

Service Manual

Pioneer



ORDER NO.
RRV2158

DVD PLAYER

DV-525

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

| Type | Model | Power Requirement | Region No. | Remarks |
|-------|--------|-------------------|------------|---------|
| | DV-525 | | | |
| KU | ○ | AC120V | 1 | |
| KC | ○ | AC120V | 1 | |
| WV | ○ | AC220 - 240V | 2 | |
| WY | ○ | AC220 - 240V | 2 | |
| WY/SP | ○ | AC220 - 240V | 2 | |

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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.

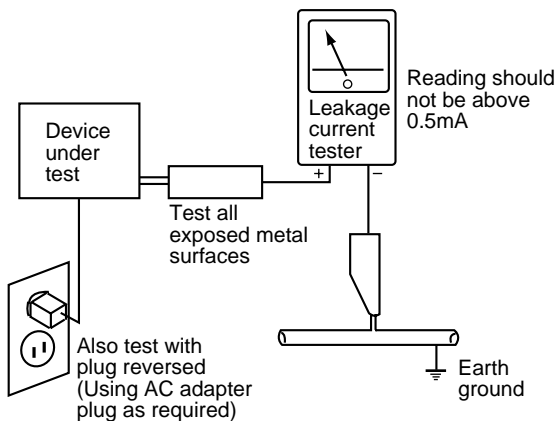
(FOR USA MODEL ONLY)

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.

— IMPORTANT —

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

— LASER DIODE CHARACTERISTICS —

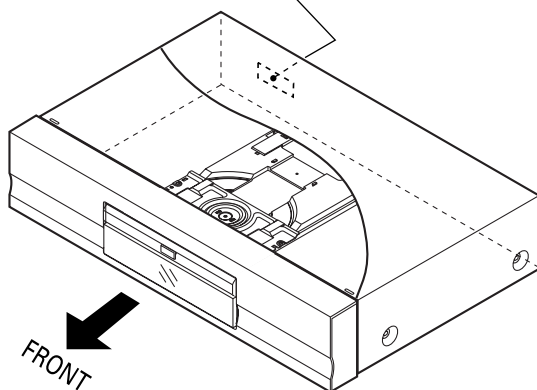
FOR DVD : MAXIMUM OUTPUT POWER : 5 mW
WAVELENGTH : 655 nm
FOR CD : MAXIMUM OUTPUT POWER : 5mW
WAVELENGTH : 785 nm

LABEL CHECK

WV,WY and WY/SP types

CLASS 1
LASER PRODUCT

(Printed on the Rear Panel)



— Additional Laser Caution —

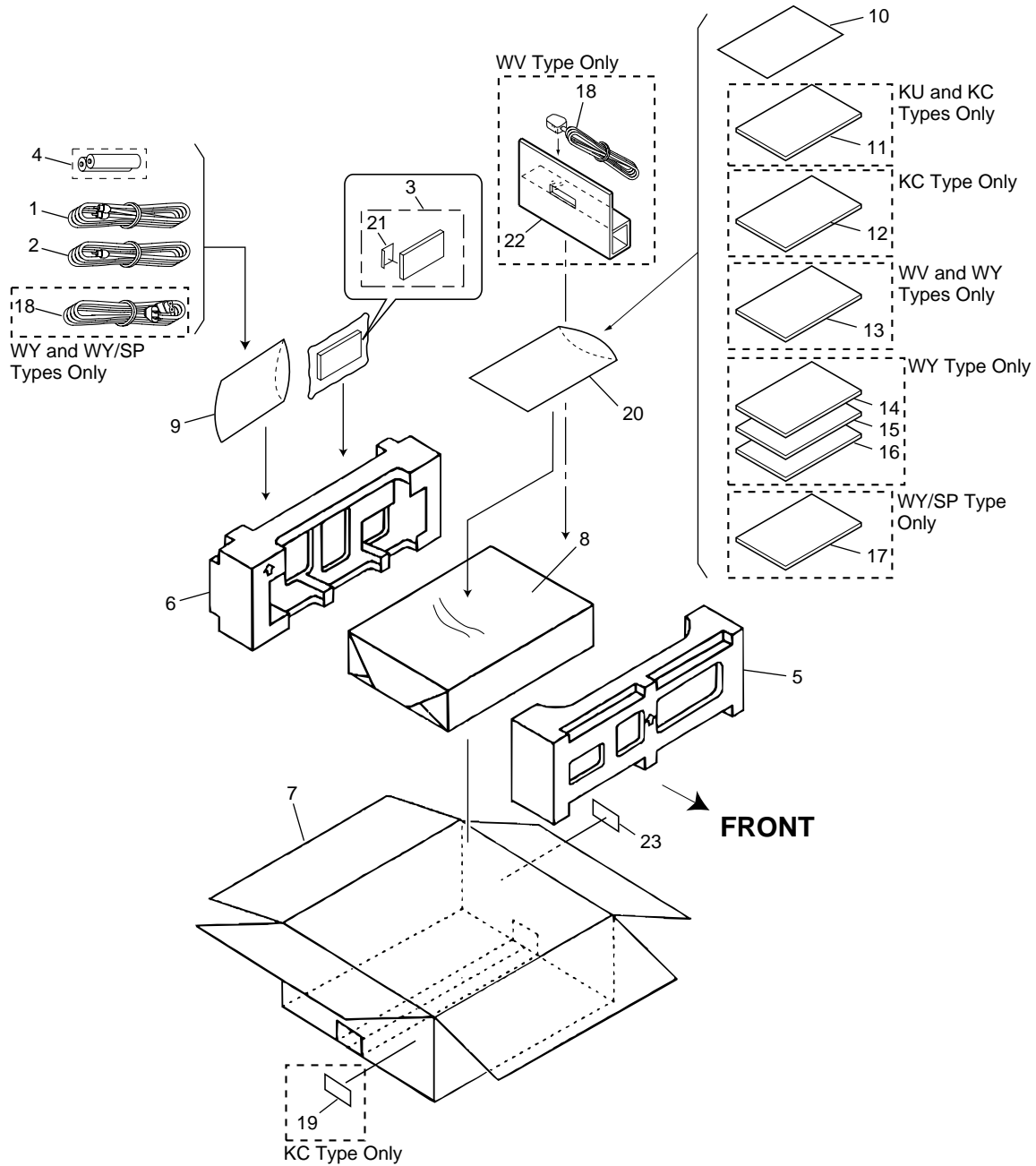
1. Inside detection switch (S201 on the SMEB assy) and loading-status detection switch (S301 on the LOSB assy) are detected by the microprocessor (IC11 in the DVDM assy).
 - To permit the laser diode to oscillate, it is required to set the inside detection switch for the inside position (S201 : ON) and to set the loading-status detection switch for the clamp position (the center terminal of S301 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 (S106 ON in the FLKY 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 54.

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

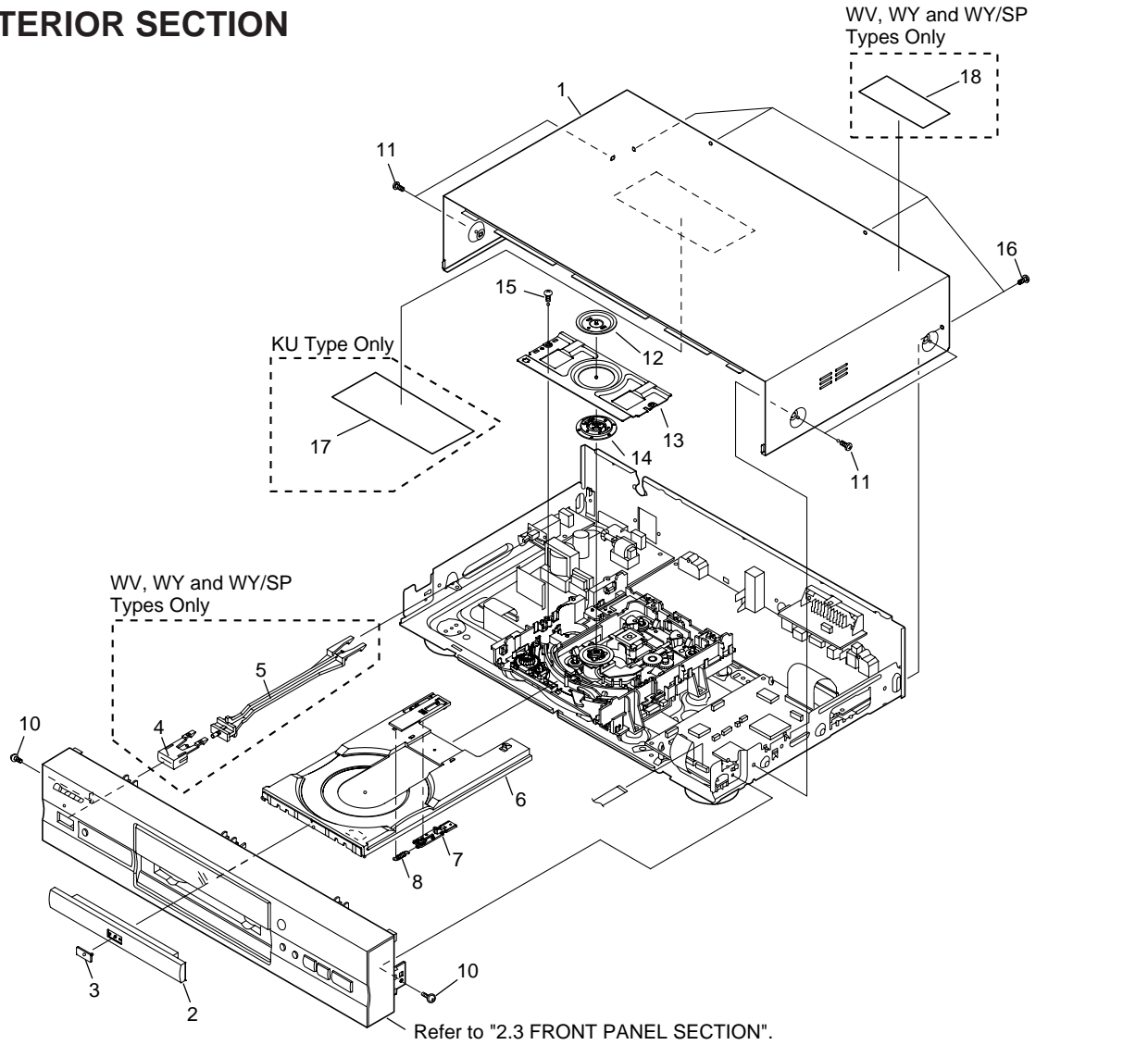
| Mark | No. | Description | Part No. |
|------|-----|--|------------------------|
| NSP | 1 | Audio Cord (L = 1.5m) | VDE1033 |
| | 2 | Video Cord (L = 1.5m) | VDE1034 |
| | 3 | Remote Control Unit | See Contrast table (2) |
| | 4 | Dry Cell Battery (R6P, AA) | VEM-013 |
| | 5 | Pad F | VHA1238 |
| | 6 | Pad R | VHA1239 |
| | 7 | Packing Case | See Contrast table (2) |
| | 8 | Mirror Mat Sheet (750 × 600 × 0.05) | Z23-007 |
| | 9 | Polyethylene Bag | VHL1051 |
| NSP | 10 | Warranty Card | See Contrast table (2) |
| | 11 | Operating Instructions (English) | See Contrast table (2) |
| | 12 | Operating Instructions (French) | See Contrast table (2) |
| | 13 | Operating Instructions (English/French) | See Contrast table (2) |
| | 14 | Operating Instructions (German/Italian) | See Contrast table (2) |
| | 15 | Operating Instructions (Spanish/Portuguese) | See Contrast table (2) |
| | 16 | Operating Instructions (Dutch/Swedish) | See Contrast table (2) |
| △ | 17 | Operating Instructions (Spanish) | See Contrast table (2) |
| | 18 | Power Cord | See Contrast table (2) |
| | 19 | KC Label | See Contrast table (2) |
| | 20 | Polyethylene Bag | See Contrast table (2) |
| NSP | 21 | Battery Cover | AZA7204 |
| | 22 | Cord Holder | See Contrast table (2) |
| | 23 | Label | VRW1629 |

(2) CONTRAST TABLE

DV-525/KU, KC, WV, WY and WY/SP are constructed the same except for the following :

| Mark | No. | Symbol and Description | Part No. | | | | | Remarks |
|------|-----|--|----------|----------|----------|----------|------------|---------|
| | | | KU Type | KC Type | WV Type | WY Type | WY/SP Type | |
| NSP | 3 | Remote Control Unit (CU-DV049) | VXX2643 | VXX2643 | Not used | Not used | Not used | |
| | 3 | Remote Control Unit (CU-DV042) | Not used | Not used | VXX2636 | VXX2636 | VXX2636 | |
| | 7 | Packing Case | VHG1800 | VHG1800 | VHG1839 | VHG1813 | VHG1830 | |
| | 10 | Warranty Card | ARY7023 | ARY7024 | ARY7022 | ARY7022 | ARY7022 | |
| | 11 | Operating Instructions (English) | VRB1220 | VRB1220 | Not used | Not used | Not used | |
| | 12 | Operating Instructions (French) | Not used | VRC1090 | Not used | Not used | Not used | |
| | 13 | Operating Instructions (English/French) | Not used | Not used | VRD1096 | VRD1096 | Not used | |
| | 14 | Operating Instructions (German/Italian) | Not used | Not used | Not used | VRD1097 | Not used | |
| | 15 | Operating Instructions (Spanish/Portuguese) | Not used | Not used | Not used | VRD1098 | Not used | |
| | 16 | Operating Instructions (Dutch/Swedish) | Not used | Not used | Not used | VRD1099 | Not used | |
| △ | 17 | Operating Instructions (Spanish) | Not used | Not used | Not used | Not used | VRC1094 | |
| | 18 | Power Cord | Not used | Not used | ADG7004 | ADG1127 | ADG1127 | |
| | 19 | KC Label | Not used | VRW1716 | Not used | Not used | Not used | |
| | 20 | Polyethylene Bag (0.03×200×300) | VHL1051 | VHL1051 | VHL1051 | Not used | Not used | |
| | 20 | Polyethylene Bag (0.03×230×340) | Not used | Not used | Not used | Z21-038 | Z21-038 | |
| | 22 | Cord Holder | Not used | Not used | VHC1049 | Not used | Not used | |

2.2 EXTERIOR SECTION



(1) EXTERIOR SECTION PARTS LIST

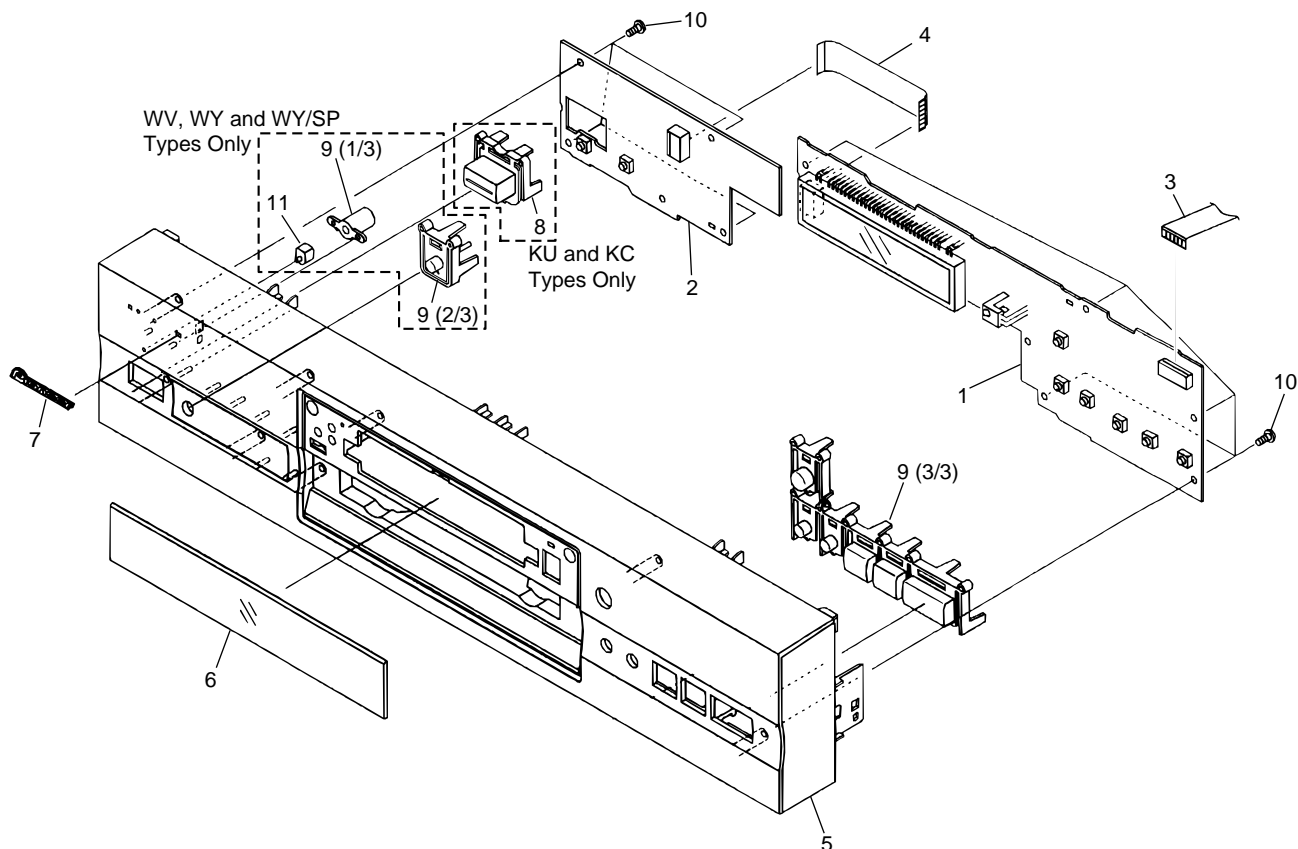
| Mark | No. | Description | Part No. | Mark | No. | Description | Part No. |
|------|-----|---------------------|------------------------|------|-----|---------------|------------------------|
| | 1 | Bonnet S | VXX2651 | | 11 | Screw | BCZ40P060FZK |
| | 2 | Tray Panel | VNK4448 | | 12 | Clamper Plate | VNE2068 |
| | 3 | DVD Badge | VAM1088 | | 13 | Bridge | VNE2069 |
| | 4 | POWER Button | See Contrast table (2) | | 14 | Clamper | VNL1738 |
| | 5 | PW Button Joint | See Contrast table (2) | | 15 | Screw | BPZ26P080FZK |
| | 6 | Tray | VNL1731 | | 16 | Screw | BBZ30P080FMC |
| | 7 | Tray Stopper | VNL1739 | | 17 | 65 Label | See Contrast table (2) |
| | 8 | Tray Stopper Spring | VBH1277 | | 18 | Caution Label | See Contrast table (2) |
| | 9 | ••••• | | | | | |
| | 10 | Screw | IBZ30P080FMC | | | | |

(2) CONTRAST TABLE

DV-525/KU, KC, WV, WY and WY/SP are constructed the same except for the following :

| Mark | No. | Symbol and Description | Part No. | | | | | Remarks |
|------|-----|------------------------|----------|----------|----------|----------|------------|---------|
| | | | KU Type | KC Type | WV Type | WY Type | WY/SP Type | |
| | 4 | POWER Button | Not used | Not used | VNK4184 | VNK4184 | VNK4184 | |
| | 5 | PW Button Joint | Not used | Not used | VNK4179 | VNK4179 | VNK4179 | |
| | 17 | 65 Label | ARW7050 | Not used | Not used | Not used | Not used | |
| | 18 | Caution Label | Not used | Not used | VRW1699 | VRW1699 | VRW1699 | |

2.3 FRONT PANEL SECTION



(1) FRONT PANEL SECTION PARTS LIST

| Mark | No. | Description | Part No. | Mark | No. | Description | Part No. |
|------|-----|---|------------------------|------|-------------------|------------------------|----------|
| NSP | 1 | FLKY Assy | See Contrast table (2) | 5 | Front Panel | See Contrast table (2) | |
| | 2 | PWSB Assy | See Contrast table (2) | 6 | FL Lens | See Contrast table (2) | |
| | 3 | Flexible Cable (14P) (FLKY CN101 ↔ DVDM CN1) | VDA1724 | 7 | Name Plate | PAM1776 | |
| | 4 | Flexible Cable (09P) (FLKY CN102 ↔ PWSB CN201) | VDA1725 | 8 | PW Button (POWER) | See Contrast table (2) | |
| | | | | 9 | Main Key | VNK4447 | |
| | | | | 10 | Screw | BBZ30P080FMC | |
| | | | | 11 | LED Lens | See Contrast table (2) | |

(2) CONTRAST TABLE

DV-525/KU, KC, WV, WY and WY/SP are constructed the same except for the following :

| Mark | No. | Symbol and Description | Part No. | | | | Remarks |
|------|-----|------------------------|----------|----------|----------|----------|----------|
| | | | KU Type | KC Type | WV Type | WY Type | |
| NSP | 1 | FLKY Assy | VWG2050 | VWG2050 | VWG2052 | VWG2052 | VWG2053 |
| | 2 | PWSB Assy | VWG2103 | VWG2103 | VWG2057 | VWG2057 | VWG2057 |
| | 5 | Front Panel | VNK4444 | VNK4444 | VNK4443 | VNK4443 | VNK4520 |
| | 6 | FL Lens | VEC2095 | VEC2095 | VEC2094 | VEC2094 | VEC2094 |
| | 8 | PW Button (POWER) | VNK4101 | VNK4101 | Not used | Not used | Not used |
| | 11 | LED Lens | Not used | Not used | PNW2019 | PNW2019 | PNW2019 |

(1) BOTTOM VIEW SECTION PARTS LIST

| Mark | No. | Description | Part No. | Mark | No. | Description | Part No. | | | | | |
|----------|----------|---|---|------|-----|---|---|------------------------|------------------------|------------------------|------------------------|--------------|
| NSP △ | 1 | DVDM Assy | See Contrast table (2) | | 13 | Flexible Cable (12P) (SCRB CN1 ↔ AVJB CN111) | See Contrast table (2) | | | | | |
| | 2 | AVJB Assy | See Contrast table (2) | | | 14 | Flexible Cable (08P) (SCCB CN100 ↔ AVJB CN111) | See Contrast table (2) | | | | |
| | 3 | MSWB Assy | See Contrast table (2) | | | | 15 | Cord Stopper | See Contrast table (2) | | | |
| | 4 | POWER SUPPLY Assy | See Contrast table (2) | | | | NSP | 16 | Base Chassis | See Contrast table (2) | | |
| | 5 | SCRB Assy | See Contrast table (2) | | | | | NSP | 17 | Rear Panel | See Contrast table (2) | |
| NSP △ | 6 | SCCB Assy | See Contrast table (2) | NSP | | | | | 18 | Insulator | PNW2766 | |
| | 7 | Loading Mechanism Assy | VWT1162 | | NSP | | | | 19 | Foot Assy (Rubber) | REC1263 | |
| | 8 | AC Power Cord | See Contrast table (2) | | | NSP | | | 20 | SYPS Flexible Binder | VEC2069 | |
| NSP △ | 9 | Flexible Cable (12P) (DVDM CN3 ↔ LOSB CN301) | VDA1692 | NSP | | | NSP | | 21 | PCB Hinge | VEC1174 | |
| | 10 | Flexible Cable (26P) (DVDM CN2 ↔ POWER SUPPLY CN201) | VDA1689 | | NSP | | | NSP | 22 | PCB Holder | PNW2100 | |
| | 11 | Flexible Cable (33P) (DVDM CN13 ↔ AVJB CN101) | VDA1723 | | | NSP | | | NSP | 23 | Screw | BBZ30P080FMC |
| | NSP △ | 12 | Flexible Cable (07P) (DVDM CN14 ↔ SCRIB CN2) | | | | | | | See Contrast table (2) | NSP | NSP |
| 25 | | Label | VRW1629 | | | | | | | | | |

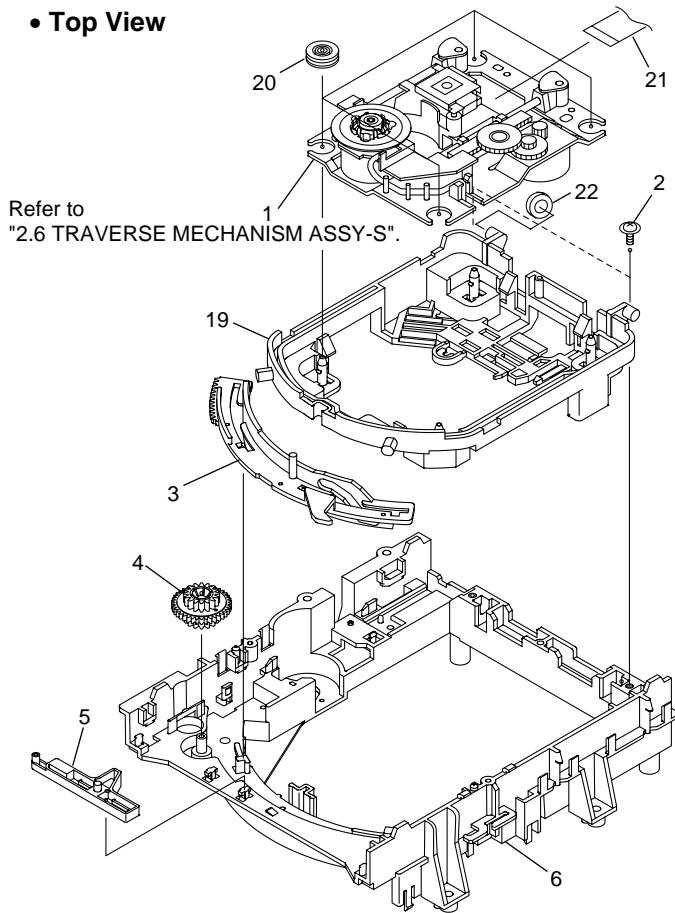
(2) CONTRAST TABLE

DV-525/KU, KC, WV, WY and WY/SP are constructed the same except for the following :

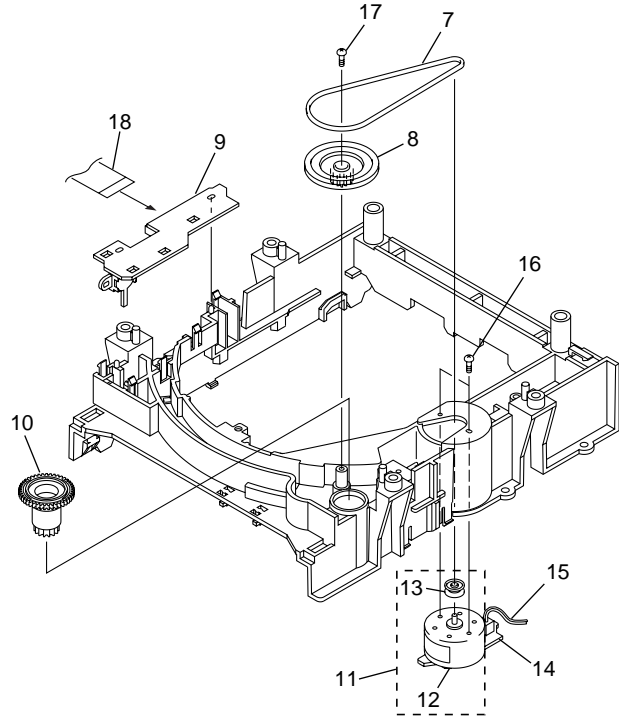
| Mark | No. | Symbol and Description | Part No. | | | | | Remarks |
|----------|-----|------------------------|----------|----------|----------|----------|------------|---------|
| | | | KU Type | KC Type | WV Type | WY Type | WY/SP Type | |
| NSP △ | 1 | DVDM Assy | VWS1388 | VWS1388 | VWS1389 | VWS1389 | VWS1388 | |
| | 2 | AVJB Assy | VWV1693 | VWV1693 | VWV1697 | VWV1697 | VWV1698 | |
| | 3 | MSWB Assy | Not used | Not used | VWG2106 | VWG2106 | VWG2106 | |
| | 4 | POWER SUPPLY Assy | VWR1311 | VWR1311 | VWR1313 | VWR1313 | VWR1313 | |
| | 5 | SCRIB Assy | Not used | Not used | VWV1712 | VWV1712 | Not used | |
| △ | 6 | SCCB Assy | Not used | Not used | Not used | Not used | VWV1660 | |
| | 8 | AC Power Cord | ADG7024 | ADG7024 | Not used | Not used | Not used | |
| | 12 | Flexible Cable (07P) | Not used | Not used | VDA1729 | VDA1729 | Not used | |
| | 13 | Flexible Cable (12P) | Not used | Not used | VDA1730 | VDA1730 | Not used | |
| NSP | 14 | Flexible Cable (08P) | Not used | Not used | Not used | Not used | VDA1731 | |
| | 15 | Cord Stopper | CM-22C | CM-22C | Not used | Not used | Not used | |
| NSP | 16 | Base Chassis | VNA2063 | VNA2063 | VNA2085 | VNA2085 | VNA2085 | |
| | 17 | Rear Panel | VNA2080 | VNA2080 | VNA2087 | VNA2087 | VNA2109 | |
| NSP | 24 | PC Support | Not used | Not used | VEC1584 | VEC1584 | VEC1584 | |

2.5 LOADING MECHANISM ASSY

• Top View



• Bottom View



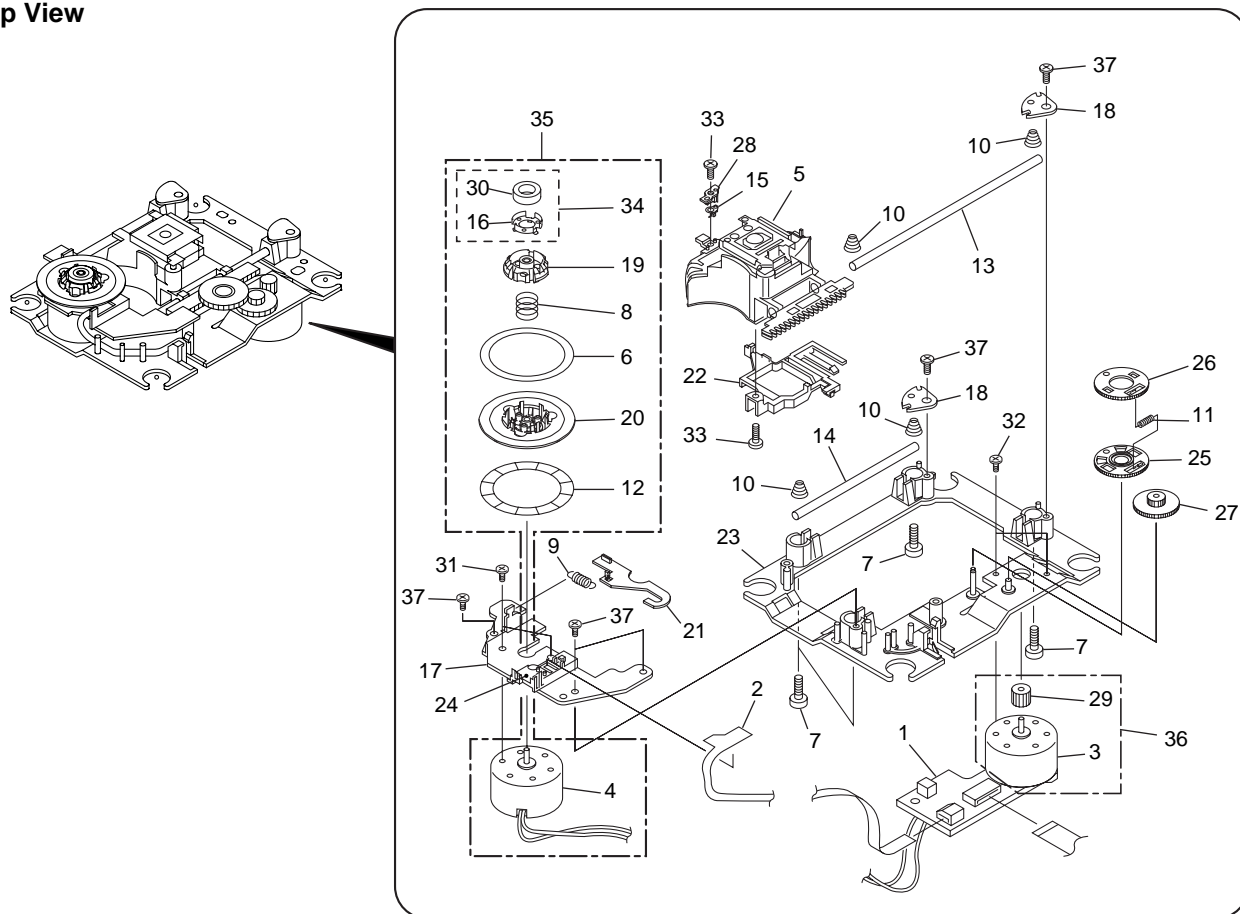
● LOADING MECHANISM ASSY PARTS LIST

| Mark | No. | Description | Part No. |
|------|-----|---------------------------|----------|
| | 1 | Traverse Mechanism Assy-S | VXX2653 |
| | 2 | Screw | DBA1006 |
| | 3 | Drive Cam | VNL1736 |
| | 4 | Drive Gear | VNL1735 |
| | 5 | Lock Plate | VNL1820 |
| | 6 | Loading Base | VNL1844 |
| | 7 | Belt | VEB1260 |
| | 8 | Gear Pulley | VNL1733 |
| NSP | 9 | LOSB Assy | VWG1885 |
| | 10 | Loading Gear | VNL1734 |

| Mark | No. | Description | Part No. |
|------|-----|---|----------|
| | 11 | Loading Motor Assy | VXX2505 |
| | 12 | DC Motor / 0.3W | PXM1027 |
| | 13 | Motor Pulley | PNW1634 |
| NSP | 14 | LOMB Assy | VWG1886 |
| | 15 | Connector Assy (LOMB CN401 ↔ LOSB CN303) | VKP2184 |
| | 16 | Screw | VBA1055 |
| | 17 | Screw | Z39-019 |
| | 18 | Flexible Cable (08P) (LOSB CN302 ↔ SMEB CN202) | VDA1698 |
| | 19 | Float Base | VNL1815 |
| | 20 | Floating Rubber | VEB1286 |
| | 21 | Flexible Cable (24P) (Pickup Assy ↔ DVDM CN4) | VDA1701 |
| | 22 | Cushion | VEB1312 |

