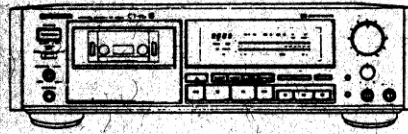


# Service Manual



STEREO CASSETTE DECK

# CT-91a

CT-91a HAS TWO VERSIONS :

Type	Power requirement	Export destination
HEM	AC220V, 240V (switchable) *	European continent
SD	AC110V, 120V-127V, 220V, 240V (switchable)	Kingdom of Saudi Arabia and general market

\*Change the primary wiring of the power transformer.

- This manual is applicable to the CT-91a/HEM and SD types.
- For the SD type, refer to pages 47.
- Ce manuel pour le service comprend les explications en français de réglage.
- Este manual de servicio trata del método ajuste escrito en español.

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## 1. SPECIFICATIONS

Systems	4 track, 2-channel stereo
Heads	Recording and playback head Laser amorphous playback head/ Hard permalloy recording head combination × 1 Erasing head:(Ferrite head) × 1
Motors	DC servo capstan motor × 1 DC reel motor × 1 DC auxiliary motor × 1
Wow & flutter	0.022% (WRMS) ± 0.052% (DIN)
Fast winding time	Approximately 80 seconds (C-60 tape)
Frequency response (-20 dB recording)	
Metal tape	15 Hz to 23,000 Hz
Chrome tape	15 Hz to 21,000 Hz
Normal tape	15 Hz to 21,000 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)
Harmonic distortion	No more than 0.6% (0 dB)
Input	LINE: 67 mV (Input impedance: 50 k Ω)
Output	LINE: 316 mV (Output impedance: 1.4 k Ω) Headphones: 0.8 mW (Load impedance 8 Ω VR Max.)

### Subfunctions

- 3-mode Counter (4-digit electronic counter)
- Auto Tape Loose Canceller function
- Meter Range Selection (wide/expanded range)
- Auto Monitor Function (TAPE/SOURCE auto selection)
- Power Eject (OPEN/CLOSE)
- Music Search (over ± 15 selections)
- Tape Return/Return Play
- Headphones jack (with volume control)
- Bias control
- Rec calibration level control
- MPX Filter
- Auto Space Recording Mute
- Auto Tape Selector
- Playback/Recording timer start function
- Dolby B-type and C-type Noise Reduction Systems
- Dolby HX Pro system
- FL Level Meter Peak-hold function (15 + 1 segments)

### Miscellaneous

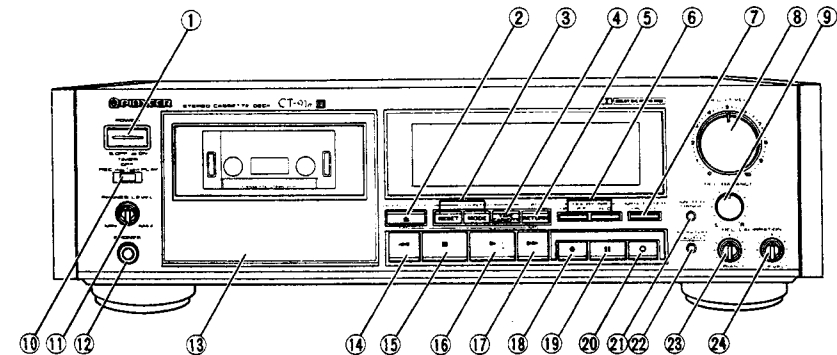
Power requirements	
U.S., Canadian models	AC 120V 60 Hz
U.S. military, other destination models	~AC 110V/120 - 127V/220V/240V (switchable), 50/60 Hz
Power consumption	
U.S., Canadian models	28W
U.S. military, other destination models	28W
Dimensions	457(W) × 133.5(H) × 372(D) mm
Weight (without package)	10.8 kg

### Accessories

Operating instructions	1
Connecting cords	2

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

## 2. PANEL FACILITIES



### ① POWER switch

Turns the power on and off.  
After the power is turned on, the dotted lines in the level meter flash for approximately 4 seconds until the circuits of the unit have stabilized. The unit will not operate during this time.

### ② Cassette door OPEN/CLOSE button

**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.

### ③ COUNTER selectors

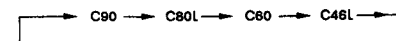
**RESET:**  
Resets the counter indication to "0000".

**MODE:**  
Each time this button is pressed, one of the following three modes is set in sequence.

- Normal tape counter
- Time counter (displays the elapsed playback or recording time)
- Remaining time counter (displays the remaining time of the tape).

### ④ TAPE CAPACITY selector

To indicate the correct time value in the remaining time counter mode, this selector must be set in accordance with the tape used.



### ⑤ TAPE RETURN button

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

### ⑥ DOLBY NR selectors

**ON/OFF:**  
Used to turn the Dolby NR Systems circuits ON or OFF.

**B/C:**  
With the ON/OFF switch in the ON position, Dolby B-type NR or C-type NR can be selected with this switch.

### ⑦ MPX FILTER switch

Set this switch to ON when recording FM broadcasts with one of the Dolby NR systems.

### ⑧ REC LEVEL control

### ⑨ REC BALANCE control

### ⑩ TIMER mode selector

**REC:**  
Set to this position for timer recording.

**PLAY:**  
Set to this position for timer playback.

**OFF:**  
When the timer is not to be used, set the selector to this position. (Normally leave the selector in this position.)

### ⑪ PHONES LEVEL control

Used for adjusting the volume when listening with headphones.

### ⑫ PHONES jack

For connection of standard stereo headphones.

### ⑬ Cassette door

Open and close this door by pressing the OPEN/CLOSE button for insertion or removal of the tape.

### ⑭ Rewind (◀◀) button

Press this button to rewind the tape. Also, this button is used for music search during playback.

### ⑮ Stop (■) button

### ⑯ Play (▶) button

### ⑰ Fast forward (▶▶) button

Press this button to fast forward the tape. Also, this button is used for music search during playback.

### ⑱ Recording (●) button

When this button is pressed, the unit is set to one-touch recording pause (recording standby mode).

### ⑲ Pause (||) button

The tape transport can be momentarily stopped by pressing this button during recording or playback. Press the button again to restart operation. The button does not operate during fast forward or rewind.

### ⑳ Record muting (○) button

Press this button to create an unrecorded space during recording.

### ㉑ METER RANGE selector

Selects wide or expanded range for the level meter.

### ㉒ MONITOR selector

For monitoring the sound during recording, this switch can be used to switch between source sound and just recorded sound. Normally, however, the unit will automatically select tape playback sound after playback has started or the just recorded sound after recording has started.

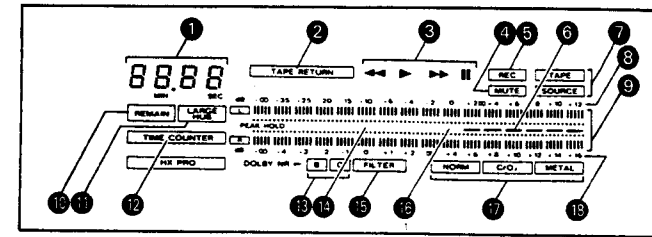
### ㉓ REC CALIBRATION BIAS control

It is possible to adjust the bias according to the tape used and the source to be recorded.

### ㉔ REC CALIBRATION LEVEL control

The AUTO TAPE SELECTOR of this unit matches the recording characteristics with the tape used. Proper adjustment of the REC CALIBRATION LEVEL control permits optimum use of the given tape characteristics for even better recording results.

## ● OPERATING DISPLAY



### ① Counter

- The counter has three display modes.
- If the cassette door is open, the message "OPEN" is displayed.
- During music search the number of selections is displayed.

### ② TAPE RETURN

Lights up during tape return operation.

### ③ Tape transport modes

- ◀◀: Lights up when rewinding the tape.
- ▶: Lights up during playback, playback pause, recording pause and recording. Flashes during music search.
- ▶▶: Lights up when fast forwarding the tape.
- ||: Lights up in the pause mode.

### ④ MUTE

Flashes and lights during recording mute operation.

### ⑤ REC

Lights up during recording.

### ⑥ Warning zone

Changes according to the type of tape used and to the selected meter range.

### ⑦ Monitor source

TAPE: Recorded sound  
SOURCE: Original source sound

### ⑧ Scale for wide range

### ⑨ Level

L: Left channel  
R: Right channel

The  marks indicate the reference level for the Dolby NR Systems.

### ⑩ REMAIN

Lights up when the remaining time counter mode is selected.

### ⑪ LARGE HUB

Lights up when the TAPE CAPACITY selector is pressed in the remaining time counter mode, and the Large Hub mode is set.

### ⑫ TIME COUNTER

Lights up in the time counter mode.

### ⑬ DOLBY B-type NR/C-type NR

Indicates the selected Dolby NR Systems, B-type or C-type.

### ⑭ 0 dB position for expanded range

### ⑮ MPX FILTER

Lights up when the MPX FILTER switch is pressed while the Dolby NR Systems are ON.

### ⑯ 0 dB position for wide range

### ⑰ Tape type

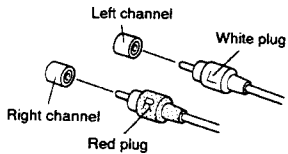
The unit will automatically detect and display the tape type (NORMAL/C/O2/METAL) of the cassette inserted. When no tape is inserted, METAL is displayed.

### ⑱ Scale for expanded range

• CONNECTIONS

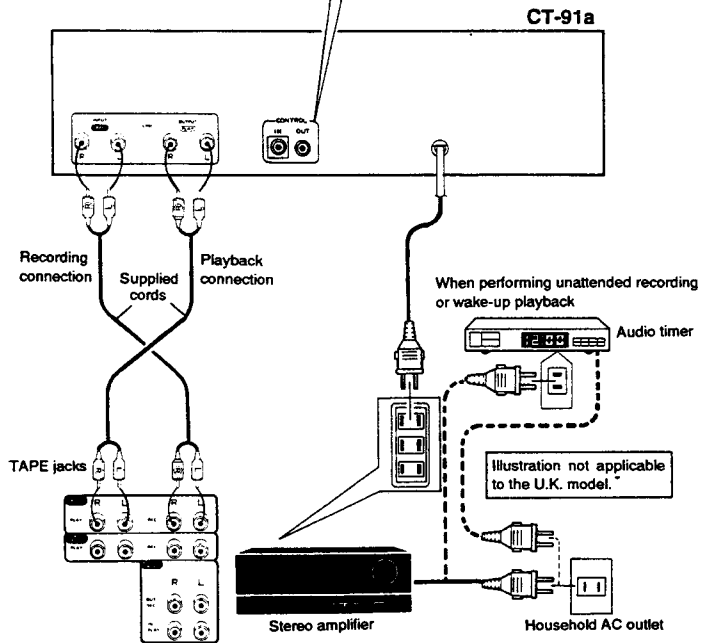
Connection of input and output cords

- The cords to be used have white and red pin plugs.
- Connect white plugs to the left channel (L), and red plugs to the right channel (R), making sure that the colors match. Take particular care to insert the plugs all the way in.



Connection to an audio timer

For details on the connection to an audio timer, refer to the instruction manual of the audio timer.



**CONTROL IN jack**

Connect this jack to the CONTROL OUT jack of a component equipped with the Pioneer System Remote Control (bearing the mark) using a supplied mini-plug cord, and you will be able to operate the PAUSE function of this component using the system remote control.

**CONTROL OUT jack**

Intermediary output of remote control signals from the above input jack. Connect it to the CONTROL IN jack of another component compatible with the Pioneer System Remote Control.

