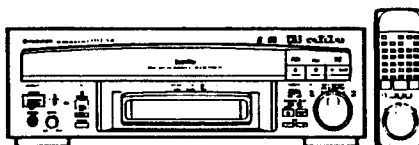


Service Manual

PIONEER®
The Art of Entertainment



ORDER NO.
ARP2692

CD CDV LD PLAYER

CLD-D702

CLD-D760

CLD-D702 AND CLD-D760 HAVE THE FOLLOWING :

Type	Model		Power Requirement	Remarks
	CLD-D702	CLD-D760		
KU/CA	○	—	AC120V only	
RD	—	○	AC110-127V, 220-240V (Switchable)	

- This manual is applicable to the following : CLD-D702/KU/CA ; CLD-D760/RD.
- For CLD-D760/RD, refer to page 74.
- For the circuit and mechanism descriptions, refer to the service guide ARP2234 for CLD-1090/2090/3090.

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1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.



WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).

When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.



NOTICE

(FOR CANADIAN MODEL ONLY)

Fuse symbols  (fast operating fuse) and/or  (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

Les symboles de fusible  (fusible de type rapide) et/ou  (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

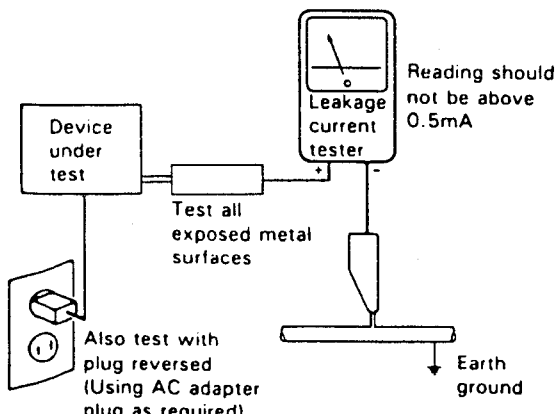
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a Δ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. EXPLODED VIEWS, PACKING AND PARTS LIST

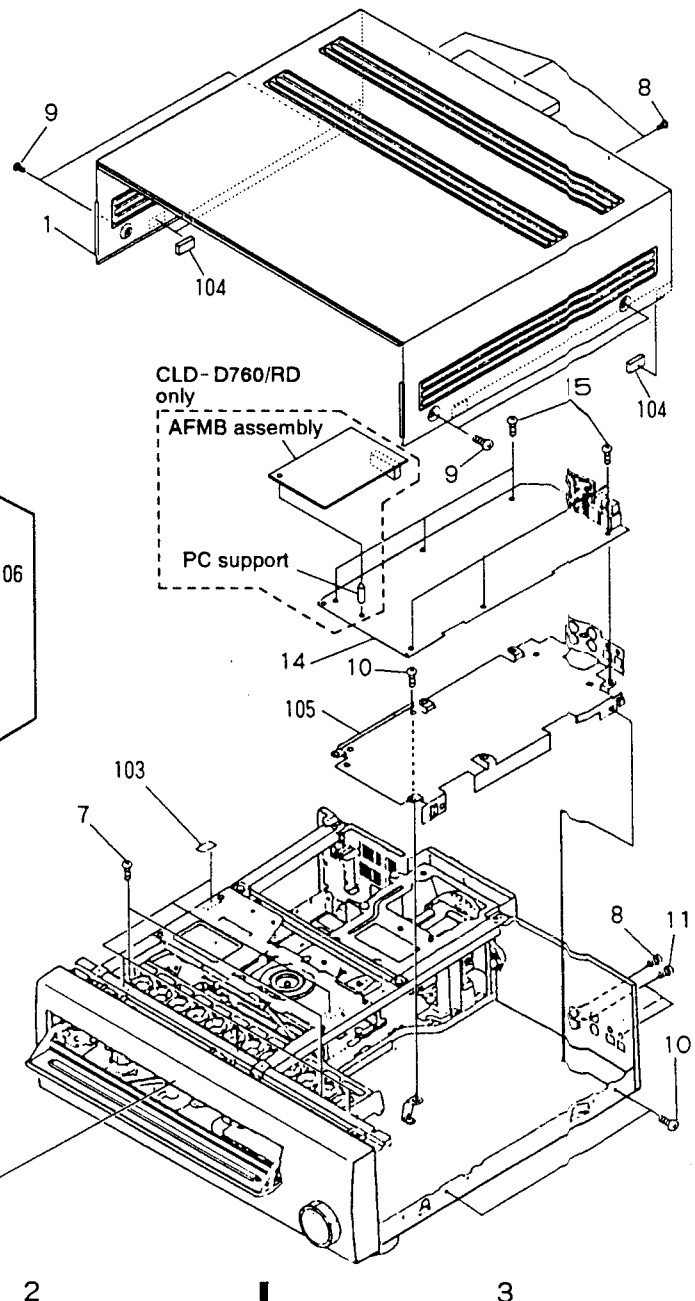
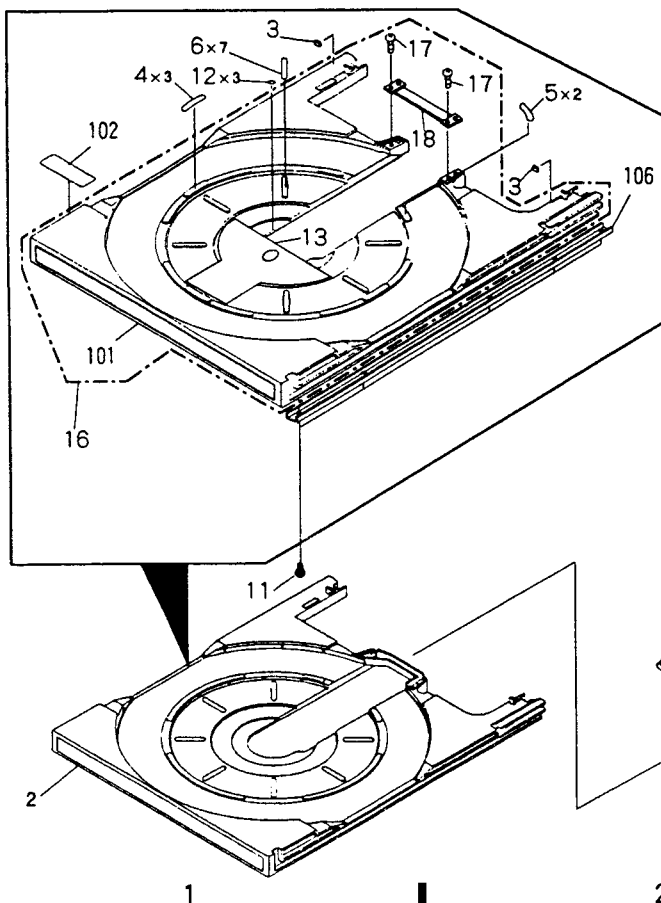
NOTES:

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

2.1 EXTERIOR SECTION

Parts List

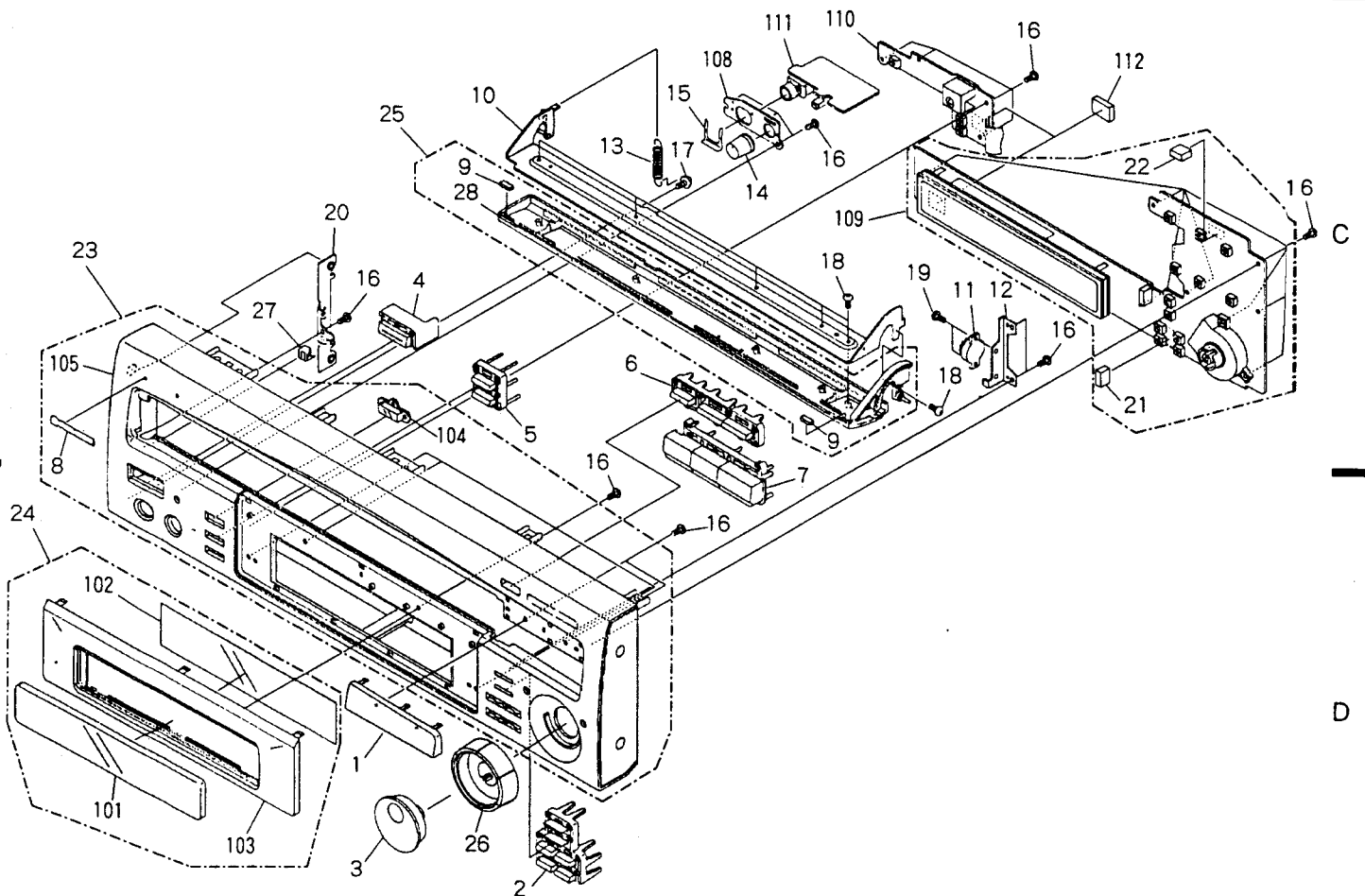
Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Bonnet - S	VXX1535	NSP 101	Tray	VNK2185
2	Tray assembly - S	VXX1808	NSP 102	Label(plastic)	VRW1289
3	Tray rubber	VEB1089	NSP 103	Cushion	VEC1092
4	Disc pad (Large)	VEC1191	NSP 104	Cushion	VEC1004
5	Disc pad (B)	VEC1379	NSP 105	PCB holder(A)	VNE1771
6	Disc pad (C)	VEC1380	NSP 106	Reinforced plate	VNE1679
7	Screw	VCZ30P120FMC			
8	Screw	BBT30P060FCC			
9	Screw	BCZ40P060FZK			
10	Screw	BBZ30P060FCC			
11	Screw	BPZ30P080FCU			
12	CD pad	VEC1252			
13	Transportation sheet	VRV1035			
14	AUDIO assembly	VWV1294			
15	Screw	IBZ30P060FCC			
16	Tray assembly	VXA1922			
17	Screw	BPZ26P060FZK			
18	Tray bridge	VNE1855			



2.2 FRONT PANEL SECTION

Parts list

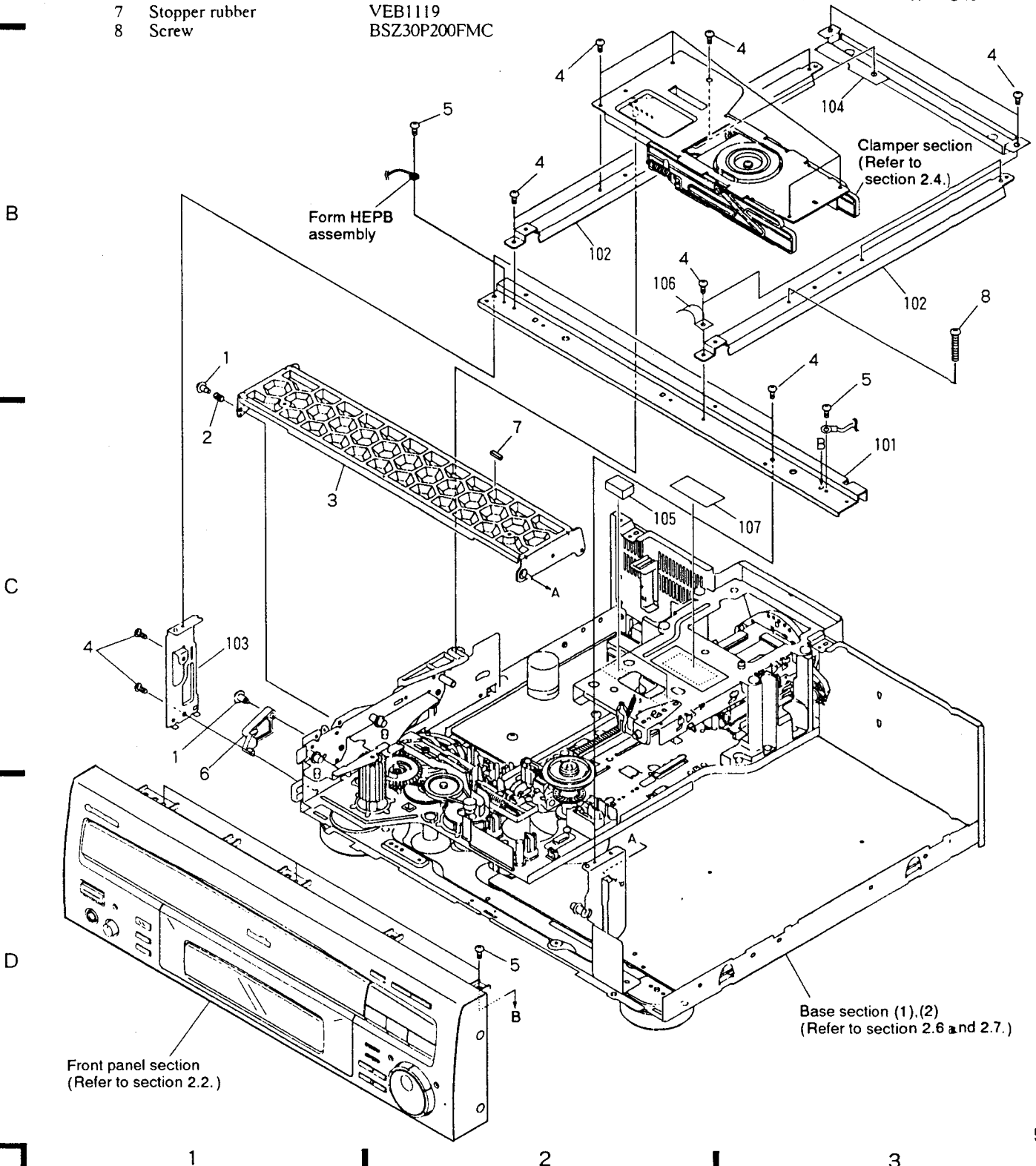
Mark No.	Description	Part No.	Mark No.	Description	Part No.	A
1	Door panel	VNK2191	21	Cushion A	VEC1551	
2	Function key assembly	VXA1838	22	Cushion B	VEC1552	
3	Jog dial	VNK2004	23	Front panel assembly	VXA1941	
4	PW button	VNK2002	24	Center panel assembly - S	VXX1840	
5	Sub key assembly	VXA1837	25	Door assembly - S	VXX1834	
6	Disc side key assembly	VXA1927	26	Shuttle ring	VNK2005	
7	Main key	VNK2192	27	Door earth plate	VBK1038	
8	Name plate	VAM1032	28	Front door assembly	VXA1928	
9	Door damp rubber	VEB1106				
10	Door base assembly	VXA1790				
11	Damper assembly	VXA1053	NSP 101	FL lens (A)	VNK1923	
12	Damper plate	VNE1765	NSP 102	FL filter (A)	VEC1565	
13	Door spring	VBH1194	NSP 103	Center panel	VNK2266	
14	Volume knob	VNK2003	NSP 104	IR window	VNK1937	
15	Snap plate	VNE1102	NSP 105	Front panel	VNK2200	
16	Screw	BPZ26P060FCU	106	.....		B
17	Screw	IPZ26P060FMC	107	.....	
18	Screw	BBZ20P050FNI	NSP 108	Jack holder	VNE1768	
19	Screw	PMZ20P040FCU	NSP 109	FLKY assembly	VWG1409	
20	Hinge plate	VNE1763	NSP 110	IRPS assembly	VWG1357	
			NSP 111	HEPB assembly	VWV1299	
			NSP 112	Damp cushion	VEC1112	



2.3 TOP VIEW SECTION

Parts list

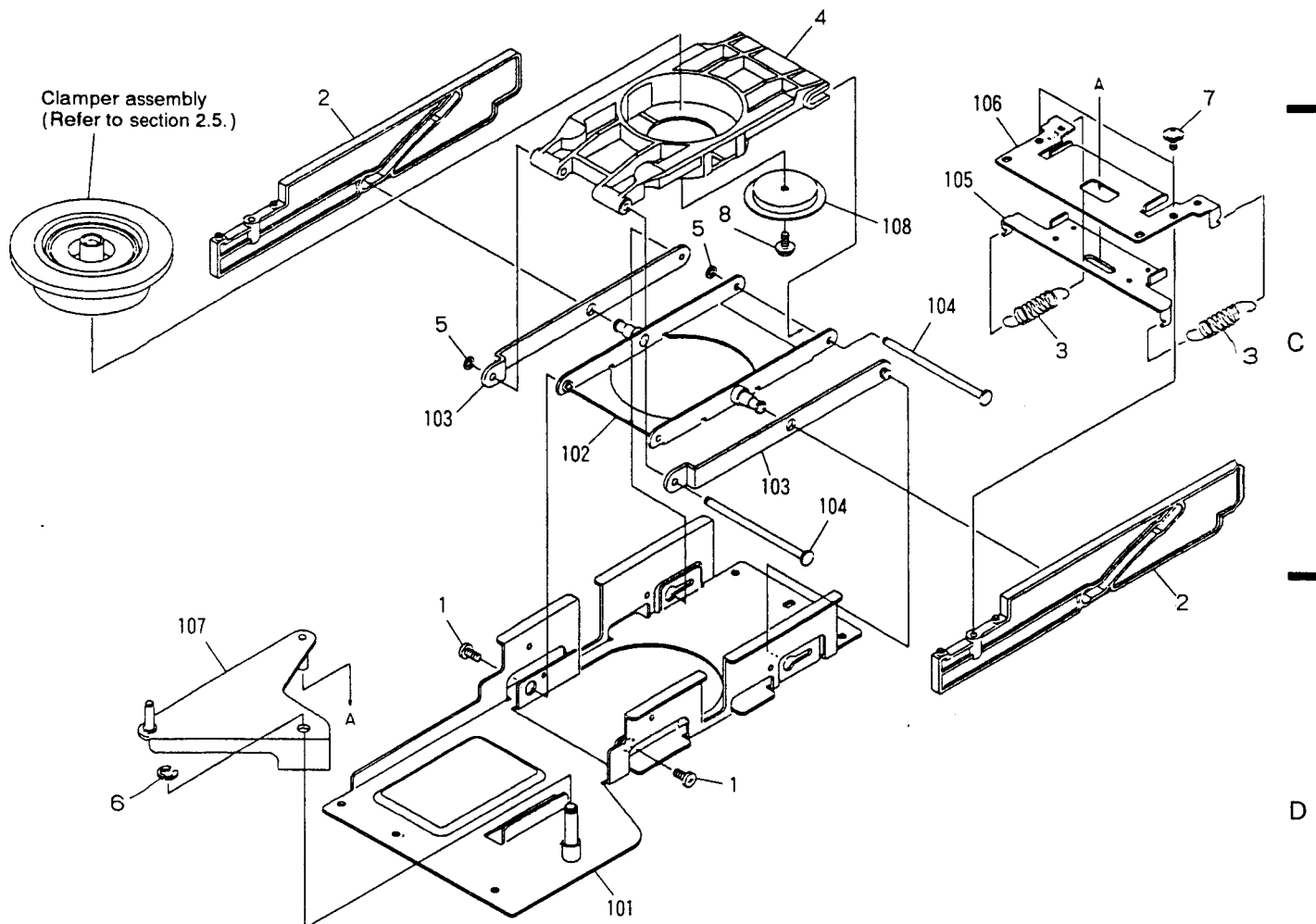
Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw (B)	VBA1008	NSP 101	Front angle	VNE1543
2	Arm spring	VBH1093	NSP 102	Center angle	VNE1761
3	Tray guide assembly	VXA1576	NSP 103	Side stay (L)	VNE1545
4	Screw	BBZ30P060FCC	NSP 104	Reinforced angle	VNE1673
5	Screw	IBZ30P060FCC	NSP 105	Damp cushion	VEC1602
6	Door lever	VNL1330	NSP 106	Earth plate	VNE1518
7	Stopper rubber	VEB1119	NSP 107	Fuse caution label	VRW-548
8	Screw	BSZ30P200FMC			



2.4 CLAMPER SECTION

Parts list

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.	A
	1	Screw	VBA1022	NSP	101	Center plate assembly	VXA1506	
	2	Clamp cam	VNL1527	NSP	102	Lever(B) assembly	VXA1504	
	3	Limiter spring	VBH1168	NSP	103	Lever(A) assembly	VXA1503	
	4	Clamper holder	VNL1305	NSP	104	Clamp shaft	VLL1299	
	5	Washer	WT26D060D050	NSP	105	Limiter plate	VNE1551	
	6	E ring	YE40FUC	NSP	106	Slide plate	VNE1556	
	7	Screw	IPZ30P060FMC	NSP	107	Lever(C) assembly	VXA1505	
	8	Screw	PMB30P080FMC	NSP	108	Clamper head	VNE1546	

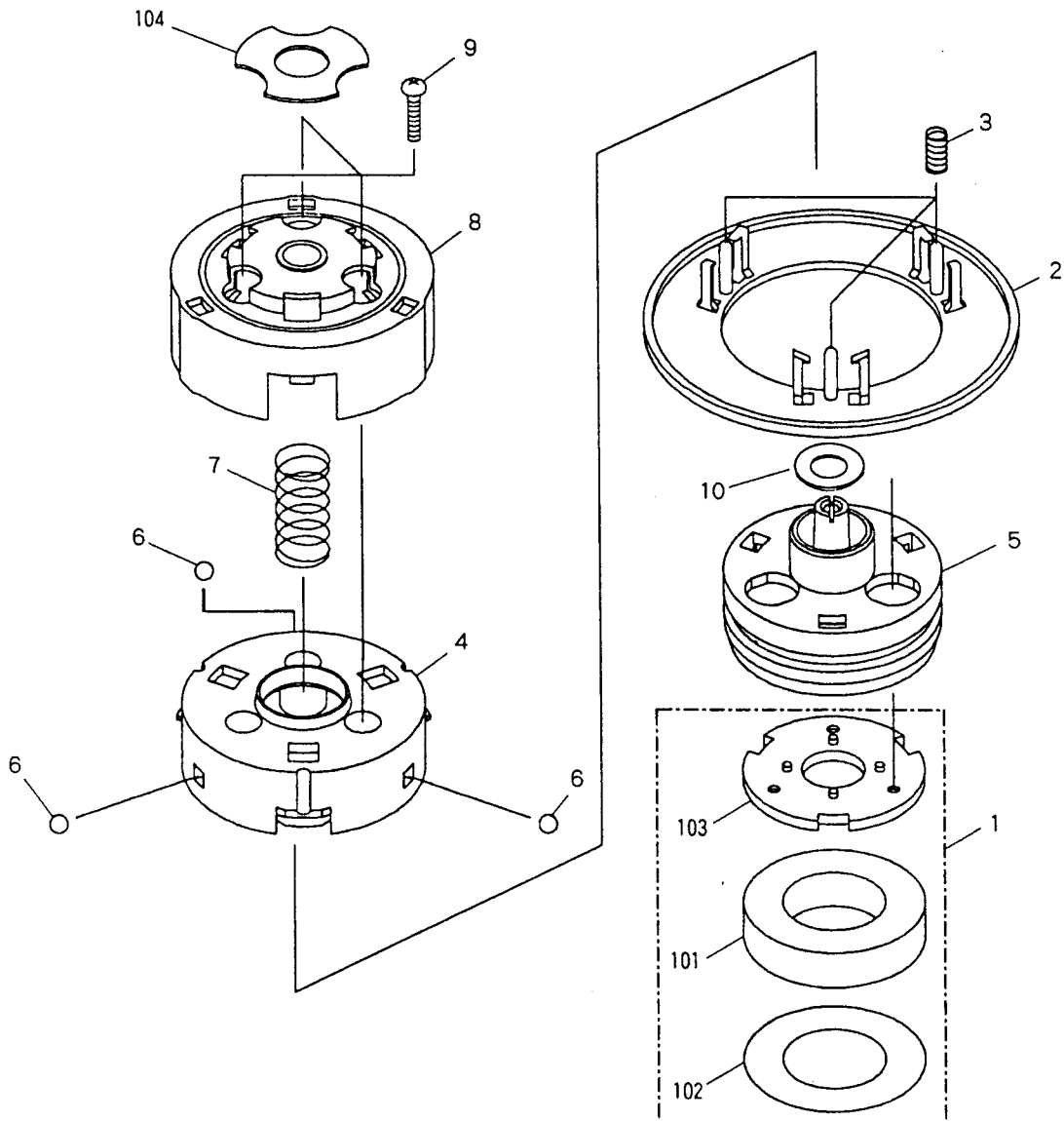


2.5 CLAMPER ASSEMBLY

Parts list

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	Magnet assembly - S	VXX1475	NSP	101	Magnet	VMG1010
	2	Disc clamber	VNL1362	NSP	102	Gap sheet	VEC1561
	3	Clamber spring	VBH1153	NSP	103	Clamber plate	VNE1549
	4	Clamber base	VNL1364	NSP	104	Absorber rubber (A)	VEB1146
	5	Centering hab (B)	VNL1435				
	6	Steel ball	VNX1006				
	7	Centering spring (B)	VBH1130				
	8	Clamber cover	VNL1363				
	9	Screw	AMZ20P040FMC				
	10	Washer	WA60F115M160				

B



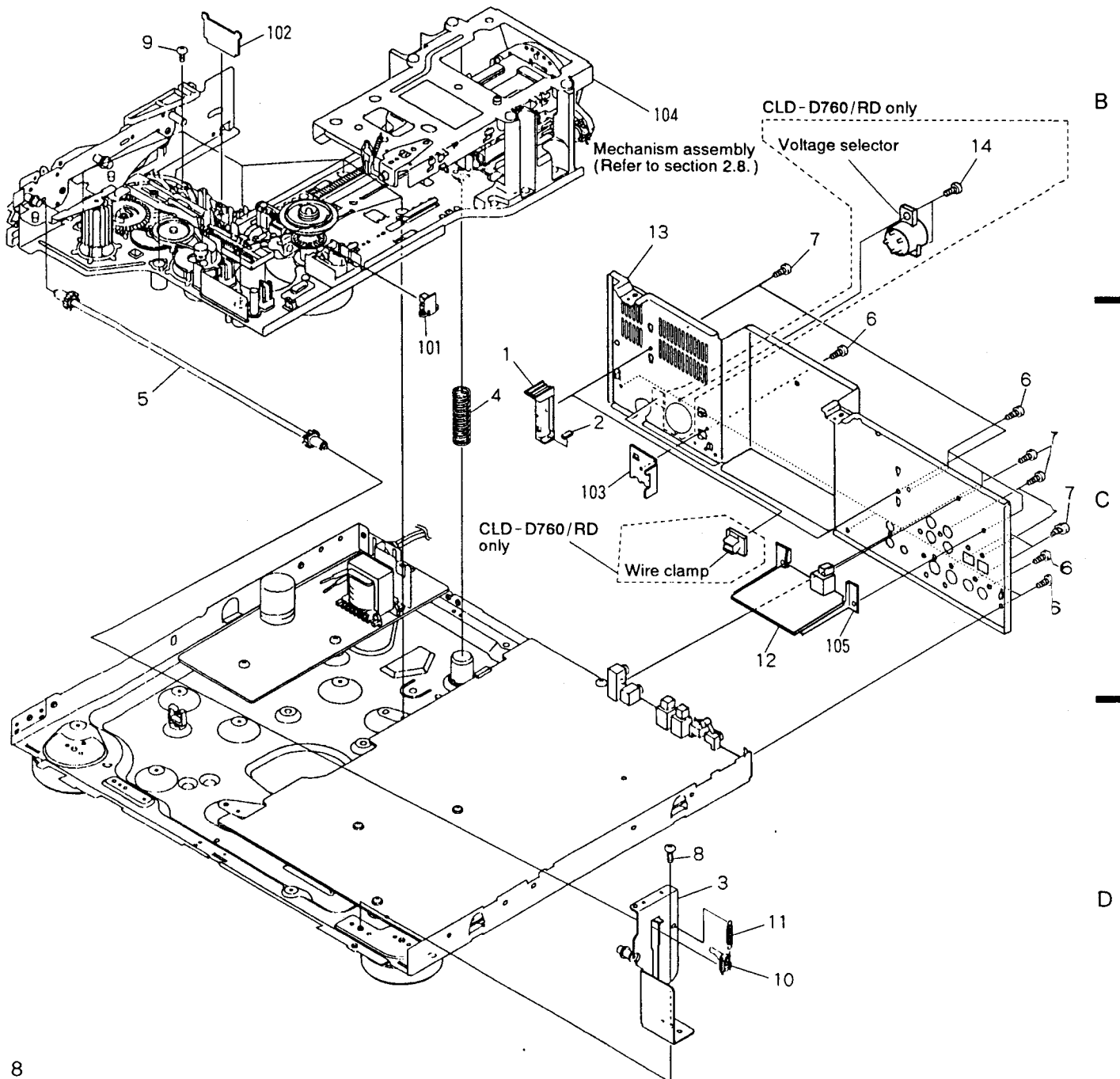
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2.6 BASE SECTION (1)

Parts list

Mark No.	Description	Part No.	Mark No.	Description	Part No.	A
1	Tray stopper	VNL1202	11	Synchro spring	VBH1139	
2	Door damp rubber	VEB1033	12	COXB assembly	VWV1301	
3	Side stay (R) assembly	VXA1690	13	Rear panel	VNA1332	
4	Base spring	VBH1145	14	Screw	BBZ30P080FCC	
5	Synchro gear assembly	VXA1627				
6	Screw	BBT30P060FCC	NSP 101	FG board assembly	VWG1354	
7	Screw	BBZ30P080FCU	NSP 102	SW board assembly	VWG1355	
8	Screw	BBZ30P060FCC	NSP 103	TB holder	VNE1612	
9	Screw	VBA1023	NSP 104	Mechanism assembly	VWT1085	
10	Synchro holder	VNL1334	NSP 105	Fixing base for COXB assembly	VNE1819	

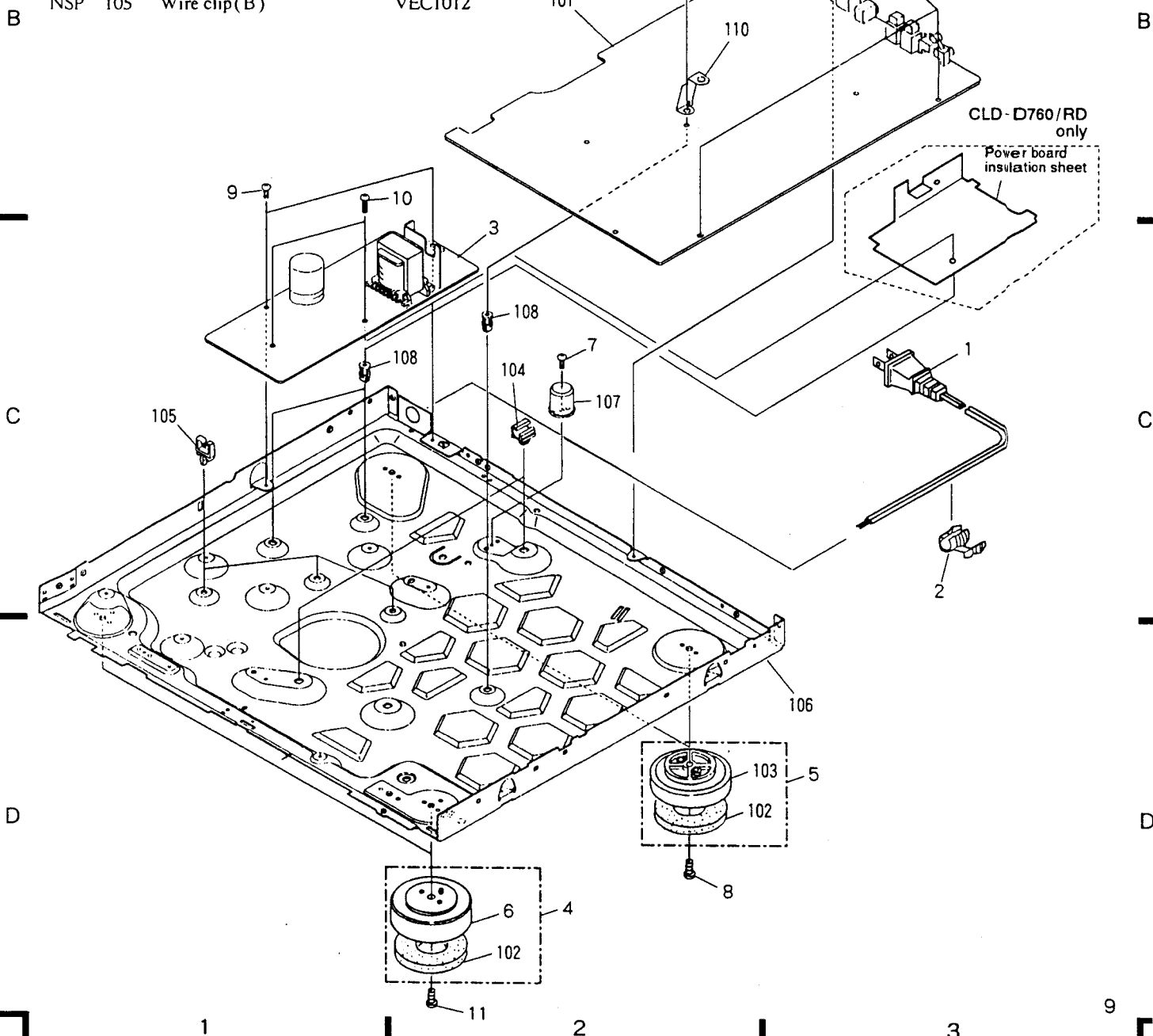


2.7 BASE SECTION (2)

Parts list

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
△	1	AC power cord	PDG1015	NSP	106	Base chassis	VNA1254
△	2	Cord stopper	CM-22C	NSP	107	Spring guide	VNL1343
	3	Power supply assembly	VWR1179	NSP	108	PCB spacer	PNY-404
	4	Insulator assembly	VXA1686		109	.....
	5	Insulator assembly	VXA1687	NSP	110	PCB holder(B)	VNE1772
	6	Insulator	VNK1095				
	7	Screw	BBZ30P060FCC				
	8	Screw	BBZ30P080FCC				
	9	Screw	IBZ30P060FCC				
	10	Screw	IPZ30P160FMC				
	11	Screw	BBZ30P140FCC				

