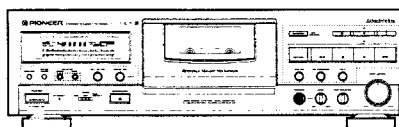


Service Manual



PION-04482



ORDER NO.
RRV1297

STEREO CASSETTE DECK

CT-S740S CT-S740S-G

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

Type	Model		Power Requirement	The voltage can be converted by the following method.
	CT-S740S	CT-S740S-G		
HEM	○	○	AC220 – 230V	AC230 – 240V, *
HEWM	○	—	AC220 – 230V	AC230 – 240V, *

* : Alter the wiring of the Power-supply block at the primary winding of power transformer referring to the "Line Voltage Selection" described in Service Manual.

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1. EXPLODED VIEWS AND PARTS LIST

NOTES:

- Parts marked by “NSP” are generally unavailable because they are not in our Master Spare Parts List.
- The Δ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by “ $\odot$ ” are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

1.1 EXTERIOR

■ CONTRAST OF CT-S740S/HEM, HEWM AND CT-S740S-G/HEM

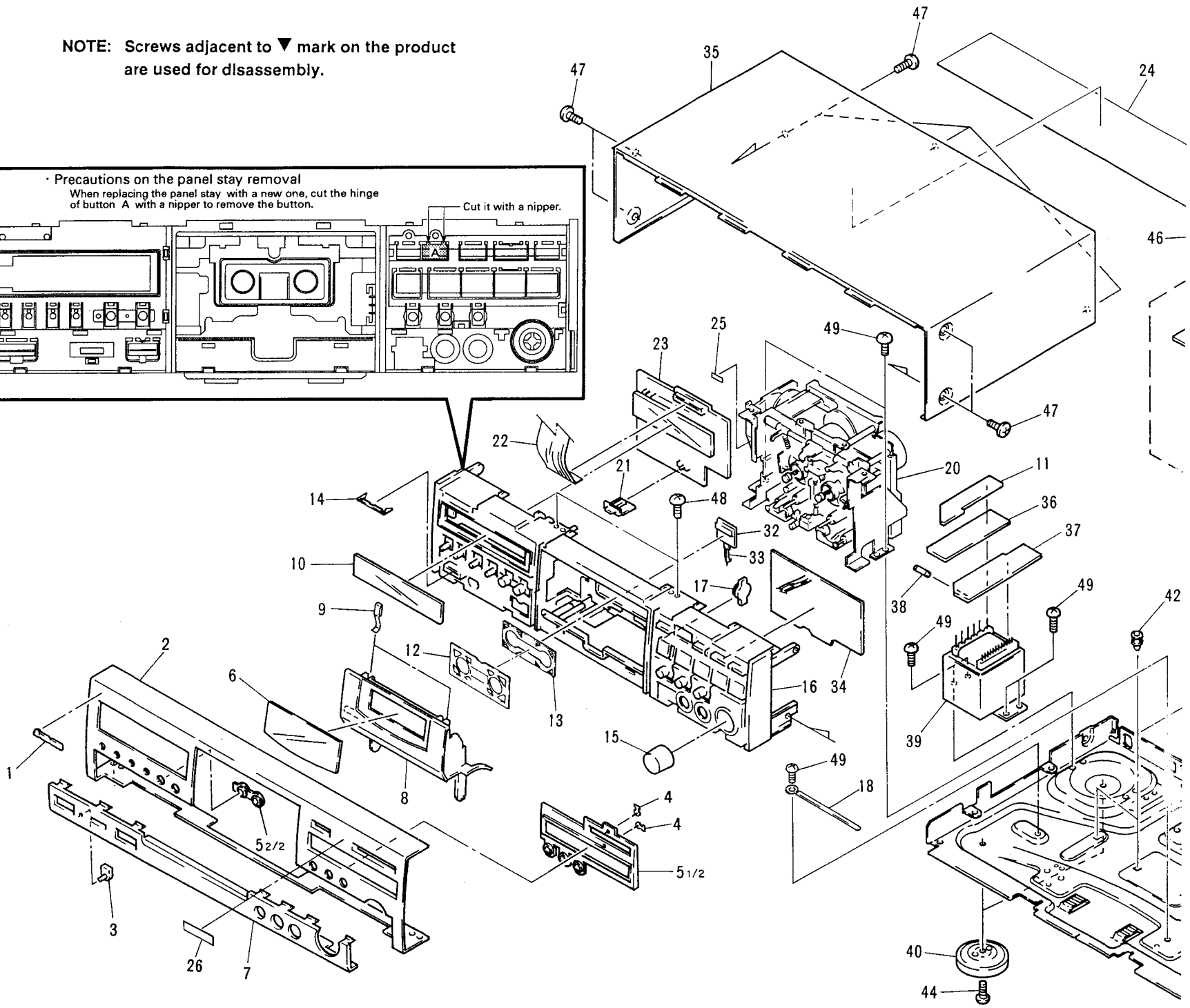
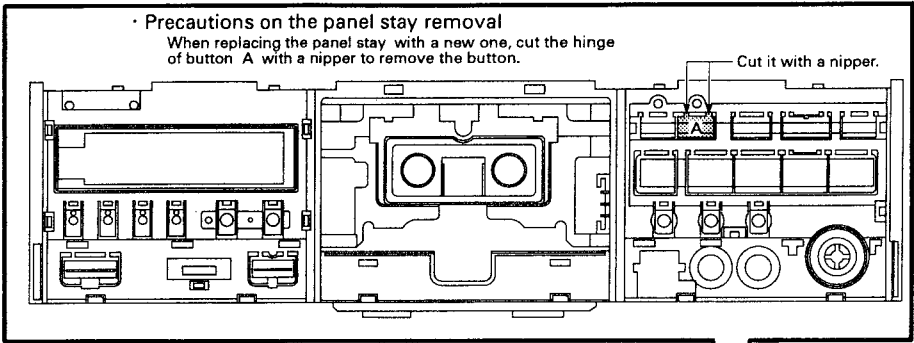
CT-S740S/HEM, HEWM and CT-S740S-G/HEM have the same construction except for the following :

Mark	No.	Symbol & Description	Part No.			Remarks
			CT-S740S/HEM	CT-S740S/HEWM	CT-S740S-G/HEM	
	43	Balance knob	RAC1705	RAC1705	RAC1742	
	15	VR knob	RAC1707	RAC1707	RAC1708	
	21	Slide knob	RAC1713	RAC1713	RAC1915	
	8	Door pocket	RAH2555	RAH2555	RAH2565	
	7	Under panel	RAH2556	RAH2556	RAH2562	
	2	Front panel	RAH2618	RAH2618	RAH2619	
	35	Bonnet	REA1192	REA1192	REA1193	
	16	Panel stay	REA1194	REA1194	REA1197	
	29	Rear panel	RNA1945	RNA1945	RNA1950	
	5	Escutcheon	RNK2145	RNK2145	RNK2146	
	47	Screw	BBZ30P080FZK	BBZ30P080FZK	BBZ30P080FNI	

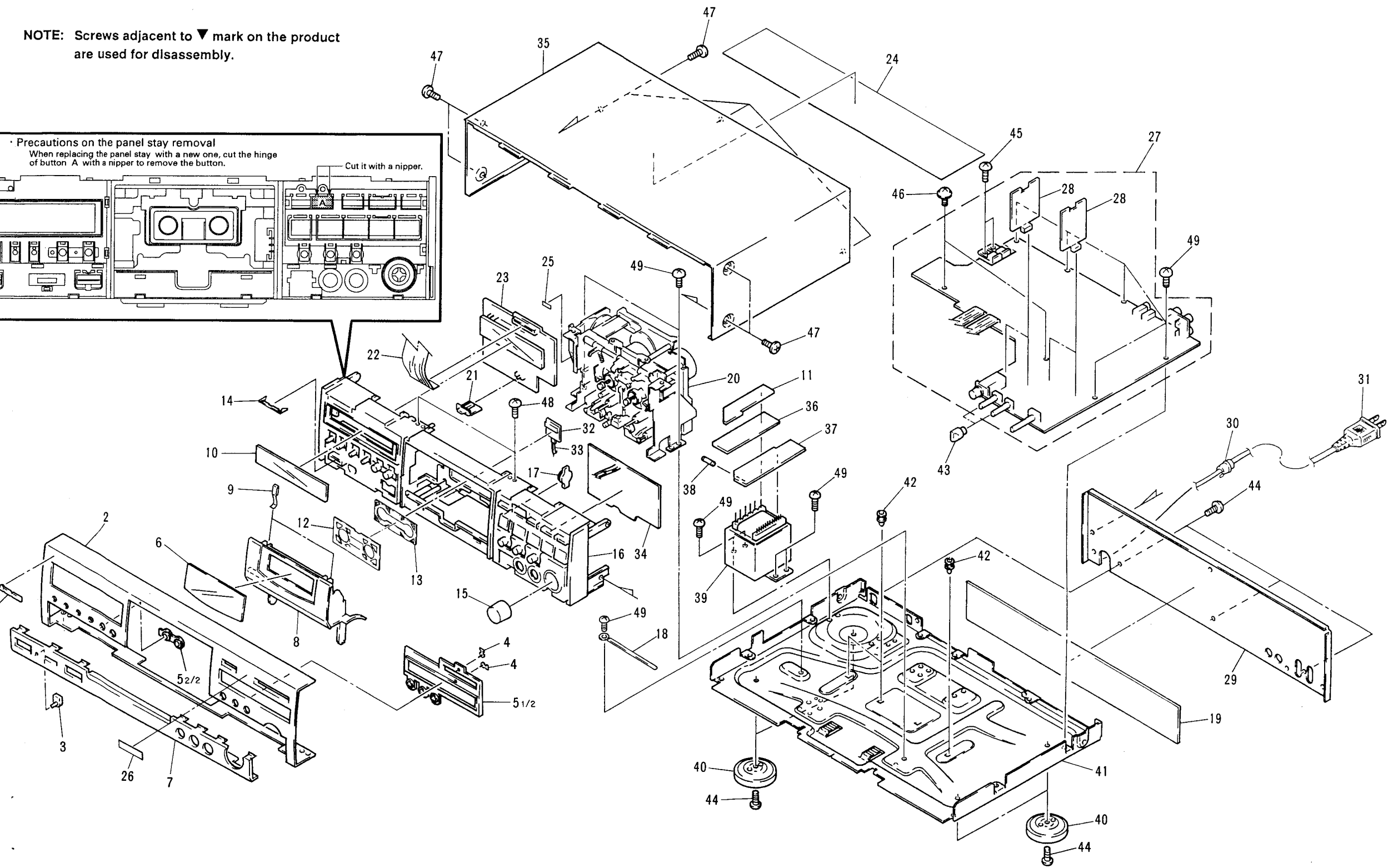
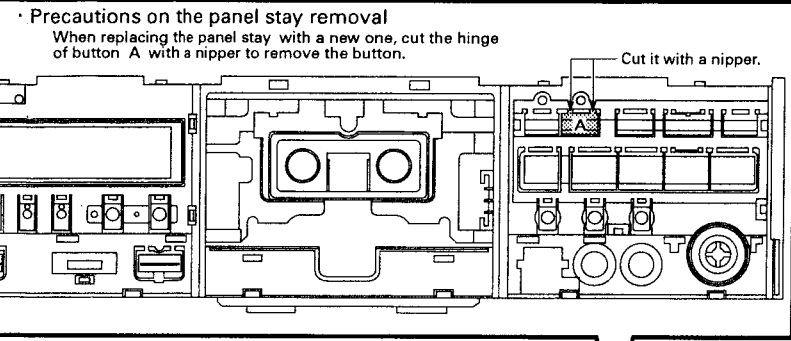
■ PARTS LIST FOR CT-S740S/HEM

Mark	No.	Description	Parts No.
A	1	Name plate	VAM1032
	2	Front panel	PAH2618
	3	LED lens	PNW2019
	4	Indicator lens	RNK1922
	5	Escutcheon	RNK2145
NSP	6	Door lens	RAH2589
	7	Under panel	RAH2556
	8	Door pocket	RAH2555
	9	Half pressure spring	RBK1004
	10	FL lens	RAH2558
NSP	11	TRN 3 PCB	PNZ2836
	12	Stabilizer panel	RAH2573
	13	Stabilizer B	REB1085
	14	Power cap	RAC1998
	15	VR knob	RAC1707
NSP	16	Panel stay	REA1194
	17	Damper assy	VXA1153
	18	Cord clamper	DNF1128
	19	Vibration-proof plate B	PNB1109
	20	MECHANISM UNIT	RYM1243
B	21	Slide knob	RAC1713
	22	Lead card 29P	RDD1335
	23	FL UNIT	RWZ3523
	24	Vibration-proof plate C	PNB1114
	25	Door sheet	REB1191
Δ	26	Getter	RAX1026
	27	MAIN UNIT	RWZ3514
	28	DOLBY S UNIT	RWX1111
	29	Rear panel	RNA1945
	30	Strain relief	CM-22B
Δ	31	AC power cord	PDG1003
	32	LED	SLF-401C
	33	Connector assy 2P	RKP-895
	34	OPSW UNIT	RWZ3519
	35	Bonnet	REA1192
NSP	36	TRN 1 PCB	RNZ2829
	37	TRN 2 UNIT	RWZ3537
	38	Fuse (FU801:T 1.25A)	AEK1055
	39	Power transformer	RTT1287
	40	Insulator	PNW1912
NSP	41	Main chassis	RNB1112
	42	PCB spacer	RNY-404
	43	Balance knob	RAC1705
	44	Screw	BBZ30P080FCC
	45	Screw	BBZ30P060FCC
C	46	Screw	IBZ30P150FCC
	47	Screw	BBZ30P080FZK
	48	Screw	BBT30P080FCC
	49	Screw	IBZ30P060FCC
	49	Screw	IBZ30P060FCC