3. EXPLODED VIEWS AND PARTS LIST

NOTES :

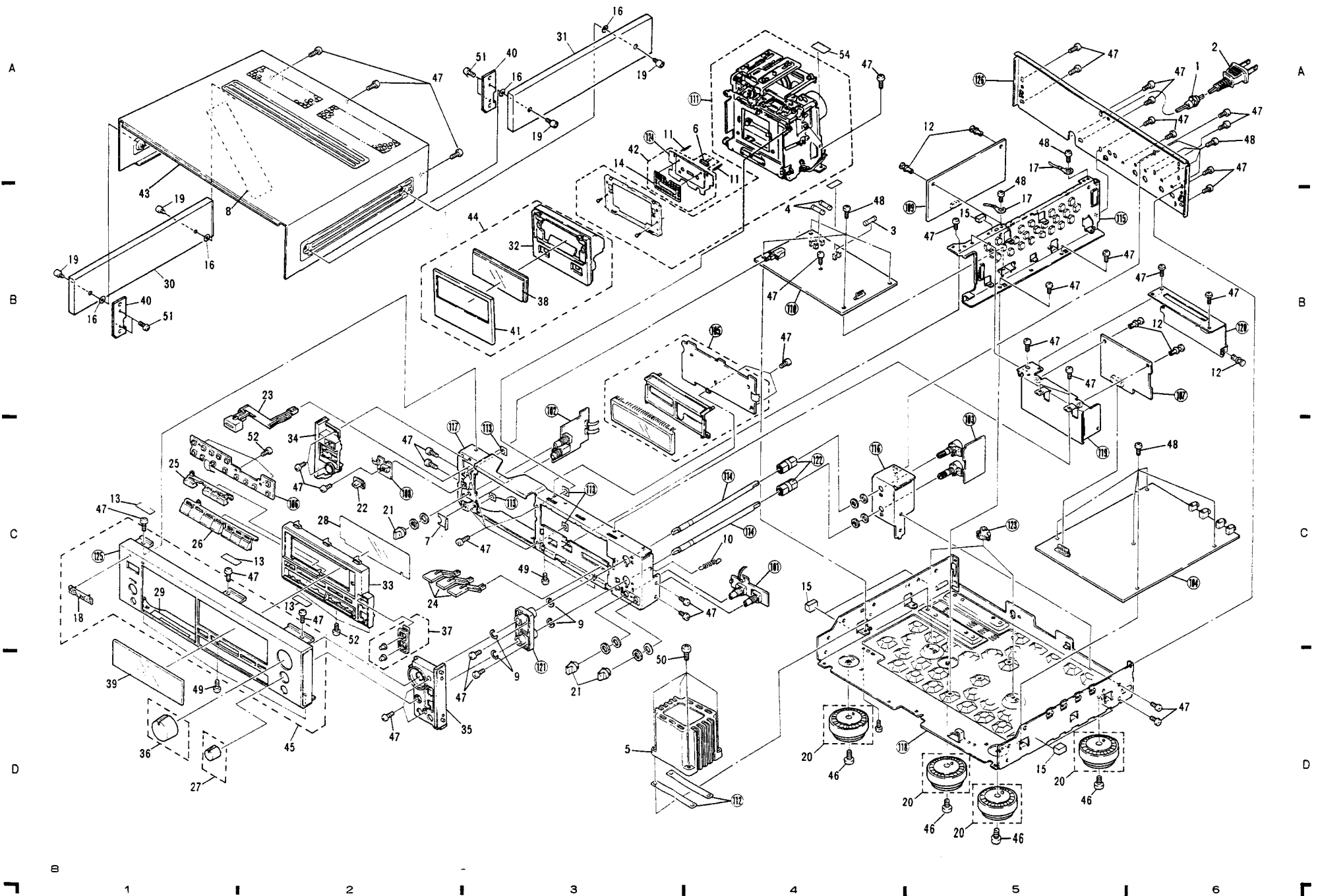
- Parts without part number cannot be supplied.
- The mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "O" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

3.1 EXTERIOR

Parts List of Exterior

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
	1	CM-22B	Strain relief		41	RAH1405	Door panel
	2	ADG1036	AC power cord		42	RXX1064	Cassette plate assembly
	3	REK-102	Fuse (FU103 1.6A/250V)		43	RXX1128	Bonnet
	4	REK-100	Fuse (FU101, FU102 1A/250V)		44	RXX1159	Door assembly
	5	RTT1061	Power transformer (T1)		45	RXX1204	Front panel assembly
	6	SLF-401C	Diode (D11)		46	BBZ40P080FCC	Screw
	7	DBK-106	Mounting plate		47	BBZ30P060FCC	Screw
	8	PNB1109	Absorber plate B		48	IBZ30P080FCC	Screw
	9	RBF1019	Washer		49	BBT30P080FZK	Screw
	10	RBH1150	Spring		50	BBZ40P180FCC	Screw
	11	RBL-059	Cassette plate spring		51	PYC30P100FMC	Screw
	12	RBM-014	Nylon rivet (3.5x5.5)		52	BBZ26P080FZK	Screw
	13	REB-223	Cover cushion (D)		53	PMA30P060FCU	Screw
	14	REB1038	Stabilizer B		54	REE1010	Motor label
	15	REB1057	Rubber spacer (A)		101		BIAS VR unit
	16	REC1008	Wood spacer		102		Headphone unit
	17	RNH-184	Cord clasper		103		INPUT VR unit
	18	AAM1001	Name plate		104		Amp unit
	19	ABA1023	Screw		105		FL unit
	20	AMR1159	Leg assembly		106		Switch unit
	21	RAC1337	Knob (PHONES LEVEL, REC CALIBRATION)		107		OSC.HX unit
	22	RAC-668	Knob A (TIMER)		108		Timer unit
	23	RAC1203	Button (POWER)		109		Control unit
	24	RAC1204	Button (DOLBY, MPX)		110		Power supply unit
	25	RAC1205	Button (COUNTER)		111		Tape mechanism unit
	26	RAC1206	Button (←, ■, →, ●, II, ○)		112		Power transformer sheet
	27	RAC1262	VR knob B (REC BALANCE)		113		Tape mechanism sheet
	28	RAH1184	FL filter		114		VR rod
	29	RAP1003	Under escutcheon		115		Center stay
	30	RMS1007	Side wood (L)		116		VR holder
	31	RMS1008	Side wood (R)		117		Panel stay
	32	RNK1284	Door		118		Main Chassis
	33	RNK1285	Button holder		119		P.C.B holder
	34	RNK1411	Side mold (L)		120		Shield plate
	35	RNK1412	Side mold (R)		121		VR rod guide
	36	RXA1158	VR knob assembly (A)		122		Joint
	37	RXA1160	Button assembly (MONITOR)		123		P.C.B stud
	38	RAH1197	Door lens		124		Cassette plate
	39	RAH1198	FL panel		125		Front panel
	40	RAH1368	Side panel		126		Rear panel

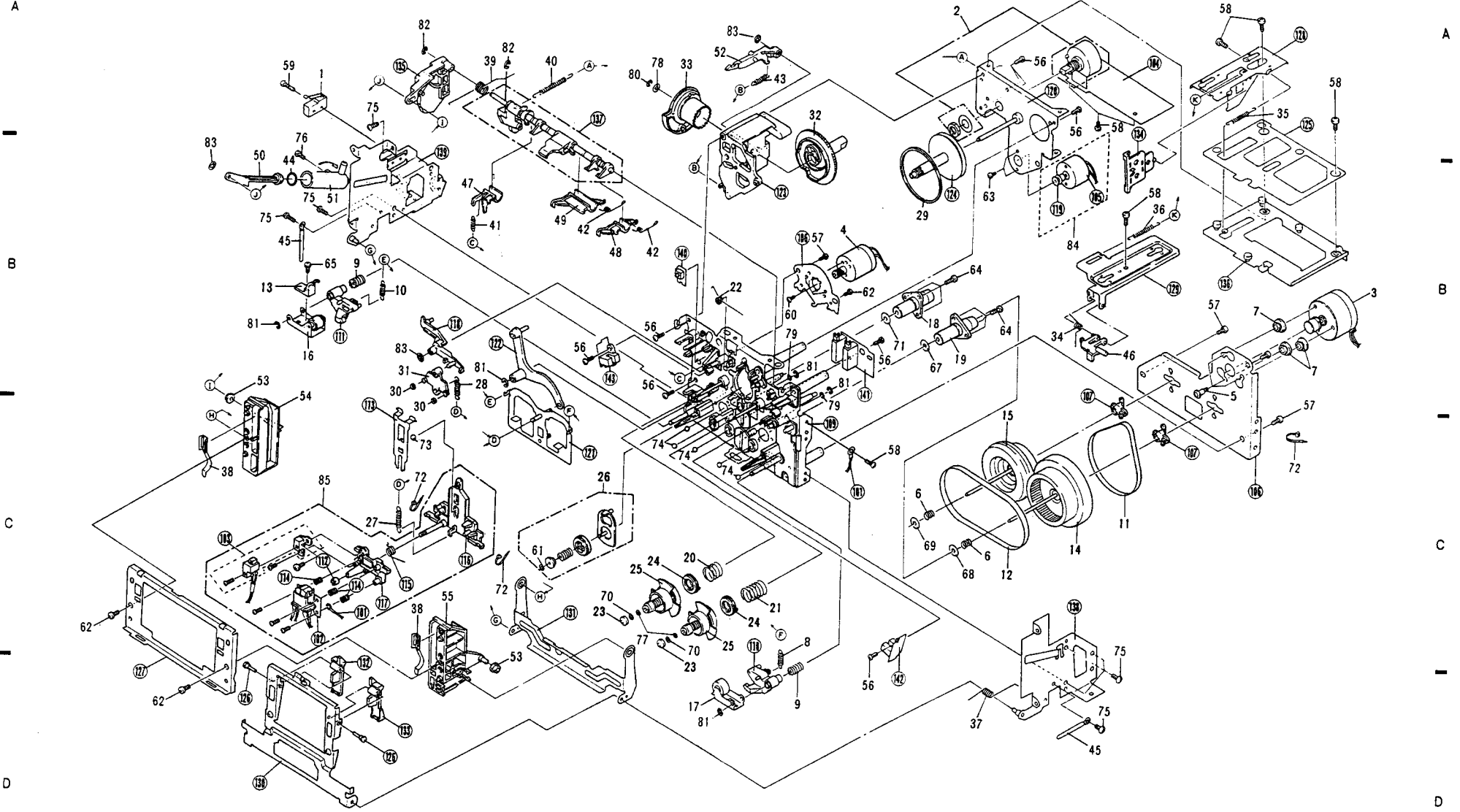
Exterior



### 3.2 Parts List of Mechanism Unit

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
1	RSF-031		Micro switch	56	BBZ26P080FZK		Screw
2	RSX-059		Rotary encoder	57	BBZ30P080FZK		Screw
3	RXM1016		Capstan motor assembly	58	BCZ30P060FMC		Screw
4	RXM1018		Reel motor assembly	59	BMZ23P100FZK		Screw
5	RBA-064		Step screw	60	BMZ26P030FZK		Screw
6	RBL-044		Thrust spring	61	RBF-065		Washer
7	REB-408		Rubber cushion	62	BMZ30P080FZK		Screw
8	RBL-028		Pinch spring	63	JGZ20P025FMC		Screw
9	RBL-030		Pinch thrust spring	64	PMA26P050FZK		Screw
10	RBL-098		Pinch spring (SUB)	65	PMA26P060FZK		Screw
11	REB1073		Capstan belt	66	PMZ20P080FZK		Screw
12	REB1074		Capstan belt (A)	67	RBF-030		Oil stopper
13	RNL-016		Tape guide	68	RBF-069		Thrust washer (A)
14	RXA1235		Flywheel assembly	69	RBF-070		Thrust washer (B)
15	RXA1236		Flywheel assembly (SUB)	70	RBF-076		Slider washer
16	RXA1238		Pinch roller (A) assembly	71	RBF-077		Oil stopper
17	RXA1240		Pinch roller (R) assembly	72	REC-371		Binder
18	RXB-362		Metal holder assembly (A)	73	REF-022		Steel ball (φ 3)
19	RXB-466		Metal holder assembly (B)	74	REF-023		Steel ball (φ 4)
20	RBL-031		BT spring (A)	75	VCT30P060FZK		Screw
21	RBL-032		BT spring (B)	76	VCZ26P080FMC		Screw
22	RBL-033		Idler pressure spring	77	WA21D040D013		Washer
23	RNK-815		Reel shaft cap (B)	78	WA26N070W040		Washer
24	RXB-751		BT disc assembly	79	WA32D080D050		Washer
25	RXB-874		Reel base assembly	80	YE20FUC		E ring
26	RXB-875		Take-up idler assembly	81	YE25FUC		E ring
27	RBL-037		Head base spring	82	YE30FUC		E ring
28	RBL-038		Brake spring	83	YS24FBT		Retaining ring
29	REB-502		Drive belt	84	RXX1055		Power motor assembly
30	REB-511		Brake shoe	85	RXX1212		Head base assembly
31	RNL-723		Brake	101			Earth lead wire assembly
32	RNL-729		Cam gear	102			R/P head
33	RXB-884		Side cam gear assembly	103			Erase head assembly
34	RBH1136		Arm shock-absord spring	104			Connector unit
35	RBH1137		Plate (A) return spring	105			Power motor
36	RBH1138		Plate (B) return spring	106			Reel motor mounting plate
37	RBH1142		Frame return spring	107			Flywheel holder
38	RBL-027		Pocket spring (A)	108			Thrust holder
39	RBL-039		Eject spring	109			Mechanism chassis assembly
40	RBL-040		Half pressure spring	110			Pressure arm (R)
41	RBL-041		Rec arm spring	111			Pressure arm (L)
42	RBL-042		Detect arm spring	112			Adjustment nut
43	RBL-043		Lock lever spring	113			Head base pressure spring
44	REB-447		O ring	114			Head adjust spring (C)
45	RNH-184		Cord clasper	115			Hight spring
46	RNK1297		Arm	116			Head base
47	RNL-733		Rec detect arm	117			Sub head base
48	RNL-734		CR <sub>2</sub> detect arm	118			Brake lever
49	RNL-735		Metal detect arm	119			First pulley
50	RNL-739		Piston	120			Gear chassis assembly
51	RNL-740		Cylinder	121			Pinch base assembly
52	RNL-741		Lock lever	122			Pinch lever assembly
53	RNL-742		Collar	123			Gear base assembly
54	RNL-849		Pocket (L)	124			Second pulley assembly
55	RNL-850		Pocket (R)	125			Absorber
				126			Cassette clamp shaft
				127			Pocket frame
				128			Plate (A)
				129			Plate (B)
				130			Frame
				131			Door arm
				132			Cassette clasper (L)
				133			Cassette clasper (R)
				134			Side plate
				135			Eject lever
				136			Top frame assembly
				137			Shift shaft assembly
				138			Door frame (R) assembly
				139			Door frame (L) assembly
				140			Rec switch unit
				141			Tape selector unit
				142			Sensor unit (A)
				143			Sensor unit (B)