2.6 TRAVERSE MECHANISM ASSY-S

• Top View

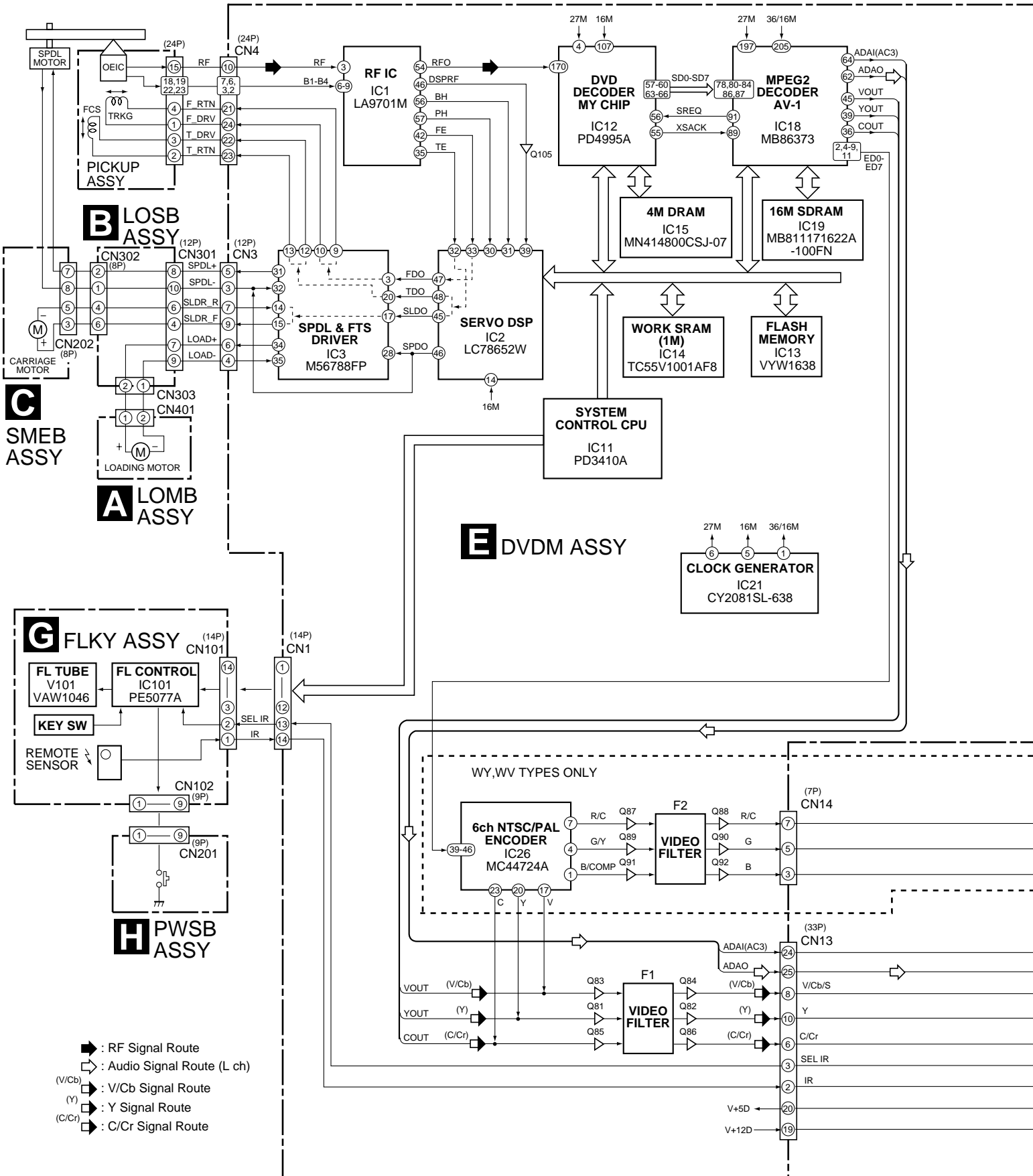


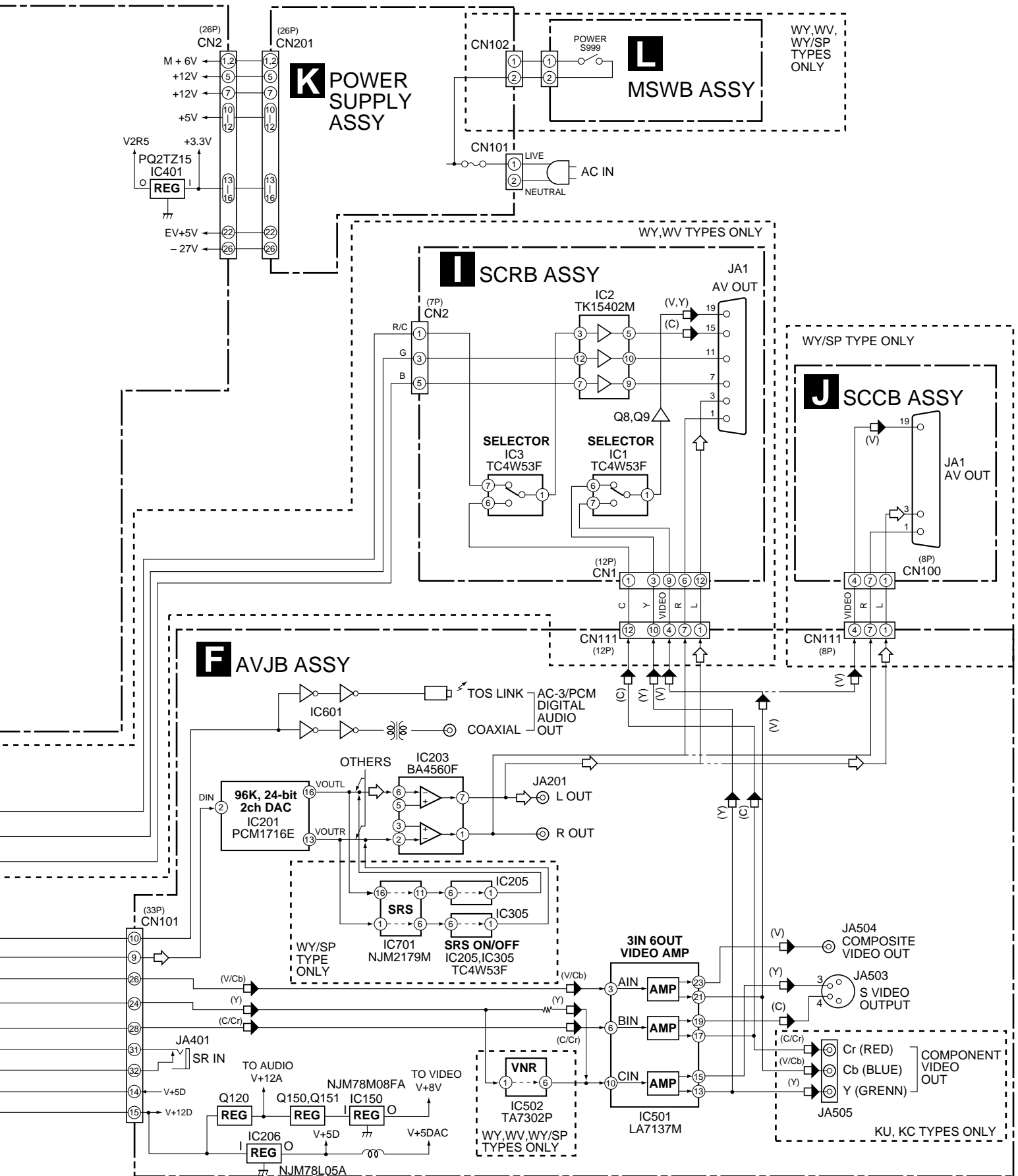
● TRAVERSE MECHANISM ASSY-S PARTS LIST

| Mark | No. | Description | Part No. | Mark | No. | Description | Part No. |
|------|-----|------------------|----------|------|-----|---------------------|--------------|
| NSP | 1 | SMEB Assy | VWG2048 | | 21 | Hook | VNL1770 |
| NSP | 2 | FGSB Assy | VWG2009 | | 22 | FFC Holder | VNL1802 |
| | 3 | Motor | VXM1079 | | 23 | Mechanism Base | VNL1806 |
| | 4 | Motor | VXM1078 | | 24 | FG Holder | VNL1807 |
| △ | 5 | Pickup Assy | VWY1055 | | 25 | Gear A | VNL1808 |
| | 6 | Table Sheet | DEC2040 | | 26 | Gear B | VNL1809 |
| | 7 | Screw | VBA1058 | | 27 | Gear C | VNL1810 |
| | 8 | Centering Spring | VBH1278 | | 28 | Slider | VNL1811 |
| | 9 | Hook Spring | VBH1317 | | 29 | Gear D | VNL1814 |
| | 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 | | | | |

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

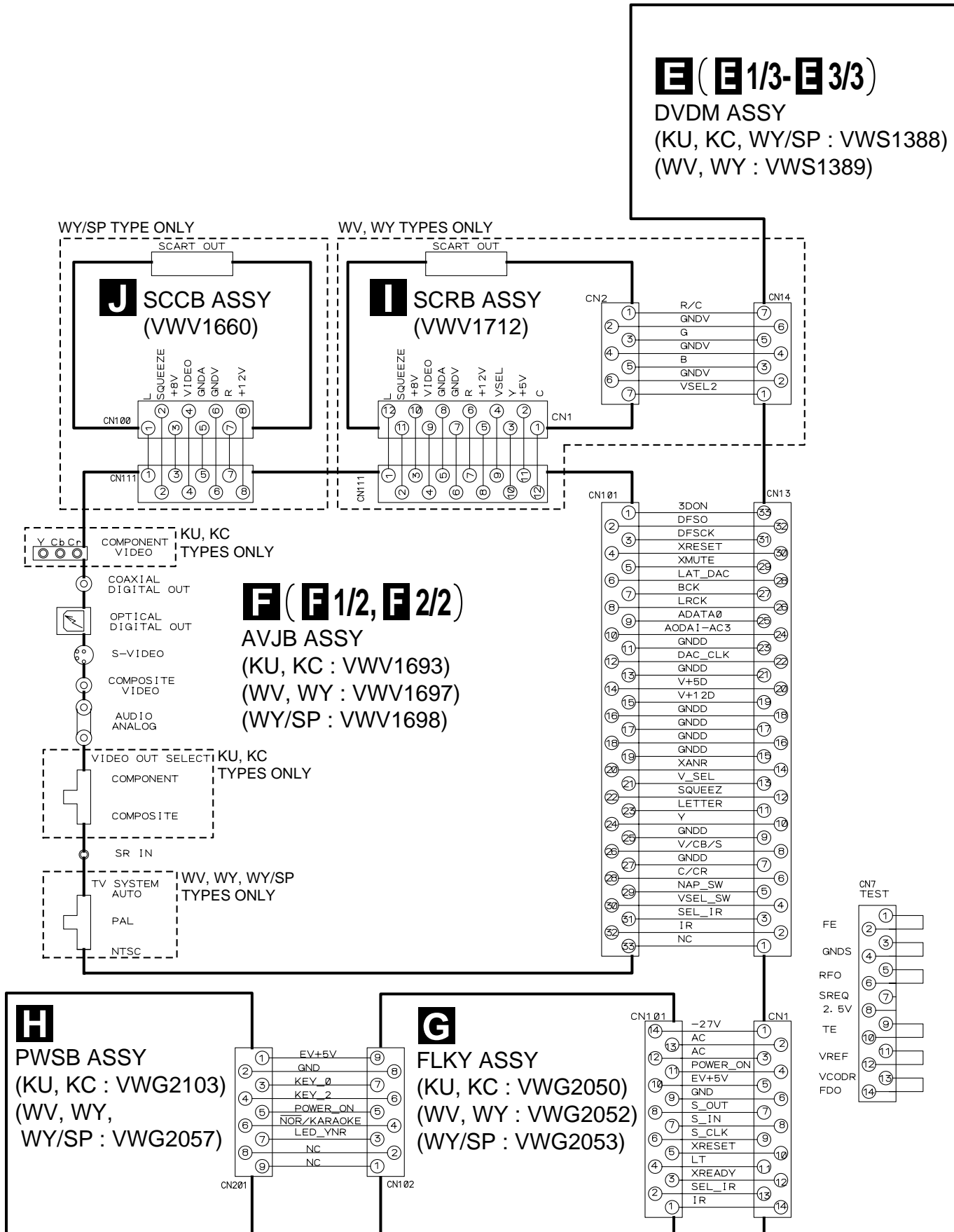
3.1 BLOCK DIAGRAM

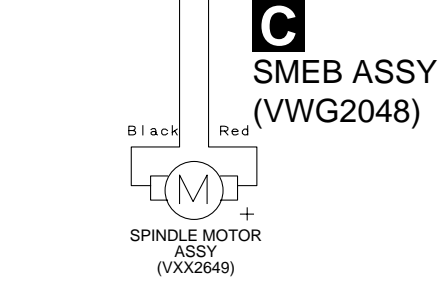
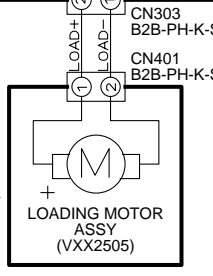
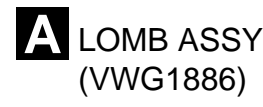
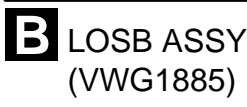
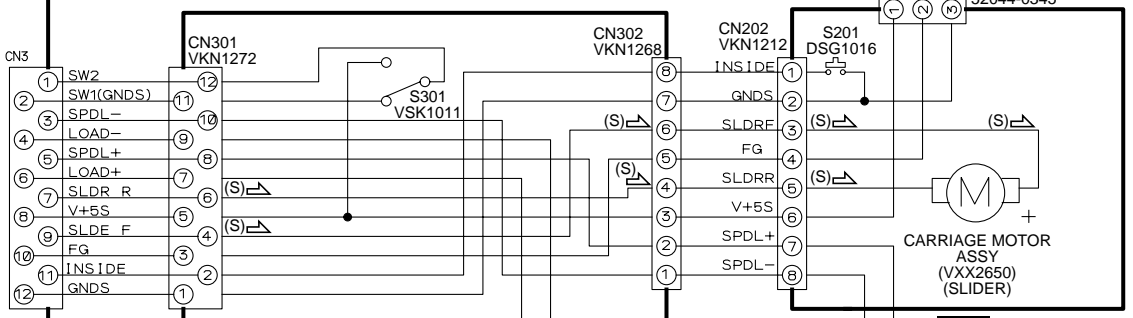
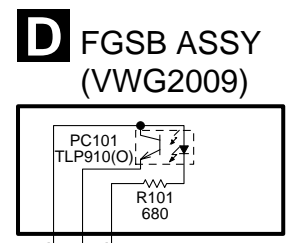
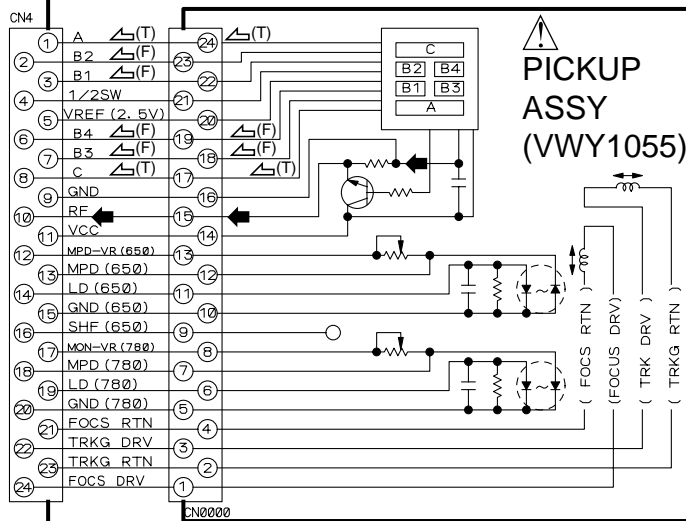
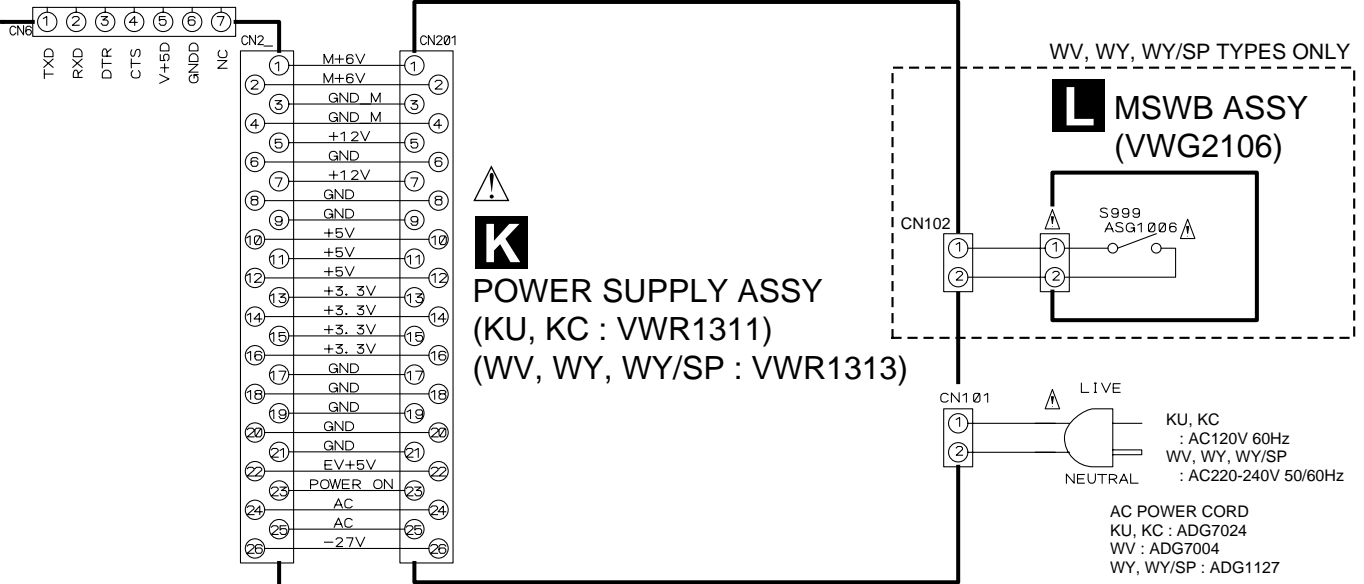




3.2 LOMB, LOSB, SMEB, FGSB and OVERALL WIRING DIAGRAMS

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

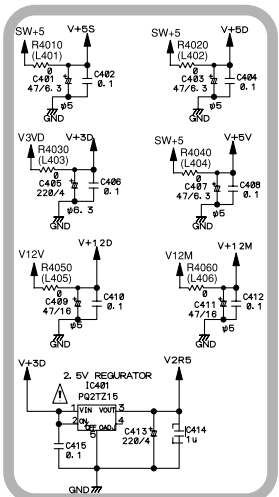




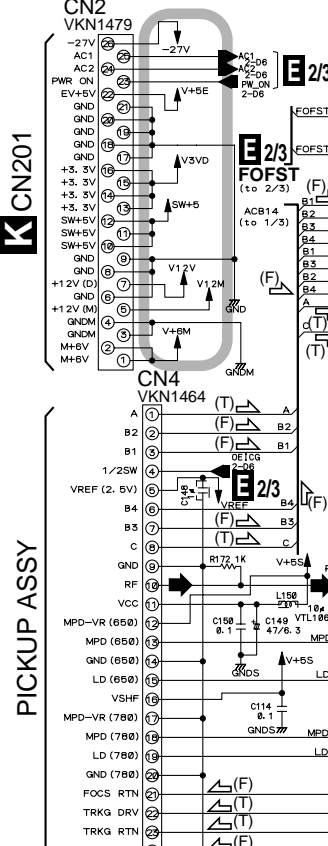
3.3 DVDM ASSY (1/3)

1/3 DVDM ASSY (KU, KC, WY/SP : VWS1388) (WV, WY : VWS1389)

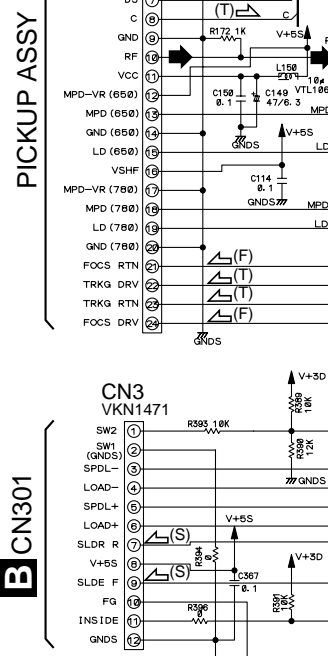
A



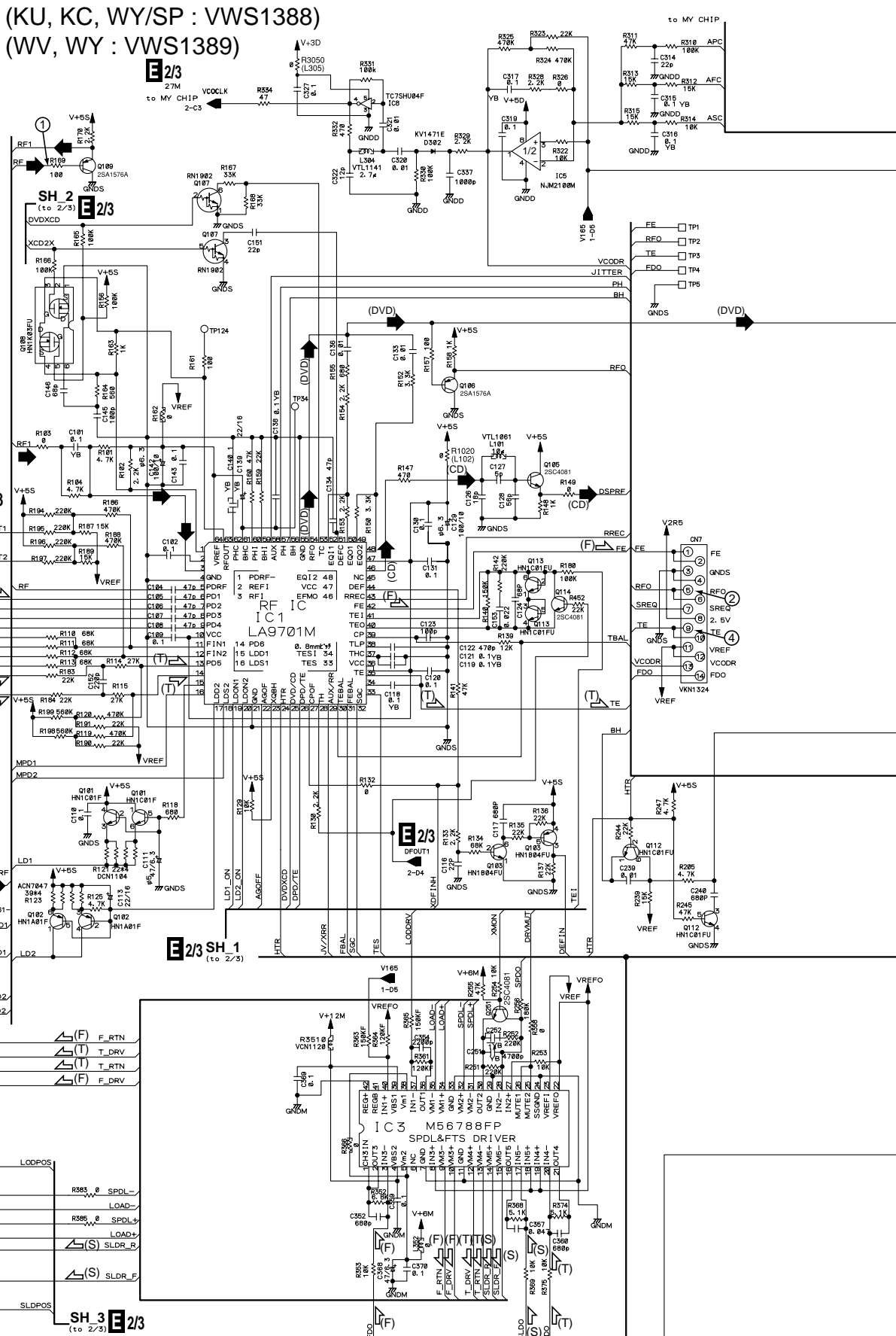
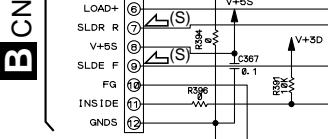
B









C

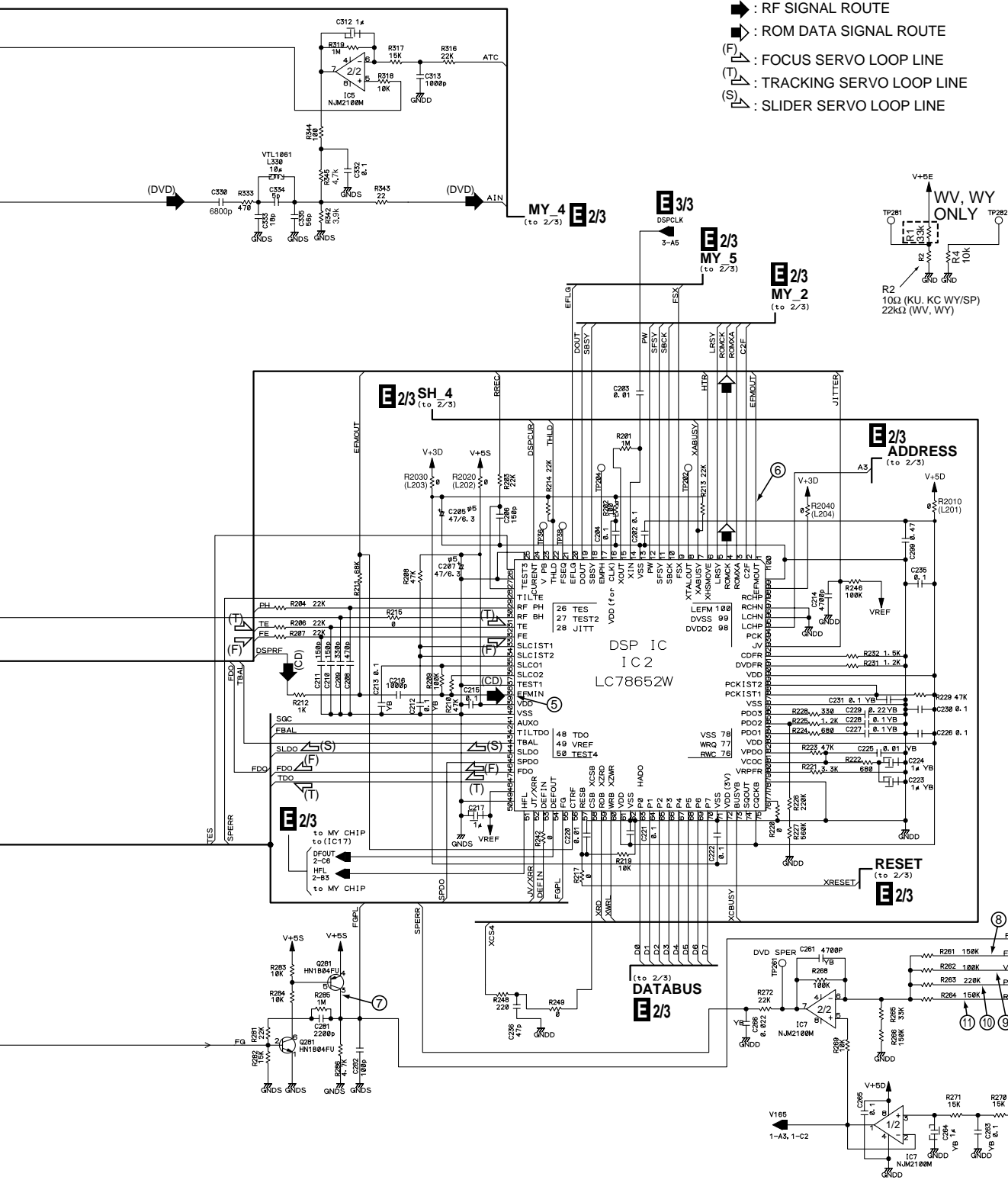


D



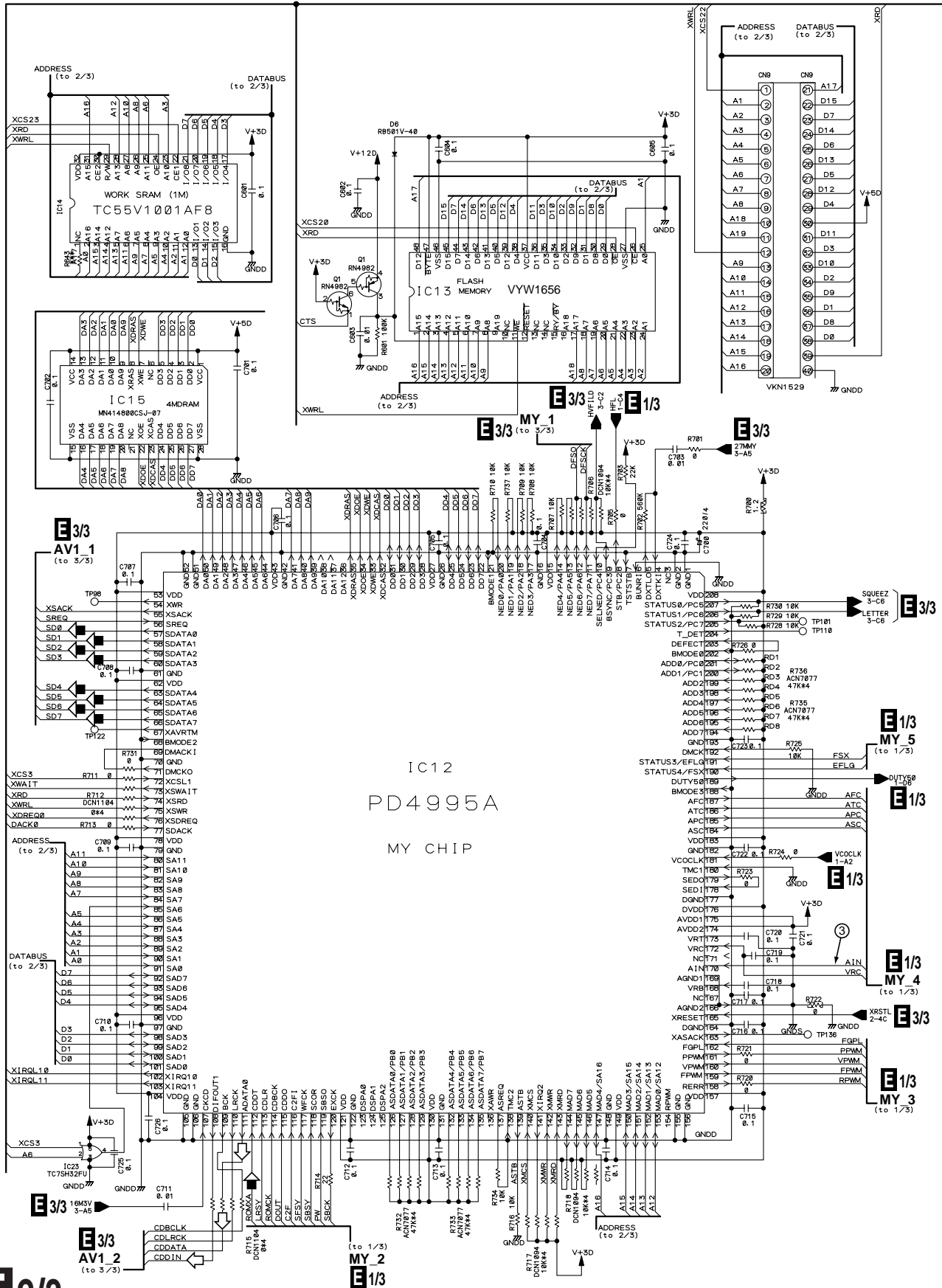
 : The power supply is shown with the marked box.

