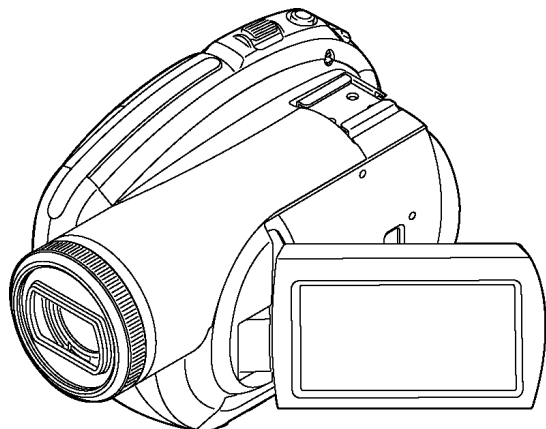


Service Manual

DVD Video Camcorder



VDR-D310EG

VDR-D310E

VDR-D310EB

VDR-D310EP

VDR-D310EF

VOL.1

Colour

(S).....Silver Type

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1 Safety Precaution

1.1. General Guidelines

1. IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by in the Schematic Diagrams, Circuit Board Layout, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent X-RADIATION, shock fire, or other hazards. Do not modify the original design without permission of manufacturer.

2. An Isolation Transformer should always be used during the servicing of AC Adaptor whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks. It will also protect AC Adaptor from being damaged by accidental shorting that may occur during servicing.
3. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
4. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
5. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

2 Warning

2.1. Prevention of Electro Static Discharge (ESD) to Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor “chip” components. The following techniques should be used to help reduce the incidence of component damage caused by electro static discharge (ESD).


1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an antistatic solder removal device. Some solder removal devices not classified as “antistatic (ESD protected)” can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

CAUTION:

Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by  in the schematic diagrams, Exploded Views and replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

2.2. Service caution based on legal restrictions

2.2.1. General description about Lead Free Solder (PbF)

The lead free solder has been used in the mounting process of all electrical components on the printed circuit boards used for this equipment in considering the globally environmental conservation.

The normal solder is the alloy of tin (Sn) and lead (Pb). On the other hand, the lead free solder is the alloy mainly consists of tin (Sn), silver (Ag) and Copper (Cu), and the melting point of the lead free solder is higher approx.30 degrees C (86°F) more than that of the normal solder.

Definition of PCB Lead Free Solder being used

| | |
|---|------------|
| The letter of "PbF" is printed either foil side or components side on the PCB using the lead free solder. (See right figure) | PbF |
|---|------------|

Service caution for repair work using Lead Free Solder (PbF)

- The lead free solder has to be used when repairing the equipment for which the lead free solder is used.
(Definition: The letter of "PbF" is printed on the PCB using the lead free solder.)
- To put lead free solder, it should be well molten and mixed with the original lead free solder.
- Remove the remaining lead free solder on the PCB cleanly for soldering of the new IC.
- Since the melting point of the lead free solder is higher than that of the normal lead solder, it takes the longer time to melt the lead free solder.
- Use the soldering iron (more than 70W) equipped with the temperature control after setting the temperature at 350±30 degrees C (662±86°F).

Recommended Lead Free Solder (Service Parts Route.)

- The following 3 types of lead free solder are available through the service parts route.
RFKZ03D01K----- (0.3mm 100g Reel)
RFKZ06D01K----- (0.6mm 100g Reel)
RFKZ10D01K----- (1.0mm 100g Reel)

Note

* Ingredient: tin (Sn), 96.5%, silver (Ag) 3.0%, Copper (Cu) 0.5%, Cobalt (Co) / Germanium (Ge) 0.1 to 0.3%

2.3. Caution for AC Cord (RJA0053-3X type)

2.3.1. Information for your safety

IMPORTANT

Your attention is drawn to the fact that recording of pre-recorded tapes or discs or other published or broadcast material may infringe copyright laws.

WARNING

To reduce the risk of fire or shock hazard, do not expose this equipment to rain or moisture.

CAUTION

To reduce the risk of fire or shock hazard and annoying interference, use the recommended accessories only.

FOR YOUR SAFETY

DO NOT REMOVE THE OUTER COVER

To prevent electric shock, do not remove the cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

2.3.2. Caution for AC mains lead

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three-pin mains plug for your safety and convenience.

A 5-ampere fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5 amperes and it is approved by ASTA or BSI to BS1362

Check for the ASRA mark or the BSI mark on the body of the fuse.



If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover, the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local Panasonic Dealer.

If the fitted moulded plug is unsuitable for the socket outlet in your home then the fuse should be removed and the plug cut off and disposed of safely.

There is a danger of severe electrical shock if the cut off plug is inserted into any 13-ampere socket.

If a new plug is to be fitted please observe the wiring code as shown below.

If in any doubt, please consult a qualified electrician.

2.3.2.1. Important

The wires in this mains lead are coloured in accordance with the following code:

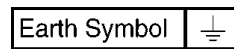
| | |
|-------|---------|
| Blue | Neutral |
| Brown | Live |

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

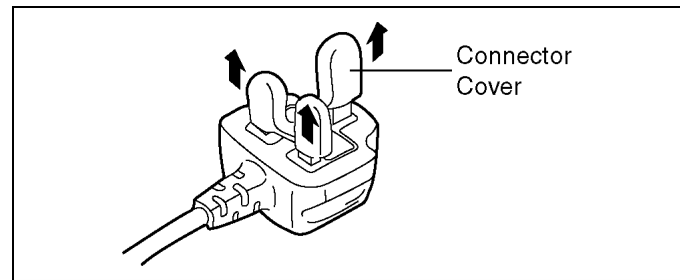
The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

Under no circumstances should either of these wires be connected to the earth terminal of the three pin plug, marked with the letter E or the Earth Symbol.



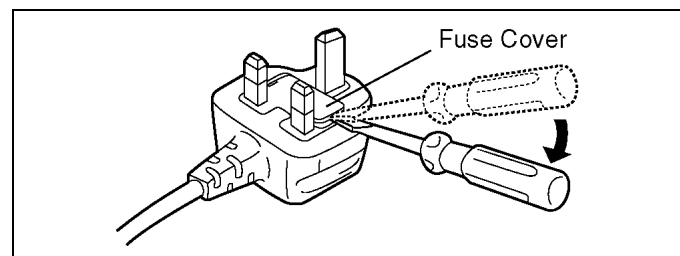
2.3.2.2. Before use

remove the Connector Cover as follows.

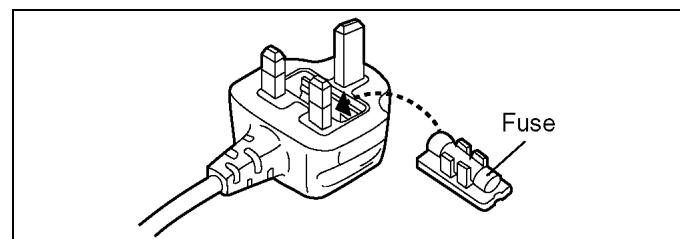


2.3.2.3. How to replace the Fuse

1. Remove the Fuse Cover with a screwdriver.



2. Replace the fuse and attach the Fuse cover.



2.4. How to Replace the Lithium Battery (PROCEDURE)

1. Remove the Jack P.C.B.. (Refer to Disassembly Procedures.)
2. Unsolder the Lithium Battery "ML-621S/F9D" and then replace the new one. (See Figure B1.)
3. Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.

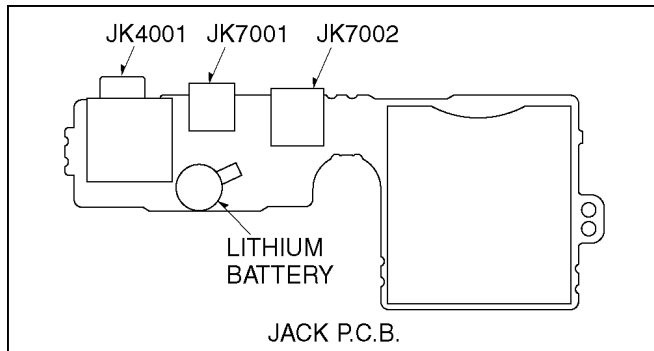


Fig. B1

CAUTION

The battery used in this device may present a risk of fire or chemical burn if mistreated.
 Do not recharge, disassemble, heat above 100 C (212 F), or incinerate.
 Replace battery with Panasonic part number ML-621S/F9D only.
 Use of another battery may present a risk of fire or explosion.
 Dispose of used battery promptly.
 Keep away from children.
 Do not disassemble and do not dispose of in fire.

Note:

The lithium battery is a critical component. (Type No.: ML-621S/F9D Manufactured by Panasonic.)
 It must never be subjected to excessive heat or discharge.
 It must therefore only be fitted in equipment designed specifically for its use.
 Replacement batteries must be of the same type and manufacture.
 They must be fitted in the same manner and location as the original battery, with the correct polarity contacts observed.
 Do not attempt to re-charge the old battery or re-use it for any other purpose.
 It should be disposed of in waste products destined for burial rather than incineration.

CAUTION

Danger of explosion if battery is incorrectly replaced.
 Replace only with the same or equivalent type recommended by the equipment manufacturer.
 Discard used batteries according to manufacturer's instructions.

PRECAUTION

Le fait de remplacer incorrectement la pile peut présenter des risques d'explosion.
 Remplacer la pile uniquement par une pile identique ou de type équivalent recommandée par le fabricant. Se débarrasser des piles usagées conformément aux instructions du fabricant.

VORSICHT

Bei einer falsch eingesetzten Batterie besteht Explosionsgefahr. Nur mit einer vom Hersteller empfohlenen Batterie vom gleichen Typ ersetzen.
 Verbrauchte Batterien beim Fachhändler oder einer Sammelstelle für Sonderstoffe abliefern.

VARNING

Explosionsfara vid felaktigt batteribyte.
 Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren.
 Kassera använt batteri enligt fabrikantens instruktion.

ADVARSEL!

Lithiumbatteri-Eksplosionsfare ved fejlagtig håndtering.
 Udskiftning må kun ske med batteri af samme fabrikat og type.
 Levér det brugte batteri tilbage til leverandøren.

VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu.
 Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin.
 Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

3 Service Navigation

3.1. Service Information

This service manual contains technical information which will allow service personnel's to understand and service this model.

Please place orders using the parts list and not the drawing reference numbers.

If the circuit is changed or modified, this information will be followed by supplement service manual to be filed with original service manual.

Note 1:

These movie camera uses AC Adaptor is DE-974GB or DE-974HA.

Note 2:

1) This service manual does not contain the following information, because of the impossibility of servicing at component level.

1. Schematic Diagram, Block Diagram and P.C.B. layout of Main P.C.B.
2. Parts List for individual parts of Main P.C.B.

2) The following category are recycle module part. Please send them to Central Repair Center.

*Main P.C.B.

(LSEP8378A1)

When a part replacement is required for repairing each Main P.C.B., replace the assembly parts.

(Main P.C.B.)

The following circuits are contained in Main P.C.B.

1. Main Connection Circuit
2. AVIO Circuit
3. Video Circuit
4. Memory Circuit
5. Mic AMP Circuit
6. EVF/LCD Circuit
7. Power Circuit
8. System Control Circuit
9. Lens Drive Circuit
10. Sensor (TG/AFE) Circuit

3.2. Service Caution

3.2.1. Precaution of Laser Light

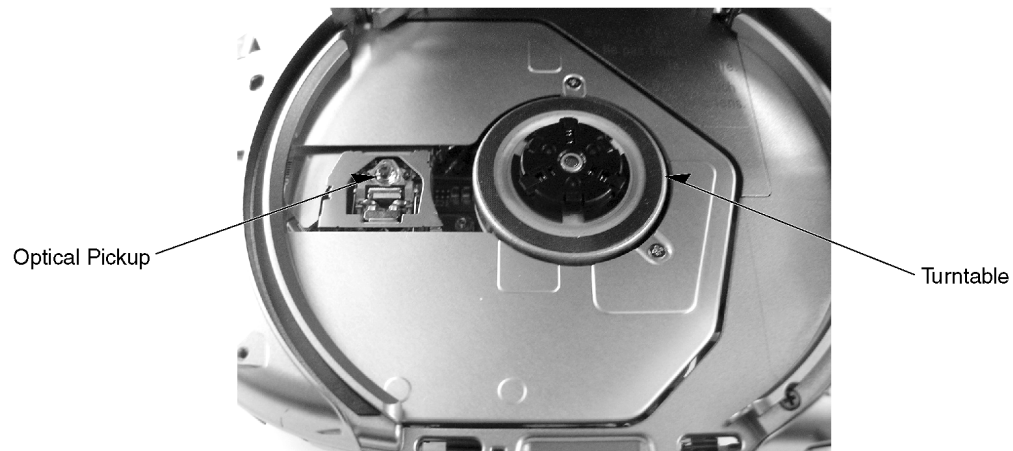
Please remove the AC adapter/charger or battery at servicing that open the Disk Cover.

CAUTION

Laser light striking the eye may cause your eyesight to be lost : For safety, be sure to remove any power supply (AC adaptor/charger, battery, etc.) from the DVD video camera/recorder before starting work.

<CSA requirement>

CAUTION: VISIBLE LASER RADIATION DO NOT STARE INTO THE BEAM OR VIEW DIRECTLY WITH OPTICAL INSTRUMENTS CLASS 2M



3.3. Procedure for Removing Disc

3.3.1. Item to be checked

Connect the AC adapter/charger or charged battery (power supply), make sure that the ACCESS indicator turns off, and then press the DISC EJECT button again.

Even with normal product, the disc cannot be removed while the ACCESS indicator is lit or blinking.

3.3.2. Procedure for Removing the disc manually

Please removing the disc by the following procedure when the disc cannot be removing due to the breakdown of the electrical system etc.

1. Remove the Screw (A), and remove the Disc Eject Cover.
2. Pull the Disc Eject Lever to open the Disc Cover.
3. Remove the disc.

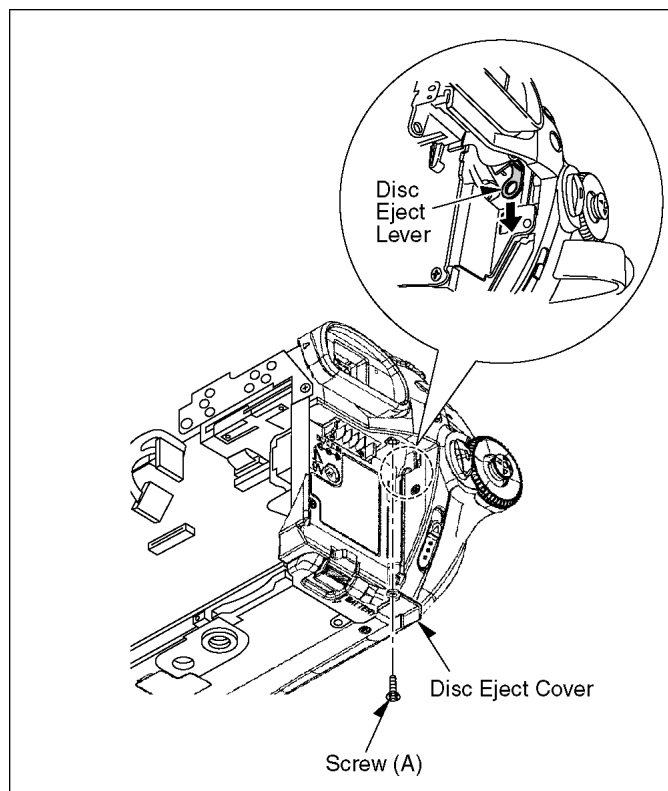
CAUTION



Laser light striking the eye may cause your eyesight to be lost : For safety, be sure to remove any power supply (AC adaptor/charger, battery, etc.) from the DVD video camera/recorder before starting work.

<CSA requirement>

CAUTION: VISIBLE LASER RADIATION DO NOT STARE INTO THE BEAM OR VIEW DIRECTLY WITH OPTICAL INSTRUMENTS CLASS 2M



4 Specifications

DVD Video Camcorder

| ITEM | SPECIFICATION | ITEM | SPECIFICATION |
|---------------------------|--|-------------------------------|---|
| POWER | Source: DC 7.9 / 7.2 V Consumption: Recording 7.0W | STANDARD ILLUMINATION | 1,400 lx |
| RECORDING FORMAT | DVD-Video Recording format (DVD-RAM, DVD-RW) DVD-Video format (DVD-RW, DVD-R, DVD-R DL) | MINIMUM REQUIRED ILLUMINATION | 12 lx (Low light mode: 1/50) Approx. 1lx (with the colour night view function) |
| RECORDING / PLAYBACK TIME | XP mode : approx. 18min. with one side RAM disc SP mode : approx. 37min. with one side RAM disc LP mode : approx. 75min. with one side RAM disc | USB | Card reader / writer function, USB 2.0 compliant (Hi-Speed) No copyright protection support / PictBridge - compliant |
| CAMERA | Filter Diameter: 37.0 mm | MICROPHONE | Stereo (with a zoom function) |
| | Zoom: 10X optical, 25/700X digital | SPEAKER | 1 round speaker ϕ 20 mm |
| | Monitor: 2.7-inch wide LCD (approx. 123K pixels) | OPERATING TEMPERATURE | 0°C - 40°C |
| | Lens: Auto Iris, F1.8-F2.8, Focal Length; 3.0 - 30.0 mm Macro (Full Range AF) | OPERATING HUMIDITY | 10% - 80% |
| | Image Sensor: 1/6-inch 3CCD Image Sensor | WEIGHT | Approx. 510 g (without supplied battery, lens cap and DVD disc) |
| | Viewfinder: Color Electronic Viewfinder | DIMENSIONS | Approx. 66.7 mm (W) \times 91.1 mm (H) \times 142.7 mm (D) (excluding the projection parts) |
| VIDEO | Television System : CCIR : 625 Lines, 50 Fields PAL Colour Signal Video Output Level: 1.0 Vp-p, 75 ohm (AV Multi Jack) S-Video Output Level: Y Output; 1.0 Vp-p, 75 ohm (AV Multi Jack) C Output; 0.3 Vp-p, 75 ohm | STANDARD ACCESSORIES | 1 pc. AC Adaptor 1 pc. Battery Pack Unit 1 pc. DC Cable 1 pc. AC Cord 1 pc. AV Multi Cable 1 pc. Remote Controller 1 pc. Button-type Battery 1 pc. CD-ROM 1 pc. USB Cable 1 pc. Lens Cleaner |
| AUDIO | Audio Output Level (Line): 316 mV, 600 ohm (AV Multi Jack) Mic Input: Mic sensitivity -50dB (0dB=1V/Pa, 1kHz) (Stereo Mini Jack) | | SOLDER |
| DISC RECORDING FUNCTIONS | Recording Media: 8cm DVD-RAM Ver.2.1 8cm DVD-RW Ver.1.1/2X-SPEED (2X/1X) 8cm DVD-R for General Ver. 2.0 8cm DVD-R for DL Ver. 3.0 | | |
| | Motion Picture recording format: MPEG2 | | |
| | Transfer Rate: XP mode: 10Mbps (VBR) SP mode: 5Mbps (VBR) LP mode: 2.5Mbps (VBR) | | |
| | Audio recording format: Dolby Digital (Dolby AC3), 16bit (48KHz/2ch) | | |
| CARD MEMORY FUNCTIONS | Recording Media: SD Memory Card, SDHC Memory Card SD Memory Card: 8 MB/16 MB/32 MB/64 MB/128 MB/256 MB/512 MB/ 1 GB/2 GB (FAT12 and FAT16 format corresponding) SDHC Memory Card: 4 GB (FAT32 format corresponding) Still picture recording file format: JPEG (Desing rule for Camera File system, based on Exif 2.2 standard), DPOF corresponding Still Image Size: Mega Pixel Recording; 2048 \times 1512 (3.1 million pixels, 4:3 Mode) 1920 \times 1080 (2.1 million pixels, 16:9 Mode) 1280 \times 960 (1.2 million pixels, 4:3 Mode) 640 \times 480 (0.3 million pixels, 4:3 Mode) | | |

Weight and dimensions are approximate values.
Specifications may change without prior notice.

5 Location of Controls and Components

Followings are the Location of Controls and Components for VDR-D310EB as a sample.

For other models, refer to each Operatin Instructions.

Accessories

Check the accessories before using this unit.

Battery pack

CGA-DU12



- The supplied battery pack is not available as spare part, see the list of optional batteries below for alternative battery.

AC adaptor

VSK0651B (DE-974GC)



DC cable

K2GJ2DC00011



AV/S cable

K2KZ9CB00001



AC cable

K2CT3CA00004
(RJA0053-3X)



Remote control

N2QAEC000023



Button-type battery

CR2025



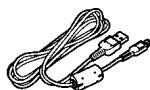
Lens cap

LSYK2004



USB cable

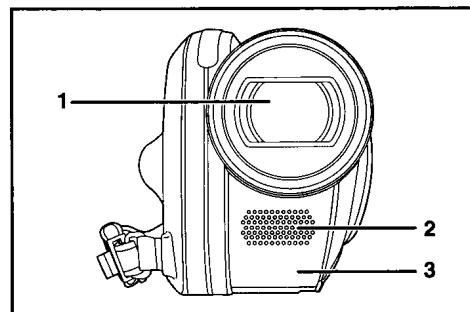
K1HA05CD0010



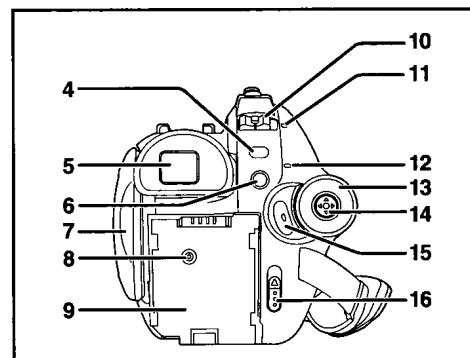
CD-ROM



Parts identification and handling

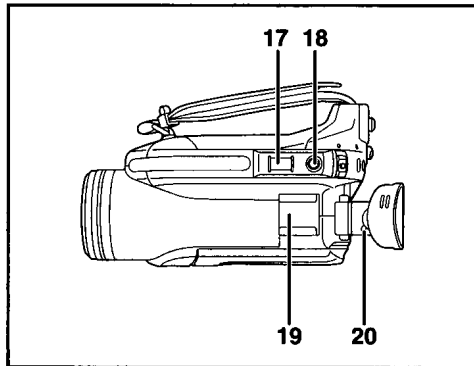


- 1 Lens (LEICA DICOMAR)
- 2 Microphone (built-in, stereo)
- 3 White balance sensor
Remote control sensor

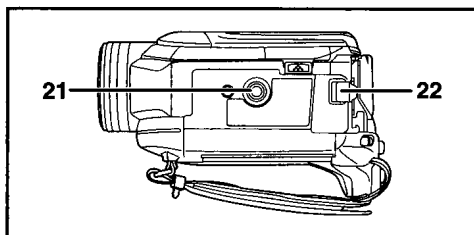


- 4 Menu button [MENU]
 - 5 Viewfinder
- Due to limitations in LCD production technology, there may be some tiny bright or dark spots on the viewfinder screen. However, this is not a malfunction and does not affect the recorded picture.
- 6 Delete button [🗑️]
 - 7 LCD monitor open part
 - 8 DC input terminal [DC/C.C. IN]
 - 9 Battery holder
 - 10 Power switch [OFF/ON]
 - 11 Status indicator
 - 12 Disc/computer access lamp [ACCESS/PC]

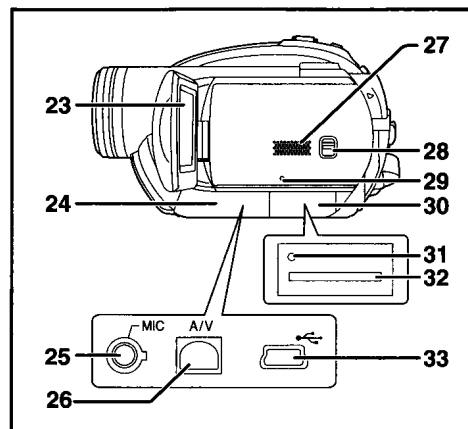
- 13 Mode dial
- 14 Joystick
- 15 Recording start/stop button
- 16 Disc eject lever [DISC EJECT]



- 17 When recording: Zoom lever [W/T]
When playing back: Volume lever [-VOL+]
- 18 Photoshot button [📷]
- 19 Accessory shoe
 - Accessories, such as a video DC light (optional), are attached here.
- 20 Eyepiece corrector knob



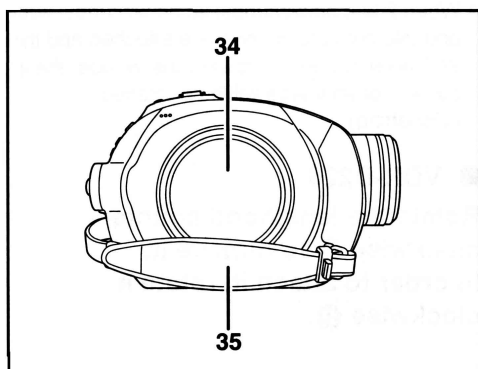
- 21 Tripod receptacle
- 22 Battery release lever [BATTERY]



23 LCD monitor

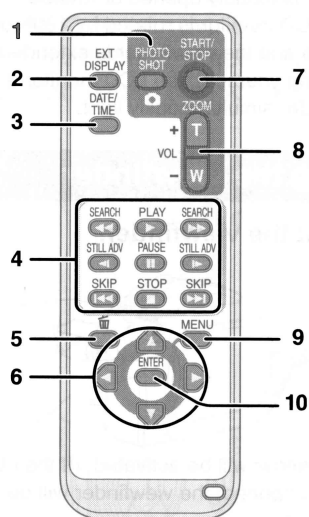
Due to limitations in LCD production technology, there may be some tiny bright or dark spots on the LCD monitor screen. However, this is not a malfunction and does not affect the recorded picture.

- 24 Terminal cover
- 25 Microphone terminal [MIC]
 - A compatible plug-in powered microphone can be used as an external microphone.
 - When the unit is connected with the AC adaptor, sometimes noise may be heard depending on the microphone type. In this case, please switch to the battery for the power supply and the noise will stop.
- 26 Audio-video output terminal [A/V]
- 27 Speaker
- 28 Mode select switch [AUTO/MANUAL/ FOCUS]
- 29 Reset button [RESET]
- 30 Card slot cover [SD CARD]
- 31 Card access lamp
- 32 Card slot
- 33 USB terminal [↔]



34 Disc compartment
35 Grip belt

Using the remote control



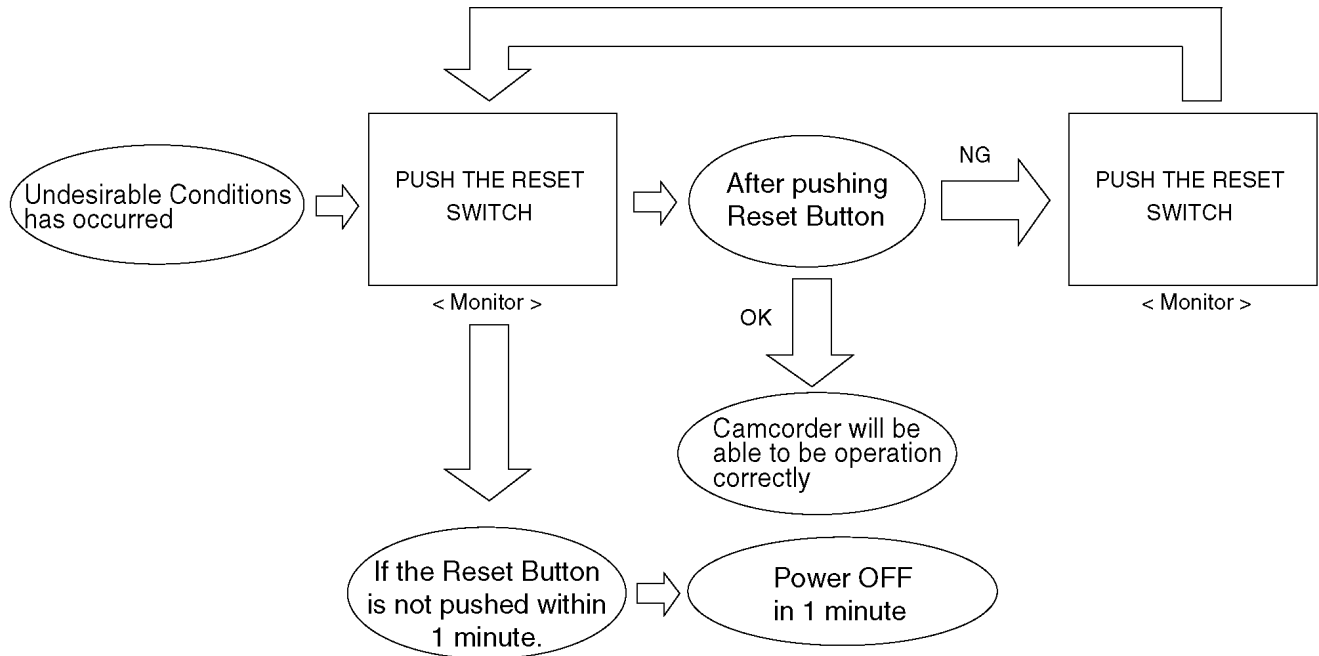
- 1** Photoshot button [PHOTO SHOT,]*
- 2** On-screen display button [EXT DISPLAY]
- 3** Date/time button [DATE/TIME]
- 4** Playback operation buttons
- 5** Delete button []*
- 6** Direction buttons [, , ,]
- 7** Recording start/stop button [START/STOP]*
- 8** Zoom/volume buttons [ZOOM, VOL]*
- 9** Menu button [MENU]*
- 10** Enter button [ENTER]

* means that these buttons function in the same manner as the corresponding buttons on the unit.

6 Service Mode

6.1. Error Display

"PUSH THE RESET SWITCH" is displayed automatically on the EVF or the LCD Monitor when an undesirable condition has occurred.



Note:

When "PUSH THE RESET SWITCH" is displayed repeatedly, required.
Check the Error Code which is listed in the Service Menu.

6.2. Service Menu

When abnormal detection contents are confirmed a When I do the following operation automatic diagnosis code is displayed.

1. Preparation

(1) Remove the card and disc from this unit.

2. To enter the Service Menu. (see Fig. S1)

(1) Turn on power and set the Mode Dial to [DISC PLAYBACK MODE].

(2) Pushed [DELETE] button, [JOYSTICK CONTROL LEFT] button and [RECORDING START/STOP] button simultaneously for 3 seconds.

3. To select the Item.

(1) Press the [JOYSTICK CONTROL UP/DOWN] to select item [1] or [4].

(2) Press the [JOYSTICK CONTROL RIGHT] to display [YES/NO] screen.

(3) Press the [JOYSTICK CONTROL UP/DOWN] to select [YES].

(4) Press the [JOYSTICK CONTROL CENTER].

4. To exit the Service Menu.

(1) Unplug the AC Cord.