Mechanism Unit



1

2

3

4

5

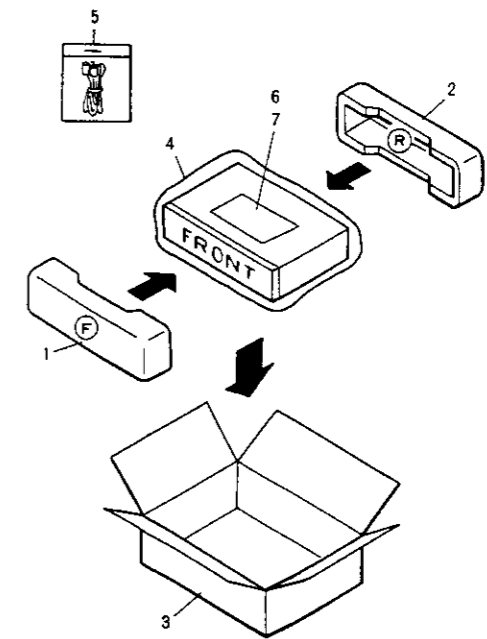
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### I. PACKING

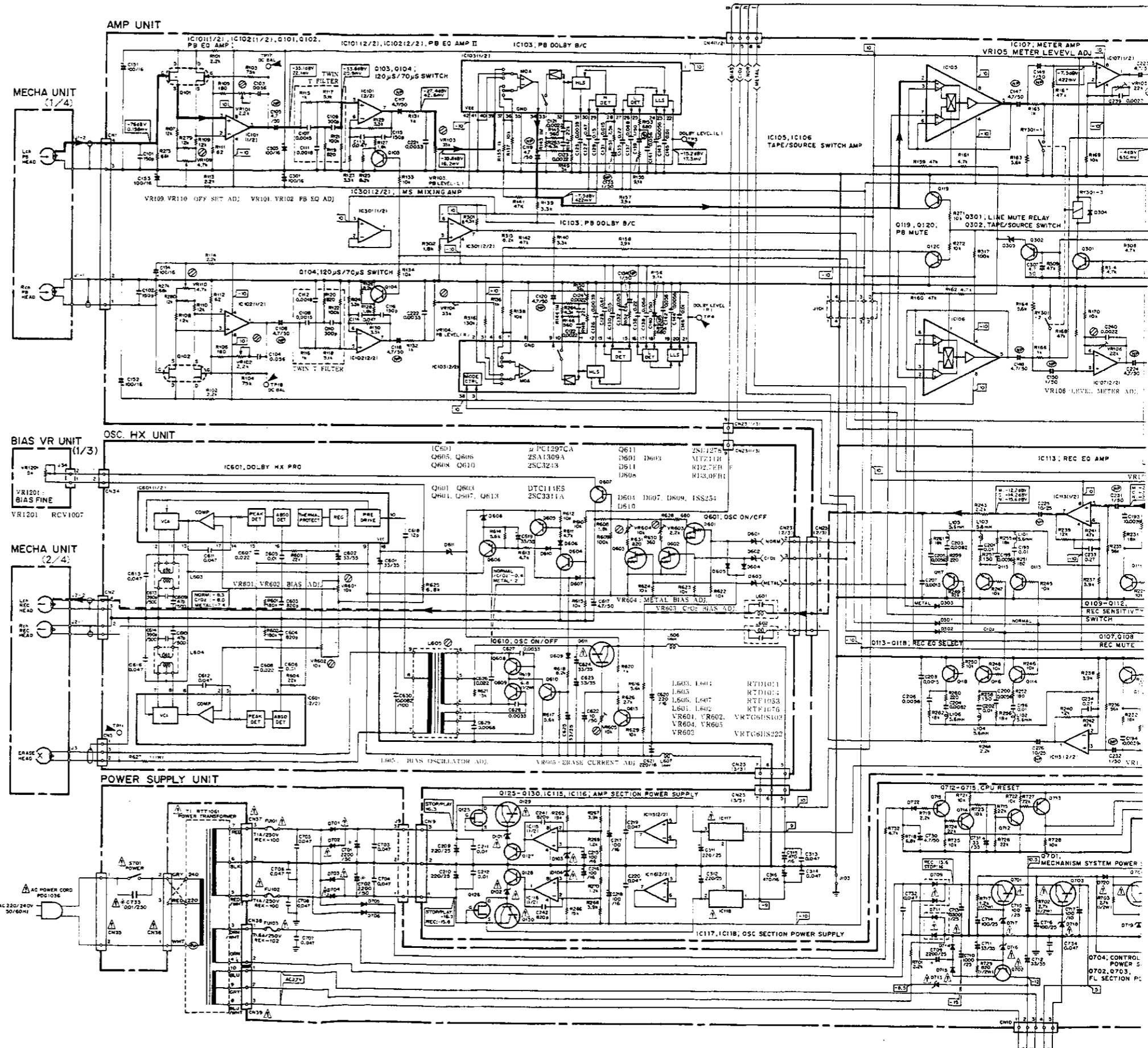
#### Parts List

Mark	No.	Part No.	Description
	1	RHA1029	Pad (F)
	2	RHA1030	Pad (R)
	3	RHG1124	Packing case
	4	RHX-034	Sheet
	5	RDE1013	Connection cord assembly
	6	RRD1062	Operating instructions (French/Italian/Dutch/ Swedish/Spanish/ Portuguese)
	7	RRE1026	Operating instructions (English/German)





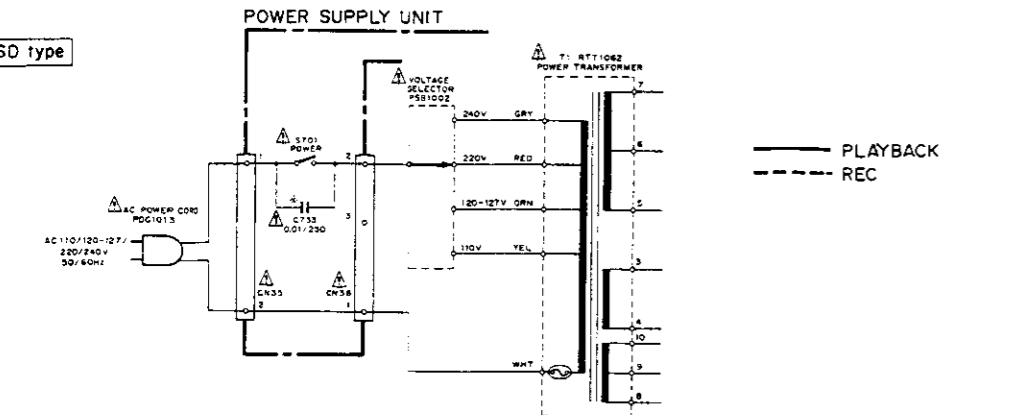
# 5. SCHEMATIC DIAGRAM



- 1 RESISTORS**  
Indicated in Ω, 1/4W, 1/8W and 1/2W, ±5% tolerance unless otherwise noted. K, M, MΩ, (F), ±1%, (G), ±2%, (K), ±10%, (M), ±20% tolerance
- 2 CAPACITORS**  
Indicated in capacity (µF/voltage (V) unless otherwise noted. µ, pF Indication without voltage is 50V except electrolytic capacitor
- 3 VOLTAGE, CURRENT**  
□ DC voltage (V) at no input signal Value in ( ) is DC voltage at rated power
- 4 SWITCHES**  
The underlined indicates the switch position
- AMP UNIT**  
S301 DOLBY NR ON-OFF  
S302 DOLBY NR B-C  
S303 MPX FILTER ON-OFF
- SW UNIT**  
S1001 STOP  
S1002 REW  
S1003 REC  
S1004 OPEN/CLOSE  
S1005 FF  
S1006 PAUSE  
S1007 TAPE RETURN  
S1008 PLAY  
S1009 COUNTER RESET  
S1010 COUNTER MODE  
S1011 HUB  
S1012 METER RANGE  
S1013 MONITOR AUTO  
S1014 REC MUTE
- TAPE SELECTOR UNIT**  
S2 TAPE SELECT VETAL-CR2  
S3 TAPE SELECT NORMAL-NORMAL
- TIMER UNIT**  
S101 TIMER REC-OFF-PLAY
- REC SW UNIT**  
S1 REC INH OFF-ON
- MECHA UNIT**  
S011 DOOR CLOSE-OPEN
- POWER SUPPLY UNIT**  
S701 POWER ON-OFF

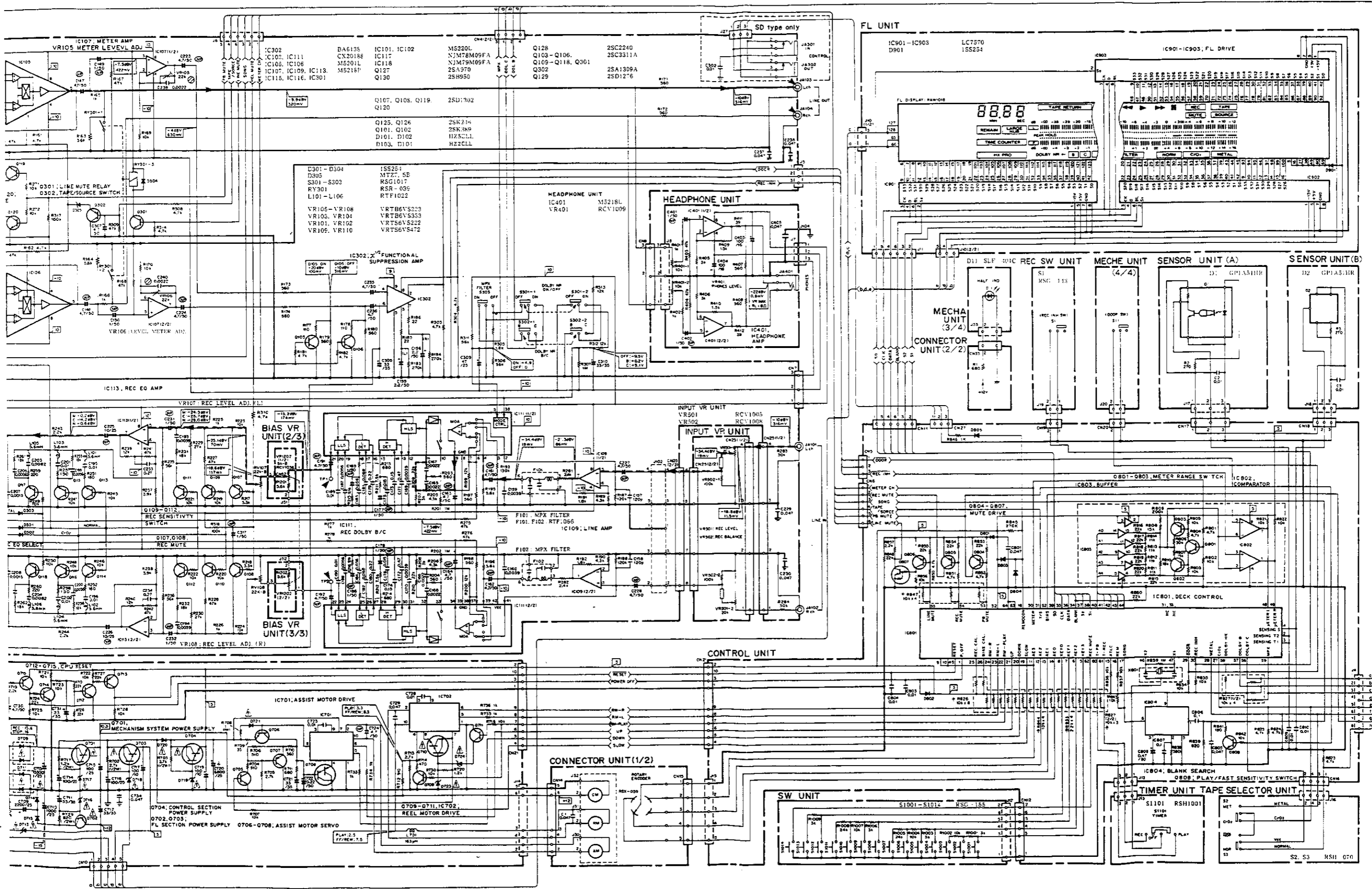
- POWER SUPPLY UNIT**  
IC701, IC702 RA6109  
Q702 2SA1283  
Q706, Q707, Q713, 2SA1309A  
Q715  
Q708 2SA936  
Q705, Q709, Q711, 2SC3311A  
Q712, Q714  
Q701, Q703, Q704, 2SD1275  
Q710  
D723 MT210C  
D716 MT213B  
D718, D719 MT26.2B  
D724 MT26.8C  
D713 RD27EB1
- D709 1R2C1-LC2  
D711 1R21-LC2  
D714, D715, D720, 1SR35-100A  
D721  
D705, D706, D722 1SS251  
D701, D704 10DP2FAB  
D717 MT212B  
S701 RSA 068  
L701 DTC113ES  
C733 VCC 044  
C701, C702 RCH1021  
C726 RCH1010

