ORDER NO. DSC1107040CE
B26

Service Manual

Digital Camera/Lens Kit/Double Lens Kit/Body

LUMIX



Model No. DMC-GF3CPP
DMC-GF3CPC
DMC-GF3CEB
DMC-GF3CEC
DMC-GF3CEE
DMC-GF3CEF
DMC-GF3CEG
DMC-GF3CGC
DMC-GF3CGD
DMC-GF3CGH
DMC-GF3CGK
DMC-GF3CGN
DMC-GF3CGT
DMC-GF3WEB
DMC-GF3WEC
DMC-GF3WEF
DMC-GF3WEG
DMC-GF3WGC
DMC-GF3WGD
DMC-GF3WGH
DMC-GF3WGK
DMC-GF3WGN

Panasonic

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DMC-GF3WGT

DMC-GF3KPP
DMC-GF3KPC
DMC-GF3KEB
DMC-GF3KEC
DMC-GF3KEE
DMC-GF3KEF
DMC-GF3KEG
DMC-GF3KGC
DMC-GF3KGD
DMC-GF3KGH
DMC-GF3KGK
DMC-GF3KGN

DMC-GF3KGT
DMC-GF3PP
DMC-GF3PC
DMC-GF3EB
DMC-GF3EF
DMC-GF3EG
DMC-GF3GC
DMC-GF3GD
DMC-GF3GH
DMC-GF3GT
DMC-GF3WSG

Vol.1

Colour
[DMC-GF3C]
(K).....Black Type
(W).....White Type (except EC/EF)
(R).....Red Type (except PC)
(P).....Pink Type (only PP/GC/GH/GK/GT)
(T).....Brown Type (except PC/EB/EE/EF/GK/GN)
[DMC-GF3K]
(K).....Black Type
(W).....White Type (except EC/GD/GH)
(R).....Red Type (except PC/GD/GH/GT)
(P).....Pink Type (only PP/GC/GK)
(T).....Brown Type (only PP/EC/EF/EG)

[DMC-GF3W]
(K).....Black Type
(W).....White Type (except EC/EF/EG)
(R).....Red Type (except EC/EF/EG/SG)
(P).....Pink Type (only GC/GH/GK/GT)
(T).....Brown Type (only GC/GD/GH/GT)
[DMC-GF3]
(K).....Black Type

DMC-GF3C series: Interchangeable Lens (H-H014) is bundled.
DMC-GF3K series: Interchangeable Lens (H-FS014042) is bundled.
DMC-GF3W series: Interchangeable Lens (H-H014/H-FS014042) are bundled.

⚠ 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.

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1 Safety Precautions

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

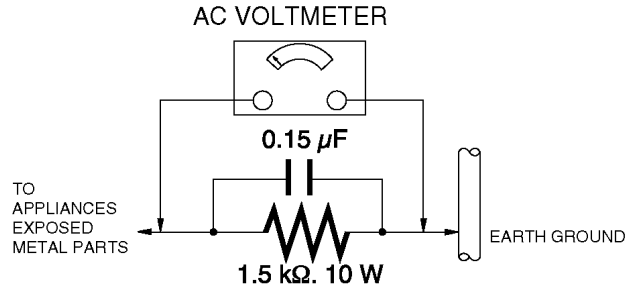


Figure. 1

1.4. How to Discharge the E. Capacitor on Flash Sub P.C.B. Unit

CAUTION:

1. **Be sure to discharge the E. Capacitor on FLASH SUB P.C.B. UNIT.**
2. **Be careful of the high voltage circuit on FLASH SUB P.C.B. UNIT 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 E. Capacitor on FLASH SUB P.C.B. UNIT for approx. 5 seconds.
4. After discharging, confirm that the E. Capacitor voltage is lower than 10V by using a voltmeter.

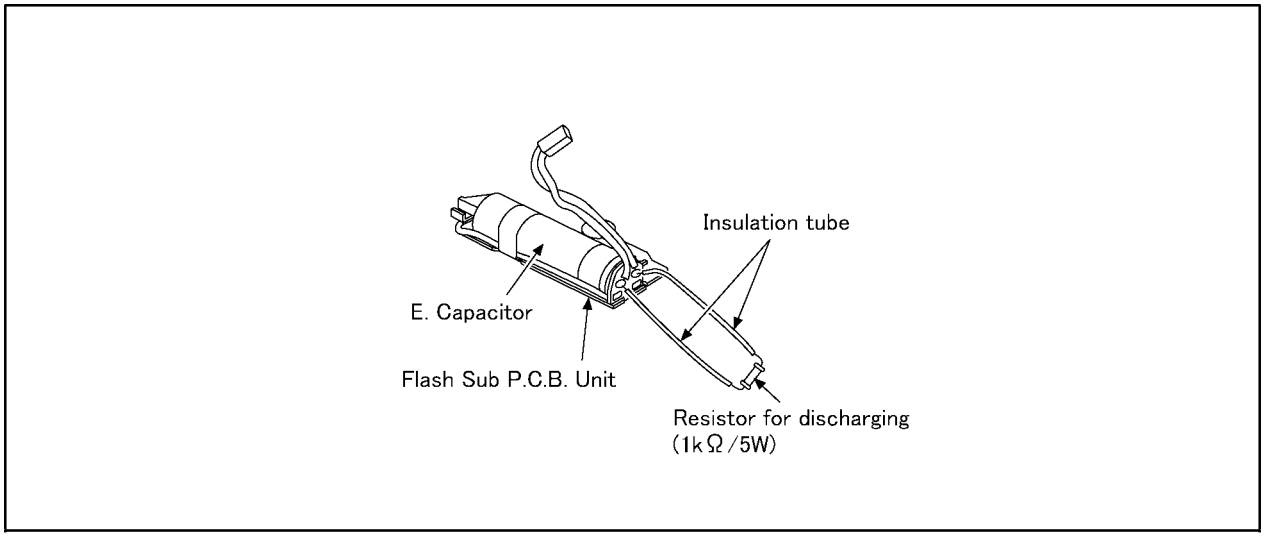


Fig. F1

2 Warning

2.1. Prevention of Electrostatic 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 IC (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 electrostatic 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 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 recyclable. Pour des renseignements sur le recyclage de la batterie, veuillez composer le 1-800-8-BATTERY.

2.3. Caution for AC Cord (For EB/GC/GH)

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 ASTA mark or the BSI mark on the body of the fuse.



If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover, the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local Panasonic Dealer.

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

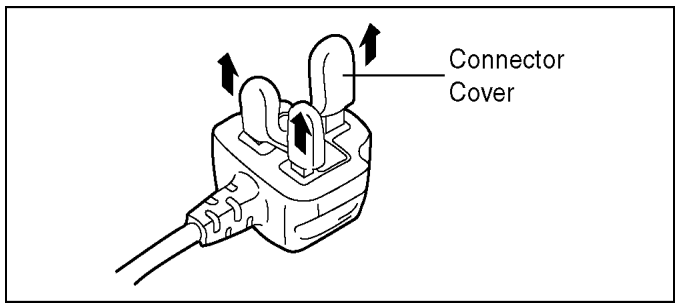
The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

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.



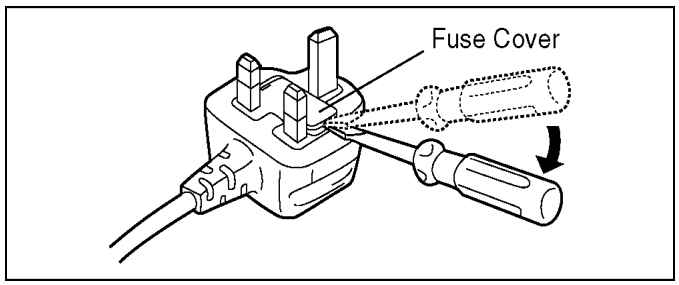
2.3.2.2. Before Use

Remove the Connector Cover as follows.

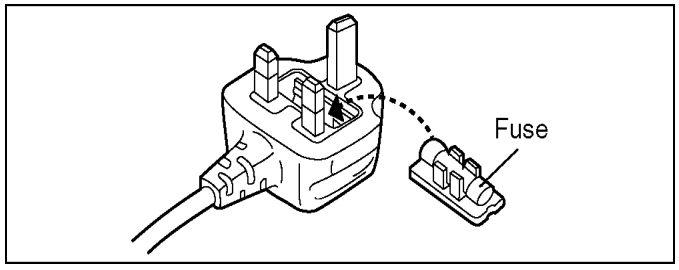


2.3.2.3. How to Replace the Fuse

1. Remove the Fuse Cover with a screwdriver.



2. Replace the fuse and attach the Fuse cover.



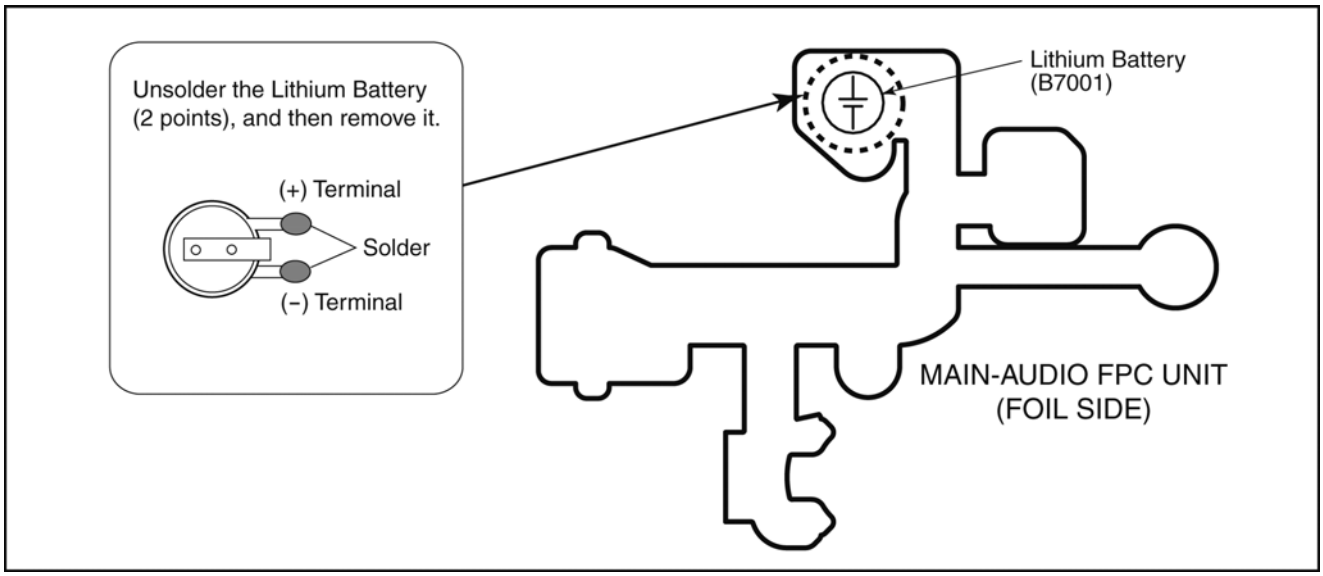
2.4. How to Replace the Lithium Battery

2.4.1. Replacement Procedure

1. Remove the MAIN-AUDIO FPC UNIT. (Refer to Disassembly Procedures.)
2. Unsolder the each soldering point of electric lead terminal for Lithium battery (Ref. No. “B7001” at foil side of MAIN-AUDIO FPC UNIT) and remove the Lithium battery together with electric lead terminal. Then replace it into new one.

NOTE:

The Type No. ML421 includes electric lead terminals.



NOTE:

This Lithium battery is a critical component.
(Type No.: ML421 **Manufactured by Energy Company, Panasonic Corporation.**)
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 DMC-GF3C/GF3K/GF3W/GF3 series, as well.

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. Important Notice

*When servicing, it is recommended dealing with Clean box. (Refer to "8.2. Clean Box" section of this service manual for details.)

3.2.1. Camera Body Unit

3.2.1.1. About Mount Box Unit (Ref. 3)

1. This Service Manual does not contain the following repair service information for "MOUNT BOX UNIT"(Ref.3), because it requires special facilities and equipment.
   a. Schematic diagram, Block diagram and P.C.B. layout.
   b. Parts list for individual parts.
2. If the "MOUNT BOX UNIT" is confirmed as defective, exchange the "MOUNT BOX UNIT" as a unit (supplied as service parts size).
3. Before exchanging the "MOUNT BOX UNIT", the performances must be carefully checked, by following the "7.Troubleshooting Guide" section of this service manual.

Important:

1. After replacing the MOUNT BOX UNIT, the mount box data has to be stored to the unit.
   The mount box unit supplied as service parts has affix the label of own configure data.
   By inputting these data into the adjustment software and writting these data to FLASH-ROM (IC6002), the shutter adjustment becomes needless.
   In addition, the adjustment software can read data encoded to QR code by using WEB camera with a close-up function.
   Refer to the adjustment instruction in the adjustment software for details.

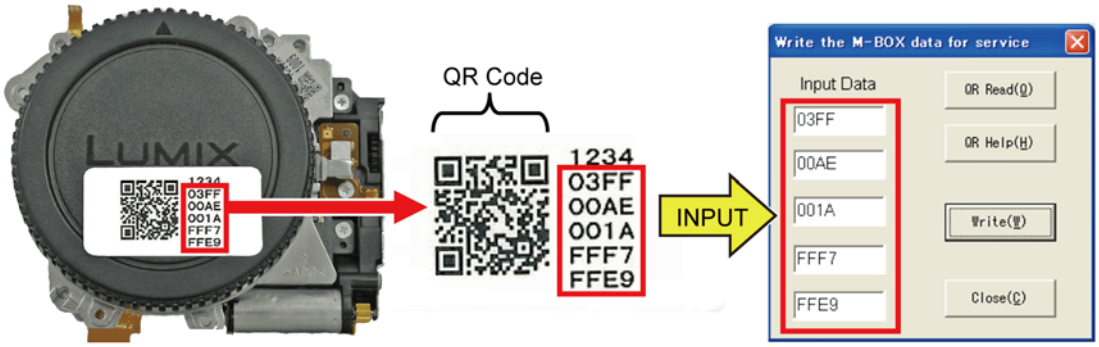


Fig. S1

2. The full adjustment must be performed after replacing the "MOUNT BOX UNIT", otherwise picture quality can not be meet with specification.

3.2.1.2. About Flexible Cable and Connector

Do not touch carelessly so that the foreign body should not adhere to the terminal part of flexible cable and connector.

Wipe off with a clean cloth and the cotton bud, etc. when the terminal part is dirty.

3.2.1.3. About Main P.C.B. (Ref. 1)

1. This Service Manual does not contain the following repair service information for “MAIN P.C.B.”(Ref.1), because it requires special facilities and equipment.
   a. Schematic diagram, Block diagram and P.C.B. layout.
   b. Parts list for individual parts.
2. When a part replacement is required for repairing “MAIN P.C.B.”, replace as an assembled P.C.B. parts.
   As for handling the defected P.C.B.s, contact the sales company service depart.
   *MAIN P.C.B. (VEP56141A: PP/PC/EE/GC/GD/GH/GK/GN/GT/SG)
   *MAIN P.C.B. (VEP56141B: EB/EC/EF/EG)

Important (About Main P.C.B.):

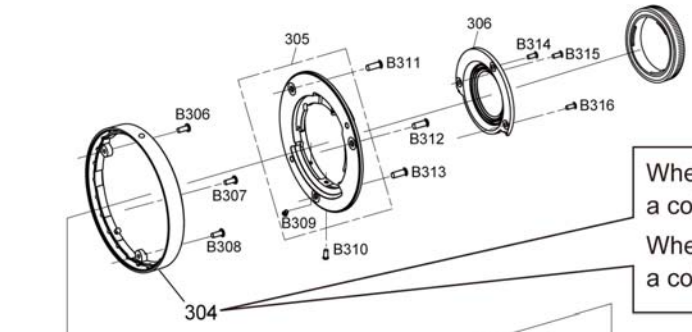
1. Before exchanging the "MAIN P.C.B.", the performances must be carefully checked, by following the "7.Troubleshooting Guide" section of this service manual.
2. Before replacing the "MAIN P.C.B.", proceed the EEPROM data backup from the unit. After replacing the MAIN P.C.B., over-write the EEPROM data with backup data from the unit first, then proceed the adjustment /inspection.
   If it is impossible to make a data backup due to the unit does not turns on the power and so on, additional adjustment (using the light box) is required.
   Refer to the adjustment instruction in the adjustment software for details.
3. The full adjustment must be performed after replacing the "MAIN P.C.B.", otherwise Picture quality can not be meet with specification.

3.2.2. Lens Unit (Interchangeable Lens: H-H014)

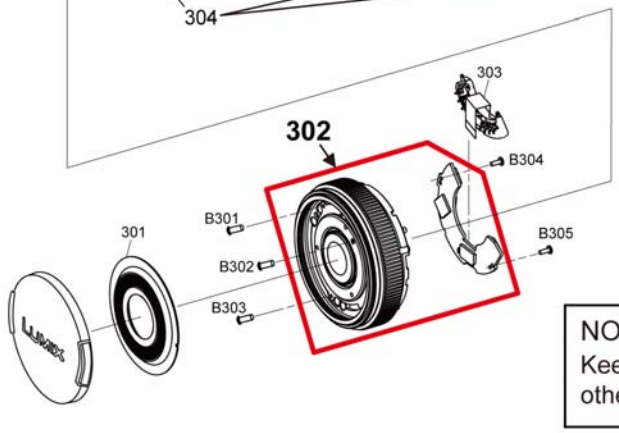
3.2.2.1. About Lens MAIN Block unit (Ref. 302)

1. This Service Manual does not contain the repair service information for "LENS MAIN BLOCK UNIT"(Ref.302), because it requires special facilities and equipment.
2. "LENS MAIN BLOCK UNIT"(Ref.302) performance must be confirmed.
3. In case of the "LENS MAIN BLOCK UNIT"(Ref.302) defect, contact to the service department of sales company.

Ref. 302 LENS MAIN BLOCK UNIT (Not Supplied)
If this part is necessary, consult with the service department of sales company.



When a colour of camera body **isn' t W / P**,
a colour of REAR FRAME UNIT (Ref. 304) is black.
When a colour of camera body **is W / P**,
a colour of REAR FRAME UNIT (Ref. 304) is silver.



NOTE:
Keep covering the lens unit with Lens caps (front & rear), other than necessary cases.

Fig. S2

3.2.3. Lens Unit (Interchangeable Lens: H-FS014042)

3.2.3.1. About Lens Main Block Unit (Ref. 408)

1. This Service Manual does not contain the repair service information for "LENS MAIN BLOCK UNIT"(Ref.408), because it requires special facilities and equipment.
2. The "LENS MAIN BLOCK UNIT"(Ref.408) performance must be confirmed.
3. In case of the "LENS MAIN BLOCK UNIT"(Ref.408) defect, contact to the service department of sales company.

Ref. 408 LENS MAIN BLOCK UNIT (Not Supplied)
If this part is necessary, consult with the service department of sales company.

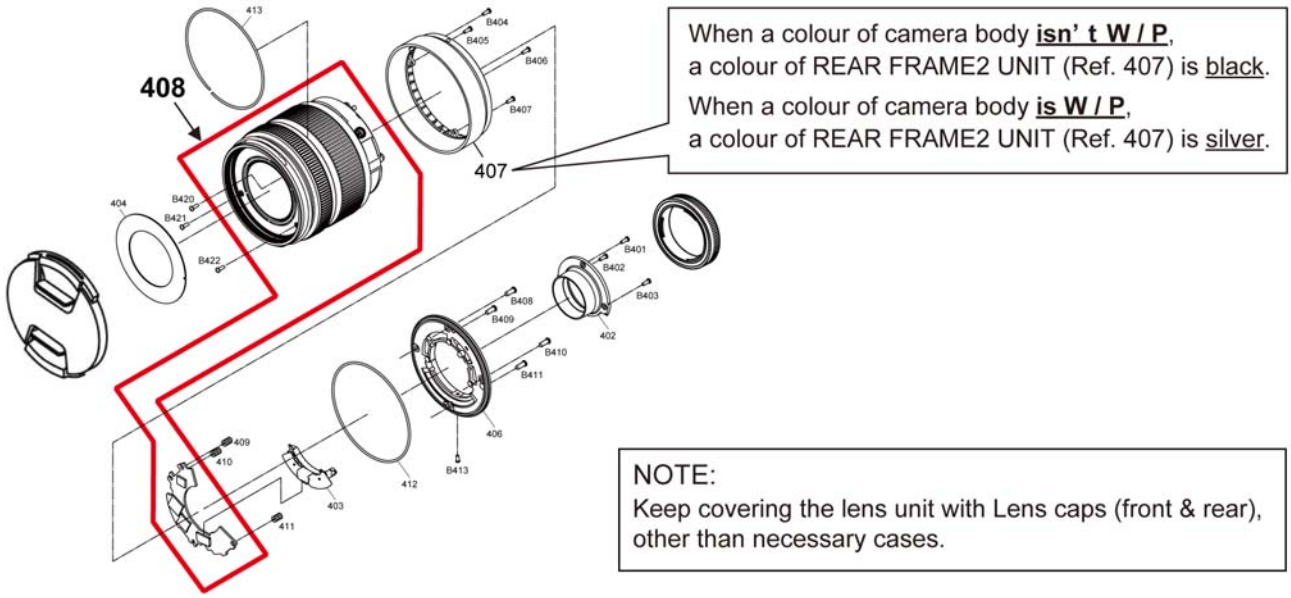


Fig. S3

3.3. 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 P.C.B. Lead Free Solder being used

The letter of “PbF” is printed either foil side or components side on the P.C.B. 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 P.C.B. 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 P.C.B. 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.
  RFKZ03D01KS----------(0.3mm 100g Reel)
  RFKZ06D01KS----------(0.6mm 100g Reel)
  RFKZ10D01KS----------(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%

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

There are eight kinds of DMC-GF3 (Camera body unit), regardless of the colours.

- a) DMC-GF3 (Japan domestic model)/SG
- b) DMC-GF3PP/PC
- c) DMC-GF3EB/EC/EF/EG/GH/GN
- d) DMC-GF3EE
- e) DMC-GF3GK
- f) DMC-GF3GT
- g) DMC-GF3GD
- h) DMC-GF3GC

What is the difference is that the “INITIAL SETTINGS” data which is stored in Flash-ROM mounted on MAIN P.C.B..

3.4.1. Defining methods:

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

a) DMC-GF3 (Japan domestic model)/SG

The nameplate for these models show the following Safety registration mark.



b) DMC-GF3PP/PC

The nameplate for these models show the following Safety registration mark.



c) DMC-GF3EB/EC/EF/EG/GH/GN

The nameplate for these models show the following Safety registration mark.



d) DMC-GF3EE

The nameplate for this model shows the following Safety registration mark.



e) DMC-GF3GK

The nameplate for this model shows the following Safety registration mark.



f) DMC-GF3GT

The nameplate for this model shows the following Safety registration mark.



g) DMC-GF3GD

The nameplate for this model shows the following Safety registration mark.



h) DMC-GF3GC

The nameplate for this model does not show any above Safety registration mark.

NOTE:

After replacing the MAIN P.C.B., be sure to achieve adjustment.

Refer to the adjustment instruction in the adjustment software for details.

3.4.2. INITIAL SETTINGS:

After replacing the MAIN P.C.B., make sure to perform the initial settings after achieving the adjustment by ordering the following procedure in accordance with model suffix of the unit.

1. IMPORTANT NOTICE:

Before proceeding Initial settings, make sure to read the following CAUTION.

CAUTION:(INITIAL SETTINGS)

---AFTER REPLACING THE MAIN P.C.B. ---

[Except "EG, EF, EB and EC" models : (VEP56141A is used as a Main P.C.B.)]

*. The model suffix can be chosen **JUST ONE TIME.**
(Effective model suffix : "PP/PC/GD/GC/GT/GK/EE/GN/GH/SG and NONE(JAPAN)")

*. Once one of the model suffix has been chosen, the model suffix lists will not be displayed, thus, it can not be changed.

[Only for "EG, EF, EB and EC" models : (VEP56141B is used as a Main P.C.B.)]

*. From the beginning, only "EG, EF, EB and EC" are displayed as model suffix lists, and these are displayed from the second times as well.

2. PROCEDURES:

- **Precautions: Read the above “CAUTION” carefully.**
- **Preparation:**
  Attach the fully charged Battery, and insert the SD memory card.
  Press the [MENU/SET] button, touch the [REC MODE] of menu display then touch the [P] of screen listing the Recording mode to select “Program AE Mode”.
  (If the unit is other than [P] (Program AE Mode), it does not display the initial setting menu.)
- **Step 1. The temporary cancellation of “INITIAL SETTINGS”:**
  While pressing [PLAYBACK], [Q.MENU/Fn] and “[RIGHT] of Cursor buttons” simultaneously, turn the Power on.
- **Step 2. The cancellation of “INITIAL SETTINGS”:**
  Press the [PLAYBACK] button, then playback the picture.
  Press [Q.MENU/Fn] and “[UP] of Cursor buttons” simultaneously, then turn the Power off.
  The LCD displays the “ ! ” mark before the unit powers down.



- **Step 3. Turn the Power on:**
  Turn the Power on.

• **Step 4. Display the INITIAL SETTING:**

While pressing [MENU/SET] and “[RIGHT] of Cursor buttons” simultaneously, turn the Power off.

The “INTIAL SETTINGS” menu is displayed.

There are two kinds of “INITIAL SETTINGS” menu form as follows:

[CASE 1. After replacing MAIN P.C.B.]

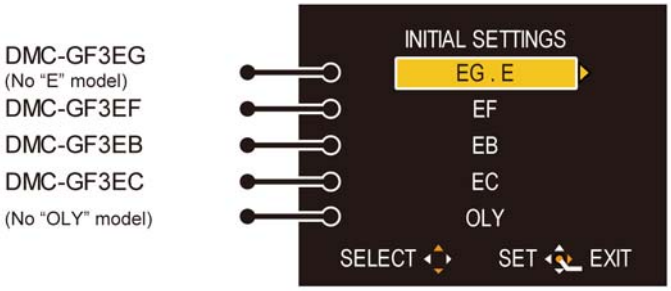
[Except "EG, EF, EB and EC" models : (VEP56141A is used as a Main P.C.B.)]

When MAIN P.C.B. has just been replaced, all of the model suffix are displayed as follows. (three pages in total)



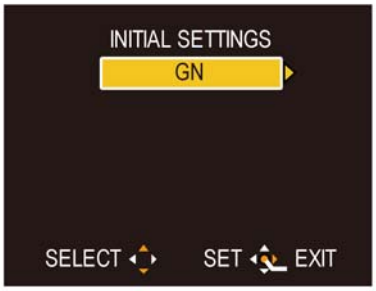
[Only for "EG, EF, EB and EC" models : (VEP56141B is used as a Main P.C.B.)]

When MAIN P.C.B. has just been replaced, only 5 model suffix are displayed as follows.

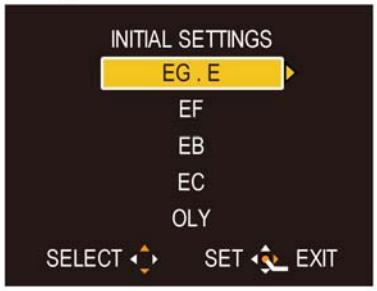


[CASE 2. Other than "After replacing MAIN P.C.B."]

< Other than “EG/EF/EB/EC” models>

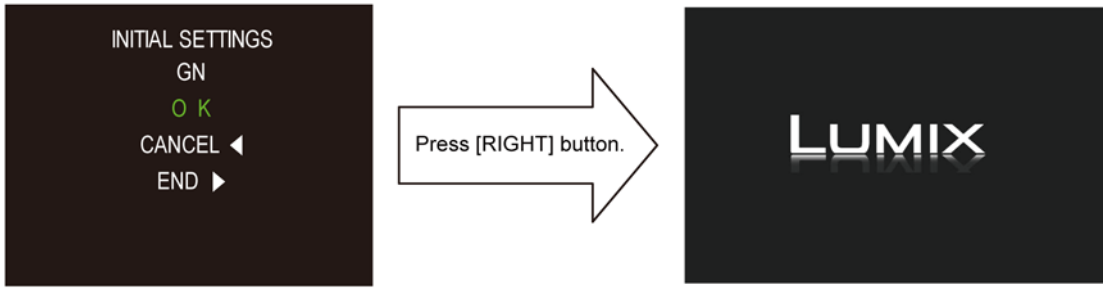


< Only “EG/EF/EB/EC” models>



• **Step 5. Choose the model suffix in “INITIAL SETTINGS”: (Refer to “CAUTION”)**
[Caution: After replacing MAIN P.C.B.]
The model suffix can been chosen, **JUST ONE TIME**.
Once one of the model suffix have been chosen, the model suffix lists will not be displayed, thus, it can be changed.
Therefore, select the area carefully.
Select the area with pressing “[UP] / [DOWN] of Cursor buttons”.

• **Step 6. Set the model suffix in “INITIAL SETTINGS”:**
- Press the “[RIGHT] of Cursor buttons”.
- The only set area is displayed, and then press the “[RIGHT] of Cursor buttons” after confirmation.
(The unit is powered off automatically.)



• **Step 7. CONFIRMATION:**
Confirm the display of “PLEASE SET THE CLOCK” in concerned language when the unit is turned on again.
When the unit is connected to PC with USB cable, it is detected as removable media.
(When the “GT” or “GK” model suffix is selected, the display shows “PLEASE SET THE CLOCK” in Chinese.)

1) As for your reference, major default setting condition is as shown in the following table.

• **Default setting (After “INITIAL SETTINGS”)**

	MODEL	VIDEO OUTPUT	LANGUAGE	DATE	REMARKS
a)	DMC-GF3 (Japan domestic model)	NTSC	Japanese	Year/Month/Date	
b)	DMC-GF3PP	NTSC	English	Month/Date/Year	
c)	DMC-GF3PC	NTSC	English	Month/Date/Year	
d)	DMC-GF3EB	PAL	English	Date/Month/Year	
e)	DMC-GF3EC	PAL	English	Date/Month/Year	
f)	DMC-GF3EE	PAL	Russian	Date/Month/Year	
g)	DMC-GF3EF	PAL	French	Date/Month/Year	
h)	DMC-GF3EG	PAL	English	Date/Month/Year	
i)	DMC-GF3GC	PAL	English	Date/Month/Year	
j)	DMC-GF3GD	NTSC	Korean	Year/Month/Date	
k)	DMC-GF3GH	PAL	English	Date/Month/Year	
l)	DMC-GF3GK	PAL	Chinese (simplified)	Year/Month/Date	
m)	DMC-GF3GN	PAL	English	Date/Month/Year	
n)	DMC-GF3GT	NTSC	Chinese (Traditional)	Year/Month/Date	
o)	DMC-GF3SG	PAL	English	Date/Month/Year	

4 Specifications

Digital Camera Body (DMC-GF3):
Information for your safety

Power Source:	DC 8.4 V
Power Consumption:	2.3 W (When recording) [When the Interchangeable lens (H-H014) is used] 2.4 W (When recording) [When the Interchangeable lens (H-FS014042) is used] 1.5 W (When playing back) [When the Interchangeable lens (H-H014) is used] 1.6 W (When playing back) [When the Interchangeable lens (H-FS014042) is used]

Camera effective pixels	12,100,000 pixels
Image sensor	4/3" Live MOS sensor, total pixel number 13,060,000 pixels, Primary color filter
Digital Zoom	Max. 4×
Extended Tele Conversion (Except for the maximum picture size for each aspect ratio)	ON/OFF simple enlargement (compatible with lenses from other manufacturers)
Focus	Auto Focus/Manual Focus, Face Detection/AF Tracking/23-area-focusing/ 1-area-focusing/Pinpoint (Touch focus area selection possible)
Shutter system	Focal-plane shutter
Burst recording	
Burst speed	3.8 pictures/second (High speed), 2.8 pictures/second (Middle speed), 2 pictures/second (Low speed)
Number of recordable pictures	Max. 5 pictures (when there are RAW files) Depends on the capacity of the card (when there are no RAW files)
ISO sensitivity (Standard Output Sensitivity)	AUTO/ISO160/200/400/800/1600/3200/6400 (1/3 EV step change possible)
Minimum Illumination	Approx. 6 lx (when i-Low light is used, the shutter speed is 1/30th of a second [NTSC areas] / 1/25th of a second [PAL areas]) [When the Interchangeable lens (H-H014) is used] Approx. 11 lx (when i-Low light is used, the shutter speed is 1/30th of a second [NTSC areas] / 1/25th of a second [PAL areas]) [When the Interchangeable lens (H-FS014042) is used]
Shutter speed	60 seconds to 1/4000th of a second
Metering range	EV 0 to EV 18
White Balance	Auto White Balance/Daylight/Cloudy/Shade/Incandescent lights/Flash/White set1/White set2/White Balance K set
Exposure (AE)	Program AE (P)/Aperture-priority AE (A)/Shutter-priority AE (S)/Manual exposure (M)/AUTO Exposure Compensation (1/3 EV Step, −3 EV to +3 EV)
Metering Mode	Multiple/Center weighted/Spot
LCD monitor	3.0" TFT LCD (3:2) (Approx. 460,000 dots) (field of view ratio about 100%) Touch panel
Flash	Built-in pop up flash GN 6.3 equivalent (ISO160·m) Flash range: Approx. 50 cm (1.64 feet) to 5.6 m (18.4 feet) [When the Interchangeable lens (H-H014) is mounted, [ISO AUTO] is set] Flash range: Approx. 1.0 m (3.28 feet) to 3.4 m (11.2 feet) [When the Interchangeable lens (H-FS014042) is mounted, focal length is 18 mm, [ISO AUTO] is set, and the aspect ratio is set to [4:3]] AUTO, AUTO/Red-Eye Reduction, Forced ON, Forced ON/Red-Eye Reduction, Slow Sync., Slow Sync./Red-Eye Reduction, Forced OFF
Flash synchronization speed	Equal to or smaller than 1/160th of a second
Microphone	Monaural
Speaker	Monaural
Recording media	SD Memory Card/SDHC Memory Card/SDXC Memory Card
Picture size	
Still picture	When the aspect ratio setting is [4:3] 4000×3000 pixels, 2816×2112 pixels, 2048×1536 pixels When the aspect ratio setting is [3:2] 4000×2672 pixels, 2816×1880 pixels, 2048×1360 pixels When the aspect ratio setting is [16:9] 4000×2248 pixels, 2816×1584 pixels, 1920×1080 pixels When the aspect ratio setting is [1:1] 2992×2992 pixels, 2112×2112 pixels, 1504×1504 pixels
Recording quality	
Motion pictures	[AVCHD] (With audio) [For NTSC areas] When set to [FSH]: 1920×1080 pixels (60i* recording/ Approx. 17 Mbps)/ When set to [SH]: 1280×720 pixels (60p* recording/ Approx. 17 Mbps) (*Sensor output is 30 frames/sec.) [For PAL areas] When set to [FSH]: 1920×1080 pixels (50i* recording/ Approx. 17 Mbps)/ When set to [SH]: 1280×720 pixels (50p* recording/ Approx. 17 Mbps) (*Sensor output is 25 frames/sec.) [MOTION JPEG] (With audio) When set to [HD]: 1280×720 pixels (30 frames/sec.)/ When set to [VGA]: 640×480 pixels (30 frames/sec.)/ When set to [QVGA]: 320×240 pixels (30 frames/sec.)

