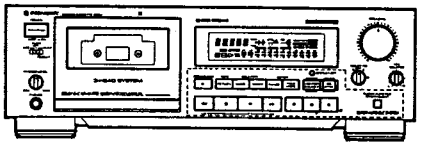
PIONEER®
The Art of Entertainment

Service Manual



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.**

CONTENTS

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SO APR. 1992 Printed in Japan

1. EXPLODED VIEWS, PACKING AND PARTS LIST

NOTES:

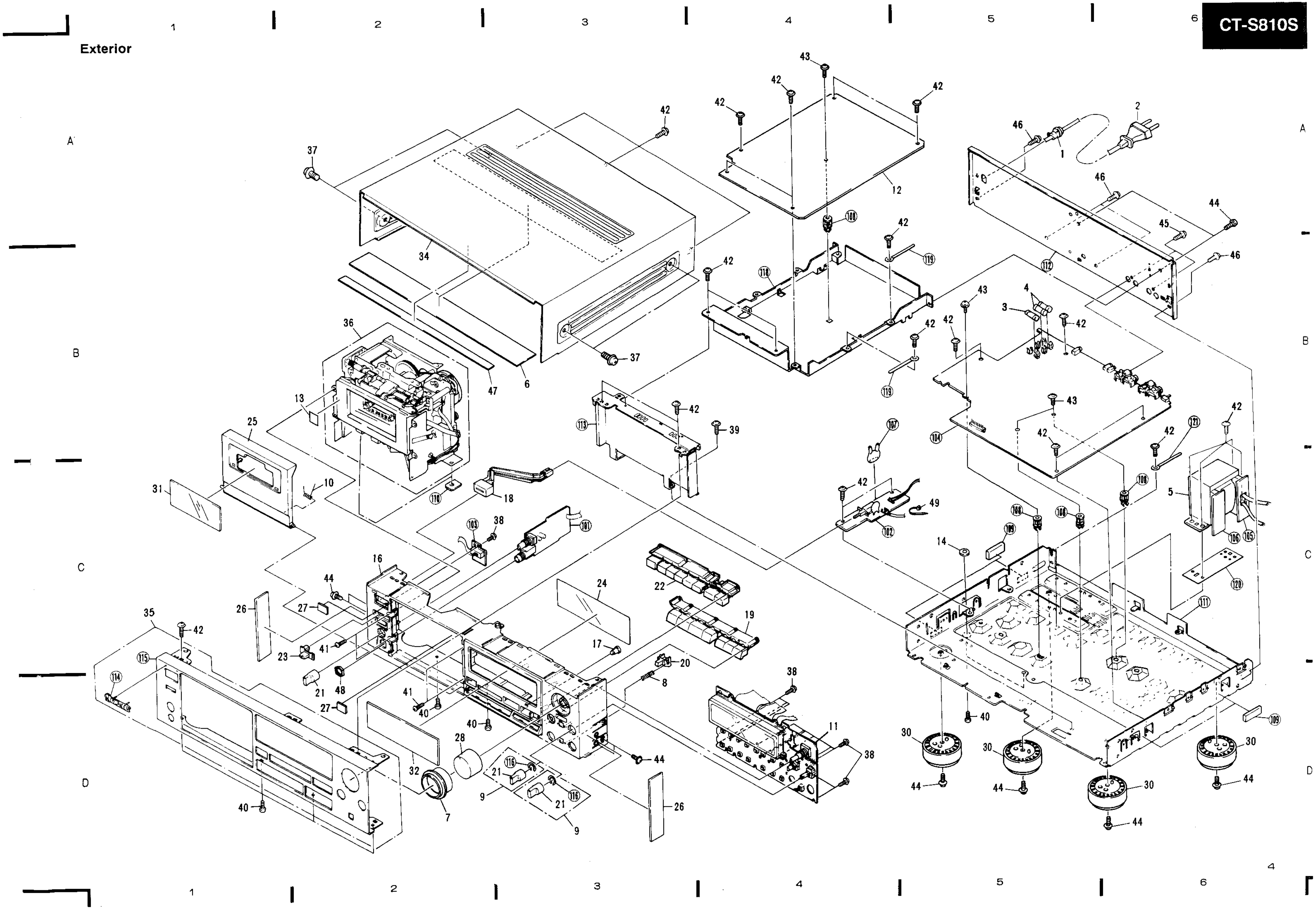
- The parts with an encircled number are generally unavailable because they are not in our Master Spare Parts List.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked 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.
⚠	1	Strain relief	CM – 22B
⚠	2	AC Power cord	PDG1003
⚠	3	FU703 Fuse (T1.25A)	REK – 101
⚠	4	FU701, FU702 (T400mA)	REK – 096
⚠	5	T1 Power transformer	RTT1187
	6	Absorb plate (B)	PNB1109
	7	VR ring (ABS)	RAT1007
	8	Button spring	RBH1144
	9	Knob (B) assembly	RXA1430
	10	Door spring (R)	RBH1223
⊙	11	SUBB unit	RWX1058
⊙	12	Dolby S unit	RWM1457
	13	Door cushion	REB1174
	14	Spacer	REC1086
	15	.....	
	16	Panel stay	RNT1134
	17	Counter reset knob	RAA1009
	18	Power button	RAC1410
	19	Function knob	RAC1411
	20	Push knob	RAC1413
	21	Knob (B)	RAC1414
	22	Mode knob	RAC1552
	23	Slide SW knob	RAC1562
	24	FL filter	RAH1542
	25	Door (ABS)	RAH1988
	26	Side rubber	REB1094
	27	Door sheet (B)	REB1170
	28	VR knob	RAC1363
	29	.....	
	30	Leg assembly	AMR1159
	31	Door lens	RLP1026
	32	FL lens	RLP1027
	33	.....	
	34	Bonnet	RXX1378
	35	Front panel assembly	RXX1463
⊙	36	Mechanism unit	RYM1153
	37	Screw	FBT40P080FZK
	38	Screw	ABZ26P080FZK
	39	Screw	BBT30P060FCC
	40	Screw	BBT30P100FZK
	41	Screw	BBZ30P100FZK
	42	Screw	IBZ30P060FCC
	43	Screw	IBZ30P150FCC
	44	Screw	BBZ30P080FCC
	45	Screw	BBZ30P100FCC
	46	Screw	BBZ30P060FCC
	47	Protector	RED1020
	48	Jack nut	RBN – 006
	49	Binder	REC – 371
	101	HPHN unit	RWZ2473
	102	PWSW unit	RWZ2474
	103	TIMS unit	RWZ2475
	104	MAIN unit	RWZ2588
	105	TRN 2 unit	RWZ2478
	106	TRN 1 unit	RWZ2477
	107	Capacitor cover	REC – 150
	108	PCB spacer	PNY – 404
	109	Rubber spacer (A)	REB1057
	110	Mechanism sheet (2)	REE1015
	111	Main chassis	RNB1060
	112	Rear panel	RNA1501
	113	FL shield plate	RNE1349
	114	Name plate	PAN1035
	115	Front panel	RAH1984
	116	Ring	RBH1300
	117	.....	
	118	Unit holder	RNC1063
	119	Binder	RNE1277
	120	Transformer shield plate	RNE1451
	121	Stopper	RNE – 605

