ORDER NO. VM0702018CE
B27

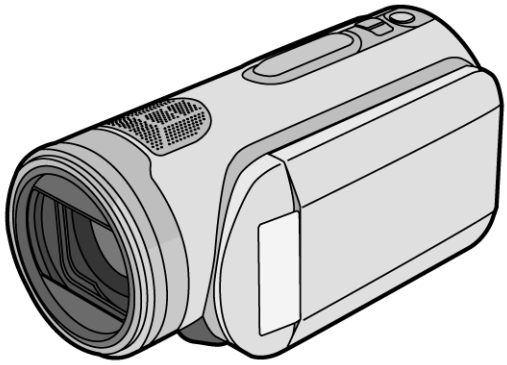
Service Manual

High Definition Video Camera

HDC-SD1PP
HDC-SD1EG
HDC-SD1GC

Vol. 1

Colour
(S).....Silver Type



⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic

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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.

1.2. Leakage Current Cold Check

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1 MΩ and 5.2 MΩ. When the exposed metal does not have a return path to the chassis, the reading must be infinity.

1.3. Leakage Current Hot Check (See Figure 1.)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 1.5 kΩ, 10 W resistor, in parallel with a 0.15 μF capacitor, between each exposed metallic part on the set and a good earth ground, as shown in Figure 1.
3. Use an AC voltmeter, with 1 kΩ/V or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 V RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 mA. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

Hot-Check Circuit

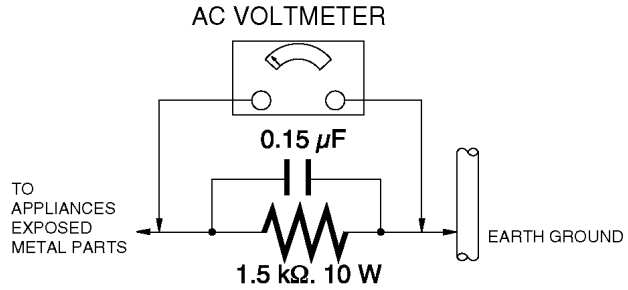


Figure. 1

1.4. How to Discharge the Capacitor on Jack PCB

When removal the jack P.C.B., it is protected with a capacitor cover. So do not have to discharge the capacitor.
However, when replacement it, remove the capacitor cover with unscrew 2 points, and then discharge the capacitor as follows.

CAUTION:

1. **Be sure to discharge the capacitor on JACK PCB.**
2. **Be careful of the high voltage circuit on JACK PCB when servicing.**

[Discharging Procedure]

1. Refer to the disassemble procedure and Remove the necessary parts/unit.
2. Put the insulation tube onto the lead part of Resistor (ERG5SJ102:1kΩ /5W).
   (an equivalent type of resistor may be used.)
3. Put the resistor between both terminals of capacitor on JACK PCB for approx. 5 seconds.
4. After discharging confirm that the capacitor voltage is lower than 10V using a voltmeter.

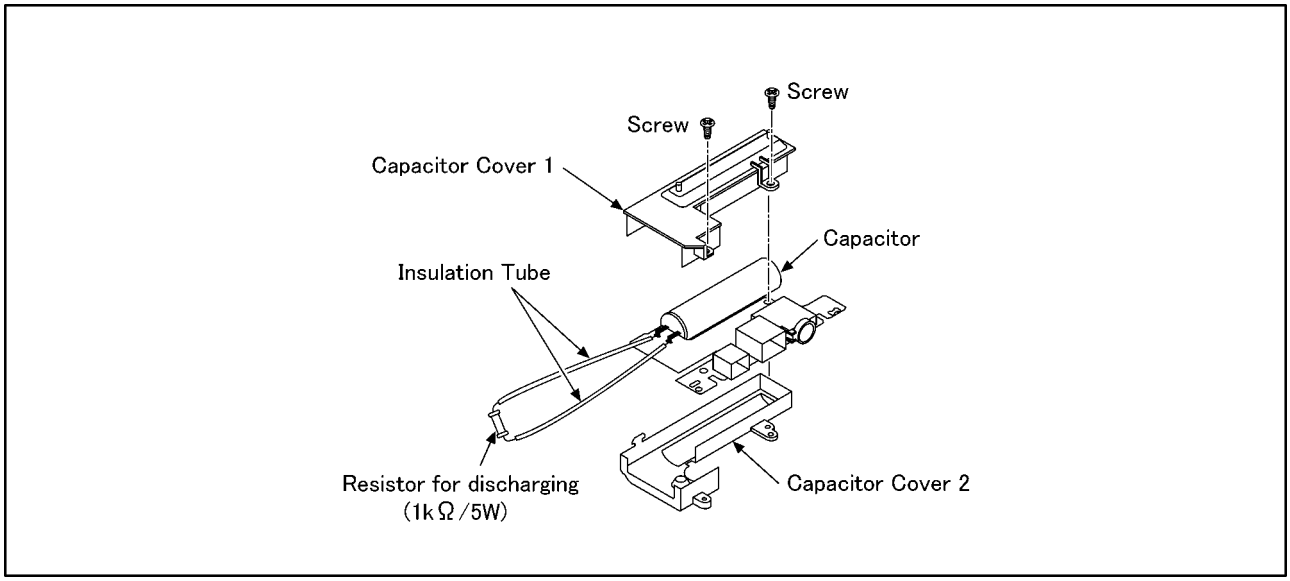


Fig. F1

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).

2.2. How to Recycle the Lithium Ion Battery (U.S. Only)

ENGLISH

A lithium ion/polymer battery that is recyclable powers the product you have purchased. Please call 1-800-8-BATTERY for information on how to recycle this battery.

FRANÇAIS

L'appareil que vous vous êtes procuré est alimenté par une batterie au lithium-ion/polymère recyclable. Pour des renseignements sur le recyclage de la batterie, veuillez composer le 1-800-8-BATTERY.

2.3. Caution for AC Cord (For EG/GC)

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.

ASTA mark	BSI mark

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 safety.
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.

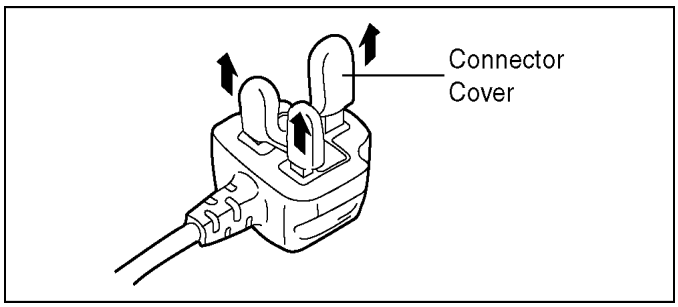
The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

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.

Earth Symbol	⏚

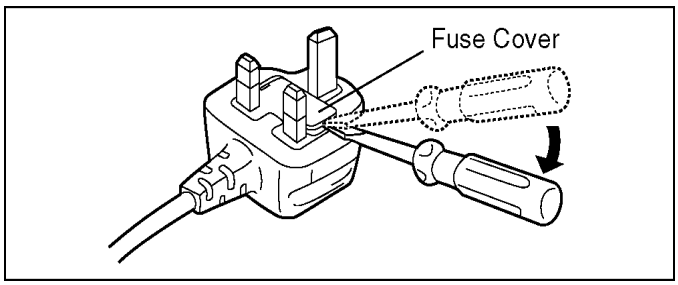
2.3.2.2. Before Use

Remove the Connector Cover as follows.

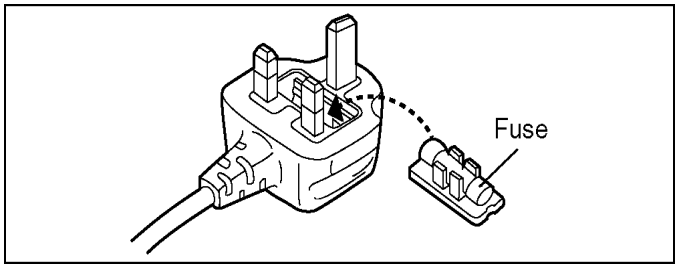


2.3.2.3. How to Replace the Fuse

1. Remove the Fuse Cover with a screwdriver.



2. Replace the fuse and attach the Fuse cover.



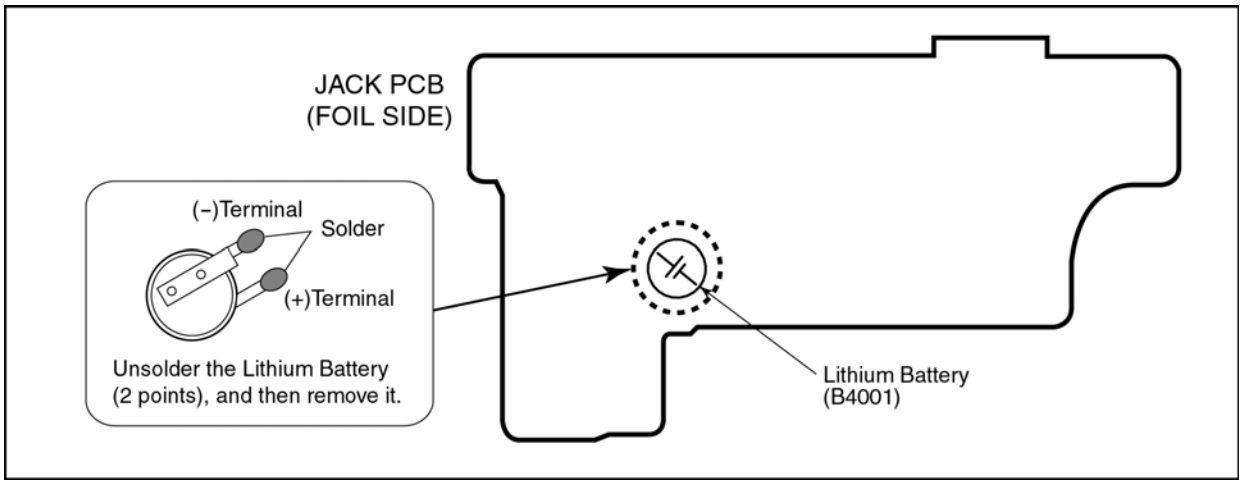
2.4. How to Replace the Lithium Battery

2.4.1. Replacement Procedure

1. Remove the JACK PCB. (Refer to Disassembly Procedures.)
2. Unsolder the each soldering point of electric lead terminal for Lithium battery (Ref. No. “B4001” at foil side of JACK PCB) and remove the Lithium battery together with electric lead terminal. Then replace it into new one.

   NOTE:

   The Type No. ML-621S/F9D includes electric lead terminals.



NOTE:

This Lithium battery is a critical component.
(Type No.: ML-621S/F9D **Manufactured by Matsushita Battery Industrial Co.,Ltd.**)
It must never be subjected to excessive heat or discharge.
It must therefore only be fitted in requirement designed specifically for its use.
Replacement batteries must be of 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.

(For English)

CAUTION

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

(For German)

ACHTUNG

Explosionsgefahr bei falschem Anbringen der Batterie. Ersetzen Sie nur mit einem äquivalentem vom Hersteller empfohlenem Typ.
Behandeln Sie gebrauchte Batterien nach den Anweisungen des Herstellers.

(For French)

MISE EN GARDE

Une batterie de remplacement inappropriée peut exploser. Ne remplacez qu’avec une batterie identique ou d’un type recommandé par le fabricant. L’élimination des batteries usées doit être faite conformément aux instructions du manufacturier.

NOTE:

Above caution is applicable for a battery pack which is for HDC-SD1 series, as well.

1. Battery Pack for this model.
2. Button-type battery for Remote controller (CR2025: Being supplied from MBI)

   NOTE:

   “MBI” stans for Matsushita Battery Industrial Co., Ltd.

3 Service Navigation

3.1. Introduction

This service manual contains technical information, which 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, the information will be followed by service manual to be controlled with original service manual.

3.2. 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°C (86°F) more than that of the normal solder.

Distinction 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°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%

3.3. Important Notice 1:(Other than U.S.A. and Canadian Market)

1. The service manual does not contain the following information, because of the impossibility of servicing at component level without concerned equipment/facilites.
   a. Schematic diagram, Block Diagram and PCB layout of MAIN PCB and SUB PCB.
   b. Parts list for individual parts for MAIN PCB and SUB PCB.
   When a part replacement is required for repairing MAIN PCB and/or SUB PCB, replace as an assembled parts. (Main PCB/ SUB PCB)

3.4. How to Define the Model Suffix (NTSC or PAL model)

There are four kinds of HDC-SD1.

- a) HDC-SD1S
- b) HDC-SD1PP
- c) HDC-SD1EG
- d) HDC-SD1GC

(HDC-SD1S is exclusively Japan domestic model.)

What is the difference is that the “INITIAL SETTING” data which is stored in Flash ROM mounted on Main PCB.

3.4.1. Defining methods:

To define the model suffix to be serviced, refer to the rating label which is putted on the bottom side of the Unit.

a) HDC-SD1S

HDC-SD1S is exclusively Japan domestic model.

b) HDC-SD1PP

The rating label for this model show the following Safty registration mark.

c) HDC-SD1EG

The rating label for this model show the following Safty registration mark.

d) HDC-SD1GC

The rating label for this model show the following Safty registration mark.

NOTE:

After replacing the MAIN PCB, be sure to achieve adjustment.

The adjustment instruction is available at “software download” on the “Support Information from NWBG/VDBG-PAVC” web-site in “TSN system”, together with Maintenance software.

4 Specifications

High Definition Video Camera
Information for your safety

Power source:	DC 9.3 V (When using AC adaptor) DC 7.2 V (When using battery)
Power consumption:	Recording: 8.0 W

Signal system	1080/60i
Recording format	AVCHD format compliant
Image sensor	1/4" 3CCD image sensor Total: 560 K×3 Effective pixels: Motion picture: 520 K×3 Still picture: 520 K×3
Lens	Auto Iris, F1.8 to F2.8 Focal length: 4.0 mm to 48.0 mm Macro (Full range AF)
Filter diameter	43 mm
Zoom	12× optical zoom, 30×/700× digital zoom
Monitor	3" wide LCD monitor (approx. 251 K pixels)
Microphone	5.1 channel surround microphone (with a zoom function)
Speaker	1 round speaker ∅ 20 mm
White balance adjustment	Auto tracking white balance system
Standard illumination	1,400 lx
Minimum required illumination	Approx. 6 lx (1/60 in Low light mode) Approx. 2 lx with the MagicPix function
Video output level	1.0 Vp-p, 75 Ω
Component terminal output level	Y: 1.0 Vp-p, 75 Ω Pb: 0.7 Vp-p, 75 Ω Pr: 0.7 Vp-p, 75 Ω
HDMI terminal output level	HDMI Ver. 1.2a [1125i (1080i)/525p (480p)]
Audio output level (Line)	316 mV, 600 Ω
Mic input	Mic sensitivity −50 dB (0 dB=1 V/Pa, 1 kHz) (∅ 3.5 mm stereo mini jack)
USB	Card reader/writer function (No copyright protection support) Hi-Speed USB (USB 2.0), USB terminal Type mini B PictBridge-compliant
Flash	Available range: Approx. 1.0 m to 2.5 m (3.3 feet to 8.2 feet)
Dimensions	74.1 mm (W)×64.9 mm (H)×137 mm (D) [2.9 " (W)×2.6 " (H)×5.4 " (D)] (excluding projecting parts)
Mass	Approx. 430 g (Approx. 0.95 lbs.) (without supplied battery and an SD card)
Mass in operation	Approx. 490 g (Approx. 1.08 lbs.) (with supplied battery and an SD card)
Operating temperature	0 °C to 40 °C (32 °F to 104 °F) (0 °C to 30 °C (32 °F to 86 °F) when connected to the computer)
Operating humidity	10% to 80%
Battery operation time	See page 30

Motion pictures

Recording media	SD Memory Card: 256 MB, 512 MB, 1 GB, 2 GB (FAT12 and FAT16 system compliant) SDHC Memory Card: 4 GB (FAT32 system compliant)
Compression	MPEG-4 AVC/H.264
Recording mode and transfer rate	HF: Approx. 13 Mbps (CBR) HN: Approx. 9 Mbps (VBR) HE: Approx. 6 Mbps (VBR)
Audio compression	Dolby Digital (Dolby AC3), 5.1 ch

Still pictures

Recording media	SD Memory Card: 8 MB, 16 MB, 32 MB, 64 MB, 128 MB, 256 MB, 512 MB, 1 GB, 2 GB (FAT12 and FAT16 system corresponding) SDHC Memory Card: 4 GB (FAT32 system corresponding)
Compression	JPEG (Design rule for Camera File system, based on Exif 2.2 standard), DPOF corresponding
Picture size	1920×1080

AC adaptor
Information for your safety

Power source:	AC 110 V to 240 V, 50/60 Hz
Power consumption:	19 W
DC output:	DC 9.3 V, 1.2 A (Unit operation) DC 8.4 V, 0.75 A (Battery charging)

Dimensions	92 mm (W)×33 mm (H)×61 mm (D) [3.6 " (W)×1.3 " (H)×2.4 " (D)]
Mass	Approx. 115 g (Approx. 0.25 lbs.)

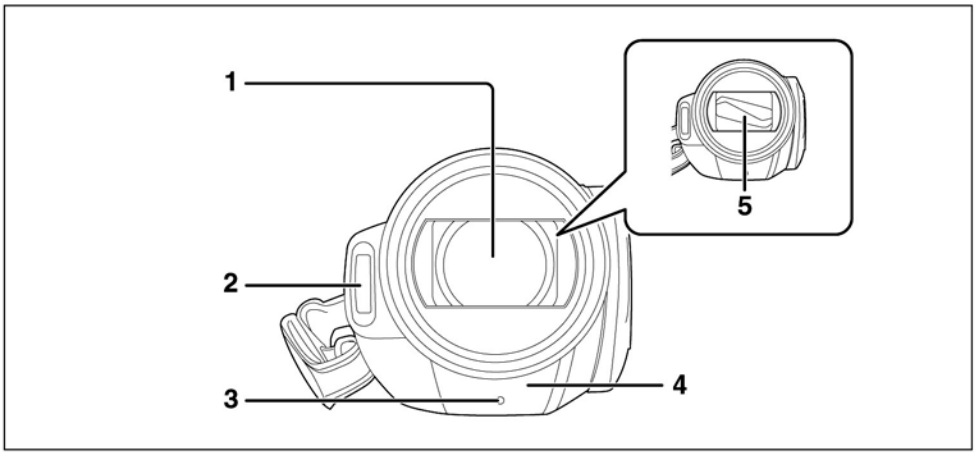
Battery pack
Information for your safety

Maximum voltage:	DC 8.4 V
Nominal voltage:	DC 7.2 V
Rated capacitance:	1320 mAh

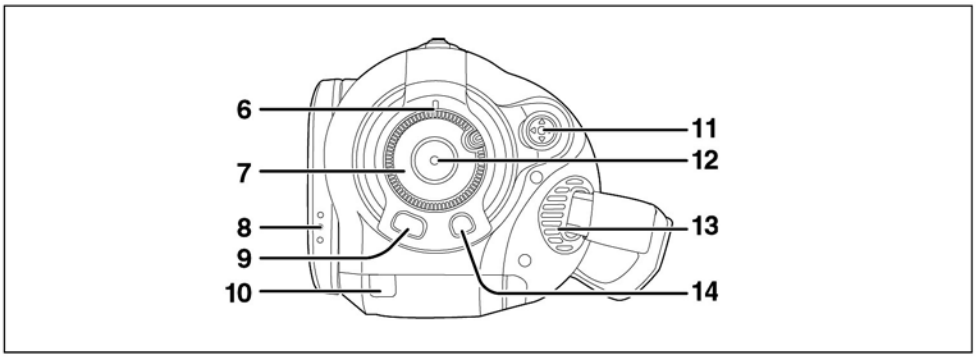
Specifications may change without prior notice.

5 Location of Controls and Components

Parts identification and handling



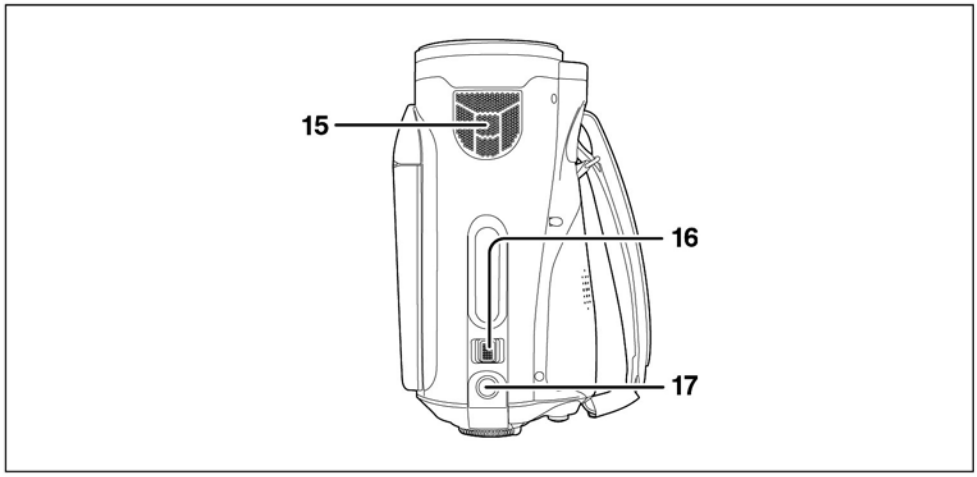
1) Lens (LEICA DICOMAR)
2) Built-in flash
3) Recording lamp
4) White balance sensor/remote control sensor
5) Lens cover



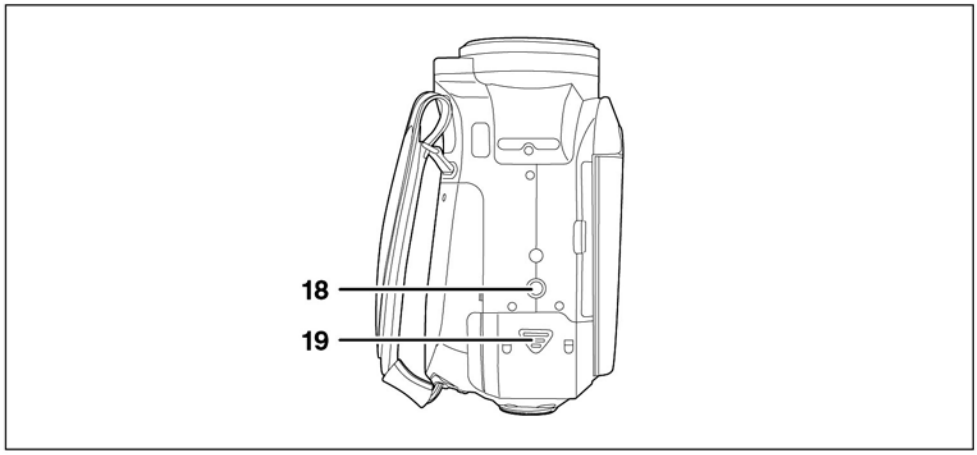
6) Status indicator
7) Mode dial
8) LCD monitor open latch
9) Menu button [MENU]
10) Battery cable cover
11) Cursor button
12) Recording start/stop button
13) Cooling fan (inlet)
14) Delete button [🗑]

■ About the cooling fan

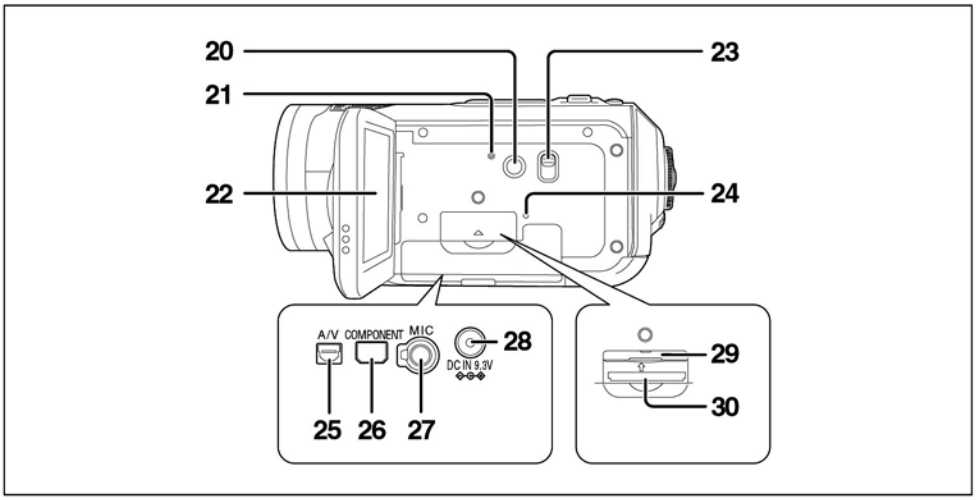
- The cooling fan rotates to prevent the internal temperature rising. Take care not to cover the inlet and outlet when using this unit.



15) Internal microphones (5.1 channel support)
16) Zoom lever [W/T] (In recording mode)
Volume lever [−VOL+] (In playback mode)
17) Photoshot button [ ]



18) Tripod receptacle
19) Battery cover



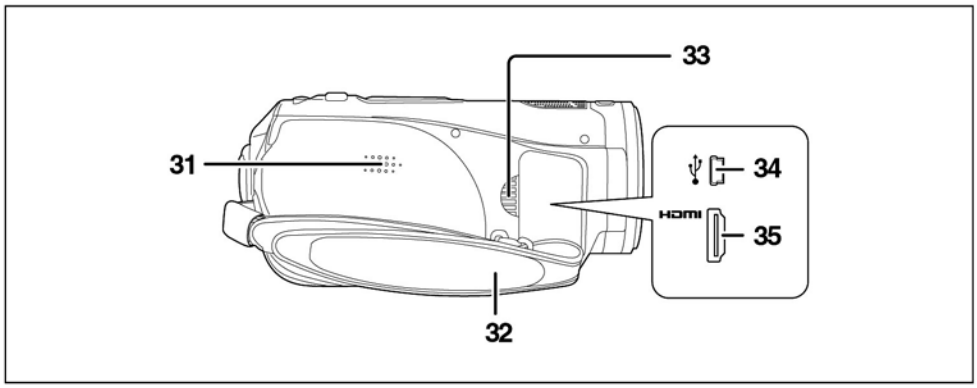
20) Power LCD button [POWER LCD]
21) Reset button [RESET]
22) LCD monitor

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.

23) Mode select switch [AUTO/MANUAL/FOCUS]
24) Card access lamp [ACCESS]
25) Audio-video output terminal [A/V]
- Use the supplied AV cable only.

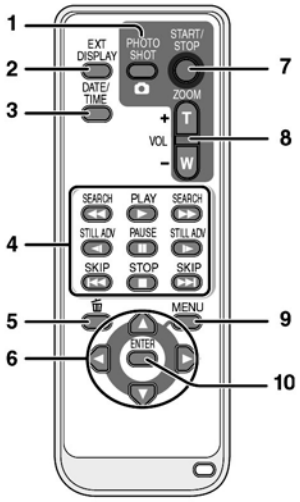
26) Component terminal [COMPONENT]
27) Microphone terminal [MIC]
- A compatible plug-in powered microphone can be used as an external microphone.
- When the unit is connected with the AC adaptor, sometimes noise may be heard depending on the microphone type. In this case, please switch to the battery for the power supply and the noise will stop.

28) DC input terminal [DC IN 9.3V]
29) Card slot cover
30) Card slot



31) Speaker
32) Grip belt
33) Outlet
34) USB terminal [ψ]
35) HDMI terminal [HDMI]

Using the remote control



1) **Photoshot button [📷]***
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.

Selecting a mode (Turning the unit on/off)

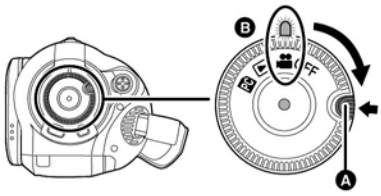
Rotate the mode dial to switch to recording, playback, PC connection or power OFF.

- **Rotate the mode dial slowly.**

How to turn on the power

While pressing the lock release button, set the mode dial to , or .

- Rotate the mode dial while at the same time pressing in the lock release button Ⓐ if changing from OFF to another mode.
- Align with the status indicator Ⓑ.

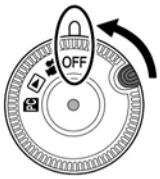


The status indicator lights and the power turns on.

- The lens cover opens in recording mode.
- When the unit is turned on for the first time, a message asking you to set the date and time will appear. Select [YES] and set the date and time.

How to turn off the power

Set the mode dial to OFF.



The status indicator goes off and the power turns off.

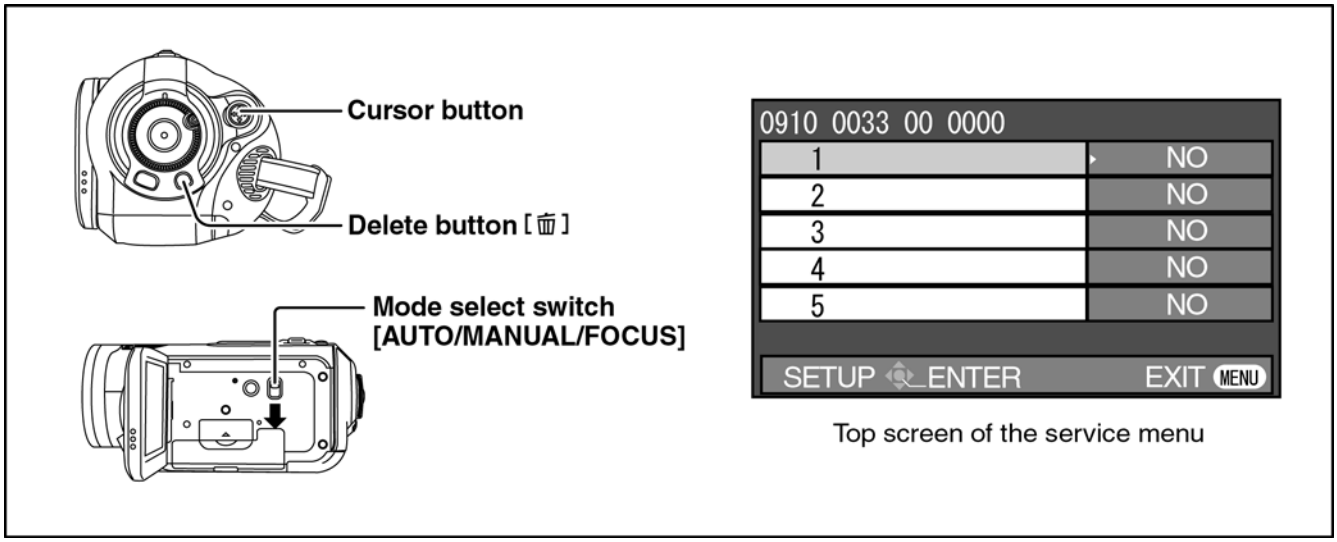
- The lens cover closes when the mode dial is set to OFF.

	Recording mode Use this to record motion pictures and still pictures on an SD card.
	Playback mode Use this to play back motion pictures and still pictures recorded on an SD card.
	PC Connection mode Use this to import motion pictures and still pictures recorded on an SD card with a computer by using HD Writer Ver1.0E for SD1 etc.
OFF	The power turns off.

- Do not forcefully rotate the mode dial.

6 Service Mode

1. **Indication method of the service menu**
   Set the mode dial **other than** PC connection mode.
2. While keep pressing the “[LEFT<] of cursor” button and “delete” button, hold down the Mode Select Switch towards to “[FOCUS]” position for more than 3 seconds until the top screen of the Service Menu being displayed.



Top screen of the service menu

Service mode menu

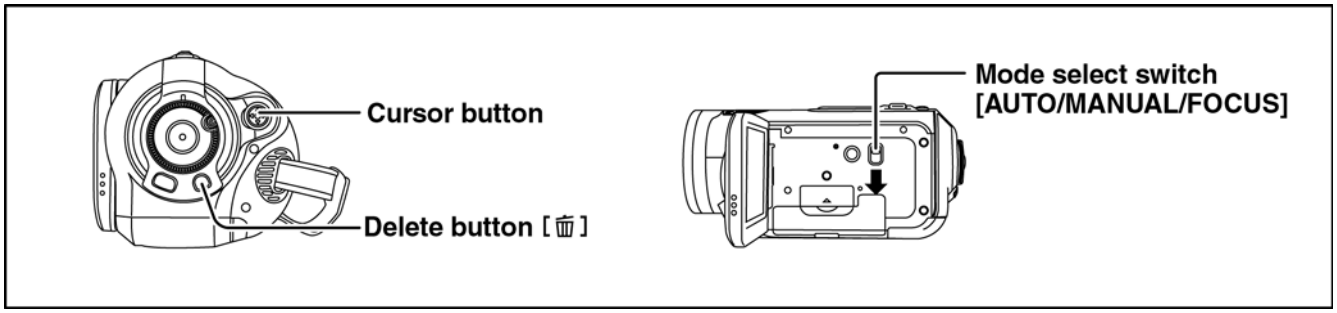
Screen display	Contents	Function
1	Factory settings	Function to throw a product up in a factory shipment state
4	Lock search history indication	Display an error cord for three histories saved in EEPROM

NOTE:
Do not using service mode except [1], [4] of Service Menu.

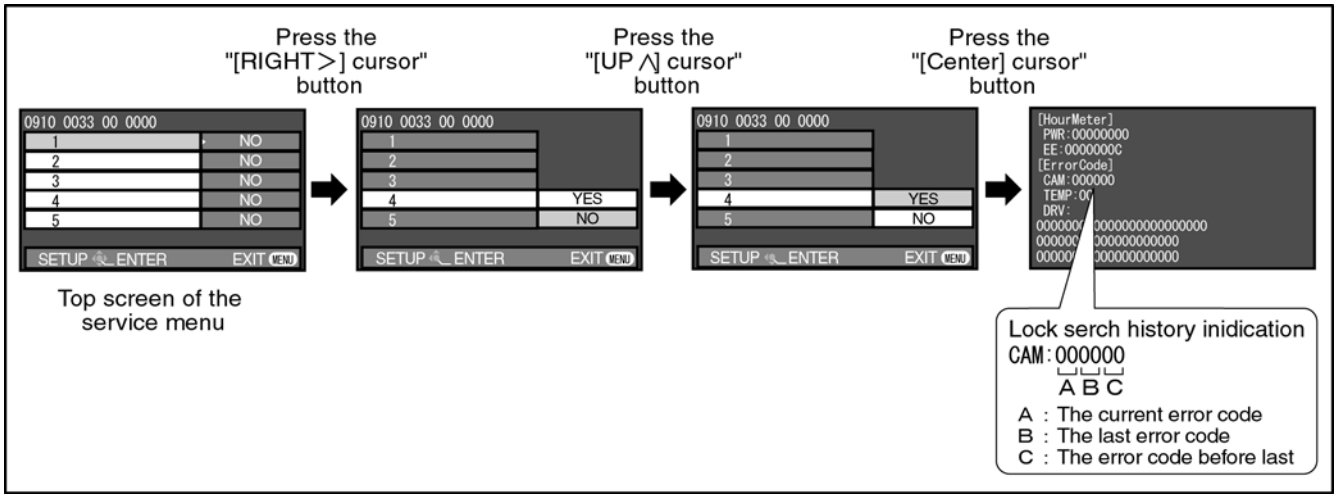
3. End method of the top screen of the service menu
   Top screen of the service menu is finished by POWER OFF.