- CONTROL UNIT**  
IC804 BA235  
IC802 MS233L  
IC801 PD41188  
IC803 TC4050BP  
Q803-Q806 2SA1309A  
Q807 DTC113ES  
Q801, Q802 2SC3311A  
Q808 2SD1302  
D801-D805 1SS251
- R826 DCN1009  
R844, R847 RCN1068  
R833 RCX1009  
R827 RCN1010  
X801 VSS1011



- Line Voltage Selection**  
Line voltage can be changed with following steps.
1. Disconnect the AC power cord.
  2. Remove the Bonnet case.
  3. Change the connection of the power transformer lead wire.
  4. Stick the line voltage label on the rear panel.

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



A

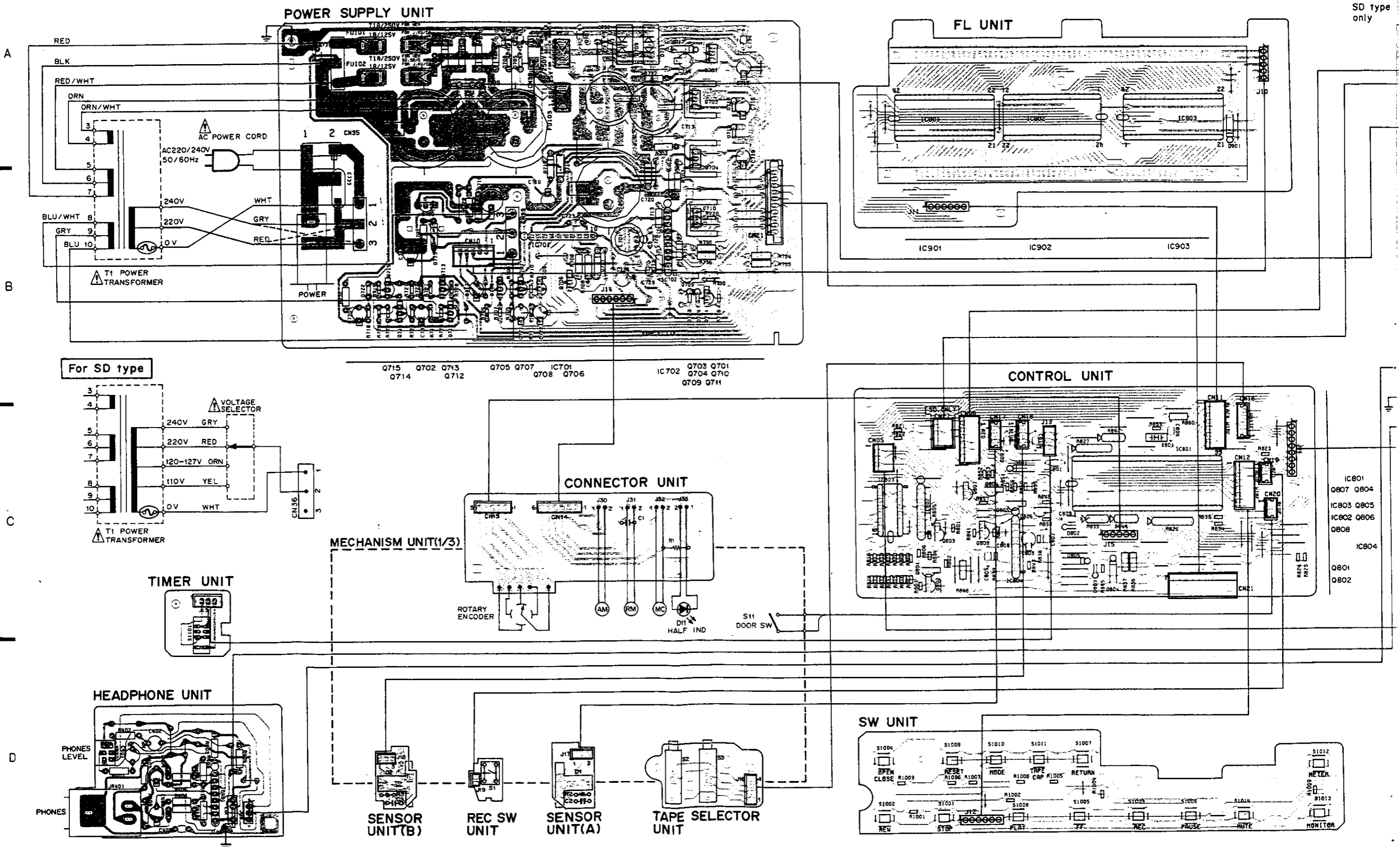
B

C

D

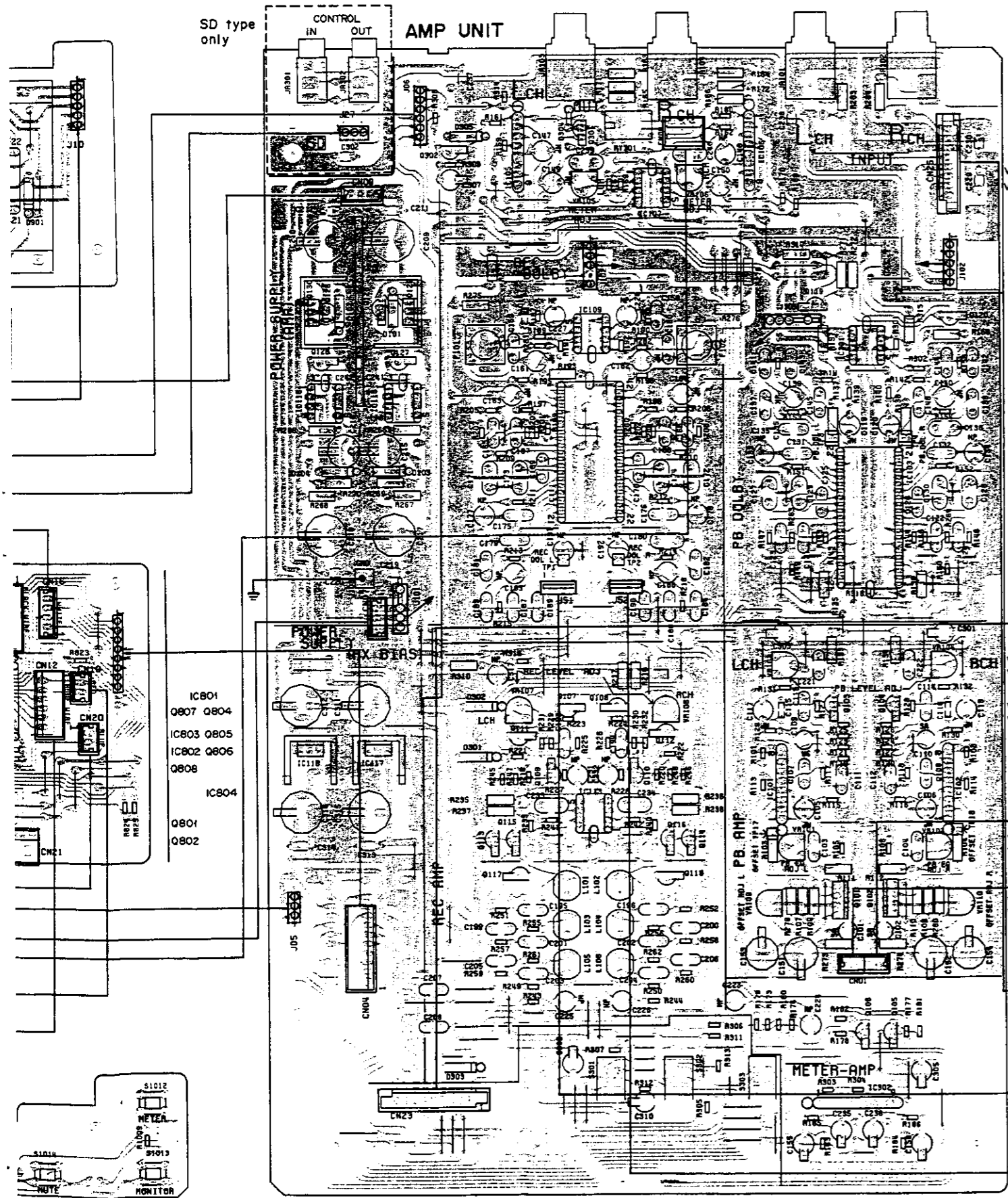
# 6. P.C. BOARDS CONNECTION DIAGRAM

• View from component side



SD type only

IC801  
Q807 Q804  
IC803 Q805  
IC802 Q806  
Q808  
IC804  
Q801  
Q802



Q301  
Q302 IC105 IC106  
IC107  
VR106  
VR105

Q130 Q125 Q119  
Q126 Q129 Q120  
IC109  
Q128 Q127  
IC301  
IC116 IC115  
IC111  
IC103

VR103  
VR104  
VR107  
VR108

Q107 Q103  
Q108 Q104  
Q111 Q112  
IC118 IC117

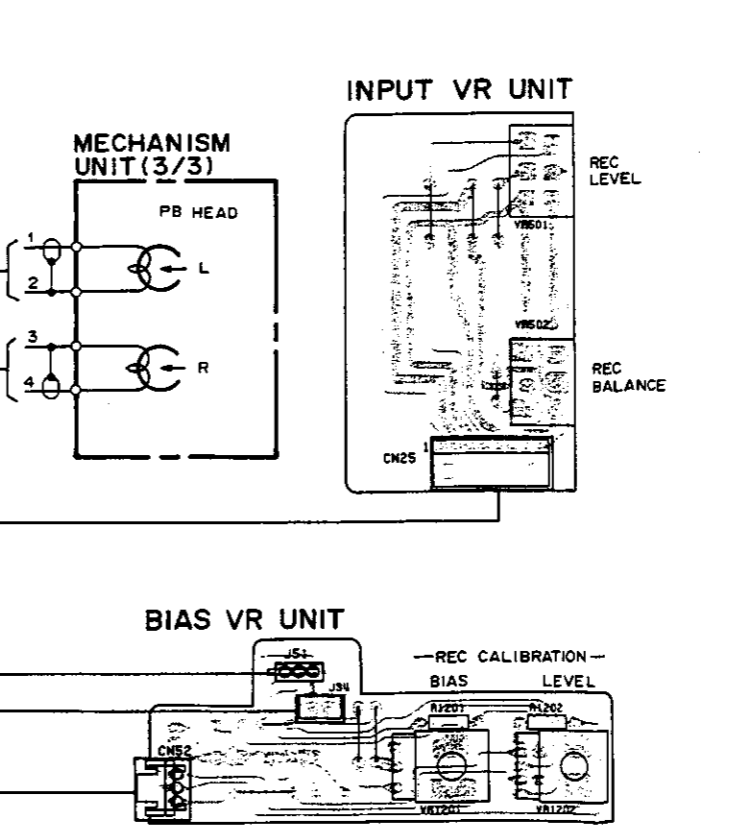
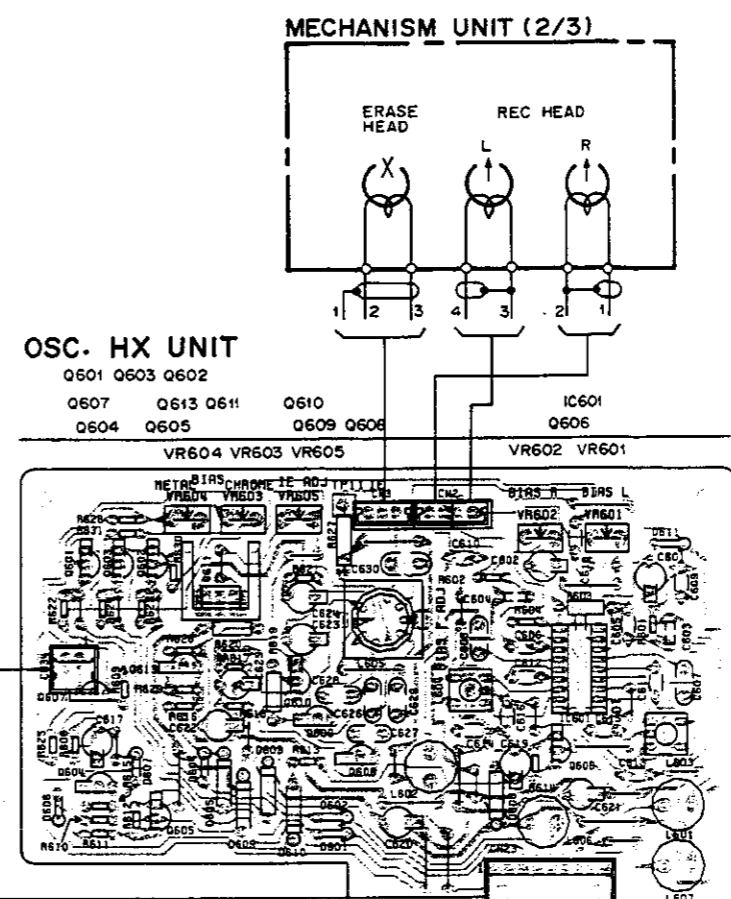
Q109  
Q110 IC101  
IC113 IC102