Quality	RAW/RAW+Fine/RAW+Standard/Fine/Standard/MPO+Fine/MPO+Standard
Recording file format	
Still Picture	RAW/JPEG (based on "Design rule for Camera File system", based on "Exif 2.3" standard, DPOF corresponding)/MPO
Motion pictures with audio	AVCHD/QuickTime Motion JPEG
Interface	
Digital	"USB 2.0" (High Speed)
Analog video/audio	[For NTSC areas] NTSC [For PAL areas] NTSC/PAL Composite (Switched by menu) Audio line output (monaural)
Terminal	
[AV OUT/DIGITAL]	Dedicated jack (8 pin)
[HDMI]	MiniHDMI TypeC
Dimensions	Approx. 107.7 mm (W)×67.1 mm (H)×32.5 mm (D) [4.24" (W)×2.64"(H)×1.28" (D)] (excluding the projecting parts)
Mass (weight)	Approx. 319 g/0.70 lb [with the Interchangeable lens (H-H014), card and battery] Approx. 429 g/0.95 lb [with the Interchangeable lens (H-FS014042), card and battery] Approx. 222 g/0.49 lb (camera body)
Operating temperature	0 °C to 40 °C (32 °F to 104 °F)
Operating humidity	10%RH to 80%RH

Battery Charger:
Information for your safety

Input:	~110 V to 240 V, 50/60 Hz, 0.15 A
Output:	⎓8.4 V, 0.43 A

Equipment mobility: Movable

Battery Pack (lithium-ion):
Information for your safety

Voltage/capacity:	7.2 V/940 mAh

Interchangeable Lens (H-H014)
"LUMIX G 14 mm/F2.5 ASPH."

Focal length	f=14 mm (35 mm film camera equivalent: 28 mm)
Aperture type	7 diaphragm blades/circular aperture diaphragm
Aperture range	F2.5
Minimum aperture value	F22
Lens construction	6 elements in 5 groups (3 aspherical lenses)
In focus distance	0.18 m (0.59 feet) to ∞(from the focus distance reference line)
Maximum image magnification	0.1× (35 mm film camera equivalent: 0.2×)
Optical Image Stabilizer	None
[O.I.S.] switch	None
Mount	"Micro Four Thirds Mount"
Angle of view	75°
Filter diameter	46 mm (1.81 inch)
Max. diameter	Approx. 55.5 mm (2.19 inch)
Overall length	Approx. 20.5 mm (0.81 inch) (from the tip of the lens to the base side of the lens mount)
Mass (weight)	Approx. 55 g/0.12 lb

Interchangeable Lens (H-FS014042)
"LUMIX G VARIO 14–42 mm/F3.5–5.6 ASPH./MEGA O.I.S."

Focal length	f=14 mm to 42 mm (35 mm film camera equivalent: 28 mm to 84 mm)
Aperture type	7 diaphragm blades/circular aperture diaphragm
Aperture range	F3.5 (Wide) to F5.6 (Tele)
Minimum aperture value	F22
Lens construction	12 elements in 9 groups (1 aspherical lens)
In focus distance	0.3 m (0.99 feet) to ∞(from the focus distance reference line)
Maximum image magnification	0.16× (35 mm film camera equivalent: 0.32×)
Optical Image Stabilizer	Available
[O.I.S.] switch	None (Setting of the [STABILIZER] is done in [REC] Mode menu.)
Mount	"Micro Four Thirds Mount"
Angle of view	75° (Wide) to 29° (Tele)
Filter diameter	52 mm (2.05 inch)
Max. diameter	Approx. 60.6 mm (2.39 inch)
Overall length	Approx. 63.6 mm (2.50 inch) (from the tip of the lens to the base side of the lens mount)
Mass (weight)	Approx. 165 g/0.22 lb

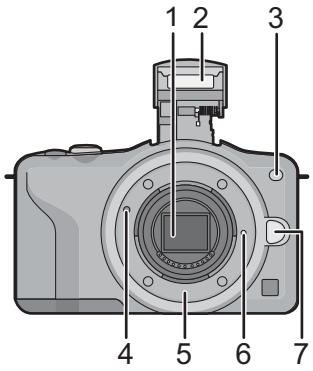
NOTE:(Only for "EB/EC/EF/EG" models)

- Data from the PC can not be written to the camera using the USB connection cable.
- Motion pictures can be recorded continuously for up to 29 minutes 59 seconds.

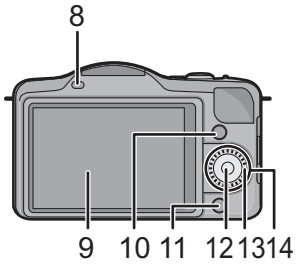
5 Location of Controls and Components

■ Camera body

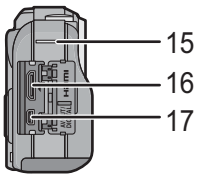
1 Sensor
2 Flash
3 Self-timer indicator/
AF Assist Lamp
4 Lens fitting mark
5 Mount
6 Lens lock pin
7 Lens release button



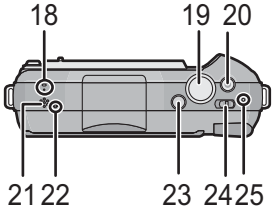
8 Flash open button
9 Touch panel/LCD monitor
10 Playback button
11 [Q.MENU/Fn] button/
Delete/Return button
12 [MENU/SET] button
13 Control dial
14 Cursor buttons
▲/Exposure Compensation button
►/WB (White Balance)
◄/AF Mode button
▼/[DRIVE MODE] button
This button in picture record mode will allow the user to select between the following options.
Single/Burst/Auto bracket/Self-timer



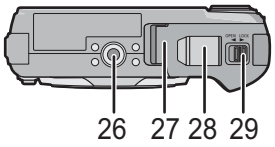
15 Shoulder strap eyelet
• Be sure to attach the shoulder strap when using the camera to ensure that you will not drop it.
16 [HDMI] socket
17 [AV OUT/DIGITAL] socket



18 Microphone
• Do not cover the microphone with your fingers.
19 Shutter button
20 Motion picture button
21 Speaker
• Do not cover the speaker with your fingers.
22 Focus distance reference mark
23 Intelligent Auto button
24 Camera ON/OFF switch
25 Status indicator

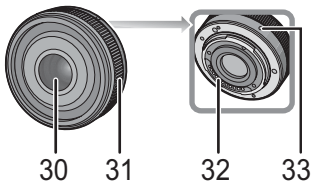


26 Tripod receptacle
27 Card/Battery door
28 DC coupler cover
• When using an AC adaptor, ensure that the Panasonic DC coupler (optional) and AC adaptor (optional) are used.
• Always use a genuine Panasonic AC adaptor (optional).
• It is recommended to use a fully charged battery or AC adaptor when recording motion pictures.
• If while recording motion pictures using the AC adaptor and the power supply is cut off due to a power outage or if the AC adaptor is disconnected etc., the motion picture being recorded will not be recorded.
29 Release lever

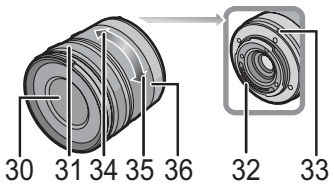


■Lens

H-H014
(LUMIX G 14 mm/F2.5 ASPH.)



H-FS014042
(LUMIX G VARIO 14–42 mm/F3.5–5.6 ASPH./MEGA O.I.S.)



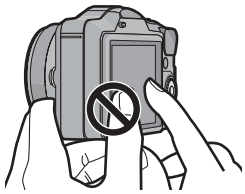
30 Lens surface
31 Focus ring
32 Contact point
33 Lens fitting mark
34 Tele
35 Wide
36 Zoom ring

Touch Panel

This touch panel is a type that detects pressure.

Touch the screen To touch and release the touch panel.	**Drag** A movement without releasing the touch panel.
	
Use this to perform tasks such as selecting icons or images displayed on the touch panel. • When selecting features using the touch panel, be sure to touch the center of the desired icon.	This is used to move the AF area, operate the slide bar, etc. This can also be used to move to the next image during playback, etc.

Note



- If you use a commercially available liquid crystal protection sheet, please follow the instructions that accompany the sheet. (Some liquid crystal protection sheets may impair visibility or operability.)
- If a commercially available protection sheet is used, **a little extra pressure** may be required if you notice that the touch panel is not responsive.
- Avoid having the hand holding the camera accidently apply pressure to the touch panel. Doing so may affect the touch panel operation.
- Do not press on the LCD monitor with hard pointed tips, such as ball point pens.
- Do not operate with your fingernails.
- Wipe the LCD monitor with dry soft cloth when it gets dirty with finger prints and others.
- Do not scratch or press the LCD monitor too hard.

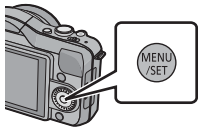
■About the Stylus pen

It is easier to use the stylus pen (supplied) for detailed operation or if it is hard to operate with your fingers.

- Only use the supplied stylus pen.
- Do not place it where small children can reach.

Selecting the Recording Mode

1 **Press [MENU/SET].**



2 **Touch [REC MODE].**

- A screen listing the Recording Mode is displayed.
- It is also possible to display the screen listing the Recording Mode by touching the Recording Mode icon in Recording Mode.





3 **Touch the Recording Mode to select.**

- [ⓘ] is turned on when [ⓘ] is touched, and a description of the Recording Mode is displayed when Recording Mode is touched. It will return to the screen listing the Recording Mode when [CANCEL] is touched, and [ⓘ] will turn off.



■Basic

iA Intelligent Auto Mode

The subjects are recorded using settings automatically selected by the camera.

iA+ Intelligent Auto Plus Mode

Easily match settings selected by the camera to your preferences and record.

P Program AE Mode

The subjects are recorded using your own settings.

■Advanced

A Aperture-Priority AE Mode

The shutter speed is automatically determined by the aperture value you set.

S Shutter-Priority AE Mode

The aperture value is automatically determined by the shutter speed you set.

M Manual Exposure Mode

The exposure is adjusted by the aperture value and the shutter speed which are manually adjusted.

C Custom Mode

Use this mode to take pictures with previously registered settings.

SCN Scene Mode

This allows you to take pictures that match the scene being recorded.

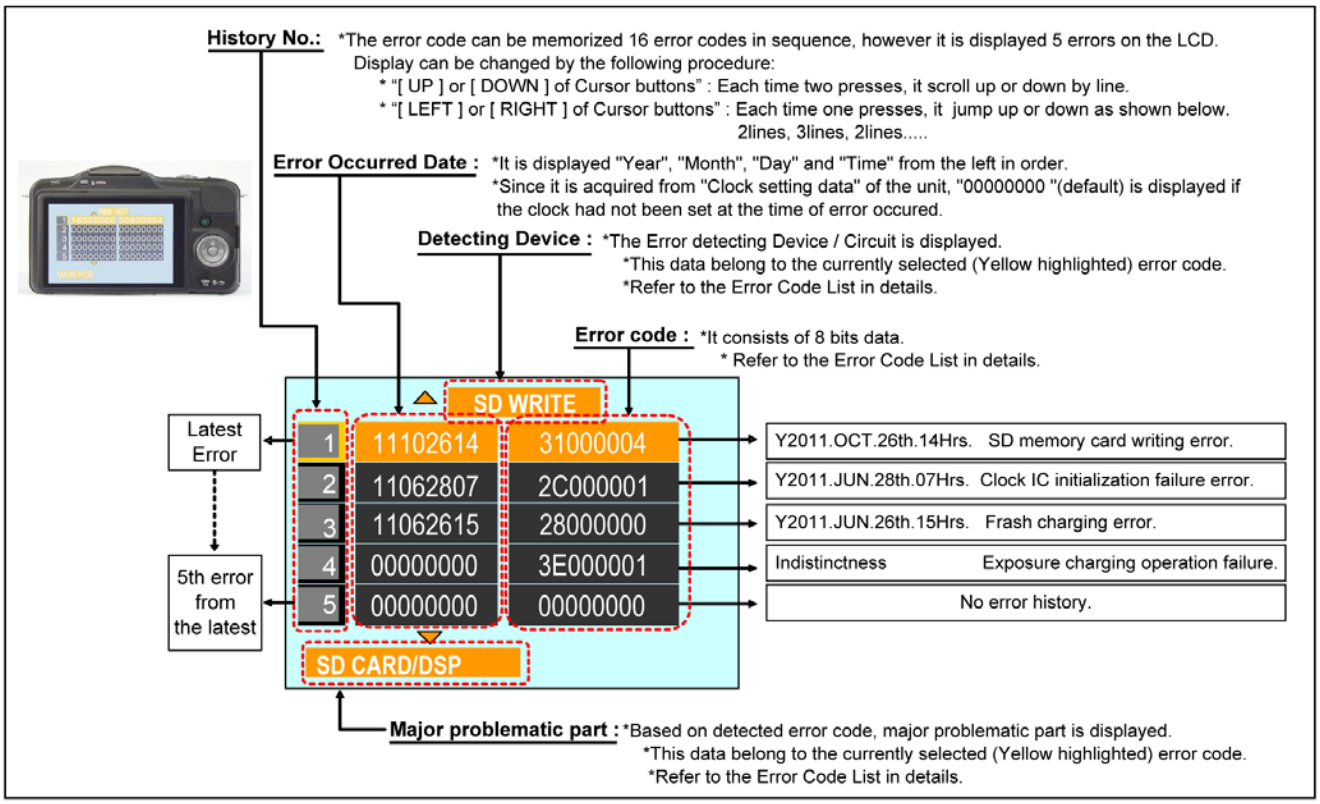
Creative Control Mode

Record while checking the image effect.

6 Service Mode

6.1. Error Code Memory Function

1. **General description**
   This unit is equipped with history of error code memory function, and can be memorized 16 error codes in sequence from the latest. When the error is occurred more than 16, the oldest error is overwritten in sequence.
   The error code is not memorized when the power supply is shut down forcibly.
   (i.e., when the unit is powered on by the battery, the battery is pulled out)
   The error code is memorized to Flash-ROM when the unit has just before powered off.
2. **How to display**
   The error code can be displayed by ordering the following procedure:
   - **Preparation**
     Attach the fully charged Battery, and insert the SD memory card.
   - **Step 1. The temporary cancellation of "INITIAL SETTINGS":**
     While keep pressing [PLAYBACK], [Q.MENU/Fn] and "[RIGHT] of Cursor buttons" simultaneously, turn the Power on.
   - **Step 2. Execute the error code display mode:**
     Press [MENU/SET], "[LEFT] of Cursor buttons" and [PLAYBACK] simultaneously with the step 1 condition.
     The display is changed as shown below when the above buttons are pressed simultaneously.
     Normal display → Error code display → Camera information display → Normal display → .....



Example of Error Code Display

• **Error Code List:**

The error code consists of 8 bit data and it shows the following information.

Attribute	Main item	Sub item	Error code		Contents (Upper line)	Error Indication	
			High 4 bits	Low 4 bits		Detecting device	Problematic Part/Circuit
HARD	VENUS A/D	Flash	28*0	0000	Flash charging capacitor did not been fully charged within 20 seconds.	STRB CHG	STRB PCB/FPC
	FLASH ROM	Data Area	2B*0	0001	Flash ROM data reading error is detected when the unit turns ON.	FROM RE	FROM
				0002	Flash ROM data writing error is detected when the unit turns OFF.	FROM WR	FROM
		Program Area		0005	Firmware update error.	(No indication)	(No indication)
	SYSTEM IC	Initialization	2C*0	0001	Clock IC initialization failure error.	SYS INIT	MAIN PCB
SOFT	CPU	Reset	30*0	0001 | 0007	System error (NMI reset).	NMI RST	MAIN PCB
	Recording Media	SD Memory Card	31*0	0001	SD memory card logic error. SD memory card format error. When it is detected, [MEMORY CARD ERROR FORMAT THIS CARD?] is displayed on the screen.	SD CARD	SD CARD/DSP
				0002	SD memory card physical error. During formatting the SD memory card, there is no response from the card. If the mini-SD memory card is used, check the SD memory card adaptor.		SD CARD/DSP
				0004	SD memory card writing error. Check the SD memory card. It might be damage one.	SD WRITE	SD CARD/DSP
	Lens	Communication	3C*0	0001 | 000E	Lens communication error.	(No indication)	(No indication)
	Camera	System	3B*0	0000	Initialization failure error.	INIT	(No indication)
			3E*0	0001	Exposure charging operation failure. (Mount Box Unit)	(No indication)	(No indication)
				0002	Failure of the returning operation to the home position. (Mount Box Unit)		
	Recording	Motion Image Recording	3F*0	0001	File time out error in recording motion image.		
				0002	File data cue send error in recording motion image.		

Important notice about “Error Code List”

About "*" indication:

The third digit from the left is different as follows.

- In case of 0 (example: 2B**0**01000)

  When the third digit from the left shows “0”, this error occurred under the condition of INITIAL SETTINGS has been completed.

  It means that this error is occurred basically at user side.

- In case of 8 (example: 2B**8**01000)

  When the third digit from the left shows "8", this error occurred under the condition of INITIAL SETTINGS has been released.

  (Example; Factory assembling-line before unit shipment, Service mode etc.)

  It means that this error is occurred at service side.

• **Step 3. How to exit from Error Code display mode:**

Simply, turn the power off. (Since Error Code display mode is executed under the condition of temporary cancellation of “INITIAL SETTINGS”, it wake up with normal condition when turn off the power.)

NOTE:

The error code can not be initialized.

7 Troubleshooting Guide

7.1. Checking Method of Body and Interchangeable Lens

1.INITIAL (DEFAULT) STATUS OF THE LENS UNIT

The Lens unit which is supplied as a standard accessory for this camera unit (H-H014, H-FS014042) shows the following status when the Lens is detached from the Camera unit.

NOTE: Although the lens unit is attached it shows the same condition when the Camera turns off.

H-H014 (Included in DMC-GF3C, DMC-GF3W):

[1].ZOOM RING ..... As H-H014 is a single focal length lens, there is no zoom ring.
[Focal length : 14mm [35mm film camera equivalent: 28mm]]

[2].FOCUS RING ..... The Focus condition does not changed although Focus ring is rotated. (Free rotation.)

H-FS014042 (Included in DMC-GF3K, DMC-GF3W):

[1].ZOOM RING ..... When the Zoom ring is rotated, Zoom condition is changing accordingly.
(The 1st lens frame moves.)
[Focal length : 14mm to 42mm [35mm film camera equivalent: 28mm to 84mm]]

[2].FOCUS RING ..... The Focus condition does not changed although Focus ring is rotated. (Free rotation.)

2.INITIAL INSPECTION TIPS (BEFORE DETERMINE THE UNIT BEING FAULTY/DEFECTIVE) :

Since this unit is equipped with various functions/settings, some phenomenon/effect might be caused by miss usage of function and/or settings.

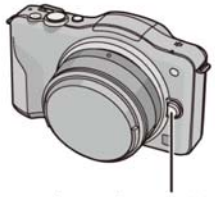
It might be made a miss-judgement caused by miss usage of function & settings although the unit is working properly without fault.

Therefore, check/confirm the followings before concluding/determine the unit being faulty/defective.

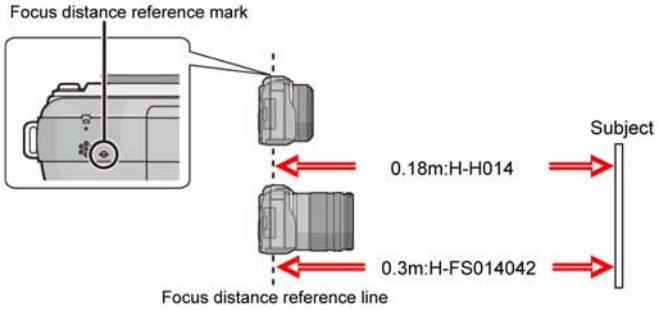
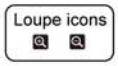
NOTE: Refer to the Operating Instructions carefully.
Also, useful hint/tips for this unit is available at following URL, and is updated frequently.
http://panasonic.jp/support/global/cs/dsc/

If it is hard to determine whether the resolution is out of specification or not, proceed the **"RESOLUTION INSPECTION"**, before replacing the LENS MAIN BLOCK UNIT and/or MOUNT BOX UNIT. (The unit might be mishandling, dropping or others.)

[1]. [LENS RELATIVES]

TITLE	ITEMS	DESCRIPTION
LENS	Aperture size does not changed. (Although aperture value is changed, the physical size of aperture is never changed.)	*Although aperture value is changed, the physical size of aperture is never changed (It keeps the maximum aerture condition) until the shutter release button is fully released. (There is no "aperture stopping down" button and/or function. But instead, there is a shutter speed preview mode.) ⇒ [CUSTOM MENU] (1/5) ----- [Q.MENU/Fn] , [Fn BUTTON SET]
	The Aperture condition does not changed. (Aperture value shows "0.0")	*The Lens & Body are communicating (serial communication) through mount contacts (11pins). *Confirm that lens & body mount contacts are not dirty. *While keep pressing the [Lens release] button, it makes same situation that Lens does not attached. *Although lens is attached to the body, the Aperture value shows "F0.0" when the communication error is occurred. Also, when the firmware version confirmation mode is executed, the [- -] is displayed as Lens firmware version.  Aperture value is fixed at [0.0]  Firmware version shows [LENS FIRMWARE : -.-]  Lens release button
	Although the Focus ring is rotating, it does not change the Focus condition.	*The Focus condition is never changed although focus ring is rotated when the Focus mode is positioned at AFS or AFC. (When the [AF + MF] is set to [ON], it is able to fine adjust the focus manually by rotating the focus ring while AF lock.) ⇒ [CUSTOM MENU] (3/5) ----- [AF + MF] (ON/OFF)
	No released without lens attachment.	*It is able to release the shutter button without attaching the lens unit. ⇒ [CUSTOM MENU] (5/5) ----- [SHOOT W/O LENS] (ON/OFF)
	The Dusty and/or dirty of the Lens	*Define the location of the dirt / dust of the lens first, whether it is outside surface of the lens or not. If it is outside surface of the lens, order the following procedure in steps. STEP-1. Blow off the dust certainly with Hand Blower. STEP-2. Clean and wipe up the Lens surface by using the Lens cleaning Kit (VFK1900BK). *Refer to the "11 Maintenance" of this manual. **[Wiping up the lens surface]**  Like drawing the circle, wipe up the lens surface centre towards to outside slowly.
	It does not become the Shutter speed [B] (Bulb) mode.	This unit has no [B](Bulb) mode in selectable shutter speed.

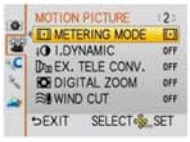
[2]. [BODY RELATIVES]

TITLE	ITEMS	DESCRIPTION
FOCUS	The picture is out of focus although the focus is adjusted in MF mode at once.	*In the following conditions, the focus may be out of focus, no matter the kind of subject. Therefore, adjust the focus again by rotating the Focus ring. *After "in-focus" condition, Zoom condition has been changed. *Power switch is turned OFF and ON again. *After releasing the Power save.
	Focus does not become in focus condition.	*If the shooting distance is less than the Minimum requirement distance for focus, the focus may not be brought into focus, no matter the kind of subject. 
	MF(Manual Focus)ASSIST does not work.	*The MF assist function is that the certain area image is able to enrage 4/5/10 times to make easier to focus. (It can be changed enlarged value by rotating the rear dial or clicking the loupe icons on display.) *It does not activated if the [Focus Mode] is set to other than [MF] mode. *It does not activated when using the Digital Zoom. *It does not activated if [MF ASSIST] is set to OFF. ⇒ [CUSTOM MENU] (3/5) ----- [MF ASSIST] (ON/OFF) (To display the MF assist, press Left cursor button then press [MENU/SET] 
	Face detection does not work.	*Select AF mode to face detection. (In [IA]mode, it is automatically assigned according with scene.) (Press the left side cursor button to display the AF mode menu.) *It does not activated when using the Digital Zoom. *It does not activated if the focus mode set to MF.
	The subject is not focused properly.	*When get a fingerprint, dirt on the lens surface, resulting in the subject being out of focus. *The subject is beyond the focus range of the camera. *There is camera shake (jitter) or the subject is moving slightly. *The focus indication green mark is lights at the top right hand corner on the LCD when the subject is focused. *The shutter speed will become slower and the optical image stabilizer function may not work properly when taking pictures especially in dark places.
	Focus does not change.	*Focus & Exposure condition is locked when the [AF / AE LOCK] button. ⇒ [CUSTOM MENU] (2/5) ----- [AF/AE LOCK] (AE, AF, AF/AE) *It can be reset when [AF / AE LOCK] button is pressed again. *By assigning [AF/AE LOCK] to [Q.MENU/Fn] button, [AF/AE LOCK] button will be available. ⇒ [CUSTOM MENU] (1/5) ----- [Q.MENU/Fn], [Fn BUTTON SET]
	Although [AF/AE LOCK] button is pressed, it does not hold the Focus, only Exposure is locked.	*Focus does not hold even if [AF/AE LOCK] button is pressed if the [AF/AE LOCK] is selected [AE]. ⇒ [CUSTOM MENU] (2/5) ----- [AF/AE LOCK] (AE, AF, AF/AE) *In the Manual Focus condition, It is only worked as [AE lock] function.
	It does not turn to the "AFC" mode. (Motion prediction does not work.)	*Confirm the setting of the focus mode (AFS / AFC / MF). *Although AFC is effective with burst mode, the focus is fixed on the first picture when subject is dark.
Flash	Some of the Flash setting(s) are not able to select.	*In accordance with the [REC] mode, selectable flash settings may be differ.
	[AUTO BRACKET] does not work.	*Only one picture can be taken when the Flash is fired.
	The subject is too bright / too dark with Flash.	*Confirm that the picture is taken within Flash range or not.
	White round spots appear on the recording picture	*If you take a picture with flash in a dark place or indoors, white round spots may be appear on the picture caused by the flash reflecting of particles of dust in air. This is not a malfunction. *A characteristic of this is that the number of round spots and their position differ in every picture. 

TITLE	ITEMS	DESCRIPTION
Flash	Colour is strange when the Flash is fired.	*The colour of the subject which is other than Flash reachable distance is not coverage of white balance. *Confirm that [WB Adjustment] setting condition. (Press the cursor [RIGHT] (WB) button, then press the cursor [DOWN]button, in order to execute the [WB ADJUST.] screen. *It also effects to the Flash recording mode as well. 
	The appearance of the light source is strange. (The light source appears ahead the subject.)	*Normally, the light source appears ahead the subject. (This is the effect of the 1st curtain synchro.)  <1st Curtain Sync>
EXPOSURE	The Exposure condition can not be changed	*Focus & Exposure condition is locked when the [AF / AE LOCK] button. ⇒ [CUSTOM MENU] (2/5) ----- [AF/AE LOCK] (AE, AF, AF/AE) *It can be reset when [AF / AE LOCK] button is pressed again. *By assigning [AF/AE LOCK] to [Q.MENU/Fn] button, [AF/AE LOCK] button will be available. ⇒ [CUSTOM MENU] (1/5) ----- [Q.MENU/Fn], [Fn BUTTON SET]
	Although [AF/AE LOCK] button is pressed, only focus is locked. (AE is not locked)	*Focus does not hold even if [AF/AE LOCK] button is pressed if the [AF/AE LOCK] is set to [AF]. ⇒ [CUSTOM MENU] (2/5) ----- [AF/AE LOCK] (AE, AF, AF/AE) *In the Manual Focus condition, It is only worked as [AE lock] function, regardless any settings.
	The pictures recorded with [AUTO BRACKET] function are too dark/bright.	*The [AUTO BRACKET] is selected after setting the [EXPOSURE COMPENSATION], the compensated value is effected for its reference value.
	The Exposure condition is changed extremely.	*Spot metering mode is measuring only the limited narrow area on the centre of the screen. *Confirm the setting condition of [EXPOSURE COMPENSATION] (1/3 EV Step, -3EV to +3EV)
CAPTURING	Although shutter is released, no picture is captured.	*Although the shutter button is fully pressed, it can not take a picture until the subject is not focused. (It is able to take a picture when the Focus Priority turns [OFF] although focus condition does not perfect.) OFF is gives priority to the best time to take a picture. *A picture is not taken until the subject is brought into focus, because [FOCUS PRIORITY] is fixed to [ON] in Intelligent Auto Mode. ⇒ [CUSTOM MENU] (2/5) ----- [FOCUS PRIORITY] (ON/OFF)
	[AUTO BRACKET] does not work.	*Only single picture is able to captured when flash is fired. *It can not be used in following modes; - [MINIATURE EFFECT] in Creative Control mode - When White Balance Bracket is set - When recording motion pictures *The exposure may not be compensated with auto bracket depending on the brightness of the subject.
COLOUR REPRODUCTION	Colour is strange.	*There is a possibility that [Finely adjusting the white balance] is selected/shifted. *Confirm that [WB Adjustment] setting condition. (Press the cursor [RIGHT] (WB) button, then after choosing the WB mode press the cursor [DOWN] button, in order to execute the [WB ADJUST.] screen.) *It is resumed/memorized although power turns off/on. 
	Colour is strange. (With Flash)	*The flash light does not reach enough to the subject due to the over than flash reachable distance. In this case, white balance may be other than its coverage.
	The colour is strange (On PC monitor/ Printout image.)	*There is a possibility that the picture is captured with [AdobeRGB] setting. ⇒ [REC] (5/5) ----- [COLOR SPACE] (sRGB/AdobeRGB) *To proceed proper colour reproduction for AdobeRGB, the AdobeRGB capable PC and Printer are necessary. *In accordance with PC environment, it may not be displayed properly when the picture is re-sized with business software.
POWER	The Power is turned off.	*Confirm that the setting condition of [SLEEP]. (If the camera has not been used for the time selected on the setting, the power turns off automatically.) ⇒ [SETUP] (2/5) ----- [ECONOMY] [SLEEP] (OFF/1MIN./2 MIN./5 MIN./10 MIN.)
DISPLAY	Abnormal Picture Effect. Certain part of the picture is flashing in Black & White.	*Confirm that the setting condition of [HIGHLIGHT]. ⇒ [CUSTOM MENU] (2/5) ----- [HIGHLIGHT] (ON/OFF) The white saturated areas appear blinking in Black and White.
	Firmware version	*Confirm that the firmware versions of the body and lens to be checked. ⇒ [SETUP] (4/5) ----- [VERSION DISP.]

MENU LIST
(Quick Reference)

The following menu items are displayed on the LCD monitor.

	[REC]	[MOTION PICTURE]	[CUSTOM MENU]	[SETUP]	[PLAYBACK]
1st Page					
2nd Page					
3rd Page					
4th Page					
5th Page					

REMARKS:

*When the [Intelligent Auto Mode] and [Intelligent Auto Plus Mode], as for [REC], [MOTION PICTURE], [CUSTOM MENU] and [SETUP], only the basic item is displayed.

	[REC]	[MOTION PICTURE]	[CUSTOM MENU]	[SETUP]	[PLAYBACK]
1st Page					Menu items of [PLAYBACK] mode are same as Normal.
2nd Page					

NOTE:

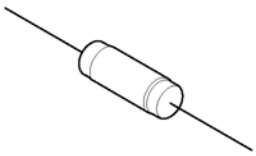
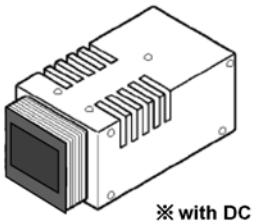
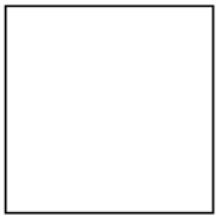
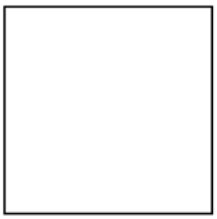
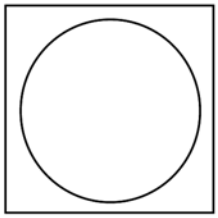
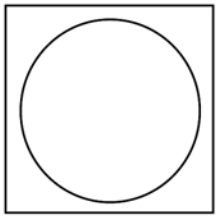
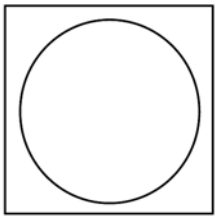
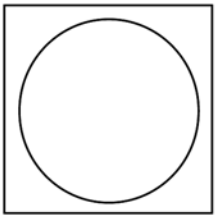
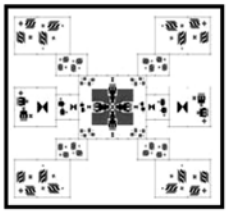
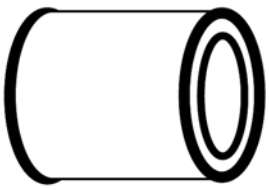
*When set [MENU RESUME] in the [CUSTOM MENU] menu to [ON], the screen shows the last selected menu item when the camera is turned off.

