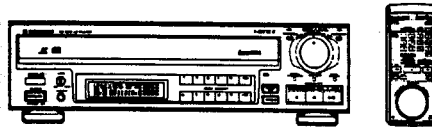


# Service Manual

**PIONEER**  
The Art of Entertainment



ORDER NO.  
ARP2457

CD CDV LD PLAYER

# CLD-1750

CLD-1750 HAS THE FOLLOWING :

Type	Power Requirement	Remarks
HEZ	AC220V, 240V(Switchable)*	
HB	AC220V, 240V(Switchable)*	

\* Change the connection of the power transformer's primary wiring.

- This manual is applicable to the CLD- 1750/HEZ and HB.
- For HB type, refer to page 94.
- For the mechanism adjustments , refer to the service manual ARP2308 for CLD- 1600.
- Ce manuel pour le service comprend les explications de réglage en français.
- Este manual de servicio trata del método ajuste escrito en español.

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**© PIONEER ELECTRONIC CORPORATION 1992**

IFJ APR. 1992 Printed in Japan

# 1. SAFETY INFORMATION

(FOR EUROPEAN MODEL ONLY)

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



LASER  
Kuva 1  
Lasersäteilyn  
varoituserkki

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



LASER  
Picture 1  
Warning sign for  
laser radiation

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

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

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

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

# 2. LABEL CHECK

HEZ model

HB model

HEZ and  
HB models



**VARO!**  
Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.  
**VARNING!**  
Osynlig laserstråling når denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.  
PRW1233

**CAUTION**  
INVISIBLE LASER  
RADIATION WHEN OPEN,  
AVOID EXPOSURE  
TO BEAM  
PRW1018

HEZ and HB models

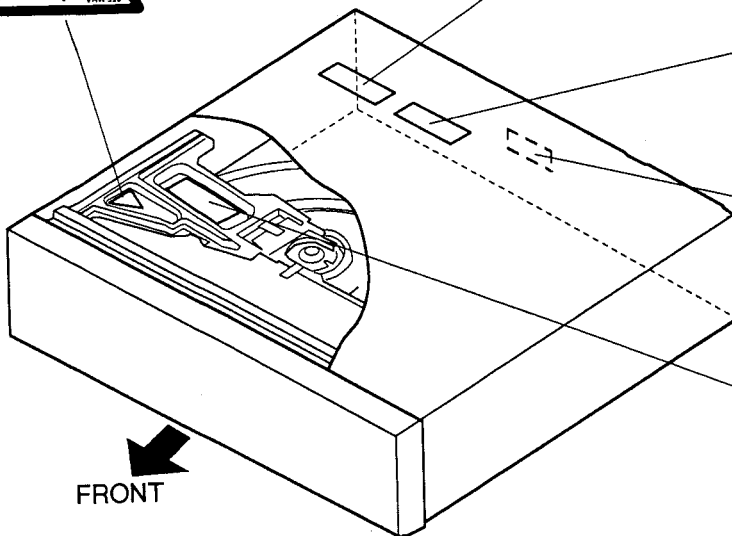
**ADVARSEL**  
USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.  
**VORSICHT!**  
UNSICHTBARE LASERSTRÅHLUNG TRITTS AUS, WENN DECKEL (ODER KLAPPE) GEÖFFNET IST! NICHT DEM STRAHL AUSSETZEN!  
VRW1094

HEZ and HB models

**CLASS 1**  
LASER PRODUCT  
VRW-328

HEZ and HB models

**LASER RADIATION**  
AVOID EXPOSURE TO BEAM. CLASS 1B LASER PRODUCT  
**ADVARSEL**  
USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.  
**UNSICHTBARE**  
LASERSTRÅHLUNG NICHT DEM STRAHL AUSSETZEN!  
LASER KLASSE 1B  
PRW-HEZ-A



FRONT

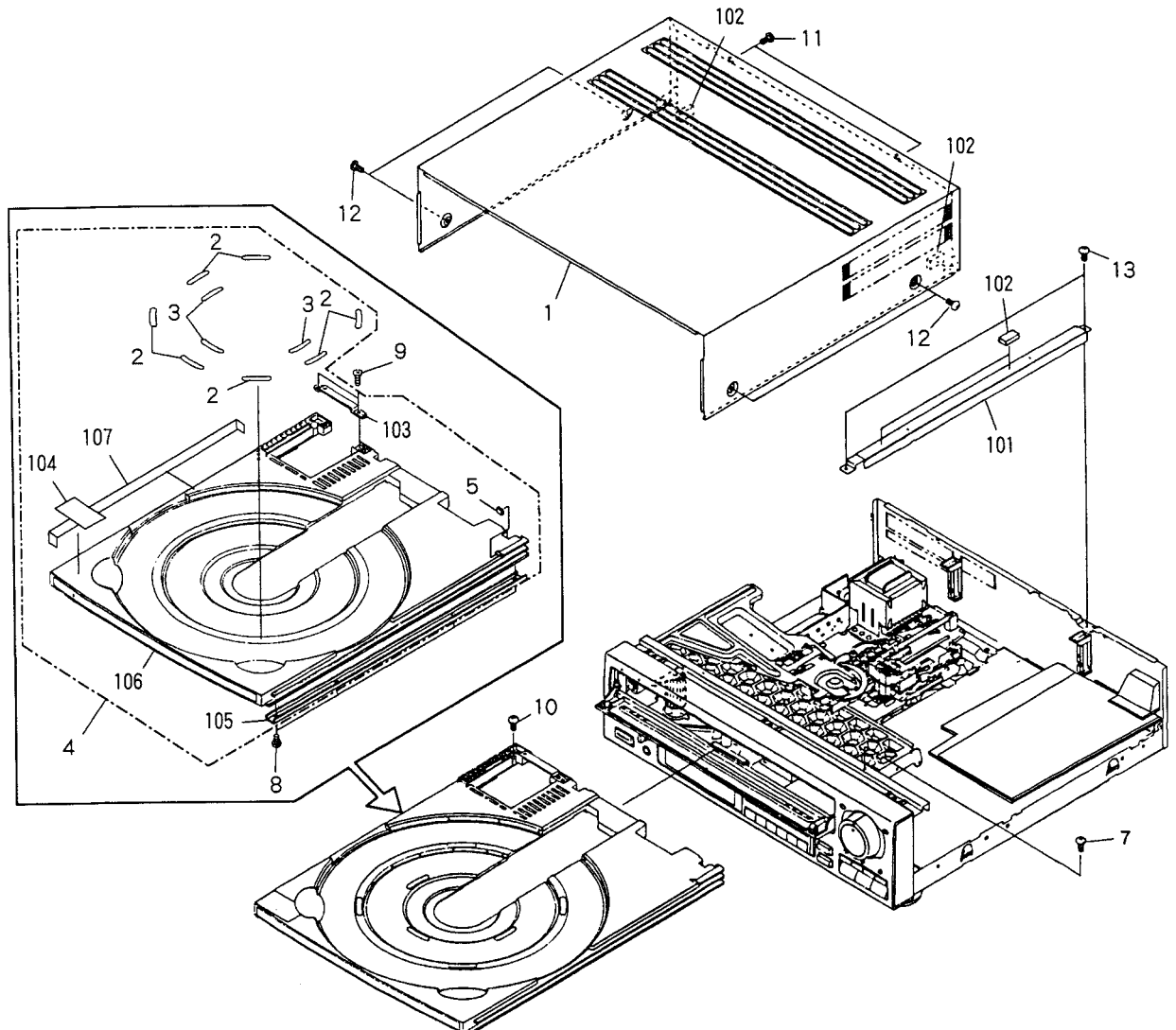
### 3. EXPLODED VIEWS, PACKING AND PARTS LIST

**NOTES:**

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

#### 3.1 EXTERIOR SECTION Parts List

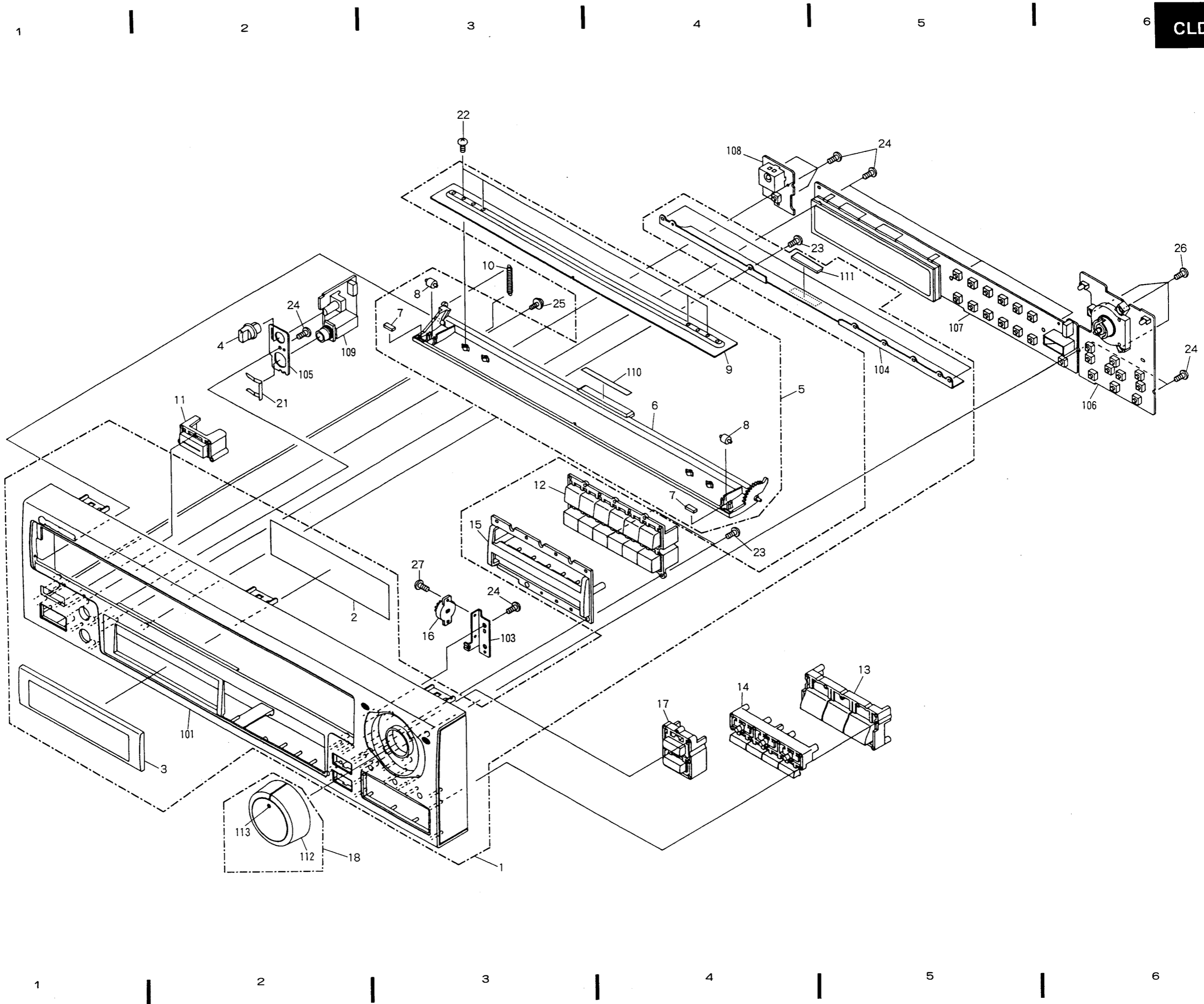
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	Bonnet S	VXX1267		11	Screw	BBZ30P080FCC
	2	Disc pad(L)	VEC1191		12	Screw	BCZ40P060FZK
	3	Disc pad(S)	VEC1192		13	Screw	BBZ30P060FCC
	4	Tray assembly	VXX1453				
	5	Tray rubber	VEB1089	NSP	101	Center angle	VNE1305
	6	.....		NSP	102	Cushion	VEC1004
	7	Screw	PCZ30P080FMC	NSP	103	Tray angle	VNE1309
	8	Screw	BPZ30P080FCU	NSP	104	Carry label	VRW1274
	9	Screw	CPZ30P100FMC	NSP	105	Tray reinforced plate	VNE1528
	10	Screw	BPZ30P140FMC	NSP	106	Tray	VNK1354
				NSP	107	Side plate	VNE1362



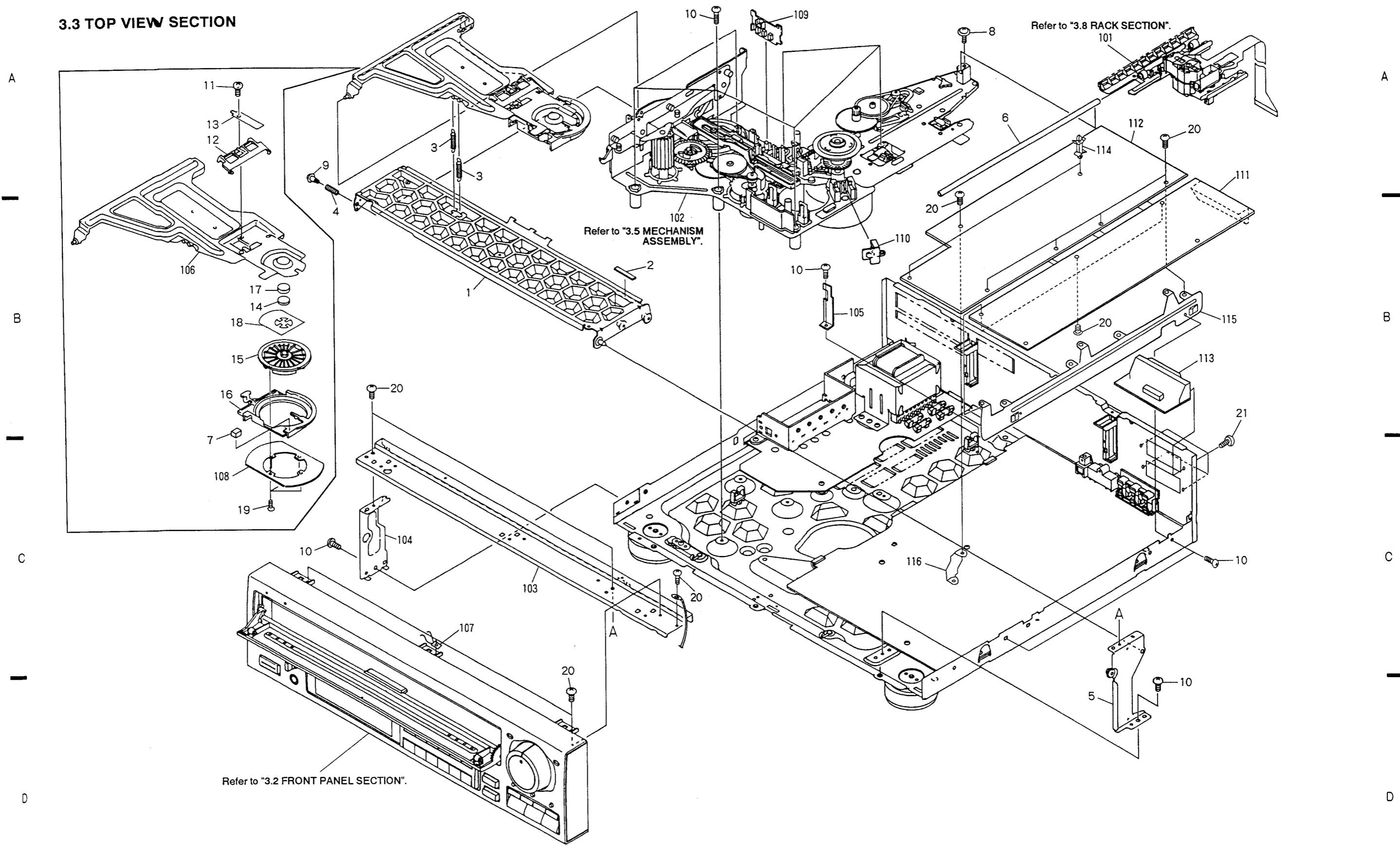
## 3.2 FRONT PANEL SECTION

## Parts List

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	Front panel assembly - S	VXX1746	NSP	101	Front panel assembly	VXA1855
	2	FL filter	VNK1694		102	•••••	
	3	FL lens	VNK1660	NSP	103	Damper plate	VNA1608
	4	Volume knob	VNK1658	NSP	104	Reinforced plate	VNE1610
	5	Door assembly - S	VXX1633	NSP	105	Jack holder	VNE1609
	6	Front door assembly	VXA1572	NSP	106	SHKY assembly	VWG1204
	7	Door damp rubber	VEB1033	NSP	107	FLKY assembly	VWG1318
	8	Roller	VNL1042	NSP	108	PSWB assembly	VWG1221
	9	Door plate	VNE1482	NSP	109	HEPB assembly	VWV1249
	10	Door spring	VBH1169	NSP	110	Spacer	VEC1488
	11	PW button	VNK1649	NSP	111	Damp rubber	VEB1166
	12	Ten key	VNK1653	NSP	112	Scan dial	VNK1656
	13	Main key	VNK1654	NSP	113	LED lens(S)	VNK1657
	14	Sub key	VNK1655				
	15	Sub panel	VNK1661				
	16	Damper assembly	VXA1053				
	17	L key assembly	VXA1856				
	18	Scan dial assembly	VXA1574				
	19	•••••					
	20	•••••					
	21	Snap plate	VNE1102				
	22	Screw	BPZ20P040FZK				
	23	Screw	BBZ20P050FMC				
	24	Screw	BPZ26P060FCU				
	25	Screw	IPZ26P060FMC				
	26	Screw	BPZ26P080FMC				
	27	Screw	PMZ20P040FCU				



3.3 TOP VIEW SECTION



## Parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Clamper arm (A) assembly	VXA1319	NSP 101	Rack assembly	VWT1061
2	Rubber (A)	VEB1084	NSP 102	Mechanism assembly	VWT1076
3	Clamper spring	VBH1094	NSP 103	Front angle	VNE1304
4	Arm spring	VBH1093	NSP 104	Side stay (L)	VNE1306
5	Side stay (R) assembly	VXA1529	NSP 105	SM head holder	VNE1592
6	Carriage shaft	VLL1177	NSP 106	Clamper arm (B)	VNE1308
7	Clamper pad	VEC1264	NSP 107	Earth plate	VNE1518
8	Screw (B)	VBA1018	NSP 108	Stabilizer	VNE1333
9	Screw (B)	VBA1008	NSP 109	SW1 board assembly	VWG1212
10	Screw	BBZ30P060FCC	NSP 110	FG board assembly	VWG1214
11	Screw	BBZ30P060FMC	NSP 111	PALB board assembly	VWV1245
12	Parallel link	VNL1254	NSP 112	VDTB board assembly	VWS1105
13	Plate spring	VBK1014	NSP 113	SCRT board assembly	VWV1220
14	Ball holder	VNL1289	NSP 114	PC suport	VEC1508
15	Clamper S	VNL1248	NSP 115	PCB holder	VNE1652
			NSP 116	PCB holder(C)	VNE1329
16	Clamper holder	VNL1205			
17	Rubber sheet	VEB1114			
18	Thrust holder	VBK1018			
19	Screw	CPZ20P050FMC			
20	Screw	IBZ30P060FCC			
21	Screw	BBZ30P080FCC			

## 3.4 BASE SECTION

## Parts List

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
△	1	Power transformer	VTT1062	NSP	101	P. C. B spacer	PNY - 404
△	2	Strain relief	CM - 22B	NSP	102	P plate holder	PNY - 405
△	3	AC power cord	VDG1028	NSP	103	Wire crip (B)	VEC1012
△	4	Fuse (FU203, FU204) (T1.25A)	REK - 101	NSP	104	Base chassis	VNA1121
				NSP	105	Rear panel	VNA1267
△	5	Fuse (FU201, FU202) (T3.15A)	REK - 105	NSP	106	Stopper	VEC1487
	6	Tray stopper	VNL1202	NSP	107	Insulator	VNK1248
	7	Insulator assembly	VXA1686	NSP	108	ASCB board assembly	VWX1113
	8	Insulator	VNK1095	NSP	109	Cord holder	VNF - 069
				NSP	110	PCB holder (C)	VNE1329
	9	Insulator assembly	VXA1687				
◎	10	SYPS assembly	VWR1093				
	11	Door damp rubber	VEB1033				
	12	Screw	BBZ30P080FCC				
	13	Screw	BBZ30P060FCC				
	14	Screw	BCZ40P080FUC				
	15	Screw	IPZ30P160FMC				
	16	Screw	IBZ30P060FCC				



1

2

A

A

B

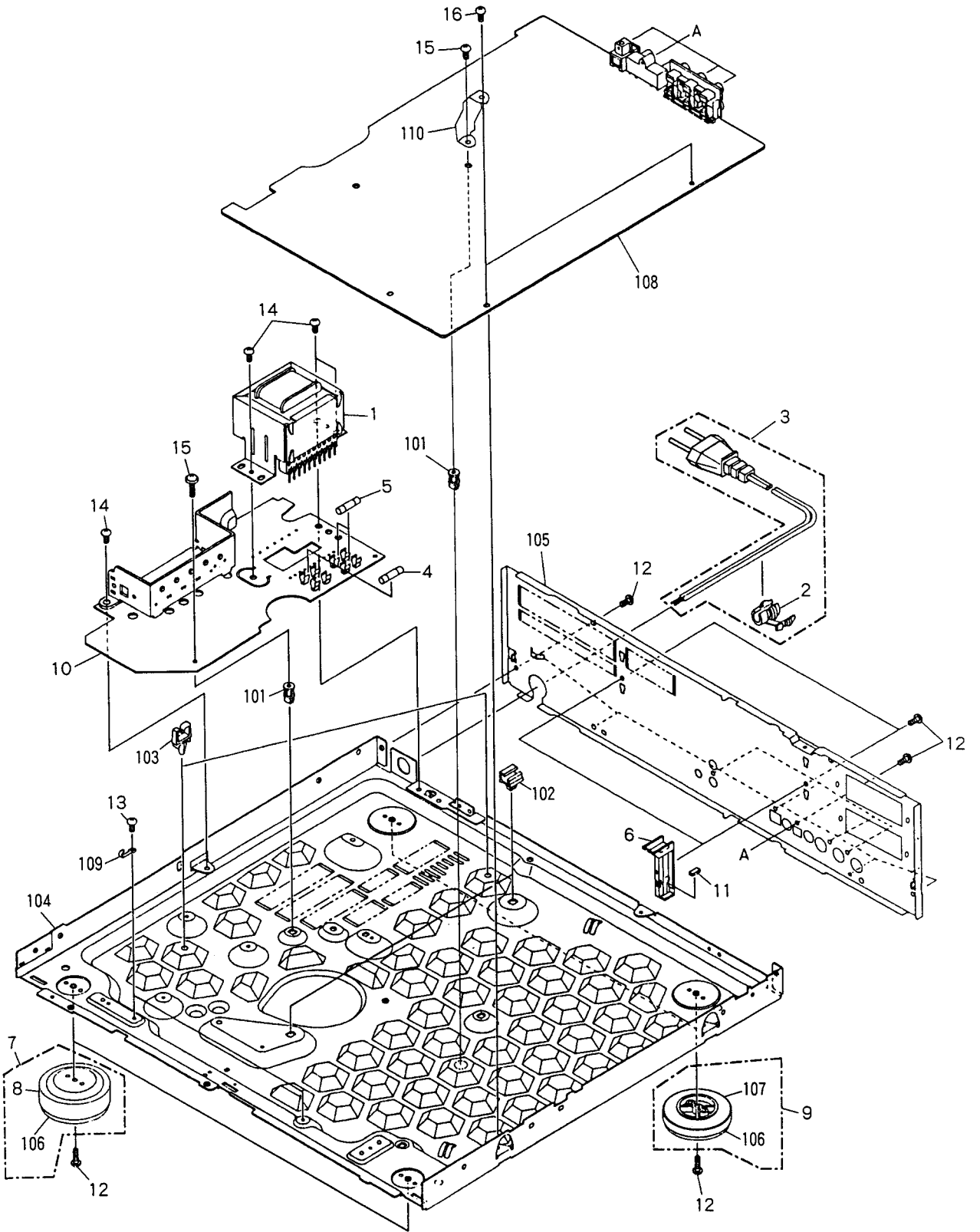
B

C

C

D

D



1

2

3

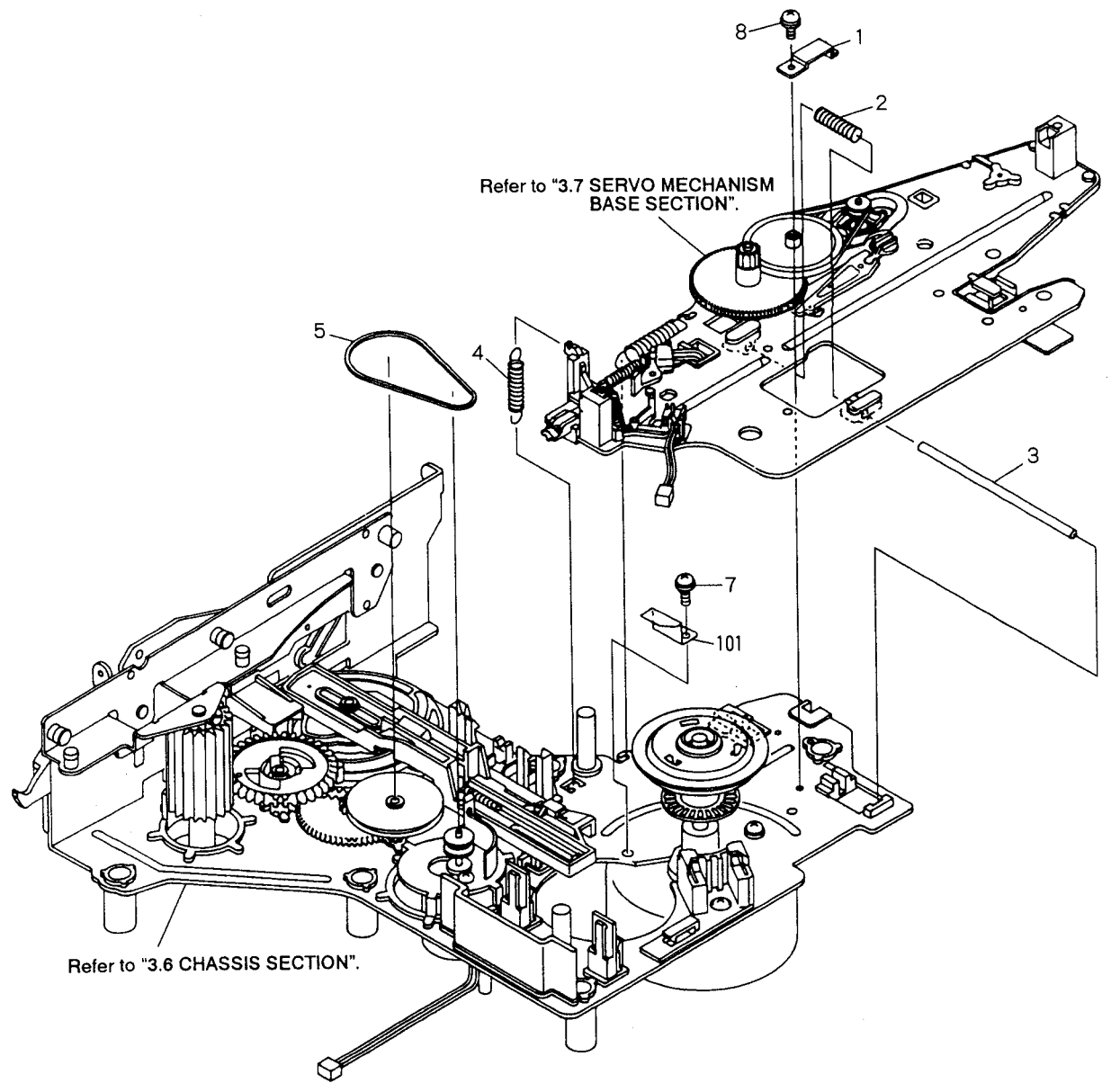


### 3.5 MECHANISM ASSEMBLY

#### Parts List

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	Plate spring	VBK1013		6	•••••	
	2	Thrust spring	VBH1073		7	Screw	PMA30P050FMC
	3	Tilt shaft	VLL1175		8	Screw	ABZ26P050FMC
	4	Tilt pulling spring	VBH1074				
	5	Belt	PEB1013	NSP	101	Cam head stopper	VNE1331

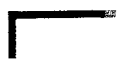
A



B

C

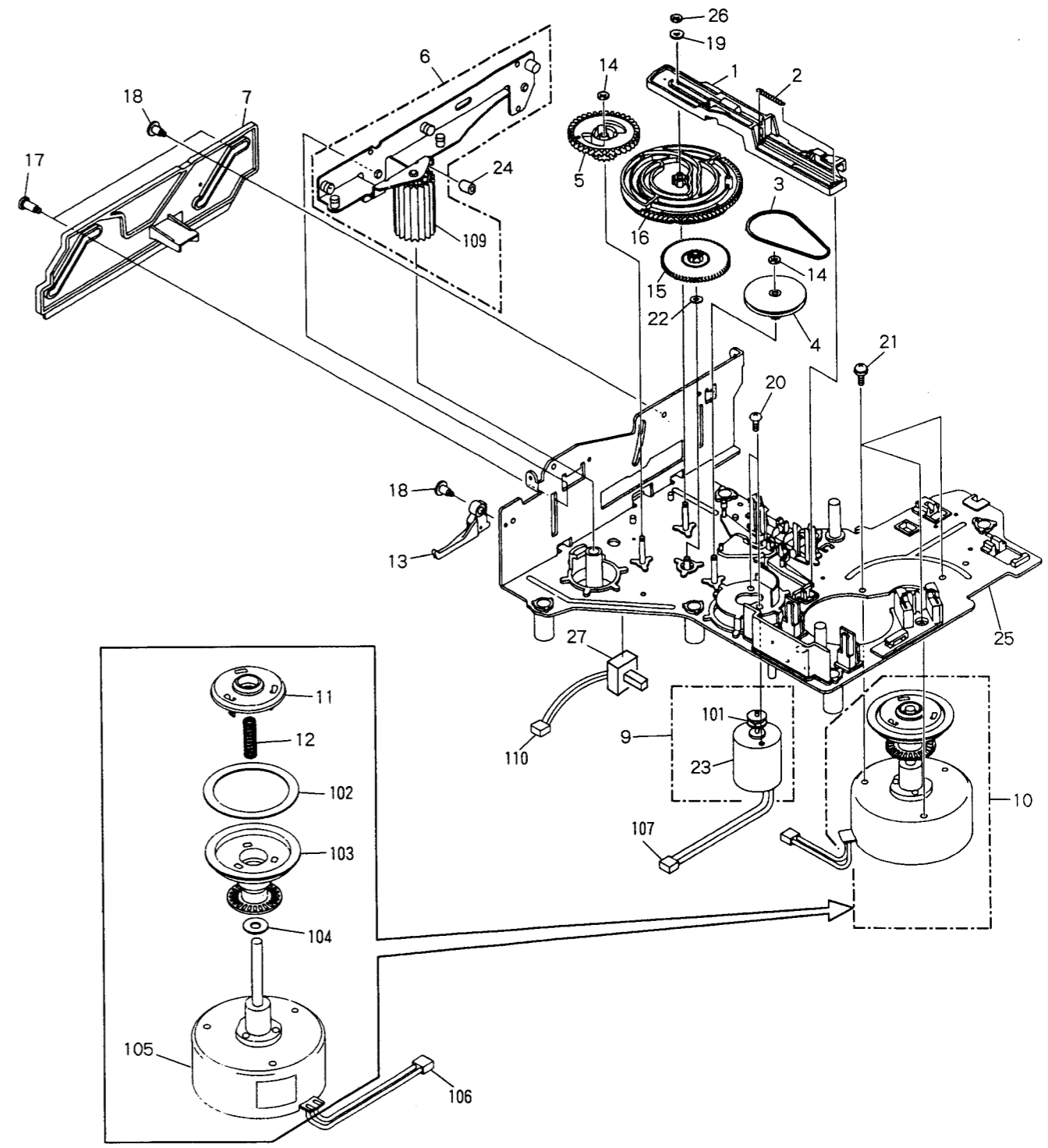
D



### 3.6 CHASSIS SECTION

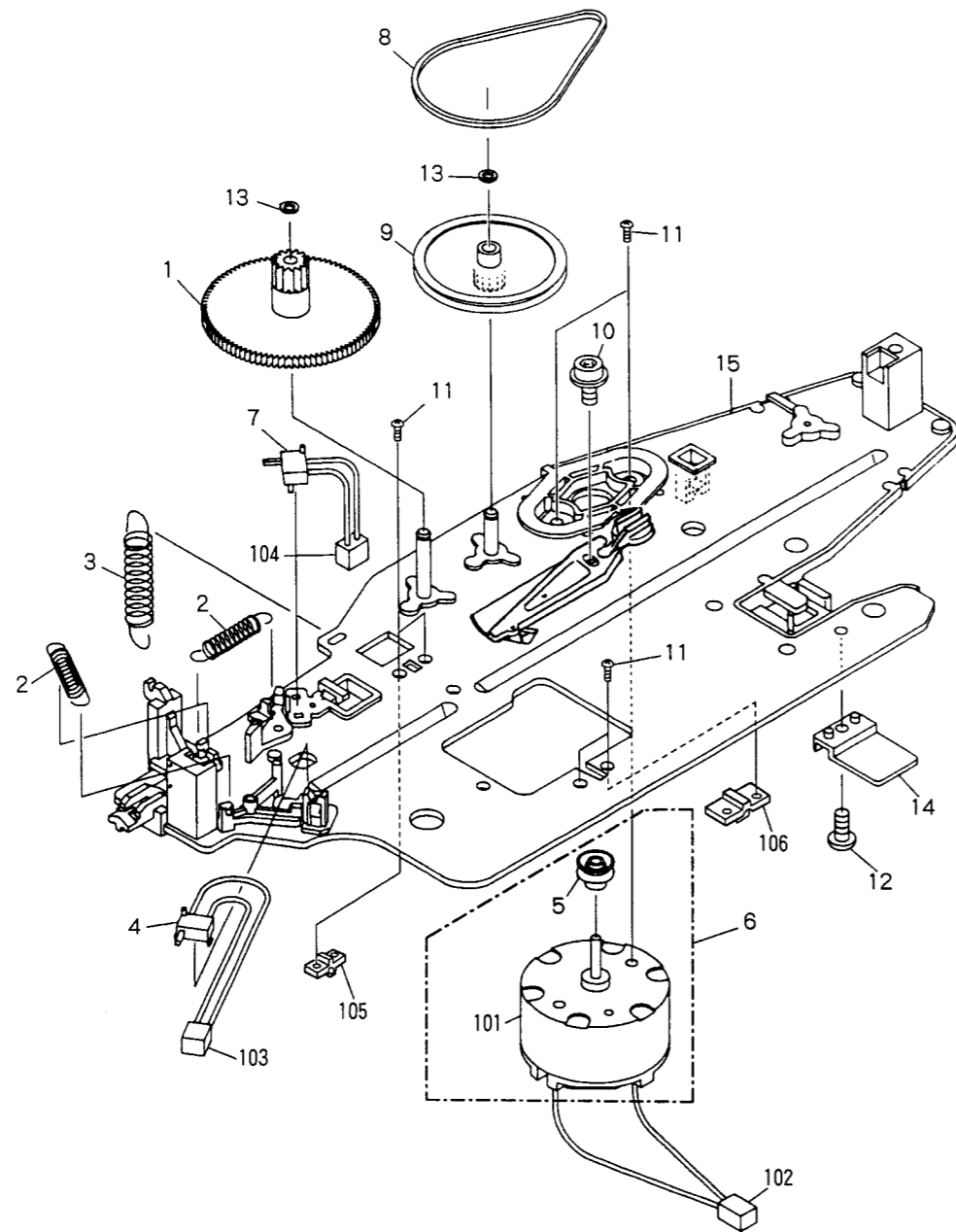
#### Parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Spring slanting cam	VNL1191	NSP 101	Motor pulley	VLL1176
2	Cam spring	VBH1082	NSP 102	Rubber sheet	VEB1103
3	Belt	PEB1013	NSP 103	Turn table assembly	VXA1283
4	Gear pulley	VNL1249	NSP 104	Oil stopped washer	VEB1002
5	Follow gear	VNL1194	NSP 105	Spindle motor	VXM1032
6	Roller plate assembly	VXA1531	NSP 106	Housing assembly	VKP1566
7	Slide cam	VNL1188	NSP 107	Housing assembly	VKP1862
8	.....		108	.....	
9	Loading motor assembly	VXX1262	NSP 109	Slider gear	VNL1189
10	Spindle motor assembly	VXA1474	NSP 110	Housing assembly	VKP1815
11	Centering hab	VNL1174			
12	Centering spring	VBH1083			
13	Door lever	VNL1407			
14	Washer	WT26D047D025			
15	Two stair gear	VNL1193			
16	Cam gear	VNL1529			
17	Screw (C)	VBA1015			
18	Screw (B)	VBA1008			
19	Nylon washer	WA32N080W020			
20	Screw	PMZ30P040FMC			
21	Screw	PMA30P050FMC			
22	Washer	WA32D060D025			
23	Loading motor	VXM1034			
24	Stop ring	VEB1091			
25	Chassis assembly	VXA1575			
26	E ring	YE23FUC			
27	Push switch (S6:TRAY IN)	DSG1014			



