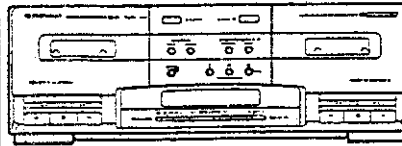


Service Manual

PIONEER
The Art of Entertainment



ORDER NO.
ARP2640

STEREO DOUBLE CASSETTE TAPE DECK

CT-J410WR

CT-J310WR

CT-J410WR AND CT-J310WR HAVE THE FOLLOWING:

Type	Model		Power Requirement	Remarks
	CT-J410WR	CT-J310WR		
AEM	○	○	AC power supplied from power transformer's secondary of other system component	
AB	○	○		
ADL	○	○		

- This manual is applicable to the following: CT-J410WR/AEM, AB and ADL; CT-J310WR/AEM, AB and ADL.
- These products are systems components.
Each of these products does not function properly when independent; to avoid malfunctions, be sure to connect it to the prescribed system component (s), otherwise damage may result.
These products' instructions are contained within the instruction manual of the related system component (s).
The manual is packed with those component (s).
These products' accessories etc. are packed with their related component (s).

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PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS SERVICE INC. P.O. Box 1760, Long Beach, California 90801 U.S.A.
PIONEER ELECTRONICS OF CANADA, INC. 300 Allstate Parkway Markham, Ontario L3R 0P2 Canada
PIONEER ELECTRONIC [EUROPE] N.V. Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-9911
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1. EXPLODED VIEWS AND PARTS LIST

1.1 EXTERIOR

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

Parts List

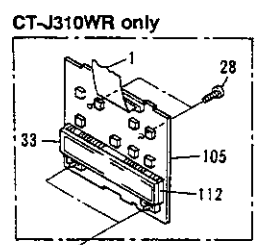
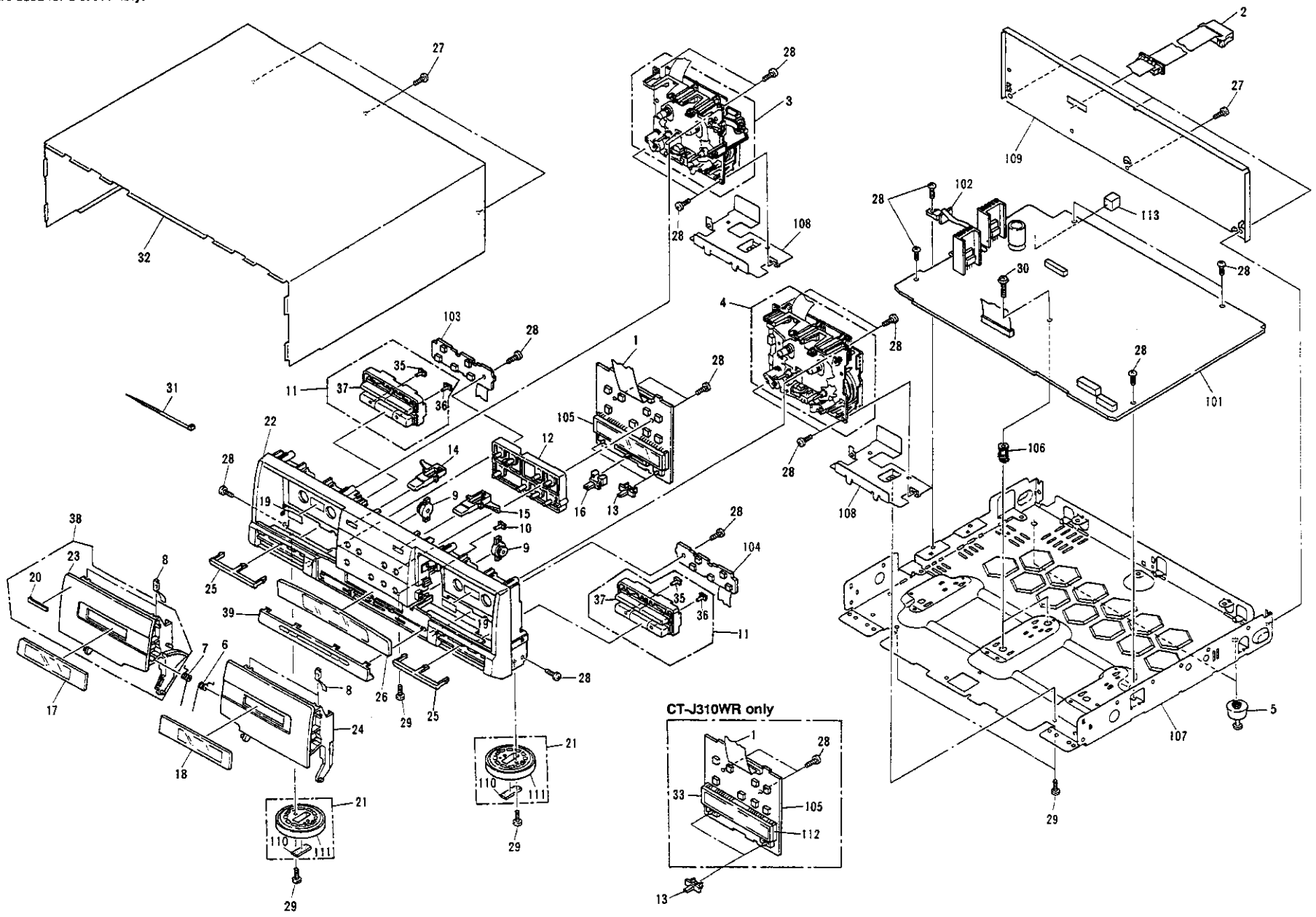
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	Lead card (30P)	RDD1261		31	Cord clamper	REC - 371
		(CT-J410WR)			32	Bonnet assembly	REA1031
		Lead card (28P)	RDD1263		33	LED lens (CT-J310WR)	RAH2015
		(CT-J310WR)			34	
	2	Connector assembly (15P)	RKP1358	NSP	35	Indicator lens A	RNK1850
	3	Mechanism unit 1	RYM1191			(CT-J410WR)	
⊙	4	Mechanism unit 2	RYM1192	NSP		Indicator lens A	RNK1888
		(CT-J410WR)				(CT-J310WR)	
⊙		Mechanism unit 2	RYM1193	NSP	36	Indicator lens B	RNK1851
		(CT-J310WR)				(CT-J410WR)	
	5	Leg assembly (S)	AMR1937	NSP		Indicator lens B	RNK1889
						(CT-J310WR)	
	6	Door spring R	RBH1329		37	Operation knob	RAC1766
	7	Door spring L	RBH1328		38	Door L Ass'y (CT-J410WR)	REA1052
	8	Half pressure spring	RBK1004			Door L Ass'y (CT-J310WR)	REA1051
	9	Damper assembly	VXA1153		39	Sub panel (CT-J410WR)	RAH2113
	10	Indicator lens	RNK1591			Sub panel (CT-J310WR)	RAH2123
	11	Operation button Ass'y	RXA1506		101	Main unit (CT-J410WR)	RWZ2710
		(CT-J410WR)				Main unit (CT-J310WR)	RWZ2705
		Operation button Ass'y	RXA1535	NSP	102	Transistor unit	RWZ2711
		(CT-J310WR)		NSP	103	Operate 1 unit	RWZ2713
	12	Center knob	RAC1732			(CT-J410WR)	
	13	Slide SW knob	RAC1774			Operate 1 unit	RWZ2708
	14	Eject knob L	RAC1787	NSP		(CT-J310WR)	
	15	Eject knob R	RAC1768	NSP	104	Operate 2 unit	RWZ2714
						(CT-J410WR)	
	16	Slide VR knob	RAC1737	NSP		Operate 2 unit	RWZ2709
		(CT-J410WR)				(CT-J310WR)	
	17	Door lens L	RAH2115		105	Display unit (CT-J410WR)	RWZ2712
	18	Door lens R	RAH2114			Display unit (CT-J310WR)	RWZ2707
	19	Remaining sheet	REE - 113				
	20	Name plate	AAM1047	NSP	106	PCB spacer	PNY - 404
	21	Foot assembly	RXA1448	NSP	107	Main chassis	RNB1072
	22	Front panel (CT-J410WR)	RAH2106	NSP	108	Mechanism shield plate	RNE1503
		Front panel (CT-J310WR)	RAH2117	NSP	109	Rear panel	RNA1605
	23	Door panel L	RAH2108			(CT-J410WR/AB)	
		(CT-J410WR)		NSP		Rear panel	RNA1653
		Door panel L	RAH2118			(CT-J410WR/AEM, ADL)	
		(CT-J310WR)		NSP		Rear panel	RNA1606
	24	Door panel R	RAH2109			(CT-J310WR/AB)	
		(CT-J410WR)		NSP		Rear panel	RNA1654
		Door panel R	RAH2119			(CT-J310WR/AEM, ADL)	
		(CT-J310WR)		NSP	110	Cushion	REB1091
	25	Azimuth cover	RNK1849	NSP	111	Foot	RNK1770
				NSP	112	LED holder (CT-J310WR)	RNK1810
	26	FL lens (CT-J410WR)	RAH2167	NSP	113	Unit spacer	PEB1164
		FL lens (CT-J310WR)	RAH2120				
	27	Screw	BBZ30P060FZK				
	28	Screw	BBZ30P080FMC				
	29	Screw	BBZ30P100FZK				
	30	Screw	IBZ30P150FCU				

Exterior

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

A
B
C
D

A
B
C
D



1

2

3

4

5

6

4

CT-J410WR, CT-J310WR

- 1.2 MECHANISM UNIT 1 (RYM1191): CT-J410WR and CT-J310WR
- MECHANISM UNIT 2 (RYM1192): CT-J410WR
- MECHANISM UNIT 2 (RYM1193): CT-J310WR

Note: As for difference between RYM1192 and RYM1193 of mechanism unit 2, RYM1193 is not provided with metal SW.

A

A

B

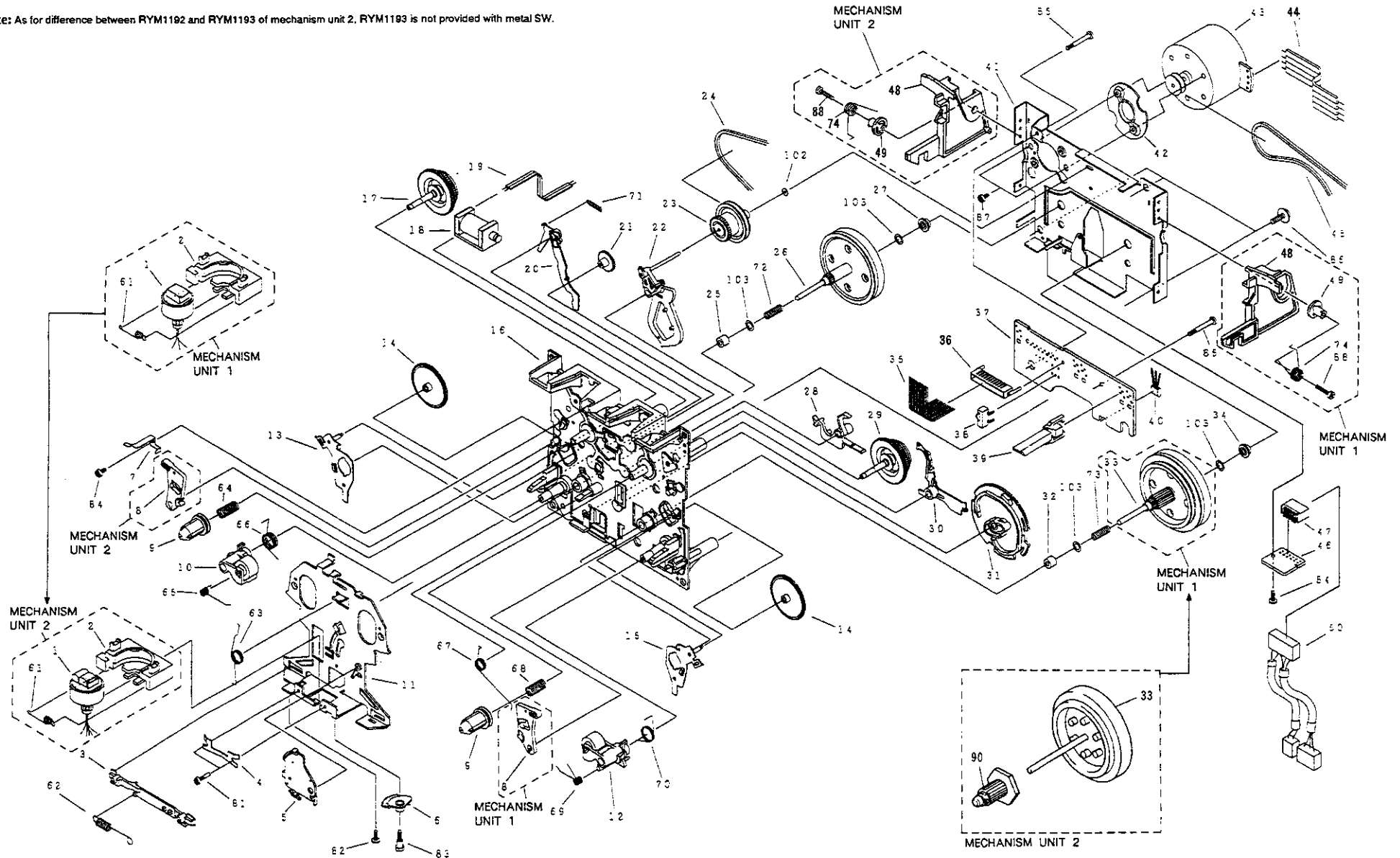
B

C

C

D

D



5

1

2

3

4

5

6

Parts List

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	ASSY HOLDER HEAD (Mechanism unit 2)	RXA1477	41	BRACKET FW	RNE1438	
		ASSY HOLDER HEAD (Mechanism unit 1)	RXA1500	42	SPACER	RNK1822	
2		FLAME HEAD	RNK1715	43	ASSY MOTOR (Mechanism unit 2)	RXM1063	
3		LEVER HEAD	RNK1716		ASSY MOTOR (Mechanism unit 1)	RXM1062	
4		SPRING AZIMUTH	REK1006	44	WIRE	RDD1012	
5		ASSY ARM ASSIST	RXA1401	45	BELT MAIN (Mechanism unit 1)	REB1159	
6		GEAR ARM HEAD	RNK1717		BELT MAIN (Mechanism unit 2)	REB1162	
7		SPRING CASSETTE	REK1039	46	P.C. BOARD	RNP1348	
8		EJECT LOCK	RNK1718	47	HOUSING (Mechanism unit 2)	RKP1397	
9		CAP REEL	RNK1719		HOUSING (Mechanism unit 1)	RKP1396	
10		ASSY PINCH ARM L	RXA1403	48	EJECT LEVER L (Mechanism unit 2)	RNK1702	
11		CHASSIS HEAD	RNE1437		EJECT LEVER R (Mechanism unit 1)	RNK1703	
12		ASSY PINCH ARM R	RXA1404	49	COLLAR	RNK1704	
13		ARM PLAY L	RNK1886	50	WIRE HEAD (Mechanism unit 2)	RKP1502	
14		GEAR PLAY	RNK1867		WIRE HEAD (Mechanism unit 1)	RKP1501	
15		ARM PLAY R	RNK1888	51	SPRING	RBH1282	
16		CHASSIS OS.	RXA1411	52	SPRING	RBH1283	
17		ASSY SUB REEL L	RXA1407	53	SPRING	RBH1284	
18	△	SOLENOID	RXP1020	54	SPRING	RBH1286	
19		WIRE	RDC1006	55	SPRING	RBH1288	
20		ARM RVS	RNK1721	56	SPRING	RBH1291	
21		GEAR FF	RNK1723	57	SPRING	RBH1285	
22		ASSY ARM FR	RXA1412	58	SPRING	RBH1287	
23		ASSY PULLEY FR	RXA1413	59	SPRING	RBH1289	
24		BELT FR	REB1158	60	SPRING	RBH1290	
25		METAL	RNG1048	61	SPRING	RBH1292	
26		ASSY FLYWHEEL L (Mechanism unit 1)	RXA1423	62	SPRING	RBH1051	
		ASSY FLYWHEEL L (Mechanism unit 2)	RXA1476	63	SPRING	RBH1325	
27		METAL	RNG1005	64	SPRING (L) (Mechanism unit 2)	RBH1294	
28		ARM BRAKE	RNK1724	65	SPRING (R) (Mechanism unit 1)	RBH1293	
29		ASSY SUB REEL R	RXA1408	66	SCREW	RBA1023	
30		ARM TRIGGER	RNK1722	67	SCREW	RBA1027	
31		GEAR CAM	RNK1725	68	SCREW	RBA1030	
32		METAL	RNG1049	69	SCREW	PCZ20P040FMC	
33		ASSY FLYWHEEL R (Mechanism unit 1)	RXA1424	70	SCREW	RBA1093	
		ASSY FLYWHEEL R (Mechanism unit 2)	RXA1415	71	SCREW	RBA1094	
34		METAL	RNG1004	72	SCREW	RBA1100	
35		WIRE (14P) (Mechanism unit 2)	RDD1217	73	SCREW	RBA1095	
		WIRE (12P) (Mechanism unit 1)	RDD1249	74	GEAR FW R (Mechanism unit 2)	RNK1733	
36		HOLDER WIRE	RNK1683	75		
37		P.C. BOARD	RNP1436	76	WASHER	RBF1046	
38		SWITCH MODE	RSN1020	77	WASHER	WA26D047D013	
39		SWITCH (LEAF)	RSN1019	78			
40		HALL IC.	DN6851A	79			

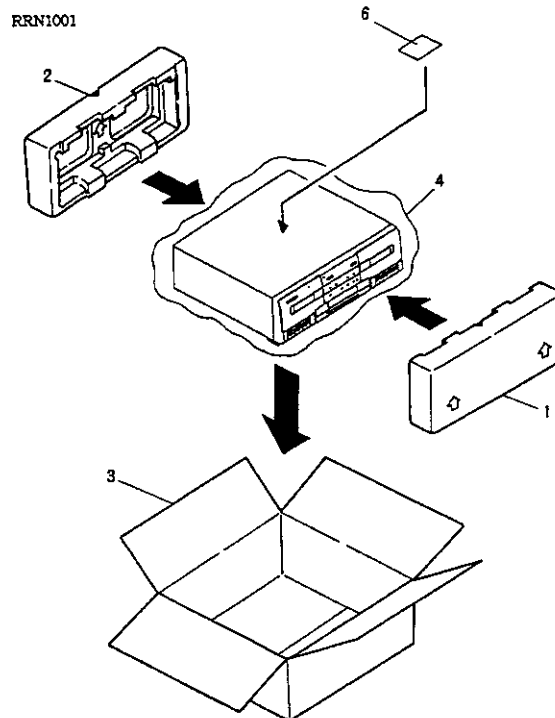
2. PACKING AND PARTS LIST

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The △ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- The instruction manual is packed with the units of M-J310 and M-J410.