VR101  
VR102  
Q113 Q116  
Q115 Q114  
Q117 Q118

VR109  
VR110  
Q101  
Q102

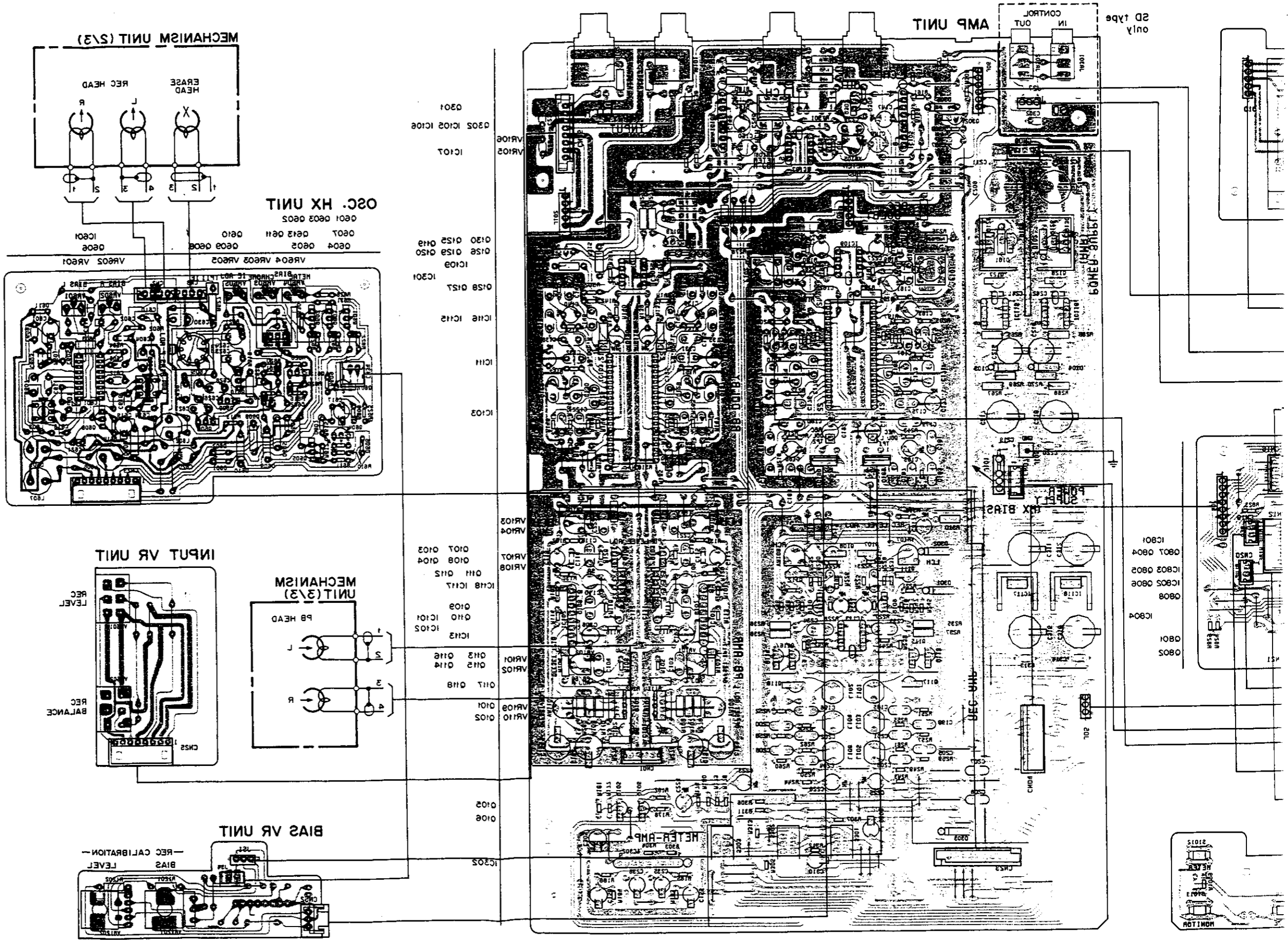
Q105  
Q106

IC302



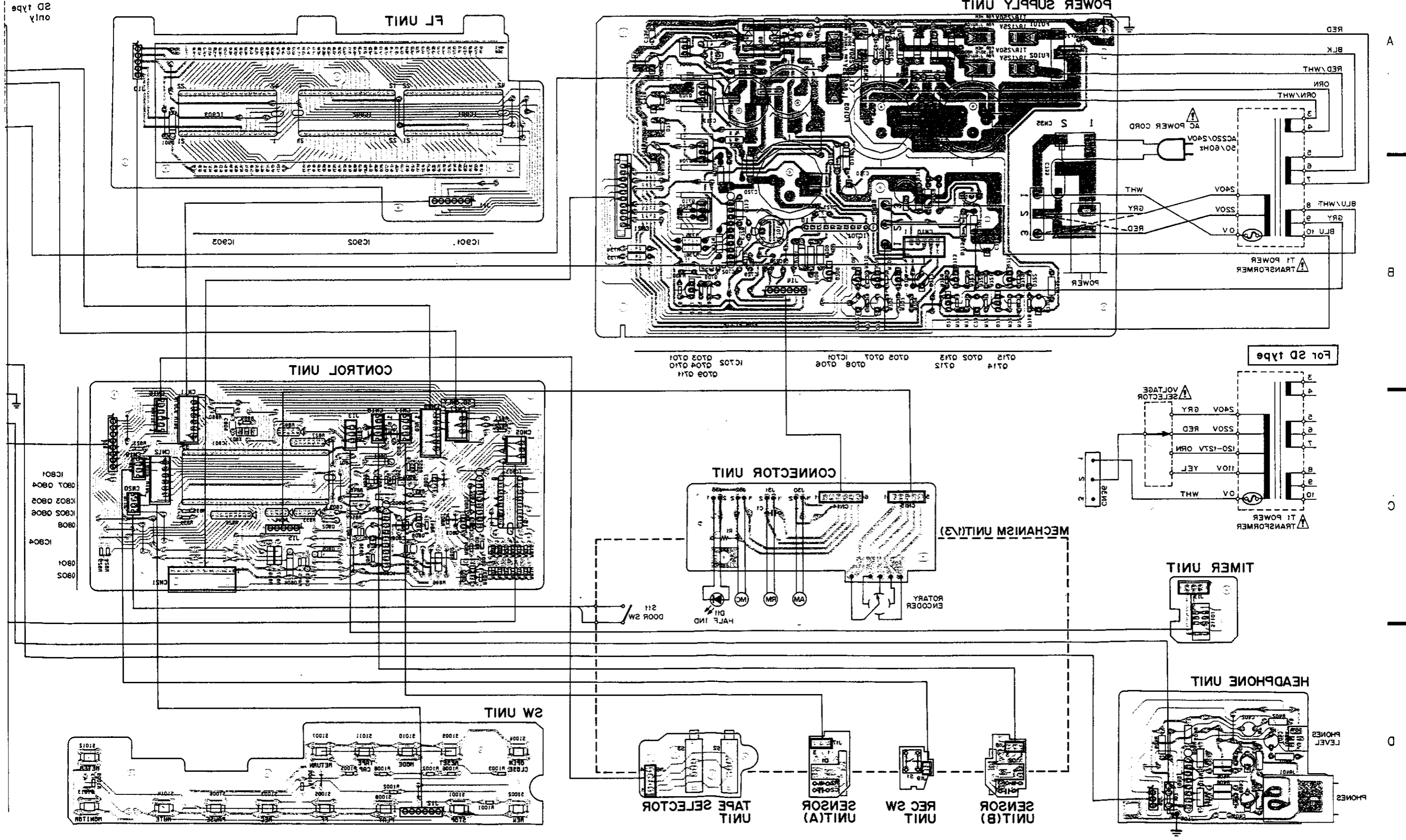
P.C.B. pattern diagram indication	Corresponding part symbol	Part name
		Transistor
		FET
		Diode
		Zenner diode
		LED
		Varactor
		Tact switch
		Inductor
		Coil
		Transformer
		Filter
		Ceramic capacitor
		Mylar capacitor
		Styrol capacitor
		Electrolytic capacitor (Non polarized)
		Electrolytic capacitor (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 shows cathode side.  
 5. The transistor terminal marked with shows emitter.



# 6. P.C. BOARDS CONNECTION DIAGRAM

• View from soldering side



SD type only

For SD type

A  
B  
C  
D



## CAPACITORS

Mark	Symbol & Description	Part No.
C133, C134, C139, C140, C177, C178, C185, C186, C317		CEANP010M50
C155, C156		CEAS2R2M50
C311, C312		CEAS221M25
C305, C310		CEAS330M35
C235, C236, C307		CEAS4R7M50
C309		CEAS470M25
C315, C316		CEAS471M16
C149, C150, C231, C232		CEYANP010M50
C225, C226		CEYANP100M25
C105, C106, C117-C120, C147, C148, C161-C164, C191, C192, C223, C224, C227, C228		CEYANP4R7M50
C151-C154, C215-C218, C301, C303		CEZA101M16
C209, C210		CEZA221M25
C145, C146, C189, C190, C195, C196, C201, C202		CFTXA103J50
C107, C108, C207, C208		CFTXA152J50
C131, C132, C175, C176		CFTXA153J50
C129, C130, C173, C174		CFTXA154J50
C111, C112		CFTXA182J50
C121-C124, C165-C168, C239, C240		CFTXA222J50
C135, C136, C179, C180		CFTXA224J50
C233, C234		CFTXA274J50
C221, C222		CFTXA332J50
C125, C126, C159, C160, C169, C170, C193, C194		CFTXA392J50
C113, C114		CFTXA473J50
C127, C128, C171, C172		CFTXA474J50
C143, C144, C187, C188, C199, C200, C205, C206		CFTXA562J50
C103, C104, C141, C142, C183, C184		CFTXA563J50
C137, C138, C181, C182		CFTXA683J50
C203, C204		CFTXA822J50
C219, C220, C229, C230, C237, C238, C313, C314		CGCYX473K25
C211, C212		CKCYF103Z50
C157, C158		CKPUYB121K50
C115, C116		CKPUYB151K50
C241, C242		CKPUYB821K50
C101, C102		CQSF151J50
C109, C110		CQSF301J50

## COILS - FILTERS

Mark	Symbol & Description	Part No.
L101-L106	Coil (5.6mH)	RTF1022
F101, F102	MPX filter	RTF1066

## RESISTORS

Mark	Symbol & Description	Part No.
VR105-VR108		VRTB6VS223
	Semi-fixed resistor (22k)	
VR103, VR104		VRTB6VS333
	Semi-fixed resistor (33k)	
VR101, VR102		VRTS6VS222
	Semi-fixed resistor (2.2k)	
VR109, VR110		VRTS6VS472
	Semi-fixed resistor (4.7k)	
R115-R120		RDF¼PU□□□□
R103, R104, R107-R112, R273, R274, R279, R280, R283, R284		RDR¼PM□□□□
R133-R138, R157, R158, R163-R166, R171, R172, R193, R217, R218, R235-R238, R265-R272, R275-R278, R310, R315-R317		RD¼PM□□□□
Other resistors		RD¼PM□□□□

