			
	C2	CERAMIC CAPACITOR	CKPUYY103N16
RESISTORS			
	R2	CARBONFILM RESISTOR	RD1/6PM□□□J

Mark	No.	Description	Part No.
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DOOR SWITCH UNIT**SWITCHES**

S4	RSK1002
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CONNECTOR UNIT**CAPACITORS**

C1 CERAMIC CAPACITOR	CKCYF473Z50
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RESISTORS

R4, 5 CARBONFILM RESISTOR	RD1/6PM□□□J
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HPHN UNIT**SEMICONDUCTORS**

IC901 OP-AMP, IC	M5218AP
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CAPACITORS

C901, 902 ELECTR. CAPACITOR	CEAS010M50
C903, 904 ELECTR. CAPACITOR	CEAS101M10

RESISTORS

R901-906 CARBONFILM RESISTOR	RD1/6PM□□□J
R907, 908 CARBONFILM RESISTOR	RD1/2LF□□□J
R909, 910 CARBONFILM RESISTOR	RD1/6PM□□□J
VR901 VARIABLE RESISTOR (20K-B×2)	RCV1043

OTHERS

JA901 JACK	RKN1002
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PWSW UNIT**SWITCHES**

△ S991 SWITCH	RSA-063
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CAPACITORS

△ C991 CAPACITOR (0.01/400)	RCG-009
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OTHERS

△ TERMINAL	RKC-061
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TIMS UNIT**SWITCHES**

S981	RSH1011
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MAIN UNIT**SEMICONDUCTORS**

IC101 OP-AMP-IC	M5220P
IC201 DOLBY B/C IC	CXA1330S
IC251 DOLBY B/C IC	CXA1330S
IC301 IC	BA335
IC331 LOGIC IC	TC4066BP

IC401 LOGIC IC	TC4052BP
IC402 OP-AMP, IC	M5218AL
IC501 OP-AMP, IC	M5218AL
IC502	BA6138
IC503 CMOS LOGIC IC	TC4050BP

IC504 DUAL-COMPARATOR IC	M5233L
IC551 DOLBY HX PRO IC	UPC1297CA
IC601 REC EQUALIZER IC	CXA1198AP
IC701 MCU	PD4312A
IC702 OUTPUT EXPANDER IC	M50255P

IC801 OP-AMP, IC	M5218AP
IC802 REGULATOR IC	NJM7805FA

Mark	No.	Description	Part No.
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△	IC803 REGULATOR IC	NJM7812FA
△	IC804 REGULATOR IC	NJM79L12A
△	IC805 REGULATOR IC	NJM7812FA

IC851 LINEAR IC	TA7291P
IC852	LB1641
Q101, 102 TRANSISTOR	DTC114ES
Q151 DIGITAL TRANSISTOR	DTC114TS
Q152 TRANSISTOR	DTA124ES

Q153 TRANSISTOR	DTC124ES
Q281 TRANSISTOR	DTA124ES
Q282-284 DIGITAL TRANSISTOR	DTC114TS
Q285 DIGITAL TRANSISTOR	DTA114ES
Q331, 332 TRANSISTOR	2SD1302

Q333 TRANSISTOR	DTC124ES
Q334 TRANSISTOR	DTA124ES
Q351, 352 TRANSISTOR	2SD1302
Q401, 402 DIGITAL TRANSISTOR	DTC114TS
Q451, 452 TRANSISTOR	2SD1302

Q461-476 DIGITAL TRANSISTOR	DTC114TS
Q501-505 DIGITAL TRANSISTOR	DTC114TS
Q551, 552 TRANSISTOR	2SC3243
Q553 TRANSISTOR	2SD1302
Q571 TRANSISTOR	DTC114ES

Q572 DIGITAL TRANSISTOR	DTA114ES
Q573 TRANSISTOR	2SA933S
Q574 TRANSISTOR	2SC1740S
Q591-593 DIGITAL TRANSISTOR	DTC114TS
Q594 TRANSISTOR	2SA1283

Q601, 602 TRANSISTOR	2SD2144S
Q603-605 TRANSISTOR	DTC114ES
Q701 TRANSISTOR	2SA933S
Q702, 703 DIGITAL TRANSISTOR	DTA114ES
Q705-708 DIGITAL TRANSISTOR	DTA114ES

Q709-712 TRANSISTOR	DTC114ES
Q714 TRANSISTOR	DTC114ES
Q802 TRANSISTOR	2SC1740S
Q803 TRANSISTOR	2SD1266
Q804 TRANSISTOR	2SA933S

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Q806 TRANSISTOR	2SB941
Q831, 832 TRANSISTOR	2SC1740S
Q833 TRANSISTOR	DTC114ES
Q834 DIGITAL TRANSISTOR	DTA114ES
Q835 TRANSISTOR	2SC1740S

Q851 DIGITAL TRANSISTOR	DTC114TS
Q852, 853 TRANSISTOR	2SA933S
Q854 TRANSISTOR	DTC114ES
Q855 TRANSISTOR	2SC1740S
Q856 DIGITAL TRANSISTOR	DTC114TS

D101, 102 DIODE	1SS254
D483 DIODE	1SS254
D501-505 DIODE	1SS254
D555 DIODE	1SS254
D571, 572 DIODE	1SS254

D701 ZENER DIODE	MTZJ9. 1A
D702 DIODE	1SS254
D703-706 DIODE	1SS252
D710-713 DIODE	1SS254
D720 ZENER DIODE	MTZJ3. 3B

Mark	No.	Description	Part No.
△	D802		S2VB20
△	D803, 804 ZENER DIODE		MTZJ6. 2B
△	D808 RECTIFIER DIODE		1SR35-100A
△	D809 ZENER DIODE		MTZJ20A
△	D810 ZENER DIODE		MTZJ9. 1A
	D811 DIODE		1SS254
	D812 ZENER DIODE		MTZ3. 6B
	D813, 814 DIODE		1SS252
△	D815 DIODE		10DF2FA9
△	D816, 817 DIODE		10DF2FC3
△	D818 DIODE		10DF2FA9
	D833 DIODE		1SS254
	D851 DIODE		1SS254
	D852-856 DIODE		1SS252
	D857 ZENER DIODE		MTZJ4. 3B
	D858 DIODE		1SS254
	D860 ZENER DIODE		MTZJ11B
	D861 DIODE		1SS254

SWITCHES

S281	RSH1025
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COILS/TRANSFORMERS

L101, 102 COIL (5.6mH)	RTF1060
L551 RADIAL INDUCTOR	LFA121K
L552	RTD1058
L553, 554	RTD1011
L601, 602 COIL (2.2mH)	RTF1094
L851 (150 μ H)	RTF1068
F201, 202 FILTER	RTF1062

CAPACITORS

C101, 102 PL. STYRENE CAPACITOR	CQS5221J50
C103, 104 AXIAL CAPACITOR	CKPUYB101K50
C105, 106 AUDIO FILM CAPACITOR	CFTXA563J50
C107, 108 ELECTR. CAPACITOR	CEANP100M16
C109, 110 AUDIO FILM CAPACITOR	CFTXA273J50
C113, 114 CERAMIC CAPACITOR	CKPUYB102K50
C121, 122 ELECTR. CAPACITOR	CEAS101M10
C151 ELECTR. CAPACITOR	CEAS010M50
C201, 202 ELECTR. CAPACITOR	CEYA4R7M50
C203-206 AUDIO FILM CAPACITOR	CFTXA222J50
C207, 208 ELECTR. CAPACITOR	CEASR33M50
C209, 210 ELECTR. CAPACITOR	CEASR22M50
C211, 212 ELECTR. CAPACITOR	CEASR33M50
C213, 214 ELECTR. CAPACITOR	CEAS330M16
C221, 222 ELECTR. CAPACITOR	CEAS101M10
C251, 252 ELECTR. CAPACITOR	CEYA010M50
C253, 254 ELECTR. CAPACITOR	CEAS4R7M50
C255-258 AUDIO FILM CAPACITOR	CFTXA222J50
C259, 260 ELECTR. CAPACITOR	CEASR33M50
C261, 262 ELECTR. CAPACITOR	CEASR22M50
C263, 264 ELECTR. CAPACITOR	CEASR33M50
C265, 266 ELECTR. CAPACITOR	CEYA330M16
C267, 268 ELECTR. CAPACITOR	CEAS101M10
C281 ELECTR. CAPACITOR	CEAS010M50
C301, 302 CERAMIC CAPACITOR	CGCYX104K25
C303 CERAMIC CAPACITOR	CGCYX473K25
C304, 305 CERAMIC CAPACITOR	CGCYX104K25
C306 ELECTR. CAPACITOR	CEASR47M50
C307 CERAMIC CAPACITOR	CKCYF473Z50