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



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



A

B

C

D

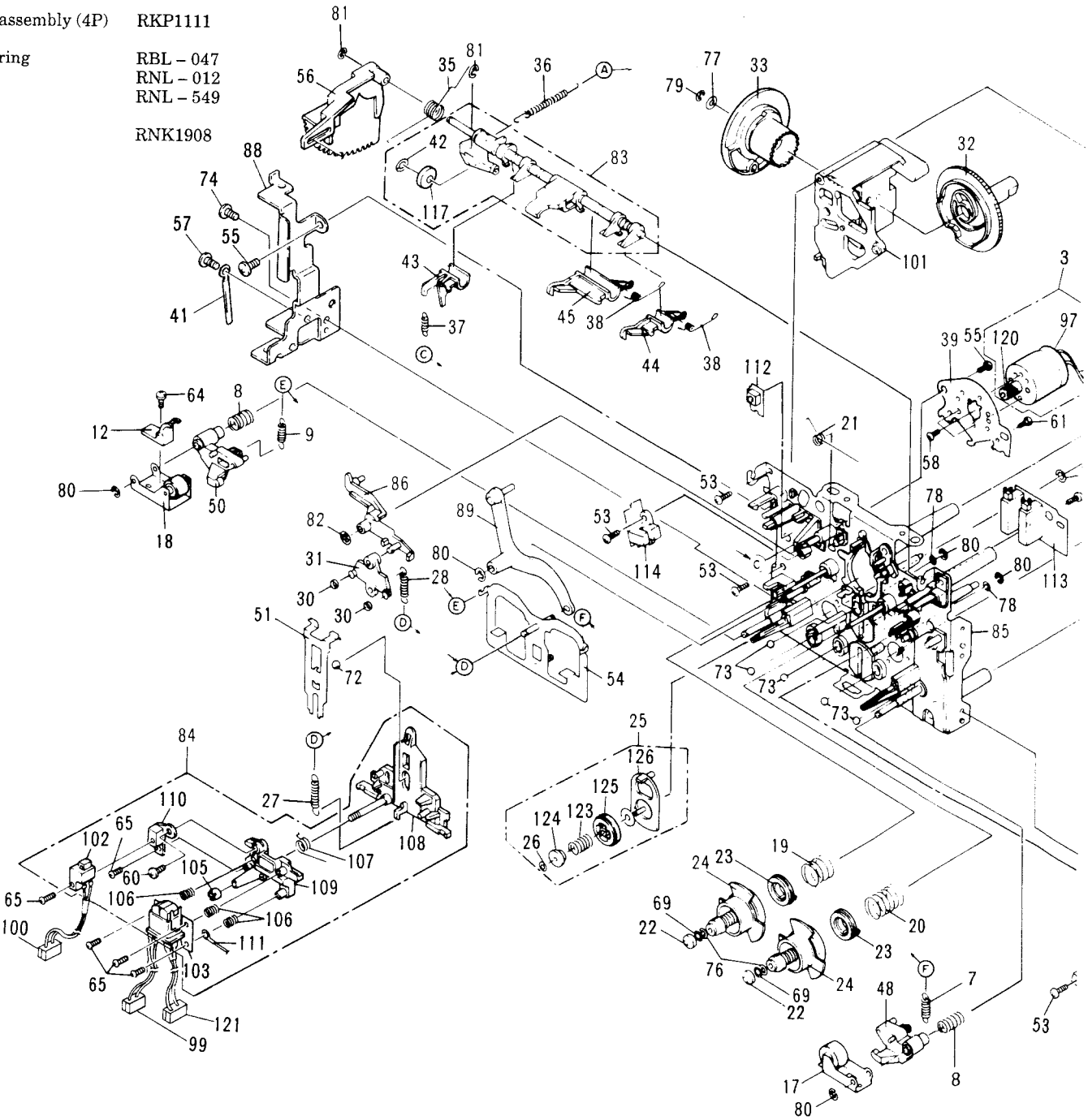
1.2 MECHANISM UNIT (RYM1243)

■ PARTS LIST

Mark	No.	Description	Parts No.
A	1	Rotary encoder	RSX1004
	2	Capstan motor assembly	REA1187
	3	Reel motor assembly	REA1186
	4	Step screw	RBA - 064
	5	Thrust spring	RBL - 044
	6	Rubber cushion	REB1125
	7	Pinch spring	RBL - 028
	8	Pinch thrust spring	RBL - 030
	9	Sub-pinch spring	RBL - 098
	10	Capstan belt	REB - 501
	11	Capstan belt (A)	REB - 509
	12	Tape guide	RNK2148
	13	Flywheel assembly	RXA1374
	14	Sub-flywheel assembly	RXA1375
	15	Metal holder assembly (A)	RXA1426
	16	Metal holder assembly (B)	RXA1343
	17	Pinch roller arm (R) assembly	RXB - 876
	18	Pinch roller arm (A) assembly	RXB - 877
	19	BT spring (A)	RBL - 031
	20	BT spring (B)	RBL - 032
	21	Idler pressure spring	RBL - 033
	22	Reel shaft cap (B)	RNK - 815
	23	BT disk assembly	RXB - 751
	24	Reel base assembly	RXB - 874
	25	Take-up idler assembly	RXA1554
	26	Washer	RBF - 065
	27	Head base spring	RBL - 037
	28	Brake spring	RBL - 038
	29	Drive belt	REB1182
	30	Brake shoe	REB - 511
	31	Brake	RNL - 723
	32	Cam gear	RNK1640
	33	Side cam gear	RNK1765
	34	.....	
	35	Eject spring	RBH1424
C	36	Half set arm spring	RBL - 040
	37	REC functioning spring	RBL - 041
	38	Detection functioning spring	RBL - 042
	39	Reel motor mounting plate	RNE1604
	40	Flywheel holder	RNH - 304
	41	Cord clamber	RNH - 184
	42	Washer	RBF - 057
	43	REC detector arm	RNL - 733
	44	Chrom detector arm	RNL - 734
	45	Metal detector arm	RNL - 735
	46	Thrust holder	RNL - 743
	47	Motor pulley	PNW1634
	48	Pressure arm (R)	RNL - 725
	49	Thrust washer (A)	RBF - 069
	50	Pressure arm (L)	RNL - 726
D	51	Head base set spring	RBL - 026
	52	Gear chassis assembly	RXA1171
	53	Screw	BBZ26P080FZK
	54	Pinch base assembly	RXB - 878
	55	Screw	BBZ30P080FZK

Mark	No.	Description	Parts No.
	56	Eject lever	RNK1763
	57	Screw	BCZ30P060FMC
	58	Screw	BMZ26P030FZK
	59	.....	
	60	Screw	BMZ26P060FZK
	61	Screw	BMZ30P080FZK
	62	Screw	PMZ30P040FMC
	63	Screw	PMA26P050FZK
	64	Screw	PMA26P060FZK
	65	Screw	PMZ20P080FZK
	66	Washer	RBF - 030
	67	Thrust washer (B)	RBF - 070
	68	.....	
	69	Washer	RBF - 076
	70	Washer	RBF1040
	71	.....	
	72	Steel ball (3mm)	REF - 022
	73	Steel ball (4mm)	REF - 023
	74	Screw	VCT30P060FZK
	75	.....	
	76	Washer	WA21D040D013
	77	Washer	WA26N070W040
	78	Washer	WA32D080D050
	79	E ring	YE20FUC
	80	E ring	YE25FUC
	81	E ring	YE30FUC
	82	Snap ring	YS24FBT
	83	Shift shaft assembly	RXB - 885
	84	Head base assembly	REA1133
	85	Mechanism chassis assembly	RXA1366
	86	Brake lever	RNK1638
	87	Second pulley assembly	RXA1350
	88	Mechanism bracket (L)	RNE1843
	89	Pinch lever assembly	RXA1360
	90	Mechanism bracket (R)	RNE1844
	91	.....	
	92	.....	
	93	.....	
	94	Loading motor	VXM1034
	95	.....	
	96	Capstan motor	RXM1082
	97	Reel motor	RXM1083
	98	2.5mm pinch side post (5P)	BS5P - SHF - 1
	99	Connector assembly (4P)	RKP1383
	100	Connector assembly (2P)	RKP1384
NSP	101	Gear base assembly	RXB - 882
	102	E head	RPB1046
	103	R & P head	RPB1041
	104	Connector unit	RWZ1751
	105	Adjustment nut	RBA1047
NSP	106	Head adjustment spring C	RBL - 034
	107	Hight spring	RBL - 036
	108	Head base	RNK1645
	109	Sub-head base	RNG - 335
	110	E head base	RNG1033

Mark	No.	Description	Parts No.
NSP	111	Earth lead assembly	RDF - 001
	112	REC switch unit	RWZ1749
	113	Tape selector unit	RWZ1750
	114	Sensor unit (B)	RWZ1753
	115	2mm pitch flat wire 2P	D20PWY0215E
NSP	116	Flat cable 2P	RDD1103
	117	Shift roller	RNL - 731
	118	Sensor unit (A)	RWZ1752
	119	Motor pulley	RNK1676
	120	Reel motor pulley	RLA1186
NSP	121	Connector assembly (4P)	RKP1111
	122	.....	
	123	Friction spring	RBL - 047
NSP	124	Spring cup	RNL - 012
	125	Idle pulley	RNL - 549
NSP	126	Idler arm	RNK1908
	127	.....	



0FMC
0FZK
0FZK
0FZK
0FZK

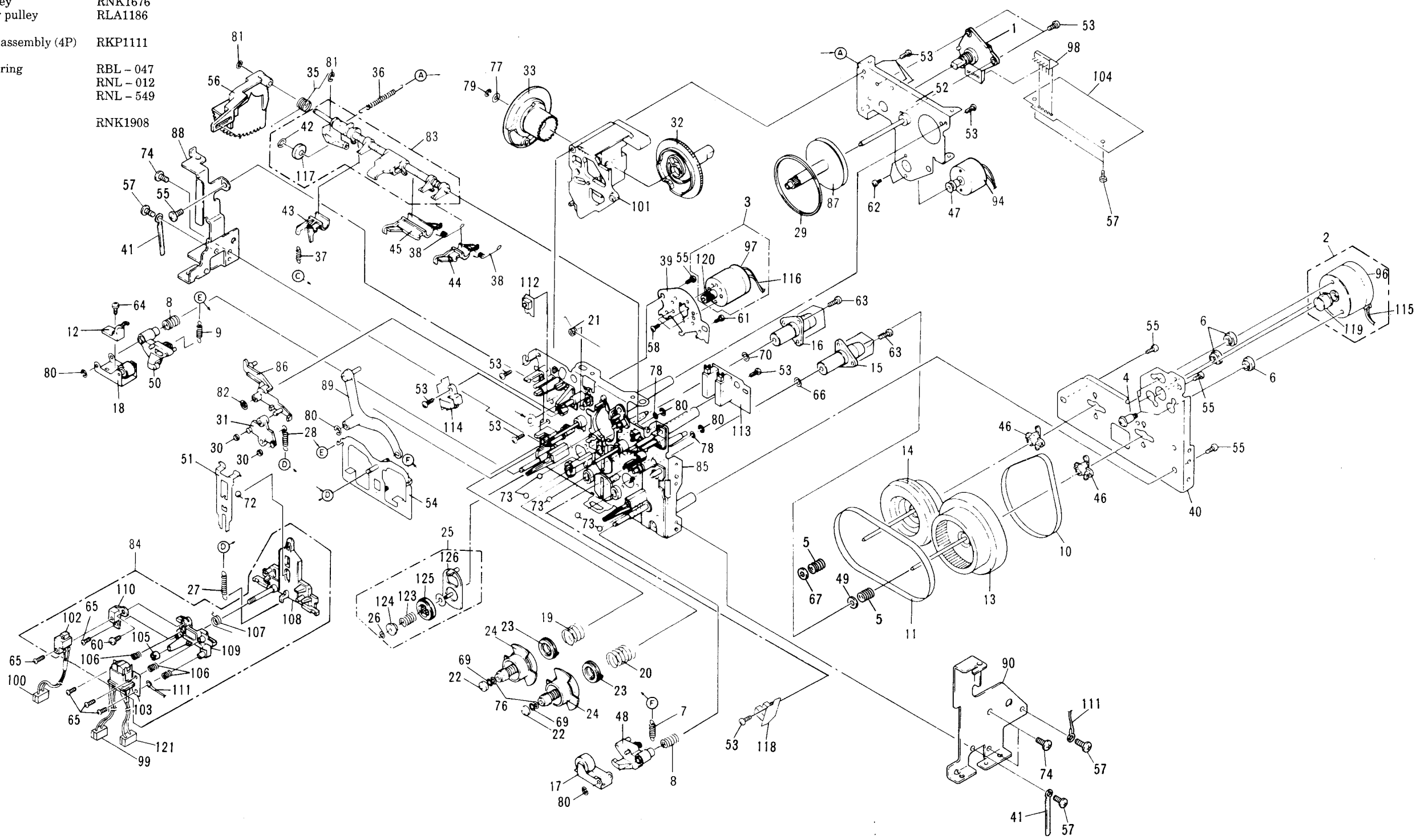
0FZK
0FMC
0FZK
0FZK
0FZK

0FZK

D013
W040
D050

F-1

Mark	No.	Description	Parts No.
NSP	111	Earth lead assembly	RDF - 001
NSP	112	REC switch unit	RWZ1749
NSP	113	Tape selector unit	RWZ1750
NSP	114	Sensor unit (B)	RWZ1753
NSP	115	2mm pitch flat wire 2P	D20PWY0215E
NSP	116	Flat cable 2P	RDD1103
NSP	117	Shift roller	RNL - 731
NSP	118	Sensor unit (A)	RWZ1752
NSP	119	Motor pulley	RNK1676
NSP	120	Reel motor pulley	RLA1186
NSP	121	Connector assembly (4P)	RKP1111
NSP	122	.....	
NSP	123	Friction spring	RBL - 047
NSP	124	Spring cup	RNL - 012
NSP	125	Idle pulley	RNL - 549
NSP	126	Idler arm	RNK1908
NSP	127	.....	



