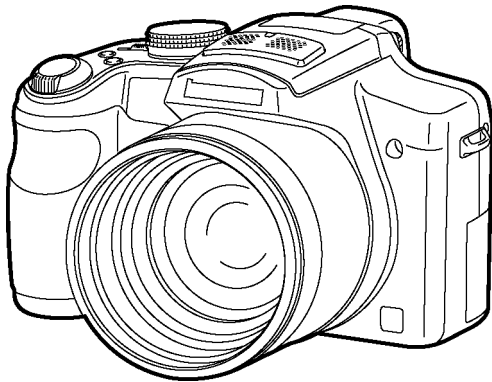


# Service Manual

Digital Camera

**LUMIX**  
LEICA  
DC VARIO-ELMARIT



- Model No. **DMC-FZ35P**  
**DMC-FZ35PC**  
**DMC-FZ35PU**  
**DMC-FZ35GC**  
**DMC-FZ35GT**  
**DMC-FZ35GK**  
**DMC-FZ35GN**  
**DMC-FZ35GD**  
**DMC-FZ38EG**  
**DMC-FZ38EP**  
**DMC-FZ38EF**  
**DMC-FZ38EB**  
**DMC-FZ38EE**  
**DMC-FZ38SG**

VOL.1

Colours

(K).....Black Type

## **WARNING**

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

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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  $\triangle$  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  $1M\Omega$  and  $5.2M\Omega$ . 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  $1.5k\Omega$ , 10 W resistor, in parallel with a  $0.15\mu F$  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  $1 k\Omega/V$  or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 V RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed  $1/2$  mA. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

Hot-Check Circuit

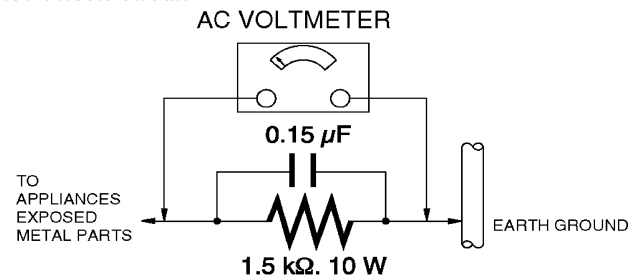


Figure 1

## 1.4. How to Discharge the Capacitor on Main PCB

- This unit equipped with two pieces of capacitors as flash charging capacitors.  
"Either one of the capacitor discharging operation" makes discharging for others as well.

### CAUTION:

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

### [Discharging Procedure]

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

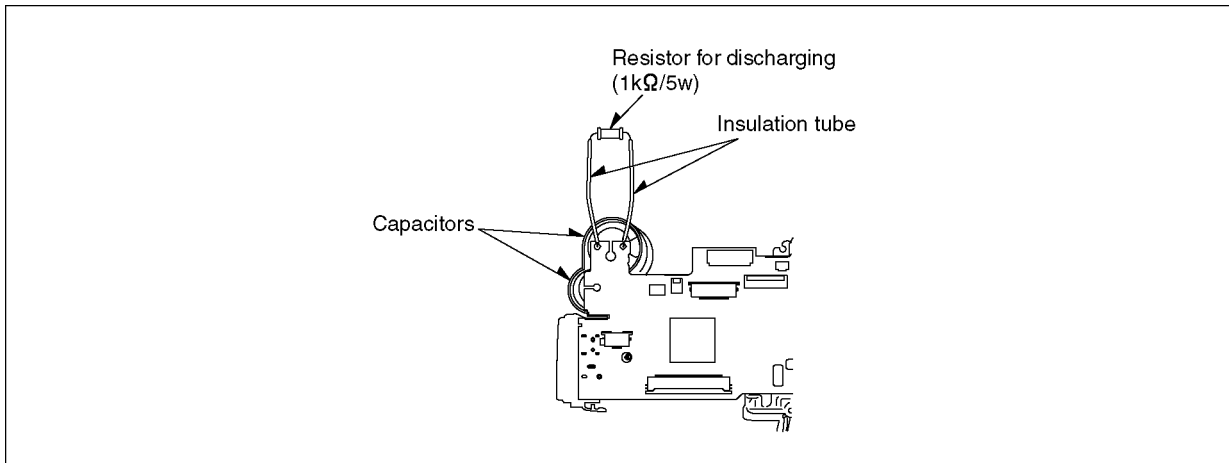


Fig. F1

## 2 Warning

### 2.1. Prevention of Electrostatic Discharge (ESD) to Electrostatic 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 CCD image sensor, 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/polymer battery that is recyclable powers the product you have purchased. Please call 1-800-8-BATTERY for information on how to recycle this battery.