6.1. Lock Search History Indication

1. Set the mode dial **other than** PC connection mode.
2. While keep pressing the “[LEFT<] of cursor” button and “delete” button, hold down the Mode Select Switch towards to “[FOCUS]” position for more than 3 seconds until the top screen of the Service Menu being displayed.
3. Select [4] Lock search history indication.



Operation specifications



Indication contents

- Lock search history indication
  Display the camera system error cord for three histories saved in EEPROM.
- The error cord contents which are displayed

Error code	Function
51	Zoom control is abnormal
52	Focus control is abnormal
53	OIS lens control is abnormal
71	Lens cover open/close is abnormal
72	Cooling fan is abnormal
73	High temperature is abnormal
33	Communication between camera to ARM is abnormal

Lock search history indication is finished by POWER OFF.

7 Service Fixture & Tools

7.1. When Replacing the Main PCB

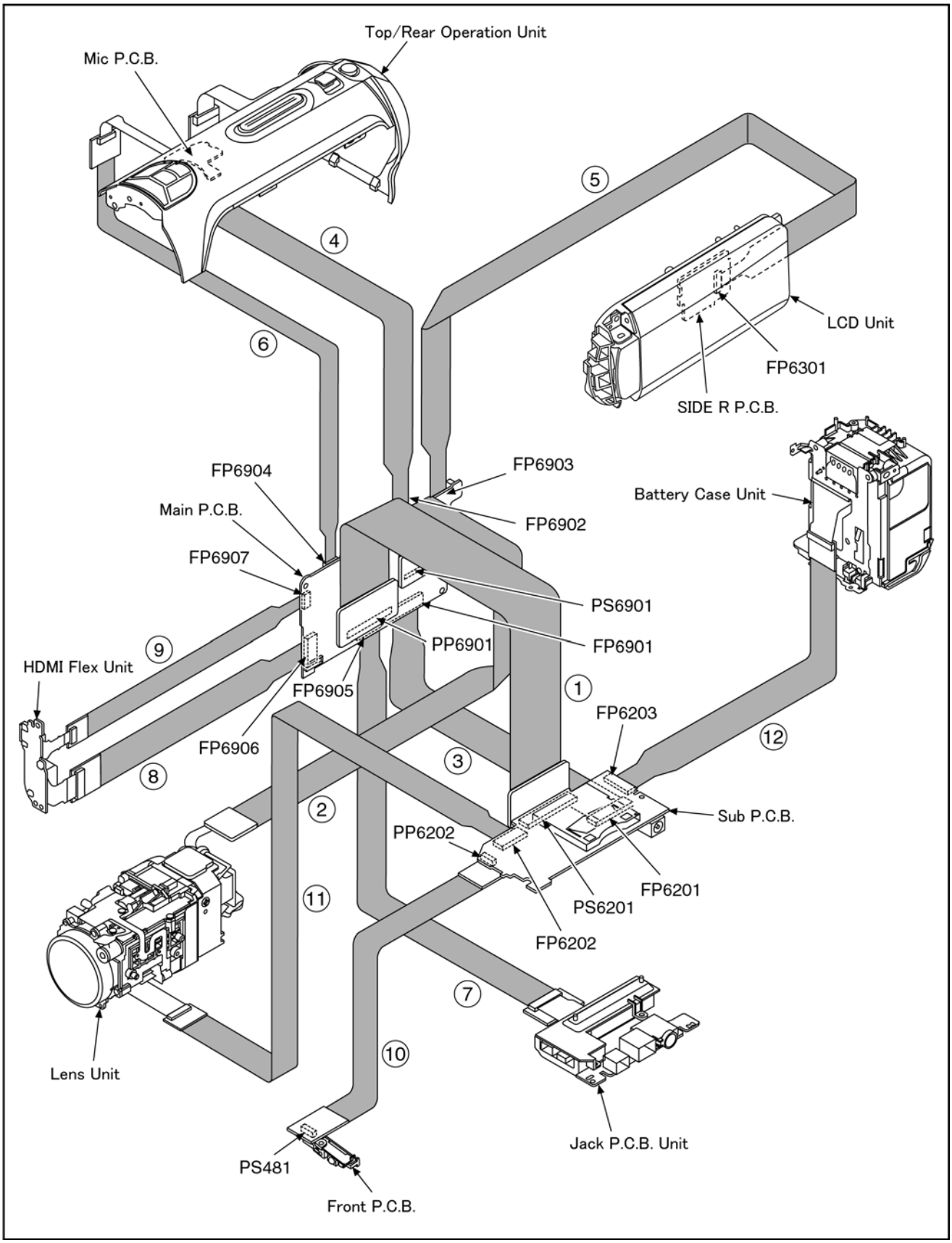
After replacing the MAIN PCB, be sure to achieve adjustment.
The adjustment instruction is available at “software download” on the “Support Information from NWBG/VDBG-PAVC” web-site in “TSN system”, together with Maintenance software.

7.2. Service Position

This Service Position is used for checking and replacing parts. Use the following Extension cables for servicing.

Table S1 Extension Cable List

No.	Parts No.	Connection	Form
1	VFK1582BB020	PP6901 (MAIN) - PS6201 (SUB)	110PIN 0.4 B to B
2	VFK2021	PS6901 (MAIN) - CCD	50PIN 0.4 B to B
3	VFK2024	FP6901 (MAIN) - FP6201 (SUB)	51PIN 0.5 FFC
4	VFK1286	FP6902 (MAIN) - TOP/REAR OPERATION UNIT	16PIN 0.5 FFC
5	VFK1978	FP6903 (MAIN) - FP6301 (SIDE R)	31PIN 0.3 FFC
6	VFK1440	FP6904 (MAIN) - MIC PCB	10PIN 0.5 FFC
7	VFK1951	FP6905 (MAIN) - JACK PCB UNIT	39PIN 0.3 FFC
8	VFK1282	FP6906 (MAIN) - HDMI FLEX UNIT	22PIN 0.5 FFC
9	VFK1441	FP6907 (MAIN) - HDMI FLEX UNIT	8PIN 0.5 FFC
10	VFK2020	PP6202 (SUB) - PS481 (FRONT)	20PIN 0.5 B to B
11	VFK1459	FP6202 (SUB) - LENS UNIT	39PIN 0.3 FFC
12	VFK1284	FP6203 (SUB) - BATTERY CASE UNIT	20PIN 0.5 B to B

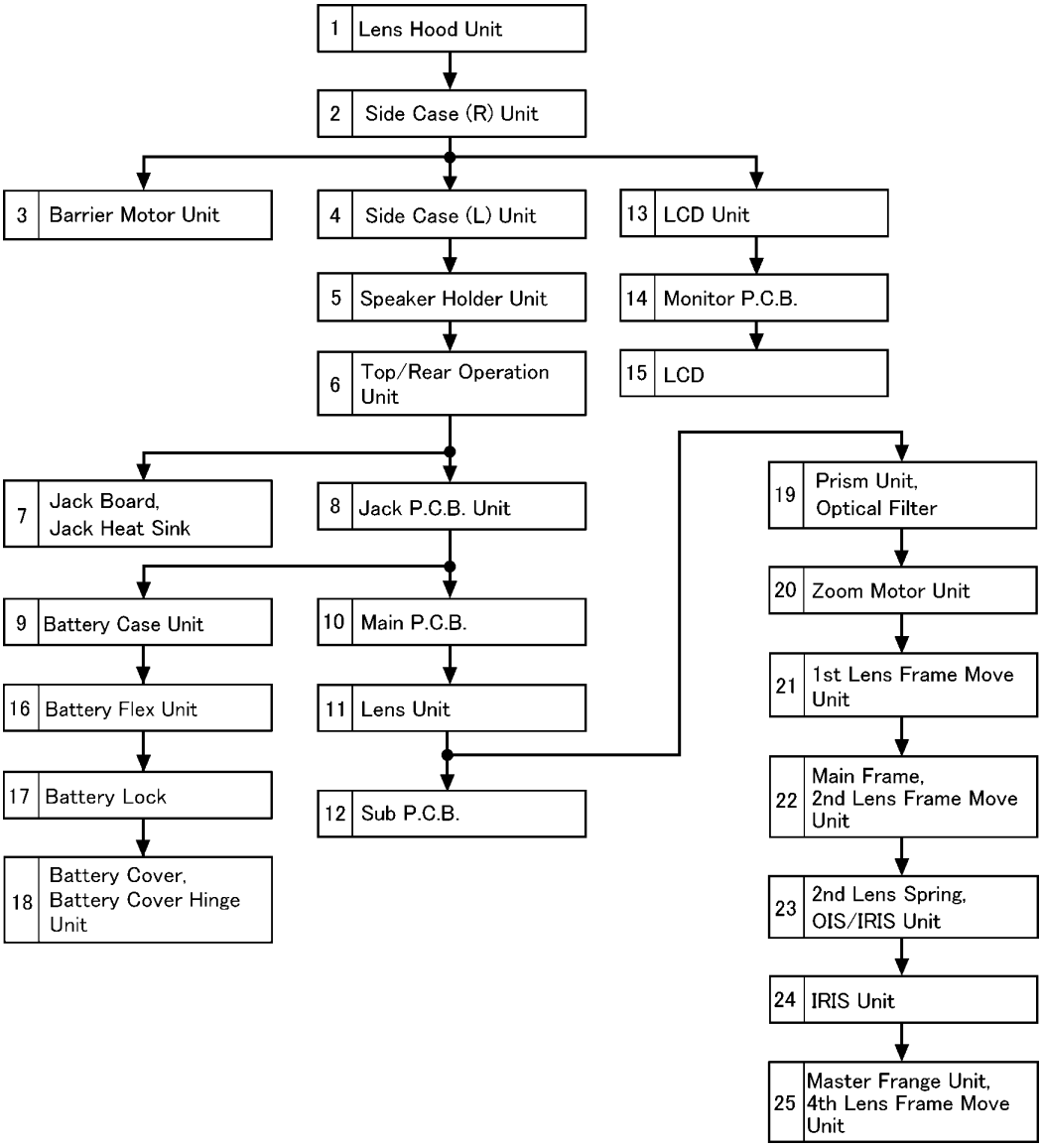


CAUTION-1. (When servicing JACK PCB)

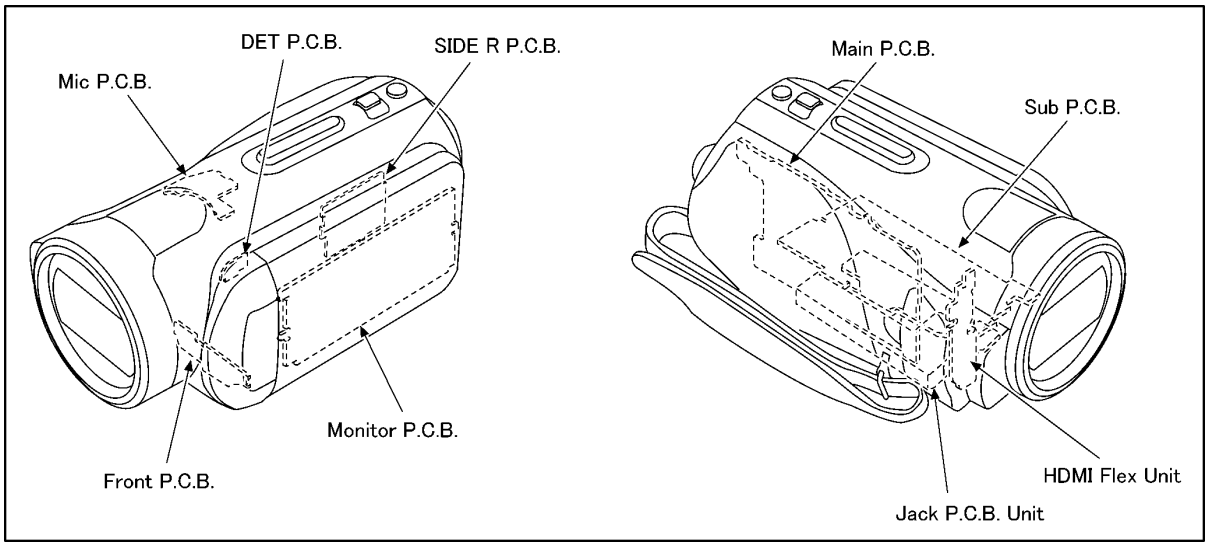
1. Be sure to discharge the capacitor on JACK PCB.
   Refer to “HOW TO DISCHARGE THE CAPACITOR ON JACK PCB”.
   The capacitor voltage is not lowered soon even if the AC Cord is unplugged or the battery is removed.
2. Be careful of the high voltage circuit on JACK PCB.
3. DO NOT allow other parts to touch the high voltage circuit on JACK PCB.

8 Disassembly and Assembly Instructions

8.1. Disassembly Flow Chart



8.2. PCB Location



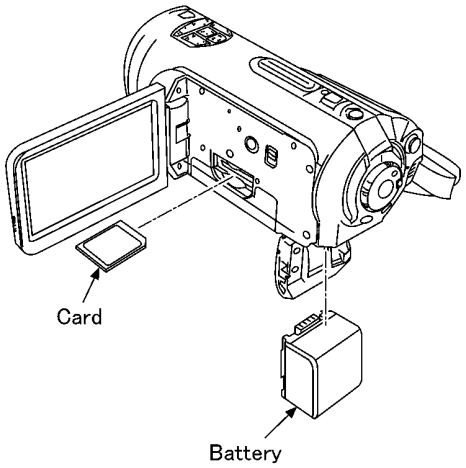
8.3. Disassembly Procedure

No.	Item	Fig	Removal
1	Lens Hood Unit	Fig. D1	Lens Hood Unit
2	Side Case (R) Unit	Fig. D2	2 Screws (A)
		Fig. D3	3 Locking tabs
			LCD Hinge Ornament
		Fig. D4	6 Screws (B)
			1 Screw (C)
			Tally Panel Light
		Fig. D5	1 Screw (D)
			1 Screw (E)
		Fig. D6	FP481(Flex)
			Front Case Unit
		Fig. D7	3 Screws (F)
			1 Screw (G)
		Fig. D8	FP6301(Flex)
			Side Case (R) Unit
3	Barrier Motor Unit	Fig. D9	3 Screws (H)
			Barrier Motor Unit
4	Side Case (L) Unit	Fig. D10	1 Screw (I)
			PS481(Flex)
			Front P.C.B. Unit
		Fig. D11	P7001(Connector)
			P7002(Connector)
		Fig. D12	3 Screws (J)
			1 Screw (K)
			1 Screw (L)
			1 Screw (M)
			1 Screw (N)
			Side Case (L) Unit
5	Speaker Holder Unit	Fig. D13	3 Screws (O)
			P6901(Connector)
			P6902(Connector)
			Speaker Holder Unit
6	Top/Rear Operation Unit	Fig. D14	FP6902(Flex)
			FP6904(Flex)
			3 Locking tabs
			Top/Rear Operation Unit
7	Jack Board Jack Heat Sink	Fig. D15	1 Screw (P)
			2 Locking tabs
			Jack Board
			Jack Heat Sink
8	Jack P.C.B. Unit	Fig. D16	2 Screws (Q)
			1 Locking tab
			Heat Sink Frame (C) Unit
		Fig. D17	1 Screw (R)
			FP4001(Flex)
			Jack P.C.B. Unit
9	Battery Case Unit	Fig. D18	1 Screw (S)
		Fig. D19	FP6203(Flex)
			FP6903(Flex)
			Battery Case Unit
10	Main P.C.B.	Fig. D20	2 Screws (T)
			1 Locking tab
			Heat Sink Frame (B) Unit
		Fig. D21	2 Screws (U)
			FP6906(Flex)
			FP6907(Flex)
			HDMI Flex Unit
		Fig. D22	FP6901(Flex)
		Fig. D23	PP6901(Connector)
			PS6901(Connector)
			Main P.C.B.

No.	Item	Fig	Removal
11	Lens Unit	Fig. D24	1 Screw (V)
			1 Screw (W)
			1 Locking tab
			Lens Frame Unit
		Fig. D25	1 Screw (X)
			FP6202(Flex)
		Fig. D26	Lend Unit
12	Sub P.C.B.	Fig. D27	1 Screw (Y)
			Heat Sink Frame (A) Unit
			Sub P.C.B.
13	LCD Unit	Fig. D28	2 Screws (Z)
		Fig. D29	1 Screw (a)
		Fig. D30	FP6907(Flex)
			2 Ribs
		Fig. D31	LCD Unit
14	Monitor P.C.B.	Fig. D32	2 Screws (b)
			7 Locking tabs
			LCD Case Top
		Fig. D33	FP901(Flex)
			LCD Hinge Unit
		Fig. D34	FP902(Flex)
			2 Locking tabs
			Monitor P.C.B.
15	LCD	Fig. D35	Reflection Sheet
			Light Panel
			Diffusion Sheet
			Prism Sheet (B)
			Prism Sheet (A)
			Lens Holder
			LCD Shield Sheet
			LCD Bottom Case
			LCD
16	Battery Flex Unit	Fig. D36	3 Screws (c)
			Rear Heat Sink
		Fig. D37	Battery Flex Unit
17	Battery Lock	Fig. D38	1 Screw (d)
			1 Locking tab
			Battery Lock Frame
		Fig. D39	Battery Lock Spring
			Battery Lock
18	Battery Cover, Battery Cover Hinge Unit	Fig. D40	4 Screws (e)
			Battery Hold Piece
			Battery Cover
		Fig. D41	Battery Hinge Shaft
			Battery Cover Spring
			Battery Cover Hinge Unit
19	Prism Unit, Optical Filter	Fig. D42	1 Screw (f)
			CCD Heat Sink
		Fig. D43	2 Screws (g)
			Prism Unit
			Optical Filter
20	Zoom Motor Unit	Fig. D44	Solder (6 points)
			4 Screws (h)
			9 Ribs
		Fig. D45	2 Screws (i)
			Screw Shaft
			Zoom Motor Unit
21	1st Lens Frame Move Unit	Fig. D46	3 Screws (j)
			1st Lens Frame Move Unit
22	Main Frame, 2nd Lens Frame Move Unit	Fig. D47	3 Screws (k)
			Main Frame
23	2nd Lens Spring, OIS/IRIS Unit	Fig. D48	2nd Lens Spring
			OIS/IRIS Unit

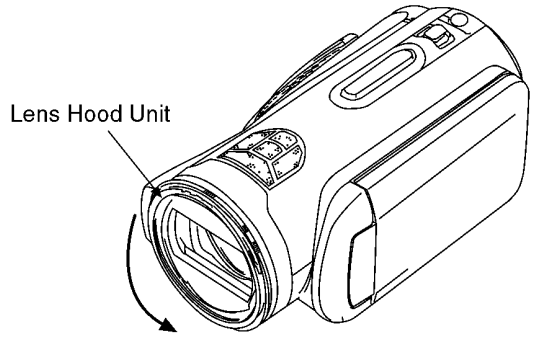
No.	Item	Fig	Removal
24	IRIS Unit	Fig. D49	Solder (12 points)
			1 Screw (l)
			OIS Unit
			IRIS Unit
25	Master Frange Unit, 4th Lens Frame Move Unit	Fig. D50	2 Side Yorks
			Guide Pole (F)
			2 Guide Poles (Z)
			4th Lens Frame Move Unit
			Master Frange Unit

NOTE:
When servicing and reassembling, remove the card and battery from the unit.



8.3.1. Removal of the Lens Hood Unit

• Rotate the Lens Hood Unit in the direction of arrow.



NOTE:(When lanstalling)

• Align the projection of lens hood unit to the concave portion of front case unit.

