

Pioneer

Service Manual



ORDER NO.
RRV2316

DVD PLAYER

DV-535

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

Type	Model	Power Requirement	Region No.	The voltage can be converted by the following method.
	DV-535			
WYXJ	○	AC220-240V	2	_____
WYXJ/SP	○	AC220-240V	2	_____
WVXJ	○	AC220-240V	2	_____
WYXQ	○	AC220-240V	2	_____
RDXJ/RB	○	AC110-127/220-240V	2	Automatic select
RDXJ/RD	○	AC110-127/220-240V	4	Automatic select
RDXJ1/RA	○	AC110-127/220-240V	1	Automatic select

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1. SAFETY INFORMATION

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



WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65



NOTICE

(FOR CANADIAN MODEL ONLY)

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

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

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

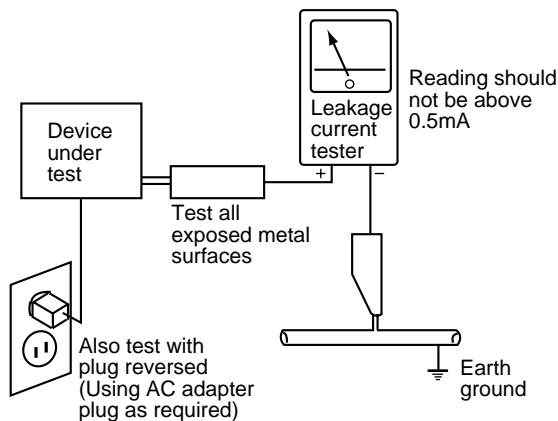
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

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

LEAKAGE CURRENT CHECK

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



AC Leakage Test

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

2. PRODUCT SAFETY NOTICE

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

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

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

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

WARNING!

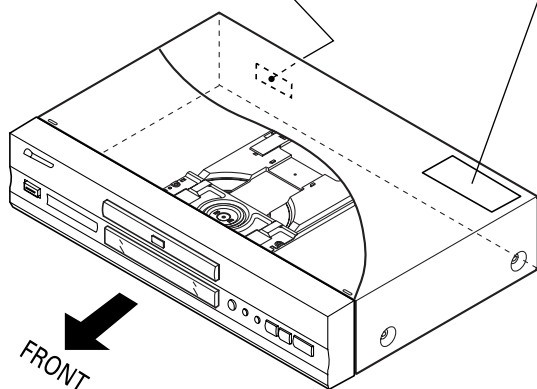
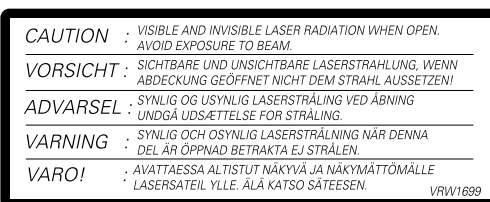
THE AEL (ACCESSIBLE EMISSION LEVEL) OF THE LASER POWER OUTPUT IS LESS THAN CLASS 1 BUT THE LASER COMPONENT IS CAPABLE OF EMITTING RADIATION EXCEEDING THE LIMIT FOR CLASS 1.
A SPECIALLY INSTRUCTED PERSON SHOULD DO SERVICING OPERATION OF THE APPARATUS.

LASER DIODE CHARACTERISTICS

FOR DVD : MAXIMUM OUTPUT POWER : 5 mW
WAVELENGTH : 655 nm
FOR CD : MAXIMUM OUTPUT POWER : 5mW
WAVELENGTH : 785 nm

LABEL CHECK**WYXJ, WYXJ/SP, WVXJ and WYXQ types**

(Printed on the Rear Panel)

**Additional Laser Caution**

1. Inside detection switch (S201 on the SMEB assy) and loading-status detection switch (S101 on the LOAB assy) are detected by the microprocessor (IC11 in the DVDM assy).
 - To permit the laser diode to oscillate, it is required to set the inside detection switch for the inside position (S201 : ON) and to set the loading-status detection switch for the clamp position (the center terminal of S101 is shorted to +5V). The 650 nm laser diode for DVD oscillation will continue if pin 19 of IC1 is shorted to +5V (fault condition) in the DVDM assy. The 780 nm laser diode for CD oscillates if pin 20 of IC1 is shorted to +5V in the DVDM assy.

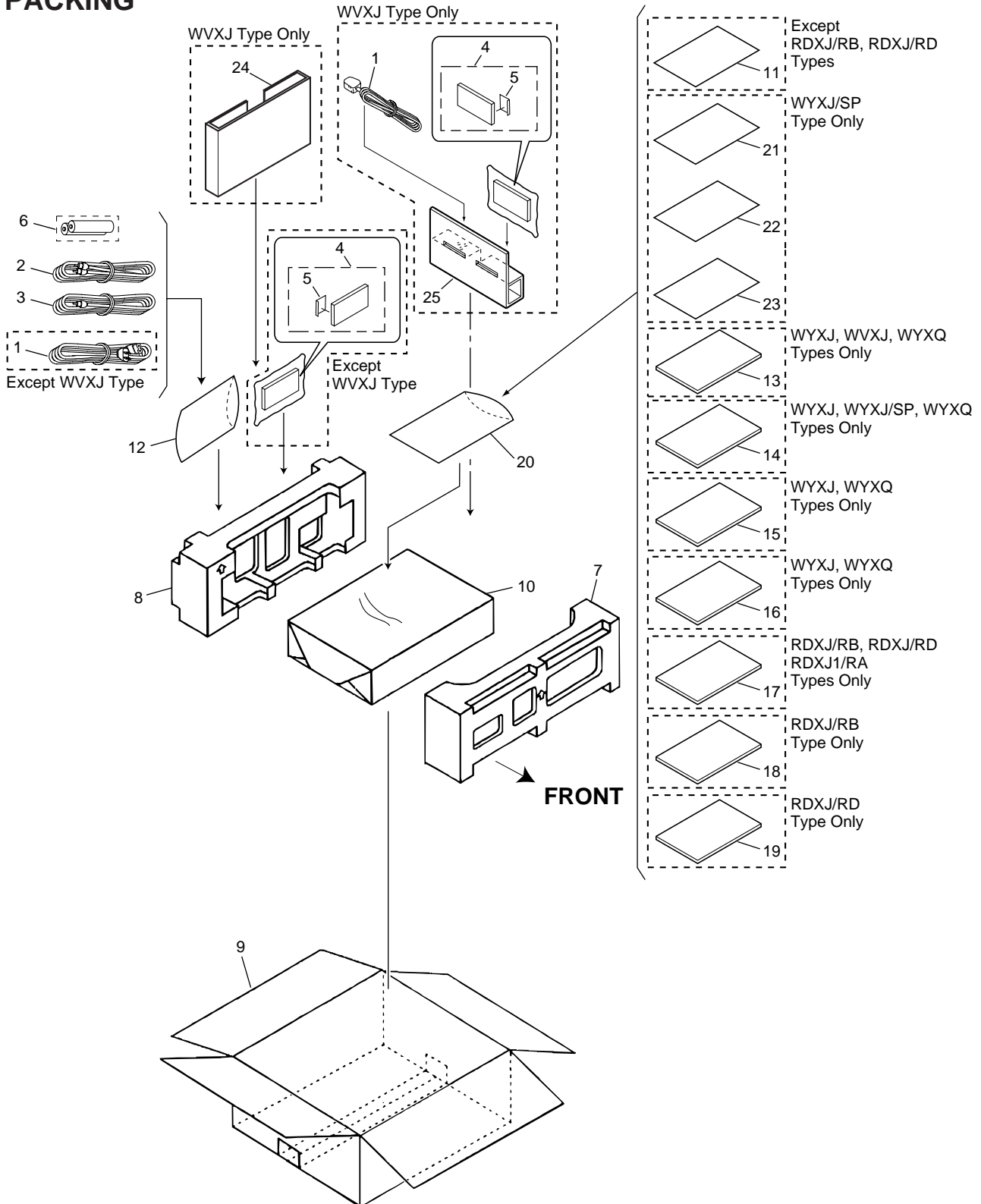
In the test mode * , the laser diode oscillates when microprocessor detects a PLAY signal, or when the PLAY key is pressed (S706 ON in the KEYB assy), with the above requirements satisfied.
2. When the cover is open, close viewing through the objective lens with the naked eye will cause exposure to the laser beam.

* : See page 49.

2. EXPLODED VIEWS AND PARTS LIST

- NOTES:
- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
 - The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
 - Screws adjacent to \blacktriangledown mark on the product are used for disassembly.

2.1 PACKING



(1) PACKING PARTS LIST

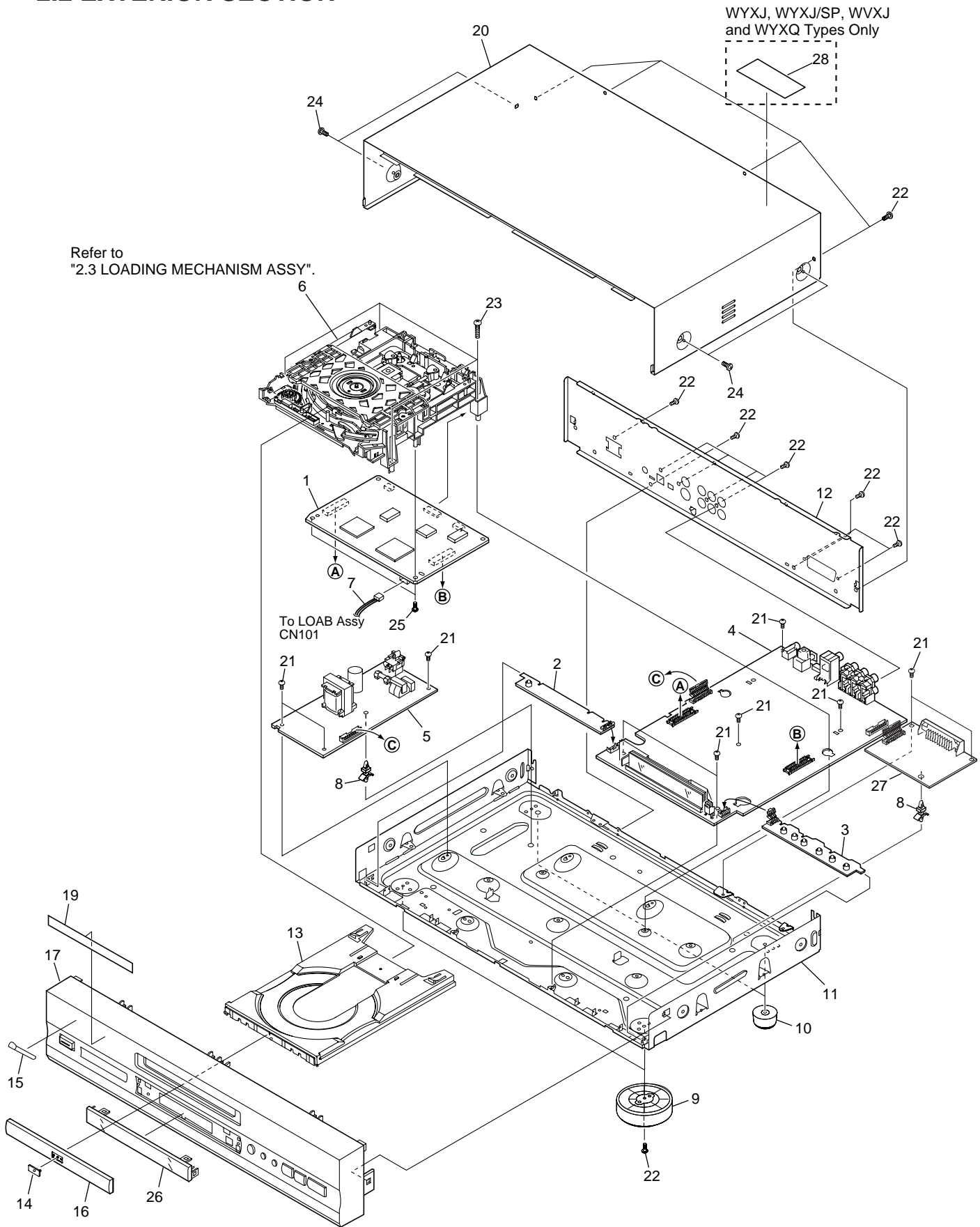
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.	
△	1	Power Cord	See Contrast table (2)		16	Operating Instructions (German/French)	See Contrast table (2)	
	2	Audio Cord (L = 1.5m)	See Contrast table (2)		17	Operating Instructions (English)	See Contrast table (2)	
	3	Video Cord (L = 1.5m)	See Contrast table (2)		18	Operating Instructions (Arabic)	See Contrast table (2)	
	4	Remote Control Unit	VXX2702		19	Operating Instructions (Spanish/Portuguese)	See Contrast table (2)	
	5	Battery Cover	VNK4631		NSP	20	Polyethylene Bag	See Contrast table (2)
NSP	6	Dry Cell Battery (R6P, AA)	See Contrast table (2)	NSP	21	Information List	See Contrast table (2)	
	7	Pad F	VHA1238		22	Service Phone List	See Contrast table (2)	
	8	Pad R	VHA1239		23	Connection Guide	See Contrast table (2)	
	9	Packing Case	See Contrast table (2)		24	RCU Holder	See Contrast table (2)	
NSP	10	Mirror Mat Sheet (750 × 600 × 0.5)	Z23-007	NSP	25	Cord Holder	See Contrast table (2)	
	11	Warranty Card	See Contrast table (2)					
	12	Polyethylene Bag (0.03 × 200 × 300)	VHL1051					
	13	Operating Instructions (English/Italian)	See Contrast table (2)					
	14	Operating Instructions (Spanish/Portuguese)	See Contrast table (2)					
	15	Operating Instructions (Dutch/Swedish)	See Contrast table (2)					

(2) CONTRAST TABLE

DV-535/WYXJ, WYXJ/SP, WVXJ, WYXQ, RDXJ/RB, RDXJ/RD and RDXJ1/RA are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.						
			WYXJ Type	WYXJ/SP Type	WVXJ Type	WYXQ Type	RDXJ/RB Type	RDXJ/RD Type	RDXJ1/RA Type
△	1	Power Cord	XDG3001	XDG3001	ADG1156	XDG3001	ADG1158	ADG1158	ADG1158
	2	Audio Cord (L=1.5m)	VDE1052	VDE1052	VDE1052	VDE1054	VDE1052	VDE1052	VDE1052
	3	Video Cord (L=1.5m)	VDE1053	VDE1053	VDE1053	VDE1055	VDE1053	VDE1053	VDE1053
NSP	6	Dry Cell Battery (R6P, AA)	VEM-013	VEM-013	VEM-013	VEM1010	VEM-013	VEM-013	VEM-013
	9	Packing Case	VHG1925	VHG1927	VHG1926	VHG1961	VHG1929	VHG1930	VHG1928
NSP	11	Warranty Card	ARY7022	ARY7022	ARY7022	ARY7022	Not used	Not used	ARY7025
	13	Operating Instructions (English/Italian)	VRD1115	Not used	VRD1115	VRD1115	Not used	Not used	Not used
	14	Operating Instructions (Spanish/Portuguese)	VRD1116	VRD1116	Not used	VRD1116	Not used	Not used	Not used
	15	Operating Instructions (Dutch/Swedish)	VRD1117	Not used	Not used	VRD1117	Not used	Not used	Not used
	16	Operating Instructions (German/French)	VRD1118	Not used	Not used	VRD1118	Not used	Not used	Not used
	17	Operating Instructions (English)	Not used	Not used	Not used	Not used	VRB1253	VRB1253	VRB1253
NSP	18	Operating Instructions (Arabic)	Not used	Not used	Not used	Not used	VRC1114	Not used	Not used
	19	Operating Instructions (Spanish/Portuguese)	Not used	Not used	Not used	Not used	Not used	VRD1119	Not used
	20	Polyethylene Bag (0.03 × 200 × 300)	Not used	Not used	Not used	Not used	VHL1051	VHL1051	VHL1051
	20	Polyethylene Bag (0.03 × 230 × 340)	Z21-038	Z21-038	Z21-038	Z21-038	Not used	Not used	Not used
	21	Information List	Not used	VRR1043	Not used	Not used	Not used	Not used	Not used
NSP	22	Service Phone List	Not used	VRR1044	Not used	Not used	Not used	Not used	Not used
NSP	23	Connection Guide	Not used	VRR1042	Not used	Not used	Not used	Not used	Not used
	24	RCU Holder	Not used	Not used	VHC1061	Not used	Not used	Not used	Not used
	25	Cord Holder	Not used	Not used	VHC1065	Not used	Not used	Not used	Not used

2.2 EXTERIOR SECTION



(1) EXTERIOR PARTS LIST

Mark	No.	Description	Part No.
	1	DVDM Assy	See Contrast table (2)
NSP	2	PWSB Assy	VWG2174
NSP	3	KEYB Assy	VWG2176
	4	FLJB Assy	See Contrast table (2)
△	5	POWER SUPPLY Unit	VWR1330 (*1)
△NSP	5	POWER SUPPLY Unit	VWR1331 (*1)
NSP	6	Loading Mechanism Assy	VWT1174
	7	Connector Assy	PG03KK-E07
NSP	8	PCB Holder	PNW2100
	9	Insulator	PNW2766
	10	Foot Assy	REC1263
NSP	11	Chassis	VNA2160
	12	Rear Panel	See Contrast table (2)
	13	Tray	VNL1858
	14	DVD Plate	VAM1088
	15	Pioneer Name Plate	VAM1099
	16	Tray Panel	VNK4591
	17	Front Panel Assy	See Contrast table (2)
	18	•••••	
NSP	19	Pop Label	See Contrast table (2)
	20	Bonnet Case S	VXX2651
	21	Screw	BBZ30P060FMC
	22	Screw	BBZ30P080FMC
	23	Screw	BBZ30P180FMC
	24	Screw	BCZ40P060FZK
	25	Screw	PPZ30P080FMC
	26	FL Lens	See Contrast table (2)
	27	SCRB Assy	See Contrast table (2)
	28	Caution Label	See Contrast table (2)

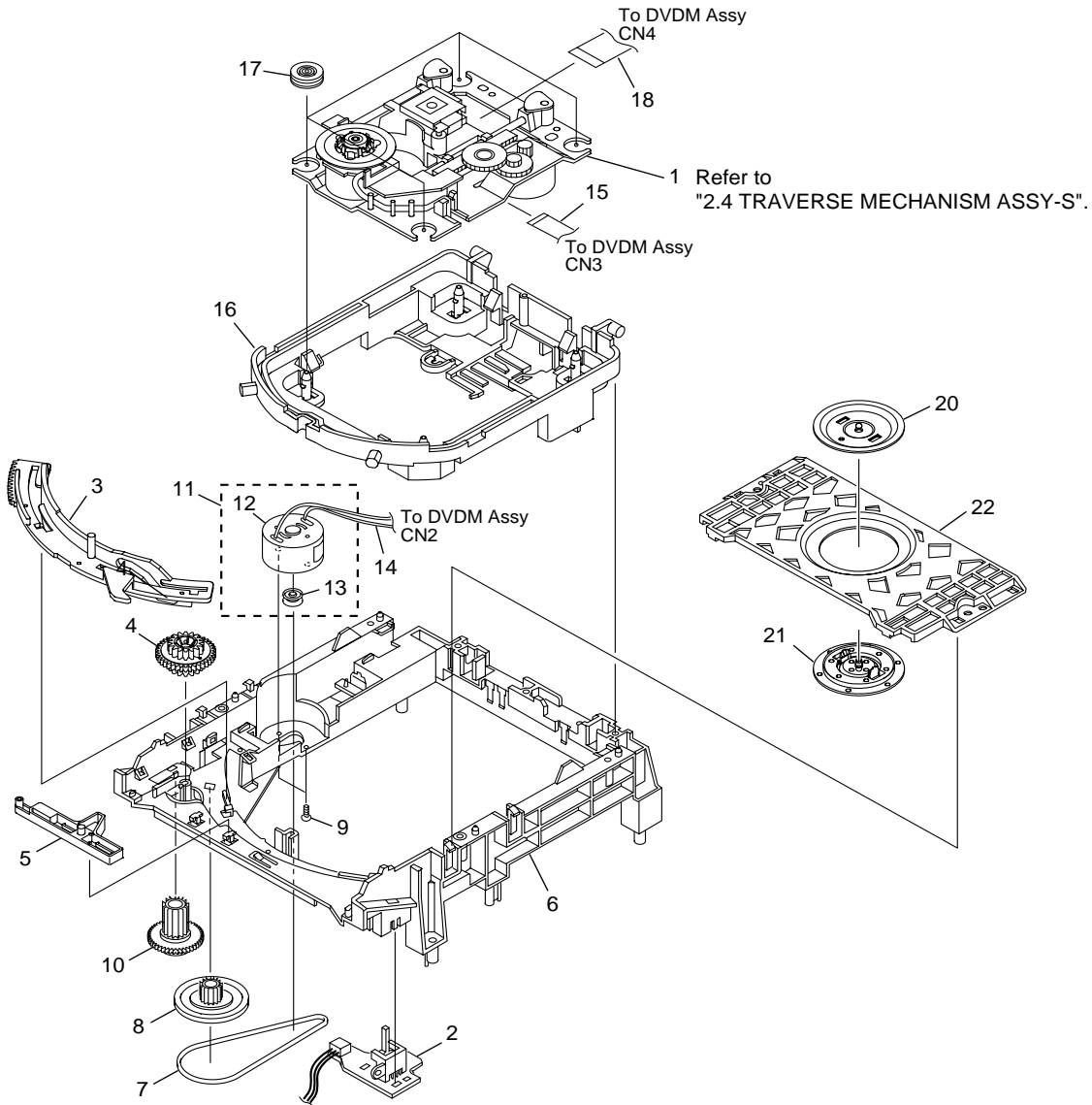
*1 : As for POWER SUPPLY Unit, either VWR1330 or VWR1331 is installed.
Install VWR1330 when replacing the POWER SUPPLY Unit.

(2) CONTRAST TABLE

DV-535/WYXJ, WYXJ/SP, WVXJ, WYXQ, RDXJ/RB, RDXJ/RD and RDXJ1/RA are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.						
			WYXJ Type	WYXJ/SP Type	WVXJ Type	WYXQ Type	RDXJ/RB Type	RDXJ/RD Type	RDXJ1/RA Type
NSP	1	DVDM Assy	VWS1438	VWS1438	VWS1438	VWS1438	VWS1412	VWS1412	VWS1412
	4	FLJB Assy	VWV1777	VWV1777	VWV1777	VWV1777	VWV1776	VWV1776	VWV1776
	12	Rear Panel	VNA2184	VNA2184	VNA2184	VNA2240	VNA2187	VNA2188	VNA2186
	17	Front Panel Assy	VXA2400	VXA2400	VXA2400	VXA2416	VXA2402	VXA2402	VXA2402
	19	Pop Label	VRW1831	Not used	VRW1831	VRW1831	VRW1830	VRW1830	VRW1830
	26	FL Lens	VNK4734	VNK4734	VNK4734	VNK4734	VNK4593	VNK4593	VNK4593
	27	SCRB Assy	VWV1744	VWV1744	VWV1744	VWV1744	Not used	Not used	Not used
	28	Caution Label	VRW1699	VRW1699	VRW1699	VRW1699	Not used	Not used	Not used

2.3 LOADING MECHANISM ASSY

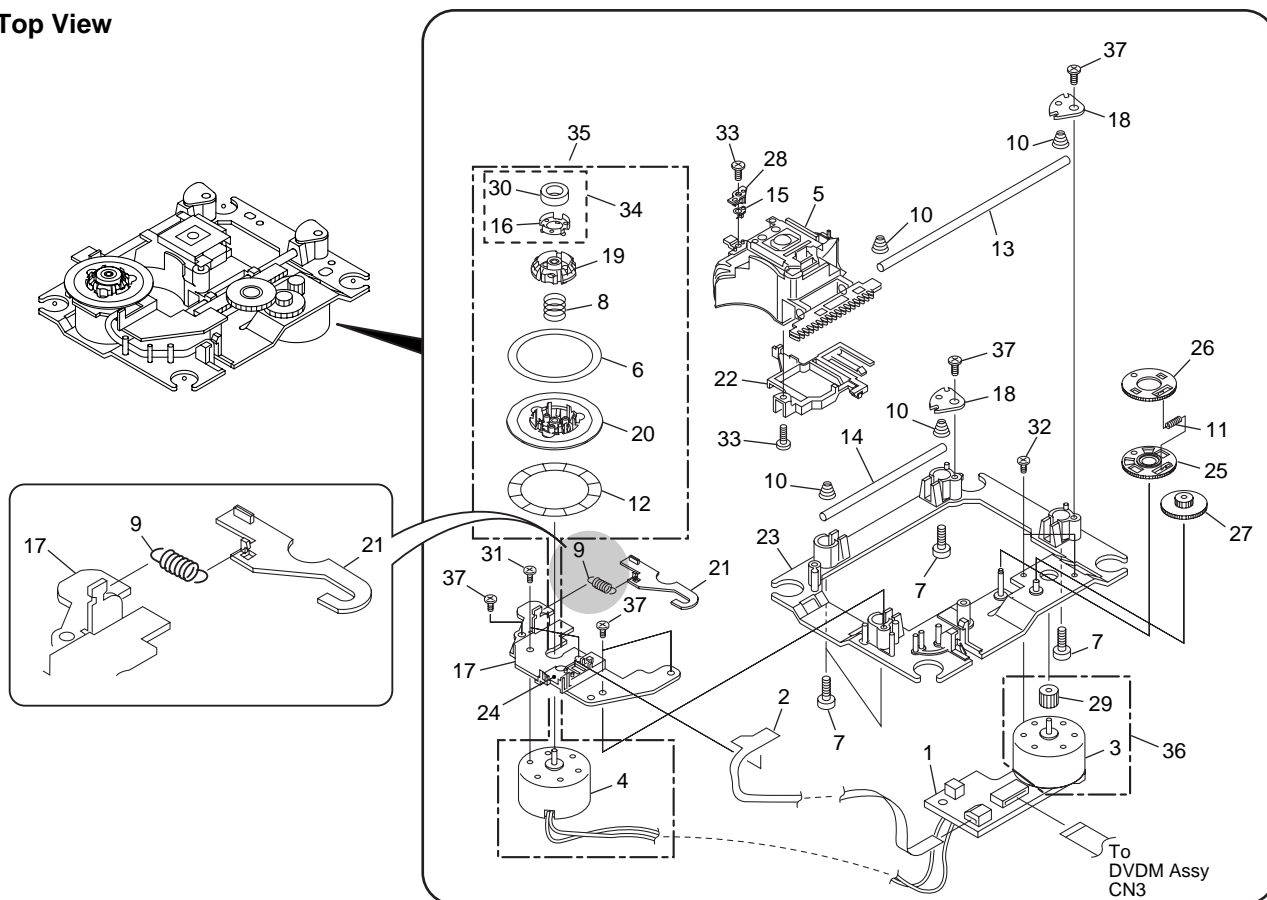


● LOADING MECHANISM ASSY PARTS LIST

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
NSP	1	Traverse Mechanism Assy-S	VXX2653	11	11	Loading Motor Assy	VXX2505
	2	LOAB Assy	VWG2171	12	12	DC Motor / 0.3W (LOADING)	PXM1027
	3	Drive Cam	VNL1862	13	13	Motor Pulley	PNW1634
	4	Drive Gear	VNL1861	14	14	Connector Assy	VKP2253
	5	Lock Plate	VNL1820	15	15	Flexible Cable (08P)	VDA1822 (or VDA1818)
	6	Loading Base	VNL1863	16	16	Float Base	VNL1865
	7	Belt	VEB1315 (or VEB1320)	17	17	Floating Rubber	VEB1286
	8	Gear Pulley	VNL1866	18	18	Flexible Cable (24P)	VDA1821 (or VDA1820)
	9	Screw	JGZ17P028FMC	19	19	•••••	
	10	Loading Gear	VNL1860	20	20	Clamper Plate	VNE2162
				21	21	Clamper	VNL1738
				22	22	Bridge	VNL1859

2.4 TRAVERSE MECHANISM ASSY-S

• Top View

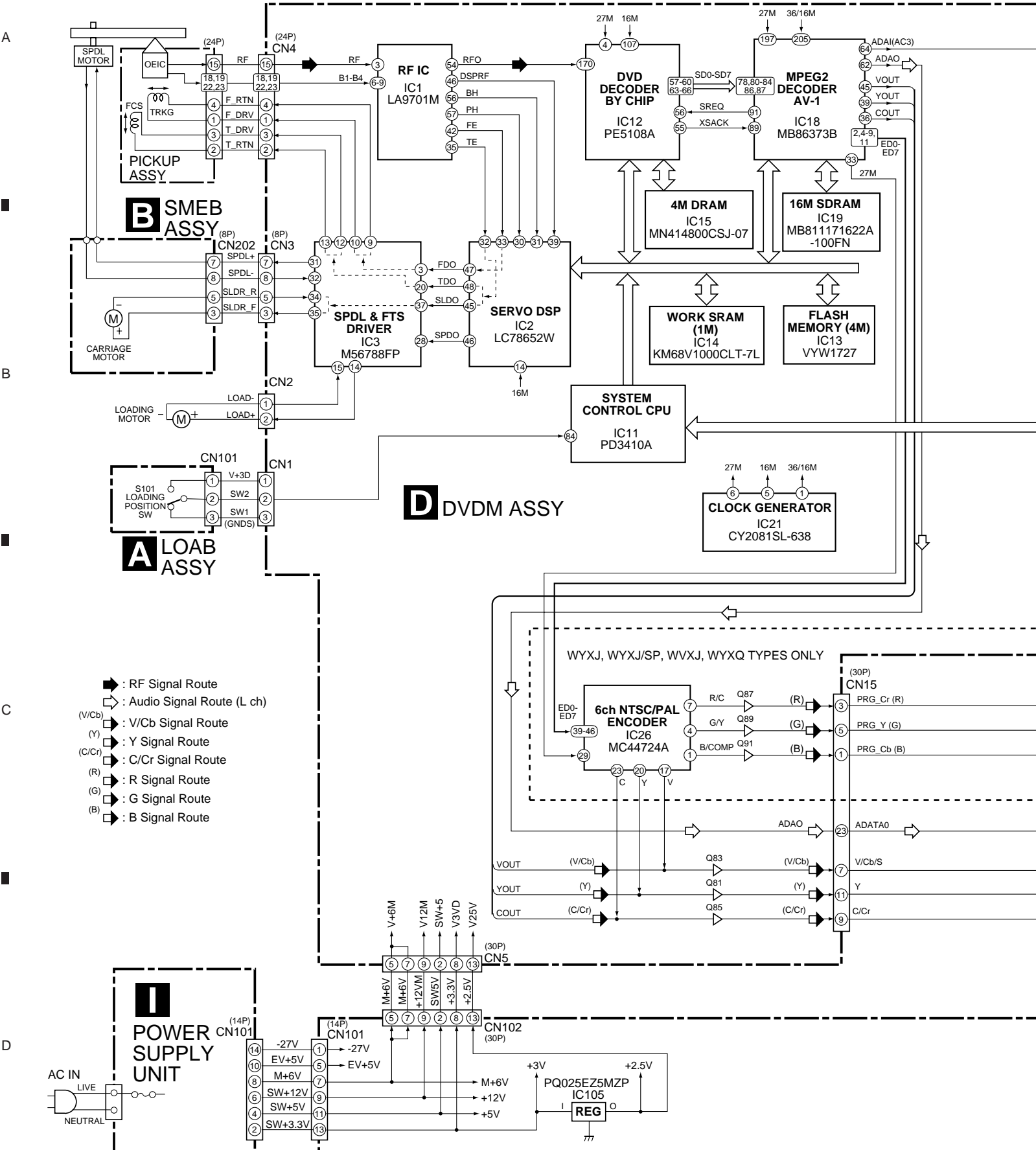


● TRAVERSE MECHANISM ASSY-S PARTS LIST

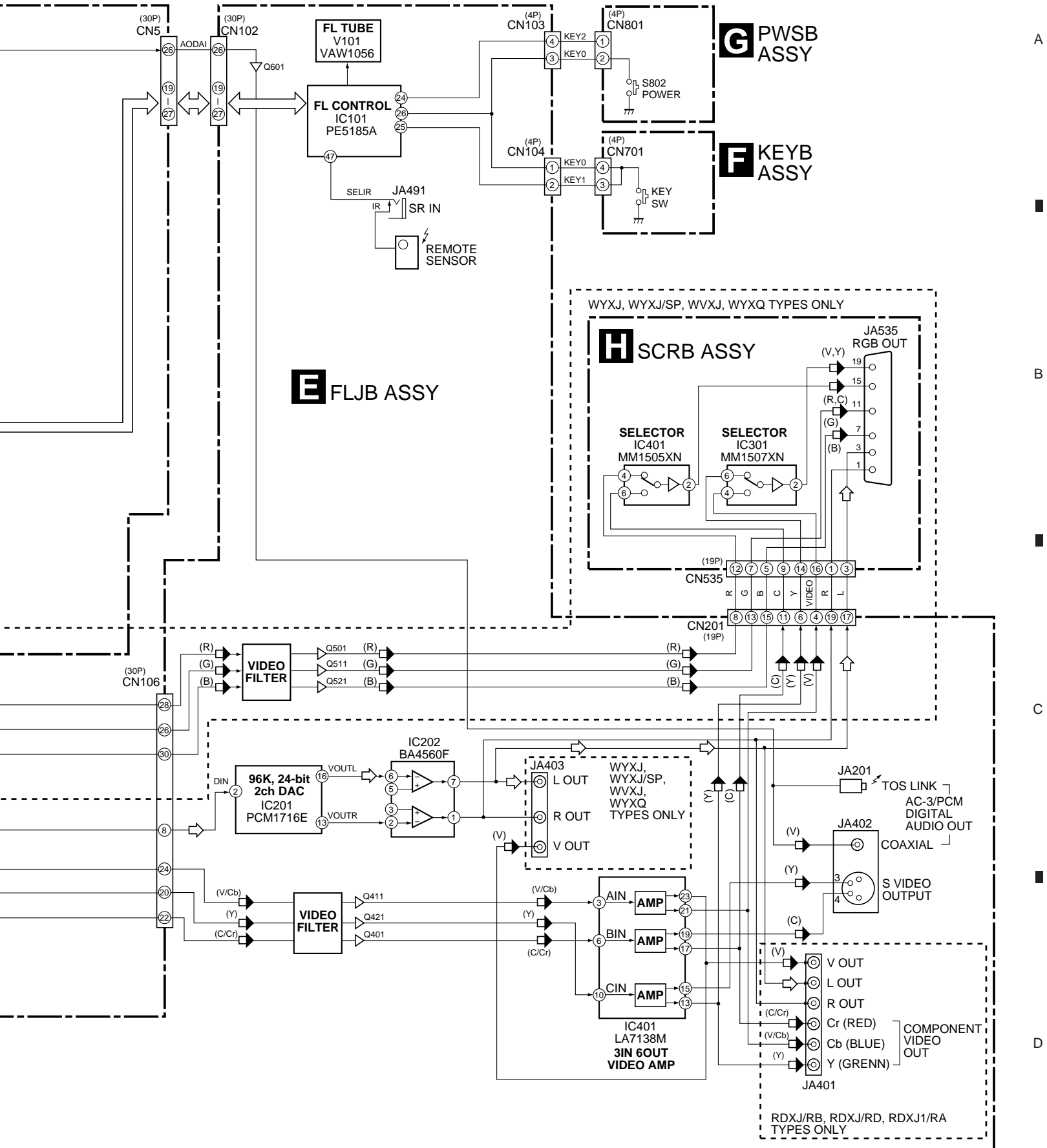
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
NSP	1	SMEB Assy	VWG2048				
NSP	2	FGSB Assy	VWG2009				
NSP	3	Motor (CARRIAGE)	VXM1079				
NSP	4	Motor (SPINDLE)	VXM1084				
△ NSP	5	Pickup Assy	VWY1055				
	6	Table Sheet	DEC2040				
	7	Screw	VBA1058				
	8	Centering Spring	VBH1278				
	9	Hook Spring	VBH1317				
	10	Skew Spring	VBH1303	NSP	30	Magnet	VYM1024
	11	Gear Spring	VBH1308		31	Screw	JFZ17P025FZK
NSP	12	Reflected Sheet	VEC1959		32	Screw	JGZ17P028FMC
	13	Guide Bar	VLL1504		33	Screw	VBA1051
	14	Sub-guide Bar	VLL1505		34	Magnet Holder Assy	VXX2507
	15	Hold Spring	VNC1017		35	Spindle Motor Assy	VXX2649
NSP	16	Magnet Holder	VNE2070		36	Carriage Motor Assy	VXX2650
NSP	17	Motor Base	VNE2154		37	Screw	PBA1069
NSP	18	Cover	VNE2155				
	19	Centering Ring	VNL1746				
NSP	20	Disc Table	VNL1747				
					21	Hook	VNL1770
					22	FFC Holder	VNL1802
					23	Mechanism Base	VNL1806
					24	FG Holder	VNL1807
					25	Gear A	VNL1808
					26	Gear B	VNL1809
					27	Gear C	VNL1810
					28	Slider	VNL1811
					29	Gear D	VNL1814