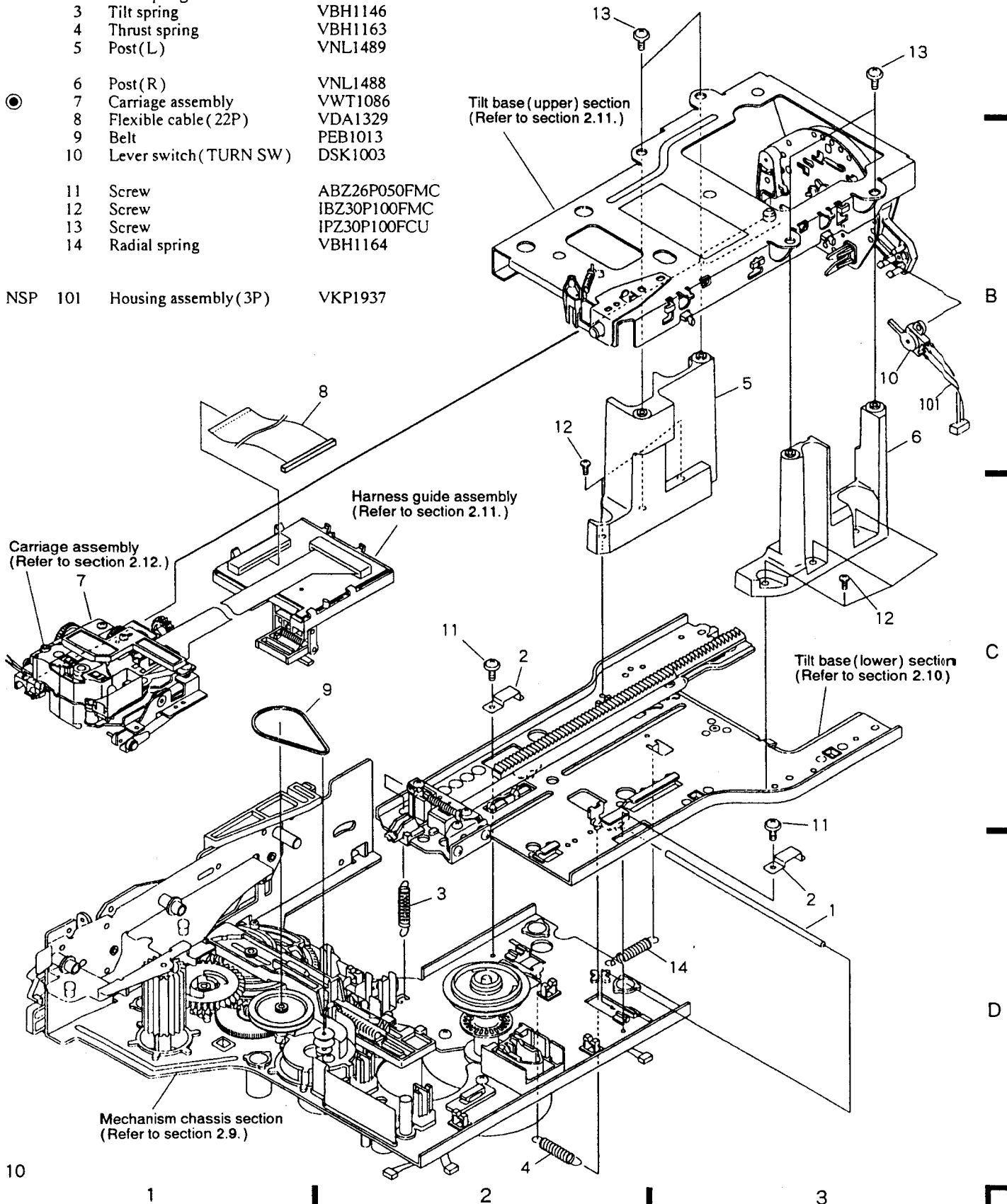
NSP	101	MAIN board assembly	VWX1165
NSP	102	Stopper	VEC1487
NSP	103	Insulator	VNK1248
NSP	104	P. Plate holder	PNY-405
NSP	105	Wire clip(B)	VEC1012



2.8 MECHANISM ASSEMBLY

Parts list

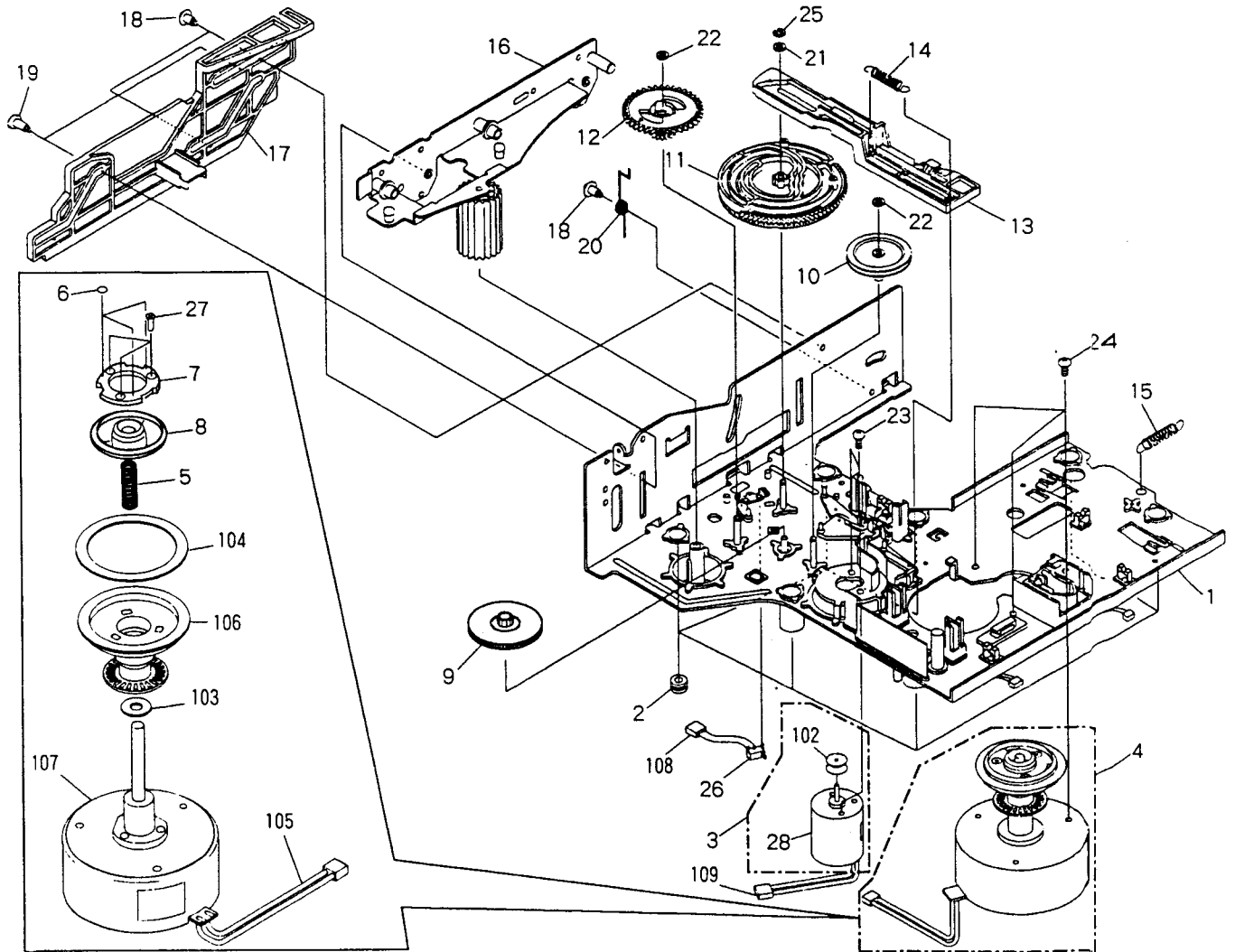
Mark	No.	Description	Part No.
	1	Tilt shaft	VLL1326
	2	Plate spring	VBK1013
	3	Tilt spring	VBH1146
	4	Thrust spring	VBH1163
	5	Post(L)	VNL1489
	6	Post(R)	VNL1488
⊙	7	Carriage assembly	VWT1086
	8	Flexible cable (22P)	VDA1329
	9	Belt	PEB1013
	10	Lever switch (TURN SW)	DSK1003
	11	Screw	ABZ26P050FMC
	12	Screw	IBZ30P100FMC
	13	Screw	IPZ30P100FCU
	14	Radial spring	VBH1164
NSP	101	Housing assembly (3P)	VKP1937



2.9 MECHANISM CHASSIS SECTION

Parts list

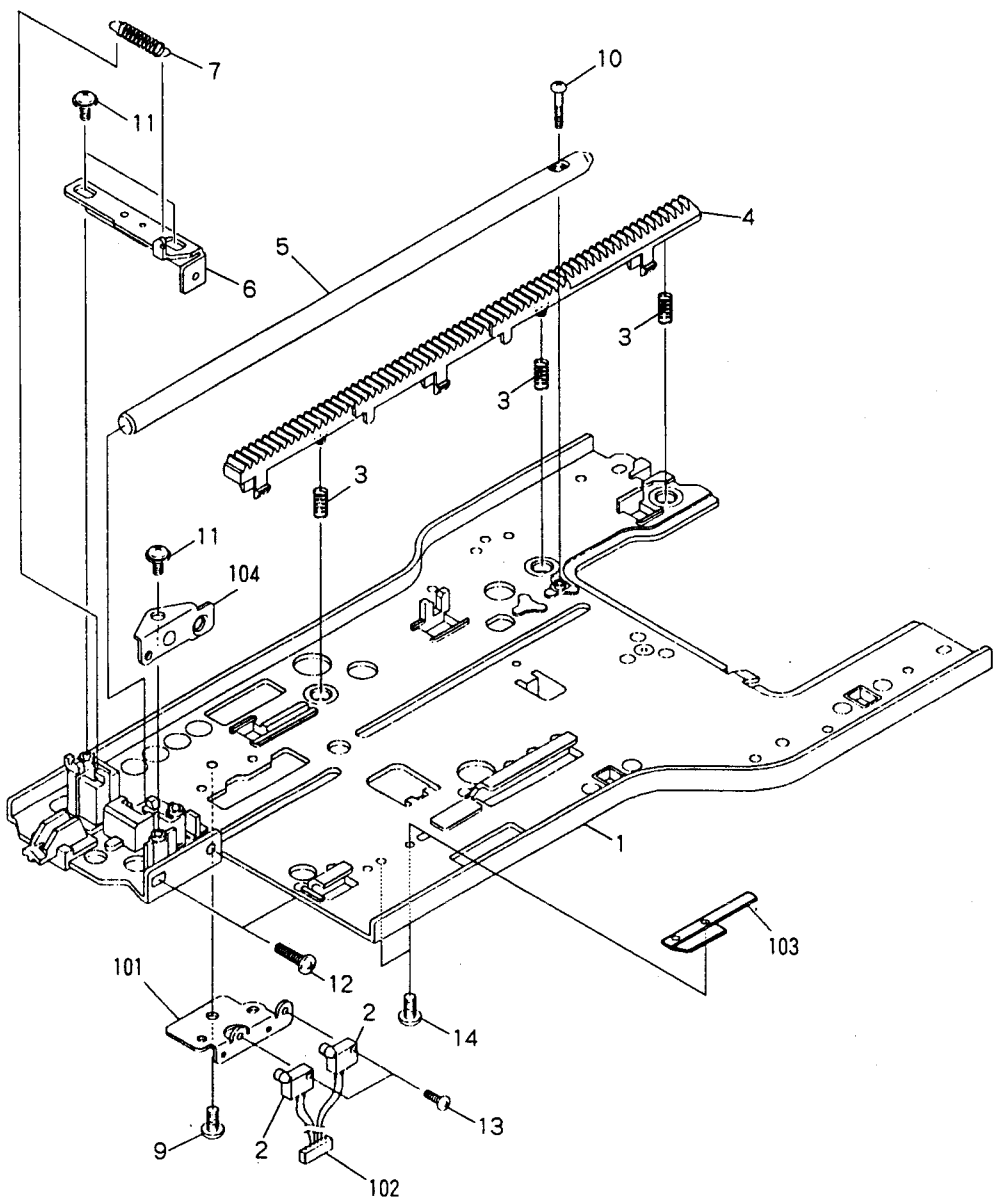
A	Mark No.	Description	Part No.	Mark No.	Description	Part No.	A
⊙	1	Chassis assembly	VXA1577	21	Washer	WA32N080W050	
	2	Rubber bushing	VEB1138	22	Washer	WT26D047D025	
	3	Loading motor assembly	VXX1262	23	Screw	PMZ30P040FCU	
	4	Spindle motor assembly	VXA1900	24	Screw	PMA30P050FCU	
	5	Centering spring	VBH1024	25	E ring	YE23FUC	
	6	Sheet	VEB1194	26	Push switch (TRAY SW)	DSG1014	
	7	Yoke plate A	VNE1835	27	Screw	CPZ20P080FMC	
	8	Centering hab(A)	VNL1296	28	Loading motor	VXM1034	
	9	Two stair gear	VNL1326				
	10	Gear pulley	VNL1249	101	•••••		
	11	Cam gear	VNL1350	NSP 102	Motor pulley	VLL1176	
	12	Follow gear	VNL1317	NSP 103	Oil stopped washer	VBF1002	
	13	Spring slanting cam	VNL1316	NSP 104	Rubber sheet	VEB1135	
	14	Cam spring	VBH1082	NSP 105	Housing assembly (02P)	VKP1566	
	15	Radial spring	VBH1164	NSP 106	Turn table assembly	VXA1760	
B	16	Roller plate assembly	VXA1770	NSP 107	Spindle motor	VXM1046	B
	17	Slide cam	VNL1304	NSP 108	Housing assembly (02P red)	VKP1815	
	18	Screw (B)	VBA1008	NSP 109	Housing assembly	VKP1875	
	19	Screw (C)	VBA1015				
	20	Return spring	VBH1129				



2.10 TILT BASE (LOWER) SECTION

Parts list

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Tilt base (Lower) assembly	VXA1798	11	Screw	IPZ20P080FMC
2	Slide switch (LD, CDV INSIDE)	OSH1001	12	Screw	BMZ26P100FMC
3	Rack spring	VBH1133	13	Screw	PMZ20P060FMC
4	Rack gear (Lower)	VNL1346	14	Screw	PMZ20P030FMC
5	Carriage shaft (Lower)	VLL1325	NSP 101	SW holder	VNE1620
6	Shaft plate (Lower) assembly	VXA1626	NSP 102	Housing assembly (04P white)	VKP1851
7	S plate spring	VBH1149	NSP 103	Roller shaft holder plate	VNE1666
8		NSP 104	S plate holder	VNE1621
9	Screw	BBZ30P060FCC			
10	Screw	PPZ20P120FMC			



A

B

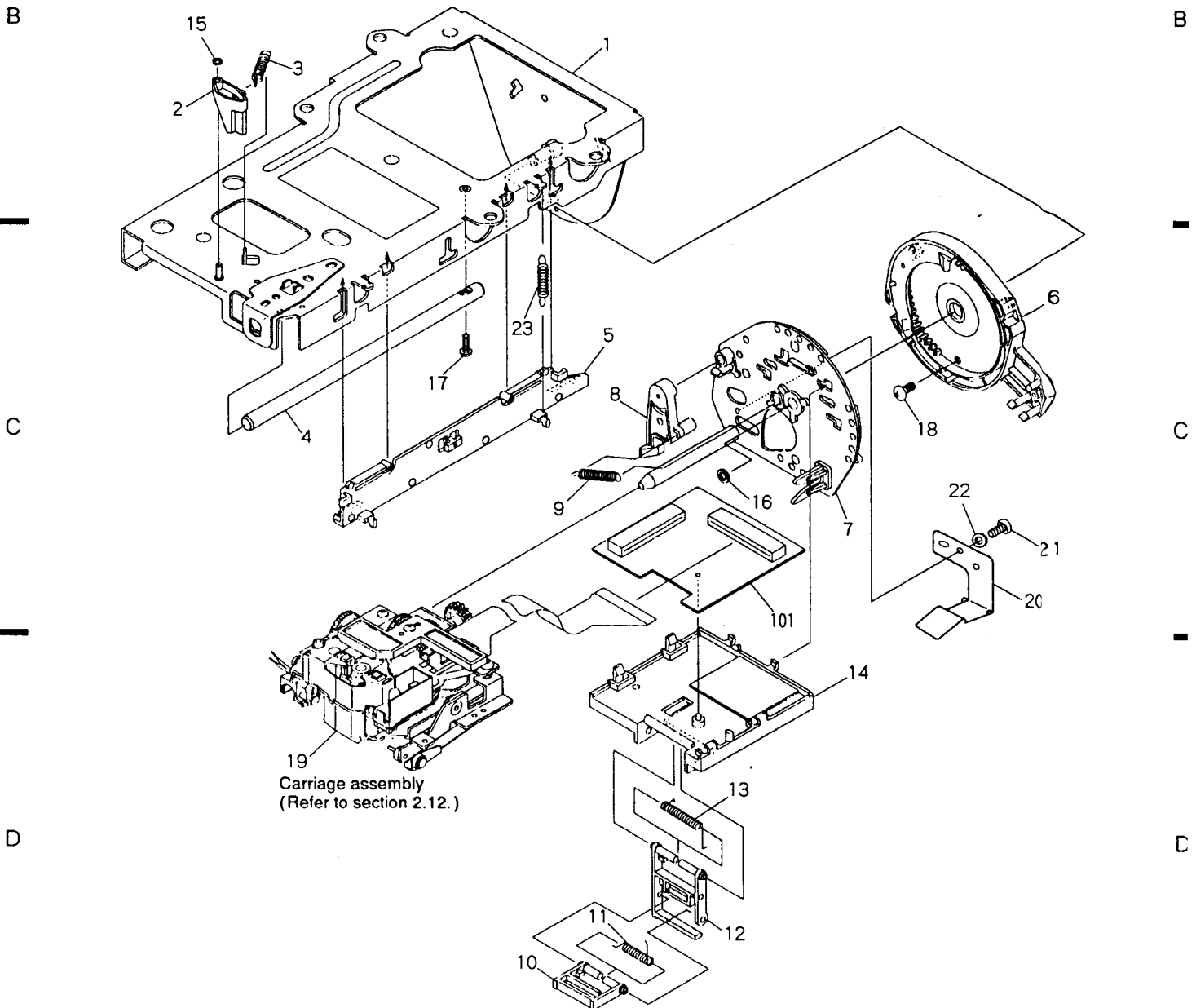
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2.11 TILT BASE (UPPER) SECTION

Parts list

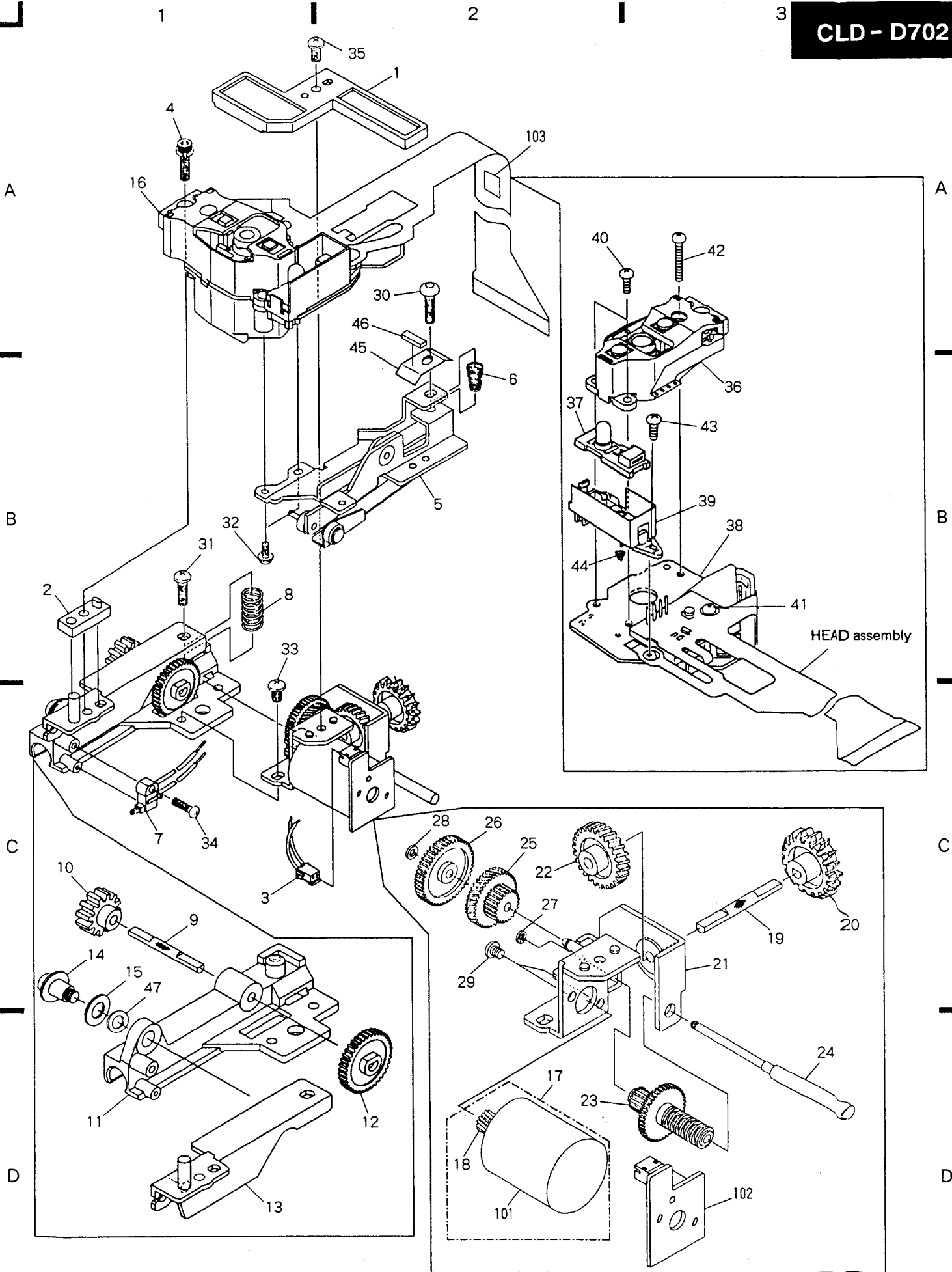
Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Tilt base (Upper) assembly	VXA1808	13	Guide spring (A)	VBH1166
2	SW lever	VNL1359	14	Harness guide (A)	VNL1349
3	SW lever spring	VBH1150	15	Washer	WT16D032D025
4	Carriage shaft (Upper)	VLL1324	16	Washer	WT36D072D050
5	Rack gear (Upper)	VNL1345	17	Screw	PMZ20P120FMC
6	Internal gear assembly	VXA1903	18	Screw	BBZ26P050FCC
7	R plate assembly	VXA1579	19	Carriage assembly	VWT1086
8	Rock lever	VNL1351	20	Rock plate	VBK1026
9	Lever spring	RBH1323	21	Screw	IBZ20P040FZK
10	Harness guide (C)	VNL1361	22	Washer	WB20FMC
11	Guide spring (B)	VBH1155	23	Rack spring (upper)	VBH1198
12	Harness guide (B)	VNL1408	NSP 101	CNNB assembly	VWG1194



2.12 CARRIAGE ASSEMBLY

Parts list

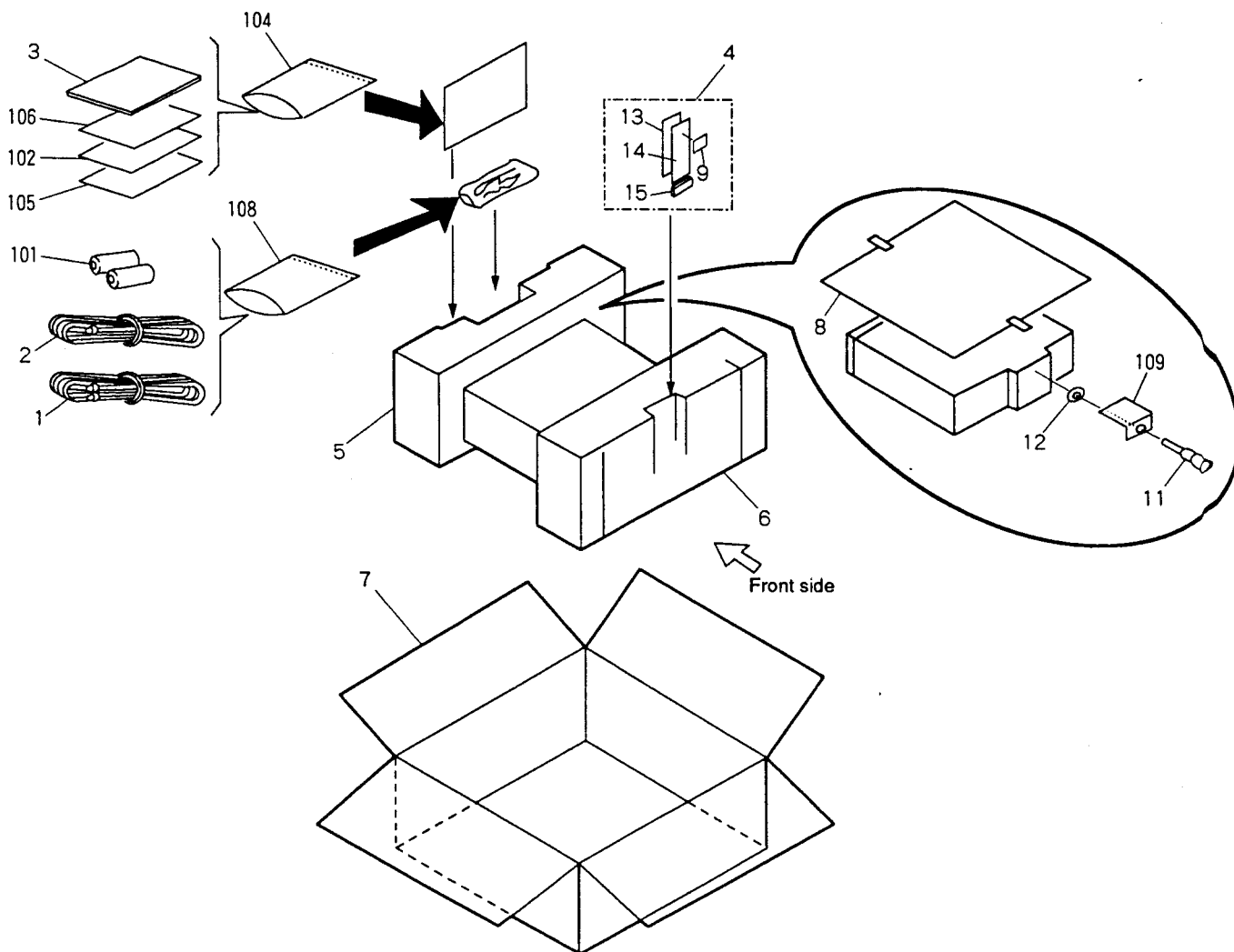
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	Flexible holder	VNL1358	NSP	101	Slider motor	VXM1027
	2	PU base	VNT1037	NSP	102	P.C.board, SLMB	VNP1295
	3	Housing assembly (1.5MP2P)	VKP1852	NSP	103	Flexible spacer	VEC1498
	4	Bolt 2.6 × 10	VLL1192				
	5	TAN base assembly	VXA1752				
	6	TAN spring	VBH1151				
	7	Slide switch (CD,B INSIDE)	VSK1008				
	8	TRKG spring	VBH1204				
	9	SL shaft (B)	VLL1334				
	10	Gear (F)	VNL1356				
	11	Carriage shaft holder	VNT1039				
	12	Gear (E)	VNL1355				
	13	PU plate assembly	VXA1583				
	14	Screw 4	VLL-183				
	15	Spring washer ϕ 4	VEF-027				
	16	Pickup assembly - S	VXX1841				
	17	Carriage motor assembly - S	VXX1537				
	18	SL gear (A)	VNL1250				
	19	SL shaft (C)	VLL1289				
	20	Gear (G)	VNL1365				
	21	Motor holder assembly	VXA1939				
	22	Gear (H)	VNL1357				
	23	Gear (C)	VNL1353				
	24	SL shaft (A)	VLL1333				
	25	Gear (B)	VNL1352				
	26	Gear (D)	VNL1354				
	27	Stop ring	YE12FUC				
	28	Washer	WT17D034D050				
	29	Screw	JGZ20P022FMC				
	30	Screw	PMZ26P100FMC				
	31	Screw	BMZ26P080FMC				
	32	Screw	PMA20P040FMC				
	33	Screw	PMH26P050FMC				
	34	Screw	PBZ20P080FMC				
	35	Screw	BBZ26P050FMC				
	36	Actuator assembly	VXX1740				
	37	Sensor assembly	VEX1018				
	38	Pre-pickup assembly	VXX1554				
	39	Sensor stay	VNH1037				
	40	Screw	PMA20P060FMC				
	41	Screw	PMA20P080FMC				
	42	Screw	PMA20P160FMC				
	43	Screw	BMZ20P060FMC				
	44	Sensor spring	VBH1087				
	45	Spacer	VEC1496				
	46	Cushion	VEC1497				
	47	Washer	WA42B080D010				



2.13 PACKING

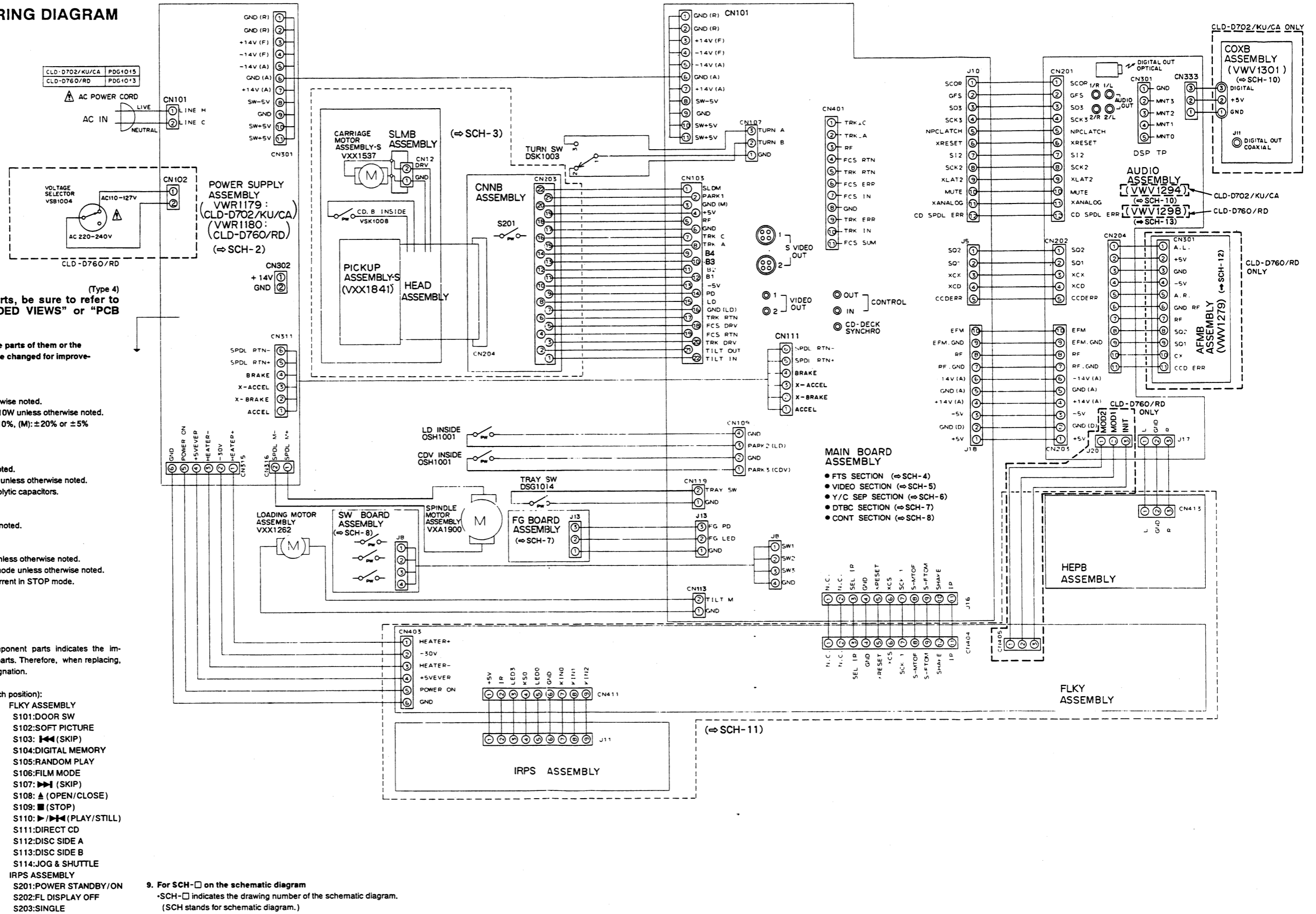
Parts list

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Connection cord	VDE-055	NSP 101	Dry cell battery (R03, AAA)	VEM-022
2	Video cable	VDE-056	NSP 102	Caution card	VRR1009
3	Operating instructions (English)	VRB1080	103	.....
4	Remote control unit (CU-CLD068)	VXX1721	NSP 104	Polyethylene bag	VHL-014
			NSP 105	Caution card (UC)	VRM1039
5	Pad (R)	VHA1099	NSP 106	Caution card (UC)	VRM1026
6	Pad (F)	VHA1100	107	.....
7	Packing case	VHG1252	NSP 108	Polyethylene bag	Z21-029
8	Mirror mat	VHL1012	NSP 109	Tac card	VRW1200
9	Battery cover	DNK2286			
10	.....			
11	Shipping screw	VLL1358			
12	Washer	WT36D072D025			
13	Case (upper)	VNK2061			
14	Case (lower)	VNK2062			
15	Filter	VNK2063			



3. SCHEMATIC AND PCB CONNECTION DIAGRAMS

3.1 OVERALL WIRING DIAGRAM



- Note:** (Type 4)
- When ordering service parts, be sure to refer to "PARTS LIST OF EXPLODED VIEWS" or "PCB PARTS LIST".
 - Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.
 - RESISTORS:**
Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
Rated power: 1/4W, 1/8W, 1/8W, 1/10W unless otherwise noted.
Tolerance:(F):±1%, (G):±2%, (K):±10%, (M):±20% or ±5% unless otherwise noted.
 - CAPACITORS:**
Unit: p:pF or μF unless otherwise noted.
Ratings: capacitor (μF) / voltage (V) unless otherwise noted.
Rated voltage: 50V except for electrolytic capacitors.
 - COILS:**
Unit: m:mH or μH unless otherwise noted.
 - VOLTAGE AND CURRENT:**
□: DC voltage (V) in PLAY mode unless otherwise noted.
⇨ mA or ⇩ mA: DC current in PLAY mode unless otherwise noted.
Value in () is DC current in STOP mode.
 - OTHERS:**
 - ⇨ : Signal route.
 - ⊙ : Adjusting point.
 - ▼(Red) : Measurement point.
 - The Δ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
 - SWITCHES (Underline indicates switch position):**

OUTSIDE OF PCB ASSEMBLY	FLKY ASSEMBLY
Push switch :TRAY SW	S101:DOOR SW
Lever switch :TURN SW	S102:SOFT PICTURE
Slide switch :LD, CDV INSIDE	S103:⏪(SKIP)
Slide switch :CD, B INSIDE	S104:DIGITAL MEMORY
SW BOARD ASSEMBLY	S105:RANDOM PLAY
S1-S3:LOADING/TILT	S106:FILM MODE
	S107:⏩ (SKIP)
	S108:▲ (OPEN/CLOSE)
	S109:■ (STOP)
	S110:▶/⏪ (PLAY/STILL)
	S111:DIRECT CD
	S112:DISC SIDE A
	S113:DISC SIDE B
	S114:JOG & SHUTTLE
IRPS ASSEMBLY	
S201:POWER STANDBY/ON	
S202:FL DISPLAY OFF	
S203:SINGLE	

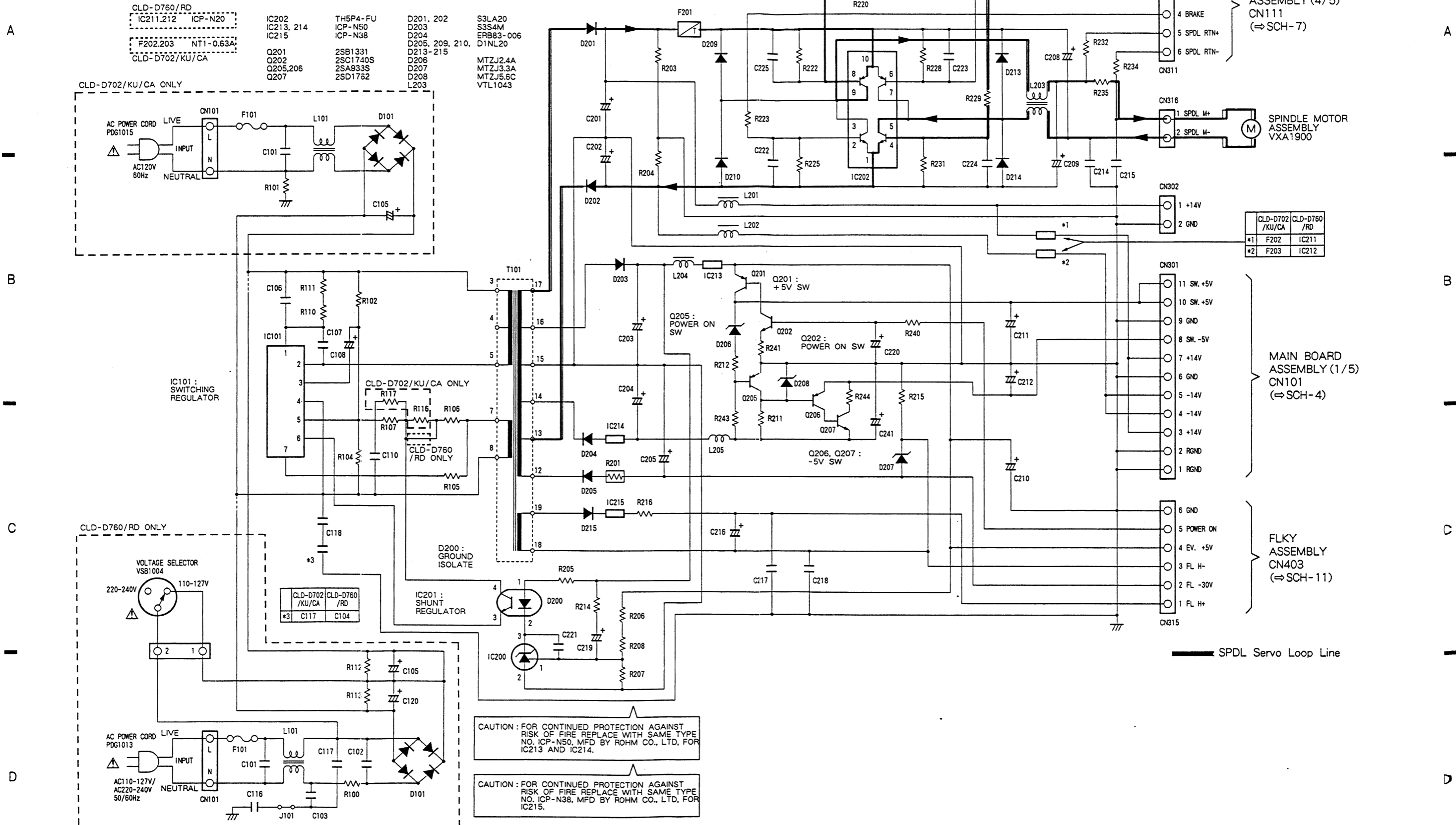
9. For SCH-□ on the schematic diagram
 -SCH-□ indicates the drawing number of the schematic diagram.
 (SCH stands for schematic diagram.)