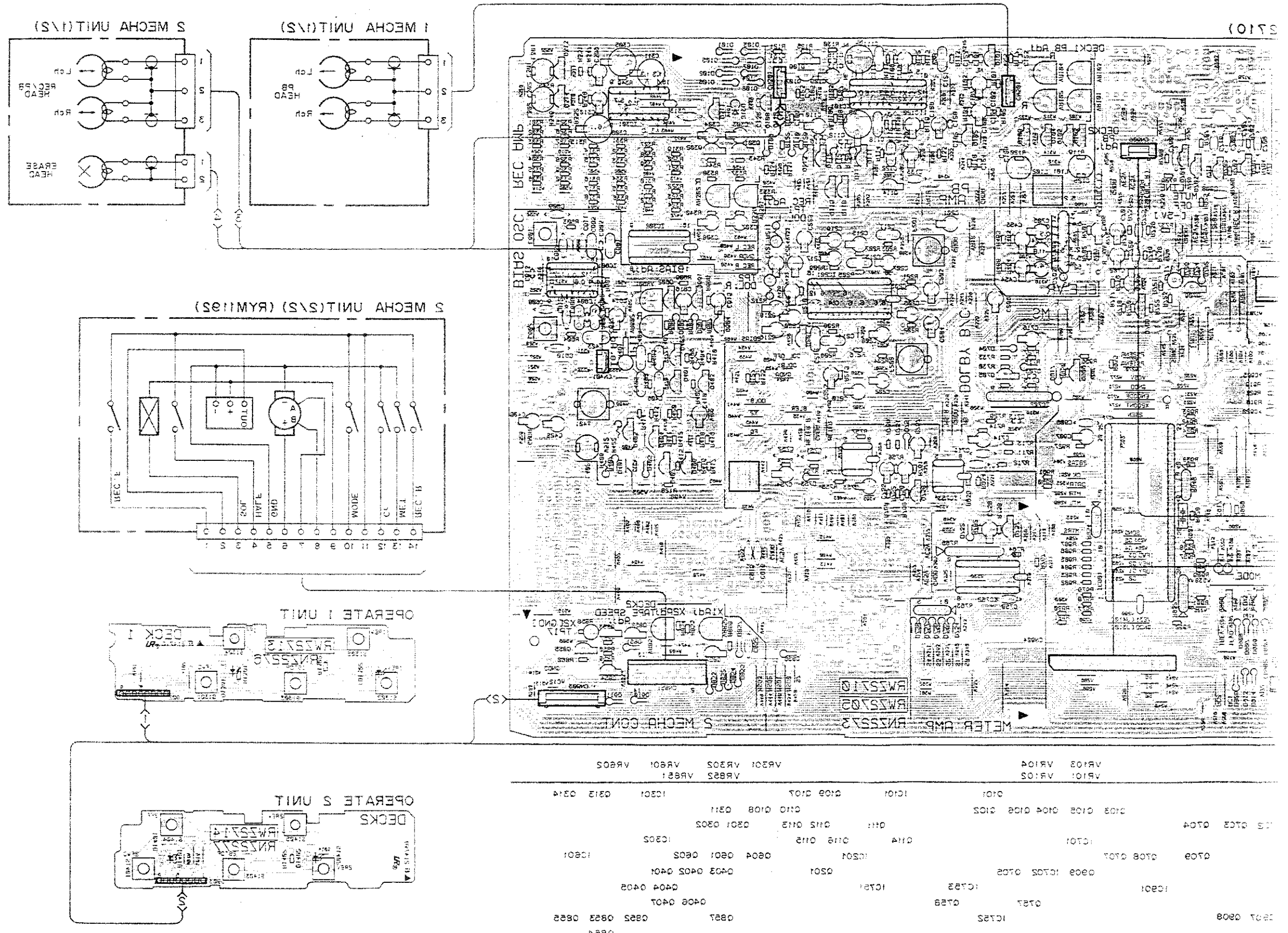
Parts List

Mark	No.	Description	Part No.
	1	Pad (F)	RHA1100
	2	Pad (R)	RHA1102
3		Packing case (CT-J410WR/AB, AEM)	RHG1393
		Packing case (CT-J410WR/ADL)	RHG1424
		Packing case (CT-J310WR/AB, AEM)	RHG1394
		Packing case (CT-J310WR/ADL)	RHG1425
4		Sheet	RHX1006
5		
6		Caution card (CT-J410WR/AB, CT-J310WR/AB only)	RRN1001

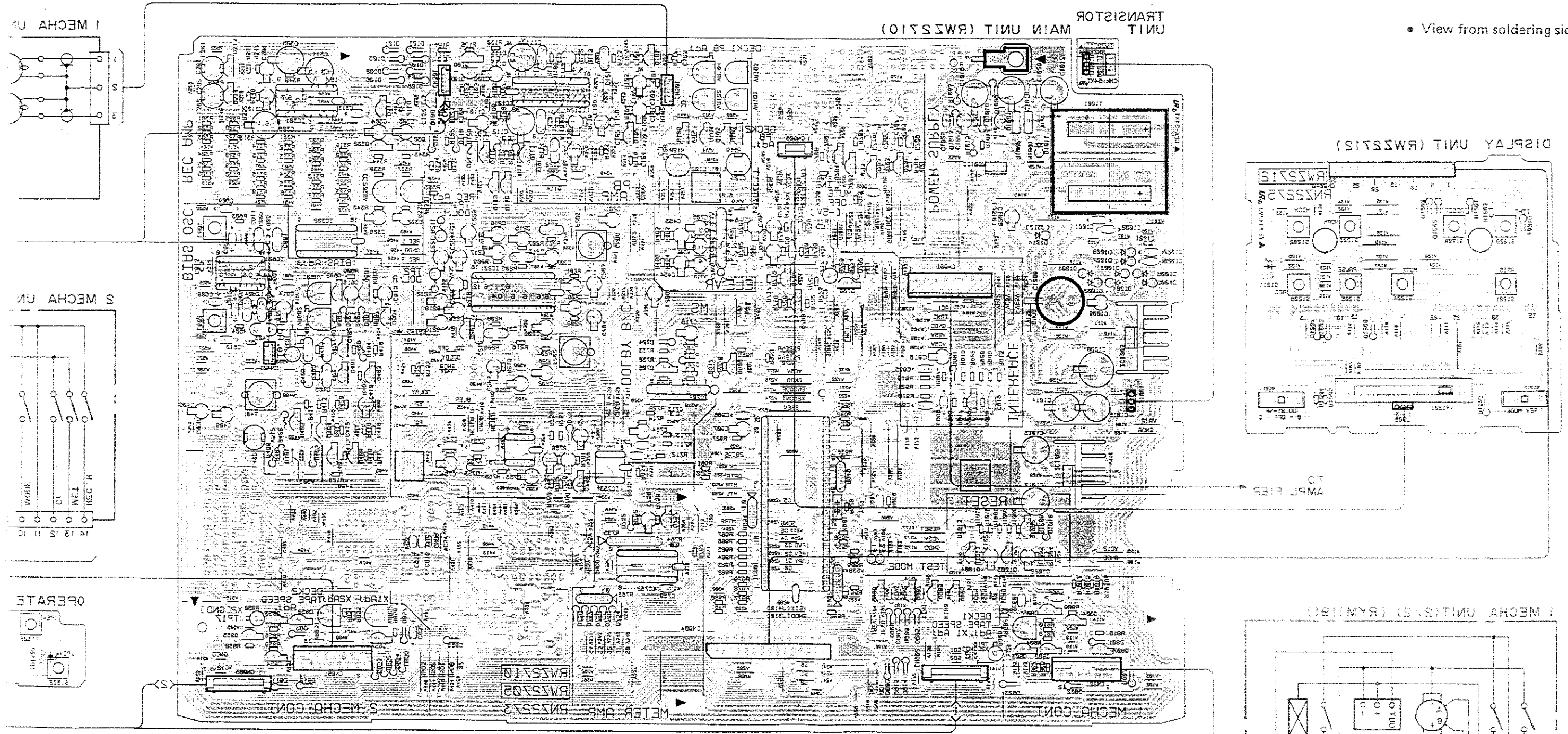


3. PCB CONNECTION AND SCHEMATIC DIAGRAM

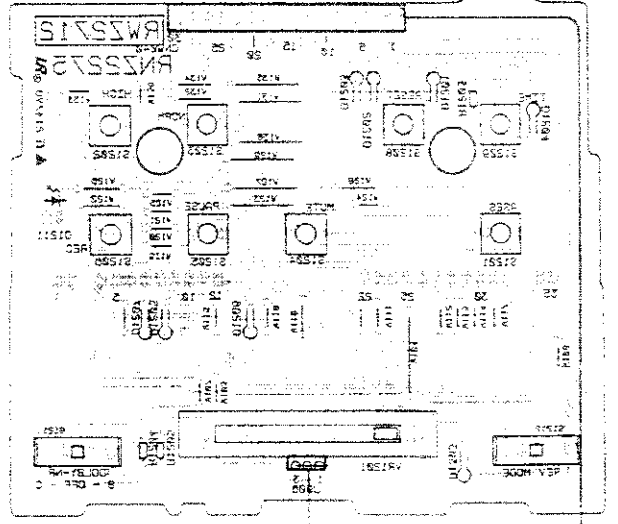
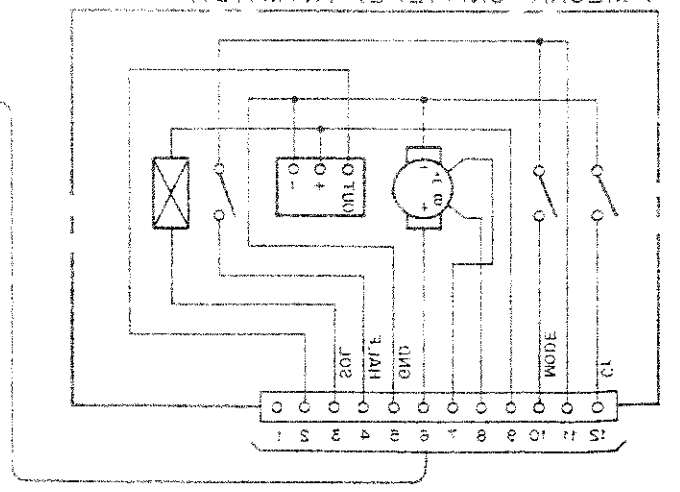
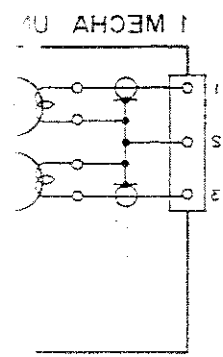
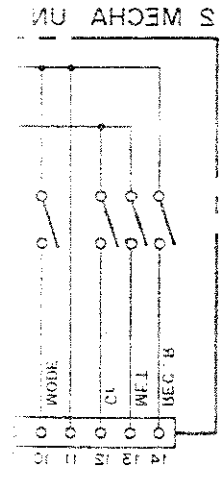
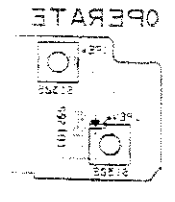
1. FOR CT-410WR



View from soldering side



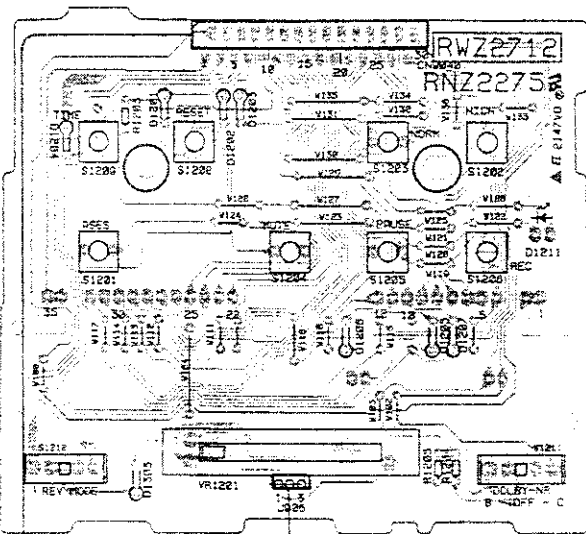
0801	0802	0803	0804	0805	0806	0807	0808	0809	0810	0811	0812	0813	0814	0815	0816	0817	0818	0819	0820	0821	0822	0823	0824	0825	0826	0827	0828	0829	0830	0831	0832	0833	0834	0835	0836	0837	0838	0839	0840	0841	0842	0843	0844	0845	0846	0847	0848	0849	0850	0851	0852	0853	0854	0855	0856	0857	0858	0859	0860	0861	0862	0863	0864	0865	0866	0867	0868	0869	0870	0871	0872	0873	0874	0875	0876	0877	0878	0879	0880	0881	0882	0883	0884	0885	0886	0887	0888	0889	0890	0891	0892	0893	0894	0895	0896	0897	0898	0899	0900
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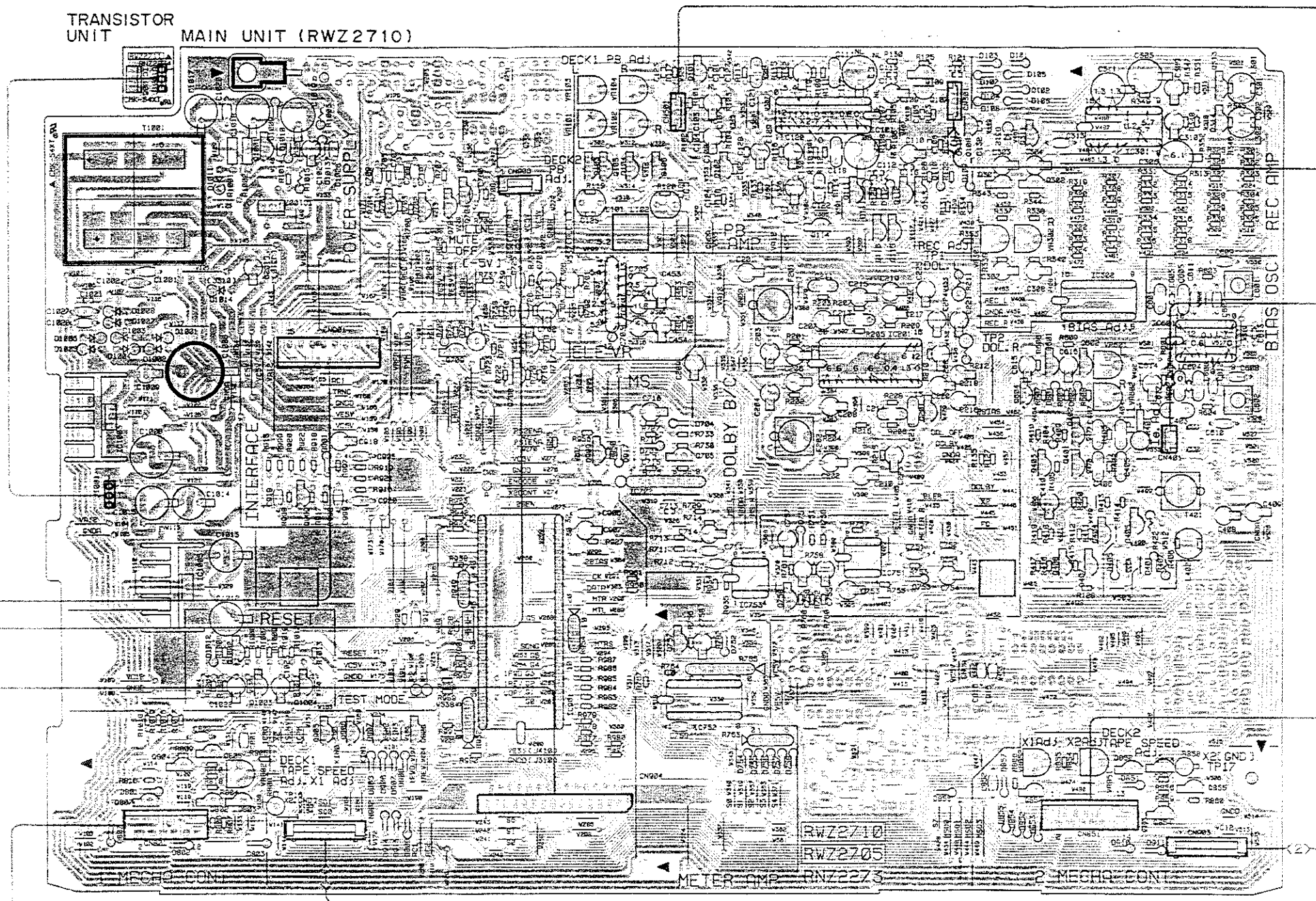
View from component side