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM



- ➡ : RF Signal Route
- ↔ : Audio Signal Route (L ch)
- (V/Cb) : V/Cb Signal Route
- (Y) : Y Signal Route
- (C/Cr) : C/Cr Signal Route
- (R) : R Signal Route
- (G) : G Signal Route
- (B) : B Signal Route



A

B

C

D

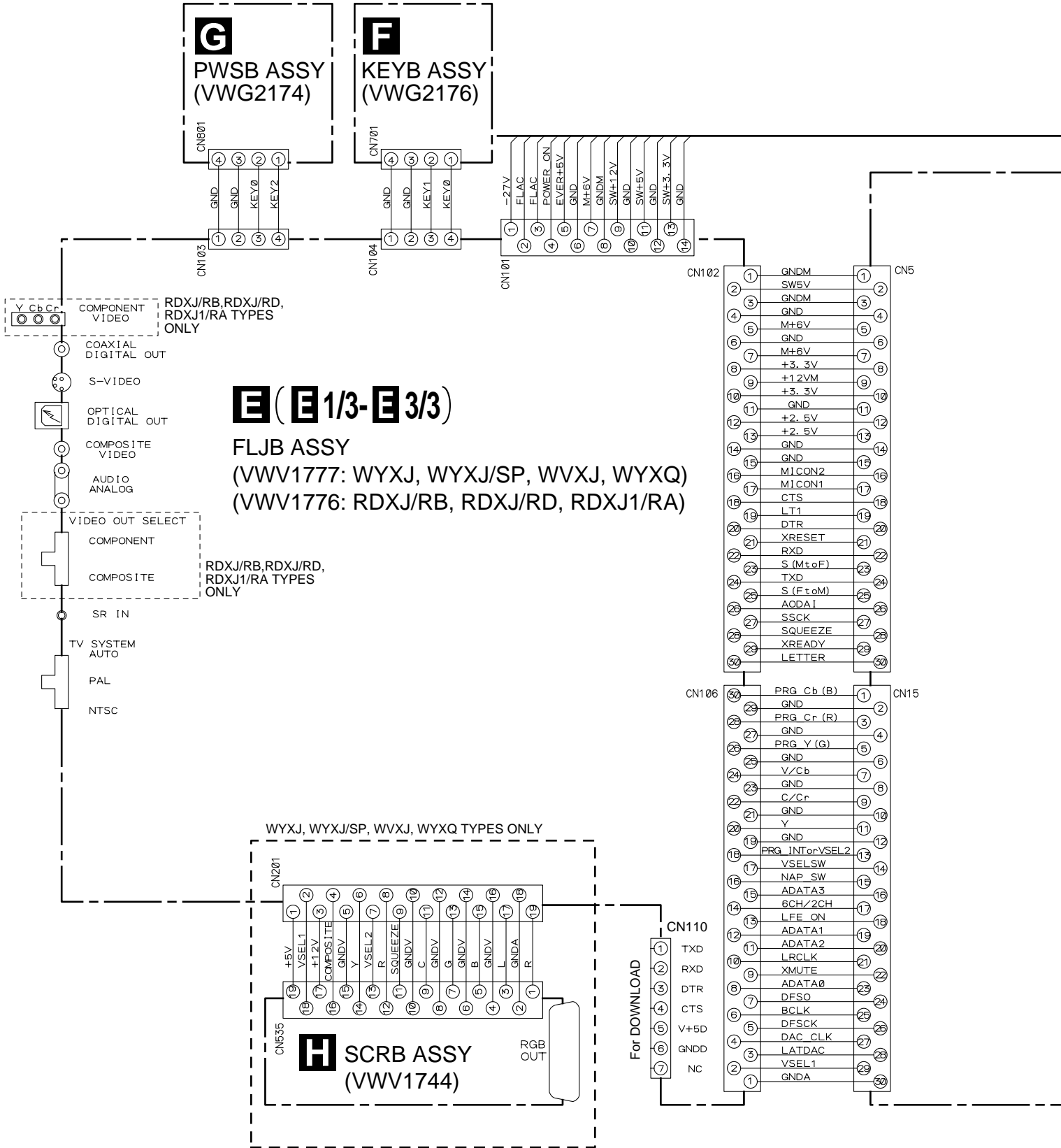
3.2 LOAB, SMEB, FGSB ASSYS and OVERALL WIRING DIAGRAM

A

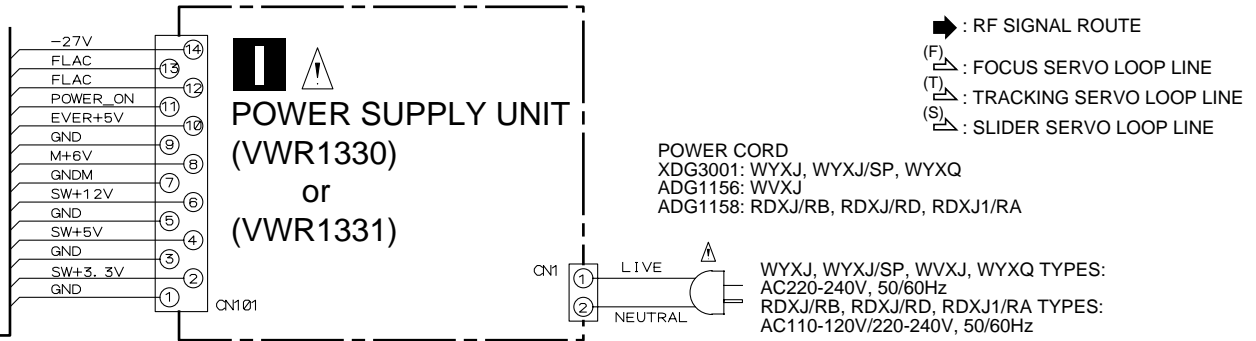
B

C

D



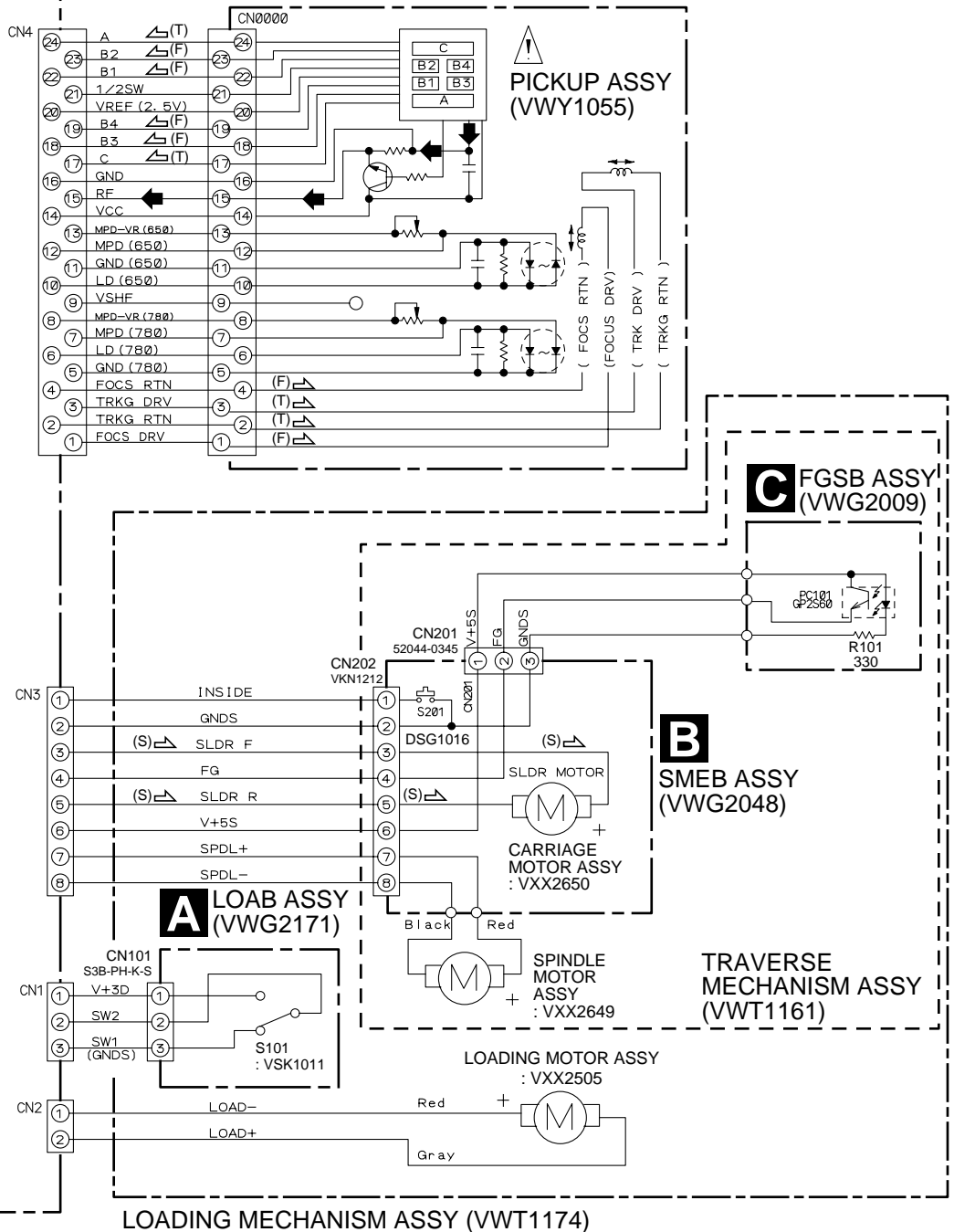
Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".



D (D13-D313)

DVDM ASSY

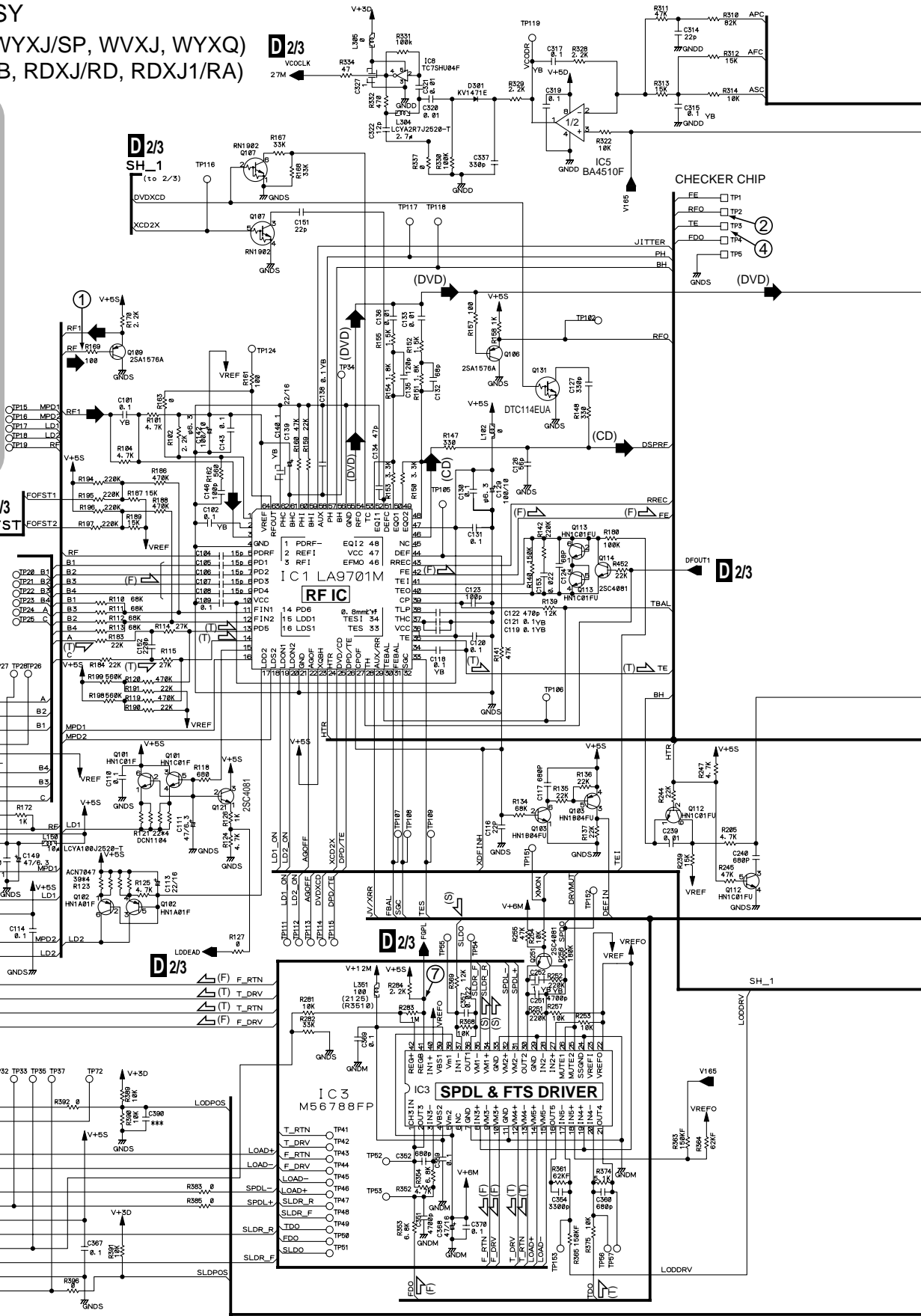
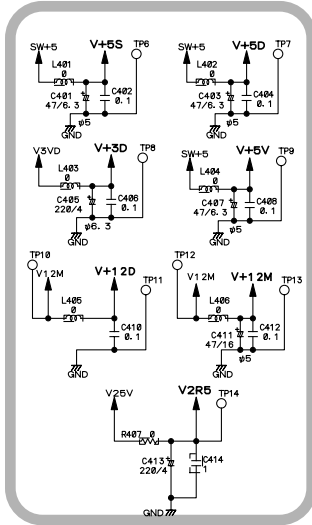
(VWS1438: WYXJ, WYXJ/SP, WYXQ, WYXQ)
(VWS1412: RDXJ/RB, RDXJ/RD, RDXJ1/RA)




3.3 DVDM ASSY (1/3)

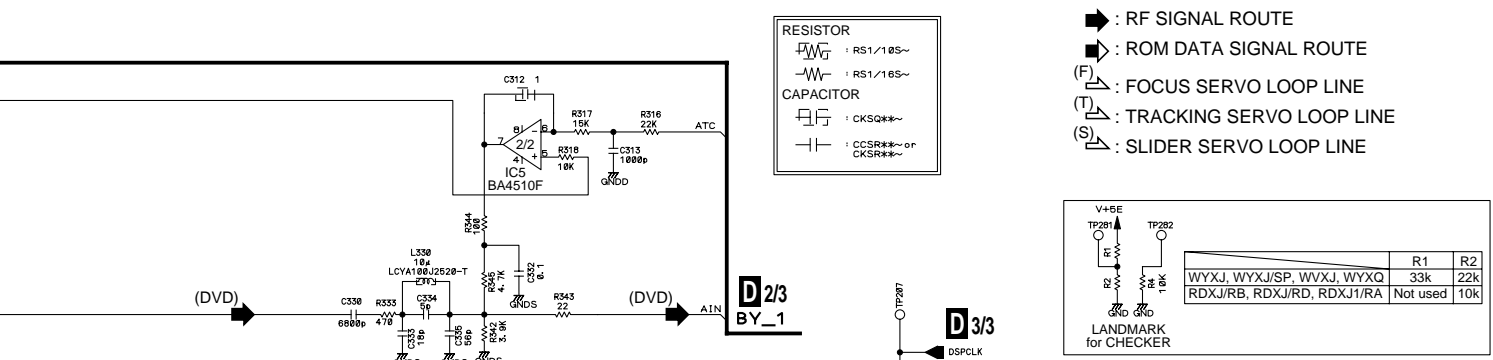
D 1/3 DVDM ASSY

(VWS1438: WYXJ, WYXJ/SP, WVXJ, WYXQ)
(VWS1412: RDXJ/RB, RDXJ/RD, RDXJ1/RA)

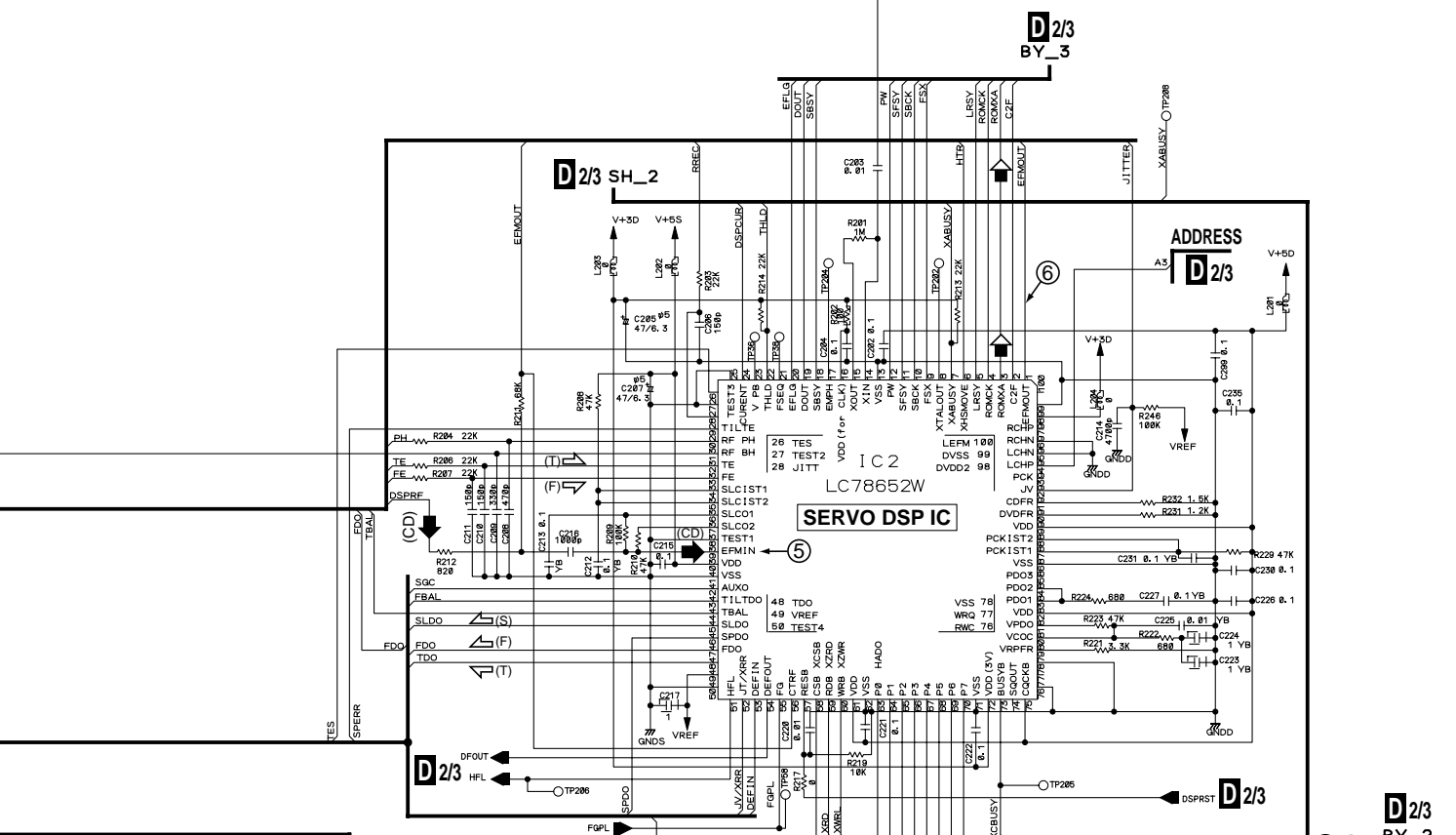


 : The power supply is shown with the marked box.

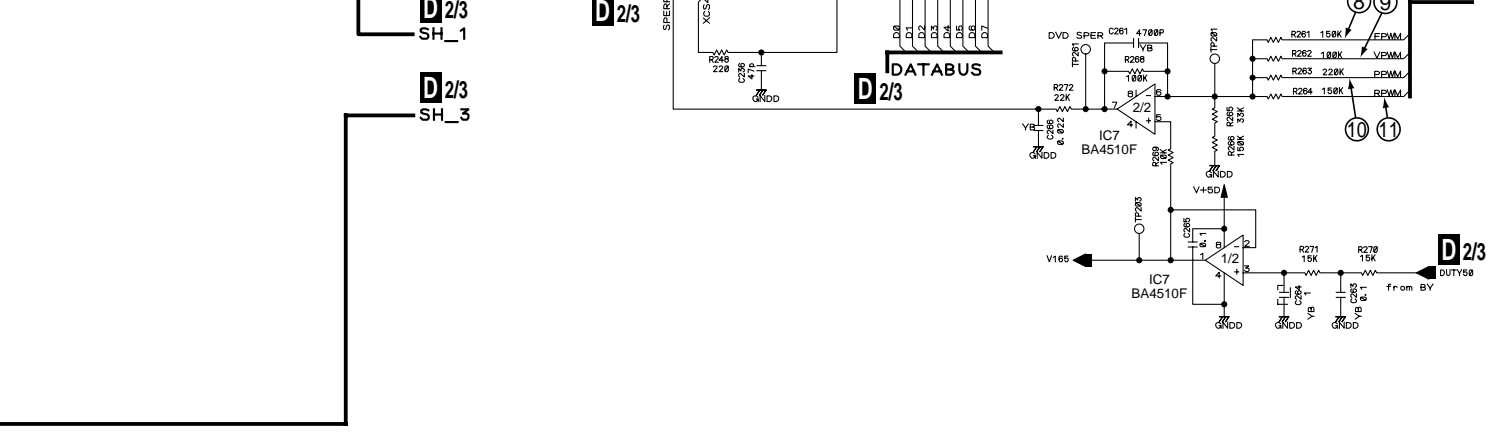
A



B



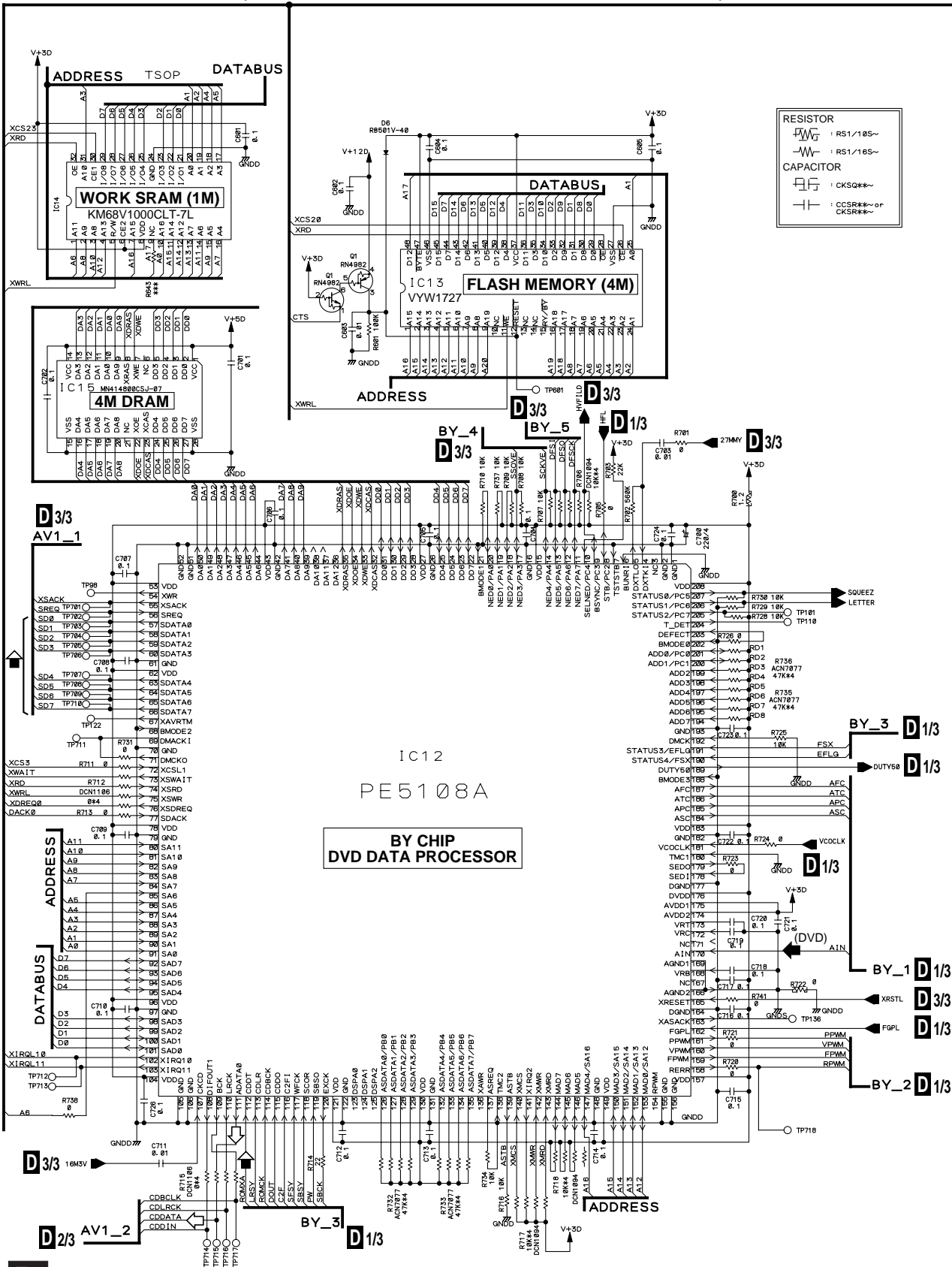
C





D


3.4 DVDM ASSY (2/3)


D/2/3 DVDM ASSY (VWS1438: WYXJ, WYXJ/SP, WVXJ, WYXQ) (VWS1412: RDXJ/RB, RDXJ/RD, RDXJ1/RA)

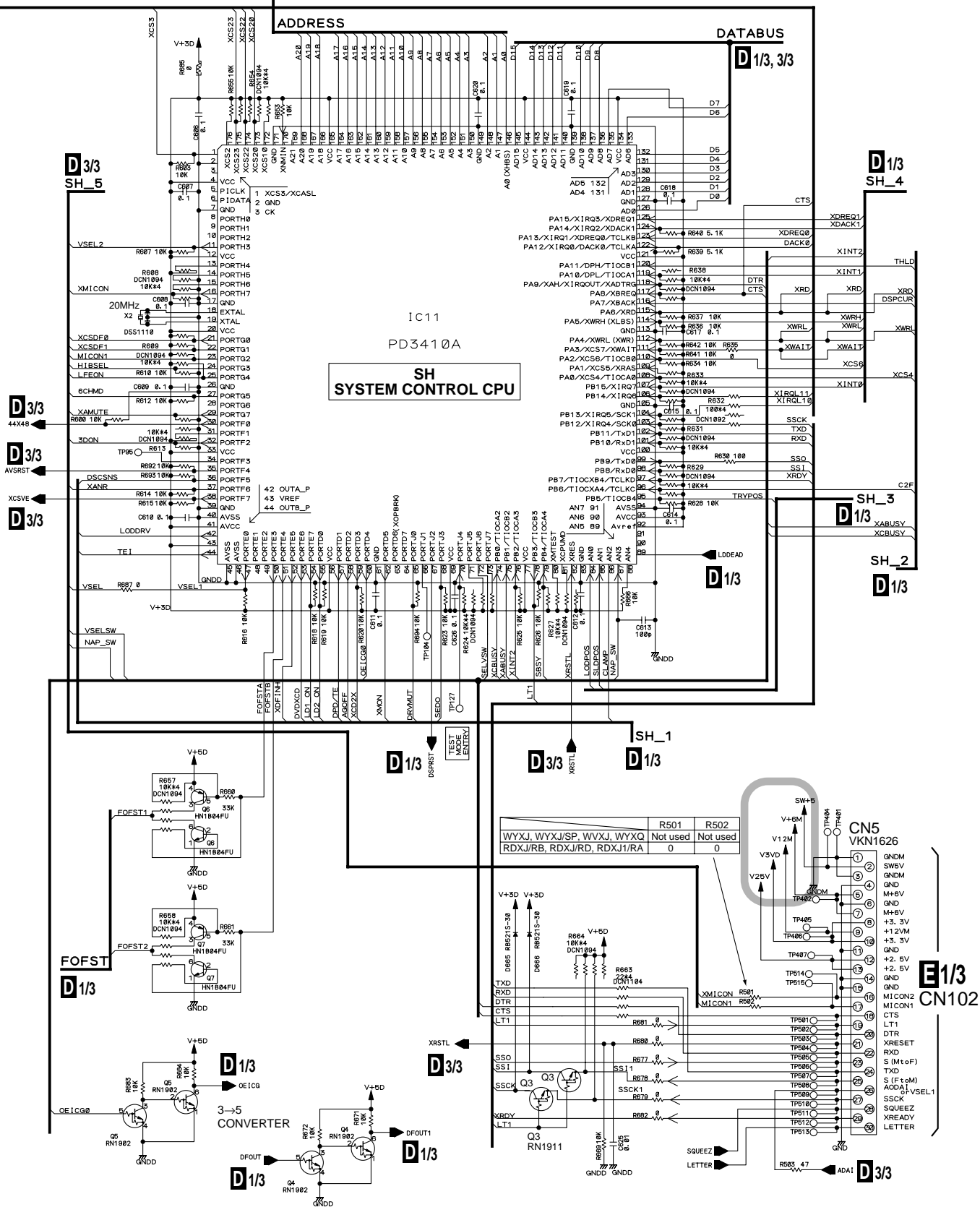


 : The power supply is shown with the marked box.

 : RF SIGNAL ROUTE

 : ROM DATA SIGNAL ROUTE

 : AUDIO SIGNAL ROUTE



D 3/3 SH_5

DATABUS D 1/3, 3/3

D 1/3 SH_4

SH SYSTEM CONTROL CPU

SH_3 D 1/3

SH_2 D 1/3

SH_1 D 1/3

FOFST D 1/3

E 1/3 CN102

CONVERTER

D 2/3

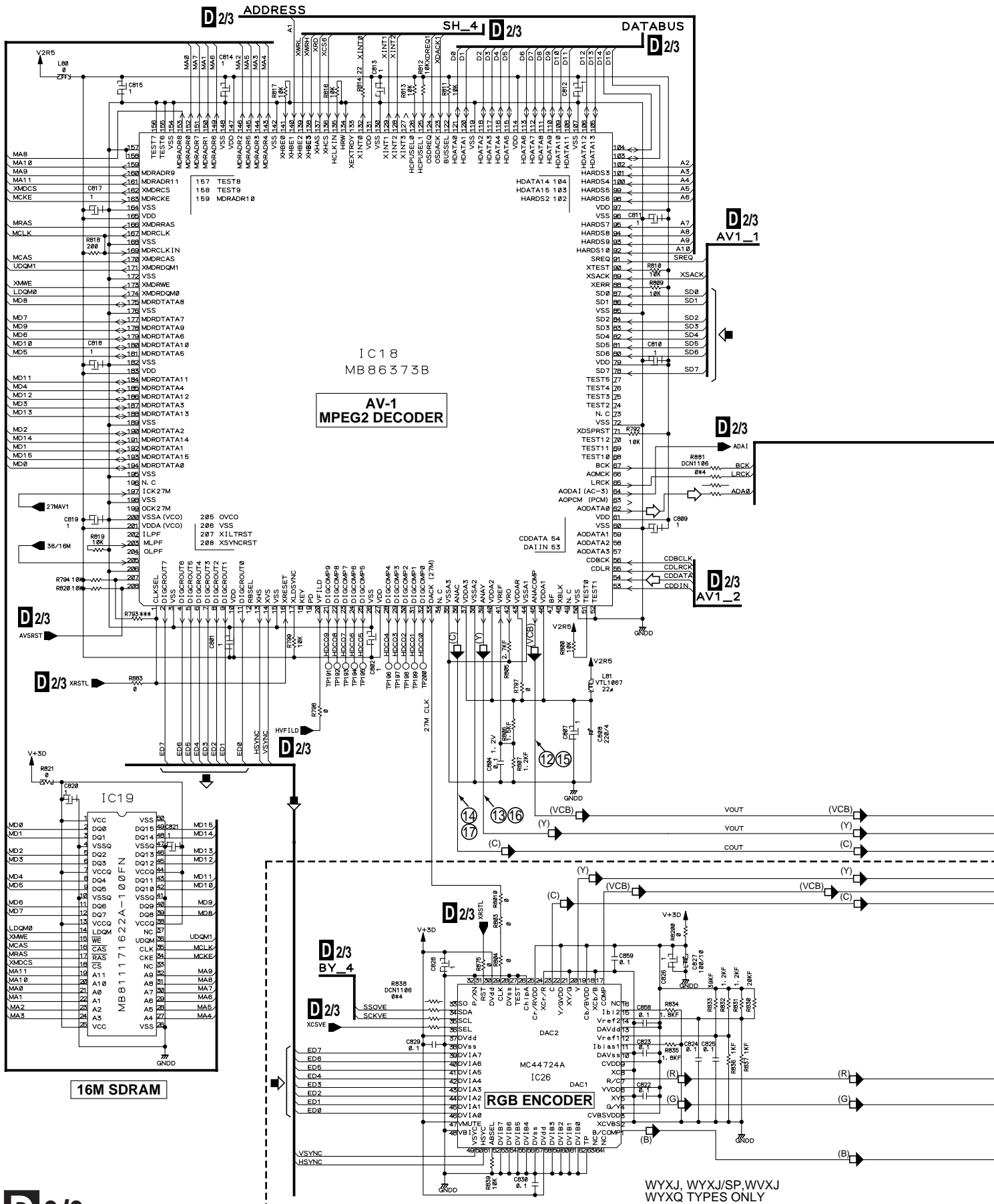
3.5 DVDM ASSY (3/3)