-  : RF SIGNAL ROUTE
-  : ROM DATA SIGNAL ROUTE
-  : FOCUS SERVO LOOP LINE
-  : TRACKING SERVO LOOP LINE
-  : SLIDER SERVO LOOP LINE



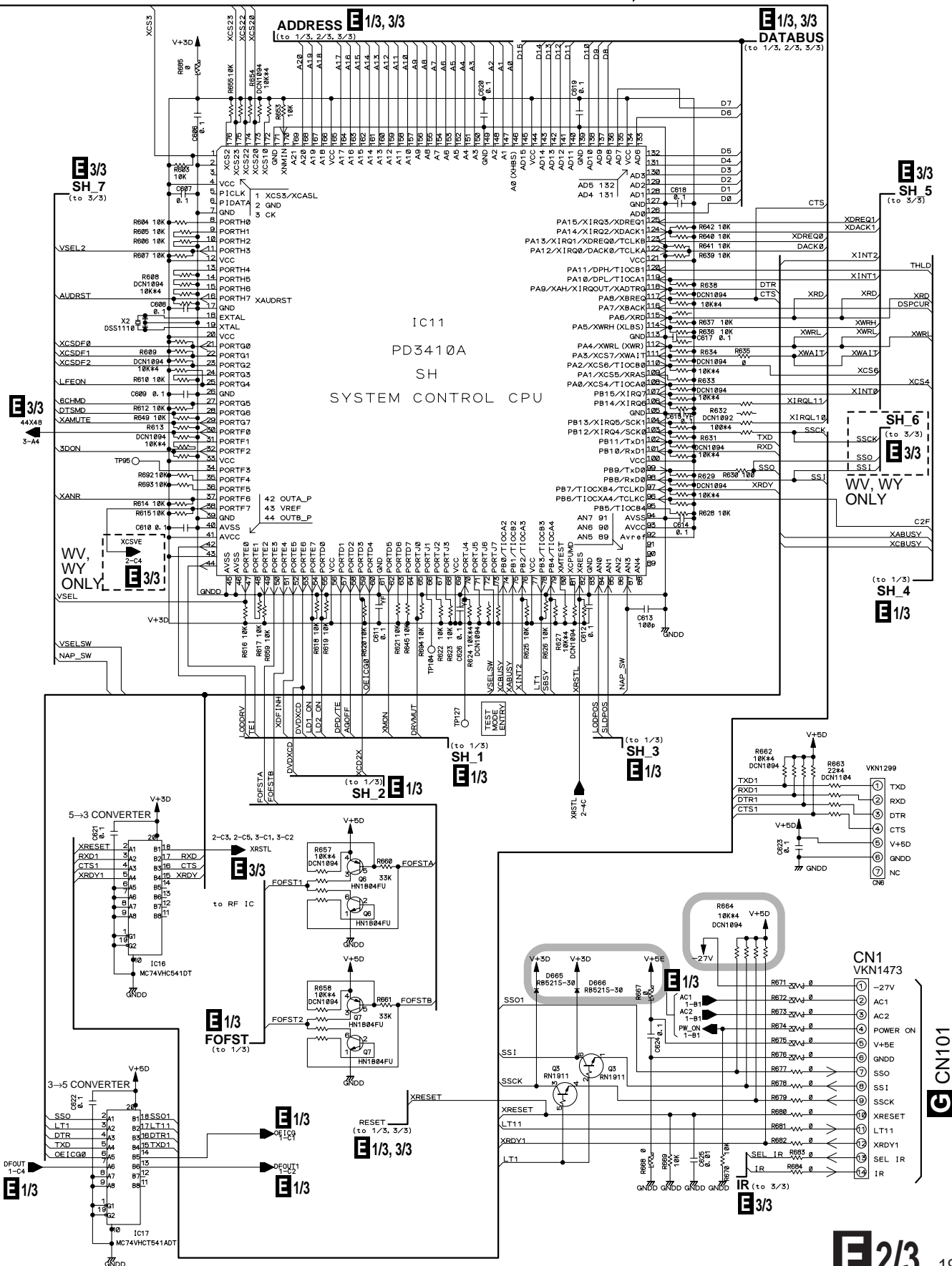
3.4 DVDM ASSY (2/3)

E 2/3 DVDM ASSY (KU, KC, WY/SP : VWS1388)
(WV, WY : VWS1389)



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

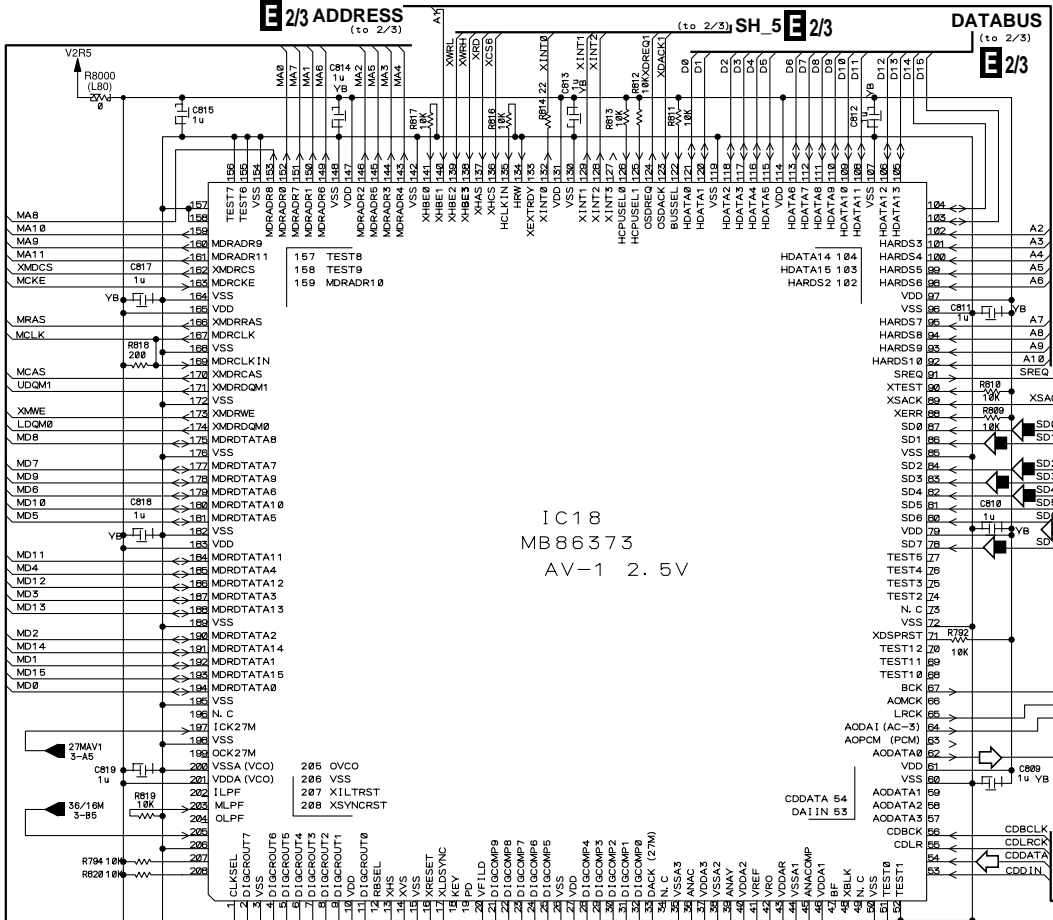
▶ : ROM DATA SIGNAL ROUTE
◁ : AUDIO SIGNAL ROUTE



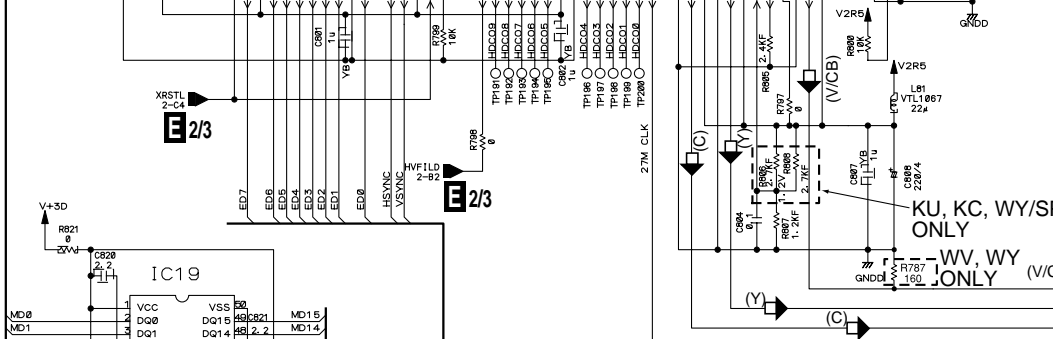
3.5 DVDM ASSY (3/3)

E 3/3 DVDM ASSY (KU, KC, WY/SP : VWS1388) (WV, WY : VWS1389)

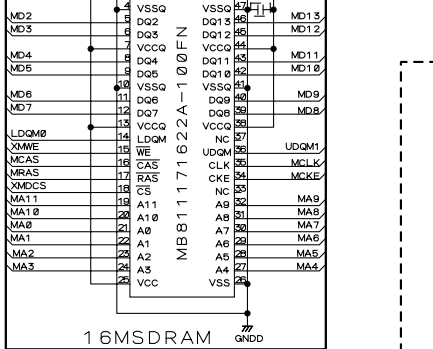
A



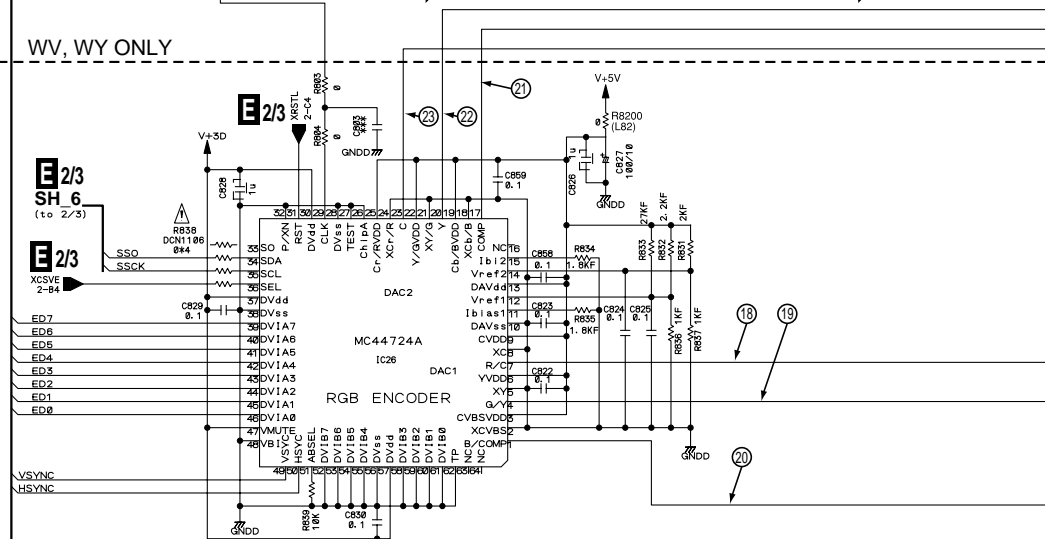
B

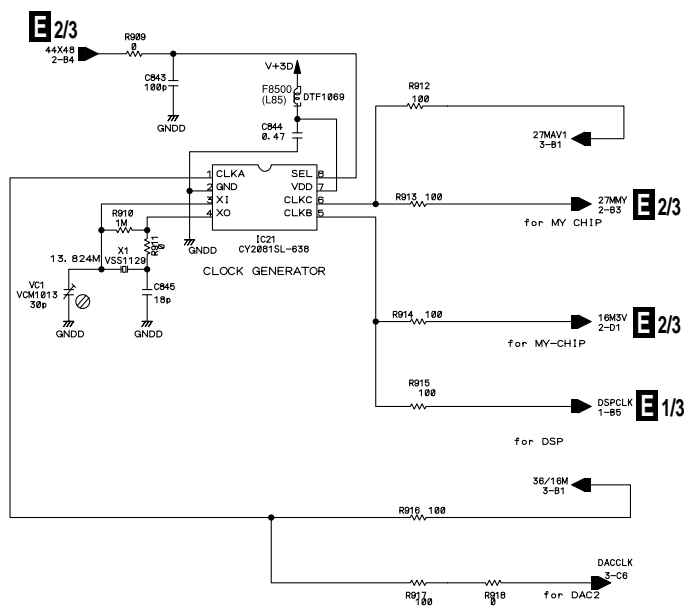


C



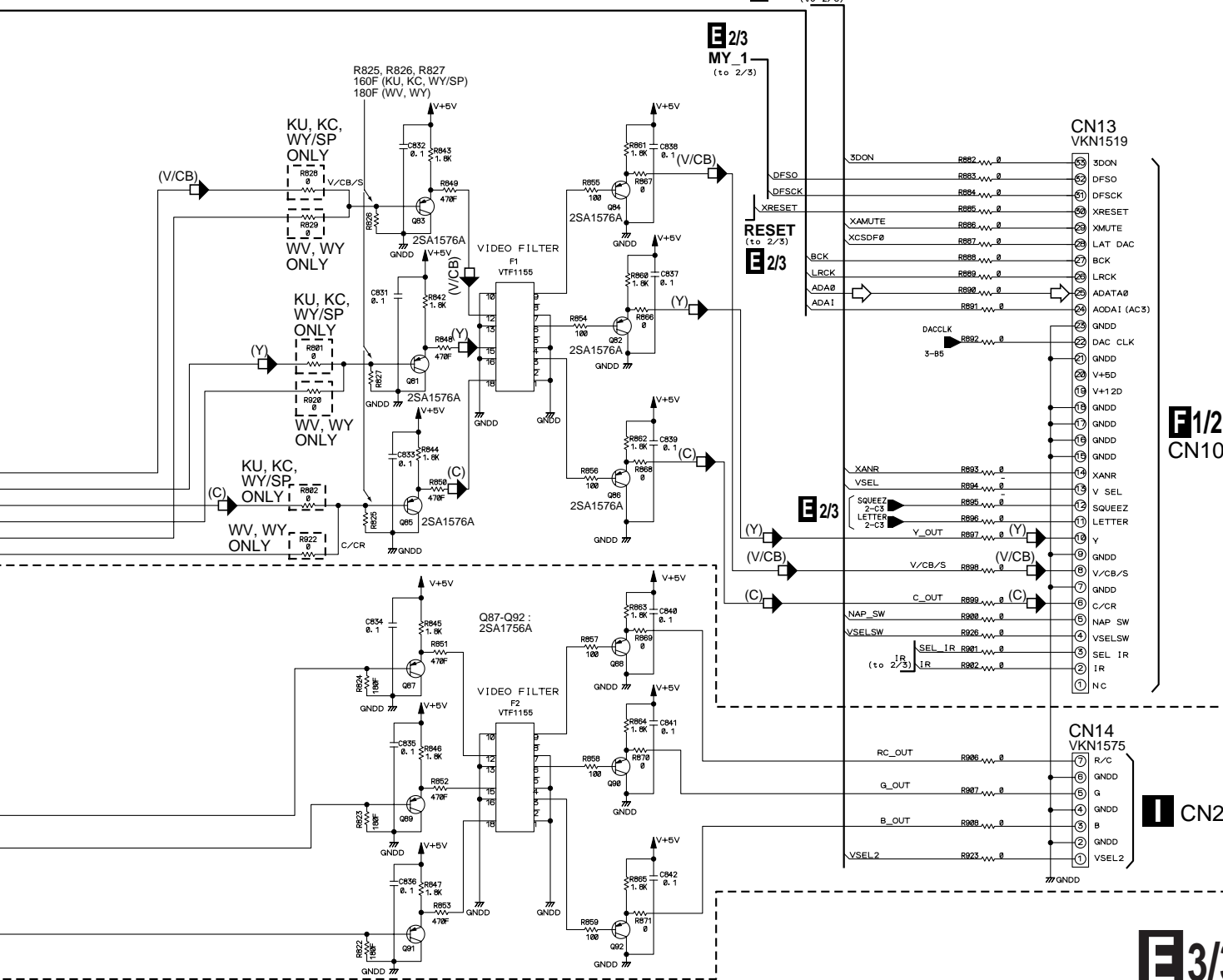
D





- ⤴ : AUDIO SIGNAL ROUTE
- ⤵ : ROM DATA SIGNAL ROUTE
- (V/CB) : V/CB SIGNAL ROUTE
- (Y) : Y SIGNAL ROUTE
- (C) : C SIGNAL ROUTE

E 2/3 SH_7
(to 2/3)



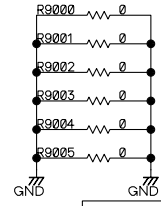
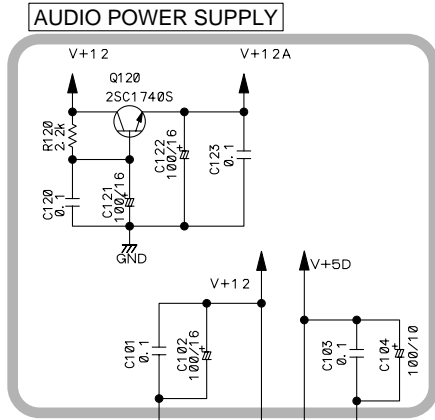
F 1/2
CN101

CN2

E 3/3

3.6 AVJB ASSY (1/2)

F 1/2 AVJB ASSY (KU, KC : VVV1693) (WV, WY : VVV1697) (WY/SP : VVV1698)



A

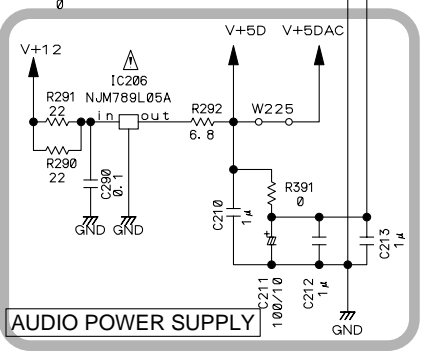
B

C

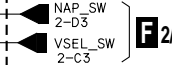
D

- 1 3DON
- 2 DF50
- 3 DF5CK
- 4 XRESET
- 5 XMUTE
- 6 LAT_DAC
- 7 BCK
- 8 LRCK
- 9 ADATA0
- 10 AODAI
- 11 GNDD
- 12 DACCLK
- 13 GNDD
- 14 V+5D
- 15 V+1 2V
- 16 GNDD
- 17 GNDD
- 18 GNDD
- 19 GNDD
- 20 XANR
- 21 VSEL
- 22 SQUEEZ
- 23 LETTER
- 24 Y
- 25 GNDD
- 26 Cb (V/CB)
- 27 GNDD
- 28 Cr (C)
- 29 R113
- 30 SEL_IR
- 31 IR
- 32
- 33

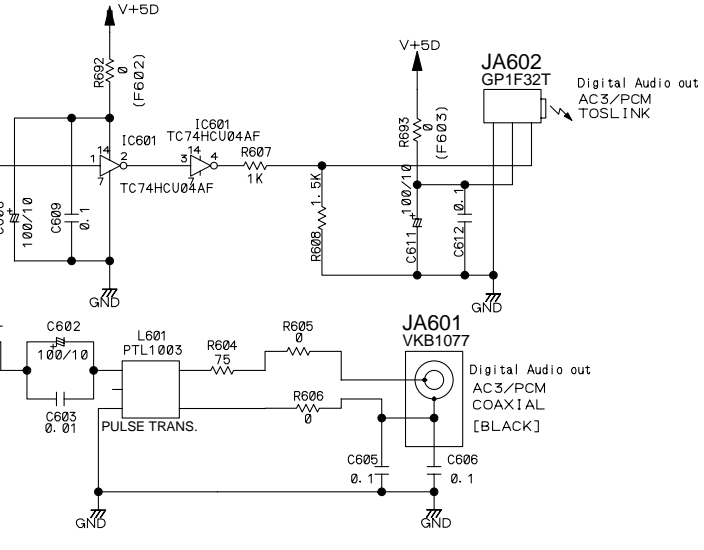
E 3/3 CN13



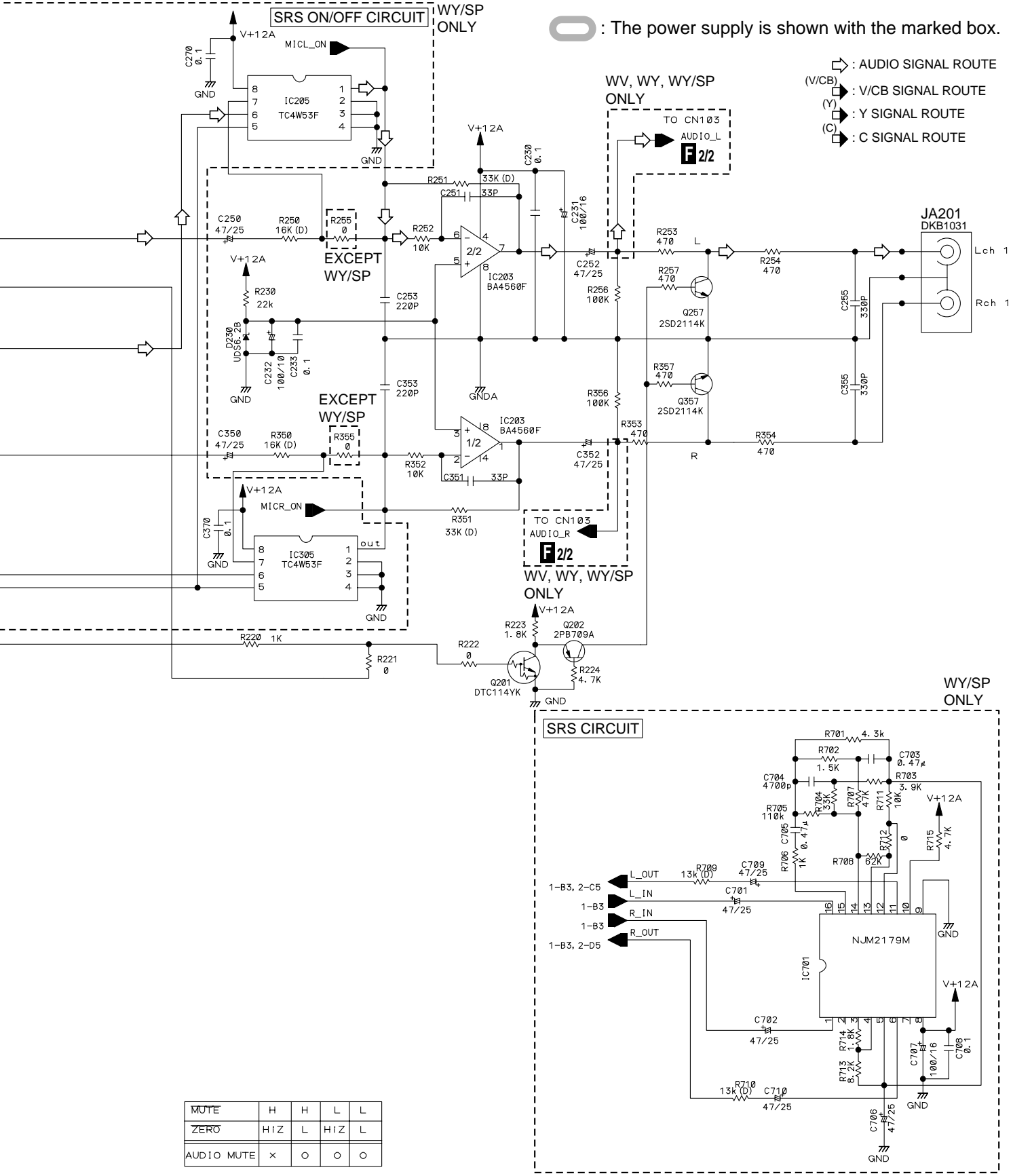
WV, WY, WY/SP ONLY



F 2/2



F 1/2



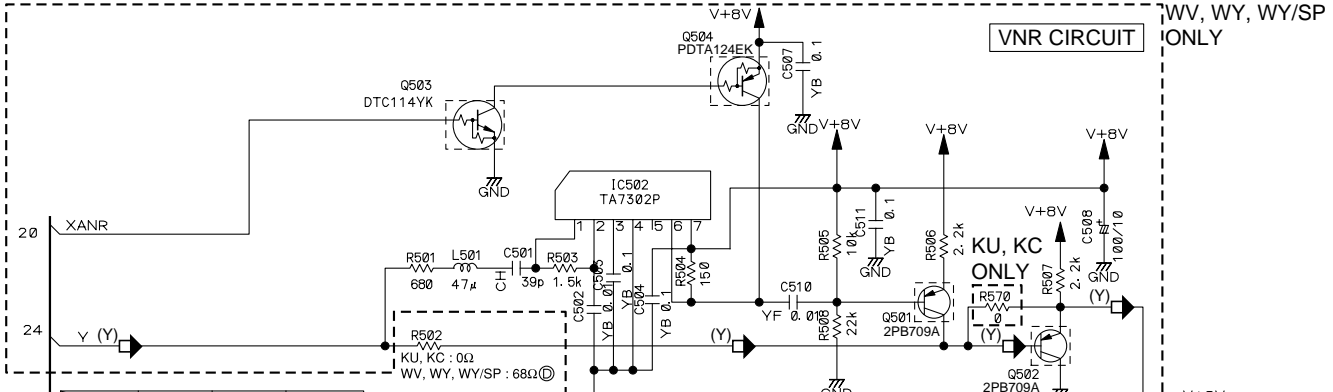
: The power supply is shown with the marked box.

- : AUDIO SIGNAL ROUTE
- : V/CB SIGNAL ROUTE
- : Y SIGNAL ROUTE
- : C SIGNAL ROUTE

| | | | | |
|------------|-----|---|-----|---|
| MUTE | H | H | L | L |
| ZERO | HiZ | L | HiZ | L |
| AUDIO MUTE | x | o | o | o |

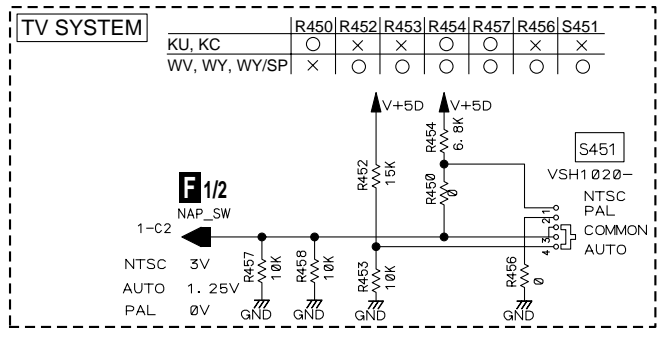
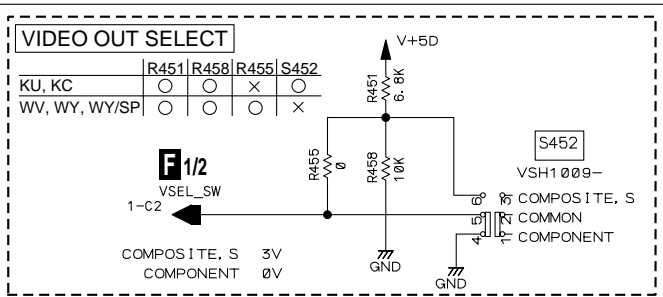
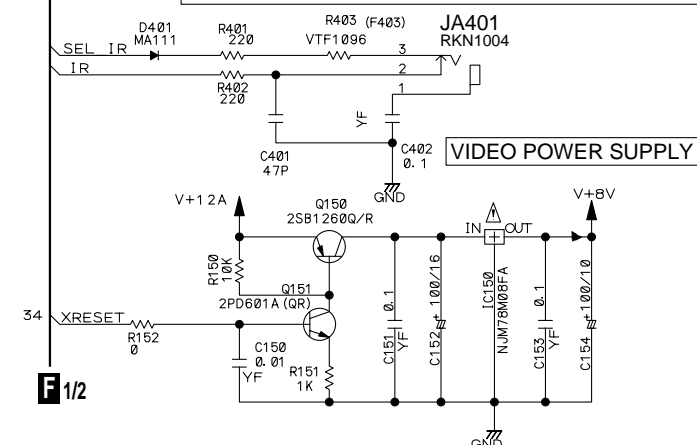
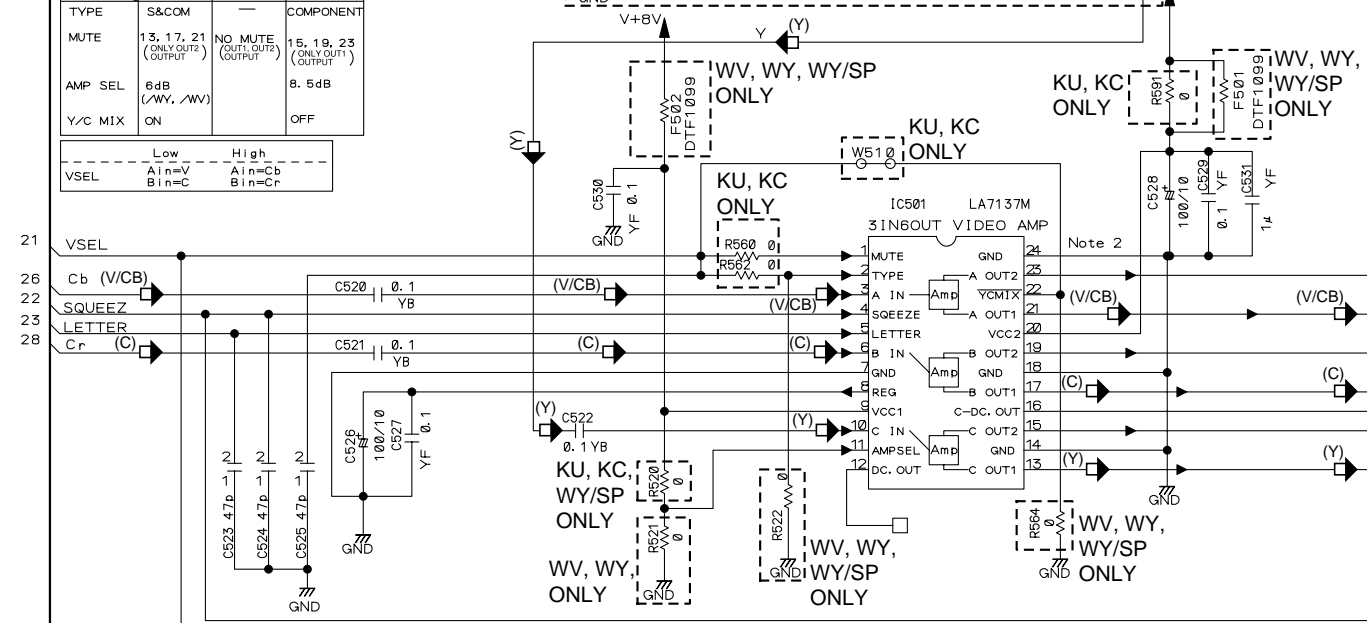
3.7 AVJB ASSY (2/2)

F 2/2 AVJB ASSY (KU, KC : VVV1693) (WV, WY : VVV1697) (WY/SP : VVV1698)




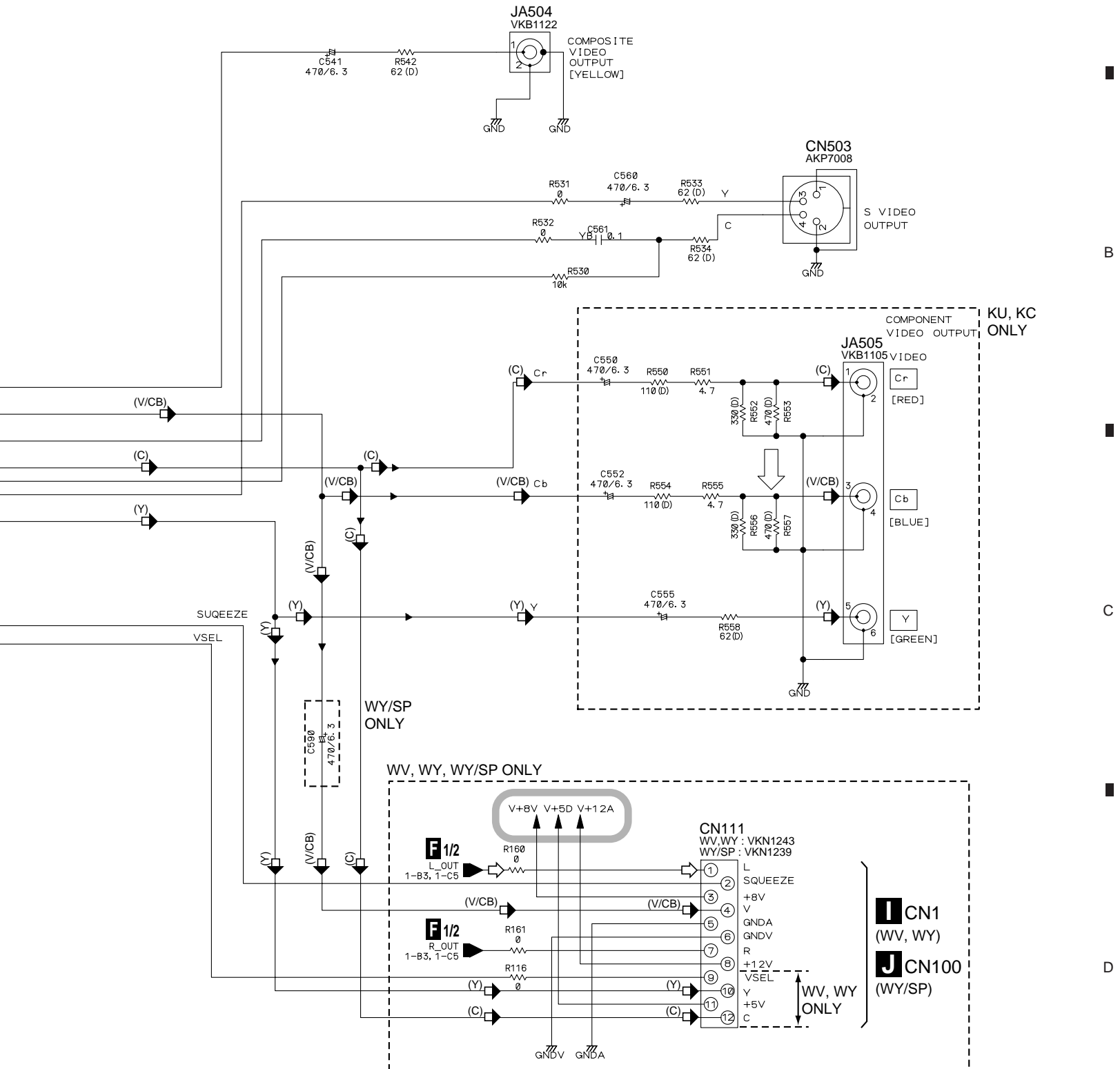
| | LOW | OPEN | HIGH |
|---------|------------------------|------------------|------------------------|
| TYPE | S&COM | — | COMPONENT |
| MUTE | 13, 17, 21 (ONLY OUT2) | NO MUTE (OUTPUT) | 15, 19, 23 (ONLY OUT1) |
| AMP SEL | 6dB (/WV, /WY) | — | 8.5dB |
| Y/C MIX | ON | — | OFF |

| VSEL | Low | High |
|-------|--------|--------|
| Ain=V | Ain=Cb | Ain=Cb |
| Bin=C | Bin=Cr | Bin=Cr |



- : AUDIO SIGNAL ROUTE
- (V/CB) : V/CB SIGNAL ROUTE
- (Y) : Y SIGNAL ROUTE
- (C) : C SIGNAL ROUTE

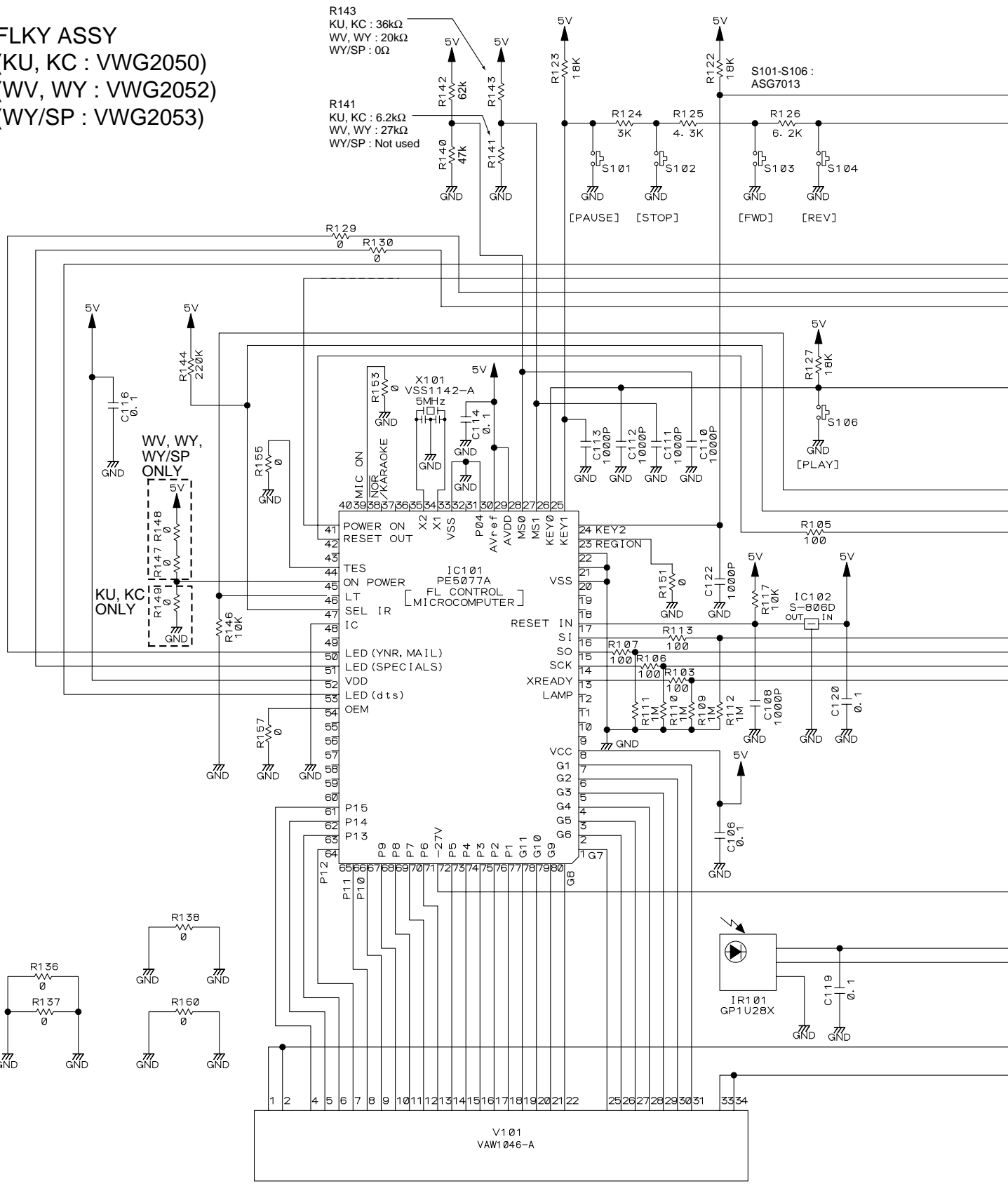
 : The power supply is shown with the marked box.