SCH-1 OVERALL WIRING DIAGRAM

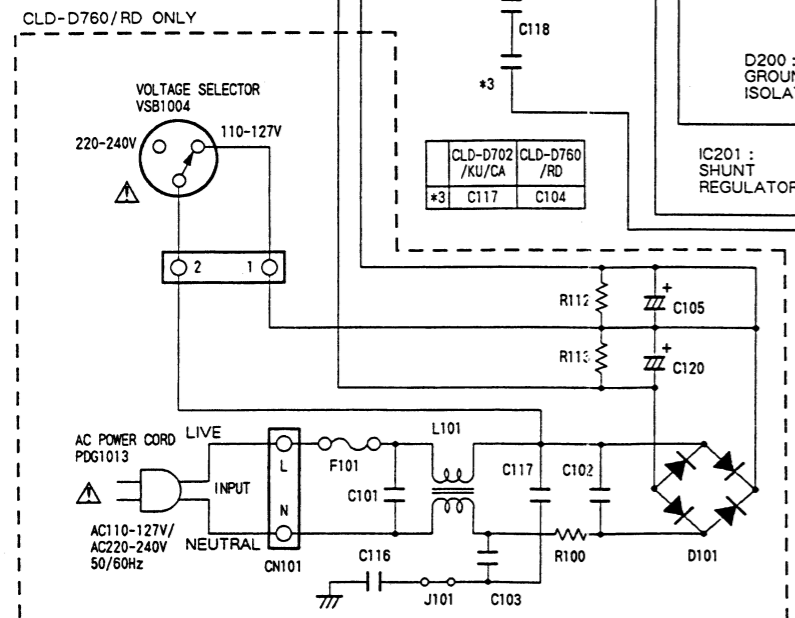
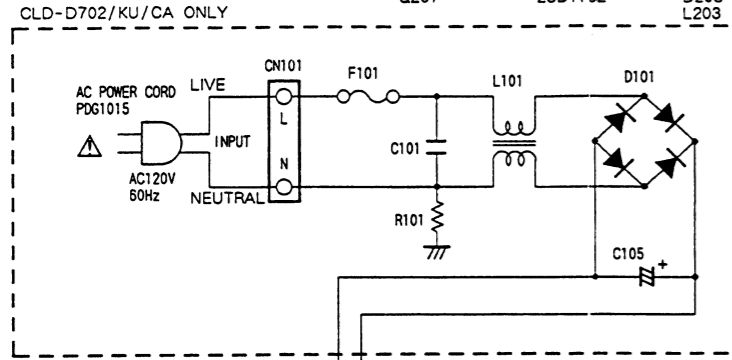
OVERALL WIRING DIAGRAM **SCH-1**

3.2 POWER SUPPLY ASSEMBLY

POWER SUPPLY ASSEMBLY (VWR1179 : CLD-D702/KU/CA)
(VWR1180 : CLD-D760/RD)



CLD-D760/RD IC211,212 ICP-N20 F202,203 NT1-0.63A CLD-D702/KU/CA	IC202 IC213, 214 IC215 Q201 Q202 Q205,206 Q207	TH5P4-FU ICP-N50 ICP-N38 2SB1331 2SC1740S 2SA933S 2SD1762	D201, 202 D203 D204 D205, 209, 210, D213-215 D206 D207 D208 L203	S3LA20 S3S4M ERB83-006 D1NL20 MTZJ2.4A MTZJ3.3A MTZJ5.6C VTL1043
--	--	---	--	---



MAIN BOARD ASSEMBLY (4/5)
CN111
(⇒SCH-7)

SPINDLE MOTOR ASSEMBLY VXA1900

	CLD-D702 /KU/CA	CLD-D760 /RD
#1	F202	IC211
#2	F203	IC212

MAIN BOARD ASSEMBLY (1/5)
CN101
(⇒SCH-4)

FLKY ASSEMBLY CN403
(⇒SCH-11)

SPDL Servo Loop Line

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE REPLACE WITH SAME TYPE NO. ICP-N50, MFD BY ROHM CO., LTD. FOR IC213 AND IC214.

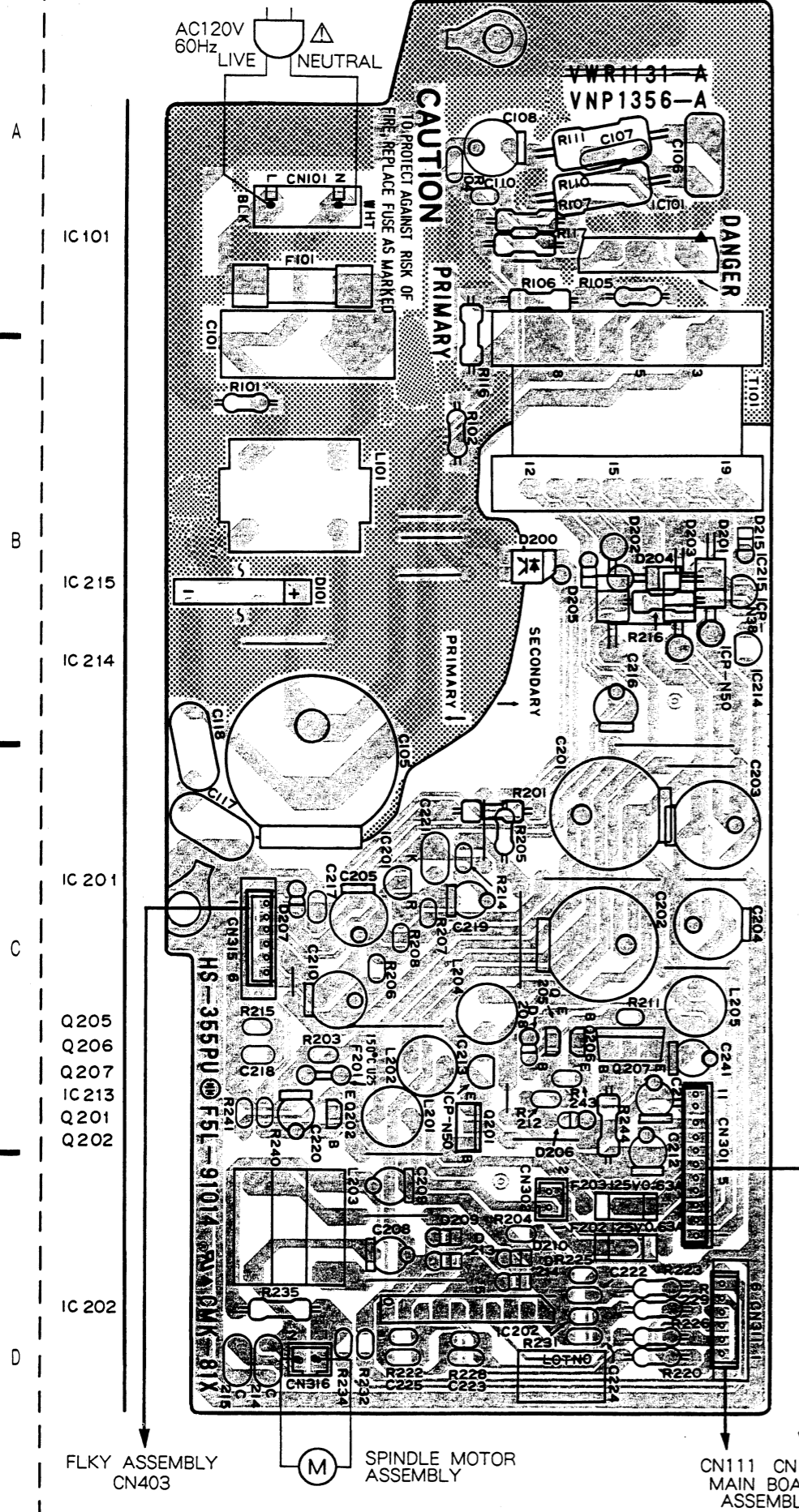
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE REPLACE WITH SAME TYPE NO. ICP-N38, MFD BY ROHM CO., LTD. FOR IC215.

SCH-2
POWER SUPPLY ASSEMBLY

POWER SUPPLY ASSEMBLY
SCH-2

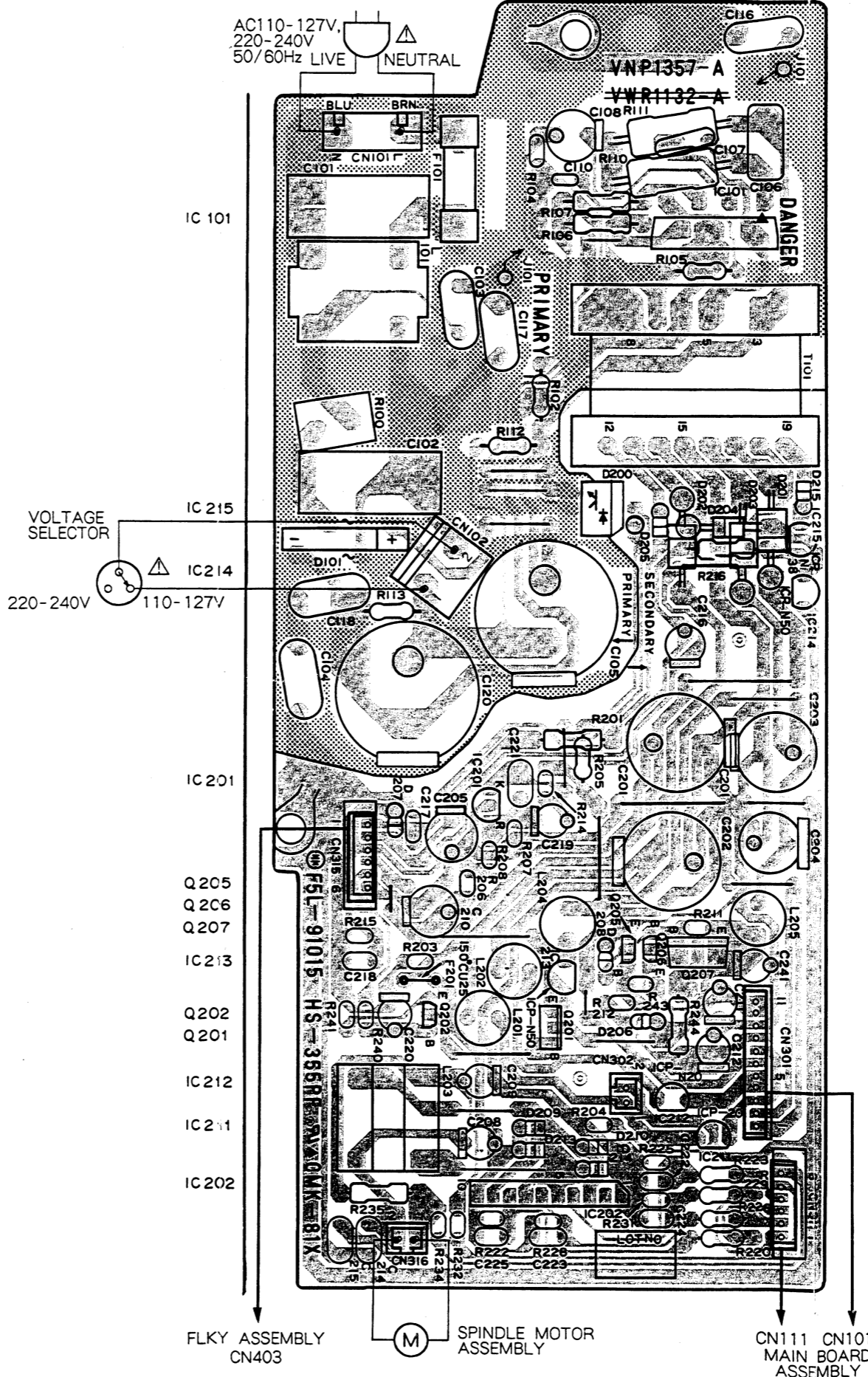
• CLD-D702/KU/CA

POWER SUPPLY ASSEMBLY (VWR1179)



• CLD-D760/RD

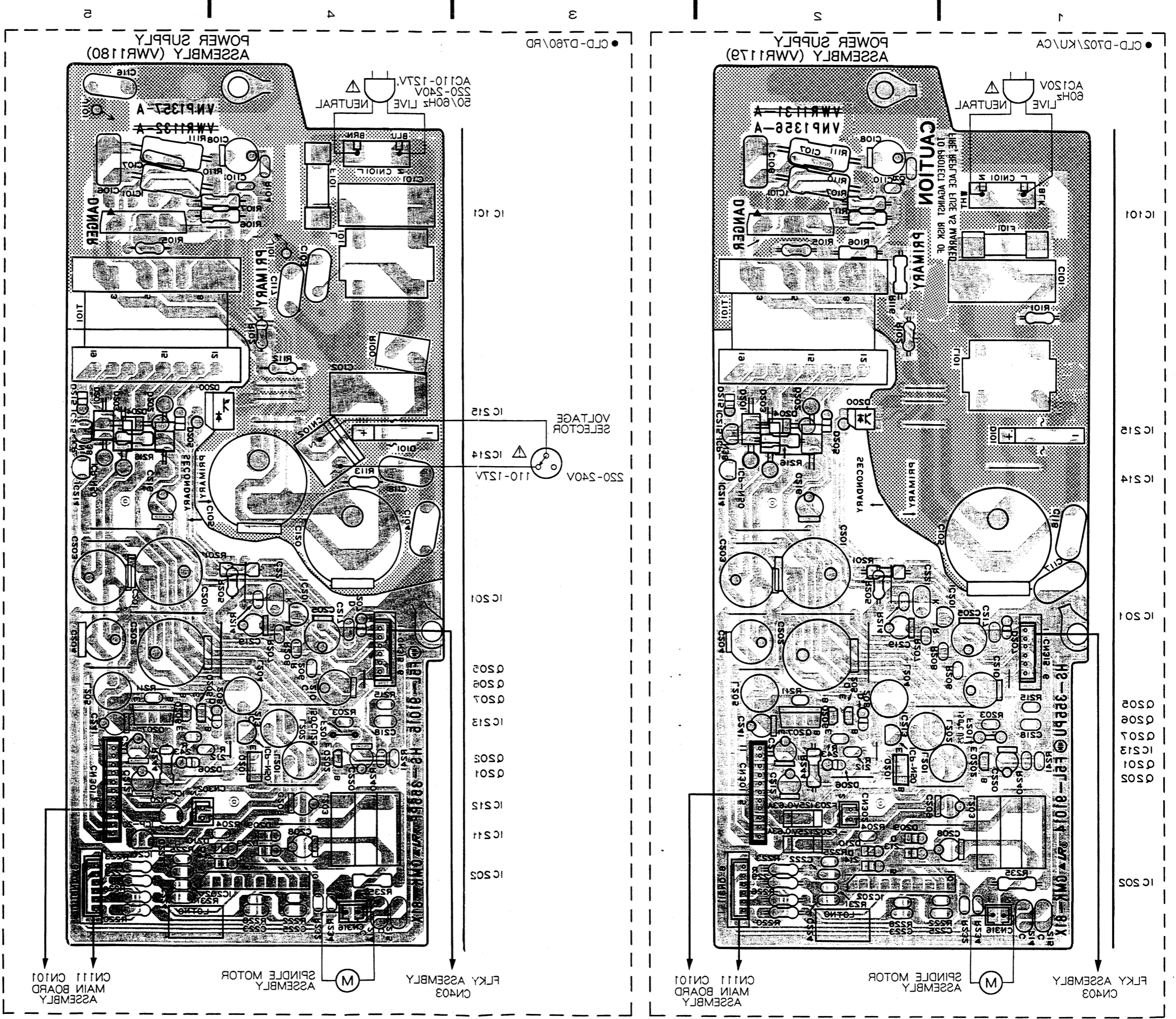
POWER SUPPLY ASSEMBLY (VWR1180)



This P. C. B. connection diagram is viewed from the parts mounted side.

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

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



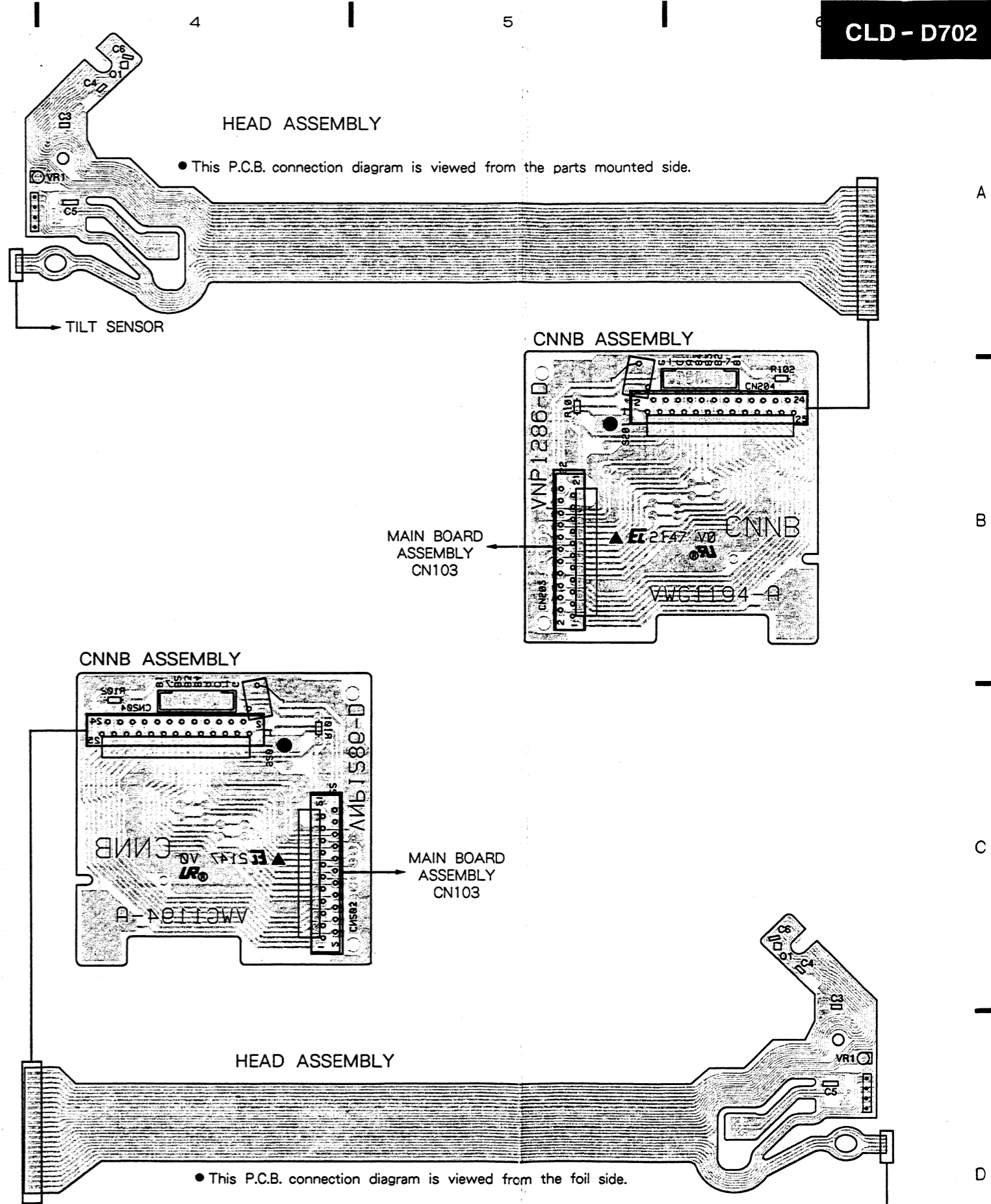
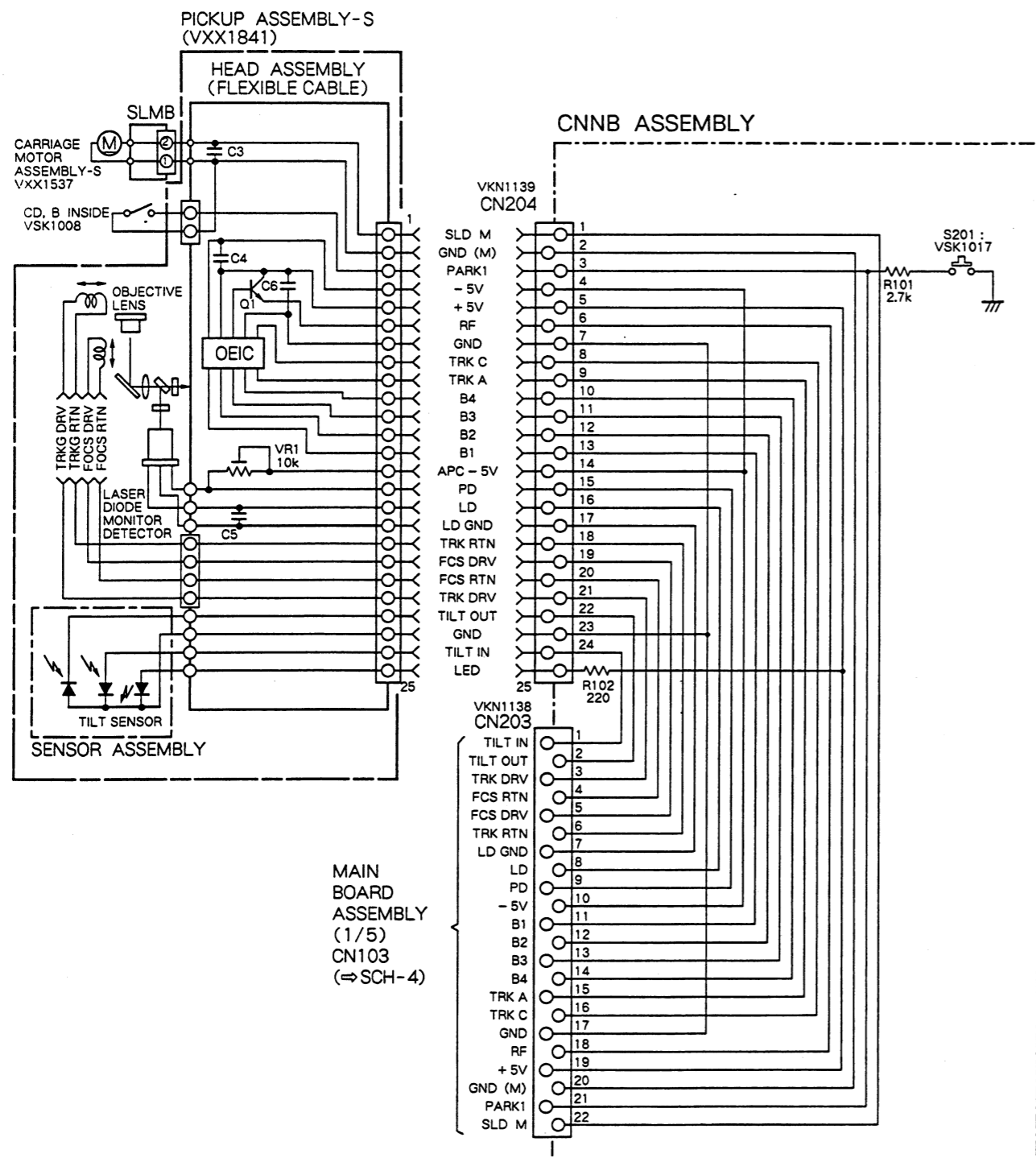
A
B
C
D

A
B
C
D

This P. C. B. connection diagram is viewed from the foil side.

3.3 PICKUP AND CNNB ASSEMBLIES

A
B
C
D



A
B
C
D

TILT SENSOR PICKUP AND CNNB ASSEMBLIES

SCH-3 PICKUP AND CNNB ASSEMBLIES

SCH-3

3.4 MAIN BOARD ASSEMBLY (1/5)

MAIN BOARD ASSEMBLY (1/5)
• FTS SECTION

Note: Indicates connection destination of schematic diagrams.

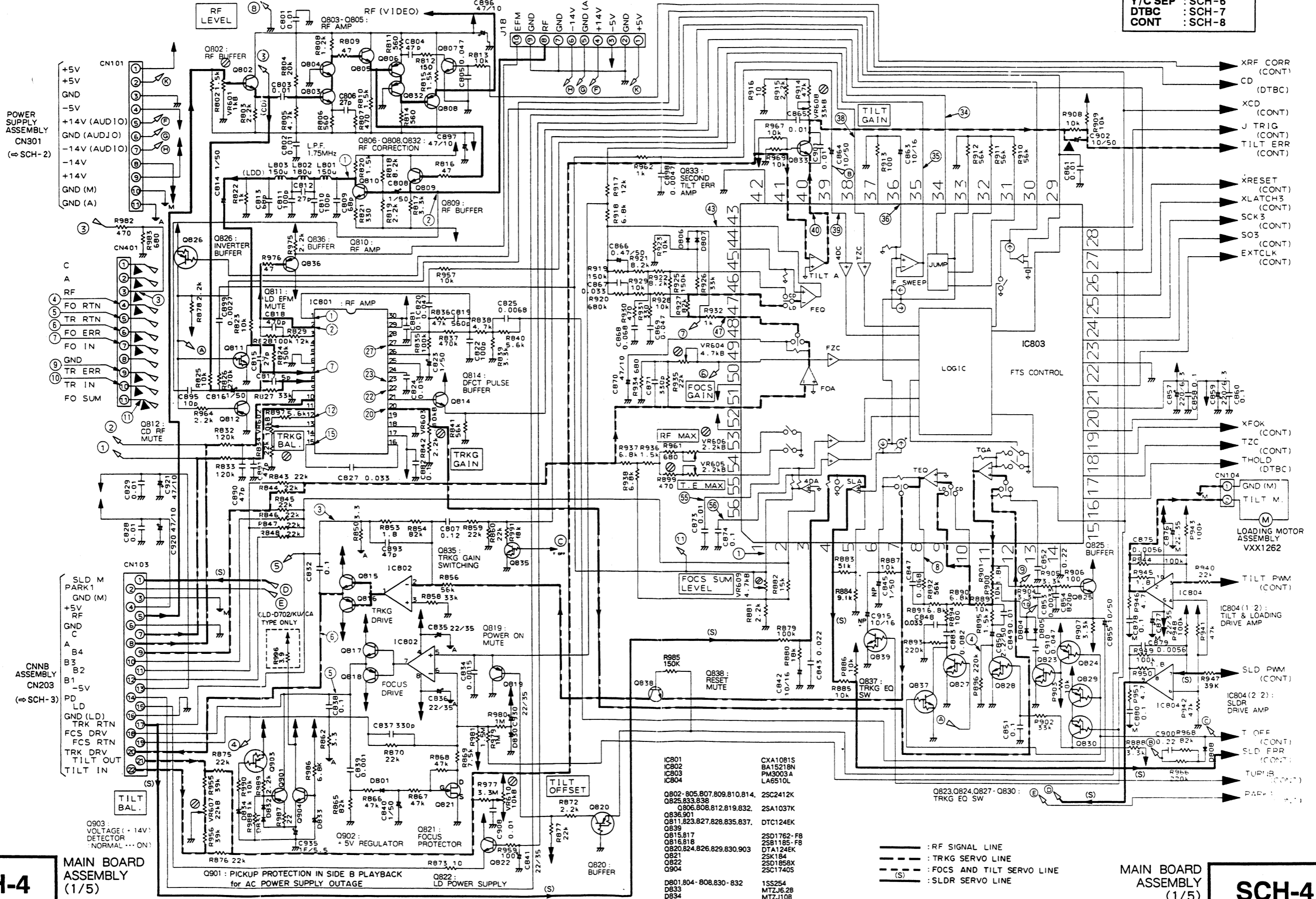
FTS	: SCH-4
VIDEO	: SCH-5
Y/C SEP	: SCH-6
DTBC	: SCH-7
CONT	: SCH-8

A

B

C

D



A

B

C

D

SCH-4

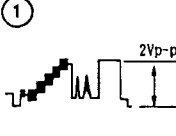
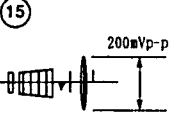
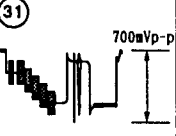
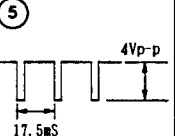
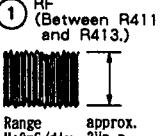
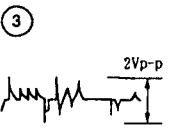
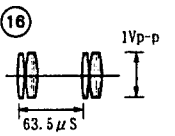
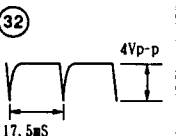
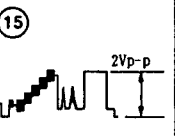
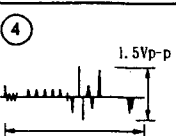
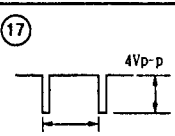
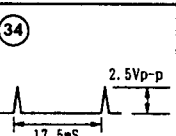
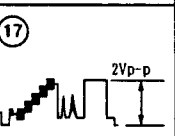
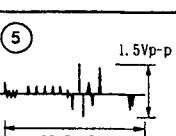
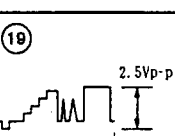
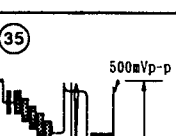
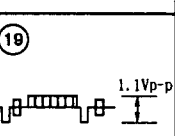
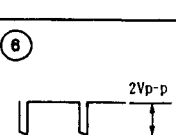
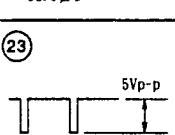
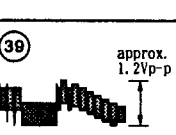
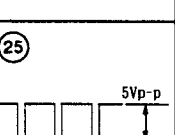
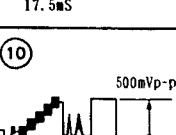
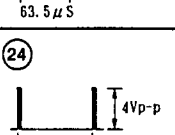
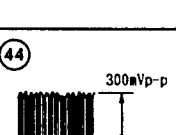
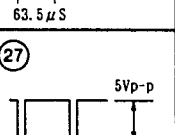
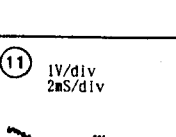
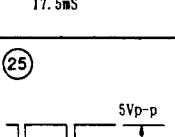
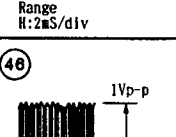
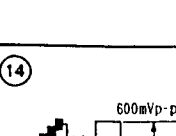
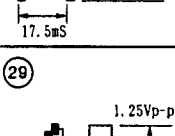
SCH-4

Waveforms of the FTS section

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

IC801 (CXA1081S)		CN401	IC803 (PM3003A)		Other points
(1)	(20)	(3)	(1)	(39)	(1) Q810 Collector
(2)	(22) :at still	(4)	(8)	(40)	(2) Q809 Emitter
(7)	(23)	(5)	(34) :at still	(43)	(3) Between C830 and C832.
(12)	(27)	(6)	(35)	(47)	(4) Q828 Collector
(15)		(7)	(38)	(55)	(5) CN103 Pin 18
		(9) :at open	(38)	(58)	(6) CN103 Pin 20
		(10)			
		(11)			

Waveforms of the VIDEO section Note : (No.) in the table correspond to the pin No.

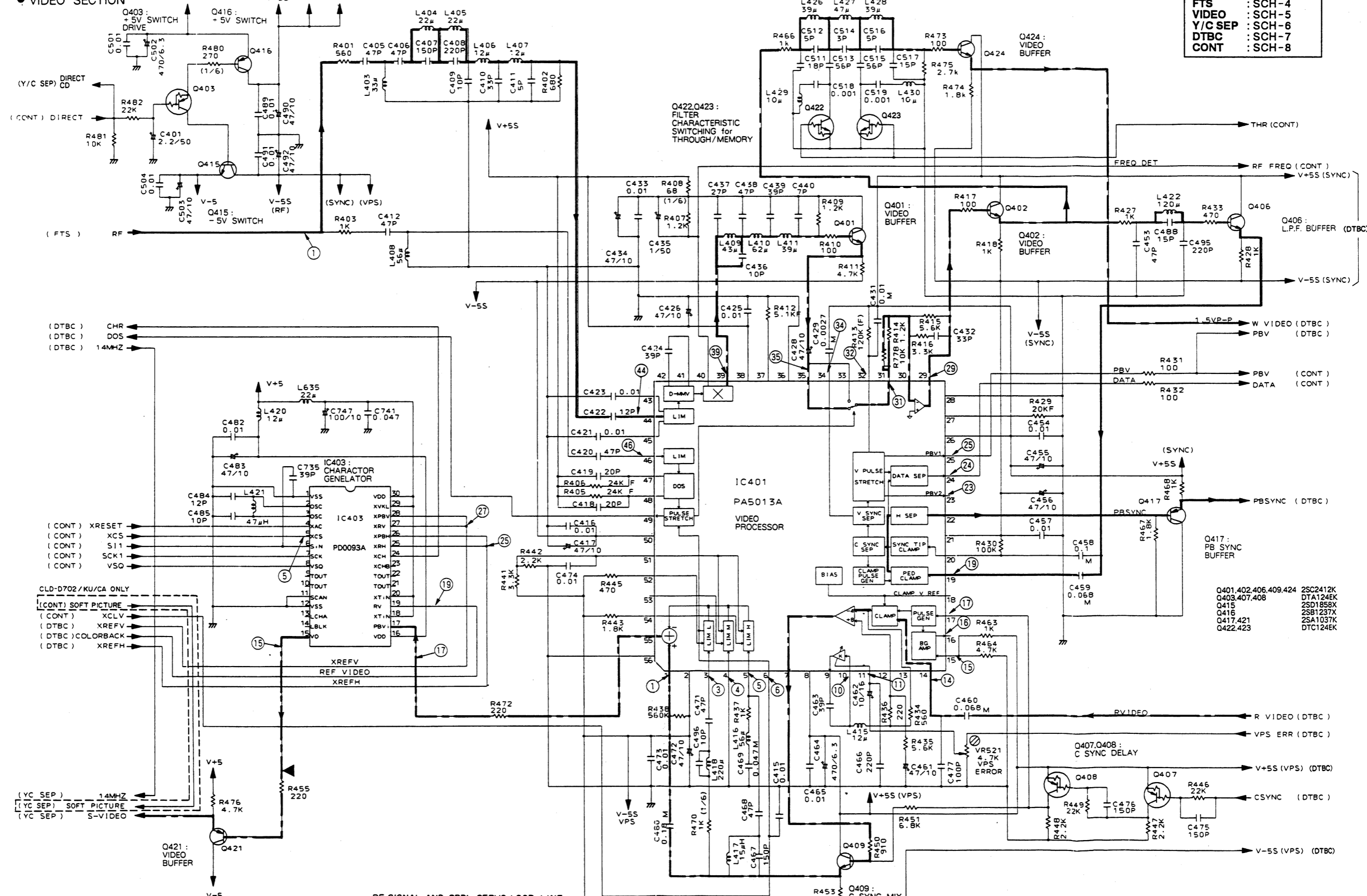
IC401 (PA5013A)			IC403 (PD0093A)	Other points
(1) 	(15) 	(31) 	(5) 	(1) RF (Between R411 and R413.)  Range H:2mS/div approx. 2Vp-p
(3) 	(16) 	(32) 	(15) 	
(4) 	(17) 	(34) 	(17) 	
(5) 	(19) 	(35) 	(19) 	
(8) 	(23) 	(39) 	(25) 	
(10) 	(24) 	(44) 	(27) 	
(11) 	(25) 	(46) 		
(14) 	(29) 			

3.5 MAIN BOARD ASSEMBLY (2/5)

MAIN BOARD ASSEMBLY (2/5)
● VIDEO SECTION

Note : Indicates connection destination of schematic diagrams.