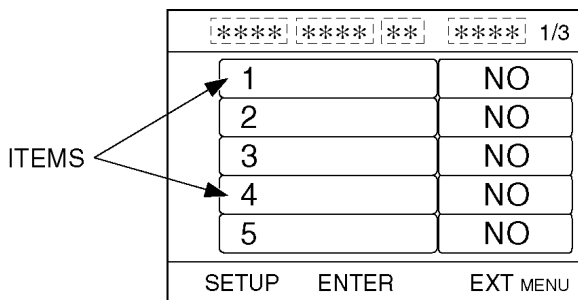


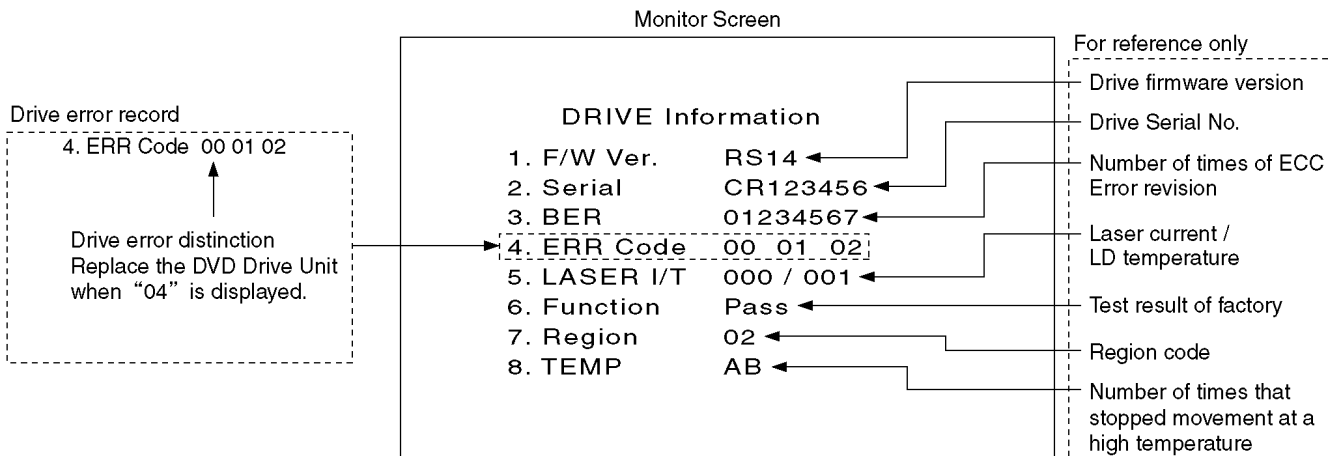
Fig. S1

NOTE:

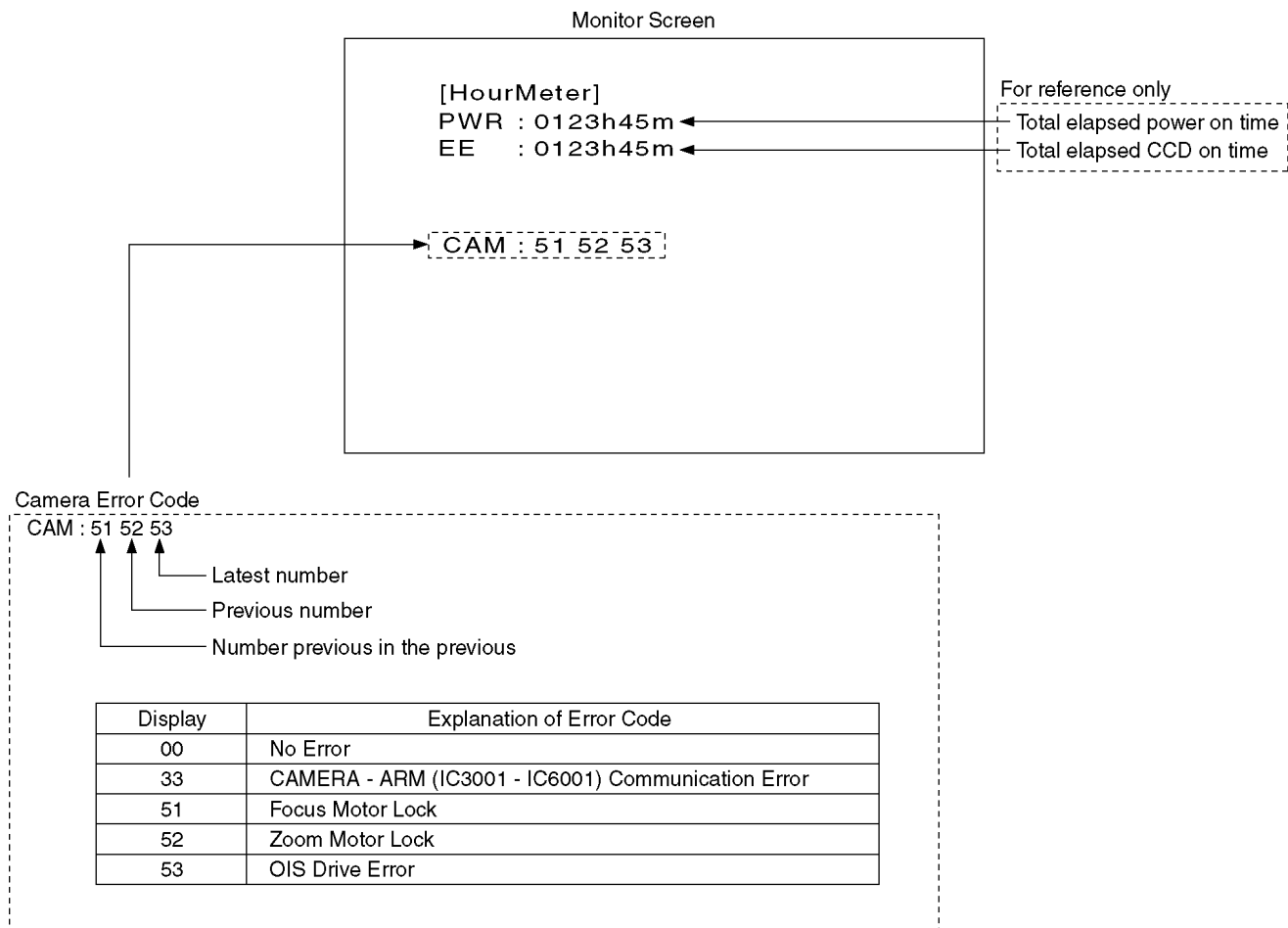
Do not operate items except for [1] and [4] in the Service Menu.

Self diagnosis code contents are as follows.

<Item 1>



<Item 4>



Please do the error code backup record the clear after repair completion.

CLEAR METHOD

If the Card and Tape inserted, take out it before Service Mode operation.

Turn on power and set the Mode Dial to [DISC RECORDING MODE].

Pushed [DELETE] button, [JOYSTICK CONTROL RIGHT] and [RECORDING START/STOP] button simultaneously for 3 seconds.

7 Service Fixture & Tools

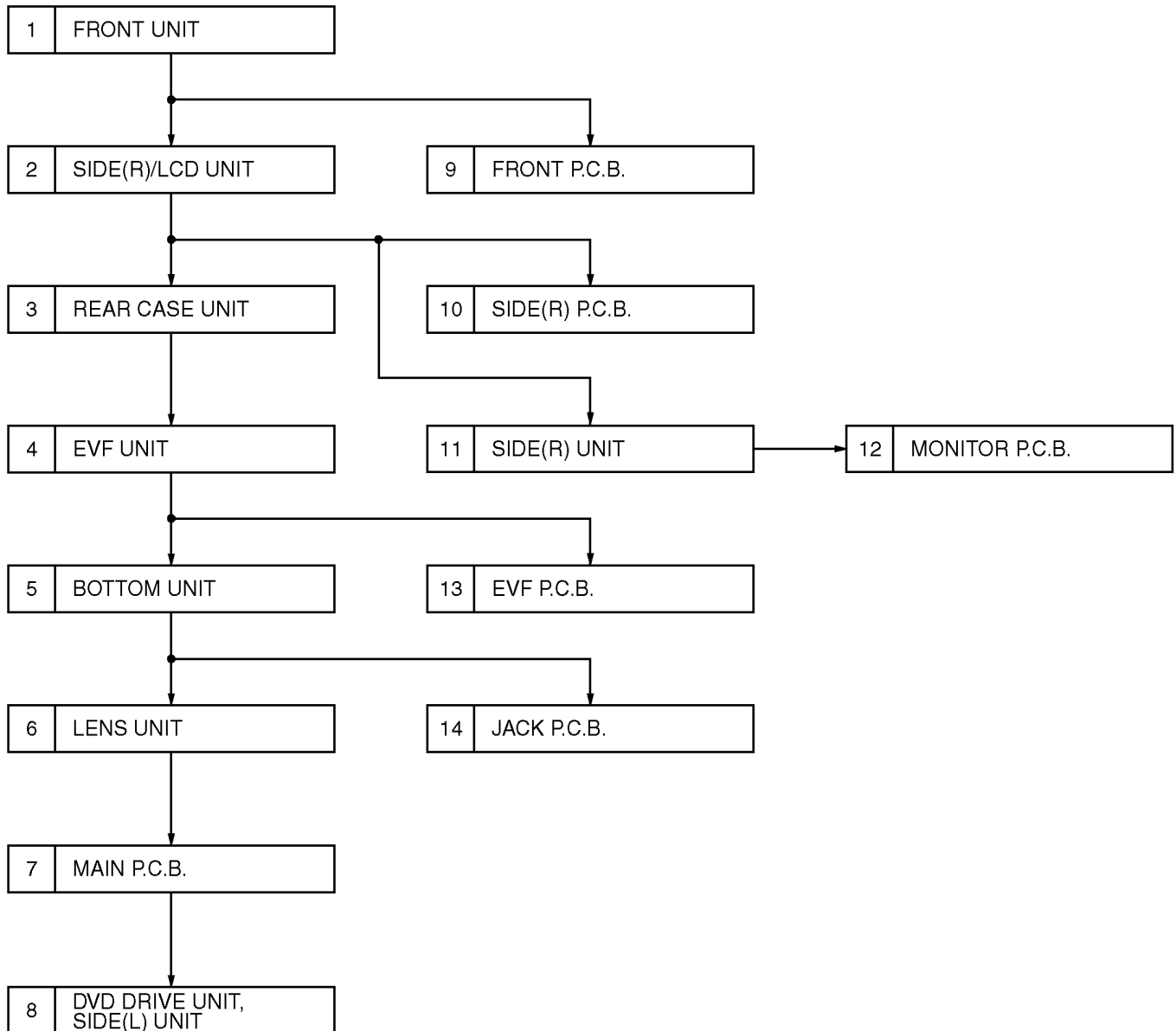
7.1. Service Tools and Equipment

| Parts Name | Parts No. | Part No.(sub) | Q'ty | Remarks |
|-------------------------|--------------|---------------|------|-------------------------------|
| PC | --- | --- | 1 | |
| AC Adaptor | --- | --- | 1 | |
| DC Cable | --- | --- | 1 | |
| AV Multi Cable | --- | --- | 1 | |
| USB Cable | --- | --- | 1 | |
| PC-Adjustment Program | --- | --- | 1 | |
| Step up Ring | VFK1164TAR37 | --- | 1 | 37mm |
| Light Box | VFK1164LBX1 | --- | 1 | |
| Infinity Lens | VFK1164TCM02 | --- | 1 | With Focus Chart |
| Extension Cable (16pin) | VFK1286 | --- | 1 | FP41 (Main) - FP6501 (Front) |
| Extension Cable (32pin) | VFK1508 | --- | 1 | FP81 (Main) - FP6301 (Side R) |
| Extension Cable (16pin) | VFK1286 | --- | 1 | FP11 (Main) - Rear Case Unit |
| Extension Cable (18pin) | VFK1443 | --- | 1 | FP91 (Main) - FP8901 (EVF) |
| Extension Cable (40pin) | RFKZ0379 | --- | 1 | B51 (Main) - B7001 (Jack) |
| Extension Cable (33pin) | VFK1950 | VFK1575C3320 | 1 | FP71 (Main) - Lens Unit |
| Extension Cable (39pin) | VFK1459 | --- | 1 | FP31 (Main) - Prism Unit |
| Extension Cable (60pin) | LSUA0059 | --- | 1 | B21 (Main) - DVD Drive Unit |
| Extension Cable (26pin) | VFK1492 | --- | 1 | FP61 (Main) - Side L Unit |

8 Disassembly and Assembly Instructions

8.1 Disassembly Frow Chart

This flow chart indicates the disassembly steps the cabinet parts, P.C.B. and Mecha. Unit in order to access to be serviced. When reinstalling, perform the steps in the reverse order.



8.2. P.C.B. Layout

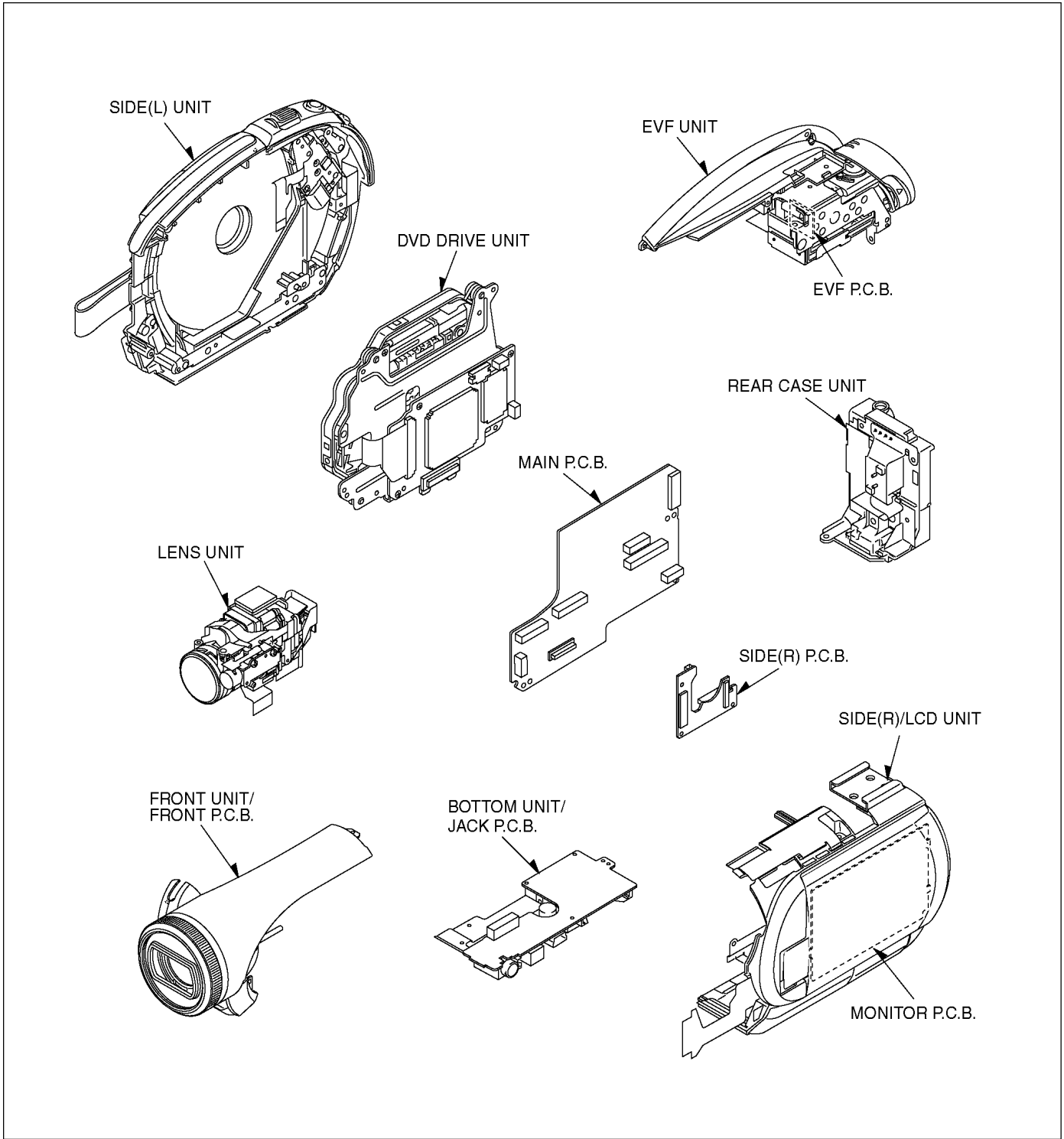


Fig. F1

8.3. Disassembly Procedures

Flow-Chart for Disassembly Procedure

| No. | Item / Part | Fig. | Removal (Screw,Connector,FPC. & Other) |
|-----|-----------------------------|----------|---|
| 1 | Front Unit | Fig. D2 | 2-Screws (A) 1-Screw (B) Open the Jack Cover. 2-Screws (C) 2-Screws (D) 1-Connector FP6501 Front Unit |
| 2 | Side(R)/LCD Unit | Fig. D3 | 1-Screw (E) 4-Screws (F) 1-Screw (G) 1-Connector FP81 Side(R)/LCD Unit |
| 3 | Rear Case Unit | Fig. D4 | 1-Screw (H) Disc Eject Cover |
| | | Fig. D5 | 1-Connector FP11 1-Screw (I) Rear Case Unit |
| 4 | EVF Unit | Fig. D6 | 2-Screws (J) Pull the Disc Eject lever in the direction of the arrow, and Open the Disc Cover. 1-Screw (K) 1-Connector FP91 EVF Unit |
| 5 | Bottom Unit | Fig. D7 | 3-Screws (L) 1-Connector B51 Bottom Unit |
| 6 | Lens Unit | Fig. D8 | 2-Connectors FP31,FP71 1-Screw (M) Lens Unit |
| 7 | Main P.C.B. | Fig. D9 | 1-Connector FP61 3-Screws (N) 1-Connector B2401 Main P.C.B. |
| 8 | DVD Drive Unit,Side(L) Unit | Fig. D10 | 2-Screws (O) Earth Plate |
| | | Fig. D11 | 1-Connector P2403 4-Screws (P) Heat sink sheet DVD Drive Unit Side(L) Unit |
| 9 | Front P.C.B. | Fig. D12 | 3-Screws (Q) Front P.C.B. |
| 10 | Side(R) P.C.B. | Fig. D13 | 1-Connector P6301 2-Screws (R) 1-Connector FP6302 Side(R) P.C.B. |
| 11 | Side(R) Unit | Fig. D14 | 1-Screw (S) LCD Protector |
| | | Fig. D15 | Rotate the LCD Case in the direction of the arrow, and then Unscrew 2 Screws (T). 8-Tabs LCD Case (Upper) 1-Connector FP8101 LCD Case (Lower) Unit Side (R) Unit |
| 12 | Monitor P.C.B. | Fig. D16 | 1-Connector FP8102 1-Screw (U) 3-Tabs Monitor P.C.B. |

| No. | Item / Part | Fig. | Removal (Screw,Connector,FPC. & Other) |
|-----|-------------|----------|---|
| 13 | EVF P.C.B. | Fig. D17 | 2-Screws (V) Grip Cover Unit EVF/Angle Unit |
| | | Fig. D18 | 1-Screw (X) Shoe Angle Remove the Tab(1), and Twist the EVF Case Unit in the direction of the arrow, and Remove the Tab(2). 1-Connector FP8901 EVF Slide Base Unit EVF Case Unit |
| | | Fig. D19 | 2-Tabs EVF LCD Unit |
| | | Fig. D20 | 1-Connector FP8902 4-Tabs EVF P.C.B. |
| 14 | Jack P.C.B. | Fig. D21 | 2-Screws (Y) Jack P.C.B. |

CAUTION



Laser light striking the eye may cause your eyesight to be lost : For safety, be sure to remove any power supply (AC adaptor/ charger, battery, etc.) from the DVD video camera/recorder before starting work.