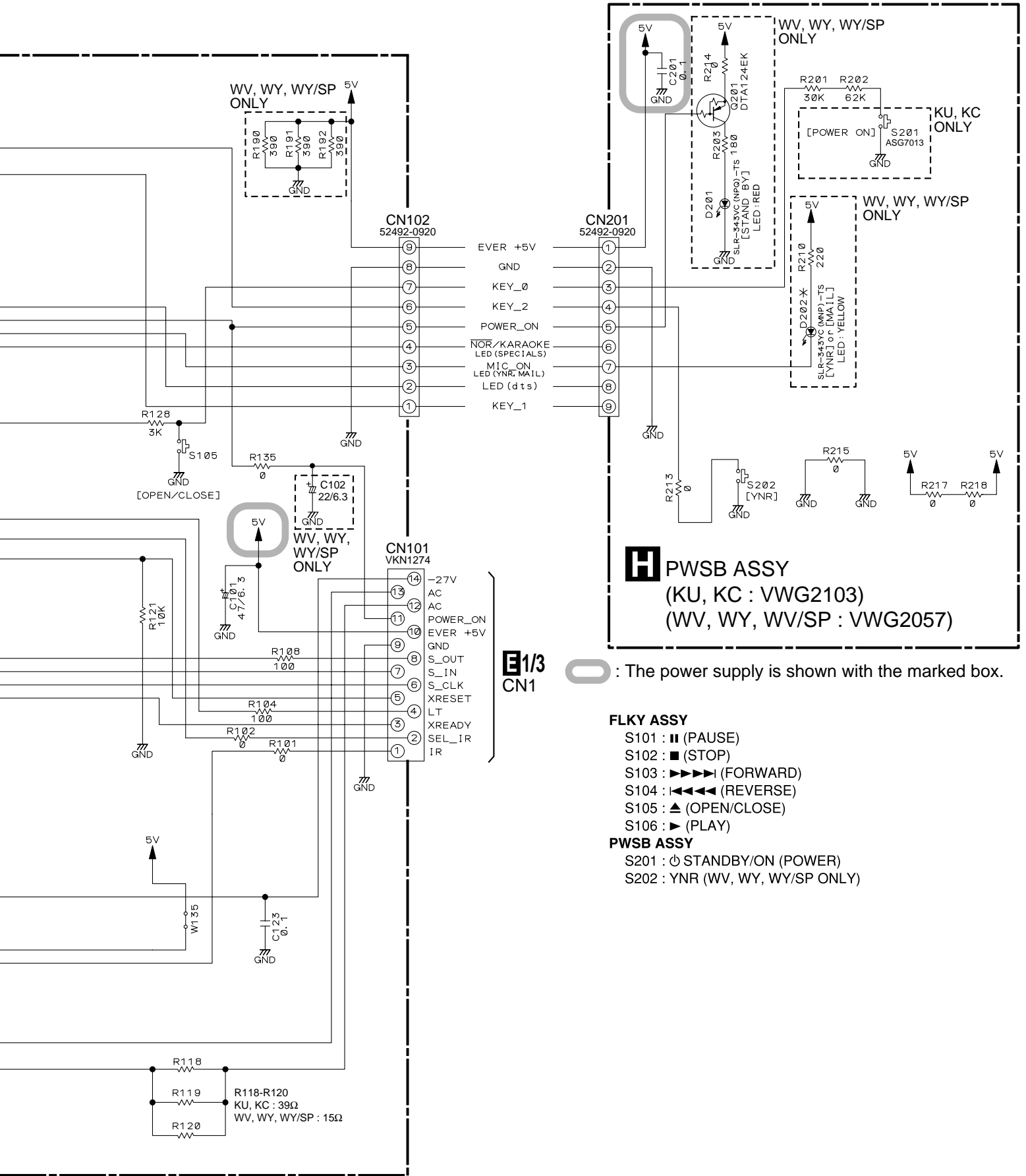


3.8 FLKY and PWSB ASSYS



FLKY ASSY
 (KU, KC : VWG2050)
 (WV, WY : VWG2052)
 (WY/SP : VWG2053)





PWSB ASSY
 (KU, KC : VWG2103)
 (WV, WY, WY/SP : VWG2057)

: The power supply is shown with the marked box.

FLKY ASSY

- S101 : (PAUSE)
- S102 : (STOP)
- S103 : (FORWARD)
- S104 : (REVERSE)
- S105 : (OPEN/CLOSE)
- S106 : (PLAY)

PWSB ASSY

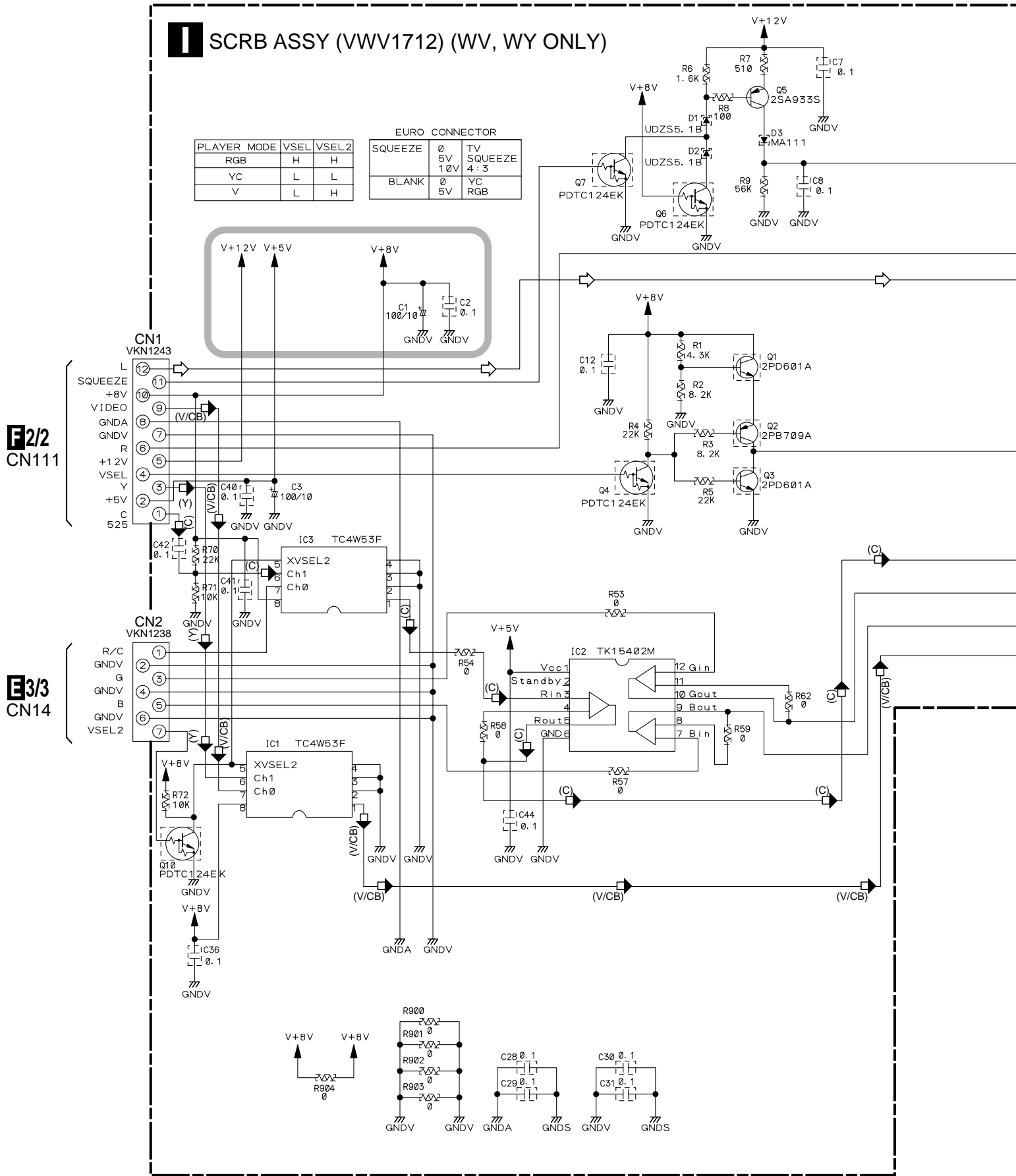
- S201 : (STANDBY/ON (POWER))
- S202 : YNR (WV, WY, WY/SP ONLY)

3.9 SCRIB and SCCB ASSYS

SCRIB ASSY (VWV1712) (WV, WY ONLY)

| PLAYER MODE | VSEL | VSEL2 |
|-------------|------|-------|
| RGB | H | H |
| YC | L | L |
| V | L | H |


| EURO CONNECTOR | | |
|----------------|-----|------------|
| SQUEEZE | 0 | TV SQUEEZE |
| | 5V | 4:3 |
| | 10V | |
| BLANK | 0 | YC RGB |
| | 5V | |







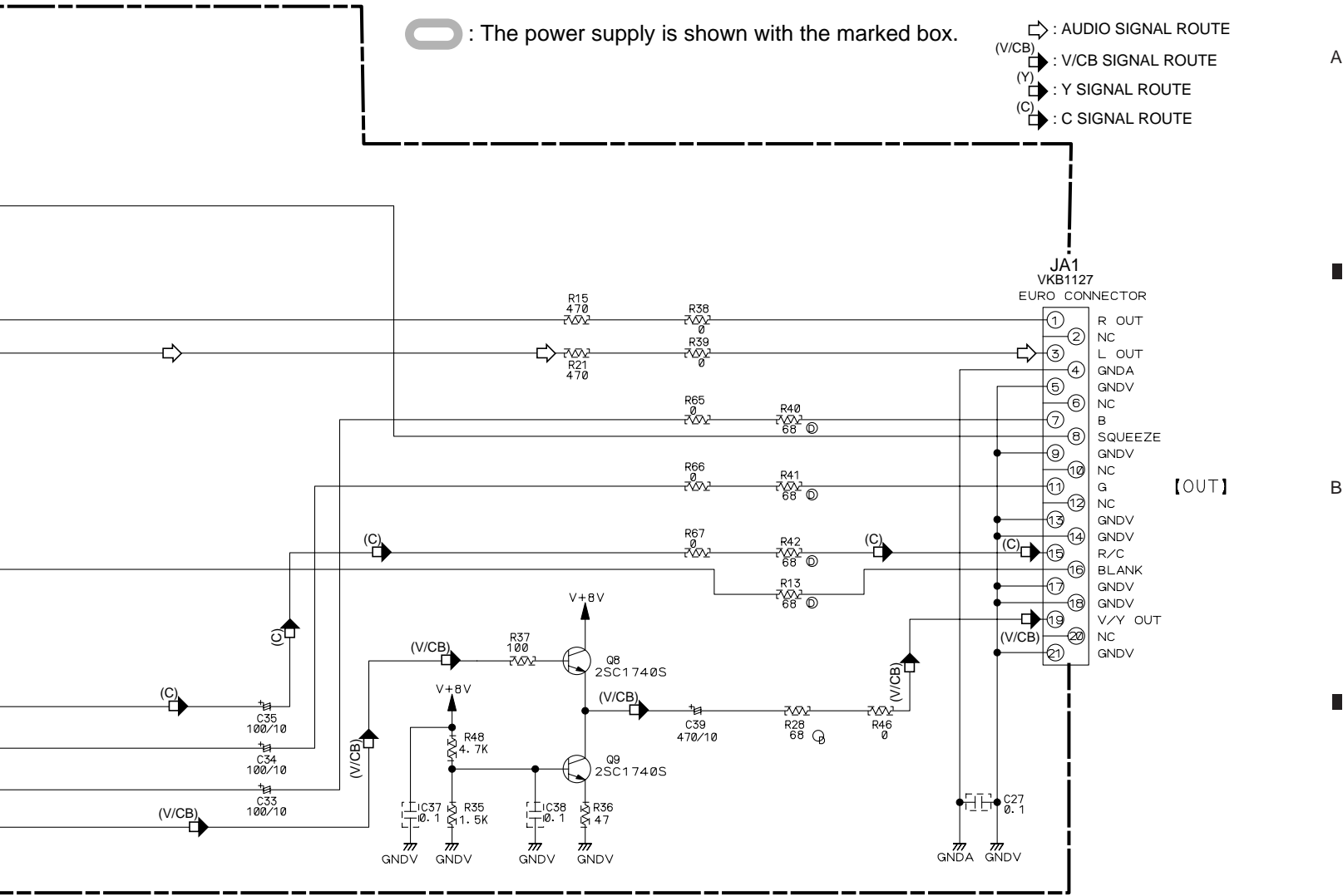
E2/2
CN111

E3/3
CN14

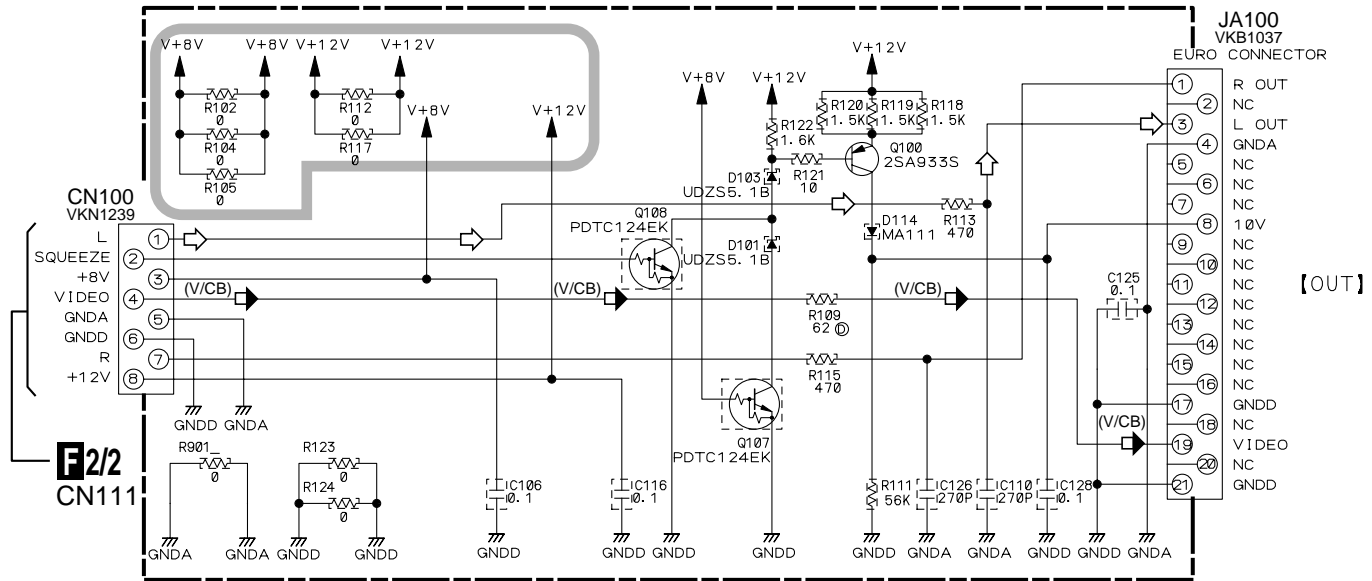


 : The power supply is shown with the marked box.

-  : AUDIO SIGNAL ROUTE
-  : V/CB SIGNAL ROUTE
-  : Y SIGNAL ROUTE
-  : C SIGNAL ROUTE



J SCCB ASSY (VWV1660) (WY/SP ONLY)

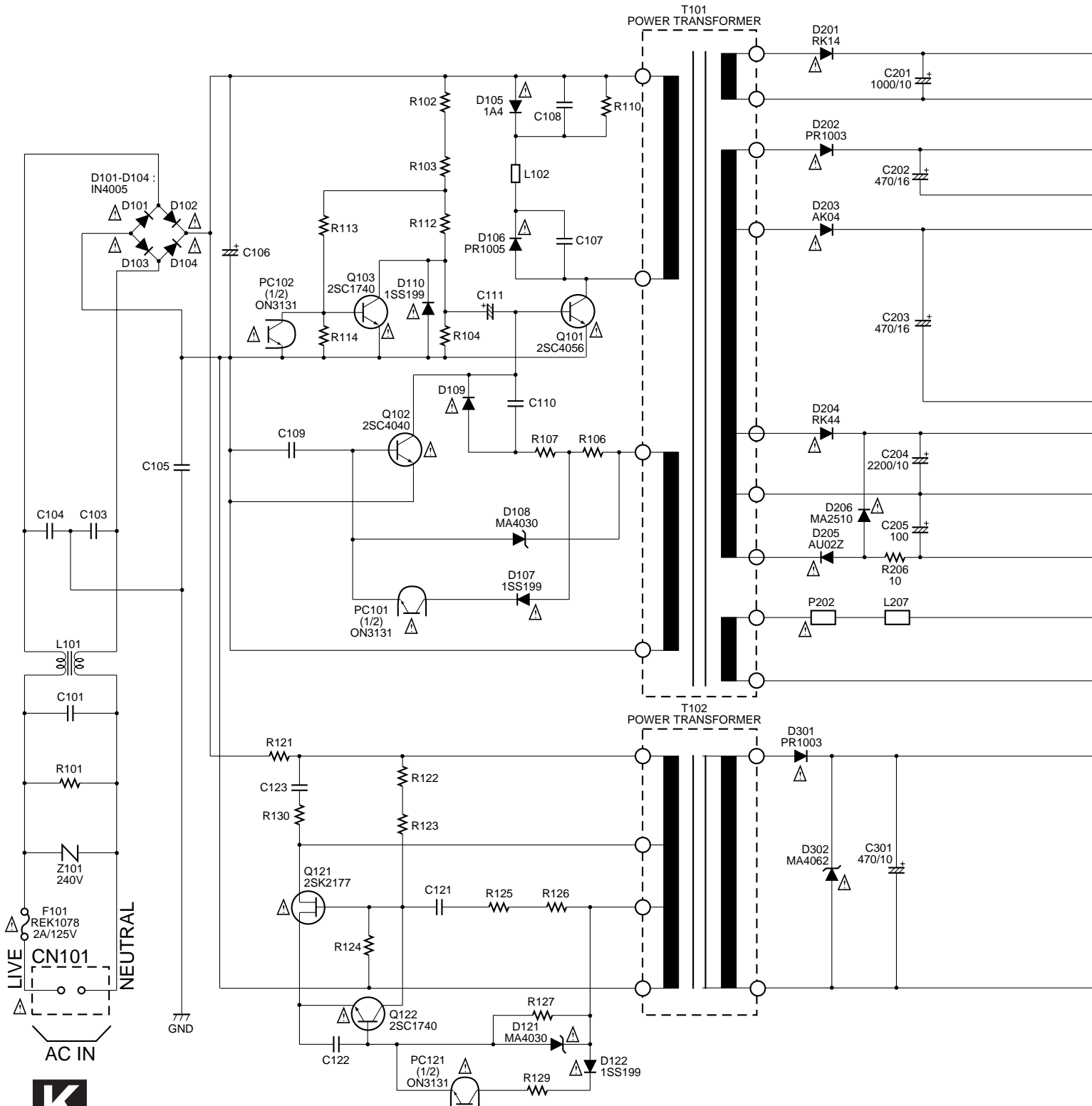


3.10 POWER SUPPLY ASSY (for KU and KC Types)

K POWER SUPPLY ASSY (VWR1311) (KU, KC ONLY)

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

- 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) Assy is repaired.
- Please take care to keep the space, not touching other parts when replacing the parts.



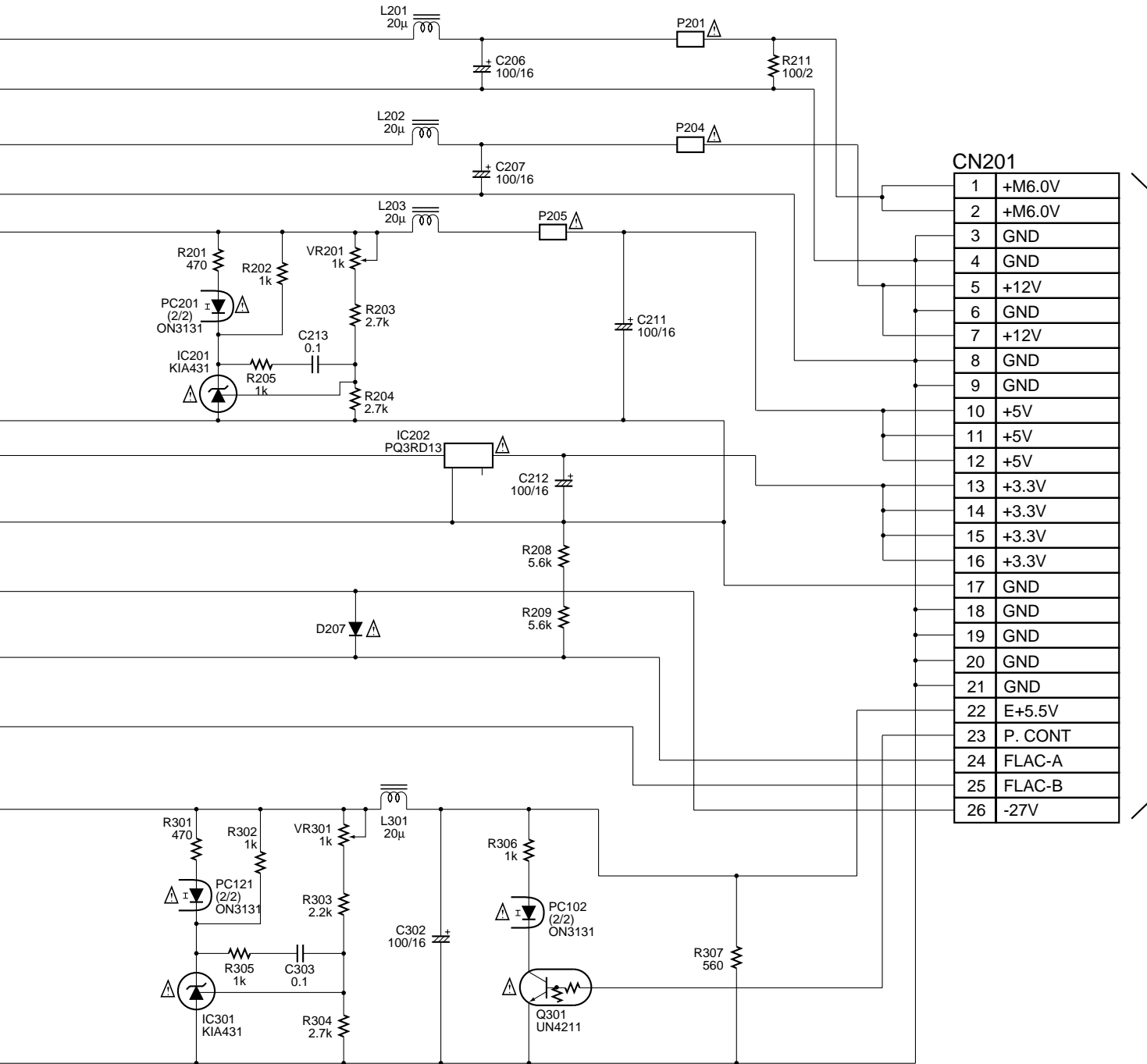
• NOTE FOR FUSE REPLACEMENT

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

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE NO. 491.800 MFD. BY LITTELFUSE INC. FOR P202 AND P204.

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE NO. 491002 MFD. BY LITTELFUSE INC. FOR P205.

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE NO. 49101.6 MFD. BY LITTELFUSE INC. FOR P201.



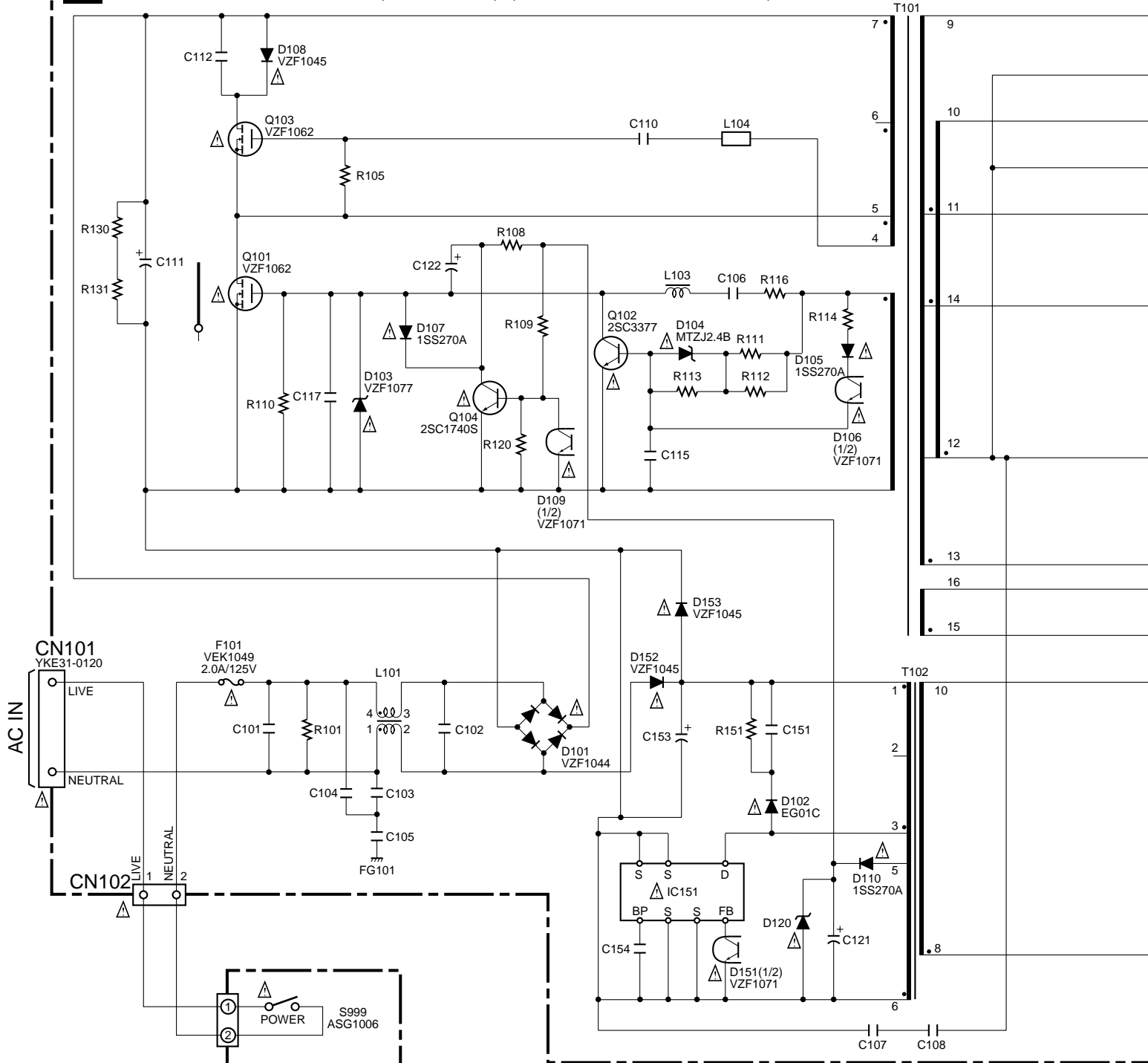
E1/3
CN2

3.11 POWER SUPPLY and MSWB ASSYS (for WV, WY and WY/SP Types)

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

- 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) Assy is repaired.
- Please take care to keep the space, not touching other parts when replacing the parts.

K POWER SUPPLY ASSY (VWR1313) (WV, WY, WY/SP ONLY)

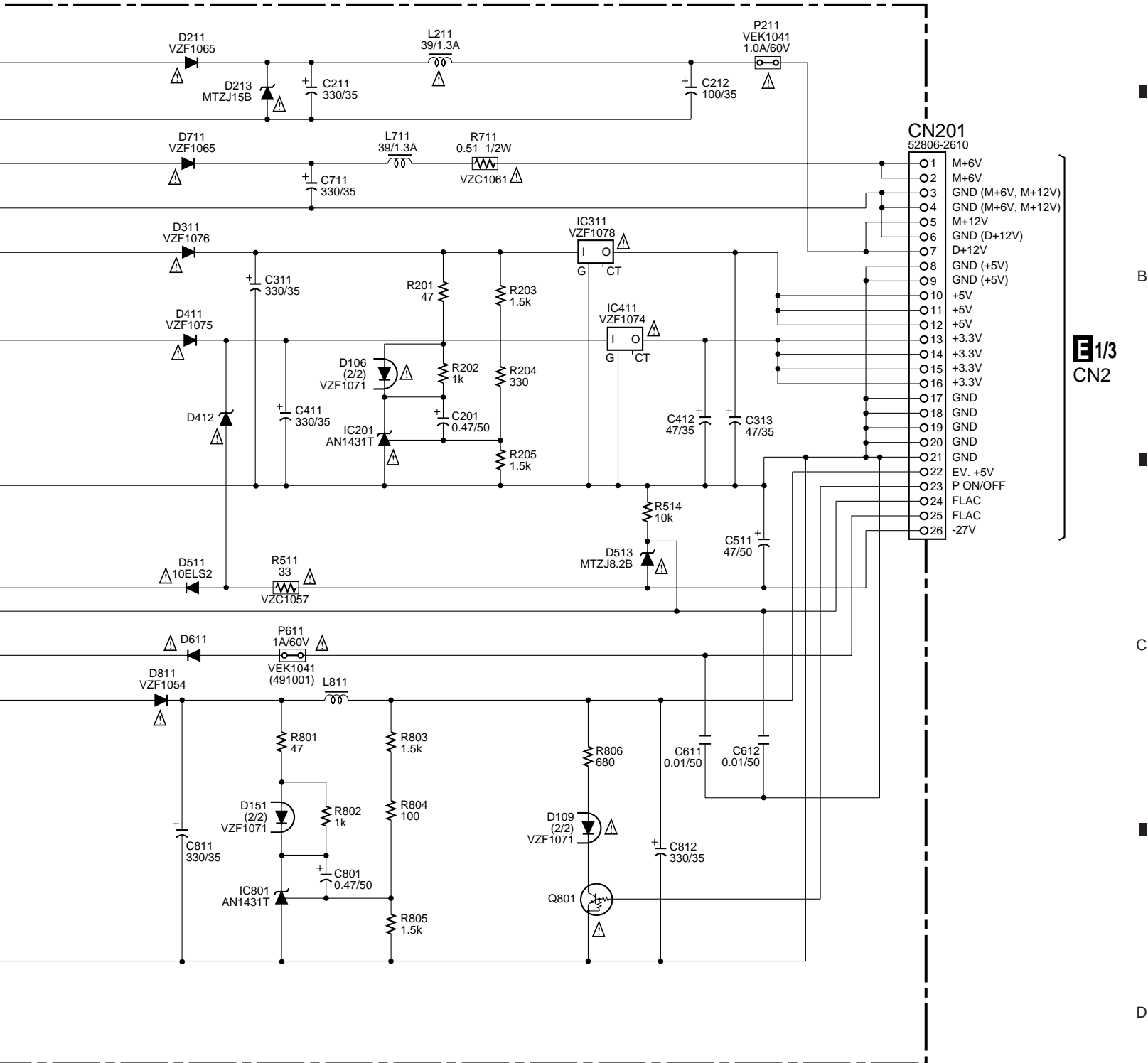


L MSWB ASSY (VWG2106) (WV, WY, WY/SP ONLY)



• NOTE FOR FUSE REPLACEMENT

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

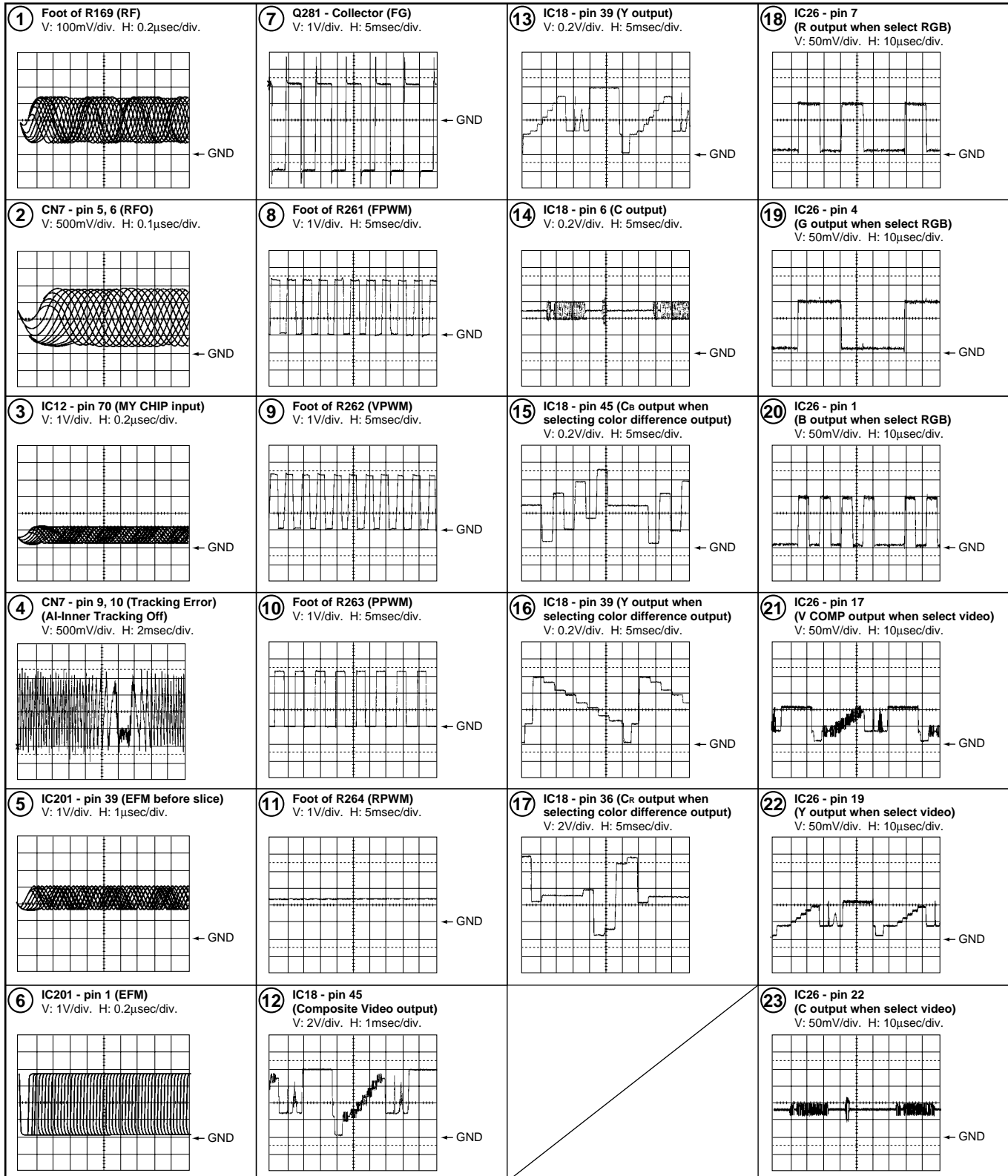


E1/3
CN2

WAVEFORMS

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

Measurement condition : No. 1 to 4 and 6 to 11 : Disc MA1, 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
 No. 18 to 20 : T2-19, Color-bar
 No. 21 to 23 : T2-1
 } WV and WY Types Only