## OTHERS

Mark	Symbol & Description	Part No.
JA101, JA103	1P Pin jack (W) (Lch, LINE IN/OUT)	RKB1010
JA102, JA104	1P Pin jack (L) (Rch, LINE IN/OUT)	RKB1011
CN25	Connector	W-P9808
CN23	Connector	W-P9809

## REC Switch Unit

## SWITCH

Mark	Symbol & Description	Part No.
S1	Tact switch	RSG-143

## TAPE SELECTOR Unit

## SWITCH

Mark	Symbol & Description	Part No.
S2, S3	Slide switch	RSH-070

## CONNECTOR Unit

## CAPACITORS

Mark	Symbol & Description	Part No.
C1		CKCYF473Z50

## RESISTORS

Mark	Symbol & Description	Part No.
R1		RD¼PM681J

## SENSOR Unit (A)

## SEMICONDUCTORS

Mark	Symbol & Description	Part No.
D1		GP1A51HR

## CAPACITORS

Mark	Symbol & Description	Part No.
C2		CKPUYY103N16

## RESISTORS

Mark	Symbol & Description	Part No.
R2		RD¼PM271J

## SENSOR Unit (B)

## SEMICONDUCTORS

Mark	Symbol & Description	Part No.
D2		GP1A51HR

## CAPACITORS

Mark	Symbol & Description	Part No.
C3		CKPUYY103N16

## RESISTORS

Mark	Symbol & Description	Part No.
R3		RD¼PM271J



## 8. ADJUSTMENTS

### 8.1. MECHANISM RELATED ADJUSTMENT

1. Tape running and azimuth adjustment				2. Tape Speed Adjustment		
No.	Mode	Adjustment Location	Specifications	Mode	Adjustment Location	Specifications
1			Insert half mirror in side A (set screws at front).	PLAY	Capstan motor adjustment hole (Refer to Fig. 3.)	Adjust so that the playback frequency is $3015 \pm 5$ Hz at the beginning of winding of test tape STD-301.
2	PLAY	Height adjustment nut (Refer to Fig. 1.)	Playback the above tape and adjust to that there is no curling of the tape in the guide section of the head. (Refer to Fig. 2.)	PLAY		Playback test tape STD-301 again and confirm that the above specifications are satisfied.
3	PLAY	Azimuth adjustment screw (Refer to Fig. 1.)	Playback test tape STD-331B and adjust so that the 10 kHz output level is maximum and also so that there is no phase difference between L-ch and R-ch.			
4	Check Item 2 above again and adjust again if it does not satisfy the specifications. (Be sure to adjust Item 3 when Item 2 is adjusted.)					

3. Adjustment of Door Damper	
Adjustment Location	Specifications
Cylinder adjustment screw (Refer to Fig. 4.)	Make sure that the door opens smoothly, there is no two-stage motion, and that there is no bounding when it opens completely. (Perform with no cassette half inserted.)
Opening becomes slower (when bounding)	Opening becomes faster (when two-stage motion)
	Reference value $A = 5 \pm 1$ mm

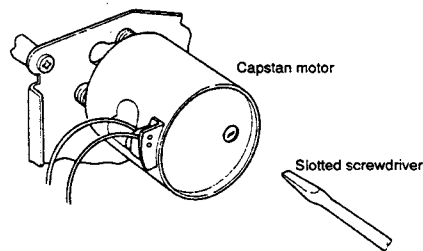


Fig. 3.

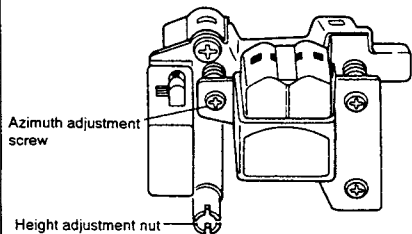


Fig. 1.

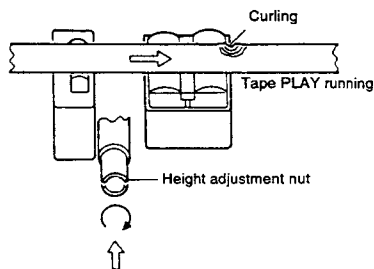


Fig. 2.

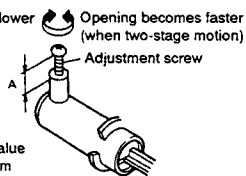


Fig. 4.

### 8.2 ELECTRICAL ADJUSTMENTS

#### Adjustment Conditions

- The mechanical adjustments must be completed first.
- The head must be cleaned and demagnetized.
- Turn power on allow the deck to warm up for at least a few minutes before commencing any electrical adjustments.
- The reference signal is  $0dBv=1Vrms$ .
- Connect a 50 kilo-ohm (or between 47 to 52 kilo-ohm) load resistance to the OUTPUT terminals.
- Unless otherwise specified, the switches listed below are left in the positions indicated.  
DOLBY NR : OFF  
TAPE SELECTOR : NORM

#### Test Tapes

- STD-331B : Playback adjustments (See Fig. 8-1)  
 STD-630 : NORMAL blank tape  
 STD-620 : CrO<sub>2</sub> blank tape  
 STD-610 : METAL blank tape

#### List of Adjustments

##### Playback sections

- Head azimuth adjustment.
- Playback equalizer adjustment.
- Playback level adjustment.

##### Recording sections

- Bias oscillator adjustment.
- Erase current adjustment.
- Recording bias adjustment.
- Recording level adjustment.

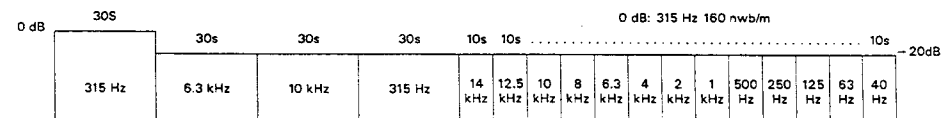


Fig. 8-1. Constants of the test tape STD-331B

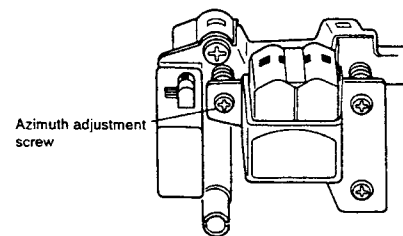


Fig. 8-2. Head azimuth adjustment

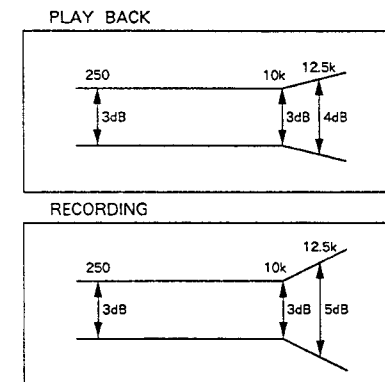


Fig. 8-3. Allowable playback frequency response zone

**PLAYBACK SECTION**

**1. Head Azimuth Adjustment**

• Turn VR103, VR104 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-331B test tape.	Head azimuth adjustment screw. (See Fig. 8-2)	LINE OUT	Maximum playback signal level.	
2.	STOP	Lock the screw with screw lock after completing adjustment.				

**2. Playback Equalizer Adjustment**

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	PLAY	Play the 315 Hz and 6.3 kHz/ -20 dB portion of the STD-331B test tape.	VR101 (Lch) VR102 (Rch)	LINE OUT	Adjust the 10 kHz level to 0.5 dB ± 0.5 dB in respect to the 315 Hz playback level.	

**3. 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-331B test tape.	VR103 (Lch) VR104 (Rch)	TP. 3 (Lch) TP. 4 (Rch)	-15.2 dBv	

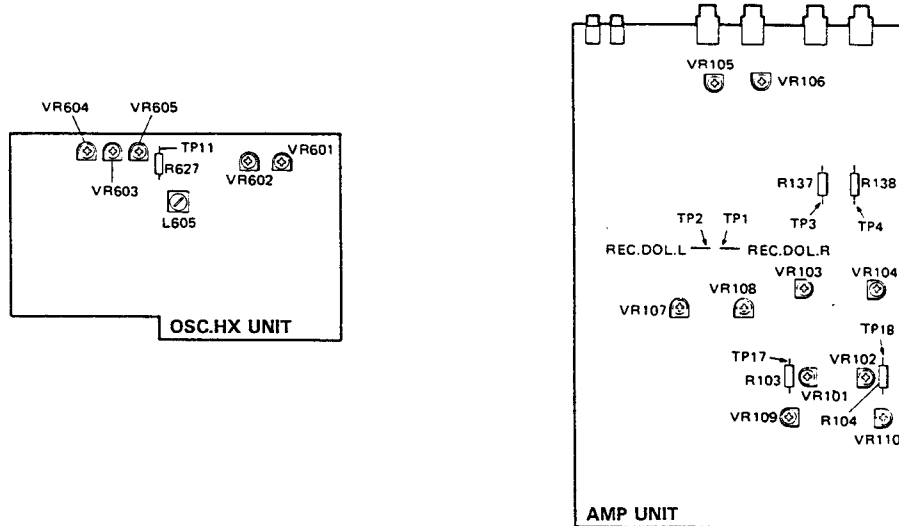


Fig. 8-4 Adjustment location

**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.	L 605	TP. 11	106kHz ± 300Hz	

**2. Erase Current 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.	VR605	TP. 11	130 mV AC	

**3. Recording Bias Adjustment**

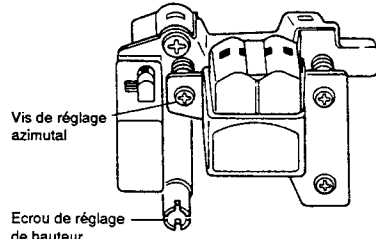
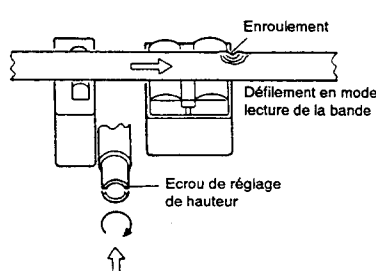
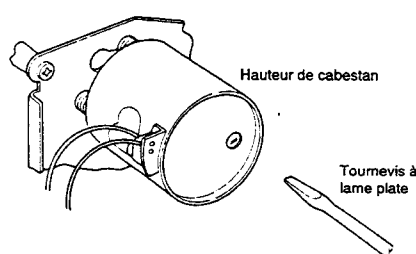
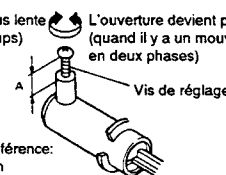
3-1. Overbias Adjustment							
No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	REC/ PAUSE	Apply a 6.3 kHz/ -10dBv (-10VU meter reading) signal to the Line input terminals and insert STD-630.	-		LINE OUT L, R terminals	-	
2.	REC →PLAY	Record and play back the 6.3 kHz signal at -10 dBv input level.	NOR	VR601 (Lch) VR602 (Rch)	LINE OUT L, R terminals	3.0 dB overbias	Turn control clockwise past the peak to assure proper overbias value.
3.		Record the 6.3 kHz/ -10 dBv signal on STD-620 and play back.	CrO <sub>2</sub>	VR603 (L/Rch)		2.5 dB overbias	
4.		Record the 6.3kHz/ -10 dBv signal on STD-610 and play back.	METAL	VR604 (L/Rch)		1.0 dB overbias	
5. Turn control clockwise past the peak to assure proper overbias value.							
3-2. Frequency Response Adjustment							
No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	REC/ PAUSE	Apply a 10kHz/315 Hz/ -20 dBv signal to the Line input terminals and insert STD-630.	-		LINE OUT L, R terminals	-	
2.	REC →PLAY	Record and play back the 315 Hz signal and a 10 kHz signal at -20 dBv input level.	NOR	VR601 (Lch) VR602 (Rch)	LINE OUT L, R terminals	-	Record and play back repeatedly, comparing the 315 Hz and 10 kHz playback levels, and adjust to +1.5±0.5 dB.
3.		Record the 10 kHz/ 315 Hz, -20 dBv signal on STD-620 and play back.	CrO <sub>2</sub>	VR603 (L/Rch)		+0.5±1.0 dB	
4.		Record the 10 kHz/ 315 Hz, -20 dBv signal on STD-610 and play back.	METAL	VR604 (L/Rch)		+0.5±1.0 dB	
5. Check distortion value after adjustment is completed and confirm that there is no underbias.							