<CSA requirement>

CAUTION: VISIBLE LASER RADIATION DO NOT STARE INTO THE BEAM OR VIEW DIRECTLY WITH OPTICAL INSTRUMENTS CLASS 2M

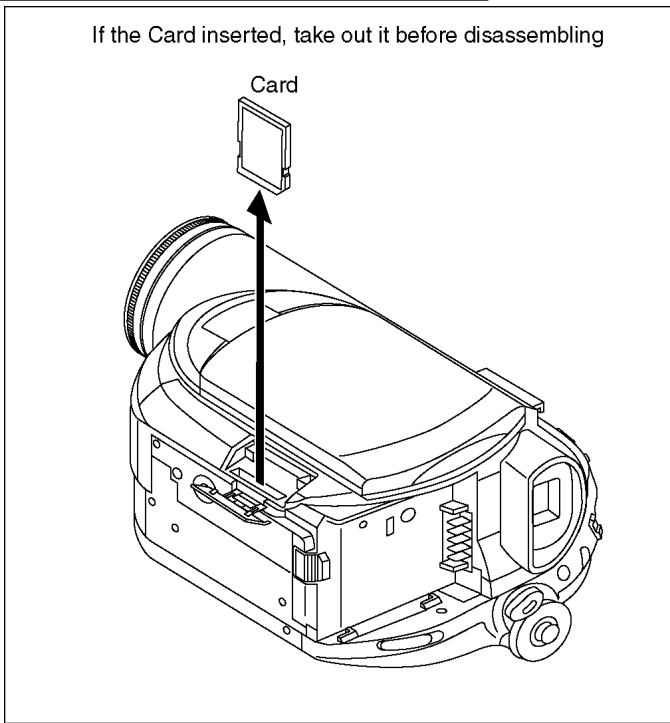


Fig. D1

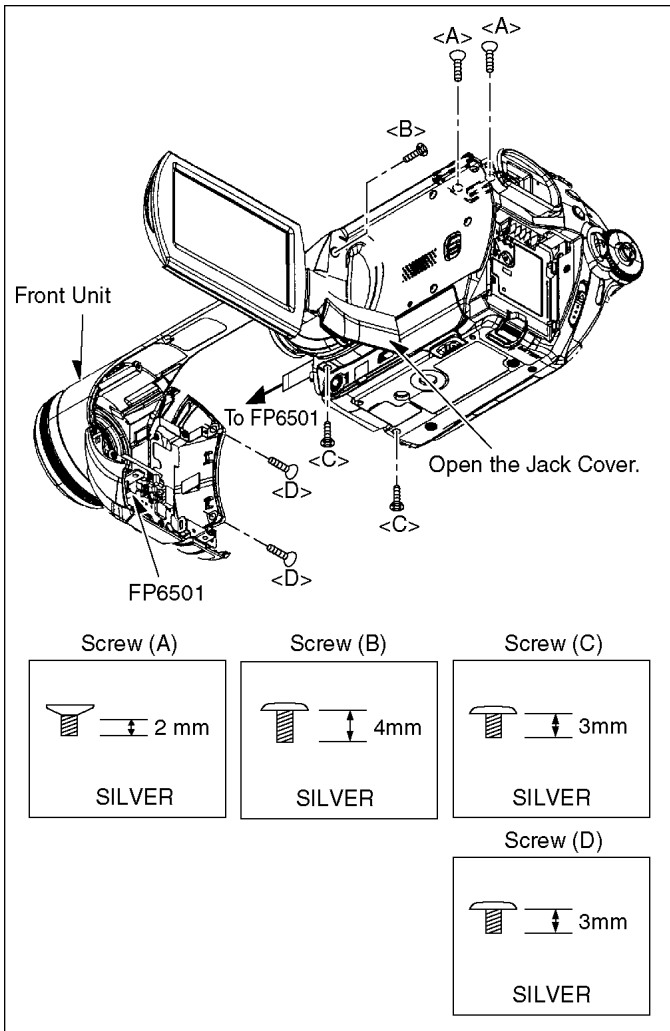


Fig. D2

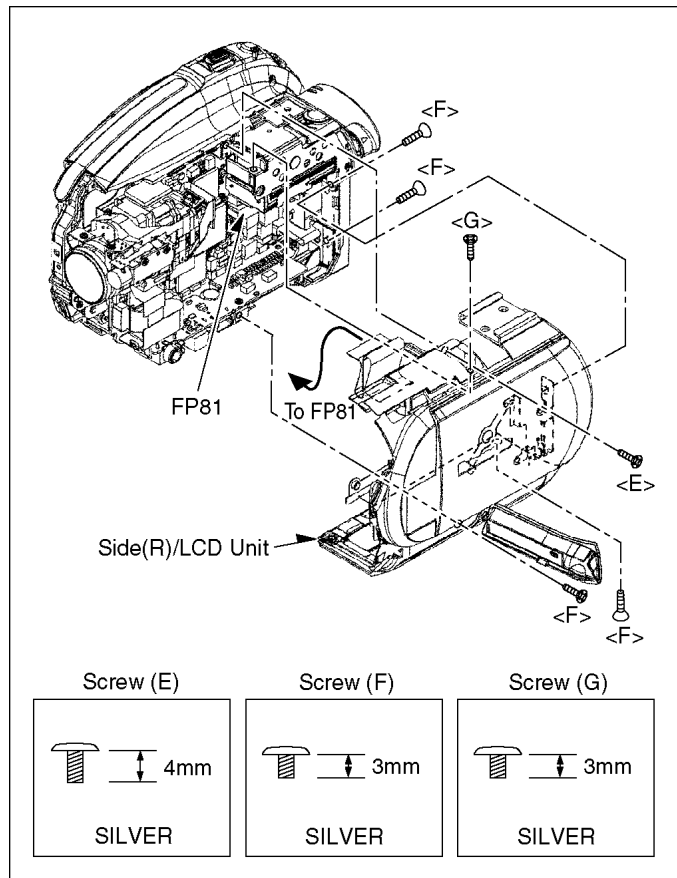


Fig. D3

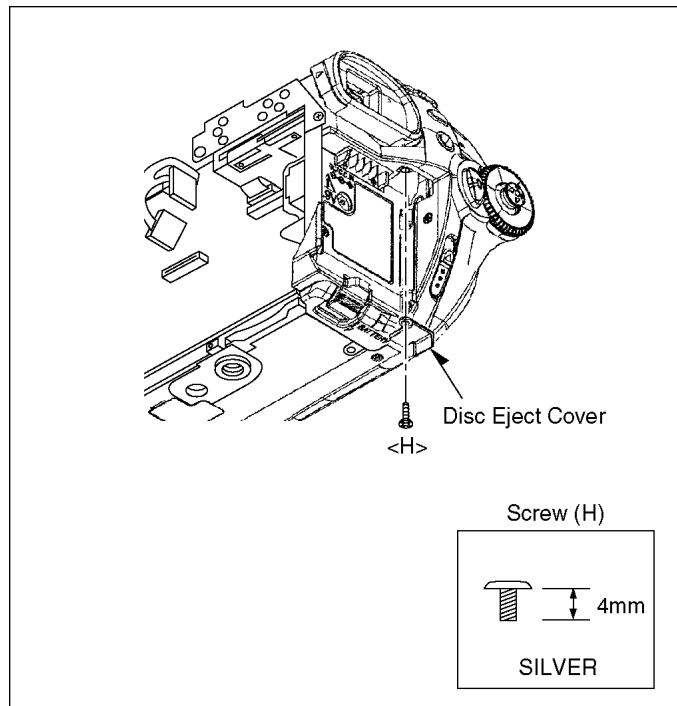


Fig. D4

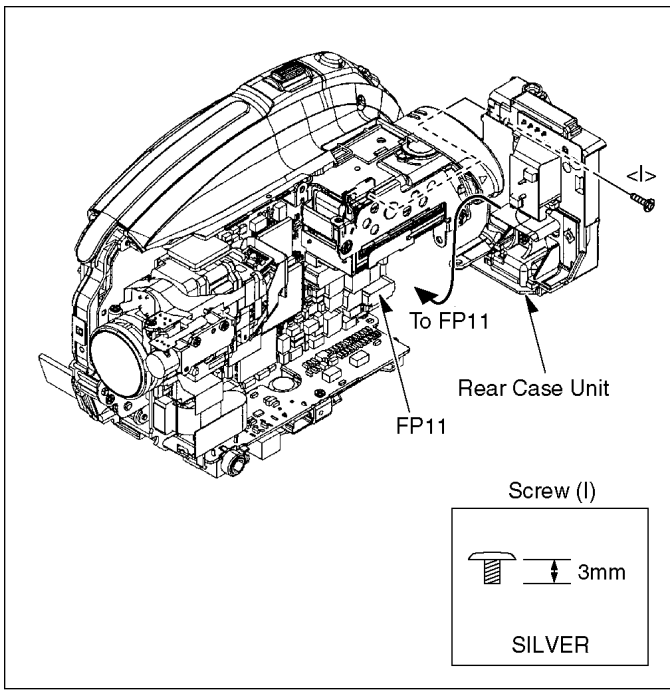


Fig. D5

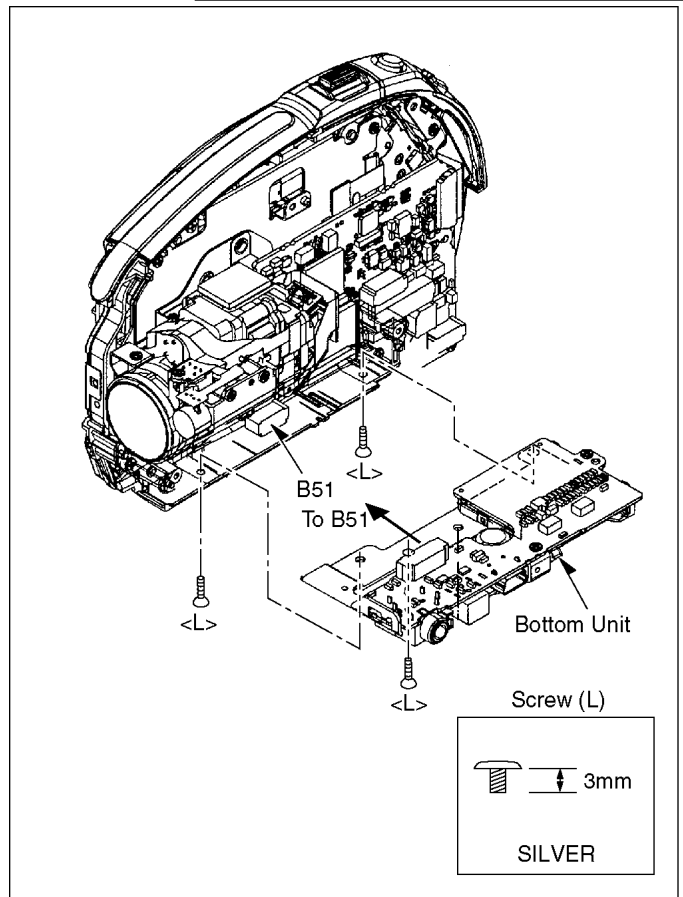


Fig. D7

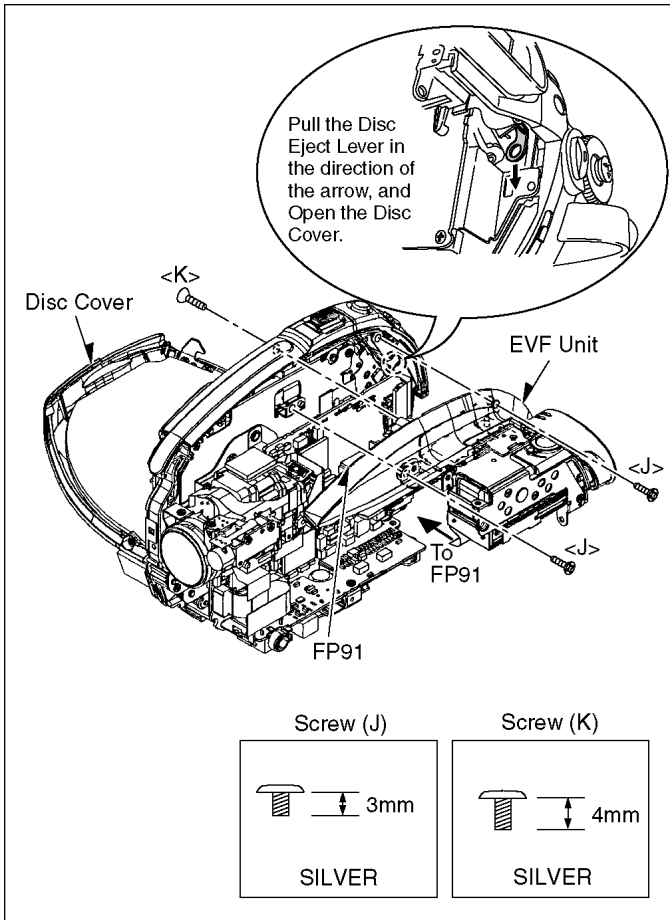


Fig. D6

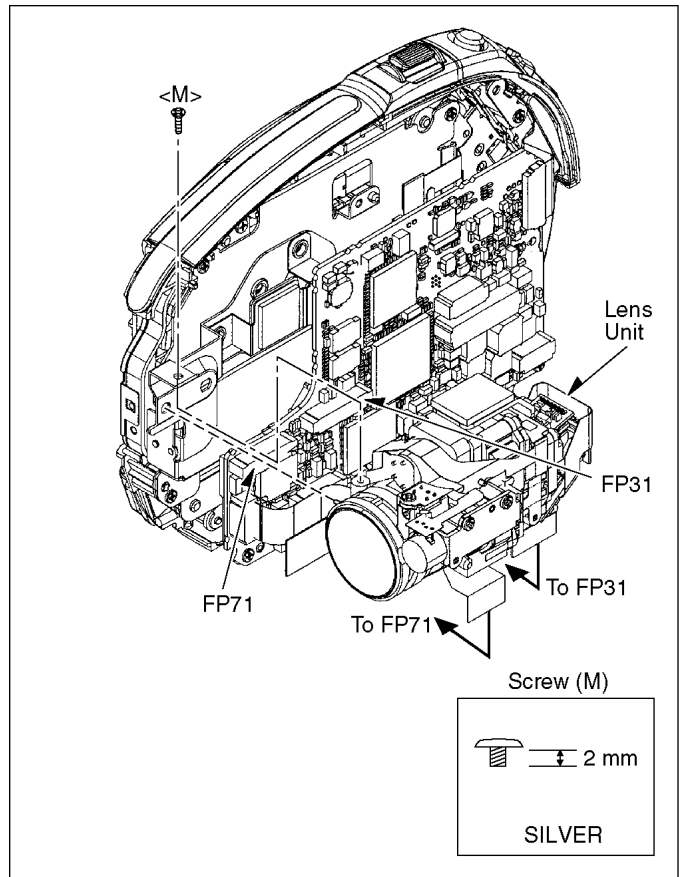


Fig. D8

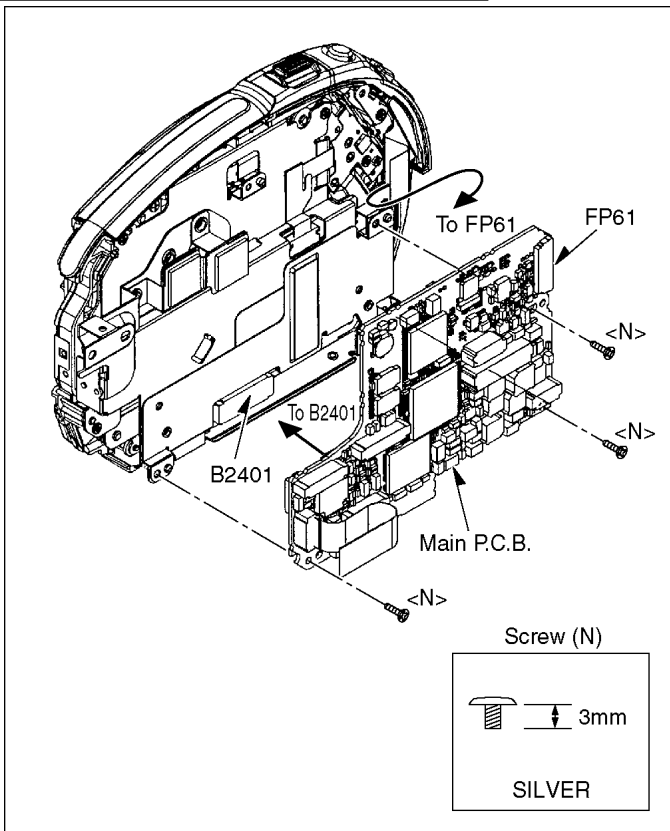


Fig. D9

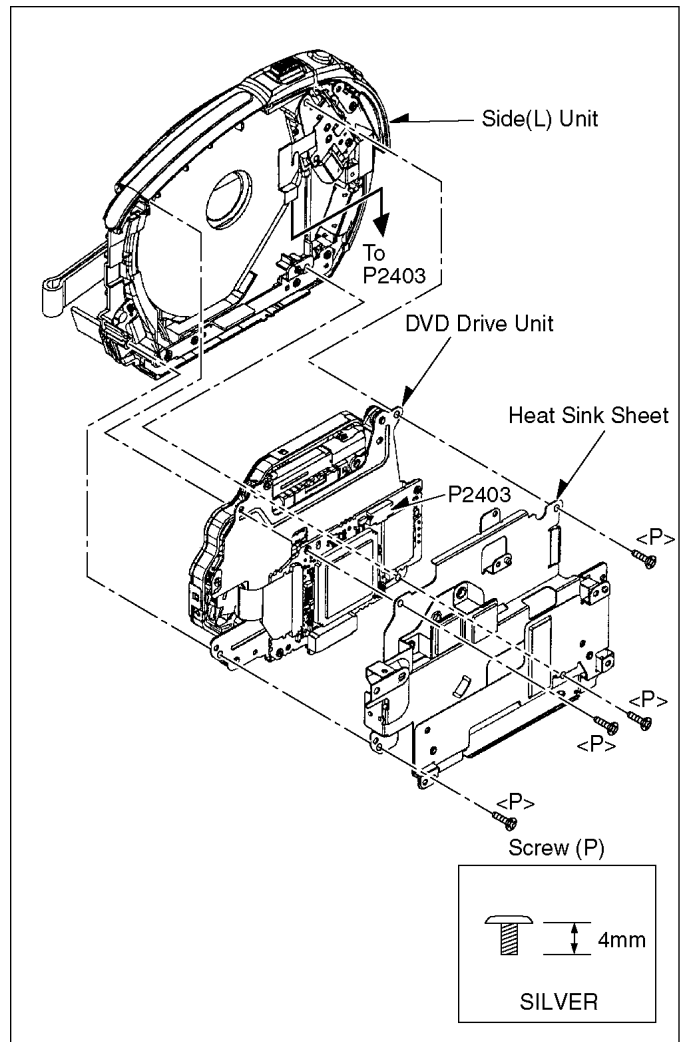


Fig. D11

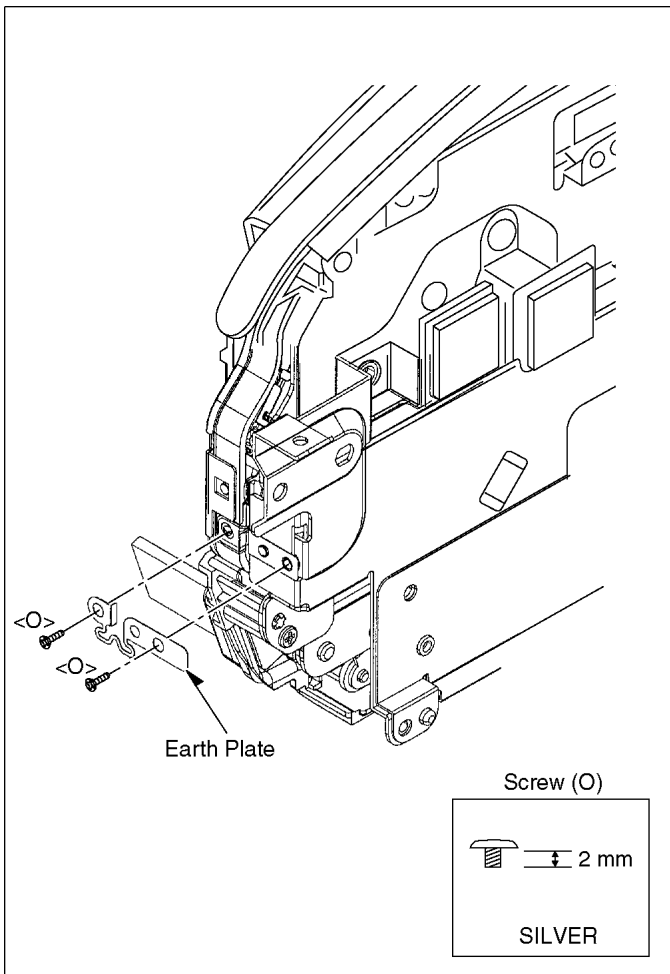


Fig. D10

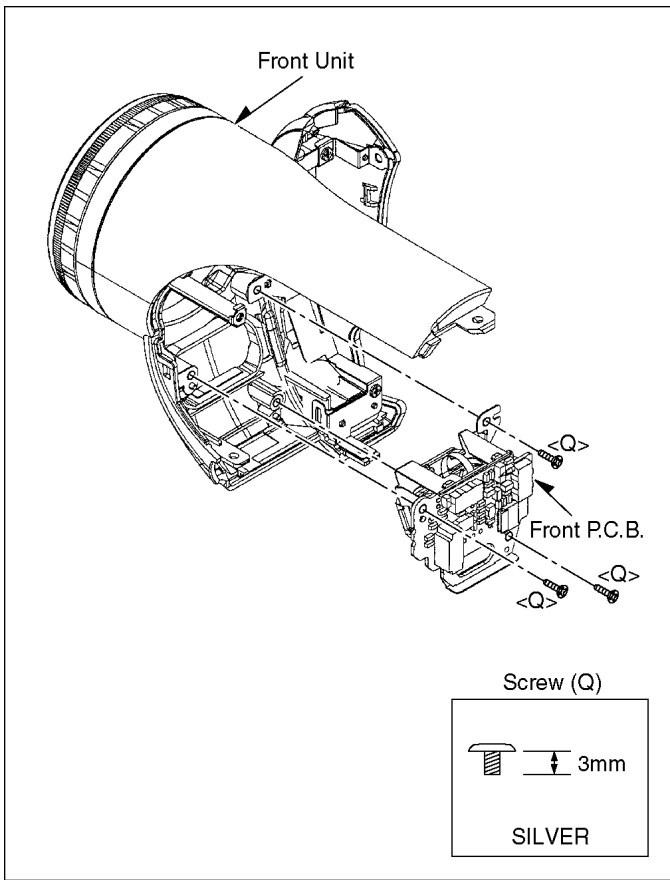


Fig. D12

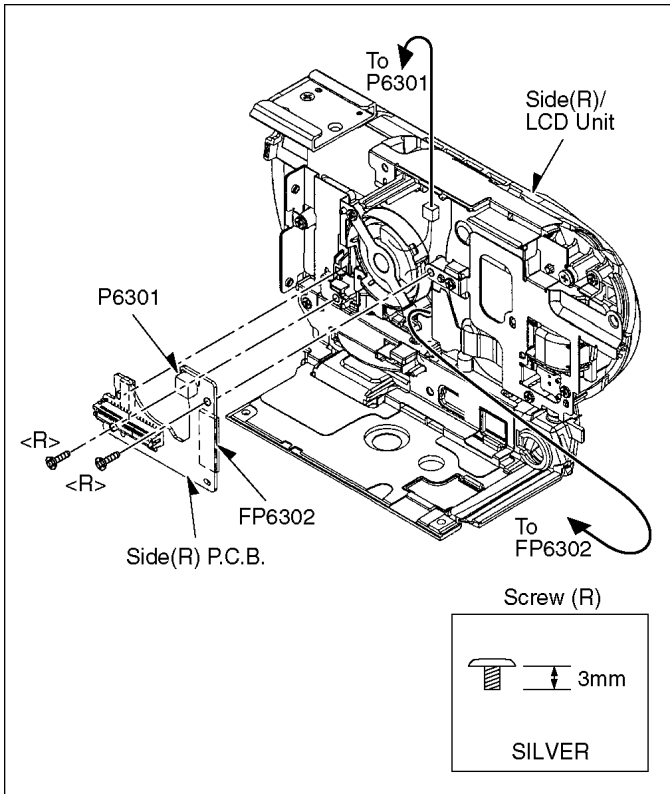


Fig. D13

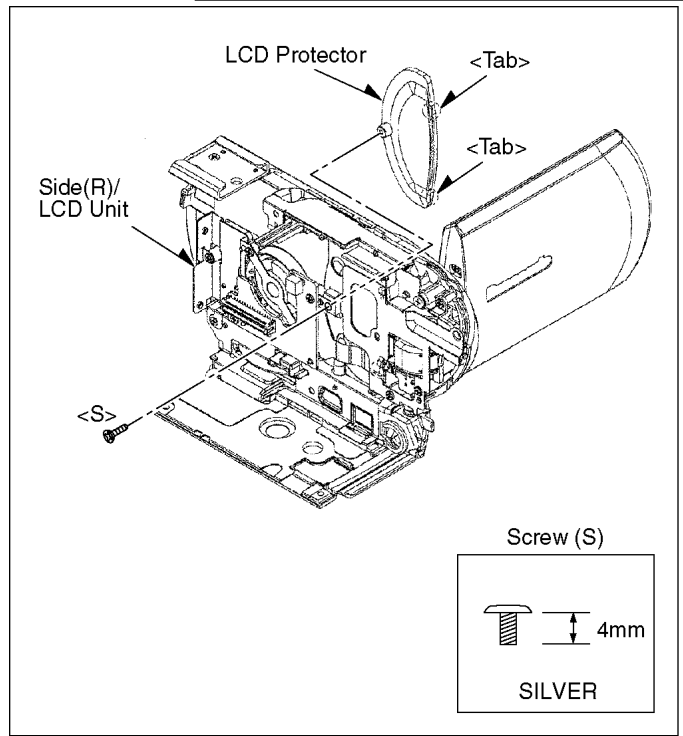


Fig. D14

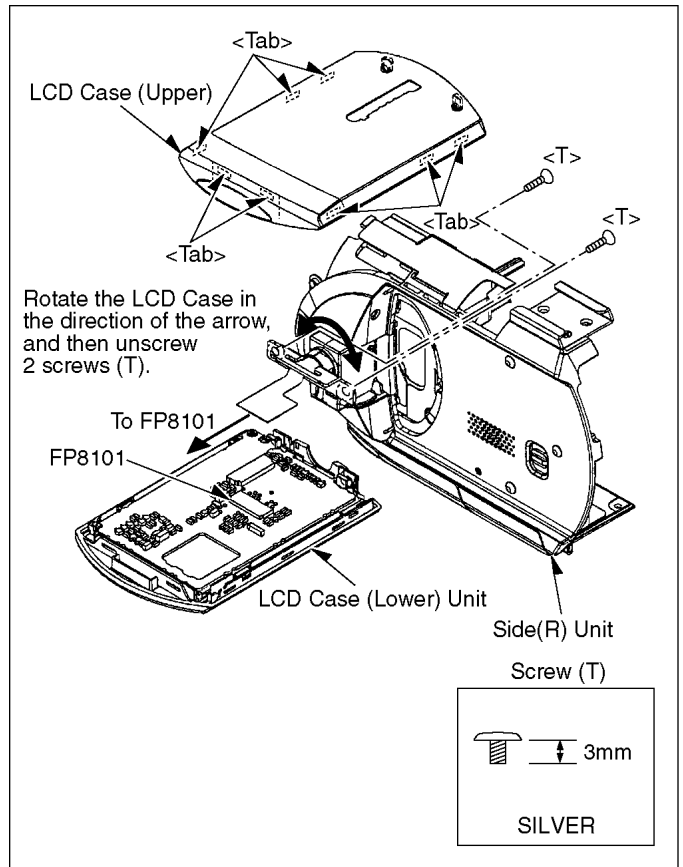


Fig. D15

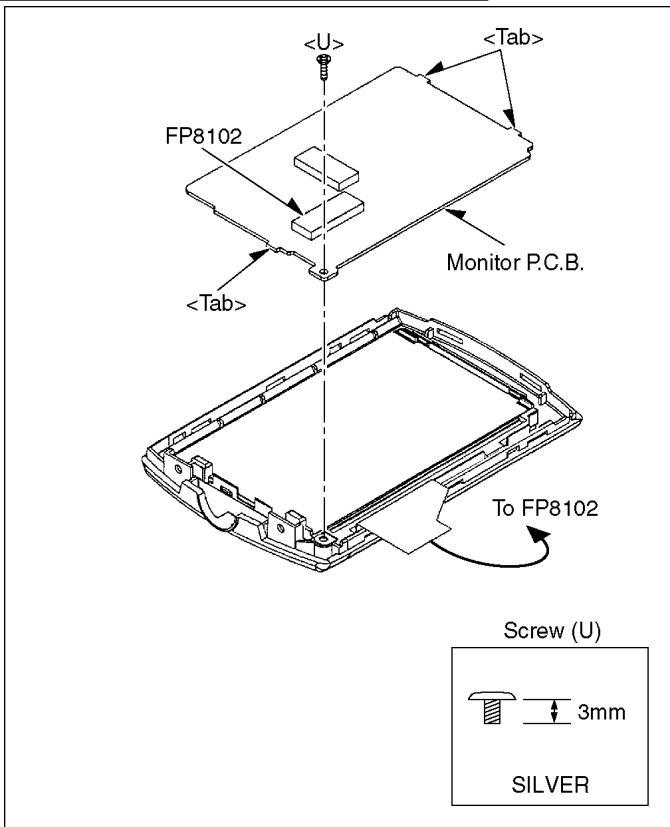


Fig. D16

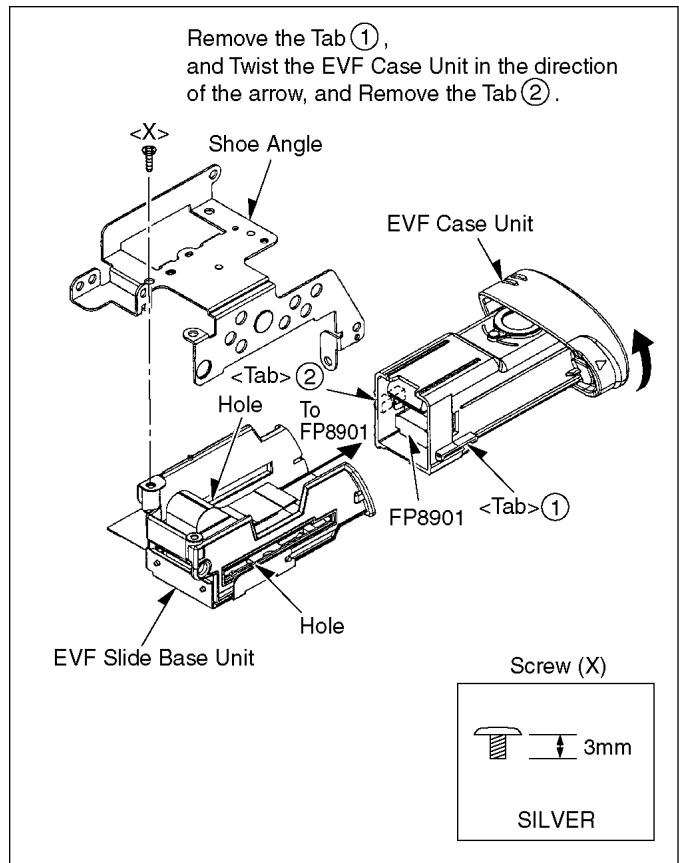


Fig. D18

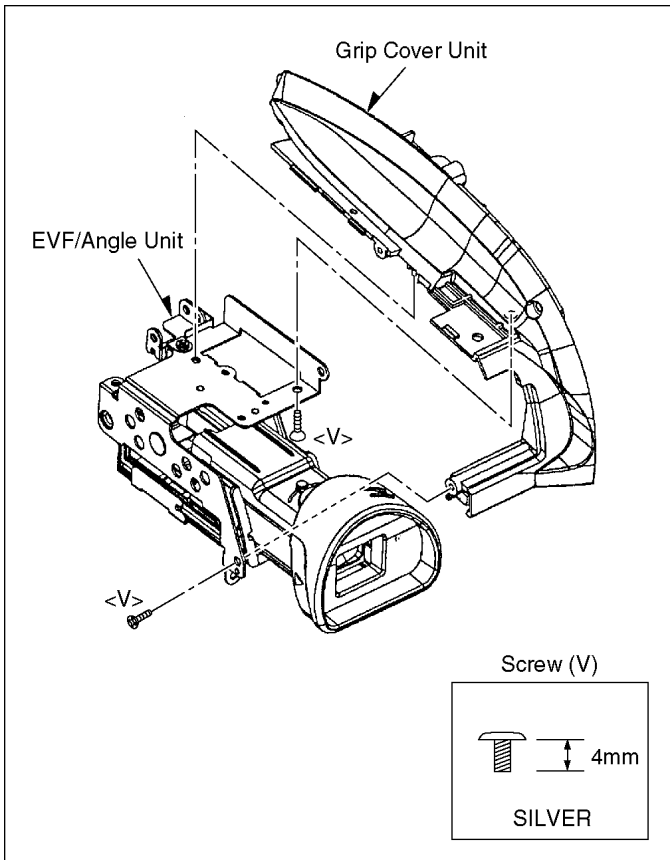


Fig. D17

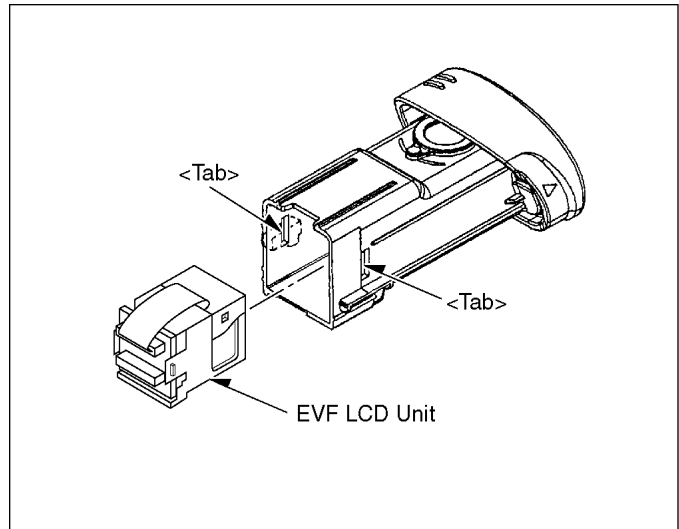


Fig. D19

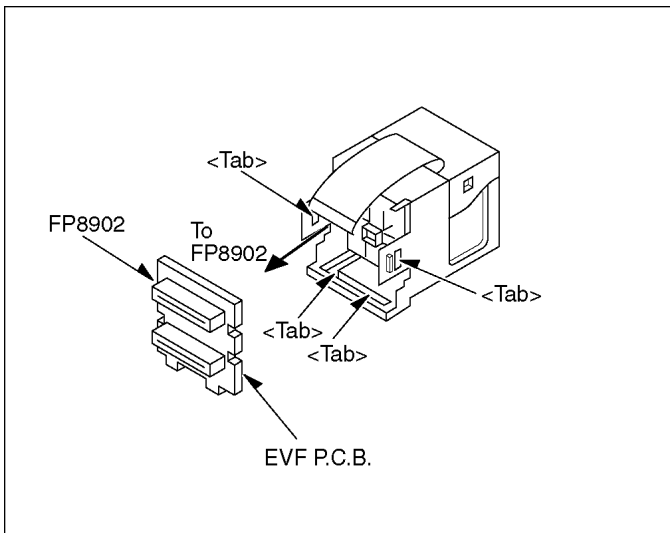


Fig. D20

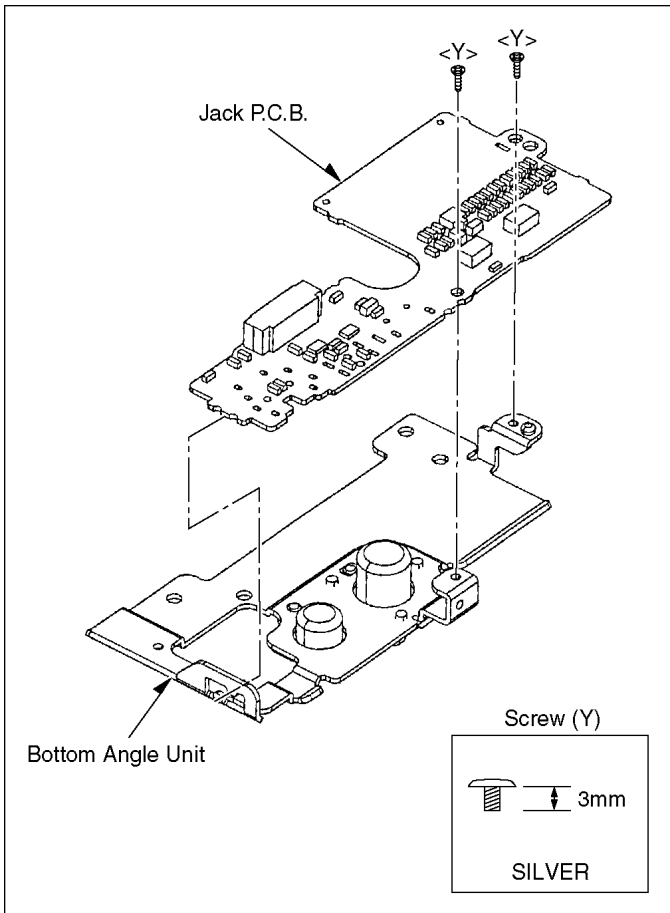


Fig. D21

8.4. Disassembly Procedures of Camera Lens Unit

The following flowchart describes order or steps for removing the Camera lens unit and certain printed circuit boards in order to make access to the item needing service.

To reassemble the unit follow the steps in reverse order.