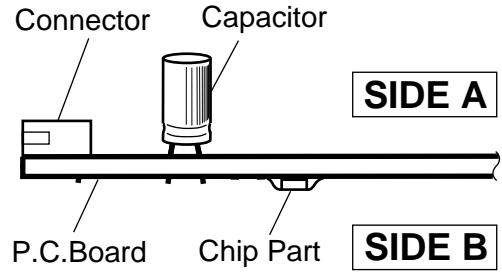
4. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

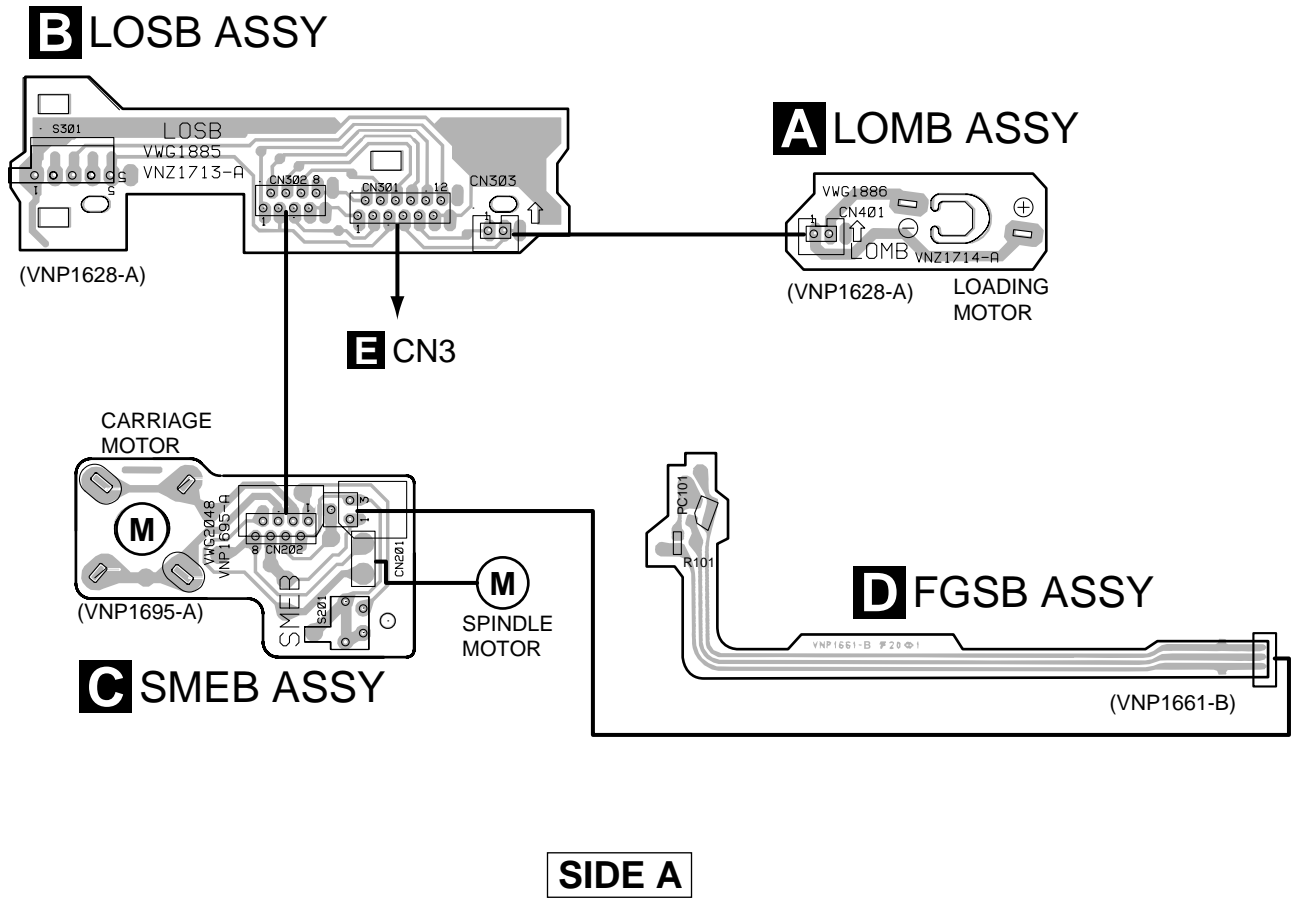
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

| 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 LOMB, LOSB, SMEB and FGSB ASSYS



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 \rightarrow 56×10^1 \rightarrow 561 RD1/4PU $\boxed{5}$ $\boxed{6}$ $\boxed{1}$ J
 47k Ω \rightarrow 47×10^3 \rightarrow 473 RD1/4PU $\boxed{4}$ $\boxed{7}$ $\boxed{3}$ J
 0.5 Ω \rightarrow R50 RN2H \boxed{R} $\boxed{5}$ $\boxed{0}$ K
 1 Ω \rightarrow 1R0 RSIP $\boxed{1}$ \boxed{R} $\boxed{0}$ K
- Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).
- 5.62k Ω \rightarrow 562×10^1 \rightarrow 5621 RN1/4PC $\boxed{5}$ $\boxed{6}$ $\boxed{2}$ $\boxed{1}$ F

■ LIST OF WHOLE PCB ASSEMBLIES

| Mark | Symbol and Description | Part No. | | | | | Remarks |
|----------|-------------------------|----------|----------|----------|----------|------------|---------|
| | | KU Type | KC Type | WV Type | WY Type | WY/SP Type | |
| NSP | LOAB ASSY | VWM1798 | VWM1798 | VWM1798 | VWM1798 | VWM1798 | |
| NSP | └ LOMB ASSY | VWG1886 | VWG1886 | VWG1886 | VWG1886 | VWG1886 | |
| NSP | └ LOSB ASSY | VWG1885 | VWG1885 | VWG1885 | VWG1885 | VWG1885 | |
| NSP | TRAVERSE MECHANISM ASSY | VWT1161 | VWT1161 | VWT1161 | VWT1161 | VWT1161 | |
| NSP | └ SMEB ASSY | VWG2048 | VWG2048 | VWG2048 | VWG2048 | VWG2048 | |
| NSP | └ FGSB ASSY | VWG2009 | VWG2009 | VWG2009 | VWG2009 | VWG2009 | |
| | DVDM ASSY | VWS1388 | VWS1388 | VWS1389 | VWS1389 | VWS1388 | |
| | AVJB ASSY | VWV1693 | VWV1693 | Not used | Not used | Not used | |
| NSP | JKSB ASSY | Not used | Not used | VWM1951 | VWM1951 | VWM1953 | |
| | └ AVJB ASSY | Not used | Not used | VWV1697 | VWV1697 | VWV1698 | |
| NSP | └ MSWB ASSY | Not used | Not used | VWG2106 | VWG2106 | VWG2106 | |
| NSP | FLKB ASSY | VWM1912 | VWM1912 | VWM1915 | VWM1915 | VWM1916 | |
| | └ FLKY ASSY | VWG2050 | VWG2050 | VWG2052 | VWG2052 | VWG2053 | |
| NSP | └ PWSB ASSY | VWG2103 | VWG2103 | VWG2057 | VWG2057 | VWG2057 | |
| | SCRB ASSY | Not used | Not used | VWV1712 | VWV1712 | Not used | |
| | SCCB ASSY | Not used | Not used | Not used | Not used | VWV1660 | |
| Δ | POWER SUPPLY ASSY | VWR1311 | VWR1311 | VWR1313 | VWR1313 | VWR1313 | |

■ CONTRAST OF PCB ASSEMBLIES

E DVDM ASSY

VWS1388 and VWS1389 are constructed the same except for the following :

| Mark | Symbol and Description | Part No. | | Remarks |
|-----------------------|--|--------------|--------------|---------|
| | | VWS1388 | VWS1389 | |
| △ | IC26 | Not used | MC44724A | |
| | Q87-Q92 | Not used | 2SA1756A | |
| | F2 | Not used | VTF1155 | |
| | C822-C825, C829, C830, C834-C836 | Not used | CKSRYF104Z16 | |
| | C840-C842, C858, C859 | Not used | CKSRYF104Z16 | |
| | C826 | Not used | CKSQYB105K10 | |
| | C827 | Not used | CEV101M10 | |
| | C828 | Not used | CKSQYB105K50 | |
| | R1 | Not used | RS1/16S333J | |
| | R2 | RS1/16S103J | RS1/16S223J | |
| | R787 | Not used | RS1/16S161J | |
| | R801, R802, R828 | RS1/16S0R0J | Not used | |
| | R803, R804, R829, R869-R871, R906-R908 | Not used | RS1/16S0R0J | |
| | R920, R922, R923, R8200 | Not used | RS1/16S0R0J | |
| | R806, R808 | RS1/16S2701F | Not used | |
| | R822-R824 | Not used | RS1/16S1800F | |
| | R825-R827 | RS1/16S1600F | RS1/16S1800F | |
| R831 | Not used | RS1/16S2001F | | |
| R832 | Not used | RS1/16S2201F | | |
| R833 | Not used | RS1/16S2702F | | |
| R834, R835 | Not used | RS1/16S1801F | | |
| R836, R837 | Not used | RS1/16S1001F | | |
| R838 | Not used | DCN1106 | | |
| R839 | Not used | RS1/16S103J | | |
| R845-R847, R863-R865 | Not used | RS1/16S182J | | |
| R851-R853 | Not used | RS1/16S4700F | | |
| R857-R859 | Not used | RS1/16S101J | | |
| CN14 7P FFC CONNECTOR | Not used | VKN1575 | | |

F AVJB ASSY

VWV1693, VWV1697 and VWV1698 are constructed the same except for the following :

| Mark | Symbol and Description | Part No. | | | Remarks |
|------|------------------------|----------|-----------|-----------|---------|
| | | VWV1693 | VWV1697 | VWV1698 | |
| | IC205, IC305 | Not used | Not used | TC4W53F | |
| | IC502 | Not used | TA7302P | TA7302P | |
| | IC701 | Not used | Not used | NJM2179M | |
| | Q501, Q502 | Not used | 2PB709A | 2PB709A | |
| | Q503 | Not used | DTC114YK | DTC114YK | |
| | Q504 | Not used | PDTA124EK | PDTA124EK | |
| | Q720 | Not used | Not used | DTC114EK | |
| | Q721 | Not used | Not used | PDTA124EK | |
| | S451 | Not used | VSH1020 | VSH1020 | |
| | S452 | VSH1009 | Not used | Not used | |

| Mark | Symbol and Description | Part No. | | | Remarks |
|--|------------------------|--|---|---|---------|
| | | VWV1693 | VWV1697 | VWV1698 | |
| F501, F502 L501 C270, C708 C370 C501 | | Not used Not used Not used Not used Not used | DTF1099 LCTA470J2520 Not used Not used CCSQCH390J50 | DTF1099 LCTA470J2520 CKSQYF104Z25 CKSQYF104Z50 CCSQCH390J50 | |
| C502, C510 C503, C504, C507, C511 C508 C550, C552, C555 C590 | | Not used Not used Not used CEAT471M6R3 Not used | CKSQYF103Z50 CKSQYF104Z25 CEAT101M10 Not used Not used | CKSQYF103Z50 CKSQYF104Z25 CEAT101M10 Not used CEAT471M16 | |
| C701, C702, C706, C709, C710 C703, C705 C704 C707 R116, R160, R161, R450, R456, R521, R522 | | Not used Not used Not used Not used Not used | Not used Not used Not used Not used RS1/10S0R0J | CEAT470M25 CKSQYF474Z16 CKSQYB472K50 CEAT101M16 RS1/10S0R0J | |
| R521 R255, R355 R564 R452 R453, R505 | | Not used RS1/10S0R0J Not used Not used Not used | RS1/10S0R0J RS1/10S0R0J RS1/10S0R0J RS1/10S153J RS1/10S103J | Not used Not used RS1/10S0R0J RS1/10S153J RS1/10S103J | |
| R455, R520, R560, R562, R570, R591 R520 R501 R502 R503 | | RS1/10S0R0J RS1/10S0R0J Not used RS1/10S0R0J Not used | Not used Not used RS1/10S681J RN1/10SC68R0D RS1/10S152J | Not used RS1/10S0R0J RS1/10S681J RN1/10SC68R0D RS1/10S152J | |
| R504 R506, R507 R508 R550 R551, R555 | | Not used Not used Not used RN1/10SE1100D RS1/10S4R7J | RS1/10S151J RS1/10S222J RS1/10S223J Not used Not used | RS1/10S151J RS1/10S222J RS1/10S223J Not used Not used | |
| R552, R556 R553, R557 R554 R558 R701 | | RN1/10SE3300D RN1/10SE4700D RN1/10SE1100D RN1/10SC62R0D Not used | Not used Not used Not used Not used Not used | Not used Not used Not used Not used RS1/10S432J | |
| R702 R703 R704 R705 R706 | | Not used Not used Not used Not used Not used | Not used Not used Not used Not used Not used | RS1/10S152J RS1/10S392J RS1/10S333J RS1/10S114J RS1/10S102J | |
| R707 R708 R709, R710 R711 R712, R721 | | Not used Not used Not used Not used Not used | Not used Not used Not used Not used Not used | RS1/10S473J RS1/10S623J RN1/10SE1302D RS1/10S103J RS1/10S0R0J | |
| R713 R714 R715, R720 CN111 12P FFC CONNECTOR CN111 8P FFC CONNECTOR | | Not used Not used Not used Not used Not used | Not used Not used Not used VKN1243 Not used | RS1/10S822J RS1/10S182J RS1/10S472J Not used VKN1239 | |
| JA505 3P PIN JACK PCB BINDER PC BOARD AVJB | | VKB1105 Not used VNP1717 | Not used VEF1040 Not used | Not used VEF1040 Not used | |

G FLKY ASSY

VWG2050, VWG2052 and VWG2053 are constructed the same except for the following :

| Mark | Symbol and Description | Part No. | | | Remarks |
|--|------------------------|--|---|--|---------|
| | | VWG2050 | VWG2052 | VWG2053 | |
| R118-R120 R141 R143 R147, R148 R149 R190-R192 | | RS1/10S390J RS1/10S622J RS1/10S363J Not used RS1/10S0R0J Not used | RS1/10S150J RS1/10S273J RS1/10S203J RS1/10S0R0J Not used RS1/10S391J | RS1/10S150J Not used RS1/10S0R0J RS1/10S0R0J Not used RS1/10S391J | |

H PWSB ASSY

VWG2103 and VWG2057 are constructed the same except for the following :

| Mark | Symbol and Description | Part No. | | Remarks |
|--|------------------------|---|--|---------|
| | | VWG2103 | VWG2057 | |
| Q201 D201 D202 S201 S202 R203 R210 R213, R214 | | Not used Not used Not used ASG7013 Not used Not used Not used Not used | DTA124EK SLR-343VC SLR-343YC Not used ASG7013 RS1/10S181J RS1/10S221J RS1/10S0R0J | |

PCB PARTS LIST FOR DV-525/KU

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

A LOMB ASSY

OTHERS

| | | |
|-------|--------------|------------|
| CN401 | KR CONNECTOR | B2B-PH-K-S |
|-------|--------------|------------|

D FGSB ASSY

SEMICONDUCTOR

| | |
|-------|-----------|
| PC101 | TLP910(O) |
|-------|-----------|

RESISTOR

| | |
|------|-------------|
| R101 | RS1/10S681J |
|------|-------------|

B LOSB ASSY

SWITCH

| | |
|------|---------|
| S301 | VSK1011 |
|------|---------|

OTHERS

| | | |
|-------|-------------------|------------|
| CN303 | KR CONNECTOR | B2B-PH-K-S |
| CN302 | 8P FFC CONNECTOR | VKN1268 |
| CN301 | 12P FFC CONNECTOR | VKN1272 |

E DVDM ASSY

SEMICONDUCTORS

| | |
|------|--------------------|
| IC21 | CY2081SL-638 |
| IC1 | LA9701M |
| IC2 | LC78652W |
| IC3 | M56788FP |
| IC19 | MB811171622A-100FN |

C SMEB ASSY

SWITCH

| | |
|------|---------|
| S201 | DSG1016 |
|------|---------|

OTHERS

| | | |
|-------|------------------|------------|
| CN201 | 3P FFC CONNECTOR | 52044-0345 |
| CN202 | 8P FFC CONNECTOR | VKN1212 |
| | PC BOARD SMEB | VNP1695 |

| | |
|---------|----------------|
| IC18 | MB86373 |
| IC16 | MC74VHC541DT |
| IC17 | MC74VHCT541ADT |
| IC15 | MN414800CSJ-07 |
| IC5,IC7 | NJM2100M |

| | |
|---------|--------------|
| IC11 | PD3410A |
| IC12 | PD4995A |
| △ IC401 | PQ2TZ15 |
| IC14 | TC55V1001AF8 |
| IC23 | TC7SH32FU |

| Mark | No. | Description | Part No. | Mark | No. | Description | Part No. |
|--------------------------|--------------------------|-------------------------|--------------|------------------|---|----------------------|--------------|
| | IC8 | | TC7SHU04F | | C408,C410,C412,C415 | | CKSRYP104Z16 |
| | IC13 | | VYV1656 | | C601,C602,C604-C612 | | CKSRYP104Z16 |
| | Q106,Q109,Q81-Q86 | | 2SA1576A | | C614,C615,C617-C624,C626 | | CKSRYP104Z16 |
| | Q105,Q114,Q251 | | 2SC4081 | | C701,C702,C704-C710 | | CKSRYP104Z16 |
| | Q102 | | HN1A01F | | C712-C726,C831-C833 | | CKSRYP104Z16 |
| | Q103,Q281,Q6,Q7 | | HN1B04FU | | C837-C839 | | CKSRYP104Z16 |
| | Q101 | | HN1C01F | | C820,C821 (2.2 μ F) | | VCG1030 |
| | Q112,Q113 | | HN1C01FU | | C299,C844 (0.47 μ F) | | VCG1032 |
| | Q108 | | HN1K03FU | | C368,C409,C411 (47 μ F/6.3V) | | VCH1166 |
| | Q107 | | RN1902 | | VC1 (30pF) | | VCM1013 |
| | Q3 | | RN1911 | | | | |
| | Q1 | | RN4982 | | | | |
| | D302 | | KV1471E | | | | |
| | D6 | | RB501V-40 | | | | |
| | D665,D666 | | RB521S-30 | | | | |
| COILS AND FILTERS | | | | RESISTORS | | | |
| | F8500 | CHIP BEAD | DTF1069 | | R123 (39 Ω \times 4) | | ACN7047 |
| | F1 | VIDEO FILTER | VTF1155 | | R732,R733,R735,R736 (47 Ω \times 4) | | ACN7077 |
| | L101,L150,L330 | CHIP COIL (10 μ H) | VTL1061 | | R632 (100 Ω \times 4) | | DCN1092 |
| | L81 | CHIP COIL (22 μ H) | VTL1067 | | R608,R609,R613,R624,R627 (10k Ω \times 4) | | DCN1094 |
| | L304 | CHIP COIL (2.7 μ H) | VTL1141 | | R629,R631,R633,R634,R638 (10k Ω \times 4) | | DCN1094 |
| | | | | | R654,R657,R658,R662,R664 (10k Ω \times 4) | | DCN1094 |
| | | | | | R706,R717,R718 (10k Ω \times 4) | | DCN1094 |
| | | | | | R121,R663 (22 Ω \times 4) | | DCN1104 |
| | | | | | R712,R715,R840 (0 Ω \times 4) | | DCN1106 |
| | | | | | R1020,R162,R2010,R2020,R2030 | | RS1/10S0R0J |
| | | | | | R2040,R3050,R3520,R366,R4010 | | RS1/10S0R0J |
| | | | | | R4020,R4030,R4040,R4050,R4060 | | RS1/10S0R0J |
| | | | | | R667,R668,R671-R673 | | RS1/10S0R0J |
| | | | | | R675,R676,R685,R722,R8000 | | RS1/10S0R0J |
| | | | | | R821,R8300,R8400 | | RS1/10S0R0J |
| | | | | | R202 | | RS1/10S101J |
| | | | | | R700 | | RS1/10S1R2J |
| | | | | | R807 | | RS1/16S1201F |
| | | | | | R361,R364 | | RS1/16S1203F |
| | | | | | R363,R365 | | RS1/16S1503F |
| | | | | | R825-R827 | | RS1/16S1600F |
| | | | | | R805 | | RS1/16S2401F |
| | | | | | R806,R808 | | RS1/16S2701F |
| | | | | | R848-R850 | | RS1/16S4700F |
| | | | | | R164 | | RS1/16S5600F |
| | | | | | R3510 | | VCN1120 |
| | | | | | Other Resistors | | RS1/16S□□□□J |
| CAPACITORS | | | | OTHERS | | | |
| | C123,C145,C282,C613,C843 | | CCSRCH101J50 | | X2 | CHIP CERALOCK | DSS1110 |
| | C322 | | CCSRCH120J50 | | | (20MHz) | |
| | C206,C210,C211 | | CCSRCH151J50 | | | FLEXIBLE CABLE (7P) | VDA1681 |
| | C126,C333,C845 | | CCSRCH180J50 | | CN6 | 7P FFC CONNECTOR | VKN1299 |
| | C116,C151,C314 | | CCSRCH220J50 | | CN7 | B TO B CONNECTOR 14P | VKN1324 |
| | C152 | | CCSRCH221J50 | | CN4 | 24P FFC CONNECTOR | VKN1464 |
| | C209 | | CCSRCH331J50 | | CN3 | 12P FFC CONNECTOR | VKN1471 |
| | C104-C108,C134,C236 | | CCSRCH470J50 | | CN1 | 14P FFC CONNECTOR | VKN1473 |
| | C122,C208 | | CCSRCH471J50 | | CN2 | 26P FFC CONNECTOR | VKN1479 |
| | C128,C335 | | CCSRCH560J50 | | CN13 | 33P FFC CONNECTOR | VKN1519 |
| | C127,C334 | | CCSRCH5R0C50 | | | BARCODE LABEL | VRW1773 |
| | C124,C146 | | CCSRCH680J50 | | X1 | CRYSTAL (13.824MHz) | VSS1129 |
| | C117,C240,C352,C360 | | CCSRCH681J25 | | | | |
| | C129,C142 | | 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,C801,C802,C807 | | CKSQYB105K10 | | | | |
| | C809-C815,C817-C819 | | CKSQYB105K10 | | | | |
| | C229 | | CKSQYB224K16 | | | | |
| | C148,C217,C414 | | CKSQYF105Z16 | | | | |
| | C216,C313,C337 | | CKSRYP102K50 | | | | |
| | C133,C136,C203,C220,C225 | | CKSRYP103K50 | | | | |
| | C239,C320,C321,C603,C625 | | CKSRYP103K50 | | | | |
| | C703,C711 | | CKSRYP103K50 | | | | |
| | C101,C102,C114,C118,C119 | | CKSRYP104K16 | | | | |
| | C121,C138,C204,C212,C213 | | CKSRYP104K16 | | | | |
| | C227,C228,C231,C263 | | CKSRYP104K16 | | | | |
| | C315-C317,C332,C804 | | CKSRYP104K16 | | | | |
| | C281,C354 | | CKSRYP222K50 | | | | |
| | C153,C266,C330 | | CKSRYP223K25 | | | | |
| | C214,C251,C261 | | CKSRYP472K50 | | | | |
| | C357 | | CKSRYP473K16 | | | | |
| | C109,C110,C120,C130,C131 | | CKSRYP104Z16 | | | | |
| | C143,C150,C202,C215 | | CKSRYP104Z16 | | | | |
| | C221,C222,C226,C230,C235 | | CKSRYP104Z16 | | | | |
| | C265,C319,C327,C359,C367 | | CKSRYP104Z16 | | | | |
| | C369,C370,C402,C404,C406 | | CKSRYP104Z16 | | | | |

Mark No. Description Part No.

F AVJB ASSY

SEMICONDUCTORS

| | | | |
|---|-----------|--|-------------|
| | IC203 | | BA4560F |
| | IC501 | | LA7137M |
| △ | IC206 | | NJM78L05A |
| △ | IC150 | | NJM78M08FA |
| | IC201 | | PCM1716E |
| | IC601 | | TC74HCU04AF |
| | IC602 | | TC7SET08F |
| | Q202 | | 2PB709A |
| | Q151 | | 2PD601A |
| | Q150 | | 2SB1260 |
| | Q120 | | 2SC1740S |
| | Q257,Q357 | | 2SD2114K |
| | Q201 | | DTC114YK |
| | D401 | | MA111 |
| | D230 | | UDZS6.2B |

COILS AND FILTER

| | | |
|------|--------------|---------|
| F114 | CHIP BEAD | DTF1064 |
| L601 | PULSE TRANS. | PTL1003 |
| L602 | NOISE FILTER | RTF1167 |

SWITCH

| | | |
|------|--|---------|
| S452 | | VSH1009 |
|------|--|---------|

CAPACITORS

| | | |
|--------------------------|--|--------------|
| C253,C353 | | CCSQCH221J50 |
| C251,C351 | | CCSQCH330J50 |
| C255,C355 | | CCSQCH331J50 |
| C401,C523-C525 | | CCSQCH470J50 |
| C104,C154,C211,C232,C526 | | CEAT101M10 |
| C528,C602,C608,C611 | | CEAT101M10 |
| C102,C121,C122,C152,C231 | | CEAT101M16 |
| C203 | | CEAT102M6R3 |
| C206,C207 | | CEAT470M16 |
| C250,C252,C350,C352 | | CEAT470M25 |
| C541,C550,C552,C555,C560 | | CEAT471M6R3 |
| C520-C522,C561 | | CKSQYB104K25 |
| C150,C603 | | CKSQYF103Z50 |
| C101,C103,C120,C123,C151 | | CKSQYF104Z25 |
| C153,C204,C205,C208,C209 | | CKSQYF104Z25 |
| C230,C233,C290,C402,C527 | | CKSQYF104Z25 |
| C529,C530,C601,C605,C606 | | CKSQYF104Z25 |
| C609,C612 | | CKSQYF104Z25 |
| C201,C202,C210,C212,C213 | | CKSQYF105Z16 |
| C531 | | CKSQYF105Z16 |

RESISTORS

| | | |
|---------------------|--|---------------|
| R533,R534,R542,R558 | | RN1/10SC62R0D |
| R550,R554 | | RN1/10SE1100D |
| R250,R350 | | RN1/10SE1602D |
| R552,R556 | | RN1/10SE3300D |
| R251,R351 | | RN1/10SE3302D |
| R553,R557 | | RN1/10SE4700D |
| Other Resistors | | RS1/10S□□□□ |

Mark No. Description Part No.

OTHERS

| | | |
|-------|-----------------------|---------|
| CN503 | 4P MINI DIN SOCKET | AKP7008 |
| JA201 | 2P PIN JACK | DKB1031 |
| JA602 | OPTICAL LINK OUT | GP1F32T |
| JA401 | REMOTE CONTROL JACK | RKN1004 |
| JA601 | 1P PIN JACK (NI, BLK) | VKB1077 |
| JA505 | 3P PIN JACK | VKB1105 |
| JA504 | 1P PIN JACK | VKB1122 |
| CN101 | 33P FFC CONNECTOR | VKN1567 |
| | SCREW TERMINAL | VNE1948 |
| KN1 | EARTH METAL FITTING | VNF1084 |
| | PC BOARD AVJB | VNP1717 |

G FLKY ASSY

SEMICONDUCTORS

| | | |
|-------|--|---------|
| IC101 | | PE5077A |
| IC102 | | S-806D |

SWITCHES

| | | |
|-----------|--|---------|
| S101-S106 | | ASG7013 |
|-----------|--|---------|

CAPACITORS

| | | |
|--------------------------|--|--------------|
| C101 | | CEJA470M6R3 |
| C108,C110-C113,C122 | | CKSQYB102K50 |
| C106,C114,C116,C119,C120 | | CKSQYF104Z25 |
| C123 | | CKSQYF104Z25 |
| C102 | | CEJA220M6R3 |

RESISTORS

| | | |
|---------------|--|-------------|
| All Resistors | | RS1/10S□□□□ |
|---------------|--|-------------|

OTHERS

| | | |
|-------|--------------------------|------------|
| CN102 | | 52492-0920 |
| | FFC BOTTOM CONNECTOR 9P | |
| IR101 | REMOTE RECEIVER UNIT | GP1U28X |
| V101 | FL TUBE | VAW1046 |
| | SPACER | VEC1599 |
| CN101 | 14P FFC CONNECTOR | VKN1274 |
| | FL HOLDER | VNF1087 |
| X101 | CERAMIC RESONATOR (5MHz) | VSS1142 |

H PWSB ASSY

SWITCH

| | | |
|------|--|---------|
| S201 | | ASG7013 |
|------|--|---------|

CAPACITOR

| | | |
|------|--|--------------|
| C201 | | CKSQYF104Z25 |
|------|--|--------------|

RESISTORS

| | | |
|---------------|--|-------------|
| All Resistors | | RS1/10S□□□□ |
|---------------|--|-------------|

OTHERS

| | | |
|-------|-------------------------|------------|
| CN201 | | 52492-0920 |
| | FFC BOTTOM CONNECTOR 9P | |

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

I SCRB ASSY

SEMICONDUCTORS

| | |
|--------------|-----------|
| IC1,IC3 | TC4W53F |
| IC2 | TK15402M |
| Q2 | 2PB709A |
| Q1,Q3 | 2PD601A |
| Q5 | 2SA933S |
| Q8,Q9 | 2SC1740S |
| Q10,Q4,Q6,Q7 | PDTC124EK |
| D3 | MA111 |
| D1,D2 | UDZS5.1B |

CAPACITORS

| | |
|---------------------|--------------|
| C1,C3,C33-C35 | CEAT101M10 |
| C39 | CEAT471M10 |
| C12,C2,C27-C31 | CKSQYF104Z25 |
| C36-C38,C40-C42,C44 | CKSQYF104Z25 |
| C7,C8 | CKSQYF104Z25 |

RESISTORS

| | |
|-----------------|---------------|
| R13,R28,R40-R42 | RN1/10SC68R0D |
| Other Resistors | RS1/10S□□□J |

OTHERS

| | | |
|-----|-------------------|---------|
| | PCB BINDER | VEF1040 |
| JA1 | RGB CONNECTOR | VKB1127 |
| CN2 | 7P FFC CONNECTOR | VKN1238 |
| CN1 | 12P FFC CONNECTOR | VKN1243 |
| | PC BOARD SCRB | VNP1723 |

J SCCB ASSY

SEMICONDUCTORS

| | |
|-----------|-----------|
| Q100 | 2SA933S |
| Q107,Q108 | PDTC124EK |
| D114 | MA111 |
| D101,D103 | UDZS5.1B |

CAPACITORS

| | |
|---------------------|--------------|
| C110,C126 | CCSQCH271J50 |
| C106,C116,C125,C128 | CKSQYF104Z25 |

RESISTORS

| | |
|-----------------|---------------|
| R109 | RN1/10SC62R0D |
| Other Resistors | RS1/10S□□□J |

OTHERS

| | | |
|-------|------------------|---------|
| | PCB BINDER | VEF1040 |
| JA100 | RGB CONNECTOR | VKB1037 |
| CN100 | 8P FFC CONNECTOR | VKN1239 |

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

K POWER SUPPLY ASSY (VWR1311)

OTHERS

| | | | |
|---|------|----------------|---------|
| △ | F101 | FUSE (2A/125V) | REK1078 |
|---|------|----------------|---------|

K POWER SUPPLY ASSY (VWR1313)

SEMICONDUCTORS

| | | |
|---|---------------------|----------|
| △ | IC201,IC801 | AN1431T |
| △ | IC411 | VZF1074 |
| △ | IC311 | VZF1078 |
| △ | Q104 | 2SC1740S |
| △ | Q102 | 2SC3377 |
| △ | Q101,Q103 | VZF1062 |
| △ | D511 | 10ELS2 |
| △ | D105,D107,D110,D514 | 1SS270A |
| △ | D102 | EG01C |
| △ | D213 | MTZJ15B |
| △ | D104 | MTZJ2.4B |
| △ | D812 | MTZJ6.8B |
| △ | D513 | MTZJ8.2B |
| △ | D101 | VZF1044 |
| △ | D108 | VZF1045 |
| △ | D811 | VZF1054 |
| △ | D211,D711 | VZF1065 |
| △ | D411 | VZF1075 |
| △ | D311 | VZF1076 |
| △ | D103 | VZF1077 |
| △ | D106,D109,D151 | VZF1071 |

RESISTORS

| | |
|------|---------|
| R511 | VZC1057 |
| R611 | VZC1060 |
| R711 | VZC1061 |

OTHERS

| | | |
|---|------------------|---------|
| △ | P211 (1.0A/60V) | VEK1041 |
| △ | F101 (2.0A/125V) | VEK1049 |

L MSWB ASSY

SWITCH

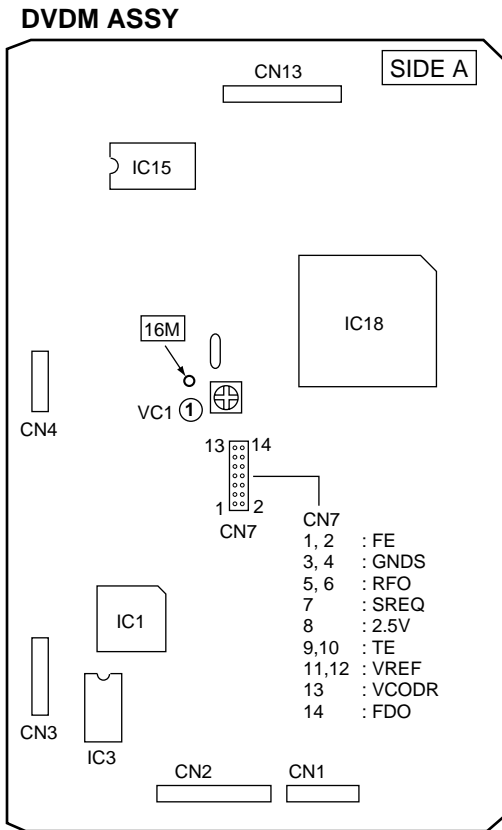
| | | |
|---|------|---------|
| △ | S999 | ASG1006 |
|---|------|---------|

6. ADJUSTMENT

6.1 ADJUSTMENT ITEMS AND LOCATION

Note : When the Traverse mechanism adjustment is not properly adjusted, jitter, error rate and play ability are defective. The noise may come out by the case.

