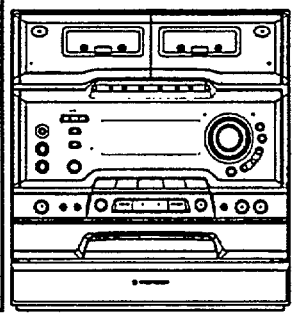
Service Manual

PIONEER®
The Art of Entertainment



ORDER NO.
RRV1695

STEREO CD/VIDEO CD/LD CASSETTE DECK RECEIVER

CL-J760V

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

Type	Model	Power Requirement	The voltage can be converted by the following method.
	CL-J760V		
S/DF	○	AC110V/120-127V/220-230V/240V	With the voltage selector
SD	○	AC110V/120-127V/220-230V/240V	With the voltage selector

CONTENTS

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PIONEER ELECTRONIC (EUROPE) N.V. Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 501 Orchard Road, #10-00 Lane Crawford Place, Singapore 0923

T-IZK OCT. 1998 Printed in Japan

1. SAFETY INFORMATION

VARO!
AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

ADVERSEL:
USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSAETTELSE FOR STRÅLING.

VARNING!
OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.

LASER
Kuva 1
Lasersateilyn varoitusmerkki

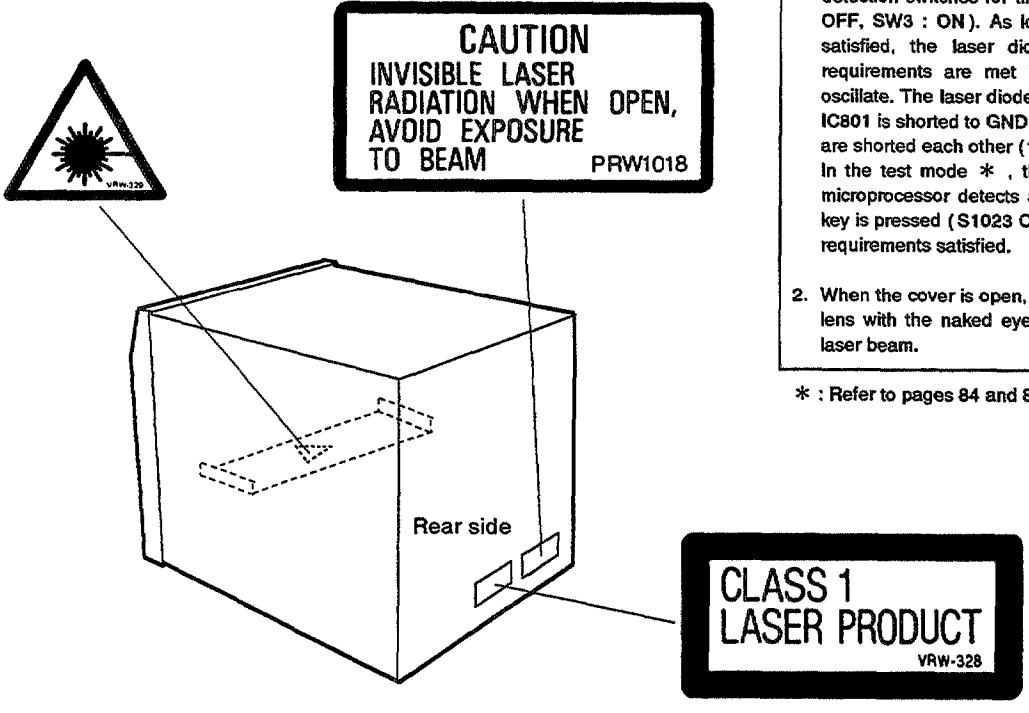
WARNING!
DEVICE INCLUDES LASER DIODE WHICH EMITS INVISIBLE INFRARED RADIATION WHICH IS DANGEROUS TO EYES. THERE IS A WARNING SIGN ACCORDING TO PICTURE 1 INSIDE THE DEVICE CLOSE TO THE LASER DIODE.

IMPORTANT
THIS PIONEER APPARATUS CONTAINS LASER OF CLASS 1.
SERVICING OPERATION OF THE APPARATUS SHOULD BE DONE BY A SPECIALLY INSTRUCTED PERSON.

LASER DIODE CHARACTERISTICS
MAXIMUM OUTPUT POWER: 5 mw
WAVELENGTH: 780-785 nm

LASER
Picture 1
Warning sign for laser radiation

LABEL CHECK (for SD Type)



Additional Laser Caution

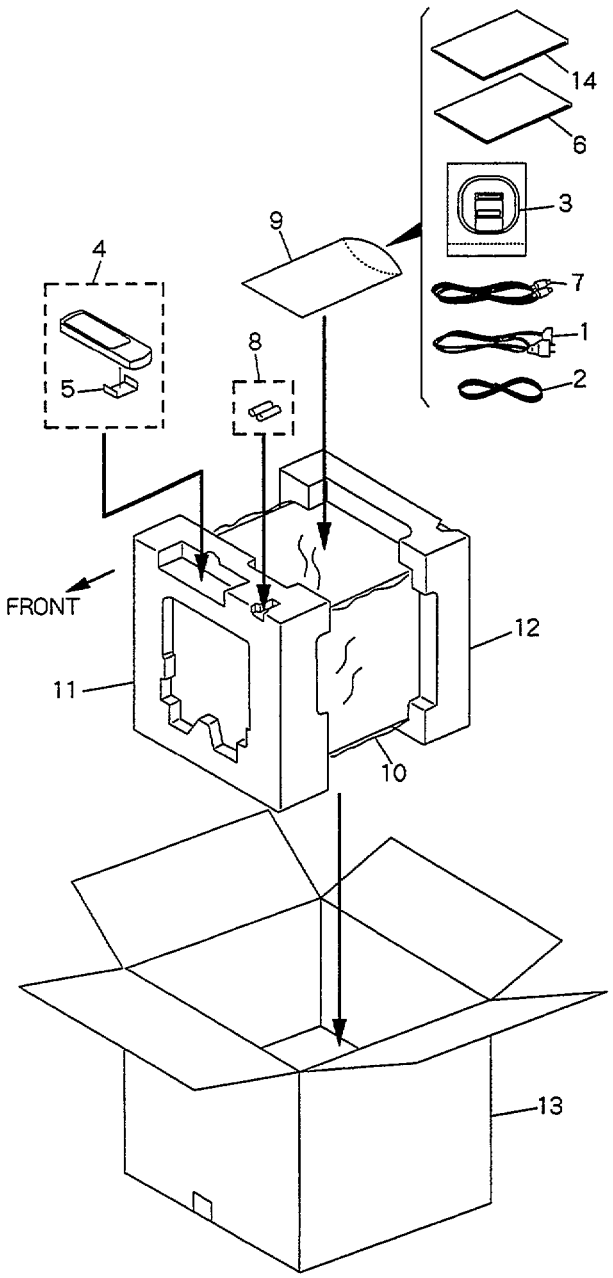
1. The ON/OFF statuses of the slider position detection switches (PARK INNER, PARK OUTER on the PKSB assy), and loading-status detection switches (SW 1, 2 and 3 on the LMSB assy) are detected by the microprocessor (IC101 in the VIDB unit). To permit the laser diode to oscillate, it is required to set the slider-position detection switches for the LD ACTIVE status (PARK INNER : OFF, PARK OUTER : OFF), and to set the loading-status detection switches for tilt neutral state (SW1 : OFF, SW2 : OFF, SW3 : ON). As long as these requirements are not satisfied, the laser diode will not oscillate. When the requirements are met in any way, the laser diode can oscillate. The laser diode oscillation will continue if pin 13 of IC801 is shorted to GND or the emitter and collector of Q834 are shorted each other (fault condition) in FTAU unit.
   In the test mode ＊, the laser diode oscillates when the microprocessor detects a PLAY signal, or when the PLAY key is pressed (S1023 ON in the DISP unit), with the above requirements satisfied.
2. When the cover is open, close viewing through the objective lens with the naked eye will cause exposure to a Class 1 laser beam.

＊ : Refer to pages 84 and 85.

2. EXPLODED VIEWS 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.*
● *Screws adjacent to ▼ mark on the product are used for disassembly.*

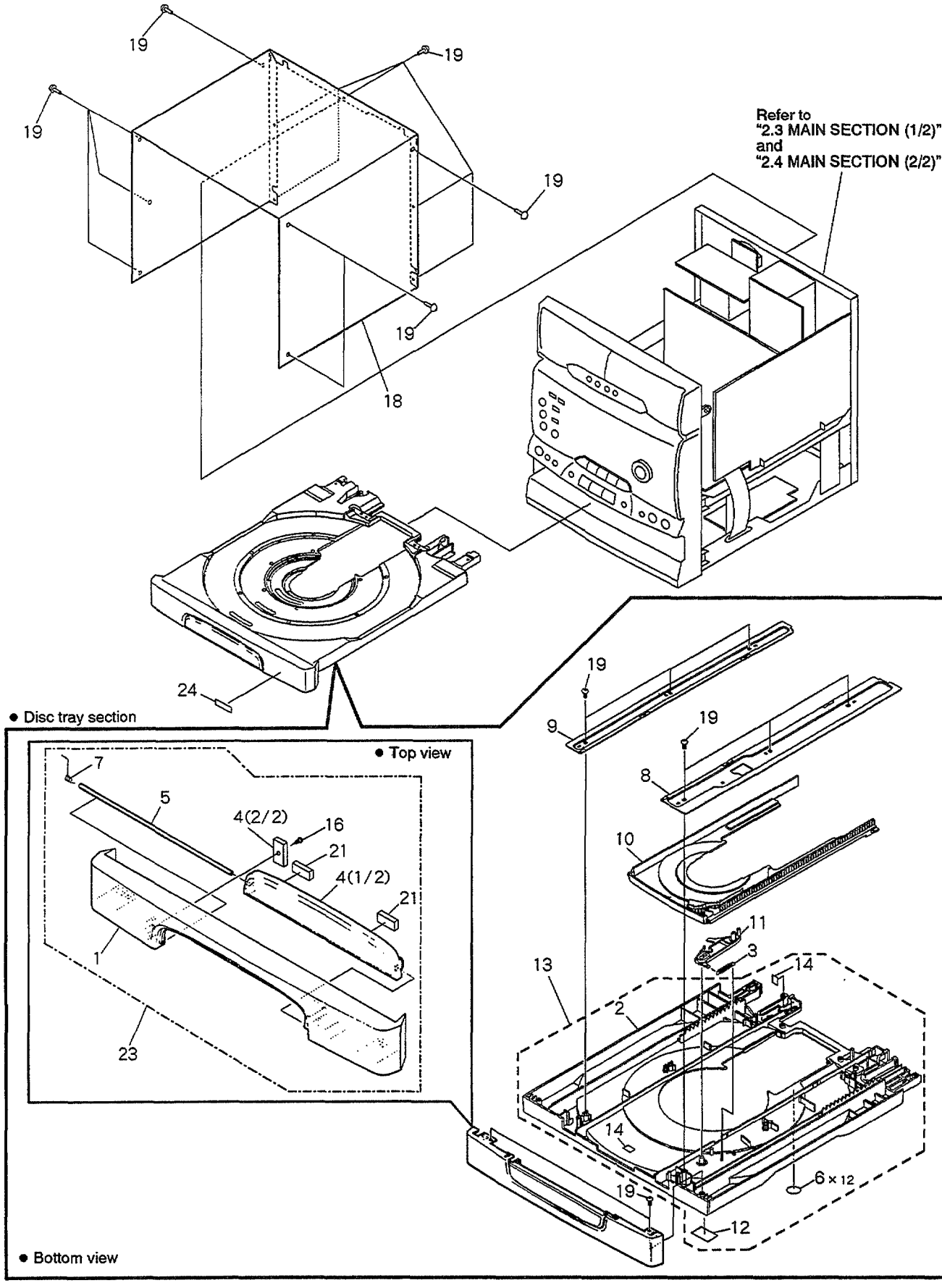
2.1 PACKING



Parts List

Mark	No.	Description	Part No.
⚠	1	AC Power Cord	ADG1158
	2	FM Antenna	ADH7004
	3	AM Loop Antenna	ATB7009
	4	Remote Control Unit (CU-CL008)	RPX1115
	5	Battery Cover	RZN1119
	6	Operating Instructions (English/Spanish/Chinese)	RRE1145
	7	Video Cable (L=1.5m)	VDE1036
NSP	8	Dry Cell Battery (R6P, AA)	VEM-013
	9	Polyethylene Bag (0.03 × 230 × 340)	Z21-038
	10	Packing Sheet	AHG7029
	11	Pad F	RHA1192
	12	Pad R	RHA1193
	13	Master Carton	RHG1772
	14	Operating Instructions (English/Spanish/Chinese)	RRE1146

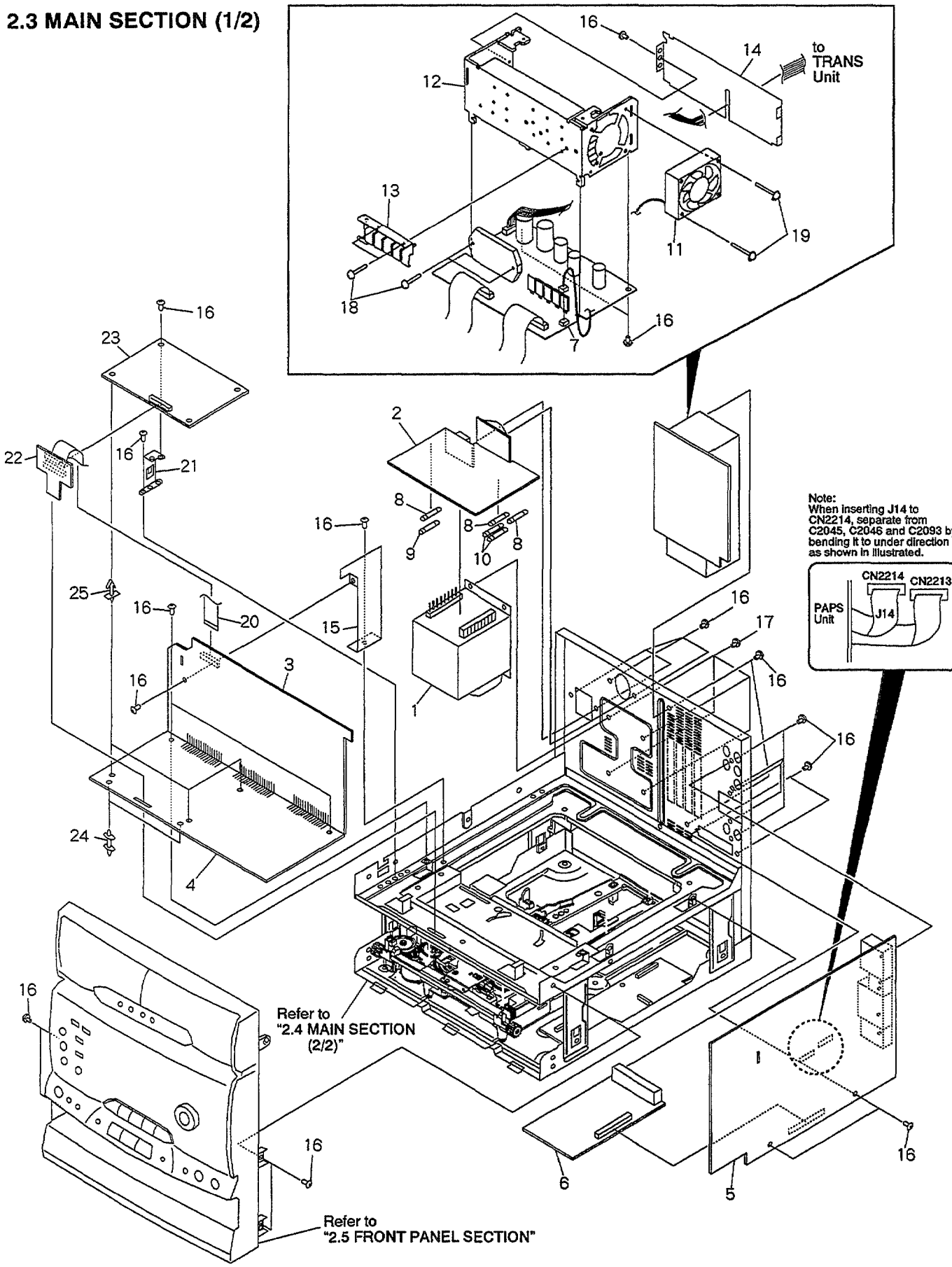
2.2 EXTERIOR AND DISC TRAY SECTION



Parts List

Mark	No.	Description	Part No.
	1	LD Door	REA1245
NSP	2	LD Tray	VNK3188
	3	Lock Plate Spring	VBH1188
	4	CD Door	REA1252
	5	Door Shaft	RLA1304
	6	Disc Pad	VEC1682
	7	Door Spring	VBH1247
	8	Guide Plate (L)	VNE1938
	9	Guide Plate (R)	VNE1939
	10	CD Tray	VNK3007
	11	Look Plate	VNL1703
NSP	12	Carry Label	VRW1289
	13	Tray Assy-S	VXX2309
	14	Damp Cushion	VEC1683
	15	• • • • •	
	16	Screw	BBZ30P080FMC
	17	• • • • •	
	18	Bonnet	REA1241
	19	Screw	BBZ30P080FZK
	20	• • • • •	
NSP	21	Door Cushion	REC1293
	22	• • • • •	
NSP	23	LD Door Assy	RXA1740
	24	Badge	RAM1010

2.3 MAIN SECTION (1/2)



(1) PARTS LIST

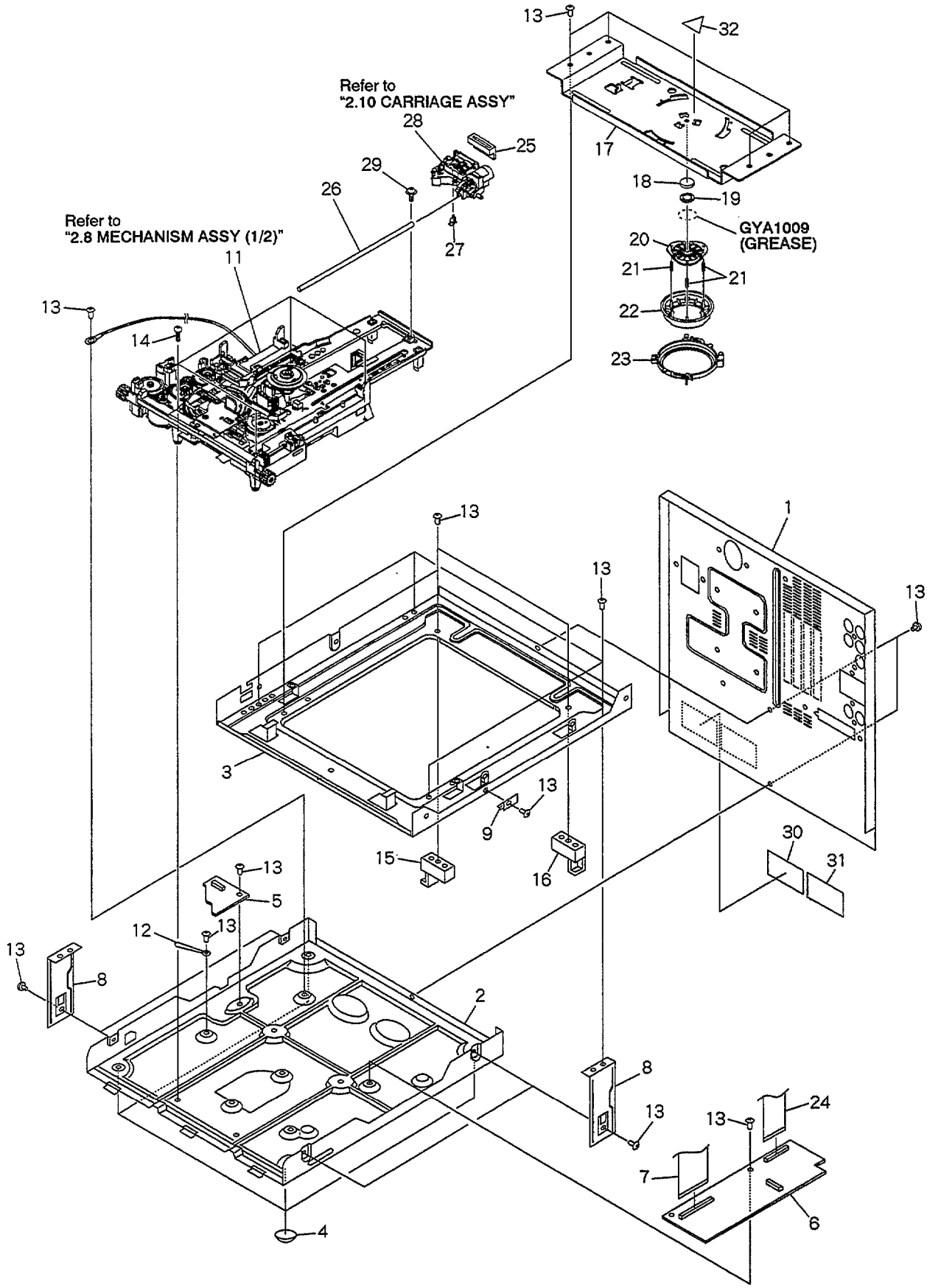
Mark	No.	Description	Part No.
⚠	1	Power Transformer (AC110V/120-127V/220-230V/240V)	RTT1320
	2	TRANS Unit	RWZ3979
	3	VIDB Unit	RWZ4013
	4	FTAU Unit	RWZ3982
	5	AF Unit	RWK1016
	6	FM/AM Tuner Module	See Contrast table (2)
	7	PAPS Unit	RWZ3976
⚠	8	Fuse (FU1, FU5, FU6/T3.15A)	AEK1059
⚠	9	Fuse (FU2/T1.25A)	AEK1055
⚠	10	Fuse (FU3, FU4/T1A)	AEK1054
	11	Fan Motor	AXM7003
	12	Heat Sink	RNE1924
	13	H Angle	RNE1922
	14	K Plate	RNE1895
	15	M Angle	RNE1921
	16	Screw	BBZ30P080FZK
	17	Screw	BBZ40P080FZK
	18	Screw	BBZ30P140FMC
	19	Screw	BBZ30P300FMC
	20	Lead Card (20P) (J504)	RDD1370
	21	B Angle	RNE1894
	22	CNBV Unit	RWZ3988
	23	VCDB Assy	VWV1514
	24	PC Support	DEC-173
	25	PCB Support	REC1285

(2) CONTRAST TABLE

CL-J760V/S/DF and SD have the same construction except for the following:

Mark	No.	Symbol & Description	Part No.		Remarks
			S/DF type	SD type	
	6	FM/AM Tuner Module	AXQ7021	AXQ3112	

2.4 MAIN SECTION (2/2)



(1) PARTS LIST

Mark	No.	Description	Part No.
	1	Rear Panel	RNA2103
NSP	2	Chassis	RNB1119
	3	Clamper Chassis	RNB1120
	4	Insulator	SEP1169
	5	CNBS Unit	RWZ3987
	6	CNBM Unit	RWZ3985
	7	Lead Card (32P) (J502)	RDD1371
	8	Side Angle	RNE1890
NSP	9	Earth Plate	VNE1164
	10	• • • • •	
NSP	11	Mechanism Assy	VWT1109
	12	Cord Clamper	RNH-184
	13	Screw	BBZ30P080FZK
	14	Screw	BBZ30P140FMC
	15	Tray Holder L	RNK2216
	16	Tray Holder R	RNK2217
	17	Center Plate S	RNE1888
	18	Rubber Mat	VEB1114
	19	Thrust Holder	VNL1663
	20	Clamper Head	VNL1649
	21	Clamp Spring	VBH1192
	22	Clamper	VNL1648
	23	Clamper Holder	VNL1636
	24	Lead Card (23P) (J505)	RDD1318
	25	FFC Holder	VNL1706
	26	Shaft	VLL1481
	27	CA Hook	VNL1698
	28	Carriage Assy	VWT1110
	29	Screw	IPZ30P080FMC
	30	Caution Label	See Contrast table (2)
NSP	31	Caution Label (F)	See Contrast table (2)
	32	Caution Label (G)	See Contrast table (2)

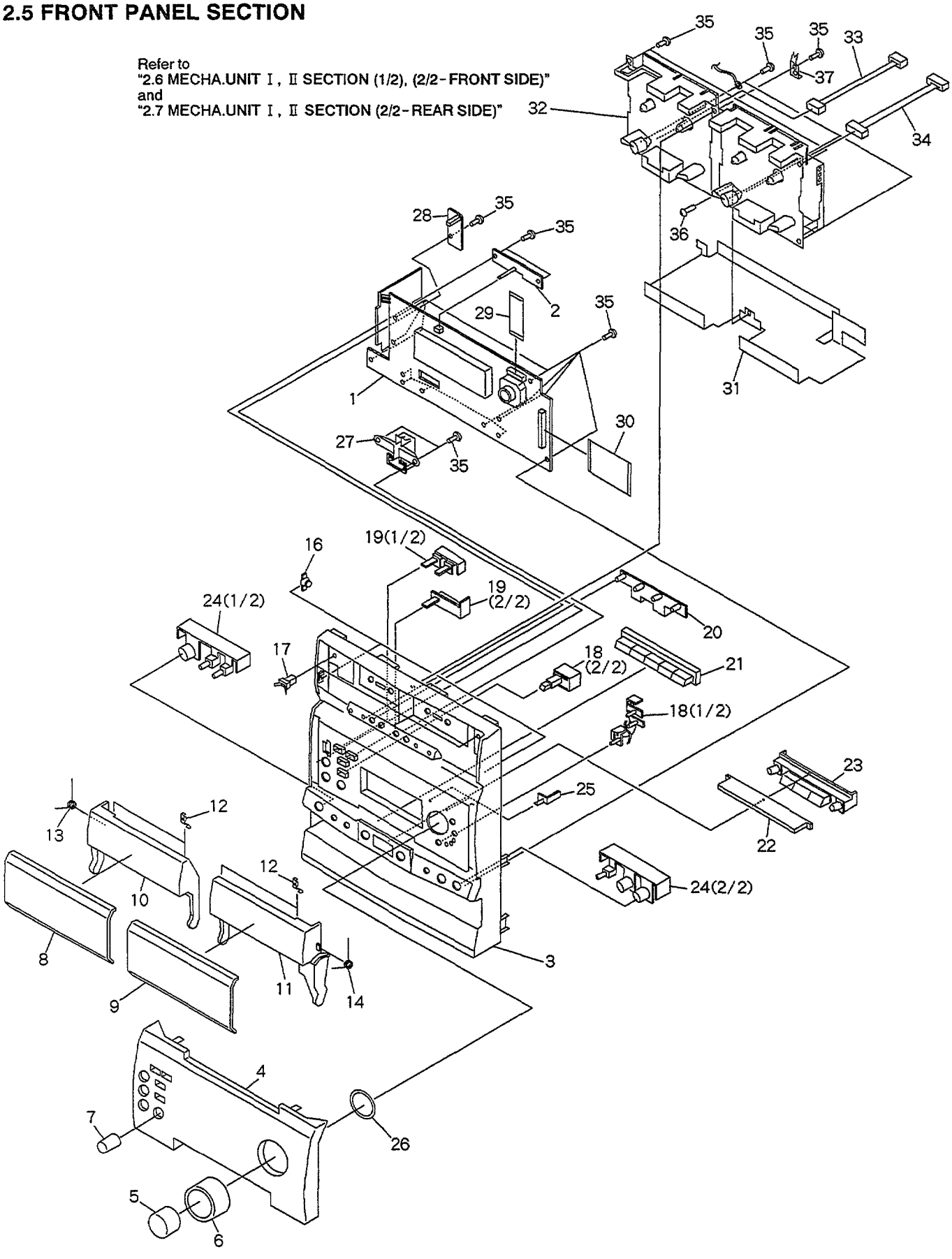
(2) CONTRAST TABLE

CL-J760V/S/DF and SD have the same construction except for the following:

Mark	No.	Symbol & Description	Part No.		Remarks
			S/DF type	SD type	
	30	Caution Label	Not used	PRW1018	
NSP	31	Caution Label (F)	Not used	VRW-328	
	32	Caution Label (G)	Not used	VRW-329	

2.5 FRONT PANEL SECTION

Refer to
"2.6 MECHA.UNIT Ⅰ, Ⅱ SECTION (1/2), (2/2-FRONT SIDE)"
and
"2.7 MECHA.UNIT Ⅰ, Ⅱ SECTION (2/2-REAR SIDE)"



(1) PARTS LIST

Mark	No.	Description	Part No.
	1	DISP Unit	See Contrast table (2)
	2	DPSB Unit	RWZ3993
	3	Panel	RAH2757
	4	Window	RAH2759
	5	VR Knob IN	RAC2119
	6	VR Knob OUT	RAC2118
	7	Mic Knob	RAC2120
	8	D. Panel L	RAH2736
	9	D. Panel R	RAH2737
	10	Pocket L	RNK2208
	11	Pocket R	RNK2207
	12	Spring	RBK1004
	13	Door Spring L	RBH1437
	14	Door Spring R	RBH1436
	15	• • • • •	
	16	Damper Assy	AXA7021
	17	D.C. Latch	REC1281
	18	Time Button	RAC2124
	19	Multi Button	RAC2146
	20	TC Button	RAC2126
	21	Function Button	RAC2121
	22	Function Lens	RNK2210
	23	Play Button	RAC2134
	24	Power Button	RAC2123
	25	Lens	RNK2220
	26	Sheet	REC1290
	27	Pocket Holder	RNK2209
	28	Mic Holder	RNK2277
	29	Lead Card (17P) (J503)	RDD1369
	30	Lead Card (37P) (J501)	RDD1368
	31	Mecha. Shield	RNE1923
	32	Mechanism Unit	RYM1248
NSP	33	Connector Assy (3P)	RKP1756
NSP	34	Connector Assy (5P)	RKP1755
	35	Screw	BPZ30P080FZK
	36	Screw	BBZ30P080FZK
NSP	37	Earth Plate	RNE1927

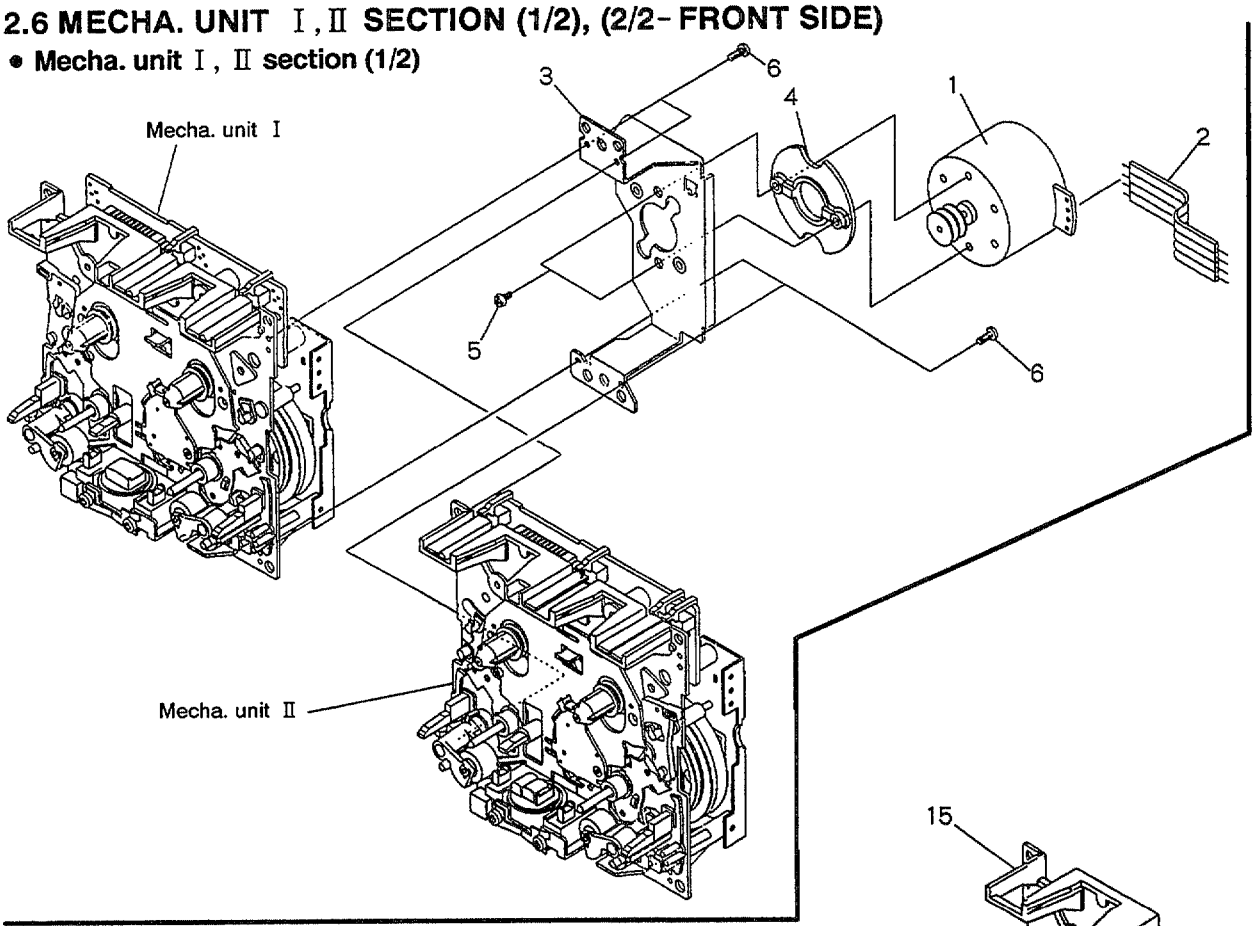
(2) CONTRAST TABLE

CL-J760V/S/DF and SD have the same construction except for the following:

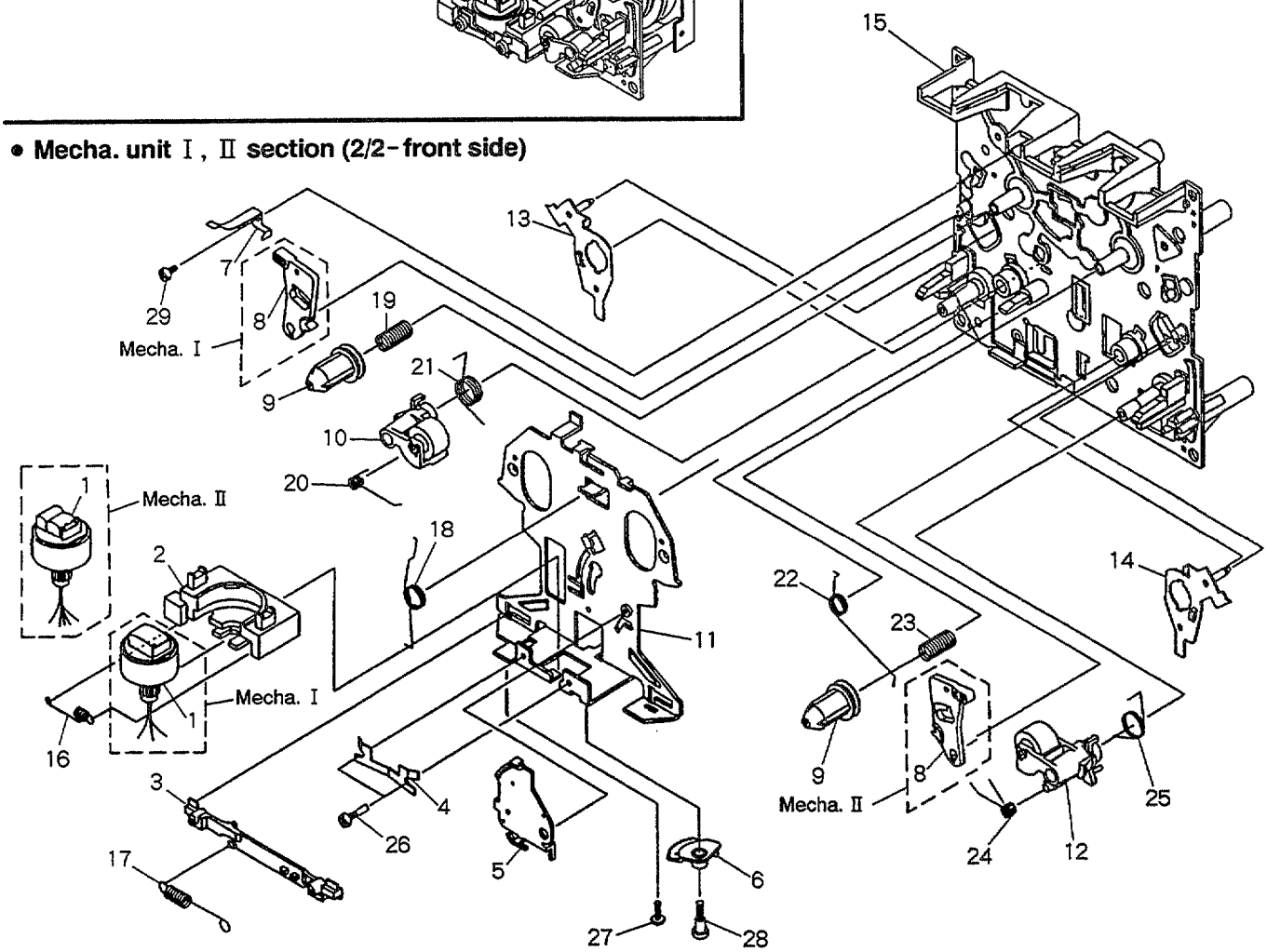
Mark	No.	Symbol & Description	Part No.		Remarks
			S/DF type	SD type	
	1	DISP Unit	RWZ4132	RWZ3990	

2.6 MECHA. UNIT Ⅰ, Ⅱ SECTION (1/2), (2/2-FRONT SIDE)

• **Mecha. unit Ⅰ, Ⅱ section (1/2)**



• **Mecha. unit Ⅰ, Ⅱ section (2/2-front side)**



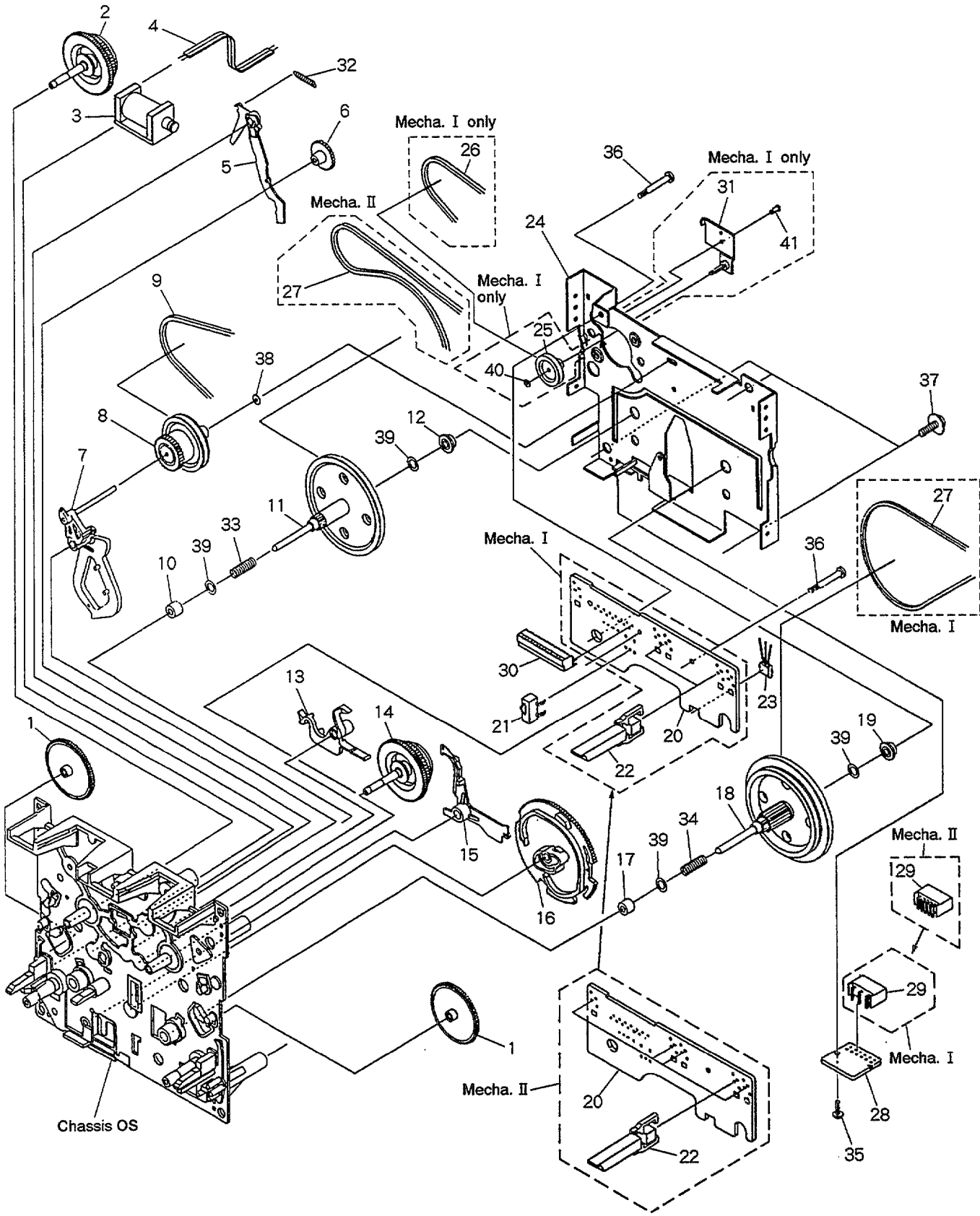
Parts List for Mecha. Unit Ⅰ, Ⅱ Section (1/2)

Mark	No.	Description	Part No.
	1	Assy Motor	RXM1080
NSP	2	Jumper Cable	RDD1012
	3	Bracket Motor	RNE1830
	4	Spacer	RNK1822
	5	Screw	RBA1100
	6	Screw	PCZ20P040FMC

Parts List for Mecha. Unit Ⅰ, Ⅱ Section (2/2-Front Side)

Mark	No.	Description	Part No.
	1	Assy Holder Head (Mecha. Ⅰ)	RXA1400
	1	Assy Holder Head (Mecha. Ⅱ)	RXA1664
	2	Frame Head	RNK1715
	3	Lever Head	RNK1716
	4	Spring Azimuth	RBK1006
	5	Assy Arm Assist	RXA1401
	6	Gear Arm Head	RNK1717
	7	Spring Cassette	RBK1039
	8	Eject Lock	RNK1718
	9	Cap Reel	RNK1719
	10	Assy Pinch Arm L	RXA1403
	11	Chassis Head	RNE1437
	12	Assy Pinch Arm R	RXA1404
	13	Arm Play L	RNK1866
	14	Arm Play R	RNK1868
	15	Chassis OS	RXA1411
	16	Spring	RBH1282
	17	Spring	RBH1283
	18	Spring	RBH1284
	19	Spring	RBH1286
	20	Spring	RBH1288
	21	Spring	RBH1291
	22	Spring	RBH1285
	23	Spring	RBH1287
	24	Spring	RBH1289
	25	Spring	RBH1290
	26	Screw (azimuth)	RBA1023
	27	Screw	RBA1027
	28	Screw	RBA1030
	29	Screw	PCZ20P040FMC

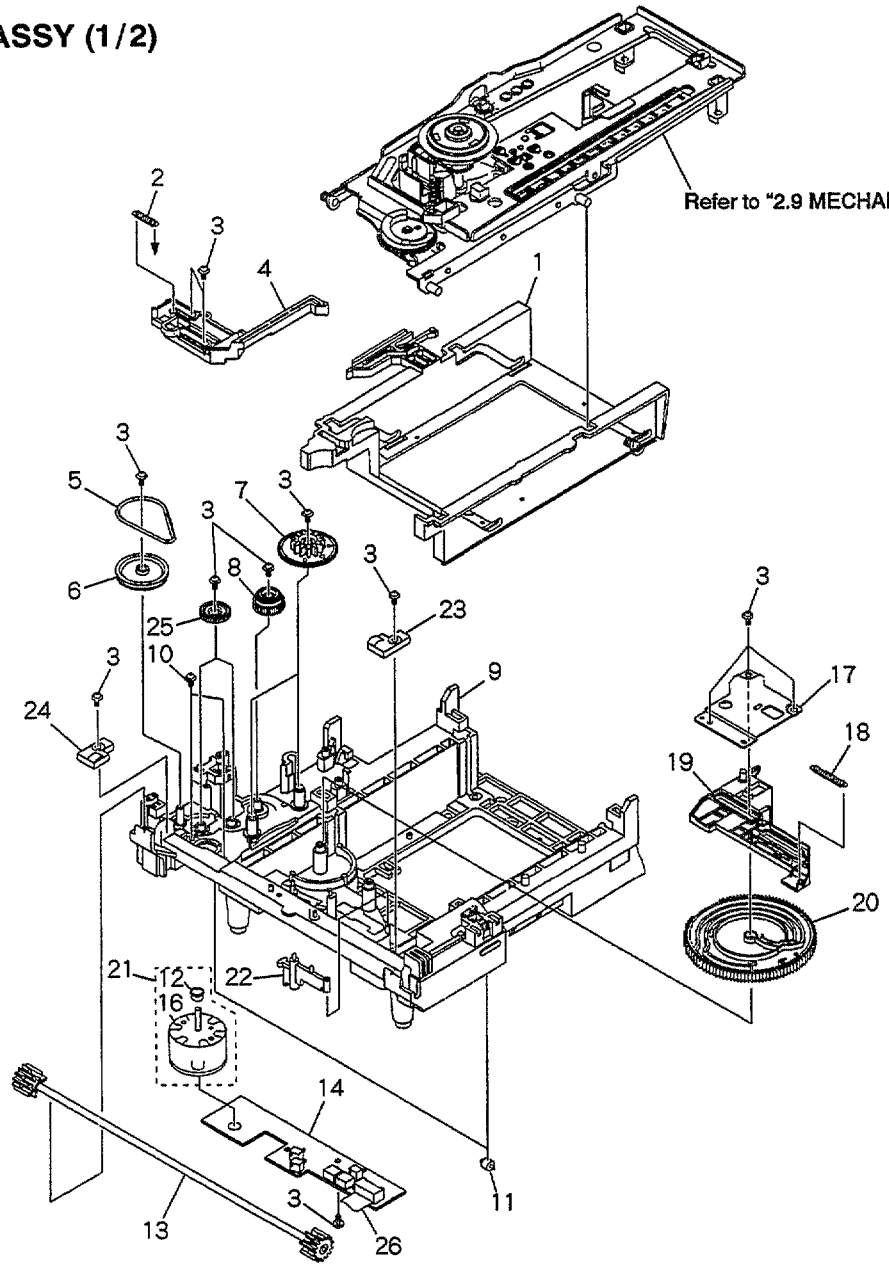
2.7 MECHA. UNIT Ⅰ, Ⅱ SECTION (2/2-REAR SIDE)



Parts List

Mark	No.	Description	Part No.
	1	Gear Play	RNK1867
	2	Assy Sub Reel L	RXA1407
	3	Solenoid	RXP1020
	4	Wire	RDC1006
	5	Arm RVS	RNK1721
	6	Gear FF	RNK1723
	7	Assy Arm FR	RXA1412
	8	Assy Pulley FR	RXA1413
	9	Belt FR	REB1292
	10	Metal	RNG1048
	11	Assy Flywheel L	RXA1690
	12	Metal	RNG1005
	13	Arm Brake	RNK1724
	14	Assy Sub Reel R	RXA1408
	15	Arm Trigger	RNK1722
	16	Gear Cam	RNK1725
	17	Metal	RNG1049
	18	Assy Flywheel R	RXA1691
	19	Metal	RNG1004
	20	P. C. Board	RNP1610
	21	Switch Mode	RSN1020
	22	Switch (LEAF)	RSN1019
	23	Hall IC	DN6851A
	24	Bracket FW (Mecha. I)	RNE1854
	24	Bracket FW (Mecha. II)	RNE1438
	25	Pulley (Mecha. I only)	RNK2132
	26	Belt FW (Mecha. I only)	REB1291
	27	Belt Main (Mecha. I)	REB1290
	27	Belt Main (Mecha. II)	REB1289
	28	P. C. Board	RNP1348
	29	Housing (Mecha. I)	RKP1396
	29	Housing (Mecha. II)	RKP1397
	30	Connector (Mecha. I)	RKP1713
	30	Connector (Mecha. II)	RKP1714
	31	Assy Holder (Mecha. I only)	RXA1689
	32	Spring	RBH1292
	33	FWR SP (Spring)	RBH1061
	34	Spring	RBH1325
	35	Screw	PCZ20P040FMC
	36	Screw	RBA1093
	37	Screw	RBA1094
	38	Washer	RBF1046
	39	Washer	WA26D047D013
	40	Washer (Mecha. I only)	WT13D030D025
	41	Screw (Mecha. I only)	RBA1118

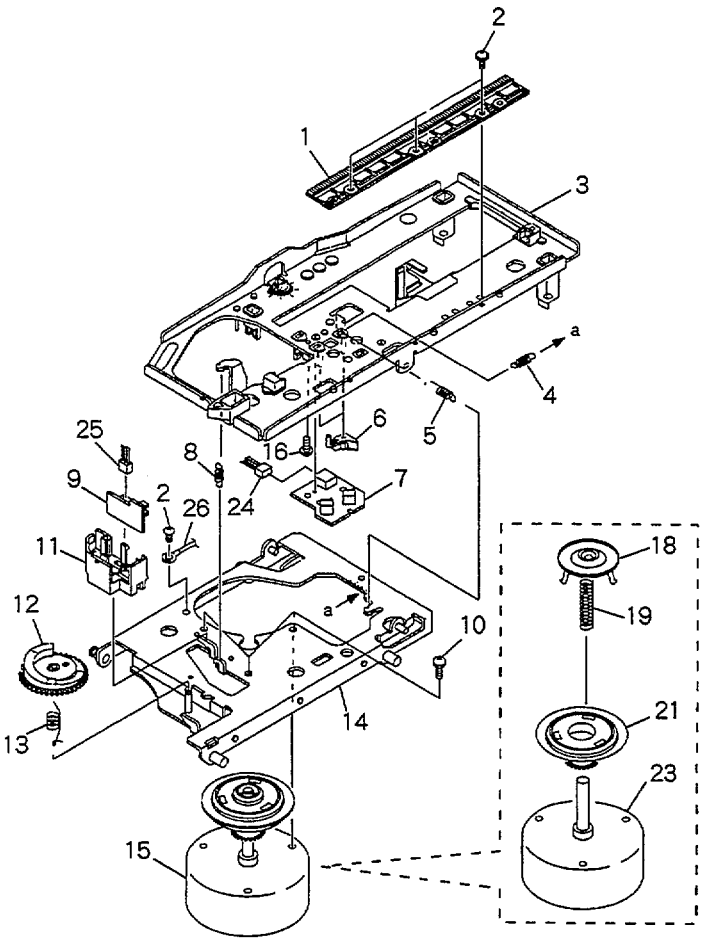
2.8 MECHANISM ASSY (1/2)



Parts List

Mark	No.	Description	Part No.
	1	Clamp Cam	VNL1633
	2	CDP Spring	VBH1191
	3	Screw	Z39-019
	4	CD Plate	VNL1632
	5	Rubber Belt	VEB1184
	6	Gear Pulley	VNL1662
	7	Twin Gear	VNL1626
	8	Center Gear	VNL1660
	9	Mechanism Base	VNK3239
	10	Screw	BMZ26P040FMC
	11	Roller	VNL1042
NSP	12	Motor Pulley	VNL1630
	13	Synchro Gear Assy	VXA2105
NSP	14	LMSB Assy	VWG1554
	15	• • • • •	
NSP	16	Carriage Motor	VXM1033
	17	Shaft Holder	VNE1942
	18	CAS Spring	VBH1190
	19	Cam Plate	VNL1631
	20	Cam Gear	VNL1625
	21	Loading Motor Assy	VXX2045
	22	MB-SW Lever	VNL1664
	23	Slider (R)	VNL1666
	24	Slider (L)	VNL1665
	25	Double Gear	VNL1661
	26	Flexible Cable (10P)	VDA1466

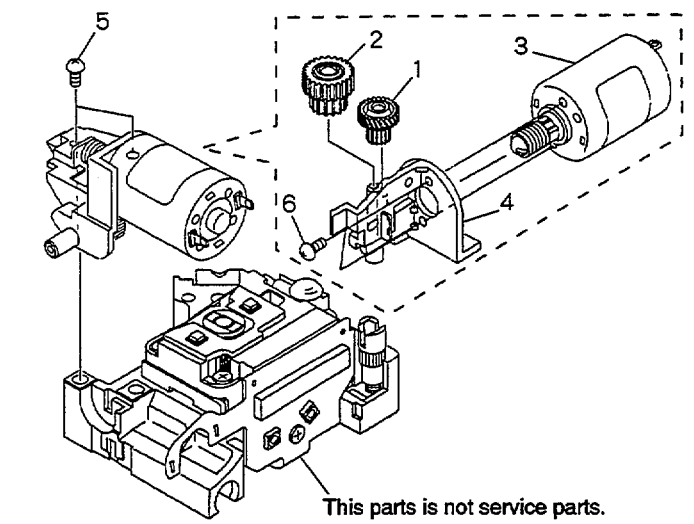
2.9 MECHANISM ASSY (2/2)



Parts List

Mark	No.	Description	Part No.
	1	CA Rack	VNL1647
	2	Screw	IBZ26P060FMC
	3	Tilt Base	VNL1642
	4	Radial Spring	VBH1246
	5	Thrust Spring	VBH1245
	6	CA-Switch Lever	VNL1644
NSP	7	PKSB Assy	VWG1555
	8	Tilt Tension Spring	VBH1244
NSP	9	FG Assy	VWG1556
	10	Screw	PMA30P050FMC
	11	FG Base	VNL1781
	12	Tilt Cam	VNL1643
	13	Tilt Cam Spring	VBH1243
	14	Motor Base	VNE1941
	15	Spindle Motor Assy	VXA2125
	16	Screw	IBZ26P120FMC
	17	• • • • •	
	18	Centering Hab	VNL1623
	19	Centering Spring	VBH1083
	20	• • • • •	
NSP	21	R-Turn Table Assy	VXA2216
	22	• • • • •	
NSP	23	Spindle Motor	VXM1057
	24	Housing Assy (3P:Blue)	VKP2045
	25	Housing Assy (3P:Yellow)	VKP2046
NSP	26	Earth Lead Unit	XDF-507