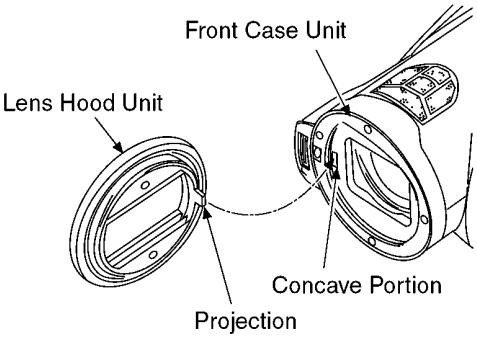


Fig. D1

8.3.2. Removal of the Side Case (R) Unit

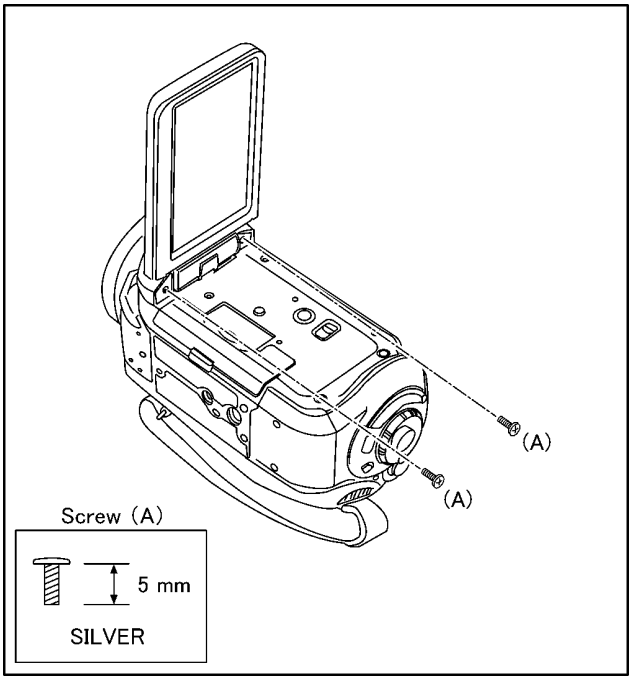


Fig. D2

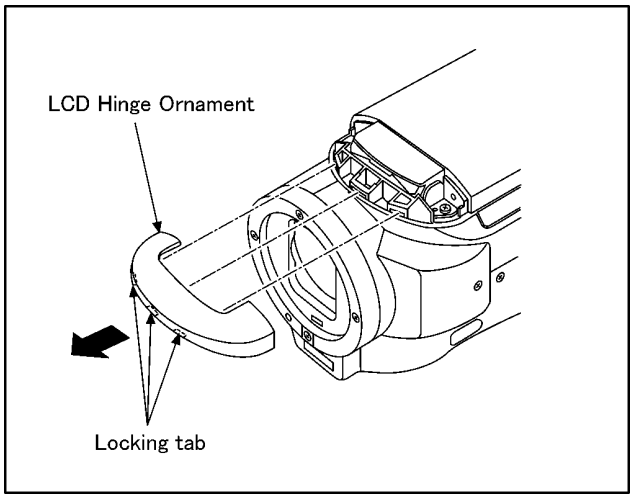


Fig. D3

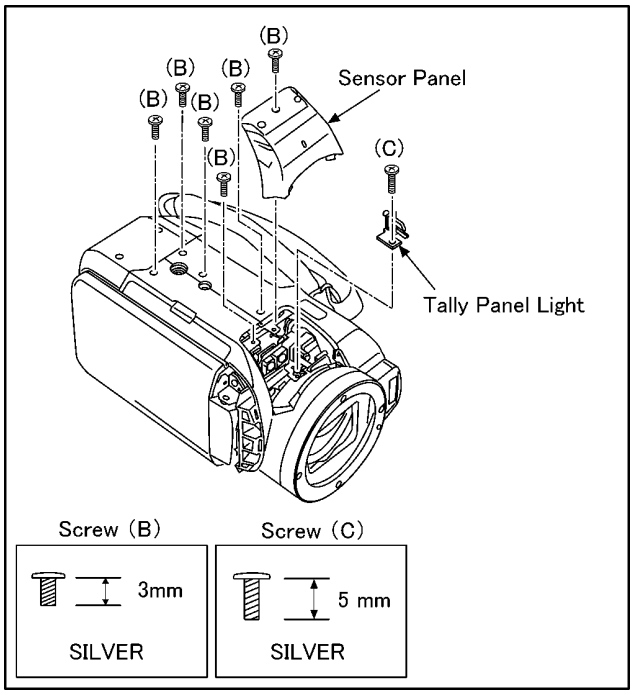


Fig. D4

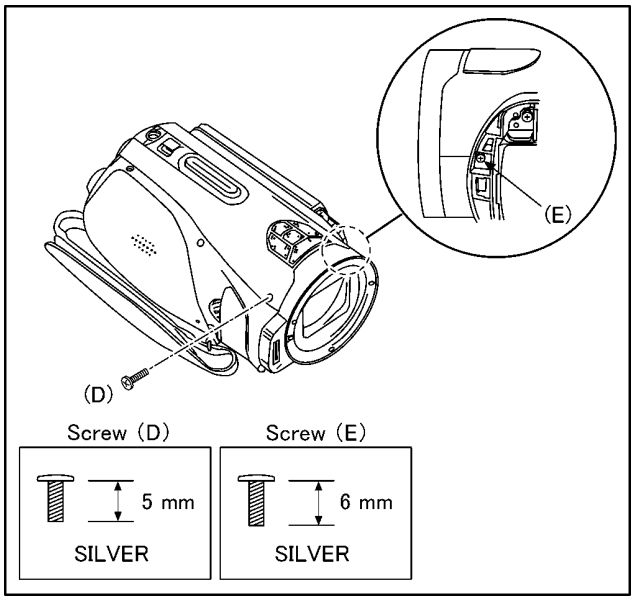


Fig. D5

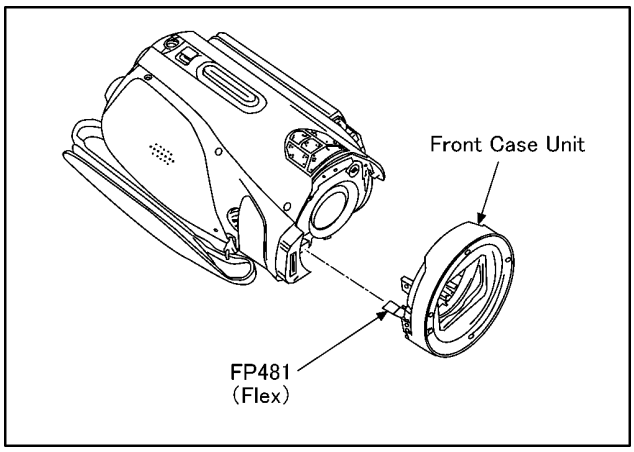


Fig. D6

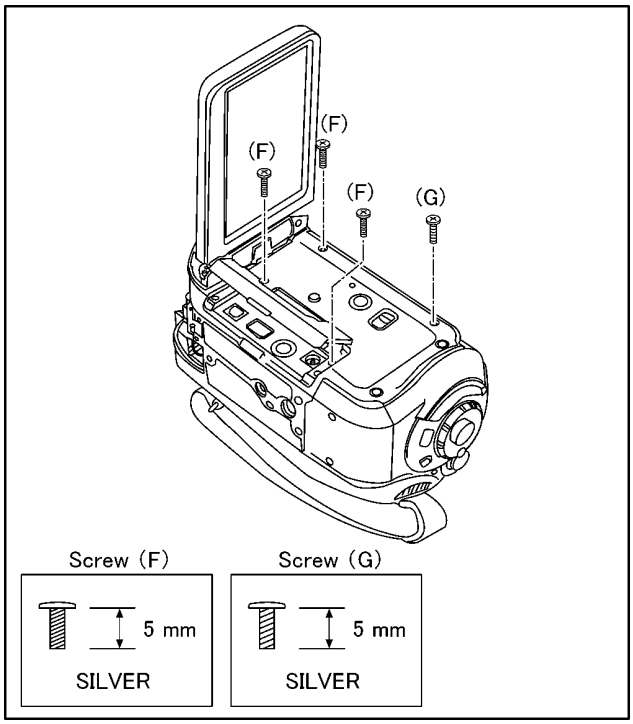


Fig. D7

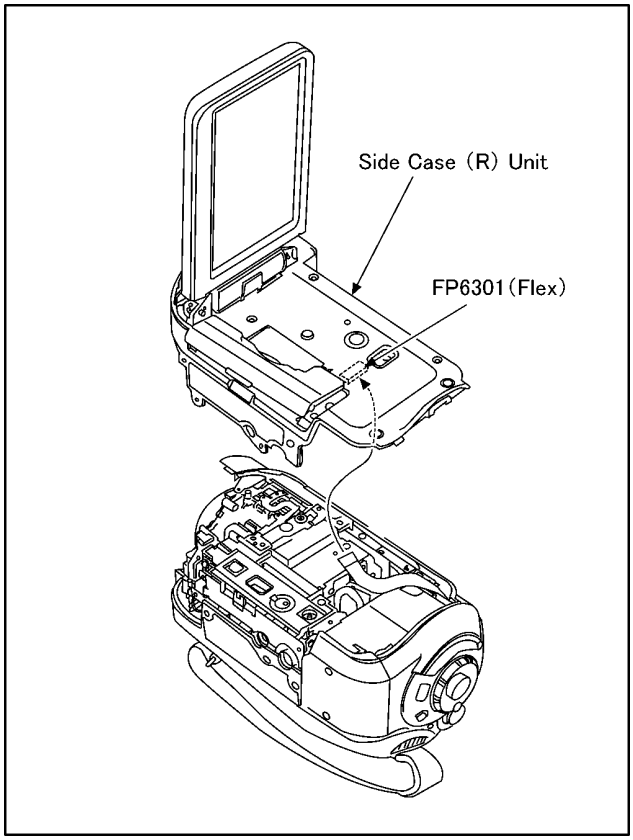


Fig. D8

8.3.3. Removal of the Barrier Motor Unit

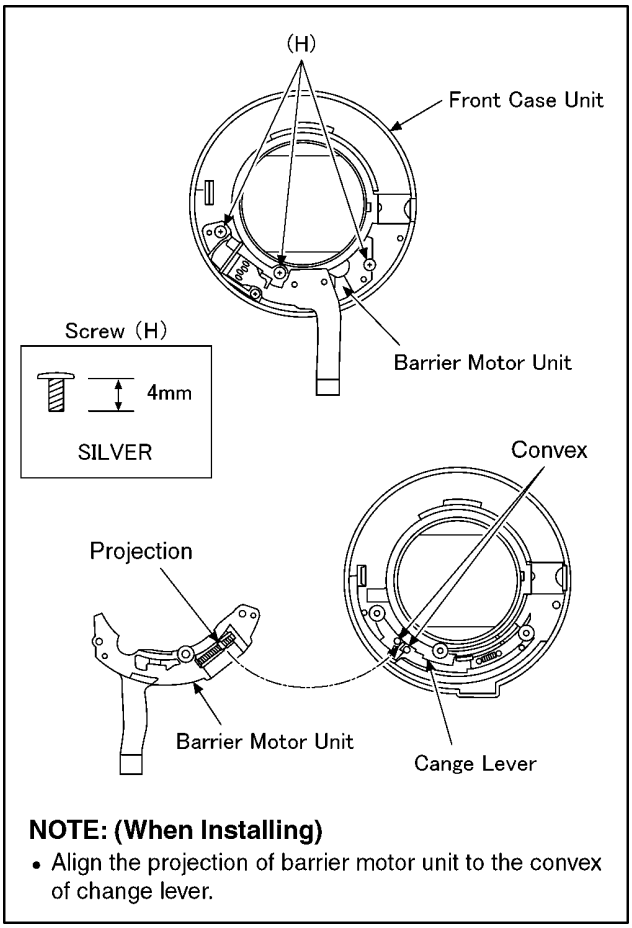


Fig. D9

8.3.4. Removal of the Side Case(L) Unit

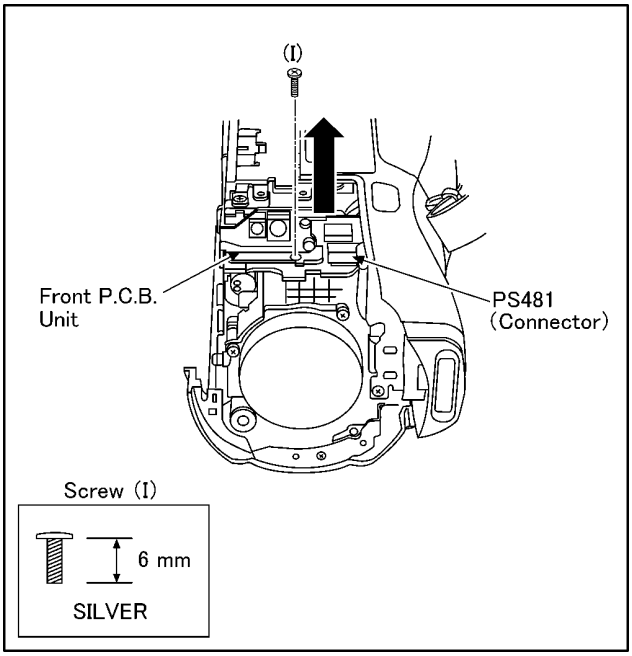


Fig. D10

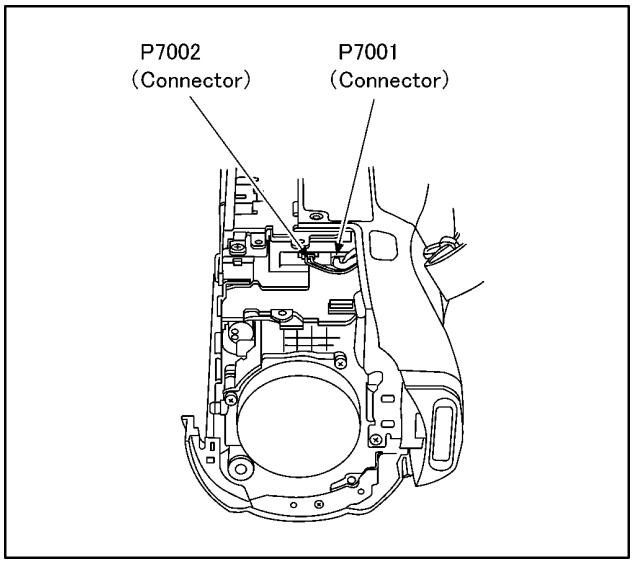


Fig. D11

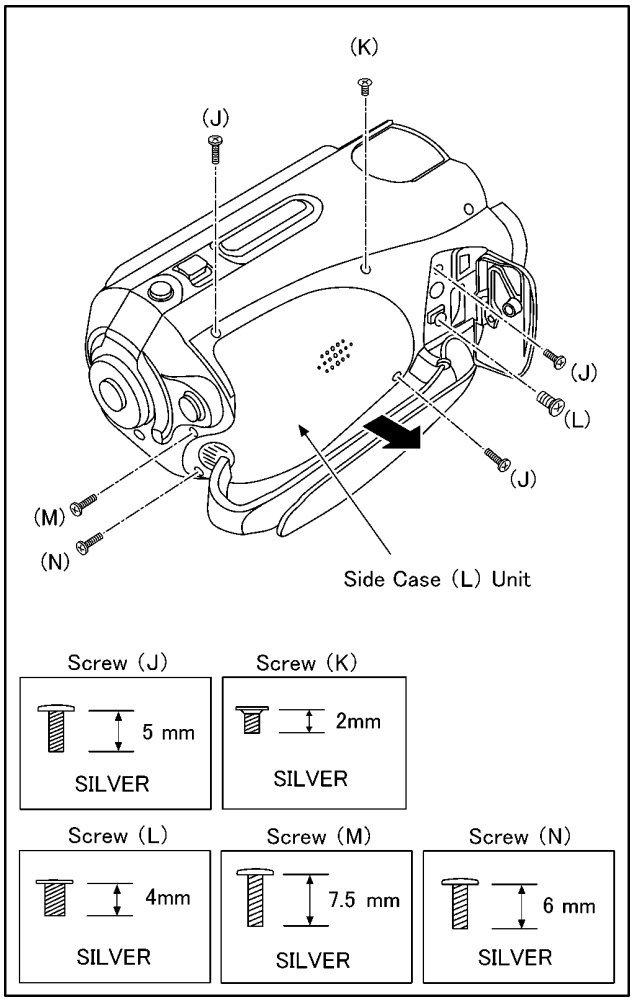


Fig. D12

8.3.5. Removal of the Speaker Holder Unit

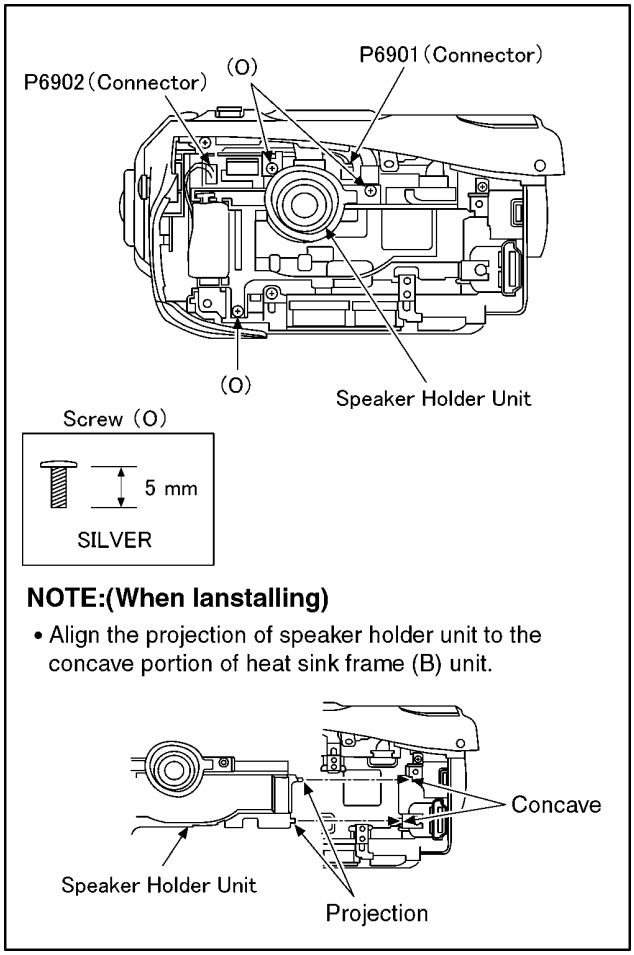


Fig. D13

8.3.6. Removal of the Top/Rear Operation Unit

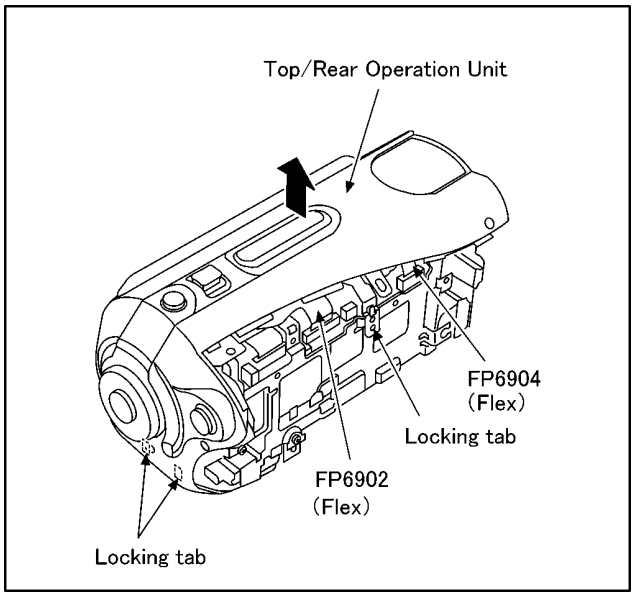


Fig. D14

8.3.7. Removal of the Jack Board/Jack Heat Sink

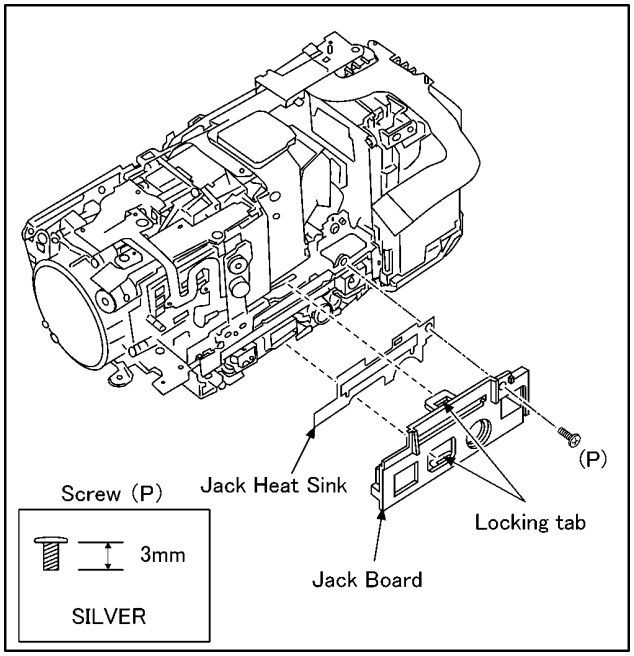


Fig. D15

8.3.8. Removal of the Jack P.C.B. Unit

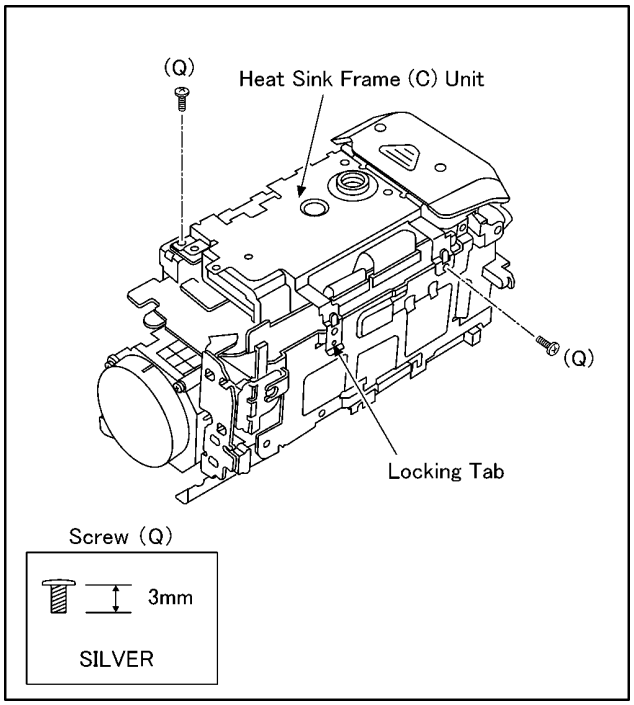


Fig. D16

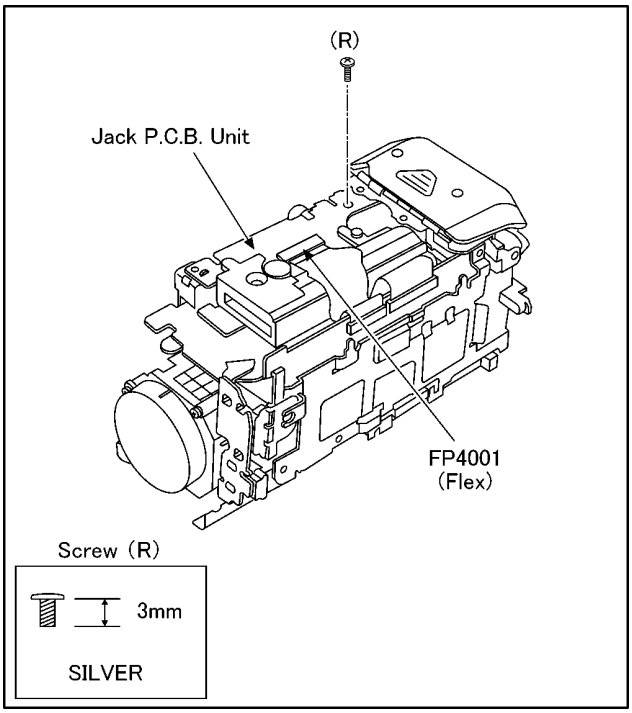


Fig. D17

8.3.9. Removal of the Battery Case Unit

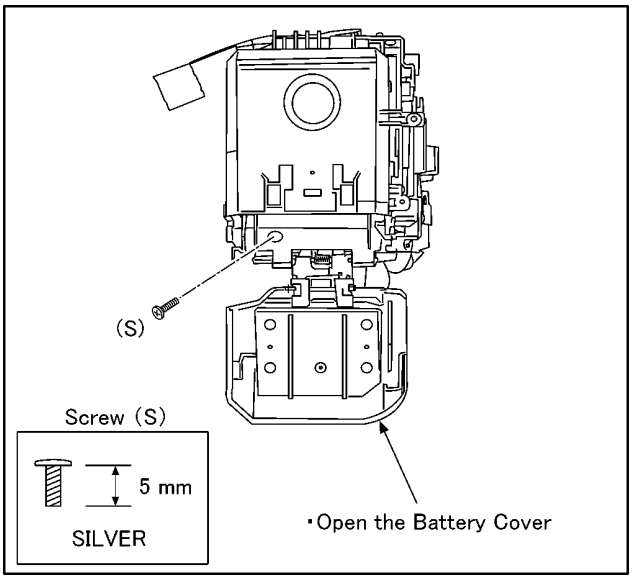


Fig. D18

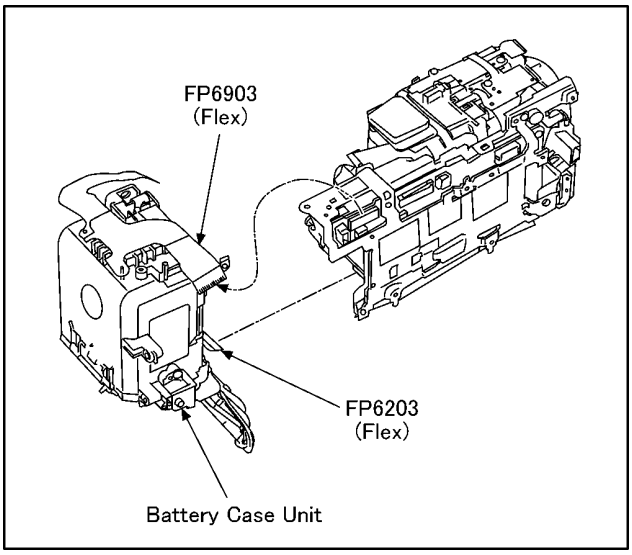


Fig. D19

8.3.10. Removal of the Main P.C.B.

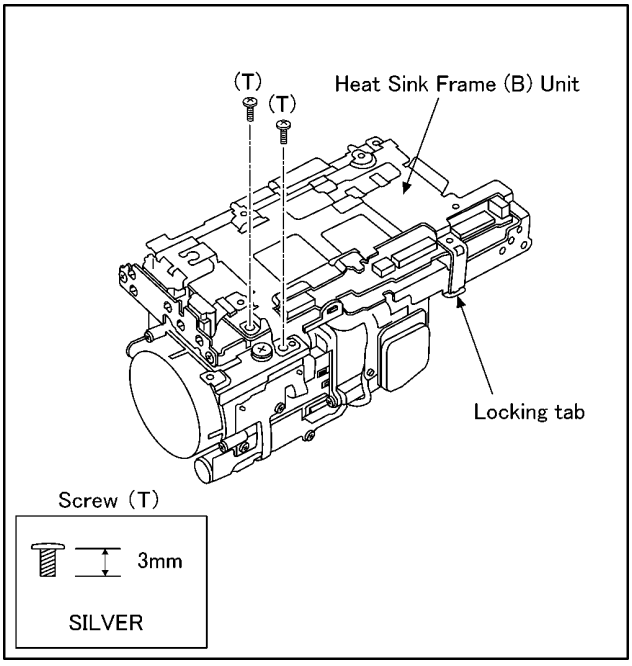


Fig. D20

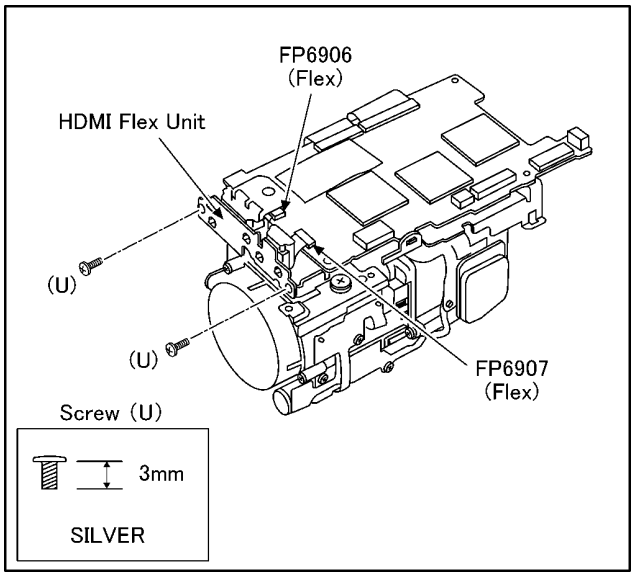


Fig. D21

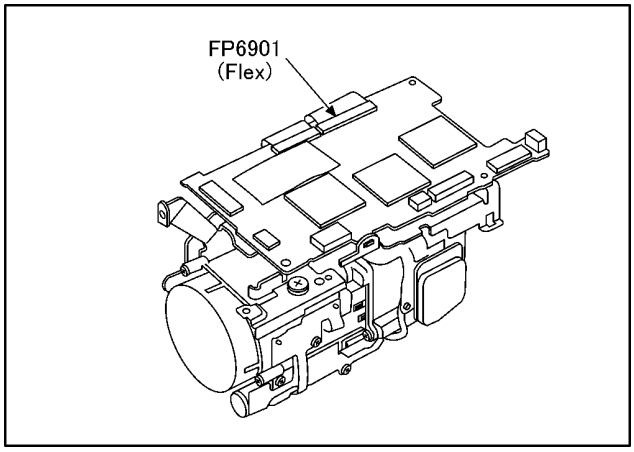


Fig. D22

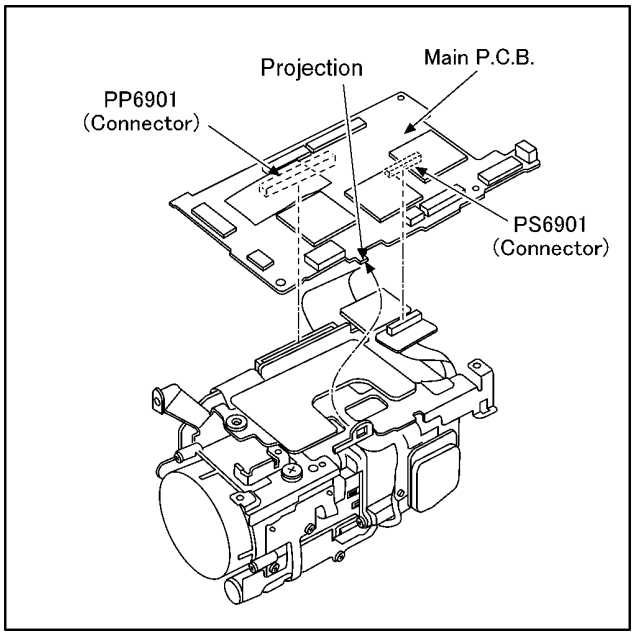


Fig. D23

8.3.11. Removal of the Lens Unit

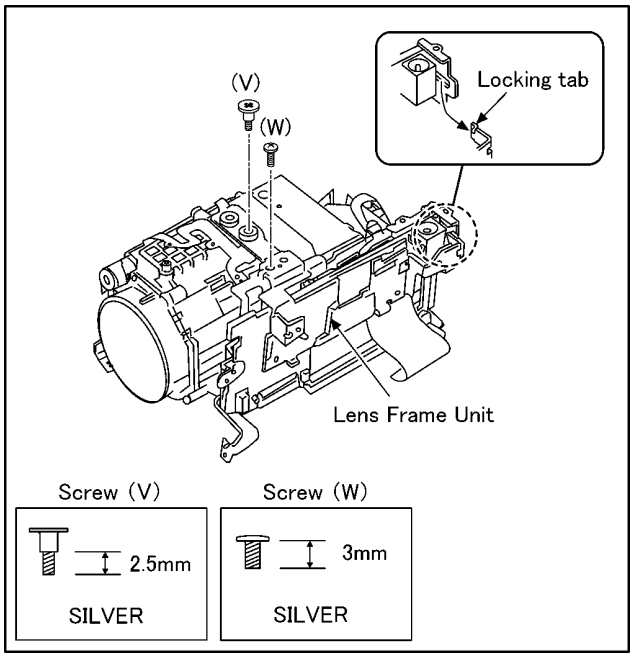


Fig. D24

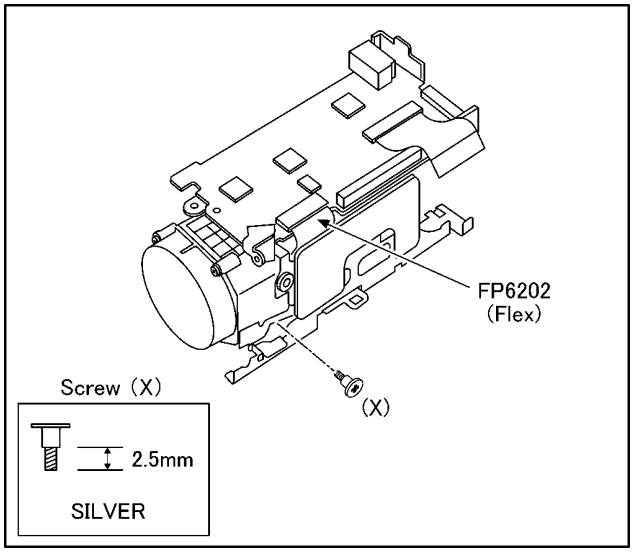


Fig. D25

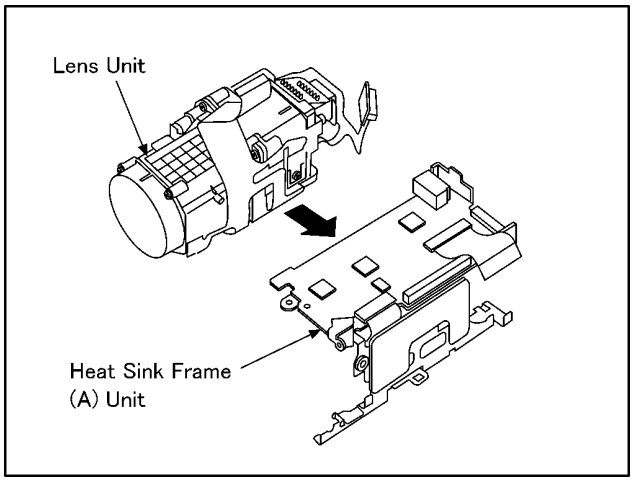


Fig. D26

8.3.12. Removal of the Sub P.C.B.

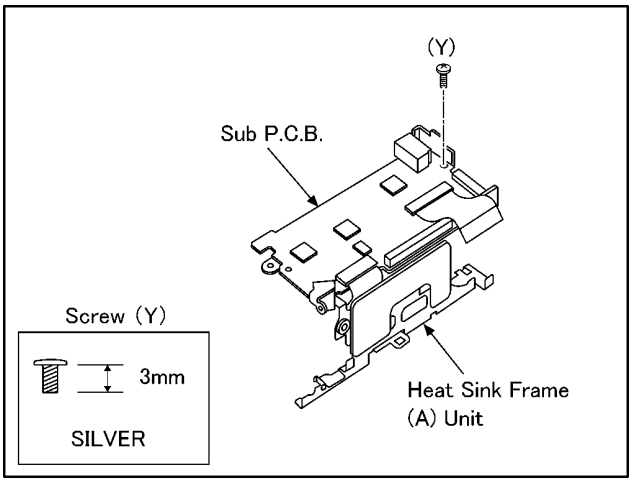


Fig. D27

8.3.13. Removal of the LCD Unit

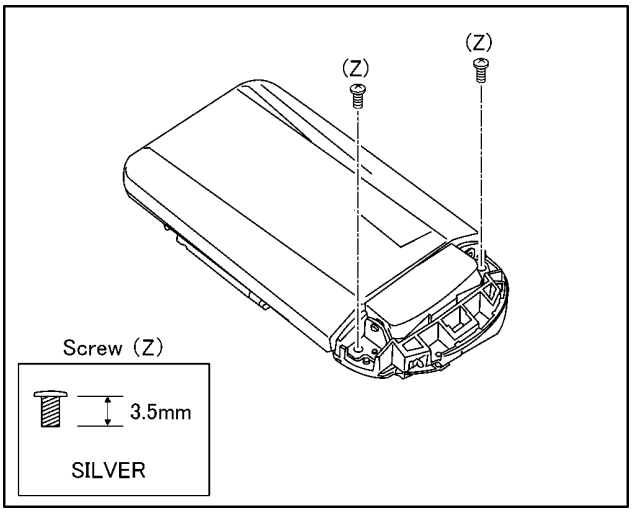


Fig. D28

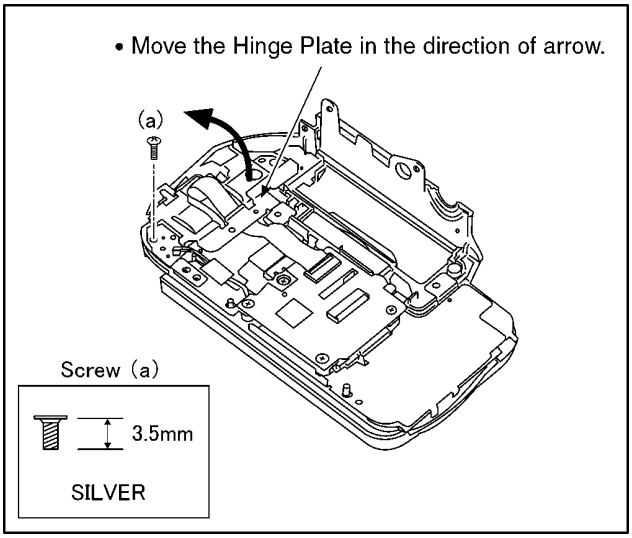


Fig. D29

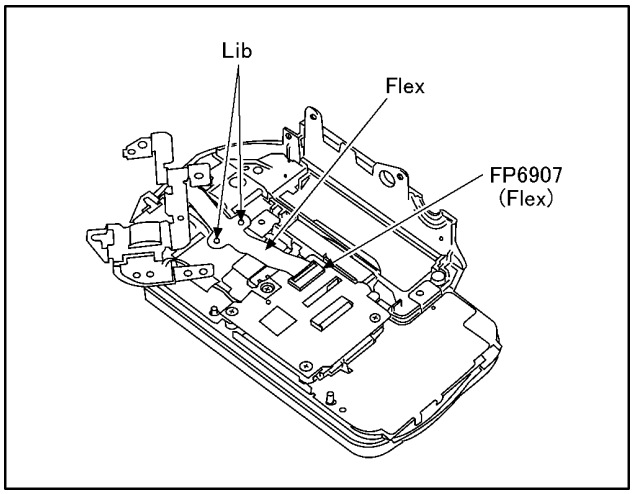


Fig. D30

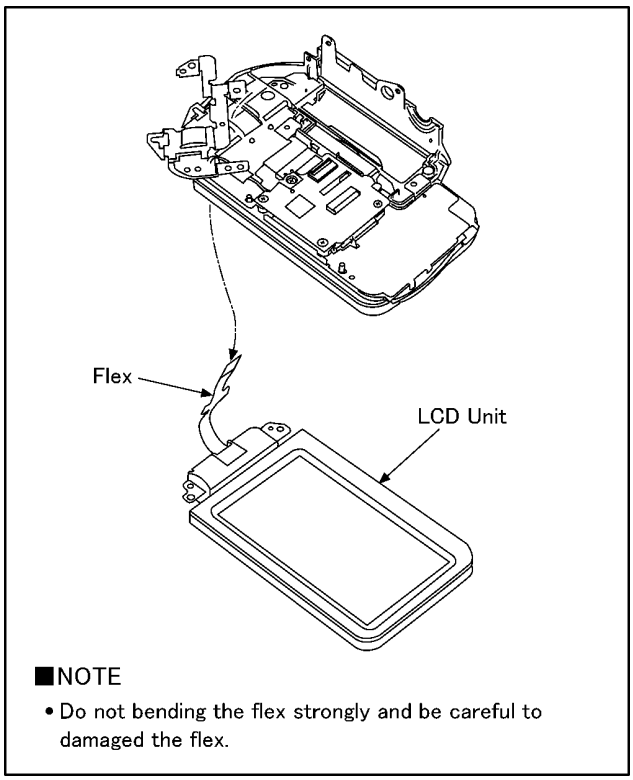


Fig. D31

8.3.14. Removal of the Monitor P.C.B.

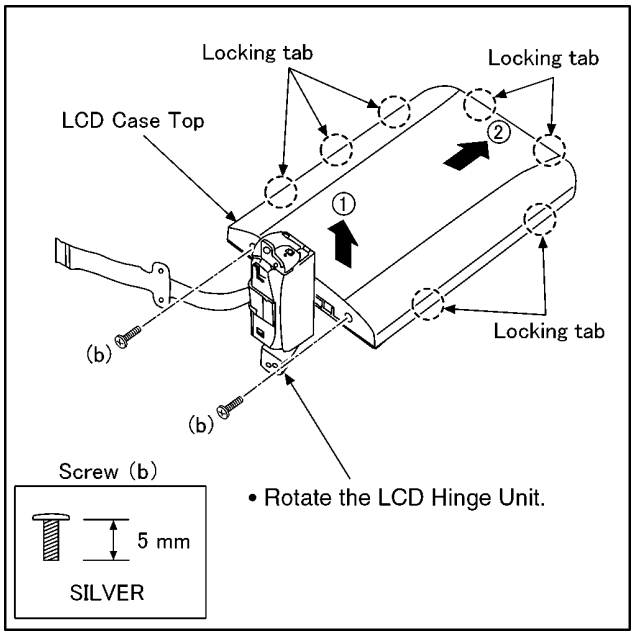


Fig. D32

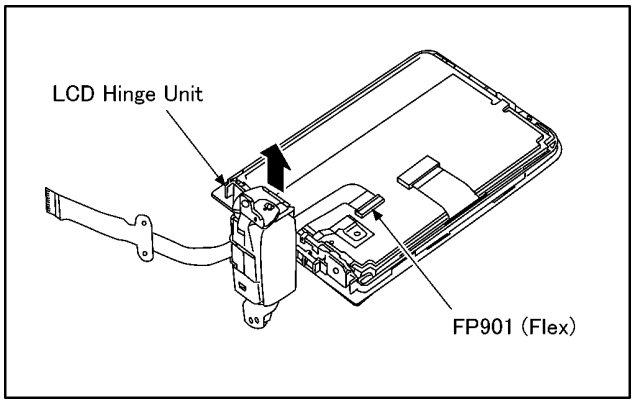


Fig. D33

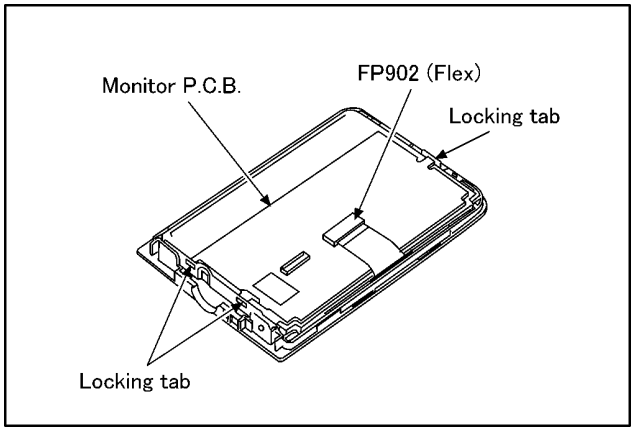


Fig. D34

8.3.15. Removal of the LCD

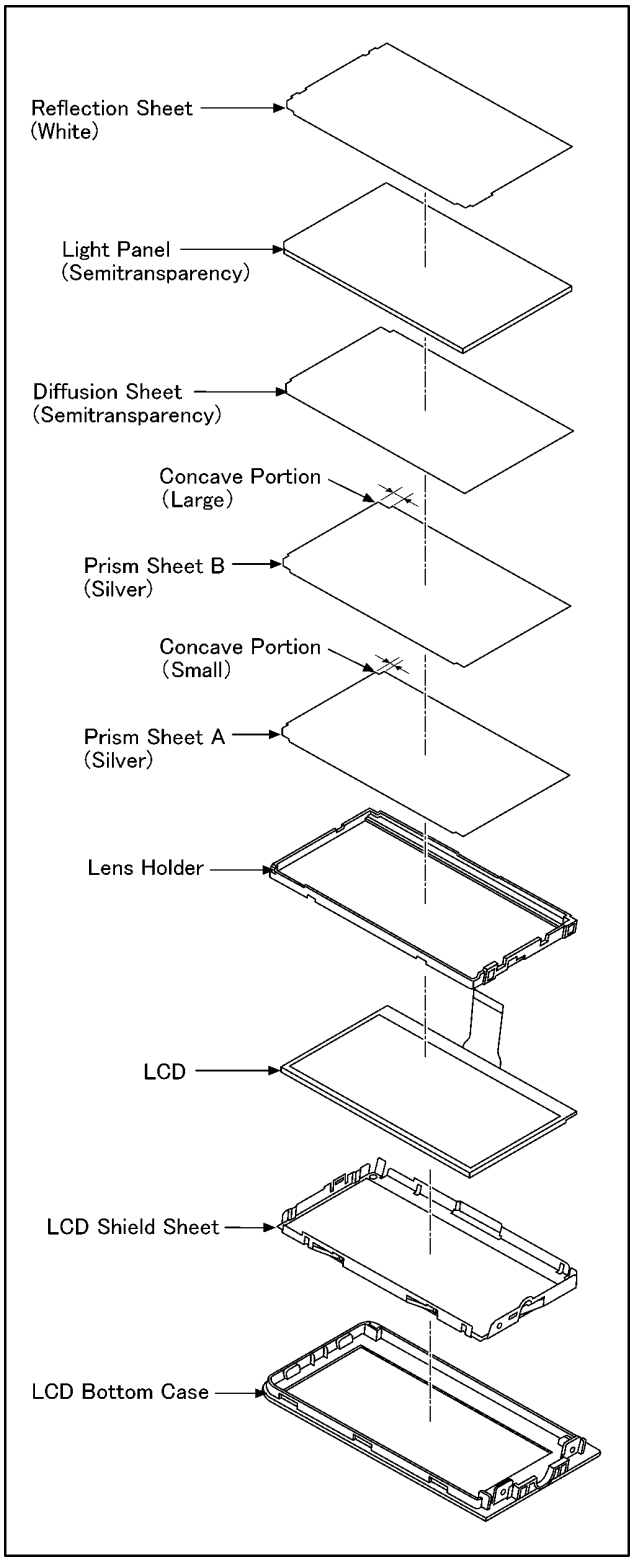


Fig. D35

8.3.16. Removal of the Battery Flex Unit

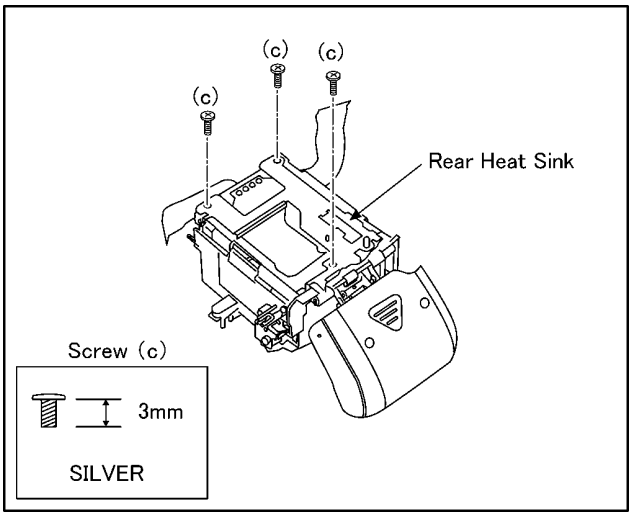


Fig. D36

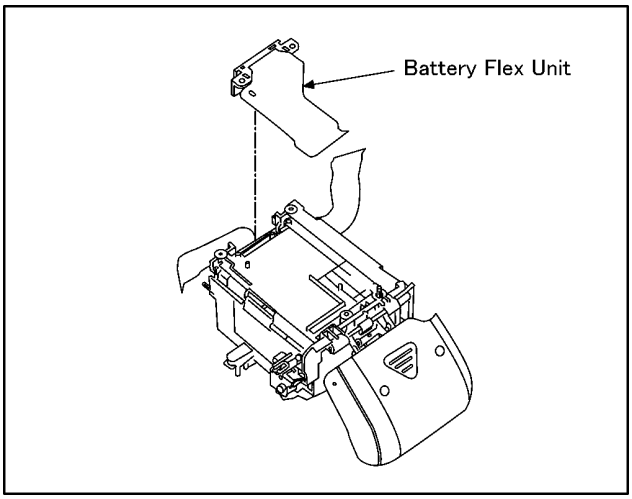


Fig. D37

8.3.17. Removal of the Battery Lock

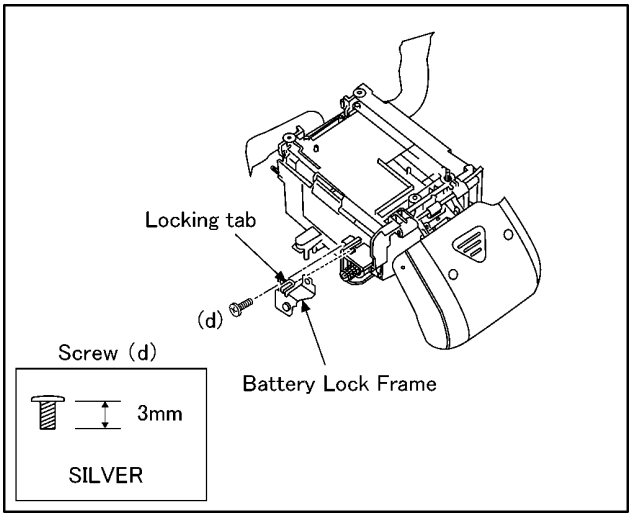


Fig. D38

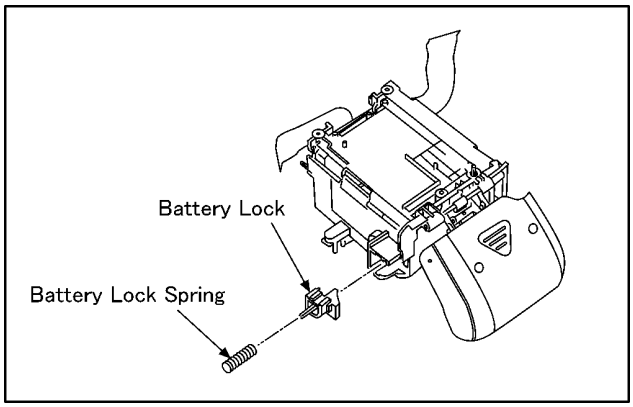


Fig. D39

8.3.18. Removal of the Battery Cover and Battery Cover Hinge Unit

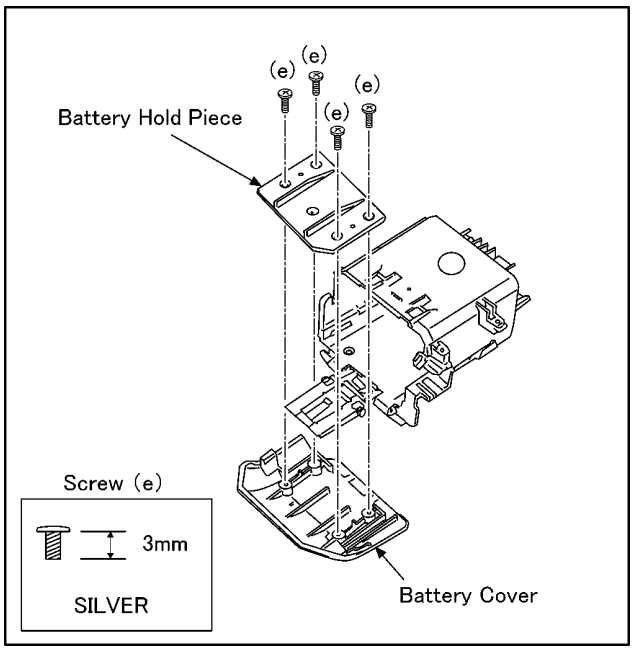


Fig. D40

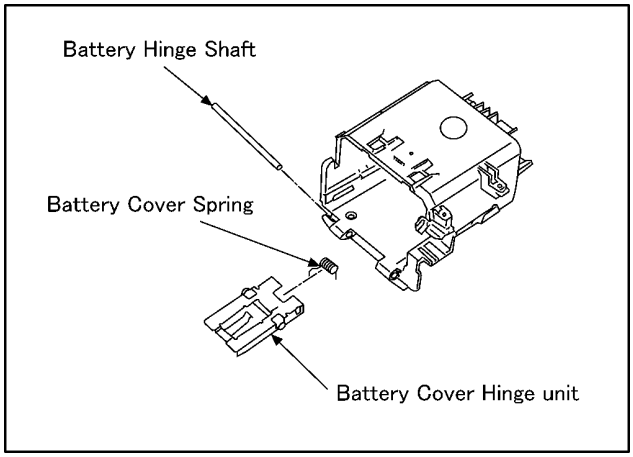


Fig. D41

8.3.19. Removal of the Prism Unit and Optical Filter

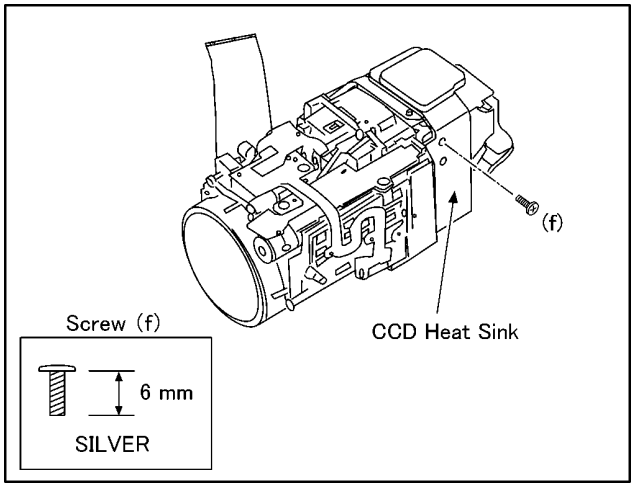


Fig. D42

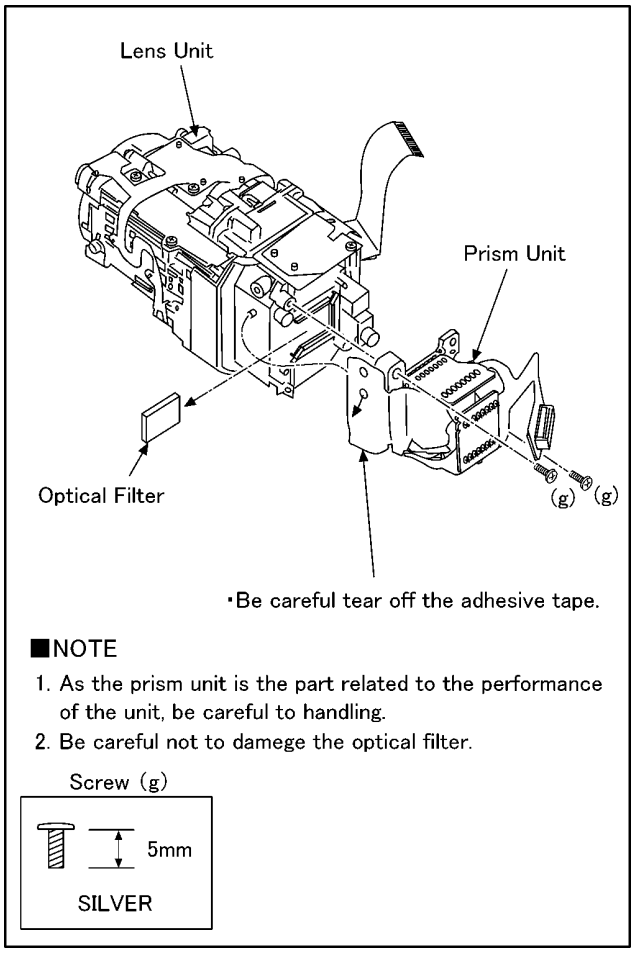
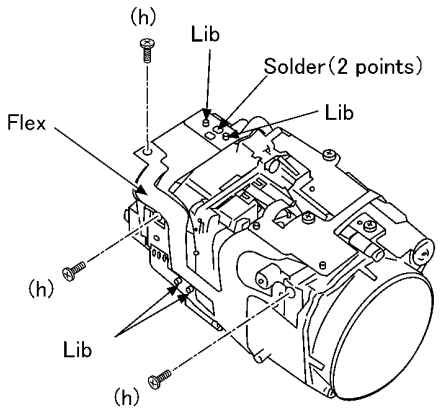
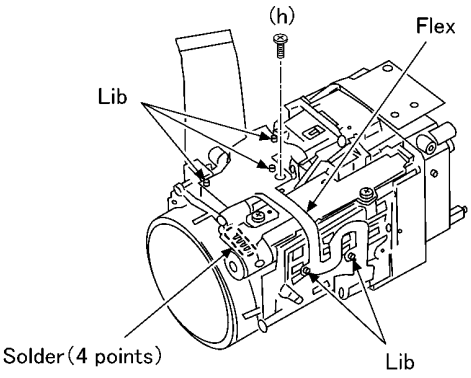


Fig. D43

8.3.20. Removal of the Zoom Motor Unit





■NOTE

• Do not bending the flex strongly and be careful to damaged the flex.

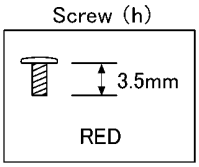


Fig. D44

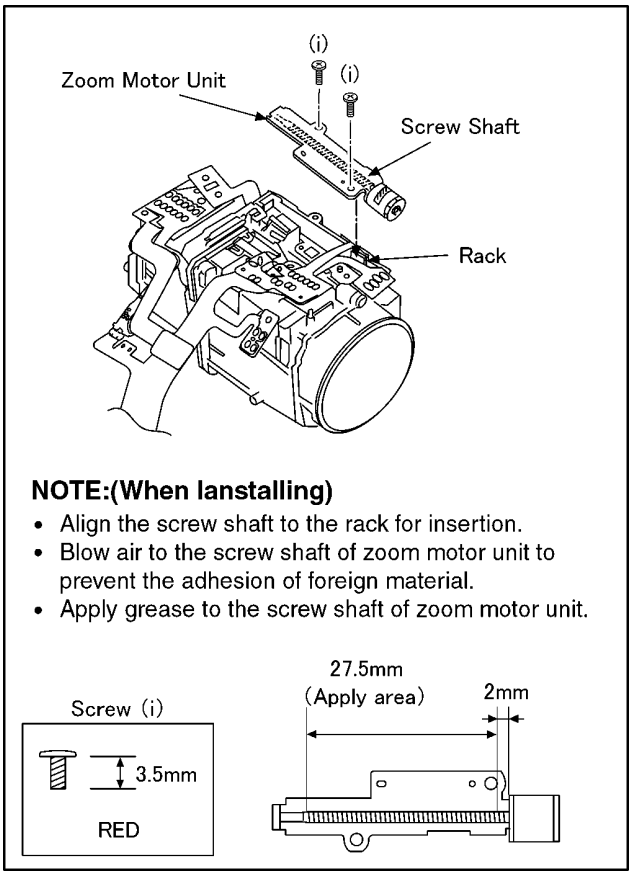


Fig. D45

8.3.21. Removal of the 1st Lens Frame Move Unit

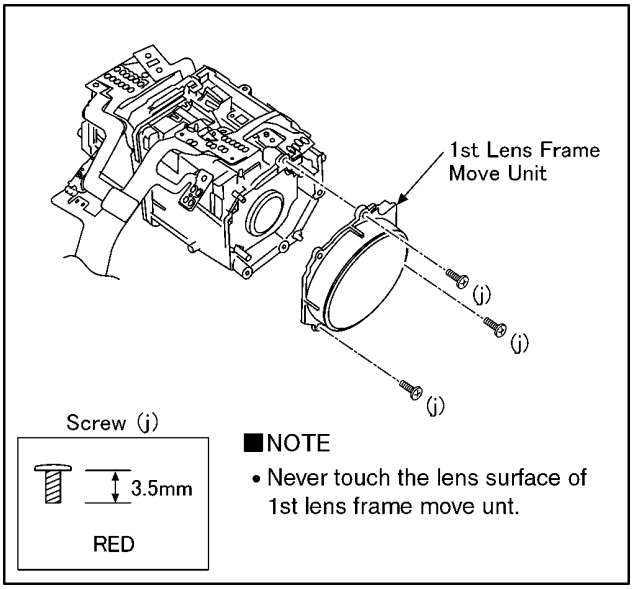


Fig. D46

8.3.22. Removal of the Main Frame and 2nd Lens Frame Move Unit

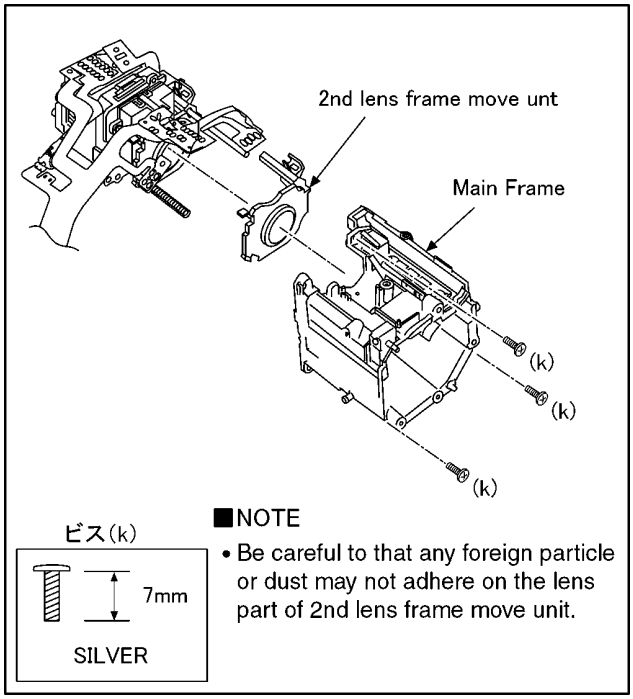


Fig. D47

8.3.23. Removal of the 2nd Lens Spring and OIS/IRIS Unit

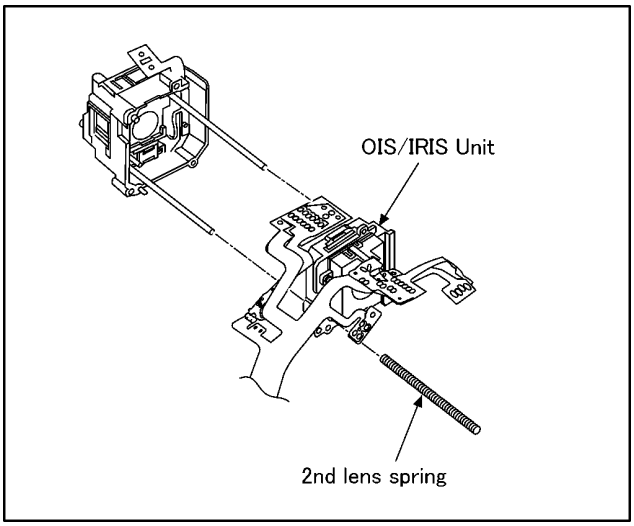


Fig. D48

8.3.24. Removal of the IRIS Unit

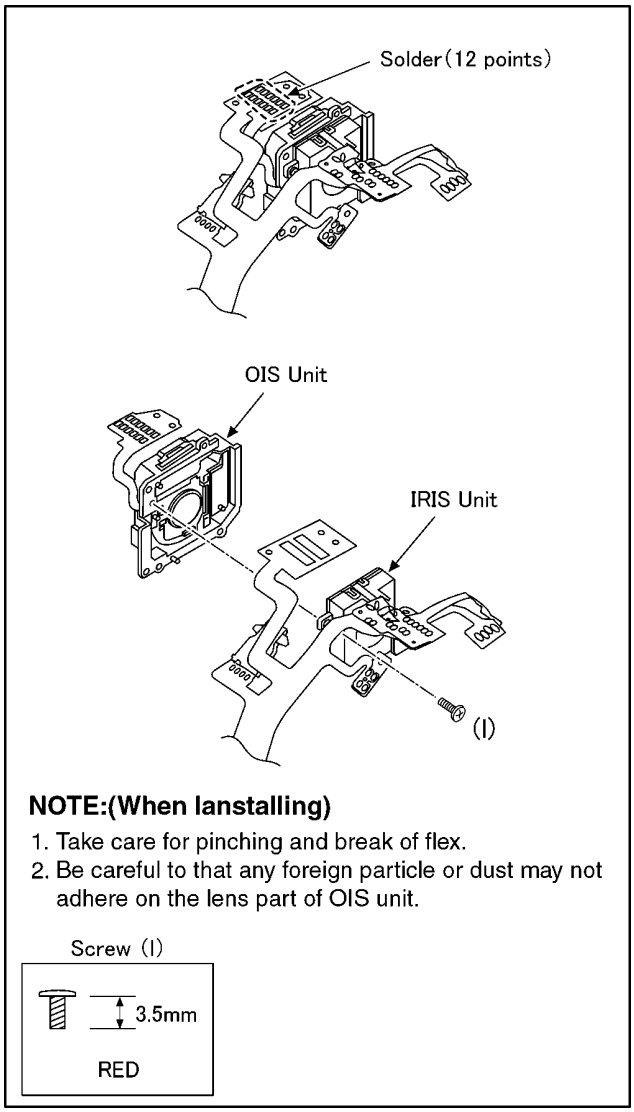
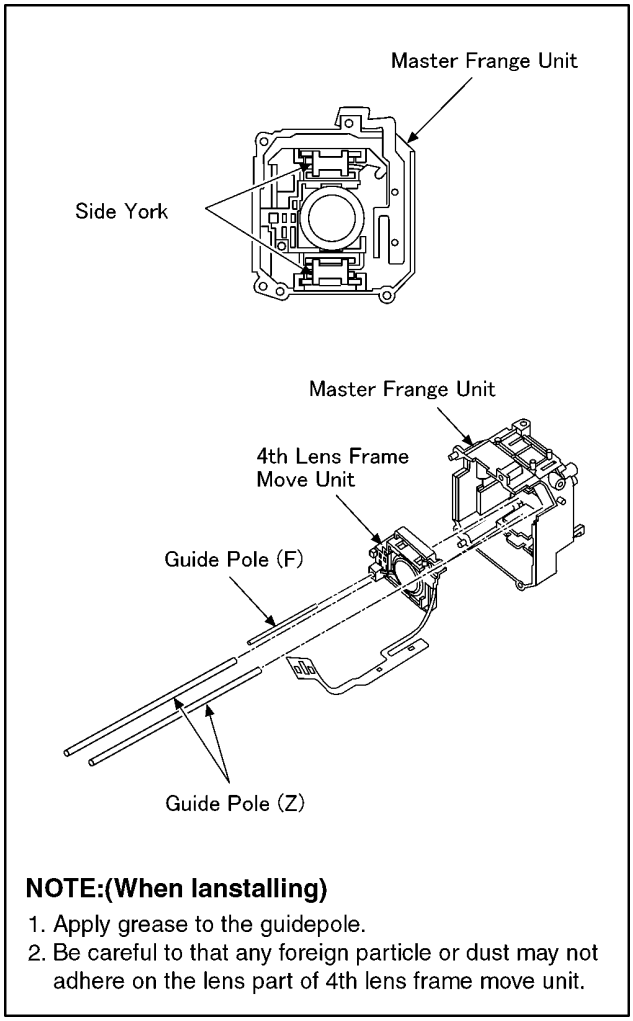


Fig. D49

8.3.25. Removal of the Master Frange Unit and 4th Lens Frame Move Unit



NOTE:(When lanstalling)

1. Apply grease to the guidepole.
2. Be careful to that any foreign particle or dust may not adhere on the lens part of 4th lens frame move unit.

Fig. D50

9 Measurements and Adjustments

9.1. Electric Adjustment

- Adjustment method is different from a conventional SD video camera.
- An exclusive jig and PC (including software for adjustment “Tatsujin”) are necessary for electric adjustment.
- A USB driver for service is necessary to communication with PC.
- Connection method of the main unit and an exclusive adjustment jig as follows

9.1.1. Adjustment Procedure

- Connect the main unit to PC with USB.
  The adjustment instruction is available at "Software download" on the "Support Information from NWBG/VDBG-PAVC" web-site in "TSN System".

Figure of connection

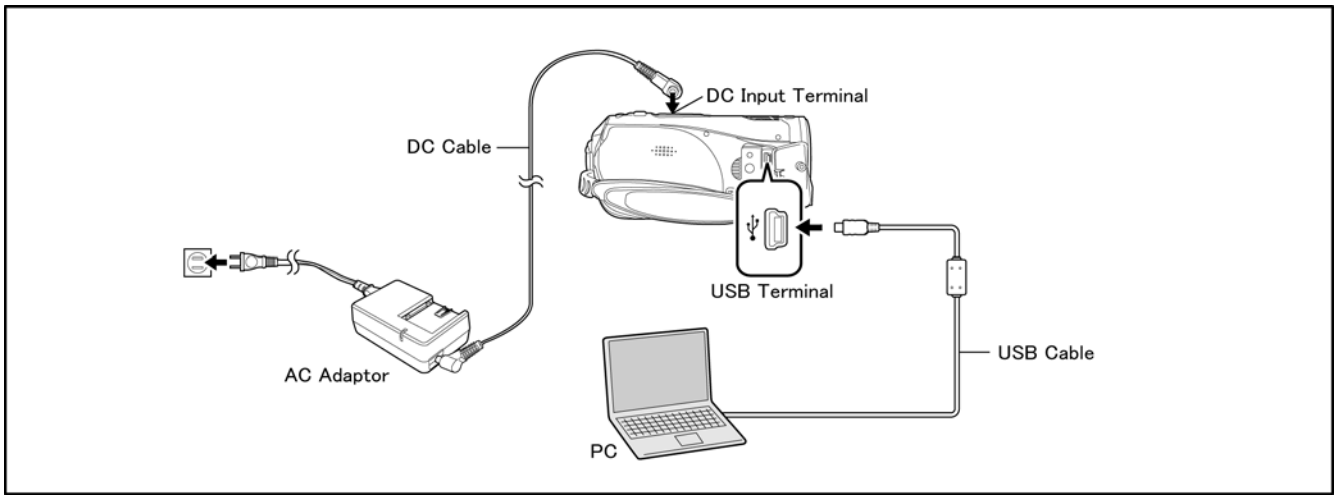
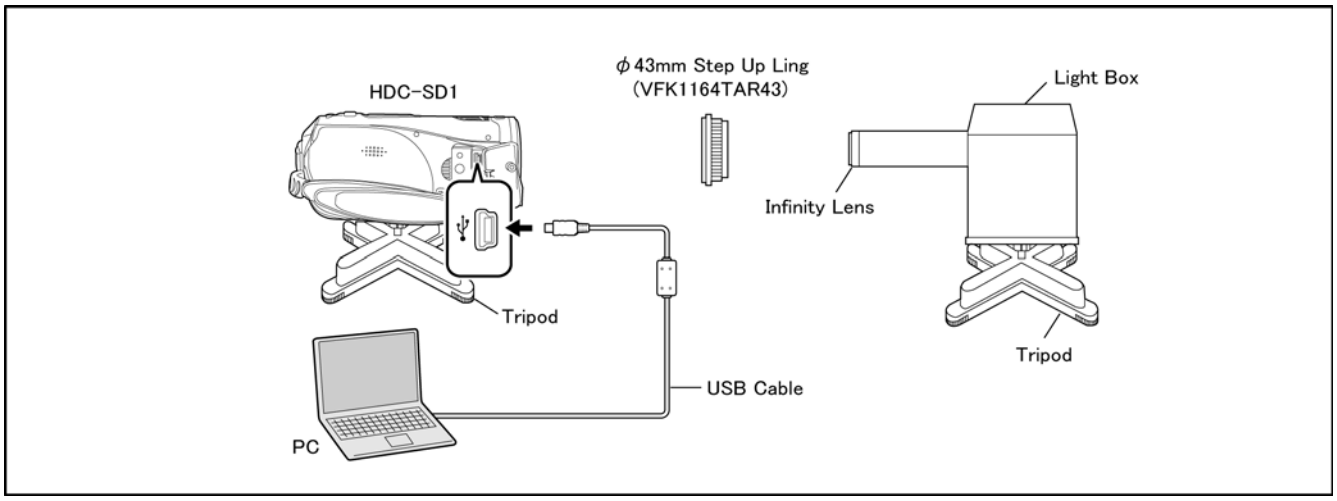


Figure of image when adjustment



Part Number of jig

- Only a necessary jig mentions it in setup of electric adjustment.

No.	Part Name	Part Number	Remarks
1	PC	------	
2	AC Adaptor	------	
3	DC Cable	------	
4	USB Cable	------	
5	43mm Step Up Ling	VFK1164TAR43	
6	Adjustment Software (Tatsujin)	------	

Adjustment Items

- Adjustment item as follows.