⇒ [CUSTOM MENU] (5/5) ----- [MENU RESUME] (ON/OFF)

8 Service Fixture & Tools

8.1. Service Fixture and Tools

The following Service Fixture and tools are used for checking and servicing this unit.

Resistor for Discharging ERG5SJ102	**LIGHT BOX** **RFKZ0523**	ND FILTER 1 VFK1164ND09
 **An equivalent type of Resistor may be used.**	 **※ with DC Cable** *** VFK1164TDVLB can be used.**	
ND FILTER 2 RFKZ0513	CC FILTER 1 RFKZ0511	CC FILTER 2 RFKZ0512
		
LB FILTER 1 RFKZ0520	LB FILTER 2 RFKZ0521	TOUCH PEN VGQ0C14
		 VYQ4370 can be used.
RESOLUTION CHART RFKZ0510	DRIVER VFK1390	TORQUE DRIVER RFKZ0456
 ※Supplied as divided chart parts. (Assemble it before use.)		 Spec.:2-30cN・m (Equiv.0.2-3kgf/cm)
DMC-G1K Set	Lens Cleaning Kit (BK) VFK1900BK	NAME RING FIXTURE RFKZ0507
*Correspond by the marketed commodity. (It does not supply as service fixture and tools.) 	 *** Only supplied as 10 set/box.**	

About Name Ring Fixture:

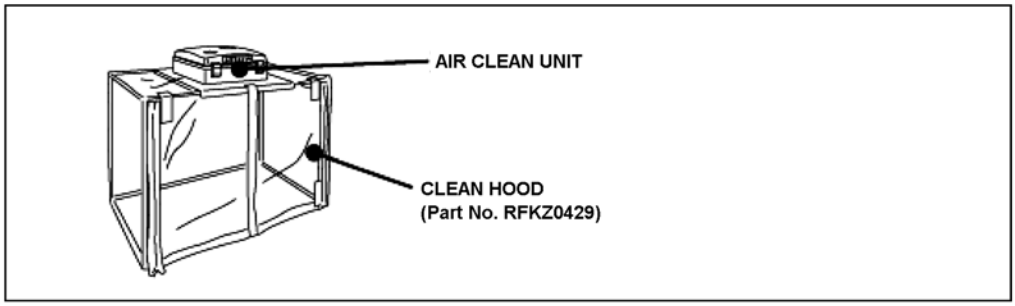
- RFKZ0507 for H-FS014042

8.2. Clean Box

- The repair quality is considered, and it is recommended working in the environment of satisfied clean level less than class 10,000 (Federal Standard 209D).
  (When remove the hood adaptor and 1st lens frame, it is indispensable.)

[NOTE]

- Work in the environment of satisfied clean level less than class 10,000 (Federal Standard 209D) when remove the hood adaptor and 1st lens frame for cleaning.
  *Refer to "11.2. General description (Lens cleaning: Interchangable Lens/H-H014)", "11.3. General description (Lens cleaning: Interchangable Lens/H-FS014042)" section of this service manual for details.

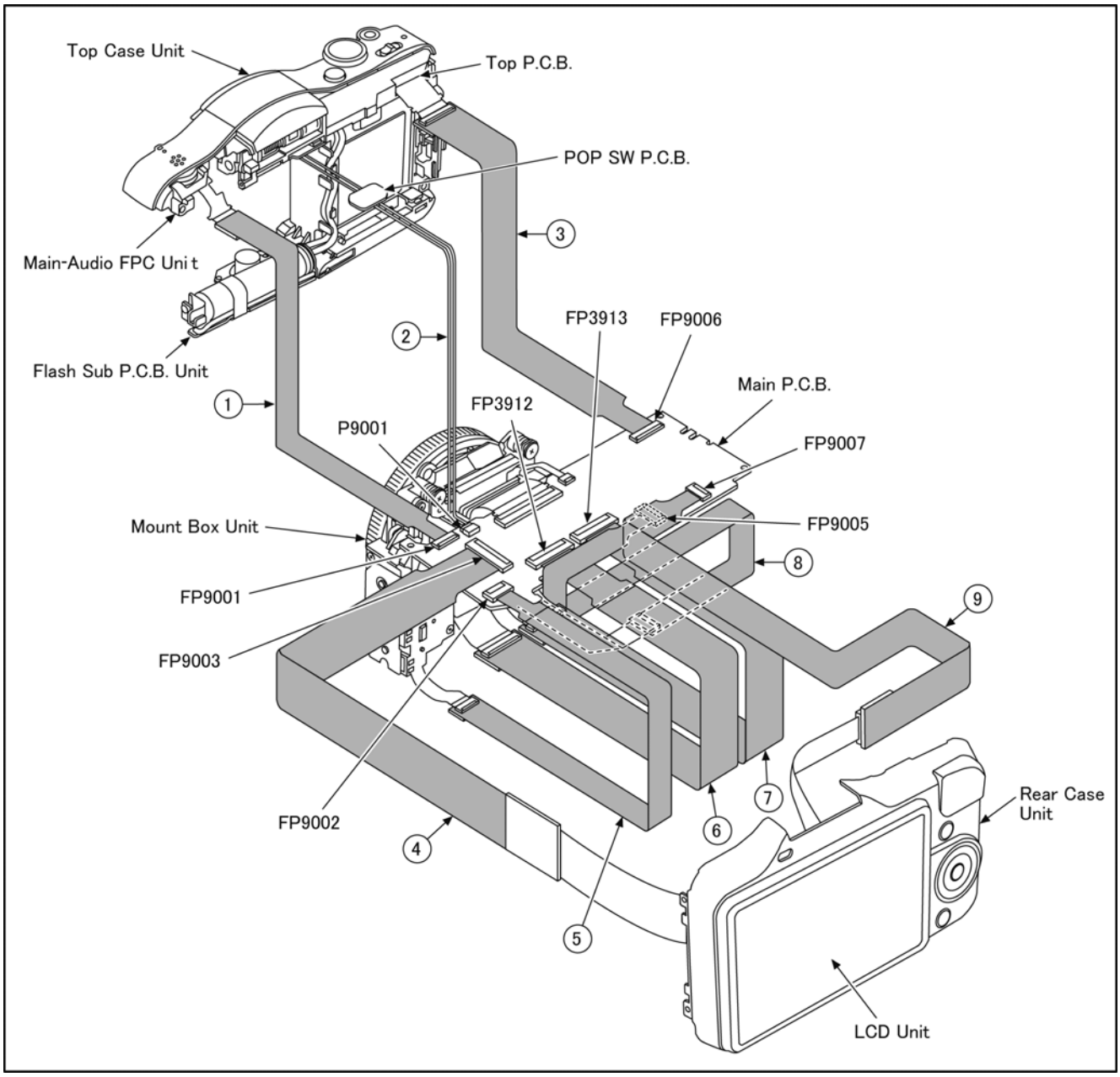


8.3. Service Position

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	VFK1582A1225	FP9001(MAIN) - FT7001(MAIN-AUDIO FPC UNIT)	12pin 0.5 FFC
2	VFK1576DSC04	P9001(MAIN) - POP SW P.C.B.	2PIN CONNECTOR
3	VFK1950	FP9006(MAIN) - FP8001(TOP)	33pin 0.3 FFC
4	VFK2024	FP9003(MAIN) - LCD UNIT	51pin 0.3 FFC
5	RFKZ0583	FP9002(MAIN) - MOUNT BOX UNIT(SHUTTER I/F)	19pin 0.3 FFC
6	RFKZ0477	FP3912(MAIN) - MOUNT BOX UNIT	45pin 0.3 FFC
7	RFKZ0477	FP3913(MAIN) - MOUNT BOX UNIT	45pin 0.3 FFC
8	RFKZ0564	FP9005(MAIN) - MOUNT BOX UNIT(LENS I/F)	23pin 0.3 FFC
9	VFK1582A1225	FP9007(MAIN) - REAR OPERATION UNIT	12pin 0.5 FFC



CAUTION-1. (When servicing FLASH SUB P.C.B. UNIT)

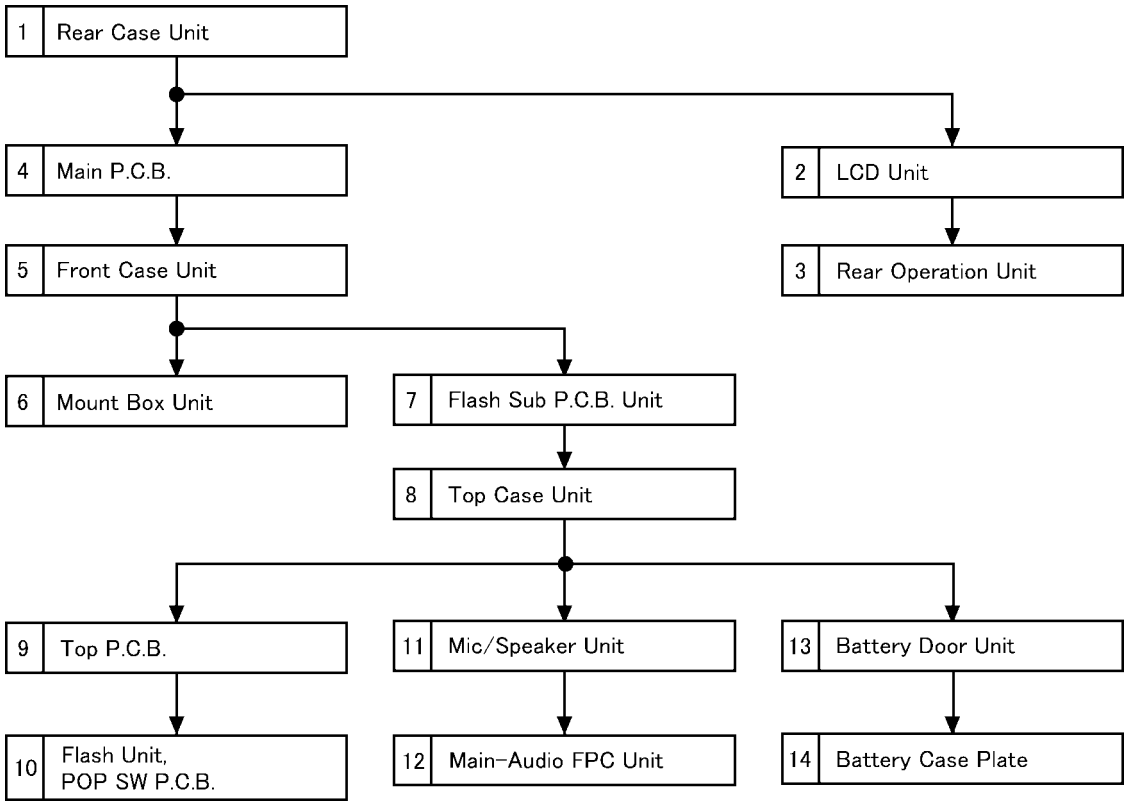
1. Be sure to discharge the E.capacitor on FLASH SUB P.C.B. UNIT.
   Refer to “HOW TO DISCHARGE THE E.CAPACITOR ON FLASH SUB P.C.B. UNIT”.
   The capacitor voltage is not lowered soon even if the AC Cord is unplugged or the battery is removed.
2. Be careful of the high voltage circuit on FLASH SUB P.C.B.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

9 Disassembly and Assembly Instructions

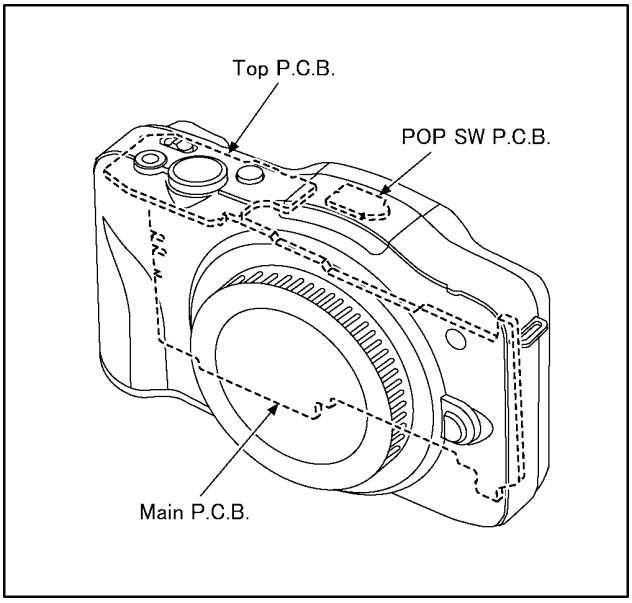
9.1. Camera Body Part

9.1.1. Disassembly Flow Chart

This is a disassembling chart.
When assembling, perform this chart conversely.



9.1.2. P.C.B. Location

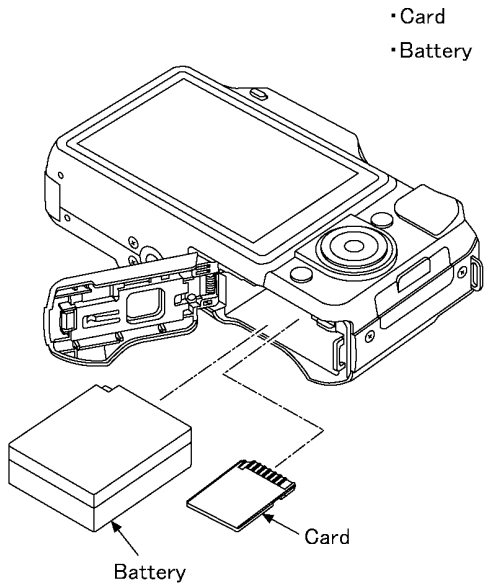


9.1.3. Disassembly Procedure

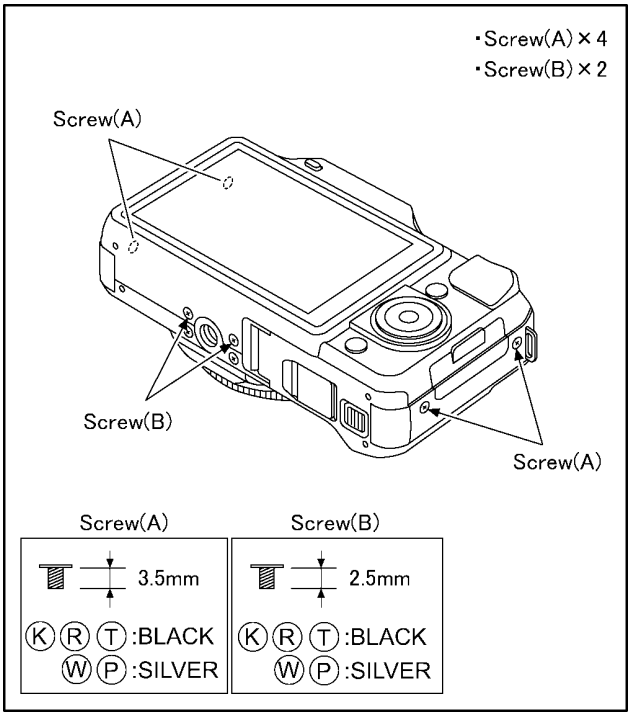
No.	Item	Fig	Removal
1	Rear Case Unit	(Fig. D1)	4 Screws (A)
			2 Screws (B)
		(Fig. D2)	FP9003(Flex)
			FP9007(Flex)
			Side Ornament (R)
			Side Ornament (L)
			Rear Case Unit
2	LCD Unit	(Fig. D3)	1 Screw (C)
			1 Screw (D)
			4 Locking tabs
			LCD FPC Tape B
			LCD FPC Tape C
			Rear Plate
			LCD Unit
		(Fig. D4)	Patch Position of LCD FPC Tape B, C
3	Rear Operation Unit	(Fig. D5)	3 Screws (E)
			Rear Operation Unit
4	Main P.C.B.	(Fig. D6)	2 Screws (F)
			1 Screw (G)
			FP3911Flex)
			FP3912(Flex)
			FP3913(Flex)
			FP9001(Flex)
			FP9002(Flex)
			FP9004(Flex)
			FP9005(Flex)
			FP9006(Flex)
			P9001(Connector)
			1 Hooking part
			Main P.C.B.
5	Front Case Unit	(Fig. D7)	2 Screws (H)
			Front Case Unit
6	Mount Box Unit	(Fig. D8)	3 Screws (I)
			Mount Box Unit
7	Flash Sub P.C.B. Unit	(Fig. D9)	P8002(Connector)
			2 Hooking parts
			1 Locking tab
			1 Screw (J)
			Capacitor Tape
			Flash Sub P.C.B. Unit
8	Top Case Unit	(Fig. D10)	2 Screws (K)
			Battery Case
			Top Case Unit
9	Top P.C.B.	(Fig. D11)	2 Screws (L)
			2 Solders
		(Fig. D12)	Top P.C.B. Plate
			P8003(Connector)
			iA Button
			REC Button
			Power Knob
			Power LED Panel
			Top P.C.B.
10	Flash Unit POP SW P.C.B.	(Fig. D13)	1 Screw (M)
			Flash Unit
			1 Screw (N)
			POP SW P.C.B.
11	Mic/Speaker Unit	(Fig. D14)	2 Screws (O)
		(Fig. D15)	Speaker Plate
			Mic/Speaker Unit
12	Main-Audio FPC Unit	(Fig. D16)	Speaker Holder
			Main-Audio FPC Unit
		(Fig. D17)	How to install
13	Battery Door Unit	(Fig. D18)	Battery Door Shaft
			Battery Door Spring
			Battery Door Unit
14	Battery Case Plate	(Fig. D19)	Jack Door
			1 Locking tab
			Battery Out Spring
			Battery Case Plate

NOTE:

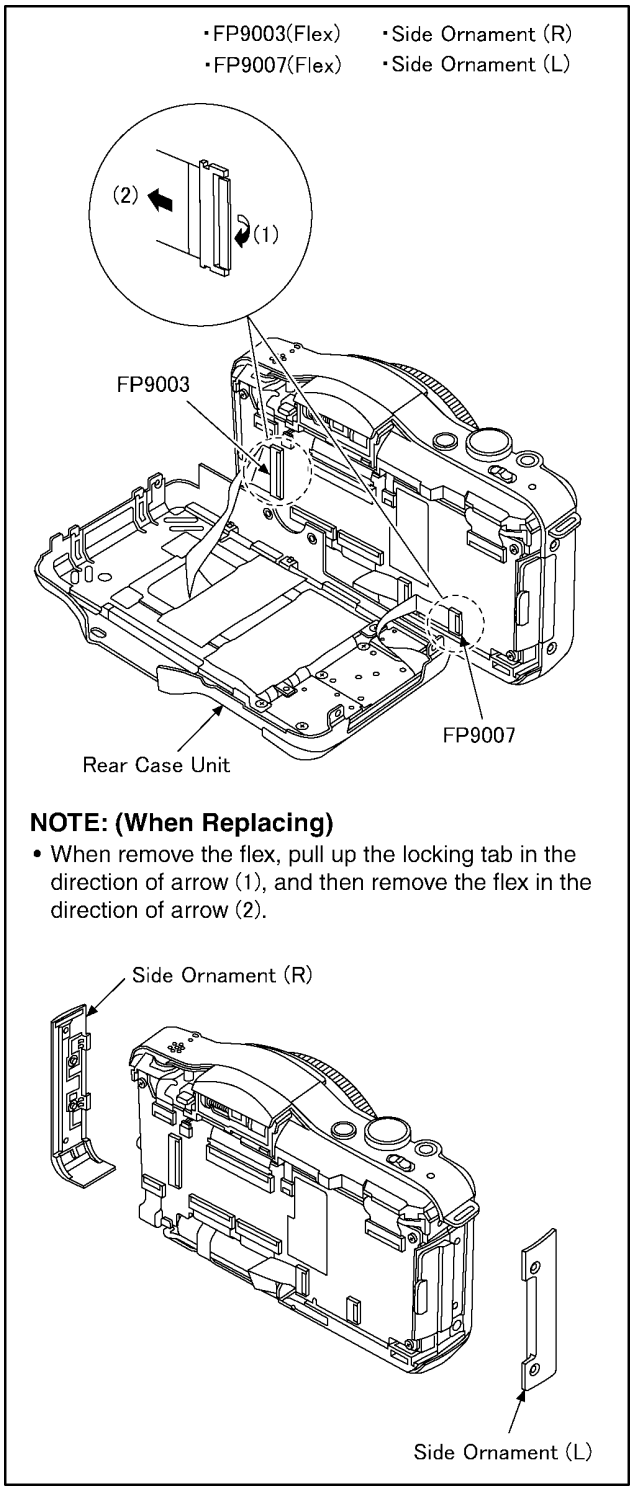
- When servicing and reassembling, remove the card and battery from the unit.



9.1.3.1. Removal of the Rear Case Unit



(Fig. D1)

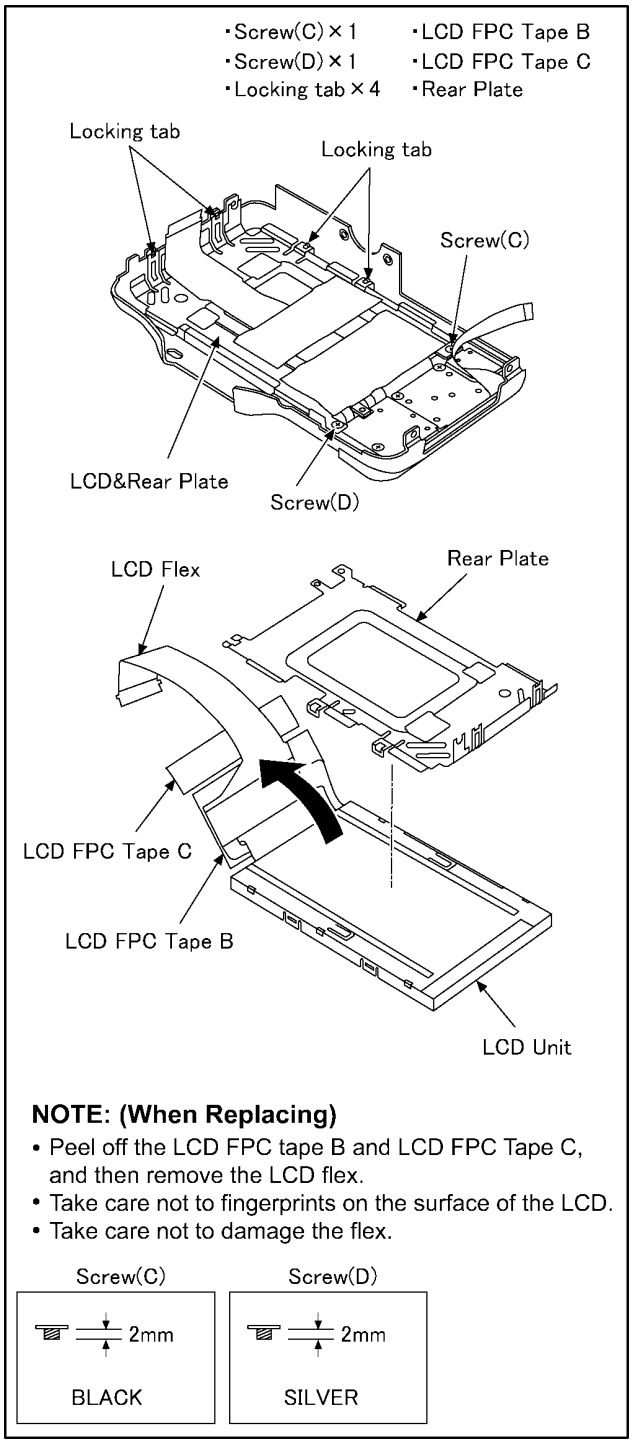


NOTE: (When Replacing)

- When remove the flex, pull up the locking tab in the direction of arrow (1), and then remove the flex in the direction of arrow (2).

(Fig. D2)

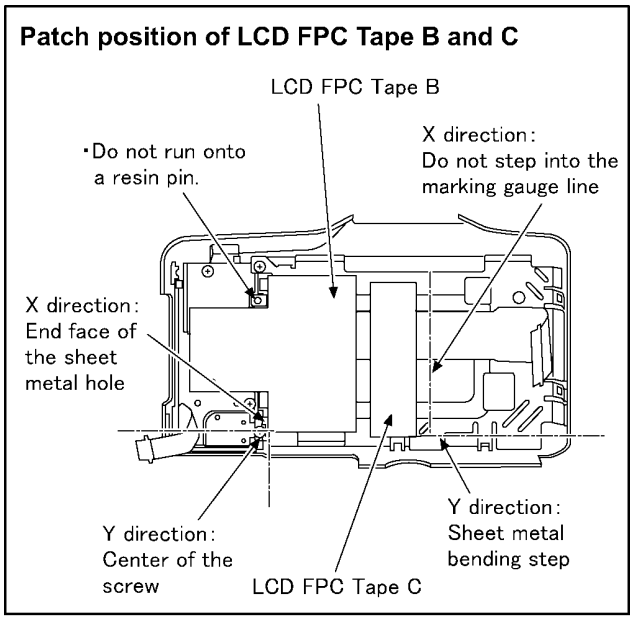
9.1.3.2. Removal of the LCD Unit



NOTE: (When Replacing)

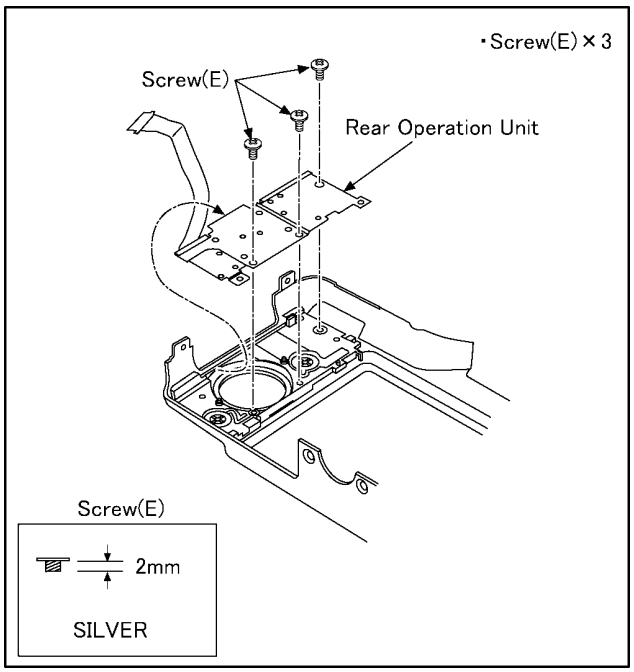
- Peel off the LCD FPC tape B and LCD FPC Tape C, and then remove the LCD flex.
- Take care not to fingerprints on the surface of the LCD.
- Take care not to damage the flex.

(Fig. D3)



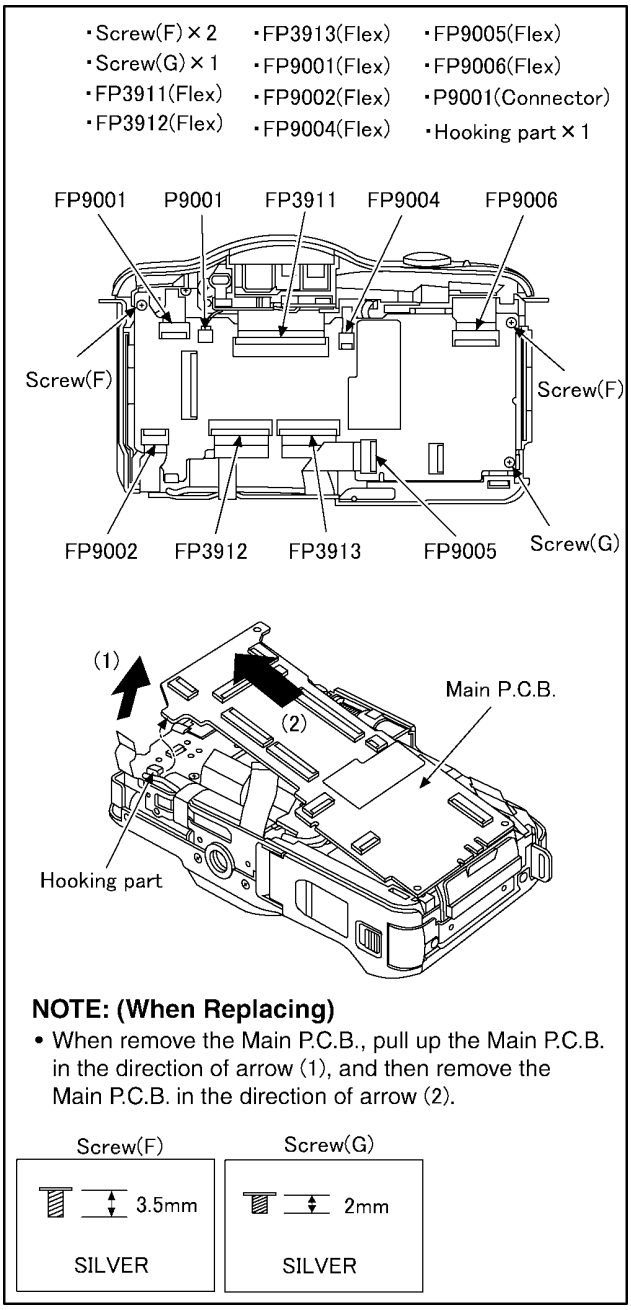
(Fig. D4)

9.1.3.3. Removal of the Rear Operation Unit



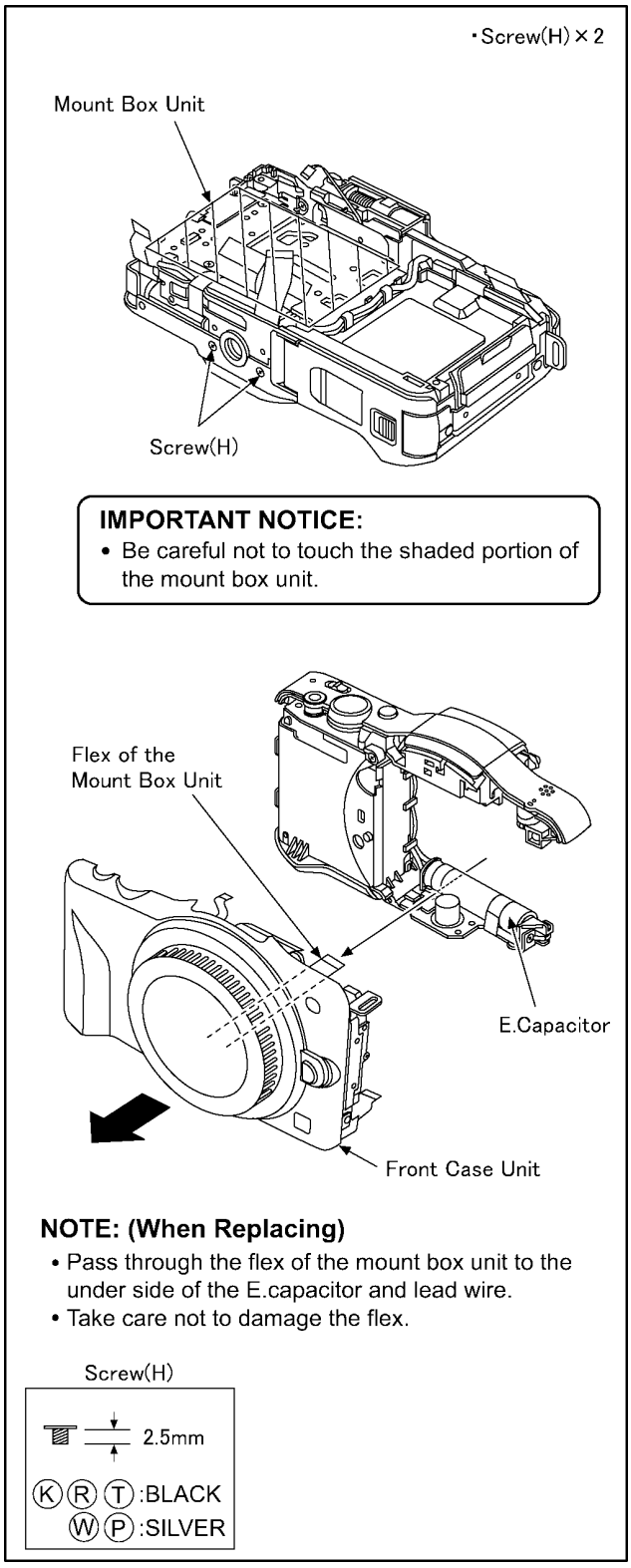
(Fig. D5)

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



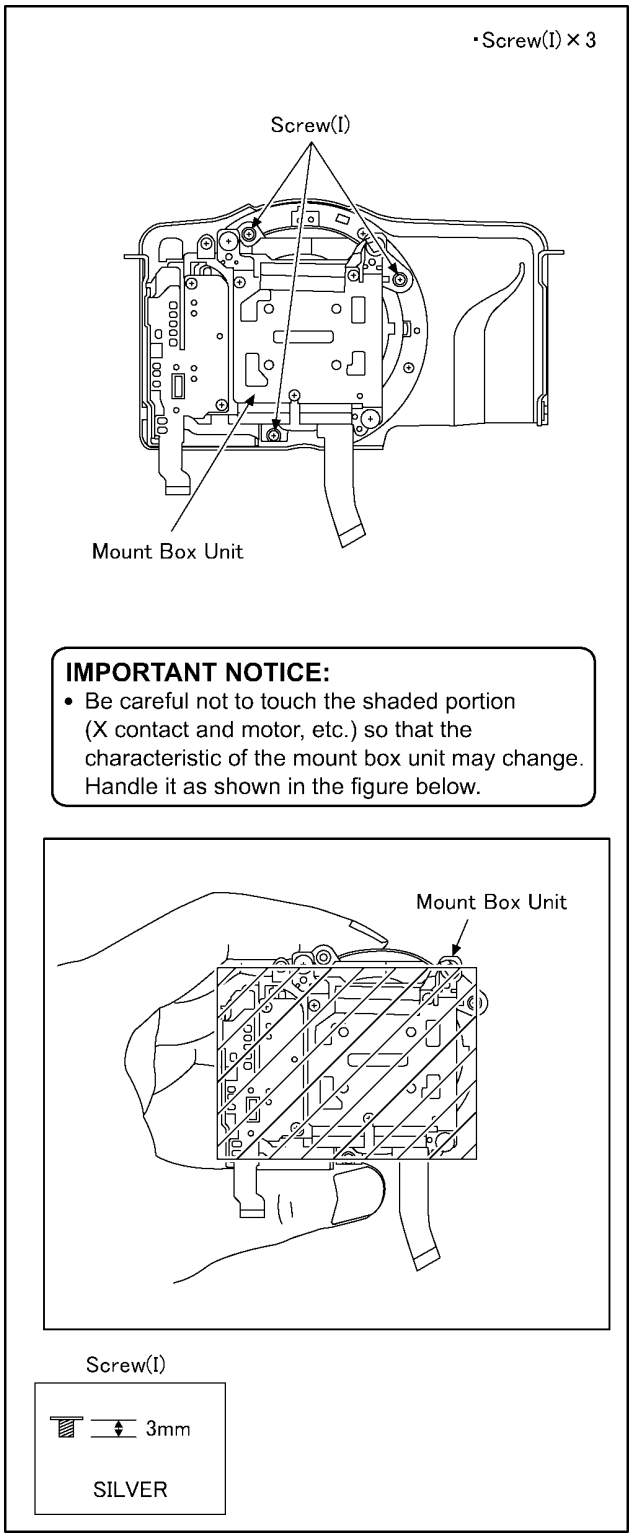
(Fig. D6)

9.1.3.5. Removal of the Front Case Unit



(Fig. D7)

9.1.3.6. Removal of the Mount Box Unit

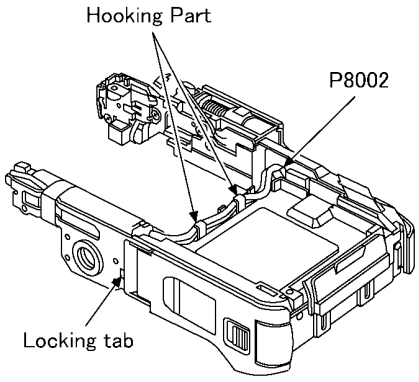


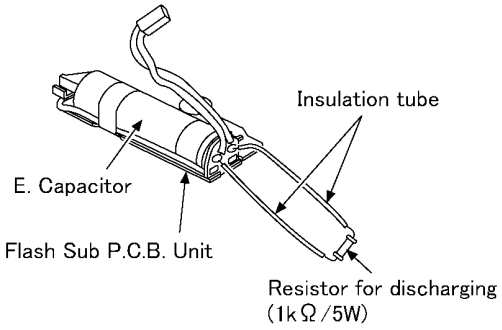
(Fig. D8)

9.1.3.7. Removal of the Flash Sub P.C.B. Unit

IMPORTANT NOTICE:
Take care not apply any bending load to the E.capacitor. It brings about the possibility of P.C.B. and/or component damage on the Flash Sub P.C.B. Unit.