TRANSISTOR UNIT MAIN UNIT (RWZ2710)

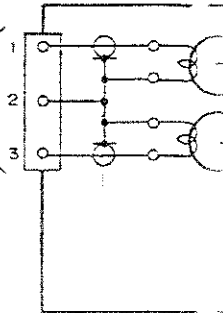
DISPLAY UNIT (RWZ2712)



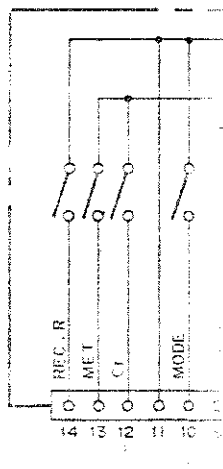
TO AMPLIFIER



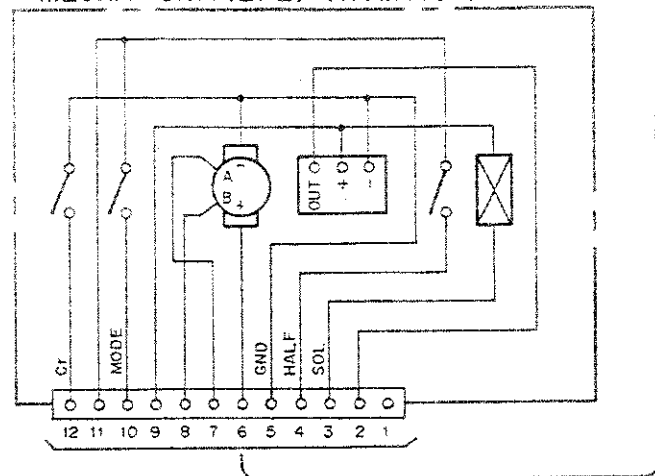
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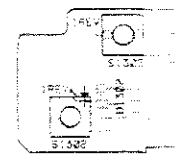
2 MECHA UNIT



1 MECHA UNIT(2/2) (RYM1191)

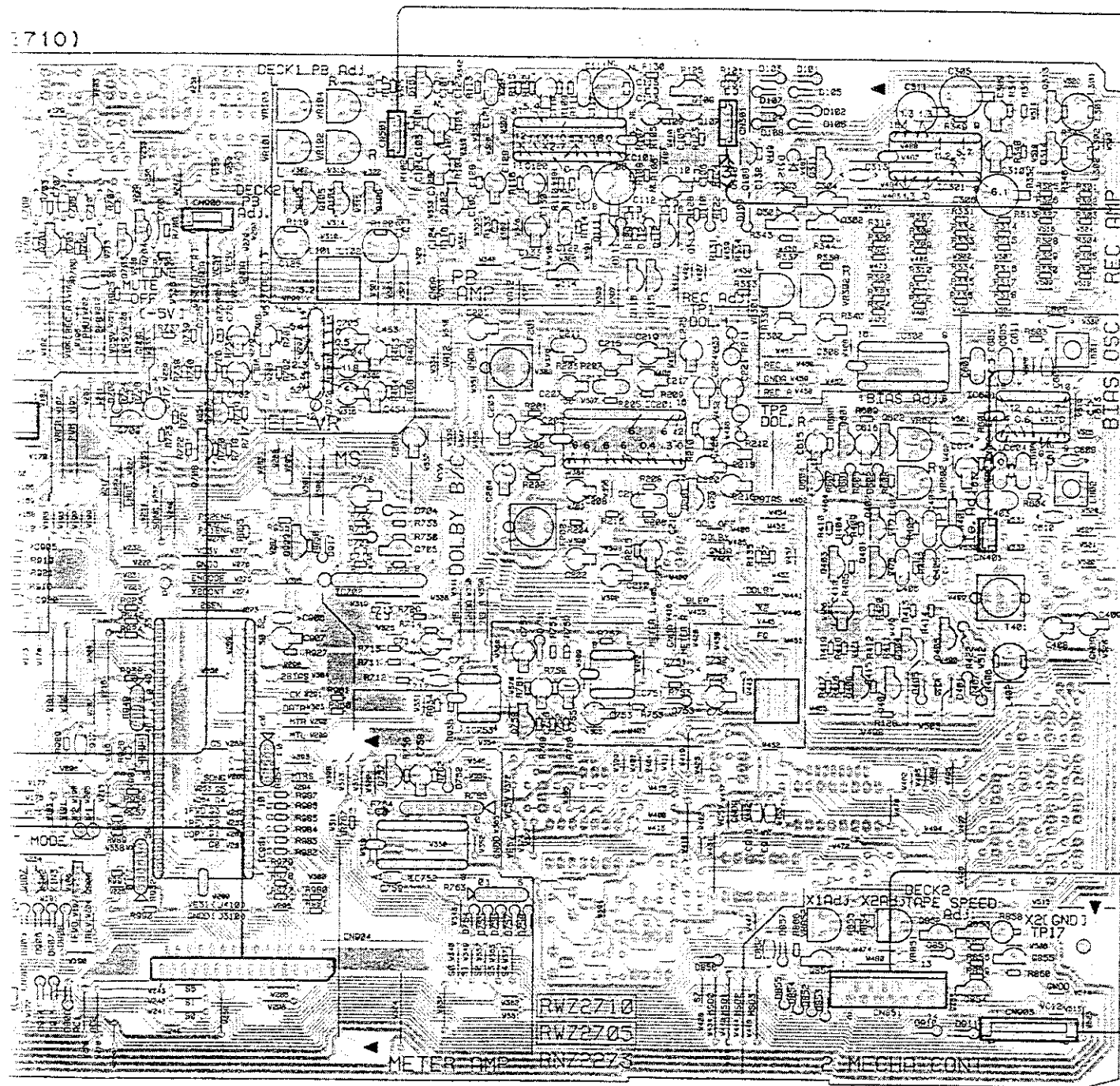


OPERATE

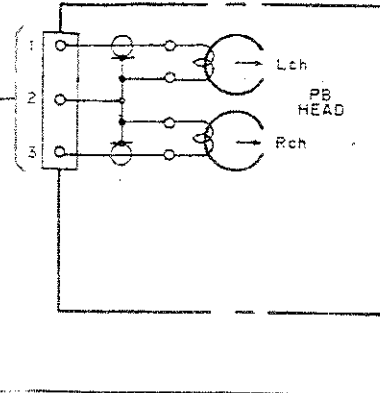


VR802	VR103	VR104	VR301	VR302	VR601	VR602
	VP101	VR102	VR652	VR851		
Q1001	Q103	Q105	Q109	Q107	Q110	Q108
IC1001	Q701	Q702	Q703	Q704	Q311	Q301
IC1003	Q709	Q708	Q707	Q705	Q302	Q302
	Q999	Q909	IC702	Q705	Q201	Q604
IC1005	Q1002	IC901	Q757	IC753	IC751	Q601
Q804	Q805	Q1003	Q1004	Q758	Q404	Q405
Q807	Q502	Q803	Q905	Q906	Q406	Q407
			Q907	Q908	Q257	Q852
						Q853
						Q855
						Q854

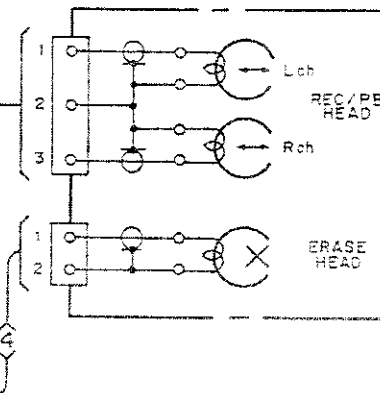
1710)



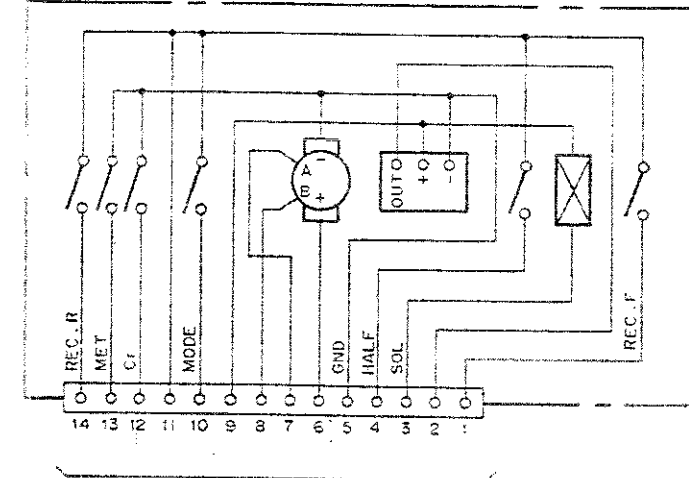
1 MECHA UNIT(1/2)



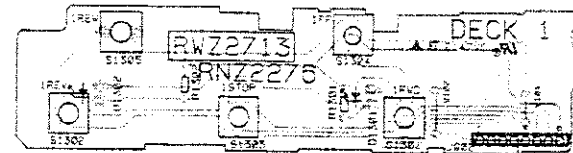
2 MECHA UNIT(1/2)



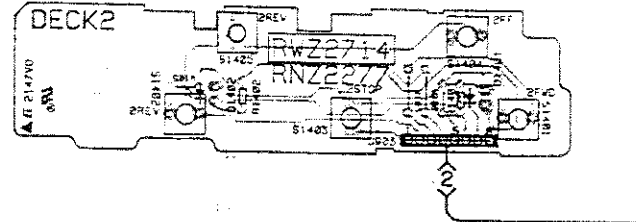
2 MECHA UNIT(2/2) (RYM1192)



OPERATE 1 UNIT



OPERATE 2 UNIT

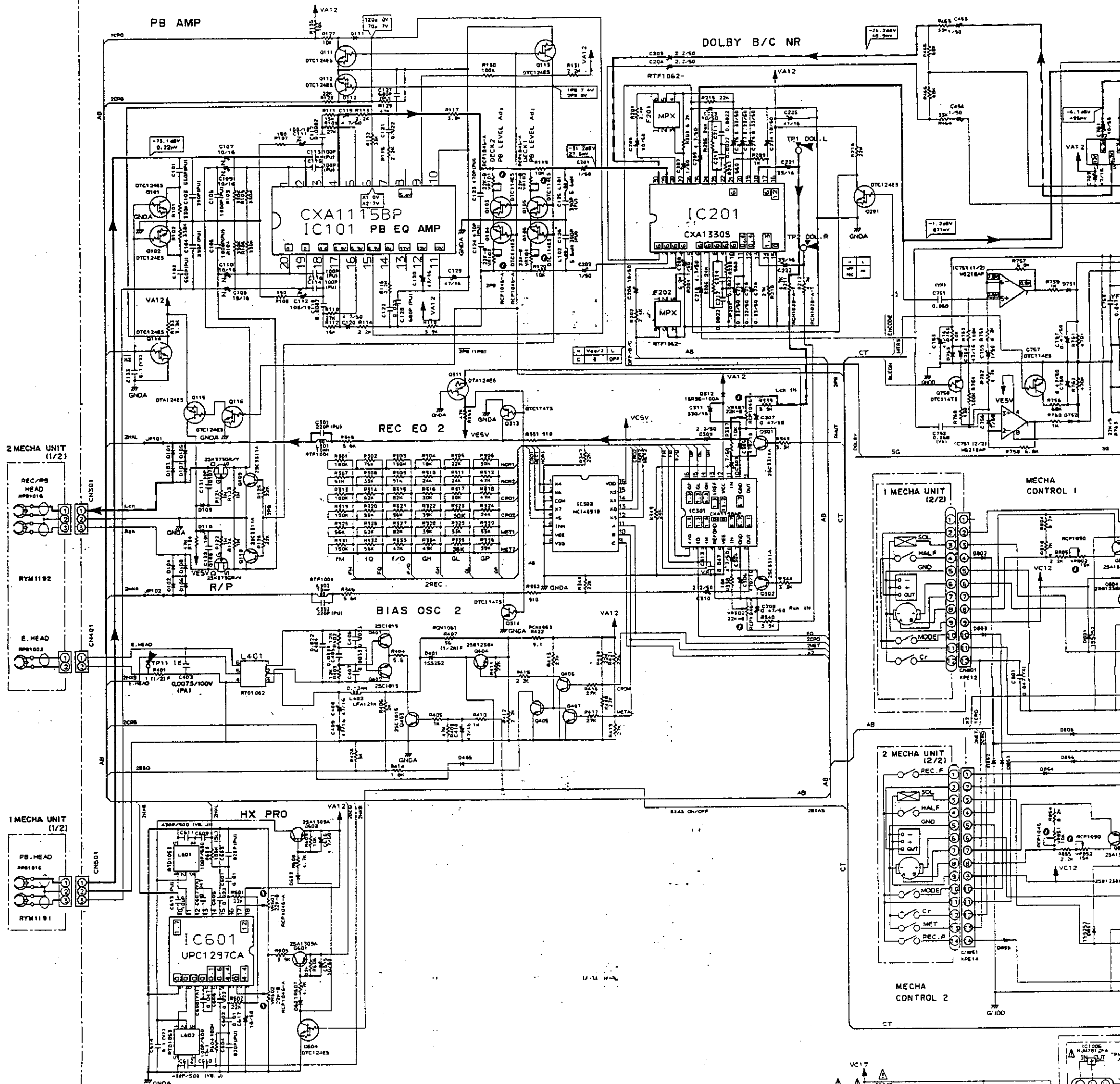


P.C.B. pattern diagram indication	Corresponding part symbol	Part name
		Transistor
		PCT
		Diode
		Zener diode
		LED
		Variable
		Tact switch
		Inductor
		Coil
		Transformer
		Resistor
		Variable capacitor
		Tuning capacitor
		Sync capacitor
		Electrolytic capacitor (non polarized)
		Electrolytic capacitor (polarized)
		Electrolytic capacitor (polarized)
		Power capacitor
		Semicond resistor
		Resistor array
		Resistor
		Resistor
		Transistor

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 terminals marked with \ominus shows negative terminal.
4. The diode marked with \ominus shows cathode side.
5. The transistor terminal marked with \ominus shows emitter.

VR103	VR104	VR301	VR302	VR601	VR602
VR101	VR102	VR852	VR851		
Q101	IC101	Q109	Q107	IC301	Q313
Q103	Q105	Q104	Q106	Q102	Q314
Q111	Q112	Q113	Q301	Q302	
IC701	Q114	Q116	Q115	IC302	
Q709	Q708	Q707	IC201	Q604	Q601
Q602	Q601	Q602	IC601		
Q909	IC702	Q705	Q201	Q403	Q402
IC901	IC753	IC751	Q404	Q405	
Q757	Q758	Q406	Q407		
Q907	Q908	IC752	Q857	Q852	Q853
			Q854	Q855	

MAIN UNIT (RWZ2710)