**FRANÇAIS**



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

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

### 2.3.1. Information for Your Safety

#### IMPORTANT

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

#### WARNING

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

#### CAUTION

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

#### FOR YOUR SAFETY

##### DO NOT REMOVE THE OUTER COVER

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

### 2.3.2. Caution for AC Mains Lead

For your safety, please read the following text carefully.

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

A 5-ampere fuse is fitted in this plug.

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

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



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

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

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

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

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

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

If in any doubt, please consult a qualified electrician.

### 2.3.2.1. Important

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

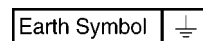
Blue	Neutral
Brown	Live

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

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

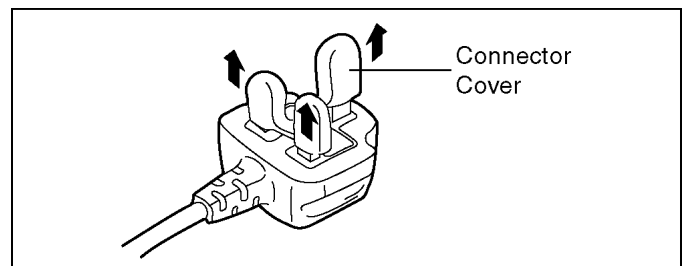
The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

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



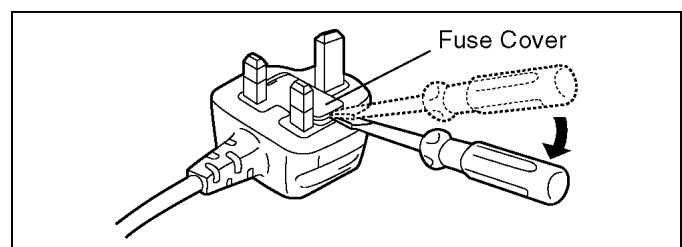
### 2.3.2.2. Before Use

remove the Connector Cover as follows.