Exterior

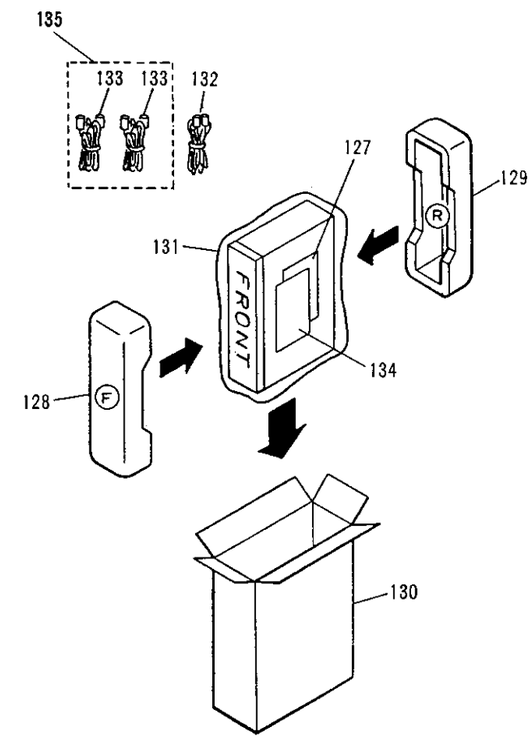


1.2 MECHANISM UNIT (RYM1153) AND PACKING SECTION

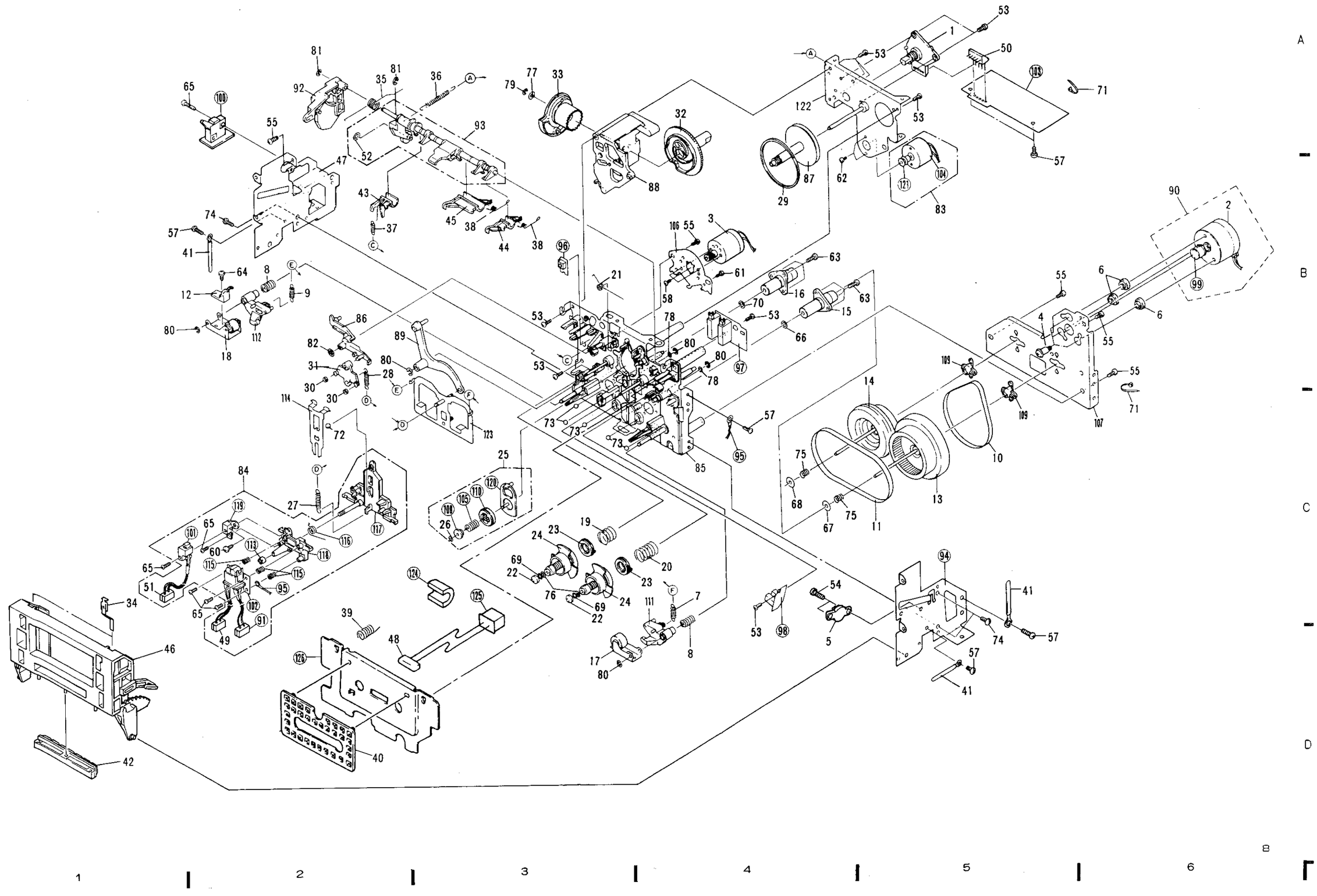
Parts List

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

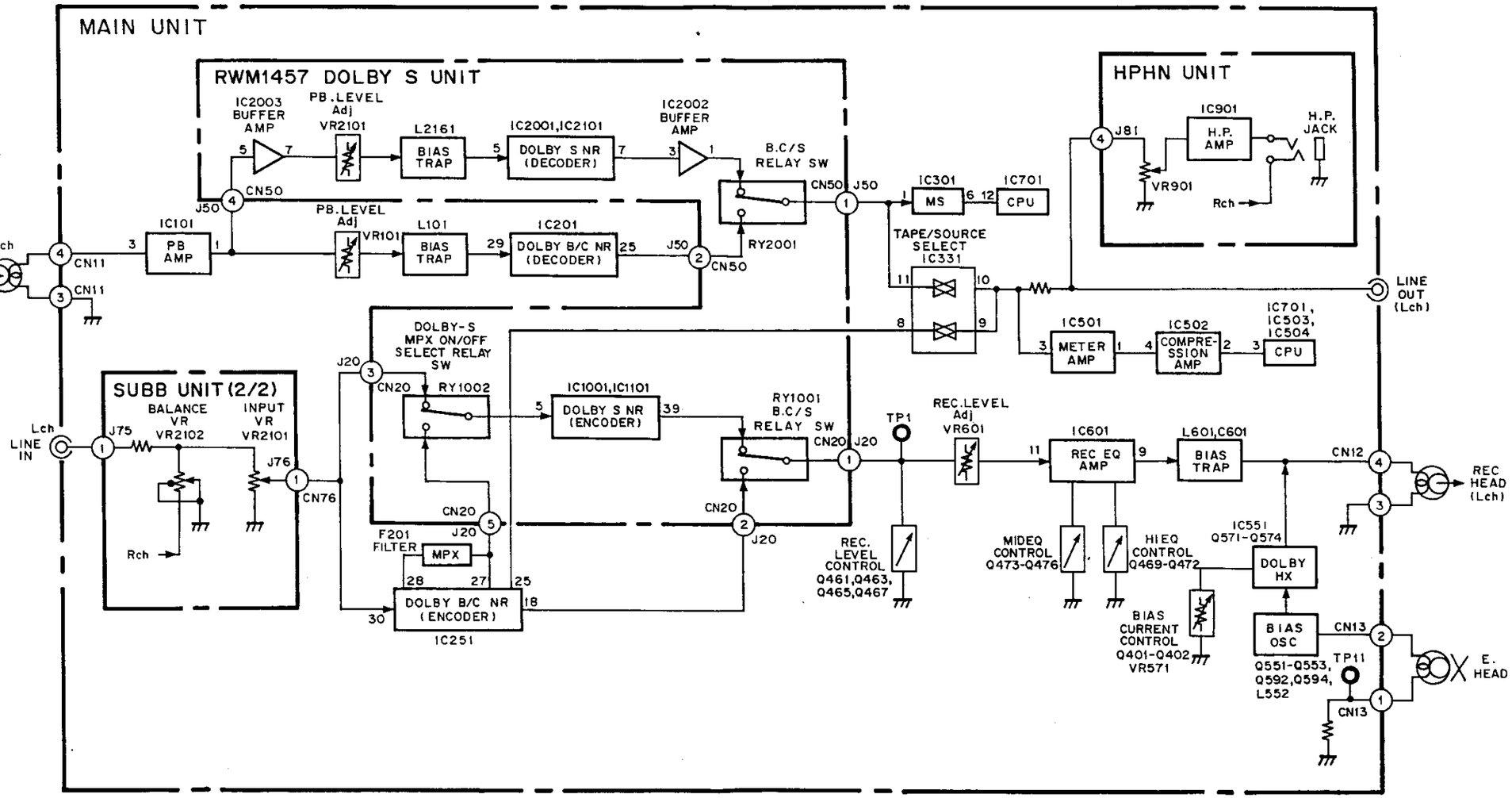
Packing



Mechanism Unit (RYM1153)

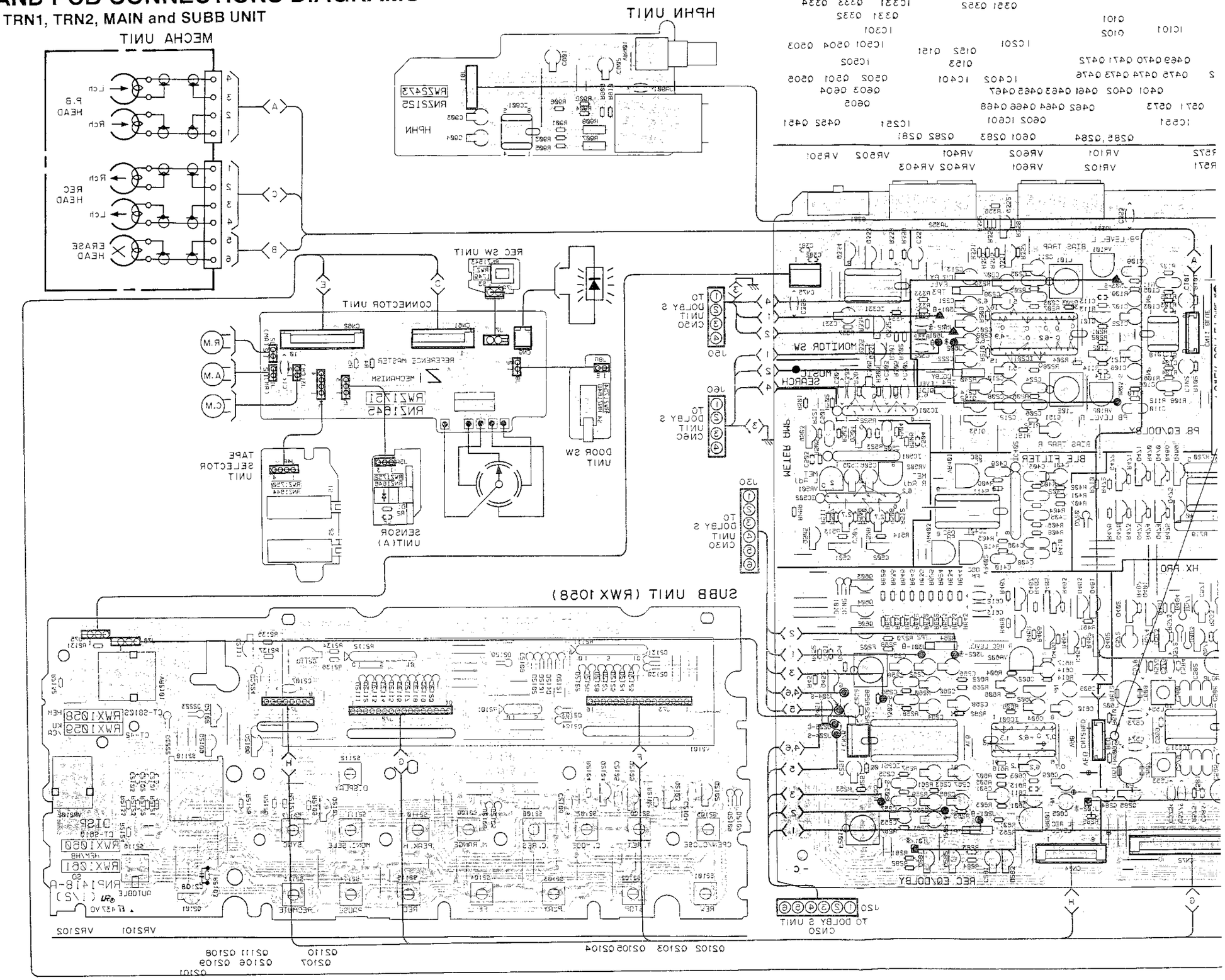


2. BLOCK DIAGRAM

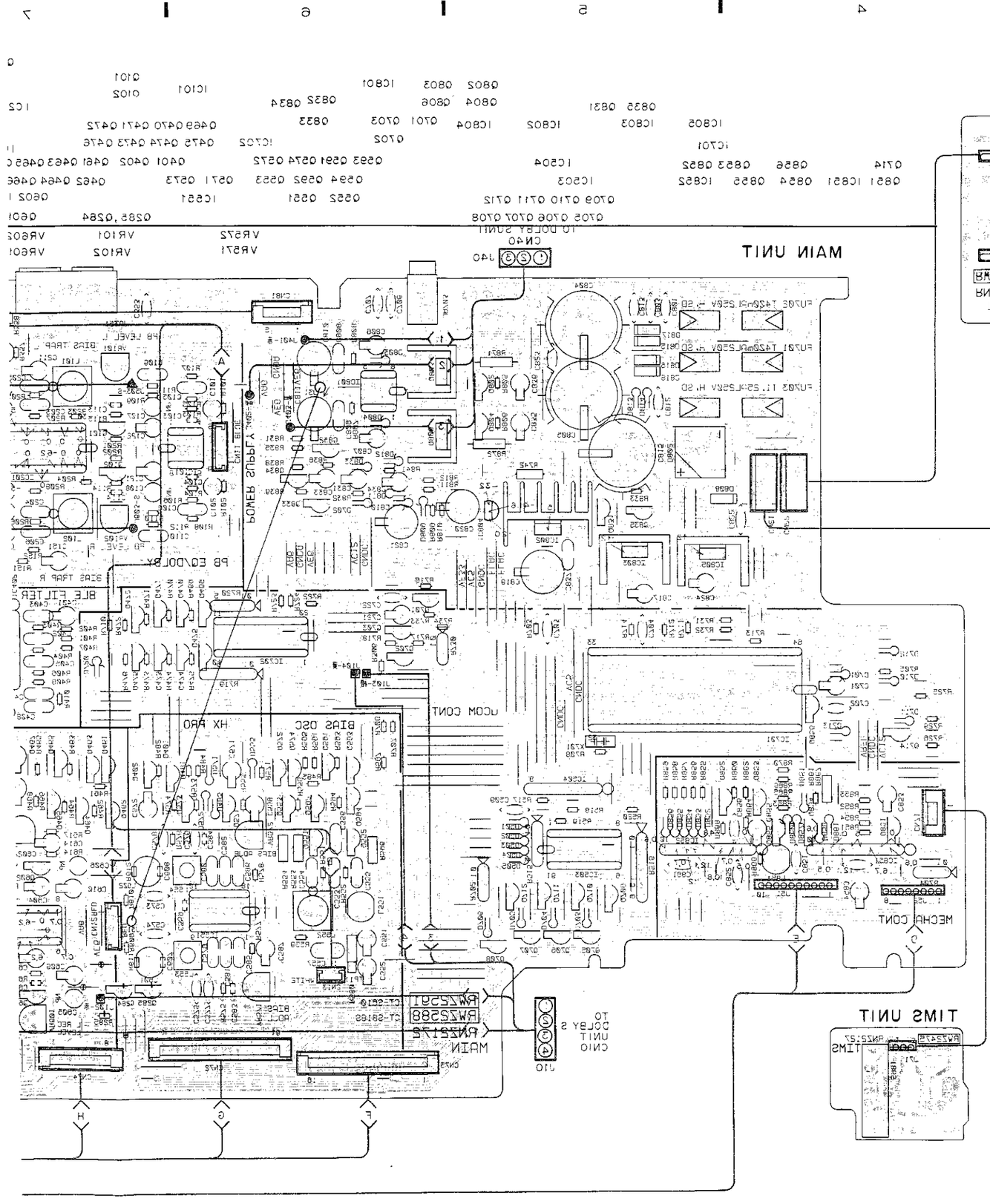


3. SCHEMATIC AND PCB CONNECTIONS DIAGRAMS

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



• View from soldering side



Line Voltage Selection

Line voltage can be changed with the following steps.