2.10 CARRIAGE ASSY

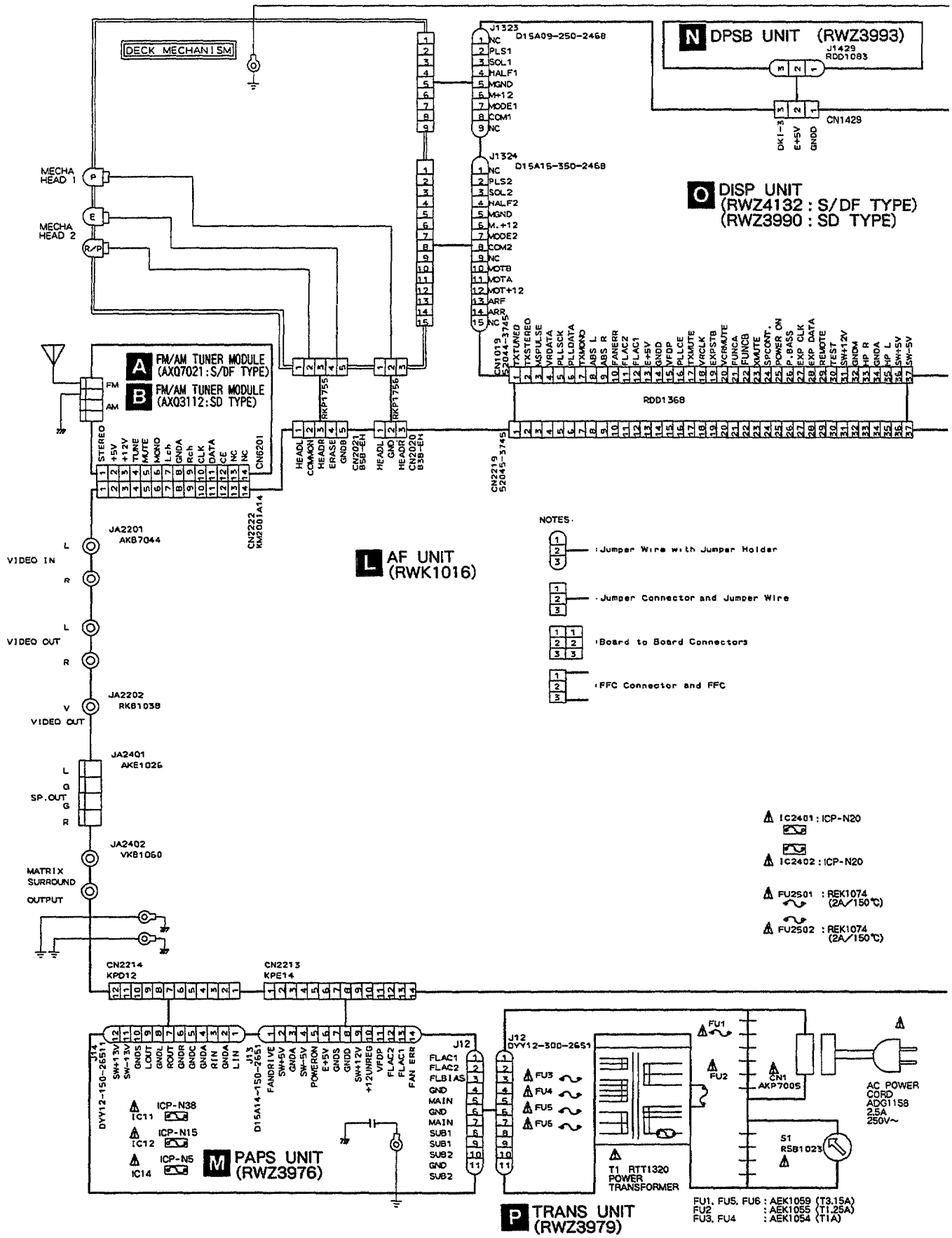


Parts List

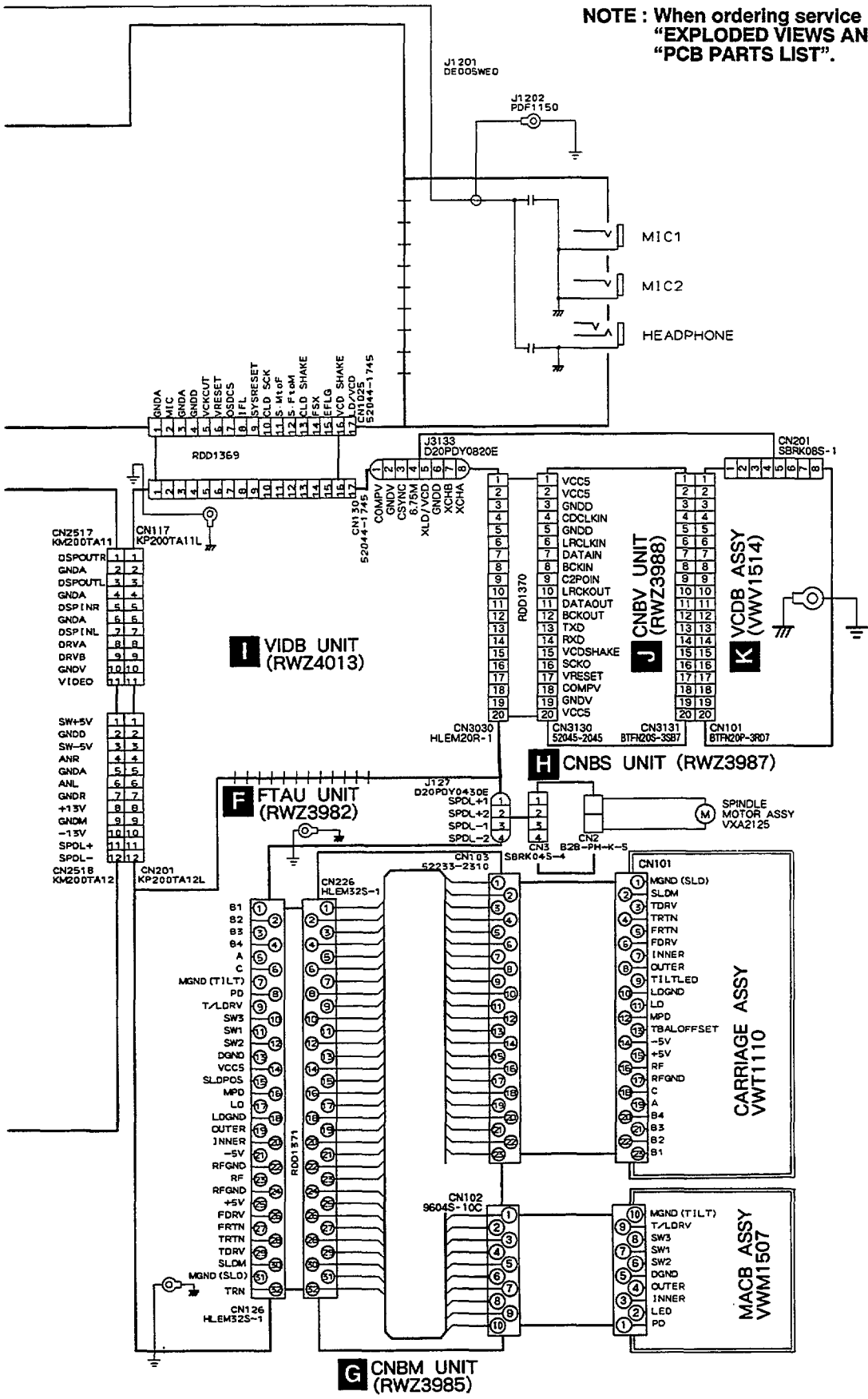
Mark	No.	Description	Part No.
	1	CA Gear (A)	VNL1638
	2	CA Gear (B)	VNL1639
	3	Slider Motor Assy	VXX2082
	4	Motor Holder	VNL1700
	5	Screw	PBZ20P060FMC
	6	Screw	PMZ20P030FMC

3. SCHEMATIC DIAGRAMS

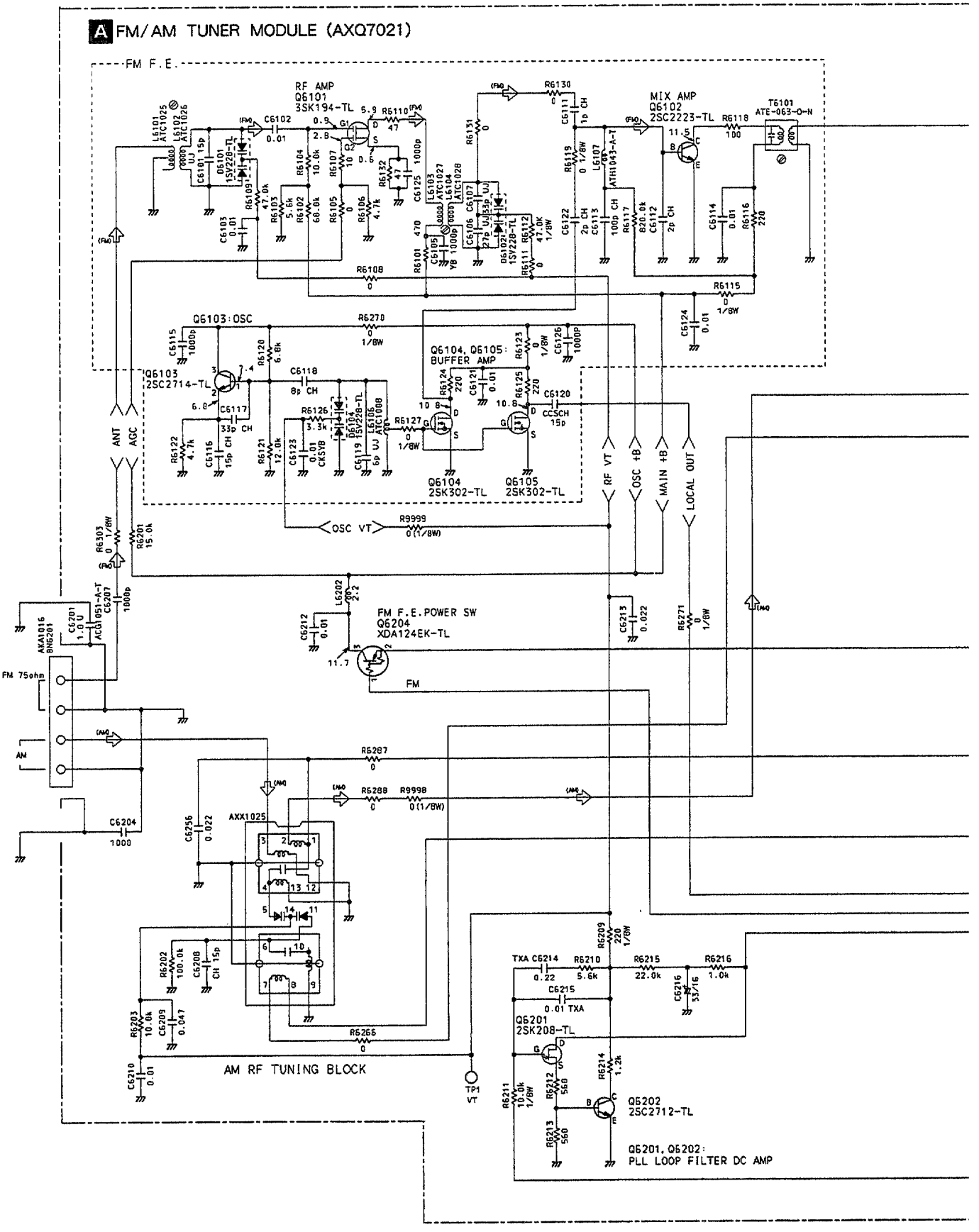
3.1 OVERALL CONNECTIONS

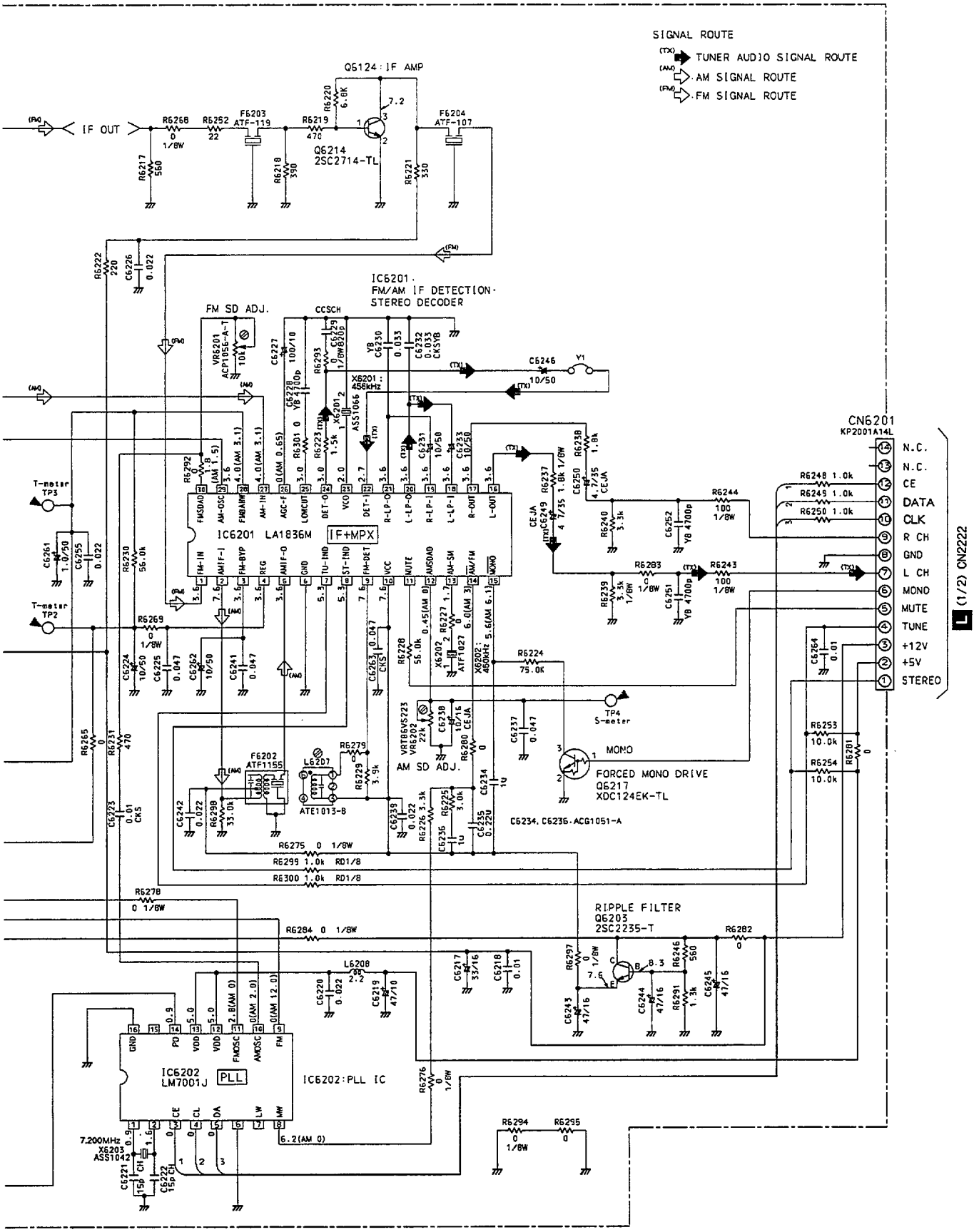


NOTE : When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "PCB PARTS LIST".

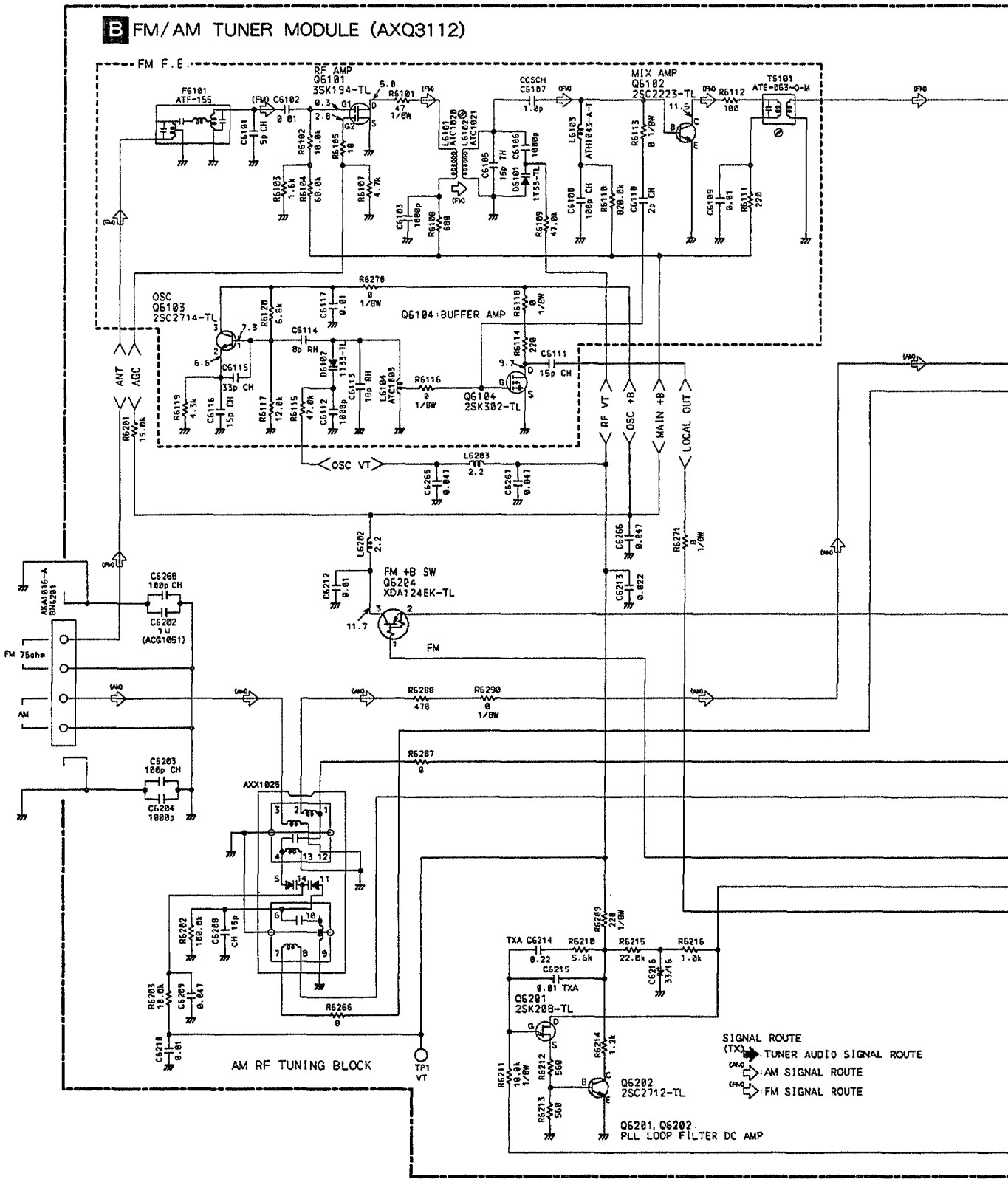


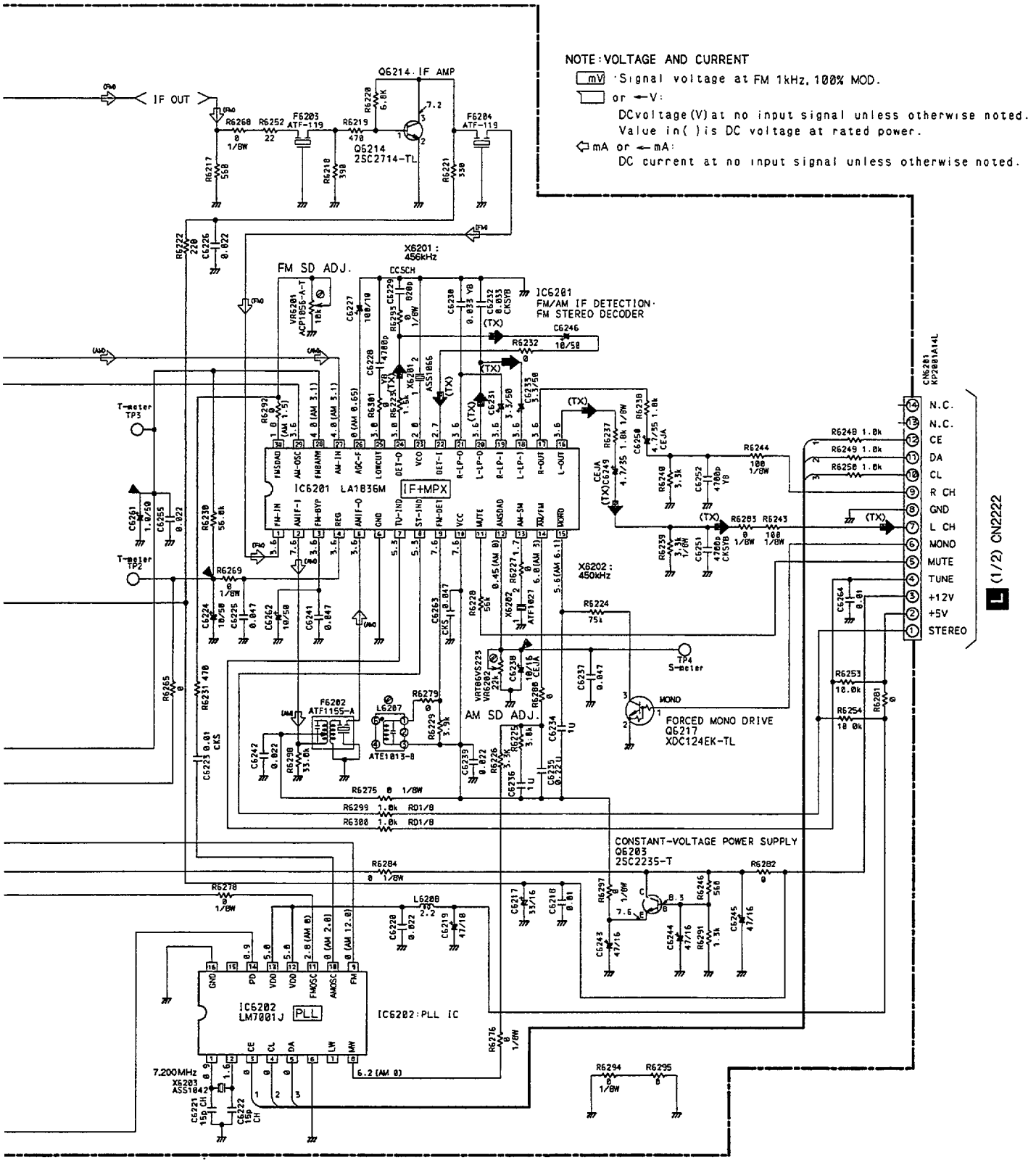
3.2 FM/AM TUNER MODULE (S/DF TYPE)



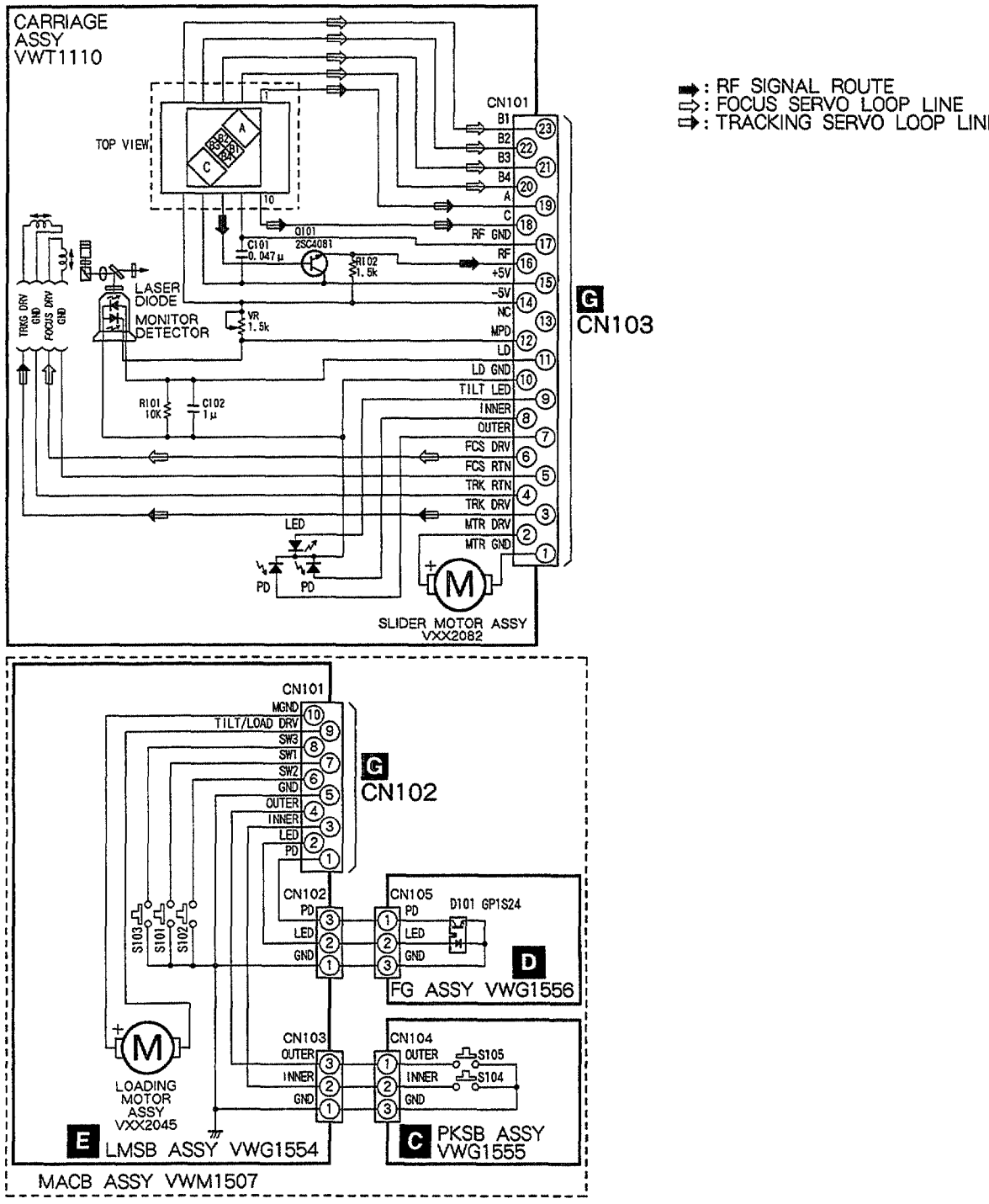

SIGNAL ROUTE
TUNER AUDIO SIGNAL ROUTE
AM SIGNAL ROUTE
FM SIGNAL ROUTE
Q6124 : IF AMP
IF OUT
Q6214
2SC2714-TL
IC6201 .
FM/AM IF DETECTION·
STEREO DECODER
FM SD ADJ.
X6201 :
45.5MHz
IC6201 LA1836M
IF+MPX
CN6201
KP2001A14L
N.C.
N.C.
CE
DATA
CLK
R CH
GND
L CH
MONO
MUTE
TUNE
+12V
+5V
STEREO
(1/2) CN2222
T-meter
TP3
T-meter
TP2
TP4
S-meter
AM SD ADJ.
MONO
FORCED MONO DRIVE
Q6217
XDC124EK-TL
RIPPLE FILTER
Q6203
2SC2235-T
IC6202
LM7001J
PLL
IC6202:PLL IC
7.200MHz
X6203
A
21

3.3 FM/AM TUNER MODULE (SD TYPE)




NOTE: VOLTAGE AND CURRENT
mV : Signal voltage at FM 1kHz, 100% MOD.
or ←V:
DC voltage (V) at no input signal unless otherwise noted.
Value in ( ) is DC voltage at rated power.
⇦mA or ←mA:
DC current at no input signal unless otherwise noted.
IF OUT
Q6214 IF AMP
Q6214 2SC2714-TL
F6203 ATF-119
F6204 ATF-119
X6201 : 456kHz
FM SD ADJ.
IC6201 FM/AM IF DETECTION· FM STEREO DECODER
IC6201 LA1836M
IF+MPX
X6202 : 450kHz
AM SD ADJ.
F6202 ATF1155-A
L6207 ATE1013-B
S-meter
MONO
FORCED MONO DRIVE
Q6217 XDC124EK-TL
CONSTANT-VOLTAGE POWER SUPPLY
Q6203 2SC2235-T
IC6202 LM7001J PLL
IC6202 : PLL IC
X6203 7.200MHz
CN6201 KP2801A14L
N.C.
N.C.
CE
DA
CL
R CH
GND
L CH
MONO
MUTE
TUNE
+12V
+5V
STEREO
L (1/2) CN2222

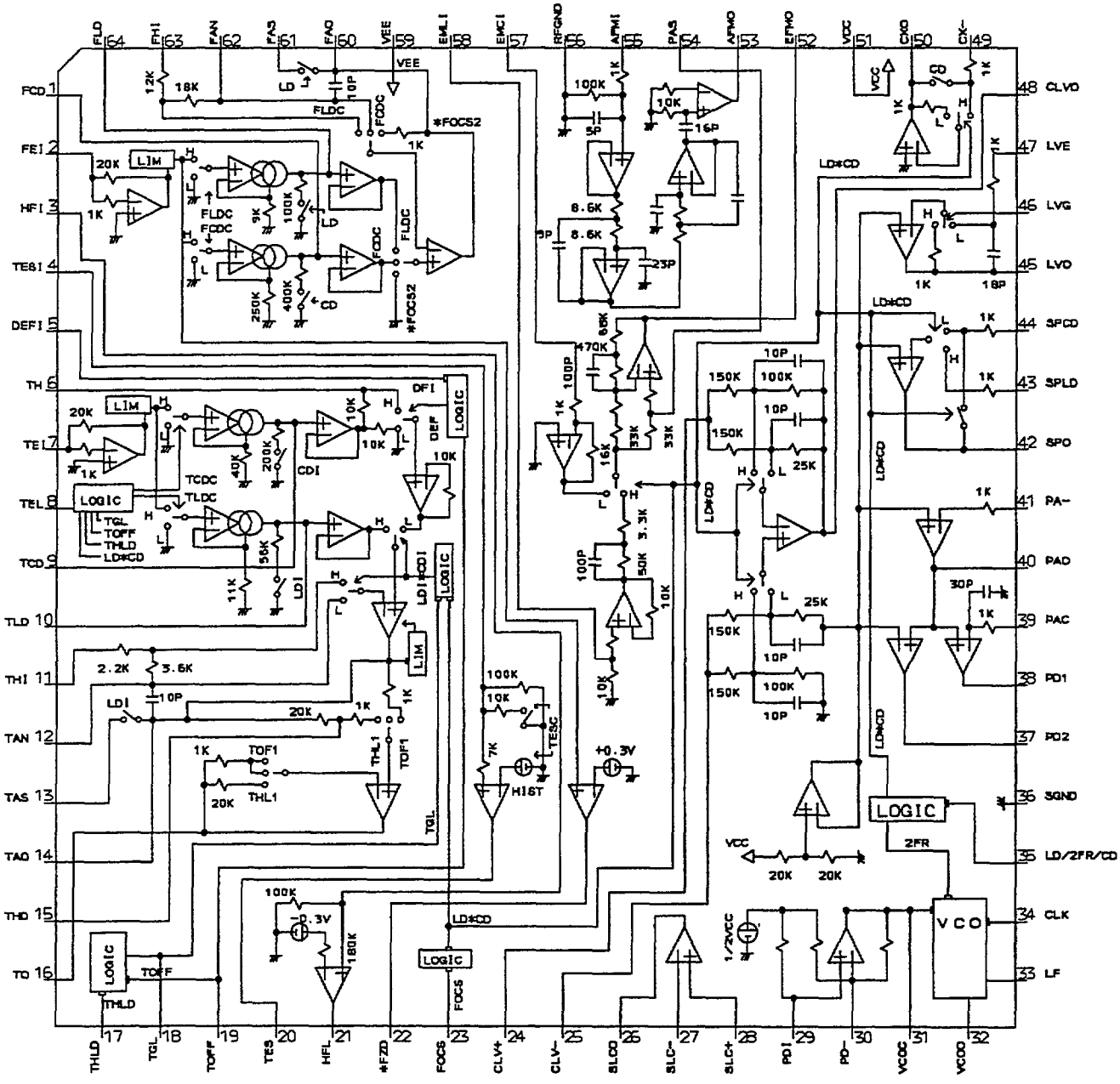
3.4 PKSB, FG, LMSB AND CARRIAGE ASSEMBLIES

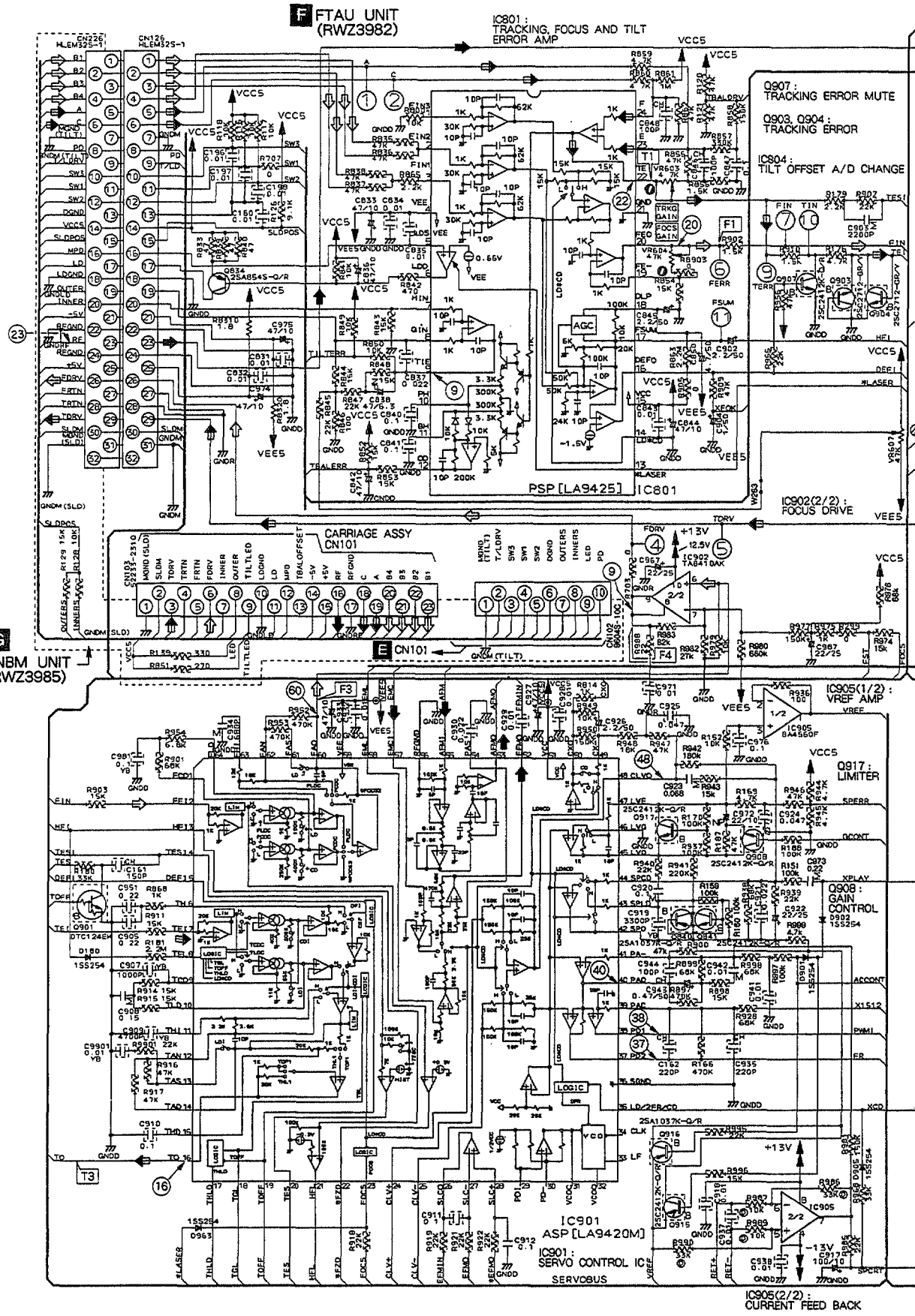


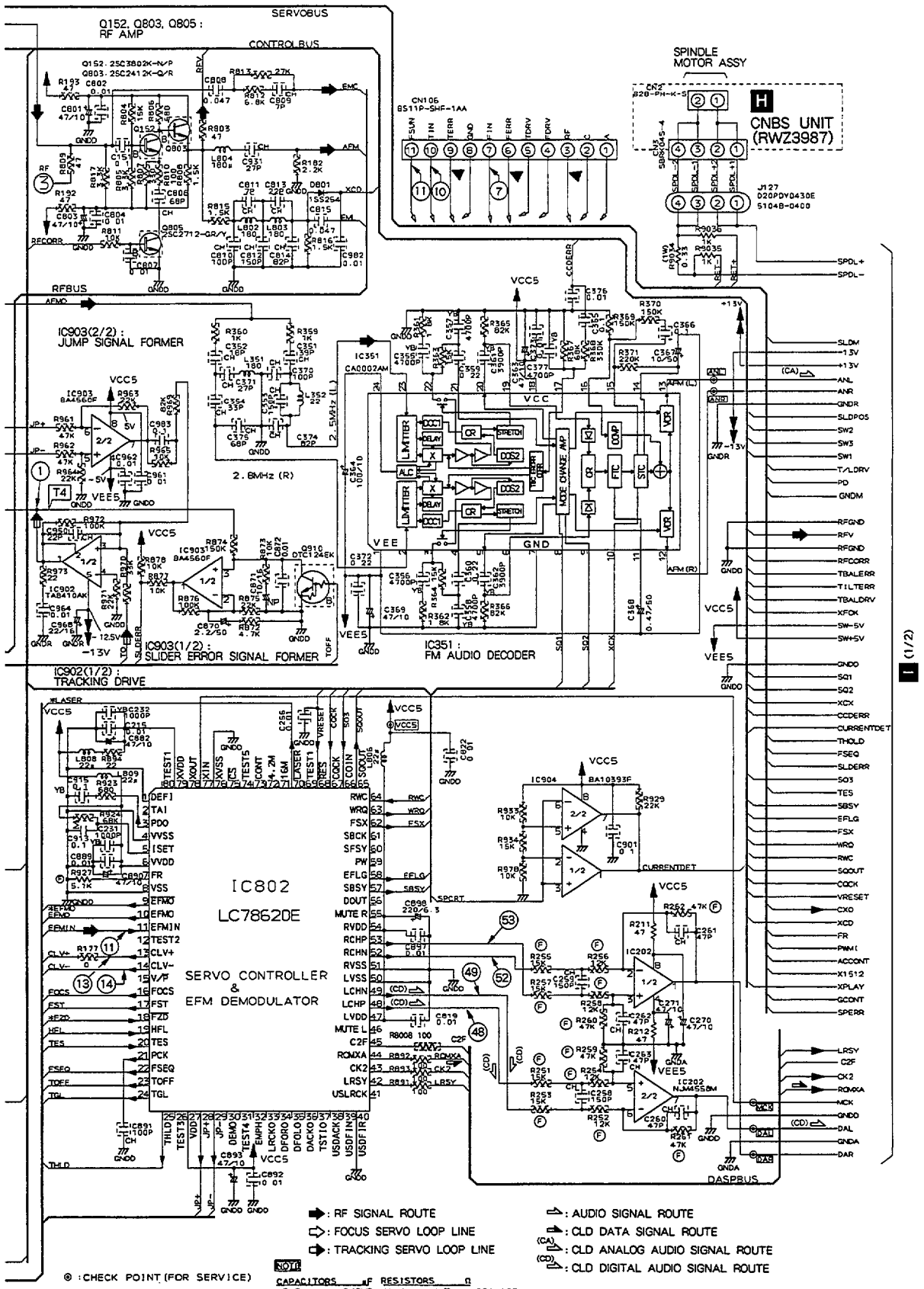
➡: RF SIGNAL ROUTE
⇨: FOCUS SERVO LOOP LINE
⇨: TRACKING SERVO LOOP LINE

3.5 FTAU, CNBM AND CNBS UNITS

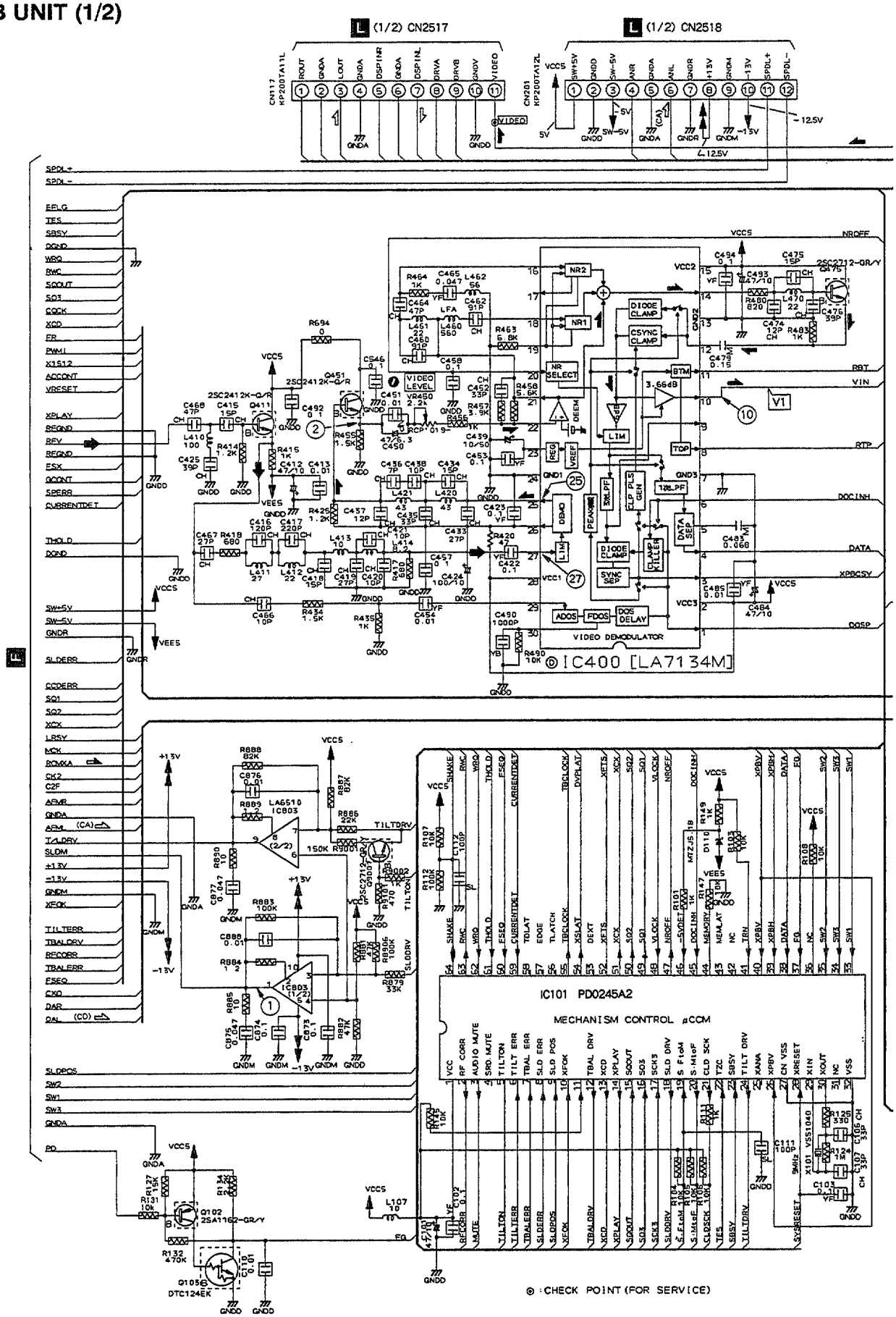
- **The inside block diagram of IC901 (LA9420M)**



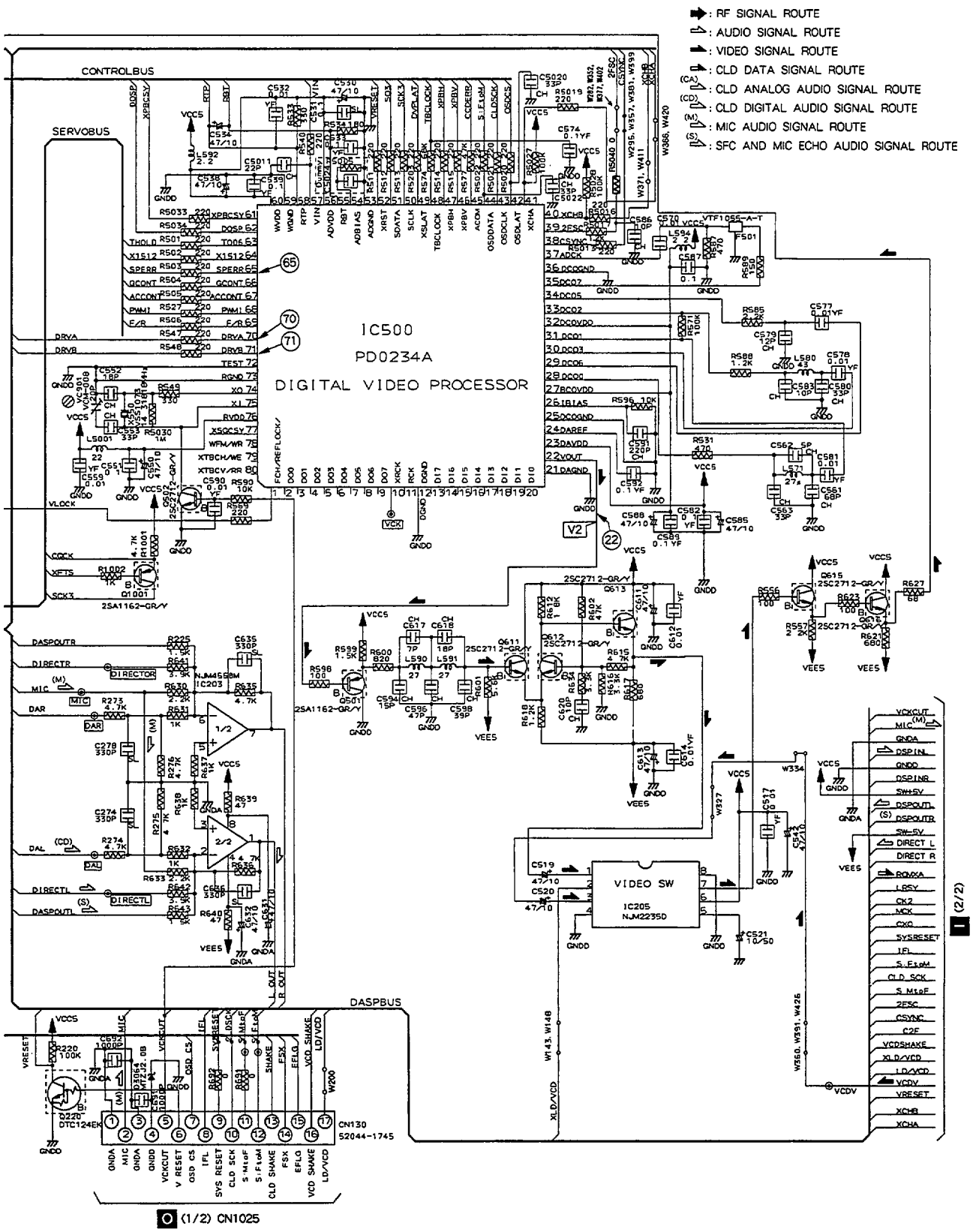

F FTAU UNIT (RWZ3982)
IC801 : TRACKING, FOCUS AND TILT ERROR AMP
Q907 : TRACKING ERROR MUTE
Q903, Q904 : TRACKING ERROR
IC804 : TILT OFFSET A/D CHANGE
PSP [LA9425] IC801
IC902(2/2) : FOCUS DRIVE
CARRIAGE ASSY CN101
G CNBM UNIT (RWZ3985)
E CN101
IC905(1/2) : VREF AMP
Q917 : LIMITER
Q908 : GAIN CONTROL
IC901 ASP [LA9420M]
IC901 : SERVO CONTROL IC
SERVOBUS
IC905(2/2) : CURRENT FEED BACK


SERVOBUS
Q152, Q803, Q805 :
RF AMP
CONTROLBUS
SPINDLE
MOTOR ASSY
CNBS UNIT
(RWZ3987)
RFBUS
IC903(2/2) :
JUMP SIGNAL FORMER
IC903(1/2) :
SLIDER ERROR SIGNAL FORMER
IC351 :
FM AUDIO DECODER
IC902(1/2) :
TRACKING DRIVE
IC802
LC78620E
SERVO CONTROLLER
&
EFM DEMODULATOR
DASPBUS
: RF SIGNAL ROUTE
: FOCUS SERVO LOOP LINE
: TRACKING SERVO LOOP LINE
: AUDIO SIGNAL ROUTE
: CLD DATA SIGNAL ROUTE
: CLD ANALOG AUDIO SIGNAL ROUTE
: CLD DIGITAL AUDIO SIGNAL ROUTE
: CHECK POINT (FOR SERVICE)
NOTE
CAPACITORS μF
RESISTORS Ω

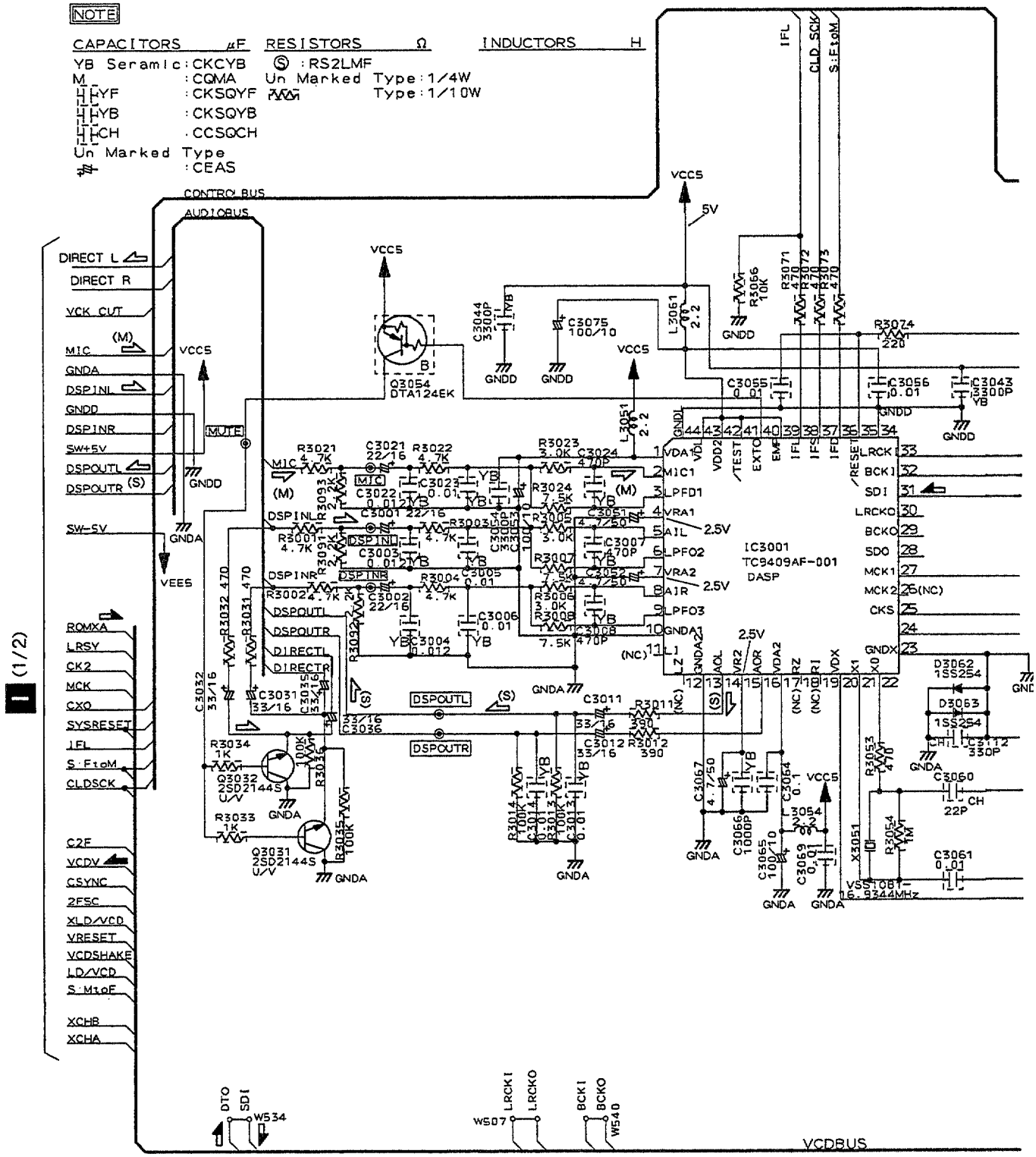
3.6 VIDB UNIT (1/2)



I VIDB UNIT (1/2) (RWZ4013)

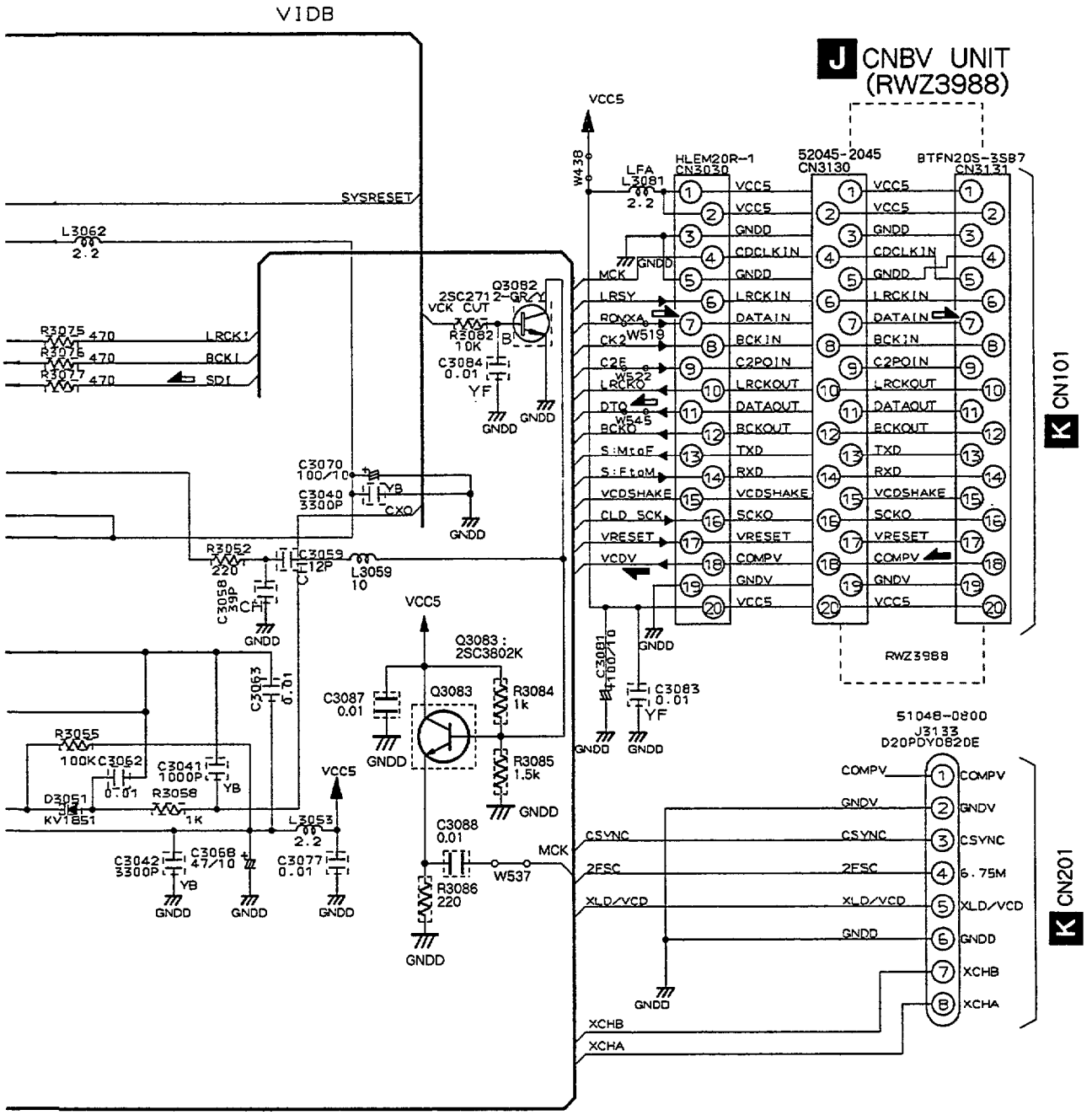


3.7 VIDB (2/2) AND CNBV UNITS



I VIDB UNIT (2/2) (RWZ4013)

: AUDIO SIGNAL ROUTE
: VIDEO SIGNAL ROUTE
: CLD DATA SIGNAL ROUTE
(M) : MIC AUDIO SIGNAL ROUTE
(S) : SFC AND MIC ECHO AUDIO SIGNAL ROUTE



WAVEFORMS AND VOLTAGE

Note : (No.) in the table correspond to the pin number.