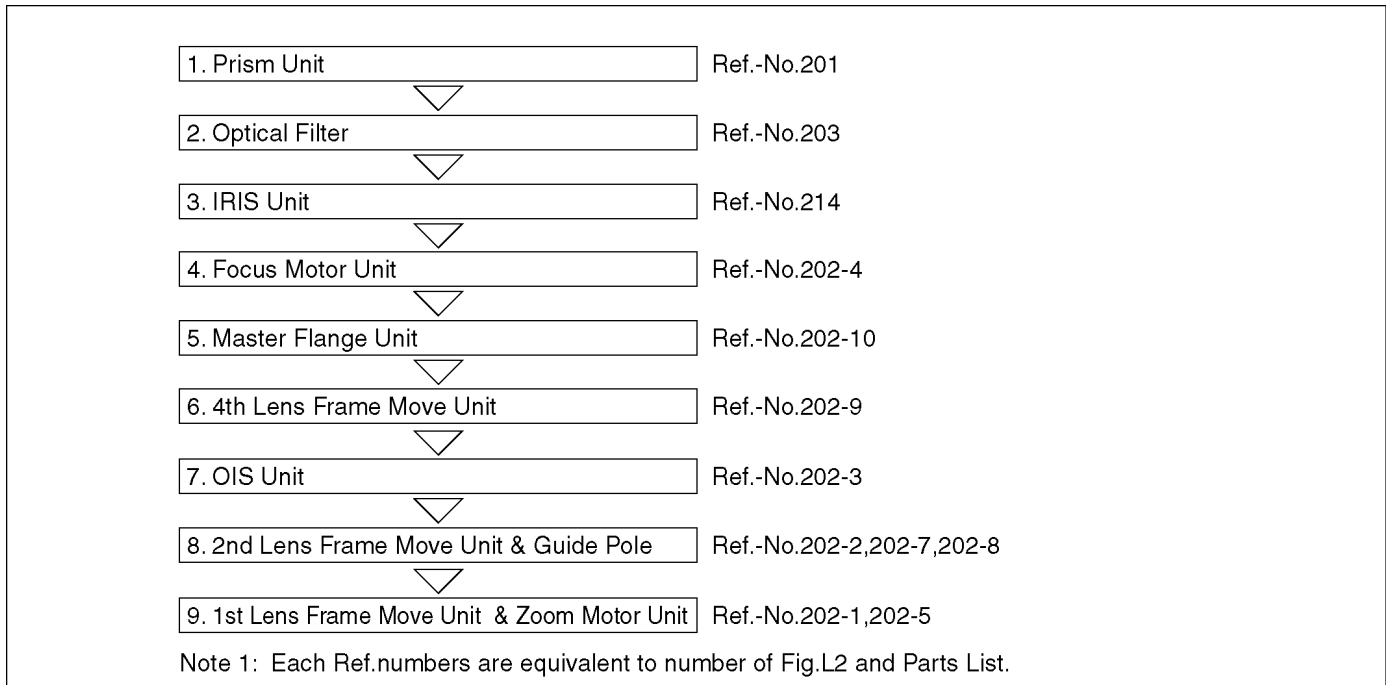


Fig. L1

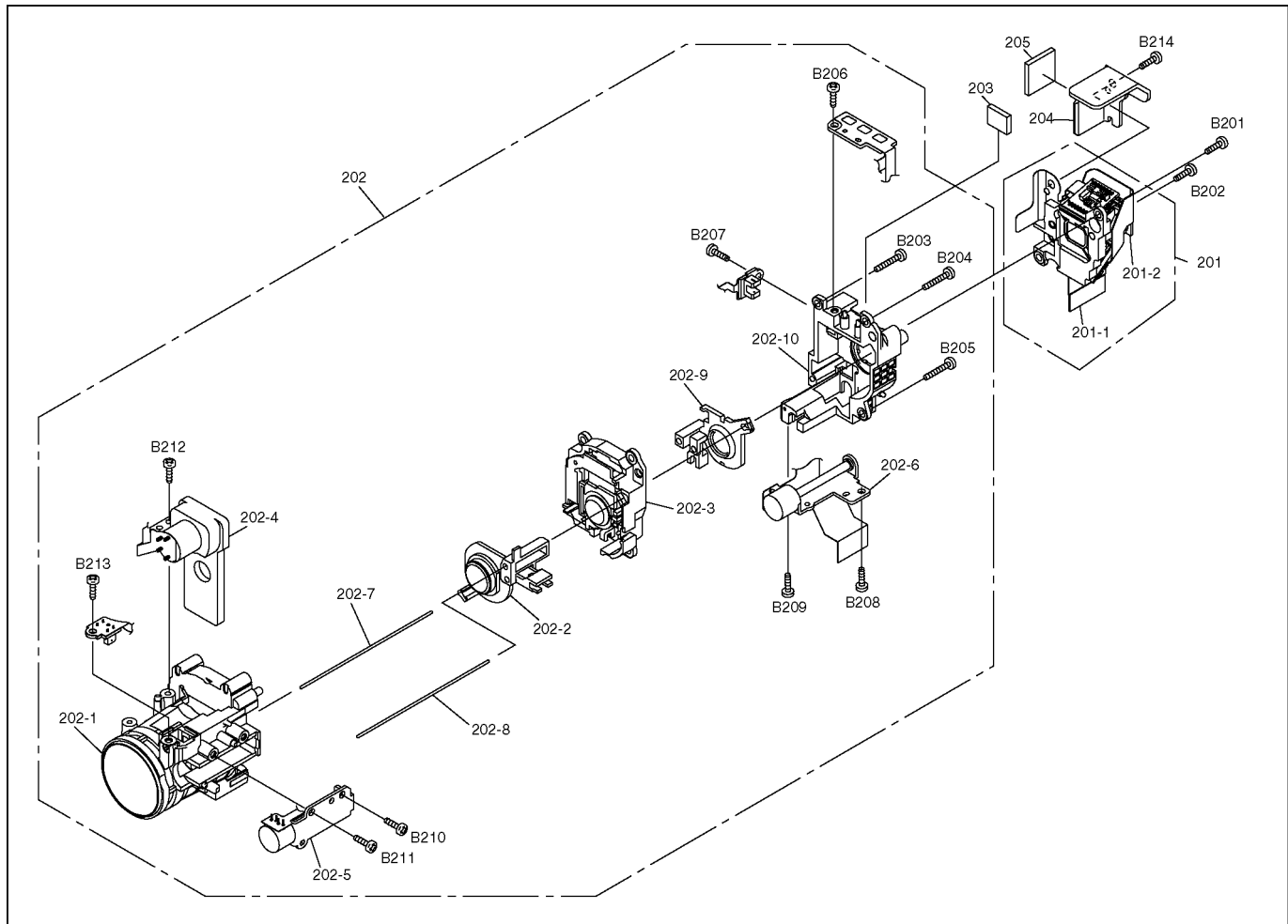


Fig. L2

9 Measurements and Adjustments

9.1. Service Positions

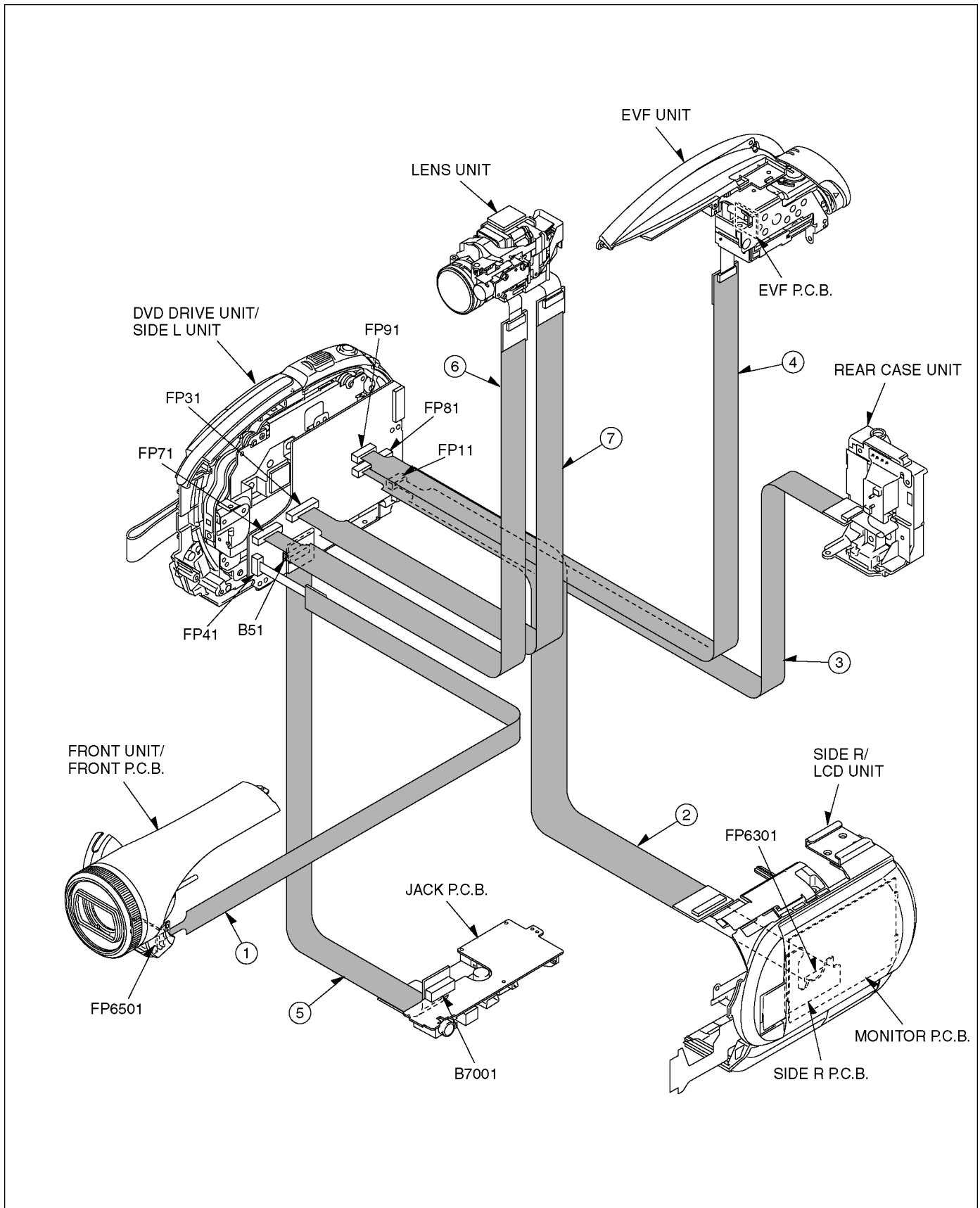
9.1.1. List of the extension cables

Use the following extension cables when checking or adjusting individual circuit boards except module Parts (Main P.C.B.).

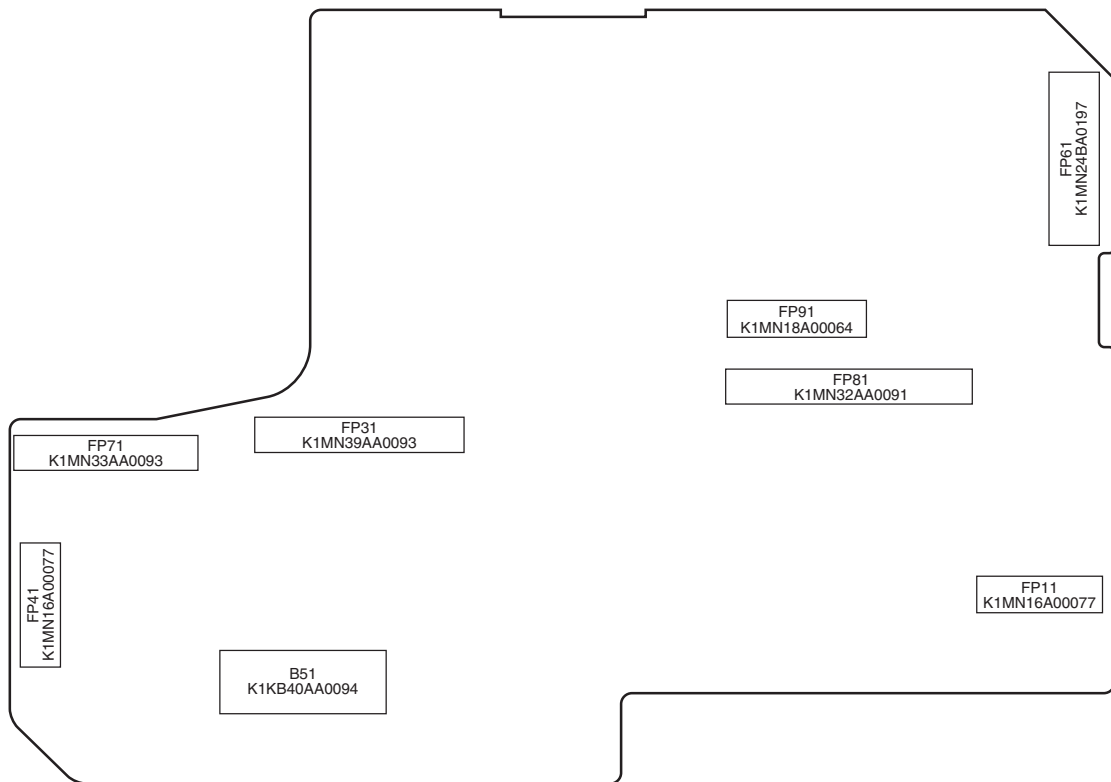
| No. | Part No. | Part No.(sub) | Pin | Part Name | Connection | Q'ty |
|-----|----------|---------------|-----|------------|-------------------------------|------|
| 1 | VFK1286 | --- | 16 | Flat Cable | FP41 (Main) ~ FP6501 (Front) | 1 |
| 2 | VFK1508 | --- | 32 | Flat Cable | FP81 (Main) ~ FP6301 (Side R) | 1 |
| 3 | VFK1286 | --- | 16 | Flat Cable | FP11 (Main) ~ Rear Case Unit | 1 |
| 4 | VFK1443 | --- | 18 | Flat Cable | FP91 (Main) ~ FP8901 (EVF) | 1 |
| 5 | RFKZ0379 | --- | 40 | Flat Cable | B51 (Main) ~ B7001 (Jack) | 1 |
| 6 | VFK1950 | VFK1575C3320 | 33 | Flat Cable | FP71(Main) ~ Lens Unit | 1 |
| 7 | VFK1459 | --- | 39 | Flat Cable | FP30 (Main) ~ Prism Unit | 1 |
| 8 | LSUA0059 | --- | 60 | Flat Cable | B21 (Main) ~ DVD Drive Unit | 1 |
| 9 | VFK1492 | --- | 26 | Flat Cable | FP61 (Main) ~ Side L Unit | 1 |

9.1.2. Checking and repairing individual circuit boards except module parts (Main P.C.B.)

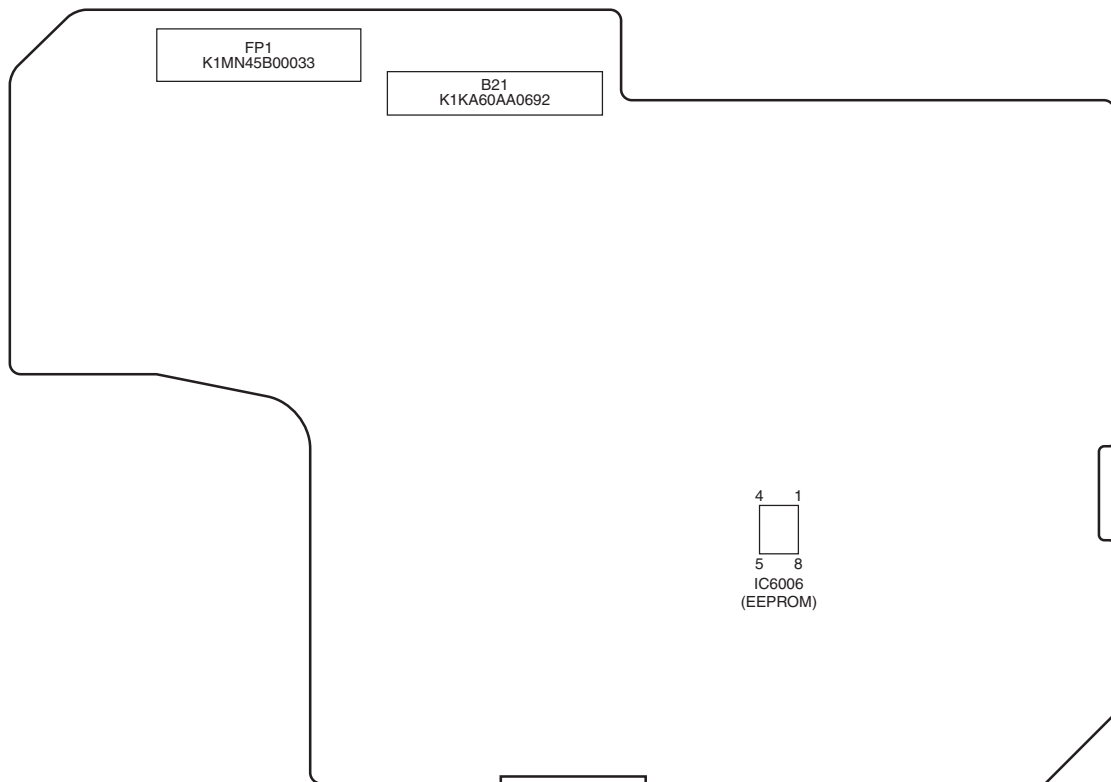
How to use extension cables.



9.2. Location for Connectors of the Main P.C.B.



(COMPONENT SIDE)



(FOIL SIDE)

9.3. Electrical Adjustment Procedures

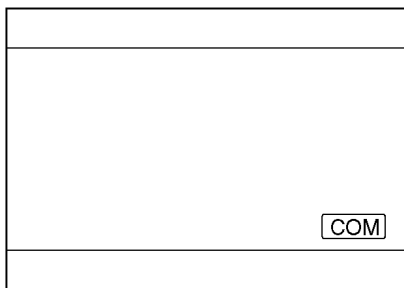
9.3.1. Set-up manual for DVD Video Camera.

1. Installation of USB-SERIAL Driver

Execute the "Setup.exe" file in "Com Mass" folder by double clicking to install the USB-SERIAL driver.

2. Set-Up

- a. Remove the card and disc from this unit.
- b. To enter the PC connection (COM) mode, push the [DELETE] button, [RECORDING START/STOP] button and [JOYSTICK CONTROL UP] simultaneously for 3 seconds without connecting the USB Cable.



<LCD Monitor>

c. Connect the PC and DVD Video Camera as shown in Fig. E1 and E2.

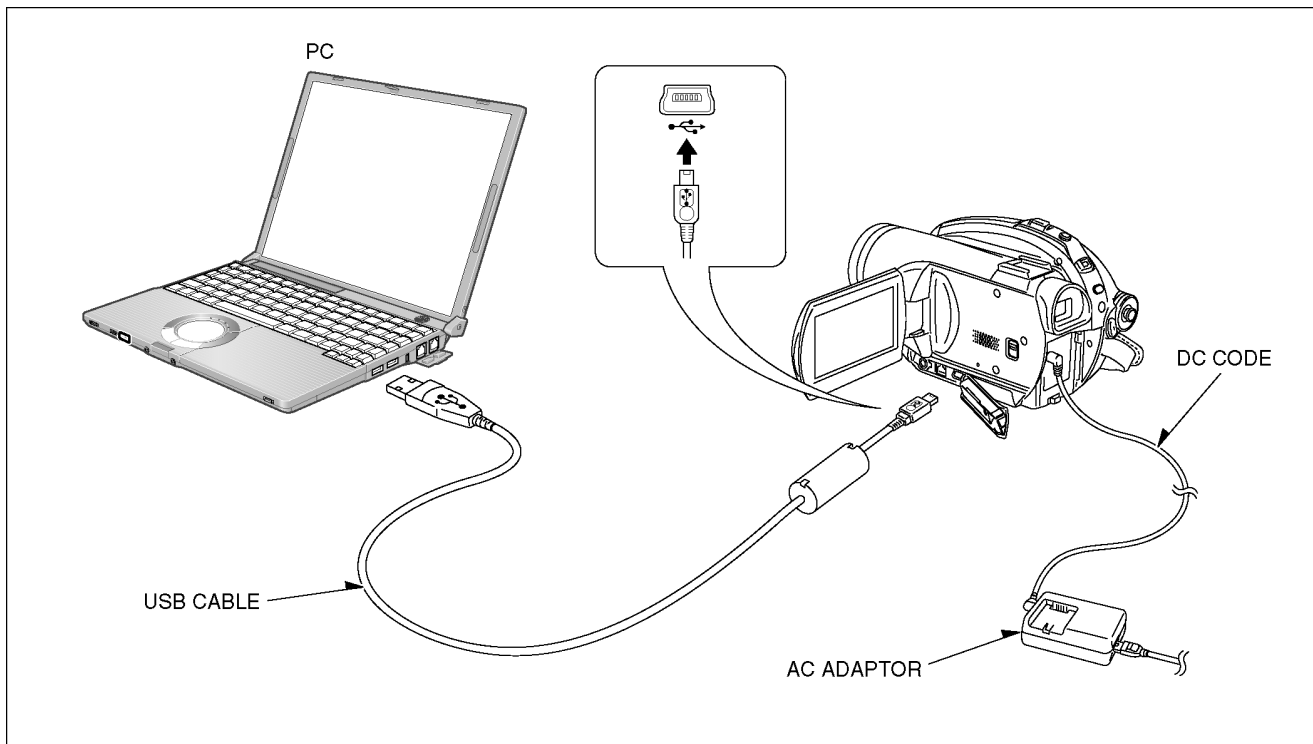


Fig. E1

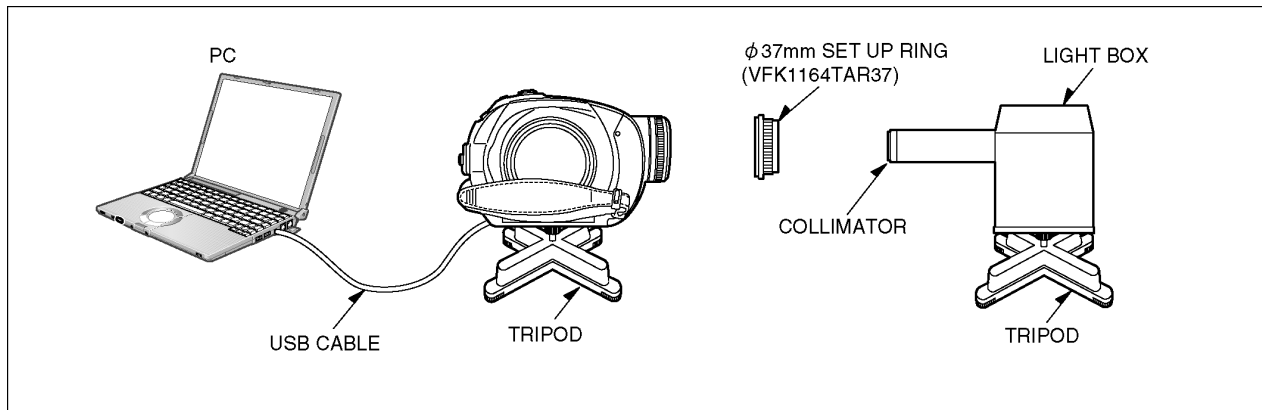


Fig. E2 Rough image of set-up connection

9.3.2. Set up PC-EVR adjustment program

1. Turn on the PC and install the PC-EVR Adjustment Program into the PC.
2. Execute the "kdr2006.exe" file by double clicking to start up the PC-EVR adjustment program.
The main menu will be displayed.
3. Select the desired model.
4. Turn on the camcorder. Then, click "Start".

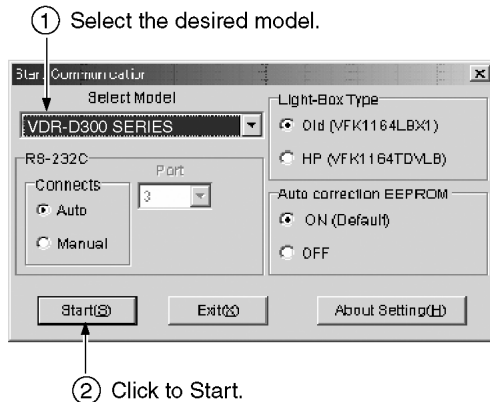


Fig. E3-1

5. The communication is complete, and the dialog will appear. Then, click "Cam" or "Arm" to save the EEPROM data.

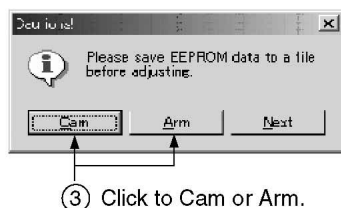


Fig. E3-2

6. Saving for EEPROM data is complete, menu will appear.
To perform each adjustment, display the adjustment menu by selecting the desired menu from "Camera Adjust" or "Video Adjust" and select each adjustment item.



Fig. E3-3

Note:

The adjustment data is stored to the EEPROM IC after each adjustment.

7. After adjustment, to end the software, select "Exit" in File menu or close the window.

⑤ Select the Exit or close the window.

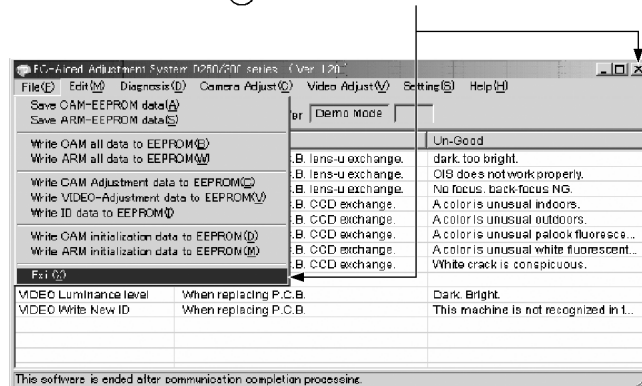


Fig. E3-4

8. To release the PC connection (COM) mode, push the [DELETE] button, [RECORDING START/STOP] button and [JOYSTICK CONTROL UP] simultaneously for 3 seconds without connecting the USB Cable.

9.3.3. Initial guideline

The table below shows which adjustments are necessary according to the unit parts and individual parts to be replaced. Make sure to perform these adjustments shown below as necessary.

| Adjustment Item | | Replacement Parts | | | | | |
|-----------------|-------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | | Main P.C.B. | IC6006 (EEPROM) | Lens Unit | Prism Unit | Iris Unit | 4th Lens Frame Unit |
| Camera | CAM hole amplifier / Iris PWM | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | CAM Tracking and De-focus | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | CAM Revision CCD scratch | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | OIS HALL amplifier adjustment | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | CAM AWB adjustment | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Video | VCR Luminance level | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Note : : Adjustment Item

10 Maintenance

10.1. Cleaning Lens, Viewfinder and LCD Panel

Do not touch the surface of the lens, Viewfinder and LCD Panel with your hand.

When cleaning the lens, use air-Blower to blow off the dust.

When cleaning the LCD Panel, dampen the lens cleaning paper with lens cleaner, and the gently wipe the their surface.

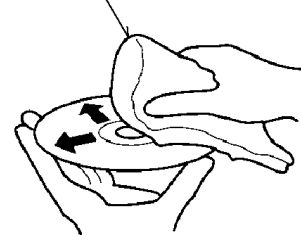
Note:

A lens cleaning paper and lens cleaner are available at local camera shops and market place.

10.2. Cleaning Disc

1. Use the provided disc cleaning cloth, or soft and dry cloth to lightly clean the disc from the inner to outer edges in axial direction.
2. If the dirt cannot be removed with the above procedure, put a few droplets of absolute alcohol in a soft and dry cloth, and use it to lightly clean the disc from the inner to outer edges in axial direction.

Disc cleaning cloth provided
or soft and dry cloth



CLEANING DISC

10.3. Cleaning optical pickup

Note:

Do not clean the optical pickup needlessly. The optical pickup is a precision component. Repeated cleaning could cause a fault.

1. Attach the AC adapter/charger or battery (power supply), and then slide the DISC EJECT switch to open the disc insertion block.
2. Remove the AC adapter/charger or battery (power supply).

Caution:

Laser light striking the eye may cause your eyesight to be lost : For safety, be sure to remove any power supply (AC adaptor/charger, battery, etc.) from the DVD video camera/recorder before starting work.

<CSA requirement>

CAUTION: VISIBLE LASER RADIATION DO NOT STARE INTO THE BEAM OR VIEW DIRECTLY WITH OPTICAL INSTRUMENTS CLASS 2M

3. Check to see whether the optical pickup is dirty. If it is not dirty, use the following procedure to clean it:

- a. Apply one drop of absolute alcohol on a clean cotton swab (*1).

Lens cleaner liquid for CD/DVD (generally available) may be substituted for absolute alcohol.

- b. Lightly swab the optical pickup to clean it.

Using too much force during cleaning may cause a fault to occur.

*1: Always use a fresh cotton swab free from any additive or chemical.