■ Adjustment Points (PCB Part)

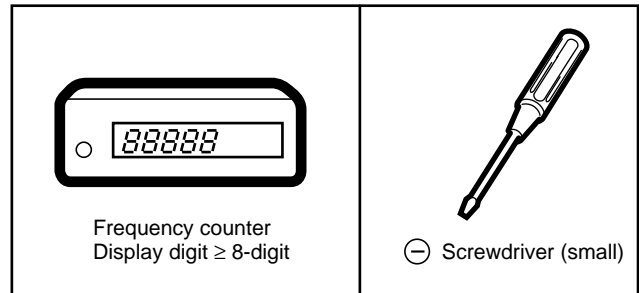


■ Adjustment Items

[Electrical Part]

- ① Master Clock Adjustment

6.2 JIGS AND MEASURING INSTRUMENTS



6.3 NECESSARY ADJUSTMENT POINTS

When

Adjustment Points

■ EXCHANGE PCB ASSY

Exchange board
 AVJB ASSY

Mechanical point _____

Electric point _____

Exchange board
 DVDM ASSY

Mechanical point _____

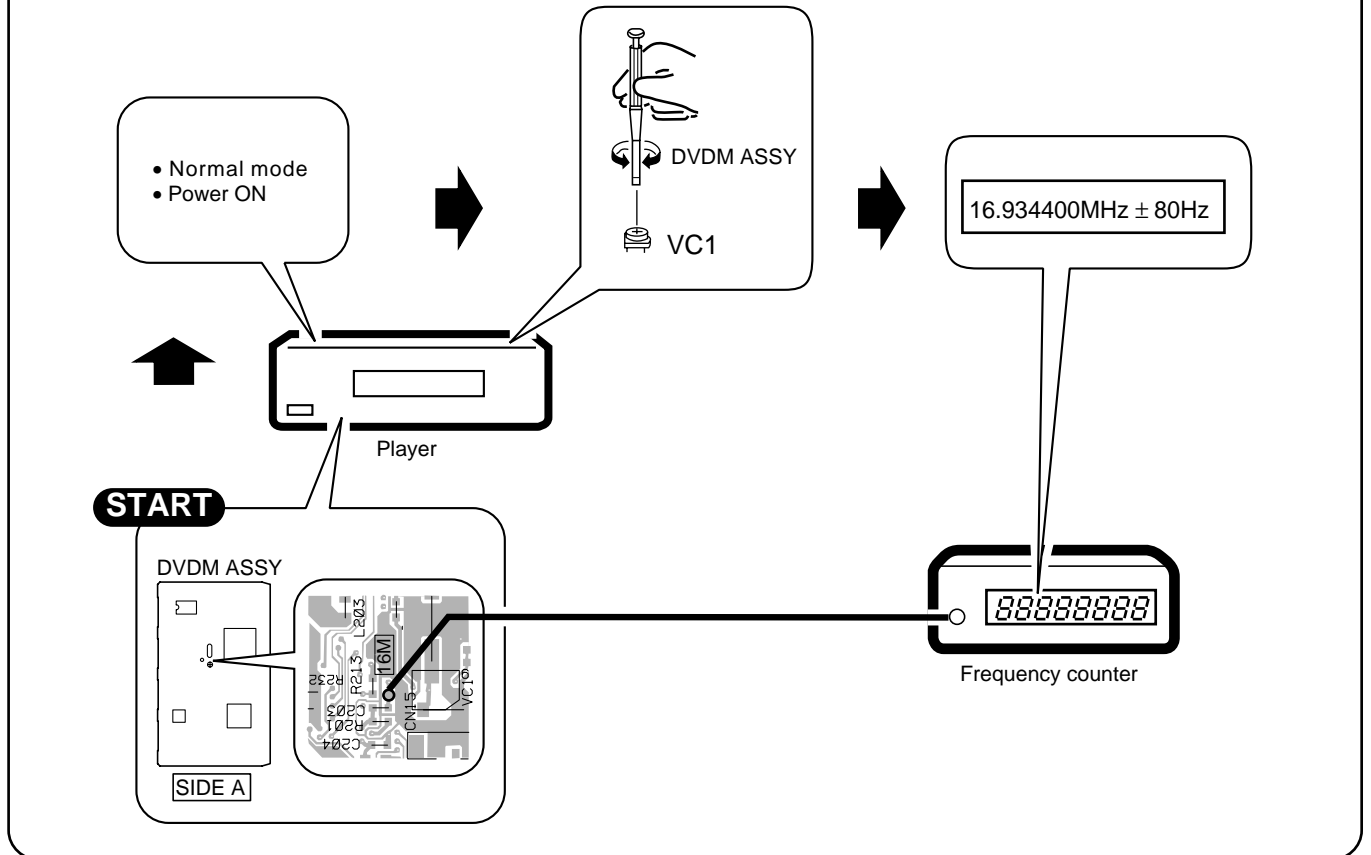
Electric point _____

Note : ① is adjusted already.

6.4 ELECTRICAL ADJUSTMENT

① Master Clock Adjustment

- When not properly adjusted : Uneven color



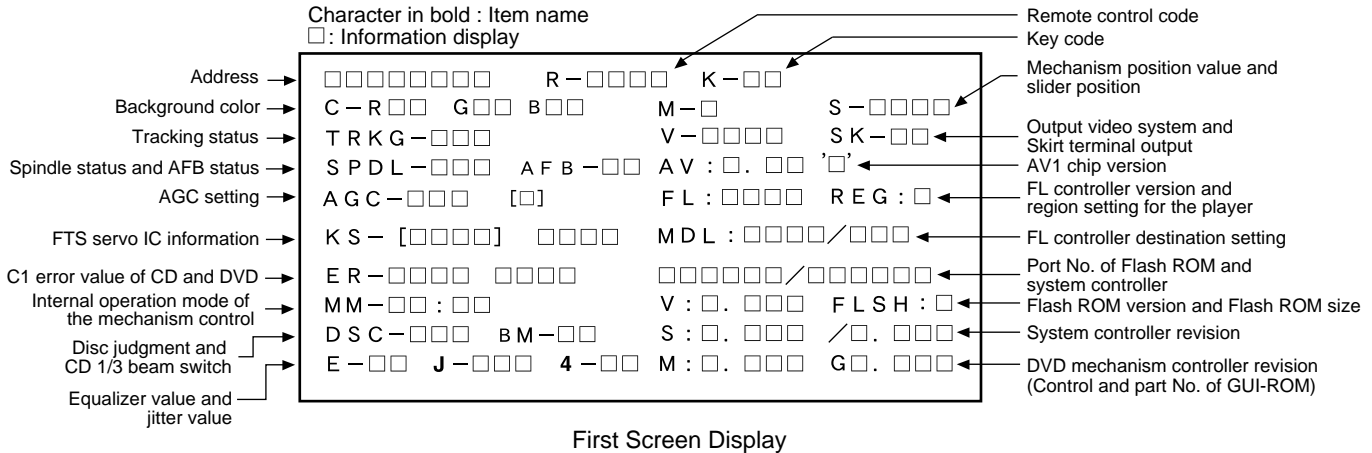
7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 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) Tracking status [TRKG - ***]

Tracking on [ON]
 Tracking off [OFF]

(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] |

* : 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 - * *]**

Make 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

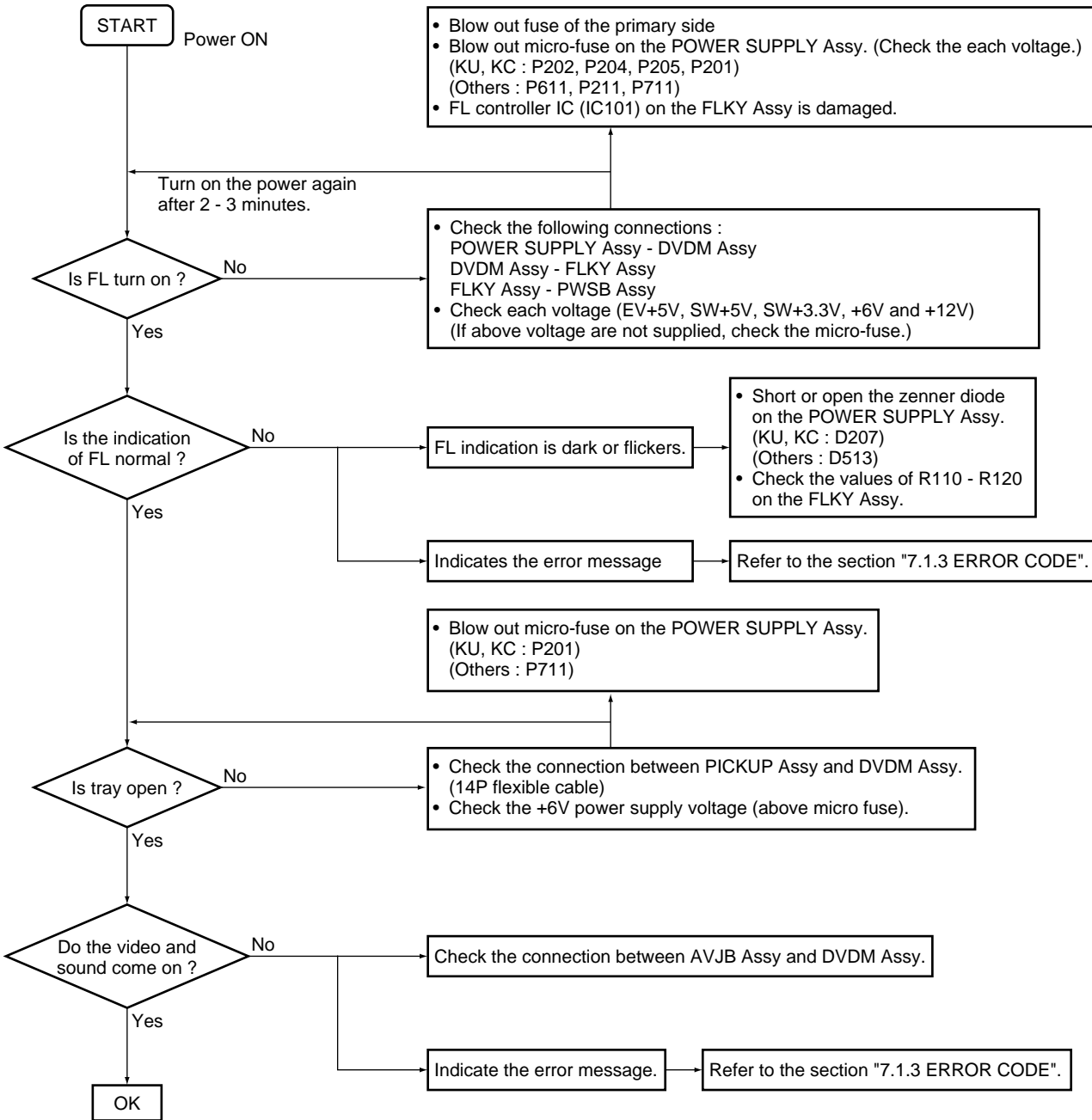
[GUI : * * * *]

No GUI model displays as "— / —".

OEM model displays the part number of GUI-ROM [GUI : * * * *]

7.1.2 TROUBLE SHOOTING

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



7.1.3 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 Unit |
|----|--|---|---------------------|---|
| 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 | <p>The spindle could not converge into within $\pm 12\%$ of the target FG rotation speed within 10 seconds after spindle kick.</p> <p>The first time after startup (the first time after disc distinction), it doesn't become the number of the target rotation within five seconds.</p> <p>The first time after startup, detects the abnormal rotation number of high-speed continuously 3 loops.</p> <p>DVD: 5 to 9 mS , CD: 40 to 60 mS</p> | | Stops. (FG timeout) |
| 49 | Spindle PLL transition timeout | <p>After the second times after startup, it doesn't become the number of the target rotation within five seconds.</p> <p>Detects the abnormal high-speed or low-speed rotations.</p> <p>DVD: 5 to 9 mS , CD: 40 to 60 mS</p> | | 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 detection | 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 jump up | 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 ADJMIR (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 (XCBSY) was in force (XCBSY = L) for a specified time (about 200 μ S). | | No operation |
| A2 | Communication timeout for reading DSP coefficient | Command Busy (XCBSY) was in force for a specified time (about 200 μ S) 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 (XCBSY) 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 (XCBSY) was in force for 200 μ S 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 retrying 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. If 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). |

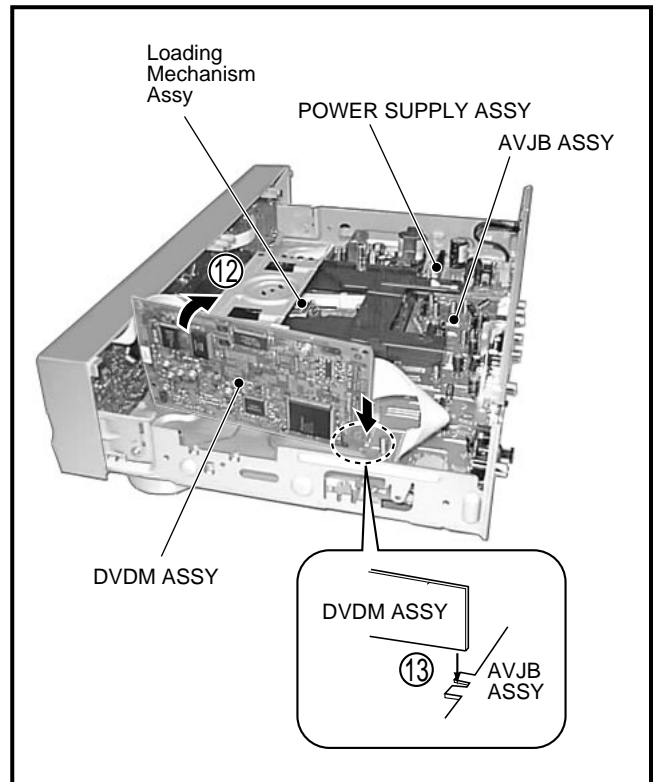
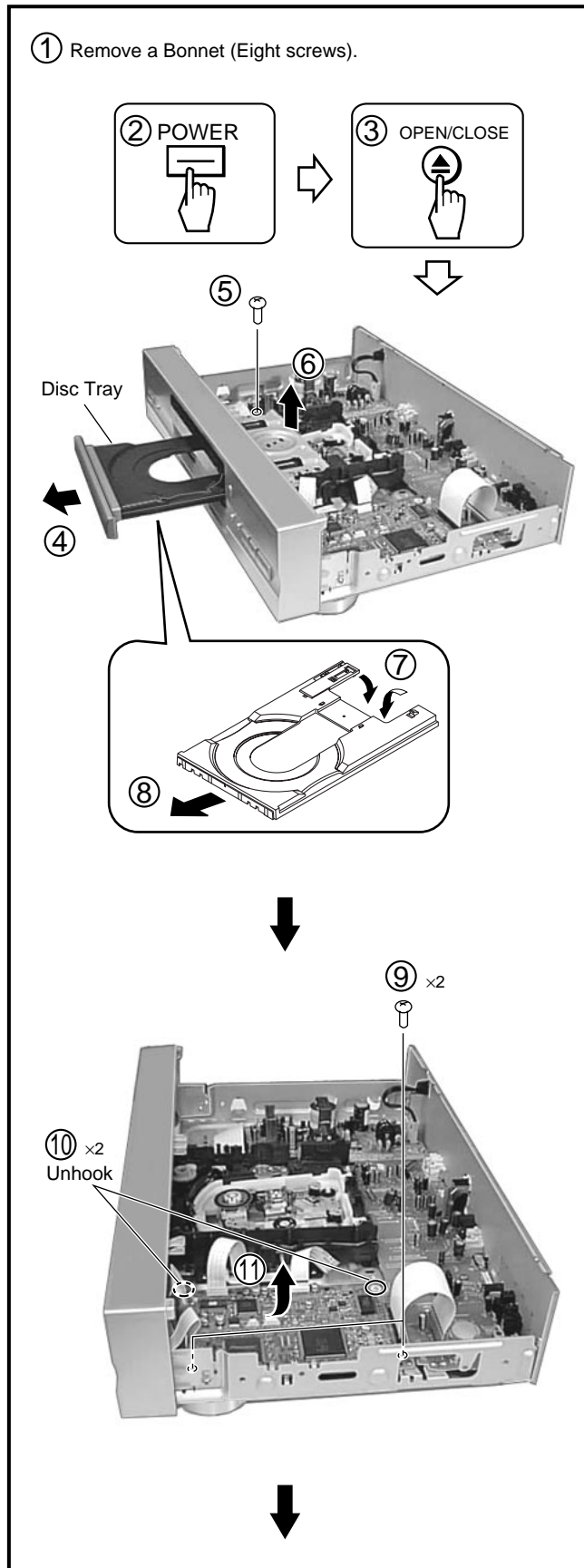
**Error codes that are displayed on the FL display by using the remote control unit
(Device error)**

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

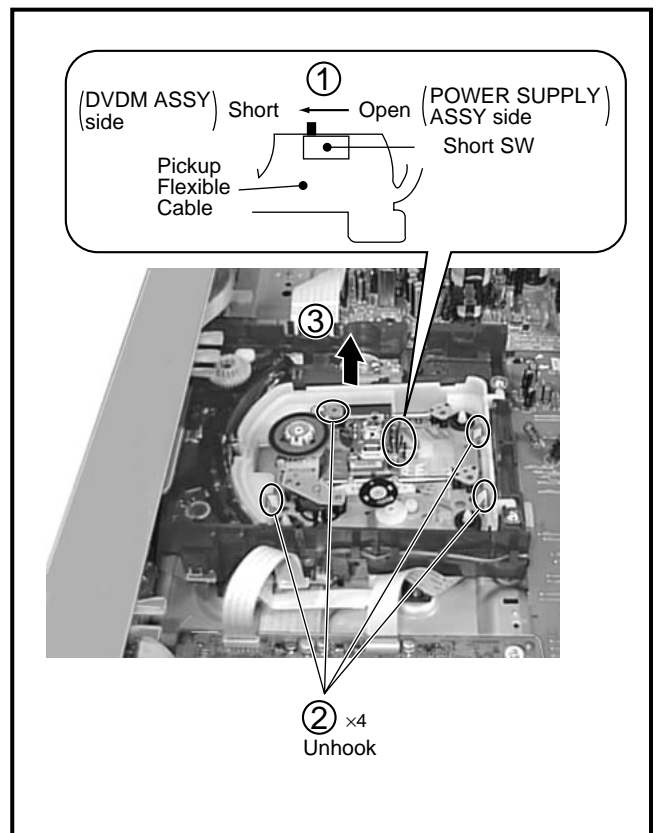
| FL | Description of Error | Causes if with a DVD | Causes if with a CD | Operation of the Unit |
|----------------|--------------------------------------|----------------------|---------------------|--|
| bit3=1 08 etc. | AV1 access error (read, write NG) | | | No operation or it becomes debugging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

7.1.4 DISASSEMBLY

■ DVDM ASSY



■ TRAVERSE MECHANISM ASSY-S



7.2 PARTS

7.2.1 IC

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

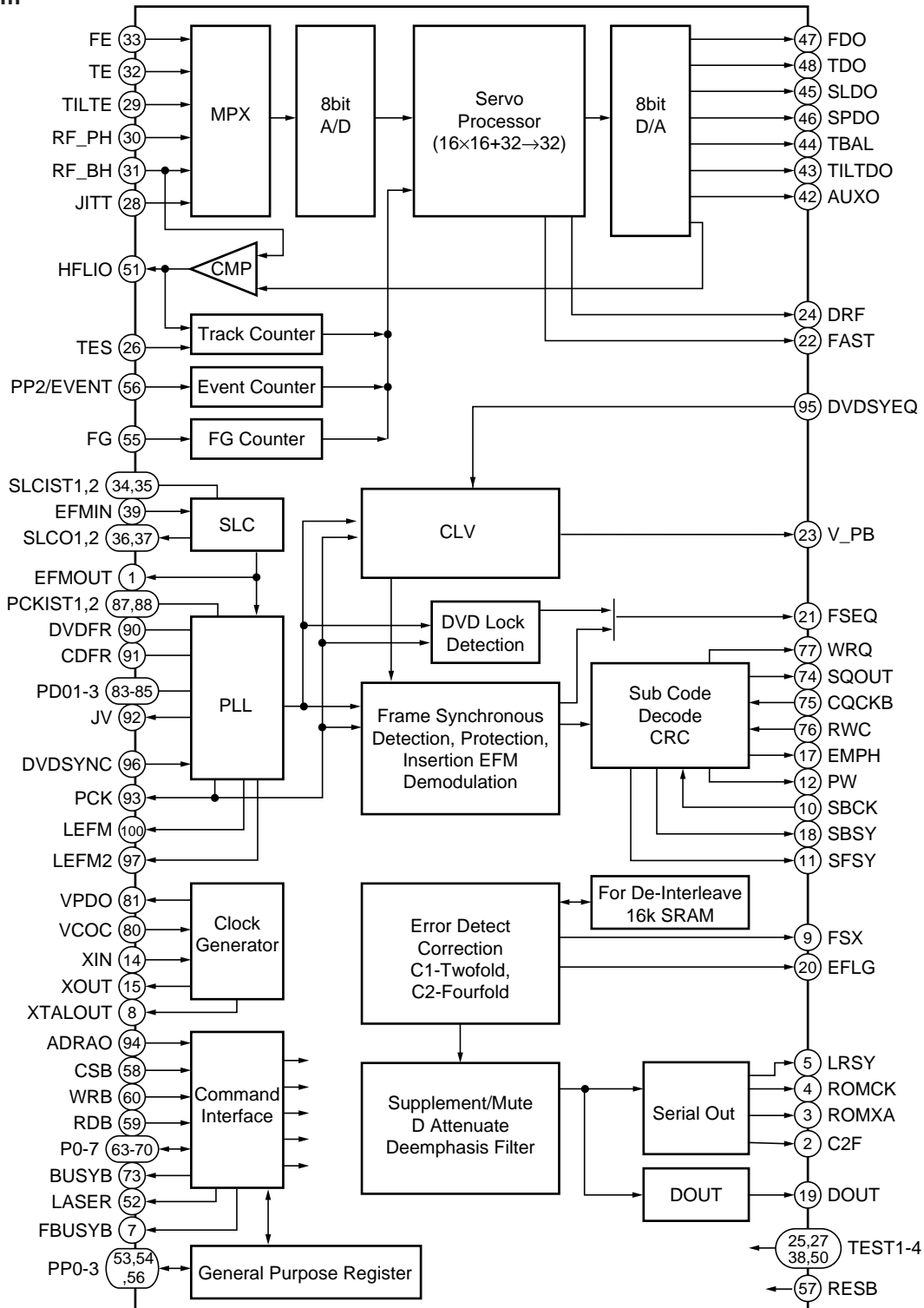
• **List of IC**

LC78652W, PD3410A, MB86373

■ **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 | |
| 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 | – | O | N.C. |
| 11 | PORTH3 | V_SEL2 | O | Composite/S switching signal output of the skirt terminal |
| 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 |
| 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 | – | O | N.C. |
| 36 | PORTF5 | – | O | N.C. |

| No. | Mark | Pin Name | I/O | Function |
|-----|------------|----------|-----|--|
| 37 | PORTF6 | XANR | O | Analog NR ON/OFF switching signal output |
| 38 | PORTF7 | XCSVE | O | Serial communication enable signal output of the video encoder |
| 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 | PDC016A (Graphic IC) |
| 49 | PORTE2 | - | I | |
| 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 |
| 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 | |
| 64 | PORTD7 | - | I | N.C. |
| 65 | PORTJ0 | XDRVMUT | O | Driver mute output |
| 66 | PORTJ1 | - | O | N.C. |
| 67 | PORTJ2 | - | O | N.C. |
| 68 | PORTJ3 | - | I | N.C. |
| 69 | VCC | V+3D | - | V+3D |
| 70 | PORTJ4 | TM_ENT | I | Test mode input |
| 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 | V+3D |
| 81 | XCPUMD | - | I | V+3D |
| 82 | XRES | XRESET | I | Reset input |

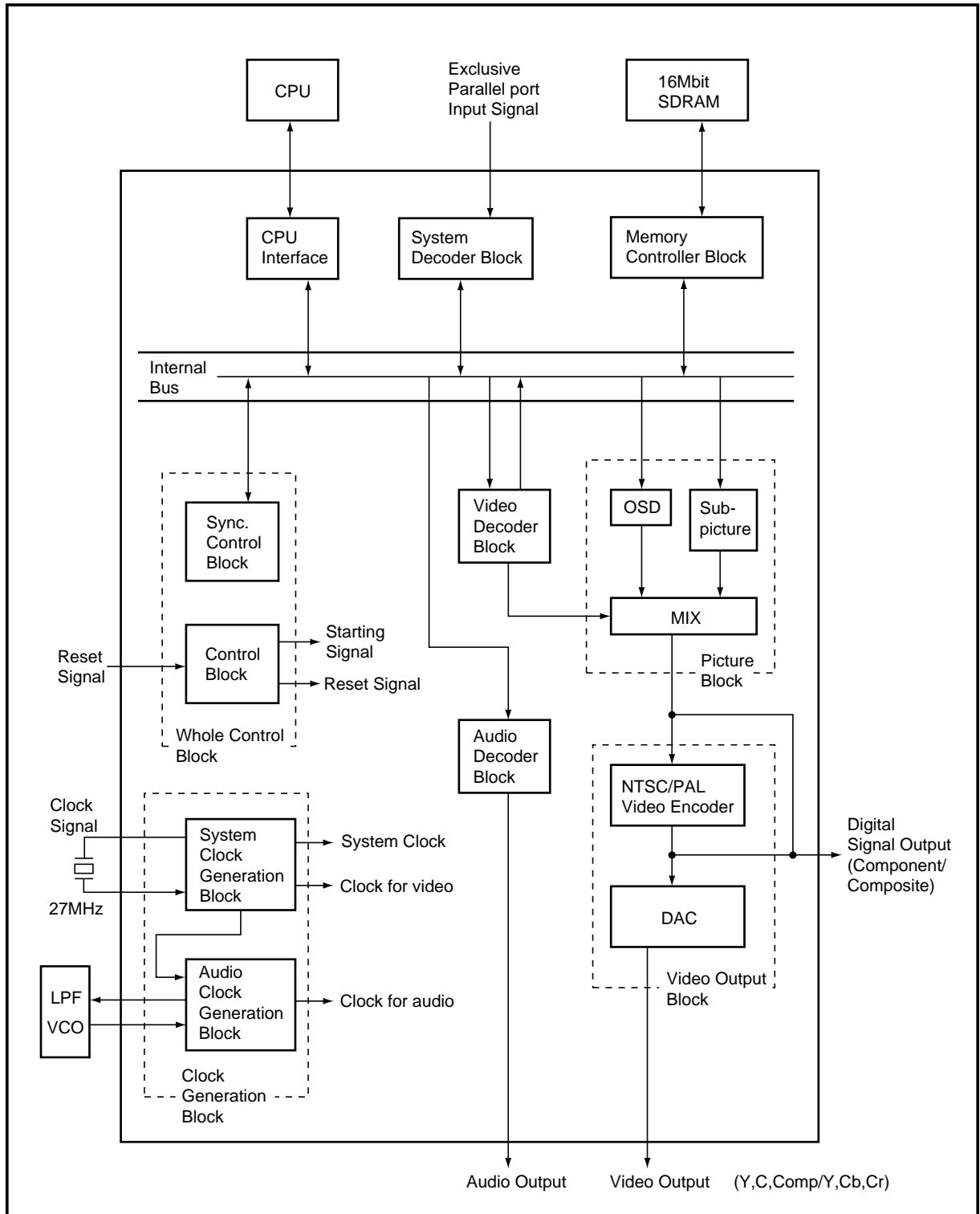
| No. | Mark | Pin Name | I/O | Function |
|-----|-----------------------------|----------|-----|--|
| 83 | GND | GND | – | GND |
| 84 | AN0 | LODPOS | I | Loading position input |
| 85 | AN1 | SLDPOS | I | Slider position input |
| 86 | AN2 | – | I | N.C. |
| 87 | AN3 | NAP_SW | I | NTSC/AUTO/PAL SW input |
| 88 | AN4 | | I | |
| 89 | AN5 | | I | |
| 90 | AN6 | | I | |
| 91 | AN7 | – | I | |
| 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, DAC) |
| 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, DAC) |
| 104 | PB13/XIRQ5/SCK1 | XIRQL10 | I | Interrupt input 1 (MY CHIP) |
| 105 | GND | GND | – | GND |
| 106 | PB14/XIRQ6 | XIRQL11 | I | Interrupt input 2 (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 | N.C. | O | Non connection |
| 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 |
| 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 | N.C. |
| 175 | XCS23 | XCS23 | O | Chip select signal output of the SRAM |
| 176 | XCS2 | – | O | N.C. |

■ MB86373 (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 | | Digital composite signal output (LSB) Digital C signal output (LSB) |
| 7 | DIGCPN3 | | | 33 | DACK | | O |
| 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 |

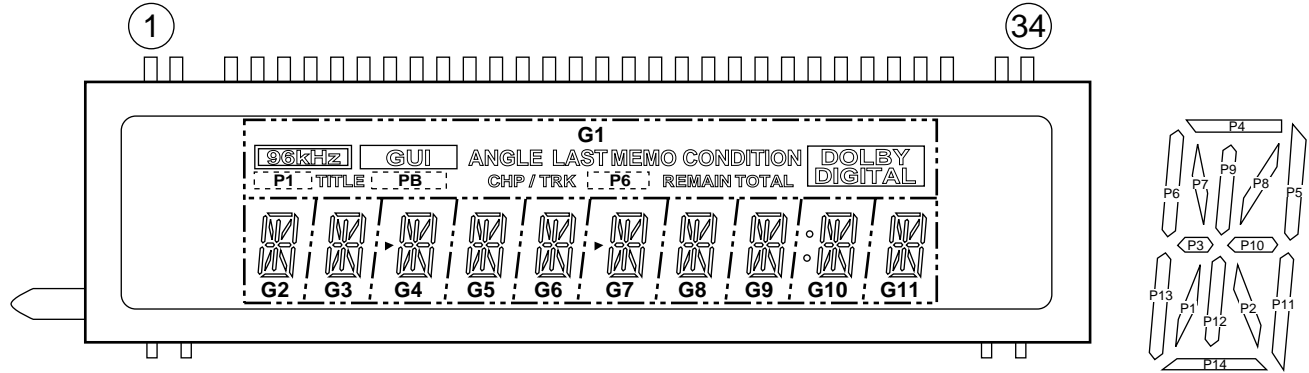
| No. | Pin Name | I/O | Function | No. | Pin Name | I/O | Function | |
|-----|----------|-----|---|-----|----------|-----|---|------------------------------|
| 53 | DAIIN | I | Digital data input of external input (SPDIF) | 92 | HADRS10 | I | CPU address bus signal (MSB) | |
| 54 | CDDATA | I | Audio 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 | 99 | HADRS5 | | | |
| 61 | VDD | - | 2.5V power supply | 100 | HADRS4 | | | |
| 62 | AODATA0 | O | Audio decode data | 101 | HADRS3 | I/O | CPU data bus signal | |
| 63 | AOPCM | O | Digital audio interface output (compression data) | 102 | HADRS2 | | | CPU address bus signal (LSB) |
| 64 | AODAI | O | Digital audio interface output (decode data) | 103 | HDATA15 | | | CPU data bus signal (MSB) |
| 65 | LRCK | O | Data channel clock for D/A and digital filter | 104 | HDATA14 | I/O | CPU data bus signal | |
| 66 | AOMCK | O | Master clock for D/A and digital filter | 105 | HDATA13 | | | |
| 67 | BCK | O | Bit clock for D/A and digital filter | 106 | HDATA12 | | | |
| 68 | TEST2 | I | Normally, set to "open". | 107 | VSS | - | GND | |
| 69 | TEST3 | | | 108 | HDATA11 | I/O | CPU data bus signal | |
| 70 | NC | - | Non connection | 109 | HDATA10 | | | |
| 71 | XDSPRST | I | Normally, set to "open". | 110 | HDATA9 | | | |
| 72 | VSS | - | GND | 111 | HDATA8 | I/O | CPU data bus signal | |
| 73 | TEST5 | O | Normally, set to "open". | 112 | HDATA7 | | | |
| 74 | NC | - | Normally, set to "open". | 113 | HDATA6 | | | |
| 75 | NC | | | 114 | VDD | - | 2.5V power supply | |
| 76 | NC | | | 115 | HDATA5 | I/O | CPU data bus signal | |
| 77 | NC | | | 116 | HDATA4 | | | |
| 78 | SD7 | I | Parallel data input | 117 | HDATA3 | I/O | CPU data bus signal | |
| 79 | VDD | - | 2.5V power supply | 118 | HDATA2 | | | |
| 80 | SD6 | I | Parallel data input | 119 | VSS | - | GND | |
| 81 | SD5 | | | 120 | HDATA1 | I/O | CPU data bus signal | |
| 82 | SD4 | | | 121 | HDATA0 | | CPU data bus signal (LSB) | |
| 83 | SD3 | | | 122 | BUSSEL | I | Bus width selection signal (0 : 8-bit bus, 1 : 16-bit bus) | |
| 84 | SD2 | | | 123 | XOSDACK | I | OSD data acknowledge signal | |
| 85 | VSS | - | GND | 124 | XOSDREQ | O | OSD data request signal | |
| 86 | SD1 | I | Parallel data input | 125 | HCPUSEL1 | I | CPU selection signal (00 :SPARC, 01 :86 system, 10 :68 system, 11 :Reserve) | |
| 87 | SD0 | | | 126 | HCPUSEL0 | | | |
| 88 | XERR | I | Error input signal | 127 | XINT3 | O | Interrupt request signal to the CPU | |
| 89 | XSACK | I | Acknowledge signal | 128 | XINT2 | | | |
| 90 | XTEST | I | Set to "H" at normal use | 129 | XINT1 | | | |
| 91 | SREQ | O | Data request signal | 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 | I/O | Data bus signal for SDRAM | | |
| 150 | MDRADR1 | | | 189 | VSS | | | – | GND |
| 151 | MDRADR7 | | | 190 | MDRDAT2 | | | I/O | Data bus signal for SDRAM |
| 152 | MDRADR0 | | | 191 | MDRDAT14 | | | | |
| 153 | MDRADR8 | | Address signal for SDRAM (LSB) | 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 | | | | Address signal for SDRAM (MSB) | 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 | | |

7.2.2 DISPLAY

■ VAW1046 (FLKY ASSY : V101)