Mark	No.	Description	Part No.
	C331	ELECTR. CAPACITOR	CEAS010M50
	C351	ELECTR. CAPACITOR	CEAS010M50
	C352, 353	CERAMIC CAPACITOR	CKCYF473Z50
	C381, 382	AXIAL CAPACITOR	CKPUYB101K50
	C401	ELECTR. CAPACITOR	CEAS010M50
	C402	AUDIO FILM CAPACITOR	CFTXA103J50
	C403	AUDIO FILM CAPACITOR	CFTXA104J50
	C405	AUDIO FILM CAPACITOR	CFTXA182J50
	C406	AUDIO FILM CAPACITOR	CFTXA123J50
	C408		CFTXA272J50
	C409	AUDIO FILM CAPACITOR	CFTXA823J50
	C410	AUDIO FILM CAPACITOR	CFTXA103J50
	C451	CERAMIC CAPACITOR	CKPUYF103Z25
	C501, 502	AUDIO FILM CAPACITOR	CFTXA154J50
	C503, 504	AXIAL CAPACITOR	CKPUYB561K50
	C505-508	ELECTR. CAPACITOR	CEAS4R7M50
	C509	CERAMIC CAPACITOR	CKCYF473Z50
	C551, 552	ELECTR. CAPACITOR	CEAS470M16
	C553	AUDIO FILM CAPACITOR	CFTXA223J50
	C554, 555	AUDIO FILM CAPACITOR	CFTXA332J50
	C556	AUDIO FILM CAPACITOR	CFTXA682J50
	C557	CAPACITOR	QQPA752J100
	C558	ELECTR. CAPACITOR	CEAS330M35
	C559	AXIAL CAPACITOR	CKPUYB101K50
	C571	ELECTR. CAPACITOR	CEAS010M50
	C572	ELECTR. CAPACITOR	CEAS330M35
	C573, 574	CERAMIC CAPACITOR	CKCYF473Z50
	C575, 576	CERAMIC CAPACITOR	CKCYB391K500
	C577, 578	CERAMIC CAPACITOR	CCCSL101K500
	C579-582	AUDIO FILM CAPACITOR	CFTXA223J50
	C583, 584	AXIAL CAPACITOR	CKPUYB821K50
	C585, 586	AUDIO FILM CAPACITOR	CFTXA103J50
	C587	ELECTR. CAPACITOR	CEAS330M35
	C601, 602	ELECTR. CAPACITOR	CEAS010M50
	C603, 604	ELECTR. CAPACITOR	CEAS4R7M50
	C605, 606	ELECTR. CAPACITOR	CEANP220M16
	C607, 608	CERAMIC CAPACITOR	CKPUYB102K50
	C609, 610	ELECTR. CAPACITOR	CEAS101M10
	C612, 613	CERAMIC CAPACITOR	CKCYF473Z50
	C614	ELECTR. CAPACITOR	CEAS2R2M50
	C701	ELECTR. CAPACITOR	CEAS101M10
	C702-704	CERAMIC CAPACITOR	CKCYF103Z50
	C706, 707	CERAMIC CAPACITOR	CKCYF103Z50
	C721	ELECTR. CAPACITOR	CEAS470M16
	C722	CERAMIC CAPACITOR	CKCYF103Z50
	C801	CERAMIC CAPACITOR	CKCYF473Z50
	C803	CERAMIC CAPACITOR	CKCYF473Z50
	C804, 805	ELECTR. CAPACITOR	CENA222M25
	C806, 807	ELECTR. CAPACITOR	CEAS100M50
	C808, 809	AUDIO FILM CAPACITOR	CFTXA563J50
	C810, 811	ELECTR. CAPACITOR	CEAS101M10
	C812, 813	CERAMIC CAPACITOR	CKCYF473Z50
	C815	CAPACITOR (6800/25)	VCH1078
	C817	ELECTR. CAPACITOR	CEAS101M25
	C819	ELECTR. CAPACITOR	CEAS102M6R3
	C820, 821	ELECTR. CAPACITOR	CEAS101M50
	C822, 823	CERAMIC CAPACITOR	CKCYF473Z50
	C824	ELECTR. CAPACITOR	CEAS101M25

Mark	No.	Description	Part No.
	C831	ELECTR. CAPACITOR	CEAS4R7M50
	C833	ELECTR. CAPACITOR	CEAS470M16
	C834	ELECTR. CAPACITOR	CEAS4R7M50

C835, 836	ELECTR. CAPACITOR	CEAS101M10
C851, 852	CERAMIC CAPACITOR	CKCYF473Z50
C853, 854	ELECTR. CAPACITOR	CEAS100M50
C855	ELECTR. CAPACITOR	CEAS220M25
C856	CERAMIC CAPACITOR	CKCYF473Z50

C861	CERAMIC CAPACITOR	CKCYF473Z50
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RESISTORS

R101-114	CARBONFILM RESISTOR	RD1/6PM□□□J
R151, 152	CARBONFILM RESISTOR	RD1/6PM□□□J
R201-210	CARBONFILM RESISTOR	RD1/6PM□□□J
R239, 240	CARBONFILM RESISTOR	RD1/2LF□□□J
R251-262	CARBONFILM RESISTOR	RD1/6PM□□□J

R263, 264	CARBONFILM RESISTOR	RD1/2LF□□□J
R265-270	CARBONFILM RESISTOR	RD1/6PM□□□J
R281-285	CARBONFILM RESISTOR	RD1/6PM□□□J
R301-306	CARBONFILM RESISTOR	RD1/6PM□□□J
R331-338	CARBONFILM RESISTOR	RD1/6PM□□□J

R351-359	CARBONFILM RESISTOR	RD1/6PM□□□J
R401-412	CARBONFILM RESISTOR	RD1/6PM□□□J
R451, 452	CARBONFILM RESISTOR	RD1/6PM□□□J
R461-476	CARBONFILM RESISTOR	RD1/6PM□□□J
R481, 482	CARBONFILM RESISTOR	RD1/6PM□□□J

R484, 485	CARBONFILM RESISTOR	RD1/6PM□□□J
R501-514	CARBONFILM RESISTOR	RD1/6PM□□□J
R515	RESISTOR ARRAY	RA5T□□□J
R516	LADDER RESISTOR (11K/22K)	RCX1020
R517-523	CARBONFILM RESISTOR	RD1/6PM□□□J

R551, 552	CARBONFILM RESISTOR	RD1/6PM□□□J
R553, 554	CARBONFILM RESISTOR	RD1/2LF□□□J
R555-557	CARBONFILM RESISTOR	RD1/6PM□□□J
R560	CARBONFILM RESISTOR	RD1/2LF□□□J
R571	CARBONFILM RESISTOR	RD1/6PM□□□J

R573-578	CARBONFILM RESISTOR	RD1/6PM□□□J
R591	CARBONFILM RESISTOR	RD1/6PM□□□J
R593-595	CARBONFILM RESISTOR	RD1/6PM□□□J
R596	CARBONFILM RESISTOR	RD1/2LF□□□J
R597	CARBONFILM RESISTOR	RD1/6PM□□□J

R601-614	CARBONFILM RESISTOR	RD1/6PM□□□J
R616, 617	CARBONFILM RESISTOR	RD1/6PM□□□J
R621-626	CARBONFILM RESISTOR	RD1/6PM□□□J
R631-636	CARBONFILM RESISTOR	RD1/6PM□□□J
R641-646	CARBONFILM RESISTOR	RD1/6PM□□□J

R702	RESISTOR ARRAY	RA4T□□□J
R703	CARBONFILM RESISTOR	RD1/6PM□□□J
R704	RESISTOR ARRAY	RA4T□□□J
R705-708	CARBONFILM RESISTOR	RD1/6PM□□□J
R710-714	CARBONFILM RESISTOR	RD1/6PM□□□J

R716-718	CARBONFILM RESISTOR	RD1/6PM□□□J
R719	RESISTOR ARRAY	RA7T□□□J
R720	RESISTOR ARRAY	RA5T□□□J
R722-726	CARBONFILM RESISTOR	RD1/6PM□□□J
R729	CARBONFILM RESISTOR	RD1/6PM□□□J

R730	RESISTOR ARRAY	RA3T□□□J
R731-734	CARBONFILM RESISTOR	RD1/6PM□□□J
R742	FUSIBLE RESISTOR	RFA1/4L□□□J

Mark	No.	Description	Part No.
	R805-812	CARBONFILM RESISTOR	RD1/6PM□□□J
	R831-833	CARBONFILM RESISTOR	RD1/6PM□□□J

R835, 836	CARBONFILM RESISTOR	RD1/6PM□□□J
R838, 839	CARBONFILM RESISTOR	RD1/6PM□□□J
R841	CARBONFILM RESISTOR	RD1/6PM□□□J
R851-866	CARBONFILM RESISTOR	RD1/6PM□□□J
R867	CARBONFILM RESISTOR	RD1/2LF□□□J
R868-870	CARBONFILM RESISTOR	RD1/6PM□□□J

△	R871, 872	METAL OXIDE RESISTOR	RS1LMF□□□J
	VR101, 102	VR (22K)	RCP1046
	VR401-403	VR (22K)	RCP1046
	VR501, 502	VR (10K)	RCP1045

VR571, 572	VR (47K)	RCP1047
VR601, 602	VR (22K)	RCP1046

OTHERS

JA351, 352	JACK	RKB1020
JA703	JACK	RKN1014
X701	CERAMIC RESONATOR (4.19M)	VSS1014

TRN 1 UNIT

There is no supply part in this unit.

TRN 2 UNIT

There is no supply part in this unit.

5. ADJUSTMENTS

5.1 MECHANISM ADJUSTMENT

1. Tape Speed Adjustment		
Mode	Adjustment Location	Specifications
PLAY	Capstan motor adjustment hole (Refer to Fig. 1.)	Adjust so that the playback frequency is 3000 ± 5 Hz at the beginning of winding of test tape STD-301.
PLAY		Playback test tape STD-301 again and confirm that the above specifications are satisfied.

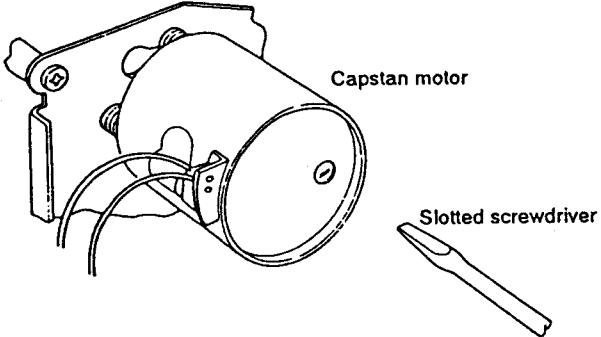


Fig. 1

2. Tape running and azimuth adjustment			
No.	Mode	Adjustment Location	Specifications
1			Insert half mirror in side A (set screws at front).
2	PLAY	Height adjustment nut (Refer to Fig. 2.)	Playback the above tape and adjust so that there is no curling of the tape in the guide section of the head. (Refer to Fig. 3.)
3	PLAY	Azimuth adjustment screw (Refer to Fig. 2.)	Playback test tape STD-331E and adjust so that the 10 kHz output level is maximum and also so that there is no phase difference between L-ch and R-ch.
4	Check Item 2 above again and adjust again if it does not satisfy the specifications. (Be sure to adjust Item 3 when Item 2 is adjusted.)		