・P8002 (Connector) ・Screw(J) × 1
・Hooking Part × 2 ・Capacitor Tape
・Locking tab × 1

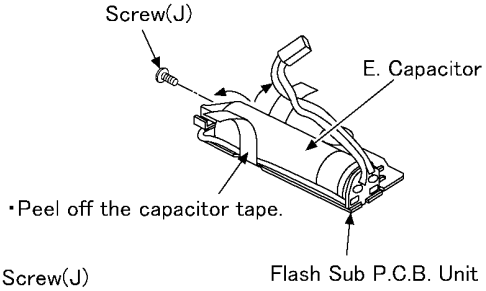




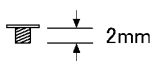
⚠ CAUTION

Be sure to discharge the E.Capacitor on Flash Sub P.C.B. Unit before disassembling.

1. Remove the Flash Sub P.C.B. Unit.
2. Put the insulation tube on the lead part of resistor (ERG5SJ102:1kΩ/5W).
3. Put the resistor between both terminals of capacitor unit for approx. 5 seconds.



Screw(J)

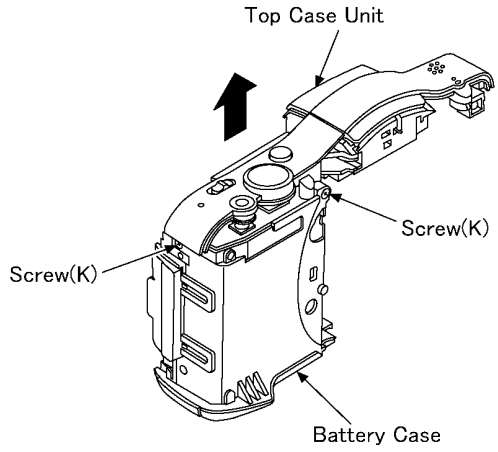


SILVER

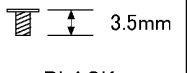
(Fig. D9)

9.1.3.8. Removal of the Top Case Unit

・Screw(K) × 2
・Battery Case



Screw(K)

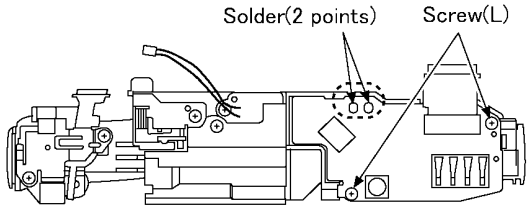


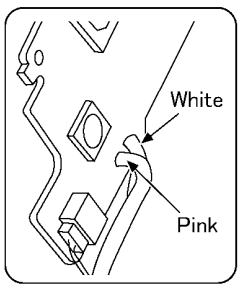
BLACK

(Fig. D10)

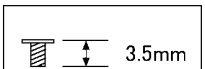
9.1.3.9. Removal of the Top P.C.B.

・Screw(L) × 2
・Solder(2 points)



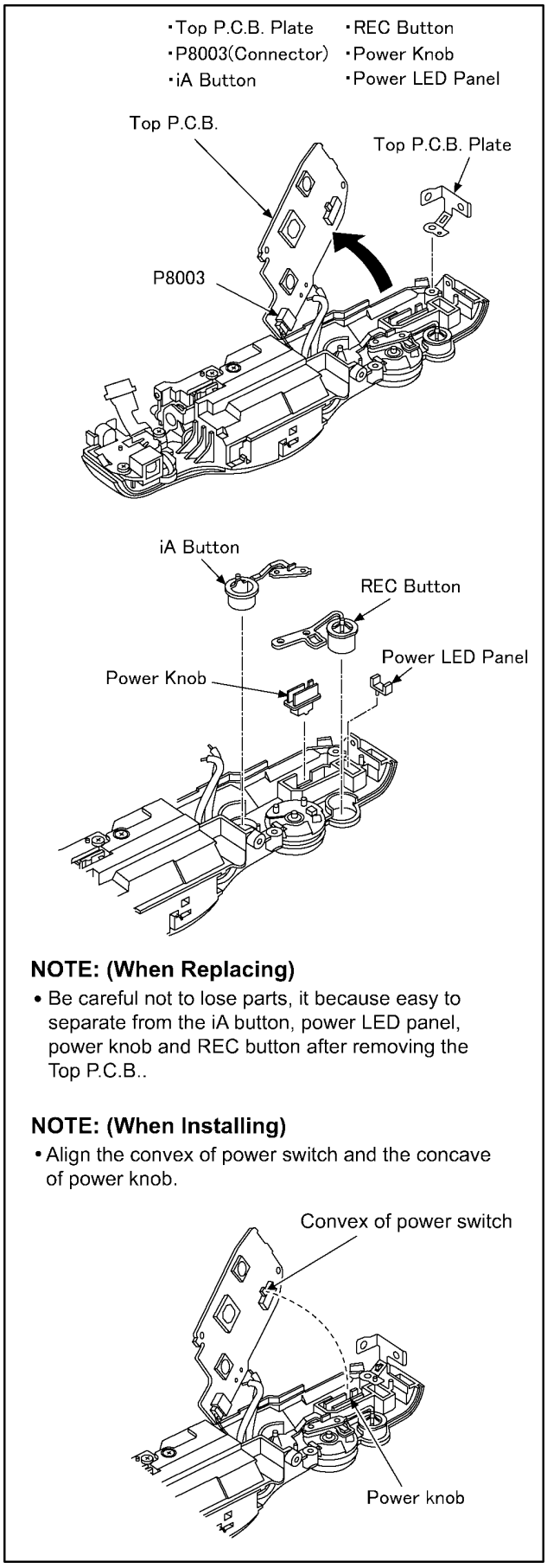


Screw(L)



BLACK

(Fig. D11)



NOTE: (When Replacing)

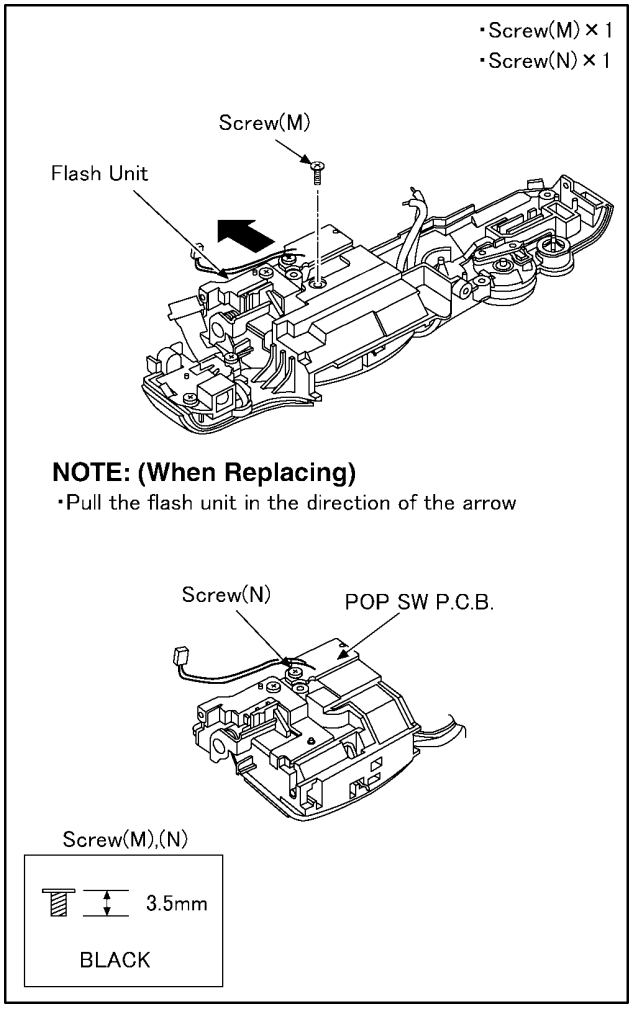
- Be careful not to lose parts, it because easy to separate from the iA button, power LED panel, power knob and REC button after removing the Top P.C.B..

NOTE: (When Installing)

- Align the convex of power switch and the concave of power knob.

(Fig. D12)

9.1.3.10. Removal of the Flash Unit and POP SW P.C.B. Unit

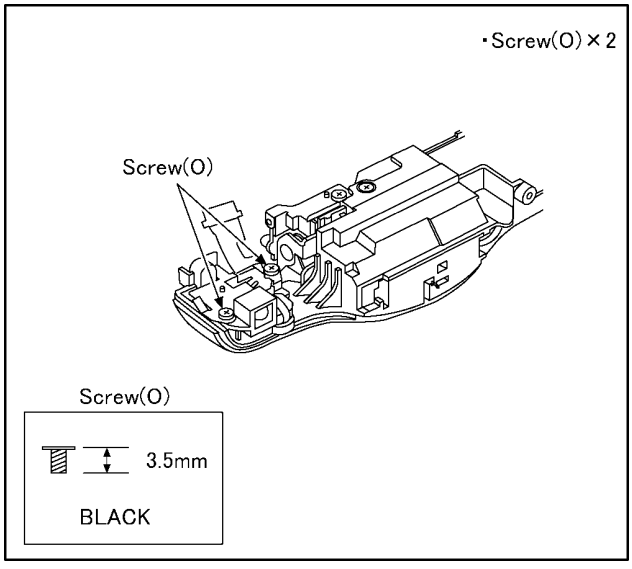


NOTE: (When Replacing)

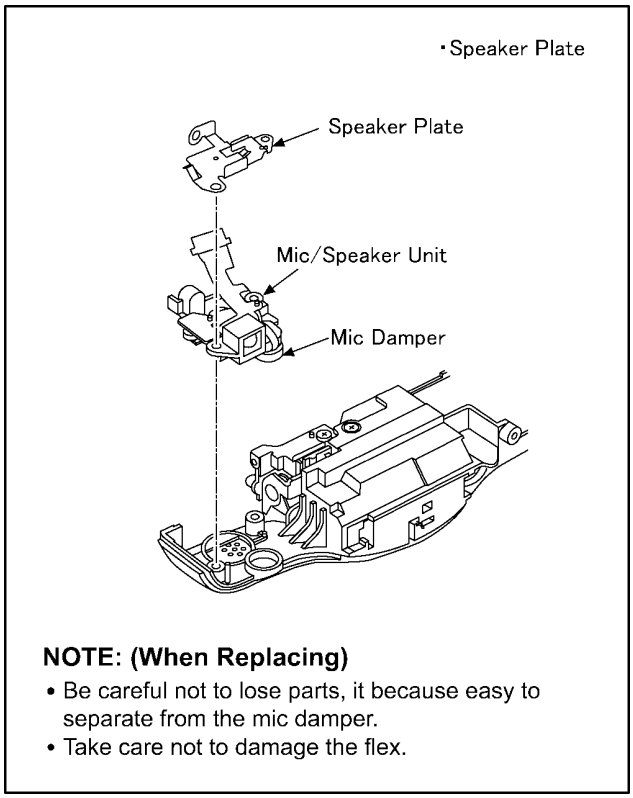
・Pull the flash unit in the direction of the arrow

(Fig. D13)

9.1.3.11. Removal of the Mic/Speaker Unit



(Fig. D14)

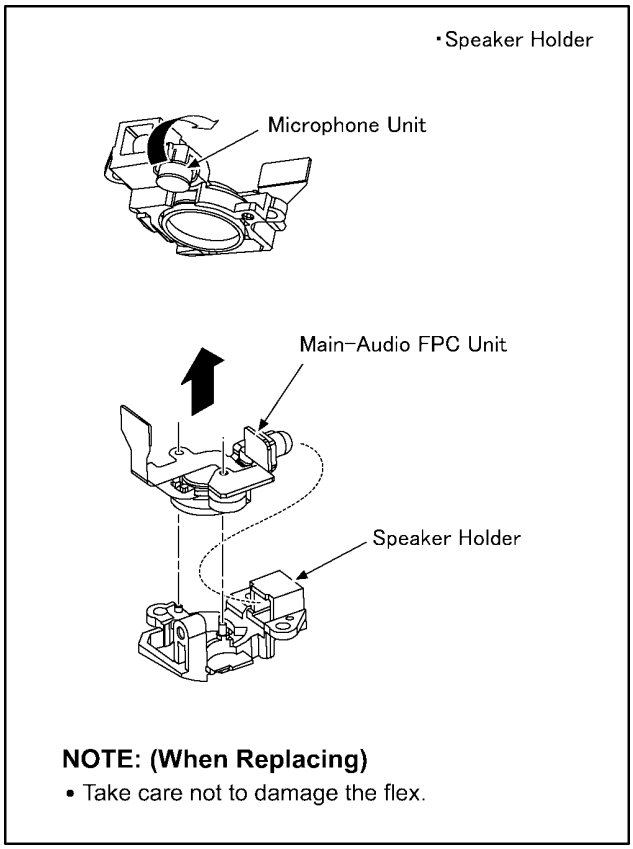


NOTE: (When Replacing)

- Be careful not to lose parts, it because easy to separate from the mic damper.
- Take care not to damage the flex.

(Fig. D15)

9.1.3.12. Removal of the Main-Audio FPC Unit



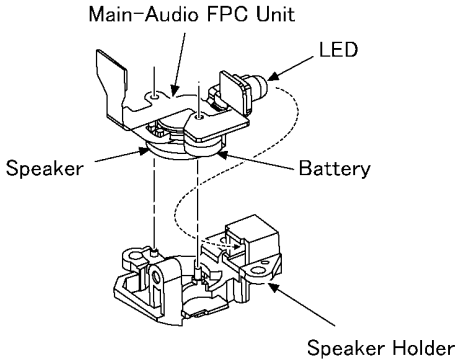
NOTE: (When Replacing)

- Take care not to damage the flex.

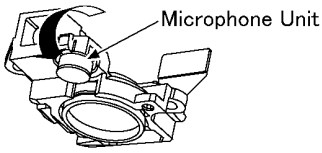
(Fig. D16)

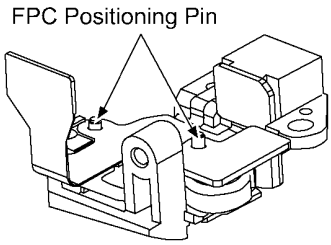
How to install

1. Insert the speaker to the speaker holder.
2. Bend the FPC, and then hole of Main-audio FPC unit insert to the FPC positioning pin of the speaker holder.
3. Insert the LED to the speaker holder.
4. Insert the battery to the speaker holder.



5. Bend the FPC, and then set the microphone unit to the speaker side of speaker holder.



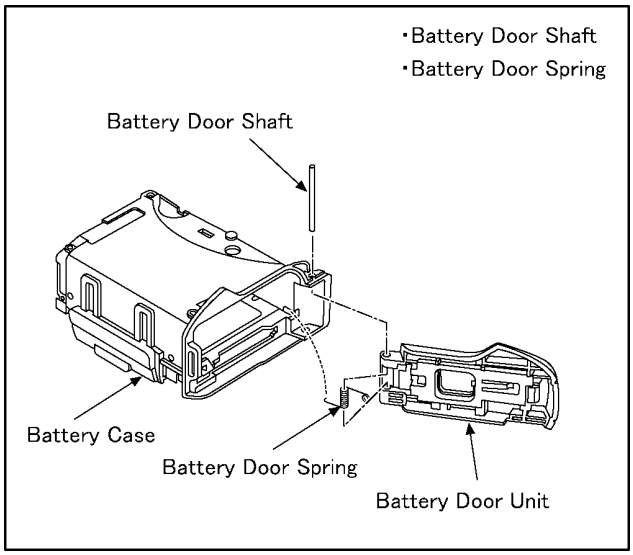


NOTE: (When Installing)

- Insert the hole of FPC to FPC positioning pin of speaker holder securely.
- Take care not to damage the flex.

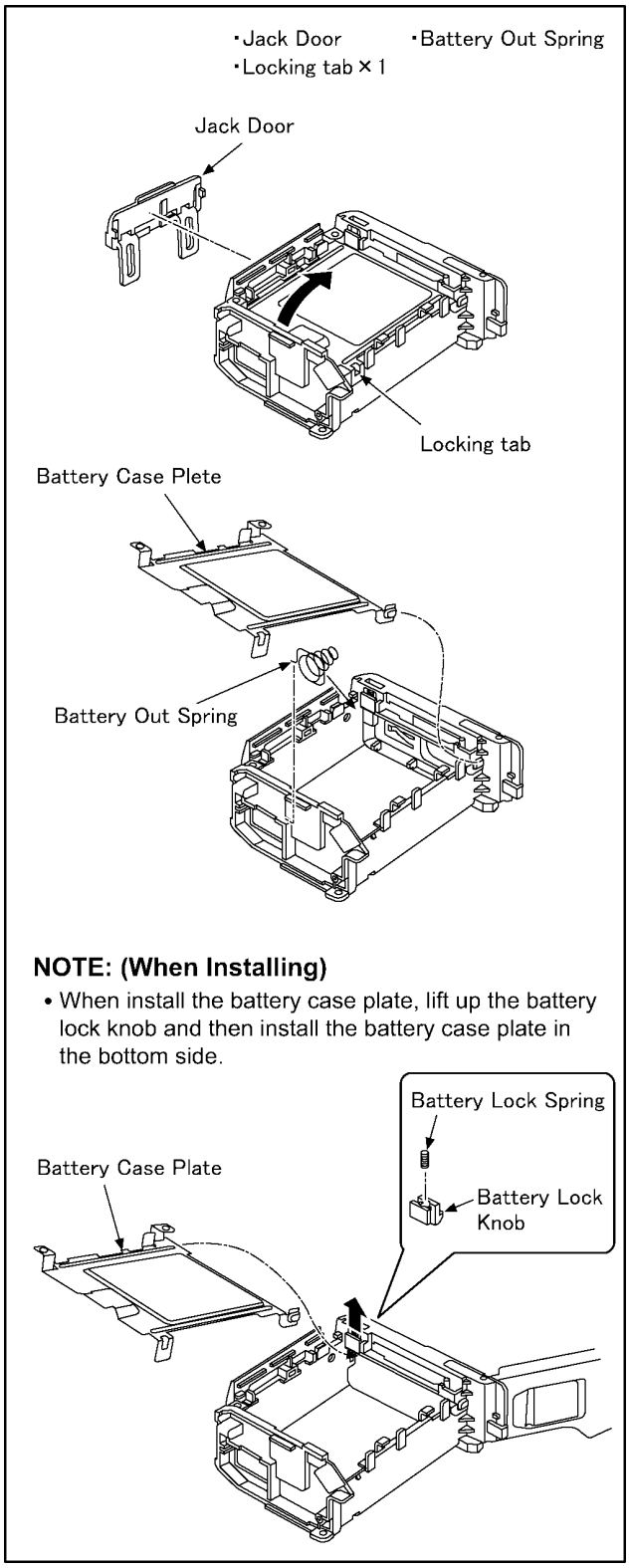
(Fig. D17)

9.1.3.13. Removal of the Battery Door Unit



(Fig. D18)

9.1.3.14. Removal of the Battery Case Plate



(Fig. D19)

NOTE: (When Installing)

Make sure to confirm the following points when installing:

- The Screw is tightened enough.
- Installing conditions are fine. (No distortion, no abnormal-space.)
- No dust and/or dirt on Lens surfaces.
- LCD image is fine. (No dust and dirt on it, and no gradient images.)

9.2. Disassembly and Assemble Procedure for the Lens (H-H014)

It is recommended dealing with clean box, to keep maintaining the dustproof environment.
(Refer to "8.2. Clean Box" section of this service manual for details.)

NOTE:

1. When servicing the enclosure part (refer to Fig. C1), it must be performed inside of satisfied clean level.
   (Satisfied clean level: Less than class 10,000 (Federal Standard 209D))
   As for procedure, refer to the "11 Maintenance" for detailes.
2. To minimize the possibilities/risk of getting the dust/dirt on the lens surface, keep covering the lens unit with lens caps (front & rear), other than necessary cases.
3. Do not touch the surface of the lens glasses with your fingers.
4. Blow off the dust on the surface of the lens with a blower brush.
5. Use lens cleaning KIT (BK)(VFK1900BK).

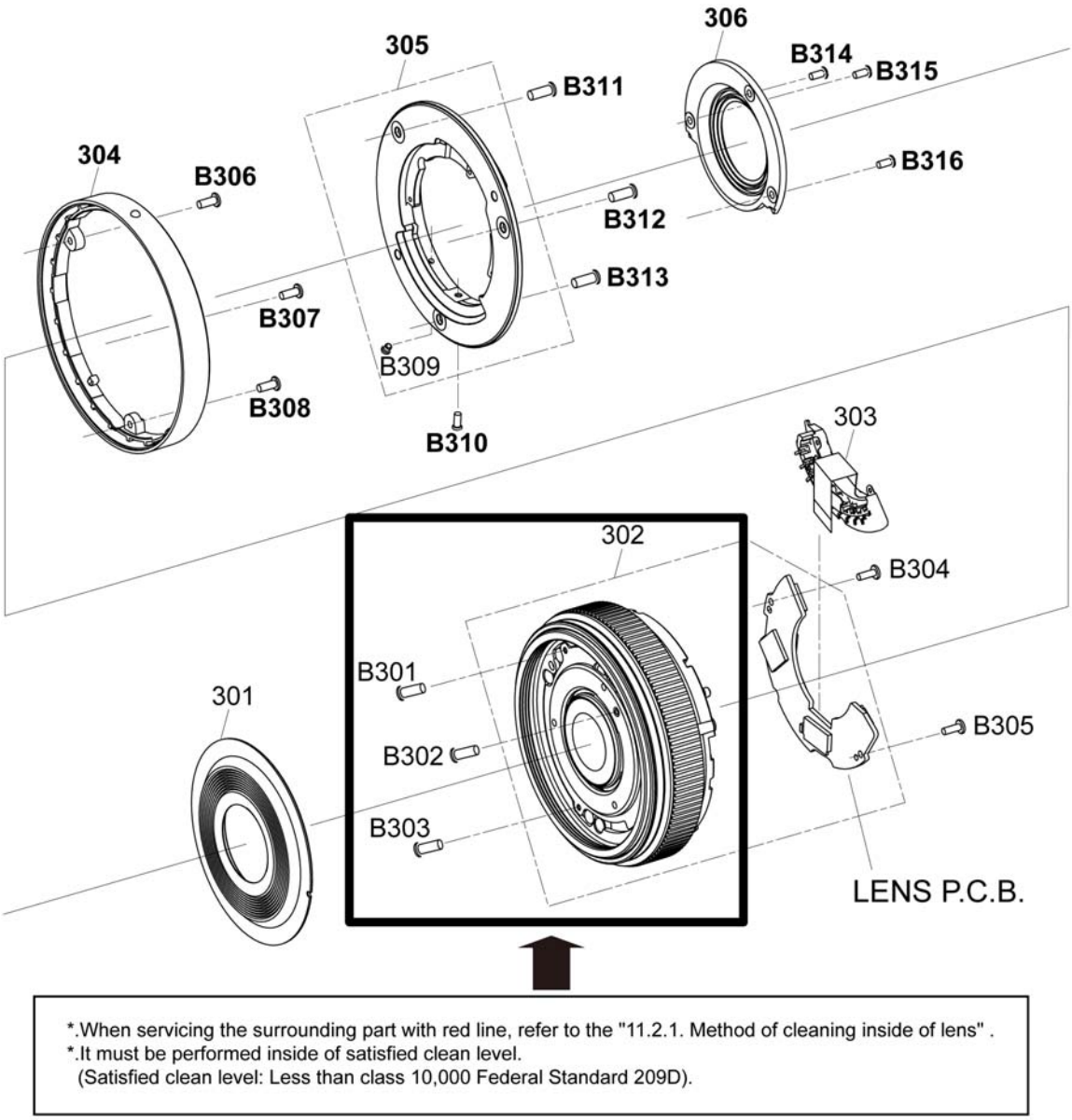
Interchangeable Lens (H-H014)

Caution:
Keep covering the lens unit with Lens caps (front & rear), other then necwssary cases.

Concerned parts		screws					Remarks
Part name	Ref. No.	Ref. No.	Color	Length (mm)	Order	Torque value	
SHADING FRAME	306	B314	Black	3.0 mm	[2]	10±1.2 N・cm	
		B315	Black	3.0 mm	[1]	10±1.2 N・cm	
		B316	Black	3.0 mm	[3]	10±1.2 N・cm	
L MOUNT UNIT	305	B311	Silver	3.0 mm	[3]	20±1.0 N・cm	
		B312	Silver	3.0 mm	[1]	20±1.0 N・cm	
		B313	Silver	3.0 mm	[2]	20±1.0 N・cm	
		B310	Silver	3.0 mm	[1]	---	Use Small Driver (VFK1390)
REAR FRAME U	304	B306	Black	4.0 mm	[2]	10±1.2 N・cm	
		B307	Black	4.0 mm	[3]	10±1.2 N・cm	
		B308	Black	4.0 mm	[1]	10±1.2 N・cm	
LENS MAIN U							
LENS P.C.B.	---	B304	Silver	3.0 mm	[2]	6±1.0 N・cm	
		B305	Silver	3.0 mm	[1]	6±1.0 N・cm	
1ST LENS FRAME U	---	B301	Silver	4.0 mm	[1]	10±1.2 N・cm	
		B302	Silver	4.0 mm	[3]	10±1.2 N・cm	
		B303	Silver	4.0 mm	[2]	10±1.2 N・cm	

NOTE:

1. .When installing the screws, be sure to use the torque driver (RFKZ0456) and tighten the screws with specified torque, mentioned on the above table.
2. The Ref.B309 is no need to remove/install for disassembly and assembly.
   If necessary, use VFK1390 (small driver) when screwing it.



(Fig. C1)

9.3. Disassembly and Assemble Procedure for the Lens (H-FS014042)

It is recommended dealing with clean box, to keep maintaining the dustproof environment.
(Refer to "8.2. Clean Box" section of this service manual for details.)

Important:

1. When servicing the enclosure part (refer to Fig. K1), it must be performed inside of satisfied clean level.
   (Satisfied clean level: Less than class 10,000 (Federal Standard 209D))
   As for procedure, refer to the "11 Maintenance" for detailes.
2. To minimize the possibilities/risk of getting the dust/dirt on the lens surface, keep covering the lens unit with lens caps (front & rear), other than necessary cases.
3. Do not touch the surface of the lens glasses with your fingers.
4. Blow off the dust on the surface of the lens with a blower brush.
5. Use lens cleaning KIT (BK)(VFK1900BK).

Proceed disassemble/assemble, by referring the following table and Fig. K1.

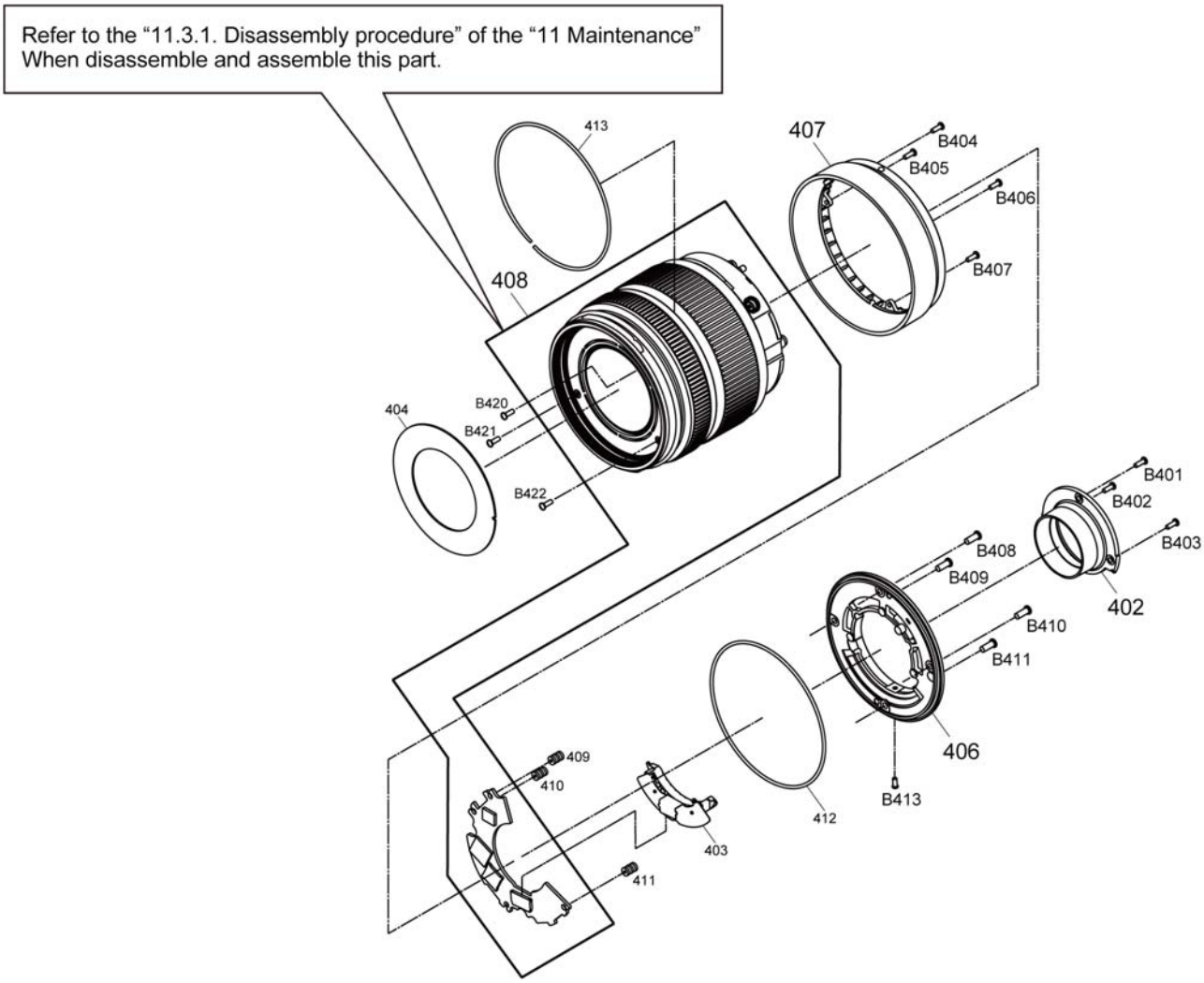
NOTE:

1. When installing the screws, be sure to use the torque driver (RFKZ0456) and tighten the screws with specified torque, mentioned on the above table.
2. The Ref.B413 is no need to remove/install for disassembly and assembly.
   If necessary, use VFK1390 (small driver) when screwing it.