FTS	:SCH-4
VIDEO	:SCH-5
Y/C SEP	:SCH-6
DTBC	:SCH-7
CONT	:SCH-8



- (DTBC) CHR
- (DTBC) DOS
- (DTBC) 14MHz
- (CONT) XRESET
- (CONT) XCS
- (CONT) S11
- (CONT) SCK1
- (CONT) VSO
- CLD-D702/KU/CA ONLY
- (CONT) SOFT PICTURE
- (CONT) XCLV
- (DTBC) XREFV
- (DTBC) COLORBACK
- (DTBC) XREFH

- Q401,402,406,409,424 2SC2412K
- Q403,407,408 DTA124EK
- Q415 2SD1858X
- Q416 2SB1237X
- Q417,421 2SA1037K
- Q422,423 DTC124EK

— : RF SIGNAL AND SPDL SERVO LOOP LINE
 - - - : VIDEO SIGNAL LINE

SCH-5
 MAIN BOARD ASSEMBLY (2/5)

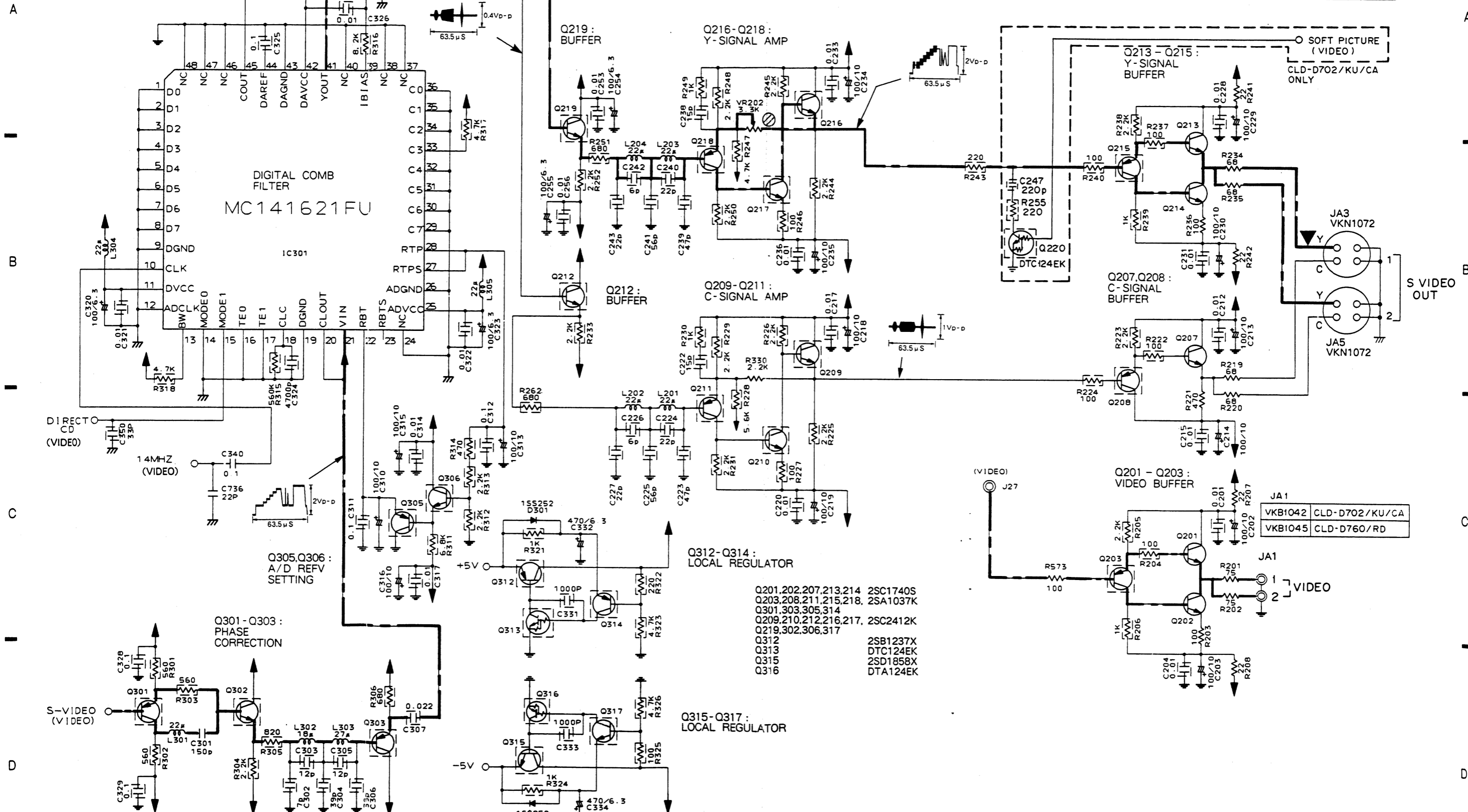
MAIN BOARD ASSEMBLY (2/5)
SCH-5

3.6 MAIN BOARD ASSEMBLY (3/5)

MAIN BOARD ASSEMBLY (3/5)
● Y/C SEP SECTION

Note : Indicates connection destination of schematic diagrams.

FTS	: SCH-4
VIDEO	: SCH-5
Y/C SEP	: SCH-6
DTBC	: SCH-7
CONT	: SCH-8



- Q201,202,207,213,214 2SC1740S
- Q203,208,211,215,218, 2SA1037K
- Q301,303,305,314 2SC2412K
- Q209,210,212,216,217, 2SC2412K
- Q219,302,306,317 2SC2412K
- Q312 2SB1237X
- Q313 DTC124EK
- Q315 2SD1858X
- Q316 DTA124EK

SCH-6

MAIN BOARD ASSEMBLY (3/5)

MAIN BOARD ASSEMBLY (3/5)

SCH-6

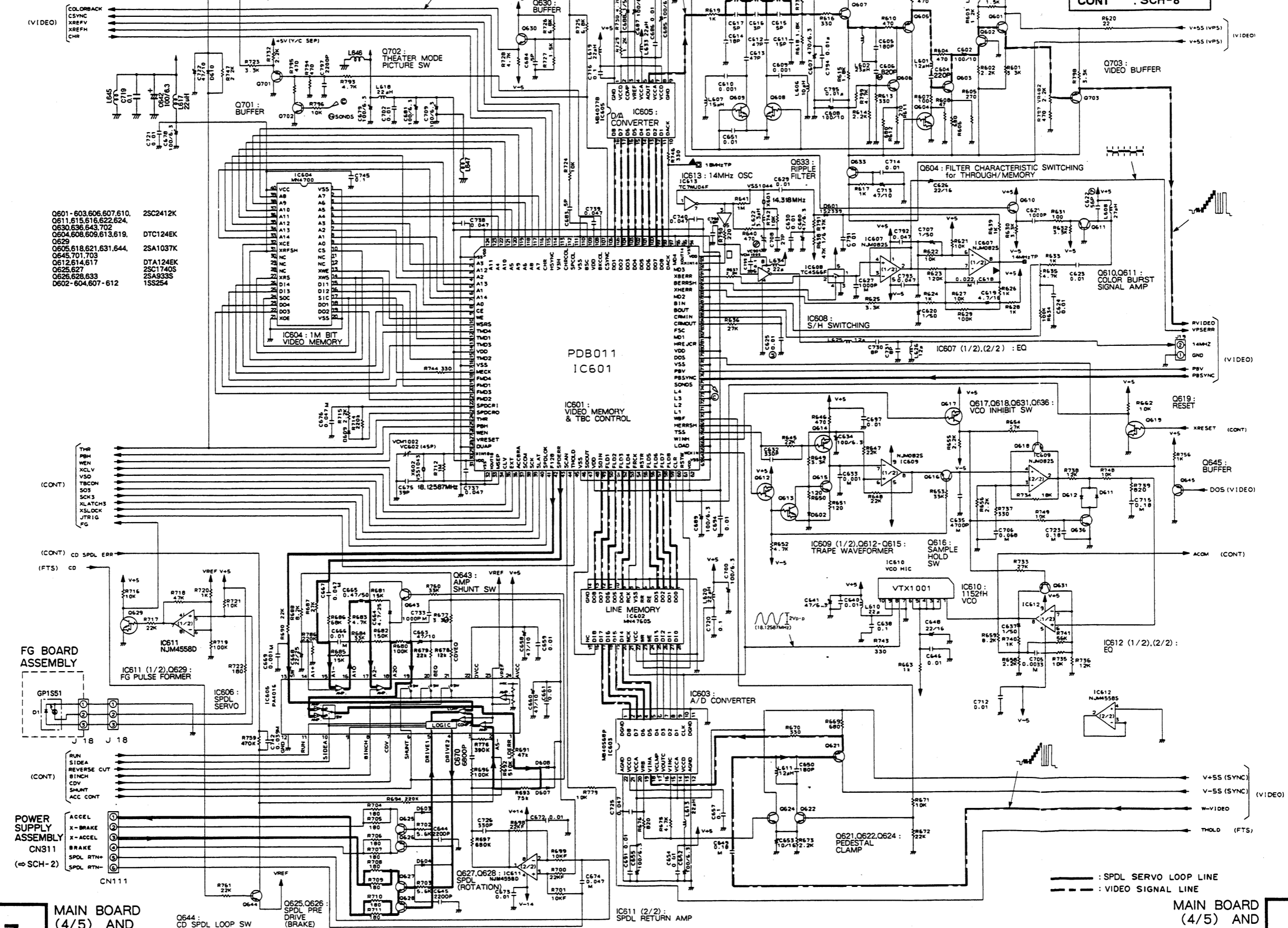
3.7 MAIN BOARD (4/5) AND FG BOARD ASSEMBLIES

Note : Indicates connection destination of schematic diagrams.

- FTS : SCH-4
- VIDEO : SCH-5
- Y/C SEP : SCH-6
- DTBC : SCH-7
- CONT : SCH-8

MAIN BOARD ASSEMBLY (4/5) DTBC SECTION

- Q601-603,606,607,610, 2SC2412K
- Q611,615,616,622,624, 2SA1037K
- Q630,636,643,702 2SA1037K
- Q604,608,609,613,619, 2SC124EK
- Q629 2SA1037K
- Q605,618,621,631,644, 2SA1037K
- Q645,701,703 DTA124EK
- Q612,614,617 2SC1740S
- Q625,627 2SA933S
- Q626,628,633 2SA933S
- Q602-604,607-612 1SS254



FG BOARD ASSEMBLY

- GP1551
- IC611 (1/2), Q629 : FG PULSE FORMER
- IC606 : SPDL SERVO

POWER SUPPLY ASSEMBLY CN311

- ACCEL
- X-BRAKE
- X-ACCEL
- BRAKE
- SPDL RTN+
- SPDL RTN-

MAIN BOARD (4/5) AND FG BOARD ASSEMBLIES

SCH-7

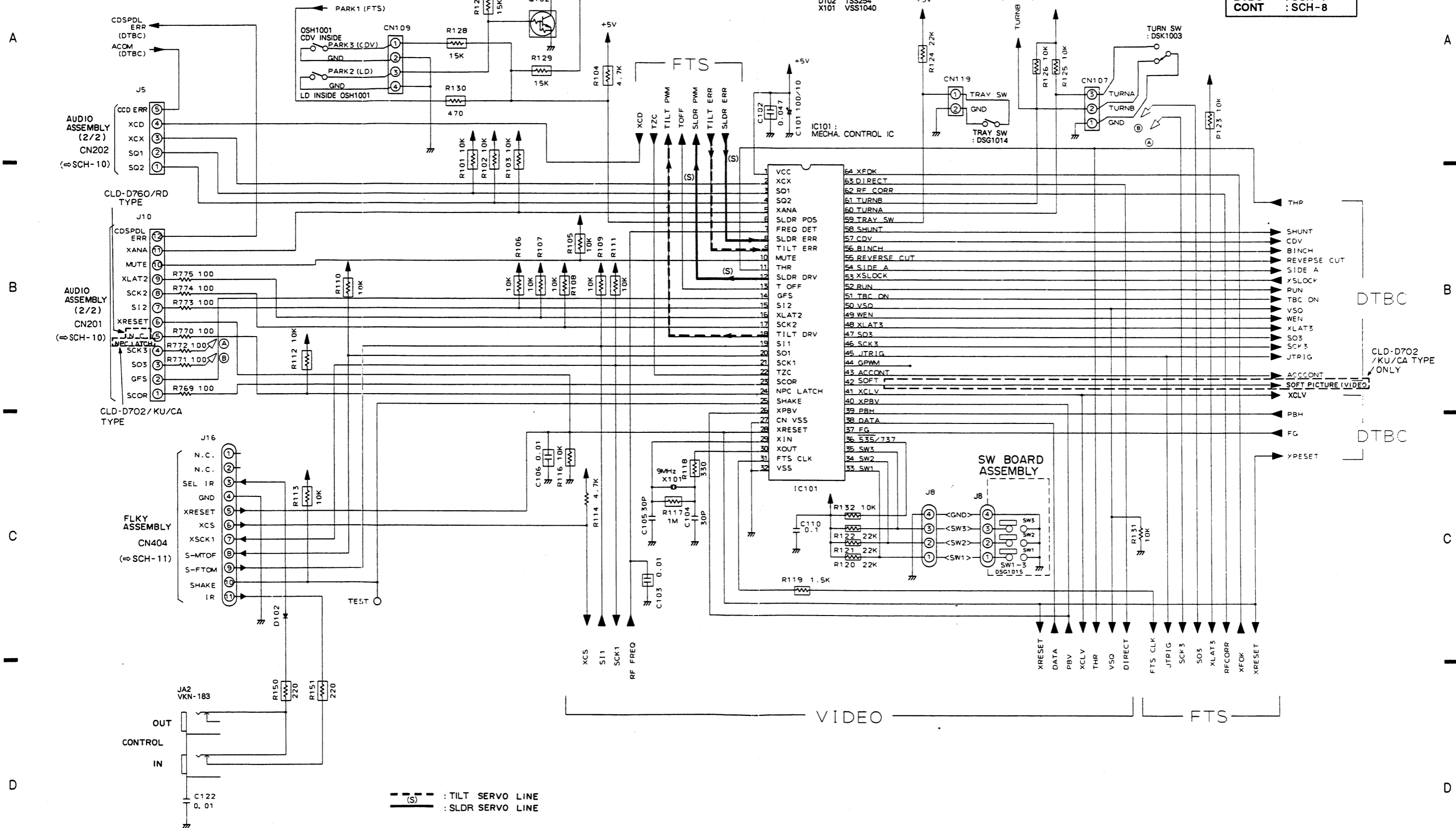
SCH-7

3.8 MAIN BOARD (5/5) AND SW BOARD ASSEMBLIES

Note : Indicates connection destination of schematic diagrams.

FTS	:SCH-4
VIDEO	:SCH-5
Y/C SEP	:SCH-6
DTBC	:SCH-7
CONT	:SCH-8

MAIN BOARD ASSEMBLY (5/5)
• CONT SECTION



(S) : TILT SERVO LINE
: SLDR SERVO LINE

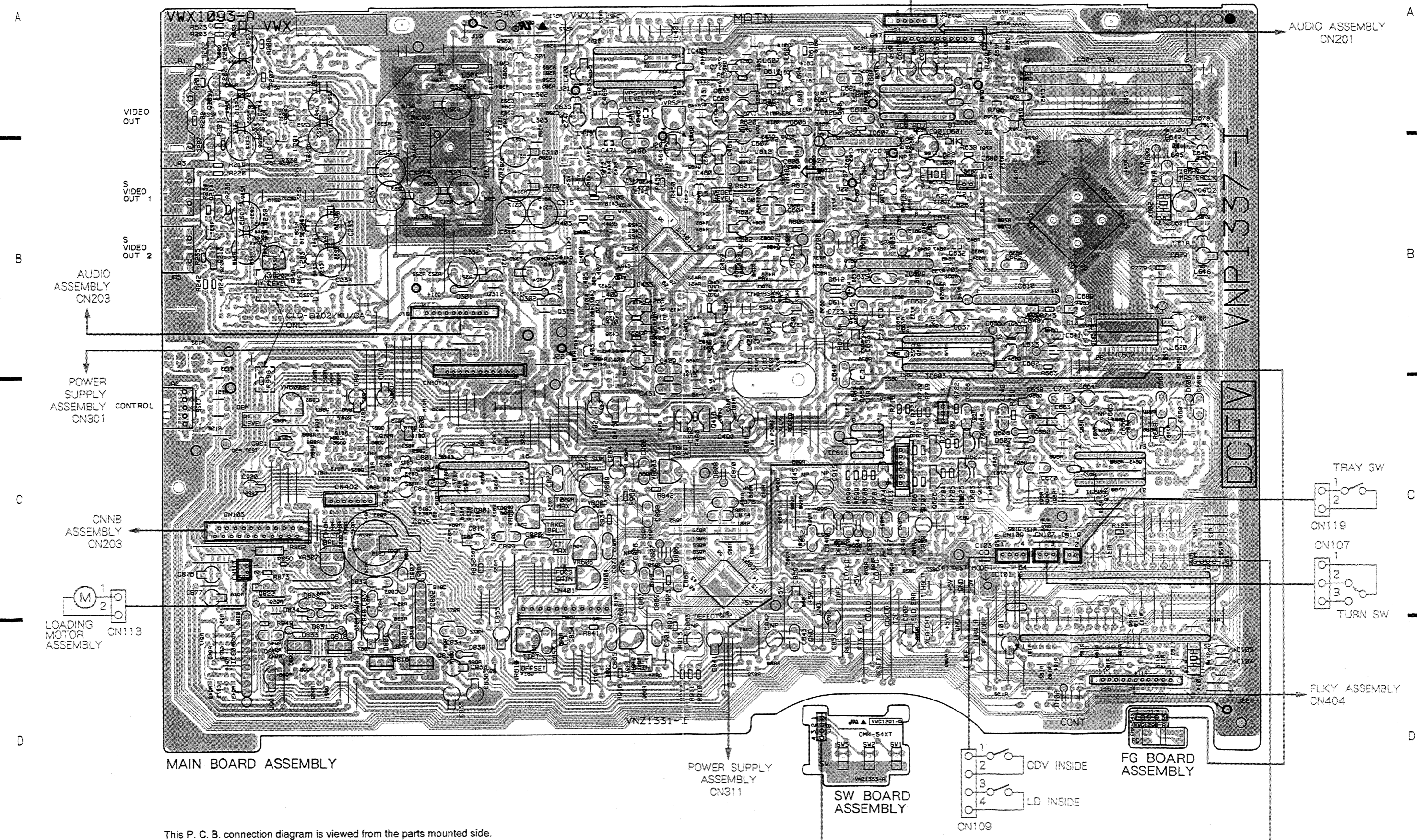
SCH-8

MAIN BOARD (5/5) AND SW BOARD ASSEMBLIES

MAIN BOARD (5/5) AND SW BOARD ASSEMBLIES

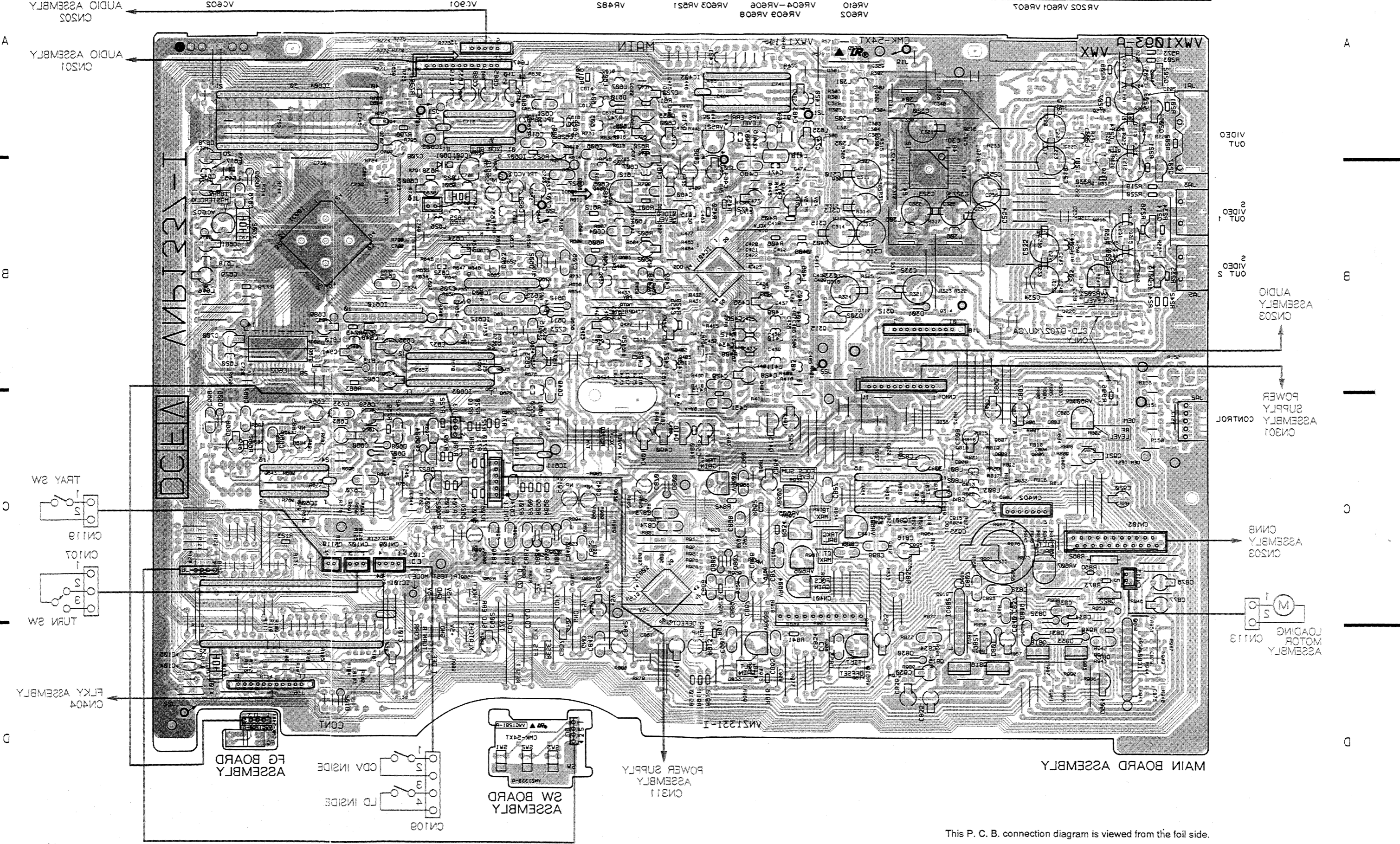
SCH-8

8050 IC804	CLD-D702/KU/CA ONLY	IC301	IC801	OT2D	IC403	IC401	IC803	80801	IC611	IC607	IC609	IC605	0E801C610	IC101	IC604	IC606
Q202	Q201	H1SD-80SD	S1SD	S1SD	104D	804D	104D	804D	104D	804D	104D	804D	104D	104D	104D	104D
Q207	Q214	81SD-21SD	S1SD	S1SD	104D	804D	104D	804D	104D	804D	104D	804D	104D	104D	104D	104D
Q213	Q822	Q904	S1SD	S1SD	Q415	8E8D	Q416	Q633	8E8D	8E8D	8E8D	8E8D	8E8D	8E8D	8E8D	8E8D
808D	Q817	108D	Q818	Q816	Q815	2S8D	Q312	Q315	Q416	Q633	8E8D	8E8D	8E8D	8E8D	8E8D	8E8D
VR202	VR601	VR607	VR610	VR602	VR604-VR606	VR603	VR521	VR482	VC901	VC602						

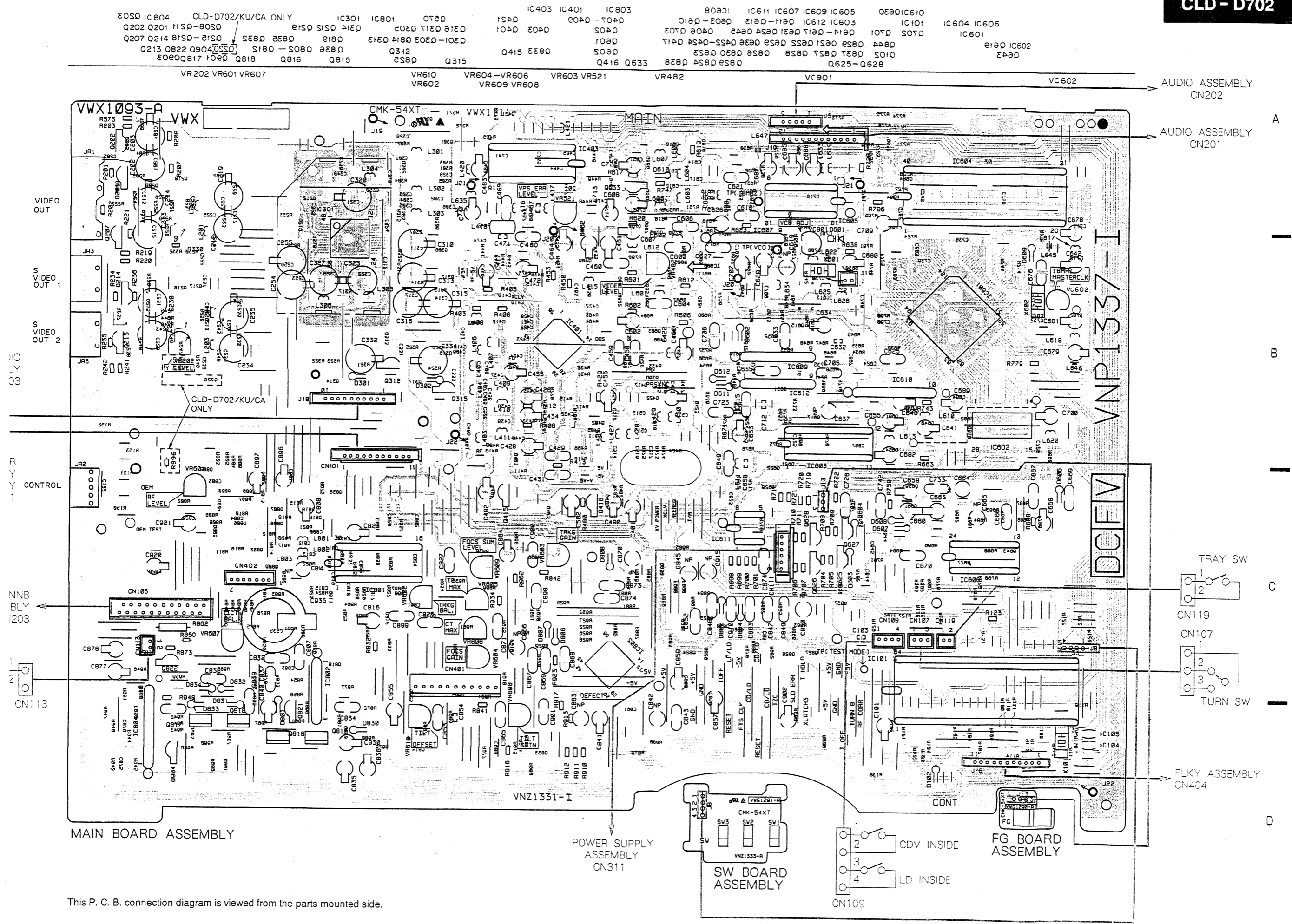


This P. C. B. connection diagram is viewed from the parts mounted side.

Q202 Q203 Q204 Q205 Q206 Q207 Q208 Q209 Q210 Q211 Q212 Q213 Q214 Q215 Q216 Q217 Q218 Q219 Q220 Q221 Q222 Q223 Q224 Q225 Q226 Q227 Q228 Q229 Q230 Q231 Q232 Q233 Q234 Q235 Q236 Q237 Q238 Q239 Q240 Q241 Q242 Q243 Q244 Q245 Q246 Q247 Q248 Q249 Q250 Q251 Q252 Q253 Q254 Q255 Q256 Q257 Q258 Q259 Q260 Q261 Q262 Q263 Q264 Q265 Q266 Q267 Q268 Q269 Q270 Q271 Q272 Q273 Q274 Q275 Q276 Q277 Q278 Q279 Q280 Q281 Q282 Q283 Q284 Q285 Q286 Q287 Q288 Q289 Q290 Q291 Q292 Q293 Q294 Q295 Q296 Q297 Q298 Q299 Q300 Q301 Q302 Q303 Q304 Q305 Q306 Q307 Q308 Q309 Q310 Q311 Q312 Q313 Q314 Q315 Q316 Q317 Q318 Q319 Q320 Q321 Q322 Q323 Q324 Q325 Q326 Q327 Q328 Q329 Q330 Q331 Q332 Q333 Q334 Q335 Q336 Q337 Q338 Q339 Q340 Q341 Q342 Q343 Q344 Q345 Q346 Q347 Q348 Q349 Q350 Q351 Q352 Q353 Q354 Q355 Q356 Q357 Q358 Q359 Q360 Q361 Q362 Q363 Q364 Q365 Q366 Q367 Q368 Q369 Q370 Q371 Q372 Q373 Q374 Q375 Q376 Q377 Q378 Q379 Q380 Q381 Q382 Q383 Q384 Q385 Q386 Q387 Q388 Q389 Q390 Q391 Q392 Q393 Q394 Q395 Q396 Q397 Q398 Q399 Q400 Q401 Q402 Q403 Q404 Q405 Q406 Q407 Q408 Q409 Q410 Q411 Q412 Q413 Q414 Q415 Q416 Q417 Q418 Q419 Q420 Q421 Q422 Q423 Q424 Q425 Q426 Q427 Q428 Q429 Q430 Q431 Q432 Q433 Q434 Q435 Q436 Q437 Q438 Q439 Q440 Q441 Q442 Q443 Q444 Q445 Q446 Q447 Q448 Q449 Q450 Q451 Q452 Q453 Q454 Q455 Q456 Q457 Q458 Q459 Q460 Q461 Q462 Q463 Q464 Q465 Q466 Q467 Q468 Q469 Q470 Q471 Q472 Q473 Q474 Q475 Q476 Q477 Q478 Q479 Q480 Q481 Q482 Q483 Q484 Q485 Q486 Q487 Q488 Q489 Q490 Q491 Q492 Q493 Q494 Q495 Q496 Q497 Q498 Q499 Q500 Q501 Q502 Q503 Q504 Q505 Q506 Q507 Q508 Q509 Q510 Q511 Q512 Q513 Q514 Q515 Q516 Q517 Q518 Q519 Q520 Q521 Q522 Q523 Q524 Q525 Q526 Q527 Q528 Q529 Q530 Q531 Q532 Q533 Q534 Q535 Q536 Q537 Q538 Q539 Q540 Q541 Q542 Q543 Q544 Q545 Q546 Q547 Q548 Q549 Q550 Q551 Q552 Q553 Q554 Q555 Q556 Q557 Q558 Q559 Q560 Q561 Q562 Q563 Q564 Q565 Q566 Q567 Q568 Q569 Q570 Q571 Q572 Q573 Q574 Q575 Q576 Q577 Q578 Q579 Q580 Q581 Q582 Q583 Q584 Q585 Q586 Q587 Q588 Q589 Q590 Q591 Q592 Q593 Q594 Q595 Q596 Q597 Q598 Q599 Q600 Q601 Q602 Q603 Q604 Q605 Q606 Q607 Q608 Q609 Q610 Q611 Q612 Q613 Q614 Q615 Q616 Q617 Q618 Q619 Q620 Q621 Q622 Q623 Q624 Q625 Q626 Q627 Q628 Q629 Q630 Q631 Q632 Q633 Q634 Q635 Q636 Q637 Q638 Q639 Q640 Q641 Q642 Q643 Q644 Q645 Q646 Q647 Q648 Q649 Q650 Q651 Q652 Q653 Q654 Q655 Q656 Q657 Q658 Q659 Q660 Q661 Q662 Q663 Q664 Q665 Q666 Q667 Q668 Q669 Q670 Q671 Q672 Q673 Q674 Q675 Q676 Q677 Q678 Q679 Q680 Q681 Q682 Q683 Q684 Q685 Q686 Q687 Q688 Q689 Q690 Q691 Q692 Q693 Q694 Q695 Q696 Q697 Q698 Q699 Q700 Q701 Q702 Q703 Q704 Q705 Q706 Q707 Q708 Q709 Q710 Q711 Q712 Q713 Q714 Q715 Q716 Q717 Q718 Q719 Q720 Q721 Q722 Q723 Q724 Q725 Q726 Q727 Q728 Q729 Q730 Q731 Q732 Q733 Q734 Q735 Q736 Q737 Q738 Q739 Q740 Q741 Q742 Q743 Q744 Q745 Q746 Q747 Q748 Q749 Q750 Q751 Q752 Q753 Q754 Q755 Q756 Q757 Q758 Q759 Q760 Q761 Q762 Q763 Q764 Q765 Q766 Q767 Q768 Q769 Q770 Q771 Q772 Q773 Q774 Q775 Q776 Q777 Q778 Q779 Q780 Q781 Q782 Q783 Q784 Q785 Q786 Q787 Q788 Q789 Q790 Q791 Q792 Q793 Q794 Q795 Q796 Q797 Q798 Q799 Q800 Q801 Q802 Q803 Q804 Q805 Q806 Q807 Q808 Q809 Q810 Q811 Q812 Q813 Q814 Q815 Q816 Q817 Q818 Q819 Q820 Q821 Q822 Q823 Q824 Q825 Q826 Q827 Q828 Q829 Q830 Q831 Q832 Q833 Q834 Q835 Q836 Q837 Q838 Q839 Q840 Q841 Q842 Q843 Q844 Q845 Q846 Q847 Q848 Q849 Q850 Q851 Q852 Q853 Q854 Q855 Q856 Q857 Q858 Q859 Q860 Q861 Q862 Q863 Q864 Q865 Q866 Q867 Q868 Q869 Q870 Q871 Q872 Q873 Q874 Q875 Q876 Q877 Q878 Q879 Q880 Q881 Q882 Q883 Q884 Q885 Q886 Q887 Q888 Q889 Q890 Q891 Q892 Q893 Q894 Q895 Q896 Q897 Q898 Q899 Q900 Q901 Q902 Q903 Q904 Q905 Q906 Q907 Q908 Q909 Q910 Q911 Q912 Q913 Q914 Q915 Q916 Q917 Q918 Q919 Q920 Q921 Q922 Q923 Q924 Q925 Q926 Q927 Q928 Q929 Q930 Q931 Q932 Q933 Q934 Q935 Q936 Q937 Q938 Q939 Q940 Q941 Q942 Q943 Q944 Q945 Q946 Q947 Q948 Q949 Q950 Q951 Q952 Q953 Q954 Q955 Q956 Q957 Q958 Q959 Q960 Q961 Q962 Q963 Q964 Q965 Q966 Q967 Q968 Q969 Q970 Q971 Q972 Q973 Q974 Q975 Q976 Q977 Q978 Q979 Q980 Q981 Q982 Q983 Q984 Q985 Q986 Q987 Q988 Q989 Q990 Q991 Q992 Q993 Q994 Q995 Q996 Q997 Q998 Q999 Q1000



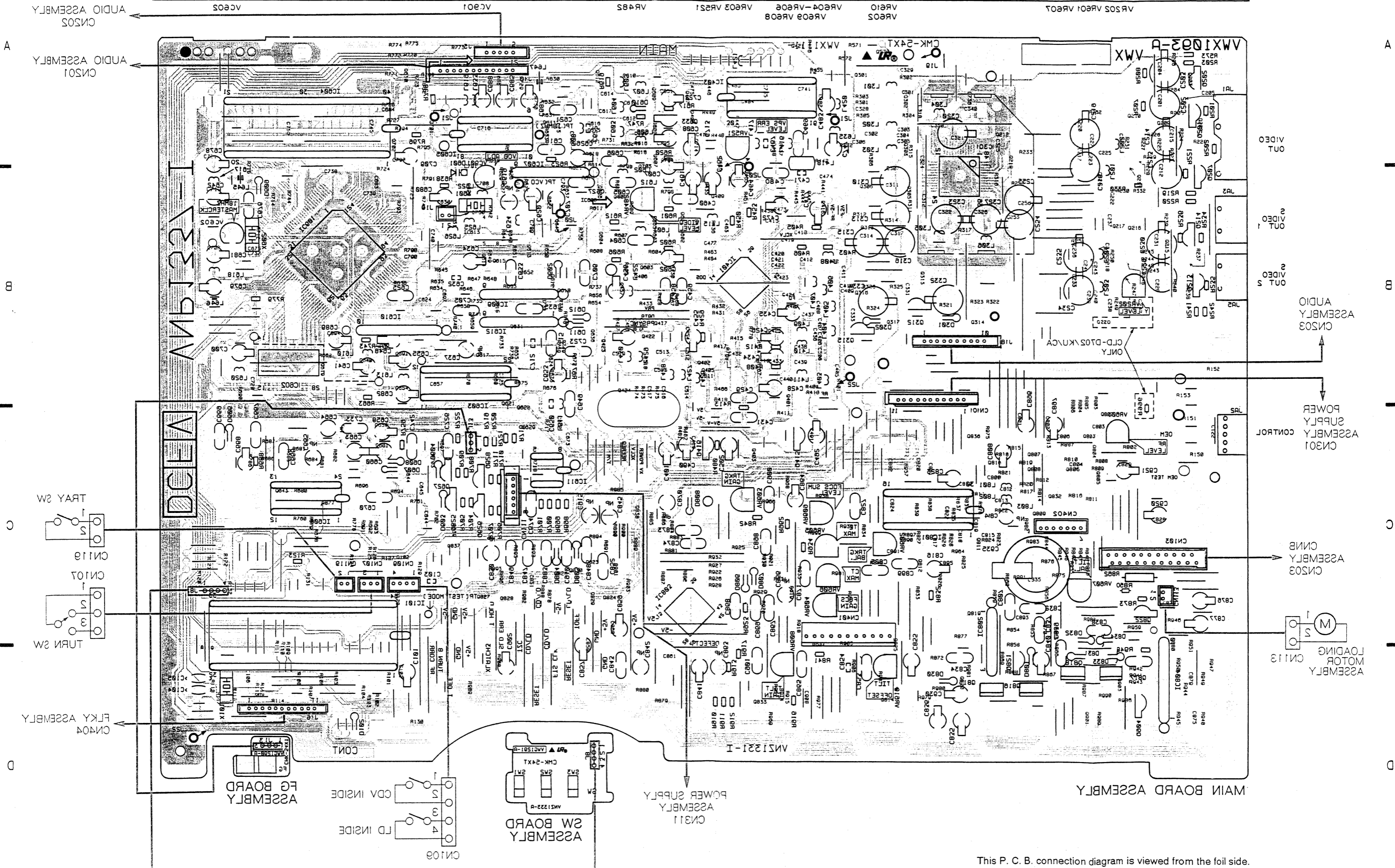
This P. C. B. connection diagram is viewed from the foil side.