A

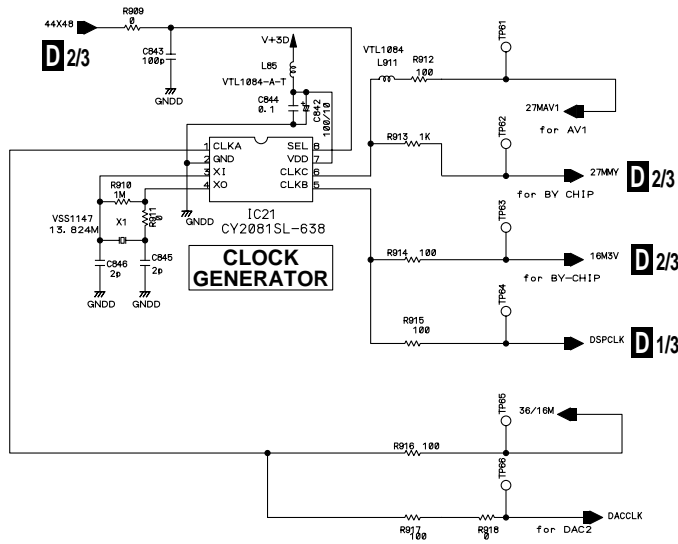
B

C

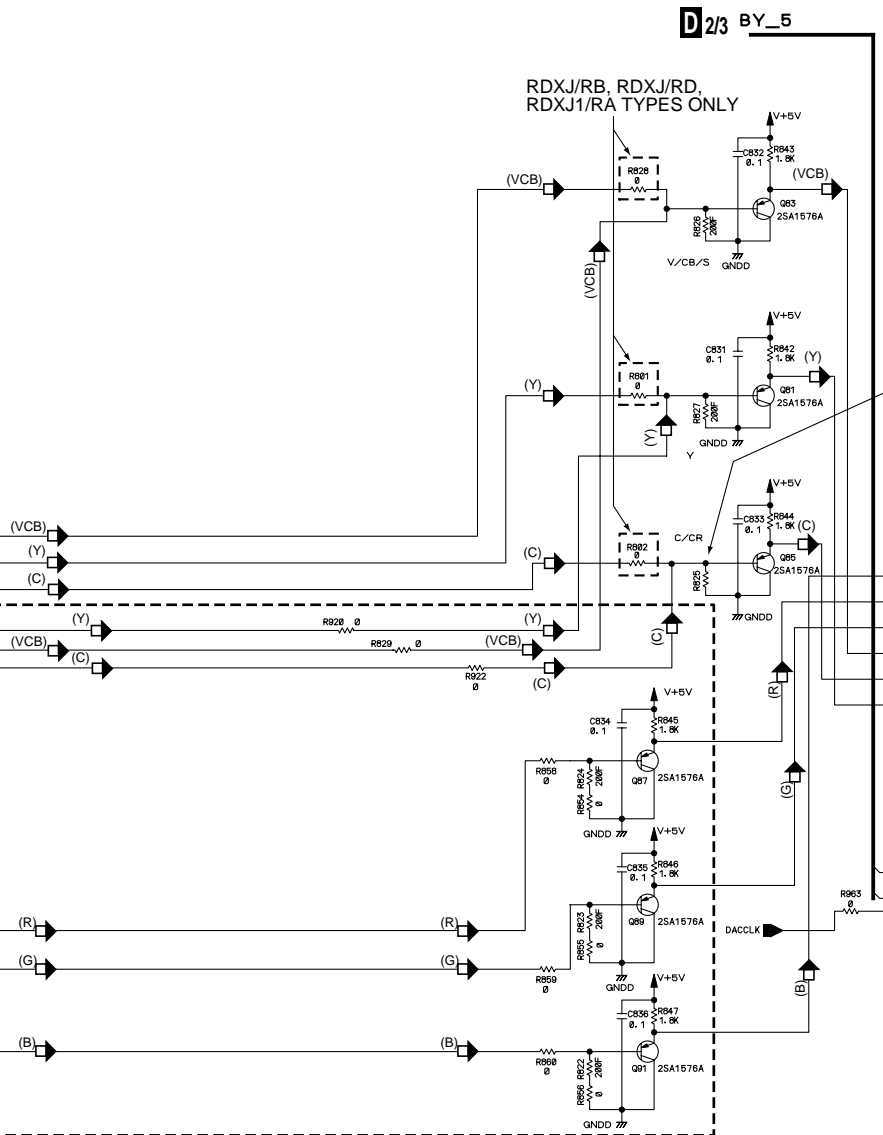
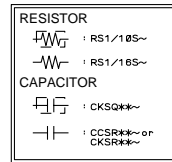
D



D 3/3 DVDM ASSY (VWS1438: WYXJ, WYXJ/SP, WVXJ, WYXQ)
 (VWS1412: RDXJ/RB, RDXJ/RD, RDXJ1/RA)

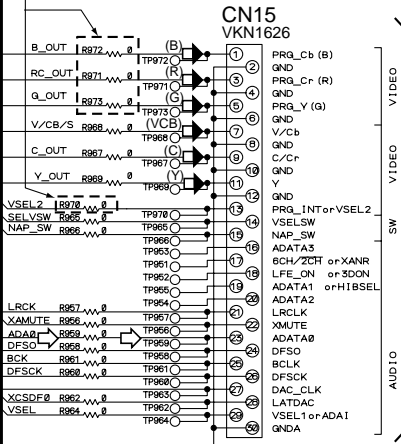


- ◁ : AUDIO SIGNAL ROUTE
- ▷ : ROM DATA SIGNAL ROUTE
- (VCB) ▷ : V/CB SIGNAL ROUTE
- (Y) ▷ : Y SIGNAL ROUTE
- (C) ▷ : C SIGNAL ROUTE
- (R) ▷ : R SIGNAL ROUTE
- (G) ▷ : G SIGNAL ROUTE
- (B) ▷ : B SIGNAL ROUTE



R825
 180F: WYXJ, WYXJ/SP, WVXJ, WYXQ
 200F: RDXJ/RB, RDXJ/RD, RDXJ1/RA

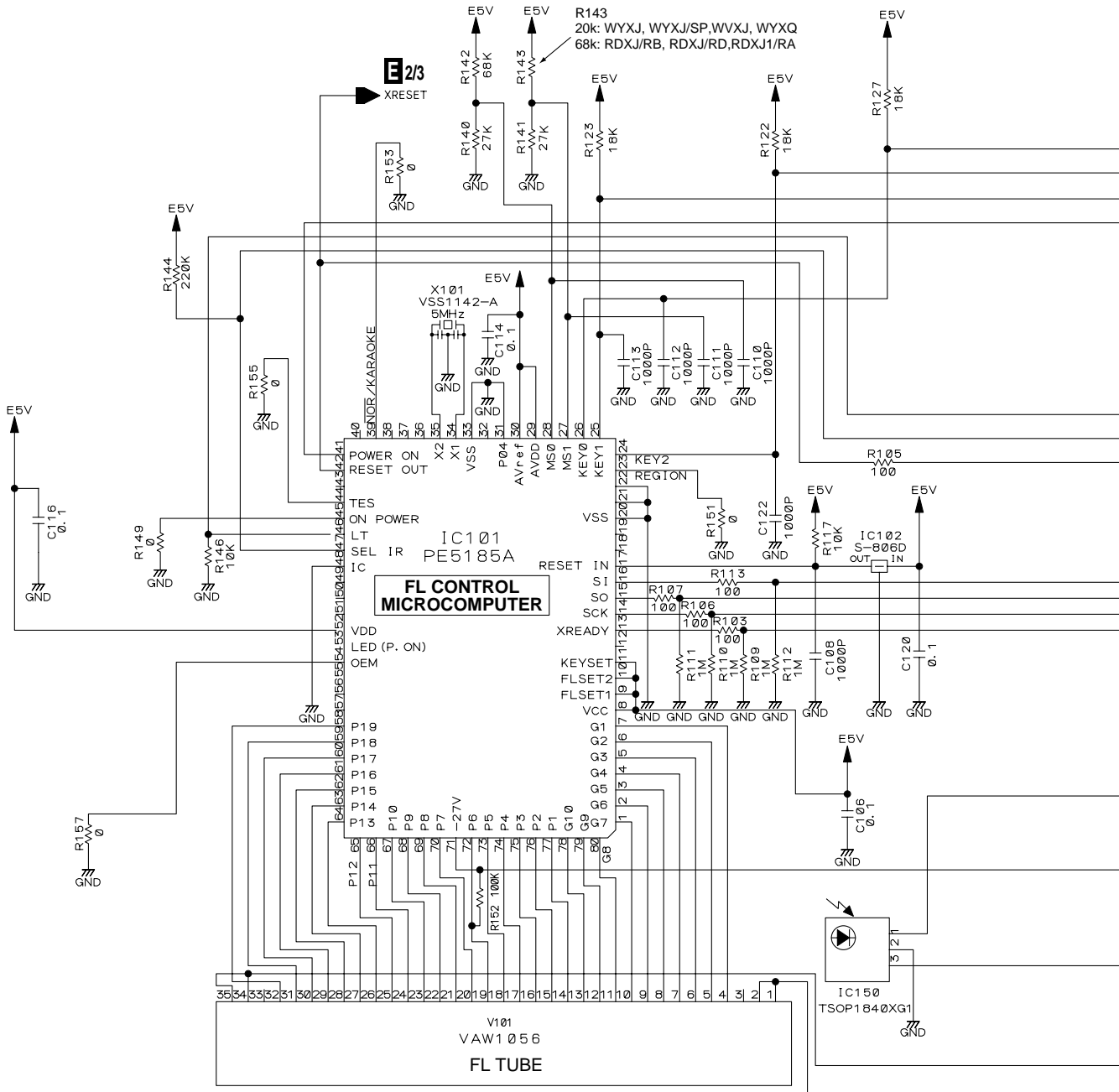
WYXJ, WYXJ/SP, WVXJ
 WYXQ TYPES ONLY



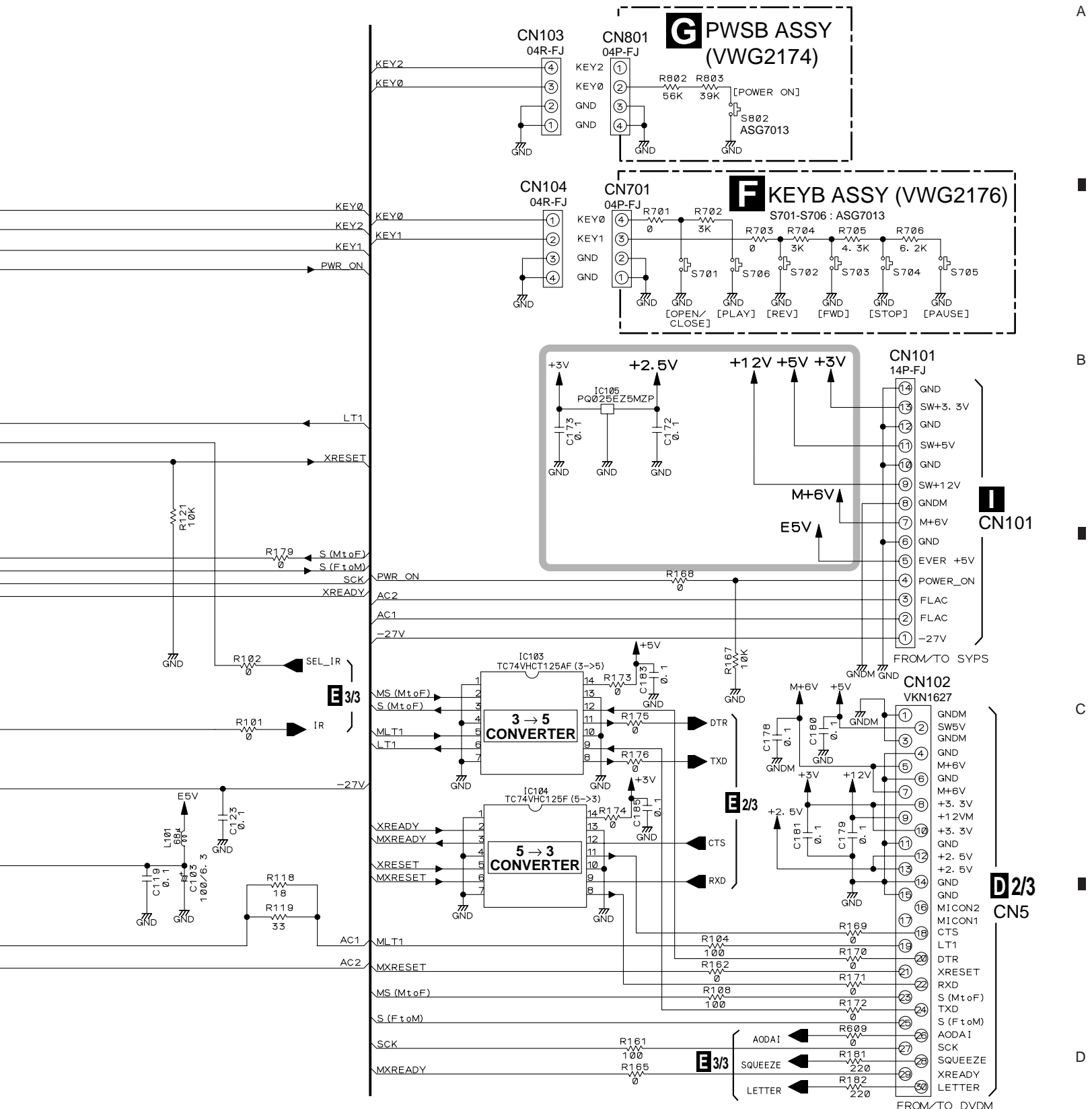
E 3/3 CN106

3.6 FLJB (1/3), KEYB and PWSB ASSYS

E 1/3 FLJB ASSY (VWV1777: WYXJ, WYXJ/SP, WVXJ, WYXQ)
 (VWV1776: RDXJ/RB, RDXJ/RD, RDXJ1/RA)



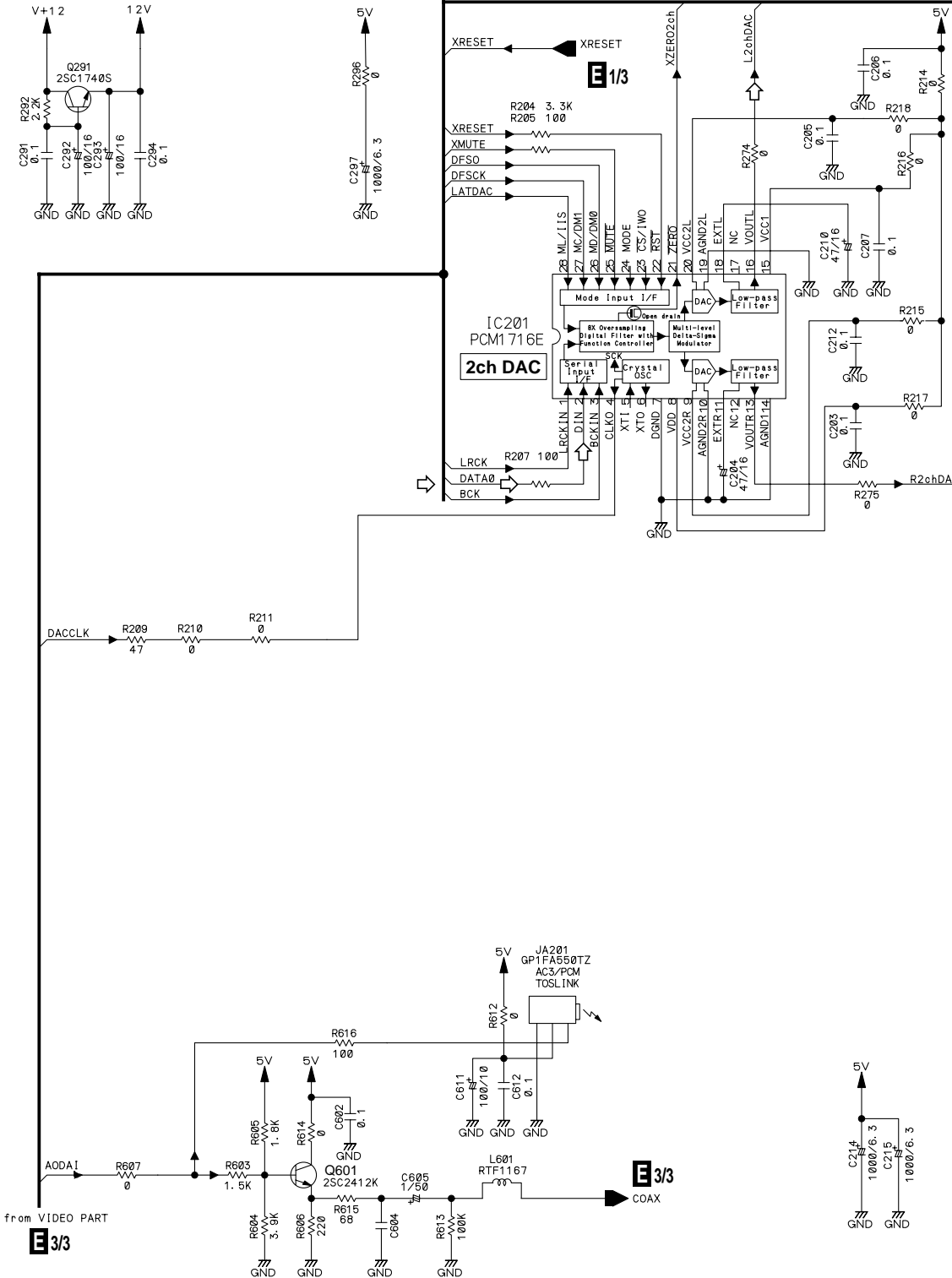
- | | |
|-----------------------|---------------------------|
| KEYB ASSY | PWSB ASSY |
| S701 : ▲ (OPEN/CLOSE) | S802 : ⏻ POWER STANDBY/ON |
| S702 : ◀◀ | |
| S703 : ▶▶ | |
| S704 : ■ (STOP) | |
| S705 : (PAUSE) | |
| S706 : ▶ (PLAY) | |



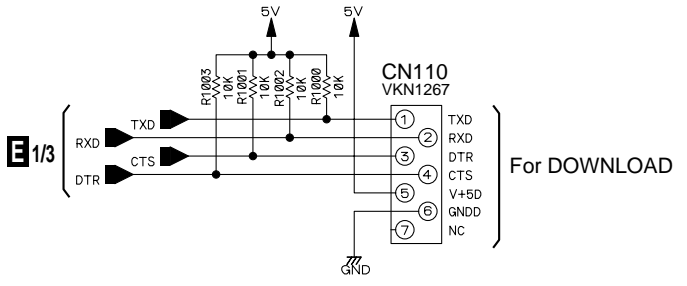
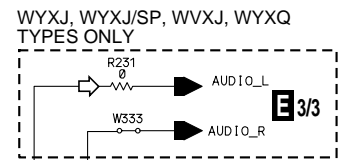
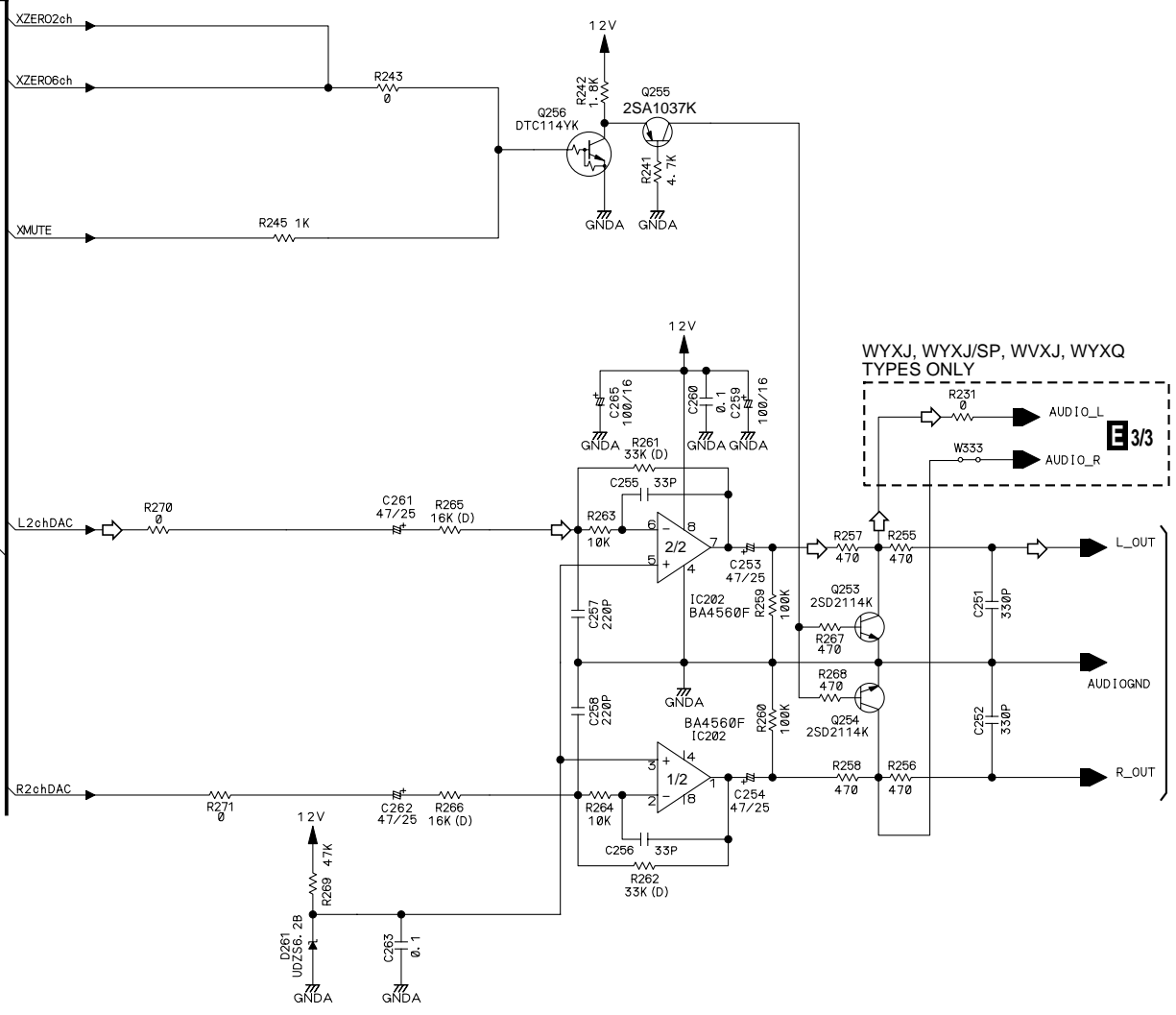
○ : The power supply is shown with the marked box.

3.7 FLJB ASSY (2/3)

E 2/3 FLJB ASSY (VWV1777: WYXJ, WYXJ/SP, WVXJ, WYXQ)
(VWV1776: RDXJ/RB, RDXJ/RD, RDXJ1/RA)



⇨ : AUDIO SIGNAL ROUTE



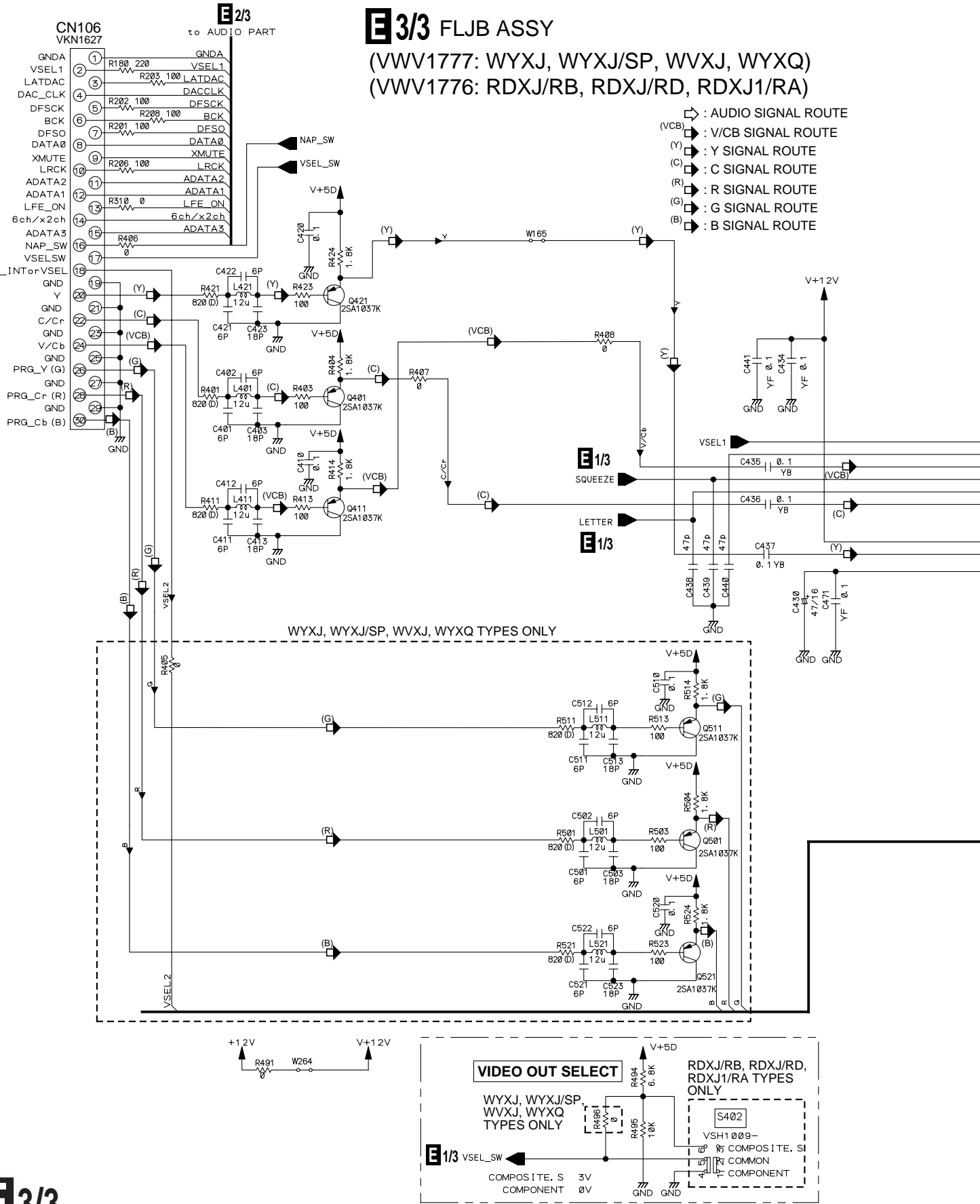
3.8 FLJB ASSY (3/3)

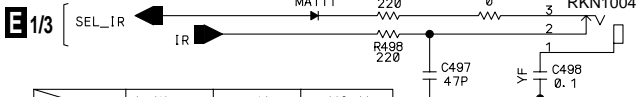
E 3/3 FLJB ASSY

(VWV1777: WYXJ, WYXJ/SP, WVXJ, WYXQ)
 (VWV1776: RDXJ/RB, RDXJ/RD, RDXJ1/RA)

- ◻ : AUDIO SIGNAL ROUTE
- (VCB) ◻ : V/CB SIGNAL ROUTE
- (Y) ◻ : Y SIGNAL ROUTE
- (C) ◻ : C SIGNAL ROUTE
- (R) ◻ : R SIGNAL ROUTE
- (G) ◻ : G SIGNAL ROUTE
- (B) ◻ : B SIGNAL ROUTE

D 3/3
CN15





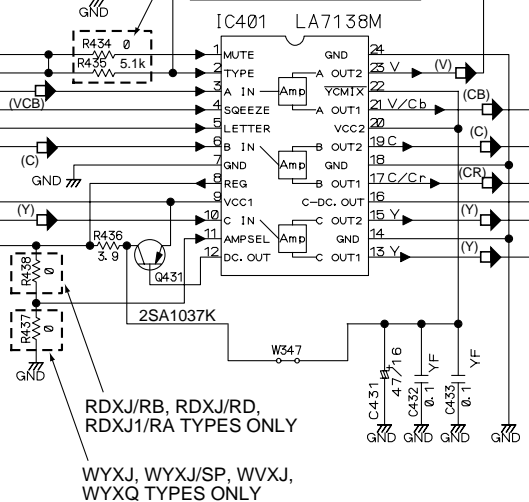
	LOW	OPEN	HIGH
TYPE	S&COM	—	COMPONENT
MUTE	13, 17, 21 (OUT2 OUT)	NO MUTE (OUT1,2 OUT)	15, 19, 23 (OUT1 OUT)
AMP SEL	6dB (/WY, /WV)		8.5dB
Y/C MIX	ON		OFF

	Low	High
VSEL SIGNAL	A in=V B in=C	A in=Cb B in=Cr

WYXJ, WYXJ/SP, WVXJ, WYXQ TYPES ONLY

RDXJ/RB, RDXJ/RD, RDXJ1/RA TYPES ONLY

3IN 6OUT VIDEO AMP

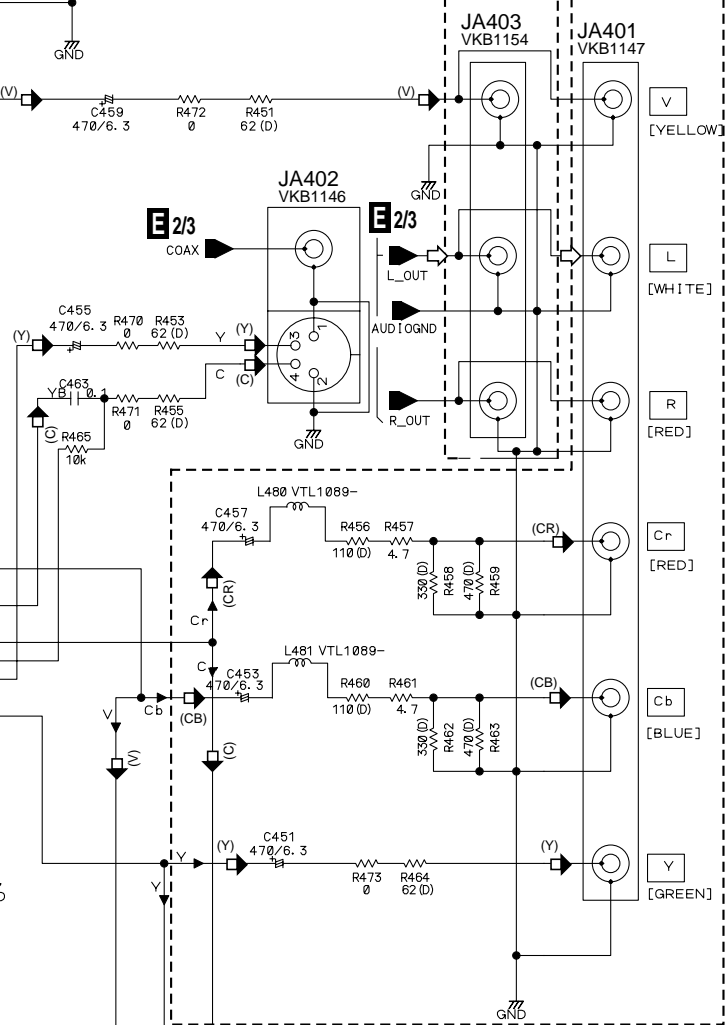


RDXJ/RB, RDXJ/RD, RDXJ1/RA TYPES ONLY

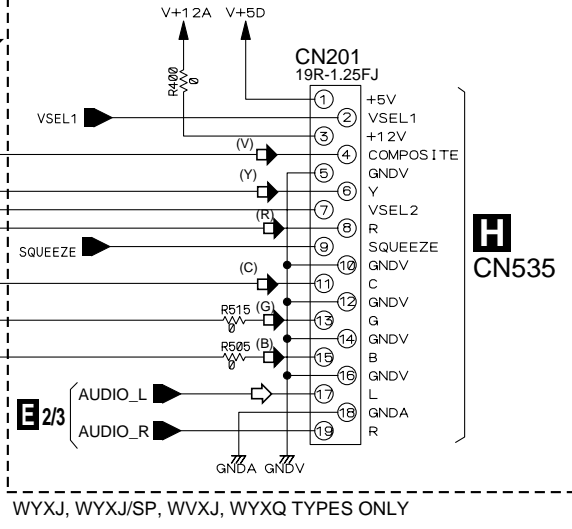
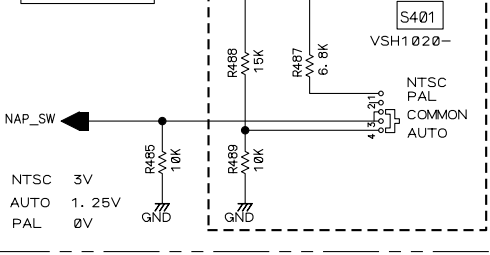
WYXJ, WYXJ/SP, WVXJ, WYXQ TYPES ONLY