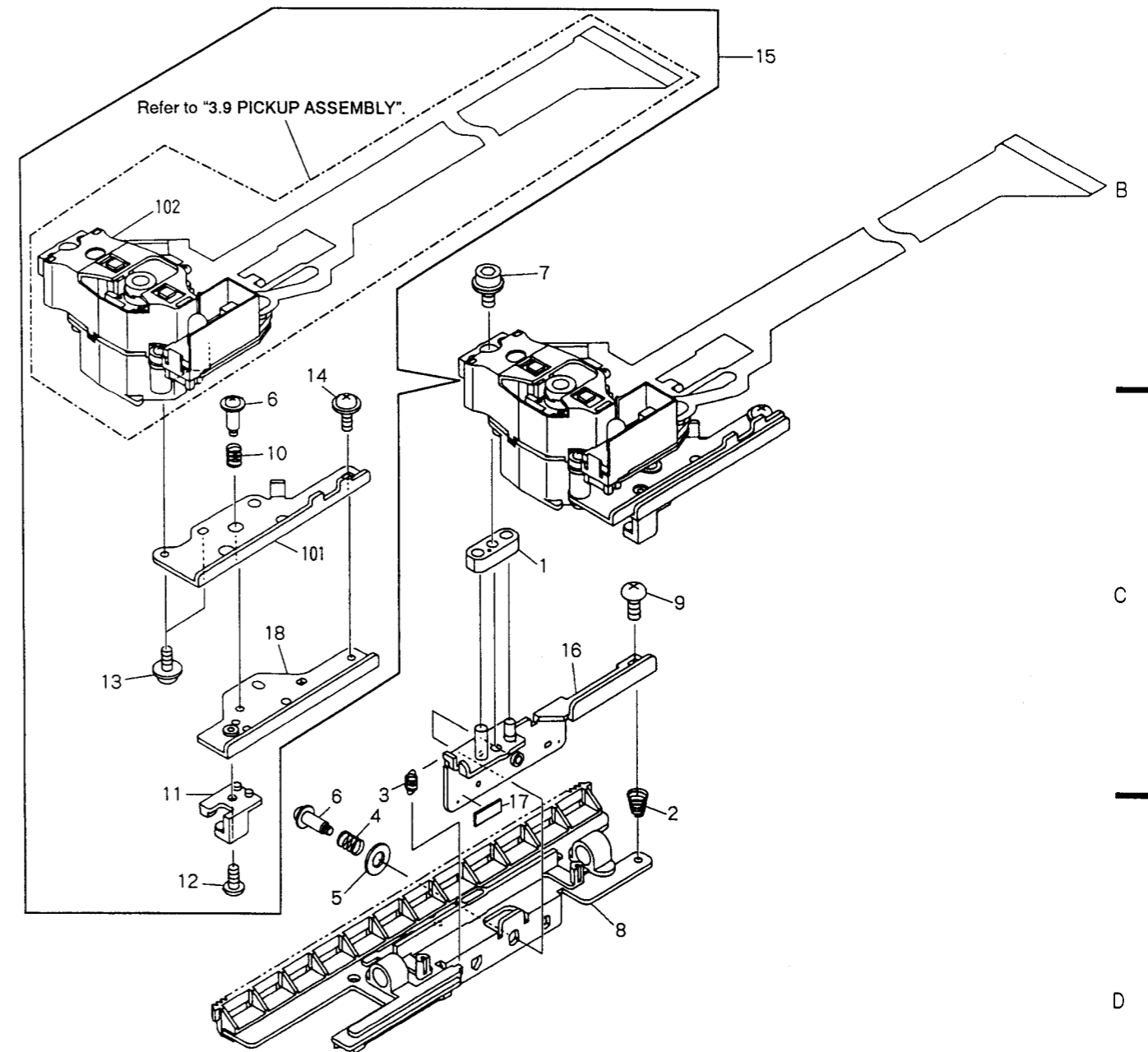
**3.7 SERVO MECHANISM BASE SECTION**  
Parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	CA gear (3)	VNL1196	13	Washer	WT26D047D025
2	Switch pulling spring	VBH1079	14	FLE base	VNL1341
3	TC pulling spring	VBH1181	15	Servo mechanism base assembly - S	VXA1583
4	Push switch (S5:OUTER)	DSG1014			
5	CA pulley (1)	VNL1197			
6	Carriage motor assembly	VXX1261	NSP 101	Carriage motor	VXM1033
7	Push switch (S4:INNER)	DSG1014	NSP 102	Housing assembly	VKP1566
8	CA belt	VEB1077	NSP 103	Housing assembly	VKP1861
9	CA pulley (2)	VNL1198	NSP 104	Housing assembly	VKP1554
10	Screw	SMF30H080FBT	NSP 105	Holder A	VNV1022
			NSP 106	Holder B	VNV1023
11	Screw	PMZ26P040FMC			
12	Screw	BPZ26P050FMC			



**3.8 RACK SECTION**  
Parts List

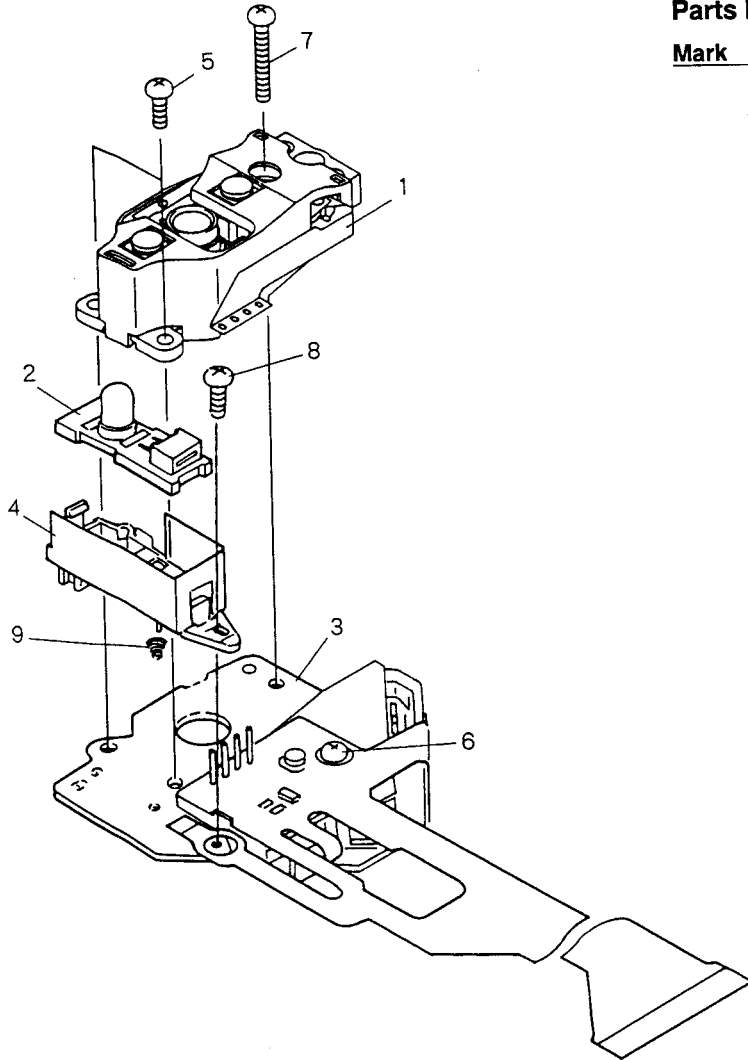
Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	PU base	VNL1209	11	TAN base	VNL1199
2	LP center spring	VBH1075	12	Screw	PMZ20P040FMC
3	PU pulling spring	VBH1089	13	Screw	PMA20P040FMC
4	L-2 spring	VBH1090	14	Screw	AMZ20P050FMC
5	Washer	WA32F070M080	15	Slider assembly	VWT1060
6	Screw	VBA1007	16	PU mount base assembly	VXA1762
7	Screw (2.6 x 10)	VLL1192	17	Spacer (S)	VEC1284
8	Rack	VNL1186	18	TAN plate (1)	VNE1606
9	Screw	BMZ26P080FMC			
10	TAN spring	VBH1081	NSP 101	TAN plate (2)	VNE1303
			NSP 102	Pickup assembly	VWY1021



**3.9 PICKUP ASSEMBLY**

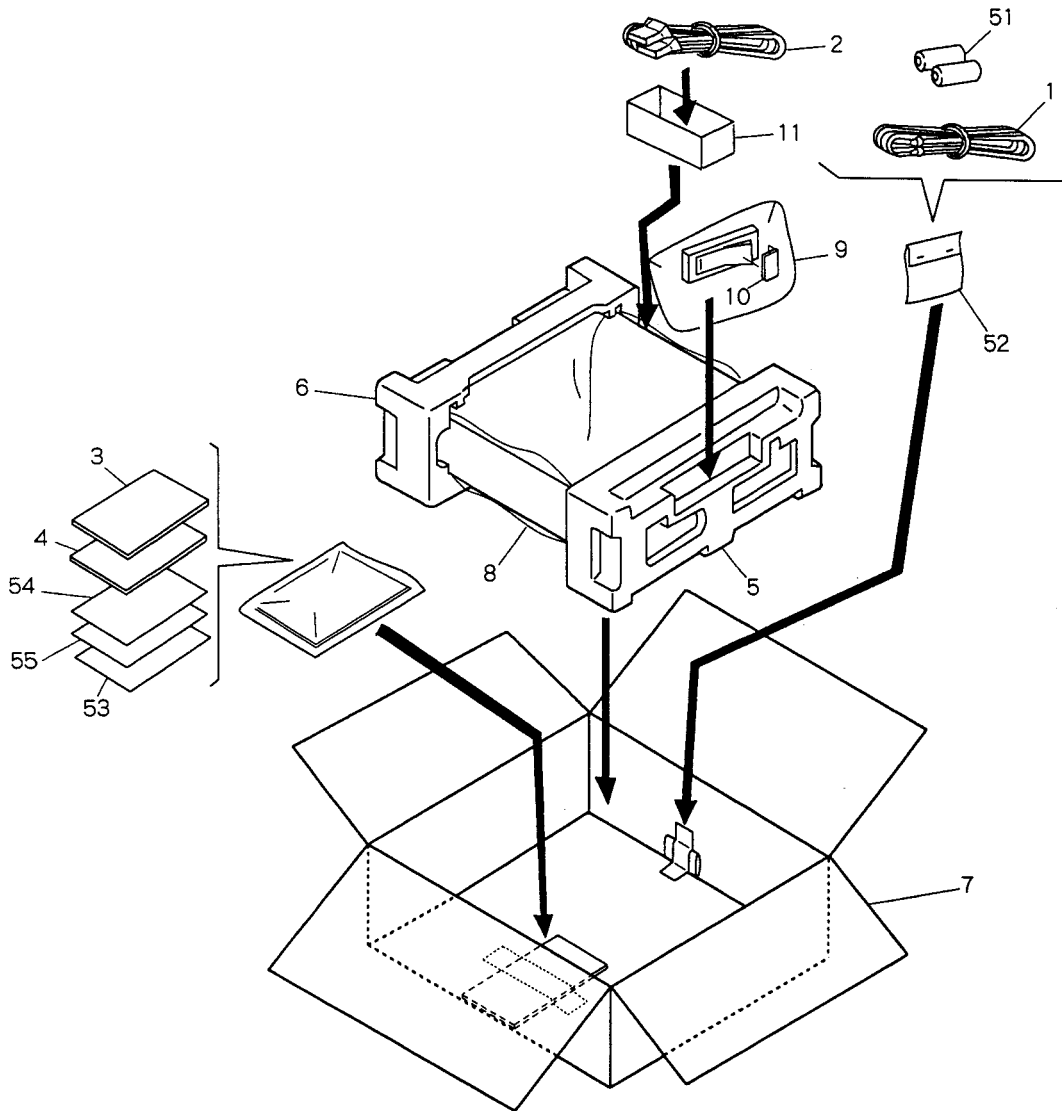
**Parts List**

Mark No.	Description	Part No.
1	Actuator assembly	VXX1551
2	Sensor assembly	VEX1018
3	Pre-pickup assembly	VXX1413
4	Sensor stay	VNH1037
5	Screw	PMA20P060FMC
6	Screw	PMA20P080FMC
7	Screw	PMA20P160FMC
8	Screw	BMZ20P060FMC
9	Sensor spring	VBH1087

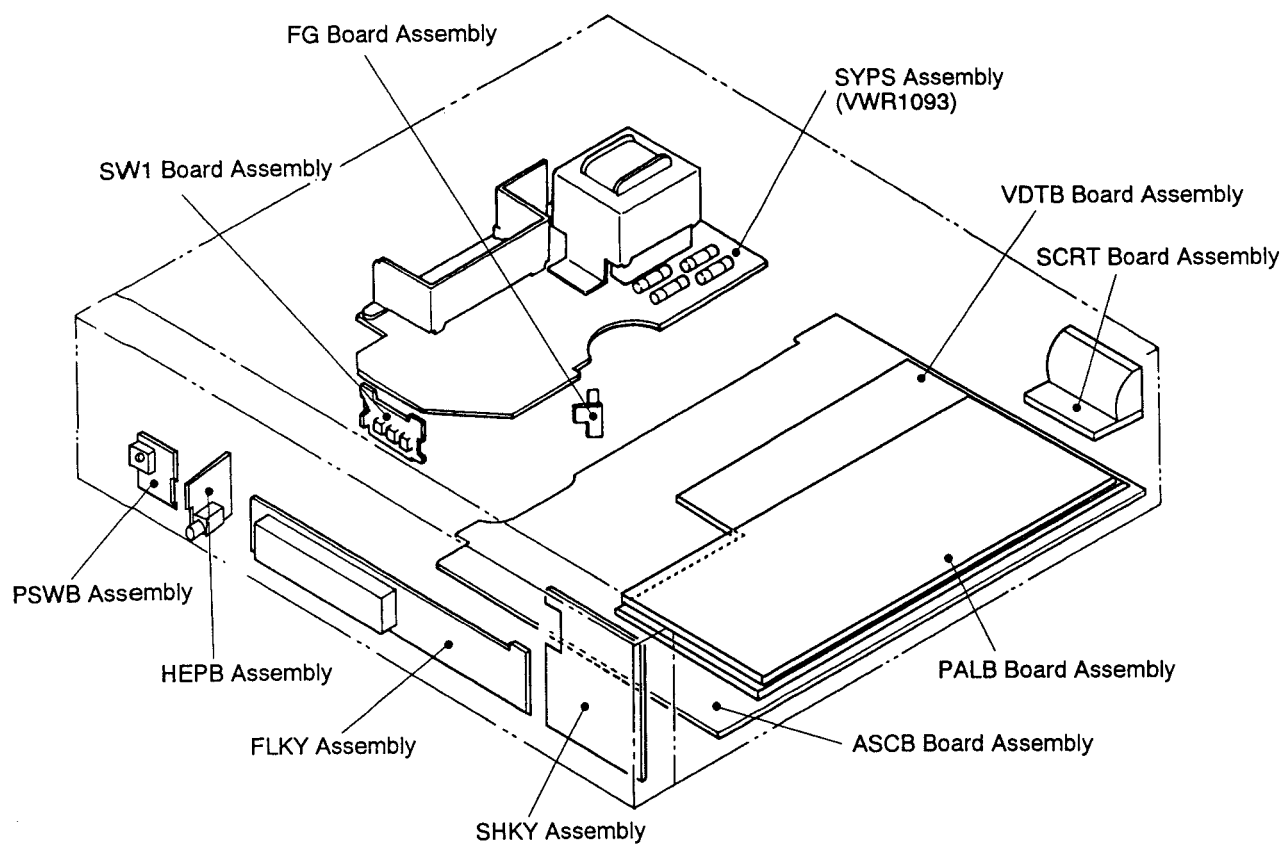


**3.10 PACKING  
Parts List**

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Connection cord	VDE-055	NSP 51	Dry cell battery (R03, AAA)	VEM-022
2	SCART cable	VDE1027	NSP 52	Polyethylene bag	VHL-014
3	Operating instructions (English/French/German/Italian)	VRE1009	NSP 53	Caution card	VRR1009
4	Operating instructions (Dutch/Swedish/Spanish/Portuguese)	VRF1016	NSP 54	Caution card (EW)	VRM1027
5	Pad (F)	VHA1076	NSP 55	Caution card (UC)	VRM1039
6	Pad (R)	VHA1077			
7	Packing case	VHG1221			
8	Mirror mat	VHL1006			
9	Remote control unit	VXX1733			
10	Battery cover	DNK2286			
11	Cable case	VHG1200			



## 4. PCB LOCATION



### MAIN BOARD ASSEMBLY (VWM1260)

MAIN board assembly is composed of ASCB, FG and SW1 board assemblies.

### VTPB BOARD ASSEMBLY (VWM1261)

VTPB board assembly is composed of VDTB, PALB and SCRT board assemblies.

### FLKB ASSEMBLY (VWM1262)

FLKB assembly is composed of FLKY, SHKY, PSWB and HEPB assemblies.

ASCB	: AUDIO SERVO CONTROL BOARD
FG	: FG COUNTER BOARD
SW1	: SW1 BOARD
VDTB	: VIDEO AND TBC BOARD
PALB	: PAL BOARD
SCRT	: EUROPEAN SCRT BOARD
FLKY	: FL TUBE AND KEY BOARD
SHKY	: SHUTTLE AND KEY BOARD
PSWB	: POWER SWITCH BOARD
HEPB	: HEADPHONE BOARD
SYPS	: SYSTEM POWER SUPPLY

## 5. SCHEMATIC AND PCB CONNECTIONS DIAGRAMS


### 1. RESISTORS:

Indicated in  $\Omega$  , 1/4W, 1/6W and 1/8W,  $\pm 5\%$  tolerance unless otherwise noted k;k  $\Omega$  , M;M  $\Omega$  , (F);  $\pm 1\%$ , (G);  $\pm 2\%$ ,(K);  $\pm 10\%$ , (M);  $\pm 20\%$  tolerance.

### 2. CAPACITORS:

Indicated in capacity (  $\mu\text{F}$  ) /voltage(V)unless otherwise noted p;pF. Indication without voltage is 50V except electrolytic capacitor.

### 3. VOLTAGE, CURRENT:

 :DC voltage ( V ) at no input signal.  
Value in ( ) is DC voltage at rated power.  
 $\Leftarrow$  mA :DC current at no input signal.

### 4. OTHERS:

$\rightarrow$  ;Signal route.

$\odot$  ;Adjusting point.

The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

\* marked capacitors and resistors have parts numbers.

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

### 5. SWITCHES :(The underlined indicates the switch position)

#### OUTSIDE OF PCB ASSEMBLIES

S4 :INNER

S5 :OUTER

S6 :TRAY IN

#### SW1 ASSEMBLY

S1 - S3 :LOADING /TILT

#### FLKY ASSEMBLY

S10 :PGM

S11 :5

S12 :0

S13 :+10

S14 :2

S15 :1

S16 :4

S17 :3

S18 :9

S19 :8

S20 :7

S21 :6

DIRECT SEARCH

S22 :DIRECT CD

S23 :SYSTEM

S24 :DOOR

#### SHKY ASSEMBLY

S40 :16:9

S41 :PGM EDIT

S42 :LANGUAGE

S43 :RANDOM PLAY

S44 :HILITE /INTRO SCAN

S45 :|◀◀| SKIP

S46 :▶▶|

S47 :OPEN /CLOSE ( ▲ )

S48 :STOP ( ■ )

S49 :PLAY /PAUSE ( ▶/|| )

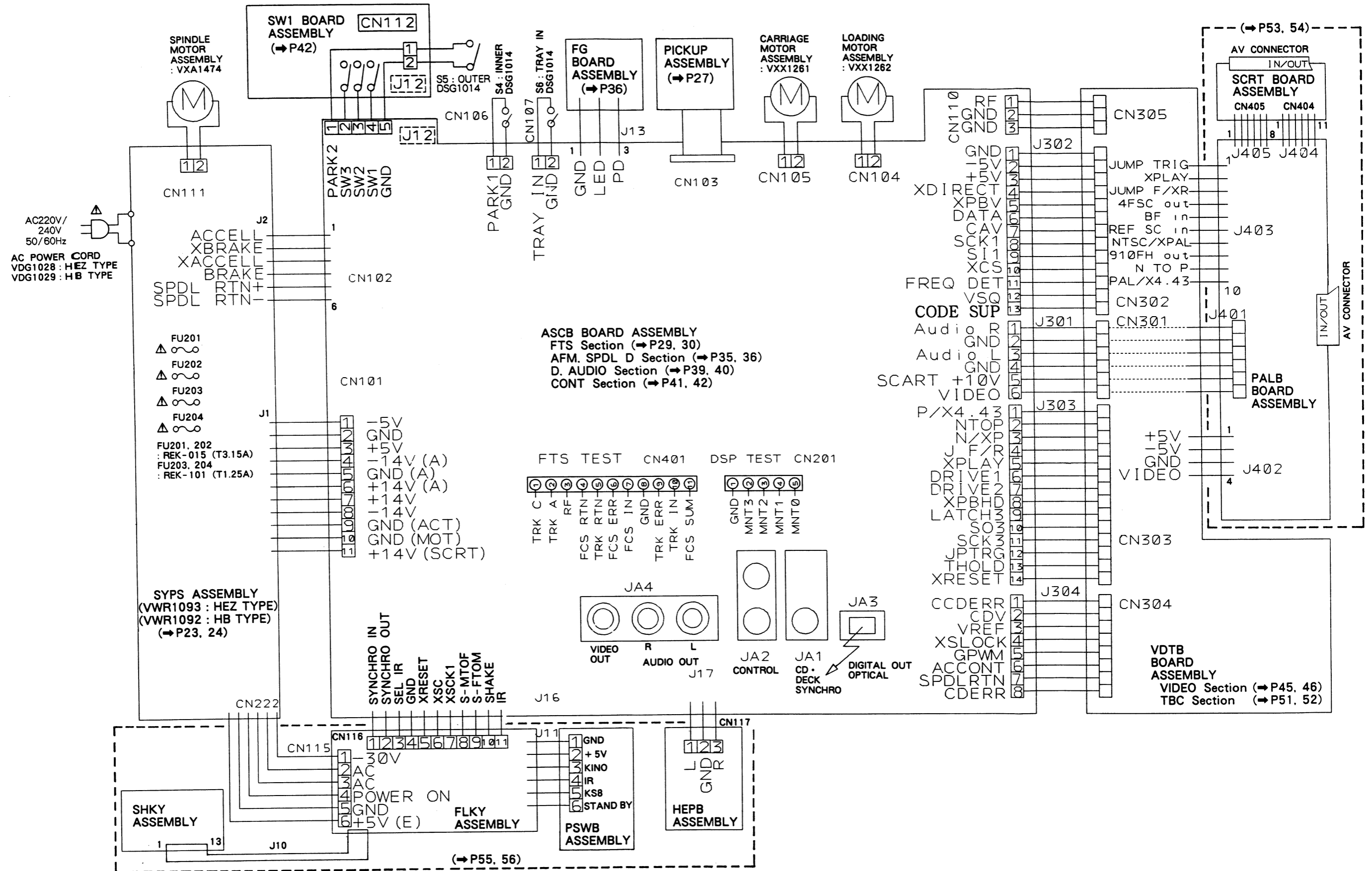
S51 :SCAN /LEVEL ( ◀◀/▶▶ )

#### PSWB ASSEMBLY

S60 :POWER



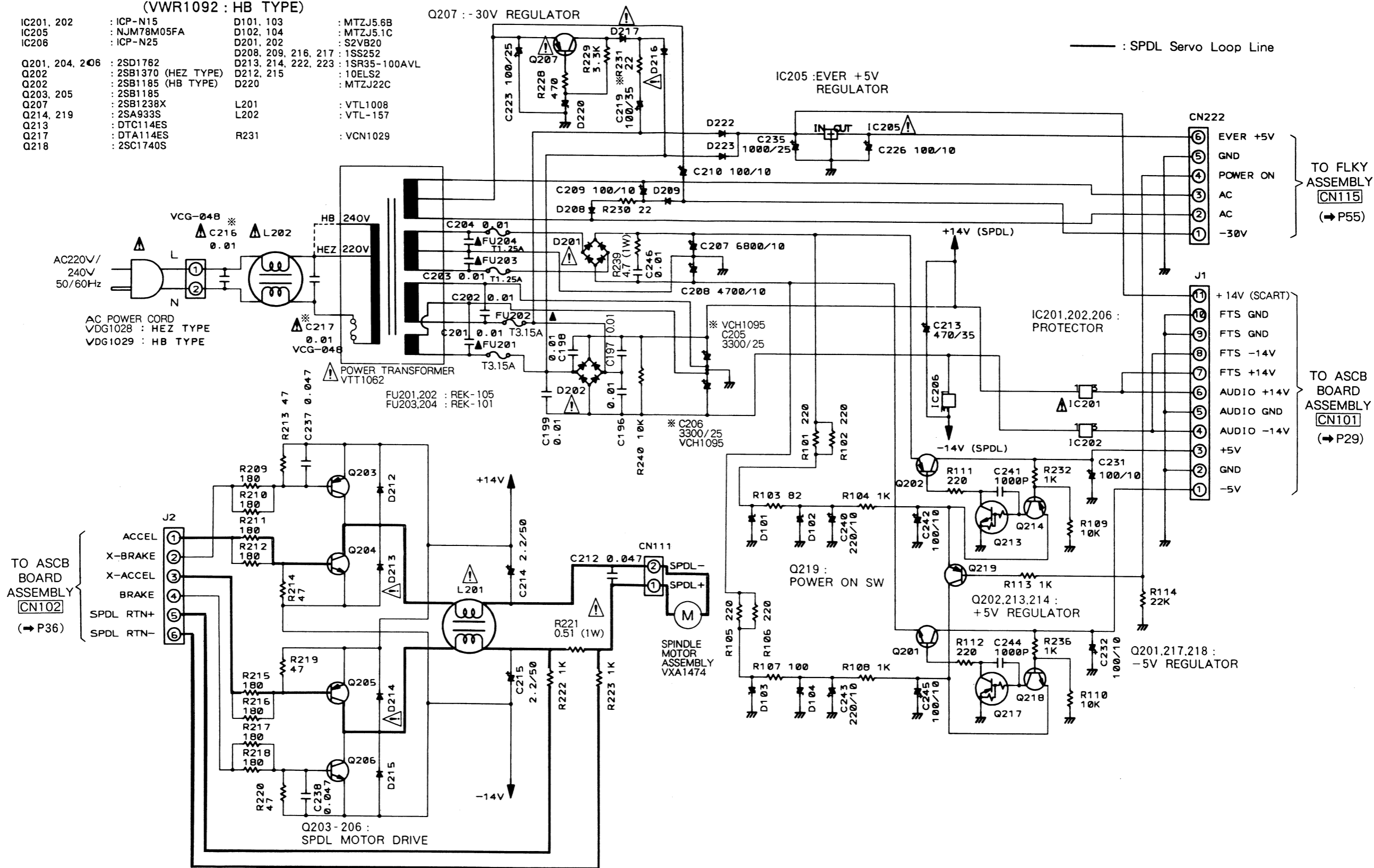
5.1 OVER ALL WIRING DIAGRAM

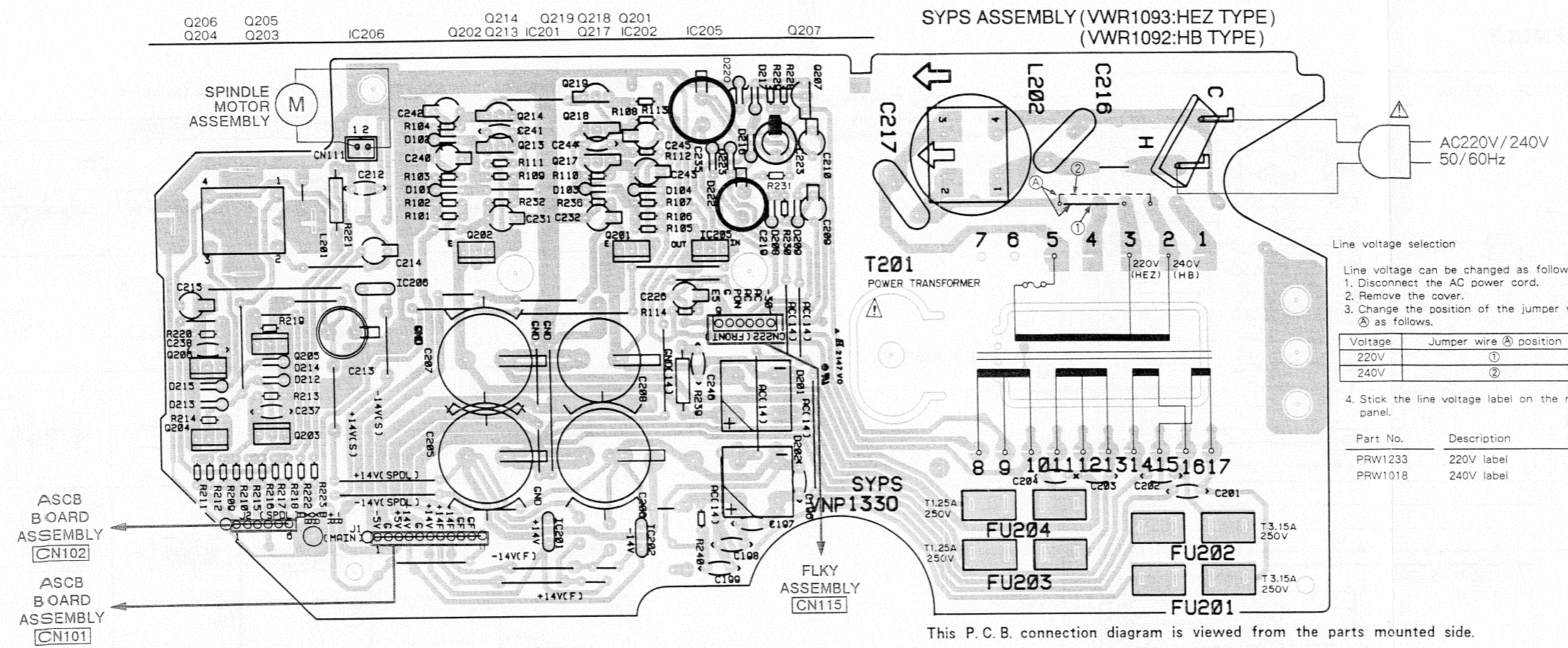


5.2 SYPS ASSEMBLY

SYPS ASSEMBLY (VWR1093 : HEZ TYPE)  
(VWR1092 : HB TYPE)

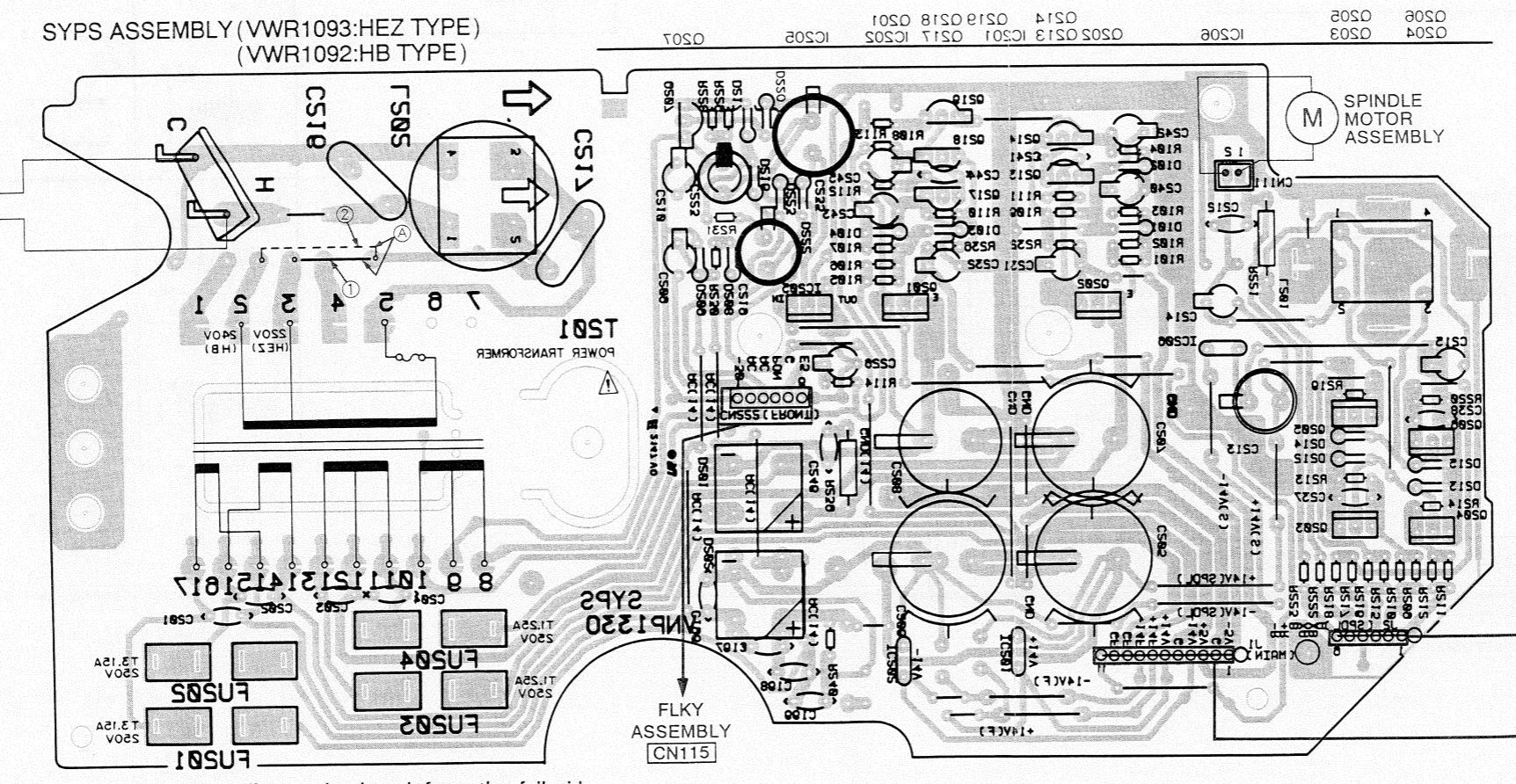
IC201, 202	: ICP-N15	D101, 103	: MTZJ5.6B
IC205	: NJM78M05FA	D102, 104	: MTZJ5.1C
IC206	: ICP-N25	D201, 202	: S2VB20
Q201, 204, 206	: 2SD1762	D208, 209, 216, 217	: 1SS252
Q202	: 2SB1370 (HEZ TYPE)	D213, 214, 222, 223	: 1SR35-100AVL
Q203, 205	: 2SB1185	D212, 215	: 10ELS2
Q207	: 2SB1238X	D220	: MTZJ22C
Q214, 219	: 2SA933S	L201	: VTL1008
Q213	: DTC114ES	L202	: VTL-157
Q217	: DTA114ES	R231	: VCN1029
Q218	: 2SC1740S		





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

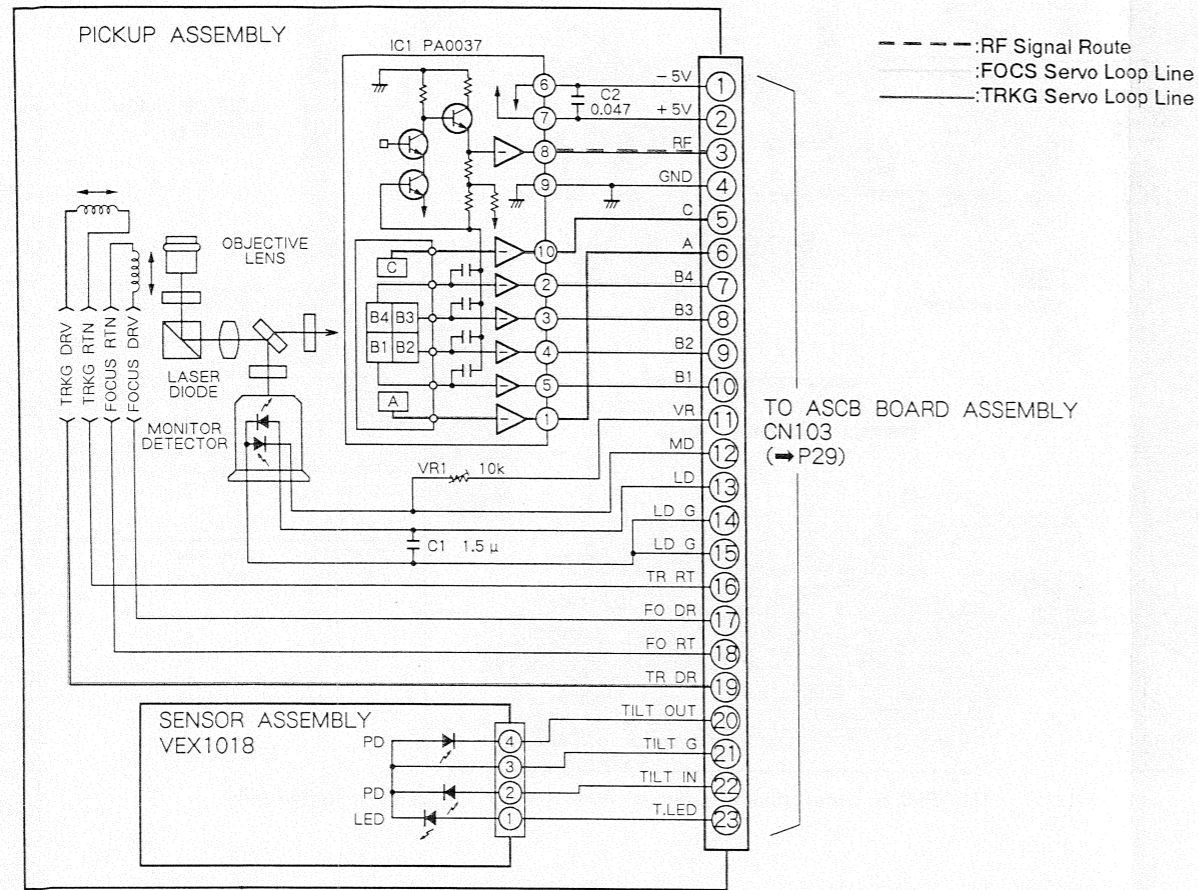
P.C.B. pattern diagram indication	Corresponding part symbol	Part name
		Transistor
		FET
		Diode
		Zener diode
		LED
		Varactor
		Tact switch
		Inductor
		Coil
		Transformer
		Filter
		Ceramic capacitor
		Mylar capacitor
		StyroI capacitor
		Electrolytic capacitor (Non polarized)
		Electrolytic capacitor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



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

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.