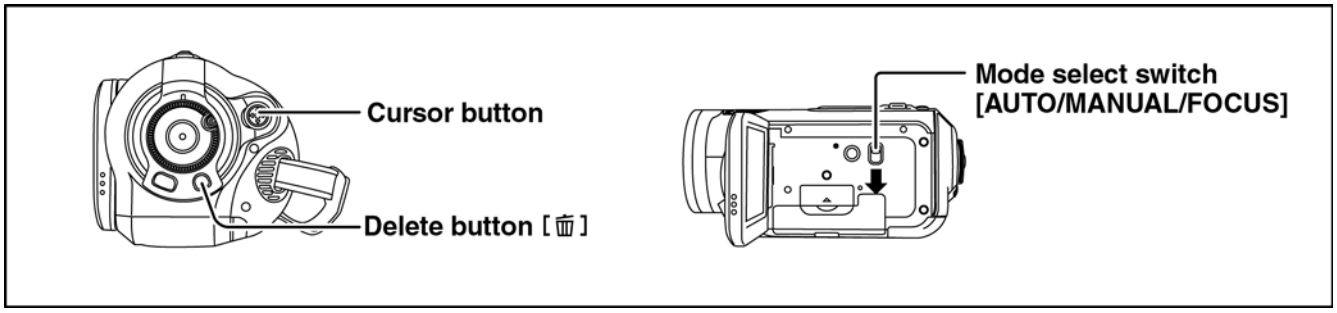
  The adjustment instruction is available at "Software download" on the "Support Information from NWBG/VDBG-PAVC" web-site in "TSN System".

Adjustment item \ Replacement part		Main P.C.B.	IC2007(EEPROM)	Lens P.C.B.	Prism Unit	IRIS	4th lens frame move unit	IC3300(ONIKISS)
Camera Part	●Hall amplifire/PWM bias (Automatic)	○	○	○	○	○		
	●OI Hall amplifire adjustment	○	○	○	○	○		
	●Zoom tracking adjustment (Automatic)	○	○	○	○	○	○	
	●Address wound revision	○	○		○			
	●White balance adjustment	○	○		○			
Video Part	●Brightness level adjustment	○	○		○			
	●ONIKISS DDR revision							○

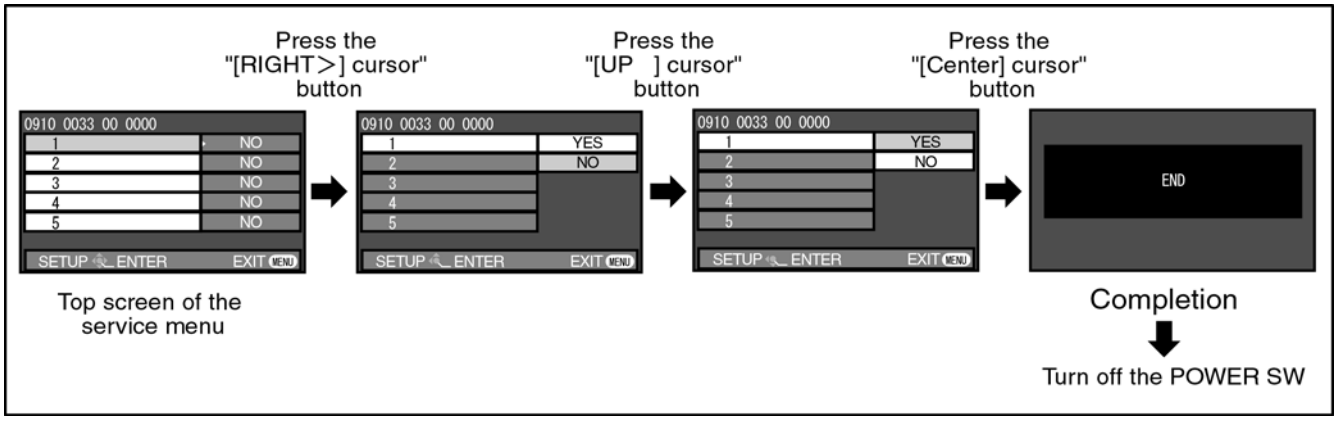
10 Factory Setting

10.1. HOW TO TURN ON THE FACTORY SETTINGS?

1. Set the mode dial **other than** PC connection mode.
2. While keep pressing the “[LEFT<] of cursor” button and “delete” button, hold down the Mode Select Switch towards to “[FOCUS]” position for more than 3 seconds until the top screen of the Service Menu being displayed.



3. Under the condition of the Item No.”1” is yellow high lighted, press the “[RIGHT>] of cursor“ button.
4. By pressing the “[UP ^] of cursor” button, then press the “[center] of cursor” button.
5. After few seconds “END” is displayed on LCD monitor. Turn off the power as a completion of the “FACTORY SETTINGS”.



10.2. WHAT IS THE FACTORY SETTINGS?

The factory settings clean up and/or refresh the following settings.

1. The OSD MENU setting data.
2. Deletion only for all scene files in a card and format of the MPEG2 file system area.
3. Reset the folder number and file number of still pictures.
   (Setting the folder number is 100, and file number is 0.)
4. Clear the mechanism lock information.
5. Clear the service mode information contents.

The setting position of factory settings:

Name	Setting position
Mode select switch	AUTO
Mode dial	OFF

VM0702018CE

Service Manual

Diagrams and Replacement Parts List

High Definition Video Camera

Model No.

HDC-SD1PP

HDC-SD1EG

HDC-SD1GC

Vol. 1
Colour
(S).....Silver Type

S1. About Indication of The Schematic Diagram

S1.1. Important Safety Notice

COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS USE ONLY THE SAME TYPE.

1.Although reference number of the parts is indicated on the P.C.B. drawing and/or schematic diagrams, it is NOT mounted on the P.C.B. when it is displayed with "$" mark.

2.It is only the "Test Round" and no terminal (Pin) is available on the P.C.B. when the TP (Test Point) indicated as "●" mark.

3.The voltage being indicated on the schematic diagram is measured in "Standard-Playback" mode when there is no specify mode is mentioned.

4.Although the voltage and waveform available on here is measured with standard frame, it may be differ from actual measurement due to modification of circuit and so on.

5.The voltage being indicated here may be include observational-error (deviation) due to internal-resistance and/or reactance of equipment. Therefore, handle the value indicated on here as reference.

6.Use the parts number indicated on the Replacement Parts List .

7.Indication on Schematic diagrams:

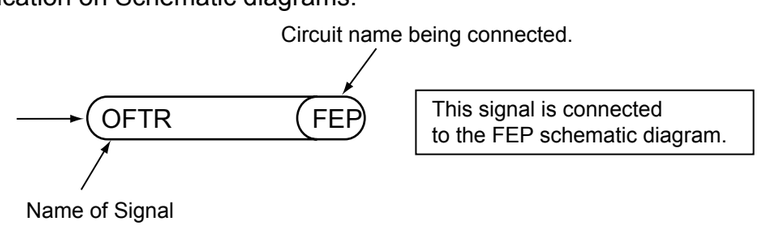


Table of contents

S2. Voltage Chart

Note) Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard.
Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.

S2.1. Jack P.C.B.

REF No.	PIN No.	POWER ON
Q7001	E	0
Q7001	C	0
Q7001	B	0.3
Q7002	E	0
Q7002	C	7.9
Q7002	B	0
Q7003	E	0
Q7003	C	3.1
Q7003	B	0
Q7004	1	0
Q7004	2	0.7
Q7004	3	0
Q7004	4	5.4
Q7004	5	4.9
Q7004	6	0
QR4901	E	5.4
QR4901	C	0.1
QR4901	B	4.9
QR7001	E	0
QR7001	C	4.9
QR7001	B	0
QR7008	E	0
QR7008	C	0.3
QR7008	B	0

S2.2. Side R P.C.B.

REF No.	PIN No.	POWER ON
IC1694	1	3.2
IC1694	2	0
IC1694	3	0
IC1694	4	0
IC1694	5	3.2
IC601	1	1.6
IC601	2	0
IC601	3	0
IC601	4	3.2
IC601	5	0
IC601	6	0
IC601	7	0
IC601	8	3.2
IC601	9	2.4
IC601	10	0
IC601	11	0.7
IC601	12	0
IC601	13	0
IC601	14	0.7
IC601	15	0.7
IC601	16	1
IC601	17	0
IC601	18	1
IC601	19	1.1
IC601	20	1.1
IC601	21	1.1
IC601	22	1.1
IC601	23	2.1
IC601	24	5.3
IC601	25	2.8
IC601	26	2.8
IC601	27	2.8
IC601	28	0
IC601	29	5.1
IC601	30	4.9
IC601	31	0.8
IC601	32	0.6
IC601	33	5.3
IC601	34	4.8
IC601	35	2.7
IC601	36	2.9
IC601	37	0
IC601	38	3.2
IC601	39	0
IC601	40	0
IC601	41	0
IC601	42	0
IC601	43	0
IC601	44	2.7
IC601	45	3.2
IC601	46	3.2
IC601	47	1.6
IC601	48	1.6
IC601	49	0
IC601	50	0
IC601	51	3.2
IC601	52	3.2
IC601	53	0.4
IC601	54	0.1
IC601	55	3.2
IC601	56	3.2
IC601	57	1.6
IC601	58	1.1
IC601	59	0
IC601	60	0
IC601	61	2.9
IC601	62	2.9
IC601	63	0
IC601	64	1.6
Q1361	E	0
Q1361	C	4.9
Q1361	B	0
Q1362	E	5.2
Q1362	C	0
Q1362	B	4.9
Q1365	E	5.3
Q1365	C	0
Q1365	B	5.1
Q1951	E	14.4
Q1951	C	10
Q1951	B	13.7
Q1952	1	2.3
Q1952	2	1.7
Q1952	3	2.2
Q1952	4	9.7
Q1952	5	13.5
Q1953	E	0
Q1953	C	8.5
Q1953	B	0
QR1951	E	9.9
QR1951	C	0
QR1951	B	9.3

S2.3. Front P.C.B.

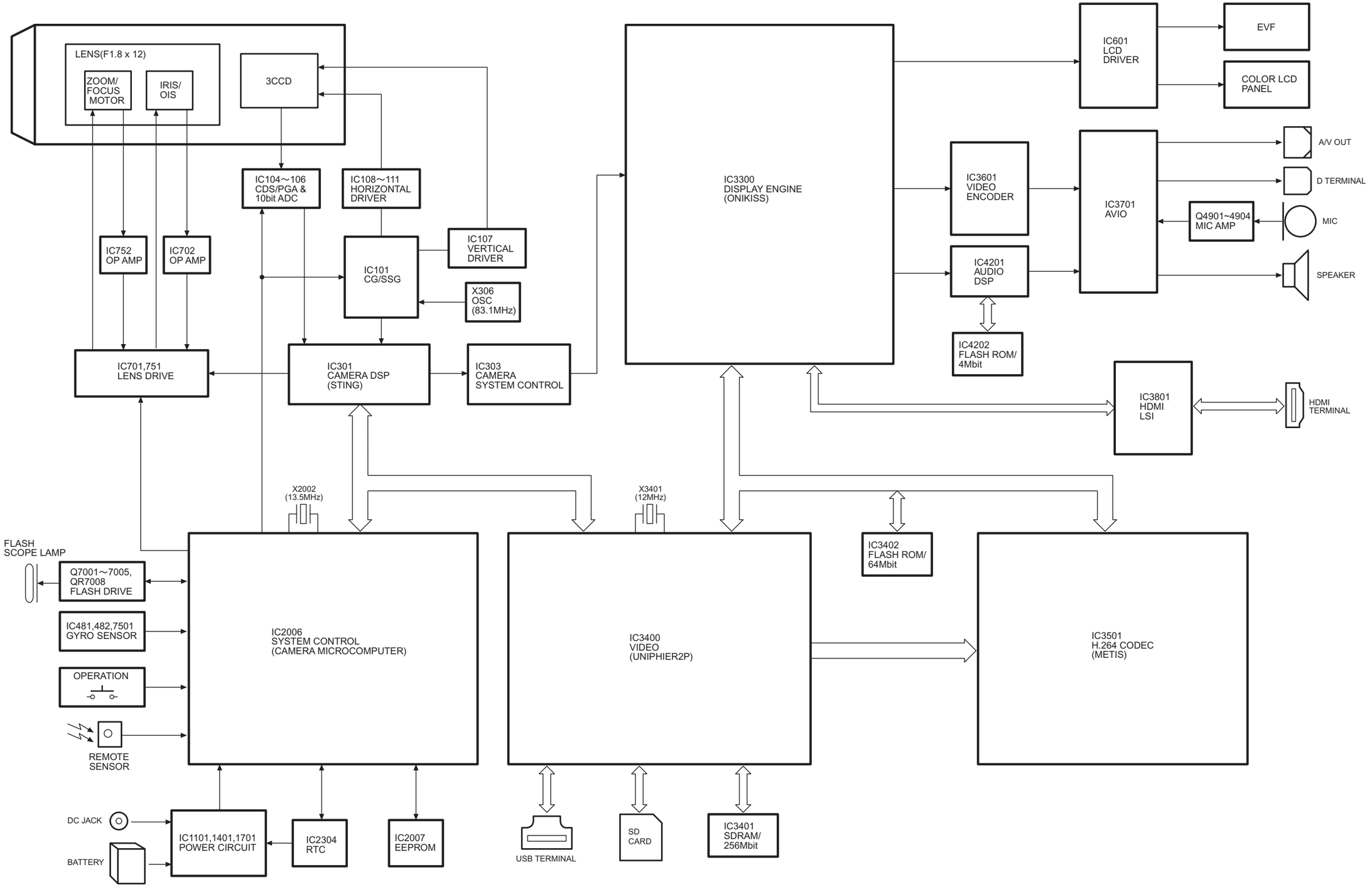
REF No.	PIN No.	POWER ON
IC481	1	0
IC481	2	0
IC481	3	3.3
IC481	4	1.6
IC482	1	0
IC482	2	0
IC482	3	3.3
IC482	4	1.6
IC7501	1	1.5
IC7501	2	0
IC7501	3	1
IC7501	4	0
IC7501	5	0.6
IC7501	6	1.5
IC7501	7	1.1
IC7501	8	0
Q491	E	4.3
Q491	C	5.4
Q491	B	1.4
Q492	E	3.6
Q492	C	5.4
Q492	B	4.3

S2.4. Mic P.C.B.