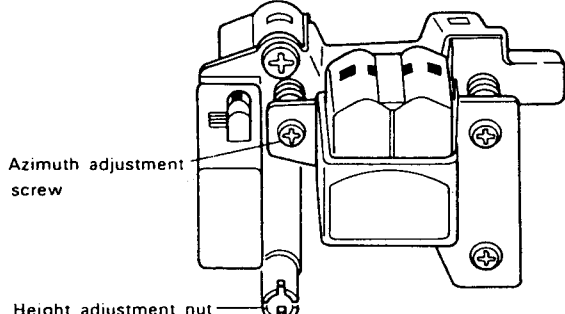


Fig. 2.

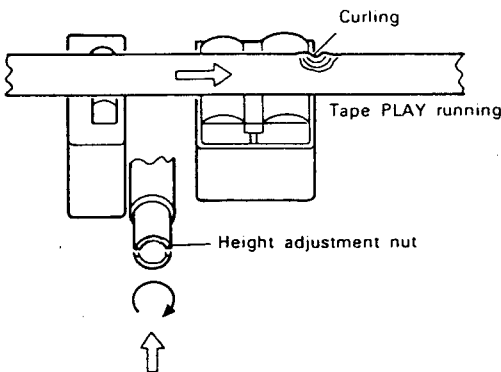


Fig. 3.

5.2 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 k Ω (or between 47k to 52 k Ω) load resistance to the OUTPUT terminals.
6. Unless otherwise specified, the switches listed below are left in the positions indicated.
DOLBY NR : OFF
TAPE SELECTOR : NORM

Test Tapes

- STD-331E : Playback adjustments
(See Fig. 5-1)
- STD-631 : NORMAL blank tape
STD-621 : CrO₂ 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.

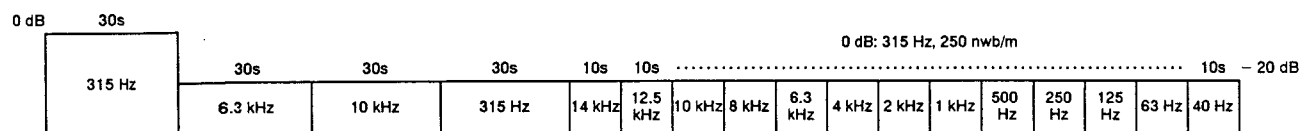


Fig. 5-1 Constants of the test tape STD-331E

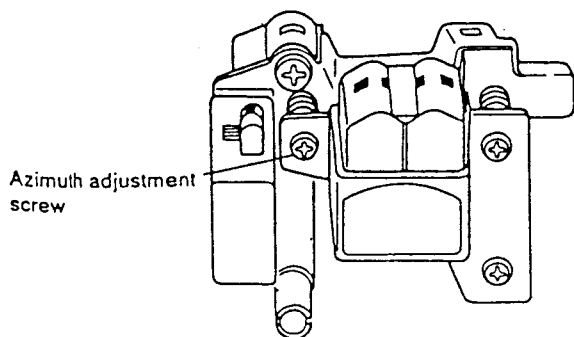


Fig. 5-2 Head azimuth adjustment

List of Adjustments

Playback sections

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

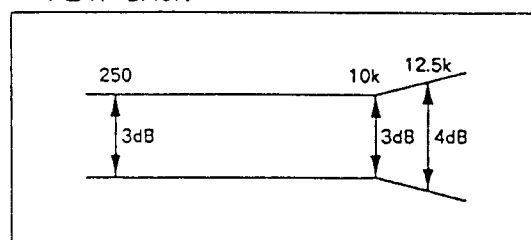
Recording sections

1. Bias oscillator adjustment.
2. Bias trap adjustment.
3. Recording bias adjustment.
4. Recording level adjustment.
5. Level meter adjustment and BLE adjustment.

NOTE: This unit has an automatic tape selection feature.

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PLAY BACK



RECORDING

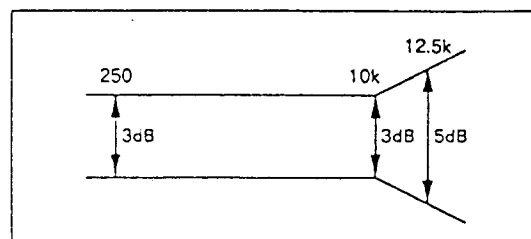
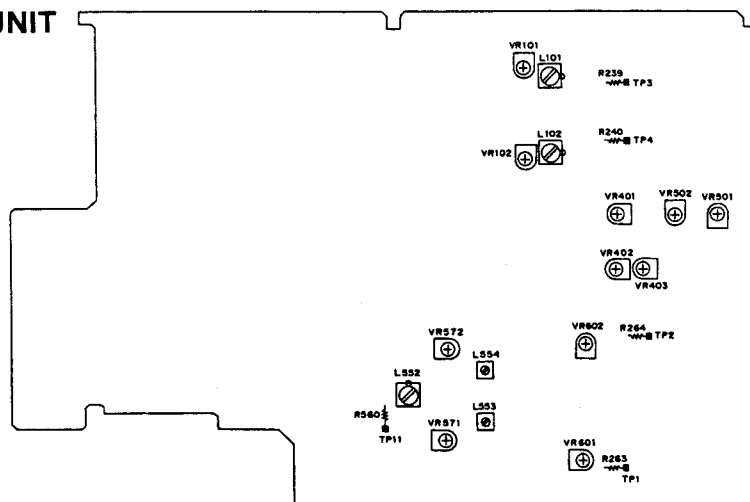


Fig. 5-3 Frequency response zone

MAIN UNIT



DOLBY S UNIT

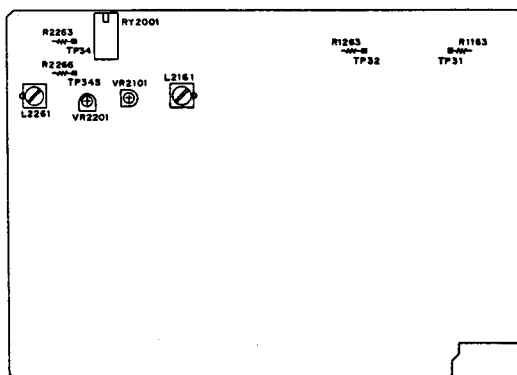


Fig. 5-4 Adjusting points

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. 5-2)	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
2.	Set the DOLBY NR switch to S.					This adjustment must be performed accurately for proper Dolby level setting.
3.	PLAY	Play the 315 Hz/0 dB section of the STD-331E test tape.	DOLBY S UNIT	VR2101 (Lch) VR2201 (Rch)	TP. 33S (Lch) TP. 34S (Rch)	-6.7 dBV
4.	Set the DOLBY NR switch to OFF.					

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	L552	TP. 11	105 kHz $\pm$ 300 Hz	

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	
2.	Set the DOLBY NR switch to S.						
3.	REC	Load the STD-610 test tape with no input signal.	DOLBY S UNIT	L2181 (Lch) L2281 (Rch)	LINE OUT	Minimum output	
4.	Set the DOLBY NR switch to OFF.						

3. Recording Bias Adjustment

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	REC/ PAUSE	Apply a 315 Hz/−20 dBV (−20VU meter reading) signal to the line input terminals and insert STD-631.			LINE OUT		
2.		Record and play back the 315 Hz signal and a 10 kHz signal at −20 dBV input level.	Deck	VR571 (Lch)		Record and play back repeatedly, comparing the 315 Hz and 10 kHz playback levels, and adjust to 0 ± 0.5 dB.	
				VR572 (Rch)			
3.	Check distortion value after adjustment is completed and confirm that there is no underbias.						

4. Recording Level Adjustment

- Turn OFF the DOLBY NR switch.

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	REC/ PAUSE	Apply the 315 Hz/−4 dBV signal to the line input, and load STD−631 (NORM).	REC level control volume		TP. 1 (Lch) TP. 2 (Rch)	−11.2 dBV	
2.	REC → PLAY	Record and play back the 315 Hz/−4 dBV signal.	Deck	VR601 (Lch)	TP. 3 (Lch) TP. 4 (Rch)	Repeatedly record, playback and adjust so that the playback signal level becomes −11.2 dBV.	Recording bias adjustment and recording level adjustment with STD−631 must be performed accurately as reference for BLE adjustment.
		VR602 (Rch)					
3.	REC → PLAY	Record the 315 Hz/−4 dBV signal on STD−621 (CrO2), and play it back.	Check			−11.2 dBV ± 1.5 dB	
4.	REC → PLAY	Record the 315 Hz/−4 dBV signal on STD−610 (METAL), and play it back.	Check			−11.2 dBV ± 1.5 dB	

5. Level Meter Adjustment and 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

Press the MODE (COUNTER), RANGE and Display ON/OFF keys on the front panel simultaneously, with the power ON. The unit enters the test mode and the following occurs:

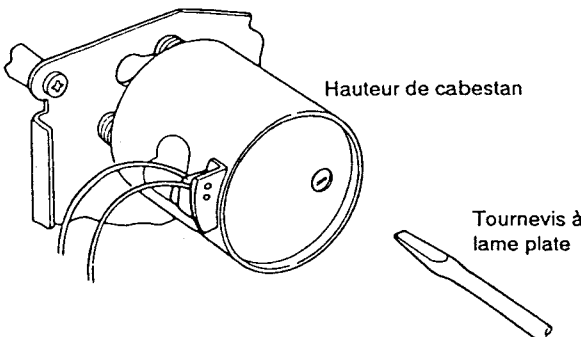
- *1. When REC key is pressed, the unit enters the test mode 1. (FL indication "1")
At this time, level meter adjustment is to be performed.
- *2. When REW key is pressed, the unit enters the test mode 2. (FL indication "2")
At this time, BLE adjustment (400 Hz) is to be performed.
- *3. When STOP key is pressed, the unit enters the test mode 3. (FL indication "3")
At this time, BLE adjustment (3 kHz) is to be performed.
- *4. When PLAY key is pressed, the unit enters the test mode 4. (FL indication "4")
At this time, BLE adjustment (12 kHz) is to be performed.