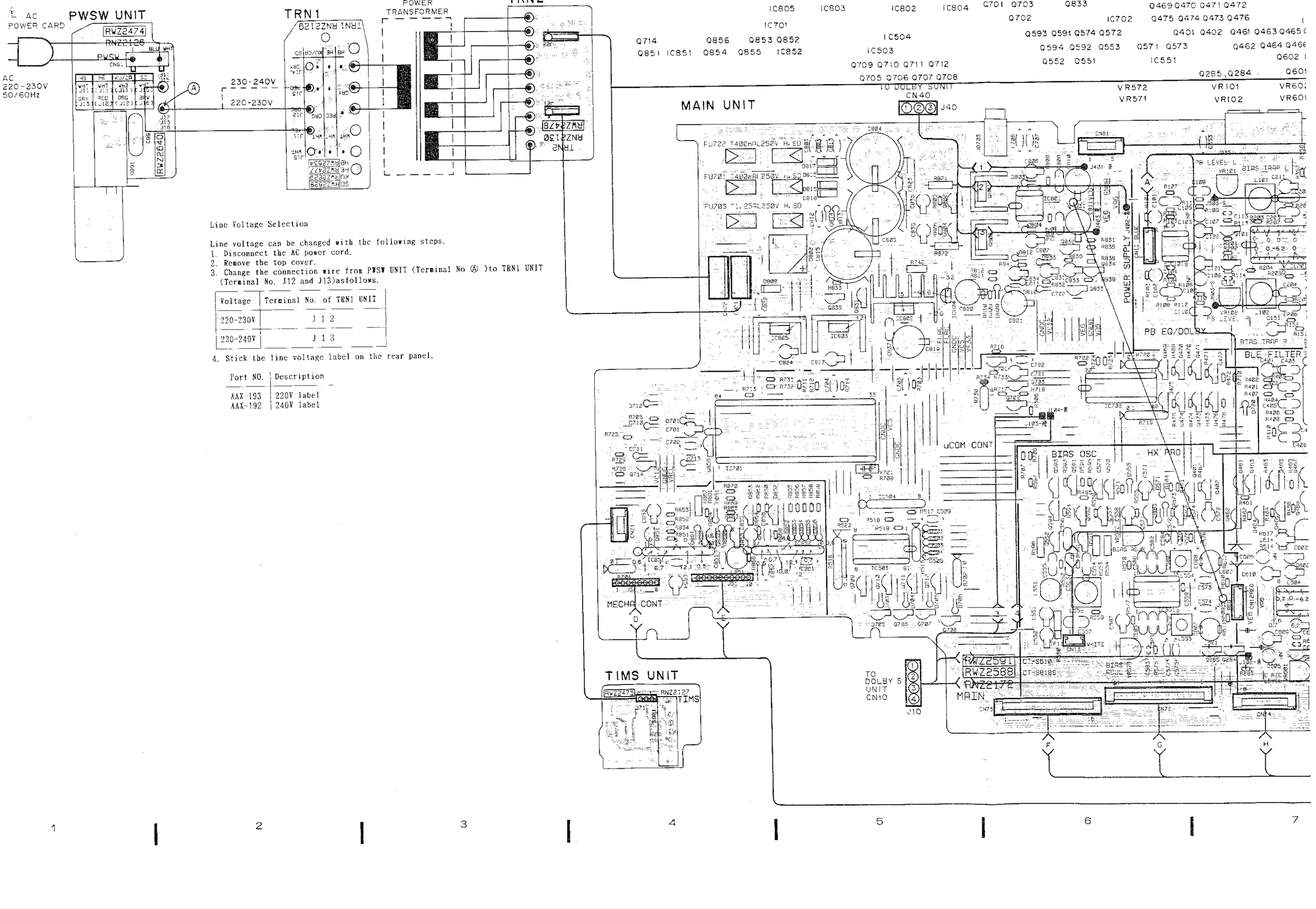
1. Disconnect the AC power cord.
2. Remove the top cover.
3. Change the connection wire from PWSW UNIT (Terminal No Ⓐ)to TRN1 UNIT (Terminal No. 1)2 and 1)3)asfollows.

Voltage	Terminal No. of TRN1 UNIT
220-230V	1 2
230-240V	1 3

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

Part NO.	Description
AAX-103	220V label
AAX-102	240V label

- View from component side



Line Voltage Selection

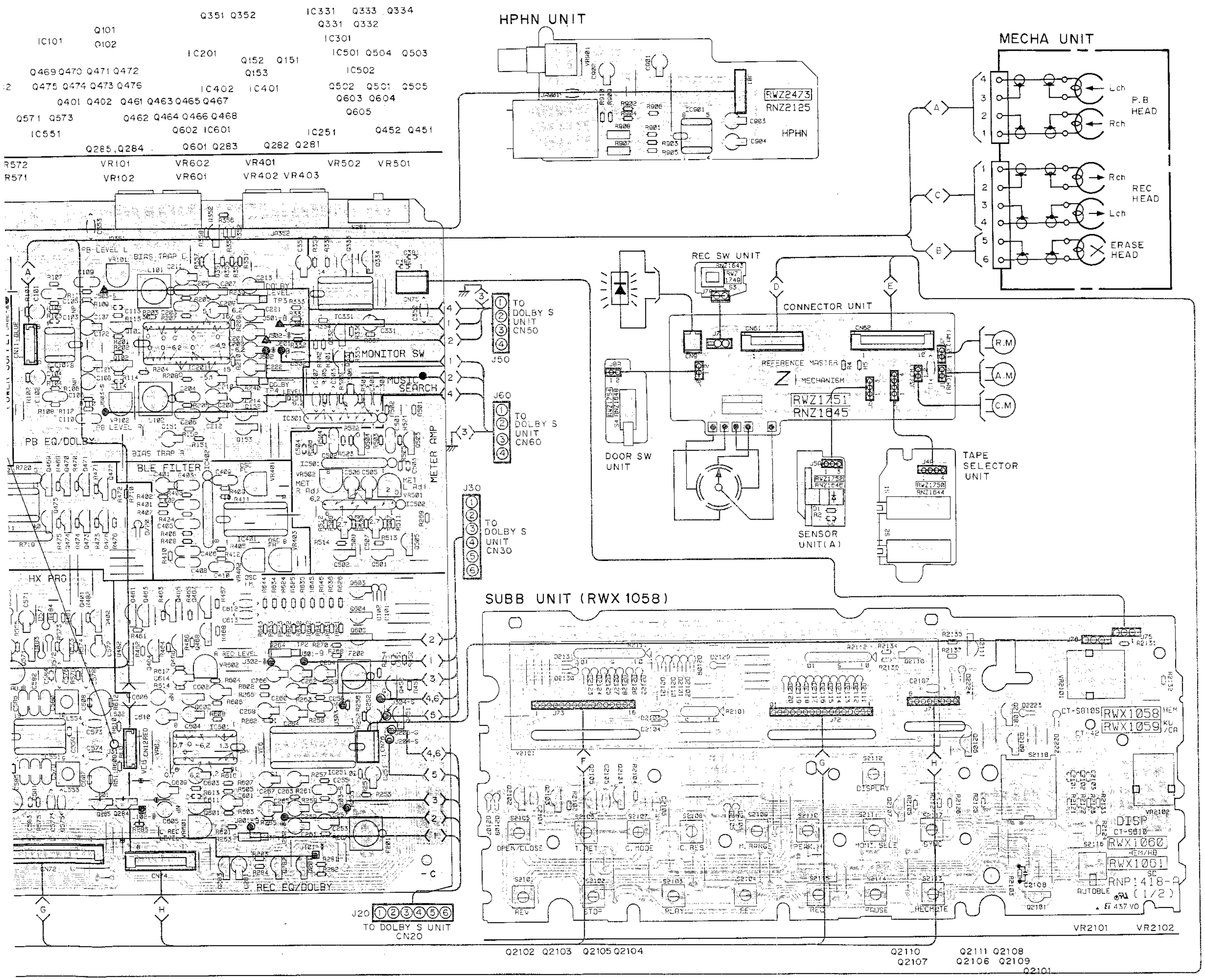
Line voltage can be changed with the following steps.

1. Disconnect the AC power cord.
2. Remove the top cover.
3. Change the connection wire from PWSW UNIT (Terminal No Ⓐ)to TRN1 UNIT (Terminal No. J12 and J13)asfollows.

Voltage	Terminal No. of TRN1 UNIT
220-230V	J 1 2
230-240V	J 1 3

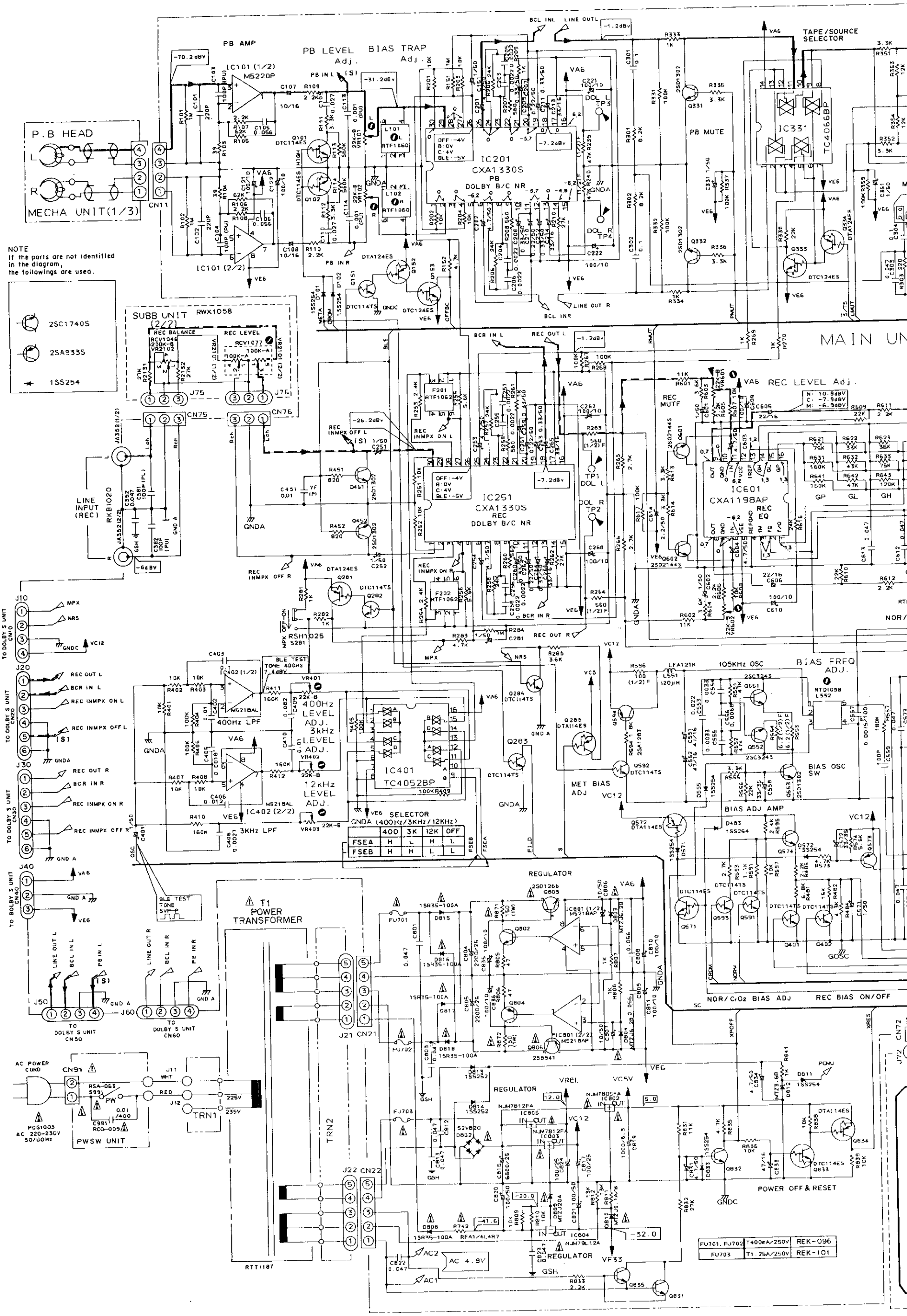
4. Stick the line voltage label on the rear panel.