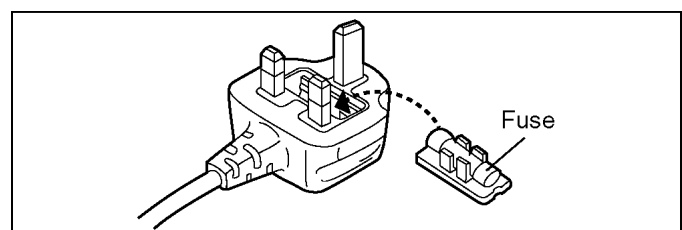


### 2.3.2.3. How to Replace the Fuse

1. Remove the Fuse Cover with a screwdriver.



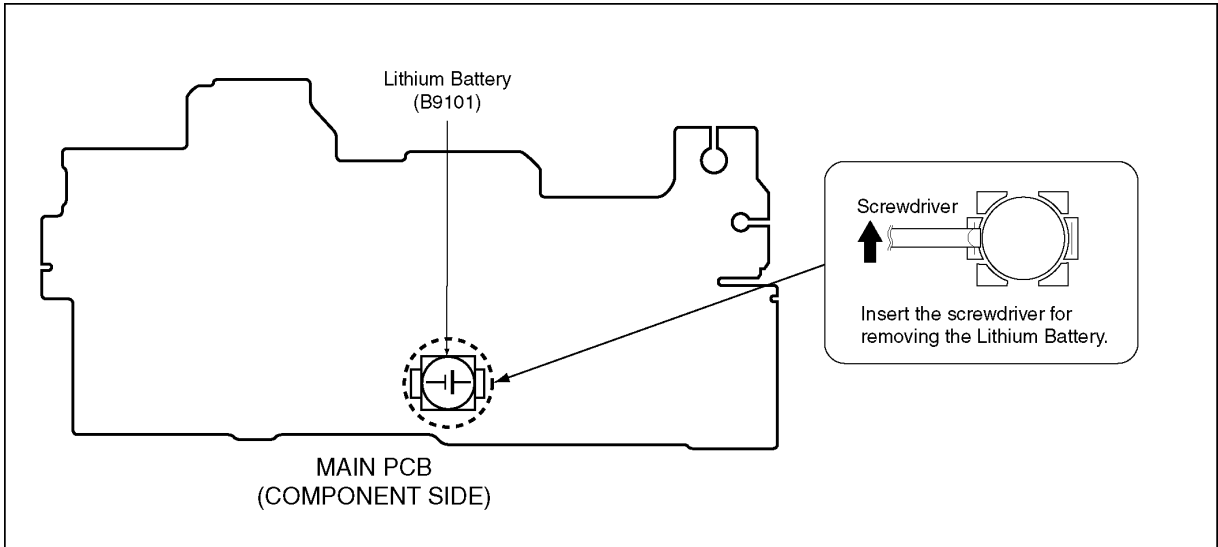
2. Replace the fuse and attach the Fuse cover.



## 2.4. How to Replace the Lithium Battery

### 2.4.1. Replacement Procedure

1. Remove the Main PCB. (Refer to Disassembly Procedures.)
2. Remove the Lithium battery (Ref. No. **B9101** at component side of Main PCB) and then replace it into new one.



#### CAUTION

Danger of explosion if battery is incorrectly replaced.  
Replace only with the same or equivalent type.

#### CAUTION

The battery used in this device may present a risk of fire or chemical burn if mistreated.  
Do not recharge, disassemble, heat above 100°C (212°F), or incinerate.  
Replace battery with Panasonic part number ML-614S/ZTK only.  
Use of another battery may present a risk of fire or explosion.  
Dispose of used battery promptly.  
Keep away from children.  
Do not disassemble and do not dispose of in fire.

#### Note:

The lithium battery is a critical component.

(Type No.: ML-614S/ZTK **Manufactured by Energy Company, Panasonic Corporation**)

It must never be subjected to excessive heat or discharge.

It must therefore only be fitted in equipment designed specifically for its use.

Replacement batteries must be of the same type and manufacture.

They must be fitted in the same manner and location as the original battery, with the correct polarity contacts observed.

Do not attempt to re-charge the old battery or re-use it for any other purpose.

It should be disposed of in waste products destined for burial rather than incineration.

(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 fabricant.

#### NOTE:

Above caution is applicable for a battery pack which is for DMC-FZ35 and DMC-FZ38 series, as well.

## 3 Service Navigation

### 3.1. Introduction

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

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

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

### 3.2. General Description About Lead Free Solder (PbF)

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

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

#### Definition of PCB Lead Free Solder being used

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

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

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

#### Recommended Lead Free Solder (Service Parts Route.)

- The following 3 types of lead free solder are available through the service parts route.
  - 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%

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

1. The service manual does not contain the following information, because of the impossibility of servicing at component level without concerned equipment/facilities.
  - a. Schematic diagram, Block Diagram and PCB layout of MAIN PCB.
  - b. Parts list for individual parts for MAIN PCB.

When a part replacement is required for repairing MAIN PCB, replace as an assembled parts. (MAIN PCB)

2. The following category is/are recycle module part. please send it/them to Central Repair Center.
  - MAIN PCB (VEP56091A) : for EE, SG, P, PC, PU, GC, GT, GK, GN, GD. Excluding replacement of Lithium Battery.
  - MAIN PCB (VEP56091B) : for EG, EP, EF, EB. Excluding replacement of Lithium Battery.



### 3.4. How to Define the Model Suffix

There are nine kinds of DMC-FZ35/FZ38, regardless of the colours.










