

Service Manual

 **PIONEER®**
The Art of Entertainment

ORDER NO.
ARP2483

STEREO CASSETTE DECK

CT-S710 HEM
CT-S710-G HEM

- Refer to the service manual ARP2482 for CT-S910.
- This manual is applicable to CT-S710/HEM and CT-S710-G/HEM.

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CT-S710, CT-S710-G

CONTRAST OF MISCELLANEOUS PARTS

NOTES:

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

CT-S710/HEM, CT-S710-G/HEM and CT-S910/HEM have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		CT-S910/ HEM type	CT-S710/ HEM type	CT-S710-G/ HEM type	
	CONTROL unit	Non supply	Non supply	Non supply	
	BALANCE VR unit	Non supply	Non supply	Non supply	
	FL unit	Non supply	Non supply	Non supply	
	FUNCTION unit	Non supply	Non supply	Non supply	
	BIAS unit	Non supply	Non supply	Non supply	
	HEADPHONE unit	Non supply	Non supply	Non supply	
	VR unit	.....	Non supply	Non supply	
	MAIN unit	Non supply	Non supply	Non supply	
⊙	Mechanism unit	RYM1152	RYM1161	RYM1161	
Δ	AC power cord	ADG1036	PDG1003	PDG1003	
Δ	Power transformer	RTT1201	RTT1202	RTT1202	
	VR ring	RAT1011	RAT1011	RAT1010	
	VR knob	.....	RAC1707	RAC1708	
	FL lens	RAH2019	RAH2032	RAH2032	
	Function knob	RAC1704	RAC1706	RAC1711	
	Slide SW knob	RAC1562	RAC1562	RAC1540	
	Balance knob	RAC1705	RAC1705	RAC1662	
	Power button	RAC1703	RAC1703	RAC1657	
	Packing case	RHG1356	RHG1357	RHG1358	
	Panel stay	RNT1139	RNT1140	RNT1141	
	Washer	ABE1009	.....	.....	
	Washer	RBF1019	.....	.....	
	Cord with mini plug	.....	PDE-319	PDE-319	
	VR knob assembly	RXA1472	.....	.....	
	Bonnet	RXX1505	RXX1516	RXX1506	
	Door assembly	RXX1514	.....	.....	
	Front panel assembly	RXX1510	RXX1511	RXX1512	

MECHANISM Unit

Mechanism Unit RYM1161 and RYM1152 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		RYM1152	RYM1161	
	Screw	RBA1074	RBA-064	
	Spring	RBH1226	.....	
	Belt	REB-501	REB1143	
	Insulator	REB1099	.....	
	Rubber cushion	.....	REB1125	
	Motor bracket	RNK1497	.....	
	Capstan motor assembly	RXM1016	RXX1491	
	Capstan motor	.....	RXM1054	
	Head base assembly	RXX1443	RXX1523	

CT-S710, CT-S710-G

CONTRAST OF MISCELLANEOUS PARTS

NOTES:

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CT-S710/HEM, CT-S710-G/HEM and CT-S910/HEM have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		CT-S910/ HEM type	CT-S710/ HEM type	CT-S710-G/ HEM type	
	CONTROL unit	Non supply	Non supply	Non supply	
	BALANCE VR unit	Non supply	Non supply	Non supply	
	FL unit	Non supply	Non supply	Non supply	
	FUNCTION unit	Non supply	Non supply	Non supply	
	BIAS unit	Non supply	Non supply	Non supply	
	HEADPHONE unit	Non supply	Non supply	Non supply	
	VR unit	.....	Non supply	Non supply	
	MAIN unit	Non supply	Non supply	Non supply	
⊙	Mechanism unit	RYM1152	RYM1161	RYM1161	
⚠	AC power cord	ADG1036	PDG1003	PDG1003	
⚠	Power transformer	RTT1201	RTT1202	RTT1202	
	VR ring	RAT1011	RAT1011	RAT1010	
	VR knob	.....	RAC1707	RAC1708	
	FL lens	RAH2019	RAH2032	RAH2032	
	Function knob	RAC1704	RAC1706	RAC1711	
	Slide SW knob	RAC1562	RAC1562	RAC1540	
	Balance knob	RAC1705	RAC1705	RAC1662	
	Power button	RAC1703	RAC1703	RAC1657	
	Packing case	RHG1356	RHG1357	RHG1358	
	Panel stay	RNT1139	RNT1140	RNT1141	
	Washer	ABE1009	.....	.....	
	Washer	RBF1019	.....	.....	
	Cord with mini plug	.....	PDE-319	PDE-319	
	VR knob assembly	RXA1472	.....	.....	
	Bonnet	RXX1505	RXX1516	RXX1506	
	Door assembly	RXX1514			
	Front panel assembly	RXX1510	RXX1511	RXX1512	

MECHANISM Unit

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	Spring	RBH1226		
	Belt	REB-501	REB1143	
	Insulator	REB1099		
	Rubber cushion		REB1125	
	Motor bracket	RNK1497		
	Capstan motor assembly	RXM1016	RXX1491	
	Capstan motor		RXM1054	
	Head base assembly	RXX1443	RXX1523	

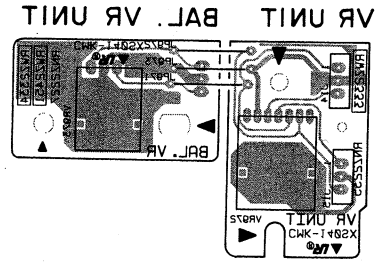
● PCB CONNECTIONS DIAGRAM

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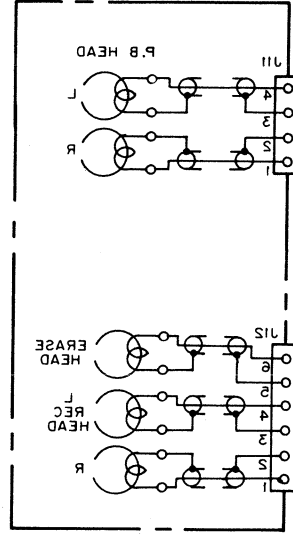
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C

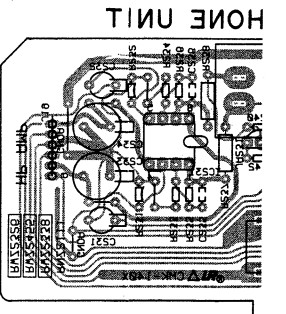
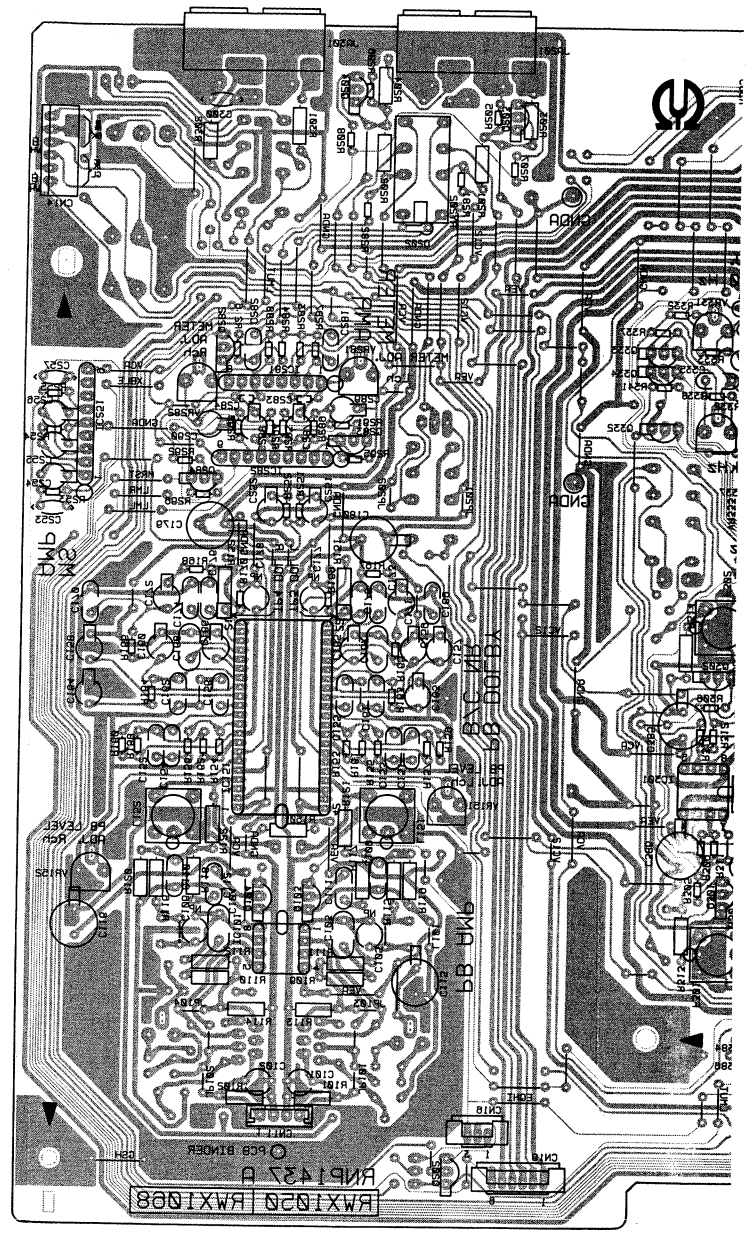
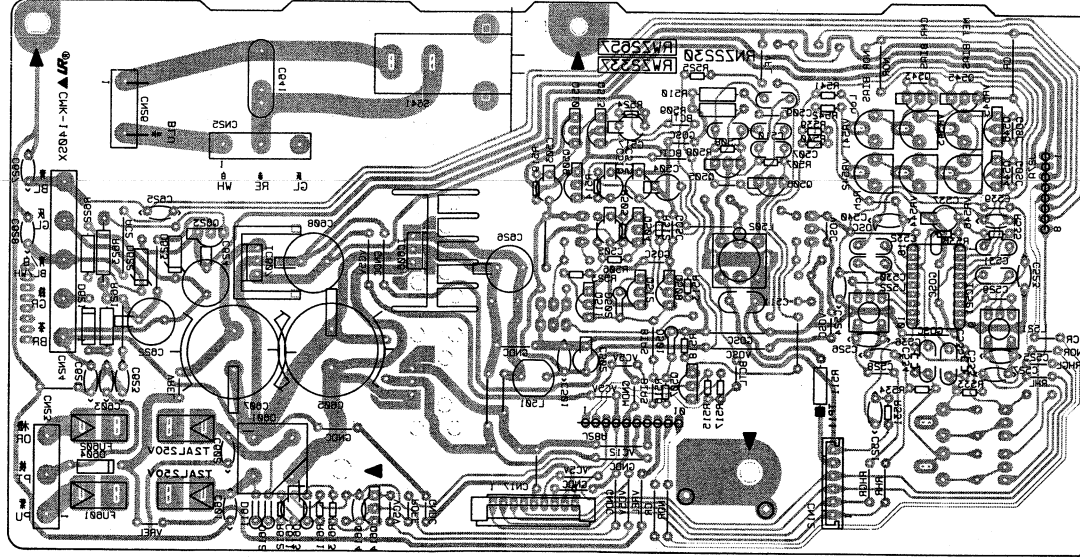
D



MECHA UNIT(YM1125)



BIAS UNIT



• View from component side

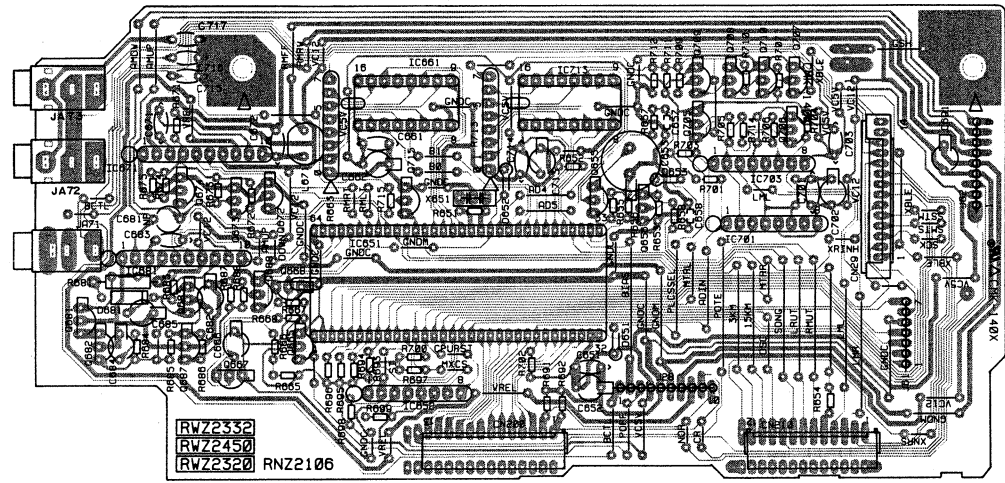
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B

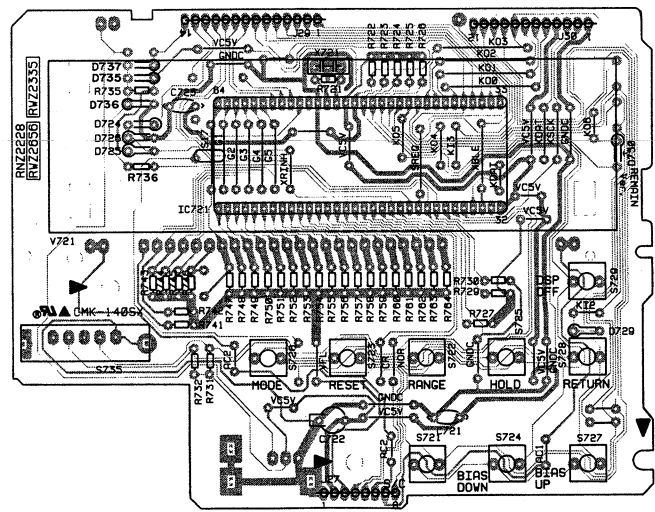
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D

CONTROL UNIT

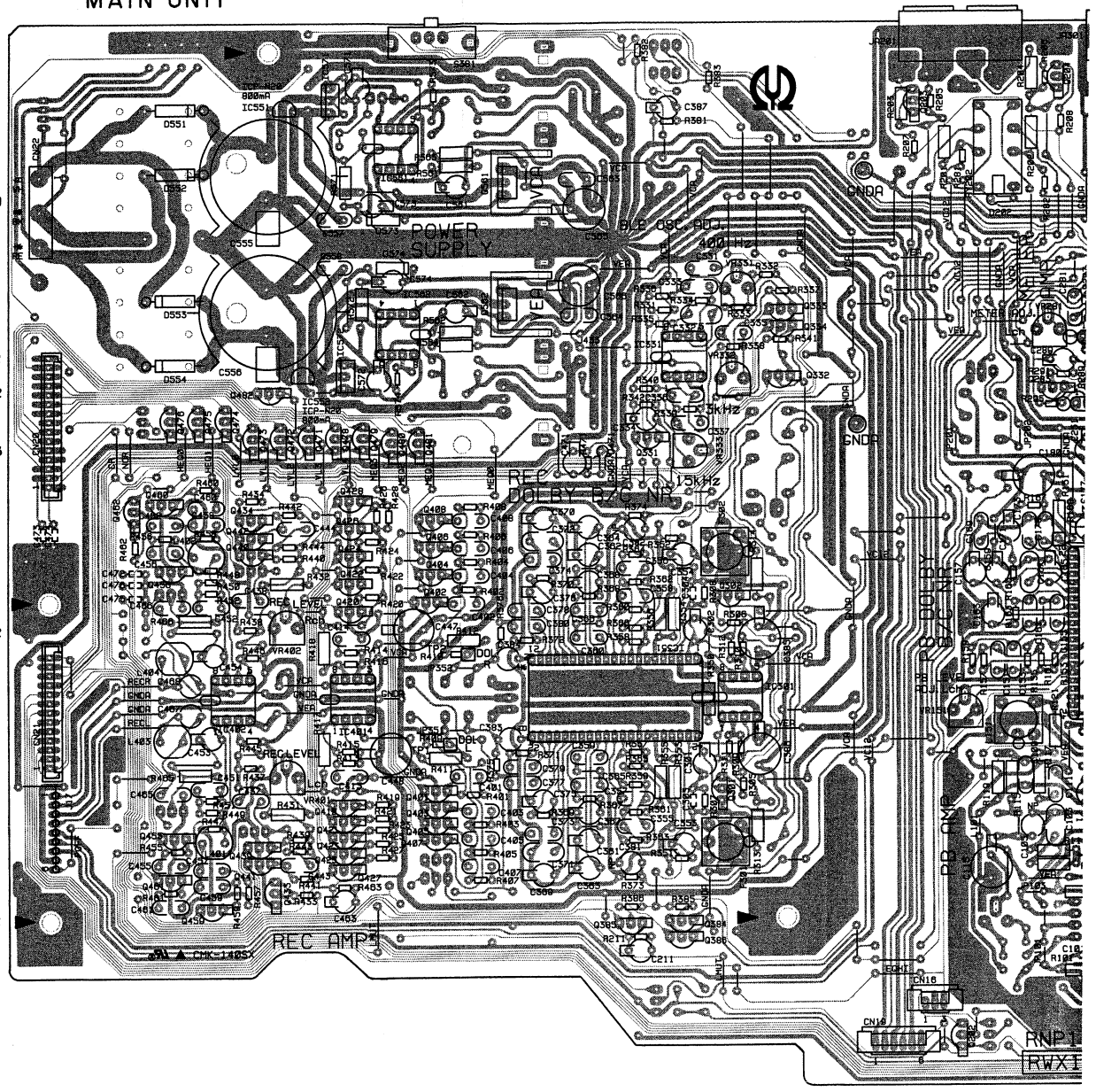


FL UNIT

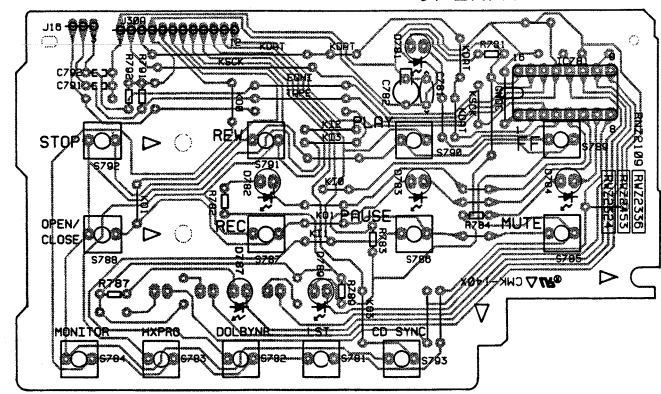


MAIN UNIT

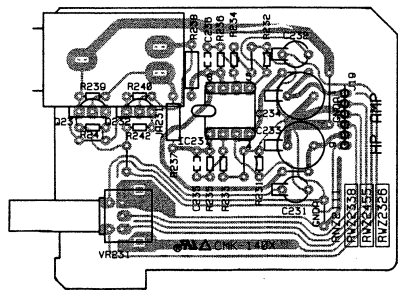
- IC551 IC571 Q204
- IC561 Q203
- VR971
- VR331
- Q333 Q282
- IC562 Q334 IC281 VR281
- IC331 VR282
- IC552 IC572 Q332 IC251 VR332
- Q482 Q283
- Q476 Q471 IC282
- Q475 Q478 Q331 Q284 VR333
- Q474 Q479
- Q473 Q486
- Q472 Q481
- Q460 Q428
- Q462 Q408
- Q434 Q426
- Q442 Q406
- Q440 Q424
- Q456 Q404
- Q422 Q302
- Q402 Q420
- IC151
- IC402 IC401 IC301 IC351
- Q401 Q301 Q103
- Q419 Q104
- Q403
- Q421
- Q455 Q405
- Q439 Q423
- Q441 Q407
- Q461 Q425
- Q439 Q427
- Q384 Q101
- Q385 Q102
- Q386
- Q202

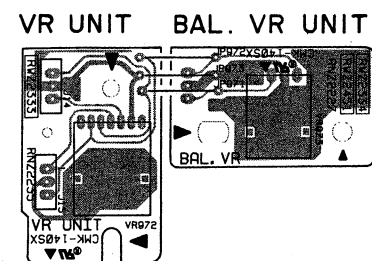
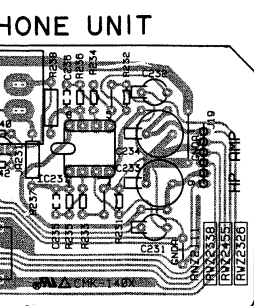


OPERATION UNIT

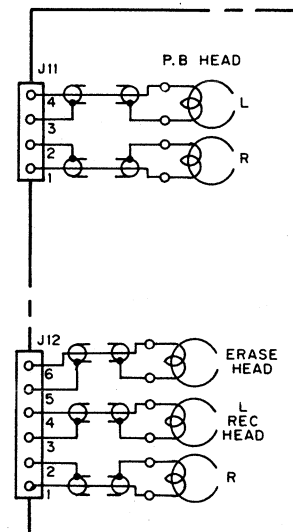


HEADPHONE UNIT

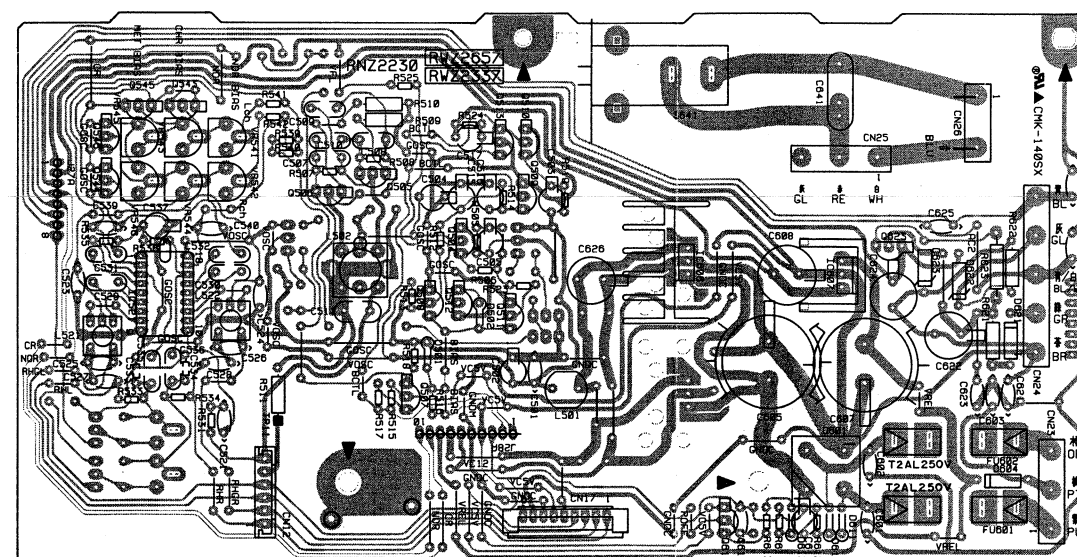




MECHA UNIT(RYM1152)