Measurement condition : In case when (D. audio) is written, at time when disc that has digital audio recording is played.

FTAU UNIT

IC801 (LA9425)

T1(22) 5ms/div
200mVp-p
0V
DC mode

F1(20) 5ms/div
100mVp-p
0V
DC mode

(9) 10ms/div
0.2Vp-p
0V
DC mode

IC802 (LC78620E)

(11) 0.5μs/div
1.6Vp-p
0V
DC mode

50μs/div
(13) 5Vp-p
0V
(14)
0V
DC mode

0.2μs/div
(48),(53) 5Vp-p
0V
(49),(52) 5Vp-p
0V
DC mode

IC901 (LA9420M)

T3(16) 5ms/div
500mVp-p
0V
DC mode

F3(60) 5ms/div
1Vp-p
0V
DC mode

10μs/div
(38) 5Vp-p
0V
(37)
0V
DC mode

(40) 10ms/div
0.3Vp-p
0V
DC mode

(48) 50μs/div
1Vp-p
0V
DC mode

IC902 (TA8410AK)

T4(1) 5ms/div
2Vp-p
0V
DC mode

F4(9) 5ms/div
5Vp-p
0V
DC mode

CN106

(7)(F2) 5ms/div
200mVp-p
0V
DC mode

(10) 5ms/div
100mVp-p
0V
DC mode

(11) 5ms/div
0V
0.2Vp-p
DC mode

CN126

RF1(23) 2ms/div
600mVp-p
AC mode

VIDB UNIT

Q451 Emitter

(2) 10μs/div
400mVp-p
AC mode

IC400 (LA7134M)

V1(10) 10μs/div
1.6Vp-p
0V
DC mode

RF2(27) 2ms/div
400mVp-p
AC mode

10μs/div
(25)
1Vp-p
0V
DC mode

IC500 (PD0234A)

V2(22) 10μs/div
1Vp-p
DC mode

(65) 5ms/div
5Vp-p
0V
DC mode

10μs/div
(71) 5Vp-p
0V
(70)
0V
DC mode

IC803 (LA6510)

(1) 2ms/div
1.8Vp-p
0V
DC mode

AF UNIT UNIT

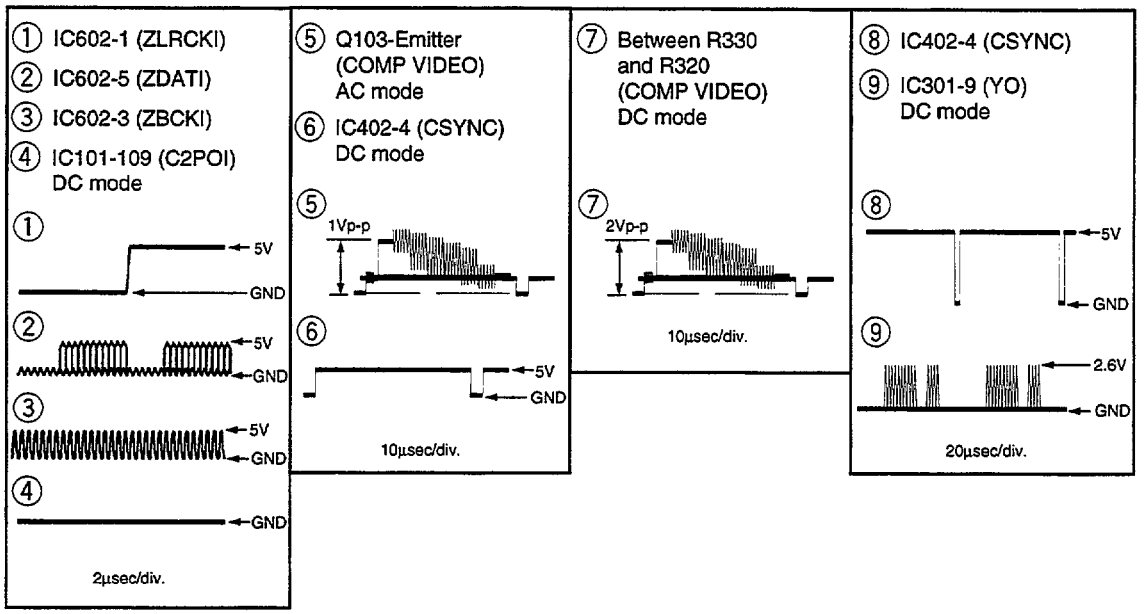
JA2202 VIDEO OUT

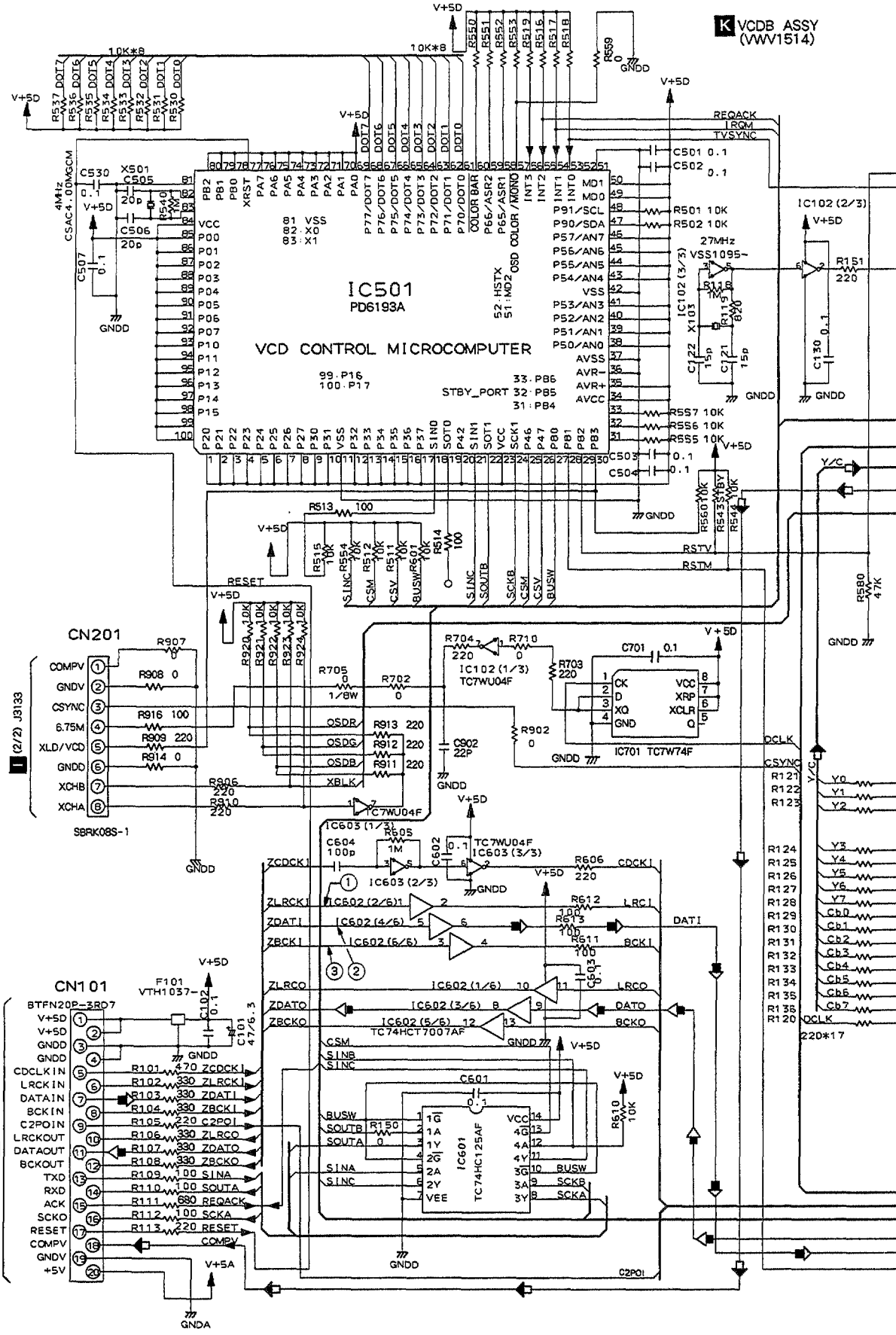
(1) 10μs/div
1Vp-p
(75Ω termination) 0V
DC mode

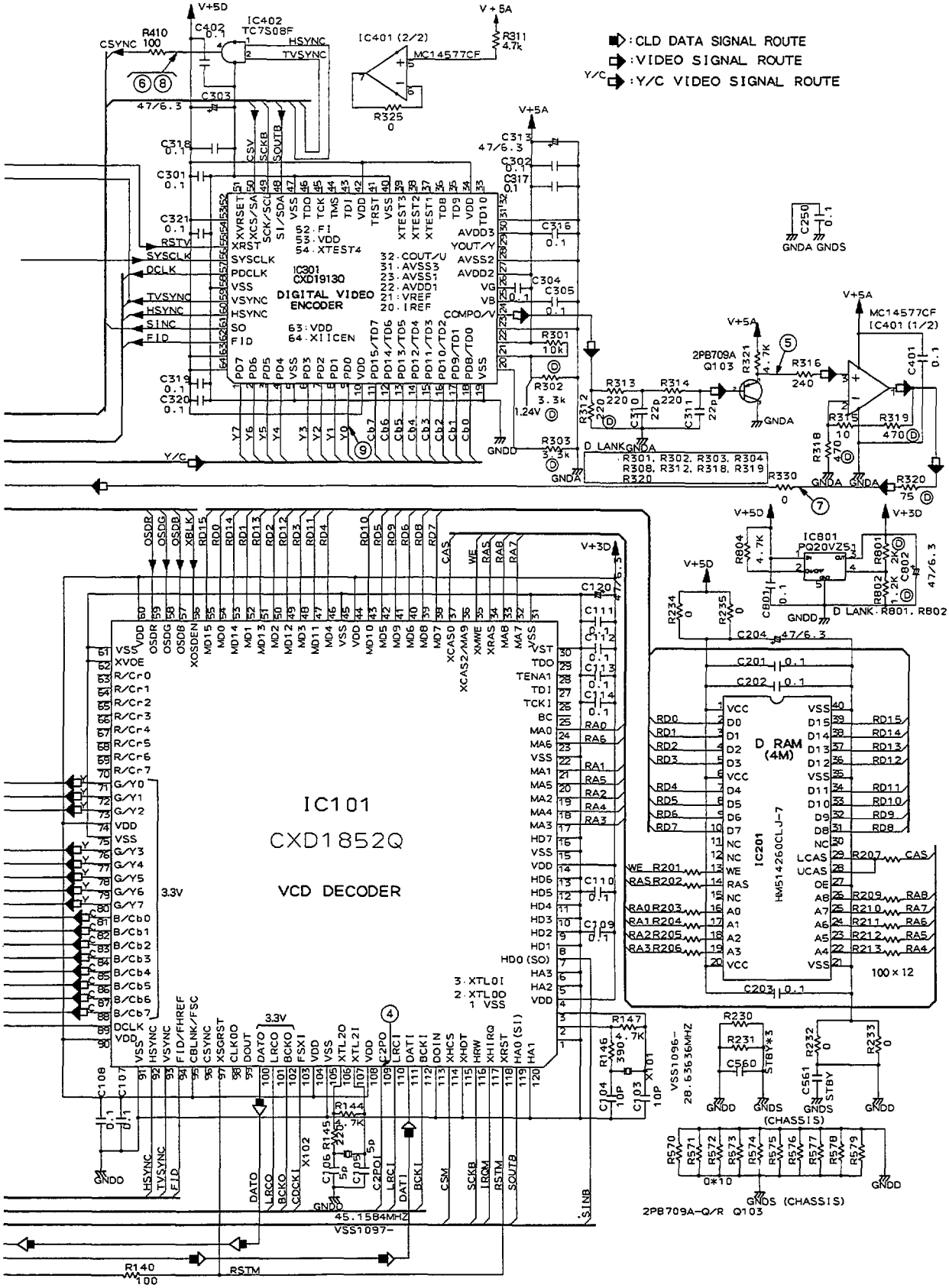
3.8 VCDB ASSY

• WAVEFORMS OF VCDB ASSY

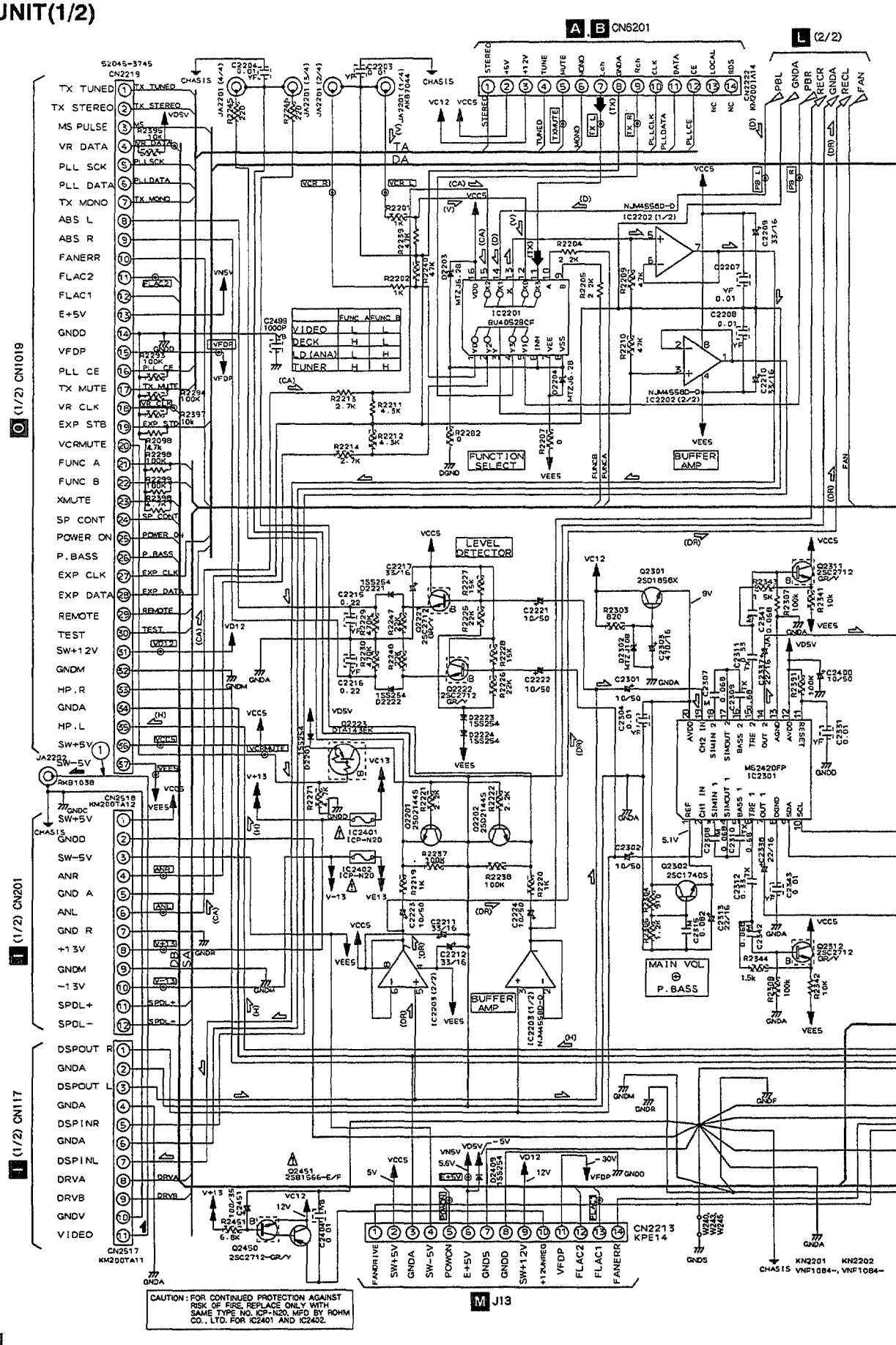
Note : (No.) in the table correspond to the number.

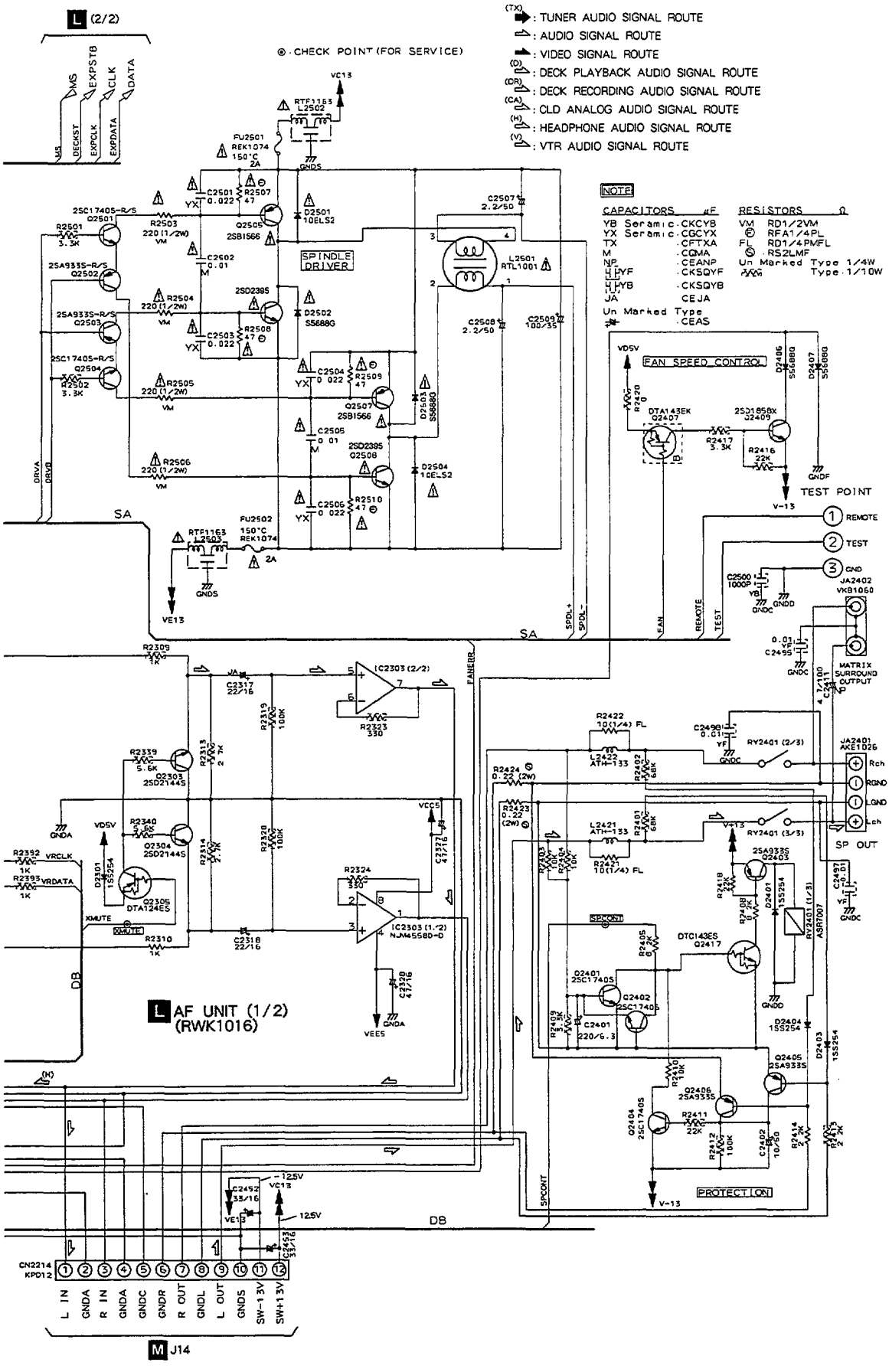



K VCDB ASSY (VWV1514)
IC501
PD6193A
VCD CONTROL MICROCOMPUTER
IC102 (1/3) TC7WU04F
IC102 (2/3)
IC102 (3/3)
IC603 (1/3) TC7WU04F
IC603 (2/3)
IC603 (3/3)
IC602 (2/6)1
IC602 (4/6)
IC602 (6/6)
IC602 (1/6)
IC602 (3/6)
IC602 (5/6) TC74HCT7007AF
IC601 TC74HC125AF
IC701 TC7W74F
CN201
SBRK08S-1
CN101
BTFN20P-3RD7
CN3131
F101 VTH1037-
X501
X103
V+5D
V+5A
GNDD
GNDA
RESET
REQACK
RQM
TVSYNC
RSTV
RSTM
DCLK
CSYNC
DATI
LRCI
BCKI
LRCO
DATO
BCKO
C2PO1
220*17

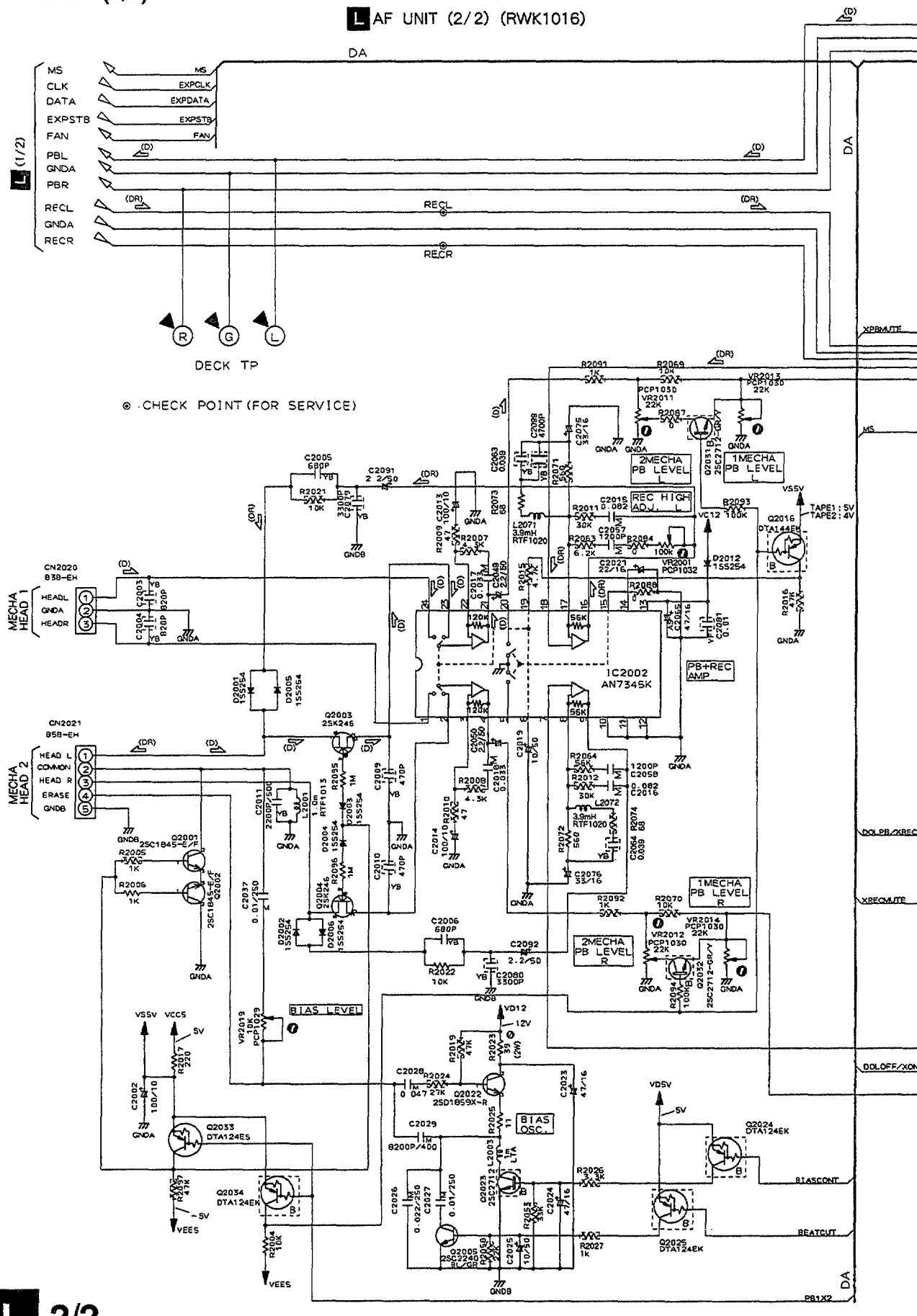

: CLD DATA SIGNAL ROUTE
: VIDEO SIGNAL ROUTE
Y/C : Y/C VIDEO SIGNAL ROUTE
IC101
CXD1852Q
VCD DECODER
IC1301
CXD19130
DIGITAL VIDEO ENCODER
IC201
HM514260CLJ-7
D RAM (4M)
100 × 12
IC401 (2/2)
MC14577CF
IC401 (1/2)
IC402
TC7S08F
IC801
PQ20VZ51
2PB709A Q103
2PB709A-Q/R Q103
45.1584MHZ
VSS1097-
VSS1096-
28.63636MHZ
D LANK:R801, R802
D LANK:R301, R302, R303, R304 R308, R312, R318, R319 R320
(CHASSIS)
GNDA GNDS
GNDD
3.3V
V+5D
V+5A
V+3D

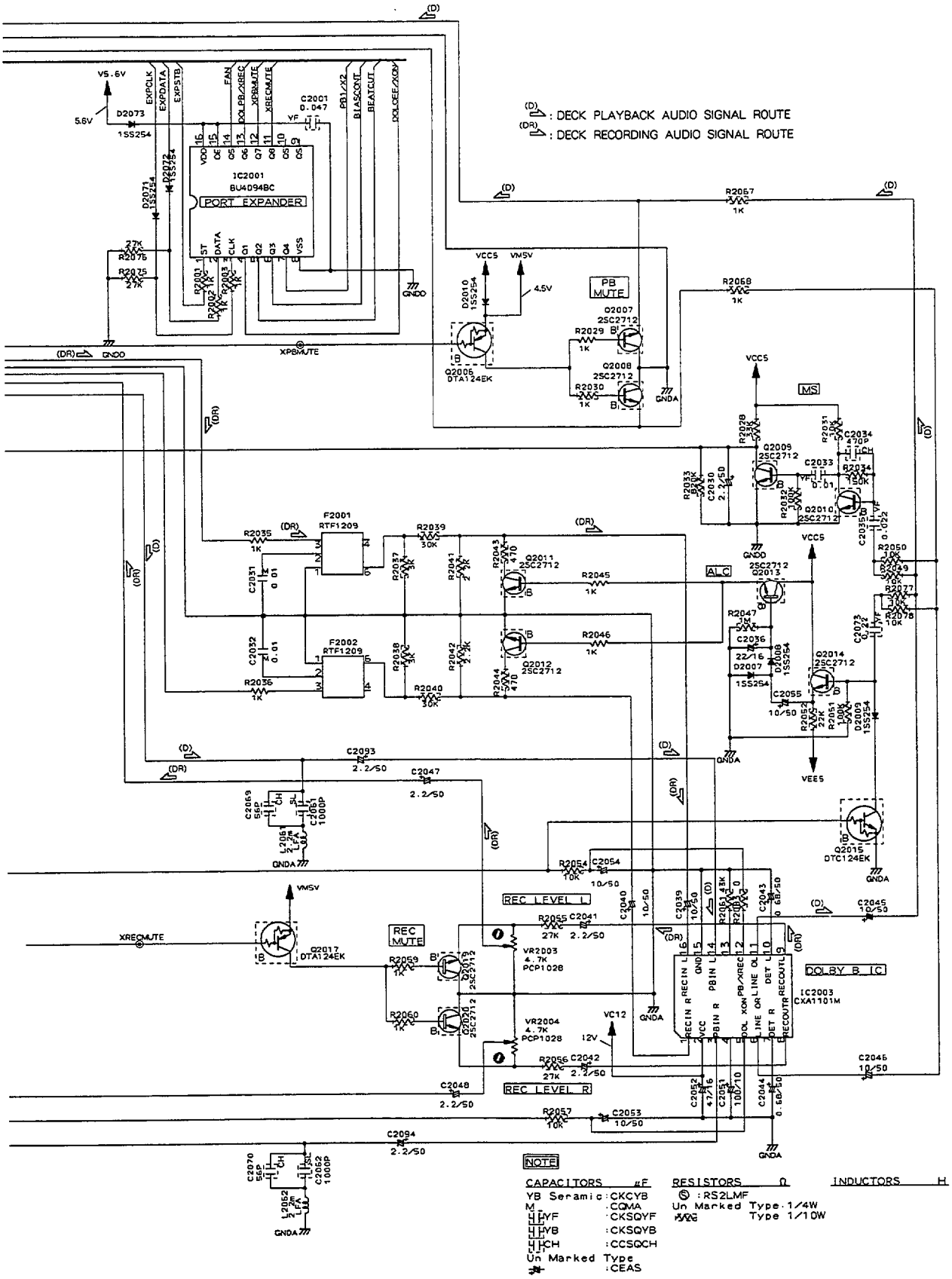
3.9 AF UNIT(1/2)


A B CN6201
L (2/2)
O (1/2) CN1019
I (1/2) CN201
I (1/2) CN117
CN2219
CN2517 KM200TA11
CN2518 KM200TA12
CN2213 KPE14
M J13
LEVEL DETECTOR
FUNCTION SELECT
BUFFER AMP
MAIN VOL
P.BASS
CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE NO. ICP-N20, MFD BY ROHM CO., LTD. FOR IC2401 AND IC2402.

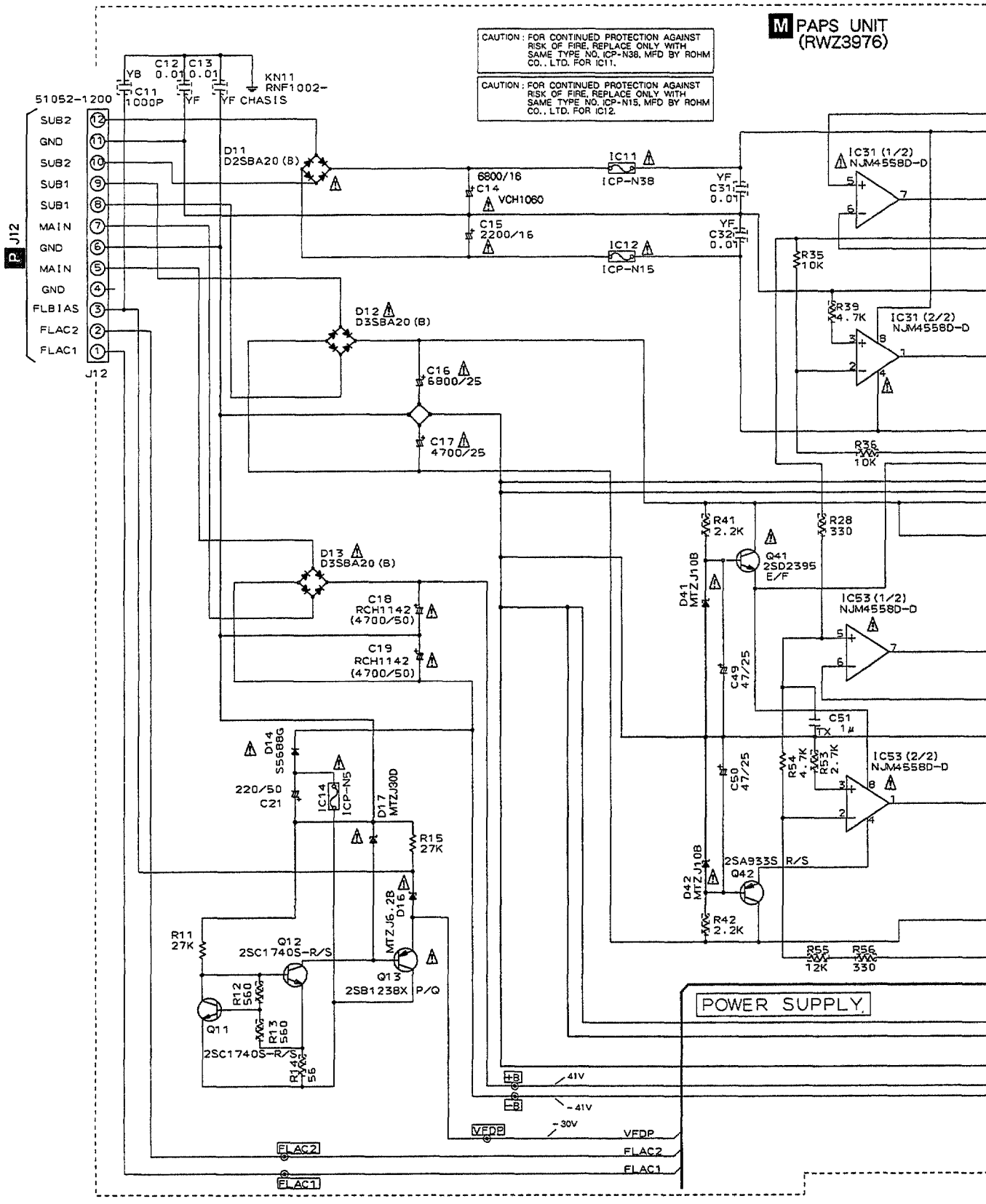

L (2/2)
⊙ : CHECK POINT (FOR SERVICE)
(TX) : TUNER AUDIO SIGNAL ROUTE
: AUDIO SIGNAL ROUTE
: VIDEO SIGNAL ROUTE
(D) : DECK PLAYBACK AUDIO SIGNAL ROUTE
(DR) : DECK RECORDING AUDIO SIGNAL ROUTE
(CA) : CLD ANALOG AUDIO SIGNAL ROUTE
(H) : HEADPHONE AUDIO SIGNAL ROUTE
(V) : VTR AUDIO SIGNAL ROUTE
NOTE
CAPACITORS μF
YB Seramic : CKCYB
YX Seramic : CGCYX
TX : CFTXA
M : CQMA
NP : CEANP
PYF : CKSQYF
YB : CKSQYB
JA : CEJA
Un Marked Type : CEAS
RESISTORS Ω
VM RD1/2VM
RFA1/4PL
FL RD1/4PMFL
RS2LMF
Un Marked Type 1/4W
Type 1/10W
SPINDLE DRIVER
FAN SPEED CONTROL
TEST POINT
REMOTE
TEST
GND
SA
DB
L AF UNIT (1/2)
(RWK1016)
CN2214
KPD12
L IN
GNDA
R IN
GNDA
GNDC
GNDR
R OUT
GNDL
L OUT
GNDS
SW-13V
SW+13V
M J14
SP OUT
PROTECTION

3.10 AF UNIT (2/2)




(D) : DECK PLAYBACK AUDIO SIGNAL ROUTE
(DR) : DECK RECORDING AUDIO SIGNAL ROUTE
PORT EXPANDER
PB MUTE
REC MUTE
REC LEVEL L
REC LEVEL R
DOLBY B IC
NOTE
CAPACITORS μF
RESISTORS Ω
INDUCTORS H

3.11 PAPS UNIT

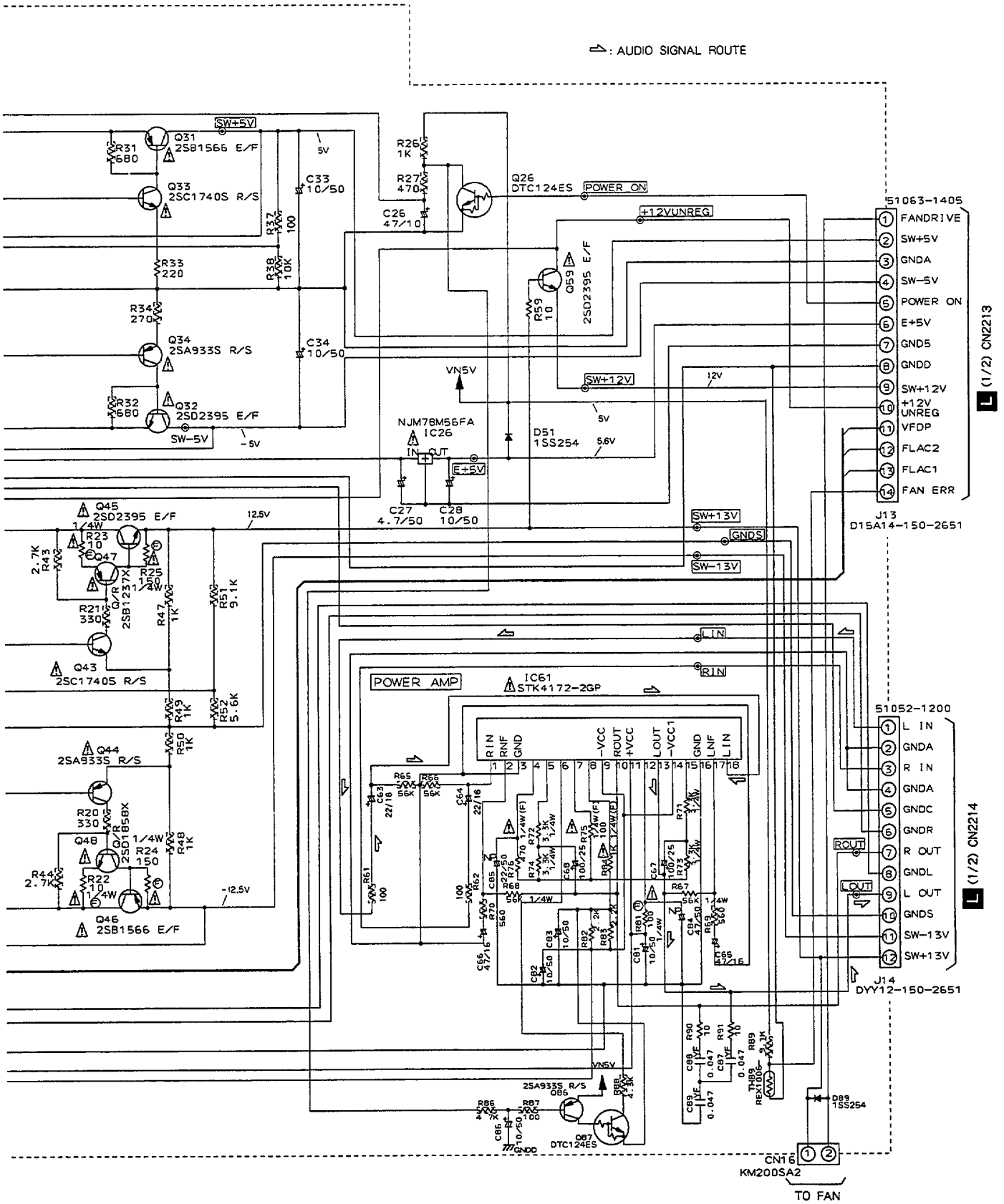


◎ : CHECK POINT (FOR SERVICE)

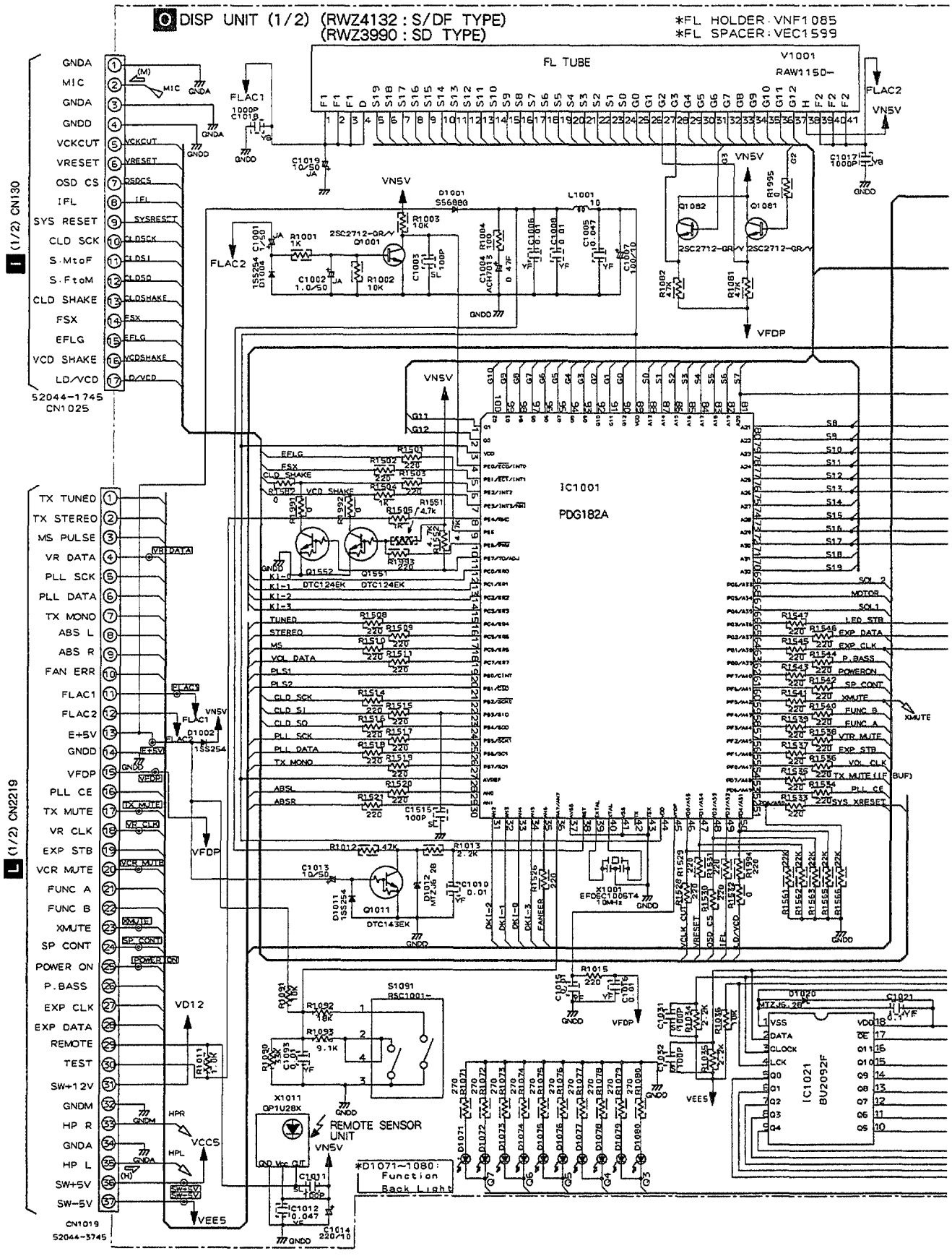
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE NO. ICP-N5, MFD BY ROHM CO., LTD. FOR IC14.

NOTES :> ALL RESISTORS ARE IN Ω 1/10W, 5% UNLESS OTHERWISE SPECIFIED.
: RD1/4PU***J
(F) : RD1/#PMF***J
: RFA1/#PS***J

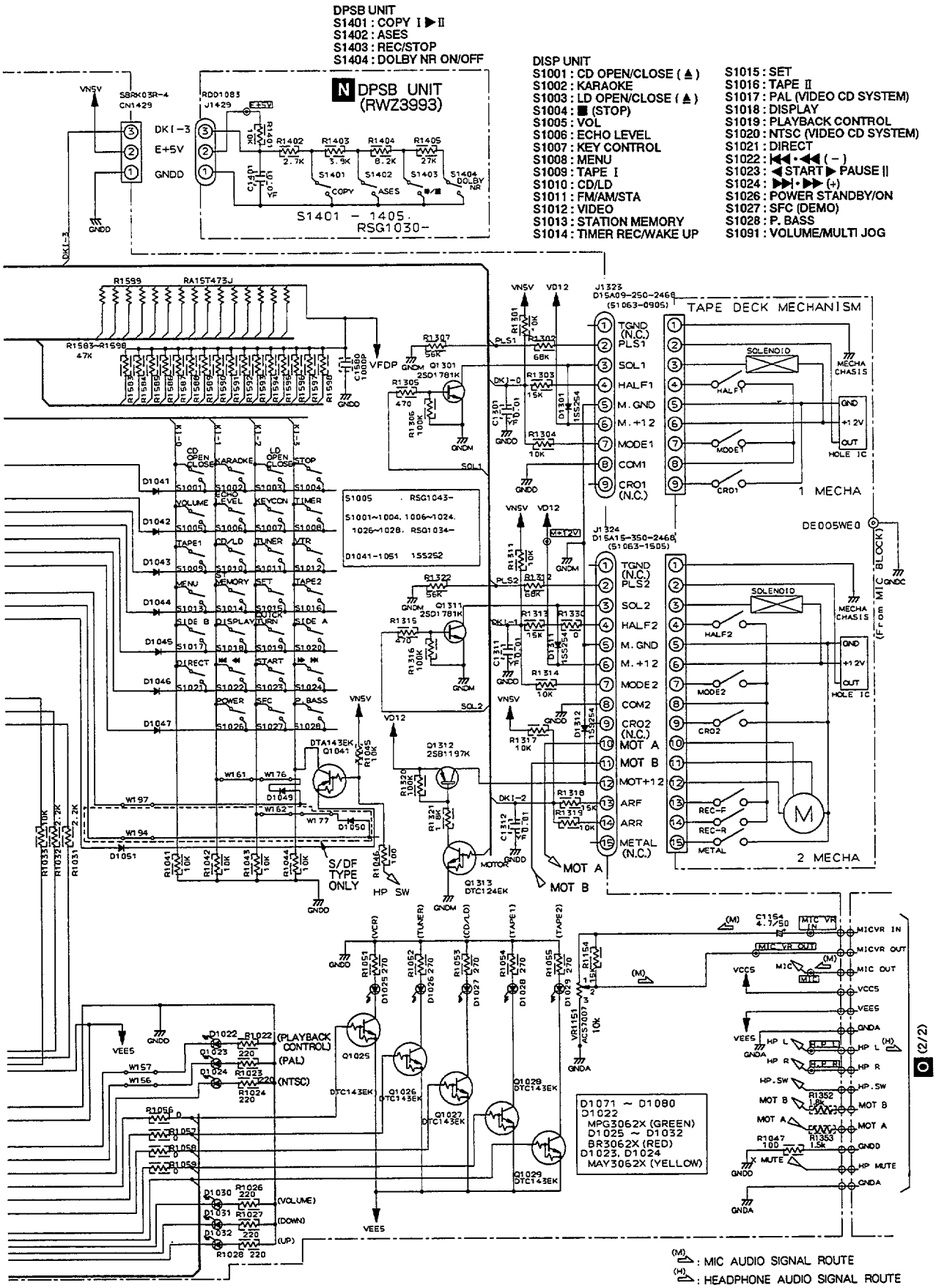
> ALL CAPACITORS ARE IN μF UNLESS OTHERWISE SPECIFIED.
YF=CKCYF***Z##
#PYF=CKSQYF***Z##
NP=CEANP***M##
TX=CFTXA***J##


: AUDIO SIGNAL ROUTE
SW+5V
Q31 2SB1566 E/F
R31 680
Q33 2SC1740S R/S
R33 220
R34 270
Q34 2SA933S R/S
R32 680
Q32 2SD2395 E/F
SW-5V
5V
-5V
C33 10/50
C34 10/50
R37 100
R38 10K
R26 1K
R27 470
C26 47/10
Q26 DTC124ES
POWER ON
+12VUNREG
Q59 2SD2395 E/F
R59 10
SW+12V
12V
VN5V
NJM78M56FA IC26
IN OUT
E+5V
D51 1SS254
5.6V
C27 4.7/50
C28 10/50
51063-1405
1 FANDRIVE
2 SW+5V
3 GNDA
4 SW-5V
5 POWER ON
6 E+5V
7 GND5
8 GNDD
9 SW+12V
10 +12V UNREG
11 VFDP
12 FLAC2
13 FLAC1
14 FAN ERR
L (1/2) CN2213
J13 D15A14-150-2651
SW+13V
GNDS
SW-13V
Q45 2SD2395 E/F
12.5V
R23 10
Q47 2SB1237X Q/R
R25 150
R21 330
R47 1K
R51 9.1K
2.7K R43
Q43 2SC1740S R/S
R49 1K
R52 5.6K
R50 1K
Q44 2SA933S R/S
R20 330
Q48 2SD1858X Q/R
R24 150
R48 1K
R44 2.7K
R22 10
-12.5V
Q46 2SB1566 E/F
LIN
RIN
POWER AMP
IC61 STK4172-2GP
RIN RNF GND -VCC ROUT +VCC LOUT -VCC1 GND LNF LIN
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
51052-1200
1 L IN
2 GNDA
3 R IN
4 GNDA
5 GNDC
6 GNDR
7 R OUT
8 GNDL
9 L OUT
10 GNDS
11 SW-13V
12 SW+13V
ROUT
LOUT
L (1/2) CN2214
J14 DYY12-150-2651
VN5V
2SA933S R/S Q86
DTC124ES Q87
GNDD
D89 1SS254
CN16 KM200SA2
TO FAN

3.12 DISP (1/2) AND DPSB UNITS

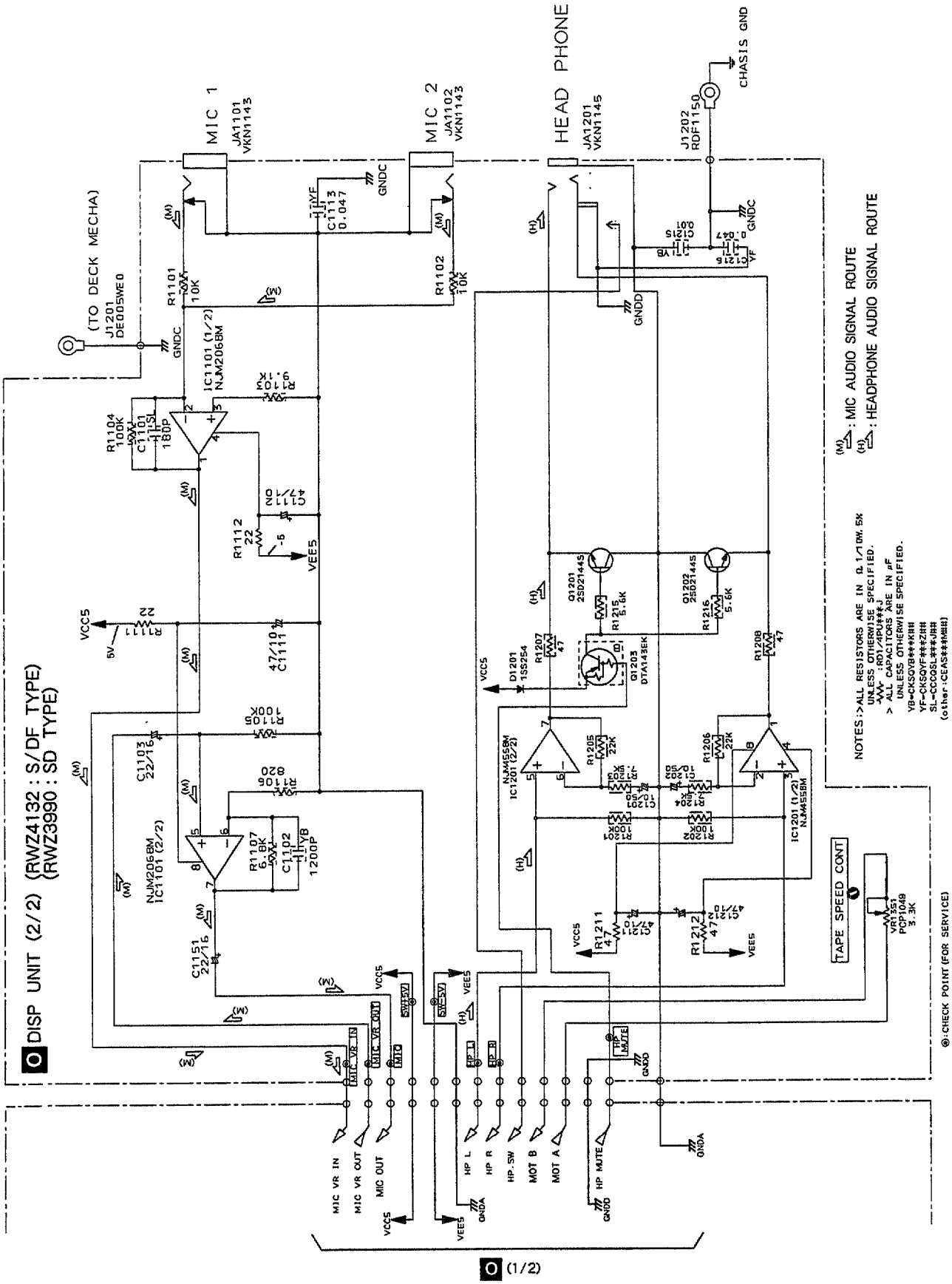


⊙ : CHECK POINT (FOR SERVICE)

