

 **PIONEER®**  
The Art of Entertainment

# Service Manual

ORDER NO.  
ARP2786

CD CDV LD PLAYER

# CLD-1850

HEZ, HB, HPW

- Refer to the service manual ARP2543 for CLD-1700/HEZ.
- This manual is applicable to CLD-1850/HEZ, HB and HPW.

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# 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 UDSAETTELSE FOR STRÅLING.

IMPORTANT

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

VARNING!

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

LASER DIODE CHARACTERISTICS

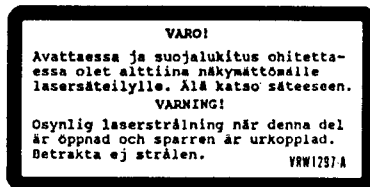
MAXIMUM OUTPUT POWER: 5 mw  
WAVELENGTH: 780-785 nm

## LABEL CHECK

HB model



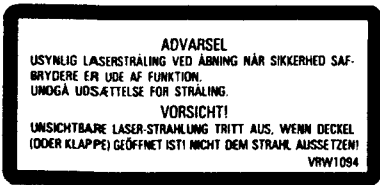
HEZ model



HEZ and HB model



HEZ model



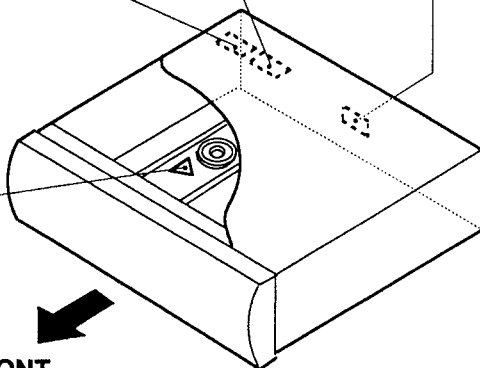
Additional Laser Caution

1. The ON/OFF statuses of the slider - position detection switches (PARK INNER, PARK OUTER on the PKSB assembly), loading - status detection switches (SW 1, 2 and 3 on PKSB assembly) are detected by the microprocessor (IC101 in the MOTHER ASSY). To permit the laser diode to oscillate, it is required to set the slider - position detection switch for the LD ACTIVE status (PARK INNER: OFF, PARK OUTER: OFF), and to set the loading - status detection switch for clamped state (SW1: OFF, SW2: ON, SW3: ON). As long as these requirements are not satisfied, the laser diode will not oscillate. When the requirements are met in any way, the laser diode can oscillate. The laser diode oscillation will continue if pin 29 of IC801 is shorted to GND or the emitter and collector of Q809 are shorted each other (fault condition) in MOTHER ASSY. \*  
In test mode (see page 51), the laser diode oscillates when microprocessor detects a PLAY signal or when the PLAY key is pressed (S223: ON in the FLKY assembly), with the above requirements satisfied.

HEZ and HB models



FRONT



2. When the cover is open, close viewing through the objective lens with the naked eye will cause exposure to a Class 1 laser beam.

\* : Refer to service manual ARP2543, CLD-1700.

## 2. CONTRAST OF MISCELLANEOUS PARTS

**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  $\boxed{5} \boxed{6} \boxed{1} J$
    - 47k  $\Omega$   $\rightarrow$  47  $\times$  10<sup>3</sup>  $\rightarrow$  473..... RD1/4PS  $\boxed{4} \boxed{7} \boxed{3} J$
    - 0.5  $\Omega$   $\rightarrow$  0R5..... RN2H  $\boxed{0} \boxed{R} \boxed{5} K$
    - 1  $\Omega$   $\rightarrow$  010..... RSIP  $\boxed{0} \boxed{1} \boxed{0} K$
  - 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  $\boxed{5} \boxed{6} \boxed{2} \boxed{1} F$

CLD- 1850/HEZ, HB, HPW and CLD - 1700/HEZ have the same construction except for the following :

Mark	Symbol & Description	Part No.				Remarks
		CLD-1700 /HEZ	CLD-1850 /HEZ	CLD-1850 /HB	CLD-1850 /HPW	
☉	FLKB assembly	VWM1278	.....	.....	.....	
NSP	FLKB assembly	.....	VWM1367	VWM1367	VWM1367	
NSP	FLKY assembly	VWG1336	.....	.....	.....	
	FLKY assembly	.....	VWG1410	VWG1410	VWG1410	
NSP	PSWB assembly	VWG1315	VWG1449	VWG1449	VWG1449	
NSP	HEPB assembly	VWV1254	VWV1320	VWV1320	VWV1320	
☉	MOTHER assembly	VWM1276	.....	.....	.....	
	MOTHER assembly	.....	VWX1167	VWX1167	VWX1167	No. 1
NSP	AUDIO assembly	VWX1124	.....	.....	.....	
NSP	MAIN assembly	VWX1123	.....	.....	.....	
☉	SYPS assembly	VWR1146	VWR1146	VWR1147	VWR1178	
☉	SCRB assembly	VWV1248	.....	.....	.....	
	DSCB assembly	.....	VWV1296	VWV1296	VWV1296	No. 2
	Rack assembly	VWT1080	VWT1099	VWT1099	VWT1099	
NSP	Pickup assembly	VWY1030	VWY1036	VWY1036	VWY1036	
$\Delta$	Strain relief	.....	CM-22B	CM-22B	CM-22B	
$\Delta$	AC power cord	VDG1028	PDG1003	VDG1051	RDG1022	No. 3
$\Delta$	Fuse (FU1 : T13A)	.....	.....	VEK1003	.....	No. 4
	Fuse holder	.....	.....	VKR1002	.....	No. 5
NSP	PC support	VEC1584	VEC1415	VEC1415	VEC1415	
	Packing case	VHG1260	VHG1271	VHG1272	VHG1272	
NSP	Rear panel	VNA1278	.....	.....	.....	
	Rear panel (FE)	.....	VNA1330	VNA1331	VNA1331	
NSP	CD door assembly-S	VXX1728	VXX1848	VXX1848	VXX1848	
	CD door	VNK2033	VNK2244	VNK2244	VNK2244	
NSP	Center panel assembly-S	VXX1757	VXX1859	VXX1859	VXX1952	
	Center panel	VNK2085	VNK2265	VNK2265	VNK2265	
	Front panel assembly	VXA1867	VXA1962	VXA1962	VXA1962	
	FL filter	VNK1694	VNK1694	VNK1694	VNK1695	
	Operating instructions(English/French/German/Italian)	VRE1010	VRE1015	.....	.....	
	Operating instructions (Dutch/Swedish/Spanish/Portuguese)	VRF1017	VRF1022	.....	.....	
	Operating instructions (English)	.....	.....	VRB1085	VRB1085	
	Remote control unit (CU-CLD077)	VXX1758	.....	.....	.....	
NSP	Remote control unit (CU-CLD082)	.....	VXX1832	VXX1832	VXX1832	
	Warranty card	ARW-088	ARW-088	ARW-088	ARY1067	
	Battery cover	VNK1293	DNK2286	DNK2286	DNK2286	
	Pin cap	.....	.....	VEC1616	.....	No. 6
	Pad (R)	VHA1106	VHA1106	VHA1123	VHA1123	
NSP	Caution label	.....	.....	PRW1018	PRW1018	
NSP	Caution label	VRW1094	VRW1094	.....	.....	
NSP	Caution label HE	VRW1297	VRW1297	.....	.....	

Note: The numbers in the remarks column correspond to the numbers on the exploded diagram. Refer to "EXPLODED VIEWS".

**FLKY ASSEMBLY**

VWG1410 and VWG1336 have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		VWG1336	VWG1410	
	IC201 D211, D212	PD3214B .....	PD3246A MTZ5.6B	

**SYPS ASSEMBLY**

VWR1147, VWR1178 and VWR1146 have the same construction except for the following :

Mark	Symbol & Description	Part No.			Remarks
		VWR1146	VWR1147	VWR1178	
△	L2 Line filter	.....	.....	VTL-004	

**PSWB ASSEMBLY**

Although VWG1449 and VWG1315 are different in part number, they have the same service parts.

**HEPB ASSEMBLY**

Although VWV1320 and VWV1254 are different in part number, they have the same service parts.

**• PCB PARTS LIST**

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
<b>DSCB ASSEMBLY</b>				<b>CAPACITORS</b>			
<b>SEMICONDUCTORS</b>						C137, C141, C145, C149	CCSQCH101J50
		IC104, IC105	BA15218			C232	CCSQCH150J50
		IC103, IC106	BA15218N			C139, C143, C147, C151	CCSQCH221J50
		IC101	CXD2500BQ			C220, C221	CCSQCH271J50
		IC107	LA7955			C258-C263	CCSQCH390J50
		IC110	NJM78L05A			C274, C275, C301	CEANP220M10
		IC108	NJM78M08FA			C222, C223	CEANP2R2M50
		IC109	NJM79L08A			C215	CEANPR47M50
		IC102	PD2026B			C133, C134, C138, C140, C142, C144,	CEAS100M50
		Q224	2SA933S			C146, C148, C150, C152, C160, C228,	
		Q111, Q112	2SC1740S			C284, C285	
		Q208, Q209, Q220, Q222, Q223	2SC2412K			C207, C279	CEAS101M10
		Q204, Q205	2SD2144S			C155, C203, C208, C211, C225, C226,	CEAS470M10
		Q203, Q207, Q210, Q212-Q216, Q221	DTA124EK			C230, C252, C253, C270-C273, C283	
		Q113, Q206, Q225	DTC124EK			C153, C154	CEAS471M10
		D202, D207	DAN202K			C255, C257	CEAS471M6R3
		D210, D211	ERA83-006			C131, C159	CEJA100M16
		D201	FC54M			C327	CKSQYB102K50
<b>COILS AND FILTER</b>						C287	CKSQYB682K50
		L201, L202, L204-L206, L301-L303	LAU010K			C132, C157, C206, C213, C216, C217,	CKSQYF103Z50
		L203	LAU220J			C231, C234, C251, C286, C320, C323, C324	
		F201	TH1016			C204, C209, C212, C254, C288, C310,	CKSQYF104Z25
						C311, C322, C325, C326	
						C201, C224	CKSQYF473Z25
						C268, C269	CQMA102J50
						C202, C264, C265	CQMA152J50
						C266, C267	CQMA682J50

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
<b>RESISTORS</b>							
△	R169, R170		DCN1003		D805		1SR35-100AVL
	R212, R213, R220, R221		RD1/6PM470J		D101-D103, D401, D502, D801-D803,		ISS254
	R160, R164		RD1/6PM471J		D806, D807		
	R140, R141, R159, R163		RD1/6PM750J		D601, D810, D811		DA204K
	OTHER RESISTORS		RS1/10S□□□J		D201		DAN202K
					D403		DAP202K
					D203		SVC201SPA
<b>OTHERS</b>				<b>COILS AND FILTERS</b>			
	CN105 5P TOP POST		B5P-SHF		L801		LAU100J
	3P CABLE HOLDER		51048-0300		L203, L204, L251, L252, L255, L412,		LAU120J
	J1 3P JUMPER WIRE		D20PDY0360G		L413, L442, L443, L521		
	JA101 RGB CONNECTOR		VKB1056		L414, L415, L430		LAU150J
	JA102 2P PIN JACK		VKB1060		L497, L802, L804		LAU151J
	TERMINAL		VNE1841		L346		LAU180J
	EARTH PLATE(FE)		VNF1081		L345, L348, L803		LAU181J
	X201 CRYSTAL RESONATOR (16MHz)		VSS1057		L201, L202		LAU1R2J
					L347, L351, L496, L530, L601		LAU220J
					L600		LAU270J
<b>MOTHER ASSEMBLY</b>					L525		LAU330J
<b>SEMICONDUCTORS</b>					L523		LAU390J
	IC805		BA10393F		L432		LAU430J
	IC203, IC602, IC804		BA15218N		L433		LAU470J
	IC205		BU4053B		L805		LAU4R7J
	IC351		CA0002AM		L522		LAU560J
	IC801		CXA1081S		L411, L431		LAU680J
	IC802		CXA1372S		L458		LFA221J
	IC403		CXL1009P		L457, L524		LFA561J
	IC807		LA6510L		F204 3. 2MHz L. P. FILTER		VTF1011
	IC405		M50552-132SP		F203 4. 43MHz B. P. FILTER		VTF1034
	IC803		NJM072L		F202 COMB FILTER		VTF1042
	IC404		PA0017-P		F201 8MHz B. P. FILTER		VTF1051
	IC401		PA5013A	<b>CAPACITORS</b>			
	IC101		PD0173A		VC201 (10p)		PCM1001
	IC201		PD3239A		VC202 (20p)		VCM-008
	IC402		PM0001		VC203 (30p)		VCM1005
	IC601		PM3002		C203, C431, C438, C441, C816, C844		CCSQCH050C50
	IC204		TA7320P		C207, C500, C532, C774		CCSQCH100D50
	IC806		TA8464K		C124, C125, C212, C231, C256, C265,		CCSQCH101J50
	IC202		TC7SU04F		C419, C461, C496, C632, C809, C811,		
	Q204, Q254, Q263, Q406, Q407, Q411,		2SA1037K		C430		CCSQCH120J50
	Q456, Q496, Q502, Q503, Q511, Q540,				C345, C456		CCSQCH121J50
	Q611, Q613, Q614, Q703, Q704, Q802,				C352, C439, C440		CCSQCH150J50
	Q812, Q831, Q905, Q909, Q917				C264, C348, C509, C550, C570, C771, C772		CCSQCH151J50
	Q809		2SA1399		C409, C415, C417, C423, C424, C485,		CCSQCH180J50
	Q532		2SA933S		C529, C612, C633		
	Q401		2SB1237X		C437		CCSQCH220J50
	Q261, Q351, Q431, Q524		2SC1740S		C266, C374, C660		CCSQCH221J50
	Q202, Q203, Q205, Q252, Q253, Q255,		2SC2412K		C204, C208, C341, C416, C495, C510,		CCSQCH270J50
	Q256-Q260, Q262, Q352, Q404, Q408,				C520, C775, C779, C810, C843		
	Q497-Q501, Q548, Q549, Q601-Q605,				C402, C463, C507, C508, C918, C930, C957		CCSQCH271J50
	Q700-Q702, Q801, Q803-Q805, Q807,				C104, C105, C205, C462, C560		CCSQCH330J50
	Q811, Q813, Q915, Q918				C211, C343, C433, C524, C528, C559		CCSQCH390J50
	Q402		2SD1858X		C252, C406		CCSQCH391J50
	Q908		2SK184		C455, C845, C846		CCSQCH470J50
	Q201, Q251, Q403, Q405, Q504, Q512,		DTA124EK		C841, C999		CCSQCH471J50
	Q606, Q808, Q810, Q814, Q903, Q913				C847		CCSQCH510J50
	Q101, Q505, Q522, Q530, Q531, Q612,		DTC124EK		C342, C549, C778		CCSQCH560J50
	Q615, Q624, Q901, Q902, Q911, Q912, Q914						

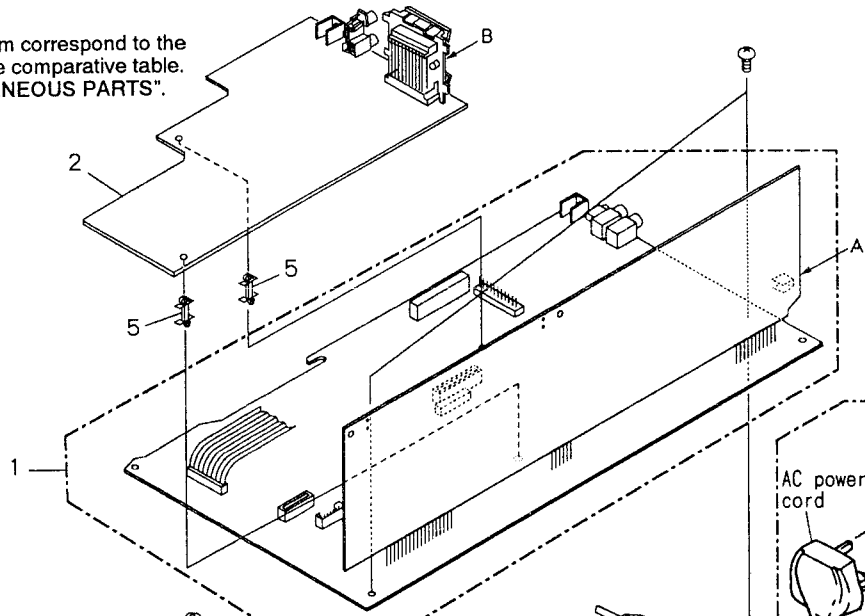
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	C206, C344, C346, C808, C812		CCSQCH680J50		C102, C407, C408, C466, C467, C483,		CKSQYF473Z25
	C293, C347, C349, C411, C412, C498,		CCSQCH820J50		C487, C488, C527, C601, C629, C813,		
	C609, C806				C815, C943, C948, C949, C951, C956		
	C536		CCSQCH910J50		C858		CKSYF105Z16
	C530, C848		CEANP100M16		C219, C605-C607		CQMA102J50
	C284, C551, C613, C620, C623		CEANP220M10		C618		CQMA103J50
	C277, C278, C283		CEANP470M10		C608		CQMA152J50
	C537, C945		CEAS010M50		C627		CQMA222J50
	C354, C522		CEAS100M50		C444, C611		CQMA272J50
	C364, C434, C445, C452, C457, C489,		CEAS101M10		C218, C355-C358		CQMA472J50
	C490, C643, C647, C842				C958		VCH1115
	C472, C473, C477		CEAS3R3M50	<b>RESISTORS</b>			
	C101, C150, C201, C209, C213, C220,		CEAS470M16		VR608		VRTB6VS153
	C221, C222, C227, C254, C258, C260,				VR201, VR601		VRTB6VS222
	C262, C268, C270, C280-C282, C286,				VR441		VRTB6VS223
	C288, C290, C363, C369, C428, C474,				VR605, VR606		VRTB6VS333
	C484, C499, C501, C502, C512, C521,				VR202		VRTB6VS471
	C525, C533, C552, C558, C622, C624,				VR204, VR481, VR482, VR521		VRTB6VS472
	C801, C802, C901, C902				VR603, VR604, VR607		VRTB6VS473
	C443		CEAS4R7M50		R994		DCN1001
	C368		CEASR47M50		R496		RD1/6PM101J
	C367, C831, C941, C942		CEHAQ100M50		R564		RD1/6PM102J
	C273, C275		CEJA470M6R3		R667		RD1/6PM103J
	C401, C405, C619		CEJANP2R2M35		R287, R605, R817		RD1/6PM221J
	C625, C628, C926, C932		CEJANP4R7M16		R406		RD1/6PM224J
	C223		CEJANPR47M50		R619, R631, R854		RD1/6PM225J
	C368, C849		CEJAR47M50		R286		RD1/6PM2R2J
	C446		CFTXA103J50		R255, R261, R289, R845, R846		RD1/6PM470J
	C365, C366, C514		CFTXA104J50		R591		RD1/6PM471J
	C224		CFTXA223J50		R431		RD1/6PM510J
	C359, C360, C471, C603		CFTXA224J50		R290, R358		RD1/6PM680J
	C614, C626		CFTXA332J50		R438		RN1/6PQ1503F
	C361, C362		CFTXA393J50		R511		RN1/6PQ2002F
	C610, C617		CFTXA563J50		R415, R416		RN1/6PQ3002F
	C515, C517		CFTXA683J50		R434		RN1/6PQ5101F
	C832, C940, C944		CKSQYB102K50		OTHER RESISTORS		RS1/10S□□□□
	C913, C925, C929, C936		CKSQYB333K25	<b>OTHERS</b>			
	C920, C923		CKSQYB562K50		CN120 11P TOP POST		B11P-SHF-1AA
	C103, C106, C108, C109, C120, C121,		CKSQYF103Z50		CN103 FFC CONNECTOR(23P)		HLEM23S
	C122, C130-C133, C202, C210, C214,				CN105 6P JUMPER CONNECTOR		SBRK06S
	C215-C217, C225, C226, C230, C232,				7P CABLE HOLDER		51048-0700
	C233, C251, C253, C255, C257, C259,				9P CABLE HOLDER		51048-0900
	C261, C263, C269, C271, C274, C276,				CN106 KR CONNECTOR		B7B-PH-K
	C285, C289, C291, C350, C351, C414,				J5 7P JUMPER WIRE		D20PDY0720G
	C418, C421, C422, C425, C426, C458,				J4 9P JUMPER WIRE		D20PDY0910G
	C459, C460, C475, C476, C486, C535,				J3 13P JUMPER WIRE		D20PDY1325G
	C553, C554, C557, C561, C562, C565,				JA3, JA4 JACK/12V		PKN1004
	C566, C602, C604, C615, C616, C621,				JA2 MINI JACK		PKN1005
	C644, C651, C776, C777, C780, C781,				JA5 OPTICAL OUTPUT JACK		TOTX178
	C783, C803-C805, C807, C814, C817,				PCB BINDER		VEF1040
	C818, C850, C855-C857, C904, C914,				JA1 1P PIN JACK		VKB1063
	C915, C917, C928, C931, C933, C934,				TERMINAL		VNE1841
	C937-C939, C946, C950				EARTH METAL		VNF-091
	C107, C151, C371-C373, C403, C404,		CKSQYF104Z25		X202 CRYSTAL RESONATOR(14.318MHz)		VSS1029
	C427, C429, C435, C442, C479, C480,				X101 CERAMIC RESONATOR(9MHz)		VSS1040
	C481, C503-C506, C511, C513, C526,				X203 CRYSTAL RESONATOR(17.734MHz)		VSS1059
	C531, C821, C911, C912, C916, C919,				X201 CRYSTAL RESONATOR(14.22MHz)		VSS1060
	C922, C924, C927, C947, C952, C959				SCREW		BBZ30P060FCC

● EXPLODED VIEWS (BASE SECTION)

Note:  
The numbers on the exploded diagram correspond to the numbers in the remarks column of the comparative table. Refer to "CONTRAST OF MISCELLANEOUS PARTS".

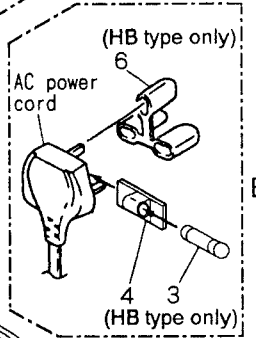
A

A



B

B



\* 1: Q3 on the SYPS assembly

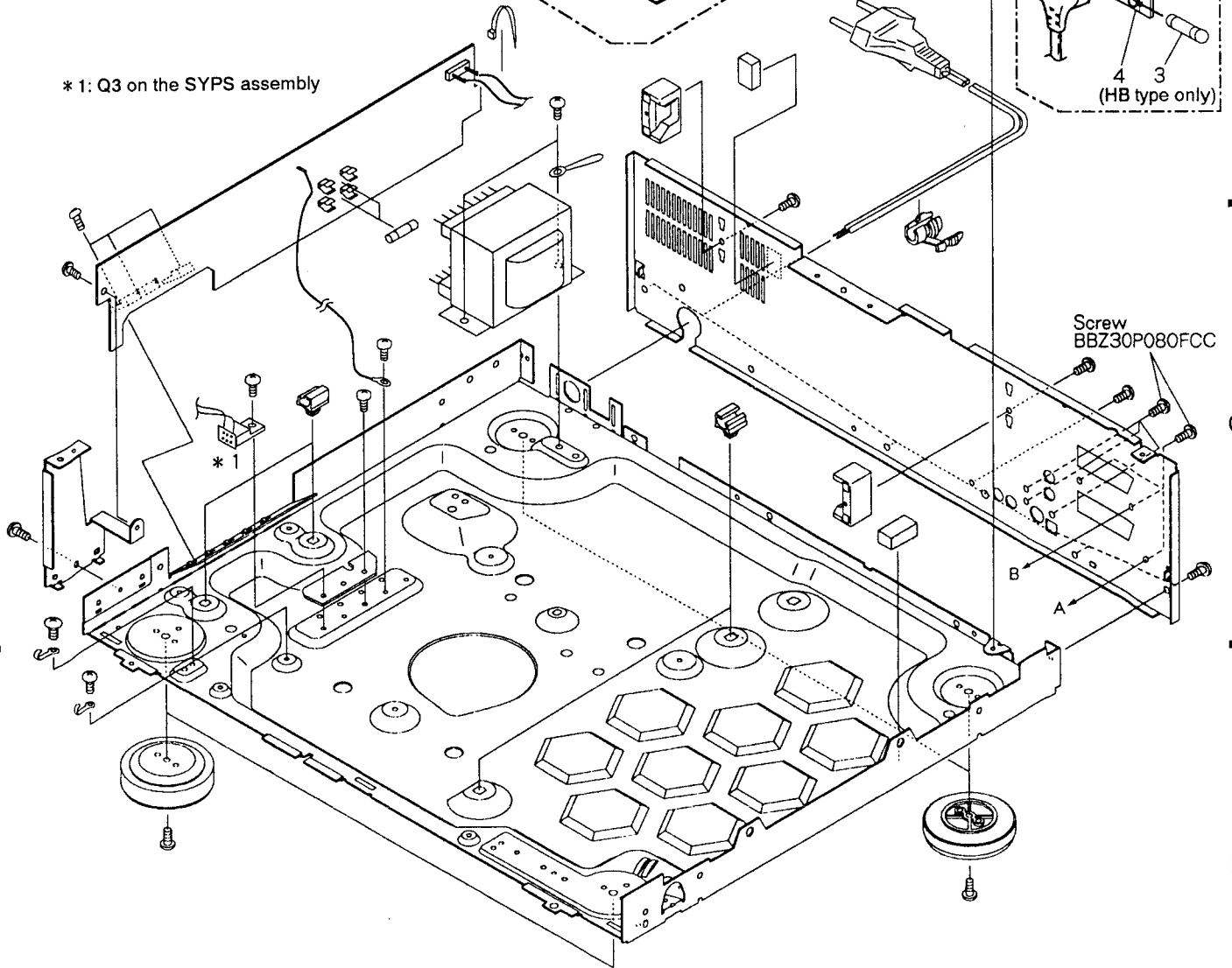
C

C

Screw  
BBZ30P080FCC

D

D



● SCHEMATIC DIAGRAMS AND PCB PATTERNS

NOTE FOR SCHEMATIC DIAGRAMS (Type 4A)

1. When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".

2. Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.

3. RESISTORS:  
Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.  
Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.  
Tolerance:(F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.

4. CAPACITORS:  
Unit: p:pF or μF unless otherwise noted.  
Ratings: capacitor (μF) / voltage (V) unless otherwise noted.  
Rated voltage: 50V except for electrolytic capacitors.

5. COILS:  
Unit: m:mH or μH unless otherwise noted.

6. VOLTAGE AND CURRENT:  
□ or ←V: DC voltage (V) in PLAY mode unless otherwise noted.  
⇐mA or ←mA: DC current in PLAY mode unless otherwise noted.  
Value in ( ) is DC current in STOP mode.

7. OTHERS:  
● or ○ : Adjusting point.  
● ◀ : Measurement point.  
● The Δ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.

8. SCH - □ ON THE SCHEMATIC DIAGRAM:  
● SCH-□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)

9. SWITCHES (Underline indicates switch position):  
PKSB ASSEMBLY  
S224 :POWER (STANDBY/ON)

PKSB ASSEMBLY  
S4 :PARK OUT  
S5 :PARK IN

LOSB ASSEMBLY  
S1 :TILT LOADING 1  
S2 :TILT LOADING 2  
S3 :TILT LOADING 3

FLKY ASSEMBLY  
S201 :LANGUAGE  
S202 :SYSTEM  
S203 :RANDOM PLAY  
S204 :CHP/TIME  
S205 :PGM EDIT  
S206 :SKIP(◀◀)  
S207 :SKIP(▶▶)  
S208 :1  
S209 :2  
S210 :3  
S211 :4  
S212 :6  
S213 :7  
S214 :8  
S215 :9  
S216 :0  
S217 :5  
S218 :PGM  
S219 :+10  
S220 :DIRECT CD (CD)  
S221 :OPEN/CLOSE (▲)  
S222 :STOP (■)  
S223 :PLAY/PAUSE (▶/||)  
S225 :SCAN REV ◀ FWD ▶

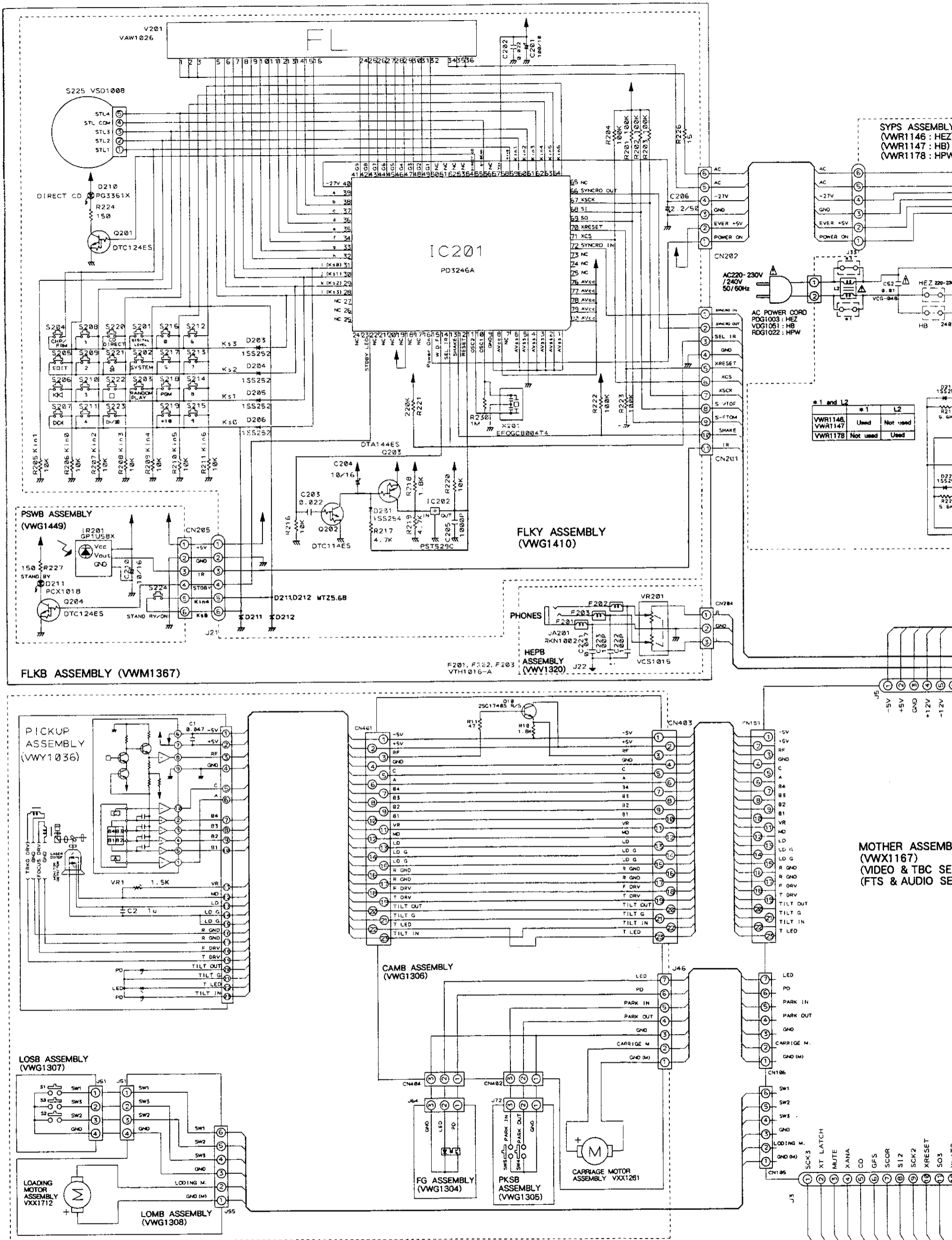
NOTE FOR PCB CONNECTION DIAGRAMS

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

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



1. FLKY, PSWB, HEPB, SYPS, CAMB, LOSB, LOMB, FG, PKSB, PICKUP ASSEMBLIES AND OVERALL WIRING DIAGRAM



SYPS ASSEMBLY  
(VWR1146 : HEZ  
(VWR1147 : HB)  
(VWR1178 : HPW)

	#1	L2
VWR1146	Used	Not used
VWR1147	Used	Not used
VWR1178	Not used	Used

MOTHER ASSEMBLY  
(VWX1167)  
(VIDEO & TBC SECTION)  
(FTS & AUDIO SECTION)

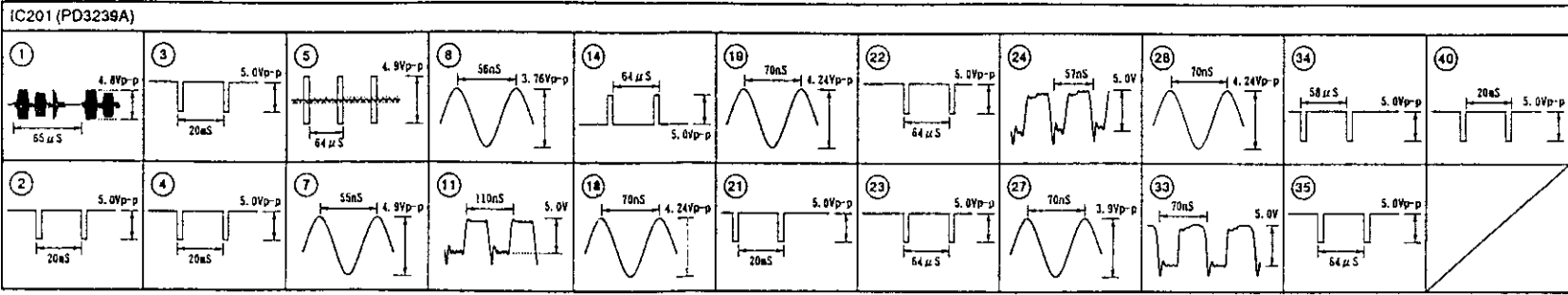
**SCH-1F**

OVERALL WIRING DIAGRAM,  
FLKY ASSY, PSWB ASSY, HEPB ASSY,  
SYPS ASSY, CAMB ASSY, LOSB ASSY,  
LOMB ASSY, FG ASSY, PKSB ASSY,  
PICKUP ASSY



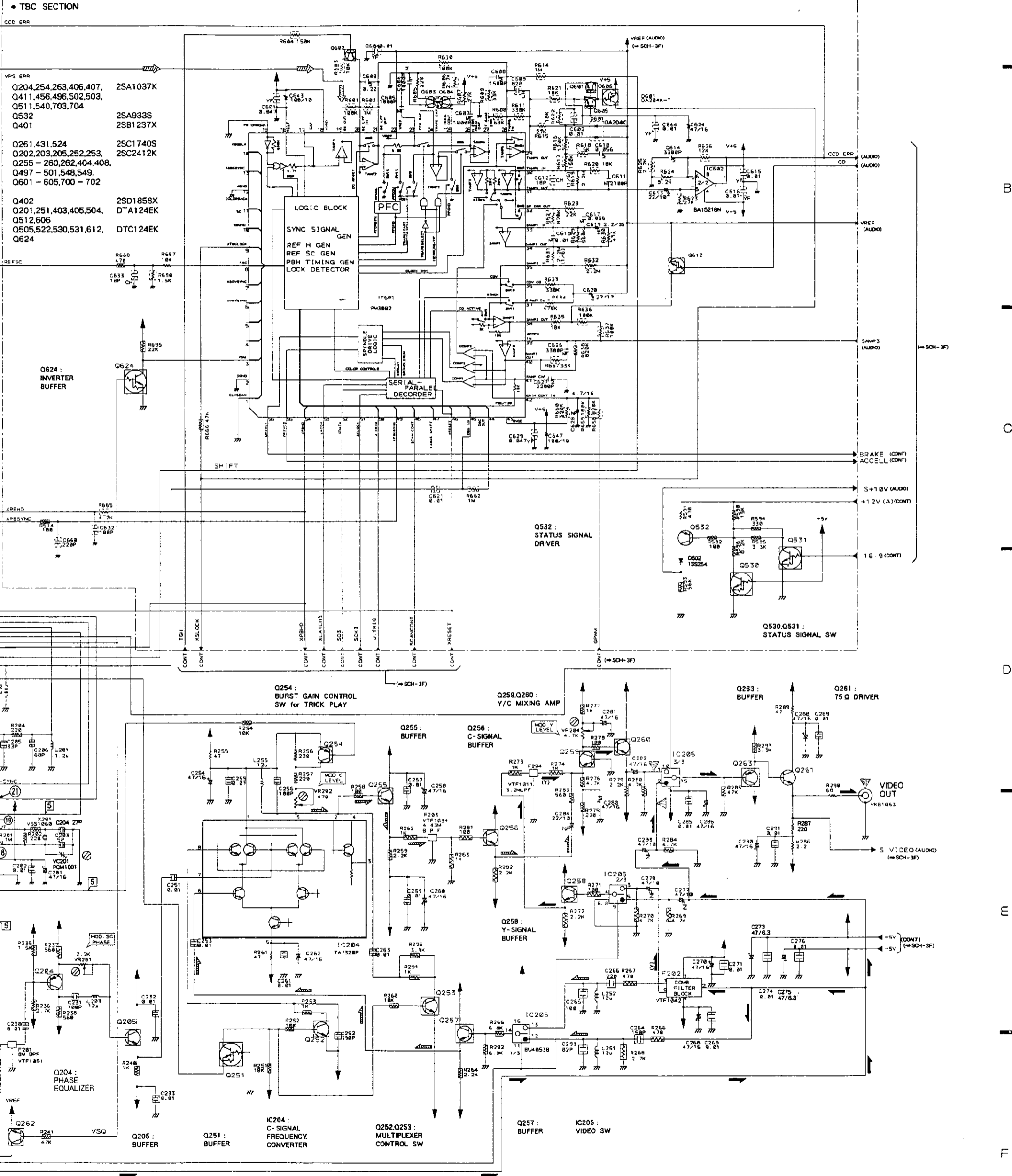


Waveforms Note : (No.) in the table correspond to the pin No. Values indicate the waveforms in the play mode.



: Video Signal Route  
 : Y-Signal Route  
 : C-Signal Route  
 : Spindle Servo Loop Line

SCH-2F

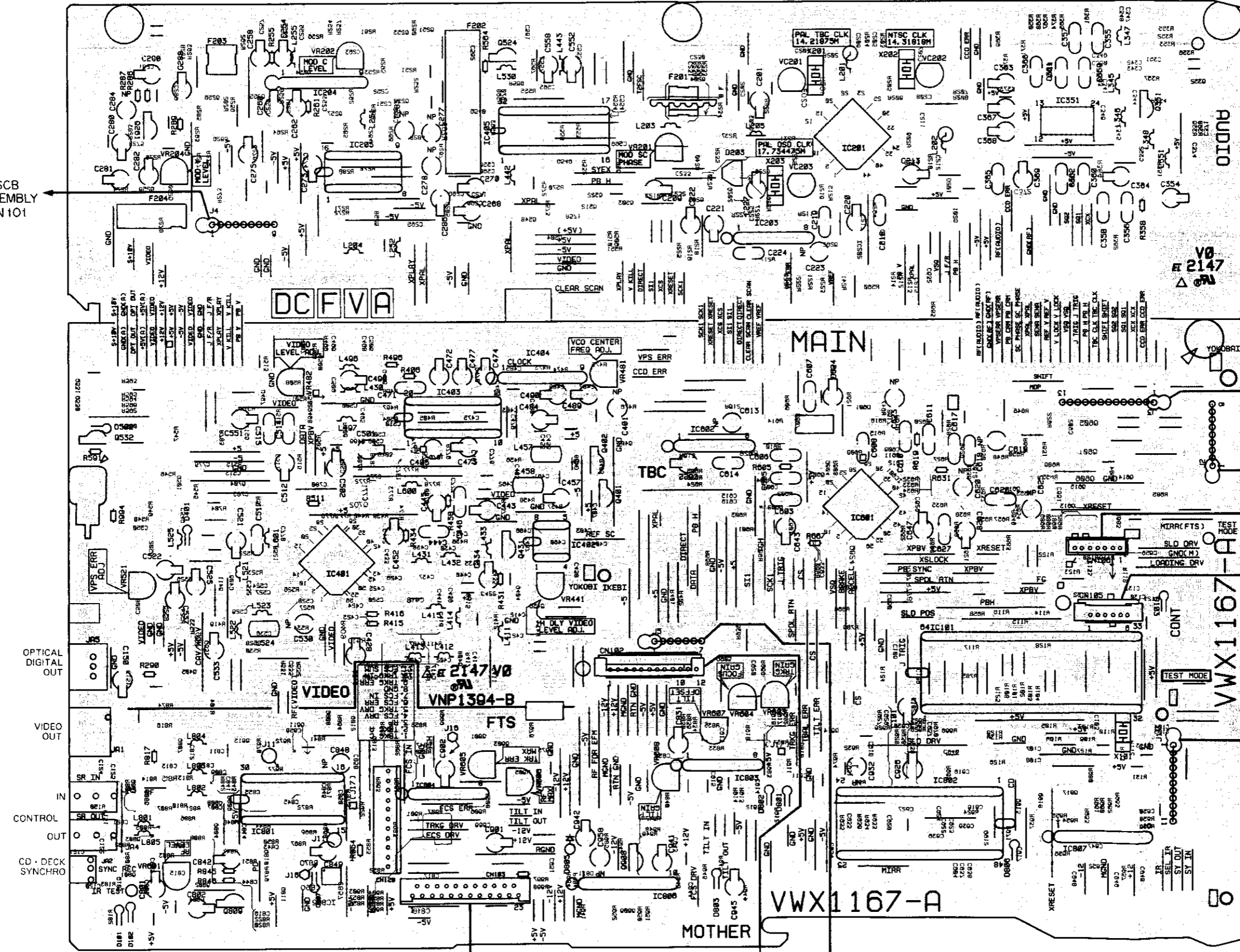


MOTHER ASSY (1/2)  
 (VIDEO & TBC)  
**SCH-2F**

MOTHER ASSEMBLY

PCB-1F

DSCB ASSEMBLY CN101



VR202	1250	8550		
VC201	Q524	4250	4250	
VC202	IC204	2250	4050	5250
	IC351	2250	5250	
	IC351	7250	0250	
	Q261		8050	
	IC405	2250	8050	
VR201	IC401	2250	8050	
VR204	IC205	2250	8050	
VC203		2250	5520	8050
		0250	8050	
			5120	1050
			8250	
	IC203	4050	5250	
		5050		
VR481	IC404	0050		
VR482		2250		
		7250		
		1120	8250	2050
	IC403			
	Q532	2050	1050	1050
	IC602	2050	1050	1050
		4050	8050	4150
		1050	1150	2150
	IC601	5050	5050	2150
		5050	4550	
VR521	IC402	5050	4550	
VR441	IC431			
	IC401	1150		
		4050		
		2250		
VR603	IC101	8050		
VR604		7050	2050	
VR607		2050		
		8050	5150	
		1150	1050	4150
		7050	8050	1050
		2150	2150	2050
VR605	IC803	1250		5050
VR606	IC804	2050		7150
VR608	IC801	2050		7150
	IC802	7250		8150
	IC807	4050		2150
		2050		5150
VR601	Q908	0150		4150
	IC806	1050		5050
	Q809	1010		1150
		2050		2050