WYXJ, WYXJ/SP, WVXJ, WYXQ TYPES ONLY

RDXJ/RB, RDXJ/RD, RDXJ1/RA TYPES ONLY



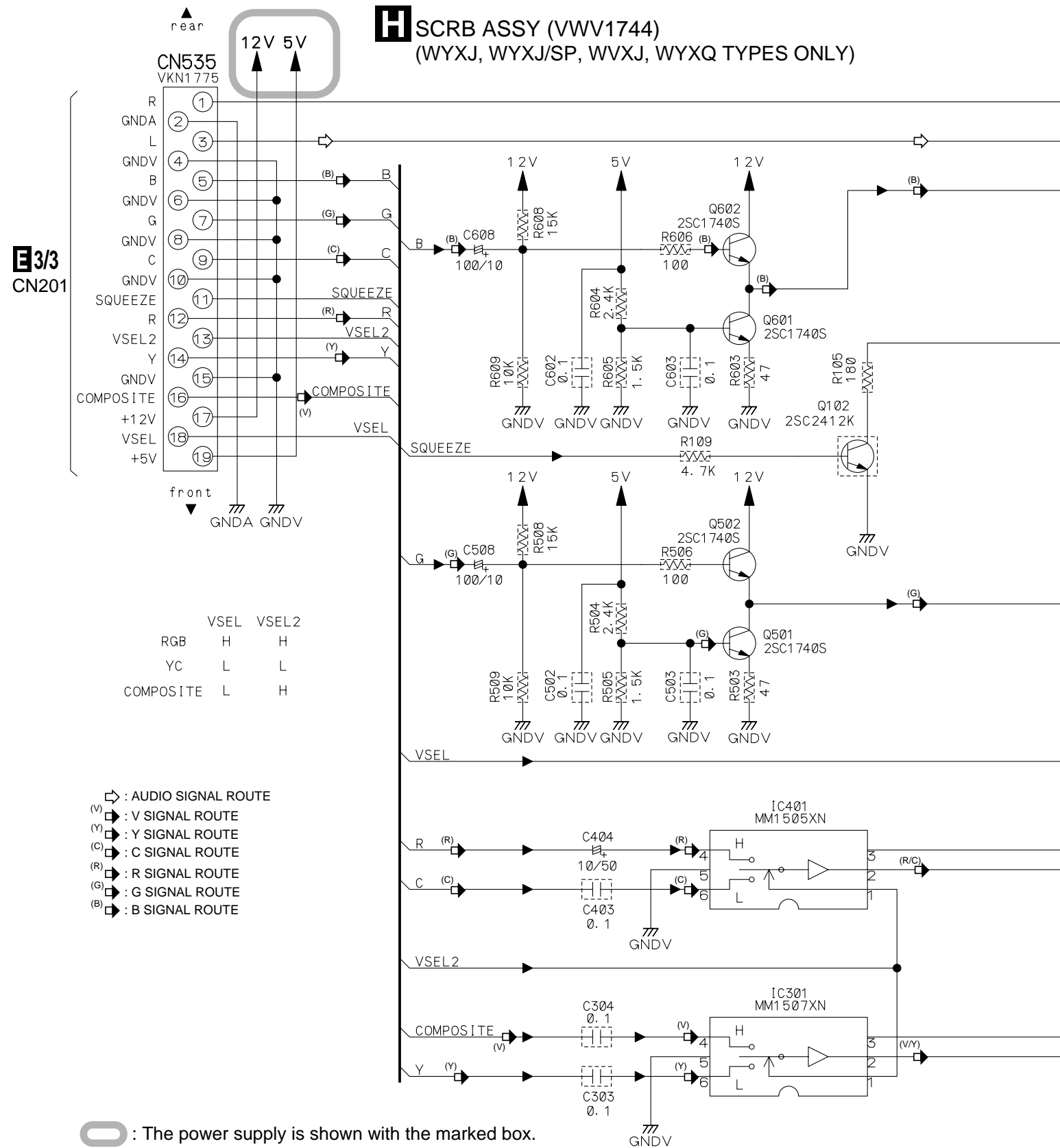
TV SYSTEM

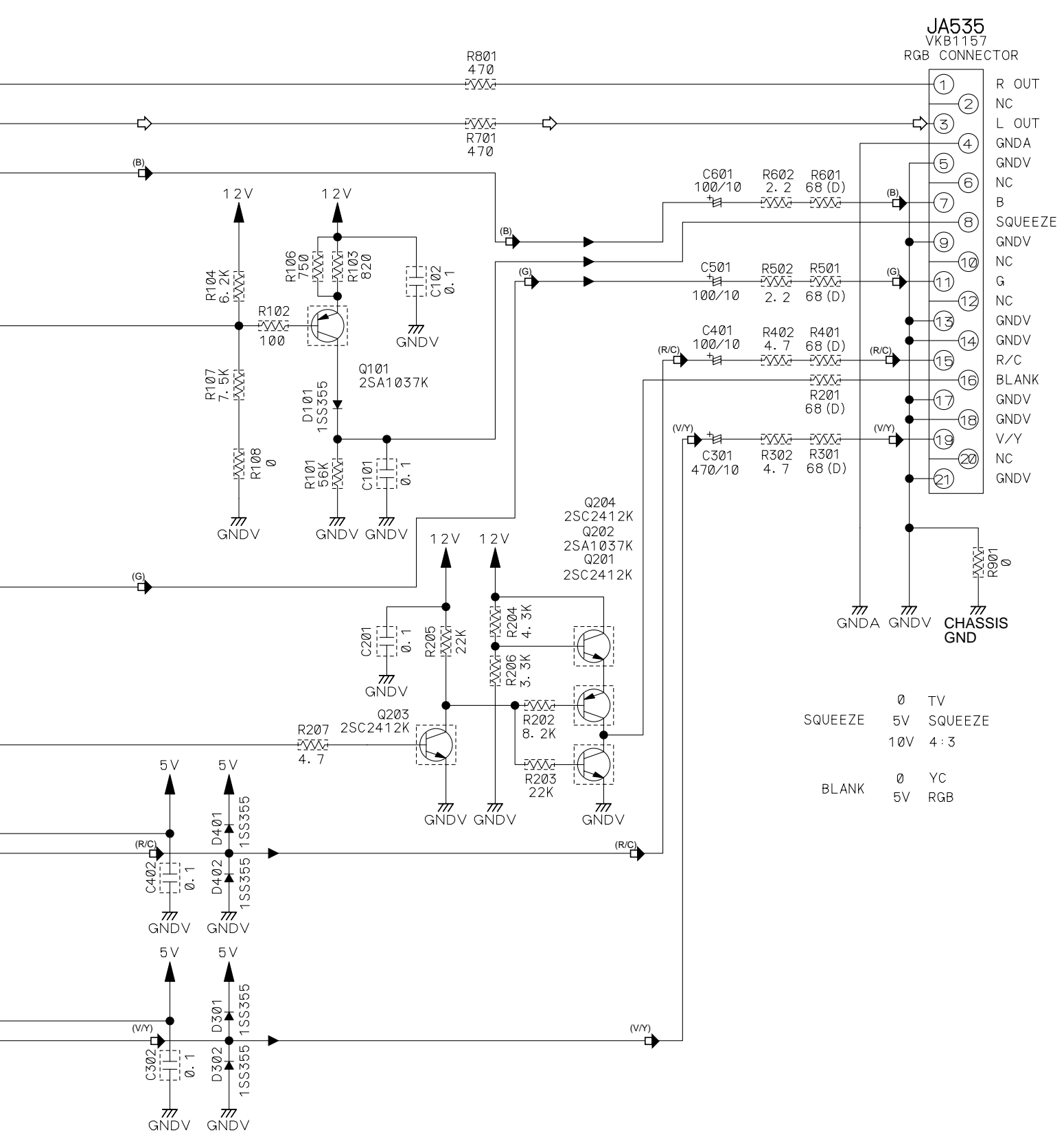


CN535

WYXJ, WYXJ/SP, WVXJ, WYXQ TYPES ONLY

3.9 SCRB ASSY (WYXJ, WYXJ/SP, WVXJ and WYXQ TYPES ONLY)



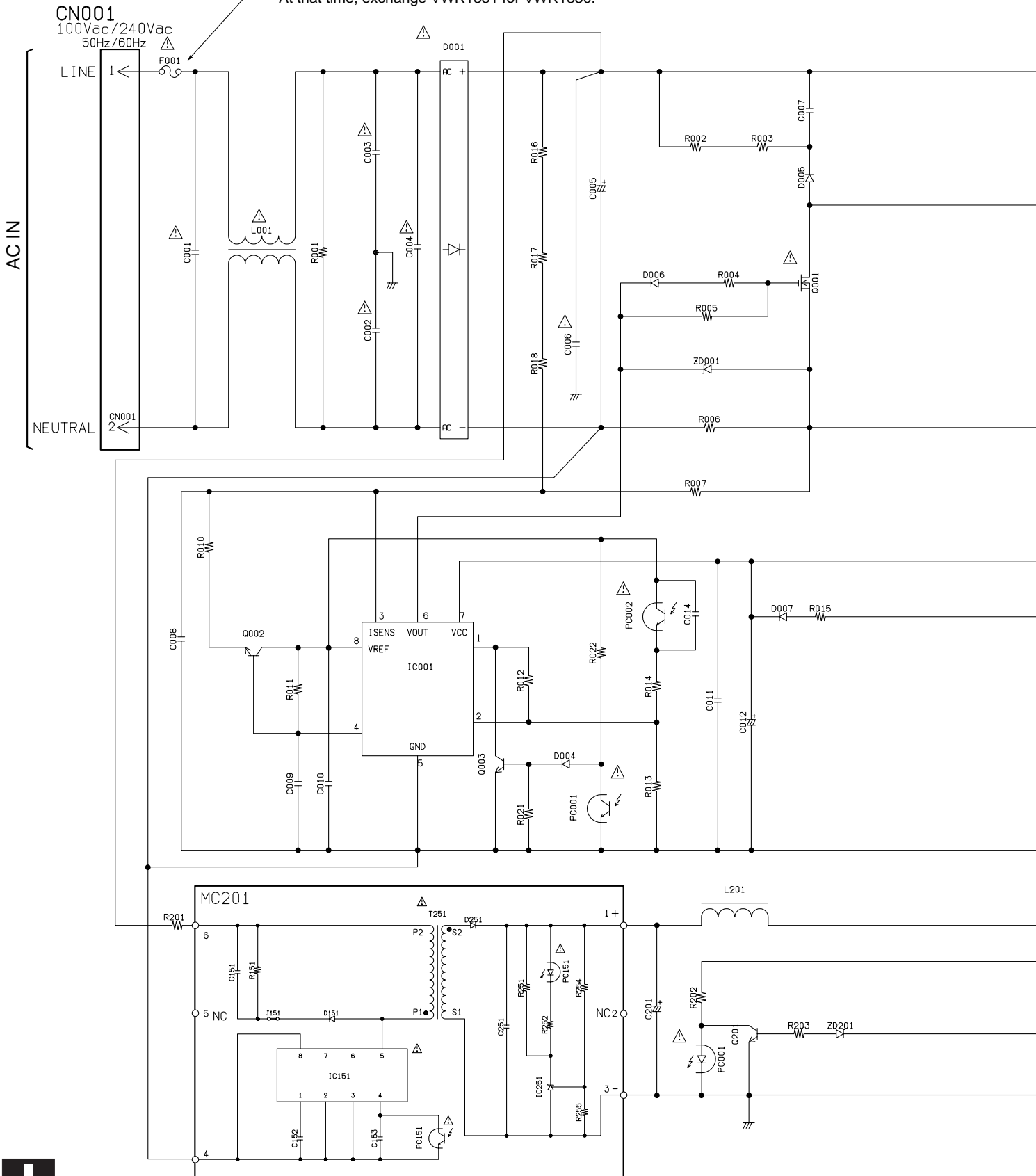


SQUEEZE	0	TV
	5V	SQUEEZE
	10V	4:3
BLANK	0	YC
	5V	RGB

3.10 POWER SUPPLY UNIT (VWR1331)

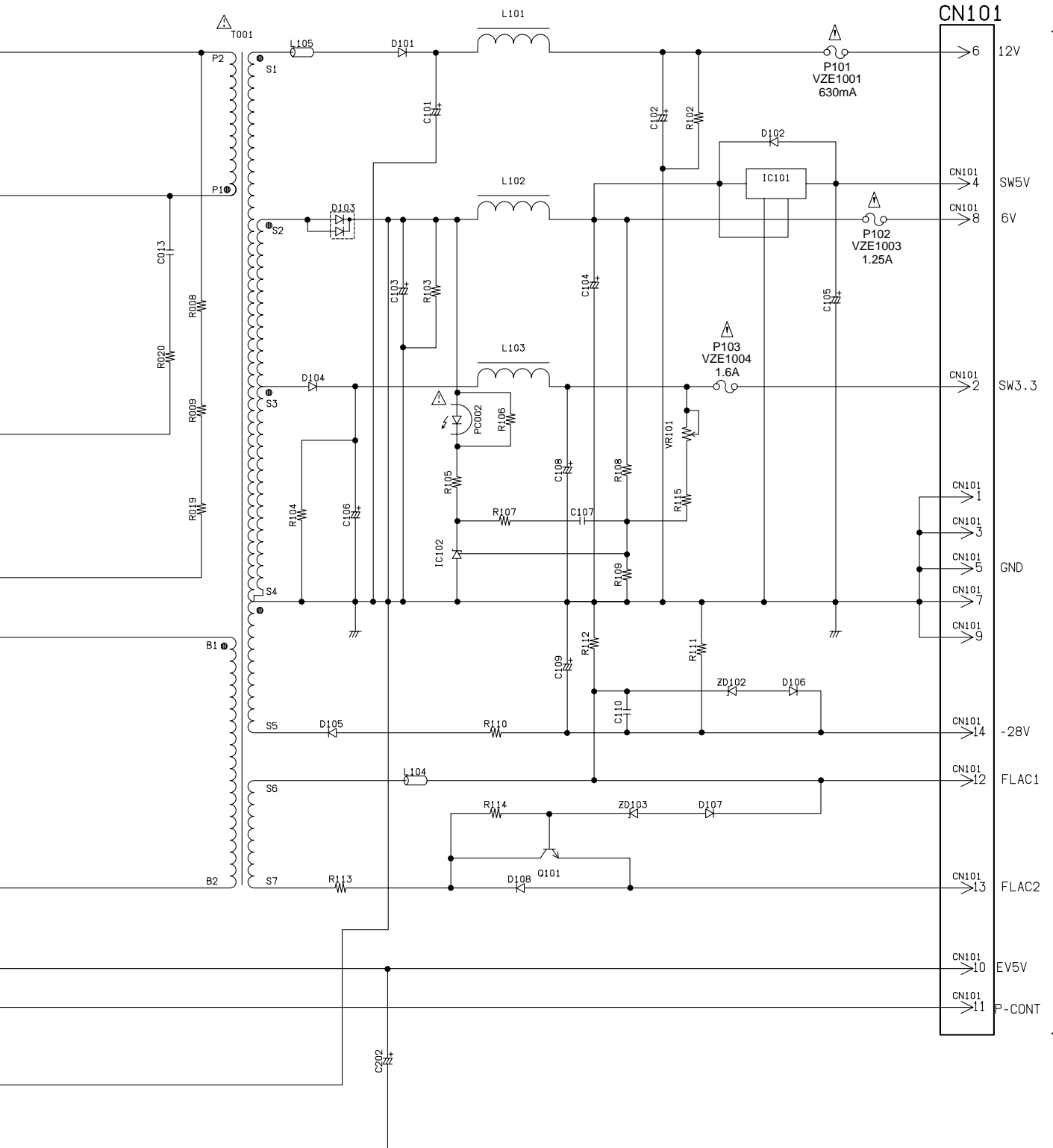
POWER SUPPLY UNIT (VWR1331)

Note : When the fuse(F001) on VWR1331 blow out, VWR1331 might be damaged.
At that time, exchange VWR1331 for VWR1330.



« NOTE OF SPARE PARTS IN POWER SUPPLY (SYPS) UNIT »

- In case of repairing, use the described parts only to prevent an accident.
- Please write the red √ mark on the board when the primary section of POWER SUPPLY (SYPS) Unit is repaired.
- Please take care to keep the space, not touching other parts when replacing the parts.



• NOTE FOR FUSE REPLACEMENT

CAUTION -FOR CONTINUED PROTECTION AGAINST RISK OF FIRE,
REPLACE WITH SAME TYPE AND RATINGS ONLY.

1/3
CN101

30

POWER SUPPLY UNIT (VWR1330)

» **NOTE OF SPARE PARTS IN POWER SUPPLY (SYPS) UNIT** »

- In case of repairing, use the described parts only to prevent an accident.
- Please write the red ✓ mark on the board when the primary section of POWER SUPPLY (SYPS) Unit is repaired.
- Please take care to keep the space, not touching other parts when replacing the parts.

DV-535

3.11 POWER SUPPLY UNIT (VWR1330)

E1/3
CN101

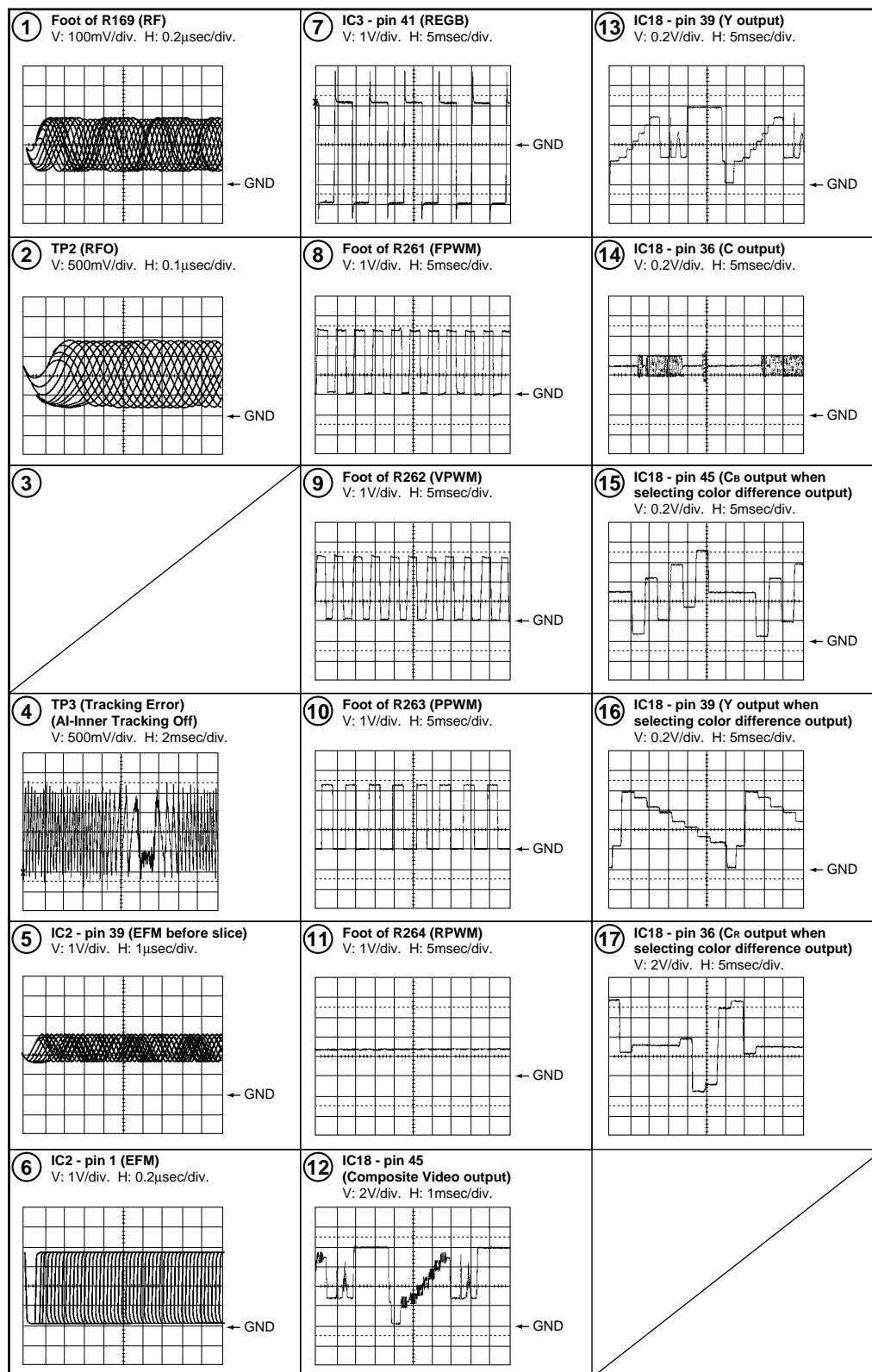
• NOTE FOR FUSE REPLACEMENT

CAUTION -FOR CONTINUED PROTECTION AGAINST RISK OF FIRE,
REPLACE WITH SAME TYPE AND RATINGS ONLY.

WAVEFORMS

Note : The encircled numbers denote measuring point in the schematic diagram.

Measurement condition : No. 1 to 4 and 6 to 11 : MJK1, Title 1-chp 1
 No. 5 : CD, ABEX-784 Track 1
 No. 12 to 14 : MJK1, Title 1-chp 4
 No. 15 to 17 : MJK1, Title 1-chp 5



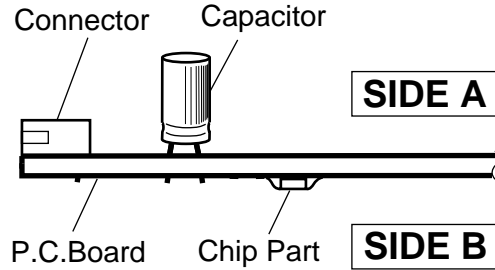
4. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

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

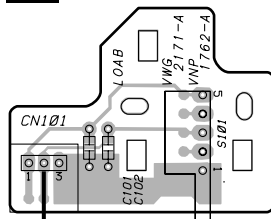
Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

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



4.1 LOAB and SMEB ASSYS

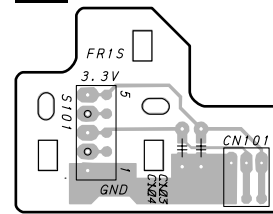
A LOAB ASSY



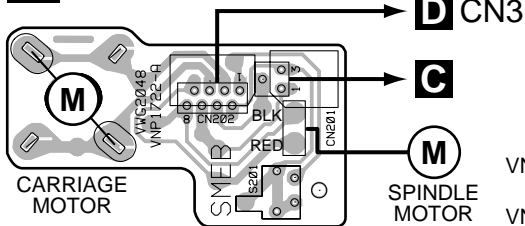
VNP1762-A : WYXJ, WYXJ/SP, WVXJ, RDXJ/RB, RDXJ/RD, RDXJ1/RA Types
VNP1774-A : WYXQ Type

D CN1

A LOAB ASSY



B SMEB ASSY

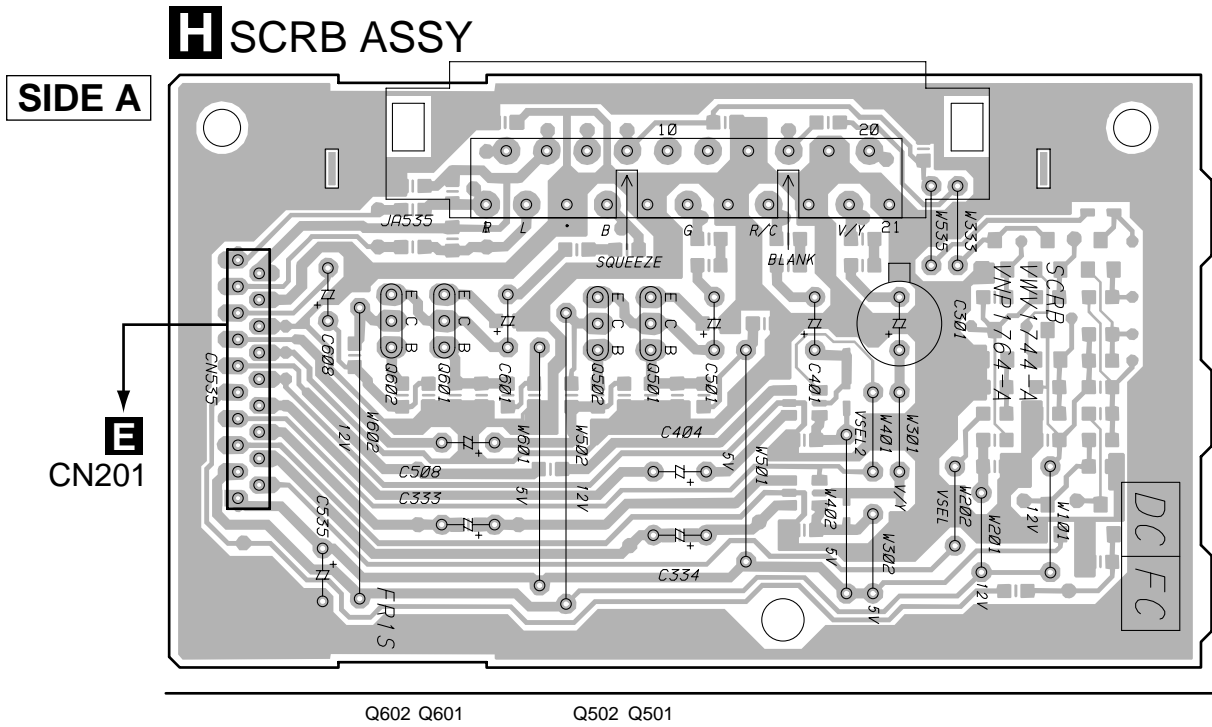


VNP1722-A : WYXJ, WYXJ/SP, WVXJ, RDXJ/RB, RDXJ/RD, RDXJ1/RA Types
VNP1732-A : WYXQ Type

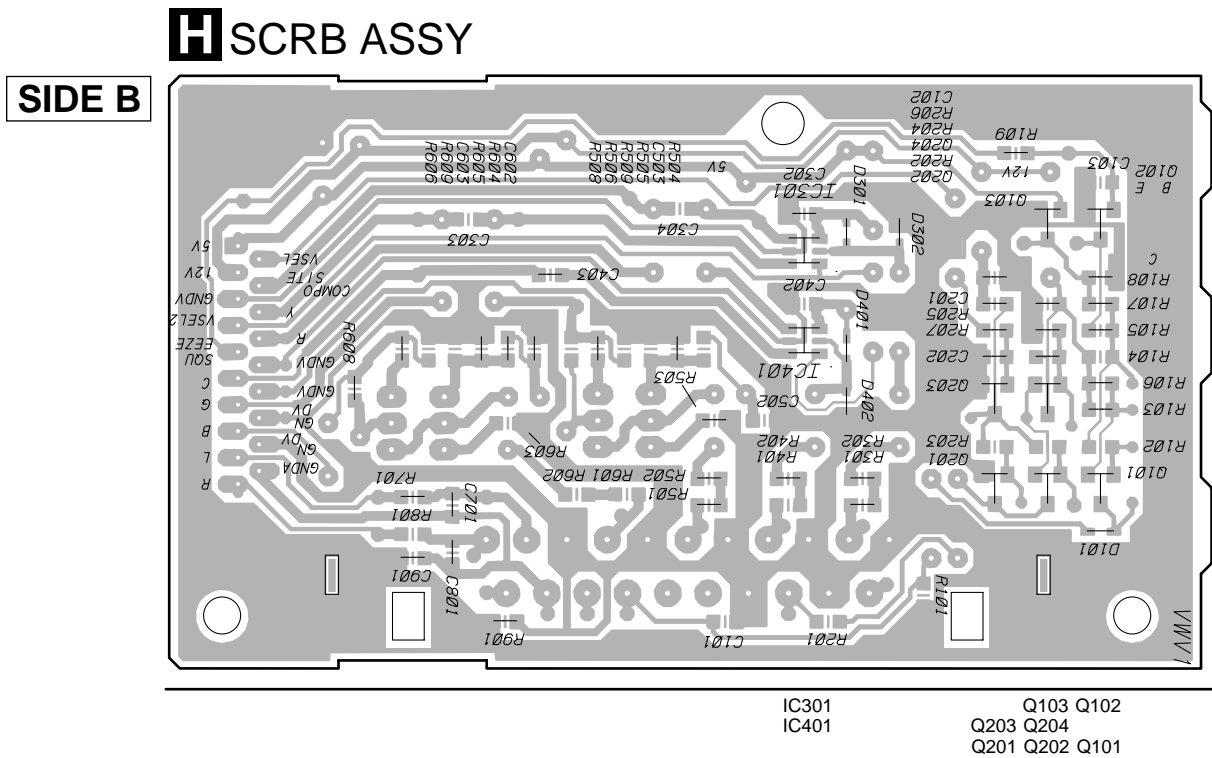
SIDE A

SIDE B

4.2 SCRB ASSY



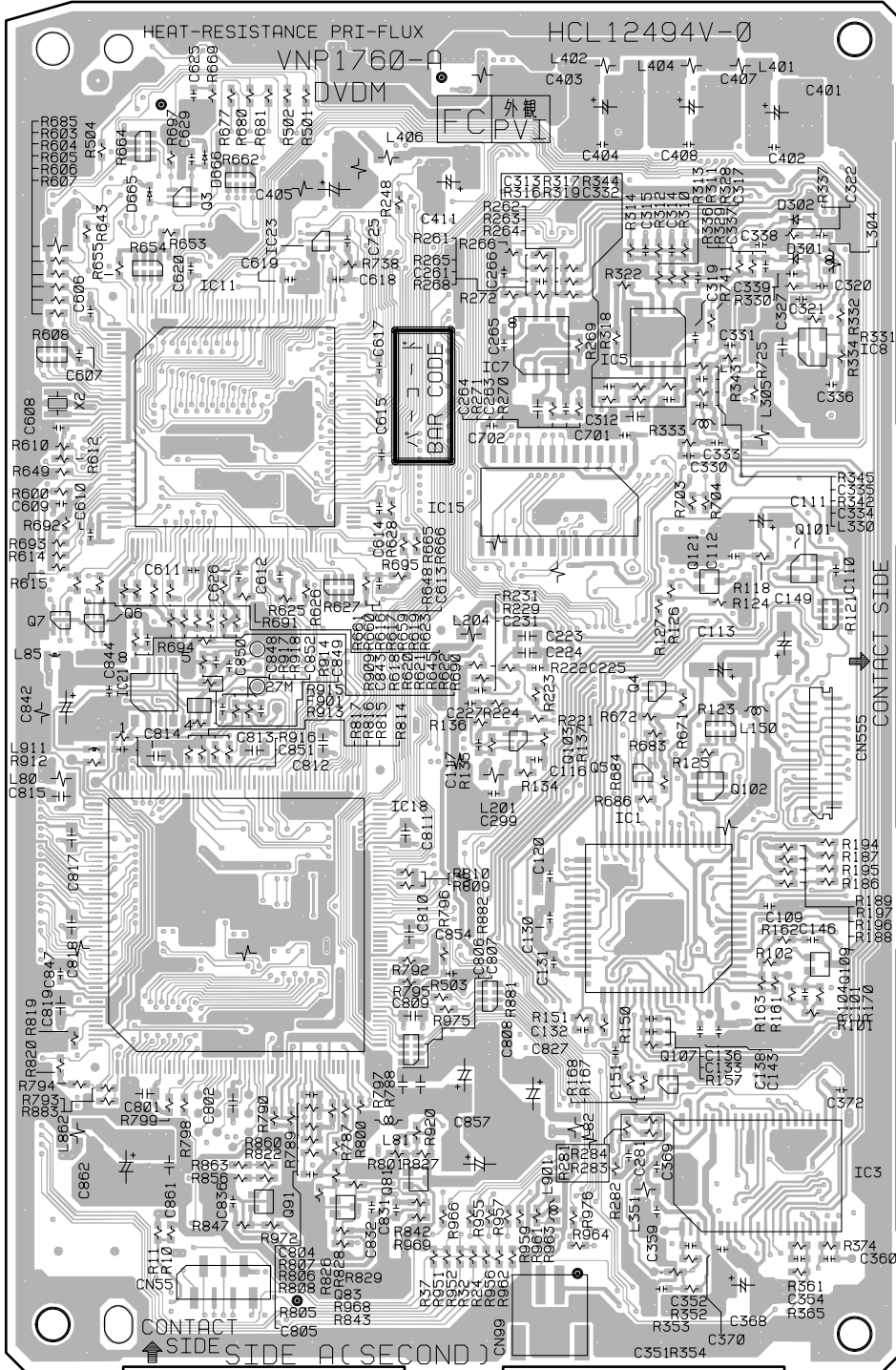
VNP1764-A : WYXJ, WYXJ/SP, WVXJ, RDXJ/RB,
RDXJ/RD, RDXJ1/RA Types
VNP1786-A : WYXQ Type



4.3 DVDM ASSY

D DVDM ASSY

• This PCB is a four-layered board.



- Q3
- IC7 IC5 IC8
- IC11
- IC15
- Q121 Q101
- Q7 Q6
- IC21 Q4
- Q103
- Q5 Q102
- IC18 IC1
- Q109
- Q107
- Q81 IC3
- Q91 Q83

VNP1760-A : WYXJ, WYXJ/SP, WVXJ, RDXJ/RB, RDXJ/RD, RDXJ1/RA Types
 VNP1776-A : WYXQ Type

SIDE A



D DVDM ASSY

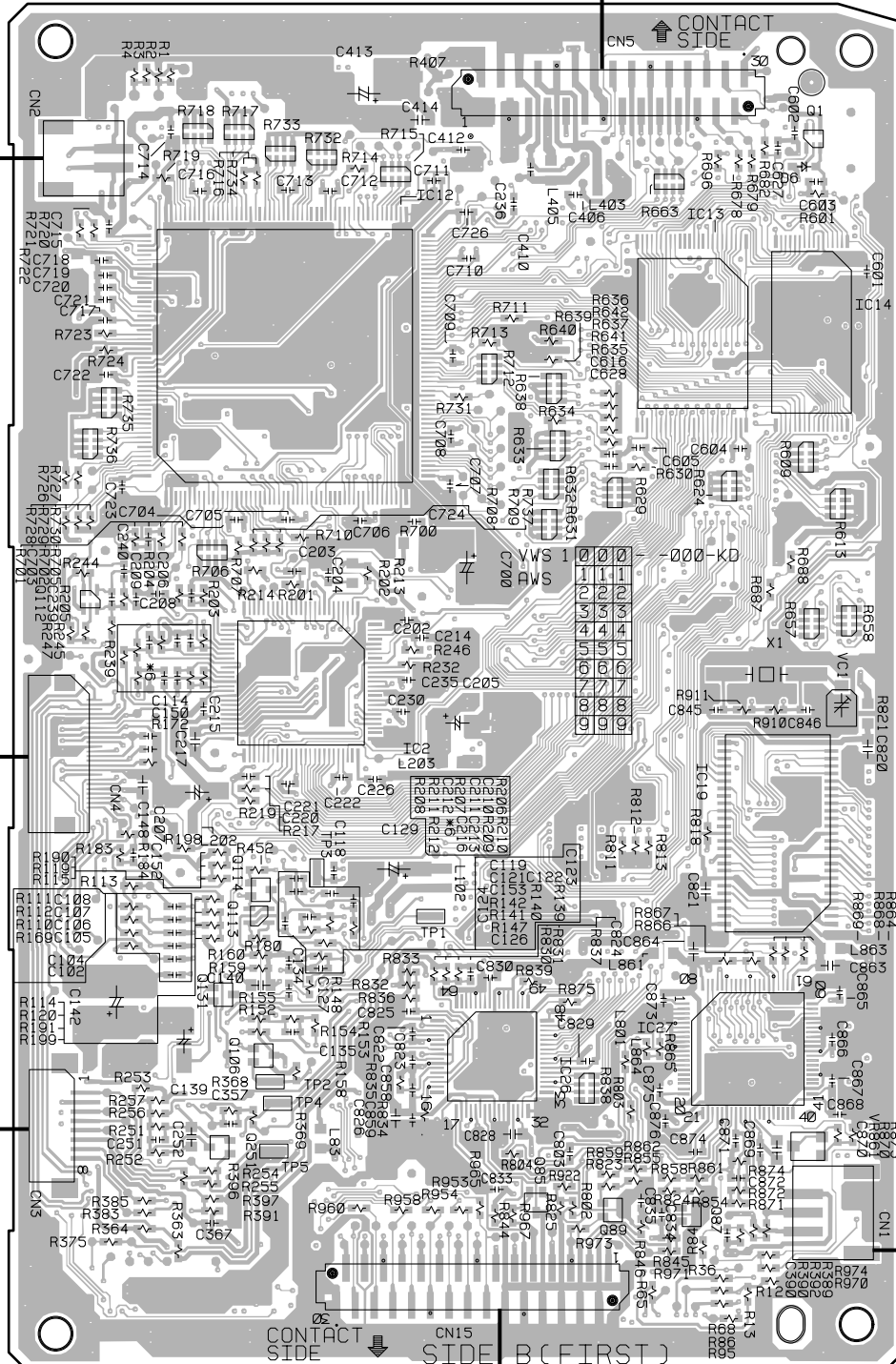
E CN102

• This PCB is a four-layered board.