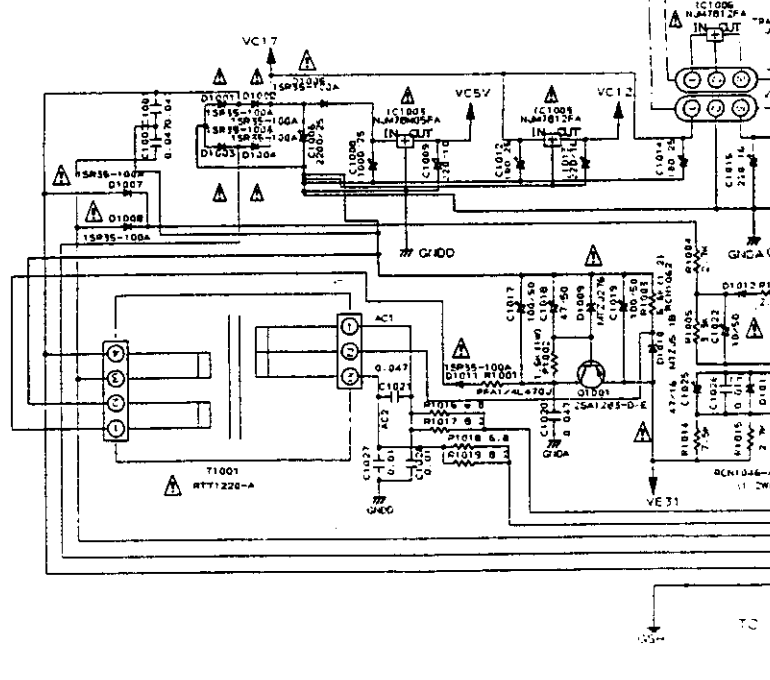
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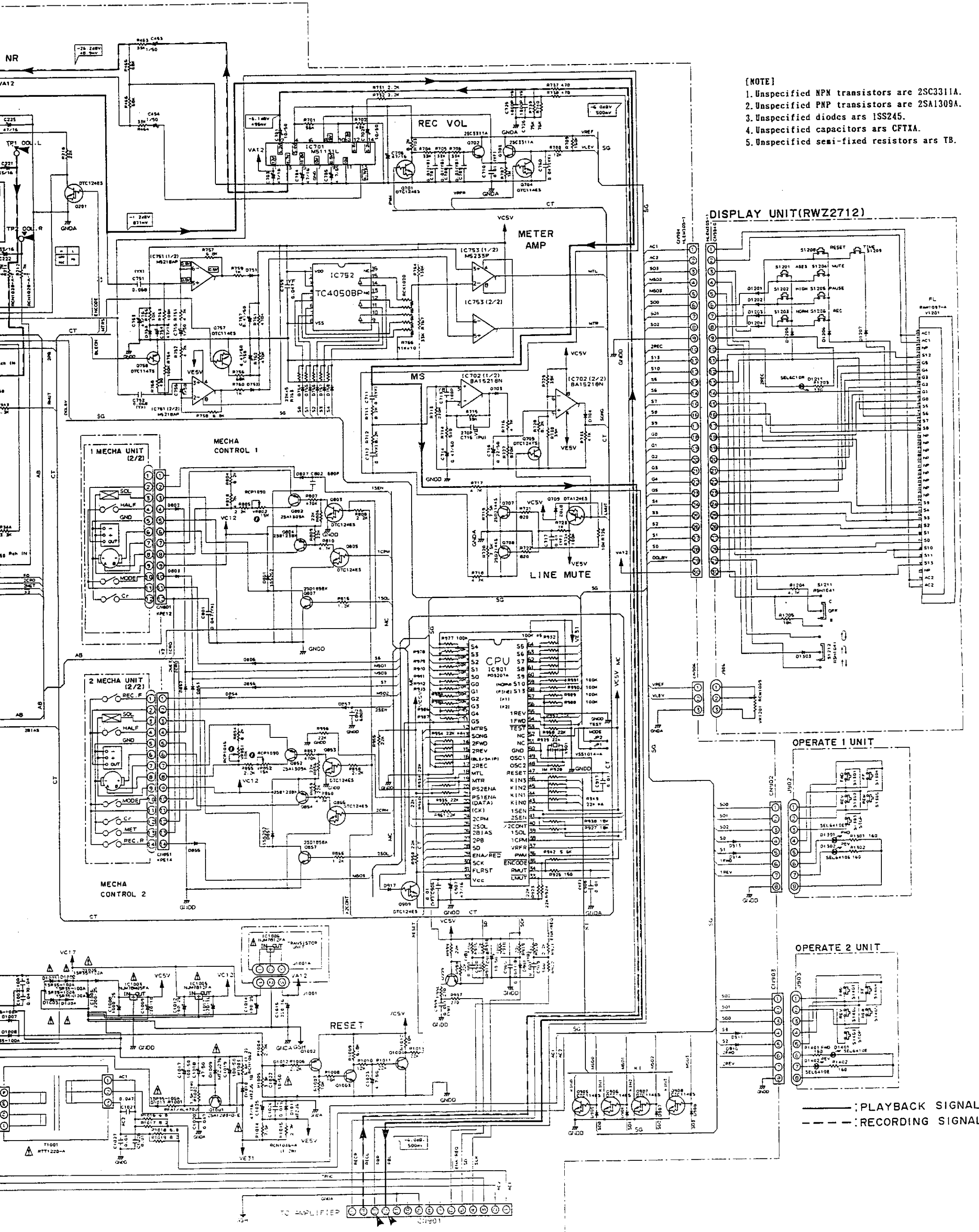
(Type 6)

- When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".
- Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.
- RESISTORS:**
Unit: k: kΩ, M: MΩ, or Ω unless otherwise noted.
Rated power: 1/4W, 1/8W, 1/10W unless otherwise noted.
Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
- CAPACITORS:**
Unit: p: pF or μF unless otherwise noted.
Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.
Rated voltage: 50V except for electrolytic capacitors.
- COILS:**
Unit: m: mH or μH unless otherwise noted.
- VOLTAGE AND CURRENT:**
□ : DC voltage (V) in STOP mode unless otherwise noted.
⊖ : mA or -mA: DC current in STOP mode unless otherwise noted.

- OTHERS:**
● : Signal route.
⊙ : Adjusting point.
▼ (Red) : Measurement point.
The Δ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
- SWITCHES (Underline indicates switch position):**

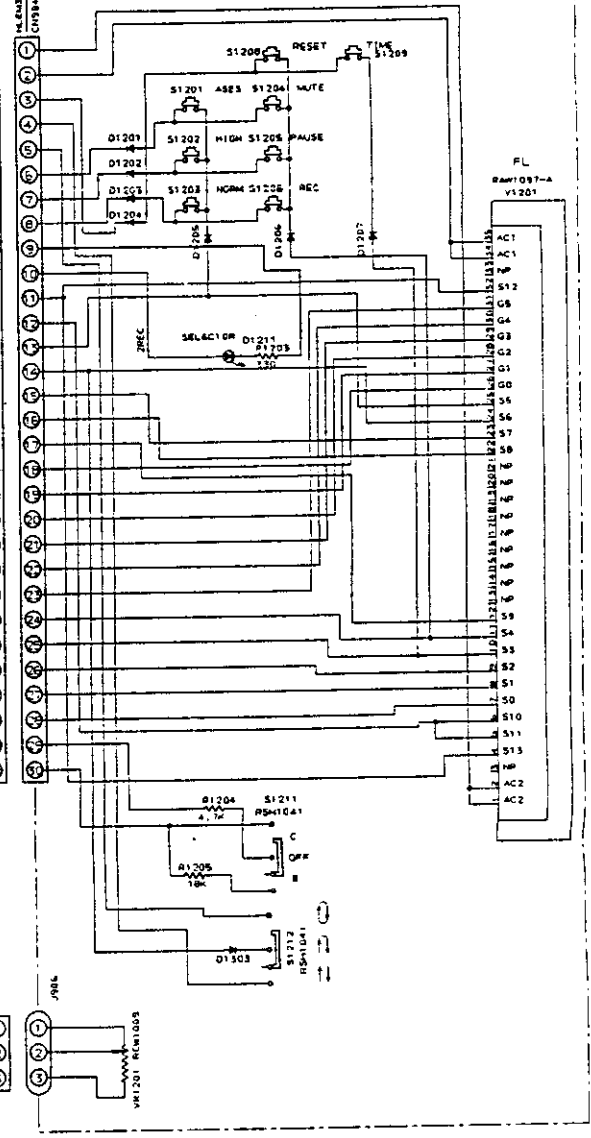
DISPLAY UNIT	OPERATE1 UNIT
S1201 : ASES	S1301 : FWD
S1202 : HIGH	S1302 : REV
S1203 : NORM	S1303 : STOP
S1204 : MUTE	S1304 : FF
S1205 : PAUSE	S1305 : REW
S1206 : REC	
S1211 : DOLBY B - OFF - C	OPERATE2 UNIT
S1212 : REV MODE	S1401 : FWD
	S1402 : REV
	S1403 : STOP
	S1404 : FF
	S1405 : REW



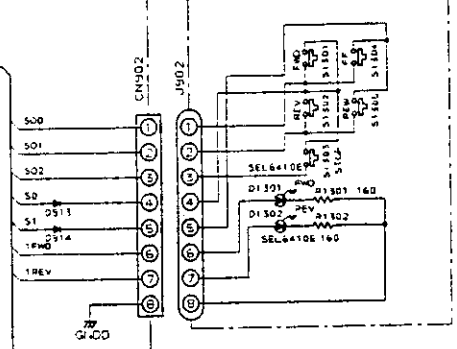


- [NOTE]
1. Unspecified NPN transistors are 2SC3311A.
 2. Unspecified PNP transistors are 2SA1309A.
 3. Unspecified diodes are 1SS245.
 4. Unspecified capacitors are CFT4A.
 5. Unspecified semi-fixed resistors are TB.

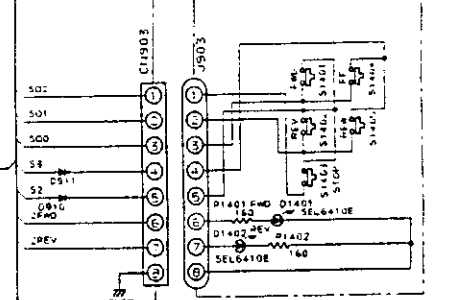
DISPLAY UNIT (RWZ2712)



OPERATE 1 UNIT

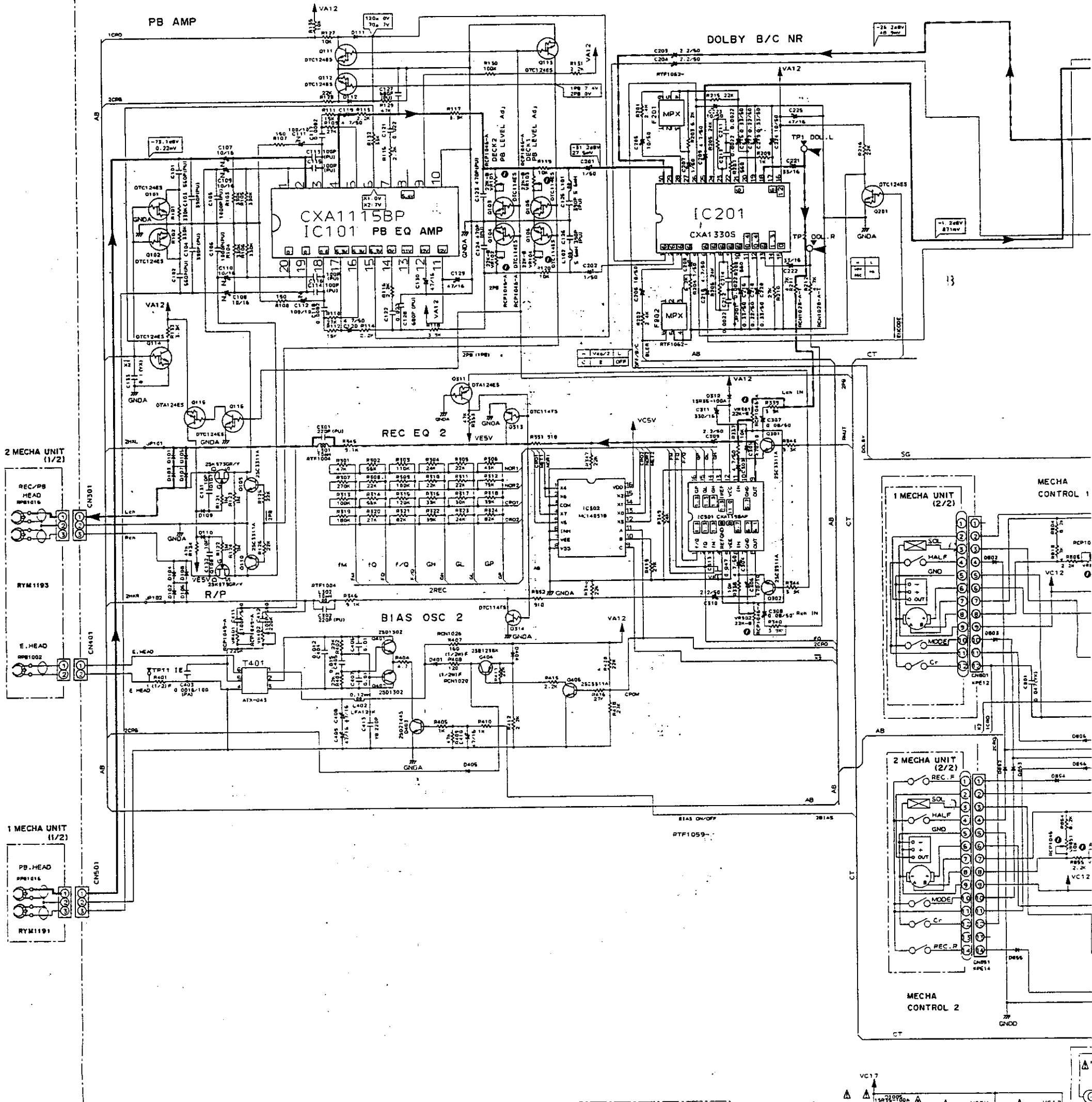


OPERATE 2 UNIT



— : PLAYBACK SIGNAL
 - - - : RECORDING SIGNAL

MAIN UNIT (RWZ2705)



Note: (Type 6)

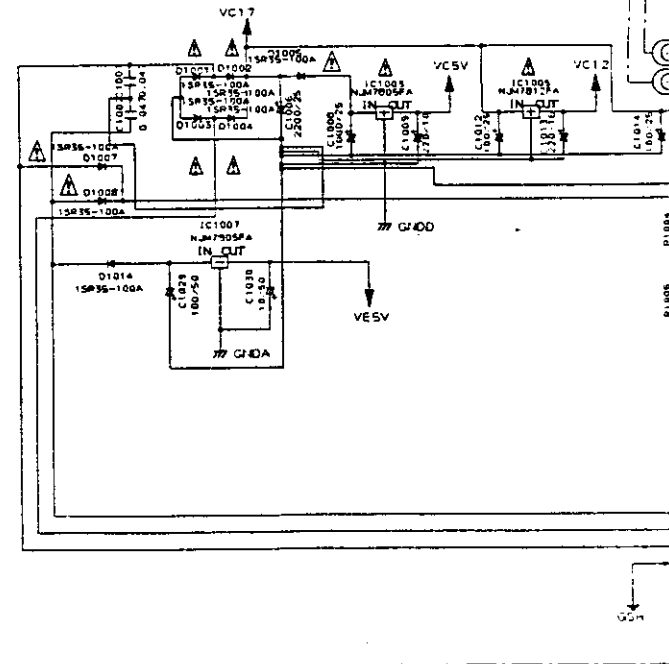
- When ordering service parts, be sure to refer to "PARTS LIST OF EXPLODED VIEWS" or "PCB PARTS LIST".
- Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.
- RESISTORS:**
Unit: k: kΩ, M: MΩ, or Ω unless otherwise noted.
Rated power: 1/4W, 1/8W, 1/8W, 1/10W unless otherwise noted.
Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
- CAPACITORS:**
Unit: p: pF or μF unless otherwise noted.
Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.
Rated voltage: 50V except for electrolytic capacitors.
- COILS:**
Unit: m: mH or μH unless otherwise noted.
- VOLTAGE AND CURRENT:**
□: DC voltage (V) in STOP mode unless otherwise noted.
◁: mA or -mA: DC current in STOP mode unless otherwise noted.

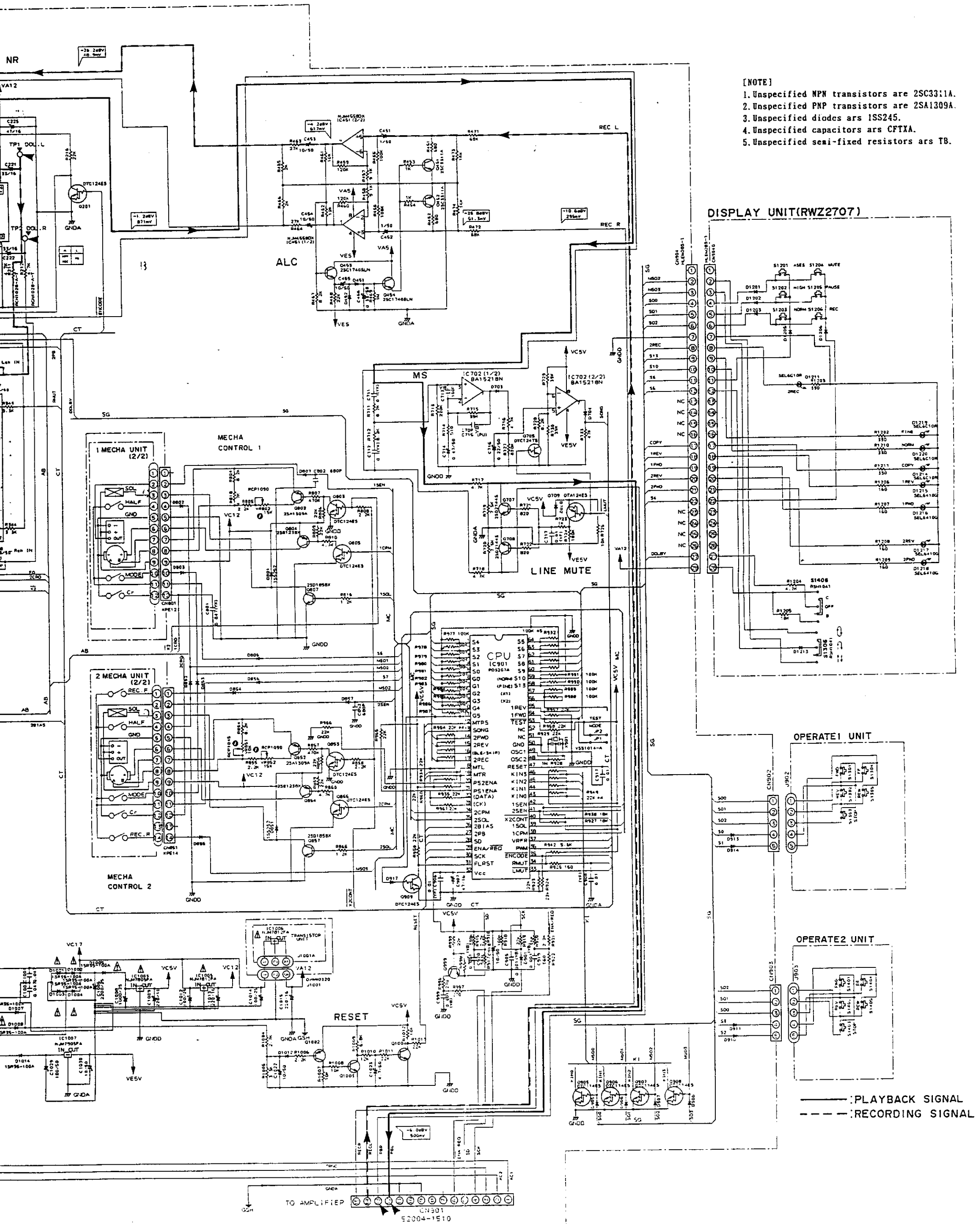
7. OTHERS:

- : Signal route.
- ◊: Adjusting point.
- ▼ (Red): Measurement point.
- △: The Δ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.