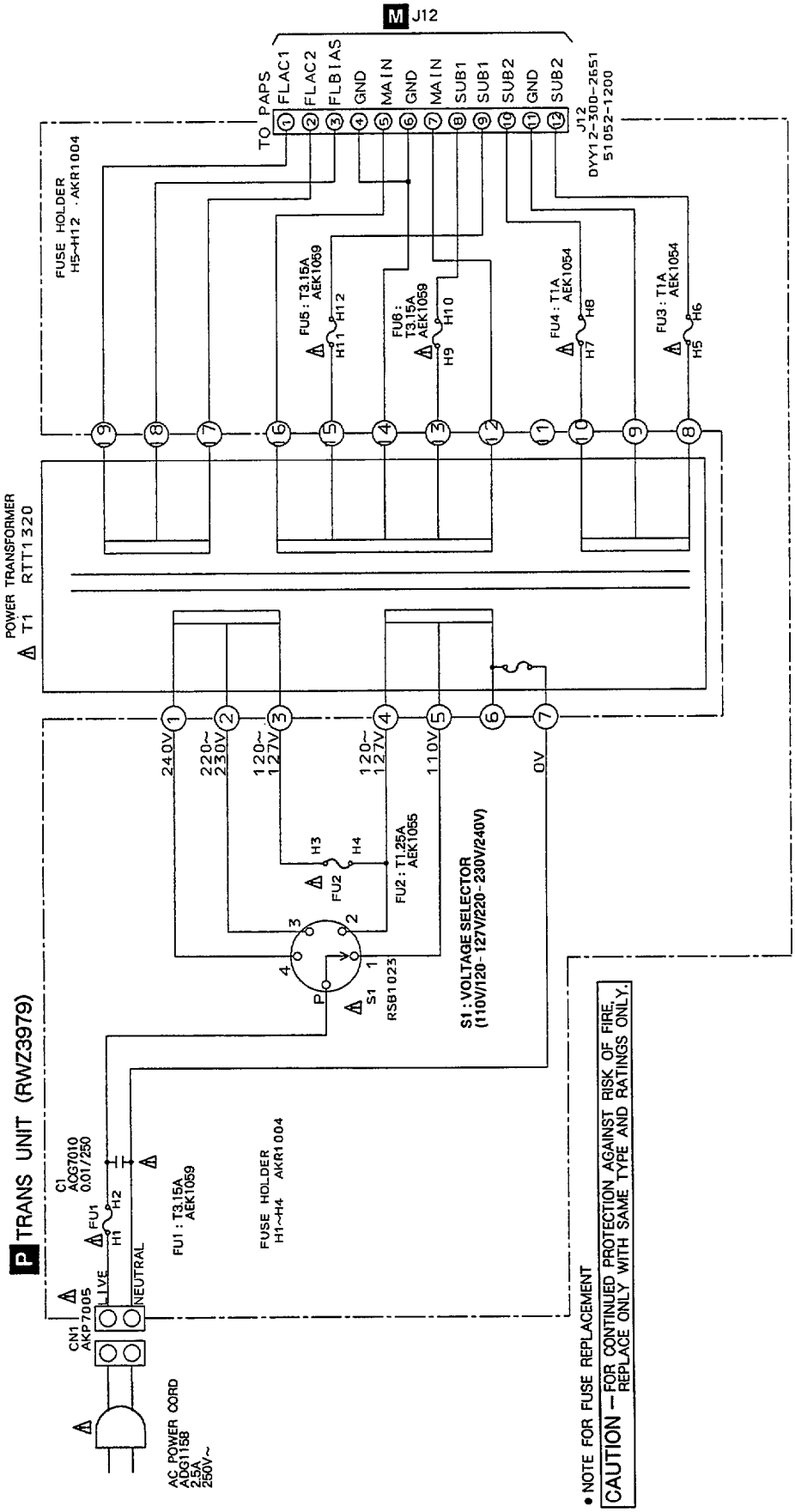


NOTES :-
> ALL INDUCTORS ARE IN μH. 5%
> ALL RESISTORS ARE IN Ω. 1/10W. 5% UNLESS OTHERWISE SPECIFIED.
> ALL CAPACITORS ARE IN μF UNLESS OTHERWISE SPECIFIED.
YB=CKSQYB***K## JA=CEJA***M##
YF=CKSQYF***Z##
SL=CCCQSL***J##
(other CEAS***M##)

3.13 DISP UNIT (2/2)

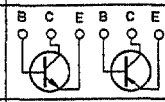
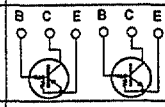
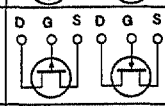
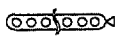
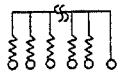


3.14 TRANS UNIT

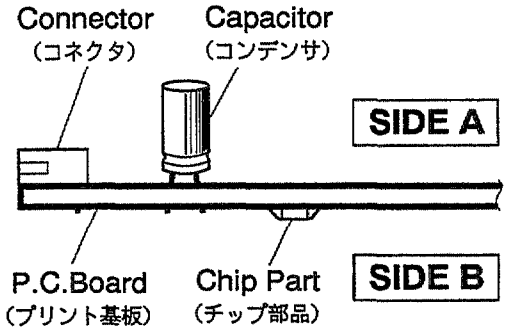


4. PCB CONNECTION DIAGRAMS

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

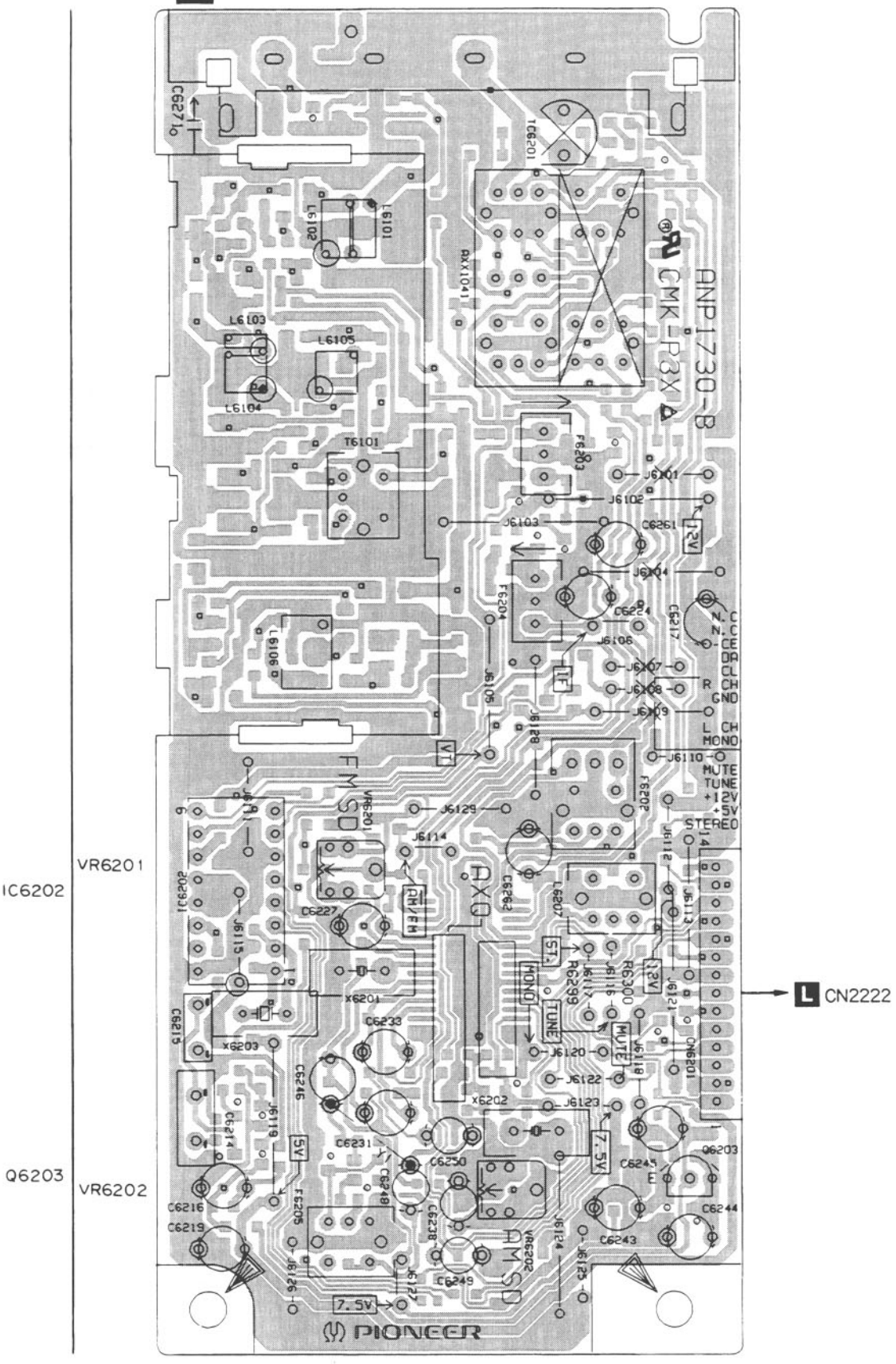
Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams

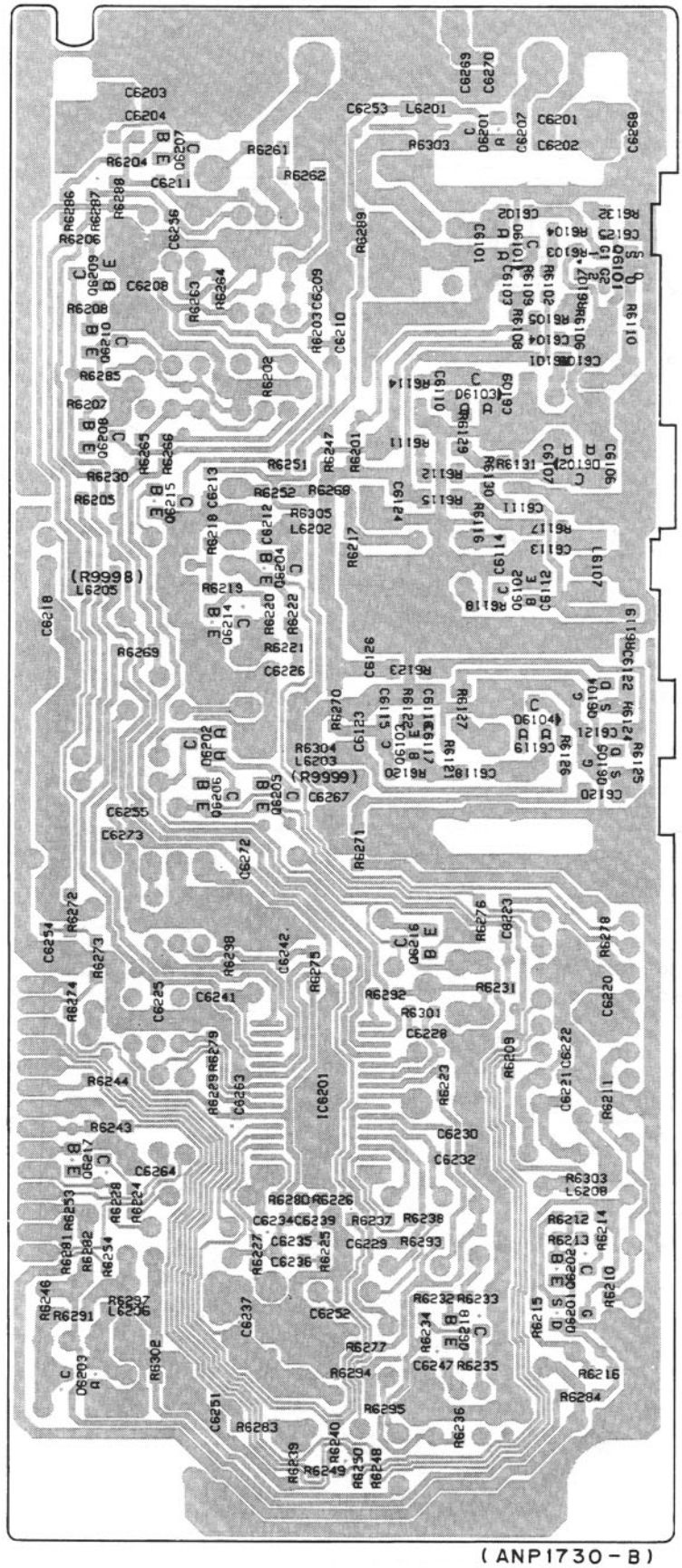


4.1 FM/AM TUNER MODULE (S/DF TYPE)

A FM/AM TUNER MODULE

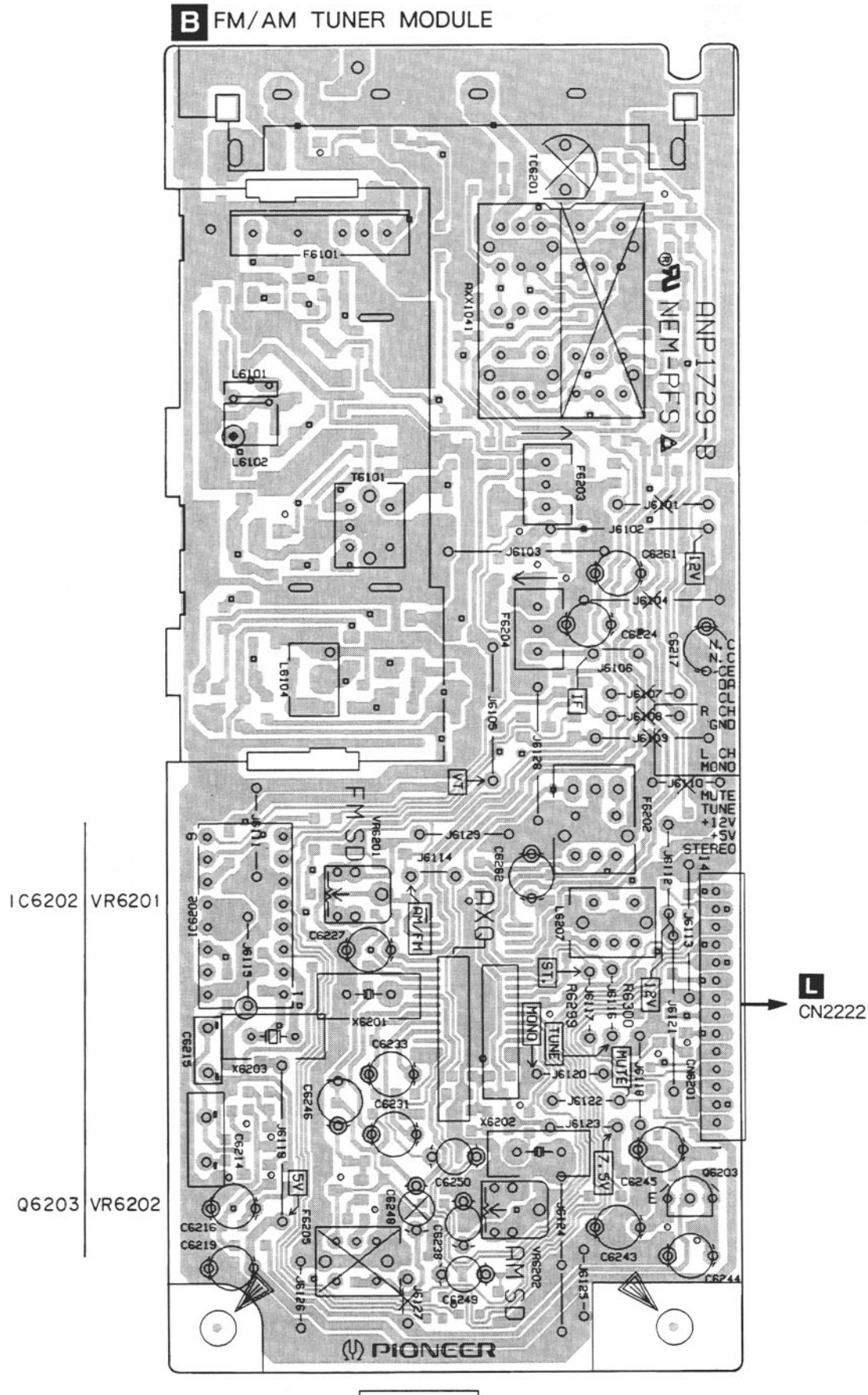


A FM/AM TUNER MODULE

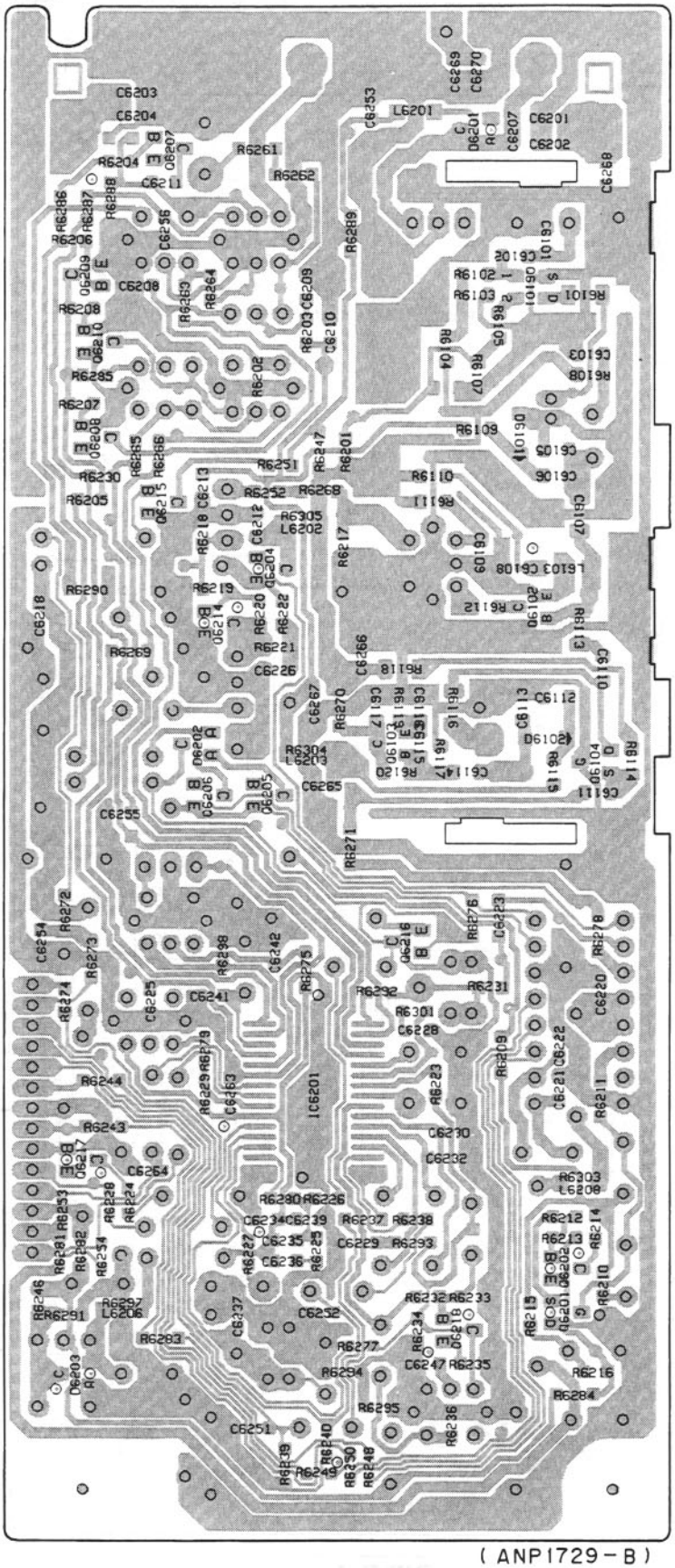


SIDE B

4.2 FM/AM TUNER MODULE (SD TYPE)



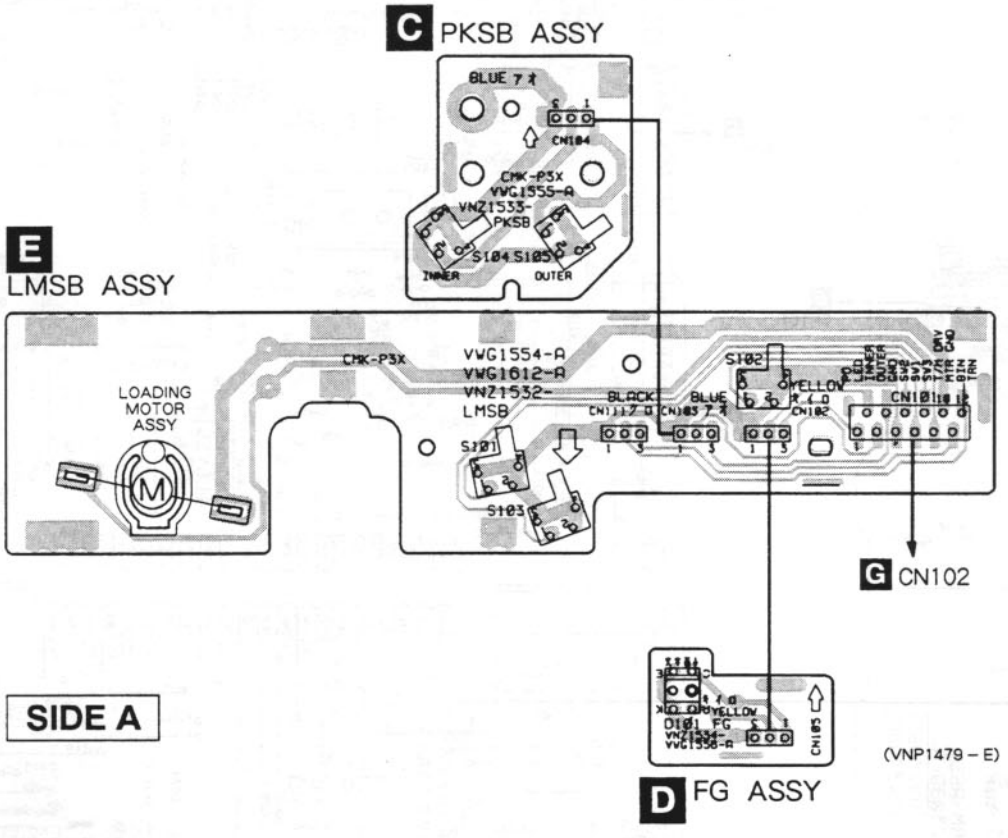
B FM/AM TUNER MODULE



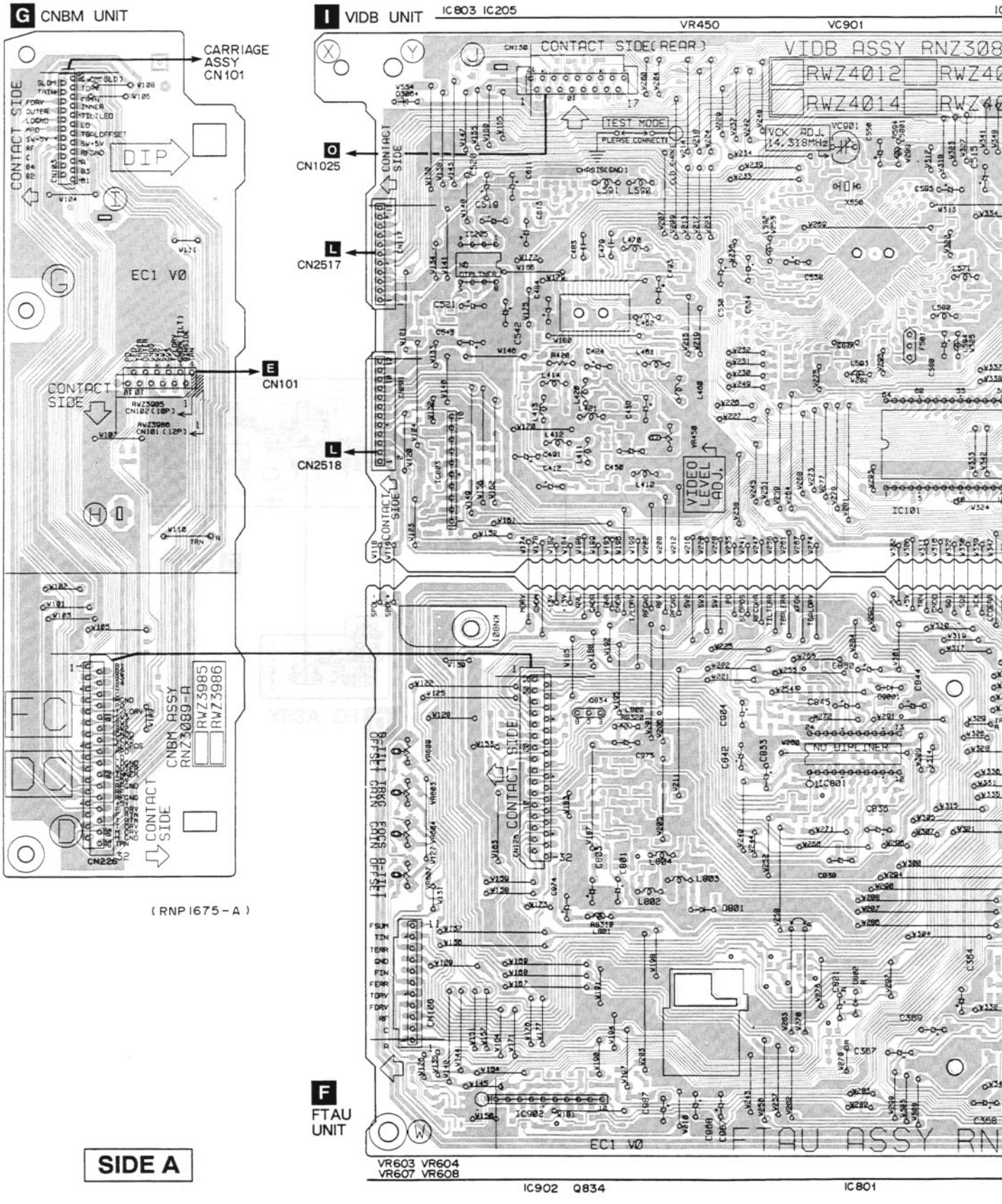
(ANP1729-B)

SIDE B

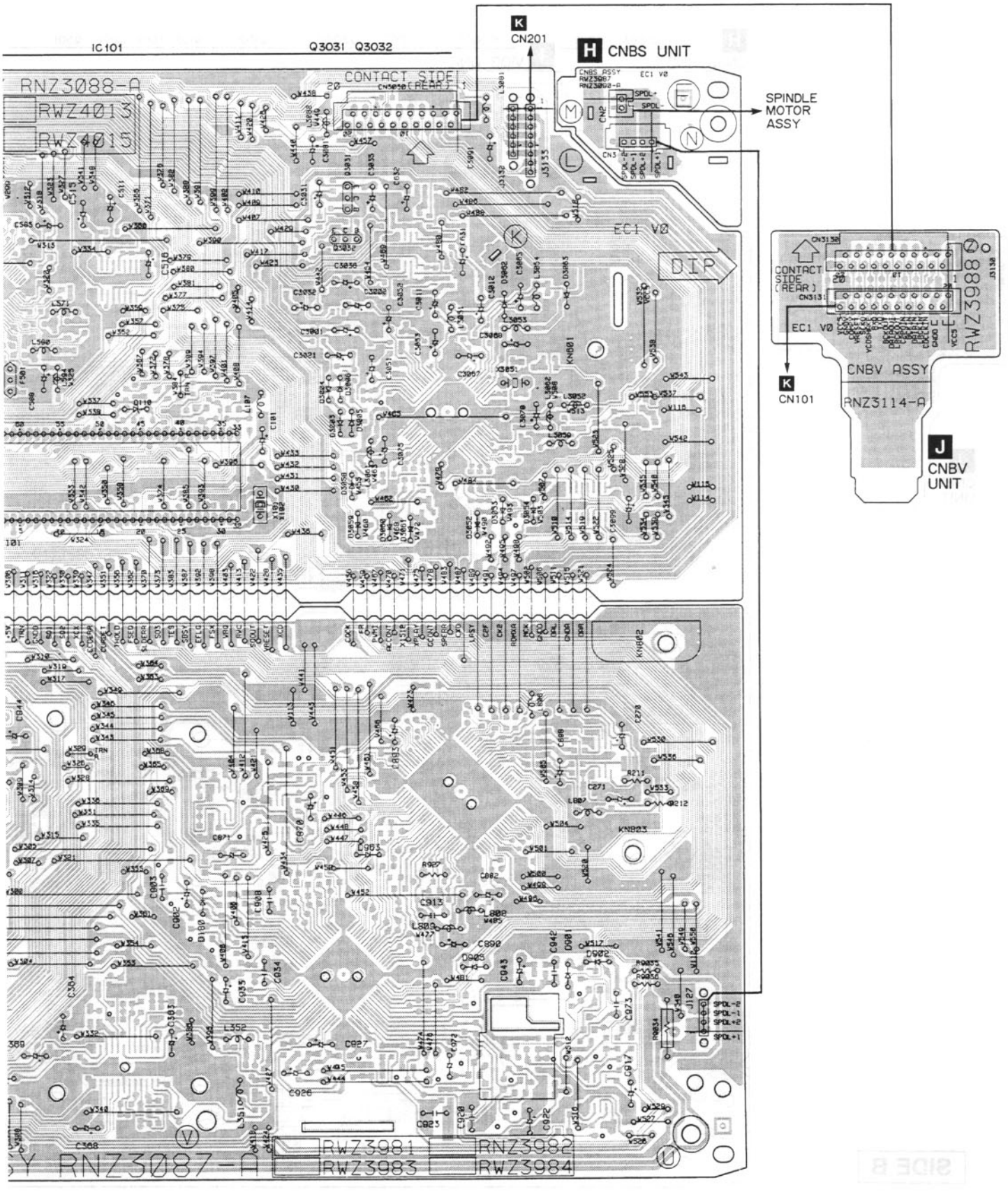
4.3 PKSB, FG, AND LMSB ASSEMBLIES

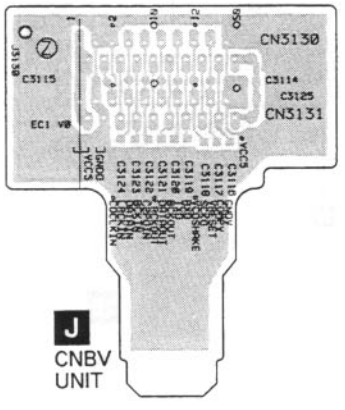


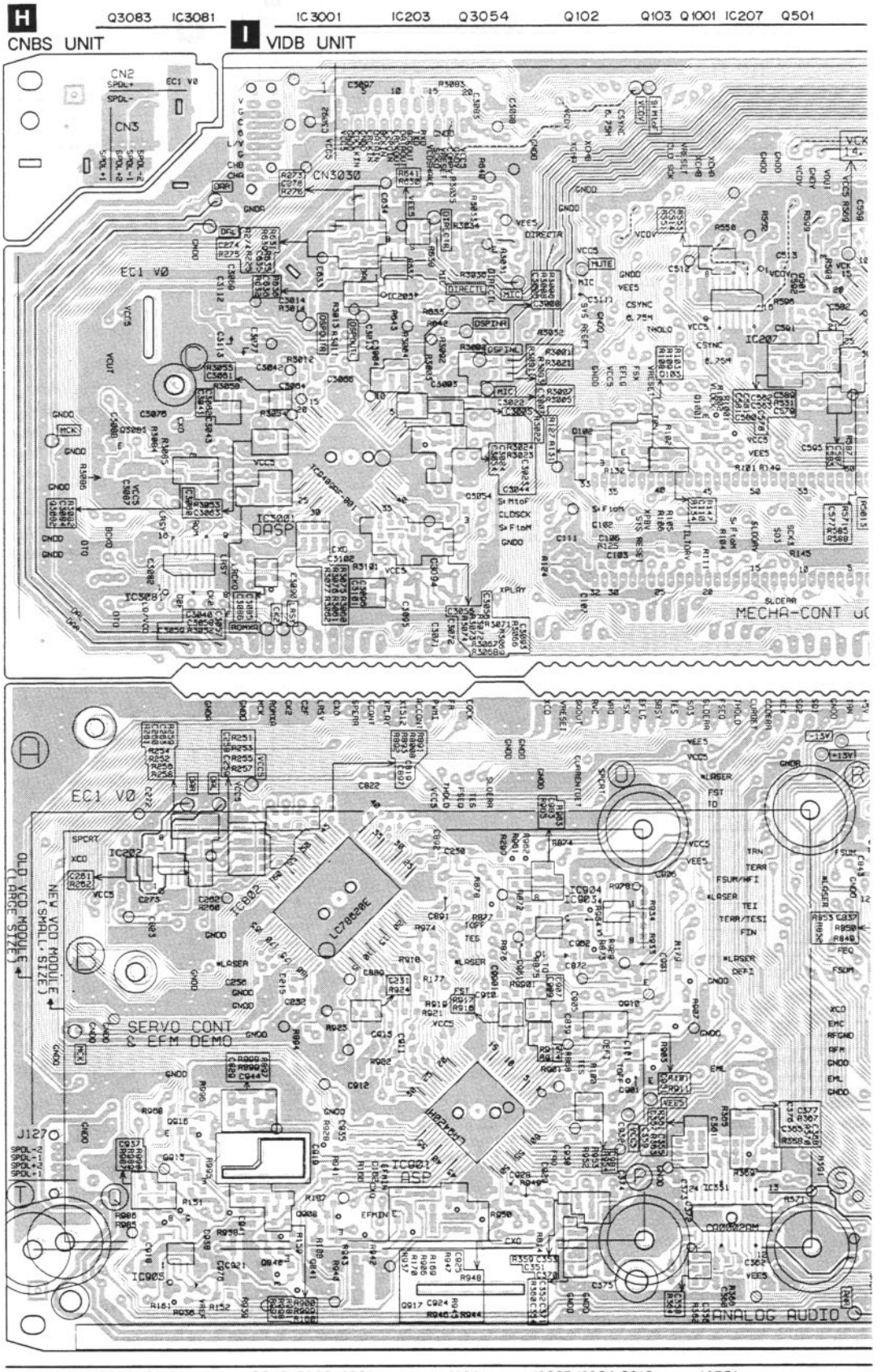
4.4 FTAU, CNBM CNBS, VIDB AND CNBV UNITS



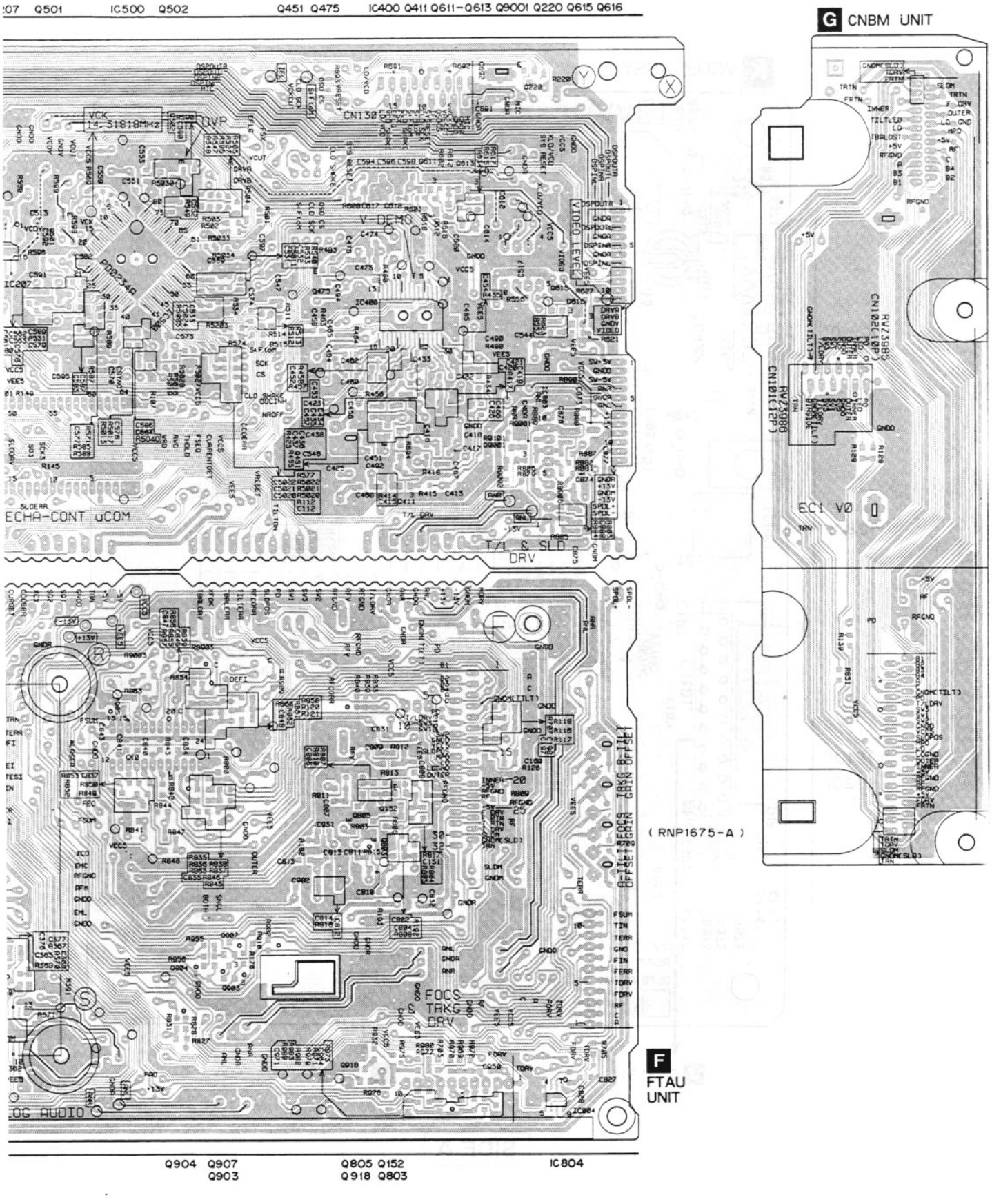
SIDE A


IC101
Q3031 Q3032
RNZ3088-A
RWZ401 (S)
RWZ401 (S)
CONTACT SIDE (REAR)
K
CN201
H CNBS UNIT
CNBS ASSY
RWZ3087
RNZ3092-A
EC1 V0
SPDL+
SPDL-
CN2
CN3
SPINDLE MOTOR ASSY
EC1 V0
DIP
CONTACT SIDE (REAR)
CN3131
RWZ3088-A
EC1 V0
CNBV ASSY
RNZ3114-A
K
CN101
J
CNBV UNIT
RWZ3981
RNZ3982
RWZ3983
RWZ3984
RNZ3087-A

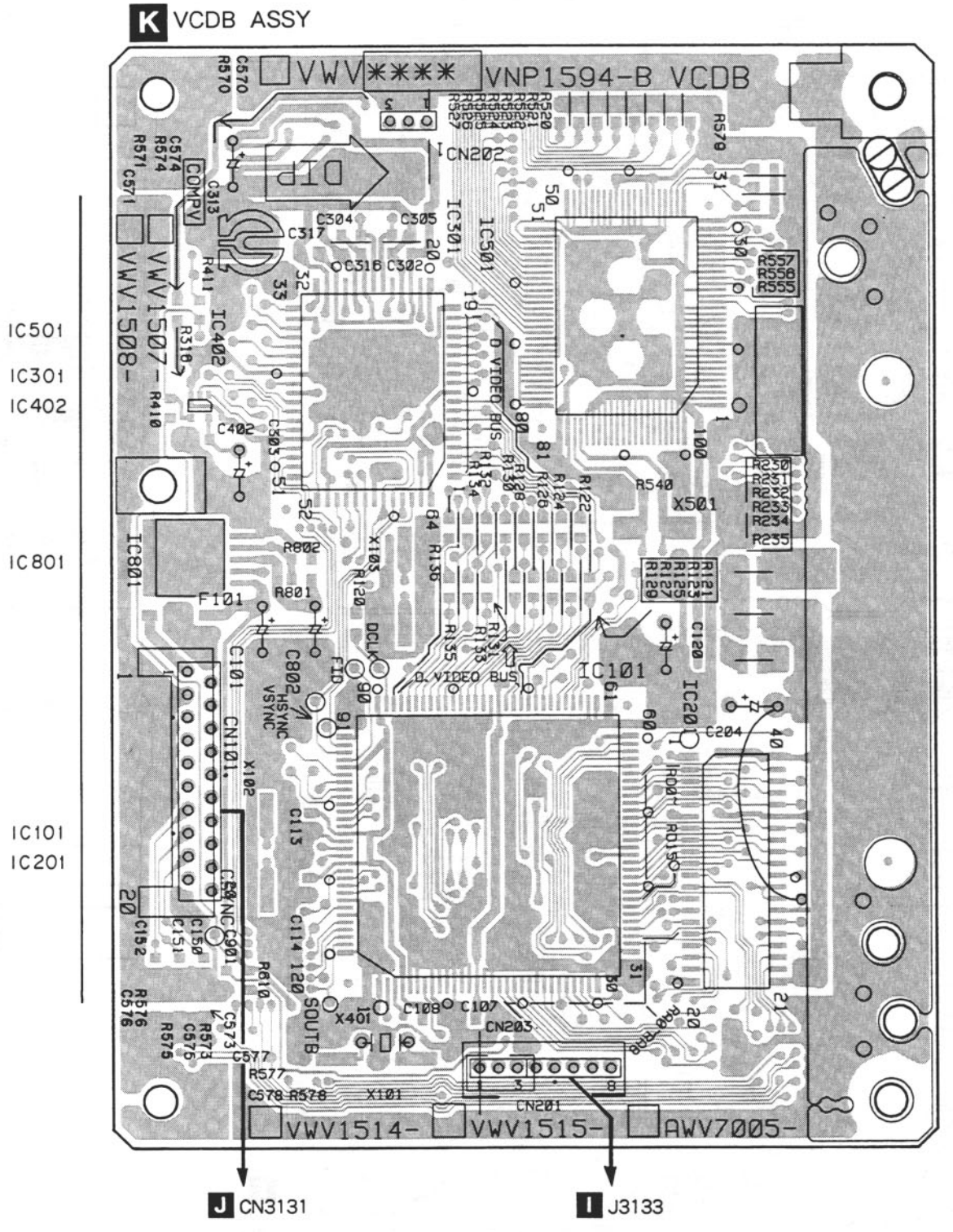

CN3130
CN3131
C3115
C3114
C3125
EC1 V0
J
CNBV
UNIT


H
CNBS UNIT
I
VIDB UNIT
Q3083 IC3081
IC3001 IC203 Q3054 Q102 Q103 Q1001 IC207 Q501
CN2
CN3
CN3030
EC1 V0
IC3001
DASP
IC207
MECHA-CONT
EC1 V0
IC202
IC802
LC78620E
SERVO CONT
& EFM DEMO
OLD VCO MODULE
(LARGE SIZE)
NEW VCO MODULE
(SMALL SIZE)
IC901
DSPA
ANALOG AUDIO
IC202 Q915
IC905 Q916
Q840 Q908 IC802
Q841
IC901
Q917
IC903 IC904 Q910
Q901
IC351

SIDE B

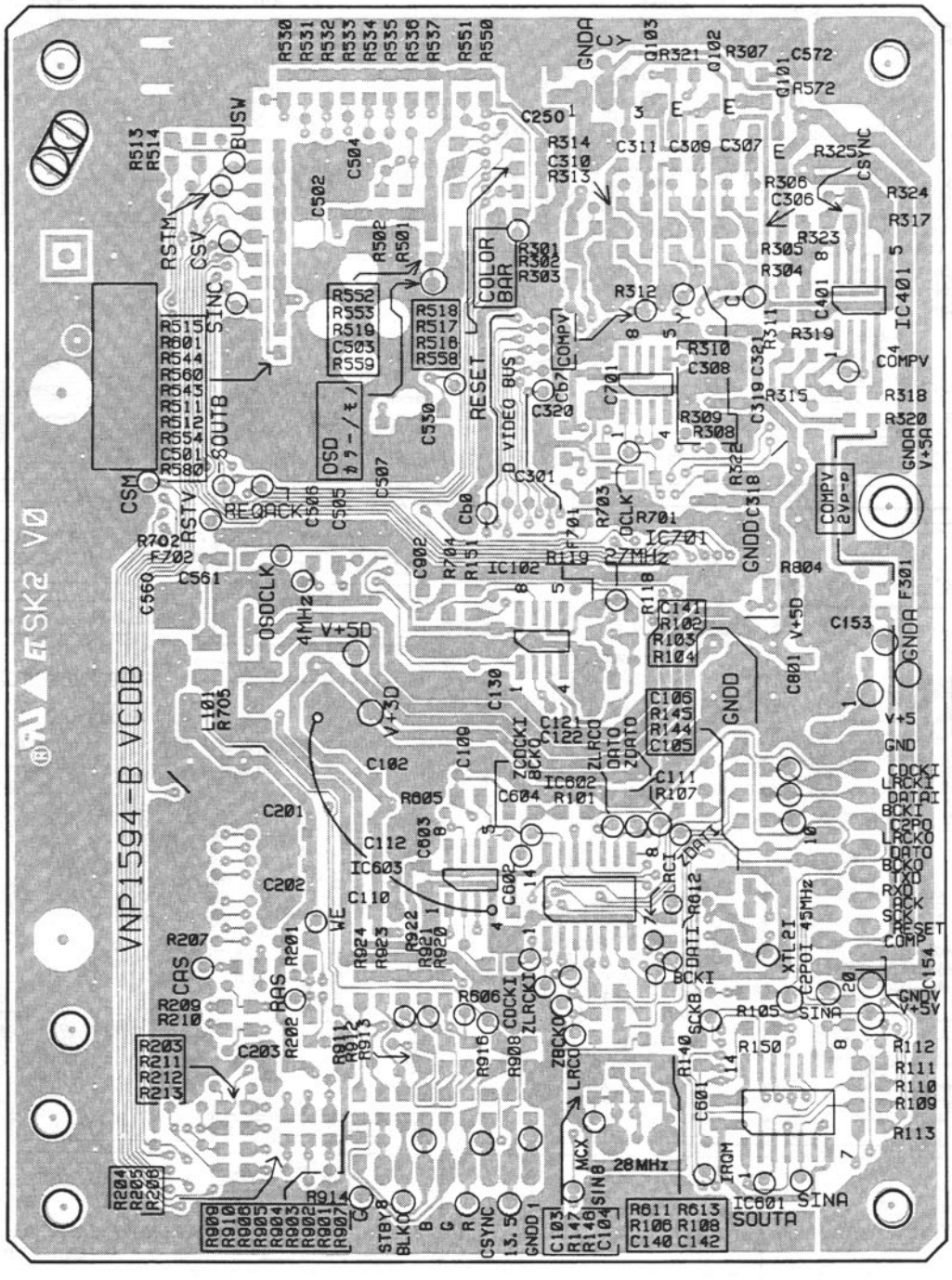

:07 Q501
IC500 Q502
Q451 Q475
IC400 Q411 Q611-Q613 Q9001 Q220 Q615 Q616
G CNBM UNIT
VCK 14.31818MHz
DVP
CN130
V-DEMO
VIDEO LEVEL
IC207
PD0234A
IC400
ECHA-CONT uCOM
T/L & SLD DRV
FOCS TRKS & DRV
OG AUDIO
(RNP1675-A)
F FTAU UNIT
Q904 Q907 Q903
Q805 Q152 Q918 Q803
IC804