• FL DISPLAY



• ANODE AND GRID ASSIGNMENT

| | G1 | G2 | G3 | G4 | G5 | G6 | G7 | G8 | G9 | G10 | G11 |
|-----|---------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| P1 | P1 | P1 | P1 | P1 | P1 | P1 | P1 | P1 | P1 | P1 | P1 |
| P2 | ANGLE | P2 | P2 | P2 | P2 | P2 | P2 | P2 | P2 | P2 | P2 |
| P3 | TITLE | P3 | P3 | P3 | P3 | P3 | P3 | P3 | P3 | P3 | P3 |
| P4 | LAST MEMO | P4 | P4 | P4 | P4 | P4 | P4 | P4 | P4 | P4 | P4 |
| P5 | CONDITION | P5 | P5 | P5 | P5 | P5 | P5 | P5 | P5 | P5 | P5 |
| P6 | P6 | P6 | P6 | P6 | P6 | P6 | P6 | P6 | P6 | P6 | P6 |
| P7 | CHP/TRK | P7 | P7 | P7 | P7 | P7 | P7 | P7 | P7 | P7 | P7 |
| P8 | P8 | P8 | P8 | P8 | P8 | P8 | P8 | P8 | P8 | P8 | P8 |
| P9 | REMAIN | P9 | P9 | P9 | P9 | P9 | P9 | P9 | P9 | P9 | P9 |
| P10 | DOLBY DIGITAL | P10 | P10 | P10 | P10 | P10 | P10 | P10 | P10 | P10 | P10 |
| P11 | GUI | P11 | P11 | P11 | P11 | P11 | P11 | P11 | P11 | P11 | P11 |
| P12 | 96kHz | P12 | P12 | P12 | P12 | P12 | P12 | P12 | P12 | P12 | P12 |
| P13 | | P13 | P13 | P13 | P13 | P13 | P13 | P13 | P13 | P13 | P13 |
| P14 | | P14 | P14 | P14 | P14 | P14 | P14 | P14 | P14 | P14 | P14 |
| P15 | TOTAL | | | ▷ | | | ▷ | | | ◦ | |

• PIN ASSIGNMENT

| Pin No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|------------|----|----|----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|
| Assignment | F1 | F1 | NP | P15 | P14 | P13 | P12 | P11 | P10 | P9 | P8 | P7 | P6 | P5 | P4 | P3 | P2 |

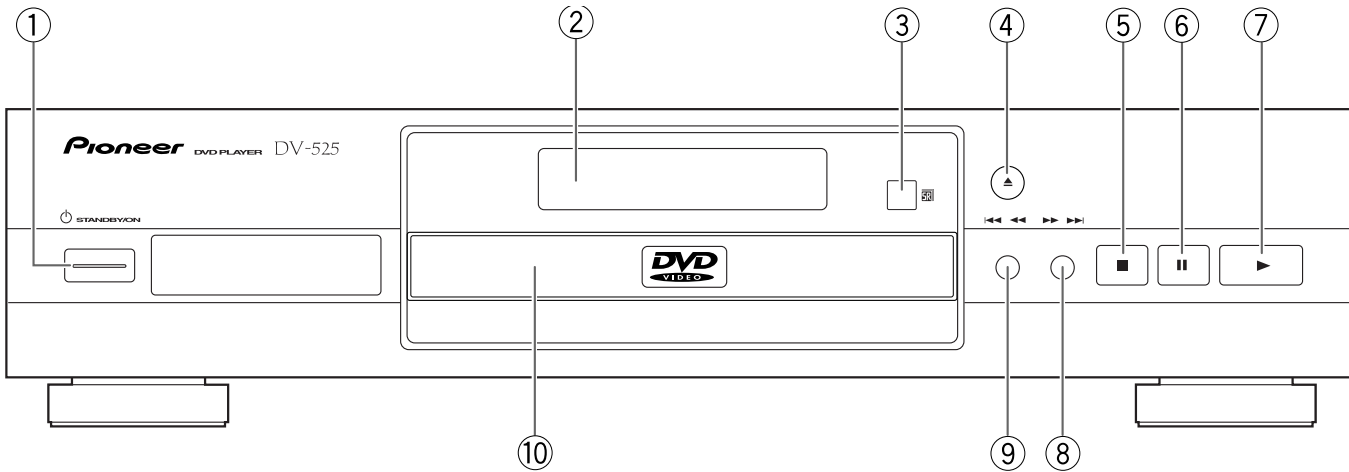
| Pin No. | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 |
|------------|----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Assignment | P1 | G11 | G10 | G9 | G8 | NL | NL | G7 | G6 | G5 | G4 | G3 | G2 | G1 | NP | F2 | F2 |

F1, F2 : Filament G1~G11 : Grid P1~P15 : Anode NP : No Pin NL : No Lead

8. PANEL FACILITIES AND SPECIFICATIONS

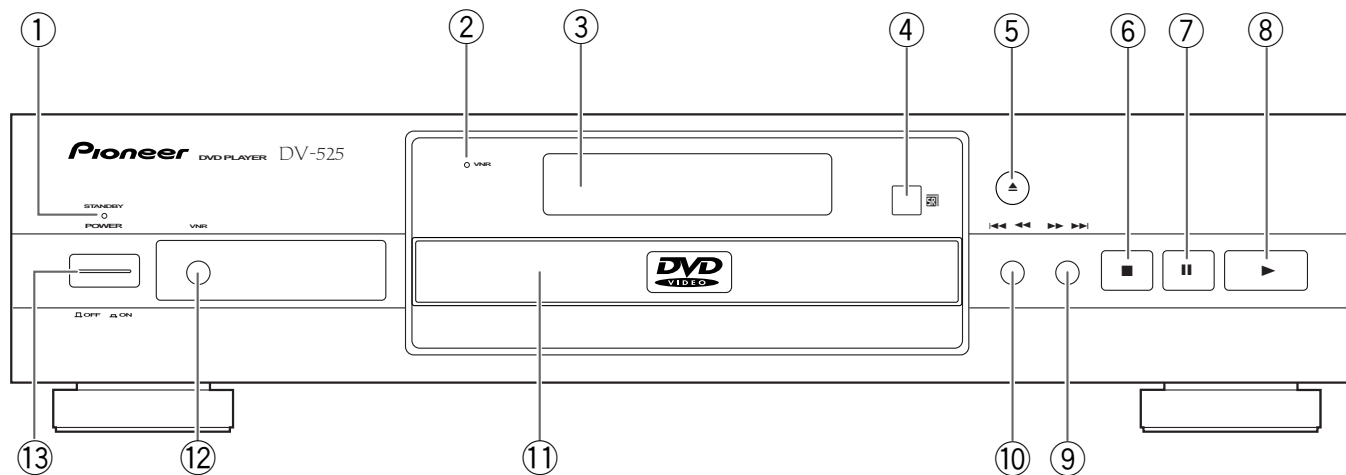
8.1 PANEL FACILITIES

■ Front Panel (KU and KC types)



- ① **⏻ (STANDBY/ON) switch**
Press to switch the player on or to put in standby.
- ② **Display window**
Displays system information.
- ③ **Remote sensor**
Point the remote control toward the remote sensor to operate the player.
- ④ **▲ (open/close) button**
Press to open and close the disc tray.
- ⑤ **■ (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.
- ⑥ **⏸ (pause) button**
Press during playback to pause. Press again to resume playback.
- ⑦ **▶ (play) button**
Press to start or resume playback.
- ⑧ **⏩ (forward) button**
Press to advance to chapters/tracks. Press and hold to perform fast-forward scanning.
- ⑨ **⏪ (reverse) button**
Press to go back to previous chapters/tracks. Press and hold to perform reverse playback scanning.
- ⑩ **Disc tray**
When loading a disc, place discs in the disc tray with the label side facing up.

■ Front Panel (WV, WY and WY/SP types)



① **STANDBY indicator**

Indicates that the player is in standby, using a minimum amount of power to maintain system settings.

② **VNR indicator**

Indicates that the VNR (Video Noise Reduction) function is on.

③ **Display window**

Displays system information.

④ **Remote sensor**

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

⑤ **▲ (open/close) button**

Press to open and close the disc tray.

⑥ **■ (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.

⑦ **|| (pause) button**

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

⑧ **▶ (play) button**

Press to start or resume playback.

⑨ **▶▶▶▶ (forward) button**

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

⑩ **◀◀◀◀ (reverse) button**

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

⑪ **Disc tray**

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

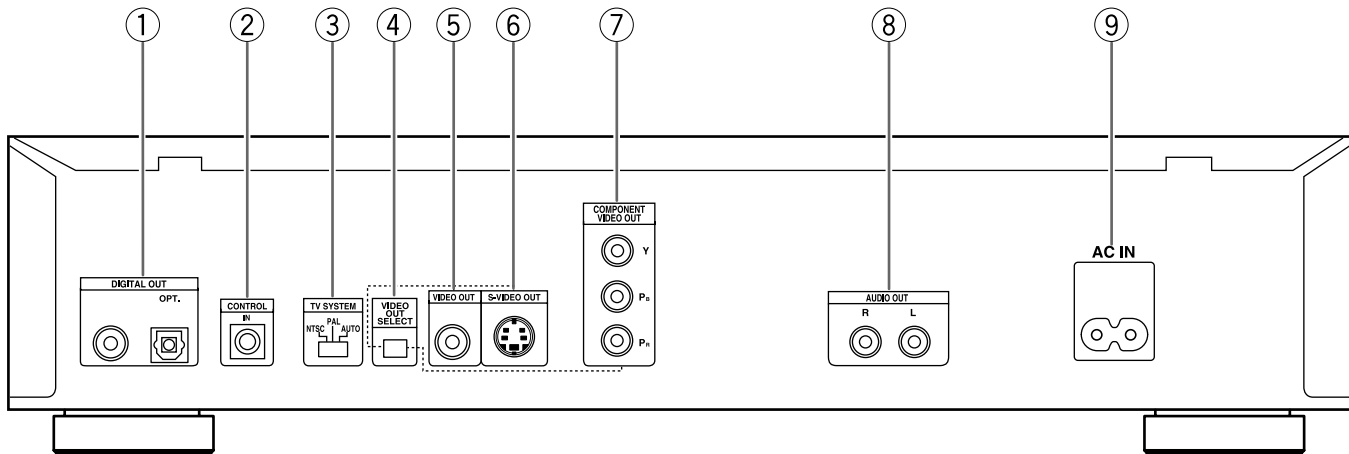
⑫ **VNR button**

Press to turn on the video noise reduction function.


⑬ **POWER switch**

Press to switch the player on or off.

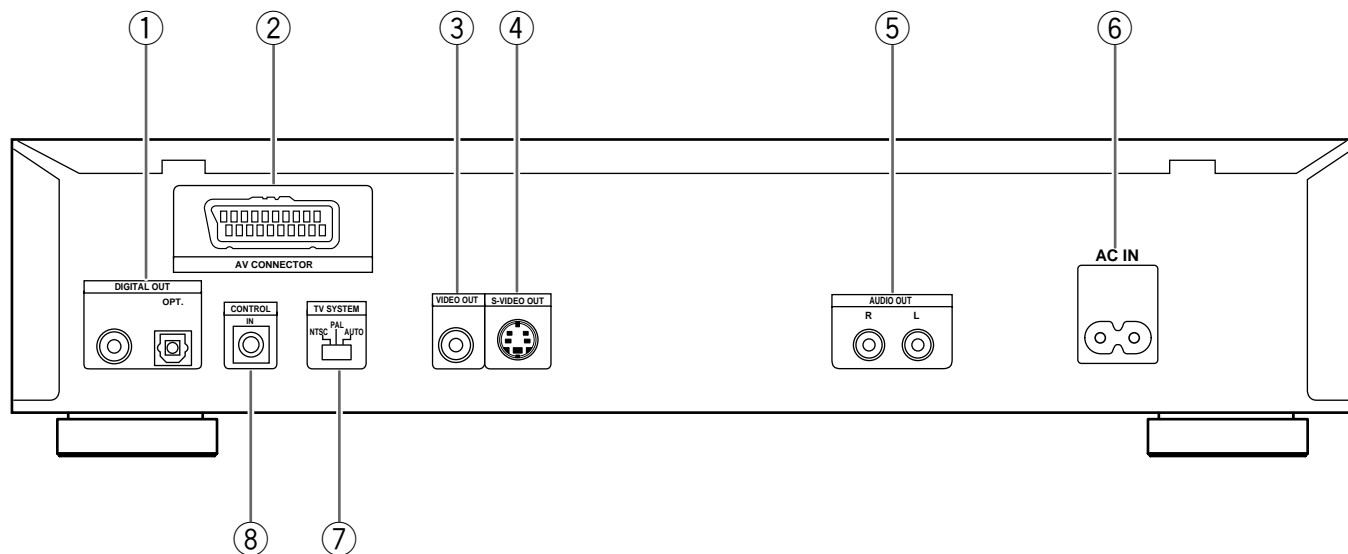
■ Rear Panel (KU and KC types)



(The TV SYSTEM switch and AC IN power cord connection terminal are not present on U.S. and Canadian models)

- ① **DIGITAL OUT jacks (coaxial, optical (OPT.))**
Use to output the digital audio signal recorded on discs. You can output the digital signal via either coaxial or optical output jack to an AV amplifier or receiver.
- ② **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.
- ③ **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.
(The TV SYSTEM switch is not present on U.S. and Canadian models.)
- ④ **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.
- ⑤ **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.
- ⑥ **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.
- ⑦ **COMPONENT VIDEO OUT jacks**
If your projection monitor, projector or similar component has component video inputs, you can produce a higher quality picture on your projection monitor or projector 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.
- ⑧ **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.
- ⑨ **AC IN power cord connection terminal**
Use to connect the power cord to the wall outlet.
(The AC power cord of the U.S. and Canadian models is built into the player.)

■ Rear Panel (WV, WY and WY/SP types)



① DIGITAL OUT jacks (coaxial, optical (OPT.))

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

② 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.

③ VIDEO OUT jack

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

④ 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.

⑤ 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.


⑥ AC IN power cord connection terminal

Use to connect the power cord to the wall outlet.

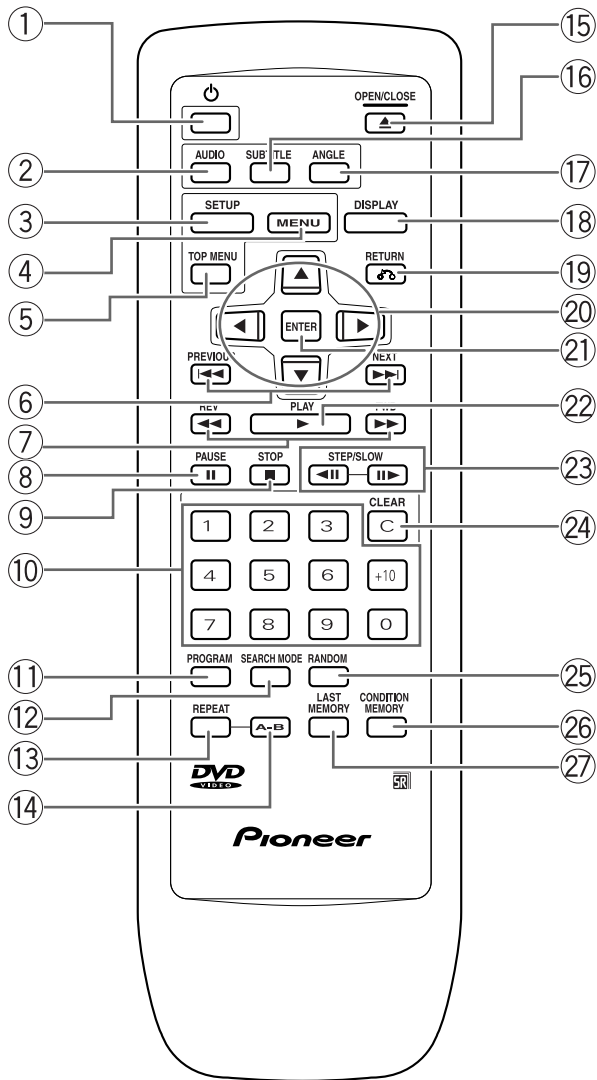
⑦ TV SYSTEM switch

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.

⑧ 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.

Remote Control Unit (VXX2643 (CU-DV049) : KU and KC types)



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

- ① **⏻ (standby/on) button**
Press to switch the player on or to put in standby.
- ② **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) →
- ③ **SETUP button***
Press when the player is in either play or stop mode to open and close the Setup screen.
- ④ **MENU button***
Use to display or close the DVD menu screen.
- ⑤ **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.
- ⑥ **PREVIOUS ◀◀/NEXT ▶▶**
During playback, press **PREVIOUS** ◀◀ to go back to a previous chapter/track and **NEXT** ▶▶ to advance to the next chapter/track.
- ⑦ **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.
- ⑧ **PAUSE || button**
Press to pause playback of a disc. Press again to resume playback.
- ⑨ **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.
- ⑩ **Number buttons (1-9, 0, +10)***
Use to perform direct title and chapter/track searches, and to input numerical values.

⑪ 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.

⑫ SEARCH MODE button

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

⑬ REPEAT button

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

⑭ 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.

⑮ OPEN/CLOSE  button

Press to open or close the disc tray.

⑯ SUBTITLE button

Press repeatedly to select one of the subtitle languages programmed on a DVD or to turn the subtitles off.


⑰ ANGLE button

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

⑱ DISPLAY button

Press during playback to display statistical disc information. Press repeatedly to display different information.

⑲ 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.

⑳ Cursor buttons (, , , )*

Use to move through the options on menu screens and to change settings.




㉑ ENTER button*

Use to implement settings selected with the cursor buttons or to set items highlighted in a menu.

㉒ PLAY  button

Press to start disc playback.

㉓ STEP ,  buttons

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

㉔ CLEAR button

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

㉕ RANDOM button

Press to play chapters/tracks in random order.

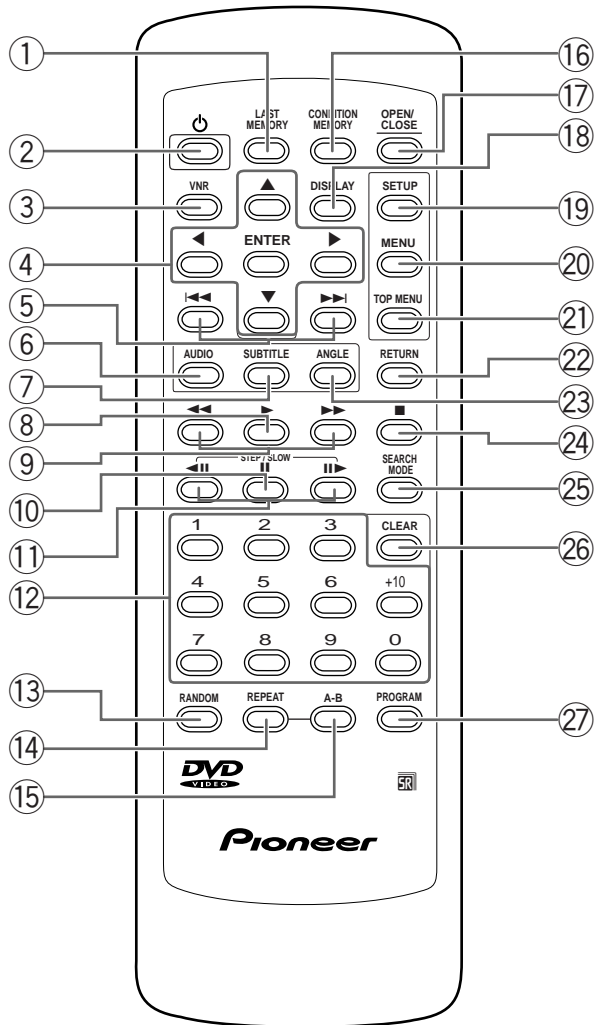
㉖ CONDITION MEMORY button

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

㉗ 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 (or 4 DVDs and 1 Video CD).

■ Remote Control Unit (VXX2636 (CU-DV042) : WV,WY and WY/SP types)



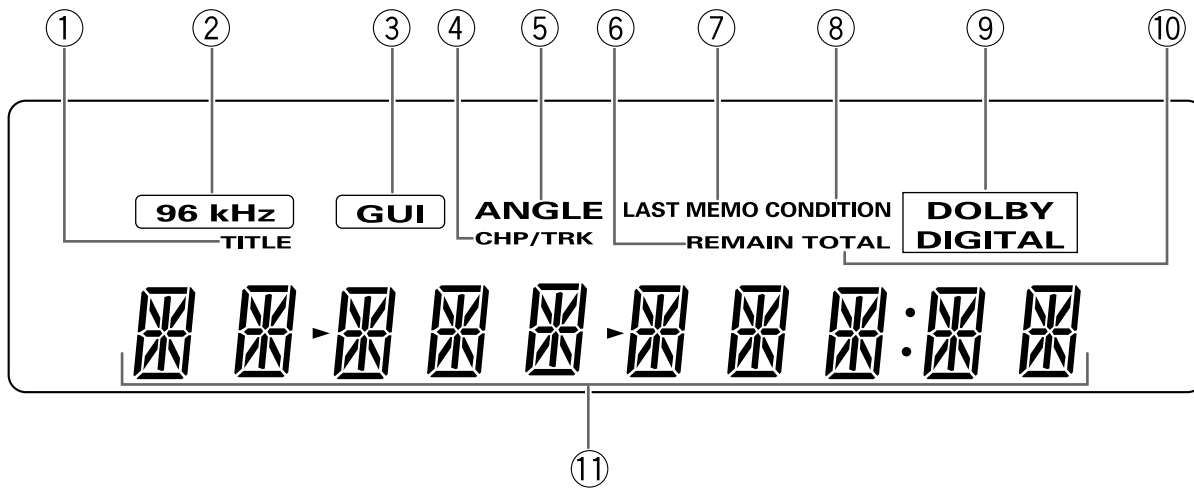
(Buttons indicated with * are used for menu operation.)

- 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 (or 4 DVDs and 1 Video CD).
- ② **⏻ (standby/on) button**
Press to switch the player on or to put in standby.
- ③ **VNR button**
Press to turn on the video noise reduction function.
- ④ **Cursor buttons (◀/▶/▲/▼)***
Use to move through the options on menu screens and to change settings.
ENTER button*
Use to implement settings selected with the cursor buttons or to set items highlighted in a menu.
- ⑤ **◀◀ (previous) / ▶▶ (next) buttons**
During playback, press ◀◀ to go back to a previous chapter/track and ▶▶ to advance to the next chapter/track.
- ⑥ **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) ←
- ⑦ **SUBTITLE button**
Press repeatedly to select one of the subtitle languages programmed on a DVD or to turn the subtitles off.
- ⑧ **▶ (play) button**
Press to start disc playback.
- ⑨ **◀◀ (reverse)/▶▶ (forward) buttons**
During playback of DVD and Video CD, press ▶▶ to perform fast forward scanning. Press ◀◀ to perform fast reverse scanning of DVD and Video CD. When a CD is loaded, audio scanning is performed.

- ⑩ **II (pause) button**
Press to pause playback of a disc. Press again to resume playback.
- ⑪ **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.
- ⑫ **Number buttons (1-9, 0, +10)***
Use to perform direct title and chapter/track searches, and to input numerical values.
- ⑬ **RANDOM button**
Press to play chapters/tracks in random order.
- ⑭ **REPEAT button**
Press once to repeat playback of current chapter/track. Press twice to repeat playback of current title.
- ⑮ **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.
- 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 **DISPLAY button**
Press during playback to display statistical disc information. Press repeatedly to display different information.
- ⑲ **SETUP button***
Press when the player is in either play or stop mode to open and close the Setup screen.
- ⑳ **MENU button***
Use to display or close the DVD menu screen.
- ㉑ **TOP MENU button***
Press to call up the 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 **ANGLE button**
Some DVDs are recorded with various camera angle playback options. Press **ANGLE** repeatedly to display different camera angles.
- ㉔ **■ (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.
- ㉕ **SEARCH MODE button**
Press to perform a title, chapter/track or elapsed time search.
- ㉖ **CLEAR button**
Works in conjunction with a number of player functions. Use to cancel repeat and random playback, and to edit programs.
- ㉗ **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.

■ Display Window



- ① **TITLE indicator**
Indicates a title number is being displayed.
- ② **96 kHz indicator**
Indicates play of a disc outputting an audio signal with a sampling frequency of 96 kHz.
- ③ **GUI indicator**
Indicates an on-screen menu operation is being performed.
- ④ **CHP/TRK indicator**
Indicates a chapter or track number is being displayed.
- ⑤ **ANGLE indicator**
Indicates Multi-Angle playback is in progress.
- ⑥ **REMAIN indicator**
Indicates that the remaining playback time of a title or chapter/track is being displayed.
- ⑦ **LAST MEMO indicator**
Indicates the Last Memory location is recorded in memory for the currently loaded DVD or Video CD.
- ⑧ **CONDITION indicator**
Indicates that Condition Memory settings are memorized for the currently loaded DVD.
- ⑨ **DOLBY DIGITAL indicator**
Indicates Dolby Digital audio playback.
- ⑩ **TOTAL indicator**
Indicates that the disc in the player is stopped and **DISPLAY** has been pressed.
- ⑪ **Counter display**
Displays the playback mode, type of disc, title and chapter/track numbers, playback time, etc.

8.2 SPECIFICATIONS

■ SPECIFICATIONS (KU and KC types)

General

System DVD system and Compact Disc digital audio system
 Power requirements
 U.S. and Canadian models AC 120 V, 60 Hz
 Power consumption
 U.S. and Canadian models 13 W
 Power consumption in standby mode
 U.S. and Canadian models 0.7 W
 Weight 2.8 kg (6 lb 3 oz)
 Dimensions 420 (W) x 285 (D) x 104 (H) mm
 (16 ⁹/₁₆ (W) x 11 ¹/₄ (D) x 4 (H) in.)
 (Not including protruding cables, etc.)
 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)

Accessories

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

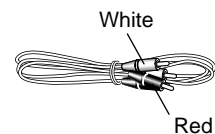
Note

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

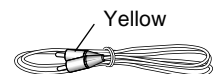
* Manufactured under license from Dolby Laboratories. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories. Confidential Unpublished Works, © 1992-1997 Dolby Laboratories. All rights reserved.
 ** "DTS" and "DTS Digital" are trademarks of Digital Theater System, Inc.

■ Accessories

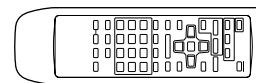
Audio Cord (L=1.5m): VDE1033



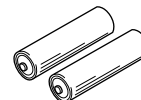
Video Cord (L=1.5m): VDE1034



Remote Control Unit (CU-DV049): VXX2643



Dry Cell Battery (R6P,AA): VEM-013



■ SPECIFICATIONS (WV,WY and WY/SP types)

General

System .. DVD system and Compact Disc digital audio system
 Power requirements AC 220-240 V, 50/60 Hz
 Power consumption 14 W
 Power consumption in standby mode 0.9 W
 Weight 2.8 kg
 Dimensions 420 (W) x 286 (D) x 104 (H) mm
 (Not including protruding cables, etc.)
 Operating temperature +5°C to +35°C
 Operating humidity 5% to 85% (no condensation)

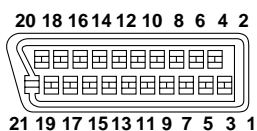
S-Video output

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 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 (WV,WY only) |
| 3 Audio 1/L out | 15 R or C out (WV,WY only) |
| 4 GND | 17 GND |
| 7 B out (WV,WY only) | 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

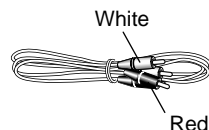
Remote control unit 1
 AA (R6P) dry cell batteries 2
 Audio cord 1
 Video cord 1
 Power cord 1
 Operating Instructions 1

Note

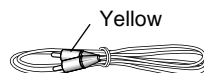
The specifications and design of this product are subject to change without notice, due to improvement.

■ Accessories

Audio Cord (L=1.5m): VDE1033



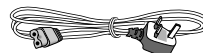
Video Cord (L=1.5m): VDE1034



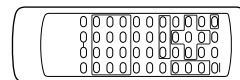
Power Cord : ADG1127 (WY and WY/SP types)



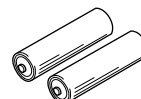
Power Cord : ADG7004 (WV type)



Remote Control Unit (CU-DV042): VXX2636

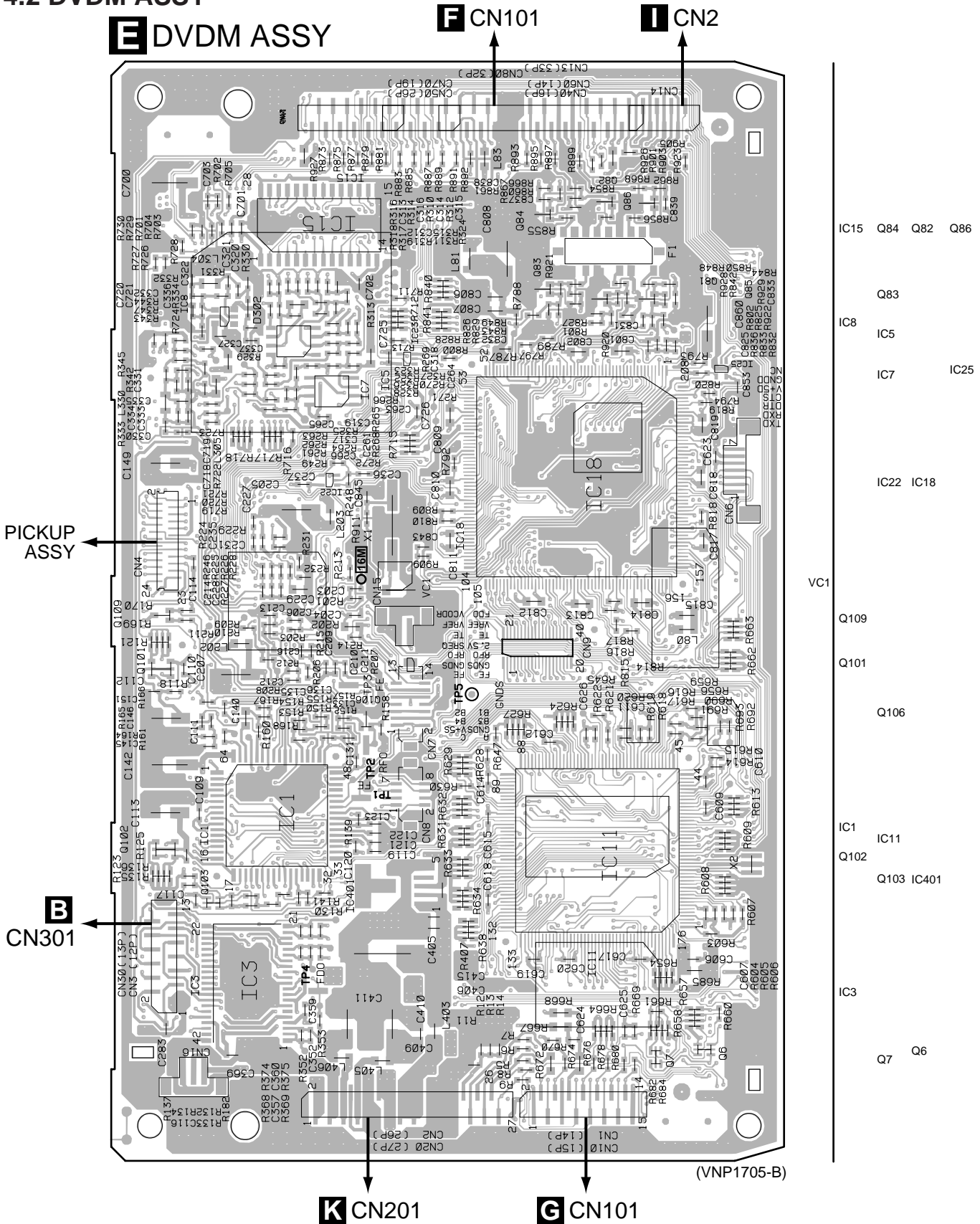


Dry Cell Battery (R6P,AA): VEM-013



4.2 DVDM ASSY

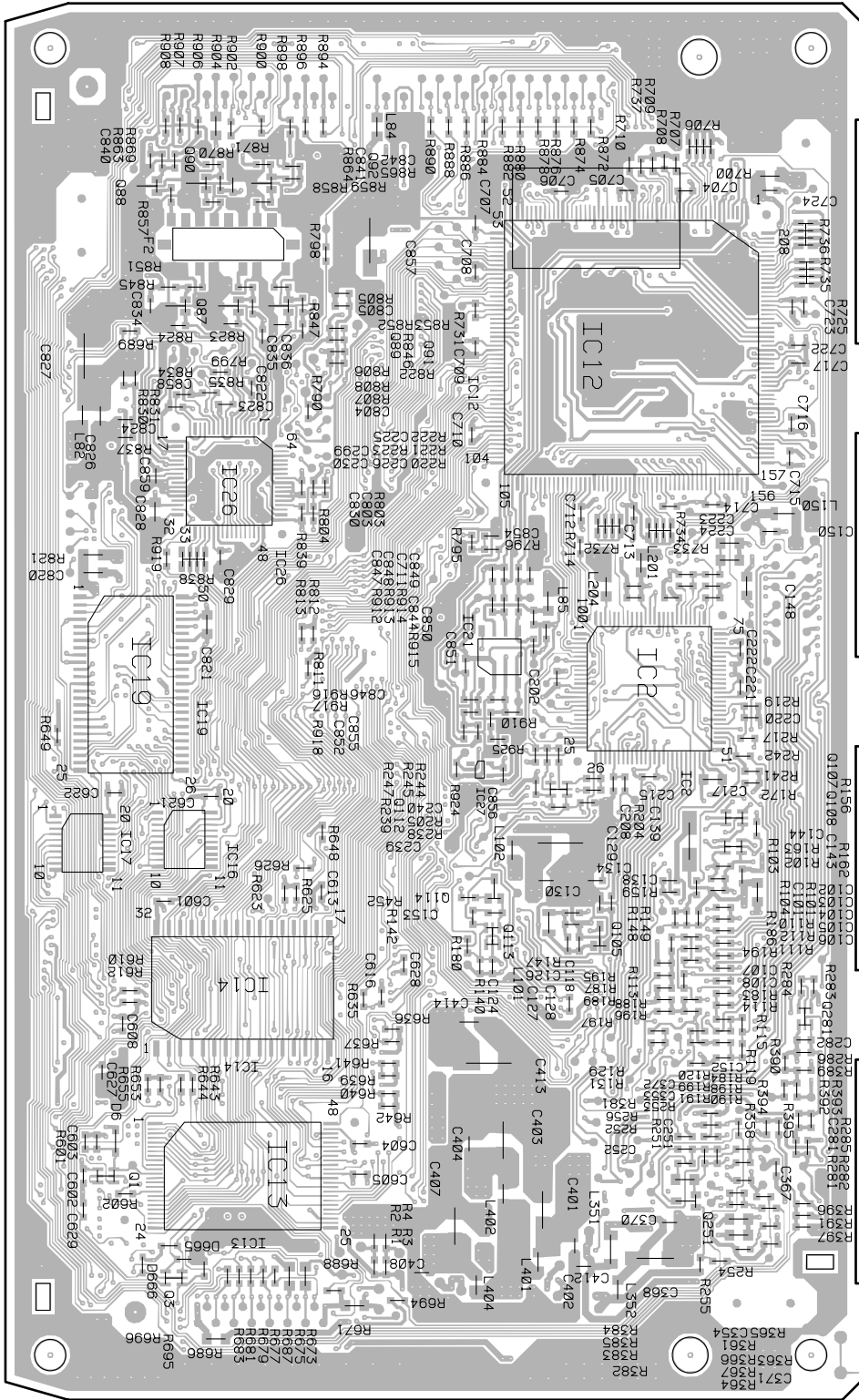
• This PCB is a four-layered board.