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	REC PAUSE and TEST MODE 1 (*1)	Input the 315 Hz/-8 dBV (500 mV) signal to the LINE INPUT terminal, set to the test mode, and then press the REC key.	REC LEVEL VR	LINE OUT	-6 dBV	Level meter adjustment
			VR501	Level meter Lch	Adjust so that 0 dB of the level meter flashes.	
			VR502	Level meter Rch	Adjust so that 0 dB of the level meter flashes.	
2.	—	REC LEVEL VR MIN or no signal input.	—	—	—	
3.	TEST MODE 2 (*2)	Press the REW key.	VR401	Level meter Rch	Adjust so that -3 dB of the level meter flashes.	400 Hz adjustment
4.	TEST MODE 3 (*3)	Press the STOP key.	VR402		Adjust so that -3 dB of the level meter flashes.	3 kHz adjustment
5.	TEST MODE 4 (*4)	Press the PLAY key.	VR403		Adjust so that -3 dB of the level meter flashes.	12 kHz adjustment
6.	When the RESET key is pressed again, the test mode is released.					

5. REGLAGES

5.1 REGLAGES MECANQUES

1. Réglage de vitesse de bande		
Mode	Point de réglage	Caractéristiques
LEC-TURE	Orifice de réglage du moteur de cabestan (Se reporter à la Fig. 1)	Régler afin que la fréquence de lecture soit de 3000 ± 5 Hz au début de l'enroulement de la bande d'essai STD-301.
LEC-TURE		Reproduire à nouveau la bande d'essai STD-301 et confirmer que les caractéristiques ci-dessus sont satisfaisantes.

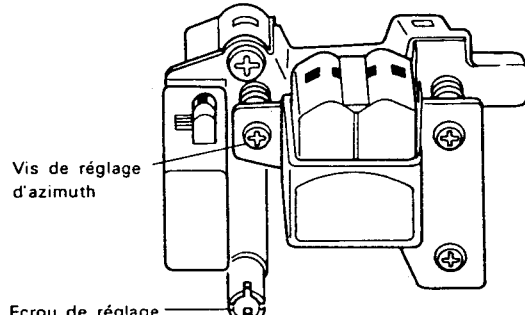


Hauteur de cabestan

Tournevis à lame plate

Fig. 1

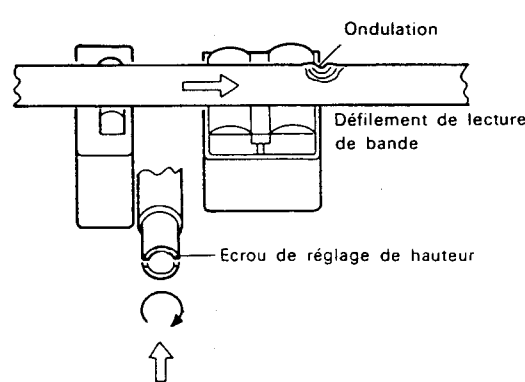
2. Réglage d'azimuth et de défilement de bande			
N°	Mode	Emplacement de réglage	Spécifications
1	---	---	Insérer le demi-miroir dans le côté A (régler les vis à l'avant).
2	PLAY	Ecrou de réglage de hauteur (Se reporter à la Fig. 2.)	Reproduire la bande ci-dessus et régler pour qu'il n'y ait pas d'ondulation de la bande dans la section guide de la tête. (Se reporter à la Fig. 3.)
3	PLAY	Vis de réglage d'azimuth (Se reporter à la Fig. 2.)	Reproduire la bande d'essai STD-331E et régler pour que le niveau de sortie de 10 kHz soit maximum et également pour qu'il n'y ait pas de déphasage entre le canal gauche et le canal droit.
4	Vérifier à nouveau l'article 2 ci-dessus et régler s'il ne satisfait pas les spécifications. (Toujours régler l'article 3 lorsque l'article 2 est réglé.)		



Vis de réglage d'azimuth

Ecrou de réglage de hauteur

Fig. 2.



Ondulation

Défilement de lecture de bande

Ecrou de réglage de hauteur

Fig. 3.

5.2 REGLAGES ELECTRIQUES

Conditions de réglage

1. Les réglages mécaniques doivent tout d'abord être terminés.
2. Les têtes doivent être nettoyées et démagnétisées.
3. Mettre la platine sous tension et la laisser chauffer pendant au moins quelques minutes avant de commencer les réglages électriques.
4. Le signal de référence est de 0 dBV=1 Vrms.
5. Connecter une résistance de charge de 50 k Ω (tolérance 47k à 52 k Ω) aux bornes de sortie (OUTPUT).
6. Sauf indication contraire, les commutateurs ci-dessous doivent être laissés sur les positions indiquées.
DOLBY NR : OFF
Sélecteur de bande : NORM
(TAPE SELECTOR)

Bandes d'essai

- STD-331E : Réglages de la lecture
(Voir fig. 5-1)
- STD-631 : Bande vierge de type normal
- STD-621 : Bande vierge de type chrome
- STD-610 : Bande vierge de type métal

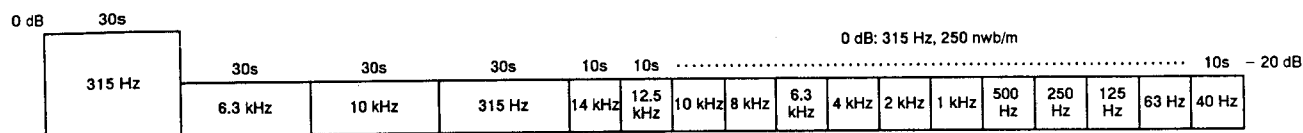


Fig. 5-1 Constantes de la bande d'essai STD-331E

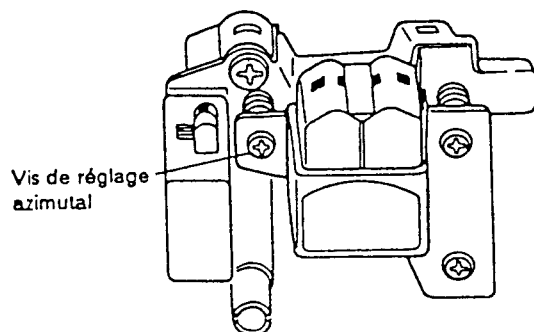


Fig. 5-2 Réglage de l'azimut de la tête

Liste des réglages

Sections de lecture

1. Réglage de l'azimut de la tête.
2. Réglage du niveau de lecture.

Sections d'enregistrement

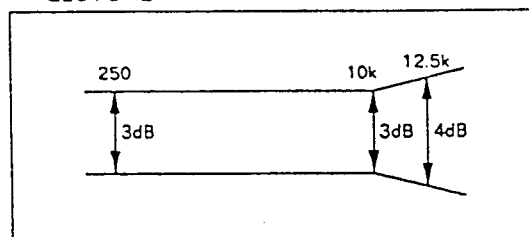
1. Réglage de l'oscillateur de polarisation.
2. Réglage du circuit réjecteur de polarisation
3. Réglage de la polarisation d'enregistrement.
4. Réglage du niveau d'enregistrement.
5. Réglage de décibelmètre et réglage du BLE.

REMARQUE:

Cette unité est dotée d'une sélection automatique de bande.

- * Le niveau d'enregistrement de référence étant de 250 nwb/m pour le STD-331E, le niveau d'enregistrement sera supérieur de 4 dB pour le STD-331B (160 nwb/m). Pour le réglage, tenir compte du type de bande utilisé.