This P. C. B. connection diagram is viewed from the parts mounted side.



Q102	Q837	Q827	Q828	Q826	Q830	Q823	Q602	Q412	Q332	Q380	Q403	Q407	Q409	Q421	Q570	Q1801	Q1301	Q212	Q219	Q835	Q832	Q215	Q218	Q211	Q203	
Q844	Q829	Q621	Q622	Q629	Q636	Q422	Q424	Q417	Q601	Q310	Q303	Q814	Q313	Q819	Q836	Q802	Q812	Q220	Q817	Q816	Q815	Q814	Q813	Q812	Q811	Q810
Q844	Q829	Q621	Q622	Q629	Q636	Q422	Q424	Q417	Q601	Q310	Q303	Q814	Q313	Q819	Q836	Q802	Q812	Q220	Q817	Q816	Q815	Q814	Q813	Q812	Q811	Q810
Q102	Q837	Q827	Q828	Q826	Q830	Q823	Q602	Q412	Q332	Q380	Q403	Q407	Q409	Q421	Q570	Q1801	Q1301	Q212	Q219	Q835	Q832	Q215	Q218	Q211	Q203	



This P. C. B. connection diagram is viewed from the foil side.

3.9 AUDIO ASSEMBLY(1/2)

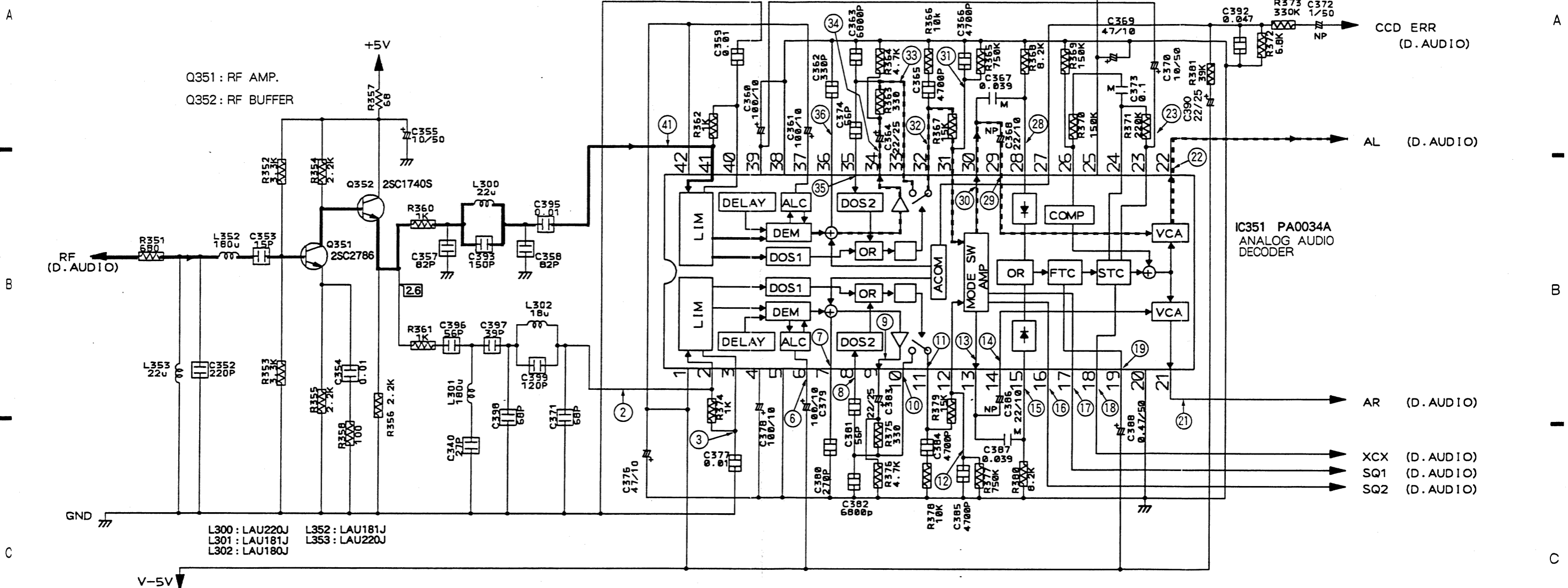
CLD - D702

Note : Indicates connection destination of schematic diagrams.

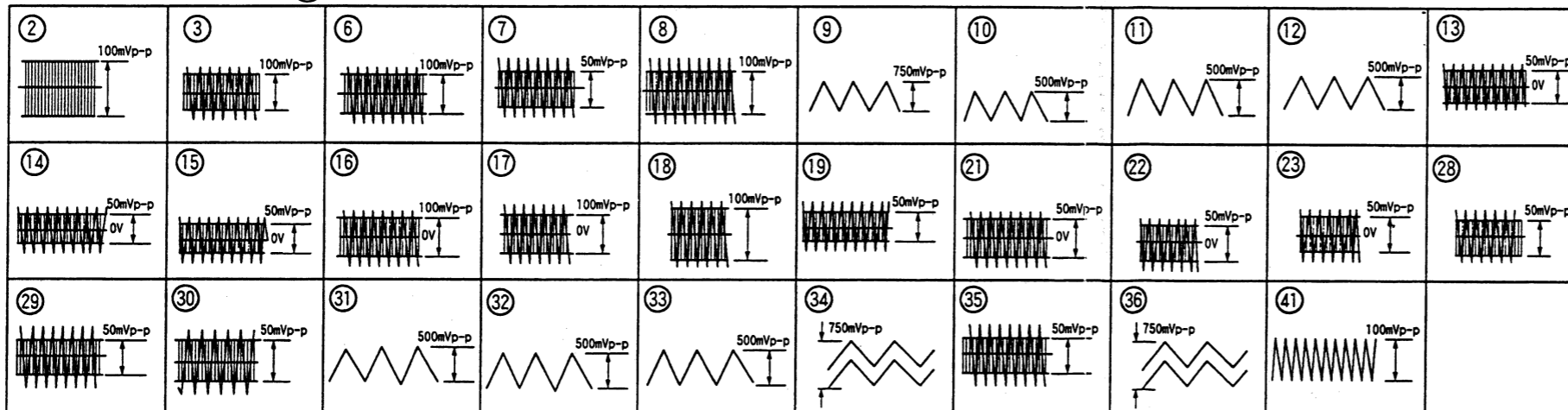
AFM : SCH-9
D.AUDIO : SCH-10

AUDIO ASSEMBLY (1/2) (VWV1294)
● AFM SECTION

— : RF Signal Line
- - - : Audio Signal Line (L ch)



● IC351 (PA0034A) Note : (No.) in the table correspond to the pin No.



Note : These waveforms and voltage are in the play mode.

● IC351(PA0034A)

Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	-5V	15	*	29	*
2	*	16	*	30	*
3	*	17	*	31	*
4	---	18	*	32	*
5	---	19	*	33	*
6	*	20	0	34	*
7	*	21	*	35	*
8	*	22	*	36	*
9	*	23	*	37	---
10	*	24	0	38	---
11	*	25	5V	39	---
12	*	26	0	40	---
13	*	27	0	41	*
14	*	28	*	42	-5V

*: Refer to the waveforms

SCH-9

AUDIO ASSEMBLY (1/2)

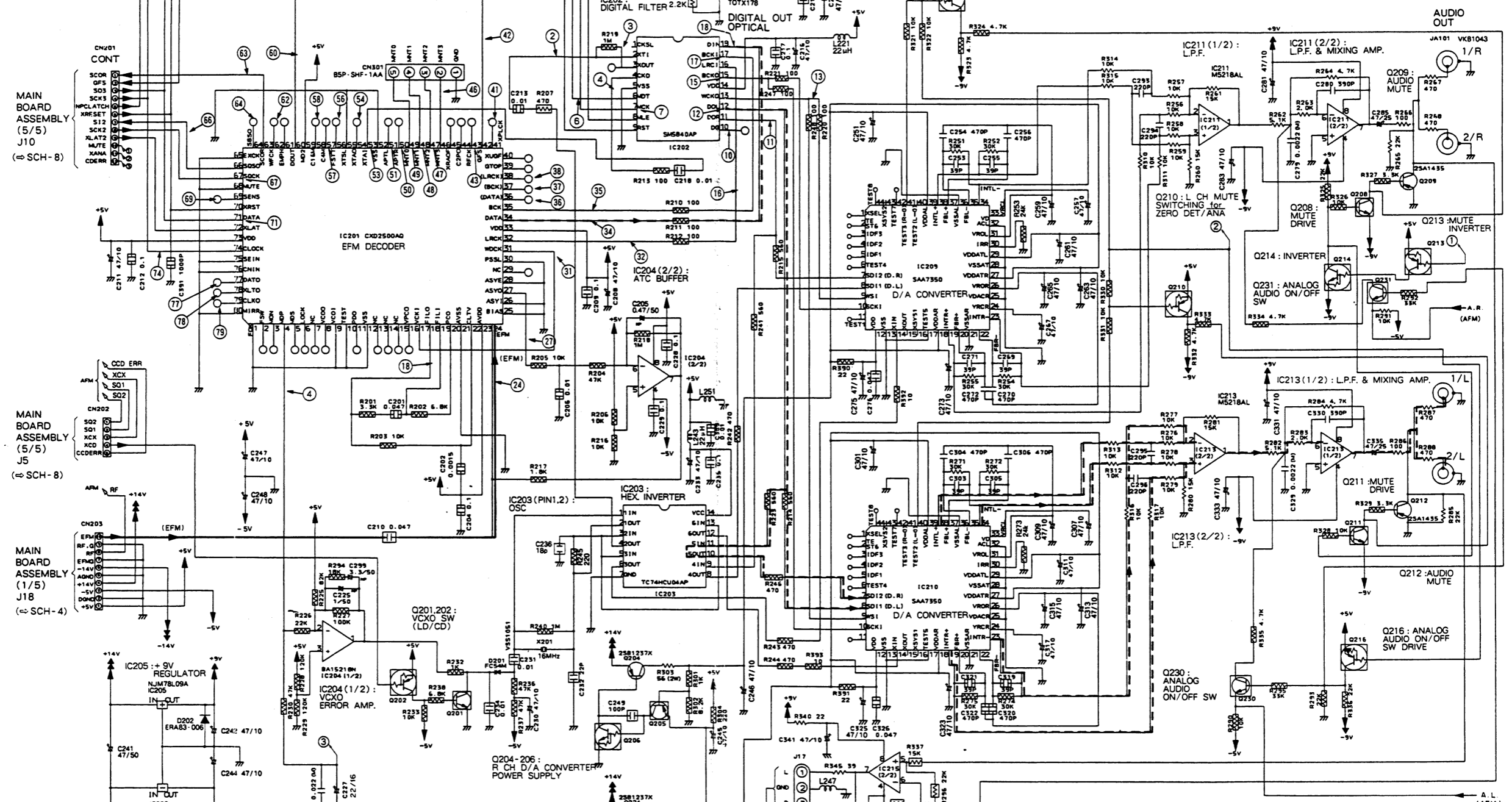
AUDIO ASSEMBLY (1/2)

SCH-9

3.10 AUDIO (2/2) AND COXB ASSEMBLIES

Note: Indicates connection destination of schematic diagrams.
AFM : SCH-9
D.AUDIO : SCH-10

AUDIO ASSEMBLY (2/2) (VWV1294)
 .D.AUDIO SECTION



Note: These waveforms and voltage are in the play mode.

IC201 (CXD2500AQ)

Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0	15	0	29	0	43	*	57	*
2	0	16	4.8	30	0	44	0	58	*
3	0	17	0	31	*	45	4.8	59	5
4	*	18	*	32	*	46	*	60	*
5	0	19	2.4	33	4.8	47	*	61	5
6	4.8	20	*	34	*	48	*	62	5
7	0	21	0	35	*	49	*	63	*
8	4.8	22	2.3	36	*	50	*	64	*
9	0	23	4.8	37	*	51	*	65	0
10	0	24	*	38	*	52	0	66	0
11	0	25	0	39	0	53	*	67	*
12	0	26	0	40	4.8	54	*	68	0
13	0	27	*	41	*	55	0	69	*
14	0	28	0	42	*	56	*	70	5

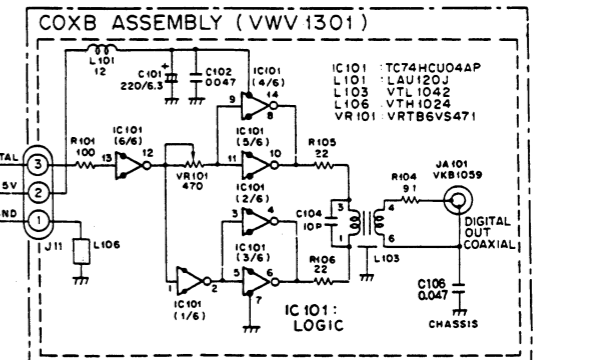
*: Refer to the waveforms

IC202 (SMS840AP)

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	5	10	*
2	*	11	*
3	*	12	*
4	*	13	*
5	0	14	5
6	*	15	*
7	*	16	*
8	5	17	*
9	5	18	*

Q201, 208, 211, 230, 231 : 2SC2412K
 Q202, 207, 210, 213, 216 : DTA124EK
 Q205, 225 : 2SA1037K
 Q206, 214, 226 : DTC124EK
 L243 : LAU220U

HEPB ASSEMBLY CN413 (SCH-11)
 IC215 MS218AL
 IC215: HEADPHONE AMP.

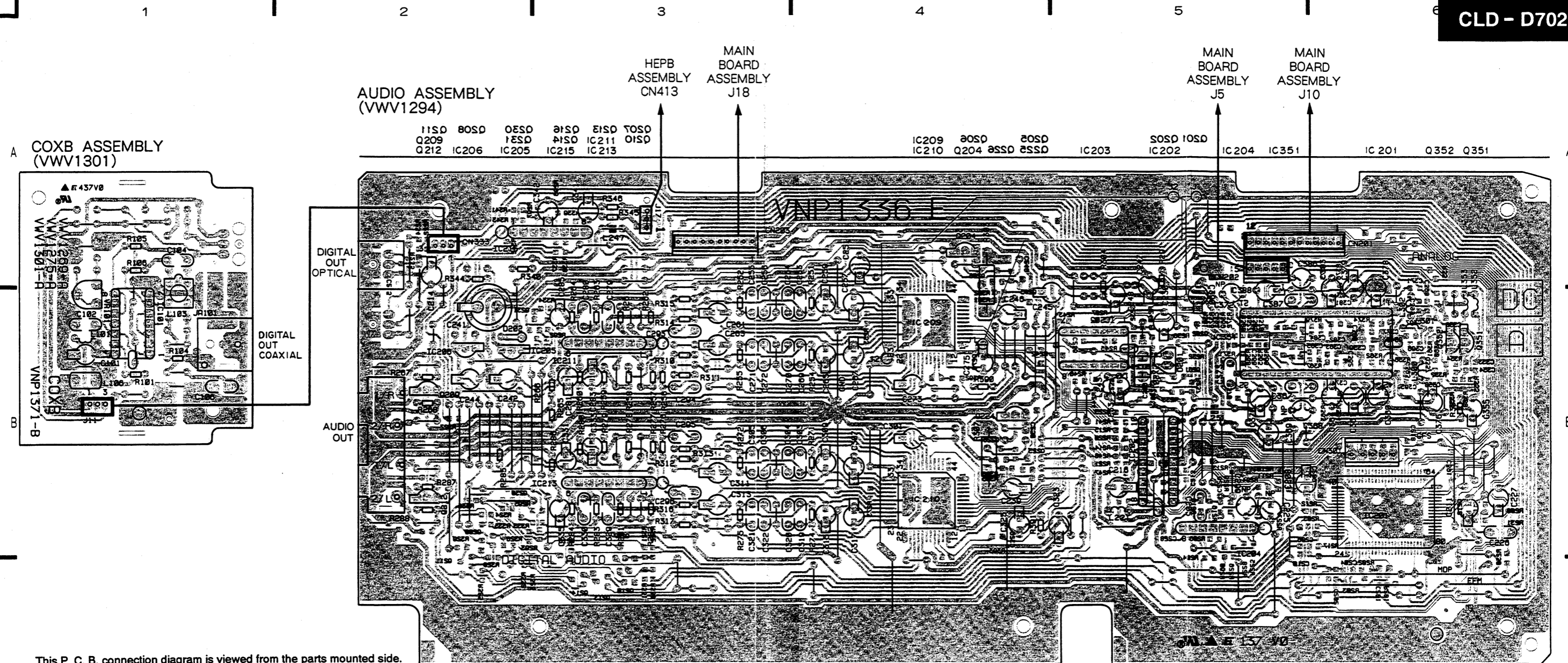


SCH-10

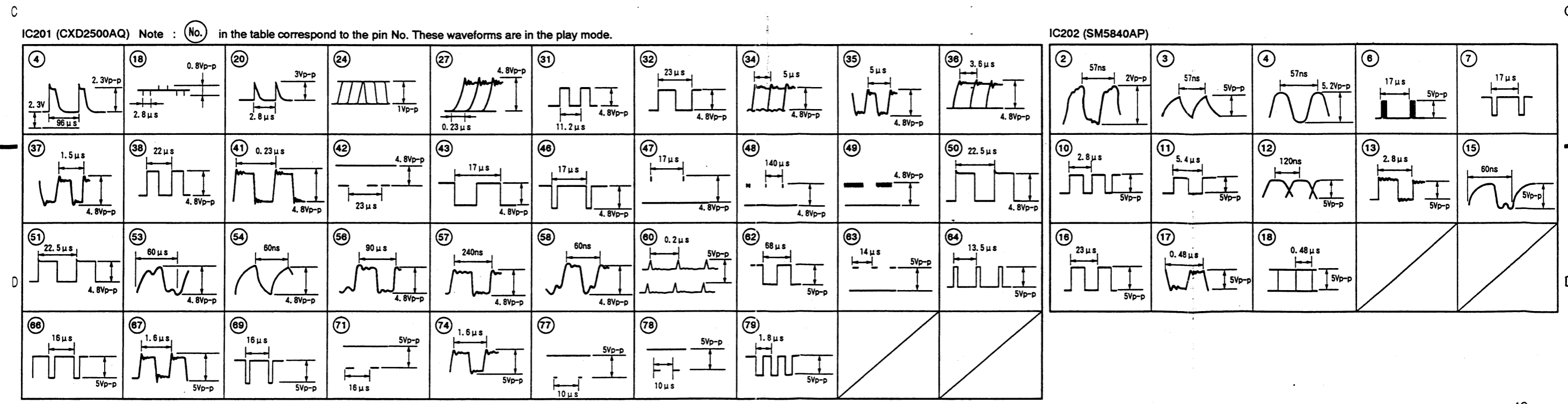
AUDIO (2/2) AND COXB ASSEMBLIES

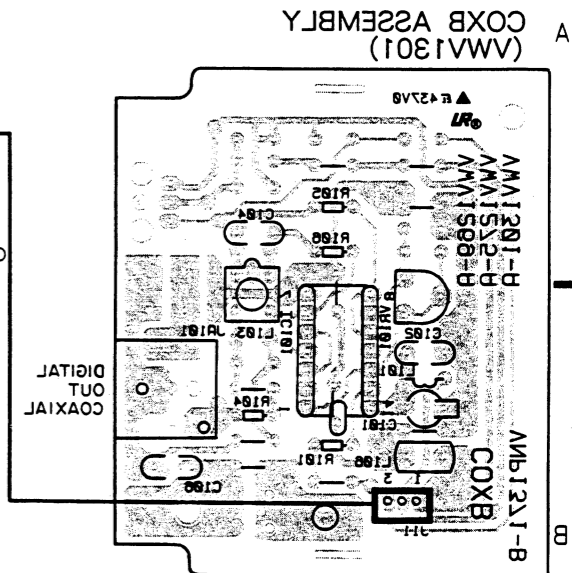
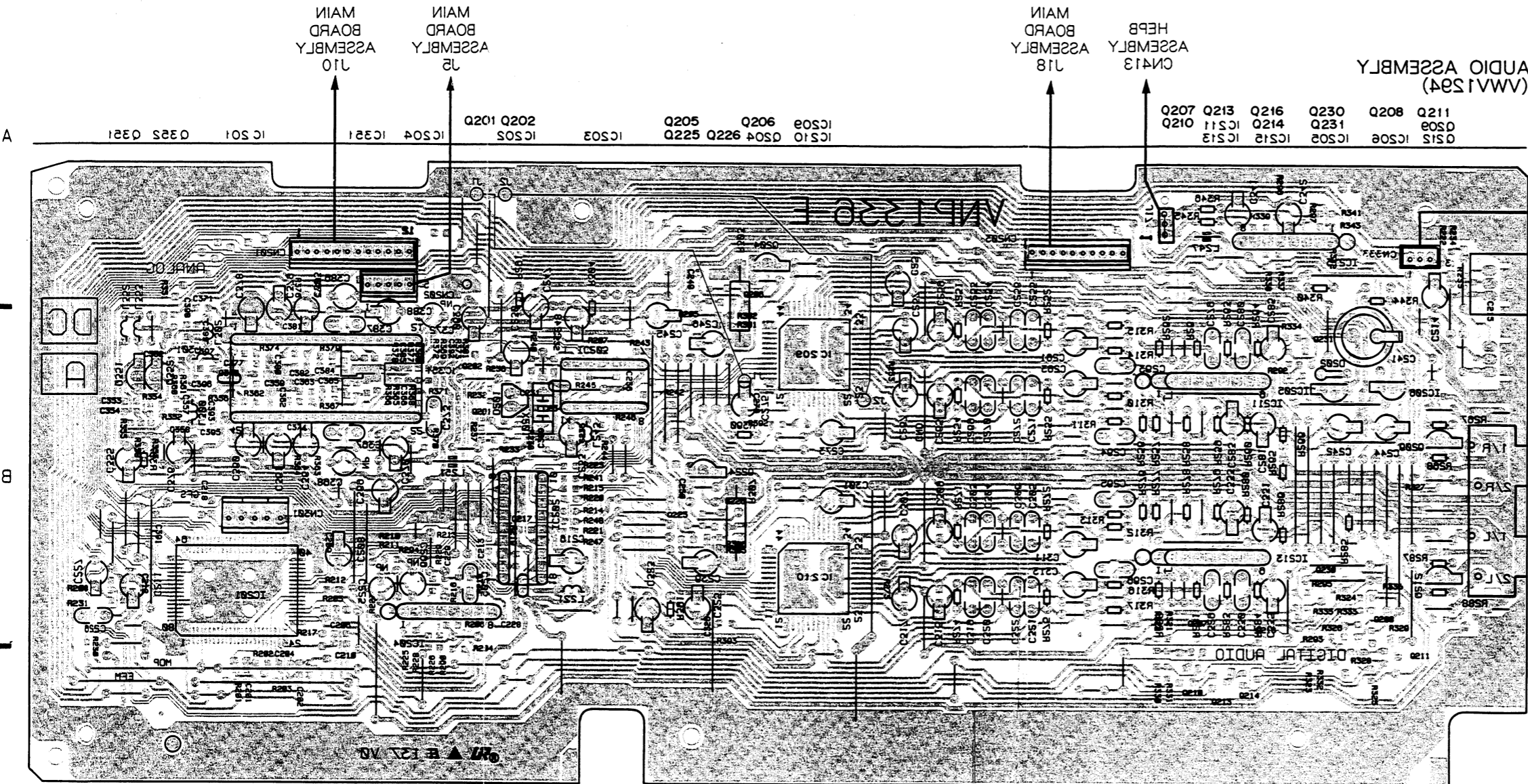
AUDIO (2/2) AND COXB ASSEMBLIES

SCH-10

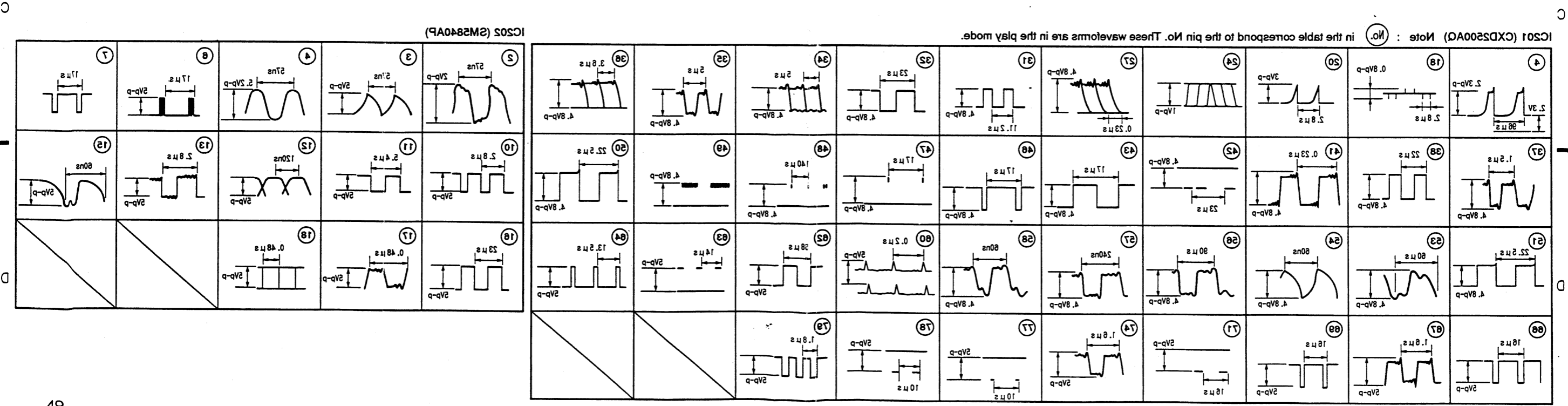


This P. C. B. connection diagram is viewed from the parts mounted side.



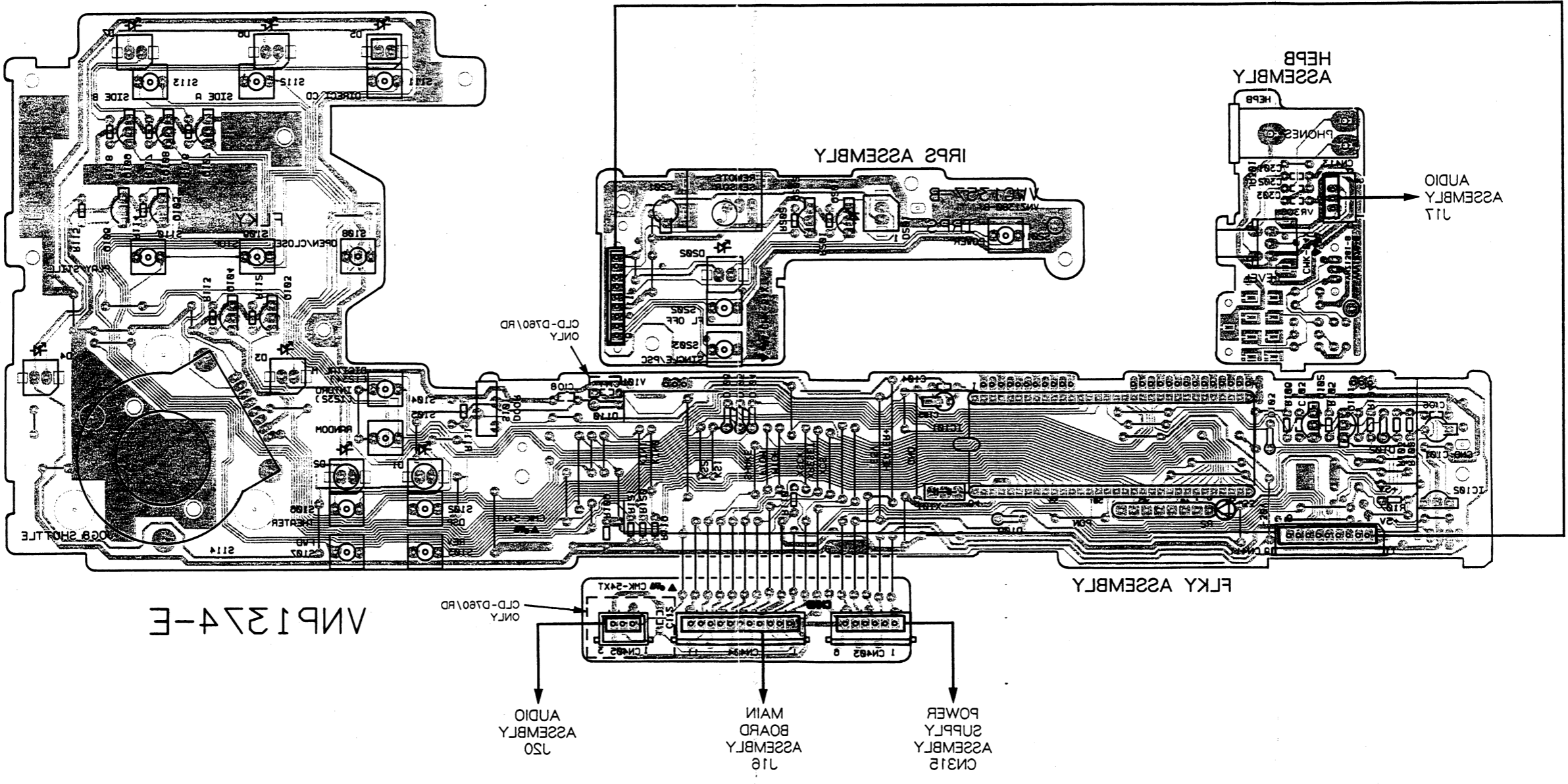


This P. C. B. connection diagram is viewed from the foil side.



3.11 IRPS, FLKY AND HEPB ASSEMBLIES

IC105 0105 10101 IC101 0101 0103 0104 0102 - 0103



This P. C. B. connection diagram is viewed from the foil side.

A
B
C
D

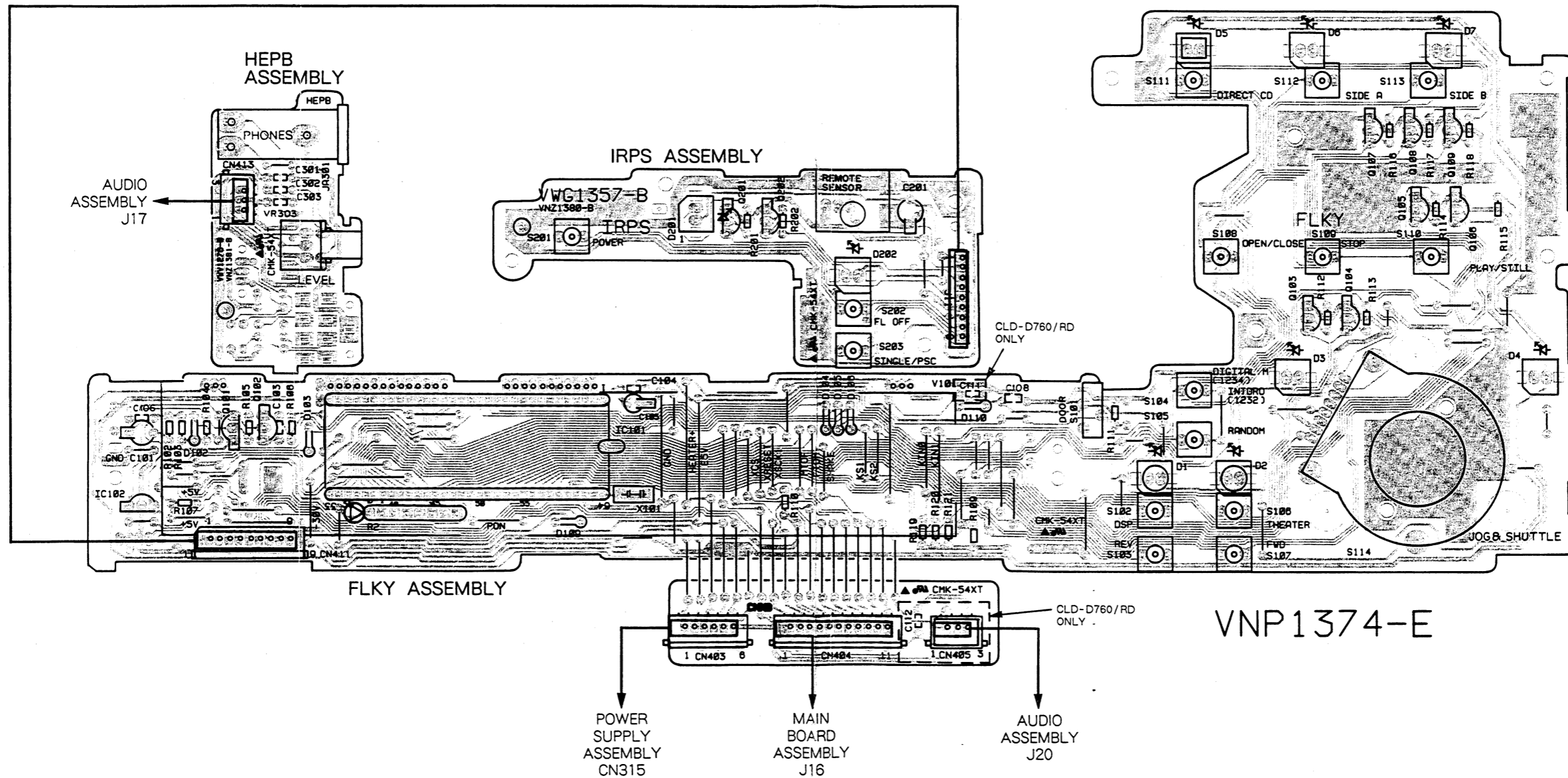
A
B
C
D

3.11 IRPS, FLKY AND HEPB ASSEMBLIES

A

A

IC102 Q101 Q102 IC101 V101 Q103 Q104 Q105 - Q109



B

B

C

C

This P. C. B. connection diagram is viewed from the parts mounted side.