Interchangeable Lens (H-FS014042)

Caution:
Keep covering the lens unit with Lens caps (front & rear), other then necwssary cases.

Concerned parts		screws					Remarks
Part name	Ref. No.	Ref. No.	Color	Length (mm)	Order	Torque value	
SHADING FRAME	402	B401	Black	4.0 mm	[1]	7±0.5 N・cm	
		B402	Black	4.0 mm	[2]	7±0.5 N・cm	
		B403	Black	4.0 mm	[3]	7±0.5 N・cm	
L MOUNT UNIT	406	B408	Black	5.0 mm	[2]	15±1.2 N・cm	
		B409	Black	5.0 mm	[4]	15±1.2 N・cm	
		B410	Black	5.0 mm	[3]	15±1.2 N・cm	
		B411	Black	5.0 mm	[1]	15±1.2 N・cm	
		B413	Black	3.0 mm	---	---	Use Small Driver (VFK1390)
REAR FRAME 2 UNIT	407	B404	Black	4.0 mm	[1]	7±0.5 N・cm	
		B405	Black	4.0 mm	[4]	7±0.5 N・cm	
		B406	Black	4.0 mm	[3]	7±0.5 N・cm	
		B407	Black	4.0 mm	[2]	7±0.5 N・cm	


Refer to the “11.3.1. Disassembly procedure” of the “11 Maintenance”
When disassemble and assemble this part.
413
407
B404
B405
B406
B407
408
404
B420
B421
B422
B401
B402
B403
B408
B409
402
B410
B411
406
B413
412
409
410
403
411

(Fig. K1)

10 Measurements and Adjustments

10.1. Matrix Chart for Replaced Part and Necessary Adjustment

The relation between Replaced part and Necessary Adjustment is shown in the following table.
When concerned part is replaced, be sure to achieve the necessary adjustment(s).
As for Adjustment condition/procedure, consult the “Adjustment Manual” which is available in Adjustment software.

NOTE:

After adjustments have been terminated, make sure to achieve “INITIAL SETTINGS”.
After updates it to the latest firmware, the adjustment is executed.

Adjustment Item			Mount Box Unit (*3)	Main P.C.B. (*2)	Flash-ROM (IC6002) (*2)	・Flash P.C.B.	LCDu	・Lens u ・L-Mount ・Rear Frame etc	T. Panel Driver (IC9007)
Section Body	Camera	VENUS-ZOOM Inspection (PZM)	—	○	○	—	—	—	—
		ISO sensitivity adjustment (ISO)	○	○	○	—	—	—	—
		High brightness coloration inspection (SEN)	○	○	○	—	—	—	—
		Offset gain adjustment (SAT)	○	○	○	—	—	—	—
		AWB adjustment (WBL/WBM)(*5)	○	○	○	—	—	—	—
		IMAGE SENSOR white scratch compensation (WKI)	○	○	○	—	—	—	—
		IMAGE SENSOR black scratch compensation (BKI)	○	○	○	—	—	—	—
		Low illumination image quality correction (VSJ)	○	○	○	—	—	—	—
		Mount Box Adjustment data writing	○	—	—	—	—	—	—
		Mount box u readjustment	—	○	○	—	—	—	—
		AVCHD function inspection	—	○ (*4)	○ (*4)	—	—	—	—
	Display	Touch panel adjustment (TPC)	—	○	○	—	○	—	○
Defect Part Division/ Inspection		Resolution inspection (*1)	○	—	—	—	—	—	—

***1**

- Inspect it, not only corresponding part is replaced, but also camera body is shocked and/or dropped.
- The Panasonic camera body in accordance with the Micro Four Thirds system (DMC-G1 unit, etc. marketed commodity: operates normal) and a standard zoom lens H-FS014045 (marketed commodity: operates normal) is required as a reference machine.
- Refer to the adjustment instruction in the adjustment software for details.

***2 NOTE: (When exchange the MAIN P.C.B.)**

- Correspond by either the following when exchange the MAIN P.C.B. unavoidably by destruction and damage etc. of MAIN P.C.B..

1. When it can turn on power, and the adjustment software can communicate with the camera body:
   - Before replacing, proceed the Flash-ROM (IC6002) data backup from the unit. After replacing, overwrite the Flash-ROM (IC6002) data with backup data from the unit, before proceeding the main body adjustment.
2. When it cannot turn on power, or the adjustment software cannot communicate with the camera body:
   - The readjustment of mount box unit etc. are necessary.
   - Refer to the adjustment instruction in the adjustment software for details.

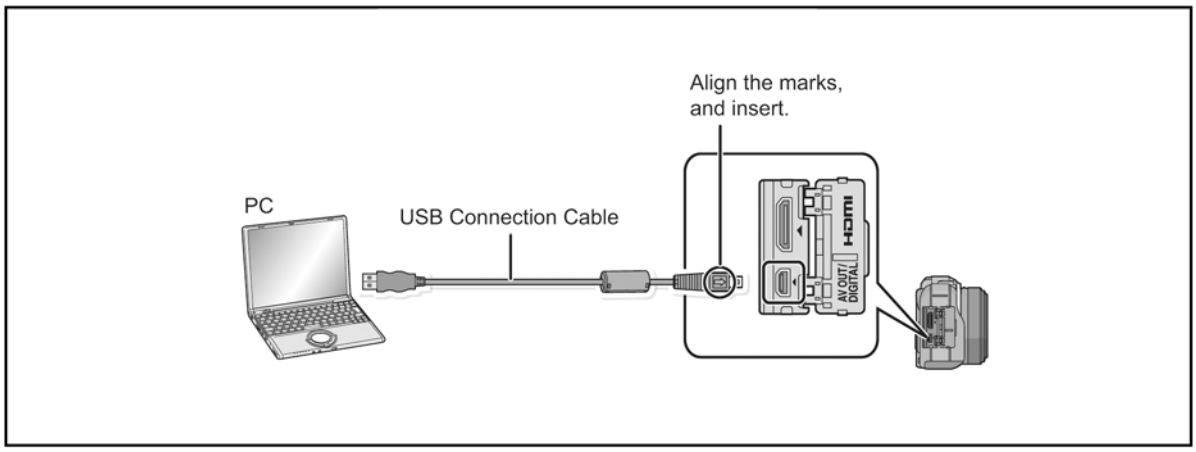
***3 NOTE: (After exchange the mount box unit)**

- Execute the resolution inspection by the comparison with the standard model (DMC-G1K etc.: operates normal).
- Refer to the adjustment instruction in the adjustment software for details.

***4**

- Confirm self recording/playback motion picture of AVCHD mode by the LCD.
- Confirm it on the TV with HDMI socket when repair HDMI relation.

* There are no LCD adjustment model.



***5 NOTE: (When AWB adjustment)**

- After change to WB adjustment mode for service with software, the adjustment is executed.
  After adjusting the AWB adjustment, to cancel the WB adjustment mode for service.
- Details, refer to the instructions in the adjustment software.

About the 3D interchangeable lens (H-FT012) correspondence

This unit has no special structure (circuit or part) for the 3D interchangeable lens correspondence, only by software is processed the 3D interchangeable lens correspondence.
Therefore, if taken with other lenses as usual, the 3D interchangeable lens is no problem for operation.

11 Maintenance

11.1. Notice in external cleaning

11.1.1. ABOUT THE BODY

NOTE:

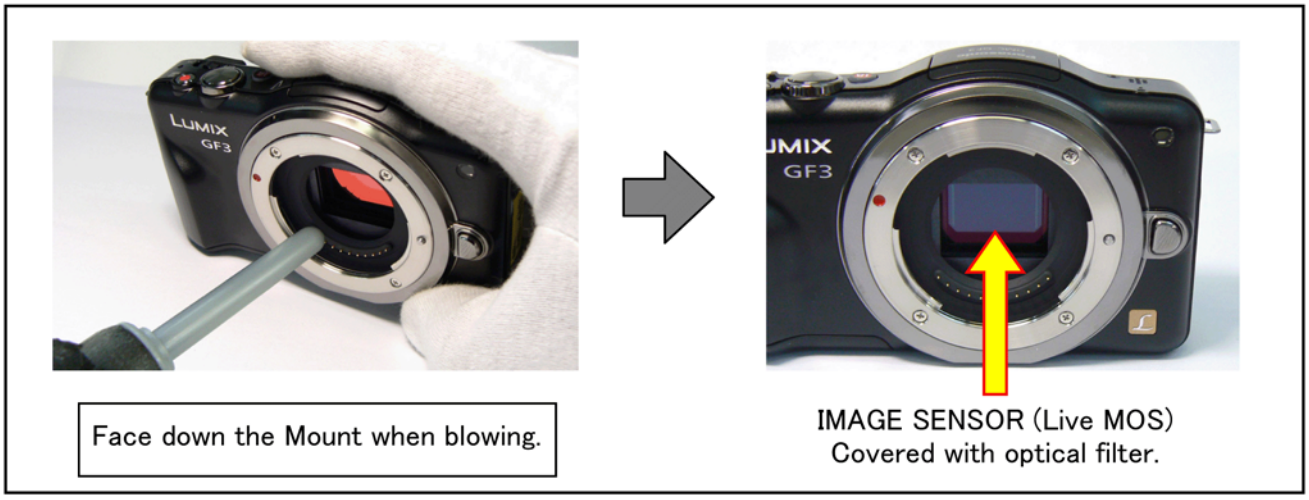
Before cleaning the camera, remove the battery and/or disconnect power plug from the outlet.
Also, remove the SD Memory card and lens unit.

11.1.1.1. DUST/DIRT ON THE OUTER CASING PART (S)

1. Blow off the dust first, then sweep out the dust from narrower spaces with soft cleaning brush.
2. Wipe up fingerprint and/or dirt on the Outer casing part with the dry fuzz-free cloth.

11.1.1.2. DUST/DIRT ON THE IMAGE SENSOR

1. Blow off the dust on the surface of the Image sensor with the Blower. (Refer to the following Figure.)
   - Keep the Mount Facing down condition towards to floor when cleaning.
   - Do not put the Blower further inside than the lens mount.
   - Be careful not to blow too strongly.
2. Wipe off the dirt on the image sensor surface with Lens cleaning KIT(BK)(VFK1900BK).



11.1.2. ABOUT THE LENS

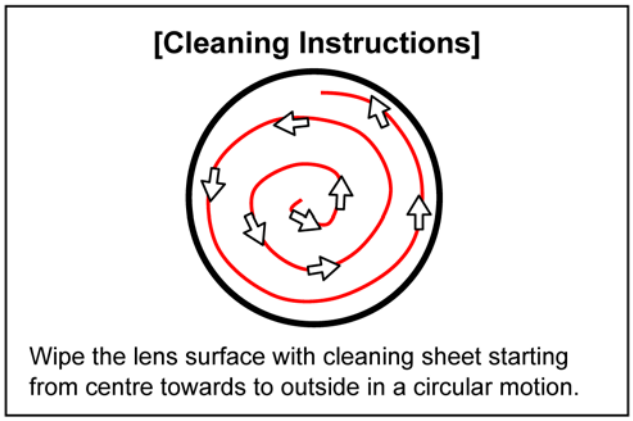
11.1.2.1. DUST/DIRT ON THE OUTER CASING PART(S)

1. Blow off the dust first, then sweep out the dust from narrower spaces with soft cleaning brush.
2. Wipe up the Outer casing part with the dry fuzz-free cloth.

11.1.2.2. DUST/DIRT ON THE LENS GLASSES

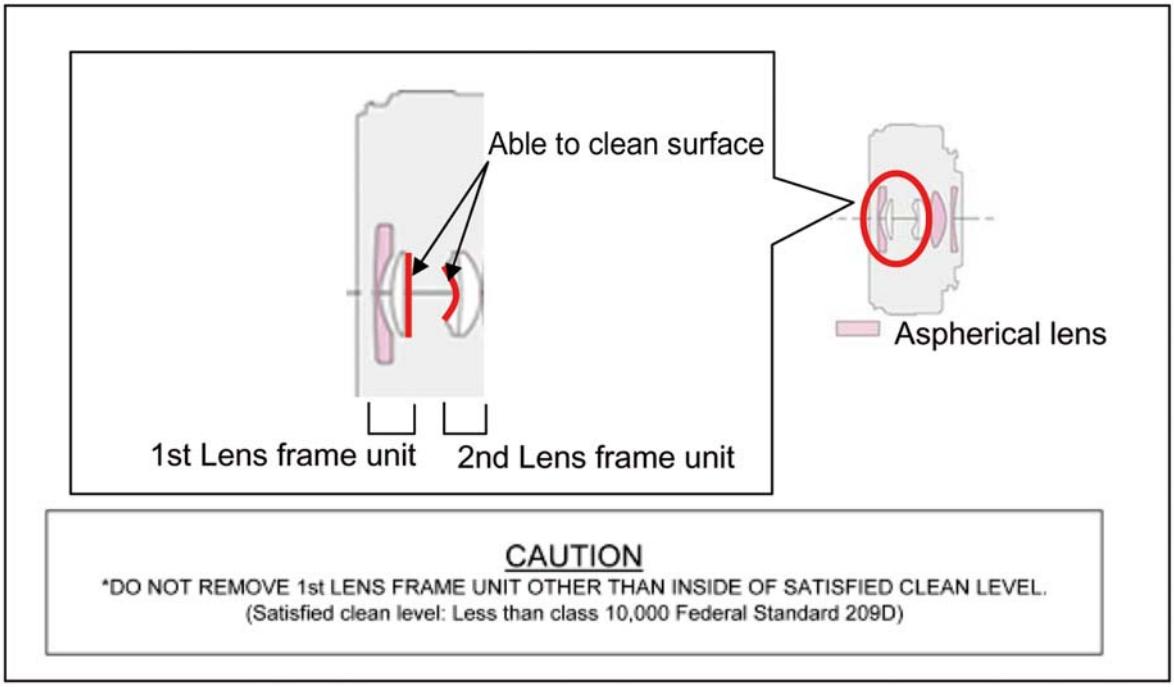
• Define the location of the dust/dirt first, whether it is outside lens surface or not.

1. When it is outside surface of the lens:
   • When the dust and/or dirt gets on the outer side surface of the Lens glasses, order the following procedures.
   a. Blow off the dust on the Lens glass surface with the Blower, gently. (Do not Blow too strongly.)
   b. Wipe out the dirt on the lens glass surface with Lens cleaning KIT(BK) (VFK1900BK) if necessary. (Consult the Instruction sheet which is included in the Lens cleaning KIT(BK) in details.)
2. When it is inside of the lens:
   • Refer to the “11.2. General description (Lens cleaning: Interchangeable Lens/H-H014)”, “11.3. General description (Lens cleaning: Interchangeable Lens/H-FS014042)” section of this service manual.



11.2. General description (Lens cleaning: Interchangeable Lens/H-H014)

When there is a dust/dirt inside surface of the 1st lens frame unit and/or subject side surface of the 2nd lens frame unit, remove it by referring the following procedures.



Important:

1. When removing the 1st lens frame unit, it has to be proceed inside of satisfied clean level.
   (Less than class 10,000 (Federal Standard 209D))
   As for clean box, refer to the "8.2. Clean Box", in details.
2. When tighten the screws (A), use torque driver (RFKZ0456) with specified torque.
3. To keep the Lens performance, use only the 1st lens frame unit which was fitted as it was.
   Therefore, the 1st lens frame unit is not supplied as spare parts.
   Also do not exchange the 1st lens unit taking from others.

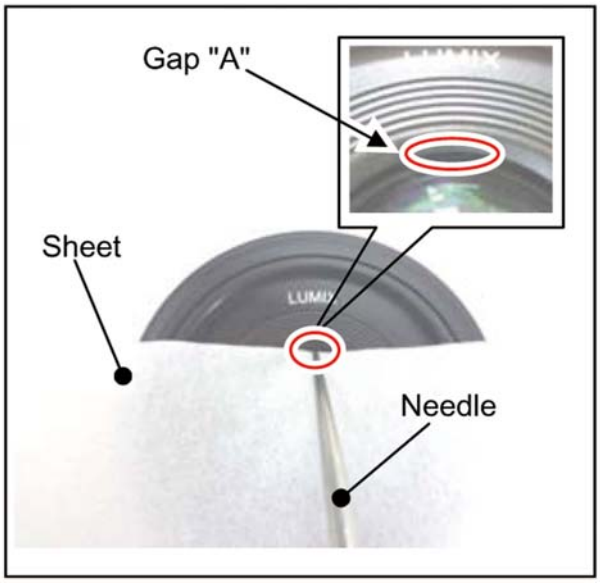
11.2.1. Method of cleaning inside of lens

11.2.1.1. Disassembly procedure

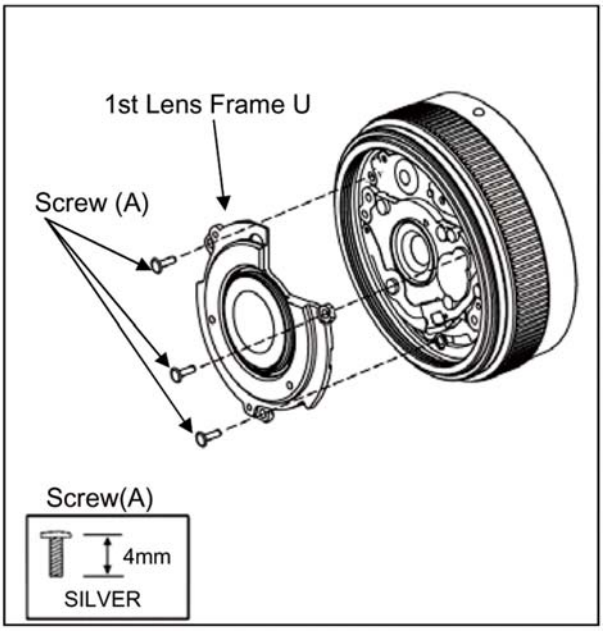
Important:

It must be performed inside of satisfied clean level. (Satisfied clean level: Less than class 10,000 (Federal Standard 209D))

1. **Removal of the Decoration Ring**
   *.Decoration ring is sticked on the 1st lens frame unit.
   *.Put the sheet so that the lens glass is fully covered.
   *.Insert the needle to Gap “A” (between the Decoration ring and Lens glass), and peel off the Decoration ring gentlly.



2. **Removal of the 1st Lens frame unit**
   *.Remove 3 screws (A).



*. Blow off the dust on the surface of the lens with a blower brush.

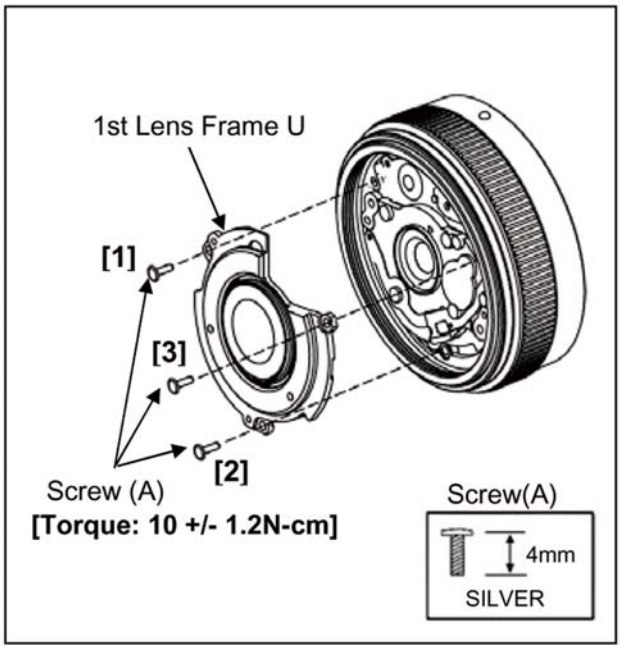
*. Use lens cleaning KIT (BK)(VFK1900BK), if necessary.

11.2.1.2. Assembly procedure

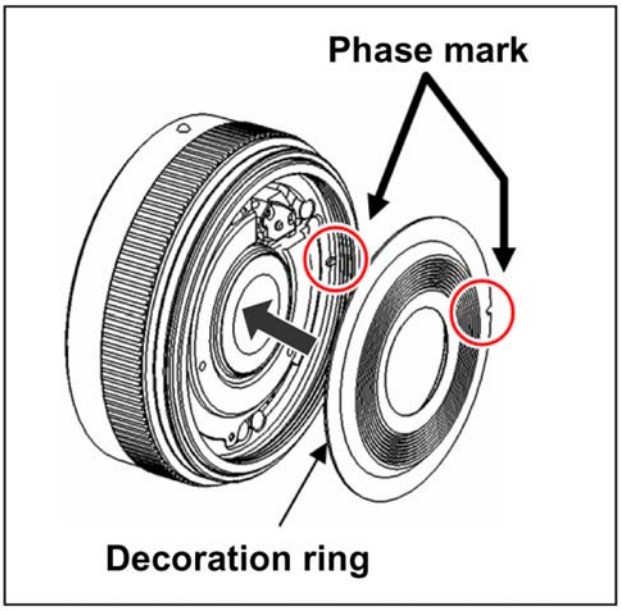
IMPORTANT NOTICE:

*.When tightening the screw, use a Torque driver (RFKZ0456) by ordering the screwing order with specified torque descrived in each step.

1. **Installation of the 1st Lens frame unit**
   *Tighten the 3 screws (A) with specified torgue in numerical order.



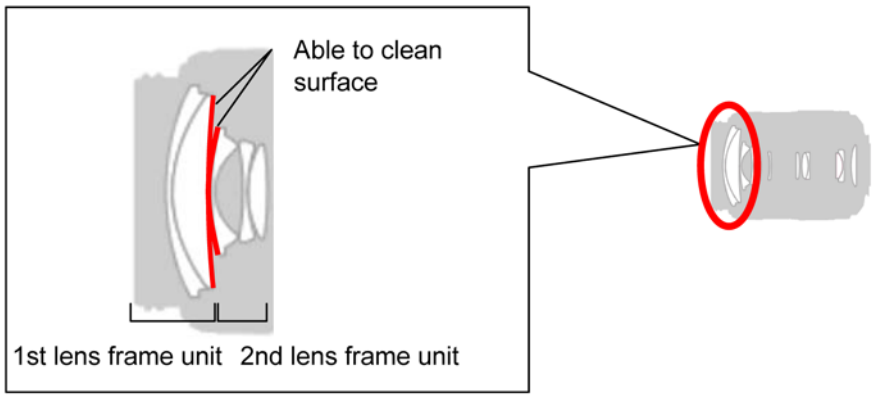
2. **Installation of the Decoration ring**
   *Install the Decoration ring by referring the phase mark. (Use new one, Do not use the one which is removed.)



* After installing the Decoration ring, press the decoration ring with your finger.

11.3. General description (Lens cleaning: Interchangeable Lens/H-FS014042)

When there is a dust/dirt inside surface of the 1st lens frame unit and/or subject side surface of the 2nd lens frame unit, remove it by referring the following procedures.



CAUTION

*DO NOT REMOVE 1st LENS FRAME UNIT OTHER THAN INSIDE OF SPECIFIED CLEAN LEVEL.
(Specified clean level: Less than class 10,000 (Federal Standard 209D))

Important:

1. When removing the 1st lens frame unit, it has to be proceed inside of satisfied clean level.
   (Less than class 10,000 (Federal Standard 209D))
   As for clean box, refer to the "8.2. Clean Box", in details.
2. When tighten the screws (A), use torque driver (RFKZ0456) with specified torque.
3. To keep the Lens performance, use only the 1st lens frame unit which was fitted as it was.
   Therefore, the 1st lens frame unit is not supplied as spare parts.
   Also do not exchange the 1st lens unit taking from others.

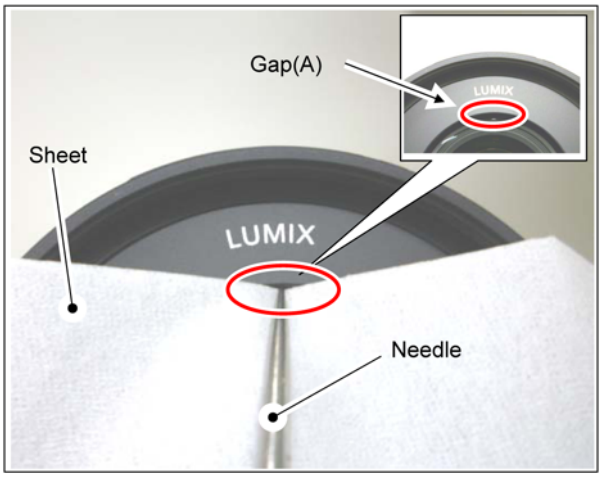
11.3.1. Disassembly procedure

Important:

It must be performed inside of satisfied clean level.
(Satisfied clean level: Less than class 10,000 (Federal Standard 209D))

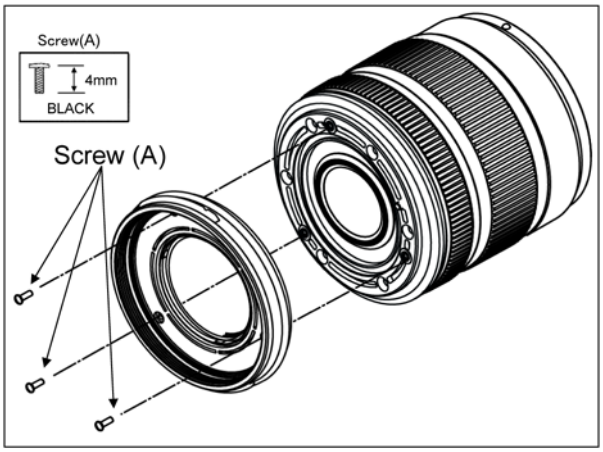
11.3.1.1. Removal of the Decoration Ring

1. Decoration ring is sticked on the 1st lens frame unit.
2. Put the sheet so that the lens glass is fully covered.
3. Insert the needle to Gap (A) (between the decoration ring and lens glass), and peel off the decoration ring gently.



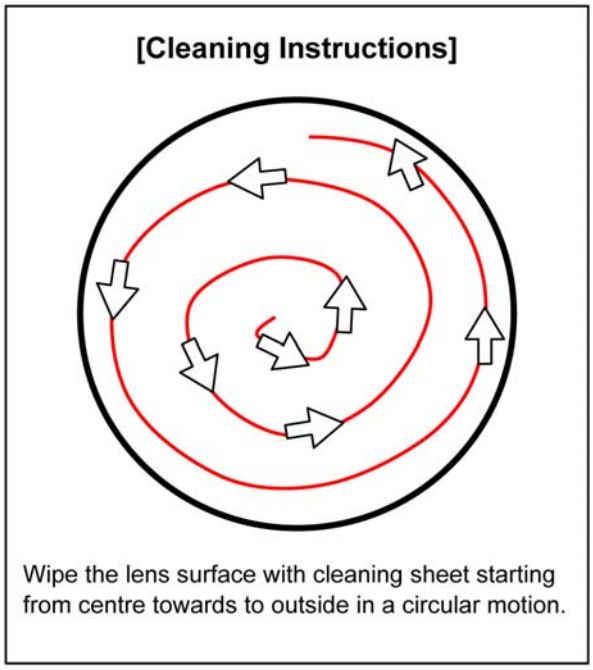
11.3.1.2. Removal of the 1st Lens Frame Unit

1. Remove the 3 screws (A).



11.3.1.3. Removal of a dust /dirt

1. Blow off the dust on the surface of the lens with a blower brush.
2. Use lens cleaning KIT(BK) (VFK1900BK), if necessary.



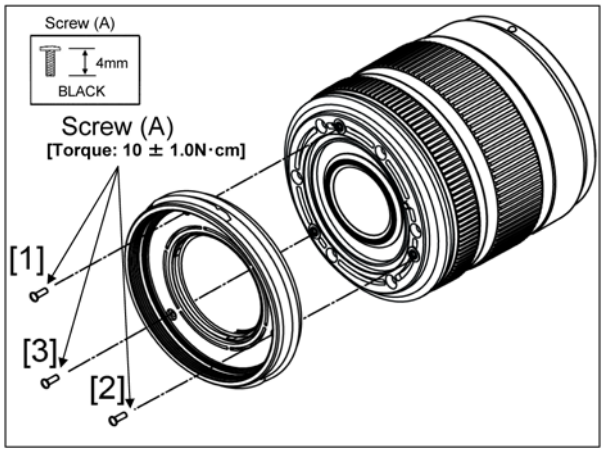
11.3.2. Assembly procedure

Important:

When tightening the screw, use a torque driver (RFKZ0456) by ordering the screwing order with specified torque described in each step.

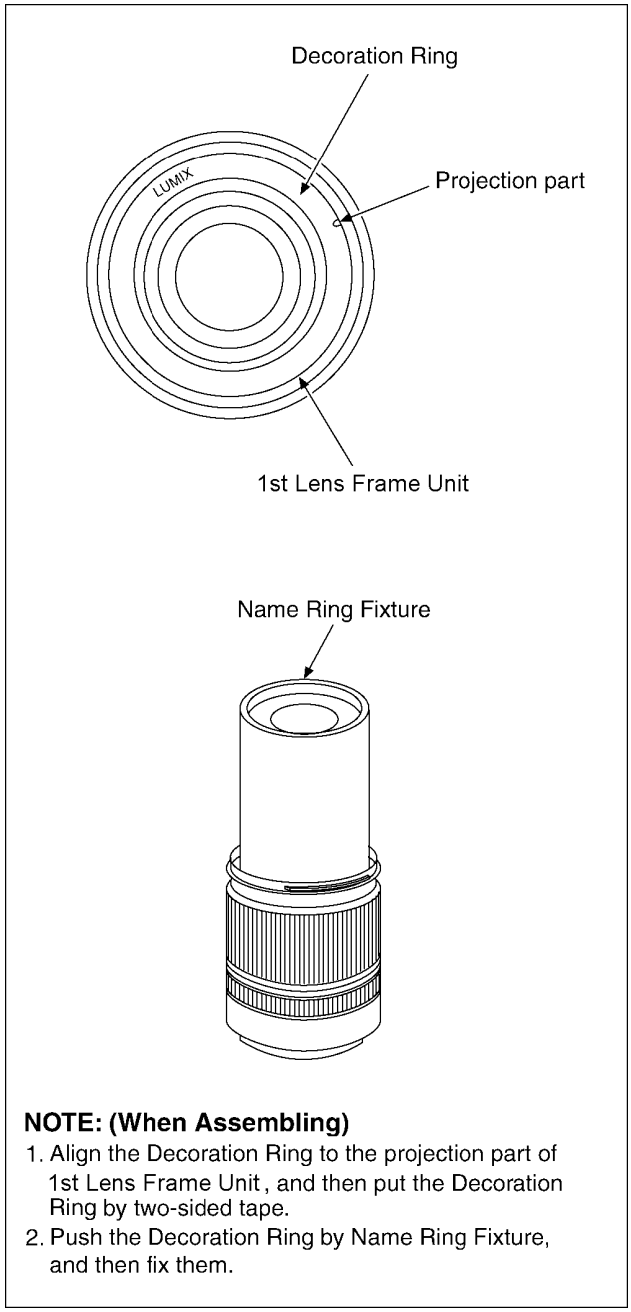
11.3.2.1. Installation of the 1st lens frame unit

1. Tighten the 3 screws (A) with specified torque in numerical order.
   (Torque Driver: RFKZ0456)
   (Torque: 10 ± 1.0 N-cm)



11.3.2.2. Installation of the Decoration Ring

1. Use the Name Ring fixture (RFKZ0507)
2. Use new Decoration ring. (Do not use the one which is removed.)



NOTE: (When Assembling)

1. Align the Decoration Ring to the projection part of 1st Lens Frame Unit , and then put the Decoration Ring by two-sided tape.
2. Push the Decoration Ring by Name Ring Fixture, and then fix them.

DSC1107040CE

Service Manual

Diagrams and Replacement Parts List

Digital Camera/Lens Kit/Double Lens Kit/Body

Model No.