- a) DMC-FZ38 (Japan domestic model.)/SG
- b) DMC-FZ35P/PC
- c) DMC-FZ38EB/EF/EG/EP
- d) DMC-FZ38EE
- e) DMC-FZ35GD
- f) DMC-FZ35GT
- g) DMC-FZ35GN
- h) DMC-FZ35GK
- i) DMC-FZ35GC/PU

(DMC-FZ38 is exclusively Japan domestic model.)

What is the difference is that the "INITIAL SETTINGS" data which is stored in Flash ROM mounted on Main PCB.

#### 3.4.1. Defining methods

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

<p><b>a) DMC-FZ38 (Japan domestic model)/SG</b> The nameplate for this model shows the following Safety registration mark.</p>	
	
<p><b>b) DMC-FZ35P/PC</b> The nameplate for these models show the following Safety registration mark.</p>	
	
<p><b>c) DMC-FZ38EB/EF/EG/EP</b> The nameplate for these models show the following Safety registration mark.</p>	
	
<p><b>d) DMC-FZ38EE</b> The nameplate for this model show the following Safety registration mark.</p>	
	
<p><b>g) DMC-FZ35GN</b> The nameplate for this model show the following Safety registration mark.</p>	
	
<p><b>e) DMC-FZ35GD</b> The nameplate for this model show the following Safety registration mark.</p>	
	
<p><b>h) DMC-FZ35GK</b> The nameplate for this model show the following Safety registration mark.</p>	
	
<p><b>f) DMC-FZ35GT</b> The nameplate for this model show the following Safety registration mark.</p>	
	
<p><b>i) DMC-FZ35GC/PU</b> The nameplate for these models do not show any above safety registration mark.</p>	

**NOTE:**

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

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

### 3.4.2. INITIAL SETTINGS:

When you replace the Main/Flash ROM, be 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, be sure to read the following CAUTIONS.

### CAUTION 1:(INITIAL SETTINGS)

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

[Other than "EG, EP, EF and EB" models : (VEP56091A is used as a Main P.C.B.)]

\*.The model suffix can be chosen **JUST ONE TIME**.

(Effective model suffix : DMC-FZ38 "EE/SG")

DMC-FZ35 "P/PC/PU/GC/GT/GK/GN/GD")

\*.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, EP, EF and EB" models : (VEP56091B is used as a Main P.C.B.)]

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

### CAUTION 2:(Stored picture image data in the unit)

This unit employs "Built-in Memory" for picture image data recording.(Approx.40MB)

After proceeding "INITIAL SETTINGS", the picture image data stored in the unit is erased.

#### 2. PROCEDURES:

• Precautions: Read the above "CAUTION 1" and "CAUTION 2", carefully.

• Preparation:

1. Attach the Battery or AC Adaptor with a DC coupler to the unit.
2. Set the mode dial to the  $\bar{P}$  mode.

NOTE: If the mode dial position is other than  $\bar{P}$  mode, it does not display the initial settings menu.

• **Step 1. The temporary cancellation of "INITIAL SETTINGS":**

Set the REC/PLAYBACK selector switch to "REC (Camera mark)".

While keep pressing "UP of Cursor button" and FOCUS button simultaneously, turn the Power on.

• **Step 2. The cancellation of "INITIAL SETTINGS":**

Set the REC/PLAYBACK selector switch to "PLAYBACK".

Press "UP of Cursor button" and FOCUS button simultaneously, then turn the Power off.

• **Step 3. Turn the Power on:**

Set the REC/PLAYBACK selector switch to "REC (Camera mark)", and then turn the Power on.

• **Step 4. Display the "INITIAL SETTINGS" menu:**

NOTE: If the unit is other than  $\bar{P}$  mode, it does not display the initial settings menu.

While keep pressing MENU/SET and "RIGHT of Cursor button" simultaneously, turn the Power off.