Port NO.	Description
AAX-193	220V label
AAX-192	240V label



P.C.B. pattern diagram indication	Corresponding part symbol	Part name
		Transistor
		FET
		Diode
		Zenner diode
		LED
		Varactor
		Tact switch
		Inductor
		Coil
		Transformer
		Filter
		Ceramic capacitor
		Mylar capacitor
		Styrol capacitor
		Electrolytic capacitor (Non polarized)
		Electrolytic capacitor (Noiseless)
		Electrolytic capacitor (Polarized)
		Electrolytic capacitor (Polarized)
		Power capacitor
		Semi fixed resistor
		Resistor array
		Resistor
		Resonator
		Thermistor

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


P.B HEAD
L
R
MECHA UNIT(1/3)
CN11
PB AMP
IC101 (1/2)
M5220P
IC101 (2/2)
PB LEVEL Adj.
BIAS TRAP Adj.
PB IN L (S)
PB IN R
Q101 DTC114ES
Q102 DTC114ES
L101 RTF1060
L102 RTF1060
IC201
CXA1330S
PB
DOLBY B/C NR
DOL L TP3
DOL R TP4
BCL IN L
LINE OUT L
BCL IN R
LINE OUT R
TAPE/SOURCE SELECTOR
IC331
TC4066BP
PB MUTE
Q331 2SD1302
Q332 2SD1302
Q333 DTC124ES
Q334 DTA124ES
NOTE
If the parts are not identified in the diagram, the followings are used.
2SC1740S
2SA933S
1SS254
SUBB UNIT RWX1058 (2/2)
REC BALANCE
REC LEVEL
J75
J76
CN75
CN76
LINE INPUT (REC)
RKB1020
JA352 (1/2)
REC INMPX OFF L (S)
REC INMPX ON L
REC INMPX OFF R
REC INMPX ON R
IC251
CXA1330S
REC
DOLBY B/C NR
REC OUT L
REC OUT R
BCR IN L
BCR IN R
REC MUTE
IC601
CXA1198AP
REC EQ
VA6 REC LEVEL Adj.
J10
J20
J30
J40
TO DOLBY S UNIT CN10
TO DOLBY S UNIT CN20
TO DOLBY S UNIT CN30
TO DOLBY S UNIT CN40
MPX
NRS
BLE TEST TONE 400Hz 7.4dBV
400Hz LPF
3kHz LPF
400Hz LEVEL ADJ.
3kHz LEVEL ADJ.
12kHz LEVEL ADJ.
IC402 (1/2)
IC402 (2/2)
M5218AL
IC401
TC4052BP
SELECTOR
GNDA (400Hz/3KHz/12KHz)
400 3K 12K OFF
FSEA H L H L
FSEB H H L L
105KHz OSC
BIAS FREQ ADJ.
MET BIAS ADJ
BIAS OSC SW
BIAS ADJ AMP
NOR/CrO2 BIAS ADJ
REC BIAS ON/OFF
REGULATOR
T1 POWER TRANSFORMER
RTT1187
J50
J60
J21 CN21
J22 CN22
AC POWER CORD
CN91
PWSW UNIT
PDG1003
AC 220-230V 50/60Hz
TRN1
TRN2
J11 WHT
J12 RED
226V
235V
IC801 (1/2) M5218AP
IC801 (2/2) M5218AP
IC802 NJM7805FA
IC803 NJM7812FA
IC804 NJM79L12A
VREL
VC5V
VC12
VF33
AC2
AC1
AC 4.8V
POWER OFF & RESET
FU701, FU702 T400mA/250V REK-096
FU703 T1.25A/250V REK-101

1. RESISTORS :
Indicated in Ω, 1/4W, 1/6W, /8W, ± 5 % tolerance unless otherwise noted k ; kΩ, M, MΩ, (F) ; ± 1%, (G) ; ± 2%, (K) ; ± 10%, (M) ; ± 20 % tolerance

2. CAPACITORS :
Indicated in capacity (μ F) /voltage (V) unless otherwise noted
p : pF.
Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE CURRENT :
[ ] : DC voltage (V) in stop mode.
← mA : DC current in stop mode

4. OTHERS :
➡ : Signal route.
⊘ : Adjusting point.
The ⚠ mark found on
importance of the safe
replacing, be sure to us
※ marked capacitor and

This is the basic schem
vary due to improveme

MAIN UNIT

LINE OUTPUT (PLAY)

TAPE/SOURCE SELECTOR

LINE MUTE

PB MUTE

IC331 TC4066BP

MS

IC301 BA335

HPHN UNIT

IC901 (1/2) M5218AP

IC901 (2/2)

H.P. AMP

PHONES JA901

RKN1002

REEL MOTOR DRIVE

ASSIST MOTOR DRIVE

IC851 JA7291P

IC852 LB1641

METER AMP

IC501 (1/2) M5218AL

IC501 (2/2)

METER LEVEL ADj.

IC502 BA6138

A/D CONVERTER for METER LEVEL

IC504 (1/2) M5233L

IC504 (2/2)

IC503 TC4050BP

REC MUTE

REC LEVEL Adj.

REC EQ

IC601 CXA1198AP REC EQ

GP GL GH f/Q fQ fM

CN12 CN13 R REC HEAD L ERASE HEAD MECHA UNIT (2/3)

DOOR OPEN/REC INHIBIT/TIMER REC/ TIMER PLAY SW

BLE DATA CONVERSION SC

IC702 M50255P

SC KEY BUFFER

IC701 PD4312A SYSTEM CONTROL

X701 VSS1014 (4.19 MHz)

NOR/CrO2 /MET SELECT SW

BLE INITIAL CONDITION

MUTE SW

BIAS FREQ ADJ.

105KHz OSC

BIAS LEVEL Adj.

IC551 uPC1297CA DOLBY HX PRO

BIAS ADJ AMP

BIAS OSC SW

NOR/CrO2 BIAS ADJ

REC BIAS ON/OFF

POWER OFF & RESET

SUBB UNIT (1/2)

V2101 RAW1109

FL IND DRIVER

DOLBY NR

RSB1003

FU701, FU702	T400mA/250V	REK-096
FU703	T1.25A/250V	REK-101

1. RESISTORS :
Indicated in Ω, 1/4W, 1/6W, /8W, ±5% tolerance unless otherwise noted k; kΩ, M; MΩ, (F) : ±1%, (G) : ±2%, (K) : ±10%, (M) : ±20% tolerance.

2. CAPACITORS :
Indicated in capacity (μF) /voltage (V) unless otherwise noted p; pF.
Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE CURRENT :
□ : DC voltage (V) in stop mode
mA : DC current in stop mode

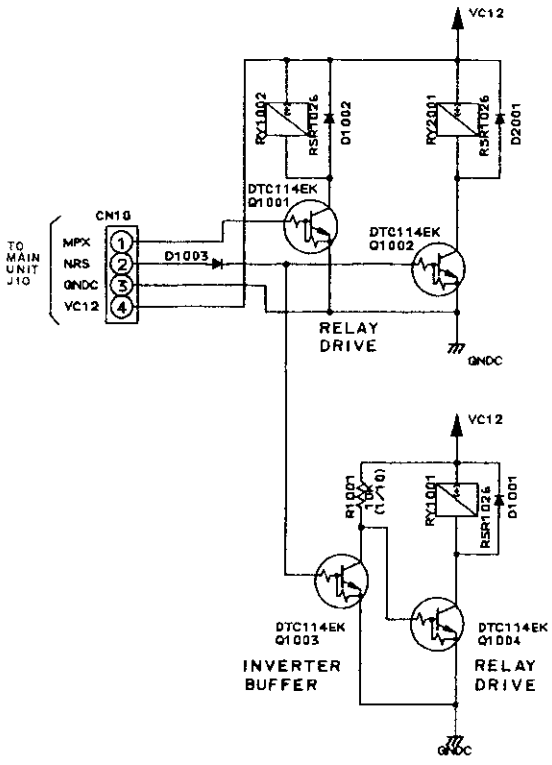
4. OTHERS :
→ : Signal route.
⊘ Adjusting point
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation
✱ marked capacitor and resistors have parts numbers.

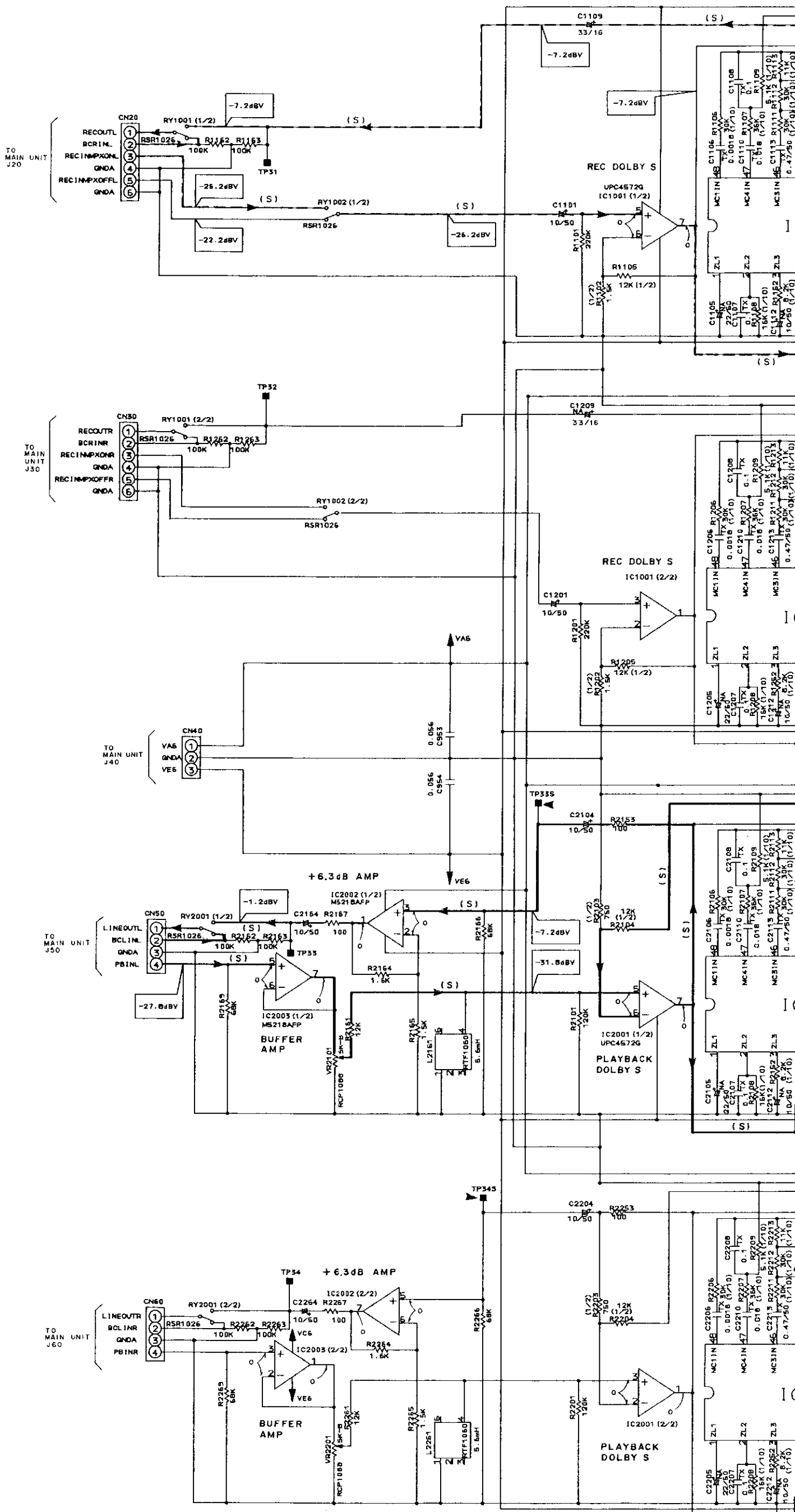
This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

HPHN UNIT
IC901 (1/2) M5218AP
IC901 (2/2)
H.P. AMP
PHONES JA901
RKN1002
REEL MOTOR DRIVE
ASSIST MOTOR DRIVE
IC851 TA7291P
IC852 LB1641
A/D CONVERTER for METER LEVEL
METER AMP
IC502 BA6138
IC501 (1/2) M5218AL
IC501 (2/2)
METER LEVEL ADj.
IC504 (1/2) M5233L
IC504 (2/2)
IC503 TC4050BP
DOOR OPEN/REC INHIBIT/TIMER REC/ TIMER PLAY SW
CONNECTOR UNIT
TAPE SELECTOR UNIT
CN12
CN13
REC HEAD L
ERASE HEAD
MECHA UNIT (2/3)
BLE DATA CONVERSION
IC702 M50255P
SC
SC KEY BUFFER
BLE INITIAL CONDITION
IC701 PD4312A
SYSTEM CONTROL
MUTE SW
CD. DECK SYNCHRO
RKN1014
TIMS UNIT
RSH1011
S9B1
MECHA UNIT (3/3)
SENSOR UNIT(A)
DOOR SW UNIT
REC SW UNIT
DISPLAY ON/OFF
FL IND DRIVER
DOLBY NR B-OFF-C-S
RSB1003
T (1/2) RWX1058
V2101 RAW1109
FL
52101~2115, 2117 RSG1039
REW
STOP
PLAY
FF
DOOR OPEN/CLOSE
RETURN
COUNTER MODE
COUNTER RESET
METER RANGE
HOLD MODE
MONITOR
MUTE
PAUSE
REC.
CD-SYNCRO
BLE
DISP OFF