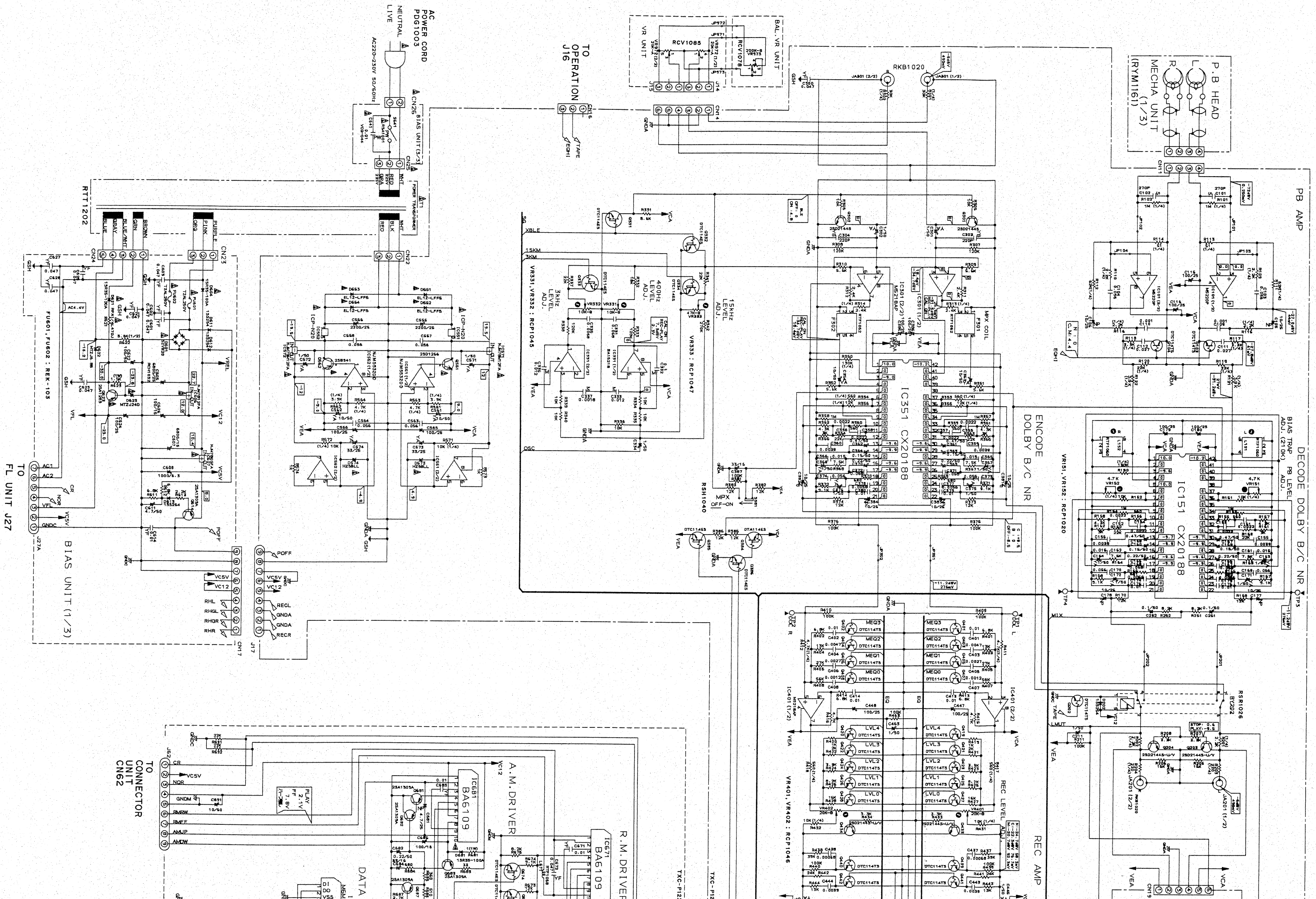


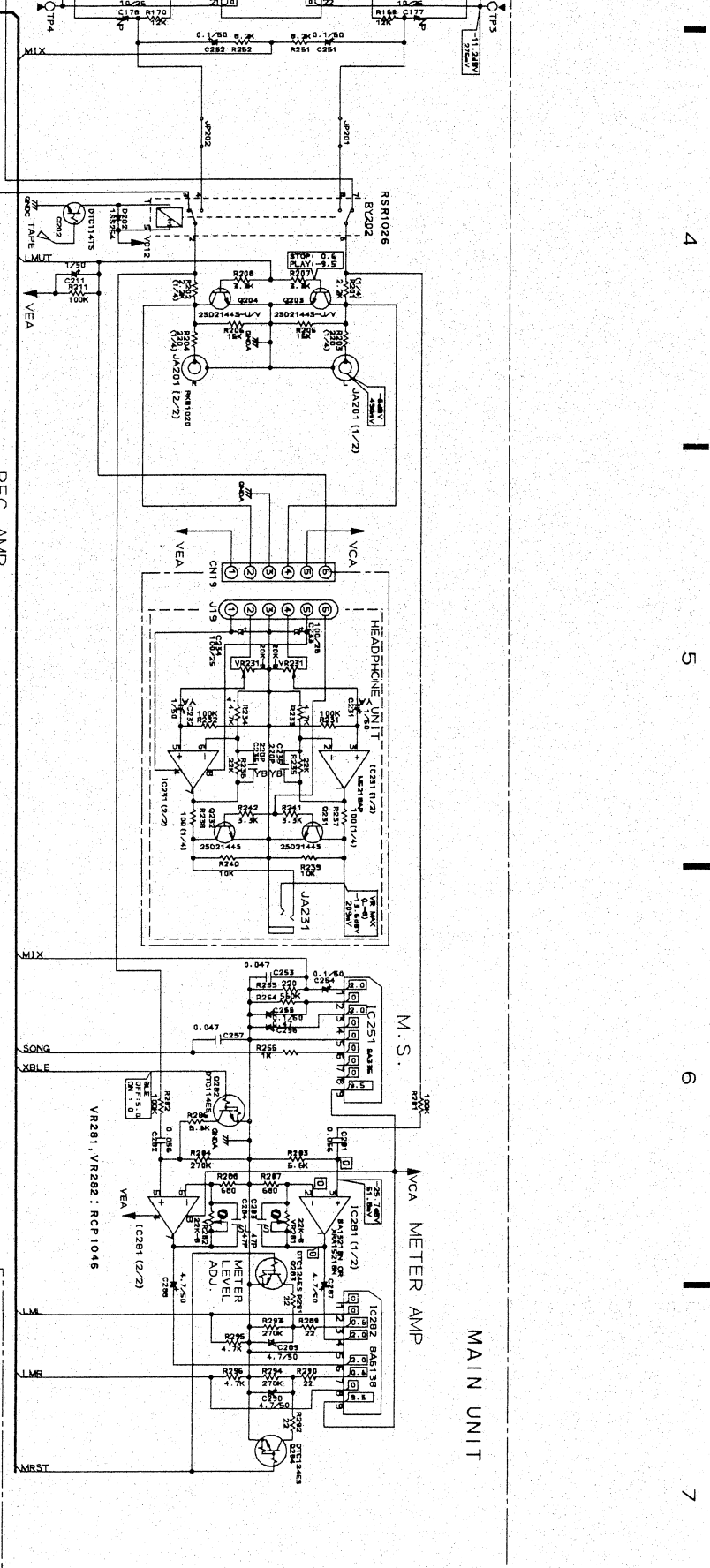
BIAS UNIT



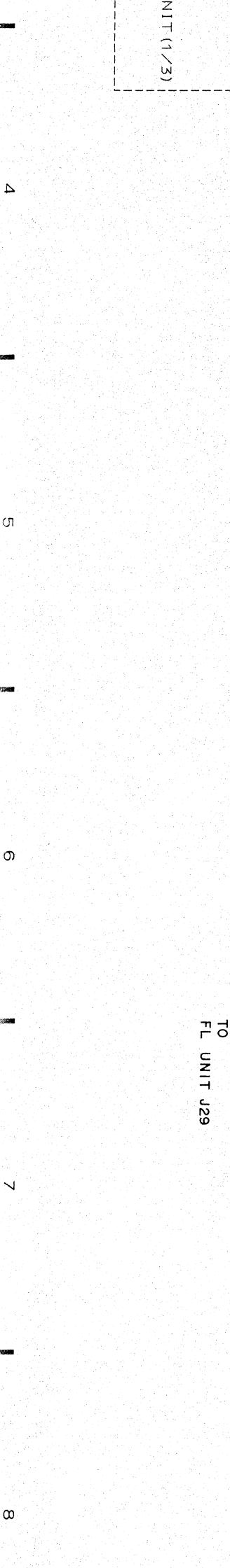
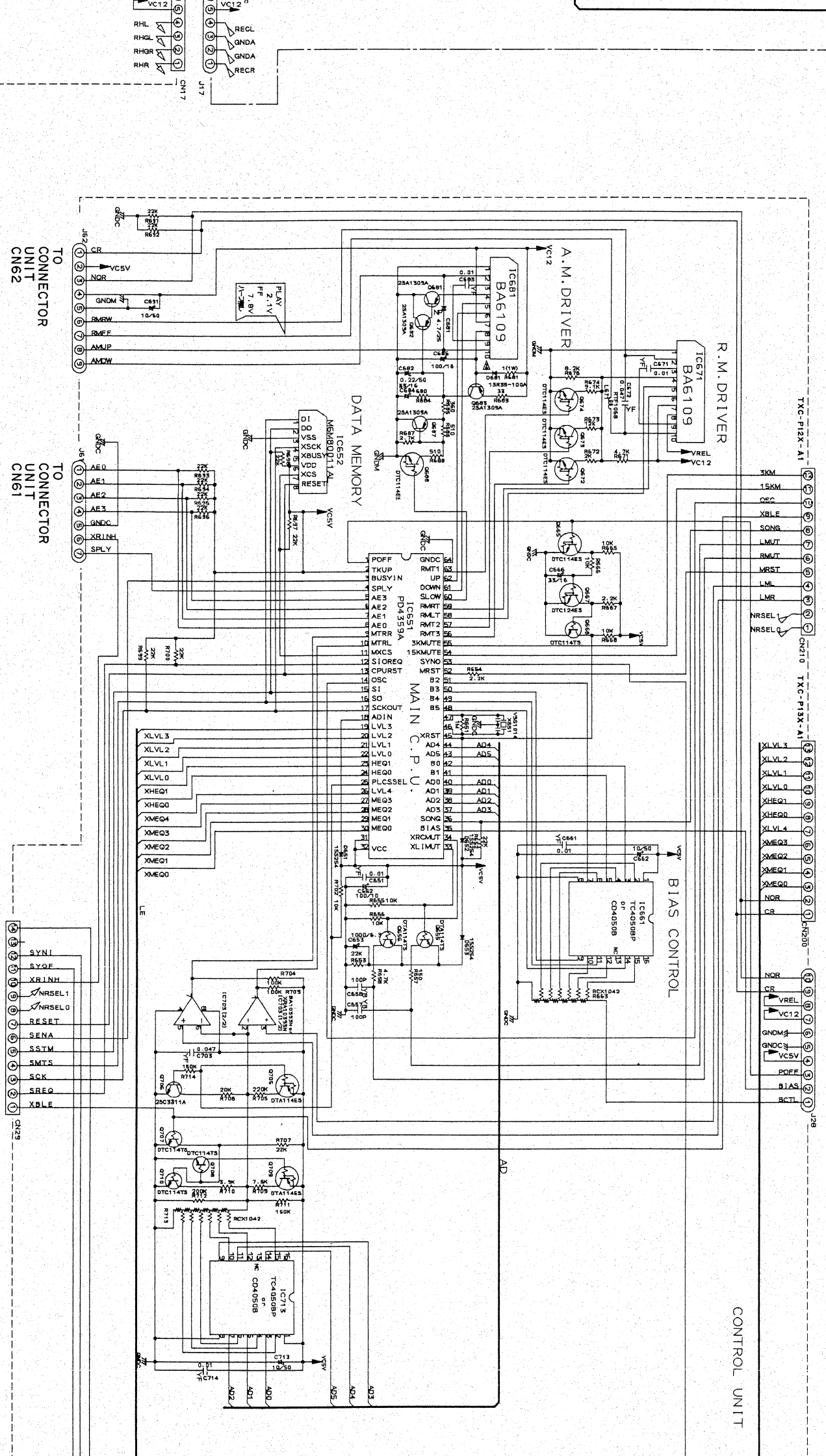
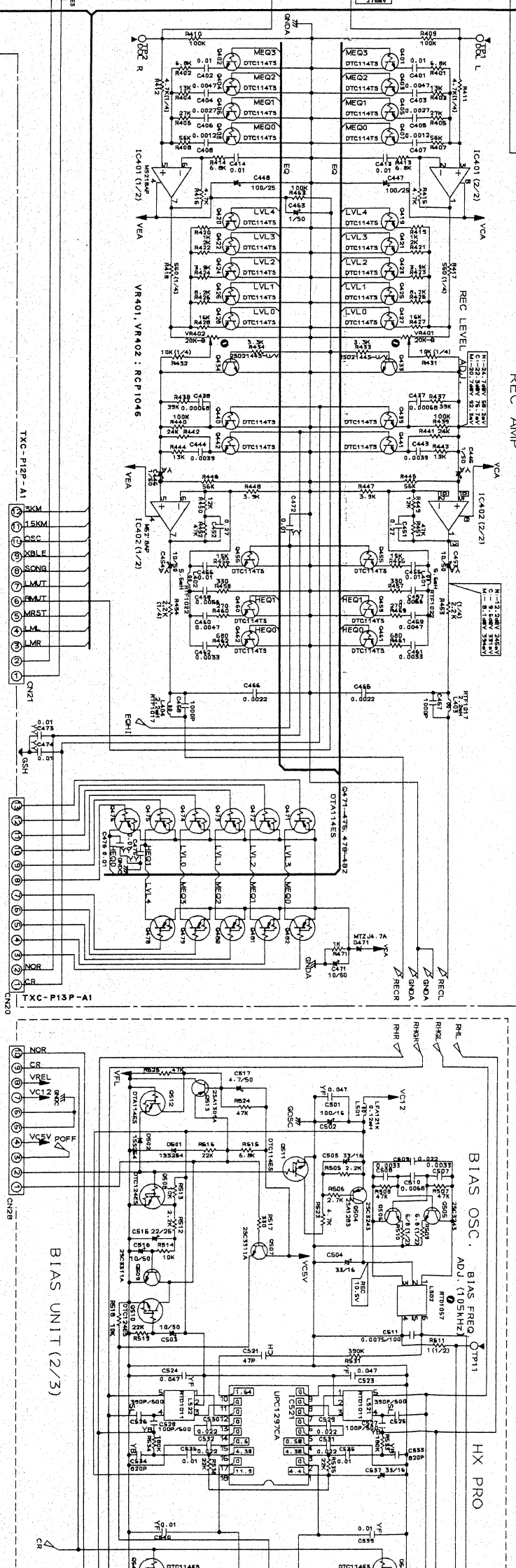
P.C.B. pattern diagram indication	Corresponding part symbol	Part name
		Transistor
		FET
		Diode
		Zener diode
		LED
		Varactor
		Tact switch
		Inductor
		Coil
		Transformer
		Filter
		Ceramic capacitor
		Mylar capacitor
		Styrol capacitor
		Electrolytic capacitor (Non polarized)
		Electrolytic capacitor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

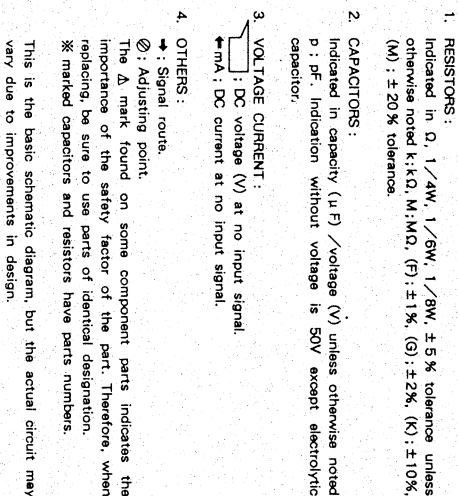
1. This P.C.B. connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the above Table.
3. The capacitor terminal marked with  shows negative terminal.
4. The diode marked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



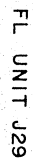
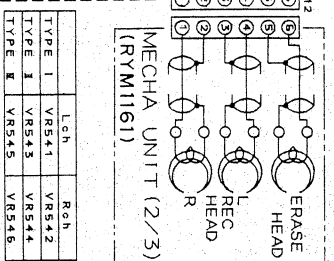


1. RESISTORS:
Indicated in Ω , 1/4W, 1/8W, 1/10W, $\pm$ otherwise noted K:K Ω , M:M Ω , (F): $\pm 1\%$, (M): $\pm 20\%$ tolerance.
2. CAPACITORS:
Indicated in capacity (μ F) / voltage (V) unless otherwise noted K:K Ω , M:M Ω , (F): $\pm 1\%$, (M): $\pm 20\%$ tolerance.
3. VOLTAGE CURRENT:
+ : DC voltage (V) at no input signal.
- : DC current at no input signal.
4. OTHERS:
+ : Signal route.
* : Adjusting point.
The Δ mark found on some component importance of the safety factor of the replacing, be sure to use parts of identical * marked capacitors and resistors have vary due to improvements in design.

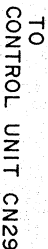


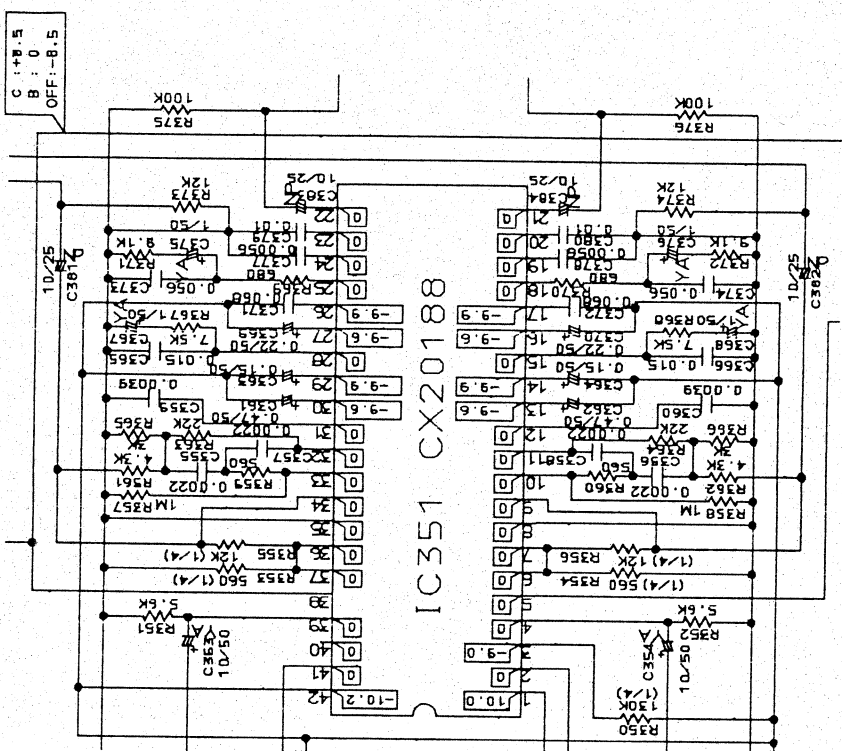


This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

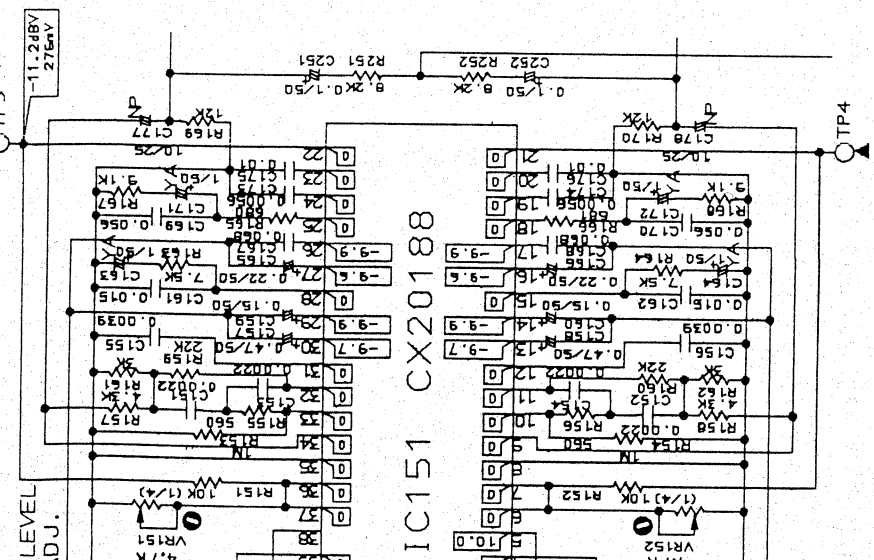


ת :





IN C/B BY CODE ENCODE 153C1



IN C/B BY AS

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 long.
- The Δ mark found on some component parts indicates the importance of the parts to use parts of identical designation.
- When ordering resistors, first convert resistance values into code form as shown in Ex. 1

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560Ω → 56 × 10¹ → 561
 47kΩ → 47 × 10³ → 473
 0.5Ω → 0R5
 1Ω → 010
 Ex. 2 When there are 3 effective digits (such as in high precision metal film 5.62kΩ → 562 × 10¹ → 5621

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

CONTROL UNIT
 BALANCE VR UNIT
 FL UNIT
 FUNCTION UNIT
 BIAS UNIT
 HEADPHONE UNIT
 MAIN UNIT
 VR UNIT

CONTROL UNIT

SEMICONDUCTORS

IC651 MAIN CPU PD4359A
 IC652 M6M80011AL
 IC661 CMOS LOGIC IC TC4050BP
 IC671 IC BA6109
 IC681 IC BA6109

IC703 COMPARATOR BA1093N
 IC713 CMOS LOGIC IC TC4050BP
 IC714 CMOS LOGIC IC TC4050BP
 IC715 CMOS LOGIC IC TC4050BP
 IC716 CMOS LOGIC IC TC4050BP
 IC717 CMOS LOGIC IC TC4050BP
 IC718 CMOS LOGIC IC TC4050BP
 IC719 CMOS LOGIC IC TC4050BP
 IC720 CMOS LOGIC IC TC4050BP
 IC721 CMOS LOGIC IC TC4050BP
 IC722 CMOS LOGIC IC TC4050BP
 IC723 CMOS LOGIC IC TC4050BP
 IC724 CMOS LOGIC IC TC4050BP
 IC725 CMOS LOGIC IC TC4050BP
 IC726 CMOS LOGIC IC TC4050BP
 IC727 CMOS LOGIC IC TC4050BP
 IC728 CMOS LOGIC IC TC4050BP
 IC729 CMOS LOGIC IC TC4050BP
 IC730 CMOS LOGIC IC TC4050BP
 IC731 CMOS LOGIC IC TC4050BP
 IC732 CMOS LOGIC IC TC4050BP
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 IC735 CMOS LOGIC IC TC4050BP
 IC736 CMOS LOGIC IC TC4050BP
 IC737 CMOS LOGIC IC TC4050BP
 IC738 CMOS LOGIC IC TC4050BP
 IC739 CMOS LOGIC IC TC4050BP
 IC740 CMOS LOGIC IC TC4050BP
 IC741 CMOS LOGIC IC TC4050BP
 IC742 CMOS LOGIC IC TC4050BP
 IC743 CMOS LOGIC IC TC4050BP
 IC744 CMOS LOGIC IC TC4050BP
 IC745 CMOS LOGIC IC TC4050BP
 IC746 CMOS LOGIC IC TC4050BP
 IC747 CMOS LOGIC IC TC4050BP
 IC748 CMOS LOGIC IC TC4050BP
 IC749 CMOS LOGIC IC TC4050BP
 IC750 CMOS LOGIC IC TC4050BP
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 IC795 CMOS LOGIC IC TC4050BP
 IC796 CMOS LOGIC IC TC4050BP
 IC797 CMOS LOGIC IC TC4050BP
 IC798 CMOS LOGIC IC TC4050BP
 IC799 CMOS LOGIC IC TC4050BP
 IC800 CMOS LOGIC IC TC4050BP

RESISTORS

Q668 DIGITAL TRANSISTOR DTC114TS
 Q672-674 TRANSISTOR DTC114TS
 Q681-683 TRANSISTOR DTC114TS
 Q687 TRANSISTOR DTC114TS
 Q688 TRANSISTOR DTC114TS

Q705 DIGITAL TRANSISTOR DTA114ES
 Q706 TRANSISTOR 2SC3311A
 Q707, 708 DIGITAL TRANSISTOR DTA114TS
 Q709 DIGITAL TRANSISTOR DTA114ES
 Q710 DIGITAL TRANSISTOR DTC114TS

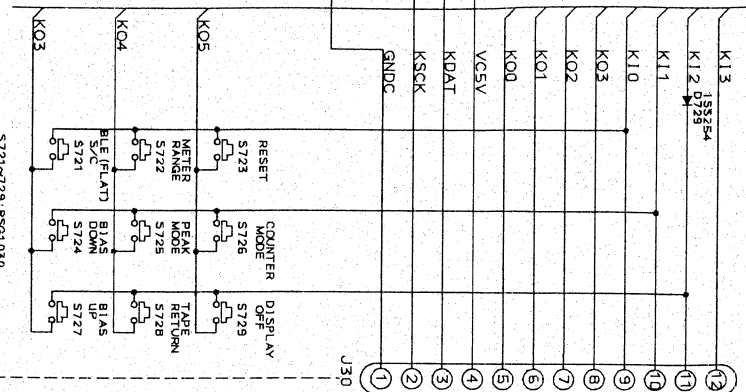
Q715 TRANSISTOR DTC114ES
 D651-653 DIODE 1SS254
 D681 RECTIFIER DIODE 1SR35-100A

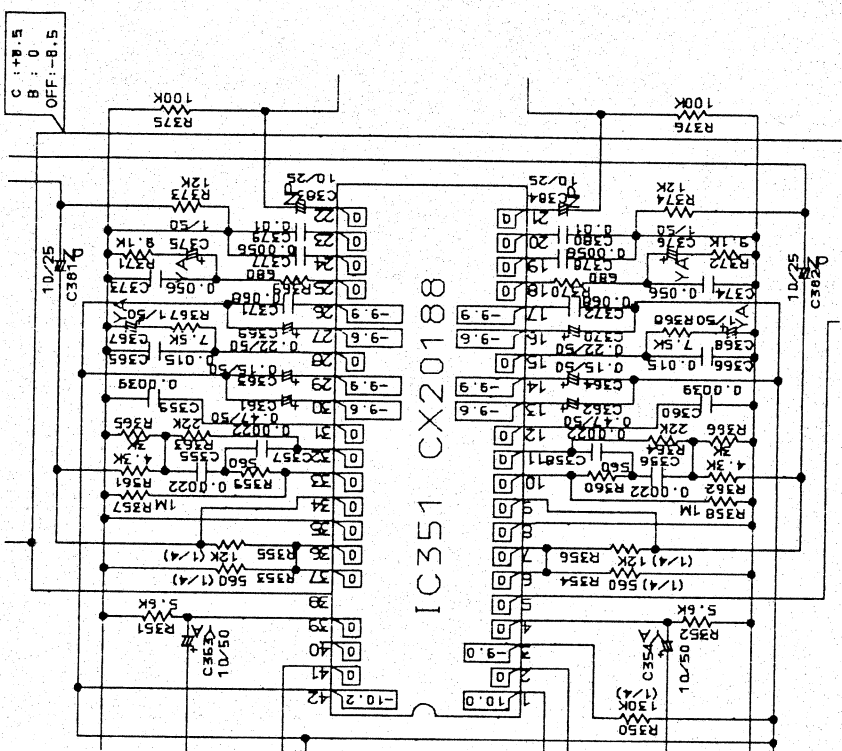
COILS/TRANSFORMERS

L671

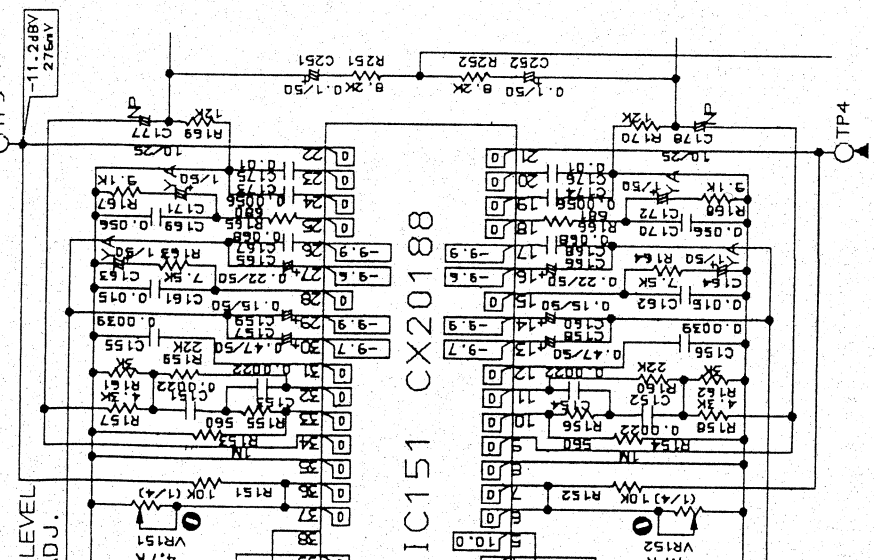
RTF1068

OTHER





IN C/B BY CODE ENCODE 153C1



IN C/B A8

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 long.
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- When ordering resistors, first convert resistance values into code form as shown in Ex.1

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 Ω → 56 × 10¹ → 561
 47k Ω → 47 × 10³ → 473
 0.5 Ω → 0R5
 1 Ω → 010
 Ex.2 When there are 3 effective digits (such as in high precision metal film 5.62k Ω → 562 × 10¹ → 5621

Mark	No.	Description	Part No.	Ma
LIST OF ASSEMBLIES				

CONTROL UNIT
 BALANCE VR UNIT
 FL UNIT
 FUNCTION UNIT
 BIAS UNIT
 HEADPHONE UNIT
 MAIN UNIT
 VR UNIT

CONTROL UNIT

SEMICONDUCTORS

IC651 MAIN CPU PD4359A
 IC652 MCM80011AL
 IC661 CMOS LOGIC IC TC4050BP
 IC671 IC BA6109
 IC681 IC BA6109

IC703 COMPARATOR BA10393N
 IC713 CMOS LOGIC IC TC4050BP
 Q655, 656 DIGITAL TRANSISTOR DTA114TS
 Q665 TRANSISTOR DTC114ES
 Q667 TRANSISTOR DTC124ES

Q668 DIGITAL TRANSISTOR DTC114TS
 Q672-674 TRANSISTOR DTC114ES
 Q681-683 TRANSISTOR 2SA1309A
 Q687 TRANSISTOR 2SA1309A
 Q688 TRANSISTOR DTC114ES

Q705 DIGITAL TRANSISTOR DTA114ES
 Q706 TRANSISTOR 2SC3311A
 Q707, 708 DIGITAL TRANSISTOR DTC114TS
 Q709 DIGITAL TRANSISTOR DTA114ES
 Q710 DIGITAL TRANSISTOR DTC114TS