DMC-GF3KPP	DMC-GF3KGH	DMC-GF3GC	DMC-GF3CEE	DMC-GF3WEB
DMC-GF3KPC	DMC-GF3KGK	DMC-GF3GD	DMC-GF3CEF	DMC-GF3WEC
DMC-GF3KEB	DMC-GF3KGN	DMC-GF3GH	DMC-GF3CEG	DMC-GF3WEF
DMC-GF3KEC	DMC-GF3KGT	DMC-GF3GT	DMC-GF3CGC	DMC-GF3WEG
DMC-GF3KEE	DMC-GF3PP	DMC-GF3WSG	DMC-GF3CGD	DMC-GF3WGC
DMC-GF3KEF	DMC-GF3PC	DMC-GF3CPP	DMC-GF3CGH	DMC-GF3WGD
DMC-GF3KEG	DMC-GF3EB	DMC-GF3CPC	DMC-GF3CGK	DMC-GF3WGH
DMC-GF3KGC	DMC-GF3EF	DMC-GF3CEB	DMC-GF3CGN	DMC-GF3WGK
DMC-GF3KGD	DMC-GF3EG	DMC-GF3CEC	DMC-GF3CGT	DMC-GF3WGN
				DMC-GF3WGT

Vol. 1

Colour

[DMC-GF3C]
(K).....Black Type
(W).....White Type (except EC/EF)
(R).....Red Type (except PC)
(P).....Pink Type (only PP/GC/GH/GK/GT)
(T).....Brown Type (except PC/EB/EE/EF/GK/GN)

[DMC-GF3K]
(K).....Black Type
(W).....White Type (except EC/GD/GH)
(R).....Red Type (except PC/GD/GH/GT)
(P).....Pink Type (only PP/GC/GK)
(T).....Brown Type (only PP/EC/EF/EG)

[DMC-GF3W]
(K).....Black Type
(W).....White Type (except EC/EF/EG)
(R).....Red Type (except EC/EF/EG/SG)
(P).....Pink Type (only GC/GH/GK/GT)
(T).....Brown Type (only GC/GD/GH/GT)

[DMC-GF3]
(K).....Black Type

DMC-GF3C series: Interchangeable Lens (H-H014) is bundled.
DMC-GF3K series: Interchangeable Lens (H-FS014042) is bundled.
DMC-GF3W series: Interchangeable Lens (H-H014/H-FS014042) are bundled.

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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.

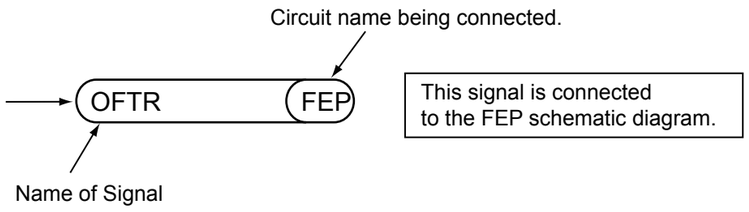
3.The voltage being indicated on the schematic diagram is measured in "Standard-Playback" mode when there is no specify mode is mentioned.

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.

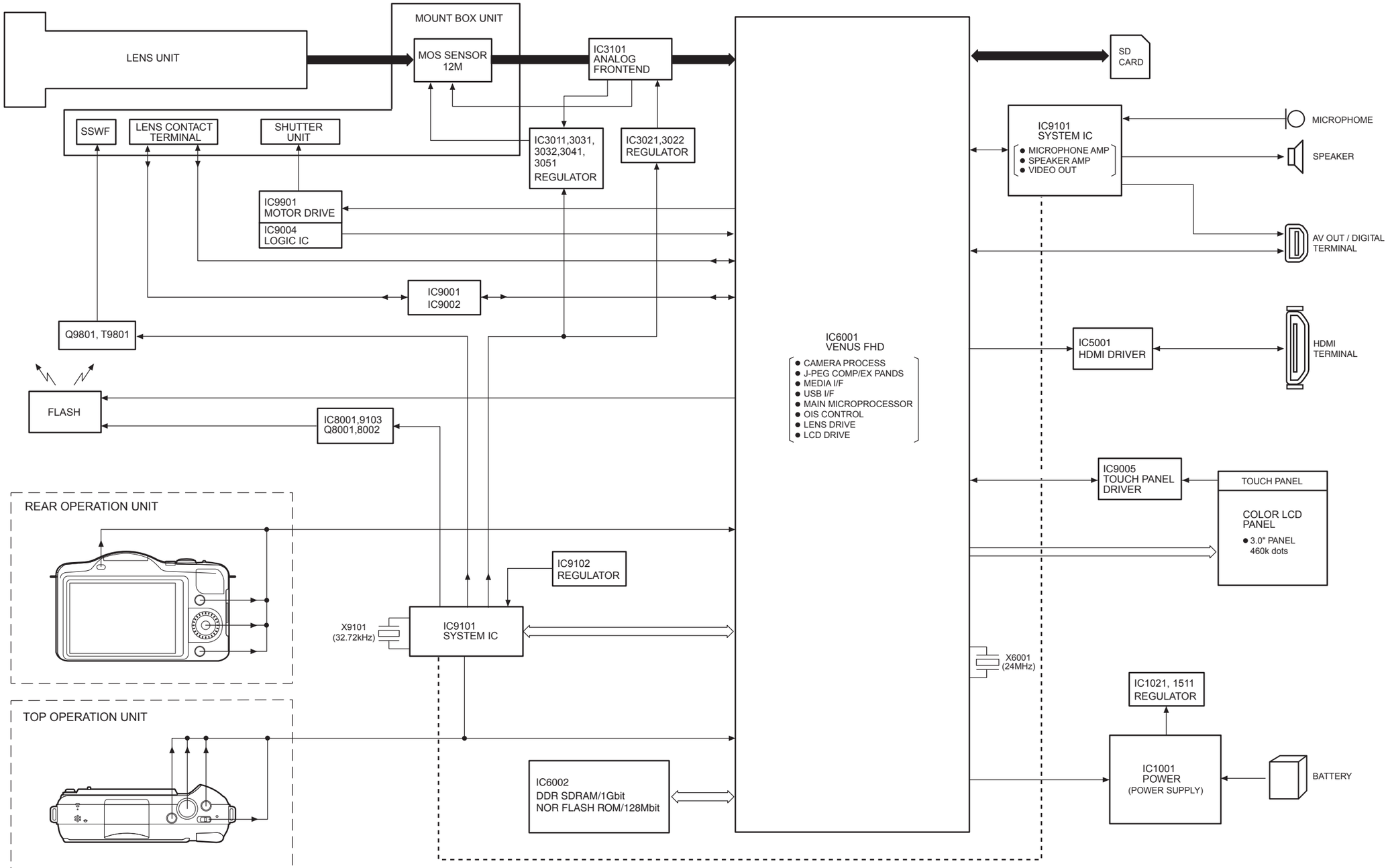
6.Use the parts number indicated on the Replacement Parts List .

7.Indication on Schematic diagrams:



S2. Block Diagram

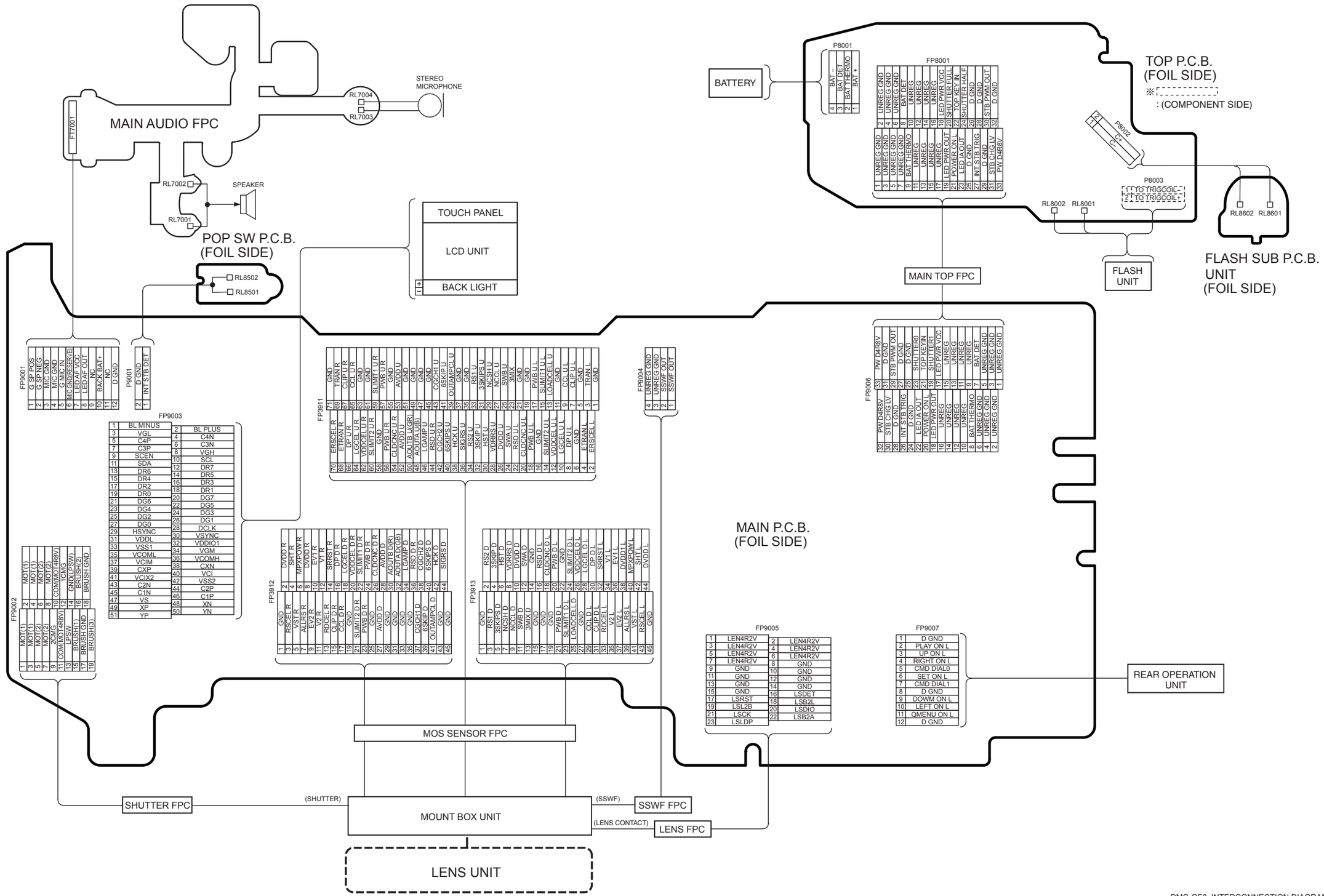
S2.1. Overall Block Diagram



DMC-GF3 OVERALL BLOCK DIAGRAM

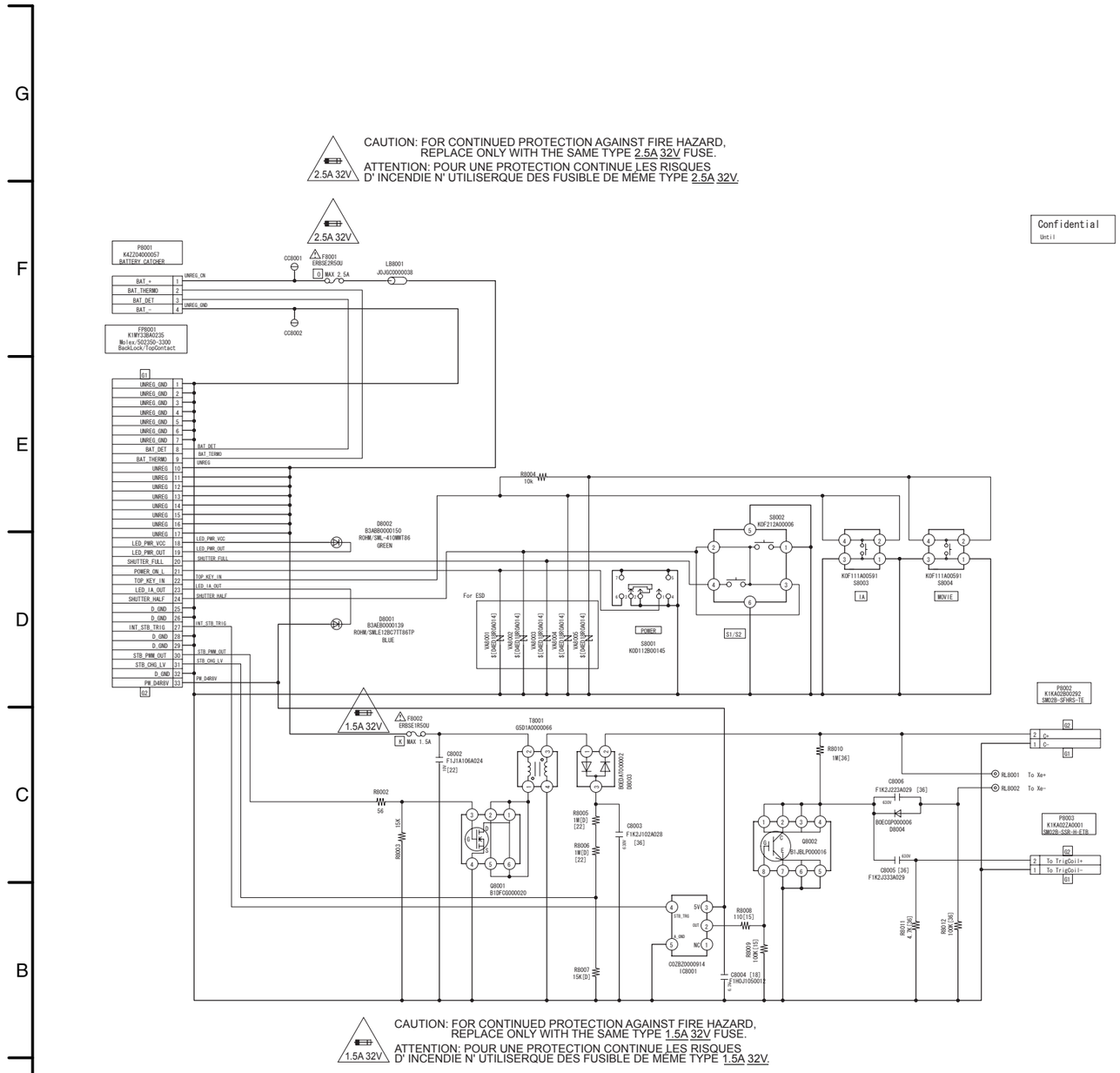
S3. Schematic Diagram

S3.1. Interconnection Diagram



DMC-GF3 INTERCONNECTION DIAGRAM

S3.2. Top Operation Schematic Diagram / S3.3. Pop SW Schematic Diagram

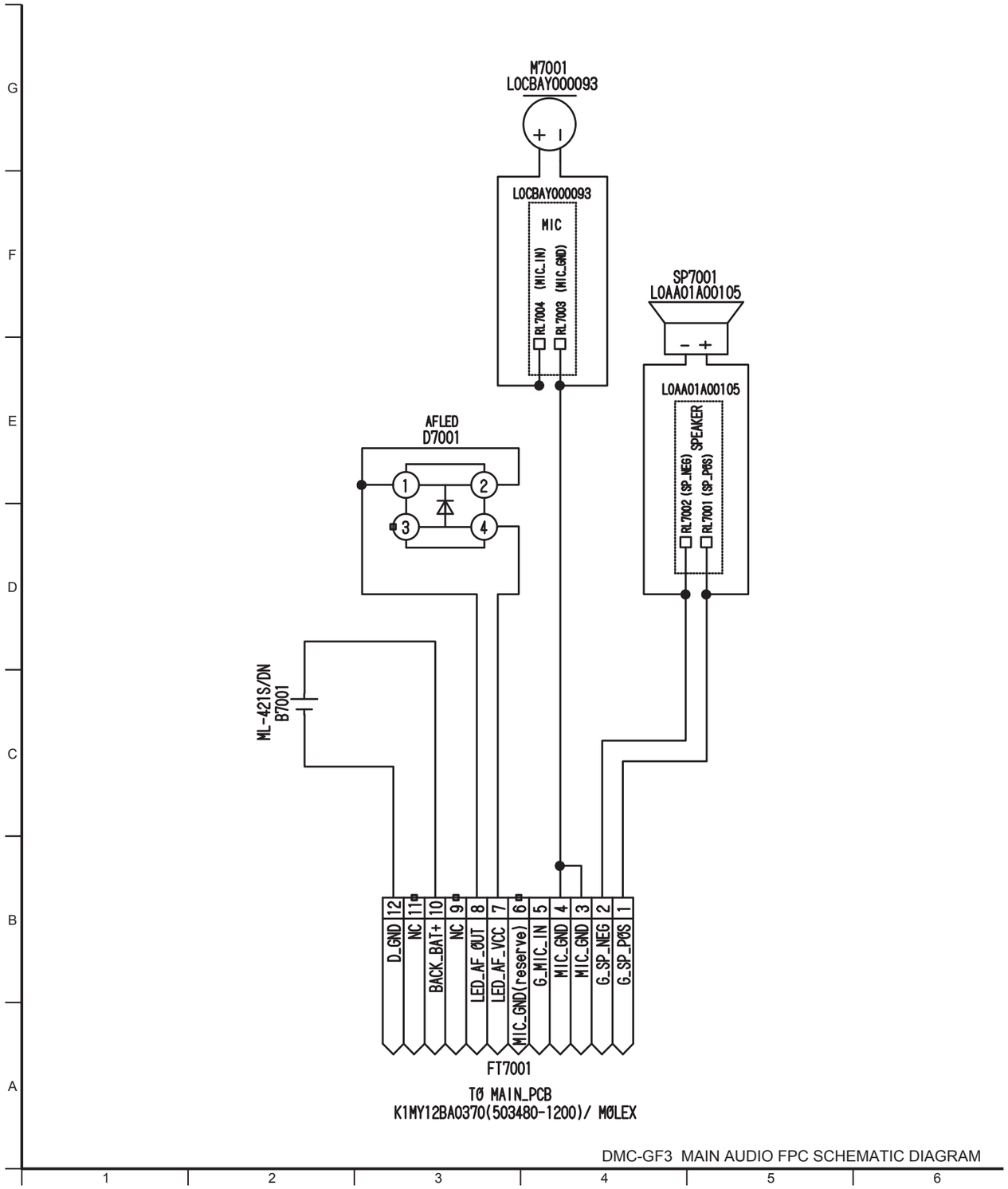


Confidential
Until

DMC-GF3/GF3C/GF3K/GF3W
Top Operation
Schematic Diagram

DMC-GF3/GF3C/GF3K/GF3W
Pop SW
Schematic Diagram

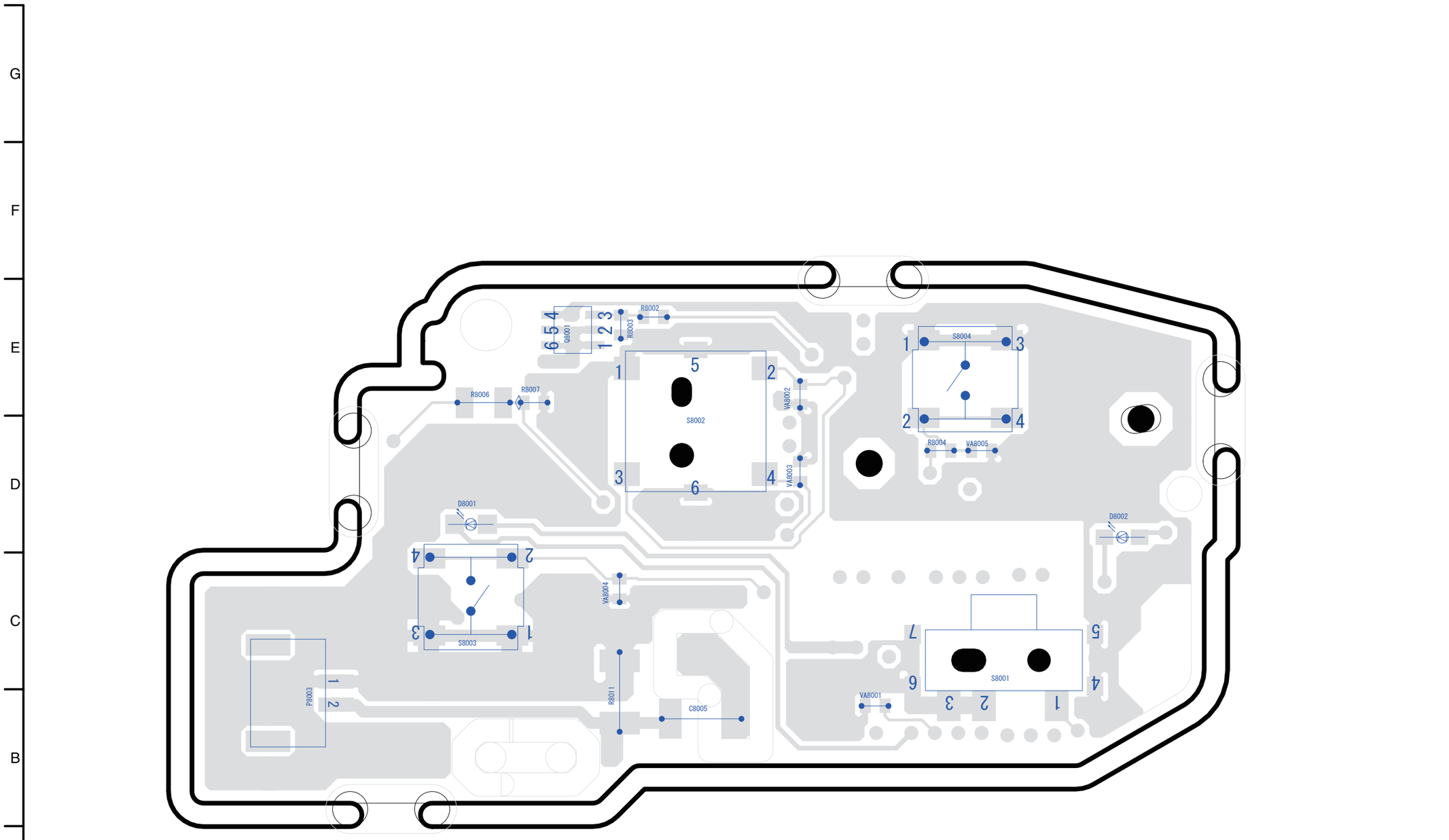
S3.4. Main Audio FPC Schematic Diagram



S4. Print Circuit Board

S4.1. Top P.C.B.

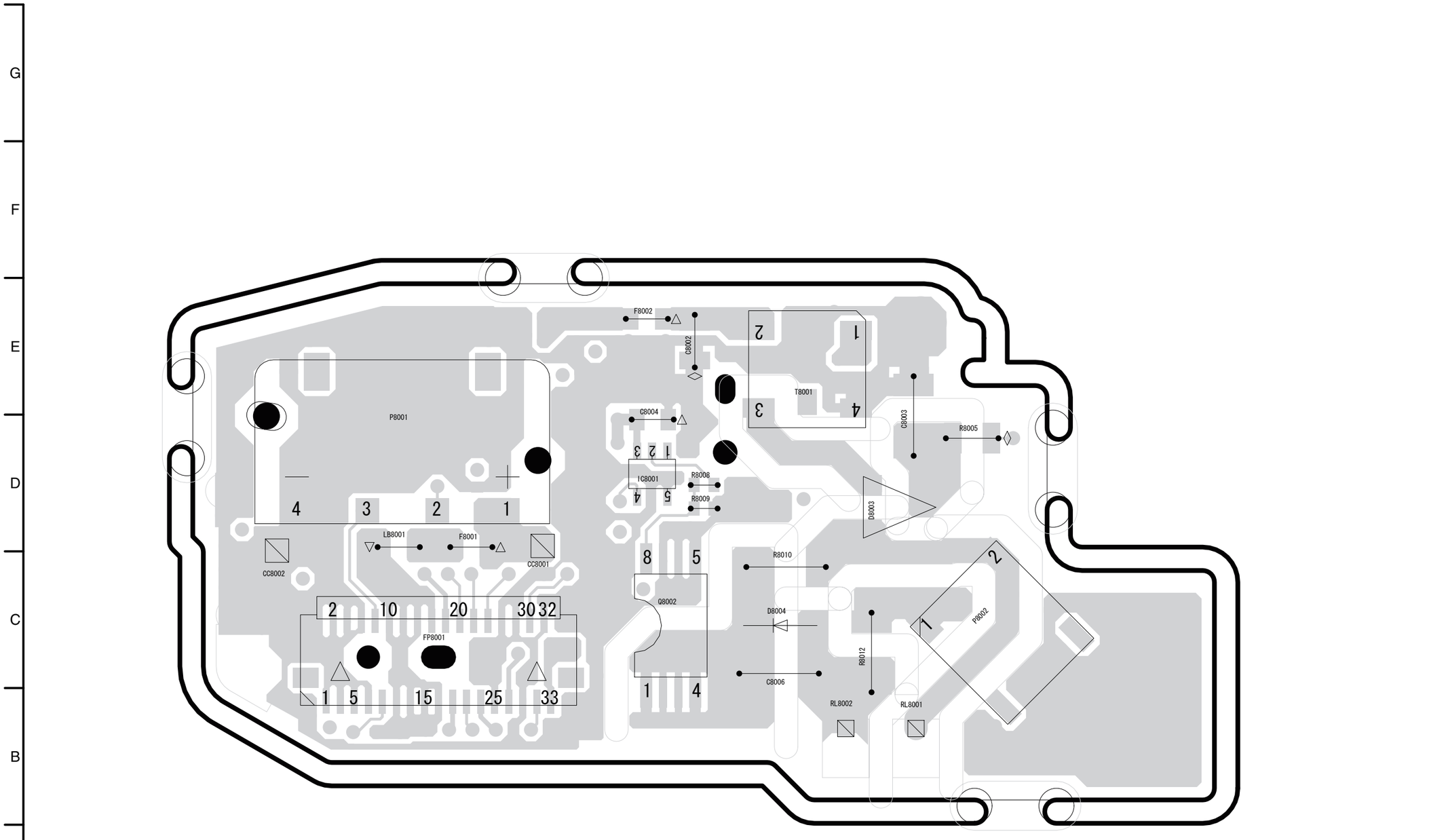
S4.1.1. Top P.C.B. (Component Side)



(Component Side)

DMC-GF3/GF3C/GF3K/GF3W
Top P.C.B.
(Component Side)

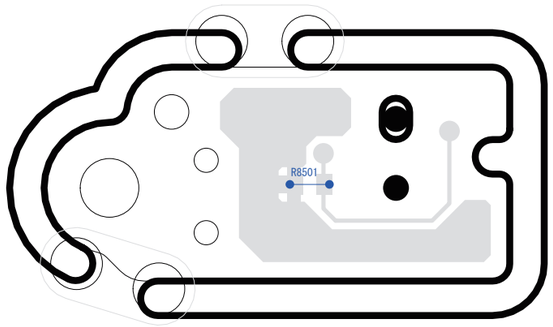
S4.1.2. Top P.C.B. (Foil Side)



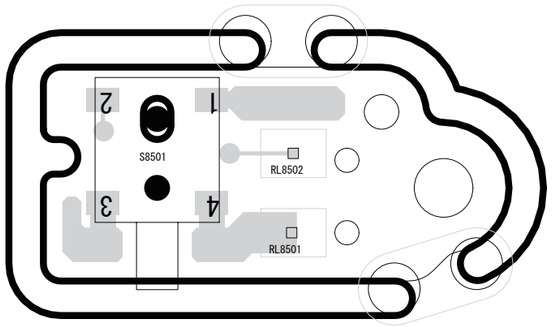
(Foil Side)

DMC-GF3/GF3C/GF3K/GF3W
Top P.C.B.
(Foil Side)

S4.2. Pop SW P.C.B.



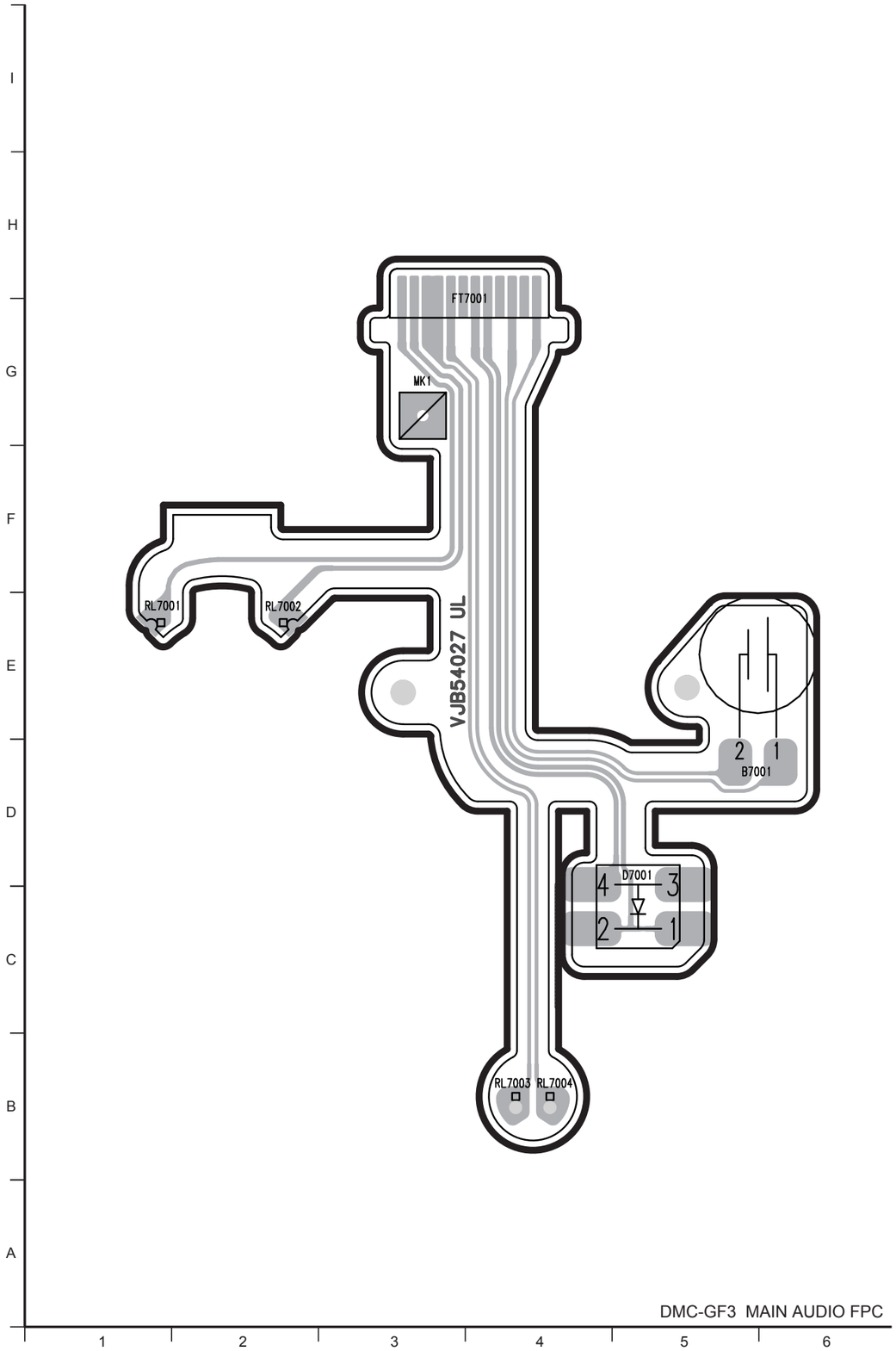
(Component Side)



(Foil Side)

DMC-GF3/GF3C/GF3K/GF3W
Pop SW P.C.B.

S4.3. Main Audio FPC P.C.B.



S5. 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.
5. Supply of CD-ROM, in accordance with license protection, is allowable as replacement parts only for customers who accidentally damaged or lost their own.