LOADING MOTOR ASSY

PICKUP ASSY

B CN202



Q1

IC12 IC13 IC14

Q112

IC2

IC19

Q114

Q113

Q131

Q106 IC26 IC27

Q251

Q85 Q89 Q87

VNP1760-A : WYXJ, WYXJ/SP, WVXJ, RDXJ/RB,
RDXJ/RD, RDXJ1/RA Types
VNP1776-A : WYXQ Type

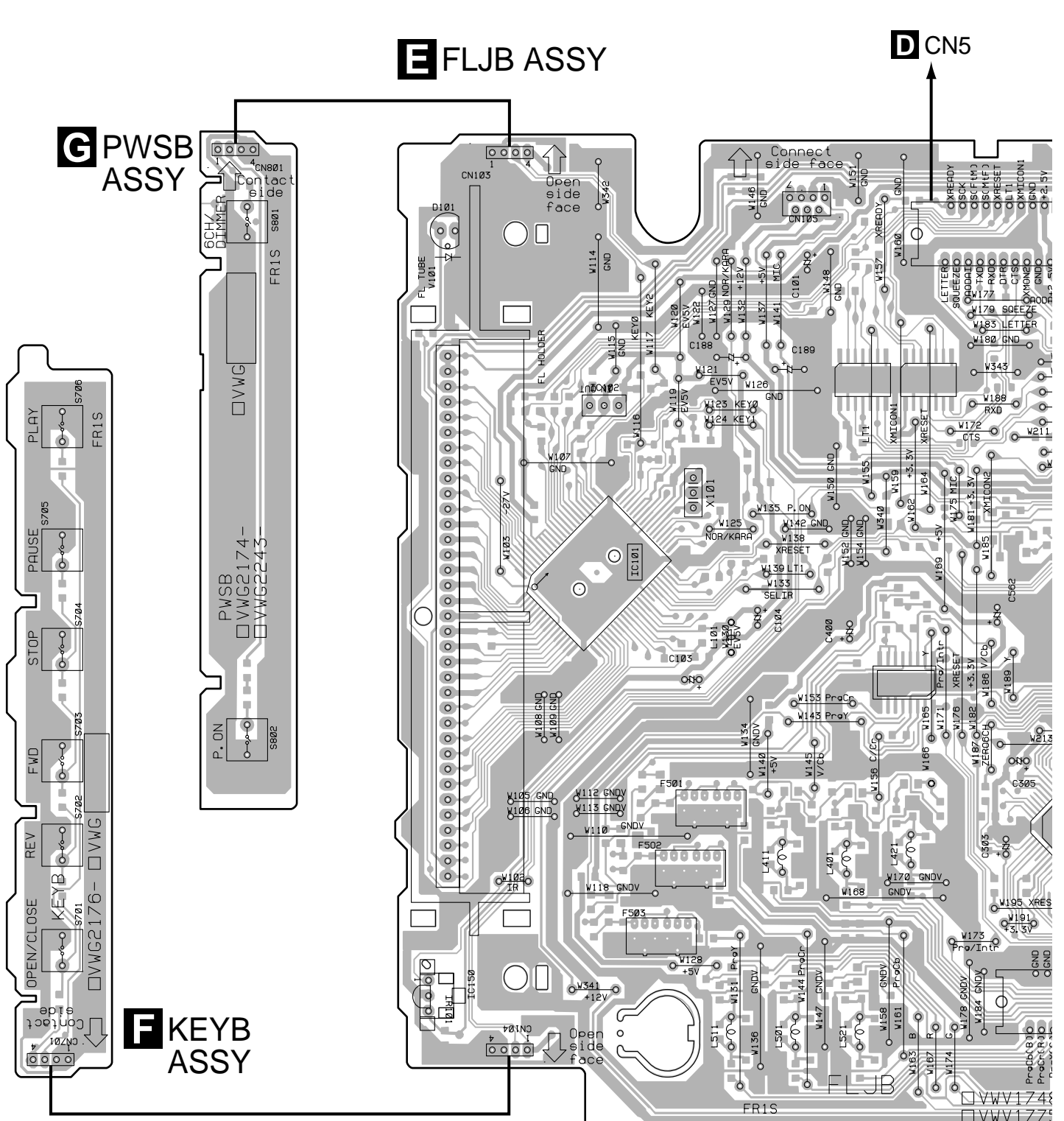
E CN106

A CN101

SIDE B

D

4.4 FLJB, KEYB and PWSB ASSYS

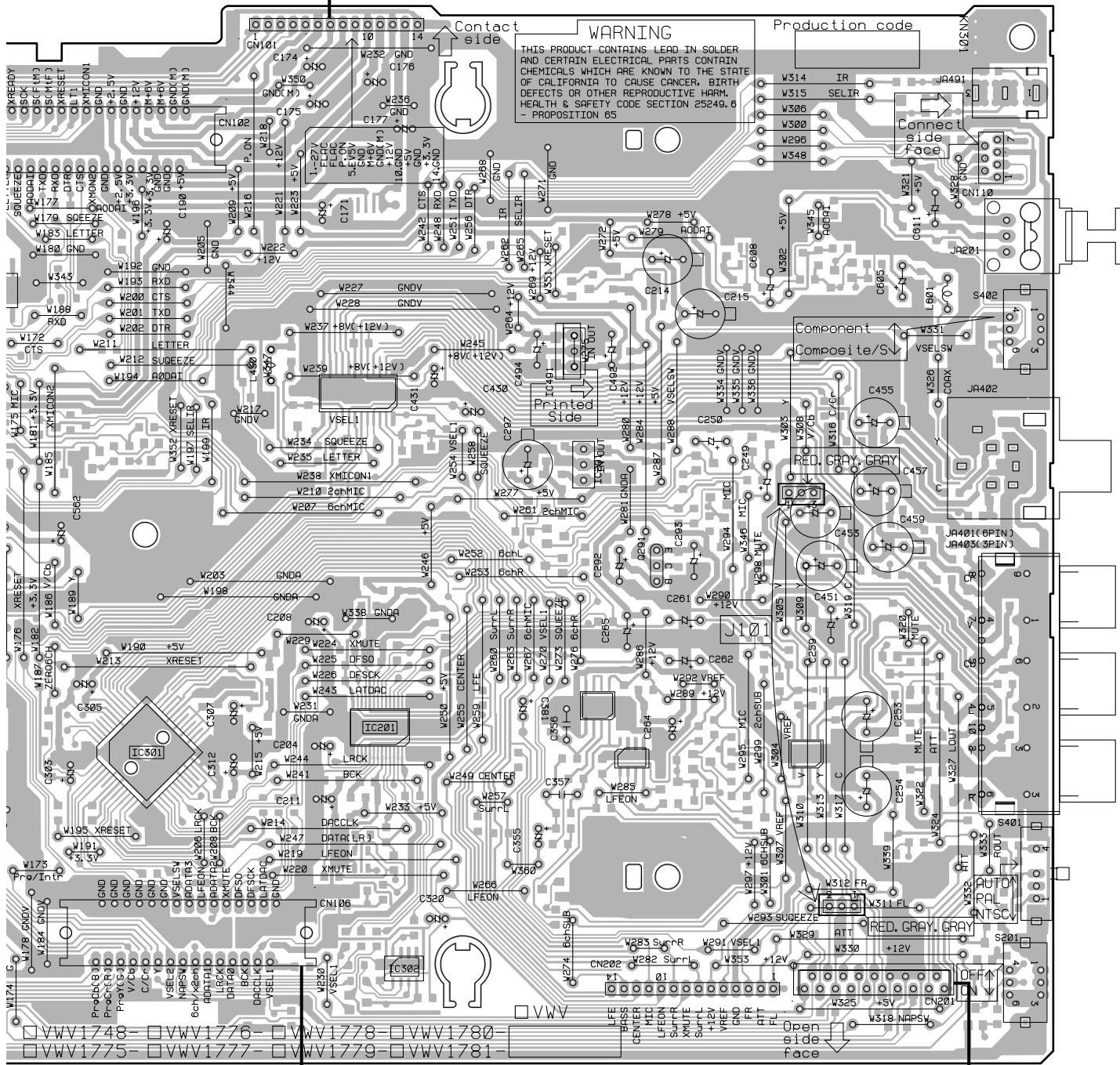


VNP1761-B : WYXJ, WYXJ/SP, WVXJ, RDXJ/RB,
 RDXJ/RD, RDXJ1/RA Types
 VNP1775-B : WYXQ Type

IC150
 IC102
 IC101

V5

I CN101



IC301

IC201
IC302

IC491

Q291

D CN15

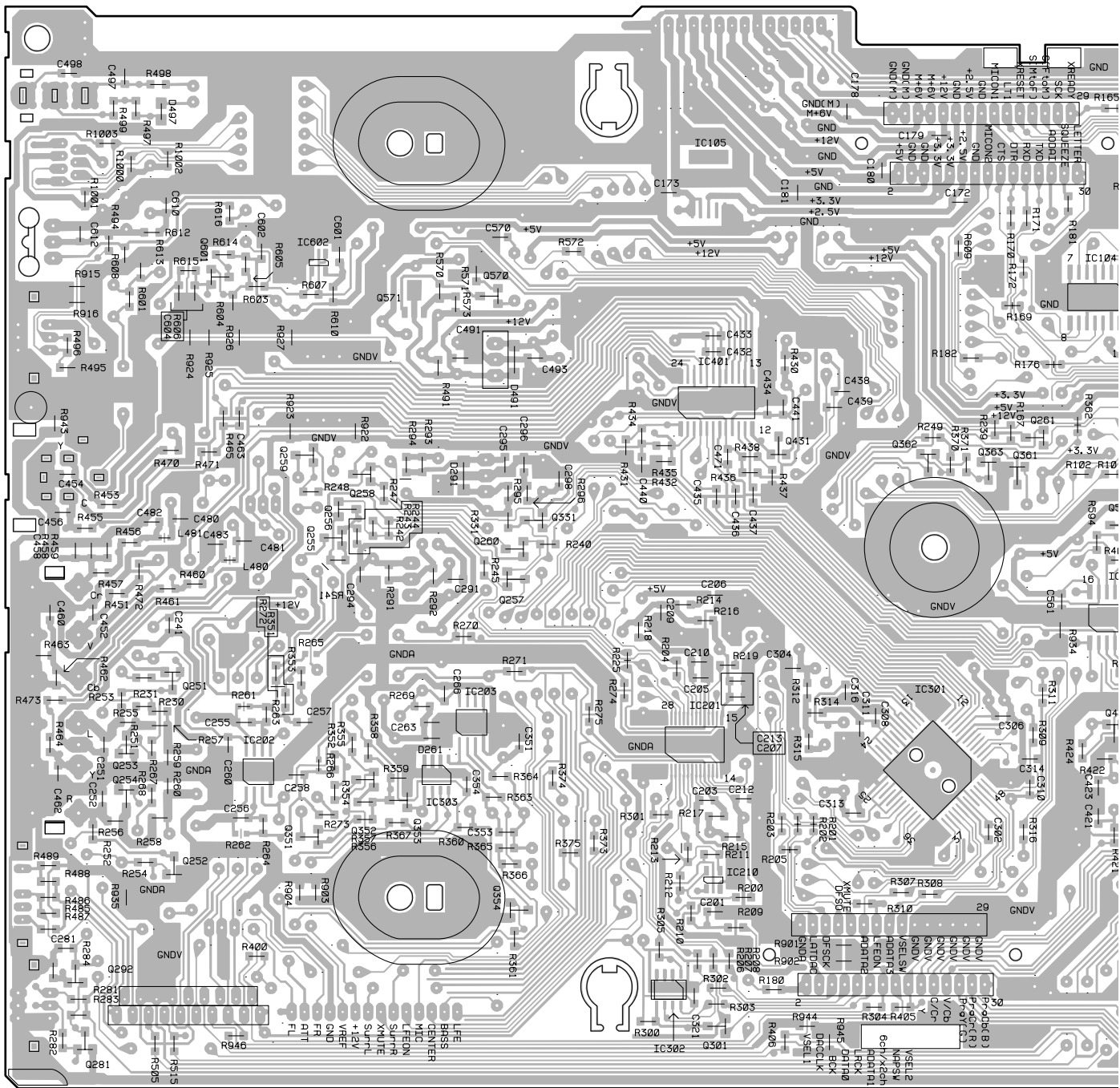
H CN535

E

A
B
C
D

1 2 3 4

FLJB ASSY



A

B

C

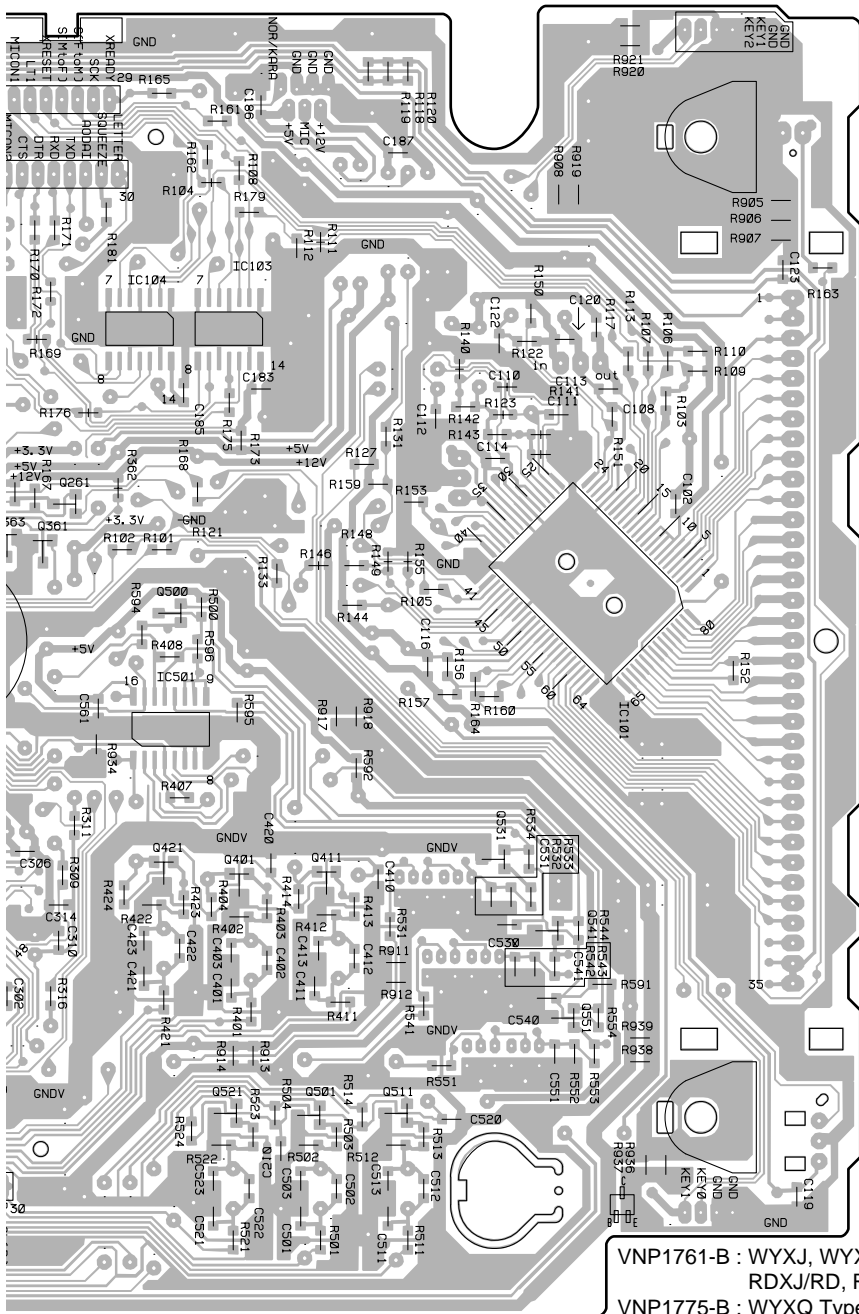
D

Q253	Q601	IC602	Q258	Q570	Q260	Q331	IC401	Q431	Q362	Q363	Q361	Q261	IC105
Q292	Q254	Q259	Q256	Q257	Q257		IC201		IC301				
Q281		IC202	Q255	Q351-Q353	IC303	IC203	IC302	Q301					
				Q354									

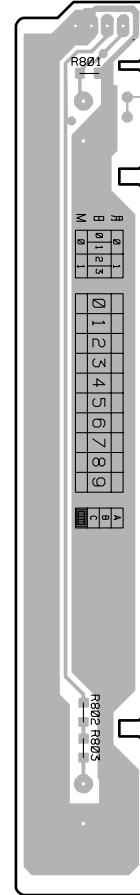


1 2 3 4

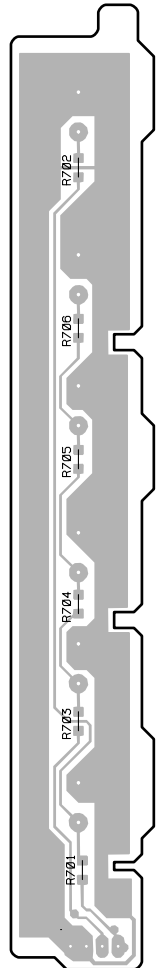
A



VNP1761-B : WYXJ, WYXJ/SP, WVXJ, RDXJ/RB,
 RDXJ/RD, RDXJ1/RA Types
 VNP1775-B : WYXQ Type



G PWSB
ASSY



F KEYB
ASSY

B

C

D

4.5 POWER SUPPLY UNIT (VWR1330)

A

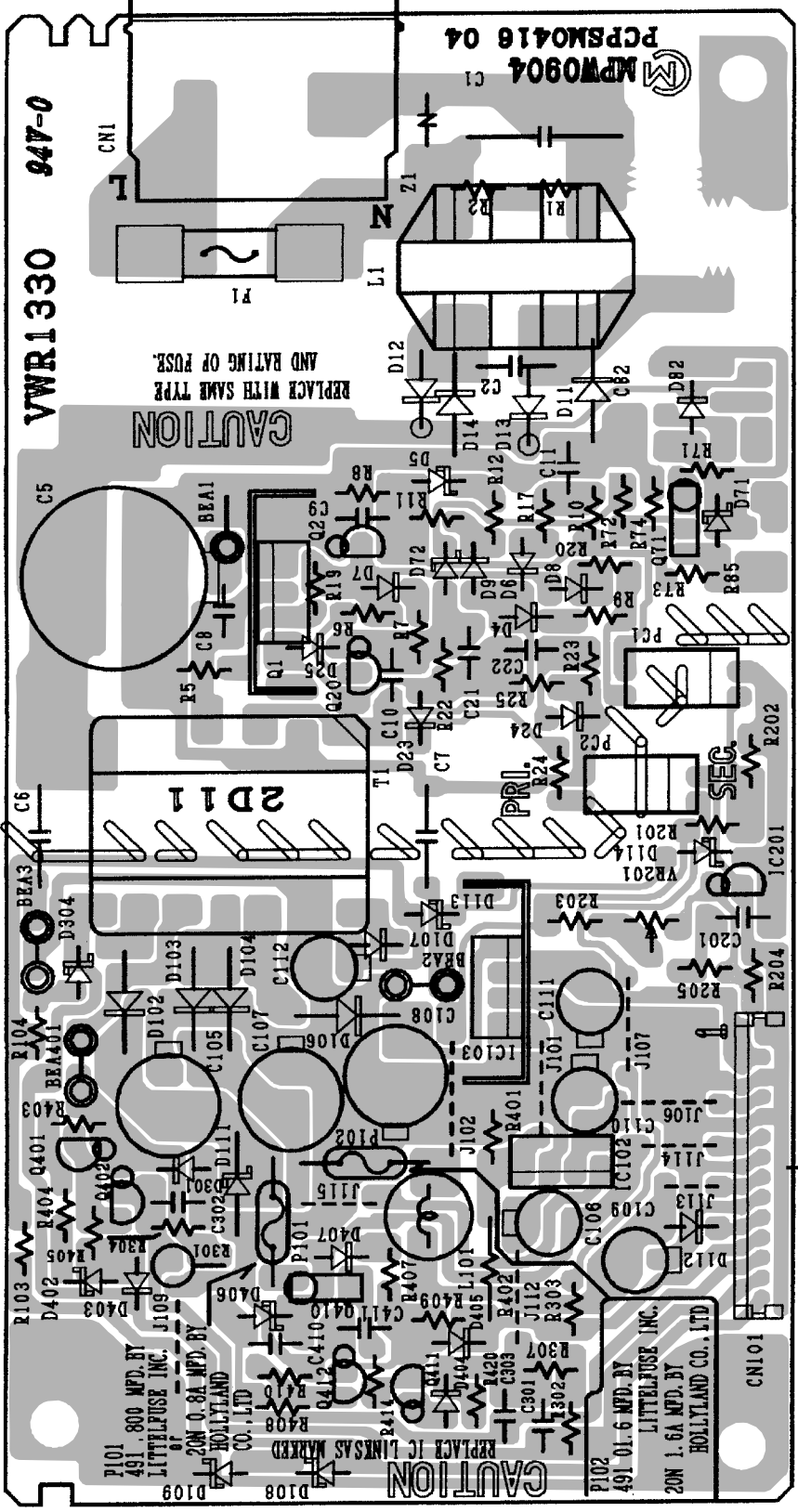
AC IN ← **POWER SUPPLY UNIT**

B

C

D

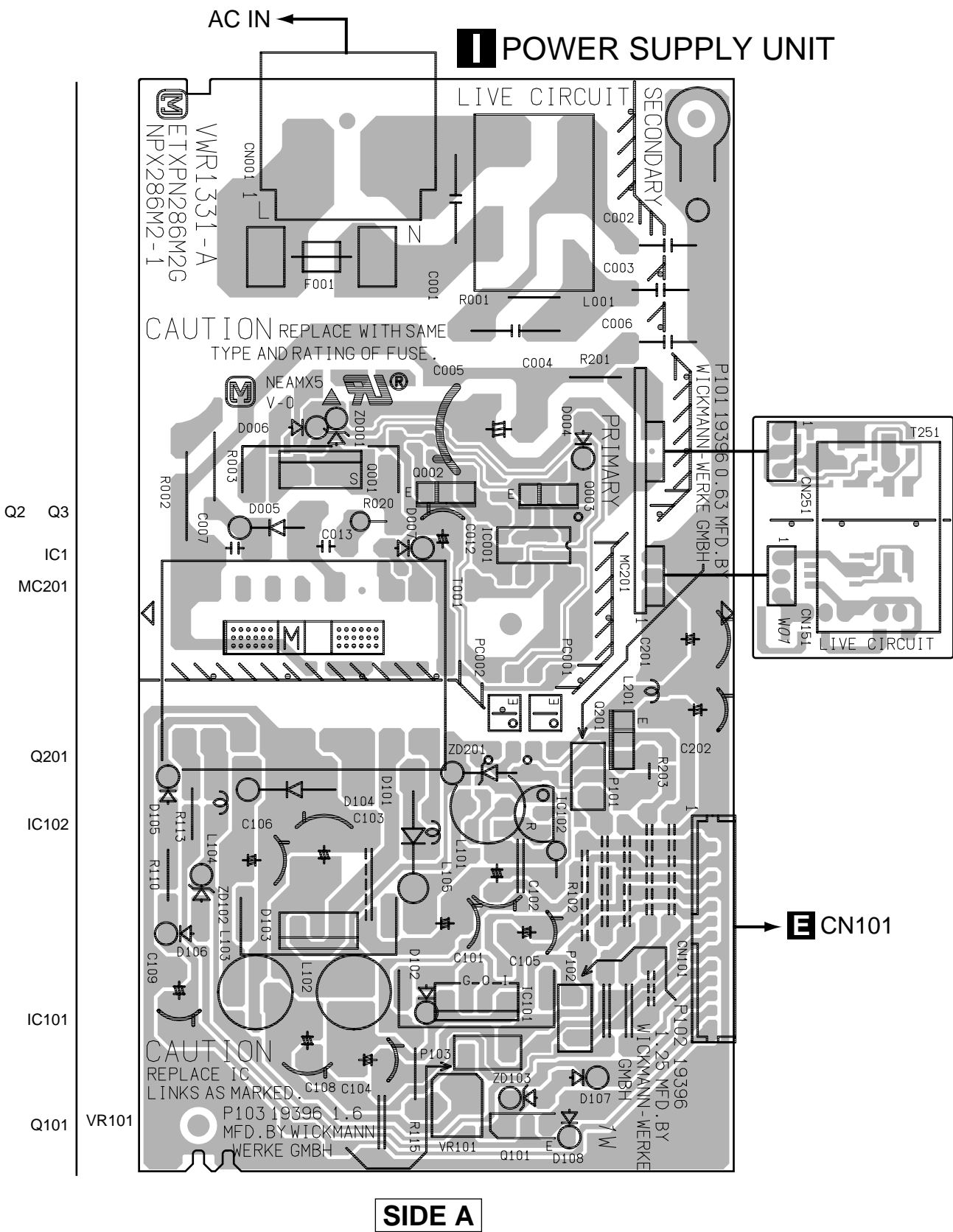
Q2 Q71
 Q1
 Q20
 IC201
 VR 201
 IC103
 Q401
 IC102
 Q402
 Q410
 Q412 Q411



SIDE A

CN101

4.6 POWER SUPPLY UNIT (VWR1331)



5. PCB PARTS LIST

- NOTES: ●Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
 ●The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
 ●When ordering resistors, first convert resistance values into code form as shown in the following examples.
- Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).
- 560 Ω → 56 × 10¹ → 561 RD1/4PU 5 6 1 J
 47k Ω → 47 × 10³ → 473 RD1/4PU 4 7 3 J
 0.5 Ω → R50 RN2H R 5 0 K
 1 Ω → 1R0 RS1P 1 R 0 K
- Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).
- 5.62k Ω → 562 × 10¹ → 5621 RN1/4PC 5 6 2 1 F

■ LIST OF WHOLE PCB ASSEMBLIES

Mark	Symbol and Description	Part No.		Remarks
		WYXJ, WYXJ/SP, WYXJ, WYXQ Types	RDXJ/RB, RDXJ/RD, RDXJ1/RA Types	
NSP	LOADING MECHANISM ASSY	VWT1174	VWT1174	
NSP	└ LOAB ASSY	VWG2171	VWG2171	
NSP	└ TRAVERSE MECHANISM ASSY	VWT1161	VWT1161	
NSP	└ SMEB ASSY	VWG2048	VWG2048	
NSP	└ FGSB ASSY	VWG2009	VWG2009	
	DVDM ASSY	VWS1438	VWS1412	
NSP	FLJB ASSY	VWM2046	VWM2045	
NSP	└ FLJB ASSY	VWV1777	VWV1776	
NSP	└ KEYB ASSY	VWG2176	VWG2176	
NSP	└ PWSB ASSY	VWG2174	VWG2174	
	SCRB ASSY	VWV1744	Not used	
Δ	POWER SUPPLY UNIT	VWR1330	VWR1330	*1
ΔNSP	POWER SUPPLY UNIT	VWR1331	VWR1331	*1

*1: As for the POWER SUPPLY UNIT, either VWR1330 or VWR1331 is installed. Install VWR1330 when replacing the POWER SUPPLY UNIT.

■ CONTRAST OF PCB ASSEMBLIES

D DVDM ASSY

VWS1438 and VWS1412 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		VWS1438	VWS1412	
	IC26	MC44724A	Not used	
	Q87, Q89, Q91	2SA1576A	Not used	
	C822-C825, C829, C830, C834-C836	CKSRYF104Z16	Not used	
	C858, C859	CKSRYF104Z16	Not used	
	C826, C828	CKSQYF105Z16	Not used	
	C827	CEV101M10	Not used	
	R1	RS1/16S333J	Not used	
	R2	RS1/16S223J	RS1/16S103J	
	R501, R502, R801, R802, R828	Not used	RS1/16S0R0J	
	R803, R804, R829, R854-R856, R858-R860	RS1/16S0R0J	Not used	
	R875, R920, R922, R970-R973, R8010, R8200	RS1/16S0R0J	Not used	
	R822-R824	RS1/16S2000F	Not used	
	R825	RS1/16S1800F	RS1/16S2000F	
	R830	RS1/16S2002F	Not used	
	R831, R832	RS1/16S1201F	Not used	

Mark	Symbol and Description	Part No.		Remarks
		VWS1438	VWS1412	
	R833 R834, R835 R836, R837 R838 (0Ω) R839 R845-R847	RS1/16S3902F RS1/16S1801F RS1/16S1001F DCN1106 RS1/16S103J RS1/16S182J	Not used Not used Not used Not used Not used Not used	



VWV1777 and VWV1776 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		VWV1777	VWV1776	
	Q501, Q511, Q521 S402 L480, L481 L501, L511, L521 C451, C453, C457 C501, C502, C511, C512, C521, C522 C503, C513, C523 C510, C520 R143 R231, R400, R405, R437, R496, R591 R432 R434, R438, R473 R435 R456, R460 R457, R461 R458, R462 R459, R463 R464 R501, R511, R521 R503, R513, R523 R504, R514, R524 CN201 19P CONNECTOR JA401 6P PIN JACK JA403 3P PIN JACK J101 CONNECTOR ASSY	2SA1037K Not used Not used LAU120J Not used CCSQCH6R0D50 CCSQCH180J50 CKSQYF104Z25 RS1/10S203J RS1/10S0R0J RS1/10S512J Not used Not used Not used Not used Not used Not used Not used RS1/10S8200D RS1/10S101J RS1/10S182J 19R-1.25FJ Not used VKB1154 PF03GG2C10	Not used VSH1009 VTL1089 Not used CEAT471M6R3 Not used Not used Not used RS1/10S683J Not used Not used RS1/10S0R0J RS1/10S512J RS1/10S1100D RS1/10S4R7J RS1/10S3300D RS1/10S4700D RS1/10S62R0D Not used Not used Not used Not used Not used Not used Not used	

DV-535

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

■ PARTS LIST for DV-535/WYXJ

A LOAB ASSY

SWITCH

S101	VSK1011
------	---------

OTHERS

CN101	KR CONNECTOR PC BOARD (LOAB)	S3B-PH-K-S VNP1762
-------	---------------------------------	-----------------------

B SMEB ASSY

SWITCH

S201	DSG1016
------	---------

OTHERS

CN201	3P FFC CONNECTOR	52044-0345
CN202	8P FFC CONNECTOR PC BOARD (SMEB)	VKN1212 VNP1722

C FGSB ASSY

SEMICONDUCTOR

PC101	GP2S60
-------	--------

RESISTOR

R101	RS1/10S331J
------	-------------

D DVDM ASSY

SEMICONDUCTORS

IC5,IC7	BA4510F
IC21	CY2081SL-638
IC14	KM68V1000CLT-7L
IC1	LA9701M
IC2	LC78652W

IC3	M56788FP
IC19	MB811171622A-100FN
IC18	MB86373B
IC26	MC44724A
IC15	MN414800CSJ-07

IC11	PD3410A
IC12	PE5108A
IC8	TC7SHU04F
IC13	VYW1727
Q106,Q109,Q81,Q83,Q85	2SA1576A

Q87,Q89,Q91	2SA1576A
Q114,Q121,Q251	2SC4081
Q131	DTC114EUA
Q102	HN1A01F
Q103,Q6,Q7	HN1B04FU

Q101	HN1C01F
Q112,Q113	HN1C01FU
Q107,Q4,Q5	RN1902
Q3	RN1911
Q1	RN4982

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

D301	KV1471E
D6	RB501V-40
D665,D666	RB521S-30

COILS

L150,L330	CHIP COIL	LCYA100J2520
L304	CHIP COIL	LCYA2R7J2520
L81	CHIP COIL	VTL1067
L85,L911	CHIP BEADS	VTL1084

CAPACITORS

C123,C146,C613,C843	CCSRCH101J50
C322	CCSRCH120J50
C135	CCSRCH121J50
C104-C108	CCSRCH150J50
C206,C210,C211	CCSRCH151J50

C333	CCSRCH180J50
C116,C151,C314	CCSRCH220J50
C152	CCSRCH221J50
C127,C209,C337	CCSRCH331J50
C134,C236	CCSRCH470J50

C122,C208	CCSRCH471J50
C126,C335	CCSRCH560J50
C334	CCSRCH5R0C50
C124,C132	CCSRCH680J50
C117,C240,C352,C360	CCSRCH681J25

C845,C846	CCSRCK2R0C50
C129,C142,C827,C842	CEV101M10
C113,C139	CEV220M16
C405,C413,C700,C808	CEV221M4
C111,C149,C205,C207,C401	CEV470M6R3

C403,C407	CEV470M6R3
C140,C223,C224,C252,C264	CKSQYB105K10
C312	CKSQYB105K10
C148,C217,C327,C414	CKSQYF105Z16
C801,C802,C807,C809-C815	CKSQYF105Z16

C817-C821,C826,C828	CKSQYF105Z16
C216,C313	CKSRYB102K50
C133,C136,C203,C220,C225	CKSRYB103K50
C239,C320,C321,C603,C625	CKSRYB103K50
C703,C711	CKSRYB103K50

C101,C102,C114,C118,C119	CKSRYB104K16
C121,C138,C204,C212,C213	CKSRYB104K16
C227,C231,C263,C315,C317	CKSRYB104K16
C332,C804	CKSRYB104K16
C153,C266	CKSRYB223K25

C357	CKSRYB223K50
C354	CKSRYB332K50
C214,C251,C261,C351	CKSRYB472K50
C330	CKSRYB682K50
C109,C110,C120,C130,C131	CKSRYF104Z16

C143,C150,C202,C215	CKSRYF104Z16
C221,C222,C226,C230,C235	CKSRYF104Z16
C265,C299,C319,C359,C367	CKSRYF104Z16
C369,C370,C402,C404,C406	CKSRYF104Z16
C408,C410,C412,C601,C602	CKSRYF104Z16

C604-C612,C614,C615	CKSRYF104Z16
C617-C620,C626,C701,C702	CKSRYF104Z16
C704-C710,C712-C724,C726	CKSRYF104Z16
C822-C825,C829-C836,C844	CKSRYF104Z16
C858,C859	CKSRYF104Z16

C368,C411 (47μF/16V)	VCH1166
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Mark	No.	Description	Part No.
RESISTORS			
	R123	(39Ω)	ACN7047
	R732,R733,R735,R736	(47kΩ)	ACN7077
	R632	(100Ω)	DCN1092
	R608,R609,R613,R624,R627	(10kΩ)	DCN1094
	R629,R631,R633,R638,R654	(10kΩ)	DCN1094
	R657,R658,R664,R706	(10kΩ)	DCN1094
	R717,R718	(10kΩ)	DCN1094
	R121,R663	(22Ω)	DCN1104
	R712,R715,R838,R881	(0Ω)	DCN1106
	R1020,R2010,R2020,R2030,R2040		RS1/10S0R0J
	R3050,R4010,R4020,R4030,R4040		RS1/10S0R0J
	R4050,R4060,R407,R685,R722		RS1/10S0R0J
	R8000,R8200,R821		RS1/10S0R0J
	R202,R3510		RS1/10S101J
	R700		RS1/10S1R2J
	R836,R837		RS1/16S1001F
	R807,R831,R832		RS1/16S1201F
	R806		RS1/16S1501F
	R363,R365		RS1/16S1503F
	R825		RS1/16S1800F
	R834,R835		RS1/16S1801F
	R822-R824,R826,R827		RS1/16S2000F
	R830		RS1/16S2002F
	R805		RS1/16S2701F
	R833		RS1/16S3902F
	R361,R364		RS1/16S6202F
	Other Resistors		RS1/16S□□□J

OTHERS

CN4	FFC CONNECTOR	DKN1193
X2	CHIP CERAMIC (20MHz)	DSS1110
CN2	PH CONNECTOR	S2B-PH-SM3
CN1	PH CONNECTOR	S3B-PH-SM3
	FLEXIBLE CABLE(07P)	VDA1681
CN15,CN5	B TO B CONNECTOR 30P	VKN1626
CN3	8P FFC CONNECTOR	VKN1763
X1	CRYSTAL RESONATOR (13.824MHz)	VSS1147


FLJB ASSY
SEMICONDUCTORS

IC202	BA4560F
IC401	LA7138M
IC201	PCM1716E
IC101	PE5185A
IC105	PQ025EZ5MZP
IC102	S-806D
IC104	TC74VHC125F
IC103	TC74VHCT125AF
Q255,Q401,Q411,Q421,Q431	2SA1037K
Q501,Q511,Q521	2SA1037K
Q291	2SC1740S
Q601	2SC2412K
Q253,Q254	2SD2114K
Q256	DTC114YK
D497	1SS355
D261	UDZS6.2B

Mark	No.	Description	Part No.
COILS AND FILTERS			
	L401,L411,L421,L501,L511		LAU120J-TA
	L521		LAU120J-TA
	L101		LAU680J-TA
	L601	NOISE FILTER	RTF1167

SWITCH

S401	VSH1020
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CAPACITORS

C403,C413,C423,C503,C513	CCSQCH180J50
C523	CCSQCH180J50
C257,C258	CCSQCH221J50
C255,C256	CCSQCH330J50
C251,C252	CCSQCH331J50
C438-C440,C497	CCSQCH470J50
C401,C402,C411,C412	CCSQCH6R0D50
C421,C422,C501,C502	CCSQCH6R0D50
C511,C512,C521,C522	CCSQCH6R0D50
C103	CEAL101M6R3
C264,C430,C431	CEAL470M16
C204,C208	CEAL470M6R3
C611	CEAT101M10
C259,C292,C293	CEAT101M16
C214,C215,C297	CEAT102M6R3
C605	CEAT1R0M50
C253,C254,C261,C262	CEAT470M25
C455,C459	CEAT471M6R3
C108,C110-C113,C122	CKSQYB102K50
C435-C437,C463	CKSQYB104K25

C102,C114,C116,C119,C120	CKSQYF104Z25
C172,C173,C178-C181,C183	CKSQYF104Z25
C185-C187,C203,C205-C207	CKSQYF104Z25
C212,C260,C263,C291,C294	CKSQYF104Z25
C410,C420,C432-C434,C441	CKSQYF104Z25
C471,C498,C510,C520,C561	CKSQYF104Z25
C602,C612	CKSQYF104Z25
C123	CKSQYF104Z50

RESISTORS

R265,R266	RN1/16SE1602D
R261,R262	RN1/16SE3302D
R451,R453,R455	RS1/10S62R0D
R401,R411,R421,R501,R511	RS1/10S8200D
R521	RS1/10S8200D
Other Resistors	RS1/10S□□□J

OTHERS

CN103,CN104	FJ CONNECTOR 4P	04R-FJ
CN101	FJ CONNECTOR 14P	14P-FJ
CN201	19P CONNECTOR	19R-1.25FJ
JA201	OPTICAL LINK OUT	GP1FA550TZ
J101	CONNECTOR ASSY	PF03GG2C10
JA491	REMOTE CONTROL JACK	RKN1004
IC150	REMOTE RECEIVER UNIT	TSOP1840XG1
V101	FL TUBE	VAW1056
JA402	2P PIN JACK	VKB1146
JA403	3P PIN JACK	VKB1154
CN110	7P FFC CONNECTOR	VKN1267
CN102,CN106	B TO B CONNECTOR 30P	VKN1627
	FL HOLDER	VNK4595

DV-535

Mark	No.	Description	Part No.
	X101	CERAMIC RESONATOR (5MHz)	VSS1142

F KEYB ASSY

SWITCHES

S701-S706

ASG7013

RESISTORS

All Resistors

RS1/10S□□□J

OTHERS

CN701 FJ CONNECTOR 4P

04P-FJ

G PWSB ASSY

SWITCH

S802

ASG7013

RESISTORS

All Resistors

RS1/10S□□□J

OTHERS

CN801 FJ CONNECTOR 4P

04P-FJ

H SCRB ASSY

SEMICONDUCTORS

IC401
IC301
Q101,Q202
Q501,Q502,Q601,Q602
Q102,Q201,Q203,Q204

MM1505XN
MM1507XN
2SA1037K
2SC1740S
2SC2412K

D101,D301,D302,D401,D402

1SS355

CAPACITORS

C404
C401,C501,C508,C601,C608
C301
C101,C102,C201,C302-C304
C402,C403,C502,C503

CEAT100M50
CEAT101M10
CEAT471M10
CKSQYF104Z25
CKSQYF104Z25

C602,C603

CKSQYF104Z25

RESISTORS

R201,R301,R401,R501,R601
Other Resistors

RS1/10S68R0D
RS1/10S□□□J

OTHERS

JA535 RGB CONNECTOR
CN535 19P CONNECTOR
PC BOARD (SCRB)

VKB1157
VKN1775
VNP1764

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

I POWER SUPPLY UNIT (VWR1330)

OTHERS

△	P101	PROTECTOR (800mA)	AEK7063
△	P102	PROTECTOR (1.6A)	AEK7066
△	FU101	FUSE (2.5A)	REK1102

I POWER SUPPLY UNIT (VWR1331)

OTHERS

△	P101	PROTECTOR (630mA)	VZE1001
△	P102	PROTECTOR (1.25A)	VZE1003
△	P103	PROTECTOR (1.6A)	VZE1004

Note : When the fuse(F001) on VWR1331 blow out, VWR1331 might be damaged.