2. PACKING AND PARTS LIST

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The Δ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

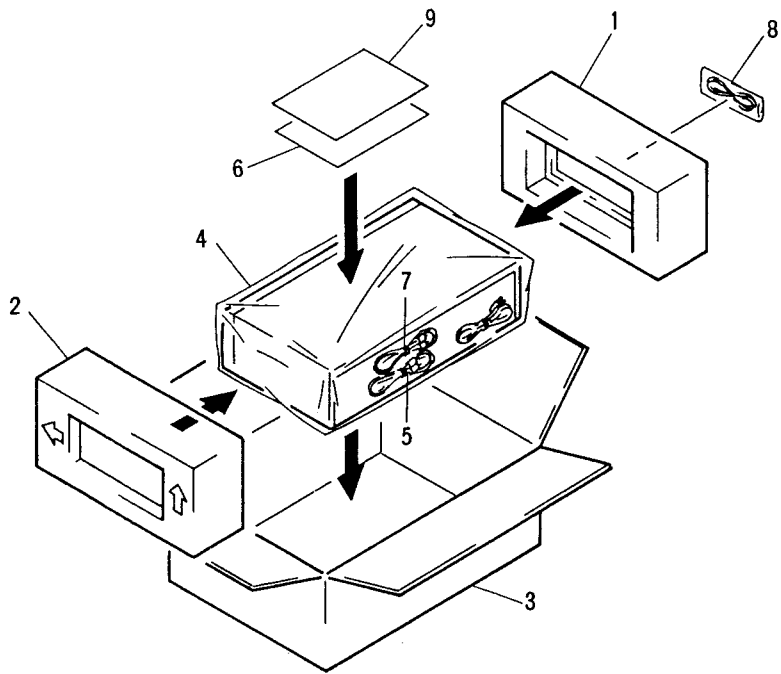
■ CONTRAST OF CT-S740S/HEM, HEWM AND CT-S740S-G/HEM

CT-S740S/HEM, HEWM and CT-S740S-G/HEM have the same construction except for the following :

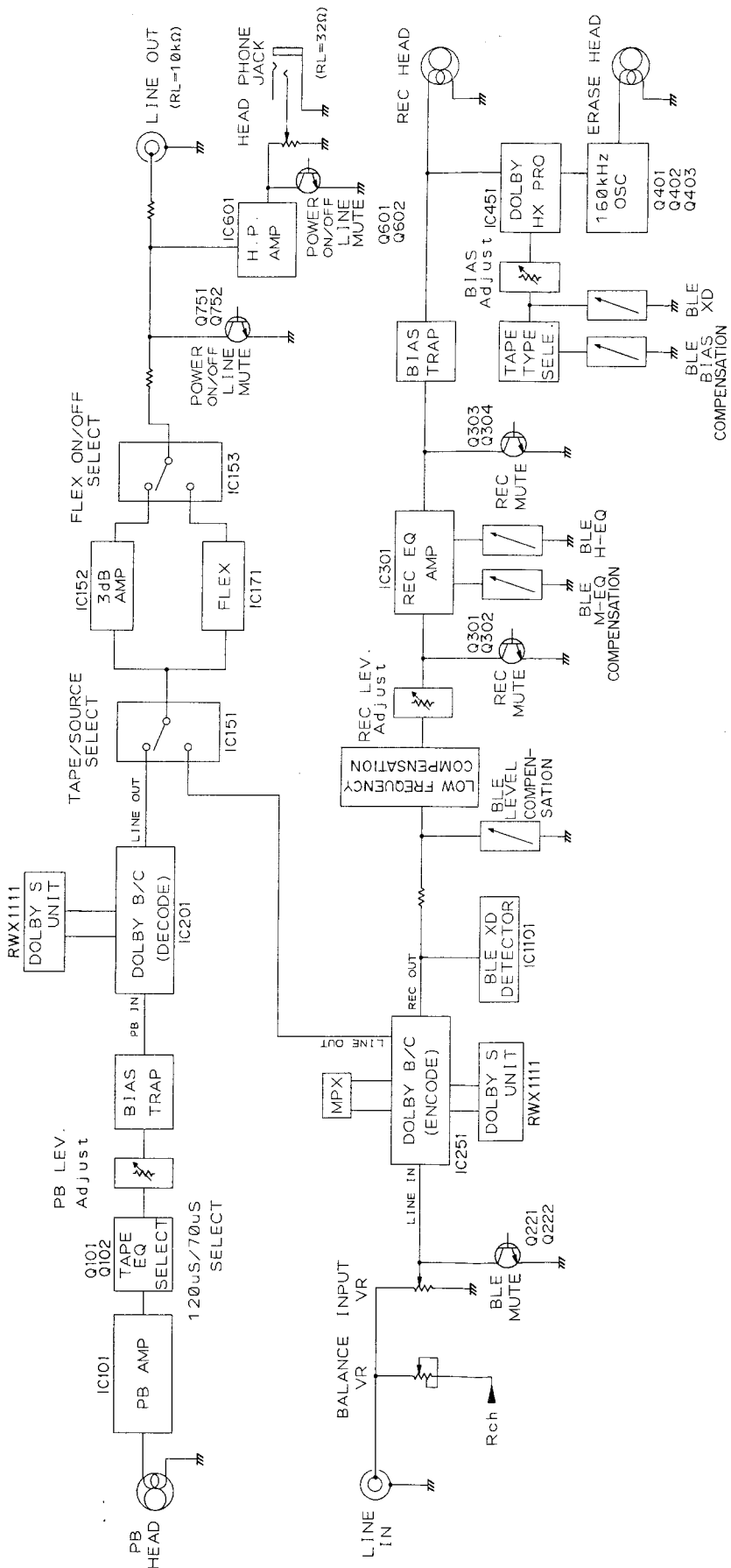
Mark	No.	Symbol & Description	Part No.			Remarks
			CT-S740S/HEM	CT-S740S/HEWM	CT-S740S-G/HEM	
	1	Name plate	VAM1032	VAM1032	VAM1051	
	3	Packing case	RHG1664	RHG1664	RHG1668	
	9	Operating instructions (French/German/Italian/Dutch/ Swedish/Portuguese)	RRD1165	Not Used	RRD1165	

■ PARTS LIST FOR CT-S740S/HEM

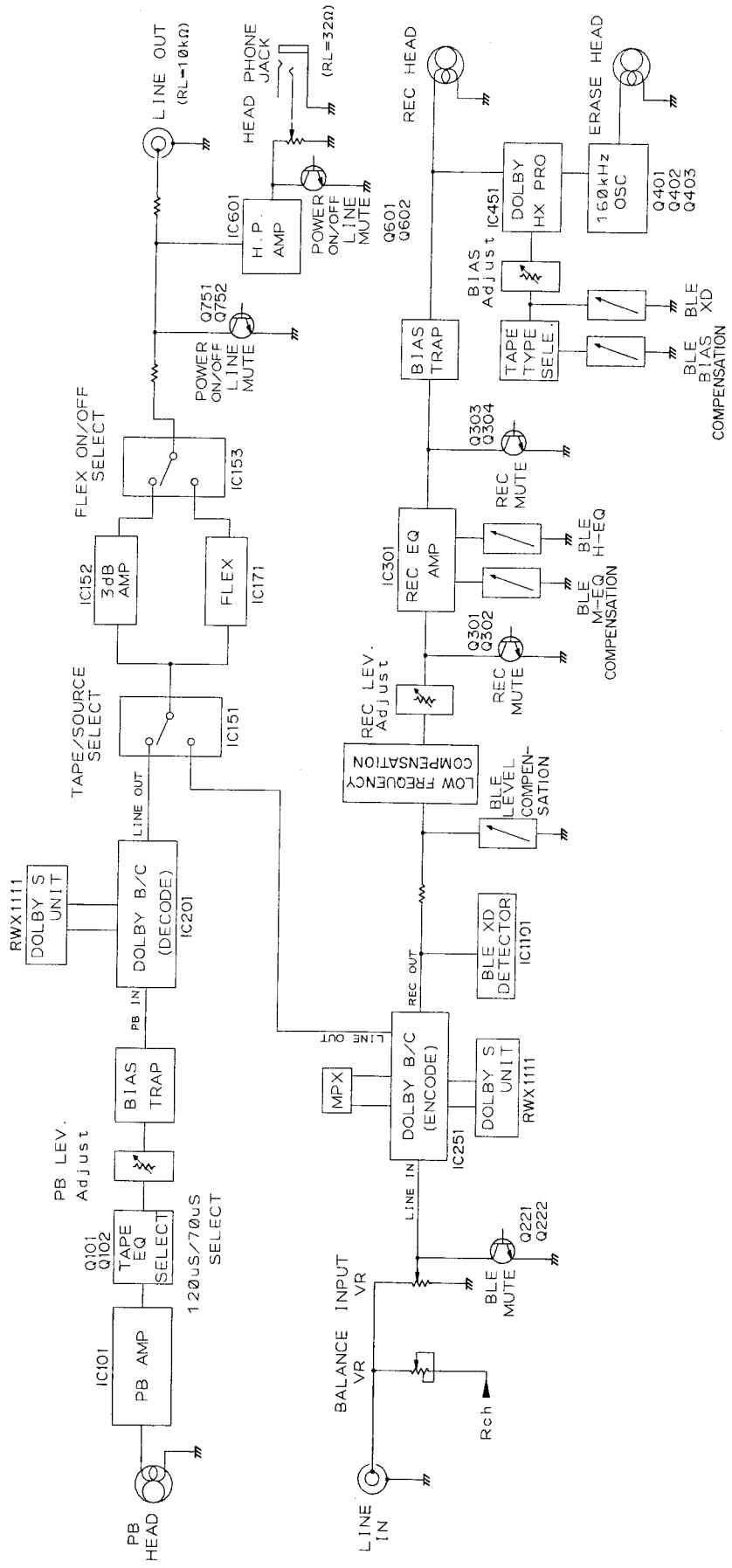
Mark	No.	Description	Parts No.
	1	Pad (L)	RHA1174
	2	Pad (R)	RHA1175
	3	Packing case	RHG1664
	4	Sheet	RHX-034
	5	Control cord (For CD • DECK SYNCHRO)	RDE1038
	6	Operating instructions (English/Spanish)	RRE1120
	7	Connection cord with mini plug (For SR cord)	PDE1247
	8	Connection cord assembly	RDE1026
	9	Operating instructions (French/German/Italian/ Dutch/Swedish/Potuguese)	RRD1165



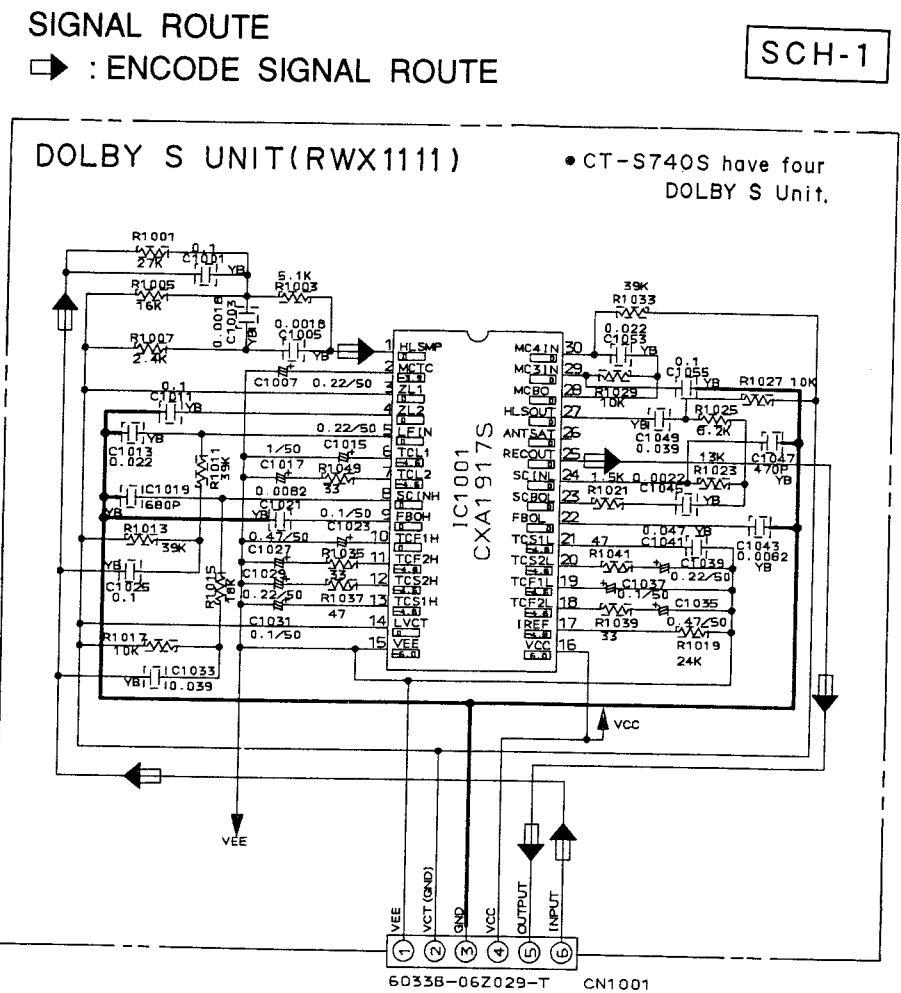
3. BLOCK DIAGRAM



3. BLOCK DIAGRAM



4. SCHEMATIC AND PCB CONNECTION DIAGRAMS



- NOTE FOR SCHEMATIC DIAGRAMS** (Type 6A)
- When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".
 - Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.
 - RESISTORS:**
Unit: 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.
 - CAPACITORS:**
Unit: p: pF or μF unless otherwise noted.
Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.
Rated voltage: 50V except for electrolytic capacitors.
 - COILS:**
Unit: m: mH or μH unless otherwise noted.
 - VOLTAGE AND CURRENT:**
□ or - V :
DC voltage (V) in STOP mode unless otherwise noted.
mA or - mA :
DC current in STOP mode unless otherwise noted.
 - OTHERS:**
• ⊗ or ⊙ : Adjusting point.
• Δ : Measurement point.
• The Δ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
 - SCH-□ ON THE SCHEMATIC DIAGRAM:**
• SCH-□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)
 - SWITCHES** (Underline indicates switch position):
OPSW UNIT
S1601 : ■ STOP
S1602 : ● REC
S1603 : ■ PAUSE
S1604 : ■ MONITOR TAPE/SOURCE
S1605 : CD-SYNCHRO
S1606 : RETURN
S1607 : ○ REC MUTE
S1608 : ► PLAY
S1609 : ► FF
S1610 : ◄◄ REW
S1611 : FLEX
S1612 : BLE XD
FL UNIT
S1501 : COUNTER RESET
S1502 : ▲ OPEN / CLOSE
S1504 : COUNTER MODE
S1505 : DOLBY NR OFF / B / C / S
S1507 : POWER STANDBY / ON / OFF
S1508 : MPX FILTER
S1509 : METER RANGE
S1510 : TIMER MODE (REC - OFF - PLAY / REPEAT)