LECTURE



ENREGISTREMENT

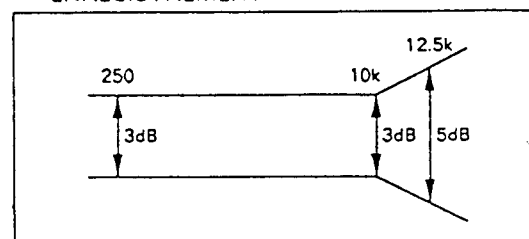
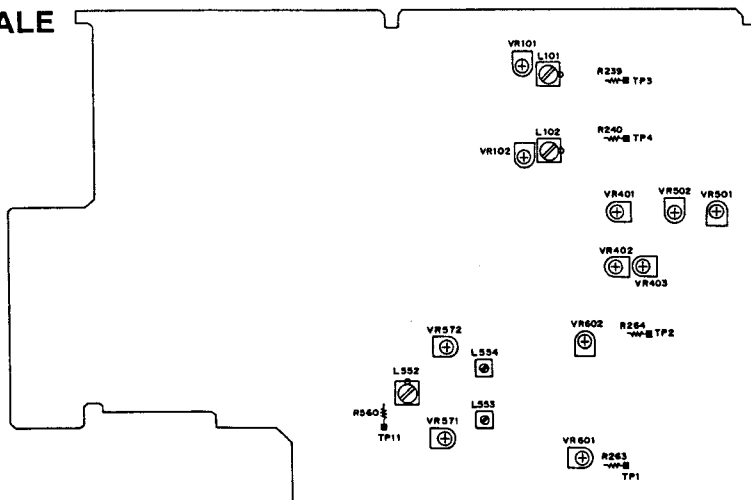


Fig. 5-3 Zone de réponse en fréquence

DE L'UNITÉ PRINCIPALE



UNITE DOLBY S

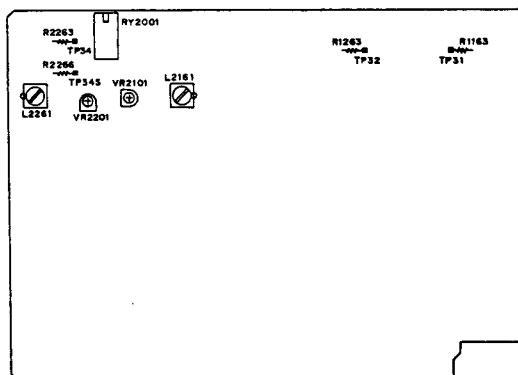


Fig. 5-4 Points réglage

SECTION DE LECTURE

1. Réglage de l'azimut de la tête

- Tourner VR101, 102 sur leur position centrale mécanique.

No.	Mode	Signal d'entrée et bande d'essai	Points de réglage	Points de mesure	Valeur de réglage	Remarques
1.	PLAY	Reproduire la section 10 kHz/-20 dB de la bande d'essai STD-331E.	Vis de réglage de l'azimut de la tête. (Voir fig. 5-2)	LINE OUT	Niveau du signal de reproduction maximum.	
2.	STOP	Verrouiller la vis avec le verrouillage de vis après avoir terminé le réglage.				

2. Réglage du niveau de lecture

- Ce réglage détermine le niveau DOLBY NR et il doit être effectué très soigneusement.

No.	Mode	Signal d'entrée et bande d'essai	Points de réglage		Points de mesure	Valeur de réglage	Remarques
1.	PLAY	Reproduire la section 315 Hz/0 dB de la bande d'essai STD-331E.	Platine	VR101 (can. G) VR102 (can. D)	TP. 3 (can. G) TP. 4 (can. D)	-6,7 dBV	Ce réglage doit être effectué avec précision pour un réglage adéquat du niveau Dolby.
2.	Régler le commutateur DOLBY NR sur la position S.						
3.	PLAY	Reproduire la section 315 Hz/0 dB de la bande d'essai STD-331E.	UNITE DOLBY S	VR2101 (can. G) VR2201 (can. D)	TP. 33S (can. G) TP. 34S (can. D)	-6,7 dBV	
4.	Régler le commutateur DOLBY NR sur la position OFF.						

SECTION D'ENREGISTREMENT

1. Réglage de l'oscillateur de polarisation

No.	Mode	Signal d'entrée et bande d'essai	Points de réglage		Points de mesure	Valeur de réglage	Remarques
1.	REC	Charger la bande d'essai STD-810 et n'introduire aucun signal.	Platine	L552	TP. 11	105 kHz $\pm$ 300 Hz	

2. Réglage du circuit réjecteur de polarisation

No.	Mode	Signal d'entrée et bande d'essai	Points de réglage		Points de mesure	Valeur de réglage	Remarques
1.	REC	Charger la bande d'essai STD-810 et n'introduire aucun signal.	Platine	L101 (can. G) L102 (can. D)	LINE OUT	Sortie minimum	
2.	Régler le commutateur DOLBY NR sur la position S.						
3.	REC	Charger la bande d'essai STD-810 et n'introduire aucun signal.	UNITE DOLBY S	L2181 (can. G) L2281 (can. D)	LINE OUT	Sortie minimum	
4.	Régler le commutateur DOLBY NR sur la position OFF.						

3. Réglage de la polarisation d'enregistrement

No.	Mode	Signal d'entrée et bande d'essai	Points de réglage		Points de mesure	Valeur de réglage	Remarques
1.	REC/ PAUSE	Appliquer un signal de 315 Hz/-20 dBV (lecture du décibelmètre -20) aux terminaux d'entrée de ligne et insérer STD-831.			LINE OUT		
2.	REC → PLAY	Enregistrer et reproduire un signal de 315 Hz et un signal de 10 kHz à un niveau d'entrée de -20 dBV.	Platine	VR571 (can. G)		Enregistrer et reproduire continuellement, comparant les niveaux de lecture de 315 Hz et 10 kHz et régler à 0 ± 0,5 dB.	
				VR572 (can. D)			
3.	Vérifier la valeur de distorsion après avoir trminéé le réglage et confirmer qu'il N'y a pas de sous polarisation.						

4. Réglage du niveau d'enregistrement

- Éteindre l'interrupteur DOLBY NR en circuit.

No.	Mode	Signal d'entrée et bande d'essai	Points de réglage		Points de mesure	Valeur de réglage	Remarques
1.	REC/ PAUSE	Appliquer le signal 315 Hz/ -4 dBV à l'entrée de ligne et charger STD-631 (NORM).	Volume de la commande de niveau d'enregistrement.		TP. 1 (can.G) TP. 2 (can. D)	-11,2 dBV	
2.	REC → PLAY	Enregistrer et reproduire le signal 315 Hz/-4 dBV.	Platine	VR601 (can. G)	TP. 3 (can. G) TP. 4 (can. D)	Enregistrer, reproduire et régler de manière répétée de sorte que le niveau du signal devienne -11,2 dBV.	L'enregistrement du réglage de polarisation et l'enregistrement du réglage de niveau avec STD-631 doivent être réalisés avec précision comme référence pour le réglage BLE.
		VR602 (can. D)					
3.	REC → PLAY	Enregistrer le signal 315 Hz/ -4 dBV sur STD-621 (CrO2) et le reproduire.	Vérifier				
4.	REC → PLAY	Enregistrer le signal 315 Hz/ -4 dBV sur STD-610 (METAL) et le reproduire.	Vérifier			-11,2 dBV ± 1,5 dB	

5. Réglage du décibel-mètre et réglage du BLE

- Le réglage BLE doit être effectué une fois que tous les autres réglages sont terminés.
- Ce réglage doit être effectué en mode d'essai.

• Entrée du mode d'essai

Appuyer simultanément sur les touches de MODE (COUNTER), RANGE et Display ON/OFF situées sur le panneau avant lorsque l'alimentation est sous tension. L'unité passe alors au mode d'essai et la procédure suivante se déroule:

*1. Lorsque l'on appuie sur la touche REC, le mode d'essai 1 est alors commuté. (Indication FL "1")

A ce moment, le réglage du décibel-mètre doit être effectué.

*2. Lorsque la touche REW est enfoncée, le mode d'essai 2 est alors commuté. (Indication FL "2")

A ce moment, le réglage du BLE (400 Hz) doit être effectué.

*3. Lorsque la touche STOP est enfoncée, le mode d'essai 3 est alors commuté. (Indication FL "3")

A ce moment, le réglage du BLE (3 kHz) doit être effectué.

*4. Lorsque la touche PLAY est enfoncée, le mode d'essai 4 est alors commuté. (Indication FL "4")

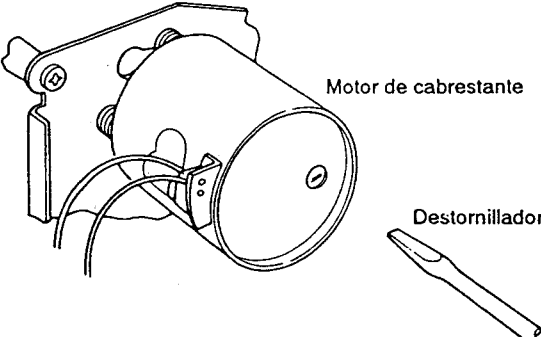
A ce moment, le réglage du BLE (12 kHz) doit être effectué.

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	REC PAUSE et Mode d'essai 1 (*1)	Entrer le signal 315 Hz/-8 dBV (500 mV) sur la borne d'entrée de ligne LINE INPUT, spécifiez sur le mode d'essai et appuyez sur la touche REC.	REC LEVEL VR	LINE OUT	-6 dBV	Réglages du décibelmètre
			VR501	Décibelmètre canal G	Régler afin que 0 dB sur le décibelmètre clignote.	
			VR502	Décibelmètre canal D	Régler afin que 0 dB sur le décibelmètre clignote.	
2.	—	REC LEVEL VR MIN ou absence d'entrée de signal.	—	—	—	
3.	Mode d'essai 2 (*2)	Appuyez sur la touche REW.	VR401	Décibelmètre canal D	Régler afin que -3 dB sur le décibelmètre clignote.	Réglage à 400 Hz
4.	Mode d'essai 3 (*3)	Appuyez sur la touche STOP.	VR402		Régler afin que -3 dB sur le décibelmètre clignote.	Réglage à 3 kHz
5.	Mode d'essai 4 (*4)	Appuyez sur la touche PLAY.	VR403		Régler afin que -3 dB sur le décibelmètre clignote.	Réglage à 12 kHz
6.	Lorsque l'on appuie sur la touche RESET à nouveau, le mode d'essai est réalisé.					

5. AJUSTES

5.1 AJUSTES MECANISMO

1. Ajuste de velocidad de cinta		
Modo	Punto de ajuste	Especificaciones
PLAY	Orificio de ajuste del motor de cabrestante (vea la Fig. 1)	Ajuste de modo que la frecuencia de reproducción sea 3000 ± 5 Hz al comienzo del bobinado de la cinta de prueba STD-301.
PLAY		Reproduzca nuevamente la cinta de prueba STD-301 y confirme que las especificaciones de arriba sea satisfechas.