At that time, exchange VWR1331 for VWR1330.

6. ADJUSTMENT

There is no information to be shown in this chapter.

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 SELF-DIAGNOSTIC FUNCTION OF PICKUP DEFECTIVE

Symptom

- Indicates "No Disc" in FL display.
- Player does not playback, etc..

Procedure of Self-Diagnosis

- ① Press the **TEST** → **1** buttons (of the test mode remote control unit : GGF1067) in the test mode screen, and turn on the laser diode (It light-up for nine seconds.).
- ② Confirm the indicated value of the laser diode current (LDI).
- ③ When indicated value is more than 110, pickup is defective. → **Release the Traverse Mechanism Assy.**

Note : When a DVD disc is played in the test mode, this function is effective.
This function is effective only for DVD pickup (650nm).

Character in bold : Item name
□ : Information display

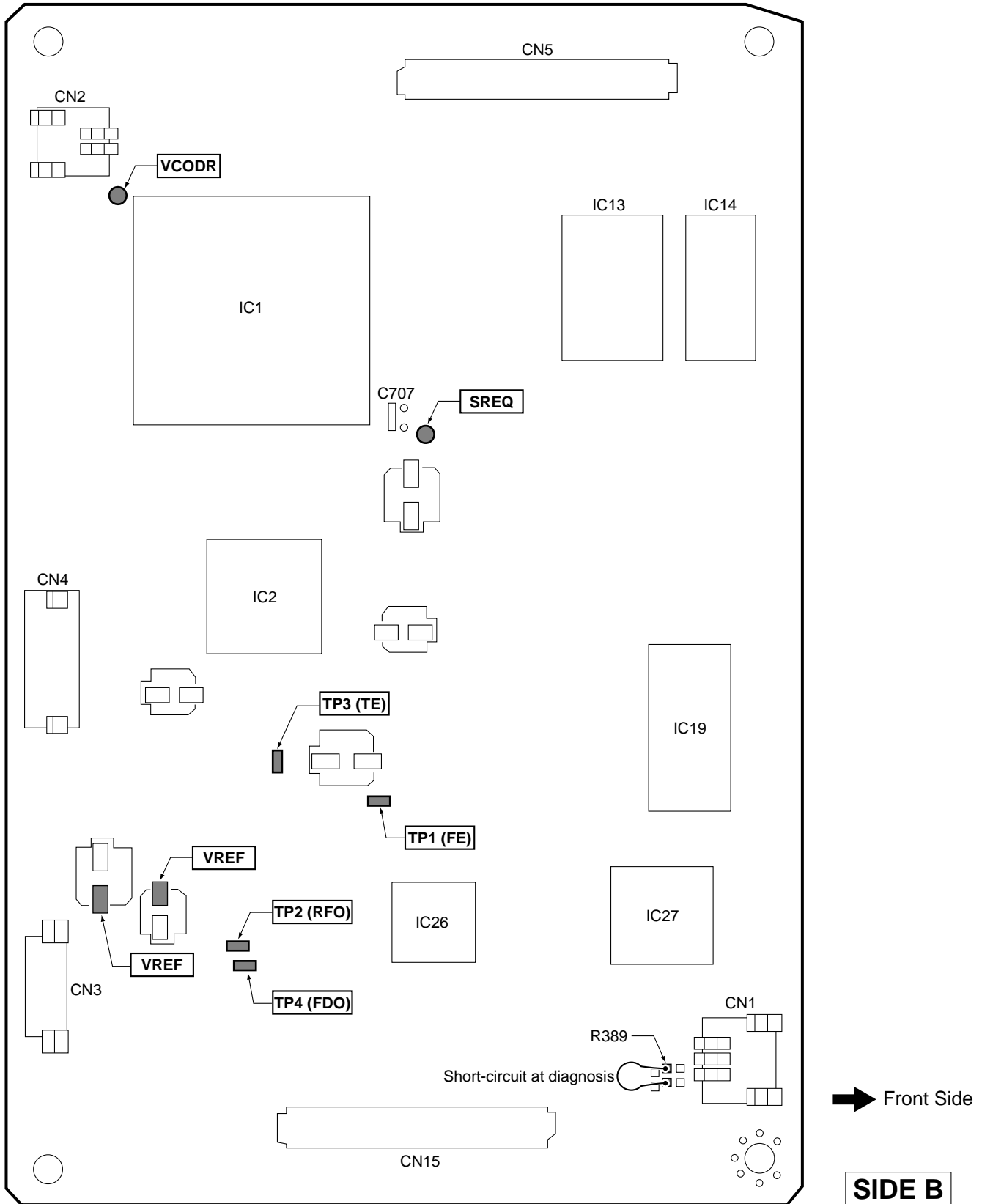
□□□□□□□□	R-□□□□	K-□□		
C-R□□	G□□	B□□	M-□	S-□□□□
TRK G-□□	LDI-□□□	V-□□□□	SK-□□	
SPDL-□□□	AFB-□□	AV:□.□□	'□'	
AGC-□□□	[□]	FL:□□□□	REG:□	
KS-[□□□□]	□□□□	MDL:□□□□/□□□□		
ER-□□□□	□□□□	□□□□□□/□□□□□□		
MM-□□:□□		V:□.□□□	FLSH:□	
DSC-□□□	BM-□□	S:□.□□□	/□.□□□	
E-□□	J-□□□	4-□□	M:□.□□□	G.□□□

Laser diode current value →

Test Mode Screen Display

7.1.2 TEST POINTS LOCATION

DVDM ASSY

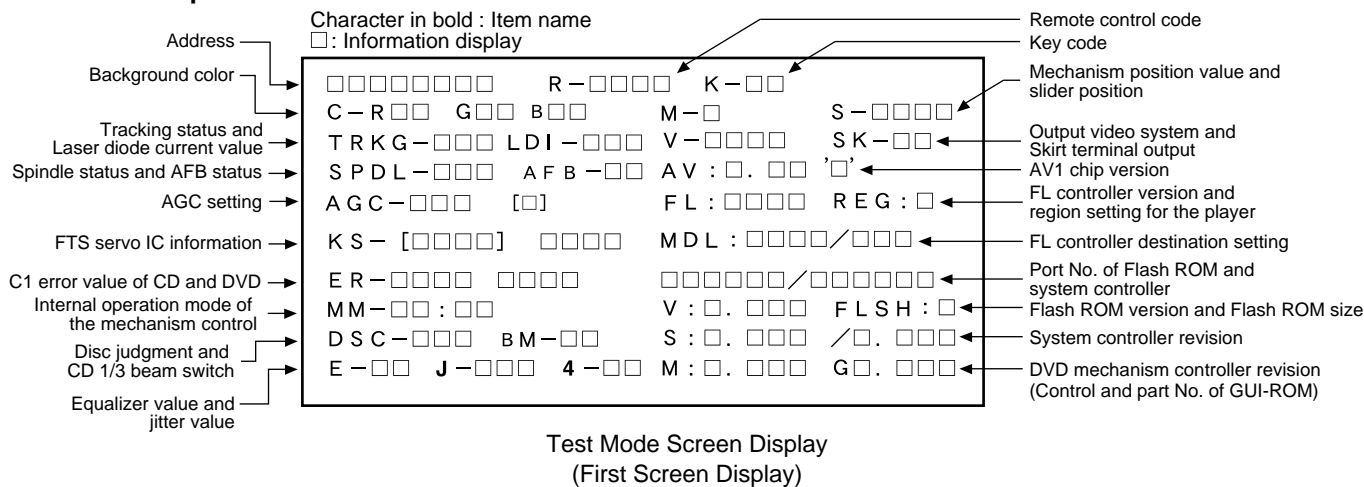


7.1.3 TEST MODE SCREEN DISPLAY

■ TEST MODE SCREEN DISPLAY

Consecutive double-OSD display is supported during test mode. The screen is composed 10 lines with a maximum of 32 characters per line. It can't be used with the debugging display mode together.

• Screen Composition



Caution :

The first screen and second screen switch by pressing [DISPLAY] key of the remote control unit.

It is only a version display part on the lower right of the screen those contents of display change.

ATB : ON/OFF information display and AGC manual setting display deleted with the second generation.

The displays of Tilt error value, Tilt servo status and pickup DVD/CLD display deleted with the third generation becomes LD part is deleted.

• Description of Each Item on the Display

(1) Address indication

The address being traced is displayed in number.

DVD : ID indication (hexadecimal number, 8 digits)

[* * * * * * * *]

CD : A-TIME (min. sec.) [0 0 0 0 * * * *]

(Note : For DVDs, decimal-number indication is possible.)

(2) Code indication of the remote control unit [R - * * * *]

The code for the key pressed on the remote control unit, which is received by the FL controller, is displayed while the key is pressed. In the case of the double code, the second code will be displayed.

(3) Key code indication for the main unit [K - * *]

The code for the key pressed on the main unit, which is received by the system controller, is displayed while the key is pressed.

(4) Background color indication [C - R * * G * * B * *]

(5) ① Tracking status [TRKG - * * *]

Tracking on [ON]

Tracking off [OFF]

② Laser diode current value [LDI - * * *]

(6) ① Spindle status [SPDL - * * *]

Spindle accelerator and brake, free-running [A/B]

FG servo [FG]

Rough, velocity phase servo [SRV]

Offset addition, rough, velocity phase servo [O_S]

② AFB status [AFB - * *]

ON [ON]

OFF [OFF]

(7) Mechanism position value [M - *]

Position code [1] to [3]

(8) Slider position [S - * * * *]

CD TOC area [IN]

CD active area [CD]

(9) AGC setting [AGC - * *]

AGC on [AGC-ON]

AGC off [AGC-OFF]

(10) Output video system [V - * * * *]

NTSC system	[NTSC]
PAL system	[PAL]
Auto-setting	[AUTO]
Skirt terminal output [SK - * *]	
VIDEO	[00]
S-VIDEO	[01]
RGB	[02]

Note : Display only the model which can do the output setting of skirt terminal.

(11) FTS servo IC information

DSP coefficient indication [KS - [* * * *] * * * *]
 Displays the address (four digits) of the specified coefficient and the setting value (four digits) with [TEST] and [9] keys.

(12) Error rate indication

- ① C1 error value of CD [ER - C1 * * * *]
- ② C1 error value of DVD [ER - * * * * * * * *]

(13) Internal operation mode of mechanism controller

[MM - * * : * *]

Internal mechanism mode (2 digits) and internal mechanism step (2 digits) of the mechanism controller

(14) ① Disk sensing [DSC - * * *]

The type of discs loaded is displayed.
 [DVD], [CD], [VCD], []

- ② **CD 1/3 beam switch [BM - * *]**

(15) ① Equalizer value [E - * *]

- ② **Jitter value [J - * *]**

nake the jitter four times, and renew it in every one second. [4 - * *]
 CD is effective only in the jitter value.

(16) Version of the AV-1 chip [AV : * . * *' *']

(17) ① Version of the FL controller [FL : * * * *]

- ② **Region setting of the player [REG : *]**
 Setting value [1] to [6]

(18) Destination setting of the FL controller

[MDL : * * * * / * * * *]

For characters in front represent the type of model :
 There characters that follow represent the destination code.
 J : /J, K : /KU, /KC, /KU/KC, R : /RAM, /RL, /RD, /LB,
 WY : /WY

(19) The part number of the flash ROM and system controller [* * * * * * / * * * * * * * *]

- ① Part number of the flash ROM <Front>
 (Example) VYW1536-A = W1536A
 (Example) PD6256A9 = 6256A9
- ② Part number of the system controller <Rear>
 (Example) PD3381T1 = 3381T1

(20) ① Version of the flash ROM [V : * . * * *]

- ② **Flash ROM size [FLSH = *]**

(21) Revision of the system controller [S : * . * * * / * . * * *]

- ① Revision number of the external ROM part (flash ROM) of the system controller <Front>
- ② Revision of the internal ROM part of the system controller <Rear>

(22) Revision of the DVD mechanism controller

[M : * . * * *]

Revision number of the external ROM part (flash ROM) of the DVD mechanism controller

(23) Control and part numbers of the GUI-ROM

[GUI : * * * *]

No GUI model displays as "— / —".
 OEM model displays the part number of GUI-ROM
 [GUI : * * * *]

■ DEBUGGING SCREEN SPECIFICATION FOR THE MECHANISM CONTROLLER

• This specifications is subject to change without notice.

① Indication Method of The Mechanism Controller Debugging Screen

A debugging screen of the mechanism controller is indicated when pressing the test mode remote control unit [GGF1067] in order of the **[ESC]** and **[CHP/TM]** buttons.

Release from debugging screen display of the mechanism controller with the **[ESC]** button.

② Screen Layout

E R	1	>	2				3	4									
M	5	5	5	5	5	5	5	5	5	5							
S	6	6	6	6	6	6	6	6	6	6							
	7	8	cm	22	rpm	SGC :	10	-	11	-	12						
	13	14		15		J -	16	0 -	17	1 -							
M	19	19	19	19	19	19	19	19	19	19							
S	20	20	20	20	20	20	20	20	20	20							
S :	21	OEIC :	9	23	BM -	24											
F	25	-	26	I	27	T	28	-	29	S	30	-	31	R	32	C	33

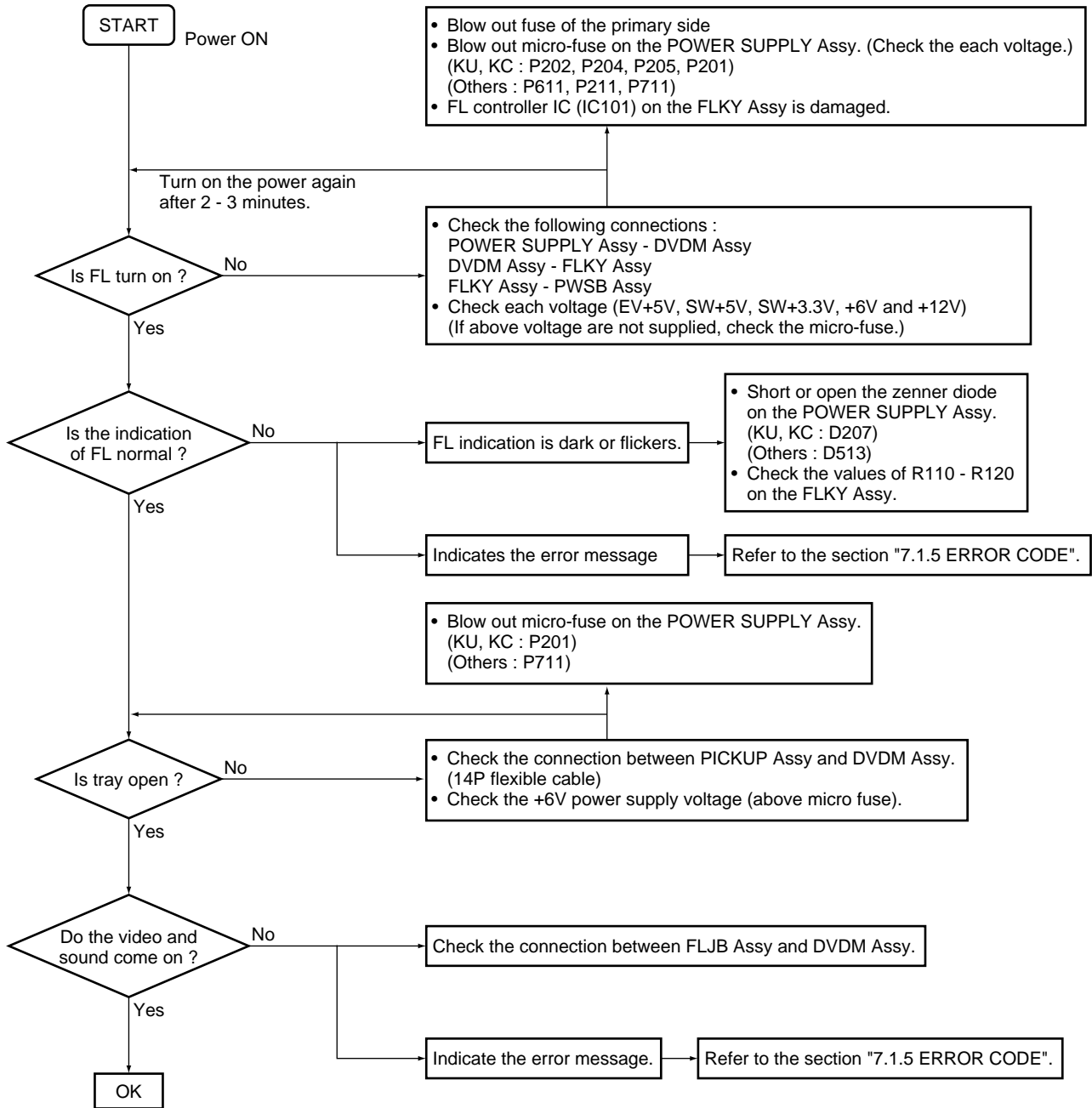
③ Indication Contents

- The error that became the trigger that an error of 2 occurred.
There are many cases same as 2.
- The error number that transferred to the system controller
Refer to the error list about contents of error number.
- Code read in state (it does not support in this unit)
When X is indicated, ID or subcode are not able to read in.
When X is not indicated, they are able to read in.
- ID or subcode (it does not support in this unit)
Subcode indicates the A time.
- Inside mode of the mechanism controller when an error of 1 occurred
It can indicate to a maximum 10 mode. Indicate it in order of an old mode from the left, and go right, and become a new mode. Indicate only a nest share of the mode.
- Processing step of inside mode of 5
It can grasp the mode reaching an error and transition of step by watching 5 and 6 and it can specify the occurrence place of most errors.
- Disk information in the mechanism controller
? : Indistinctness
NO : There is no disc
DVD 1 : DVD single layer
DVD 2 : DVD dual layer
CD : CD
CDR : CD-R or CD-RW
CDR P : PRD of CD-R or CD-RW
- As a result of 8cm /12cm distinction
? : Indistinctness (undistinction)
8 : 8 cm
12 : 12 cm
- OEIC gain (it does not support in this unit)
H : OEIC HIGH gain
L : OEIC LOW gain
- SGC gain for LD of 780nm
It indicates a step using in the mechanism controller inside with a hexadecimal number.
Set the gain so that S curve becomes 1.8V (p-p) in disc distinction.
- SGC gain for LD of 650nm For L0.
It indicates a step using in the mechanism controller inside with a hexadecimal number. Set a gain so that S curve becomes 1.8V (p-p) in disc distinction.
- SGC gain for LD of 650nm For L1.
It indicates a step using in the mechanism controller inside with a hexadecimal number. Set a gain so that a S curve becomes 1.8V (p-p) in disc distinction.
- RF count value for disc distinction
RF count value to use the disc distinction. It compares threshold value of 14 and 15 and distinguishes the disc.
- Disc distinction threshold value (DVD and CD)
Threshold value of the disc distinction. Distinguish it from DVD if bigger than this value, and distinguish it from CD if small.

15. Disc distinction threshold value (CD and unrecorded disc)
Threshold value of the disc distinction. Distinguish it from CD if bigger than this value, and distinguish it from an unrecorded disc if small.
16. Current jitter value
Indicate the value that was read in from the MY-CHIP in DVD, and indicate the value that was read in from the servo DSP in CD.
17. Focus balance setting value of L0
18. Focus balance setting value of L1
19. Current mechanism controller inside mode
(it does not support in this unit)
It can indicate to a maximum 10 modes. Indicate only a nest share of the mode.
20. Processing step of 11 inside modes
(it does not support in this unit)
It can grasp the current mode, the mode reaching it and transition of step by watching 19 and 20.
21. Spindle control state of MY-CHIP
(it does not support in this unit)
OFF : Motor off condition
A/B : Accelerator and brakes
FG : FG servo
RVP : Rough speed phase servo
ORVP : Rough speed phase servo of offset addition
22. Rotation number of spindle motor
Do not FG read in ? indication (during spindle stop).
23. Tracking error generation system
(it does not support in this unit)
1: 1 beam (DPD)
3: 3 beams
24. TZC count value (it does not support in this unit)
The value that counted the number of TZC for one rotation in the tracking open state.
When this value is more than 512 with CD, set it in 1 beam because the eccentric is large.
DVD does not measure it because it is 1 beam fixed (indication is 0000).
25. It indicates the frequency that entered the focus backup
Hexadecimal number indication. Counter does not reset till turns the power off after turning it on. Due to a 1 byte counter, next of FF becomes 00.
26. It indicates focus backup limit frequency with the hexadecimal number
Initial value is 14H, it does decrement whenever enter the focus backup and it gives up backup if it became 0. Then the error is generated. After reverted from the backup, When not enter the backup and pass fixed time (1500ms), return to initial value again.
27. It indicates the frequency that entered the internal circumference plunging into backup of the sled
Hexadecimal number indication. Counter does not reset till turns the power off after turning it on. Due to a 1 byte counter, next of FF becomes 00.
28. It indicates the frequency that entered the tracking overrun backup
Hexadecimal number indication. Counter does not reset till turns the power off after turning it on. Due to a 1 byte counter, next of FF becomes 00.
29. It indicates the limit frequency of tracking overrun backup with a hexadecimal number
Initial value is 03H, it does decrement whenever enter the tracking overrun backup and it gives up backup if it became 0.
30. It indicates the frequency that entered sled overrun backup
Hexadecimal number indication. Counter does not reset till turns the power off after turning it on. Due to a 1 byte counter, next of FF becomes 00.
31. It indicates the limit frequency of sled overrun backup with a hexadecimal number
Initial value is 03H, it does decrement whenever enter the sled overrun backup and it gives up backup if it became 0.
32. It indicates the frequency that entered the tracking close NG backup
Hexadecimal number indication. Counter does not reset till turns the power off after turning it on. Next of FF is be a 1 byte counter in 00.
The hexadecimal number indication which indicates the frequency that reads
33. ID/subQ, and entered NG backup
Hexadecimal number indication. A counter does not reset it till cuts it off after turning it on. Due to a 1 byte counter, next of FF becomes 00.
34. An address to indicate in 35
Set it by using RS232.I
(an address) Set it with DA.
35. Contents of an address indicated in 34.

7.1.4 TROUBLE SHOOTING

- No Power ON
- FL is not turned ON
- FL indication is unusual



7.1.5 ERROR CODE

Error codes that are displayed on the FL display without using the remote control unit

FL Display	Possible causes	Operation of the unit
AV1 VER	AV-1 chip is not a match with the program of system controller	The sound may not out with the specific audio.
CPU AERR	CPU address error (Hardware is unusual.)	No operation
DMA AERR	DMA address error (Hardware is unusual.)	No operation
FLASH ID	Difference in versions of the internal ROM of the system controller and of the flash ROM, or bus line failure or reverse installation	No operation
FLASH WRP	Write protect error of the flash ROM	No operation
FLASH SIG	Difference in part number of the flash ROM (When the ROM which could't be used was used.)	No operation
FLASH SUM	Check sum error of the flash ROM (It exceeds the regular size.) or reverse installation (Hardware is unusual.)	No operation
FLASH SIZE	Size error of the flash ROM (Use 4 or 8 M-bit.)	No operation
ILLGAL	The system controller fetched a code other than an operation code (Hardware is unusual.)	No operation
RESERVE	Undefined interrupt (Hardware is unusual.)	No operation
SLOT	Inappropriate slot command issued (Hardware is unusual.)	No operation

Error codes that are displayed on the FL display by using the remote control unit (Mechanism controller error)

To display: ESC + DISPLAY + DISPLAY; Location of the display: At the two digits of center of the FL display

To display the error history: ESC + DISPLAY + One shot; Location of the display: TV screen

FL	Description of Error	Causes if with a DVD	Causes if with a CD	Operation of the Unit
11	Search timeout	Search could not be complete within 7 seconds.	Search could not be complete within 7 seconds, and it could not enter the target area within 7 seconds by VCD scan.	CD : Stops, DVD : Continues operation
12	Search retry error	A search could not be completed after 3 retries, search backup was executed 4 times, or in a case of timeout (6 seconds) while the unit was tracing 11 tracks or more beyond the target while the search operation was converging.	Backup against slider skip was executed 4 times during a search, or slider skip twice resulted in starting from the read-in point.	CD : Stops, DVD : Continues operation
19	Tracing timeout while converging	Timeout (10.5 seconds) while tracing at the stage of convergence of a search.		Stop
1B	Index 0 search error		During Track (Index) Search, the search for the beginning of a program could not be completed within 3 seconds (20 seconds in the case of Index Search) after positioning based on the TOC data was completed.	Stop
22	Timeout of slider inner circumference	Inside switch could not ON within 3 seconds.		Stop
23	Timeout of slider outer circumference	Inside switch could not OFF within 2 seconds.		Stop
33	No FOK pulse during playback CLVA	When the focus was deviated continuously 20 times.		Adjusts focus at the innermost circumference and tries to return to its position where the error was generated (for 3 times),then opens. If the same error persists after one retry, the tray opens. (No FOK pulse)
38	Disc-type-sensing error	If normal starting was impossible in the following three cases, disc-type sensing will be retried if other errors occur excepting C5 error. However, when the focus error "33" was occurred continuously 3 times, it is finished as "38 error" at the moment: (1) startup with the first disc-type-sensing result, (2) forced startup with another disc by designating the disc type, (3) forced startup with the original disc by designating the disc type.		Open

FL	Description of Error	Causes if with a DVD	Causes if with a CD	Operation of the
39	SGC converge timeout	SGC could not converge during detects the peak		Open
41	Spindle timeout	The unit did not enter Stop mode within 10 seconds of issuance of a Stop command.		Stop
48	Spindle FG transition timeout	The spindle could not converge into within $\pm 12\%$ of the target FG rotation speed within 10 seconds after spindle kick. The first time after startup (the first time after disc distinction), it doesn't become the number of the target rotation within five seconds. The first time after startup, detects the abnormal rotation number of high-speed continuously 3 loops. DVD: 5 to 9 mS , CD: 40 to 60 mS		Stops. (FG timeout)
49	Spindle PLL transition timeout	After the second times after startup, it doesn't become the number of the target rotation within five seconds. Detects the abnormal high-speed or low-speed rotations. DVD: 5 to 9 mS , CD: 40 to 60 mS		Stops. ("73" is displayed during starting process.)
4A	Spindle lock timeout	Spindle could not lock more than 1.5 seconds before start the AFB.		Stops. ("73" is displayed during starting process.)
51	Auto sequence timeout of peak	ABUSY did not return within 1 second after the DDTCT (peak detection) command was sent.		Stop
52	Auto sequence timeout of focus jump down	ABUSY did not return within 30 mS after the FJMPD (Focus jump 1 to 0) command was sent.		Stop
53	Auto sequence timeout of focus	ABUSY did not return within 30 mS after the FJMPU (Focus jump 0 to 1) command was sent.		Stop
54	Auto sequence timeout of play AGC	ABUSY did not return within 50 mS after the GSUMON (play-AGC-measuring) command was sent.		Stop
55	Auto sequence timeout of disc-type-sensing	ABUSY did not return within 2 seconds after the DJSRT (disc-sensing) command was sent.		Stop
56	Auto sequence timeout of ATB2	ABUSY did not return within 1 second after the TBLOFS (Internal ATB after the completion of external ATB) command was sent.		Stop
57	Auto sequence timeout of tracking servo ON	ABUSY did not return within 500 mS after the TSON (tracking servo ON) command was sent.		Stop
58	Auto sequence timeout of ATB1	ABUSY did not return within 200 mS after the TBL (external ATB) command was sent.		Stop
59	Auto sequence timeout of focus gain adjustment	ABUSY did not return within 2 seconds after the FGN (focus gain adjustment) command was sent.		Stop
5A	Auto sequence timeout of tracking gain adjustment	ABUSY did not return within 2 seconds after TGN (tracking gain adjustment) command was sent.		Stop
5B	Auto sequence timeout of offset adjustment	ABUSY did not return within 1 second after the CMDAVE (offset adjustment) command was sent.		Stop
5C	Auto sequence timeout of modulation factor measurement	ABUSY did not return within 200 mS after the ADMIR (modulation factor measurement) command was sent.		Stop
5D	Auto sequence timeout of auto focus bias	ABUSY did not return within 2 seconds after the AFB (auto focus bias) command was sent.		Stop
5F	Auto sequence already busy	A command could not be sent because ABUSY was low. ABUSY did not return within 200 mS after TLV command was sent.		Stop
62	Pause retry error	Pause mode could not be restored within three retries after it had been released.		Continues operation

FL	Description of Error	Causes if with a DVD	Causes if with a CD	Operation of the Unit
71	ID can not read during tracing	An ID could not be read for 1 second or more.		Stop
72	Subcode check failure during playback		No frame could be read for 3 seconds or more.	Stop
73	ID can not read at the startup	An ID could not be read within 1 second after the AFB adjustment had been finished.		Opens (ID readout failure)
74	Subcode check failure during startup		No subcode could be read within 3 seconds after AFB adjustment had been finished.	Opens (Subcode readout failure).
81	Timeout for reading TOC of the mechanism controller		TOC readout took 30 seconds or more.	Stop
82	Timeout for reading TOC of the system controller		Reading TOC of the system controller took 30 seconds or more.	Stop
A1	Communication timeout of DSP command	A command could not be issued to DSP because Command Busy (XCBUSY) was in force (XCBUSY = L) for a specified time (about 200 mS).		No operation
A2	Communication timeout for reading DSP coefficient	Command Busy (XCBUSY) was in force for a specified time (about 200 mS) before and after a coefficient read command was issued to DSP, or the address echo-back after command issuance did not match the setup address.		No operation
A3	Communication timeout for writing DSP coefficient	Command Busy (XCBUSY) was in force for a specified time (about 1024 mS) before and after the coefficient write command was issued to DSP.		No operation
A4	Communication timeout for continuously writing DSP coefficient	Command Busy (XCBUSY) was in force for 200 mS during continuous coefficient writing, or before and after a continuous write command was issued to DSP.		No operation
B1	Timeout error for backup	In the tracing state during the backup sequence, codes could not be read for 1 second or more. In the backup sequence, tracking ON sequence of the servo DSP could not be completed even if more than 500 mS after the tracking ON command was issued.		Stops
B2	Retry error for backup	Tracing impossible after retring the tracking ON for 3 times in the backup sequence.		Stops
B3	Retry error for trace	During tracing, runaway was detected after three iterations of backup operations for detecting runaway.		Stops
C3	Detection of tracking overcurrent	During playback, the overcurrent detection port was at L for 300 ms or more continuously.		Stops (the mechanical controller operates independently).
(C5)	Short-circuit test corresponding error	While the power was on, the overcurrent detection port was at L for 40 ms or more continuously.		Turns off the power instantly (No indication on the FL display and no writing to flash memory)
E3	Violation against digital copy guard			Stops
F5	Tray being pushed	The tray switch that had been Open mode was forcibly changed to a mode other than Open by an external force.		Closes
F8	Loading timeout	Loading, unloading or clamping could not be completed within a specified time (about 5 seconds).		Reverses the loading direction. It timeout is repeated upon retry, the unit stops.
FC	Focus	The following error occurred eight times. (1) Focus ON sequence could not be completed even if more than two seconds after the focus ON command (to the servo DSP) was sent. (2) Focus IN sequence was finished, actually focus IN was not completed.		Stops wherever possible then opens (stops in the case of side B).