SCH-1

SCH-1

D

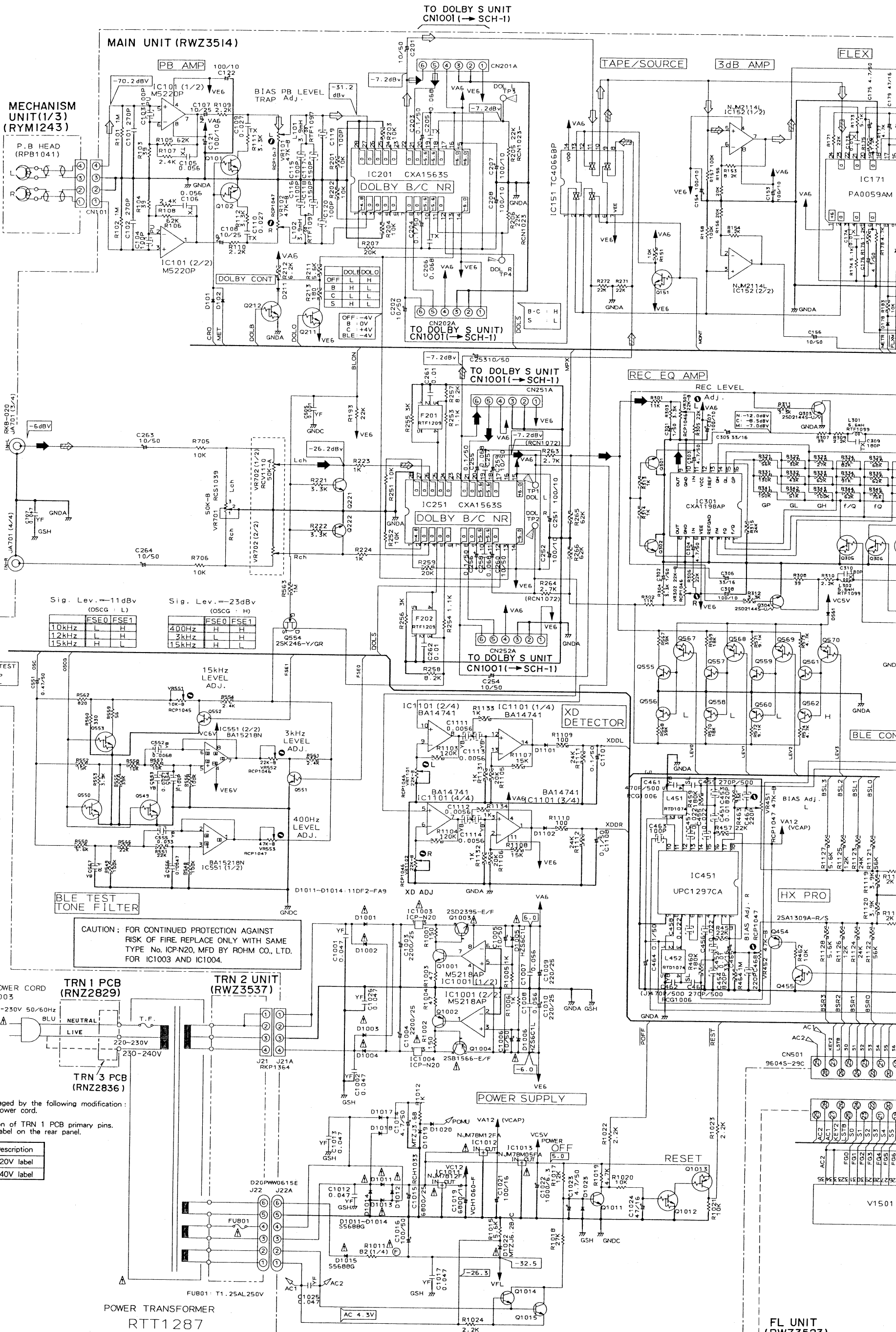




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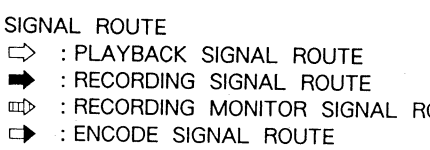


- The parts mounted on this PCB include a necessary parts for several destinations. For further information for respective destinations, be sure to check with the schematic diagram.



SCH-2

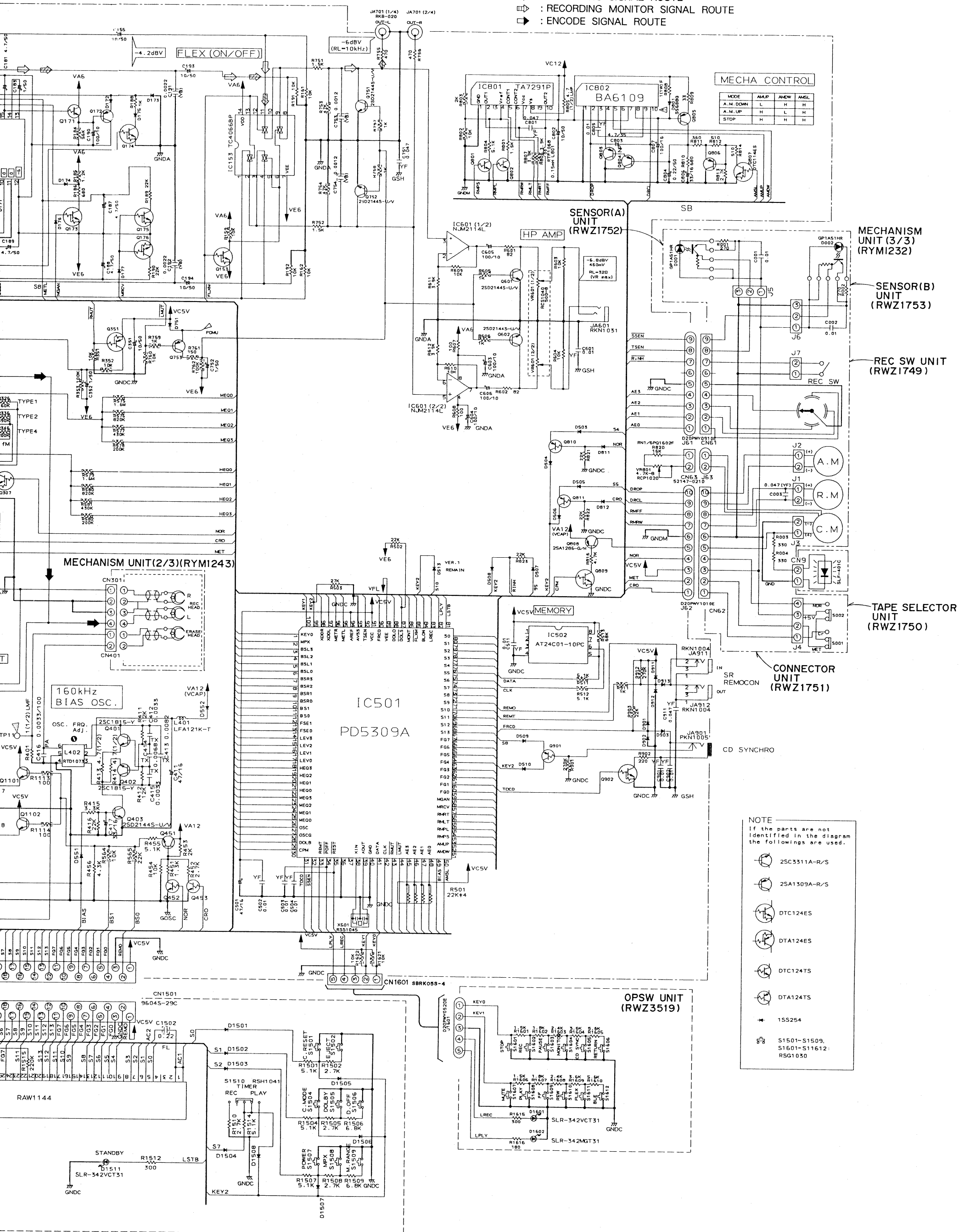
MAIN UNIT, MECHANISM UNIT
TRN 1 PCB, TRN 2 UNIT
TRN 3 PCB, OPSW UNIT
FL UNIT



SCH-2

SIGNAL ROUTE

- ◀ : PLAYBACK SIGNAL ROUTE
- ▶ : RECORDING SIGNAL ROUTE
- ◀▶ : RECORDING MONITOR SIGNAL ROUTE
- ◀▶ : ENCODE SIGNAL ROUTE



MAIN UNIT, MECHANISM UNIT
TRN 1 PCB, TRN 2 UNIT
TRN 3 PCB, OPSW UNIT
FL UNIT

SCH-2

5. PCB PARTS LIST

NOTES:

- Parts marked by “NSP” are generally unavailable because they are not in our Master Spare Parts List.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by “ $\odot$ ” are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

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

560 Ω $\rightarrow$ 56 $\times 10^1 \rightarrow$ 561 RD1/8PM $\begin{bmatrix} 5 & 6 & 1 \end{bmatrix}$ J

47k Ω $\rightarrow$ 47 $\times 10^3 \rightarrow$ 473 RD1/4PS $\begin{bmatrix} 4 & 7 & 3 \end{bmatrix}$ J

0.5 Ω $\rightarrow$ 0R5 RN2H $\begin{bmatrix} 0 & R & 5 \end{bmatrix}$ K

1 Ω $\rightarrow$ 010 RS1P $\begin{bmatrix} 0 & 1 & 0 \end{bmatrix}$ K

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

5.62k Ω $\rightarrow$ 562 $\times 10^1 \rightarrow$ 5621 RN1/4PC $\begin{bmatrix} 5 & 6 & 2 & 1 \end{bmatrix}$ F

■ PARTS LIST FOR CT-S740S

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
LIST OF ASSEMBLIES							
NSP	MOTHER UNIT		RWM1806	RESISTORS			
		MAIN UNIT	RWZ3514	All Resistors			
		DOLBY S UNIT	RWX1111	OTHERS			
		OPSW UNIT	RWZ3519	CN1001 CONNECTOR 6P			
		FL UNIT	RWZ3523	REC SWITCH UNIT			
NSP		TRN 2 UNIT	RWZ3537	SWITCHES AND RELAYS			
				S3			
				RSG-143			
				TAPE SELECTOR UNIT			
NSP	JUNCTION CIRCUIT UNIT		RWM1615	SWITCHES AND RELAYS			
NSP		REC SWITCH UNIT	RWZ1749	S1, S2			
NSP		TAPE SELECTOR UNIT	RWZ1750	RSH-070			
NSP		CONNECTOR UNIT	RWZ1751	CONNECTOR UNIT			
NSP		SENSOR UNIT (A)	RWZ1752	CAPACITORS			
NSP		SENSOR UNIT (B)	RWZ1753	C1			
				CKCYF473Z50			
DOLBY S UNIT							
SEMICONDUCTORS							
	IC1001	CXA1917S	RESISTORS				
			All Resistors				
			RD1/6PM□□□J				
CAPACITORS							
	C1017	CEJA010M50	OTHERS				
	C1023, C1031, C1037	CEJAR10M50	CN61				
	C1007, C1015, C1029, C1039	CEJAR22M50	SBRK09S-4				
	C1027, C1035	CEJAR47M50	SENSOR UNIT (A)				
	C1001, C1011, C1025, C1055	CKSQYB104K25	SEMICONDUCTORS				
			D1				
	C1003, C1005	CKSQYB182K50	GPIA51HR				
	C1045	CKSQYB222K50	CAPACITORS				
	C1013, C1053	CKSQYB223K50	C2				
	C1033, C1049	CKSQYB393K50	CKPUYY103N16				
	C1047	CKSQYB471K50					
	C1041	CKSQYB473K50					
	C1019	CKSQYB681K50					
	C1021, C1043	CKSQYB822K50					