: PLAYBACK SIGNAL
: RECORDING SIGNAL
(S) : PLAYBACK SIGNAL(DOLBY S)
(S) : RECORDING SIGNAL(DOLBY S)
▶ : MEASUREMENT POINT

3.2 DOLBY S UNIT





REC DOLBY S

UPC4572G (C1001 (1/2))

IC1101 CXA1417S-P

Dolby S-type phose 3

REC DOLBY S

IC1001 (2/2)

IC1201 CXA1417S-P

Dolby S-type phose 3

AMP

IC2001 (1/2) UPC4572G

PLAYBACK DOLBY S

IC2101 CXA1417S-P

Dolby S-type phose 3

IC2001 (2/2)

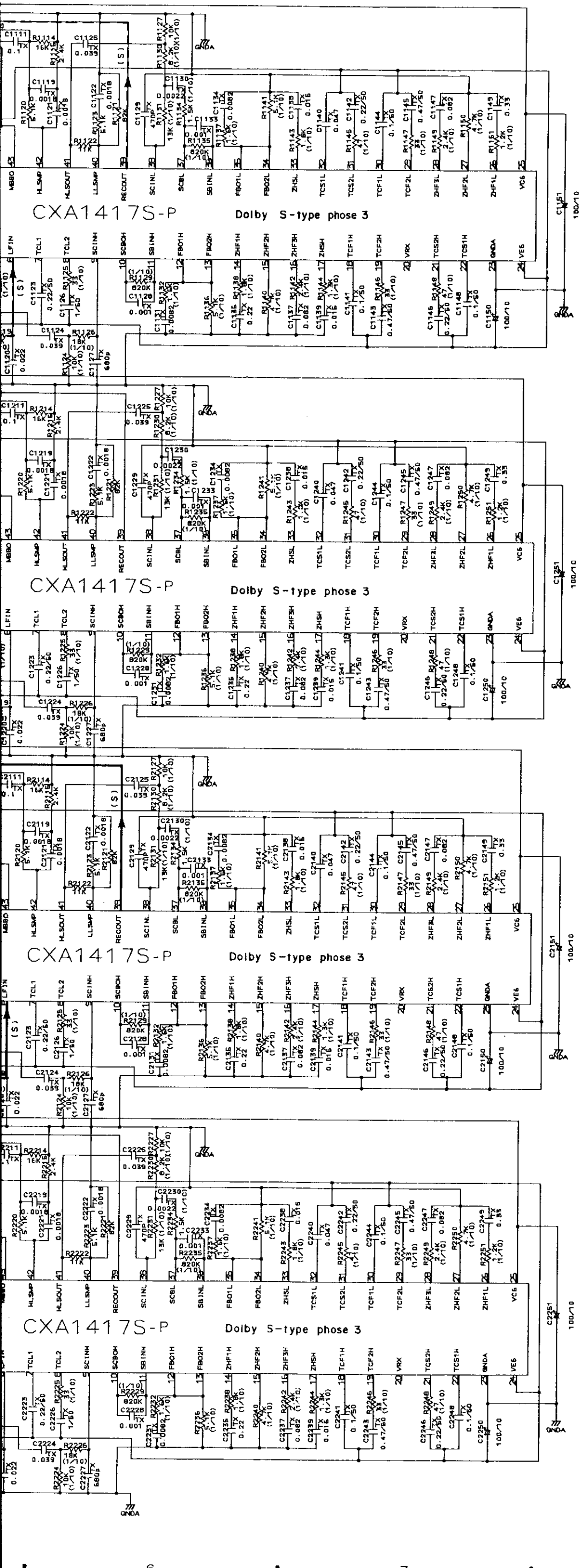
PLAYBACK DOLBY S

IC2201 CXA1417S-P

Dolby S-type phose 3

IC1101, IC1201 (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

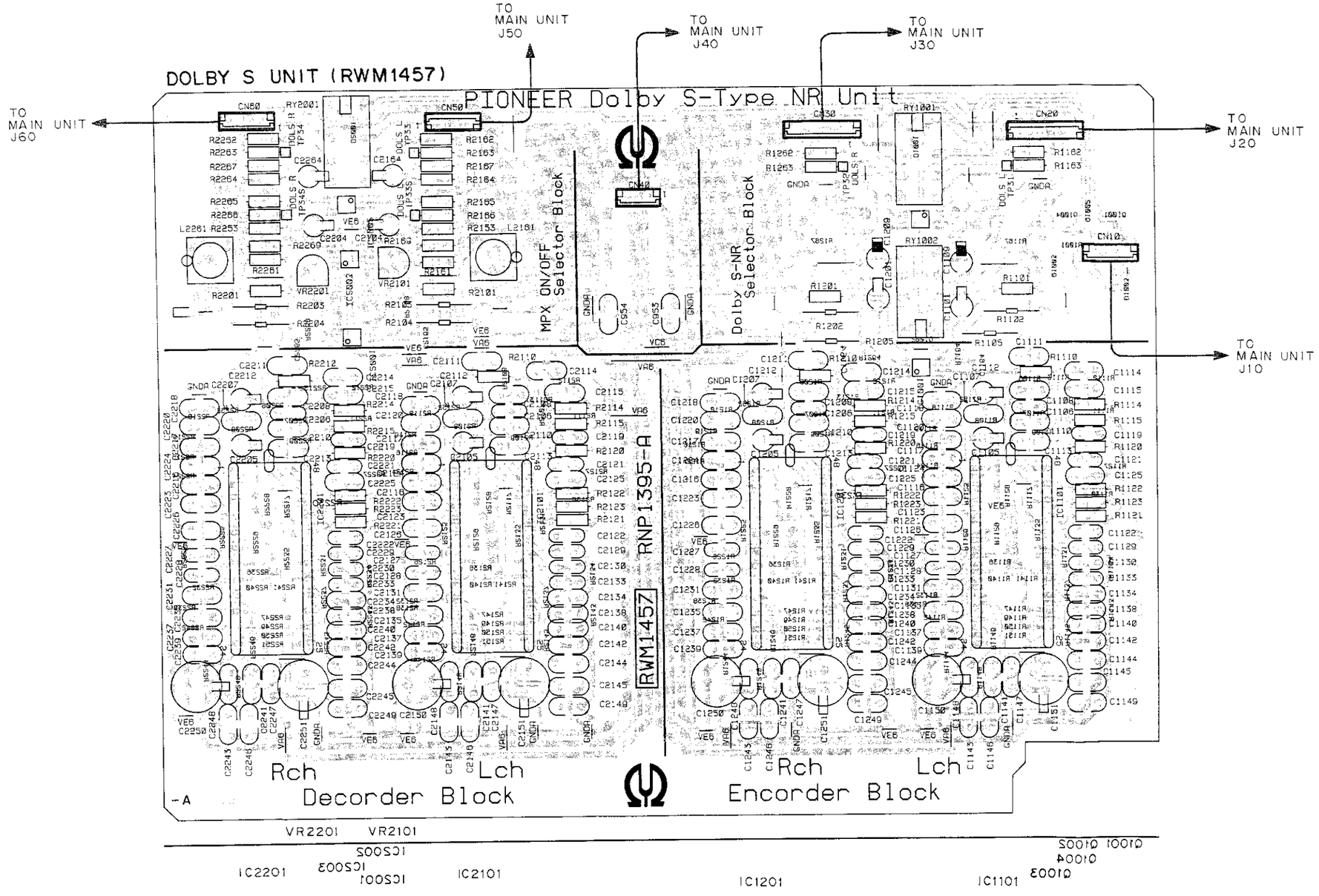


IC1101, IC1201, IC2101, IC2201
(CXA1417S-P)

Pin No	Volts	Pin No.	Volts	Pin No.	Volts	Pin 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

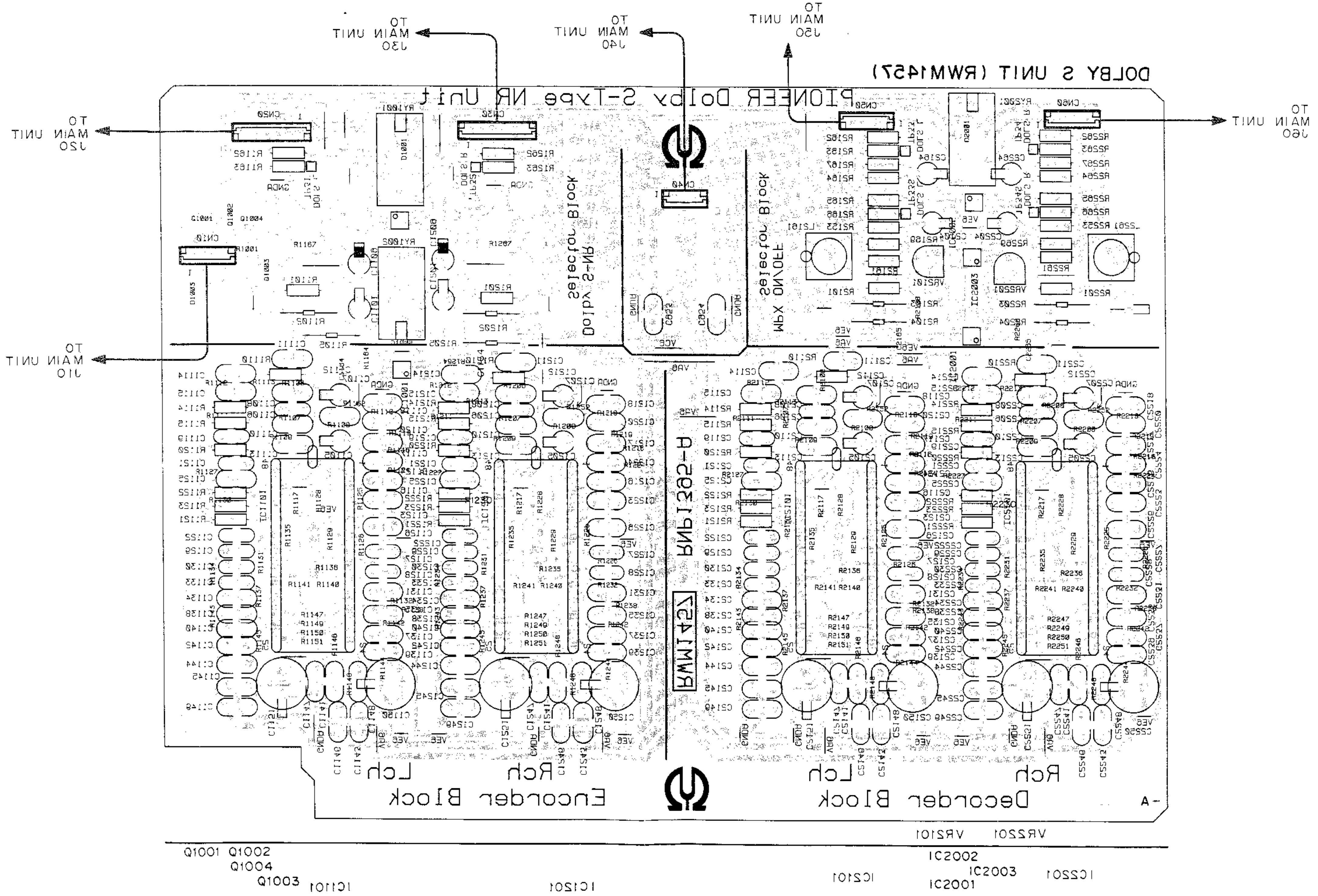
——— :PLAYBACK SIGNAL
– – – – :RECORDING SIGNAL
——— (S) :PLAYBACK SIGNAL (DOLBY S)
– – – – (S) :RECORDING SIGNAL (DOLBY S)
▼ :MEASUREMENT POINT