B

C

D

A

B

C

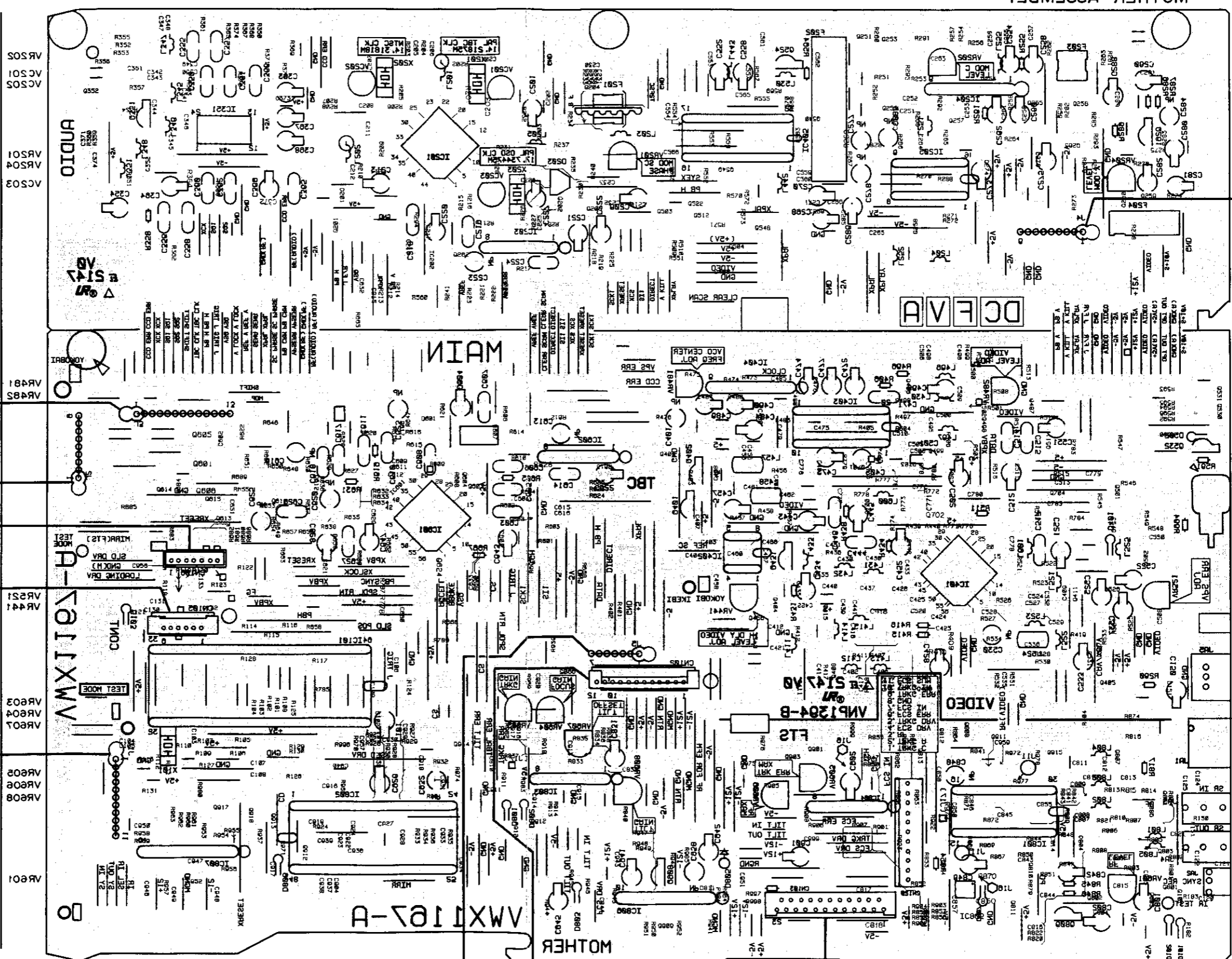
D

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

A B C D

Q251	Q254	Q255	Q256	Q257	Q263	Q264	Q265	Q266	Q267	Q268	Q269	Q270	Q271	Q272	Q273	Q274	Q275	Q276	Q277	Q278	Q279	Q280	Q281	Q282	Q283	Q284	Q285	Q286	Q287	Q288	Q289	Q290	Q291	Q292	Q293	Q294	Q295	Q296	Q297	Q298	Q299	Q300	Q301	Q302	Q303	Q304	Q305	Q306	Q307	Q308	Q309	Q310	Q311	Q312	Q313	Q314	Q315	Q316	Q317	Q318	Q319	Q320	Q321	Q322	Q323	Q324	Q325	Q326	Q327	Q328	Q329	Q330	Q331	Q332	Q333	Q334	Q335	Q336	Q337	Q338	Q339	Q340	Q341	Q342	Q343	Q344	Q345	Q346	Q347	Q348	Q349	Q350	Q351	Q352	Q353	Q354	Q355	Q356	Q357	Q358	Q359	Q360	Q361	Q362	Q363	Q364	Q365	Q366	Q367	Q368	Q369	Q370	Q371	Q372	Q373	Q374	Q375	Q376	Q377	Q378	Q379	Q380	Q381	Q382	Q383	Q384	Q385	Q386	Q387	Q388	Q389	Q390	Q391	Q392	Q393	Q394	Q395	Q396	Q397	Q398	Q399	Q400	Q401	Q402	Q403	Q404	Q405	Q406	Q407	Q408	Q409	Q410	Q411	Q412	Q413	Q414	Q415	Q416	Q417	Q418	Q419	Q420	Q421	Q422	Q423	Q424	Q425	Q426	Q427	Q428	Q429	Q430	Q431	Q432	Q433	Q434	Q435	Q436	Q437	Q438	Q439	Q440	Q441	Q442	Q443	Q444	Q445	Q446	Q447	Q448	Q449	Q450	Q451	Q452	Q453	Q454	Q455	Q456	Q457	Q458	Q459	Q460	Q461	Q462	Q463	Q464	Q465	Q466	Q467	Q468	Q469	Q470	Q471	Q472	Q473	Q474	Q475	Q476	Q477	Q478	Q479	Q480	Q481	Q482	Q483	Q484	Q485	Q486	Q487	Q488	Q489	Q490	Q491	Q492	Q493	Q494	Q495	Q496	Q497	Q498	Q499	Q500	Q501	Q502	Q503	Q504	Q505	Q506	Q507	Q508	Q509	Q510	Q511	Q512	Q513	Q514	Q515	Q516	Q517	Q518	Q519	Q520	Q521	Q522	Q523	Q524	Q525	Q526	Q527	Q528	Q529	Q530	Q531	Q532	Q533	Q534	Q535	Q536	Q537	Q538	Q539	Q540	Q541	Q542	Q543	Q544	Q545	Q546	Q547	Q548	Q549	Q550	Q551	Q552	Q553	Q554	Q555	Q556	Q557	Q558	Q559	Q560	Q561	Q562	Q563	Q564	Q565	Q566	Q567	Q568	Q569	Q570	Q571	Q572	Q573	Q574	Q575	Q576	Q577	Q578	Q579	Q580	Q581	Q582	Q583	Q584	Q585	Q586	Q587	Q588	Q589	Q590	Q591	Q592	Q593	Q594	Q595	Q596	Q597	Q598	Q599	Q600	Q601	Q602	Q603	Q604	Q605	Q606	Q607	Q608	Q609	Q610	Q611	Q612	Q613	Q614	Q615	Q616	Q617	Q618	Q619	Q620	Q621	Q622	Q623	Q624	Q625	Q626	Q627	Q628	Q629	Q630	Q631	Q632	Q633	Q634	Q635	Q636	Q637	Q638	Q639	Q640	Q641	Q642	Q643	Q644	Q645	Q646	Q647	Q648	Q649	Q650	Q651	Q652	Q653	Q654	Q655	Q656	Q657	Q658	Q659	Q660	Q661	Q662	Q663	Q664	Q665	Q666	Q667	Q668	Q669	Q670	Q671	Q672	Q673	Q674	Q675	Q676	Q677	Q678	Q679	Q680	Q681	Q682	Q683	Q684	Q685	Q686	Q687	Q688	Q689	Q690	Q691	Q692	Q693	Q694	Q695	Q696	Q697	Q698	Q699	Q700	Q701	Q702	Q703	Q704	Q705	Q706	Q707	Q708	Q709	Q710	Q711	Q712	Q713	Q714	Q715	Q716	Q717	Q718	Q719	Q720	Q721	Q722	Q723	Q724	Q725	Q726	Q727	Q728	Q729	Q730	Q731	Q732	Q733	Q734	Q735	Q736	Q737	Q738	Q739	Q740	Q741	Q742	Q743	Q744	Q745	Q746	Q747	Q748	Q749	Q750	Q751	Q752	Q753	Q754	Q755	Q756	Q757	Q758	Q759	Q760	Q761	Q762	Q763	Q764	Q765	Q766	Q767	Q768	Q769	Q770	Q771	Q772	Q773	Q774	Q775	Q776	Q777	Q778	Q779	Q780	Q781	Q782	Q783	Q784	Q785	Q786	Q787	Q788	Q789	Q790	Q791	Q792	Q793	Q794	Q795	Q796	Q797	Q798	Q799	Q800	Q801	Q802	Q803	Q804	Q805	Q806	Q807	Q808	Q809	Q810	Q811	Q812	Q813	Q814	Q815	Q816	Q817	Q818	Q819	Q820	Q821	Q822	Q823	Q824	Q825	Q826	Q827	Q828	Q829	Q830	Q831	Q832	Q833	Q834	Q835	Q836	Q837	Q838	Q839	Q840	Q841	Q842	Q843	Q844	Q845	Q846	Q847	Q848	Q849	Q850	Q851	Q852	Q853	Q854	Q855	Q856	Q857	Q858	Q859	Q860	Q861	Q862	Q863	Q864	Q865	Q866	Q867	Q868	Q869	Q870	Q871	Q872	Q873	Q874	Q875	Q876	Q877	Q878	Q879	Q880	Q881	Q882	Q883	Q884	Q885	Q886	Q887	Q888	Q889	Q890	Q891	Q892	Q893	Q894	Q895	Q896	Q897	Q898	Q899	Q900	Q901	Q902	Q903	Q904	Q905	Q906	Q907	Q908	Q909	Q910	Q911	Q912	Q913	Q914	Q915	Q916	Q917	Q918	Q919	Q920	Q921	Q922	Q923	Q924	Q925	Q926	Q927	Q928	Q929	Q930	Q931	Q932	Q933	Q934	Q935	Q936	Q937	Q938	Q939	Q940	Q941	Q942	Q943	Q944	Q945	Q946	Q947	Q948	Q949	Q950	Q951	Q952	Q953	Q954	Q955	Q956	Q957	Q958	Q959	Q960	Q961	Q962	Q963	Q964	Q965	Q966	Q967	Q968	Q969	Q970	Q971	Q972	Q973	Q974	Q975	Q976	Q977	Q978	Q979	Q980	Q981	Q982	Q983	Q984	Q985	Q986	Q987	Q988	Q989	Q990	Q991	Q992	Q993	Q994	Q995	Q996	Q997	Q998	Q999	Q1000
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PCB-1E



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



3. MOTHER ASSEMBLY (2/2)

• FTS & CONT SECTION • AUDIO SECTION

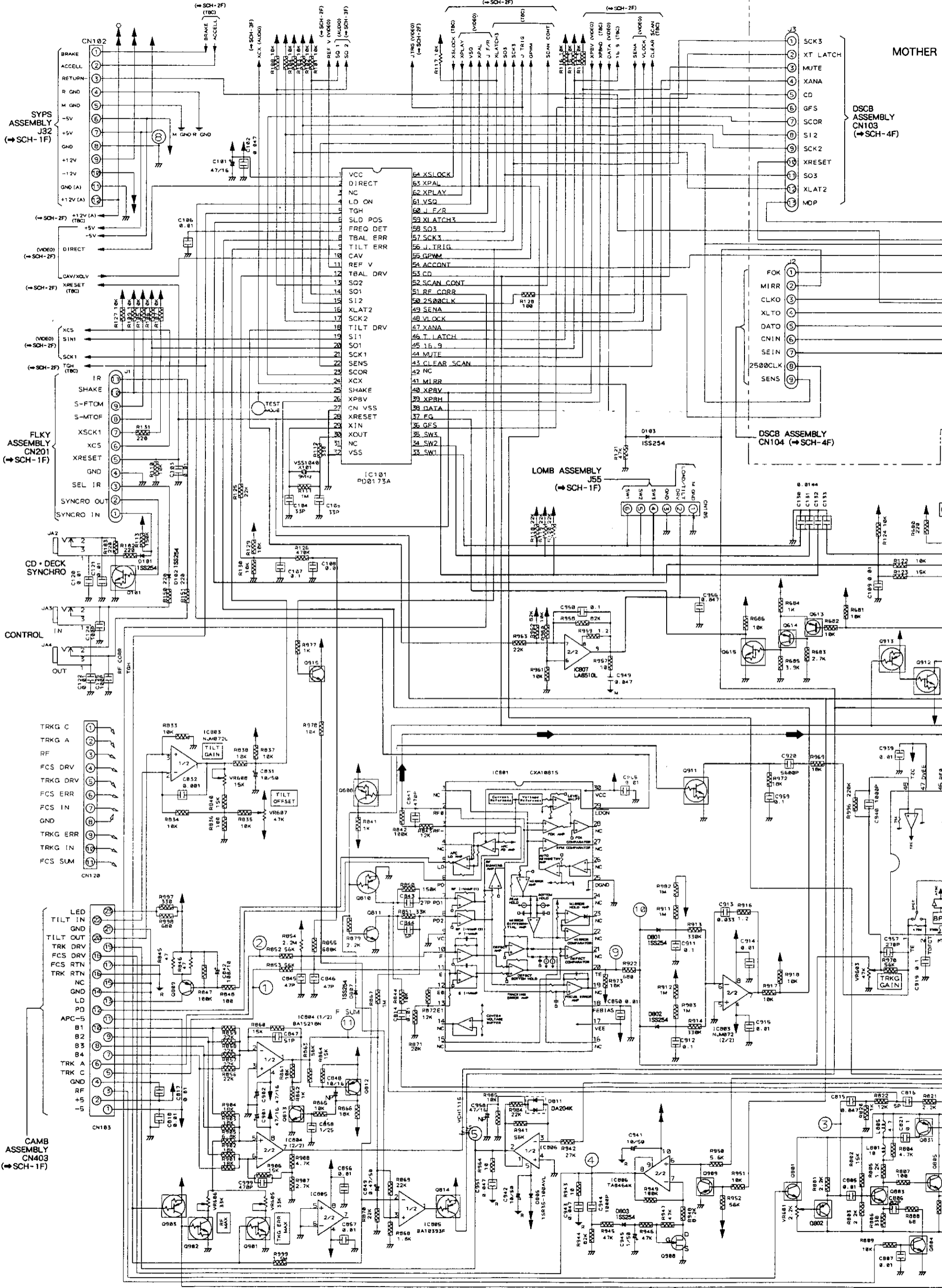
A  
B  
C  
D  
E  
F

MOTHER A

DSCB ASSEMBLY CN103 (SCH-4F)

DSCB ASSEMBLY CN104 (SCH-4F)

LOMB ASSEMBLY J55 (SCH-1F)



MOTHER ASSEMBLY (2/2) (VWX1167)

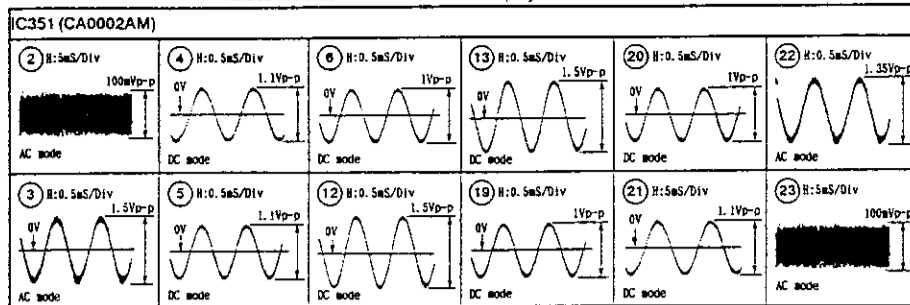
DSCB ASSEMBLY CN103 (SCH-4F)

Q611,613,614,802,812, 2SA1037K  
 Q831,905,909,917  
 Q809 2SA1399  
 Q351 2SC1740S  
 Q352,801,803 - 805, 2SC2412K  
 Q807,811,813,915,918

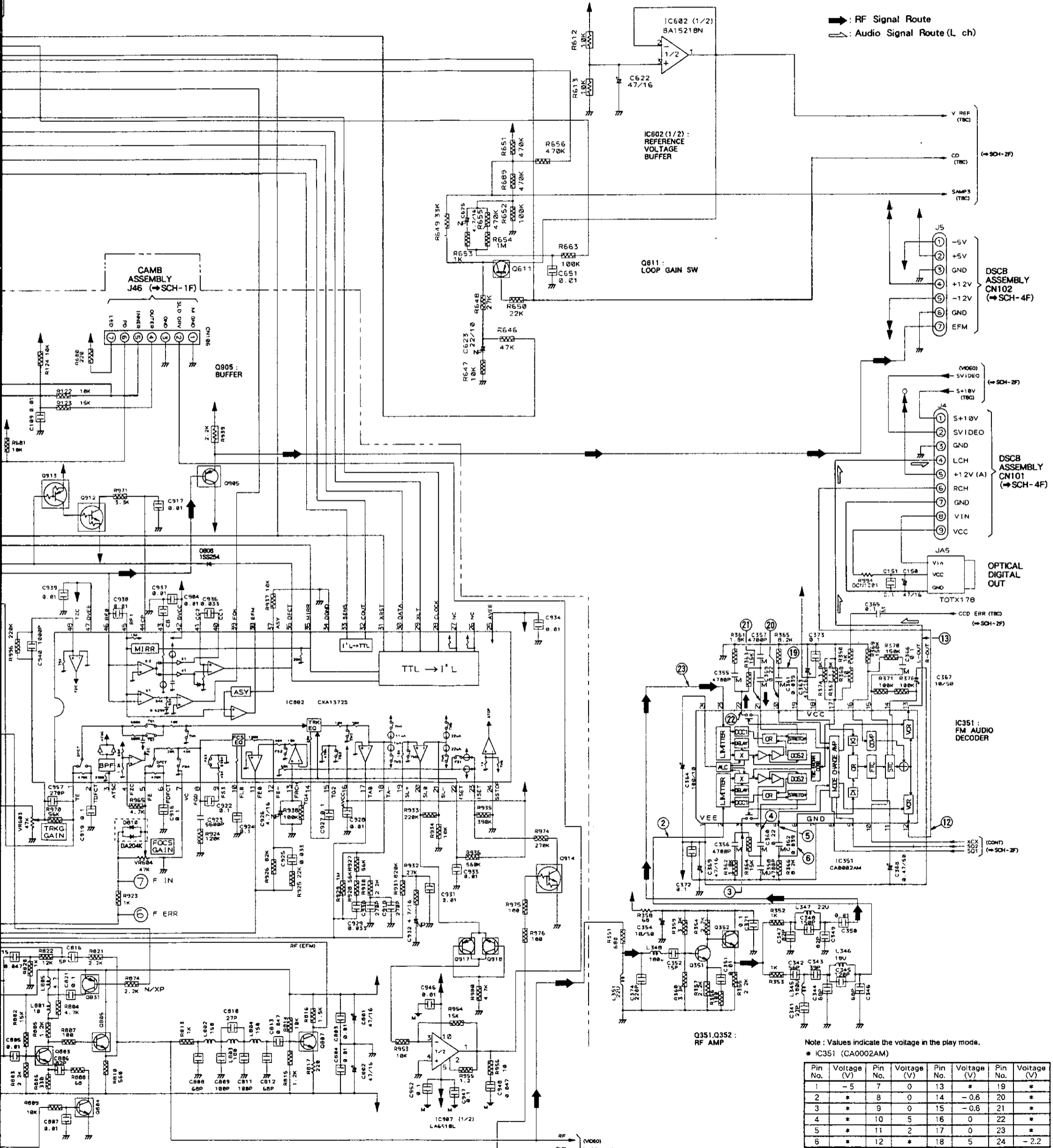
Q908 2SK184  
 Q808,810,814,903,913 DTA124EK  
 Q101,615,901,902,911, DTC124EK  
 Q912,914

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

Values indicate the waveforms in the play mode.



SCH-3F



RF Signal Route (solid arrow)  
Audio Signal Route (L ch) (open arrow)

DSCB ASSEMBLY CN102 (SCH-4F)

DSCB ASSEMBLY CN101 (SCH-4F)

OPTICAL DIGITAL OUT

Note : Values indicate the voltage in the play mode.

IC351 (CA0002AM)

Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	-5	7	0	13	*	19	*
2	*	8	0	14	-0.6	20	*
3	*	9	0	15	-0.6	21	*
4	*	10	5	16	0	22	*
5	*	11	2	17	0	23	*
6	*	12	*	18	5	24	-2.2

\* : Refer to waveforms.

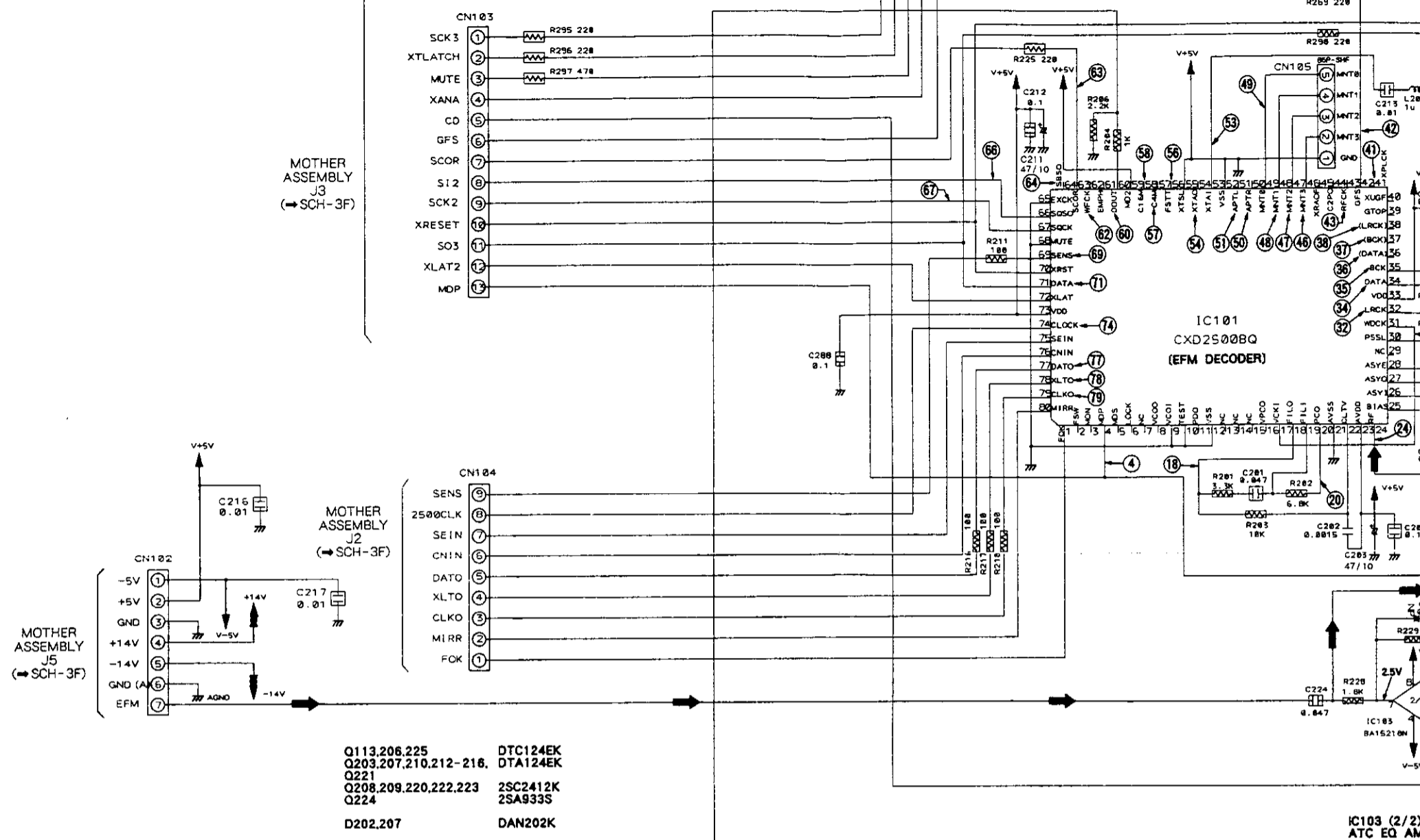
MOTHER ASSY (2/2) (FTS, CONT & AUDIO)

SCH-3F

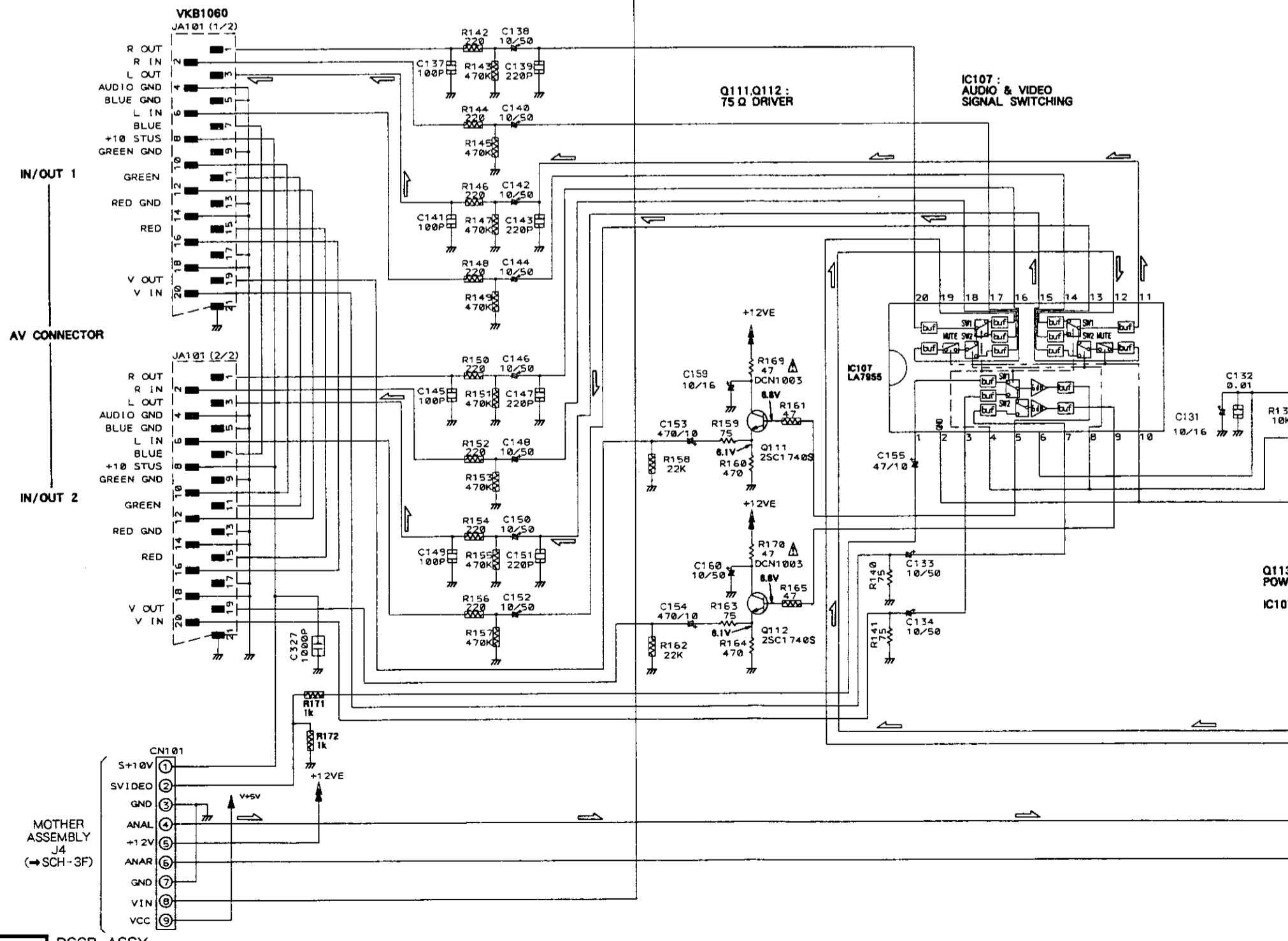


4. DSCB ASSEMBLY

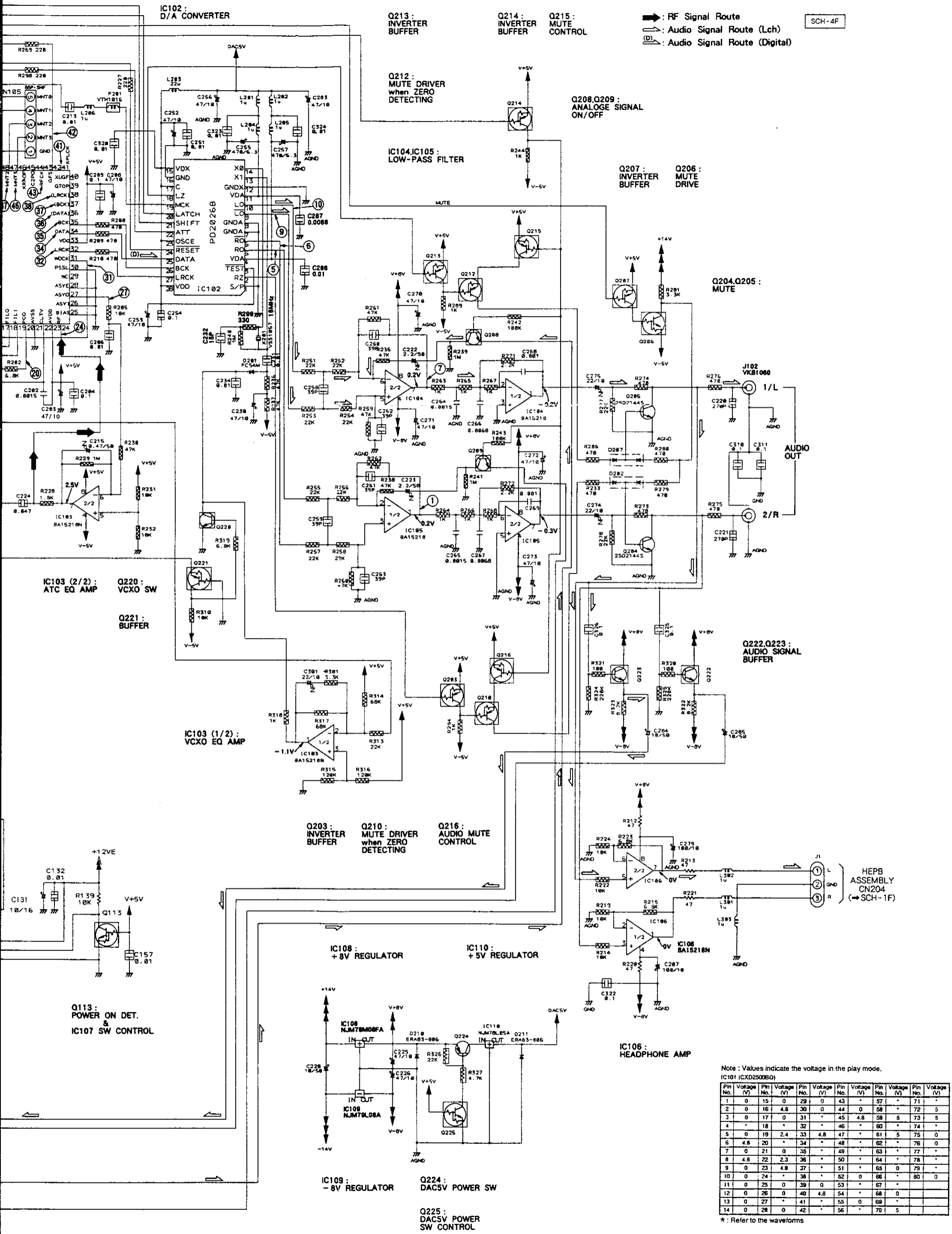
DSCB ASSEMBLY (VWV1296)



IC103 (2/2) ATC EQ AMP



SCH-4F

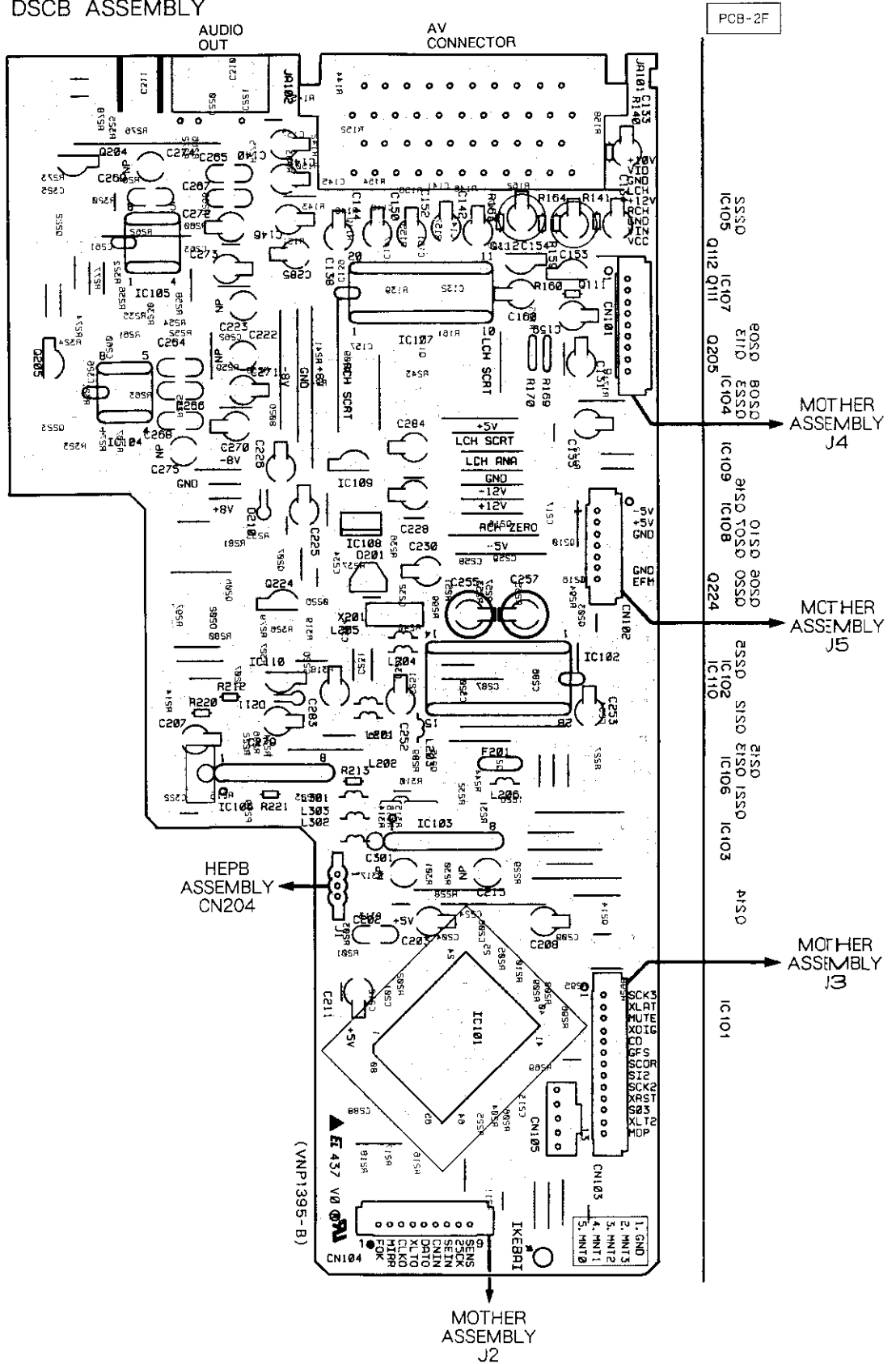


Note : Values indicate the voltage in the play mode.  
 IC101 (CXD2500B0)

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

\* : Refer to the waveforms

DSCB ASSEMBLY

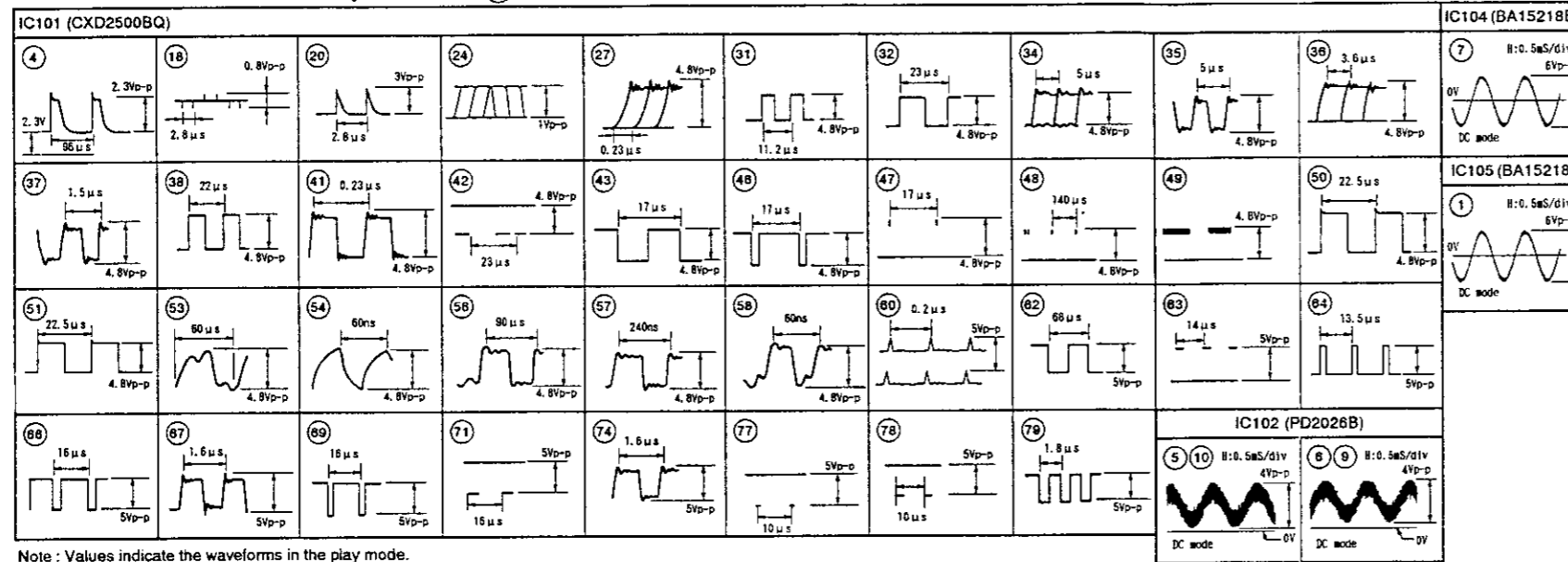


This P. C. B. connection diagram is viewed from the parts mounted side.



Waveforms of DSCB assembly

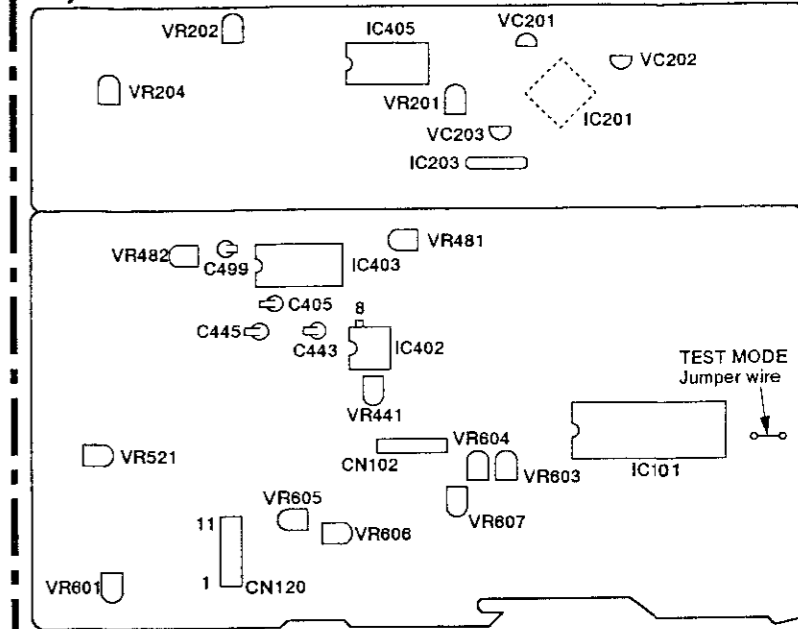
Note : (No.) in the table correspond to the pin No.



Note : Values indicate the waveforms in the play mode.

ADJUSTMENTS

Adjustment Locations



MOTHER assembly section

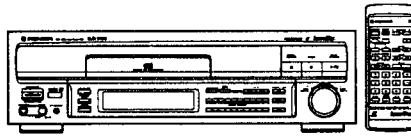
Adjustment name	Adjustment point	Measuring equipment and jigs	Measurement point	Player condition	Adjustment procedure	Waveform and connection diagram
9 TRK Servo loop gain adjustment	VR603	• Oscilloscope • GGV1003 • AF Oscillator • Resistor (47kΩ)	CN120 X: ⑩ Pin (TRK IN) Y: ⑨ Pin (TRK ERR)	• Test mode Stop mode or TRK Servo Close Tilt Servo ON • GGV1003 #15,000 STILL	1. Xch: Connect the 47kΩ resistor to channel and connect to TRK IN. Ych: Connect to TRK ERR. 2. Connect the AF oscillator between Xch and the 47kΩ resistor and note the tilt angle against the horizon with the disc in the stopped state. 3. Search for address 15,000 of GGV1003 and still the address. 4. Set the disc PLAY mode (TRK servo closed, TILT on). Adjust VR603 so that the tilt angle of the waveform will be the same as the tilt angle noted in step 3.	<p>Adjust until the Lissajous figure is symmetrical.</p>
10 RF level adjustment	VR601	• Oscilloscope • GGV1003	CN120 ③ Pin (RF)	• Test mode TRK Servo Close Tilt Servo ON • GGV1003 #15,000 STILL	1. Search for address 15,000 of GGV1003 and still the address. Observe RF at CH1 of the oscilloscope. 2. Adjust VR601 until the RF amplitude is 300mV ± 50mVp-p.	
11 NTSC reference clock adjustment	VC202	• Frequency counter • GGV1003	IC201 - ③③ Pin (TBC CLK)	• NTSC PLAY mode Play the NTSC disc. or Select the NTSC mode with the SYSTEM button of the front panel. (*1)	Adjust 4fsc frequency (14.31818MHz) ± 100Hz.	
12 PAL reference clock adjustment	VC201	• Frequency counter • GGV1007	IC201 - ③③ Pin (TBC CLK)	• PAL PLAY mode Play the PAL disc. or Select the PAL mode with the SYSTEM button of the front panel. (*1)	Adjust 910 fH frequency (14.21875MHz) ± 100Hz.	
13 PAL reference clock adjustment	VC203	• Frequency counter • GGV1007	IC201 - ②④ Pin (OSD CLK)	• PAL PAUSE mode Play the PAL disc and set to PAUSE state. or Select the PAL mode with the SYSTEM button of the front panel. (*1)	Adjust 4fsc frequency (17.734475MHz) ± 100Hz	
14 PAL VCXO ERR OFFSET Check	VC201	• Oscilloscope • GGV1007 • Digital volt meter	IC203 - ① Pin (VCXO ERR)	• Play the PAL disc.	Play the PAL disc and check that the voltage of VCXO ERR at IC203-1 pin is 0V ± 100mV. If the specified voltage is not obtained, adjust VC201 so that the voltage becomes 0V ± 100mV. Note : The adjustment of VC201 in this step should have priority over that in step 12.	

\*1 PAL mode → NTSC mode → MOD PAL mode (cyclic change)

Adjustment name	Adjustment point	Measuring equipment and jigs	Measurement point	Player condition	Adjustment procedure	Waveform and connection diagram
15 VCO center frequency adjustment	VR481	• Oscilloscope • GGV1007	CH1: C405 lead wire CH2: C499 lead wire	• Normal mode • GGV1007 #4,000 STILL	Place a trigger in CH1 and adjust until the center of the CH2 video signal jitter is $75 \mu\text{sec}$ ( $1H + 11 \mu\text{sec}$ ) $\pm 1.4 \mu\text{sec}$ compared to the CH1 video signal.	<p>V:20mV/div (CH1) 20mV/div (CH2) H:10 μsec/div (Trigger) AC mode</p> <p>CH1 CH2 Jitter due to the eccentricity 11 μs 75 μs</p>
16 Video level adjustment	VR482	• TV monitor • Oscilloscope • GGV1003	Video output terminal	• Normal mode • GGV1003 #19,900 STILL	Connect a $75 \Omega$ resistor to the VIDEO output terminal (possibly by connecting to the monitor) and adjust until the sync tip to 100% white level is $1V_{p-p} \pm 5\%$ at the white (100%) signal.	<p>Video level 1.0Vp-p <math>\pm 5\%</math> Oscilloscope range V:20mV/div H:10 μsec/div (Trigger) AC mode</p> <p>TV monitor Oscilloscope</p>
17 1H delay video level adjustment	VR441	• Oscilloscope • GGV1003	CH1: C443 lead wire CH2: C445 lead wire	• Normal mode • GGV1003 #19,900 STILL	Adjust until the sync tip to 100% white level at the white (100%) signal is the same as in CH1 and CH2.	<p>V:20mV/div (CH1) 20mV/div (CH2) H:10 μsec/div (Trigger) AC mode</p> <p>CH1 CH2 Main video signal 1H delay video signal</p>
18 VPS error level adjustment	VR521	• TV monitor • GGV1003	TV monitor	• Normal mode • GGV1003 #8,000 STILL (Magenta screen)	Adjust until the color irregularity on the magenta screen is minimized.	<p>Color irregularity on the magenta screen is minimized.</p>
19 MOD Y-signal level adjustment	VR204	• Oscilloscope • GGV1003	CH1: IC205-② Pin CH2: IC205-① Pin	• Normal mode • GGV1003 #19,900 STILL	Adjust until the sync tip to 100% white level at the white (100%) signal is the same as in CH1 and CH2.	<p>V:20mV/div (CH1) 20mV/div (CH2) H:10 μsec/div (Trigger) AC mode</p> <p>CH1 CH2</p>
20 MOD C-signal level adjustment	VR202	• Oscilloscope • GGV1003	CH1: IC205-② Pin CH2: IC205-① Pin	• Normal mode • GGV1003 #8,000 STILL	Adjust until the chroma signal level at the magenta signal is the same as in CH1 and CH2.	<p>V:20mV/div (CH1) 20mV/div (CH2) H:10 μsec/div (Trigger) AC mode</p> <p>CH1 CH2</p>
21 PAL inverting SC phase adjustment	VR201	• TV monitor • GGV1007	TV monitor	• Normal mode • GGV1007 #6,500 STILL (Magenta screen)	Adjust until the color irregularity on the magenta screen is minimized.	<p>Color irregularity on the magenta screen is minimized.</p>

# Service Manual

**PIONEER**  
The Art of Entertainment



ORDER NO.  
ARP2543

CD CDV LD PLAYER

# CLD-1700

## CLD-700

CLD-1700 AND CLD-700 HAVE THE FOLLOWING :

Type	Model		Power Requirement	Remarks
	CLD-1700	CLD-700		
HEZ	○	○	AC220-230V, 240V (switchable) *	
HB	-	○	AC220-230V, 240V (switchable) *	

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

- This manual is applicable to the following : CLD-1700/HEZ; CLD-700/HEZ and HB.
- For CLD-700/HEZ and HB, refer to page 82.
- 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

ISO JUNE 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 UDSAETTELSE FOR STRÅLING.

VARNING!

OSYNLIG LASERSTRÅLING 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

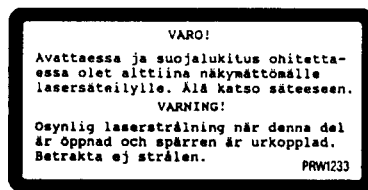
MAXIMUM OUTPUT POWER: 5 mw  
WAVELENGTH: 780-785 nm

## LABEL CHECK

HB model



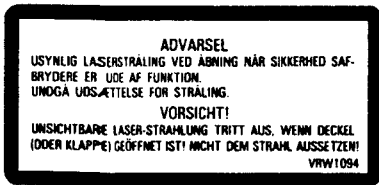
HEZ model



HEZ and HB model

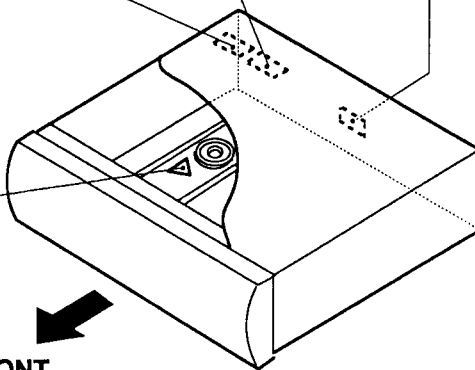


HEZ model



HEZ and HB models

FRONT



Additional Laser Caution

1. The ON/OFF statuses of the slider - position detection switches (PARK INNER, PARK OUTER on the PKSB assembly), loading - status detection switches (SW 1, 2 and 3 on PKSB assembly) are detected by the microprocessor (IC101 in the MAIN assembly). To permit the laser diode to oscillate, it is required to set the slider - position detection switch for the LD ACTIVE status (PARK INNER: OFF, PARK OUTER: OFF), and to set the loading - status detection switch for clamped state (SW1: OFF, SW2: ON, SW3: ON). As long as these requirements are not satisfied, the laser diode will not oscillate. When the requirements are met in any way, the laser diode can oscillate. The laser diode oscillation will continue if pin 29 of IC801 is shorted to GND or the emitter and collector of Q809 are shorted each other (fault condition) in MAIN assembly.  
In test mode (see page 51), the laser diode oscillates when microprocessor detects a PLAY signal or when the PLAY key is pressed (S223: ON in the FLKY assembly), with the above requirements satisfied.
2. When the cover is open, close viewing through the objective lens with the naked eye will cause exposure to a Class 1 laser beam.



## 2. EXPLODED VIEWS, PACKING AND PARTS LIST

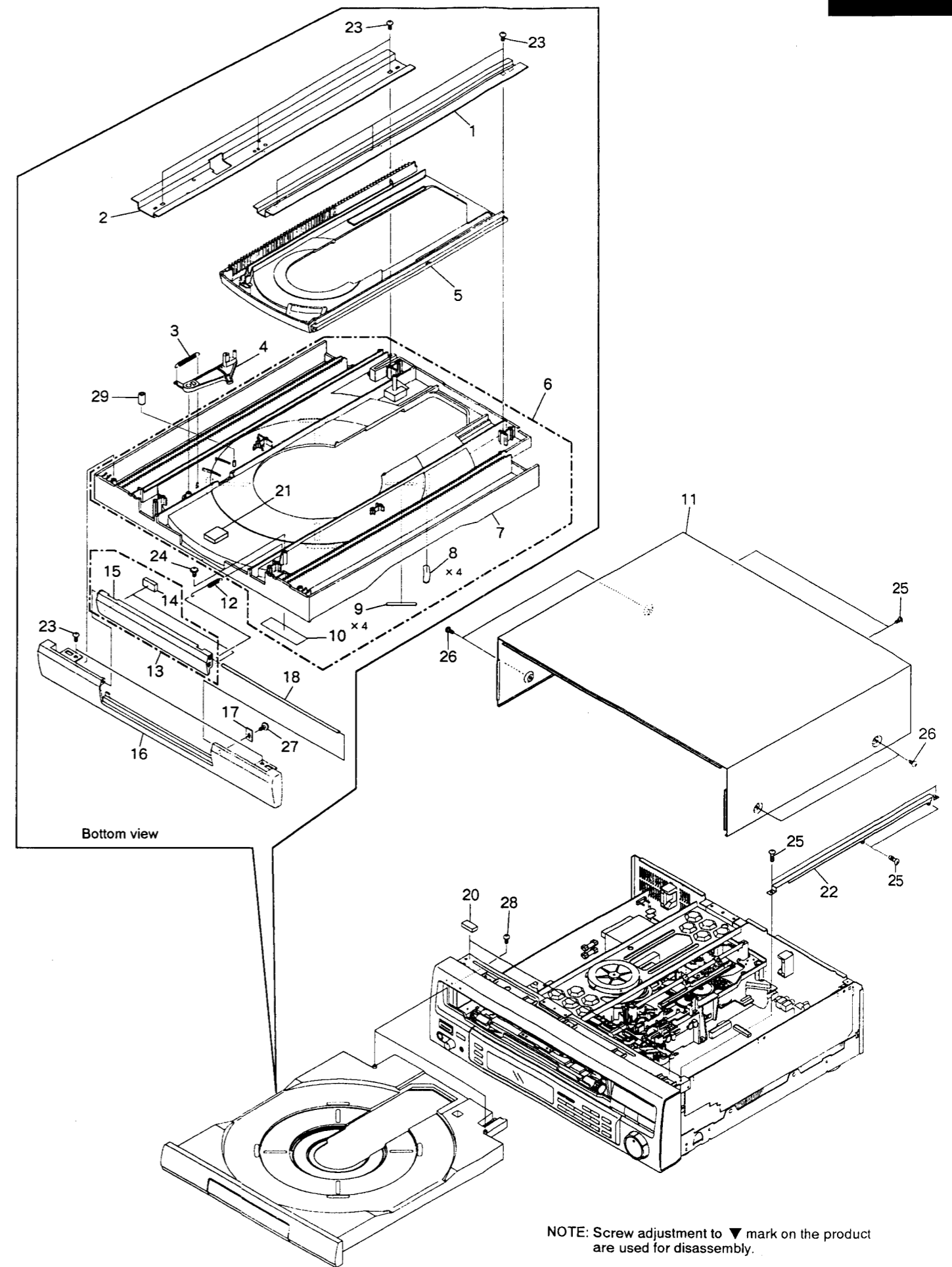
**NOTES:**

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The  $\Delta$  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.