REF No.	PIN No.	POWER ON
IC4801	1	2.8
IC4801	2	2.8
IC4801	3	2.7
IC4801	4	0
IC4801	5	2.7
IC4801	6	2.8
IC4801	7	2.8
IC4801	8	5.3
Q4801	E	4.3
Q4801	C	3.2
Q4801	B	3

S3. Block Diagram

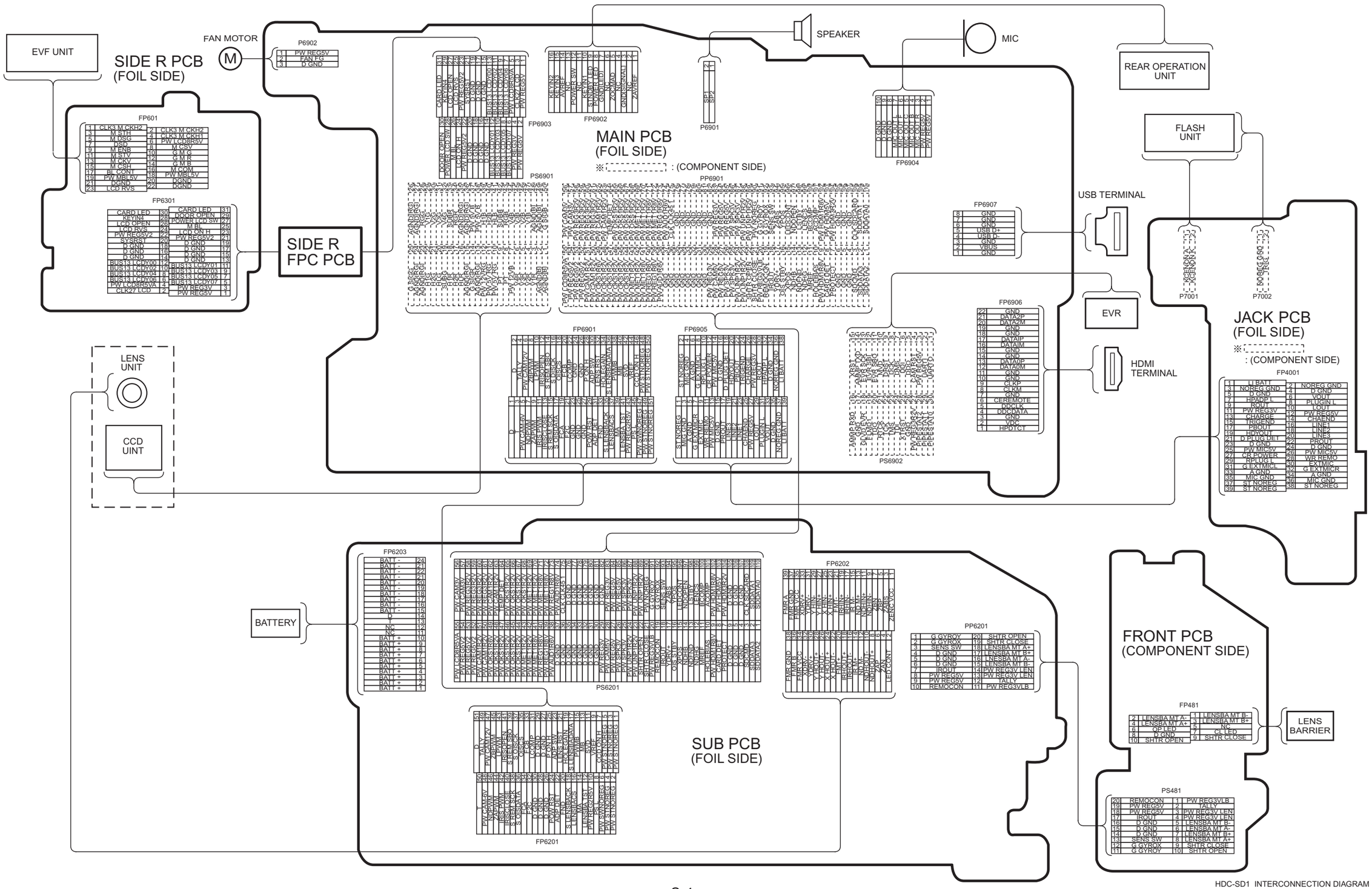
S3.1. Overall Block Diagram



HDC-SD1 OVERALL BLOCK DIAGRAM

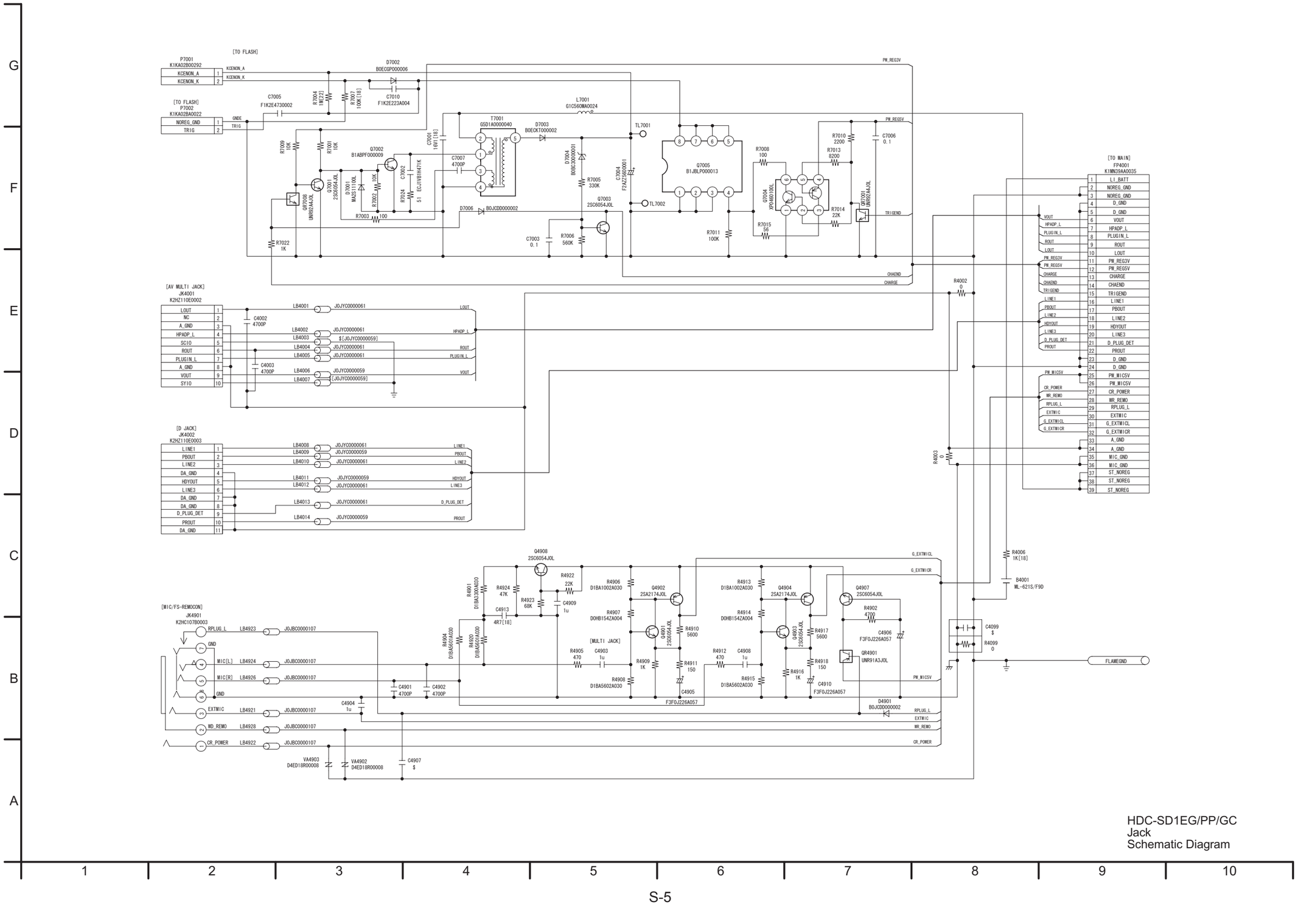
S4. Schematic Diagram

S4.1. Interconnection Diagram



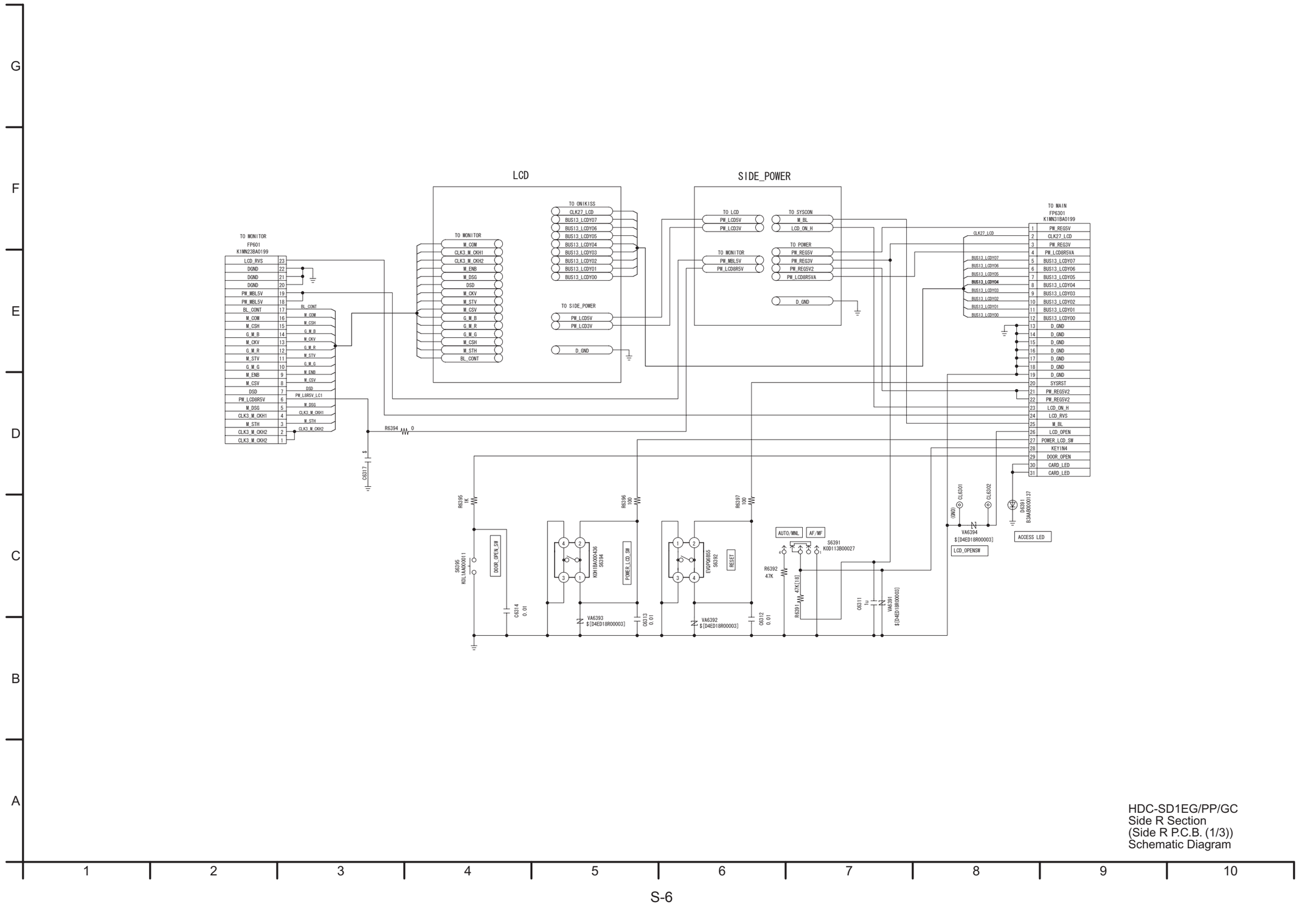
HDC-SD1 INTERCONNECTION DIAGRAM

S4.2. Jack Schematic Diagram



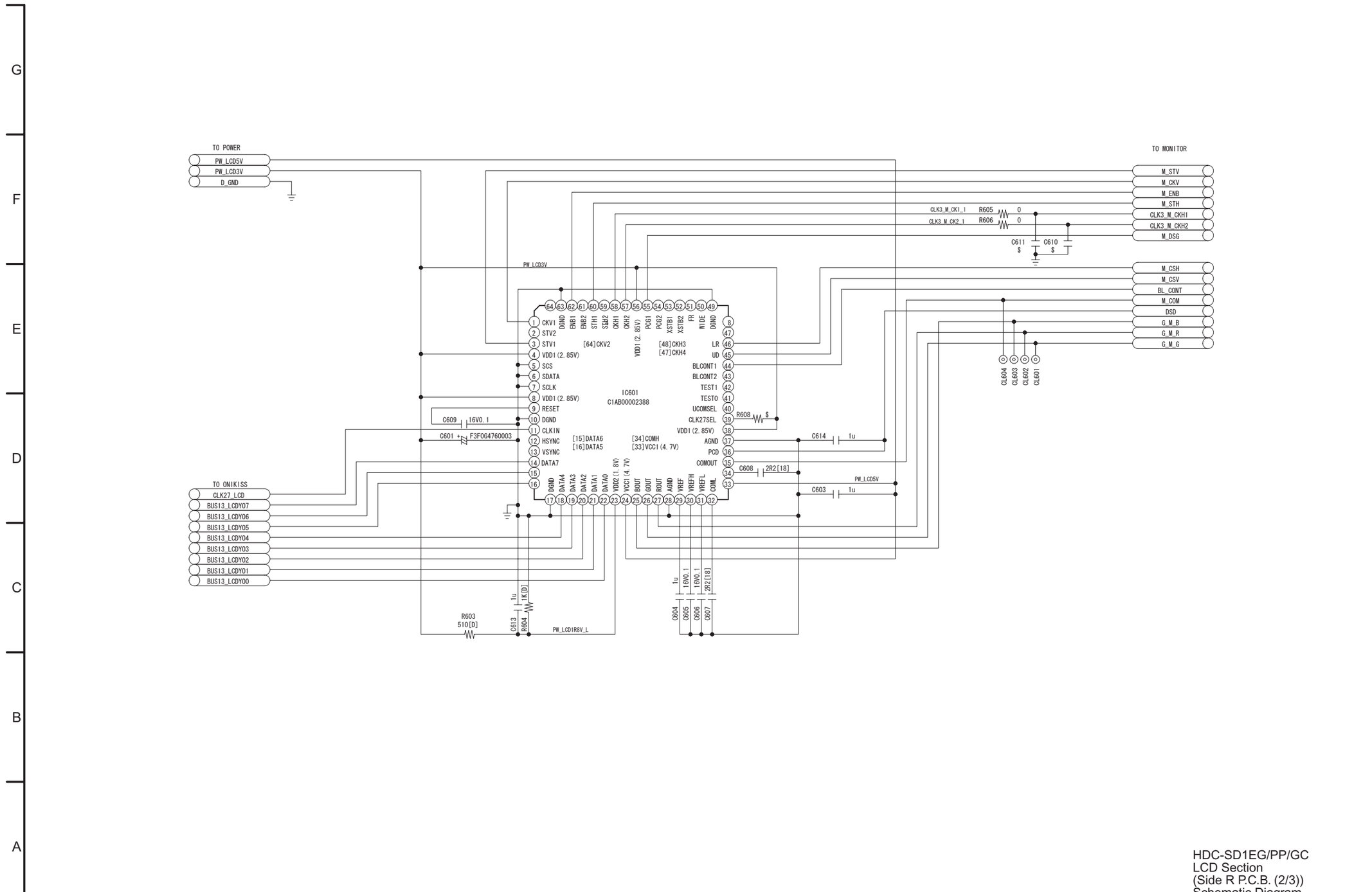
HDC-SD1EG/PP/GC
Jack
Schematic Diagram

S4.3. Side R Schematic Diagram



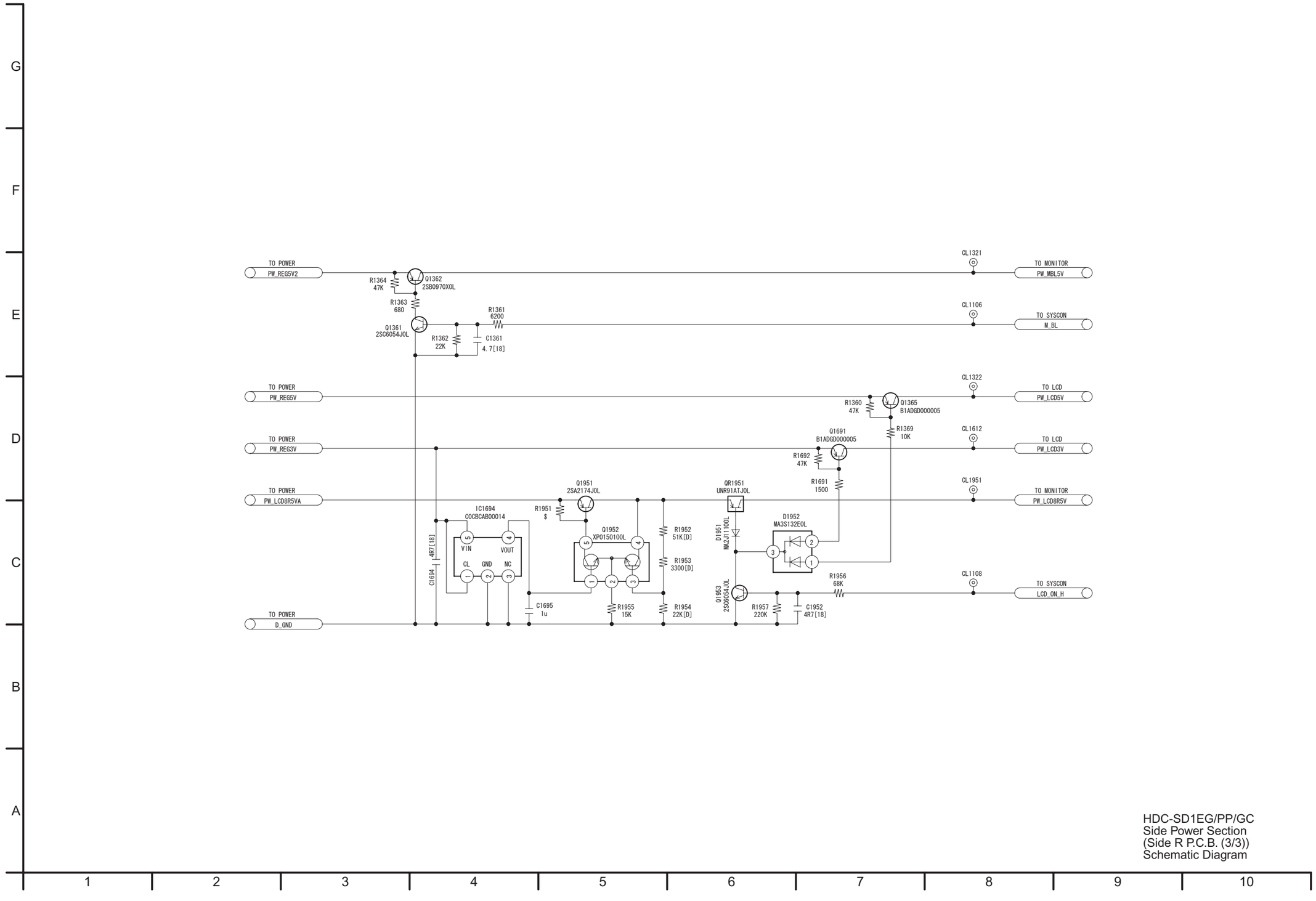
HDC-SD1EG/PP/GC
Side R Section
(Side R P.C.B. (1/3))
Schematic Diagram

S4.4. LCD Schematic Diagram



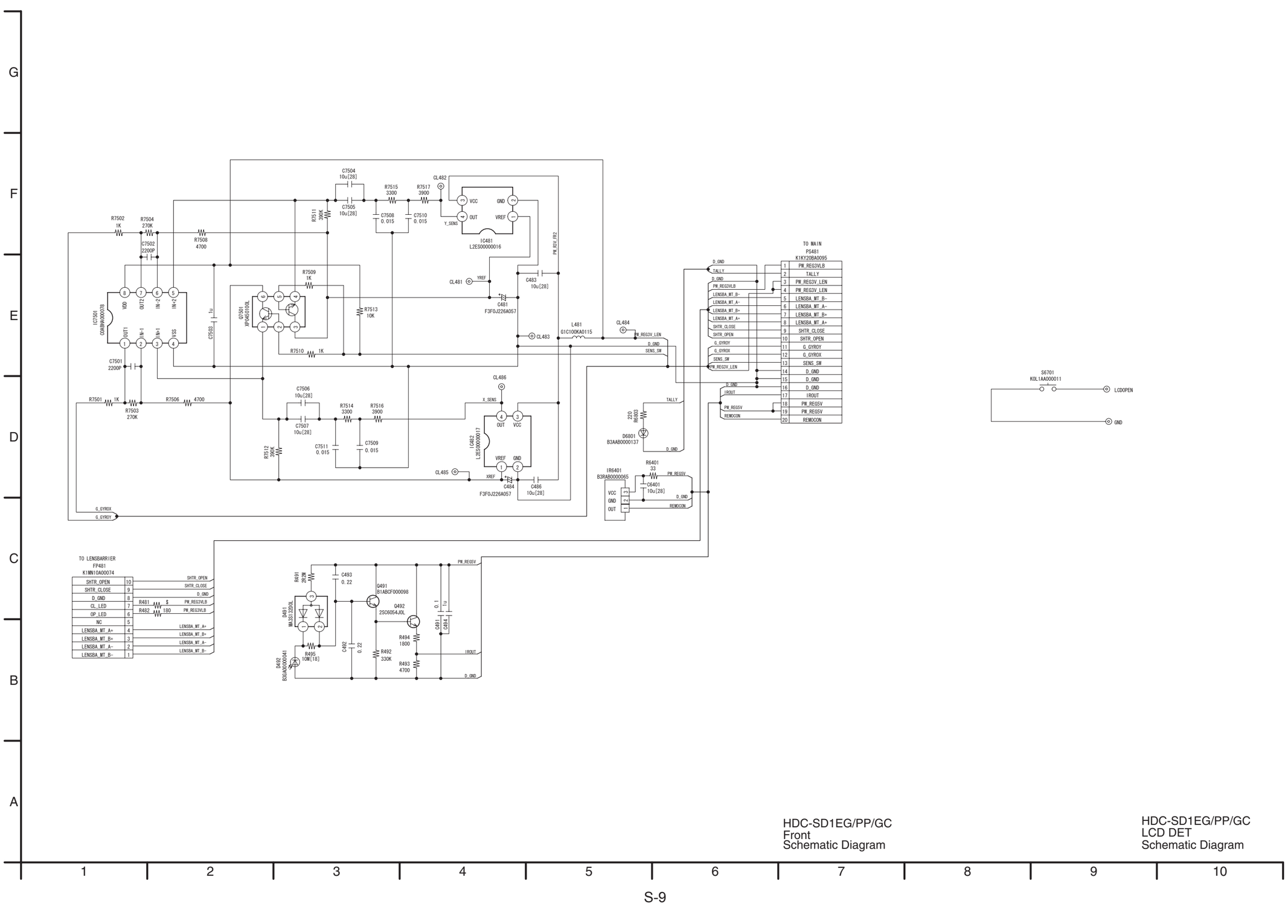
HDC-SD1EG/PP/GC
LCD Section
(Side R P.C.B. (2/3))
Schematic Diagram

S4.5. Side Power Schematic Diagram



HDC-SD1EG/PP/GC
Side Power Section
(Side R P.C.B. (3/3))
Schematic Diagram

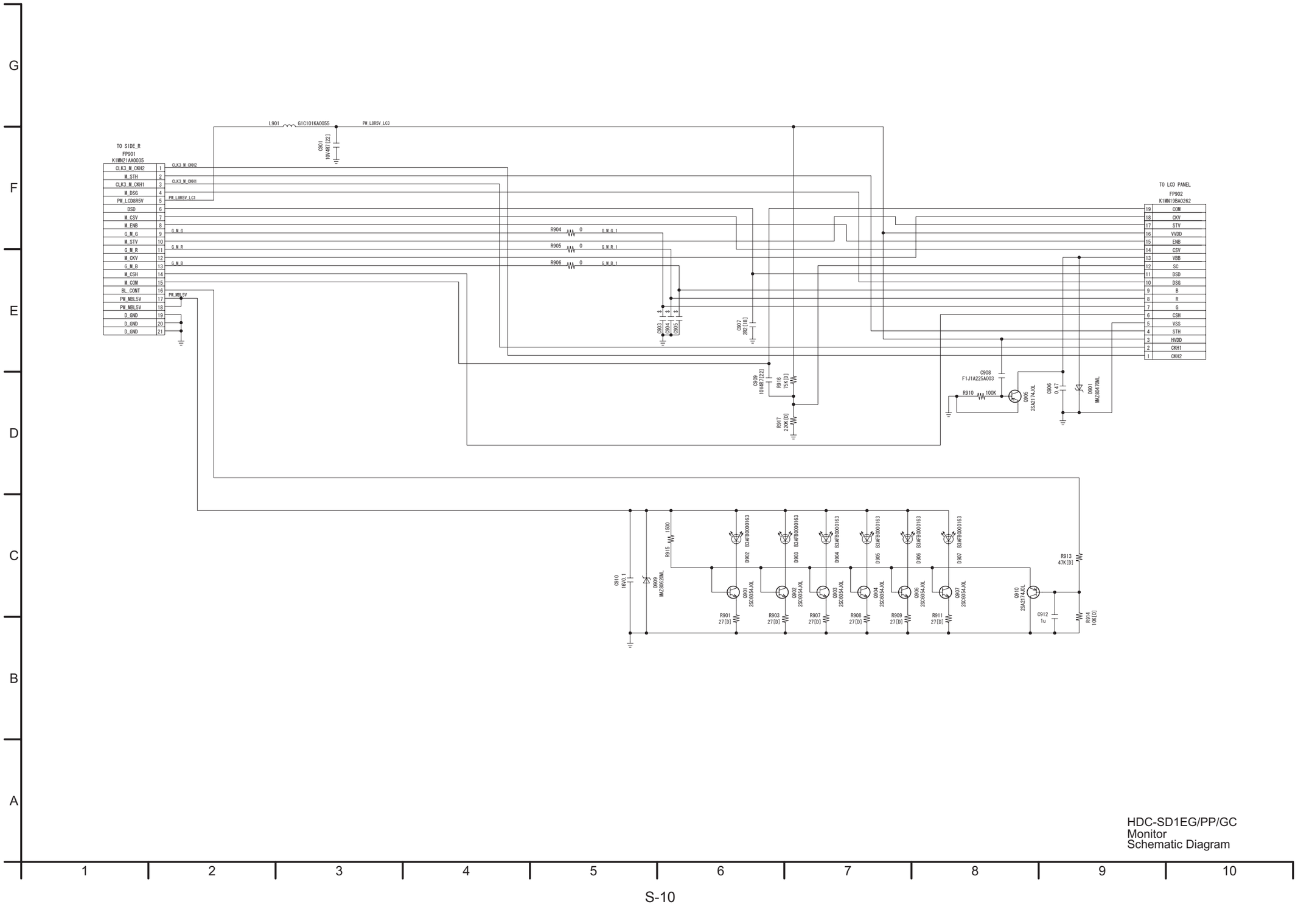
S4.6. Front Schematic Diagram / S4.7. LCD DET Schematic Diagram