• View fro m component side



• View from soldering side

DOLBY S UNIT (RWM1457)



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 ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

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

560 Ω → 56 × 10^1 → 561 ····· RD1/4PS 5 6 1 J
47k Ω → 47 × 10^3 → 473 ····· RD1/4PS 4 7 3 J
0.5 Ω → 0R5 ····· RN2H 0 R 5 K
1 Ω → 010 ····· RS1P 0 1 0 K

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

5.62k Ω → 562 × 10^1 → 5621 ····· RN1/4SR 5 6 2 1 F

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	

⊙ 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
C1109 ELECTR. CAPACITOR	CEYA330M16
C1110 AUDIO FILM CAPACITOR	CFTXA183J50
C1111 AUDIO FILM CAPACITOR	CFTXA104J50
C1112 ELECTR. CAPACITOR	CENA100M50
C1113 AUDIO FILM CAPACITOR	CFTXA474J50
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

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 CAPADITOR	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 CAPADITOR	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 CAPADITOR	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.
		DOOR SWITCH UNIT	
		SWITCHES	
	S4		RSK1002
		CONNECTOR UNIT	
		CAPACITORS	
	C1	CERAMIC CAPACITOR	CKCYF473Z50
		RESISTORS	
	R4, 5	CARBONFILM RESISTOR	RD1/6PM□□□J
		HPHN UNIT	
		SEMICONDUCTORS	
	IC901	OP-AMP, IC	M5218AP
		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
		PWSW UNIT	
		SWITCHES	
⚠	S991	SWITCH	RSA-063
		CAPACITORS	
⚠	C991	CAPACITOR (0.01/400)	RCG-009
		OTHERS	
⚠		TERMINAL	RKC-061
		TIMS UNIT	
		SWITCHES	
	S981		RSH1011
		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
⚠	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
⚠	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
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 μH)	RTF1068
	F201, 202	FILTER	RTF1062
CAPACITORS			
	C101, 102	PL. STYRENE CAPACITOR	CQSF221J50
	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
	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	CQPA752J100
	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
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	FUSLIBLE RESISTOR	RFA1/4L□□□J
	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.

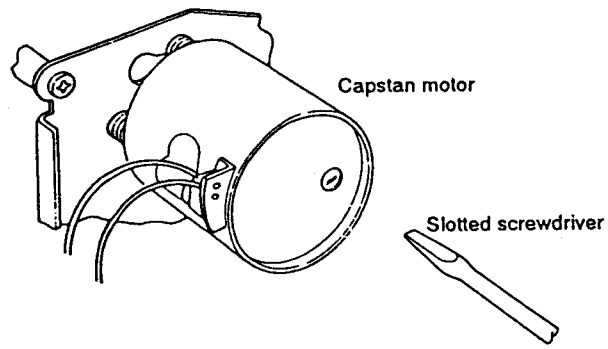


Fig. 1

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 dnes not satisfy the specifications. (Be sure to adjust Item 3 when Item 2 is adjusted.)		

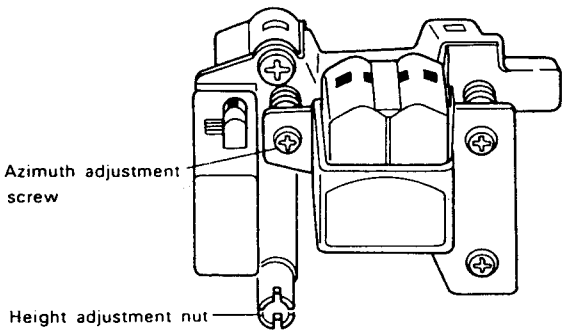


Fig. 2.

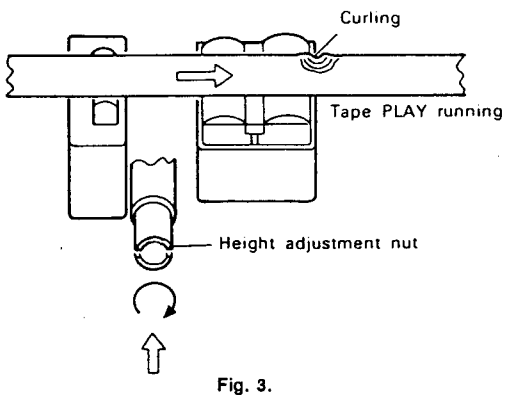


Fig. 3.

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

Test Tapes

STD-331E : Playback adjustments (See Fig. 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.

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.

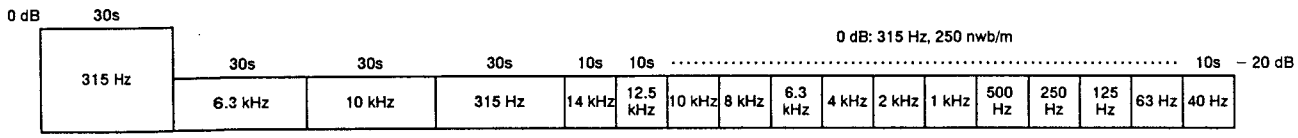


Fig. 5-1 Constants of the test tape STD-331E

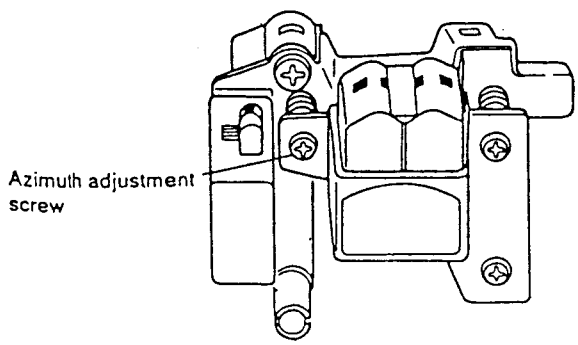


Fig. 5-2 Head azimuth adjustment

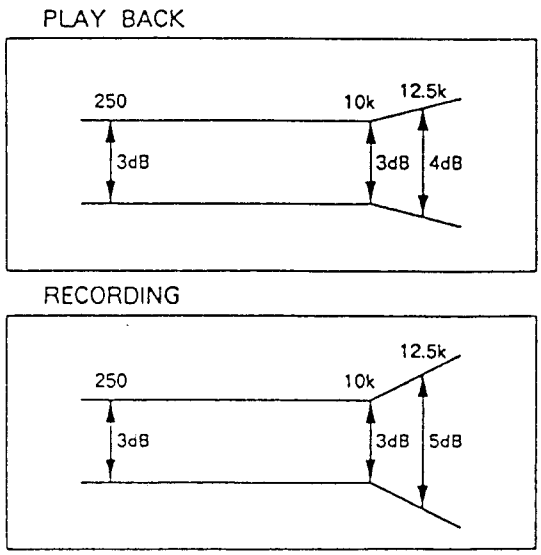


Fig. 5-3 Frequency response zone

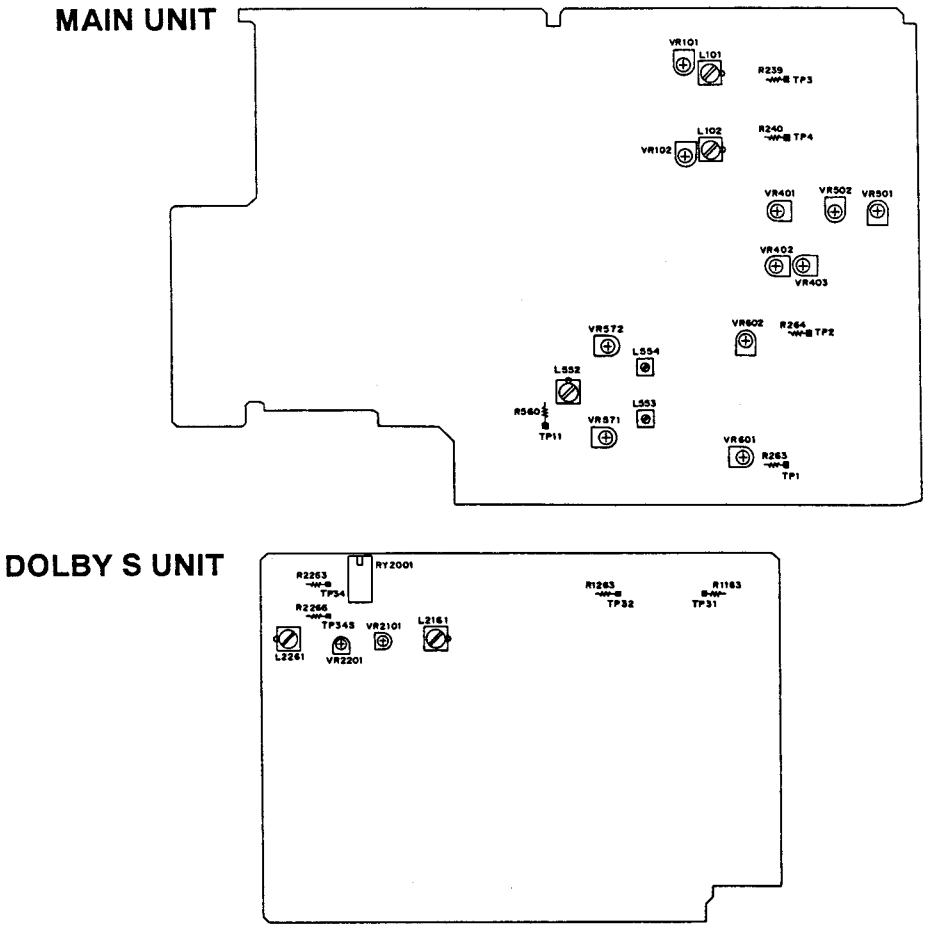


Fig. 5–4 Adjusting points

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	This adjustment must be performed accurately for proper Dolby level setting.
2.	Set the DOLBY NR switch to S.						
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 ± 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	L2161 (Lch) L2261 (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) VR572 (Rch)		Record and play back repeatedly, comparing the 315 Hz and 10 kHz playback levels, and adjust to 0±0.5 dB.	
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) VR602 (Rch)	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.
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/–6 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 MECANIQUES

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.

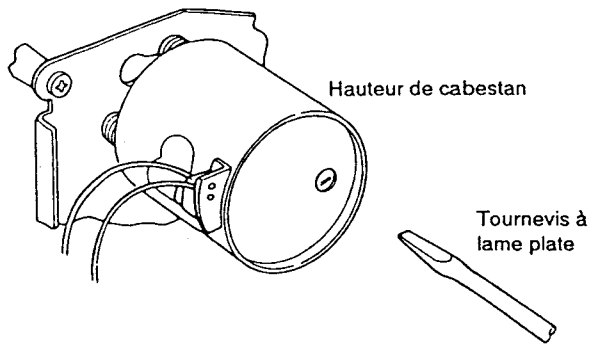


Fig. 1

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.)		

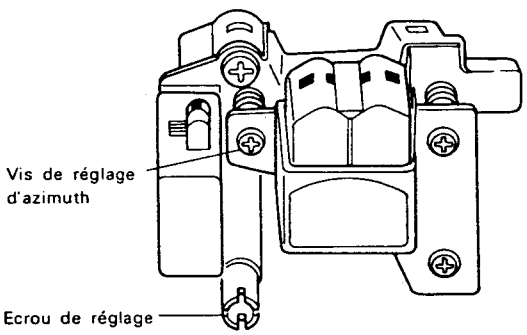


Fig. 2.

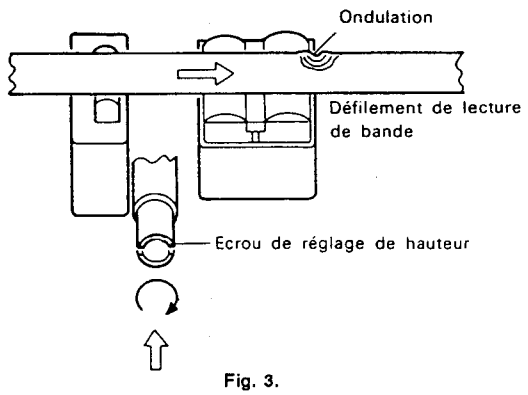


Fig. 3.