### (1) EXTERIOR SECTION

**Parts List**

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	Guide plate (L)	VNE1805		16	Tray panel	VNK2032
	2	Guide plate (R)	VNE1806		17	Door holder	VNE1812
	3	Lock plate spring	VBH1188		18	Door shaft	VLL1441
	4	Lock plate	VNL1513		19	.....	
	5	CD tray	VNK1992	NSP	20	Spacer	VEC1585
	6	Tray assembly - S	VXX1729	NSP	21	Damp cushion	VEC1110
NSP	7	LD tray	VNK1991	NSP	22	PCB holder	VNE1830
	8	Disc pad	VEC1191		23	Screw	BPZ30P060FCU
	9	Disc pad (C)	VEC1380		24	Screw	IPZ26P060FMC
NSP	10	Label	VRW1289		25	Screw	BBZ30P080FCC
	11	Bonnet S	VXX1726		26	Screw	BCZ40P060FZK
	12	Door spring	VBH1202		27	Screw	IPZ20P050FMC
	13	CD door assembly - S	VXX1728		28	Screw	VBA1032
	14	Cushion	VEC1578		29	Tray rubber	VEB1091
NSP	15	CD door	VNK2033				

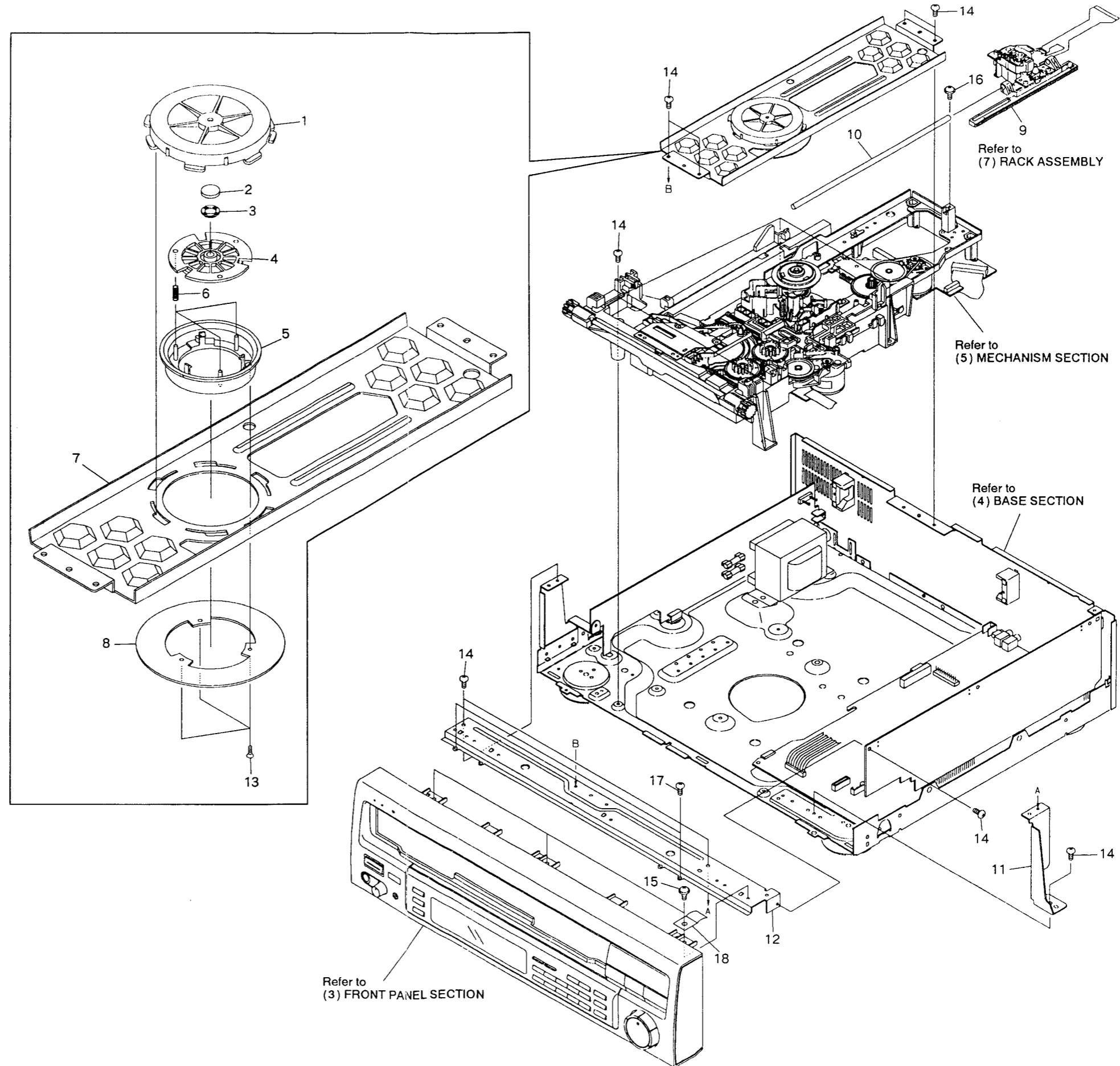


NOTE: Screw adjustment to ▼ mark on the product are used for disassembly.

(2) TOP VIEW SECTION

Parts List

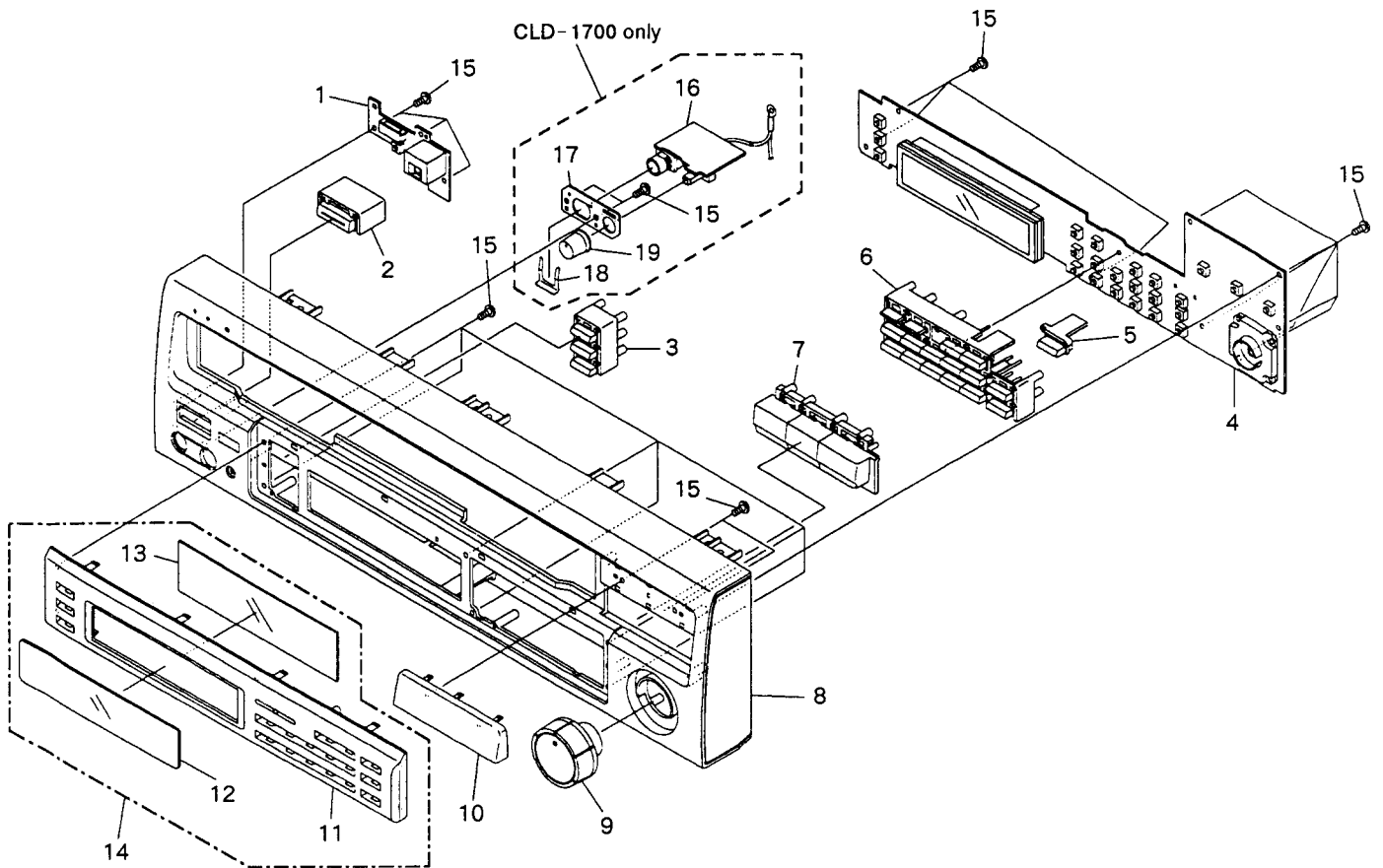
Mark	No.	Description	Part No.
A	1	Clamper holder	VNL1514
	2	Rubber sheet	VEB1114
	3	Thrust holder	VNL1289
	4	Clamper head	VNL1516
	5	Clamper	VNL1515
	6	Clamper spring	VBH1192
	7	Clamper arm	VNE1804
	8	Stabilizer	VNE1807
	9	Rack assembly	VWT1080
	10	Carriage shaft	VLL1434
NSP	11	Side stay (R)	VNE1810
NSP	12	Front angle	VNE1808
	13	Screw	CPZ20P050FMC
	14	Screw	BBZ30P080FCC
	15	Screw	IBZ30P060FCC
B	16	Screw	IPZ30P060FMC
	17	Screw	PCZ30P060FMC
	18	Earth plate	VNE1518



(3) FRONT PANEL SECTION

Parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
NSP 1	PSWB assembly	VWG1315	NSP 11	Center panel	VNK2085
2	PW button	VNK2002	12	FL lens	VEC1568
3	Mode key	VNK2037	13	FL filter	VNK1694
NSP 4	FLKY assembly	VWG1336	14	Center panel assembly - S	VXX1757
5	CD button	VNK2038	15	Screw	BPZ26P060FCU
6	Ten key	VNK2036	NSP 16	HEPB assembly	VWV1254
7	Main key	VNK2035	17	Jack holder	VNE1811
8	Front panel assembly	VXA1867	18	Snap plate	VNE1102
9	Shuttle knob	VNK2039	19	Volume knob	VNK2003
10	Sub panel	VNK2034			



**(4) BASE SECTION**

**Parts List**

<b>Mark</b>	<b>No.</b>	<b>Description</b>	<b>Part No.</b>
NSP	1	MAIN assembly	VWX1123
NSP	2	AUDIO assembly	VWX1124
⊙	3	SYPS assembly	VWR1146
	4	Tray stopper	VNL1519
△	5	AC power cord	VDG1028
	6	Cord stopper	CM-22B
NSP	7	Rear panel	VNA1278
	8	PCB cushion	VEC1573
NSP	9	Cord clamber	VNF-005
NSP	10	PCB hinge	VEC1174

<b>Mark</b>	<b>No.</b>	<b>Description</b>	<b>Part No.</b>
△	11	Power transformer	VTI1115
△	12	Fuse (FU1, FU2) (3.15A)	REK-105
NSP	13	P. plate holder	PNY-405
NSP	14	Side stay (L)	VNE1809
	15	Cord clamber	VNF-069
	16	Insulator	PNW1912
NSP	17	Base chassis	VNA1255
	18	Insulator assembly	VXA1881
	19	Screw	BBZ30P080FCC
	20	Screw	BBZ30P040FMC
	21	Screw	BCZ40P060FZK
	22	Screw	BCZ30P080FCC
⊙	23	SCRB assembly	VWV1248
NSP	24	Support cushion	VEC1601
NSP	25	PC suport	VEC1584
NSP	26	Plate	VNE1854
	27	Binder	VEC-067

A

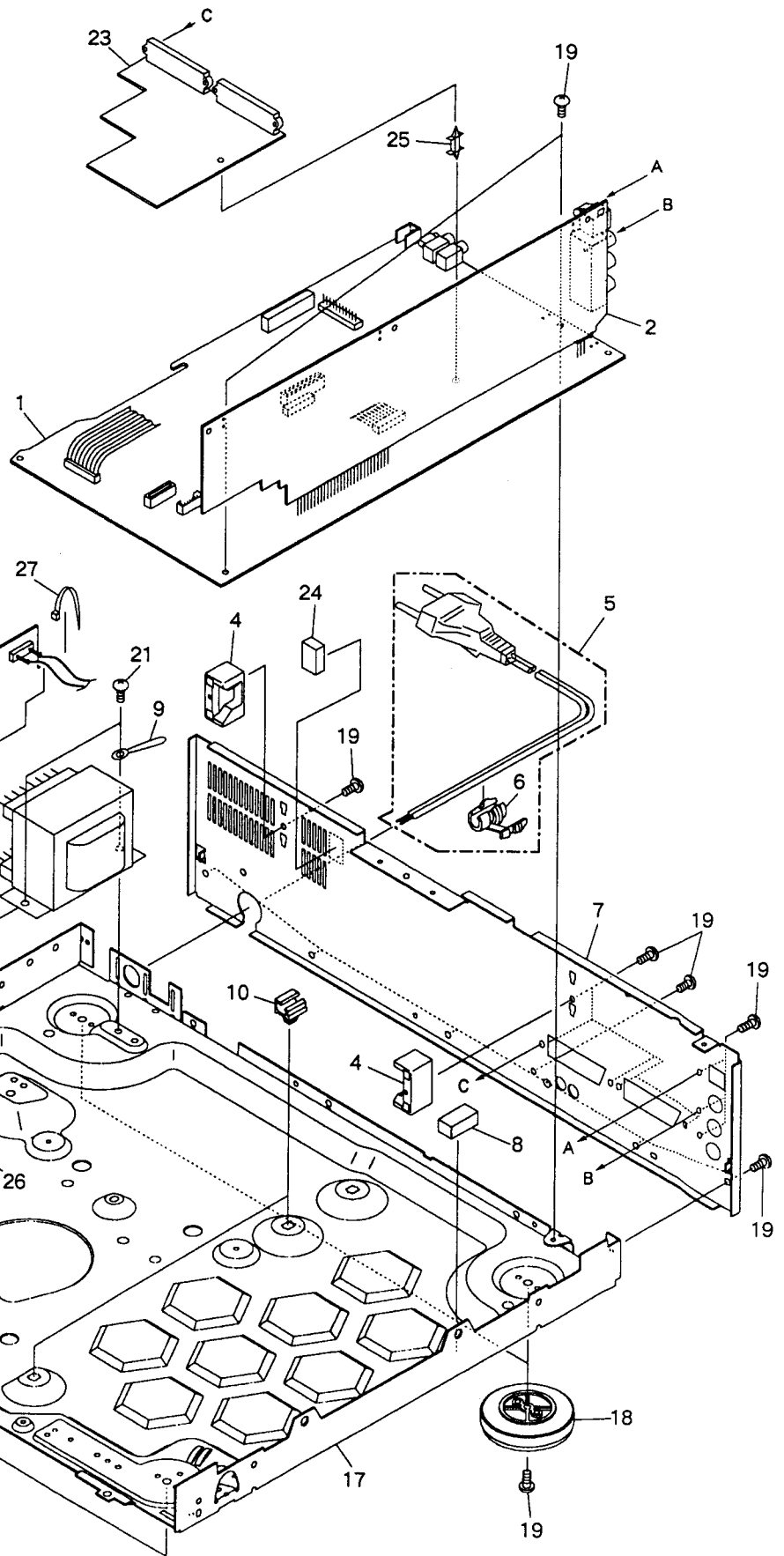
B

C

D

\* 1: Q3 on the SYPS assembly

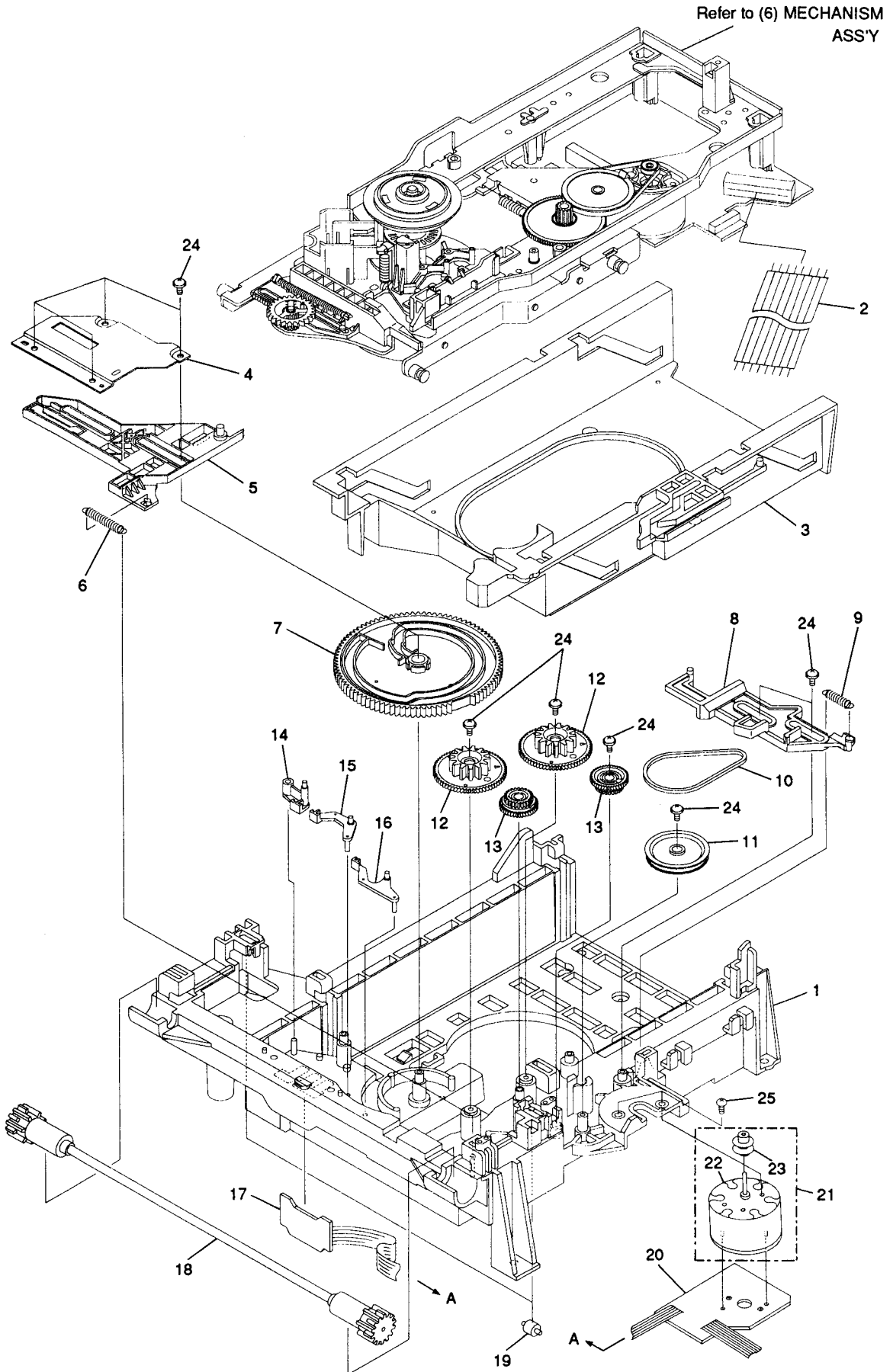
\* 2: CLD-1700 only



**(5) MECHANISM SECTION**

**Parts List**

<u>Mark</u>	<u>No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark</u>	<u>No.</u>	<u>Description</u>	<u>Part No.</u>
	1	Mechanism base	VNK1990		14	L-SW lever	VNL1504
	2	Flexible cable	VDA1409		15	C-SW lever	VNL1505
	3	Clamp cam	VNL1500		16	R-SW lever	VNL1506
	4	Shaft holder	VNE1817	NSP	17	LOSB ASS'Y	VWG1307
	5	Cam plate	VNL1511		18	Synchro gear ASS'Y	VXA1822
	6	CAS spring	VBH1190		19	Roller	VNL1042
	7	Cam gear	VNL1507	NSP	20	LOMB ASS'Y	VWG1308
	8	CD plate	VNL1512		21	Loading motor ASS'Y	VXX1712
	9	CDP spring	VBH1191	NSP	22	Slider motor	VXM1033
	10	Rubber belt	VEB1184		23	Motor pulley	PNW1643
	11	Gear pulley	VNL1510		24	Screw	Z39-019
	12	Twin gear	VNL1508		25	Screw	BMZ26P040FMC
	13	Center gear	VNL1509				



**(6) MECHANISM ASS'Y**

**Parts List**

<b>Mark</b>	<b>No.</b>	<b>Description</b>	<b>Part No.</b>	<b>Mark</b>	<b>No.</b>	<b>Description</b>	<b>Part No.</b>
	1	CA belt	VEB1077		16	Y gear	VNL1501
	2	CA pulley	VNL1496		17	Tilt cam spring	VBH1189
	3	CA gear	VNL1497		18	Tilt cam	VNL1502
	4	Tilt base	VNL1499		19	Spindle motor ASS'Y	VXA1825
	5	CA-SW lever	VNL1498		20	Centering hab	VNL1174
NSP	6	CAMB ASS'Y	VWG1306		21	Centering spring	VBH1083
	7	CRG motor ASS'Y	VXX1261	NSP	22	Rubber sheet	VEB1103
NSP	8	Slider motor	VXM1033	NSP	23	Turn table ASS'Y	VXA1283
	9	CA pulley (1)	VNL1197	NSP	24	Oil stopper	VBH1002
NSP	10	PKSB ASS'Y	VWG1305	NSP	25	Spindle motor	VXM1050
	11	Radial spring	VBH1201		26	Motor base	VNE1803
	12	Thrust spring	VBH1200		27	Screw	BMZ26P040FMC
	13	Tilt tension	VBH1187		28	Screw	ABZ30P300FMC
NSP	14	FG ASS'Y	VWG1304		29	Screw	PMA30P050FMC
	15	FG base	VNL1503		30	Washer	WT26D060D025

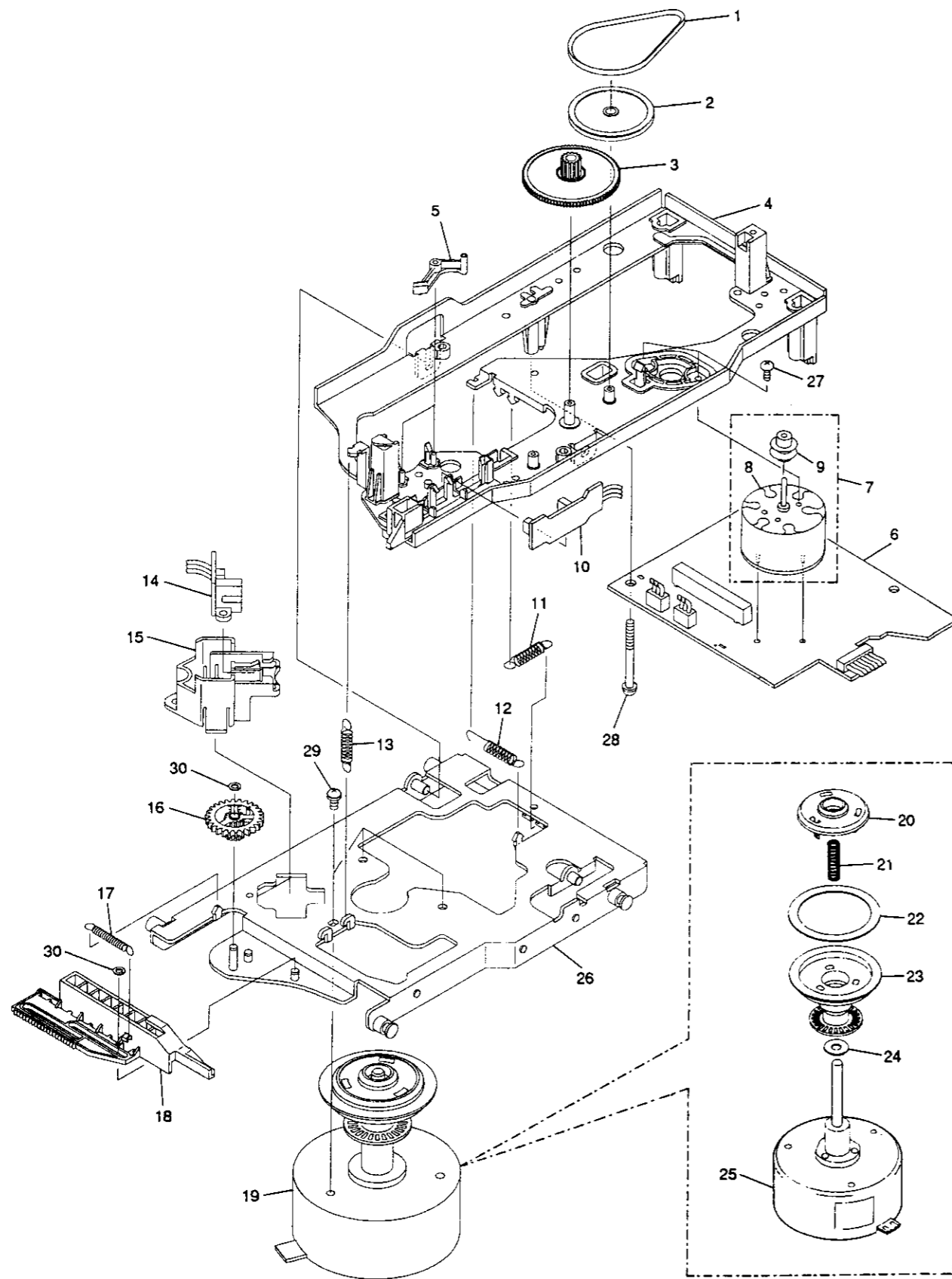


C

D

E

F



1

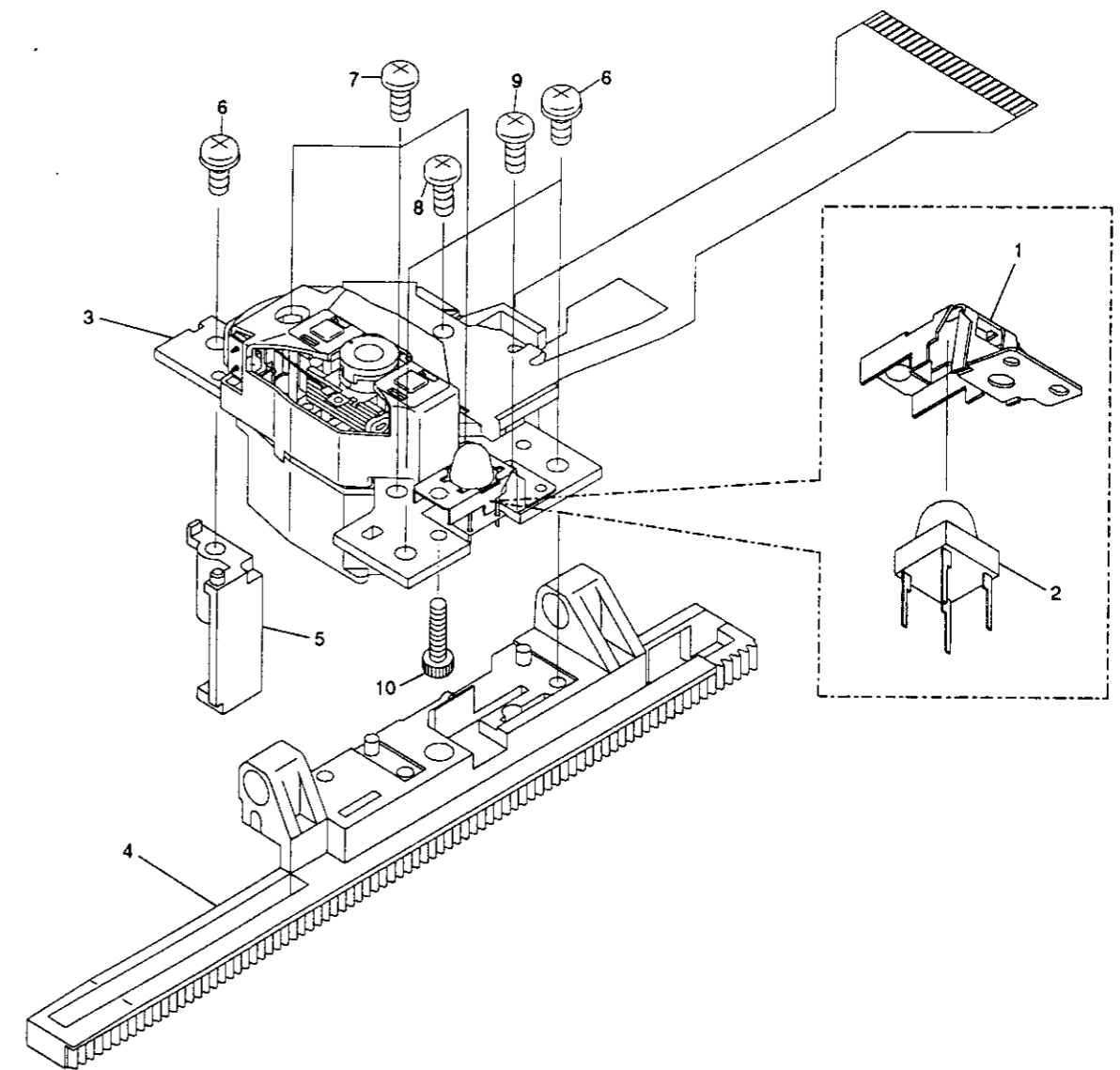
2

3

## (7) RACK ASS'Y

## Parts List

Mark	No.	Description	Part No.
NSP	1	Sensor stay	VBK1036
NSP	2	Tilt sensor	SG-302
NSP	3	Pick up ASS'Y	VWY1030
	4	Rack	VNL1495
	5	Tan. base	VNL1494
	6	Screw	PBB26P080FMC
	7	Screw	PMA20P060FMC
	8	Screw	PMA20P080FMC
	9	Screw	PMH20P040FMC
	10	Screw	SMZ20H120FZK



4

5

6

(8) P

Parts

Mark

NSP

NSP

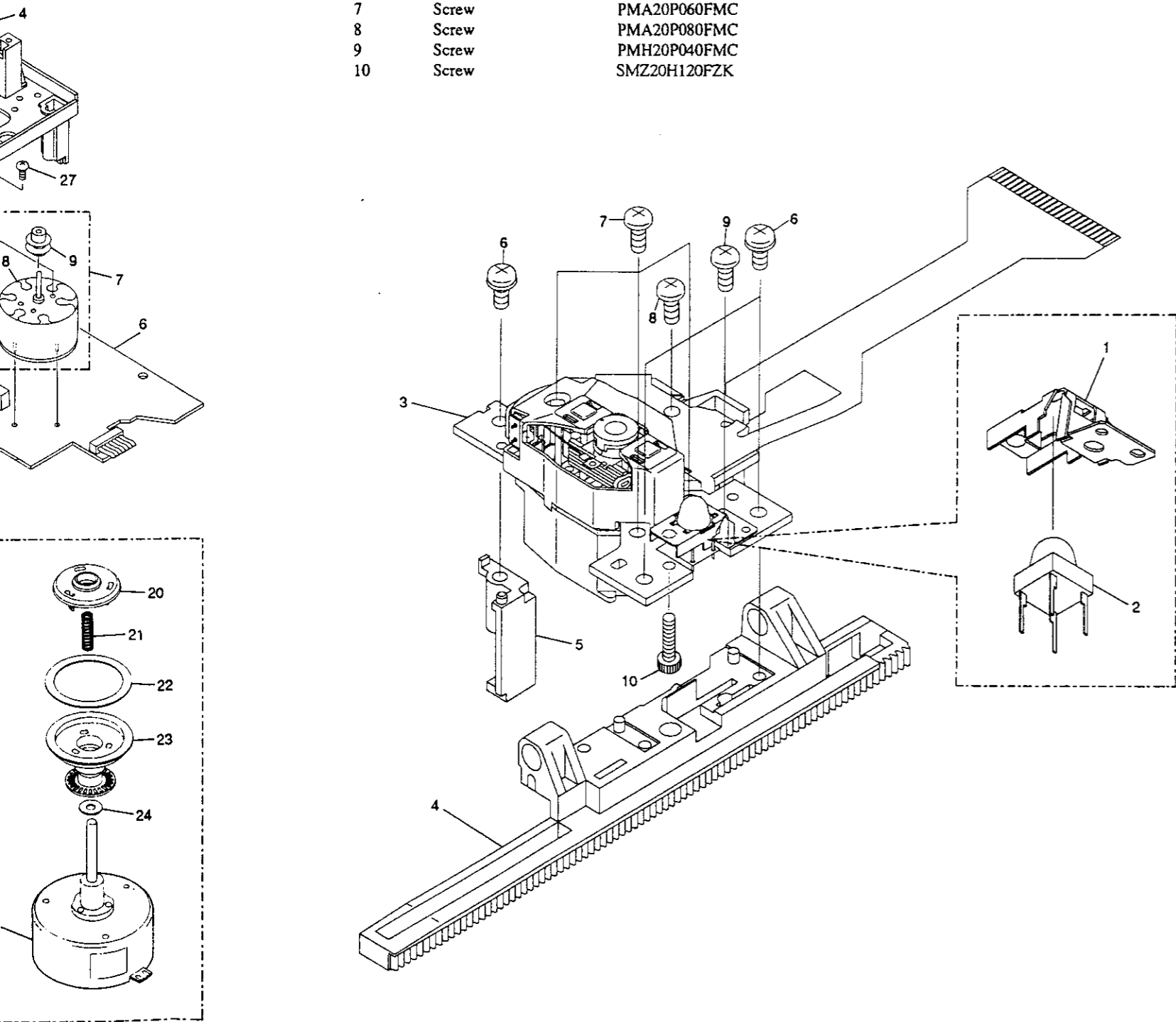
NSP

NSP

### (7) RACK ASS'Y

#### Parts List

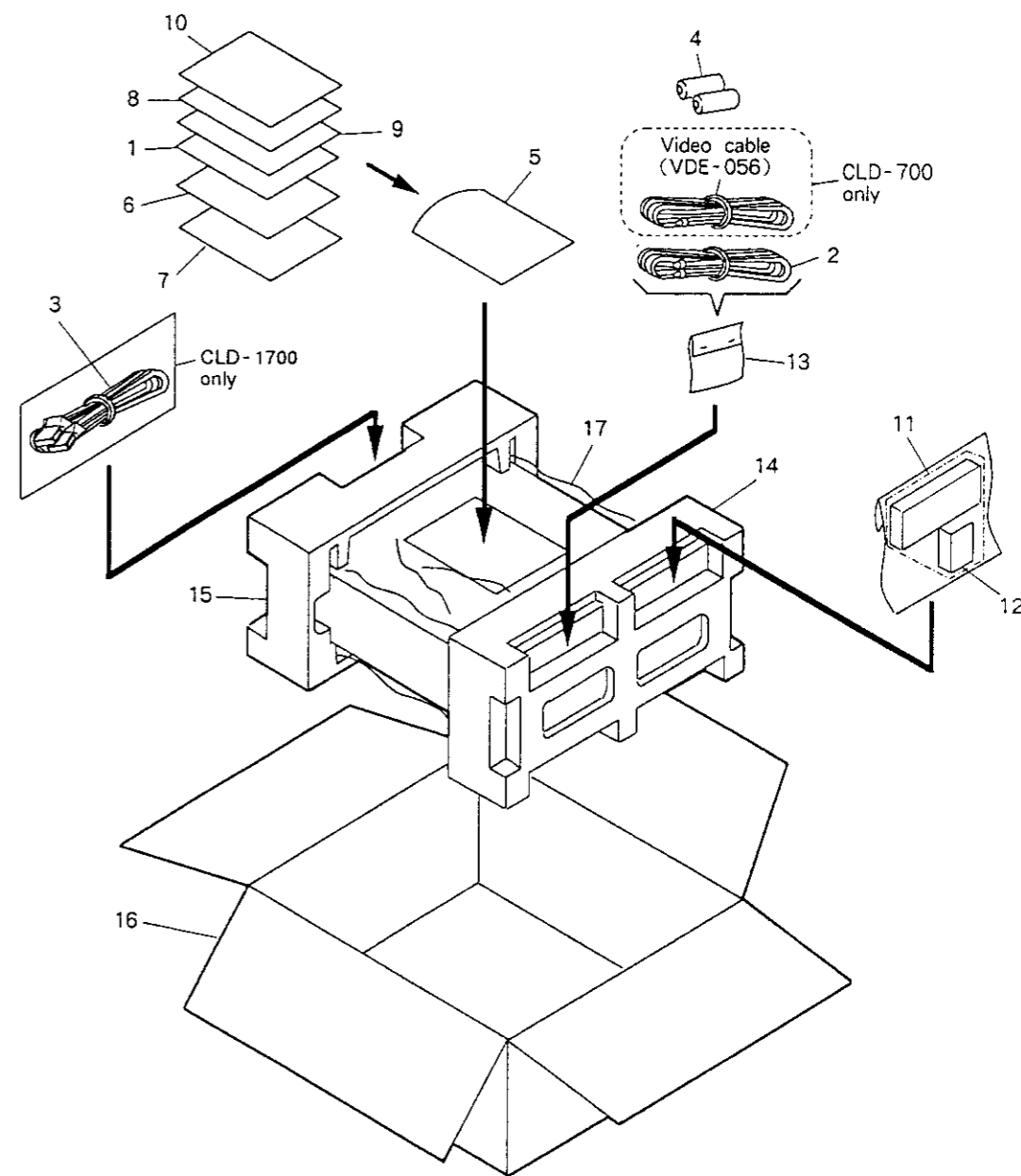
Mark No.	Description	Part No.
NSP 1	Sensor stay	VBK1036
NSP 2	Tilt sensor	SG-302
NSP 3	Pick up ASS'Y	VWY1030
4	Rack	VNL1495
5	Tan. base	VNL1494
6	Screw	PBB26P080FMC
7	Screw	PMA20P060FMC
8	Screw	PMA20P080FMC
9	Screw	PMH20P040FMC
10	Screw	SMZ20H120FZK



### (8) PACKING

#### Parts List

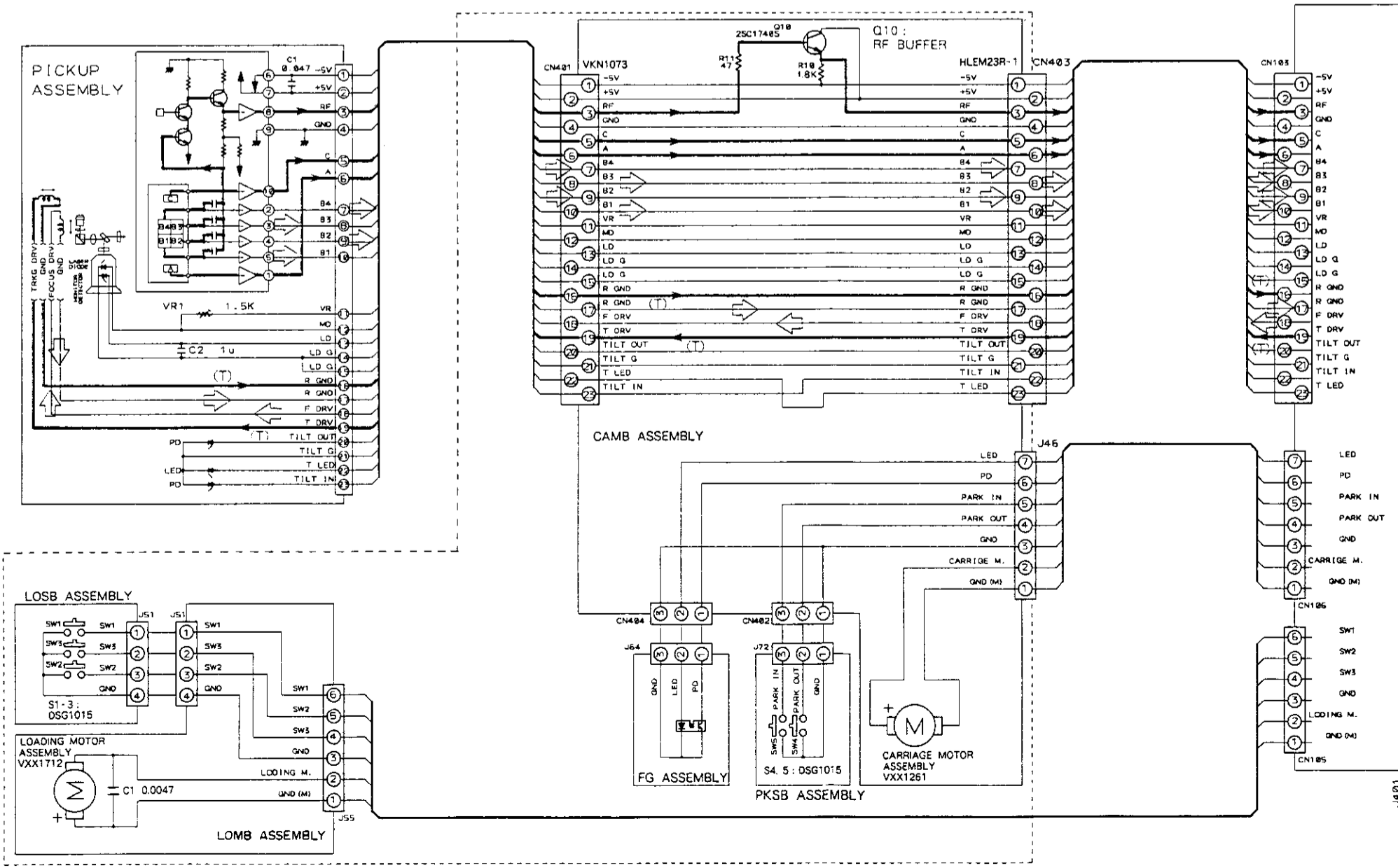
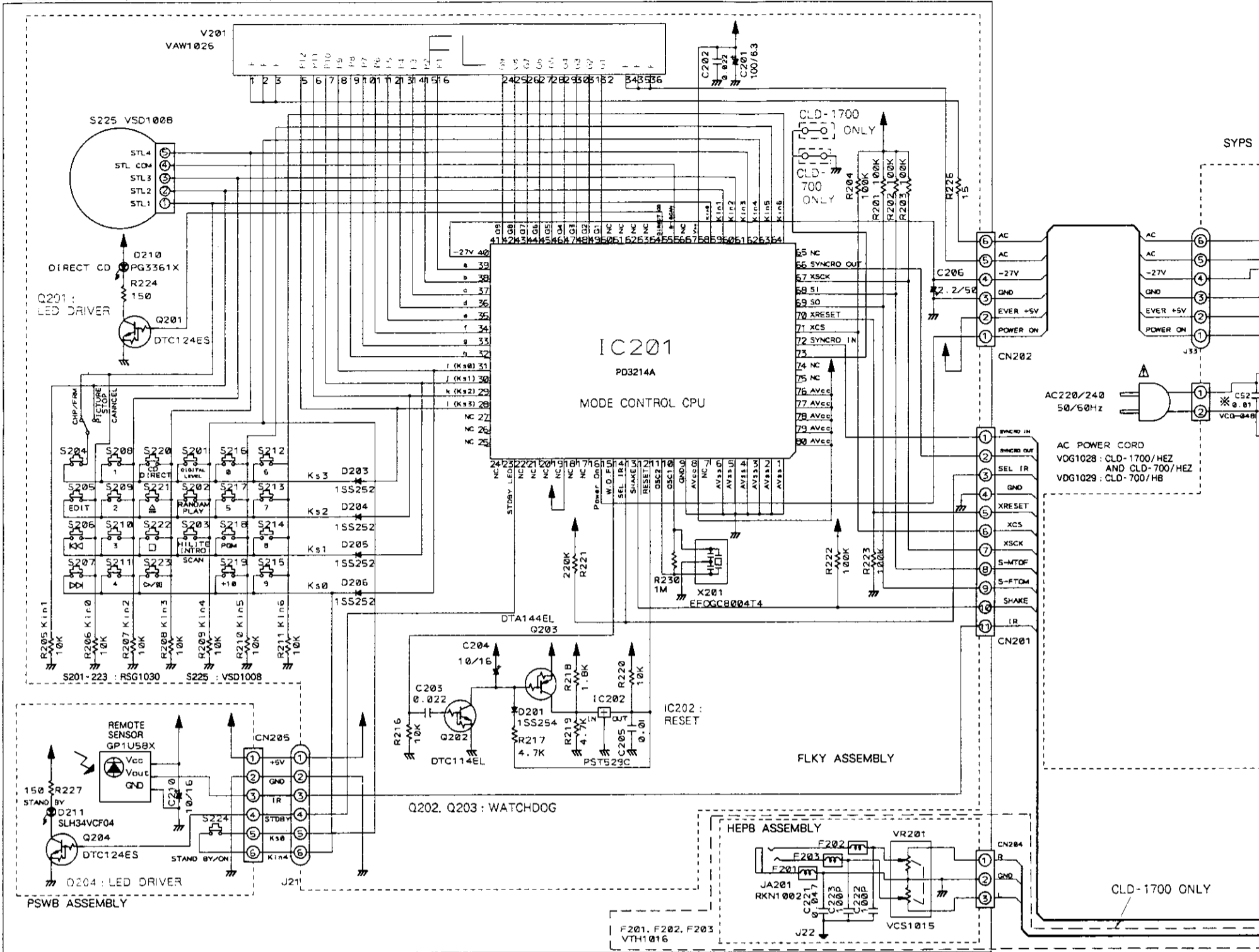
Mark No.	Description	Part No.	Mark No.	Description	Part No.
NSP 1	Warranty card	ARW-088	NSP 9	Caution card (UC)	VRM1039
2	Connection cord	VDE-055	NSP 10	Caution card	VRR1009
3	Euro scart cable (21P)	VDE1027	11	Remote control unit (CU-CLD077)	VXX1758
NSP 4	Battery (R03, AAA)	VEM-022	12	Battery cover	VNK1293
NSP 5	Polyethylene bag	VHL-014			
6	Operating instructions (English/French/German/Italian)	VRE1010	NSP 13	Polyethylene bag	Z21-029
7	Operating instructions (Dutch/Swedish/Spanish/Portuguese)	VRF1017	14	Pad (F)	VHA1105
NSP 8	Caution card (EW)	VRM1027	15	Pad (R)	VHA1106
			16	Packing case	VHG1228
			17	Mirror mat	VHL1006



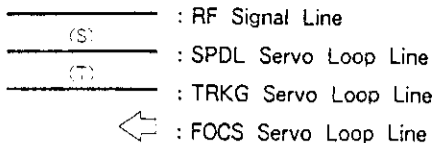
### 3. SCHEMATIC AND PCB CONNECTIONS DIAGRAMS

#### 3.1 FLKY, PSWB, HEPB, SYPS, CAMB, LOSB, LOMB, FG, PKSB, PICKUP ASSEMBLIES AND OVERALL WIRING DIAGRAM

FLKB ASSEMBLY (VWM1278 : CLD-1700) (VWM1277 : CLD-700)



MACB ASSEMBLY (VWM1250)



Note: (Type 4)  
 1. When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".

2. Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.

3. RESISTORS:  
 Unit: k $\Omega$ , M $\Omega$ , or  $\Omega$  unless otherwise noted.  
 Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.  
 Tolerance: (F):  $\pm 1\%$ , (G):  $\pm 2\%$ , (K):  $\pm 10\%$ , (M):  $\pm 20\%$  or  $\pm 5\%$  unless otherwise noted.

4. CAPACITORS:  
 Unit: pF or  $\mu F$  unless otherwise noted.  
 Ratings: capacitor ( $\mu F$ ) / voltage (V) unless otherwise noted.  
 Rated voltage: 50V except for electrolytic capacitors.

5. COILS:  
 Unit: mH or  $\mu H$  unless otherwise noted.

6. VOLTAGE AND CURRENT:  
 □ : DC voltage (V) in PLAY mode unless otherwise noted.  
 ⊖ mA or ⊕ mA : DC current in PLAY mode unless otherwise noted.  
 Value in ( ) is DC current in STOP mode.

7. OTHERS  
 ● : Signal route.  
 ⊙ : Adjustment point.  
 ● (Red) : Measurement point.  
 ● The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.