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
RESISTORS											
All Resistors			RD1/6PM□□□J								
SENSOR UNIT (B)											
SEMICONDUCTORS											
D2			GPIA51HR								
CAPACITORS											
C3			CKPUYY103N16								
RESISTORS											
All Resistors			RD1/6PM□□□J								
MAIN UNIT											
SEMICONDUCTORS											
IC502			AT24C01-10PC								
IC1101			BA14741								
IC551			BA15218N								
IC802			BA6109								
IC301			CXA1198AP								
IC201, IC251			CXA1563S								
IC1003, IC1004			ICP-N20								
IC1001			M5218AP								
IC101			M5220P								
IC152, IC601			NJM2114L								
IC1011			NJM7812FA								
IC1013			NJM78M05FA								
IC1012			NJM78M12FA								
IC171			PA0059AM								
IC501			PD5309A								
IC801			TA7291P								
IC151, IC153			TC4066BP								
IC451			UPC1297CA								
Q808			2SA1286								
Q1002, Q172, Q454, Q753			2SA1309A								
Q803-Q806			2SA1309A								
Q1004			2SB1566								
Q401, Q402			2SC1815								
Q1001, Q1011, Q1014, Q1015			2SC3311A								
Q1101, Q1102, Q221, Q222			2SC3311A								
Q301, Q302, Q451			2SC3311A								
Q303, Q304, Q403, Q601, Q602			2SD2144S								
Q751, Q752			2SD2144S								
Q1003			2SD2395								
Q554			2SK246								
Q1013, Q351, Q567-Q570			DTA124ES								
Q810, Q811, Q901			DTA124TS								
Q807			DTC114ES								
Q101, Q1012, Q102, Q151, Q153			DTC124ES								
Q173-Q176, Q211, Q212			DTC124ES								
Q305-Q307, Q455, Q549, Q550			DTC124ES								
Q553, Q809, Q902			DTC124ES								
Q171, Q452, Q453, Q551, Q552			DTC124TS								
Q555-Q562, Q801, Q802			DTC124TS								
COILS AND FILTERS											
L401			LFA121K								
X501 (6.3MHz)			RSS1045								
L402 (160kHz)			RTD1073								
L451, L452 (160kHz)			RTD1074								
L801 (0.15MHz)			RTF1068								
L101, L102 (3.9mH)			RTF1097								
L301, L302 (5.6mH)			RTF1099								
F201, F202			RTF1209								
CAPACITORS											
C459, C460			CCCSL271K500								
C103, C104, C115, C116			CCSQCH101J50								
C119, C120, C463, C554			CCSQCH101J50								
C117, C118			CCSQCH151J50								
C803			CEANP4R7M35								
C183, C301, C302, C352, C752			CEAS010M50								
C180, C190, C605, C606			CEAS101M10								
C1021, C807			CEAS101M16								
C1016			CEAS101M50								
C1022			CEAS102M6R3								
C1024, C179, C411, C501			CEAS470M16								
C1014, C1023, C175, C176, C181			CEAS4R7M50								
C187-C189			CEAS4R7M50								
C1107, C1108, C203, C204			CEASR10M50								
C255, C256, C464			CEASR10M50								
C804			CEASR22M50								
C551			CEASR47M50								
C1005, C1006, C155, C156			CEYA100M50								
C193, C194, C201, C202			CEYA100M50								
C253, C254, C259, C260			CEYA100M50								
C263, C264, C351, C802			CEYA100M50								
C1009, C1010			CEYA221M25								
C1003, C1004			CEYA222M25								
C305, C306, C417, C465, C806			CEYA330M16								
C303, C304			CEYA4R7M50								
C107, C108			CEYANP100M25								
C412, C415			CFTXA332J50								
C414			CFTXA682J50								
C413			CFTXA822J50								
C173, C174, C261, C262			CFTYA103J50								
C109, C110			CFTYA273J50								
C1007, C1008, C105, C106			CFTYA563J50								
C205, C206, C257, C258			CFTYA683J50								
RESISTORS											
R501			R501								
R205, R206 (2)			R205, R206 (2)								
R401			R401								
R805			R805								
R413, R414			R413, R414								
R263, R264 (2)			R263, R264 (2)								
R607, R608			R607, R608								
R1005, R1006, R1007			R1005, R1006, R1007								
R223, R224			R223, R224								
R1020, R1021, R1022			R1020, R1021, R1022								
R191, R192, R200			R191, R192, R200								
R462, R603, R604			R462, R603, R604								
R705, R706			R705, R706								
R157, R158			R157, R158								
R101, R102			R101, R102								
R253, R254			R253, R254								
R301, R302			R301, R302								
R1017, R411, R412			R1017, R411, R412								
R451			R451								
R1001, R1002			R1001, R1002								
R751, R752, R800			R751, R752, R800								
R569, R570			R569, R570								
R1117, R1118, R1119			R1117, R1118, R1119								
R155, R156, R200			R155, R156, R200								
R902			R902								
R1022, R1024, R1025			R1022, R1024, R1025								
R309, R310			R309, R310								
R171, R189, R190			R171, R189, R190								

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103N16

Mark	No.	Description	Parts No.
RESISTORS			
	All Resistors		RD1/6PM□□□J
SENSOR UNIT (B)			
SEMICONDUCTORS			
	D2		GPIA51HR
CAPACITORS			
	C3		CKPUYY103N16
RESISTORS			
	All Resistors		RD1/6PM□□□J
MAIN UNIT			
SEMICONDUCTORS			
	IC502		AT24C01-10PC
	IC1101		BA14741
	IC551		BA15218N
	IC802		BA6109
	IC301		CXA1198AP
△	IC201, IC251		CXA1563S
	IC1003, IC1004		ICP-N20
	IC1001		M5218AP
	IC101		M5220P
	IC152, IC601		NJM2114L
△	IC1011		NJM7812FA
△	IC1013		NJM78M05FA
△	IC1012		NJM78M12FA
	IC171		PA0059AM
	IC501		PD5309A
	IC801		TA7291P
	IC151, IC153		TC4066BP
	IC451		UPC1297CA
	Q808		2SA1286
	Q1002, Q172, Q454, Q753		2SA1309A
△	Q803-Q806		2SA1309A
	Q1004		2SB1566
	Q401, Q402		2SC1815
	Q1001, Q1011, Q1014, Q1015		2SC3311A
	Q1101, Q1102, Q221, Q222		2SC3311A
	Q301, Q302, Q451		2SC3311A
	Q303, Q304, Q403, Q601, Q602		2SD2144S
	Q751, Q752		2SD2144S
△	Q1003		2SD2395
	Q554		2SK246
	Q1013, Q351, Q567-Q570		DTA124ES
	Q810, Q811, Q901		DTA124TS
	Q807		DTC114ES
	Q101, Q1012, Q102, Q151, Q153		DTC124ES
	Q173-Q176, Q211, Q212		DTC124ES
	Q305-Q307, Q455, Q549, Q550		DTC124ES
	Q553, Q809, Q902		DTC124ES
	Q171, Q452, Q453, Q551, Q552		DTC124TS
	Q555-Q562, Q801, Q802		DTC124TS

Mark	No.	Description	Parts No.
△	D1001-D1004		11DF2-FA9
	D101, D1017, D1018, D102, D1020		ISS254
	D1023, D1101, D1102, D171-D178		ISS254
	D211, D503-D510, D513		ISS254
	D551, D552, D561, D751		ISS254
	D811, D812, D901-D903		ISS254
	D911-D913		ISS254
△	D1005, D1006		HZS6C1L
△	D1019		MTZJ3 6B
△	D1022		MTZJ6 2B/C
△	D1011-D1015, D801		S5688G
COILS AND FILTERS			
	L401		LFA121K
	X501 (6.3MHz)		RSS1045
	L402 (160kHz)		RTD1073
	L451, L452 (160kHz)		RTD1074
	L801 (0.15MHz)		RTF1068
	L101, L102 (3.9mH)		RTF1097
	L301, L302 (5.6mH)		RTF1099
	F201, F202		RTF1209
CAPACITORS			
	C459, C460		CCCSL271K500
	C103, C104, C115, C116		CCSQCH101J50
	C119, C120, C463, C554		CCSQCH101J50
	C117, C118		CCSQCH151J50
	C803		CEANP4R7M35
	C183, C301, C302, C352, C752		CEAS010M50
	C180, C190, C605, C606		CEAS101M10
	C1021, C807		CEAS101M16
	C1016		CEAS101M50
	C1022		CEAS102M6R3
	C1024, C179, C411, C501		CEAS470M16
	C1014, C1023, C175, C176, C181		CEAS4R7M50
	C187-C189		CEAS4R7M50
	C1107, C1108, C203, C204		CEASR10M50
	C255, C256, C464		CEASR10M50
	C804		CEASR22M50
	C551		CEASR47M50
	C1005, C1006, C155, C156		CEYA100M50
	C193, C194, C201, C202		CEYA100M50
	C253, C254, C259, C260		CEYA100M50
	C263, C264, C351, C802		CEYA100M50
	C1009, C1010		CEYA221M25
	C1003, C1004		CEYA222M25
	C305, C306, C417, C465, C806		CEYA330M16
	C303, C304		CEYA4R7M50
	C107, C108		CEYANP100M25
	C412, C415		CFTXA332J50
	C414		CFTXA682J50
	C413		CFTXA822J50
	C173, C174, C261, C262		CFTYA103J50
	C109, C110		CFTYA273J50
	C1007, C1008, C105, C106		CFTYA563J50
	C205, C206, C257, C258		CFTYA683J50

Mark	No.	Description	Parts No.
	C502-C505 C511, C601, C805		CKCYF103Z50
	C901, C902		CKCYF103Z50
	C1001, C1002, C1012, C1013, C1017		CKCYF473Z50
	C1025, C1026, C707, C751, C801		CKCYF473Z50
	C911		CKCYF473Z50
	C451, C452		CKSQYB103K50
	C557		CKSQYB104K25
	C753, C754		CKSQYB122K50
	C467, C468		CKSQYB221K50
	C191, C192		CKSQYB222K50
	C455-C458		CKSQYB223K50
	C553		CKSQYB272K50
	C555		CKSQYB333K50
	C556		CKSQYB472K50
	C1111-C1114		CKSQYB562K50
	C552		CKSQYB682K50
	C453, C454		CKSQYB821K50
	C416		CQPA332J100
	C309, C310		CQSXA181J160
	C101, C102		CQSXA271J160
	C461, C462 (470P/500)		RCG1006
	C1015 (6800μ/25)		RCH1033
	C121, C122, C153, C154 (47/10)		RCH1139
	C207, C208, C251, C252 (47/10)		RCH1139
	C307, C308, C603, C604 (47/10)		RCH1139
	C1019 (6800μ/16)		VCH1060
RESISTORS			
	R501		RA4T223J
	R205, R206 (22k)		RCN1023
	R401		RD1/2LMF010J
	R805		RD1/2LMF4R7J
	R413, R414		RD1/2VM4R7J
	R263, R264 (2.7k)		RCN1072
	R607, R608		RD1/6PM101J
	R1005, R1006, R1012, R188		RD1/6PM102J
	R223, R224		RD1/6PM102J
	R1020, R1021, R161, R162		RD1/6PM103J
	R191, R192, R251, R252, R454		RD1/6PM103J
	R462, R603, R604, R609, R610		RD1/6PM103J
	R705, R706		RD1/6PM103J
	R157, R158		RD1/6PM104J
	R101, R102		RD1/6PM105J
	R253, R254		RD1/6PM112J
	R301, R302		RD1/6PM113J
	R1017, R411, R412		RD1/6PM123J
	R451		RD1/6PM132J
	R1001, R1002		RD1/6PM151J
	R751, R752, R801		RD1/6PM152J
	R569, R570		RD1/6PM183J
	R1117, R1118, R453		RD1/6PM202J
	R155, R156, R207		RD1/6PM203J
	R902		RD1/6PM221J
	R1022-R1024, R109, R110		RD1/6PM222J
	R309, R310		RD1/6PM222J
	R171, R189, R190, R193		RD1/6PM223J

Mark	No.	Description	Parts No.
	R271, R272, R305, R306, R416		RD1/6PM223J
	R502, R821-R823		RD1/6PM223J
	R107, R108		RD1/6PM242J
	R452, R813		RD1/6PM272J
	R1018, R503		RD1/6PM273J
	R255, R256		RD1/6PM302J
	R809		RD1/6PM330J
	R560		RD1/6PM331J
	R111, R112, R221, R222		RD1/6PM332J
	R303, R304, R415		RD1/6PM332J
	R811		RD1/6PM361J
	R103, R104, R307, R308		RD1/6PM390J
	R553, R611, R612		RD1/6PM392J
	R567, R568		RD1/6PM393J
	R456		RD1/6PM432J
	R1003, R1004		RD1/6PM470J
	R755, R756		RD1/6PM471J
	R1019, R177, R178, R573, R574		RD1/6PM472J
	R816		RD1/6PM472J
	R812, R814		RD1/6PM511J
	R173, R174, R455, R804		RD1/6PM512J
	R559		RD1/6PM560J
	R1015		RD1/6PM562J
	R105, R106		RD1/6PM623J
	R186, R810		RD1/6PM681J
	R601, R602		RD1/6PM820J
	R562		RD1/6PM821J
△	R153, R154, R257, R258		RD1/6PM822J
	R571, R572		RD1/6PM912J
	R1011		RFA1/4PL820J
	R820		RN1/6PQ1602F
	R808		RS1LMF010J
	VR801 (4.7k/0.11)		RCP1020
	VR551 (10k/0.1)		RCP1045
	VR1101, VR1102, VR301, VR302, VR552		RCP1046
	(22k/0.1)		
	VR101, VR102, VR451, VR452, VR553		RCP1047
	(47k/0.1)		
	VR701		RCS1039
	VR601		RCS1040
	VR702		RCV1110
	Other Resistors		RS1/10S□□□J
OTHERS			
	CN63 2P JAMPER CONNECTOR		52147-0210
	CN501 29P CONNECTOR		9604S-29C
	JA901 MINI JACK		PKN1005
	JA701 4P JACK		RKB-020
	JA911, JA912 SR REMOCON JACK		RKN1004
	JA601 HEADPHONE JACK		RKN1031
	PCB BINDER		VEF1008
	KN101 EARTH METAL FITTING		VNF1084
	CN401 2P CONNECTOR		W-P5102#51
	CN301 SP CONNECTOR		W-P5104#52
	CN101 SP CONNECTOR		W-P5104#56

Mark	No.	Description	Parts No.
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OPSW UNIT**SEMICONDUCTORS**

D1602	SLR-342MGT31
D1601	SLR-342VCT31

SWITCHES AND RELAYS

S1601-S1612	RSG1030
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RESISTORS

All Resistors	RD1/6PM□□□J
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FL UNIT**SEMICONDUCTORS**

D1501-D1508	ISS254
D1511	SLR-342VCT31

SWITCHES AND RELAYS

S1501, S1502, S1504-S1509	RSG1030
S1510	RSH1041

CAPACITORS

C1502	CKSQYF224Z25
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RESISTORS

All Resistors	RD1/6PM□□□J
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OTHERS

CN1501 29P CONNECTOR	9604S-29C
V1501 FL INDICATOR TUBE	RAW1144

TRN 2 UNIT**OTHERS**

H1001, H1002 FUSE HOLDER	RKR1003
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6. TEST MODE

1. Entering the Test Mode

- During STOP mode, press COUNTER MODE + COUNTER RESET + PAUSE at a time to enter the test mode.

2. Canceling test mode

- Press COUNTER RESET key and STANDBY key.
- Turn the power OFF.

The test mode is canceled by executing any of the above.

3. Test mode major items

- CD sync, SW check
- BLE adjustment, BLE-XD adjustment
- FLEX monitor check

① SW operation check

The test mode is executed as follows.