OPTICAL PICKUP

COTTON SWAB

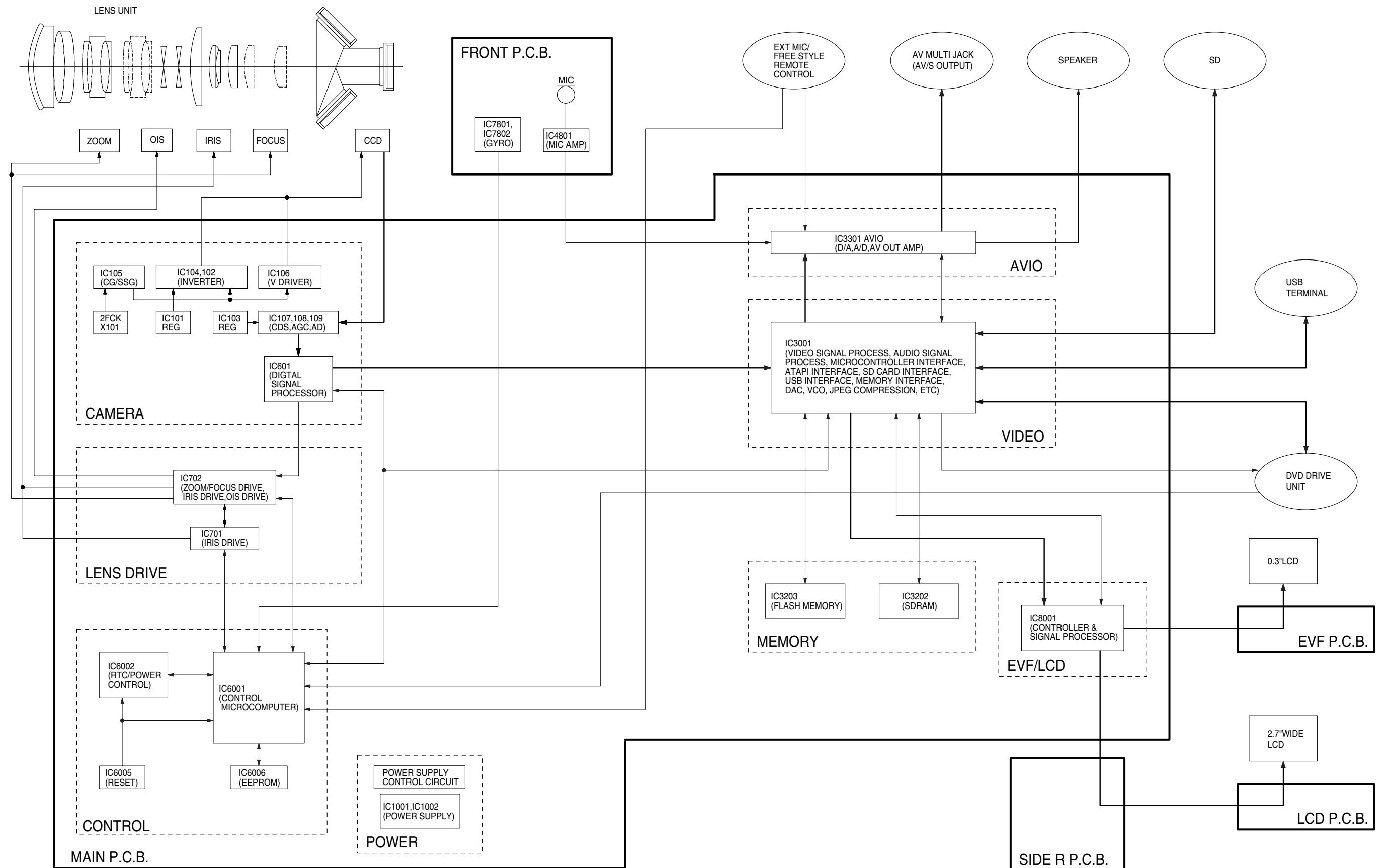


TURNTABLE

CLEANING OPTICAL PICKUP

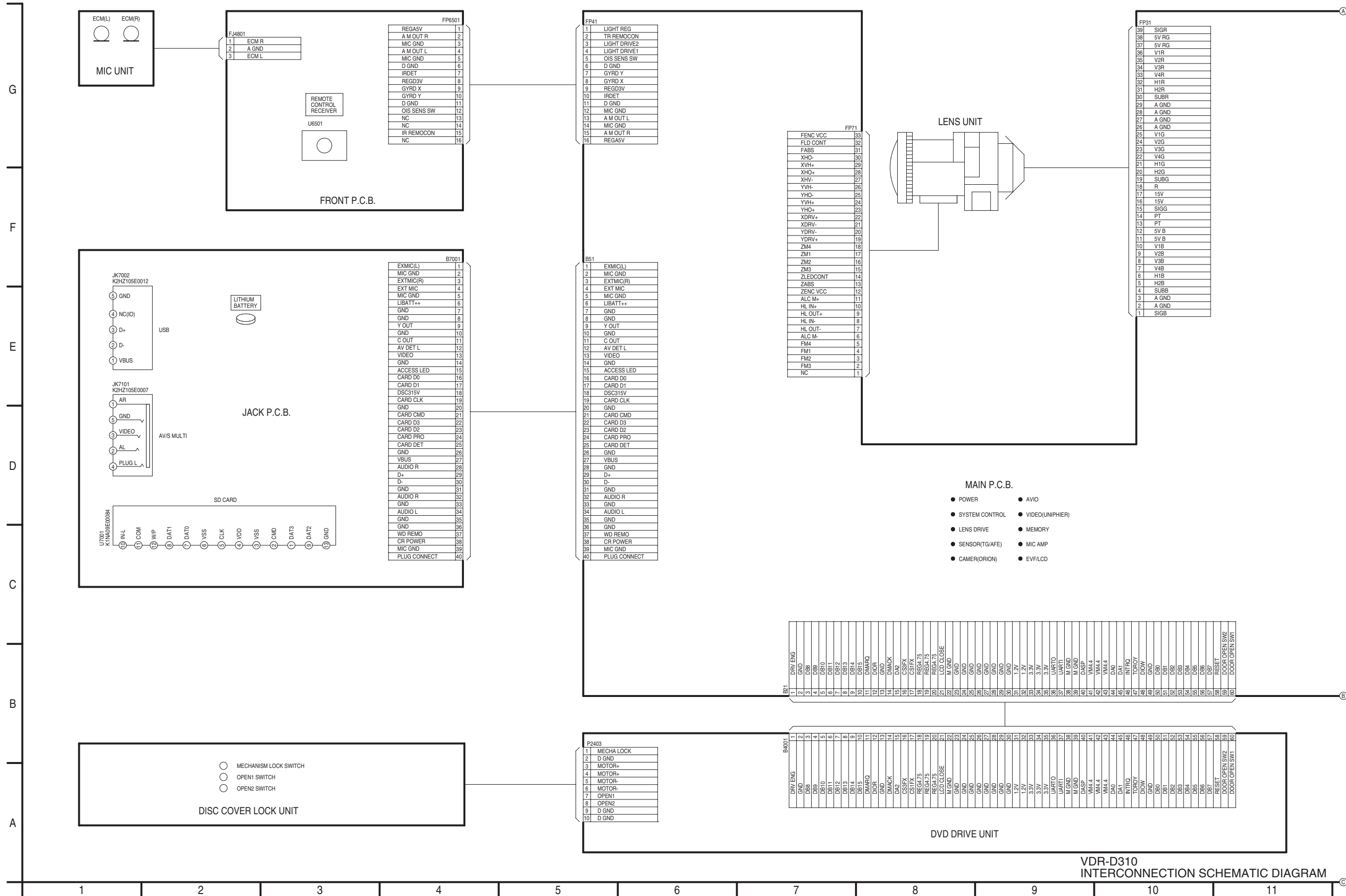
11 Schematic Diagrams

11.1. OVERALL SCHEMATIC DIAGRAM

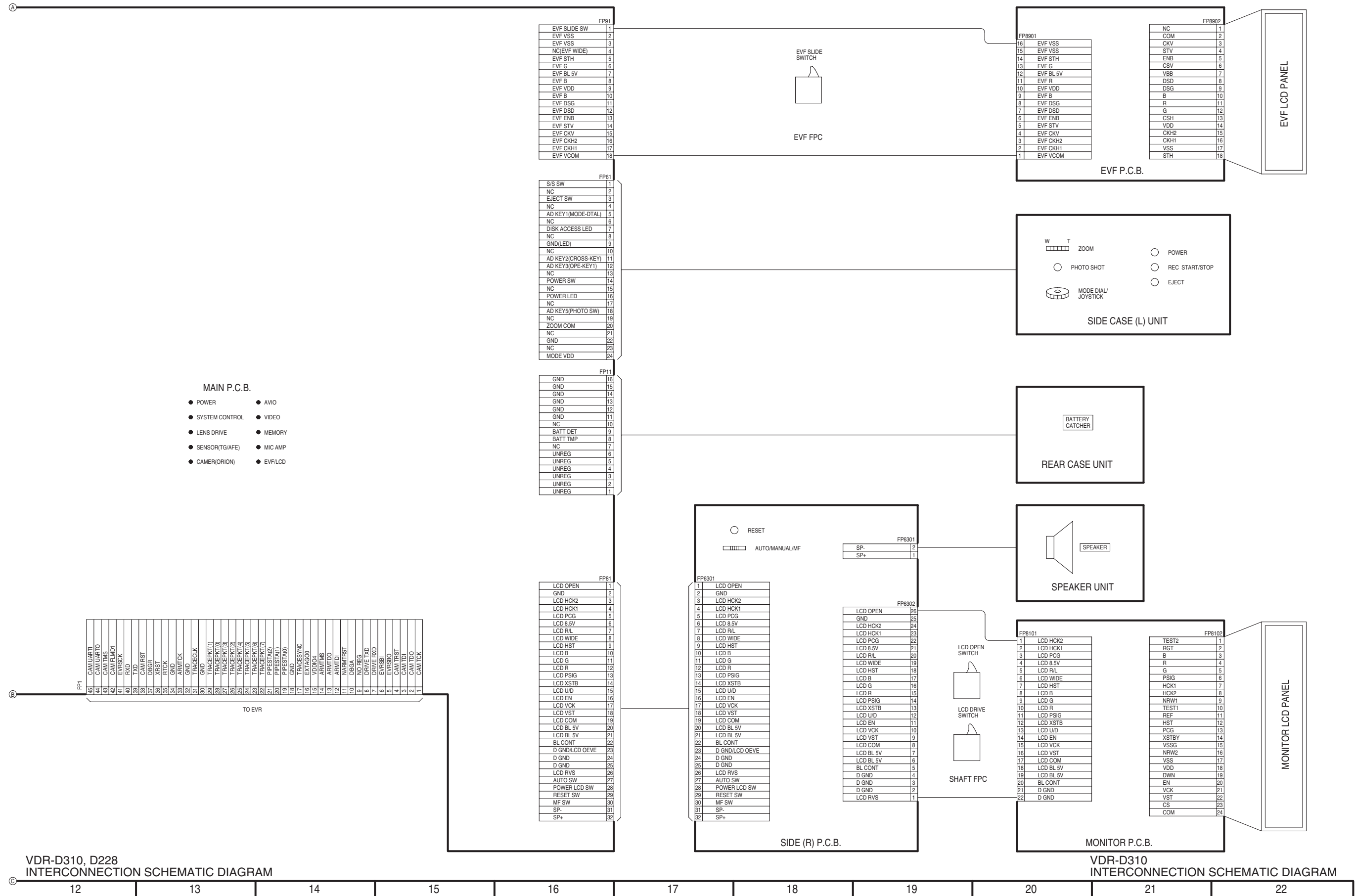


VDR-D310
OVERALL SCHEMATIC DIAGRAM

11.2. INTERCONNECTION SCHEMATIC DIAGRAM



VDR-D310 INTERCONNECTION SCHEMATIC DIAGRAM

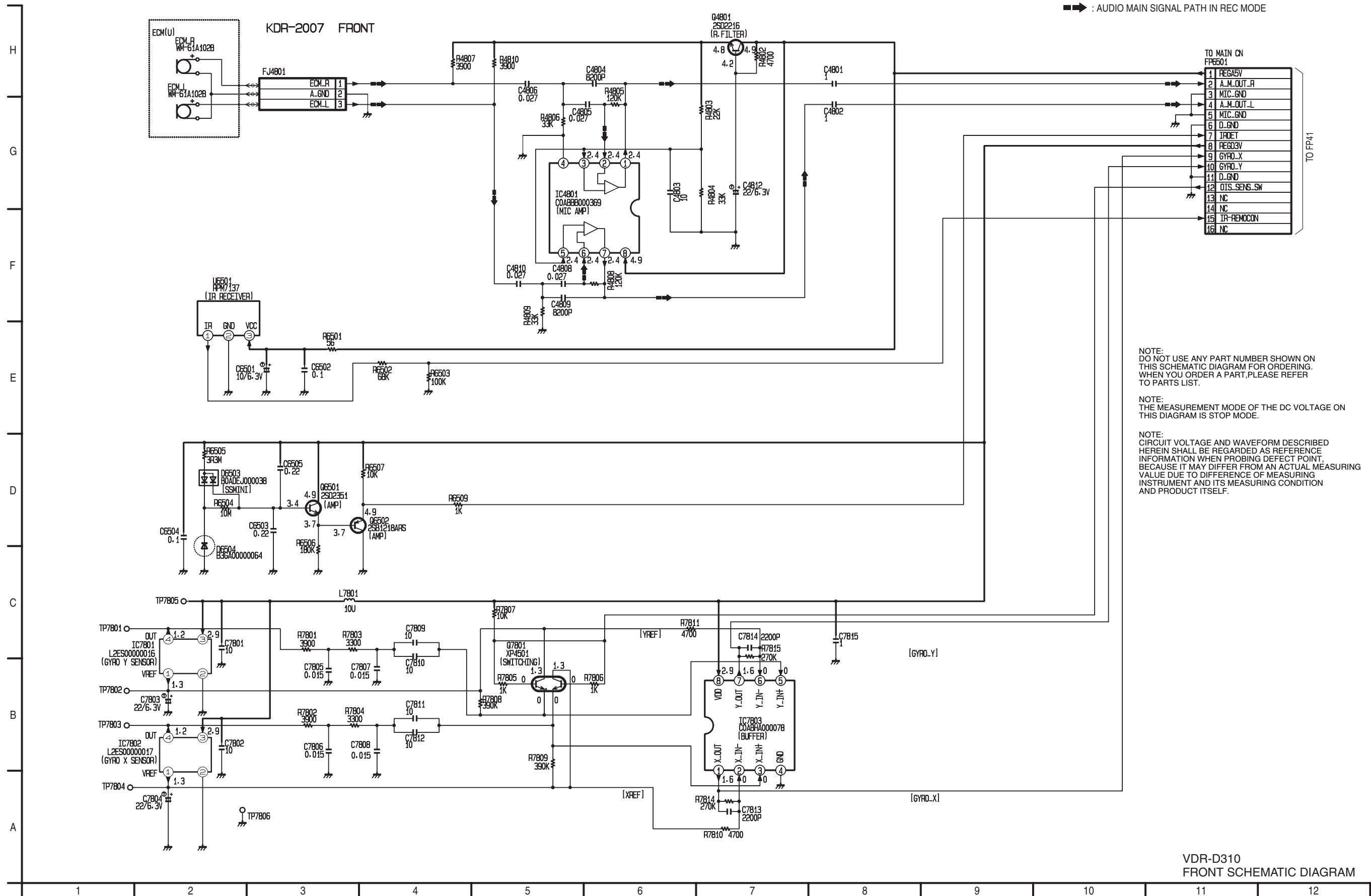


VDR-D310, D228
INTERCONNECTION SCHEMATIC DIAGRAM

VDR-D310
INTERCONNECTION SCHEMATIC DIAGRAM

11.3. FRONT SCHEMATIC DIAGRAM

(FRONT P.C.B.)

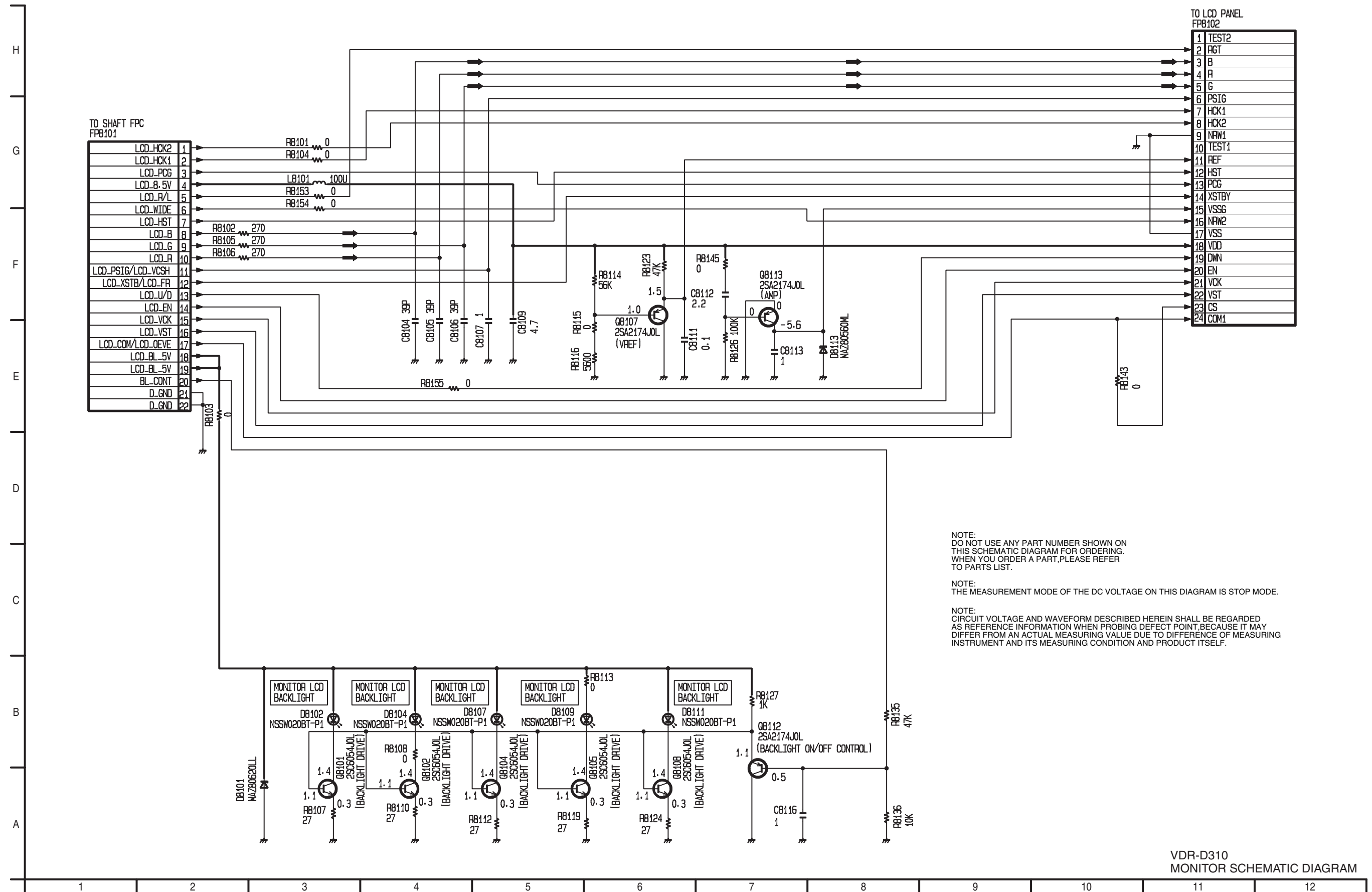


VDR-D310 FRONT SCHEMATIC DIAGRAM

11.4. MONITOR SCHEMATIC DIAGRAM

(MONITOR P.C.B.)

➔ : VIDEO MAIN SIGNAL PATH



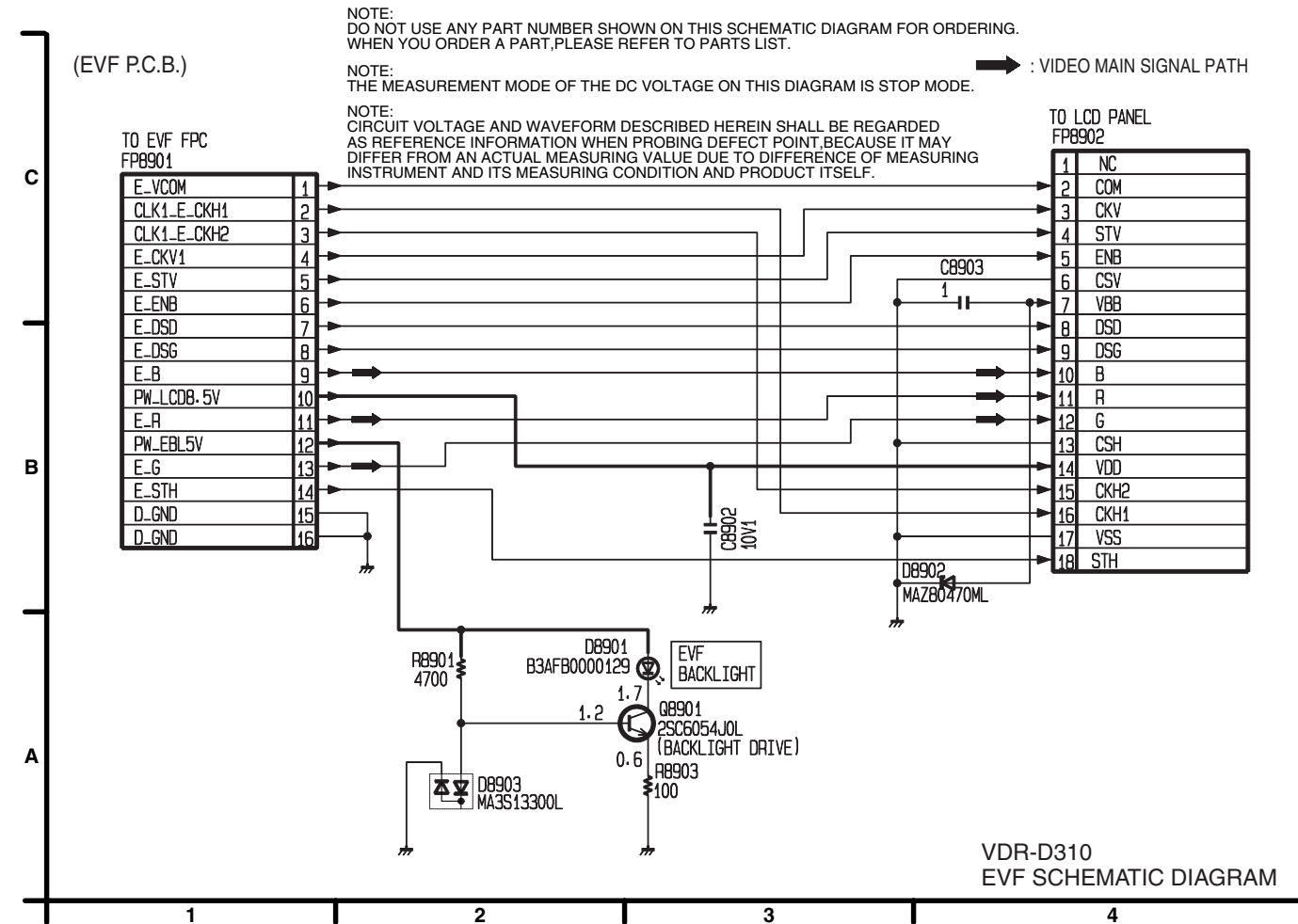
NOTE:
DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE:
THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

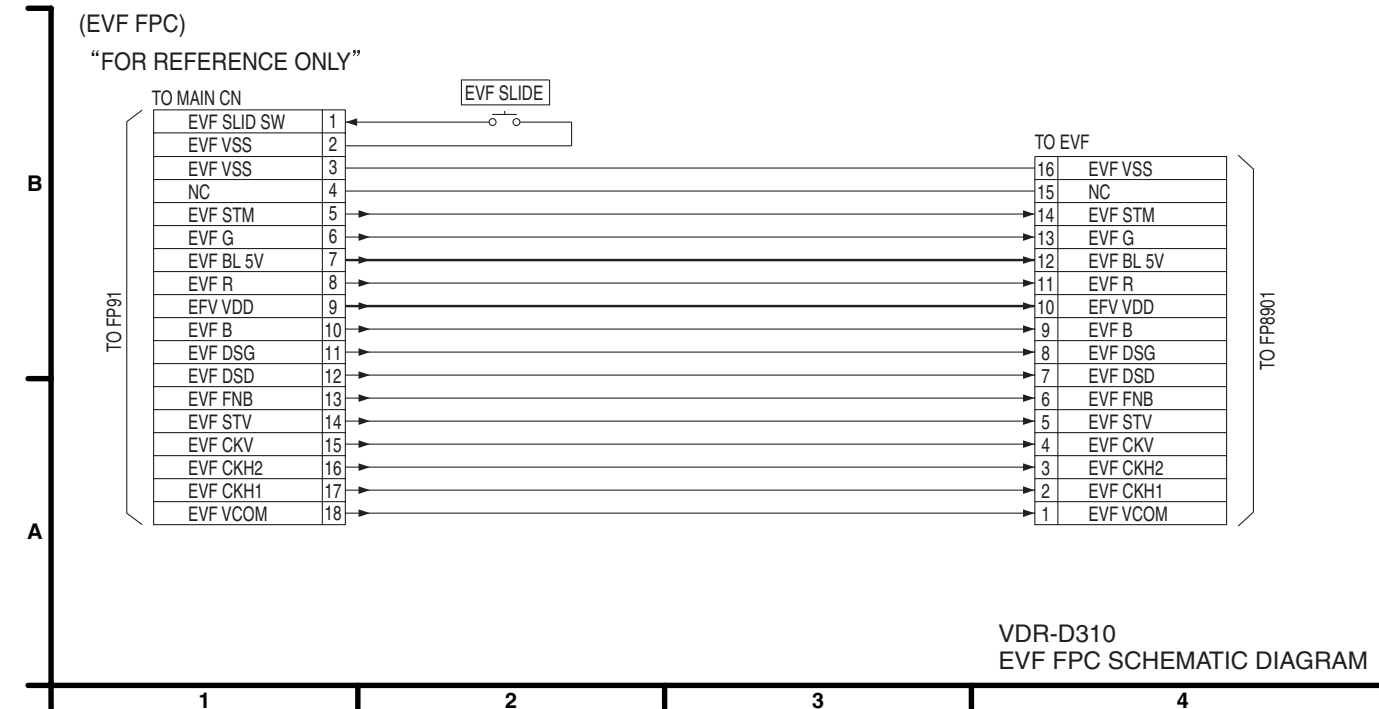
NOTE:
CIRCUIT VOLTAGE AND WAVEFORM DESCRIBED HEREIN SHALL BE REGARDED AS REFERENCE INFORMATION WHEN PROBING DEFECT POINT, BECAUSE IT MAY DIFFER FROM AN ACTUAL MEASURING VALUE DUE TO DIFFERENCE OF MEASURING INSTRUMENT AND ITS MEASURING CONDITION AND PRODUCT ITSELF.

VDR-D310
MONITOR SCHEMATIC DIAGRAM

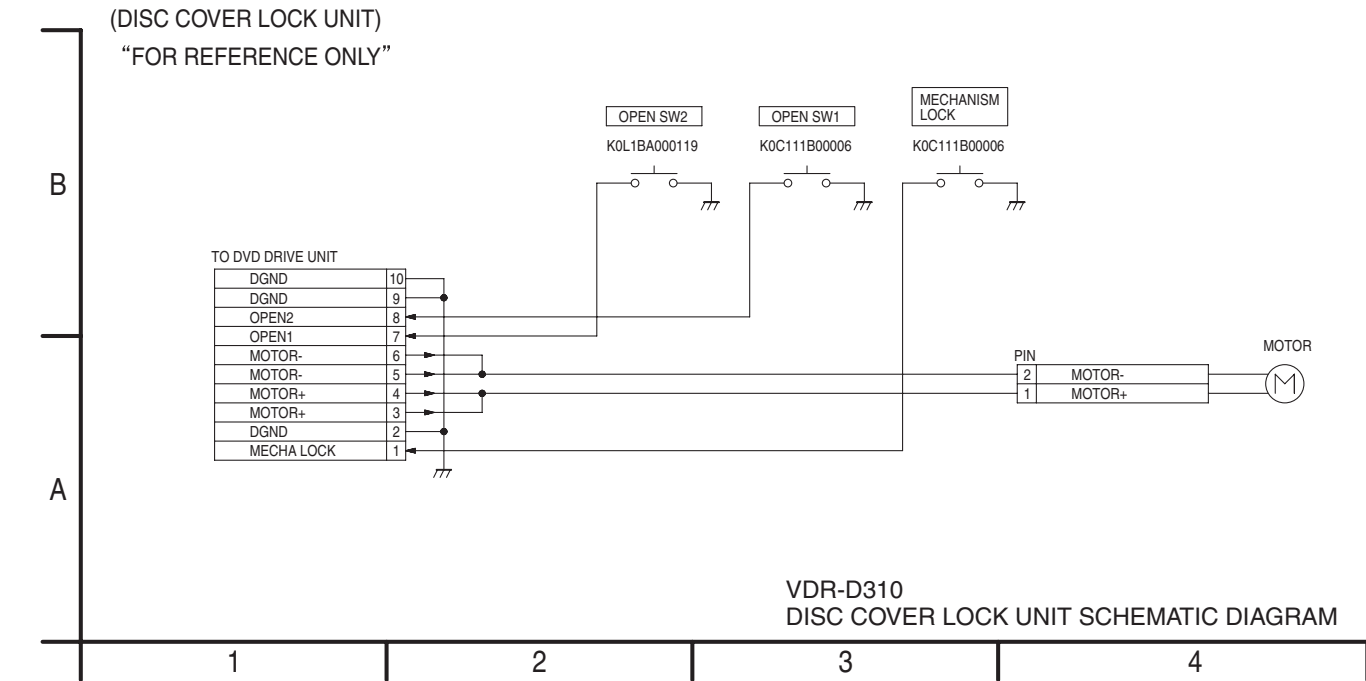
11.5. EVF SCHEMATIC DIAGRAM



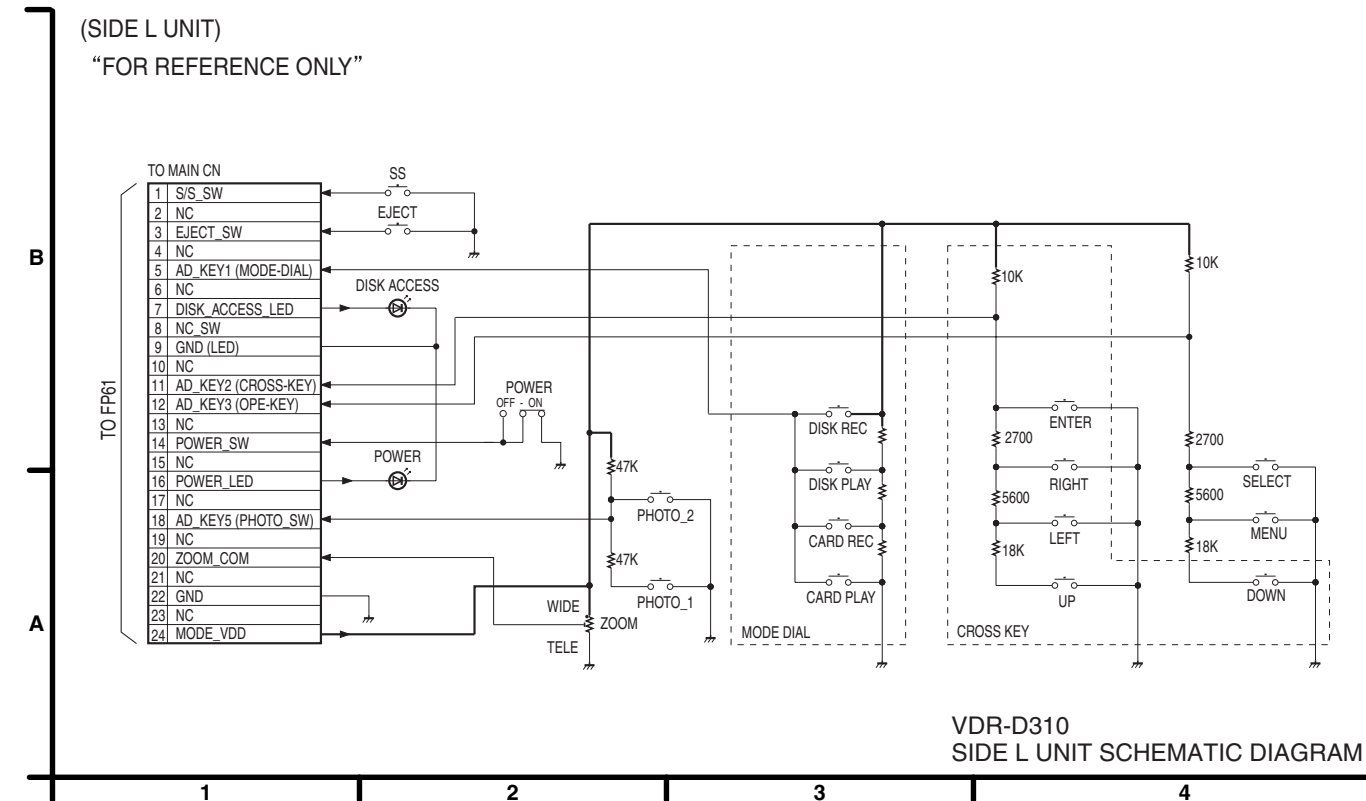
11.6. EVF FPC SCHEMATIC DIAGRAM



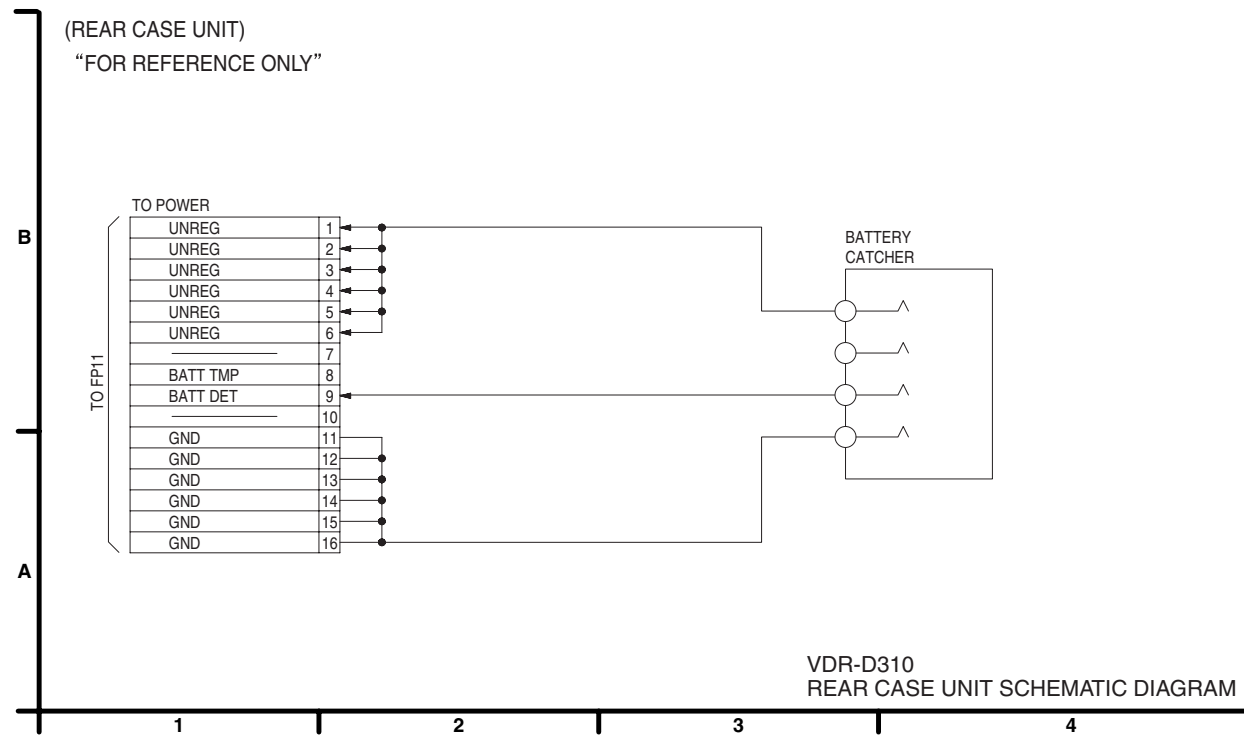
11.7. DISC COVER LOCK UNIT SCHEMATIC DIAGRAM