5.3 PICKUP A SSEMBLY



---:RF Signal Route  
 ---:FOCS Servo Loop Line  
 ---:TRKG Servo Loop Line

TO ASCB BOARD ASSEMBLY  
 CN103  
 (P29)

FTS SECTION

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

IC801 (CXA1081S)		CN401		IC803 (PM3003)		Other points	
1	20	3	40	1	39	1	Q810 Collector
2	21	4	40	8	40	2	CN103 Pin 16
7	22	5	43	34	43	3	Q828 Collector
12	23	6	47	35	47	4	CN103 Pin 17
15	27	7	55	36	55	5	CN103 Pin 19
		9	56	38	56	6	IC804 Pin 9
		10					
		11					

HEAD ASSEMBLY

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

ASCB BOARD ASSEMBLY  
 CN103

SENSOR ASSEMBLY  
 SENSOR ASSEMBLY

ASCB BOARD ASSEMBLY  
 CN103

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

5.4 ASCB BOARD ASSEMBLY (1/4)

ASCB BOARD ASSEMBLY (1/4)

• FTS SECTION

----- RF Signal Route  
 : FOCUS Servo Loop Line  
 : TRKG Servo Loop Line

A

B

C

D

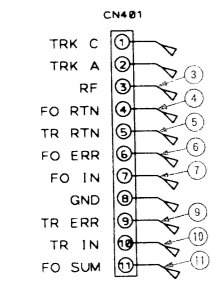
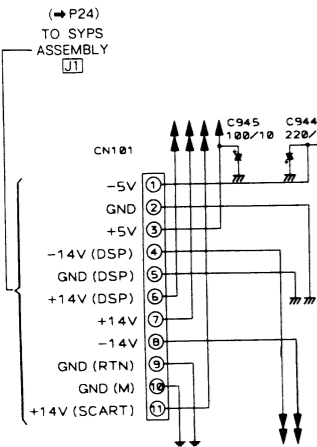
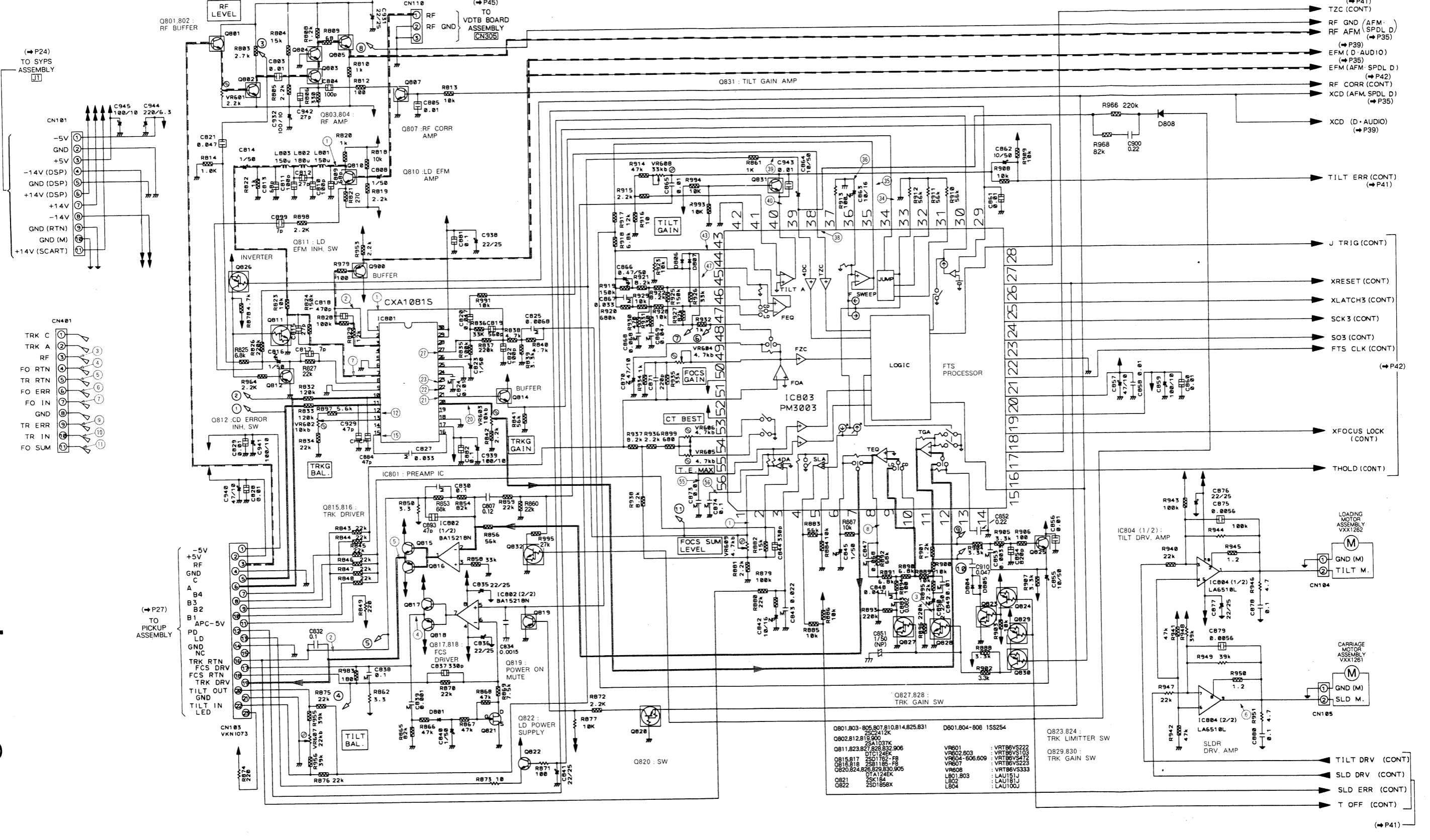
A

S4:  
INNEF

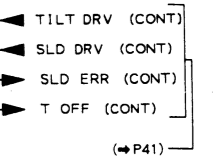
S6:  
TRAY

A

A



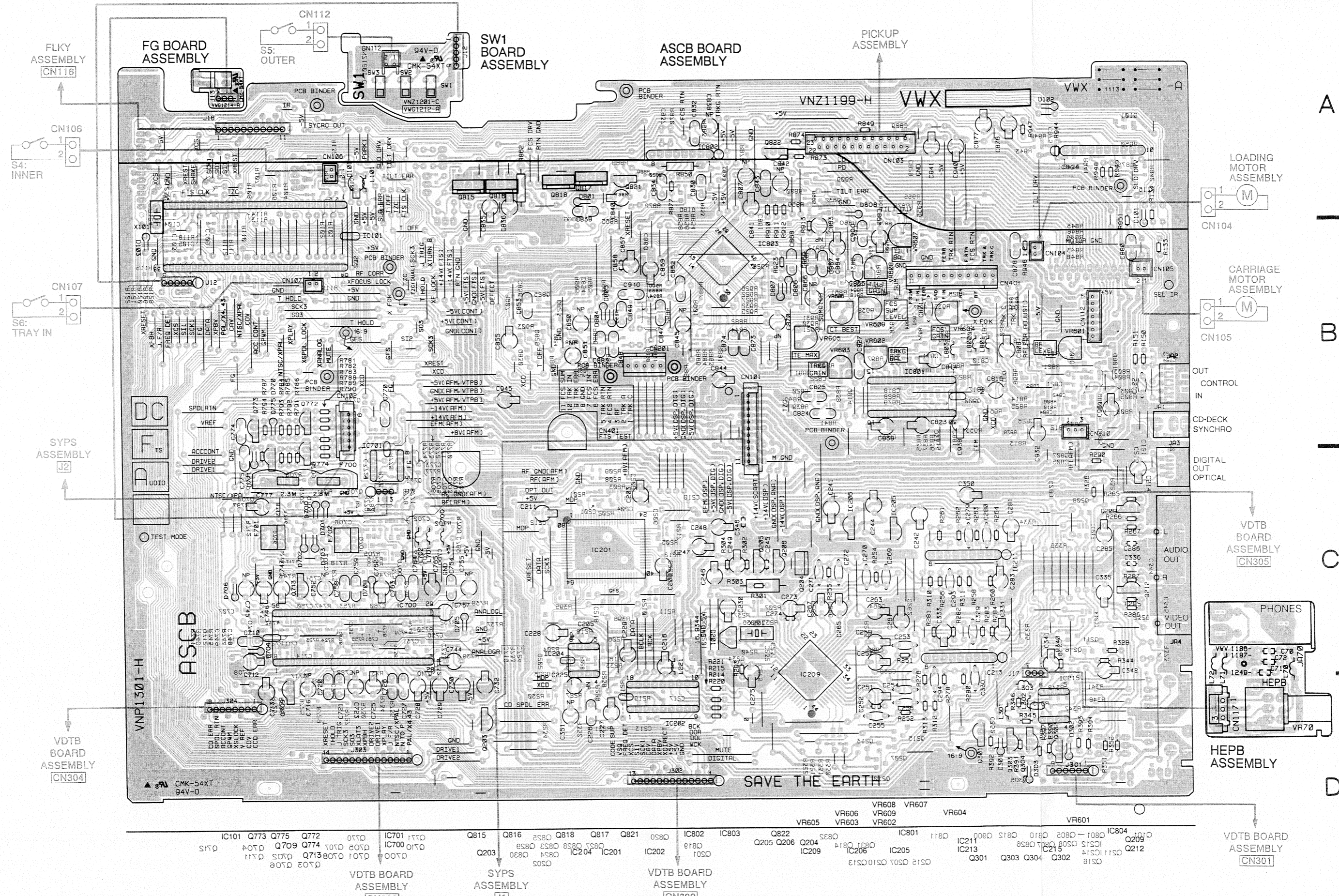
Q801.803-805,807,810,814,825,831	D801.804-806 1SS254	VR601	: VRT86V3222
Q802,812,818,900	2SC2412K	VR602,803	: VRT86V5105
Q815,817	2SA1037K	VR604-606,609	: VRT86V3472
Q816,818	DTC1248K	VR607	: VRT86V3223
Q820,824,808,809,830,905	2SD1752-F8	VR608	: VRT86V3333
Q821	DYA1248K	L801,803	: LAU151J
Q822	2SK184	L802	: LAU181J
	2SD1858X	L804	: LAU100J



TILT DRV (CONT)  
 SLD DRV (CONT)  
 SLD ERR (CONT)  
 T OFF (CONT)

(P41)

- (P41) TZC (CONT)
- RF GND (AFM) (P35)
- RF AFM (SPDL D) (P35)
- EFM (D AUDIO) (P42)
- EFM (AFM SPDL D) (P35)
- RF CORR (CONT) (P42)
- XCD (AFM SPDL D) (P35)
- XCD (D AUDIO) (P39)
- TILT ERR (CONT) (P41)
- J TRIG (CONT)
- XRESET (CONT)
- XLATCH3 (CONT)
- SCK 3 (CONT)
- SO3 (CONT)
- FTS CLK (CONT)
- XFOCUS LOCK (CONT)
- THOLD (CONT)
- TILT DRV (CONT)
- SLD DRV (CONT)
- SLD ERR (CONT)
- T OFF (CONT)



A  
B  
C  
D

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

A

B

C

D

PICKUP ASSEMBLY

ASCB BOARD ASSEMBLY

BOARD ASSEMBLY SW1

FG BOARD ASSEMBLY

FLKY ASSEMBLY

CN116

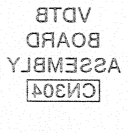
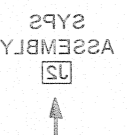
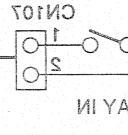
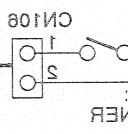
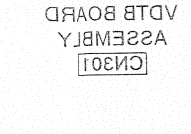
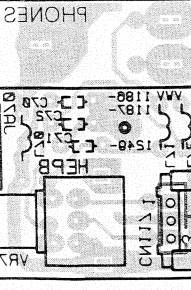
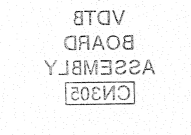
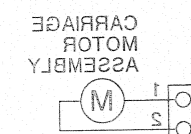
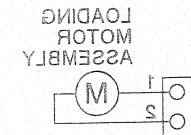
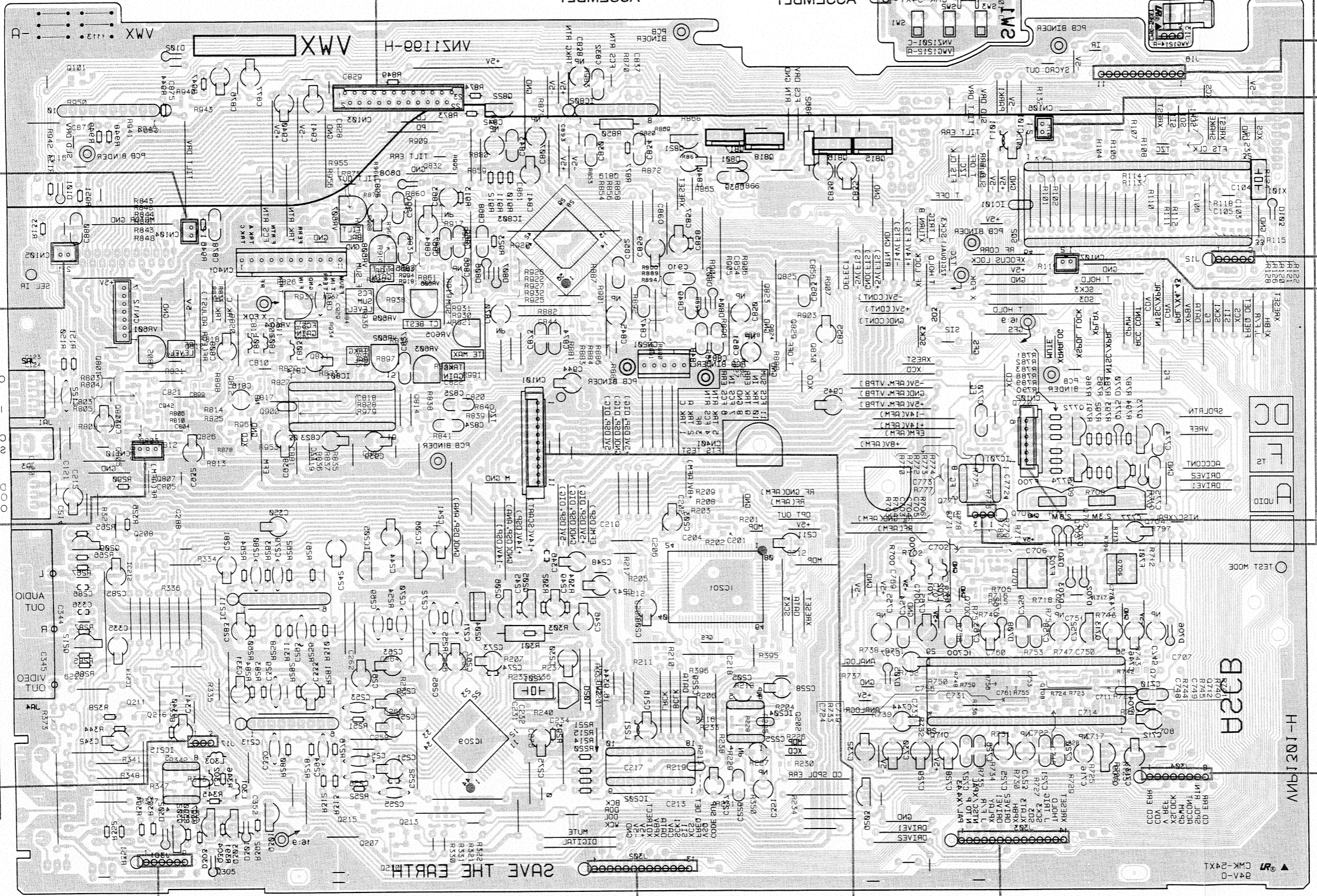
CN108

CN107

ASSEMBLY SPS

BOARD ASSEMBLY VDB

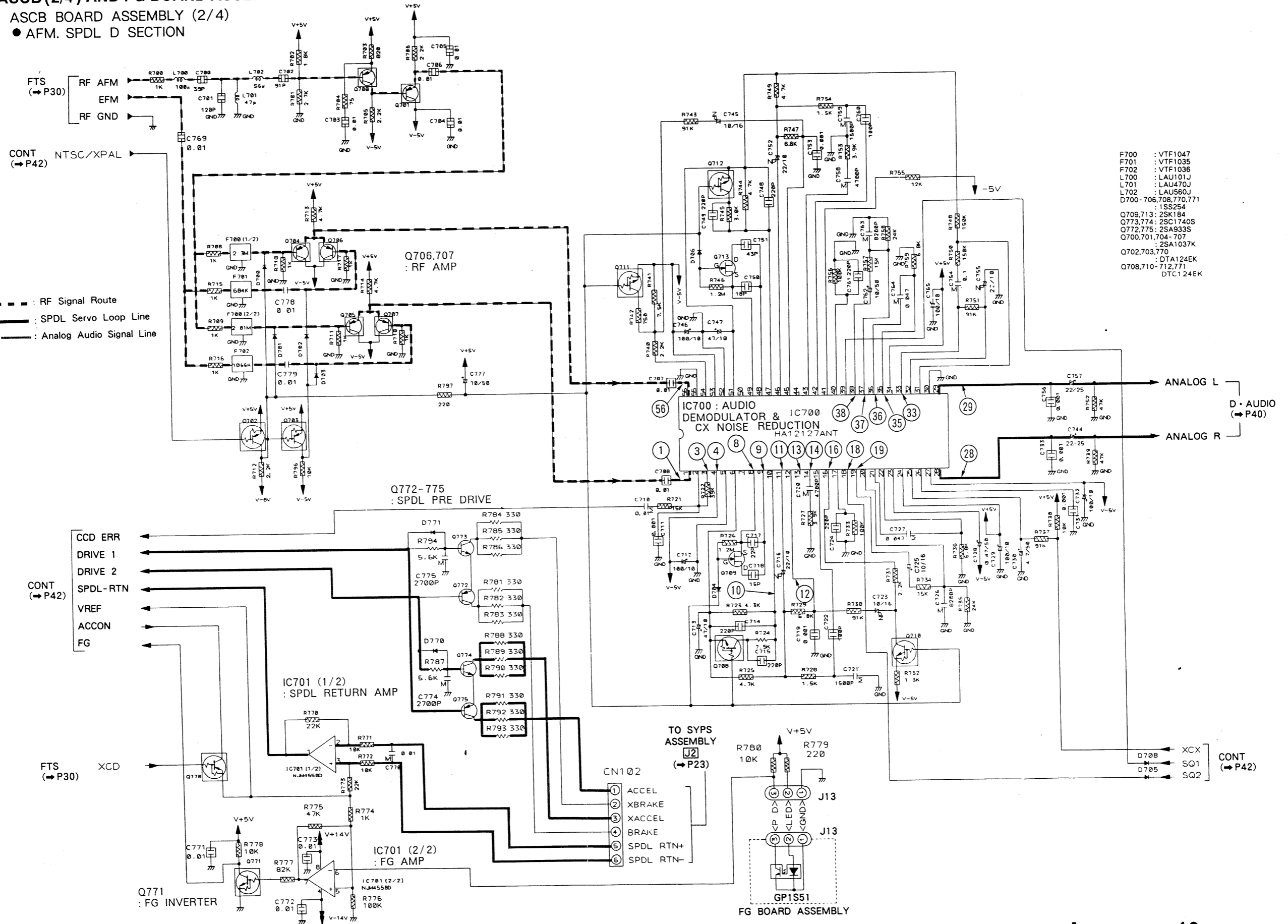
CN307



# 5.5 ASCB (2/4) AND FG BOARD ASSEMBLIES

ASCB BOARD ASSEMBLY (2/4)

● AFM. SPDL D SECTION



A

B

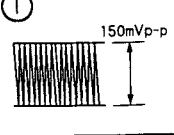
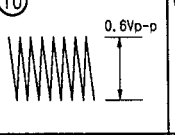
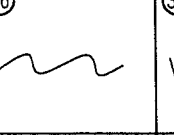
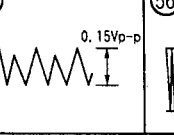
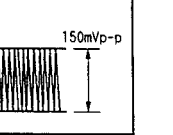
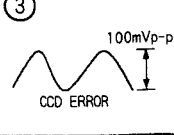
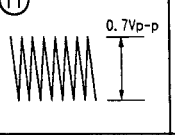
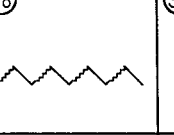
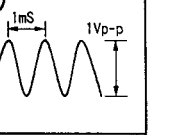
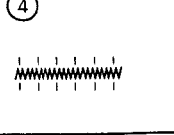
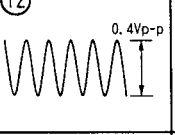
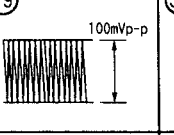
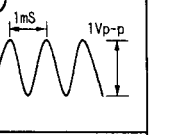
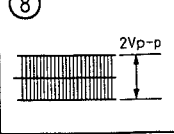
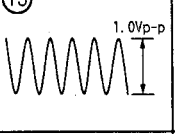
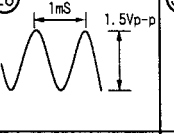
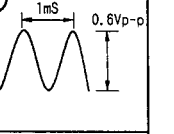
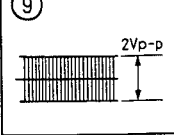
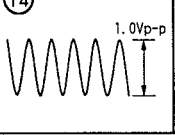
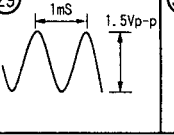
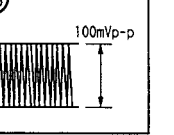
C

D



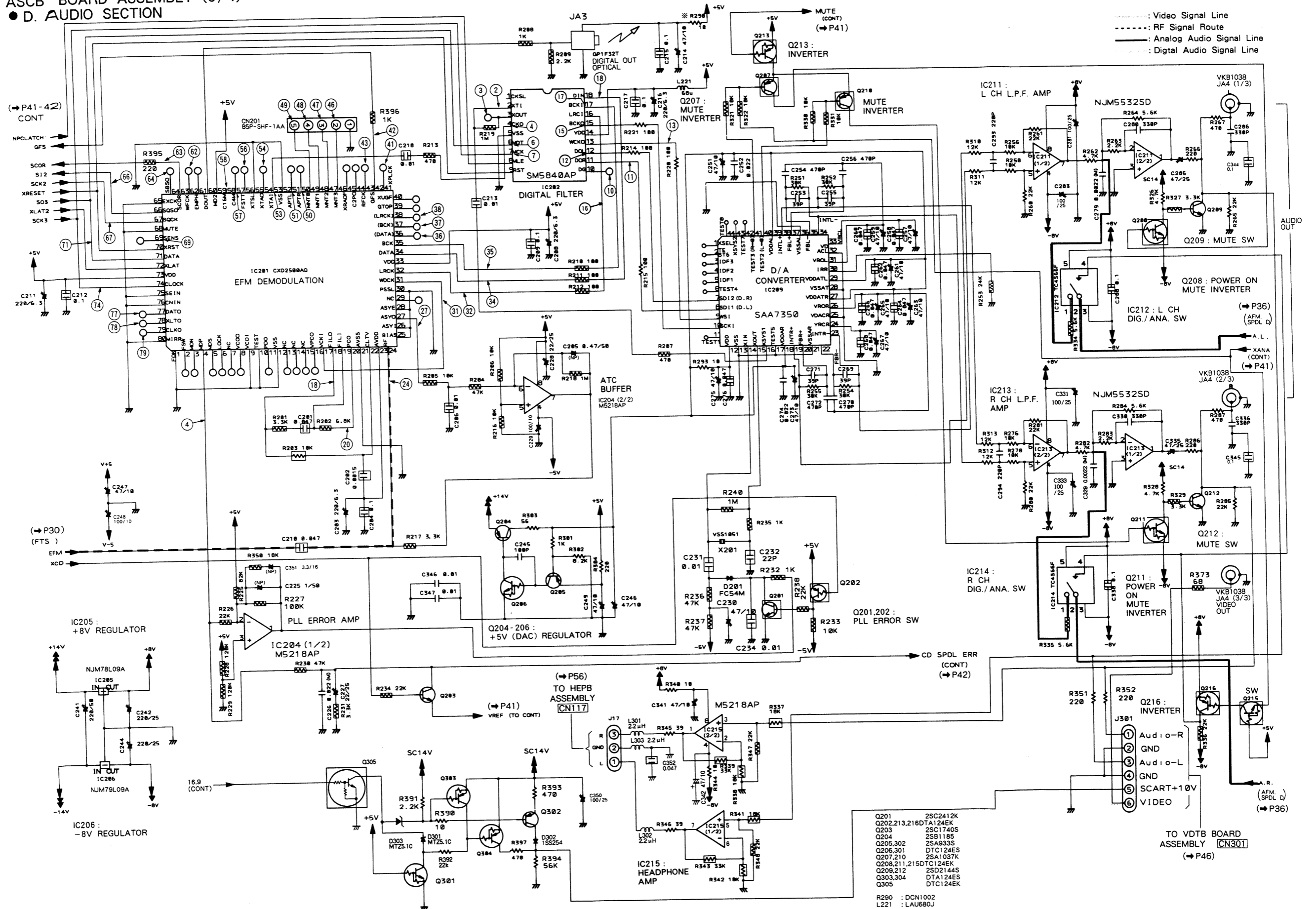
**AFM. SPDL D SECTION**

• IC700 (HA12127ANT) Note : (No.) in the table correspond to the pin No.

① 	⑩ 	⑯ 	③③ 	⑤⑥ 
③ 	⑪ 	⑱ 	③⑤ 	
④ 	⑫ 	⑲ 	③⑥ 	
⑧ 	⑬ 	⑳ 	③⑦ 	
⑨ 	⑭ 	㉑ 	③⑧ 	



5.6 ASCB BOARD ASSEMBLY (3/4)  
ASCB BOARD ASSEMBLY (3/4)  
● D. AUDIO SECTION



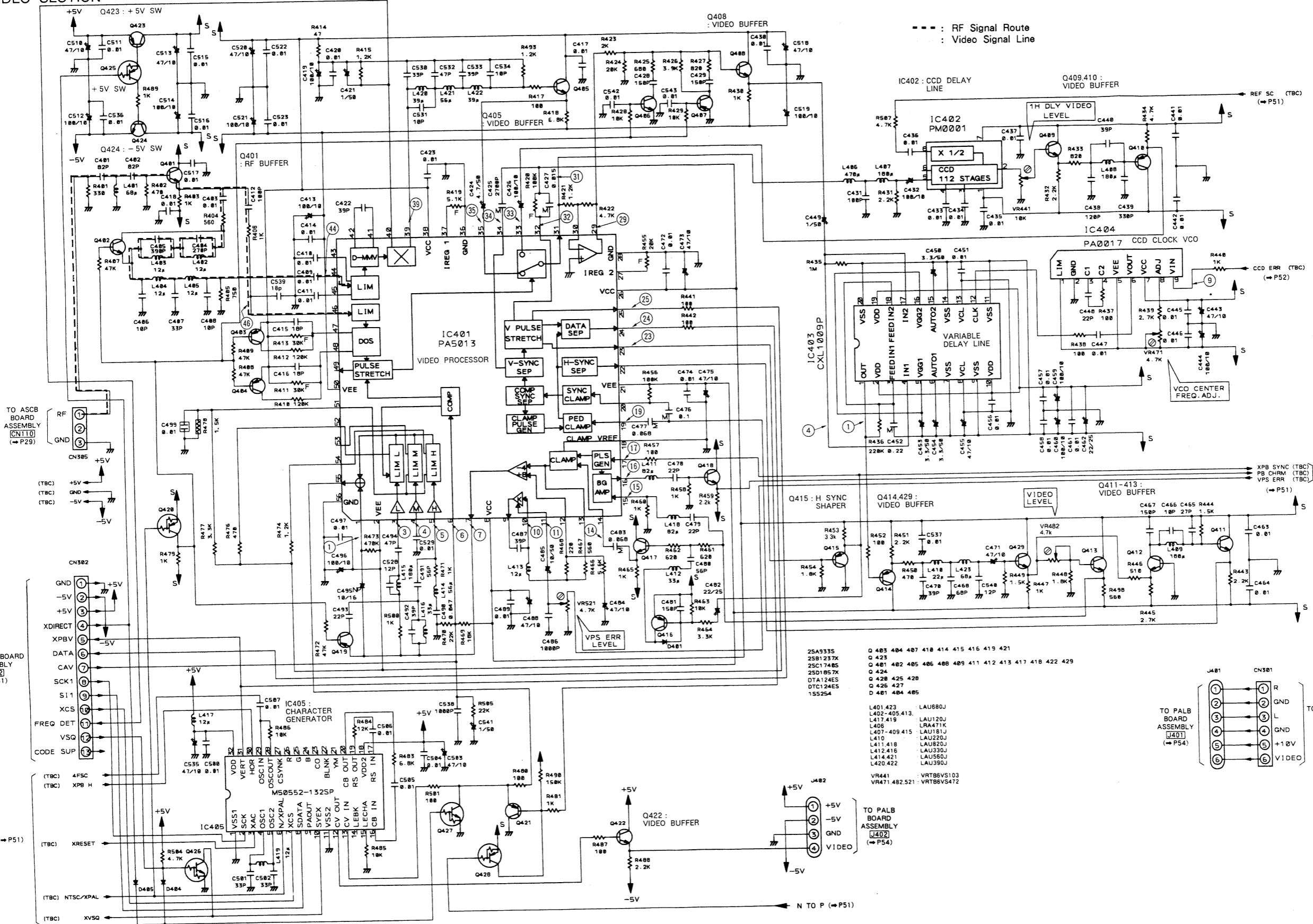
- Q201 2SC2412K
- Q202,213,216DTA124EK
- Q203 2SC1740S
- Q204 2S91185
- Q205,302 2SA933S
- Q206,301 DTC124ES
- Q207,210 2SA1037K
- Q208,211,215DTC124EK
- Q209,212 2SD2144S
- Q303,304 DTA124ES
- Q305 DTC124EK



5.8 VDTB BOARD ASSEMBLY (1/2)

VDTB BOARD ASSEMBLY (1/2)

● VIDEO SECTION



--- : RF Signal Route  
 : Video Signal Line

TO ASCB BOARD ASSEMBLY (CN110) (P29)

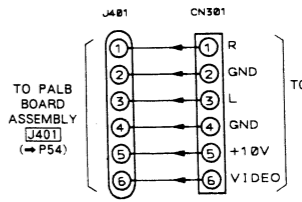
TO ASCB BOARD ASSEMBLY (J302) (P41)

(P51)

- 25A3335
- 25B1237X
- 25C17485
- 25D1857X
- DTA124E5
- DTC124E5
- 15S254

- Q 403 404 407 418 414 415 416 419 421
- Q 423
- Q 401 402 405 406 408 409 411 412 413 417 418 422 429
- Q 424
- Q 428 425 428
- Q 426 427
- D 401 404 405

- L401.423 LAU680J
- L402-405.413 LAU120J
- L417.419 LAU471K
- L405 LAU181J
- L407-409.415 LAU220J
- L410 LAU820J
- L411.418 LAU330J
- L412.416 LAU580J
- L414.421 LAU390J
- L420.422 LAU390J
- VR441 VRT8V5S103
- VR471.482.521 VRT8V5S472



ASCB BOARD ASSEMBLY (J304)