Error codes that are displayed on the FL display by using the remote control unit (Device error)**To display : ESC + DISPLAY + DISPLAY ; Location of the display : At the two digits of left of the FL display**

FL	Description of Error	Causes if with a DVD	Causes if with a CD	Operation of the Unit
bit3=1 08 etc.	AV1 access error (read, write NG)			No operation or it becomes debugging indication if the power is able to ON.
bit2=1 04 etc.	MY CHIP access error			
bit1=1 01 etc.	SRAM access error			

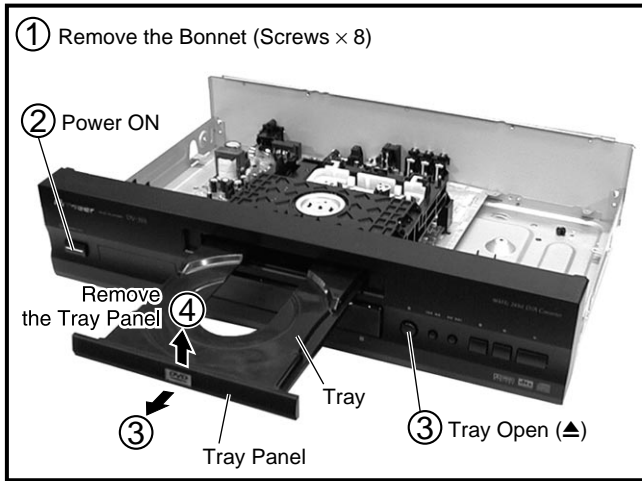
7.1.6 DISASSEMBLY

■ DIAGNOSIS OF PCBS

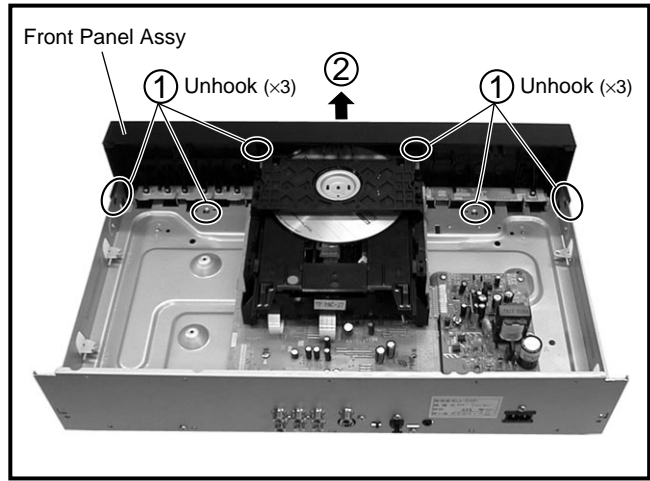
Note

When diagnosing the unit, be sure to use two connection cables for service. (Part No : GGD1228)

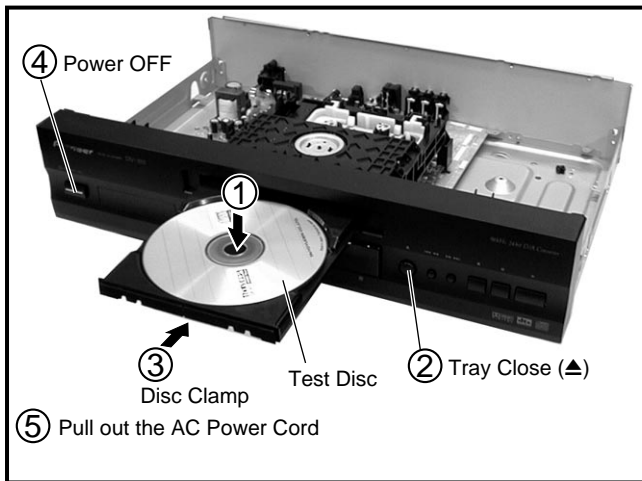
1 Bonnet, Tray Panel



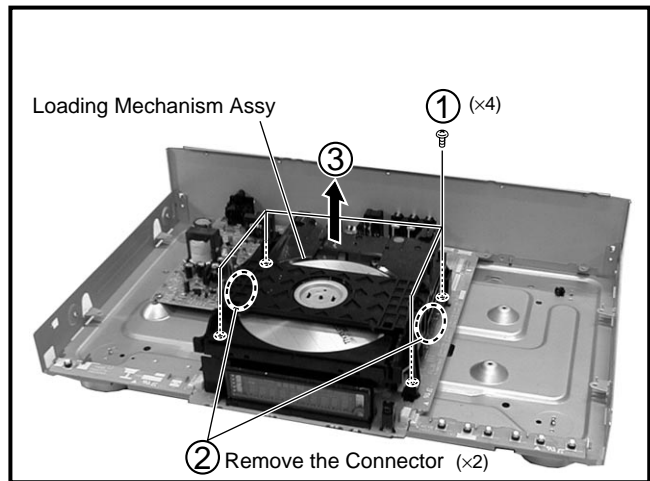
3 Front Panel Assy



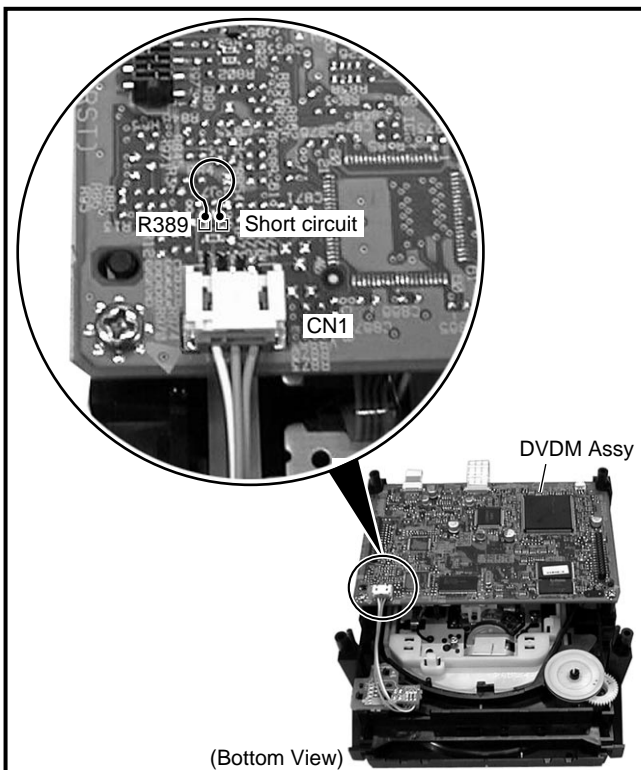
2 Test Disc Clamp



4 Loading Mechanism Assy



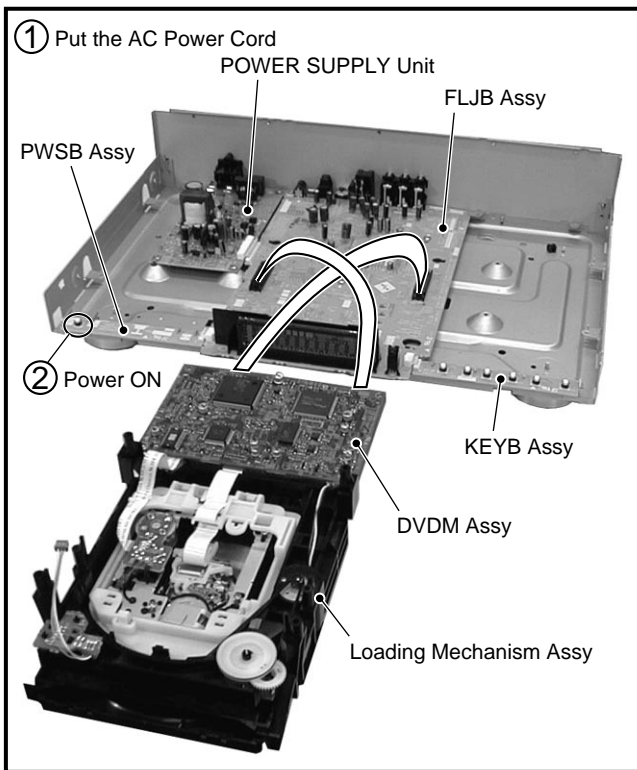
5 Short Circuit R389



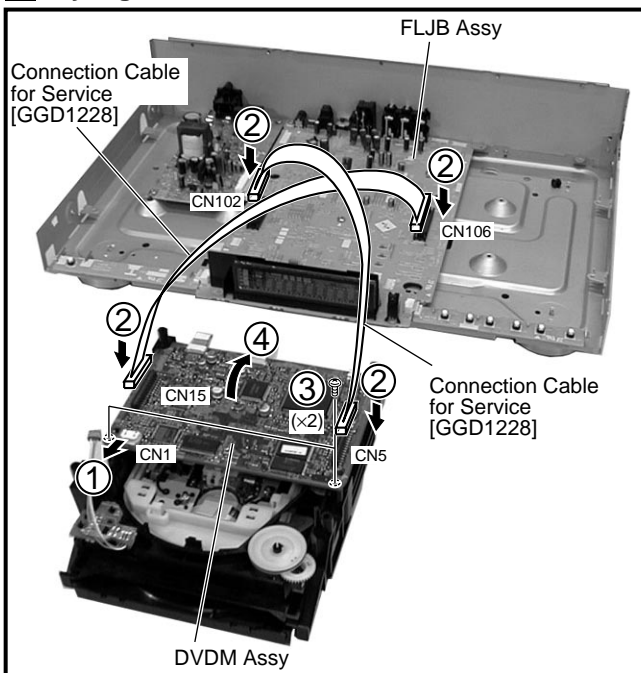
Note :

- 1 : When does not short-circuit with R389, playback will not be possible after the next steps.
- 2 : The tray cannot be opened while R389 is short-circuited.
- 3 : Release the short-circuit after the **7** Diagnosis (1) and **8** Diagnosis (2) are completed.

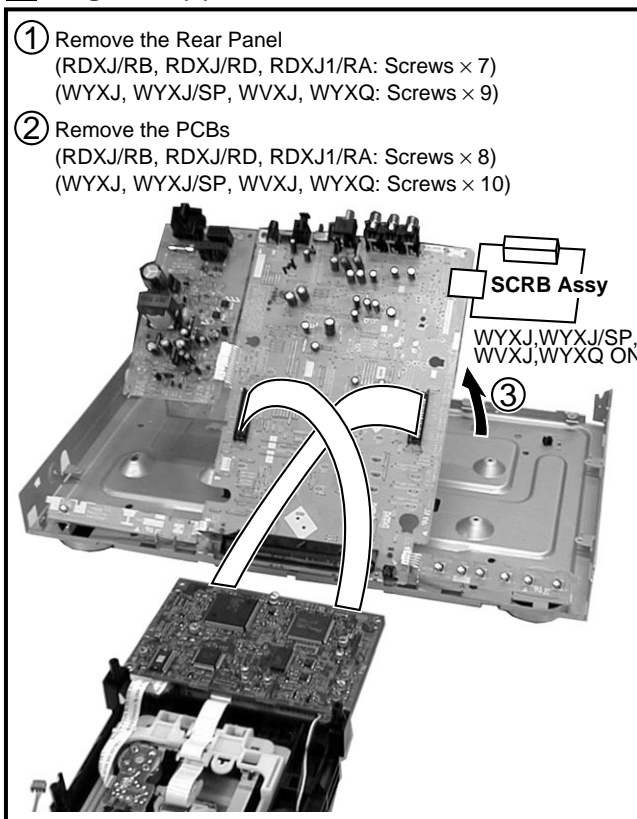
7 Diagnosis (1)



6 Styling of the Connection Cables

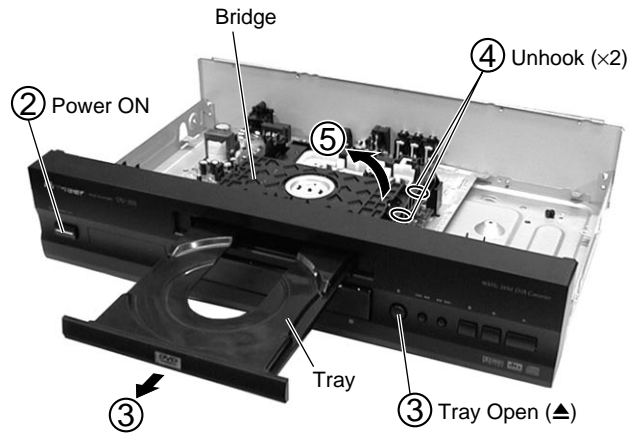


8 Diagnosis (2)

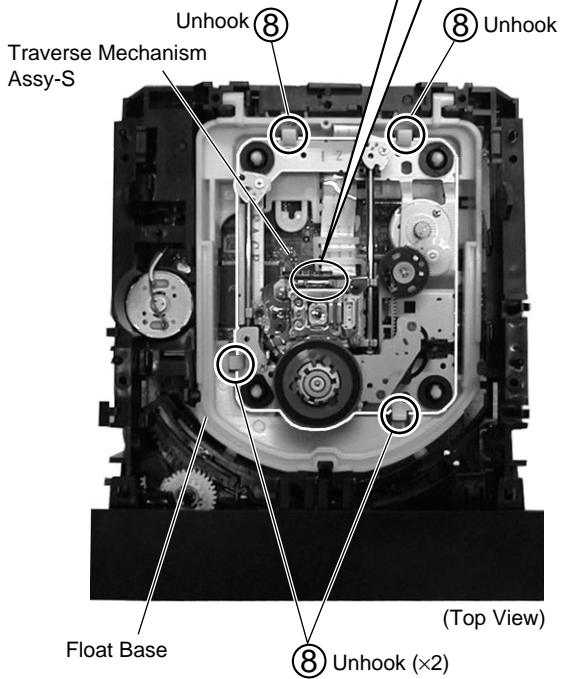
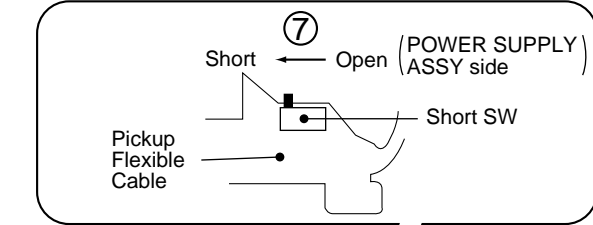


DISASSEMBLY OF TRAVERSE MECHANISM ASSY-S

① Remove the Bonnet (Screws × 8)



⑥ Pull out the AC Power Cord



⑨ Remove the Traverse mechanism assy-S

7.2 IC

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

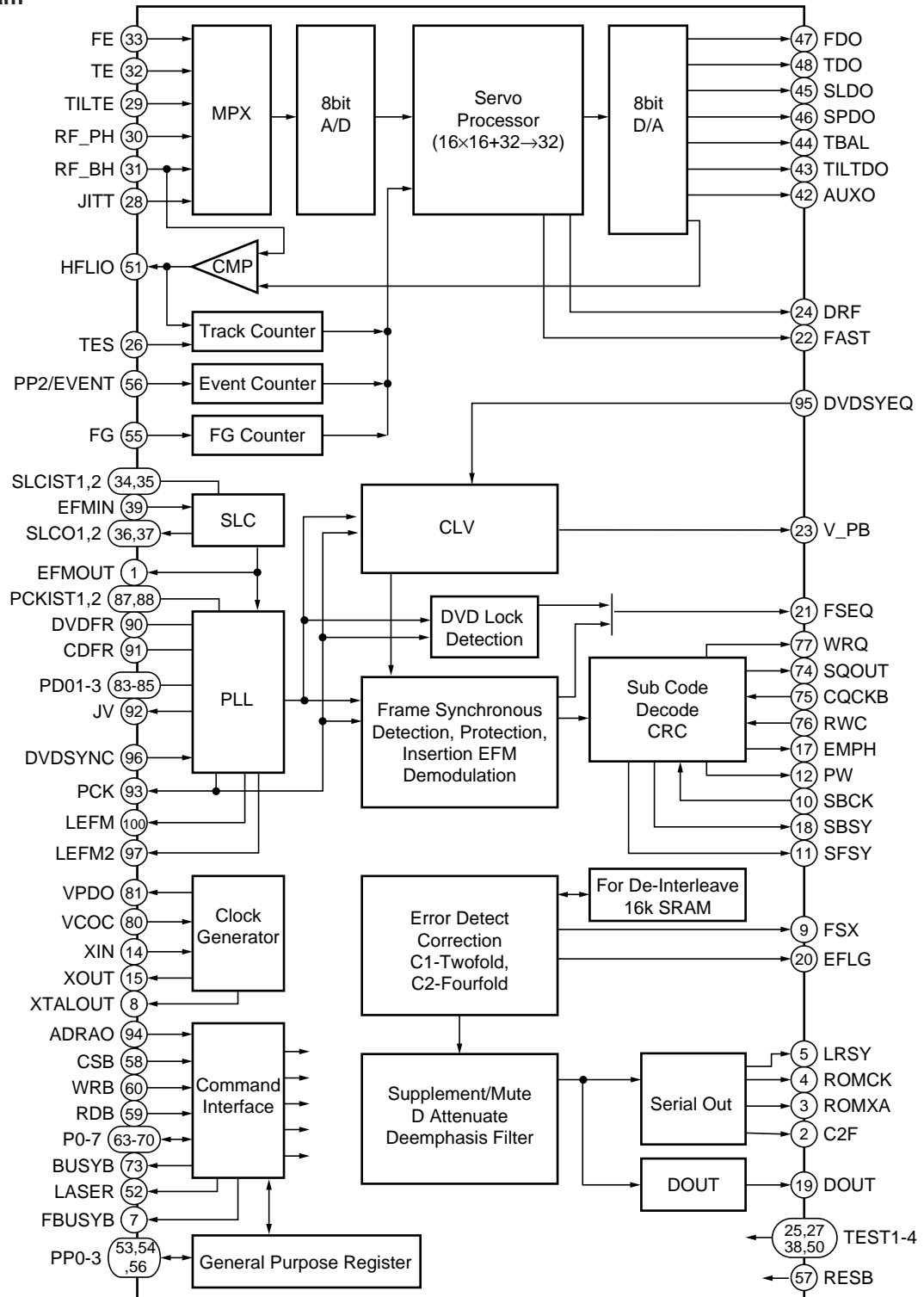
•List of IC

LC78652W, PD3410A, MB86373B, PE5185A

■ LC78652W (DVDM ASSY : IC2)

• DSP IC

• Block Diagram



●Pin Function

No.	Pin Name	I/O	Function
1	EFMOUT	O	Output the state that was binary-stated value EFM
2	C2F	O	C2 flag output
3	ROMXA	O	CD-ROM data output
4	ROMCK	O	Shift clock output for CD-ROM data output
5	LRSY	O	L/R clock output for CD-ROM data output
6	PP3	I/O	General-purpose port input/output / DVD sync. signal input N ch-OD output
7	FBUSYB	O	Busy signal output of DSP process operation N ch-OD output
8	XTALOUT	O	External system clock output
9	FSX	O	CD 1 frame sync. signal output
10	SBCK	I	Subcode reading out clock input
11	SFSY	O	Frame sync. signal output of subcode
12	PW	O	Subcode P, Q, R, S, T, U, V and W output
13	VSS	-	GND pin
14	XIN	I	Connect a crystal resonator (16.9344MHz)
15	XOUT	O	Connect a crystal resonator
16	DVDD1	-	3.3V power supply of the oscillation circuit
17	EMPH	O	Monitor pin of the deemphasis
18	SBSY	O	Sync. signal output of the subcode block
19	DOUT	O	Audio EIAJ data output
20	EFLG	O	Error correction state monitor of the error correction C1 and C2
21	FSEQ	O	Detection monitor of the CD/DVD frame sync. signal
22	FAST	O	Playback speed monitor N ch-OD output
23	V_PB	O	Monitor output of the rough servo/CLV control
24	DRF	O	In focus monitor
25	TEST3	I	Test input 3
26	TES	I	Tracking error signal input
27	TEST2	I	Test input 2
28	JITT	I	Jitter quantity detecting signal input of EFM PLL
29	TILTE	I	Tilt error signal input
30	RF_PH	I	RF peak hold signal input
31	RF_BH	I	RF bottom hold signal input
32	TE	I	Tracking error signal input
33	FE	I	Focus error signal input
34	SLCIST1	-	Current setting pin 1 of the constant current charge pump for SLC
35	SLCIST2	-	Current setting pin 2 of the constant current charge pump for SLC
36	SLCO1	O	Control output 1 for SLC
37	SLCO2	O	Control output 2 for SLC
38	TEST1	I	Test input 1
39	EFMIN	I	EFM/EFM + input
40	AVDD	-	5V power supply of A/D and D/A for servo
41	AVSS	-	GND of A/D and D/A for servo
42	AUXO	O	DA auxiliary output
43	TILTDO	O	Tilt control signal output
44	TBAL	O	Tracking balance control signal output
45	SLDO	O	Sled control signal output
46	SPDO	O	Spindle control signal output
47	FDO	O	Focus control signal output
48	TDO	O	Tracking control signal output
49	VREF	-	Reference level of D/A for servo
50	TEST4	I	Test input 4

No.	Pin Name	I/O	Pin Function
51	HFLIO	I/O	Mirror detection signal input/output
52	LASER	O	Output pin for laser ON/OFF control
53	PP0/DVD_CDB	I/O	General-purpose port input/output / Disc discrimination signal output
54	PP1/CRCERRB	I/O	General-purpose port input/output / Subcode CRC result signal output
55	FG	I	FG counter input
56	PP2/EVENT	I/O	General-purpose port input/output / Event counter input
57	RESB	I	Reset input
58	CSB	I	Chip select input
59	RDB	I	Internal state reading signal input
60	WRB	I	Command / data writing signal input
61	DVDD2	-	5V power supply
62	VSS	-	GND
63	P0	I/O	Command / data input/output
64	P1		
65	P2		
66	P3		
67	P4		
68	P5		
69	P6		
70	P7		
71	VSS	-	GND
72	DVDD1	-	3.3V power supply for internal
73	BUSYB	O	Busy signal output of command process
74	SQOUT	O	Serial output of subcode Q
75	CQCKB	I	Shift clock input for subcode Q data output
76	RWC	I	Update permission input of subcode Q
77	WRQ	O	Read out ready monitor of subcode Q
78	AVSS	-	PLL GND for internal system clock
79	VRPFR	-	VCO oscillation range setting of PLL for system clock
80	VCOC	I	Connect a PLL filter for system clock
81	VPDO	O	
82	AVDD	-	PLL 5V power supply for system clock
83	PDO1	I/O	PLL filter connection pin 1 for EFM playback
84	PDO2	I/O	PLL filter connection pin 2 for EFM playback
85	PDO3	I/O	PLL filter connection pin 3 for EFM playback
86	AVSS	-	PLL GND for EFM playback
87	PCKIST1	-	Current setting 1 of PLL constant current charge pump for EFM playback
88	PCKIST2	-	Current setting 2 of PLL constant current charge pump for EFM playback
89	AVDD	-	PLL 5V power supply for EFM playback
90	DVDFR	-	VCO oscillation range setting of PLL for EFM playback 1
91	CDFR	-	VCO oscillation range setting of PLL for EFM playback 2
92	JV	O	Jitter output of PLL clock for EFM playback
93	PCK	O	Bit clock output for EFM playback
94	ADRAO	I	Address input
95	DVDSYEQ	I	DVD synchronize pulse input
96	DVDSYNC	I	DVD synchronous signal input
97	LEFM2	O	Output the state that cut and out a signal which was binary-stated value EFM with PCK 2
98	DVDD1	-	3.3V power supply for I/O
99	VSS	-	GND
100	LEFM	O	Output the state that cut and out a signal which was binary-stated value EFM with PCK 1

■ PD3410A (DVDM ASSY : IC11)

• System Control IC

• Pin Function

No.	Mark	Pin Name	I/O	Function
1	XCS3/XCASL	XCS3	O	PD4995A (MY CHIP) chip select signal output
2	GND	GND	-	GND
3	CK	HCPUCK	O	N.C.
4	VCC	V+3D	-	V+3D
5	PICLK	-	I/O	N.C.
6	PIDATA	-	I/O	N.C.
7	GND	GND	-	GND
8	PORTH0	-	O	N.C.
9	PORTH1	-	O	N.C.
10	PORTH2	36MVH	O	BU2158F (Clock generator)
11	PORTH3	V_SEL2	O	Composite/S switching signal output of the skirt terminal [WY model]
12	VCC	V+3D	-	V+3D
13	PORTH4	-	O	N.C.
14	PORTH5	-	O	N.C.
15	PORTH6	-	O	N.C.
16	PORTH7	-	O	N.C.
17	GND	GND	-	GND
18	EXTAL	EXTAL	I	Connect a ceramic resonator
19	XTAL	XTAL	O	
20	VCC	V+3D	-	V+3D
21	PORTG0	XCSDFO	O	DAC chip select signal output (← XLAT3)
22	PORTG1	-	O	N.C.
23	PORTG2	-	O	N.C.
24	PORTG3	-	O	N.C.
25	PORTG4	-	O	N.C.
26	GND	GND	-	GND
27	PORTG5	-	O	N.C.
28	PORTG6	-	O	N.C.
29	PORTG7	XAMUTE	O	Last stage mute signal output of the audio
30	PORTF0	44X48	O	DAC 44/48 FS switching signal output
31	PORTF1	-	I	N.C.
32	PORTF2	3DON	O	3D audio ON/bypass switching signal output
33	VCC	V+3D	-	V+3D
34	PORTF3	-	O	N.C.
35	PORTF4	XAVSRST	O	Sync. reset port
36	PORTF5	-	O	N.C.

No.	Mark	Pin Name	I/O	Function
37	PORTF6	–	O	N.C.
38	PORTF7	XCSVE	O	Serial communication enable signal output of the video encoder [WY model]
39	GND	GND	–	GND
40	AVSS	GND	–	GND
41	AVCC	V+3D	–	V+3D
42	OUTA_P	LODRV	O	Loading drive output
43	VREF	V+3D	–	V+3D
44	OUTB_P	TEI	O	Tracking offset signal output
45	AVSS	GND	–	GND
46	AVSS	GND	–	GND
47	PORTE0	V_SEL	O	Component/composite switching signal output
48	PORTE1	–	I	N.C.
49	PORTE2	–	I	N.C.
50	PORTE3	FOFST1	I/O	Focus offset adjustment output 1
51	PORTE4	FOFST2	I/O	Focus offset adjustment output 2
52	PORTE5	XDFINH	I/O	Defect shunt signal output
53	PORTE6	DVD/XCD	O	DVD/CD switching signal output
54	PORTE7	LD1_ON	O	650 nm laser diode ON signal output
55	PORTD0	LD2_ON	O	780 nm laser diode ON signal output
56	VCC	V+3D	–	V+3D
57	PORTD1	DPD/TE	O	1 beam/3 beams switching signal output
58	PORTD2	AGOFF	O	AGC ON/OFF switching signal output of RF IC
59	PORTD3	XCD2X	O	Signal output for switching the double speed playback (VCD)
60	PORTD4	OEICG	O	OEIC gain switching signal output
61	GND	GND	–	GND
62	PORTD5	XMON	O	ON/OFF switching signal output of the spindle motor control output
63	PORTD6	–	O	N.C.
64	PORTD7	–	I	N.C.
65	PORTJ0	XDRVMUT	O	Driver mute output
66	PORTJ1	–	O	N.C.
67	PORTJ2	XDSPRST	O	Servo DSP reset
68	PORTJ3	–	I	N.C.
69	VCC	V+3D	–	V+3D
70	PORTJ4	TM_ENT	I	Test mode entry
71	PORTJ5	–	O	N.C.
72	PORTJ6	VSEL_SW	I	Component/composite SW input
73	PORTJ7	–	I	N.C.
74	PB0/TIOCA2	XCBUSY	I	Command busy input
75	PB1/TIOCB2	XABUSY	I	Auto-sequence busy input
76	PB2/TIOCA3	XINT2	I	Interrupt input 2 (AV-1)
77	VCC	V+3D	–	V+3D
78	PB3/TIOCB3	LT1	O	Communication response signal output to the FL controller
79	PB4/TIOCA4	SBSY	I	Subcode block sync. input
80	XMTEST	–	I	Test terminal (V+3D)
81	XCPUMD	–	I	Test terminal (V+3D)
82	XRES	XRESET	I	Reset input

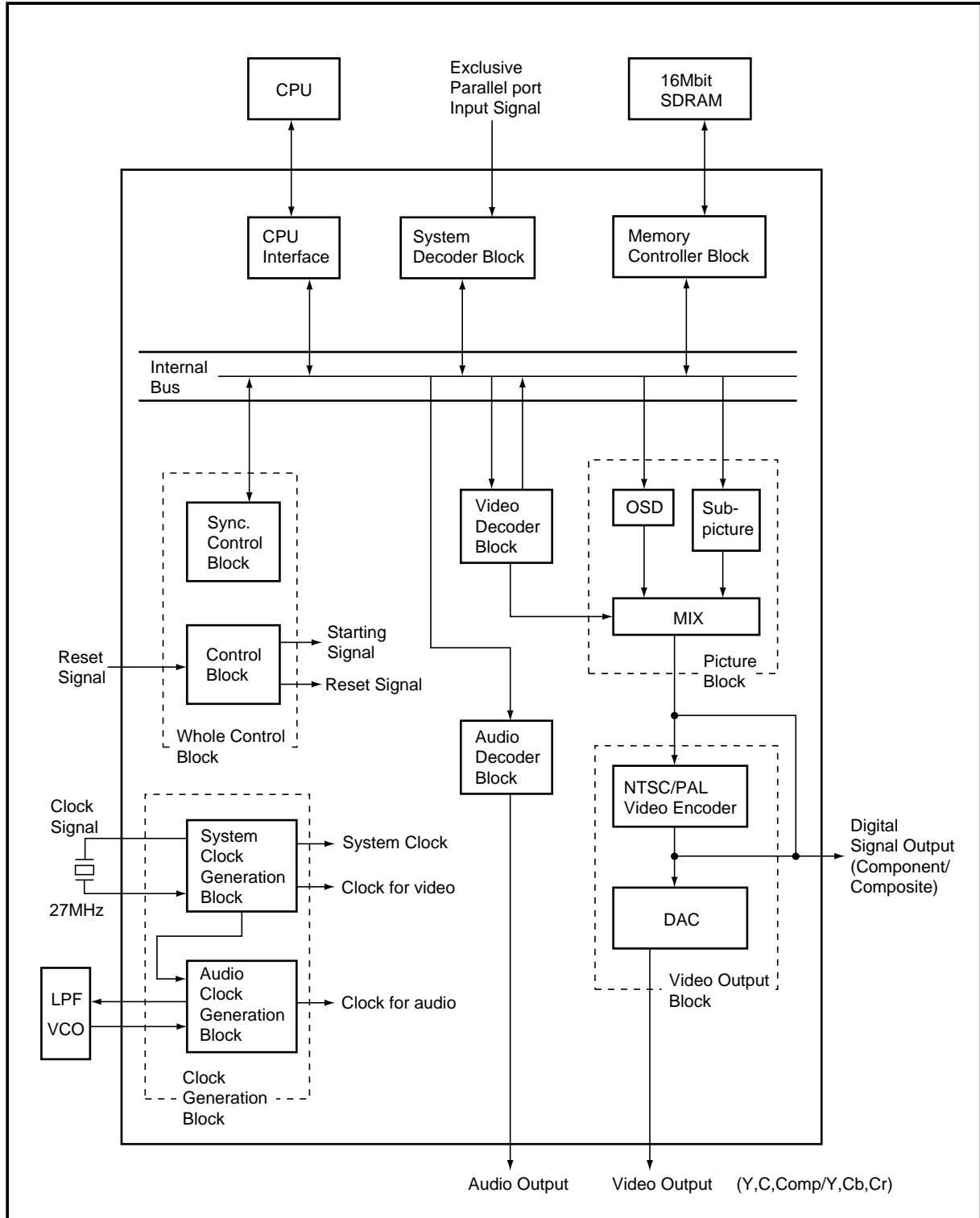
No.	Mark	Pin Name	I/O	Function
83	GND	GND	–	GND
84	AN0	LODPOS	I	Loading position input
85	AN1	SLDPOS	I	Slider position input
86	AN2	–	I	N.C.
87	AN3	NAP_SW	I	NTSC/AUTO/PAL SW input
88	AN4	XOEM	I	Input terminal of OEM model protection
89	AN5	LDDEAD	I	Input for LD current value display
90	AN6	–	I	N.C.
91	AN7	–	I	N.C.
92	Avref	V+3D	–	V+3D
93	AVCC	V+3D	–	V+3D
94	AVSS	GND	–	GND
95	PB5/TIOCB4	–	I	N.C.
96	PB6/TIOXA4/TCLKC	C2F	I	C2 error input
97	PB7/TIOXB4/TCLKD	XRDY	I	Communication request input from the FL controller
98	PB8/RxD0	SSI	I	Serial data input (FL controller)
99	PB9/TxD0	SSO	O	Serial data output (FL controller)
100	VCC	V+3D	–	V+3D
101	PB10/RxD1	RXD	I	Data input of the RS-232C
102	PB11/TxD1	TXD	O	Data output of the RS-232C
103	PB12/XIRQ4/SCK0	SSCK	I/O	Serial clock output (FL controller)
104	PB13/XIRQ5/SCK1	XIRQL10	I	Interrupt input #0 (MY CHIP)
105	GND	GND	–	GND
106	PB14/XIRQ6	XIRQL11	I	Interrupt input #1 (MY CHIP)
107	PB15/XIRQ7	XINT0	I	Interrupt input #0 (AV-1)
108	PA0/XCS4/TIOCA0	XCS4	O	Servo DSP chip select signal output
109	PA1/XCS5/XRAS	–	O	N.C.
110	PA2/XCS6/TIOCB0	XCS6	O	AV-1 chip select signal output
111	XWAIT	XWAIT	I	Wait signal input
112	XWRL	XWRL	O	Write pulse output L
113	GND	GND	–	GND
114	XWRH	XWRH	O	Write pulse output H
115	XRD	XRD	O	Read pulse output
116	PA7/XBACK	XCURDET	I	Over-current detection signal input
117	PA8/XBREQ	CTS	I	RS-232C transfer permit input
118	PA9/XAH/XIRQOUT/ XADTRG	DTR	O	RS-232C transfer permit output
119	PA10/DPL/TIOCA1	XINT1	I	Interrupt input 1 (AV-1)
120	PA11/DPH/TIOCB1	THLD	I	Tracking hold signal input
121	VCC	V+3D	–	V+3D
122	PA12/XIRQ0/DACK0/ TCLKA	DACK0	O	DMA response output (MY CHIP)
123	PA13/XIRQ1/ XDREQ0/TCLKB	XDREQ0	I	DMA request input (MY CHIP)
124	PA14/XIRQ2/XDACK1	XDACK1	O	DMA response output (AV-1)
125	PA15/XIRQ3/XDREQ1	XDREQ1	I	DMA request input (AV-1)
126	AD0	D0	I/O	Data bus 0

No.	Mark	Pin Name	I/O	Function
127	GND	GND	–	GND
128	AD1	D1	I/O	Data bus 1
129	AD2	D2	I/O	Data bus 2
130	AD3	D3	I/O	Data bus 3
131	AD4	D4	I/O	Data bus 4
132	AD5	D5	I/O	Data bus 5
133	AD6	D6	I/O	Data bus 6
134	VCC	V+3D	–	V+3D
135	AD7	D7	I/O	Data bus 7
136	AD8	D8	I/O	Data bus 8
137	AD9	D9	I/O	Data bus 9
138	AD10	D10	I/O	Data bus 10
139	GND	GND	–	GND
140	AD11	D11	I/O	Data bus 11
141	AD12	D12	I/O	Data bus 12
142	AD13	D13	I/O	Data bus 13
143	AD14	D14	I/O	Data bus 14
144	VCC	V+3D	–	V+3D
145	AD15	D15	I/O	Data bus 15
146	A0 (XHBS)	A0	O	Address bus 0
147	A1	A1	O	Address bus 1
148	A2	A2	O	Address bus 2
149	GND	GND	–	GND
150	A3	A3	O	Address bus 3
151	A4	A4	O	Address bus 4
152	A5	A5	O	Address bus 5
153	A6	A6	O	Address bus 6
154	A7	A7	O	Address bus 7
155	A8	A8	O	Address bus 8
156	A9	A9	O	Address bus 9
157	A10	A10	O	Address bus 10
158	A11	A11	O	Address bus 11
159	A12	A12	O	Address bus 12
160	A13	A13	O	Address bus 13
161	A14	A14	O	Address bus 14
162	A15	A15	O	Address bus 15
163	A16	A16	O	Address bus 16
164	A17	A17	O	Address bus 17
165	VCC	V+3D	–	V+3D
166	A18	A18	O	Address bus 18
167	A19	A19	O	Address bus 19
168	A20	A20	O	Address bus 20 [RAM model]
169	A21	A21	O	N.C.
170	XNMI	XNMI	I	V+3D
171	GND	GND	–	GND
172	XCS10	–	O	N.C.
173	XCS20	XCS20	O	Chip select signal output of the flash ROM
174	XCS22	–	O	Chip select signal output of the GUI ROM [OEM model]
175	XCS23	XCS23	O	Chip select signal output of the SRAM
176	XCS2	–	O	N.C.