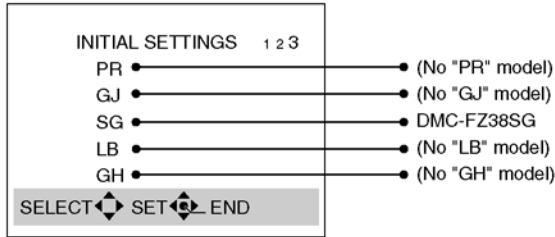
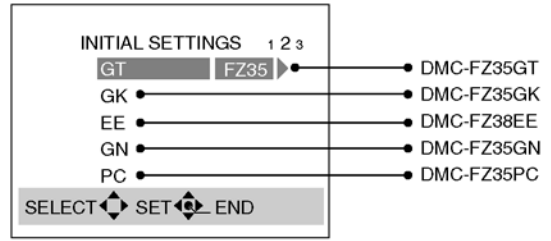
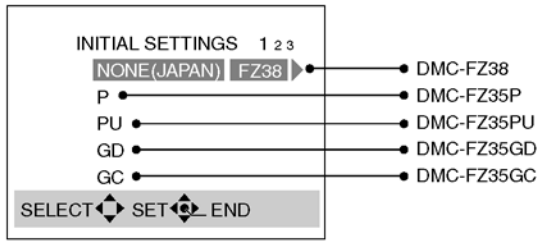
The "INITIAL SETTINGS" menu is displayed.

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

**[CASE 1. After replacing MAIN PCB / FLASH ROM]**

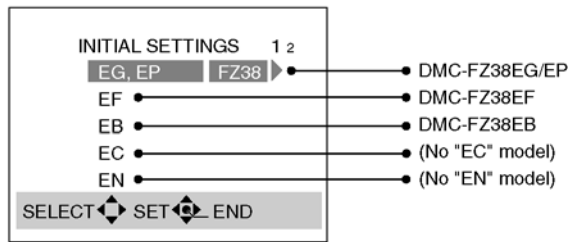
**[Other than "EG, EP, EF and EB" models : (VEP56091A is used as a Main PCB)]**

When MAIN PCB has just been replaced, all of the model suffix are displayed as follows. (Three pages in total)



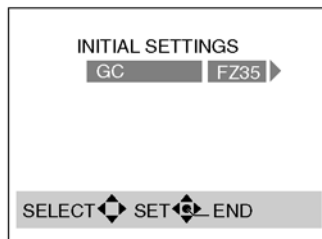
**[Only for "EG, EP, EF and EB" models : (VEP56091B is used as a Main PCB)]**

All of the model suffix are displayed as follows. (Two pages in total)

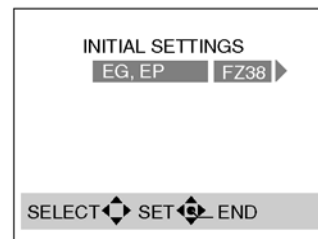


**[CASE 2. Other than "After replacing MAIN PCB"]**

<Other than "EG, EP/EF/EB" models>



<Only "EG, EP/EF/EB" models>



**• Step 5. Chose the model suffix in "INITIAL SETTINGS": (Refer to "CAUTION 1")**

**[Caution: After replacing MAIN PCB / FLASH ROM]**

(Especially, other than "EG, EP, EF and EB" models: VEP56091A is used as Main PCB).

The model suffix can be 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 at "INITIAL SETTINGS":**

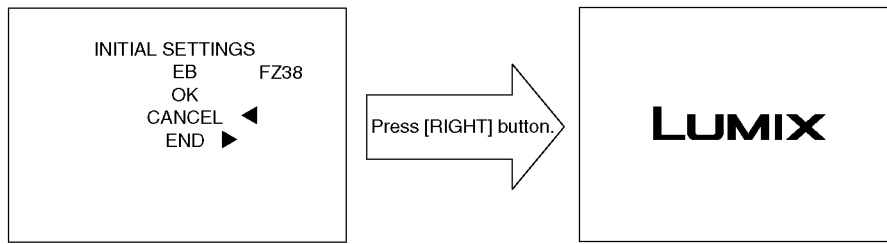
Press the "RIGHT" of Cursor buttons".

Only selected suffix area is displayed. Press the "RIGHT" of Cursor button" 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.



1) As for your reference Default setting condition is given in the following table.