D

D

A

B

C

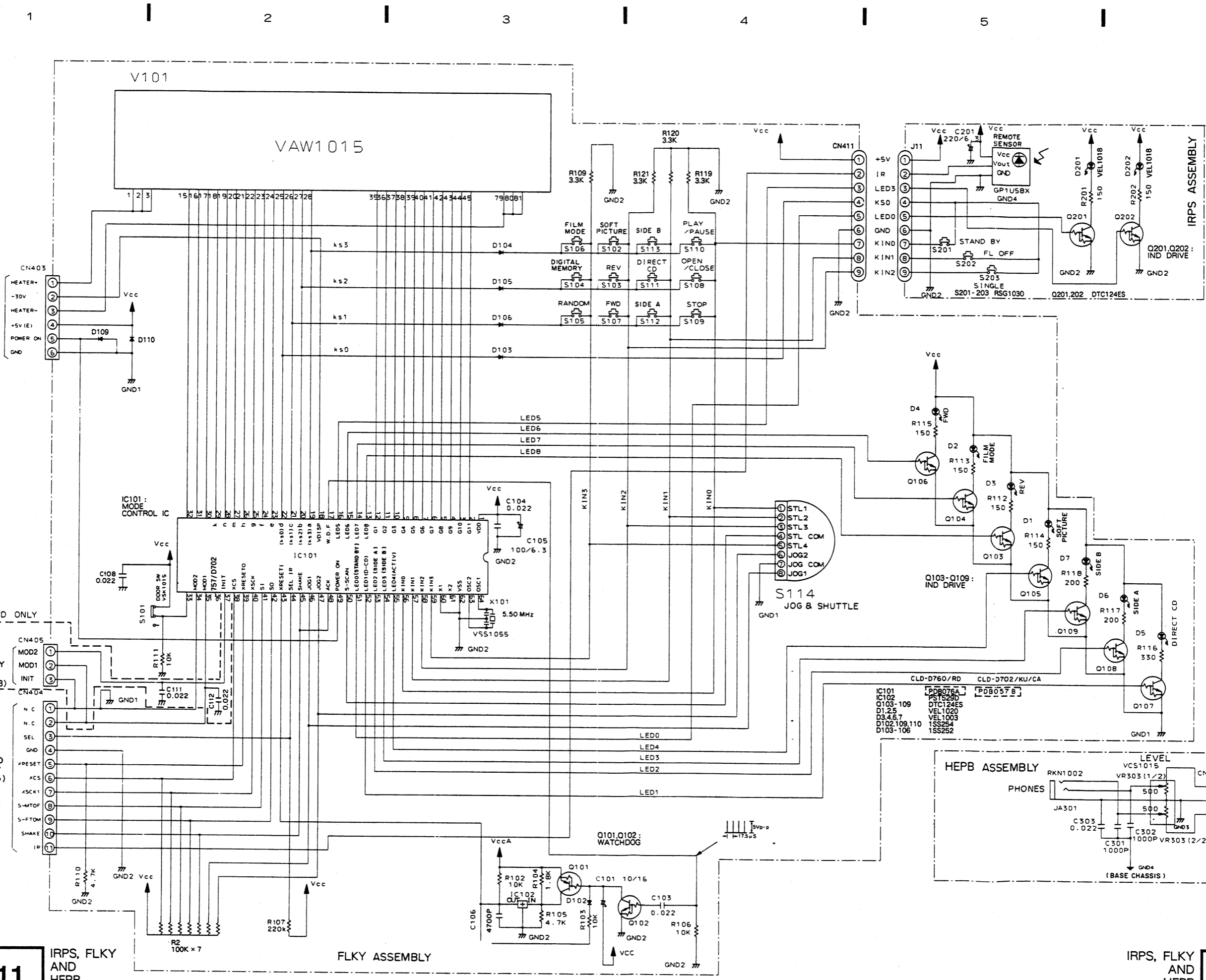
D

A

B

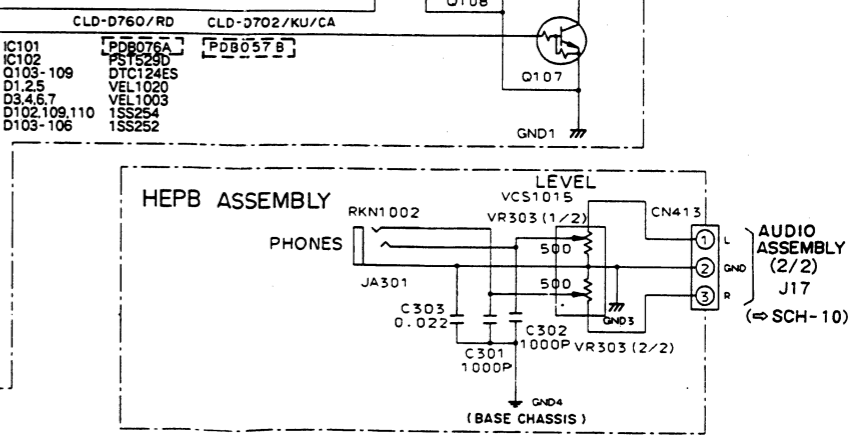
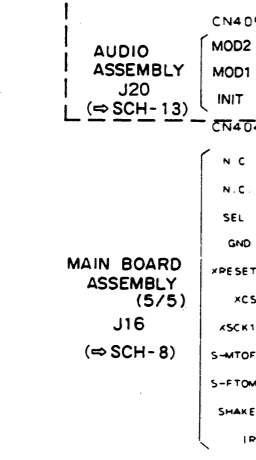
C

D



SCH-11
 IRPS, FLKY
 AND
 HEPB
 ASSEMBLIES

IRPS, FLKY
 AND
 HEPB
 ASSEMBLIES
SCH-11



4. PCB PARTS LIST

NOTES:

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

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

560 Ω → 56 × 10¹ → 561 RD1/8PM $\begin{matrix} 5 \\ 6 \\ 1 \end{matrix}$ J
 47k Ω → 47 × 10³ → 473 RD1/4PS $\begin{matrix} 4 \\ 7 \\ 3 \end{matrix}$ J
 0.5 Ω → 0R5 RN2H $\begin{matrix} 0 \\ R \\ 5 \end{matrix}$ K
 1 Ω → 010 RSIP $\begin{matrix} 0 \\ 1 \\ 0 \end{matrix}$ K

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

5.62k Ω → 562 × 10¹ → 5621 RN1/4PC $\begin{matrix} 5 \\ 6 \\ 2 \\ 1 \end{matrix}$ F

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
LIST OF ASSEMBLIES							
		VSOP ASSEMBLY	VWM1363				
NSP	-	FG BOARD ASSEMBLY	VWG1354		IC301	MC141621FU	
NSP		SW BOARD ASSEMBLY	VWG1355		IC604	MN4700	
NSP		MAIN BOARD ASSEMBLY	VWX1165		IC602	MN4760S	
		AUDIO ASSEMBLY	VWV1294		IC607, IC609	NJM082S	
		COXB ASSEMBLY	VWY1301		IC611	NJM4558D	
		FUNCTION BOARD ASSEMBLY	VWM1362		IC612	NJM4558S	
NSP	-	IRPS ASSEMBLY	VWG1357		IC606	PA4016	
NSP		FLKY ASSEMBLY	VWG1409		IC401	PA5013A	
NSP		HEPB ASSEMBLY	VWV1299		IC403	PD0093A	
		POWER SUPPLY ASSEMBLY	VWR1179		IC101	PD0170B	
NSP	-	CNNB ASSEMBLY	VWG1194		IC601	PDB011	
NSP		HEAD ASSEMBLY	VWV1178		IC803	PM3003A	
					IC608	TC4S66F	
					IC613	TC7WU04F	
					IC610	VTX1001	

FG BOARD ASSEMBLY

OTHERS
 PHOTO INTERRUPTER GPIS51

SW BOARD ASSEMBLY

SWITCHES
 S1-S3 DSG1015

MAIN BOARD ASSEMBLY

SEMICONDUCTORS
 IC802 BA15218N
 IC801 CXA1081S
 IC804 LA6510L
 IC603 MB40568P
 IC605 MB40778

Q203, Q208, Q211, Q215, Q218, Q301, Q303, Q305, Q314, Q417, Q421, Q605, Q618, Q621, Q631, Q644, Q645, Q701, Q703, Q806, Q808, Q812, Q819, Q832, Q836, Q901 2SA1037K

Q626, Q628, Q633, Q816, Q818, Q312, Q416, Q201, Q202, Q207, Q213, Q214, Q625, Q627, Q904 2SA933S
 2SB1185-F8
 2SB1237X
 2SC1740S

Q209, Q210, Q212, Q216, Q217, Q219, Q302, Q306, Q317, Q401, Q402, Q406, Q409, Q424, Q570, Q601-Q603, Q606, Q607, Q610, Q611, Q615, Q616, Q622, Q624, Q630, Q636, Q643, Q702, Q802-Q805, Q807, Q809, Q810, Q814, Q825, Q833, Q838 2SC2412K

Q815, Q817, Q315, Q415, Q822, Q821, Q316, Q403, Q407, Q408, Q612, Q614, Q617, Q820, Q824, Q826, Q829, Q830, Q903 2SD1762-F8
 2SD1858X
 2SK184
 DTA124EK

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
		Q102, Q220, Q313, Q422, Q423, Q604, Q608, Q609, Q613, Q619, Q629, Q811, Q823, Q827, Q828, Q835, Q837, Q839	DTC124EK			C223, C239, C405, C406, C412, C420, C438, C453, C612, C613, C804, C890, C891, C893	CCSQCH470J50
		D601, D301, D302	1S2339 1SS252			C225, C241, C513, C515, C809, C813	CCSQCH560J50 CCSQCH680J50
		D102, D602-D604, D607-D612, D801, D804-D808, D830-D832	1SS254			C818, C819, C840	CCSQSL471J50 CCSQSL561J50
		D834, D833	MTZJ10B MTZJ6.2B			C254, C255, C320, C323, C327, C835, C836, C876, C877, C930	CEAL010M50 CEAL101M6R3 CEAL220M35
COILS						C637, C814, C845, C842, C863, C915, C850, C870, C619	CEANP010M50 CEANP100M16 CEANP2R2M50 CEANP470M10 CEANP4R7M16
		L429, L430, L606, L406, L407, L415, L420, L601, L611, L625, L626, L422, L607	LAU100J LAU120J LAU121J LAU150J			C664, C665, C866, C435, C620, C688, C707, C808, C816, C823, C462, C653, C855, C864, C902	CEANP4R7M25 CEANPR47M50 CEAS010M50 CEAS100M50
		L801, L803, L302, L802, L201-L204, L301, L304-L306, L404, L405, L417, L602, L610, L612, L613, L619, L620, L633-L635	LAU151J LAU180J LAU181J LAU220J			C101, C202, C203, C213, C214, C218, C219, C229, C230, C234, C235, C310, C313, C315, C316, C602, C608, C634, C642, C655, C678, C679, C681, C682, C685, C687, C689, C700, C709, C747	CEAS101M10
		L303, L608, L403, L411, L426, L428, L603, L605, L622, L409	LAU270J LAU330J LAU390J LAU3R3J LAU430J			C626, C648, C668, C841, C920, C92I, C857, C859, C401	CEAS220M16 CEAS220M25 CEAS221M6R3 CEAS2R2M50
		L421, L427, L604, L408, L416, L410, L617, L618, L418, L645-L647	LAU470J LAU560J LAU620J LFA220J LFA561J VTH1024			C417, C426, C428, C434, C455, C456, C461, C472, C483, C490, C492, C641, C658, C660, C663, C680, C713, C722, C896, C897, C332, C334, C464, C607	CEAS470M10 CEAS471M6R3
CAPACITORS						C480, C649, C715, C723, C852, C900, C431, C625, C666, C849, C865, C873, C901, C458, C832, C838, C874, C807	CFTNA184J50 CFTNA224J50 CFTXA103J50 CFTXA104J50 CFTXA124J50
		VC602, VC901, C605, C604, C104, C105	VCM1002 VCM1005 CCCCH181J50 CCCCH221J50 CCCCH300J50			C618, C843, C827, C848, C867, C742, C469, C667, C674, C676, C869, C910, C459, C460, C706, C847, C868	CFTXA223J50 CFTXA333J50 CFTXA393J50 CFTXA473J50 CFTXA683J50
		C226, C242, C302, C440, C730, C731, C409, C436, C485, C895, C477, C810, C811, C822	CCCSL331J50 CCPUSL560J50 CCSQCH030C50 CCSQCH050C50			C883, C621, C650, C632, C854	CFTXA823J50 CKCYB102K50 CKPUYB181K50 CKPUYB331K50 CKPUYB821K50
		C303, C305, C422, C484, C222, C238, C488, C517, C611, C301, C407, C468, C475, C476, C511, C614, C790, C418, C419	CCSQCH120J50 CCSQCH150J50 CCSQCH151J50 CCSQCH180J50 CCSQCH200J50			C467, C471, C712, C103, C331, C333, C518, C519, C609, C610, C644, C645, C797	CKPUYB910K50 CKPUYF103Z25 CKPUYY103N16 CKSQYB102K50 CKSQYB222K50
		C224, C227, C240, C243, C736, C247, C408, C466, C495, C437, C708, C806, C812, C815, C350, C410, C432, C304, C306, C424, C439, C463, C675, C735	CCSQCH220J50 CCSQCH221J50 CCSQCH270J50 CCSQCH330J50 CCSQCH390J50			C324, C875, C879	CKSQYB472K50 CKSQYB562K50

Mark	No.	Description	Part No.
	C106, C122, C201, C204, C212, C215, C217, C220, C228, C231, C233, C236, C253, C256, C314, C317, C321, C322, C326, C415, C416, C421, C423, C425, C433, C454, C457, C465, C473, C474, C482, C489, C491, C623, C624, C629, C630, C640, C646, C651, C654, C659, C661, C672, C673, C686, C691, C694, C697, C702, C714, C721, C791, C794, C795, C801, C802, C803, C824, C828, C829, C861, C908		CKSQYF103Z50
	C311, C312, C325, C328, C329, C340, C638, C657, C716, C719, C720, C745, C750, C799, C851, C858, C860, C878, C880, C881, C882		CKSQYF104Z25
	C307 C102, C725, C737-C741, C792, C793, C805, C820 C627, C633, C669, C733, C839 C834		CKSQYF223Z50 CKSQYF473Z25 CQMA102J50 CQMA152J50
	C429, C899 C705, C853 C635, C898 C670, C825 C606 C935		CQMA272J50 CQMA332J50 CQMA472J50 CQMA682J50 CQMA821J50 VCH1039
RESISTORS	VR601 VR602, VR603, VR610 VR482, VR605, VR606 VR607 VR202 VR608 VR521, VR604, VR609 R873, R916 R203, R236, R573, R913 R403, R617, R619, R663, R720, R962 R123, R671, R716, R721, R779, R796, R923 R719, R832, R948 R917 R623 R704-R711, R722 R207, R208, R241, R242, R620 R330, R453, R602, R747, R842 R480 R743 R601 R221 R728 R638 R759 R841, R910, R911, R912 R219, R220, R234, R235, R408 R606, R612, R934 R201, R202 R688 R450	VRTB6VS102 VRTB6VS103 VRTB6VS222 VRTB6VS223 VRTB6VS332 VRTB6VS333 VRTB6VS472 RD1/6PM100J RD1/6PM101J RD1/6PM102J RD1/6PM103J RD1/6PM104J RD1/6PM123J RD1/6PM124J RD1/6PM181J RD1/6PM220J RD1/6PM222J RD1/6PM271J RD1/6PM331J RD1/6PM332J RD1/6PM471J RD1/6PM472J RD1/6PM473J RD1/6PM474J RD1/6PM563J RD1/6PM680J RD1/6PM681J RD1/6PM750J RD1/6PM822J RD1/6PM911J	

Mark	No.	Description	Part No.
	R699, R701 R413 R429 R698, R700 R405, R406 R412 R850, R862 R996 Other resistors		RN1/6PQ1002F RN1/6PQ1203F RN1/6PQ2002F RN1/6PQ2202F RN1/6PQ2402F RN1/6PQ5101F RSILMF3R3J RSILMF3R9J RS1/10S□□□J

OTHERS

JA1 2P PIN JACK	VKB1042
JA2 2P PIN JACK	VKN-183
JA3, JA5 4P MINI DIN SOCKET	VKN1072
CN103 22P TOP CONNECTOR	VKN1137
X101 CERAMIC RESONATOR(9.00MHz)	VSS1040
X602 CRYSTAL RESONATOR(18.12587MHz)	VSS1043
X601 CRYSTAL RESONATOR(14.318MHz)	VSS1044

AUDIO ASSEMBLY

SEMICONDUCTORS

IC204	BA15218N
IC201	CXD2500AQ
IC211, IC213, IC215	M5218AL
IC205	NJM78L09A
IC206	NJM79L09A
IC351	PA0034A
IC209, IC210	SA47350
IC202	SM5840AP
IC203	TC74HCU04AP
Q205, Q225	2SA1037K
Q209, Q212	2SA1435
Q204, Q224	2SB1237X
Q352	2SC1740S
Q201, Q208, Q211, Q230, Q231	2SC2412K
Q351	2SC2786
Q202, Q207, Q210, Q213, Q216	DTA124EK
Q206, Q214, Q226	DTC124EK
D202	ERA83-006
D201	FC54M

COILS

L302	LAU180J
L301, L352	LAU181J
L221, L243, L300, L353	LAU220J
L247, L251	VTH1024

CAPACITORS

C293-C296	CCCSL221J50
C280, C330	CCCSL391J50
C253, C255, C269, C271, C303, C305, C319, C321	CCPUSL390J50
C249, C250	CCSQCH101J50
C399	CCSQCH121J50
C353	CCSQCH150J50
C393	CCSQCH151J50
C236	CCSQCH180J50

Mark	No.	Description	Part No.
	C232		CCSQCH220J50
	C352		CCSQCH221J50
	C340		CCSQCH270J50
	C380		CCSQCH271J50
	C397		CCSQCH390J50
	C374, C381, C396		CCSQCH560J50
	C371, C398		CCSQCH680J50
	C357, C358		CCSQCH820J50
	C362		CCSQL331J50
	C225, C372		CEANP010M50
	C368, C386		CEANP220M10
	C299		CEANP3R3M50
	C205		CEANPR47M50
	C355, C370		CEAS100M50
	C360, C361, C378, C379		CEAS101M10
	C227		CEAS220M16
	C364, C383, C390		CEAS220M25
	C208, C211, C214, C216, C230, C233, C239, C242, C244-C248, C251, C257, C259, C261, C263, C265, C267, C273, C275, C281, C283, C301, C307, C309, C311, C313, C315, C317, C323, C325, C331, C333, C341, C342, C369, C376		CEAS470M10
	C285, C335		CEAS470M25
	C241		CEAS470M50
	C388		CEASR47M50
	C373		CFTXA104J50
	C279, C329		CFTXA222J50
	C226		CFTXA223J50
	C367, C387		CFTXA393J50
	C254, C256, C270, C272, C304, C306, C320, C322		CFTXA471J50
	C391		CKSQYB102K50
	C202		CKSQYB152K50
	C365, C366, C384, C385		CKSQYB472K50
	C363, C382		CKSQYB682K50
	C206, C213, C218, C231, C234, C354, C359, C377, C389, C395		CKSQYF103Z50
	C204, C209, C212, C215, C217, C228, C229, C235		CKSQYF104Z25
	C201, C210, C276, C326, C392		CKSQYF473Z25
RESISTORS	R266, R286		RD1/6PM101J
	R256-R259, R276-R279, R291, R310-R317		RD1/6PM103J
	R260, R261, R280, R281		RD1/6PM153J
	R263, R283		RD1/6PM202J
	R340, R344, R390, R391		RD1/6PM220J
	R304		RD1/6PM221J
	R265, R285		RD1/6PM223J
	R251, R252, R254, R255, R271, R272, R274, R275		RD1/6PM303J
	R345, R346		RD1/6PM390J
	R267, R268, R287, R288		RD1/6PM471J
	R264, R284		RD1/6PM472J
	R262, R282		RD1/6PM512J

Mark	No.	Description	Part No.
	R357		RD1/6PM680J
	R303, R307		RS2LMF560J
	Other resistors		RS1/10S□□□J

OTHERS

CN301	5P TOP POST	B5P-SHF
JA102	OPTICAL OUTPUT MODULE	TOTX178
JA101	4P PIN JACK	VKB1043
X201	CRYSTAL RESONATOR (16MHz)	VSS1051

COXB ASSEMBLY

SEMICONDUCTOR

IC101		TC74HCU04AP
-------	--	-------------

COILS

L101		LAU120J
L106		VTH1024
L103		VTL1042

CAPACITORS

C104		CCCCH100D50
C101		CEAS221M6R3
C102, C106		CGCYX473Z25

RESISTORS

VR101		VRTB6VS471
Other resistors		RD1/6PM□□□J

OTHERS

JA101	COAXIAL PIN JACK	VKB1059
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IRPS ASSEMBLY

SEMICONDUCTORS

Q201, Q202		DTC124ES
D202		VEL1003
D201		VEL1018

SWITCHES

S201-S203		RSG1030
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CAPACITOR

C201		CEAS221M6R3
------	--	-------------

RESISTORS

R201, R202		RD1/6PM151J
------------	--	-------------

OTHERS

REMOTE SENSOR		GP1U58X
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Mark No. Description Part No.

FLKY ASSEMBLY

SEMICONDUCTORS

IC101	PDB057B
IC102	PST529D
Q101	DTA144ES
Q102	DTC114ES
Q103-Q109	DTC124ES

D103-D106	1SS252
D102, D109, D110	1SS254
D3, D4, D6, D7	VEL1003
D1, D2, D5	VEL1020

SWITCHES

S102-S113	RSG1030
S114	VSD1006
S101	VSK1015

CAPACITORS

C101	CEAL100M16
C105	CEAL101M6R3
C103, C104, C108	CKPUYF223Z25
C106	CKPUYX472M16

RESISTORS

R2	RA7S104J
Other resistors	RD1/6PM□□□J

OTHERS

V101	FLUORESCENT INDICATOR TUBE	VAW1015
X101	CERAMIC RESONATOR (5.50MHz)	VSS1055
FL SPACER		VEB1140
FL SPACER		VEB1197
CUSHION A		VEC1551
CUSHION B		VEC1552

HEPB ASSEMBLY

CAPACITORS

C301, C302	CKPUYB102K50
C303	CKPUYF223Z25

RESISTOR

VR303 (500Ω)	VCS1015
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OTHERS

JA301	HEADPHONE JACK	RKN1002
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Mark No. Description Part No.

POWER SUPPLY ASSEMBLY

SEMICONDUCTORS

IC215	ICP-N38
IC213, IC214	ICP-N50
IC202	TH5P4-FU
Q205, Q206	2SA933S
Q201	2SB1331

Q202	2SC1740S
Q207	2SD1762
D205, D209, D210, D213-D215	D1NL20
D204	ERB83-006
D206	MTZJ2. 4A

D207	MTZJ3. 3A
D208	MTZJ5. 6C
D201, D202	S3LA20
D203	S3S4M

COIL AND FUSES

L203 (10mH)	VTL1008
F202, F203 MICRO FUSE (0.63A)	NT1-0.63A

CNNB ASSEMBLY

SWITCH

S201	VSK1017
------	---------

RESISTORS

All resistors	RD1/6PM□□□J
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OTHERS

CN203	22P SIDE CONNECTOR	VKN1138
CN204	25P SIDE CONNECTOR	VKN1139

HEAD ASSEMBLY

CAPACITORS

C4, C6	CKSQYF104Z25
C3	CKSQYF223Z50
C5	CKSYF105Z16

RESISTOR

VR1 (10kΩ)	VCP1025
------------	---------

5. DISASSEMBLY

1. Disc Tray

- ① Turn the power switch on and press the OPEN button then pull the tray out from the player.
- ② Remove two tray stopper screws (A).
- ③ Pull out the tray toward the front.

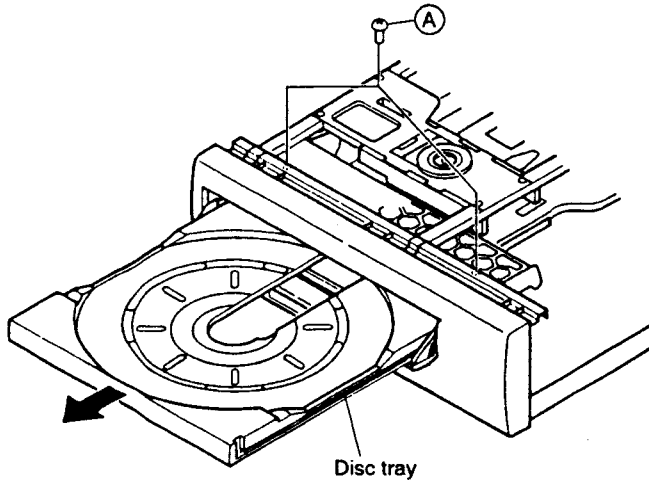


Fig. 1

Note 1: How to open the tray by hand

- ① Remove two screws (A) for tray stopper. (Fig. 1)
- ② Remove the front panel. (by loosening three screws at the top side and a fixing screw of the earth lead.)
- ③ Remove two fixing screws from the slide cam on the left side. (Fig.2)
- ④ Lift up the front side of the disc tray to enable the gear pulley to be turned by hand. (Fig.3)
- ⑤ Turn the gear pulley (Fig.3) counterclockwise by hand.
- ⑥ After the disc tray is lifted up and moved toward you, tighten two screws (B) which were removed in step 3.
- ⑦ Pull out the disc tray toward you by hand.

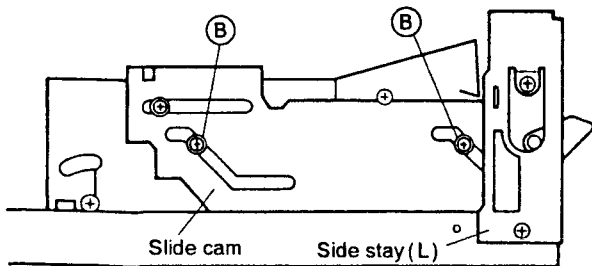


Fig. 2

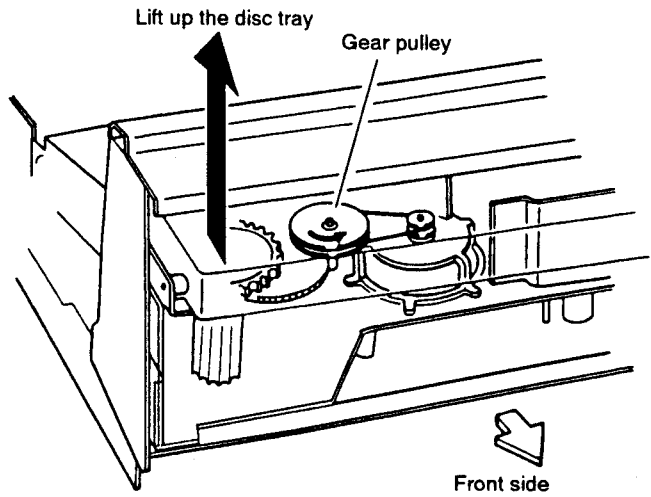


Fig. 3

2. Clamper Assembly

- ① Remove four screws (A) to remove the clamper assembly.

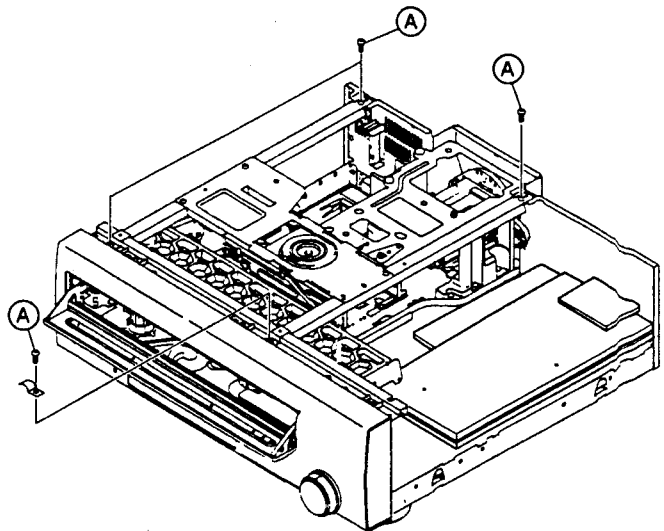


Fig. 4

3. Carriage Assembly

- ① Slide the carriage assembly to the shaft of the turn plate by hand.

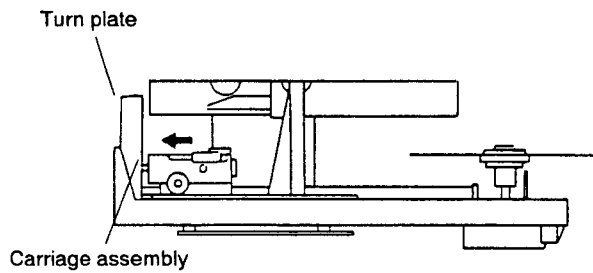
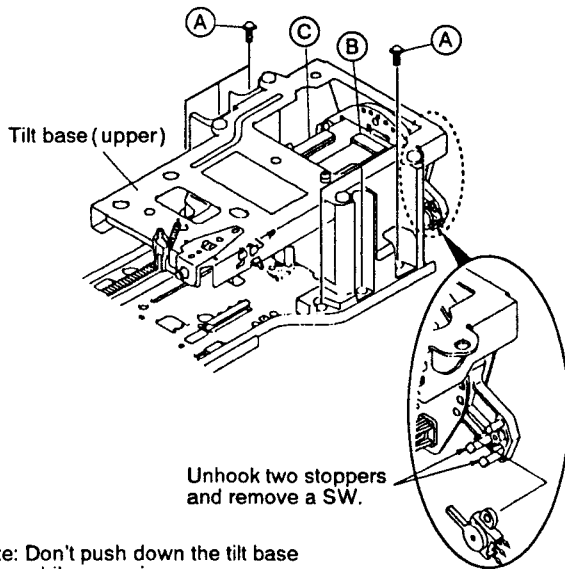


Fig. 5

- ② Disconnect two connectors (B) and (C) from the CNNB assembly to remove the flexible cable (Fig. 6).
- ③ Remove six screws (A) from the post (L) and (R) to remove the tilt base.
- ④ Pull out the carriage assembly by setting the tilt base (upper) toward the upper (Fig. 7).
- ⑤ Unhook two stoppers and remove a SW.



Note: Don't push down the tilt base while removing screws.

Fig. 6

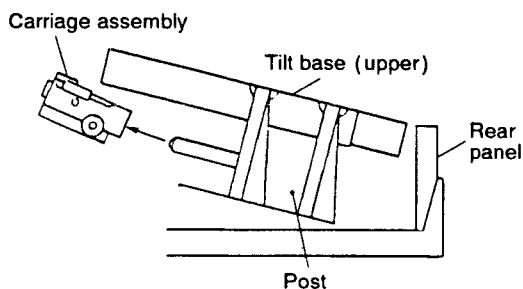


Fig. 7

- How to replace the flexible cable

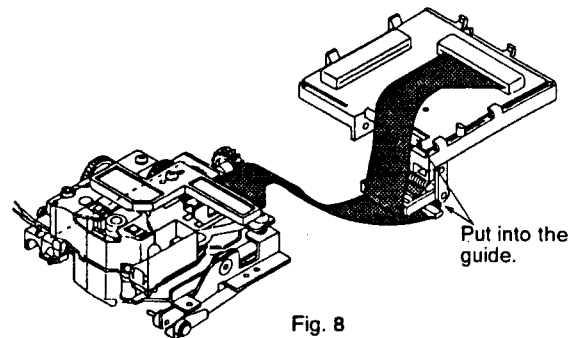


Fig. 8

4. AUDIO Assembly

- ① Open the tray.
- ② Remove one screw (A), two screws (B), three screws (C) and one screw (D).
- ③ Separate the output terminal of the AUDIO Assembly from the rear panel. (Arrow ①)
- ④ Slide the AUDIO Assembly by lifting it up. (Arrow ②)
- ⑤ Raise the AUDIO Assembly so that it does not touch the tray guide assembly. (Arrow ③)

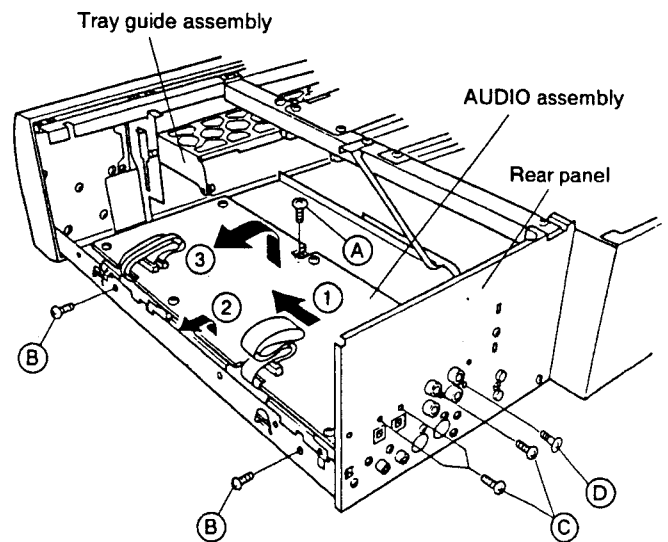


Fig. 9

5. How to install the cam gear

- ① Grease the cam gear. (Fig. 10)

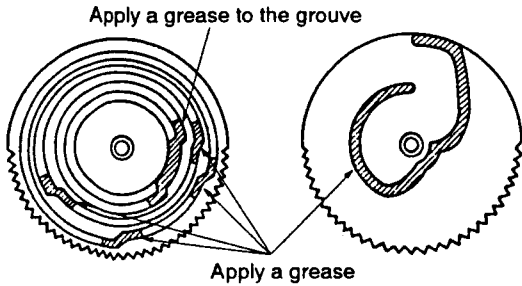


Fig. 10

- ② Move switch levers **A** and **B** (Fig. 11) in the direction of arrow ① (SW is ON), switch lever **C** in the direction of arrow ② and lever **D** in the direction of arrow ③.

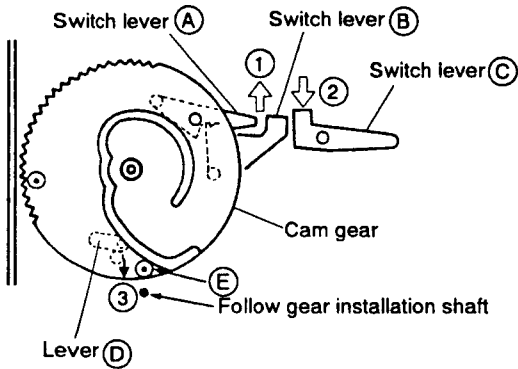


Fig. 11

- ③ Install the cam gear in the position where projection **E** of the cam gear comes to the front of the follow gear installation shaft.

6. How to install the spring slanting cam

- ① Grease the spring slanting cam. (Fig. 12)
- ② Install the cam gear when the cam gear comes to the position as shown in Fig. 11.

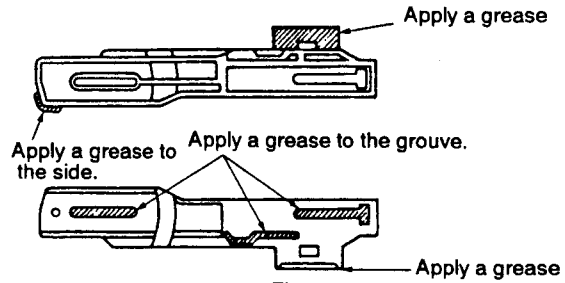


Fig. 12

- ③ Install a nylon washer and an E ring, and hang the cam spring on the hook. (Fig. 13)

Note: The cam gear and spring slanting cam as shown in Fig. 13 are positioned when installing the slide cam.