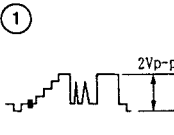
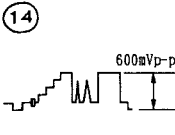
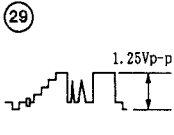
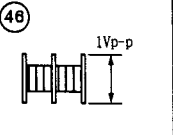
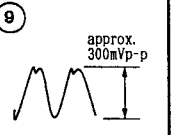
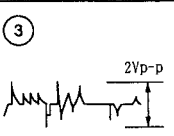
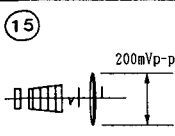
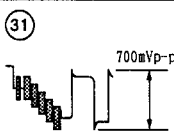
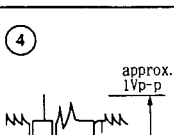
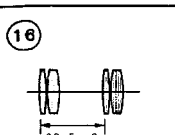
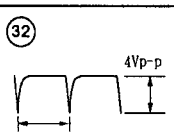
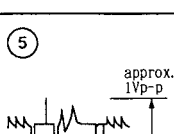
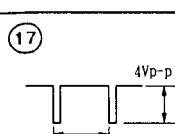
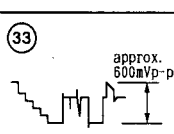
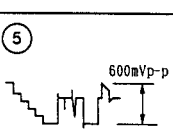
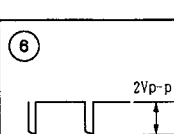
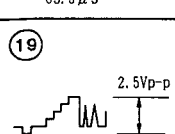
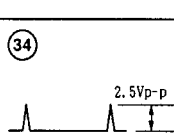
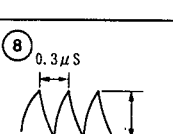
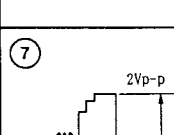
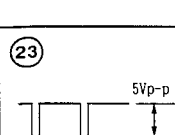
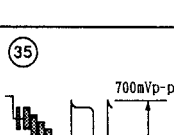
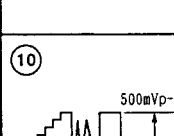
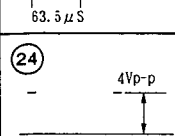
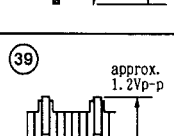
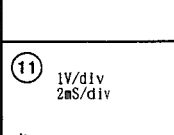
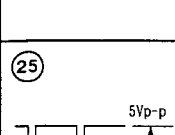
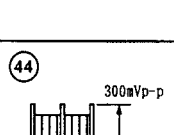
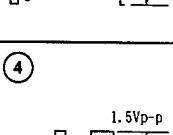
ASCB BOARD ASSEMBLY (J303)

SCRT BOARD ASSEMBLY



VIDEO SECTION

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

IC401 (PA5013A)				IC404 (PA0017)
① 	⑭ 	⑳ 	④⑧ 	⑨ 
③ 	⑮ 	⑳ 	IC402 (PM0001)	
④ 	⑯ 	⑳ 		
⑤ 	⑰ 	⑳ 	⑤ 	
⑥ 	⑱ 	⑳ 	⑧ 	
⑦ 	㉓ 	⑳ 	IC403 (CXL1009P)	
⑩ 	㉔ 	⑳ 		
⑪ 	㉕ 	④④ 	④ 	

7

8

9

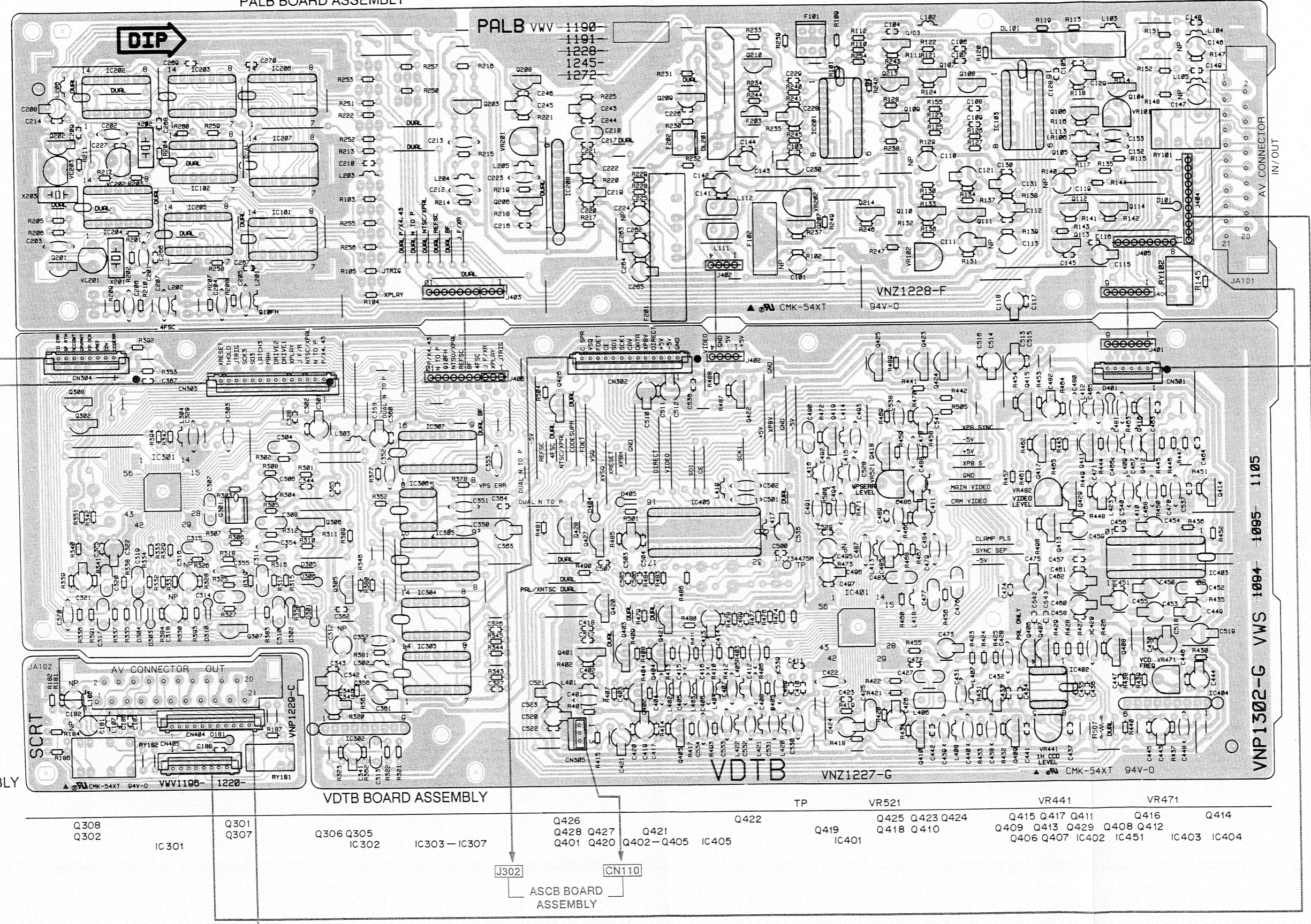
10

11

12

IC202 IC204 IC203 IC206 IC208 IC201 Q103 Q107 Q108 IC103 Q112-Q116 Q104  
 Q202 Q201 Q203 Q208 Q206 Q209 Q210 Q207 Q214 Q204 Q109 Q110 Q111  
 VC203 VC201 VC202 VR201 VR202 VR102 VR101

PALB BOARD ASSEMBLY



DIP

PALB VVW  
 1190  
 1101  
 1228  
 1245  
 1272

VN21228-F  
 94V-0

CMK-54XT

VNP1302-G VWS 1094-1095-1105

VDTB

VN21227-G

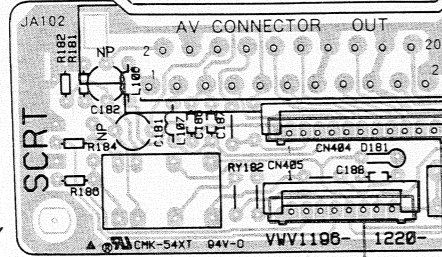
CMK-54XT 94V-0

ASCB BOARD ASSEMBLY J304

ASCB BOARD ASSEMBLY J303

ASCB BOARD ASSEMBLY J301

SCRT BOARD ASSEMBLY



VDTB BOARD ASSEMBLY

ASCB BOARD ASSEMBLY

A

B

C

D

7

8

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10

11

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A

B

C

D

ASCB BOARD ASSEMBLY 1301

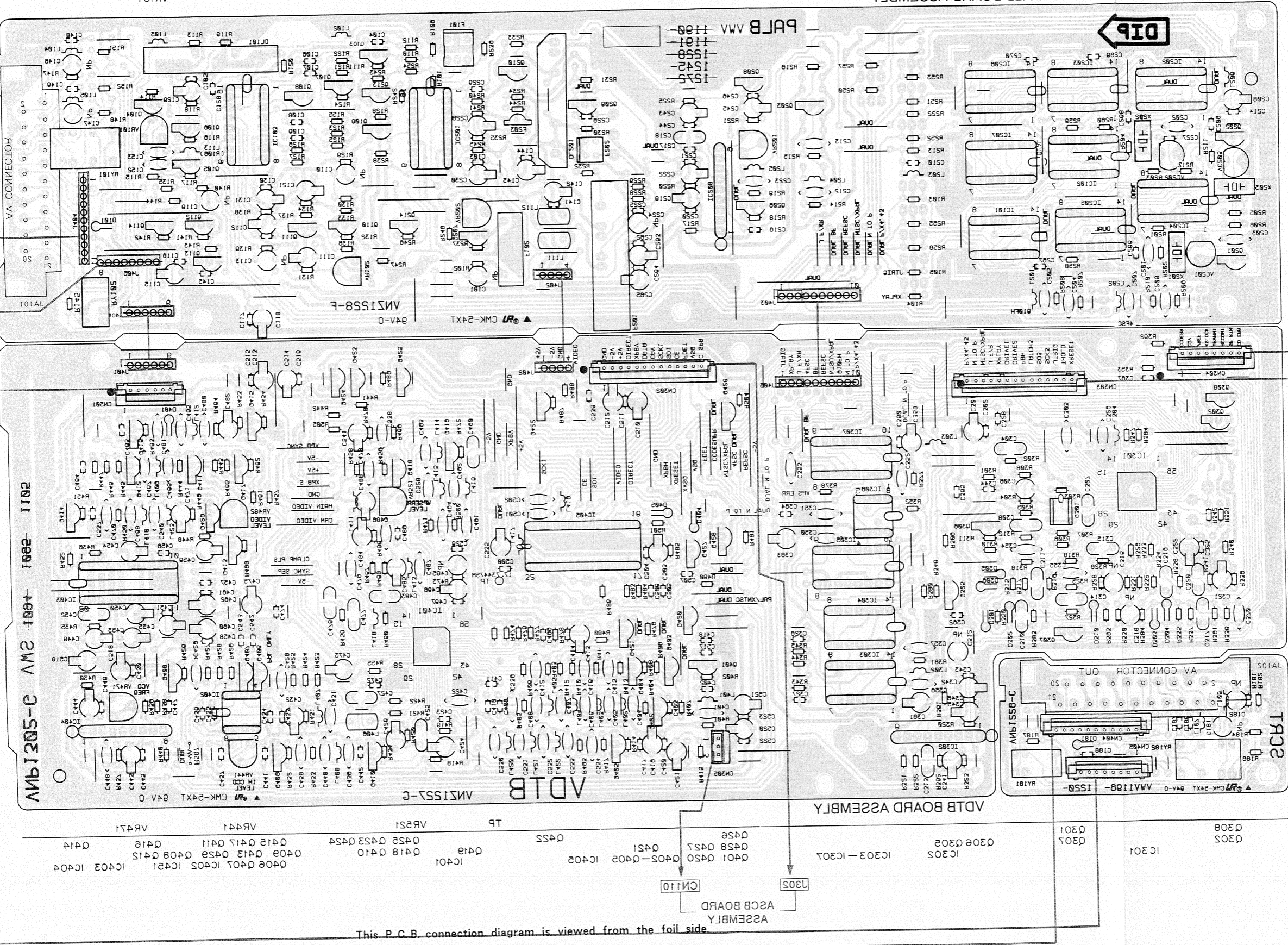
ASCB BOARD ASSEMBLY 1304

ASCB BOARD ASSEMBLY 1303

ASSEMBLY BOARD SCRT 1302

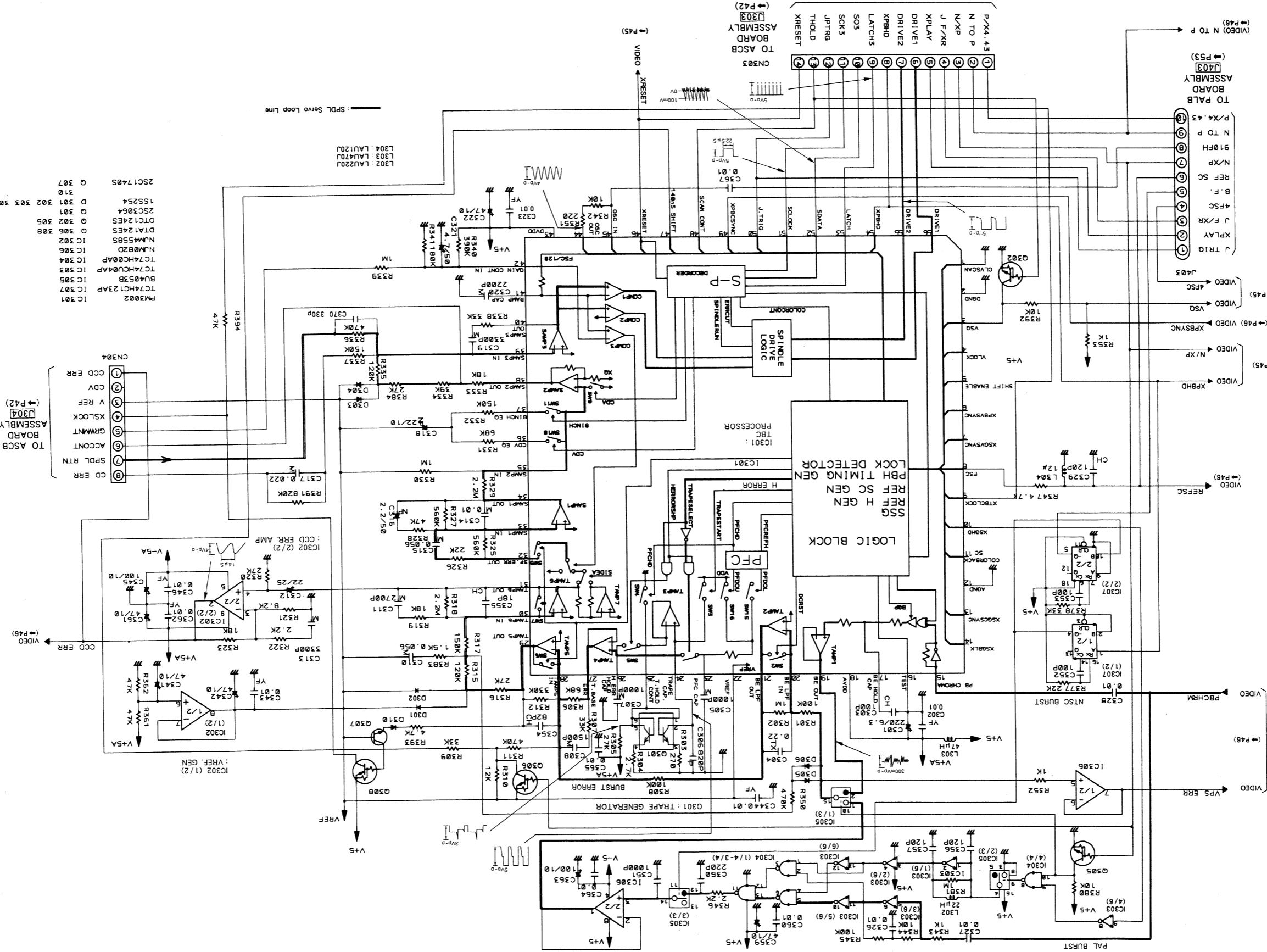
ASSEMBLY BOARD ASSEMBLY 1305

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



IC503 IC504  
 IC505 IC506  
 IC507 IC508  
 IC509 IC510  
 IC511 IC512  
 IC513 IC514  
 IC515 IC516  
 IC517 IC518  
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 IC995 IC996  
 IC997 IC998  
 IC999 IC1000

5.9 VDTB BOARD ASSEMBLY (2/2)  
 VDTB BOARD ASSEMBLY (2/2) ● TBC SECTION



- IC 301 PM3002 TC74HC123AP IC 307
- IC 302 BU4055B TC74HC04AP IC 305
- IC 303 NJM082D TC74HC04AP IC 304
- IC 304 NJM4558S IC 302
- IC 305 DT124ES IC 302 305
- IC 306 25C3064 IC 301
- IC 307 155254 IC 301
- IC 308 25C1740S IC 307

- IC301: TAPE GENERATOR
- IC302 (1/2): VREF GEN
- IC302 (2/2): CCD ERR. AMP
- IC303: PAL BURST
- IC304: NTSC BURST
- IC305: LOGIC BLOCK
- IC306: RBH TIMING GEN
- IC307: SSG H GEN
- IC308: REF SC GEN
- IC309: LOCK DETECTOR
- IC310: SPLINE DRIVE LOGIC
- IC311: COLOR PROR
- IC312: TBC PROR
- IC313: SMP2
- IC314: SMP1
- IC315: SMP3
- IC316: SMP4
- IC317: SMP5
- IC318: SMP6
- IC319: SMP7
- IC320: SMP8
- IC321: SMP9
- IC322: SMP10
- IC323: SMP11
- IC324: SMP12
- IC325: SMP13
- IC326: SMP14
- IC327: SMP15
- IC328: SMP16
- IC329: SMP17
- IC330: SMP18
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- IC401: SMP89
- IC402: SMP90
- IC403: SMP91
- IC404: SMP92
- IC405: SMP93
- IC406: SMP94
- IC407: SMP95
- IC408: SMP96
- IC409: SMP97
- IC410: SMP98
- IC411: SMP99
- IC412: SMP100

- IC301: TAPE GENERATOR
- IC302 (1/2): VREF GEN
- IC302 (2/2): CCD ERR. AMP
- IC303: PAL BURST
- IC304: NTSC BURST
- IC305: LOGIC BLOCK
- IC306: RBH TIMING GEN
- IC307: SSG H GEN
- IC308: REF SC GEN
- IC309: LOCK DETECTOR
- IC310: SPLINE DRIVE LOGIC
- IC311: COLOR PROR
- IC312: TBC PROR
- IC313: SMP2
- IC314: SMP1
- IC315: SMP3
- IC316: SMP4
- IC317: SMP5
- IC318: SMP6
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- IC406: SMP94
- IC407: SMP95
- IC408: SMP96
- IC409: SMP97
- IC410: SMP98
- IC411: SMP99
- IC412: SMP100

B2A2 BOARD ASSEMBLY (1/2)  
 B2A2 BOARD ASSEMBLY (2/2)

TBC BOARD ASSEMBLY

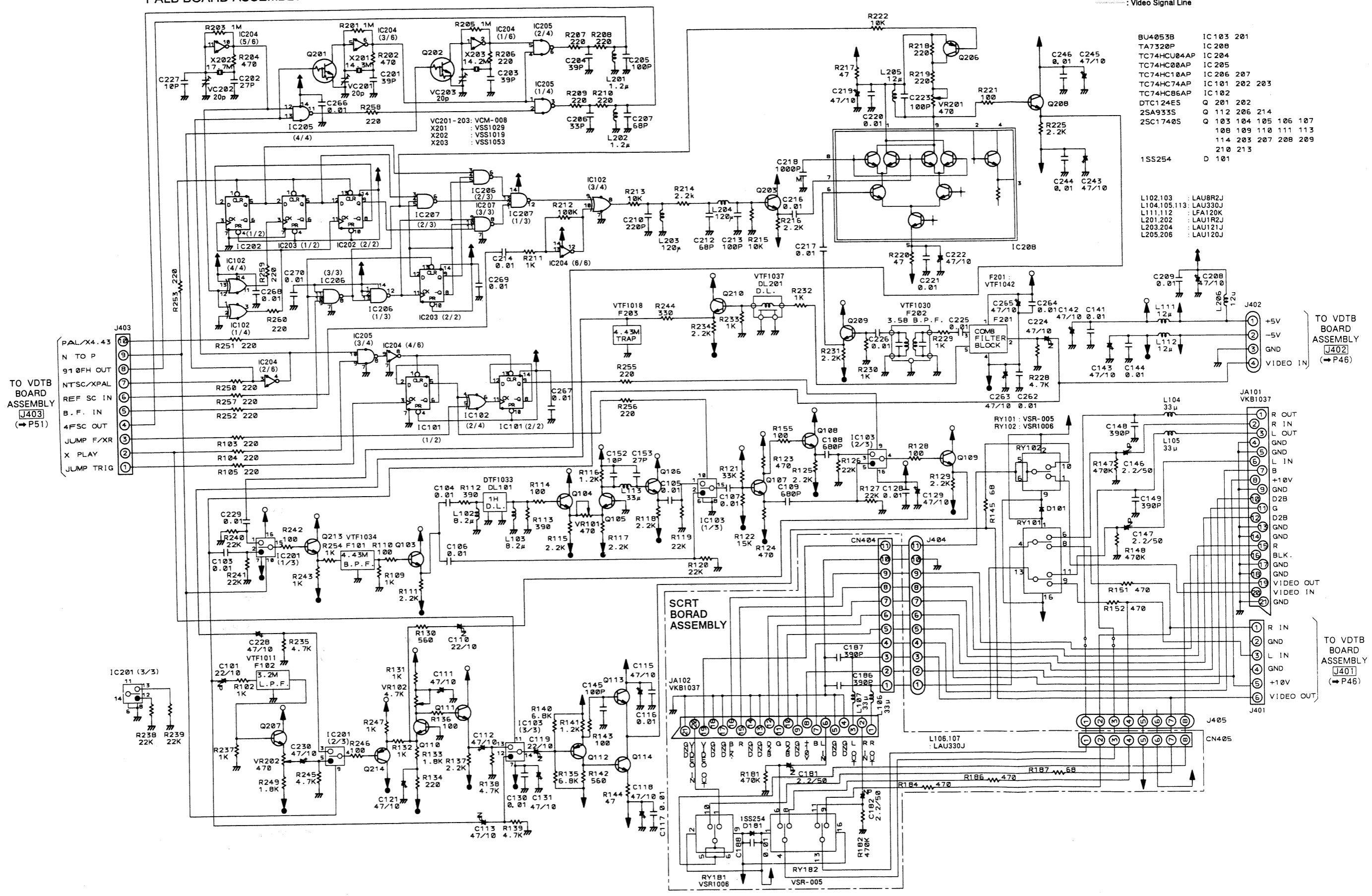
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A  
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D

5.10 PALB AND SCRT BOARD ASSEMBLIES

PALB BOARD ASSEMBLY



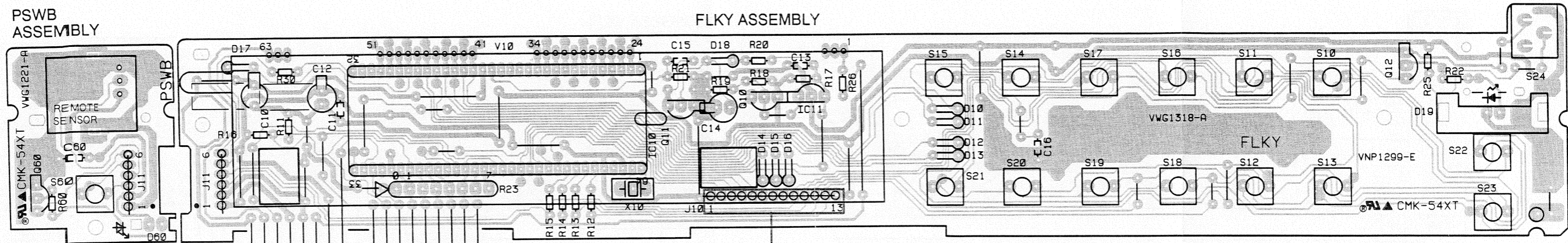
- BU4053B IC 103 201
- TA7320P IC 208
- TC74HC04AP IC 204
- TC74HC00AP IC 205
- TC74HC10AP IC 206 207
- TC74HC74AP IC 101 202 203
- TC74HC64AP IC 102
- DTC124ES Q 201 202
- 2SA933S Q 112 206 214
- 2SC1740S Q 103 104 105 106 107
- 108 109 110 111 113
- 114 203 207 208 209
- 210 213
- 1SS254 D 101
- L102.103 : LAU8R2J
- L104.105.113 : LAU330J
- L111.112 : LFA120K
- L201.202 : LAU1R2J
- L203.204 : LAU121J
- L205.206 : LAU120J

TO VDTB BOARD ASSEMBLY (J403) (P51)

TO VDTB BOARD ASSEMBLY (J402) (P46)

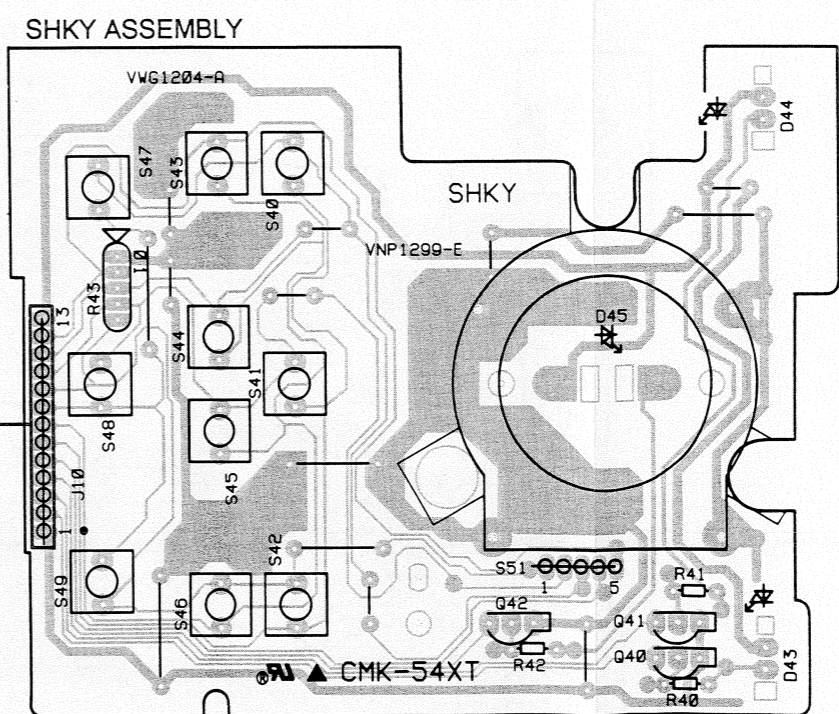
TO VDTB BOARD ASSEMBLY (J401) (P46)





SYPS ASSEMBLY [CN222]  
ASCB BOARD ASSEMBLY [J16]

FLKB  
VNP1299-E

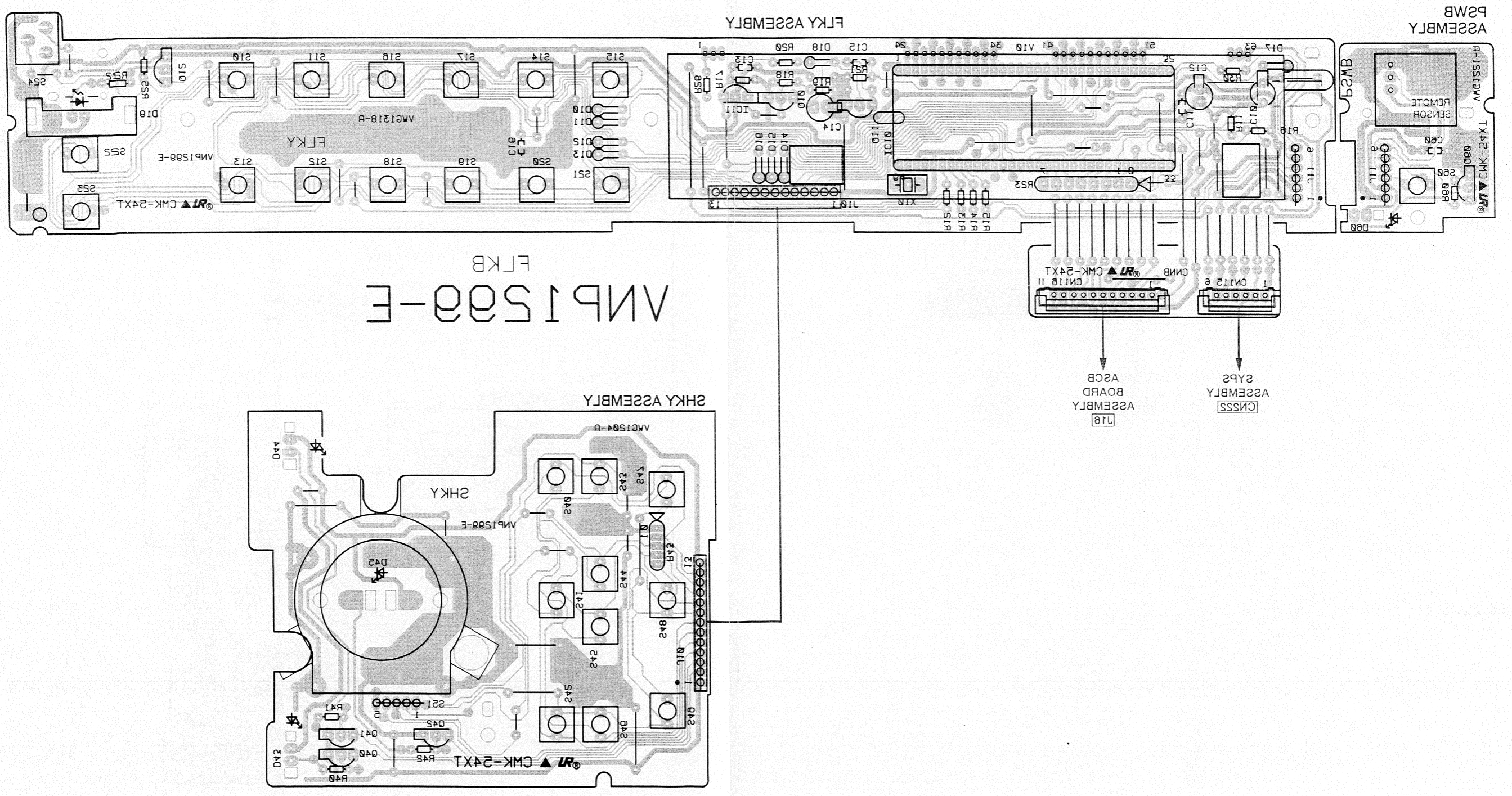


A

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## 6. PCB PARTS LIST

**NOTES:**

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- 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  $\Omega$   $\rightarrow$  56  $\times$  10<sup>1</sup>  $\rightarrow$  561 ..... RD1/8PM  $\begin{matrix} 5 & 6 & 1 \\ \hline & & J \end{matrix}$

47k  $\Omega$   $\rightarrow$  47  $\times$  10<sup>3</sup>  $\rightarrow$  473 ..... RD1/4PS  $\begin{matrix} 4 & 7 & 3 \\ \hline & & J \end{matrix}$

0.5  $\Omega$   $\rightarrow$  0R5 ..... RN2H  $\begin{matrix} 0 & R & 5 \\ \hline & & K \end{matrix}$

1  $\Omega$   $\rightarrow$  010 ..... RS1P  $\begin{matrix} 0 & 1 & 0 \\ \hline & & K \end{matrix}$

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

5.62k  $\Omega$   $\rightarrow$  562  $\times$  10<sup>1</sup>  $\rightarrow$  5621 ..... RN1/4PC  $\begin{matrix} 5 & 6 & 2 & 1 \\ \hline & & & F \end{matrix}$

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

### LIST OF ASSEMBLIES

⊙		MAIN BOARD ASSEMBLY	VWM1260
NSP	┌	SW1 BOARD ASSEMBLY	VWG1212
NSP		FG BOARD ASSEMBLY	VWG1214
NSP		ASCB BOARD ASSEMBLY	VWX1113
⊙		VTPB BOARD ASSEMBLY	VWM1261
NSP	┌	VDTB BOARD ASSEMBLY	VWS1105
NSP		SCRT BOARD ASSEMBLY	VWV1220
NSP		PALB BOARD ASSEMBLY	VWV1245
⊙		FLKB BOARD ASSEMBLY	VWM1262
NSP	┌	SHKY ASSEMBLY	VWG1204
NSP		PSWB ASSEMBLY	VWG1221
NSP		FLKY ASSEMBLY	VWG1318
NSP		HEPB ASSEMBLY	VWV1249
⊙		SYPS ASSEMBLY	VWR1092

### SW1 BOARD ASSEMBLY

#### SWITCHES

S1-3	PUSH SWITCH	DSG1015
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### FG BOARD ASSEMBLY

#### SEMICONDUCTOR

	PHOTO INTERRUPTER	GP1S51
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Mark	No.	Description	Part No.
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### ASCB BOARD ASSEMBLY

#### SEMICONDUCTORS

IC101	MECHANISM CONT. MCU	PD0136A
IC201	EFM DEMODULATION IC	CXD2500AQ
IC202	8FS DIGITAL FILTER, IC	SM5840AP
IC204	OP-AMP, IC	M5218AP
IC205	REGULATOR IC	NJM78L09A
IC206	REGULATOR IC	NJM79L09A
IC209	DA CONVERTER, IC	SAA7350
IC211	OP-AMP IC	NJM5532SD
IC212	LOGIC IC	TC4S66F-TR
IC213	OP-AMP IC	NJM5532SD
IC214	LOGIC IC	TC4S66F-TR
IC215	OP-AMP, IC	M5218AP
IC700	BIPOLAR, IC	HA12127ANT
IC701	LINEAR IC	NJM4558D
IC801	PRE AMP IC	CXA1081S
IC802	IC	BA15218N
IC803	FTS IC	PM3003
IC804	POWER OP AMP	LA6510L
Q101	DIGITAL TRANSISTOR	DTC124EK
Q201	CHIP TRANSISTOR	2SC2412K
Q202	DIGITAL TRANSISTOR	DTA124EK
Q203	TRANSISTOR	2SC1740S
Q204	TRANSISTOR	2SB1185
Q205	TRANSISTOR	2SA933S
Q206	TRANSISTOR	DTC124ES
Q207	CHIP TRANSISTOR	2SA1037K
Q208	DIGITAL TRANSISTOR	DTC124EK
Q209	TRANSISTOR	2SD2144S
Q210	CHIP TRANSISTOR	2SA1037K
Q211	DIGITAL TRANSISTOR	DTC124EK
Q212	TRANSISTOR	2SD2144S
Q213	DIGITAL TRANSISTOR	DTA124EK
Q215	DIGITAL TRANSISTOR	DTC124EK
Q216	DIGITAL TRANSISTOR	DTA124EK
Q301	TRANSISTOR	DTC124ES

Mark No.	Description	Part No.
Q302	TRANSISTOR	2SA933S
Q303, 304	TRANSISTOR	DTA124ES
Q305	DIGITAL TRANSISTOR	DTC124EK
Q700, 701	CHIP TRANSISTOR	2SA1037K
Q702, 703	DIGITAL TRANSISTOR	DTA124EK
Q704-707	CHIP TRANSISTOR	2SA1037K
Q708	DIGITAL TRANSISTOR	DTC124EK
Q709	N-FET	2SK184
Q710-712	DIGITAL TRANSISTOR	DTC124EK
Q713	N-FET	2SK184
Q770	DIGITAL TRANSISTOR	DTA124EK
Q771	DIGITAL TRANSISTOR	DTC124EK
Q772	TRANSISTOR	2SA933S
Q773, 774	TRANSISTOR	2SC1740S
Q775	TRANSISTOR	2SA933S
Q801	CHIP TRANSISTOR	2SC2412K
Q802	CHIP TRANSISTOR	2SA1037K
Q803-805	CHIP TRANSISTOR	2SC2412K
Q807, 810	CHIP TRANSISTOR	2SC2412K
Q811	DIGITAL TRANSISTOR	DTC124EK
Q812	CHIP TRANSISTOR	2SA1037K
Q814	CHIP TRANSISTOR	2SC2412K
Q815	TRANSISTOR	2SD1762
Q816	TRANSISTOR	2SB1185
Q817	TRANSISTOR	2SD1762
Q818	TRANSISTOR	2SB1185
Q819	CHIP TRANSISTOR	2SA1037K
Q820	DIGITAL TRANSISTOR	DTA124EK
Q821	N-FET	2SK184
Q822	TRANSISTOR	2SD1858X
Q823	DIGITAL TRANSISTOR	DTC124EK
Q824	DIGITAL TRANSISTOR	DTA124EK
Q825	CHIP TRANSISTOR	2SC2412K
Q826	DIGITAL TRANSISTOR	DTA124EK
Q827, 828	DIGITAL TRANSISTOR	DTC124EK
Q829, 830	DIGITAL TRANSISTOR	DTA124EK
Q831	CHIP TRANSISTOR	2SC2412K
Q832	DIGITAL TRANSISTOR	DTC124EK
Q900	CHIP TRANSISTOR	2SA1037K
D101-103	DIODE	1SS254
D201	VARI-CAP	FC54M
D301	ZENER DIODE	MTZ5.1C
D302	DIODE	1SS254
D303	ZENER DIODE	MTZ5.1C
D700-706	DIODE	1SS254
D708	DIODE	1SS254
D770, 771	DIODE	1SS254
D801	DIODE	1SS254
D804-808	DIODE	1SS254