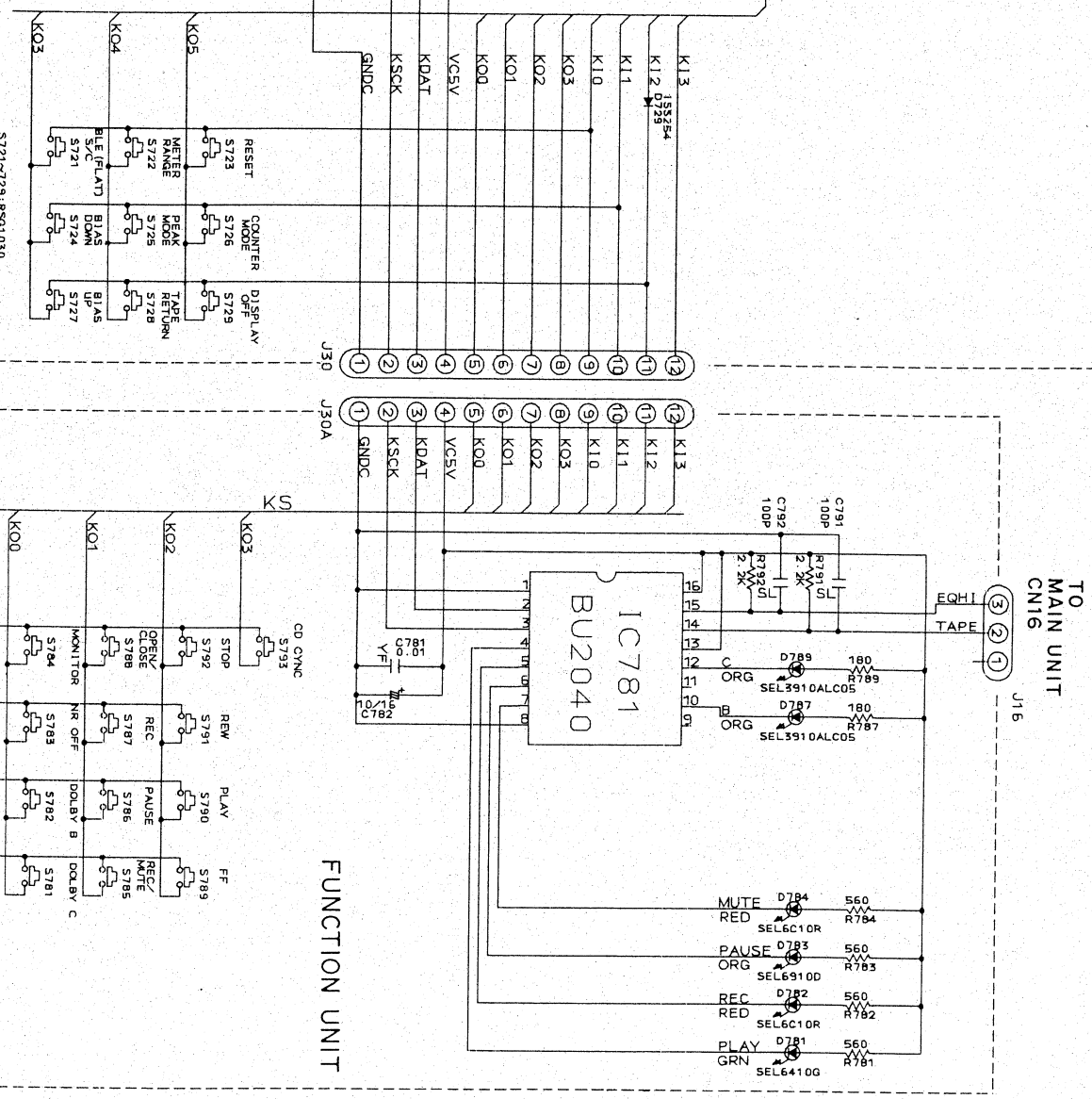
Q715 TRANSISTOR DTC114ES
 D651-653 DIODE 1SS254
 D681 RECTIFIER DIODE 1SR35-100A

COILS/TRANSFORMERS

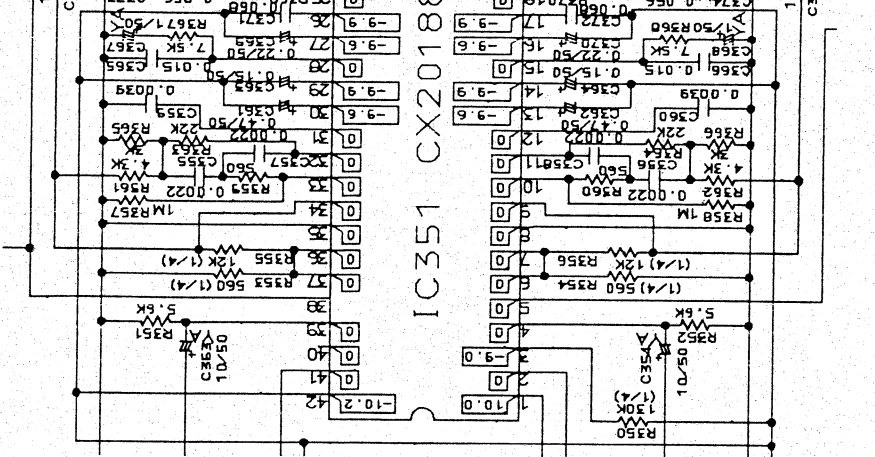
L671

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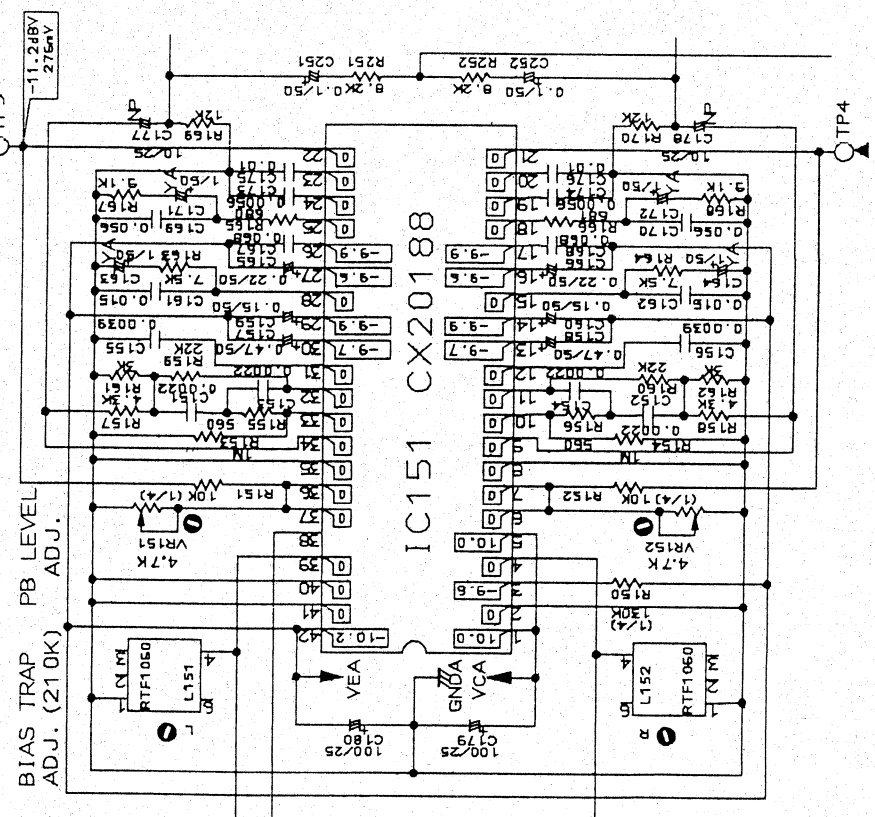
OTH



FL UNIT



IC351 CX20188



IC151 CX20188

• PCB PARTS LIST

NOTES:

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- When ordering resistors, first convert resistance values into code form as shown in the following examples.

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

560 Ω → 56 × 10¹ → 561 RD1/4PS **5****6****1**J

47K Ω → 47 × 10³ → 473 RD1/4PS **4****7****3**J

0.5 Ω → 0R5 RN2H**0****R****5**K

1 Ω → 010 RS1P**0****1****0**K

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

5.62K Ω → 562 × 10¹ → 5621 RN1/4SR **5****6****2****1**F

LIST OF ASSEMBLIES

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

CONTROL UNIT
BALANCE VR UNIT
FL UNIT
FUNCTION UNIT
BIAS UNIT
HEADPHONE UNIT
MAIN UNIT
VR UNIT

SEMICONDUCTORS

IC651 MAIN CPU
IC652
IC661 CMOS LOGIC IC
IC671 IC
IC681 IC

IC703 COMPARATOR
IC713 CMOS LOGIC IC
Q655, 656 DIGITAL TRANSISTOR
Q665 TRANSISTOR
Q667 TRANSISTOR

Q668 DIGITAL TRANSISTOR
Q672-674 TRANSISTOR
Q681-683 TRANSISTOR
Q687 TRANSISTOR
Q688 TRANSISTOR

Q705 DIGITAL TRANSISTOR
Q706 TRANSISTOR
Q707, 708 DIGITAL TRANSISTOR
Q709 DIGITAL TRANSISTOR
Q710 DIGITAL TRANSISTOR

Q715 TRANSISTOR
D651-653 DIODE
D681 RECTIFIER DIODE

COILS/TRANSFORMERS

L671

CAPACITORS

C651 CERAMIC CAPACITOR
C652 ELECTR. CAPACITOR
C653 ELECTR. CAPACITOR
C657, 658 AXIAL CAPACITOR
C661 CERAMIC CAPACITOR

C662 ELECTR. CAPACITOR
C666 ELECTR. CAPACITOR
C671 CERAMIC CAPACITOR
C672 CERAMIC CAPACITOR
C681 ELECTR. CAPACITOR

C682 ELECTR. CAPACITOR
C683 CERAMIC CAPACITOR
C684 ELECTR. CAPACITOR
C685 ELECTR. CAPACITOR
C691 ELECTR. CAPACITOR

C703 CERAMIC CAPACITOR
C713 ELECTR. CAPACITOR
C714-716 CERAMIC CAPACITOR
C717 CERAMIC CAPACITOR

RESISTORS

R651-658 CARBONFILM RESISTOR
R663 (10K)
R665-668 CARBONFILM RESISTOR
R671-675 CARBONFILM RESISTOR
R681 METAL OXIDE RESISTOR

R683-688 CARBONFILM RESISTOR
R691-700 CARBONFILM RESISTOR
R702-704 CARBONFILM RESISTOR
R705, 706 METALFILM RESISTOR
R707 CARBONFILM RESISTOR

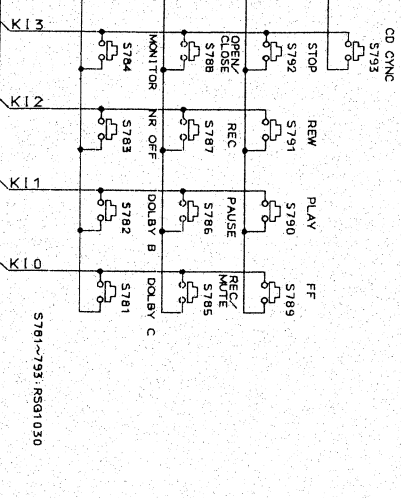
R709-712 METALFILM RESISTOR
R713 (10K)
R714, 715 CARBONFILM RESISTOR

OTHERS

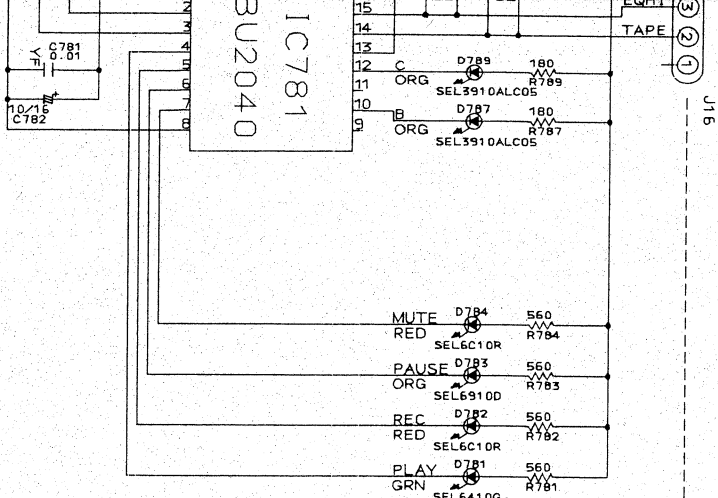
CN200 CONNECTOR (13P)
CN210 CONNECTOR (12P)
JA71 JACK

TXC-P13X-A1
TXC-P12X-A1
RKN1014

FUNCTION UNIT



MAIN UNIT



Mark	No.	Description	Part No.
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JA72, 73 REMOTE CONTROL JACK
X651 CERAMIC RESONATOR

RKN1004
VSS1014

BALANCE VR UNIT

RESISTORS

VR973(200k)

RCV1078

FUNCTION UNIT

SEMICONDUCTORS

IC781 LOGIC IC
D781 LED
D782
D783 LED
D784

BU2040
SEL6410G
SEL6C10R
SEL6910D
SEL6C10R

D787 LED
D789

SEL3910ALC05
SEL3910ALC05

SWITCHES

S781-793 SWITCH

RSG1030

CAPACITORS

C781 CERAMIC CAPACITOR
C782 ELECTR. CAPACITOR
C791, 792 AXIAL CAPACITOR

CKCYF103Z50
CEJA100M16
CKPUYB101K50

RESISTORS

R781-784 CARBONFILM RESISTOR
R787 CARBONFILM RESISTOR
R789 CARBONFILM RESISTOR
R791, 792 CARBONFILM RESISTOR

RD1/6PM□□□J
RD1/6PM□□□J
RD1/6PM□□□J
RD1/6PM□□□J

HEADPHONE UNIT

SEMICONDUCTORS

IC231 OP AMP
Q231, 232 TRANSISTOR

M5218AP
2SD2144S

CAPACITORS

C231, 232 ELECTR. CAPACITOR
C233, 234 ELECTR. CAPACITOR(100/25)
C235, 236 AXIAL CAPACITOR

CEYA010M50
PCH1076
CKPUYB221K50

RESISTORS

R231-236 CARBONFILM RESISTOR
R237, 238 CARBONFILM RESISTOR
R239-242 CARBONFILM RESISTOR
VR231 VARIABLE RESISTOR(20k)

RD1/6PM□□□J
RD1/4PM□□□J
RD1/6PM□□□J
PCS1002

OTHERS

JA231 JACK

RKN1002

FL UNIT

SEMICONDUCTORS

IC721
D724-726 DIODE
D729 DIODE
D735-737 DIODE
D750 DIODE

PD3198A
1SS254
1SS254
1SS254
1SS254

Mark	No.	Description	Part No.
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SWITCHES

S721-729 SWITCH
S735

RSG1030
RSH1011

CAPACITORS

C721 CERAMIC CAPACITOR
C722 ELECTR. CAPACITOR
C723 CERAMIC CAPACITOR

CKCYF103Z50
CEAS100M50
CKCYF103Z50

RESISTORS

R721-727 CARBONFILM RESISTOR
R729-732 CARBONFILM RESISTOR
R735 CARBONFILM RESISTOR
R736 CARBONFILM RESISTOR
R741-764 CARBONFILM RESISTOR

RD1/6PM□□□J
RD1/6PM□□□J
RD1/6PM□□□J
RD1/6PM□□□J
RD1/6PM□□□J

OTHERS

V721
X721 CERAMIC RESONATOR

RAW1096
VSS1014

BIAS UNIT

SEMICONDUCTORS

△ IC521 DOLBY HX PRO IC
△ IC606 REGULATOR IC
△ IC607 REGULATOR IC
Q504 TRANSISTOR
Q505, 506 TRANSISTOR

UPC1297CA
NJM7812FA
NJM7805FA
2SA1283
2SC3243

Q507 TRANSISTOR
Q508 TRANSISTOR
Q509 TRANSISTOR
Q510 TRANSISTOR
Q511 TRANSISTOR

2SC3311A
DTC124ES
2SC3311A
DTC124ES
DTC114ES

Q512 DIGITAL TRANSISTOR
Q513 TRANSISTOR
Q543-546 TRANSISTOR
Q614 TRANSISTOR
Q623 TRANSISTOR

DTA114ES
2SA1309A
DTC114ES
2SA1309A
2SA1283

△

D501, 502 DIODE
D601
△ D604 RECRIFIER DIODE
△ D611-613 DIODE
△ D621 RECRIFIER DIODE

1SS254
S2VB20
1SR35-100A
1SS254
1SR35-100A

D622 ZENER DIODE
△ D623 ZENER DIODE

MTZJ6. 8B
MTZJ24D

SWITCHES

△ S641 SWITCH

RSA1001

COILS/TRANSFORMERS

L501
L502
L521, 522

LFA121K
RTD1057
RTD1011

CAPACITORS

C501 CERAMIC CAPACITOR
C502 ELECTR. CAPACITOR
C503 ELECTR. CAPACITOR
C504, 505 ELECTR. CAPACITOR
C507, 508 AUDIO FILM CAPACITOR

CKCYF473Z50
CEAS101M16
CEAS100M50
CEAS330M16
CFTXA332J50

CT-S710, CT-S710-G

Mark	No.	Description	Part No.
	C509	AUDIO FILM CAPACITOR	CFTXA223J50
	C510	AUDIO FILM CAPACITOR	CFTXA682J50
	C511	PORYPROPYLENE FILM C	CQPA752J100
	C515	ELECTR. CAPACITOR	CEAS220M25
	C516	ELECTR. CAPACITOR	CEAS100M50
	C517	ELECTR. CAPACITOR	CEAS4R7M50
	C521	CERAMIC CAPACITOR	CCCCH470J50
	C523, 524	CERAMIC CAPACITOR	CKCYF473Z50
	C525, 526	CERAMIC CAPACITOR (390P/500)	RCG1004
	C527, 528	CERAMIC CAPACITOR	CCCSL101K500
	C529-532	AUDIO FILM CAPACITOR	CFTXA223J50
	C533, 534	AXIAL CAPACITOR	CKPUYB821K50
	C535, 536	AUDIO FILM CAPACITOR	CFTXA103J50
	C537	ELECTR. CAPACITOR	CEAS330M16
	C539, 540	CERAMIC CAPACITOR	CKCYF103Z50
	C601-603	CERAMIC CAPACITOR	CKCYF473Z50
	C605	ELECTR. CAPACITOR (6800 μ F/25)	RCH1032
	C607	ELECTR. CAPACITOR	CEAS682M16
	C608	ELECTR. CAPACITOR	CEAS102M6R3
	C611	ELECTR. CAPACITOR	CEAS4R7M50
	C614	CERAMIC CAPACITOR	CKCYF103Z50
	C621	CERAMIC CAPACITOR	CKCYF473Z50
	C622	ELECTR. CAPACITOR	CEAS101M50
	C623	CERAMIC CAPACITOR	CKCYF473Z50
	C624	ELECTR. CAPACITOR	CEAS101M25
	C625	CERAMIC CAPACITOR	CKCYF473Z50
	C626	ELECTR. CAPACITOR	CEAS101M16
	C627, 628	CERAMIC CAPACITOR	CKCYF473Z50
△	C641	CAPACITOR (0.01/AC400)	VCG-044

RESISTORS

	R505-508	CARBONFILM RESISTOR	RD1/6PM□□□J
	R509, 510	CARBONFILM RESISTOR	RD1/2PMF□□□J
	R511	CARBONFILM RESISTOR	RD1/2LF□□□J
	R512-514	CARBONFILM RESISTOR	RD1/6PM□□□J
	R515, 516	METALFILM RESISTOR	RN1/6PQ□□□□F
	R517-519	CARBONFILM RESISTOR	RD1/6PM□□□J
	R523-525	CARBONFILM RESISTOR	RD1/6PM□□□J
	R531	CARBONFILM RESISTOR	RD1/6PM□□□J
	R533-536	CARBONFILM RESISTOR	RD1/6PM□□□J
	R539-542	CARBONFILM RESISTOR	RD1/6PM□□□J
	R611-613	CARBONFILM RESISTOR	RD1/6PM□□□J
△	R621	FUSIBLE RESISTOR	RFA1/4L□□□J
	R622	CARBONFILM RESISTOR	RD1/2PMF□□□J
	R623	METAL OXIDE RESISTOR	RS1LMF□□□J
	VR545, 546	VR(15k)	RCP1090
	VR541-544(3. 3k)		RCP1089

MAIN UNIT

SEMICONDUCTORS

IC101	OP-AMP-IC	M5220P
IC151	DOLBY-B, C IC	CX20188
IC251	IC	BA335
IC281	IC	BA15218N
IC282		BA6138

	IC301	OP-AMP, IC	M5218AP
	IC331	OP-AMP IC	BA15218
	IC351	DOLBY-B, C IC	CX20188
	IC401, 402	OP AMP	M5218AP
△	IC551, 552	IC PROTECTOR	ICP-N20
	IC561, 562	OP-AMP IC	NJM5532DD
△	IC571	REGULATOR IC	NJM78M12FA
△	IC572	REGULATOR IC	NJM79M12FA
	Q104	DIGITAL TRANSISTOR	DTC114TS
	Q202	DIGITAL TRANSISTOR	DTC114TS
	Q203, 204	TRANSISTOR	2SD2144S
	Q282	TRANSISTOR	DTC114ES
	Q283, 284	TRANSISTOR	DTC124ES
	Q301, 302	TRANSISTOR	2SD2144S
	Q303	DIGITAL TRANSISTOR	DTC114TS
	Q331-334	TRANSISTOR	DTC114ES
	Q384	DIGITAL TRANSISTOR	DTA114ES
	Q385, 386	TRANSISTOR	DTC114ES
	Q401-408	DIGITAL TRANSISTOR	DTC114TS
	Q419-428	DIGITAL TRANSISTOR	DTC114TS
	Q433, 434	TRANSISTOR	2SD2144S
	Q439-442	DIGITAL TRANSISTOR	DTC114TS
	Q455, 456	DIGITAL TRANSISTOR	DTC114TS
	Q459-462	DIGITAL TRANSISTOR	DTC114TS
	Q471-476	DIGITAL TRANSISTOR	DTA114ES
	Q478-482	DIGITAL TRANSISTOR	DTA114ES
△	Q561	TRANSISTOR	2SD1266
△	Q562	TRANSISTOR	2SB941
△	D551-554		EL1Z-LFF5
△	D573, 574	ZENER DIODE	HZ5BLL

SWITCHES

S381	RSH1040
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RELAYS

RY202	RSR1026
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COILS/TRANSFORMERS

L151, 152	BIAS TRAP(210KHZ)	RTF1060
L401, 402	COIL	RTF1022
L403, 404		RTF1017
F301, 302	FILTER	RTF1062

CAPACITORS

C101, 102	PL. STYRENE CAPACITOR	CQSF271J50
C103, 104	AUDIO FILM CAPACITOR	CFTXA563J50
C105, 106	ELECTR. CAPACITOR(10/25)	RCH1037
C109, 110	AUDIO FILM CAPACITOR	CFTXA102J50
C111, 112	AUDIO FILM CAPACITOR	CFTXA273J50
C115, 116	ELECTR. CAPACITOR(100/25)	PCH1076
C151-154	AUDIO FILM CAPACITOR	CFTXA222J50
C155, 156	AUDIO FILM CAPACITOR	CFTXA392J50
C157, 158	AUDIO FILM CAPACITOR	CEASR47M50
C159, 160	AUDIO FILM CAPACITOR	CEASR15M50
C161, 162	AUDIO FILM CAPACITOR	CFTXA153J50
C163, 164	ELECTR. CAPACITOR	CEAS010M50
C165, 166	AUDIO FILM CAPACITOR	CEASR22M50
C167, 168	AUDIO FILM CAPACITOR	CFTXA683J50

Mark	No.	Description	Part No.
	C169, 170	AUDIO FILM CAPACITOR	CFTXA563J50
	C171, 172	ELECTR. CAPACITOR	CEAS010M50
	C173, 174		CFTXA562J50
	C175, 176	AUDIO FILM CAPACITOR	CFTXA103J50
	C177, 178	ELECTR. CAPACITOR (10/25)	RCH1037
	C179, 180	ELECTR. CAPACITOR (100/25)	PCH1076
	C211	ELECTR. CAPACITOR	CEAS010M50
	C251, 252	ELECTR. CAPACITOR	CEASR10M50
	C253	AUDIO FILM CAPACITOR	CFTXA473J50
	C254, 255	ELECTR. CAPACITOR	CEASR10M50
	C256	ELECTR. CAPACITOR	CEASR47M50
	C257	AUDIO FILM CAPACITOR	CFTXA473J50
	C281, 282	AUDIO FILM CAPACITOR	CFTXA563J50
	C283, 284	AXIAL CERAMIC C.	CCPUSL470J50
	C287-290	ELECTR. CAPACITOR	CEAS4R7M50
	C300	CERAMIC CAPACITOR	CKCYF473Z50
	C301, 302	ELECTR. CAPACITOR	CEYA010M50
	C303, 304	AXIAL CAPACITOR	CKPUYB221K50
	C331	AUDIO FILM CAPACITOR	CFTXA683J50
	C332	MYLAR FILM CAPACITOR	CQMA104J50
	C333	MYLAR FILM CAPACITOR	CQMA123J50
	C334	ELECTR. CAPACITOR	CEAS010M50
	C335	AUDIO FILM CAPACITOR	CFTXA682J50
	C336	MYLAR FILM CAPACITOR	CQMA123J50
	C337	MYLAR FILM CAPACITOR	CQMA182J50
	C353, 354	ELECTR. CAPACITOR	CEYA100M50
	C355-358	AUDIO FILM CAPACITOR	CFTXA222J50
	C359, 360	AUDIO FILM CAPACITOR	CFTXA392J50
	C361, 362	AUDIO FILM CAPACITOR	CEASR47M50
	C363, 364	AUDIO FILM CAPACITOR	CEASR15M50
	C365, 366	AUDIO FILM CAPACITOR	CFTXA153J50
	C367, 368	ELECTR. CAPACITOR	CEAS010M50
	C369, 370	AUDIO FILM CAPACITOR	CEASR22M50
	C371, 372	AUDIO FILM CAPACITOR	CFTXA683J50
	C373, 374	AUDIO FILM CAPACITOR	CFTXA563J50
	C375, 376	ELECTR. CAPACITOR	CEAS010M50
	C377, 378		CFTXA562J50
	C379, 380	AUDIO FILM CAPACITOR	CFTXA103J50
	C381-384	ELECTR. CAPACITOR (10/25)	RCH1037
	C385, 386	ELECTR. CAPACITOR (100/25)	PCH1076
	C387	ELECTR. CAPACITOR	CEAS330M16
	C401, 402	AUDIO FILM CAPACITOR	CFTXA103J50
	C403, 404	AUDIO FILM CAPACITOR	CFTXA472J50
	C405, 406		CFTXA272J50
	C407, 408	AUDIO FILM CAPACITOR	CFTXA122J50
	C413, 414	AUDIO FILM CAPACITOR	CFTXA103J50
	C445, 446		CEYA010M50
	C437, 438		CFTXA681J50
	C443, 444	AUDIO FILM CAPACITOR	CFTXA392J50
	C447, 448	ELECTR. CAPACITOR (100/25)	PCH1076
	C451, 452	AUDIO FILM CAPACITOR	CFTXA274J50
	C453, 454	ELECTR. CAPACITOR	CEYA100M50
	C455, 456	AUDIO FILM CAPACITOR	CFTXA103J50
	C457, 458		CFTXA562J50