Counter Display	Key Input	Adjustment and Check items
** : 10	All keys other than COUNTER MODE key	• In this mode, the mechanism is operated without the cassette half. • SW check The following appear on the counter. • Erase-protection detection SW check Recordable : " r * : 10" Not recordable : " * : 10" • Timer SW check TIMER REC : " * R : 10" OFF : " * : 10" TIMER PLAY : " * P : 10" • CD sync check Connect a code, let the input/output be short-circuited, and press CD SYNCHRO key. "CD SYNC" will light up. • Tape position SW check The following appear in the same manner as in normal condition. NORMAL : " TYPE I " CrO2 : " TYPE II " METAL : " TYPE IV "

② BLE Adjustment Mode

● Entering the BLE Adjustment Mode

To enter the BLE adjustment mode, press BLE key when " ** : 10 " appears on the counter.

After that, the adjustment mode is changed each time BLE key is pressed.

When " ** : 10 " is not displayed on the counter, first press STOP key and perform the above procedures.

● Canceling BLE adjustment mode

To cancel the BLE adjustment mode, press STOP key. SW check mode is set.

Counter Display	Key Input	LINE MUTE	REC MUTE	BIAS	Adjustment and Check items
: 30	BLE	OFF	ON	OFF	_____
400	BLE	OFF	ON	OFF	● 400 Hz OUTPUT LEVEL ADJUSTMENT MODE Adjust so that the meter indicates as follows. (LINE OUT output = -23 dBv) □ □ □ □ □ ■ □ □ □ □ □ □ ■ ■ ■ ■ ■ □ ■ ■ ■ ■ ■ ■ ■
3 k	BLE	OFF	ON	OFF	● 3 kHz OUTPUT LEVEL ADJUSTMENT MODE Adjust so that the meter indicates as follows. (LINE OUT output = -23 dBv) □ □ □ □ □ ■ □ □ □ □ □ □ ■ ■ ■ ■ ■ □ ■ ■ ■ ■ ■ ■ ■
15 k	BLE	OFF	ON	OFF	● 15 kHz OUTPUT LEVEL ADJUSTMENT MODE Adjust so that the meter indicates as follows. (LINE OUT output = -23 dBv) □ □ □ □ □ ■ □ □ □ □ □ □ ■ ■ ■ ■ ■ □ ■ ■ ■ ■ ■ ■ ■
10 k	BLE	OFF	ON	OFF	● 10 kHz OUTPUT LEVEL ADJUSTMENT MODE Adjust so that the meter indicates as follows. (LINE OUT output = -11 dBv) □ □ □ □ □ -□- -□- -□- □ □ □ □ □ □ ■ ■ ■ ■ ■ □ □ □ ■ ■ ■ ■ ■ ■
12 k	BLE	OFF	ON	OFF	● 12 kHz OUTPUT LEVEL ADJUSTMENT MODE Adjust so that the meter indicates as follows. (LINE OUT output = -11 dBv) □ □ □ □ □ -□- -□- -□- □ □ □ □ □ □ ■ ■ ■ ■ ■ □ □ □ ■ ■ ■ ■ ■ ■
15 k	BLE	OFF	ON	OFF	● 15 kHz OUTPUT LEVEL ADJUSTMENT MODE Adjust so that the meter indicates as follows. (LINE OUT output = -11 dBv) □ □ □ □ □ -□- -□- -□- □ □ □ □ □ □ ■ ■ ■ ■ ■ □ □ □ ■ ■ ■ ■ ■ ■

※ ■ : Stands for "lights up"

□ : Stands for "goes off"

-□- : Stands for "lights up" or "blinks"

CT-S740S, CT-S740S-G

Counter Display	Key Input	LINE MUTE	REC MUTE	BIAS	Adjustment and Check items
HPFL	BLE	OFF	ON	OFF	● BLE XD LCH HPF ADJUSTMENT MODE Input signals to LINE IN so that a 12 kHz/−11 dBV signal is output from LINE OUT.
HPFR	BLE	OFF	ON	OFF	● BLE XD RCH HPF ADJUSTMENT MODE Same as above.

※ ■ : Stands for "lights up"
□ : Stands for "goes off"
-□- : Stands for "lights up" or "blinks"

③ FLEX monitor mode

- **Entering FLEX monitor mode**

To enter the FLEX monitor mode, press FLEX key when " ** : 10 " appears on the counter.
After that, the FLEX MOVEMENT is turned ON and OFF each time FLEX key is pressed. Then, the FL display will be linked.
When " ** : 10 " is not displayed on the counter, first press STOP key and perform the above procedures.

- **Canceling FLEX monitor mode**

To cancel the FLEX monitor mode, press STOP key. The mechanism operation check mode is set.

Counter Display	Key Input	Adjustment and Check items
: 40	FLEX basic operation key	• Turned ON when “FLEX” lights up.

④ **Error No. display** (Refer to “Self-diagnosis”.)

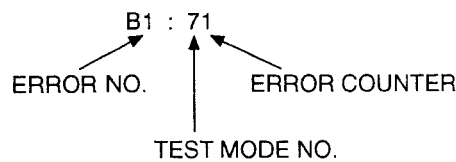
Press **METER RANGE** key when " ** : 10 " appears on the counter. An error No. will appear on the front panel FL area.

Self-diagnosis function

The self-diagnosis function automatically displays an error symbol on the front panel FL display area when an error occurs. The purpose of this function is to efficiently repair the product by reading an error symbol by the user to report it to a service personnel.

After an error occurs, even if the AC power cord is disconnected from an outlet, an error symbol can be displayed again by the following procedures.

- ① Enter the test mode. (See "Entering test mode".)
- ② Press METER RANGE key.
- ③ A display example is shown below. (Refer to the following table as for error No.)



- ④ When METER RANGE key is additionally pressed, the error counter changes to "2" then "3", and errors that have occurred in the past appear. (Up to three errors can be stored.)
- ⑤ After the repair is completed, clear the stored error numbers.
To perform this, press STOP key to enter the test mode, and press COUNTER MODE key and MUTE key.

Parts error occurred	Counter display	Producing condition	Possible causes
BLE	B1	The take-up side reel table stops during BLE operation.	• A tape was ended. • The reel motor stopped. • The capstan motor stopped.
	B2	Signals are not recorded on the tape during BLE operation.	• The characteristics of the tape used was significantly different from that of the reference tape. • The internal oscillator did not oscillate. • The compensation circuit parts were defective or did not correctly contact to each other.
Loading	L1	A tape does not reach an appropriate position by open/close operation.	• A tape was not set properly. • Foreign matters existed, etc.
Mechanism	M1	The take-up side reel table stops while the supply-side reel table continues operation. The tape may be jammed.	• The reel motor stopped. • A tape wound round the capstan due to static electricity, etc.
	M2	Mechanism assist error A tape does not reach an appropriate position by the mechanism assist operation.	• The operation is not performed correctly due to foreign matters, etc.

7. ADJUSTMENTS

1. MECHANICAL ADJUSTMENT

1. Tape Speed Adjustment			
Mode	Test tape	Adjustment position	Specification rating (playback frequency)
PLAY	Play the STD-301 tape (3kHz)	VR801	3000Hz ± 5Hz

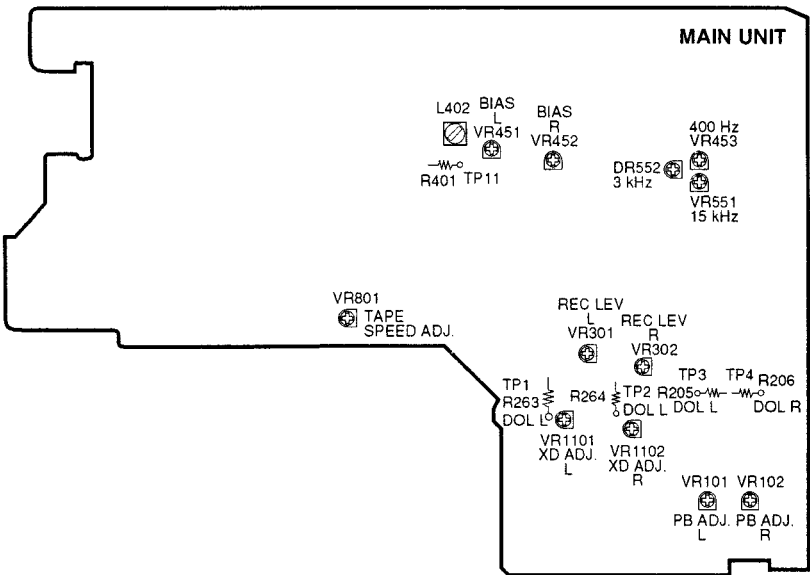
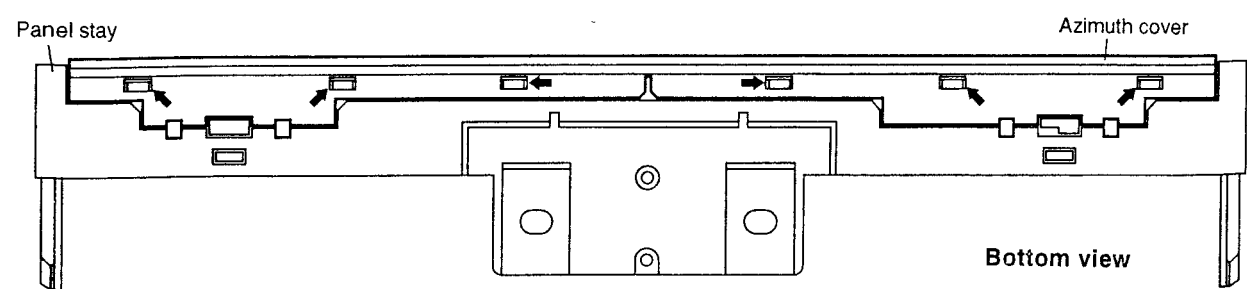


Fig.1 Adjusting points

- **Before performing the head azimuth adjustment.**
Remove the azimuth cover before performing this adjustment.



Remove six hooks ➡ and remove the under panel.
* The front panel is not removed from the panel stay unless the under panel is removed.

Fig.2 Removal of azimuth cover

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 10 k Ω load resistance to the OUTPUT terminals.
6. Unless otherwise specified, the switches listed below are left in the positions indicated.

DOLBY NR : OFF
TAPE SELECTOR : NORM

Test Tapes

STD-331E	: Playback adjustments (See Fig. 3)
STD-631 or STD-632	: 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 careful 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. Recording bias adjustment.
3. Recording level adjustment.
4. Level meter check.
5. AUTO BLE adjustment.

NOTE: This unit has an automatic tape selection feature.

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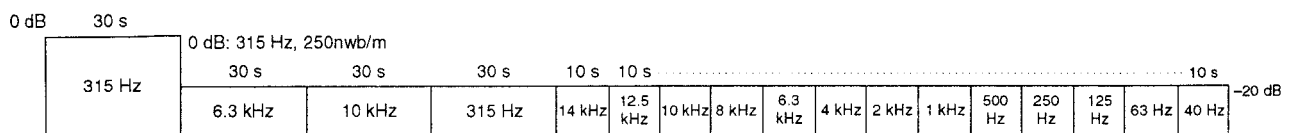


Fig. 3 Constants of the test tape STD-331E

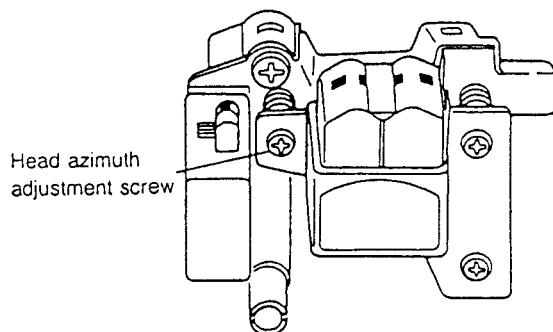


Fig. 4 Head azimuth adjustment

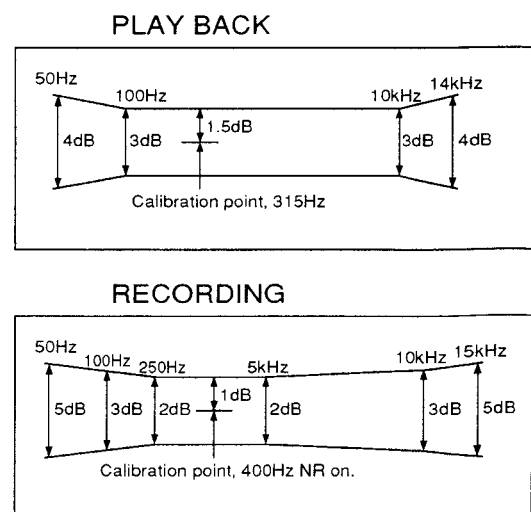


Fig. 5 Frequency response zone

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. 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 VR 101 (Lch) VR 102 (Rch)	TP. 3 (Lch) TP. 4 (Rch)	−6.7 dBV	This adjustment must be performed accurately for proper Dolby level 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 L402	TP. 11	160 kHz ± 1 kHz	

2. Recording Bias Adjustment

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

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	REC	Load the STD-631 or STD-632 test tape. Record the 315 Hz and 10 kHz signals at −20 dB input level and playback.	Deck VR 451 (Lch) VR 452 (Rch)	LINE OUT	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.	

3. Recording Level Adjustment

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	REC PAUSE	Apply a 315 Hz/−4 dB signal to the line input terminals, load the STD-631 or STD-632 test tape.	Volume of the output level of the oscillator	TP. 3 (Lch) TP. 4 (Rch)	−11.2 dBV	
2.	REC/ PLAY	Record the above signal onto the STD-631 or STD-632 test tape, and playback.	Deck VR 301 (Lch) VR 302 (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		−11.2 dBV ± 1.5 dB	
4.	REC/ PLAY	Record the above signal onto the STD-610 test tape, and playback.	Check		−11.2 dBV ± 1.5 dB	

4. Level Meter Check

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment Value	Remarks
1.	REC PAUSE	Apply a 315 Hz/ 0 dB signal to the Line Input terminals.	Volume of the output level of the oscillator	TP. 1 (Lch) TP. 2 (Rch)	Check that the level meters "0dB" light up within -7.2 dBV ± 1 dB of the signal output level.	