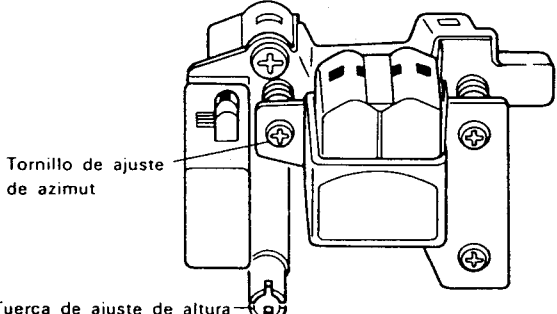


Motor de cabrestante

Destornillador

Fig. 1

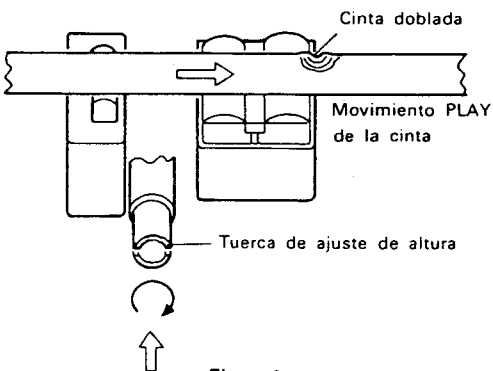
2. Ajuste del azimut y movimiento de la cinta			
N.	Modo	Punto de ajuste	Especificaciones
1	—	—	Inserte medio espejo en el lado A (fije los tornillos de delante).
2	PLAY	Tuerca de ajuste de altura (Consulte la figura 2.)	Reproduzca la cinta de arriba y ajústela de forma que no esté doblada en la sección guía de la cabeza. (Consulte la figura 3.)
3	PLAY	Tornillo de ajuste de azimut (Consulte la figura 2.)	Reproduzca la cinta de prueba STD-331E y ajústela de forma que el nivel de salida de 10 kHz sea el máximo, y que no exista diferencia de fase entre el canal izquierdo y el canal derecho.
4	Compruebe de nuevo el ítem 2 de arriba y ajuste si no se satisfacen las especificaciones. (Asegúrese de ajustar el ítem 3 después de haber ajustado el ítem 2.)		



Tornillo de ajuste de azimut

Tuerca de ajuste de altura

Figura 2.



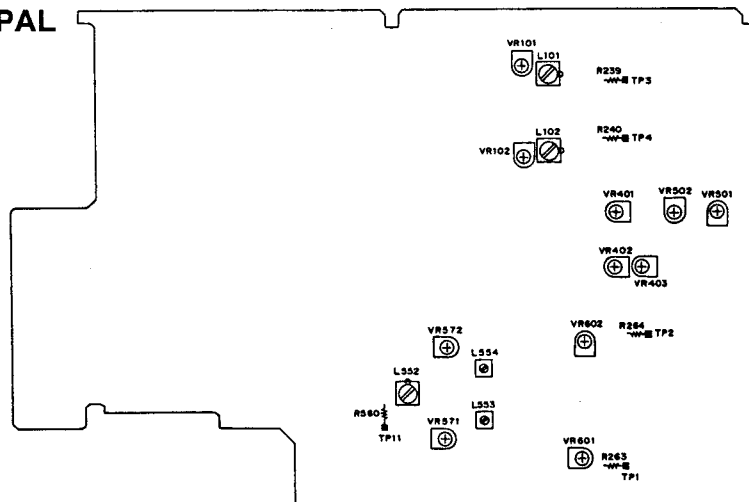
Cinta doblada

Movimiento PLAY de la cinta

Tuerca de ajuste de altura

Figura 3.

DE LA UNIDAD PRINCIPAL



UNIDAD DOLBY S

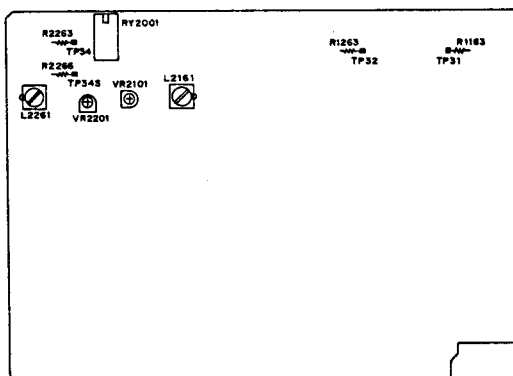


Figura. 5-4 Puntos de ajuste

SECCIÓN DE REPRODUCCIÓN

1. Ajuste del azimut de la cabeza

- Poner VR101, 102 en las posiciones del centro mecánico.

N.º	Modo	Señal de entrada y cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Comentarios
1.	PLAY	Reproduzca la sección de 10 kHz/–20 dB de la cinta de prueba STD–331E.	Tornillo de ajuste del azimut de la cabeza. (Vea la figura 5–2)	LINE OUT	Nivel máximo de la señal de reproducción.	
2.	STOP	Bloquee el tornillo con su cierre una vez finalizado el ajuste.				

2. Ajuste del nivel de reproducción

- Este ajuste determina el nivel DOLBY NR y debe realizarse con mucho cuidado.

N.º	Modo	Señal de entrada y cinta de prueba	Punto de ajuste		Punto de medición	Valor de ajuste	Comentarios
1.	PLAY	Produzca la parte de 315 Hz/0 dB de la cinta de prueba STD-331E.	Platina	VR101 (Lch) VR102 (Rch)	TP. 3 (Lch) TP. 4 (Rch)	-8,7 dBV	Este ajuste debe efectuarse con precisión para lograr un buen reglaje del nivel Dolby.
2.	Coloque el conmutador DOLBY NR en S.						
3.	PLAY	Produzca la parte de 315 Hz/0 dB de la cinta de prueba STD-331E.	UNIDAD DOLBY S	VR2101 (Lch) VR2201 (Rch)	TP. 33S (Lch) TP. 34S (Rch)	-8,7 dBV	
4.	Coloque el conmutador DOLBY NR en OFF.						

SECCIÓN DE GRABACIÓN

1. Ajuste del oscilador de polarización

N.º	Modo	Señal de entrada y cinta de prueba	Punto de ajuste		Punto de medición	Valor de ajuste	Comentarios
1.	REC	Introduzca la cinta de prueba STD-610 sin señal de entrada.	Platina	L552	TP. 11	105 kHz $\pm$ 300 Hz	

2. Ajuste del eliminador de polarización

N.º	Modo	Señal de entrada y cinta de prueba	Punto de ajuste		Punto de medición	Valor de ajuste	Comentarios
1.	REC	Introduzca la cinta de prueba STD-610 sin señal de entrada.	Platina	L101 (Lch) L102 (Rch)	LINE OUT	Salida mínima	
2.	Coloque el conmutador DOLBY NR en S.						
3.	REC	Introduzca la cinta de prueba STD-610 sin señal de entrada.	UNIDAD DOLBY S	L2161 (Lch) L2261 (Rch)	LINE OUT	Salida mínima	
4.	Coloque el conmutador DOLBY NR en OFF.						

3. Ajuste de la polarización de grabación

3. Ajuste de la polarización de grabación.							
N.º	Modo	Señal de entrada y cinta de prueba	Punto de ajuste		Punto de medición	Valor de ajuste	Comentarios
1.	REC/ PAUSE	Aplice una señal de 315 Hz/−20 dBV (dando una lectura de −20 UV en el medidor de volumen) a los terminales de entrada de línea, e inserte el casete STD−631.			LINE OUT		
2.		Grabe y reproduzca la señal de 315 Hz y una señal de 10 kHz a un nivel de entrada de −20 dBV.	Platina	VR571 (Lch)		Grabe y reproduzca repetidamente, comparando los niveles de reproducción 315 Hz y 10 kHz, y ajuste a $0 \pm 0,5$ dB.	
				VR572 (Rch)			
3.	Verifique el valor de la distorsión una vez finalizado el ajuste y confirme que no haya subpolarización.						

4. Ajuste del nivel de grabación

- Desconecte el interruptor DOLBY NR.

N.º	Modo	Señal de entrada y cinta de prueba	Punto de ajuste		Punto de medición	Valor de ajuste	Comentarios
1.	REC/ PAUSE	Aplice la señal de 315 Hz/-4 dBV a la entrada line y cargue STD-631 (NORM).	Control de nivel de grabación.		TP. 1 (Lch) TP. 2 (Rch)	-11,2 dBV	
2.	REC → PLAY	Grabe y reproduzca la señal de 315 Hz/-4 dBV.	Platina	VR601 (Lch)	TP. 3 (Lch) TP. 4 (Rch)	Grabe, reproduzca y ajuste repetidamente para que el nivel de la señal de reproducción sea de -11,2 dBV.	El ajuste de la polarización de grabación y el ajuste del nivel de grabación con STD-631 debe efectuarse con precisión para que sirva como referencial al ajuste BLE.
				VR602 (Rch)			
3.	REC → PLAY	Grabe la señal de 315 Hz/-4 dBV en STD-621 (CrO2) y reproduzca.	Verifique			-11,2 dBV ± 1,5 dB	
4.	REC → PLAY	Grabe la señal de 315 Hz/-4 dBV en STD-610 (METAL) y reproduzca.	Verifique			-11,2 dBV ± 1,5 dB	

5. Ajuste del medidor de nivel y ajuste BLE

- El ajuste BLE debe efectuarse después de haber terminado todos los otros ajustes.
- Este ajuste debe efectuarse en el modo de prueba.