8. SWITCHES (Underline indicates switch position):

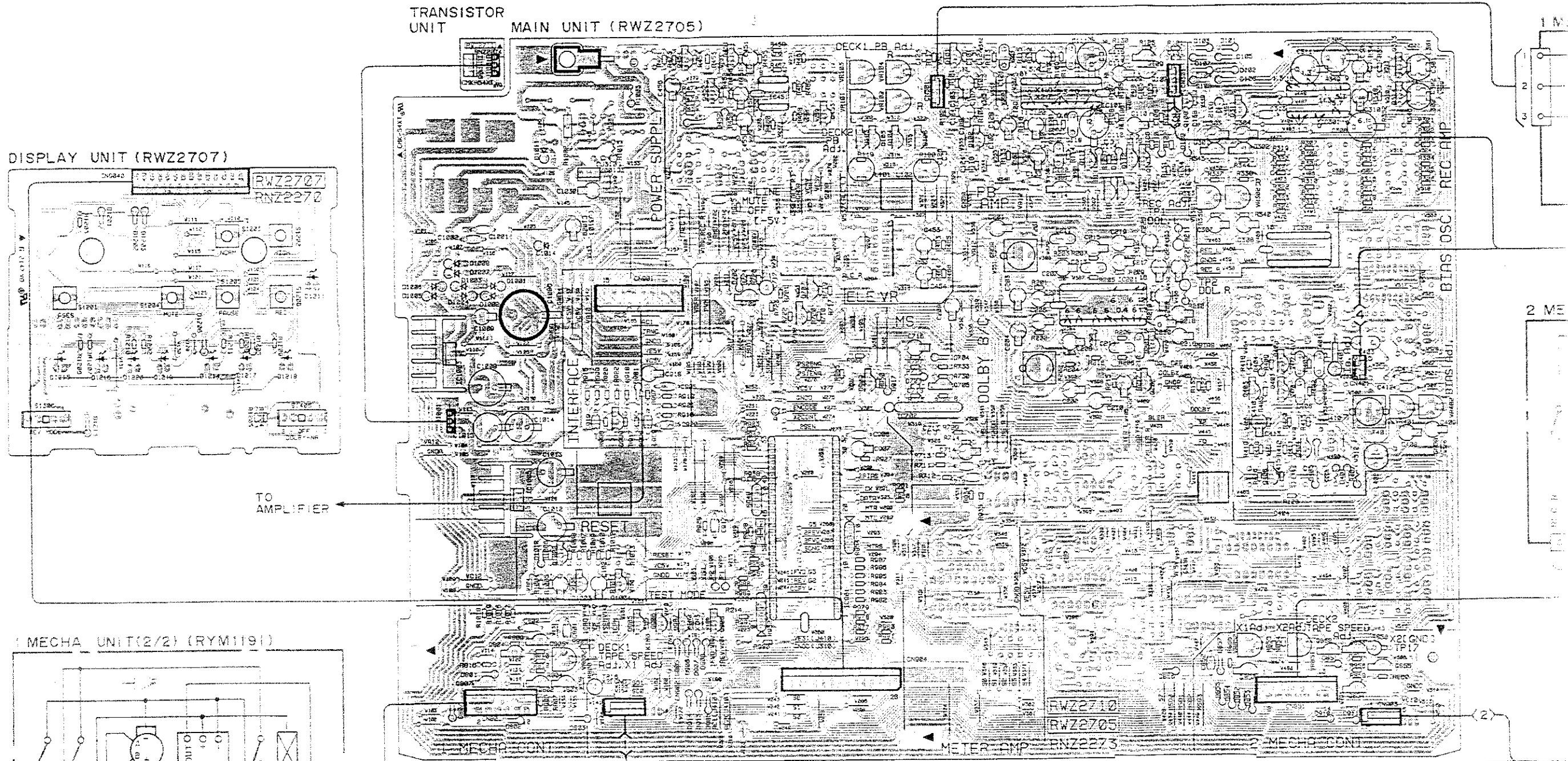
DISPLAY UNIT	OPERATE1 UNIT
S1201 : ASES	S1301 : FWD
S1202 : HIGH	S1302 : REV
S1203 : NORM	S1303 : STOP
S1204 : MUTE	S1304 : FF
S1205 : PAUSE	S1305 : REW
S1206 : REC	
S1306 : DOLBY B-OFF-C	OPERATE2 UNIT
S1406 : REV MODE	S1401 : FWD
	S1402 : REV
	S1403 : STOP
	S1404 : FF
	S1405 : REW





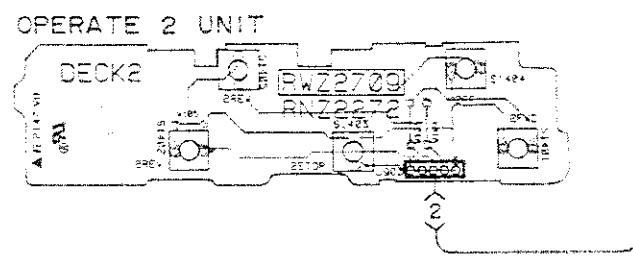
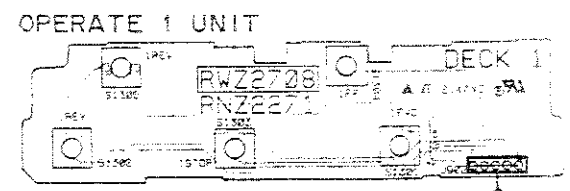
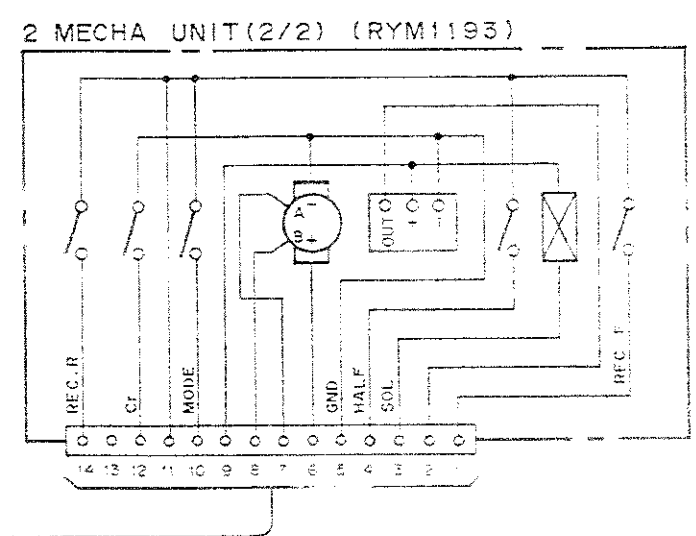
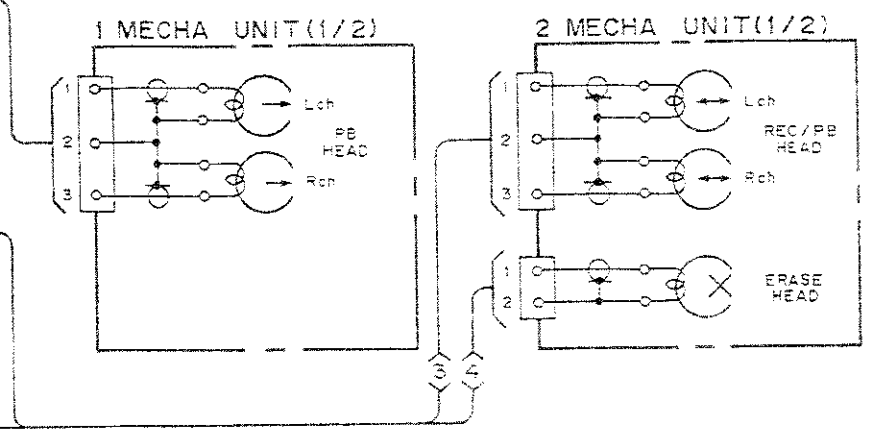
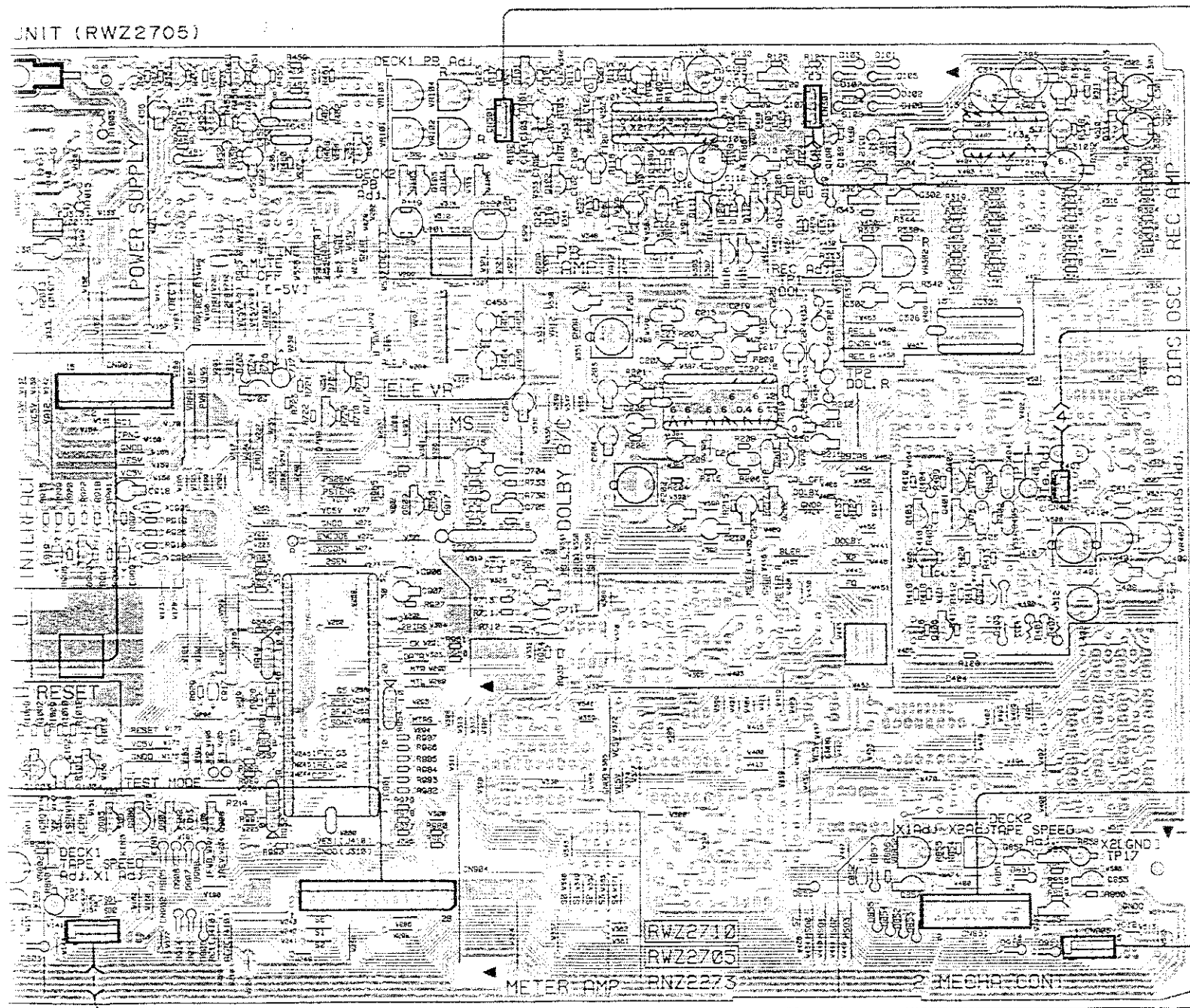
[NOTE]
 1. Unspecified NPN transistors are 2SC331A.
 2. Unspecified PNP transistors are 2SA1309A.
 3. Unspecified diodes are 1SS245.
 4. Unspecified capacitors are CFTXA.
 5. Unspecified semi-fixed resistors are TB.

• View from component side



VR502	VR103	VR104	VR301	VR302	VR401	VR402
	VR101	VR102	VR852	VR851		
Q454	Q452	Q451	Q101	Q109	Q107	Q110
Q1007	Q103	Q105	Q104	Q106	Q102	Q111
	Q112	Q113	Q301	Q302	Q303	Q313
	Q709	Q708	Q707	Q201	Q402	Q314
IC1003	IC1007	IC201	IC302	IC901	IC301	
IC1005	Q999	Q909	IC702	Q705	Q202	Q403
	Q1002	Q1003	Q1004	Q406	Q404	Q401
Q804	Q805	Q905	Q904	Q857	Q852	Q853
Q807	Q802	Q803		Q854	Q855	Q856