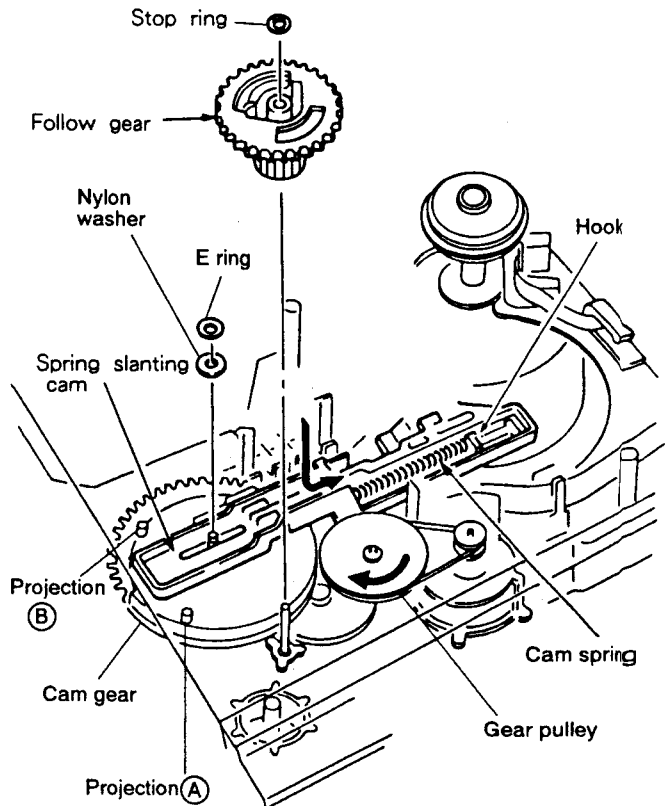


Fig. 13

7. How to install the follow gear

- ① Grease the follow gear. (Fig.14)

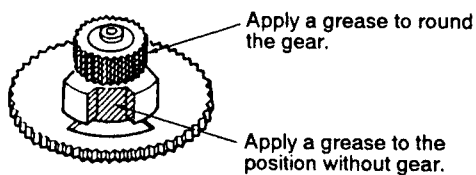


Fig. 14

- ② Install the follow gear where the portion of chipped tooth of the follow gear come to the position as shown in Fig. 15.
- ③ Install the stop ring. (Fig.13)

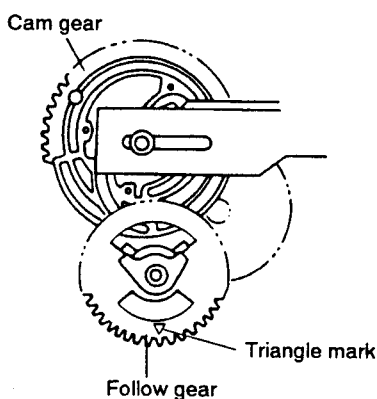


Fig. 15

8. How to install the roller plate assembly

- ① Mount the roller plate assembly in the position where the tooth with a triangle mark of the follow gear meshes with the gap of the gear of the roller plate assembly. (Fig.16)

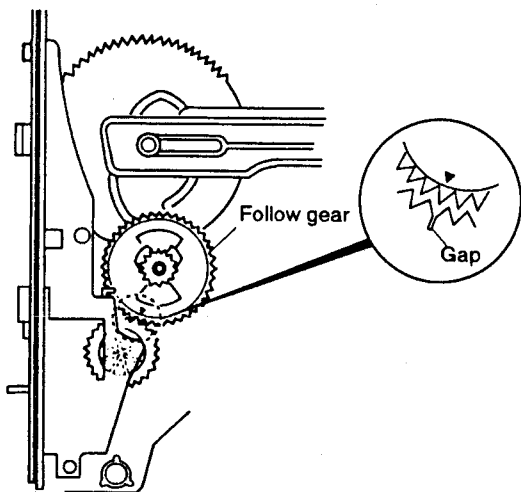


Fig. 16

9. Caution for installing the tray guide assembly

- ① Install the tray guide assembly in the position where projection ① of the tray guide assembly fits into the long hole ② of the chassis assembly and the long hole ③ of the roller plate assembly. (Fig.17)

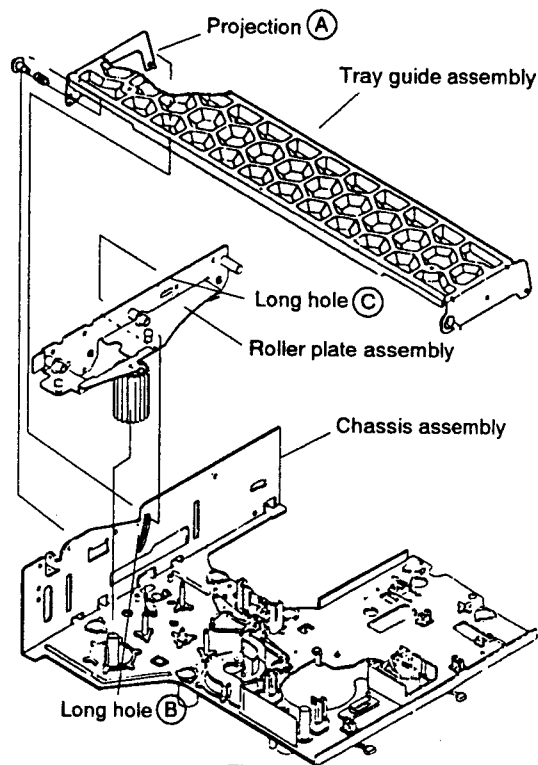


Fig. 17

10. How to install the slide cam

- ① Set the position of projection ① and ② of the cam gear by turning the gear pulley clockwise by hand as shown in Fig.13.
- ② Tighten four screws ③ to install the slide cam. (Fig. 18)

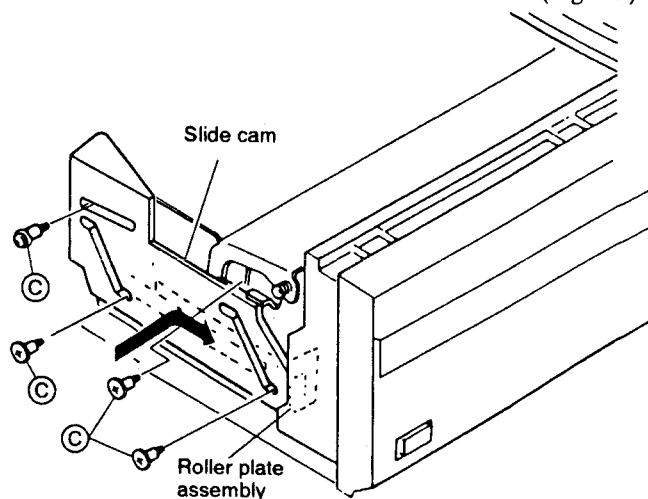


Fig. 18

11. How to install the disc tray

- ① Adjust the gear positions in the loading mechanism for the disc tray open status, as ① and ② mentioned below.
 - ①: The position where the cam gear turns counter-clockwise and stops when the OPEN/CLOSE button is pressed.
 - ②: The position where the cam gear stops when the pulley is continuously turned by hand.
- ② The top of one of the gear teeth of the roller plate assembly has been chipped off. Finely adjust the position of this chipped tooth by turning the gear counterclockwise so that the tooth comes halfway on the roller plate line. (Fig.19)

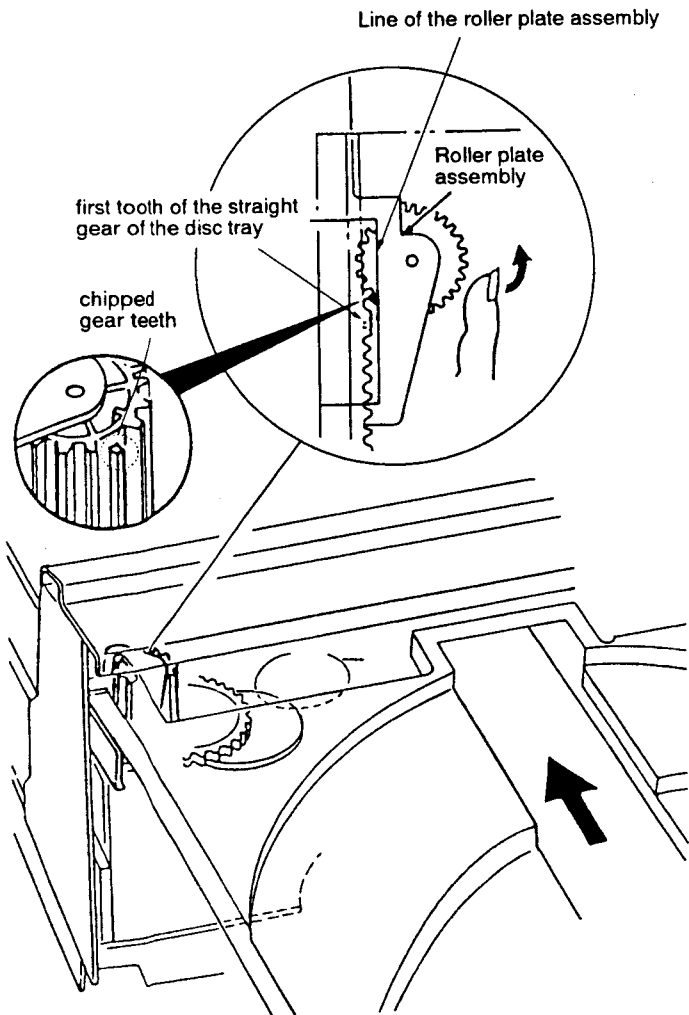


Fig. 19

- ③ Insert so that the first tooth of the straight gear on the rear of the disc tray meshes with the chipped gear teeth of the roller plate assembly.
- ④ Tighten two screws ① for disc tray stopper. (Fig.1)

6. ADJUSTMENTS

6.1 JIGS AND INSTRUMENTS REQUIRED FOR ADJUSTMENT

- Small screwdriver (about 10cm long)
- Small Phillips screwdriver (about 7cm long)
- Phillips screwdriver
- Dual-trace oscilloscope (with delay)
- AF oscillator
- Frequency counter
- LD test disc (GGV1003)
- CD test disc (YEDS - 7)
- Digital voltmeter
- Shorting clip
- L - shaped eccentric screwdriver (GGV - 129)
- TV monitor
- Resistor (47kΩ , 10kΩ × 2, 75Ω)
- Low-pass filter (47kΩ +1μF)
- 10:1 / 1:1 Probe

6.2 TEST MODE

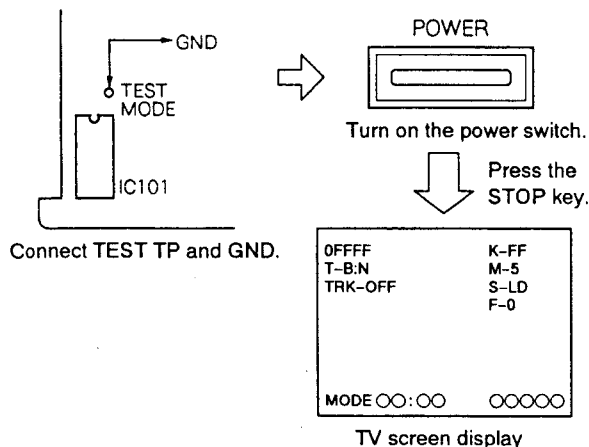
The player has a test mode function which allows the servicer to check the player's status on the TV screen by executing the respective key operation.

Also, since the TRKG servo OFF and ON easily, the test mode is especially useful for mechanical adjustments.

6.2.1 Test Mode Initiation

[Procedure]

1. Remove the bonnet and disc tray.
2. Connect the TEST MODE (TP) to GND.
3. Turn on the power switch.
4. Disconnect the TEST MODE (TP) from GND.



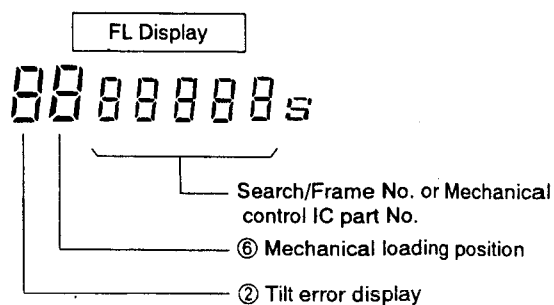
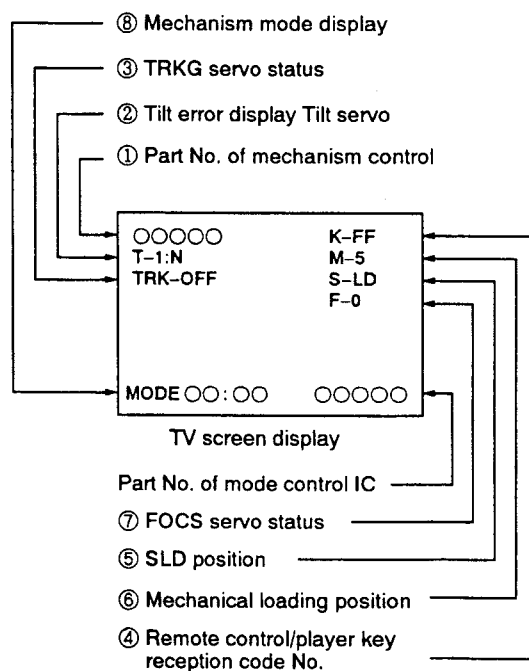
Note: When using the remote control unit (GGF1067) for the test mode.

- Press the **TEST** key after pressing the **ESC** key.

6.2.2 Test Mode Cancellation

Turn off the power switch.

6.2.3 TV Screen and FL Displays in the Test Mode



① **The Mechanical Control IC Part No. will be Displayed.**

Example: PD0081A1 → 0081A
 PD0081B1 → 0081B

② **Tilt Servo Status / Tilt Error Display**

T-○○:○○
 ↙ Tilt servo status : N ...Tilt neutral
 ON ...Tilt servo ON
 OFF...Tilt servo OFF
 ↘ Tilt error display: 0 Tilt -
 ↑ Tilt neutral
 F Tilt +

③ **TRKG Servo Status**

TV screen display
 TRK-○○○○
 ↑ ON...TRKG servo ON
 OFF...TRKG servo OFF

④ **Remote Control/Player Key Reception Code No.**

TV screen display
 K-○○
 ↑ See Table 1

Code	Function	Code	Function	Code	Function	Code	Function
00	0	20	F JOG0	40	(CHAP / TRK)	60	
01	1	21	F JOG1	41	(FRAM / TIM)	61	
02	2	22	F JOG2	42	(SEARCH)	62	
⋮	⋮	⋮	⋮	⋮	⋮	⋮	
1C	POW ON/OFF	3C		5C		7C	
1D	EDIT	3D		5D		7D	
1E	AUDIO	3E		5E	RNDM (TEST)	7E	
1F	+10	3F		5F	(ESC)	7F	

Table 1 Example of Code

⑤ **SLDR Position**

TV screen display	FL display	Mode
S-○○○○ ↑ IN	—	CD inside SW ON
CD	CD	CD active area
CDV	CDV	CDV active area
LD	LD	LD active area
B IN	—	LD B inside SW ON

⑥ **Mechanical Loading Position**

TV screen display
 M-○
 ↑ 0 ... Tray open
 1 ... Loading
 2 ... Standby
 3 ... Clamped
 5 ... Tilt minus
 7 ... Tilt plus
 8 ... Tilt limit
 9 ... B side clamped (two sides)

⑦ **Focus Offset VR Status**

TV screen display
 F-○
 ↑ 0 ... TRKG ON : TE MAX
 TRKG OFF : TE MAX
 1 ... TRKG ON : RF MAX
 TRKG OFF : RF MAX

6.2.4 Key Operation in the Test Mode

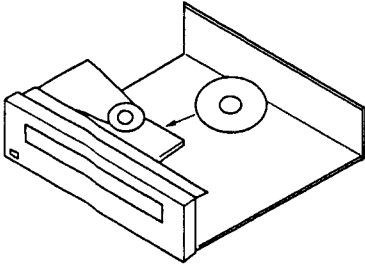
Function	Player Status	Key Operation	Remarks
Open Tray	STOP mode	▲	
Close Tray	Tray open	▲	
Stop	PLAY mode	■	
Play	Disc placement and tray closed.	▶	<ul style="list-style-type: none"> Start play with the TRKG servo OFF. Raise up with tilt neutral. The disc type (LD/CD/CDV) is determined when playback starts at the SLDR position during start play.
TRKG Servo OFF/ON	PLAY mode	▶	<ul style="list-style-type: none"> Each time the PLAY button (▶) is pressed, the TRKG servo will OFF or ON alternately.
Still	PLAY mode TRKG servo closed.	|| (Remote control unit key)	<ul style="list-style-type: none"> Each time the STILL button (||) is pressed, the player will switch between the PLAY and STILL modes alternately.
SLDR REV SCAN	PLAY mode	◀◀ (SHUTTLE RING REV)	<ul style="list-style-type: none"> Press and hold down the key. To use the shuttle ring, turn it counterclockwise. With the TRKG servo OFF, the pickup can be damaged if the SLDR moves further inward than the lead-in area on the disc. Do not allow the SLDR to move further inward than the lead-in area.
SLDR FWD SCAN	PLAY mode	▶▶ (SHUTTLE RING FWD)	<ul style="list-style-type: none"> Press and hold down the key. To use the shuttle ring, turn it clockwise. With the TRKG servo OFF, the pickup can be damaged if the SLDR moves further outward than the lead-in area on the disc. Do not allow the SLDR to move further outward than the lead-in area.
TILT Neutral	POWER switch ON	EDIT	
TILT Servo ON	PLAY mode	RANDOM PLAY	
TILT Minus TILT Servo OFF	PLAY mode	|◀◀	<ul style="list-style-type: none"> Press and hold down the keys.
TILT Plus TILT Servo OFF	PLAY mode	▶▶|	<ul style="list-style-type: none"> Press and hold down the keys.
Screen Display ON/OFF	POWER switch ON	PGM key	
Frame search	PLAY mode	+10 key ↓ 0-9 key ↓ ▶	<ul style="list-style-type: none"> In the PLAY mode, press the +10 key. (The player will standby for the frame No. entry.) Use the numeric keys(0-9) to enter the frame No.. Then press the player's PLAY key to search. After the search is completed, the player will return to the previous mode before the search was performed.
Loading Motor Rotation Clockwise Counterclockwise	Tray open	▶▶ |◀◀	<ul style="list-style-type: none"> FWD : Unloading REV : Loading
FOCS Offset for checking VR606	PLAY mode TRKG servo OFF	Remote control unit key •MULTI-SPEED ▶→ F-1 ◀← F-0 Player key •INTRO SCAN (toggle)	VR606 and VR605 : For check F - 0 : Normal state TRKG ON : VR605 (TE MAX) TRKG OFF : VR605 (TE MAX) F - 1 : VR606 is effectived when the TRKG servo is ON.

6.2.5 Player Operation in the Test Mode

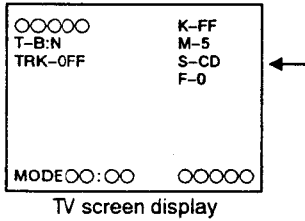
Operate the player by selecting a test mode function with the keys on the player or on the remote control unit.

● CD PLAYBACK

- ① Place the CD disc on the turn table.
(Clamper is already lifted up.)



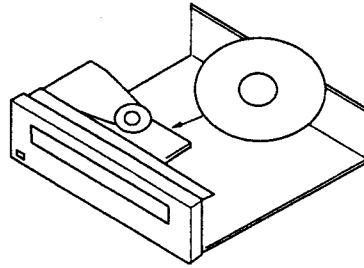
- ② Press the ◀◀ or ▶▶ key to appear "S-CD" on the TV screen display.



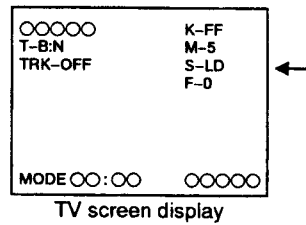
- ③ Clamp the disc by pressing the PLAY (▶) key once. Then, press the PLAY (▶) key twice, disc will be normal playbacked.

● LD PLAYBACK

- ① Place the LD disc on the turn table.
(Clamper is already lifted up.)



- ② Press the ◀◀ or ▶▶ key to appear "S-LD" on the TV screen display.



- ③ Clamp the disc by pressing the PLAY (▶) key once. Then, press the PLAY (▶) key twice, disc will be normal playbacked.

6.3 PREPARATIONS FOR ADJUSTMENT AND PRECAUTIONS

1) When replacing the pickup assembly, adjust in the following way:

- Carriage assembly in forward state -

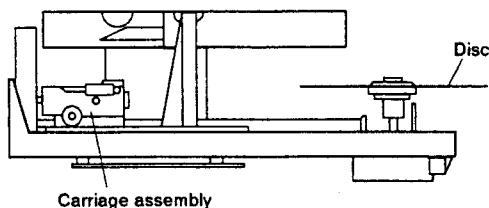
3. Coarse grating adjustment/TRKG balance adjustment /TRKG error MAX. adjustment
4. Slider shaft horizontal adjustment/RF level MAX. adjustment
5. Pickup inclination adjustment
6. Tilt sensor inclination/tilt balance adjustment
7. Spindle motor centering check
8. Spindle motor centering adjustment
9. Fine grating adjustment
10. FOCS SUM level adjustment
11. RF gain adjustment
12. FOCS servo loop gain adjustment
13. TRKG servo loop gain adjustment

- Carriage assembly in reverse state -

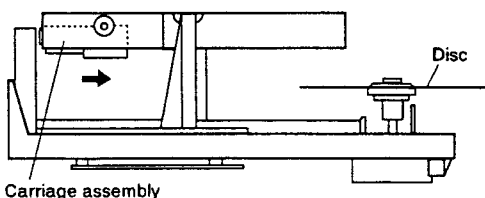
14. Coarse centering adjustment for side B play
15. Pickup tangential direction angle adjustment for side B play
16. Fine centering adjustment for side B play

Note : The forward status of carriage assembly is when the carriage assembly is in the position to play side A of the disc. The reverse status is when it is in the position to play side B of the disc.

Carriage assembly in forward state



Carriage assembly in reverse state



2) How to reverse the carriage assembly

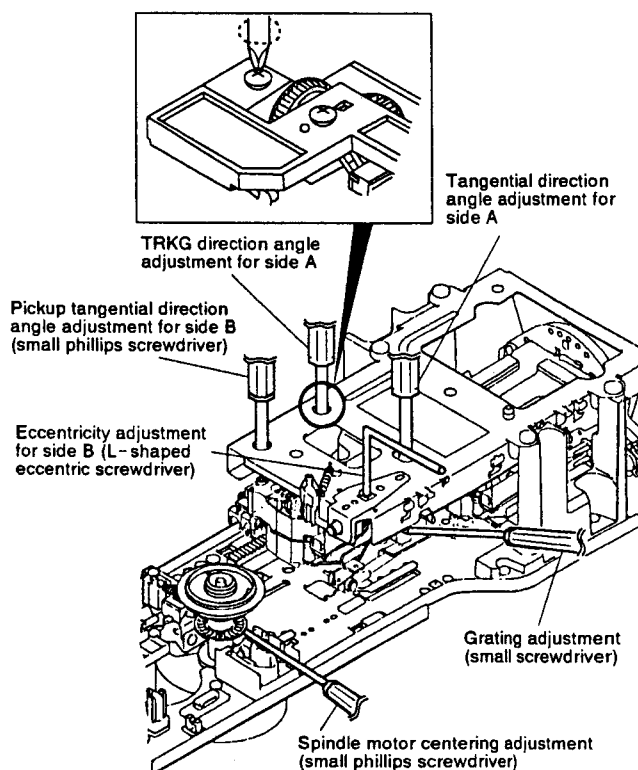
- Carriage assembly is reversed by pressing the DISC SIDE B key of the front panel.
- Side A is returned by pressing the STOP key.

3) Installing the disc

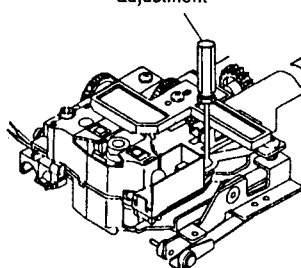
The disc should be placed from behind on the turntable and when Open/Close key is pressed, the clamper comes down to clamp the disc.

4) Where to insert the screwdriver when adjusting the pickup assembly

- Carriage assembly in forward state -



Tilt sensor inclination adjustment

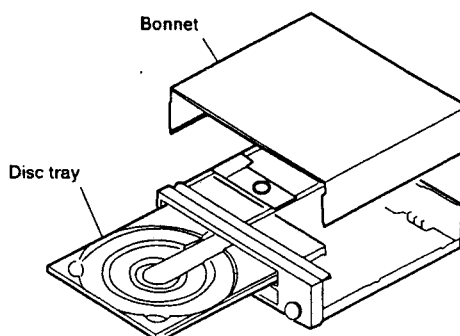


0FFF	K-FF
T-1:N	M-5
TRK-OFF	S-LD
	F-0
Tilt status display	
MODE 00:00	○○○○○

TV screen display

5) Setting the player

Adjustment should be performed with the bonnet, disc tray and AUDIO assembly removed.



6.4 MAIN BOARD ASSEMBLY ADJUSTMENT SUMMARY

	ADJUSTMENT	Adjusting Point	Measurement equipment Connecting Point	Player Condition	Adjusting Specification
1	Tilt offset adjustment	VR810	C902 - (minus) lead wire	<ul style="list-style-type: none"> Stop mode (power ON) 	<ul style="list-style-type: none"> Adjust VR810 so that the DC voltage becomes $0 \pm 0.2V$.
2	Tilt Servo Gain Adjustment	VR808	None	<ul style="list-style-type: none"> Stop mode (Power OFF) 	<ul style="list-style-type: none"> Marking of Tilt gain VR position Red : Turn to right Clear : Center Blue : Turn to left
3	Coarse Grating /TRKG Balance /TRKG Error MAX. Adjustment	Grating / VR602 VR805(TE MAX)	CN401 - 9 (TRKG ERR)	<ul style="list-style-type: none"> Test mode #6,500 still TRKG servo OFF Tilt servo OFF F-0 	<ul style="list-style-type: none"> Null point → TRKG error MAX Adjust VR602 so that the TRKG error waveform amplitude's positive and negative level become equal. TRKG error MAX (VR805)
4	Slider Shaft Horizontal Adjustment / RF Level MAX. Adjustment	SKIP key VR806 (RF MAX)	CN401 - 4 (FOCS RTN) CN401 - 3 (RF)	<ul style="list-style-type: none"> Test mode #9,800 , #22,000 - 25,000 still TRKG servo OFF TILT servo OFF #2,701 / #115 still TRKG servo ON: F-1 TILT servo OFF 	<ul style="list-style-type: none"> Adjust the SKIP key so that the FOCS RTN voltage between #9,800 and #22,000 - #25,000 becomes +8 to +12 mV. RF level MAX (VR806) Check that the crosstalk of the frame #115 is not appeared.
5	Pickup Inclination Adjustment	Pickup assembly TAN / TRK inclination adjustment screw	CN401 - 3 (RF)	<ul style="list-style-type: none"> Test mode , #2,701 still TRKG servo ON TILT servo OFF 	<ul style="list-style-type: none"> RF waveform's amplitude MAX (Pickup TAN / TRK adjustment screw) Minimized crosstalk.
6	Tilt Sensor Inclination/ Tilt Balance Adjustment	Tilt sensor inclination adjustment screw VR807(TILT BAL.)	Video output terminal (TV monitor)	<ul style="list-style-type: none"> Test mode #16,200 / #115 still TRKG servo ON TILT servo OFF 	<ul style="list-style-type: none"> Set VR807 to the center. Adjust the adjustment screw so that the tilt error display code of #16,200 is 6, 7, or 8. Adjust VR807 so that the tilt error display of #115 becomes 7.
7	Spindle Motor Centering Check	None	CH1:CN401 - 9 (TRKG ERR) CH2:CN401 - 1, 2 (TRKG SUM) (X-Y mode) (Fig. 2)	<ul style="list-style-type: none"> Test mode #22,000 - 25,000 and #100 still TRKG servo OFF TILT servo ON 	<ul style="list-style-type: none"> Check that the amplitude of the lissajous figure of the frame #100 is the same as that of the frame #22,000 - 25,000.
8	Spindle Motor Centering Adjustment	Spindle motor centering adjustment screw.	CH1:CN401 - 9 (TRKG ERR) CH2:CN401 - 1, 2 (TRKG SUM) (X-Y mode) (Fig.2)	<ul style="list-style-type: none"> Test mode #22,000 - 25,000 and #100 still TRKG servo ON / OFF TILT servo ON 	<ul style="list-style-type: none"> Adjust the centering adjustment screw so that the lissajous figures of #100 and #22,000 - 25,000 are the same.
9	Fine Grating Adjustment	Grating	CH1:CN401 - 9 (TRKG ERR) CH2:CN401 - 1, 2 (TRK SUM) (X-Y mode) (Fig.2)	<ul style="list-style-type: none"> Test mode #6,500 still TRKG servo OFF TILT servo ON 	<ul style="list-style-type: none"> Minimize the Y direction of the lissajous figure. Check TRKG balance.
10	FOCS SUM Level Adjustment	VR809	CN401 - 11 (FOCS SUM)	<ul style="list-style-type: none"> Test mode #15,000 still TRKG servo ON Tilt servo NEUTRAL 	<ul style="list-style-type: none"> Adjust VR809 so that the voltage becomes $1.8V \pm 0.1V$ DC.
11	RF Gain Adjustment	VR801	CH1:CN401 - 3 (RF)	<ul style="list-style-type: none"> Test mode #15,000 still TRKG servo ON TILT servo NEUTRAL 	<ul style="list-style-type: none"> Adjust VR801 so that the RF level becomes $270mV \pm 20mV$.
12	FOCS Servo Loop Gain Adjustment	VR804	CH1:CN401 - 7 (FOCS IN) CH2:CN401 - 8 (FOCS ERR) (X-Y mode) (Fig.3)	<ul style="list-style-type: none"> Test mode #15,000 still TRKG servo ON TILT servo NEUTRAL 	<ul style="list-style-type: none"> Connect the oscilloscope and AF oscillator as shown in Fig.3 and observe the lissajous figure. Adjust VR804 so that the lissajous figure is symmetrical with respect to the X and Y axes.
13	TRKG Servo Loop Gain Adjustment	VR803	CH1:CN401 - 10 (TRKG IN) CH2:CN401 - 9 (TRKG ERR) (X-Y mode) (Fig.4)	<ul style="list-style-type: none"> Test mode #15,000 still TRKG servo ON TILT servo NEUTRAL 	<ul style="list-style-type: none"> Connect the oscilloscope and AF oscillator as shown in Fig.4 and observe the lissajous figure. Adjust VR803 so that the lissajous figure is symmetrical with respect to the X and Y axes.
14	Coarse Centering Adjustment for Side B Play	Centering adjustment plate for side B.	CH1:CN401 - 9 (TRKG ERR) CH2:CN401 - 1, 2 (TRKG SUM) (X-Y mode)	<ul style="list-style-type: none"> Test mode #100 still TRKG servo ON / OFF TILT servo ON 	<ul style="list-style-type: none"> Adjust that the X-axis amplitude of the lissajous figure becomes maximum.
15	Pickup Tangential Direction Angle Adjustment for Side B Play	Pickup tangential direction angle adjustment screw.	Video output terminal (TV monitor)	<ul style="list-style-type: none"> Test mode #115 still TRKG servo ON TILT servo ON 	<ul style="list-style-type: none"> Adjust that the crosstalk is minimized.
16	Fine Centering Adjustment for Side B Play	Centering adjustment plate for side B	CH1:CN401 - 9 (TRKG ERR) CH2:CN401 - 1, 2 (TRKG SUM) (X-Y mode)	<ul style="list-style-type: none"> Test mode #100 still TRKG servo ON/OFF TILT servo ON 	<ul style="list-style-type: none"> Adjust that the X-axis amplitude of the lissajous figure becomes maximum.
17	Reference Frequency Adjustment	VC802 VC901	IC805 - pin 10 IC607 - pin 8	<ul style="list-style-type: none"> Stop mode 	<ul style="list-style-type: none"> Adjust VC802 so that the frequency becomes 18.12587MHz. Adjust VC901 so that the DC voltage becomes $0.2 \pm 0.3V$.

	ADJUSTMENT	Adjusting Point	Measurement equipment Connecting Point	Player Condition	Adjusting Specification
18	Input Video Level Adjustment for Y/C SEP Circuit	VR482	IC403 - pin 15	<ul style="list-style-type: none"> Normal mode #18,900 still 	<ul style="list-style-type: none"> Adjust VR482 so that the voltage between the sync tip and the white peak becomes $2.0V_{p-p} \pm 5\%$. (Fig.5)
19	Output Video Y Level Adjustment	VR202	Lead wire of R234 (Y/C SEP circuit)	<ul style="list-style-type: none"> #18,900 still 	<ul style="list-style-type: none"> Adjust VR202 so that the voltage between the sync tip and the white peak becomes $1.0V_{p-p} \pm 5\%$. (Fig.6)
20	VPS Error Adjustment	VR521	Video output terminal (TV monitor)	<ul style="list-style-type: none"> #8,000 still 	<ul style="list-style-type: none"> Color irregularity on the magenta screen is minimized.

Adjustment Points in the Main Board Assembly

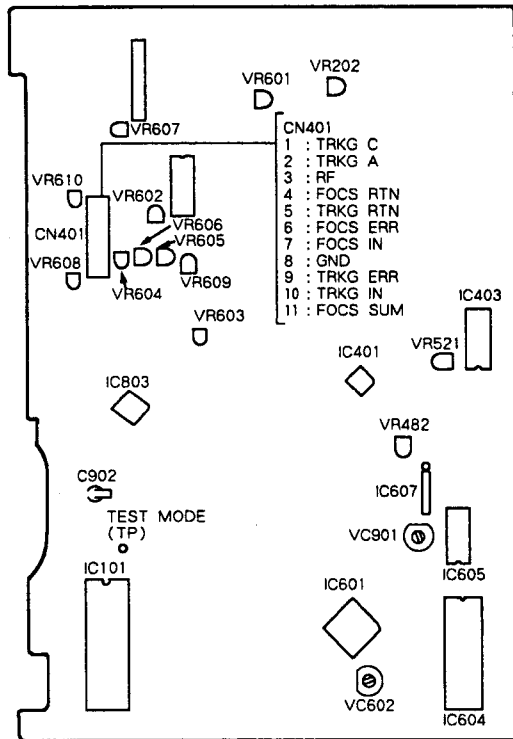


Fig.1 Adjustment points

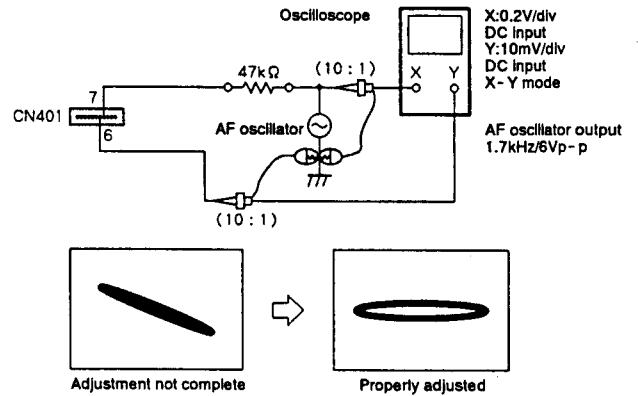


Fig.3 FOCS servo loop gain adjustment

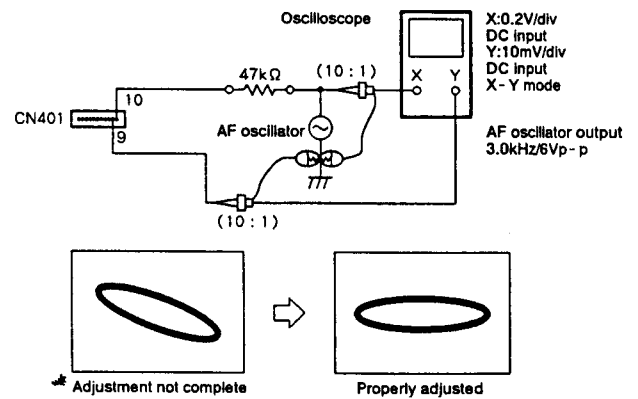


Fig.4 TRKG servo loop gain adjustment

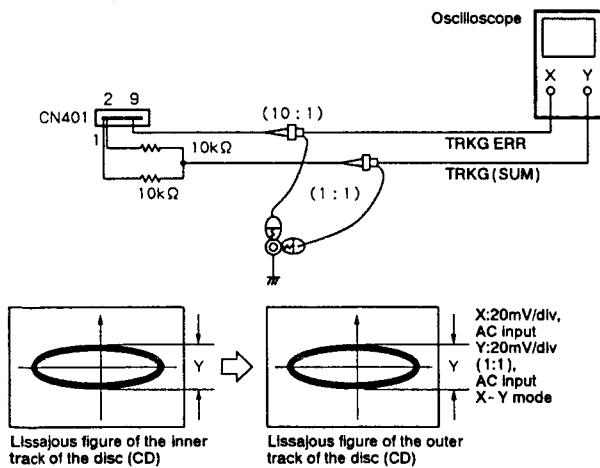


Fig.2 Connection for the spindle motor centering adjustment and fine grating adjustment

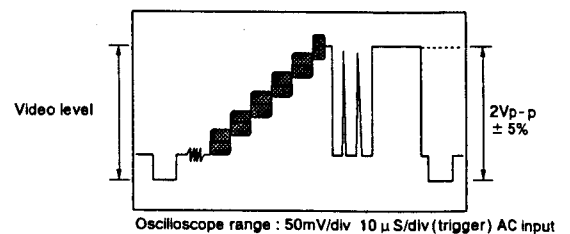


Fig.5 Input video level adjustment

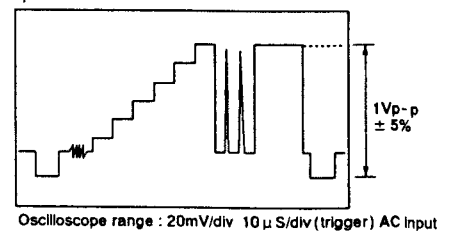


Fig.6 Output video Y level adjustment

7. FOR CLD - D760/RD

NOTES:

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

CONTRAST OF MISCELLANEOUS PARTS

CLD - D760/RD and CLD - D702/KU/CA types have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		CLD - D702/KU/CA type	CLD - D760/RD type	
NSP	VSOP assembly	VWM1363	VWM1368	
	MAIN board assembly	VWX1165	VWX1169	
	Function assembly	VWM1362	VWM1369	
NSP	FLKY assembly	VWG1409	VWG1415	
NSP	IRPS assembly	VWG1357	VWG1447	
	COXB assembly	VWV1301	.....
	Power supply assembly	VWR1179	VWR1180	
⊙	AUDIO assembly	VWV1294	VWV1298	
	AFMB assembly	.....	VWV1279	Refer to P.3.
Δ	Cord stopper	CM - 22C	CM - 22B	
Δ	AC power cord	PDG1015	PDG1013	
Δ	Voltage selector (AC110 - 127V / 220 - 240V)	.....	VSB1004	Refer to P.8.
NSP	Wire clamp	.....	VEC1237	Refer to P.8.
	Power board insulation sheet	.....	VEC1492	Refer to P.9.
	Rear panel	VNA1332	VNA1340	
NSP	Fixing base for COXB assembly	VNE1819	.....
NSP	Center panel	VNK2266	VNK2277	
	Insulator assembly (Front)	VXA1686	VXA1869	
	Insulator assembly (Rear)	VXA1687	VXA1870	
	Front door assembly	VXA1928	VXA1929	
	Front panel assembly	VXA1941	VXA1942	
	Door assembly - S	VXX1834	VXX1839	
	Center panel assembly - S	VXX1840	VXX1837	
	Remote control unit	VXX1721	VXX1822	
	Case (upper)	VNK2061	VNK2195	
	Packing case	VHG1252	VHG1264	
	Operating instructions (English)	VRB1080	VRB1083	
NSP	PC support	.....	VEC1415	Refer to P.3.