• Cómo poner el modo de prueba

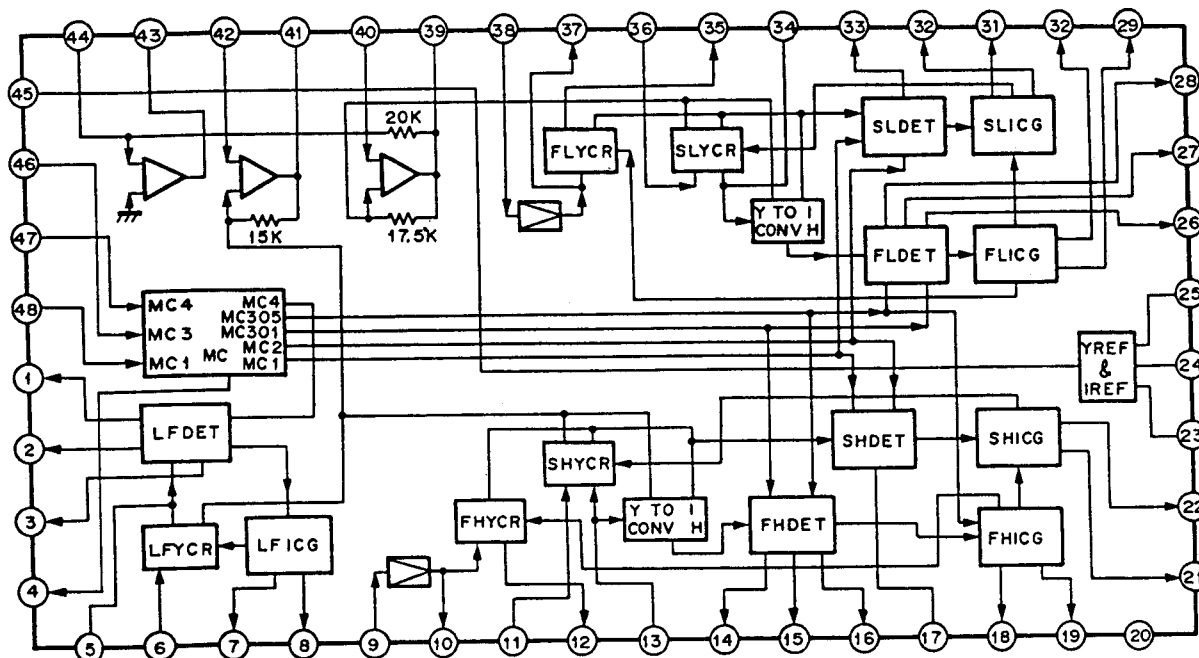
Pulse las teclas MODE (COUNTER), RANGE y Display ON/OFF del panel delantero simultáneamente, con la alimentación conectada. La unidad entrará en el modo de prueba y ocurrirá lo siguiente:

- *1. Cuando pulse la tecla REC, la unidad entrará en el modo de prueba 1. (indicación FL "1")
Efectúe en este momento el ajuste del medidor de nivel.
- *2. Cuando pulse la tecla REW, la unidad entrará en el modo de prueba 2. (indicación FL "2")
Efectúe en este momento el ajuste BLE (400 Hz).
- *3. Cuando pulse la tecla STOP, la unidad entrará en el modo de prueba 3. (indicación FL "3")
Efectúe en este momento el ajuste BLE (3 kHz).
- *4. Cuando pulse la tecla PLAY, la unidad entrará en el modo de prueba 4. (indicación FL "4")
Efectúe en este momento el ajuste BLE (12 kHz).

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	REC PAUSE y Modo de prueba 1 (*1)	Introduzca la señal de 315 Hz/-8 dBV (500 mV) por el terminal LINE INPUT, ponga el modo de prueba y pulse luego la tecla REC.	REC LEVEL VR	LINE OUT	-8 dBV	Ajuste del medidor de nivel
			VR501	Canal izquierdo del medidor de nivel	Ajuste de modo que parpadee 0 dB en el medidor de nivel.	
			VR502	Canal derecho del medidor de nivel	Ajuste de modo que parpadee 0 dB en el medidor de nivel.	
2.	—	VR del nivel de grabación (REC LEVEL) mínimo o sin entrada de señal.	—	—	—	
3.	Modo de prueba 2 (*2)	Pulse la tecla REW.	VR401	Canal derecho del medidor de nivel	Ajuste de modo que parpadee -3 dB en el medidor de nivel.	Ajuste de 400 Hz
4.	Modo de prueba 3 (*3)	Pulse la tecla STOP.	VR402		Ajuste de modo que parpadee -3 dB en el medidor de nivel.	Ajuste de 3 kHz
5.	Modo de prueba 4 (*4)	Pulse la tecla PLAY.	VR403		Ajuste de modo que parpadee -3 dB en el medidor de nivel.	Ajuste de 12 kHz
6.	Cuando pulse de nuevo la tecla RESET, se cancelará el modo de prueba.					

6. IC INFORMATION (CXA1417S-P: IC1101, 1201, 2101, 2201) (DOLBY B TYPE NR)

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



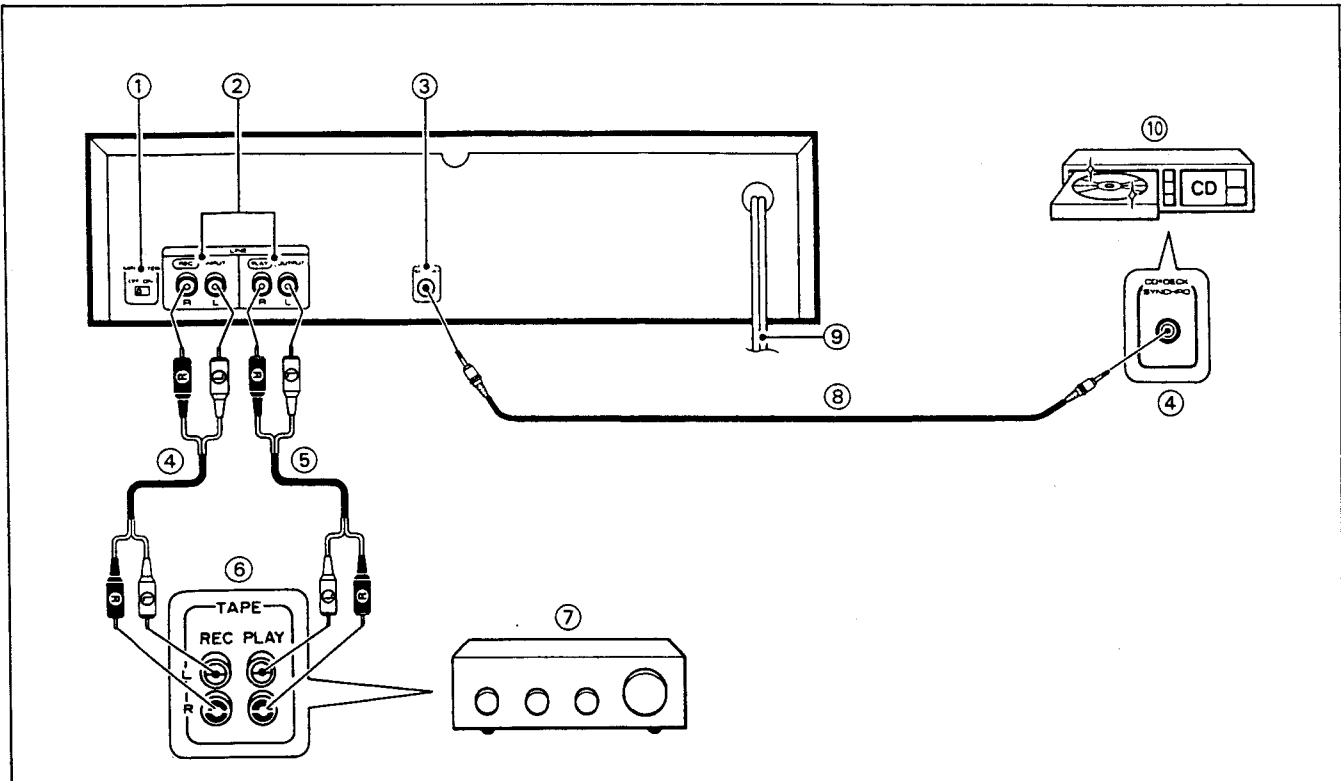
Pin Description

Pin No.	Symbol	Description
1	ZL1	Weighting pin of the HL/LF/FB main band rectifier
2	ZL2	Input pin of the HL/LF/FB pass band rectifier
3	ZL3	Weighting pin of the HL/LF/FB pass band rectifier
4	MCTC	Time constant pin of the MC2
5	LFO	Input pin of the HL/LF/FB main band rectifier
6	LFIN	Input pin of the HF/LF/FB stage
7	TCL1	Primary time constant pin of the HL/LF/FB detector
8	TCL2	2ndary time constant pin of the HL/LF/FB detector
9	SCINH	Input pin of the HL/HF side chain
10	SCBOH	Output pin of the HL/HF side chain buffer amplifier
11	SBINH	Input pin of the HL/HF/SB VCR
12	FBO1H	Output pin of the HL/HF/FB VCR
13	FBO2H	Input pin of the HL/HF/FB V to I converter
14	ZHF1H	Weighting pin of the HL/HF/FB main band rectifier
15	ZHF2H	Input pin of the HL/HF/FB pass band rectifier
16	ZHF3H	Weighting pin of the HL/HF/FB pass band rectifier
17	ZHSH	Weighting pin of the HL/HF/SB rectifier
18	TCF1H	Primary time constant pin of the HL/HF/FB detector