8. SWITCHES (Underline indicates switch position):  
 PKSB ASSEMBLY  
 S224 : POWER (STANDBY/ON)

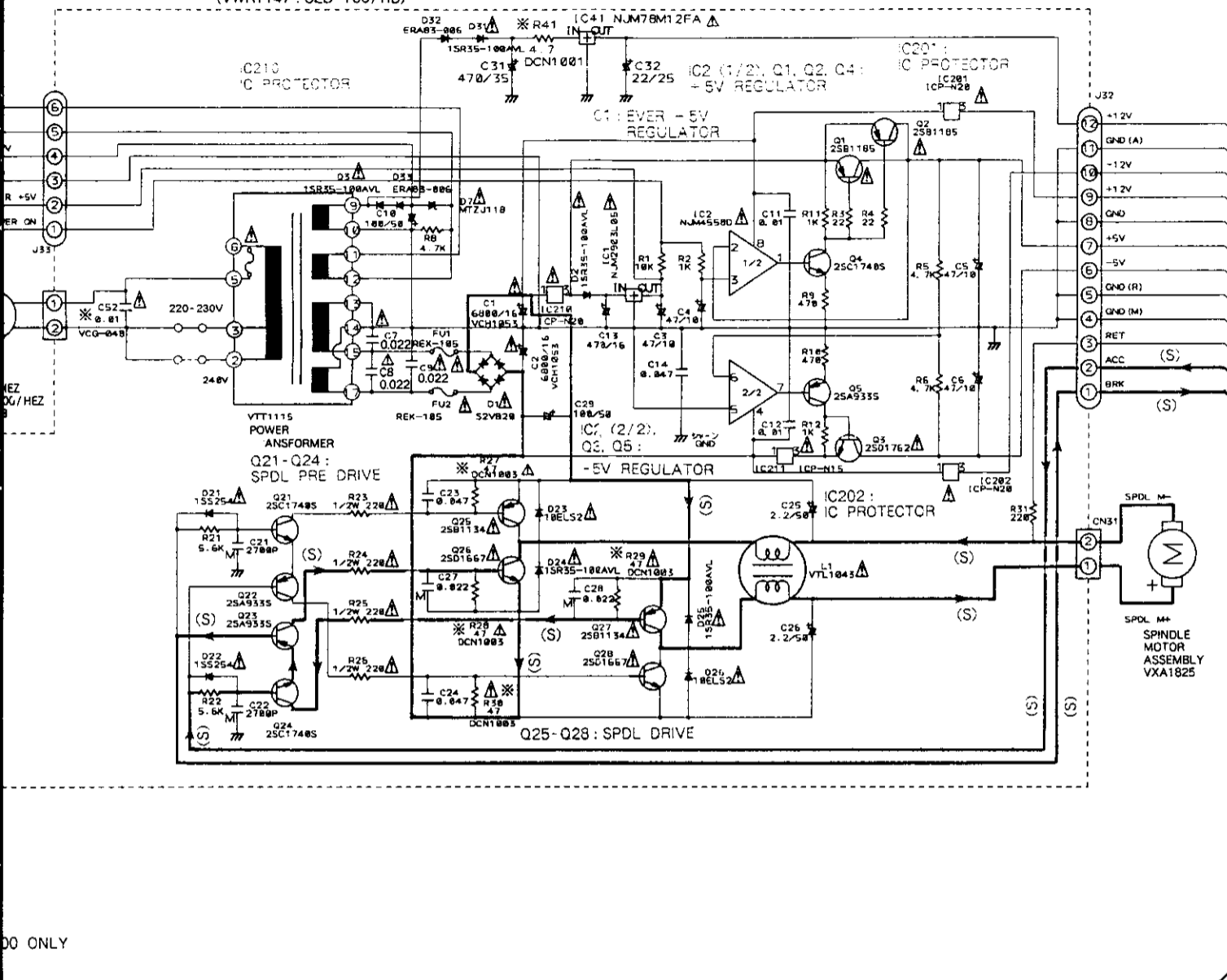
PKSB ASSEMBLY  
 S4 : PARK OUT  
 S5 : PARK IN

LOSB ASSEMBLY  
 S1 : TILT LOADING 1  
 S2 : TILT LOADING 2  
 S3 : TILT LOADING 3

FLKY ASSEMBLY  
 S201 : LANGUAGE  
 S202 : RANDOM PLAY  
 S203 : HILITE/INTRO SCAN  
 S204 : CHP/TIME  
 S205 : PGM EDIT  
 S206 : SKIP (⏮)  
 S207 : SKIP (⏭)  
 S208 : 1  
 S209 : 2  
 S210 : 3  
 S211 : 4  
 S212 : 6  
 S213 : 7  
 S214 : 8  
 S215 : 9  
 S216 : 0  
 S217 : 5  
 S218 : PGM  
 S219 : +10  
 S220 : DIRECT CD (CD)  
 S221 : OPEN/CLOSE (⏪)  
 S222 : STOP (■)  
 S223 : PLAY/PAUSE (⏩/||)  
 S225 : ROTARY ENCODER

SYPS ASSEMBLY (VWR1146 : CLD-1700/HEZ AND CLD-700/HEZ)  
 (VWR1147 : CLD-700/HB)

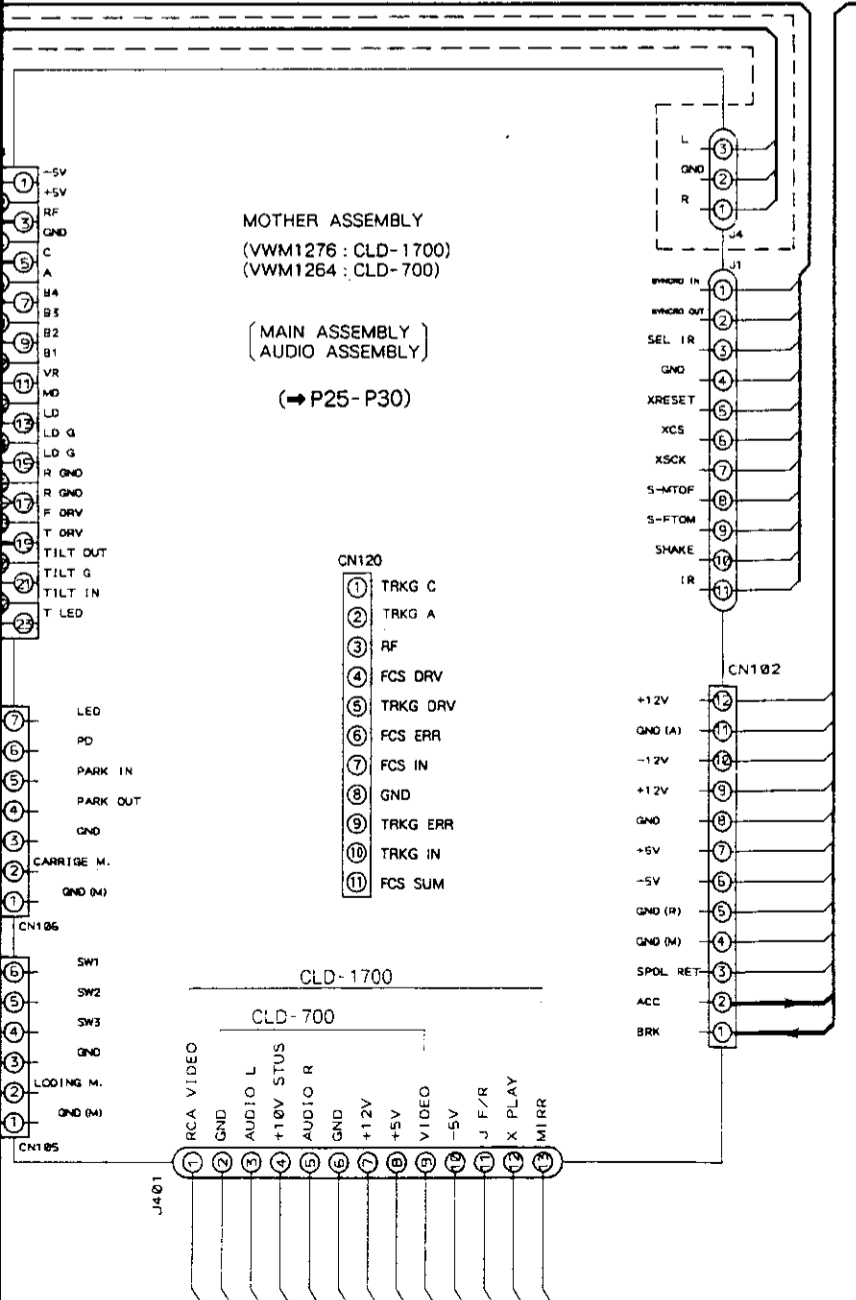
IC41 : +12V REGULATOR



00 ONLY

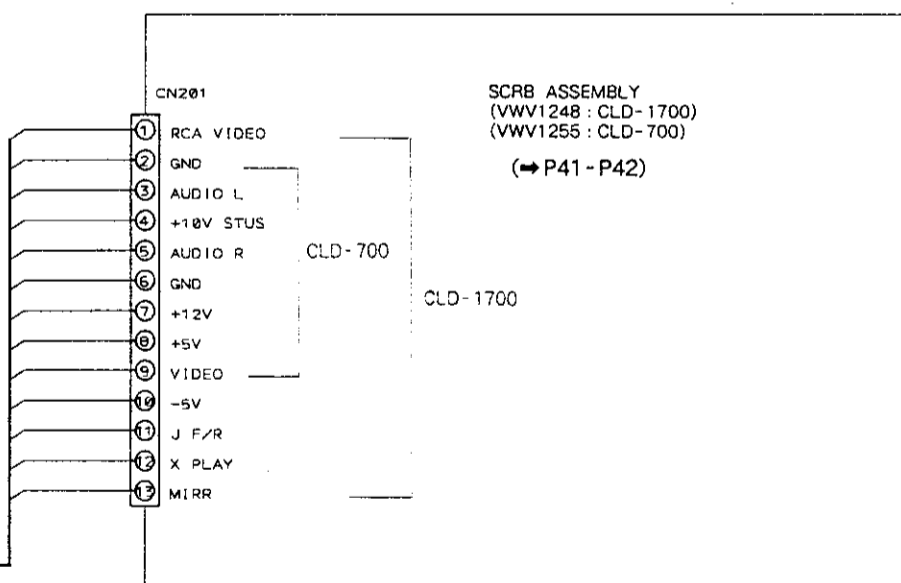
MOTHER ASSEMBLY  
 (VWM1276 : CLD-1700)  
 (VWM1264 : CLD-700)

(MAIN ASSEMBLY)  
 AUDIO ASSEMBLY  
 (⇒ P25-P30)



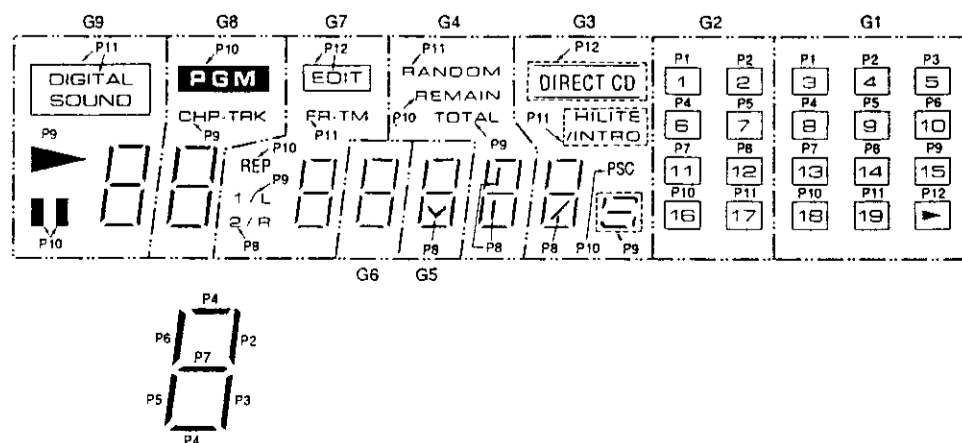
SCRB ASSEMBLY  
 (VWV1248 : CLD-1700)  
 (VWV1255 : CLD-700)

(⇒ P41-P42)



FL Display (V201 : VAW 1026)

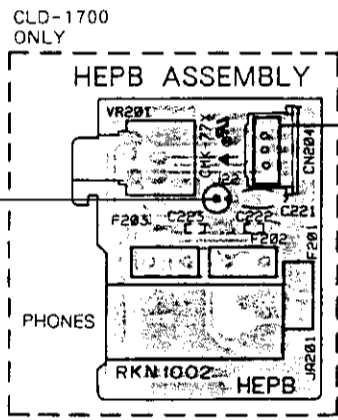
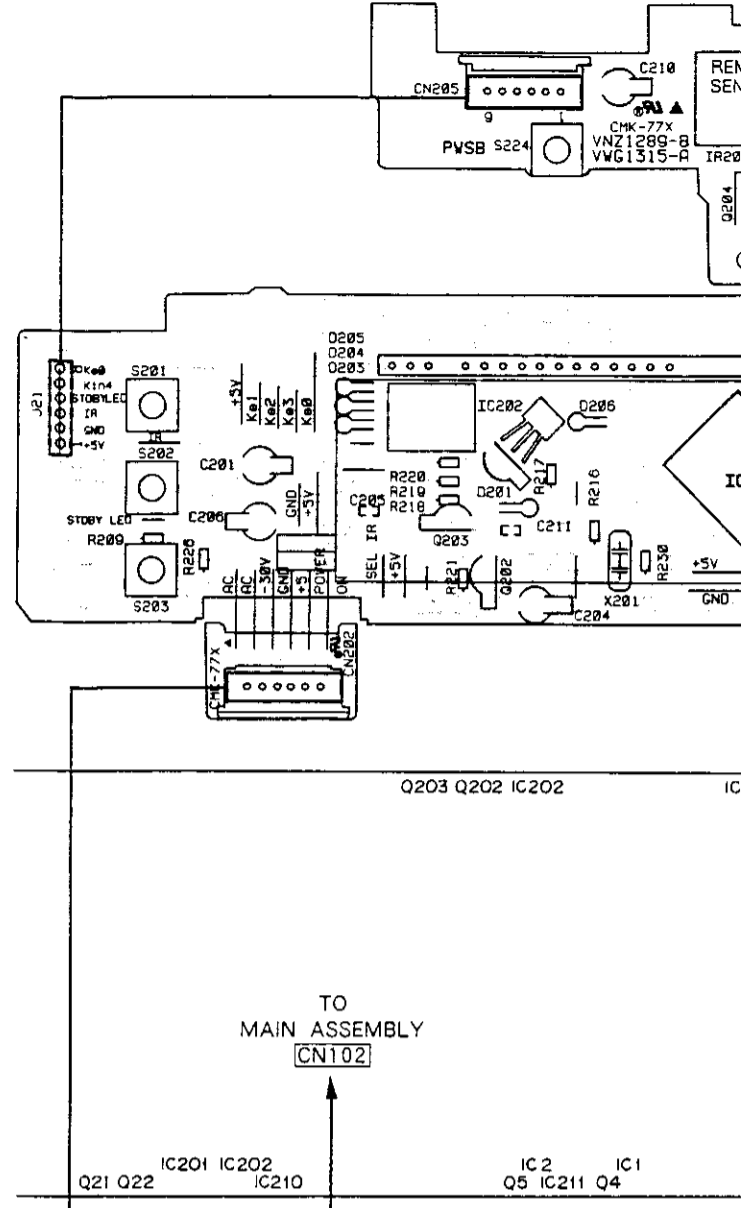
• ANODE GRID ASSIGNMENT



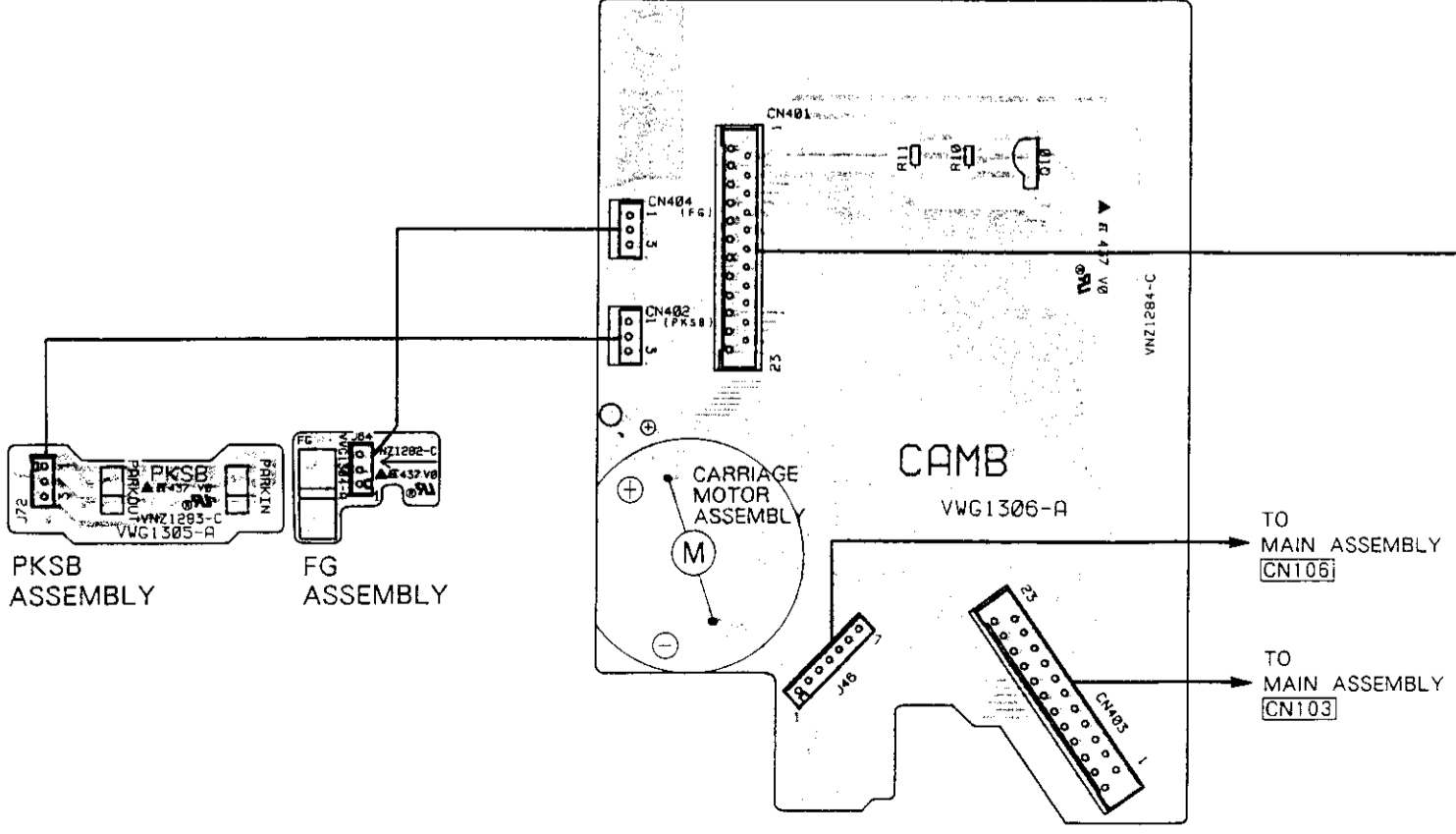
P.C.B. pattern diagram indication	Corresponding part symbol	Part name	P.C.B. pattern diagram indication	Corresponding part symbol	Part name
		Transistor			Ceramic capacitor
		FET			Mylar capacitor
		Diode			Styrol capacitor
		Zener diode			Electrolytic capacitor (Non polarized)
		LED			Electrolytic capacitor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

- This P.C.B. connection diagram is viewed from the parts mounted side.
- 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.
- The capacitor terminal marked with shows negative terminal.
- The diode marked with shows cathode side.
- The transistor terminal marked with shows emitter.

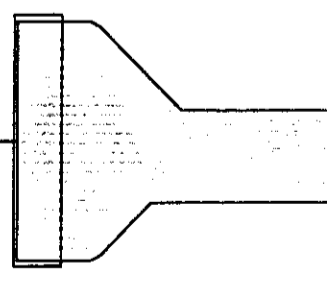
PSWB ASSEMBLY



CAMB ASSEMBLY



HEAD ASSEMBLY

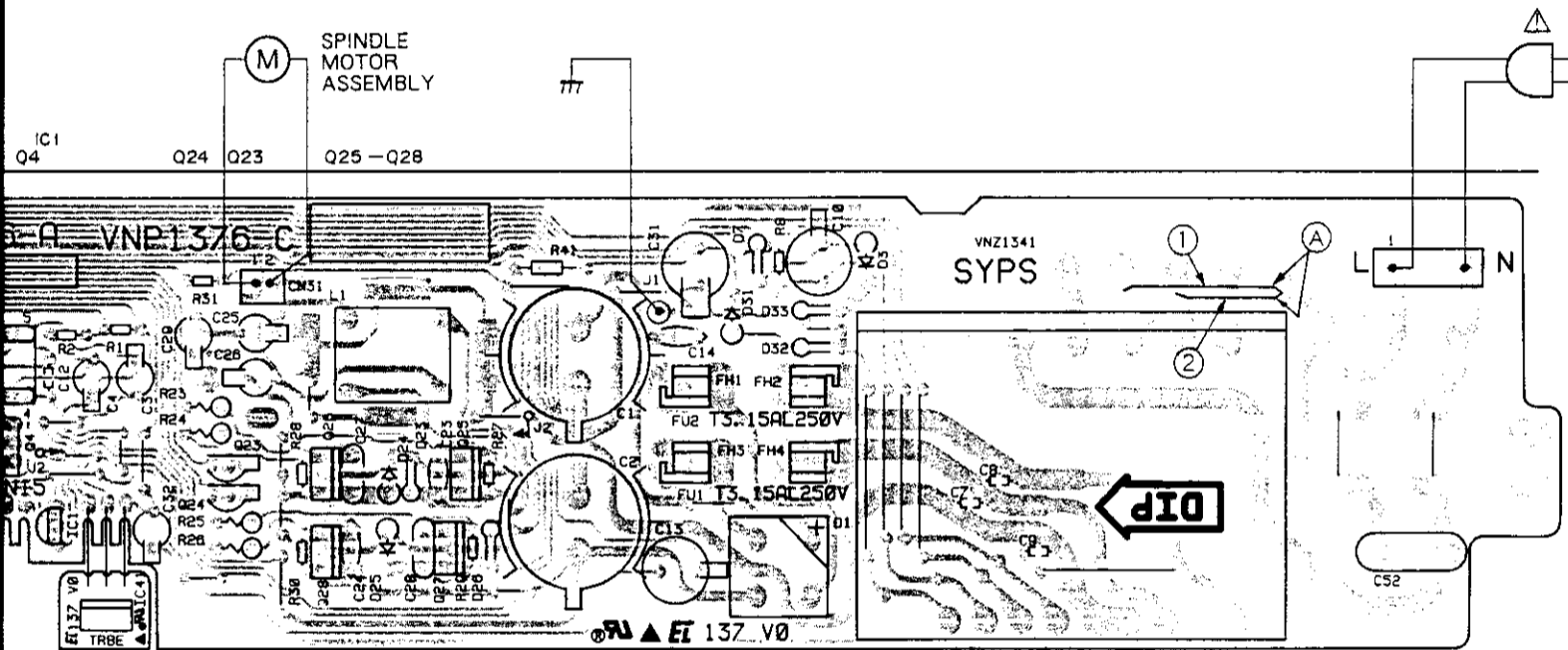
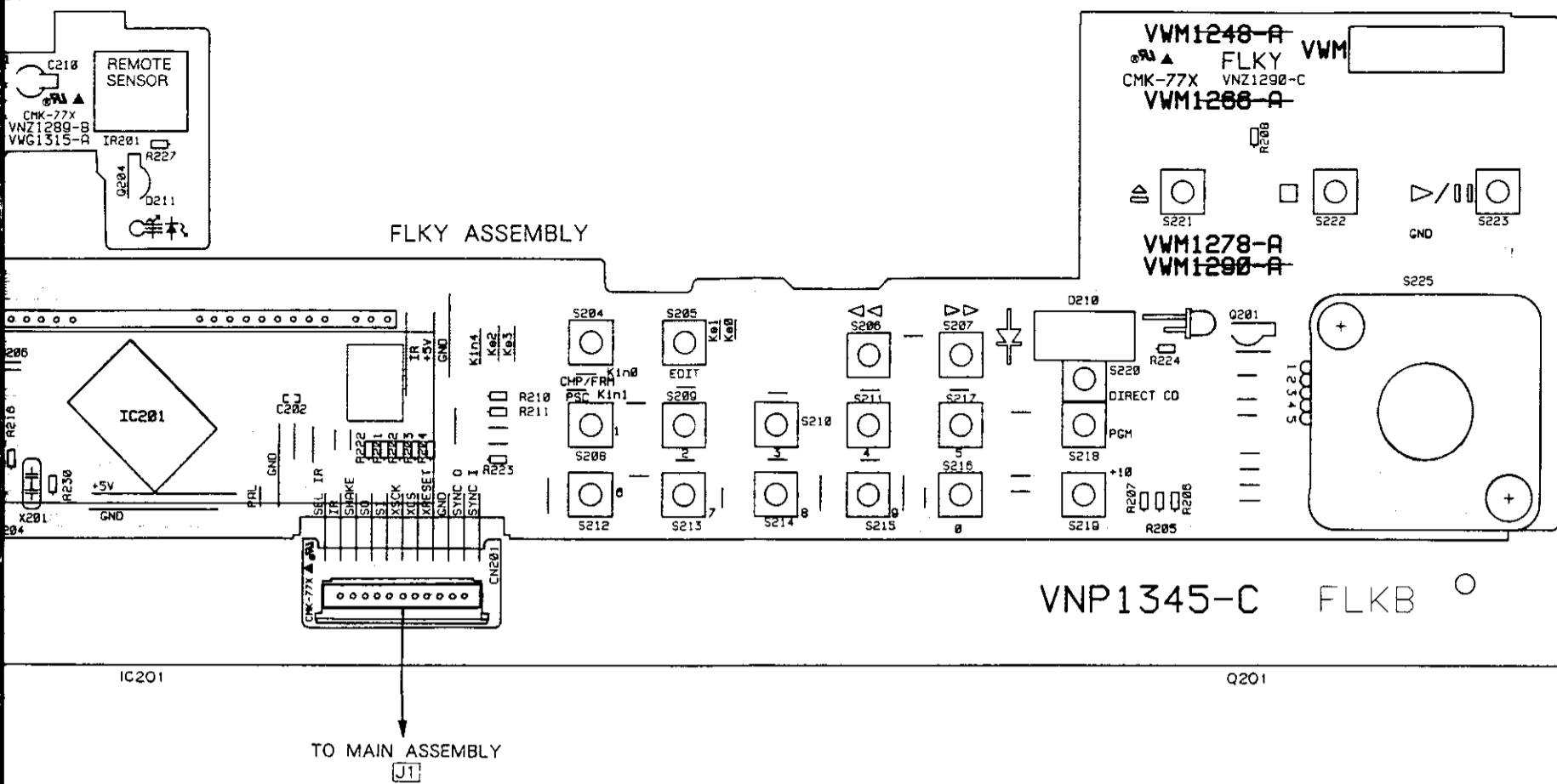


PKSB ASSEMBLY

FG ASSEMBLY

TO MAIN ASSEMBLY CN105

TO MAIN ASSEMBLY CN103



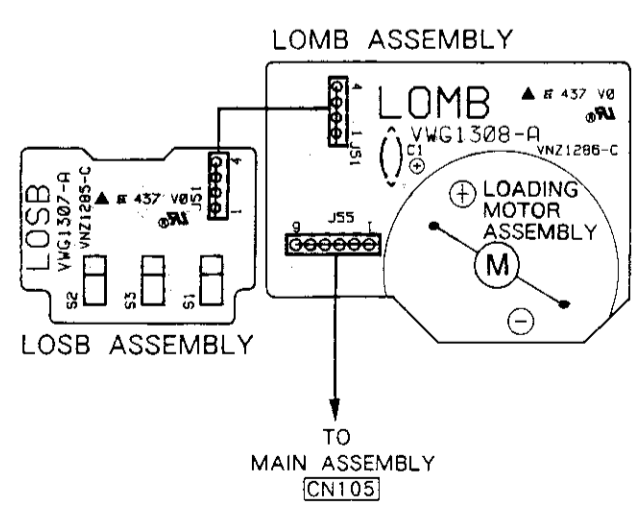
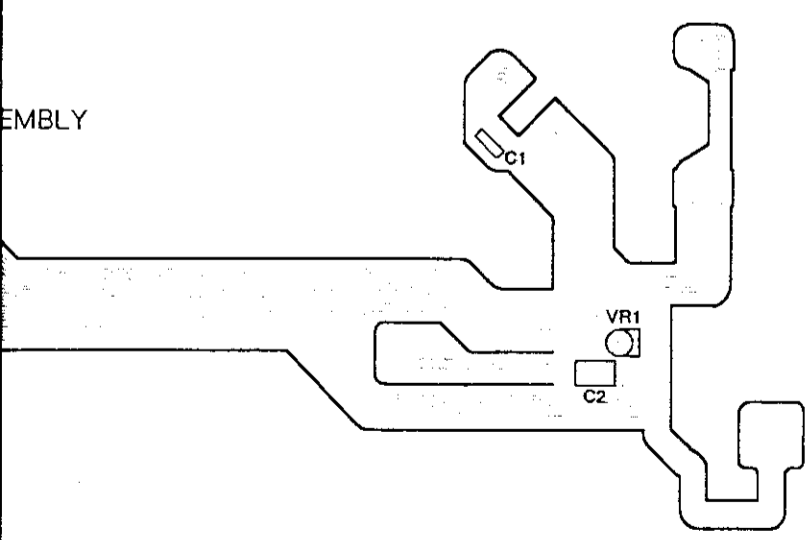
Line voltage selection

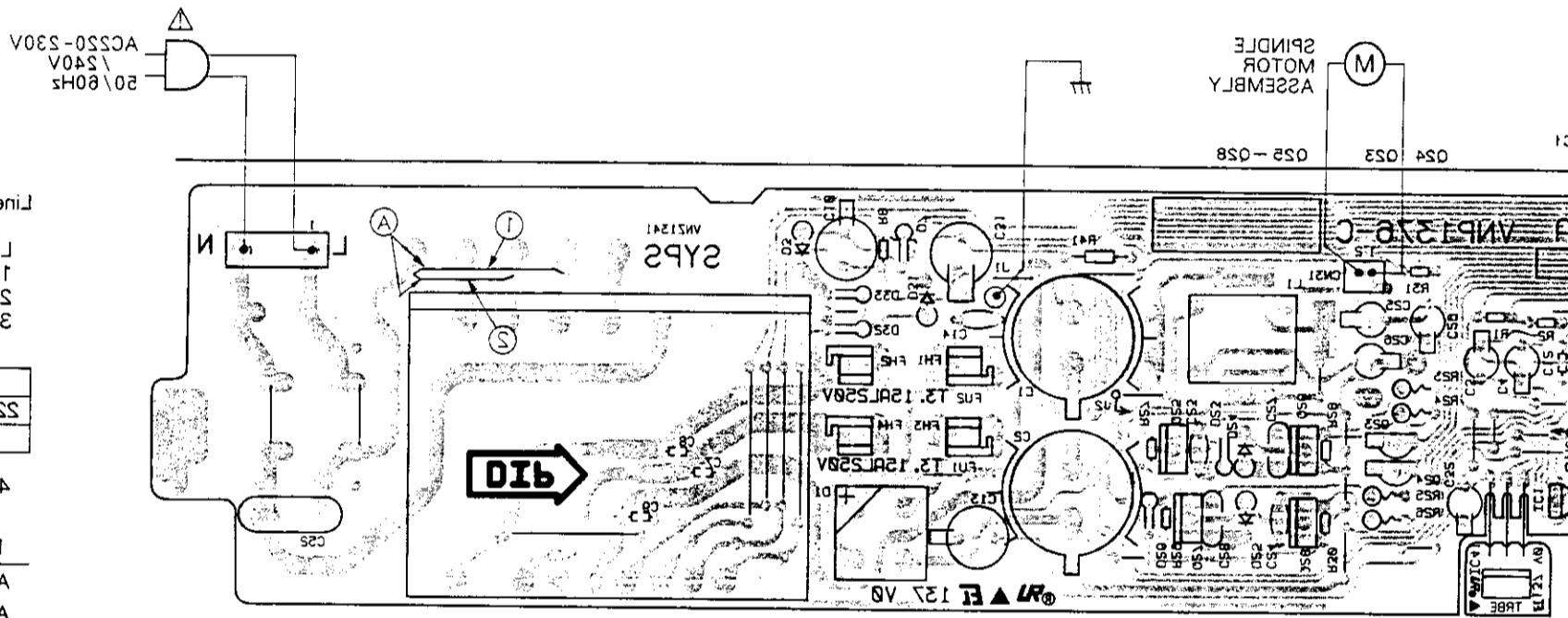
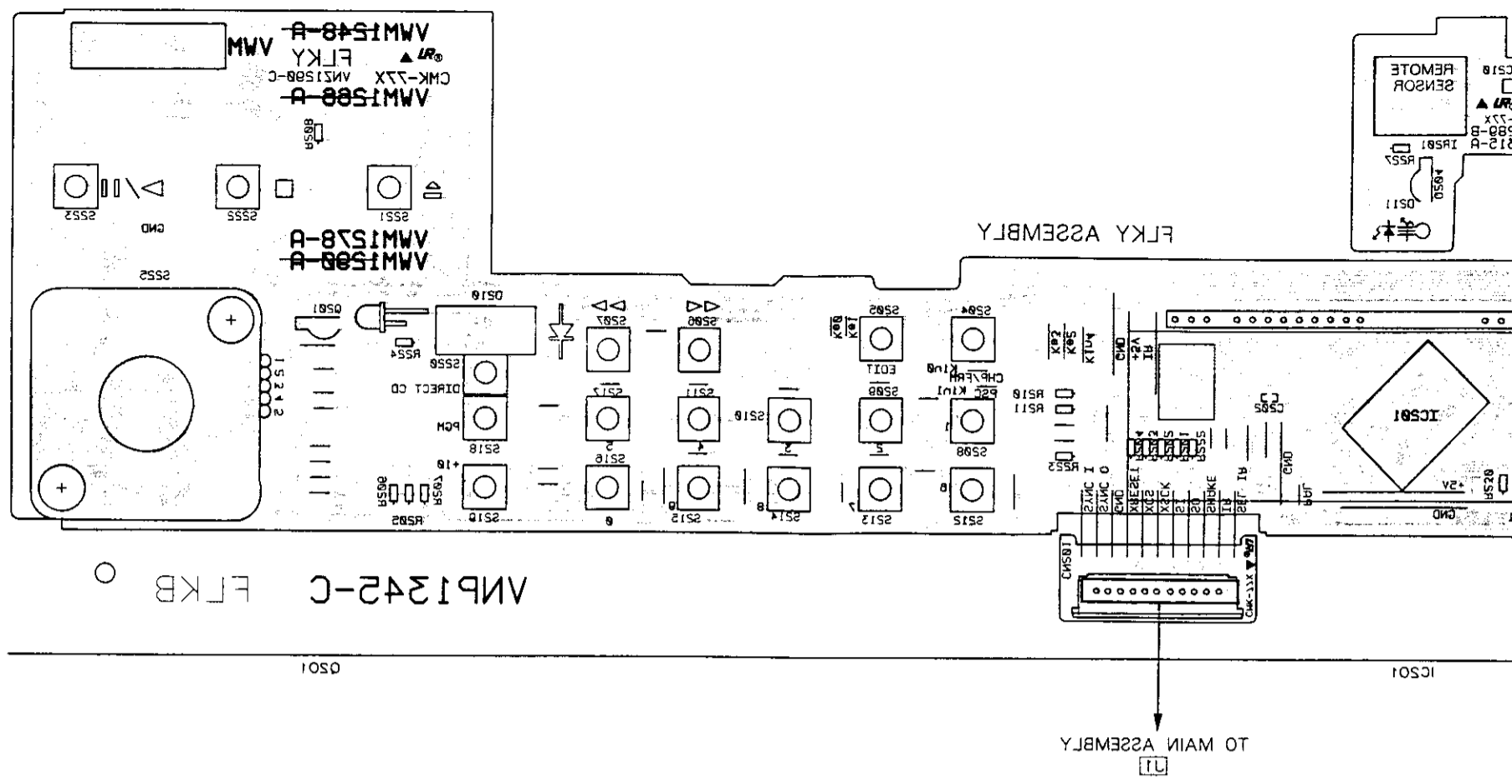
1. Disconnect the AC power cord.
2. Remove the cover.
3. Change the position of the jumper wire Ⓐ as follows.

Voltage	jumper wire Ⓐ position
220V-230V	①
240V	②

4. Stick the line voltage label on the rear panel.

Part No.	Description
AAX-193	220V label
AAX-192	240V label





Line voltage selection

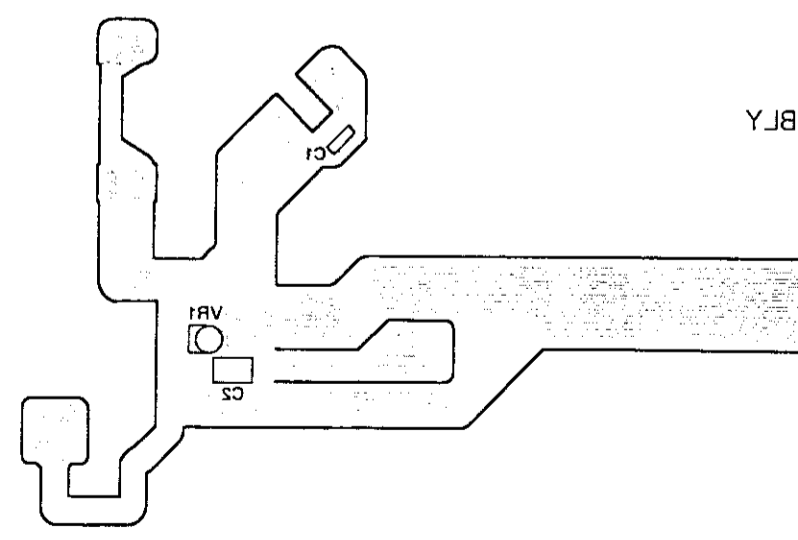
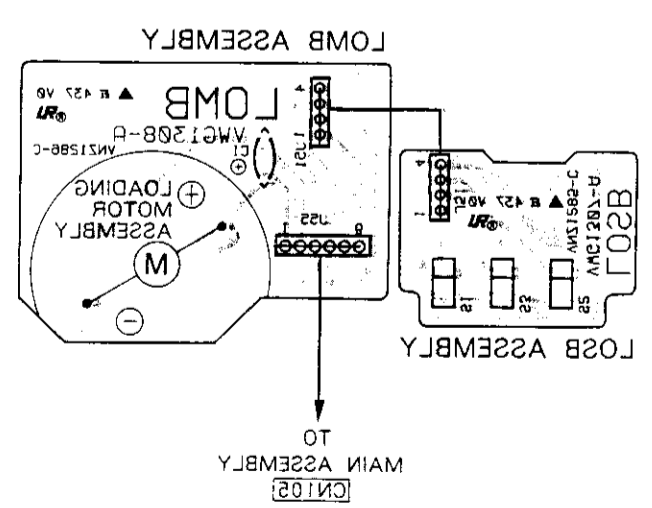
Line voltage can be changed as follows:

1. Disconnect the AC power cord.
2. Remove the cover.
3. Change the position of the jumper wire as follows.

Voltage	Jumper wire (A) position
220V-230V	①
240V	②

4. Stick the line voltage label on the rear panel.

Part No.	Description
AAX-193	220V label
AAX-192	240V label

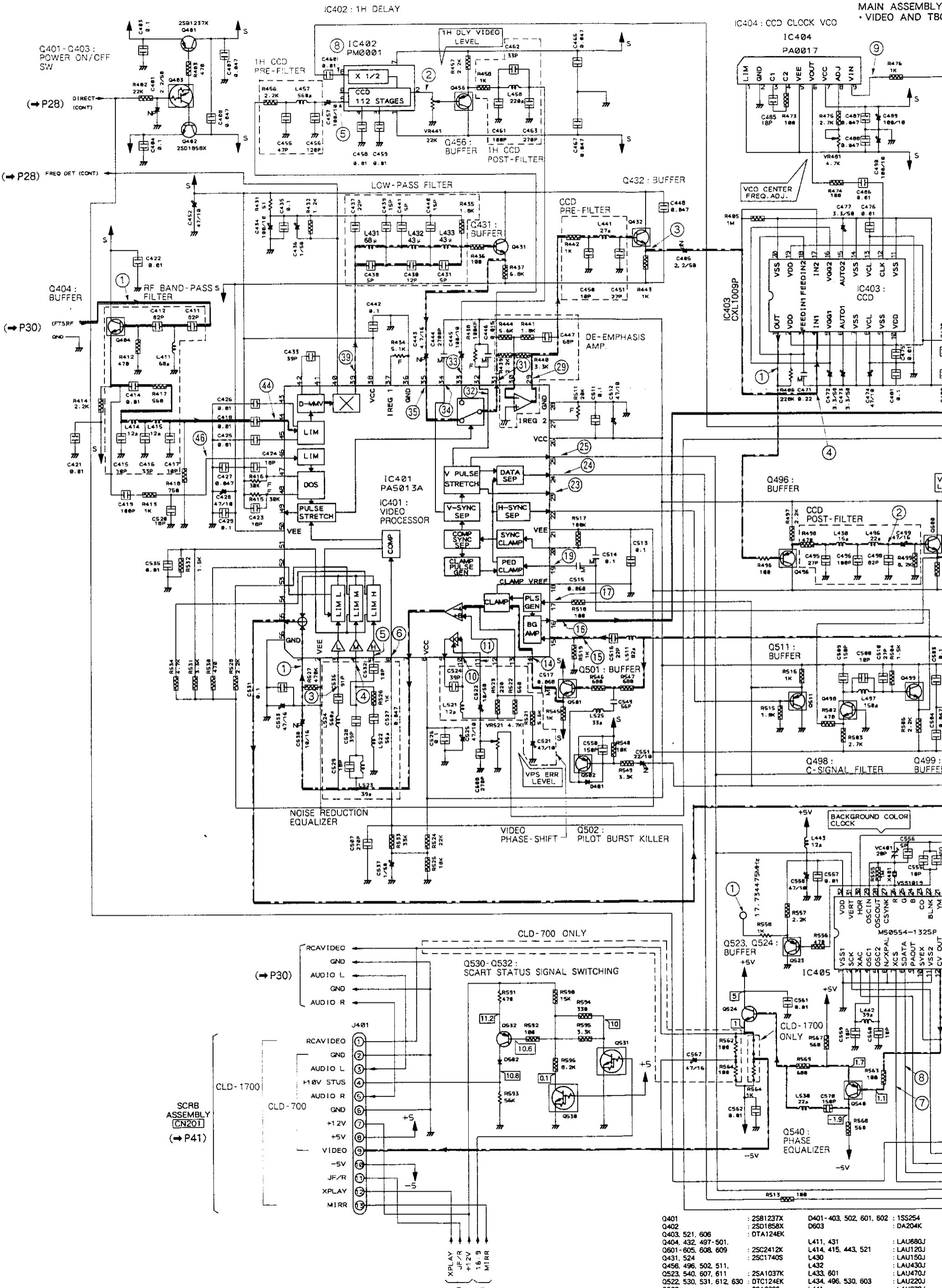






3.2 MAIN ASSEMBLY (1/2)

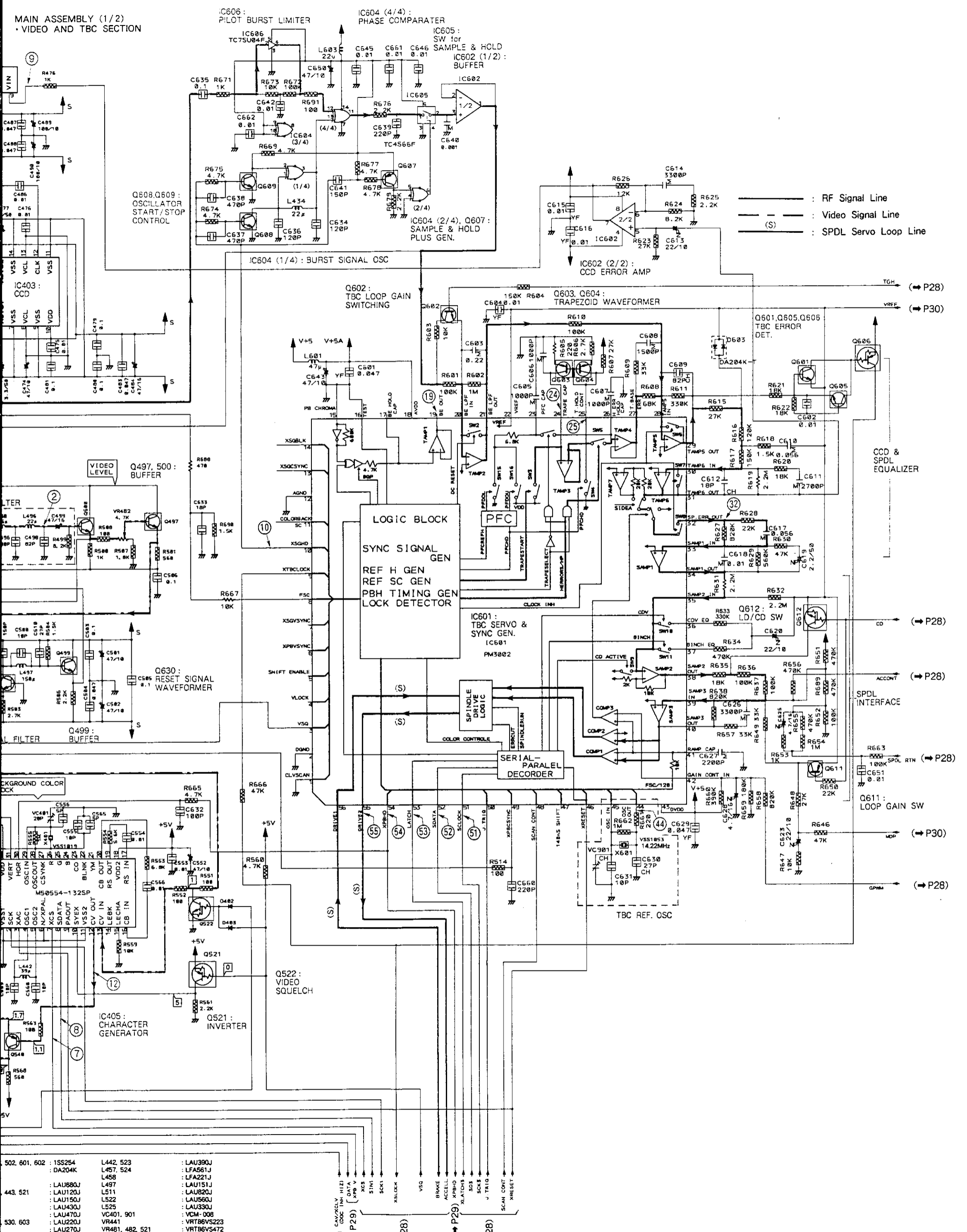
MAIN ASSEMBLY  
• VIDEO AND TB



Q401	: 2S81237X	D401-403, 502, 601, 602	: 1SS254
Q402	: 2SD1858X	D603	: DA204K
Q403, 521, 606	: OTA124EK		
Q404, 432, 497-501,		L411, 431	: LAU680J
Q601-605, 608, 609	: 2SC2412X	L414, 415, 443, 521	: LAU120J
Q431, 524	: 2SC1740S	L430	: LAU150J
Q456, 496, 502, 511,		L432	: LAU430J
Q523, 540, 607, 611	: 2SA1037K	L433, 601	: LAU470J
Q522, 530, 531, 612, 630	: DTC124EK	L434, 496, 530, 603	: LAU220J
Q532	: 2SA933S	L441	: LAU270J

B  
C  
D  
E  
F

MAIN ASSEMBLY (1/2)  
VIDEO AND TBC SECTION



— : RF Signal Line  
 - - - : Video Signal Line  
 (S) : SPDL Servo Loop Line

TGH (→ P28)

VREF (→ P30)

CCD & SPDL EQUALIZER

CD (→ P28)

ACCOUNT (→ P28)

SPDL INTERFACE

R663 SPDL RTN (→ P28)

Q611: LOOP GAIN SW (→ P30)

OPHA (→ P28)

- 502, 601, 602 : 1S5254
- : DA204K
- 443, 521 : LAU680J
- : LAU120J
- : LAU150J
- : LAU430J
- : LAU470J
- 530, 603 : LAU220J
- : LAU270J
- L442, 523 : LA57, 524
- L458 : LAU151J
- L497 : LAU820J
- L511 : LAU560J
- L525 : LAU330J
- VC401, 901 : VCM-008
- VR441 : VRT86VS223
- VR481, 482, 521 : VRT86VS472
- LAU390J
- LFA561J
- LFA221J
- LAU151J
- LAU820J
- LAU560J
- LAU330J
- VCM-008
- VRT86VS223
- VRT86VS472