4. Recording Level Adjustment

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	STOP	Set the TAPE SELECTOR switch to the NORM position.				
2.	REC PAUSE	Apply a 315 Hz/0 dBv signal to the line input terminals, load the STD-630 test tape.	Rec Level control volume	TP. 1 (Lch) TP. 2 (Rch)	- 15.2 dBv	
3.	STOP	Set the DOLBY NR switch to the ON position. (DOLBY B)				
4.	REC/PLAY	Record the above signal onto the STD-630 test tape, and playback.	VR107 (Lch) VR108 (Rch)	TP. 3 (Lch) TP. 4 (Rch)	Repeatedly record, playback and adjust so that the playback signal level becomes - 14.6 dB.	
5.	STOP	Set the TAPE SELECTOR switch to the CrO <sub>2</sub> position.				
6.	REC/PLAY	Record the above signal onto the STD-620 test tape, and playback.	Check	TP. 3 (Lch) TP. 4 (Rch)	- 14.6 dBv ± 0.9 dB 2.1	
7.	STOP	Set the TAPE SELECTOR switch to the METAL position.				
8.	REC/PLAY	Record the above signal onto the STD-610 test tape, and playback.	Check	TP. 3 (Lch) TP. 4 (Rch)	- 14.6 dBv ± 0.9 dB 2.1	

8. RÉGLAGES

8.1. REGLAGES RELATIFS AU MECANISME

1. Défilement de bande et réglage azimutal			2. Réglage de vitesse de bande							
N°	Mode	Point de réglage	Caractéristiques	Mode	Point de réglage	Caractéristiques				
1			Insérer le demi-miroir dans la face A (les vis à l'avant).	LECTURE	Orifice de réglage du moteur de cabestan	Régler afin que la fréquence de lecture soit de 3015 ± 5Hz au début de l'enroulement de la bande d'essai STD-301. (Se reporter à la Fig. 3).				
2	LECTURE	Ecrou de réglage de hauteur. (Se reporter à la Fig. 1)	Reproduire la bande ci-dessus et ajuster afin que la bande soit pas enroulée dans la section de guide de tête. (Se reporter à la Fig. 2).	LECTURE		Reproduire à nouveau la bande d'essai STD-301 et confirmer que les caractéristiques ci-dessus sont satisfaisantes.				
3	LECTURE	Vis de réglage azimutal. (Se reporter à la Fig. 1).	Reproduire la bande d'essai STD-331B et régler afin que le niveau de sortie de 10 kHz soit maximum et qu'il n'y ait pas de différence de phase entre le canal gauche et le canal droit.							
4	Vérifier à nouveau l'élément 2 ci-dessus et régler le gain s'il ne satisfait pas aux spécifications. (Lorsque le réglage de l'élément 2 est effectué, procéder à celui de l'élément 3.)									
			 <p>Vis de réglage azimutal</p> <p>Ecrou de réglage de hauteur</p> <p>Fig. 1.</p>							
			 <p>Enroulement</p> <p>Défilement en mode lecture de la bande</p> <p>Ecrou de réglage de hauteur</p> <p>Fig. 2.</p>							
			 <p>Hauteur de cabestan</p> <p>Tournevis à lame plate</p> <p>Fig. 3.</p>							
			<p>3. Réglage du mécanisme de porte</p> <table border="1"> <thead> <tr> <th>Point de réglage</th> <th>Caractéristiques</th> </tr> </thead> <tbody> <tr> <td>Vis de réglage du cylindre (Se reporter à la Fig. 4)</td> <td>Vérifier que la porte s'ouvre doucement, que le mouvement n'est pas en deux phases et qu'elle s'ouvre complètement sans à-coups. (Exécuter sans cassette à moitié insérée).</td> </tr> </tbody> </table> <p>L'ouverture devient plus lente (quand il y a des à-coups)      L'ouverture devient plus rapide (quand il y a un mouvement en deux phases)</p>  <p>Vis de réglage</p> <p>Valeur de référence: A=5 ± 1 mm</p> <p>Fig. 4.</p>				Point de réglage	Caractéristiques	Vis de réglage du cylindre (Se reporter à la Fig. 4)	Vérifier que la porte s'ouvre doucement, que le mouvement n'est pas en deux phases et qu'elle s'ouvre complètement sans à-coups. (Exécuter sans cassette à moitié insérée).
Point de réglage	Caractéristiques									
Vis de réglage du cylindre (Se reporter à la Fig. 4)	Vérifier que la porte s'ouvre doucement, que le mouvement n'est pas en deux phases et qu'elle s'ouvre complètement sans à-coups. (Exécuter sans cassette à moitié insérée).									

8.2 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  $\text{dBV}=1 \text{ Vrms}$ .
5. Connecter une résistance de charge de 50 kohms (tolérance 47 à 52 kohms) aux bornes de sortie (OUTPUT).
6. Sauf indication contraire, les commutateurs ci-dessous doivent être laissés sur les positions indiquées.  
 DOLBY NR : OFF  
 Sélecteur de bande : NORM  
 (TAPE SELECTOR)

Bandes d'essai

- STD-331B : Réglages de la lecture (Voir fig. 8-1)
- STD-630 : Bande vierge de type normal
- STD-620 : 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 de l'égaliseur de lecture.
3. Réglage du niveau de lecture.

Sections d'enregistrement

1. Réglage de l'oscillateur de polarisation.
2. Réglage du courant d'effacement.
3. Réglage de la polarisation d'enregistrement.
4. Réglage du niveau d'enregistrement.

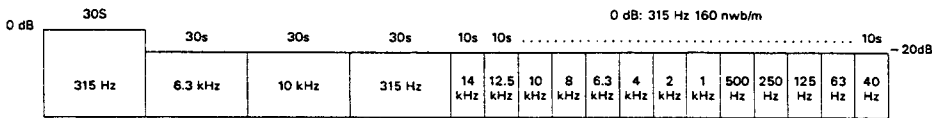


Fig. 8-1 Constantes de la bande d'essai STD-331B

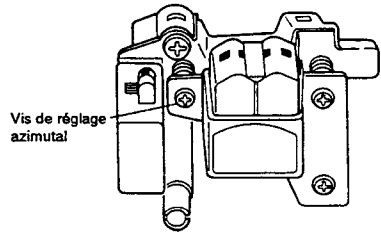


Fig. 8-2 Réglage de l'azimut de la tête

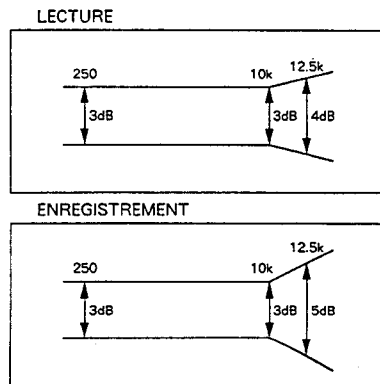


Fig. 8-3 Tolérance de la zone de réponse en fréquence de lecture

SECTION DE LECTURE

1. Réglage de l'azimut de la tête

\* Tourner VR 103, VR 104 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-331B.	Vis de réglage de l'azimut de la tête. (Voir fig. 8-2)	Sortie de ligne (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 de l'égaliseur de lecture

No.	Mode	Signal d'entrée et bande d'essai	Points de réglage	Points de mesure	Valeur de réglage	Remarques
1.	PLAY	Reproduire la partie 315 Hz et 6,3 kHz/-20 dB de la bande d'essai STD-331B.	VR101(can. G) VR102(can. D)	Sortie de ligne (LINE OUT)	Régler le niveau 10 kHz sur 0.5 dB ± 0.5 dB par rapport au niveau de reproduction 315 Hz.	

3. 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-331B.	VR103(can. G) VR104(can. D)	TP 3 (can. G) TP 4 (can. D)	-15.2 dBV	

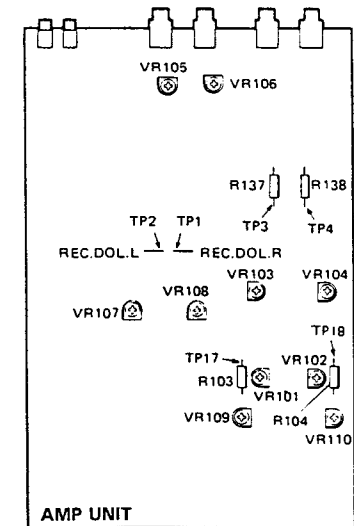
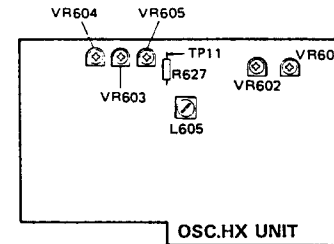


Fig. 8-4 Points de réglage

## 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.	L 605	TP. 11	106kHz $\pm$ 300Hz	

## 2. Réglage du courant d'effacement

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.	VR 605	TP. 11	130 mV AC	

## 3. Réglage de prépolarisation

3-1. Réglage de surpolarisation								
No.	Mode	Signal d'entrée et bande d'essai	Point de réglage	Point de mesure	Valeur de réglage	Remarques		
1.	REC/ PAUSE	Appliquer un signal de 6,3 kHz/ -10 dBv (lecture du décibel/mètre -10) aux terminaux d'entrée de ligne et insérer STD-630.	—	Terminaux de sortie LINE OUT gauche et droit	—			
2.	REC →PLAY	Enregistrer et reproduire le signal de 6,3 kHz à un niveau d'entrée de -10 dBv.	NOR		NOR		Surpolarisation 3,0 dB	Tourner la commande à droite au-delà de la crête pour assurer la valeur overbias correcte.
3.		Enregistrer le signal de 6,3 kHz/ -10 dBv sur STD-620 et reproduire.	CrO2		VR603 (can.G/D)		Surpolarisation 2,5 dB	
4.		Enregistrer le signal de 6,3 kHz/ -10 dBv sur STD-610 et reproduire.	METAL		VR604 (can.G/D)		Surpolarisation 1,0 dB	
5. Tourner la commande à droite au-delà de la crête pour assurer la valeur de surpolarisation correcte.								
3-2. Réglage de réponse de fréquence								
No.	Mode	Signal d'entrée et bande d'essai	Point de réglage	Point de mesure	Valeur de réglage	Remarques		
1.	REC/ PAUSE	Appliquer un signal de 10 kHz/315 Hz/ -20 dBv aux terminaux d'entrée de ligne et insérer STD-630.	—	Terminaux de sortie LINE OUT gauche et droit	—			
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.	NOR		NOR		Enregistrer et reproduire continuellement, comparant les niveaux de lecture de 315 Hz et 10 kHz et régler à +1,5 $\pm$ 0,5 dB	
3.		Enregistrer le signal de 10 kHz/315 Hz/ -20 dBv sur STD-620 et reproduire.	CrO2		VR603 (can.G/D)		+0,5 $\pm$ 1,0 dB	
4.		Enregistrer le signal 10 kHz/315 Hz/ -20 dBv sur STD-610 et reproduire.	METAL		VR604 (can.G/D)		+0,5 $\pm$ 1,0 dB	
5. Vérifier la valeur de distorsion après avoir terminé le réglage et confirmer qu'il n'y a pas de sous polarisation								

## 4. Réglage du niveau d'enregistrement

No.	Mode	Signal d'entrée et bande d'essai	Points de réglage	Points de mesure	Valeur de réglage	Remarques
1.	STOP	Régler le sélecteur de bande (TAPE SELECTOR) sur la position NORM.				
2.	REC PAUSE	Appliquer un signal de 315 Hz/0 dBv aux bornes d'entrée de ligne, charger la bande d'essai STD-630.	Volume de la commande de niveau d'enregistrement.	TP. 1 (can. G) TP. 2 (can. D)	-15,2 dBv	
3.	STOP	Régler le commutateur DOLBY NR sur la position ON. (DOLBY B)				
4.	REC/ PLAY	Enregistrer le signal cidessus sur la bande d'essai STD-630 et le reproduire.	VR107(can. G) VR108(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 -14,6dB.	
5.	STOP	Régler le sélecteur de bande (TAPE SELECTOR) sur la position CrO2.				
6.	REC/ PLAY	Enregistrer le signal cidessus sur la bande d'essai STD-620 et le reproduire.	Vérifier	TP. 3 (can. G) TP. 4 (can. D)	-14,6 dBv $\pm$ 0,9 dB 2.1	
7.	STOP	Régler le sélecteur de bande (TAPE SELECTOR) sur la position METAL.				
8.	REC/ PLAY	Enregistrer le signal cidessus sur la bande d'essai STD-610 et le reproduire.	Vérifier	TP. 3 (can. G) TP. 4 (can. D)	-14,6 dBv $\pm$ 0,9 dB 2.1	

## 8. AJUSTES

### 8.1. AJUSTES RELACIONADOS AL MECANISMO

1. Ajuste de transporte de cinta y azimuth			2. Ajuste de velocidad de cinta			
N°	Modo	Punto de ajuste	Especificaciones	Modo	Punto de ajuste	Especificaciones
1			Inserte el medio espejo en el lado A (coloque los tornillos al frente).	PLAY	Orificio de ajuste del motor de cabrestante (vea la Fig. 3).	Ajuste de modo que la frecuencia de reproducción sea $3015 \pm 5$ Hz al comienzo del bobinado de la cinta de prueba STD-301.
2	PLAY	Tuerca de ajuste de altura (vea la Fig. 1).	Reproduzca la cinta indicada y ajuste de modo que la cinta no se enrule en la sección guía de la cabeza (vea la Fig. 2).	PLAY		Reproduzca nuevamente la cinta de prueba STD-301 y confirme que las especificaciones de arriba sea satisfechas.
3	PLAY	Tornillo de ajuste de azimuth (vea la Fig. 1).	Reproduzca la cinta de prueba STD-331B y ajuste de modo que el nivel de salida de 10 kHz sea máximo y de que no exista diferencia de fase entre ambos canales.			
4			Verifique nuevamente el punto 2 y repita el ajuste si el mismo no satisficiera las especificaciones (asegúrese de ajustar a continuación como en el punto 3).			