**COILS AND FILTERS**

L101	AXIAL INDUCTOR	LAU560J
L221	AXIAL INDUCTOR	LAU680J
L301-303	AXIAL INDUCTOR	LAU2R2M
L700	AXIAL INDUCTOR	LAU101J
L701	AXIAL INDUCTOR	LAU470J

Mark No.	Description	Part No.
L702	AXIAL INDUCTOR	LAU560J
L801	AXIAL INDUCTOR	LAU151J
L802	AXIAL INDUCTOR	LAU181J
L803	AXIAL INDUCTOR	LAU151J
L804	AXIAL INDUCTOR	LAU100J
F700	B. P. F(2.30, 2.81MHz)	VTF1047
F701	B. P. F(684kHz)	VTF1035
F702	B. P. F(1066kHz)	VTF1036

**CAPACITORS**

C101	ELECTR. CAPACITOR	CEAS101M10
C102	CERAMIC CAPACITOR	CKSQYF473Z25
C103	CHIP CAPACITOR	CKSQYF103Z50
C104, 105	CHIP CERAMIC C.	CCSQCH300J50
C106	CHIP CAPACITOR	CKSQYF103Z50
C120, 121	CHIP CAPACITOR	CKSQYF103Z50
C122	CERAMIC CAPACITOR	CKCYF103Z50
C123	CHIP CAPACITOR	CCSQCH101J50
C124	CHIP CAPACITOR	CCSQCH101J50
C201	CERAMIC CAPACITOR	CKSQYF473Z25
C202	CERAMIC CAPACITOR	CKSQYB152K50
C203	ELECTROLYTIC CAPACITOR	CEAS221M6R3
C204	CERAMIC CAPACITOR	CKSQYF104Z25
C205	ELECTROLYTIC CAPACITOR	CEANPR47M50
C206	CHIP CAPACITOR	CKSQYF103Z50
C208	ELECTROLYTIC CAPACITOR	CEAS221M6R3
C209	CERAMIC CAPACITOR	CKSQYF104Z25
C210	CERAMIC CAPACITOR	CKSQYF473Z25
C211	ELECTROLYTIC CAPACITOR	CEAS221M6R3
C212	CERAMIC CAPACITOR	CKSQYF104Z25
C213	CHIP CAPACITOR	CKSQYF103Z50
C214	ELECTR. CAPACITOR	CEAS470M10
C215	CERAMIC CAPACITOR	CKSQYF104Z25
C216	ELECTROLYTIC CAPACITOR	CEAS221M6R3
C217	CERAMIC CAPACITOR	CKSQYF104Z25
C218	CHIP CAPACITOR	CKSQYF103Z50
C225	ELECTR. CAPACITOR	CEANP010M50
C226	AUDIO FILM CAPACITOR	CFTXA223J50
C227, 228	ELECTR. CAPACITOR	CEAS220M25
C229	ELECTR. CAPACITOR	CEAS101M10
C230	ELECTR. CAPACITOR	CEAS470M10
C231	CHIP CAPACITOR	CKSQYF103Z50
C232	CHIP CERAMIC C.	CCSQCH220J50
C234	CHIP CAPACITOR	CKSQYF103Z50
C241	ELECTR. CAPACITOR	CEAS221M50
C242, 244	ELECTR. CAPACITOR	CEAS221M25
C245	AXIAL CAPACITOR	CKPUYB101K50
C246, 247	ELECTR. CAPACITOR	CEAS470M10
C248	ELECTR. CAPACITOR	CEAS101M10
C249, 251	ELECTR. CAPACITOR	CEAS470M10
C252	CERAMIC CAPACITOR	CKPUYF223Z25
C253	CERAMIC CAPACITOR	CCSQCH390J50
C254	CERAMIC CAPACITOR	CCCSL471J50
C255	CERAMIC CAPACITOR	CCSQCH390J50
C256	CERAMIC CAPACITOR	CCCSL471J50



Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
C257		ELECTR. CAPACITOR	CEAS470M10	C723		ELECTR. CAPACITOR	CEJANP100M16
C258		CERAMIC CAPACITOR	CKSQYF473Z25	C724		CHIP CERAMIC C.	CCSQCH221J50
C259		ELECTR. CAPACITOR	CEAS470M10	C725		ELECTR. CAPACITOR	CEJA100M16
C260		CERAMIC CAPACITOR	CKSQYF473Z25	C726		AUDIO FILM CAPACITOR	CFTXA822J50
C261		ELECTR. CAPACITOR	CEAS470M10	C727		AUDIO FILM CAPACITOR	CFTXA473J50
C262		CERAMIC CAPACITOR	CKSQYF473Z25	C728		ELECTR. CAPACITOR	CEASR47M50
C263		ELECTR. CAPACITOR	CEAS470M10	C729		ELECTR. CAPACITOR	CEAS101M10
C264		CERAMIC CAPACITOR	CKSQYF473Z25	C730		ELECTR. CAPACITOR	CEAS47M50
C265		ELECTR. CAPACITOR	CEAS470M10	C731		CHIP CAPACITOR	CKSQYB102K50
C266		CERAMIC CAPACITOR	CKSQYF473Z25	C732		ELECTR. CAPACITOR	CEAS101M10
C267		ELECTR. CAPACITOR	CEAS470M10	C733		CHIP CAPACITOR	CKSQYB102K50
C268		CERAMIC CAPACITOR	CKSQYF473Z25	C744		ELECTR. CAPACITOR	CEAS220M25
C269		CERAMIC CAPACITOR	CCCCH390J50	C745		ELECTR. CAPACITOR	CEANP100M16
C270		CERAMIC CAPACITOR	CCCSL471J50	C746		ELECTR. CAPACITOR	CEAS101M10
C271		CERAMIC CAPACITOR	CCCCH390J50	C747		ELECTR. CAPACITOR	CEAS470M10
C272		CERAMIC CAPACITOR	CCCSL471J50	C748, 749		CHIP CERAMIC C.	CCSQCH221J50
C273		ELECTR. CAPACITOR	CEAS470M10	C750		CHIP CAPACITOR	CCSQCH180J50
C274		CERAMIC CAPACITOR	CKPUYF223Z25	C751		CHIP CAPACITOR	CCSQCH430J50
C275		ELECTR. CAPACITOR	CEAS470M10	C752		ELECTR. CAPACITOR	CEANP220M10
C276		CERAMIC CAPACITOR	CKSQYF473Z25	C753		CHIP CAPACITOR	CKSQYB102K50
C279		MYLAR FILM CAPACITOR	CQMA222J50	C754		AUDIO FILM CAPACITOR	CFTXA104J50
C280		CERAMIC CAPACITOR	CCCSL331J50	C755		ELECTR. CAPACITOR	CEANP220M10
C281, 283		ELECTR. CAPACITOR	CEAS101M25	C756		CHIP CAPACITOR	CKSQYB102K50
C285		ELECTR. CAPACITOR	CEAS470M25	C757		ELECTR. CAPACITOR	CEAS220M25
C286		CERAMIC CAPACITOR	CKPUYB331K50	C758		AUDIO FILM CAPACITOR	CFTXA472J50
C288		CERAMIC CAPACITOR	CKSQYF104Z25	C759		AUDIO FILM CAPACITOR	CFTXA152J50
C293, 294		CERAMIC CAPACITOR	CCCCH221J50	C760		CHIP CAPACITOR	CCSQCH101J50
C329		MYLAR FILM CAPACITOR	CQMA222J50	C761		CHIP CERAMIC C.	CCSQCH221J50
C330		CERAMIC CAPACITOR	CCCSL331J50	C762		ELECTR. CAPACITOR	CEAS100M50
C331, 333		ELECTR. CAPACITOR	CEAS101M25	C763		AUDIO FILM CAPACITOR	CFTXA822J50
C335		ELECTR. CAPACITOR	CEAS470M25	C764		AUDIO FILM CAPACITOR	CFTXA473J50
C336		CERAMIC CAPACITOR	CKPUYB331K50	C765		ELECTR. CAPACITOR	CEAS101M10
C338		CERAMIC CAPACITOR	CKSQYF104Z25	C769		CHIP CAPACITOR	CKSQYF103Z50
C341, 342		ELECTR. CAPACITOR	CEAS470M10	C770		AUDIO FILM CAPACITOR	CFTXA103J50
C344, 345		CERAMIC CAPACITOR	CKSQYF104Z25	C771-773		CHIP CAPACITOR	CKSQYF103Z50
C346		CERAMIC CAPACITOR	CKPUY103N16	C774, 775		MYLAR FILM CAPACITOR	CQMA272J50
C350		ELECTR. CAPACITOR	CEAS101M25	C777		ELECTR. CAPACITOR	CEAS100M50
C351		ELECTR. CAPACITOR	CEANP3R3M16	C778, 779		CHIP CAPACITOR	CKSQYF103Z50
C352		CERAMIC CAPACITOR	CKSQYF473Z25	C803		CHIP CAPACITOR	CKSQYF103Z50
C700		CHIP CAPACITOR	CCSQCH390J50	C804		CHIP CAPACITOR	CCSQCH101D50
C701		CHIP CAPACITOR	CCSQCH121J50	C805		CHIP CAPACITOR	CKSQYF103Z50
C702		CHIP CAPACITOR	CCSQCH910J50	C807		AUDIO FILM CAPACITOR	CFTXA124J50
C703-708		CHIP CAPACITOR	CKSQYF103Z50	C808		ELECTR. CAPACITOR	CEAS010M50
C710		AUDIO FILM CAPACITOR	CFTXA103J50	C809		CHIP CAPACITOR	CCSQCH680J50
C711		CHIP CAPACITOR	CKSQYB102K50	C810, 811		CHIP CAPACITOR	CCSQCH101J50
C712		ELECTR. CAPACITOR	CEAS101M10	C812		CHIP CAPACITOR	CCSQCH270J50
C713		ELECTR. CAPACITOR	CEAS470M10	C813		CHIP CAPACITOR	CCSQCH680J50
C714, 715		CHIP CERAMIC C.	CCSQCH221J50	C814		ELECTR. CAPACITOR	CEAS010M50
C716		ELECTR. CAPACITOR	CEANP220M10	C815		CHIP CAPACITOR	CCSQCH270J50
C717		CHIP CERAMIC C.	CCSQCH220J50	C816		ELECTR. CAPACITOR	CEANP010M50
C718		CHIP CERAMIC C.	CCSQCH150J50	C817		CHIP CAPACITOR	CCSQCH070D50
C719		CHIP CAPACITOR	CKSQYB102K50	C818		CHIP CAPACITOR	CCSQL471J50
C720		AUDIO FILM CAPACITOR	CFTXA472J50	C819		CHIP CAPACITOR	CCSQL561J50
C721		AUDIO FILM CAPACITOR	CFTXA152J50	C820, 821		CERAMIC CAPACITOR	CKSQYF473Z25
C722		CHIP CAPACITOR	CCSQCH101J50	C822		CHIP CAPACITOR	CCSQCH101J50

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	C823	ELECTR. CAPACITOR	CEAS010M50		C929	CHIP CAPACITOR	CCSQCH470J50
	C824	AUDIO FILM CAPACITOR	CFTXA103J50		C931	ELECTR. CAPACITOR	CEAS220M25
	C825	MYLAR FILM CAPACITOR	CQMA682J50		C932	ELECTR. CAPACITOR	CEAS101M10
	C827	AUDIO FILM CAPACITOR	CFTXA333J50		C938	ELECTR. CAPACITOR	CEAS220M25
	C828, 829	CHIP CAPACITOR	CKSQYF103Z50		C939	ELECTR. CAPACITOR	CEAS101M10
	C830	AUDIO FILM CAPACITOR	CFTXA154J50		C940	ELECTR. CAPACITOR	CEAS470M10
	C832	AUDIO FILM CAPACITOR	CFTXA104J50		C941	ELECTR. CAPACITOR	CEAS101M10
	C834	MYLAR FILM CAPACITOR	CQMA152J50		C942	CHIP CAPACITOR	CCSQCH270J50
	C835, 836	ELECTR. CAPACITOR	CEAS220M25		C943	CHIP CAPACITOR	CKSQYF103Z50
	C837	CHIP CAPACITOR	CCSQL331J50		C944	ELECTROLYTIC CAPACITOR	CEAS221M6R3
	C838	AUDIO FILM CAPACITOR	CFTXA104J50		C945	ELECTR. CAPACITOR	CEAS101M10
	C839	MYLAR FILM CAPACITOR	CQMA102J50	<b>RESISTORS</b>			
	C840	ELECTR. CAPACITOR	CEAS010M50		VR601	SEMI-FIXED (2.2k $\Omega$ )	VRTB6VS222
	C841	ELECTR. CAPACITOR	CEAS220M25		VR602, 603	SEMI-FIXED RESISTOR (10k $\Omega$ )	VRTB6VS103
	C842	ELECTR. CAPACITOR	CEANP100M16		VR604-606	SEMI-FIXED (4.7k $\Omega$ )	VRTB6VS472
	C843	AUDIO FILM CAPACITOR	CFTXA223J50		VR607	SEMI-FIXED (22k $\Omega$ )	VRTB6VS223
	C844	CHIP CAPACITOR	CCSQL331J50		VR608	SEMI-FIXED (33k $\Omega$ )	VRTB6VS333
	C845	ELECTR. CAPACITOR	CEANP010M50		VR609	VR (47k $\Omega$ )	VRTB6VS472
	C847	AUDIO FILM CAPACITOR	CFTXA683J50		R133, 134	CARBON FILM RESISTOR	RD1/6PM221J
	C848	AUDIO FILM CAPACITOR	CFTXA473J50		R150, 151	CARBON FILM RESISTOR	RD1/6PM221J
	C849	AUDIO FILM CAPACITOR	CFTXA103J50		R214, 215	CARBON FILM RESISTOR	RD1/6PM101J
	C850	ELECTR. CAPACITOR	CEANP2R2M50		R220, 221	CARBON FILM RESISTOR	RD1/6PM101J
	C851	ELECTR. CAPACITOR	CEANP010M50		R251, 252	CARBON FILM RESISTOR	RD1/6PM303J
	C852	AUDIO FILM CAPACITOR	CFTXA224J50		R254, 255	CARBON FILM RESISTOR	RD1/6PM303J
	C853	MYLAR FILM CAPACITOR	CQMA332J50		R256, 258	CARBON FILM RESISTOR	RD1/6PM103J
	C854	CERAMIC CAPACITOR	CKSQYB821K50		R260-267	CARBON FILM RESISTOR	RD1/6PM□□□J
	C855	ELECTR. CAPACITOR	CEAS100M50		R276, 278	CARBON FILM RESISTOR	RD1/6PM103J
	C856	CHIP CAPACITOR	CKSQYF103Z50		R280-287	CARBON FILM RESISTOR	RD1/6PM□□□J
	C857	ELECTR. CAPACITOR	CEAS470M10		R290	FUSE RESISTOR	DCN1002
	C858	CERAMIC CAPACITOR	CKPUY103N16		R293	CARBON FILM RESISTOR	RD1/6PM100J
	C859	ELECTR. CAPACITOR	CEAS101M10		R301	CARBON FILM RESISTOR	RD1/6PM102J
	C860, 861	CHIP CAPACITOR	CKSQYF103Z50		R302	CARBON FILM RESISTOR	RD1/6PM822J
	C862	ELECTR. CAPACITOR	CEAS100M50		R303	METAL OXIDE RESISTOR	RS2LMF560J
	C863	ELECTR. CAPACITOR	CEANP100M16		R304	CARBON FILM RESISTOR	RD1/6PM221J
	C864	ELECTR. CAPACITOR	CEAS100M50		R310-313	CARBON FILM RESISTOR	RD1/6PM123J
	C865	AUDIO FILM CAPACITOR	CFTXA103J50		R326, 328	CARBON FILM RESISTOR	RD1/6PM472J
	C866	ELECTROLYTIC CAPACITOR	CEANPR47M50		R340, 344	CARBON FILM RESISTOR	RD1/6PM100J
	C867	AUDIO FILM CAPACITOR	CFTXA333J50		R345, 346	CARBON FILM RESISTOR	RD1/6PM390J
	C868	AUDIO FILM CAPACITOR	CFTXA683J50		R351, 352	CARBON FILM RESISTOR	RD1/6PM221J
	C869	AUDIO FILM CAPACITOR	CFTXA473J50		R390-394	CARBON FILM RESISTOR	RD1/6PM□□□J
	C870	ELECTROLYTIC CAPACITOR	CEANP470M10		R397	CARBON FILM RESISTOR	RD1/6PM471J
	C871	CERAMIC CAPACITOR	CCCSL221J50		R781-794	CARBON FILM RESISTOR	RD1/6PM□□□J
	C873	AUDIO FILM CAPACITOR	CFTXA103J50		R849	CARBON FILM RESISTOR	RD1/6PM221J
	C874	AUDIO FILM CAPACITOR	CFTXA104J50		R850, 862	METAL OXIDE RESISTOR	RS1LMF3R3J
	C875	CERAMIC CAPACITOR	CKSQYB562K50		R873	CARBON FILM RESISTOR	RD1/6PM100J
	C876, 877	ELECTR. CAPACITOR	CEAS220M25		R874	CARBON FILM RESISTOR	RD1/6PM221J
	C878	AUDIO FILM CAPACITOR	CFTXA104J50		R877	CARBON FILM RESISTOR	RD1/6PM103J
	C879	CERAMIC CAPACITOR	CKSQYB562K50		R910-912	CARBON FILM RESISTOR	RD1/6PM563J
	C880	AUDIO FILM CAPACITOR	CFTXA104J50		R913	CARBON FILM RESISTOR	RD1/6PM101J
	C881, 882	CERAMIC CAPACITOR	CKSQYF104Z25		R923	CARBON FILM RESISTOR	RD1/6PM103J
	C883	AUDIO FILM CAPACITOR	CFTXA823J50		R944	CARBON FILM RESISTOR	RD1/6PM104J
	C884, 893	CHIP CAPACITOR	CCSQCH470J50		R946	CARBON FILM RESISTOR	RD1/6PM4R7J
	C899	CHIP CAPACITOR	CCSQCH070D50		R947	CARBON FILM RESISTOR	RD1/6PM223J
	C900	AUDIO FILM CAPACITOR	CFTXA224J50		R948, 949	CARBON FILM RESISTOR	RD1/6PM393J
	C910	AUDIO FILM CAPACITOR	CFTXA473J50		R951	CARBON FILM RESISTOR	RD1/6PM4R7J
						OTHER RESISTORS	RS1/10S□□□J

Mark No.	Description	Part No.
<b>OTHERS</b>		
CN103	23P TOP CONNECTOR	VKN1073
CN201	5P TOP POST	B5P-SHF-1AA
JA1	MINI JACK	RKN1014
JA2	2P MINI JACK	VKN-183
JA3	OPTICAL DIGITAL MODULE	GP1F32T
JA4	3P PIN JACK	VKB1038
X101	CERAMIC RESONATOR(9.00MHz)	VSS1040
X201	CRYSTAL RESONATOR(16MHz)	VSS1051

**VDTB BOARD ASSEMBLY**

**SEMICONDUCTORS**

IC301	TBC IC	PM3002
IC302	OP-AMP IC	NJM4558S
IC303	LOGIC IC	TC74HC04AP
IC304	LOGIC IC	TC74HC00AP
IC305	LOGIC IC	BU4053B
IC306	IC	NJM082D
IC307	CMOS, IC	TC74HC123AP
IC401	VIDEO IC	PA5013A
IC402	CDD DELAY LINE	PM0001
IC403	IC	CXL1009P
IC404	IC	PA0017
IC405	CHARACTER IC	M50552-132SP
Q301	TRANSISTOR	2SC3064
Q302, 305	TRANSISTOR	DTC124ES
Q306	TRANSISTOR	DTA124ES
Q307	TRANSISTOR	2SC1740S
Q308	TRANSISTOR	DTA124ES
Q401, 402	TRANSISTOR	2SC1740S
Q403, 404	TRANSISTOR	2SA933S
Q405, 406	TRANSISTOR	2SC1740S
Q407	TRANSISTOR	2SA933S
Q408, 409	TRANSISTOR	2SC1740S
Q410	TRANSISTOR	2SA933S
Q411-413	TRANSISTOR	2SC1740S
Q414-416	TRANSISTOR	2SA933S
Q417, 418	TRANSISTOR	2SC1740S
Q419	TRANSISTOR	2SA933S
Q420	TRANSISTOR	DTA124ES
Q421	TRANSISTOR	2SA933S
Q422	TRANSISTOR	2SC1740S
Q423	TRANSISTOR	2SB1237X
Q424	TRANSISTOR	2SD1858X
Q425	TRANSISTOR	DTA124ES
Q426, 427	TRANSISTOR	DTC124ES
Q428	TRANSISTOR	DTA124ES
Q429	TRANSISTOR	2SC1740S
D301-306	DIODE	1SS254
D310, 401	DIODE	1SS254
D404, 405	DIODE	1SS254

Mark No.	Description	Part No.
<b>COILS</b>		
L302	AXIAL INDUCTOR	LAU220J
L303	AXIAL INDUCTOR	LAU470J
L304	AXIAL INDUCTOR	LAU120J
L401	AXIAL INDUCTOR	LAU680J
L402-405	AXIAL INDUCTOR	LAU120J
L406	RADIAL INDUCTOR	LRA471K
L407-409	AXIAL INDUCTOR	LAU181J
L410	AXIAL INDUCTOR	LAU220J
L411	AXIAL INDUCTOR	LAU820J
L412	AXIAL INDUCTOR	LAU330J
L413	AXIAL INDUCTOR	LAU120J
L414	AXIAL INDUCTOR	LAU560J
L415	AXIAL INDUCTOR	LAU181J
L416	AXIAL INDUCTOR	LAU330J
L417	AXIAL INDUCTOR	LAU120J
L418	AXIAL INDUCTOR	LAU820J
L419	AXIAL INDUCTOR	LAU120J
L420	AXIAL INDUCTOR	LAU390J
L421	AXIAL INDUCTOR	LAU560J
L422	AXIAL INDUCTOR	LAU390J
L423	AXIAL INDUCTOR	LAU680J

**CAPACITORS**

C301	ELECTROLYTIC CAPACITOR	CEAS221M6R3
C302	CERAMIC CAPACITOR	CKPUYY103N16
C303	CERAMIC CAPACITOR	CCCCH101J50
C304	FILM CAPACITOR	CFTNA224J50
C305	MYLAR FILM CAPACITOR	CQMA102J50
C306	CAPACITOR	CQPA821J100
C307	MYLAR FILM CAPACITOR	CQMA102J50
C308	MYLAR FILM CAPACITOR	CQMA152J50
C310	AUDIO FILM CAPACITOR	CFTXA563J50
C311	MYLAR FILM CAPACITOR	CQMA272J50
C312	ELECTR. CAPACITOR	CEAS220M25
C313	MYLAR FILM CAPACITOR	CQMA332J50
C314	AUDIO FILM CAPACITOR	CFTXA103J50
C315	AUDIO FILM CAPACITOR	CFTXA563J50
C316	ELECTR. CAPACITOR	CEANP2R2M50
C317	AUDIO FILM CAPACITOR	CFTXA223J50
C318	ELECTR. CAPACITOR	CEANP220M10
C319	MYLAR FILM CAPACITOR	CQMA332J50
C320	MYLAR FILM CAPACITOR	CQMA222J50
C321	ELECTR. CAPACITOR	CEAS4R7M50
C322	ELECTR. CAPACITOR	CEAS470M10
C323	CERAMIC CAPACITOR	CKPUYY103N16
C326-328	CERAMIC CAPACITOR	CKPUYY103N16
C329	CERAMIC CAPACITOR	CCCCH121J50
C341, 342	ELECTR. CAPACITOR	CEAS470M10
C343, 344	CERAMIC CAPACITOR	CKPUYY103N16
C345	ELECTR. CAPACITOR	CEAS101M10
C346	CERAMIC CAPACITOR	CKPUYY103N16
C350	CERAMIC CAPACITOR	CCCSL221J50
C351	CERAMIC CAPACITOR	CKCYB102K50

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
C352, 353		CERAMIC CAPACITOR	CCCCH101J50	C461		CERAMIC CAPACITOR	CKPUYY103N16
C354		CERAMIC CAPACITOR	CCCCH820J50	C462		ELECTR. CAPACITOR	CEAS220M25
C355		AXIAL CERAMIC C.	CCPUCH180J50	C463, 464		CERAMIC CAPACITOR	CKPUYY103N16
C356, 357		CERAMIC CAPACITOR	CCCCH121J50	C465		CERAMIC CAPACITOR	CCCCH270J50
C359		ELECTR. CAPACITOR	CEAS470M10	C466		AXIAL CERAMIC C.	CCPUCH100J50
C360		CERAMIC CAPACITOR	CKPUYY103N16	C467		CERAMIC CAPACITOR	CCCCH151J50
C361		ELECTR. CAPACITOR	CEAS470M10	C468		CERAMIC CAPACITOR	CCCCH680J50
C362		CERAMIC CAPACITOR	CKPUYY103N16	C470		CERAMIC CAPACITOR	CCCCH390J50
C363		ELECTR. CAPACITOR	CEAS101M10	C471		ELECTR. CAPACITOR	CEAS470M10
C364, 365		CERAMIC CAPACITOR	CKPUYY103N16	C472		CERAMIC CAPACITOR	CKPUYY103N16
C367		CERAMIC CAPACITOR	CKPUYY103N16	C473		ELECTR. CAPACITOR	CEAS470M10
C370		CERAMIC CAPACITOR	CKPUYB331K50	C474		CERAMIC CAPACITOR	CKPUYY103N16
C401, 402		CERAMIC CAPACITOR	CCCCH820J50	C475		ELECTR. CAPACITOR	CEAS470M10
C403		CERAMIC CAPACITOR	CKPUYY103N16	C476		AUDIO FILM CAPACITOR	CFTXA104J50
C404		CERAMIC CAPACITOR	CCCCL271J50	C477		AUDIO FILM CAPACITOR	CFTXA683J50
C405		CERAMIC CAPACITOR	CCCCL391J50	C478, 479		CERAMIC CAPACITOR	CCCCH220J50
C406		AXIAL CERAMIC C.	CCPUCH100J50	C480		CERAMIC CAPACITOR	CCCCH560J50
C407		CERAMIC CAPACITOR	CCCCH330J50	C481		CERAMIC CAPACITOR	CCCCH151J50
C408		AXIAL CERAMIC C.	CCPUCH100J50	C482		ELECTR. CAPACITOR	CEAS220M25
C409-411		CERAMIC CAPACITOR	CKPUYY103N16	C483		AUDIO FILM CAPACITOR	CFTXA683J50
C412		CERAMIC CAPACITOR	CCCCH101J50	C484		ELECTR. CAPACITOR	CEAS470M10
C413		ELECTR. CAPACITOR	CEAS101M10	C485		ELECTR. CAPACITOR	CEAS100M50
C414		CERAMIC CAPACITOR	CKPUYY103N16	C486		CERAMIC CAPACITOR	CKCYB102K50
C415, 416		AXIAL CERAMIC C.	CCPUCH180J50	C487		CERAMIC CAPACITOR	CCCCH390J50
C417, 418		CERAMIC CAPACITOR	CKPUYY103N16	C488		ELECTR. CAPACITOR	CEAS470M10
C419		ELECTR. CAPACITOR	CEAS101M10	C489		CERAMIC CAPACITOR	CKPUYY103N16
C420		CERAMIC CAPACITOR	CKPUYY103N16	C490		AUDIO FILM CAPACITOR	CFTXA473J50
C421		ELECTR. CAPACITOR	CEAS010M50	C491		CERAMIC CAPACITOR	CCCCH560J50
C422		CERAMIC CAPACITOR	CCCCH390J50	C492		CERAMIC CAPACITOR	CCCCH390J50
C423		CERAMIC CAPACITOR	CKPUYY103N16	C493		CERAMIC CAPACITOR	CCCCH220J50
C424		ELECTR. CAPACITOR	CEAS4R7M50	C494		CERAMIC CAPACITOR	CCCCH470J50
C425		MYLAR FILM CAPACITOR	CQMA272J50	C495		ELECTR. CAPACITOR	CEANP100M16
C426		ELECTR. CAPACITOR	CEAS101M10	C496		ELECTR. CAPACITOR	CEAS101M10
C427		AUDIO FILM CAPACITOR	CFTXA153J50	C497		CERAMIC CAPACITOR	CKPUYY103N16
C428, 429		CERAMIC CAPACITOR	CCCCH151J50	C499, 500		CERAMIC CAPACITOR	CKPUYY103N16
C430		CERAMIC CAPACITOR	CKPUYY103N16	C501, 502		CERAMIC CAPACITOR	CCCCH330J50
C431		CERAMIC CAPACITOR	CCCCH101J50	C503		ELECTR. CAPACITOR	CEAS470M10
C432		ELECTR. CAPACITOR	CEAS101M10	C504-507		CERAMIC CAPACITOR	CKPUYY103N16
C433-437		CERAMIC CAPACITOR	CKPUYY103N16	C510		ELECTR. CAPACITOR	CEAS470M10
C438		CERAMIC CAPACITOR	CCCCH121J50	C511		CERAMIC CAPACITOR	CKPUYY103N16
C439		CERAMIC CAPACITOR	CCCCL331J50	C512		ELECTR. CAPACITOR	CEAS101M10
C440		CERAMIC CAPACITOR	CCCCH390J50	C513		ELECTR. CAPACITOR	CEAS470M10
C441, 442		CERAMIC CAPACITOR	CKPUYY103N16	C514		ELECTR. CAPACITOR	CEAS101M10
C443		ELECTR. CAPACITOR	CEAS470M10	C515-517		CERAMIC CAPACITOR	CKPUYY103N16
C444		ELECTR. CAPACITOR	CEAS101M10	C518		ELECTR. CAPACITOR	CEAS470M10
C445-447		CERAMIC CAPACITOR	CKPUYY103N16	C519		ELECTR. CAPACITOR	CEAS101M10
C448		CERAMIC CAPACITOR	CCCCH220J50	C520		ELECTR. CAPACITOR	CEAS470M10
C449		ELECTR. CAPACITOR	CEAS010M50	C521		ELECTR. CAPACITOR	CEAS101M10
C450		ELECTR. CAPACITOR	CEAS3R3M50	C522, 523		CERAMIC CAPACITOR	CKPUYY103N16
C451		CERAMIC CAPACITOR	CKPUYY103N16	C528		CERAMIC CAPACITOR	CCCCH120J50
C452		FILM CAPACITOR	CFTNA224J50	C529		CERAMIC CAPACITOR	CKPUYY103N16
C453, 454		ELECTR. CAPACITOR	CEAS3R3M50	C530		CERAMIC CAPACITOR	CCCCH330J50
C455		ELECTR. CAPACITOR	CEAS470M10	C531		AXIAL CERAMIC C.	CCPUCH100J50
C456-458		CERAMIC CAPACITOR	CKPUYY103N16	C532		CERAMIC CAPACITOR	CCCCH470J50
C459, 460		ELECTR. CAPACITOR	CEAS101M10	C533		CERAMIC CAPACITOR	CCCCH390J50

Mark	No.	Description	Part No.
	C534	AXIAL CERAMIC C.	CCPUCH100J50
	C535	ELECTR. CAPACITOR	CEAS470M10
	C536, 537	CERAMIC CAPACITOR	CKPUYY103N16
	C538	CERAMIC CAPACITOR	CKCYB102K50
	C539	CERAMIC CAPACITOR	CCCCH180J50
	C540	CERAMIC CAPACITOR	CCCCH120J50
	C541	ELECTR. CAPACITOR	CEAS010M50
	C542, 543	CERAMIC CAPACITOR	CKPUYY103N16

**RESISTORS**

	VR441	SEMI-FIXED (10kΩ)	VRTB6VS103
	VR471, 482	SEMI-FIXED (4.7kΩ)	VRTB6VS472
	VR521	SEMI-FIXED (4.7kΩ)	VRTB6VS472
	R411, 413	METALFILM RESISTOR	RN1/6PQ3002F
	R419	METALFILM RESISTOR	RN1/6PQ5101F
	R420	METALFILM RESISTOR	RN1/6PQ1003F
	R455	METALFILM RESISTOR	RN1/6PQ2002F
	OTHER RESISTORS		RD1/6PM□□□J

**SCRT BOARD ASSEMBLY**

**SEMICONDUCTOR**

	D181	DIODE	1SS254
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**RELAYS**

	RY181	RELAY	VSR1006
	RY182	RELAY	VSR-005

**COILS**

	L106, 107	AXIAL INDUCTOR	LAU330J
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**CAPACITORS**

	C181, 182	ELECTR. CAPACITOR	CEANP2R2M50
	C186, 187	AXIAL CAPACITOR	CKPUYB391K50
	C188	CERAMIC CAPACITOR	CKPUYY103N16

**RESISTORS**

	ALL RESISTORS		RD1/6PM□□□J
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**OTHERS**

	JA102	RGB CONNECTOR	VKB1037
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**PALB BOARD ASSEMBLY**

**SEMICONDUCTORS**

	IC101	LOGIC IC	TC74HC74AP
	IC102	LOGIC IC	TC74HC86AP
	IC103, 201	LOGIC IC	BU4053B
	IC202, 203	LOGIC IC	TC74HC74AP
	IC204	LOGIC IC	TC74HC04AP
	IC205	LOGIC IC	TC74HC00AP
	IC206, 207	LOGIC IC	TC74HC10AP
	IC208	IC	TA7320P
	Q103-111	TRANSISTOR	2SC1740S
	Q112	TRANSISTOR	2SA933S
	Q113, 114	TRANSISTOR	2SC1740S
	Q201, 202	TRANSISTOR	DTC124ES
	Q203	TRANSISTOR	2SC1740S
	Q206	TRANSISTOR	2SA933S
	Q207-210	TRANSISTOR	2SC1740S

Mark	No.	Description	Part No.
	Q213	TRANSISTOR	2SC1740S
	Q214	TRANSISTOR	2SA933S
	D101	DIODE	1SS254

**RELAYS**

	RY101	RELAY	VSR-005
	RY102	RELAY	VSR1006

**COILS AND FILTERS**

	L102, 103	AXIAL INDUCTOR	LAU8R2J
	L104, 105	AXIAL INDUCTOR	LAU330J
	L111, 112	RADIAL INDUCTOR	LFA120K
	L113	AXIAL INDUCTOR	LAU330J
	L201, 202	AXIAL INDUCTOR	LAU1R2J
	L203, 204	AXIAL INDUCTOR	LAU121J
	L205, 206	AXIAL INDUCTOR	LAU120J
	F101	B. P. F (4.43MHz)	VTF1034
	F102	L. P. F (3.2MHz)	VTF1011
	F201	COMB FILTER	VTF1042
	F202	B. P. F.	VTF1030
	F203	TRAP (4.43MHz)	VTF1018