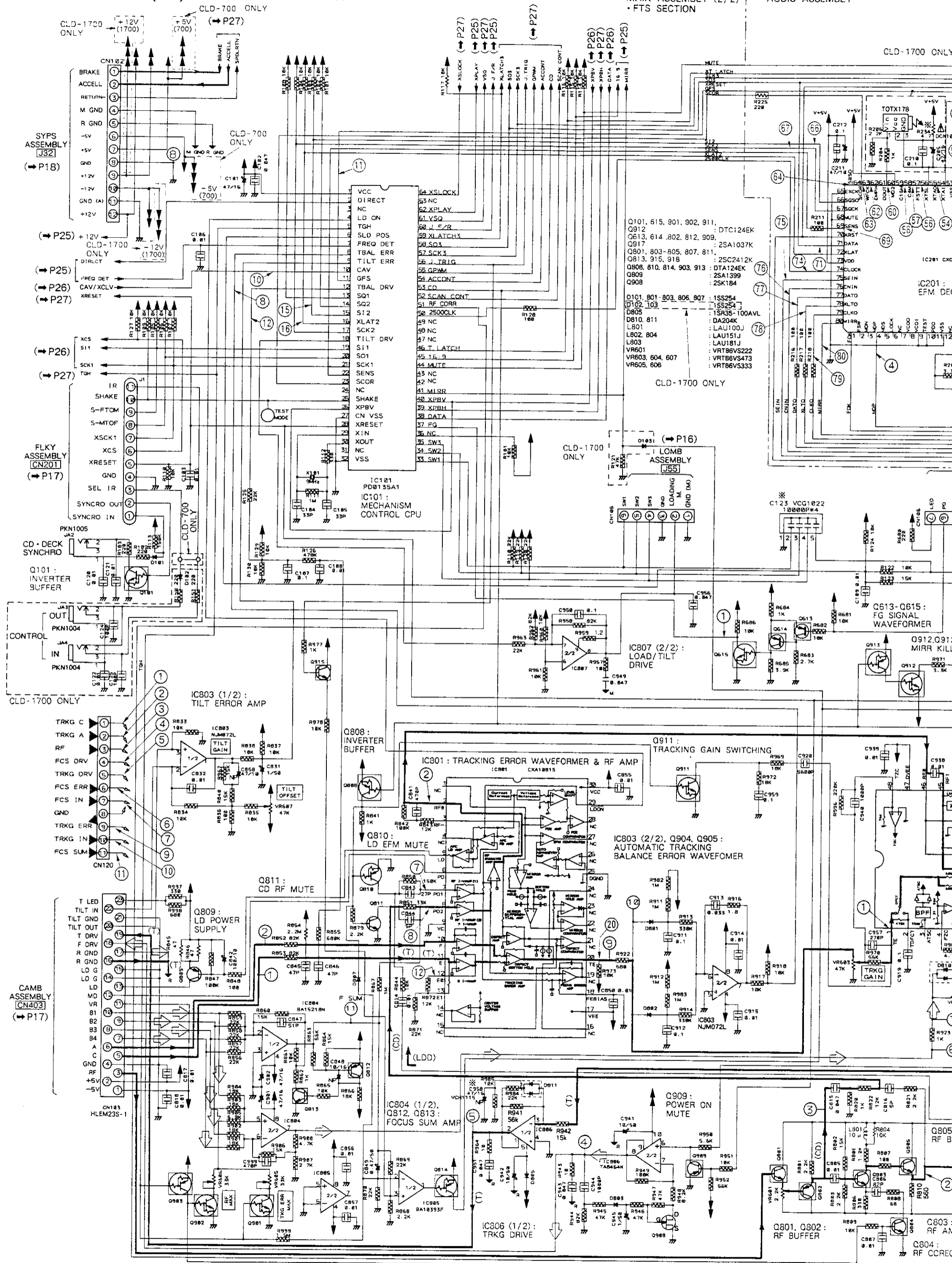
- (→ P28) CAN/CLV (DOZ IN) HI ZI
- (→ P29) DATA
- (→ P29) XPS V
- XCS
- SIN1
- SK1
- SK2
- SK3
- J-TRIG
- SCAN CONT
- XRESET
- VSQ
- BRAKE
- ACCELL
- APBHD
- XLATCHS
- SDS
- J-TRIG
- SCAN CONT
- XRESET

3.3 MAIN ASSEMBLY (2/2) AND AUDIO ASSEMBLY

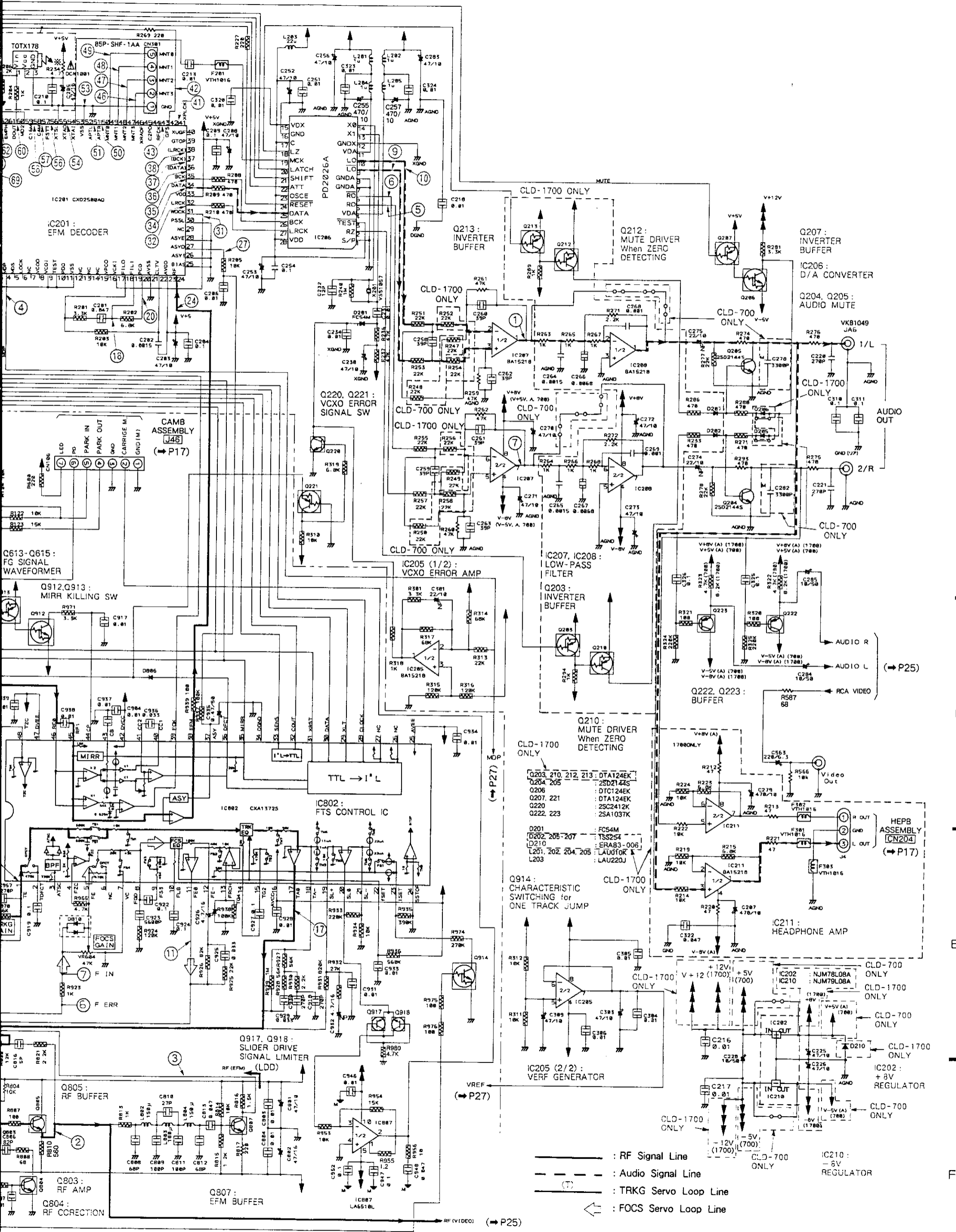
MAIN ASSEMBLY (2/2) - FTS SECTION

AUDIO ASSEMBLY

CLD-1700 ONLY



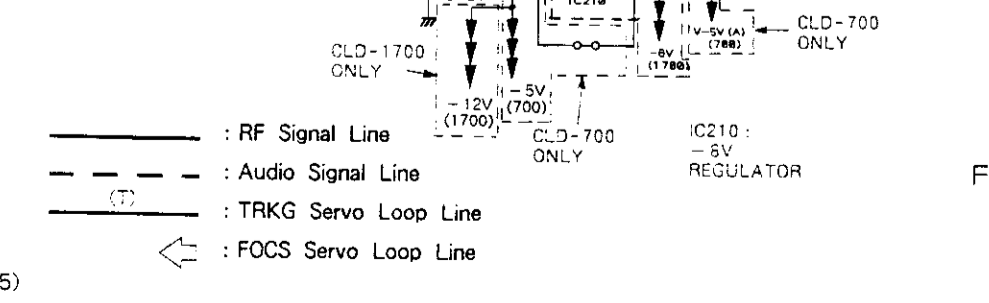
Q901-Q903: TRKG ERR. MIX/RF MIX VR SWITCHING  
 IC804 (2/2): FOCUS ERR. AMP  
 IC805, Q814: MIRR COMPARATOR  
 IC806 (2/2), Q808: FOCUS DRIVE



- Q203, 210, 212, 213 : DTA124EK
- Q204, 205 : 2SD2144S
- Q206 : DTC124EK
- Q207, 221 : DTA124EK
- Q220 : 2SC2412K
- Q222, 223 : 2SA1037K

- Q201 : FCS4M
- Q202, 205-207 : TSS254
- Q210 : ERA83-006
- L201, 202, 204, 205 : LAU010K
- L203 : LAU220J

- Q914 : CHARACTERISTIC SWITCHING for ONE TRACK JUMP
- IC205 (2/2) : VREF GENERATOR
- IC210 : -8V REGULATOR
- IC211 : HEADPHONE AMP
- IC212 : SLIDER DRIVE SIGNAL LIMITER
- IC213 : RF BUFFER
- IC214 : RF AMP
- IC215 : RF CORRECTION
- IC216 : EFM BUFFER
- IC217 : SPDL DRIVE
- IC218 : 1/2 VCXO ERROR SIGNAL SW
- IC219 : LOW-PASS FILTER
- IC220 : INVERTER BUFFER
- IC221 : MUTE DRIVER
- IC222 : INVERTER BUFFER
- IC223 : D/A CONVERTER
- IC224 : AUDIO MUTE
- IC225 : AUDIO MUTE
- IC226 : AUDIO MUTE
- IC227 : AUDIO MUTE
- IC228 : AUDIO MUTE
- IC229 : AUDIO MUTE
- IC230 : AUDIO MUTE
- IC231 : AUDIO MUTE
- IC232 : AUDIO MUTE
- IC233 : AUDIO MUTE
- IC234 : AUDIO MUTE
- IC235 : AUDIO MUTE
- IC236 : AUDIO MUTE
- IC237 : AUDIO MUTE
- IC238 : AUDIO MUTE
- IC239 : AUDIO MUTE
- IC240 : AUDIO MUTE



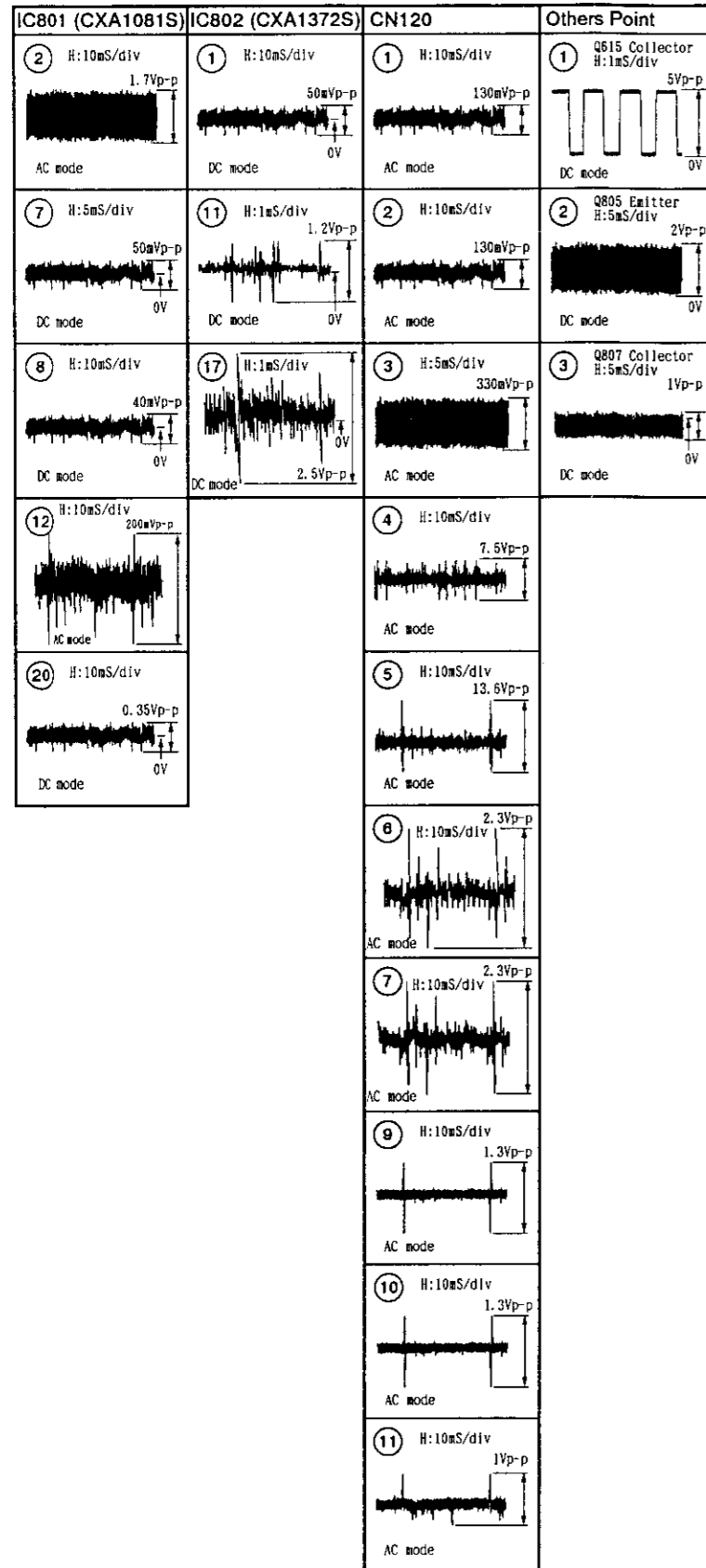
- Q203, 210, 212, 213 : DTA124EK
- Q204, 205 : 2SD2144S
- Q206 : DTC124EK
- Q207, 221 : DTA124EK
- Q220 : 2SC2412K
- Q222, 223 : 2SA1037K

- Q201 : FCS4M
- Q202, 205-207 : TSS254
- Q210 : ERA83-006
- L201, 202, 204, 205 : LAU010K
- L203 : LAU220J





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



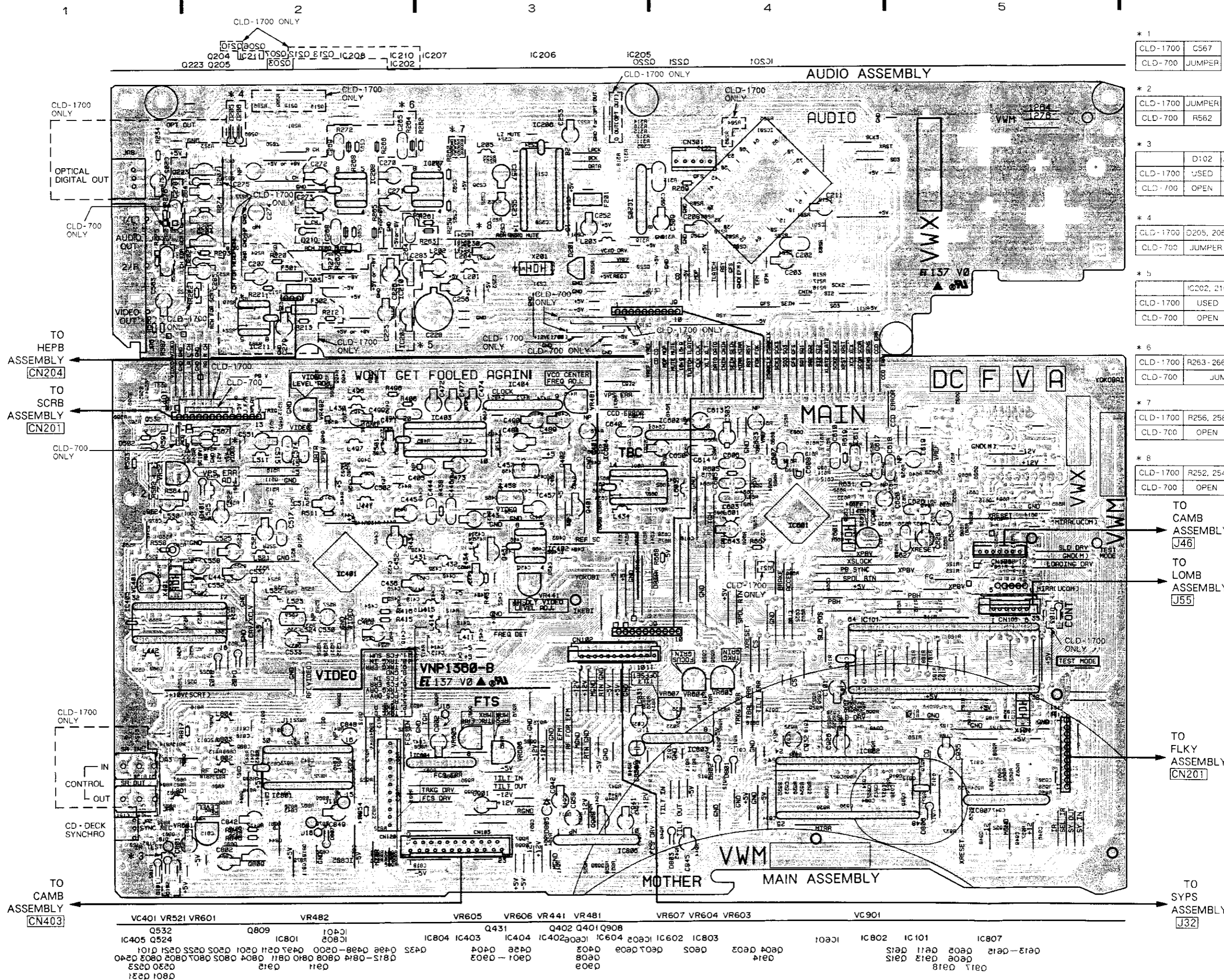
Note : Waveforms and voltages are at the PLAY mode.

IC201 (CXD2500AQ)

Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage
1	4.8	17	0	33	4.8	49	*	65	0
2	0	18	*	34	*	50	*	66	*
3	0	19	2.4	35	*	51	*	67	*
4	*	20	*	36	*	52	0	68	0
5	0	21	0	37	*	53	*	69	*
6	4.8	22	2.3	38	*	54	*	70	5
7	-	23	4.8	39	0	55	0	71	*
8	4.8	24	*	40	4.8	56	*	72	5
9	0	25	0	41	*	57	*	73	5
10	0	26	0	42	*	58	*	74	*
11	0	27	*	43	*	59	5	75	*
12	0	28	0	44	0	60	*	76	*
13	0	29	0	45	4.8	61	5	77	*
14	0	30	0	46	*	62	*	78	*
15	0	31	*	47	*	63	*	79	*
16	4.8	32	*	48	*	64	*	80	*

\* : Refer to waveform





\* 1

CLD-1700	C567
CLD-700	JUMPER

\* 2

CLD-1700	JUMPER
CLD-700	R562

\* 3

	D102	JUMPER
CLD-1700	USED	OPEN
CLD-700	OPEN	USED

\* 4

CLD-1700	D205, 206
CLD-700	JUMPER

\* 5

	IC202, 210	JUMPER
CLD-1700	USED	OPEN
CLD-700	OPEN	USED

\* 6

CLD-1700	R263-266, 271, 272	OTHER PARTS
CLD-700	JUMPER	OPEN

\* 7

CLD-1700	R256, 258	OPEN
CLD-700	OPEN	R249, 250

\* 8

CLD-1700	R252, 254	OPEN
CLD-700	OPEN	R247, 248

TO CAMB ASSEMBLY [J46]

TO LOMB ASSEMBLY [J55]

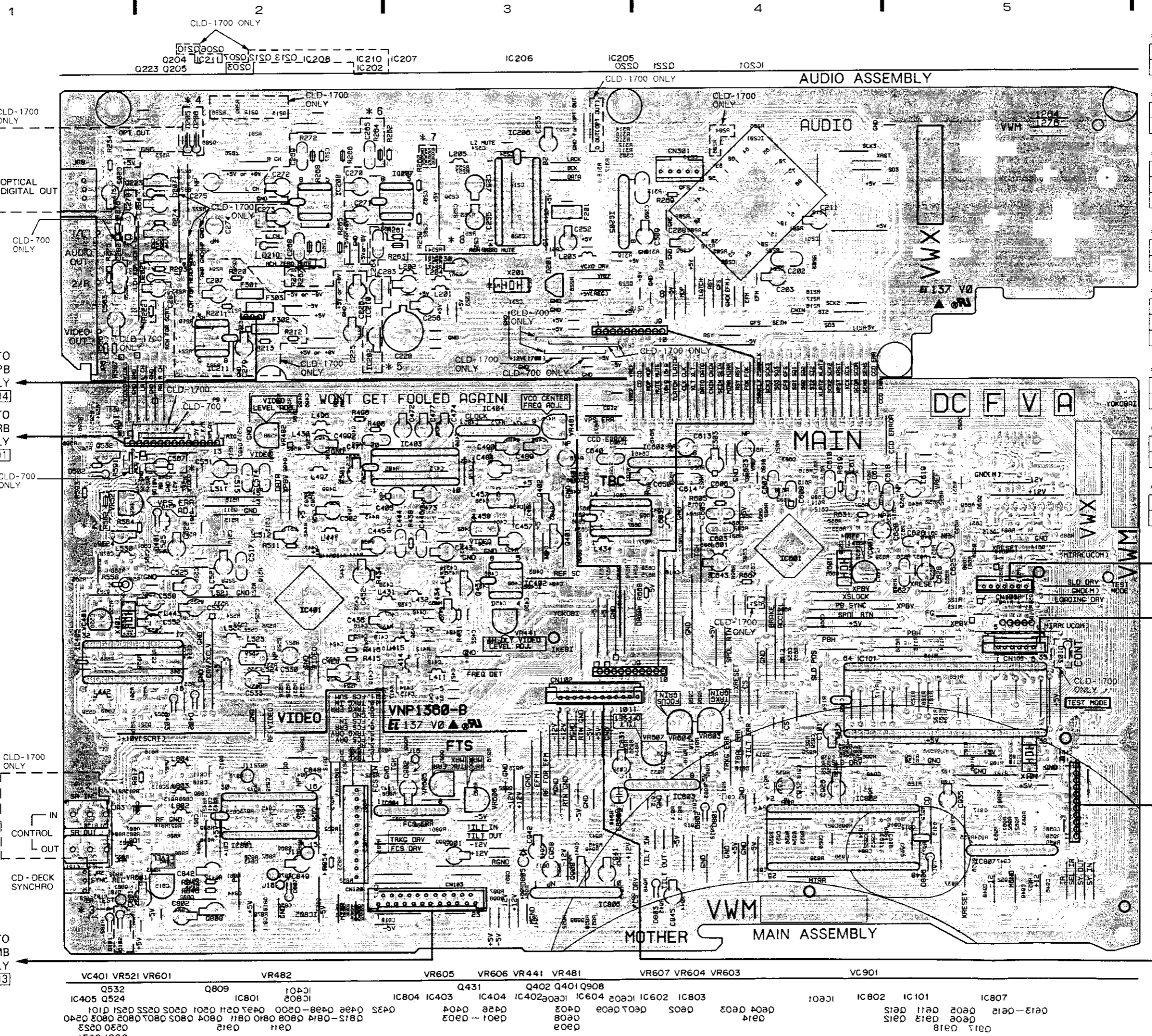
TO FLKY ASSEMBLY [CN201]

TO SYPS ASSEMBLY [J32]

TO HEPB ASSEMBLY [CN204]

TO SCRB ASSEMBLY [CN201]

TO CAMB ASSEMBLY [CN403]



CLD-1700 NUMBER	C287
-----------------	------

CLD-1700 NUMBER	R262
-----------------	------

CLD-1700 USED	OPEN
CLD-1700 USED	JUMPER

CLD-1700 JUMPER	D502, 506
-----------------	-----------

CLD-1700 OPEN	USED
CLD-1700 OPEN	USED

CLD-1700 JUMPER	R563-566, 571, 575 OTHER PARTS
-----------------	--------------------------------

CLD-1700 OPEN	R549, 550
---------------	-----------

CLD-1700 OPEN	R547, 548
---------------	-----------

TO

CAMB

ASSEMBLY

[746]

TO

LOMB

ASSEMBLY

[732]

TO

FLKY

ASSEMBLY

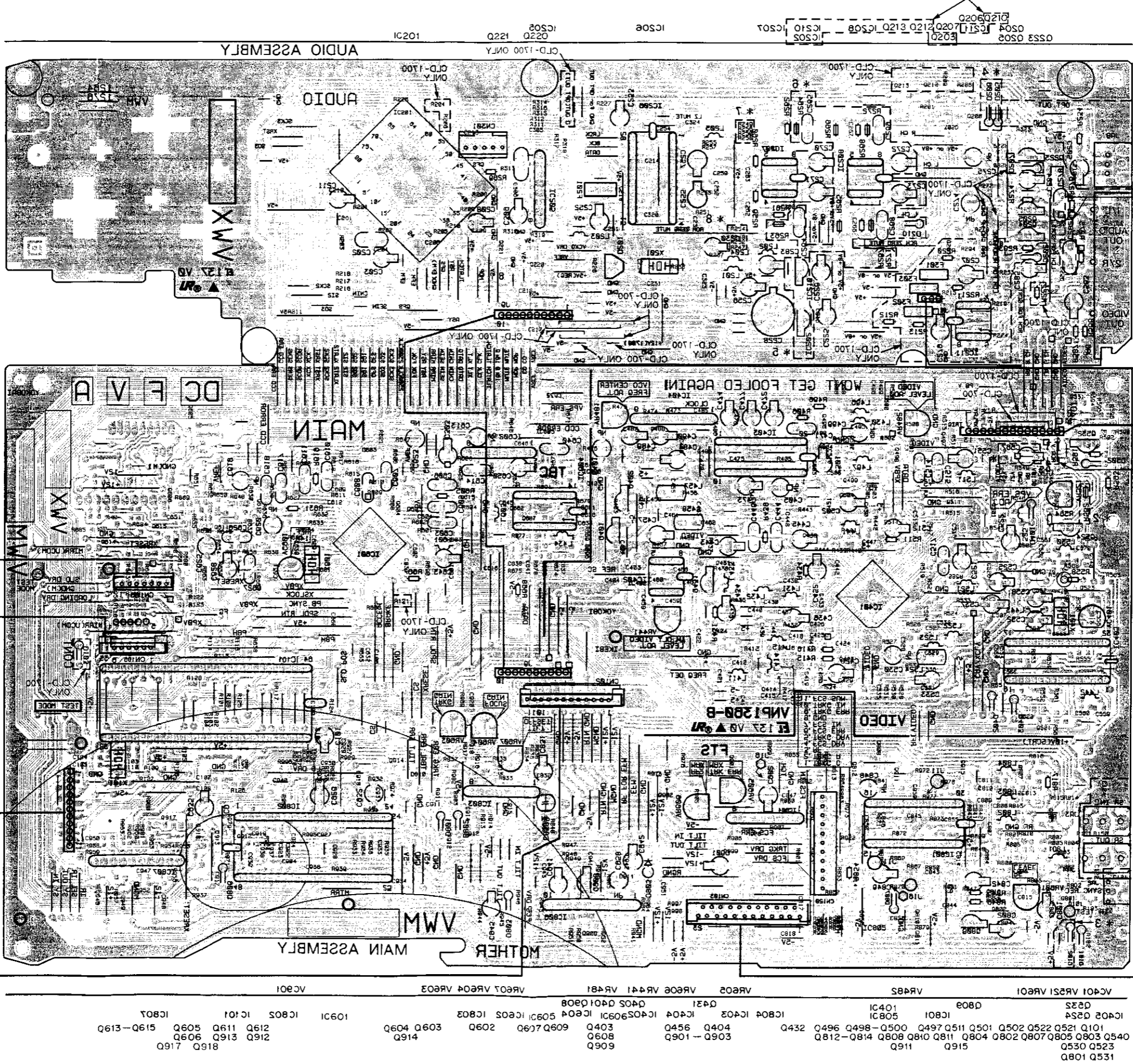
[CNS01]

TO

2YR2

ASSEMBLY

[732]



CLD-1700 ONLY

DIGITAL OUT

CLD-1700 ONLY

TO

HEPB

ASSEMBLY

[CNS04]

TO

SCRB

ASSEMBLY

[CNS01]

CLD-1700 ONLY

CLD-1700 ONLY

CONTROL

IN

OUT

CD-DECK

SYNCHRO

TO

CAMB

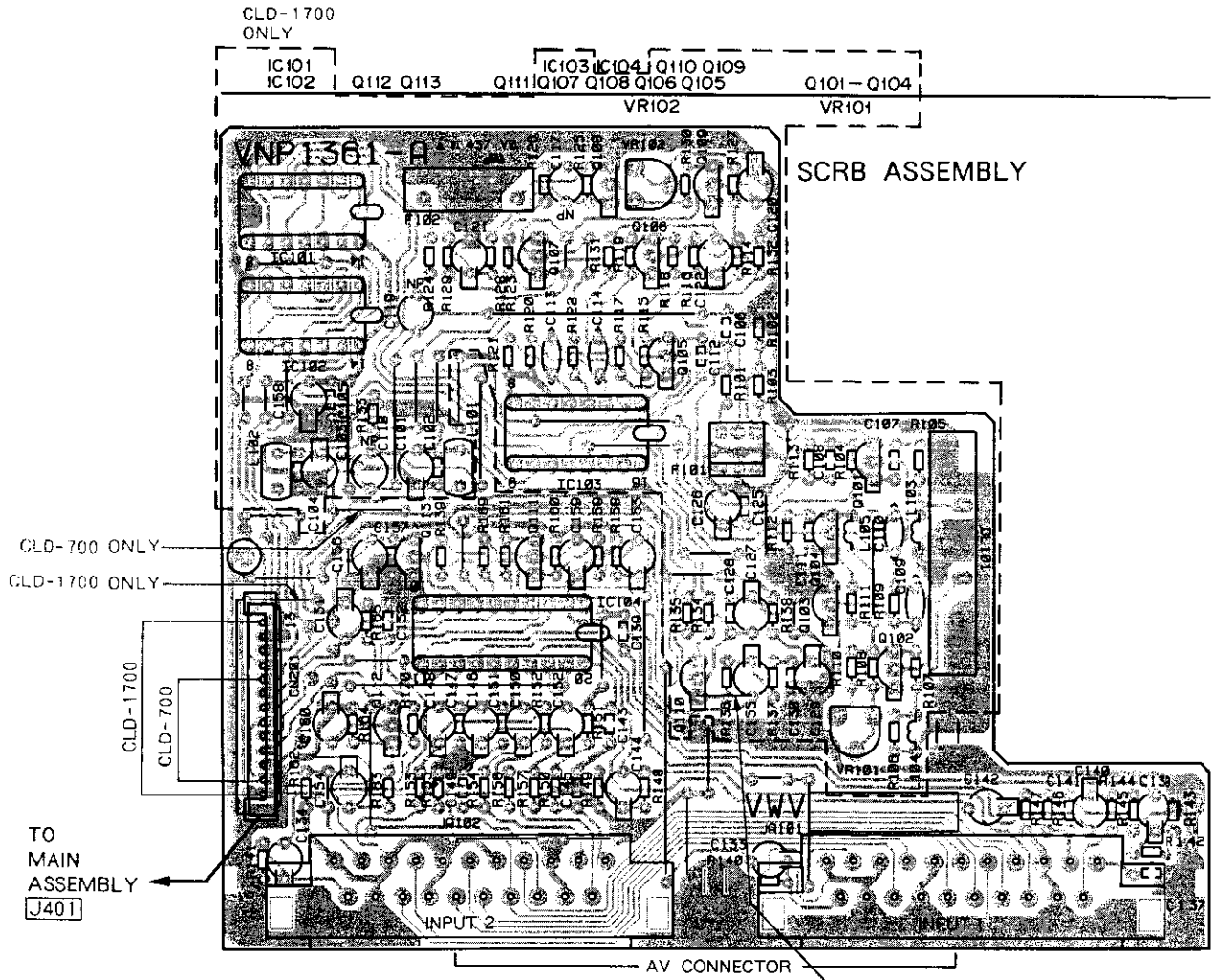
ASSEMBLY

[CNS03]

Q531 Q532 Q553 Q554 Q555 Q556 Q557 Q558 Q559 Q560 Q561 Q562 Q563 Q564 Q565 Q566 Q567 Q568 Q569 Q570 Q571 Q572 Q573 Q574 Q575 Q576 Q577 Q578 Q579 Q580 Q581 Q582 Q583 Q584 Q585 Q586 Q587 Q588 Q589 Q590 Q591 Q592 Q593 Q594 Q595 Q596 Q597 Q598 Q599 Q600 Q601 Q602 Q603 Q604 Q605 Q606 Q607 Q608 Q609 Q610 Q611 Q612 Q613 Q614 Q615 Q616 Q617 Q618 Q619 Q620 Q621 Q622 Q623 Q624 Q625 Q626 Q627 Q628 Q629 Q630 Q631 Q632 Q633 Q634 Q635 Q636 Q637 Q638 Q639 Q640 Q641 Q642 Q643 Q644 Q645 Q646 Q647 Q648 Q649 Q650 Q651 Q652 Q653 Q654 Q655 Q656 Q657 Q658 Q659 Q660 Q661 Q662 Q663 Q664 Q665 Q666 Q667 Q668 Q669 Q670 Q671 Q672 Q673 Q674 Q675 Q676 Q677 Q678 Q679 Q680 Q681 Q682 Q683 Q684 Q685 Q686 Q687 Q688 Q689 Q690 Q691 Q692 Q693 Q694 Q695 Q696 Q697 Q698 Q699 Q700 Q701 Q702 Q703 Q704 Q705 Q706 Q707 Q708 Q709 Q710 Q711 Q712 Q713 Q714 Q715 Q716 Q717 Q718 Q719 Q720 Q721 Q722 Q723 Q724 Q725 Q726 Q727 Q728 Q729 Q730 Q731 Q732 Q733 Q734 Q735 Q736 Q737 Q738 Q739 Q740 Q741 Q742 Q743 Q744 Q745 Q746 Q747 Q748 Q749 Q750 Q751 Q752 Q753 Q754 Q755 Q756 Q757 Q758 Q759 Q760 Q761 Q762 Q763 Q764 Q765 Q766 Q767 Q768 Q769 Q770 Q771 Q772 Q773 Q774 Q775 Q776 Q777 Q778 Q779 Q780 Q781 Q782 Q783 Q784 Q785 Q786 Q787 Q788 Q789 Q790 Q791 Q792 Q793 Q794 Q795 Q796 Q797 Q798 Q799 Q800 Q801 Q802 Q803 Q804 Q805 Q806 Q807 Q808 Q809 Q810 Q811 Q812 Q813 Q814 Q815 Q816 Q817 Q818 Q819 Q820 Q821 Q822 Q823 Q824 Q825 Q826 Q827 Q828 Q829 Q830 Q831 Q832 Q833 Q834 Q835 Q836 Q837 Q838 Q839 Q840 Q841 Q842 Q843 Q844 Q845 Q846 Q847 Q848 Q849 Q850 Q851 Q852 Q853 Q854 Q855 Q856 Q857 Q858 Q859 Q860 Q861 Q862 Q863 Q864 Q865 Q866 Q867 Q868 Q869 Q870 Q871 Q872 Q873 Q874 Q875 Q876 Q877 Q878 Q879 Q880 Q881 Q882 Q883 Q884 Q885 Q886 Q887 Q888 Q889 Q890 Q891 Q892 Q893 Q894 Q895 Q896 Q897 Q898 Q899 Q900 Q901 Q902 Q903 Q904 Q905 Q906 Q907 Q908 Q909 Q910 Q911 Q912 Q913 Q914 Q915 Q916 Q917 Q918 Q919 Q920 Q921 Q922 Q923 Q924 Q925 Q926 Q927 Q928 Q929 Q930 Q931 Q932 Q933 Q934 Q935 Q936 Q937 Q938 Q939 Q940 Q941 Q942 Q943 Q944 Q945 Q946 Q947 Q948 Q949 Q950 Q951 Q952 Q953 Q954 Q955 Q956 Q957 Q958 Q959 Q960 Q961 Q962 Q963 Q964 Q965 Q966 Q967 Q968 Q969 Q970 Q971 Q972 Q973 Q974 Q975 Q976 Q977 Q978 Q979 Q980 Q981 Q982 Q983 Q984 Q985 Q986 Q987 Q988 Q989 Q990 Q991 Q992 Q993 Q994 Q995 Q996 Q997 Q998 Q999 Q1000







**SCRIB ASSEMBLY**

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

IC103 (BU4053B)		Others Point	
<p>(3) (5) H:5mS/div 320mVp-p</p> <p>pin3  0V</p> <p>pin5  0V</p> <p>DC mode 280mVp-p</p>	<p>(12) (13) H:5mS/div 280mVp-p</p> <p>pin12  0V</p> <p>pin13  0V</p> <p>DC mode 450mVp-p</p>	<p>(6) Q109 Emitter 1.4Vp-p</p> <p> 0V</p> <p>DC mode H:20µS/div</p>	<p>(7) Q101 Emitter H:20µS/div</p> <p> 0V</p> <p>DC mode 280Vp-p</p>

SCRB ASSEMBLY (VWV1248 : CLD-1700)  
(VWV1255 : CLD-700)

IC104  
• Truth table

CONTROL 1 PIN4	CONTROL 2 PIN8	MUTE IN PIN10	VIDEO OUT		AUDIO OUT	
			1	2	1	2
L	L	L	IN1	IN1	IN1	IN1
L	H	L	IN1	IN3	IN1	IN3
H	L	L	IN2	IN2	IN2	IN2
H	H	L	IN2	IN3	IN2	IN3
L	L	H	IN1	IN1	IN1	
L	H	H	IN1	IN3	IN1	
H	L	H	IN2	IN2	IN2	
H	H	H	IN2	IN3	IN2	

(L, R)

IC104:  
AUDIO & VIDEO  
SIGNAL SWITCHING

- IC101 : TC74HC74AP
- IC102 : TC74HC00AP
- IC103 : BU4053B
- IC104 : LA7955

- Q101-Q110 : 2SC1740S
- Q111, Q112 : 2SC1740S
- Q113 : DTC124ES

- L101, L102 : LFA 120J
- L103, L104 : LAU8R2J
- L105 : LAU330J
- F101 : VTF 1034
- F102 : VTF 1011
- VR101 : VRT B6VS471
- VR102 : VRT B6VS472
- DL101 : DTF 1033

Q110:  
VOLTAGE DIVIDING  
BUFFER

CLD-1700  
ONLY

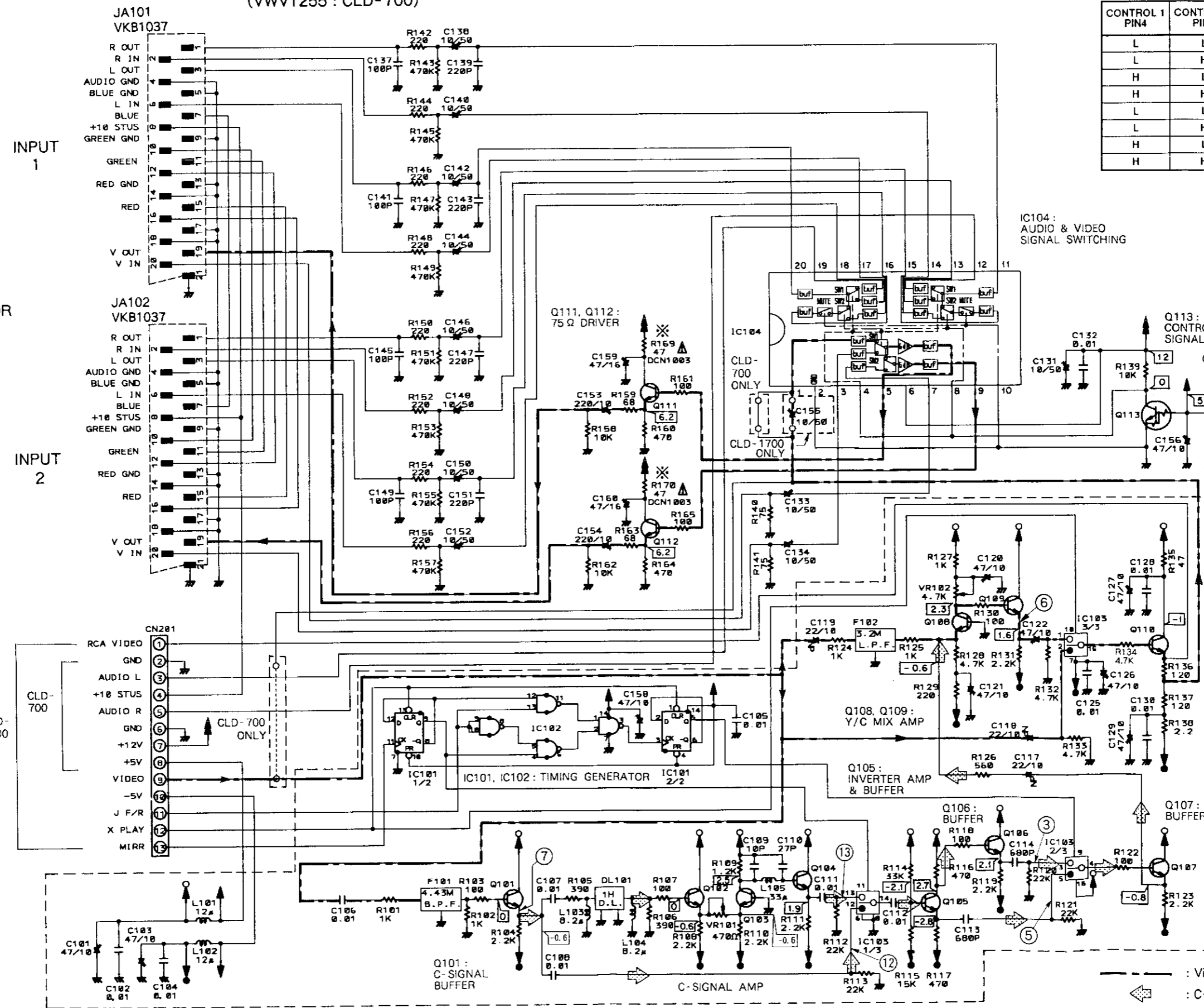
Note : Waveforms and voltages are at the PLAY

IC104 (LA7955)

Pin No.	Voltage	Pin No.	Voltage
1	4.7	11	3.1
2	0	12	5
3	4.7	13	5
4	0	14	5
5	6.8	15	3.1
8	12	18	3.1
7	4.7	17	5
8	0	18	5
9	6.8	19	5
10	0	20	3.1

— : Video Signal Line

◄ : C-Signal Line



A

B

C

D

A

B

C

D

## 4. 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%).  
 $560 \Omega \rightarrow 56 \times 10^1 \rightarrow 561$ ..... RD1/8PM  $\begin{matrix} 5 & 6 & 1 \\ | & | & | \\ \hline \end{matrix}$  J  
 $47k \Omega \rightarrow 47 \times 10^3 \rightarrow 473$ ..... RD1/4PS  $\begin{matrix} 4 & 7 & 3 \\ | & | & | \\ \hline \end{matrix}$  J  
 $0.5 \Omega \rightarrow 0R5$ ..... RN2H  $\begin{matrix} 0 & R & 5 \\ | & | & | \\ \hline \end{matrix}$  K  
 $1 \Omega \rightarrow 010$ ..... RS1P  $\begin{matrix} 0 & 1 & 0 \\ | & | & | \\ \hline \end{matrix}$  K  
 Ex.2 When there are 3 effective digits(such as in high precision metal film resistors).  
 $5.62k \Omega \rightarrow 562 \times 10^1 \rightarrow 5621$ ..... RN1/4PC  $\begin{matrix} 5 & 6 & 2 & 1 \\ | & | & | & | \\ \hline \end{matrix}$  F

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
<b>LIST OF ASSEMBLIES</b>							
⊙		MOTHER ASSEMBLY	VWM1276	<b>CAMB ASSEMBLY</b>			
NSP		└ MAIN ASSEMBLY	VWX1123	<b>SEMICONDUCTORS</b>			
NSP		└ AUDIO ASSEMBLY	VWX1124	Q10		TRANSISTOR	2SC1740S
⊙		FLKB ASSEMBLY	VWM1278	<b>RESISTORS</b>			
NSP		└ PSWB ASSEMBLY	VWG1315	R10		CARBON FILM RESISTOR	RD1/6PM182J
NSP		└ FLKY ASSEMBLY	VWG1336	R11		CARBON FILM RESISTOR	RD1/6PM470J
NSP		└ HEPB ASSEMBLY	VWV1254	<b>OTHERS</b>			
⊙		SYPS ASSEMBLY	VWR1146	CN401		CONNECTOR (23P)	VKN1073
⊙		SCRB ASSEMBLY	VWV1248	CN403		CONNECTOR (23P)	HLEM23R-1
⊙		MACB ASSEMBLY	VWM1250	<b>LOMB ASSEMBLY</b>			
NSP		└ FG ASSEMBLY	VWG1304	<b>CAPACITOR</b>			
NSP		└ PKSB ASSEMBLY	VWG1305	C1		CERAMIC CAPACITOR	CGCYX473M25
NSP		└ CAMB ASSEMBLY	VWG1306	<b>PSWB ASSEMBLY</b>			
NSP		└ LOSB ASSEMBLY	VWG1307	<b>SEMICONDUCTORS</b>			
NSP		└ LOMB ASSEMBLY	VWG1308	Q204		TRANSISTOR	DTC124ES
<b>FG ASSEMBLY</b>							
<b>SEMICONDUCTOR</b>							
	D1		GP1S51	D211		LED	SLH34VCF04
<b>PKSB ASSEMBLY</b>							
<b>SWITCHES</b>							
	S4, 5	PUSH SWITCH	DSG1015	<b>SWITCH</b>			
				S224		SWITCH	RSG1030
<b>LOSB ASSEMBLY</b>							
<b>SWITCHES</b>							
	S1-3	PUSH SWITCH	DSG1015	<b>CAPACITOR</b>			
				C210		ELECT. CAPACITOR	CEAS100M16
<b>RESISTOR</b>							
				R227		CARBON FILM RESISTOR	RD1/6PM151J
<b>OTHERS</b>							
						REMOTE CONTROL SENSOR UNIT	GPIU58X