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

About LENS MAIN BLOCK UNIT (Ref.302 and 408)

1. **In case of the LENS MAIN BLOCK UNIT (Ref.302 and Ref.408) defects, contact to the service department of sales company.**

Definition of Parts supplier:

1. **Parts marked with [ENERGY] in the remarks column are supplied from Panasonic Corporation Energy Company.**
2. **Parts marked with [PAVCSG] in the remarks column are supplied from PAVCSG. Others are supplied from AVC-CSC-SPC.**

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
##	VEP56141A	MAIN P.C.B.	1	(RTL) E.S.D.
				EXCEPT EB,EC,EF,EG
##	VEP56141B	MAIN P.C.B.	1	(RTL) E.S.D. EB,EC,EF,EG
##	VEP50089A	TOP P.C.B.	1	(RTL) [PAVCSG] E.S.D.
##	VEP50090A	POP SW P.C.B.	1	(RTL) [PAVCSG]
⚠ ##	VXQ2113	FLASH SUB P.C.B. UNIT	1	[PAVCSG]
##	VEP50089A	TOP P.C.B.		(RTL) [PAVCSG] E.S.D.
C8002	F1J1A106A024	C.CAPACITOR CH 10V 10U	1	[PAVCSG]
C8003	F1K2J102A028	C.CAPACITOR 630V 1000P	1	[PAVCSG]
C8004	F1H0J1050012	C.CAPACITOR CH 6.3V 1U	1	[PAVCSG]
C8005	F1K2J333A029	C.CAPACITOR 630V 0.033U	1	[PAVCSG]
C8006	F1K2J223A029	C.CAPACITOR 630V 0.022U	1	[PAVCSG]
D8001	B3AEB0000139	DIODE	1	[PAVCSG] E.S.D.
D8002	B3ABB0000150	DIODE	1	[PAVCSG] E.S.D.
D8003	B0EDAT000002	DIODE	1	[PAVCSG] E.S.D.
D8004	B0ECGP000006	DIODE	1	[PAVCSG] E.S.D.
⚠ F8001	ERBSE2R50U	FUSE 32V 2.5A	1	[PAVCSG]
⚠ F8002	ERBSE1R50U	FUSE 32V 1.5A	1	[PAVCSG]
FP8001	K1MY33BA0235	CONNECTOR 33P	1	[PAVCSG]
IC8001	C0ZBZ0000914	IC	1	[PAVCSG] E.S.D.
LB8001	J0JGC0000038	FILTER	1	[PAVCSG]
P8001	K4ZZ04000057	CONNECTOR 4P	1	[PAVCSG]
P8002	K1KA02B00292	CONNECTOR 2P	1	[PAVCSG]
P8003	K1KA02ZA0001	CONNECTOR 2P	1	[PAVCSG]
Q8001	B1DFCG000020	TRANSISTOR	1	[PAVCSG] E.S.D.
Q8002	B1JBLP000016	TRANSISTOR	1	[PAVCSG] E.S.D.
R8002	D0GA560JA023	CHIP RESISTANCE	1	[PAVCSG]
R8003	D0GA153JA023	CHIP RESISTOR	1	[PAVCSG]
R8004	D0GA103JA023	CHIP RESISTOR	1	[PAVCSG]
R8005	ERJ6RED105V	M.RESISTOR CH 1/10W 1M	1	[PAVCSG]
R8006	ERJ6RED105V	M.RESISTOR CH 1/10W 1M	1	[PAVCSG]
R8007	ERJ2RHD153X	M.RESISTOR CH 1/16W 15K	1	[PAVCSG]
R8008	D0GA750JA023	CHIP RESISTOR	1	[PAVCSG]
R8009	D0GA104JA023	CHIP RESISTOR	1	[PAVCSG]
R8010	ERJ8GEYJ105V	M.RESISTOR CH 1/4W 1M	1	[PAVCSG]
R8011	ERJ8GEYJ472V	M.RESISTOR CH 1/4W 4.7K	1	[PAVCSG]
R8012	ERJ8GEYJ104V	M.RESISTOR CH 1/4W 100K	1	[PAVCSG]
S8001	K0D112B00145	SWITCH	1	[PAVCSG]
S8002	K0F212A00006	SWITCH	1	[PAVCSG]
S8003	K0F111A00591	SWITCH	1	[PAVCSG]
S8004	K0F111A00591	SWITCH	1	[PAVCSG]
T8001	G5D1A0000066	TRANSFORMER	1	[PAVCSG]
##	VEP50090A	POP SW P.C.B.		(RTL) [PAVCSG]
R8501	D0GA103JA023	CHIP RESISTOR	1	[PAVCSG]
S8501	ESE13V01B	SWITCH	1	[PAVCSG]
⚠ ##	VXQ2113	FLASH SUB P.C.B. UNIT		[PAVCSG]

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

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	VEP56141A	MAIN P.C.B.	1	(RTL) E.S.D.
				EXCEPT EB,EC,EF,EG
1	VEP56141B	MAIN P.C.B.	1	(RTL) E.S.D. EB,EC,EF,EG
2	VGQ0X59	SHEET	1	
3	VXQ2130T	MOUNT BOX UNIT	1	
100	VGK3800	SIDE ORNAMENT (R)	1	(-K,-R,-T) [PAVCSG]
100	VGK3801	SIDE ORNAMENT (R)	1	(-W,-P) [PAVCSG]
102	VYK5D69	FRONT CASE UNIT	1	(-K) [PAVCSG]
102	VYK5E77	FRONT CASE UNIT	1	(-W) [PAVCSG]
102	VYK5E75	FRONT CASE UNIT	1	(-R) [PAVCSG]
102	VYK5E74	FRONT CASE UNIT	1	(-P) [PAVCSG]
102	VYK5E76	FRONT CASE UNIT	1	(-T) [PAVCSG]
102-1	VGK3795	FRONT RING	1	(-K,-R,-T) [PAVCSG]
102-1	VGK3796	FRONT RING	1	(-W,-P) [PAVCSG]
102-2	VGU0J48	LENS RELEASE BUTTON	1	(-K,-R,-T) [PAVCSG]
102-2	VGU0K13	LENS RELEASE BUTTON	1	(-W,-P) [PAVCSG]
102-3	VMB4514	LENS RELEASE BUTTON SPRING	1	[PAVCSG]
102-4	VMP0A17	LENS RELEASE FIX PLATE	1	[PAVCSG]
103	VGK3798	SIDE ORNAMENT (L)	1	(-K,-R,-T) [PAVCSG]
103	VGK3799	SIDE ORNAMENT (L)	1	(-W,-P) [PAVCSG]
104	VYK5D75	REAR CASE UNIT	1	(-K) [PAVCSG]
104	VYK5E93	REAR CASE UNIT	1	(-W) [PAVCSG]
104	VYK5E91	REAR CASE UNIT	1	(-R) [PAVCSG]
104	VYK5E90	REAR CASE UNIT	1	(-P) [PAVCSG]
104	VYK5E92	REAR CASE UNIT	1	(-T) [PAVCSG]
105	KORB00900007	REAR OPERATION UNIT	1	[PAVCSG]
106	VGQ0W72	GRIP PIECE REAR	1	(-K,-R,-T) [PAVCSG]
106	VGQ0W73	GRIP PIECE REAR	1	(-W,-P) [PAVCSG]
107	VGQ0W76	LCD FPC TAPE B	1	[PAVCSG]
108	VMP0A22	REAR PLATE	1	[PAVCSG]
109	VGQ0Y31	REAR PLATE SHEET	1	[PAVCSG]
110	VGQ0Y43	LCD FPC TAPE C	1	[PAVCSG]
112	VYK5D76	LCD UNIT	1	[PAVCSG]
112-1	VYK5F22	TOUCH PANEL UNIT	1	[PAVCSG]
113	VGQ0W85	BATTERY CASE	1	[PAVCSG]
114	VMP0A25	BATTERY CASE PLATE	1	[PAVCSG]
115	VMB4516	BATTERY OUT SPRING	1	[PAVCSG]
116	VMB4304	BATTERY LOCK SPRING	1	[PAVCSG]
117	VGU0J96	BATTERY LOCK KNOB	1	[PAVCSG]
118	VMP0A26	TRIPOD	1	[PAVCSG]
119	VGQ0W77	CAPACITOR HOLDER	1	[PAVCSG]
120	VGQ0R70	CAPACITOR TAPE	1	[PAVCSG]
121	VKF4943	JACK DOOR	1	(-W) [PAVCSG]
121	VKF4939	JACK DOOR	1	(-R) [PAVCSG]
121	VKF4941	JACK DOOR	1	(-P) [PAVCSG]
121	VKF4940	JACK DOOR	1	(-T) [PAVCSG]
121	VKF4938	JACK DOOR	1	(-K) [PAVCSG]
⚠ 122	VXQ2113	FLASH SUB P.C.B. UNIT	1	[PAVCSG]
123	VMB4515	BATTERY DOOR SPRING	1	[PAVCSG]
124	VMS8186	BATTERY DOOR SHAFT	1	[PAVCSG]
125	VYF3450	BATTERY DOOR UNIT	1	(-W) [PAVCSG]
125	VYF3448	BATTERY DOOR UNIT	1	(-R) [PAVCSG]
125	VYF3447	BATTERY DOOR UNIT	1	(-P) [PAVCSG]
125	VYF3449	BATTERY DOOR UNIT	1	(-T) [PAVCSG]
125	VYF3446	BATTERY DOOR UNIT	1	(-K) [PAVCSG]
126	LOAA01A00105	SPEAKERS	1	[PAVCSG] (SP7001)
127	VMT2027	MIC DAMPER	1	[PAVCSG]
128	VMP0A30	SPEAKER PLATE	1	[PAVCSG]
129	VEP50089A	TOP P.C.B.	1	(RTL) [PAVCSG] E.S.D.
130	VMP0A31	TOP PCB PLATE	1	[PAVCSG]
131	VGQ0W83	SPEAKER HOLDER	1	[PAVCSG]
132	VGU0J98	POWER KNOB	1	(-W,-P) [PAVCSG]
132	VGU0J93	POWER KNOB	1	(-K,-R,-T) [PAVCSG]
133	VKW3495	POWER LED PANEL	1	[PAVCSG]
134	VWJ2276	MAIN-TOP FPC	1	[PAVCSG]
135	VYK5F24	TOP CASE UNIT	1	(-W,-P) [PAVCSG]
135	VYK5F23	TOP CASE UNIT	1	(-K,-R,-T) [PAVCSG]
136	VYK5E85	FLASH CASE UNIT	1	(-W) [PAVCSG]
136	VYK5E83	FLASH CASE UNIT	1	(-R) [PAVCSG]
136	VYK5E82	FLASH CASE UNIT	1	(-P) [PAVCSG]
136	VYK5E84	FLASH CASE UNIT	1	(-T) [PAVCSG]
136	VYK5D74	FLASH CASE UNIT	1	(-K) [PAVCSG]
136-1	VYK5F12	FLASH CASE TOP UNIT	1	(-W) [PAVCSG]
136-1	VYK5F09	FLASH CASE TOP UNIT	1	(-R) [PAVCSG]
136-1	VYK5F11	FLASH CASE TOP UNIT	1	(-P) [PAVCSG]
136-1	VYK5F10	FLASH CASE TOP UNIT	1	(-T) [PAVCSG]
136-1	VYK5F08	FLASH CASE TOP UNIT	1	(-K) [PAVCSG]
137	VMB4520	FLASH LOCK SPRING	1	[PAVCSG]
138	VGQ0Y79	FLASH LOCK KNOB	1	[PAVCSG]
139	VMP0A29	FLASH LOCK PLATE	1	[PAVCSG]
140	VGQ0W81	FLASH LOCK	1	[PAVCSG]
141	VMP0A28	FLASH LOCK FIX PLATE	1	[PAVCSG]
142	VEP50090A	POP SW P.C.B.	1	(RTL) [PAVCSG]
143	VEE1K47	POP SW HARNESS	1	[PAVCSG]
144	LOCBAY000093	MICROPHONE UNIT	1	[PAVCSG] (M7001)
⚠ 145	ML-421S/DN	BATTERY	1	[ENERGY] (B7001)
146	VEP54027A	MAIN-AUDIO FPC UNIT	1	[PAVCSG]
B1	VHD2081	SCREW	1	(-W,-P)
B1	VHD2082	SCREW	1	(-K,-R,-T)
B2	VHD2081	SCREW	1	(-W,-P)
B2	VHD2082	SCREW	1	(-K,-R,-T)
B3	VHD2081	SCREW	1	(-W,-P)
B3	VHD2082	SCREW	1	(-K,-R,-T)
B4	VHD2081	SCREW	1	(-W,-P)
B4	VHD2082	SCREW	1	(-K,-R,-T)
B5	VHD2102	SCREW	1	(-W,-P)
B5	VHD2103	SCREW	1	(-K,-R,-T)
B6	VHD2102	SCREW	1	(-W,-P)
B6	VHD2103	SCREW	1	(-K,-R,-T)
B7	VHD2102	SCREW	1	(-W,-P)
B7	VHD2103	SCREW	1	(-K,-R,-T)
B8	VHD2102	SCREW	1	(-W,-P)
B8	VHD2103	SCREW	1	(-K,-R,-T)
B9	VHD2331-A	SCREW	1	
B10	VHD2331-A	SCREW	1	
B11	VHD2331-A	SCREW	1	
B12	XQN16+BJ35FN	SCREW	1	
B13	XQN16+BJ35FN	SCREW	1	
B14	XQN16+B2FN	SCREW	1	[PAVCSG]
B100	VHD2332	SCREW	1	[PAVCSG]
B101	VHD2332	SCREW	1	[PAVCSG]
B102	VHD2332	SCREW	1	[PAVCSG]
B103	VHD2332	SCREW	1	[PAVCSG]
B104	VHD1812	SCREW	1	[PAVCSG]
B105	VHD1812	SCREW	1	[PAVCSG]
B106	VHD1812	SCREW	1	[PAVCSG]
B107	VHD2037	SCREW	1	[PAVCSG]
B108	VHD2367	SCREW	1	[PAVCSG]
B109	VHD2342	SCREW	1	[PAVCSG]
B110	VHD2342	SCREW	1	[PAVCSG]
B111	VHD2342	SCREW	1	[PAVCSG]
B112	VHD2342	SCREW	1	[PAVCSG]
B113	VHD2342	SCREW	1	[PAVCSG]
B114	VHD2342	SCREW	1	[PAVCSG]
B115	VHD2342	SCREW	1	[PAVCSG]
B116	VHD2342	SCREW	1	[PAVCSG]
B117	VHD2342	SCREW	1	[PAVCSG]
B118	VHD2342	SCREW	1	[PAVCSG]
B119	XQN16+B2FN	SCREW	1	[PAVCSG]
B120	VHD2168	SCREW	1	[PAVCSG]

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
301	VYC1015	DECORATION RING	1	(GF3C,GF3W)
302	-----	LENS MAIN BLOCK UNIT	1	GF3C See "Notes"
303	VEJ2295	MOUNT CONTACT UNIT	1	(GF3C,GF3W)
304	-----	REAR FRAME UNIT	1	GF3C (NOT SUPPLIED)
305	VXQ1940	L MOUNT UNIT	1	(GF3C,GF3W)
306	VDW2116	SHADING FRAME	1	(GF3C,GF3W)
B301	XQN16+BJ4FN	SCREW	1	(GF3C,GF3W)
B302	XQN16+BJ4FN	SCREW	1	(GF3C,GF3W)
B303	XQN16+BJ4FN	SCREW	1	(GF3C,GF3W)
B304	XQN14+BJ3FN	SCREW	1	(GF3C,GF3W)
B305	XQN14+BJ3FN	SCREW	1	(GF3C,GF3W)
B306	XQN14+BJ4FNK	SCREW	1	(GF3C,GF3W)
B307	XQN14+BJ4FNK	SCREW	1	(GF3C,GF3W)
B308	XQN14+BJ4FNK	SCREW	1	(GF3C,GF3W)
B309	VHD1868	SCREW	1	(GF3C,GF3W)
B310	XQN14+AJ3FN	SCREW	1	(GF3C,GF3W)
B311	XQN2+AJ5FN	SCREW	1	(GF3C,GF3W)
B312	XQN2+AJ5FN	SCREW	1	(GF3C,GF3W)
B313	XQN2+AJ5FN	SCREW	1	(GF3C,GF3W)
B314	VHD2246	SCREW	1	(GF3C,GF3W)
B315	VHD2246	SCREW	1	(GF3C,GF3W)
B316	VHD2246	SCREW	1	(GF3C,GF3W)

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

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
402	VDW2023	SHADING FRAME	1	(GF3K,GF3W)
403	VEJ2295	MOUNT CONTACT UNIT	1	(GF3K,GF3W)
404	VGH5186	DECORATION RING	1	(GF3K,GF3W)
406	VDW2024	L MOUNT UNIT	1	(GF3K,GF3W)
407	---	REAR FRAME2 UNIT	1	(GF3K,GF3W)
				(NOT SUPPLIED)
408	---	LENS MAIN BLOCK UNIT	1	(GF3K,GF3W)
				(NOT SUPPLIED) See "Notes"
409	VMG1855	FLOATING RUBBER	1	(GF3K,GF3W)
410	VMG1855	FLOATING RUBBER	1	(GF3K,GF3W)
411	VMG1855	FLOATING RUBBER	1	(GF3K,GF3W)
412	VMG1847	DUST PROOF RING	1	(GF3K,GF3W)
413	VGQ0Y87	SILVER RING TAPE 1	1	(GF3K,GF3W)
B401	XQN14+BJ4FNK	SCREW	1	(GF3K,GF3W)
B402	XQN14+BJ4FNK	SCREW	1	(GF3K,GF3W)
B403	XQN14+BJ4FNK	SCREW	1	(GF3K,GF3W)
B404	XQN14+BJ4FNK	SCREW	1	(GF3K,GF3W)
B405	XQN14+BJ4FNK	SCREW	1	(GF3K,GF3W)
B406	XQN14+BJ4FNK	SCREW	1	(GF3K,GF3W)
B407	XQN14+BJ4FNK	SCREW	1	(GF3K,GF3W)
B408	XQN2+AJ5FNK	SCREW	1	(GF3K,GF3W)
B409	XQN2+AJ5FNK	SCREW	1	(GF3K,GF3W)
B410	XQN2+AJ5FNK	SCREW	1	(GF3K,GF3W)
B411	XQN2+AJ5FNK	SCREW	1	(GF3K,GF3W)
B413	XQN14+AJ3FNK	SCREW	1	(GF3K,GF3W)
B420	XQN16+BJ5FNK	SCREW	1	(GF3K,GF3W)
B421	XQN16+BJ5FNK	SCREW	1	(GF3K,GF3W)
B422	XQN16+BJ5FNK	SCREW	1	(GF3K,GF3W)

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

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
⚠ 501	DE-A99BA	BATTERY CHARGER	1	PP,PC
⚠ 501	DE-A98AA	BATTERY CHARGER	1	EG,EF,EB
⚠ 501	DE-A98BA	BATTERY CHARGER	1	GC,GH,GD
⚠ 501	DE-A98CA	BATTERY CHARGER	1	GT
⚠ 503	-----	BATTERY	1	(GF3)
504	K1HY08YY0019	USB CABLE W/PLUG	1	(GF3)
505	K1HY08YY0020	AV CABLE W/PLUG	1	(GF3)
506	VFC4710	SHOULDER STRAP	1	(GF3)
507	VFF0829-S	CD-ROM (SOFTWARE)	1	(GF3) See "Notes"
509	VPF1294	BAG, POLYETHYLENE	1	(GF3)
510	VQC8408	O/I SOFTWARE	1	PP
		(ENGLISH/SPANISH/		
		PORTUGUESE)		
510	VQC8409	O/I SOFTWARE	1	PC
		(ENGLISH/CANADIAN FRENCH)		
510	VQC8410	O/I SOFTWARE	1	EG
		(GERMAN/FRENCH/ITALIAN/		
		DUTCH)		
510	VQC8513	O/I SOFTWARE	1	EF
		(FRENCH)		
510	VQC8412	O/I SOFTWARE	1	EB
		(ENGLISH)		
510	VQC8414	O/I SOFTWARE	1	GC,GH
		(ENGLISH/		
		CHINESE(TRADITIONAL)/		
		ARABIC)		
510	VQC8415	O/I SOFTWARE	1	GT
		(CHINESE(TRADITIONAL))		
510	VQC8417	O/I SOFTWARE	1	GD
		(KOREAN)		
⚠ 511	VQT3Q61	BASIC O/I	1	PP
		(ENGLISH/SPANISH)		
⚠ 511	VQT3Q62	BASIC O/I	1	PP
		(PORTUGUESE)		
⚠ 511	VQT3Q80	BASIC O/I	1	PC
		(ENGLISH/CANADIAN FRENCH)		
⚠ 511	VQT3Q81	BASIC O/I	1	EG
		(GERMAN/FRENCH)		
⚠ 511	VQT3Q82	BASIC O/I	1	EG
		(ITALIAN/DUTCH)		
⚠ 511	VQT3Q86	BASIC O/I	1	EF
		(FRENCH)		
⚠ 511	VQT3Q87	BASIC O/I	1	EB
		(ENGLISH)		
⚠ 511	VQT3Q89	BASIC O/I	1	GC,GH
		(ENGLISH/		
		CHINESE(TRADITIONAL))		
⚠ 511	VQT3Q90	BASIC O/I	1	GC
		(ARABIC/VIETNAMESE)		
⚠ 511	VQT3Q91	BASIC O/I	1	GT
		(CHINESE(TRADITIONAL))		
⚠ 511	VQT3Q94	BASIC O/I	1	GD
		(KOREAN)		
⚠ 512	VFF0831	CD-ROM (INSTRUCTION BOOK)	1	PP,PC
⚠ 512	VFF0833	CD-ROM (INSTRUCTION BOOK)	1	EG,EF,EB
⚠ 512	VFF0834	CD-ROM (INSTRUCTION BOOK)	1	GC,GH
⚠ 512	VFF0835	CD-ROM (INSTRUCTION BOOK)	1	GT,GD
513	VPK5067	PACKING CASE	1	PP,PC
513	VPK5068	PACKING CASE	1	EG,EF,EB,GC,GH,GT,GD
514	VPN7272	PAD A	1	PP,PC,EG,EF,EB,GC,GH,GT,
				GD
517	VPF1316	CAMERA BAG	1	(GF3)
518	VQL2C67	OPERATING LABEL	1	PC
518	VQL2C68-1	OPERATING LABEL	1	GT
520	VQL1Z22	NTSC LABEL	1	GT,GD
534	VKF4385	BODY CAP	1	(GF3)
536	VGQ0C14	TOUCH PEN	1	(GF3)
⚠ 550	K2CT39A00002	AC CORD W/PLUG	1	EB,GC,GH
⚠ 551	K2CQ29A00002	AC CORD W/PLUG	1	EG,EF,GC
⚠ 551	K2CR29A00001	AC CORD W/PLUG	1	GD
⚠ 553	K2CA29A00021	AC CORD W/PLUG	1	GT

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
⚠ 601	DE-A98DA	BATTERY CHARGER	1	CGK
⚠ 601	DE-A99BA	BATTERY CHARGER	1	CPP,CPC
⚠ 601	DE-A98AA	BATTERY CHARGER	1	CEG,CEC,CEF,CEB,CEE,CGN
⚠ 601	DE-A98BA	BATTERY CHARGER	1	CGC,CGH,CGD
⚠ 601	DE-A98CA	BATTERY CHARGER	1	CGT
⚠ 603	-----	BATTERY	1	(GF3C)
604	K1HY08YY0019	USB CABLE W/PLUG	1	(GF3C)
605	K1HY08YY0020	AV CABLE W/PLUG	1	(GF3C)
606	VFC4710	SHOULDER STRAP	1	(GF3C)
607	VFF0830-S	CD-ROM (SOFTWARE)	1	CGK See "Notes"
607	VFF0829-S	CD-ROM (SOFTWARE)	1	CPP,CPC,CEG,CEC,CEF,CEB,
				CEE,CGC,CGH,CGT,CGN,CGD
				See "Notes"
609	VPF1294	BAG, POLYETHYLENE	1	(GF3C)
610	VQC8411	O/I SOFTWARE	1	CEC
		(SPANISH/PORTUGUESE/		
		SWEDISH/DANISH/FINNISH)		
610	VQC8413	O/I SOFTWARE	1	CEE
		(RUSSIAN/UKRAINIAN)		
610	VQC8416	O/I SOFTWARE	1	CGK
		(CHINESE(SIMPLIFIED))		
610	VQC8408	O/I SOFTWARE	1	CPP
		(ENGLISH/SPANISH/		
		PORTUGUESE)		
610	VQC8409	O/I SOFTWARE	1	CPC
		(ENGLISH/CANADIAN FRENCH)		
610	VQC8410	O/I SOFTWARE	1	CEG
		(GERMAN/FRENCH/ITALIAN/		
		DUTCH)		
610	VQC8513	O/I SOFTWARE	1	CEF
		(FRENCH)		
610	VQC8412	O/I SOFTWARE	1	CEB,CGN
		(ENGLISH)		
610	VQC8414	O/I SOFTWARE	1	CGC,CGH
		(ENGLISH/		
		CHINESE(TRADITIONAL)/		
		ARABIC)		
610	VQC8415	O/I SOFTWARE	1	CGT
		(CHINESE(TRADITIONAL))		
610	VQC8417	O/I SOFTWARE	1	CGD
		(KOREAN)		
⚠ 611	VQT3Q83	BASIC O/I	1	CEC
		(SPANISH/PORTUGUESE)		
⚠ 611	VQT3Q84	BASIC O/I	1	CEC
		(SWEDISH/DANISH)		
⚠ 611	VQT3Q85	BASIC O/I	1	CEC
		(FINNISH)		
⚠ 611	VQT3Q88	BASIC O/I	1	CEE
		(RUSSIAN/UKRAINIAN)		
⚠ 611	VQT3Q92	BASIC O/I	1	CGK
		(ENGLISH)		
⚠ 611	VQT3Q93	BASIC O/I	1	CGN
		(ENGLISH)		
⚠ 611	VQT3Q61	BASIC O/I	1	CPP
		(ENGLISH/SPANISH)		
⚠ 611	VQT3Q62	BASIC O/I	1	CPP
		(PORTUGUESE)		
⚠ 611	VQT3Q80	BASIC O/I	1	CPC
		(ENGLISH/CANADIAN FRENCH)		
⚠ 611	VQT3Q81	BASIC O/I	1	CEG
		(GERMAN/FRENCH)		
⚠ 611	VQT3Q82	BASIC O/I	1	CEG
		(ITALIAN/DUTCH)		
⚠ 611	VQT3Q86	BASIC O/I	1	CEF
		(FRENCH)		
⚠ 611	VQT3Q87	BASIC O/I	1	CEB
		(ENGLISH)		
⚠ 611	VQT3Q89	BASIC O/I	1	CGC,CGH
		(ENGLISH/		
		CHINESE(TRADITIONAL))		
⚠ 611	VQT3Q90	BASIC O/I	1	CGC
		(ARABIC/VIETNAMESE)		
⚠ 611	VQT3Q91	BASIC O/I	1	CGT
		(CHINESE(TRADITIONAL))		
⚠ 611	VQT3Q94	BASIC O/I	1	CGD
		(KOREAN)		

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
⚠ 612	VFF0836	CD-ROM (INSTRUCTION BOOK)	1	CGK
⚠ 612	VFF0831	CD-ROM (INSTRUCTION BOOK)	1	CPP,CPC
⚠ 612	VFF0833	CD-ROM (INSTRUCTION BOOK)	1	CEG,CEC,CEF,CEB
⚠ 612	VFF0834	CD-ROM (INSTRUCTION BOOK)	1	CEE,CGC,CGH,CGN
⚠ 612	VFF0835	CD-ROM (INSTRUCTION BOOK)	1	CGT,CGD
613	VPK5071	PACKING CASE	1	CPP,CPC
613	VPK5072	PACKING CASE	1	CEG,CEC,CEF,CEB,CEE,CGC,
				CGH,CGT,CGN,CGD
613	VPK5073	PACKING CASE	1	CGK
614	VPN7273	PAD B	1	(GF3C)
617	VPF1316	CAMERA BAG	1	(GF3C)
618	VQL2C67	OPERATING LABEL	1	CPC
618	VQL2C68-1	OPERATING LABEL	1	CGT
620	VQL1Z22	NTSC LABEL	1	CGT,CGD
624	VQL2P07	COLOR LABEL	2	CPP-W,CPC-W
624	VQL2P06	COLOR LABEL	2	CPP-R
624	VQL2P08	COLOR LABEL	2	CPP-P
624	VQL2P09	COLOR LABEL	2	CPP-T
624	VQL2B13	COLOR LABEL	2	CEG-W,CEB-W,CEE-W,CGC-W,
				CGH-W,CGT-W,CGN-W,CGD-W
624	VQL1V21	COLOR LABEL	2	CEG-R,CEC-R,CEF-R,CEB-R,
				CEE-R,CGC-R,CGH-R,CGT-R,
				CGN-R,CGD-R
624	VQL2M25	COLOR LABEL	2	CEG-T,CEC-T,CGC-T,CGH-T,
				CGT-T,CGD-T
624	VQL2F40	COLOR LABEL	2	CGC-P,CGH-P,CGT-P
624	VQL2H31	COLOR LABEL	2	CGK-W
624	VQL2B47	COLOR LABEL	2	CGK-R
624	VQL2K01	COLOR LABEL	2	CGK-P
633	VYF3371	LENS CAP	1	(GF3C)
636	VGQ0C14	TOUCH PEN	1	(GF3C)
⚠ 650	K2CT39A00002	AC CORD W/PLUG	1	CEB,CGC,CGH
⚠ 651	K2CQ29A00002	AC CORD W/PLUG	1	CEG,CEC,CEF,CEE,CGC
⚠ 651	K2CR29A00001	AC CORD W/PLUG	1	CGD
⚠ 652	K2CJ29A00002	AC CORD W/PLUG	1	CGN
⚠ 653	K2CA2YY00070	AC CORD W/PLUG	1	CGK
⚠ 653	K2CA29A00021	AC CORD W/PLUG	1	CGT

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
⚠ 701	DE-A99BA	BATTERY CHARGER	1	KPP,KPC
⚠ 701	DE-A98AA	BATTERY CHARGER	1	KEG,KEC,KEF,KEB,KEE,KGN
⚠ 701	DE-A98BA	BATTERY CHARGER	1	KGC,KGH,KGD
⚠ 701	DE-A98CA	BATTERY CHARGER	1	KGT
⚠ 701	DE-A98DA	BATTERY CHARGER	1	KGK
⚠ 703	-----	BATTERY	1	(GF3K)
704	K1HY08YY0019	USB CABLE W/PLUG	1	(GF3K)
705	K1HY08YY0020	AV CABLE W/PLUG	1	(GF3K)
706	VFC4710	SHOULDER STRAP	1	(GF3K)
707	VFF0829-S	CD-ROM (SOFTWARE)	1	KPP,KPC,KEG,KEC,KEF,KEB,
				KEE,KGC,KGH,KGT,KGN,KGD
				See "Notes"
707	VFF0830-S	CD-ROM (SOFTWARE)	1	KGK See "Notes"
709	VPF1294	BAG, POLYETHYLENE	1	(GF3K)
710	VQC8408	O/I SOFTWARE	1	KPP
		(ENGLISH/SPANISH/		
		PORTUGUESE)		
710	VQC8409	O/I SOFTWARE	1	KPC
		(ENGLISH/CANADIAN FRENCH)		
710	VQC8410	O/I SOFTWARE	1	KEG
		(GERMAN/FRENCH/ITALIAN/		
		DUTCH)		
710	VQC8513	O/I SOFTWARE	1	KEF
		(FRENCH)		
710	VQC8412	O/I SOFTWARE	1	KEB,KGN
		(ENGLISH)		
710	VQC8414	O/I SOFTWARE	1	KGC,KGH
		(ENGLISH/		
		CHINESE(TRADITIONAL)/		
		ARABIC)		
710	VQC8415	O/I SOFTWARE	1	KGT
		(CHINESE(TRADITIONAL))		
710	VQC8417	O/I SOFTWARE	1	KGD
		(KOREAN)		
710	VQC8411	O/I SOFTWARE	1	KEC
		(SPANISH/PORTUGUESE/		
		SWEDISH/DANISH/FINNISH)		
710	VQC8413	O/I SOFTWARE	1	KEE
		(RUSSIAN/UKRAINIAN)		
710	VQC8416	O/I SOFTWARE	1	KGK
		(CHINESE(SIMPLIFIED))		
⚠ 711	VQT3Q61	BASIC O/I	1	KPP
		(ENGLISH/SPANISH)		
⚠ 711	VQT3Q62	BASIC O/I	1	KPP
		(PORTUGUESE)		
⚠ 711	VQT3Q80	BASIC O/I	1	KPC
		(ENGLISH/CANADIAN FRENCH)		
⚠ 711	VQT3Q81	BASIC O/I	1	KEG
		(GERMAN/FRENCH)		
⚠ 711	VQT3Q82	BASIC O/I	1	KEG
		(ITALIAN/DUTCH)		
⚠ 711	VQT3Q86	BASIC O/I	1	KEF
		(FRENCH)		
⚠ 711	VQT3Q87	BASIC O/I	1	KEB
		(ENGLISH)		
⚠ 711	VQT3Q89	BASIC O/I	1	KGC,KGH
		(ENGLISH/		
		CHINESE(TRADITIONAL))		
⚠ 711	VQT3Q90	BASIC O/I	1	KGC
		(ARABIC/VIETNAMESE)		
⚠ 711	VQT3Q91	BASIC O/I	1	KGT
		(CHINESE(TRADITIONAL))		
⚠ 711	VQT3Q94	BASIC O/I	1	KGD
		(KOREAN)		
⚠ 711	VQT3Q83	BASIC O/I	1	KEC
		(SPANISH/PORTUGUESE)		
⚠ 711	VQT3Q84	BASIC O/I	1	KEC
		(SWEDISH/DANISH)		
⚠ 711	VQT3Q85	BASIC O/I	1	KEC
		(FINNISH)		
⚠ 711	VQT3Q88	BASIC O/I	1	KEE
		(RUSSIAN/UKRAINIAN)		
⚠ 711	VQT3Q92	BASIC O/I	1	KGK
		(ENGLISH)		
⚠ 711	VQT3Q93	BASIC O/I	1	KGN
		(ENGLISH)		