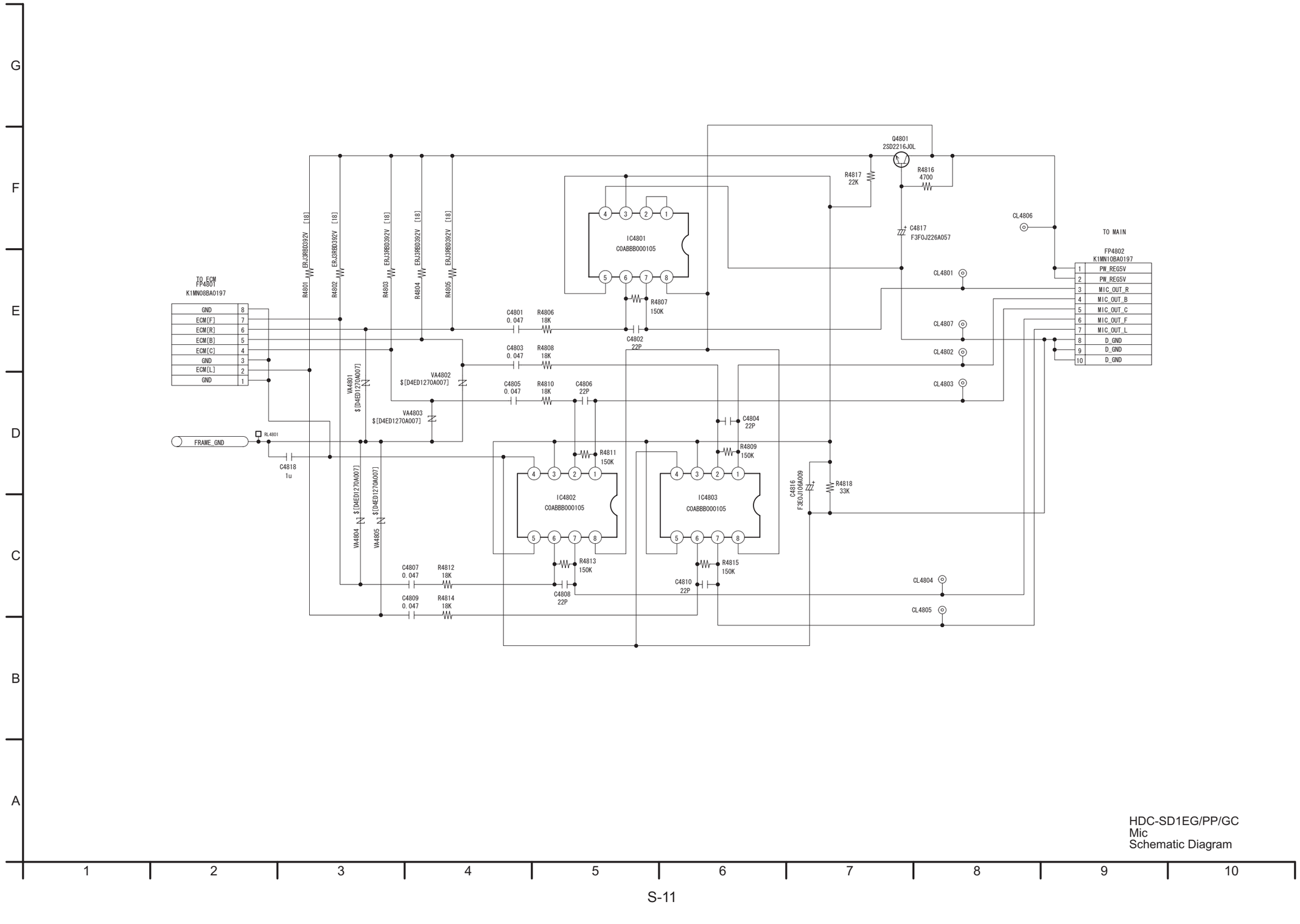
HDC-SD1EG/PP/GC
Front
Schematic Diagram

HDC-SD1EG/PP/GC
LCD DET
Schematic Diagram

S4.8. Monitor Schematic Diagram

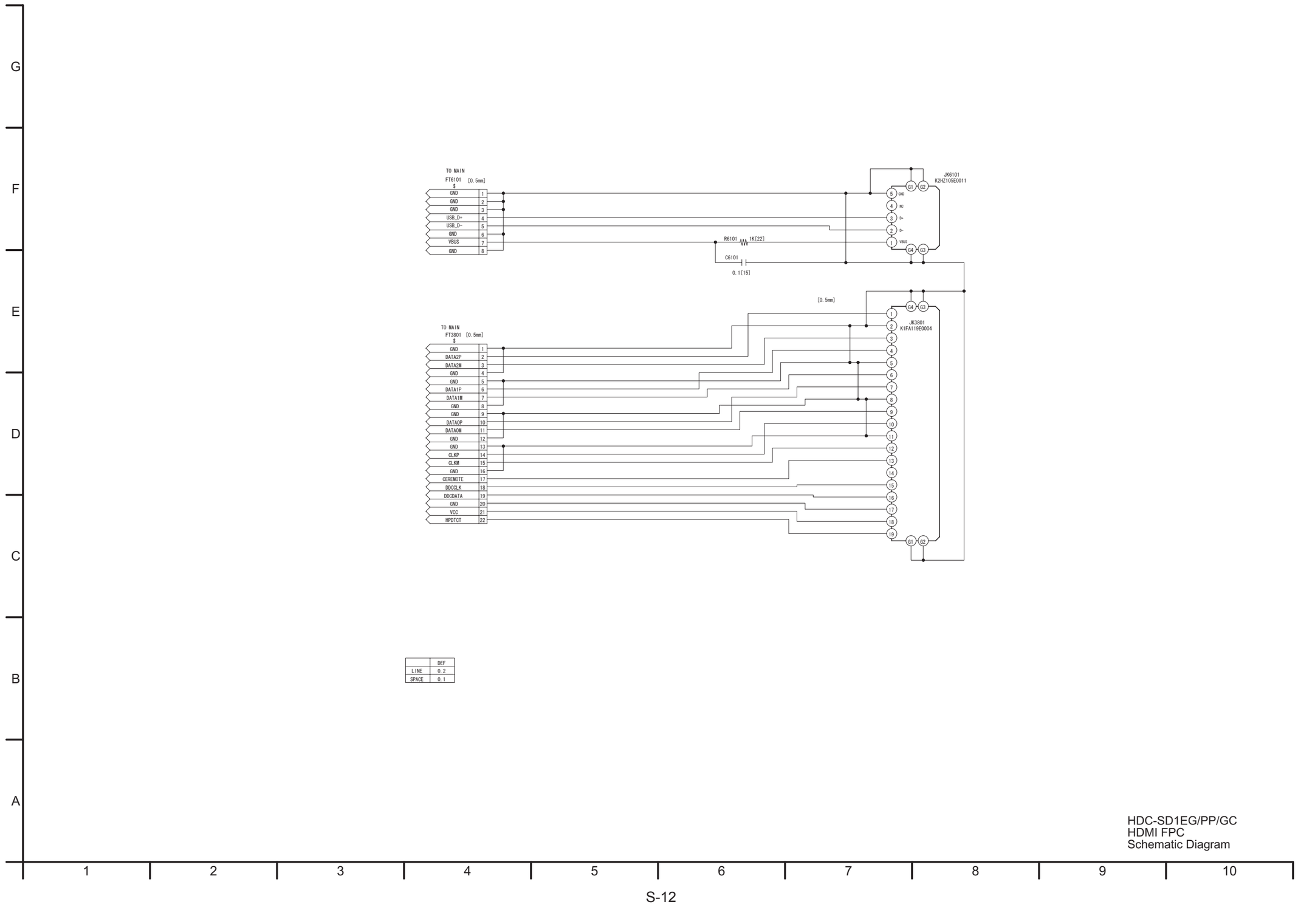


S4.9. Mic Schematic Diagram

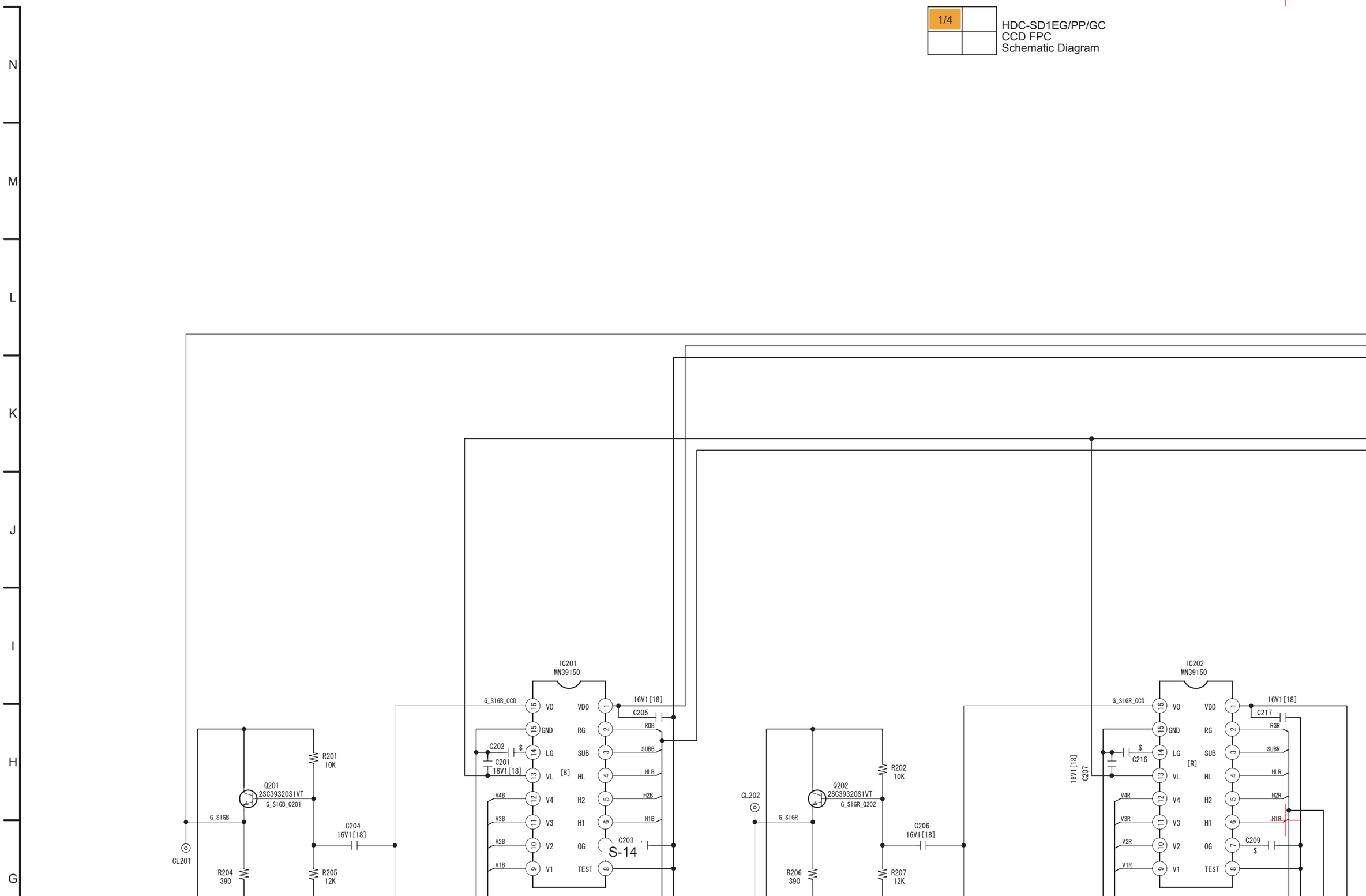


HDC-SD1EG/PP/GC
Mic
Schematic Diagram

S4.10. HDMI FPC Schematic Diagram



S4.11. CCD FPC Schematic Diagram



HDC-SD1EG/PP/GC
CCD FPC
Schematic Diagram

PW_12VB

PW_M6V

02
150

VDD 1
RG 2
SUB 3
HL 4
H2 5
H1 6
OG 7
TEST 8

16V1[18]
C217
RGR
SUBR
HLR
H2R
H1R
C209
$

CL203
G_SIGG
Q203
2SC3932OS1VT
G_SIGG_Q203
R203
10K
C208
16V1[18]
R208
390
R209
12K

IC203
MN39150

G_SIGG_CCD 16 V0
15 GND
C219 $ 14 LG
C218 16V1[18] 13 VL
V4G 12 V4
V3G 11 V3
V2G 10 V2
V1G 9 V1

VDD 1
RG 2
SUB 3
[G]
HL 4
H2 5
H1 6
OG 7
TEST 8

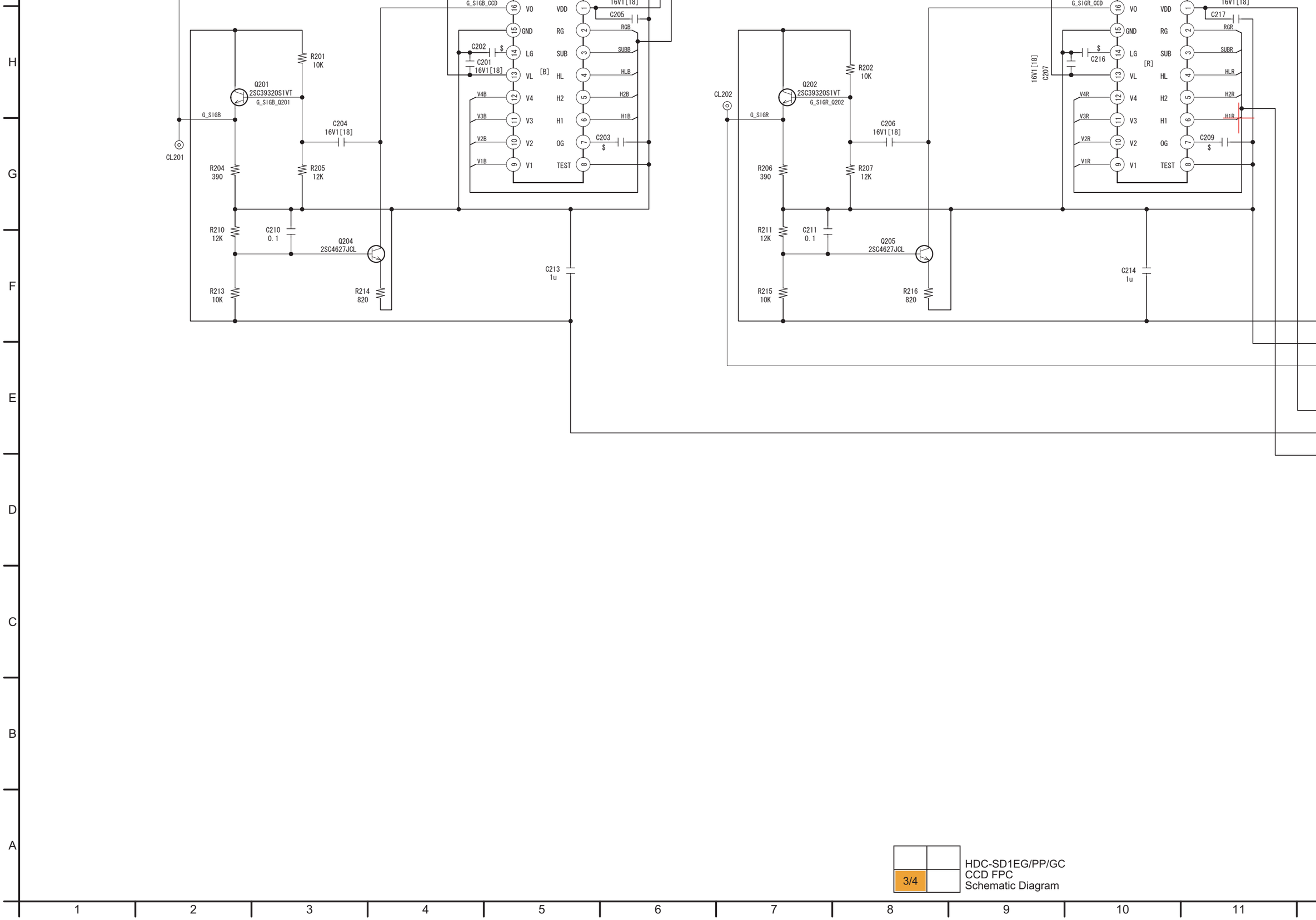
16V1[18]
C221
RGG
SUBG
HLG
H2G
H1G
C220
$

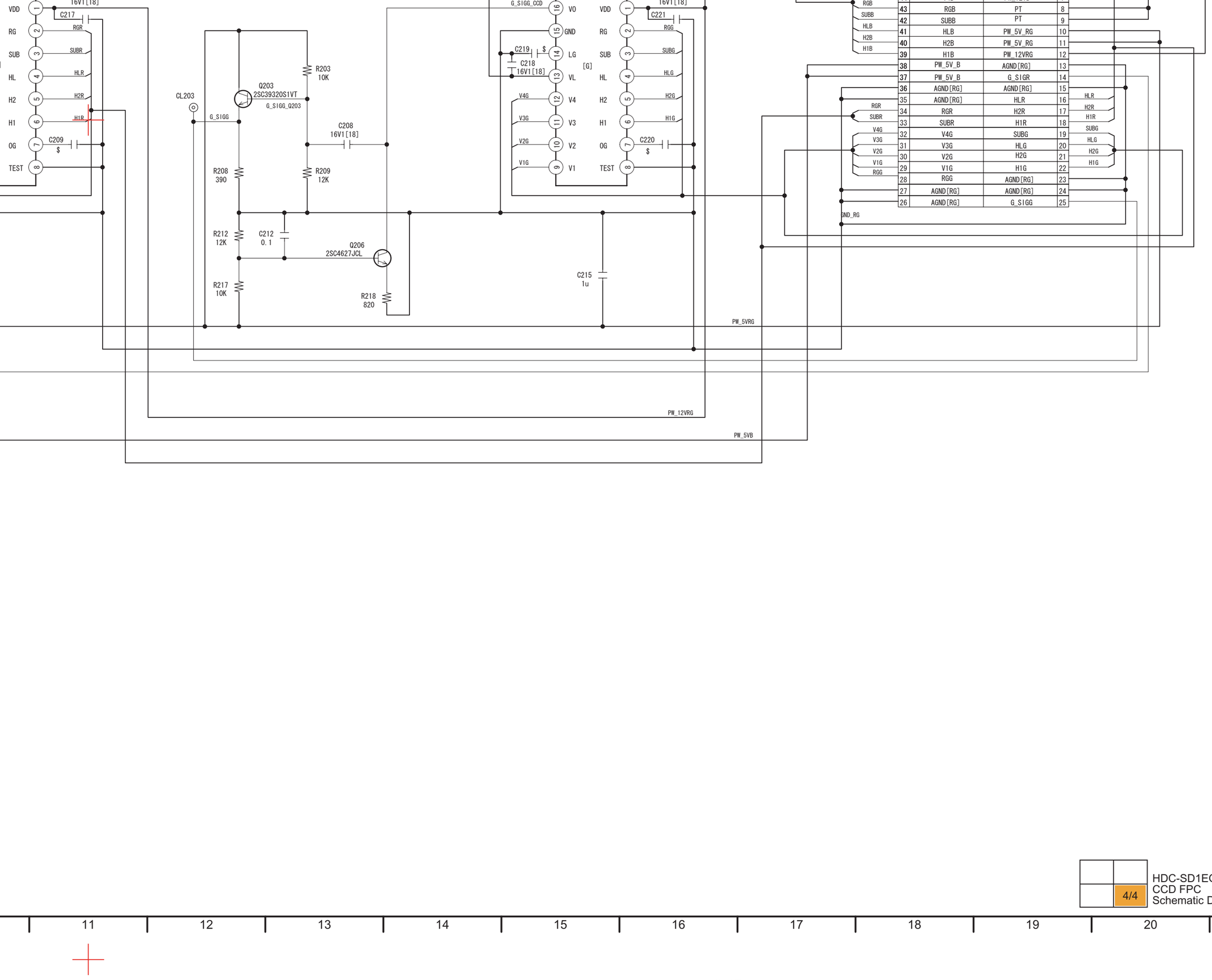
S-15

PP201
K1KY50AA0385

50	G_SIGB	AGND[B]	1
49	AGND[B]	AGND[B]	2
48	AGND[B]	V1R	3
47	V1B	V2R	4
46	V2B	V3R	5
45	V3B	V4R	6
44	V4B	PW_12VB	7
43	RGB	PT	8
42	SUBB	PT	9
41	HLB	PW_5V_RG	10
40	H2B	PW_5V_RG	11
39	H1B	PW_12VRG	12
38	PW_5V_B	AGND[RG]	13
37	PW_5V_B	G_SIGR	14
36	AGND[RG]	AGND[RG]	15
35	AGND[RG]	HLR	16
34	RGR	H2R	17
33	SUBR	H1R	18
32	V4G	SUBG	19
31	V3G	HLG	20
30	V2G	H2G	21
29	V1G	H1G	22
28	RGG	AGND[RG]	23
27	AGND[RG]	AGND[RG]	24

V1B V2B V3B V4B RGB SUBB HLB H2B H1B
RGR SUBR V4G V3G V2G V1G RGG
V1R V2R V3R V4R HLR H2R H1R SUBG HLG H2G H1G


R201
10K
Q201
2SC39320S1VT
G_SIGB_Q201
G_SIGB
CL201
C204
16V1[18]
R204
390
R205
12K
R210
12K
C210
0.1
Q204
2SC4627JCL
R213
10K
R214
820
C213
1u
G_SIGB_CCD
VO
GND
LG
VL
V4B
V3B
V2B
V1B
V4
V3
V2
V1
[B]
VDD
RG
SUB
HL
H2
H1
OG
TEST
C202
C201
16V1[18]
C205
16V1[18]
RGB
SUBB
HLB
H2B
H1B
C203
R202
10K
Q202
2SC39320S1VT
G_SIGR_Q202
CL202
G_SIGR
C206
16V1[18]
R206
390
R207
12K
R211
12K
C211
0.1
Q205
2SC4627JCL
R215
10K
R216
820
C214
1u
G_SIGR_CCD
C216
[R]
C207
16V1[18]
C217
16V1[18]
RGR
SUBR
HLR
H2R
H1R
C209
V4R
V3R
V2R
V1R
HDC-SD1EG/PP/GC
CCD FPC
Schematic Diagram
3/4

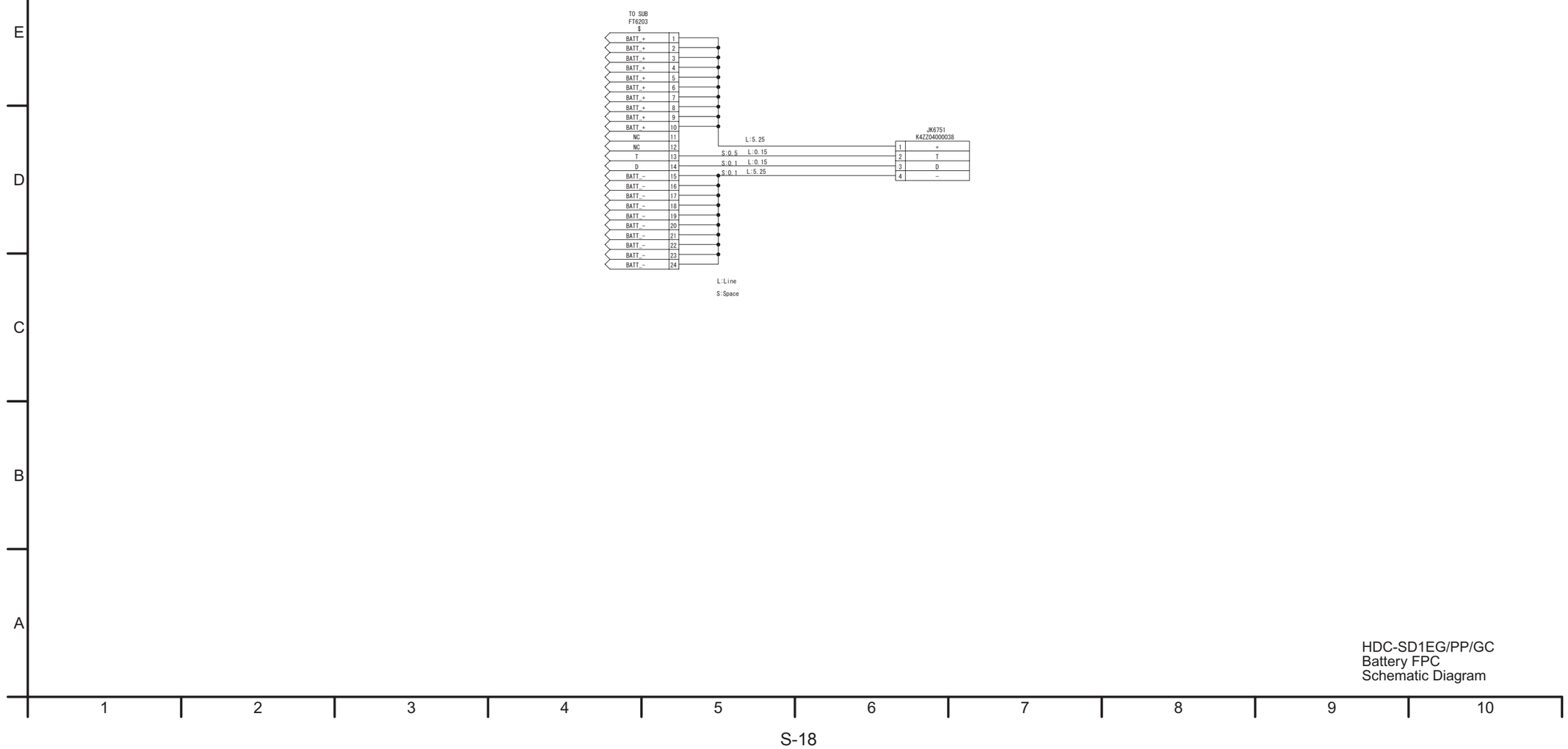


43	RGB	PT	8
42	SUBB	PT	9
41	HLB	PW_5V_RG	10
40	H2B	PW_5V_RG	11
39	H1B	PW_12VRG	12
38	PW_5V_B	AGND[RG]	13
37	PW_5V_B	G_SIGR	14
36	AGND[RG]	AGND[RG]	15
35	AGND[RG]	HLR	16
34	RGR	H2R	17
33	SUBR	H1R	18
32	V4G	SUBG	19
31	V3G	HLG	20
30	V2G	H2G	21
29	V1G	H1G	22
28	RGG	AGND[RG]	23
27	AGND[RG]	AGND[RG]	24
26	AGND[RG]	G_SIGG	25

HDC-SD1EG/PP/GC
CCD FPC
Schematic Diagram
4/4

11 12 13 14 15 16 17 18 19 20 21

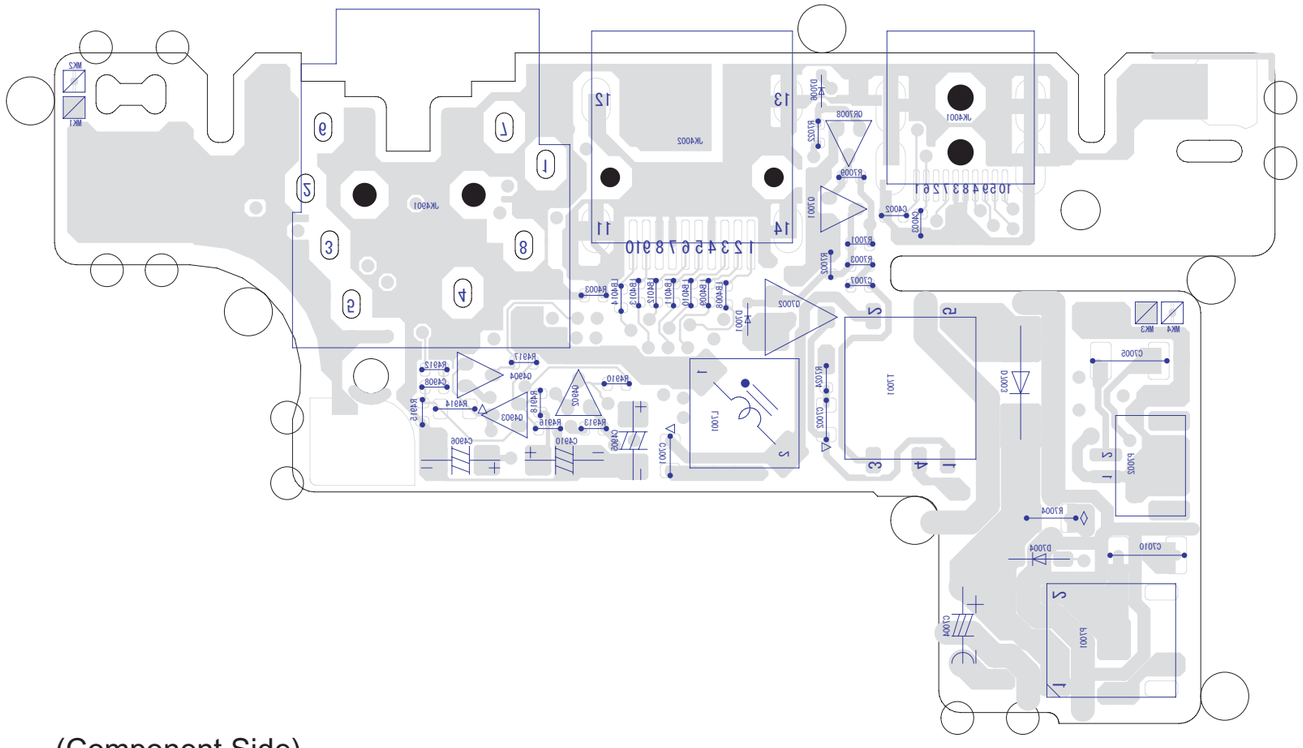
S4.12. Battery FPC Schematic Diagram



S5. Print Circuit Board

S5.1. Jack P.C.B.

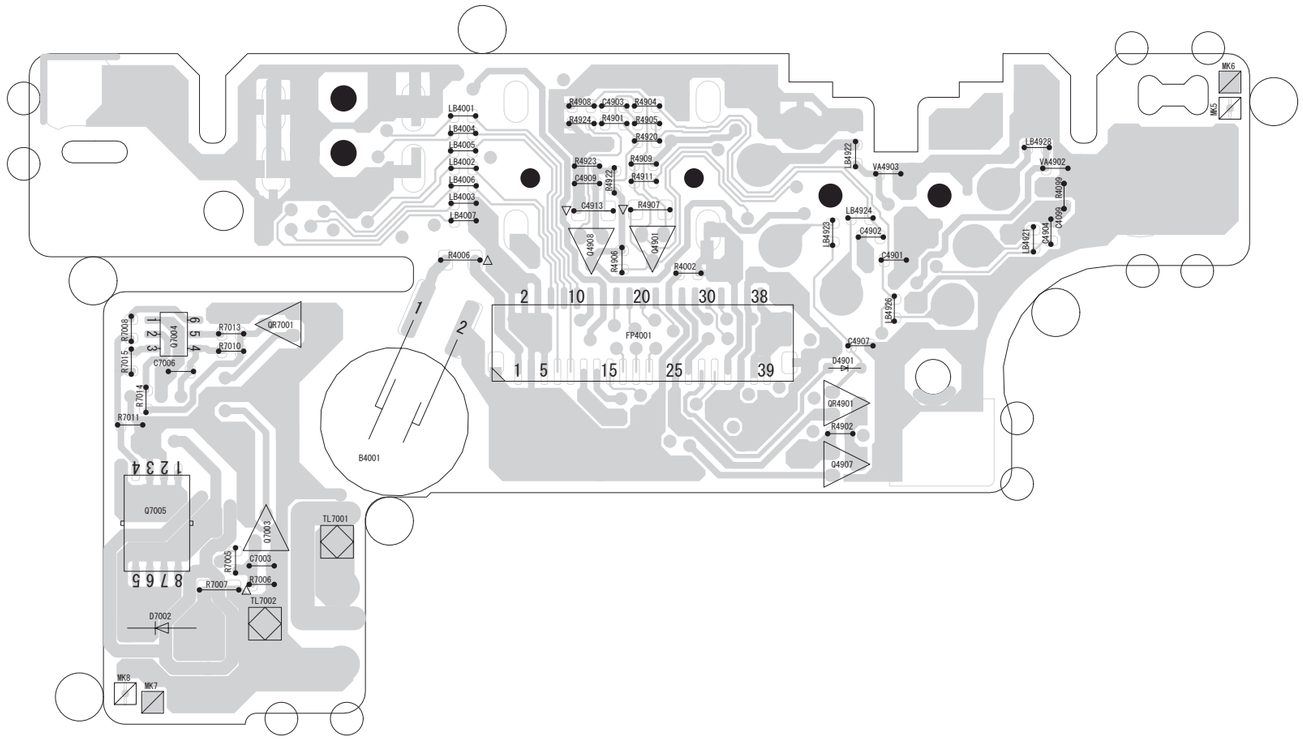
S5.1.1. Jack P.C.B. (Component Side)



(Component Side)

HDC-SD1EG/PP/GC
Jack P.C.B.
(Component Side)

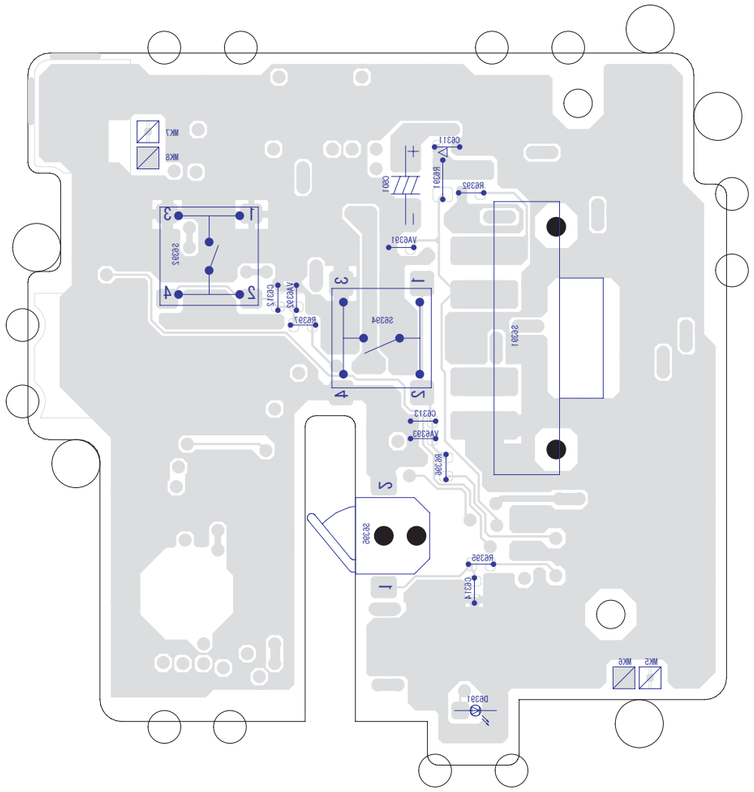
S5.1.2. Jack P.C.B. (Foil Side)



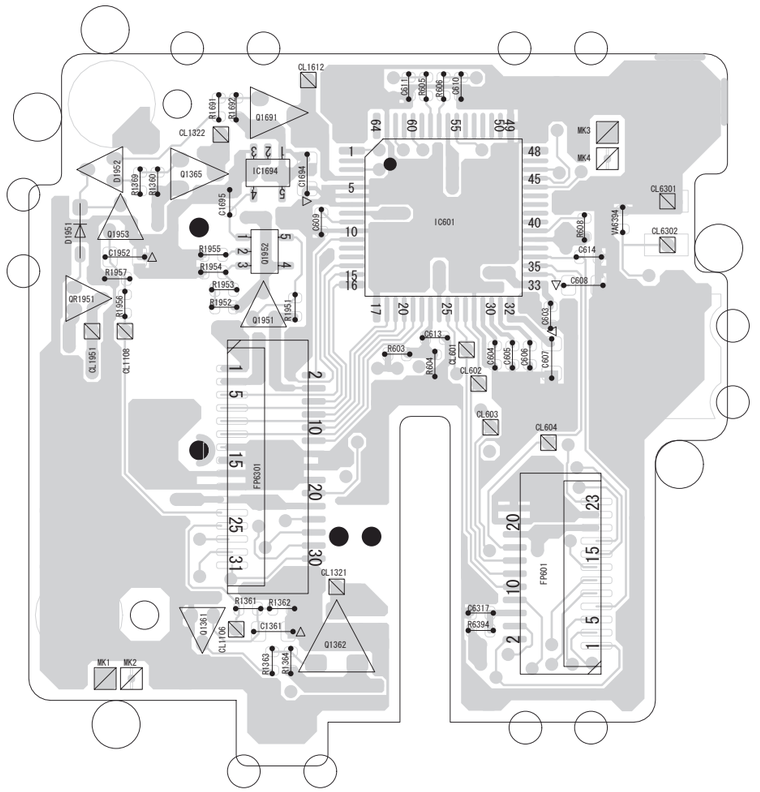
(Foil Side)

HDC-SD1EG/PP/GC
Jack P.C.B.
(Foil Side)

S5.2. Side R P.C.B.



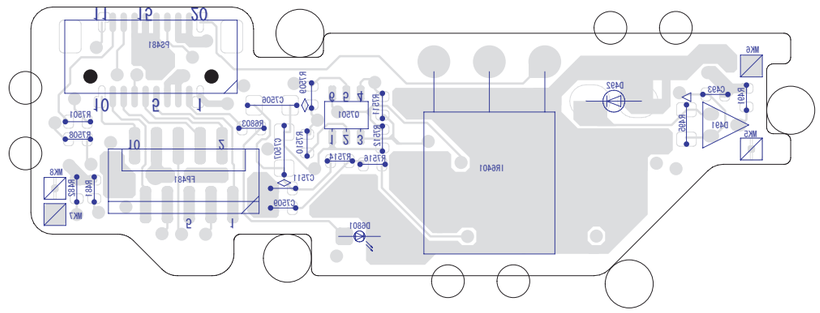
(Component Side)



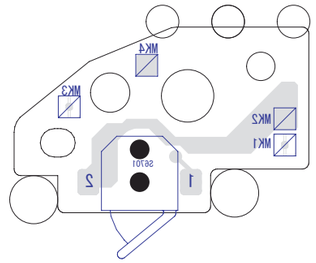
(Foil Side)

HDC-SD1EG/PP/GC
Side R P.C.B.

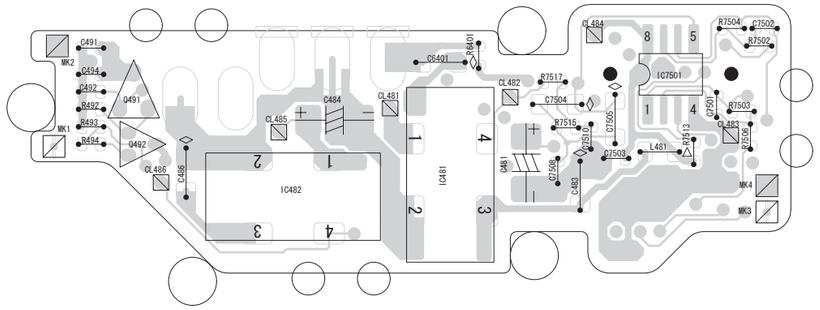
S5.3. Front P.C.B. / S5.4. LCD DET P.C.B.