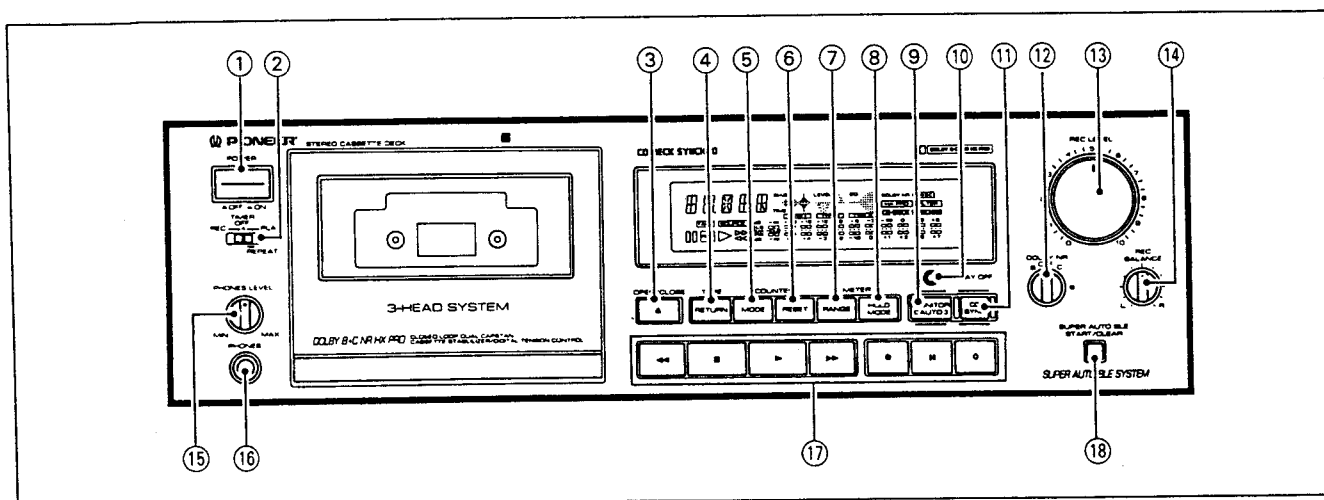
Pin No.	Symbol	Description
19	TCF2H	2ndary time constant pin of the HL/HF/FB detector
20	VRX	Voltage source pin inversely proportional to shift of the internal R
21	TCS2H	2ndary time constant pin of the HL/HF/SB detector
22	TCS1H	Primary time constant pin of the HL/HF/SB detector
23	GND	For split supply GND pin. For single supply voltage source pin of Vcc/2
24	VEE	For split supply VEE pin. For single supply GND pin
25	VCC	Vcc pin
26	ZHF1L	Weighting pin of the LL/HF/FB main band rectifier
27	ZHF2L	Input pin of the LL/HF/FB pass band rectifier
28	ZHF3L	Weighting pin of the LL/HF/FB pass band rectifier
29	TCF2L	2ndary time constant pin of the LL/HF/FB detector
30	TCF1L	Primary time constant of the LL/HF/FB detector
31	TCS2L	2ndary time constant pin of the LL/HF/SB detector
32	TCS1L	Primary time constant pin of the LL/HF/SB detector
33	ZHSL	Weighting pin of the LL/HF/SB rectifier
34	FBO2L	Input pin of the LL/HF/FB V to I converter
35	FBO1L	Output pin of the LL/HF/FB VCR
36	SBINL	Input pin of the LL/HF/SB VCR
37	SCBOL	Output pin of the LL/HF side chain buffer amplifier
38	SCINL	Input pin of the LL/HF side chain
39	RECOUT	Recording (Encode) output pin
40	LLSMP	Input pin of the LL stage main path
41	HLSOUT	HL stage output pin
42	HLSMP	Input pin of the HL stage main path
43	MCBO	MC buffer output pin
44	MCBFB	MC buffer feedback pin
45	IREF	Reference current input pin
46	MC3IN	MC3 input pin
47	MC4IN	MC4 input pin
48	MC1IN	MC1 input pin

7. CONNECTIONS

- | | |
|--|--------------------------------|
| ① MPX FILTER switch | ⑥ TAPE REC/PLAY jacks |
| ② LINE INPUT (REC)/OUTPUT (PLAY) jacks | ⑦ Stereo Amplifier |
| ③ CD•DECK SYNCHRO jack | ⑧ CD•DECK SYNCHRO control cord |
| ④ Recording connection cord | ⑨ Power cord |
| ⑤ Playback connection cord | ⑩ Compact Disc Player |



8. PANEL FACILITIES



① **Power switch (POWER OFF/ON)**

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

③ **Open/close button (OPEN/CLOSE ▲)**

Press this button to open or close the cassette door. Whenever inserting or removing a cassette tape, be sure that the power is turned ON.

NOTE:

If the cassette door is closed while the unit is turned OFF, and the power is then turned ON, the cassette door may open and close after pressing one of the operation buttons. This occurs when the microprocessor resets the door mechanism to its initial state and does not indicate any malfunctioning of the unit.

④ **Tape return button (TAPE RETURN)**

This button is used in the normal tape counter mode to fast forward or rewind the tape to a point near the counter reading "0000."

⑤ **Counter mode button (COUNTER MODE)**

Each time this button is pressed, one of the two mode (Normal tape counter/Time counter) is set in sequence

⑥ **Counter reset button (COUNTER RESET)**

Reset the counter indication to "0000."

⑦ **Level meter range selector button (METER RANGE)**

Selects wide or expanded range for the level meter.

⑧ **Level meter hold mode button (METER HOLD MODE)**

Selects the display mode of the peak level. When press this button so that the HOLD indicator lights up, the level meter holds the maximum level indications of the signal. To erase the maximum level indications, press this button again. When the HOLD indicator goes off, the level meter holds peak indications for about 1.2 second.

⑨ **Monitor selector button (MONITOR [AUTO])**

Used to monitor the source sound or just recorded sound during recording.

- When the unit is set to record or playback mode, the TAPE indicator light up and the monitor mode is automatically selected.

⑩ **Display off button (DISPLAY OFF)**

Press this button to turn off the function display.

⑪ **CD•DECK SYNCHRO recording button (CD SYNC)**

⑫ **DOLBY* NR switch (B/OFF/C/S)**

*

- 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.

⑬ **Recording level control (REC LEVEL)**

⑭ **Recording balance control (REC BALANCE)**

⑮ **Headphones level control (PHONES LEVEL)**

⑯ **Headphones jack (PHONES)**

⑰ **Operation buttons**

- ◀◀: Rewind/music search
- : Stop
- ▶: Playback
- ▶▶: Fast forward/music search
- : Recording
- ||: Pause
- : Recording mute

⑱ **SUPER AUTO BLE button (START/CLEAR)**

ATLC (Automatic Tape Loose Canceler)

With the tape slack prevention function, when the cassette door closes, the take-up reel automatically revolves to eliminate any tape slack.

SUPER AUTO BLE

With commercially available cassette tapes, sensitivity and frequency characteristics might differ slightly from one another, even though the same sound adjustment is set for them. To utilize tape characteristics to the maximum possible and realize an ideal recording which reproduces the source exactly, optimum recording level (sensitivity) and equalizer values must be set accordingly for each tape. In many conventional tape decks, standard values are fixed for standard tapes, thus nullifying the subtle differences between individual tapes. Perfect tuning by ear through use of fine adjustment controllers for bias and sensitivity is difficult and requires a lot of effort.

The AUTO BLE on this unit automatically adjusts bias, level and equalizer by using a microprocessor to set the optimum recording characteristics accordingly for each tape.

The recording bias is adjusted with 3 steps at 12 kHz. The recording level is adjusted with 16 steps at 400 Hz. The recording equalizers are adjusted with 16 steps at 3 kHz and with 16 steps at 12 kHz.

9. SPECIFICATIONS

System 4 track, 2-channel stereo
Heads

Recording/playback head:
Combined Hard permalloy recording/Hard permalloy playback
head × 1

Erasing head: Ferrite head × 1

Motor DC servo capstan motor × 1
DC reel motor × 1
DC assist motor × 1

Wow and Flutter No more than 0.023% (WRMS)
No more than ±0.056% (DIN)

Fast Winding Time Approximately 90 seconds
(C-60 tape)

Frequency Response

(-20 dB recording: ±6 dB)

TYPE IV (Metal) tape 15 to 21,000 Hz

TYPE II (Chrome) tape 15 to 20,000 Hz

TYPE I (Normal) tape 15 to 20,000 Hz

Signal-to-Noise Ratio (Dolby NR off) More than 60 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)

Dolby S-type NR ON More than 22 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 54 kΩ)

Output (Reference level)

LINE (OUTPUT) 0.5 V (Output impedance 3.2 kΩ)

Headphone 3.4 mW

(Load impedance 8 Ω, PHONES LEVEL control max.)

Subfunctions

- Super AUTO BLE system
- Dolby HX Pro Headroom Extension system
- Dolby B-type and C-type noise reduction systems
- Dolby S-type noise reduction system
- MPX filter
- Level meter with 2 modes peak hold selection (10 + 1 segments)
- Level meter range selection (wide/expanded)
- 4-digit electronic tape counter with mode selection
(Normal/Time)
- Auto monitor selection (Tape/Source)
- Display off
- Music search (over ±15 selections)
- Automatic Tape Loose Canceller (ATLC)
- Tape return/return play
- Auto space recording mute
- Auto tape selector
- Playback/recording timer start function
- CD•DECK SYNCHRO recording
- Headphones jack with level control
- Power eject (Open/Close)
- Repeat playback

Miscellaneous

Power Requirements

European model AC 220-230 Volts~, 50/60 Hz

U.K. model AC 230-240 Volts~, 50/60 Hz

Multi-voltage model AC 110/120-127/220/240 V
(switchable), 50/60 Hz

Power Consumption 23W

Dimensions 420(W) × 134(H) × 323(D) mm

Weight (without package) 7.0 kg

Accessories

Operating instructions 1

Connection cord with pin plugs 2

CD•DECK SYNCHRO control cord 1

NOTE:

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