MAIN BOARD ASSEMBLY

VWX1169 and VWX1165 have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		VWX1165	VWX1169	
	IC101	PD0170B	PD0157A	
	Q220	DTC124EK	.....
	C247	CCSQCH221J50	.....
	R255	RS1/10S221J	.....
	R996	RS1LMF3R9J	.....
	JAI (VIDEO 1, 2)	VKB1042	VKB1045	

FLKY ASSEMBLY

VWG1415 and VWG1409 have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		VWG1409	VWG1415	
	IC101 C111,C112 CN405	PDB057B	PDB076A CKPUYF223Z25 SBRK03R-04	

IRPS ASSEMBLY

Although VWG1447 and VWG1357 are different in part number, they have the same service parts.

POWER SUPPLY ASSEMBLY

VWR1180 and VWR1179 have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		VWR1179	VWR1180	
	IC211, IC212 F202, F203	..... NT1-0.63A	ICP-N20	

Mark No.	Description	Part No.
AFMB ASSEMBLY		
SEMICONDUCTORS		
IC301		CA0002AM
Q301, Q302		2SC1740S
COILS		
L305		LAU180J
L302, L304		LAU181J
L301, L303		LAU220J
CAPACITORS		
C313		CCCCH121J50
C302		CCCCH150J50
C306		CCCCH151J50
C310		CCCCH240J50
C301		CCCSL221J50
C311		CCCSL390J50
C309		CCCSL560J50
C312, C314		CCCSL680J50
C305, C307		CCCSL820J50
C323		CEANP010M50
C304, C325		CEAS100M50
C315		CEAS101M10
C320, C332		CEAS470M10
C330		CEASR47M50
C318, C328		CFTNA224J50
C321, C324, C331		CFTXA104J50
C319, C329		CFTXA393J50
C303, C308		CKCYF103Z50
C322		CKCYF473Z50
C316, C317, C326, C327		CQMA472J50
RESISTORS		
All resistors		RD1/6PM□□□J

Mark No.	Description	Part No.
AUDIO ASSEMBLY		
SEMICONDUCTORS		
IC104		BA15218N
IC116		BU4053BF
IC103		CXD2500AQ
IC114		M5218AL
IC108, C115		MS51464-12ZC
IC112, IC113		NJM5532SD
IC101		NJM78L09A
IC102		NJM79L09A
IC107		PD0063
IC109		PD0116A
IC106		PDC006A
IC110, IC111		SAA7350
IC105		TC74HC04AP
Q103, Q106		2SA1037K
Q111, Q115		2SA1435
Q101, Q104		2SB1237X
Q108, Q110, Q114, Q117, Q121		2SC2412K
Q109, Q113		2SD1302
Q107, Q112, Q116, Q118, Q120, Q122, Q123		DTA124EK
Q102, Q105, Q119		DTC124EK
D103, D104		1SS254
D101		ERAB3-006
D102		FC54M
COILS		
L101-L103, L105, L106		LAU100J
L108		LAU101J
L104		LFA470J
L110, L111		VTH1024

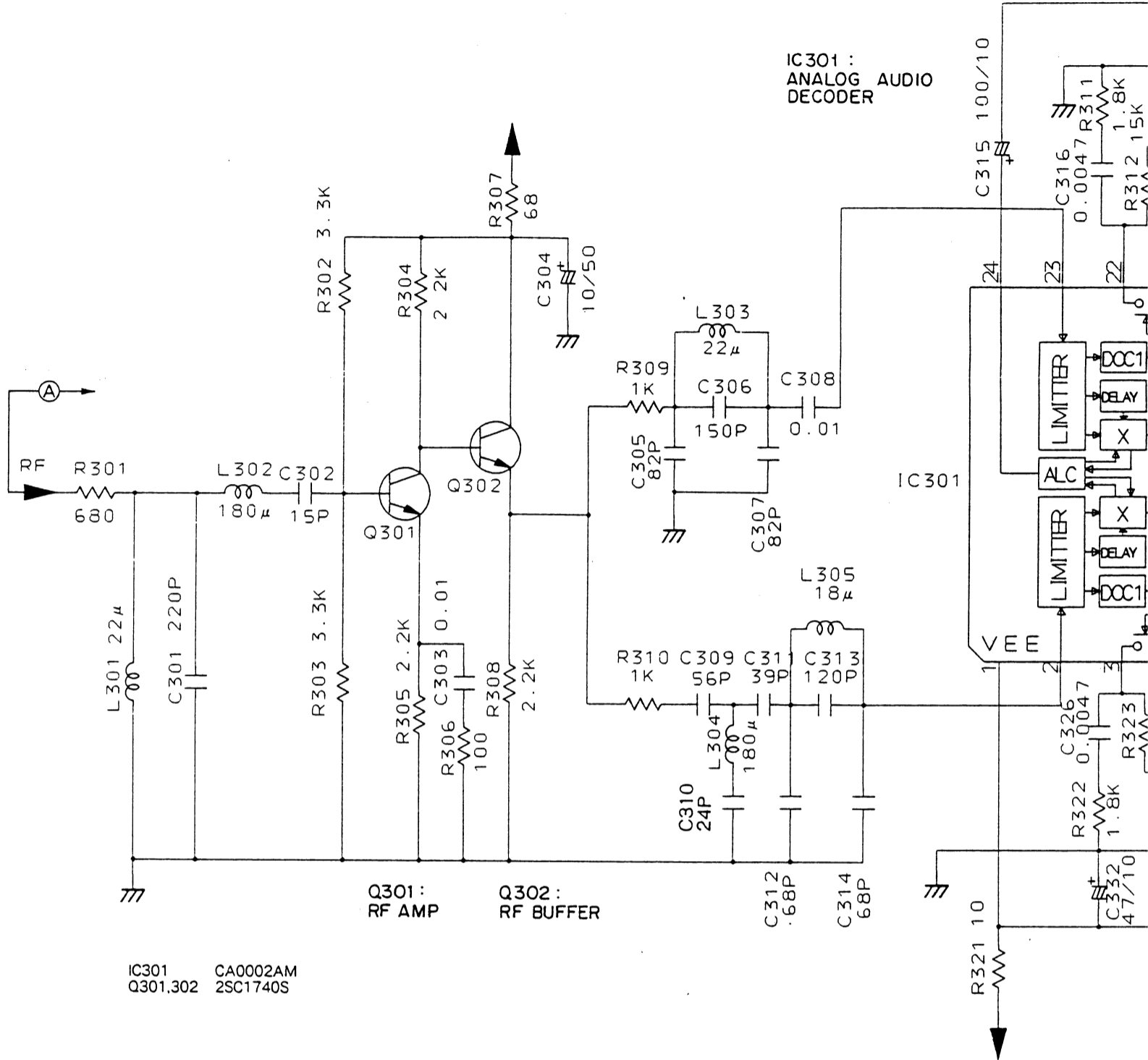
Mark No.	Description	Part No.
CAPACITORS		
C163, C164, C168, C169, C220, C221, C225, C226		CCCCH390J50
C167, C172, C224, C229		CCCSL221J50
C165, C166, C170, C171, C222, C223, C227, C228		CCCSL471J50
C104, C107		CCSQCH101J50
C127, C131		CCSQCH220J50
C111		CEAL220M16
C109, C142		CEAL470M6R3
C123		CEANP010M50
C236, C237		CEANP220M10
C122		CEANP3R3M50
C210		CEANPR47M50
C102, C103, C105, C108, C138, C144, C146, C153, C155, C157, C161, C179, C181, C186, C187, C191, C195, C200, C201, C211, C212, C235		CEAS101M10
C147, C148, C150, C173, C174, C176, C208		CEAS221M6R3
C106, C120, C125, C128, C130, C151, C159, C177, C193, C205, C206		CEAS470M10
C188, C202		CEAS470M25
C101		CENA221M50
C184, C198		CFTXA562J50
C185, C199		CFTXA681J50
C183, C197		CFTXA683J50
C209		CKSQYB102K50
C114		CKSQYB152K50
C189, C190, C203, C204		CKSQYB331K50
C116, C124, C126, C136		CKSQYF103Z50
C110, C115, C117-C119, C129, C137, C141, C143, C145, C207, C213-C216, C251, C252		CKSQYF104Z25
C113, C121, C149, C152, C154, C156, C158, C160, C162, C175, C178, C180, C182, C192, C194, C196		CKSQYF473Z50
C112		CQMA223J50

Mark No.	Description	Part No.
RESISTORS		
R188, R219		RD1/6PM101J
R173-R176, R179, R199-R201, R207-R210, R260-R263		RD1/6PM103J
R182, R215		RD1/6PM105J
R184, R217		RD1/6PM122J
R202, R203, R264, R265		RD1/6PM153J
R183, R216		RD1/6PM162J
R187, R218		RD1/6PM202J
R247, R248, R266, R267		RD1/6PM220J
R104, R181, R214		RD1/6PM221J
R191, R222		RD1/6PM223J
R171, R172, R177, R178, R205, R206, R211, R212		RD1/6PM303J
R158, R241, R246		RD1/6PM390J
R189, R190, R220, R221		RD1/6PM471J

Mark No.	Description	Part No.
R180, R213		RD1/6PM751J
R101, R105		RS2LMF560J
Other resistors		RS1/10S□□□J

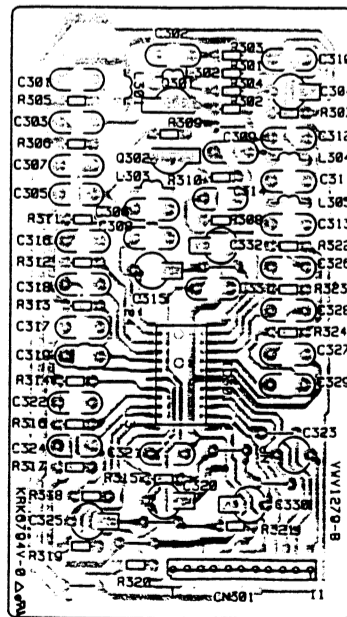
Mark No.	Description	Part No.
OTHERS		
CN301	5P TOP POST	B5P-SHF
JA102	OPTICAL OUTPUT MODULE	GP1F32T
X102	CERAMIC RESONATOR (4MHz)	RSS1033
JA101	4P PIN JACK	YKB1044
X101	CRYSTAL RESONATOR (16MHz)	VSS1051

AFMB ASSEMBLY (VWV1279)



AFMB ASSEMBLY (VWV1279)

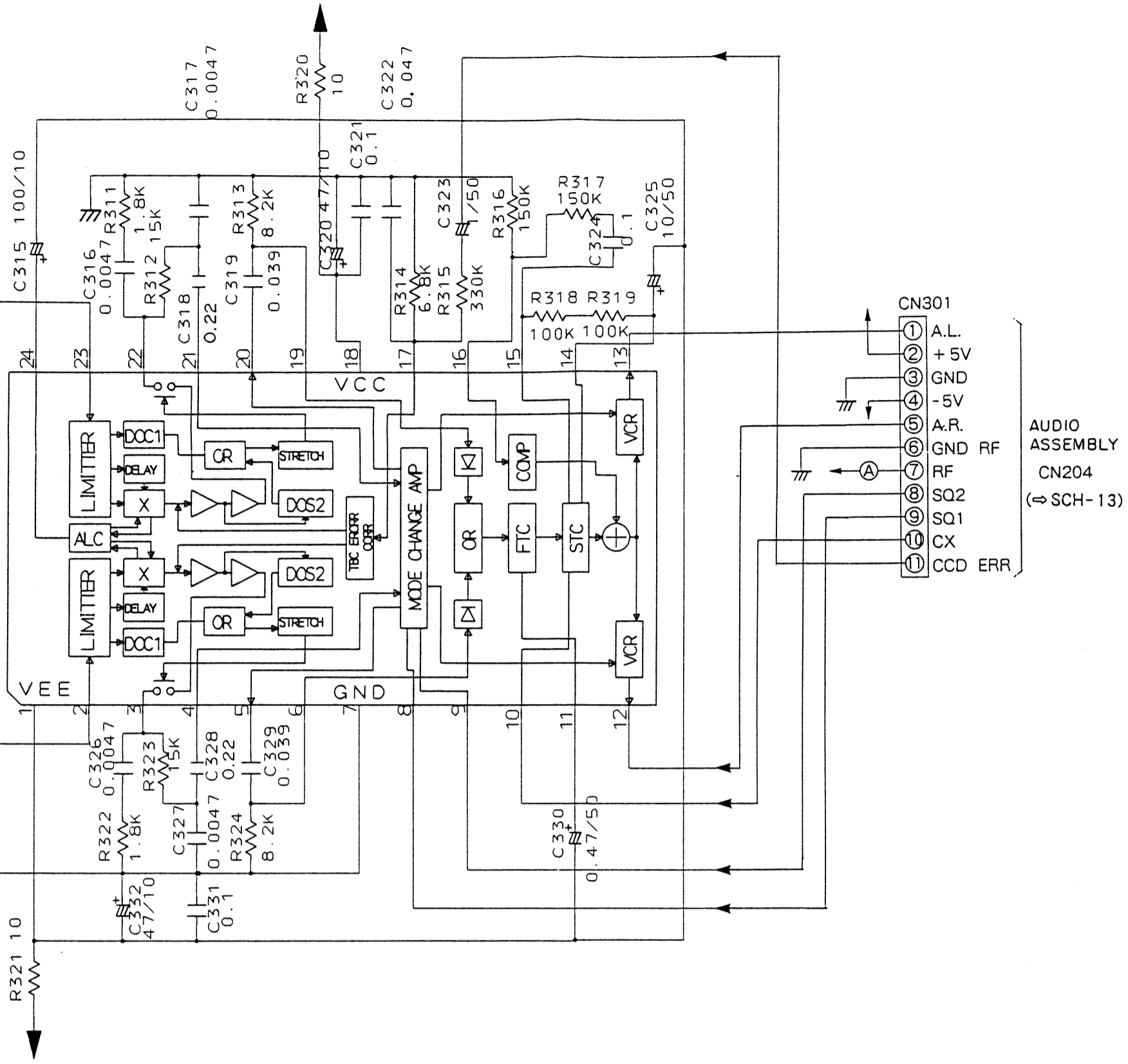
VNP1379-D



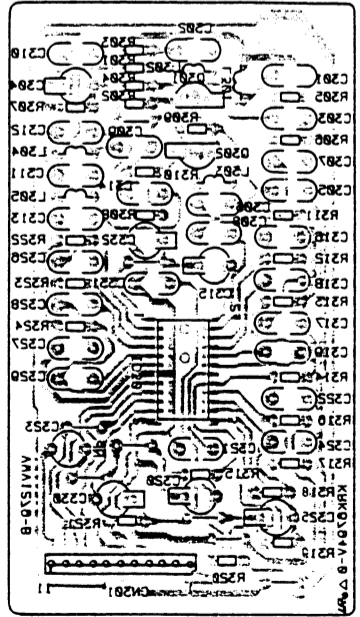
This P. C. B. connection diagram is viewed from the parts mounted side.

SCH-12

AFMB ASSEMBLY



AFMB ASSEMBLY (VM1529)



AMP1230-D

This P. C. B. connection diagram is viewed from the foil side.

AFMB ASSEMBLY

SCH-12

AUDIO ASSEMBLY (VWV1298)

A
B
C
D
E
F

MAIN BOARD ASSEMBLY (5/5) J10 (⇒ SCH-8)

MAIN BOARD ASSEMBLY (1/5) J18 (⇒ SCH-4)

IC101: +9V REGULATOR

IC102: -9V REGULATOR

IC103 CX02500A0 EFM DECODER

IC104 (1/2): VCXO ERROR AMP

Q101-Q103: Lch D/A CONVERTER POWER SUPPLY

Q104-Q106: Rch D/A CONVERTER POWER SUPPLY

IC104 (2/2): ATC BUFFER

IC109: AUDIO DIGITAL FILTER

IC114: HEADPHONE AMP

FLKY ASSEMBLY CN405 (⇒ SCH-11)

HEPB ASSEMBLY CN413 (⇒ SCH-11)

AFMB ASSEMBLY CN301 (⇒ SCH-12)

Q101,104	2SB1237X
Q102,105,119	OTC124EK
Q103,106	2SA1037K
Q107,112,116,118	DTA124EK
Q120,122,123	
Q108,110,114,117,121	2SC2412K
Q109,113	2SD1302
Q111,115	2SA1435
D101	ERA83-006
D103,104	1SS254

MAIN BOARD ASSEMBLY (5/5) J5 (⇒ SCH-8)

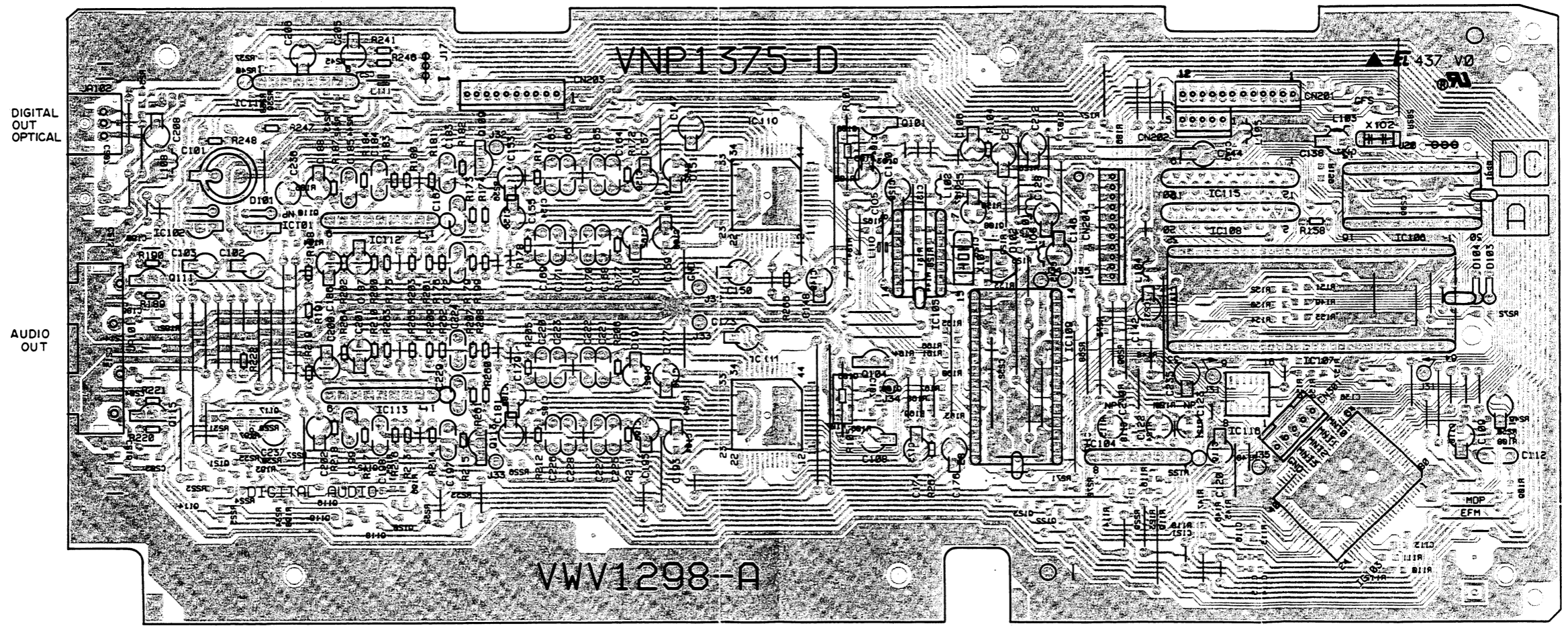
CN202
SQ2
SQ1
XCX
XCD
CCD ERR

CN204
A.L.
+5V
GND
-5V
A.R.
GND RF
RF
SQ2
SQ1
CX
CCD ERR

1 | 2 | 3 | 4 | 5

AUDIO ASSEMBLY (VWV1298)

Q110	Q111	Q112	Q113	Q109	Q104	Q105	Q106	Q107	Q108	Q103	Q106
IC102	IC101	IC112-IC114									
Q115	Q110	Q110	Q113	Q109	Q104	Q105	Q106	Q107	Q108	Q103	Q106



This P. C. B. connection diagram is viewed from the parts mounted side.

1 | 2 | 3 | 4 | 5 | 6

A

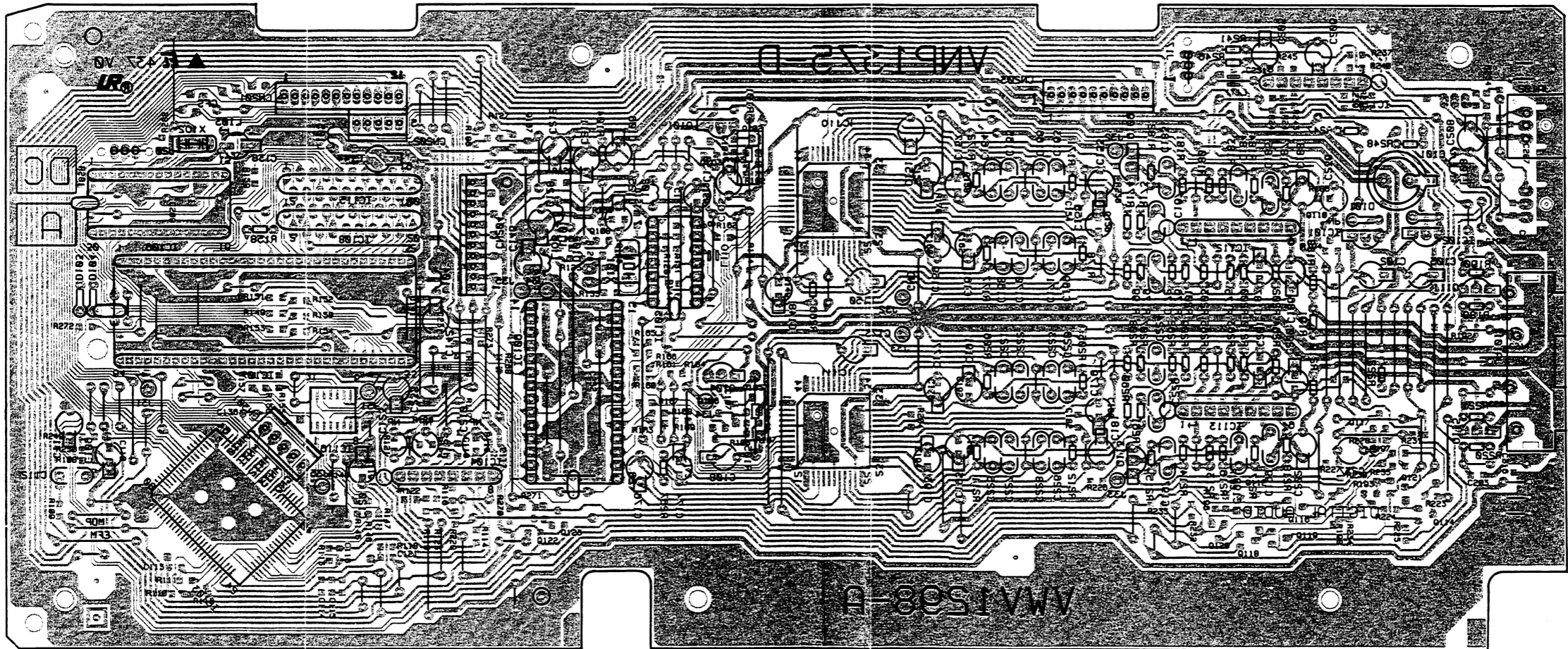
B

C

D

AUDIO ASSEMBLY (VW1598)

Q118	Q119	Q120	Q121
Q117	Q116	Q115	Q114
Q113	Q112	Q111	Q110
Q109	Q108	Q107	Q106
Q105	Q104	Q103	Q102
Q101	Q100	Q99	Q98
Q97	Q96	Q95	Q94
Q93	Q92	Q91	Q90
Q89	Q88	Q87	Q86
Q85	Q84	Q83	Q82
Q81	Q80	Q79	Q78
Q77	Q76	Q75	Q74
Q73	Q72	Q71	Q70
Q69	Q68	Q67	Q66
Q65	Q64	Q63	Q62
Q61	Q60	Q59	Q58
Q57	Q56	Q55	Q54
Q53	Q52	Q51	Q50
Q49	Q48	Q47	Q46
Q45	Q44	Q43	Q42
Q41	Q40	Q39	Q38
Q37	Q36	Q35	Q34
Q33	Q32	Q31	Q30
Q29	Q28	Q27	Q26
Q25	Q24	Q23	Q22
Q21	Q20	Q19	Q18
Q17	Q16	Q15	Q14
Q13	Q12	Q11	Q10
Q9	Q8	Q7	Q6
Q5	Q4	Q3	Q2
Q1	Q0		



This P. C. B. connection diagram is viewed from the foil side.

A

B

C

D

8. PANEL FACILITIES

FL DISPLAY OFF button/indicator

Pressing this button turns off the display in the front panel display window and causes the DISPLAY OFF indicator to light. Press the button again to cause the display to return. Turning off the display prevents low levels of noise from adversely affecting sound quality.

STANDBY indicator

This indicator lights when the power is set to standby and goes out when the power is turned on.

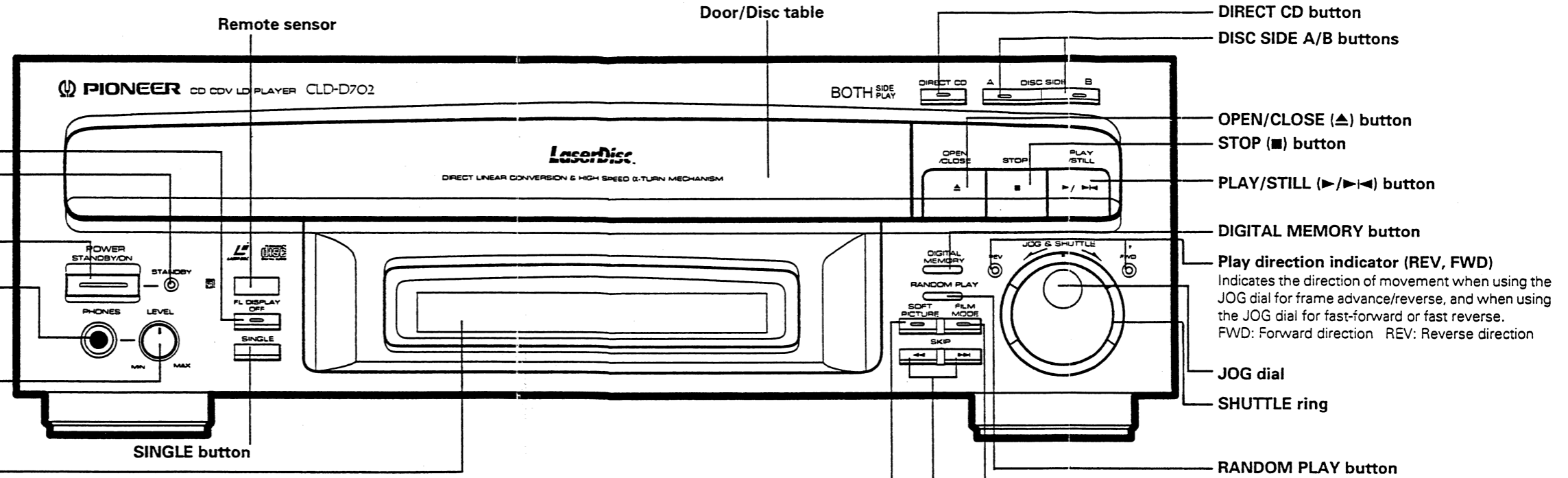
POWER STANDBY/ON switch

Press to turn the power on and off.

PHONES jack

PHONES LEVEL control

Turn this control in the "MAX" direction to increase the output level from the PHONES jack. Turn this control in the "MIN" direction to decrease the output level from the PHONES jack.



Display window

TRACK/CHAP. indicator

Indicates the TRACK number or CHAP (chapter) number.

REP indicator

Lights during repeat play.

Pause indicator (II)

Lights when the player is in pause mode.

PGM indicator

Lights during program play.

Play indicator (▶)

Lights during play. Blinks during search.

SIDE A indicator

Lights during One-Shot Memory playback.

ONE-SHOT MEMORY indicator

Blinks when ONE-SHOT MEMORY is pressed.

Lights during One-Shot Memory playback.

SINGLE indicator

Lights during Single play.

RANDOM indicator

Lights during random play.

FRAME/TIME indicator

Indicates the FRAME number or TIME.

DIGITAL SOUND indicator

Lights when the disc being played has a digital sound signal. With LD discs, this indicator lights when the digital sound signal is selected.

INTRO indicator

Lights during Hilite scan or Intro Scan mode.

SIDE B indicator

LD side A/CD/CDV visual calendar

When a disc is loaded, all of the chapter/track numbers recorded on the disc light up on the display. If the disc contains more than 19 chapters/tracks, the → indicator lights. During program play, only the programmed chapter/track numbers light. When a disc without a TOC section is played, only the selection number being played lights. When a CDV disc is loaded, the track numbers of the video part light followed by the track numbers of the audio part. After a chapter/track is finished playing, the corresponding number goes out.

LD/CD/CDV indicator

Indicates the type of disc loaded in the player.

EDIT indicator

Lights when editing is performed.

REMAIN/TOTAL indicator

Indicates the REMAIN TIME (remaining play time) or TOTAL TIME (total play time).

LD side B visual calendar

A visual calendar for the B side of two-sided LDs. Numbers light in the same way as on the side A visual calendar.

1/L, 2/R indicator

Indicates the audio output channel.

DIGITAL MEMORY indicator

Lights when digital memory is ON.

DIGITAL MEMORY button:

When playing a CAV or CLV disc, turning the digital memory function ON allows you to enjoy special playback functions such as still frame and multi-speed playback with no screen disturbance. If the digital memory function is OFF, it will automatically turn ON when you fast-forward, fast-reverse or activate a special playback function (except with CAV discs). When digital memory is OFF, screen disturbance may occur momentarily when an operation such as fast-forward is carried out. However, horizontal resolution is better than when digital memory is ON.

NOTES:

- When using a special function obtained by connecting a commercially available adaptor (such as a caption adaptor), be sure to turn the digital memory function OFF. The adaptor will not function properly if digital memory is left ON.
- Screen disturbance may occur momentarily when an operation such as fast-forward, fast-reverse or a special playback function is carried out when digital memory is OFF. This is not a malfunction or disc defect.
- This player memorizes the ON/OFF condition of the digital memory function even if the power is turned off. Turn the digital memory function ON or OFF as required the next time you play a disc. The "DIGITAL MEMORY" indicator lights in the display window when digital memory is ON.

9. SPECIFICATIONS

1. General

System LaserVision Disc system and Compact Disc digital audio system
 Laser Semiconductor laser wavelength 780 nm
 Power requirements AC 120 V, 60 Hz
 Power consumption 42 W
 Weight 8.8 kg (19 lbs 6 oz)
 Dimensions 420 (W) x 434 (D) x 135 (H) mm
 16-9/16 (W) x 17-1/4 (D) x 5-5/16 (H) in
 Operating temperature +5°C ~ +35°C
 (41°F - 95°F)
 Operating humidity 5% ~ 90%
 (There should be no condensation of moisture.)

2. Disc

LaserVision Discs

*Maximum playing times
 12-inch standard play disc 1 hour/both sides
 12-inch extended play disc 2 hours/both sides
 8-inch standard play disc 28 min/both sides
 14 min/one side
 8-inch extended play disc 40 min/both sides
 20 min/one side

Spindle motor speed
 Standard play disc 1,800 rpm
 Extended play disc 1,800 rpm (inner circumference)
 to 600 rpm (outer circumference)
 (For a 12-inch disc)

Compact Discs

DISC Diameter: 5-inch, 3-inch, Thickness: 1.2 mm
 Rotation direction (pickup side) Counterclockwise
 Linear speed 1.2 ~ 1.4m/sec
 *Maximum playing time 74 min. 5-inch discs
 20 min. 3-inch discs
 (For stereo playback)

Compact Discs with Video

Disc Diameter: 5-inch, Thickness: 1.2 mm
 Rotation direction (pickup side) Counterclockwise
 Linear speed Audio portion: 1.2 ~ 1.4m/sec
 Video portion: 11 ~ 12m/sec
 *Maximum playing time Video portion: 5 min. (CLV)
 Audio portion: 20 min. (Digital)

* Actual playback time differs for each disc.

3. Video characteristics

Format NTSC specifications
 Video output
 Level 1 Vp-p nominal, sync. negative, terminated
 Impedance 75Ω unbalanced
 Jacks Both RCA jacks

4. S-Video output

Y (luminance) - Output level 1 Vp-p (75 Ω)
 C (color) - Output level 286 mVp-p (75 Ω)
 Jack S-VIDEO jack
 Number of channels 2

5. Audio characteristics

Output level
 During analog audio output 200 mVrms
 (1 kHz, 40%)
 During digital audio output 200 mVrms
 (1 kHz, -20 dB)
 Jacks Both RCA jacks
 Number of channels 2

Digital Audio Characteristics

Frequency response	4 Hz - 20 kHz (EIAJ)
SN ratio	116 dB (EIAJ)
Dynamic range	99 dB (EIAJ)
Total harmonic distortion	0.0017% (EIAJ)
Wow and flutter	Limit of measurement (EIAJ)

6. Other Terminals

Control input/output Both miniature jacks
 Optical digital output Optical digital jack
 Coaxial digital output RCA jack

7. Accessories

Remote control unit (CU-CLD068) 1
 Size "AAA" (IEC R03) dry cell batteries 2
 Video cord 1
 Audio cord 1
 S-video cable 1
 Operating instructions 1
 Warranty card 1

8. Functions

Re note control unit operations (CU-CLD068)

	Function	Standard play Disc (CAV)	Extended play Disc (CLV)	Compact Disc with Video	Compact Disc
Basic Functions	Two-side play	YES	YES	NO	NO
	Single-side play	YES	YES	YES	YES
	Pause	YES	YES	YES	YES
	Stop	YES	YES	YES	YES
Search	Fast forward (forward and reverse)	YES	YES	YES	YES
	Chapter/Track skip	YES	YES	YES	YES
	Direct chapter/Track number search	YES	YES	YES	YES
	Frame number search	YES	NO	NO	NO
	Time number search	NO	YES	YES	YES
Absolute time search	NO	NO	NO	YES	
Program	Chapter/Track program play	YES	YES	YES	YES
	Program correction	YES	YES	YES	YES
Repeat	Repeat between 2 points	YES	YES	YES	YES
	Memory repeat	YES	YES	YES	YES
	Chapter/Track repeat	YES	YES	YES	YES
	One-side repeat	YES	YES	YES	YES
	All-side repeat	YES	YES	NO	NO
	Program repeat	YES	YES	YES	YES
	Random repeat	YES*1	YES*1	YES	YES
	Program random repeat	YES	YES	YES	YES
Trick play	Still/Step	YES	YES	YES*5	NO
	Multi-speed (Forward/reverse 9-level variable)	YES	YES	YES*5	NO
	Still with Sound	YES	YES	YES*5	NO
	Strobe motion	YES	YES	YES*5	NO
	Jog dial/Shuttle ring	YES	YES	YES	YES
Time display	Elapsed time display	NO	YES	YES	YES
	Absolute time display	YES*1	NO	NO	YES
	Remaining track time display	NO	NO	YES	YES
	Remaining total time display	YES*1	YES*1	YES	YES
	Total number of selections, total time display	YES*1	YES*1	YES	YES
Others	CX system ON/OFF	YES*2	YES*2	NO	NO
	Auto Digital/Analog switch	YES*3	YES*3	NO	NO
	One-shot memory	YES	YES	YES*5	NO
	Audio channel selection (Stereo, 1/L, 2/R)	YES	YES	YES	YES
	Hi-Lite scan	NO	NO	YES*4	YES
	Intro scan	YES	YES	YES*5	NO
	Digital level control	YES*3	YES*3	YES	YES

*1: Only discs with TOC

*2: Valid for analog sound playing a disc with the  mark.

*3: Can only be used with discs with digital sound tracks.

*4: Audio part only

*5: Video part only

NOTE:

The specifications and design of this product are subject to change without notice, due to improvements.

PLAYER FUNCTIONS

- Display ON/OFF, Visual Calendar Display
- Direct CD, Single Play, Random Playback and Compu Program/Auto Program Edit
- Digital Sound for LaserVision Discs
- Last Memory