Mark	No.	Description	Part No.
	C459, 460	AUDIO FILM CAPACITOR	CFTXA472J50
	C461, 462	AUDIO FILM CAPACITOR	CFTXA332J50
	C463	ELECTR. CAPACITOR	CEAS010M50
	C467, 468	PL. STYRENE CAPACITOR	CQSA102J50
	C471	ELECTR. CAPACITOR	CEAS100M50
	C472-476	CERAMIC CAPACITOR	CKPUY103N16
	C465, 466		CFTXA222J50
	C551-554	CERAMIC CAPACITOR	CKCYF473Z50
	C555, 556	ELECTR. CAPACITOR (2200/25)	RCH1036
	C557, 558	AUDIO FILM CAPACITOR	CFTXA563J50
	C561, 562	ELECTR. CAPACITOR	CEYA100M50
	C563, 564	AUDIO FILM CAPACITOR	CFTXA563J50
	C565, 566	ELECTR. CAPACITOR (100/25)	PCH1076
	C571, 572	ELECTR. CAPACITOR	CEYA010M50
	C573, 574	ELECTR. CAPACITOR	CEYA330M25

RESISTORS

R101, 102	CARBONFILM RESISTOR	RD1/4PM□□□J
R109-122	CARBONFILM RESISTOR	RD1/4PM□□□J
R150-152	CARBONFILM RESISTOR	RD1/4PM□□□J
R153-170	CARBONFILM RESISTOR	RD1/6PM□□□J
R201-204	CARBONFILM RESISTOR	RD1/4PM□□□J
R205-208	CARBONFILM RESISTOR	RD1/6PM□□□J
R211	CARBONFILM RESISTOR	RD1/6PM□□□J
R251-255	CARBONFILM RESISTOR	RD1/6PM□□□J
R281-284	CARBONFILM RESISTOR	RD1/6PM□□□J
R286-296	CARBONFILM RESISTOR	RD1/6PM□□□J
R301, 302	CARBONFILM RESISTOR	RD1/4PM□□□J
R305-312	CARBONFILM RESISTOR	RD1/6PM□□□J
R313, 314	CARBONFILM RESISTOR	RD1/4PM□□□J
R331-342	CARBONFILM RESISTOR	RD1/6PM□□□J
R350	CARBONFILM RESISTOR	RD1/4PM□□□J
R351, 352	CARBONFILM RESISTOR	RD1/6PM□□□J
R353-356	CARBONFILM RESISTOR	RD1/4PM□□□J
R357-376	CARBONFILM RESISTOR	RD1/6PM□□□J
R381-383	CARBONFILM RESISTOR	RD1/6PM□□□J
R385, 386	CARBONFILM RESISTOR	RD1/6PM□□□J
R401-408	CARBONFILM RESISTOR	RD1/6PM□□□J
R409, 410 (100k)		RCN1043
R411, 412	CARBONFILM RESISTOR	RDR1/4PM□□□J
R413-416	CARBONFILM RESISTOR	RD1/6PM□□□J
R417, 418	CARBONFILM RESISTOR	RD1/4PM□□□J
R419-428	CARBONFILM RESISTOR	RD1/6PM□□□J
R431, 432	CARBONFILM RESISTOR	RD1/4PM□□□J
R433, 434	CARBONFILM RESISTOR	RD1/6PM□□□J
R437-452	CARBONFILM RESISTOR	RD1/6PM□□□J
R453, 454	CARBONFILM RESISTOR	RD1/4PM□□□J
R455-463	CARBONFILM RESISTOR	RD1/6PM□□□J
R471	CARBONFILM RESISTOR	RD1/6PM□□□J
R561-564	CARBONFILM RESISTOR	RD1/4PM□□□J
R571, 572	CARBONFILM RESISTOR	RD1/4PM□□□J
R573, 574	CARBONFILM RESISTOR	RD1/6PM□□□J
VR151, 152	VARIABLE RESISTOR (4.7k)	RCP1020
VR281, 282	VR (22k)	RCP1046

CT-S710, CT-S710-G

Mark	No.	Description	Part No.
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	VR331, 332	VR(10k)	RCP1045
	VR333	VR(47k)	RCP1047
	VR401, 402	VARIABLE RESISTOR(20k)	RCP1046

OTHERS

SCREW	IBZ30P100FCC
CN20	TXC-P13P-A1
CN21	TXC-P12P-A1
JA201 JACK	RKB1020
JA301 JACK	RKB1020

VR UNIT RESISTORS

VR972	VR(20k)	RCV1085
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• ADJUSTMENT

RECORDING SECTION

Bias Oscillator Adjustment

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	REC/ PLAY	Load the STD-610 test tape with no input signal.	Deck	L502	TP. 11	108 kHz $\pm$ 300 Hz	

• REGLAGE

SECTION D'ENREGISTREMENT

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/ PLAY	Charger la bande d'essai STD-610 et n'introduire aucun signal.	Platine	L502	TP. 11	108 kHz $\pm$ 300 Hz	

• AJUSTE

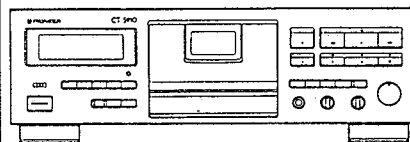
SECCIÓN DE GRABACIÓN

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/ PLAY	Introduzca la cinta de prueba STD-610 sin señal de entrada.	Platina	L502	TP. 11	108 kHz $\pm$ 300 Hz	

Service Manual

PIONEER®
The Art of Entertainment



ORDER NO.
ARP2482

STEREO CASSETTE DECK

CT-S910

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

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1. EXPLODED VIEWS AND PARTS LIST

NOTES:

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

1.1 EXTERIOR

Parts List

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
Δ	1	Strain relief	CM - 22B		41	Screw	BBZ30P080FZK
Δ	2	AC power cord	ADG1036		42	Screw	IBZ30P060FCC
Δ	3	FU601, FU602 Fuse (T2A)	REK - 103		43	Screw	IBZ30P080FCC
Δ	4	T1 Power transformer	RTT1201		44	Screw	IBZ30P100FCC
⊙	5	Mechanism unit	RYM1152		45	Screw	IBZ30P150FCC
	6	Absorb plate (B)	PNB1109		46	Screw	IBZ40P080FCC
	7	Washer	RBF1019		47	Screw	PMA30P060FCU
	8	Door spring	RBH1306		48	Jack nut	RBN - 006
	9	Door cushion	REB1174		49	Rivet	RBM - 003
	10	Protector	RED1020		101	MAIN unit	RWX1048
	11	Cord clumper	RNH - 184		102	CONTROL unit	RWZ2450
	12	Panel stay	RNT1139		103	BALANCE VR unit	RWZ2451
	13	.....			104	FL unit	RWZ2656
	14	LED lens	AMR1160		105	FUNCTION unit	RWZ2453
	15	Sheet	RHC1028		106	BIAS unit	RWZ2657
	16	.....			107	HEADPHONE unit	RWZ2455
	17	Lens S	PNW1893		108	Washer	RBF1017
	18	Counter reset knob	RAA1009		109	Acetate tape	REH1020
	19	Slide SW knob	RAC1562		110	Rubber spacer (A)	REB1057
	20	Power button	RAC1703		111	Rubber spacer	REB1192
	21	Function knob	RAC1704		112	Rubber spacer	REB1187
	22	Balance knob	RAC1705		113	Transformer sheet	REE1004
	23	FL filter	RAH1936		114	VR shaft	RLA1169
	24	.....			115	Main chassis	RNB1059
	25	VR ring	RAT1011		116	Center stay	RNC1058
	26	Screw	FBT40P080FZK		117	Center stay	RNC1059
	27	Screw	BBZ40P080FZK		118	PS holder	RNE1185
	28	Door sheet	REB1191		119	PCB base	RNE1221
	29	VR knob assembly (A)	RXA1472		120	Binder	DNF1128
	30	Foot assembly	AMR1159		121	Bonnet bracket	RNE1470
	31	.....			122	Joint	RNK1333
	32	.....			123	PCB stud	RNL - 792
	33	Door lens	RAH1927		124	Name plate	PAN1035
	34	FL lens	RAH2019		125	Door	RNK1820
	35	.....			126	.....	
	36	Bonnet	RXX1505		127	Front panel	RAH2033
	37	Front panel assembly	RXX1510		128	Door panel	RAH2034
	38	Door assembly	RXX1514		129	Rear panel	RNA1564
	39	Screw	BBT30P100FZK				
	40	Screw	BBZ26P080FZK				

Exterior

A

B

C

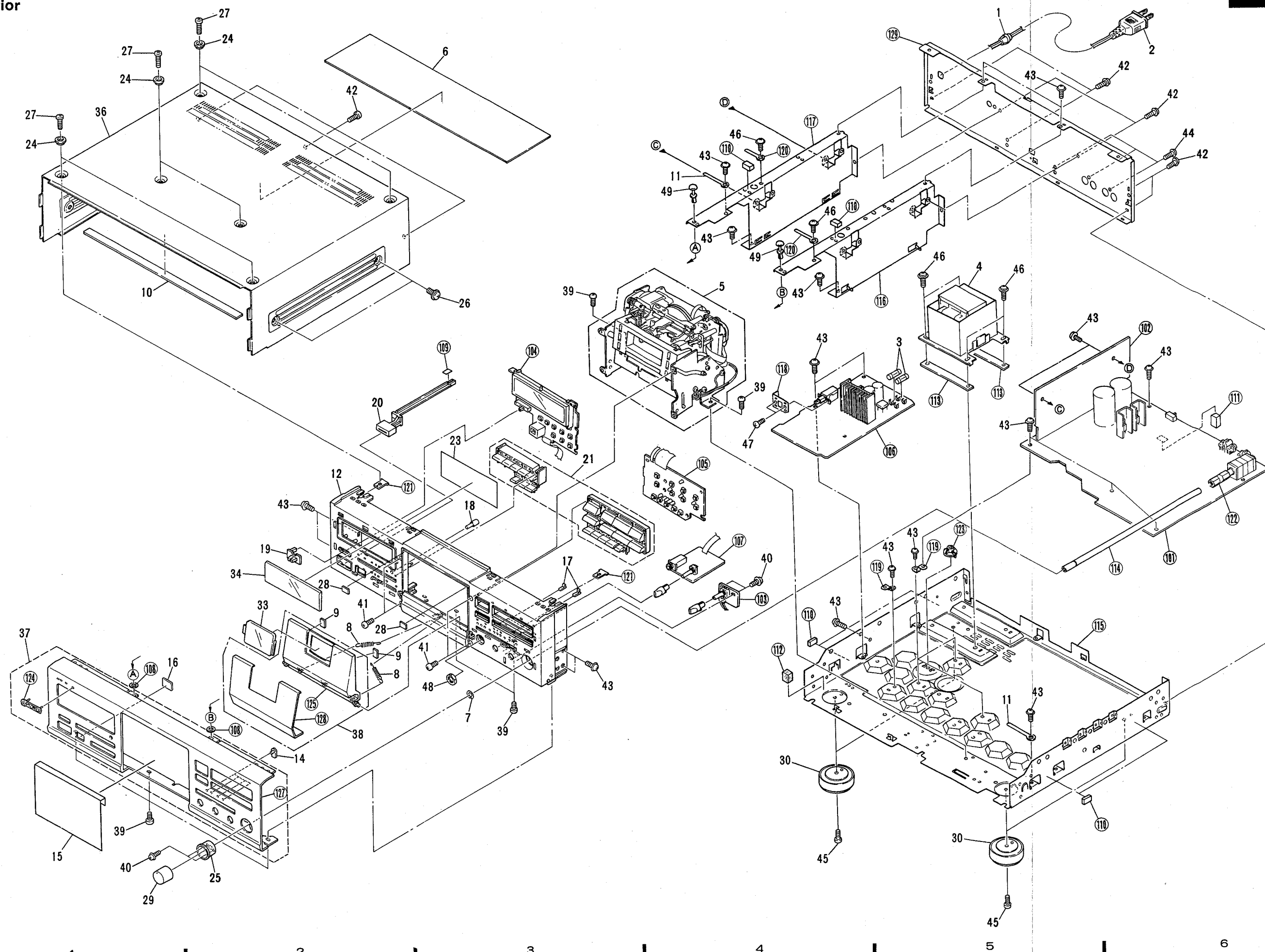
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A

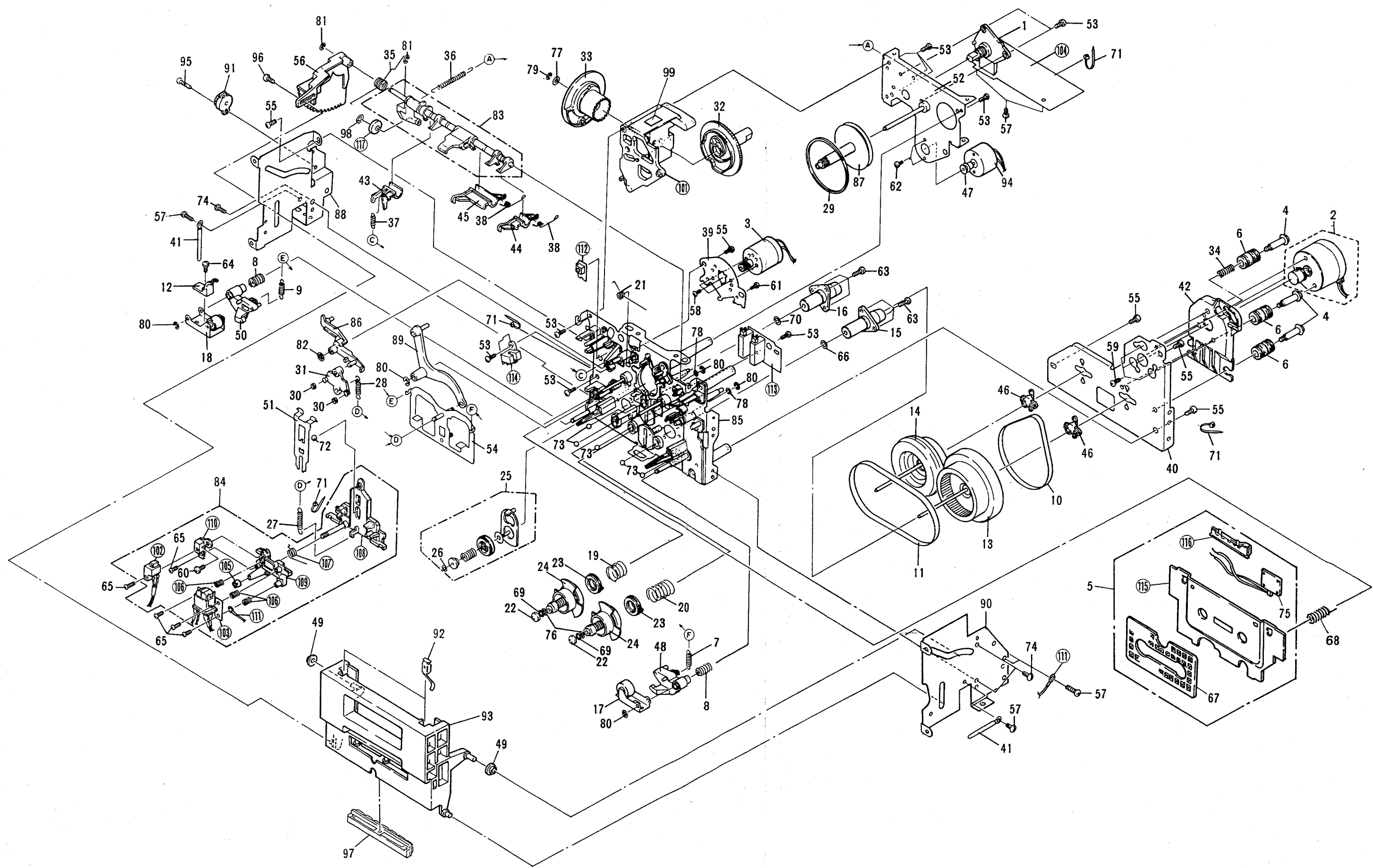
B

C

D



1.2 MECHANISM UNIT

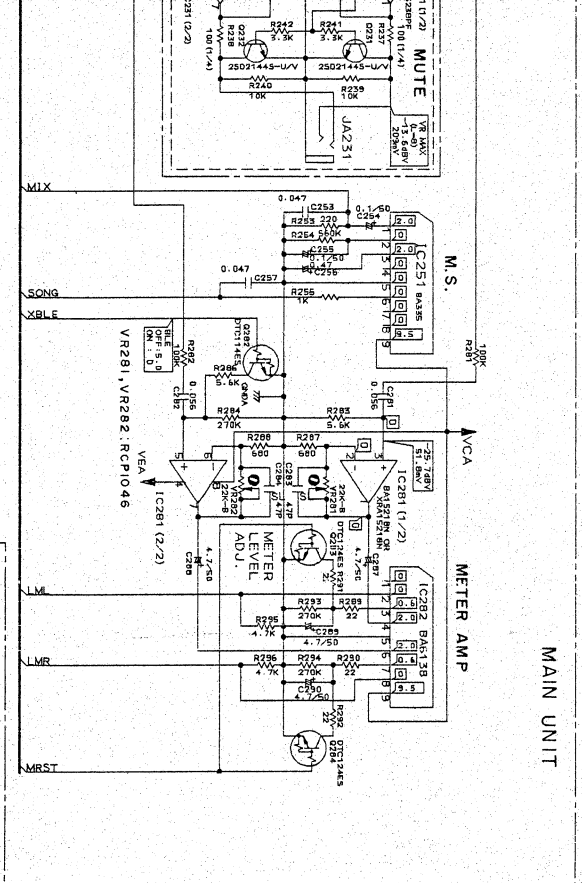


A

B

C

D



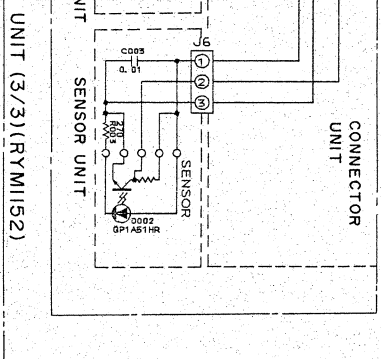
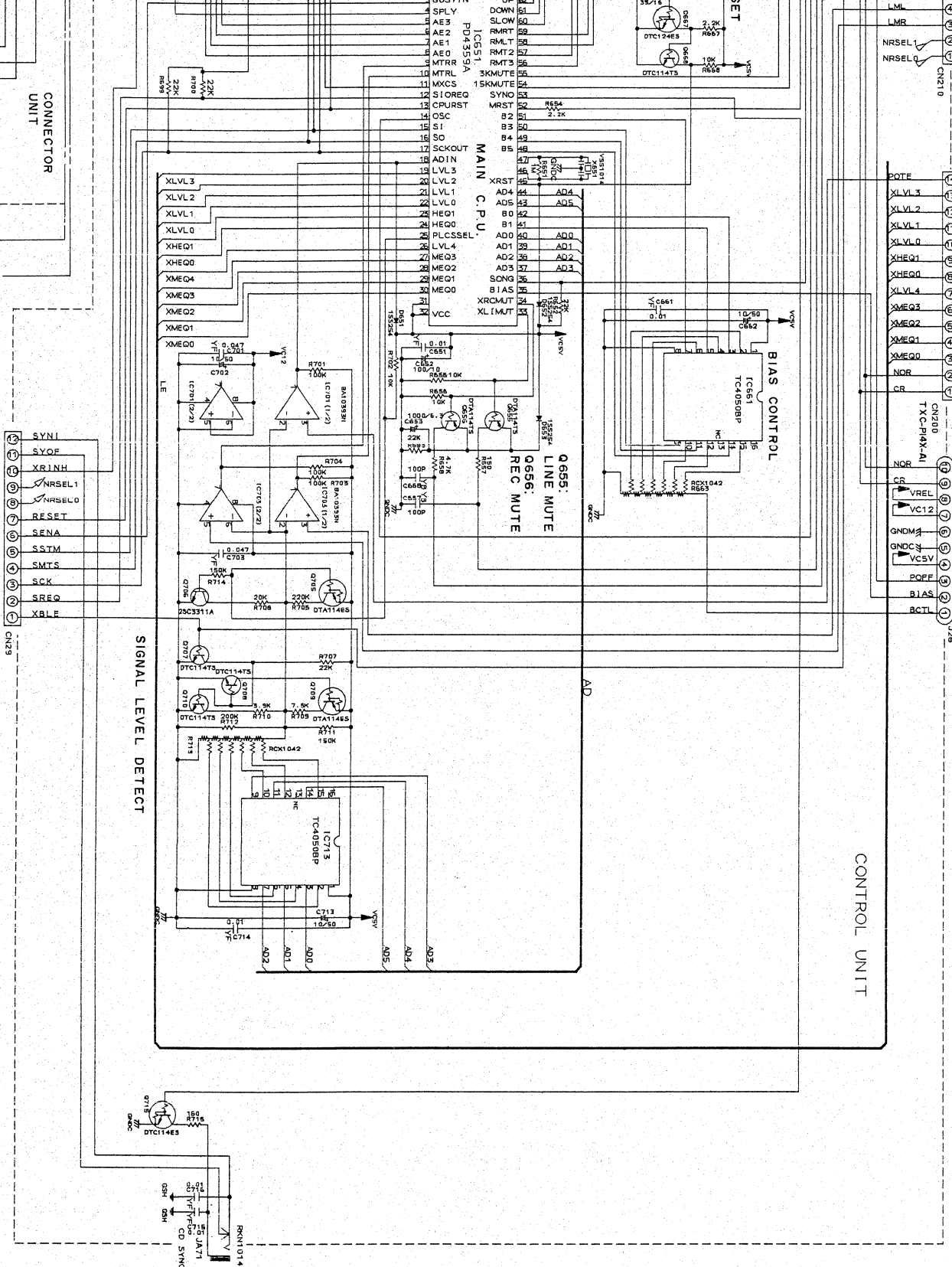
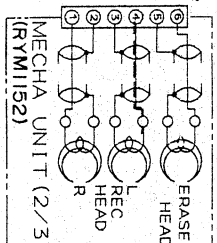
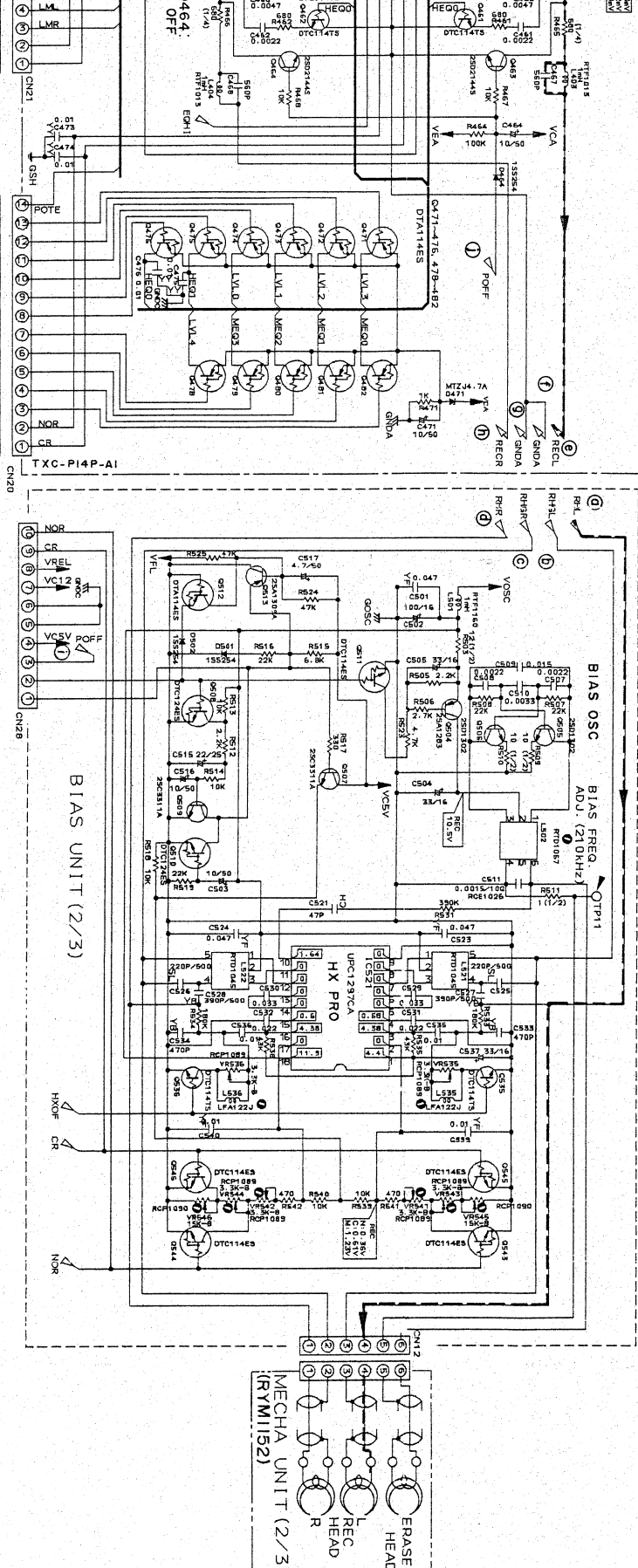
- RESISTORS:
Indicated in Ω , 1/4W, 1/6W, 1/8W, $\pm 5\%$ tolerance unless otherwise noted. K: k Ω , M: M Ω , (F): $\pm 1\%$, (G): $\pm 2\%$, (X): $\pm 10\%$, (M): $\pm 20\%$ tolerance.
- CAPACITORS:
Indicated in capacity (μ F) / voltage (V) unless otherwise noted. p: pF.
Indication without voltage is 50V except electrolytic capacitor.
- VOLTAGE CURRENT:
DC voltage (V) in stop mode.
mA: DC current in stop mode.
- OTHERS:
Adjusting point
The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
marked capacitors and resistors have parts numbers.