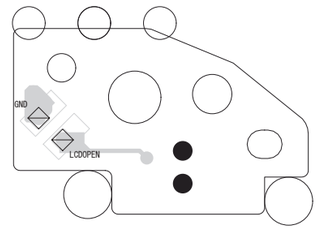
(Component Side)



(Component Side)



(Foil Side)

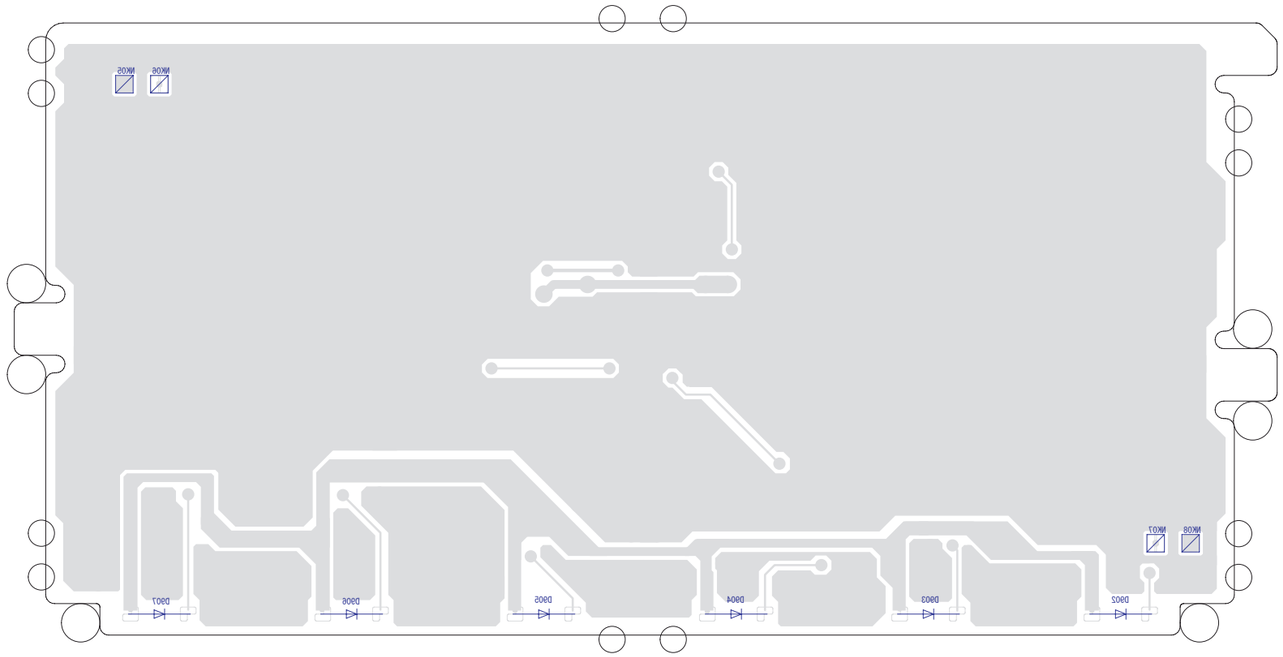


(Foil Side)

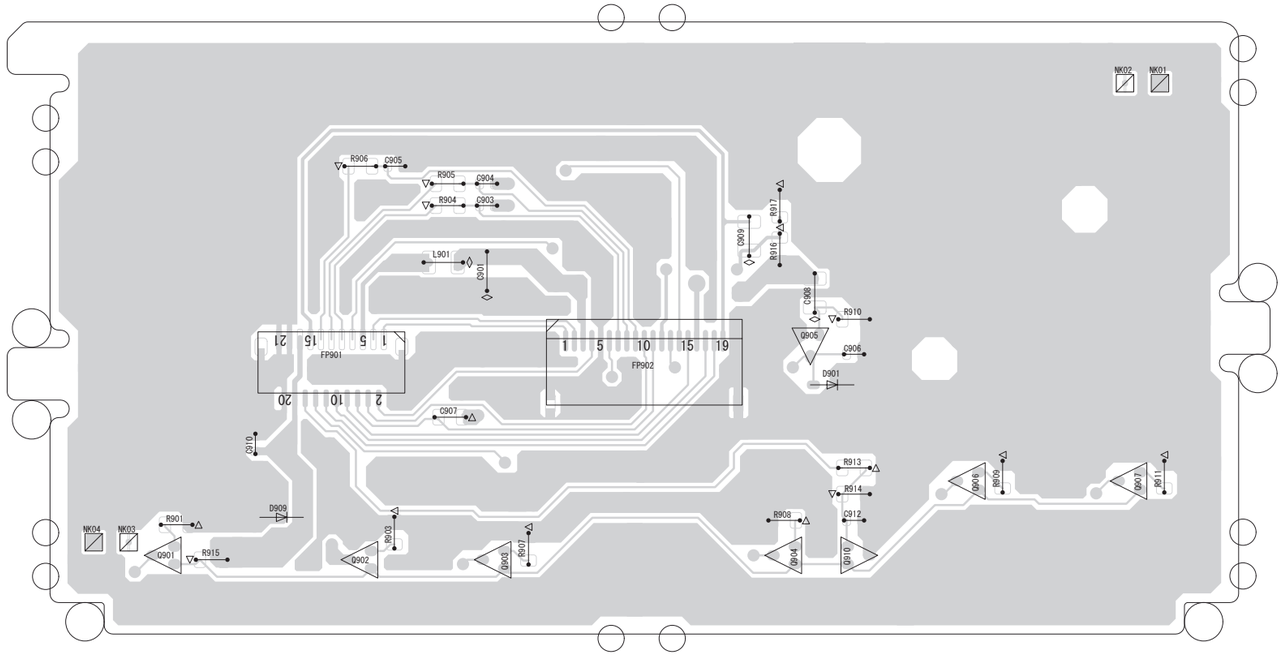
HDC-SD1EG/PP/GC
Front P.C.B.

HDC-SD1EG/PP/GC
LCD DET P.C.B.

S5.5. Monitor P.C.B.



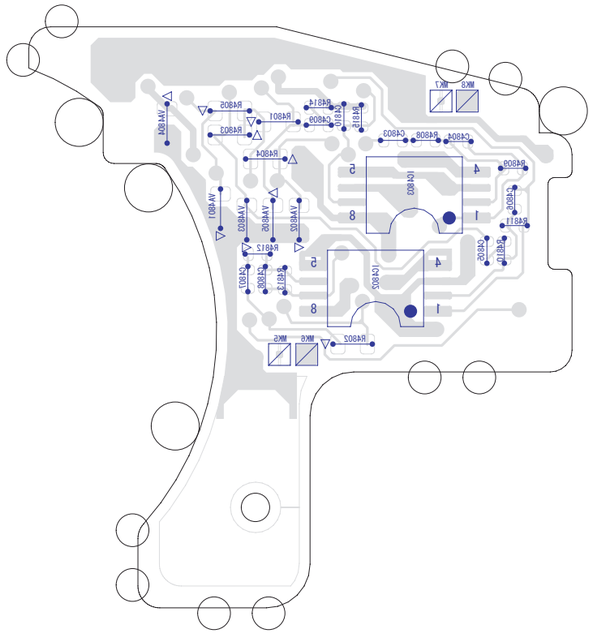
(Component Side)



(Foil Side)

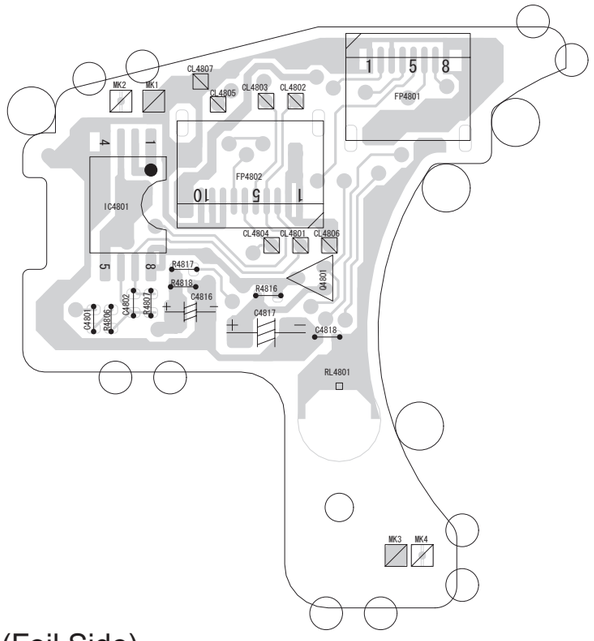
HDC-SD1EG/PP/GC
Monitor P.C.B.

S5.6. Mic P.C.B. / S5.7. HDMI FPC P.C.B.

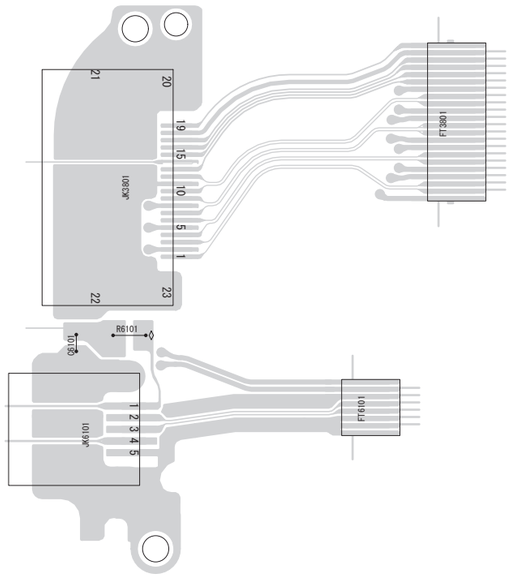


(Component Side)

(Component Side)



(Foil Side)

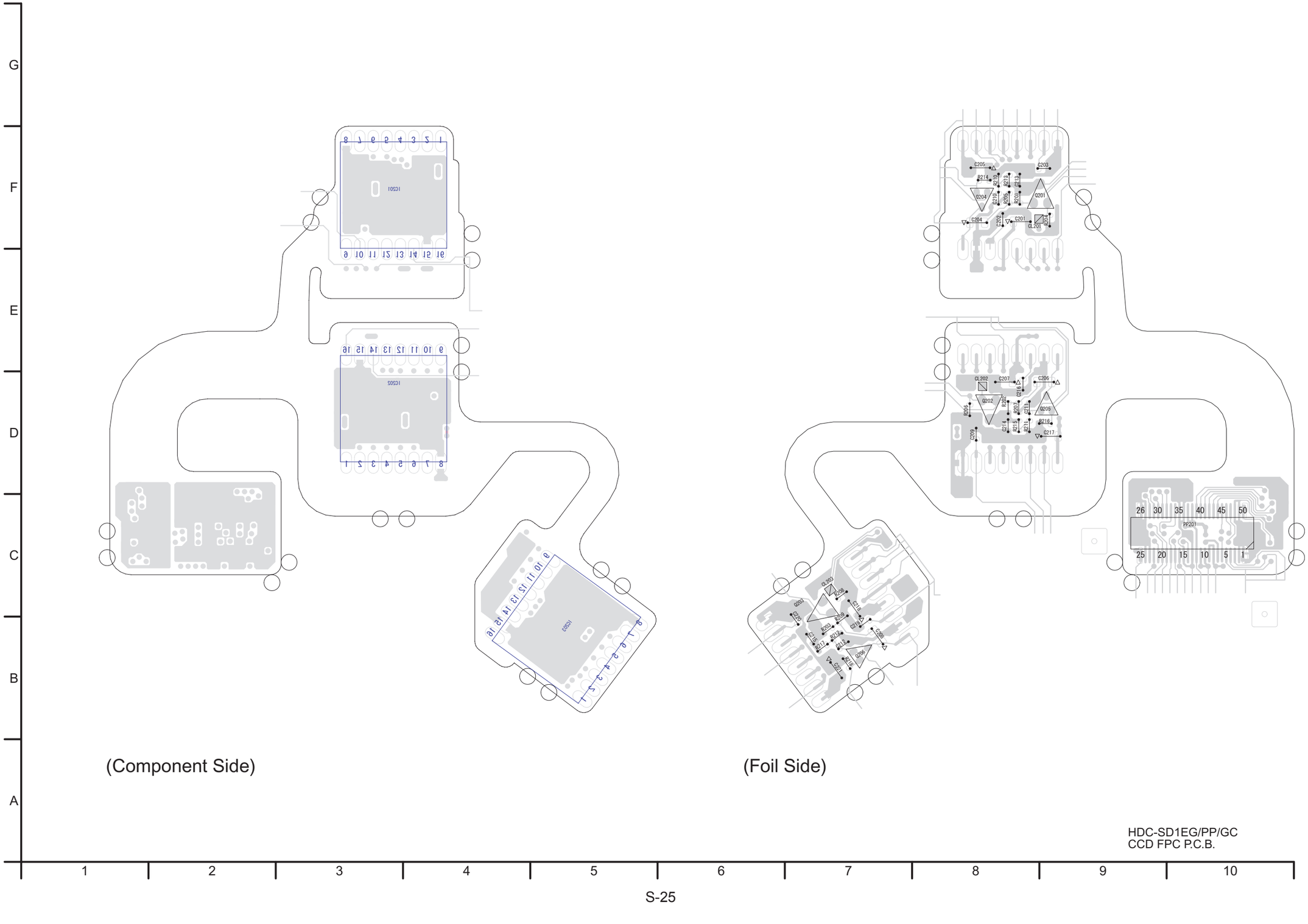


(Foil Side)

HDC-SD1EG/PP/GC
Mic P.C.B.

HDC-SD1EG/PP/GC
HDMI FPC P.C.B.

S5.8. CCD FPC P.C.B.

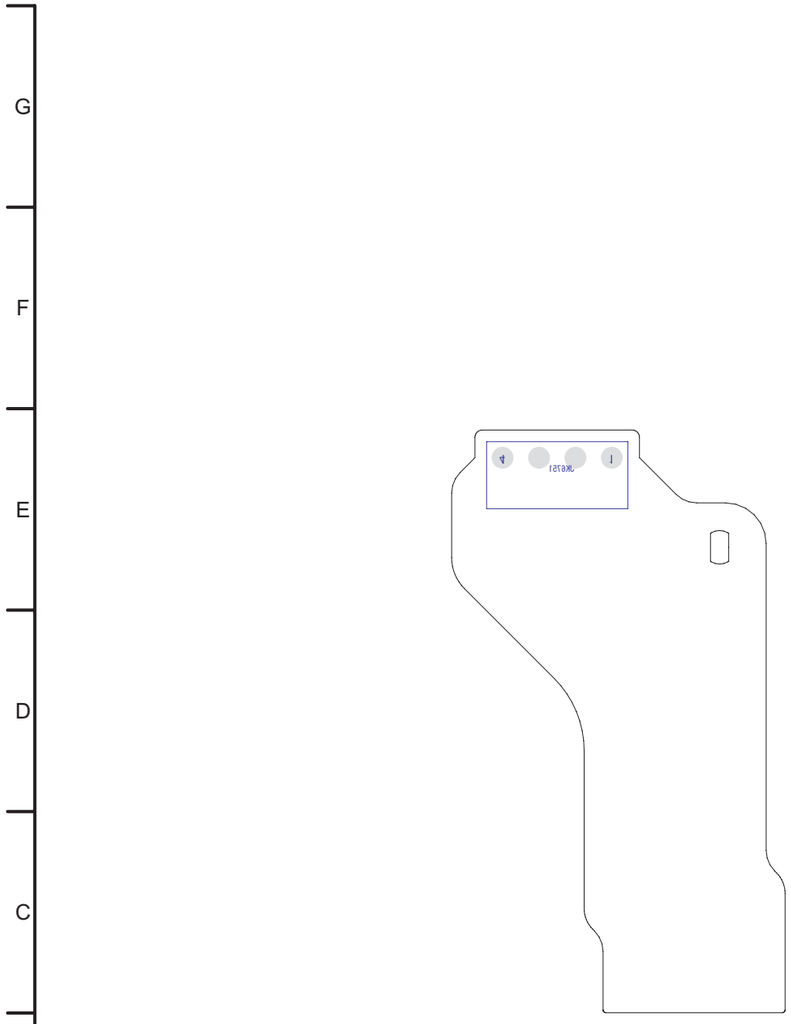


(Component Side)

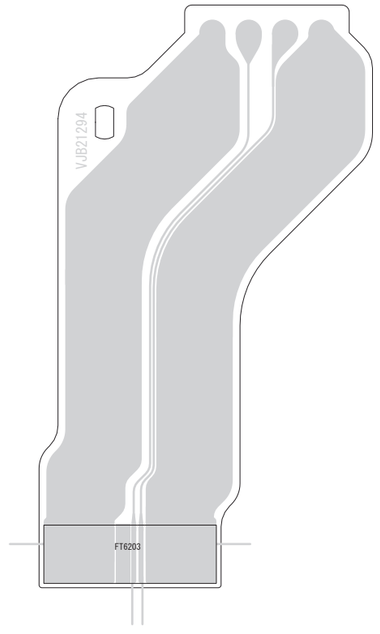
(Foil Side)

HDC-SD1EG/PP/GC
CCD FPC P.C.B.

S5.9. Battery FPC P.C.B.



(Component Side)



(Foil Side)

HDC-SD1EG/PP/GC
Battery FPC P.C.B.

S6. 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 ⚠ 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 MICRO-FARADS (uf), P=uuF.
4. 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.

E.S.D. standards for Electrostatically Sensitive Devices, refer to "PREVENTION OF ELECTROSTATIC DISCHARGE (ESD) TO ELECTROSTATICALLY SENSITIVE (ES) DEVICES" section.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
##	VEP03H10C-5	MAIN P.C.B.	1	(RTL)(E.S.D.) (PP)
##	VEP03H10B	MAIN P.C.B.	1	(RTL)(E.S.D.) (EG)
##	VEP03H10D	MAIN P.C.B.	1	(RTL)(E.S.D.) (GC)
##	VEP01986A	SUB P.C.B.	1	(RTL)(E.S.D.)
##	VEP20B98B	JACK P.C.B.	1	(RTL)(E.S.D.)
##	VEP20B99A	SIDE-R P.C.B.	1	(RTL)(E.S.D.)
##	VEP20C00A	FRONT P.C.B.	1	(RTL)(E.S.D.)
##	VEP20C01A	LCD DET P.C.B.	1	(RTL)(E.S.D.)
##	VEP26293A	MONITOR P.C.B.	1	(RTL)(E.S.D.)
##	VEP24185A	MIC P.C.B.	1	(RTL)(E.S.D.)
##	VEP23667A	HDMI P.C.B.	1	(RTL)(E.S.D.)
##	VEP26298A	MONITOR P.C.B.	1	(RTL)(E.S.D.)
##	VEP24186A	ECM P.C.B.	1	
##	VEP21294A	BATTERY CATCHER P.C.B.	1	(RTL)(E.S.D.)
##	VEP20B98B	JACK P.C.B.		(RTL)(E.S.D.)
B4001	ML-621S/F9D	BATTERY	1	(MBI)
C4002	ECJ0EB1E472K	C.CAPACITOR CH 25V 4700P	1	
C4003	ECJ0EB1E472K	C.CAPACITOR CH 25V 4700P	1	
C4901	ECJ0EB1E472K	C.CAPACITOR CH 25V 4700P	1	
C4902	ECJ0EB1E472K	C.CAPACITOR CH 25V 4700P	1	
C4903	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C4904	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C4905	F3F0J226A057	E.CAPACITOR CH 6.3V 22U	1	
C4906	F3F0J226A057	E.CAPACITOR CH 6.3V 22U	1	
C4908	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C4909	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C4910	F3F0J226A057	E.CAPACITOR CH 6.3V 22U	1	
C4913	F1H0J475A010	C.CAPACITOR CH 6.3V 4.7U	1	
C7001	ECJ1VB1C105K	C.CAPACITOR CH 16V 1U	1	
C7002	ECJ1XB1H471K	C.CAPACITOR CH 50V 470P	1	
C7003	F1G1A104A012	C.CAPACITOR CH 10V 0.1U	1	
C7004	F2AZZ5600001	CAPACITOR	1	
C7005	F1K2E4730002	C.CAPACITOR 250V 0.047U	1	
C7006	F1G1A104A012	C.CAPACITOR CH 10V 0.1U	1	
C7007	ECJ0EB1E472K	C.CAPACITOR CH 25V 4700P	1	
C7010	F1K2E223A004	C.CAPACITOR 250V 0.022U	1	
D4901	B0JCDD000002	DIODE	1	(E.S.D.)
D7001	MA2S11100L	DIODE	1	(E.S.D.)
D7002	B0ECGP000006	DIODE	1	(E.S.D.)
D7003	B0ECKT000002	DIODE	1	(E.S.D.)
D7004	B0BC30000001	DIODE	1	(E.S.D.)
D7006	B0JCDD000002	DIODE	1	(E.S.D.)
FP4001	K1MN39AA0035	CONNECTOR 39P	1	
JK4001	K2HZ110E0002	JACK	1	
JK4002	K2HZ110E0003	JACK	1	
JK4901	K2HC107B0003	JACK	1	
L7001	G1C560MA0024	CHIP INDUCTOR 56UH	1	
LB4001	J0JYC0000061	FILTER	1	
LB4002	J0JYC0000061	FILTER	1	
LB4004	J0JYC0000061	FILTER	1	
LB4005	J0JYC0000061	FILTER	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
LB4006	J0JYC0000059	FILTER	1	
LB4008	J0JYC0000061	FILTER	1	
LB4009	J0JYC0000059	FILTER	1	
LB4010	J0JYC0000061	FILTER	1	
LB4011	J0JYC0000059	FILTER	1	
LB4012	J0JYC0000061	FILTER	1	
LB4013	J0JYC0000061	FILTER	1	
LB4014	J0JYC0000059	FILTER	1	
LB4921	J0JBC0000107	FILTER	1	
LB4922	J0JBC0000107	FILTER	1	
LB4923	J0JBC0000107	FILTER	1	
LB4924	J0JBC0000107	FILTER	1	
LB4926	J0JBC0000107	FILTER	1	
LB4928	J0JBC0000107	FILTER	1	
P7001	K1KA02B00292	CONNECTOR 2P	1	
P7002	K1KA02BA0022	CONNECTOR 2P	1	
Q4901	2SC6054J0L	TRANSISTOR	1	(E.S.D.)
Q4902	2SA2174J0L	TRANSISTOR	1	(E.S.D.)
Q4903	2SC6054J0L	TRANSISTOR	1	(E.S.D.)
Q4904	2SA2174J0L	TRANSISTOR	1	(E.S.D.)
Q4907	2SC6054J0L	TRANSISTOR	1	(E.S.D.)
Q4908	2SC6054J0L	TRANSISTOR	1	(E.S.D.)
Q7001	2SC6054J0L	TRANSISTOR	1	(E.S.D.)
Q7002	B1ABPF000009	TRANSISTOR	1	(E.S.D.)
Q7003	2SC6054J0L	TRANSISTOR	1	(E.S.D.)
Q7004	XP0460100L	TRANSISTOR	1	(E.S.D.)
Q7005	B1JBLP000013	TRANSISTOR	1	(E.S.D.)
QR4901	UNR91A3J0L	TRANSISTOR	1	(E.S.D.)
QR7001	UNR92A4J0L	TRANSISTOR	1	(E.S.D.)
QR7008	UNR92A4J0L	TRANSISTOR	1	(E.S.D.)
R4002	D0YAR0000007	M.RESISTOR CH 1/16W 0	1	
R4003	D0YAR0000007	M.RESISTOR CH 1/16W 0	1	
R4006	D0GB102JA057	M.RESISTOR CH 1/10W 1K	1	
R4099	D0YAR0000007	M.RESISTOR CH 1/16W 0	1	
R4901	D1BA3300A030	RESISTOR	1	
R4902	ERJ2GEJ472	M.RESISTOR CH 1/16W 4.7K	1	
R4904	D1BA5601A030	RESISTOR	1	
R4905	ERJ2GEJ471	M.RESISTOR CH 1/16W 470	1	
R4906	D1BA1002A030	RESISTOR	1	
R4907	VRE0071E154	M.RESISTOR 1/10W 150K	1	
R4908	D1BA5602A030	RESISTOR	1	
R4909	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R4910	ERJ2GEJ562	M.RESISTOR CH 1/16W 5.6K	1	
R4911	ERJ2GEJ151	M.RESISTOR CH 1/16W 150	1	
R4912	ERJ2GEJ471	M.RESISTOR CH 1/16W 470	1	
R4913	D1BA1002A030	RESISTOR	1	
R4914	VRE0071E154	M.RESISTOR 1/10W 150K	1	
R4915	D1BA5602A030	RESISTOR	1	
R4916	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R4917	ERJ2GEJ562	M.RESISTOR CH 1/16W 5.6K	1	
R4918	ERJ2GEJ151	M.RESISTOR CH 1/16W 150	1	
R4920	D1BA5601A030	RESISTOR	1	
R4922	ERJ2GEJ223	M.RESISTOR CH 1/16W 22K	1	
R4923	ERJ2GEJ683	M.RESISTOR CH 1/16W 68K	1	
R4924	ERJ2GEJ473Y	M.RESISTOR CH 1/16W 47K	1	
R7001	ERJ2GEJ103	M.RESISTOR CH 1/16W 10K	1	
R7002	ERJ2GEJ103	M.RESISTOR CH 1/16W 10K	1	
R7003	ERJ2GEJ101	M.RESISTOR CH 1/16W 100	1	
R7004	ERJ6GEYG105	M.RESISTOR CH 1/10W 1M	1	
R7005	ERJ2GEJ334	M.RESISTOR CH 1/16W 330K	1	
R7006	ERJ2GEJ564	M.RESISTOR CH 1/16W 560K	1	
R7007	ERJ3GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R7008	ERJ2GEJ101	M.RESISTOR CH 1/16W 100	1	
R7009	ERJ2GEJ103	M.RESISTOR CH 1/16W 10K	1	
R7010	ERJ2GEJ222	M.RESISTOR CH 1/16W 2.2K	1	
R7011	ERJ2GEJ104	M.RESISTOR CH 1/16W 100K	1	
R7013	ERJ2GEJ822	M.RESISTOR CH 1/16W 8.2K	1	
R7014	ERJ2GEJ223	M.RESISTOR CH 1/16W 22K	1	
R7015	ERJ2GEJ560	M.RESISTOR CH 1/16W 56	1	
R7022	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R7024	ERJ2GEJ510	M.RESISTOR CH 1/16W 51	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
T7001	G5D1A0000040	TRANSFORMER	1	
VA4902	D4ED18R00008	VARISTORS	1	
VA4903	D4ED18R00008	VARISTORS	1	
##	VEP20B99A	SIDE-R P.C.B.		(RTL)(E.S.D.)
C601	F3F0G4760003	E.CAPACITOR CH 4V 47U	1	
C603	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C604	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C605	F1G1C104A080	C.CAPACITOR CH 16V 0.1U	1	
C606	F1G1C104A080	C.CAPACITOR CH 16V 0.1U	1	
C607	F1H0J225A002	C.CAPACITOR CH 6.3V 2.2U	1	
C608	F1H0J225A002	C.CAPACITOR CH 6.3V 2.2U	1	
C609	F1G1C104A080	C.CAPACITOR CH 16V 0.1U	1	
C613	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C614	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C1361	F1H0J475A010	C.CAPACITOR CH 6.3V 4.7U	1	
C1694	F1H0J475A010	C.CAPACITOR CH 6.3V 4.7U	1	
C1695	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C1952	F1H0J475A010	C.CAPACITOR CH 6.3V 4.7U	1	
C6311	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C6312	ECJ0EB1C103K	C.CAPACITOR CH 16V 0.01U	1	
C6313	ECJ0EB1C103K	C.CAPACITOR CH 16V 0.01U	1	
C6314	ECJ0EB1C103K	C.CAPACITOR CH 16V 0.01U	1	
D1951	MA2J11100L	DIODE	1	(E.S.D.)
D1952	MA3S132E0L	DIODE	1	(E.S.D.)
D6391	B3AAB0000137	DIODE	1	(E.S.D.)
FP601	K1MN23BA0199	CONNECTOR 23P	1	
FP6301	K1MN31BA0199	CONNECTOR 31P	1	
IC601	C1AB00002388	IC	1	(E.S.D.)
IC1694	C0CBCAB00014	IC	1	(E.S.D.)
Q1361	2SC6054J0L	TRANSISTOR	1	(E.S.D.)
Q1362	2SB970-R	TRANSISTOR	1	(E.S.D.)
Q1365	B1ADGD000005	TRANSISTOR	1	(E.S.D.)
Q1691	B1ADGD000005	TRANSISTOR	1	(E.S.D.)
Q1951	2SA2174J0L	TRANSISTOR	1	(E.S.D.)
Q1952	XP1501	TRANSISTOR	1	(E.S.D.)
Q1953	2SC6054J0L	TRANSISTOR	1	(E.S.D.)
QR1951	UNR91ATJ0L	TRANSISTOR	1	(E.S.D.)
R603	ERJ2RHD511	M.RESISTOR CH 1/16W 510	1	
R604	ERJ2RHD102	M.RESISTOR CH 1/16W 1K	1	
R605	D0YAR0000007	M.RESISTOR CH 1/16W 0	1	
R606	D0YAR0000007	M.RESISTOR CH 1/16W 0	1	
R1360	ERJ2GEJ473Y	M.RESISTOR CH 1/16W 47K	1	
R1361	ERJ2GEJ622X	M.RESISTOR CH 1/16W 6.2K	1	
R1362	ERJ2GEJ223	M.RESISTOR CH 1/16W 22K	1	
R1363	ERJ2GEJ681	M.RESISTOR CH 1/16W 680	1	
R1364	ERJ2GEJ473Y	M.RESISTOR CH 1/16W 47K	1	
R1369	ERJ2GEJ103	M.RESISTOR CH 1/16W 10K	1	
R1691	ERJ2GEJ152	M.RESISTOR CH 1/16W 1.5K	1	
R1692	ERJ2GEJ473Y	M.RESISTOR CH 1/16W 47K	1	
R1952	ERJ2RHD513	M.RESISTOR CH 1/16W 51K	1	
R1953	ERJ2RHD332X	M.RESISTOR CH 1/16W 3.3K	1	
R1954	ERJ2RHD223	M.RESISTOR CH 1/16W 22K	1	
R1955	ERJ2GEJ153	M.RESISTOR CH 1/16W 15K	1	
R1956	ERJ2GEJ683	M.RESISTOR CH 1/16W 68K	1	
R1957	ERJ2GEJ224	M.RESISTOR CH 1/16W 220K	1	
R6391	D0GB473JA057	M.RESISTOR CH 1/10W 47K	1	
R6392	ERJ2GEJ473Y	M.RESISTOR CH 1/16W 47K	1	
R6394	D0YAR0000007	M.RESISTOR CH 1/16W 0	1	
R6395	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R6396	ERJ2GEJ101	M.RESISTOR CH 1/16W 100	1	
R6397	ERJ2GEJ101	M.RESISTOR CH 1/16W 100	1	
S6391	VSS0533	SWITCH	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
S6392	EVQPQ6B55	SWITCH	1	
S6394	K0H1BA000436	SWITCH	1	
S6395	K0L1AA000011	SWITCH	1	
##	VEP20C00A	FRONT P.C.B.		(RTL)(E.S.D.)
C481	F3F0J226A057	E.CAPACITOR CH 6.3V 22U	1	
C483	F1J0J106A049	C.CAPACITOR CH 6.3V 10U	1	
C484	F3F0J226A057	E.CAPACITOR CH 6.3V 22U	1	
C486	F1J0J106A049	C.CAPACITOR CH 6.3V 10U	1	
C491	F1G1A104A012	C.CAPACITOR CH 10V 0.1U	1	
C492	F1G0J224A004	C.CAPACITOR CH 6.3V 0.22U	1	
C493	F1G0J224A004	C.CAPACITOR CH 6.3V 0.22U	1	
C494	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C6401	F1J0J106A049	C.CAPACITOR CH 6.3V 10U	1	
C7501	ECJ0EB1E222K	C.CAPACITOR CH 25V 2200P	1	
C7502	ECJ0EB1E222K	C.CAPACITOR CH 25V 2200P	1	
C7503	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C7504	F1J0J106A049	C.CAPACITOR CH 6.3V 10U	1	
C7505	F1J0J106A049	C.CAPACITOR CH 6.3V 10U	1	
C7506	F1J0J106A049	C.CAPACITOR CH 6.3V 10U	1	
C7507	F1J0J106A049	C.CAPACITOR CH 6.3V 10U	1	
C7508	ECJ0EB1C153K	C.CAPACITOR CH 16V 0.015U	1	
C7509	ECJ0EB1C153K	C.CAPACITOR CH 16V 0.015U	1	
C7510	ECJ0EB1C153K	C.CAPACITOR CH 16V 0.015U	1	
C7511	ECJ0EB1C153K	C.CAPACITOR CH 16V 0.015U	1	
D491	MA3S132D0L	DIODE	1	(E.S.D.)
D492	B3GA00000041	DIODE	1	(E.S.D.)
D6801	B3AAB0000137	DIODE	1	(E.S.D.)
FP481	K1MN10A00074	CONNECTOR 10P	1	
IC481	L2ES00000016	IC	1	(E.S.D.)
IC482	L2ES00000017	IC	1	(E.S.D.)
IC7501	C0ABHA000078	IC	1	(E.S.D.)
IR6401	B3RAB0000065	REMOTE CONTROL SENSOR	1	
L481	G1C100KA0115	COIL	1	
PS481	K1KY20BA0095	CONNECTOR 20P	1	
Q491	B1ABCF000098	TRANSISTOR	1	(E.S.D.)
Q492	2SC6054J0L	TRANSISTOR	1	(E.S.D.)
Q7501	XP4501	TRANSISTOR	1	(E.S.D.)
R482	ERJ2GEJ181	M.RESISTOR CH 1/16W 180	1	
R491	ERJ2GEJ225	M.RESISTOR CH 1/16W 2.2M	1	
R492	ERJ2GEJ334	M.RESISTOR CH 1/16W 330K	1	
R493	ERJ2GEJ472	M.RESISTOR CH 1/16W 4.7K	1	
R494	ERJ2GEJ182	M.RESISTOR CH 1/16W 1.8K	1	
R495	ERJ3GEYJ106	M.RESISTOR CH 1/10W 10M	1	
R6401	ERJ2RKD330	M.RESISTOR CH 1/16W 33	1	
R6803	ERJ2GEJ221	M.RESISTOR CH 1/16W 220	1	
R7501	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R7502	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R7503	ERJ2GEJ274	M.RESISTOR CH 1/16W 270K	1	
R7504	ERJ2GEJ274	M.RESISTOR CH 1/16W 270K	1	
R7506	ERJ2GEJ472	M.RESISTOR CH 1/16W 4.7K	1	
R7508	ERJ2GEJ472	M.RESISTOR CH 1/16W 4.7K	1	
R7509	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R7510	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R7511	ERJ2GEJ394	M.RESISTOR CH 1/16W 390K	1	
R7512	ERJ2GEJ394	M.RESISTOR CH 1/16W 390K	1	
R7513	ERJ2GEJ103	M.RESISTOR CH 1/16W 10K	1	
R7514	ERJ2GEJ332	M.RESISTOR CH 1/16W 3.3K	1	
R7515	ERJ2GEJ332	M.RESISTOR CH 1/16W 3.3K	1	
R7516	ERJ2GEJ392	M.RESISTOR CH 1/16W 3.9K	1	
R7517	ERJ2GEJ392	M.RESISTOR CH 1/16W 3.9K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
##	VEP20C01A	LCD DET P.C.B.		(RTL)(E.S.D.)
S6701	K0L1AA000011	SWITCH	1	
##	VEP26293A	MONITOR P.C.B.		(RTL)(E.S.D.)
C901	F1J1A475A023	C.CAPACITOR CH 10V 4.7U	1	
C906	F1G0J4740002	C.CAPACITOR CH 6.3V 0.47U	1	
C907	F1H0J225A002	C.CAPACITOR CH 6.3V 2.2U	1	
C908	F1J1A2250007	C.CAPACITOR CH 10V 2.2U	1	
C909	F1J1A475A023	C.CAPACITOR CH 10V 4.7U	1	
C910	F1G1C104A080	C.CAPACITOR CH 16V 0.1U	1	
C912	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
D901	MAZ80470ML	DIODE	1	(E.S.D.)
D902	B3AFB0000163	DIODE	1	(E.S.D.)
D903	B3AFB0000163	DIODE	1	(E.S.D.)
D904	B3AFB0000163	DIODE	1	(E.S.D.)
D905	B3AFB0000163	DIODE	1	(E.S.D.)
D906	B3AFB0000163	DIODE	1	(E.S.D.)
D907	B3AFB0000163	DIODE	1	(E.S.D.)
D909	MAZ80620ML	DIODE	1	(E.S.D.)
FP901	K1MN21AA0035	CONNECTOR 21P	1	
FP902	K1MN19BA0262	CONNECTOR 19P	1	
L901	G1C101KA0055	CHIP INDUCTOR 100UH	1	
Q901	2SC6054J0L	TRANSISTOR	1	(E.S.D.)
Q902	2SC6054J0L	TRANSISTOR	1	(E.S.D.)
Q903	2SC6054J0L	TRANSISTOR	1	(E.S.D.)
Q904	2SC6054J0L	TRANSISTOR	1	(E.S.D.)
Q905	2SA2174J0L	TRANSISTOR	1	(E.S.D.)
Q906	2SC6054J0L	TRANSISTOR	1	(E.S.D.)
Q907	2SC6054J0L	TRANSISTOR	1	(E.S.D.)
Q910	2SA2174J0L	TRANSISTOR	1	(E.S.D.)
R901	ERJ3RED270	M.RESISTOR CH 1/16W 27	1	
R903	ERJ3RED270	M.RESISTOR CH 1/16W 27	1	
R904	ERJ3GEY0R00	M.RESISTOR CH 1/10W 0	1	
R905	ERJ3GEY0R00	M.RESISTOR CH 1/10W 0	1	
R906	ERJ3GEY0R00	M.RESISTOR CH 1/10W 0	1	
R907	ERJ3RED270	M.RESISTOR CH 1/16W 27	1	
R908	ERJ3RED270	M.RESISTOR CH 1/16W 27	1	
R909	ERJ3RED270	M.RESISTOR CH 1/16W 27	1	
R910	ERJ3GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R911	ERJ3RED270	M.RESISTOR CH 1/16W 27	1	
R913	ERJ3RBD473	M.RESISTOR CH 1/16W 47K	1	
R914	ERJ3RBD103	M.RESISTOR CH 1/16W 10K	1	
R915	D0GB152JA057	M.RESISTOR CH 1/10W 1.5K	1	
R916	ERJ3RBD753	M.RESISTOR CH 1/16W 75K	1	
R917	ERJ3RED224	M.RESISTOR CH 1/16W 220K	1	
##	VEP24185A	MIC P.C.B.		(RTL)(E.S.D.)
C4801	ECJ0EB1A473K	C.CAPACITOR CH 10V 0.047U	1	
C4802	ECJ0EC1H220J	C.CAPACITOR CH 50V 22P	1	
C4803	ECJ0EB1A473K	C.CAPACITOR CH 10V 0.047U	1	
C4804	ECJ0EC1H220J	C.CAPACITOR CH 50V 22P	1	
C4805	ECJ0EB1A473K	C.CAPACITOR CH 10V 0.047U	1	
C4806	ECJ0EC1H220J	C.CAPACITOR CH 50V 22P	1	
C4807	ECJ0EB1A473K	C.CAPACITOR CH 10V 0.047U	1	
C4808	ECJ0EC1H220J	C.CAPACITOR CH 50V 22P	1	
C4809	ECJ0EB1A473K	C.CAPACITOR CH 10V 0.047U	1	
C4810	ECJ0EC1H220J	C.CAPACITOR CH 50V 22P	1	
C4816	F3E0J106A009	E.CAPACITOR CH 6.3V 22U	1	
C4817	F3F0J226A057	E.CAPACITOR CH 6.3V 22U	1	
C4818	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
FP4801	K1MN08BA0197	CONNECTOR 8P	1	
FP4802	K1MN10BA0197	CONNECTOR 10P	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
IC4801	NJM2115V	IC	1	(E.S.D.)
IC4802	NJM2115V	IC	1	(E.S.D.)
IC4803	NJM2115V	IC	1	(E.S.D.)
Q4801	2SD2216J0L	TRANSISTOR	1	(E.S.D.)
R4801	VRE0071E392	M.RESISTOR CH 1/10W 3.9K	1	
R4802	VRE0071E392	M.RESISTOR CH 1/10W 3.9K	1	
R4803	VRE0071E392	M.RESISTOR CH 1/10W 3.9K	1	
R4804	VRE0071E392	M.RESISTOR CH 1/10W 3.9K	1	
R4805	VRE0071E392	M.RESISTOR CH 1/10W 3.9K	1	
R4806	ERJ2GEJ183	M.RESISTOR CH 1/16W 18K	1	
R4807	ERJ2GEJ154	M.RESISTOR CH 1/16W 150K	1	
R4808	ERJ2GEJ183	M.RESISTOR CH 1/16W 18K	1	
R4809	ERJ2GEJ154	M.RESISTOR CH 1/16W 150K	1	
R4810	ERJ2GEJ183	M.RESISTOR CH 1/16W 18K	1	
R4811	ERJ2GEJ154	M.RESISTOR CH 1/16W 150K	1	
R4812	ERJ2GEJ183	M.RESISTOR CH 1/16W 18K	1	
R4813	ERJ2GEJ154	M.RESISTOR CH 1/16W 150K	1	
R4814	ERJ2GEJ183	M.RESISTOR CH 1/16W 18K	1	
R4815	ERJ2GEJ154	M.RESISTOR CH 1/16W 150K	1	
R4816	ERJ2GEJ472	M.RESISTOR CH 1/16W 4.7K	1	
R4817	ERJ2GEJ223	M.RESISTOR CH 1/16W 22K	1	
R4818	ERJ2GEJ333	M.RESISTOR CH 1/16W 33K	1	
##	VEP23667A	HDMI P.C.B.		(RTL)(E.S.D.)
C6101	F1G1C104A080	C.CAPACITOR CH 16V 0.1U	1	
JK3801	K1FA119E0004	HDMI CONNECTOR	1	
JK6101	K2HZ105E0011	JACK	1	
R6101	ERJ6GEYJ102V	M.RESISTOR CH 1/10W 1K	1	
##	VEP26298A	MONITOR P.C.B.		(RTL)(E.S.D.)
S601	K0L1BA000101	SWITCH	1	
##	VEP21294A	BATTERY CATCHER P.C.B.		(RTL)(E.S.D.)
JK6751	K4ZZ04000038	BATTERY TAG BLOCK	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
⚠ 1	VQL1L86	CAUTION LABEL A	1	(PP)
⚠ 1	VQL1L84	CAUTION LABEL A	1	(EG)
⚠ 1	VQL1L85	CAUTION LABEL A	1	(GC)
51	VKM7139	SIDE CASE L	1	
52	VYC0962	GRIP BELT U	1	
53	VMP8722	BELT PLATE REAR	1	
54	VMP8717	BELT PLATE FRONT	1	
55	VKF4144	SL JACK COVER	1	
56	VGQ9190	SL JACK COVER HINGE	1	
57	EFN-MVW41ZC	FLASH UNIT	1	
58	VKF4143	FLASH COVER	1	
59	VKM7021	SIDE CASE R	1	
60	VMG1708	LCD RUBBER A	1	
61	VMG1708	LCD RUBBER A	1	
62	VMG1708	LCD RUBBER A	1	
63	VKF4142	SR JACK COVER	1	
64	VKF4141	SD DOOR	1	
65	VMB4088	SD OPEN SPRING	1	
66	VMP8715	SD DOOR PLATE	1	
67	VSC5913	SR HEAT SINK	1	
68	VGU0A49	KNOB	1	
69	VGQ9133	KNOB HOLDER	1	
70	VMP8716	HINGE PLATE	1	
71	VGL1218	ACCESS PANEL LIGHT	1	
72	VEP20B99A	SIDE R P.C.B.	1	(RTL)
73	VEP20C01A	LCD DET P.C.B.	1	(RTL)
75	VYK1Z72	FRONT CASE UNIT	1	
76	N9ZZ00000346	BARRIER MOTOR UNIT	1	
77	VKM7020	TOP CASE	1	
78	VEP24186A	ECM FPC UNIT	1	
79	VMT1784	MIC DUMPER	1	
80	VYQ3891	MIC NET UNIT	1	
81	VSC5910	TOP FRAME	1	
82	VSC5912	MIC FRAME	1	
83	VEP24185A	MIC P.C.B.	1	(RTL)
84	VWJ1929	MIC FPC	1	
85	N9ZZ00000348	REAR OPERATION UNIT	1	
88	VKM7026	SR COVER	1	
89	VGL1219	TALLY PANEL LIGHT	1	
90	VYK2C05	SENSOR COVER	1	
92	VYQ3908	LNS HOOD UNIT	1	
94	VGQ9323	SHEET	1	
B14	XQN16+BJ4FN	SCREW	1	
B15	XQN16+BJ3FN	SCREW	1	
B17	XQN16+BJ3FN	SCREW	1	
B18	XQN16+BJ4FN	SCREW	1	
B19	VHD1411	SCREW	1	
B20	VHD1411	SCREW	1	
B21	XQN16+BJ4FN	SCREW	1	
B22	XQN16+BJ4FN	SCREW	1	
B23	XQN16+BJ4FN	SCREW	1	
B24	VHD1267	SCREW	1	
B25	XQN16+BJ5FN	SCREW	1	
B26	XQN16+BJ5FN	SCREW	1	
B27	XQN16+BJ5FN	SCREW	1	
B28	XQN16+B3FN	SCREW	1	
B29	XQN16+BJ5FN	SCREW	1	
B30	XQS16+A3FN	SCREW	1	
B31	XQN16+B3FN	SCREW	1	
B42	XQN16+B3FN	SCREW	1	
B43	XQN16+B3FN	SCREW	1	
B44	XQN16+B3FN	SCREW	1	
B45	XQN16+B3FN	SCREW	1	
B46	XQN16+B3FN	SCREW	1	
B47	XQN16+B3FN	SCREW	1	
B50	XQN16+B3FN	SCREW	1	
B52	XQN16+B4FN	SCREW	1	
B56	XQN16+B5FN	SCREW	1	
B57	XQN16+B5FN	SCREW	1	
B58	XQN16+B5FN	SCREW	1	
B59	XQN16+B5FN	SCREW	1	
B60	XQN16+B5FN	SCREW	1	
B61	XQN16+B5FN	SCREW	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
B62	VHD1904	SCREW	1	
B64	XQN16+B6FN	SCREW	1	
B65	XQN16+BJ5FN	SCREW	1	
B66	XQN16+BJ5FN	SCREW	1	
B67	XQN16+BJ5FN	SCREW	1	
B68	XQN16+BJ5FN	SCREW	1	
B69	XQN16+BJ8FN	SCREW	1	
B70	VHD1902	SCREW	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
3	VSC5906	HEAT SINK FRAME 1	1	
4	VMG1772	DAMPER RUBBER	1	
5	VMG1772	DAMPER RUBBER	1	
6	VGQ9175	HEAT RADIATION SHEET A1	1	
7	VGQ9176	HEAT RADIATION SHEET A2	1	
8	VGQ9177	HEAT RADIATION SHEET A3	1	
9	VGQ9180	CCD HEAT RADIATION SHEET	1	
10	VSC5902	CCD RADIATION PLATE	1	
11	VSC5909	LENS FRAME	1	
12	VMG1772	DAMPER RUBBER	1	
13	VMG1772	DAMPER RUBBER	1	
14	VGQ9179	HEAT RADIATION SHEET C	1	
15	VEP03H10C	MAIN P.C.B.	1	(RTL) (PP)
15	VEP03H10D	MAIN P.C.B.	1	(RTL) (GC)
15	VEP03H10B	MAIN P.C.B.	1	(RTL) (EG)
18	VEP01986A	SUB P.C.B.	1	(RTL)
19	VWJ1925	MAIN SUB FPC	1	
20	VEP20B98B	JACK P.C.B.	1	(RTL)
21	VGQ9145	CONDENSER COVER 1	1	
22	VGQ9146	CONDENSER COVER 2	1	
23	VWJ1926	JACK FPC	1	
24	VEP20C00A	FRONT P.C.B.	1	(RTL)
25	VGQ9147	SENSER HOLDER	1	
26	VEP23667A	HDMI FPC	1	(RTL)
27	VGQ9183	HDMI SPACER	1	
28	VKM7022	BATTERY CASE	1	
29	VMB4087	BATTERY PUSH SPRING	1	
30	VMB4085	BATTERY COVER SPRING	1	
31	VXA8376	BATTERY COVER HINGE UNIT	1	
32	VMS7798	BATTERY COVER SHAFT	1	
33	VKM7023	BATTERY COVER	1	
34	VGQ9220	BATTERY HOLD PIECE	1	
35	VEP21294A	BATTERY CATCHER FPC UNIT	1	(RTL)
36	VSC5911	REAR FRAME	1	
37	VGU0A50	BATT LOCK KNOB	1	
38	VMB4086	BATTERY LOCK SPRING	1	
39	VMP8735	BATTERY LOCK FRAME	1	
40	VSC5907	HEAT SINK FRAME B	1	
41	VGQ9178	HEAT RADIATION SHEET B	1	
42	VGQ9182	SPEAKER COVER	1	
43	VGQ9263	SPEAKER CUSHION	1	
44	L0AA02A00075	LOUD SPEAKERS	1	
45	VMC2023	SPEAKER SPRING	1	
46	L6FAG99D0018	DC FAN MOTOR	1	
47	VMG1762	FAN DAMPER RUBBER	1	
48	VYK1Z83	HEAT SINK FRAME C UNIT	1	
50	VWJ1928	SIDE R FPC	1	
86	VSC5917	JACK SHIELD PLATE	1	
87	VKF4154	JACK BOARD	1	
95	VGQ9418	FAN NET	1	
B1	XQN16+BJ4FN	SCREW	1	
B2	XQN16+BJ4FN	SCREW	1	
B3	XQN16+BJ4FN	SCREW	1	
B4	XQN16+BJ4FN	SCREW	1	
B5	XQN16+BJ4FN	SCREW	1	
B6	XQN16+BJ4FN	SCREW	1	
B7	XQN16+BJ4FN	SCREW	1	
B8	XQN16+BJ4FN	SCREW	1	
B9	XQN16+BJ4FN	SCREW	1	
B10	XQN16+BJ4FN	SCREW	1	
B11	XQN16+BJ4FN	SCREW	1	
B12	XQN16+BJ4FN	SCREW	1	
B32	XQN16+B3FN	SCREW	1	
B34	XQN16+B3FN	SCREW	1	
B35	XQN16+B3FN	SCREW	1	
B36	XQN16+BJ4FN	SCREW	1	
B37	XQN16+BJ4FN	SCREW	1	
B38	XQN16+B3FN	SCREW	1	
B39	XQN16+B3FN	SCREW	1	
B40	XQN16+B3FN	SCREW	1	
B41	XQN16+B3FN	SCREW	1	
B48	VHD1667	SCREW	1	
B49	VHD1667	SCREW	1	
B51	XQN16+B4FN	SCREW	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
B53	XQN16+B5FN	SCREW	1	
B54	XQN16+B5FN	SCREW	1	
B55	XQN16+B5FN	SCREW	1	
B63	XQN16+B6FN	SCREW	1	
B71	XQN16+BJ5FN	SCREW	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
151	L5BDDXM00008	LCD	1	
152	VEP26293A	MONITOR P.C.B.	1	(RTL)
153	VGL1208	DIFFUSION SHEET	1	
154	VGL1209	PRISM SHEET A	1	
155	VGL1210	PRISM SHEET B	1	
156	VGL1211	REFLECTION SHEET	1	
157	VKW3321	LENS	1	
158	VGQ9095	LENS HOLDER	1	
159	VKM7024	LCD CASE 1	1	
160	VSC5894	LCD SHIELD CASE	1	
161	VSC5895	LCD GROUND PLATE	1	
162	VKM7025	LCD CASE 2	1	
163	VKM7027	HINGE COVER A	1	
164	VGQ9094	HINGE COVER B	1	
165	VXD0493	HINGE UNIT	1	
167	VMZ3660	DOUBLE SIDED TAPE A	1	
168	VMZ3661	DOUBLE SIDED TAPE B	1	
B161	VHD1828	SCREW	1	
B162	VHD1828	SCREW	1	