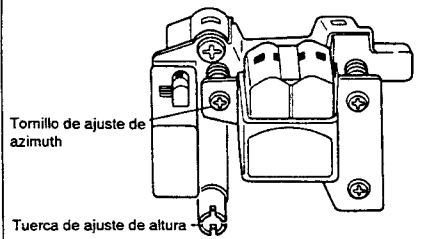


Fig. 1.

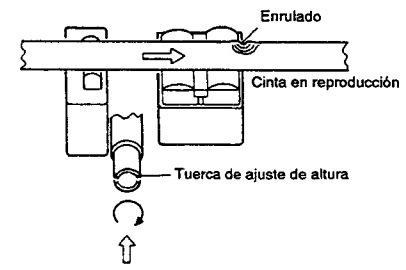


Fig. 2.

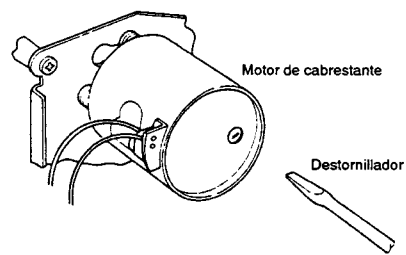


Fig. 3.

### 3. Ajuste del amortiguador de puerta

Punto de ajuste	Especificaciones
Tornillo de ajuste de cilindro (vea la Fig. 4).	Asegúrese de que la puerta se abra suavemente, en un solo movimiento y sin rebotar al abrirse por completo (realice esta prueba sin un casete a medio insertar).

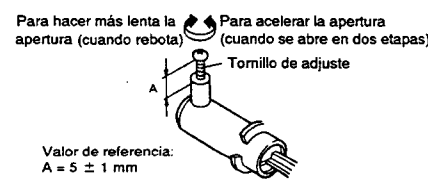


Fig. 4.

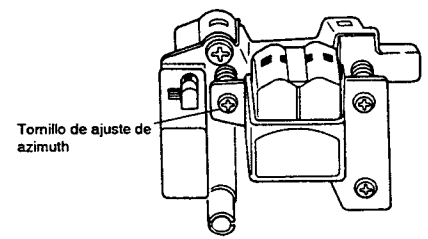


Figura 8-2 Ajuste de azimuth de la cabeza

### 8.2 AJUSTES ELÉCTRICOS

#### Condiciones de ajuste

- Los ajustes mecánicos deben haberse completado primero.
- La cabeza debe estar limpia y desmagnetizada.
- Encienda la alimentación para permitir que la platina se caliente durante unos pocos minutos por lo menos antes de realizar cualquier ajuste eléctrico.
- La señal de referencia es de 0 dBV=1 Vrms.
- Conecte una resistencia de 50 kΩ (o entre 47 y 52 kΩ) en los terminales OUTPUT.
- 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-331B : Ajustes de reproducción (Consulte la figura 8-1)  
 STD-630 : Cinta virgen NORMAL  
 STD-620 : Cinta virgen de CrO<sub>2</sub>  
 STD-610 : Cinta virgen de METAL

#### Lista de ajustes

##### Secciones de reproducción

- Ajuste de azimuth de la cabeza
- Ajuste del ecualizador de reproducción
- Ajuste del nivel de reproducción

##### Secciones de grabación

- Ajuste del oscilador de polarización
- Ajuste de la corriente de borrado
- Ajuste de la polarización de grabación
- Ajuste del nivel de grabación

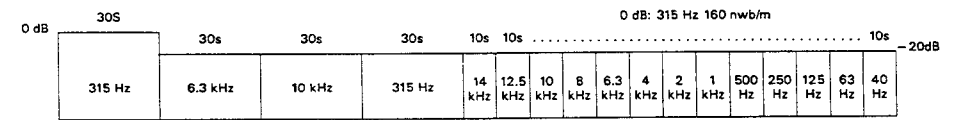
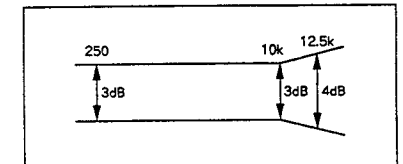


Figura 8-1 Constantes de la cinta de prueba STD-331B

#### REPRODUCCIÓN



#### GRABACIÓN

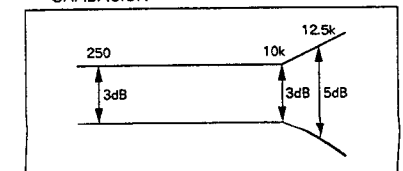


Figura 8-3 Zona permissible de respuesta de frecuencia de reproducción

**SECCIÓN DE REPRODUCCIÓN**

**1. Ajuste del azimut de la cabeza**

• Poner VR 103, VR 104 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-331B.	Tornillo de ajuste del azimut de la cabeza. (Vea la figura 8-2)	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 ecualizador de reproducción**

N.º	Modo	Señal de entrada y cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Comentarios
1.	PLAY	Reproduzca la parte de 315 Hz y 6,3 kHz/-20 dB de la cinta de prueba STD-331B.	VR 101 (Lch) VR 102 (Rch)	LINE OUT	Ajuste el nivel de 10 kHz a 0.5 dB ± 0.5 dB respecto al nivel de reproducción de 315 Hz.	

**3. 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-331B.	VR 103 (Lch) VR 104 (Rch)	TP. 3 (Lch) TP. 4 (Rch)	-15.2 dBv	

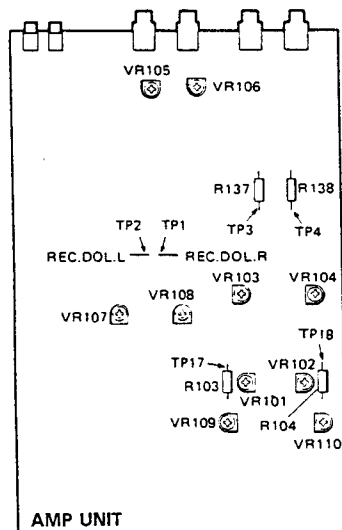
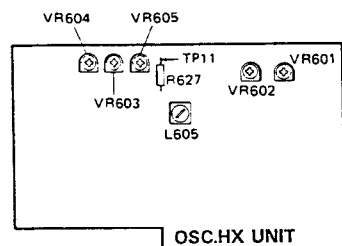


Figura 8-4 Punto de ajuste

**SECCIÓN DE GRABACIÓN**

**1. Ajuste del oscilador de polarización**

N.º	Modo	Señal de entrada y cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Comentarios
1.	REC	Introduzca la cinta de prueba STD-610 sin señal de entrada.	L 605	TP. 11	106kHz ± 300Hz	

**2. Ajuste de la corriente de borrado**

N.º	Modo	Señal de entrada y cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Comentarios
1.	REC	Introduzca la cinta de prueba STD-610 sin señal de entrada.	VR 605	TP. 11	130 mV AC	

**3. Ajuste de la polarización de grabación**

3-1. Ajuste de sobrepolarización						
N.º	Modo	Señal de entrada y cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Comentarios
1.	REC/ PAUSE	Aplice una señal de 6,3 kHz/-10 dBv (dando una lectura de -10 UV en el medidor de volumen) a los terminales de entrada de línea, e inserte el casete STD-630.	-	Terminales LINE OUT L y R	-	
2.	REC -PLAY	Grabe y reproduzca la señal de 6,3 kHz a un nivel de entrada de -10dBv.	NOR VR601 (Lch) VR602 (Rch)		NOR Sobrepolarización de 3,0 dB	Gire el control en sentido horario hasta pasar el pico para asegurar un correcto valor de sobrepolarización.
3.		Grabe la señal de 6,3 kHz/-10 dBv en la cinta STD-620, y reproduzca.	CrO2 VR603 (L/Rch)		CrO2 Sobrepolarización de 2,5 dB	
4.		Grabe la señal de 6,3 kHz/-10 dBv en la cinta STD-610, y reproduzca.	METAL VR604 (L/Rch)		METAL Sobrepolarización de 1,0 dB	
5. Gire el control en sentido horario hasta pasar el pico para asegurar un correcto valor de sobrepolarización.						
3-2. Ajuste de respuesta de frecuencia						
N.º	Modo	Señal de entrada y cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Comentarios
1.	REC/ PAUSE	Aplice una señal de 10 kHz/315 Hz/-20 dBv a los terminales de entrada de línea, e inserte el casete STD-630.	-	Terminales LINE OUT L y R	-	
2.	REC -PLAY	Grabe y reproduzca la señal de 315 Hz y una señal de 10kHz a un nivel de entrada de -20 dBv.	NOR VR601 (Lch) VR602 (Rch)		Grabe y reproduzca repetidamente, comparando los niveles de reproducción a 315 Hz y 10 kHz, y ajuste a +1,5 ± 0,5 dB.	
3.		Grabe la señal de 10 kHz/315 Hz -20 dBv en la cinta STD-620, y reproduzca.	CrO2 VR603 (L/Rch)		+0,5 ± 1,0 dB	
4.		Grabe la señal de 10 kHz/315 Hz, -20 dBv en la cinta STD-610, y reproduzca.	METAL VR604 (L/Rch)		+0,5 ± 1,0 dB	
5. Verifique el valor de la distorsión una vez finalizado el ajuste y confirme que no haya subpolarización.						

## 4. Ajuste del nivel de grabación

N.º	Modo	Señal de entrada y cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Comentarios
1.	STOP	Ponga el conmutador TAPE SELECTOR en la posición NORM.				
2.	REC PAUSE	Aplique una señal de 315 Hz/0 dBv a los terminales de entrada de línea e introduzca la cinta de prueba STD-630.	Control de nivel de grabación.	TP. 1 (Lch) TP. 2 (Rch)	- 15.2 dBv	
3.	STOP	Ponga el conmutador DOLBY NR en la posición ON. (DOLBY B)				
4.	REC/ PLAY	Grabe la señal de arriba en la cinta de prueba STD-630 y reproduzca.	VR 107 (Lch) VR 108 (Rch)	TP. 3 (Lch) TP. 4 (Rch)	Grabe, reproduzca y ajuste repetidamente para que el nivel de la señal de reproducción sea de - 14.6 dB.	
5.	STOP	Ponga el conmutador TAPE SELECTOR en la posición CrO2.				
6.	REC/ PLAY	Grabe la señal de arriba en la cinta de prueba STD-620 y reproduzca.	Verifique	TP. 3 (Lch) TP. 4 (Rch)	- 14.6 dBv ± 0.9 dB 2.1	
7.	STOP	Ponga el conmutador TAPE SELECTOR en la posición METAL.				
8.	REC/ PLAY	Grabe la señal de arriba en la cinta de prueba STD-610 y reproduzca.	Verifique	TP. 3 (Lch) TP. 4 (Rch)	- 14.6 dBv ± 0.9 dB 2.1	

## 9. FOR SD TYPE

## CONTRAST OF MISCELLANEOUS PARTS

## NOTES :

- Parts without part number cannot be supplied.
- The  $\Delta$  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.

The CT-91a/SD type is the same as the CT-91a/HEM type with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		CT-91a/HEM type	CT-91a/SD type	
	Amp unit	Non supply	Non supply	
	AC Power cord	ADG1036	PDG1013	
	Voltage selector	.....	PSB1002	
	T1 Power transformer (AC220/240V)	RTT1061	.....	
	T1 Power transformer (AC110/120-127/220/240V)	.....	RTT1062	
	FL filter	RAH1184	RAH1369	
	Front panel assembly	RXX1204	RXX1205	
	Operating instructions (French/Italian/Dutch/Swedish/Spanish/Portuguese)	RRD1062	.....	
	Operating instructions (English/German)	RRE1026	.....	
	Operating instructions (English)	.....	RRB1047	
	Operating instructions (Spanish)	.....	RRD1054	
	Connection cord (Mini)	.....	PDE-319	

## AMP UNIT

The amp unit (for CT-91a/SD type) is the same as the amp unit (for CT-91a/HEM type) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		CT-91a/HEM type	CT-91a/SD type	
	C302	.....	CKCYF103Z50	
	JA301, JA302 Remote control jack	.....	RKN1004	