4.5 VCDB ASSY



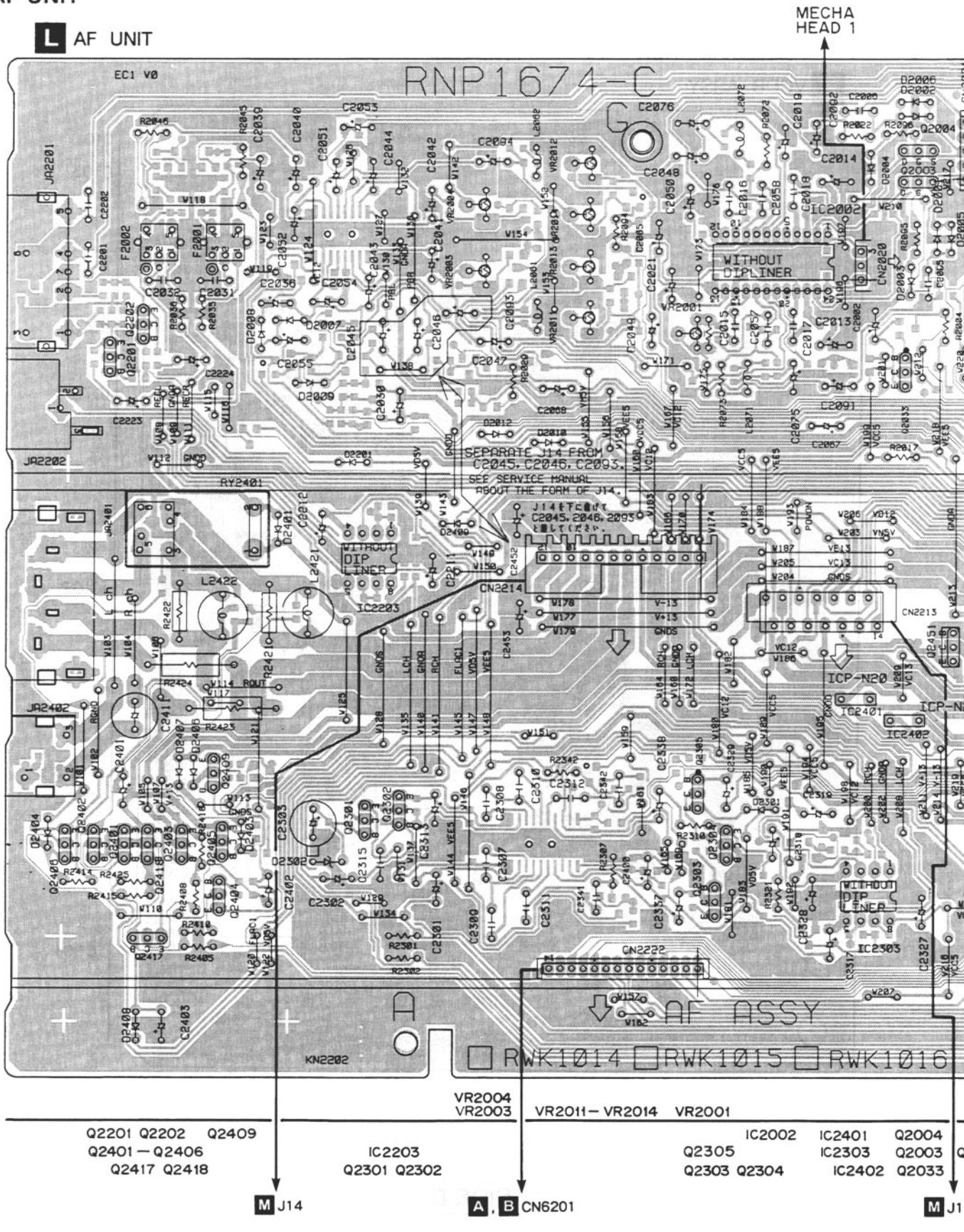
SIDE A

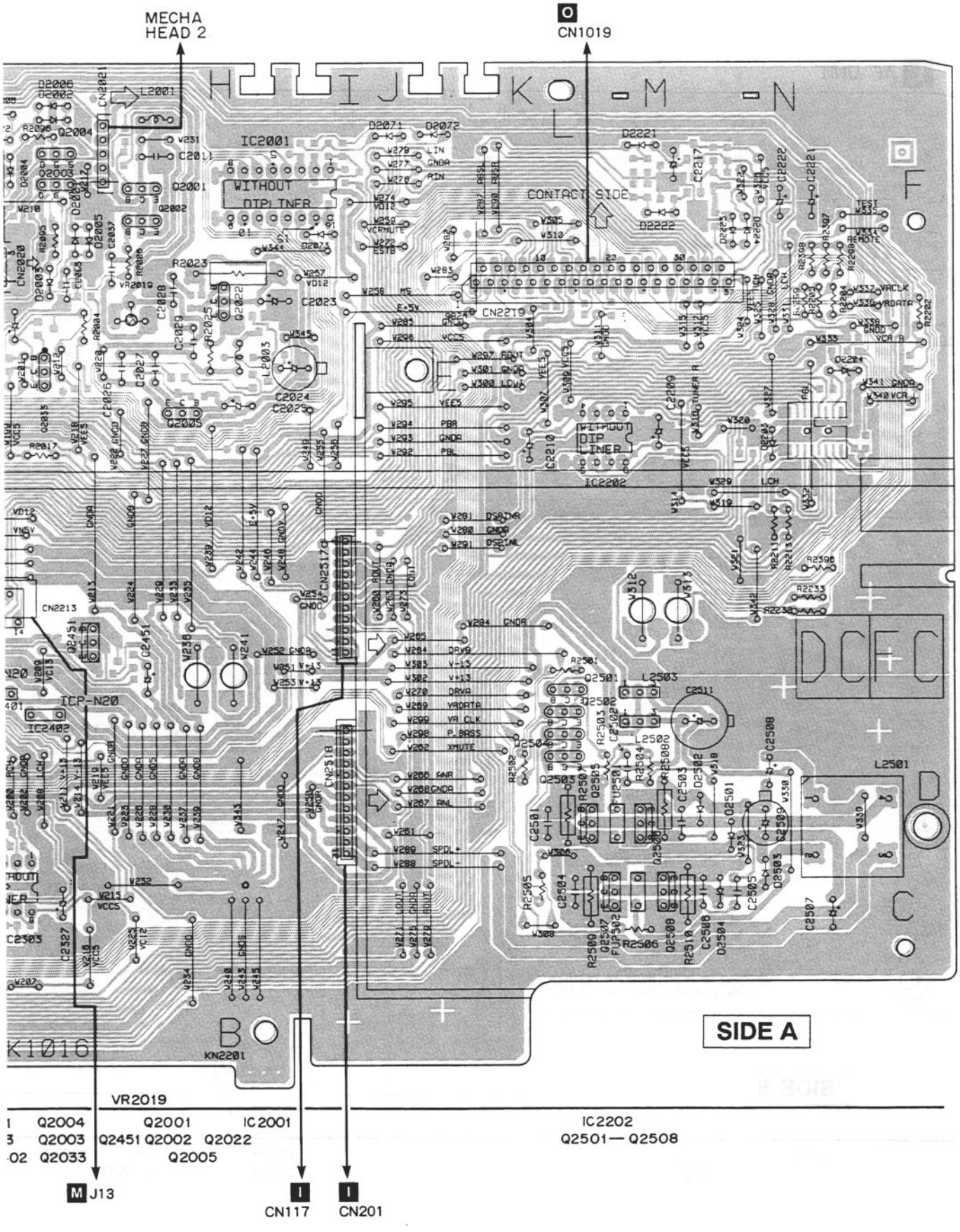
K VCDB ASSY



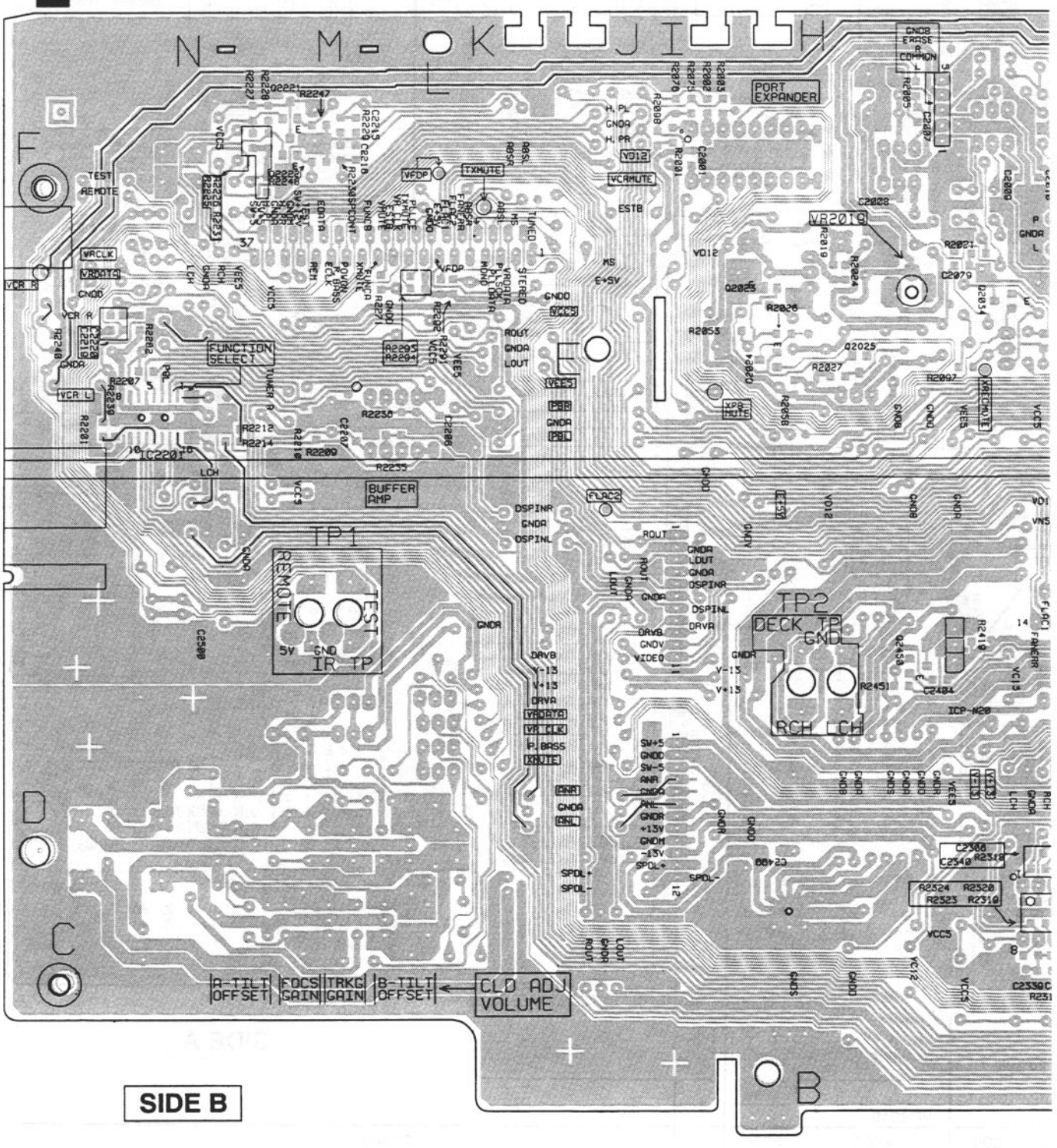
SIDE B

4.6 AF UNIT

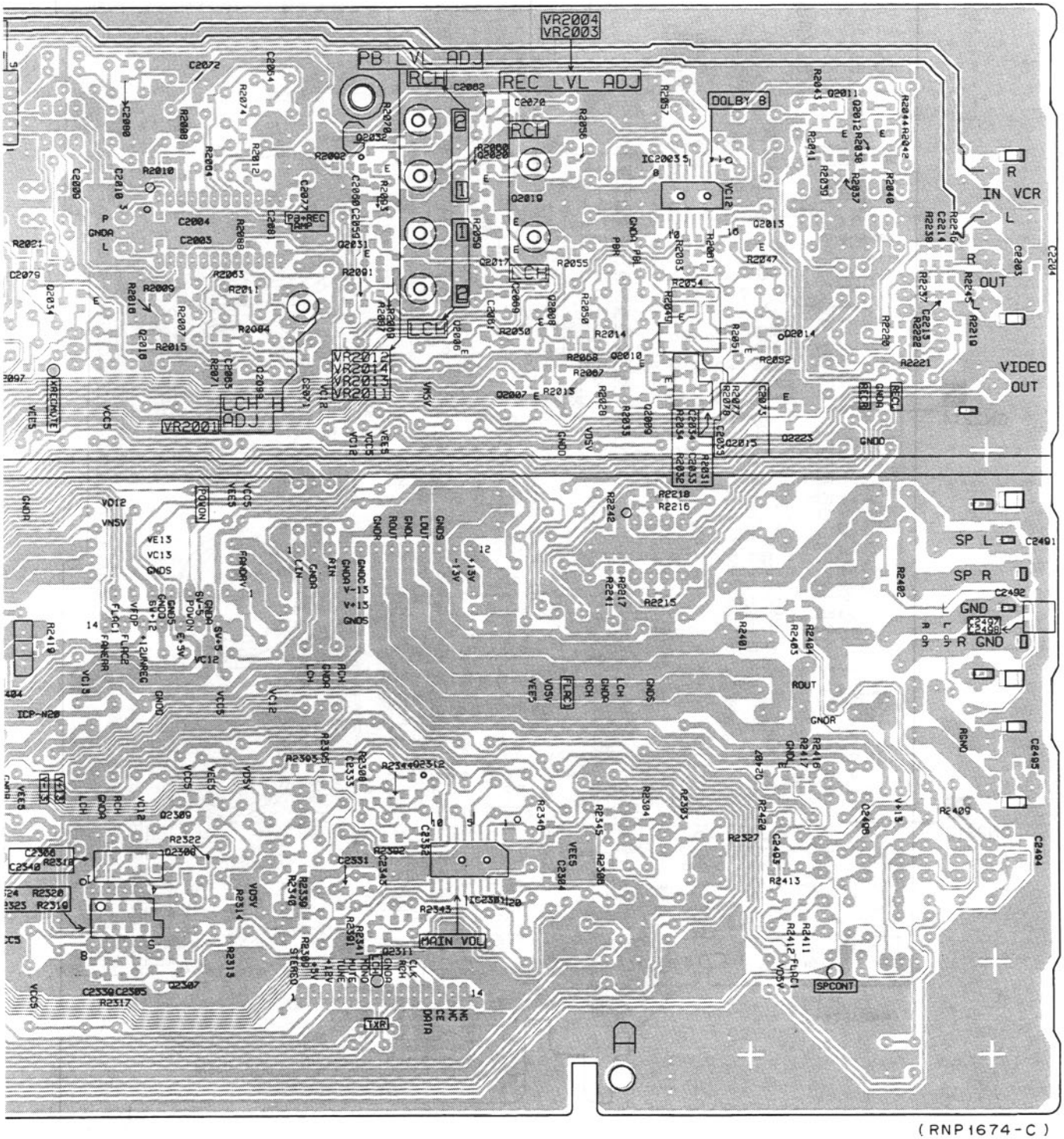

L AF UNIT
MECHA HEAD 1
EC1 V0
RNP1674-C
WITHOUT DIPLINER
SEPARATE J14 FROM C2045, C2046, C2093.
SEE SERVICE MANUAL ABOUT THE FORM OF J14.
J14とC2045, 2046, 2093とを接続してください。
WITHOUT DIP FINER
ICP-N20
ICP-N2
AF ASSY
RWK1014 RWK1015 RWK1016
VR2004 VR2003
VR2011 – VR2014 VR2001
Q2201 Q2202 Q2409 Q2401 – Q2406 Q2417 Q2418
IC2203 Q2301 Q2302
IC2002 Q2305 Q2303 Q2304
IC2401 IC2303 IC2402
Q2004 Q2003 Q2033
M J14
A, B CN6201
M J13


MECHA
HEAD 2
CN1019
IC2001
WITHOUT
DIP INER
CONTACT SIDE
IC2202
WITHOUT
DIP
INER
SIDE A
VR2019
IC2001
Q2004
Q2001
Q2003
Q2451 Q2002 Q2022
Q2033
Q2005
IC2202
Q2501— Q2508
M J13
I
CN117
I
CN201

L AF UNIT

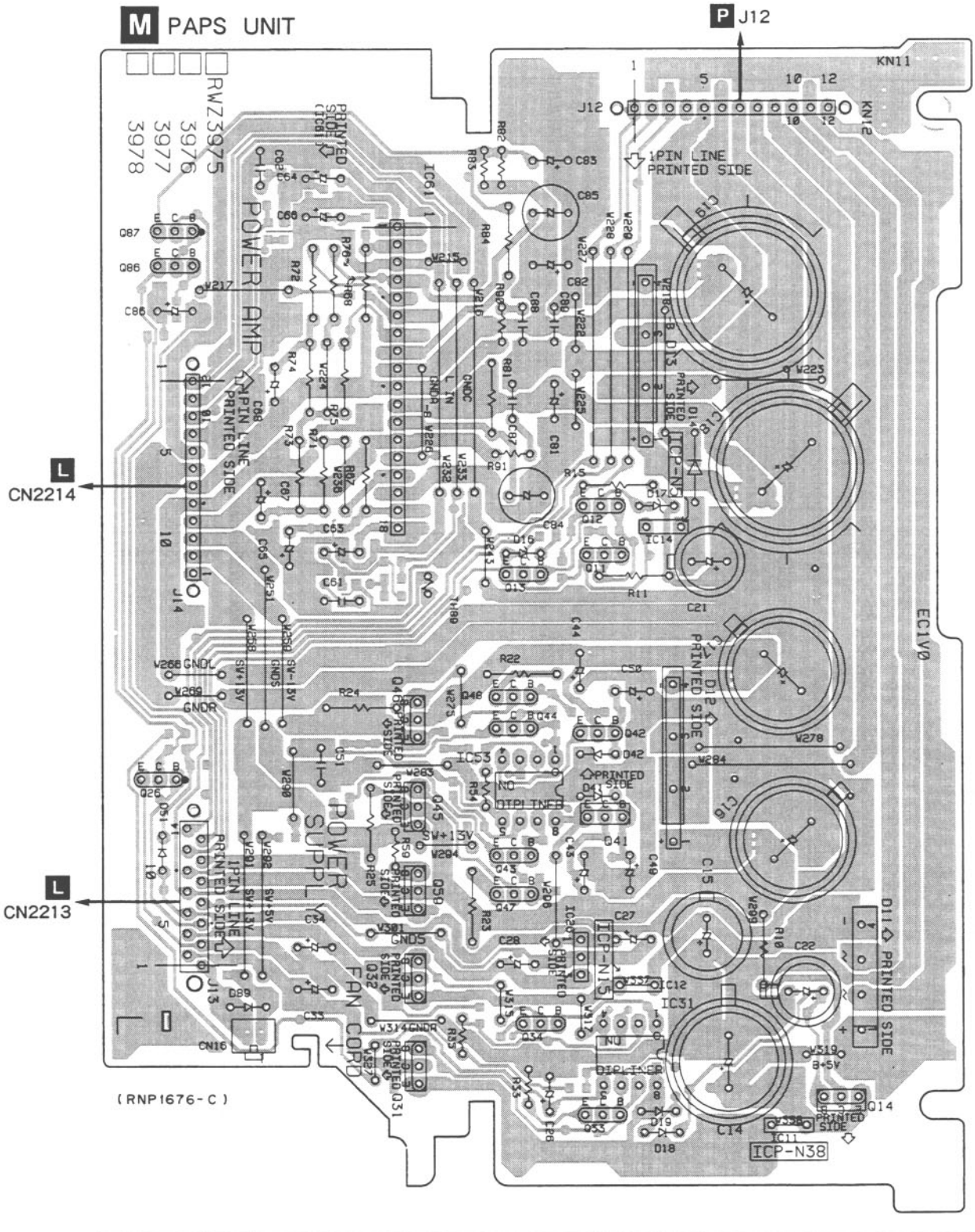


IC2201 Q2221 Q2222 Q2023 Q2024 Q2025 Q2450 Q2034



Q2034 Q2016 Q2307—Q2309 Q2032 Q2031 Q2311 Q2312 Q2006 IC2301 Q2020 Q2017 Q2008 Q2007 Q2019 Q2010 Q2009 IC2003 Q2013—Q2015 Q2407 Q2223 Q2011 Q2012

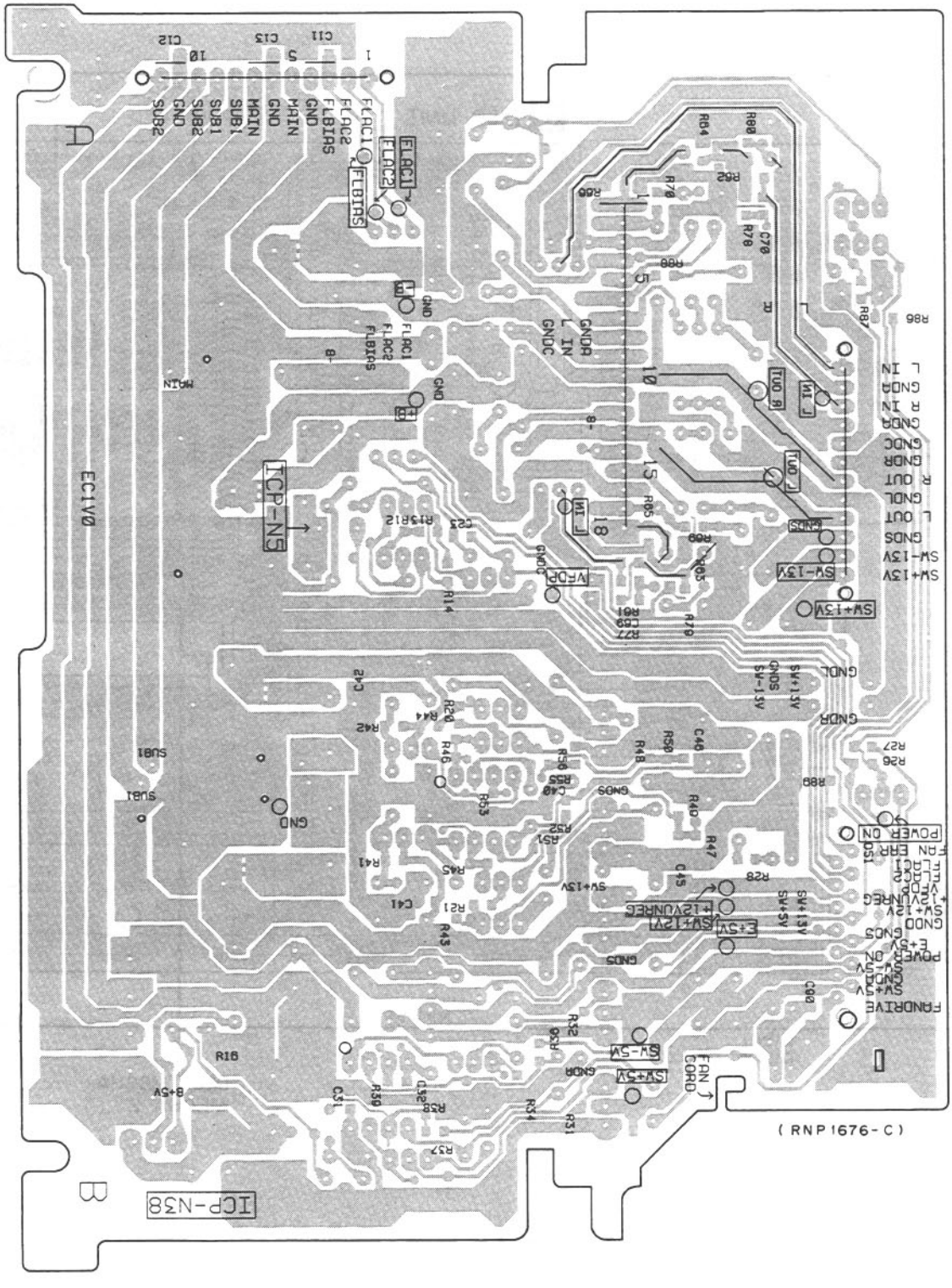
4.7 PAPS UNIT



Q86 Q87 Q26 | Q46 IC61 Q45 Q59 Q32 Q31 | Q13 IC53 IC26 Q11 Q12 IC14 Q48 Q44 IC31 IC12 Q43 Q47 Q34 Q33 Q41 Q42 | IC11 Q14

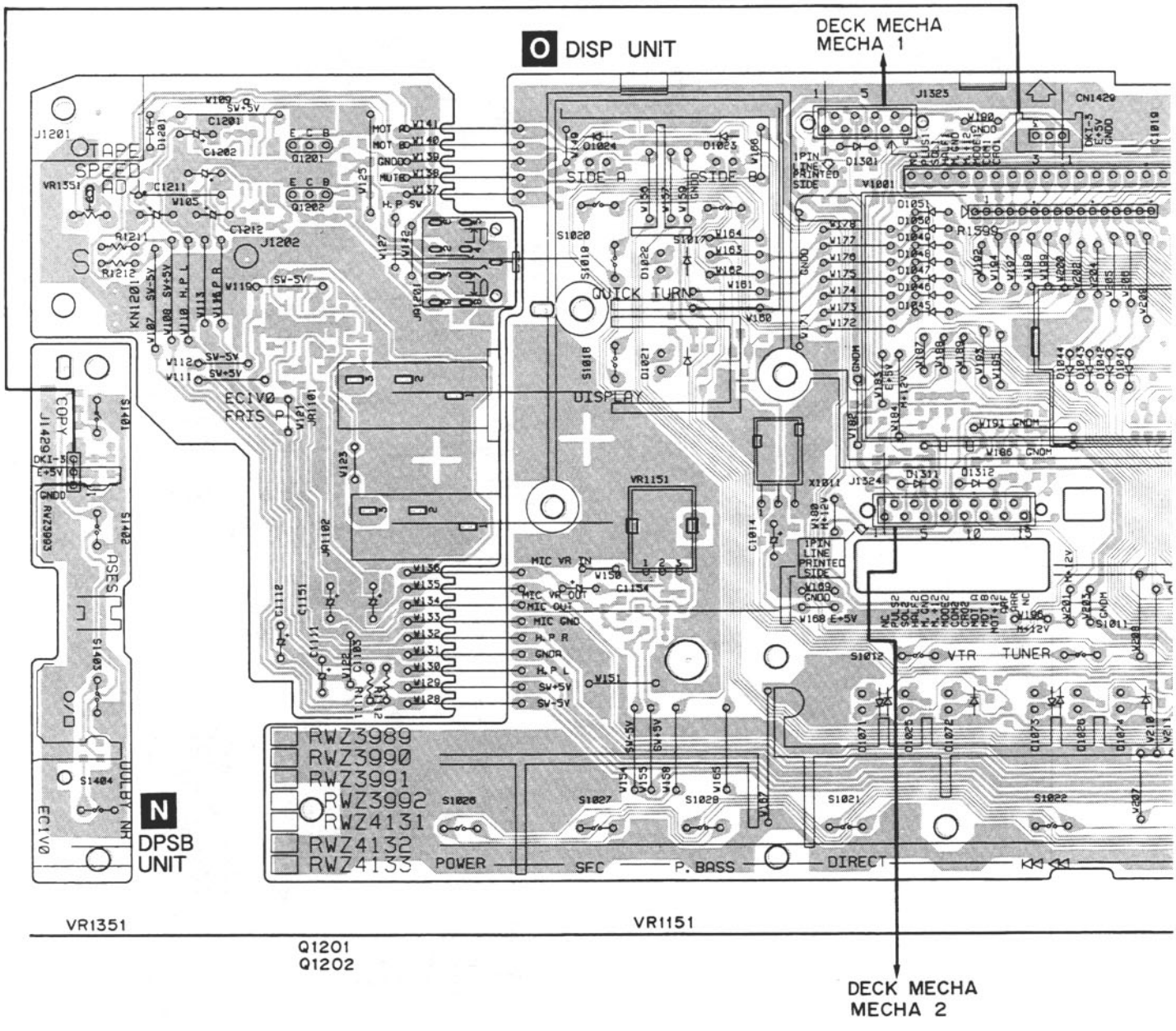
SIDE A

M PAPS UNIT

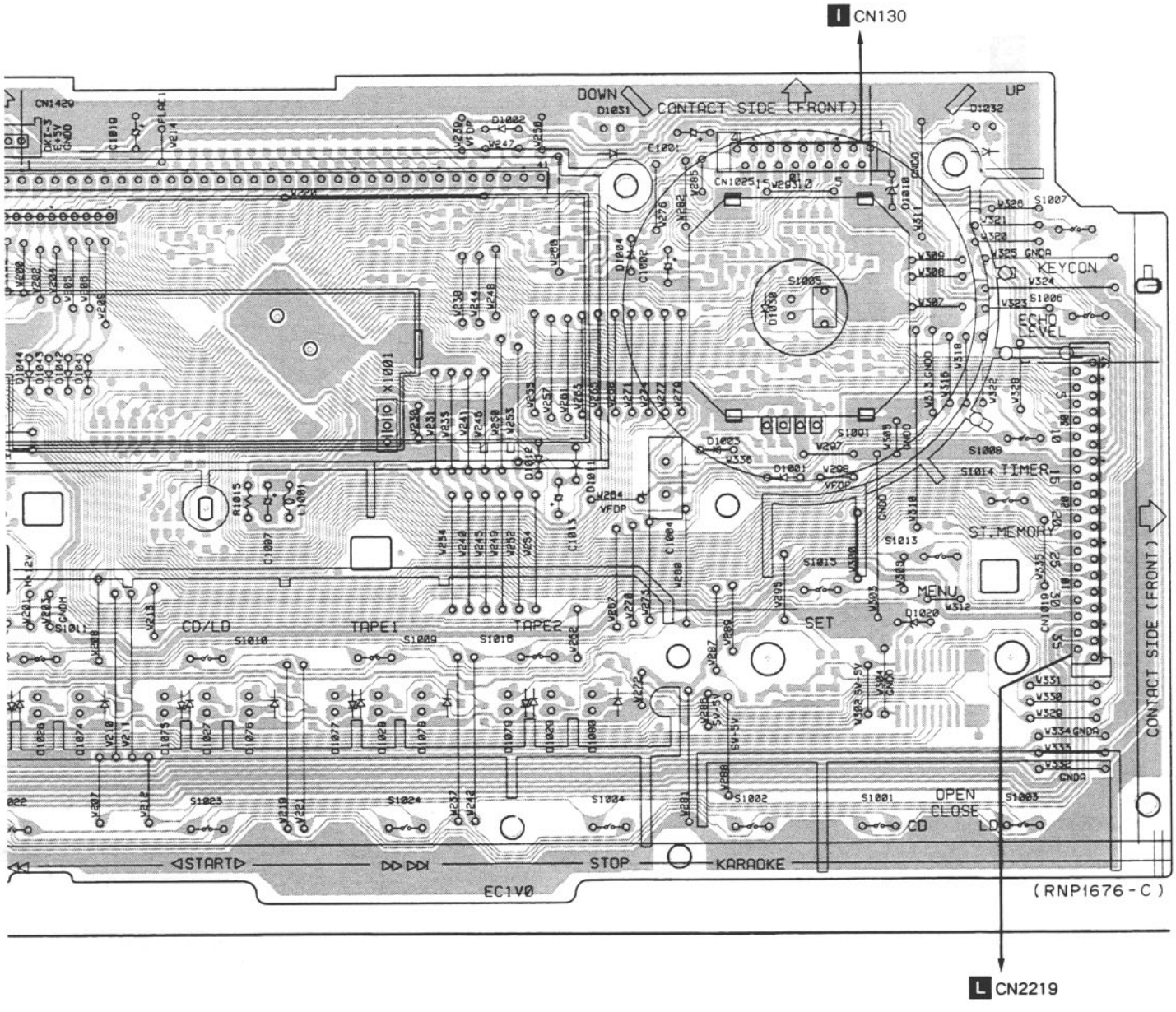


SIDE B

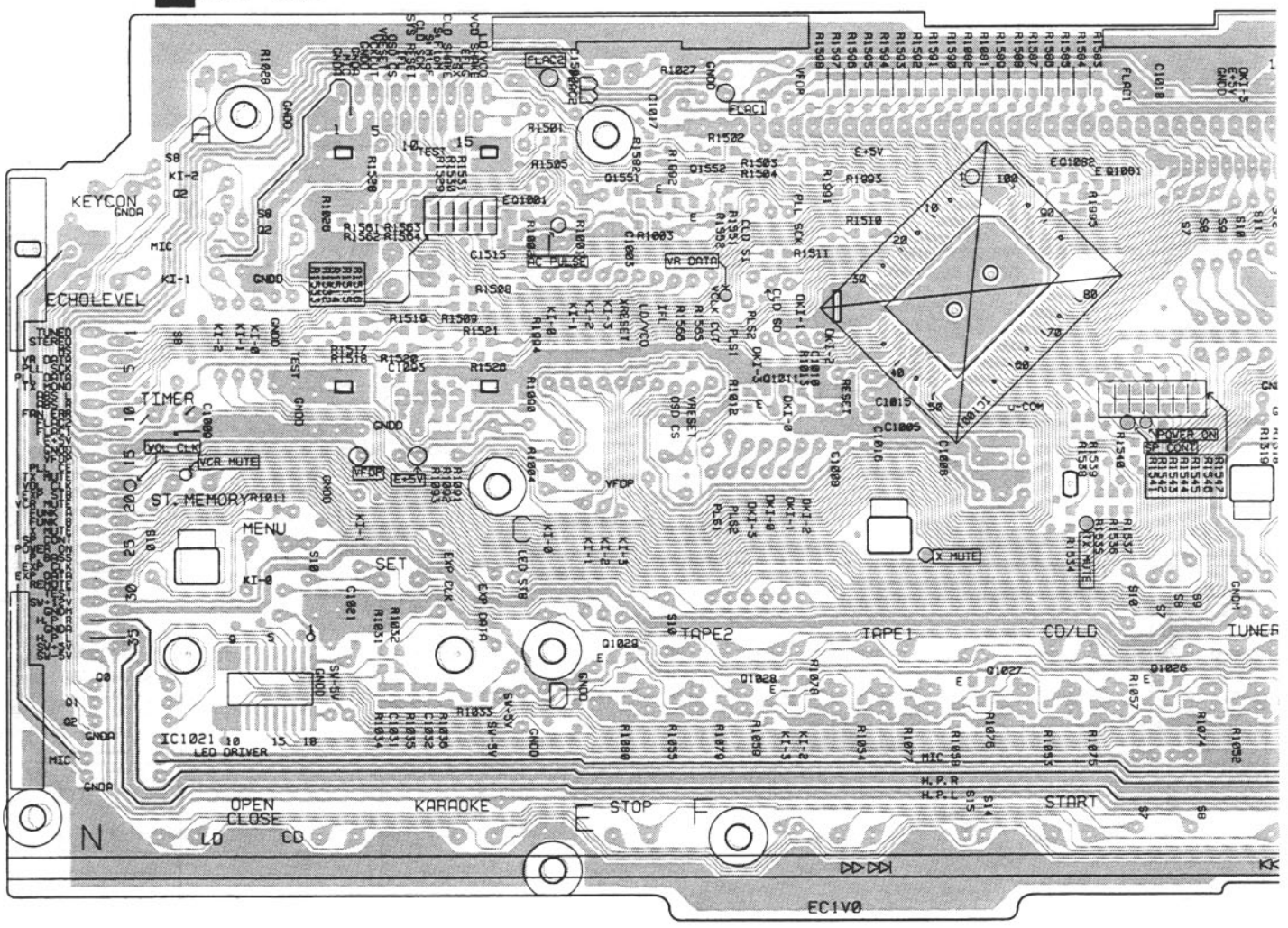
4.8 DPSB AND DISP UNITS



SIDE A


I CN130
DOWN
CONTACT SIDE (FRONT)
UP
KEYCON
ECHO LEVEL
TIMER
ST.MEMORY
MENU
SET
CD/LD
TAPE1
TAPE2
OPEN CLOSE
CD
LD
START
STOP
KARAOKE
EC1V0
(RNP1676-C)
L CN2219

O DISP UNIT

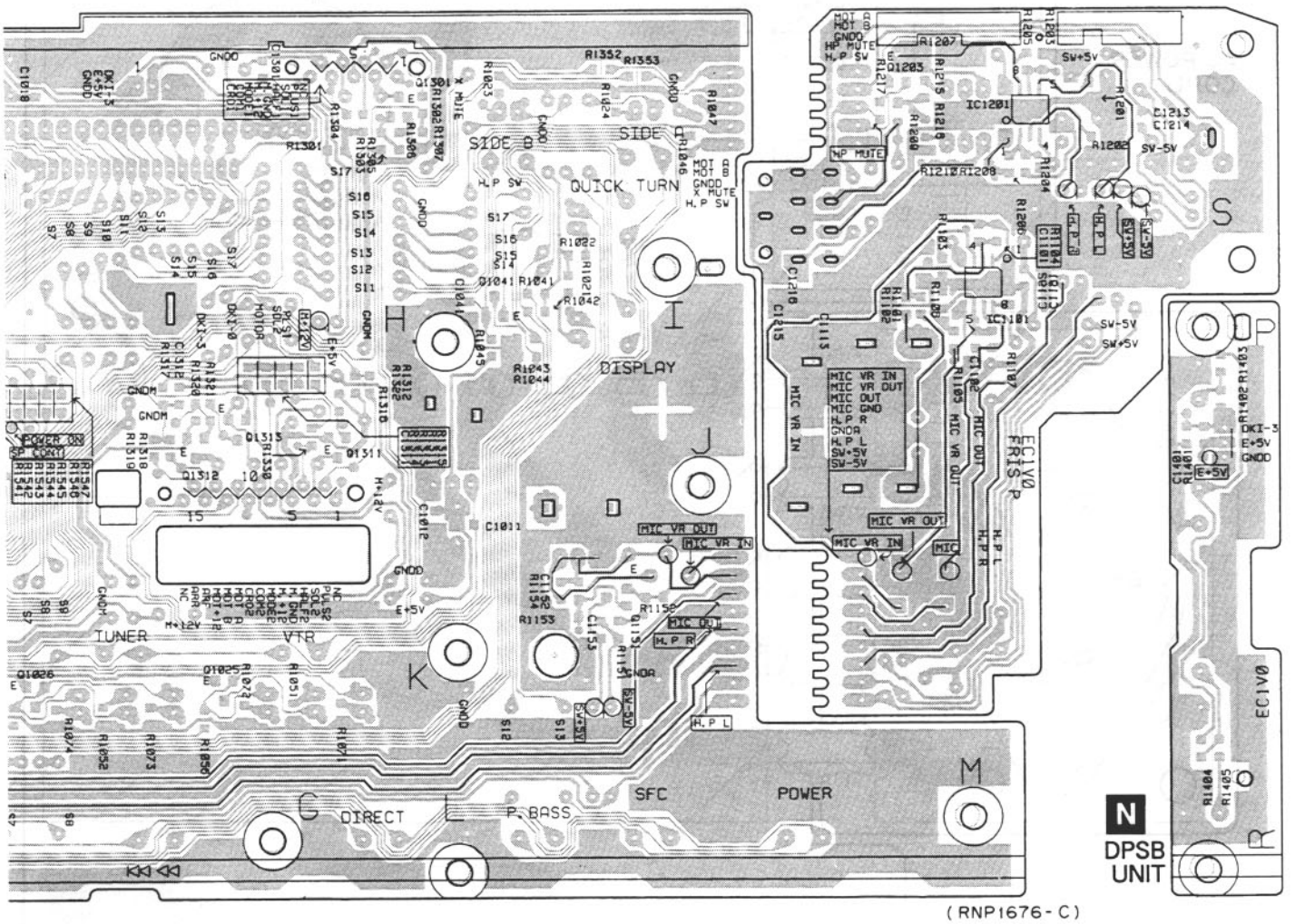


IC 1021

Q 1001 Q1551 Q1552 Q1011
Q1029 Q1028

IC 1001 Q1082 Q1081
Q1027 Q1026

SIDE B

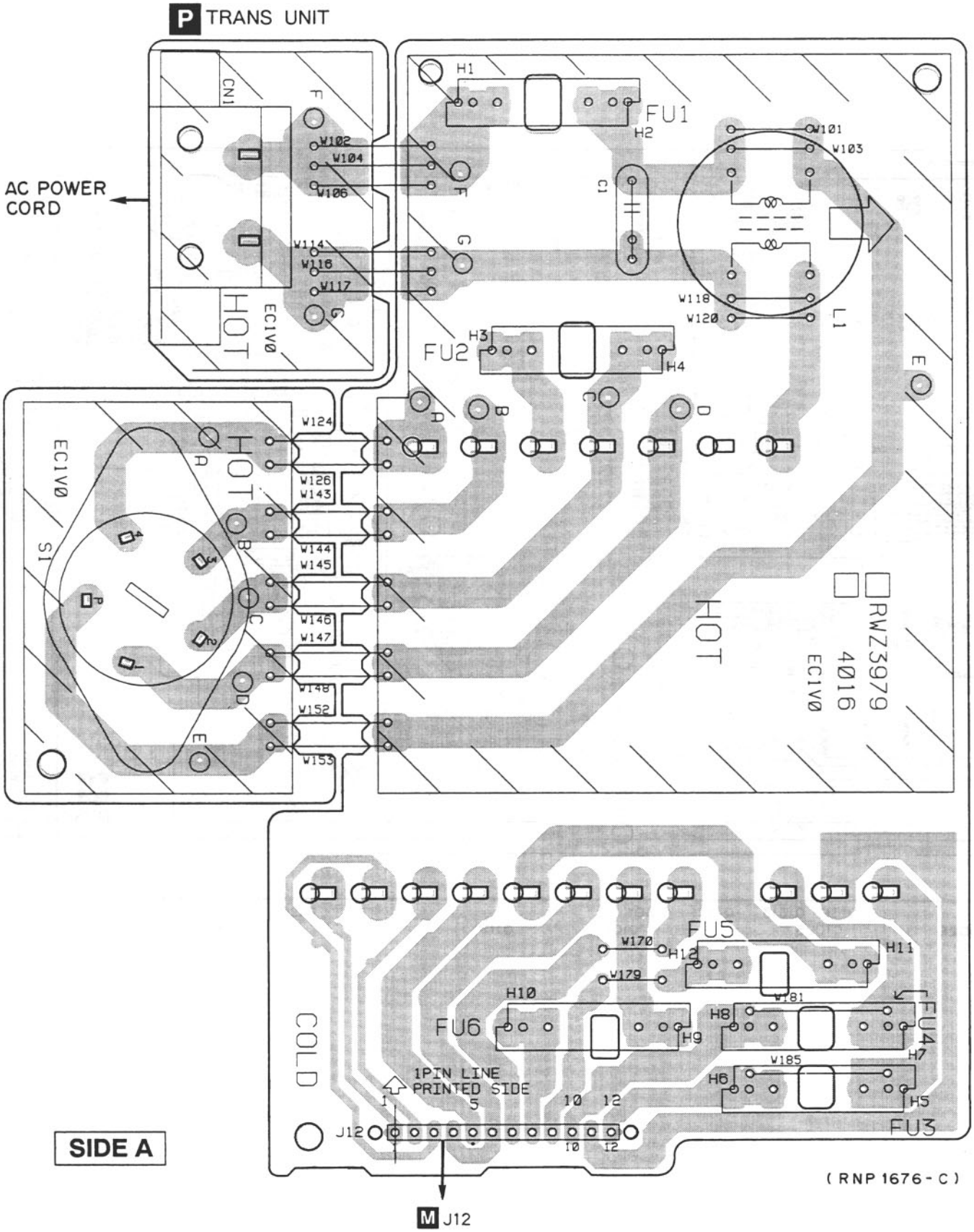


(RNP1676-C)

Q1312 Q1313 Q1311 Q1301 Q1203 IC1201

Q1026 Q1025 Q1041 Q1151 IC1101

4.9 TRANS UNIT



5. PCB 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.*
● *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%).
560Ω → 56 × 10¹ → 561 ····· RD1/4PU 5 6 1 J
47kΩ → 47 × 10³ → 473 ····· RD1/4PU 4 7 3 J
0.5Ω → 0R5 ····· RN2H 0 R 5 K
1Ω → 1R0 ····· RS1P 1 R 0 K
Ex.2 When there are 3 effective digits(such as in high precision metal film resistors).
5.62kΩ → 562 × 10¹ → 5621 ····· RN1/4PC 5 6 2 1 F

Mark	No.	Description	Part No.
LIST OF ASSEMBLIES			
		FM/AM TUNER MODULE(S/DF TYPE)	AXQ7021
		FM/AM TUNER MODULE(SD TYPE)	AXQ3112
NSP		MACB ASSY	VWM1507
NSP		├─PKSB ASSY	VWG1555
NSP		├─FG ASSY	VWG1556
NSP		└─LMSB ASSY	VWG1554
NSP		MOTH UNIT	RWM1949
		├─FTAU UNIT	RWZ3982
		├─CNBM UNIT	RWZ3985
		├─CNBS UNIT	RWZ3987
		├─VIDB UNIT	RWZ4013
		└─CNBV UNIT	RWZ3988
		VCDB ASSY	VWV1514
		AF UNIT	RWK1016
NSP		FRNT UNIT(S/DF TYPE)	RWM1961
NSP		FRNT UNIT(SD TYPE)	RWM1953
		├─PAPS UNIT	RWZ3976
		├─TRANS UNIT	RWZ3979
		├─DPSB UNIT	RWZ3993
		├─DISP UNIT(S/DF TYPE)	RWZ4132
		└─DISP UNIT(SD TYPE)	RWZ3990

Mark	No.	Description	Part No.
A		**FM AM/TUNER MODULE (S/DF TYPE)**	
SEMICONDUCTORS			
		IC6201	LA1836M
		IC6202	LM7001J
		Q6102	2SC2223
		Q6203	2SC2235
		Q6202	2SC2712
		Q6103, Q6214	2SC2714
		Q6201	2SK208
		Q6104, Q6105	2SK302
		Q6101	3SK194
		Q6204	XDA124EK
		Q6217	XDC124EK
		D6101, D6102, D6104	1SV228
COILS AND FILTERS			
		L6106	ATC1008
		L6101	ATC1025
		L6102	ATC1026
		L6103	ATC1027
		L6104	ATC1028
		L6207(10.7MHz)	ATE1013
		F6204	ATF-107
		F6203	ATF-119
		F6202(450KHz)	ATF1155
		L6107(2.2μH)	ATH1043
		L6202, L6208	LCTA2R2J3225
TRANSFORMER			
		T6101	ATE-063
CAPACITORS			
		C6201, C6234, C6236(1μF/16V)	ACG1051
		C6120	CCSCH150J50
		C6229	CCSCH821J50
		C6111	CCSQCH010C50
		C6112, C6122	CCSQCH020C50
		C6118	CCSQCH080D50
		C6113	CCSQCH101J50
		C6116, C6208, C6221, C6222	CCSQCH150J50
		C6117	CCSQCH330J50
		C6119	CCSQUJ060D50

Mark	No.	Description	Part No.
	C6101		CCSQUJ150J50
	C6106		CCSQUJ270J50
	C6107		CCSQUJ330J50
	C6261		CEAS010M50
	C6224, C6231, C6233, C6246, C6262		CEAS100M50
	C6227		CEAS101M10
	C6216, C6217		CEAS330M16
	C6219		CEAS470M10
	C6243-C6245		CEAS470M16
	C6238		CEJA100M16
	C6249, C6250		CEJA4R7M35
	C6215		CFTXA103J50
	C6214		CFTXA224J50
	C6105, C6115, C6125, C6126, C6204		CKSQYB102K50
	C6207		CKSQYB102K50
	C6102, C6103, C6114, C6121, C6124		CKSQYB103K50
	C6210, C6264		CKSQYB103K50
	C6213		CKSQYB223K50
	C6230		CKSQYB333K50
	C6228, C6251, C6252		CKSQYB472K50
	C6209, C6237		CKSQYB473K50
	C6212, C6218		CKSQYF103Z50
	C6220, C6226, C6239, C6242		CKSQYF223Z50
	C6255, C6256		CKSQYF223Z50
	C6235		CKSQYF224Z25
	C6225, C6241		CKSQYF473Z50
	C6123		CKSYB103K50
	C6232		CKSYB333K50
	C6223		CKSYF103Z50
	C6263		CKSYF473Z50

RESISTORS

R6299, R6300		RD1/4PU102J
R6115, R6119, R6123, R6127		RS1/8S000J
R6268-R6271, R6275, R6276, R6278		RS1/8S000J
R6283, R6284, R6293, R6294, R6297		RS1/8S000J
R6303, R9998, R9999		RS1/8S000J
R6243, R6244		RS1/8S101J
R6211		RS1/8S103J
R6237		RS1/8S182J
R6209		RS1/8S221J
R6239		RS1/8S332J
R6112		RS1/8S473J
VR6201(10kΩ)		ACP1056
VR6202		VRTB6VS223
Other Resistors		RS1/10S□□□J

OTHERS

BN6201	4P ANTENNA TERMINAL PLATE	AKA1016
CN6201	14P SOCKET	KP200IA14L
X6203	CRYSTAL RESONATOR(7.200MHz)	ASS1042
X6201	CERAMIC RESONATOR(456KHz)	ASS1066
X6202	CERAMIC RESONATOR(450KHz)	ATF1027
	AM RF TUNING BLOCK	AXX1025

Mark	No.	Description	Part No.

B FM/AM TUNER MODULE (SD TYPE)

SEMICONDUCTORS

	IC6201	LA1836M
	IC6202	LM7001J
	Q6102	2SC2223
	Q6203	2SC2235
	Q6202	2SC2712
	Q6103, Q6214	2SC2714
	Q6201	2SK208
	Q6104	2SK302
	Q6101	3SK194
	Q6204	XDA124EK
	Q6217	XDC124EK
	D6101, D6102	1T33

COILS AND FILTERS

	L6104	ATC1003
	L6101	ATC1020
	L6102	ATC1021
	T6101	ATE-063
	L6207(10.7MHz)	ATE1013
	F6203, F6204	ATF-119
	F6101	ATF-155
	F6202(450kHz)	ATF1155
	L6103(2.2μH)	ATH1043
	L6202, L6203, L6208	LCTA2R2J3225

CAPACITORS

	C6202, C6234, C6236(1μF/16V)	ACG1051
	C6107	CCSCH010C50
	C6229	CCSCH821J50
	C6110	CCSQCH020C50
	C6101	CCSQCH050C50
	C6108, C6203, C6268	CCSQCH101J50
	C6111, C6116, C6208, C6221, C6222	CSQCH150J50
	C6115	CCSQCH330J50
	C6114	CCSQRH080D50
	C6113	CCSQRH180J50
	C6105	CCSQTH150J50
	C6261	CEAS010M50
	C6224, C6246, C6262	CEAS100M50
	C6227	CEAS101M10
	C6216, C6217	CEAS330M16
	C6231, C6233	CEAS3R3M50
	C6219	CEAS470M10
	C6243-C6245	CEAS470M16
	C6238	CEJA100M16
	C6249, C6250	CEJA4R7M35
	C6215	CFTXA103J50
	C6214	CFTXA224J50
	C6103, C6106, C6112, C6204	CKSQYB102K50
	C6102, C6109, C6117, C6210, C6264	CKSQYB103K50
	C6213	CKSQYB223K50
	C6230	CKSQYB333K50
	C6228, C6252	CKSQYB472K50
	C6209, C6237, C6265, C6267	CKSQYB473K50
	C6212, C6218	CKSQYF103Z50
	C6220, C6226, C6239, C6242, C6255	CKSQYF223Z50

Mark	No.	Description	Part No.
	C6235		CKSQYF224Z25
	C6225, C6241, C6266		CKSQYF473Z50
	C6232		CKSYB333K50
	C6251		CKSYB472K50
	C6223		CKSYF103Z50
	C6263		CKSYF473Z50
RESISTORS			
	R6299, R6300		RD1/4PU102J
	R6113, R6116, R6118, R6268-R6271		RS1/8S000J
	R6275, R6276, R6278, R6283, R6284		RS1/8S000J
	R6290, R6293, R6294, R6297		RS1/8S000J
	R6243, R6244		RS1/8S101J
	R6211		RS1/8S103J
	R6237		RS1/8S182J
	R6209		RS1/8S221J
	R6239		RS1/8S332J
	R6101		RS1/8S470J
	VR6201(10kΩ)		ACP1056
	VR6202		VRTB6VS223
	Other Resistors		RS1/10S□□□J
OTHERS			
	BN6201	4P ANTENNA TERMINAL PLATE	AKA1016
	X6203	CRYSTAL RESONATOR(7.200MHz)	ASS1042
	X6201	CERAMIC RESONATOR(456kHz)	ASS1066
	X6202	CERAMIC RESONATOR(450kHz)	ATF1027
	8001	AM RF TUNING BLOCK	AXX1025
	CN6201	14P SOCKET	KP200IA14L

MACB ASSY

OTHERS

	PC board MACB		VNP1479

C PKSB ASSY

SWITCHES

	S104, S105		DSG1017

D FG ASSY

SEMICONDUCTOR

	D101		GP1S24

E LMSB ASSY

SWITCHES

	S101-S103		DSG1017

OTHERS

	CN101	10P FFC CONNECTOR	52044-1045

Mark	No.	Description	Part No.