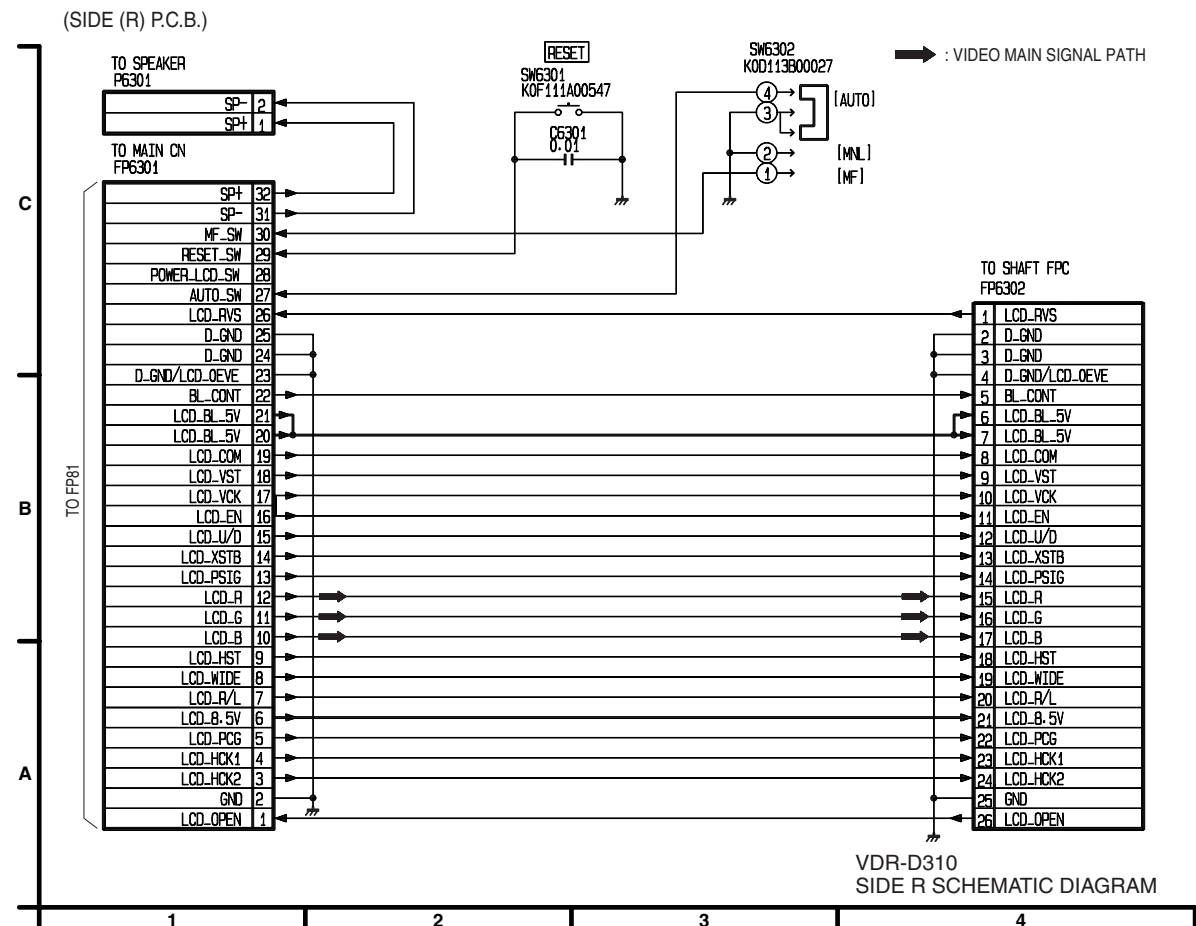
11.8. SIDE L UNIT SCHEMATIC DIAGRAM



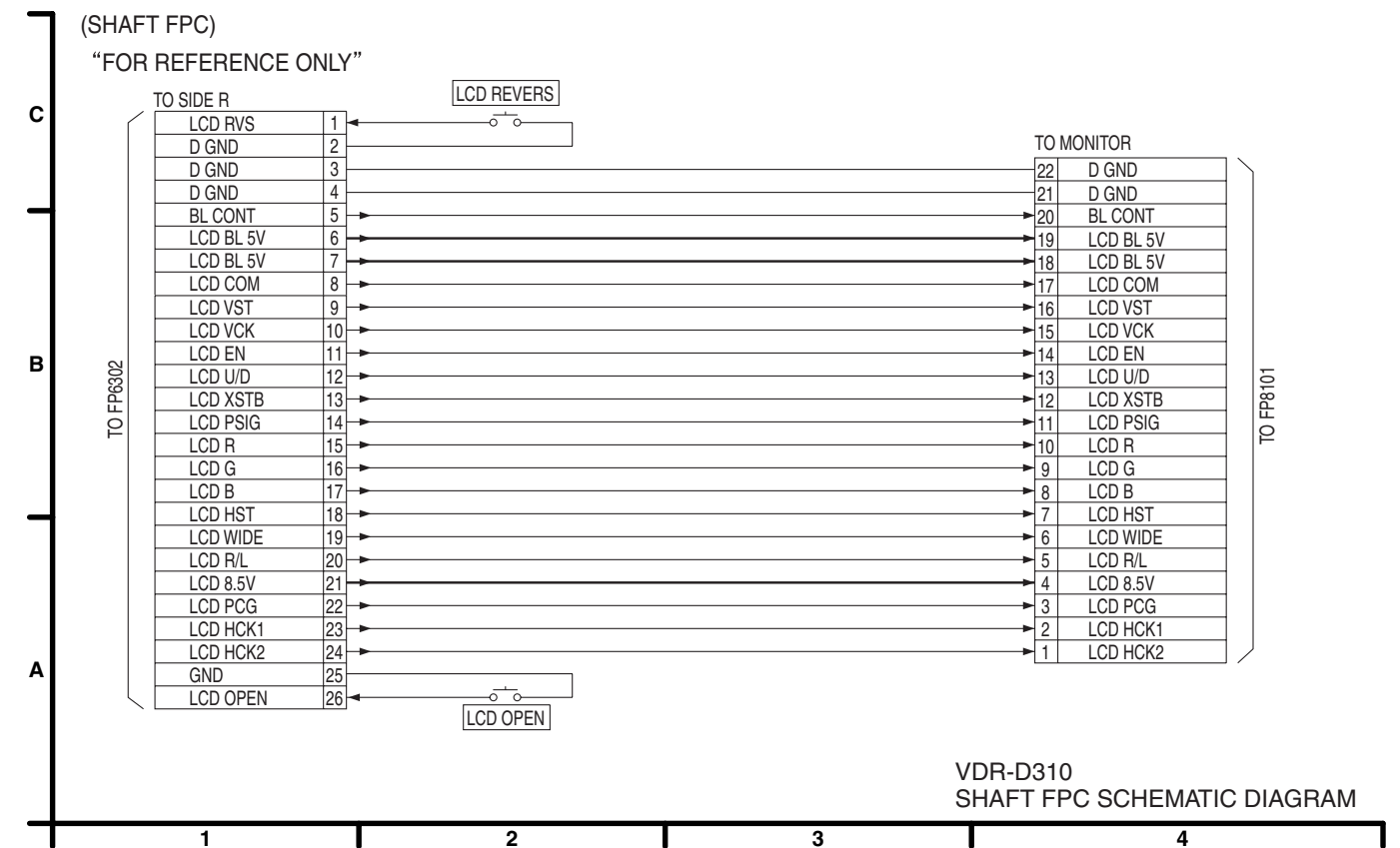
11.9. REAR CASE UNIT SCHEMATIC DIAGRAM



11.10. SIDE R SCHEMATIC DIAGRAM

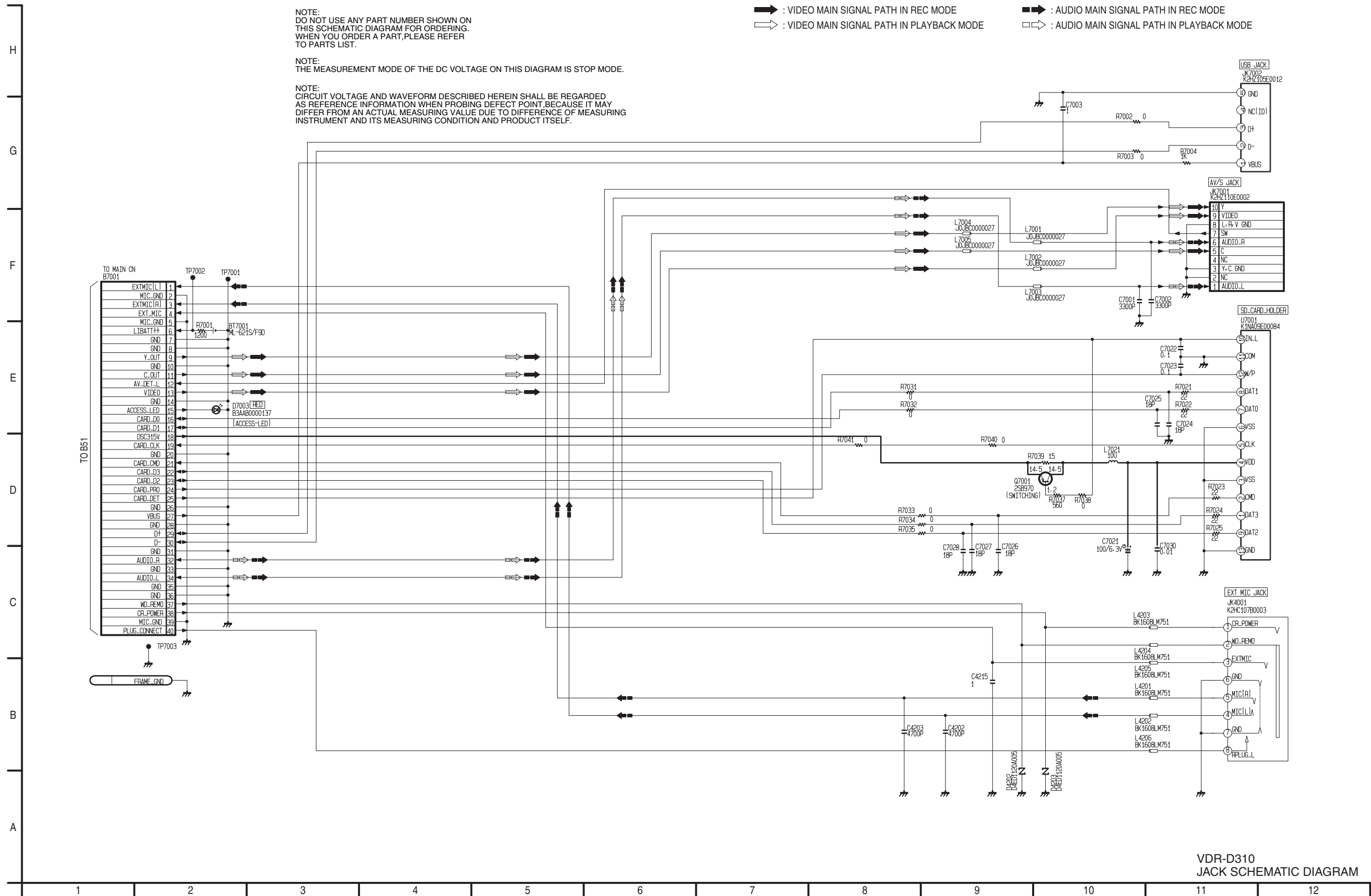


11.11. SHAFT FPC SCHEMATIC DIAGRAM



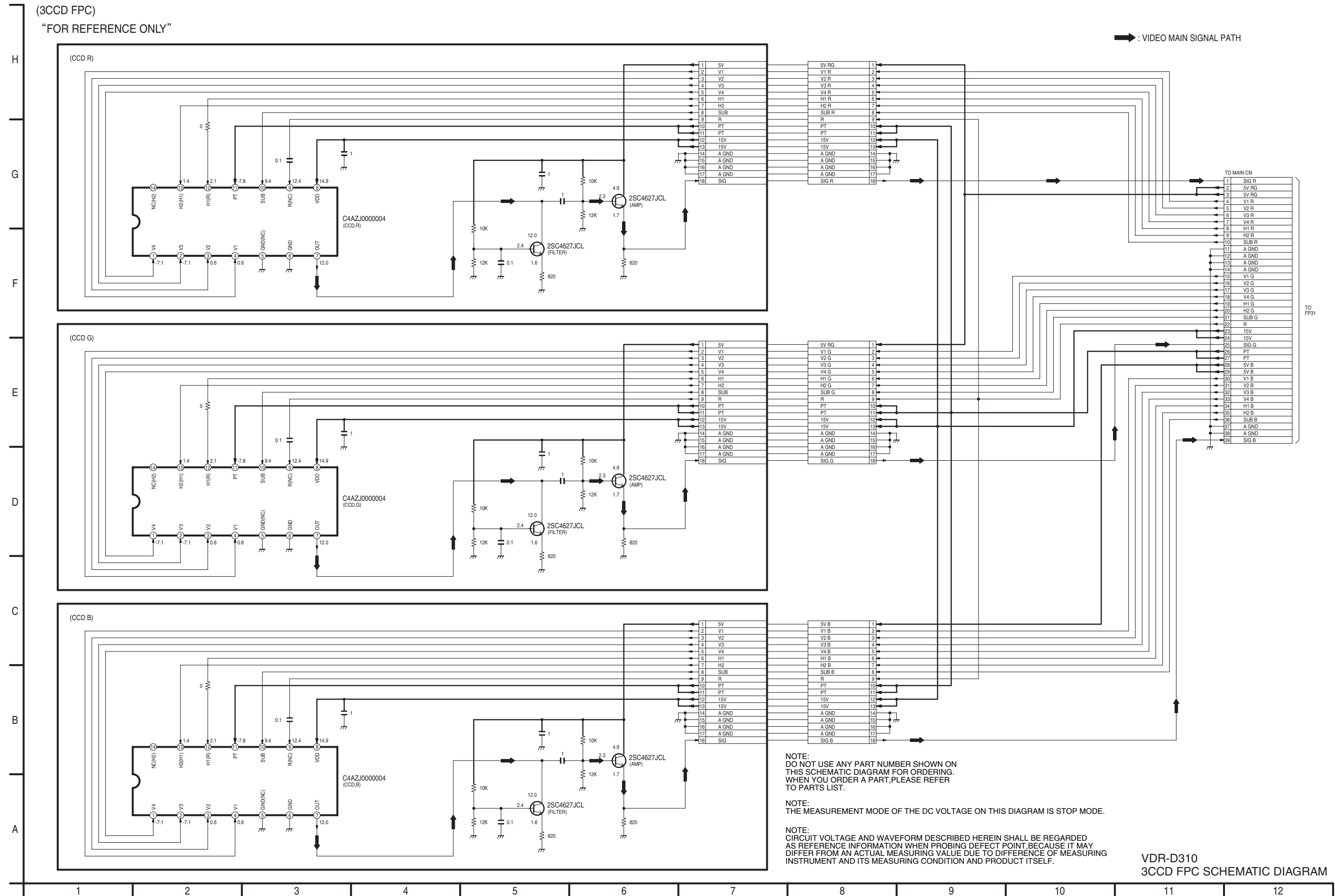
11.12. JACK SCHEMATIC DIAGRAM

(JACK P.C.B.)



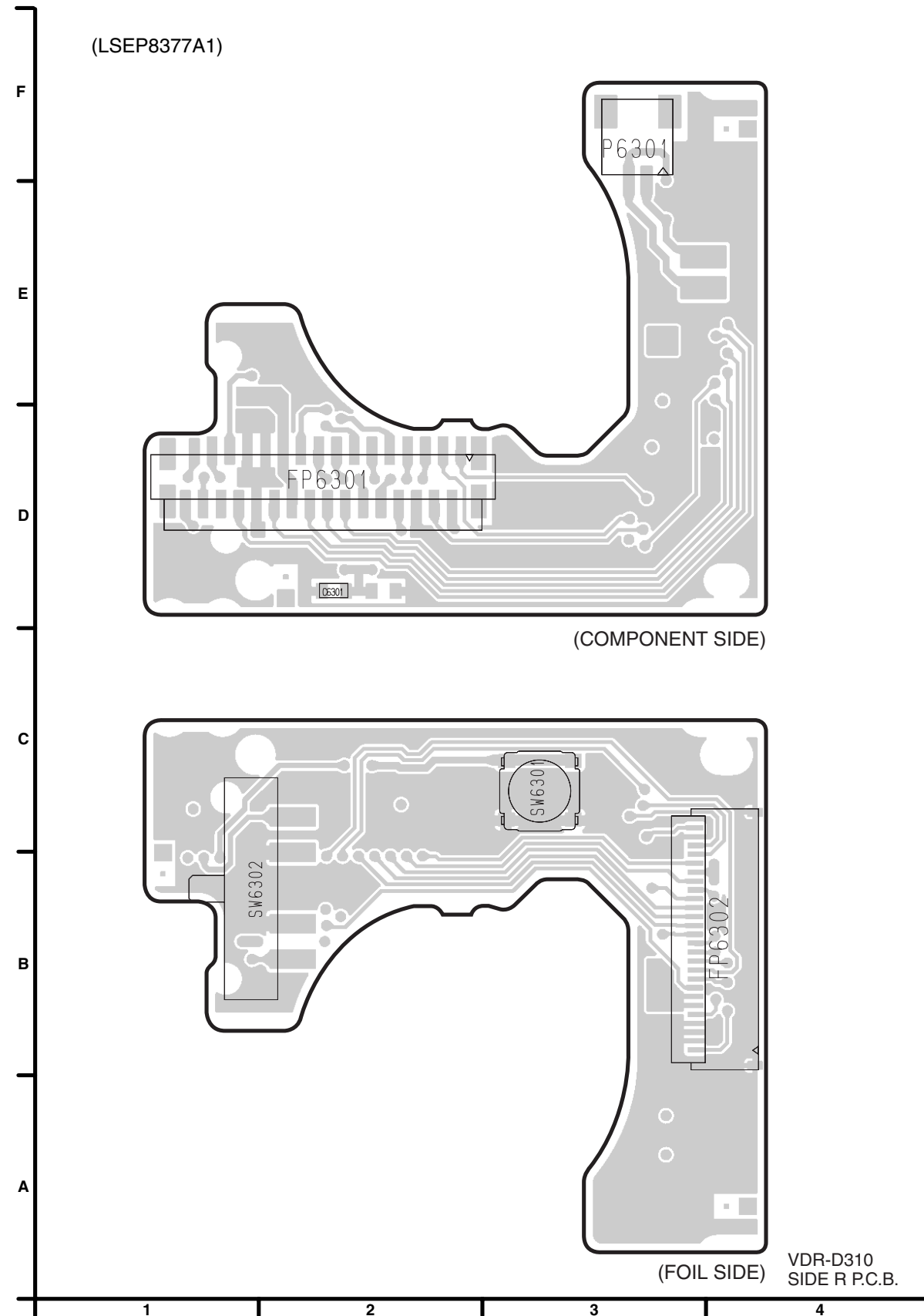
VDR-D310 JACK SCHEMATIC DIAGRAM

11.13. 3CCD FPC SCHEMATIC DIAGRAM

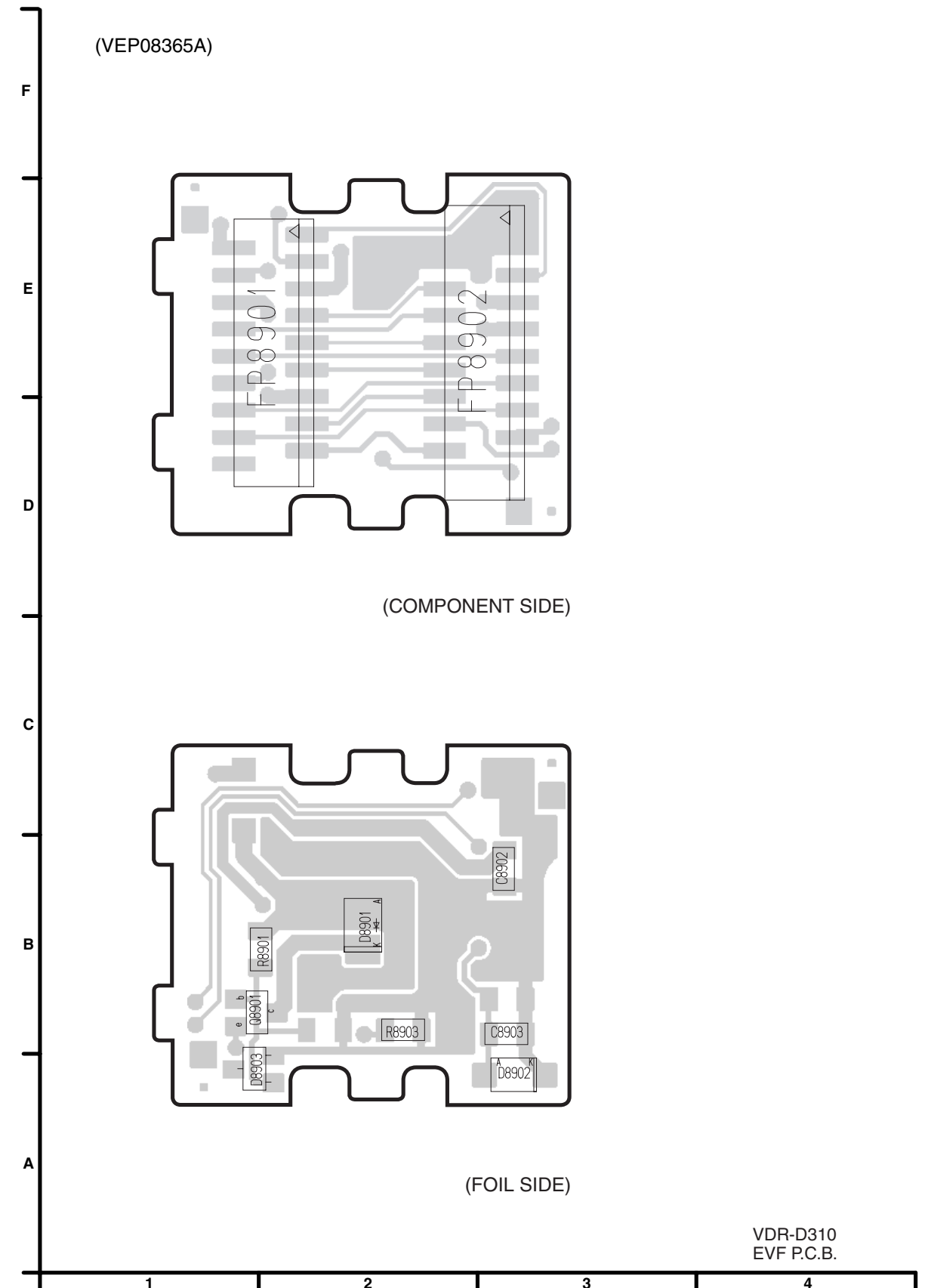


12 Printed Circuit Board

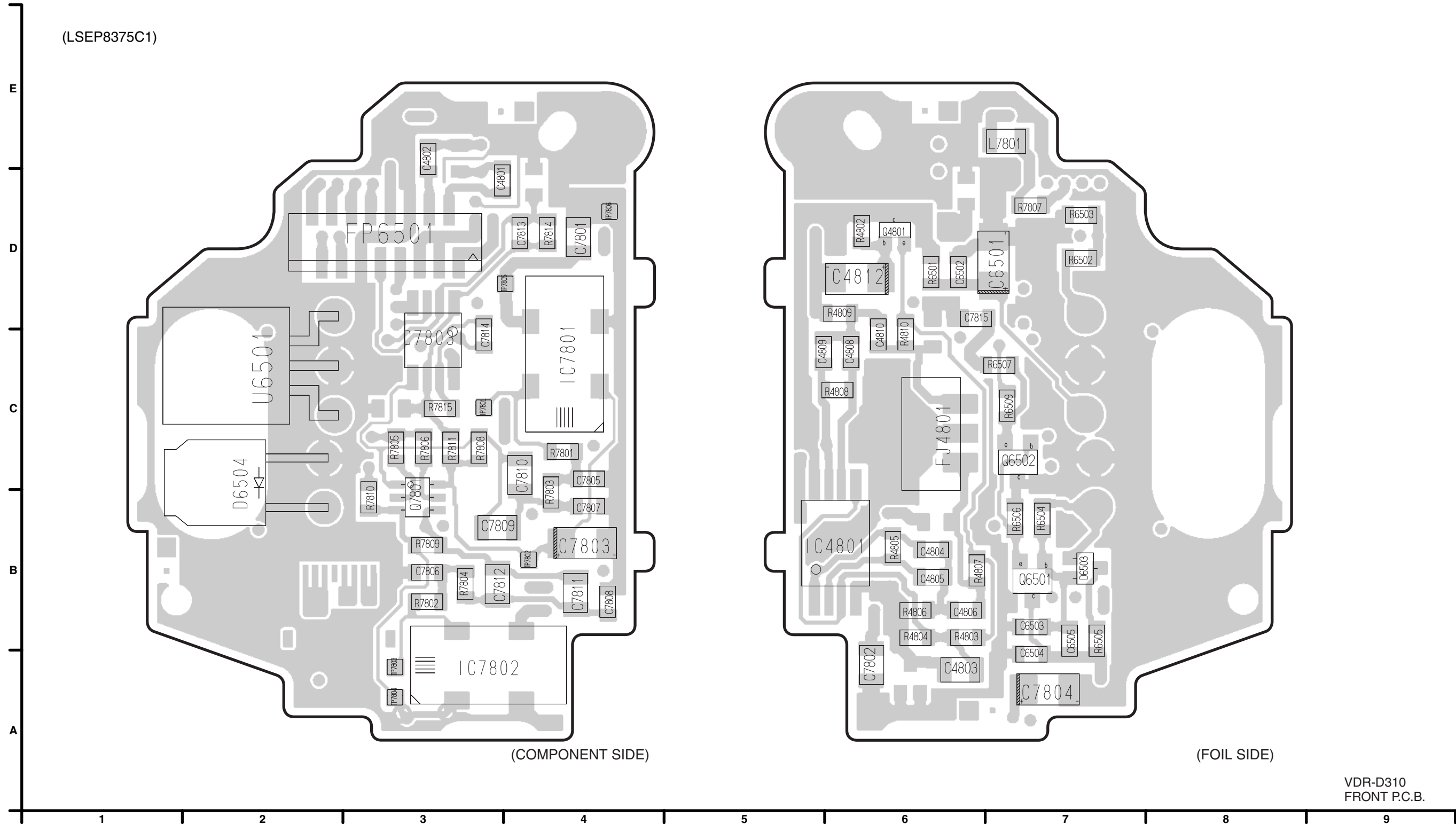
12.1. SIDE R P.C.B.



12.2. EVF P.C.B.



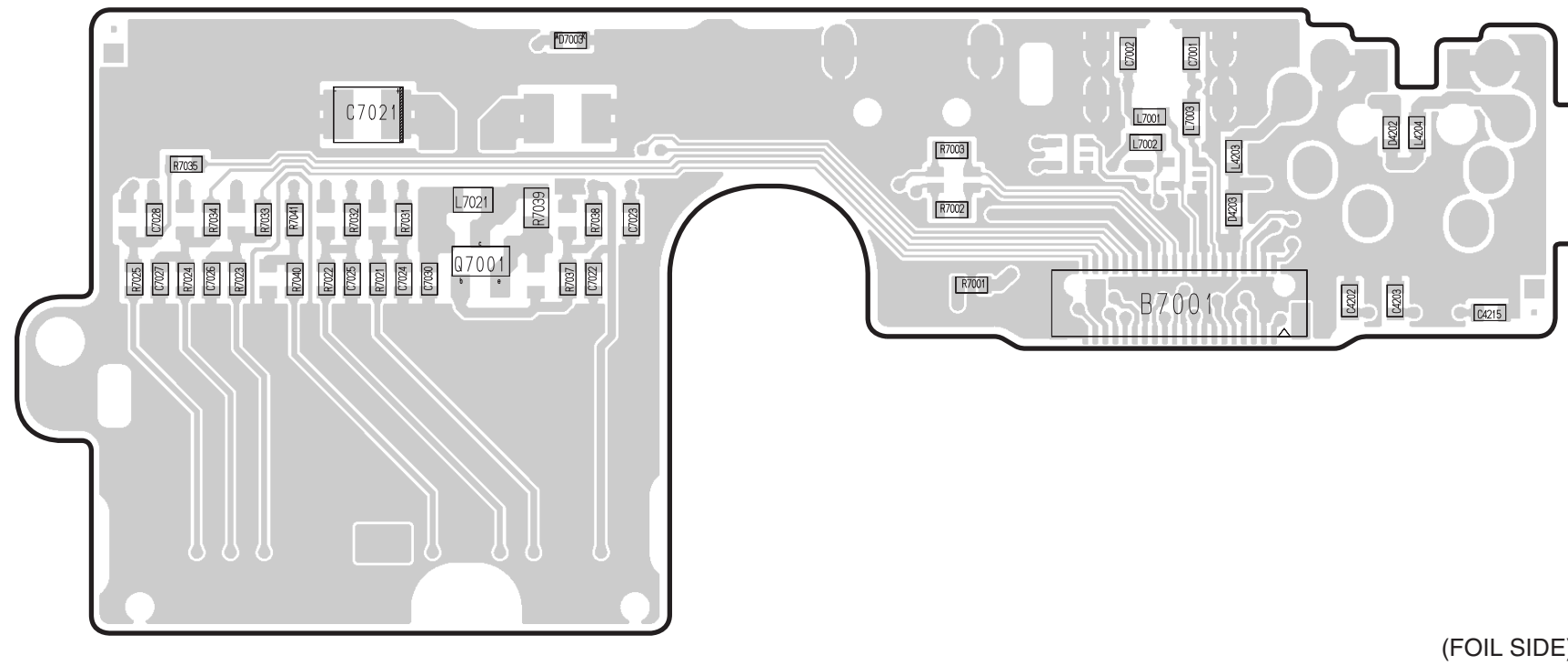
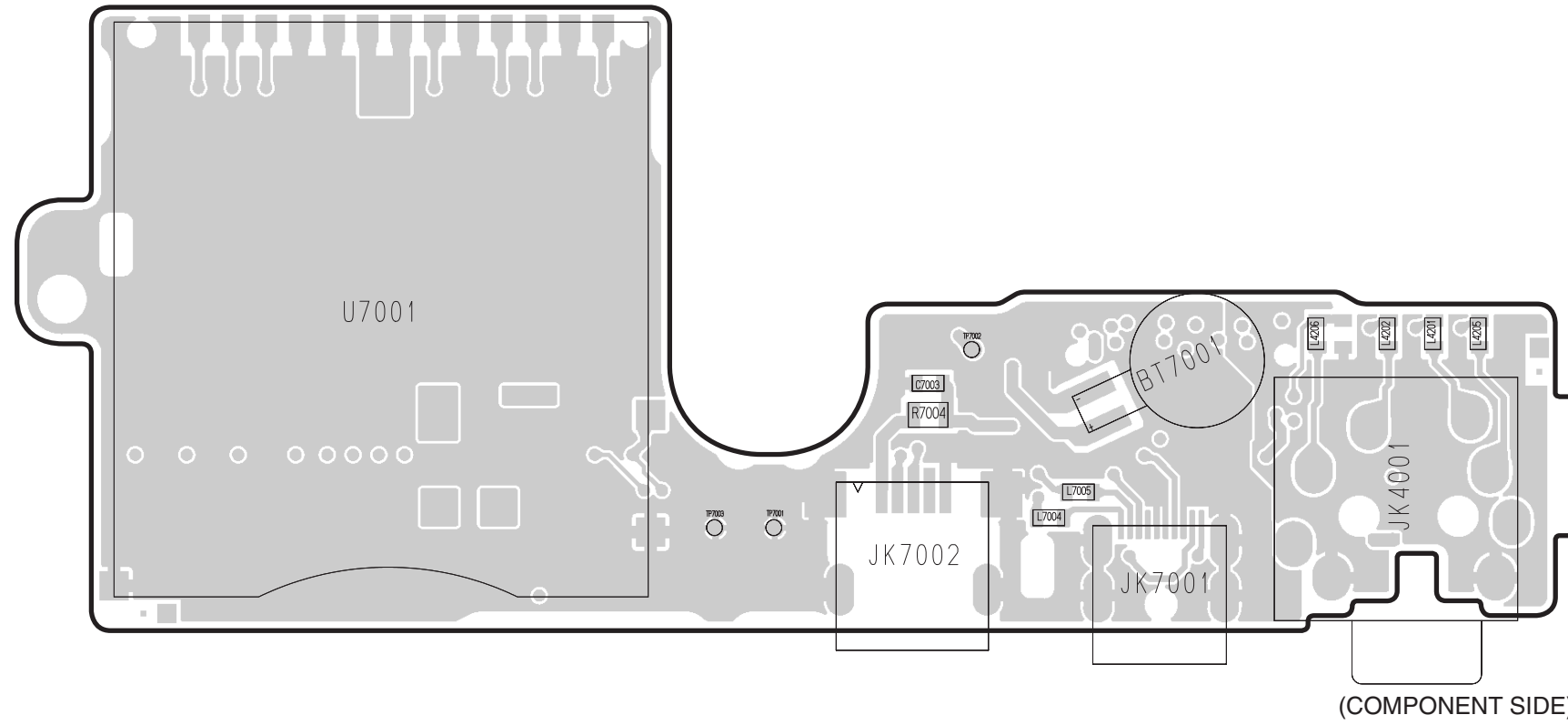
12.3. FRONT P.C.B.