• **Default setting (After "INITIAL SETTINGS")**

	MODEL	VIDEO OUTPUT	LANGUAGE	DATE	REMARKS
a)	DMC-FZ38	NTSC	Japanese	Year/Month/Date	
b)	DMC-FZ35P/PC	NTSC	English	Month/Date/Year	
c)	DMC-FZ35GC/GN, DMC-FZ38EB/EG/EP/SG	PAL	English	Date/Month/Year	
d)	DMC-FZ38EF	PAL	French	Date/Month/Year	
e)	DMC-FZ38EE	PAL	Russian	Date/Month/Year	
f)	DMC-FZ35GK	PAL	Chinese (simplified)	Year/Month/Date	
g)	DMC-FZ35GT	NTSC	Chinese (traditional)	Year/Month/Date	
h)	DMC-FZ35GD	NTSC	Korean	Year/Month/Date	
i)	DMC-FZ35PU	NTSC	Spanish	Date/Month/Year	

## 4 Specifications

Digital Camera: Information for your safety

<b>Power Source:</b>	DC 8.4 V
<b>Power Consumption:</b>	1.3 W (When recording with LCD Monitor) 1.3 W (When recording with Viewfinder) 0.6 W (When playing back with LCD Monitor) 0.6 W (When playing back with Viewfinder)
<b>Camera effective pixels:</b>	12,100,000 pixels
<b>Image sensor:</b>	1/2.33" CCD, total pixel number 12,700,000 pixels, Primary color filter
<b>Lens:</b>	Optical 18×zoom, f=4.8 mm to 86.4 mm (35 mm film camera equivalent: 27 mm to 486 mm) Wide: F2.8 to F8.0 (when recording motion pictures: F2.8 to F8.0) Tele: F4.4 to F8.0 (when recording motion pictures: F4.4 to F13)
<b>Digital zoom:</b>	Max. 4×
<b>Extended optical zoom:</b> (Except for the maximum picture size for each aspect ratio)	Max. 35.2×
<b>Focus:</b>	Auto focus/AF Macro/Macro zoom/Manual focus Face detection/AF Tracking/11-area-focusing/1-area-focusing (High speed)/1-area-focusing/Spot-focusing
<b>Focus range:</b>	AF: 30 cm (0.99 feet) (Wide)/2 m (6.57 feet) (Tele) to ∞ AF Macro/MF/Intelligent auto: 1 cm (0.04 feet) (Wide)/1 m (3.28 feet) (Tele) to ∞ However, 2 m (6.57 feet) to ∞ for 4× to 10× zoom 1 m (3.28 feet) to ∞ for 11× to 18× zoom Scene Mode: There may be differences in the above settings.
<b>Shutter system:</b>	Electronic shutter+Mechanical shutter
<b>Burst recording</b>	
<b>Burst speed:</b>	Approx. 2.3 pictures/second
<b>Number of recordable pictures:</b>	Max. 5 pictures (Standard), max. 3 pictures (Fine)
<b>Hi-speed burst</b>	
<b>Burst speed:</b>	Approx. 10 pictures/second (Speed priority) Approx. 6 pictures/second (Image priority) (3M (4:3), 2.5M (3:2) or 2M (16:9) is selected as the picture size.)
<b>Number of recordable pictures:</b>	15 to 100 (differs depending on the type of Card and the recording conditions)
<b>ISO sensitivity (Standard Output Sensitivity)</b>	
<b>Still picture:</b>	AUTO/80/100/200/400/800/1600 [HIGH SENS.] Mode: 1600 to 6400
<b>Motion pictures:</b>	AUTO/400/800/1600/3200/6400
<b>Shutter speed</b>	
<b>Still picture:</b>	Wide: 60 seconds to 1/2000th of a second Tele: 60 seconds to 1/1300th of a second [STARRY SKY] Mode: 15 seconds, 30 seconds, 60 seconds
<b>Motion pictures:</b>	1/30 to 1/20000th of a second Creative Motion Picture Mode (Manual exposure/Manual focus): 1/8 to 1/20000th of a second