F FTAU UNIT

SEMICONDUCTORS

IC904		BA10393F
IC903, IC905		BA4560F
IC351		CA0002AM
IC901		LA9420M
IC801		LA9425
IC802		LC78620E
IC202		NJM4558M
IC902		TA8410AK
Q840, Q916		2SA1037K
Q834		2SA854S
Q803, Q841, Q907, Q908, Q915		2SC2412K
Q917		2SC2412K
Q805, Q903, Q904		2SC2712
Q152		2SC3802K
Q901, Q910		DTC124EK
D180, D801, D901, D902, D905		1SS254
D963		1SS254

COILS

L351, L802-L804		LAU181J
L352, L806, L808, L809		LAU220J

CAPACITORS

C809, C811		CCSQCH070D50
C370, C810, C846, C848, C891		CCSQCH101J50
C944		CCSQCH101J50
C161, C258, C259, C353, C812		CCSQCH151J50
C352		CCSQCH180J50
C813, C950		CCSQCH220J50
C162, C935		CCSQCH221J50
C371, C931		CCSQCH270J50
C354		CCSQCH330J50
C351		CCSQCH390J50
C260-C263		CCSQCH470J50
C375, C806		CCSQCH680J50
C374, C814		CCSQCH820J50
C871		CEANP100M16
C972		CEANP220M10
C838		CEANP470M6R3
C904		CEAS010M50
C367		CEAS100M50
C364, C917		CEAS101M10
C968		CEAS220M16
C922, C967, C987		CEAS220M25
C898		CEAS221M6R3
C845, C870, C902, C926		CEAS2R2M50
C270, C271, C363, C369, C801		CEAS470M10
C803, C833, C836, C842, C844		CEAS470M10
C882, C890, C893, C927, C933		CEAS470M10
C974, C975		CEAS470M10
C850		CEAS4R7M50
C368, C943		CEASR47M50
C231, C232, C907		CKSQYB102K50

Mark	No.	Description	Part No.
	C9901		CKSQYB103K50
	C981		CKSQYB104K25
	C919		CKSQYB332K50
	C361, C362		CKSQYB392K50
	C355-C358, C377, C909		CKSQYB472K50
	C160, C196-C198, C215, C256		CKSQYF103Z50
	C373, C376, C802, C804, C807		CKSQYF103Z50
	C819, C822, C831, C832		CKSQYF103Z50
	C834, C835, C843, C872, C889		CKSQYF103Z50
	C892, C897, C918, C928, C929		CKSQYF103Z50
	C932, C937, C938, C941		CKSQYF103Z50
	C961, C962, C964, C971, C982		CKSQYF103Z50
	C151, C365, C366, C840, C841		CKSQYF104Z25
	C847, C901, C910-C912, C915		CKSQYF104Z25
	C976, C983		CKSQYF104Z25
	C837, C921, C930		CKSQYF223Z50
	C359, C360, C372, C905, C951		CKSQYF224Z25
	C808, C815, C924, C925		CKSQYF473Z25
	C942		CQMA103J50
	C913, C920		CQMA104J50
	C908		CQMA154J50
	C903		CQMA222J50
	C973		CQMA224J50
	C934		CQMA681J50
	C923		CQMA683J50
RESISTORS			
	R9035, R9036		RD1/4PU102J
	R8310, R8320		RD1/4PU1R8J
	R211, R212		RD1/4PU470J
	R927		RD1/4PU512J
	R987, R989		RN1/10SE103D
	R986, R990		RN1/10SE333D
	R252, R254, R256, R258		RS1/10S123F
	R251, R253, R255, R257		RS1/10S153F
	R259-R262		RS1/10S473F
	R9034		RS1LMFR33J
	VR604, VR607(47kΩ)		RCP1104
	VR603(4.7kΩ)		RCP1139
	Other Resistors		RS1/10S□□□J
OTHERS			
	J127	4P CABLE HOLDER	51048-0400
	CN106	11P SIDE POST	BS11P-SHF-1AA
	CN126	32P FFC CONNECTOR	HLEM32S-1
	KN801, KN802	EARTH METAL FITTING	VNF1084

G CNBM UNIT

Mark	No.	Description	Part No.
RESISTORS			
	All Resistors		RS1/10S□□□J
OTHERS			
	CN103	23P FFC CONNECTOR	52233-2310
	CN102	10P FFC CONNECTOR	9604S-10C
	CN226	32P FFC CONNECTOR	HLEM32S-1
		PCB BINDER	VEF1040

H CNBS UNIT

Mark	No.	Description	Part No.
OTHERS			
	CN2	KR CONNECTOR	B2B-PH-K-S
		PCB BINDER	VEF1040

I VIDB UNIT

Mark	No.	Description	Part No.
SEMICONDUCTORS			
	IC803		LA6510
	IC400		LA7134M
	IC205		NJM2235D
	IC203		NJM4558M
	IC500		PD0234A
	IC101		PD0245A2
	IC3001		TC9409AF-001
	Q1001, Q102, Q501		2SA1162
	Q411, Q451		2SC2412K
	Q3082, Q475, Q502, Q611-Q613		2SC2712
	Q615, Q616, Q9001		2SC2712
	Q3083		2SC3802K
	Q3031, Q3032		2SD2144S
	Q3054		DTA124EK
	Q103, Q220		DTC124EK
	D3062, D3063		1SS254
	D3051		KV1851
	D3064		MTZJ2.0B
	D110		MTZJ5.1B
COILS AND FILTER			
	L107, L3059, L413		LAU100J
	L410		LAU101J
	L412, L461, L470, L5001		LAU220J
	L411, L571, L590, L591		LAU270J
	L3051, L3053, L3054, L3061, L3062		LAU2R2J
	L592, L594		LAU2R2J
	L420, L421, L580		LAU430J
	L462		LAU560J
	L414		LAU8R2J
	L3081		LFA2R2J
	L460		LFA561J
	F501(14.3MHz)		VTF1055
CAPACITORS			
	C562		CCSQCH050C50
	C436, C617		CCSQCH070D50
	C420, C421, C438, C466, C583		CCSQCH100D50
	C586, C620		CCSQCH100D50
	C3059, C437, C474, C579		CCSQCH120J50
	C416		CCSQCH121J50
	C415, C418, C434, C475, C594		CCSQCH150J50
	C552, C618		CCSQCH180J50
	C3060, C5011		CCSQCH220J50
	C417, C591		CCSQCH221J50
	C419, C433, C467		CCSQCH270J50
	C106, C107, C435, C452, C5020		CCSQCH330J50
	C5022, C553, C563, C580		CCSQCH330J50
	C3112		CCSQCH331J50
	C3058, C425, C476, C598		CCSQCH390J50

Mark	No.	Description	Part No.
	C464, C468, C596		CCSQCH470J50
	C561		CCSQCH680J50
	C460, C462		CCSQCH910J50
	C111, C112		CCSQSL101J50
	C274, C278, C635, C636		CCSQSL331J50
	C450		CEANP470M6R3
	C439, C521		CEAS100M50
	C3053, C3065, C3070, C3075, C3081		CEAS101M10
	C424		CEAS101M10
	C3001, C3002, C3021		CEAS220M16
	C3011, C3012, C3031, C3032		CEAS330M16
	C3035, C3036		CEAS330M16
	C101, C3068, C412, C484, C493		CEAS470M10
	C519, C520, C530, C534, C538		CEAS470M10
	C542, C550, C585, C588, C611		CEAS470M10
	C613, C631, C632		CEAS470M10
	C3051, C3052, C3067		CEAS4R7M50
	C3041, C3066, C490, C691, C692		CKSQYB102K50
	C3005, C3006, C3013, C3014, C3023		CKSQYB103K50
	C3003, C3004, C3022		CKSQYB123K50
	C3040, C3042-C3044, C3054		CKSQYB332K50
	C3007, C3008, C3024		CKSQYB471K50
	C110, C3055, C3056, C3061-C3063		CKSQYF103Z50
	C3069, C3077, C3083, C3084		CKSQYF103Z50
	C3087, C3088, C413, C451, C454		CKSQYF103Z50
	C485, C517, C532, C559, C570		CKSQYF103Z50
	C577, C578, C581, C590, C612		CKSQYF103Z50
	C614, C876, C888		CKSQYF103Z50
	C102, C103, C3064, C422, C423		CKSQYF104Z25
	C453, C457, C458, C492, C494		CKSQYF104Z25
	C531, C533, C539, C546, C551		CKSQYF104Z25
	C574, C582, C587, C589, C592		CKSQYF104Z25
	C873, C874		CKSQYF104Z25
	C465, C875, C877		CKSQYF473Z25
	C479		CQMA154J50
	C483		CQMA683J50
	VC901(20pF)		VCM-008
RESISTORS			
	R420		RD1/4PU470J
	R490		RN1/10SE103D
	VR450(2.2kΩ)		RCP1019
	Other Resistors		RS1/10S□□□J
OTHERS			
	J3133	8P CABLE HOLDER	51048-0800
	CN130	17P FFC CONNECTOR	52044-1745
	J3133	2mm PITCH JUMPER 8P	D20PDY0820E
	CN3030	FFC CONNECTOR	HLEM20R-1
	CN117	11P SOCKET	KP200TA11L
	CN201	12P SOCKET	KP200TA12L
	KN601	EARTH METAL FITTING	VNF1084
	X101	CERAMIC RESONATOR(9.00MHz)	VSS1040
	X550	CRYSTAL RESONATOR (14.31818MHz)	VSS1073
	X3051	CRYSTAL RESONATOR (16.9344MHz)	VSS1081

Mark	No.	Description	Part No.
J	**CNBV UNIT**		
OTHERS			
	CN3130	20P FFC CONNECTOR	52045-2045
	CN3131	B TO B CONNECTOR 20P	BTFN20S-3SB7
K	**VCDB ASSY**		
SEMICONDUCTORS			
	IC101		CXD1852Q
	IC301		CXD1913Q
	IC201		HM514260CLJ-7
	IC401		MC14577CF
	IC501		PD6193A
	IC801		PQ20VZ51
	IC601		TC74HC125AF
	IC602		TC74HCT7007AF
	IC402		TC7S08F
	IC701		TC7W74F
	IC102, IC603		TC7WU04F
	Q103		2PB709A
FILTER			
	F101		VTH1037
CAPACITORS			
	C105, C106		CCSQCH050C50
	C103, C104		CCSQCH100D50
	C604		CCSQCH101J50
	C121, C122		CCSQCH150J50
	C505, C506		CCSQCH200J50
	C310, C311, C902		CCSQCH220J50
	C101, C120, C204, C303, C313		CEAL470M6R3
	C802		CEAL470M6R3
	C102, C107-C114, C130		CKSQYF104Z25
	C201-C203, C250, C301, C302		CKSQYF104Z25
	C304, C305, C316, C318-C321		CKSQYF104Z25
	C401, C402, C501-C504, C507		CKSQYF104Z25
	C530, C601-C603, C701, C801		CKSQYF104Z25
RESISTORS			
	R320		RN1/10SC750D
	R301		RN1/10SE103D
	R802		RN1/10SE122D
	R801		RN1/10SE202D
	R312		RN1/10SE221D
	R302, R303		RN1/10SE332D
	R318, R319		RN1/10SE471D
	R705		RS1/8S000J
	Other Resistors		RS1/10S□□□J
OTHERS			
	CN101	B TO B CONNECTOR 20P	BTFN20P-3RD7
	X501	CERAMIC RESONATOR	CSAC4.00MGCM
	X103	CRYSTAL RESONATOR (27.000MHz)	VSS1095
	X101	CRYSTAL RESONATOR (28.63636MHz)	VSS1096
	X102	CRYSTAL RESONATOR (45.1584MHz)	VSS1097

Mark	No.	Description	Part No.
	L	**AF UNIT**	
		SEMICONDUCTORS	
	IC2002		AN7345K
	IC2201		BU4052BCF
	IC2001		BU4094BC
	IC2003		CXA1101M
⚠	IC2401, IC2402		ICP-N20
	IC2301		M62420FP
	IC2202, IC2203, IC2303		NJM4558D-D
	Q2403, Q2405, Q2406, Q2502, Q2503		2SA933S
⚠	Q2451, Q2505, Q2507		2SB1566
	Q2302, Q2401, Q2402, Q2404, Q2501		2SC1740S
	Q2504		2SC1740S
	Q2001, Q2002		2SC1845
	Q2005		2SC2240
	Q2007-Q2014, Q2019, Q2020, Q2023		2SC2712
	Q2031, Q2032, Q2221, Q2222		2SC2712
	Q2311, Q2312, Q2450		2SC2712
	Q2301, Q2409		2SD1858X
	Q2022		2SD1859X
	Q2201, Q2202, Q2303, Q2304		2SD2144S
⚠	Q2506, Q2508		2SD2395
	Q2003, Q2004		2SK246
	Q2006, Q2017, Q2024, Q2025, Q2034		DTA124EK
	Q2033, Q2305		DTA124ES
	Q2223, Q2407		DTA143EK
	Q2016		DTA144EK
	Q2015		DTC124EK
	Q2417		DTC143ES
⚠	D2501, D2504		10ELS2
	D2001-D2010, D2012, D2071-D2073		1SS254
	D2201, D2221-D2224, D2301, D2401		1SS254
	D2403, D2404, D2409		1SS254
	D2302		MTZJ10B
	D2203, D2204		MTZJ6.2B
	D2406, D2407		S5688G
⚠	D2502, D2503		S5688G
		COILS AND FILTERS	
	L2421, L2422(1 μH)		ATH-133
	L2061, L2062		LFA222J
	L2003		LTA102J
	L2001(1mH)(252KHz)		RTF1013
	L2071, L2072(3.9mH)(252KHz)		RTF1020
⚠	L2502, L2503		RTF1163
	F2001, F2002		RTF1209
⚠	L2501		RTL1001
		RELAY	
	RY2401		ASR7007
		CAPACITORS	
	C2034		CCSQCH471J50
	C2069, C2070		CCSQCH560J50
	C2061, C2062		CCSQSL102J50
	C2411		CEANP4R7M100
	C2019, C2025, C2039, C2040		CEAS100M50
	C2045, C2046, C2053-C2055		CEAS100M50
	C2221-C2224, C2301, C2302, C2400		CEAS100M50
	C2402		CEAS100M50
	C2002, C2013, C2014, C2051		CEAS101M10
	C2451, C2509		CEAS101M35
	C2021, C2036, C2313, C2318, C2338		CEAS220M16
	C2401		CEAS221M6R3
	C2030, C2041, C2042, C2047-C2050		CEAS2R2M50
	C2091-C2094, C2507, C2508		CEAS2R2M50
	C2075, C2076, C2209-C2212, C2217		CEAS330M16
	C2452, C2453		CEAS330M16
	C2023, C2024, C2052, C2065		CEAS470M16
	C2327, C2328		CEAS470M16
	C2303		CEAS471M16
	C2043, C2044		CEASR68M50
	C2317, C2337		CEJA220M16
	C2311, C2312		CFTXA334J50
	C2309, C2310		CFTXA684J50
⚠	C2501, C2503, C2504, C2506		CGCYX223K25
	C2011		CKCYB222K500
	C2005, C2006		CKCYB681K50
	C2499, C2500		CKSQYB102K50
	C2404		CKSQYB103K50
	C2079, C2080		CKSQYB332K50
	C2063, C2064		CKSQYB393K50
	C2009, C2010		CKSQYB471K50
	C2099		CKSQYB472K50
	C2003, C2004		CKSQYB821K50
	C2033, C2081, C2203, C2204		CKSQYF103Z50
	C2207, C2208, C2304, C2331, C2343		CKSQYF103Z50
	C2495, C2497, C2498		CKSQYF103Z50
	C2035		CKSQYF223Z50
	C2073, C2215, C2216		CKSQYF224Z25
	C2001		CKSQYF473Z25
	C2031, C2032		CQMA103J50
⚠	C2502, C2505		CQMA103J50
	C2027, C2037		CQMA103K250
	C2057, C2058		CQMA122J50
	C2026		CQMA223K250
	C2017, C2018		CQMA333J50
	C2028		CQMA473J50
	C2307, C2308, C2341, C2342		CQMA683J50
	C2029		CQMA822K400
	C2015, C2016, C2315		CQMA823J50
		RESISTORS	
⚠	R2503-R2506		RD1/2VM221J
	R2421, R2422		RD1/4PMFL100J
	R2006, R2029, R2035, R2036		RD1/4PU102J
	R2045, R2046, R2202, R2310		RD1/4PU102J
	R2004, R2022, R2342, R2397, R2410		RD1/4PU103J
	R2094, R2298, R2299, R2307		RD1/4PU104J
	R2095, R2096		RD1/4PU105J
	R2025		RD1/4PU110J
	R2017		RD1/4PU221J
	R2204, R2205, R2414		RD1/4PU222J

Mark	No.	Description	Part No.
	R2418		RD1/4PU223J
	R2213		RD1/4PU272J
	R2501, R2502		RD1/4PU332J
	R2211		RD1/4PU432J
	R2398		RD1/4PU472J
	R2072		RD1/4PU561J
	R2073		RD1/4PU680J
	R2405, R2408		RD1/4PU822J
⚠	R2507-R2510		RFA1/4PL470J
	R2023		RS2LMF390J
	R2423, R2424		RS2LMFR22J
	VR2003, VR2004 (4.7kΩ)		PCP1028
	VR2019 (10kΩ)		PCP1029
	VR2011-VR2014 (22kΩ)		PCP1030
	VR2001 (100kΩ)		PCP1032
	Other Resistors		RS1/10S□□□J

OTHERS

	CN2219	37P FFC CONNECTOR	52045-3745
	JA2201	4P PIN JACK	AKB7044
	JA2401	4P SPEAKER TERMINAL	AKE1026
	CN2020	3P TOP POST	B3B-EH
	CN2021	5P TOP POST	B5B-EH
	CN2222	14P PLUG	KM200IA14
	CN2517	11P PLUG	KM200TA11
	CN2518	12P PLUG	KM200TA12
	CN2213	14P JUMPER CONNECTOR	KPE14
⚠	FU2501, FU2502	FUSE (150°C/2A)	REK1074
	JA2202	1P PIN JACK	RKB1038
	JA2402	2P PIN JACK	VKB1060
	KN2201, KN2202	EARTH METAL FITTING	VNF1084

M PAPS UNIT

SEMICONDUCTORS

⚠	IC12		ICP-N15
⚠	IC11		ICP-N38
⚠	IC14		ICP-N5
⚠	IC31, IC53		NJM4558D-D
⚠	IC26		NJM78M56FA
⚠	IC61		STK4172-2GP
⚠	Q34		2SA933S
	Q42		2SA933S
⚠	Q44		2SA933S
	Q86		2SA933S
⚠	Q47		2SB1237X
⚠	Q13		2SB1238X
⚠	Q31, Q46		2SB1566
	Q11, Q12		2SC1740S
⚠	Q33, Q43		2SC1740S
⚠	Q48		2SD1858X
⚠	Q32, Q41, Q45, Q59		2SD2395
	Q26, Q87		DTC124ES
	D51, D89		1SS254
⚠	D11		D2SBA20 (B)
⚠	D12, D13		D3SBA20 (B)
⚠	D41, D42		MTZJ10B
⚠	D17		MTZJ30D
⚠	D16		MTZJ6.2B
⚠	D14		S5688G
	TH89	THERMISTOR	REX1006

CAPACITORS

	C85		CEANP220M50
	C84		CEANP470M50
	C28, C33, C34, C81-C83		CEAS100M50
	C86		CEAS100M50
	C67, C68		CEAS101M25
	C63, C64		CEAS220M16
	C21		CEAS221M50
⚠	C15		CEAS222M16
	C26		CEAS470M10
	C65, C66		CEAS470M16
	C49, C50		CEAS470M25
⚠	C17		CEAS472M25
	C27		CEAS4R7M50
⚠	C16		CEAS682M25
	C51		CFTXA105J50
	C87-C89		CKCYF473Z50
	C11		CKSQYB102K50
	C12, C13, C31, C32		CKSQYF103Z50
⚠	C18, C19 (4700μF/50V)		RCH1142
⚠	C14 (6800μF/16V)		VCH1060

RESISTORS

	R71-R74		RD1/4PM332J
⚠	R75		RD1/4PMF101J
⚠	R84		RD1/4PMF102J
⚠	R76		RD1/4PMF471J
	R59, R90, R91		RD1/4PU100J
	R35		RD1/4PU103J
	R33		RD1/4PU221J
	R82, R83		RD1/4PU222J
	R11, R15		RD1/4PU273J
	R54		RD1/4PU472J
	R67, R68		RD1/4PU563J
⚠	R22, R23		RFA1/4PS100J
⚠	R81		RFA1/4PS101J
⚠	R24, R25		RFA1/4PS151J
	Other Resistors		RS1/10S□□□J

OTHERS

	J12, J14	12P CABLE HOLDER	51052-1200
	J13	14P CABLE HOLDER	51063-1405
	KN11	EARTH METAL FITTING	VNF1084

Mark	No.	Description	Part No.

N DPSB UNIT

SWITCHES

	S1401-S1404	RSG1030

CAPACITOR

	C1401	CKSQYF103Z50

RESISTORS

	All Resistors	RS1/10S□□□J

O DISP UNIT

• CONTRAST OF RWZ4132 AND RWZ3990

RWZ4132 and RWZ3990 have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		RWZ4132	RWZ3990	
	D1050	1SS252	Not used	

SEMICONDUCTORS

	IC1021	BU2092F
	IC1101	NJM2068M
	IC1201	NJM4558M
	IC1001	PDG182A
	Q1312	2SB1197K
	Q1001, Q1081, Q1082	2SC2712
	Q1301, Q1311	2SD1781K
	Q1201, Q1202	2SD2144S
	Q1041, Q1203	DTA143EK
	Q1313, Q1551, Q1552	DTC124EK
	Q1011, Q1025-Q1029	DTC143EK
	D1041-D1047, D1049-D1051	1SS252
	D1002, D1004, D1011, D1201, D1301	1SS254
	D1311, D1312	1SS254
	D1025-D1032	BR3062X
	D1023, D1024	MAY3062X
	D1022, D1071-D1080	MPG3062X
	D1012, D1020	MTZJ6.2B
	D1001	S5688G

COIL

	L1001	LAU100J

SWITCHES

	S1091	RSC1001
	S1001-S1004, S1006-S1024	RSG1034
	S1026-S1028	RSG1034
	S1005	RSG1043

CAPACITORS

	C1004	ACH7013
	C1101	CCSQCH181J50
	C1003, C1011, C1031, C1032, C1515	CCSQSL101J50
	C1013, C1201, C1202	CEAS100M50
	C1007	CEAS101M10
	C1103, C1151	CEAS220M16
	C1014	CEAS221M10
	C1111, C1112, C1211, C1212	CEAS470M10
	C1154	CEAS4R7M50
	C1001, C1002	CEJA010M50
	C1019	CEJA100M50
	C1017, C1018, C1580	CKSQYB102K50
	C1215	CKSQYB103K50
	C1102	CKSQYB122K50
	C1006, C1008, C1010, C1015, C1016	CKSQYF103Z50
	C1093, C1301, C1311, C1312	CKSQYF103Z50
	C1021	CKSQYF104Z50
	C1005, C1012	CKSQYF473Z25
	C1113, C1216	CKSQYF473Z50

RESISTORS

	R1599	RA15T473J
	R1111, R1112	RD1/4PU220J
	R1015	RD1/4PU221J
	R1211, R1212	RD1/4PU470J
	VR1151(10kΩ)	ACS7007
	VR1351(3.3kΩ)	PCP1049
	Other Resistors	RS1/10S□□□J

OTHERS

	J1323	9P CABLE HOLDER	51063-0905
	J1324	15P CABLE HOLDER	51063-1505
	CN1025	17P FFC CONNECTOR	52044-1745
	CN1019	37P FFC CONNECTOR	52044-3745
	J1201	EARTH LEAD WIRE	DE005WE0
	X1011	REMOTE RECEIVER UNIT	GP1U28X
	V1001	FL TUBE	RAW1150
		SPACER	VEC1599
	JA1101, JA1102	MIC JACK	VKN1143
	JA1201	STEREO MINI JACK	VKN1145
		FL HOLDER	VNF1085
	X1001	CERAMIC RESONATOR(10MHz)	EFOEC1005T4

P TRANS UNIT

SWITCH

⚠	S1		RSB1023

CAPACITOR

⚠	C1(0.01μF/250V)		ACG7010

OTHERS

	J12	12P CABLE HOLDER	51052-1200
⚠	CN1	AC INLET	AKP7005
	H1-H12	FUSE CLIP	AKR1004

6. ADJUSTMENTS

6.1 TUNER SECTION

■ FM TUNER SECTION

- Set the mode selector to FM BAND.
- Connect the wiring as shown in Fig. 1

• For AXQ7021 (S/DF type)

Step No.	Adjustment Title	FM SG (1kHz, ± 75kHz dev.)		Reception Frequency Display	Adjustment Location	Specifications
		Frequency (MHz)	Level (dBμV)			
1	Center Adjustment	83 Non modulation	80 or more	83MHz	L6207	Adjust so that the DC voltage between IC6201 - Pin 4 and Pin 28 (or ⊕ leads of C6224 and C6261) becomes 0V ± 50mV.
2	Front End Sensitivity	83	10 – 30	83MHz	L6104 L6102 T6101	Adjust so that the DC voltage between the IC6201 - Pin 12 and GND (or ⊕ leads of C6238 and GND) becomes at maximum level.
3	TUNED IND. Lighting Level	83	15 ± 2	83MHz	VR6201	Adjust so that the indicator of TUNED IND. starts to light up.

Notes :
- Before adjusting, make sure there is no gap between L6101 and L6102 and between L6103 and L6104. If there is a gap between them, bring them into contact with each other first, and then make adjustments.
- Make indicator adjustments in order of AM → FM.

• For AXQ3112 (SD type)

Step No.	Adjustment Title	FM SG (1kHz, ± 75kHz dev.)		Reception Frequency Display	Adjustment Location	Specifications
		Frequency (MHz)	Level (dBμV)			
1	Center Adjustment	98 Non modulation	80 or more	98MHz	L6207	Adjust so that the DC voltage between IC6201 - Pin 4 and Pin 28 (or ⊕ leads of C6224 and C6261) becomes 0V ± 50mV.
2	Front End Sensitivity	98	10 – 30	98MHz	L6102 T6101	Adjust so that the DC voltage between the IC6201 - Pin 12 and GND (or ⊕ leads of C6238 and GND) becomes at maximum level.
3	Stereo Distortion	98	80	98MHz	T6101	Minimize the distortion with 1/8 rotation of the care.
4	TUNED IND. Lighting Level	98	15 ± 2	98MHz	VR6201	Adjust so that the indicator of TUNED IND. starts to light up.

Notes :
- Before adjusting, make sure there is no gap between L6101 and L6102. If there is a gap between them, bring them into contact with each other first, and then make adjustments.
- Make indicator adjustments in order of AM → FM.

■ AM TUNER SECTION

- Set the mode selector to AM BAND.
- Connect the wiring as shown in Fig. 1

Step No.	Adjustment Title	AM SG (400Hz, 30% Mod.)		Reception Frequency Display	Adjustment Location	Specifications
		Frequency (kHz)	Level (dBμV/m)			
1	TUNED IND. Lighting Level	999	47 ± 2	* 1 999kHz	VR6202	Adjust so that the indicator of TUNED IND. starts to light up.

* 1 : For the area using 10kHz step, frequencies should be 1000kHz.

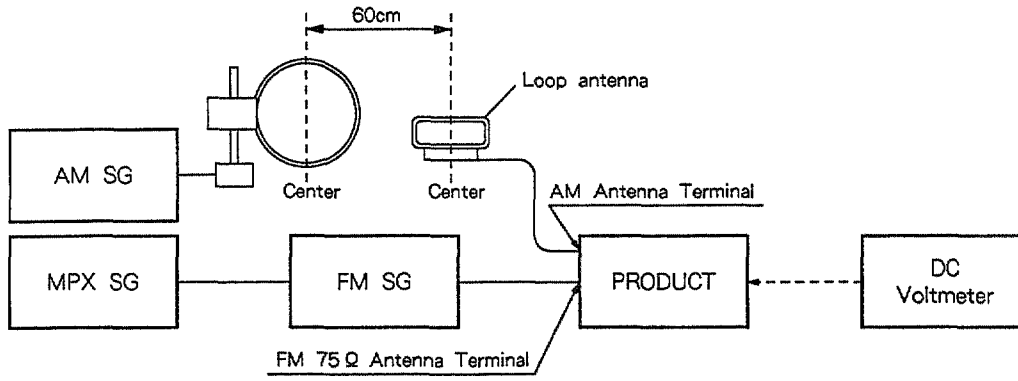
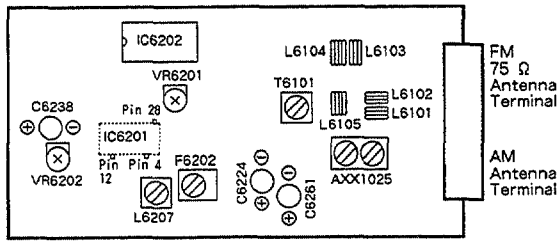


Fig. 1 AM and FM Adjustment Wiring Diagram

FM/AM TUNER MODULE (AXQ7021)



FM/AM TUNER MODULE (AXQ3112)

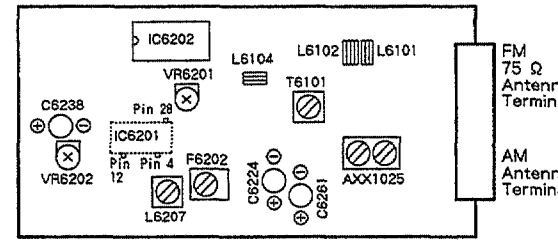


Fig. 2 Adjustment Point

6.2 CASSETTE DECK SECTION

- Adjustment point and test point are shown Fig. 4 and 6.

■ Mechanical Adjustment

- Set the TAPE function.
- Test tape : STD-301 (3kHz, 30min) or NCT-111

(1) Tape Speed Adjustment

No.	Mode	Test Tape	Adjustment point	Measurement point	Adjustment procedure	Remarks
1	DECK II PLAY	STD-301 or NCT-111 (Playback : 3kHz)	DISP unit VR1351	TAPE TEST POINT(Rch)	Press the PLAY SW and adjust so that the reading becomes 3000Hz ± 10Hz.	

■ Electrical Adjustment

Check the following before starting

(1) Confirm that the tape speed adjustment has been completed.
(2) Clean the heads and demagnetize them using a head eraser.
(3) Set the measurement level to 0dBV=1Vrms.
(4) Use the specified tape for adjustment. Use the labeled (A) side of the test tape.
STD-331E : For playback adjustment
STD-631 or STD-632 : Normal blank tape
(5) Provide yourself with the following measuring devides :
- AC millivoltmeter
- Low-frequency oscillator
- Attenuator
- Oscilloscope

(6) Adjust both right and left channels unless otherwise specified.
(7) Turn the DOLBY NR switch off unless otherwise specified.
(8) Warm up the unit for several minutes before adjustment. In particular, be sure to warm up the unit in the REC/PLAY mode for 3 to 5 minutes before starting recording/playback frequency characteristics adjustment.
(9) Always follow the indicated adjustment order.
Otherwise, a complete adjustment may not be achieved.

Playback Adjustment (DECK I and DECK II)
(1) Head Azimuth Adjustment
(2) Playback Level Adjustment

Recording Adjustment (DECK II)
(1) Recording Bias Adjustment
(2) Recording Level Adjustment

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

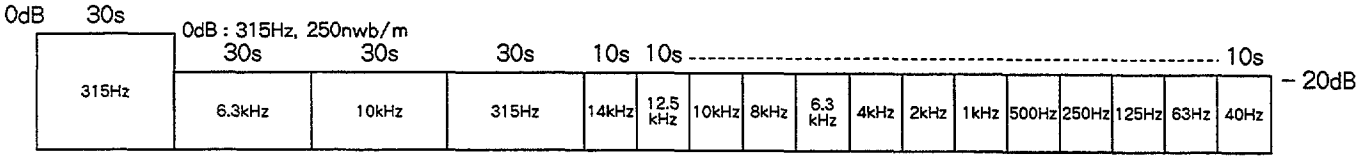


Fig. 3 STD-331E Test Tape

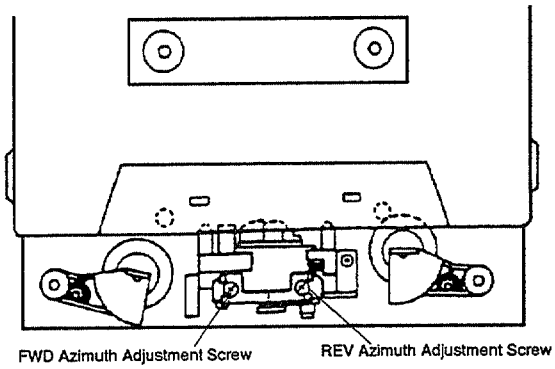


Fig. 4 Head Azimuth Adjustment

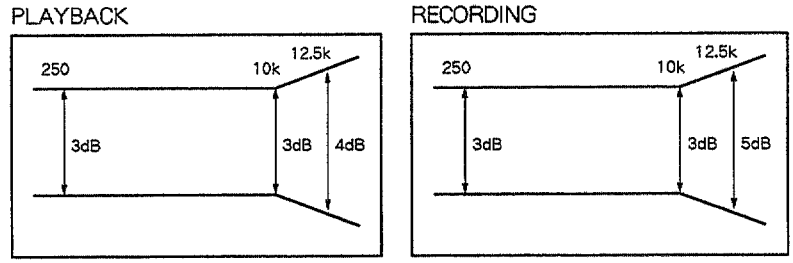


Fig. 5 Frequency Characteristics

● Playback Adjustment

(1) Head Azimuth Adjustment

● Do not switch between forward and reverse operation with the screwdriver inserted.

No.	Tape Selector	Mode	Input Signal/ Test Tape	Adjustment Point		Measurement Point	Adjustment Value	Remarks
1	NORMAL	PLAY	STD-331E or NCT-132X test tape (Playback : 10kHz, − 20dB)	Deck I Deck II	Head azimuth adjustment screw (Fig. 4)	TP2 (L, Rch) (AF unit)	Max. playback signal level	After adjustment, apply lock paint to the head azimuth adjustment screw.

(2) Playback Level Adjustment

● Since this adjustment determines playback Dolby NR level, perform it carefully.

No.	Tape Selector	Mode	Input Signal/ Test Tape	Adjustment Point		Measurement Point	Adjustment Value	Remarks
1	NORMAL	PLAY	STD-331E or NCT-112X test tape (Playback : 315Hz, 0dB)	Deck I	VR2013 (Lch) VR2014 (Rch)	TP2 (L, Rch) (AF unit)	− 4.2dBV	
				Deck II	VR2011 (Lch) VR2012 (Rch)			

Note : Please execute playback level adjustment always in order of deck I →deck II.
When deck I has been adjusted, always adjust deck II also.

● Recording Adjustment

(1) Recording Bias Adjustment

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

No.	Tape Selector	Mode	Input Signal/ Test Tape	Adjustment Point		Measurement Point	Adjustment Value	Remarks
1	NORMAL	REC	Input a 315Hz signal to the VIDEO IN terminal and set the input selector to VIDEO.	Deck I	−	TP2 (L, Rch) (AF unit)	− 24.2dBV	
				Deck II	Input signal level			
2	NORMAL	REC→ PLAY	Load the STD-631 or STD-632 test tape and record/playback the 315Hz and 10kHz signals.	Deck I	−	TP2 (Rch) (AF unit)	Repeat adjustment until playback level of the 10kHz signal is within 0 ± 0.5dB from that of the 315Hz signal.	
				Deck II	VR2019 (L, Rch)			
3	NORMAL	REC→ PLAY	Load the STD-631 or STD-632 test tape and record/playback the 315Hz and 10kHz signals.	Deck I	−	TP2 (Lch) (AF unit)	Repeat adjustment until playback level of the 10kHz signal is within 0 ± 2dB from that of the 315Hz signal.	
				Deck II	VR2001 (Lch)			

(2) Recording Level Adjustment

No.	Tape Selector	Mode	Input Signal/ Test Tape	Adjustment Point		Measurement Point	Adjustment Value	Remarks
1	NORMAL	REC	Input a 315Hz signal to the VIDEO IN terminal and set the input selector to VIDEO.	Deck I	Input signal level	TP2 (L, Rch) (AF unit)	– 8.2dBV	
				Deck II				
2	NORMAL	REC→ PLAY	STD-631 or STD-632 test tape and record/playback the 315Hz signal.	Deck I	–	TP2 (L, Rch) (AF unit)	Repeat recording, playback and adjustment until playback level of the 315Hz signal becomes – 8.2dBV.	
				Deck II	VR2003 (Lch) VR2004 (Rch)			

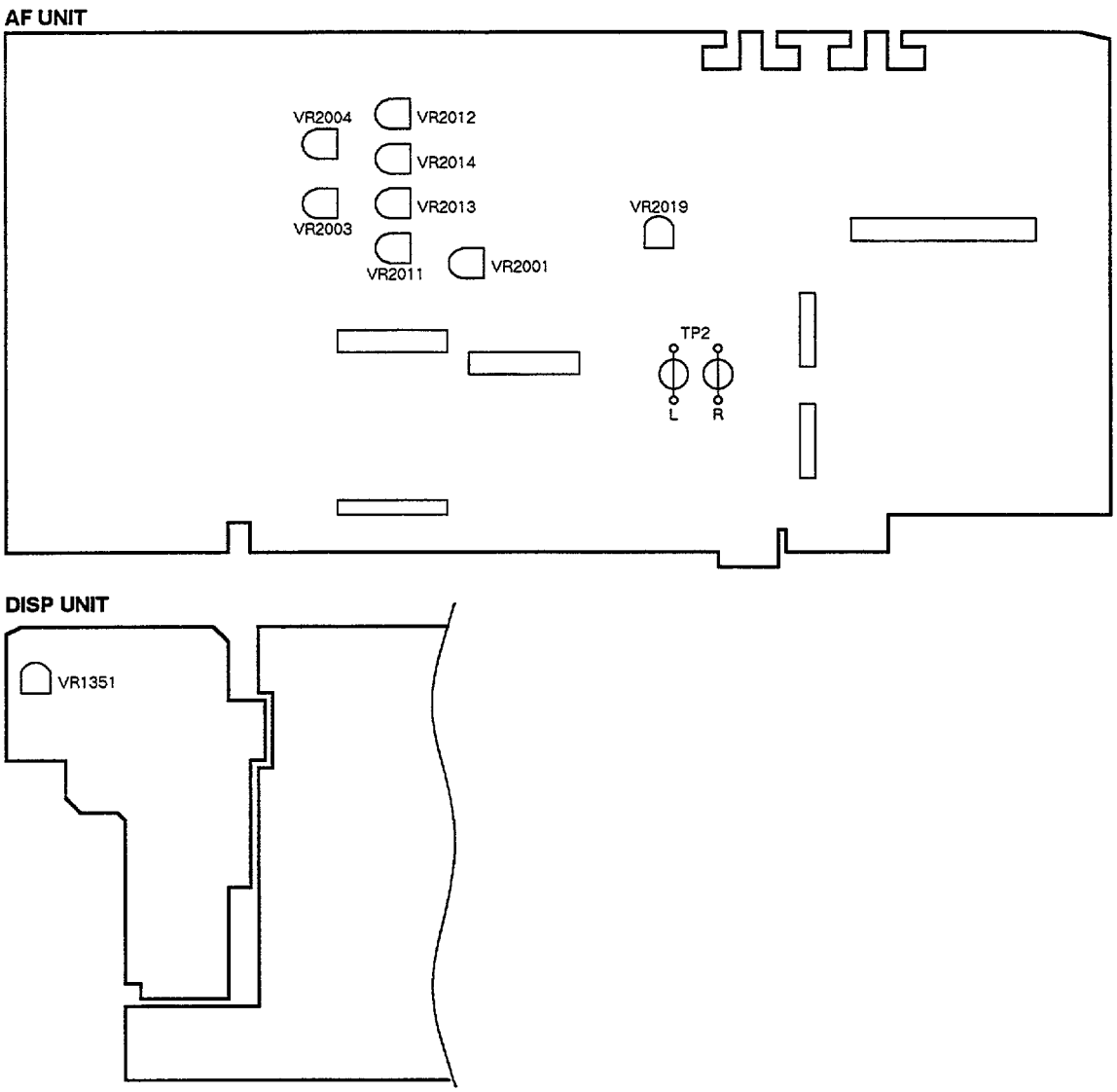
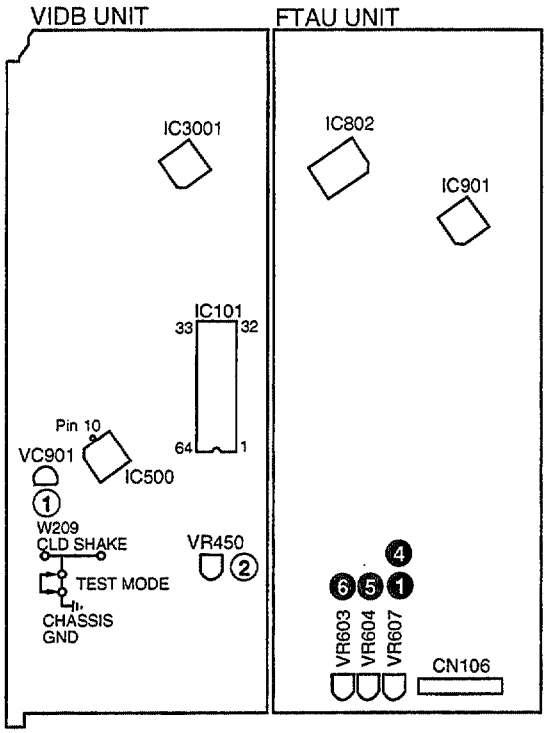


Fig. 6 Adjustment point and Measurement point

6.3 CLD SECTION

(1) ADJUSTMENT ITEMS AND LOCATION (調整項目と調整位置)

■Adjustment Points (PCB Part)



■Adjustment Items

[Mechanical Part]

❶ Tilt Offset Adjustment
(チルトオフセット調整)

❷ Tangential Direction Angle Adjustment
(タンジェンシャル傾き調整)

❸ Spindle Motor Centering Adjustment
(スピンドル芯出し調整)

❹ Crosstalk Check and Fine Tilt Offset Adjustment
(クロストーク確認及び，チルトオフセット微調)

❺ Focus Servo Loop Gain Adjustment
(フォーカスサーボループゲイン調整)

❻ Tracking Servo Loop Gain Adjustment
(トラッキングサーボループゲイン調整)

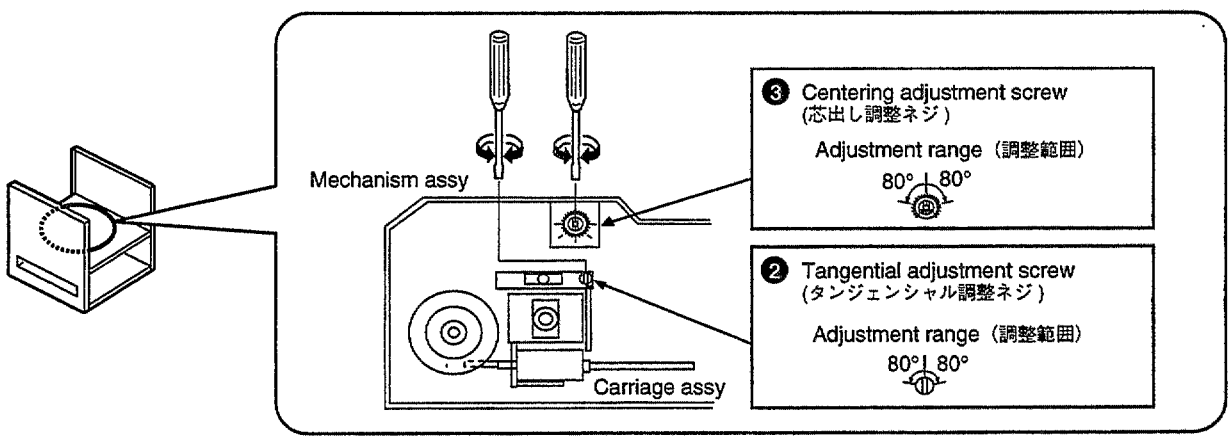
❼ RF Level Check
(RFレベル確認)

[Electrical Part]

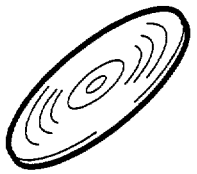
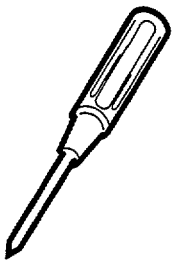
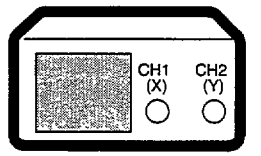
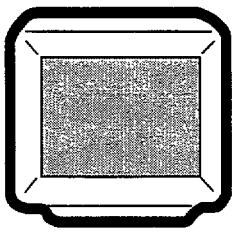
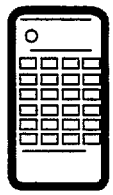
① Master Clock Adjustment
(マスタークロック調整)

② Output Video Level Adjustment
(出力ビデオレベル調整)

■Adjustment Points (Mechanism Part)

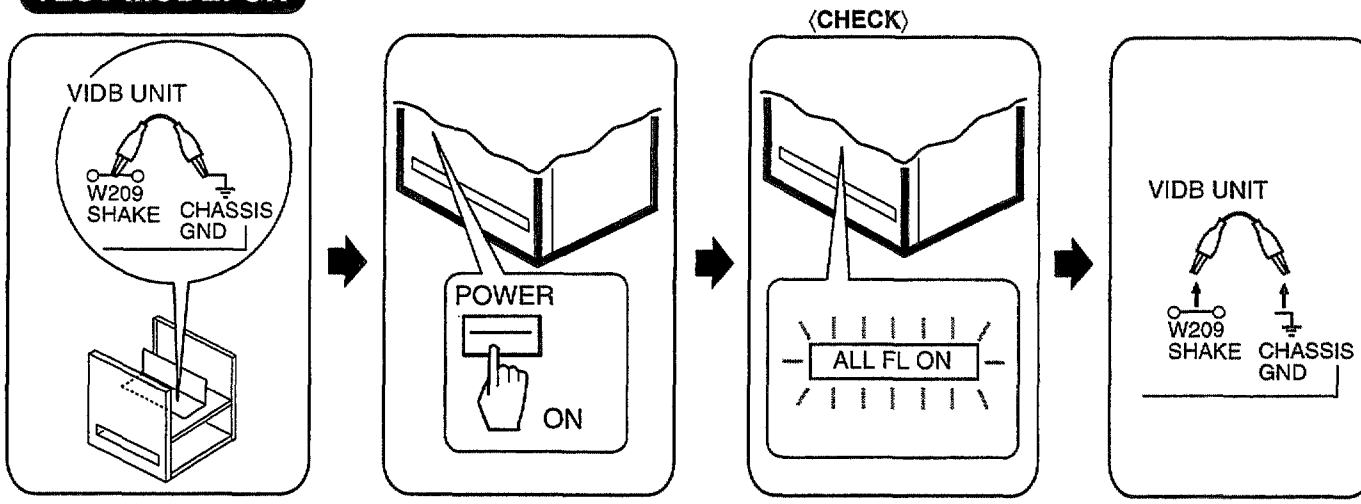


(2) JIGS AND MEASURING INSTRUMENTS (調整に必要な治工具類)

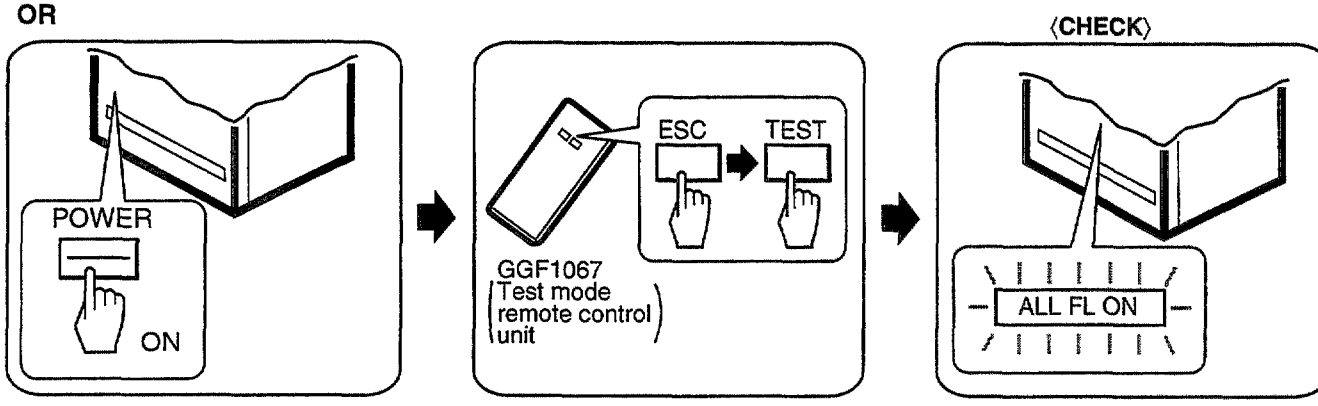
 CD test disc (YEDS-7)	 LD test disc (GGV1012)	 ⊖ Screwdriver (medium)	 ⊖ Screwdriver (small)
 ⊖ Precise screwdriver	 ⊕ Screwdriver (large)	 ⊕ Screwdriver (medium)	 Dual-trace oscilloscope (with delay) Frequency band ≧ 40MHz
 Frequency counter Display digit ≧ 8-digit	 TV monitor	 Test mode remote control unit (GGF1067)	

(3) TEST MODE (テストモード)

TEST MODE: ON

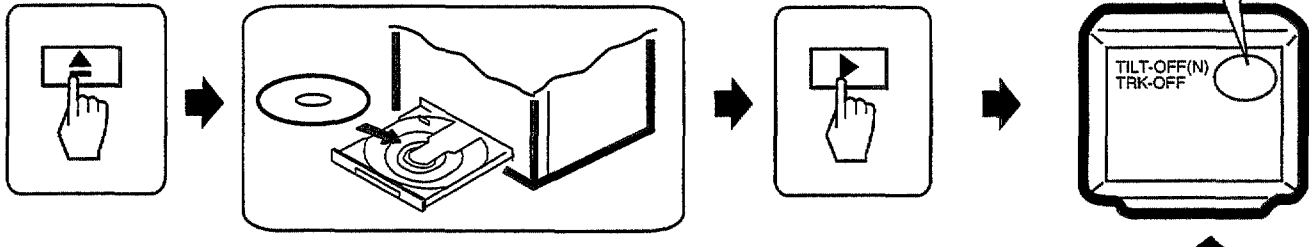


OR

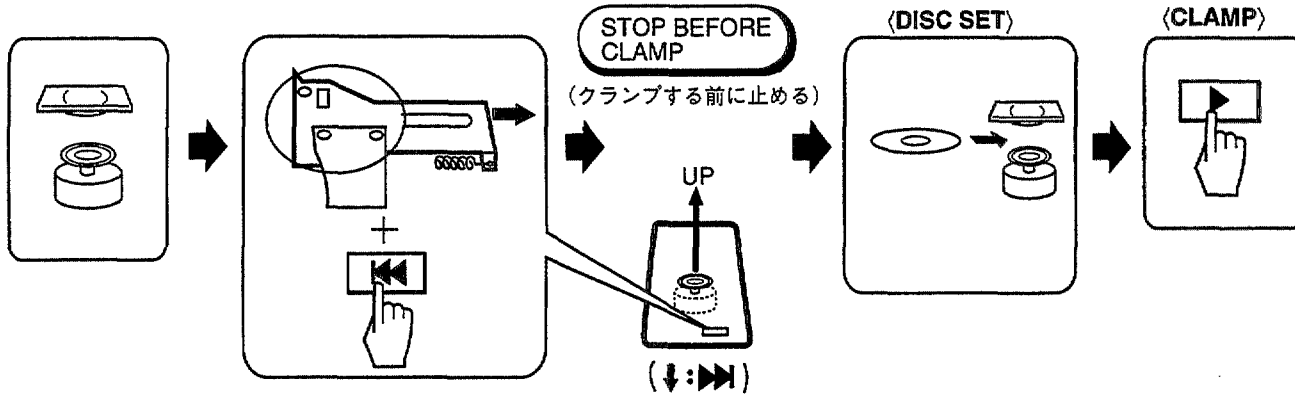


TEST MODE: DISC SET

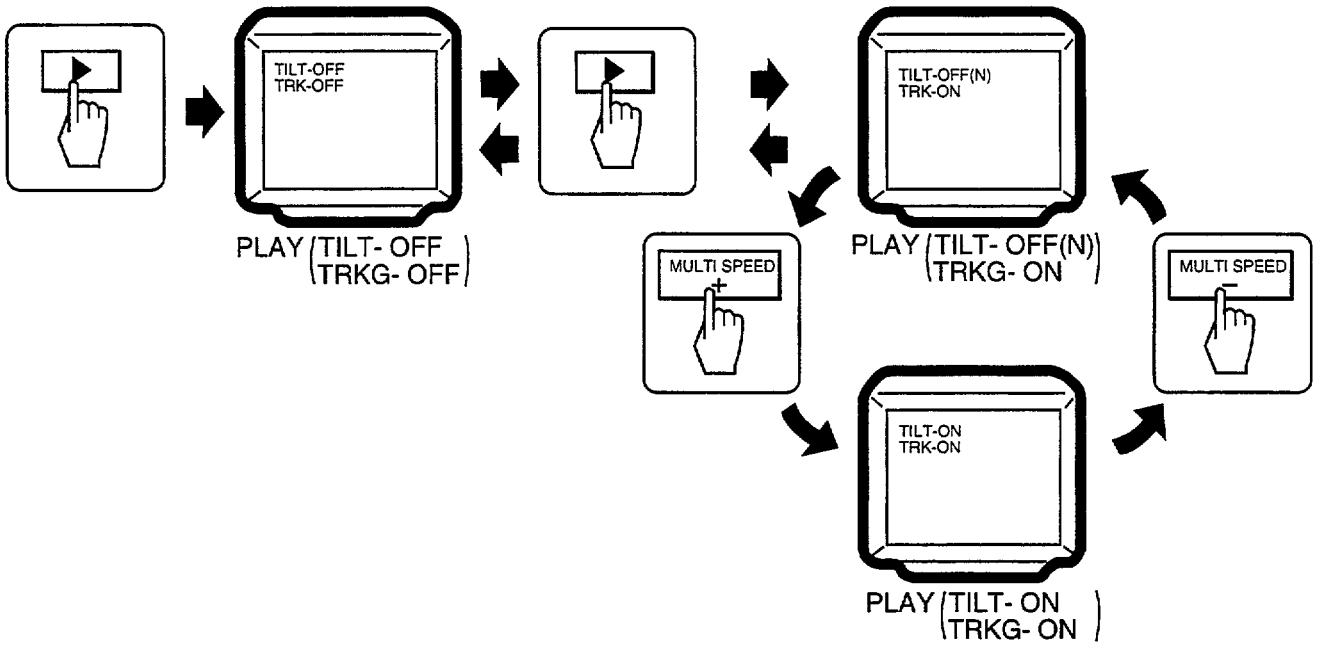
• **With TRAY** (トレー有りの場合)



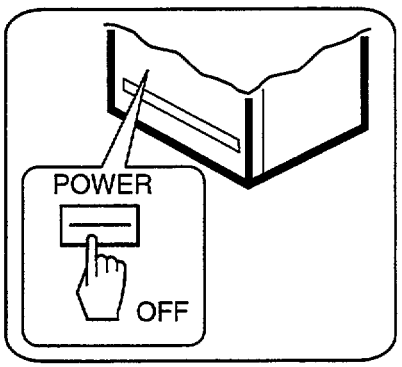
• **No TRAY** (トレー無しの場合)



TEST MODE: PLAY



TEST MODE: OFF



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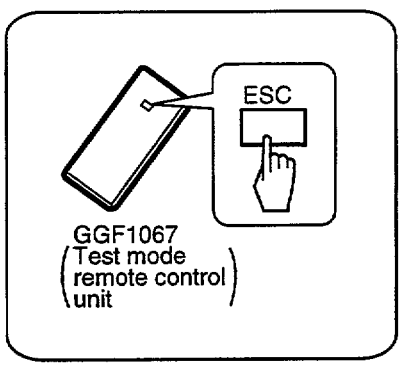


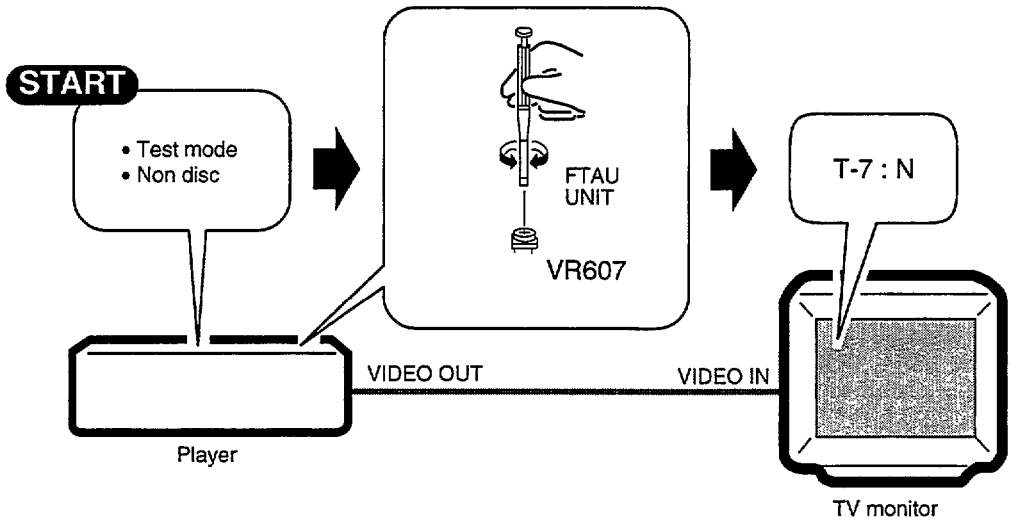
(4) NECESSARY ADJUSTMENT POINTS (必要な調整項目)

When (このような時)	Adjustment Points	
■ EXCHANGE MECHANISM ASSY PARTS (メカASSY部品を交換したとき)		
Exchange pickup (ピックアップを交換したとき)	Mechanical point	❶,❷,❸,❹,❺,❻,❼
	Electric point	———
Exchange spindle motor (スピンドルモータを交換したとき)	Mechanical point	❸
	Electric point	———
■ EXCHANGE PCB ASSY (PCB ASSYを交換したとき)		
Exchange board FTAU UNIT (マザーボードを交換したとき)	Mechanical point	❶,❹,❺,❻
	Electric point	———

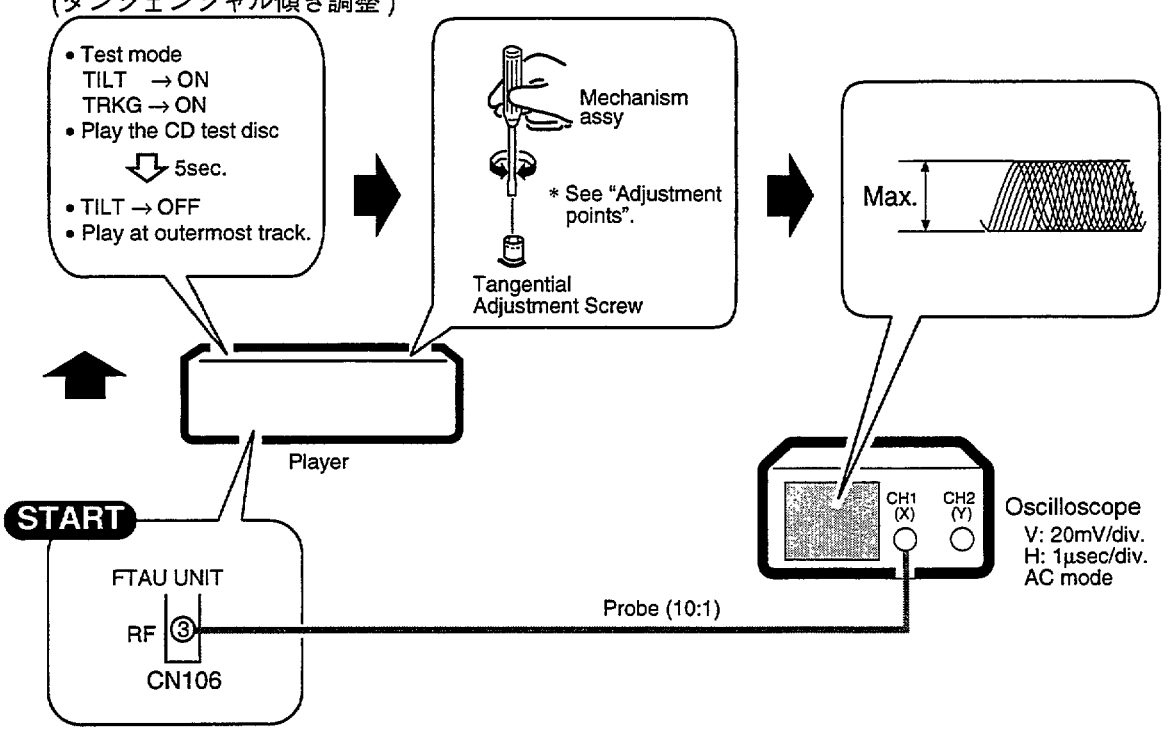
Note : ① and ② are adjusted already. (①,②は調整済)

(5) MECHANICAL ADJUSTMENT (機構系の調整)