- SWITCHES (The underlined indicates the switch)

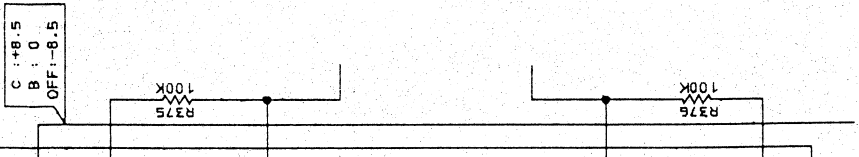
MAIN UNIT	FUNCTION UNIT
S381: MPX ONN - OFF	S781: LINE STRAI
S641: POWER ONN - OFF	S782: DOLBY - NR
	S783: HX PRO
	S784: MONITOR
	S785: REC/MUTE
	S786: PAUSE
	S787: REC
	S788: OPEN/CLOS
	S789: FF
	S790: PLAY
	S791: REW
	S792: STOP
	S793: CD CYNG

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

MEASUREMENT POINT
PLAYBACK SIGNAL
RECORDING SIGNAL



TO
FL UNIT J29



Parts List

Mark	No.	Description	Part No.
	1	Rotary encoder	RSX1004
	2	Capstan motor assembly	RXM1016
	3	Reel motor assembly	RXM1018
	4	Step screw	RBA1074
	5	Cassette plate assembly	RXX1064
	6	Insulator	REB1099
	7	Pinch spring	RBL - 028
	8	Pinch thrust spring	RBL - 030
	9	Sub - pinch spring	RBL - 098
	10	Capstan belt	REB - 501
	11	Capstan belt (A)	REB - 509
	12	Tape guide	RNK1823
	13	Flywheel assembly	RXA1374
	14	Sub - flywheel assembly	RXA1375
	15	Metal holder assembly(A)	RXA1426
	16	Metal holder assembly(B)	RXA1343
	17	Pinch roller arm (R)	RXB - 876
	18	Pinch roller arm (A)	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	REB1182
	30	Brake shoe	REB - 511
	31	Brake	RNL - 723
	32	Cam gear	RNK1640
	33	Side cam gear	RNK1765
	34	Insulator spring	RBH1226
	35	Eject spring	RBL - 039
	36	Half set arm spring	RBL - 040
	37	REC functioning spring	RBL - 041
	38	Detection functioning spring	RBL - 042
	39	Reel motor mounting plate	RNE1169
	40	Flywheel holder	RNH - 304
	41	Cord clamper	RNH - 184
	42	Motor bracket	RNK1497
	43	REC detector arm	RNL - 733
	44	Chrom detector arm	RNL - 734
	45	Metal detector arm	RNL - 735
	46	Thrust holder	RNL - 743
	47	Motor pulley	PNW1634
	48	Pressure arm (R)	RNL - 725
	49	Collar	RNL - 742
	50	Pressure arm (L)	RNL - 726

Mark	No.	Description	Part No.
	51	Head base set spring	RBL - 026
	52	Gear chassis assembly	RXA1171
	53	Screw	BBZ26P060FZK
	54	Pinch base assembly	RXB - 878
	55	Screw	BBZ30P080FZK
	56	Eject lever	RNK1763
	57	Screw	BCZ30P060FMC
	58	Screw	BMZ26P030FZK
	59	Screw	BMZ26P040FMC
	60	Screw	BMZ26P060FZK
	61	Screw	BMZ30P080FZK
	62	Screw	PMZ30P040FMC
	63	Screw	PMA26P050FZK
	64	Screw	PMA26P060FZK
	65	Screw	PMZ20P080FZK
	66	Washer	RBF - 030
	67	Stabilizer (B)	REB1038
	68	Cassette plate spring	RBL - 059
	69	Washer	RBF - 076
	70	Washer	RBFI040
	71	Binder	REC - 371
	72	Steel ball (3mm)	REF - 022
	73	Steel ball (4mm)	REF - 023
	74	Screw	VC130P060FZK
	75	LED (D3)	SLF - 401C
	76	Washer	WA21D040D013
	77	Washer	WA26N070W040
	78	Washer	WA32D080D050
	79	E ring	YE20FUC
	80	E ring	YE25FUC
	81	E ring	YE30FUC
	82	Snapping	YS24FBT
	83	Shift shaft assembly	RXB - 885
	84	Head base assembly	RXX1443
	85	Mechanism chassis assembly	RXA1366
	86	Brake lever	RNK1638
	87	Second pulley assembly	RXA1350
	88	Door frame (L)	RNE1475
	89	Pinch lever assembly	RXA1360
	90	Door frame (R)	RNE1476
	91	Damper assembly	VXA1153
	92	Half pressure spring	RBK1004
	93	Door pocket	RNK1764
	94	Loading motor	VXM1034
	95	Screw	PBZ20P060FMC
	96	Screw	BBZ20P060FMC
	97	Stabilizer	REB1161
	98	Washer	RBF - 057
	99	Acetate tape (B)	REH1003

No.	Description	Part No.
51	Head base set spring	RBL - 026
52	Gear chassis assembly	RXA1171
53	Screw	BBZ26P080FZK
54	Pinch base assembly	RXB - 878
55	Screw	BBZ30P080FZK

56	Eject lever	RNK1763
57	Screw	BCZ30P060FMC
58	Screw	BMZ26P030FZK
59	Screw	BMZ26P040FMC
60	Screw	BMZ26P060FZK
61	Screw	BMZ30P080FZK
62	Screw	PMZ30P040FMC
63	Screw	PMA26P060FZK
64	Screw	PMA26P060FZK
65	Screw	PMZ20P080FZK

66	Washer	RBF - 030
67	Stabilizer (B)	REB1038
68	Cassette plate spring	RBL - 059
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	LED (D3)	SLF - 401C

76	Washer	WA21D040D013
77	Washer	WA26N070W040
78	Washer	WA32D080D050
79	E ring	YE20FUC
80	E ring	YE25FUC

81	E ring	YE30FUC
82	Snapping	YS24FBT
83	Shift shaft assembly	RXB - 885
84	Head base assembly	RXX1443
85	Mechanism chassis assembly	RXA1366

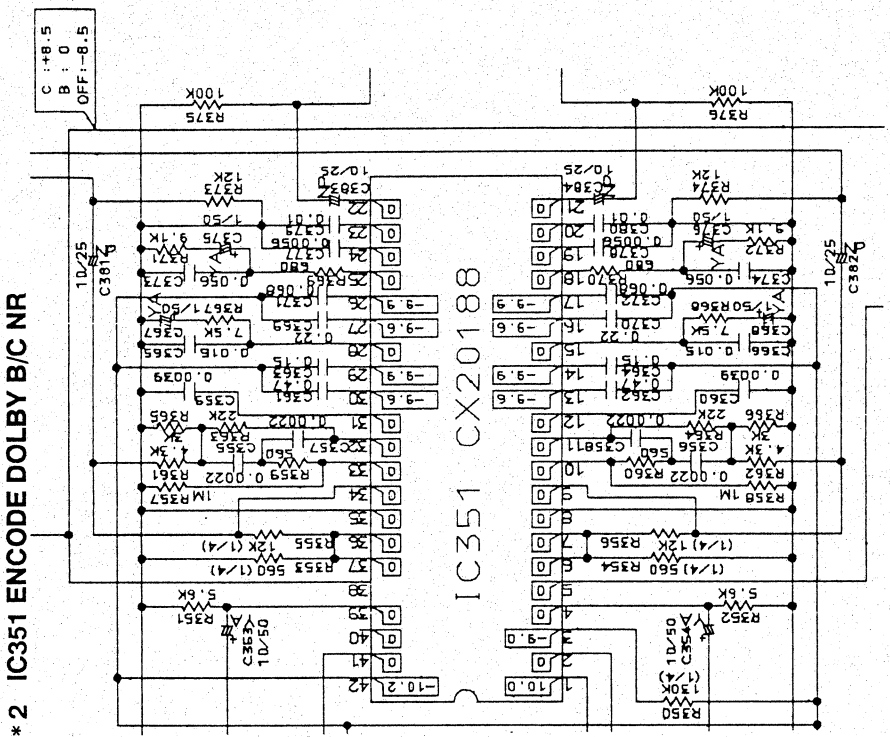
86	Brake lever	RNK1638
87	Second pulley assembly	RXA1350
88	Door frame (L)	RNE1475
89	Pinch lever assembly	RXA1360
90	Door frame (R)	RNE1476

91	Damper assembly	VXA1153
92	Half pressure spring	RBK1004
93	Door pocket	RNK1764
94	Loading motor	VXM1034
95	Screw	PBZ20P060FMC

96	Screw	BBZ20P060FMC
97	Stabilizer	REB1161
98	Washer	RBF - 057
99	Acetate tape (B)	REH1003

Mark	No.	Description	Part No.
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101	Gear base assembly	RXB - 882
102	E head	RPB1046
103	R & P head	RPB1029
104	Connector unit	RWZ2459
105	Adjustment nut	RBA1047
106	Head adjustment spring (C)	RBL - 034
107	Hight spring	RBL - 036
108	Head base	RNG - 334
109	Sub - head base	RNG - 335
110	E head base	RNG1083
111	Earth lead assembly	RDF - 001
112	REC switch unit	RWZ2457
113	Tape selector unit	RWZ2458
114	Sensor unit (B)	RWZ2460
115	Cassette plate	RAH1306
116	Lead cover	RNL - 793
117	Shift roller	RNL - 731



IC351 CX20188

IC351 CX20188

Mark No.	Description	Part No.
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101	Gear base assembly	RXB - 882
102	E head	RPB1046
103	R & P head	RPB1029
104	Connector unit	RWZ2459
105	Adjustment nut	RBA1047
106	Head adjustment spring (C)	RBL - 034
107	Height spring	RBL - 036
108	Head base	RNG - 334
109	Sub - head base	RNG - 335
110	E head base	RNG1033
111	Earth lead assembly	RDF - 001
112	REC switch unit	RWZ2457
113	Tape selector unit	RWZ2458
114	Sensor unit (B)	RWZ2460
115	Cassette plate	RAH1306
116	Lead cover	RNL - 793
117	Shift roller	RNL - 731

2. PACKING

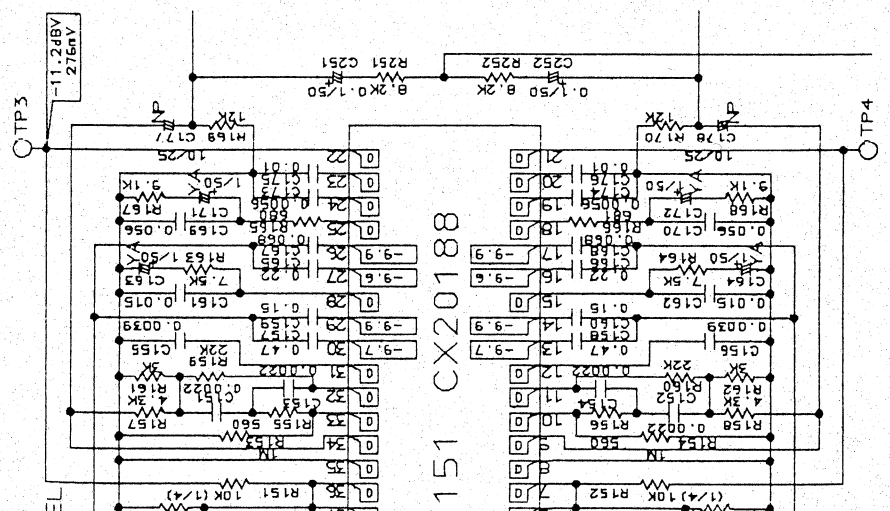
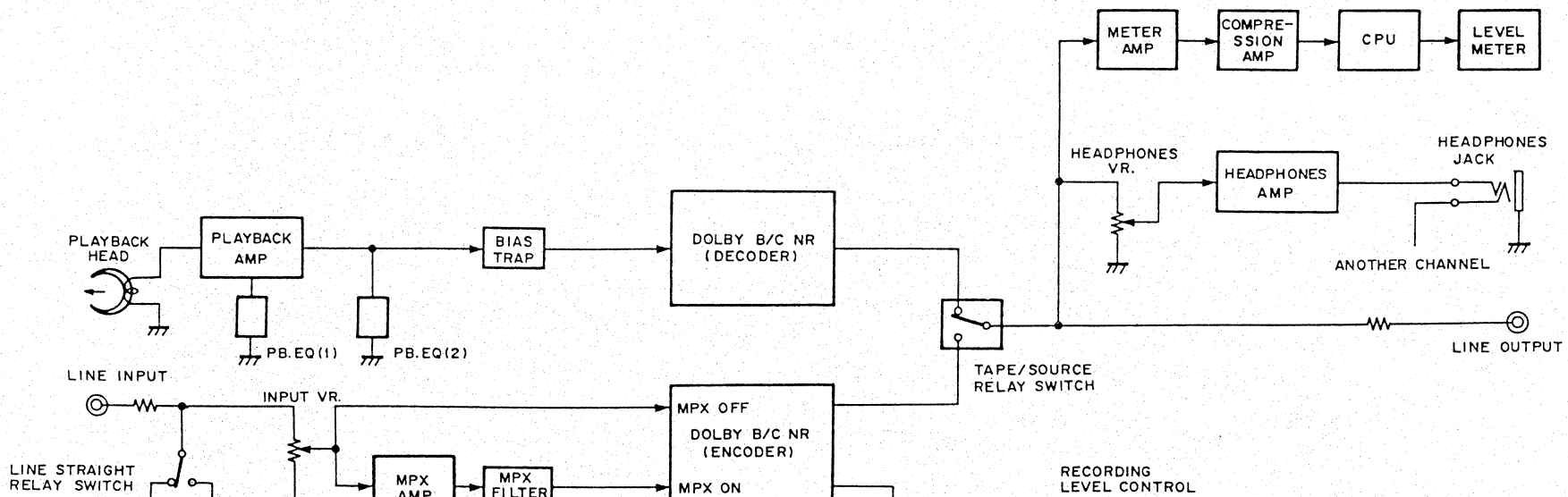
NOTES:

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

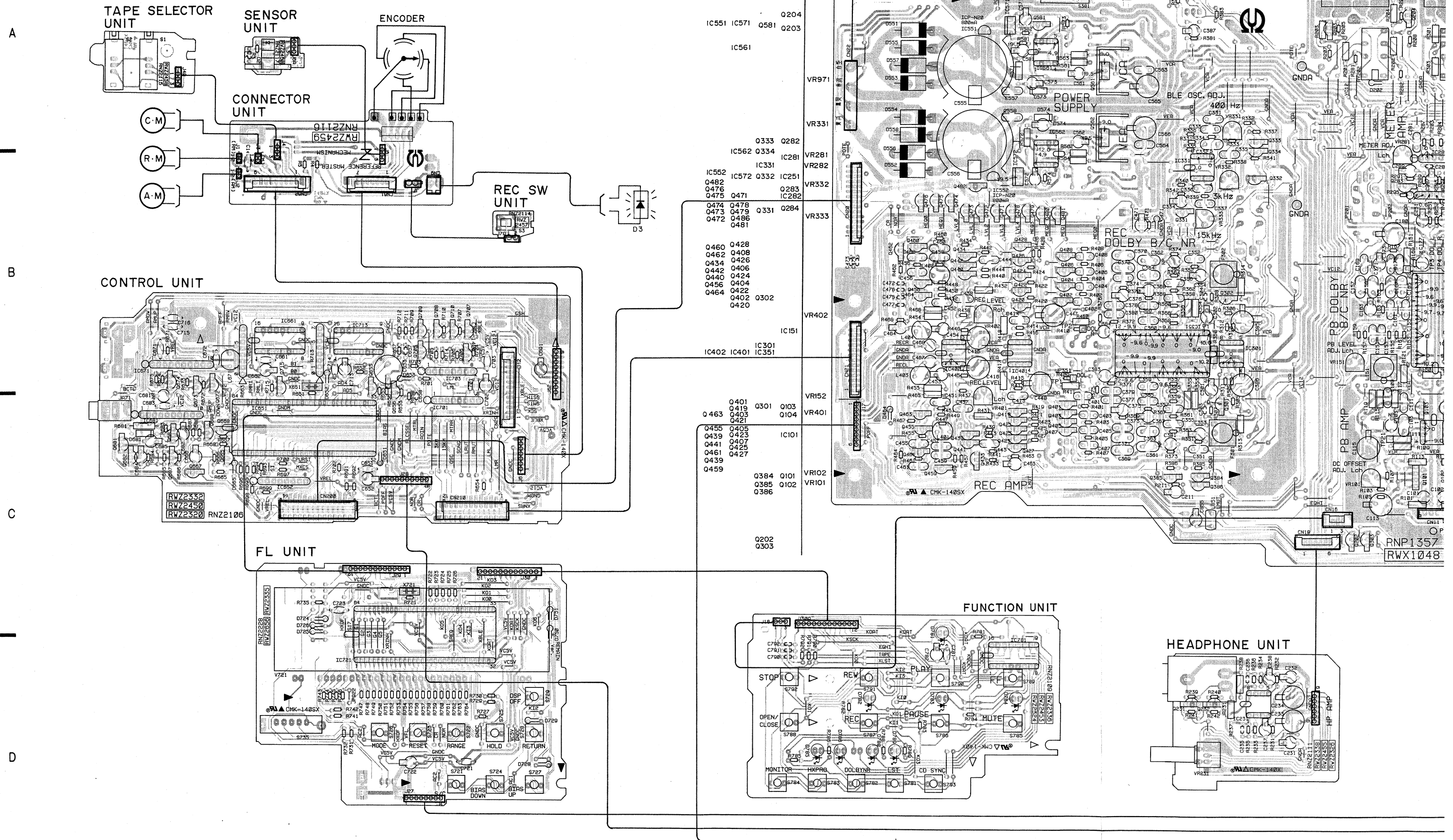
Parts List

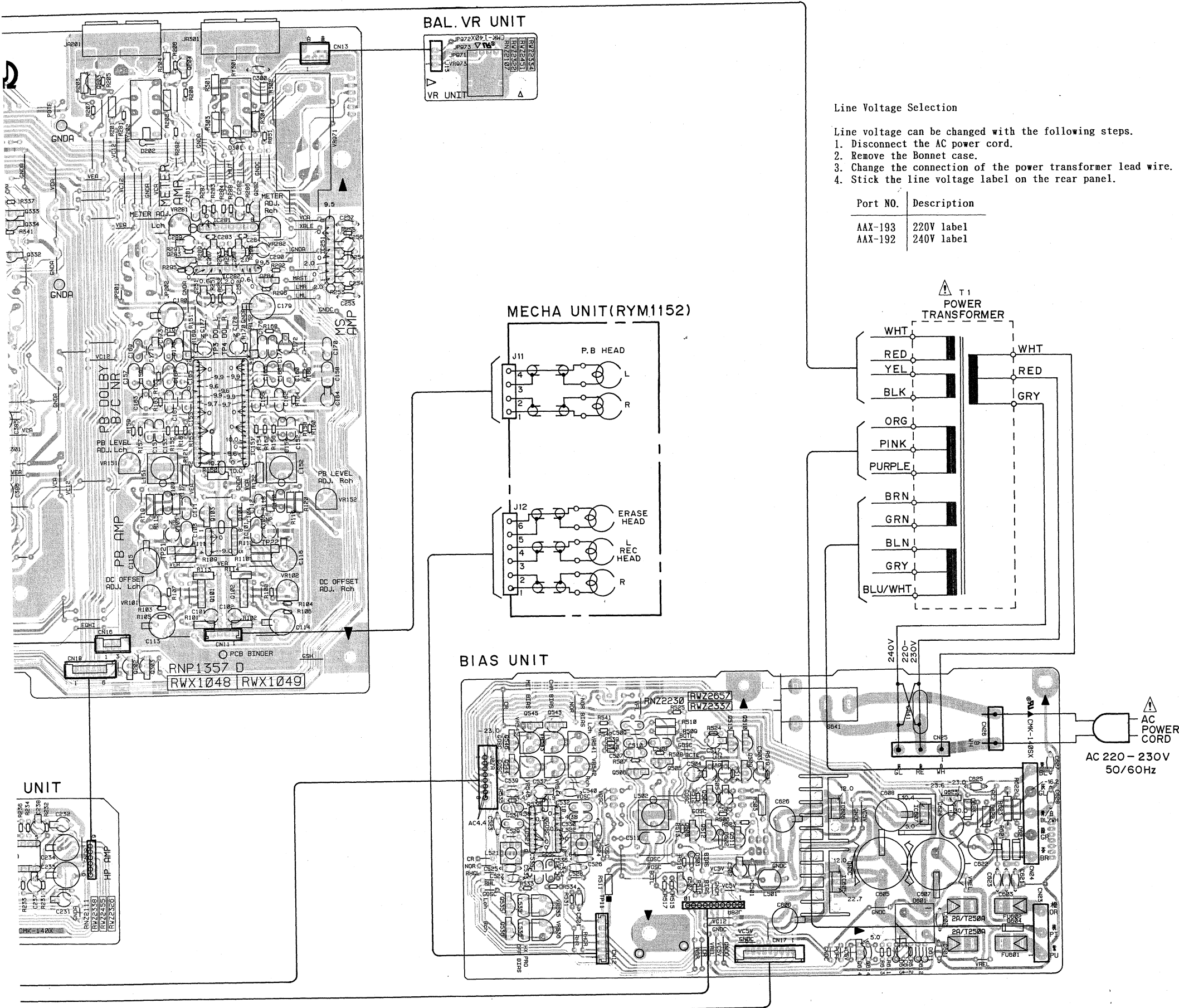
Mark No.	Description	Part No.
1	Pad (F)	RHA1095
2	Pad (R)	RHA1096
3	Packing case	RHG1356
4	Sheet	RHX1007
5	Control cord	RDE1031
6	Operating instructions (English/French)	RRE1057
7	Operating instructions (German/Italian/Dutch/Swedish/Spanish/Portuguese)	RRD1126
8	Connection cord assembly	RDE1002
9	Sheet	PHC1057
10	Connection cord	RDE - 010
101	Vinyl bag	RHL - 018

3. BLOCK DIAGRAM



IC151 CX20188





P.C.B. pattern diagram indication	Corresponding part symbol	Part name
		Transistor
		FET
		Diode
		Zener diode
		LED
		Varactor
		Tact switch
		Inductor
		Coil
		Transformer
		Filter
		Ceramic capacitor
		Mylar capacitor
		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

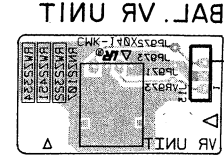
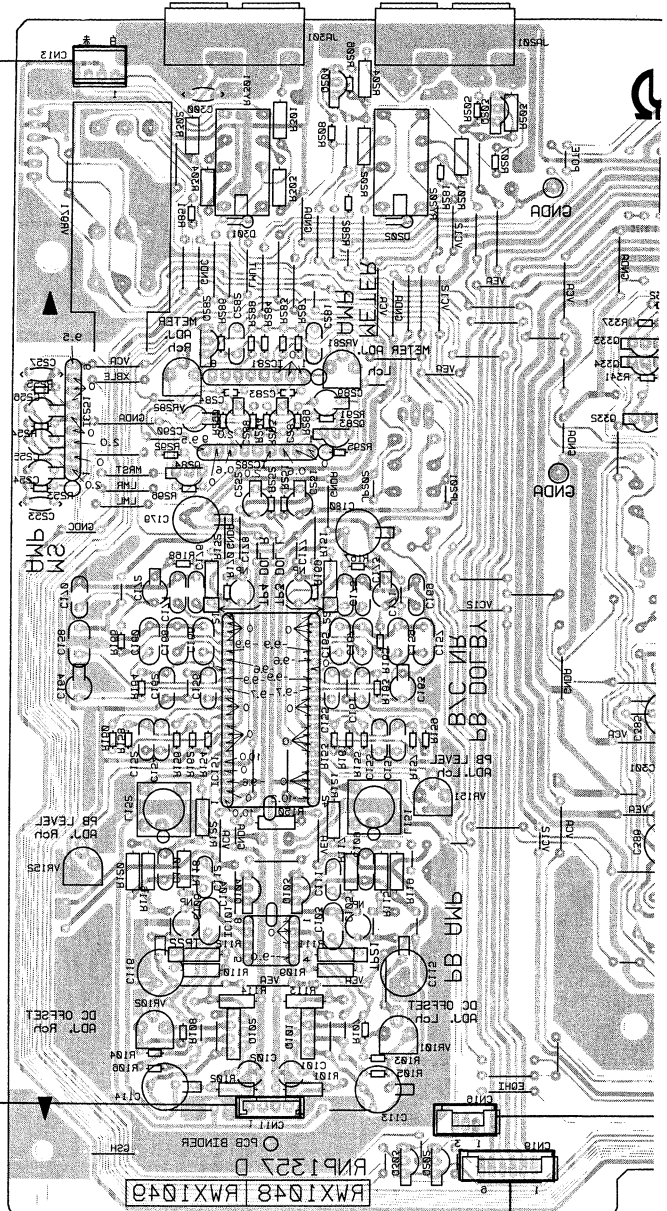
1. This P.C.B. connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the above Table.
3. The capacitor terminal marked with shows negative terminal.
4. The diode marked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

A

B

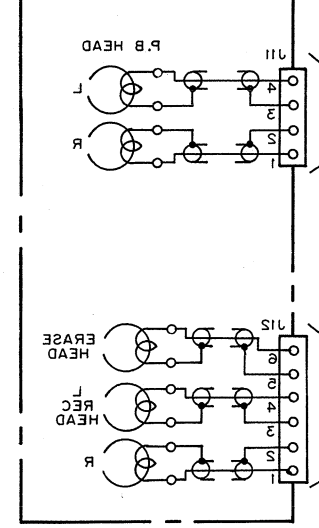
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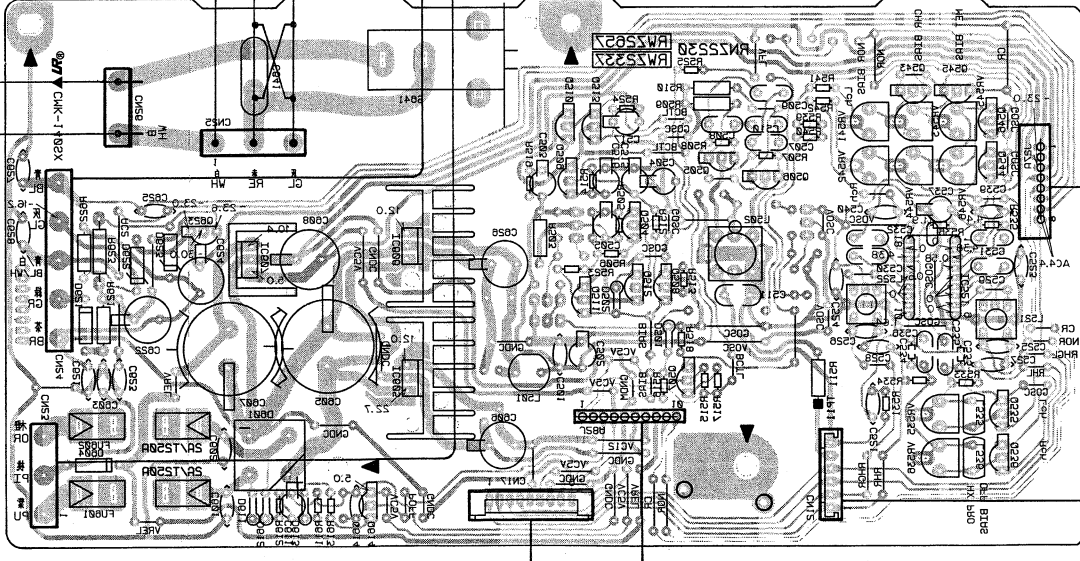


VR UNIT

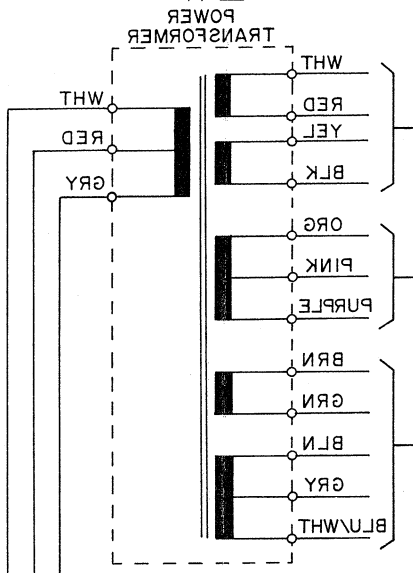
MECHA UNIT (RYM112S)