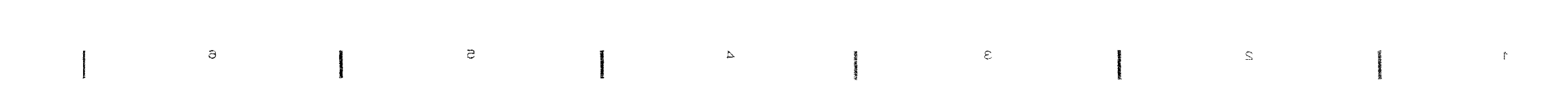
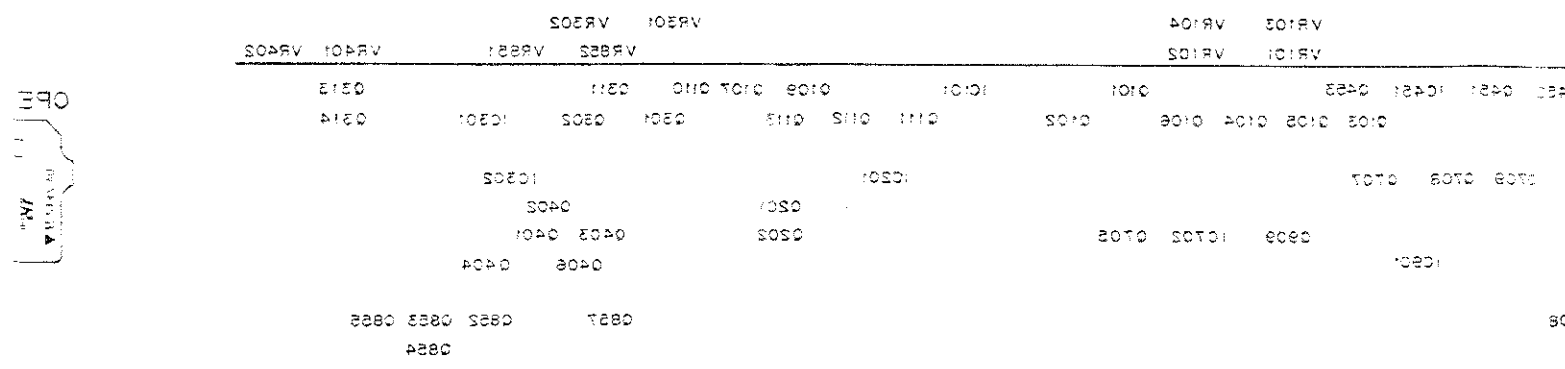
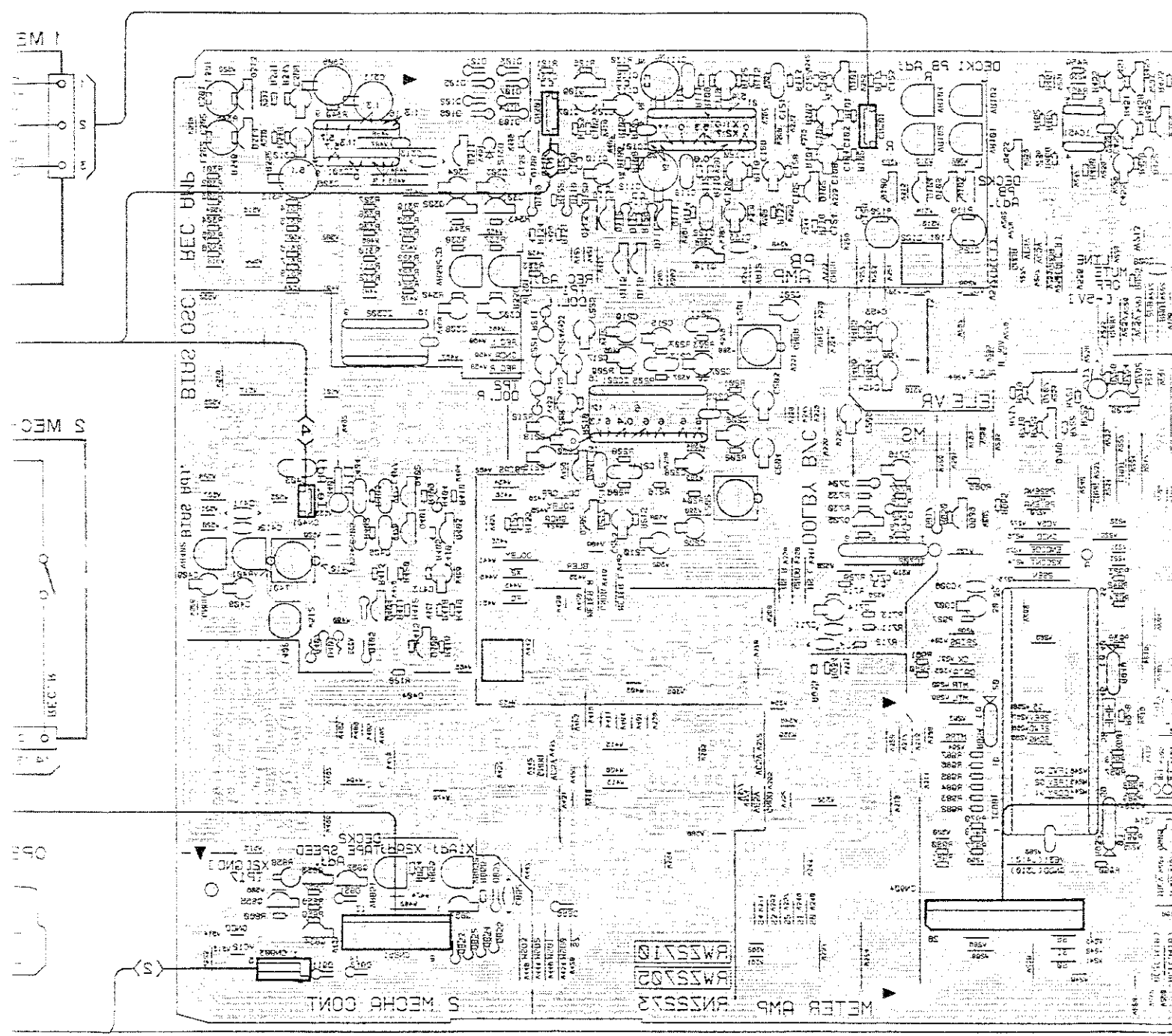
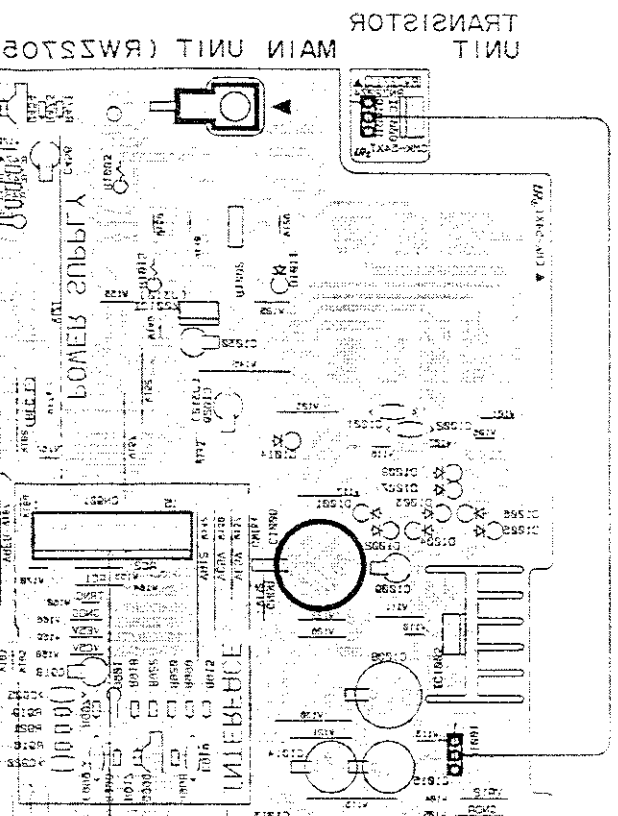
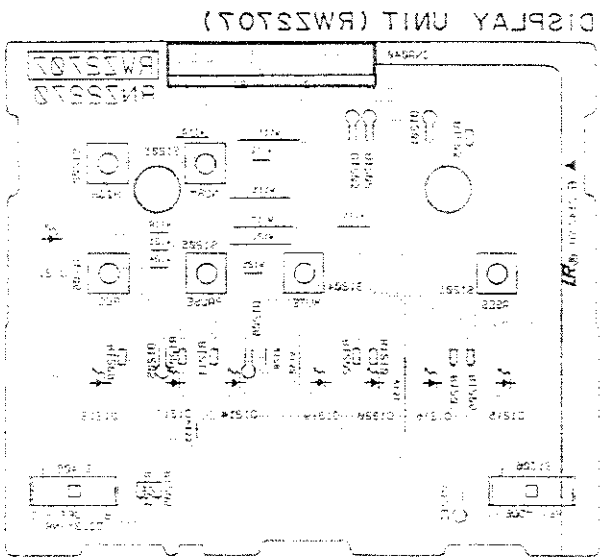
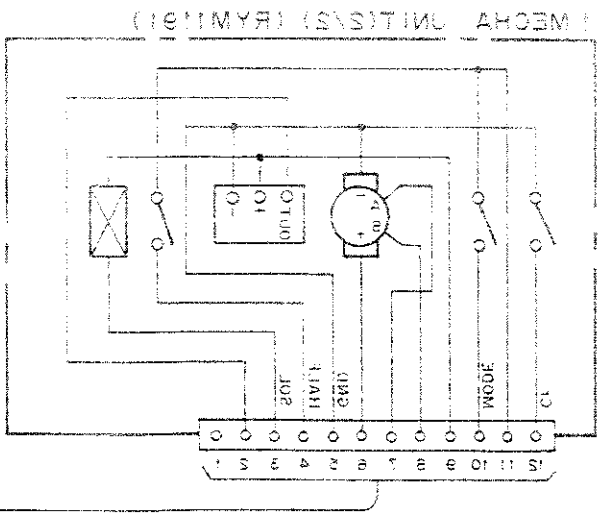
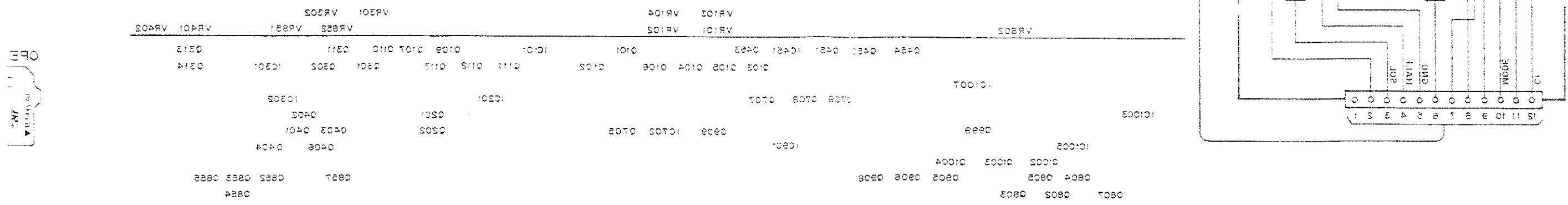
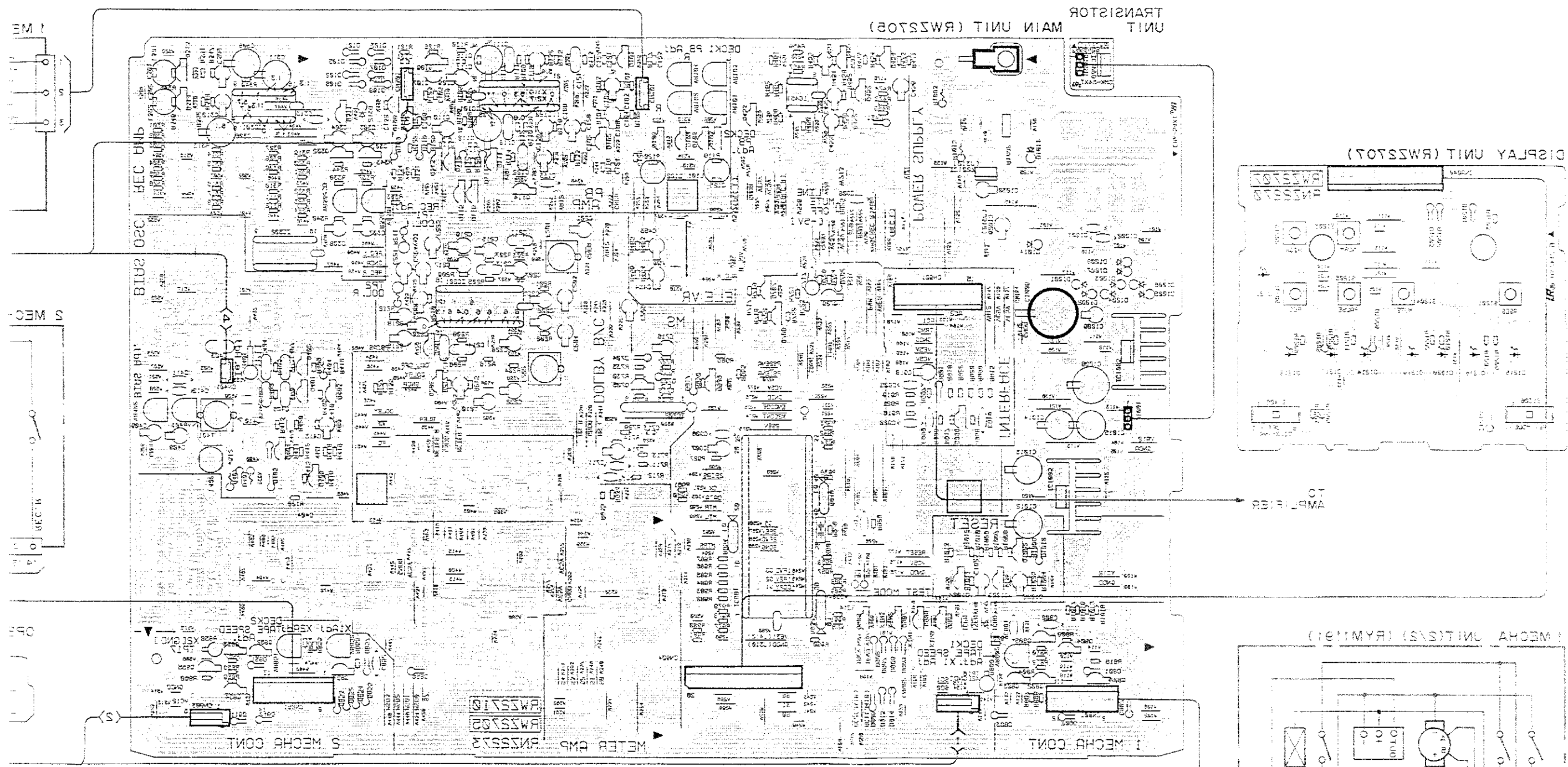
UNIT (RWZ2705)



P.C.B. pattern diagram indicator	Corresponding part symbol	Part name
		Resistor
		Cap
		Diode
		Data code
		Jumper
		Variable
		Tact switch
		Inductor
		Coil
		Transformer
		Crimp
		Ceramic capacitor
		Mica capacitor
		Syno capacitor
		Electrolytic capacitor
		Electrolytic capacitor
		Electrolytic capacitor
		Electrolytic capacitor
		Power capacitor
		Semi-conductor etc.
		Resistor array
		Resistor
		Resistor
		Transformer

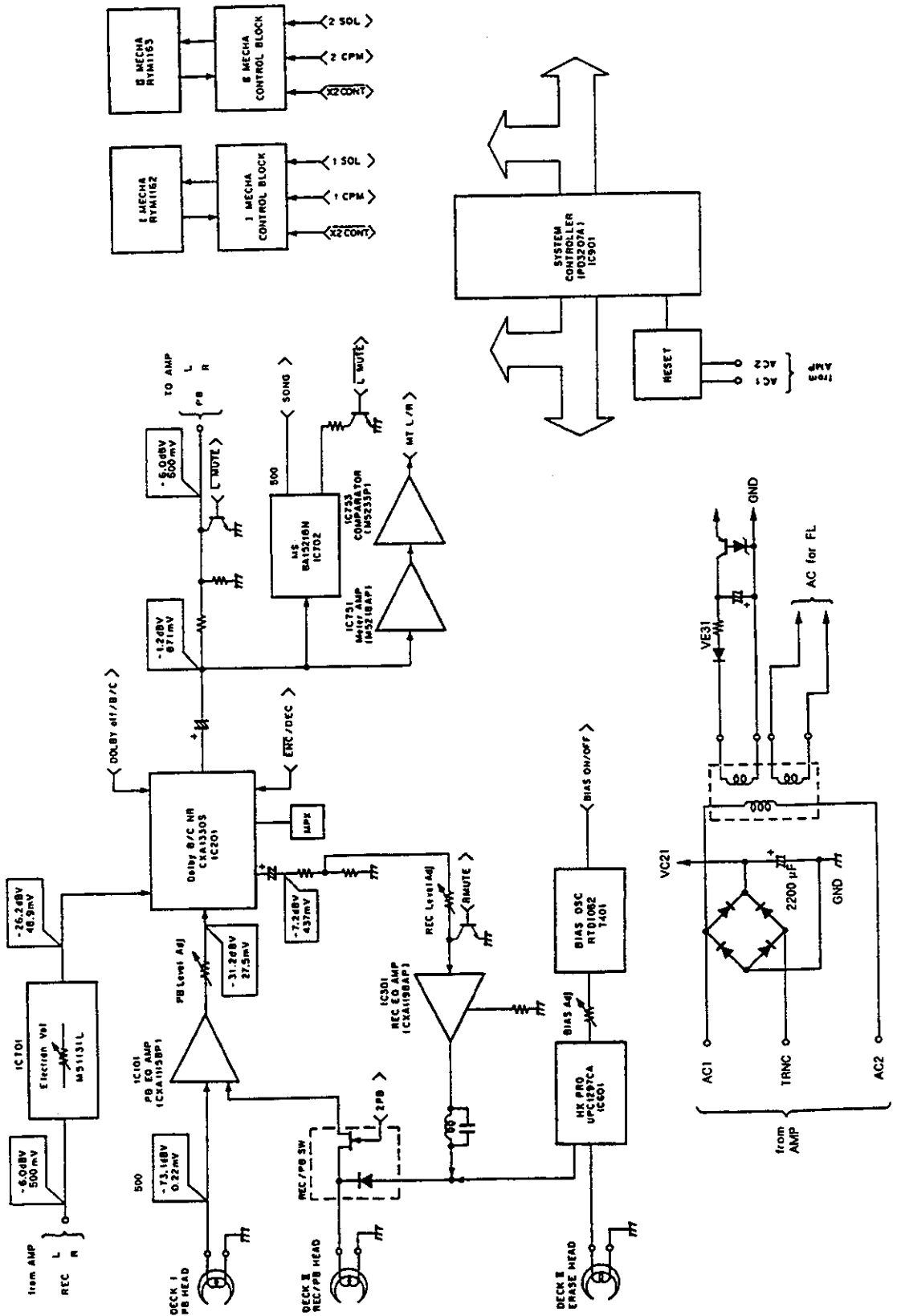
- VR103 VR104 VR301 VR302
- VR101 VR102 VR852 VR851 VR401 VR402
- Q454 Q452 Q451 IC451 Q453 Q101 IC101 Q109 Q107 Q110 Q311 Q313
- Q103 Q105 Q104 Q106 Q102 Q111 Q112 Q113 Q301 Q302 IC301 Q314
- IC1007 Q709 Q708 Q707 IC201 IC302
- Q999 IC901 Q909 IC702 Q705 Q201 Q402
- Q202 Q403 Q401 Q406 Q404
- Q1003 Q1004 Q857 Q852 Q853 Q855
- Q305 Q906 Q908 Q854

1. The P.C.B. connection diagram is viewed from the parts mounted side.
 2. The parts which have been mounted on the base can be replaced with those shown with the corresponding wiring symbols listed in the above table.
 3. The capacitor symbols marked with \ominus show negative terminal.
 4. The code marked with \oplus shows cathode side.
 5. The resistor terminal marked with \oplus shows positive.