■ MB86373B (DVDM ASSY : IC18)

• MPEG2 Decoder IC

• Block Diagram



● Pin Function

No.	Pin Name	I/O	Function	No.	Pin Name	I/O	Function
1	CLKSEL	I	ON/OFF signal of PLL ("H" : ON, "L" : OFF)	27	VDD	–	2.5V power supply
2	DIGCPN7	O	Digital component signal output (MSB) Digital Y signal output (9-bit) (MSB)	28	DIGCOMP4	O	Digital composite signal output Digital C signal output
3	VSS	–	GND	29	DIGCOMP3		
4	DIGCPN6	O	Digital component signal output Digital Y signal output (9-bit)	30	DIGCOMP2		
5	DIGCPN5			31	DIGCOMP1		
6	DIGCPN4			32	DIGCOMP0		
7	DIGCPN3			33	DACK	O	27 MHz clock output
8	DIGCPN2			34	N.C.	–	Non connection
9	DIGCPN1			35	VSSA3	–	GND (D/A converter)
10	VDD	–	2.5V power supply	36	ANAC	O	Analog color (C) output signal
11	DIGCPN0	O	Digital component signal output (LSB) Digital Y signal output (9-bit) (LSB)	37	VDDA3	–	2.5V power supply (for built-in D/A converter only)
12	RBSEL	O	Cb and Cr discrimination signal at the digital component signal output. LSB at the digital Y signal output.	38	VSSA2	–	GND (D/A converter)
13	XHS	O	Horizontal sync. output signal	39	ANAY	O	Analog luminance (Y) output signal
14	XVS	O	Vertical sync. output signal	40	VDDA2	–	2.5V power supply (for built-in D/A converter only)
15	VSS	–	GND	41	VREF	I	Reference voltage for D/A converter
16	XRESET	I	LSI reset signal	42	VRO	O	Internal current setting pin of D/A converter
17	XLDCSYNC	I	External sync. signal input (LD mode)	43	VDDA4	–	2.5V power supply (for built-in D/A converter only)
18	KEY	O	KEY signal for LD and OSD overlay (LD mode)	44	VSSA1	–	GND (D/A converter)
19	PD	O	Phase comparison result output signal of horizontal sync. (LD mode)	45	ANACOMP	O	Analog composite output signal
20	VFLD	O	Field discrimination signal at the digital signal output H : even field L : odd field	46	VDDA1	–	2.5V power supply (for built-in D/A converter only)
21	DIGCOMP9	O	Digital composite signal output (MSB) Digital C signal output (MSB)	47	BF	O	Burst flag signal
22	DIGCOMP8			48	XBLK	O	H/V composite blanking signal
23	DIGCOMP7			49	TEST4	O	Normally, set to "open".
24	DIGCOMP6			50	VSS	–	GND
25	DIGCOMP5			51	TEST0	I	Normally, set to "open".
26	VSS	–	GND	52	TEST1	I	"L" status normally

No.	Pin Name	I/O	Function	No.	Pin Name	I/O	Function		
53	DAIIN	I	Digital data input of external input (SPDIF)	92	HADRS10	I	CPU address bus signal (MSB)		
54	CDDATA	I	Audio data input of external input (correspond to CD)	93	HADRS9	I	CPU address bus signal		
55	CDLR	I	Data channel clock input of external input (correspond to CD)	94	HADRS8				
56	CDBCK	I	Data clock input of external input (correspond to CD)	95	HADRS7				
57	AODATA3	O	Audio decode data	96	VSS	-	GND		
58	AODATA2			97	VDD	-	2.5V power supply		
59	AODATA1			98	HADRS6	I	CPU address bus signal		
60	VSS	-	GND						
61	VDD	-	2.5V power supply						
62	AODATA0	O	Audio decode data	99	HADRS5				
63	AOPCM	O	Digital audio interface output (compression data)	100	HADRS4	I	CPU address bus signal (LSB)		
64	AODAI	O	Digital audio interface output (decode data)	101	HADRS3				
65	LRCK	O	Data channel clock for D/A and digital filter	102	HADRS2	I/O	CPU data bus signal		
66	AOMCK	O	Master clock for D/A and digital filter	103	HDATA15				
67	BCK	O	Bit clock for D/A and digital filter	104	HDATA14				
68	TEST2	I	Normally, set to "open".	105	HDATA13				
69	TEST3			106	HDATA12				
70	NC	-	Non connection	107	VSS	-	GND		
71	XDSPRST	I	Normally, set to "open".	108	HDATA11	I/O	CPU data bus signal		
72	VSS	-	GND	109	HDATA10				
73	TEST5	O	Normally, set to "open".	110	HDATA9				
74	NC	-	Normally, set to "open".	111	HDATA8				
75	NC			112	HDATA7				
76	NC			113	HDATA6				
77	NC	-	Normally, set to "open".	114	VDD	-	2.5V power supply		
78	SD7			I	Parallel data input	115	HDATA5	I/O	CPU data bus signal
79	VDD			-	2.5V power supply	116	HDATA4		
80	SD6	I	Parallel data input	117	HDATA3	I/O	CPU data bus signal		
81	SD5			118	HDATA2				
82	SD4			119	VSS	-	GND		
83	SD3			120	HDATA1	I/O	CPU data bus signal		
84	SD2	121	HDATA0	CPU data bus signal (LSB)					
85	VSS	-	GND	122	BUSSEL	I	Bus width selection signal (0 : 8-bit bus, 1 : 16-bit bus)		
86	SD1	I	Parallel data input	123	XOSDACK	I	OSD data acknowledge signal		
87	SD0			124	XOSDREQ	O	OSD data request signal		
88	XERR	I	Error input signal	125	HCPUSEL1	I	CPU selection signal (00 :SPARC, 01 :86 system, 10 :68 system, 11 :Reserve)		
89	XSACK	I	Acknowledge signal	126	HCPUSEL0				
90	XTEST	I	Set to "H" at normal use	127	XINT3	O	Interrupt request signal to the CPU		
91	SREQ	O	Data request signal	128	XINT2				
				129	XINT1				
				130	VSS	-	GND		

No.	Pin Name	I/O	Function	No.	Pin Name	I/O	Function		
131	VDD	–	2.5V power supply	170	XMDRCAS	O	CAS signal for SDRAM		
132	XINT0	O	Interrupt request signal to CPU	171	XMDRDQM1	O	Input mask / output enable signal for SDRAM		
133	XEXTRDY	O	SPARC, 68 system : Ready signal to CPU 86 system : Acknowledge (ACK) signal to CPU	172	VSS	–	GND		
134	HRW	I	CPU read / write signal	173	XMDRWE	O	Write enable signal for SDRAM		
135	HCLKIN	I	Host clock input	174	XMDRDQM0	O	Input mask / output enable signal for SDRAM		
136	XHCS	I	LSI chip select signal	175	MDRDAT8	I/O	Data bus signal for SDRAM		
137	XHAS	I	SPARC, 68 system : CPU address strobe 86 system : CPU address status	176	VSS	–	GND		
138	XHBE3	I	CPU byte enable signal	177	MDRDAT7	I/O	Data bus signal for SDRAM		
139	XHBE2			178	MDRDAT9				
140	XHBE1			179	MDRDAT6				
141	XHBE0			180	MDRDAT10				
142	VSS	–	GND	181	MDRDAT5				
143	MDRADR4	O	Address signal for SDRAM	182	VSS	–	GND		
144	MDRADR3			183	VDD	–	2.5V power supply		
145	MDRADR5			184	MDRDAT11	I/O	Data bus signal for SDRAM		
146	MDRADR2			185	MDRDAT4				
147	VDD	–	2.5V power supply	186	MDRDAT12			I/O	Data bus signal for SDRAM
148	VSS	–	GND	187	MDRDAT3				
149	MDRADR6	O	Address signal for SDRAM	188	MDRDAT13				
150	MDRADR1			189	VSS	–	GND		
151	MDRADR7			190	MDRDAT2	I/O	Data bus signal for SDRAM		
152	MDRADR0			191	MDRDAT14				
153	MDRADR8	192	MDRDAT1						
154	VSS	–	GND	193	MDRDAT15		Data bus signal for SDRAM (MSB)		
155	TEST6	I	"L" status normally	194	MDRDAT0	I/O	Data bus signal for SDRAM (LSB)		
156	TEST7			195	VSS	–	GND		
157	TEST8			196	N.C.	–	Non connection		
158	TEST9			197	ICK27M	I	System clock input		
159	MDRADR10	O	Address signal for SDRAM	198	VSS	–	GND		
160	MDRADR9			199	OCK27M	O	System clock output		
161	MDRADR11			200	VSSA(VCO)	–	GND (for VCO only)		
162	XMDRCS	O	Chip select signal for SDRAM	201	VDDA(VCO)	–	2.5V power supply (for VCO only)		
163	MDRCKE	O	Clock enable signal for SDRAM	202	ILPF	O	PLL block inverter output for audio		
164	VSS	–	GND	203	MLPF	I	PLL block inverter input for audio		
165	VDD	–	2.5V power supply	204	OLPF	O	Phase detector output for audio		
166	XMDRRAS	O	RAS signal for SDRAM	205	OVCO	I	VCO input for audio clock		
167	MDRCLK	O	Clock output signal for SDRAM	206	VSS	–	GND		
168	VSS	–	GND	207	XPLLST	I	PLL section reset signal		
169	MDRCLKIN	I	Clock input signal for SDRAM	208	XSYNCRST	I	SYNC reset signal		

■ PE5185A (FLJB ASSY : IC101)

• FL Control IC

• Pin Function

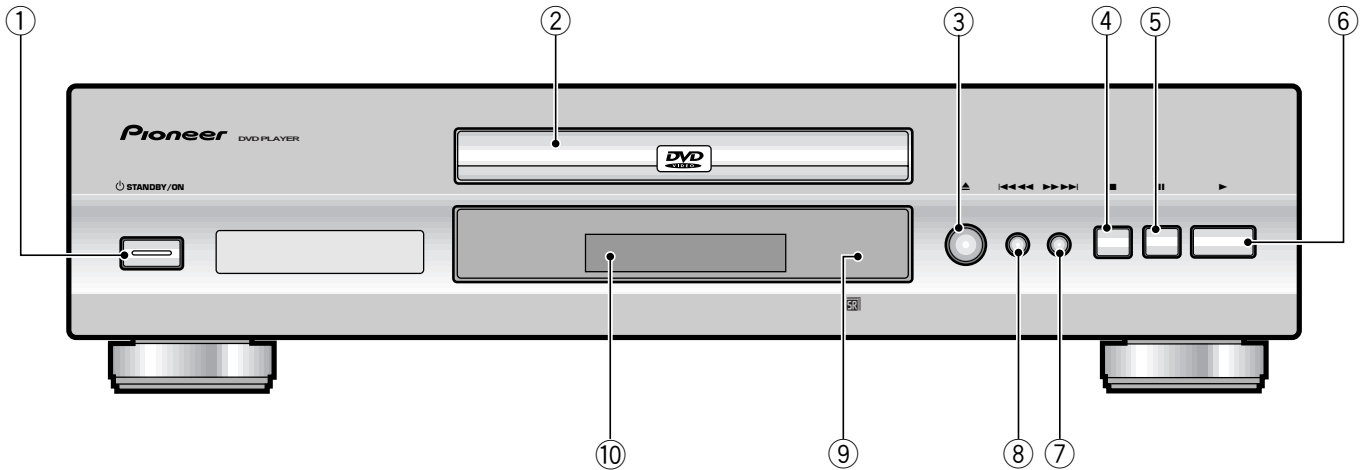
No.	Mark	Pin Name	I/O	Function	Active
1	P94	G7	O	FL timing output	H: ON
2	P93	G6			
3	P92	G5			
4	P91	G4			
5	P90	G3			
6	P81	G2			
7	P80	G1			
8	VDD	(5V)	–	–	
9	P27	FLSET1	I	FL tube setting	
10	P26	FLSET2			
11	P25	KEYSET	I	Key division number setting	
12	P24	(NC)	O	–	
13	P23	XREADY	O	Communication handshaking line with system control IC	L: Communication permission
14	P22	SCK	I/O	Communication clock output with system control IC	
15	P21	SO	I/O	Communication data output with system control IC	
16	P20	SI	I	Communication data input with system control IC	
17	RESET	RESET IN	I	Reset input	L: Reset
18	P74	(NC)	O	–	
19	P73				
20	AVSS	(GND)	–	–	
21	P17	(GND)	I	(Unused)	
22	P16	(GND)			
23	P15	–	I	–	
24	P14	KIN2	I	Key input	
25	P13	KIN1			
26	P12	KIN0			
27	P11	MS1	I	Inducing distinction input	
28	P10	MS0	I	Model distinction input	
29	AVDD	(5V)	–	–	
30	AVREF	(5V)	–	–	
31	P04	(GND)	I	(Unused)	
32	XT2	(NC)	–	–	
33	VSS	(GND)	–	–	
34	X1	X1	I	Microcomputer clock connection	
35	X2	X2			
36	P37	(NC)	O	–	
37	P36				
38	P35				
39	P34	NORMAL/KARA	I	Microphone existence detection [RAM model]	H: Microphone having
40	P33	(NC)	O	–	

No.	Mark	Pin Name	I/O	Function	Active
41	P32	POWER ON	O	SW 5V ON/OFF	H: ON
42	P31	RESET OUT	O	System reset output	L: Reset
43	P30	(NC)	O	–	
44	P03	TES	I	Setting when system control IC is debugged	H: At debugging
45	P02	ON POWER	I	STBY/POWER ON switch at the time of FL control IC standing up	L: STBY
46	P01	LT	I	Communication handshaking line with system control IC	H: Communication permission
47	P00	SEL IR	I	Remote control signal input	
48	IC	IC	–	–	
49	P72	(NC)	O	–	
50	P71				
51	P70				
52	VDD	(5V)	–	–	
53	P127	P. ON LED	O	STANDBY LED ON/OFF	H: ON
54	P126	OEM	O	OEM model distinction input	H: OEM
55	P125	FL OFF LED	O	FL OFF LED ON/OFF	H: ON
56	P124	(NC)	O	–	
57	P123				
58	P122	P19	O	FL segment output	H: ON
59	P121	P18			
60	P120	P17			
61	P117	P16			
62	P116	P15			
63	P115	P14			
64	P114	P13			
65	P113	P12			
66	P112	P11			
67	P111	P10			
68	P110	P9			
69	P107	P8			
70	P106	P7			
71	VLOAD	-27V	–	Input for -27V	H: ON
72	P105	P6	O	FL segment output	H: ON
73	P104	P5			
74	P103	P4			
75	P102	P3			
76	P101	P2			
77	P100	P1			
78	P97	G10	O	FL timing output	H: ON
79	P96	G9			
80	P95	G8			

8. PANEL FACILITIES AND SPECIFICATIONS

8.1 PANEL FACILITIES

Front Panel



① **⏻ STANDBY/ON button**

Press to switch the player on or to put in standby.

② **Disc tray**

When loading a disc, place discs in the disc tray with the label side facing up.

③ **▲ (open/close) button**

Press to open and close the disc tray.

④ **■ (stop) button**

Press to stop playback. Pressing once enables playback to resume from a point shortly before the location where it stopped. Pressing twice causes the disc to return to the beginning of the disc if playback starts again.

⑤ **⏸ (pause) button**

Press during playback to pause. Press again to resume playback.

⑥ **▶ (play) button**

Press to start or resume playback.

⑦ **▶▶▶▶ (forward) button**

Press to advance to chapters/tracks. Press and hold to perform fast-forward scanning.

⑧ **◀◀◀◀ (reverse) button**

Press to go back to previous chapters/tracks. Press and hold to perform reverse playback scanning.

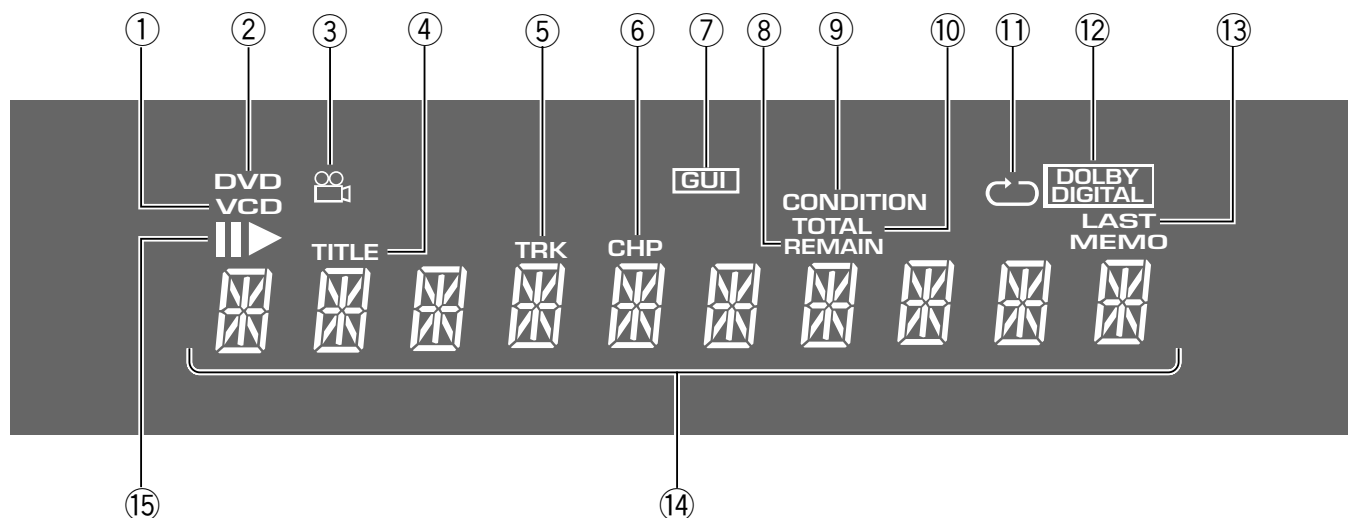
⑨ **Remote sensor**

Point the remote control toward the remote sensor to operate the player.

⑩ **Display window**

Displays system information.

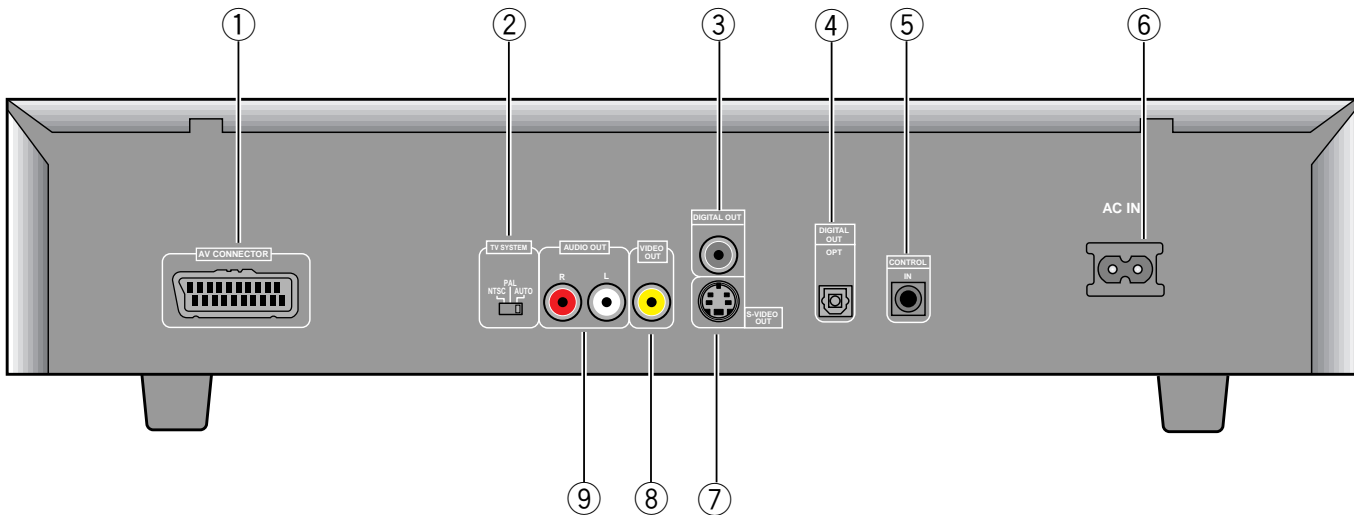
Display Window



- ① **VCD indicator**
VCD lights when a Video CD is loaded. CD lights when an audio CD is loaded.
- ② **DVD indicator**
Lights when a DVD is loaded.
- ③ **Multi-Angle indicator**
Indicates Multi-Angle playback is in progress.
- ④ **TITLE indicator**
Indicates a title number is being displayed.
- ⑤ **TRK indicator**
Indicates a track number is being displayed.
- ⑥ **CHP indicator**
Indicates a chapter number is being displayed.
- ⑦ **GUI indicator**
Indicates an on-screen menu operation is being performed.
- ⑧ **REMAIN indicator**
Indicates that the remaining playback time of a title or chapter/track is being displayed.
- ⑨ **CONDITION indicator**
Indicates that Condition Memory settings are memorized for the currently loaded DVD.
- ⑩ **TOTAL indicator**
Indicates that the disc in the player is stopped and **DISPLAY** has been pressed.
- ⑪ **REPEAT indicator**
Indicates that the Repeat function is on and that the current title, chapter, or track is being repeated.
- ⑫ **DOLBY DIGITAL indicator**
Indicates Dolby Digital audio playback.
- ⑬ **LAST MEMO indicator**
Indicates the Last Memory location is recorded in memory for the currently loaded DVD or Video CD.
- ⑭ **Counter display**
Displays the playback mode, type of disc, title and chapter/track numbers, playback time, etc.
- ⑮ **II>> indicator**
▶ light when any disc is playing. When a disc is paused, II lights.

Rear Panel

■ WYXJ, WYXJ/SP, WVXJ, and WYXQ Types



① AV CONNECTOR jack

Use a 21-pin SCART cable to connect to a TV or monitor compatible with this type of connection. Both audio and video signals are output from the **AV CONNECTOR** jack.

② TV SYSTEM switch

Use to change the TV signal mode to either PAL or NTSC according to the type of TV and disc to be used. When the switch is in the **AUTO** position, the player outputs the format on the disc as is.


③ DIGITAL OUT jack (coaxial)

Use to output the digital audio signal recorded on discs. You can output the digital signal via either coaxial output jack to an AV amplifier or receiver.

④ DIGITAL OUT jack (optical (OPT.))

Use to output the digital audio signal recorded on discs. You can output the digital signal via either optical output jack to an AV amplifier or receiver.

⑤ CONTROL IN jack

Use to connect this player to another component bearing the Pioneer  mark. This lets you control this unit as though it were a component in a system. Player operations are then performed by pointing the remote control at the component that the player is connect to.

⑥ AC IN power cord connection terminal

Use to connect the power cord to the wall outlet.

⑦ S-VIDEO OUT jack

If your TV or monitor has an S-video input, clear picture reproduction is possible by connecting the player to your TV or monitor via the S-Video jack.

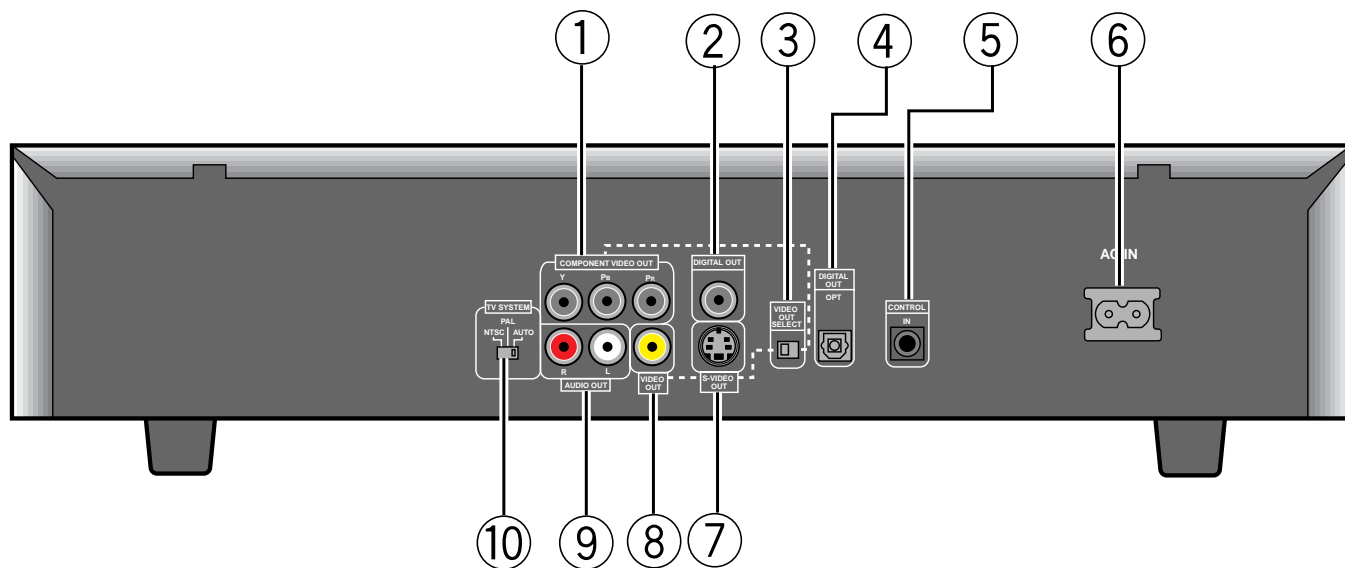
⑧ VIDEO OUT jack

Connect to the video input on a TV or monitor or AV amplifier or receiver with video input capability.

⑨ AUDIO OUT jacks

Use to output two-channel audio (analog) to the audio stereo inputs on a TV or stereo amplifier. If you are connecting to a receiver that has both digital and analog input jacks for DVD player connection, it may be beneficial to make both connections.

■ RDXJ/RB, RDXJ/RD and RDXJ1/RA Types



① COMPONENT VIDEO OUT jacks

If your TV or monitor has component video inputs, you can produce a higher quality picture on your TV or monitor by connecting to the component video outputs on this unit. When using these jacks, be sure to set **VIDEO OUT SELECT** to the right position.

② DIGITAL OUT jack (coaxial)

Use to output the digital audio signal recorded on discs. You can output the digital signal via either coaxial output jack to an AV amplifier or receiver.


③ VIDEO OUT SELECT switch

Use to set which output is used to output the video signals. Select either video/S-video or component video signal output depending on the connections you make.

④ DIGITAL OUT jack (optical (OPT.))

Use to output the digital audio signal recorded on discs. You can output the digital signal via either optical output jack to an AV amplifier or receiver.

⑤ CONTROL IN jack

Use to connect this player to another component bearing the Pioneer  mark. This lets you control this unit as though it were a component in a system. Player operations are then performed by pointing the remote control at the component that the player is connect to.

⑥ AC IN power cord connection terminal

Use to connect the power cord to the wall outlet.

⑦ S-VIDEO OUT jack

If your TV or monitor has an S-video input, clear picture reproduction is possible by connecting the player to your TV or monitor via the S-Video jack. When using this output, be sure to set **VIDEO OUT SELECT** to the left position.

⑧ VIDEO OUT jack

Connect to the video input on a TV or monitor or AV amplifier or receiver with video input capability. When using this output, be sure to set **VIDEO OUT SELECT** to the left position.

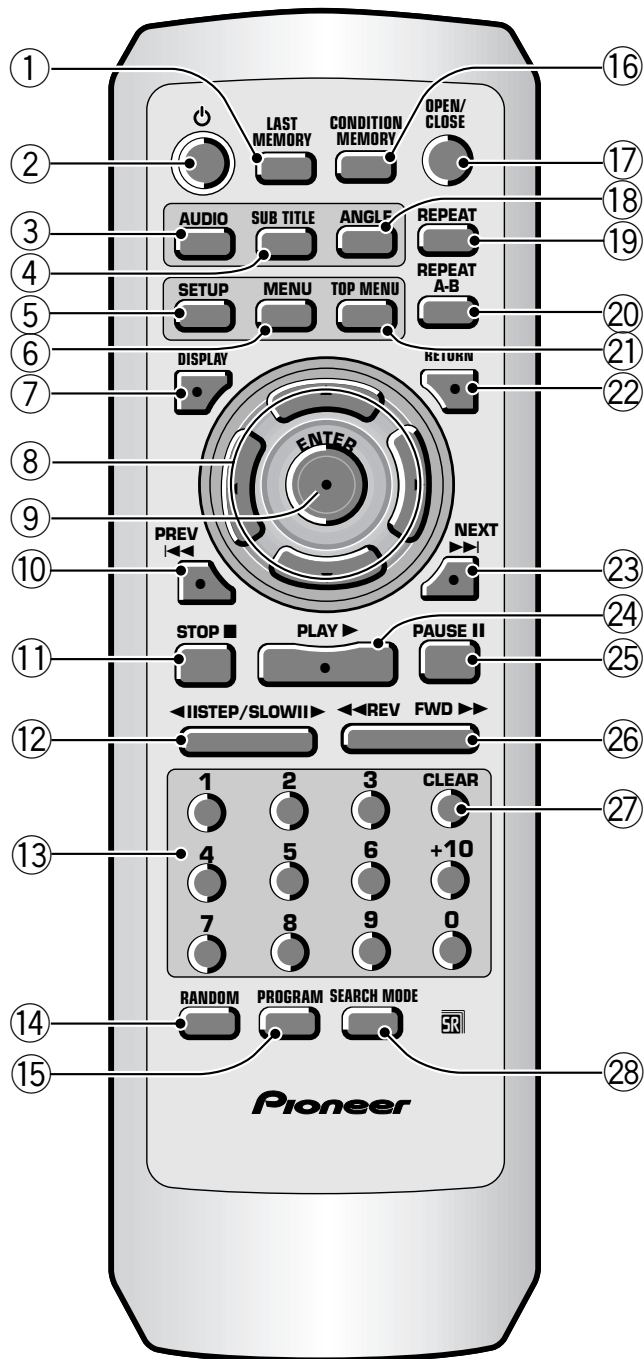
⑨ AUDIO OUT jacks

Use to output two-channel audio (analog) to the audio stereo inputs on a TV or stereo amplifier. If you are connecting to a receiver that has both digital and analog input jacks for DVD player connection, it may be beneficial to make both connections.

⑩ TV SYSTEM switch

Use to change the TV signal mode to either PAL or NTSC according to the type of TV and disc to be used. When the switch is in the AUTO position, the player outputs the format on the disc as is.

Remote Control



(Buttons indicated with * are used for menu operation.)

- ① **LAST MEMORY button**
You can resume DVD or Video CD playback from the point you last watched even if the disc is removed from the player. Press **LAST MEMORY** during playback to set a Last Memory point. When you want to resume playback of that disc, press **LAST MEMORY** in the stop mode and playback starts from the memorized point. Last Memory locations can be stored for up to 5 DVDs and 1 Video CD.
- ② **⏻ (standby/on) button**
Press to switch the player on or to put in standby.
- ③ **AUDIO button**
Press repeatedly to select one of the audio languages and/or audio formats programmed on a DVD.
For Video CD and CD, each press changes the audio output as follows.

→ Stereo → 1/L (Left) → 2/R (Right) ←
- ④ **SUBTITLE button**
Press repeatedly to select one of the subtitle languages programmed on a DVD or to turn the subtitles off.
- ⑤ **SETUP button***
Press when the player is in either play or stop mode to open and close the Setup screen.
- ⑥ **MENU button***
Use to display or close the DVD menu screen.
- ⑦ **DISPLAY button**
Press during playback to display statistical disc information. Press repeatedly to display different information.
- ⑧ **Cursor buttons (◀/▶/▲/▼)***
Use to move through the options on menu screens and to change settings.
- ⑨ **ENTER button***
Use to implement settings selected with the cursor buttons or to set items highlighted in a menu.
- ⑩ **PREV ◀◀ (previous)**
During playback, press **PREV ◀◀** to go back to a previous chapter/track.
- ⑪ **STOP ■ button**
Press to stop playback. Pressing once enables playback to resume from a point shortly before the location where it was stopped. Pressing twice causes the disc to return to the beginning of the disc when playback starts again.

⑫ **STEP/SLOW ◀II/II▶ buttons**

Press **STEP/SLOW II▶** during playback to view slow playback. In pause mode, press **STEP/SLOW II▶** to advance DVDs and Video CDs frame by frame and **STEP/SLOW ◀II** to back up a few frames at a time.

⑬ **Number buttons (1-9, 0, +10)***

Use to perform direct title and chapter/track searches, and to input numerical values.

⑭ **RANDOM button**

Press to play chapters/tracks in random order.

⑮ **PROGRAM button**

You can program titles, chapters, or tracks to play back in a desired order. Programs can be a maximum of 24 steps. Additionally, DVD programs for up to 24 discs can be stored in the player's memory for future use.

⑯ **CONDITION MEMORY button**

You can store in memory the settings for up to 15 DVDs. Press **CONDITION MEMORY** during DVD playback to memorize the settings.

⑰ **OPEN/CLOSE button**

Press to open or close the disc tray.

⑱ **ANGLE button**

Some DVDs are recorded with various camera angle playback options. Press **ANGLE** repeatedly to display different camera angles.

⑲ **REPEAT button**

Press once to repeat playback of current chapter/track. Press twice to repeat playback of current title.

⑳ **REPEAT A-B button**

Press at the beginning and end of the section you want to repeat or to mark a location you want to return to.

㉑ **TOP MENU button***

Press to call up the top menu programmed on the DVD. Depending on the DVD, the top menu may be identical to the DVD menu.

㉒ **RETURN button***

Use to go one menu back (current settings are maintained). Use **RETURN** when you do not want to change the option setting in a menu.

㉓ **NEXT ▶▶I**

During playback, press **NEXT ▶▶I** to advance to the next chapter/track.

㉔ **PLAY ▶ button**

Press to start disc playback.

㉕ **PAUSE II button**

Press to pause playback of a disc. Press again to resume playback.

㉖ **◀◀ REV/FWD ▶▶ (fast reverse/forward) buttons**

During playback of DVD and Video CD, press **FWD ▶▶** to perform fast forward scanning. Press **REV ◀◀** to perform fast reverse scanning of DVD and Video CD. When a CD is loaded, audio scanning is performed.

㉗ **CLEAR button**

Works in conjunction with a number of player functions. Use to cancel repeat and random playback, and to edit programs.

㉘ **SEARCH MODE button**

Press to perform a title, chapter/track or elapsed time search.

8.2 SPECIFICATIONS

Specifications

■ WYXJ, WYXJ/SP, WVXJ and WYXQ types

General

System DVD system and Compact Disc digital audio system
 Power requirements AC 220-240 V, 50/60 Hz
 Power consumption 12 W
 Power consumption in standby mode less than 1 W
 Weight 2.7 kg
 Dimensions 420 (W) x 281 (D) x 104 (H) mm
 (Not including protruding cables, etc.)
 Operating temperature +5°C to +35°C
 Operating humidity 5% to 85% (no condensation)

S-Video output

Y (luminance) - Output level 1 Vp-p (75 Ω)
 C (color) - Output level 286 mVp-p (75 Ω)
 Jacks S-VIDEO jack

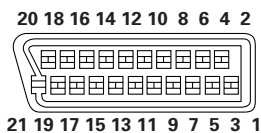
Video output

Output level 1 Vp-p (75 Ω)
 Jacks RCA jack

AV connector

AV connector input/output 21-pin connector
 This connector provides the video and audio signals for connection to a compatible color TV or monitor.

21-pin connector assignment



PIN no.

1 Audio 2/R out	11 G out
3 Audio 1/L out	15 R or C out
4 GND	17 GND
7 B out	19 Video out or Y out
8 Status	21 GND

Audio output

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

Digital audio characteristics

Frequency response 4 Hz to 44 kHz (DVD fs: 96 kHz)
 S/N ratio 115 dB
 Dynamic range 102 dB
 Total harmonic distortion 0.002 %
 Wow and flutter Limit of measurement
 (±0.001% W. PEAK) or lower

Digital output

Optical digital output Optical digital jack
 Coaxial digital output RCA jack

Other terminals

CONTROL IN Minijack (3.5 ø)

Accessories

Audio cord	1
Video cord	1
Power cord	1
Remote control unit	1
AA (R6P) dry cell batteries	2
Operating Instructions	1

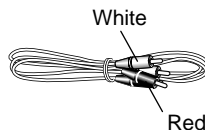
Note

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

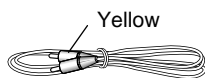
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■ Accessories

Audio Cord (L=1.5m): VDE1052 (WYXJ, WYXJ/SP, WVXJ)
 VDE1054 (WYXQ)



Video Cord (L=1.5m): VDE1053 (WYXJ, WYXJ/SP, WVXJ)
 VDE1055 (WYXQ)



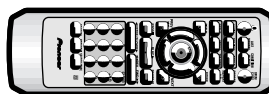
Power Cord : XDG3001 (WYXJ, WYXJ/SP, WYXQ)



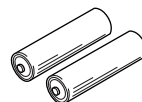
Power Cord : ADG1156 (WVXJ)



Remote Control Unit : VXX2702



Dry Cell Battery (R6P,AA)



Specifications

■ RDXJ/RB, RDXJ/RD and RDXJ1/RA types

General

System	DVD system and Compact Disc digital audio system
Power requirements	AC 110 - 127 / 220 - 240 V, 50/60 Hz
Power consumption	11 W
Power consumption in standby mode	less than 1 W
Weight	2.7 kg
Dimensions (Not including protruding cables, etc.)	420 (W) x 281 (D) x 104 (H) mm
Operating temperature	+5°C to +35°C (+36°F to +96°F)
Operating humidity	5% to 85% (no condensation)

S-Video output

Y (luminance) - Output level	1 Vp-p (75 Ω)
C (color) - Output level	286 mVp-p (75 Ω)
Jacks	S-VIDEO jack

Video output

Output level	1 Vp-p (75 Ω)
Jacks	RCA jack

Component video output

(Y, P _B , P _R)	
Output level	Y: 1.0 Vp-p (75 Ω) P _B , P _R : 0.7 Vp-p (75 Ω)
Jacks	RCA jacks

Audio output

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

Digital audio characteristics

Frequency response	4 Hz to 44 kHz (DVD fs: 96 kHz)
S/N ratio	115 dB
Dynamic range	102 dB
Total harmonic distortion	0.002%
Wow and flutter	Limit of measurement (±0.001% W. PEAK) or lower

Digital output

Optical digital output	Optical digital jack
Coaxial digital output	RCA jack

Other terminals

CONTROL IN	Minijack (3.5 ø)
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Accessories

Remote control unit	1
AA (R6P) dry cell batteries	2
Audio cord	1
Video cord	1
Power cord	1
Operating Instructions	1

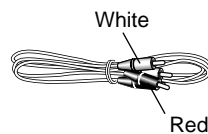
Note

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

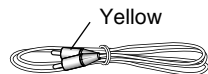
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■ Accessories

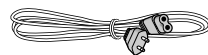
Audio Cord (L=1.5m): VDE1052



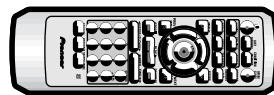
Video Cord (L=1.5m): VDE1053



Power Cord: ADG1158



Remote Control Unit: VXX2702



Dry Cell Battery (R6P,AA)