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 **II** (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 BLE XD key on the front panel.	VR553	Level meter	Adjust so that the FL segment 0 dB lights up or blinks. Note : At this time, if both segments next to the 0 dB light up or blink, this can be accepted.	400 Hz adjustment (FL indication 400)
3.		Press the BLE XD key on the front panel.	VR552			3 kHz adjustment (FL indication 3k)
4.		Press the BLE XD key on the front panel.	VR551			15 kHz adjustment (FL indication 15k)
5.		Press the BLE XD key on the front panel.	—		Make sure that FL segment 0 dB or both segment 0 dB or light up or blink.	10 kHz check (FL indication 10k)
6.		Press the BLE XD key on the front panel.				12 kHz check (FL indication 12k)
7.		Press the BLE XD key on the front panel.				15 kHz check (FL indication 15k)
8.		Press the BLE XD key on the front panel.	VR1101		Input signals to LINE IN so that a 12 kHz/−11 dBV signal is output from LINE OUT. Adjust so that the FL segment 0 dB lights up or blinks.	12 kHz adjustment (FL indication HPFL)
9.		Press the BLE XD key on the front panel.	VR1102	Note : At this time, if both segments next to the 0 dB light up or blink, this can be accepted.	12 kHz adjustment (FL indication HPFR)	

8. IC INFORMATION

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

■ PD5309A (MAIN UNIT, IC501)

SYSTEM CONTROL

● Pin Function

Pin No.	NAME	I/O	FUNCTION																								
1	KEY0	I	Key scanning input																								
2	MPX	O	Multiplex filter control ("H" when MPX is ON.)																								
3	BSL3	O	BLE-XD L-ch bias control																								
4	BSL2	O																									
5	BSL1	O																									
6	BSL0	O																									
7	BSR3	O	BLE-XD R-ch bias control																								
8	BSR2	O																									
9	BSR1	O																									
10	BSR0	O																									
11	BS1	O	BLE bias control (BS1 : "Open" and BS0 : "L" when BLE is OFF.)																								
12	BS0	O																									
13	FSE1	O	BLE oscillator frequency selection <table><tr><th>Level</th><th>Frequencies selected</th><th>FSE0</th><th>FSE1</th></tr><tr><td rowspan="3">-23dBV</td><td>400Hz</td><td>H</td><td>H</td></tr><tr><td>3kHz</td><td>L</td><td>H</td></tr><tr><td>15kHz</td><td>H</td><td>L</td></tr><tr><td rowspan="3">-11dBV</td><td>10kHz</td><td>L</td><td>H</td></tr><tr><td>12kHz</td><td>L</td><td>H</td></tr><tr><td>15kHz</td><td>H</td><td>L</td></tr></table>	Level	Frequencies selected	FSE0	FSE1	-23dBV	400Hz	H	H	3kHz	L	H	15kHz	H	L	-11dBV	10kHz	L	H	12kHz	L	H	15kHz	H	L
Level	Frequencies selected	FSE0	FSE1																								
-23dBV	400Hz	H	H																								
	3kHz	L	H																								
	15kHz	H	L																								
-11dBV	10kHz	L	H																								
	12kHz	L	H																								
	15kHz	H	L																								
14	FSE0	O																									
15	LEV3	O	BLE level control LEV3 : "L", LEV2 : "H", LEV1: "H", and LEV0 : "H" when BLE is OFF.																								
16	LEV2	O																									
17	LEV1	O																									
18	LEV0	O																									
19	HEQ3	O	BLE HIGH EQ control HEQ3 : "L", HEQ2 : "Open", HEQ1 : "Open", and HEQ0 : "Open" when BLE is OFF.																								
20	HEQ2	O																									
21	HEQ1	O																									
22	HEQ0	O																									
23	MEQ3	O	BLE MID EQ control MEQ3 : "L", MEQ2 : "Open", MEQ1 : "Open", and MEQ0 : "Open" when BLE is OFF.																								
24	MEQ2	O																									
25	MEQ1	O																									
26	MEQ0	O																									
27	OSC	O	Square wave output for BLE oscillator																								
28	OSCG	O	Gain switching for BLE oscillator ("L" : High gain)																								
29	DOLB	O	Dolby control ("H" : Dolby B)																								
30	CPM	O	Capstan motor control ("H" when the motor is ON.)																								
31	TOCD	O	CD sync output ("H" output when sync REC.)																								
32	SSEN	I	Sensing pulse input of the supply side																								
33	REMT	I	Remote control signal input																								
34	POFF	I	Power-off signal input ("L" when the power is OFF.)																								
35	REST	I	Reset signal input ("L" when reset.)																								

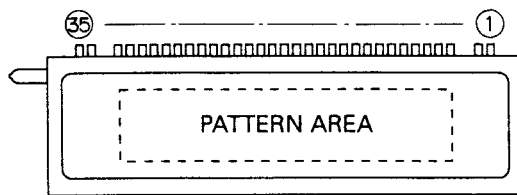
Pin No.	NAME	I/O	FUNCTION																
36	GND	I	Connected to GND.																
37	—	—	Open																
38	XIN	I	Connected to the main clock. (6.3 MHz)																
39	XOUT	O																	
40	GND	I	Connected to GND.																
41	DATA	I/O	Last memory IC IC502 (AT24C01-10PC) communication																
42	CLK	O																	
43	RMUT	O	REC muting control ("H" when muting is OFF.)																
44	LMUT	O	Line muting control ("H" when muting is OFF.)																
45	AE3	I	Mechanism control input																
46	AE2																		
47	AE1																		
48	AE0																		
49	BIAS	O	Bias control ("H" when bias is ON)																
50	AMSL	O	Mechanism assist motor control output																
51	AMDW	O																	
52	AMUP	O																	
53	RMPS	O	Reel motor torque control ("H" when the digital tension control operation.)																
54	RMPL	O	Reel motor control <table><tr><td></td><td>STOP*</td><td>REW</td><td>FF*</td></tr><tr><td>RMPL</td><td>L</td><td>L</td><td>L</td></tr><tr><td>RMLT</td><td>H</td><td>H</td><td>L</td></tr><tr><td>RMRT</td><td>H</td><td>L</td><td>H</td></tr></table>		STOP*	REW	FF*	RMPL	L	L	L	RMLT	H	H	L	RMRT	H	L	H
	STOP*	REW	FF*																
RMPL	L	L	L																
RMLT	H	H	L																
RMRT	H	L	H																
55	RMLT	O																	
56	RMRT	O	STOP* : STOP, PLAY/PAUSE, REC/PAUSE FF* : FF, PLAY, REC																
57	MRCV	O	Meter circuit recovery time control ("H" when a recovery is FAST.)																
58	MGAN	O	Meter circuit gain switching ("H" when MS)																
59	FG0	O	FL grid scanning output																
60	FG1	O																	
61	FG2	O																	
62	FG3	O																	
63	FG4	O																	
64	FG5	O																	
65	FG6	O																	
66	FG7	O																	
67	S13	O	FL segment scanning output																
68	S12	O																	
69	S11	O																	
70	S10	O																	
71	S9	O																	
72	S8	O																	
73	S7	O																	
74	S6	O																	
75	S5	O																	
76	S4	O																	
77	S3	O																	
78	S2	O																	
79	S1	O																	
80	S0	O																	

CT-S740S, CT-S740S-G

Pin No.	NAME	I/O	FUNCTION
81	LSTB	O	Standby LED control ("H" when STANDBY LED lights up.)
82	LPLY	O	PLAY LED control ("H" when PLAY LED lights up.)
83	LREC	O	REC LED control ("H" when REC LED lights up.)
84	BLON	O	BLE control ("H" when BLE.)
85	FLXM	O	Playback output control ("L" only when FLEX is played back.)
86	MONT	O	Monitor switching control ("L" : Tape, "H":Source)
87	DOLS	O	Dolby control ("L" when Dolby S.)
88	DOLO	O	Dolby control ("H" when Dolby is OFF.)
89	VEE	I	Power supply for the built-in pull-down resistor
90	FRCD	I	CD sync input
91	Vcc	I	Power supply (+5V)
92	TSEN	I	Take-up side sensing pulse input
93	AVSS	I	Power supply for the built-in A/D converter
94	AREF	I	AVSS is connected to GND, AREF to 5V.
95	METL	I	L-ch level meter input
96	METR	I	R-ch level meter input
97	XDDL	I	L-ch BLE-XD detector input
98	XDDR	I	R-ch BLE-XD detector input
99	KEY2	I	Key scanning input
100	KEY1	I	Key scanning input

9. FL INFORMATION

● V1501 (RAW1144)



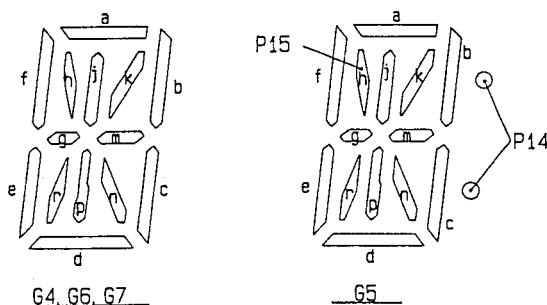
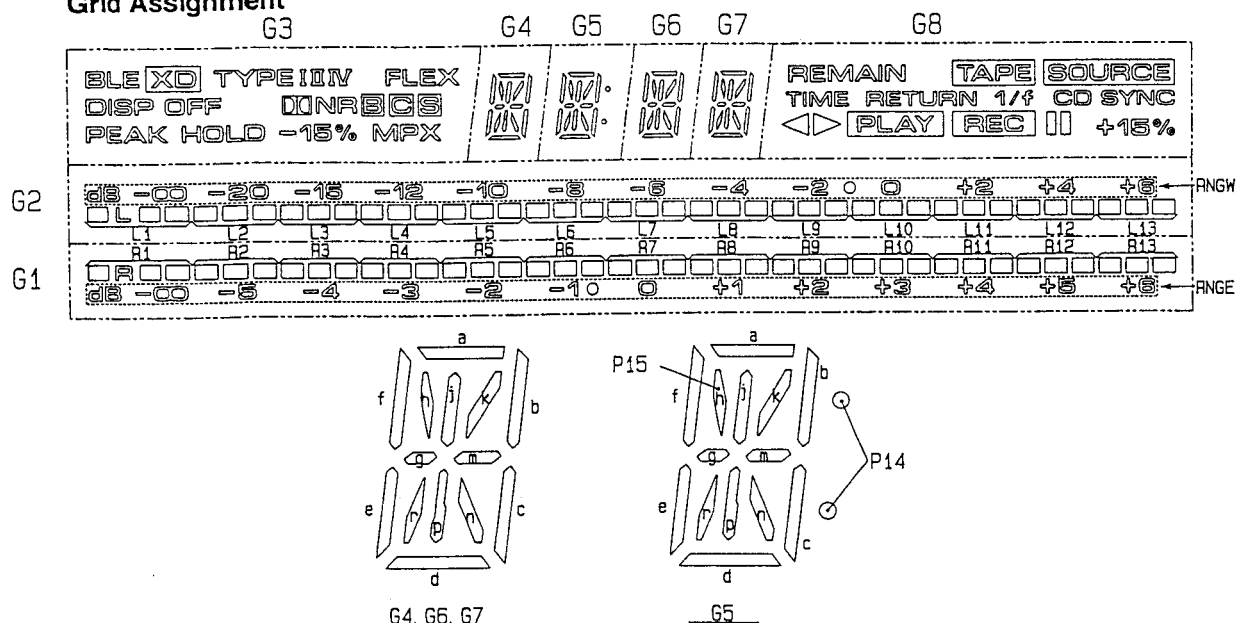
Pin Connection

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Assignment	F	F	NP	NL	P1	P2	P3	P4	NL	P5	P6	P7	P8	P9	NL	P10	P11

Pin No.	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Assignment	P12	P13	P14	NL	P15	P16	NL	G8	G7	G6	G5	G4	G3	G2	G1	NP	F	F

F:Filament G1~G8:Grid P1~P16:Anode NP:No pin NL:No lead

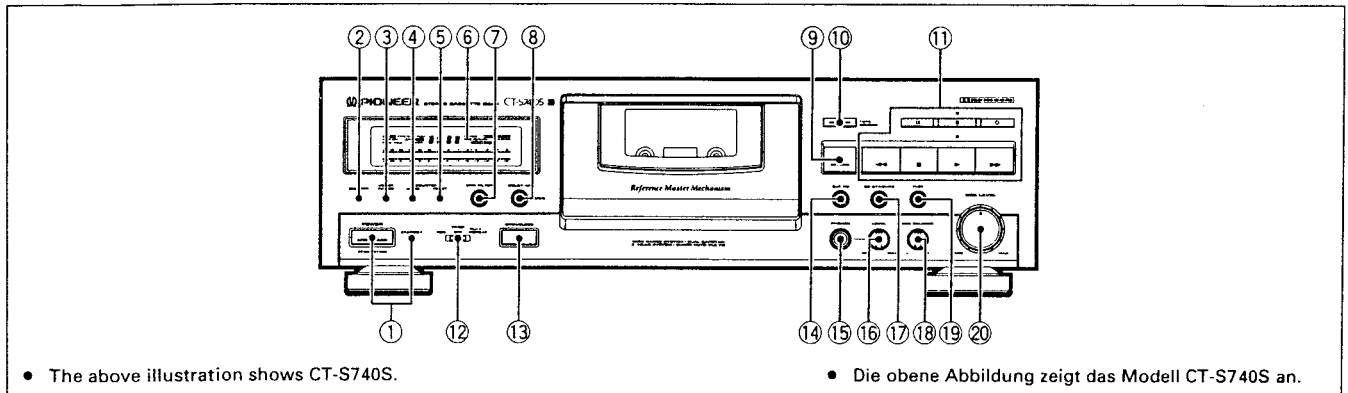
Grid Assignment



Anode Connection

	G8	G7	G6	G5	G4	G3	G2	G1
P1	TAPE	a	a	a	a	DISP OFF	L1	R1
P2	SOURCE	b	b	b	b	I	L2	R2
P3	II	f	f	f	f	II	L3	R3
P4	▷	g	g	g	g	IV	L4	R4
P5	◁	m	m	m	m	B	L5	R5
P6	PLAY	c	c	c	c	C	L6	R6
P7	REC	e	e	e	e	S	L7	R7
P8	TIME	d	d	d	d	MPX	L8	R8
P9	REMAIN	j	j	j	j	BLE	L9	R9
P10	RETURN	p	p	p	p	XD	L10	R10
P11	1/f	k	k	k	k	FLEX	L11	R11
P12	+15%	n	n	n	n	PEAK	L12	R12
P13	CD SYNC	r	r	r	r	DNR	L13	R13
P14		h	h	:	h	TYPE	RNGW	RNGE
P15				h		-15%		
P16						HOLD		

10. PANEL FACILITIES



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 Display off button (DISP OFF)

Press to select the function display on or off.