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

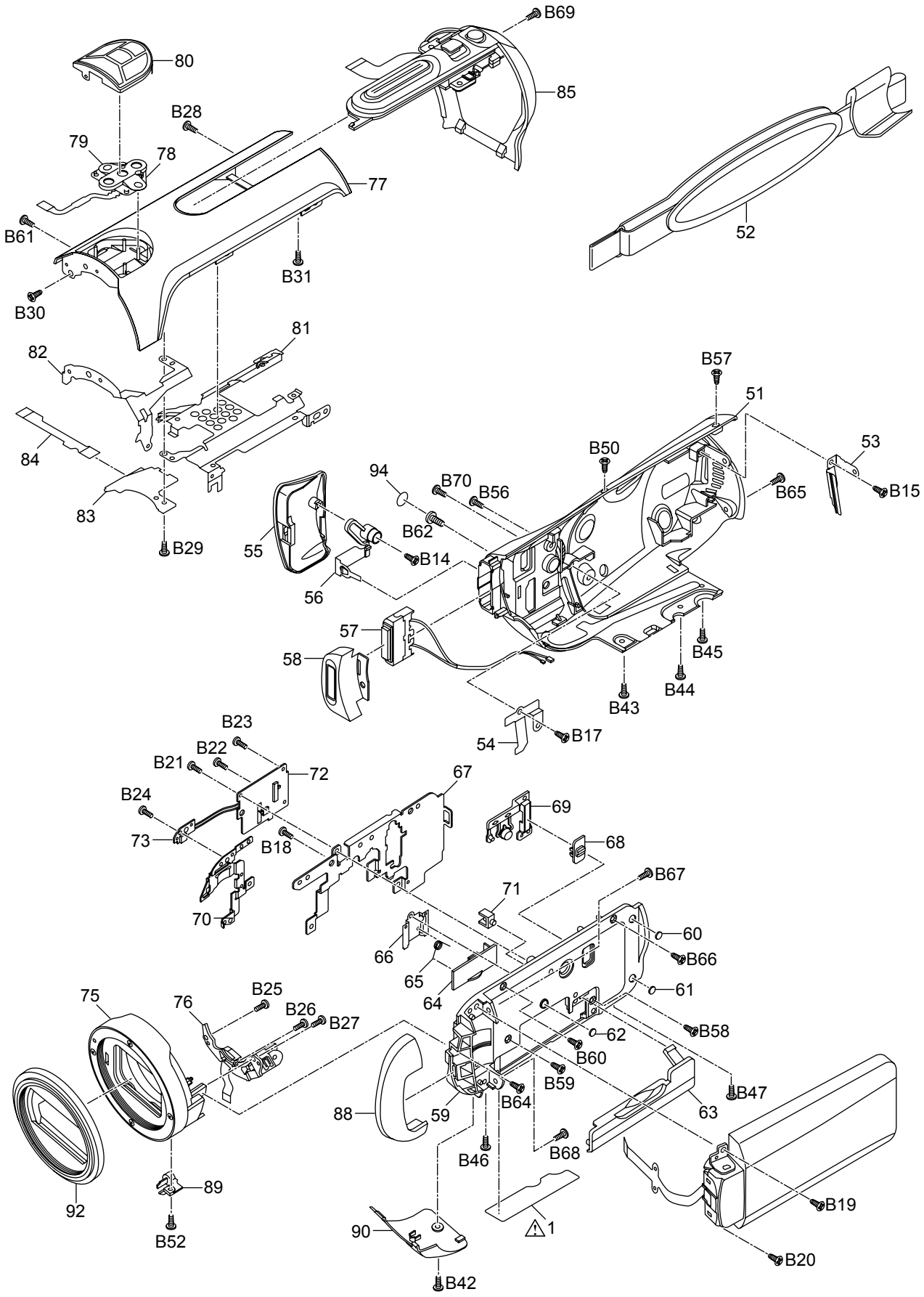
Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
201	VXQ1463	PRISM UNIT	1	
201-1	VEP22375A	CCD FPC U	1	
202	VGQ9068	CCD HEAT SINK SHEET	1	
203	VXW0826	LENS UNIT (W/O CCD)	1	
204	L6HA66NC0010	STEPPING MOTOR	1	
205	VXP2687	IRIS UNIT	1	
206	VMA0S74	SIDE YORK	1	
207	VMA0S74	SIDE YORK	1	
208	VMS7778	GUIDE POLE	1	
209	VMS7778	GUIDE POLE	1	
210	VMS7779	F GUIDE POLE	1	
211	VXP2667	2ND LENS FRAME MOVE UNIT	1	
212	VXP2670	4TH LENS FRAME MOVE UNIT	1	
213	VXQ1455	OIS UNIT	1	
214	VXQ1456	MASTER FLANGE	1	
215	VDW1342	MAIN FRAME	1	
216	VXQ1452	1ST LENS FRAME MOVE UNIT	1	
217	VMB4079	2ND LENS SPRING	1	
218	VDL1900	OPTICAL FILTER	1	
219	VEK0K40	LENS FPC	1	
B201	XQN16+CJ4FJR	SCREW	1	
B202	XQN16+CJ4FJR	SCREW	1	
B203	XQN16+CJ4FJR	SCREW	1	
B204	XQN16+CJ4FJR	SCREW	1	
B205	XQN16+CJ4FJR	SCREW	1	
B206	XQN16+CJ4FJR	SCREW	1	
B207	XQN16+CJ4FJR	SCREW	1	
B208	XQN16+CJ4FJR	SCREW	1	
B209	XQN16+CJ4FJR	SCREW	1	
B210	XQN16+CJ4FJR	SCREW	1	
B211	XQN16+CJ7FJ	SCREW	1	
B212	XQN16+CJ7FJ	SCREW	1	
B213	XQN16+CJ7FJ	SCREW	1	
B214	XQN16+CJ5FJ	SCREW	1	
B215	XQN16+CJ5FJ	SCREW	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
301	VPK3207	ACCESSORIES BOX	1	(PP)
301	VPK3208	ACCESSORIES BOX	1	(EG),(GC)
⚠ 302	----------	BATTERY PACK	1	(PP)
⚠ 302	----------	BATTERY PACK	1	(EG),(GC)
303	K2GJYYC00001	DC CABLE	1	
304	K2KZ9CB00002	PIN CODE	1	
305	K2KZ9DB00004	D TERMINAL CABLE	1	
307	N2QAEC000023	REMOTE CONTROL	1	
308	K2KZ4CB00011	USB CABLE	1	
⚠ 309	DE-A38BA	AC ADAPTER	1	(PP)
⚠ 309	DE-A38CA	AC ADAPTER	1	(EG),(GC)
310	VPN6469	CUSHION	1	
311	VPG1J97	PACKING CASE	1	(PP)
311	VPG1J98	PACKING CASE	1	(EG),(GC)
312	VPF1112	POLYETHYLENE BAG	1	
⚠ 313	VQT1A24	OPERATING INSTRUCTIONS	1	(PP)
		(ENGLISH)		
⚠ 313	VQT1A25	OPERATING INSTRUCTIONS	1	(PP)
		(CANADIAN FRENCH)		
⚠ 313	VQT1D38	OPERATING INSTRUCTIONS	1	(EG)
		(ENGLISH)		
⚠ 313	VQT1A26	OPERATING INSTRUCTIONS	1	(EG)
		(GERMAN)		
⚠ 313	VQT1A27	OPERATING INSTRUCTIONS	1	(EG)
		(FRENCH)		
⚠ 313	VQT1A28	OPERATING INSTRUCTIONS	1	(EG)
		(ITALIAN)		
⚠ 313	VQT1A31	OPERATING INSTRUCTIONS	1	(EG)
		(SPANISH)		
⚠ 313	VQT1A34	OPERATING INSTRUCTIONS	1	(GC)
		(ENGLISH)		
⚠ 313	VQT1C87	OPERATING INSTRUCTIONS	1	(GC)
		(CHINESE(TRADITIONAL))		
⚠ 313	VQT1C88	OPERATING INSTRUCTIONS	1	(GC)
		(RUSSIAN)		
315	VFF0354-S	CD-ROM	1	(PP)
315	VFF0355-S	CD-ROM	1	(EG),(GC)
316	----------	SD CARD	1	
317	VPF1214	SD CARD BAG, POLYETHYLENE	1	
318	VPF1129	PROTECTION SHEET	1	
⚠ 319	K2CA2CA00029	AC MAINS LEAD	1	(PP)
⚠ 320	K2CQ2CA00006	AC MAINS LEAD	1	(EG),(GC)
⚠ 321	K2CT3CA00004	AC MAINS LEAD	1	(EG),(GC)
⚠ 323	K2CJ2DA00008	AC MAINS LEAD	1	(GC)

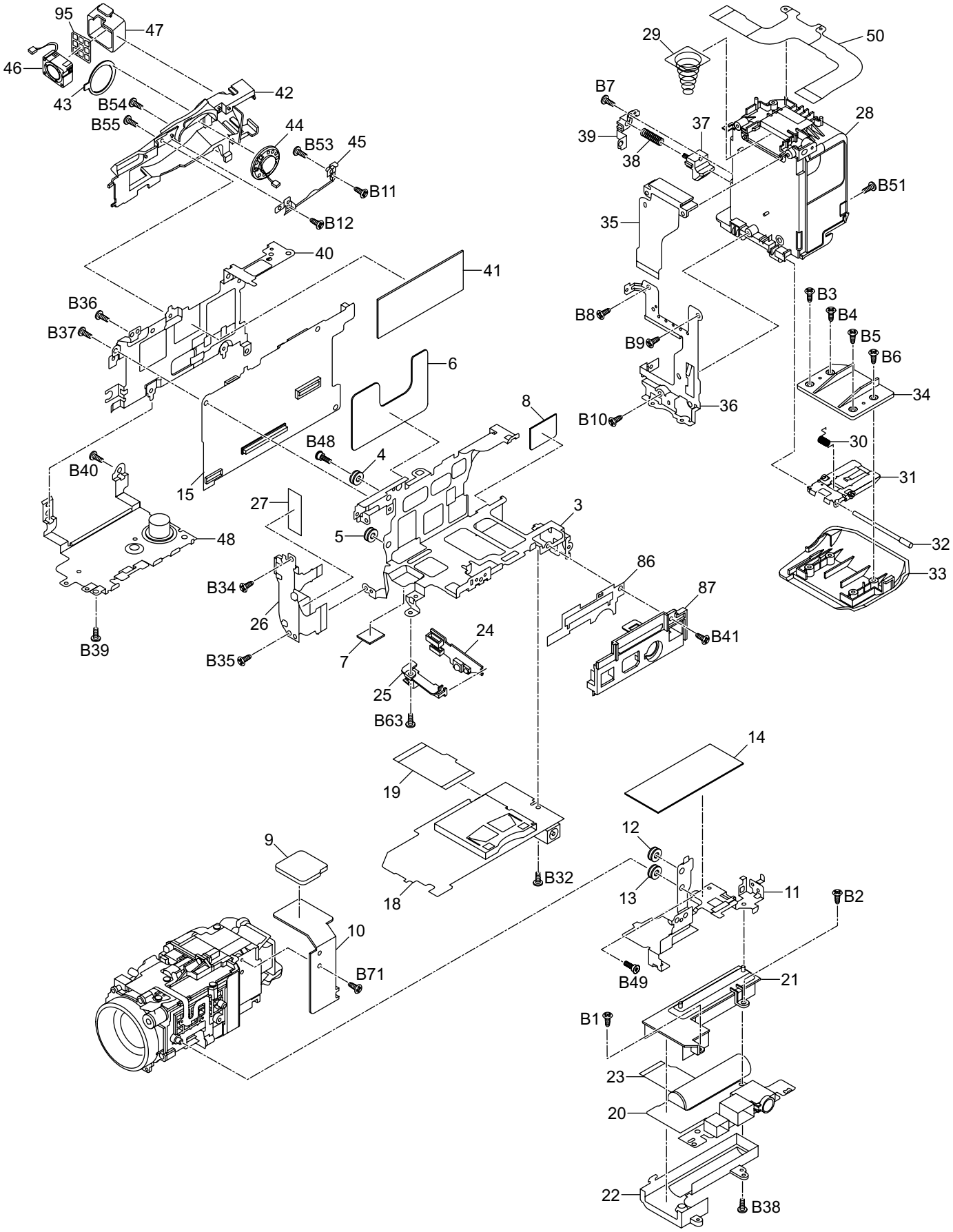
Ref.No.	Part No.	Part Name & Description	Pcs	Remarks

S7. Exploded View

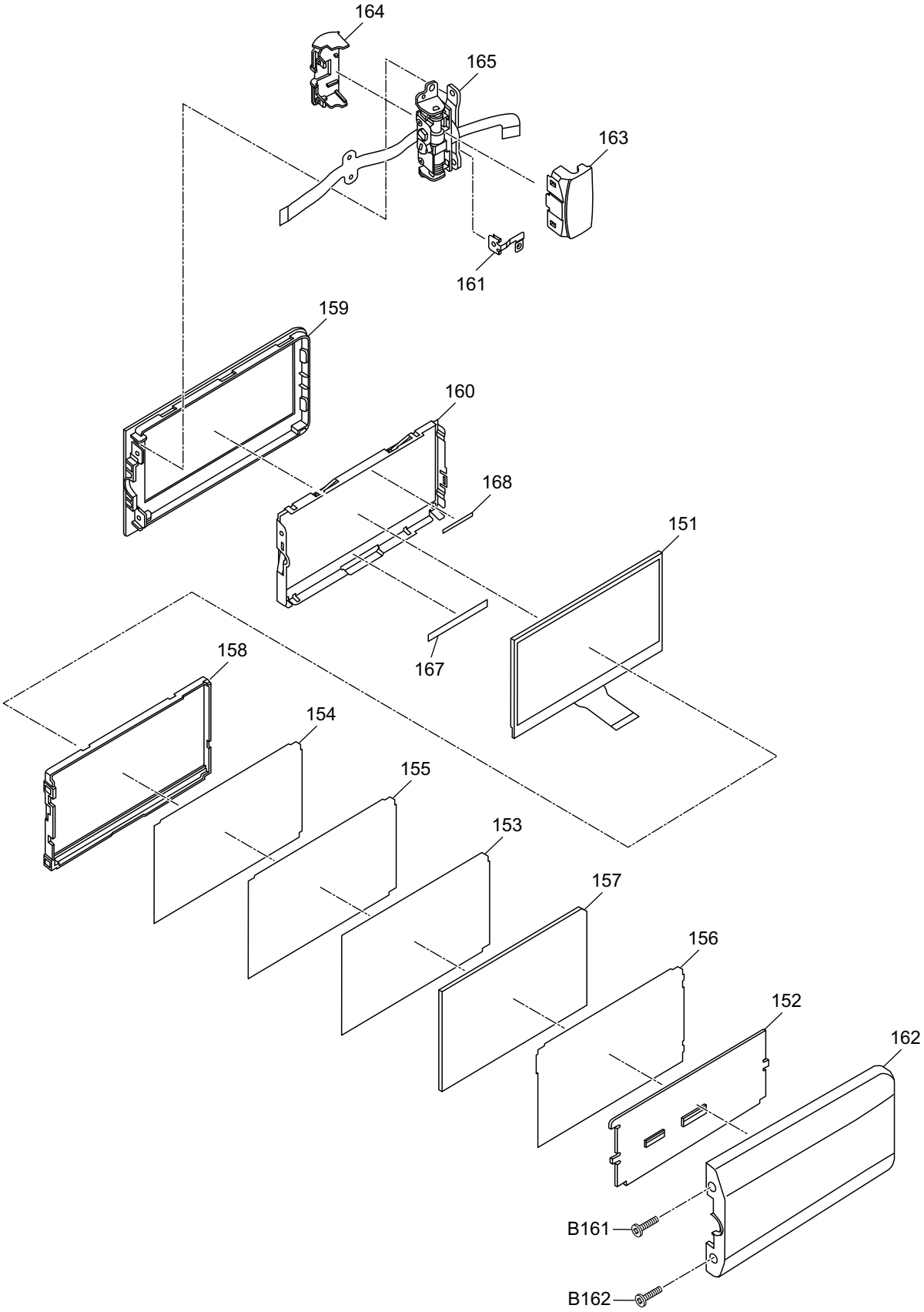
S7.1. Frame and Casing Section (1)



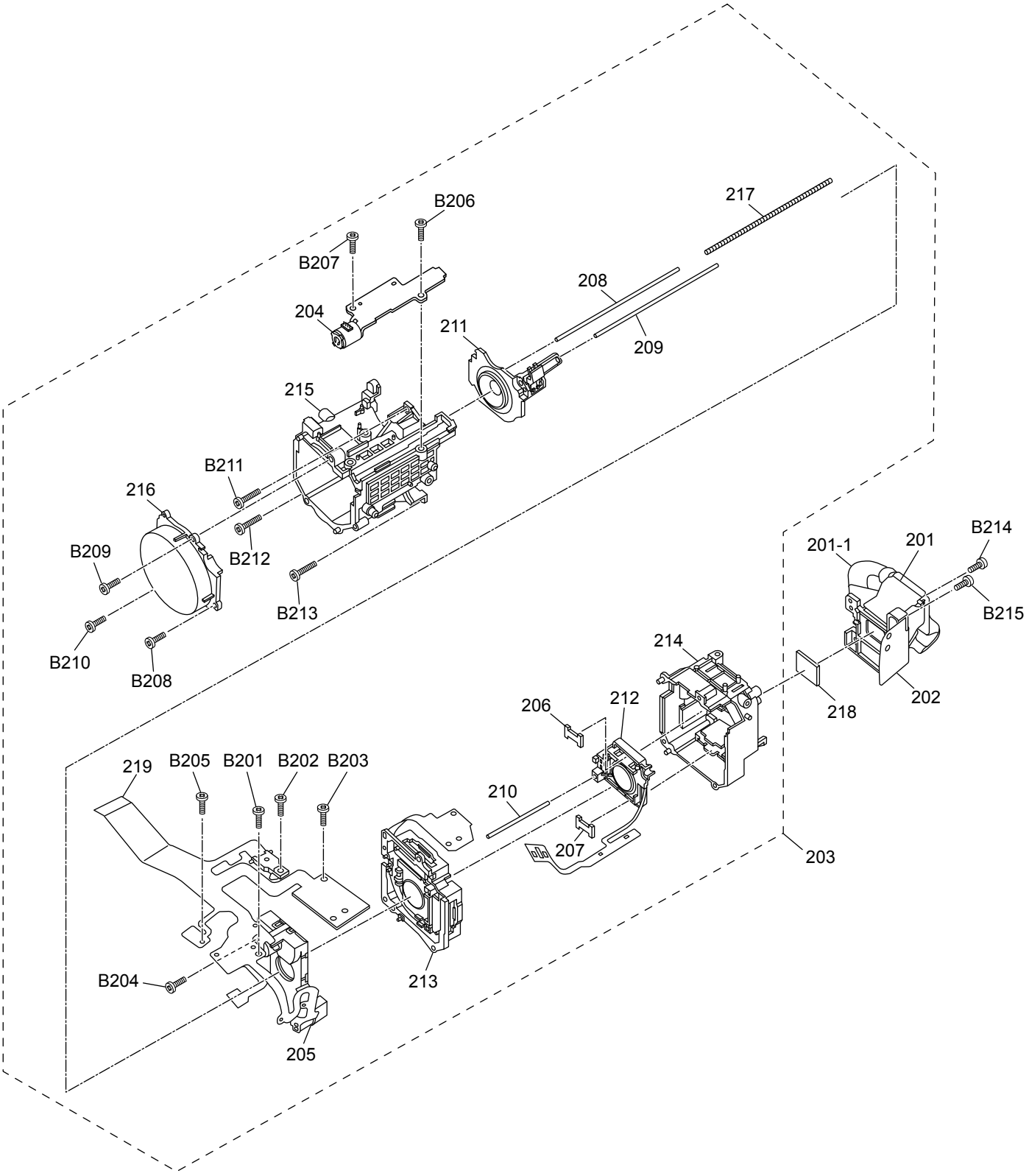
S7.2. Frame and Casing Section (2)



S7.3. LCD Section



S7.4. Camera Lens Section



S7.5. Packing Parts and Accessories Section