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 kΩ (tolérance 47k à 52 kΩ) 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 (TAPE SELECTOR) : NORM

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

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 décibelmétre 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.

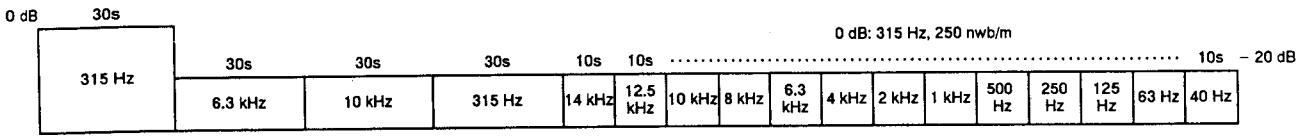


Fig. 5-1 Constantes de la bande d'essai STD-331E

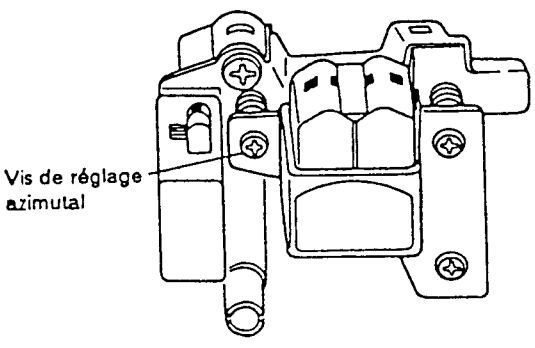


Fig. 5-2 Réglage de l'azimut de la tête

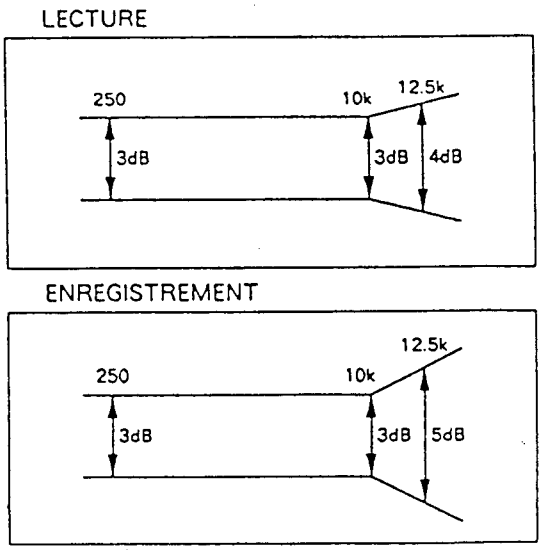
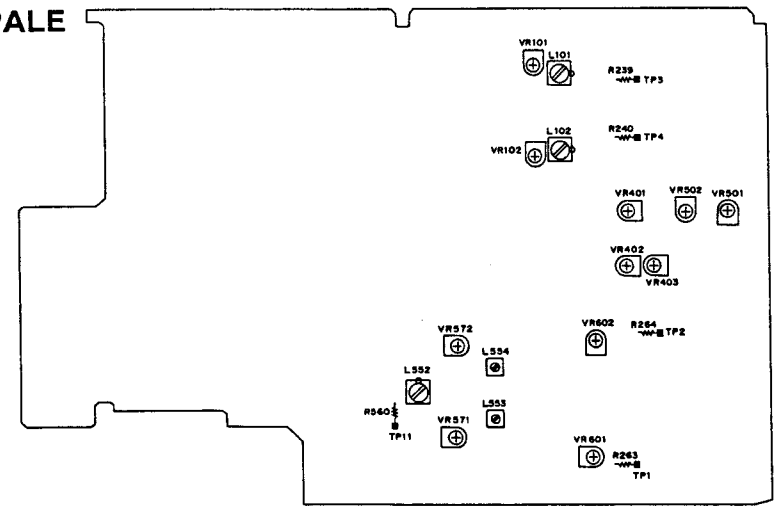


Fig. 5-3 Zone de réponse en fréquence

DE L'UNITÉ PRINCIPALE



UNITE DOLBY S

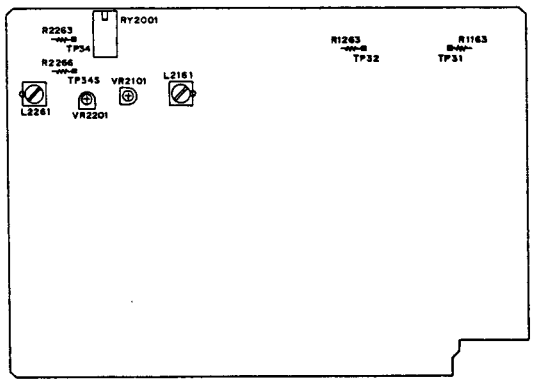


Fig. 5–4 Points réglage

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–610 et n'introduire aucun signal.	Platine	L552	TP. 11	105 kHz ± 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–610 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–610 et n'introduire aucun signal.	UNITE DOLBY S	L2161 (can. G) L2261 (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–631.			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) VR572 (can. D)		Enregistrer et reproduire continuellement, comparant les niveaux de lecture de 315 Hz et 10 kHz et régler à 0 ± 0,5 dB.	
3.	Vérifier la valeur de distorsion après avoir trmineé 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 line 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) VR602 (can. D)	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.
3.	REC → PLAY	Enregistrer le signal 315 Hz/ –4 dBV sur STD–621 (CrO2) et le reproduire.	Vérifier			–11,2 dBV ± 1,5 dB	
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 décibelmètre 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 décibelmètre 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/–6 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.

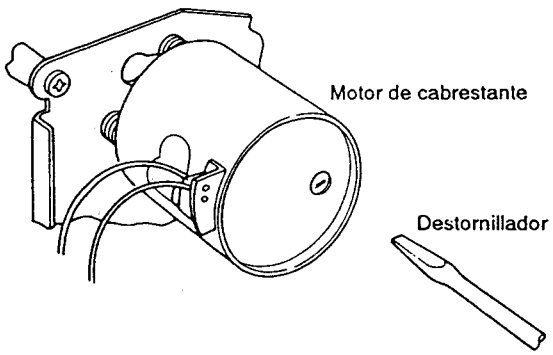


Fig. 1

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.)		

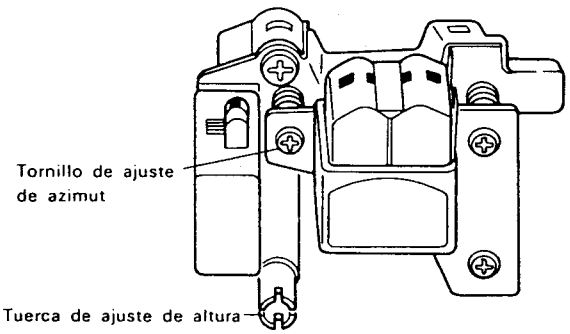


Figura 2.

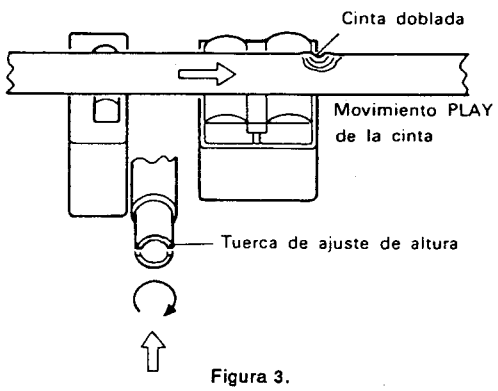


Figura 3.

5.2 AJUSTES ELÉCTRICOS

Condiciones de ajuste

1. Los ajustes mecánicos deben haberse completado primero.
2. La cabeza debe estar limpia y desmagnetizada.
3. Encienda la alimentación para permitir que la platina se caliente durante unos pocos minutos por lo menos antes de realizar cualquier ajuste eléctrico.
4. La señal de referencia es de 0 dBV=1 Vrms.
5. Conecte una resistencia de 50 kΩ (o entre 47k y 52 kΩ) en los terminales OUTPUT.
6. A menos que se especifique lo contrario, los conmutadores indicados más abajo deben dejarse en las posiciones indicadas.
   DOLBY NR : OFF
   TAPE SELECTOR : NORM

Cintas de prueba

STD–331E : Ajustes de reproducción (Consulte la figura 5–1)
STD–631 : Cinta virgen NORMAL
STD–621 : Cinta virgen de CrO_2
STD–610 : Cinta virgen de METAL

Lista de ajustes

Secciones de reproducción

1. Ajuste de azimut de la cabeza
2. Ajuste del nivel de reproducción

Secciones de grabación

1. Ajuste del oscillador de polarización
2. Ajuste del eliminador de polarización
3. Ajuste de la polarización de grabación
4. Ajuste del nivel de grabación
5. Ajuste del medidor de nivel y ajuste BLE

NOTA:
Esta unidad posee una función de selección automática de cinta.

* Como el nivel de grabación de referencia es igual a 250 nwb/m para el STD–331E, el nivel de grabación será 4 dB mayor para el STD–331B (160 nwb/m). Al realizar el ajuste, preste suma atención al tipo de cintá que se está utilizando.

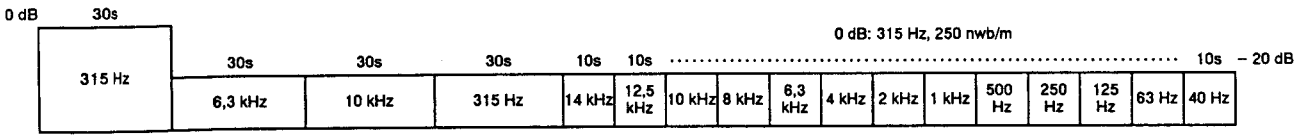


Figura 5–1 Constantes de la cinta de prueba STD–331E

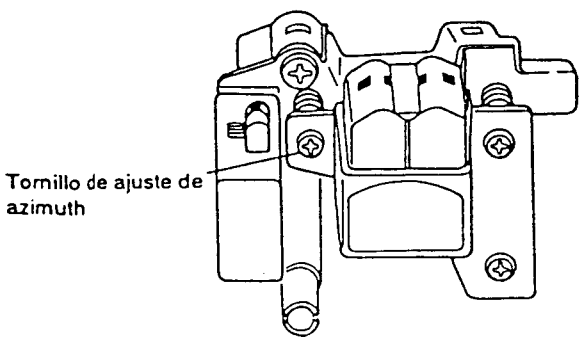


Figura 5–2 Zona de respuesta de frecuencia

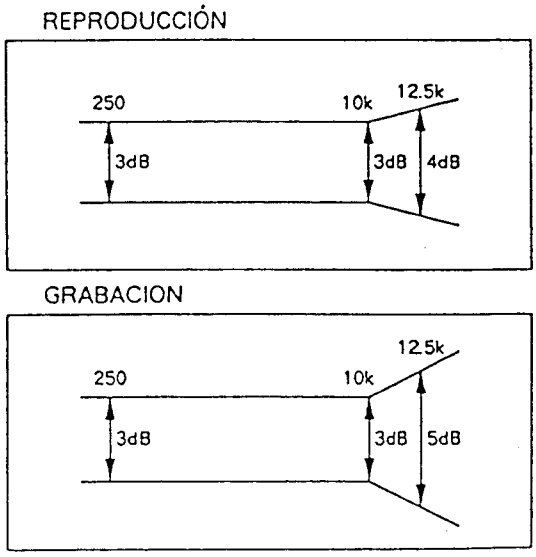
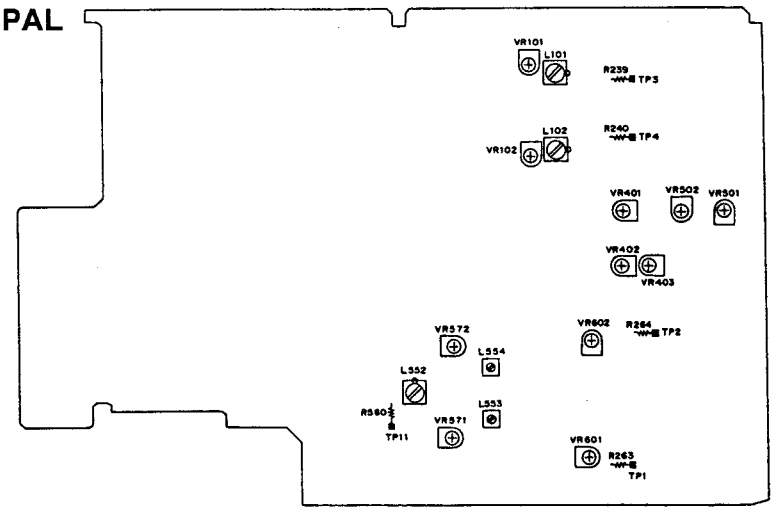


Figura 5–3 Ajuste de azimut de la cabeza

DE LA UNIDAD PRINCIPAL



UNIDAD DOLBY S

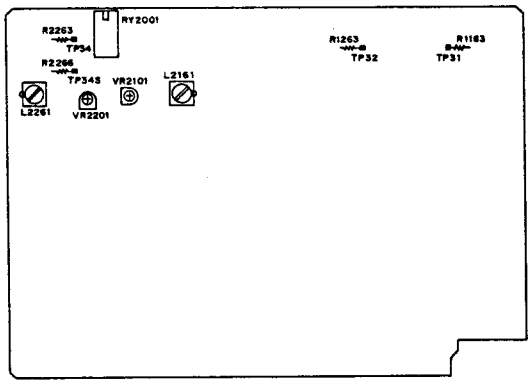


Figura. 5–4 Puntos de ajuste

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)	–6,7 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)	–6,7 dBV	
4.	Coloque el conmutador DOLBY NR en OFF.						