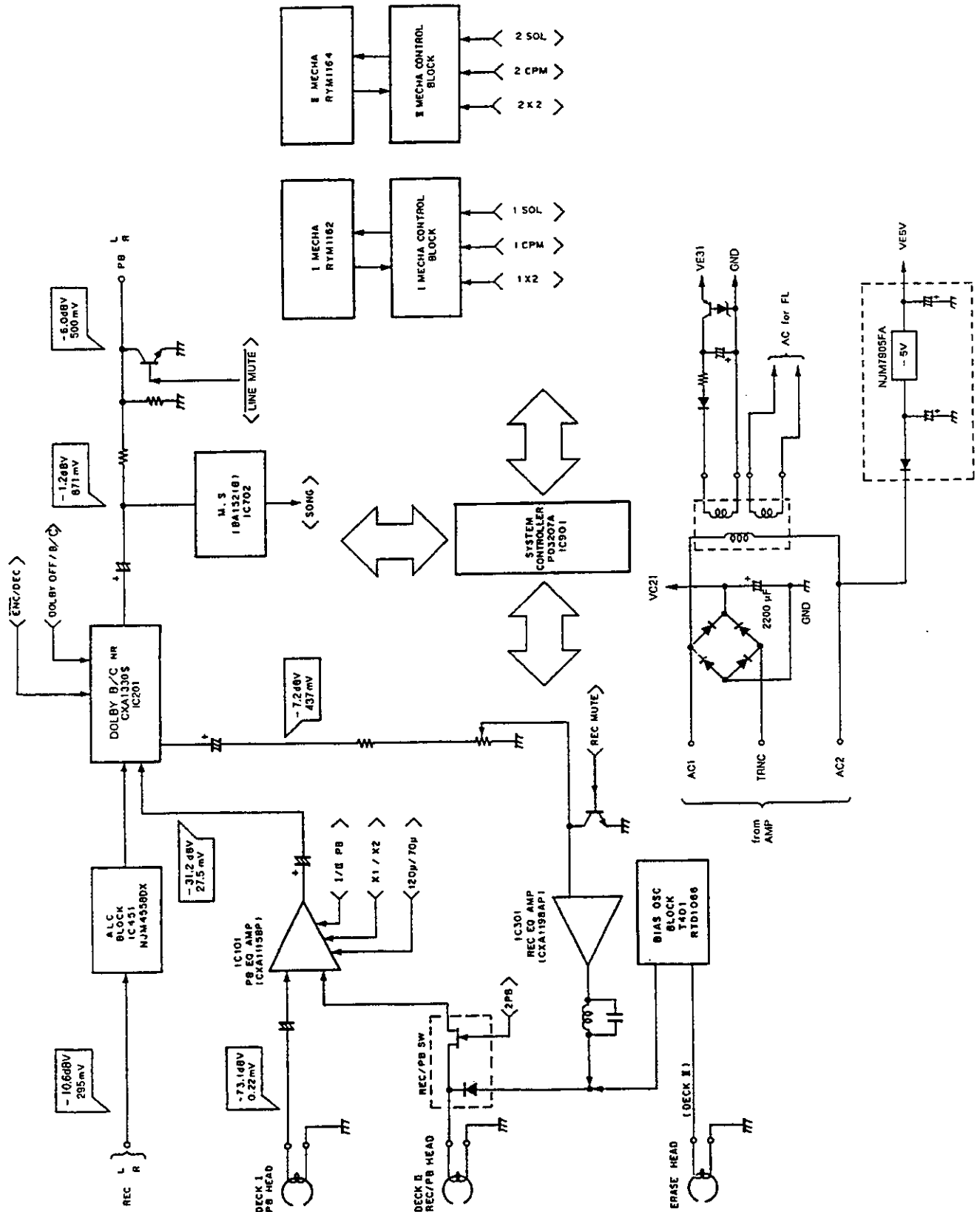
4. BLOCK DIAGRAM

4.1 FOR CT-J410WR



CT-J310WR

4.2 FOR CT-J310WR



CT-J410WR, CT-J310WR

5. PCB PARTS LIST

NOTES:

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

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

560 Ω \rightarrow 56 \times 10¹ \rightarrow 561 RDI/8PM 561J
 47k Ω \rightarrow 47 \times 10³ \rightarrow 473 RDI/4PS 473J
 0.5 Ω \rightarrow 0R5 RNZH 0R5K
 1 Ω \rightarrow 010 RSIP 010K

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

5.62k Ω \rightarrow 562 \times 10¹ \rightarrow 5621 RNI/4PC 5621F

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
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LIST OF ASSEMBLIES

						Q707, Q708	2SD2144S
	MAIN UNIT	RWZ2710 (CT-J410WR)				Q107, Q108	2SK373
		RWZ2705 (CT-J310WR)				Q313, Q314, Q758	DTC114TS
NSP	TRANSISTOR UNIT	RWZ2711				Q705	DTC124TS
	DISPLAY UNIT	RWZ2712 (CT-J410WR)				Q115, Q311, Q709	XDA124ES
		RWZ2707 (CT-J310WR)				Q103-Q105, Q704, Q757, Q905-Q908	XDC114ES
NSP	OPERATE 1 UNIT	RWZ2713 (CT-J410WR)		Δ		Q101, Q102, Q111-Q114, Q116, Q201,	XDC124ES
NSP		RWZ2708 (CT-J310WR)				Q604, Q701, Q803, Q805, Q853, Q855, Q909	
NSP	OPERATE 2 UNIT	RWZ2714 (CT-J410WR)		Δ		D312, D1001-D1008, D1011	1SR35-100AVL
NSP		RWZ2709 (CT-J310WR)				D401, D801, D807, D851	1SS252
						D101-D112, D405, D601, D602,	1SS254
						D702-D704, D751-D758, D802, D803,	
						D806, D852-D857, D901, D905-D908,	
						D910, D911, D913, D914, D917, D1012	
				Δ		D1009	MTZJ27B
				Δ		D1010, D1013	MTZJ5. 1B

MAIN UNIT (CT-J410WR)

SEMICONDUCTORS

IC702	BA15218N
IC101	CXA1115BP
IC301	CXA1198AP
IC201	CXA1330S
IC701	ME1131L
IC751	MS218AP
IC753	MS233P
Δ IC1005	N1M7812FA
Δ IC1003	N1M78M05FA
IC901	PD3207A
IC752	IC4050RP
IC302	IC4051RP
IC601	UPC1297CA
Q1001	2SA1283
Q601, Q602, Q802, Q852, Q1002	2SA1309A
Q404, Q804, Q854	2SB1238X
Q401-Q403	2SC1815
Q109, Q110, Q301, Q302, Q405-Q407,	2SC3311A
Q702, Q703, Q999, Q1003, Q1004	
Q807, Q857	2SD1858X

COILS, TRANSFORMERS AND FILTERS

L402	LFA121K
L601, L602 (L=4.6MH, Q=25, F=105KH)	RTD1053
L401	RTD1062
L301, L302 (L=10MH(79.6KHZ), Q=25)	RTF1004
L101, L102 (L=5.6MH(252KHZ), Q=30)	RTF1022
F201, F202	RTF1062
Δ T1001	RTT1220

CAPACITORS

C609, C610	CCSL101K500
C131, C132	CCPUSL100J50
C107-110	CEANL100M16
C111-C112	CEANL101M10
C201, C202, C207, C208, C453, C454,	CEAS010M50
C755, C756	
C205, C206, C223, C224, C615, C617,	CEAS100M50
C701, C702, C918, C1022	
C1012, C1014	CEAS101M25
C1017, C1019	CEAS101M50
C1008	CEAS102M25
C1009	CEAS221M10
C1013, C1015	CEAS221M16

Mark No.	Description	Part No.
C1006		CEAS222M25
C203, C204, C309, C310		CEAS221M10
C221, C222		CEAS330M16
C311		CEAS331M16
C125, C130, C225, C408-C410, C703, C704, C706, C753, C754, C907, C1025		CEAS470M6
C1018		CEAS473M50
C305, C306		CEAS471M10
C119, C120, C209, C210, C303, C304, C616, C705, C1023		CEAS47M50
C217, C218, C716		CEASR22M50
C215, C216, C219, C220		CEASR33M50
C307, C308, C714, C757, C758		CEASR47M50
C601, C602		CFTXA103J50
C211-C214		CFTXA222J50
C121, C122, C404, C605, C606		CFTXA223J50
C405-C407		CFTXA332J50
C117, C118		CFTXA822J50
C133, C711, C712		CGCYX104K25
C614		CGCYX104M25
C607, C608, C760, C801, C1001, C1002		CGCYX473K25
C751, C752		CGCYX83K25
C725, C726, C905, C919, C920, C999		CKCYB102K50
C707-C709		CKCKY103Z50
C710, C717, C906, C908, C917, C1026-C1028		CKCYF103Z50
C313, C759, C1020, C1021		KCYF473Z50
C118-C118, C613, C713		KCPUYE101K50
C105, C106		KCPUYB102K50
C301, C302		KCPUYB221K50
C715		KCPUYB271K50
C103, C104, C125, C126		KCPUYB391K50
C123, C124		KCPUYB471K50
C101, C102		KCPUYB561K50
C127, C128, C802, C852		KCPUYB681K50
C603, C604		KCPUYB821K50
C403		QCPA752J100
C611, C612 (C=430P, V(DC)=500)		ROG1005
RESISTORS		
R949, R954 (R=22K, W=1, A=J)		RA4T223J
R932		RA5T104J
R763 (R=22K, W=1, A=J)		RA5T223J
R211, R212 (R=4.7K, W=1/6, A=J)		RCN1028
R404 (R=5R6, W=1/2, A=J)		RCN1033
R1015 (R=2700, W=1/2, A=J)		RCN1046
R407 (R=560, W=1/2, A=J)		RCN1061
R1003 (R=562, W=1/2, A=J)		RCN1062
R422 (R=5R1, W=1/4, A=J)		RCN1063
VR851 (R=10K, W=0.1)		RCP1045
VR101-VR104, VR301, VR302, VR601, VR602 (R=22K, W=0.1)		RCP1046
VR802, VR852 (R=15K, W=0.1)		RCP1090
R765 (R=11K/22K, N=10)		RCK1020
R401		RD1/2LF□□□J
R1001 (R=47, W=1/4, A=J)		RF1A1/4L□□□J
R1002 (R=1.5K, W=1, A=J)		RS1LAF□□□J

Mark No.	Description	Part No.
OTHER RESISTORS		
		RD1/6PM□□□J
OTHERS		
CN904 FFC CONNECTOR 30P		52045-3045
CN801 CONNECTOR 12P		KPE12
CN851 CONNECTOR 14P		KPE14
X901 CERAMIC RESONATOR(4.19MHz)		YSS1014
MAIN UNIT (CT-J310WR)		
SEMICONDUCTORS		
IC702		BA15218N
IC101		CKA1115BP
IC301		CKA1198AP
IC201		CKA1330S
IC451		NJM4558DX
△ IC1005		NJM7812FA
△ IC1003		NJM78M05FA
△ IC1007		NJM7905FA
IC901		PD3207A
IC302		TC4051BP
Q802, Q852, Q1002		2SA1309A
Q404, Q804, Q854		2SB1238K
Q453, Q454		2SC1740SLN
Q109, Q110, Q301, Q302, Q406, Q451, Q452, Q999, Q1003, Q1004		2SC3311A
Q401, Q402		2SD1302
Q807, Q857		2SD1858X
Q403, Q707, Q708		2SD2144S
Q107, Q108		2SK373
Q313, Q314		DTCL14TS
Q705		DTCL24TS
Q115, Q311, Q709		XDA124ES
Q103-Q106, Q905-Q908		XDC114ES
Q101, Q102, Q111-Q114, Q116, Q201, Q803, Q805, Q853, Q855, Q909		XDC124ES
△ D312, D1001-D1005, D1007, D1008, D1014		1SR35-100AVL
D801, D807, D851		1SS252
D101-D112, D401, D404, D405, D451, D452, D702-D704, D802, D803, D806, D852-D857, D901, D905-D908, D910, D911, D913, D914, D917, D1012		1SS254
COILS, TRANSFORMERS AND FILTERS		
T401		ATX-043
L402		LFA121K
L301, L302 (10MH(79.6KHZ), Q=25)		RTF1004
L101, L102 (5.6MH(252KHZ), Q=30)		RTF1022
F201, F202		RTF1062
CAPACITORS		
C411, C412		CCOSL101K500
C131, C132		CCPUSL100J50
C107-C110		CEANL100M16
C111, C112		CEANL101M10
C201, C202, C207, C208, C451, C452		CEASO10M50
C205, C206, C223, C224, C453-C455, C918, C1022, C1030		CEAS100M50
C1012, C1014		CEAS101M25
C1029		CEAS101M50

Mark No.	Description	Part No.
C1008		CEAS102M25
C1009		CEAS221M10
C1013, C1015		CEAS221M16
C1006		CEAS222M25
C203, C204, C309, C310		CEAS2R2M50
C221, C222		CEAS330M16
C311		CEAS331M16
C129, C130, C225, C408-C410, C907		CEAS470M16
C305, C306		CEAS471M10
C119, C120, C209, C210, C303, C304, C1023		CEAS4R7M50
C217, C218, C716		CEASR22M50
C215, C216, C219, C220, C456		CEASR33M50
C714		CEASR47M50
C307, C308		CEASR68M50
C406, C407		CFTXA103J50
C404		CFTXA123J50
C405		CFTXA153J50
C211-C214		CFTXA222J50
C121, C122		CFTXA223J50
C117, C118		CPTXA822J50
C133, C711, C712		CGCYX104K25
C801, C1001, C1002		CGCYX473K25
C905, C919, C920, C999		CKCYB102K50
C717, C906, C908, C917		CKCYF103Z50
C913		CKCYF473Z50
C113-C116, C713		KCPUYB101K50
C105, C106		KCPUYB102K50
C301, C302, C413		KCPUYB221K50
C715		KCPUYB271K50
C103, C104, C125, C126		KCPUYB391K50
C123, C124		KCPUYB471K50
C101, C102		KCPUYB561K50
C127, C128, C802, C852		KCPUYB681K50
C403		QCPA162J100
RESISTORS		
R949, R954 (R=22K, W=1, A=J)		RA4T223J
R932 (R=100K, W=1, A=J)		RA5T104J
R408 (R=120, W=1/2, A=J)		PRCN1020
R404 (R=4.7, W=1/2, A=J)		PRCN1022
R407 (R=160, W=1/2, A=J)		PRCN1026
R211, R212 (R=4.7K, W=1/6, A=J)		RCN1028
VR851 (R=10K, W=0.1)		RCP1045
VR101-VR104, VR301, VR302 (R=22K, W=0.1)		RCP1046
VR401, VR402 (R=220K, W=0.1)		RCP1049
VR302, VR852 (R=15K, W=0.1)		RCP1090
R401		RD1/2LF010J
OTHER RESISTORS		RD1/6PM□□□J

Mark No.	Description	Part No.
OTHERS		
CN904 FFC CONNECTOR 28P		52045-2845
CN801 CONNECTOR 12P		KPE12
CN851 CONNECTOR 14P		KPE14
X901 CERAMIC RESONATOR(4.19MHz)		YSS1014

Mark No.	Description	Part No.
TRANSISTOR UNIT		
SEMICONDUCTORS		
△ IC1006		NJM7812FA
DISPLAY UNIT (CT-J410WR)		
SEMICONDUCTORS		
D1201-D1207, D1303		1SS254
D1211		SEL6C10R
SWITCHES		
S1201-S1206, S1208, S1209		RSG1033
S1211, S1212		RSH1041
RESISTORS		
YR1201 (R=100KB, P=0.05W)		RCW1009
OTHER RESISTORS		RD1/6PM□□□J
OTHERS		
CN9040 FFC CONNECTOR 30P		52045-3045
Y1201		RAW1097
FL HOLDER		RNK1755
DISPLAY UNIT (CT-J310WR)		
SEMICONDUCTORS		
D1201-D1203, D1205, D1206, D1213		1SS254
D1215-D1218		SEL6410E
D1211, D1214, D1219, D1220		SEL6C10R
SWITCHES		
S1201-S1206		RSG1033
S1306, S1406		RSH1041
RESISTORS		
ALL RESISTORS		RD1/6PM□□□J
OTHERS		
CN9040 FFC CONNECTOR 28P		52045-2845
OPERATE 1 UNIT		
SEMICONDUCTORS		
D1301, D1302		SEL6410E
		(CT-J410WR only)
SWITCHES		
S1301-S1305		RSG1033
RESISTORS		
R1301, R1302		RD1/6PM□□□J
		(CT-J410WR only)
OPERATE 2 UNIT		
SEMICONDUCTORS		
D1401, D1402		SEL6410E
		(CT-J410WR only)
RESISTORS		
R1401, R1402		RD1/6PM□□□J
		(CT-J410WR only)
SWITCHES		
S1401-S1405		RSG1033

6. ADJUSTMENTS

6.1 MECHANICAL ADJUSTMENT

These adjustments must be performed in TEST MODE

- Entering the TEST MODE
Set the Reverse Mode Switch to \leftarrow , and short the TEST MODE jumper wire.
- Releasing the TEST MODE
Press the STOP keys of DECKs I and II simultaneously.

1. Tape Speed Adjustment and Check							
No.	Deck	Mode	Test tape	Adjusting points	Specifications/Ratings (playback frequency)	Remarks	
1		Normal speed PLAY	STD-301 (3 kHz)		Play back for 1 minute and then press the FF or REW key. *1		
2	I	Double speed PLAY		check	8000 Hz \pm 800 Hz (Pins $\text{\textcircled{A}}$ and $\text{\textcircled{B}}$ of CN901)		
3						Press the FF or REW key after checking.	
4		Normal speed PLAY				Play back for 1 minute and then press the FF or REW key. *1	
5	II	Double speed PLAY		VR851	Within \pm 10 Hz of step 2 (deck I) check value. (CN901 - $\text{\textcircled{A}}$, $\text{\textcircled{B}}$)		
6						Press the FF or REW key after checking.	
7		Normal speed PLAY		VR852	3020 Hz \pm 5 Hz (Pins $\text{\textcircled{C}}$ and $\text{\textcircled{D}}$ of CN901)		
8	I			VR802	Within \pm 5 Hz of step 7 (deck II) adjustment value.		

*1: If the FF or REW key is pressed during PLAY, double speed mode is selected.

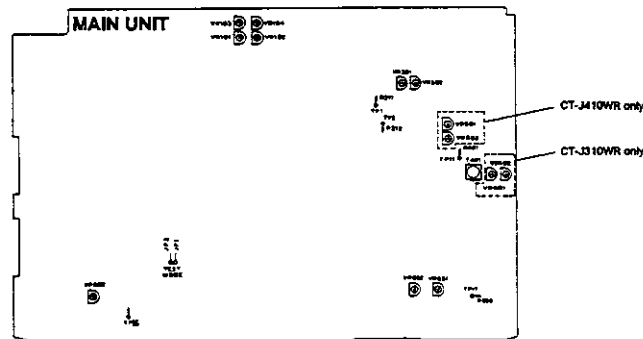


Fig. 6-1 Adjusting points

• Door damping check and adjustment

1. When assembling the front panel attach the door spring to the position (a) according to fig. 6-2, and stand the front panel assembly straight up as shown in fig. 6-3.
2. Open the doors of DECK I and DECK II simultaneously, and when one of the doors is fully opened, confirm that the disparity between the two doors is within 15 mm.
3. If the specification described in 2 is not satisfied, change the door spring position as follows and so on.
 - When the door of DECK I opens slower than the one of DECK II: Change the DECK I door spring to position (b).
 - When the door of DECK I opens faster than the one of DECK II: Change the DECK II door spring to position (c). (Basically adjust the door which opens slower to the faster one.)