<b>White balance:</b>	Auto white balance/Daylight/Cloudy/Shade/Flash/Incandescent lights/White set1/White set2/White balance K set
<b>Exposure (AE):</b>	Program AE (P)/Aperture-priority AE (A)/Shutter-priority AE (S)/ Manual exposure (M) Exposure compensation (1/3 EV Step, -2 EV to +2 EV)
<b>Metering mode:</b>	Multiple/Center weighted/Spot
<b>LCD monitor:</b>	2.7" TFT LCD (Approx. 230,000 dots) (field of view ratio about 100%)
<b>Viewfinder:</b>	Color LCD Viewfinder (Approx. 201,000 dots) (field of view ratio about 100%) (with diopter adjustment -4 to +4 diopter)
<b>Flash:</b>	Built-in pop up flash Flash range: [ISO AUTO] Approx. 30 cm (0.99 feet) to 8.5 m (27.9 feet) (Wide) AUTO, AUTO/Red-eye reduction, Forced flash ON (Forced ON/ Red-eye reduction), Slow sync./Red-eye reduction, Forced flash OFF
<b>Microphone:</b>	Stereo
<b>Speaker:</b>	Monaural
<b>Recording media:</b>	Built-in Memory (Approx. 40 MB)/SD Memory Card/SDHC Memory Card
<b>Picture size</b>	
<b>Still picture:</b>	When the aspect ratio setting is [4:3] 4000×3000 pixels, 3264×2448 pixels, 2560×1920 pixels, 2048×1536 pixels, 1600×1200 pixels, 640×480 pixels When the aspect ratio setting is [3:2] 4000×2672 pixels, 3264×2176 pixels, 2560×1712 pixels, 2048×1360 pixels When the aspect ratio setting is [16:9] 4000×2248 pixels, 3264×1840 pixels, 2560×1440 pixels, 1920×1080 pixels
<b>Motion pictures:</b>	[AVCHD Lite] (With audio) When set to [SH]: 1280×720 pixels (60p recording*/17 Mbps, only when card is used) / When set to [H]: 1280×720 pixels (60p recording*/13 Mbps, only when card is used) / When set to [L]: 1280×720 pixels (60p recording*/9 Mbps, only when card is used) * CCD output is at 30 fps [MOTION JPEG] (With audio) When set to [HD]: 1280×720 pixels (30 frames / sec., only when card is used) / When set to [WVGA]: 848×480 pixels (30 frames / sec., only when card is used) / When set to [VGA]: 640×480 pixels (30 frames / sec., only when card is used) / When set to [QVGA]: 320×240 pixels (30 frames / sec.)
<b>Quality:</b>	Fine/Standard/RAW/RAW+JPEG
<b>Recording file format</b>	
<b>Still Picture:</b>	JPEG (based on "Design rule for Camera File system", based on "Exif 2.21" standard)/RAW, DPOF corresponding
<b>Motion pictures with audio:</b>	AVCHD Lite/QuickTime Motion JPEG

<b>Interface</b>	
<b>Digital:</b>	"USB 2.0" (High Speed)
<b>Analog video/audio:</b>	NTSC Audio line output (stereo)
<b>Terminal</b>	
<b>[DIGITAL/AV OUT]:</b>	Dedicated jack (14 pin)
<b>[DC IN]:</b>	Type 3 jack
<b>[HDMI]:</b>	MiniHDMI TypeC
<b>Dimensions:</b>	Approx. 117.6 mm (W)×75.8 mm (H)×88.9 mm (D) [4 5/8" (W)×3"(H)×3 1/2" (D)] (excluding the projecting parts)
<b>Mass (weight):</b>	Approx. 367 g/12.94 oz (excluding card and battery) Approx. 414 g/14.60 oz (with card and battery)
<b>Operating temperature:</b>	0 °C to 40 °C (32 °F to 104 °F)
<b>Operating humidity:</b>	10% to 80%
<b>Language select:</b>	[ENGLISH]/[ESPAÑOL]

#### Battery Charger

**(Panasonic DE-A43B):** Information for your safety

<b>Input:</b>	110 V to 240 V ~ 50/60 Hz, 0.15 A
<b>Output:</b>	CHARGE 8.4 V --- 0.43 A

**Equipment mobility:** Movable

#### Battery Pack (lithium-ion)

**(Panasonic CGR-S006A):** Information for your safety

<b>Voltage/capacity (Minimum):</b>	7.2 V/695 mAh
--	---------------

#### Note:

\*Above specification is for DMC-FZ35P-K. Some of the specification may differ depends on model suffix.