**CAPACITORS**

	VC201-203	VARIABLE CAPACITOR (20P)	VCN-008
	C101	ELECTR. CAPACITOR	CEANP220M10
	C103-107	CERAMIC CAPACITOR	CKPUYY103N16
	C108, 109	AXIAL CAPACITOR	CKPUYB681K50
	C110	ELECTR. CAPACITOR	CEANP220M10
	C111, 112	ELECTR. CAPACITOR	CEAS470M10
	C113	ELECTROLYTIC CAPACITOR	CEANP470M10
	C115	ELECTR. CAPACITOR	CEAS470M10
	C116, 117	CERAMIC CAPACITOR	CKPUYY103N16
	C118	ELECTR. CAPACITOR	CEAS470M10
	C119	ELECTR. CAPACITOR	CEANP220M10
	C121	ELECTR. CAPACITOR	CEAS470M10
	C128	CERAMIC CAPACITOR	CKPUYY103N16
	C129	ELECTR. CAPACITOR	CEAS470M10
	C130	CERAMIC CAPACITOR	CKPUYY103N16
	C131	ELECTR. CAPACITOR	CEAS470M10
	C141	CERAMIC CAPACITOR	CKPUYY103N16
	C142, 143	ELECTR. CAPACITOR	CEAS470M10
	C144	CERAMIC CAPACITOR	CKPUYY103N16
	C145	AXIAL CAPACITOR	CKPUYB101K50
	C146, 147	ELECTR. CAPACITOR	CEANP2R2M50
	C148, 149	AXIAL CAPACITOR	CKPUYB391K50
	C152	AXIAL CERAMIC C.	CCPUCH100J50
	C153	CERAMIC CAPACITOR	CCCCH270J50
	C201	CERAMIC CAPACITOR	CCCCH390J50
	C202	CERAMIC CAPACITOR	CCCCH270J50
	C203, 204	CERAMIC CAPACITOR	CCCCH390J50
	C205	CERAMIC CAPACITOR	CCCCH101J50
	C206	CERAMIC CAPACITOR	CCCCH330J50
	C207	CERAMIC CAPACITOR	CCCCH680J50
	C208	ELECTR. CAPACITOR	CEAS470M10
	C209	CERAMIC CAPACITOR	CKPUYY103N16
	C210	CERAMIC CAPACITOR	CCCCL221J50
	C212	CERAMIC CAPACITOR	CCCCH680J50
	C213	CERAMIC CAPACITOR	CCCCH101J50

Mark	No.	Description	Part No.
	C214	CERAMIC CAPACITOR	CKPUYY103N16
	C216, 217	CERAMIC CAPACITOR	CKPUYY103N16
	C218	MYLAR FILM CAPACITOR	CQMA102J50
	C219	ELECTR. CAPACITOR	CEAS470M10
	C220, 221	CERAMIC CAPACITOR	CKPUYY103N16
	C222	ELECTR. CAPACITOR	CEAS470M10
	C223	CERAMIC CAPACITOR	CCCCH101J50
	C224	ELECTROLYTIC CAPACITOR	CEANP470M10
	C225, 226	CERAMIC CAPACITOR	CKPUYY103N16
	C227	AXIAL CERAMIC C.	CCPUCH100J50
	C228	ELECTR. CAPACITOR	CEAS470M10
	C229	CERAMIC CAPACITOR	CKPUYY103N16
	C230, 243	ELECTR. CAPACITOR	CEAS470M10
	C244	CERAMIC CAPACITOR	CKPUYY103N16
	C245	ELECTR. CAPACITOR	CEAS470M10
	C246, 262	CERAMIC CAPACITOR	CKPUYY103N16
	C263	ELECTR. CAPACITOR	CEAS470M10
	C264	CERAMIC CAPACITOR	CKPUYY103N16
	C265	ELECTR. CAPACITOR	CEAS470M10
	C266-270	CERAMIC CAPACITOR	CKPUYY103N16

**RESISTORS**

	VR101	SEMI-FIXED(470k $\Omega$ )	VRTB6VS471
	VR102	SEMI-FIXED(4.7k $\Omega$ )	VRTB6VS472
	VR201, 202	SEMI-FIXED(470k $\Omega$ )	VRTB6VS471
	OTHER RESISTORS		RD1/6PM□□□J

**OTHERS**

	DL101	64 $\mu$ SEC DELAY LINE	DTF1033
	DL201	750nSEC DELAY LINE	VTF1037
	JA101	RGB CONNECTOR (AV CONNECTOR) (IN/OUT)	VKB1037
	X201	CRYSTAL RESONATOR (14.318MHz)	VSS1029
	X202	CRYSTAL RESONATOR (17.734MHz)	VSS1019
	X203	CRYSTAL RESONATOR (14.22MHz)	VSS1053

**SHKY ASSEMBLY****SEMICONDUCTORS**

	Q40-42	TRANSISTOR	DTC124ES
	D43, 44	LED INDICATOR(YELLOW)	VEL1003
	D45	LED(RED)	BR3365S

**SWITCHES**

	S40-49	TACT SWITCH	RSG1030
	S51	ROTARY ENCODER	VSD1007

**RESISTORS**

	R40-42	CARBON FILM RESISTOR	RD1/6PM221J
	R43	RESISTOR ARRAY(4.7k $\Omega$ )	RA4T472J

Mark	No.	Description	Part No.
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**PSWB ASSEMBLY****SEMICONDUCTORS**

	Q60	TRANSISTOR	DTC124ES
	D60	LED INDICATOR(RED)	VEL1018

**SWITCH**

	S60	TACT SWITCH	RSG1030
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**CAPACITOR**

	C60	CERAMIC CAPACITOR	CKPUYF223Z25
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**RESISTOR**

	R60	CARBON FILM RESISTOR	RD1/6PM151J
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**OTHERS**

		IR SENSOR UNIT	GP1U50X
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**FLKY ASSEMBLY****SEMICONDUCTORS**

	IC10	MODE CONTROL MCU	PDB068A
	IC11	RESET IC	PST529C
	Q10	TRANSISTOR	DTA144ES
	Q11	TRANSISTOR	DTC114ES
	Q12	TRANSISTOR	DTA124ES
	D10-17	DIODE	ISS254
	D18	DIODE	ISS254
	D19	LED(YELLOW)	AY3365S

**SWITCHES**

	S10-23	TACT SWITCH	RSG1030
	S24	DOOR SWITCH	VSK1015

**CAPACITORS**

	C10	ELECTR. CAPACITOR	CEAS100M50
	C11	CERAMIC CAPACITOR	CKPUYF223Z25
	C12	ELECTR. CAPACITOR	CEAS101M10
	C13	CERAMIC CAPACITOR	CKPUYB102K50
	C14	ELECTROLYTIC CAPACITOR	CEJA100M16
	C15, 16	CERAMIC CAPACITOR	CKPUYF223Z25

**RESISTORS**

	R23	RESISTOR ARRAY(220k $\Omega$ )	RA7S224J
	OTHER RESISTORS		RD1/6PM□□□J

**OTHERS**

	V10	FL TUBE	VAW1020
	X10	CERAMIC RESONATOR (5.50MHz)	VSS1055
		FL SPACER	VEB1125

**HEPB ASSEMBLY****COILS**

	L70-72	AXIAL INDUCTOR	LAU3R3J
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**CAPACITORS**

	C70	CERAMIC CAPACITOR	CKPUYF223Z25
	C71, 72	CERAMIC CAPACITOR	CKPUYB102K50

Mark	No.	Description	Part No.
<b>RESISTOR</b>			
	VR70	DOUBLE ROTARY VOULME (LEVEL)	VCS1015

<b>OTHERS</b>			
	JA70	HEADPHONE JACK (PHONES)	RKN1002

**SYPS ASSEMBLY**

**SEMICONDUCTORS**

△	IC201	IC PROTECTOR	ICP-N15
	IC202	IC PROTECTOR	ICP-N15
△	IC205	REGULATOR IC	NJM78M05FA
	IC206	IC PROTECTOR	ICP-N25
	Q201	TRANSISTOR	2SD1762
	Q202, 203	TRANSISTOR	2SB1185
	Q204	TRANSISTOR	2SD1762
	Q205	TRANSISTOR	2SB1185
	Q206	TRANSISTOR	2SD1762
△	Q207	TRANSISTOR	2SB1238X
	Q213	TRANSISTOR	DTC114ES
	Q214	TRANSISTOR	2SA933S
	Q217	DIGITAL TRANSISTOR	DTA114ES
	Q218	TRANSISTOR	2SC1740S
	Q219	TRANSISTOR	2SA933S
	D101	ZENER DIODE	MTZJ5. 6B
	D102	ZENER DIODE	MTZJ5. 1C
	D103	ZENER DIODE	MTZJ5. 6B
	D104	ZENER DIODE	MTZJ5. 1C
△	D201, 202	BRIDGE STACT	S2VB20
	D208, 209	DIODE	1SS252
	D212	DIODE	10ELS2
△	D213, 214	DIODE	1SR35-100AVL
	D215	DIODE	10ELS2
△	D216, 217	DIODE	1SS252
	D220	ZENER DIODE	MTZJ22C
	D222, 223	DIODE	1SR35-100AVL

**COILS**

△	L201	FILTER(10MHz)	VTL1008
△	L202	LINE FILTER	VTL-157

**CAPACITORS**

	C196-199	CERAMIC CAPACITOR	CKCYF103Z50
	C201-204	CERAMIC CAPACITOR	CKPUYF103Z25
	C205, 206	CAPACITOR (ALUMINUM) (3300/25)	VCH1095
	C207	ELECTROLYTIC CAPACITOR	CEAS682M10
	C208	ELECTROLYTIC CAPACITOR	CEAS472M10
	C209, 210	ELECTR. CAPACITOR	CEAS101M10
	C212	CERAMIC CAPACITOR	CGCYX473M25
	C213	ELECTROLYTIC CAPACITOR	CEAS471M35
	C214, 215	ELECTR. CAPACITOR	CEAS2R2M50
△	C216, 217	CAPACITOR (CERAMIC)	VCG-048
	C219	ELECTR. CAPACITOR	CEAS101M35
	C223	ELECTR. CAPACITOR	CEAS101M25
	C226	ELECTR. CAPACITOR	CEAS101M10
	C231, 232	ELECTR. CAPACITOR	CEAS101M10

Mark	No.	Description	Part No.
	C235	ELECTR. CAPACITOR	CEAS102M25
	C237, 238	CERAMIC CAPACITOR	CGCYX473M25
	C240	ELECTR. CAPACITOR	CEAS221M10
	C241	CERAMIC CAPACITOR	CKPUYB102K50
	C242	ELECTR. CAPACITOR	CEAS101M10
	C243	ELECTR. CAPACITOR	CEAS221M10
	C244	CERAMIC CAPACITOR	CKPUYB102K50
	C245	ELECTR. CAPACITOR	CEAS101M10
	C246	CERAMIC CAPACITOR	CKCYF103Z50

**RESISTORS**

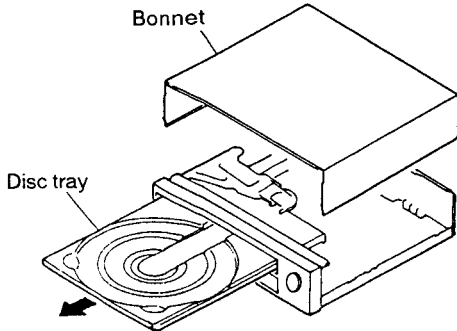
△	R221	METAL OXIDE RESISTOR	RS1LMFR51J
	R231	RESISTOR(22Ω)	VCN1029
	R239	METAL OXIDE RESISTOR	RS1LMF4R7J
	OTHER RESISTORS		RD1/6PM□□□J

## 7. ADJUSTMENTS

### 7.1 TEST MODE

#### TEST MODE

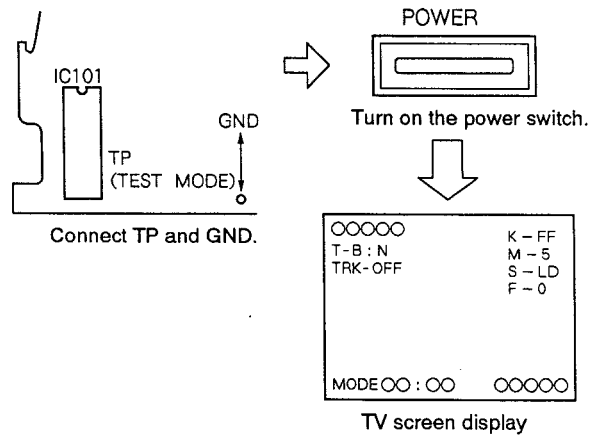
The player has a test mode function which allows the servicer to check the player's status on the TV screen by executing the respective key operation. Also, since the TRK servo opens and closes easily, the test mode is especially useful for mechanical adjustments.



#### TEST MODE INITIATION

[Procedure]

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



#### TEST MODE CANCELLATION

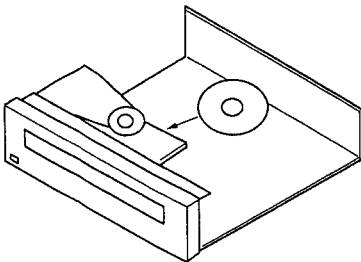
Turn off the power switch.

#### PLAYER OPERATION IN THE TEST MODE

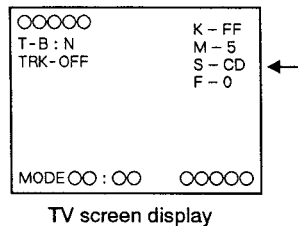
Operate the player by selecting a test mode function with the keys on the player or on the remote control unit.

##### ● CD PLAYBACK

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



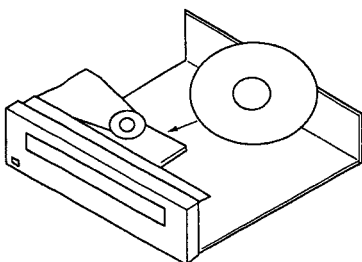
- ② Press the [◀▶] or [▶▶] key to appear "S-CD" on the TV screen display.



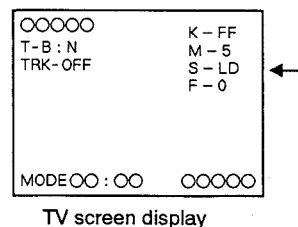
- ③ Clamp the disc by pressing the PLAY (▶) key once. Then, press the PLAY (▶) key twice, disc will be normal playbacked.

##### ● 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.



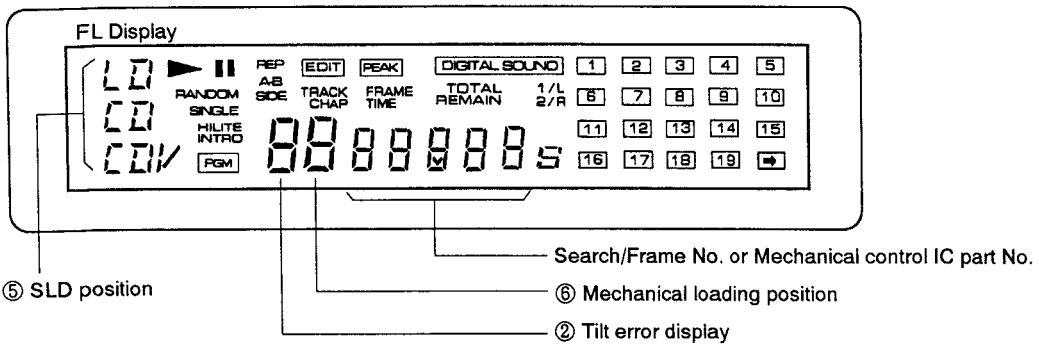
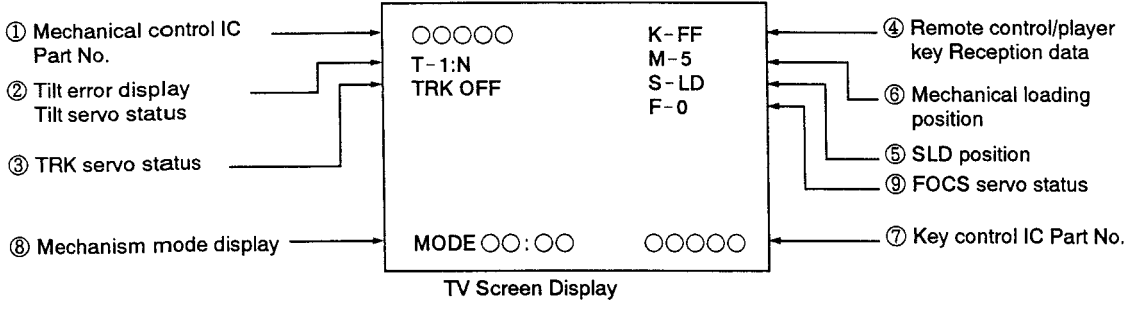
- ③ Clamp the disc by pressing the PLAY (▶) key once. Then, press the PLAY (▶) key twice, disc will be normal playbacked.



Table. 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"> <li>• Start play with the TRK servo open.</li> <li>• Start play with tilt neutral.</li> <li>• The disc type (LD/CD/CDV) is determined when playback starts at the SLDR position during start play.</li> </ul>
TRK Servo Open/Close	PLAY mode	▶	<ul style="list-style-type: none"> <li>• Each time the PLAY button ( ▶ ) is pressed, the TRK servo will open or close alternately.</li> </ul>
Still	PLAY mode TRK servo closed.	(Remote control unit key)	<ul style="list-style-type: none"> <li>• Each time the PAUSE button (    ) is pressed, the player will switch between the PLAY and STILL modes alternately.</li> </ul>
SLDR REV SCAN	PLAY mode	◀◀	<ul style="list-style-type: none"> <li>• Counterclockwise</li> <li>• With the TRK servo open, the pickup can be damaged if the SLD moves further inward than the lead-in area on the disc. Do not allow the SLD to move further inward than the lead-in area .</li> </ul>
SLDR FWD SCAN	PLAY mode	▶▶	<ul style="list-style-type: none"> <li>• Clockwise</li> <li>• With the TRK servo open, the pickup can be damaged if the SLD moves further outward than the lead-in area on the disc. Do not allow the SLD to move further outward than the lead-in area.</li> </ul>
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"> <li>• Press and hold down the keys.</li> </ul>
TILT Plus TILT Servo OFF	PLAY mode	▶▶	<ul style="list-style-type: none"> <li>• Press and hold down the keys.</li> </ul>
Screen Display ON/OFF	POWER switch ON	PGM key	
Frame search	PLAY mode	+10 key ↓ 0-9 key ↓ ▶	<ul style="list-style-type: none"> <li>• In the PLAY mode, press the +10 key. (The player will standby for the frame No. entry.)</li> <li>• Use the numeric keys(0 - 9) to enter the frame No.. Then press the player's PLAY key to search.</li> <li>• After the search is completed, the player will return to the previous mode before the search was performed.</li> </ul>
Loading Motor Rotation Clockwise Counterclockwise	Tray open	▶▶ ◀◀	<ul style="list-style-type: none"> <li>• FWD:Unloading</li> <li>• REV :Loading</li> </ul>
FOCS OFFSET (CT BEST) VR606 Check	PLAY mode (TRK servo OPEN)	(Remote control unit) MULTI-SPEED FWD → F-1 REV → F-0 (Player) HILITE INTRO SCAN	<ul style="list-style-type: none"> <li>• For checking VR604</li> </ul> <p>F-0 : Normal mode</p> <ul style="list-style-type: none"> <li>•When closing the TRK servo, VR606 (CT BEST) is effectived.</li> <li>•When opening the TRK servo, VR605 (TE MAX) is effectived.</li> </ul> <p>F-1 : When opening the TRK servo, VR606 (CT BEST) is also effectived.</p>

**TV SCREEN AND LED DISPLAYS IN THE TEST MODE**



① **The Mechanical Control IC (ASCB board assembly) Part No. will be Displayed.**  
 PD01136A → 0136A

② **Tilt Servo Status / Tilt Error Display**  
 T-0:00  
 Tilt servo status : N...Tilt neutral  
 ON...Tilt servo ON  
 OFF...Tilt servo OFF  
 Tilt error display: 0 Tilt -  
 ↓ Tilt neutral  
 F Tilt +

③ TRK Servo Status

TV screen display

TRK-○○○

↑ ON...TRK servo close  
OFF...TRK servo open

④ Remote Control / Player Key Reception Data

TV screen display

K-○○

↑ See table below

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	
03	3	23	F JOG3	43	DISPLAY	63	
04	4	24	R JOG0	44	REPEAT B	64	
05	5	25	R JOG1	45	CLEAR	65	
06	6	26	R JOG2	46	SPEED -	66	
07	7	27	R JOG3	47	SPEED +	67	
08	8	28		48	REPEAT A	68	
09	9	29		49	(2 / R)	69	
0A	VOLUME +	2A		4A	(STEREO)	6A	
0B	VOLUME -	2B		4B	(1 / L)	6B	
0C	DGT / ANL	2C		4C	PROGRAM	6C	
0D		2D		4D		6D	PLAY / PAUSE
0E	CX ON/OFF	2E		4E		6E	STOP
0F	(TV / LDP)	2F		4F		6F	OPEN / CLOSE
10	(F-SCAN)	30		50	F-STEP	70	
11	(R-SCAN)	31		51		71	DIRECT CD
12		32		52	F-SKIP	72	PEAK
13	CHAP / FRME	33		53	R-SKIP	73	SINGLE
14		34		54	R-STEP	74	
15		35		55	R-MULT	75	
16	STOP / OPEN	36		56		76	
17	PLAY/SERCH	37	DGT LEVEL	57		77	
18	PAUSE	38		58	F-MULT	78	
19		39		59		79	
1A	(POW ON)	3A		5A	HILIT / INTR	7A	
1B	(POW OFF)	3B		5B		7B	
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	

⑤ SLD Position

TV screen display

S-○○○

↑ IN ... CD inside SW ON  
CD ... CD active area  
CDV ... CDV active area  
LD ... LD active area

⑥ Mechanical Loading Position

TV screen display

M-○

↑ 0 ... Tray open  
1 ... Loading  
2 ... Standby  
3 ... Clamped  
5 ... Tilt minus  
6 ... Tilt neutral (one side)  
7 ... Tilt plus  
8 ... Tilt limit  
9 ... B side clamped (two sides)

⑦ Focus Offset VR Status

TV screen display

F-○

↑ 0 ... Normal mode  
•When closing the TRK servo, VR606 (CT BEST) is effected.  
•When opening the TRK servo, VR605 (TE MAX) is effected.  
1 ... When opening the TRK servo, VR606 (CT BEST) is also effected.

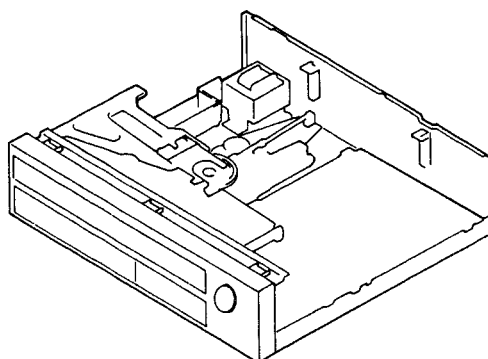
**7.2 REQUIRED INSTRUMENTS**

- Small screwdriver (7 cm shaft)
- Small Phillips screwdriver (15 cm shaft)
- Low - pass filter (47k ohms+1  $\mu$ F / BP)
- Dual - trace oscilloscope (with delay)
- AF oscillator
- Frequency counter
- LD test disc  
NTSC ...GGV1003  
PAL ...GGV - 145
- Short clip
- TV monitor
- Resistor (1k ohms, 47k ohms)
- Capacitor (0.01  $\mu$ F, 0.0027  $\mu$ F)
- Remote control unit
- 2mm hexagonal wrench

**7.3 ADJUSTMENT PREPARATION AND NOTES**

**1. Player Preparation**

Before perform the adjustment, remove the bonnet and the disc tray. Then place the player horizontally on a flat surface.



**2. Disc Insertion**

Insert the disc from the rear of the player. Place it securely on the turntable. When the PLAY key is pressed, the clamper will go down and secure the disc. Playback will then begin.

**3. Use All the Oscilloscope's Probes at 10:1.**

**4. Required adjustment after Replacement of major parts.**

Adjustments	Replacement assemblies				
	Pickup	Actuator	Pre-pickup	Spindle motor	Sensor
1. Tilt Servo Gain Adjustment	⊙				⊙
2. Coarse Adjustment of Grating and TRK Balance Adjustment	⊙	⊙	⊙		
3. Slider Shaft Horizontal Adjustment	⊙	⊙	⊙	○	⊙
4. Pickup Inclination Adjustment	⊙	⊙	⊙	○	○
5. TRKG Error Best / Crosstalk Best Adjustment	⊙	⊙	⊙	○	○
6. FOCUS SUM Level Adjustment	⊙	⊙	⊙	○	○
7. Tilt Sensor Inclination / Tilt Balance Adjustment	⊙	⊙	⊙	○	⊙
8. Verification and Adjustment of Spindle Motor Centring	⊙	⊙	⊙	⊙	
9. Fine Grating Adjustment / TRK Balance Adjustment	⊙	⊙	⊙		
10. FCS Servo Loop Gain Adjustment	⊙	⊙	⊙		
11. TRKG Servo Loop Gain Adjustment	⊙	⊙	⊙		
12. RF Gain Adjustment	⊙	⊙	⊙		

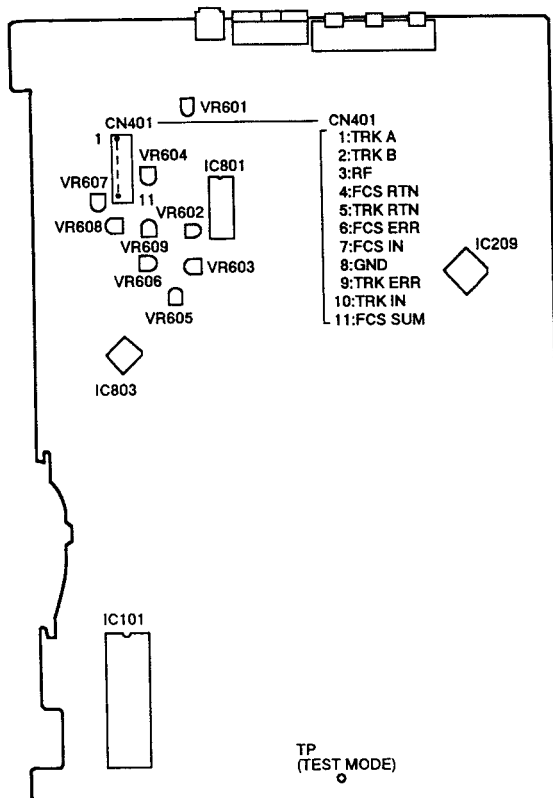
Note: Adjustments indicated by a ○ are made only when there is crosstalk.

## 7.4 ASCB BOARD ASSEMBLY ADJUSTMENT

Note: Use the GGV1003 NTSC test disc for all the adjustments of the ASCB board assembly.

	ADJUSTMENT	Adjusting Point	Measurement equipment Connecting Point	Player Condition	Adjusting Specification
1	Tilt Servo Gain Adjustment	VR608	None	Power off	<ul style="list-style-type: none"> <li>Making of Tilt GAIN VR position Red : Turn to Right Clear : Center Blue : Turn to Left</li> </ul>
2	Coarse Adjustment of Grating and TRK Balance Adjustment	Grating/VR602	CN401 - 9 (TRK ERR)	<ul style="list-style-type: none"> <li>Test mode #15,000 still TRK servo loop open</li> </ul>	<ul style="list-style-type: none"> <li>Null point → TRK error MAX</li> <li>Adjust VR602 so that the TRK error waveform amplitude's positive and negative level become equal.</li> </ul>
3	Slider Shaft Horizontal Adjustment	Player SKIP key	CN401 - 4 (FCS RTN)	<ul style="list-style-type: none"> <li>Test mode Tilt servo loop off TRK servo loop open #5.200 still</li> </ul>	<ul style="list-style-type: none"> <li>Use the SKIP key to adjust to <math>0V \pm 20mV</math>.</li> </ul>
4	Pickup Inclination Adjustment	Pickup Assembly TAN / TRK inclination adjustment screw	CN401 - 3(RF)	<ul style="list-style-type: none"> <li>Test mode #2,251 still TRK servo loop close /open Tilt servo loop open</li> </ul>	<ul style="list-style-type: none"> <li>RF waveform's amplitude MAX (Pickup TAN / TRK adjustment screw)</li> <li>Minimized crosstalk.</li> </ul>
5	TRKG Error Best / Crosstalk Best Adjustment	VR605 (TE BEST) VR608 (CT BEST)	CN401 - 9 (TRK ERR) CN401 - 3 (RF)	<ul style="list-style-type: none"> <li>Test mode TRK servo close / open Tilt servo loop off</li> </ul>	<ul style="list-style-type: none"> <li>RF MAX (VR606) TRK error MAX (VR605)</li> </ul>
6	FOCS SUM Level Adjustment	VR609	CN401 - 11 (FCS SUM)	<ul style="list-style-type: none"> <li>Play mode</li> </ul>	<ul style="list-style-type: none"> <li>Adjust VR 609 so that the voltage becomes 1.5VDC.</li> </ul>
7	Tilt Sensor Inclination / Tilt Balance Adjustment	Tilt sensor inclination adjustment screw VR607 (TILT BAL)	TV monitor Test mode screen	<ul style="list-style-type: none"> <li>Test mode #16,200 / #115 still TRK servo loop close Tilt servo loop off</li> </ul>	<ul style="list-style-type: none"> <li>Set VR 607 to the center.</li> <li>Adjust the adjustment screw so that the tilt error display code is 6, 7, or 8.</li> <li>Adjust VR607 so that the tilt error display becomes 7.</li> </ul>
8	Verification and Adjustment of Spindle Motor Centering	Spindle motor centering adjustment screw.	CH1:CN401 - 9 (TRK ERR) CH2:CN401 - 1, 2 (TRK SUM) (X - Y mode)	<ul style="list-style-type: none"> <li>Test mode #23,800 / #3,000 still TRK servo loop open Tilt servo loop on</li> </ul>	<ul style="list-style-type: none"> <li>Adjust the centering adjustment screw so that the lissajous figures of #3,000 and #23,800 are the same.</li> </ul>
9	Fine Adjustment of Grating and TRK Balance Adjustment	Grating / VR602	CH1:CN401 - 9 (TRK ERR) CH2:CN401 - 1, 2 (TRK SUM) (X - Y mode)	<ul style="list-style-type: none"> <li>Test mode TRK servo loop open Tilt servo loop on</li> </ul>	<ul style="list-style-type: none"> <li>Minimize the Y direction of the lissajous figure.</li> <li>Level of the X direction of the lissajous figures are equal.</li> </ul>
10	FCS Servo Loop Gain Adjustment	VR604	CH1:CN401 - 7 (FCS IN) CH2:CN401 - 6 (FCS ERR) (X - Y mode)	<ul style="list-style-type: none"> <li>Test mode #15,000 still TRK servo loop close Tilt servo loop on</li> </ul>	<ul style="list-style-type: none"> <li>Adjust VR604 so that the lissajous figure is symmetric with respect to the X and Y axes.</li> </ul>
11	TRK Servo Loop Gain Adjustment	VR603	CH1:CN401 - 10 (TRK IN) CH2:CN401 - 9 (TRK ERR) (X - Y mode)	<ul style="list-style-type: none"> <li>Test mode #15,000 still TRK servo loop close Tilt servo loop on</li> </ul>	<ul style="list-style-type: none"> <li>Adjust VR603 so that the lissajous figure is symmetric with respect to the X and Y axes.</li> </ul>
12	RF Gain Adjustment	VR601	CN401 - 3 (RF)	<ul style="list-style-type: none"> <li>#15,000 still</li> </ul>	<ul style="list-style-type: none"> <li>Adjust VR601 so that the RF level becomes <math>300mV \pm 50mV</math>.</li> </ul>

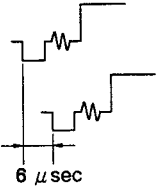
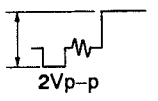
Note: Adjustment of the ASCB board assembly is the same as that of the CLD- 1600/HEZ. For details, refer to the service manual ARP2308 for the CLD- 1600/HEZ



ASCB BOARD ASSEMBLY

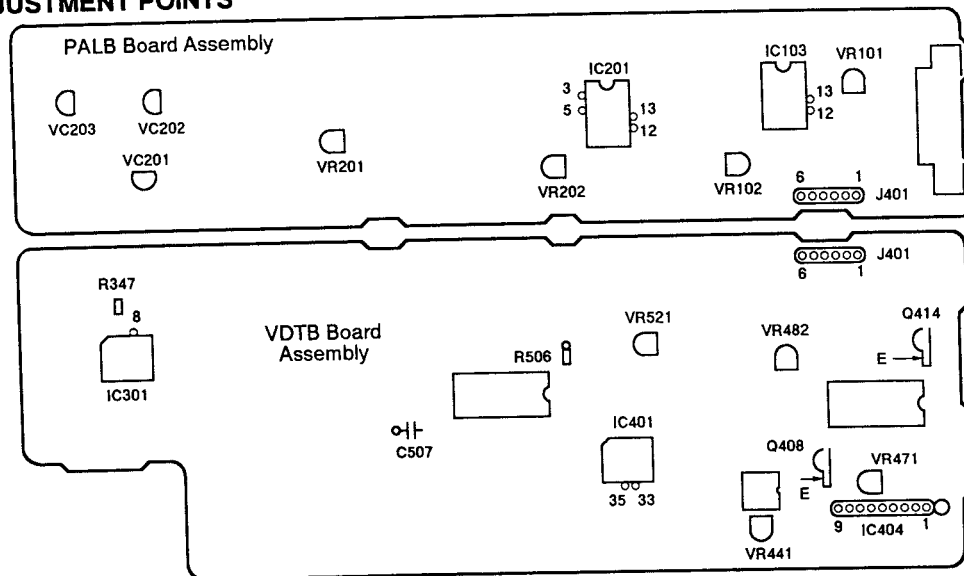
### 7.5 ELECTRICAL ADJUSTMENTS

Note: This unit automatically switches between the NTSC and PAL systems by reading the Phillips code on the test disc. Use the GGV-145 PAL disc for the items marked for PAL mode in the Remarks column and the GGV1003 NTSC disc for the items marked for NTSC mode.