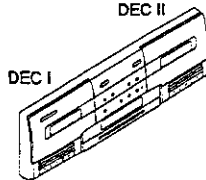


Fig. 6-2

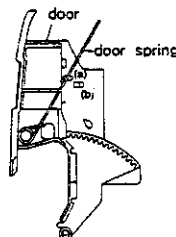


Fig. 6-3

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. 6-4)
- STD-631 : NORMAL blank tape
STD-621 : CrO₂ blank tape
STD-610 : METAL blank tape

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

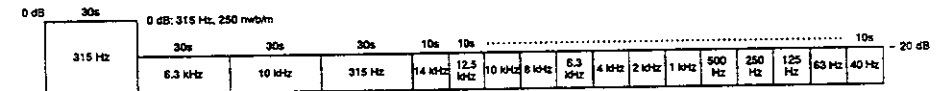


Fig. 6-4 Constants of the test tape STD-331E

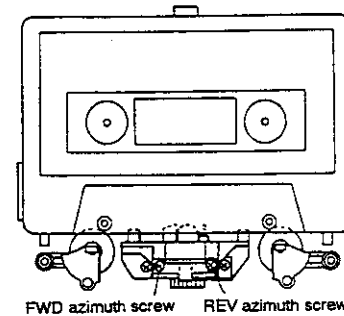


Fig. 6-5 Head azimuth adjustment

List of Adjustments

Playback sections

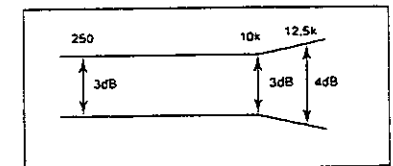
1. Head azimuth adjustment.
2. Playback level adjustment.

Recording sections

1. Bias oscillator adjustment.
2. Recording bias adjustment.
3. Recording level adjustment.

NOTE: This unit has an automatic tape selection feature.

PLAY BACK



RECORDING

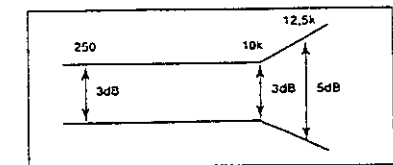


Fig. 6-6 Frequency response zone

PLAYBACK SECTION

1. Head Azimuth Adjustment

• Turn VR103, VR104 (Deck I) or VR101, VR102 (Deck II) 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. 9-5)	Pins ④ and ⑤ of CN901	Maximum playback signal level.	
2.	STOP	Lock the screw with screw lock after completing adjustment.				

2. Playback Level Adjustment

• This adjustment determines the DOLBY NR level, and must be performed with great care.

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	PLAY	Play the 315 Hz/0 dB section of the STD-331E test tape.	Deck I	VR103 (Lch) VR104 (Rch)	TP. 1 (Lch) TP. 2 (Rch)	-6.7 dBV (CT-J410WR/J310WR)
			Deck II	VR101 (Lch) VR102 (Rch)		

RECORDING SECTION

1. Bias Oscillator Frequency Adjustment (CT-J410WR)

• Adjust the bias oscillator with checks set to recording mode simultaneously. ← (Double R/P only)

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	REC	Load the STD-810 test tape with no input signal.	Deck II	T401	TP. 11	105 ± 0.3 kHz

2. Recording Bias Adjustment

• Adjust the bias oscillator with decks I and II set to recording mode independently. ← (Double R/P only)
• After the adjustment, caution should be exercised so as not to become under bias by checking the distortion rate.

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	STOP	Set the TAPE SELECTOR switch to the NORM position.				
2.	REC	Record the 315 Hz and 6.3 kHz signals at -20 dB input level and playback.	Deck II	VR801 (Lch) VR802 (Rch) (CT-J410WR) VR401 (Lch) VR402 (Rch) (CT-J310WR)	Pins ④ and ⑤ of CN901	Repeatedly record, playback and adjust so that the playback level of 6.3 kHz signal becomes +0.5 dB ± 0.5 dB when compared with the 315 Hz signal.

3. Recording Level Adjustment

• Adjust the bias oscillator with decks I and II set to recording mode independently. ← (Double R/P only)

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	STOP	Set the TAPE SELECTOR switch to the NORM position.				
2.	REC/ PAUSE	Apply a 315 Hz/-4 dB signal to the line input terminals, load the STD-831 test tape.	REC level control volume	TP. 1 (Lch) TP. 2 (Rch)	-11.2 dBV (CT-J410WR/J310WR)	
3.	STOP	Set the DOLBY NR switch to the ON position. (DOLBY B)				
4.	REC/ PLAY	Record the above signal onto the STD-831 test tape, and playback.	Deck II	VR301 (Lch) VR302 (Rch)	TP. 1 (Lch) TP. 2 (Rch)	Repeatedly record, playback and adjust so that the playback signal level becomes -11.2 dBV (CT-J410WR/J310WR)
5.	STOP	Set the TAPE SELECTOR switch to the CrO2 position.				
6.	REC/ PLAY	Record the above signal onto the STD-821 test tape, and playback.	Check	TP. 1 (Lch) TP. 2 (Rch)	-11.2 dBV ± 1.5 dB (CT-J410WR/J310WR)	
7.	STOP	Set the TAPE SELECTOR switch to the METAL position.				
8.	REC/ PLAY	Record the above signal onto the STD-810 test tape, and playback.	Check	TP. 1 (Lch) TP. 2 (Rch)	-11.2 dBV ± 1.5 dB (CT-J410WR/J310WR)	

7. TEST MODE

1 Entering the Test Mode

Supply the power with Pin 54 of the CPU (PD 3207A) connected to +5V.

2 Test Mode Operations

The BLE/SKIP LED will flicker while the test mode is operating, indicating that test mode is being set. During REC and REC PAUSE, the LINE MUTE opens in the same way as a deck sold separately.

Moreover, as the 5 seconds key mask immediately after the power is supplied will not be performed, test mode operations can be started immediately after mecha initialization.

(a) FL Check (CT-J410WR)

After the CPU RESET is released, the FL becomes a fully lighted display with only half of the lumin. As a result, disconnections and soldered bridges (the luminance of the bridge section will be normal) can be checked.

After mecha initialization has been completed, it can be returned to the normal display using any key input.

(b) Bus Port Operation Check

When the ENA/REQ pin (Pin 29) is set to "L", the SD pin (Pin 28) outputs the reversed level against the input level ("H" or "L") of the SCK pin (Pin 30).

ENA/REQ (29 pin)	SCK (30 pin)	SD (28 pin)
H	—	—
L	L	H
L	H	L

(c) Electronic VR (M51131L) Operation and ASES LED Checks Using the Reverse Mode

CT-J410WR switches the attenuation amount of M51131L when the reverse mode switches are used. CT-J310WR lights up the ASES LED.

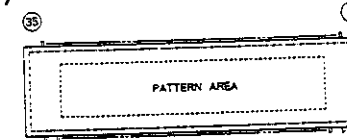
Reverse Mode SW	CT-J410WR	CT-J310WR
	Attenuation Amount (dB)	ASES LED
⊞	-30	NORM LED lights up.
⊞	Adjustment can be made with REC VR.	LED turns off.
⊞	-1	FINE LED lights up.

3 Releasing the Test Mode

The test mode will be released and normal operations and displays will be set, when the ASES key is turned on with both mechanisms in the stop condition, or when the CPU hardware is reset.

8. FL INFORMATION

● V1201 (RAW1097)

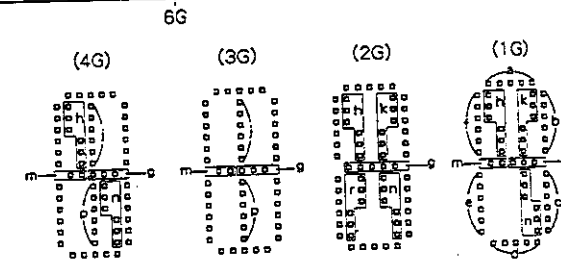
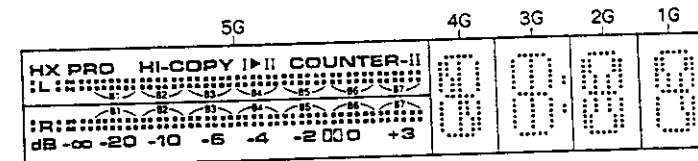


PIN CONNECTION

PIN NO.	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18
CONNECTION	F2	F2	NP	P13	6G	5G	4G	3G	2G	1G	P8	P8	P9	NP	NP	NP	NP	NP

PIN NO.	17	18	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
CONNECTION	NP	NP	NP	NP	NP	P10	P5	P4	P3	P2	P1	P11	P12	P14	NP	F1	F1

Note: 1) F1, F2 Filament
 2) NP No pin
 3) NC No connection
 4) 1G-6G Grid

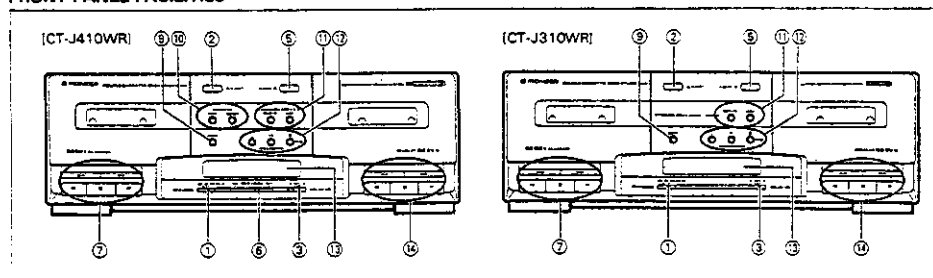


ANODE CONNECTION

	6G	5G	4G	3G	2G	1G
P1	B1	B1	a	a	a	a
P2	B2	B2	b	b	b	b
P3	B3	B3	c	c	c	c
P4	B4	B4	d	d	d	d
P5	B5	B5	e	e	e	e
P6	B6	B6	f	f	f	f
P7	B7	B7	g	g	g	g
P8	B8 - -30 -10 -4 -200 +3	B8	i	i	k, l	m
P9	—	COPY I II	l, p	l, p	h	h
P10	—	H -	h, n	h, n	n	k
P11	—	—	—	—	—	n
P12	—	IL	—	—	—	—
P13	—	HX PRO	—	—	—	—
P14	—	COUNTER - I	—	—	—	—

9. PANEL FACILITIES

FRONT PANEL FACILITIES



① REV (reverse) MODE switch

Use this to select tape travel direction during play and record.

- ⏪ : One-sided play and record.
- ⏩ : This enables auto reverse recording and auto reverse play. If you start with the tape running in reverse, only reverse play and recording are possible.
- ↔ (RELAY): This enables auto reverse recording and auto repeat playback. The tape does not reverse if recording starts from the (⏪) direction. Select this position for DECK I and II relay play.

② Deck I EJECT button

Press to open the cassette door.

NOTE

This button functions only when the power is turned on.

③ DOLBY* NR switch

Set this switch to B or C for recording with the built-in Dolby Noise Reduction system and for playback of tapes which have been recorded using the Dolby Noise Reduction system. For other tapes, set the DOLBY NR switch to OFF.

NOTE

When playing back DOLBY NR-encoded tapes, always set this switch to the same position (B-type or C-type) used for recording.

*

- 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.

⑤ Deck II EJECT button

⑥ REC LEVEL control (CT-J410WR only)

Use to adjust the recording level. It adjusts the input signal level.

⑦ Deck I operation buttons

- ▶ (PLAY): For playing back a tape in the forward mode.
- ◀ (PLAY): For playing back a tape in the reverse mode.
- (STOP): For stopping the tape.
- ▶▶ (FAST): Fast forward in forward mode, rewind in reverse mode. Music search (MS) starts if this is pressed during playback.
- ◀◀ (FAST): Rewind in forward mode, fast forward in reverse mode. Music search (MS) starts if this is pressed during playback.

⑨ ASES button

This can be used when recording from a PD-J410/PD-J510/PD-J910M CD player or CLD-J910 CD/CDV LD player. The A.S.E.S. (Auto Synchro Editing System) function automatically edits when recording from a CD to a tape.

⑩ COUNTER buttons (CT-J410WR only)

TIME: Use this to switch between tape counter number display and display of elapsed time. The TIME counter operates only during playback and recording.

RESET: Use this to reset the tape counter display to 0000.

⑪ SYNCHRO COPY buttons

Used for tape copying.

NORMAL: Copying from the deck I tape to the deck II tape at normal speed.

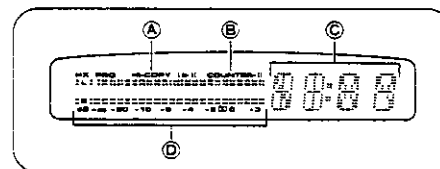
HIGH: Copying at about twice normal tape speed. (Copies can be made in about half the NORMAL time.)

⑫ DECK II CONTROL buttons/indicator

- (MUTE): Used for creating a blank space during recording.
- (PAUSE): Temporarily stops tape travel.
- (REC): To set to recording standby mode. Recording begins when you press the play button (▶ or ▶▶) or PAUSE (■) button.

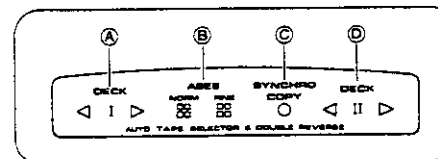
⑬ Display section

[CT-J410WR]



- A Lights during tape copy.
- B Indicates the deck (I or II) displaying counter indications.
- C Tape counter or time counter indication of elapsed tape time. During Music search operation, it indicates the number of tracks skipped. Also shows "ASES" and other indications.
- D Level meter
The mark displayed on the level meter is the Dolby NR system standard level. Indicates pattern during "ASES", etc.

[CT-J310WR]

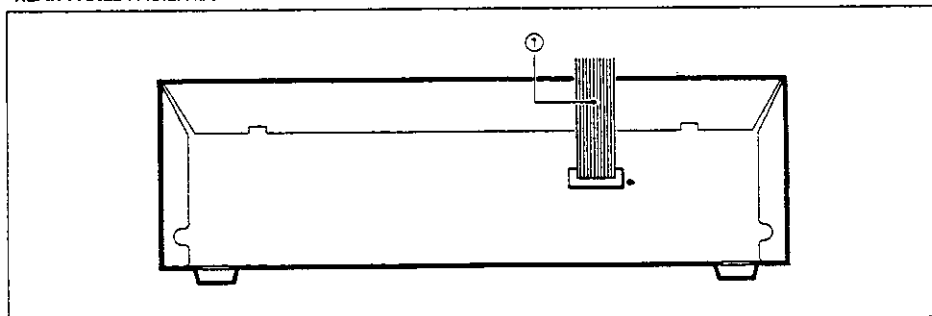


- A Displays tape travel direction of DECK I.
- B Lights during ASES MODE.
- C Lights during tape copy.
- D Displays tape travel direction of DECK II.

⑭ Deck II operation buttons

The same as the operation in ⑦ Deck I operation buttons.

REAR PANEL FACILITIES



* Illustration shows model CT-J310WR.

① CASSETTE DECK system cable

Connect to the TAPE DECK jack of the tuner control amplifier.

10. SPECIFICATION

[CT-J410WR]

Systems	4 track, 2-channel stereo
Heads	"Hard Permalloy" playback head x 1 "Hard Permalloy" recording/playback head x 1 "Ferrite" erasing head x 1
Motor	DC servo 2 speed motor x 2
Wow and flutter	± 0.19 % (DIN) 0.09 % (WRMS)
Fast winding Time	Approximately 120 seconds (C-60 tape)
Frequency Response (-20 dB recording):	
TYPE I (Normal)	25 Hz to 16,000 Hz ± 6 dB
TYPE II (HIGH/CrO ₂)	25 Hz to 16,000 Hz ± 6 dB
TYPE IV (Metal)	25 Hz to 17,000 Hz ± 6 dB
Signal-to-Noise ratio	
Dolby NR OFF	More than 58 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 1.0 % (-4 dB; 160 nwb/m)
Miscellaneous	
Dimensions	360 (W) x 328 (D) x 120.5 (H) mm
Weight (without package)	3.9 kg

[CT-J310WR]

Systems	4 track, 2-channel stereo
Heads	"Hard Permalloy" playback head x 1 "Hard Permalloy" recording/playback head x 1 "Ferrite" erasing head x 1
Motor	DC servo 2 speed motor x 2
Wow and flutter	± 0.19 % (DIN) 0.09 % (WRMS)
Fast winding Time	Approximately 120 seconds (C-60 tape)
Frequency Response (-20 dB recording):	
TYPE I (Normal)	25 Hz to 16,000 Hz ± 6 dB
TYPE II (HIGH/CrO ₂)	25 Hz to 16,000 Hz ± 6 dB
Signal-to-Noise ratio	
Dolby NR OFF	More than 58 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 1.0 % (-4 dB; 160 nwb/m)
Miscellaneous	
Dimensions	360 (W) x 328 (D) x 120.5 (H) mm
Weight (without package)	3.9 kg