❶ Tilt Offset Adjustment
(チルトオフセット調整)

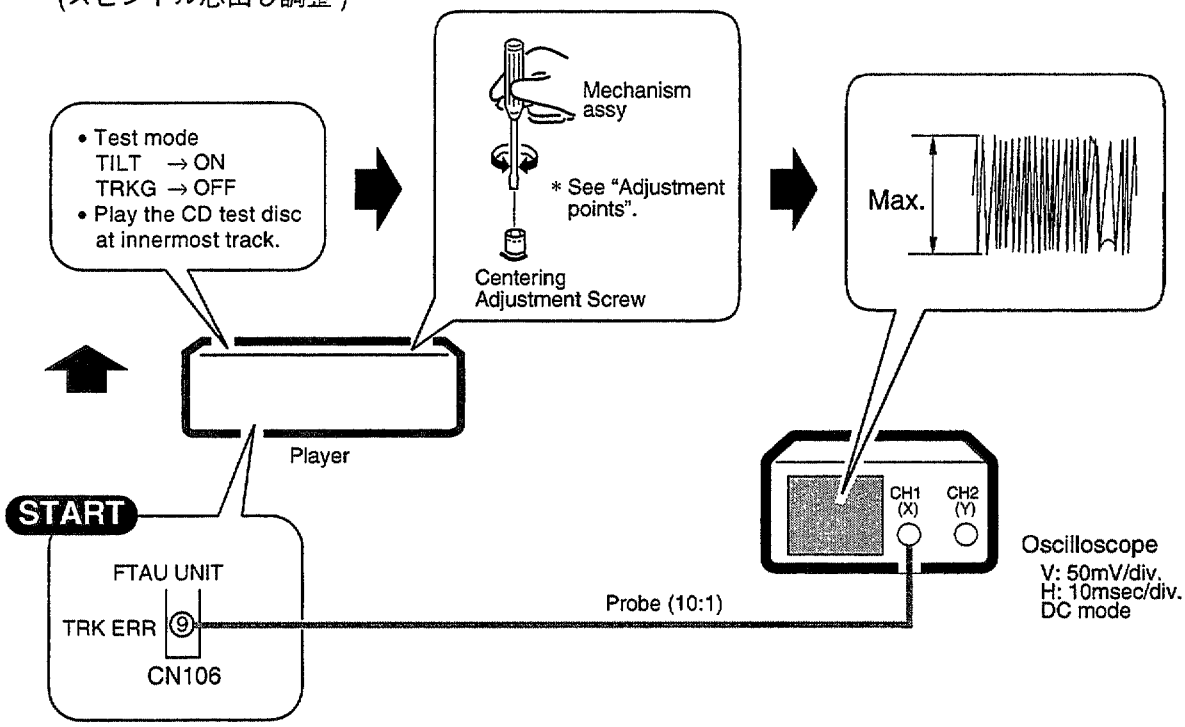


❷ Tangential Direction Angle Adjustment
(タンジェンシャル傾き調整)



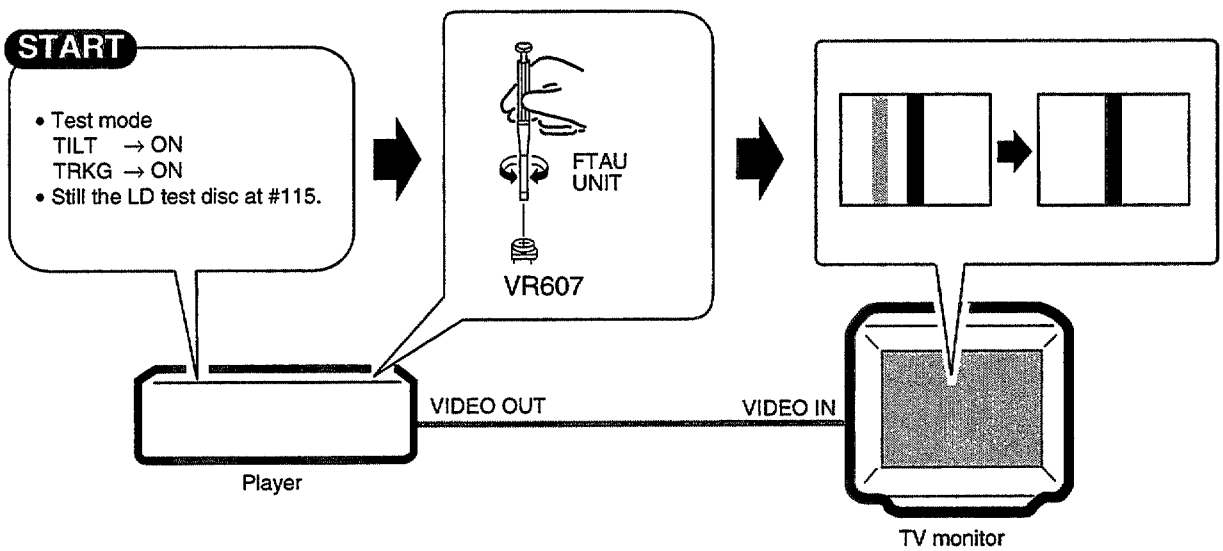
outermost : 最外周

3 Spindle Motor Centering Adjustment
(スピンドル芯出し調整)

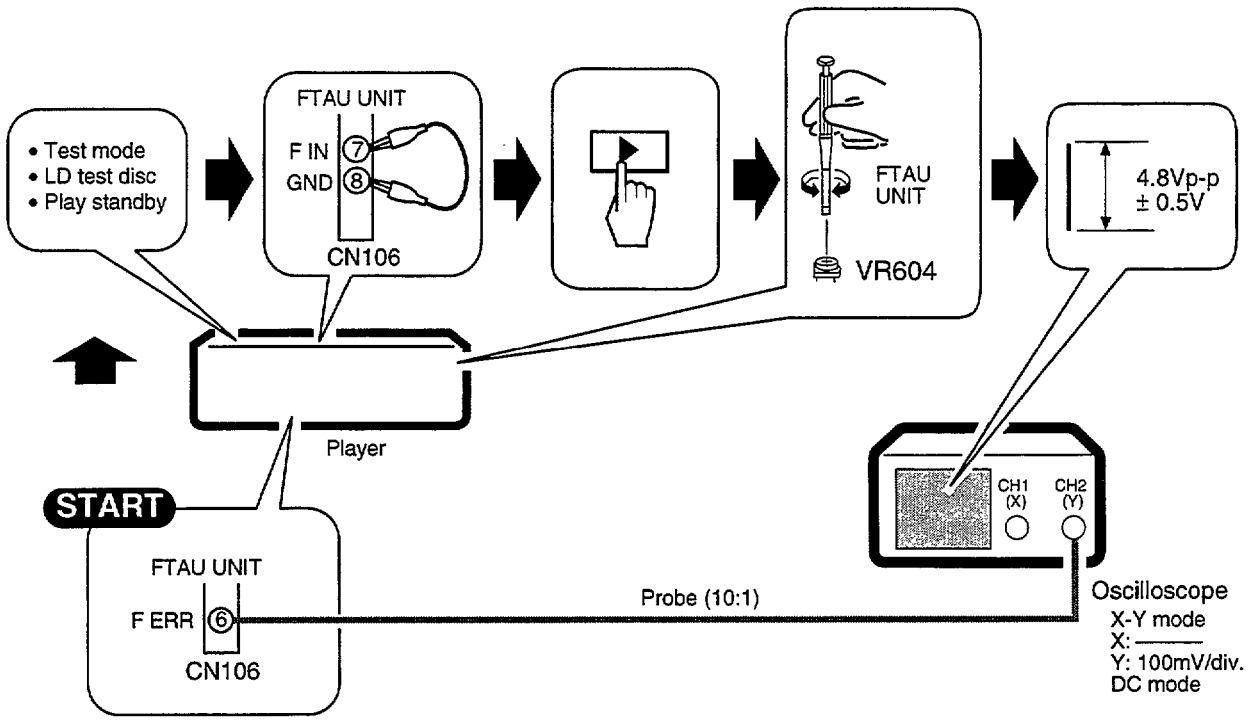


innermost : 最内周

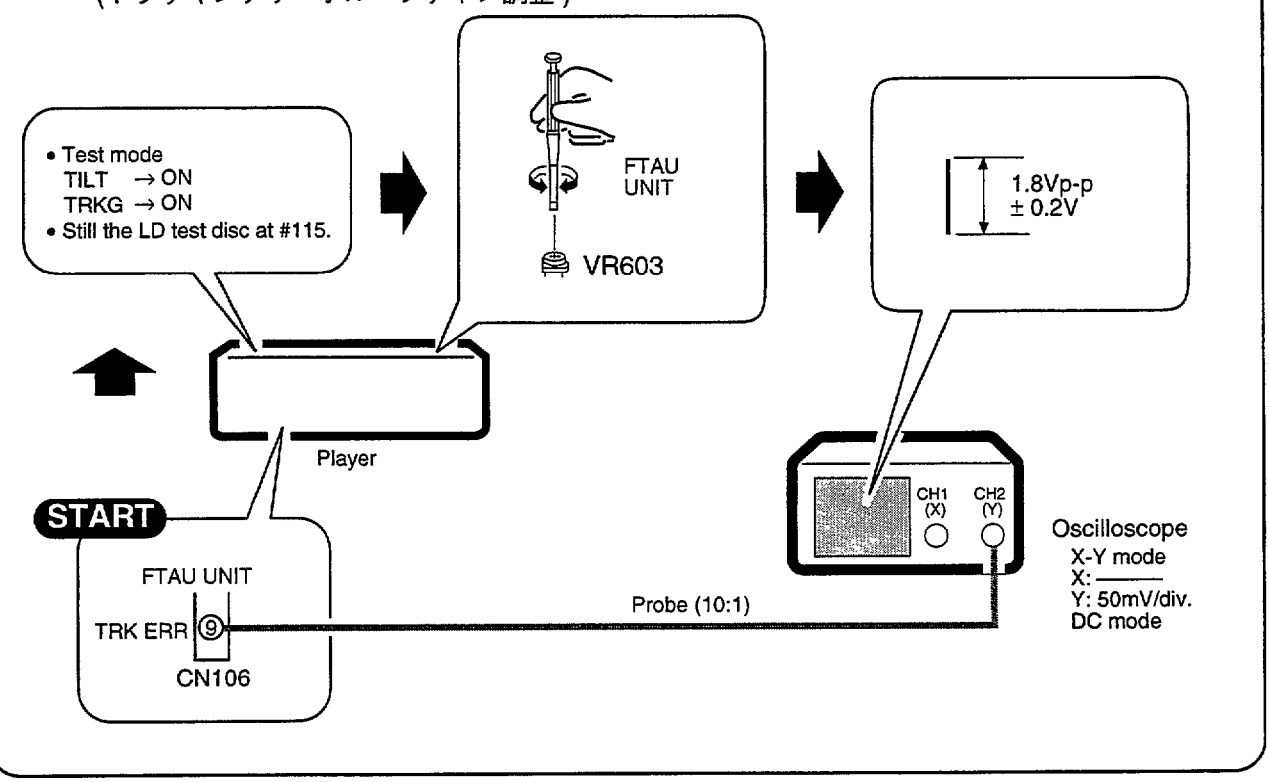
4 Crosstalk Check and Fine Tilt Offset Adjustment
(クロストーク確認及び，チルトオフセット微調)



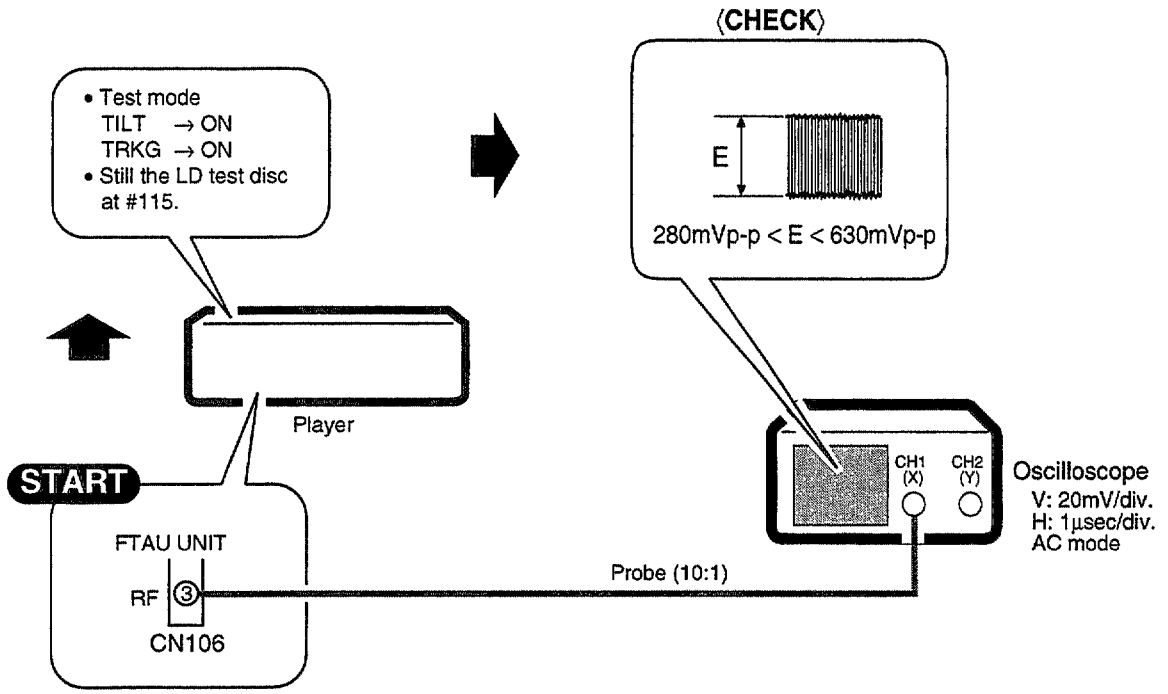
5 Focus Servo Loop Gain Adjustment
(フォーカスサーボループゲイン調整)



6 Tracking Servo Loop Gain Adjustment
(トラッキングサーボループゲイン調整)

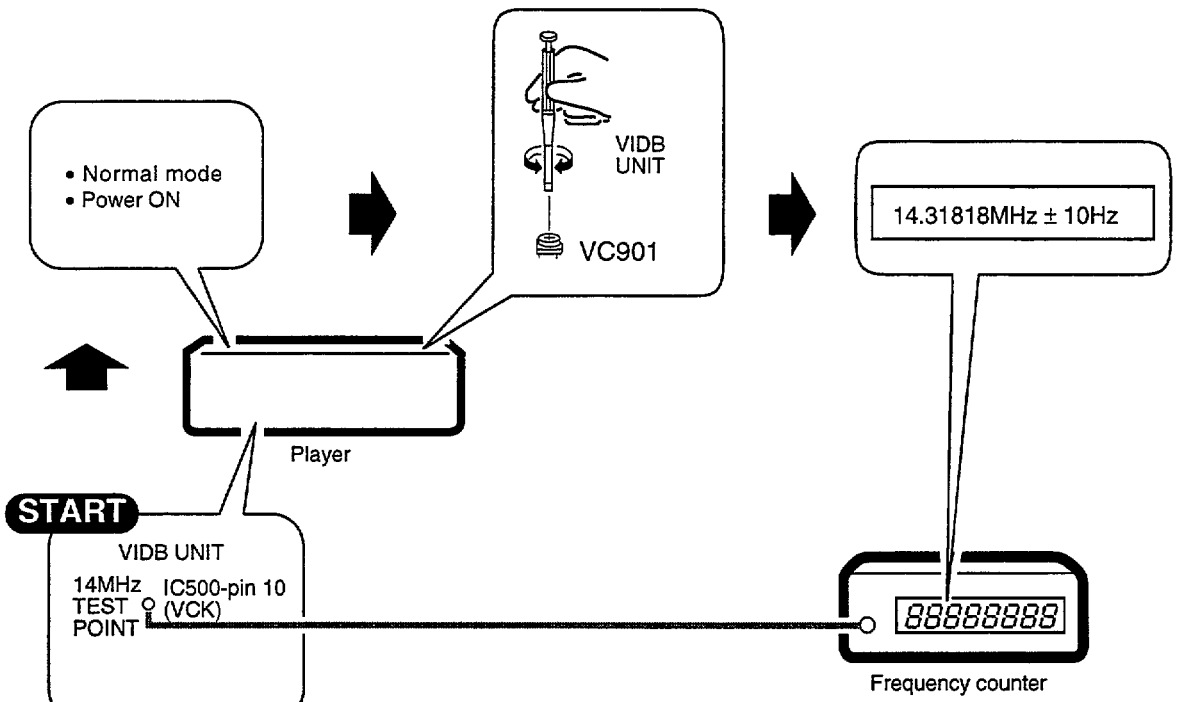


7 RF Level Check
(RFレベル確認)

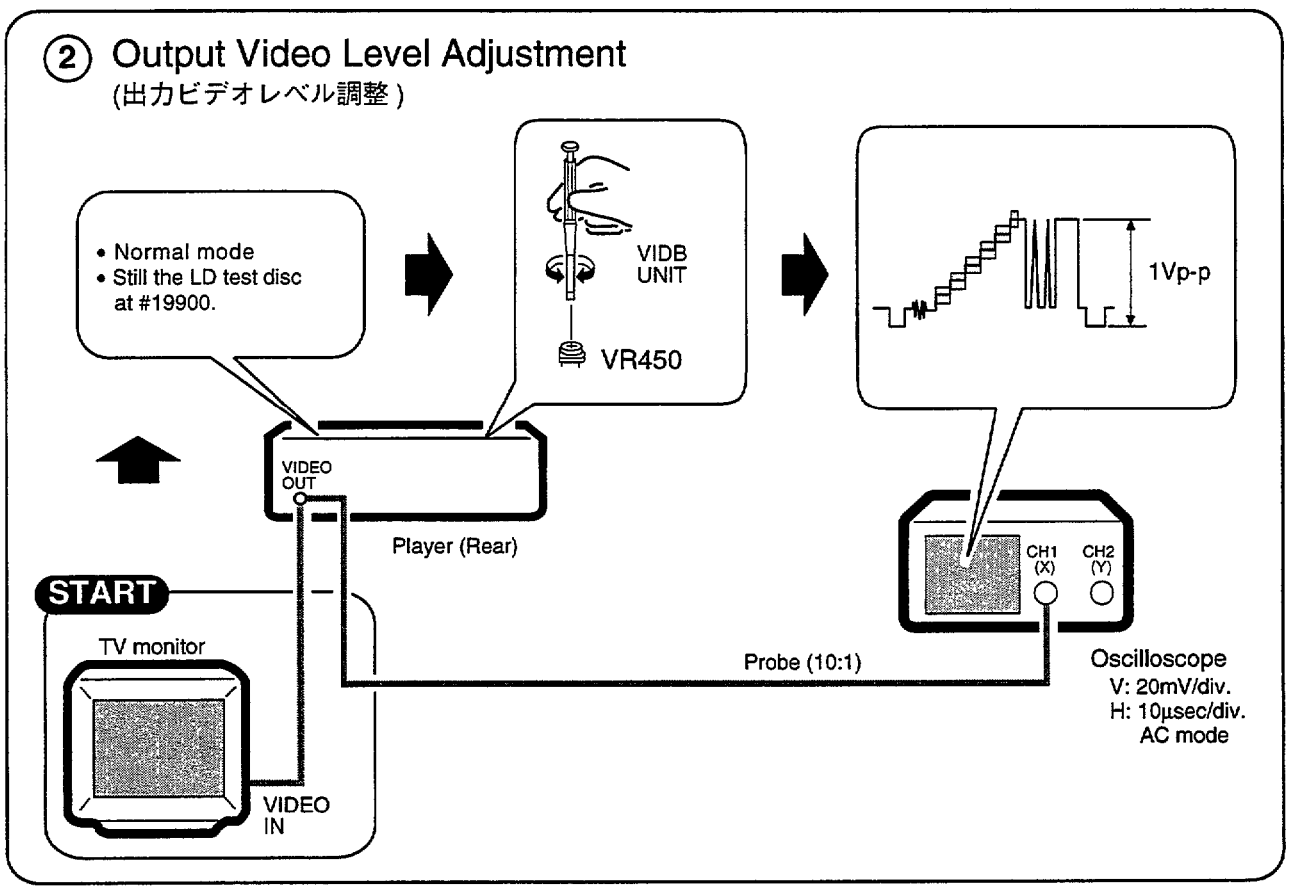


(6) ELECTRICAL ADJUSTMENT (電気系の調整)

① Master Clock Adjustment
(マスタークロック調整)

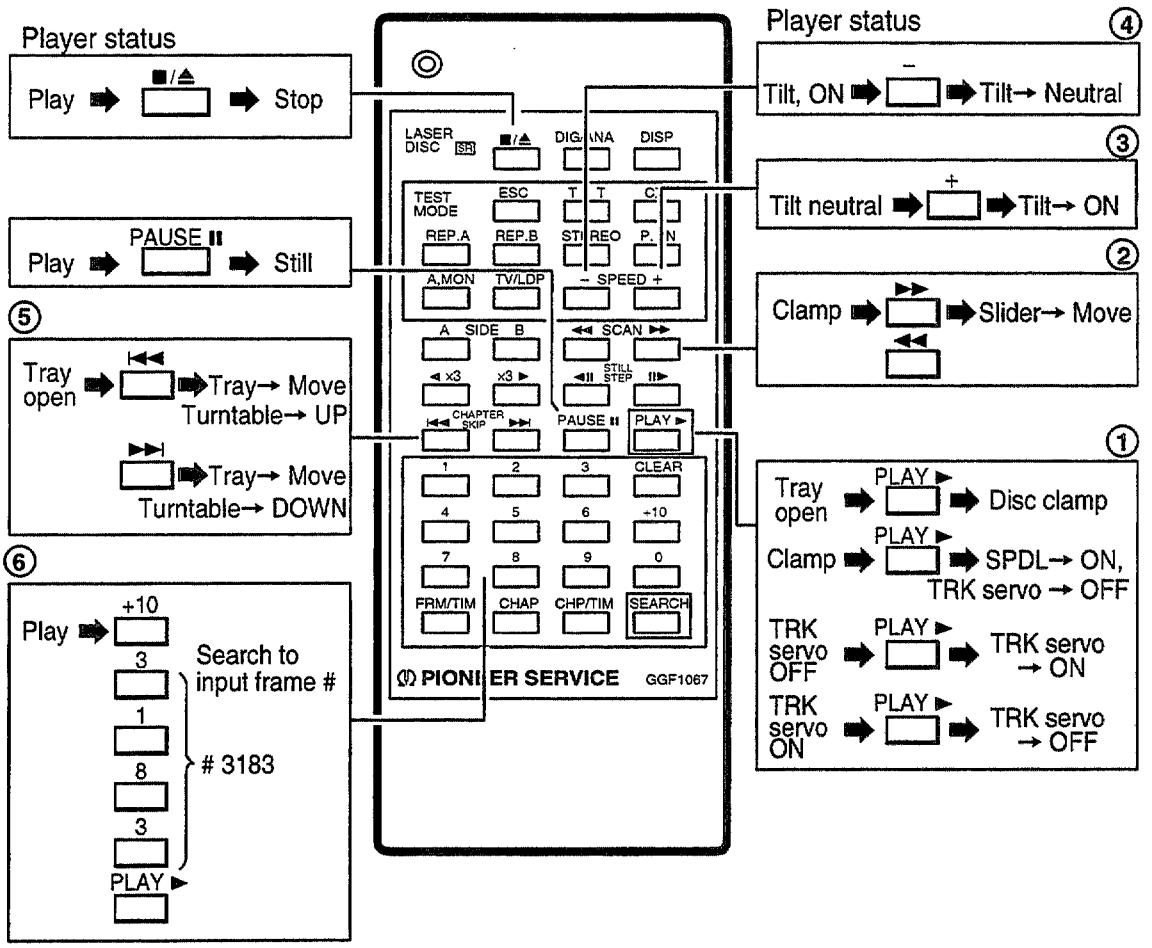


② Output Video Level Adjustment
(出力ビデオレベル調整)

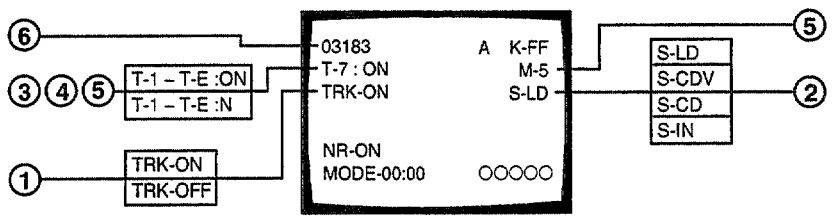


(7) OPERATIONS IN THE TEST MODE (テストモード時のサービス用リモコン操作方法)

■ Test Mode Remote Control Unit (GGF1067)



■ TV Monitor Display



7. GENERAL INFORMATION

7.1 PARTS

7.1.1 IC

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

■PDG182A (DISP UNIT : IC1001)

· SYSTEM CONTROL MICROCOMPUTER

•Pin Function

No.	Pin Name	I/O	Function	No.	Pin Name	I/O	Function
1	G11	O	FL grid scan output (H : ON)	26	PLL DATA	O	Transmission data output with the tuner module section
2	G12			27	TX MONO	O	Mono output to the tuner section (H : Forced monaural)
3	NC	—	Connect to +5V	28	AVREF	—	Reference power supply for analog input (Connect to +5V)
4	ACIN	I	AC 50/60Hz pulse input for timer counter	29	ABS L	I	L ch audio level input for level meter (A/D input)
5	FSX	I	Clock input for measuring the error rate of CLD section	30	ABS R	I	R ch audio level input for level meter (A/D input)
6	CLD SHAKE	I	Handshake input for communication with the CLD mech. control microcomputer	31	DKI-2	I	Hook SW input for prevent the erase by mistake of the tape deck 2 mech. (A/D input)
7	VCD SHAKE	I	Handshake input for communication with the video CD control microcomputer	32	DKI-1	I	Half detection SW and operation mode sw input of the tape deck 1 mech. (A/D input)
8	SR	I	Remote control signal input (L : Active)	33	DKI-0	I	Half detection SW and operation mode sw input of the tape deck 2 mech. (A/D input)
9	EFLG	I	Data input for measuring the error rate of CLD section	34	DKI-3	I	Main unit function SW (COPY, ASES, REC/ STOP,DOLBY NR ON/OFF) input of the tape deck section (A/D input)
10	VCD ACK	O	Handshake output for communication with the video CD control microcomputer	35	FANEER	I	Thermistor input for detecting the temperature of the power supply section (A/D input)
11	CLD ACK	O	Handshake output for communication with the CLD mech. control microcomputer	36	JOG IN	I	Main unit jog SW input (A/D input)
12	KEY0	I	Key scan input (H : Active)	37	AVSS	—	Reference GND pin for analog input (Connect to GND)
13	KEY1			38	RESET	I	Microcomputer reset input (L : Reset)
14	KEY2			39	EXTAL	I	Microcomputer system clock input (Connect the 10MHz ceramic resonator)
15	KEY3			40	XTAL	O	Microcomputer system clock output (Connect the 10MHz ceramic resonator)
16	TUNED	I	TUNED input from the tuner section (L :During receive)	41	GND	—	Microcomputer system GND (Connect to GND)
17	STEREO	I	STEREO input from the tuner section (L :During receive the stereo broadcasting)	42	TEX	O	Microcomputer sub clock output (Not used)
18	MS	I	MS input from the tape deck section (L : Exists the audio signal)	43	TX	I	Microcomputer sub clock input (Connect to GND)
19	VOL DATA	I/O	Communication data input/output with the electric volume IC (M62420FP)	44	VDD	—	Power supply pin for microcomputer (Connect to +5V)
20	PLS1	O	Reel pulse input of the tape deck 1 mech.	45	VFDP	I	Power supply pin of internal pull-down resistor of the microcomputer (Connect to -30V)
21	PLS2	O	Reel pulse input of the tape deck 2 mech.	46	VCLK CUT	O	Master clock cut output of video section IC
22	CLD SCK	O	Communication clock input/output with the CLD mech. control, OSD IC, DASP IC and video CD microcomputer	47	VRESET	O	Reset output of video section IC
23	CLD SI	I	Communication data input with the CLD mech. control and video CD microcomputer	48	OSD CS	O	Communication chip select of ON screen display IC (OSD, PD0234A)
24	CLD SO	O	Communication data output with the CLD mech. control, OSD IC, DASP IC and video CD microcomputer	49	IFL	O	Communication chip select of DASP IC (TC9409AF)
25	PLL SCK	O	Transmission clock output with the tuner module section	50	LD/VCD	O	Digital audio switching output of CLD and video CD (H : Video CD)

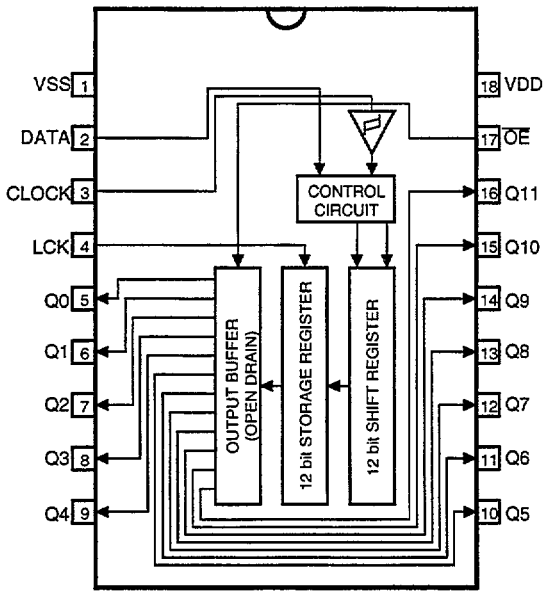
No.	Pin Name	I/O	Function
51	XRESET	O	Reset output for switching power section IC (L : Reset)
52	PLL CE	O	Transfer chip select of tuner module section
53	TX MUTE	O	Audio mute of tuner module section
54	VOL CLK	O	Communication clock output with the electric volume IC (M62420FP)
55	EXP CS	O	Transfer chip select of port expansion IC (BU4094BC)
56	VTR MUTE	O	Mute output of video audio output (L : Mute)
57	FUNC A	O	Audio input (function) switch VIDEO / TAPE / LD (analog) / TUNER FUNC A: L / H / L / H FUNC B: L / L / H / H
58	FUNC B		
59	XMUTE	O	Mute output of power amp. section (L : Mute)
60	SP CONT	O	Speaker relay ON/OFF output (H : ON)
61	POWER ON	O	Switching power supply ON/OFF output (L : ON)
62	P. BASS	O	P. BASS output (P. BASS 2 : H)
63	EXP CLK	O	Transfer clock output to LED driver IC and port expansion IC
64	EXP DATA	O	Transfer data output to LED driver IC and port expansion IC
65	LED CS	O	Transfer chip select of LED driver IC (BU2092F)
66	SOL1	O	Solenoid control output of the tape deck 1 mech. (H : ON)
67	MOTOR	O	Motor control output of the tape deck mech. (H : ON)
68	SOL2	O	Solenoid control output of the tape deck 2 mech. (H : ON)
69	S19	O	FL segment scan output (H : ON)
70	S18		
71	S17		
72	S16		
73	S15		
74	S14		
75	S13		

No.	Pin Name	I/O	Function
76	S12	O	FL segment scan output (H : ON)
77	S11		
78	S10		
79	S9		
80	S8		
81	S7		
82	S6		
83	S5		
84	S4		
85	S3		
86	S2		
87	S1		
88	S0		
89	VDD	—	Power supply pin for microcomputer section (Connect to +5V)
90	G0	O	FL grid scan output (H : ON)
91	G1		
92	G2		
93	G3		
94	G4		
95	G5		
96	G6		
97	G7		
98	G8		
99	G9		
100	G10		

■BU2092F (DISP UNIT : IC1021)

・SERIAL IN/PARALLELE OUT DRIVER

•Block Diagram



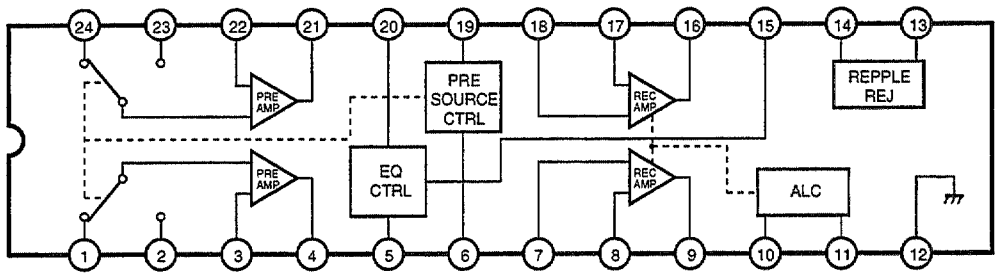
•Pin Function

No.	Pin Name	I/O	Function
1	VSS	—	GND
2	DATA	I	Serial data input
3	CLOCK	I	Data shift clock (Rising edge trigger)
4	LCK	I	Data latch clock (Rising edge trigger)
5	Q0	O	Parallel data output (Nch open drain FET) Latch data: L / H Output FET: ON / OFF
6	Q1		
7	Q2		
8	Q3		
9	Q4		
10	Q5		
11	Q6		
12	Q7		
13	Q8		
14	Q9		
15	Q10		
16	Q11		
17	$\overline{OE}$	I	Output enable (H : Output FET is OFF)
18	VDD	—	Power supply

■AN7345K (AF UNIT : IC2002)

· RECORD/PLAYBACK PRE-AMPLIFIER with ALC

•Block Diagram



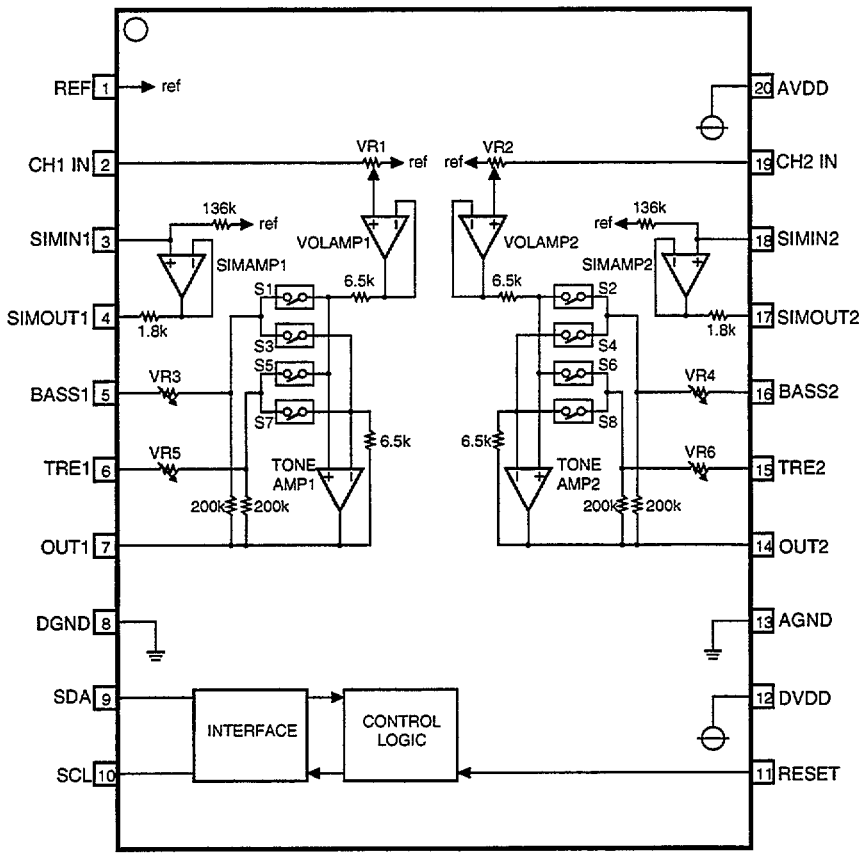
•Pin Function

No.	Function	No.	Function
1	CH-1 Playback amp. input (1)	13	VCC
2	CH-1 Playback amp. input (2)	14	Ripple filter
3	CH-1 Playback amp. negative feedback	15	Equalizer control
4	CH-1 Playback amp. output	16	CH-2 Recording amp. output
5	CH-1 Equalizer	17	CH-2 Recording amp. negative feedback
6	Time constant of preamp input switch	18	CH-2 Recording amp. input
7	CH-1 Recording amp. input	19	Preamp. input switch control
8	CH-1 Recording amp. negative feedback	20	CH-2 Equalizer
9	CH-1 Recording amp. output	21	CH-2 Playback amp. output
10	ALC LOW CUT	22	CH-2 Playback amp. negative feedback
11	ALC L.P.F.	23	CH-2 Playback amp. input (2)
12	GND	24	CH-2 Playback amp. input (1)

■M62420FP (AF UNIT : IC2301)

· ELECTRIC VOLUME IC

•Block Diagram



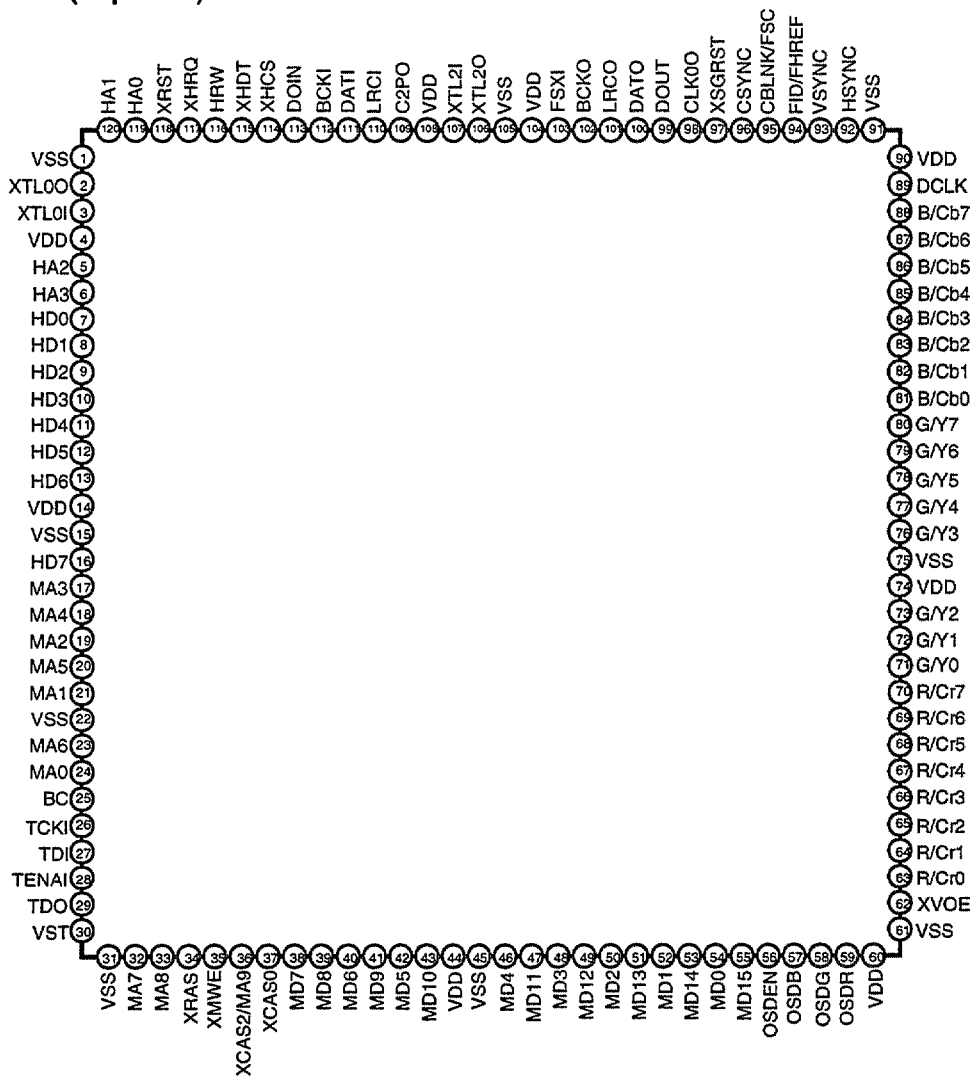
•Pin Function

No.	Pin Name	I/O	Function
1	REF	—	Reference voltage output
2	CH1 IN	I	Channel 1 signal input
3	SIMIN 1	I	Connect a capacitor for simulated inductor 1
4	SIMOUT 1	O	
5	BASS 1	I	Connect a capacitor for BASS adjustment of channel 1 side
6	TRE 1	I	Connect a capacitor for TREBLE adjustment of channel 1 side
7	OUT 1	O	Signal output after the volume control of channel 1 side
8	DGND	—	Ground pin for the digital circuit
9	SDA	I/O	Data input/output
10	SCL	I	Clock input/output
11	RESET	I	Reset pin for logic circuit
12	DVDD	—	Power supply for the digital circuit
13	AGND	—	Ground for the analog circuit
14	OUT 2	O	Signal output after the volume control of channel 2 side
15	TRE 2	I	Connect a capacitor for TREBLE adjustment of channel 2 side
16	BASS 2	I	Connect a capacitor for BASS adjustment of channel 2 side
17	SIMOUT 2	O	Connect a capacitor for simulated inductor 2
18	SIMIN 2	I	
19	CH2 IN	I	Channel 2 signal input
20	AVDD	—	Power supply for the analog circuit

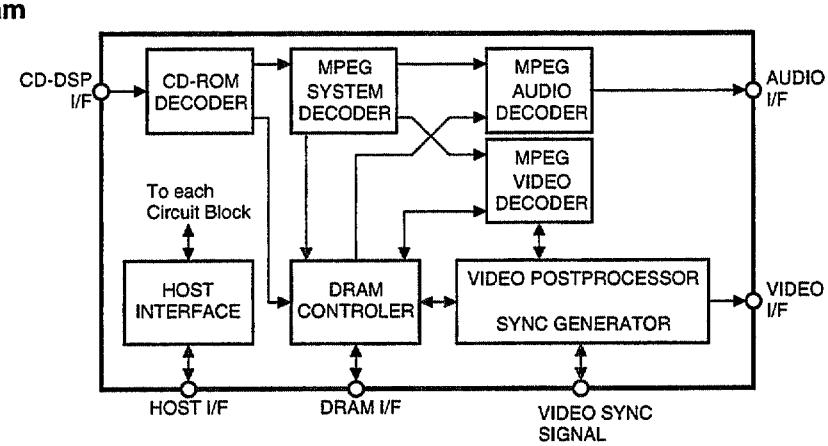
■ CXD1852Q (VCDB ASSY : IC101)

• MPEG1 DECODER

• Pin Assignment (Top View)



• Block Diagram



• Pin Function

No.	Pin Name	I/O	Function
1	VSS	—	Connect to ground
2	XTL0O	O	Master clock of video decoder Clock input to XTL0I or connect a oscillator between XTL0I and XTL0O. Frequency is 27MHz, 28.6363MHz (NTSC 8fsc), 35.4686MHz (PAL 8fsc).
3	XTL0I	I	
4	VDD	—	+3.3V power supply
5	HA2	I	When host interface is parallel mode, HA0-HA3, become register address input pins. When host interface is serial mode, HA0 becomes serial data input pin, and HA1-HA3 are fixed to "L" level.
6	HA3		
7	HD0	I/O	When host interface is parallel mode, HD0-HD7, become register data input/output pins. When host interface is serial mode, HD0 becomes serial data output pin, and HD1-HD7 are fixed to "L" level.
8	HD1		
9	HD2		
10	HD3		
11	HD4		
12	HD5		
13	HD6		
14	VDD	—	+3.3V power supply
15	VSS	—	Connect to ground
16	HD7	I/O	When host interface is parallel mode, HD0-HD7, become register data input/output pins. When host interface is serial mode, HD0 becomes serial data output pin, and HD1-HD7 are fixed to "L" level.
17	MA3	O	DRAM address signal output Connect to DRAM address pins agree with number.
18	MA4		
19	MA2		
20	MA5		
21	MA1		
22	VSS	—	Connect to ground
23	MA6	O	DRAM address signal output Connect to DRAM address pins agree with number.
24	MA0		
25	BC	—	Test pin Set to open.
26	TCKI		
27	TDI		
28	TENAI		
29	TDO		
30	VST	—	Test pin Connect to ground.
31	VSS	—	Connect to ground
32	MA7	O	DRAM address signal output Connect to DRAM address pins agree with number.
33	MA8		
34	XRAS	O	Low address strobe signal output Connect to $\overline{RAS}$ signal pin of DRAM.
35	XMWE	O	Write enable signal output of DRAM Connect to $\overline{WE}$ signal pin of DRAM.
36	XCAS2/MA9	O	Use for when connecting the 8 bit DRAM When construction of DRAM is 256kw×16bit×2, connect to $\overline{CAS}$ signal pin of upper word (256k-512k-1) side DRAM (upper and lower bytes are common used). When DRAM is 512kw×8bit×2, connect to MA9 pin (two DRAMs).
37	XCAS0	O	Column address strobe signal output of DRAM. When construction of DRAM is 256kw×16bit×2, connect to $\overline{CAS}$ signal pin of lower word (0-256k-1) side DRAM (upper and lower bytes are common used). In other case, connect to all $\overline{CAS}$ signal pins of DRAM.
38	MD7	I/O	Data signal input/output of DRAM Connect to DRAM data pins agree with number.
39	MD8		
40	MD6		
41	MD9		
42	MD5		
43	MD10		
44	VDD	—	+3.3V power supply
45	VSS	—	Connect to ground

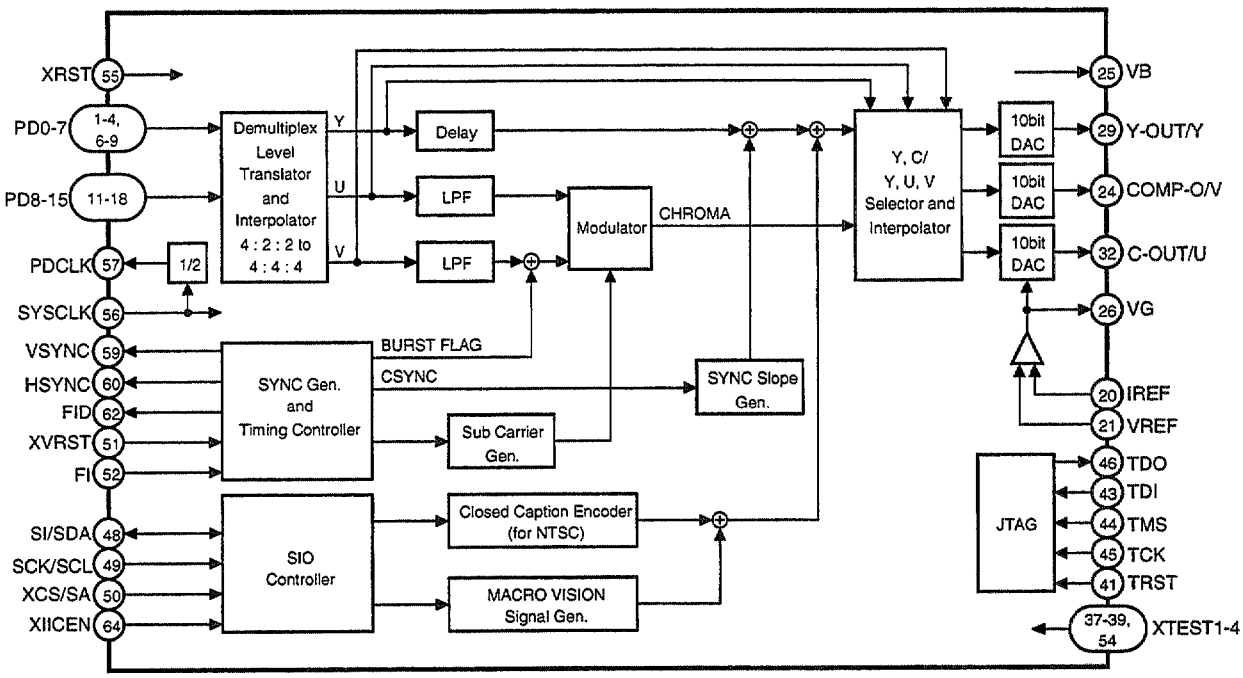
No.	Pin Name	I/O	Function
46	MD4	I/O	Data signal input/output of DRAM Connect to DRAM data pins gree with number.
47	MD11		
48	MD3		
49	MD12		
50	MD2		
51	MD13		
52	MD1		
53	MD14		
54	MD0		
55	MD15		
56	OSDEN	I	OSD enable signal Polarity of enable is changed by register setting.
57	OSDB	I	OSD data input When input signal which input to OSDEN is enable state, entered color in the color table which setting with there inputs (3 bit) is output to the picture data.
58	OSDG		
59	OSDR		
60	VDD	—	+3.3V power supply
61	VSS	—	Connect to ground
62	XVOE	I	Video output enable signal pin L : Picture data output and DCLK output are enabled. H : Disable (High impedance)
63	R/Cr0	O	Picture data output Correspondence of output data format (RGB, YCbCr etc.) and output data are able to changed by register setting.
64	R/Cr1		
65	R/Cr2		
66	R/Cr3		
67	R/Cr4		
68	R/Cr5		
69	R/Cr6		
70	R/Cr7		
71	G/Y0		
72	G/Y1		
73	G/Y2		
74	VDD	—	+3.3V power supply
75	VSS	—	Connect to ground
76	G/Y3	O	Picture data output Correspondence of output data format (RGB, YCbCr etc.) and output data are able to changed by register setting.
77	G/Y4		
78	G/Y5		
79	G/Y6		
80	G/Y7		
81	B/Cb0		
82	B/Cb1		
83	B/Cb2		
84	B/Cb3		
85	B/Cb4		
86	B/Cb5		
87	B/Cb6		
88	B/Cb7		
89	DCLK	I/O	Dot clock (DCLK) signal pin Normally, DCLK frequency is 13.5MHz. DCLK is able to input from this pin and output from this pin by dividing from clock input.
90	VDD	—	+3.3V power supply

No.	Pin Name	I/O	Function
91	VSS	—	Connect to ground
92	HSYNC	I/O	Horizontal sync. signal pin When internal sync. generator is used, outputs dot clock (DCLK) by frequency divided. When internal sync. generator is not used, it becomes input.
93	VSYNC	I/O	Vertical sync. signal pin When internal sync. generator is used, outputs dot clock (DCLK) by frequency divided. When internal sync. generator is not used, it becomes input.
94	FID/FHREF	I/O	Field discrimination signal (FID) and horizontal sync. phase reference signal (FHREF) pin Set this pin by register setting. When set to FID, outputs by using the internal sync. generator and inputs by not using it. "H" is correspond to odd field. When set to FHREF, outputs signal divided by XTL0. When XTL0 is 8fsc, signal becomes suitable HSYNC period and we for phase compare with HSYNC signal.
95	CBLNK/FSC	I/O	Composite blanking signal (CBLNK) and fsc signal pin Set this pin by register setting. When set to CBLK, outputs by using the internal sync. generator and inputs by not using it. When set to fsc, outputs signal divided by XTL0. Divided ratio is able to selected 1/8 or 1/16.
96	CSYNC	O	Composite sync. signal pin divided by DCLK. Signal is not able to input.
97	XSGRST	I	Reset signal input of sync. generator "L" for initialize the internal sync. generator.
98	CLK0O	O	Outputs clock divided by XTL0 Divided ratio is able to selected 1/8 or 1/16.
99	DOUT	O	Audio digital output
100	DATO	O	Audio serial data output to DAC
101	LRCO	O	L/R clock output to DAC
102	BCKO	O	Bit clock output to DAC
103	FSXI	I	Clock input for audio interface Input 256fs (11.2896MHz), 384fs (16.9344MHz), 512fs (22.5792MHz) and 768fs (33.8688MHz).
104	VDD	—	+3.3V power supply
105	VSS	—	Connect to ground
106	XTL2O	O	Master clock of CD-ROM decoder and audio decoder Clock input to XTL2I or connect a oscillator between XTL2I and XTL2O. Frequency is 45MHz. This clock is for internal circuit, then not synchronize the input and output.
107	XTL2I	I	
108	VDD	—	+3.3V power supply
109	C2PO	I	C2 pointer input from CD-DSP Indicate the error of DATI input.
110	LRCI	I	LR clock input from CD-DSP Indicate the L ch and R ch of DATI.
111	DATI	I	Serial data input from CD-DSP
112	BCKI	I	Bit clock input from CD-DSP Clock for strobe the DATI input.
113	DOIN	I	Digital data input from CD-DSP
114	XHCS	I	Chip select signal input at register access
115	XHDT	I/O	Wait signal output at register access When host interface is pararell mode only, this pin is effective. Use to pull-up for open drain operation. In the serial mode, use to pull-up.
116	HRW	I	When host interface is parallel mode, this pin becomes $\overline{R/W}$ signal input. When host interface is serial mode, it becomes serial clock input.
117	XHIRQ	O	Interrupt request signal output Use to pull-up for open drain operation.
118	XRST	I	Hardware reset signal input When this pin set to "L", initialize the all operation.
119	HA0	I	When host interface is parallel mode, HA0-HA3, become register address input pins. When host interface is serial mode, HA0 becomes serial data input pin, and HA1-HA3 are fixed to "L" level.
120	HA1		

■ CXD1913Q (VCDB ASSY : IC301)

• DIGITAL VIDEO ENCODER

• Block Diagram



• Pin Function

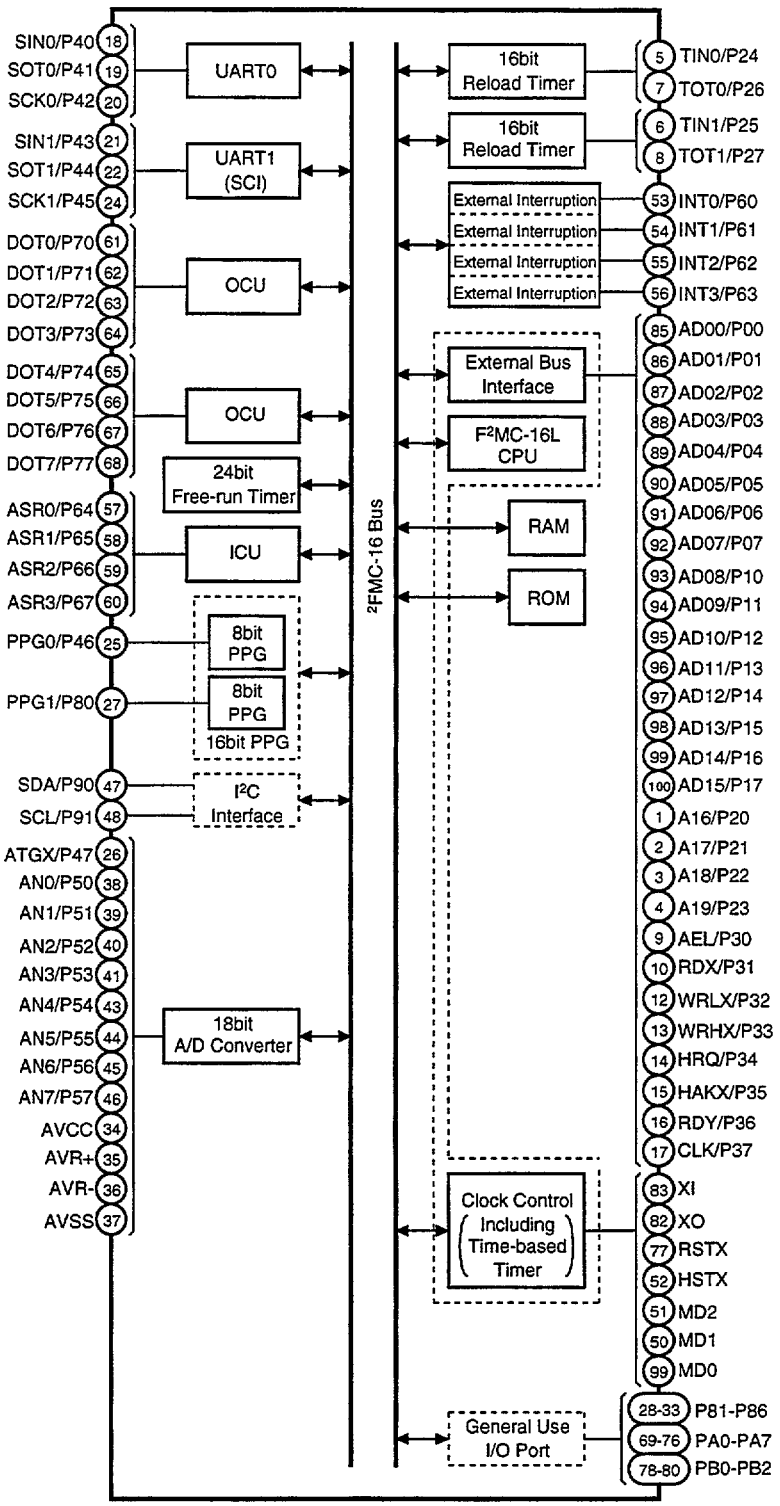
No.	Pin Name	I/O	Function
1	PD7	I	8bit pixel data input When PIF MODE = 0, input for Y, Cb and Cr signals which are multiplexed. When PIF MODE = 1, input for Y signal.
2	PD6		
3	PD5		
4	PD4		
5	VSS	—	Ground for digital
6	PD3	I	8bit pixel data input When PIF MODE = 0, input for Y, Cb and Cr signals which are multiplexed. When PIF MODE = 1, input for Y signal.
7	PD2		
8	PD1		
9	PD0		
10	VDD	—	Power supply for digital
11	PD15/TD7	I/O	8bit pixel data input/test data bus When PIF MODE = 0, there pins are not able to we. When PIF MODE = 1, input for Cb and Cr signals which are multiplexed. In the test mode, use for the internal circuit test data bus. Test mode is opened for device vender only.
12	PD14/TD6		
13	PD13/TD5		
14	PD12/TD4		
15	PD11/TD3		
16	PD10/TD2		
17	PD9/TD1		
18	PD8/TD0		
19	VSS	—	Ground for digital
20	IREF	I	Reference current input Connect a 16-times resister ("16R") of output resistor value "R" .
21	VREF	I	Reference voltage input Set the output full scale.
22	AVDD1	—	Power supply for analog
23	AVSS1	—	Ground for analog
24	COMP-O/V	O	10bit D/A converter output When YC/YUV = 1, outputs conposite signal. When YC/YUV = 0, outputs color-difference (V) signal.
25	VB	O	Connect a about 0.1μF capacitor to VSS.
26	VG	O	Connect a about 0.1μF capacitor to AVDD.
27	AVDD2	—	Power supply for analog
28	AVSS2	—	Ground for analog
29	Y-OUT/Y	O	10bit D/A converter output Outputs luminance (Y) signal.
30	AVDD3	—	Power supply for analog
31	AVSS3	—	Ground for analog
32	C-OUT/U	O	10bit D/A converter output When YC/YUV = 1, outputs chroma (C) signal. When YC/YUV = 0, outputs color-difference (U) signal.