Adjustment	Adjusting Point	Adjusting Specifications	Inspection Standard	Remarks	
VDTB Board Assembly					
1	Sync-generator Clock Adjustment	VC202	Adjust VC401 for 17.734475MHz at the J403 side of R506 lead wire in the video section.	17.734475MHz ± 100Hz	PAL mode
2	NTSC REF Clock adjustment	VC201	Adjust VC201 for 14.31818MHz at the J403 side of C507 lead wire in the video section.	14.31818MHz ± 100Hz	NTSC mode
3	REF Clock Adjustment	VC203	Adjust for 3.5546875MHz at pin 8 (R347 ) of IC301.	3.5546875MHz ± 25Hz	PAL mode
4	VCO Center Frequency Adjustment	VR471	 <p>Adjust VR471 so that the time lag between CCD input video (Q408 emitter) and the CCD output video (Q414 emitter) becomes 75 μsec (1H + 11 μsec ). For this adjustment, connect pin 9 of IC404 to GND.</p>	75 μsec ± 2 μsec	PAL mode
5	Video Level Adjustment	VR482	 <p>Adjust the 100 % white video level to 2 Vp-p at VIDEO OUT (J401, pin 6).</p>	2Vp-p ± 5%	PAL mode
6	1H Delay Video Level Adjustment	VR441	Adjust VR441 so that the level of the 1H-delay video at pin 33 of IC401 becomes the same as that of the main-line video pin 35.	Main-line video ± 3%	PAL mode
7	VPS ERR Level Adjustment	VR521	While observing the magenta screen on a vector scope, minimize the jitter at VIDEO OUT (J401, pin 6).		PAL mode

	Adjustment	Adjusting Point	Adjusting Specifications	Inspection Standard	Remarks
PALB Board Assembly					
8	MOD Video Level Adjustment	VR102	Adjust VR102 so that the luminance level of the MOD video at pin 13 of IC103 becomes the same as that of the through video at pin 12.	± 3%	PAL mode
9	1H Delay S.C. Level Adjustment	VR101	While observing color bars in still mode on a vector scope, minimize the gain variation at VIDEO OUT (J401, pin 6).		PAL mode
10	MOD Y Level adjustment	VR202	Adjust VR202 so that the luminance level between IC201 pin 3 (passed through the comb filter) and IC201 pin 5 (passed through the 3.2M L. P. F.) becomes same level.	± 3%	NTSC converter mode
11	MOD SC Level adjustment	VR201	Adjust VR201 so that the converter chroma level at IC201 pin 13 becomes the same as the main chroma level at IC201 pin 12.		NTSC converter mode

• ADJUSTMENT POINTS

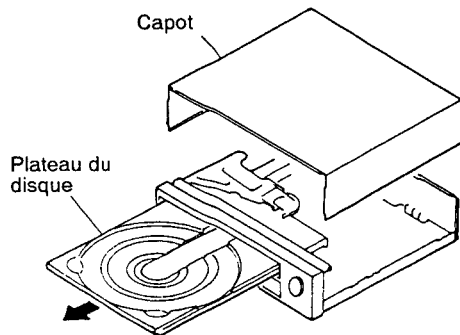


## 7. REGLAGES

### 7.1 MODE D'ESSAI

#### MODE D'ESSAI

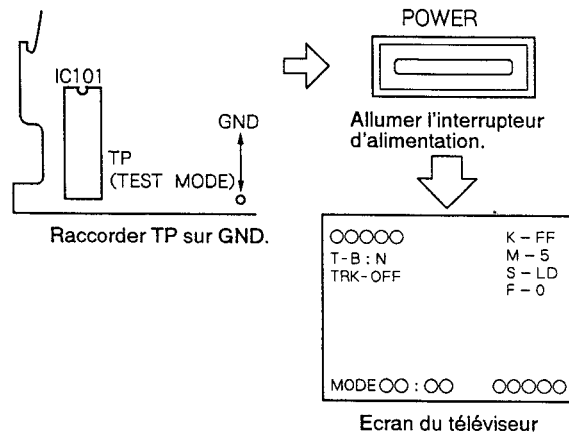
Le lecteur possède une fonction Mode d'essai, permettant au réparateur de vérifier l'état de l'appareil sur l'écran TV par exécution d'opérations sur les touches respectives. De plus, comme l'asservissement TRK s'ouvre et se ferme facilement, le mode d'essai est particulièrement pratique pour les ajustements mécanismes.



#### PASSAGE EN MODE D'ESSAI

[Démarche]

1. Déposer le capot et le plateau du disque.
2. Raccorder TP (TEST MODE) de l'ensemble ASCB à GND (masse).
3. Allumer l'interrupteur d'alimentation.
4. Débrancher TP et GND (masse).



#### ANNULATION DU MODE D'ESSAI

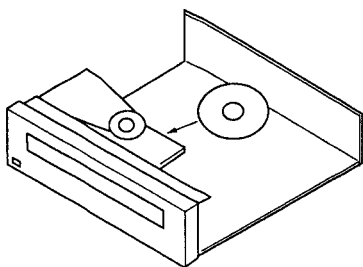
Couper l'interrupteur d'alimentation.

#### FONCTIONNEMENT DU LECTEUR EN MODE D'ESSAI

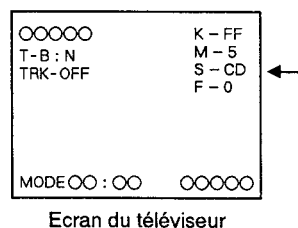
Faire fonctionner le lecteur en choisissant une fonction du mode d'essai par les touches du lecteur ou de la télécommande.

##### ● Lecture d'un CD

- ① Placer un disque CD sur le plateau.  
(La bride est déjà relevée.)



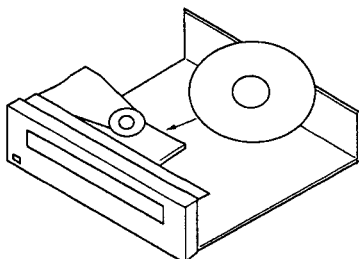
- ② Appuyer sur ◀▶ ou ▶▶ pour obtenir "S - CD" sur l'écran du téléviseur.



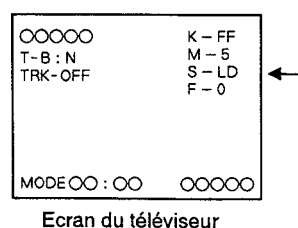
- ③ Immobiliser le disque en appuyant une fois sur la touche PLAY (▶). Appuyer ensuite deux fois sur la touche PLAY (▶) et le disque sera reproduit normalement.

##### ● Lecture d'un LD

- ① Placer un disque LD sur le plateau.  
(La bride est déjà relevée.)



- ② Appuyer sur ◀▶ ou ▶▶ pour obtenir "S - LD" sur l'écran du téléviseur.



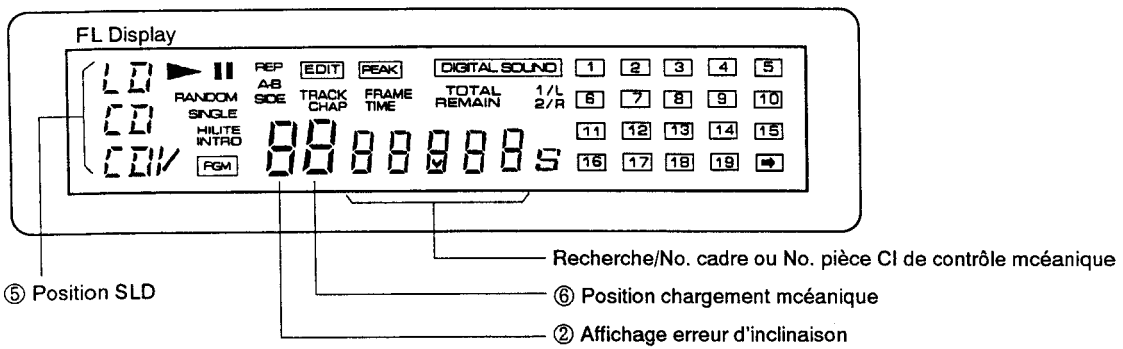
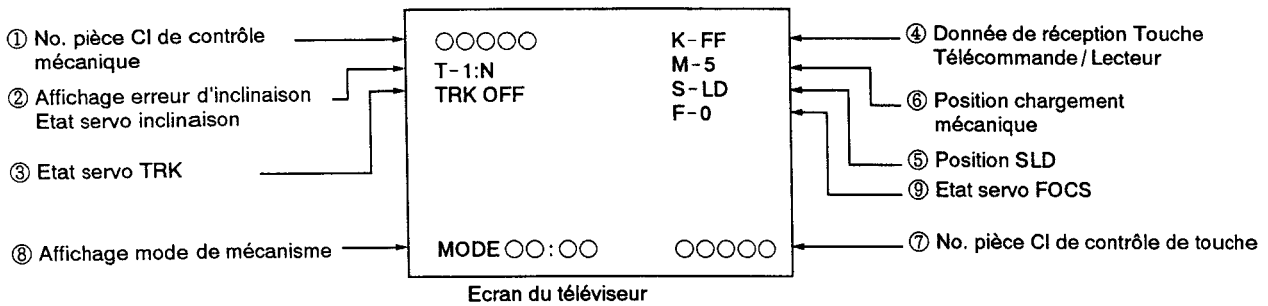
- ③ Immobiliser le disque en appuyant une fois sur la touche PLAY (▶). Appuyer ensuite deux fois sur la touche PLAY (▶) et le disque sera reproduit normalement.



Tableau : Démarches en mode d'essai

Fonction	Etat du lecteur	Touche utilisée	Remarques
Ouverture plateau	Mode STOP	▲	
Fermeture plateau	Plateau ouvert	▲	
Arrêt	Mode PLAY	■	
Lecture	Placement de disque et plateau fermé.	▶	<ul style="list-style-type: none"> <li>• Lancer la lecture avec servo TRK ouvert.</li> <li>• Lancer la lecture avec inclinaison au neutre.</li> <li>• Le type de disque (LD/CD/CDV) est déterminé quand la lecture commence à la position SLDR.</li> </ul>
Servo TRK Ouverture/Fermeture	Mode PLAY	▶	<ul style="list-style-type: none"> <li>• A chaque poussée sur la touche PLAY (▶), le servo TRK s'ouvre ou se ferme alternativement.</li> </ul>
Fixe	Mode PLAY Servo TRK fermé.		<ul style="list-style-type: none"> <li>• A chaque poussée sur la touche PAUSE (  ), le lecteur passe alternativement entre les modes PLAY et STILL.</li> </ul>
SLDR REV SCAN	Mode PLAY	◀◀	<ul style="list-style-type: none"> <li>• Sens anti-horaire</li> <li>• Avec le servo TRK ouvert, le capteur peut être endommagé sur le SLD se déplace plus à l'intérieur que la zone d'amorce du disque. Ne pas laisser le SLD dépasser la zone d'amorce vers l'intérieur du disque.</li> </ul>
SLDR FWD SCAN	Mode PLAY	▶▶	<ul style="list-style-type: none"> <li>• Sens horaire</li> <li>• Avec le servo TRK ouvert, le capteur peut être endommagé sur le SLD se déplace plus à l'extérieur que la zone d'amorce du disque. Ne pas laisser le SLD dépasser la zone d'amorce vers l'extérieur du disque.</li> </ul>
TILT Neutre	Interrupteur POWER allumé	EDIT	
TILT Servo ON	Mode PLAY	RANDOM PLAY	
TILT Moins TILT Servo OFF	Mode PLAY	◀◀	<ul style="list-style-type: none"> <li>• Maintenir les touches enfoncées.</li> </ul>
TILT Plus TILT Servo OFF	Mode PLAY	▶▶	<ul style="list-style-type: none"> <li>• Maintenir les touches enfoncées.</li> </ul>
Ecran d'affichage ON/OFF	Interrupteur POWER allumé	Touche PGM	
Recherche de cadre	Mode PLAY	Touche +10 ↓ Touche 0-9 ↓ ▶	<ul style="list-style-type: none"> <li>• En mode PLAY, appuyer sur la touche +10 (Le lecteur se met en attente de l'entrée du No. de cadre.)</li> <li>• Se servir des touches numériques (0 - 9) pour entrer le numéro de cadre, puis appuyer sur la touche PLAY du lecteur pour la recherche.</li> <li>• A la fin de la recherche, le lecteur repasse au mode d'avant la recherche.</li> </ul>
Moteur de chargement Rotation en sens horaire ou anti-horaire	Plateau ouvert	▶▶  ◀◀	<ul style="list-style-type: none"> <li>• FWD: Déchargement</li> <li>• REV: Chargement</li> </ul>
FOCS OFFSET (CT BEST) Vérification VR606	Mode PLAY (Servo TRK ouvert)	(Télécommande) MULTI-SPEED FWD → F-1 REV → F-0 (Lecteur) HILITE INTRO SCAN	<ul style="list-style-type: none"> <li>• Pour vérification VR604</li> <li>F-0 : Mode norma;               <ul style="list-style-type: none"> <li>• A la fermeture du TRK servo, VR606 (CT BEST) est actualisé.</li> <li>• A l'ouverture de TRK servo, VR605 (TE MAX) est actualité.</li> </ul> </li> <li>F-1 : A l'ouverture de TRK servo, VR606 (CT BEST) est aussi actualisé.</li> </ul>

**ECRAN DU TÉLÉVISEUR ET AFFICHAGES EN MODE D'ESSAI**



① Le No. de pièce (ensemble ASCB) CI de contrôle mécanique sera affiché.  
 PD0136A → 0136A

② Etat servo inclinaison/Affichage erreur d'inclinaison

T-0:00

↑ Etat servo d'inclinaison : N... Neutre  
 ON... Servo ON  
 OFF... Servo OFF

↓ Affichage erreur inclin : 0 Inclinaison -  
 ↓ Neutre  
 F Inclinaison +

③ Etat servo TRK

Ecran du téléviseur

TRK-○○○

↑ ON...Servo TRK fermé  
OFF...Servo TRK ouvert

④ Donnée de réception Touche Télécommande /

Lecteur

Ecran du téléviseur

K-○○

↑ Voir tableau ci-après.

Code	Fonction	Code	Fonction	Code	Fonction	Code	Fonction
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	
03	3	23	F JOG3	43	DISPLAY	63	
04	4	24	R JOG0	44	REPEAT B	64	
05	5	25	R JOG1	45	CLEAR	65	
06	6	26	R JOG2	46	SPEED -	66	
07	7	27	R JOG3	47	SPEED +	67	
08	8	28		48	REPEAT A	68	
09	9	29		49	(2 / R)	69	
0A	VOLUME +	2A		4A	(STEREO)	6A	
0B	VOLUME -	2B		4B	(1 / L)	6B	
0C	DGT / ANL	2C		4C	PROGRAM	6C	
0D		2D		4D		6D	PLAY / PAUSE
0E	CX ON/OFF	2E		4E		6E	STOP
0F	(TV / LDP)	2F		4F		6F	OPEN / CLOSE
10	(F-SCAN)	30		50	F-STEP	70	
11	(R-SCAN)	31		51		71	DIRECT CD
12		32		52	F-SKIP	72	PEAK
13	CHAP / FRME	33		53	R-SKIP	73	SINGLE
14		34		54	R-STEP	74	
15		35		55	R-MULT	75	
16	STOP / OPEN	36		56		76	
17	PLAY/SERCH	37	DGT LEVEL	57		77	
18	PAUSE	38		58	F-MULT	78	
19		39		59		79	
1A	(POW ON)	3A		5A	HILIT / INTR	7A	
1B	(POW OFF)	3B		5B		7B	
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	

⑤ Position SLD

Ecran du téléviseur

S-○○○

↑ IN ... CD intérieur SW ON  
CD ... Zone active de CD  
CDV ... Zone active de CDV  
LD ... Zone active de LD

⑥ Position de chargement mécanique

Ecran du téléviseur

M-○

↑ 0 ... Plateau ouvert  
1 ... Chargement  
2 ... Attente  
3 ... Verrouillé  
5 ... Inclinaison moins  
6 ... Inclinaison neutre (un côté)  
7 ... Inclinaison plus  
8 ... Limite d'inclinaison  
9 ... Côté B verrouillé (deux côtés)

⑦ Etat VR décalage de mise au point

Ecran du téléviseur

F-○

↑ 0 ... Mode normal  
•A la fermeture de servo TRK, VR606 (CT BEST) est actualisé.  
•A l'ouverture de servo TRK, VR605 (TE MAX) est actualisé.  
1 ... A l'ouverture de servo TRK, VR606 (CT BEST) est aussi actualisé.

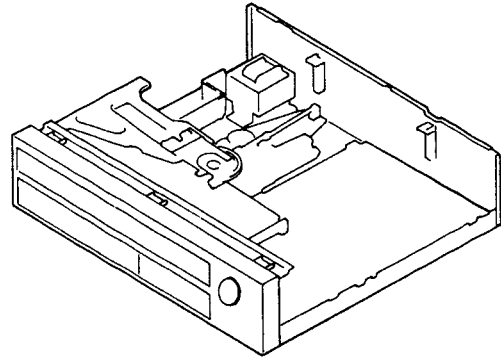
## 7.2 INSTRUMENTS DE RÉGLAGE

- Petit tournevis (tige de 7 cm)
- Petit tournevis cruciforme (tige 15 cm)
- Filtre passe-bas (47 kohms + 1  $\mu$ F/BP)
- Oscilloscope double faisceau (avec retard)
- Oscillateur audiofréquence (AF)
- Compteur de fréquence
- Disque d'essai LD  
NTSC ...GGV1003  
PAL ...GGV-145
- Disque CDV
- Pince coupe-circuit
- Moniteur TV
- Résistance (1 kohms, 47 kohms)
- Condensateur (0,01  $\mu$ F, 0,0027  $\mu$ F)
- Télécommande
- Clé hexagonale 2 mm

## 7.3 PRÉPARATIFS ET REMARQUES SUR LES RÉGLAGES

### 1. Préparation du Lecteur

Avant d'effectuer un réglage, déposer le capot et le plateau du disque; placer ensuite le lecteur à l'horizontale sur une surface plate.



### 2. Insertion du disque

Insérer le disque par l'arrière du lecteur et le poser correctement sur le plateau. Par une poussée sur la touche PLAY, la bride s'abaisse pour immobiliser le disque et la lecture commence.

### 3. Utiliser toutes les sondes d'oscilloscope à 10:1.

## 4. Réglage requis après remplacement des pièces principales

Réglages	Ensembles de remplacement				
	Capteur	Actuateur	Pré-capteur	Moteur d'axe	Capteur
1. Réglage de gain d'inclinaison	⊙				⊙
2. Réglage approximatif de réfraction et de balance d'alignement (TRK)	⊙	⊙	⊙		
3. Réglage horizontal d'axe coulissant	⊙	⊙	⊙	○	⊙
4. Réglage d'inclinaison de capteur	⊙	⊙	⊙	○	○
5. Réglage Erreur TRKG / Diaphonie optimal	⊙	⊙	⊙	○	○
6. Réglage de niveau FOCS SUM	⊙	⊙	⊙	○	○
7. Réglage inclinaison de capteur / balance d'inclinaison	⊙	⊙	⊙	○	⊙
8. Vérification et réglage du centrage de moteur de broche	⊙	⊙	⊙	⊙	
9. Réglage fin de réfraction / Balance TRK	⊙	⊙	⊙		
10. Réglage de gain de boucle FCS	⊙	⊙	⊙		
11. Réglage de gain de boucle TRKG	⊙	⊙	⊙		
12. Réglage de gain RF	⊙	⊙	⊙		

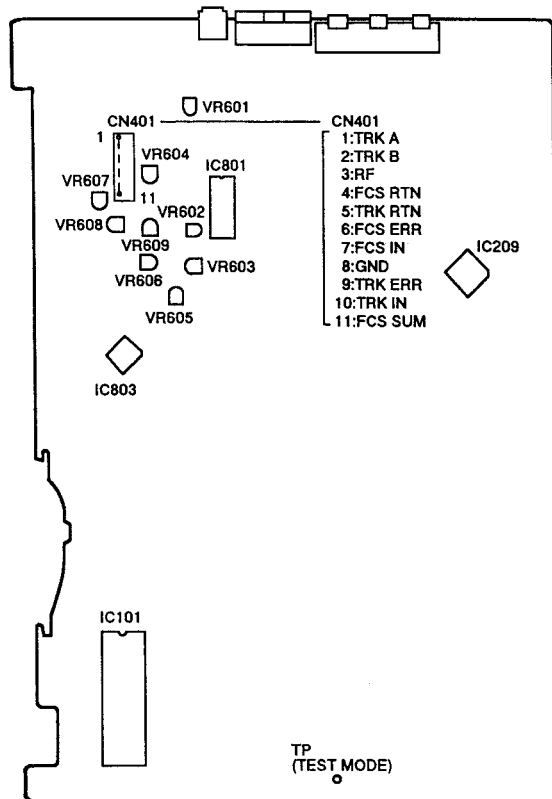
Remarque : Les réglages marqués d'un (○) sont effectués uniquement en cas de diaphonie.

## 7.4 REGLAGES SUR L'ENSEMBLE ASCB

Remarque: Utiliser le disque d'essai NTSC GGV1003 pour tous les réglages de l'ensemble ASCB board.

	Réglage	Point de Réglage	Equipement de Mesure Point de Connexion	Etat du Lecteur	Spécifications de Réglage
1	Réglage de gain d'inclinaison	VR608	Aucun	Hors tension	<ul style="list-style-type: none"> <li>Position de GAIN VR d'inclinaison Rouge: Tourner vers la droite Clair : Centre Bleu: Tourner vers la gauche</li> </ul>
2	Réglage approximatif de réfraction et de balance d'alignement (TRK)	Réfraction/VR602	CN401-9 (TRK ERR)	<ul style="list-style-type: none"> <li>Mode d'essai #15,000 fixe Servo boucle TRK ouverte</li> </ul>	<ul style="list-style-type: none"> <li>Point nul → Erreur TRK MAX</li> <li>Ajuster VR602 pour que le niveau positif et négatif de l'amplitude de forme d'onde à l'erreur TRK soit égal.</li> </ul>
3	Réglage horizontal d'axe coulissant	Touche SKIP du lecteur	CN401-4 (FCS RTN)	<ul style="list-style-type: none"> <li>Mode d'essai Servo boucle d'inclinaison coupée Servo boucle TRK ouverte #5,200 fixe</li> </ul>	<ul style="list-style-type: none"> <li>Utiliser la touche SKIP pour ajuster 0V ± 20mV.</li> </ul>
4	Réglage d'inclinaison de capteur	Vis de réglage TAN ensemble capteur/ inclinaison TRK	CN401-3(RF)	<ul style="list-style-type: none"> <li>Mode d'essai #2,251 fixe Servo boucle TRK fermée/ ouverte Servo boucle d'inclinaison ouverte</li> </ul>	<ul style="list-style-type: none"> <li>Amplitude de forme d'onde RF MAX (Vis de réglage TAN capteur/TRK)</li> <li>Diaphonie minimisée</li> </ul>
5	Réglage optimal d'erreur d'alignement/ diaphonie	VR605 (TE BEST) VR606 (CT BEST)	CN401-9(TRK ERR) CN401-3(RF)	<ul style="list-style-type: none"> <li>Mode d'essai Servo boucle TRK fermée/ ouverte Servo boucle d'inclinaison coupée</li> </ul>	<ul style="list-style-type: none"> <li>RF MAX (VR606) Erreur TRK MAX (VR605)</li> </ul>
6	Réglage de niveau FOCS SUM	VR609	CN401-11 (FCS SUM)	<ul style="list-style-type: none"> <li>Mode Lecture</li> </ul>	<ul style="list-style-type: none"> <li>Ajuster VR609 pour que la tension soit 1,5 VDC.</li> </ul>
7	Réglage inclinaison de capteur/ balance d'inclinaison	Vis de réglage d'inclinaison de capteur VR607 (TILT BAL)	Moniteur TV Ecran en mode d'essai	<ul style="list-style-type: none"> <li>Mode d'essai #16,200 / #115 fixe Servo boucle TRK fermée Servo boucle d'inclinaison coupée</li> </ul>	<ul style="list-style-type: none"> <li>Régler VR607 au centre.</li> <li>Agir sur vis de réglage de sorte que le code d'affichage d'erreur soit 6,7 ou 8.</li> <li>Ajuster VR607 de sorte que l'affichage d'erreur d'inclinaison soit 7.</li> </ul>
8	Vérification et réglage du centrage de moteur de broche	Vis de réglage de centrage de moteur d'axe	CH1:CN401-9 (TRK ERR) CH2:CN401-1, 2 (TRK SUM) (mode X-Y)	<ul style="list-style-type: none"> <li>Mode d'essai #23,800 / #3,000 fixe Servo boucle TRK ouverte Servo boucle d'inclinaison ON</li> </ul>	<ul style="list-style-type: none"> <li>Agir sur la vis de réglage de centrage pour que les figures de Lissajous de #3,000 et #23,800 soient les mêmes.</li> </ul>
9	Réglage fin de réfraction et de balance TRK	Réfraction / VR602	CH1:CN401-9 (TRK ERR) CH2:CN401-1, 2 (TRK SUM) (mode X-Y)	<ul style="list-style-type: none"> <li>Mode d'essai Servo boucle TRK ouverte Servo boucle d'inclinaison ON</li> </ul>	<ul style="list-style-type: none"> <li>Minimiser la direction Y de la figure de Lissajous.</li> <li>Les niveaux de la direction X des figures de Lissajous sont égaux.</li> </ul>
10	Réglage de gain de boucle asservie FCS	VR604	CH1:CN401-7 (FCS IN) CH2:CN401-6 (FCS ERR) (mode X-Y)	<ul style="list-style-type: none"> <li>Mode d'essai #15,000 fixe Servo boucle TRK fermée Servo boucle d'inclinaison ON</li> </ul>	<ul style="list-style-type: none"> <li>Ajuster VR604 de sorte que la figure de Lissajous soit symétrique sur les axes X et Y.</li> </ul>
11	Réglage de gain de boucle asservie TRK	VR603	CH1:CN401-10 (TRK IN) CH2:CN401-9 (TRK ERR) (mode X-Y)	<ul style="list-style-type: none"> <li>Mode d'essai #15,000 fixe Servo boucle TRK fermée Servo boucle d'inclinaison ON</li> </ul>	<ul style="list-style-type: none"> <li>Ajuster VR603 de sorte que la figure de Lissajous soit symétrique sur les axes X et Y.</li> </ul>
12	Réglage de gain de fréquence radio (RF)	VR601	CN401-3(RF)	<ul style="list-style-type: none"> <li>#15,000 fixe</li> </ul>	<ul style="list-style-type: none"> <li>Ajuster VR601 de sorte que le niveau RF devienne 300mV ± 50mV.</li> </ul>

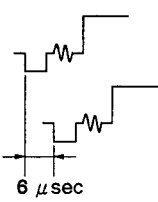
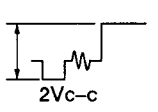
Remarque: Réglage de l'ensemble de plaquette ASCB est le même que pour le CLD-1600/HEZ. Pour les détails, se reporter à "ARP2308" du manuel d'entretien du CLD-1600/HEZ.



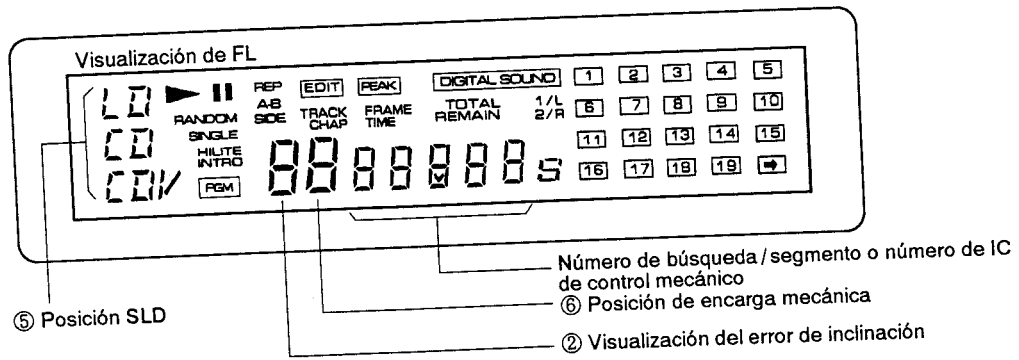
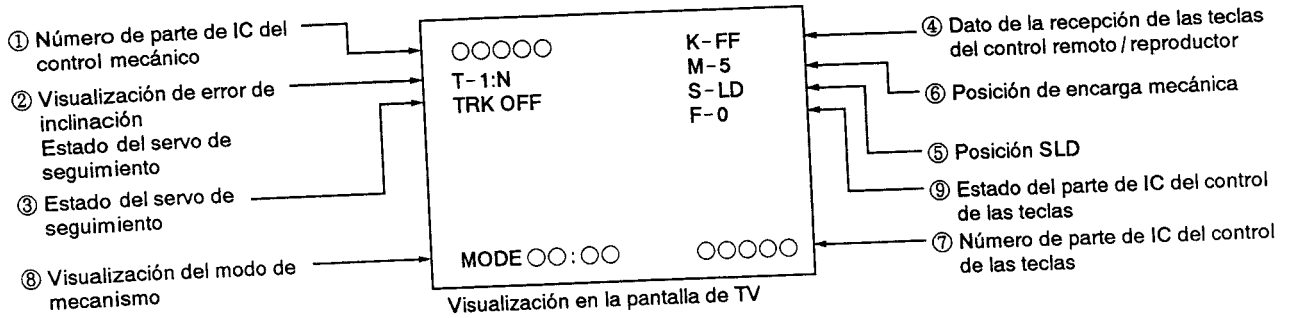
ENSEMBLE ASCB

### 7.5 REGLAGES ELECTRIQUES

Remarque: Cet appareil automatiquement change ses systèmes entre NTSC et PAL en lisant le code Philips enregistré sur le disque d'essai. Utiliser le disque PAL GGV-145 pour les articles marqués pour le mode PAL dans la colonne "Remarques" et le disque NTSC GGV1003 pour les articles marqués pour le mode NTSC.

Réglage	Point de Réglage	Spécifications de Réglage	Norme d'Inspection	Remarques	
Ensemble VDTB					
1	Réglage de rythmeur de synchro -générateur	VC202	Ajuster VC401, situé sur le côté J403 du fil R506 dans la section vidéo, sur 17,734475MHz.	17,734475MHz ± 100Hz	Mode PAL
2	Réglage de rythmeur NTSC REF	VC201	Ajuster VC201, situé sur le côté J403 du fil C507 dans la section vidéo, sur 14,31818MHz.	14,31818MHz ± 100Hz	Mode NTSC
3	Réglage de rythmeur REF	VC203	Ajuster sur 3,5546875MHz à la broche 8 (R347) de IC301.	3,5546875MHz ± 25Hz	Mode PAL
4	Réglage de fréquence centrale VCO	VR471	 <p>Ajuster VR471 de sorte que le retard horaire entre le signal vidéo d'entrée CCD (émetteur Q408) et le signal vidéo de sortie CCD (émetteur Q414) soit 75 µsec (1H + 11 µsec). Pour ce réglage, raccorder la broche 9 de IC404 sur GND.</p>	75 µsec ± 2 µsec	Mode PAL
5	Réglage de niveau vidéo	VR482	 <p>Ajuster le niveau vidéo blanc 100% sur 2Vc-c au VIDEO OUT (J401, broche 6).</p>	2Vc-c ± 5%	Mode PAL
6	Réglage de niveau vidéo de retard 1H	VR441	Ajuster VR441 de sorte que le niveau du signal vidéo de retard 1H à la broche 33 de IC401 soit le même que celui du signal vidéo de ligne à la broche 35.	Signal vidéo de ligne ± 3%	Mode PAL
7	Réglage de niveau VPS ERR	VR521	Tout en observant l'écran magenta sur le vectroscope, minimiser l'instabilité au VIDEO OUT (J401, broche 6).		Mode PAL

**VISUALIZACIONES EN LA PANTALLA DE TV Y DE LED EN EL MODO DE PRUEBA**



① Se mostrará el número de parte de IC (conjunto de tabla ASCB) del control mecánico.  
 PD0136A → 0136A

② Estado del servo de inclinación/ Visualización del error de inclinación

T-○:○○

Estado de servo de inclinación:  
 N...Inclinación neutral  
 ON...ON del servo de inclinación  
 OFF...OFF del servo de inclinación

Visualización del error de inclinación  
 0 Inclinación -  
 ↓ Inclinación neutral  
 F Inclinación +

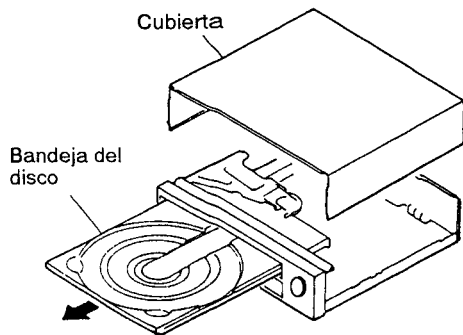
## 7. AJUSTES

### 7.1 MODO DE PRUEBA

#### MODO DE PRUEBA

El reproductor tiene la función del modo de prueba para permitir el hombre de servicios a comprobar el estado del reproductor sobre la pantalla de TV por las teclas respectivas.

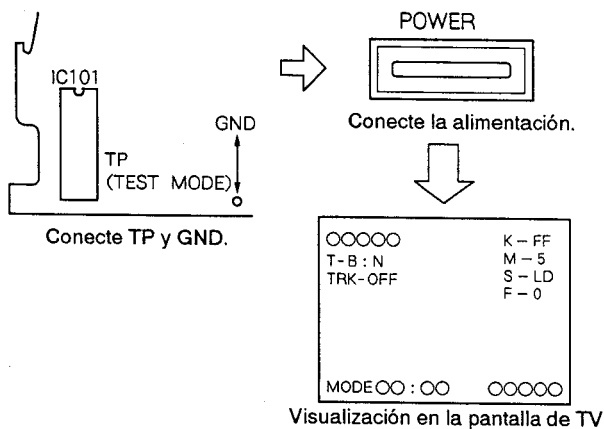
Además, el servo de seguimiento se abre y se cierra fácilmente, el modo de prueba es muy útil para los ajustes mecánicos.



#### INICIACION DEL MODO DE PRUEBA

[Procedimiento]

1. Remueva la cubierta y la bandeja del disco.
2. Conecte TP (MODO DE PRUEBA) situado en el conjunto de tabla ASCB a GND.
3. Conecte la alimentación.
4. Desconecte TP y GND.



#### CANCELACIÓN DEL MODO DE PRUEBA

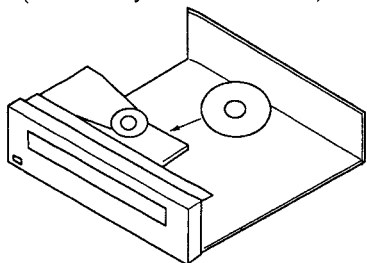
Desconecte la alimentación.

#### FUNCIÓN DEL REPRODUCTOR EN EL MODO DE PRUEBA

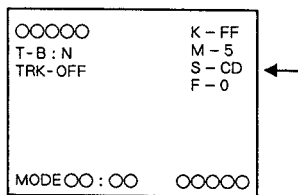
Maneje el reproductor por seleccionando la función del modo de prueba con las teclas sobre el reproductor o sobre el control remote.

##### ● Reproducción de CD

- ① Ponga el CD (disco compacto) sobre el plato giratorio.  
(El tomillo ya se ha levantado.)



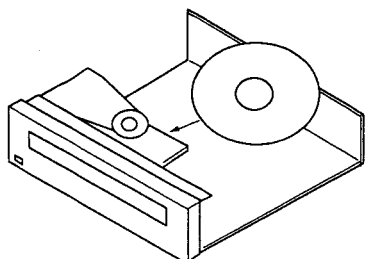
- ② Presione la tecla ◀◀ o ▶▶ para que la visualización "S - CD" se muestre en la pantalla de TV.



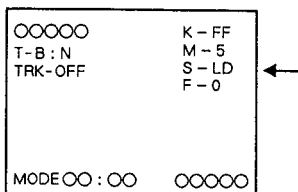
- ③ Sujete el disco presionando la tecla PLAY (▶) una vez.  
Después, presione la tecla PLAY (▶) dos veces. El disco se reproducirá normalmente.

##### ● Reproducción de LD

- ① Ponga el disco LD sobre el plato giratorio.  
(El tomillo ya se ha levantado.)



- ② Presione la tecla ◀◀ o ▶▶ para que la visualización "S - LD" se muestre en la pantalla de TV.



- ③ Sujete el disco presionando la tecla PLAY (▶) una vez.  
Después, presione la tecla PLAY (▶) dos veces. El disco se reproducirá normalmente.