SIDE A

• This PCB is a four-layered board.

E DVDM ASSY



(VNP1705-B)

SIDE B

- A
 - B
 - C
 - D
- Q88 Q90 Q92
 - Q87 Q89 Q91
 - IC12
 - IC26
 - IC19 IC21 IC2
 - IC27
 - Q112
 - IC17 IC16 IC108
 - Q114
 - Q113 Q105
 - IC14
 - Q1
 - IC13
 - Q251
 - Q3

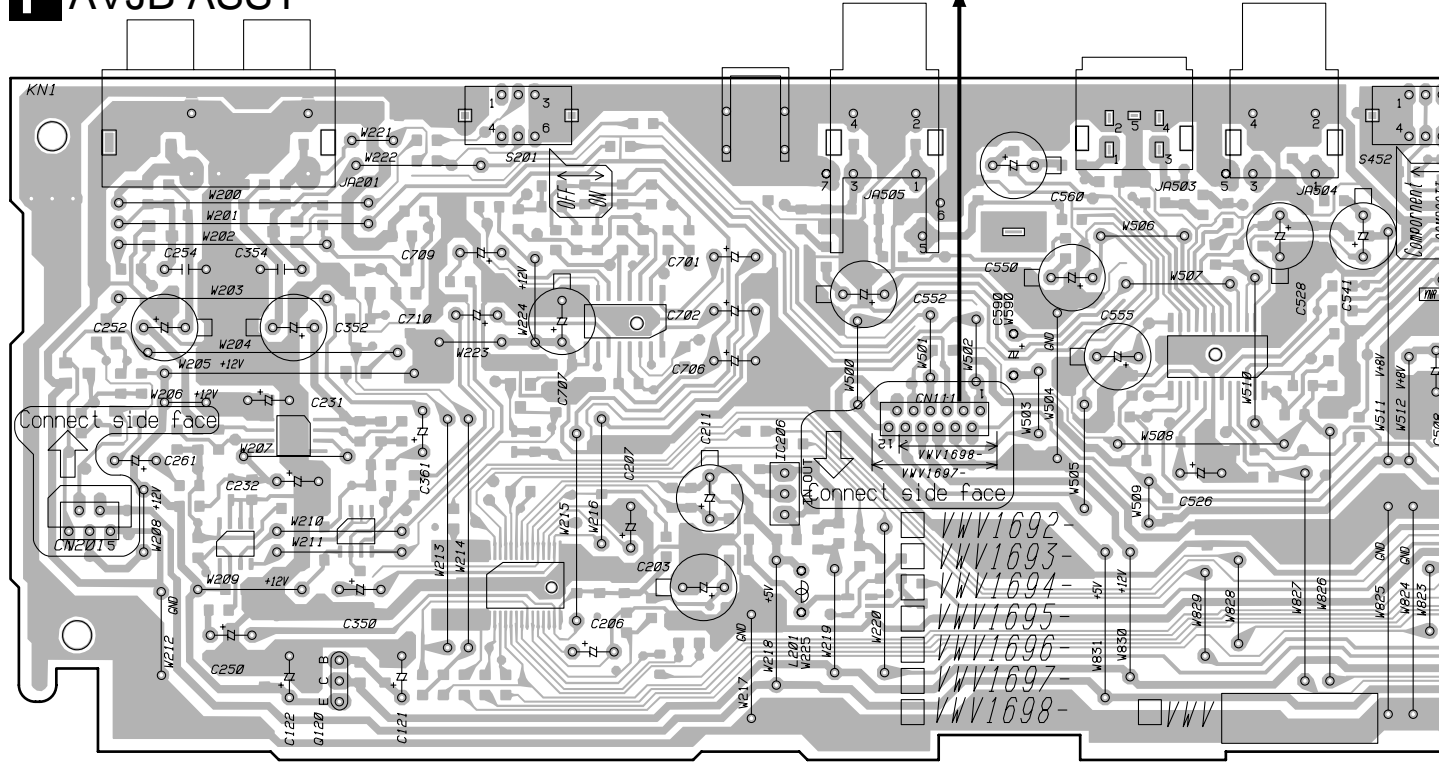


4.3 AVJB ASSY

I CN1 (WV, WY)

J CN100 (WY/SP)

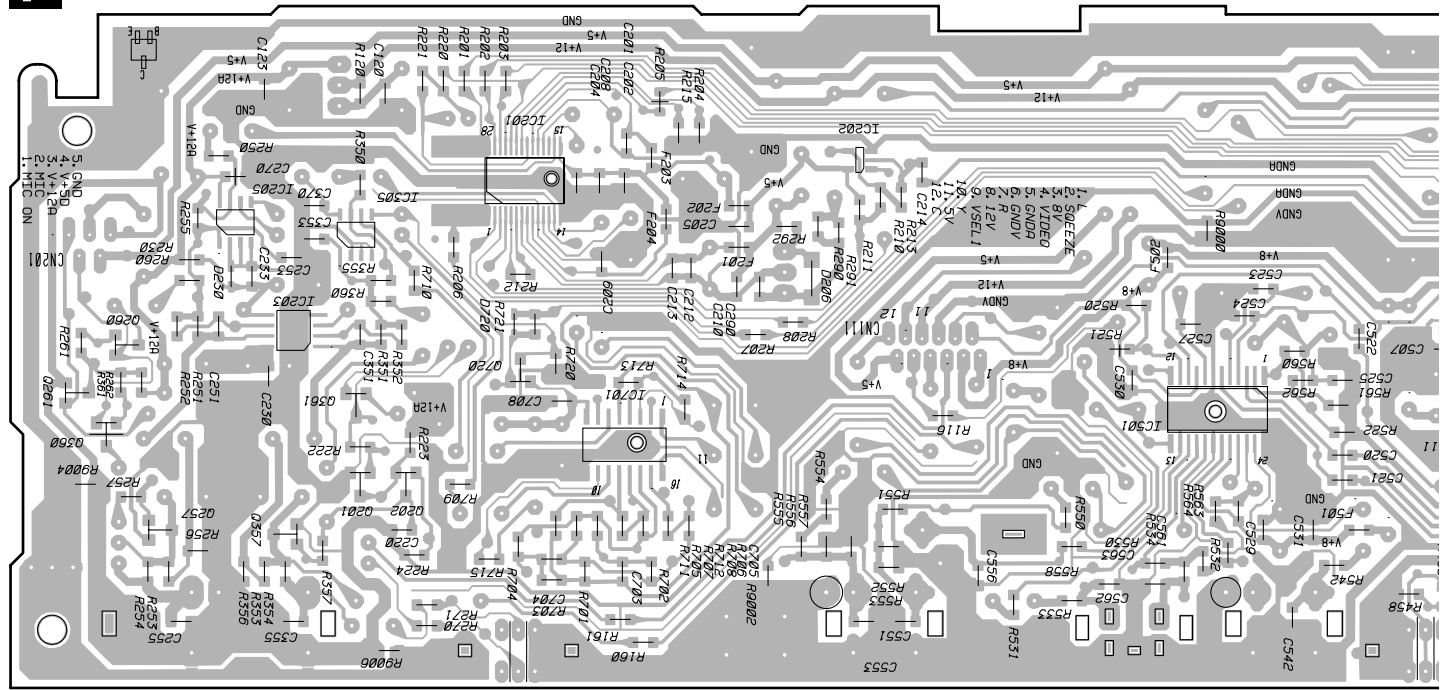
F AVJB ASSY



Q120

IC206

F AVJB ASSY



Q260

IC205

IC305

IC201

IC701

IC202

IC501

Q257

IC203

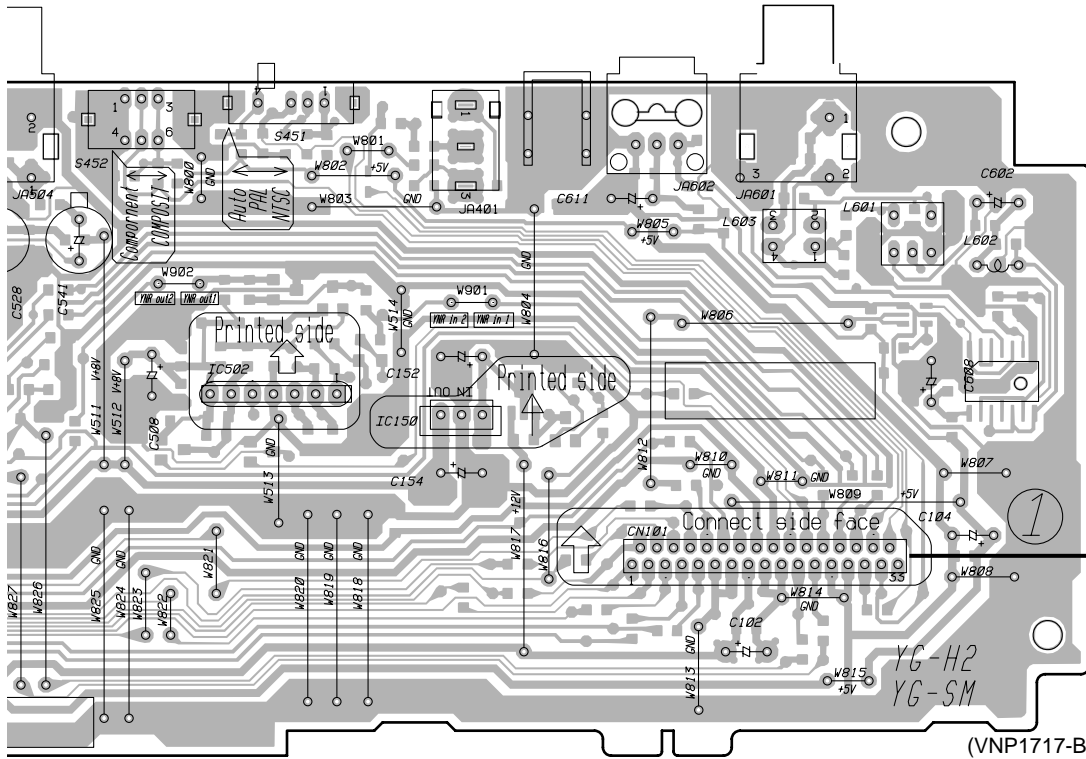
Q361

Q201

Q202

Q720



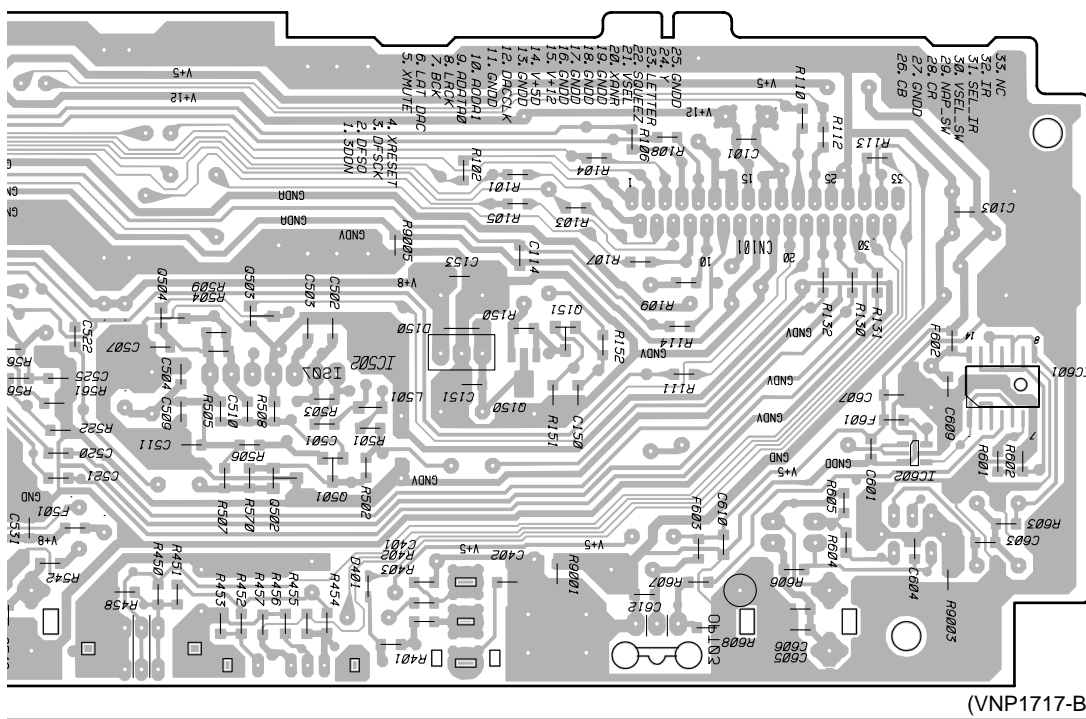


E CN13

SIDE A

IC502

IC150



SIDE B

Q504

Q503

Q502

Q501

Q150

Q151

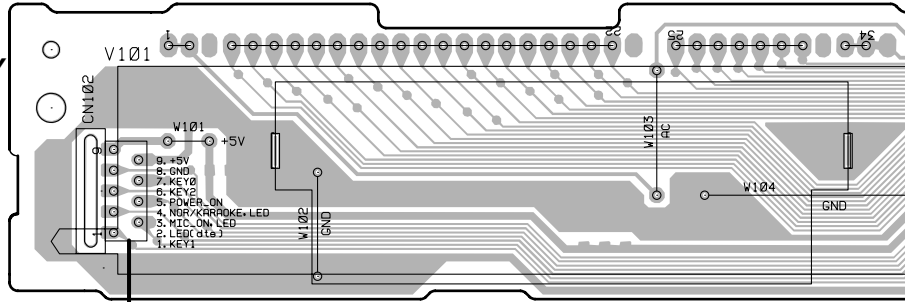
IC602

IC601

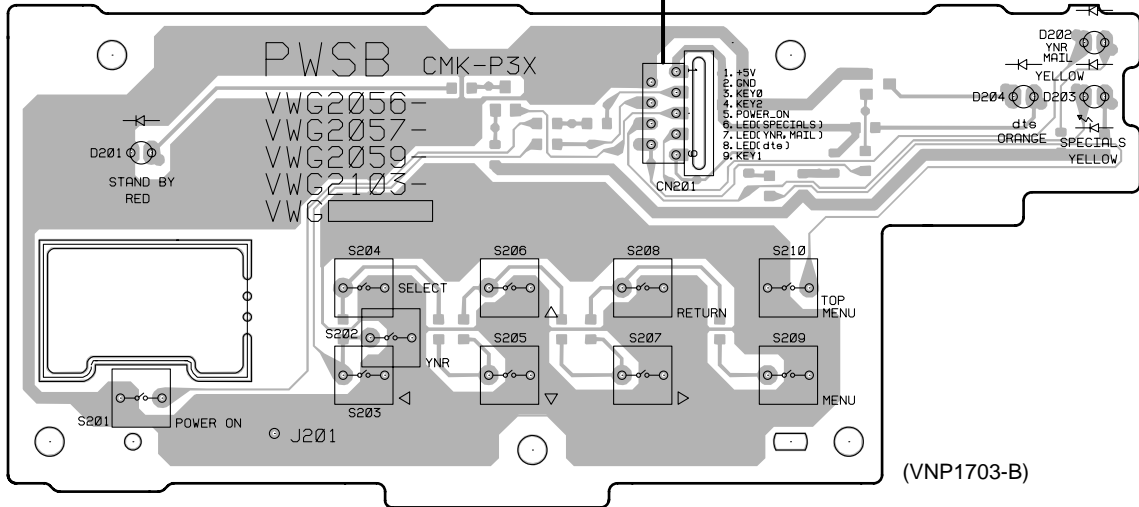


4.4 FLKY and PWSB ASSYS

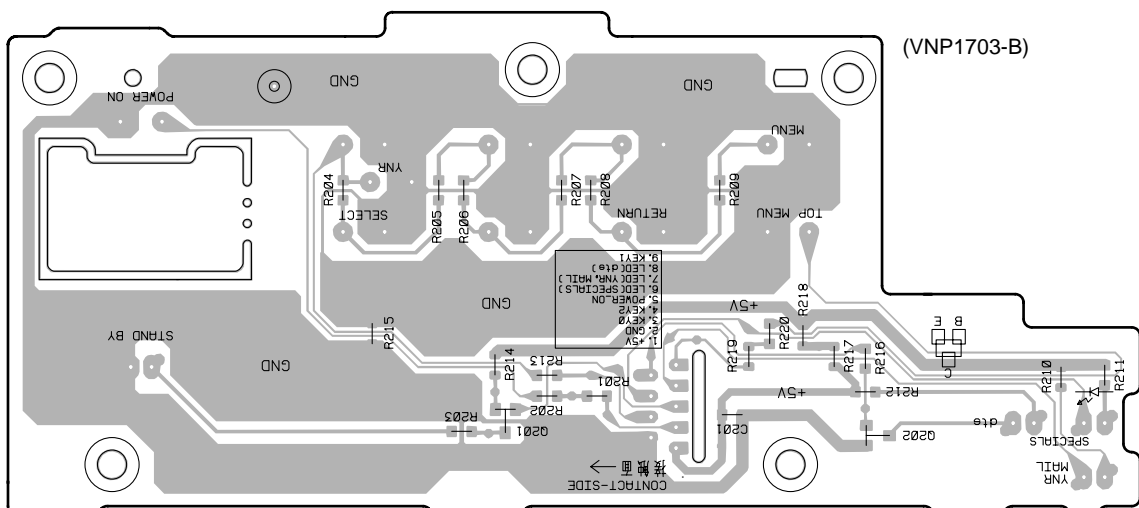
G FLKY ASSY



H PWSB ASSY



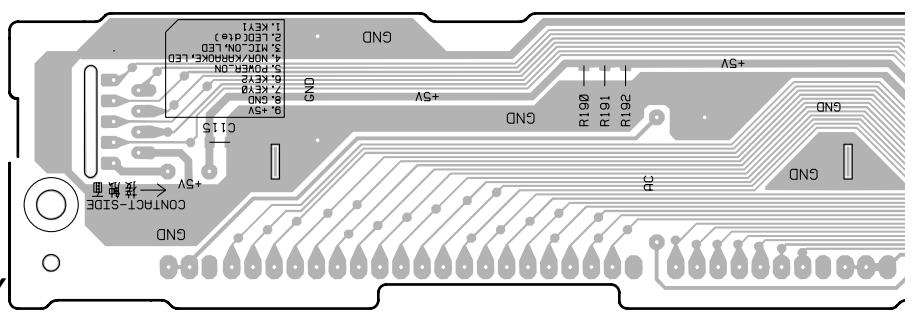
(VNP1703-B)

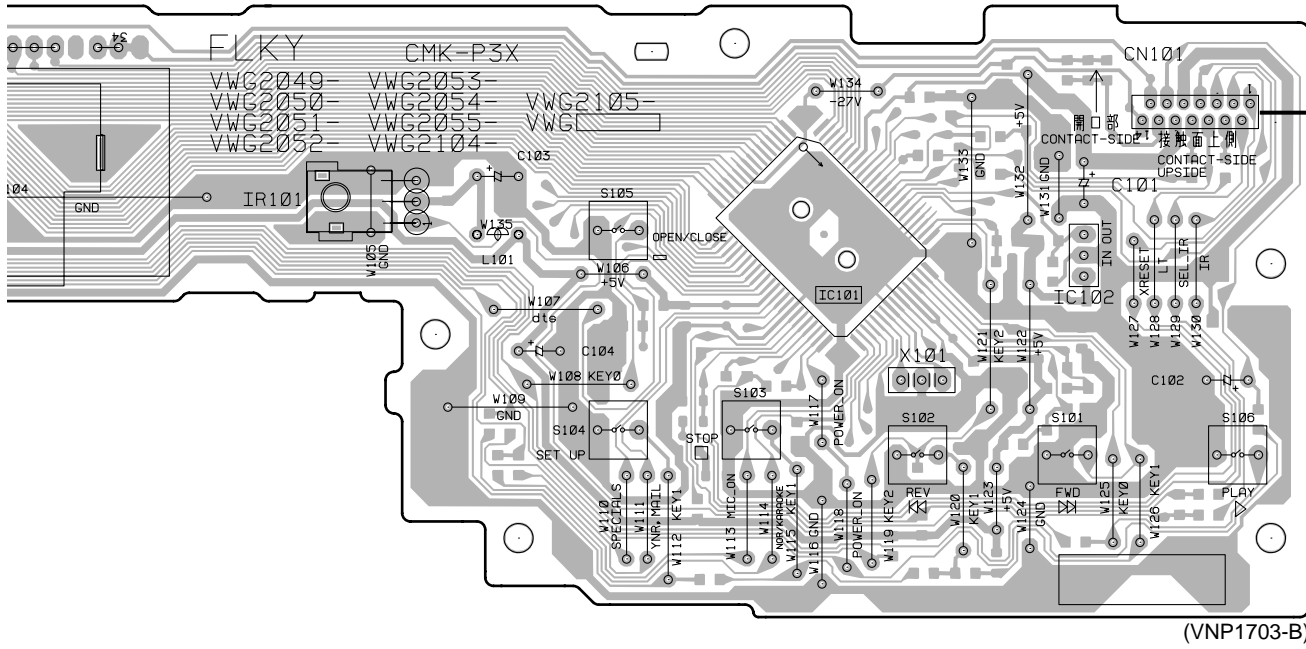


(VNP1703-B)

H PWSB ASSY

G FLKY ASSY





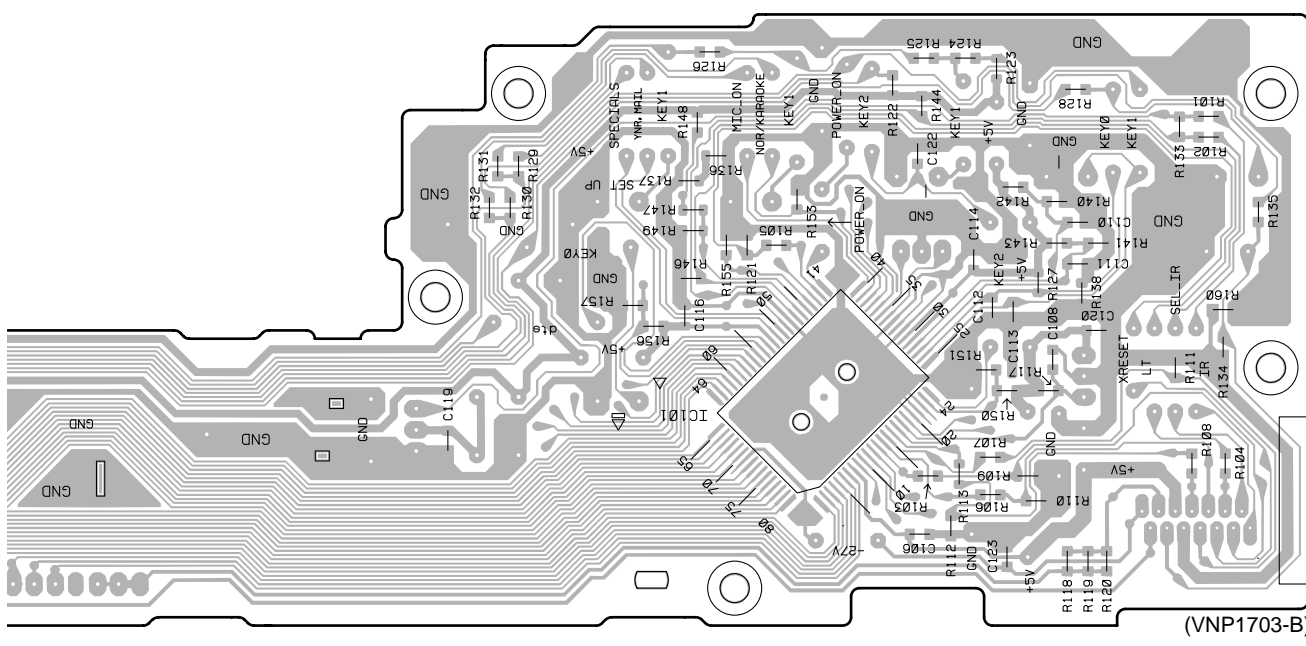
CN1

(VNP1703-B)

IC102

SIDE A

SIDE B



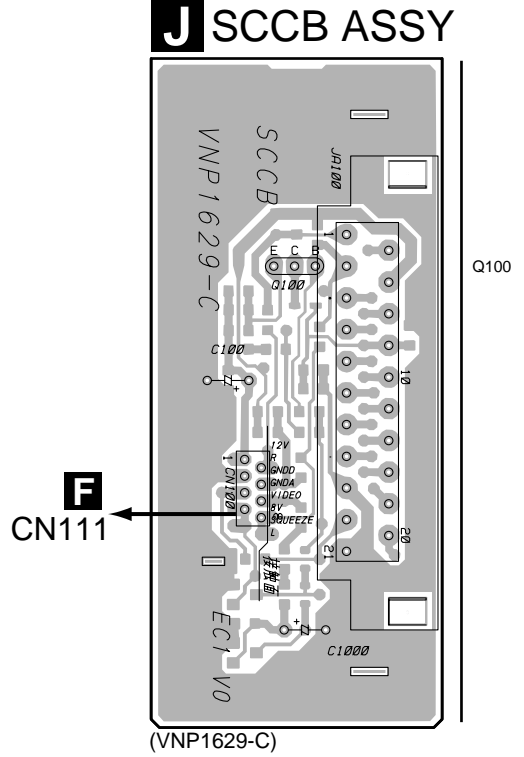
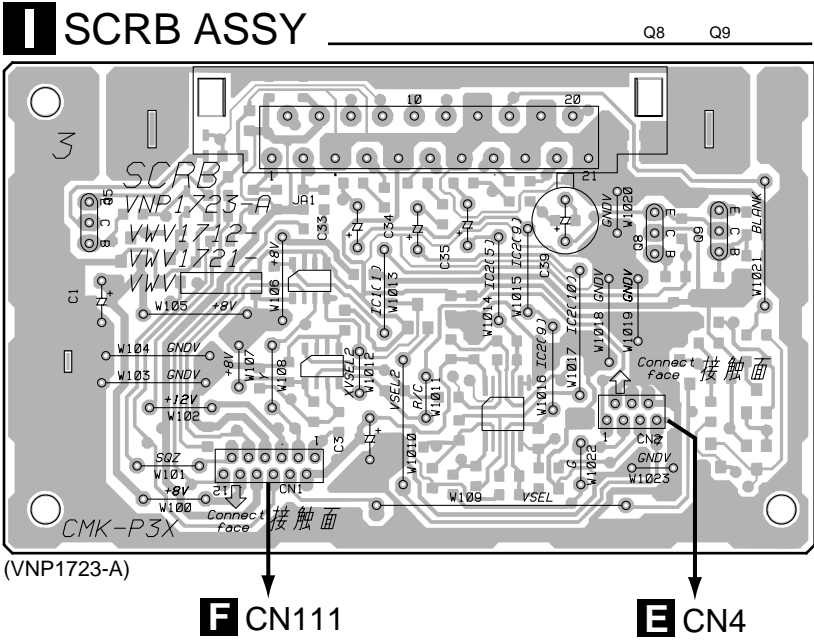
(VNP1703-B)

IC101



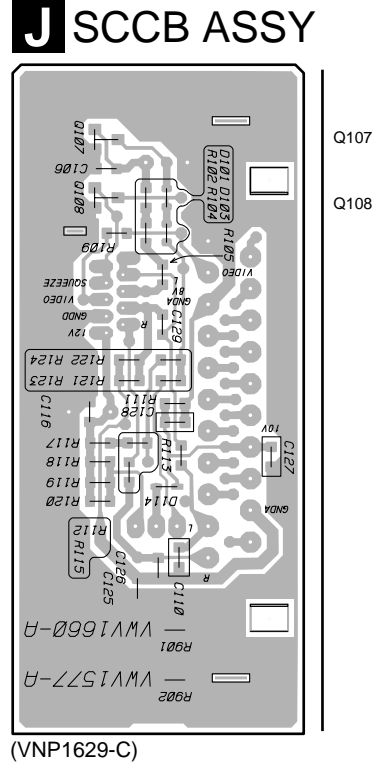
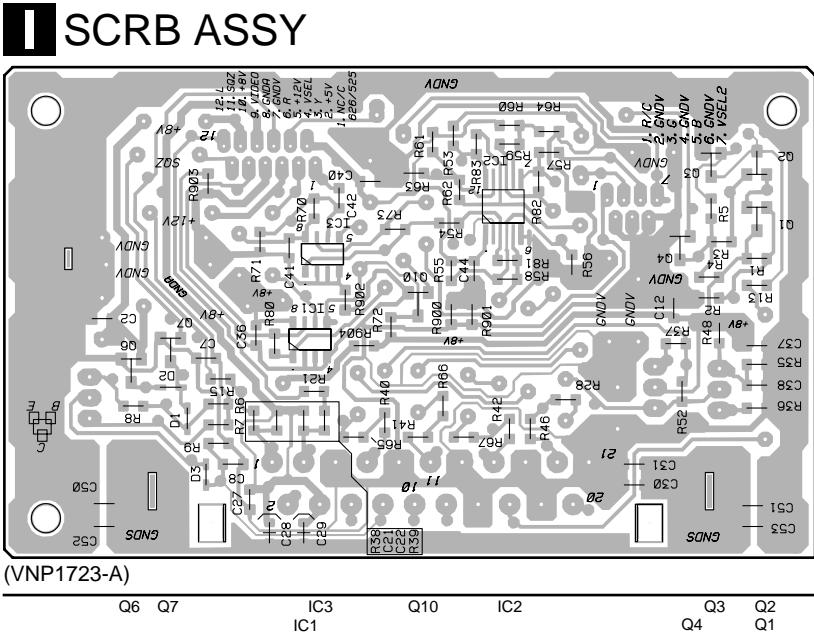
4.5 SCRB and SCCB ASSYS

A



SIDE A

C

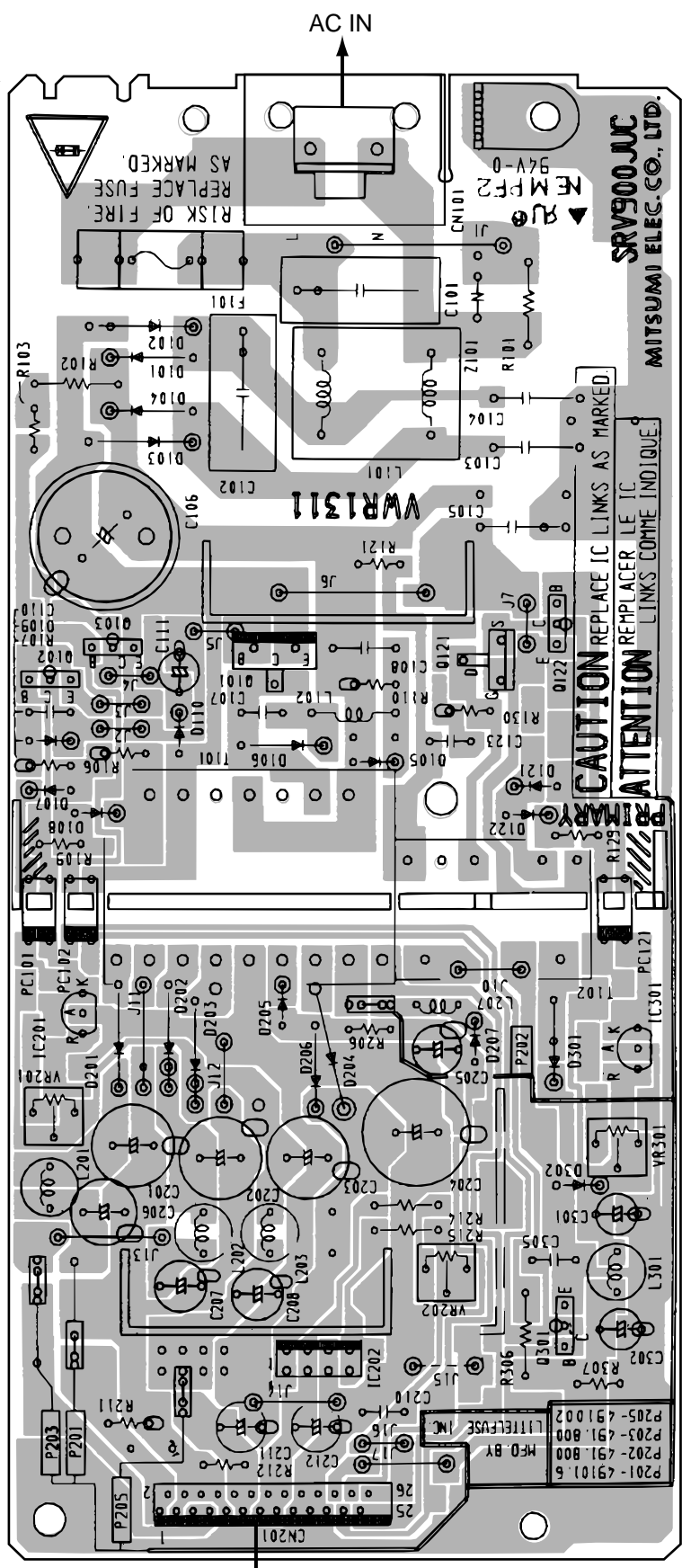


SIDE B



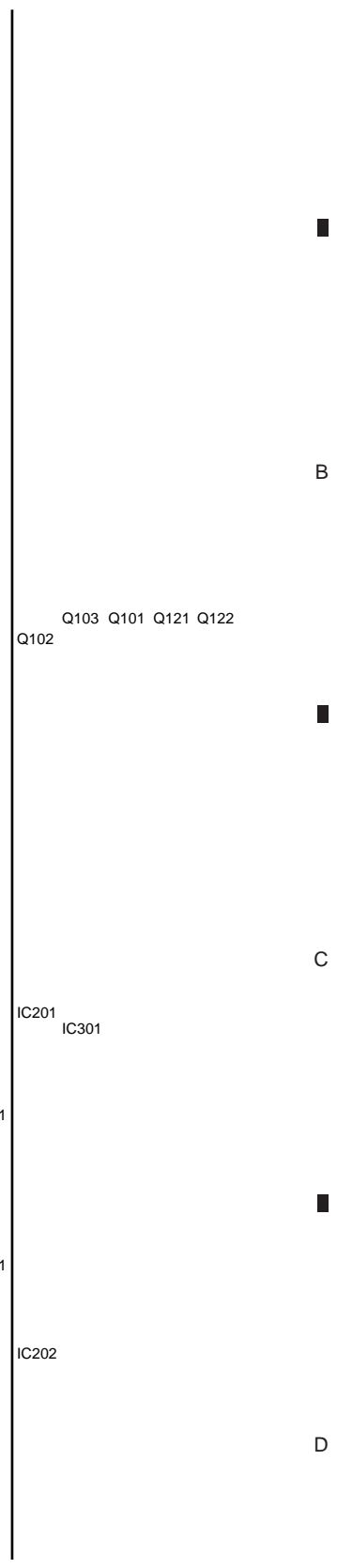
4.6 POWER SUPPLY ASSY (for KU and KC Types)

K POWER SUPPLY ASSY



SIDE A

E CN2



4.7 POWER SUPPLY and MSWB ASSYS (for WV, WY and WY/SP Types)