SECCIÓN DE GRABACIÓN

1. Ajuste del oscilador de polarización

N.°	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 ± 300 Hz	

2. Adjuste del eliminador de polarización

N.°	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

N.°	Modo	Señal de entrada y cinta de prueba	Punto de ajuste		Punto de medición	Valor de ajuste	Comentarios
1.	REC/ PAUSE	Aplique 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) VR572 (Rch)		Grabe y reproduzca repetidamente, comparando los niveles de reproducción 315 Hz y 10 kHz, y ajuste a 0 ± 0,5 dB.	
3.	Verifique le valor de la distorsión una vez finalizado el ajuste y confirm e que no haya subpolarización.						

4. Ajuste del nivel de grabación

- Desconecte el interruptor DOLBY NR.

N.°	Modo	Señal de entrada y cinta de prueba	Punto de ajuste		Punto de medición	Valor de ajuste	Comentarios
1.	REC/ PAUSE	Aplique 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) VR602 (Rch)	TP. 3 (Lch) TP. 4 (Rch)	Grabe, reproduzca y ajuste repetidamente para que el nivel de la señal de repro-ducción 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.
3.	REC →PLAY	Grabe la señal de 315 Hz/-4 dBV en STD-621 (CrO2) y reprodúzcala.	Verifique			-11,2 dBV ± 1,5 dB	
4.	REC →PLAY	Grabe la señal de 315 Hz/ -4 dBV en STD-610 (METAL) y reprodúzcala.	Verifique			-11,2 dBV ± 1,5 dB	

5. Ajuste del medidor de nivel y ajuste BLE

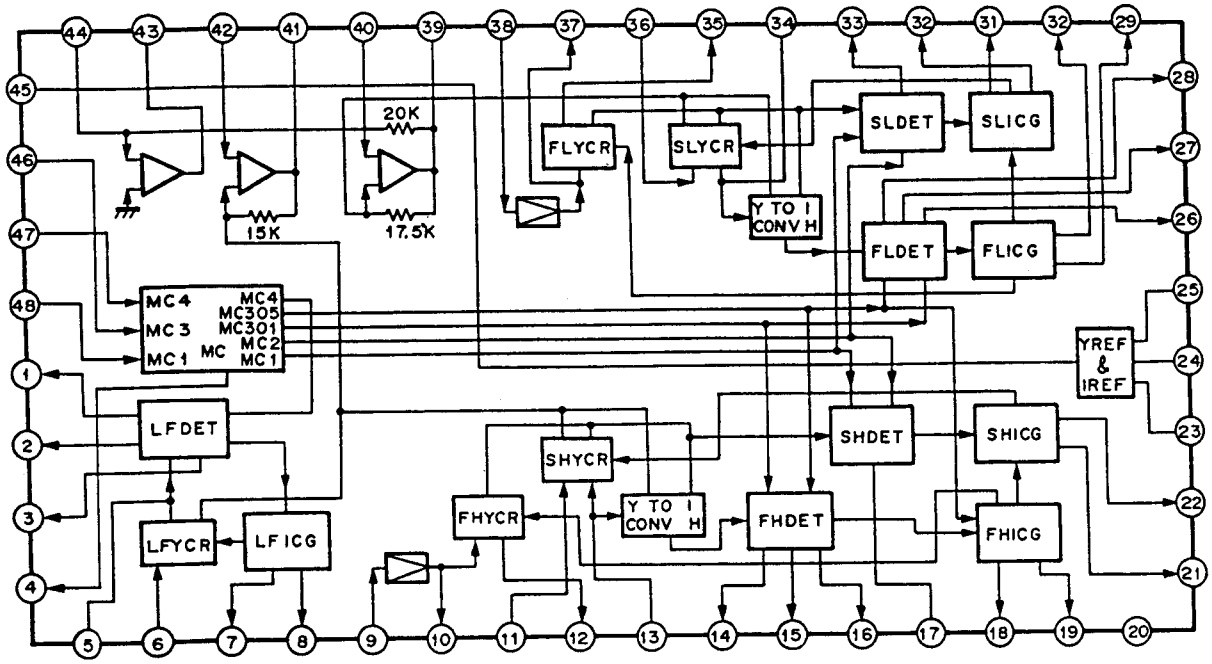
- El ajuste BLE debe efectuarse después de haber terminado todos los otros ajustes.
- Este ajuste debe efectuarse en el modo de prueba.

- **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/–6 dBV (500 mV) por el terminal LINE INPUT, ponga el modo de prueba y pulse luego la tecla REC.	REC LEVEL VR	LINE OUT	–6 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.



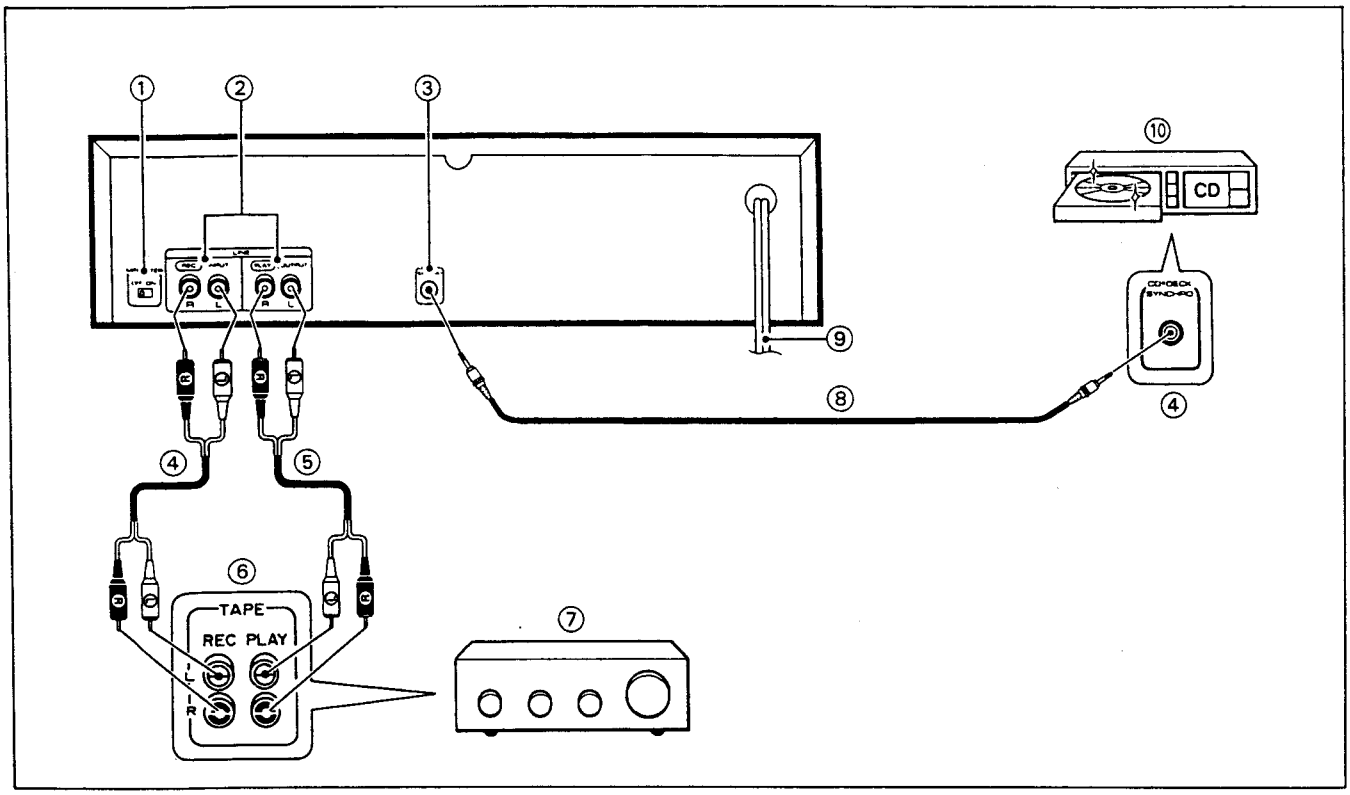
Pin Description

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

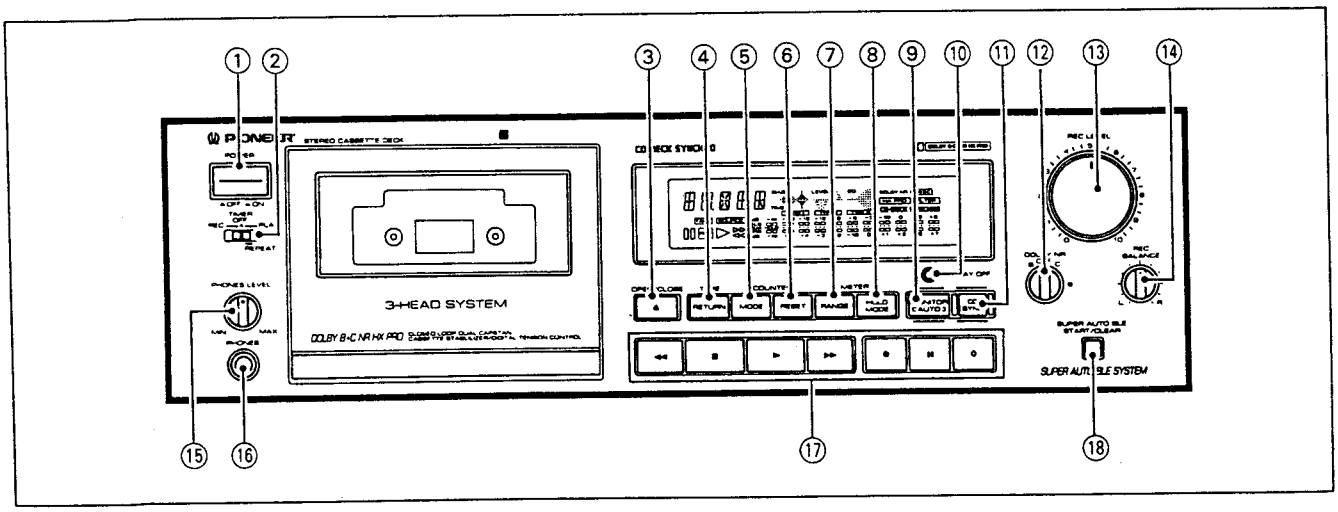
Pin No.	Symbol	Description
19	TCF2H	2ndary time constant pin of the HL/HF/FB detector
20	VRX	Voltage source pin inversely proportional to shift of the internal R
21	TCS2H	2ndary time constant pin of the HL/HF/SB detector
22	TCS1H	Primary time constant pin of the HL/HF/SB detector
23	GND	For split supply 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
② LINE INPUT (REC)/OUTPUT (PLAY) jacks
③ CD•DECK SYNCHRO jack
④ Recording connection cord
⑤ Playback connection cord
⑥ TAPE REC/PLAY jacks
⑦ Stereo Amplifier
⑧ CD•DECK SYNCHRO control cord
⑨ Power 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
- O : 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.