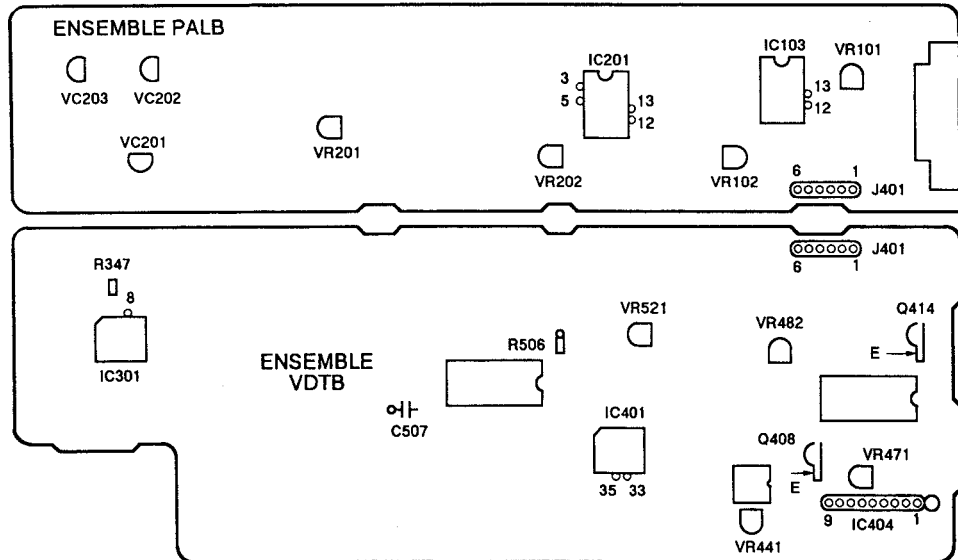


Tabla. Función en el modo de prueba

Función	Estado del Reproductor	Función de tecla	Notas
Bandeja abierta	Modo STOP	▲	
Bandeja cerrada	Bandeja abierta	▲	
Parada	Modo PLAY	■	
Reproducción	Colocación del disco y la bandeja cerrada	▶	<ul style="list-style-type: none"> <li>• Empieza la reproducción con el servo de seguimiento abierto.</li> <li>• Empieza la reproducción con la inclinación neutral.</li> <li>• El tipo del disco (LD/CD/CDV) se determina cuando la reproducción se empieza en la posición SLDR.</li> </ul>
Abierto / cerrado del servo de seguimiento	Modo PLAY	▶	<ul style="list-style-type: none"> <li>• Cada vez que la tecla PLAY (▶) se presiona, el servo de seguimiento será abierto o cerrado alternadamente.</li> </ul>
Fijo	Modo PLAY Cerrado del servo de seguimiento		<ul style="list-style-type: none"> <li>• Cada vez que la tecla STILL (  ) se presiona, el reproductor se cambia entre los modos PLAY y STILL alternadamente.</li> </ul>
SLDR REV SCAN	Modo PLAY	◀◀	<ul style="list-style-type: none"> <li>• A la izquierda</li> <li>• Con el servo de seguimiento abierto, el captor puede ser dañado si el SLD mueva más al interior que la área de conducción sobre el disco.</li> <li>• No haga el SLD mover más al interior que la área de conducción.</li> </ul>
SLDR FWD SCAN	Modo PLAY	▶▶	<ul style="list-style-type: none"> <li>• A la derecha</li> <li>• Con el servo de seguimiento abierto, el captor puede ser dañado si el SLD mueva más al exterior que la área de conducción sobre el disco.</li> <li>• No haga el SLD mover más al exterior que la área de conducción.</li> </ul>
Inclinación neutral	Interruptor POWER ON	EDIT	
ON del servo de inclinación	Modo PLAY	RANDOM PLAY	
Menos de la inclinación OFF del servo de inclinación	Modo PLAY	◀◀	<ul style="list-style-type: none"> <li>• Presione y retenga las teclas.</li> </ul>
Más de la inclinación OFF del servo de inclinación	Modo PLAY	▶▶	<ul style="list-style-type: none"> <li>• Presione y retenga las teclas.</li> </ul>
ON/OFF de la visualización en la pantalla	Interruptor POWER ON	Tecla PGM	
Búsqueda de segmento	Modo PLAY	Tecla +10 ↓ Teclas 0-9 ↓ ▶	<ul style="list-style-type: none"> <li>• En el modo de PLAY, presione la tecla +10. (El reproductor será preparado para la entrada del número de segmento.)</li> <li>• Use las teclas numéricas (0-9) para entrar el número de segmento. Después, presione la tecla PLAY del reproductor para la búsqueda.</li> <li>• Después de completar la búsqueda, el reproductor se volverá al modo anterior.</li> </ul>
Rotación del motor de carga hacia la derecha y hacia la izquierda	Bandeja abierta	▶▶ ◀◀	<ul style="list-style-type: none"> <li>• FWD: Descargar</li> <li>• REV: Encargar</li> </ul>
FOCS OFFSET (CT BEST) Comprobación de VR606	Modo PLAY (el servo de seguimiento OPEN)	(Control remoto) MULTI-SPEED FWD → F-1 REV → F-0 (Reproductor) HILITE INTRO SCAN	<ul style="list-style-type: none"> <li>• Para comprobar VR604</li> <li>F-0 : Modo normal <ul style="list-style-type: none"> <li>• Cuando cierre el servo de seguimiento, VR606 (CT BEST) es efectivo.</li> <li>• Cuando abre el servo de seguimiento, VR605 (TE MAX) es efectivo.</li> </ul> </li> <li>F-1 : Cuando abre el servo de seguimiento, VR606 (CT BEST) es también efectivo.</li> </ul>

	Réglage	Point de Réglage	Spécifications de Réglage	Norme d'Inspection	Remarques
<b>Ensemble PALB</b>					
8	Réglage de niveau vidéo MOD	VR102	Ajuster VR102 de sorte que le niveau de luminance du signal vidéo MOD à la broche 13 de IC103 soit le même que celui du signal vidéo à la broche 12.	± 3%	Mode PAL
9	Réglage de niveau SC de retard 1H	VR101	Tout en observant les barres couleur en mode d'image fixe sur un vectroscope, minimiser la variation de gain à VIDEO OUT (J401, broche 6).		Mode PAL
10	Réglage de niveau MOD Y	VR202	Ajuster VR202 de façon que le niveau de la luminance du IC201 broche 3 (passée par le filtre peigne) et celui du IC201 broche 5 (passée par le 3.2M L. P. F.) soient les mêmes.	± 3%	Mode d'convertir de la NTSC
11	Réglage de niveau MOD SC	VR201	Ajuster VR201 de façon que le niveau de chroma du convertisseur du IC201 broche 13 et le niveau de chroma principal du IC201 broche 12 soient les mêmes.		Mode d'convertir de la NTSC

**• POINT DU REGLAGE**



③ Estado del servo de seguimiento

Visualización en la pantalla de TV

TRK-○○○

ON...Cerrado del servo de seguimiento  
OFF...Abierto del servo de seguimiento

④ Dato de la recepción de las teclas del control remoto /reproductor

Visualización en la pantalla de TV

K-○○

↳ Vea la tabla abajo.

Código	Función	Código	Función	Código	Función	Código	Función
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	
03	3	23	F JOG3	43	DISPLAY	63	
04	4	24	R JOG0	44	REPEAT B	64	
05	5	25	R JOG1	45	CLEAR	65	
06	6	26	R JOG2	46	SPEED -	66	
07	7	27	R JOG3	47	SPEED +	67	
08	8	28		48	REPEAT A	68	
09	9	29		49	(2 / R)	69	
0A	VOLUME +	2A		4A	(STEREO)	6A	
0B	VOLUME -	2B		4B	(1 / L)	6B	
0C	DGT / ANL	2C		4C	PROGRAM	6C	
0D		2D		4D		6D	PLAY /PAUSE
0E	CX ON/OFF	2E		4E		6E	STOP
0F	(TV / LDP)	2F		4F		6F	OPEN / CLOSE
10	(F-SCAN)	30		50	F-STEP	70	
11	(R-SCAN)	31		51		71	DIRECT CD
12		32		52	F-SKIP	72	PEAK
13	CHAP / FRME	33		53	R-SKIP	73	SINGLE
14		34		54	R-STEP	74	
15		35		55	R-MULT	75	
16	STOP / OPEN	36		56		76	
17	PLAY/SERCH	37	DGT LEVEL	57		77	
18	PAUSE	38		58	F-MULT	78	
19		39		59		79	
1A	(POW ON)	3A		5A	HILIT / INTR	7A	
1B	(POW OFF)	3B		5B		7B	
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	

⑤ Posición de SLD

Visualización en la pantalla de TV

S-○○○

IN ... ON del interruptor interior del CD  
CD ... Área activo del CD  
CDV ... Área activo del CDV  
LD ... Área activo del LD

⑥ Posición de encarga mecánica

Visualización en la pantalla de TV

M-○

↳ 0 ... Abierto de la bandeja  
1 ... Encarga  
2 ... Preparado  
3 ... Sujetado  
5 ... Menos de inclinación  
6 ... Inclinación neutral (un lado)  
7 ... Más de inclinación  
8 ... Limite de inclinación  
9 ... El lado B sujetado (dos lados)

⑦ Estado compensador de VR de foco

Visualización en la pantalla de TV

F-○

↳ 0 ... Modo normal  
•Cuando cierre el servo de seguimiento, VR606 (CT BEST) es efectivo.  
•Cuando abre el servo de seguimiento, VR605 (TE MAX) es efectivo.  
1 ... Cuando abre el servo de seguimiento, VR606 (CT BEST) es también efectivo.

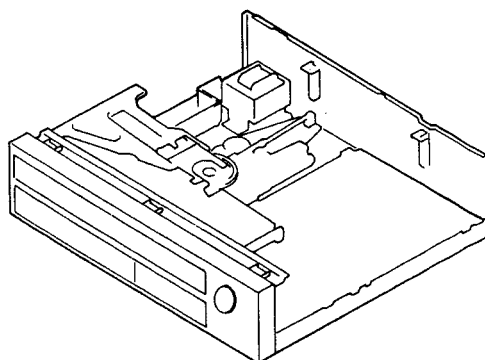
## 7.2 INSTRUMENTOS REQUERIDOS

- Destornillador pequeño (con un mango de aprox. 7cm)
- Destornillador pequeño de Phillips (con un mango de aprox. 15cm)
- Filtro de paso bajo (47 kilohmios + 1  $\mu$ F/BP)
- Osciloscopio de doble traza (con retardo)
- Oscilador de AF
- Frecuencímetro
- Disco de prueba LD  
NTSC ...GGV1003  
PAL ...GGV - 145
- Disco LDD de 8 pulgadas
- Disco CDV
- Presilla cortocircuitadora
- Monitor de TV
- Resistor (1 kilohmios, 47 kilohmios)
- Capacitor (0,01  $\mu$ F, 0,027  $\mu$ F)
- Control remoto
- Llave inglesa hexagonal de 2mm

## 7.3 PREPARATIVOS Y PRECAUCIONES PARA LOS AJUSTES

### 1. Preparativo Para el Reproductor

Antes de realizar el ajuste, quite la cubierta y la bandeja. Luego, coloque el reproductor horizontalmente sobre la superficie plana.



### 2. Inserción del Disco

Inserte el disco desde atrás del reproductor. Colóquelo seguramente sobre el plato giratorio. Cuando se presiona la tecla PLAY, el sujetador se descenderá para sujetar el disco. Luego se comenzará la reproducción.

### 3. Use Todas las Sondas de Osciloscopio de 10:1.

### 4. Sólo el Conjunto Principal se Necesita Ajustarse.

Ajustes	Reemplazo de conjunto				
	Captor	Actuador	Precaptor	Eje de motor	Sensor
1. Ajuste del Servo de la Ganancia de Inclinación	⊙				⊙
2. Ajuste Aproximado de la Retícula y Ajuste del Equilibrio de Error de Seguimiento	⊙	⊙	⊙		
3. Ajuste del Nivel del Eje de la Corredera	⊙	⊙	⊙	○	⊙
4. Ajuste de la Inclinación del Captor	⊙	⊙	⊙	○	○
5. Ajuste del Error de Seguimiento/Ajuste de la Diafonía	⊙	⊙	⊙	○	○
6. Ajuste del Nivel de la Suma del Foco	⊙	⊙	⊙	○	○
7. Ajuste del Sensor de Inclinación/Ajuste del Equilibrio de la Inclinación	⊙	⊙	⊙	○	⊙
8. Comprobación y Ajuste del Centrado del Motor del Eje Central	⊙	⊙	⊙	⊙	
9. Ajuste fino de la Retícula y Ajuste del equilibrio de Seguimiento	⊙	⊙	⊙		
10. Ajuste de la Ganancia del Bucle de Servos del Foco	⊙	⊙	⊙		
11. Ajuste de la Ganancia del Bucle de Servos de Seguimiento	⊙	⊙	⊙		
12. Ajuste de la Ganancia de RF	⊙	⊙	⊙		

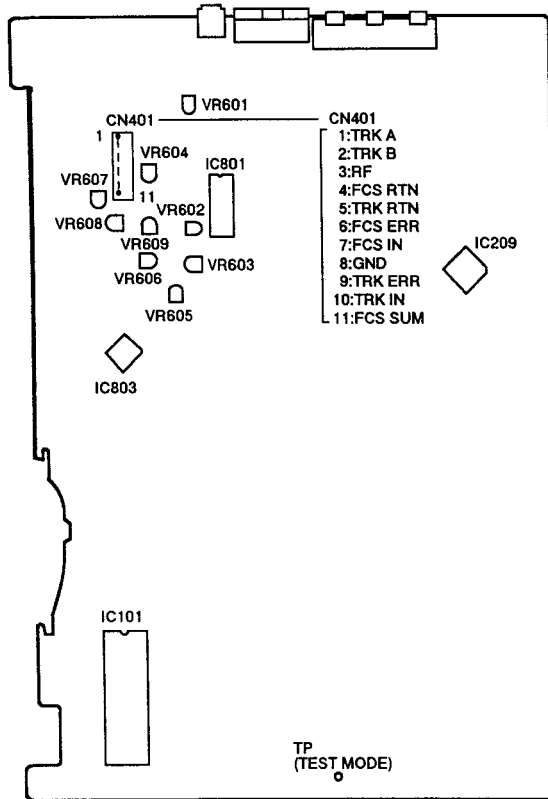
Nota: Ajustes marcados con ○ se realizan solamente cuando se aparece la diafonía.

## 7.4 AJUSTES DEL CONJUNTO DEL ASCB

Nota: Use el disco de prueba GGV1003 para todos los ajustes del montaje ASCB board.

	Ajuste	Punto de Ajuste	Equipo de Medición y Puntos de Conexión	Condicione el reproductor	Especificación de ajuste
1	Ajuste del servo de la ganancia de inclinación	VR608	No hay	Desconecte la alimentación	<ul style="list-style-type: none"> <li>• Posición de GAIN VR de inclinación Rojo: Gire hacia la derecha Nada: Centro Azul: Gire hacia la izquierda</li> </ul>
2	Ajuste aproximado de la retícula y ajuste del equilibrio de error de seguimiento	Reticula/VR602	CN401 - 9 (TRK ERR)	<ul style="list-style-type: none"> <li>• Modo de prueba n. °15,000 fijo Abierto del bucle de servos de seguimiento</li> </ul>	<ul style="list-style-type: none"> <li>• Punto nulo → Error de TRK a MAX</li> <li>• Ajuste VR602 hasta que los niveles positivo y negativo de la amplitud de la forma de onda del error TRK sean iguales.</li> </ul>
3	Ajuste del nivel del eje de la corredera	Tecla SKIP del reproductor	CN401 - 4 (FCS RTN)	<ul style="list-style-type: none"> <li>• Modo de prueba OFF del bucle de servos de inclinación Abierto del bucle de servos de seguimiento n. °5,200 fijo</li> </ul>	<ul style="list-style-type: none"> <li>• Use la tecla SKIP para ajustar a <math>0V \pm 20</math> mV.</li> </ul>
4	Ajuste de la inclinación del captor	Tornillo para ajuste del conjunto del captor TAN/ inclinación TRK	CN401 - 3(RF)	<ul style="list-style-type: none"> <li>• Modo de prueba n. °2,251 fijo Cerrado/abierto del bucle de servos de seguimiento Abierto del bucle de servos de inclinación</li> </ul>	<ul style="list-style-type: none"> <li>• La amplitud de la forma de onda de RF a MAX. (Tornillo para el ajuste de TAN/ TRK del captor)</li> <li>• Diafonía mínima</li> </ul>
5	Ajuste del error de seguimiento/ajuste de la diafonía	VR605 (TE BEST) VR606 (CT BEST)	CN401 - 9(TRK ERR) CN401 - 3(RF)	<ul style="list-style-type: none"> <li>• Modo de prueba Cerrado/abierto del bucle de servos de seguimiento OFF del bucle de servos de inclinación</li> </ul>	<ul style="list-style-type: none"> <li>• RF a MAX (VR606) Error de TRK a MAX (VR605)</li> </ul>
6	Ajuste del nivel de la suma del foco	VR609	CN401 - 11 (FCS SUM)	<ul style="list-style-type: none"> <li>• Modo de reproducción</li> </ul>	<ul style="list-style-type: none"> <li>• Ajuste VR609 hasta que la tensión sea de 1,5 VCC.</li> </ul>
7	Ajuste del sensor de inclinación/ajuste del equilibrio de la inclinación	Tornillo para el ajuste del sensor de inclinación VR607 (TILT BAL)	Monitor de TV Pantalla de modo de prueba	<ul style="list-style-type: none"> <li>• Modo de prueba Fijo de n. °16,200 /n. °115 Cerrado del bucle de servos de seguimiento OFF del bucle de servos de inclinación</li> </ul>	<ul style="list-style-type: none"> <li>• Coloque VR607 en el centro.</li> <li>• Ajuste el tornillo para el ajuste hasta que el código de la visualización del error de inclinación sea 6,7 ó 8.</li> <li>• Ajuste VR607 hasta que la visualización del error de inclinación sea 7.</li> </ul>
8	Comprobación y ajuste del centrado del motor del eje central	Tornillo para el ajuste del centrado del motor del eje central	CH1:CN401 - 9 (TRK ERR) CH2:CN401 - 1, 2 (TRK SUM) (Modo de X - Y)	<ul style="list-style-type: none"> <li>• Modo de prueba Fijo de n. °23,800 /n. °3,000 fijo Abierto del bucle de servos de seguimiento ON del bucle de servos de inclinación</li> </ul>	<ul style="list-style-type: none"> <li>• Ajuste el tornillo para el ajuste del centrado hasta que las figuras de Lissajous n. °3,000 y n. °23,800 sean iguales.</li> </ul>
9	Ajuste fino de la retícula y ajuste del equilibrio de seguimiento	Reticula/VR602	CH1:CN401 - 9 (TRK ERR) CH2:CN401 - 1, 2 (TRK SUM) (Modo de X - Y)	<ul style="list-style-type: none"> <li>• Modo de prueba Abierto del bucle de servos de seguimiento ON del bucle de servos de inclinación</li> </ul>	<ul style="list-style-type: none"> <li>• Reduzca la anchura del sentido del eje Y de la figura de Lissajous.</li> <li>• Los niveles del sentido del eje de las figuras de Lissajous son iguales.</li> </ul>
10	Ajuste de la ganancia del bucle de servos del foco	VR604	CH1:CN401 - 7 (FCS IN) CH2:CN401 - 6 (FCS ERR) (Modo de X - Y)	<ul style="list-style-type: none"> <li>• Modo de prueba Fijo de n. °15,000 Cerrado del bucle de servos de seguimiento ON del bucle de servos de inclinación</li> </ul>	<ul style="list-style-type: none"> <li>• Ajuste VR604 hasta que la figura de Lissajous sea simétrica con respecto a los ejes X e Y.</li> </ul>
11	Ajuste de la ganancia del bucle de servos de seguimiento	VR603	CH1:CN401 - 10 (TRK IN) CH2:CN401 - 9 (TRK ERR) (Modo de X - Y)	<ul style="list-style-type: none"> <li>• Modo de prueba Fijo de n. °15,000 Cerrado del bucle de servos de seguimiento ON del bucle de servos de inclinación</li> </ul>	<ul style="list-style-type: none"> <li>• Ajuste VR603 hasta que la figura de Lissajous sea simétrica con respecto a los ejes X e Y.</li> </ul>
12	Ajuste de la ganancia de RF	VR601	CN401 - 3(RF)	<ul style="list-style-type: none"> <li>• Fijo de n. °15,000</li> </ul>	<ul style="list-style-type: none"> <li>• Ajuste VR601 hasta que el nivel de RF sea de <math>300</math> mV <math>\pm</math> <math>50</math> mV.</li> </ul>

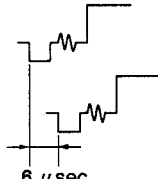
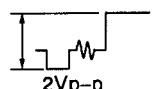
Nota: Manera de ajustar el conjunto de la tabla ASCB es misma que CLD - 1600/HEZ. Para los detalles, refiérase al manual de servicios ARP2308 para CLD - 1600/HEZ.



CONJUNTO DEL ASCB

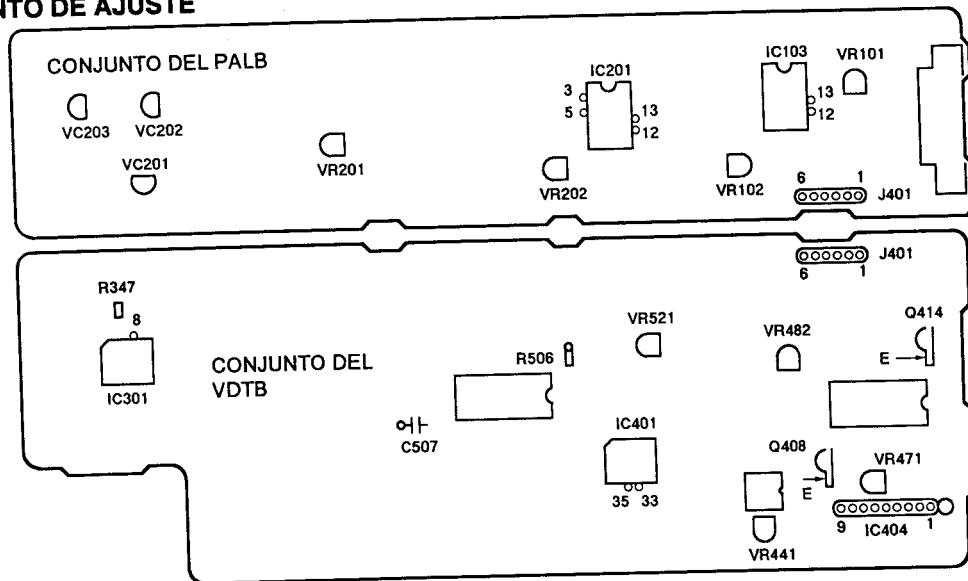
## 7.5 AJUSTES ELECTRICOS

Nota: Esta unidad automáticamente conmuta entre los sistemas NTSC y PAL por leyendo el código en el disco de prueba. Use el disco GGV-145 PAL para los artículos del modo PAL en la columna de notas y use el disco GGV1003 NTSC para los artículos del modo NTSC.

	Ajuste	Punto de Ajuste	Especificaciones de Ajuste	Inspección Estándar	Notas
Conjunto del VDTB					
1	Ajuste del reloj del generador sincrónico	VC202	Ajuste VC401 a 17,734475MHz al lado J403 del alambre de conducción R506 en la sección de video.	17,734475MHz $\pm$ 100Hz	Mode PAL
2	Ajuste de reloj NTSC REF	VC201	Ajuste VC201 a 14,31818MHz al lado J403 del alambre de conducción C507 en la sección de video.	14,31818MHz $\pm$ 100Hz	Mode NTSC
3	Ajuste de reloj REF	VC203	Ajuste a 3,5546875MHz al alfiler 8 (R347) de IC301.	3,5546875MHz $\pm$ 25Hz	Mode PAL
4	Ajuste de frecuencia central de VCO	VR471	 <p>Ajuste VR471 para que el retardo de tiempo entre entrada de video CCD (Q408 emisor) y la salida de video CCD (Q414 emisor) sea 75 <math>\mu</math>sec (1H + 11 <math>\mu</math>sec). Para este ajuste, conecte el alfiler de IC404 a GND.</p>	75 $\mu$ sec $\pm$ 2 $\mu$ sec	Mode PAL
5	Ajuste del nivel de video	VR482	 <p>Ajuste del nivel de video blanco de 100% a 2V<sub>p-p</sub> en VIDEO OUT (J401, alfiler 6).</p>	2V <sub>p-p</sub> $\pm$ 5%	Mode PAL
6	Ajuste del nivel de video de retardo 1H	VR441	Ajuste VR441 para que el nivel de video de retardo de 1H en el alfiler 33 de IC401 sea mismo que el nivel de video en el alfiler 35. Video de línea principal es de $\pm$ 3%.	Video de línea principal $\pm$ 3%	Mode PAL
7	Ajuste del nivel de VPS ERR	VR521	Mientras observando la pantalla majenta en la esfera de vector, reduzca la fluctuación en VIDEO OUT (J401, alfiler 6).		Mode PAL

	Ajuste	Punto de Ajuste	Especificaciones de Ajuste	Inspección Estándar	Notas
Conjunto del PALB					
8	Ajuste del nivel de video MOD	VR102	Ajuste VR102 para que el nivel de luz de video MOD al alfiler 13 de IC103 sea mismo que el nivel a través de video en el alfiler 12.	± 3%	Mode PAL
9	Ajuste del nivel SC de retardo de 1H	VR101	Mientras observando las barras de color en el modo fijo en la esfera de vector, reduzca la variación de ganancia en VIDEO OUT (J401, alfiler 6).		Mode PAL
10	Ajuste del nivel de MOD Y	VR202	Ajuste VR202 hasta que el nivel de luminancia del alfiler 3 de IC201 (que pasa por el filtro de peine) y el nivel de luminancia del alfiler 5 de IC201 (que pasa por 3,2M L. P. F.) sean iguales.	± 3%	Mode de convertir del NTSC
11	Ajuste del nivel de MOD SC	VR201	Ajuste VR201 hasta que el nivel de croma de convertidor en el alfiler 13 de IC201 sea igual con el nivel del alfiler 12 de IC201.		Mode de convertir del NTSC

● PUNTO DE AJUSTE



## 8. FOR HB TYPE

### NOTES:

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

### CONTRAST OF MISCELLANEOUS PARTS

CLD-1750/HB and CLD-1750/HEZ have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		HEZ type	HB type	
$\Delta$	AC power cord	VDG1028	VDG1029	
	Packing case	VHG1221	VHG1220	
NSP	Rear panel	VNA1267	VNA1268	
	Operating instructions (English/French/German/Italian)	VRE1009	.....	
⊙	Operating instructions (Dutch/Swedish/Spanish/Portuguese)	VRF1016	.....	
	Operating instructions (English)	.....	VRB1069	
	SYPS assembly	VWR1093	VWR1092	

### SYPS ASSEMBLY

VWR1092 and VWR1093 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		VWR1093	VWR1092	
	Q202	2SB1370	2SB1185	



# 10. SPECIFICATIONS

## 1. General

System .....	LaserVision Disc system and Compact Disc digital audio system
Laser .....	Semiconductor laser wavelength 780 nm
Power requirements .....	AC 240 V, 50/60 Hz
Power consumption .....	44 W
Weight .....	8.0 kg
Dimensions .....	420 (W) x 418 (D) x 122 (H) mm
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

#### PAL disc

*Maximum playing times	
30 cm active play disc .....	72 min/both sides
30 cm long play disc .....	2 hours/both sides
20 cm active play disc .....	28 min/both sides
	14 min/one side
20 cm long play disc .....	40 min/both sides
	20 min/one side
Spindle motor speed	
Active play disc .....	1,500 rpm
Long play disc .....	1,500 rpm (inner circumference) to 570 rpm (outer circumference)
	(For a 30 cm disc)

#### NTSC disc

*Maximum playing times	
30 cm standard play disc .....	1 hour/both sides
30 cm extended play disc .....	2 hours/both sides
20 cm standard play disc .....	28 min/both sides
	14 min/one side
20 cm extended play disc .....	40 min/both sides
	20 min/one side
Standard play disc .....	
	1,800 rpm
Extended play disc .....	1,800 rpm (inner circumference) to 600 rpm (outer circumference)
	(For a 30 cm disc)

### Compact Discs

DISC .....	Diameter: 12 cm, 8 cm, Thickness: 1.2 mm
Rotation direction (pickup side) .....	Counterclockwise
Linear speed .....	1.2 ~ 1.4m/sec
*Maximum playing time	
	74 min. 12 cm discs
	20 min. 8 cm discs
	(For stereo playback)

### Compact Discs with Video

Disc .....	Diameter: 12 cm, 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 .....	PAL/NTSC specifications
Video output	
Level .....	1 Vp-p nominal, sync. negative, terminated
Impedance .....	75Ω unbalanced
Jack .....	RCA jack

## 4. 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

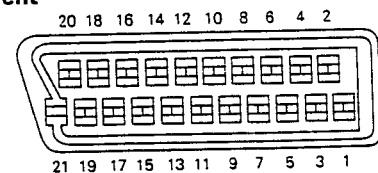
### Digital Audio Characteristics

Frequency response	4 Hz - 20 kHz
SN ratio	105 dB (EIAJ)
Dynamic range	97 dB (EIAJ)
Total harmonic distortion	0.003% (EIAJ)
Wow and flutter	Limit of measurement (EIAJ)

## 5. Other Terminals

Control input/output .....	Both miniature jacks
CD-DECK synchro .....	Miniature jack
Optical digital output .....	Optical digital jack
AV connector input/output .....	21-pin connector
This connector provides the video and audio signals for connection to a colour video TV monitor ( or TV set) which has a "AV CONNECTOR" terminal.	

### PIN assignment



PIN no.	1 Audio 2/R out	17 GND
	3 Audio 1/L out	19 Video out
	4 GND	21 GND
	8 Status	

## 6. Accessories


Remote control unit (CU-CLD071) .....	1
Size "AAA" (IEC R03) dry cell batteries .....	2
Euroconnector cable .....	1
Audio cord .....	1
Operating instructions .....	1
Warranty card .....	1

## 7. Functions

Remote control unit operations (CU-CLD071)

	Function	Active play/ Standard play Disc (CAV)	Long play/ Extended play Disc (CLV)	Compact Disc with Video	Compact Disc
Basic Functions	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
	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	NO	NO	NO
	Multi-speed (Forward/reverse 9-level variable)	YES	NO	NO	NO
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	Compu program/Auto program edit	YES*1	YES*1	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
	CX system ON/OFF	YES*2	YES*2	NO	NO
	Auto digital/analog switch	YES*3	YES*3	NO	NO
	Audio channel selection (Stereo, 1/L, 2/R)	YES	YES	YES	YES

\*1 Only discs with TOC

\*2 Valid for analog audio playing a disc with the  mark.

\*3 Can only be used with discs with digital audio tracks.

\*4 Audio part only

\*5 Video part only

### NOTE:

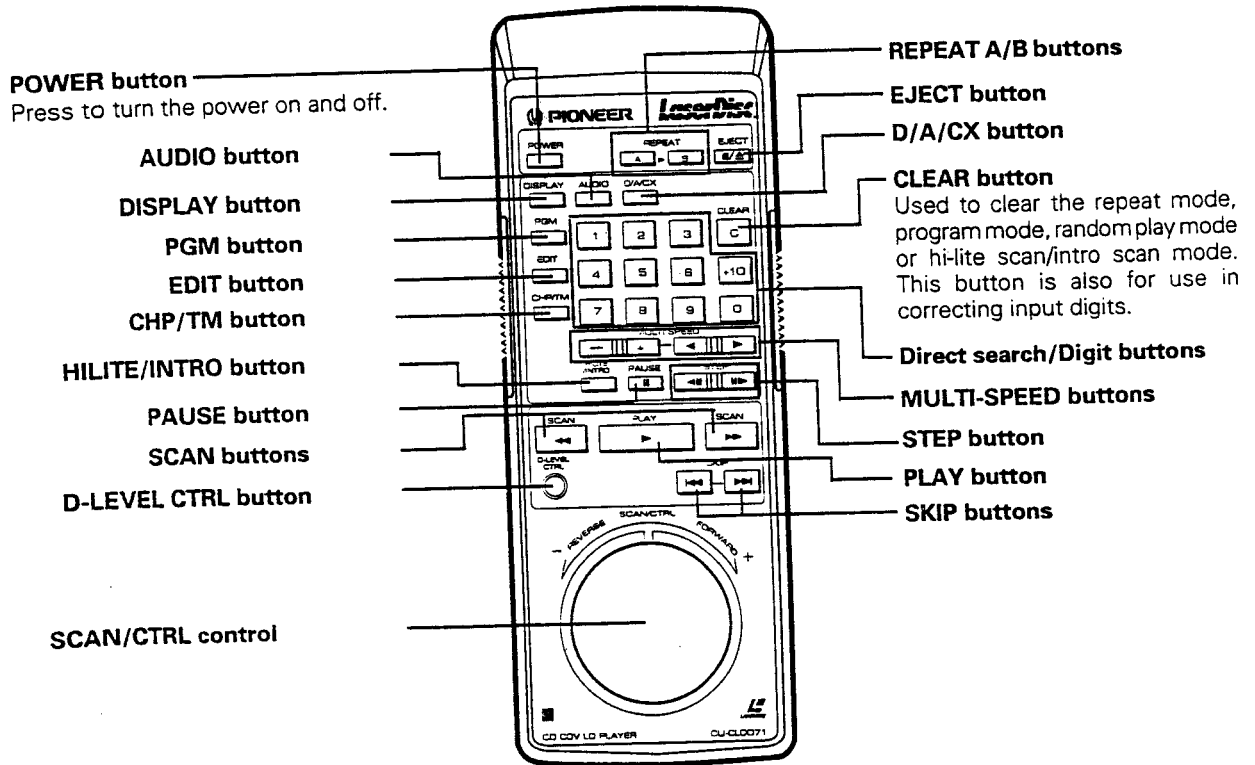
The specifications and design of this product are subject to change without notice, due to improvement.

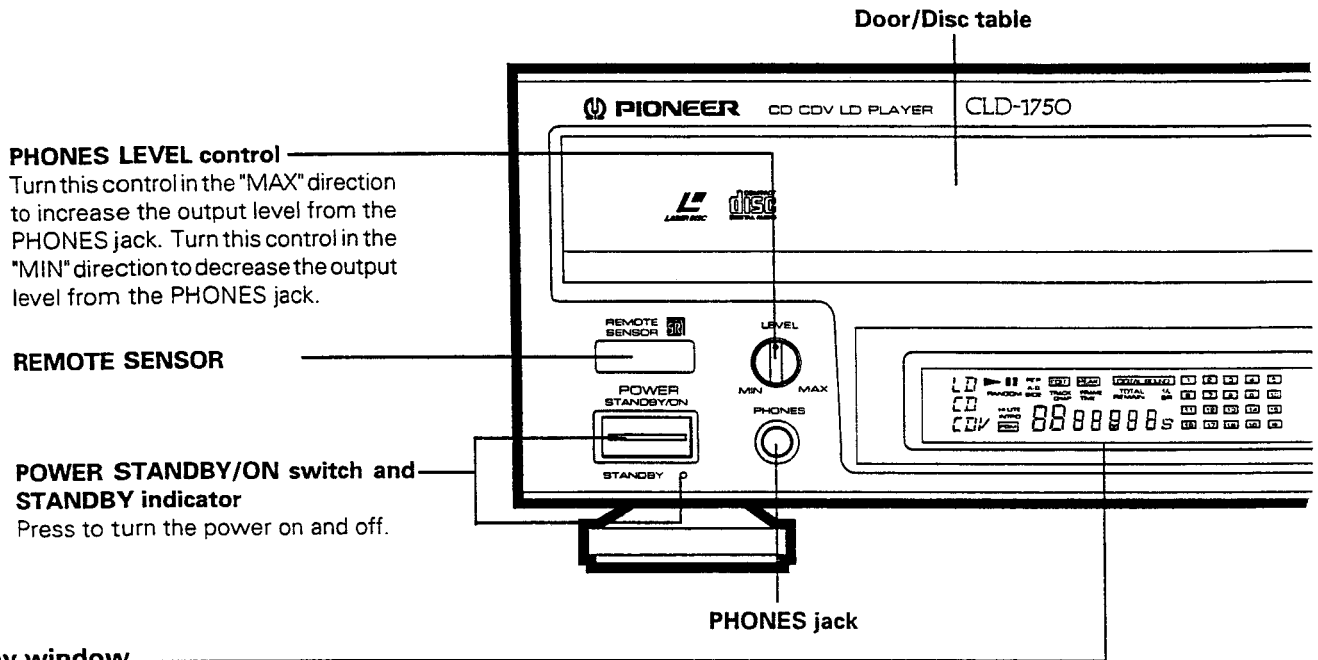
### PLAYER FUNCTIONS

- Display, Visual Calendar Display
- Intro Scan, Hi-Lite Scan, Direct CD, Digital Level Control, Random Playback, Program Random Playback and Compu Program/Auto Program Edit
- Digital Audio for LaserVision Discs
- Last Memory

# 11. PANEL FACILITIES

Remote control buttons with the same names or marks as buttons on the front panel of the player control the same operations as the corresponding front panel buttons.





**Display window**