12.4. JACK P.C.B.

(LSEP8376B1)

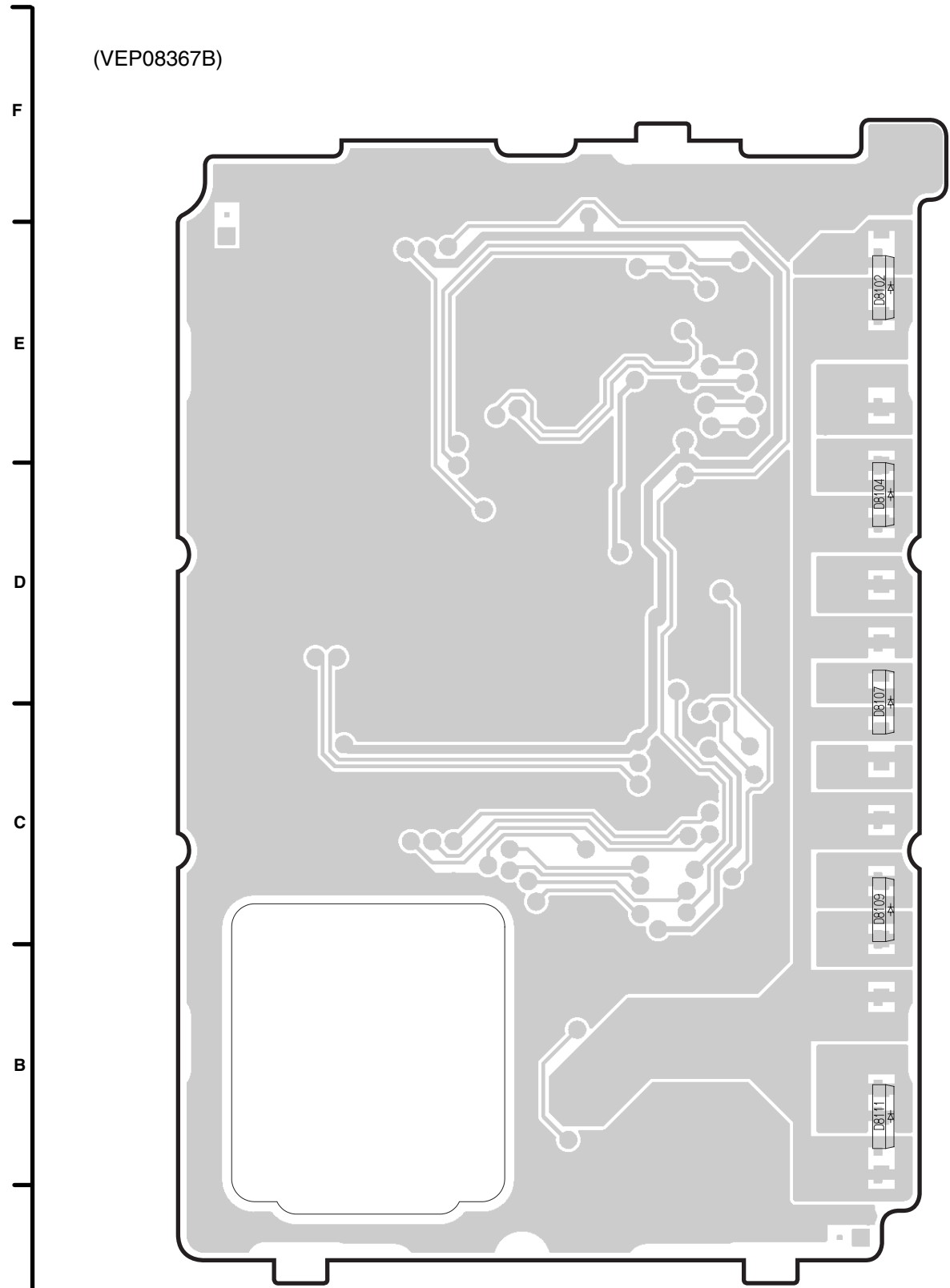
F
E
D
C
B
A



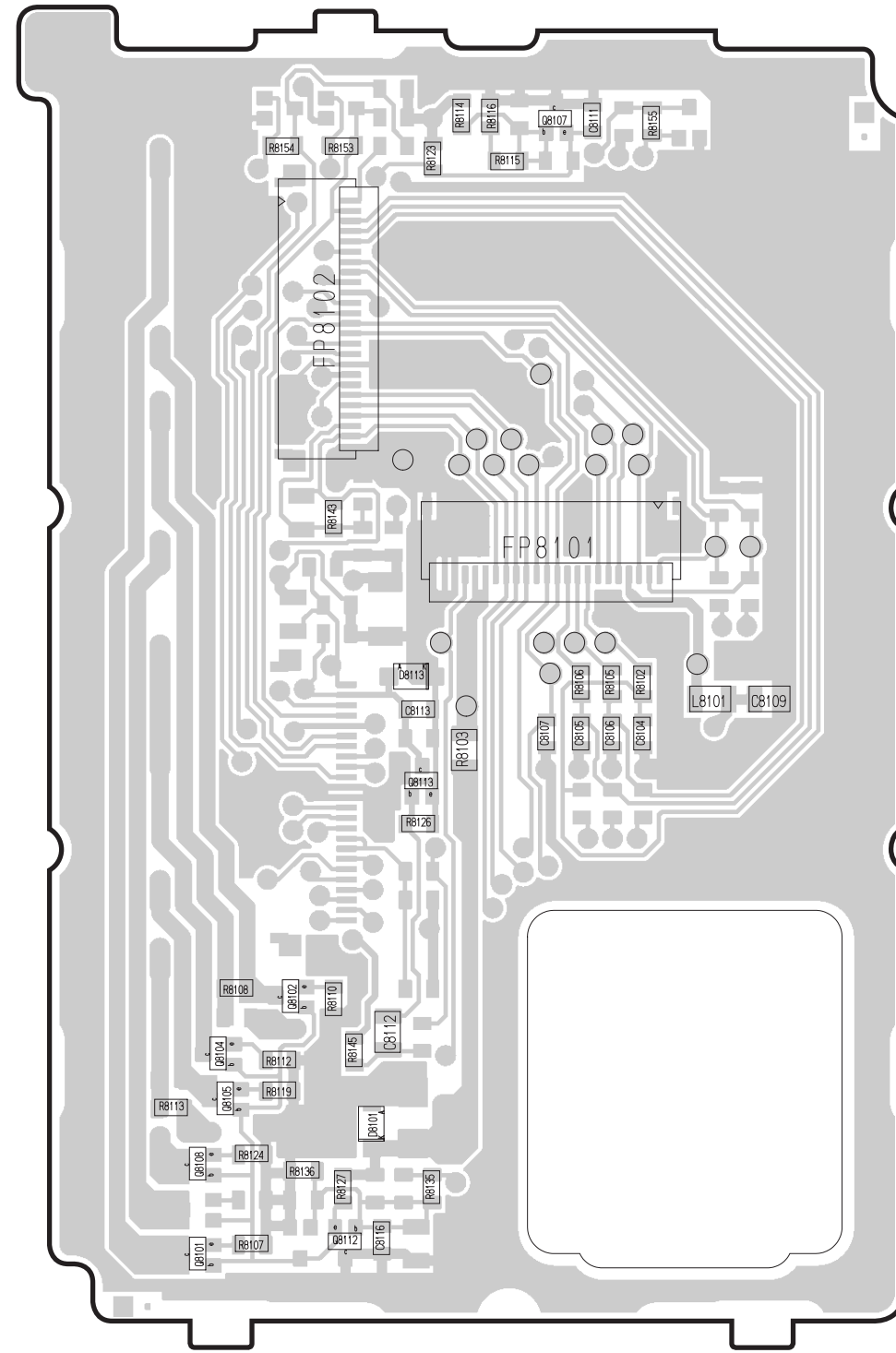
1 2 3 4 5 6 7 8 9

12.5. MONITOR P.C.B.

(VEP08367B)



(COMPONENT SIDE)



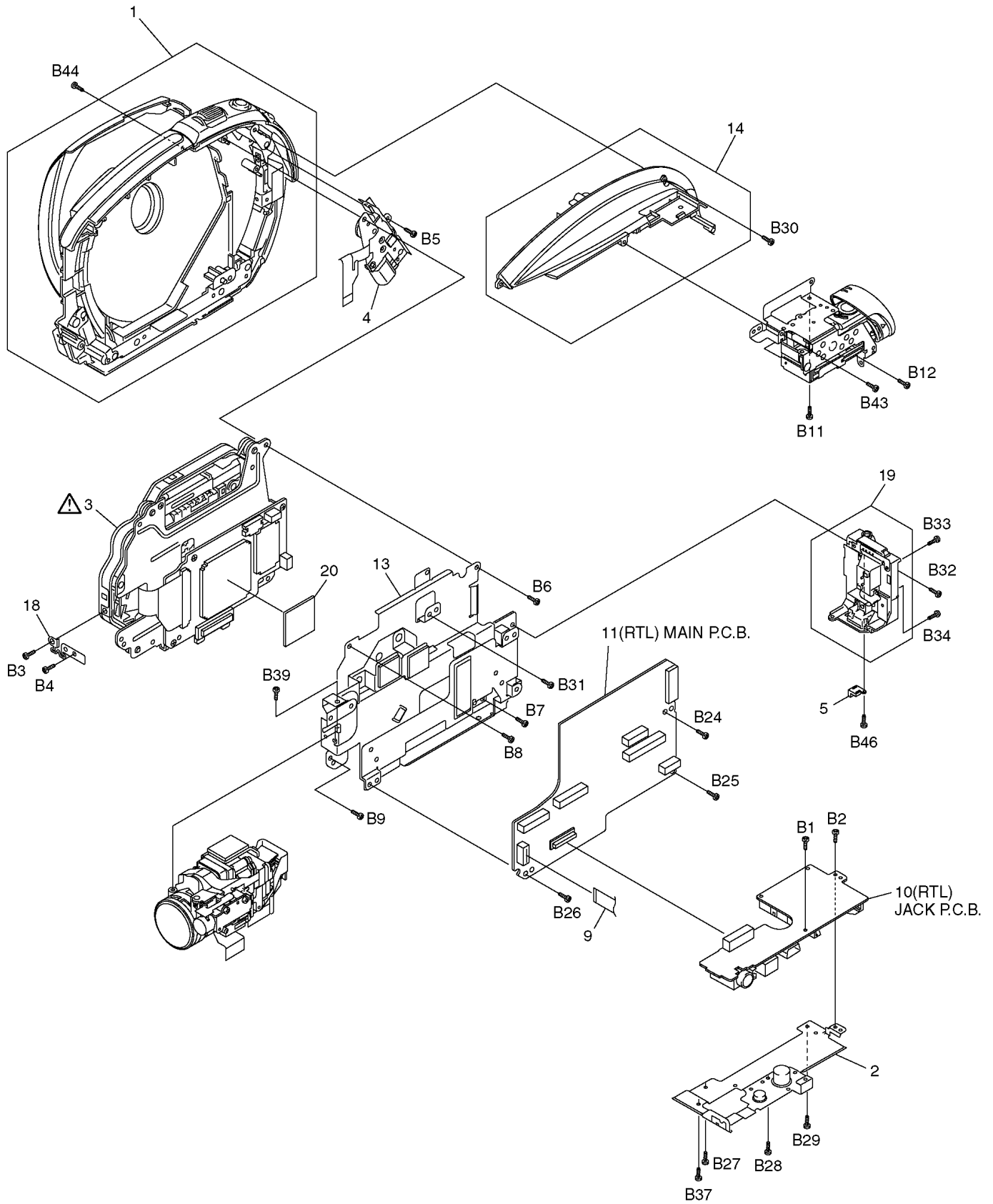
(FOIL SIDE)

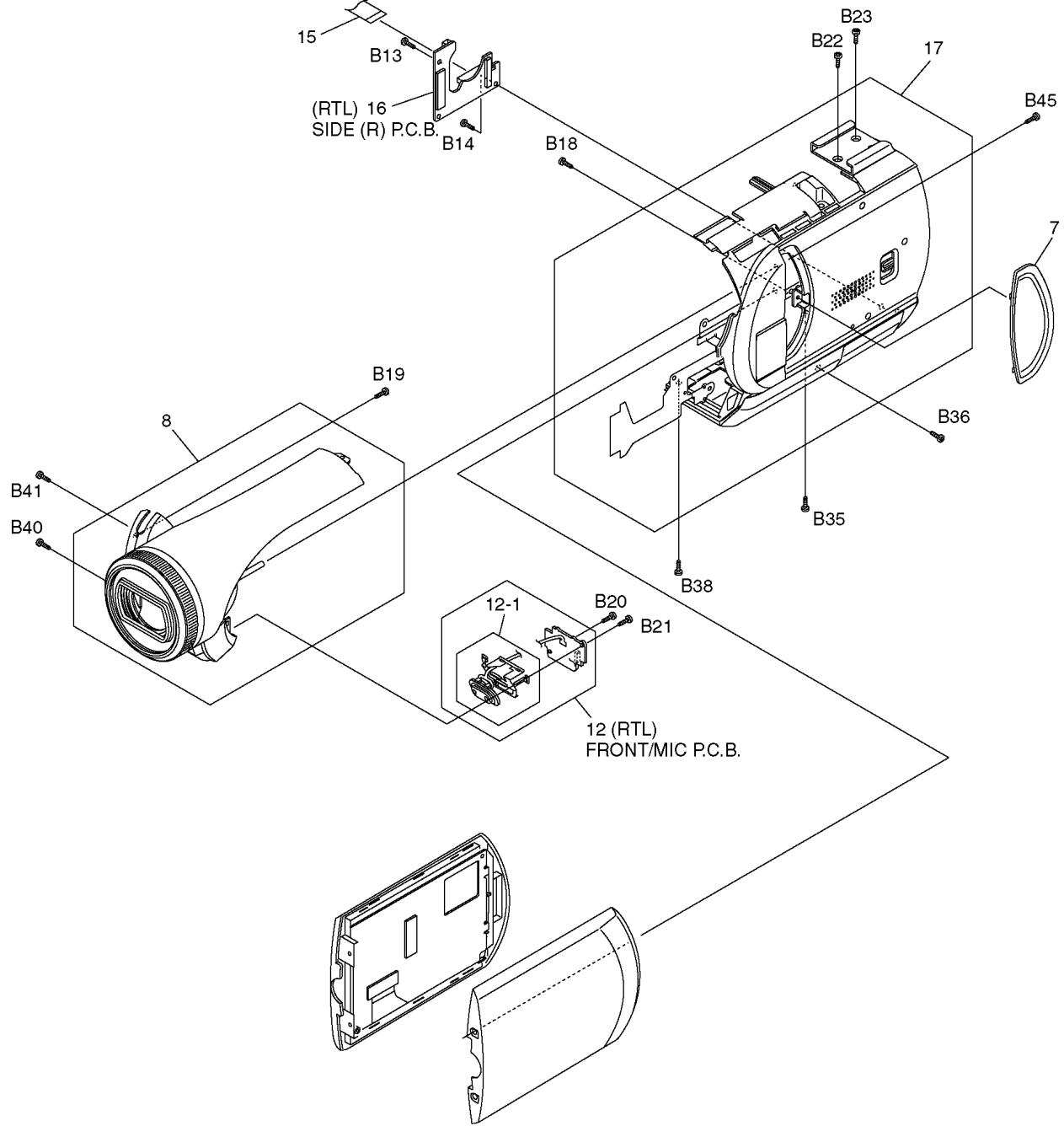
VDR-D310
MONITOR P.C.B.

13 Parts and Exploded Views

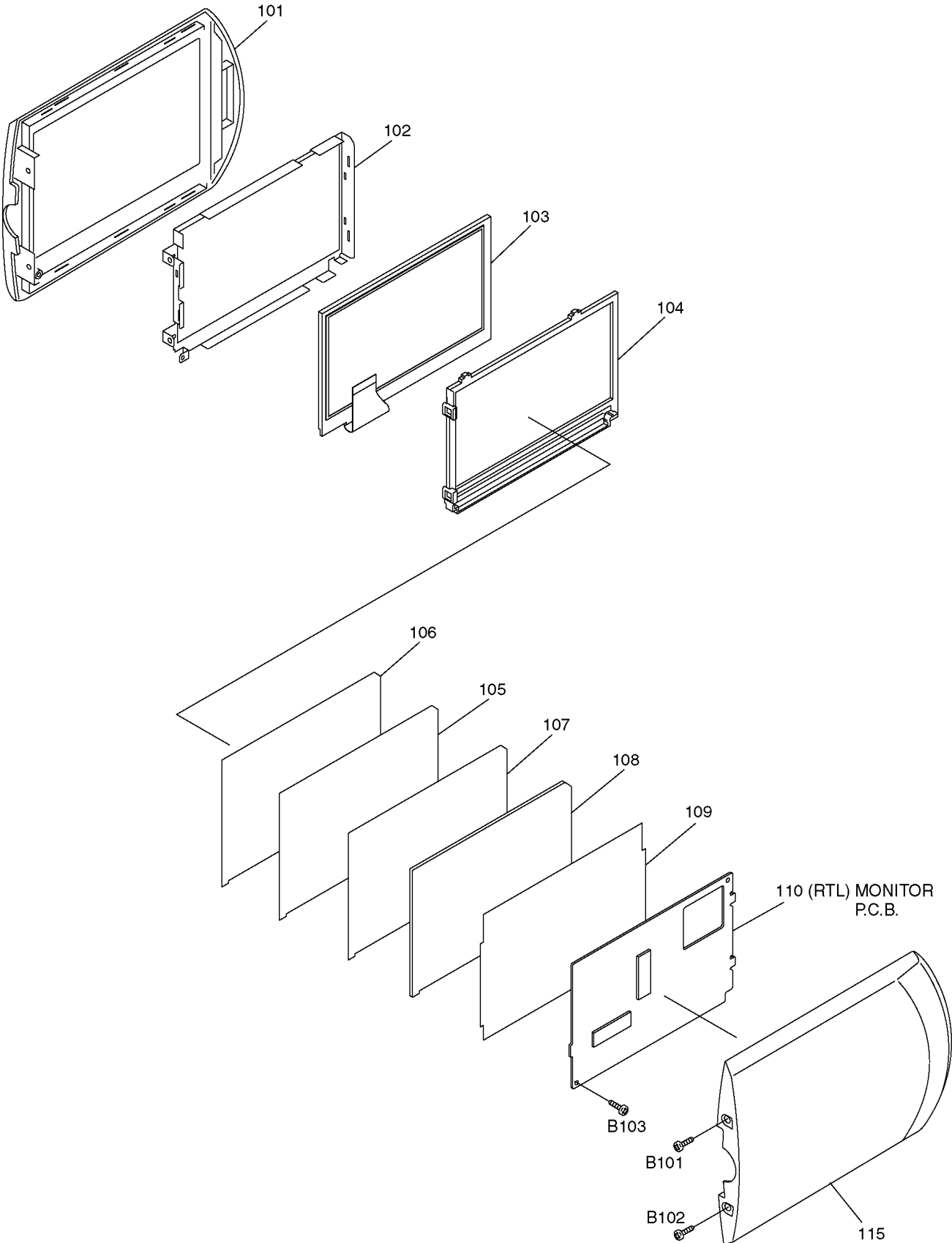
13.1. EXPLODED VIEWS

13.1.1. FRAME & CASING SECTION

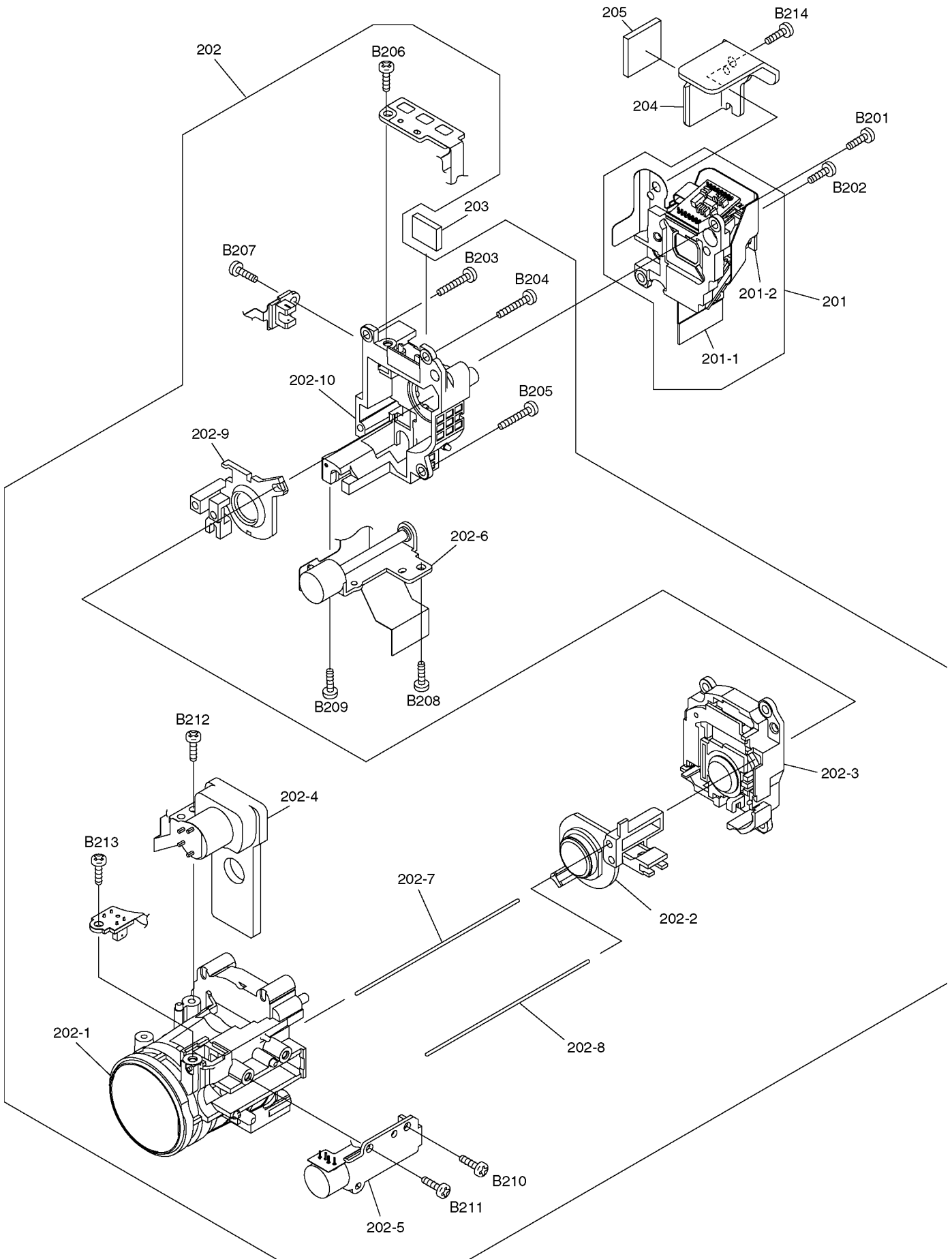




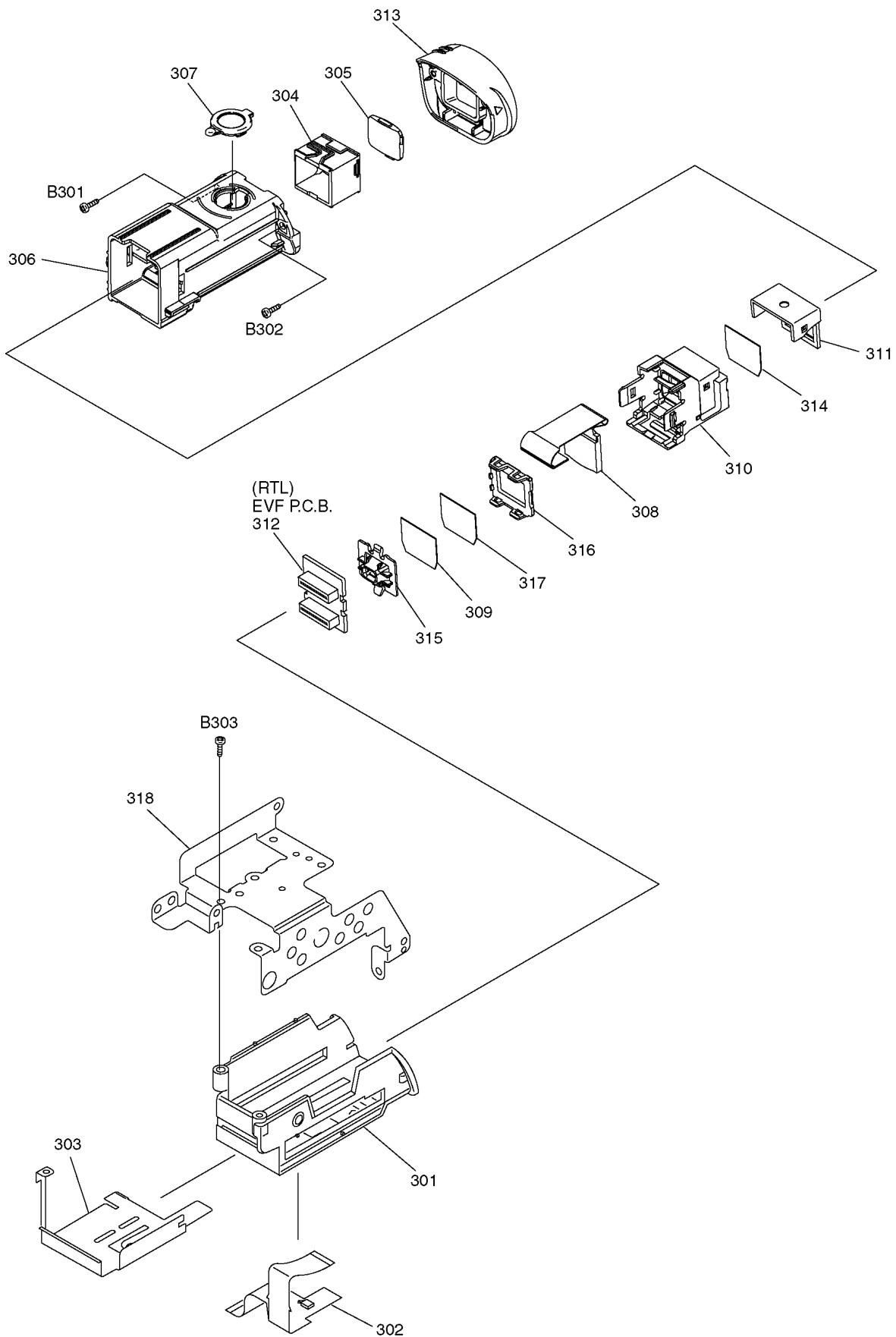
13.1.2. LCD SECTION



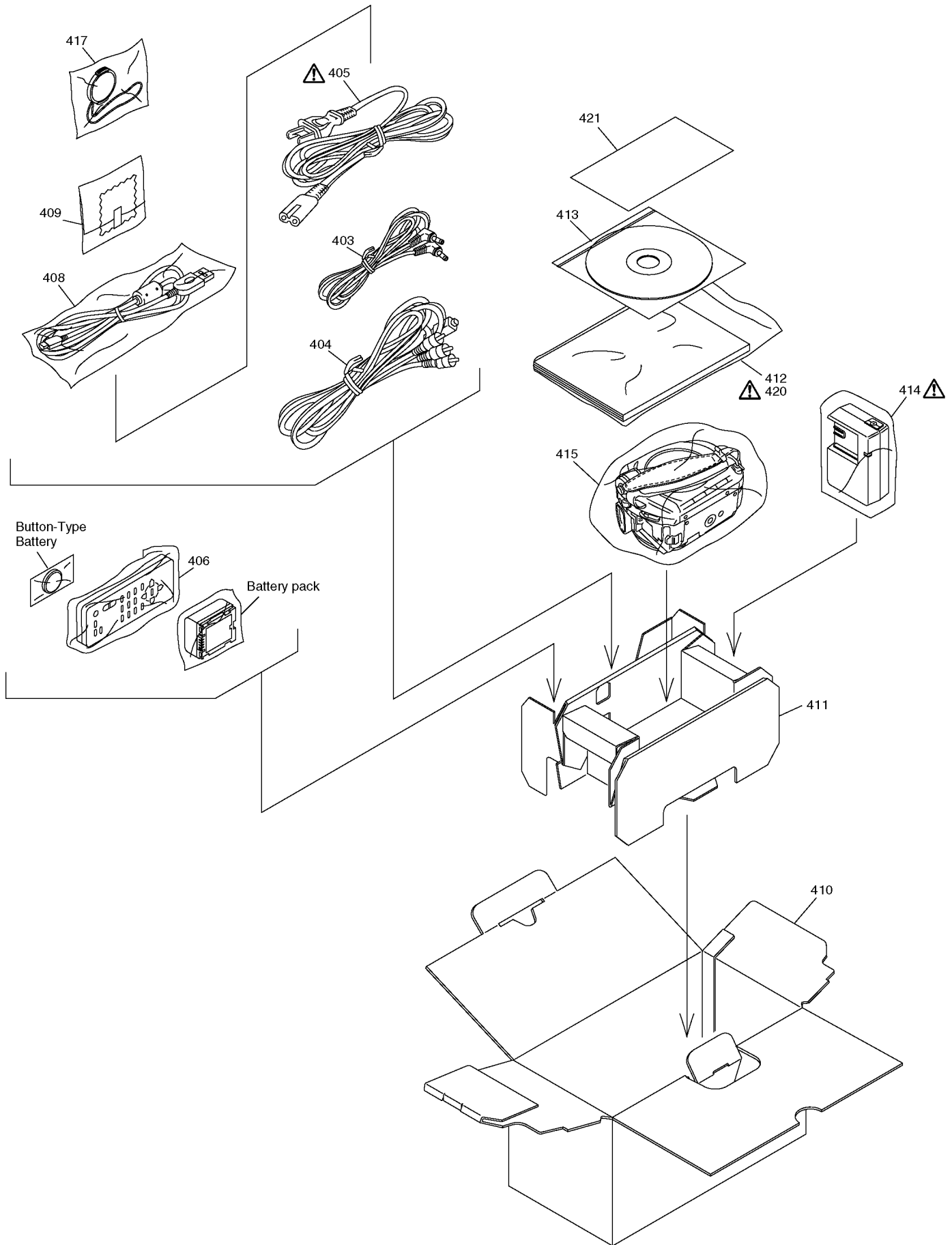
13.1.3. CAMERA LENS SECTION



13.1.4. EVF SECTION



13.1.5. PACKING PARTS & ACCESSORIES SECTION



13.2. REPLACEMENT PARTS LIST

13.2.1. FRAME & CASING SECTION PARTS LIST

Note: 1. *Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark Δ have the special characteristics for safety. When replacing any of these components, use only the same type.

| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|----------|-------------|-------------------------|-----|----------|
| 1 | LSYK1936 | SIDE L/OPERATION U | 1 | |
| 2 | LSXY1095 | BOTTOM ANGLE U | 1 | |
| 3 | VXY1980C | DVD MECHA U | 1 | Δ |
| 4 | LSXY1076 | DISK COVER LOCK U | 1 | |
| 5 | LSMD0862 | DISK EJECT COVER | 1 | |
| 7 | LSKF0678 | LCD PROTECTOR | 1 | |
| 8 | LSYK1973 | FRONT/HOOD U | 1 | |
| 9 | LSJB8384 | FRONT FPC | 1 | |
| 10 | LSEP8376B1 | JACK P.C.B. | 1 | (RTL) |
| 11 | LSEP8378P1 | MAIN P.C.B. | 1 | (RTL) |
| 12 | LSEP8375C1 | FRONT/MIC P.C.B. | 1 | (RTL) |
| 12-1 | VEK0K76 | ECM U | 1 | |
| 13 | LSXY1091 | HEAT SINK/SHEET U | 1 | |
| 14 | LSYK1945 | GRIP/COVER U | 1 | |
| 15 | LSJB8385 | SIDE (R) FPC | 1 | |
| 16 | LSEP8377A1 | SIDE (R) P.C.B. | 1 | (RTL) |
| 17 | LSYK1955 | SIDE R/SHAFT U | 1 | |
| 18 | LSMC0159 | EARTH PLATE (MECHA) | 1 | |
| 19 | LSYK1941 | REAR CASE U | 1 | |
| 20 | LSSC0930 | HEAT CONDUCT SHEET | 1 | |
| B1 | XQN16+B4FN | SCREW | 1 | |
| B2 | XQN16+B4FN | SCREW | 1 | |
| B3 | XQN16+B3FN | SCREW | 1 | |
| B4 | XQN16+B3FN | SCREW | 1 | |
| B5 | XQN16+BJ5FN | SCREW | 1 | |
| B6 | XQN16+BJ5FN | SCREW | 1 | |
| B7 | XQN16+BJ5FN | SCREW | 1 | |
| B8 | XQN16+BJ5FN | SCREW | 1 | |
| B9 | XQN16+BJ5FN | SCREW | 1 | |
| B11 | XQN16+BJ4FN | SCREW | 1 | |
| B12 | XQN16+BJ4FN | SCREW | 1 | |
| B13 | XQN16+BJ5FN | SCREW | 1 | |
| B14 | XQN16+BJ5FN | SCREW | 1 | |
| B18 | XQN16+BJ4FN | SCREW | 1 | |
| B19 | XQN16+BJ5FN | SCREW | 1 | |
| B20 | XQN16+BJ5FN | SCREW | 1 | |
| B21 | XQN16+BJ5FN | SCREW | 1 | |
| B22 | XQS2+A35FN | SCREW | 1 | |
| B23 | XQS2+A35FN | SCREW | 1 | |
| B24 | XQN16+B4FN | SCREW | 1 | |
| B25 | XQN16+B4FN | SCREW | 1 | |
| B26 | XQN16+B4FN | SCREW | 1 | |
| B27 | XQN16+B4FN | SCREW | 1 | |
| B28 | XQN16+B4FN | SCREW | 1 | |
| B29 | XQN16+B4FN | SCREW | 1 | |
| B30 | XQN16+B4FN | SCREW | 1 | |
| B31 | XQN16+B4FN | SCREW | 1 | |
| B32 | XQN16+B4FN | SCREW | 1 | |
| B33 | XQN16+B4FN | SCREW | 1 | |
| B34 | XQN16+B4FN | SCREW | 1 | |
| B35 | XQN16+B4FN | SCREW | 1 | |
| B36 | XQN16+B4FN | SCREW | 1 | |
| B37 | XQN16+B4FN | SCREW | 1 | |
| B38 | XQN16+B4FN | SCREW | 1 | |
| B39 | XQN16+BJ3FN | SCREW | 1 | |
| B40 | XQN16+BJ4FN | SCREW | 1 | |
| B41 | XQN16+BJ4FN | SCREW | 1 | |
| B43 | XQN16+BJ5FN | SCREW | 1 | |
| B44 | XQN16+BJ5FN | SCREW | 1 | |
| B45 | XQN16+BJ5FN | SCREW | 1 | |
| B46 | XQN16+BJ5FN | SCREW | 1 | |

| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|----------|----------|-------------------------|-----|---------|
| | | | | |

13.2.2. LCD SECTION PARTS LIST

Note: 1. *Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark Δ have the special characteristics for safety. When replacing any of these components, use only the same type.

| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|----------|--------------|-------------------------|-----|---------|
| 101 | LSKM1542 | LCD CASE B | 1 | |
| 102 | LSSC0924 | LCD SHIELD CASE | 1 | |
| 103 | L5BDDYH00025 | LCD PANEL | 1 | |
| 104 | LSYK1924 | LCD PANEL HOLDER U | 1 | |
| 105 | LSGL0444 | PRISM SHEET A | 1 | |
| 106 | LSGL0443 | PRISM SHEET B | 1 | |
| 107 | LSGL0511 | DIFFUSION SHEET | 1 | |
| 108 | LSGL0505 | LIGHTING PLATE | 1 | |
| 109 | LSGL0506 | REFLECTION SHEET | 1 | |
| 110 | VEP08367B | MONITOR P.C.B. | 1 | (RTL) |
| 115 | LSYK1982 | LCD CASE A U | 1 | |
| B101 | XQN16+B4FN | SCREW | 1 | |
| B102 | XQN16+B4FN | SCREW | 1 | |
| B103 | XQN16+BJ4FN | SCREW | 1 | |

13.2.3. CAMERA LENS SECTION PARTS LIST

Note: 1. *Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark Δ have the special characteristics for safety. When replacing any of these components, use only the same type.

| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|----------|--------------|--------------------------|-----|---------|
| 201 | VXQ1473 | PRIZM U | 1 | |
| 201-1 | VEK0H35 | CCD FPC K U | 1 | |
| 201-2 | VGQ9217 | CCD HEAT TRANSFER SHEET | 1 | |
| 202 | VXW0767 | LENS UNIT | 1 | |
| 202-1 | VXQ1368 | 1ST LENS FRAME MOVE UNIT | 1 | |
| 202-2 | VXP2530 | 2ND LENS FRAME MOVE UNIT | 1 | |
| 202-3 | VXQ1369 | OIS UNIT | 1 | |
| 202-4 | VXP2538 | IRIS UNIT | 1 | |
| 202-5 | L6HA64NC0003 | ZOOM MOTOR UNIT | 1 | |
| 202-6 | L6HA64NC0004 | FOCUS MOTOR UNIT | 1 | |
| 202-7 | VMS7638 | GUIDE POLE | 1 | |
| 202-8 | VMS7638 | GUIDE POLE | 1 | |
| 202-9 | VXP2531 | 4TH LENS FRAME MOVE UNIT | 1 | |
| 202-10 | VDW1213 | MASTER FLANGE | 1 | |
| 203 | VDL1748 | OPTICAL FILTER | 1 | |
| 204 | VSC5761 | CCD HEAT SINK PLATE | 1 | |
| 205 | LSSC0934 | HEAT CONDUCT SHEET | 1 | |
| B201 | XQN16+CJ5FJ | SCREW | 1 | |
| B202 | XQN16+CJ5FJ | SCREW | 1 | |
| B203 | XQN16+CJ7FJ | SCREW | 1 | |
| B204 | XQN16+CJ7FJ | SCREW | 1 | |
| B205 | XQN16+CJ7FJ | SCREW | 1 | |
| B206 | XQN16+CJ5FJ | SCREW | 1 | |
| B207 | XQN16+CJ5FJ | SCREW | 1 | |
| B208 | XQN16+CJ5FJ | SCREW | 1 | |
| B209 | XQN16+CJ5FJ | SCREW | 1 | |
| B210 | XQN16+CJ5FJ | SCREW | 1 | |
| B211 | XQN16+CJ5FJ | SCREW | 1 | |

| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|----------|-------------|-------------------------|-----|---------|
| B212 | XQN16+CJ5FJ | SCREW | 1 | |
| B213 | XQN16+CJ5FJ | SCREW | 1 | |
| B214 | XQN16+BJ4FN | SCREW | 1 | |

13.2.4. EVF SECTION PARTS LIST

Note: 1. *Be sure to make your orders of replacement parts according to this list.
 2. IMPORTANT SAFETY NOTICE
 Components identified with the mark Δ have the special characteristics for safety. When replacing any of these components, use only the same type.

| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|----------|--------------|-------------------------|-----|---------|
| 301 | LSMD0863 | EVF SLIDE BASE | 1 | |
| 302 | LSEP8382A1 | EVF FPC U | 1 | |
| 303 | LSMA0980 | EVF LOCK PLATE | 1 | |
| 304 | VGQ9244 | LENS HOLDER | 1 | |
| 305 | LSFL0176 | EVF LENS | 1 | |
| 306 | VGQ9243 | EVF CASE | 1 | |
| 307 | VGU0A70 | EYE SIGHT LEVER | 1 | |
| 308 | L5BDDXH00025 | LCD PANEL | 1 | |
| 309 | VGL1236 | DIFFUSION SHEET | 1 | |
| 310 | VGQ9239 | EVF MASK CASE | 1 | |
| 311 | VGQ9240 | EVF MASK TOP COVER | 1 | |
| 312 | VEP08365A | EVF P.C.B. | 1 | (RTL) |
| 313 | LSKM1551 | EVF CAP | 1 | |
| 314 | VGL1237 | PROTECT PLATE | 1 | |
| 315 | VGQ9241 | EVF REFLECT PIECE | 1 | |
| 316 | VGQ9242 | EVF SHEET HOLDER | 1 | |
| 317 | VGL1237 | PROTECT PLATE | 1 | |
| 318 | LSMA0981 | SHOE ANGLE | 1 | |
| B301 | XQN16+AJ4FN | SCREW | 1 | |
| B302 | XQN16+AJ4FN | SCREW | 1 | |
| B303 | XQN16+BJ4FN | SCREW | 1 | |

13.2.5. PACKING PARTS & ACCESSORIES SECTION PARTS LIST

Note: 1. *Be sure to make your orders of replacement parts according to this list.
 2. IMPORTANT SAFETY NOTICE
 Components identified with the mark Δ have the special characteristics for safety. When replacing any of these components, use only the same type.
 3. Supply of CD-ROM, in accordance with license protection, is allowable as replacement parts only for customers who accidentally damaged or lost their own.

| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|----------|--------------|-------------------------|-----|------------------------|
| 403 | K2GJ2DC00011 | DC CABLE | 1 | |
| 404 | K2KZ9CB00001 | AV CABLE | 1 | |
| 405 | K2CQ2CA00006 | AC CORD | 1 | E, EG, EP, EF Δ |
| 405 | K2CT3CA00004 | AC CORD | 1 | EB Δ |
| 406 | N2QAEC000023 | REMOTE CONTROL | 1 | |
| 408 | K1HA05CD0010 | USB CABLE | 1 | |
| 409 | VFC3778-2 | LENS CLEANER | 1 | |
| 410 | LSPG2348 | PACKING CASE | 1 | |
| 411 | LSPN0780 | PAD | 1 | |
| 412 | LSQT1196-A | O/I (SW,DA) | 1 | E Δ |
| 412 | LSQT1155-A | O/I (PR,SP) | 1 | E Δ |
| 412 | LSQT1157-A | O/I (EN) | 1 | EB Δ |
| 412 | LSQT1194-A | O/I (IT,DU) | 1 | EG Δ |
| 412 | LSQT1153-A | O/I (GE,TK) | 1 | EG Δ |
| 412 | LSQT1154-A | O/I (FR) | 1 | EG,EF Δ |
| 412 | LSQT1197-A | O/I (IT,DU) | 1 | EP Δ |
| 412 | LSQT1156-A | O/I (EN,PO) | 1 | EP Δ |
| 413 | LSFT0712-S | CD-ROM | 1 | See "Notes" |
| 414 | VSK0651B-2 | AC ADAPTOR | 1 | Δ |
| 415 | VPF1129 | PROTECTION SHEET | 1 | |
| 417 | LSXK0301 | LENS CAP SET | 1 | |
| 420 | LSQT1139-A | O/I (CD-ROM) | 1 | E |
| 420 | LSQT1141-A | O/I (CD-ROM) | 1 | EB |
| 420 | LSQT1137-A | O/I (CD-ROM) | 1 | EG |
| 420 | LSQT1140-A | O/I (CD-ROM) | 1 | EP |

| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|----------|------------|-------------------------|-----|---------|
| 420 | LSQT1138-A | O/I (CD-ROM) | 1 | EF |
| 421 | LSPN0772 | TOP PAD | 1 | |

13.2.6. ELECTRICAL REPLACEMENT PARTS LIST

Note: 1. Be sure to make your orders of replacement parts according to this list.
 2. IMPORTANT SAFETY NOTICE: Components identified with the mark Δ have the special characteristics for safety. When replacing any of these components, use only the same type.
 3. Unless otherwise specified,
 All resistors are in OHMS, K=1,000 OHMS. All capacitors are in MICROFARADS (uf), P=ufF.
 4. The P.C. Board units marked with "■" show below the main assembled parts.
 5. The marking (RTL) indicates the retention time is limited for this item.
 After the discontinuation of this assembly in production, it will no longer be available.

| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|----------|--------------|--------------------------|-----|---------|
| ■ | LSEP8378P1 | MAIN P.C.B. | 1 | (RTL) |
| ■ | LSEP8376B1 | JACK P.C.B. | 1 | (RTL) |
| ■ | LSEP8377A1 | SIDE (R) P.C.B. | 1 | (RTL) |
| ■ | LSEP8375C1 | FRONT/MIC P.C.B. | 1 | (RTL) |
| ■ | VEP08365A | EVF P.C.B. | 1 | (RTL) |
| ■ | VEP08367B | MONITOR P.C.B. | 1 | (RTL) |
| ■ | LSEP8376B1 | JACK P.C.B. | | (RTL) |
| ■ | LSEP8376B1 | JACK P.C.B. | | (RTL) |
| B7001 | K1KA40BA0052 | CONNECTOR 40P | 1 | |
| BT7001 | ML-621S/F9D | BATTERY | 1 | |
| C4202 | ECJ1VB1H472K | C.CAPACITOR CH 50V 4700P | 1 | |
| C4203 | ECJ1VB1H472K | C.CAPACITOR CH 50V 4700P | 1 | |
| C4215 | ECJ1VB1A105K | C.CAPACITOR CH 10V 1U | 1 | |
| C7001 | ECJ1VB1H332K | C.CAPACITOR CH 50V 3300P | 1 | |
| C7002 | ECJ1VB1H332K | C.CAPACITOR CH 50V 3300P | 1 | |
| C7003 | ECJ1VB1A105K | C.CAPACITOR CH 10V 1U | 1 | |
| C7021 | F3G0J107A024 | E.CAPACITOR CH 6.3V 100U | 1 | |
| C7022 | ECJ1XB1C104K | C.CAPACITOR CH 16V 0.1U | 1 | |
| C7023 | ECJ1XB1C104K | C.CAPACITOR CH 16V 0.1U | 1 | |
| C7024 | ECJ1VC1H180J | C.CAPACITOR CH 50V 18P | 1 | |
| C7025 | ECJ1VC1H180J | C.CAPACITOR CH 50V 18P | 1 | |
| C7026 | ECJ1VC1H180J | C.CAPACITOR CH 50V 18P | 1 | |
| C7027 | ECJ1VC1H180J | C.CAPACITOR CH 50V 18P | 1 | |
| C7028 | ECJ1VC1H180J | C.CAPACITOR CH 50V 18P | 1 | |
| C7030 | ECJ1VB1H103K | C.CAPACITOR CH 50V 0.01U | 1 | |
| D4202 | D4ED1120A005 | VARISTOR | 1 | |
| D4203 | D4ED1120A005 | VARISTOR | 1 | |
| D7003 | B3AAB0000137 | DIODE | 1 | |
| JK4001 | K2HC107B0003 | JACK | 1 | |
| JK7001 | K2HZ110E0002 | JACK | 1 | |
| JK7002 | K2HZ105E0012 | JACK | 1 | |

| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|----------|--------------|--------------------------|-----|---------|
| L4201 | J0JBC0000036 | COIL | 1 | |
| L4202 | J0JBC0000036 | COIL | 1 | |
| L4203 | J0JBC0000036 | COIL | 1 | |
| L4204 | J0JBC0000036 | COIL | 1 | |
| L4205 | J0JBC0000036 | COIL | 1 | |
| L4206 | J0JBC0000036 | COIL | 1 | |
| L7001 | VLF1144A102 | COIL 1000UH | 1 | |
| L7002 | VLF1144A102 | COIL 1000UH | 1 | |
| L7003 | VLF1144A102 | COIL 1000UH | 1 | |
| L7004 | VLF1144A102 | COIL 1000UH | 1 | |
| L7005 | VLF1144A102 | COIL 1000UH | 1 | |
| L7021 | G1C100KA0031 | COIL | 1 | |
| | | | | |
| Q7001 | 2SB09700RL | TRANSISTOR | 1 | |
| | | | | |
| R7001 | ERJ3GEYJ122 | M.RESISTOR CH 1/10W 1.2K | 1 | |
| R7002 | ERJ3GEY0R00 | M.RESISTOR CH 1/10W 0 | 1 | |
| R7003 | ERJ3GEY0R00 | M.RESISTOR CH 1/10W 0 | 1 | |
| R7004 | ERJ6GEYJ102V | M.RESISTOR CH 1/10W 1K | 1 | |
| R7021 | ERJ3GEYJ220 | M.RESISTOR CH 1/10W 22 | 1 | |
| R7022 | ERJ3GEYJ220 | M.RESISTOR CH 1/10W 22 | 1 | |
| R7023 | ERJ3GEYJ220 | M.RESISTOR CH 1/10W 22 | 1 | |
| R7024 | ERJ3GEYJ220 | M.RESISTOR CH 1/10W 22 | 1 | |
| R7025 | ERJ3GEYJ220 | M.RESISTOR CH 1/10W 22 | 1 | |
| R7031 | ERJ3GEY0R00 | M.RESISTOR CH 1/10W 0 | 1 | |
| R7032 | ERJ3GEY0R00 | M.RESISTOR CH 1/10W 0 | 1 | |
| R7033 | ERJ3GEY0R00 | M.RESISTOR CH 1/10W 0 | 1 | |
| R7034 | ERJ3GEY0R00 | M.RESISTOR CH 1/10W 0 | 1 | |
| R7035 | ERJ3GEY0R00 | M.RESISTOR CH 1/10W 0 | 1 | |
| R7037 | ERJ3GEYJ561 | M.RESISTOR CH 1/10W 560 | 1 | |
| R7038 | ERJ3GEY0R00 | M.RESISTOR CH 1/10W 0 | 1 | |
| R7039 | ERJ6GEYJ150V | M.RESISTOR CH 1/10W 15 | 1 | |
| R7040 | ERJ3GEY0R00 | M.RESISTOR CH 1/10W 0 | 1 | |
| R7041 | ERJ3GEY0R00 | M.RESISTOR CH 1/10W 0 | 1 | |
| | | | | |
| U7001 | K1NA09E00084 | SD CARD SLOT | 1 | |
| | | | | |
| ■ | LSEP8377A1 | SIDE (R) P.C.B. | | (RTL) |
| | | | | |
| C6301 | ECJ1VB1H103K | C.CAPACITOR CH 50V 0.01U | 1 | |
| | | | | |
| FP6301 | K1MN32AA0091 | CONNECTOR 32P | 1 | |
| FP6302 | K1MN26BA0197 | CONNECTOR 26P | 1 | |
| | | | | |
| P6301 | K1KA02BA0014 | CONNECTOR 2P | 1 | |
| | | | | |
| SW6301 | K0F111A00547 | SWITCH | 1 | |
| SW6302 | VSS0533 | SWITCH | 1 | |
| | | | | |
| ■ | LSEP8375C1 | FRONT/MIC P.C.B. | | (RTL) |
| | | | | |
| C4801 | ECJ1VB1A105K | C.CAPACITOR CH 10V 1U | 1 | |
| C4802 | ECJ1VB1A105K | C.CAPACITOR CH 10V 1U | 1 | |
| C4803 | F1J0J106A004 | C.CAPACITOR CH 6.3V 10U | 1 | |

| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|----------|--------------|---------------------------|-----|---------|
| C4804 | ECJ1VB1H822K | C.CAPACITOR CH 50V 8200P | 1 | |
| C4805 | ECJ1VB1C273K | C.CAPACITOR CH 16V 0.027U | 1 | |
| C4806 | ECJ1VB1C273K | C.CAPACITOR CH 16V 0.027U | 1 | |
| C4808 | ECJ1VB1C273K | C.CAPACITOR CH 16V 0.027U | 1 | |
| C4809 | ECJ1VB1H822K | C.CAPACITOR CH 50V 8200P | 1 | |
| C4810 | ECJ1VB1C273K | C.CAPACITOR CH 16V 0.027U | 1 | |
| C4812 | F3F0J226A054 | E.CAPACITOR CH 6.3V 22U | 1 | |
| C6501 | F3F0J106A055 | E.CAPACITOR CH 6.3V 10U | 1 | |
| C6502 | ECJ1XB1C104K | C.CAPACITOR CH 16V 0.1U | 1 | |
| C6503 | ECJ1VB1A224K | C.CAPACITOR CH 10V 0.22U | 1 | |
| C6504 | ECJ1XB1C104K | C.CAPACITOR CH 16V 0.1U | 1 | |
| C6505 | ECJ1VB1A224K | C.CAPACITOR CH 10V 0.22U | 1 | |
| C7801 | F1J1A106A023 | C.CAPACITOR CH 10V 10U | 1 | |
| C7802 | F1J1A106A023 | C.CAPACITOR CH 10V 10U | 1 | |
| C7803 | F3F0J226A054 | E.CAPACITOR CH 6.3V 22U | 1 | |
| C7804 | F3F0J226A054 | E.CAPACITOR CH 6.3V 22U | 1 | |
| C7805 | ECJ1VB1H153K | C.CAPACITOR CH 50V 0.015U | 1 | |
| C7806 | ECJ1VB1H153K | C.CAPACITOR CH 50V 0.015U | 1 | |
| C7807 | ECJ1VB1H153K | C.CAPACITOR CH 50V 0.015U | 1 | |
| C7808 | ECJ1VB1H153K | C.CAPACITOR CH 50V 0.015U | 1 | |
| C7809 | F1J1A106A023 | C.CAPACITOR CH 10V 10U | 1 | |
| C7810 | F1J1A106A023 | C.CAPACITOR CH 10V 10U | 1 | |
| C7811 | F1J1A106A023 | C.CAPACITOR CH 10V 10U | 1 | |
| C7812 | F1J1A106A023 | C.CAPACITOR CH 10V 10U | 1 | |
| C7813 | ECJ1VB1H222K | C.CAPACITOR CH 50V 2200P | 1 | |
| C7814 | ECJ1VB1H222K | C.CAPACITOR CH 50V 2200P | 1 | |
| C7815 | ECJ1VB1A105K | C.CAPACITOR CH 10V 1U | 1 | |
| | | | | |
| D6503 | MA3S132D0L | DIODE | 1 | |
| D6504 | PD650475C1 | DIODE | 1 | |
| | | | | |
| FP6501 | K1MN16A00077 | CONNECTOR 16P | 1 | |
| | | | | |
| IC4801 | C0ABBB000369 | IC | 1 | |
| IC7801 | L2ES00000016 | IC | 1 | |
| IC7802 | L2ES00000017 | IC | 1 | |
| IC7803 | C0ABHA000078 | IC | 1 | |
| | | | | |
| L7801 | G1C100KA0055 | CHIP INDUCTOR 10UH | 1 | |
| | | | | |
| Q4801 | 2SD2216J0L | TRANSISTOR | 1 | |
| Q6501 | B1ABCF000098 | TRANSISTOR | 1 | |
| Q6502 | 2SB1218ARL | TRANSISTOR | 1 | |
| Q7801 | XP4501 | TRANSISTOR | 1 | |
| | | | | |
| R4802 | ERJ3GEYJ472 | M.RESISTOR CH 1/10W 4.7K | 1 | |
| R4803 | ERJ3GEYJ223 | M.RESISTOR CH 1/10W 22K | 1 | |
| R4804 | ERJ3GEYJ333 | M.RESISTOR CH 1/10W 33K | 1 | |

| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|----------|--------------|---------------------------|-----|---------|
| R4805 | D0GB124JA057 | M.RESISTOR CH 1/10W 120K | 1 | |
| R4806 | ERJ3GEYJ333 | M.RESISTOR CH 1/10W 33K | 1 | |
| R4807 | VRE0071E392 | M.RESISTOR CH 1/10W 3.9K | 1 | |
| R4808 | D0GB124JA057 | M.RESISTOR CH 1/10W 120K | 1 | |
| R4809 | ERJ3GEYJ333 | M.RESISTOR CH 1/10W 33K | 1 | |
| R4810 | VRE0071E392 | M.RESISTOR CH 1/10W 3.9K | 1 | |
| R6501 | ERJ3GEYJ560 | M.RESISTOR CH 1/10W 56 | 1 | |
| R6502 | ERJ3GEYJ683 | M.RESISTOR CH 1/10W 68K | 1 | |
| R6503 | ERJ3GEYJ104 | M.RESISTOR CH 1/10W 100K | 1 | |
| R6504 | ERJ3GEYJ106 | M.RESISTOR CH 1/10W 10M | 1 | |
| R6505 | ERJ3GEYJ335 | M.RESISTOR CH 1/10W 3.3M | 1 | |
| R6506 | D0GB184JA057 | M.RESISTOR CH 1/10W 180K | 1 | |
| R6507 | D0GB103JA057 | M.RESISTOR CH 1/10W 10K | 1 | |
| R6509 | D0GB102JA057 | M.RESISTOR CH 1/10W 1K | 1 | |
| R7801 | ERJ3GEYJ392 | M.RESISTOR CH 1/10W 3.9K | 1 | |
| R7802 | ERJ3GEYJ392 | M.RESISTOR CH 1/10W 3.9K | 1 | |
| R7803 | ERJ3GEYJ332 | M.RESISTOR CH 1/10W 3.3K | 1 | |
| R7804 | ERJ3GEYJ332 | M.RESISTOR CH 1/10W 3.3K | 1 | |
| R7805 | D0GB102JA057 | M.RESISTOR CH 1/10W 1K | 1 | |
| R7806 | D0GB102JA057 | M.RESISTOR CH 1/10W 1K | 1 | |
| R7807 | D0GB103JA057 | M.RESISTOR CH 1/10W 10K | 1 | |
| R7808 | D0GB394JA057 | M.RESISTOR CH 1/10W 390K | 1 | |
| R7809 | D0GB394JA057 | M.RESISTOR CH 1/10W 390K | 1 | |
| R7810 | ERJ3GEYJ472 | M.RESISTOR CH 1/10W 4.7K | 1 | |
| R7811 | ERJ3GEYJ472 | M.RESISTOR CH 1/10W 4.7K | 1 | |
| R7814 | ERJ3GEYD274V | M.RESISTOR CH 1/10W 270K | 1 | |
| R7815 | ERJ3GEYD274V | M.RESISTOR CH 1/10W 270K | 1 | |
| U6501 | PU650175C1 | PHOTO DETECTORS (PIN PHOT | 1 | |
| ■ | VEP08365A | EVF P.C.B. | | (RTL) |
| C8902 | ECJ1VB1A105K | C.CAPACITOR CH 10V 1U | 1 | |
| C8903 | ECJ1VB0J105K | C.CAPACITOR CH 6.3V 1U | 1 | |
| D8901 | B3AFB0000129 | DIODE | 1 | |
| D8902 | MAZ80470ML | DIODE | 1 | |
| D8903 | MA3S13300L | DIODE | 1 | |
| FP8901 | K1MN16A00077 | CONNECTOR 16P | 1 | |
| FP8902 | K1MN18A00064 | CONNECTOR 18P | 1 | |
| Q8901 | 2SC6054J0L | TRANSISTOR | 1 | |
| R8901 | ERJ3GEYJ472 | M.RESISTOR CH 1/10W 4.7K | 1 | |
| R8903 | ERJ3RBD101 | M.RESISTOR CH 1/16W 100 | 1 | |

| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|----------|--------------|--------------------------|-----|---------|
| ■ | VEP08367B | MONITOR P.C.B. | | (RTL) |
| C8104 | ECJ1VC1H390J | C.CAPACITOR CH 50V 39P | 1 | |
| C8105 | ECJ1VC1H390J | C.CAPACITOR CH 50V 39P | 1 | |
| C8106 | ECJ1VC1H390J | C.CAPACITOR CH 50V 39P | 1 | |
| C8107 | ECJ1VB1A105K | C.CAPACITOR CH 10V 1U | 1 | |
| C8109 | FLJ1A475A023 | C.CAPACITOR CH 10V 4.7U | 1 | |
| C8111 | ECJ1XB1C104K | C.CAPACITOR CH 16V 0.1U | 1 | |
| C8112 | FLJ1A2250007 | C.CAPACITOR CH 10V 2.2U | 1 | |
| C8113 | ECJ1VB1A105K | C.CAPACITOR CH 10V 1U | 1 | |
| C8116 | ECJ1VB1A105K | C.CAPACITOR CH 10V 1U | 1 | |
| D8101 | MAZ80620ML | DIODE | 1 | |
| D8102 | B3AFB0000175 | DIODE | 1 | |
| D8104 | B3AFB0000175 | DIODE | 1 | |
| D8107 | B3AFB0000175 | DIODE | 1 | |
| D8109 | B3AFB0000175 | DIODE | 1 | |
| D8111 | B3AFB0000175 | DIODE | 1 | |
| D8113 | MAZ80560ML | ZENNER DIODE | 1 | |
| FP8101 | K1MN22BA0197 | CONNECTOR 22P | 1 | |
| FP8102 | K1MN24BA0197 | CONNECTOR 24P | 1 | |
| L8101 | G1C101KA0055 | CHIP INDUCTOR 100UH | 1 | |
| Q8101 | 2SC6054J0L | TRANSISTOR | 1 | |
| Q8102 | 2SC6054J0L | TRANSISTOR | 1 | |
| Q8104 | 2SC6054J0L | TRANSISTOR | 1 | |
| Q8105 | 2SC6054J0L | TRANSISTOR | 1 | |
| Q8107 | 2SA2174J0L | TRANSISTOR | 1 | |
| Q8108 | 2SC6054J0L | TRANSISTOR | 1 | |
| Q8112 | 2SA2174J0L | TRANSISTOR | 1 | |
| Q8113 | 2SA2174J0L | TRANSISTOR | 1 | |
| R8102 | ERJ3RBD271 | M.RESISTOR CH 1/16W 270 | 1 | |
| R8103 | ERJ6GEYOR00V | M.RESISTOR CH 1/10W 0 | 1 | |
| R8105 | ERJ3RBD271 | M.RESISTOR CH 1/16W 270 | 1 | |
| R8106 | ERJ3RBD271 | M.RESISTOR CH 1/16W 270 | 1 | |
| R8107 | ERJ3RED270 | M.RESISTOR CH 1/16W 27 | 1 | |
| R8108 | ERJ3GEYOR00 | M.RESISTOR CH 1/10W 0 | 1 | |
| R8110 | ERJ3RED270 | M.RESISTOR CH 1/16W 27 | 1 | |
| R8112 | ERJ3RED270 | M.RESISTOR CH 1/16W 27 | 1 | |
| R8113 | ERJ3GEYOR00 | M.RESISTOR CH 1/10W 0 | 1 | |
| R8114 | ERJ3RBD563 | M.RESISTOR CH 1/16W 56K | 1 | |
| R8115 | ERJ3GEYOR00 | M.RESISTOR CH 1/10W 0 | 1 | |
| R8116 | ERJ3RBD562 | M.RESISTOR CH 1/16W 5.6K | 1 | |
| R8119 | ERJ3RED270 | M.RESISTOR CH 1/16W 27 | 1 | |
| R8123 | D0GB473JA057 | M.RESISTOR CH 1/10W 47K | 1 | |
| R8124 | ERJ3RED270 | M.RESISTOR CH 1/16W 27 | 1 | |
| R8126 | ERJ3GEYJ104 | M.RESISTOR CH 1/10W 100K | 1 | |
| R8127 | D0GB102JA057 | M.RESISTOR CH 1/10W 1K | 1 | |

| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|----------|-------------|----------------------------|-----|---------|
| R8135 | ERJ3RBD473 | M.RESISTOR CH 1/16W 47K | 1 | |
| R8136 | ERJ3RBD103 | M.RESISTOR CH 1/16W 10K | 1 | |
| R8143 | ERJ3GEY0R00 | M.RESISTOR CH 1/10W 0 | 1 | |
| R8145 | ERJ3GEY0R00 | M.RESISTOR CH 1/10W 0 | 1 | |
| R8153 | ERJ3GEY0R00 | M.RESISTOR CH 1/10W 0 | 1 | |
| R8154 | ERJ3GEY0R00 | M.RESISTOR CH 1/10W 0 | 1 | |
| R8155 | ERJ3GEY0R00 | M.RESISTOR CH 1/10W 0 | 1 | |
| | | | | |