BIAS UNIT



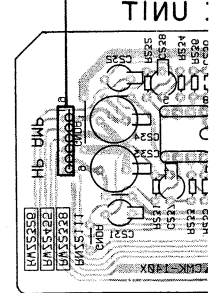
AC 250 - 520V
50/60Hz
CORD
POWER



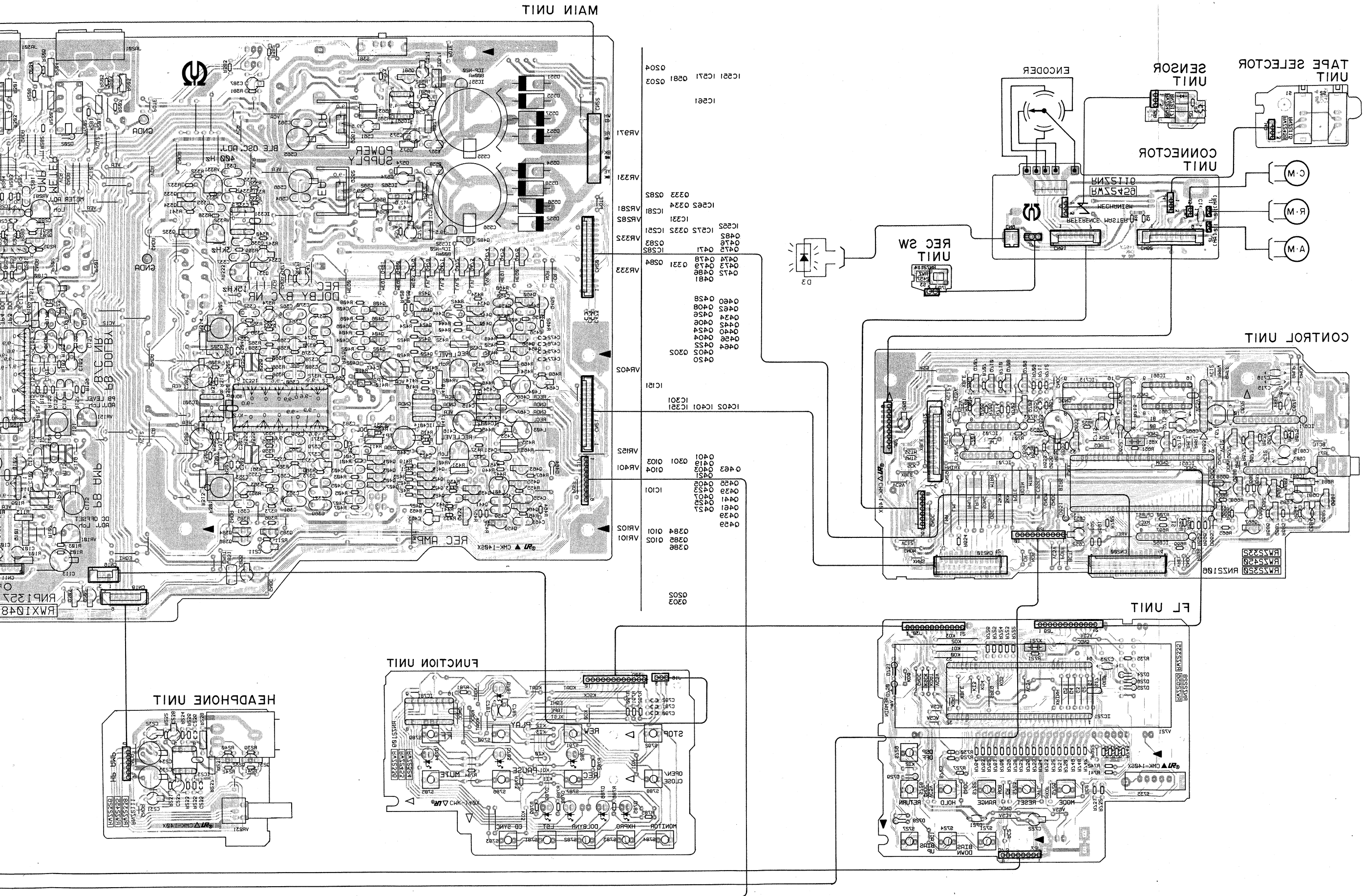
Port NO.	Description
AAX-193	250V label
AAX-193	250V label

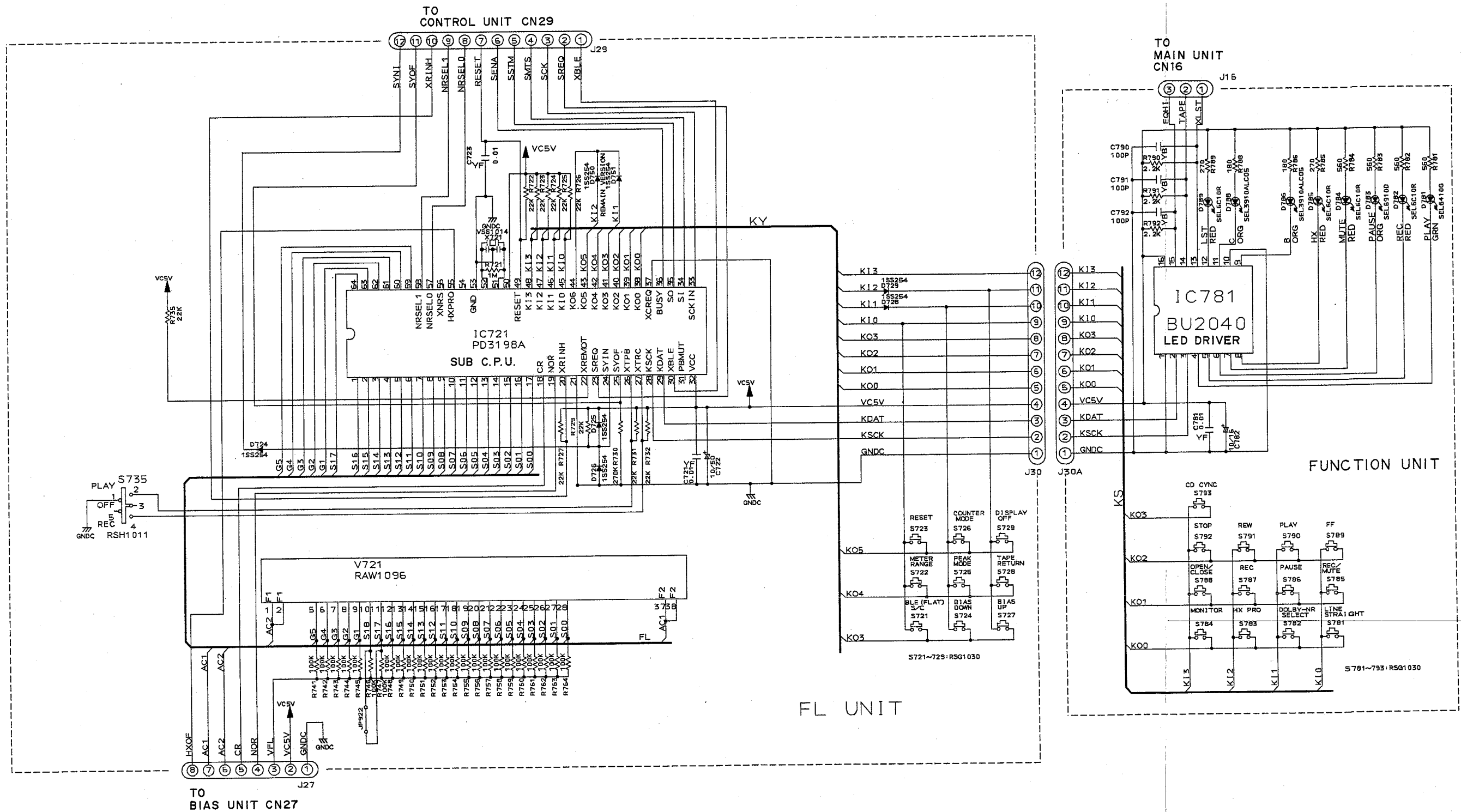
1. Stick the line voltage label on the rear panel.
 2. Change the connection of the power transformer lead wire.
 3. Remove the Bonnet case.
 4. Disconnect the AC power cord.
- Line voltage can be changed with the following steps.

Line Voltage Selection



UNIT





5. PCB PARTS LIST

NOTES:

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

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%)
560 Ω → 56 × 10¹ → 561 RD1/4PS

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

J
47k Ω → 47 × 10³ → 473 RD1/4PS

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

J
0.5 Ω → 0R5 RN2H

0	R	5
---	---	---

K
1 Ω → 010 RS1P

0	1	0
---	---	---

K
Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).
5.62k Ω → 562 × 10¹ → 5621 RN1/4SR

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

F

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
LIST OF ASSEMBLIES							
CONTROL UNIT							
BALANCE VR UNIT							
FL UNIT							
FUNCTION UNIT							
BIAS UNIT							
HEADPHONE UNIT							
MAIN UNIT							
RELAY UNIT							
└ REC SWITCH UNIT				RWM1454			
└ TAPE SELECTOR UNIT							
└ CONNECTOR UNIT							
└ SENSOR UNIT							
CONTROL UNIT							
SEMICONDUCTORS							
IC651 MAIN CPU				PD4359A			
IC652				M6M80011AL			
IC661 CMOS LOGIC IC				TC4050BP			
IC671 IC				BA6109			
IC681 IC				BA6109			
IC701 COMPARATOR				BA10393N			
IC703 COMPARATOR				BA10393N			
IC713 CMOS LOGIC IC				TC4050BP			
Q655, 656 DIGITAL TRANSISTOR				DTA114TS			
Q665 TRANSISTOR				DTC114ES			
Q667 TRANSISTOR				DTC124ES			
Q668 DIGITAL TRANSISTOR				DTC114TS			
Q672-674 TRANSISTOR				DTC114ES			
Q681-683 TRANSISTOR				2SA1309A			
Q687 TRANSISTOR				2SA1309A			
Q688 TRANSISTOR				DTC114ES			
Q705 DIGITAL TRANSISTOR				DTA114ES			
Q706 TRANSISTOR				2SC3311A			
Q707, 708 DIGITAL TRANSISTOR				DTC114TS			
Q709 DIGITAL TRANSISTOR				DTA114ES			
Q710 DIGITAL TRANSISTOR				DTC114TS			
Q715 TRANSISTOR				DTC114ES			

Mark	No.	Description	Part No.
	R713 (10k)		RCX□□□□
	R714, 715 CARBONFILM RESISTOR		RD1/6PM□□□J
OTHERS			
	CN200		TXC-P14X-A1
	CN210 CONECTOR(12P)		TXC-P12X-A1
	JA71 JACK		RKN1014
	X651 CERAMIC RESONATOR		VSS1014
BALANCE VR UNIT			
RESISTORS			
	VR973 (200k)		RCV1078
FUNCTION UNIT			
SEMICONDUCTORS			
	IC781 LOGIC IC		BU2040
	D781 LED		SEL6410G
	D782		SEL6C10R
	D783 LED		SEL6910D
	D784, 785		SEL6C10R
	D786 LED		SEL3910ALC05
	D788 LED		SEL3910ALC05
	D789		SEL6C10R
SWITCHES			
	S781-793 SWITCH		RSG1030
CAPACITORS			
	C781 CERAMIC CAPACITOR		CKCYF103Z50
	C782 ELECTR. CAPACITOR		CEJA100M16
	C790-792 AXIAL CAPACITOR		CKPUYB101K50
RESISTORS			
	R781-786 CARBONFILM RESISTOR		RD1/6PM□□□J
	R788-792 CARBONFILM RESISTOR		RD1/6PM□□□J
HEADPHONE UNIT			
SEMICONDUCTORS			
	IC231 OP AMP		M5238PF
	Q231, 232 TRANSISTOR		2SD2144S
CAPACITORS			
	C231, 232 ELECTR. CAPACITOR		CEYA010M50
	C233, 234 ELECTR. CAPACITOR(100/25)		PCH1076
	C235, 236 AXIAL CAPACITOR		CKPUYB221K50
	C237, 238 ELECTR. CAPACITOR		CEYA4R7M50
RESISTORS			
	R231-236 CARBONFILM RESISTOR		RD1/6PM□□□J
	R237, 238 CARBONFILM RESISTOR		RDR1/4PM□□□J
	R239-242 CARBONFILM RESISTOR		RD1/6PM□□□J
	VR231 VARIABLE RESISTOR(20k)		PCS1002
OTHERS			
	JA231 JACK		RKN1019
REC SWITCH UNIT			
SWITCHES			
	S3 SWITCH		RSG-143

Mark	No.	Description	Part No.
TAPE SELECTOR UNIT			
SWITCHES			
	S1, 2		RSH-070
CONNECTOR UNIT			
CAPACITORS			
	C1	CERAMIC CAPACITOR	CKCYF473Z50
RESISTORS			
	R4, 5	CARBONFILM RESISTOR	RD1/6PM□□□J
SENSOR UNIT			
SEMICONDUCTORS			
	D2		GP1A51HR
CAPACITORS			
	C3	CERAMIC CAPACITOR	CKPUYY103N16
RESISTORS			
	R3	CARBONFILM RESISTOR	RD1/6PM□□□J
FL UNIT			
SEMICONDUCTORS			
	IC721		PD3198A
	D724-726	DIODE	1SS254
	D728, 729	DIODE	1SS254
	D750, 751	DIODE	1SS254
SWITCHES			
	S721-729	SWITCH	RSG1030
	S735		RSH1011
CAPACITORS			
	C721	CERAMIC CAPACITOR	CKCYF103Z50
	C722	ELECTR. CAPACITOR	CEAS100M50
	C723	CERAMIC CAPACITOR	CKCYF103Z50
RESISTORS			
	R721-727	CARBONFILM RESISTOR	RD1/6PM□□□J
	R729-732	CARBONFILM RESISTOR	RD1/6PM□□□J
	R735	CARBONFILM RESISTOR	RD1/6PM□□□J
	R741-764	CARBONFILM RESISTOR	RD1/6PM□□□J
OTHERS			
	V721		RAW1096
	X721	CERAMIC RESONATOR	VSS1014
BIAS UNIT			
SEMICONDUCTORS			
	IC521	DOLBY HX PRO IC	UPC1297CA
	IC605, 606	REGULATOR IC	NJM7812FA
	IC607	REGULATOR IC	NJM7805FA
	Q504	TRANSISTOR	2SA1283
	Q505, 506	TRANSISTOR	2SD1302
	Q507	TRANSISTOR	2SC3311A
	Q508	TRANSISTOR	DTC124ES
	Q509	TRANSISTOR	2SC3311A
	Q510	TRANSISTOR	DTC124ES
	Q511	TRANSISTOR	DTC114ES

Mark	No.	Description	Part No.
	Q512	DIGITAL TRANSISTOR	DTA114ES
	Q513	TRANSISTOR	2SA1309A
	Q535, 536	DIGITAL TRANSISTOR	DTC114TS
	Q543-546	TRANSISTOR	DTC114ES
	Q614	TRANSISTOR	2SA1309A
△	Q623	TRANSISTOR	2SA1283
	D501, 502	DIODE	1SS254
△	D601		S2VB20
△	D604	RECRIFIER DIODE	1SR35-100A
	D611-613	DIODE	1SS254
△	D621	RECRIFIER DIODE	1SR35-100A
	D622	ZENER DIODE	MTZJ6. 8B
△	D623	ZENER DIODE	MTZJ24D
SWITCHES			
△	S641	SWITCH	RSA-063
COILS/TRANSFORMERS			
	L501		RTF1160
	L502		RTD1067
	L521, 522		RTD1045
	L535, 536	RADIAL INDUCTOR	LFA122J
CAPACITORS			
	C501	CERAMIC CAPACITOR	CKCYF473Z50
	C502	ELECTR. CAPACITOR	CEAS101M16
	C503	ELECTR. CAPACITOR	CEAS100M50
	C504, 505	ELECTR. CAPACITOR	CEAS330M16
	C507, 508	AUDIO FILM CAPACITOR	CFTXA222J50
	C509	AUDIO FILM CAPACITOR	CFTXA153J50
	C510	AUDIO FILM CAPACITOR	CFTXA332J50
	C511	PORYPROPYLENE FILM C(1500PF)	RCE1026
	C515	ELECTR. CAPACITOR	CEAS220M25
	C516	ELECTR. CAPACITOR	CEAS100M50
	C517	ELECTR. CAPACITOR	CEAS4R7M50
	C521	CERAMIC CAPACITOR	CCCCH470J50
	C523, 524	CERAMIC CAPACITOR	CKCYF473Z50
	C525, 526	CERAMIC CAPACITOR	CCCSL221K500
	C527, 528	CERAMIC CAPACITOR (390P/500)	RCG1004
	C529, 530	AUDIO FILM CAPACITOR	CFTXA333J50
	C531, 532	AUDIO FILM CAPACITOR	CFTXA223J50
	C533, 534	AXIAL CAPACITOR	CKPUYB471K50
	C535, 536	AUDIO FILM CAPACITOR	CFTXA103J50
	C537	ELECTR. CAPACITOR	CEAS330M16
	C539, 540	CERAMIC CAPACITOR	CKCYF103Z50
	C601-603	CERAMIC CAPACITOR	CKCYF473Z50
	C605	ELECTR. CAPACITOR (6800 μ F/25)	RCH1032
	C606	ELECTR. CAPACITOR	CEAS101M16
	C607	ELECTR. CAPACITOR	CEAS682M16
	C608	ELECTR. CAPACITOR	CEAS102M6R3
	C611	ELECTR. CAPACITOR	CEAS4R7M50
	C614	CERAMIC CAPACITOR	CKCYF103Z50
	C621	CERAMIC CAPACITOR	CKCYF473Z50
	C622	ELECTR. CAPACITOR	CEAS101M50
	C623	CERAMIC CAPACITOR	CKCYF473Z50
	C624	ELECTR. CAPACITOR	CEAS101M25

Mark	No.	Description	Part No.
	C625	CERAMIC CAPACITOR	CKCYF473Z50
	C626	ELECTR. CAPACITOR	CEAS101M16
	C627, 628	CERAMIC CAPACITOR	CKCYF473Z50
△	C641	CAPACITOR (0. 01 μ F/AC400)	VCG-044
RESISTORS			
	R503	CARBONFILM RESISTOR	RD1/2LF□□□J
	R505-508	CARBONFILM RESISTOR	RD1/6PM□□□J
	R509, 510	CARBONFILM RESISTOR	RD1/2PMF□□□J
	R511	CARBONFILM RESISTOR	RD1/2LF□□□J
	R512-514	CARBONFILM RESISTOR	RD1/6PM□□□J
	R515, 516	METALFILM RESISTOR	RN1/6PQ□□□□F
	R517-519	CARBONFILM RESISTOR	RD1/6PM□□□J
	R523-525	CARBONFILM RESISTOR	RD1/6PM□□□J
	R531	CARBONFILM RESISTOR	RD1/6PM□□□J
	R533-536	CARBONFILM RESISTOR	RD1/6PM□□□J
	R539-542	CARBONFILM RESISTOR	RD1/6PM□□□J
	R611-613	CARBONFILM RESISTOR	RD1/6PM□□□J
△	R621	FUSIBLE RESISTOR	RFA1/4L□□□J
	R622	CARBONFILM RESISTOR	RD1/2PMF□□□J
	R623	METAL OXIDE RESISTOR	RS1LMF□□□J
	VR535, 536, 541-544VR (3. 3k)		RCP1089
	VR545, 546 VR (15k)		RCP1090

MAIN UNIT

SEMICONDUCTORS

IC101	OP-AMP-IC	M5220P
IC151	DOLBY-B, C IC	CX20188
IC251	IC	BA335
IC281	IC	BA15218N
IC282		BA6138
IC301	OP-AMP, IC	M5218AP
IC331	OP-AMP IC	BA15218
IC351	DOLBY-B, C IC	CX20188
IC401, 402	OP AMP	M5238PF
△ IC551, 552	IC PROTECTOR	ICP-N20
IC561, 562	OP-AMP IC	NJM2114D
△ IC571	REGULATOR IC	NJM78M12FA
△ IC572	REGULATOR IC	NJM79M12FA
Q101, 102	N-DUAL-FET	2SK389
Q103, 104	DIGITAL TRANSISTOR	DTC114TS
Q202	DIGITAL TRANSISTOR	DTC114TS
Q203, 204	TRANSISTOR	2SD2144S
Q282	TRANSISTOR	DTC114ES
Q283, 284	TRANSISTOR	DTC124ES
Q301, 302	TRANSISTOR	2SD2144S
Q303	DIGITAL TRANSISTOR	DTC114TS
Q331-334	TRANSISTOR	DTC114ES
Q384	DIGITAL TRANSISTOR	DTA114ES
Q385, 386	TRANSISTOR	DTC114ES
Q401-408	DIGITAL TRANSISTOR	DTC114TS
Q419-428	DIGITAL TRANSISTOR	DTC114TS
Q433, 434	TRANSISTOR	2SD2144S
Q439-442	DIGITAL TRANSISTOR	DTC114TS
Q455, 456	DIGITAL TRANSISTOR	DTC114TS

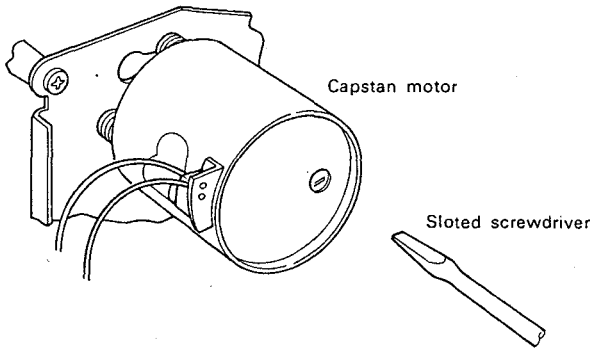
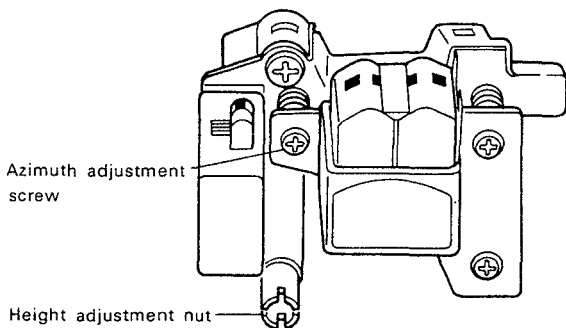
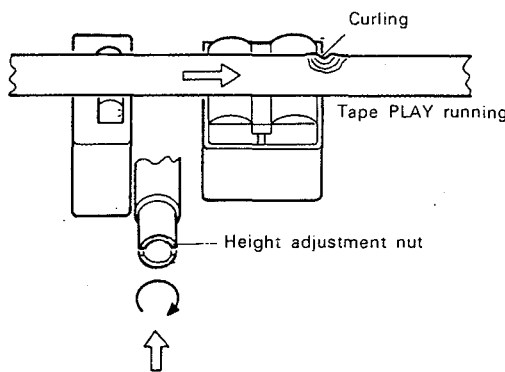
Mark	No.	Description	Part No.
	Q459-462	DIGITAL TRANSISTOR	DTC114TS
	Q463, 464	TRANSISTOR	2SD2144S
	Q471-476	DIGITAL TRANSISTOR	DTA114ES
	Q478-482	DIGITAL TRANSISTOR	DTA114ES
△	Q561	TRANSISTOR	2SD1855
△	Q562	TRANSISTOR	2SB1335
	Q581	TRANSISTOR	2SA1309A
	D202	DIODE	1SS254
	D301	DIODE	1SS254
	D464	DIODE	1SS254
	D471	ZENER DIODE	MTZJ4. 7A
△	D551-558		31DF2-FC5
△	D573, 574	ZENER DIODE	HZ5BLL
SWITCHES			
	S381		RSH1025
RELAYS			
	RY202		RSR1016
	RY301		RSR1016
COILS/TRANSFORMERS			
	L151, 152	BIAS TRAP (210KHZ)	RTF1175
	L401, 402	COIL	RTF1022
	L403, 404		RTF1013
	L851	RADIAL INDUCTOR	LFA121K
	F301, 302	FILTER	RTF1059
CAPACITORS			
	C101, 102	PL. STYRENE CAPACITOR	CQSF151J50
	C103, 104	AUDIO FILM CAPACITOR	CFTXA563J50
	C105, 106	ELECTR. CAPACITOR (10 μ F/25)	RCH1037
	C109, 110	AUDIO FILM CAPACITOR	CFTXA472J50
	C111, 112	AUDIO FILM CAPACITOR	CFTXA273J50
	C113-116	ELECTR. CAPACITOR (100/25)	PCH1076
	C151-154	AUDIO FILM CAPACITOR	CFTXA222J50
	C155, 156	AUDIO FILM CAPACITOR	CFTXA392J50
	C157, 158	AUDIO FILM CAPACITOR	CFTXA474J50
	C159, 160	AUDIO FILM CAPACITOR	CFTXA154J50
	C161, 162	AUDIO FILM CAPACITOR	CFTXA153J50
	C163, 164	ELECTR. CAPACITOR	CEYA010M50
	C165, 166	AUDIO FILM CAPACITOR	CFTXA224J50
	C167, 168	AUDIO FILM CAPACITOR	CFTXA683J50
	C169, 170	AUDIO FILM CAPACITOR	CFTXA563J50
	C171, 172	ELECTR. CAPACITOR	CEYA010M50
	C173, 174		CFTXA562J50
	C175, 176	AUDIO FILM CAPACITOR	CFTXA103J50
	C177, 178	ELECTR. CAPACITOR (10 μ F/25)	RCH1037
	C179, 180	ELECTR. CAPACITOR (100/25)	PCH1076
	C211	ELECTR. CAPACITOR	CEAS010M50
	C251, 252	ELECTR. CAPACITOR	CEASR10M50
	C253	AUDIO FILM CAPACITOR	CFTXA473J50
	C254, 255	ELECTR. CAPACITOR	CEASR10M50
	C256	ELECTR. CAPACITOR	CEASR47M50
	C257	AUDIO FILM CAPACITOR	CFTXA473J50