No.	Pin Name	I/O	Function
33	TD10	I/O	Test data bus Set to open. In the test mode, we for the internal circuit test data bus. Test mode is opened for device vender only.
34	VDD	—	Power supply for digital
35	TD9	I/O	Test data bus Set to open. In the test mode, we for the internal circuit test data bus. Test mode is opened for device vender only.
36	TD8		
37	XTEST1	I	Test mode control input with pull-up When these pins are "H", CXD1910AQ is not test mode. Test mode is opened for device vender only.
38	XTEST2		
39	XTEST3		
40	VSS	—	Ground for digital
41	TRST	I	Reset signal input for JTAG of active "L" with pull-up.
42	VDD	—	Power supply for digital
43	TDI	I	Serial data input for JTAG with pull-up
44	TMS	I	Control signal input for JTAG with pull-up
45	TCK	I	Clock input for JTAG
46	TDO	O	Serial data output for JTAG
47	VSS	—	Ground for digital
48	SI/SDA	I	This pins function is selected by XIICEN (pin 64). When XIICEN is "H", it becomes SONY SIO mode and SI serial data input. When XIICEN is "L", it becomes I²C-BUS mode and SDA input/output.
49	SCK/SCL	I	This pins function is selected by XIICEN (pin 64). When XIICEN is "H", it becomes SONY SIO mode and SCK serial clock input. When XIICEN is "L", it becomes I²C-BUS mode and SCL input.
50	XCS/SA	I	This pins function is selected by XIICEN (pin 64). When XIICEN is "H", it becomes SONY SIO mode and XCS chip select input. When XIICEN is "L", it becomes I²C-BUS mode and SA slave address selection input signal which selecting slave address of I²C-BUS.
51	XVRST	I	Vertical sync. reset input of active "L" with pull-up Use for synchronize the external and internal vertical sync. When XVRST is "L", reset the internal digital sync. generator according to FI.
52	FI	I	Field ID input Indicates the field ID at vertical sync. reset. H : 1st field L : 2nd field
53	VDD	—	Power supply for digital
54	XTEST4	I	Test mode control input with pull-up When these pins are H, CXD1910AQ is not test mode. Test mode is opened for device vender only.
55	XRST	I	System reset input at active "L" "L" for more than 40 clocks (SYSCLK) at power on reset.
56	SYSCLK	I	System clock input It needs to correctly 27MHz for generating the correctly sub-carrier frequency.
57	PDCLK	O	Pixel data clock output for 13.5MHz This clock is SYSCLK divided by 2. Use for 16bit pixel data mode.
58	VSS	—	Ground for digital
59	VSYNC	O	Vertical sync. signal output
60	HSYNC	O	Horizontal sync. signal output
61	SO	O	This pin's function is selectedby XIICEN (pin 64). When XIICEN is "H", it becomes SONY SIO mode and SO serial out output. When XIICEN is "L", this pin is not used and output becomes Hi-impedance.
62	FID	O	Field ID output When FIDS = 1, L : 1st field, H : 2nd field. When FIDS = 0, H : 1st field, L : 2nd field.
63	VDD	—	Power supply for digital
64	XIICEN	I	Serial interface mode selection input with pull-up When this pin is "L", pins 48 to 50 and 61 become I²-C-BUS mode. When this pin is "H", pins 48 to 50 and 61 become SONY SIO mode.

■PD6193A (VCDB ASSY : IC501)

• VCD CONTROL IC

• Block Diagram



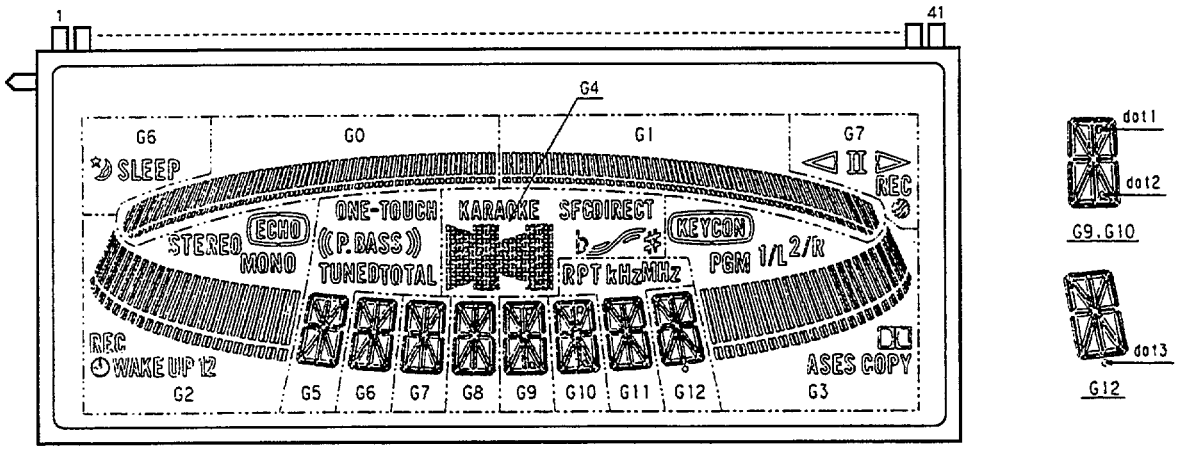
• Pin Function

No.	Pin Name	I/O	Function
1	P20	I	Not used (+5V)
2	P21		
3	P22		
4	P23		
5	P24		
6	P25		
7	P26		
8	P27		
9	P30		
10	P31		
11	VSS	—	GND
12	P32	I	Not used (+5V)
13	P33		
14	P34		
15	P35		
16	P36		
17	P37		
18	SIN0	I	Serial data input
19	SOT0	O	Serial data output
20	P42	I	Not used (+5V)
21	SINC	I	Serial communication (data input)
22	SOUTB	O	Serial communication (data output)
23	VCC	I	Power supply (+5V)
24	SCKB	O	Serial communication (clock)
25	CSM	O	Communication device selection (CXD1852)
26	CSV	O	Communication device selection (CXD1913)
27	BUSW	O	Communication device selection (system controller)
28	RSTM	O	Reset (CXD1852)
29	RSTV	O	Reset (CXD1913)
30	LD/VCD	O	Select the player output screen H : Player screen L : VCD screen
31	NTSC/PAL	O	Reserve pin (+5V)
32	P85		
33	P86		
34	AVCC	I	Power supply (+5V)
35	AVR+	I	Reference voltage of analog circuit (+5V)
36	AVR-	I	Reference voltage of analog circuit (GND)
37	AVSS	—	GND
38	P50	I	Not used (+5V)
39	P51		
40	P52		
41	P53		
42	VSS	—	GND
43	P54	I	Not used (+5V)
44	P55		
45	P56		
46	P57		
47	P90	I/O	Not used (+5V)
48	P91		
49	MD0	I	Operation mode setting (connect to +5V)
50	MD1		
51	MD2	I	Operation mode setting (connect to GND)
52	HSTX	I	N.C.
53	TVSYNC	I	Video vertical sync. signal interruption
54	IRQM	I	CXD1852 interruption
55	REQACK	I/O	Serial communication (REQ/ENB)
56	INT3	I	Not used (+5V)
57	OSD MODE	I	H : Color L : Monochrome (connect to +5V)
58	P65	I	Not used (+5V)
59	P66		
60	COLOR BAR	I	L : Color-bar display
61	P70	I	Reserve pin (+5V)
62	P71		
63	P72		
64	P73		
65	P74		
66	P75		
67	P76		
68	P77		
69	PA0	I	Not used (+5V)
70	PA1		
71	PA2		
72	PA3		
73	PA4		
74	PA5		
75	PA6		
76	PA7		
77	XRST	I	External reset request input
78	PB0	I	Not used (+5V)
79	PB1		
80	PB2		
81	VSS	—	GND
82	X0	I	Pins for crystal oscillator (4MHz)
83	X1	O	
84	VCC	I	Power supply (+5V)
85	P00	I	Not used (+5V)
86	P01		
87	P02		
88	P03		
89	P04		
90	P05		
91	P06		
92	P07		
93	P10		
94	P11		
95	P12		
96	P13		
97	P14		
98	P15		
99	P16		
100	P17		

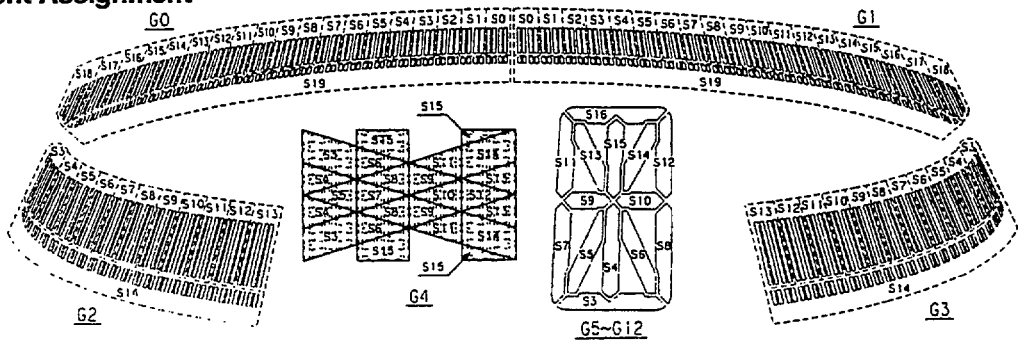
7.1.2 DISPLAY

■ RAW1150 (V1001 : DISP UNIT)

- **FL DISPLAY**
- **Grid Assignment and Pin Assignment**



- **Segment Assignment**



- **Anode and Grid Assignment**

	G0	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
S0	S0	S0	(ECHO)	ASES	KARAOKE	P.BASS		◁					
S1	S1	S1	STEREO	COPY	SFC	( )		II					
S2	S2	S2	MONO	⊡⊡	DIRECT	( )		▷					
S3	S3	S3	S3	S3	S3	S3	S3	S3	S3	S3	S3	S3	S3
S4	S4	S4	S4	S4	S4	S4	S4	S4	S4	S4	S4	S4	S4
S5	S5	S5	S5	S5	S5	S5	S5	S5	S5	S5	S5	S5	S5
S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6
S7	S7	S7	S7	S7	S7	S7	S7	S7	S7	S7	S7	S7	S7
S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8
S9	S9	S9	S9	S9	S9	S9	S9	S9	S9	S9	S9	S9	S9
S10	S10	S10	S10	S10	S10	S10	S10	S10	S10	S10	S10	S10	S10
S11	S11	S11	S11	S11	S11	S11	S11	S11	S11	S11	S11	S11	S11
S12	S12	S12	S12	S12	S12	S12	S12	S12	S12	S12	S12	S12	S12
S13	S13	S13	S13	S13	S13	S13	S13	S13	S13	S13	S13	S13	S13
S14	S14	S14	S14	S14	S14	S14	S14	S14	S14	S14	S14	S14	S14
S15	S15	S15	◴	(KEYCON)	S15	S15	S15	S15	S15	S15	S15	S15	S15
S16	S16	S16	REC	PGM	♭	S16	S16	S16	S16	S16	S16	S16	S16
S17	S17	S17	WAKE UP	1/L		ONE-TOUCH	SLEEP	REC		dot1	dot1	RPT	
S18	S18	S18	1	2/R	♯	TUNED		●		dot2	dot2	kHz	dot3
S19	S19	S19	2			TOTAL						MHz	

- **Pin Assignment**

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Assignment	F1	F1	F1	D	S19	S18	S17	S16	S15	S14	S13	S12	S11	S10	S9	S8	S7	S6	S5	S4	S3

Pin No.	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
Assignment	S2	S1	S0	G0	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12	H	F2	F2	F2

F1, F2 : Filament G0 – G12 : Grid S0 – S19 : Anode D : External connect to F1
H : Vseally electrify grid (ec level = Apply a Typ 30.0VDC)

7.2 DIAGNOSIS

7.2.1 SELF-DIAGNOSTIC FUNCTIONS

(1) SELF-DIAGNOSTIC FUNCTIONS

The self-diagnostic functions automatically display an error code on the TV screen and front panel fluorescent display section when there is an error. The customer checks the error code and conveys it to the service personnel to make repairs more efficient.

After an error occurs, even if the error code goes off, you can display the error code again by holding down the CLEAR key for 5 seconds (except a loading error L *) display). At that time, partial error is displayed with the mechanism switch information. However, if the power cord is unplugged, the error code information is lost.

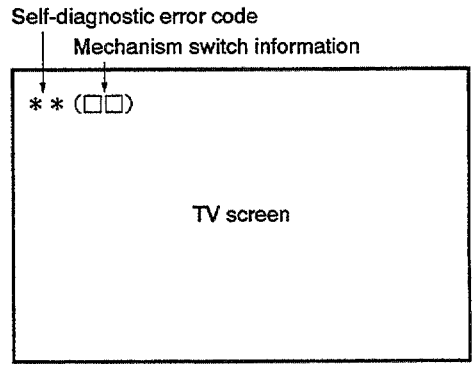


Fig. 1 TV screen display

This table explains the information for analyzing the cause when an error occurs with the CLD player.

Self-diagnostic error code	Contents	Conditions	Probable cause
H0	Spindle overcurrent detection error.	In the play state, overcurrent was detected in the spindle motor. Monitoring starts 5 seconds after the start of play or special playback mode, this error is detected if the overcurrent port is "L" for 4 seconds.	•Motor NG •Clamper rubbing
U0	FG abnormality error	①At LD start-up, the rate of rotation calculated from the FG was less than 15 rpm for 5 consecutive seconds from the spindle run command. ②At CD start-up, there was less than 1/8th rotation even after 5 seconds had passed since the end of acceleration. ③During play search, CD : subcordes are being read/LD : Phillips codes are being read and the spindle is locked, but a state in which the rate of rotation calculated from the FG was less than 15 rpm continued for 5 seconds or more. In the above case, it is judged that an abnormality has occurred in the FG sensor and that accurate rotation rate calculation has become impossible.	•FG sensor abnormality, FG signal not coming to mechanism controller •FG sensor clogged •Rubbing between FG sensor and slit •Turntable dropped •FG slit deposition NG
H1	Partial short error	①At LD start-up, the speed did not reach 1200 rpm within a certain time (12 seconds) after the spindle run command. ②At CD start-up, a certain speed (313 rpm) was not reached within 6 seconds from the end of spindle acceleration.	•Spindle motor NG •Commutator NG •Bearing too tight •Power supply NG
H2 A0	Power supply abnormality error	– 5V power supply abnormality detected. The power supply abnormality port is constantly monitored and if its signal stays high for about 1 second consecutively, the power supply is judged to be abnormal.	• – 5V not fed from POWER SUPPLY assy •Parts shorted
L *	Loading error	①When loading operation goes over time (approx. 10 sec.). ②When assist at disc sense entry ends and is not tilt neutral. ③When assist at set up entry ends and is not tilt neutral.	•Tilt switch 1, 2, 3 abnormal, so tilt/loading state not read in correctly •Tilt/loading mechanism mechanically locked •Drive IC NG •Power supply NG
E *	Slider error	During slider movement, a time over-run occurred (track count search 20 seconds, mandatory movement 10 seconds)	•Slider ceased being able to run •The slider mechanism is mechanically locked and can no longer move to its target. •Slider position switch NG •Flexible cable pulled out •Drive IC NG •Power supply abnormal
U1	Miss clamp error	①During LD setup, after 1/8th rotation, the track count during 1/8 rotation exeeded 511. ②During start-up, the focus was lost once and refocusting was attempted, but the focus could not be locked. ③Two FG pulses did not come within 800 ms from from the start of LD start-up. ④The disc clamp operation did not end within 5 seconds.	•Disc sandwiched •Disc shifted •Spindle motor NG •Disc scratched or dirty defocused during start-up •Two discs loaded •PU actuator NG •Tilt sensor NG •Tilt neutral NG (tilt base NG)

Self-diagnostic error code	Contents	Conditions	Probable cause
P *	Spindle error	①During TOC reading with an LD, the spindle servo was not locked within 60 seconds from the start of the spindle run. ②When CAV/CLV determination is not finished within 60 seconds from spindle servo lock. ③The codes could not be read for 10 – 15 seconds consecutively for an LD or 7 – 10 seconds for a CD/CDV and the spindle servo was not locked. ④The speed exceeded 2100 rpm during LD start up.	P0 :•PH code, SUB-Q code can not be read •VCO, PLL offset out of adjustment •Disc defect P5:•PAL disc, mirror disc, etc. PLAY •No RF P6:•Spindle servo does not lock •Spindle motor NG
F *	Focus error	①"In the "no disc" state, a setup command was received from the mode controller. ②When LD is out of focus when slider is moved to starting position during set up. In case of CD/CDV is NG even after three focus tries. ③During start-up, the maximum slider servo duty continued for 3 loops or more.	F5 :•CD, LD on top of each other •LD scratched or dirty defocused during slider movement •Disc NG •Slider position switch NG F6 :•Inner edge of disc scratched or dirty •Slider ran into inner edge mechanical stopper
HF * 1	Power supply section temperature abnormality error	When the temperature of power supply section is abnormality rised. If the voltage of FANEER port is less than 548mV, the power supply is judged to be abnormal.	•Fan motor NG •Thermistor NG •Power amplifier NG •Power transistor NG
J1	VCD μCOM communi-cation error	Communication error between the microcomputer (IC501) on the VCDB Assy and the mode control IC.	•Wire break of communication line (connector CN101 NG) •Power supply NG •VCD microcomputer (IC501) NG •Communication line buffer IC (IC601) NG
J2	VCD μCOM communi-cation error	Communication error between the microcomputer (IC501) on the VCDB Assy and the VCD decoder (IC101).	•VCD microcomputer (IC501) NG •Communication line buffer IC (IC601) NG •Buffer IC (IC602, IC603) NG •MPEG decoder IC (IC101) NG
J3	VCD μCOM communi-cation error	Communication error between the microcomputer (IC501) on the VCDB Assy and the video encoder (IC301).	•VIDEO encoder IC (IC301) NG •Wire break of communication line between IC501 and IC301

* Besides the above errors, there is the "U2" communications error (the mode controller could not communicate normally with the mechanism controller) The probable cause is a defective mechanism controller, disconnected cable, etc..

* Mechanism mode contents (meanig of * for L * etc.)

0 : Play
1 : Open
2 : Standby
3 : Clamp
4 : Disc sense
5 : Setup (rotation start)
6 : TOC read
7 : Play
8 : Search
9 : Side A → Side B
A : Side B → Side A

* 1 : FL display at power OFF.

(2) FORMAT OF THE MECHANISM SWITCH INFORMATION WHICH IS TRANSMITTED TO THE MODE CONTROL IN THE ERROR OCCURRENCE

Hexadecimal number system	Binary number system
0	0 0 0 0
1	0 0 0 1
2	0 0 1 0
3	0 0 1 1
4	0 1 0 0
5	0 1 0 1
6	0 1 1 0
7	0 1 1 1
8	1 0 0 0
9	1 0 0 1
A	1 0 1 0
B	1 0 1 1
C	1 1 0 0
D	1 1 0 1
E	1 1 1 0
F	1 1 1 1

Example

• Mechanism switch information ([1][7])

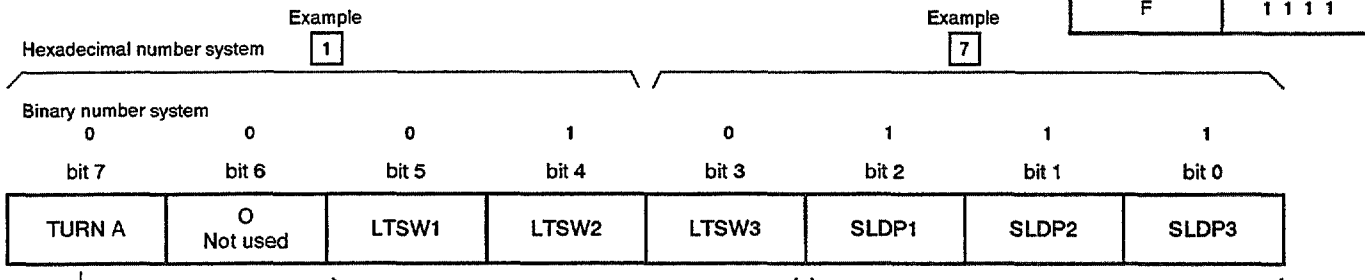
Hexadecimal number system

Mechanism control → Mode control

Communication byte address 5 (COMBUF5)

(Mode control displays this value as it is.)

Example



TURNA	Slider position
0	Side B
1	Side A

Example of [1][7] is indicated as follows.

Slider : Side B
Tilt : Tilt +
Position : B-INSIDE

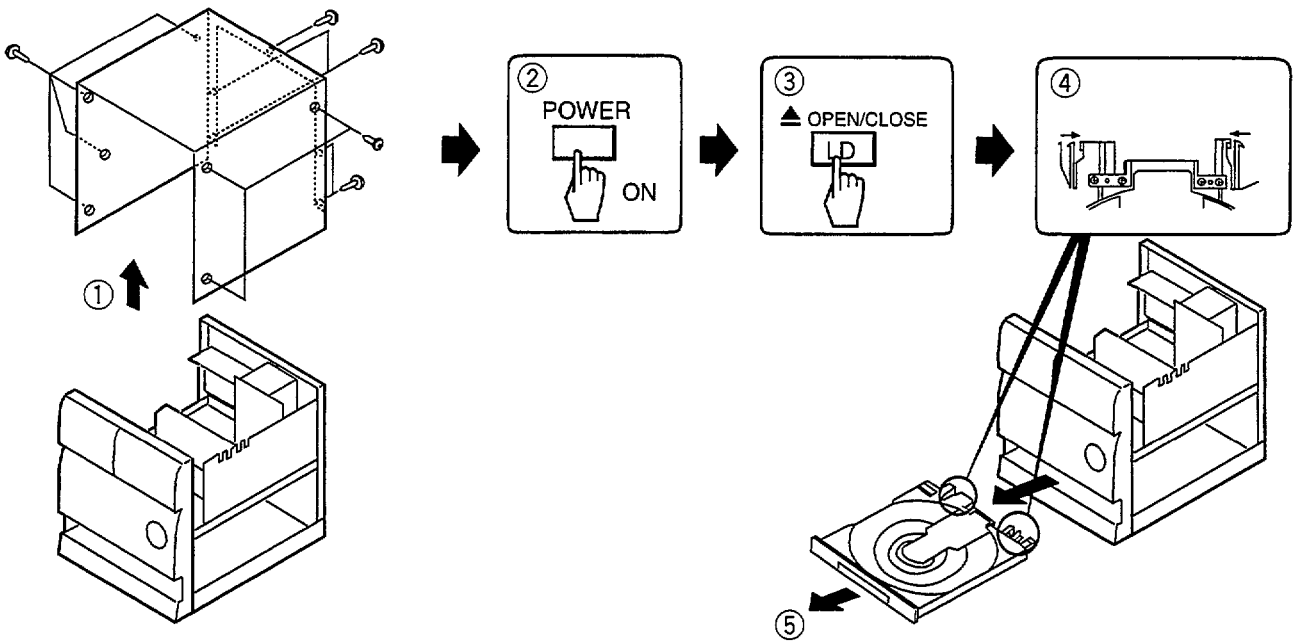
LTSW 1	LTSW 2	LTSW 3	Loading/tilt position
0	1	1	Open (Tray open state)
0	0	1	Loading (During move the tray horizontally)
1	0	1	Standby (Tray close & spindle down state)
1	0	0	Clamp (Durring spindle up or down)
0	0	0	Tilt − (Clamp state)
0	1	0	Tilt + (Clamp state)
1	1	0	Tilt limit (Clamp state)

SLDP 1	SLDP 2	SLDP 3	Slider position
1	0	0	CD active position
1	0	1	CDV active position
1	1	0	LD active position
0	1	1	CD inside position
1	1	1	Side B inside position

7.2.2 DISASSEMBLY/ASSEMBLY（分解/組立の手順）

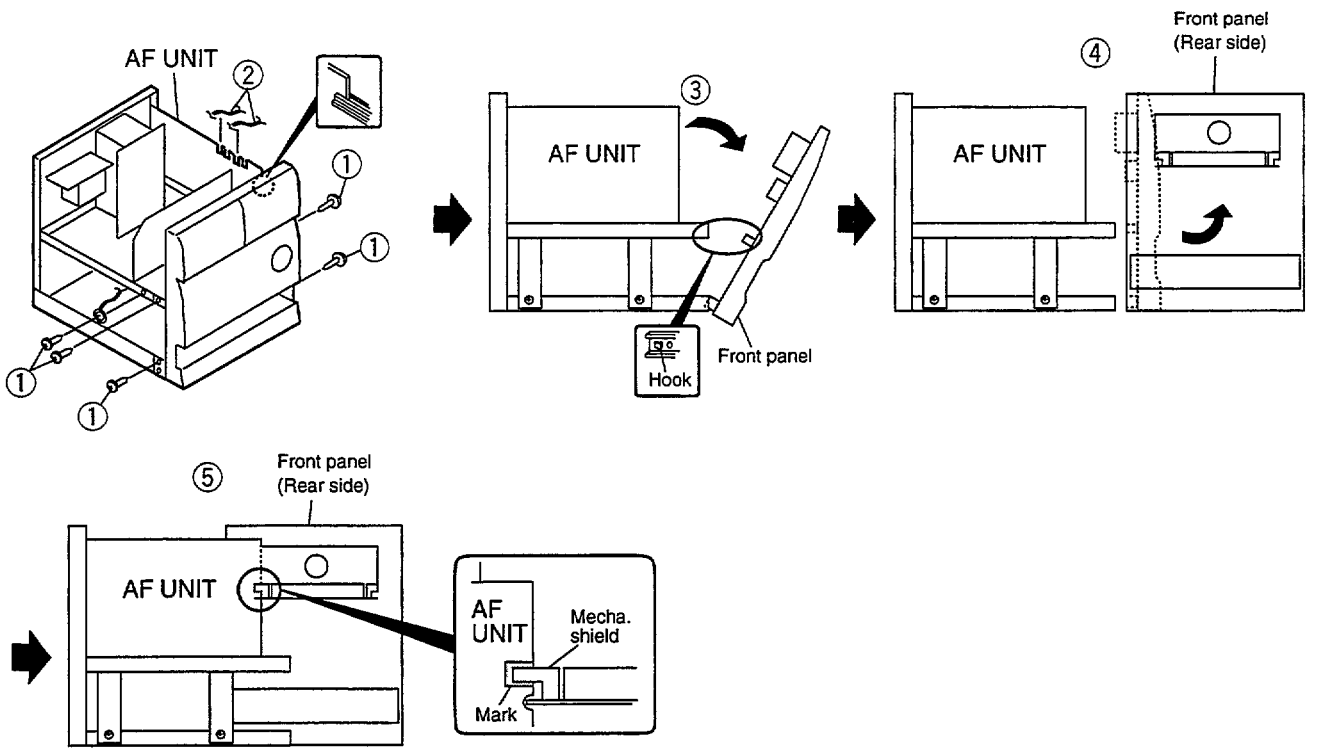
(1) DISC TRAY

- Disassembly : ①→②→③→④→⑤
- Assembly : ⑤→①



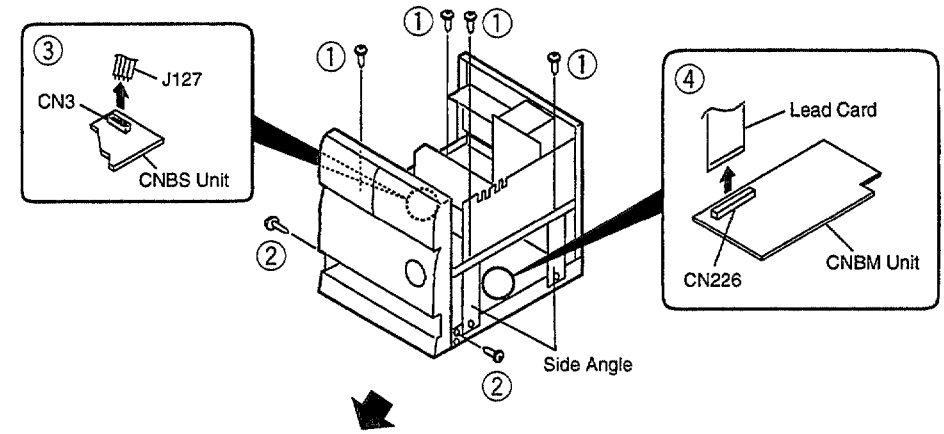
(2) FRONT PANEL

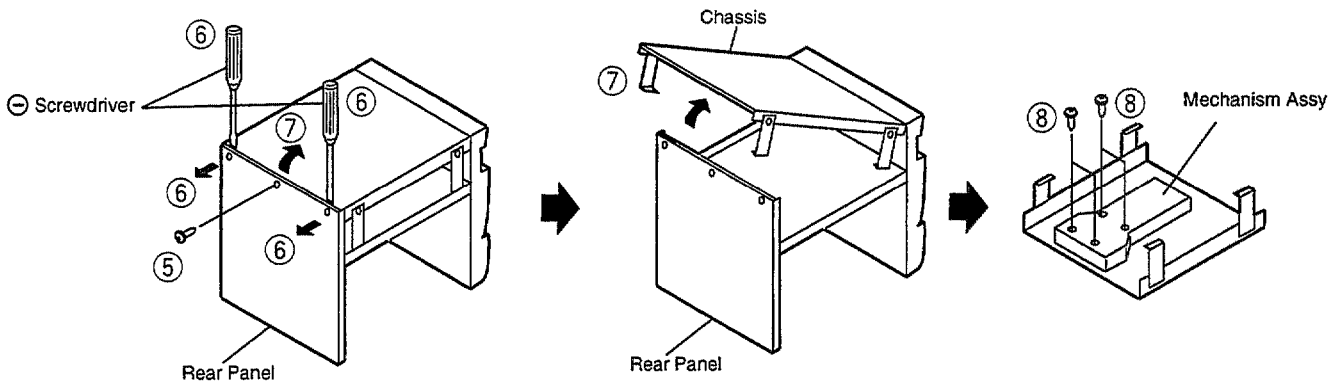
- Disassembly : ①→②→③→④→⑤
- Assembly : ⑤→④→③→②→①



(3) MECHANISM ASSY

- Disassembly : ①→②→③→④→⑤→⑥→⑦→⑧
- Assembly : ⑧→⑦→⑤→④→③→②→①





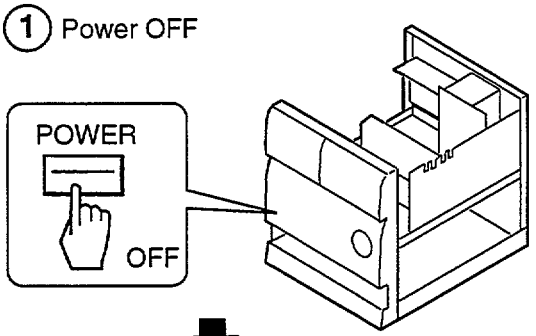
7.2.3 VCD COLOR BAR OUTPUT

The VCDB ASSY have the test mode which output the color-bar signal independently.

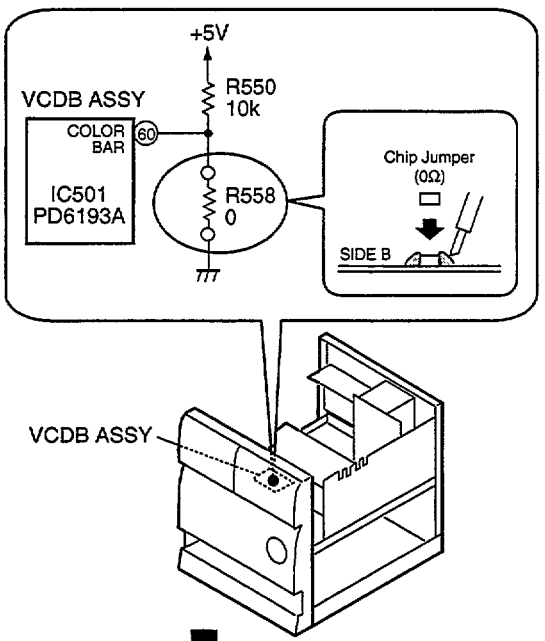
VCD Color-bar Test Mode

Color-bar TEST MODE: ON

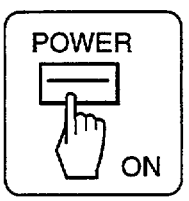
(1) Power OFF



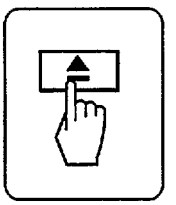
(2) Mount R558 (0Ω)



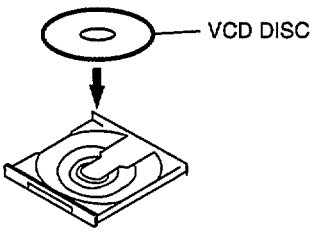
(3) Power ON



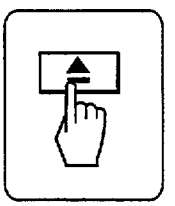
(4) Tray Open



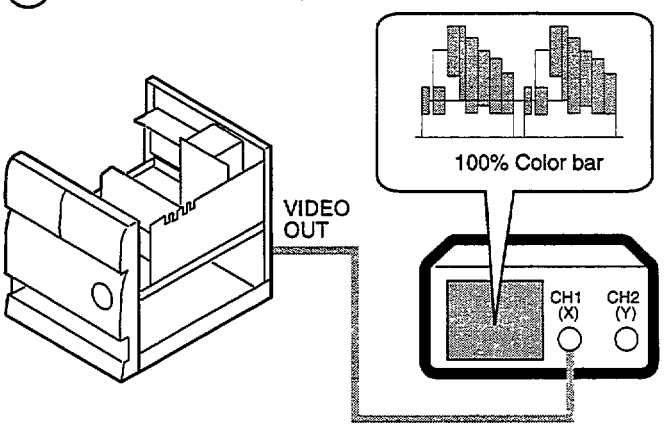
(5) VCD Disc Set



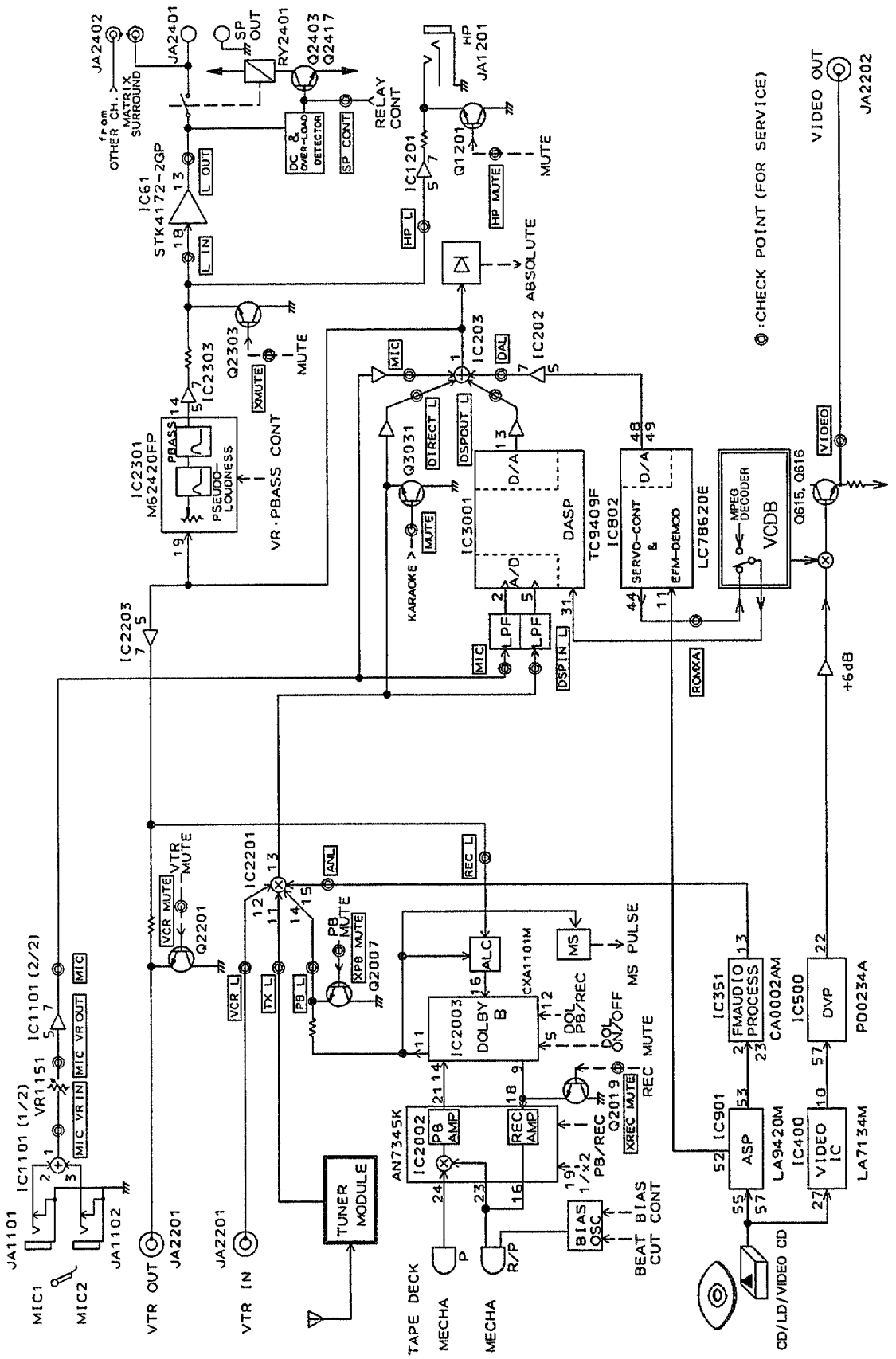
(6) Tray Close

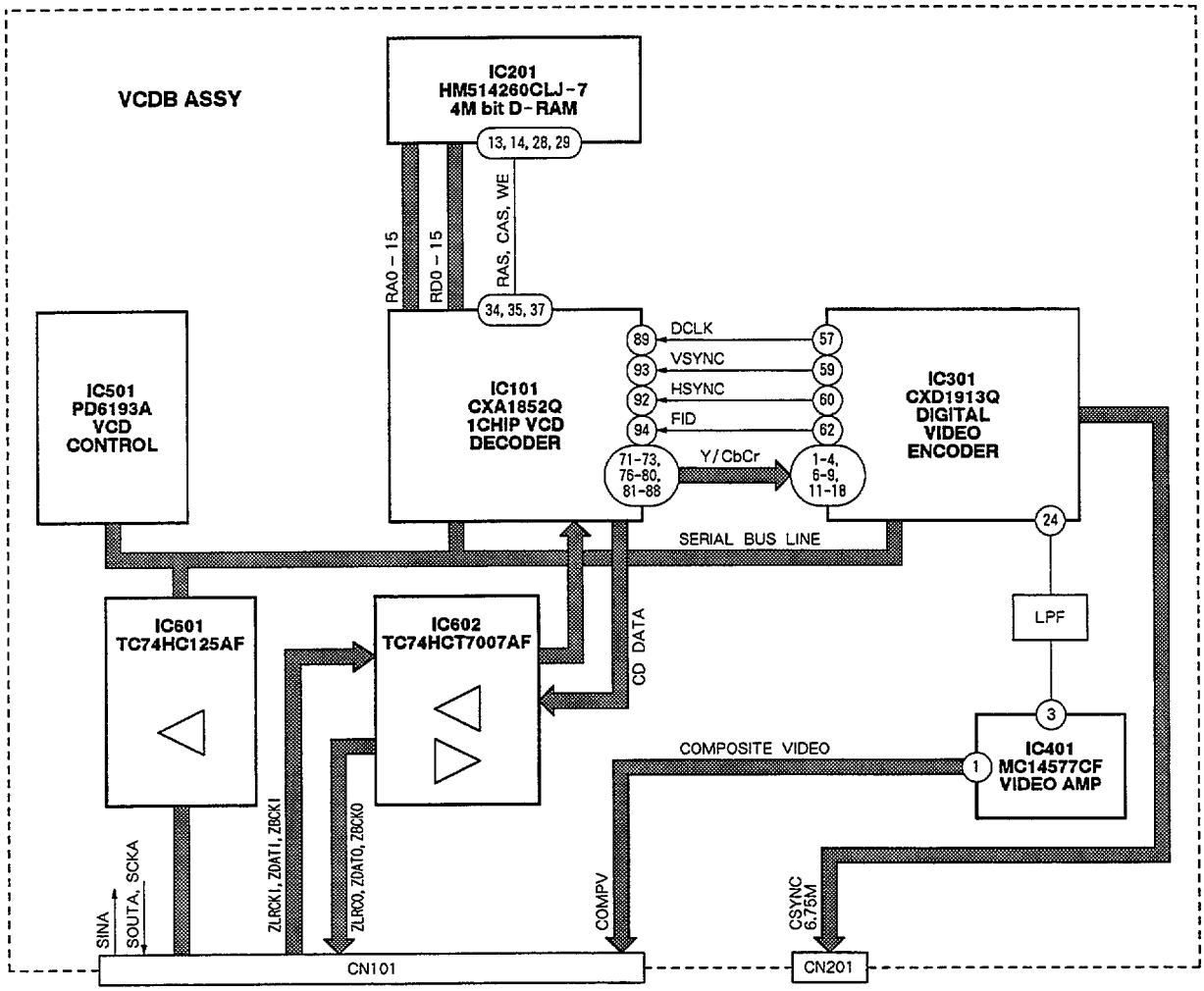


(7) 100% Color-bar Output



7.3 BLOCK DIAGRAM

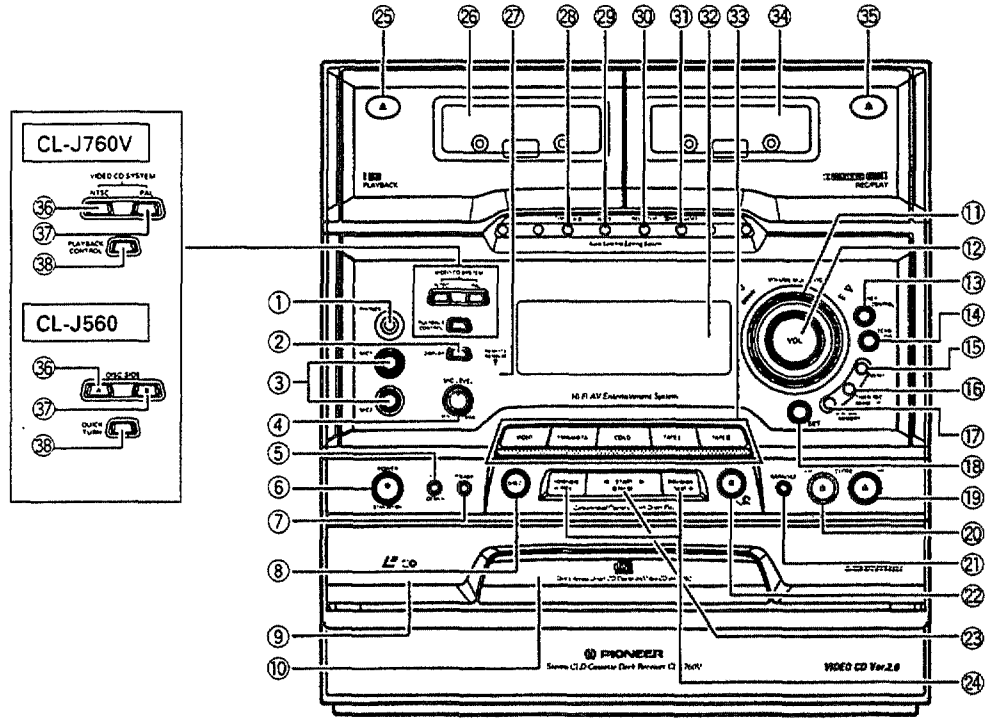



VCDB ASSY
IC201
HM514260CLJ-7
4M bit D-RAM
13, 14, 28, 29
RAS, CAS, WE
RA0 – 15
RD0 – 15
34, 35, 37
IC501
PD6193A
VCD
CONTROL
IC101
CXA1852Q
1CHIP VCD
DECODER
89
93
92
94
DCLK
VSYNC
HSYNC
FID
71-73,
76-80,
81-88
Y/CbCr
1-4,
6-9,
11-18
IC301
CXD1913Q
DIGITAL
VIDEO
ENCODER
57
59
60
62
24
SERIAL BUS LINE
IC601
TC74HC125AF
IC602
TC74HCT7007AF
CD DATA
LPF
3
IC401
MC14577CF
VIDEO AMP
1
COMPOSITE VIDEO
SINA
SOUTA, SCKA
ZLRCKI, ZDATI, ZBCKI
ZLRCO, ZDATO, ZBCKO
COMPV
CSYNC
6.75M
CN101
CN201

8. PANEL FACILITIES AND SPECIFICATIONS

■ FRONT PANEL

The illustration shows CL-J760V.



① Headphone jack (PHONES)
② DISPLAY button
③ MIC jacks 1, 2
④ MIC LEVEL control
⑤ SFC (DEMO) button
⑥ POWER switch (STANDBY/ON)
⑦ P.BASS button
⑧ DIRECT button
⑨ LD disc tray
⑩ CD disc tray
⑪ VOLUME/MULTI JOG knob
⑫ VOL button/indicator
⑬ KEY CONTROL button
⑭ ECHO LEVEL button
⑮ MENU button
⑯ TIMER REC/WAKE UP button
⑰ STATION MEMORY button
⑱ SET button
⑲ LD OPEN/CLOSE button (▲)
⑳ CD OPEN/CLOSE button (▲)
㉑ KARAOKE button
㉒ Stop (RETURN*) button (■)
㉓ START (◄ ►)/PAUSE (II) button
㉔ Search buttons
(I◄◄•◄◄/–(PREV*), ►►•►►I/+(NEXT*))
㉕ Tape I cassette eject mark (▲)
㉖ Tape I cassette door
㉗ Remote control sensor (REMOTE SENSOR)
㉘ COPY I ▷ II button
㉙ ASES button
㉚ REC/STOP button
㉛ Dolby NR ON/OFF button
㉜ Display
㉝ Input selector buttons
㉞ Tape II cassette door
㉟ Tape II cassette eject mark (▲)

CL-J760V

㊱ NTSC* button
㊲ PAL* button
㊳ PLAYBACK CONTROL* button

CL-J560

㊱ DISC SIDE A button
㊲ DISC SIDE B button
㊳ QUICK TURN button

* For instructions regarding this function, see the supplementary operating instructions accompanying the CL-J760V.

■ SPECIFICATIONS

Amplifier
Continuous power output (RMS) ..... 70 W + 70 W
(1 kHz, T.H.D. 10 %, 6 Ω)
Peak music power ..... 1000 W

FM tuner
Frequency range ..... 87.5 — 108 MHz
(76.0 — 108 MHz*)
Antenna Input ..... 75Ω unbalanced

AM tuner
Frequency range
9 kHz step ..... 531 kHz — 1,602 kHz
(522 kHz — 1,629 kHz*)
10 kHz step ..... 530 kHz — 1,700 kHz
Antenna ..... Loop antenna
Items marked with an asterisk (*) indicate specifications for models sold in Japan.

Stereo double cassette deck
Tracks ..... 4-track, 2-channel stereo
Frequency response
Type I (Normal) ..... 20 Hz — 16,000 Hz ±6 dB
Signal-to-Noise ratio ..... 56 dB
(Peak recording level, audible compensation)
DOLBY "B" NR ON ..... 10 dB improvement at 5 kHz

Compatible LaserDisc Player
Type ..... LaserDisc and Compact Disc digital audio system.
Laser used ..... Semiconductor laser, wavelength 780 nm
Permissible operating temperature range ..... +5°C — +35°C
Permissible operating humidity ..... 5 % — 85 %
(without condensation)

Audio output
Channels ..... 2 channel
Digital response
Frequency response ..... 4 Hz — 20 kHz
Signal-to-Noise ratio ..... 100 dB (EIAJ)
Dynamic range ..... 96 dB (EIAJ)

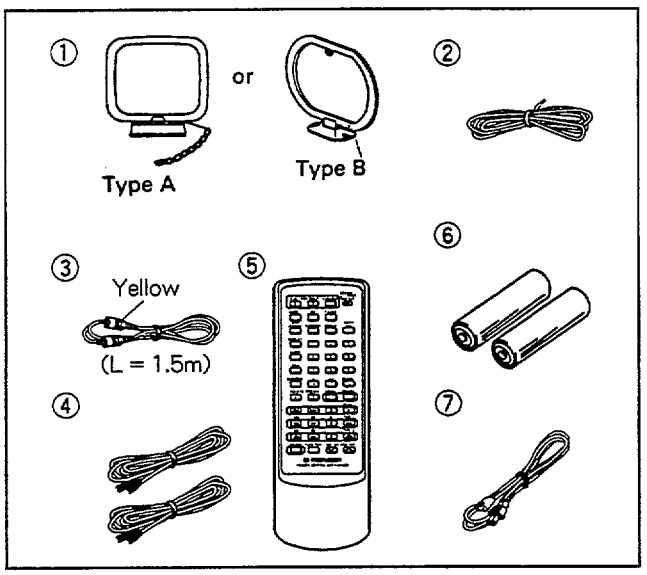
Video output
Output level ..... 1 Vp-p (75 Ω load, synch)
Output jack ..... RCA pin jack

Electrical, etc.
Power requirements ..... 110/120-127/220-230/240 V, 50/60 Hz
Power consumption ..... 170 W
External dimensions ..... 320 (W) × 340 (H) × 429 (D) mm
Weight ..... 13.4 kg

Accessories
Operating instructions 1
Supplementary operating instructions 1
FM antenna 1
AM loop antenna 1
Remote control unit 1
Batteries (size AA/R6P) 2
Speaker cord (included with speakers) 2
Video cable 1
AC power cord 1

NOTE:
Specifications and design subject to possible modification without notice due to improvements.

■ ACCESSORIES



① AM loop antenna
One AM loop antenna is supplied, either type A or type B. Performance is the same for types A and B.
② FM antenna
③ Video cable (for connection to TV set)
④ Speaker cord (included with speakers) x 2
⑤ Remote control unit
⑥ Batteries x 2 (Size AA/R6P)
⑦ AC power cord