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
<b>FLKY ASSEMBLY</b>							
<b>SEMICONDUCTORS</b>							
	IC201	MODE CONTROL MCU	PD3214A	$\Delta$	D23	DIODE	10ELS2
	IC202	RESET IC	PST529C	$\Delta$	D24, 25	DIODE	1SR35-100AVL
	Q201	TRANSISTOR	DTC124ES	$\Delta$	D26	DIODE	10ELS2
	Q202	TRANSISTOR	DTC114EL	$\Delta$	D3, 31	DIODE	1SR35-100AVL
	Q203	TRANSISTOR	DTA144EL	$\Delta$	D32, 33	SCHOTTKY DIODE	ERA83-006
				$\Delta$	D7	ZENER DIODE	MTZJ11B
<b>COIL</b>							
	D201, 203	DIODE	1SS252	$\Delta$	L1	SPDL CHORK COIL	VTL1043
	D204-206	DIODE	1SS252	<b>CAPACITORS</b>			
	D210	LED	PG3361X	$\Delta$	C1	ELECTR. CAPACITOR (6800/16)	VCH1053
<b>SWITCHES</b>							
	S201-223	SWITCH	RSG1030		C10	ELECT. CAPACITOR	CEAS101M50
	S225	ROTARY ENCODER	VSD1008		C11, 12	CERAMIC CAPACITOR	CKPUYF103Z25
<b>CAPACITORS</b>							
	C201	ELECTR. CAPACITOR	CEAL101M6R3		C13	ELECT. CAPACITOR	CEAS471M16
	C202	CERAMIC CAPACITOR	CKPUYF223Z25	$\Delta$	C2	CERAMIC CAPACITOR ELECTR. CAPACITOR (6800/16)	CGCYX473M25
	C204	ELECTR. CAPACITOR	CEAL100M16		C21, 22	MYLAR FILM CAPACITOR	CQMA272J50
	C205	CERAMIC CAPACITOR	CKPUYF103Z25		C23, 24	CERAMIC CAPACITOR	CGCYX473M25
	C206	ELECTR. CAPACITOR	CEAL2R2M50		C25, 26	ELECT. CAPACITOR	CEAS2R2M50
	C211	CERAMIC CAPACITOR	CKPUYF223Z25		C27, 28	MYLAR FILM CAPACITOR	CQMA223J50
<b>RESISTORS</b>							
	ALL RESISTORS		RD1/6PM□□□J		C29	ELECT. CAPACITOR	CEAS101M50
<b>OTHERS</b>							
		FL SPACER	VEB1125		C3	ELECT. CAPACITOR	CEAS470M10
		LED HOLDER	VNL1522		C31	ELECT. CAPACITOR	CEAS471M35
	V201	FL TUBE	VAW1026	$\Delta$	C32	ELECT. CAPACITOR	CEAS220M25
	X201	CERAMIC RESONATOR	EFOGC8004T4		C4, 5	ELECT. CAPACITOR	CEAS470M10
				$\Delta$	C52	CAPACITOR (CERAMIC) (0.01)	VCG-048
				$\Delta$	C6	ELECT. CAPACITOR	CEAS470M10
				$\Delta$	C7-9	CERAMIC CAPACITOR	CKPUYF223Z25
<b>SYPS ASSEMBLY</b>							
<b>SEMICONDUCTORS</b>							
$\Delta$	IC1	REGULATOR IC	NJM2930L05	<b>RESISTORS</b>			
$\Delta$	IC2	LINEAR IC	NJM4558D	$\Delta$	R23-26	CARBON FILM RESISTOR	RD1/2VM221J
$\Delta$	IC201, 202	IC PROTECTOR	ICP-N20	$\Delta$	R27-30	RESISTOR(27 $\Omega$ )	DCN1003
$\Delta$	IC210	IC PROTECTOR	ICP-N20		R41	RESISTOR(4.7 $\Omega$ )	DCN1001
$\Delta$	IC211	IC PROTECTOR	ICP-N15		OTHER RESISTORS		RD1/6PM□□□J
$\Delta$	IC41	REGULATOR IC	NJM78M12FA	<b>SCRB ASSEMBLY</b>			
$\Delta$	Q1, 2	TRANSISTOR	2SB1185	<b>SEMICONDUCTORS</b>			
	Q21	TRANSISTOR	2SC1740S		IC101	LOGIC IC	TC74HC74AP
	Q22, 23	TRANSISTOR	2SA933S		IC102	LOGIC IC	TC74HC00AP
	Q24	TRANSISTOR	2SC1740S		IC103	LOGIC IC	BU4053B
$\Delta$	Q25	TRANSISTOR	2SB1134		IC104	IC	LA7955
$\Delta$	Q26	TRANSISTOR	2SD1667		Q101-112	TRANSISTOR	2SC1740S
$\Delta$	Q27	TRANSISTOR	2SB1134		Q113	TRANSISTOR	DTC124ES
$\Delta$	Q28	TRANSISTOR	2SD1667	<b>COILS AND FILTERS</b>			
$\Delta$	Q3	TRANSISTOR	2SD1762		L101, 102	RADIAL INDUCTOR	LFA120K
	Q4	TRANSISTOR	2SC1740S		L103, 104	AXIAL INDUCTOR	LAU8R2J
	Q5	TRANSISTOR	2SA933S		L105	AXIAL INDUCTOR	LAU330J
$\Delta$	D1	DIODE	S2VB20-F1		F101	FILTER(4.43MHz)	VTF1034
$\Delta$	D2	DIODE	1SR35-100AVL		F102	FILTER(3.2MHz)	VTF1011
$\Delta$	D21, 22	DIODE	1SS254	<b>CAPACITORS</b>			
					C101	ELECT. CAPACITOR	CEAS470M10
					C102	CERAMIC CAPACITOR	CKPUY103N16
					C103	ELECT. CAPACITOR	CEAS470M10
					C104-108	CERAMIC CAPACITOR	CKPUY103N16
					C109	CERAMIC CAPACITOR	CCCCH100D50

Mark	No.	Description	Part No.
	C110	CERAMIC CAPACITOR	CCCCH270J50
	C111, 112	CERAMIC CAPACITOR	CKPUYY103N16
	C113, 114	CERAMIC CAPACITOR	CKCYB681K50
	C117-119	ELECT. CAPACITOR	CEANP220M10
	C120-122	ELECT. CAPACITOR	CEAS470M10
	C125	CERAMIC CAPACITOR	CKPUYY103N16
	C126, 127	ELECT. CAPACITOR	CEAS470M10
	C128	CERAMIC CAPACITOR	CKPUYY103N16
	C129	ELECT. CAPACITOR	CEAS470M10
	C130	CERAMIC CAPACITOR	CKPUYY103N16
	C131	ELECT. CAPACITOR	CEAS100M50
	C132	CERAMIC CAPACITOR	CKPUYY103N16
	C133, 134	ELECT. CAPACITOR	CEAS100M50
	C137	AXIAL CAPACITOR	CKPUYB101K50
	C138	ELECT. CAPACITOR	CEAS100M50
	C139	AXIAL CAPACITOR	CKPUYB221K50
	C140	ELECT. CAPACITOR	CEAS100M50
	C141	AXIAL CAPACITOR	CKPUYB101K50
	C142	ELECT. CAPACITOR	CEAS100M50
	C143	AXIAL CAPACITOR	CKPUYB221K50
	C144	ELECT. CAPACITOR	CEAS100M50
	C145	AXIAL CAPACITOR	CKPUYB101K50
	C146	ELECT. CAPACITOR	CEAS100M50
	C147	AXIAL CAPACITOR	CKPUYB221K50
	C148	ELECT. CAPACITOR	CEAS100M50
	C149	AXIAL CAPACITOR	CKPUYB101K50
	C150	ELECT. CAPACITOR	CEAS100M50
	C151	AXIAL CAPACITOR	CKPUYB221K50
	C152	ELECT. CAPACITOR	CEAS100M50
	C153, 154	ELECT. CAPACITOR	CEAS221M10
	C155	ELECT. CAPACITOR	CEAS100M50
	C156	ELECT. CAPACITOR	CEAS470M10
	C157	CERAMIC CAPACITOR	CKPUYY103N16
	C158	ELECT. CAPACITOR	CEAS470M10
	C159, 160	ELECT. CAPACITOR	CEAS470M16

**RESISTORS**

	VR101	SEMI-FIXED VR (470Ω)	VRTB6VS471
	VR102	SEMI-FIXED VR (4.7kΩ)	VRTB6VS472
△	R169, 170	RESISTOR (27Ω)	DCN1003
		OTHER RESISTORS	RD1/6PM□□□J

**OTHERS**

	DL101	DELAY LINE	DTF1033
	JA101, 102	CONNECTOR	VKB1037

**HEPB ASSEMBLY**

**FILTERS**

	F201-203	COIL	VTH1016
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**CAPACITORS**

	C221	CERAMIC CAPACITOR	CGCYF473Z25
	C222, 223	AXIAL CAPACITOR	CKPUYB101K50

**RESISTOR**

	VR201	VR	VCS1015
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Mark	No.	Description	Part No.
<b>OTHERS</b>			
	JA201	JACK (PHONES)	RKN1002

**MAIN ASSEMBLY**

**SEMICONDUCTORS**

	IC101	MECHANISM CONT. MCU	PD0135A1
	IC401	VIDEO IC	PA5013A
	IC402	CDD DELAY LINE	PM0001
	IC403	IC	CXL1009P
	IC404	IC	PA0017
	IC405	CHARACTER IC	M50554-132SP
	IC601	TBC IC	PM3002
	IC602	IC	BA15218N
	IC604	LOGIC IC	TC74HC86AP
	IC605	LOGIC IC	TC4S66F
	IC606	LOGIC IC	TC7SU04F
	IC801	PRE AMP IC	CXA1081S
	IC802	SERVO IC	CXA1372S
	IC803	OP-AMP IC	NJM072L
	IC804	IC	BA15218N
	IC805	COMPARATOR	BA10393F
	IC806	OP AMP	TA8464K
	IC807	POWER OP AMP	LA6510L
	Q101	DIGITAL TRANSISTOR	DTQ24EK
	Q401	TRANSISTOR	2SA1237X
	Q402	TRANSISTOR	2SA1858X
	Q403	DIGITAL TRANSISTOR	DTA124EK
	Q404	CHIP TRANSISTOR	2SC2412K
	Q431	TRANSISTOR	2SC1740S
	Q432	CHIP TRANSISTOR	2SC2412K
	Q456, 496	CHIP TRANSISTOR	2SA1037K
	Q497-501	CHIP TRANSISTOR	2SC2412K
	Q502, 511	CHIP TRANSISTOR	2SA1037K
	Q521	DIGITAL TRANSISTOR	DTA124EK
	Q522	DIGITAL TRANSISTOR	DTQ24EK
	Q523	CHIP TRANSISTOR	2SA1037K
	Q524	TRANSISTOR	2SC1740S
	Q530, 531	DIGITAL TRANSISTOR	DTQ24EK
	Q532	TRANSISTOR	2SA933S
	Q540	CHIP TRANSISTOR	2SA1037K
	Q601-605	CHIP TRANSISTOR	2SC2412K
	Q606	DIGITAL TRANSISTOR	DTA124EK
	Q607	CHIP TRANSISTOR	2SA1037K
	Q608, 609	CHIP TRANSISTOR	2SC2412K
	Q611	CHIP TRANSISTOR	2SA1037K
	Q612	DIGITAL TRANSISTOR	DTQ24EK
	Q613, 614	CHIP TRANSISTOR	2SA1037K
	Q615	DIGITAL TRANSISTOR	DTQ24EK
	Q801	CHIP TRANSISTOR	2SC2412K
	Q802	CHIP TRANSISTOR	2SA1037K
	Q803-805	CHIP TRANSISTOR	2SC2412K
	Q807	CHIP TRANSISTOR	2SC2412K
	Q808	DIGITAL TRANSISTOR	DTA124EK
	Q809	TRANSISTOR	2SA399
	Q810	DIGITAL TRANSISTOR	DTA124EK

Mark	No.	Description	Part No.
Q811		CHIP TRANSISTOR	2SC2412K
Q812		CHIP TRANSISTOR	2SA1037K
Q813		CHIP TRANSISTOR	2SC2412K
Q814		DIGITAL TRANSISTOR	DTA124EK
Q901.902		DIGITAL TRANSISTOR	DTC124EK
Q903		DIGITAL TRANSISTOR	DTA124EK
Q908		N-FET	2SK184
Q909		CHIP TRANSISTOR	2SA1037K
Q911.912		DIGITAL TRANSISTOR	DTC124EK
Q913		DIGITAL TRANSISTOR	DTA124EK
Q914		DIGITAL TRANSISTOR	DTC124EK
Q915		CHIP TRANSISTOR	2SC2412K
Q917		CHIP TRANSISTOR	2SA1037K
Q918		CHIP TRANSISTOR	2SC2412K
D101-103		DIODE	1SS254
D401-403		DIODE	1SS254
D502		DIODE	1SS254
D603		DIODE	DA204K
D801-803		DIODE	1SS254
D805		DIODE	1SR35-100AVL
D806.807		DIODE	1SS254
D810.811		DIODE	DA204K

**COILS**

L411		AXIAL INDUCTOR	LAU680J
L414.415		AXIAL INDUCTOR	LAU120J
L430		AXIAL INDUCTOR	LAU150J
L431		AXIAL INDUCTOR	LAU680J
L432		AXIAL INDUCTOR	LAU430J
L433		AXIAL INDUCTOR	LAU470J
L434		AXIAL INDUCTOR	LAU220J
L441		AXIAL INDUCTOR	LAU270J
L442		AXIAL INDUCTOR	LAU390J
L443		AXIAL INDUCTOR	LAU120J
L457		RADIAL INDUCTOR	LFA561J
L458		RADIAL INDUCTOR	LFA221J
L496		AXIAL INDUCTOR	LAU220J
L497		AXIAL INDUCTOR	LAU151J
L511		AXIAL INDUCTOR	LAU820J
L521		AXIAL INDUCTOR	LAU120J
L522		AXIAL INDUCTOR	LAU560J
L523		AXIAL INDUCTOR	LAU390J
L524		RADIAL INDUCTOR	LFA561J
L525		AXIAL INDUCTOR	LAU330J
L530		AXIAL INDUCTOR	LAU220J
L601		AXIAL INDUCTOR	LAU470J
L603		AXIAL INDUCTOR	LAU220J
L801		AXIAL INDUCTOR	LAU100J
L802		AXIAL INDUCTOR	LAU151J
L803		AXIAL INDUCTOR	LAU181J
L804		AXIAL INDUCTOR	LAU151J

**CAPACITORS**

VC401.901		VARIABLE CAPACITOR(20P)	VCM-008
C101		ELECT. CAPACITOR	CEAS470M16
C102		CERAMIC CAPACITOR	CKSQYF473Z25
C103		CHIP CAPACITOR	CKSQYF103Z50
C104.105		CHIP CAPACITOR	CCSQCH330J50

Mark	No.	Description	Part No.
C106		CHIP CAPACITOR	CKSQYF103Z50
C107		CERAMIC CAPACITOR	CKSQYF104Z25
C108.109		CHIP CAPACITOR	CKSQYF103Z50
C120-122		CHIP CAPACITOR	CKSQYF103Z50
C123		CAPACITOR ARRAY (100P×4)	VCG1022
C124.125		CHIP CAPACITOR	CCSQCH101J50
C401		ELECT. CAPACITOR	CEANP2R2M50
C403.404		CERAMIC CAPACITOR	CKSQYF104Z25
C405		ELECT. CAPACITOR	CEANP2R2M50
C407.408		CERAMIC CAPACITOR	CKSQYF473Z25
C411.412		CHIP CAPACITOR	CCSQCH820J50
C414		CHIP CAPACITOR	CKSQYF103Z50
C415		CHIP CAPACITOR	CCSQCH100D50
C416		CHIP CAPACITOR	CCSQCH330J50
C417		CHIP CAPACITOR	CCSQCH100D50
C418		CHIP CAPACITOR	CKSQYF103Z50
C419		CHIP CAPACITOR	CCSQCH101J50
C421.422		CHIP CAPACITOR	CKSQYF103Z50
C423.424		CHIP CAPACITOR	CCSQCH180J50
C425.426		CHIP CAPACITOR	CKSQYF103Z50
C427		CERAMIC CAPACITOR	CKSQYF473Z25
C428		ELECT. CAPACITOR	CEAS470M10
C429		CERAMIC CAPACITOR	CKSQYF104Z25
C430		CHIP CAPACITOR	CCSQCH120J50
C431		CHIP CAPACITOR	CCSQCH050C50
C433		CHIP CAPACITOR	CCSQCH390J50
C434		ELECT. CAPACITOR	CEAS101M10
C435		CERAMIC CAPACITOR	CKSQYF104Z25
C436		ELECT. CAPACITOR	CEAS010M50
C437		CHIP CERAMIC C.	CCSQCH220J50
C438		CHIP CAPACITOR	CCSQCH050C50
C439.440		CHIP CERAMIC C.	CCSQCH150J50
C441		CHIP CAPACITOR	CCSQCH050C50
C442		CERAMIC CAPACITOR	CKSQYF104Z25
C443		ELECT. CAPACITOR	CEJANP4R7M16
C444		MYLAR FILM CAPACITOR	QMA272J50
C445		ELECT. CAPACITOR	CEAS101M10
C446		MYLAR FILM CAPACITOR	QMA153J50
C447		CHIP CAPACITOR	CCSQCH680J50
C448		CERAMIC CAPACITOR	CKSQYF473Z25
C450		CHIP CAPACITOR	CCSQCH100D50
C451		CHIP CAPACITOR	CCSQCH270J50
C452		ELECT. CAPACITOR	CEAS470M10
C455		CHIP CAPACITOR	CCSQCH470J50
C456		CHIP CAPACITOR	CCSQCH121J50
C457		ELECT. CAPACITOR	CEAS101M10
C458-460		CHIP CAPACITOR	CKSQYF103Z50
C461		CHIP CAPACITOR	CCSQCH101J50
C462		CHIP CAPACITOR	CCSQCH330J50
C463		CHIP CERAMIC C.	CCSQCH271J50
C466.467		CERAMIC CAPACITOR	CKSQYF473Z25
C471		AUDIO FILM CAPACITOR	CFTXA224J50
C472.473		ELECT. CAPACITOR	CEAS3R3M50
C474		ELECT. CAPACITOR	CEAS470M10
C475.476		CHIP CAPACITOR	CKSQYF103Z50

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	C477	ELECT. CAPACITOR	CEAS3R3M50		C566	CHIP CAPACITOR	CKSQYF103Z50
	C479-481	CERAMIC CAPACITOR	CKSQYF104Z25		C570	CHIP CAPACITOR	CCSQCH151J50
	C483	CERAMIC CAPACITOR	CKSQYF473Z25		C601	CERAMIC CAPACITOR	CKSQYF473Z25
	C484	ELECT. CAPACITOR	CEAS470M16		C602	CHIP CAPACITOR	CKSQYF103Z50
	C485	CHIP CERAMIC C.	CCSQCH180J50		C603	AUDIO FILM CAPACITOR	CFTXA224J50
	C486	CHIP CAPACITOR	CKSQYF103Z50		C604	CHIP CAPACITOR	CKSQYF103Z50
	C487, 488	CERAMIC CAPACITOR	CKSQYF473Z25		C605-607	AUDIO FILM CAPACITOR	CFTXA102J50
	C489, 490	ELECT. CAPACITOR	CEAS101M10		C608	AUDIO FILM CAPACITOR	CFTXA152J50
	C495	CHIP CAPACITOR	CCSQCH270J50		C609	CHIP CAPACITOR	CCSQCH820J50
	C496	CHIP CAPACITOR	CCSQCH101J50		C610	AUDIO FILM CAPACITOR	CFTXA563J50
	C498	CHIP CAPACITOR	CCSQCH820J50		C611	MYLAR FILM CAPACITOR	CQMA272J50
	C499	ELECT. CAPACITOR	CEAS470M16		C612	CHIP CAPACITOR	CCSQCH180J50
	C500	CHIP CAPACITOR	CCSQCH100D50		C613	ELECT. CAPACITOR	CEANP220M10
	C501, 502	ELECT. CAPACITOR	CEAS470M10		C614	AUDIO FILM CAPACITOR	CFTXA332J50
	C503	CERAMIC CAPACITOR	CKSQYF104Z25		C615, 616	CHIP CAPACITOR	CKSQYF103Z50
	C504	CERAMIC CAPACITOR	CKSQYF473Z25		C617	AUDIO FILM CAPACITOR	CFTXA563J50
	C505, 506	CERAMIC CAPACITOR	CKSQYF104Z25		C618	MYLAR FILM CAPACITOR	CQMA103J50
	C507, 508	CHIP CERAMIC C.	CCSQCH271J50		C619	ELECT. CAPACITOR	CEANP2R2M50
	C509	CHIP CAPACITOR	CCSQCH151J50		C620, 623	ELECT. CAPACITOR	CEANP220M10
	C510	CHIP CAPACITOR	CCSQCH270J50		C625	ELECT. CAPACITOR	CEJANP4R7M16
	C511	CERAMIC CAPACITOR	CKSQYF104Z25		C626	AUDIO FILM CAPACITOR	CFTXA332J50
	C512	ELECT. CAPACITOR	CEAS470M10		C627	MYLAR FILM CAPACITOR	CQMA222J50
	C513	CERAMIC CAPACITOR	CKSQYF104Z25		C628	ELECT. CAPACITOR	CEJANP4R7M16
	C514	AUDIO FILM CAPACITOR	CFTXA104J50		C629	CERAMIC CAPACITOR	CKSQYF473Z25
	C515	AUDIO FILM CAPACITOR	CFTXA683J50		C630	CHIP CAPACITOR	CCSQCH270J50
	C516	CHIP CERAMIC C.	CCSQCH220J50		C631	CHIP CAPACITOR	CCSQCH100D50
	C517	AUDIO FILM CAPACITOR	CFTXA683J50		C632	CHIP CAPACITOR	CCSQCH101J50
	C520	CHIP CAPACITOR	CCSQCH180J50		C633	CHIP CAPACITOR	CCSQCH180J50
	C521	ELECT. CAPACITOR	CEAS470M10		C634	CHIP CAPACITOR	CCSQCH121J50
	C522	ELECT. CAPACITOR	CEAS100M50		C635	CERAMIC CAPACITOR	CKSQYF104Z25
	C524	CHIP CAPACITOR	CCSQCH390J50		C636	CHIP CAPACITOR	CCSQCH121J50
	C525	ELECT. CAPACITOR	CEAS470M10		C637, 638	CHIP CAPACITOR	CCSQSL471J50
	C526	CERAMIC CAPACITOR	CKSQYF104Z25		C639	CHIP CERAMIC C.	CCSQCH221J50
	C527	CERAMIC CAPACITOR	CKSQYF473Z25		C640	AUDIO FILM CAPACITOR	CFTXA102J50
	C528	CHIP CAPACITOR	CCSQCH390J50		C641	CHIP CAPACITOR	CCSQCH151J50
	C529	CHIP CAPACITOR	CCSQCH180J50		C642	CHIP CAPACITOR	CKSQYF103Z50
	C530	ELECT. CAPACITOR	CEANP100M16		C643	ELECT. CAPACITOR	CEAS470M10
	C531	CERAMIC CAPACITOR	CKSQYF104Z25		C645, 646	CHIP CAPACITOR	CKSQYF103Z50
	C532	CHIP CAPACITOR	CCSQCH100D50		C650	ELECT. CAPACITOR	CEAS470M10
	C533	ELECT. CAPACITOR	CEAS470M16		C651	CHIP CAPACITOR	CKSQYF103Z50
	C535	CHIP CAPACITOR	CKSQYF103Z50		C660	CHIP CERAMIC C.	CCSQCH221J50
	C536	CHIP CAPACITOR	CCSQCH910J50		C661, 662	CHIP CAPACITOR	CKSQYF103Z50
	C537	ELECT. CAPACITOR	CEAS010M50		C801	ELECT. CAPACITOR	CEAS470M10
	C549	CERAMIC CAPACITOR	CCSQCH560J50		C802	ELECT. CAPACITOR	CEAS470M16
	C550	CHIP CAPACITOR	CCSQCH151J50		C803-805	CHIP CAPACITOR	CKSQYF103Z50
	C551	ELECT. CAPACITOR	CEANP220M10		C806	CHIP CAPACITOR	CCSQCH820J50
	C552	ELECT. CAPACITOR	CEAS470M10		C807	CHIP CAPACITOR	CKSQYF103Z50
	C553, 554	CHIP CAPACITOR	CKSQYF103Z50		C808	CHIP CAPACITOR	CCSQCH680J50
	C555	CHIP CAPACITOR	CCSQCH100D50		C809	CHIP CAPACITOR	CCSQCH101J50
	C556	CHIP CAPACITOR	CCSQCH050C50		C810	CHIP CAPACITOR	CCSQCH270J50
	C557	CHIP CAPACITOR	CKSQYF103Z50		C811	CHIP CAPACITOR	CCSQCH101J50
	C558	ELECT. CAPACITOR	CEAS470M10		C812	CHIP CAPACITOR	CCSQCH680J50
	C559, 560	CHIP CAPACITOR	CCSQCH100D50		C813	CERAMIC CAPACITOR	CKSQYF473Z25
	C561, 562	CHIP CAPACITOR	CKSQYF103Z50		C814	CHIP CAPACITOR	CKSQYF103Z50
	C565	CHIP CAPACITOR	CCSQCH050C50		C815	CERAMIC CAPACITOR	CKSQYF473Z25

Mark	No.	Description	Part No.
	C816	CHIP CAPACITOR	CCSQCH050C50
	C817, 818	CHIP CAPACITOR	CKSQYF103Z50
	C831	ELECT. CAPACITOR	CEAS010M50
	C832	CHIP CAPACITOR	CKSQYF103Z50
	C841	CHIP CERAMIC C.	CCSQCH471J50
	C842	ELECT. CAPACITOR	CEAS101M10
	C843	CHIP CAPACITOR	CCSQCH270J50
	C844	CHIP CAPACITOR	CCSQCH050C50
	C845, 846	CHIP CAPACITOR	CCSQCH470J50
	C847	CERAMIC CAPACITOR	CCSQCH510J50
	C848	ELECT. CAPACITOR	CEANP100M16
	C849	ELECT. CAPACITOR	CEJAR47M50
	C850, 855	CHIP CAPACITOR	CKSQYF103Z50
	C856, 857	CHIP CAPACITOR	CKSQYF103Z50
	C858	ELECT. CAPACITOR	CEANP470M10
	C901, 902	ELECT. CAPACITOR	CEAS470M16
	C904	CHIP CAPACITOR	CKSQYF103Z50
	C911, 912	CERAMIC CAPACITOR	CKSQYF104Z25
	C913	CERAMIC CAPACITOR	CKSQYB333K25
	C914, 915	CHIP CAPACITOR	CKSQYF103Z50
	C917	CHIP CAPACITOR	CKSQYF103Z50
	C918	CHIP CERAMIC C.	CCSQCH271J50
	C919	CERAMIC CAPACITOR	CKSQYF104Z25
	C920	CERAMIC CAPACITOR	CKSQYB562K50
	C922	CERAMIC CAPACITOR	CKSQYF104Z25
	C923	CERAMIC CAPACITOR	CKSQYB562K50
	C924	CERAMIC CAPACITOR	CKSQYF104Z25
	C925	CERAMIC CAPACITOR	CKSQYB333K25
	C926	ELECT. CAPACITOR	CEJANP4R7M16
	C927	CERAMIC CAPACITOR	CKSQYF104Z25
	C928	CHIP CAPACITOR	CKSQYF103Z50
	C929	CERAMIC CAPACITOR	CKSQYB333K25
	C930	CHIP CERAMIC C.	CCSQCH271J50
	C931	CHIP CAPACITOR	CKSQYF103Z50
	C932	ELECT. CAPACITOR	CEJANP4R7M16
	C933, 934	CHIP CAPACITOR	CKSQYF103Z50
	C935	ELECT. CAPACITOR	CEJAR47M50
	C936	CERAMIC CAPACITOR	CKSQYB333K25
	C937-939	CHIP CAPACITOR	CKSQYF103Z50
	C940	CHIP CAPACITOR	CKSQYB102K50
	C941, 942	ELECT. CAPACITOR	CEHAQ100M50
	C943	CERAMIC CAPACITOR	CKSQYF473Z25
	C944	CHIP CAPACITOR	CKSQYB102K50
	C945	ELECT. CAPACITOR	CEAS010M50
	C946	CHIP CAPACITOR	CKSQYF103Z50
	C947	CERAMIC CAPACITOR	CKSQYF104Z25
	C948, 949	CERAMIC CAPACITOR	CKSQYF473Z25
	C950	CERAMIC CAPACITOR	CKSQYF104Z25
	C951	CERAMIC CAPACITOR	CKSQYF473Z25
	C952	CERAMIC CAPACITOR	CKSQYF104Z25
	C956	CERAMIC CAPACITOR	CKSQYF473Z25
	C957	CHIP CERAMIC C.	CCSQCH271J50
	C958	CAPACITOR (ALUMINUM) (47 $\mu$ /16V)	VCH1115
	C959	CERAMIC CAPACITOR	CKSQYF104Z25
	C999	CHIP CERAMIC C.	CCSQCH471J50

Mark	No.	Description	Part No.
<b>RESISTORS</b>			
	VR441	SEMI-FIXED VR(22k $\Omega$ )	VRTB6VS223
	VR481, 482	SEMI-FIXED VR(4.7k $\Omega$ )	VRTB6VS472
	VR521	SEMI-FIXED VR(4.7k $\Omega$ )	VRTB6VS472
	VR601	SEMI-FIXED VR(2.2k $\Omega$ )	VRTB6VS222
	VR603, 604	SEMI-FIXED VR(47k $\Omega$ )	VRTB6VS473
	VR605, 606	SEMI-FIXED VR(33k $\Omega$ )	VRTB6VS333
	VR607	SEMI-FIXED VR(47k $\Omega$ )	VRTB6VS473
	R406	CARBON FILM RESISTOR	RD1/6PM224J
	R415, 416	METALFILM RESISTOR	RN1/6PQ3002F
	R431	CARBON FILM RESISTOR	RD1/6PM510J
	R434, 438	METALFILM RESISTOR	RN1/6PQ□□□□F
	R496	CARBON FILM RESISTOR	RD1/6PM101J
	R511	METALFILM RESISTOR	RN1/6PQ2002F
	R558, 564	CARBON FILM RESISTOR	RD1/6PM102J
	R591, 593	CARBON FILM RESISTOR	RD1/6PM□□□J
	R605, 619	CARBON FILM RESISTOR	RD1/6PM□□□J
	R631, 667	CARBON FILM RESISTOR	RD1/6PM□□□J
	R668, 817	CARBON FILM RESISTOR	RD1/6PM□□□J
	R845, 846	CARBON FILM RESISTOR	RD1/6PM470J
	R854	CARBON FILM RESISTOR	RD1/6PM225J
	OTHER RESISTORS		RS1/10S□□□J

**OTHERS**

Mark	No.	Description	Part No.
		TERMINAL	VNE1841
	CN103	CONNECTOR (23P)	HLEM23S-1
	JA2	JACK	PKN1005
	JA3, 4	JACK/12V	PKN1004
	X101	CERAMIC RESONATOR (9MHz)	VSS1040
	X401	CRYSTAL RESONATOR (17.734MHz)	VSS1019
	X601	CRYSTAL RESONATOR (14.22MHz)	VSS1053

**AUDIO ASSEMBLY**

**SEMICONDUCTORS**

Mark	No.	Description	Part No.
	IC201	EFM DEMODULATION IC	CXD2500AQ
	IC202	REGULATOR IC	NJM78L08A
	IC205	IC	BA15218N
	IC206	D/A CONVERTER IC	PD2026A
	IC207, 208	OP-AMP IC	BA15218
	IC210	REGULATOR IC	NJM79L08A
	IC211	OP-AMP IC	BA15218
	Q203	DIGITAL TRANSISTOR	DTA124EK
	Q204, 205	TRANSISTOR	2SD2144S
	Q206	DIGITAL TRANSISTOR	DTC124EK
	Q207, 210	DIGITAL TRANSISTOR	DTA124EK
	Q212, 213	DIGITAL TRANSISTOR	DTA124EK
	Q220	CHIP TRANSISTOR	2SC2412K
	Q221	DIGITAL TRANSISTOR	DTA124EK
	Q222, 223	CHIP TRANSISTOR	2SA1037K
	D201	VARI-CAP	FC54M
	D202, 205	DIODE	1SS254
	D206, 207	DIODE	1SS254
	D210	SCHOTTKY DIODE	ERA83-006



Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
<b>COILS AND FILTERS</b>				<b>RESISTORS</b>			
L201, 202		AXIAL INDUCTOR	LAU010K	R212, 213		CARBON FILM RESISTOR	RD1/6PM470J
L203		AXIAL INDUCTOR	LAU220J	R220-222		CARBON FILM RESISTOR	RD1/6PM□□□J
L204, 205		AXIAL INDUCTOR	LAU010K	△ R234		RESISTOR (4.7Ω)	DCN1001
F201, 301		COIL	VTH1016	R259-269		CARBON FILM RESISTOR	RD1/6PM□□□J
F302, 303		COIL	VTH1016	R271, 272		CARBON FILM RESISTOR	RD1/6PM222J
<b>CAPACITORS</b>				R274-276		CARBON FILM RESISTOR	RD1/6PM471J
C201		CERAMIC CAPACITOR	CKSQYF473Z25	R293		CARBON FILM RESISTOR	RD1/6PM471J
C202		AUDIO FILM CAPACITOR	CFTXA152J50	R566, 587		CARBON FILM RESISTOR	RD1/6PM□□□J
C203		ELECT. CAPACITOR	CEAS470M10	<b>OTHERS</b>			
C204		CERAMIC CAPACITOR	CKSQYF104Z25	TERMINAL			VNE1841
C205		ELECT. CAPACITOR	CEAS470M16	CN301		5P TOP POST (NH)	BSP-SHF-1AA
C206		CHIP CAPACITOR	CKSQYF103Z50	JA6		JACK (3P)	VKB1049
C207		ELECT. CAPACITOR	CEAS471M10	JA8		OPTICAL OUTPUT JACK	TOTX178
C208		ELECT. CAPACITOR	CEAS470M10	X201		CRYSTAL RESONATOR(16MHz)	VSS1057
C209, 210		CERAMIC CAPACITOR	CKSQYF104Z25				
C211		ELECT. CAPACITOR	CEAS470M10				
C212		CERAMIC CAPACITOR	CKSQYF104Z25				
C213, 216		CHIP CAPACITOR	CKSQYF103Z50				
C217, 218		CHIP CAPACITOR	CKSQYF103Z50				
C219		CERAMIC CAPACITOR	CKSQYF104Z25				
C220, 221		CHIP CERAMIC C.	CCSQCH271J50				
C225, 226		ELECT. CAPACITOR	CEAS470M10				
C228		ELECT. CAPACITOR	CEAS100M50				
C230		ELECT. CAPACITOR	CEAS470M10				
C231		CHIP CAPACITOR	CKSQYF103Z50				
C232		CHIP CAPACITOR	CCSQCH120J50				
C234, 251		CHIP CAPACITOR	CKSQYF103Z50				
C252, 253		ELECT. CAPACITOR	CEAS470M10				
C254		CERAMIC CAPACITOR	CKSQYF104Z25				
C255		ELECT. CAPACITOR	CEAS471M10				
C256		ELECT. CAPACITOR	CEAS470M10				
C257		ELECT. CAPACITOR	CEAS471M10				
C258-263		CHIP CAPACITOR	CCSQCH390J50				
C264, 265		AUDIO FILM CAPACITOR	CFTXA152J50				
C266, 267		CHIP CAPACITOR	CKSQYB682K50				
C268, 269		AUDIO FILM CAPACITOR	CFTXA102J50				
C270-273		ELECT. CAPACITOR	CEAS470M10				
C274, 275		ELECT. CAPACITOR	CEANP220M10				
C279		ELECT. CAPACITOR	CEAS471M10				
C283		ELECT. CAPACITOR	CEAS470M10				
C284, 285		ELECT. CAPACITOR	CEAS100M50				
C301		ELECT. CAPACITOR	CEANP220M10				
C303		ELECT. CAPACITOR	CEAS470M10				
C304-306		CHIP CAPACITOR	CKSQYF103Z50				
C309		ELECT. CAPACITOR	CEAS470M10				
C310, 311		CERAMIC CAPACITOR	CKSQYF104Z25				
C320		CHIP CAPACITOR	CKSQYF103Z50				
C322		CERAMIC CAPACITOR	CKSQYF473Z25				
C323, 324		CHIP CAPACITOR	CKSQYF103Z50				
C325, 326		CERAMIC CAPACITOR	CKSQYF104Z25				
C563		ELECT. CAPACITOR	CEAS221M6R3				

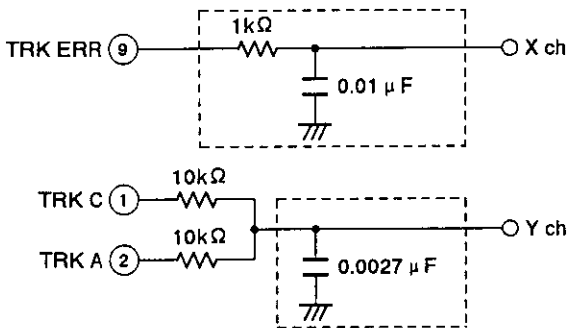
## 5. ADJUSTMENTS

### 5.1 PRELIMINARIES

#### • Jigs for Adjustment

- CD test disc (STD - 901 or STD - 902)
- LD test disc (GGV1003 and GGV1007)
- (-) screwdriver (medium)
- (-) screwdriver (small)
- Hexagonal wrench driver (straight type, size: 3mm)
- Resistors (10kΩ × 2, 47kΩ)
- Dual - trace oscilloscope (with delay)
- AF oscillator
- Frequency counter
- TV monitor
- Low-pass filter

Use the low-pass filters below in the coarse centering adjustment 2. and fine centering adjustment 6. when the S/N of the waveform is hard to observe.



#### • Rack Assembly During Centering Adjustment

The S - IN position (without hitting the mechanism stopper) of the rack assembly during centering adjustment is indicated below.

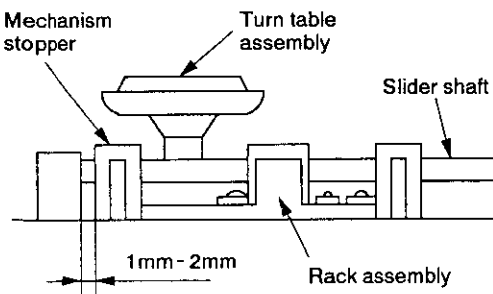


Fig. 1 Right side view

#### • Adjustment Locations

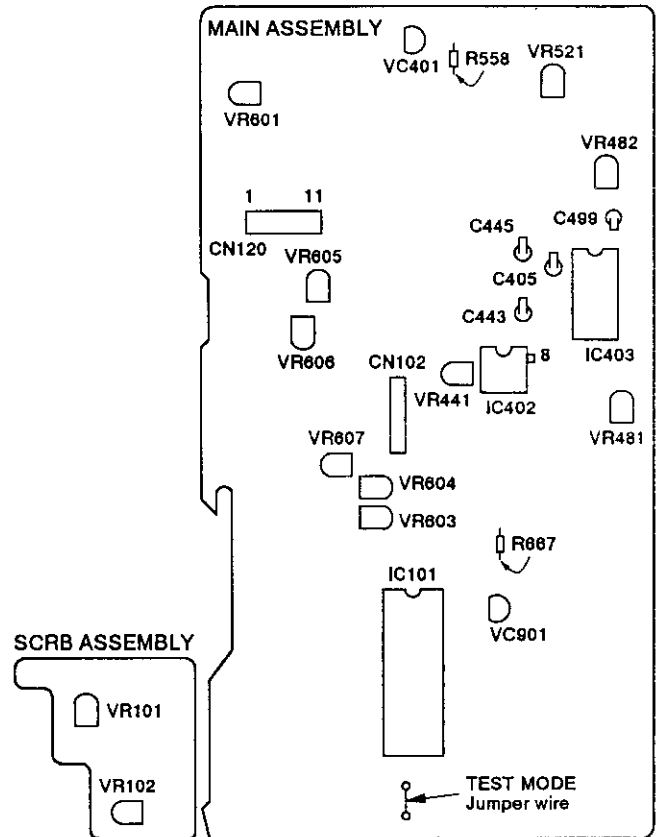
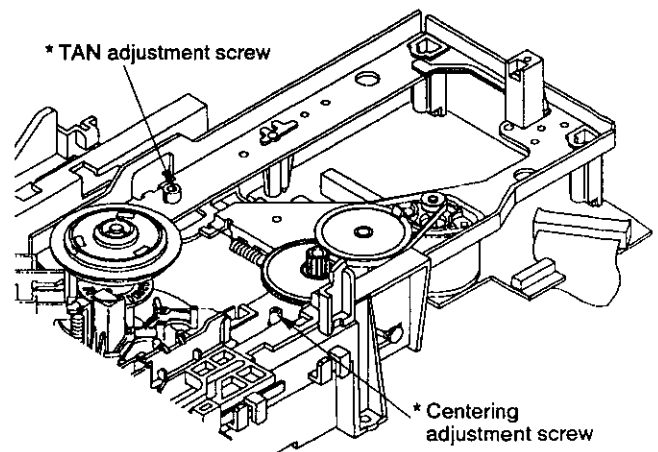


Fig. 2 MAIN and SCRB assemblies section



\* : As the adjustment range of both the TAN and centering adjustment screws is only ± 90° form the center, do not turn the screws beyond this range.

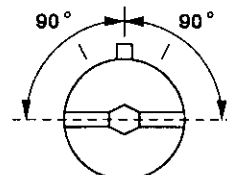


Fig. 3 TILT base section

● Test Mode

1) Activating the Test Mode

1. While power is ON, connect the Test mode jumper wire ( Fig. 2 ) to the GND for about one second.
2. After checking whether the FL display device is fully lit, disconnect the Test mode jumper wire from GND.

2) Canceling the Test Mode

1. Turn the power OFF.

● Key operation in the Test mode

Player Status	Key Operation	Function	Remarks
Tray Open	◀◀/▶▶  SKIP ( Refer to Note 1 )	◀◀: Shifts the tray in the closed direction and also raises the turn table while it is held down. ▶▶: Shifts the tray in the open direction and also lowers the turn table while it is held down.	
Tray Open	▶ Play	Clamps	
Clamp	▶ Play	Turns the disc through TRK Servo Open	TRK - OFF
TRK Servo Open	▶ Play	TRK Servo Close	TRK - ON
TILT Neutral	+MULTI - SPEED	TILT Servo Close	T-□:ON
TILT ON	- MULTI - SPEED	TILT Neutral	T-□:N
TILT Neutral or ON	◀◀/▶▶  SKIP	Setting TILT Servo to OFF, can force TILT to move.	T - 1 to T - E
Clamp	◀◀/▶▶ SCAN	Can force the slider to move	S - LD S - CDV S - CD S - IN
Play	PAUSE	Still	
Play	■ STOP	Stop	
Stop	▲ OPEN	Open	
Play	<div style="border: 1px solid black; padding: 2px; display: inline-block; margin-bottom: 5px;">+10</div> <div style="text-align: center;">↓</div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-bottom: 5px;">0 to 9</div> <div style="text-align: center;">↓</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">▶ PLAY</div>	Set to SEARCH lead address input mode.  Designates the SEARCH lead address through keys 0 to 9. Press the CLEAR [C] key if the designated address is incorrect.  Searches the designated address upon pressing the PLAY key.	

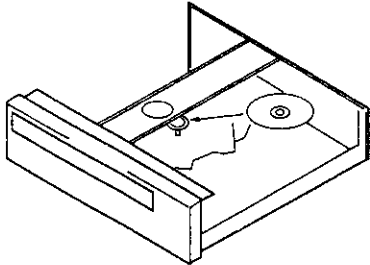
Note 1: Press SKIP ( |◀◀/▶▶| ) keys after the tray is set to open state by pressing OPEN ( ▲ ) key.  
 In tray open state, pressing PLAY ( ▶ ) key causes is to TILT control state and SKIP keys cannot function properly.

● **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.



- ② Press the PLAY (▶) key once.  
(Twin gear starts to move.)
- ③ Push the cam plate (Fig. 4) in the direction of the arrow and wait until the CD disc is clamped.

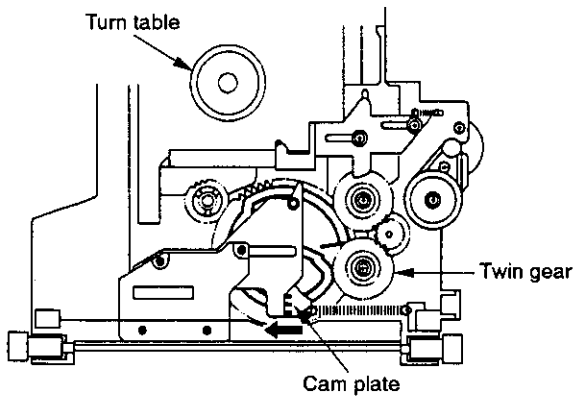
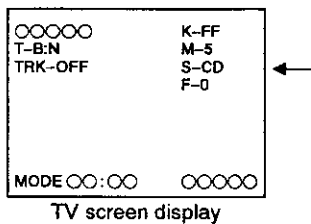


Fig. 4

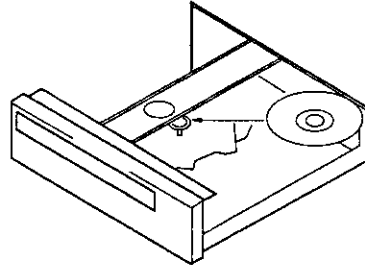
- ④ Press the ◀◀ or ▶▶ keys to appear "S - CD" on the TV screen display.



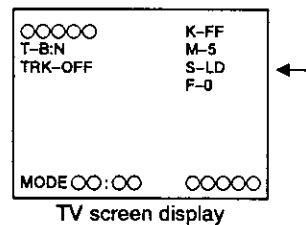
- ⑤ Press the PLAY (▶) key twice, disc will be normally playbacked.

● **LD PLAYBACK**

- ① Place the LD disc on the turn table.



- ② Press the PLAY (▶) key once. (Twin gear starts to move.)
- ③ Press the SKIP REV (◀◀) key to raise the turn table (spindle motor section) while pressing the cam plate (Fig. 4) in the direction of the arrow. Raise it to the position where the LD disc can be easily placed on the turn table. If the turn table is raised too high, lower it with the SKIP FWD (▶▶) key.
- ④ Place the LD disc on the turn table and press the PLAY (▶) key once to clamp the disc.
- ⑤ Press the ◀◀ or ▶▶ keys to appear "S - LD" on the TV screen display.



- ⑥ Press the PLAY (▶) key twice, disc will be normally playbacked.

5.2 ADJUSTMENT TABLE

Adjustment name	Adjustment point	Measuring equipment and jigs	Measurement point	Player condition	Adjustment procedure	Waveform and connection diagram
1 Tilt Offset Check and Adjustment	VR607	• TV monitor	Tilt indication on Test mode screen	• Power ON • Test mode • Disc not installed	1. Check if the tilt indication on the Test mode screen is at T-6 to T-8. 2. If the tilt indication is not at T-6 to T-8, adjust VR607 until the tilt indication reaches T-6 to T-8.	
2 Coarse centering adjustment	Tilt base centering adjustment screw	• Oscilloscope • STD-901 or STD-902 • MIX resistor 	CN120 X: ⑨ Pin ( TRK ERR ) Y: ①+② Pin ( TRK SUM )	• Test mode TRK Servo Open Tilt Servo ON • Innermost track of STD-901 or STD-902 which does not come in contact with the mechanical stopper.	1. Move the slider until it does not come in contact with the mechanical stopper at the slider position indication S-IN. 2. Observe TRK ERR ( Xch ) and TRK SUM ( Ych ) at the X-Y mode during TRK Servo Open. 3. Turn the centering adjustment screw until the Lissajous figure is horizontal.	
3 FCS balance adjustment ( 1 ) TRK ERR MAX	VR605	• Oscilloscope • STD-901 or STD-902	CN120 ⑨ Pin ( TRK ERR )	• Test mode TRK Servo Open Tilt Servo ON • Inner track of STD-901 or STD-902	1. Observe TRK ERR at CH1 of the oscilloscope during TRK Servo Open. 2. Adjust VR605 until the amplitude of the waveform reaches its maximum.	
4 FCS balance adjustment ( 2 ) RF MAX	VR606	• Oscilloscope • STD-901 or STD-902	CN120 ③ Pin ( RF )	• Test mode TRK Servo Close Tilt Servo ON • Inner track of STD-901 or STD-902	1. Close the TRK Servo and observe RF at CH1 of the oscilloscope. 2. Adjust VR606 until the amplitude of the waveform reaches its maximum and the envelope is very clear.	
5 Tangential direction angle adjustment	Tilt base TAN adjustment screw	• Oscilloscope • STD-901 or STD-902	CN120 ③ Pin ( RF )	• Test mode TRK Servo Close Tilt Servo ON • Inner track of STD-901 or STD-902	1. Observe RF at CH1 of the oscilloscope during TRK Servo Close. 2. Adjust the TAN adjustment screw until the amplitude of the waveform reaches its maximum and the envelope is very clear.	
6 Fine centering adjustment	Tilt base Centering adjustment screw	• Oscilloscope • STD-901 or STD-902	CN120 X: ⑨ Pin ( TRK ERR ) Y: ①+② Pin ( TRK SUM )	• Test mode TRK Servo Open Tilt Servo ON • Innermost track of STD-901 or STD-902 which does not come in contact with the mechanical stopper.	Perform fine centering adjustment by following the same procedure as in "(2) Coarse centering adjustment".	
Crosstalk check and Tilt offset adjustment	VR607	• TV monitor • GGV1003	Crosstalk check screen	• Test mode TRK Servo Close Tilt Servo ON • GGV1003 #115 STILL	1. Search for address 115 of GGV1003 and still the address. 2. Check the crosstalk . If the crosstalk is pronounced, adjust VR607 until the crosstalk is not noticeable.	
7	When the crosstalk is still noticeable in spite of the adjustment in ( 7 ), use a hexagonal wrench driver ( straight type, size: 3 mm ) to adjust the TAN adjustment screw on the bottom side of the player through the GGV1003 #115 STILL screen. Afterwards, perform the adjustment procedures from ( 6 ).					