Mark	No.	Description	Part No.
	C281, 282	AUDIO FILM CAPACITOR	CFTXA563J50
	C283, 284	AXIAL CERAMIC C.	CCPUSL470J50
	C287-290	ELECTR. CAPACITOR	CEAS4R7M50
	C300	CERAMIC CAPACITOR	CKCYF473Z50
	C301, 302	ELECTR. CAPACITOR	CEYA010M50
	C303, 304	AXIAL CAPACITOR	CKPUYB221K50
	C331	AUDIO FILM CAPACITOR	CFTXA683J50
	C332	MYLAR FILM CAPACITOR	CQMA104J50
	C333	MYLAR FILM CAPACITOR	CQMA123J50
	C334	ELECTR. CAPACITOR	CEAS010M50
	C335	AUDIO FILM CAPACITOR	CFTXA682J50
	C336	MYLAR FILM CAPACITOR	CQMA123J50
	C337	MYLAR FILM CAPACITOR	CQMA182J50
	C353, 354	ELECTR. CAPACITOR	CEYA100M50
	C355-358	AUDIO FILM CAPACITOR	CFTXA222J50
	C359, 360	AUDIO FILM CAPACITOR	CFTXA392J50
	C361, 362	AUDIO FILM CAPACITOR	CFTXA474J50
	C363, 364	AUDIO FILM CAPACITOR	CFTXA154J50
	C365, 366	AUDIO FILM CAPACITOR	CFTXA153J50
	C367, 368	ELECTR. CAPACITOR	CEYA010M50
	C369, 370	AUDIO FILM CAPACITOR	CFTXA224J50
	C371, 372	AUDIO FILM CAPACITOR	CFTXA683J50
	C373, 374	AUDIO FILM CAPACITOR	CFTXA563J50
	C375, 376	ELECTR. CAPACITOR	CEYA010M50
	C377, 378		CFTXA562J50
	C379, 380	AUDIO FILM CAPACITOR	CFTXA103J50
	C381-384	ELECTR. CAPACITOR (10/25)	RCH1037
	C385, 386	ELECTR. CAPACITOR (100/25)	PCH1076
	C387	ELECTR. CAPACITOR	CEAS330M16
	C401, 402	AUDIO FILM CAPACITOR	CFTXA103J50
	C403, 404	AUDIO FILM CAPACITOR	CFTXA472J50
	C405, 406		CFTXA272J50
	C407, 408	AUDIO FILM CAPACITOR	CFTXA122J50
	C413, 414	AUDIO FILM CAPACITOR	CFTXA103J50
	C415, 416	ELECTR. CAPACITOR (100/25)	PCH1076
	C437, 438		CFTXA102J50
	C443, 444	AUDIO FILM CAPACITOR	CFTXA472J50
	C447, 448	ELECTR. CAPACITOR (220/25)	PCH1077
	C451, 452	AUDIO FILM CAPACITOR	CFTXA274J50
	C453, 454	ELECTR. CAPACITOR	CEYA330M25
	C455, 456	AUDIO FILM CAPACITOR	CFTXA103J50
	C457, 458		CFTXA562J50
	C459, 460	AUDIO FILM CAPACITOR	CFTXA472J50
	C461, 462	AUDIO FILM CAPACITOR	CFTXA222J50
	C463	ELECTR. CAPACITOR	CEAS010M50
	C464	ELECTR. CAPACITOR	CEAS100M50
	C467, 468	PL. STYRENE CAPACITOR	CQSA561J50
	C471	ELECTR. CAPACITOR	CEAS100M50
	C472-476	CERAMIC CAPACITOR	CKPUYY103N16
	C555	ELECTR. CAPACITOR (3300 μ F)	RCH1048
	C556	ELECTR. CAPACITOR (3300 μ F)	RCH1049
	C557, 558	AUDIO FILM CAPACITOR	CFTXA563J50
	C561, 562	ELECTR. CAPACITOR	CEYA100M50
	C563, 564	AUDIO FILM CAPACITOR	CFTXA563J50

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
		C565, 566 ELECTR. CAPACITOR (100 μ F/25)	PCH1084			VR401, 402 VARIABLE RESISTOR(20k)	RCP1017
		C571, 572 ELECTR. CAPACITOR	CEYA010M50			VR971 VARIABLE RESISTOR(20k)	RCV1019
		C573, 574 ELECTR. CAPACITOR	CEYA330M25				
		C581 ELECTR. CAPACITOR	CEAS220M50				
		C855 ELECTR. CAPACITOR	CEAS101M10				
RESISTORS				OTHERS			
		R101, 102 CARBONFILM RESISTOR	RDR1/4PM□□□J			SCREW	IBZ30P100FCC
		R103-108 CARBONFILM RESISTOR	RD1/6PM□□□J			CN20	TXC-P14P-A1
		R109-122 CARBONFILM RESISTOR	RDR1/4PM□□□J			CN21	TXC-P12P-A1
		R150-152 CARBONFILM RESISTOR	RDR1/4PM□□□J			JA201 JACK	RKB1020
		R153-170 CARBONFILM RESISTOR	RD1/6PM□□□J			JA301 JACK	RKB1020
		R201-204 CARBONFILM RESISTOR	RDR1/4PM□□□J				
		R205-208 CARBONFILM RESISTOR	RD1/6PM□□□J				
		R211 CARBONFILM RESISTOR	RD1/6PM□□□J				
		R251-255 CARBONFILM RESISTOR	RD1/6PM□□□J				
		R281-284 CARBONFILM RESISTOR	RD1/6PM□□□J				
		R286-296 CARBONFILM RESISTOR	RD1/6PM□□□J				
		R301-304 CARBONFILM RESISTOR	RDR1/4PM□□□J				
		R305-312 CARBONFILM RESISTOR	RD1/6PM□□□J				
		R313, 314 CARBONFILM RESISTOR	RDR1/4PM□□□J				
		R331-342 CARBONFILM RESISTOR	RD1/6PM□□□J				
		R350 CARBONFILM RESISTOR	RDR1/4PM□□□J				
		R351, 352 CARBONFILM RESISTOR	RD1/6PM□□□J				
		R353-356 CARBONFILM RESISTOR	RDR1/4PM□□□J				
		R357-376 CARBONFILM RESISTOR	RD1/6PM□□□J				
		R381-383 CARBONFILM RESISTOR	RD1/6PM□□□J				
		R385, 386 CARBONFILM RESISTOR	RD1/6PM□□□J				
		R401-408 CARBONFILM RESISTOR	RD1/6PM□□□J				
		R409, 410(100k)	RCN□□□□				
		R411, 412 CARBONFILM RESISTOR	RDR1/4PM□□□J				
		R413-416 CARBONFILM RESISTOR	RD1/6PM□□□J				
		R417, 418 CARBONFILM RESISTOR	RDR1/4PM□□□J				
		R419-428 CARBONFILM RESISTOR	RD1/6PM□□□J				
		R431, 432 CARBONFILM RESISTOR	RDR1/4PM□□□J				
		R433, 434 CARBONFILM RESISTOR	RD1/6PM□□□J				
		R437-452 CARBONFILM RESISTOR	RD1/6PM□□□J				
		R453, 454 CARBONFILM RESISTOR	RDR1/4PM□□□J				
		R455-464 CARBONFILM RESISTOR	RD1/6PM□□□J				
		R465, 466 CARBONFILM RESISTOR	RDR1/4PM□□□J				
		R467, 468 CARBONFILM RESISTOR	RD1/6PM□□□J				
		R471 CARBONFILM RESISTOR	RD1/6PM□□□J				
		R561-564 CARBONFILM RESISTOR	RDR1/4PM□□□J				
		R571, 572 CARBONFILM RESISTOR	RDR1/4PM□□□J				
		R573, 574 CARBONFILM RESISTOR	RD1/6PM□□□J				
		R581, 582 CARBONFILM RESISTOR	RD1/6PM□□□J				
		R851 CARBONFILM RESISTOR	RD1/6PM□□□J				
		VR101, 102 VR(4.7k)	RCP1053				
		VR151, 152 VARIABLE RESISTOR(5k)	RCP1088				
		VR281, 282 VR(22k)	RCP1046				
		VR331, 332 VR(10k)	RCP1045				
		VR333 VR(47k)	RCP1047				

6. ADJUSTMENTS

6.1 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 ± 5 Hz at the beginning of winding of test tape STD-301.
2	PLAY	Height adjustment unit (Refer to Fig. 1)	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. 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-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.	 Capstan motor Slotted screwdriver Fig. 3		
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.)					
 Azimuth adjustment screw Height adjustment nut Fig. 1  Curling Tape PLAY running Height adjustment nut Fig. 2						

6.2 ELECTRICAL ADJUSTMENTS

Adjustment Conditions

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

Test Tapes

STD-331E	: Playback adjustments (See Fig. 6-1)
STD-631	: NORMAL blank tape
STD-621	: CrO ₂ blank tape
STD-610	: METAL blank tape

* As the reference recording level is 250 nwb/m for STD-331E, the recording level will be higher by 4 dB for STD-331B (160 nwb/m). When adjusting, pay carefull attention to the type of tape used.

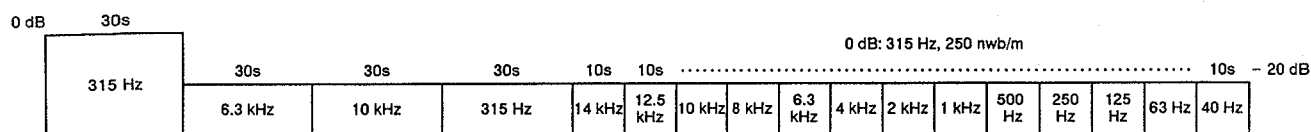


Fig. 6-1 Constants of the test tape STD-331E

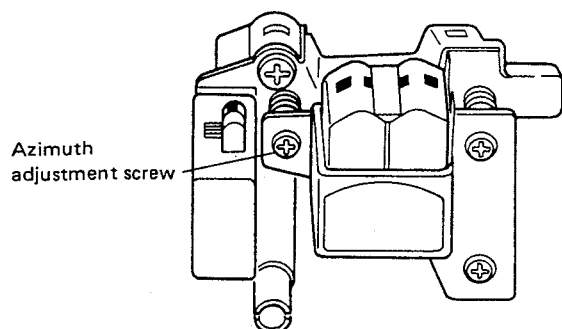


Fig. 6-2 Head azimuth adjustment

List of Adjustments

Playback sections

1. Head azimuth adjustment.
2. Playback level adjustment.
3. DC balance adjustment.

Recording sections

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

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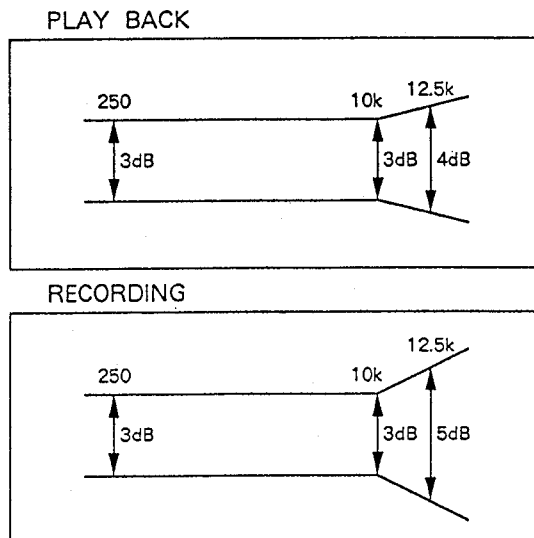


Fig. 6-3 Frequency response zone

PLAYBACK SECTION

1. Head Azimuth Adjustment

- Turn VR105, 106 to mechanical center positions.

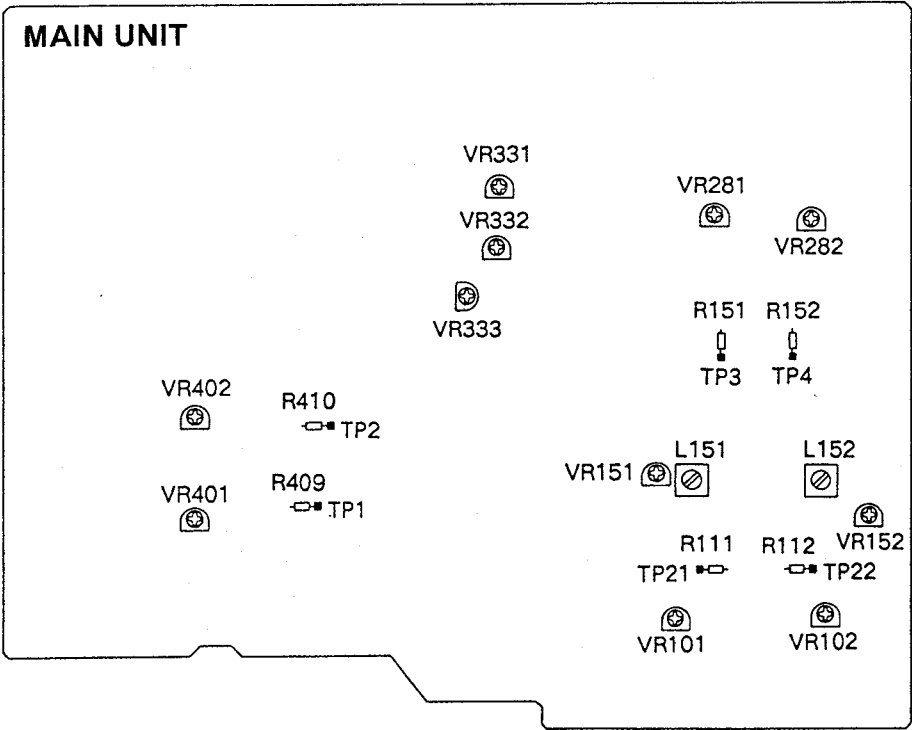
No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	PLAY	Play the 10 kHz/−20 dB section of STD−331E test tape.	Head azimuth adjustment screw. (See Fig. 6−2)	LINE OUT	Maximum playback signal level.	
2.	STOP	Lock the screw with screw lock after completing adjustment.				

2. Playback Level Adjustment

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 VR151 (Lch) VR152 (Rch)	TP. 3 (Lch) TP. 4 (Rch)	−11.0 dBV	This adjustment must be performed accurately for proper Dolby level setting.

3. DC Balance Adjustment

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.			VR101 (Lch) VR102 (Rch)	TP. 21 (Lch) TP. 22 (Rch)	0V ± 0.2V	



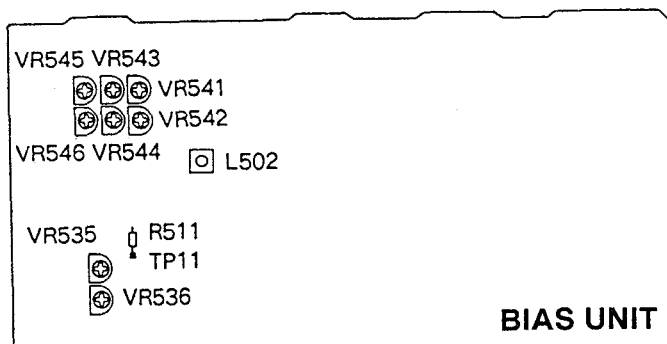


Fig. 6-4 Adjusting points

RECORDING SECTION

1. Bias Oscillator Adjustment

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	REC/ PLAY	Load the STD-610 test tape with no input signal.	Deck	L502	TP. 11	210kHz $\pm$ 600 Hz	

2. Bias Trap Adjustment

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	REC/ PLAY	Load the STD-610 test tape with no input signal.	Deck	L151 (Lch) L152 (Rch)	TP. 3 (Lch) TP. 4 (Rch)	Minimum output	

3. Recording Bias Adjustment

- Turn ON the DOLBY HX PRO switch on the front panel, and set the BIAS control to the center position.

Turn ON the DOLBY HX PRO switch on the front panel, and then follow the steps below.							
No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	REC/ PAUSE	Apply a 315 Hz/−26 dBV (−20VU meter reading) signal to the line input terminals and insert STD−631.	—		LINE OUT	—	
2.	REC → PLAY	Record and play back the 315 Hz signal and a 10 kHz signal at −26 dBV input level.	NOR	VR541 (L ch) VR542 (R ch)		Record and play back repeatedly, comparing the 315 Hz and 10 kHz playback levels, and adjust to 0 ± 0.5 dB.	
3.		Record the 10 kHz/315 Hz, −26 dBV signal on STD−621 and play back.	CrO2	VR543 (L ch) VR544 (R ch)		0 dBV ± 0.5 dB	
4.		Record the 10 kHz/315 Hz, −26 dBV signal on STD−610 and play back.	METAL	VR545 (L ch) VR546 (R ch)		0 dBV ± 0.5 dB	
5.	Check distortion value after adjustment is completed and confirm that there is no underbias.						
6.	Turn OFF the DOLBY HX PRO switch.						
7.	REC → PLAY	Record and play back the 315 Hz signal and a 10kHz signal at −26 dBV input level.	NOR	VR535 (L ch) VR536 (R ch)	LINE OUT	Turn the control fully counterclockwise, and gradually turn to the right to adjust to 0 dB ± 0.5 dB compared when HX−Pro is ON.	Turn control clockwise past the peak to assure proper overbias value.

Adjust in the order of NOR → CrO2 → METAL. After completing all adjustments, note that the adjustment values for CrO2 and METAL will be altered if NOR is re-adjusted, and that for METAL will be altered if CrO2 is re-adjusted.

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/−6 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/−6 dBV signal.	Deck	VR401 (Lch) VR402 (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/−6 dBV signal on STD−621 (CrO2), and play it back.	Check			−11.2 dBV ± 1 dB	
4.	REC → PLAY	Record the 315 Hz/−6 dBV signal on STD−610 (METAL), and play it back.	Check			−11.2 dBV ± 1 dB	

5. Level Meter Adjustment

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	REC/ PAUSE	Apply a 315 Hz/-6 dBV (316 mV) signal to the line input terminals.	VR281 (Lch) VR282 (Rch)		TP. 1 (Lch) TP. 2 (Rch)	Always set the enlarged mode when adjusting. Adjust so that the 0 dB segment lights at a level of -11.2 ± 0.5 dBV (-11.2 ± 1.0 dBV in the normal mode).	Adjust by turning clockwise until the lamp lights up.

6. AUTO BLE Adjustment

- BLE Adjustment must be performed after all other adjustments are completed.
- This adjustment should be performed in the test mode.
- Entering the test mode

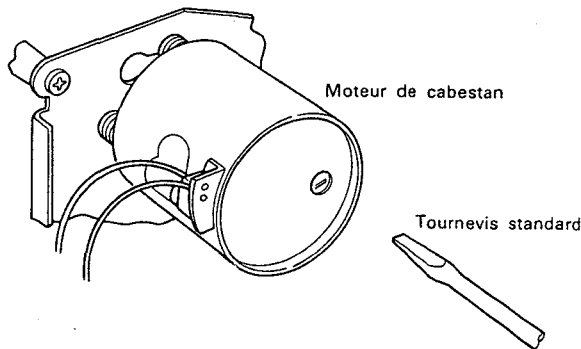
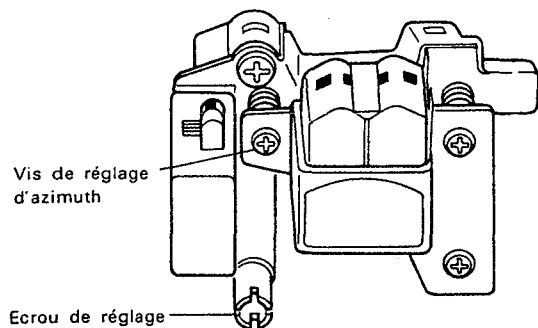
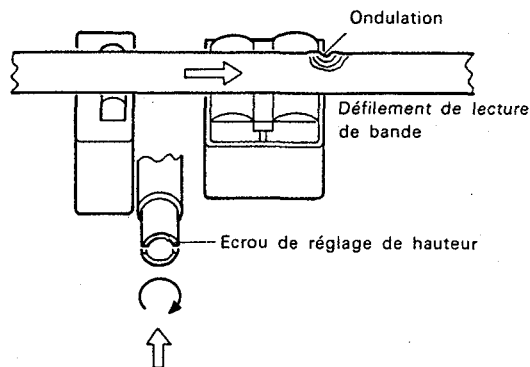
Press the MODE (COUNTER), RANGE and MONITOR keys on the front panel simultaneously, with the power ON. The unit enters the test mode and oscillates a 400 Hz signal.

Thereafter, each time the START/CLEAR key is pressed, the oscillation frequency changes as follows: 3 kHz oscillation → 15 kHz oscillation → Release

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	-	REC LEVEL VR MIN or no signal input.	-	-	-	
2.		Press the three keys MODE (COUNTER), RANGE and MONITOR on the front panel simultaneously.	VR331	Level meter Rch	Adjust so that 0 dB on the level meter lights.	400 Hz adjustment
3.		Press the START/CLEAR key once.	VR332		Adjust so that 0 dB on the level meter lights.	3 kHz adjustment
4.		Press the START/CLEAR key once.	VR333		Adjust so that -3 dB on the level meter lights.	15 kHz adjustment
5.	When the START/CLEAR key is pressed again, the test mode is released.					

6. REGLAGES

6.1 REGLAGES RELATIFS AU MECANISME

1. Réglage d'azimut et de défilement de bande				2. Réglage de vitesse de bande		
N.º	Mode	Emplacement de réglage	Spécifications	Mode	Point de réglage	Caractéristiques
1	—	—	Insérer le demi-miroir dans le côté A (régler les vis à l'avant).	LEC-TURE	Orifice de réglage du moteur de cabestan (Se reporter à la Fig. 3)	Régler afin que la fréquence de lecture soit de 3015 ± 5 Hz au début de l'enroulement de la bande d'essai STD-301.
2	PLAY	Ecrou de réglage de hauteur (Se reporter à la Fig. 1.)	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. 2.)	LEC-TURE	—	Reproduire à nouveau la bande d'essai STD-301 et confirmer que les caractéristiques ci-dessus sont satisfaisantes.
3	PLAY	Vis de réglage d'azimut (Se reporter à la Fig. 1.)	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.	 Fig. 3		
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. 1  Fig. 2						

6.2 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 : NORM
(TAPE SELECTOR)

Bandes d'essai

- STD-331E : Réglages de la lecture
(Voir fig. 6-1)
- 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.
- 3. Réglage de l'équilibre CC.

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 l'indicateur de niveau.
- 6. Réglage de AUTO BLE

* 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 nw/m). Pour le réglage, tenir compte du type de bande utilisé.

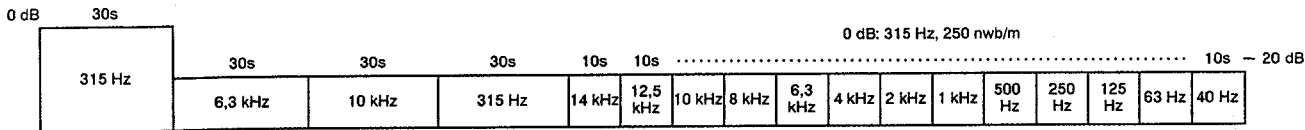


Fig. 6-1 Constantes de la bande d'essai STD-331E

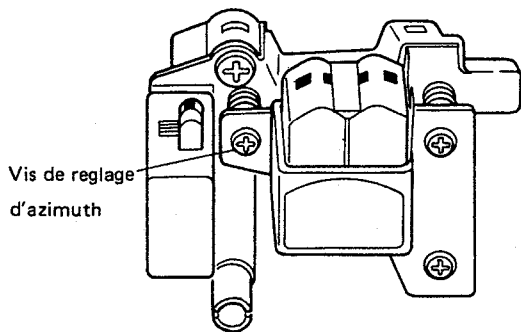
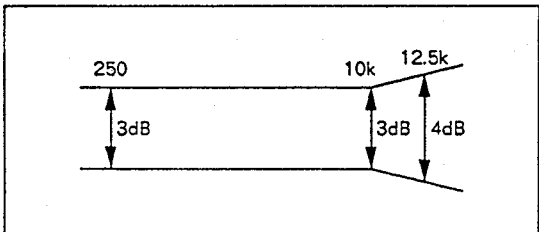


Fig. 6-2 Réglage de l'azimut de la tête

LECTURE



ENREGISTREMENT

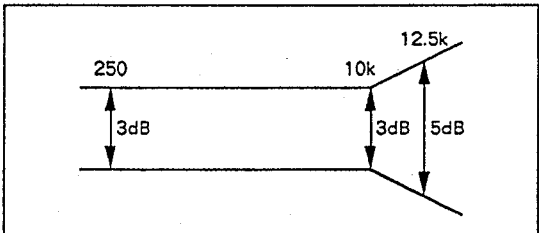


Fig. 6-3 Zone de réponse en fréquence

SECTION DE LECTURE

1. Réglage de l'azimut de la tête

- Tourner VR105, 106 sur leur position centrale mécanique.

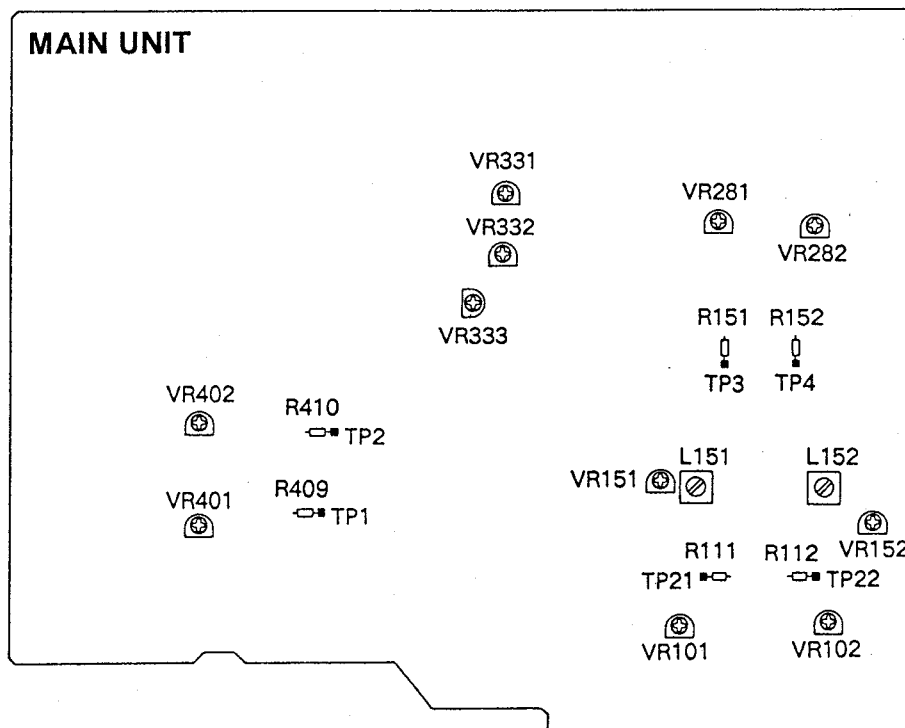
No.	Mode	Signal d'entrée et bande d'essai	Points de réglage	Points de mesure	Valeur de réglage	Remarques
1.	PLAY	Reproduire la section 10 kHz/-20 dB de la bande d'essai STD-331E.	Vis de réglage de l'azimut de la tête. (Voir fig. 6-2)	LINE OUT	Niveau du signal de reproduction maximum.	
2.	STOP	Verrouiller la vis avec le verrouillage de vis après avoir terminé le réglage.				

2. Réglage du niveau de lecture

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	VR151 (can. G) VR152 (can. D)	TP. 3 (can. G) TP. 4 (can. D)	-11,0 dBV	Ce réglage doit être effectué avec précision pour un réglage adéquat du niveau Dolby.

3. Réglage de l'équilibre CC

No.	Mode	Signal d'entrée et bande d'essai	Points de réglage	Points de mesure	Valeur de réglage	Remarques
1.			VR101 (can. G) VR102 (can. D)	TP. 21 (can. G) TP. 22 (can. D)	0V $\pm$ 0,2V	



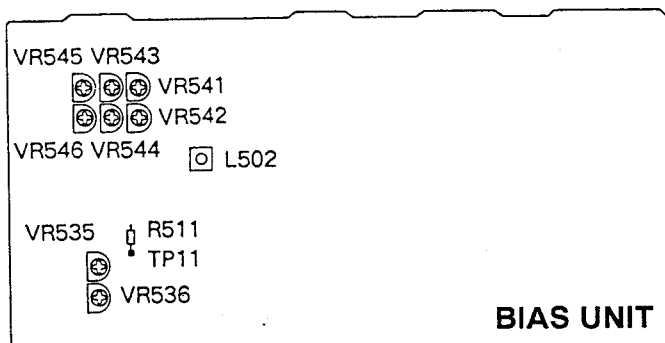


Fig. 6-4 Points réglage

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/ PLAY	Charger la bande d'essai STD-610 et n'introduire aucun signal.	Platine	L502	TP. 11	210 kHz $\pm$ 600 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/ PLAY	Charger la bande d'essai STD-610 et n'introduire aucun signal.	Platine	L151 (can. G) L152 (can. D)	TP. 3 (can. G) TP. 4 (can. D)	Sortie minimum	

3. Réglage de la polarisation d'enregistrement

- Mettre l'interrupteur DOLBY HX PRO en circuit sur le panneau avant et régler la commande de polarisation BIAS sur la position centrale.