③ Level meter range selector button (METER RANGE)

Press to select wide or expanded range on the level meter.

④ Tape counter mode button (COUNTER MODE)

⑤ Counter reset button (COUNTER RESET)

The tape capacity can be selected with this button while the REMAIN counter is displayed.

⑥ Function display

⑦ MPX FILTER button

⑧ Dolby* NR button (DOLBY NR OFF/B/C/S)

*

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

⑨ Return button (RETURN)

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

⑩ Monitor selector button (MONITOR)

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

(CT-S540S)

When the monitor function is used during a recording being made with Dolby S-type noise reduction, the recorded signals from the tape are played back via a Dolby B-type NR. This allows the economical use of a single S-type circuit by taking advantage of the audible compatibility of Dolby S-type circuit by normal non-simultaneous playback, the S-type decoder is used to decode the tape with full accuracy.

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

⑪ Operation buttons

- ◀ : Rewind/music search
- : Stop
- ▶ : When pressed during stop, begins playback.
- ▶▶ : 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

⑫ TIMER mode/repeat play switch (TIMER REC/OFF/PLAY-REPEAT)

⑬ OPEN/CLOSE button

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

⑭ BLE XD button

⑮ Headphones jack (PHONES)

⑯ Headphones level control (LEVEL)

⑰ CD-DECK SYNCHRO recording button (CD SYNCHRO)

⑱ Recording balance control (REC BALANCE)

⑲ FLEX button

⑳ Recording level control (REC LEVEL)

11. 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, JIS)

Fast Winding Time Approx. 80 seconds (C-60 tape)

Frequency Response (at -20 dB recording level)

TYPE IV (Metal) tape 15 to 25,000 Hz (±6 dB)

TYPE II (High/CrO₂) Tape 15 to 20,000 Hz (±6 dB)

TYPE I (Normal) Tape 15 to 20,000 Hz (±6 dB)

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 23 kΩ)

Output (Reference level)

LINE (OUTPUT) 0.5 V (Output impedance 1.9 kΩ)

Headphones (PHONES)

..... VR MAX 6.3 mW (Load impedance 32 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 23 W

Dimensions 420 (W) × 125 (H) × 280 (D) mm

Weight 5.3 kg

Subfunctions

- DOLBY B-type, C-type and S-type NR Systems
- DOLBY HX PRO system
- MPX FILTER
- Headphones jack
- 4-digit electronic tape/time/remain counter
- Music search up to ±15 selections
- Automatic space recording mute
- SUPER AUTO BLE XD tuning system
- FL level meter 12 +1 segments (with peak hold)
-  System remote control available
- CD-DECK SYNCHRO function
- Timer Recording/Playback (Automatic repeat playback ON)
- Auto tape selector
- FLEX system
- Last memory
- Tape return/return play
- Auto monitor selection (Tape/Source)
- Display off
- Power eject (Open/Close)
- Automatic Tape Loose Cancellor (ATLC)

Accessories

Operating instructions	1
Connection cord with pin plugs	2
 Remote control cord	1
CD-DECK SYNCHRO control cord	1

NOTE:

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

Service Manual

ORDER NO.
RRV1386

STEREO CASSETTE DECK

CT-S740S CT-S740S-G

- Refer to the service manual RRV1297 for CT-S740S/HEM

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

Type	Model		Power Requirement	The voltage can be converted by the following method.
	CT-S740S	CT-S740S-G		
HEM8	○	○	AC220 – 230V	AC230 – 240V, *
HEWM8	○	—	AC220 – 230V	AC230 – 240V, *

* : Alter the wiring of the Power-supply block at the primary winding of power transformer referring to the "Line Voltage Selection" described in Service Manual.

1. CONTRAST OF MISCELLANEOUS PARTS

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

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

560 Ω $\rightarrow 56 \times 10^1 \rightarrow 561$ RD1/8PM $\boxed{561} J$

47 k Ω $\rightarrow 47 \times 10^3 \rightarrow 473$ RD1/4PS $\boxed{473} J$

0.5 Ω $\rightarrow 0R5$ RN2H $\boxed{0R5} K$

1 Ω $\rightarrow 010$ RS1P $\boxed{010} K$

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

5.62 k Ω $\rightarrow 562 \times 10^1 \rightarrow 5621$ RN1/4PC $\boxed{5621} F$

1. CONTRAST OF CT-S740S/HEM8 AND CT-S740S/HEM

CT-S740S/HEM8 and CT-S740S/HEM have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		CT-S740S/HEM	CT-S740S/HEM8	
Δ NSP	MOTHER UNIT	RWM1806	RWM1896	
	MAIN UNIT	RWZ3514	RWZ3791	
	OPSW UNIT	RWZ3519	RWZ3792	
	FL UNIT	RWZ3523	RWZ3793	
NSP	TRN2 UNIT	RWZ3537	RWZ3794	
Δ	POWER TRANSFORMER(AC220-230V/230-240V)	RTT1287	RTT1292	
Δ	EARTH PLATE	Not used	VNE1164	
	SCREW	Not used	ABA1192	
NSP	PCB SPACER	Not used	REB1201	
NSP	PCB CUSHION	Not used	REB1225	
NSP	VIBRATION-PROOF TAPE	Not used	PNM1045	
	VIBRATION-PROOF TAPE PLATE C	PNB1114	Not used	

2. CONTRAST OF CT-S740S/HEWM8 AND CT-S740S/HEWM

CT-S740S/HEWM8 and CT-S740S/HEWM have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		CT-S740S/HEWM	CT-S740S/HEWM8	
Δ NSP	MOTHER UNIT	RWM1806	RWM1896	
	MAIN UNIT	RWZ3514	RWZ3791	
	OPSW UNIT	RWZ3519	RWZ3792	
	FL UNIT	RWZ3523	RWZ3793	
NSP	TRN2 UNIT	RWZ3537	RWZ3794	
	POWER TRANSFORMER(AC220-230V/230-240V)	RTT1287	RTT1292	
NSP	EARTH PLATE	Not used	VNE1164	
Δ	SCREW	Not used	ABA1192	
Δ	PCB SPACER	Not used	REB1201	
NSP	PCB CUSHION	Not used	REB1225	
NSP	VIBRATION-PROOF TAPE	Not used	PNM1045	
	VIBRATION-PROOF TAPE PLATE C	PNB1114	Not used	

3. CONTRAST OF CT-S740S-G/HEM8 AND CT-S740S-G/HEM

CT-S740S-G/HEM8 and CT-S740S/HEM have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		CT-S740S-G/HEM	CT-S740S-G/HEM8	
Δ NSP	MOTHER UNIT	RWM1806	RWM1896	
	MAIN UNIT	RWZ3514	RWZ3791	
	OPSW UNIT	RWZ3519	RWZ3792	
	FL UNIT	RWZ3523	RWZ3793	
NSP	TRN2 UNIT	RWZ3537	RWZ3794	
Δ	POWER TRANSFORMER(AC220-230V/230-240V)	RTT1287	RTT1292	
Δ	EARTH PLATE	Not used	VNE1164	
	SCREW	Not used	ABA1192	
NSP	PCB SPACER	Not used	REB1201	
NSP	PCB CUSHION	Not used	REB1225	
NSP	VIBRATION-PROOF TAPE	Not used	PNM1045	
	VIBRATION-PROOF TAPE PLATE C	PNB1114	Not used	

4. CONTRAST OF PCB ASSEMBLIES

MAIN UNIT

RWZ3791 and RWZ3514 have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		RWZ3514	RWZ3791	
Δ	C2001, C2002 F2001-F2004(chip fuse) R547	Not used Not used Not used	CKSQYB331K50* DTF1067* RS1/10S000J*	

Note * : Refer to 2. SCHEMATIC AND PCB DIAGRAMS.

OPSW UNIT

Although RWZ3792 and RWZ3519 are different in part number, they consist of the same components.

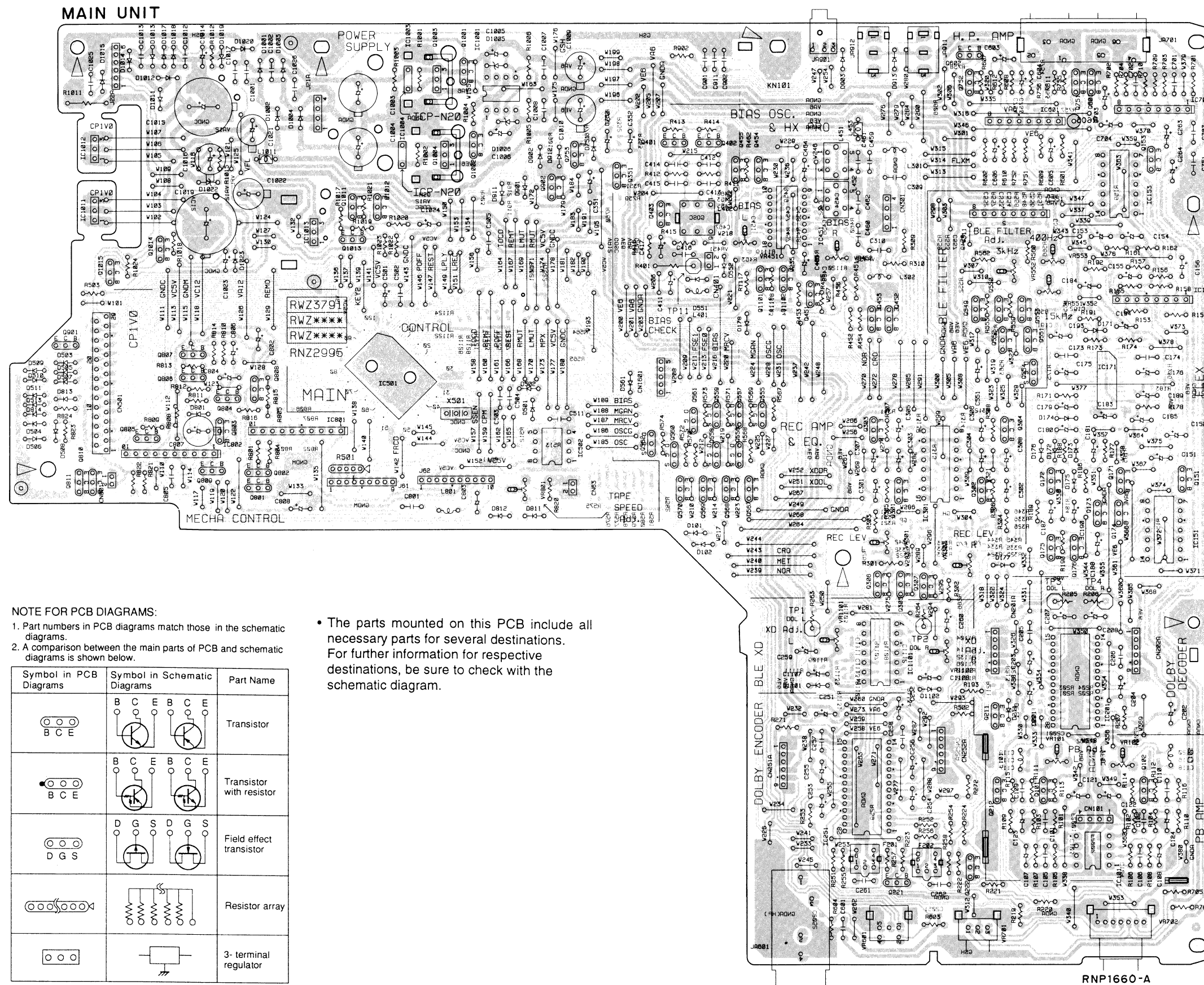
FL UNIT

Although RWZ3793 and RWZ3523 are different in part number, they consist of the same components.

TRN2 UNIT

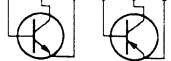
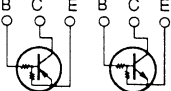
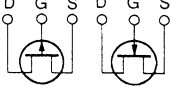
Although RWZ3794 and RWZ3537 are different in part number, they consist of the same components.

- This diagram is viewed from the mounted parts side.



NOTE FOR PCB DIAGRAMS:

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

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

- The parts mounted on this PCB include all necessary parts for several destinations. For further information for respective destinations, be sure to check with the schematic diagram.

	IC1003			Q602	
	Q1003			Q752	
	Q1001				
	IC1001				
		Q401		IC601	IC701
	Q1002	Q402			
	IC1012	Q753	Q455		
	Q1004	Q351	Q454		Q153
	IC1004				
	Q1012				
	Q1011	Q403	IC451	IC551	IC153
	IC1011				
	IC1013				
VR451	Q1013		Q1101		
VR553			Q1102		
VR452			Q451		
VR552	Q1015				
VR551					
			Q453	Q549	IC152
			Q452	Q550	
				Q553	
	Q901			Q552	
	Q807			Q551	
	IC501			Q554	IC171
		Q559	Q557		
	Q803	Q561	Q555	Q304	
	Q805	IC502	Q303		
	IC801	Q502	Q558		
		Q560	Q556	IC301	
	Q811	Q558			Q172
VR801	Q810		Q568	Q302	Q171
	Q809	Q570			Q151
	Q802	Q569	Q567		
	Q801		Q301		
VR301					IC151
					Q175
					Q176
VR1101					
VR1102			IC1101		
					IC201
				Q211	
VR101					
VR102			IC251		
					Q102
				Q212	Q101
					IC101
VR601					
VR701					
VR702					