Adjustment name	Adjustment point	Measuring equipment and jigs	Measurement point	Player condition	Adjustment procedure	Waveform and connection diagram
8 FCS Servo loop gain adjustment	VR604	<ul style="list-style-type: none"> <li>Oscilloscope</li> <li>GGV1003</li> <li>AF Oscillator</li> <li>Resistor (47kΩ)</li> </ul>	CN120 X: ⑦ Pin ( FCS IN ) Y: ⑥ Pin ( FCS ERR )	<ul style="list-style-type: none"> <li>Test mode</li> <li>TRK Servo Close</li> <li>Tilt Servo ON</li> <li>GGV1003</li> <li>#15,000 STILL</li> </ul>	<ol style="list-style-type: none"> <li>Search for address 15,000 of GGV1003 and still the address.</li> <li>Xch: Connect the resistor (47kΩ) to the channel and connect to FCS IN. Ych: Connect to FCS ERR.</li> <li>Connect the AF oscillator between Xch and the 47kΩ resistor, and adjust VR604 until the Lissajous figure is symmetrical.</li> </ol>	<p>X:200mV/div Y:20mV/div DC mode</p> <p>Adjust until the Lissajous figure is symmetrical.</p>
9 TRK Servo loop gain adjustment	VR601	<ul style="list-style-type: none"> <li>Oscilloscope</li> <li>GGV1003</li> <li>AF Oscillator</li> <li>Resistor (47kΩ)</li> </ul>	CN120 X: ⑩ Pin ( TRK IN ) Y: ⑨ Pin ( TRK ERR )	<ul style="list-style-type: none"> <li>Test mode</li> <li>Stop mode or TRK Servo Close</li> <li>Tilt Servo ON</li> <li>GGV1003</li> <li>#15,000 STILL</li> </ul>	<ol style="list-style-type: none"> <li>Xch: Connect the 47kΩ resistor to channel and connect to TRK IN. Ych: Connect to TRK ERR.</li> <li>Connect the AF oscillator between Xch and the 47kΩ resistor and note the tilt angle against the horizon with the disc in the stopped state.</li> <li>Search for address 15,000 of GGV1003 and still the address.</li> <li>Set the disc PLAY mode (TRK servo closed, TILT on). Adjust VR603 so that the tilt angle of the waveform will be the same as the tilt angle noted in step 3.</li> </ol>	<p>X:200mV/div Y:10mV/div DC mode</p> <p>Adjust until the Lissajous figure is symmetrical.</p>
10 RF level adjustment	VR601	<ul style="list-style-type: none"> <li>Oscilloscope</li> <li>GGV1003</li> </ul>	CN120 ③ Pin ( RF )	<ul style="list-style-type: none"> <li>Test mode</li> <li>TRK Servo Close</li> <li>Tilt Servo ON</li> <li>GGV1003</li> <li>#15,000 STILL</li> </ul>	<ol style="list-style-type: none"> <li>Search for address 15,000 of GGV1003 and still the address. Observe RF at CH1 of the oscilloscope.</li> <li>Adjust VR601 until the RF amplitude is 300mV ± 50mVp-p.</li> </ol>	<p>V:10mV/div H:2msec/div AC mode</p> <p>300mVp-p ± 50mV</p>
11 Synchronizing signal generator clock adjustment	VC401	<ul style="list-style-type: none"> <li>Frequency counter</li> </ul>	R558 lead wire ( No connection side )	<ul style="list-style-type: none"> <li>Power ON</li> <li>Stop mode</li> </ul>	Adjust clock frequency ( 17.734475MHz ) ± 100Hz.	<p>Frequency counter</p>
12 REF-H adjustment	VC901	<ul style="list-style-type: none"> <li>Frequency counter</li> </ul>	R667 lead wire ( IC601 ( PM3002 ) ) ⑧ Pin side	<ul style="list-style-type: none"> <li>Power ON</li> <li>Stop mode</li> </ul>	Adjust FCS ( 3.5546875 MHz ) ± 25Hz.	<p>Frequency counter</p>
13 VCO center frequency adjustment	VR481	<ul style="list-style-type: none"> <li>Oscilloscope</li> <li>GGV1007</li> </ul>	CH1: C405 lead wire CH2: C499 lead wire	<ul style="list-style-type: none"> <li>Normal mode</li> <li>GGV1007</li> <li>#15,000 STILL</li> </ul>	Place a trigger in CH1 and adjust until the center of the CH2 video signal jitter is 75 μsec ( 1H + 11 μsec ) ± 2 μsec compared to the CH1 video signal.	<p>V:20mV/div ( CH1 ) 20mV/div ( CH2 ) H:10 μsec/div ( Trigger ) AC mode</p> <p>Jitter due to the eccentricity 11 μs 75 μs</p>
14 Video level adjustment	VR482	<ul style="list-style-type: none"> <li>TV monitor</li> <li>Oscilloscope</li> <li>GGV1007</li> </ul>	Video output terminal	<ul style="list-style-type: none"> <li>Normal mode</li> <li>GGV1007</li> <li>#5,251 to #6,000 PLAY</li> </ul>	Connect a 75Ω resistor to the VIDEO output terminal ( possibly by connecting to the monitor ) and adjust until the sync tip to 100% white level is 1Vp-p ± 5% at the white ( 100% ) signal.	<p>Video level 1.0Vp-p ± 5%</p> <p>Oscilloscope range V:20mV/div 10 μsec/div ( Trigger ) AC mode</p>

	Adjustment name	Adjustment point	Measuring equipment and jigs	Measurement point	Player condition	Adjustment procedure	Waveform and connection diagram
15	1H DLY video level adjustment	VR441	<ul style="list-style-type: none"> <li>Oscilloscope</li> <li>GGV1007</li> </ul>	CH1: C443 lead wire CH2: C445 lead wire	<ul style="list-style-type: none"> <li>Normal mode</li> <li>GGV1007</li> <li>#5,300 STILL</li> </ul>	Adjust until the sync tip to 100% white level at the white ( 100% ) signal is the same as in CH1 and CH2.	<p>V:20mV/div ( CH1 ) 20mV/div ( CH2 ) H:10 μsec/div ( Trigger ) AC mode</p> <p>CH1 CH2</p> <p>Main video signal 1H delay video signal</p>
16	VPS error level adjustment	VR521	<ul style="list-style-type: none"> <li>TV monitor</li> <li>GGV1007</li> </ul>	TV monitor	<ul style="list-style-type: none"> <li>Normal mode</li> <li>GGV1007</li> <li>#6,001 to #6,750 PLAY ( Magenta screen )</li> </ul>	Adjust until the color irregularity on the magenta screen is minimized.	<p>Color irregularity on the magenta screen is minimized.</p>
17	MOD video level adjustment	VR102	<ul style="list-style-type: none"> <li>Oscilloscope</li> <li>GGV1007</li> </ul>	CH1: C118 lead wire CH2: C122 lead wire	<ul style="list-style-type: none"> <li>Normal mode</li> <li>GGV1007</li> <li>#5,300 STILL</li> </ul>	Adjust until the sync tip to 100% white level at the white ( 100% ) signal is the same as in CH1 and CH2.	<p>V:20mV/div ( CH1 ) 20mV/div ( CH2 ) H:10 μsec/div AC mode</p> <p>CH1 CH2</p>
18	1H delay sub carrier adjustment	VR101	<ul style="list-style-type: none"> <li>Oscilloscope</li> <li>GGV1007</li> </ul>	CH1: C118 lead wire CH2: C122 lead wire	<ul style="list-style-type: none"> <li>Normal mode</li> <li>GGV1007</li> <li>#5,100 STILL</li> </ul>	Adjust until the chroma signal level at the magenta signal is the same as in CH1 and CH2.	<p>V:20mV/div ( CH1 ) 20mV/div ( CH2 ) H:10 μsec/div ( Trigger ) AC mode</p> <p>CH1 CH2</p>

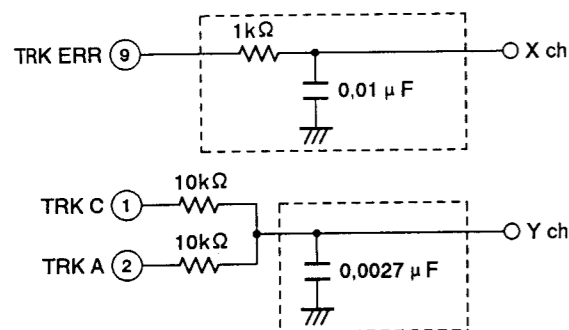
## 5. REGLAGES

### 5.1 PREPARATIFS

#### ● Instruments Pour Reglage

- Disque d'essai pour CD (STD - 901 ou STD - 902)
- Disque d'essai pour LD (GGV1003 ou GGV1007)
- (-) Tournevis à tête plate (taille moyenne)
- (-) Tournevis à tête plate (petit)
- Clé hexagonale (type droit, taille: 3mm)
- Résistances (10kΩ × 2, 47 kΩ)
- Oscilloscope à double traces (avec retard)
- Oscillateur audiofréquence (AF)
- Compteur de fréquence
- Moniteur TV
- Filtre passe-bas

Utiliser les filtres passe-bas ci - dessous pour le réglage approximatif de centrage 2 et le réglage fin de centrage 6 si la forme d'onde du S/B est difficile à observer.



#### ● Ensemble de Rack Pour le Reglage de Centrage

La position S - IN (la position où la butée de mécanisme n'est pas cognée) du rack pour le réglage de centrage est indiquée ci - dessous.

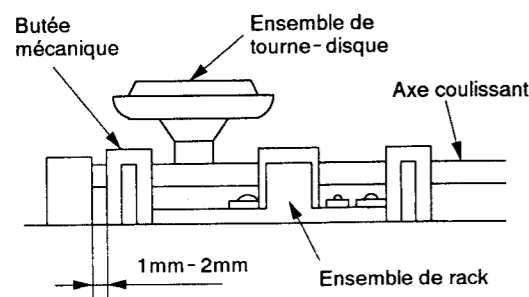


Fig. 1 Vue de la côté droite

#### ● Points de Regrave

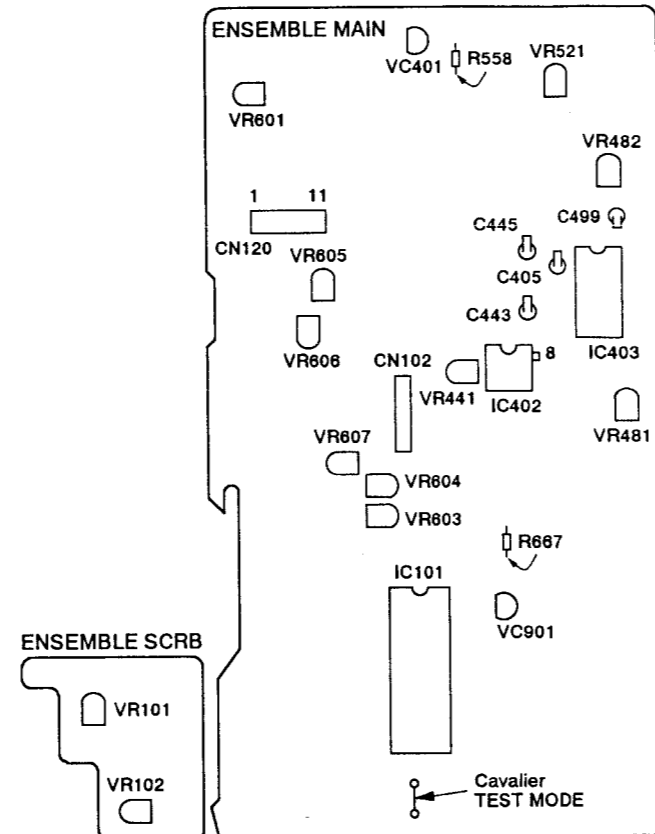
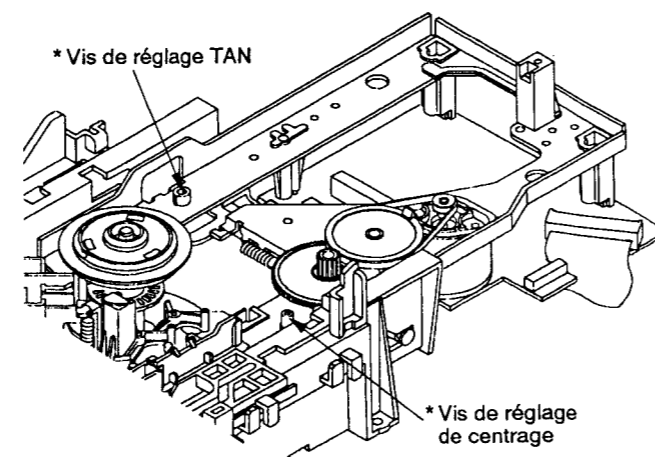


Fig. 2 Ensembles MAIN et SCRB



\* : Ne pas tourner les vis de réglage TAN et de centrage au - delà de la gamme de réglage, c'est - à - dire, ± 90° du centre.

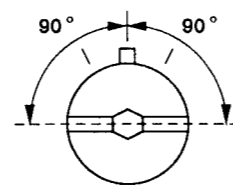


Fig. 3 Base TILT

#### ● Mode D'essai

##### 1) Lancement du mode d'essai

1. Après la mise en marche de l'appareil, connecter le cavalier du mode d'essai (Fig. 2) à GND pendant environ une seconde.
2. Après avoir confirmé que l'affichage FL est allumé à fond, débrancher le cavalier du mode d'essai de GND.

##### 2) Annulation du mode d'essai

1. Mettre l'appareil hors tension.

#### ● Fonction des touches en mode d'essai

Etat de lecteur	Touche à déclencher	Fonction	Remarques
Plateau ouvert	◀◀/▶▶  SKIP (Se reporter à la Remarque 1.)	◀◀: Déplace le plateau à la direction de fermeture et élève le tourne - disque pendant que la touche est enfoncée. ▶▶: Déplace le plateau à la direction de ouverture et baisse le tourne - disque pendant que la touche est enfoncée.	
Plateau ouvert	▶ Play	Verrouille.	
Verrouillé	▶ Play	Tourner le disque par la commande TRK SERVO OPEN.	TRK - OFF
Asservissement TRK ouvert	▶ Play	Asservissement TRK fermé.	TRK - ON
TILT en neutre	+MULTI - SPEED	Asservissement TILT fermé.	T-□:ON
TILT ON	- MULTI - SPEED	TILT en neutre	T-□:N
TILT en neutre ou ON	◀◀/▶▶  SKIP	En plaçant l'asservissement TILT sur OFF, il est possible de mouvoir TILT.	T - 1 à T - E
Verrouillé	◀◀/▶▶ SCAN	Il est possible de faire le coulisseau déplacer.	S - LD S - CDV S - CD S - IN
Lecture	PAUSE	Arrêt sur image	
Lecture	■ STOP	Arrête	
Arrêt	▲ OPEN	Ouvrir	
Lecture	+10 ↓ [0] à [9] ↓ ▶ PLAY	Placer sur le mode entrée de recherche d'adresse d'amorçage. Designier l'adresse d'amorçage à rechercher avec les touches 0 à 9. Appuyer sur la touche CLEAR [C] si l'adresse désignée est incorrecte. L'appareil commence à rechercher l'adresse désignée quand la touche PLAY est appuyée.	

Remarque 1: Appuyer sur les touche SKIP (|◀◀/▶▶|) après que le plateau est placé en mode ouverture par la touche OPEN (▲).  
En état ouverture de plateau, une poussée sur la touche PLAY (▶) rend l'appareil en état d'inclinaison et les touches SKIP ne fonctionnent pas correctement.

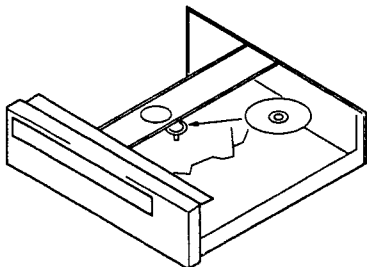


● **Fonctionnement du Lecteur en Mode D'essai**

Manipuler le lecteur en choisissant le mode d'essai avec les touches du lecteur ou celles de la télécommande.

• **LECTURE DE CD**

- ① Placer le disque CD sur le tourne - disque.



- ② Appuyer une fois sur la touche PLAY (▶).
- (Une paire d'engrenage commence à mouvoir.)
- ③ Enfoncer la came à plaque (Fig. 4) dans la direction de la flèche, et attendre que le disque CD soit verrouillé.

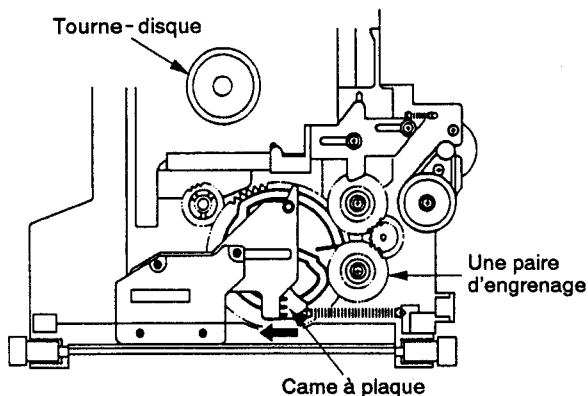
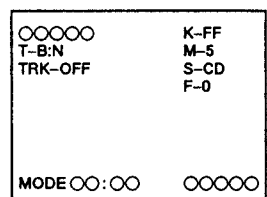


Fig. 4

- ④ Appuyer sur la touche ◀◀ ou ▶▶ pour faire apparaître "S - CD" sur l'écran du moniteur TV.

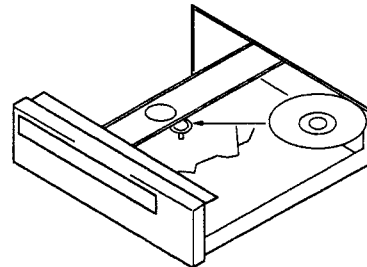


Affichage sur le moniteur TV

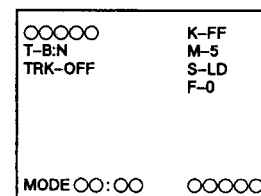
- ⑤ Appuyer deux fois sur la touche PLAY (▶). Le disque sera reproduit normalement.

• **LECTURE DE LD**

- ① Placer le disque LD sur le tourne - disque.



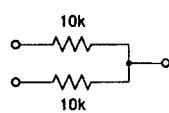
- ② Appuyer une fois sur la touche PLAY (▶).
- (Une paire d'engrenage commence à mouvoir.)
- ③ Appuyer sur la touche SKIP REV (◀◀) tout en appuyant sur la came à plaque (Fig. 4) dans la direction de la flèche pour faire élever le tourne - disque (section moteur de broche). Elever le tourne - disque de sorte que le disque LD peut être placé facilement sur le tourne - disque. Si le tourne - disque est trop élevé, l'abaisser avec la touche SKP FWD (▶▶).
- ④ Placer le disque LD sur le tourne - disque et appuyer une fois sur la touche PLAY (▶) pour verrouiller le disque.
- ⑤ Appuyer sur la touche ◀◀ ou ▶▶ pour faire apparaître "S - LD" sur l'écran du moniteur TV.

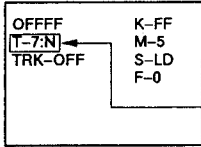
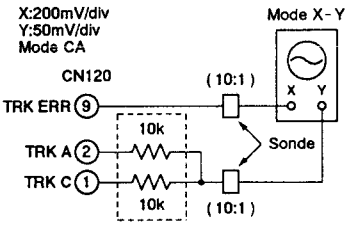
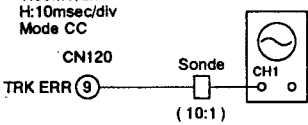
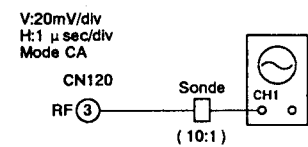
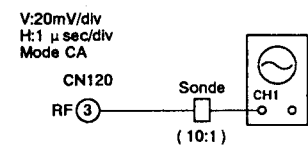
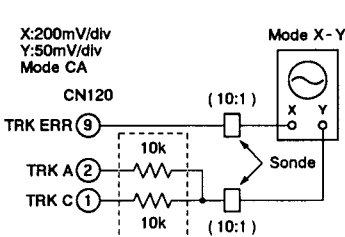
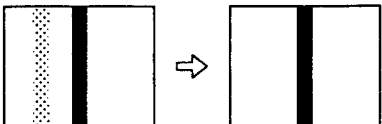
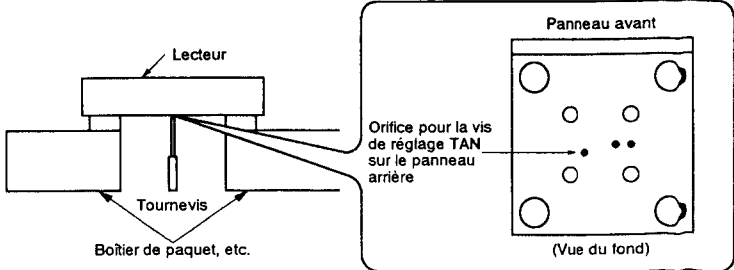


Affichage sur le moniteur TV

- ⑥ Appuyer deux fois sur la touche PLAY (▶). Le disque sera reproduit normalement.

5.2 SOMMAIRE DES REGLAGE

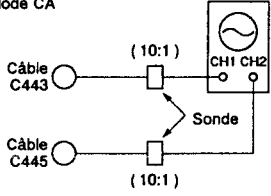
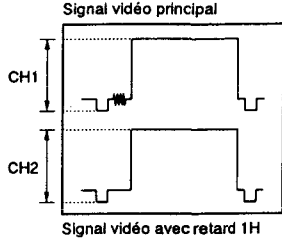
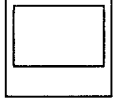
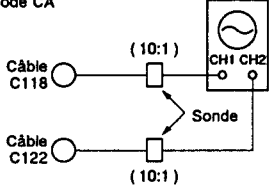
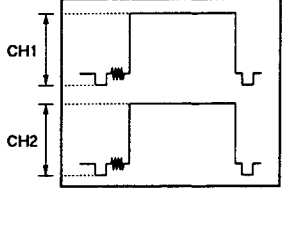
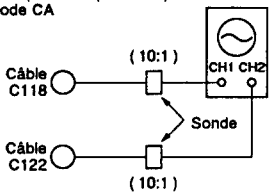
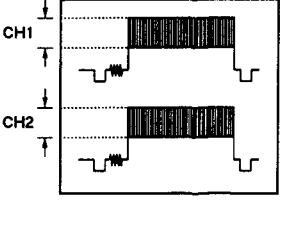
	Réglage	Point de réglage	Equipement de mesure et calibre	Point de mesure	Etat du lecteur
1	Vérification et réglage de correction d'inclinaison	VR607	• Moniteur TV	Indication d'inclinaison sur l'écran du mode d'essai	• Alimentation sur ON • Mode d'essai • Pas de disque installé
2	Réglage approximatif de centrage	Vis de réglage de centrage sur la base d'inclinaison	• Oscilloscope • STD-901 ou STD-902 • Resistance MIX 	CN120 X: Broche ⑨ ( TRK ERR ) Y: Broche ①+② ( TRK SUM )	• Mode d'essai Asservissement d'alignement ouvert Asservissement d'inclinaison ON • La piste la plus intérieure de STD-901 ou STD-902, qui n'est pas en contact avec la butée mécanique.
3	Réglage de balance de mise au point (1) TRK ERR MAX	VR605	• Oscilloscope • STD-901 ou STD-902	CN120 Broche ⑨ ( TRK ERR )	• Mode d'essai Asservissement d'alignement ouvert Asservissement d'inclinaison ON • La piste intérieure de STD-901 ou STD-902
4	Réglage de balance de mise au point (2) RF MAX	VR606	• Oscilloscope • STD-901 ou STD-902	CN120 Broche ③ ( RF )	• Mode d'essai Asservissement d'alignement fermé Asservissement d'inclinaison ON • La piste intérieure de STD-901 ou STD-902
5	Réglage d'angle de direction tangentielle	Vis de réglage TAN sur la base d'inclinaison	• Oscilloscope • STD-901 ou STD-902	CN120 Broche ③ ( RF )	• Mode d'essai Asservissement d'alignement fermé Asservissement d'inclinaison ON • La piste intérieure de STD-901 ou STD-902
6	Réglage fin de centrage	Vis de réglage de centrage sur la base d'inclinaison	• Oscilloscope • STD-901 ou STD-902	CN120 X: Broche ⑨ ( TRK ERR ) Y: Broche ①+② ( TRK SUM )	• Mode d'essai Asservissement d'alignement ouvert Asservissement d'inclinaison ON • La piste la plus intérieure de STD-901 ou STD-902, qui n'est pas en contact avec la butée mécanique.
7	Vérification de diaphonie et réglage de correction d'inclinaison	VR607	• Moniteur TV • GGV1003	Ecran de vérification de diaphonie	• Mode d'essai Asservissement d'alignement fermé Asservissement d'inclinaison ON • GGV1003 #115 STILL
	Si la diaphonie est encore apparente après le réglage indiqué dans (7), régler la vis de réglage TAN situé sur le fond de la lecteur à l'aide de la clé hexagonale (type droit, taille: 3 mm) en observant l'arrêt sur image du GGV1003#115 sur l'écran. Ensuite, procédez au réglage dans (6).				

Procédure de réglage	Forme d'onde et schéma de connexion
<ol style="list-style-type: none"> <li>Vérifier que l'indication d'inclinaison sur l'écran du mode d'essai est entre T-6 et T-8.</li> <li>Si l'indication d'inclinaison n'est pas entre T-6 et T-8, Régler VR607 jusqu'à ce que l'indication soit entre T-6 et T-8.</li> </ol>	 <p>Régler VR607 tout en observant la figure sur l'écran du mode d'essai.</p>
<ol style="list-style-type: none"> <li>Faire glisser le coulisseau pour qu'il n'est pas en contact avec la butée mécanique située sur la position de l'indication S-IN pour le clisseau.</li> <li>Observer TRK ERR (Xch) et TRK SUM (Ych) en mode X-Y avec l'asservissement TRK ouvert.</li> <li>Tourner la vis de réglage de centrage jusqu'à ce que la figure de Lissajous soit horizontale.</li> </ol>	 <p>Régler de manière que la figure Lissajous soit horizontale.</p>
<ol style="list-style-type: none"> <li>Observer TRK ERR du CH1 sur l'oscilloscope avec l'asservissement TRK ouvert.</li> <li>Régler VR605 jusqu'à ce que l'amplitude de la forme d'onde soit maximum.</li> </ol>	 <p>Régler de manière que l'amplitude soit maximum.</p>
<ol style="list-style-type: none"> <li>Fermer l'asservissement TRK et observer RF du CH1 sur l'oscilloscope.</li> <li>Régler VR606 jusqu'à ce que l'amplitude de la forme d'onde soit maximum et que l'enveloppe soit très claire.</li> </ol>	 <p>Régler de manière que l'amplitude soit maximum et que l'enveloppe soit très claire.</p>
<ol style="list-style-type: none"> <li>Observer RF du CH1 sur l'oscilloscope avec l'asservissement TRK fermé.</li> <li>Régler la vis de réglage TAN jusqu'à ce que l'amplitude de la forme d'onde soit maximum et que l'enveloppe soit très claire.</li> </ol>	 <p>Régler de manière que l'amplitude soit maximum et que l'enveloppe soit très claire.</p>
<p>Effectuer les réglage fin de centrage en suivant la même procédure que dans "(2) Réglage approximatif de centrage".</p>	 <p>Régler de manière que la figure Lissajous soit horizontale.</p>
<ol style="list-style-type: none"> <li>Rechercher l'adresse 115 de GGV1003 et geler l'image.</li> <li>Vérifier la diaphonie. Si la diaphonie apparaît, régler VR607 jusqu'à ce que la diaphonie soit peut apparent.</li> </ol>	 <p>Si la diaphonie apparaît, régler jusqu'à ce que la diaphonie soit peut apparente.</p>
 <p>Panneau avant</p> <p>Lecteur</p> <p>Tournevis</p> <p>Boîtier de paquet, etc.</p> <p>Orifice pour la vis de réglage TAN sur le panneau arrière</p> <p>(Vue du fond)</p>	

	Réglage	Point de réglage	Equipement de mesure et calibre	Point de mesure	Etat du lecteur
8	Réglage de gain de boucle d'asservissement de mise au point	VR604	<ul style="list-style-type: none"> <li>Oscilloscope</li> <li>GGV1003</li> <li>Oscillateur AF</li> <li>Resistance ( 47k<math>\Omega</math> )</li> </ul>	CN120 X: Broche ⑦ ( FCS IN ) Y: Broche ⑥ ( FCS ERR )	<ul style="list-style-type: none"> <li>Mode d'essai</li> <li>Asservissement TRK fermé</li> <li>Asservissement d'inclinaison ON</li> <li>GGV1003</li> <li>#15,000 STILL</li> </ul>
9	Réglage de gain de boucle d'asservissement d'alignement	VR601	<ul style="list-style-type: none"> <li>Oscilloscope</li> <li>GGV1003</li> <li>Oscillateur AF</li> <li>Resistance ( 47k<math>\Omega</math> )</li> </ul>	CN120 X: Broche ⑩ ( TRK IN ) Y: Broche ⑨ ( TRK ERR )	<ul style="list-style-type: none"> <li>Mode d'essai</li> <li>Mode arrêt ou l'asservissement TRK fermé</li> <li>Asservissement d'inclinaison ON</li> <li>GGV1003</li> <li>#15,000 STILL</li> </ul>
10	Réglage de niveau RF	VR601	<ul style="list-style-type: none"> <li>Oscilloscope</li> <li>GGV1003</li> </ul>	CN120 Broche ③ ( RF )	<ul style="list-style-type: none"> <li>Mode d'essai</li> <li>Asservissement TRK fermé</li> <li>Asservissement d'inclinaison ON</li> <li>GGV1003</li> <li>#15,000 STILL</li> </ul>
11	Réglage de rythmeur de générateur synchronisation	VC401	<ul style="list-style-type: none"> <li>Compteur de fréquence</li> </ul>	Câble R558 (Pas de côté de connexion)	<ul style="list-style-type: none"> <li>Alimentation ON</li> <li>Mode arrêt</li> </ul>
12	Réglage de REF-H	VC901	<ul style="list-style-type: none"> <li>Compteur de fréquence</li> </ul>	Câble R667 ( IC601 (PM3002), côté de la broche ⑧ )	<ul style="list-style-type: none"> <li>Alimentation ON</li> <li>Mode arrêt</li> </ul>
13	Réglage de fréquence central VCO	VR481	<ul style="list-style-type: none"> <li>Oscilloscope</li> <li>GGV1007</li> </ul>	CH1: Câble C405 CH2: Câble C499	<ul style="list-style-type: none"> <li>Mode normal</li> <li>GGV1007</li> <li>#15,000 STILL</li> </ul>
14	Réglage de niveau vidéo	VR482	<ul style="list-style-type: none"> <li>Moniteur TV</li> <li>Oscilloscope</li> <li>GGV1007</li> </ul>	Borne de sortie vidéo	<ul style="list-style-type: none"> <li>Mode normal</li> <li>GGV1007</li> <li>#5,251 à #6,000 PLAY</li> </ul>

Procédure de réglage	Forme d'onde et schéma de connexion
<ol style="list-style-type: none"> <li>1. Rechercher l'adresse 15,000 de GGV1003 et geler l'image.</li> <li>2. Xch: Connecter la résistance (47 k<math>\Omega</math>) au canal et FCS IN. Ych: Connecter à FCS ERR.</li> <li>3. Connecter l'oscillateur AF entre Xch et la résistance de 47 k<math>\Omega</math>, et régler VR604 pour que la figure Lissajous soit symétrique.</li> </ol>	<p>X:200mV/div Y:20mV/div Mode CC</p> <p>Mode X-Y</p> <p>Régler de façon que la figure Lissajous soit symétrique.</p>
<ol style="list-style-type: none"> <li>1. Xch: Connecter la résistance de 47 k<math>\Omega</math> au canal et TRK IN.</li> <li>2. Connecter l'oscillateur AF entre Xch et la résistance de 47 k<math>\Omega</math>. Noter l'angle d'inclinaison par rapport à la ligne horizontale avec le disque en mode arrêt.</li> <li>3. Rechercher l'adresse 15,000 de GGV1003 et geler l'image.</li> <li>4. Placer en mode de lecture (avec l'asservissement TRK fermé, l'inclinaison ON). Régler VR603 de pour que l'angle d'inclinaison de la forme d'onde soit la même que l'angle notée à l'étape 3.</li> </ol>	<p>X:200mV/div Y:10mV/div Mode CC</p> <p>Mode X-Y</p> <p>Régler de façon que la figure Lissajous soit symétrique.</p>
<ol style="list-style-type: none"> <li>1. Rechercher l'adresse 15,000 de GGV1003 et geler l'image. Observer RF du CH1 sur l'oscilloscope.</li> <li>2. Régler VR601 pour que l'amplitude RF soit 300mV <math>\pm</math> 50mVc-c.</li> </ol>	<p>V:10mV/div H:2msec/div Mode CA</p> <p>300mVp-p <math>\pm</math> 50mV</p>
<p>Régler la fréquence de l'horloge (17,734475 MHz) <math>\pm</math> 100Hz.</p>	<p>Compteur de fréquence</p>
<p>Régler la mise au point sur 3,5546875 MHz <math>\pm</math> 25Hz.</p>	<p>Compteur de fréquence</p>
<p>Placer la détente dans le CH1 et régler de façon que le centre d'instabilité (jitter) de signal vidéo du CH2 soit 75 <math>\mu</math>sec (1H + 11 <math>\mu</math>sec) <math>\pm</math> 2 <math>\mu</math>sec par rapport au signal vidéo du CH2.</p>	<p>V:20mV/div (CH1) 20mV/div (CH2) H:10 <math>\mu</math>sec/div (Détente) Mode CA</p> <p>Instabilité causée par l'excentricité 11 <math>\mu</math>S 75 <math>\mu</math>S</p>
<p>Connecter la résistance de 75 <math>\Omega</math> à la borne de sortie vidéo (peut-être en connectant au moniteur) et régler de façon que la pointe de synchronization du niveau du signal blanc de 100% soit 1Vc-c <math>\pm</math> 5%.</p>	<p>Sortie vidéo</p> <p>Niveau vidéo</p> <p>1,0Vp-p <math>\pm</math> 5%</p> <p>Moniteur TV</p> <p>Oscilloscope</p> <p>Gamme de l'oscilloscope V:20mV/div 10 <math>\mu</math>sec/div (Détente) Mode CA</p>

	Réglage	Point de réglage	Equipement de mesure et calibre	Point de mesure	Etat du lecteur
15	Réglage du niveau vidéo avec retard 1H	VR441	<ul style="list-style-type: none"> <li>• Oscilloscope</li> <li>• GGV1007</li> </ul>	CH1: Câble C443 CH2: Câble C445	<ul style="list-style-type: none"> <li>• Mode normal</li> <li>• GGV1007</li> <li>#5,300 STILL</li> </ul>
16	Réglage du niveau d'erreur VPS	VR521	<ul style="list-style-type: none"> <li>• Moniteur TV</li> <li>• GGV1007</li> </ul>	Moniteur TV	<ul style="list-style-type: none"> <li>• Mode normal</li> <li>• GGV1007</li> <li>#6,100 à #6,750 PLAY (Ecran magenta)</li> </ul>
17	Réglage du niveau vidéo MOD	VR102	<ul style="list-style-type: none"> <li>• Oscilloscope</li> <li>• GGV1007</li> </ul>	CH1: Câble C118 CH2: Câble C122	<ul style="list-style-type: none"> <li>• Mode normal</li> <li>• GGV1007</li> <li>#5,300 STILL</li> </ul>
18	Réglage du sous-porteuse avec retard 1H	VR101	<ul style="list-style-type: none"> <li>• Oscilloscope</li> <li>• GGV1007</li> </ul>	CH1: Câble C118 CH2: Câble C122	<ul style="list-style-type: none"> <li>• Mode normal</li> <li>• GGV1007</li> <li>#5,100 STILL</li> </ul>

Procédure de réglage	Forme d'onde et schéma de connexion
<p>Régler de façon que les niveaux de la pointe de synchronisation du niveau du signal blanc (100%) pour les CH1 et CH2 soient les mêmes.</p>	<p>V:20mV/div (CH1) 20mV/div (CH2) H:10 μsec/div (Trigger) Mode CA</p>  
<p>Régler de façon que l'irrégularité sur l'écran magenta soit minimisée.</p>	 <p>L'irrégularité sur l'écran magenta est minimisée.</p>
<p>Régler de façon que les niveaux de la pointe de synchronisation du signal de blanc (100%) pour les CH1 et CH2 soient les mêmes.</p>	<p>V:20mV/div (CH1) 20mV/div (CH2) H:10 μsec/div Mode CA</p>  
<p>Régler de façon que les niveaux du signal chroma du signal magenta pour les CH1 et CH2 soient les mêmes.</p>	<p>V:20mV/div (CH1) 20mV/div (CH2) H:10 μsec/div (Défente) Mode CA</p>  

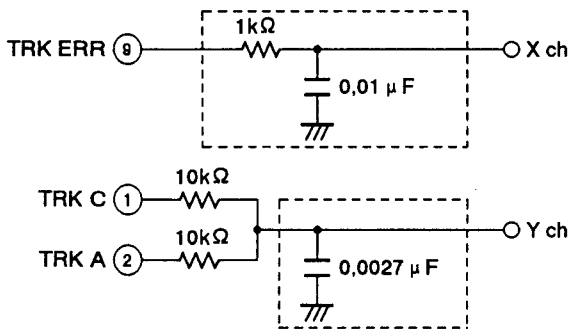
## 5. AJUSTES

### 5.1 PRELIMINARIOS

#### ● Instrumentos de Los Ajustes

- Disco de prueba de CD (STD - 901 o STD - 902)
- Disco de prueba de LD (GGV1003 o GGV1007)
- Destornillador con la cabeza de (-) (medio)
- Destornillador con la cabeza de (-) (pequeño)
- Llave inglesa hexagonal (tipo recto, tamaño: 3mm)
- Resistores ( $10k\Omega \times 2$ ,  $47k\Omega$ )
- Osciloscopio de traza doble (con retraso)
- Oscilador de AF
- Contador de frecuencia
- Monitor de TV
- Filtro de paso bajo

Use los filtros de paso bajo como se ven abajo en el procedimiento de ajuste aproximado del centrado 2., y en el procedimiento de ajuste fino del centrado 6., cuando es difícil observar la forma de onda del señal y ruido.



#### ● Montaje de Armario Durante el Ajuste del Centrado

La posición de S - IN (sin golpear el taponador) del montaje de armario durante el ajuste del centrado se ilustra abajo.

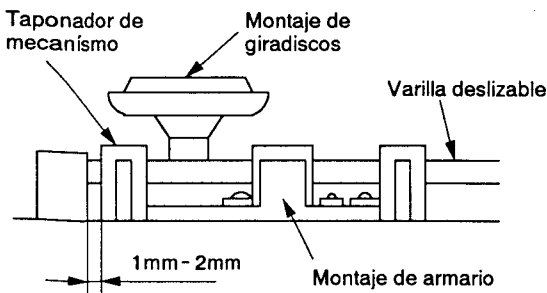


Fig. 1 Vista desde el lado derecho

#### ● Puntos de Ajuste

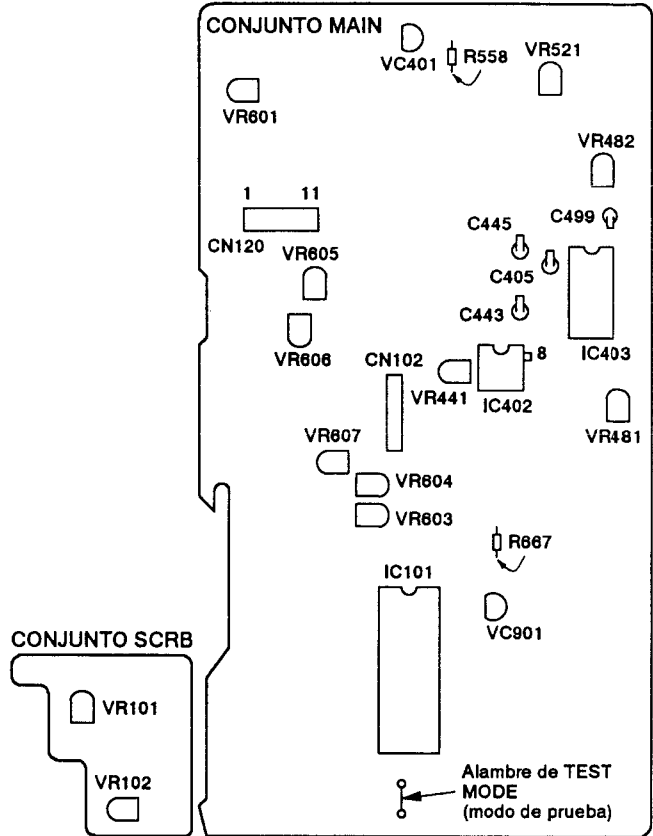
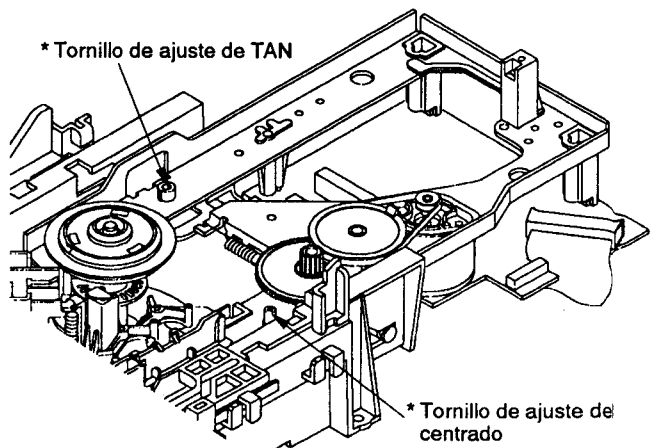


Fig. 2 Sección de los conjuntos MAIN y SCRB



\* : Porque la gama de ajuste de los tornillos de TAN y del centrado es solamente  $\pm 90$  grados. No haga girar los tornillos más allá de esta gama desde el centro.

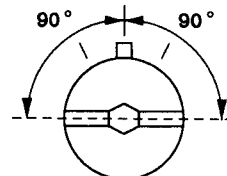


Fig. 3 Sección de la base de inclinación



## ● Modo de Prueba

### 1) Para activar el modo de prueba

1. Mientras que se alimenta, conecte el alambre (Figura 2) a GND por aproximadamente 1 segundo.
2. Después de comprobar que la pantalla está completamente encendida, desconecte el alambre desde GND.

### 2) Para cancelar el modo de prueba

1. Desconecte la alimentación.

## ● Operaciones de las teclas en el modo de prueba

Condición del reproductor	Operación de las teclas	Funcionamiento	Notas
La bandeja abierta	◀◀/▶▶  SKIP ( Refiérase a nota 1. )	◀◀: Mueve la bandeja en la dirección cerrada y levanta el giradiscos cuando está bajado. ▶▶: Mueve la bandeja en la dirección abierta y baja el giradiscos cuando está bajado.	
La bandeja abierta	▶ Avance	Sujetador	
Sujetador	▶ Avance	Haga girar el disco a través del servo TRK Abierto	TRK - OFF
El servo de TRK abierto	▶ Avance	Servo TRK Cerrado	TRK - ON
La inclinación neutral	+MULTI - SPEED	Servo TILT Cerrado	T-□:ON
TILT ON	- MULTI - SPEED	Neutral TILT	T-□:N
TILT Neutral u ON	◀◀/▶▶  SKIP	Ponga el servo TILT en OFF, y se moverá TILT.	T - 1 a T - E
Sujetador	◀◀/▶▶ SCAN	Puede forzar el sujetador a mover.	S - LD S - CDV S - CD S - IN
Avance	PAUSE	Pausa	
Avance	■ STOP	Parada	
Parada	▲ OPEN	Abierto	
Avance	<div style="text-align: center;"> <span style="border: 1px solid black; padding: 2px;">+10</span>            ↓  <span style="border: 1px solid black; padding: 2px;">0</span> a <span style="border: 1px solid black; padding: 2px;">9</span>            ↓  <span style="border: 1px solid black; padding: 2px;">▶ PLAY</span> </div>	Ponga en el modo de entrada de domicilio de SEARCH.  Indique el alambre de domicilio de SEARCH con las teclas 0 a 9. Presione la tecla <span style="border: 1px solid black; padding: 2px;">C</span> CLEAR si es incorrecto el domicilio designado.  Busca el domicilio designado al presionar la tecla PLAY.	

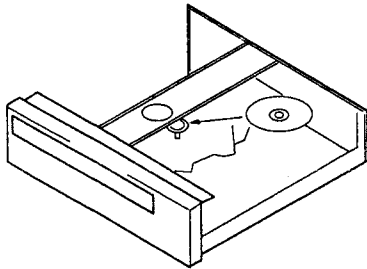
Nota 1: Presione las teclas SKIP (|◀◀/▶▶|) después de que la bandeja esté en el estado abierto por presionando la tecla OPEN (▲). En el estado abierto de la bandeja, si se presiona la tecla PLAY (▶) se cambia en el estado del control de TILT y las teclas SKIP no funcionan correctamente.

● **Operacion del Reproductor en el Modo de Prueba**

Después de seleccionar el modo de prueba, maneje las teclas sobre el reproductor o sobre la unidad de control remoto.

● **REPRODUCCION DE UN DISCO COMPACTO**

- ① Ponga un disco compacto sobre el giradiscos.



- ② Presione la tecla PLAY (▶) una vez.  
(El piñon gemelo se pone en marcha.)
- ③ Empuje el plato de leva en la dirección de la flecha y espere hasta que se enganche el disco compacto.

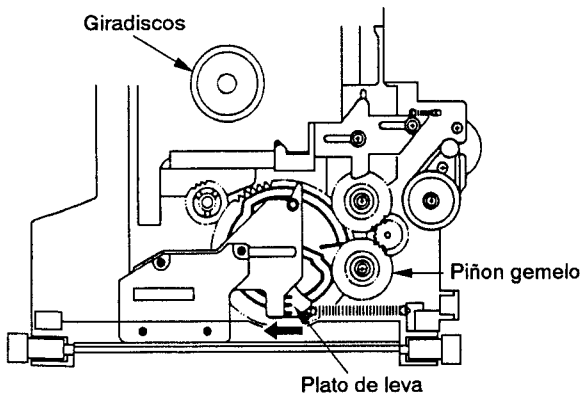
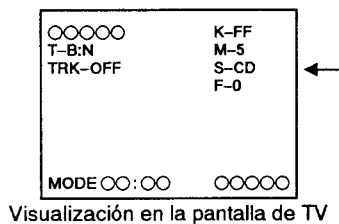


Fig. 4

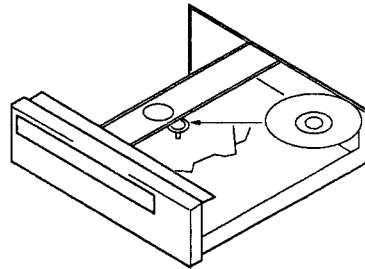
- ④ Presione la tecla ◀◀ o ▶▶ hasta que se muestre la visualización "S - CD" en la pantalla.
- ⑤ Presione la tecla PLAY (▶) y el disco se reproducirá normalmente.



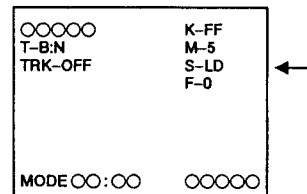
Visualización en la pantalla de TV

● **REPRODUCCION DE UN DISCO LASERICO**

- ① Ponga un disco lasérico sobre el giradiscos.