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/-26 dBV (lecture du décibel-mètre -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 -26 dBV.	NOR	VR541 (can.G) VR542 (can.D)		Enregistrer et reproduire continuellement, comparant les niveaux de lecture de 315 Hz et 10 kHz et régler à $0 \pm 0,5$ dB.	
3.		Enregistrer le signal de 10 kHz/315 Hz/-26 dBV sur STD-621 et reproduire.	CrO2	VR543 (can.G) VR544 (can.D)		$0 \text{ dBV} \pm 0,5 \text{ dB}$	
4.		Enregistrer le signal 10 kHz/315 Hz/-26 dBV sur STD-610 et reproduire.	METAL	VR545 (can.G) VR546 (can.D)		$0 \text{ dBV} \pm 0,5 \text{ dB}$	
5.	Vérifier la valeur de distorsion après avoir trminé le réglage et confirmer qu'il n'y a pas de sous polarisation.						
6.	Mettre l'interrupteur DOLBY HX PRO hors circuit.						
7.	REC → PLAY	Enregistrer et reproduire un signal de 315 Hz et un signal de 10 kHz à un niveau d'entée de -26 dBV.	NOR	VR535 (can.G) VR536 (can.D)	LINE OUT	Tourner la commande à fond dans le sens contraire des aiguilles d'une montre. Puis la tourner graduellement vers la droite pour ajuster à $0 \text{ dB} \pm 0,5 \text{ dB}$ comparé quand HX-Pro est en circuit.	Tournerla commande à droite au-delà de la crête pour assurer la valeur overbias correcte.

Régler dans l'ordre NOR → CrO2 → METAL. Après l'achèvement de tous les réglages, noter que la valeur de CrO2 et METAL sera modifiée si NOR est réajusté, et que celle de METAL le sera si CrO2 est réajusté.

4. Réglage du niveau d'enregistrement

- Mettre l'interrupteur DOLBY NR hors 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/ -6 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/-6 dBV.	Platine	VR401 (can. G) VR402 (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/ -6 dBV sur STD-621 (CrO2) et le reproduire.	Vérifier			-11.2 dBV ± 1 dB	
4.	REC → PLAY	Enregistrer le signal 315 Hz/ -6 dBV sur STD-610 (METAL) et le reproduire.	Vérifier			-11.2 dBV ± 1 dB	

5. Réglage de l'Indicateur de niveau

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/-6 dBV (316 mV) aux bornes d'entrée de ligne.	VR281 (can. G) VR282 (can. D)	TP. 1 (can. G) TP. 2 (can. D)	Toujours prévoir un mode supérieur lors du réglage. Faire en sorte que le segment 0 dB s'allume à un niveau de -11,2 ± 0,5 dBV (-11,2 ± 1,0 dBV en mode normal).	Ajuster en tournant dans le sens des aiguilles d'une montre jusqu'à ce que le témoin s'allume.

6. Réglage de AUTO BLE

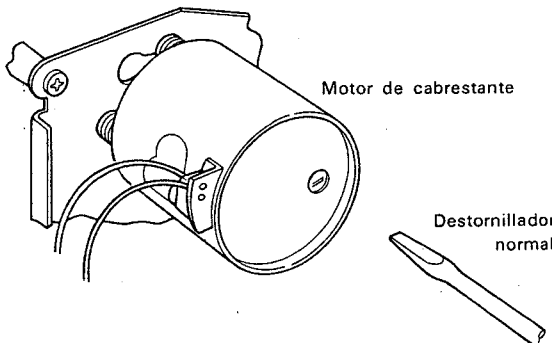
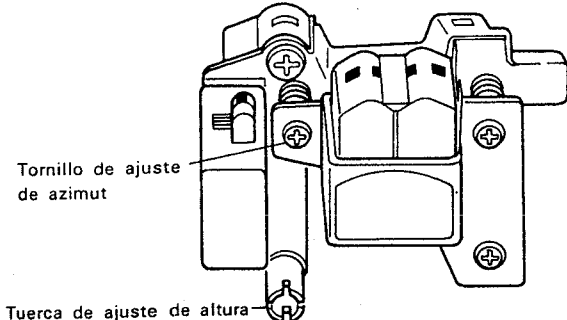
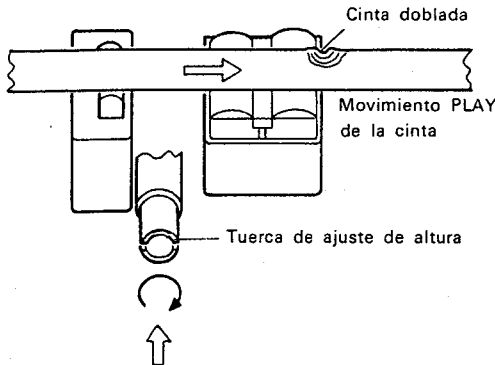
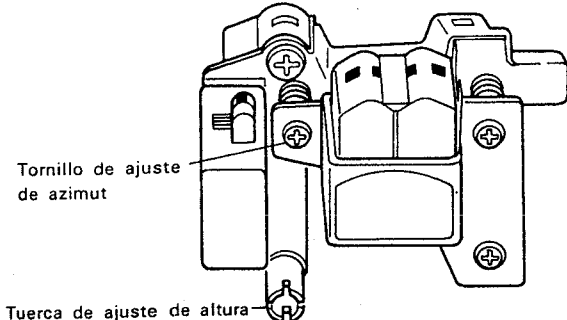
- Le réglage de BLE doit être effectués que tous les autres réglages ont été complétés.
- Ce réglage doit être effectué dans le mode d'essai
- Introduction du mode d'essai

Appuyer simultanément sur les touches MODE (COUNTER), RANGE et MONITOR du panneau avant, lorsque l'unité est sous tension. L'unité est alors en mode d'essai et fait osciller un signal de 400 Hz. Dès lors, chaque fois que l'on appuie sur la touche START/CLEAR, la fréquence d'oscillation change comme suit: Oscillation 3 kHz → oscillation 15 kHz → relâchement.

No.	Mode	Signal d'entrée et bande d'essai	Points de réglage	Points de mesure	Valeur de réglage	Remarques
1.	-	REC LEVEL VR MIN (résistance variable du niveau d'enregistrement mini) ou pas d'entrée de signal.	-	-	-	
2.		Appuyer simultanément sur les trois touches MODE (COUNTER) , RANGE et MONITOR du panneau avant.	VR331	Décibelmetre (can. D)	Ajuster afin que 0 dB sur le décibelmetre s'allume.	Réglage 400 Hz
3.		Appuyer une fois sur la touche START/CLEAR .	VR332		Ajuster afin que 0 dB sur le décibelmetre s'allume.	Réglage 3 kHz
4.		Appuyer une fois sur la touche START/CLEAR .	VR333		Ajuster afin que -3 dB sur le décibelmetre s'allume.	Réglage 15 kHz
5.	Lorsque la touche START/CLEAR est enfoncée à nouveau, le mode d'essai est relâché.					

6. AJUSTES

6.1 AJUSTES RELACIONADOS AL MECANISMO

1. Ajuste del azimut y movimiento de la cinta				2. Ajuste de velocidad de cinta		
N.	Mode	Punto de ajuste	Especificaciones	Modo	Punto de ajuste	Especificaciones
1	-	-	Inserte medio espejo en el lado A (fije los tornillos de delante).	PLAY	Orificio de ajuste del motor de cabrestante (vea la Fig. 3)	Ajuste de modo que la frecuencia de reproducción sea 3015 ± 5 Hz al comienzo del bobinado de la cinta de prueba STD-301.
2	PLAY	Tuerca de ajuste de altura (Consulte la figura 1.)	Reproduzca la cinta de arriba y ajústela de forma que no esté doblada en la sección guía de la cabeza. (Consulte la figura 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 azimut (Consulte la figura 1.)	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.)					
						
						

6.2 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 k Ω (o entre 47k y 52 k Ω) 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 6-1)
STD-631 : Cinta virgen NORMAL
STD-621 : Cinta virgen de CrO₂
STD-610 : Cinta virgen de METAL

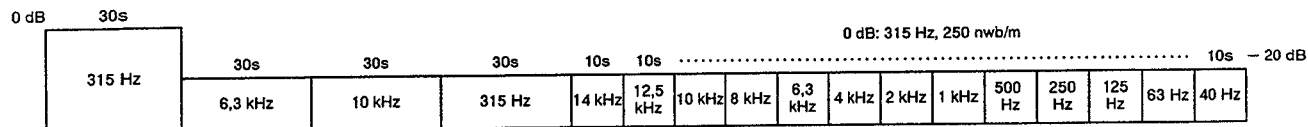


Figura 6-1 Constantes de la cinta de prueba STD-331E

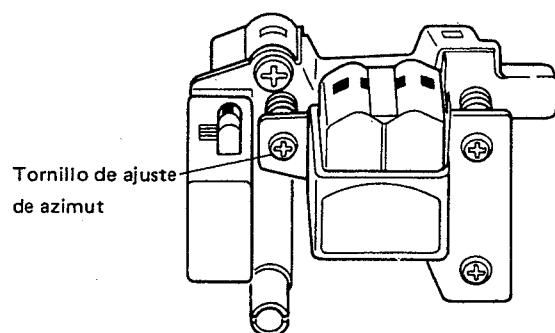


Figura 6-2 Zona de respuesta de frecuencia

Lista de ajustes

Secciones de reproducción

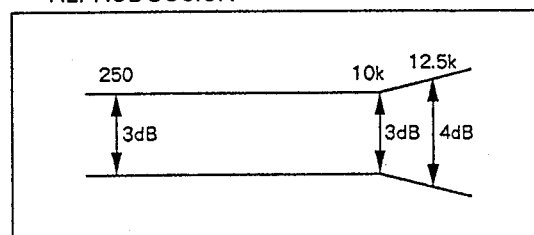
1. Ajuste de azimut de la cabeza
2. Ajuste del nivel de reproducción
3. Ajuste del equilibrio de CC

Secciones de grabación

1. Ajuste del oscilador 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
6. Ajuste BLE Automático

* 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 cinta que se está utilizando.

REPRODUCCIÓN



GRABACIÓN

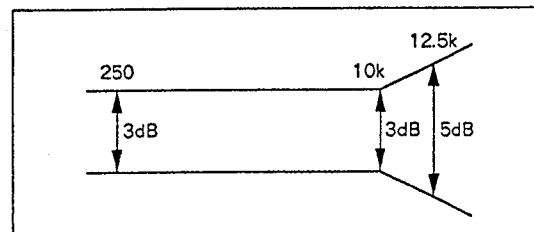


Figura 6-3 Ajuste de azimut de la cabeza

SECCIÓN DE REPRODUCCIÓN

1. Ajuste del azimut de la cabeza

- Poner VR105, 106 en las posiciones del centro mecánico.

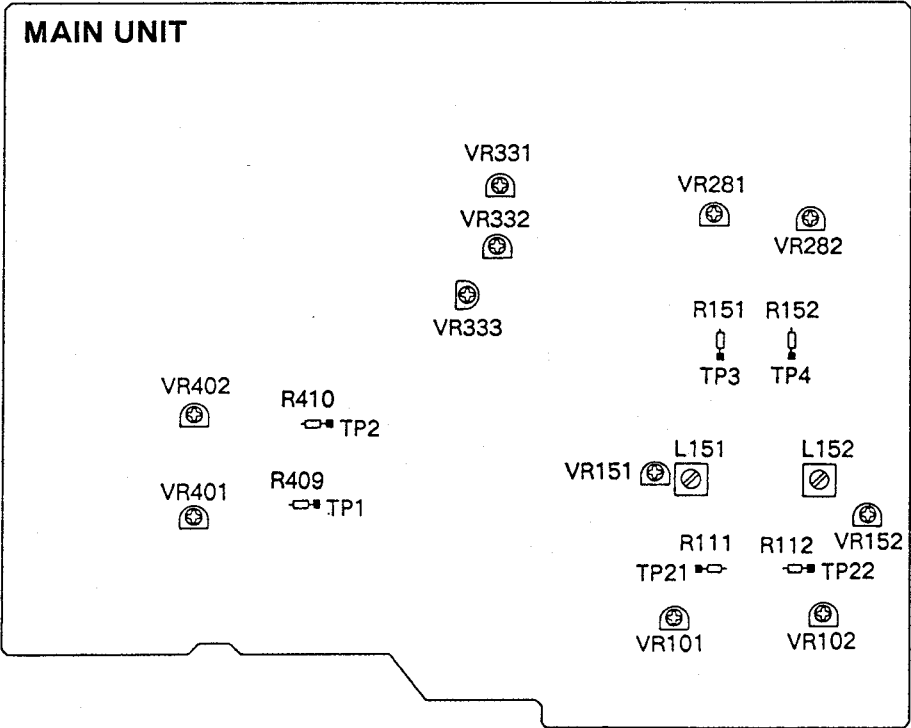
N.º	Modo	Señal de entrada y cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Comentarios
1.	PLAY	Reproduzca la sección de 10 kHz/-20 dB de la cinta de prueba STD-331E.	Tornillo de ajuste del azimut de la cabeza. (Vea la figura 6-2)	LINE OUT	Nivel máximo de la señal de reproducción.	
2.	STOP	Bloquee el tornillo con su cierre una vez finalizado el ajuste.				

2. Ajuste del nivel de reproducción

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 VR151 (Lch) VR152 (Rch)	TP. 3 (Lch) TP. 4 (Rch)	-11,0 dBV	Este ajuste debe efectuarse con precisión para lograr un buen reglaje del nivel Dolby.

3. Ajuste del equilibrio de CC

N.º	Modo	Señal de entrada y cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Comentarios
1.			VR101 (Lch) VR102 (Rch)	TP. 21 (Lch) TP. 22 (Rch)	0V ± 0,2V	



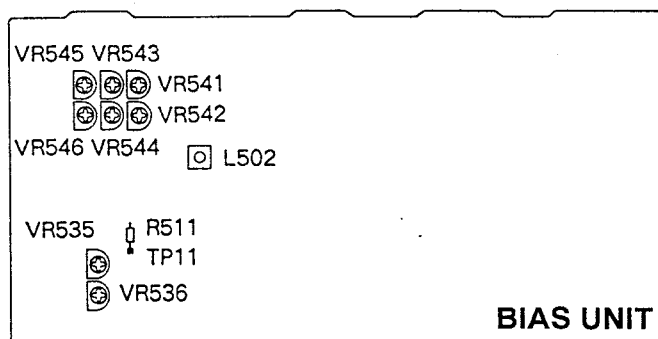


Figura. 6-4 Puntos de ajuste

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/PLAY	Introduzca la cinta de prueba STD-810 sin señal de entrada.	Platina	L502	TP. 11	210 kHz $\pm$ 600 Hz	

2. Ajuste del eliminador de polarización

N.º	Modo	Señal de entrada y cinta de prueba	Punto de ajuste		Punto de medición	Valor de ajuste	Comentarios
1.	REC/PLAY	Introduzca la cinta de prueba STD-810 sin señal de entrada.	Platina	L151 (Lch) L152 (Rch)	TP. 3 (Lch) TP. 4 (Rch)	Salida mínima	

3. Ajuste de la polarización de grabación

- Conecte el interruptor DOLBY HX PRO del panel delantero y coloque el control BIAS en la posición central.

N.º	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/-26 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.	REC → PLAY	Grabe y reproduzca la señal de 315 Hz y una señal de 10 kHz a un nivel de entrada de -26 dBV.	NOR	VR541 (L ch) VR542 (R ch)		Grabe y reproduzca repetidamente, comparando los niveles de reproducción 315 Hz y 10 kHz, y ajuste a 0 ± 0,5 dB.	
3.		Grabe la señal de 10 kHz /315 Hz -26 dBV en la cinta STD-621, y reproduzca.	CrO2	VR543 (L ch) VR544 (R ch)		0 dBV ± 0,5 dB	
4.		Grabe la señal de 10 kHz /315 Hz, -26 dBV en la cinta STD-610, y reproduzca.	METAL	VR545 (L ch) VR546 (R ch)		0 dBV ± 0,5 dB	
5. Verifique el valor de la distorsión una vez finalizado el ajuste y confirme que no haya subpolarización.							
6. Desconecte el interruptor DOLBY HX PRO.							
7.	REC → PLAY	Grabe y reproduzca la señal de 315 Hz y una señal de 10 kHz a un nivel de entrada de -26 dBV.	NOR	VR535 (L ch) VR536 (R ch)	LINE OUT	Gire el control completamente hacia la izquierda y luego gírelo gradualmente a la derecha para ajustar a 0 dB ± 0,5 dB cuando HX-PRO está conectado.	Gire el control en sentido horario hasta pasar el pico para asegurar un correcto valor de sobrepolarización.

Ajuste en el orden siguiente: NOR → CrO2 → METAL. Después de completar todos los ajustes, observe que los valores de ajuste para CrO2 y METAL se alterarán si se reajusta NOR, y que para METAL se alterarán si se reajusta CrO2.

4. Ajuste del nivel de grabación

- Desconecte el interruptor DOLBY NR.

N.º	Modo	Señal de entrada y cinta de prueba	Punto de ajuste		Punto de medición	Valor de ajuste	Comentarios
1.	REC/ PAUSE	Aplice la señal de 315 Hz/-6 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/-6 dBV.	Platina	VR401 (Lch) VR402 (Rch)	TP. 3 (Lch) TP. 4 (Rch)	Grabe, reproduzca y ajuste repetidamente para que el nivel de la señal de reproducción sea de -11.2 dBV.	El ajuste de la polarización de grabación y el ajuste del nivel de grabación con STD-631 debe efectuarse con precisión para que sirva como referencial al ajuste BLE.
3.	REC → PLAY	Grabe la señal de 315 Hz/-6 dBV en STD-621 (CrO2) y reproduzca.	Verifique			-11.2 dBV ± 1 dB	
4.	REC → PLAY	Grabe la señal de 315 Hz/-6 dBV en STD-610 (METAL) y reproduzca.	Verifique			-11.2 dBV ± 1 dB	

5. Ajuste del medidor de nivel

N.º	Modo	Señal de entrada y cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Comentarios
1.	REC/ PAUSE	Aplice una señal de 315 Hz/-6 dBV (316 mV) a los terminales de entrada de línea.	VR281 (Lch) VR282 (Rch)	TP. 1 (Lch) TP. 2 (Rch)	Seleccione siempre el modo aumentado para el ajuste. Ajuste de modo que el segmento de 0 dB se ilumine a un nivel de -11,2 ± 0,5 dBV (-11,2 ± 1,0 dBV en el modo normal).	Ajuste girando hacia la derecha hasta que la luz se encienda.

6. Ajuste BLE Automático

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

Pulse simultáneamente las teclas MODE (COUNTER), RANGE y MONITOR del panel delantero con la alimentación encendida.

La unidad entrará en el modo de prueba y oscilará una señal de 400 Hz. De aquí en adelante, cada vez que pulse la tecla START/CLEAR, la frecuencia de oscilación cambiará de la forma siguiente: Oscilación de 3 kHz → Oscilación de 15 kHz → Liberación.

N.º	Modo	Señal de entrada y cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Comentarios
1.	-	VR del nivel de grabación mínimo o sin entrada de señal.	-	-	-	
2.		Pulse simultáneamente las tres teclas MODE (COUNTER), RANGE y MONITOR del panel delantero.	VR331	Medidor de nivel Rch	Ajuste de modo que se ilumine 0 dB en el medidor de nivel.	Ajuste de 400 Hz
3.		Pulse la tecla START/CLEAR una vez.	VR332		Ajuste de modo que se ilumine 0 dB en el medidor de nivel.	Ajuste de 3 kHz
4.		Pulse la tecla START/CLEAR una vez.	VR333		Ajuste de modo que se ilumine -3 dB en el medidor de nivel.	Ajuste de 15 kHz
5.	Cuando la tecla START/CLEAR se pulse de nuevo, se saltará el modo de prueba.					

7. SPECIFICATIONS

System	4 track, 2-channel stereo
Heads	
Recording and playback head:	
Laser amorphous playback head and Laser amorphous recording head combination × 1	
Motor	DC servo capstan motor × 1
	DC reel motor × 1
	DC auxiliary motor × 1
Wow and Flutter	No more than 0.022% (WRMS)
	No more than ±0.052% (DIN)
Fast Winding Time	Approximately 75 seconds
	(C-60 tape)
Frequency Response	
– 20 dB recording:	
TYPE IV (Metal) tape	15 to 23,000 Hz ± 6 dB
TYPE II (HIGH/CrO ₂) tape	15 to 21,000 Hz ± 6 dB
TYPE I (Normal) tape	15 to 21,000 Hz ± 6 dB
Signal-to-Noise Ratio (Dolby NR off)	More than 63 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% (–4 dB)
Input (Sensitivity)	
LINE (INPUT)	95 mV (Input impedance 47 kΩ)
Output (Reference level)	
LINE (OUTPUT)	0.5 V (Output impedance 1.8 kΩ)
Headphone	5.5 mW
	(Load impedance 8 Ω, PHONES LEVEL control max.)

Subfunctions

- Super AUTO BLE system
- Bias control
- Dolby HX Pro Headroom Extension system (on/off possible)
- Dolby B-type and C-type noise reduction systems
- MPX filter
- Level meter with 2 modes peak hold selection (16 + 1 segments)
- Level meter range selection (wide/expanded)
- Peak level calibration system
- 4-digit electronic tape counter with mode selection
- Auto monitor selection (Tape/Source)
- Display off
- Music search (over ±15 selections)
- Automatic Tape Loose Cancellor (ATLC)
- Tape return/Return play
- Auto space recording mute
- Auto tape selector
- Line straight
- Playback/recording timer start function
- CD•DECK SYNCHRO recording
- Headphones jack with level control
- Power eject (Open/Close)
- Repeat playback
- Last memory

Miscellaneous

Power Requirements	AC 220–230 Volts~, 50/60 Hz
Power Consumption	25W
Dimensions	420(W) × 146(H) × 375(D) mm
Weight (without package)	8.2 kg

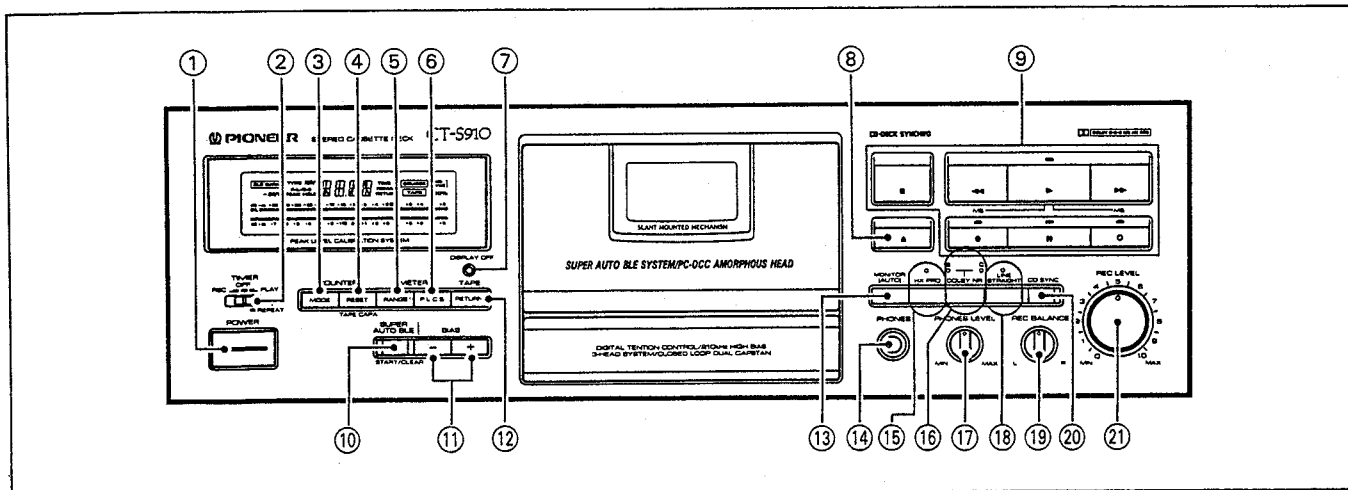
Accessories

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.

8. PANEL FACILITIES



① Power switch (POWER)

After pressing the switch, the WAIT message will appear in the counter display and the level meter scale will flash for about four seconds (the time necessary for circuitry to stabilize). During the time the display is flashing, no operating buttons will respond, with the exception of the cassette door open/close button (▲). When closing the cassette door, do so while the power is turned on.

② Timer mode/repeat play switch (TIMER)

REC: Set to this position to perform timer recording.

OFF: Set to this position under ordinary conditions, (when not using the timer or repeat functions).

PLAY/REPEAT:

Set to this position to perform timer playback. When the switch is set to this position during normal playback, repeat playback of a single tape can be performed.

③ Counter mode button (COUNTER MODE)

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

④ Counter reset/Tape capacity selector button (COUNTER RESET/TAPE CAPA)

Reset the counter indication to "0000" in the normal tape counter or the time counter mode.

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

⑤ Level meter range selector button (METER RANGE)

Switches between wide range, expanded range, and bias display.

⑥ Meter PLCS button (METER PLCS)

Selects the display mode of the peak level.

When press this button so that the PEAK 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 PEAK HOLD indicator goes off, the level meter holds peak indications for about 1.2 second.

In addition to the peak level display noted above, the button can also be used with the peak level calibration system to adjust tape recording levels.

⑦ Display off button (DISPLAY OFF)

Press this button to turn off the function display.

⑧ Open/close button (▲)

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.

⑨ Operation buttons

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

⑩ SUPER AUTO BLE START/CLEAR button

⑪ Recording bias buttons (BIAS -/+)

When desired, these buttons can be used to manually adjust the recording bias after performing AUTO BLE tuning.

- : Changes tone by reducing recording bias
- + : Changes tone by increasing recording bias

⑫ 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."

⑬ 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.

⑭ Headphones jack (PHONES)

⑮ DOLBY* HX PRO ON/OFF button/indicator

The indicator lights when the button is in the ON position.

⑩ **DOLBY NR B/C select button/indicator**

Use to switch between DOLBY B type NR and DOLBY C type NR.

→ OFF → B → C →

*

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

⑪ **Headphones level control (PHONES LEVEL)**

⑫ **Line straight button/indicator (LINE STRAIGHT)**

When this button is pressed so that the indicator lights, sound signals bypass the REC BALANCE controls circuits. This allows enhanced clarity of recording.

⑬ **Recording balance control (REC BALANCE)**

⑭ **CD•DECK SYNCHRO recording button (CD SYNC)**

⑮ **Recording level control (REC LEVEL)**

ATLC (Automatic Tape Loose Cancellor)

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 64 steps at 15 kHz. The recording level is adjusted with 32 steps at 400 Hz. The recording equalizers are adjusted with 16 steps at 3 kHz and with 4 steps at 15 kHz.