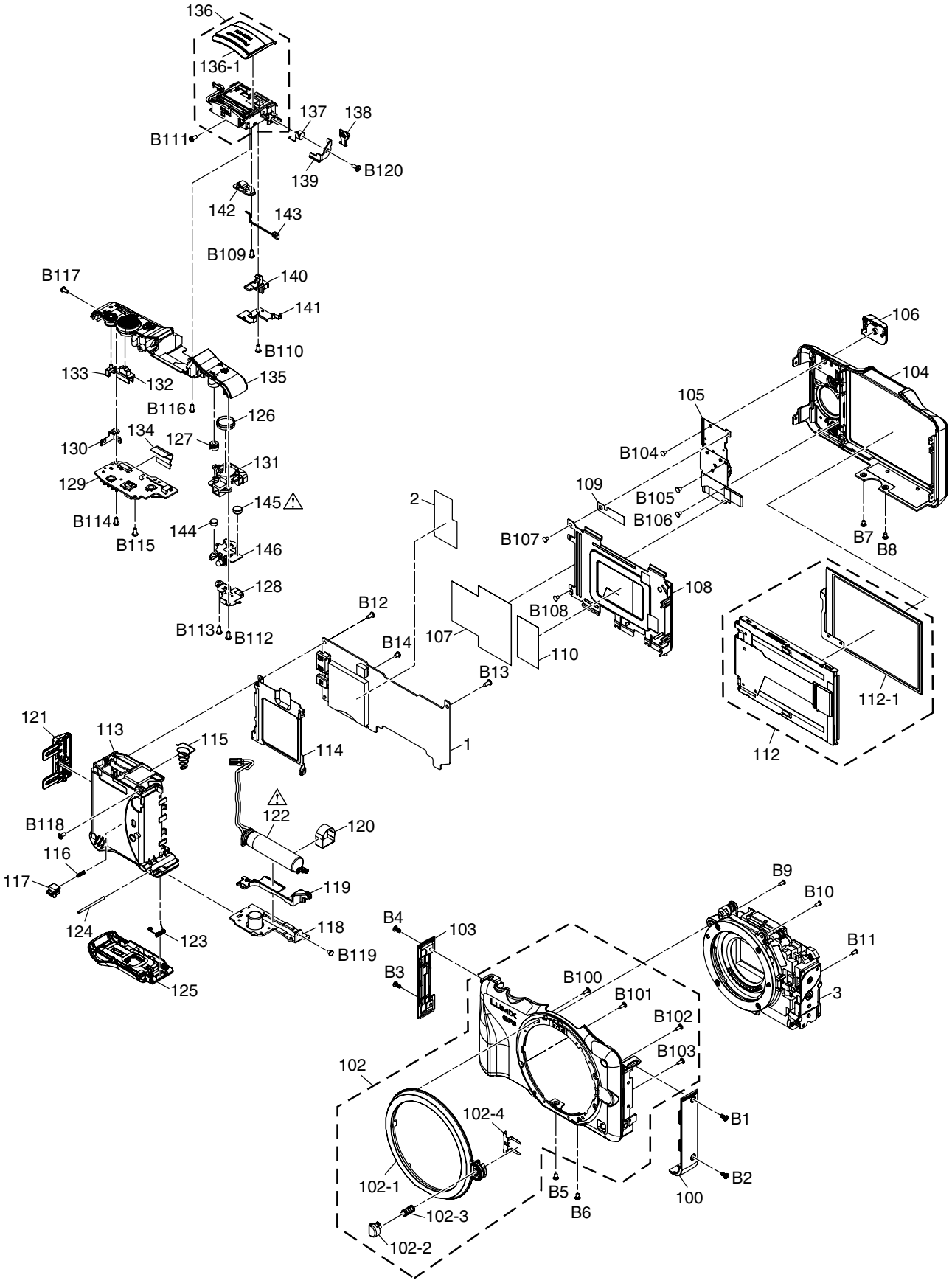
Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
⚠ 712	VFF0831	CD-ROM (INSTRUCTION BOOK)	1	KPP,KPC
⚠ 712	VFF0833	CD-ROM (INSTRUCTION BOOK)	1	KEG,KEC,KEF,KEB
⚠ 712	VFF0834	CD-ROM (INSTRUCTION BOOK)	1	KEE,KGC,KGH,KGN
⚠ 712	VFF0835	CD-ROM (INSTRUCTION BOOK)	1	KGT,KGD
⚠ 712	VFF0836	CD-ROM (INSTRUCTION BOOK)	1	KGK
713	VPK5074	PACKING CASE	1	KPP,KPC
713	VPK5075	PACKING CASE	1	KEG,KEC,KEF,KEB,KEE,KGC,
				KGH,KGT,KGN,KGD
713	VPK5076	PACKING CASE	1	KGK
715	VPN7274	PAD C	1	(GF3K)
716	VPN7276	PAD D	1	(GF3K)
717	VPF1316	CAMERA BAG	1	(GF3K)
718	VQL2C67	OPERATING LABEL	1	KPC
718	VQL2C68-1	OPERATING LABEL	1	KGT
720	VQL1Z22	NTSC LABEL	1	KGT,KGD
721	VYC1009	LENS HOOD	1	(GF3K)
724	VQL2P07	COLOR LABEL	2	KPP-W,KPC-W
724	VQL2P06	COLOR LABEL	2	KPP-R
724	VQL2P08	COLOR LABEL	2	KPP-P
724	VQL2P09	COLOR LABEL	2	KPP-T
724	VQL2B13	COLOR LABEL	2	KEG-W,KEF-W,KEB-W,KEE-W,
				KGC-W,KGT-W,KGN-W
724	VQL1V21	COLOR LABEL	2	KEG-R,KEC-R,KEF-R,KEB-R,
				KEE-R,KGC-R,KGN-R
724	VQL2M25	COLOR LABEL	2	KEG-T,KEC-T,KEF-T
724	VQL2F40	COLOR LABEL	2	KGC-P
724	VQL2H31	COLOR LABEL	2	KGK-W
724	VQL2B47	COLOR LABEL	2	KGK-R
724	VQL2K01	COLOR LABEL	2	KGK-P
734	VKF4385	BODY CAP	1	(GF3K)
736	VGQ0C14	TOUCH PEN	1	(GF3K)
741	VFC4315	LENS REAR CAP	1	(GF3K)
742	VYF3201	LENS CAP	1	(GF3K)
743	VPF1371	LENS BAG	1	(GF3K)
⚠ 750	K2CT39A00002	AC CORD W/PLUG	1	KEB,KGC,KGH
⚠ 751	K2CQ29A00002	AC CORD W/PLUG	1	KEG,KEC,KEF,KEE,KGC
⚠ 751	K2CR29A00001	AC CORD W/PLUG	1	KGD
⚠ 752	K2CJ29A00002	AC CORD W/PLUG	1	KGN
⚠ 753	K2CA29A00021	AC CORD W/PLUG	1	KGT
⚠ 753	K2CA2YY00070	AC CORD W/PLUG	1	KGK

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
⚠ 801	DE-A98EA	BATTERY CHARGER	1	WSG
⚠ 801	DE-A98AA	BATTERY CHARGER	1	WEG,WEC,WEF,WEB,WGN
⚠ 801	DE-A98BA	BATTERY CHARGER	1	WGC,WGH,WGD
⚠ 801	DE-A98CA	BATTERY CHARGER	1	WGT
⚠ 801	DE-A98DA	BATTERY CHARGER	1	WGK
⚠ 803	-----	BATTERY	1	(GF3W)
804	K1HY08YY0019	USB CABLE W/PLUG	1	(GF3W)
805	K1HY08YY0020	AV CABLE W/PLUG	1	(GF3W)
806	VFC4710	SHOULDER STRAP	1	(GF3W)
807	VFF0829-S	CD-ROM (SOFTWARE)	1	WEG,WEC,WEF,WEB,WGC,WGH,
				WSG,WGT,WGN,WGD
				See "Notes"
807	VFF0830-S	CD-ROM (SOFTWARE)	1	WGK See "Notes"
809	VPF1294	BAG, POLYETHYLENE	1	(GF3W)
810	VQC8410	O/I SOFTWARE	1	WEG
		(GERMAN/FRENCH/ITALIAN/		
		DUTCH)		
810	VQC8513	O/I SOFTWARE	1	WEF
		(FRENCH)		
810	VQC8412	O/I SOFTWARE	1	WEB,WGN
		(ENGLISH)		
810	VQC8414	O/I SOFTWARE	1	WGC,WGH,WSG
		(ENGLISH/		
		CHINESE(TRADITIONAL)/		
		ARABIC)		
810	VQC8415	O/I SOFTWARE	1	WGT
		(CHINESE(TRADITIONAL))		
810	VQC8417	O/I SOFTWARE	1	WGD
		(KOREAN)		
810	VQC8411	O/I SOFTWARE	1	WEC
		(SPANISH/PORTUGUESE/		
		SWEDISH/DANISH/FINNISH)		
810	VQC8416	O/I SOFTWARE	1	WGK
		(CHINESE(SIMPLIFIED))		
⚠ 811	VQT3Q81	BASIC O/I	1	WEG
		(GERMAN/FRENCH)		
⚠ 811	VQT3Q82	BASIC O/I	1	WEG
		(ITALIAN/DUTCH)		
⚠ 811	VQT3Q86	BASIC O/I	1	WEF
		(FRENCH)		
⚠ 811	VQT3Q87	BASIC O/I	1	WEB
		(ENGLISH)		
⚠ 811	VQT3Q89	BASIC O/I	1	WGC,WGH,WSG
		(ENGLISH/		
		CHINESE(TRADITIONAL))		
⚠ 811	VQT3Q90	BASIC O/I	1	WGC
		(ARABIC/VIETNAMESE)		
⚠ 811	VQT3Q91	BASIC O/I	1	WGT
		(CHINESE(TRADITIONAL))		
⚠ 811	VQT3Q94	BASIC O/I	1	WGD
		(KOREAN)		
⚠ 811	VQT3Q83	BASIC O/I	1	WEC
		(SPANISH/PORTUGUESE)		
⚠ 811	VQT3Q84	BASIC O/I	1	WEC
		(SWEDISH/DANISH)		
⚠ 811	VQT3Q85	BASIC O/I	1	WEC
		(FINNISH)		
⚠ 811	VQT3Q92	BASIC O/I	1	WGK
		(ENGLISH)		
⚠ 811	VQT3Q93	BASIC O/I	1	WGN
		(ENGLISH)		
⚠ 812	VFF0833	CD-ROM (INSTRUCTION BOOK)	1	WEG,WEC,WEF,WEB
⚠ 812	VFF0834	CD-ROM (INSTRUCTION BOOK)	1	WGC,WGH,WSG,WGN
⚠ 812	VFF0835	CD-ROM (INSTRUCTION BOOK)	1	WGT,WGD
⚠ 812	VFF0836	CD-ROM (INSTRUCTION BOOK)	1	WGK
813	VPK5078	PACKING CASE	1	WEG,WEC,WEF,WEB,WGC,WGH,
				WSG,WGT,WGN,WGD
813	VPK5079	PACKING CASE	1	WGK
815	VPN7274	PAD C	1	(GF3W)
816	VPN7277	PAD E	1	(GF3W)
817	VPF1316	CAMERA BAG	1	(GF3W)
818	VQL2C68-1	OPERATING LABEL	1	WGT
820	VQL1Z22	NTSC LABEL	1	WGT,WGD
821	VYC1009	LENS HOOD	1	(GF3W)
824	VQL2B13	COLOR LABEL	2	WEB-W,WGC-W,WGH-W,WSG-W,
				WGT-W,WGN-W,WGD-W

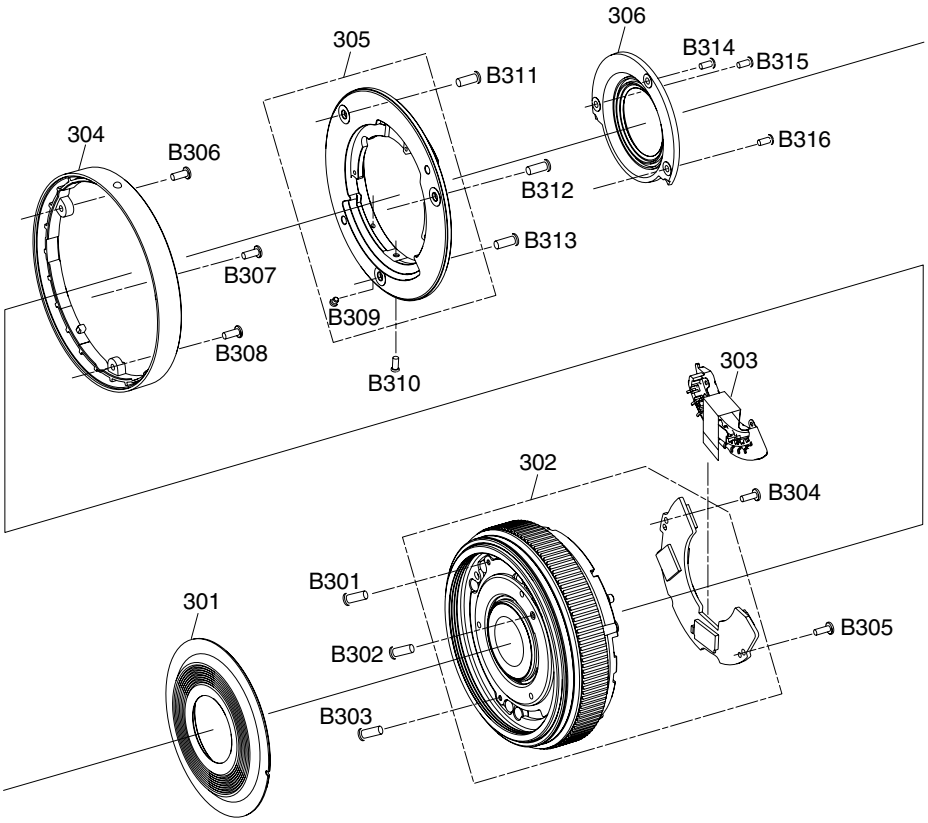
Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
824	VQL1V21	COLOR LABEL	2	WEB-R,WGC-R,WGH-R,WGT-R,
				WGN-R,WGD-R
824	VQL2M25	COLOR LABEL	2	WGC-T,WGH-T,WGT-T,WGD-T
824	VQL2F40	COLOR LABEL	2	WGC-P,WGH-P,WGT-P
824	VQL2H31	COLOR LABEL	2	WGK-W
824	VQL2B47	COLOR LABEL	2	WGK-R
824	VQL2K01	COLOR LABEL	2	WGK-P
833	VYF3371	LENS CAP	1	(GF3C,GF3W)
836	VGQ0C14	TOUCH PEN	1	(GF3W)
841	VFC4315	LENS REAR CAP	1	(GF3W)
842	VYF3201	LENS CAP	1	(GF3W)
843	VPF1371	LENS BAG	1	(GF3W)
⚠ 850	K2CT39A00002	AC CORD W/PLUG	1	WEB,WGC,WGH
⚠ 851	K2CQ29A00002	AC CORD W/PLUG	1	WEG,WEC,WEF,WGC
⚠ 851	K2CR29A00001	AC CORD W/PLUG	1	WGD
⚠ 852	K2CJ29A00002	AC CORD W/PLUG	1	WGN
⚠ 853	K2CA29A00023	AC CORD W/PLUG	1	WSG
⚠ 853	K2CA29A00021	AC CORD W/PLUG	1	WGT
⚠ 853	K2CA2YY00070	AC CORD W/PLUG	1	WGK

S6. Exploded View

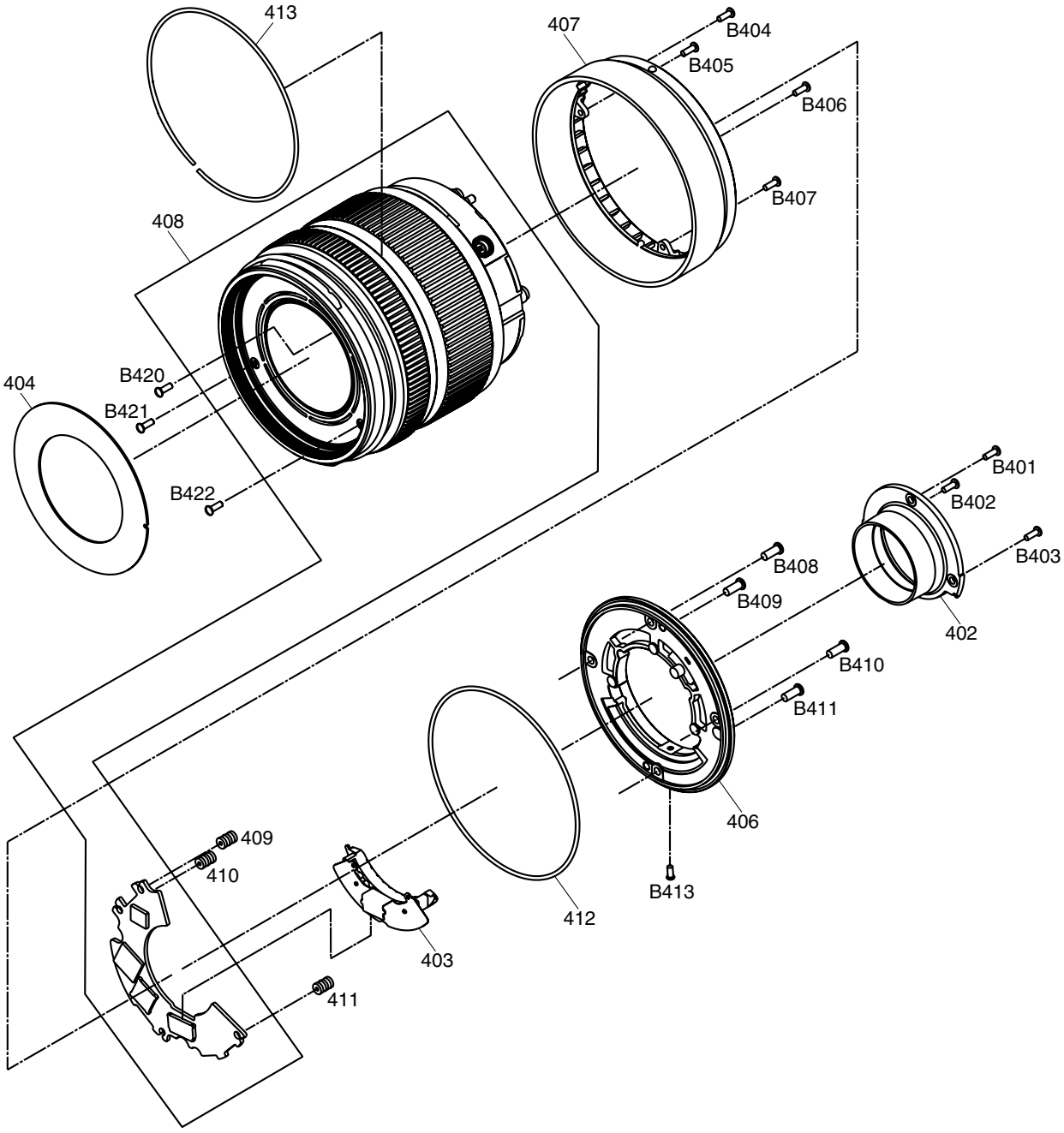
S6.1. Frame and Casing Section



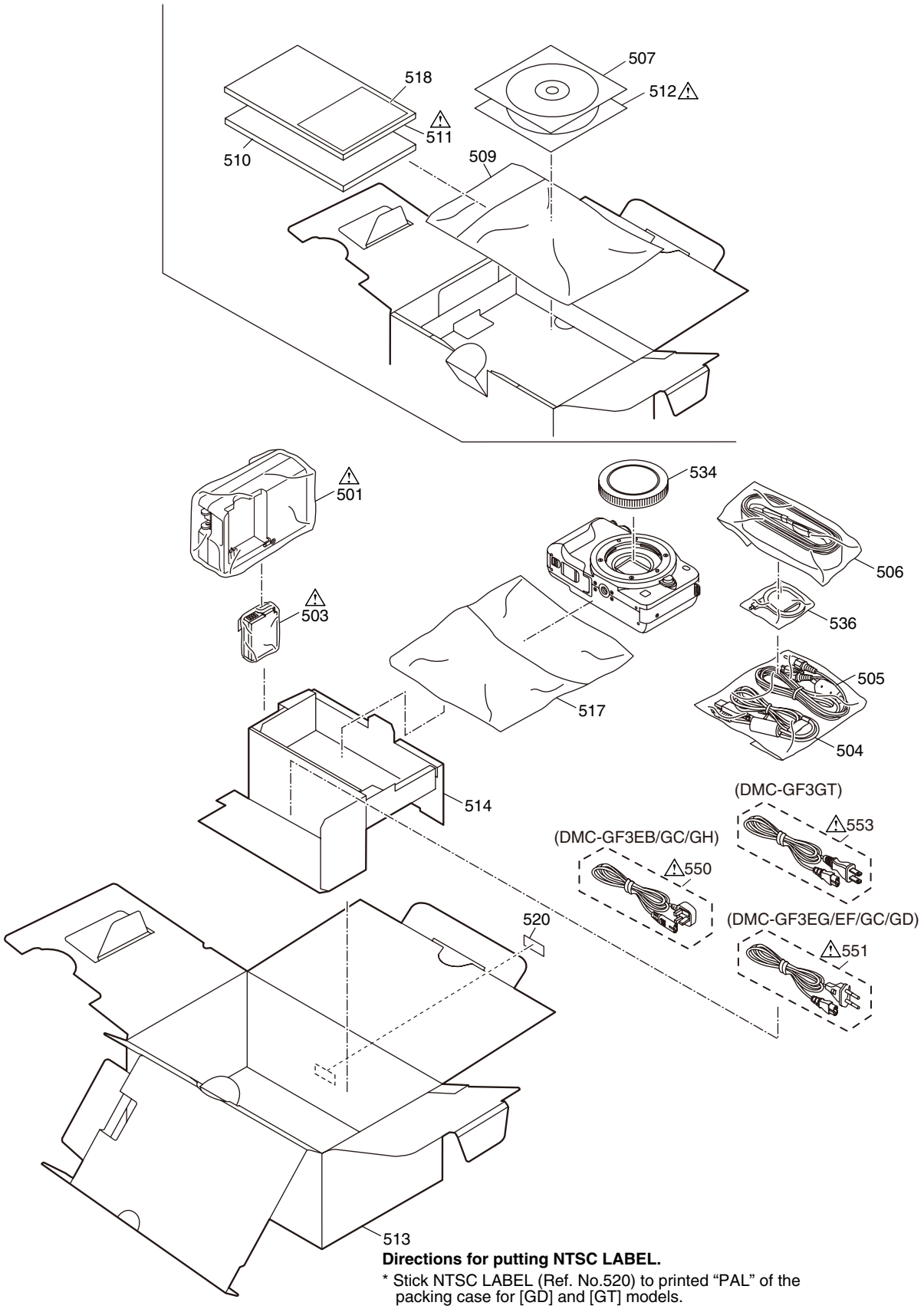
S6.2. Camera Lens Section (1)



S6.3. Camera Lens Section (2)



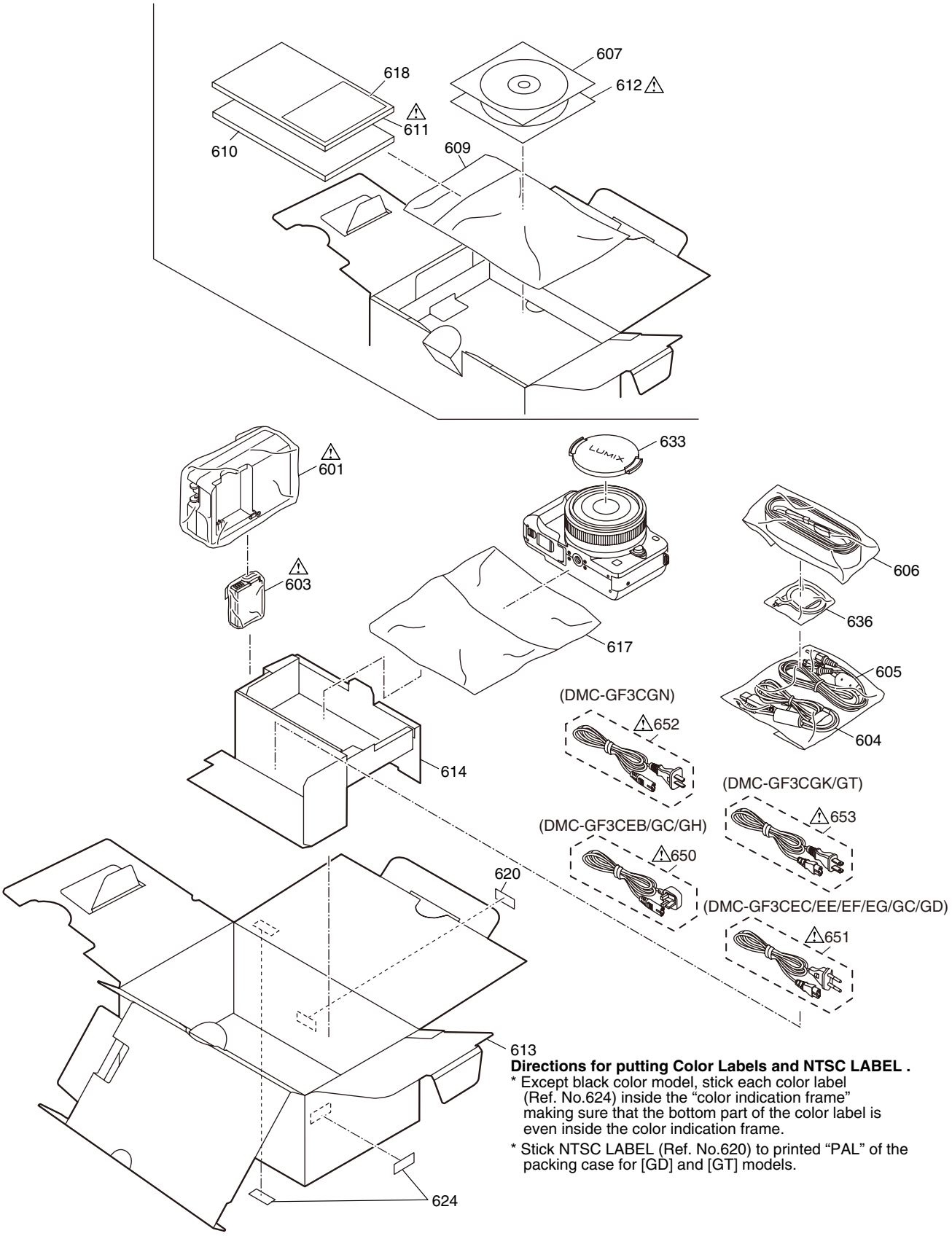
S6.4. Packing Parts and Accessories Section (1)



Directions for putting NTSC LABEL.

* Stick NTSC LABEL (Ref. No.520) to printed “PAL” of the packing case for [GD] and [GT] models.

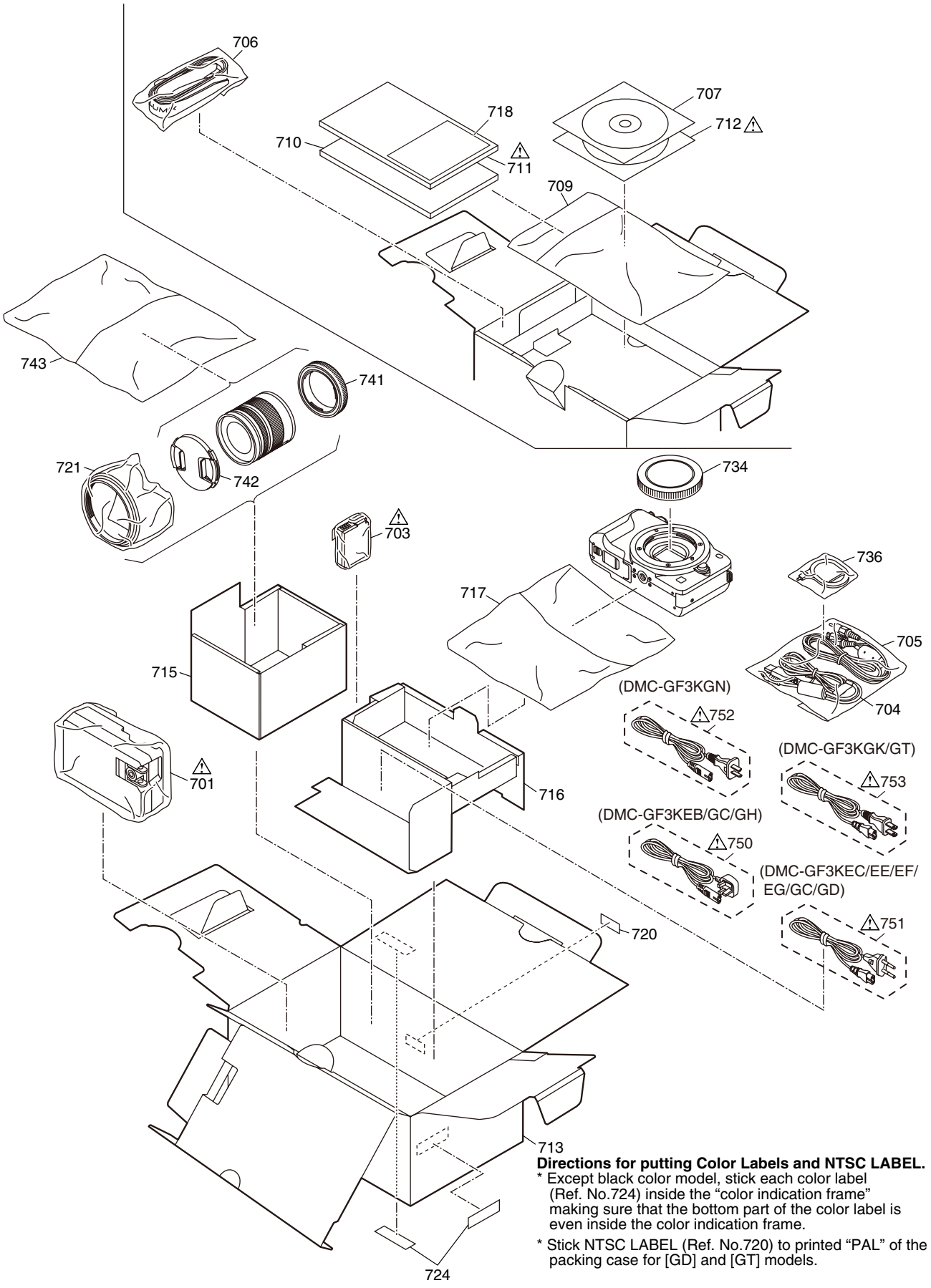
S6.5. Packing Parts and Accessories Section (2)



Directions for putting Color Labels and NTSC LABEL .

* Except black color model, stick each color label (Ref. No.624) inside the “color indication frame” making sure that the bottom part of the color label is even inside the color indication frame.
* Stick NTSC LABEL (Ref. No.620) to printed “PAL” of the packing case for [GD] and [GT] models.

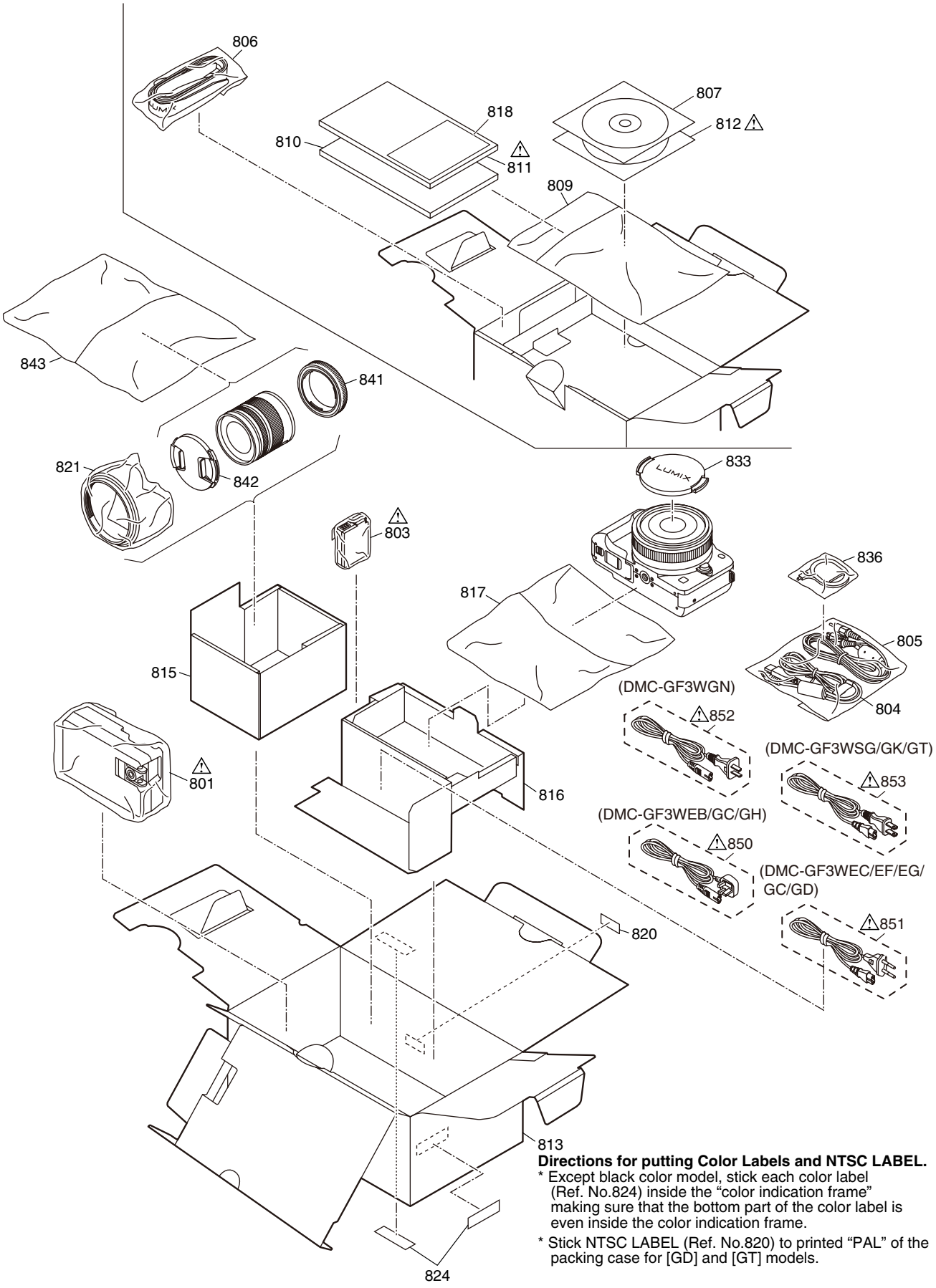
S6.6. Packing Parts and Accessories Section (3)



Directions for putting Color Labels and NTSC LABEL.

* Except black color model, stick each color label (Ref. No.724) inside the “color indication frame” making sure that the bottom part of the color label is even inside the color indication frame.
* Stick NTSC LABEL (Ref. No.720) to printed “PAL” of the packing case for [GD] and [GT] models.

S6.7. Packing Parts and Accessories Section (4)



Directions for putting Color Labels and NTSC LABEL.

* Except black color model, stick each color label (Ref. No.824) inside the “color indication frame” making sure that the bottom part of the color label is even inside the color indication frame.
* Stick NTSC LABEL (Ref. No.820) to printed “PAL” of the packing case for [GD] and [GT] models.