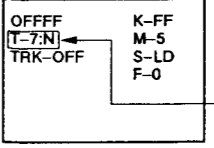
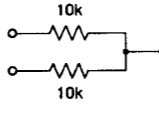
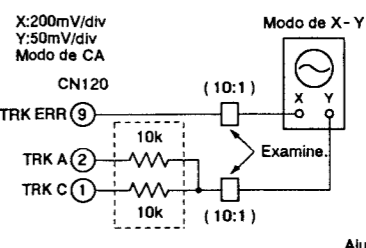
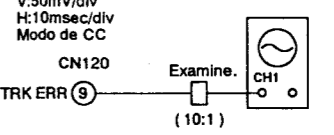
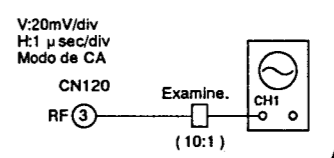
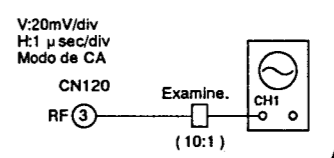
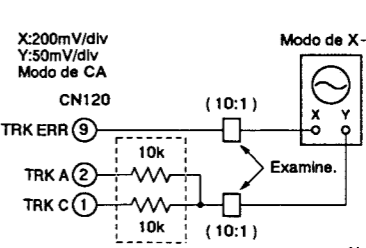
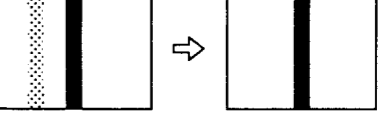
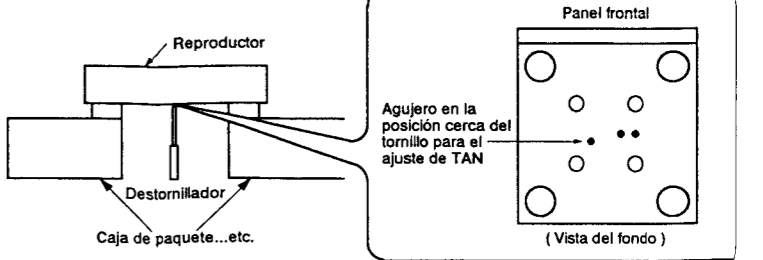
- ② Presione la tecla PLAY (▶) una vez.  
(El piñon gemelo se pone en marcha.)
- ③ Presione la tecla SKIP REV (◀◀) para levantar el giradiscos (sección del motor de eje) mientras que presiona el plato de leva (Fig. 4) en la dirección de la flecha. Levántelo en la posición en la que se pone el disco fácilmente sobre el giradiscos.  
Si se pone el giradiscos demasiado arriba, rebájelo con la tecla SKIP FWD (▶▶).
- ④ Ponga el disco lasérico sobre el giradiscos y presione la tecla PLAY (▶) una vez para enganchar el disco.
- ⑤ Presione la tecla ◀◀ o ▶▶ hasta que la visualización "S - LD" se muestre en la pantalla.



Visualización en la pantalla de TV

- ⑥ Presione la tecla PLAY (▶) dos veces, y el disco se reproducirá normalmente.

5.2 TABLA DE LOS AJUSTES

	Nombre de ajuste	Punto de ajuste	Equipo y instrumento de medida	Punto de medida	Estado del giradiscos	Procedimiento de ajuste	Forma de onda y diagrama de conexión
1	Comprobación y ajuste de desviación de inclinación	VR607	• Monitor de TV	Indicación de inclinación en la pantalla del modo de prueba	• Alimentación ON • Modo de prueba • No se instala el disco.	<ol style="list-style-type: none"> <li>1. Compruebe que la indicación sobre la pantalla del modo de prueba está en T-6 a T-8.</li> <li>2. Si la indicación no se quede en T-6 a T-8, ajuste VR607 hasta que la indicación de inclinación alcance a T-6 a T-8.</li> </ol>	 <p>Ajuste VR605 mientras observando la figura en la pantalla del modo de comprobación.</p>
2	Ajuste aproximado del centrado	Tornillo de ajuste del centrado de base de inclinación	<ul style="list-style-type: none"> <li>• Osciloscopio</li> <li>• STD-901 o STD-902</li> <li>• Resistor de MIX</li> </ul> 	CN120 X: ③ Clavija ( TRK ERR ) Y: ① + ② Clavija ( TRK SUM )	<ul style="list-style-type: none"> <li>• Modo de comprobación</li> <li>Servo de TRK: Abierto</li> <li>Servo de inclinación: ON</li> <li>• Pista más interior de STD-901 o STD-902 que no se toca al taponador</li> </ul>	<ol style="list-style-type: none"> <li>1. Mueva el deslizador hasta que no toque al taponador mecánico en la posición indicada como S-IN.</li> <li>2. Observe TRK ERR (canal X) y TRK SUM (canal Y) en el modo de X-Y mientras que está abierto el servo de TRK.</li> <li>3. Haga girar el tornillo para el ajuste del centrado hasta que la figura de Lissajous esté horizontal.</li> </ol>	 <p>Ajuste hasta que la figura de Lissajous esté horizontal.</p>
3	Ajuste de equilibrio de foco (1) TRK ERR MAX	VR605	<ul style="list-style-type: none"> <li>• Osciloscopio</li> <li>• STD-901 o STD-902</li> </ul>	CN120 ③ Clavija ( TRK ERR )	<ul style="list-style-type: none"> <li>• Modo de prueba</li> <li>Servo de TRK: Abierto</li> <li>Servo de inclinación: ON</li> <li>• Pista más interior de STD-901 o STD-902</li> </ul>	<ol style="list-style-type: none"> <li>1. Observe TRK ERR en CH1 del osciloscopio mientras que está abierto el servo de TRK.</li> <li>2. Ajuste VR605 hasta que la forma de onda de la amplitud alcance a su máxima.</li> </ol>	 <p>Ajuste hasta que la amplitud alcance a su máxima.</p>
4	Ajuste de equilibrio de foco (2) RF MAX	VR606	<ul style="list-style-type: none"> <li>• Osciloscopio</li> <li>• STD-901 o STD-902</li> </ul>	CN120 ③ Clavija ( RF )	<ul style="list-style-type: none"> <li>• Modo de prueba</li> <li>Servo de TRK: Cerrado</li> <li>Servo de inclinación: ON</li> <li>• Pista más interior de STD-901 o STD-902</li> </ul>	<ol style="list-style-type: none"> <li>1. Cierre el servo de TRK y observe RF en CH1 del osciloscopio.</li> <li>2. Ajuste VR606 hasta que la forma de onda de la amplitud alcance a su máxima y se quede muy clara la cubierta.</li> </ol>	 <p>Ajuste hasta que la amplitud alcance y la cubierta se quede muy clara.</p>
5	Ajuste del ángulo del sentido tangencial	Tornillo de ajuste de TAN de la base de inclinación	<ul style="list-style-type: none"> <li>• Osciloscopio</li> <li>• STD-901 o STD-902</li> </ul>	CN120 ③ Clavija ( RF )	<ul style="list-style-type: none"> <li>• Modo de prueba</li> <li>Servo de TRK: Cerrado</li> <li>Servo de inclinación: ON</li> <li>• Pista más interior de STD-901 o STD-902</li> </ul>	<ol style="list-style-type: none"> <li>1. Observe RF en CH1 del osciloscopio mientras que está cerrado el servo de TRK.</li> <li>2. Ajuste el tornillo para el ajuste de TAN hasta que la forma de onda de la amplitud alcance a su máxima y se quede muy clara la cubierta.</li> </ol>	 <p>Ajuste hasta que la amplitud alcance y la cubierta se quede muy clara.</p>
6	Ajuste fino del centrado	Tornillo de ajuste del centrado de base de inclinación	<ul style="list-style-type: none"> <li>• Osciloscopio</li> <li>• STD-901 o STD-902</li> </ul>	CN120 X: ③ Clavija ( TRK ERR ) Y: ① + ② Clavija ( TRK SUM )	<ul style="list-style-type: none"> <li>• Modo de prueba</li> <li>Servo de TRK: Abierto</li> <li>Servo de inclinación: ON</li> <li>• Pista más interior de STD-901 o STD-902 que no toca al taponador</li> </ul>	Haga el ajuste fino del centrado siguiendo el procedimiento mismo que se explica en la sección "(2) Ajuste aproximado del centrado".	 <p>Ajuste hasta que la figura de Lisajous esté horizontal.</p>
7	Comprobación de diafonía y ajuste de desviación de inclinación	VR607	<ul style="list-style-type: none"> <li>• Monitor de TV</li> <li>• GGV1003</li> </ul>	Pantalla de comprobación de diafonía	<ul style="list-style-type: none"> <li>• Modo de prueba</li> <li>Servo de TRK: Cerrado</li> <li>Servo de inclinación: ON</li> <li>• GGV1003</li> <li>Número 115 STILL</li> </ul>	<ol style="list-style-type: none"> <li>1. Busque el domicilio 115 de GGV1003 y establézcalo.</li> <li>2. Compruebe la diafonía. Si la diafonía está pronunciada, ajuste VR607 hasta que la diafonía no esté notable.</li> </ol>	 <p>Si la diafoía está pronunciada, ajústela hasta que no esté notable.</p>
7	Cuando la diafonía todavía está notable aun después del ajuste en (7), use una llave inglesa hexagonal (tipo recto, tamaño: 3mm) para ajustar el tornillo para el ajuste de TAN situado en el fondo del reproductor observando la pantalla de GGV1003 número 115 STILL. Después, haga los procedimientos desde (6).					 <p>Panel frontal Agujero en la posición cerca del tornillo para el ajuste de TAN ( Vista del fondo )</p>	

	Nombre de ajuste	Punto de ajuste	Equipo y instrumento de medida	Punto de medida	Estado del giradiscos	Procedimiento de ajuste	Forma de onda y diagrama de conexión
8	Ajuste de la ganancia del bucle de servo de foco	VR604	<ul style="list-style-type: none"> <li>Osciloscopio</li> <li>GGV1003</li> <li>Oscilador de AF</li> <li>Resistor (47kΩ)</li> </ul>	CN120 X: ⑦ Clavija ( FCS IN ) Y: ⑥ Clavija ( FCS ERR )	<ul style="list-style-type: none"> <li>Modo de prueba</li> <li>Servo de TRK: Cerrado</li> <li>Servo de inclinación: ON</li> <li>GGV1003</li> <li>Número 15000 STILL</li> </ul>	<ol style="list-style-type: none"> <li>Busque el domicilio 15000 de GGV1003 y establézcalo.</li> <li>Canal X: Conecte el resistor (47 kΩ) al canal y a FCS IN. Canal Y: Conecte a FCS ERR.</li> <li>Conecte el oscilador AF entre el canal X y el resistor de 47 kΩ, y ajuste VR604 hasta que la figura de Lissajous esté simétrica.</li> </ol>	<p>X:200mV/div Y:20mV/div Modo de CC</p> <p>Modo de X-Y</p> <p>Ajuste hasta que la figura de Lissajous esté simétrica.</p>
9	Ajuste de la ganancia del bucle de servo de seguimiento	VR601	<ul style="list-style-type: none"> <li>Osciloscopio</li> <li>GGV1003</li> <li>Oscilador de AF</li> <li>Resistor (47kΩ)</li> </ul>	CN120 X: ⑩ Clavija ( TRK IN ) Y: ⑨ Clavija ( TRK ERR )	<ul style="list-style-type: none"> <li>Modo de prueba</li> <li>Modo de parada o Servo de TRK: Cerrado</li> <li>Servo de inclinación: ON</li> <li>GGV1003</li> <li>Número 15000 STILL</li> </ul>	<ol style="list-style-type: none"> <li>Canal X: Conecte el resistor de 47 kΩ y a TRK IN. Canal Y: Conecte a TRK ERR.</li> <li>Conecte el oscilador de AF entre el canal X y el resistor de 47 kΩ y anote el ángulo de inclinación hasta la línea horizontal en el estado de parada.</li> <li>Busque el domicilio 15000 de GGV1003 y establézcalo.</li> <li>Ponga en el modo de PLAY (Servo de TRK cerrado, y TILT ON.) Ajuste VR603 para que el ángulo de inclinación de la forma de onda esté mismo que el ángulo de inclinación anotado en el procedimiento 3.</li> </ol>	<p>X:200mV/div Y:10mV/div Modo de CC</p> <p>Modo de X-Y</p> <p>Ajuste hasta que la figura de Lissajous esté simétrica.</p>
10	Ajuste del nivel de RF	VR601	<ul style="list-style-type: none"> <li>Osciloscopio</li> <li>GGV1003</li> </ul>	CN120 ③ Clavija ( RF )	<ul style="list-style-type: none"> <li>Modo de prueba</li> <li>Servo de TRK: Cerrado</li> <li>Servo de inclinación: ON</li> <li>GGV1003</li> <li>Número 15000 STILL</li> </ul>	<ol style="list-style-type: none"> <li>Busque el domicilio 15000 de GGV1003 y establézcalo. Observe RF en CH1 del osciloscopio.</li> <li>Ajuste VR601 hasta que la amplitud de RF esté 300 mV ± 50mVp-p.</li> </ol>	<p>V:10mV/div H:2msec/div Modo de CA</p> <p>300mVp-p ± 50mV</p>
11	Ajuste del reloj degenerador para la señal sincrónica	VC401	<ul style="list-style-type: none"> <li>Contador de frecuencia</li> </ul>	R558 Alambre de conducción (No el lado de conexión)	<ul style="list-style-type: none"> <li>Alimentación ON</li> <li>Modo de parada</li> </ul>	Ajuste la frecuencia del reloj ( 17.734475MHz ) ± 100Hz.	<p>Contador de frecuencia</p>
12	Ajuste de REF-H	VC901	<ul style="list-style-type: none"> <li>Contador de frecuencia</li> </ul>	R667 Alambre de conducción ( IC601 ( PM3002 ) ⑧ Lado de clavija )	<ul style="list-style-type: none"> <li>Alimentación ON</li> <li>Modo de parada</li> </ul>	Ajuste FCS (3.5546875 MHz) ± 25 Hz.	<p>Contador de frecuencia</p>
13	Ajuste de frecuencia central de VCO	VR481	<ul style="list-style-type: none"> <li>Osciloscopio</li> <li>GGV1007</li> </ul>	CH1: C405 Alambre de conducción CH2: C499 Alambre de conducción	<ul style="list-style-type: none"> <li>Modo normal</li> <li>GGV1007</li> <li>Número 15000 STILL</li> </ul>	Ponga un gatillo en el canal 1 y ajuste hasta que el centro de la fluctuación de la señal del canal 2 esté 75 μ segundo (1H + 11 ± segundo) ± 2 μ segundo comparado con la señal de video del canal 1.	<p>V:20mV/div ( CH1 ) 20mV/div ( CH2 ) H:10 μ sec/div ( Gatillo ) Modo de CA</p> <p>11 μ S 75 μ S</p> <p>"Jitter" causado por excentricidad</p>
14	Ajuste del nivel de video	VR482	<ul style="list-style-type: none"> <li>Monitor de TV</li> <li>Osciloscopio</li> <li>GGV1007</li> </ul>	Terminal de la salida de video	<ul style="list-style-type: none"> <li>Modo normal</li> <li>GGV1007</li> <li>Números 5251 a 6000 PLAY</li> </ul>	Conecte un resistor de 75 Ω al terminal de salida de VIDEO (posible por conectando al monitor) y ajuste hasta que la microplaqueta sincrónica al nivel blanco de 100 % esté 1 Vp-p 5 % a la señal blanca (100 %).	<p>Salida de video</p> <p>Nivel de video</p> <p>Osciloscopio</p> <p>1.0Vp-p ± 5%</p> <p>Gama de osciloscopio V:20mV/div 10 μ sec/div ( Gatillo ) Modo CA</p> <p>Visualización en la pantalla de TV</p>

	Nombre de ajuste	Punto de ajuste	Equipo y instrumento de medida	Punto de medida	Estado del giradiscos	Procedimiento de ajuste	Forma de onda y diagrama de conexión
15	Ajuste del nivel de video 1H DLY	VR441	<ul style="list-style-type: none"> <li>Osciloscopio</li> <li>GGV1007</li> </ul>	CH1: C443 Alambre de conducción CH2: C445 Alambre de conducción	<ul style="list-style-type: none"> <li>Modo normal</li> <li>GGV1007</li> <li>Número 5300 STILL</li> </ul>	Ajuste hasta que la microplaqueta sincrónica al nivel blanco de 100 % en la señal blanca (100%) esté la misma que en CH1 y CH2.	<p>V:20mV/div ( CH1 )                      20mV/div ( CH2 )                      H:10 <math>\mu</math> sec/div ( Gatillo )                      Modo de CA</p>
16	Ajuste del nivel de error de VPS	VR521	<ul style="list-style-type: none"> <li>Monitor de TV</li> <li>GGV1007</li> </ul>	Monitor de TV	<ul style="list-style-type: none"> <li>Modo normal</li> <li>GGV1007</li> <li>Números 6001 a 6750 PLAY (Pantalla majenta)</li> </ul>	Ajuste hasta que la irregularidad en color en la pantalla majenta se disminuya.	<p>La irregularidad en color se disminuya.</p>
17	Ajuste del nivel de video de MOD	VR102	<ul style="list-style-type: none"> <li>Osciloscopio</li> <li>GGV1007</li> </ul>	CH1: C118 Alambre de conducción CH2: C122 Alambre de conducción	<ul style="list-style-type: none"> <li>Modo normal</li> <li>GGV1007</li> <li>Número 5300 STILL</li> </ul>	Ajuste hasta que la microplaqueta sincrónica al nivel blanco de 100% en la señal blanca (100%) esté la misma que en CH1 y CH2.	<p>V:20mV/div ( CH1 )                      20mV/div ( CH2 )                      H:10 <math>\mu</math> sec/div                      Modo de CA</p>
18	Ajuste de sub portador con retraso de 1H (hora)	VR101	<ul style="list-style-type: none"> <li>Osciloscopio</li> <li>GGV1007</li> </ul>	CH1: C118 Alambre de conducción CH2: C122 Alambre de conducción	<ul style="list-style-type: none"> <li>Modo normal</li> <li>GGV1007</li> <li>Número 5100 STILL</li> </ul>	Ajuste hasta que la señal de croma en la señal majenta esté misma en CH1 y CH2.	<p>V:20mV/div ( CH1 )                      20mV/div ( CH2 )                      H:10 <math>\mu</math> sec/div ( Gatillo )                      Modo de CA</p>

## 6. IC INFORMATION

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

### 6.1 PD0135A1 (IC101)

#### • Mechanism control IC

#### ● Pin Function

No.	Pin Name	I/O	Function
1	VCC	—	Power supply connection pin. Set to 5V ± 10%.
2	DIRECT	O	CD DIRECT video system power OFF signal output pin "H"=video system power OFF, "L"=ON
3	N.C.	—	Not used.
4	LD ON	O	Laser video ON/OFF switching signal output H: ON, L: OFF
5	TGH	O	Tracking operation control signal output pin The control signal supports ON/OFF of the tracking servo - mechanism operation. "H"=OFF, "L"=ON
6	SLDR POS	I	Pickup position detection switch input pin ( analog signal ) Divides the resistance among the switches, reads the value of the A/D input, and detects the position.
7	FREQ DET	I	RF detection signal input pin ( analog signal ) Inputs the A/D conversion of the RF detection output and is used in the spindle luff servo - mechanism. Voltage and frequency are proportional.
8	TBAL ERR	I	Tracking balance error signal input pin ( analog signal ) Signal is A/D converted and is input as the tracking offset control.
9	TILT ERR	I	Tilt sensor output signal input pin ( analog signal ) Inputs ( 0 to 5V ) the tilt sensor output amplified to a 40 to 50dB signal. The signal is A/D converted and is input as the tilt sensor control. Controls the tilt motor until the signal is 2.5V.
10	CAV	O	CAV/CLV switching signal output pin "H"=CAV, "L"=CLV Connected to pin 6 of PA5013A and used as a VIDEO NR switching signal.
11	GFS	I	CD ( EFM signal ) frame lock signal input pin Connected to pin 12 of the EFM decoder IC: CXD2500AQ. "H"=Lock, "L"=Unlock GFS is an abbreviation for Good Frame Sync.
12	TBAL DRV	O	Tracking offset control signal output pin Outputs the tracking offset after PWM and is used in auto tracking offset. Cycle: 910 μ sec; 3 - value control H, L, Z.
13	SQ2	O	Analog audio switching signal output pin 2/R Squelch: H
14	SQ1	O	Analog audio switching signal output pin 1/L Squelch: H When in digital audio mode, the signal is output through the control of the EFM decoder IC: CXD2500AQ.
15	SI2	I	EFM decoder IC: CXD2500AQ subcode input pin Reads the subcodes of SCK2 and the signal.
16	XLAT2	O	EFM decoder IC: CXD2500AQ control latch signal output pin Sends the control command using SO3 and 2500CLK.
17	SCK2	O	EFM decoder IC: CXD2500AQ subcode read clock signal output pin Sets the clock to 96 and reads the subcode.
18	TILT DRV	O	Tilt control signal output pin Outputs the tilt drive after PWM and is used in tilt servo - mechanism.
19	S-FTOM	I	Input pin of data from the mode control IC Serial Used with the data signal to the carriage generating IC.
20	S-MTOM	O	Serial data output to the mode control IC Serial



No.	Pin Name	I/O	Function
21	SCK1	I/O	Clock for serial communication with the mode control IC In the input mode except during serial communication with the mode control IC Used with the clock signal to the carriage generating IC
22	SENS	I	SENS signal input pin All of the following signals from 2500 are switched and are output to the signal: SEIN, FZC, A.S, TZC, XBUSY, FOK, GFS, COMP, COUT and OV64.
23	SCOR	I	Subcode SYNC signal input pin Inputs the subcode signal from the EFM decoder IC: CXD2500AQ when the signal is "H". Supervises the disc playback depending on the presence of the signal.
24	N.C.	—	Not used.
25	SHAKE	I/O	Pin of hand shake signal for data communication with the mode control IC This pin is a bi-directional data path which sends the data transfer timing through the I/O mode switching of the respective microcomputers.
26	XPBV	I	LD/CDV playback V - SYNC signal input pin IC basically operates in sync hronization ( rising and leading edges ) with the signal. Setting the signal as standard in the special CAV playback mode, generates jump timing. "L"=V - SYNC ongoing
27	CN VSS	—	GND for A/D conversion
28	XRESET	I	Reset signal input pin "L"=Reset, "H"=Cancel reset
29	XTAL IN	I	9MHz clock generation input pin
30	XTAL OUT	O	9MHz clock generation output pin
31	FTS CLK	O	φ external clock output pin Outputs a clock which is one-fourth of the master clock ( 9MHz ) used in the FTS IC: PM3003. 2.25MHz Does not output when using an FTS IC other than PM3003
32	VSS	—	GND
33	SW1	I	Loading/tilt position detection switch input pin
34	SW2	I	Loading/tilt position detection switch input pin
35	SW3	I	Loading/tilt position detection switch input pin
36	N.C.	I	Not used Processing needed when used for input
37	FG	I	Spindle motor - FG signal input pin 24 pulses per signal Divided into thirds and used inside the microcomputer.
38	DATA	I	Input pin for Phillips code decoder in the mechanism controller
39	XPBH	I	Playback H - SYNC input for Phillips code decoder
40	XPBV	I	Playback V - SYNC input for Phillips code decoder
41	GI. MIRR	O	False MIRR signal output pin to jump 1 track for LD.
42	N.C.	—	Not used
43	N.C.	—	Not used
44	MUTE	O	Audio system audio mute control output pin "H"=MUTE ON, "L"=MUTE OFF
45	16:9	O	16:9 switching signal output pin 16:9 "H", 4.3 ( Nomal ) "L"
46	T LATCH	O	DAC & Digital PD2026 serial control latch signal output pin
47	N.C.	—	Not used
48	N.C.	—	Not used
49	N.C.	—	Not used
50	2500CLK	O	2500 command clock signal output pin The commands for 2500 are the following: 2500CLK; SO3 and XLAT2.
51	RFCORR	O	RF correction switching signal output pin "H"=gain up. Increases gain ( # 8000 to # 8100 ) within the CAV.

No.	Pin Name	I/O	Function
52	SCAN CONT	O	TBC control signal output pin H: multi-track jump ongoing, L: others
53	CD	O	CD/LD switching signal output pin H: CD, CDV-A, L: LD, CDV-V
54	ACC CONT	O	Spindle acceleration signal output pin H=acceleration, L=deceleration, Z=CD, stop and play
55	GPWM	O	Spindle gain switching duty pulse signal output pin CLV inner circumference: L, outer circumference: H, CAV: L, CDV: H
56	J. TRIG	O	Track jump signal output pin Used for single track jump H: start of track, L: others, Width of "H": approx. 20 $\mu$ sec
57	SCK3	O	Serial 3 clock signal output pin Reads the leading edge "H"=within 2 $\mu$ sec, "L"=within 20 $\mu$ sec
58	SO3	O	Serial 3 data signal output pin With the serial signal as the common signal, divides the signals into three types of latch signals ( XLAT3, XLAT2 and T LATCH ). LSB first
59	XLATCH3	O	Spindle servo-mechanism IC latch signal output pin
60	J F/R	O	CLV V-SYNC scan mode signal output pin
61	VSQ	O	Video output switching signal output pin "H"=squelch, "L"=playback video
62	XPLAY	I	Usually, held "L" in PLAY mode.
63	N.C.	-	Not used.
64	XSPLOCK	I	Spindle lock signal input pin L: lock, H: unlock

6.2 PD3214A (IC201)

• Mode control IC

● Pin Function

No.	Pin Name	Signal name	I/O	Function
1	PO4/AN4	N.C.	I	Not used
2	PO5/AN5	N.C.	I	Not used
3	PO6/AN6	N.C.	I	Not used
4	PO7/AN7	N.C.	I	Not used
5	AVss	AVss	-	Connected to standard power supply ( Vss ) for A/D conversion
6	TEST	TEST	I	Test pin Connected to Vss
7	X2	X2	O	Subclock Release
8	X1	X1	I	Subclock Connected to Vcc
9	Vss	Vss	-	Ground
10	OSC1	OSC1	I	System clock Connects 8MHz ceramic lock
11	OSC2	OSC2	I	System clock Connects 8MHz ceramic lock
12	$\overline{\text{RESET}}$	$\overline{\text{RESET}}$	I	Reset
13	P10/IRQ0	SHAKE	I/O	Communication timing clock with mechanism control
14	P11/ $\overline{\text{IRP1}}$	SEL IR	I	Remote control signal ( including SR )
15	P12/ $\overline{\text{IRQ2}}$	W.D.F	O	For watchdog timer pulse output 
16	P13/ $\overline{\text{IRQ3}}$	POWER On	O	Power ON  Power OFF
17	P14/IRQ4	N.C.	O	Not used
18	P15/ $\overline{\text{IRQ5}}$	N.C.	O	Not used
19	P16/EVENT	N.C.	I	Not used
20	P33/FS27	N.C.	O	Not used
21	P32/FS26	N.C.	O	Not used
22	P31/FS25	N.C.	O	Not used
23	P30/FS24	STANDBY LED	O	Standby LED drive output
24	P47/FS23	N.C.	O	Not used
25	P46/FS22	N.C.	O	Not used
26	P45/FS21	N.C.	O	Not used
27	P44/FS20	N.C.	O	Not used
28	P43/FS19	seg l/KS3	O	FL segment l output and key scan 3 output
29	P42/FS18	seg k/KS2	O	FL segment k output and key scan 2 output
30	P41/FS17	seg j/KS1	O	FL segment j output and key scan 1 output
31	P40/FS16	seg i/KS0	O	FL segment i output and key scan 0 output
32	P50/FS15	seg h	O	FL segment h output
33	P51/FS14	seg g	O	FL segment g output
34	P52/FS13	seg f	O	FL segment f output
35	P53/FS12	seg e	O	FL segment e output



No.	Pin Name	Signal name	I/O	Function
36	P54/FS11	seg d	O	FL segment d output
37	P55/FS10	seg c	O	FL segment c output
38	P56/FS9	seg b	O	FL segment b output
39	P57/FS8	seg a	O	FL segment a output
40	P17/Vdisp	-30V	-	FL drive power supply
41	P60/FD0/FS7	G9	O	FL grid 9 output
42	P61/FD1/FS6	G8	O	FL grid 8 output
43	P62/FD2/FS5	G7	O	FL grid 7 output
44	P63/FD3/FS4	G6	O	FL grid 6 output
45	P64/FD4/FS3	G5	O	FL grid 5 output
46	P65/FD5/FS2	G4	O	FL grid 4 output
47	P66/FD6/FS1	G3	O	FL grid 3 output
48	P67/FD7/FS0	G2	O	FL grid 2 output
49	P70/FD8	G1	O	FL grid 1 output
50	P71/FD9	N.C.	O	Not used
51	P72/FD10	N.C.	O	Not used
52	P73/FD11	N.C.	O	Not used
53	P74/FD12	N.C.	O	Not used
54	P75/FD13	D.CD LED	O	DIRECT CD LED drive output
55	P76/FD14	S-SCAN	I/O	SHUTTER SCAN output
56	P77/FS15	N.C.	O	Not used
57	Vcc	Vcc	-	Power supply
58	P80	KIN0	I	Key input 0
59	P81	KIN1	I	Key input 1
60	P82	KIN2	I	Key input 2
61	P83	KIN3	I	Key input 3
62	P84	KIN4	I	Key input 4
63	P85	KIN5	I	Key input 5
64	P86	KIN6	I	Key input 6
65	P87	N.C.	-	Not used
66	P90/PWM	SYNCHRO OUT	O	SYNCHRO REC output
67	P91/SCK1	XSCK	I/O	Communication clock with mechanism control/OSD
68	P92/SI1	SI	I	Receive data from mechanism control
69	P93/SO1	SO	O	Send data to mechanism control/OSD
70	P94/SCK2	XRESET	O	RESET output from other than mechanism control/OSD
71	P95/S12/CS	XSC	O	OSD chip select
72	P96/SO2	SYNCHRO IN	I	SYNCHRO REC input
73	P97/UD	1700/700	I	Switching input for 1700/700 H: 1700, L: 700
74	PA0	N.C.	O	Not used
75	PA1	N.C.	O	Not used
76	AVcc	AVcc	-	Connection to Vcc of standard power supply for A/D conversion
77	P00/AN0	N.C.	O	Not used
78	P01/AN1	N.C.	O	Not used
79	P02//AN2	N.C.	O	Not used
80	P03/AN3	N.C.	O	Not used

## 7. FOR CLD - 700 / HEZ AND HB

**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 - 700 / HEZ, HB and CLD - 1700 / HEZ have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		CLD - 1700 / HEZ	CLD - 700 / HEZ	CLD - 700 / HB	
⊙	MOTHER assembly	VWM1276	VWM1264	VWM1264	
NSP	MAIN assembly	VWX1123	VWX1116	VWX1116	
NSP	AUDIO assembly	VWX1124	VWX1117	VWX1117	
⊙	FLKB assembly	VWM1278	VWM1277	VWM1277	
NSP	FLKY assembly	VWG1336	VWG1335	VWG1335	
NSP	HEPB assembly	VWV1254	.....	.....	
⊙	SYPS assembly	VWR1146	VWR1146	VWR1147	
⊙	SCRB assembly	VWV1248	VWV1255	VWV1255	
$\Delta$	AC power cord	VDG1028	VDG1028	VDG1029	
	Euro scart cable	VDE1027	.....	.....	
	Video cable	.....	VDE-056	VDE-056	
NSP	Packing case	VHG1228	VHG1226	VHG1226	
	Rear panel	VNA1278	VNA1276	VNA1277	
	Snap plate	VNE1102	.....	.....	
	Jack holder	VNE1811	.....	.....	
	Volume knob	VNK2003	.....	.....	
	Operating instructions ( English / French / German / Italian )	VRE1010	VRE1011	.....	
	Operating instructions ( Dutch / Swedish / Spanish / Portuguese )	VRF1017	VRF1018	.....	
	Operating instructions ( English )	.....	.....	VRB1071	
	Front panel assembly	VXA1867	VXA1866	VXA1866	
	Remote control unit (CU-CLD077)	VXX1758	.....	.....	
	Remote control unit (CU-CLD072)	.....	VXX1751	VXX1751	
	Battery cover	VNK1293	PZN1010	PZN1010	
NSP	Caution card ( UC )	.....	.....	VRM1026	
NSP	Caution card ( EW )	VRM1027	VRM1027	.....	

### LIST OF ASSEMBLIES (FOR CLD-700/HEZ AND HB)

- FLKB assembly
  - └ PSWB assembly
  - └ FLKY assembly



**SCRB assembly**

VW1255 and VWV1248 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		VWV1248	VWV1255	
	IC101	TC74HC74AP	.....	
	IC102	TC74HC00AP	.....	
	IC103	BU4053B	.....	
	Q101-Q110	2SC1740S	.....	
	L101, L102	LFA120K	.....	
	L103, L104	LAU8R2J	.....	
	L105	LAU330J	.....	
	F101	VTF1034	.....	
	F102	VTF1011	.....	
	C101, C103, C120-C123, C126, C127, C129, C158	CEAS470M10	.....	
	C102, C104-C108, C111, C112, C125, C128, C130	CKPUYY103N16	.....	
	C109	CCCCH100D50	.....	
	C110	CCCCH270J50	.....	
	C113, C114	CKCYB681K50	.....	
	C117-C119	CEANP220M10	.....	
	C155	CEAS100M50	.....	
	VR101	VRTB6VS471	.....	
	VR102	VRTB6VS472	.....	
	R101, R102, R124, R125, R127	RD1/6PM102J	.....	
	R103, R107, R118, R122, R130	RD1/6PM101J	.....	
	R104, R108, R110, R111, R119, R123, R131	RD1/6PM222J	.....	
	R105, R106	RD1/6PM391J	.....	
	R109	RD1/6PM122J	.....	
	R112, R113, R120, R121	RD1/6PM223J	.....	
	R114	RD1/6PM333J	.....	
	R115	RD1/6PM153J	.....	
	R116, R117	RD1/6PM471J	.....	
	R126	RD1/6PM561J	.....	
	R128, R132-R134	RD1/6PM472J	.....	
	R129	RD1/6PM221J	.....	
	R135	RD1/6PM470J	.....	
	R136, R137	RD1/6PM121J	.....	
	R138	RD1/6PM2R2J	.....	
	DL101	DTF1033	.....	

**FLKY assembly**

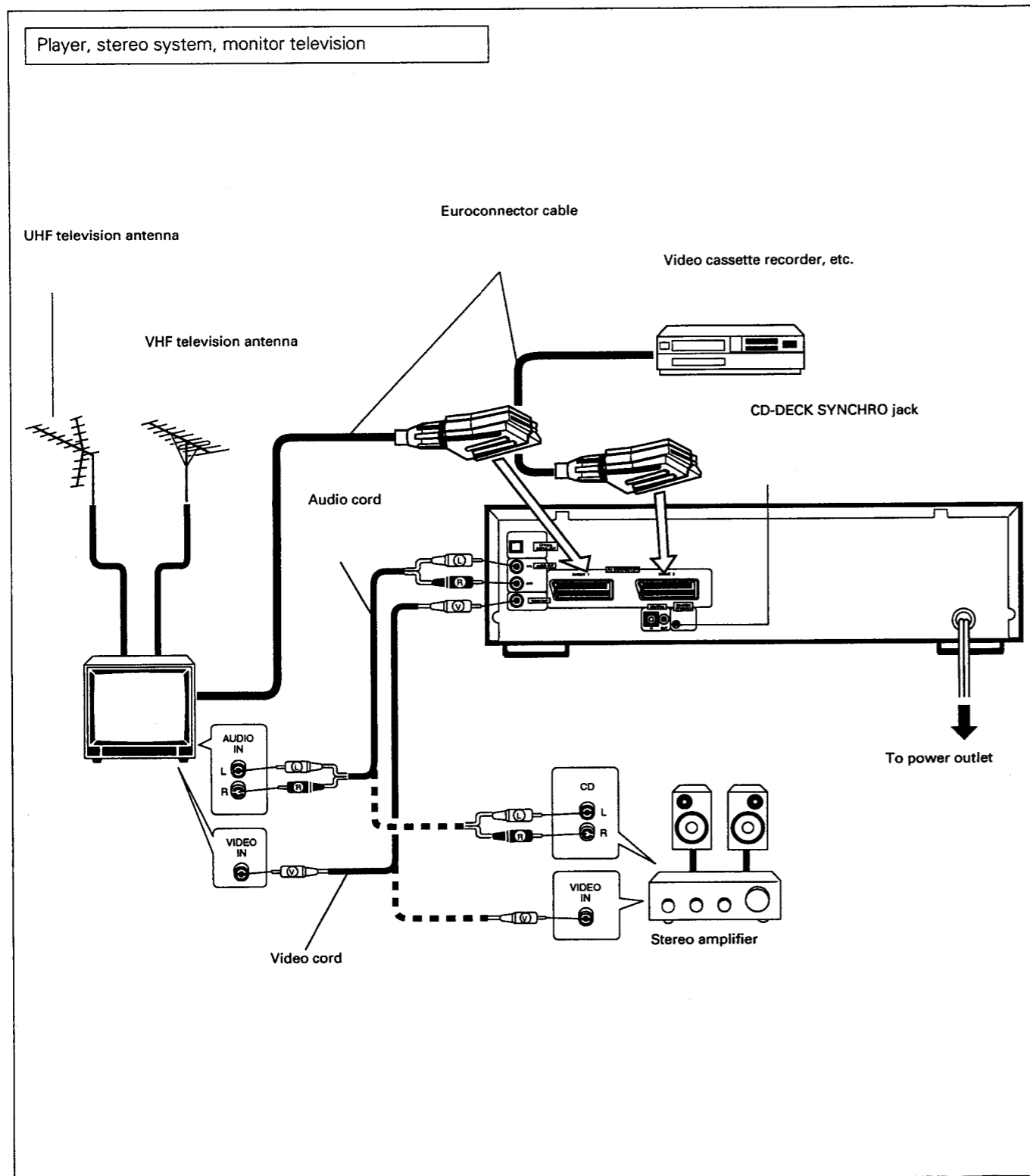
Although VWG1335 and VWG1336 are different in part number, they consist of the same components.

**SYPS assembly**

Although VWR1147 and VWR1146 are different in part number, they consist of the same components.

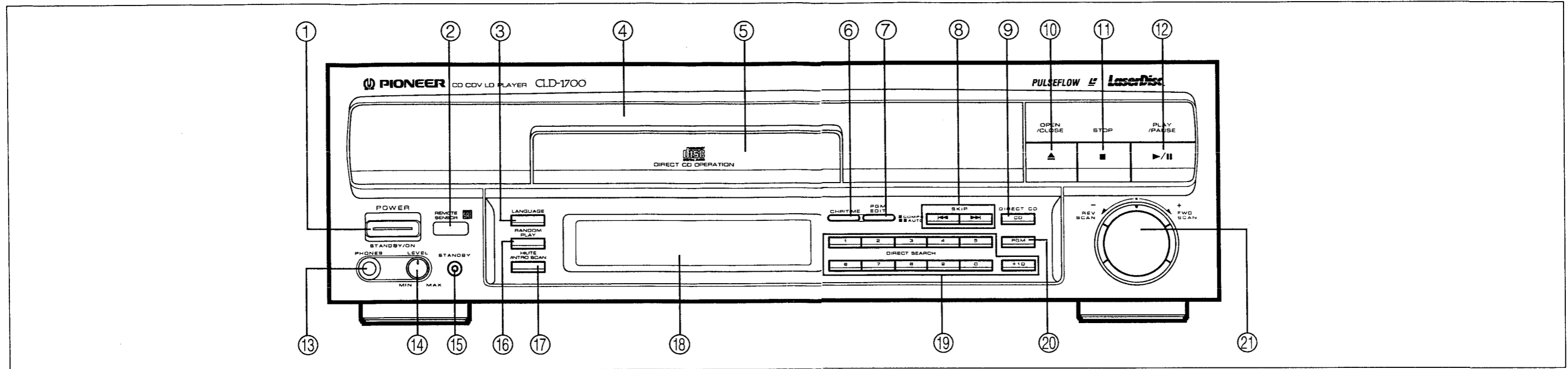
## 8. CONNECTIONS

### USING TELEVISION WITH AUDIO AND VIDEO JACKS



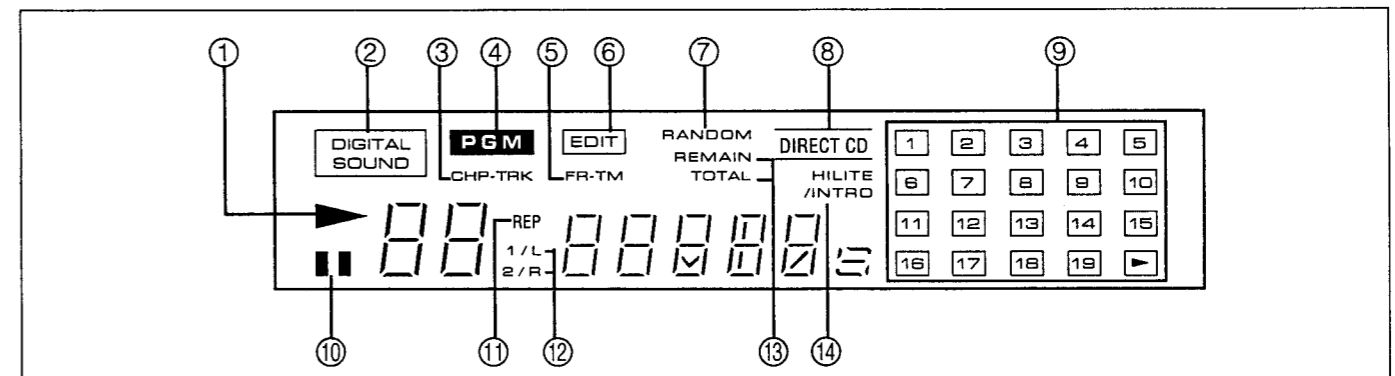
- Connect the VIDEO OUT jack of the player to the video input jack of the monitor television.
- Connect the AUDIO OUT jacks to the stereo amplifier AUX, CD, LD, VDP or other jacks, except the PHONO input jacks. The television speakers can also be used by connecting the television audio input jacks and the player AUDIO OUT jacks, however connection to a stereo amplifier is recommended to obtain superior audio playback quality for Compact Discs and LaserVision Discs. Do not change the television antenna connections.
- When using a video TV monitor (or TV) with AV CONNECTOR terminal, connect the AV CONNECTOR terminal to the AV CONNECTOR IN/OUT terminal of the player. Use supplied Euroconnector cable.
- Connect the power cord to an AC wall outlet.
- Combined system control is possible when a Pioneer television and audio/video stereo receiver are connected. Refer to page 28 for an explanation of the connection procedure.
- When making connections to stereo amplifier equipped with a built-in D/A converter and an optical digital jack, refer to the connection instructions.
- When using a video cassette recorder with AV CONNECTOR terminal, connect the AV CONNECTOR terminal to the AV CONNECTOR IN/OUT terminal of the player. When a TV has been connected to the player using the AV CONNECTOR terminal and the power cord is plugged to an AC outlet, signals from the video cassette recorder are fed to the TV set via the player while the player is turned off.
- When using wide aspect type TV (16:9), be sure to connect the AV CONNECTOR terminal to the AV CONNECTOR IN/OUT terminal of the player.

## 9. PANEL FACILITIES



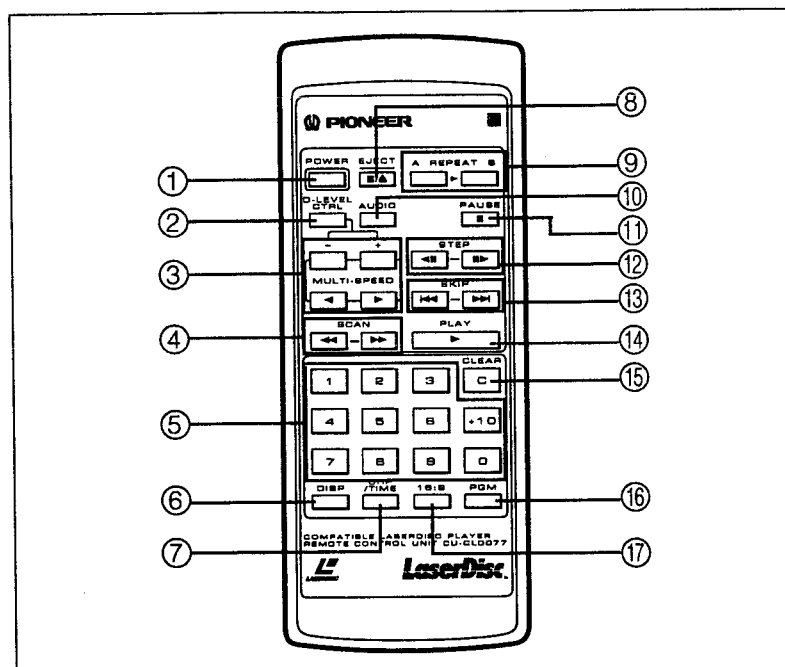
- ① **POWER STANDBY/ON switch**  
Press to turn the power on and off.
- ② **REMOTE SENSOR**
- ③ **LANGUAGE button**
- ④ **Disc table**
- ⑤ **CD disc table**
- ⑥ **CHP/TIME button**
- ⑦ **PGM EDIT button**
- ⑧ **SKIP buttons**
- ⑨ **DIRECT CD button**
- ⑩ **OPEN/CLOSE button**
- ⑪ **STOP button**
- ⑫ **PLAY/PAUSE button**
- ⑬ **PHONES jack**
- ⑭ **PHONES LEVEL control**  
Turn this control in the "MAX" direction to increase the output level from the PHONES jack. Turn this control in the "MIN" direction to decrease the output level from the PHONES jack.
- ⑮ **STANDBY indicator**
- ⑯ **RANDOM PLAY button**
- ⑰ **HILITE/INTRO SCAN button**
- ⑱ **Display window**
- ⑲ **DIRECT SEARCH/Digit buttons**
- ⑳ **PGM (program) button**
- ㉑ **SCAN control**

### Display window



- ① **▶ play indicator**  
Lights during play. Blinks during search.
- ② **DIGITAL SOUND indicator**  
Lights when the power is turned on. When an analog audio disc is played back, the indicator goes out.
- ③ **CHP-TRK indicator**  
Indicates the CHP (chapter) number or TRK (track) number.
- ④ **PGM indicator**  
Lights during program play and programming.
- ⑤ **FR-TM indicator**  
Indicates the FR (frame) number or TM (time).
- ⑥ **EDIT indicator**  
Lights when editing is performed.
- ⑦ **RANDOM indicator**  
Lights during random play.
- ⑧ **DIRECT CD indicator**
- ⑨ **Visual calendar**  
When a disc is loaded, all of the chapter/track numbers recorded on the disc light up on the display. If the disc contains more than 19 chapters/tracks, the ▶ indicator lights.  
During program play, only the programmed chapter/track numbers light. When a disc without a TOC section is played, only the selection number being played lights.  
When a CDV disc is loaded, the track numbers of the video part light followed by the track numbers of the audio part. After a chapter/track is finished playing, the corresponding number goes out.
- ⑩ **|| pause indicator**  
Lights when the player is in pause mode.
- ⑪ **REP indicator**  
Lights during repeat play.
- ⑫ **1/L, 2/R indicator**  
Indicates the audio output channel.
- ⑬ **REMAIN/TOTAL indicator**  
Indicates the REMAIN TIME (remaining play time) or TOTAL TIME (total play time).
- ⑭ **HILITE/INTRO indicator**  
Lights during Hi-Lite Scan or Intro Scan mode.

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.



- ① **POWER button**  
Press to turn the power on and off.
- ② **D-LEVEL CTRL button**
- ③ **MULTI-SPEED buttons**
- ④ **SCAN buttons**
- ⑤ **Direct search/Digit buttons**
- ⑥ **DISP button**
- ⑦ **CHP/TIME button**
- ⑧ **EJECT button**
- ⑨ **REPEAT A/B buttons**
- ⑩ **AUDIO button**
- ⑪ **PAUSE button**
- ⑫ **STEP buttons**
- ⑬ **SKIP buttons**
- ⑭ **PLAY button**
- ⑮ **CLEAR button**  
Used to clear the repeat mode, program mode, random play mode or hi-lite scan/intro scan mode. This button is also for use in correcting input digits.
- ⑯ **PGM (program) button**
- ⑰ **16:9 button**





## 7. Functions

Remote control unit operations (CU-CLD077)

	Function	Active play Disc (CAV)	Long 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*3	YES
	Intro scan	YES	YES	YES*4	NO
	Digital level control	YES*2	YES*2	YES	YES
	Audio channel selection (Stereo, 1/L, 2/R)	YES	YES	YES	YES

\*1 Only discs with TOC

\*2 Can only be used with discs with digital audio signal tracks.

\*3 Audio part only

\*4 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 Signal for LaserVision Discs
- Last Memory