#### [1].Only for "EB/EF/EG/EP" models.

##### 1).[Interface Digital:]

- Data from the PC can not be written to the camera using the USB connection cable.

##### 2).[Motion pictures:]

[AVCHD Lite] (With audio)

When set to [SH]: 1280k720 pixels

(50p recording\*1/17 Mbps, only when card is used) /

When set to [H]: 1280k720 pixels

(50p recording\*1/13 Mbps, only when card is used) /

When set to [L]: 1280k720 pixels

(50p recording\*1/9 Mbps, only when card is used)

\*1CCD output is at 25 fps

[MOTION JPEG] (With audio)

When set to [HD]: 1280k720 pixels

(30 frames / sec., only when card is used) /

When set to [WVGA]: 848k480 pixels

(30 frames / sec., only when card is used) /

When set to [VGA]: 640k480 pixels

(30 frames / sec., only when card is used) /

When set to [QVGA]: 320k240 pixels (30 frames / sec.)

- **Motion pictures can be recorded continuously for up to 29 minutes 59 seconds.**

**Also, motion picture recorded continuously in [MOTION JPEG] is up to 2 GB.**

**(Example: [8m 20s] with [HD]) Remaining time for continuous recording is displayed on the screen.**

**[2].Others:**

**1).[Focus range Indication:]**

ft (feet)-----(Only "P" model)

m (meter)-----(Except "P" model)

**2).[Analog video/audio:]**

NTSC -----(Only "P/PC/PU/GT/GD" models)

NTSC/PAL Composite (Switched by menu) ----(Except "P/PC/PU/GT/GD" models)

Audio line output (stereo)



**3).[Conversion settings:]**

[OFF]/[Tele conversion]/[Close-up]---(Except "GK" model)






Not available----- (Only "GK" model)



## About Motion Pictures (AVCHD Lite/Motion JPEG)

Recording format	Effect
 [AVCHD Lite]	This is the data format appropriate to playback on the high definition TV, etc. High definition motion picture can be recorded for a long time.
 [MOTION JPEG]	This is the data format appropriate to playback on the PC, etc. It can be recorded with small picture size, making it convenient when there is not much space left on the memory card or when you want to attach the motion picture to an e-mail on the PC later.

### When [AVCHD Lite] is selected

	Item	Quality (bit rate) <sup>*1</sup>	Aspect ratio
<b>High quality</b>   <b>Longer time</b>		1280 × 720 pixels 17 Mbps <sup>*2</sup>	16:9
		1280 × 720 pixels 13 Mbps <sup>*2</sup>	
		1280 × 720 pixels 9 Mbps <sup>*2</sup>	





#### \*1 What is bit rate

This is the volume of data for a definite period of time, and the quality becomes higher when the number gets bigger. This unit is using the "VBR" recording method. "VBR" is an abbreviation of "Variable Bit Rate", and the bit rate (volume of data for definite period of time) is changed automatically depending on the subject to record. Therefore, the recording time is shortened when a subject with fast movement is recorded.



#### \*2 What is Mbps

This is an abbreviation of "Megabit Per Second", and it represents the speed of transmission.




### When [MOTION JPEG] is selected

Item	Picture size	fps	Aspect ratio
	1280 × 720 pixels	30	16:9
 <sup>*3</sup>	848 × 480 pixels		
	640 × 480 pixels		4:3
	320 × 240 pixels		

#### \*3 This item cannot be set in the Intelligent Auto Mode.

- With the  for [AVCHD Lite] or [MOTION JPEG], high quality motion picture can be enjoyed on the TV by using the HDMI mini cable (optional). For details, see "Playing back on the TV with HDMI socket".
- It cannot be recorded to built-in memory except for the .

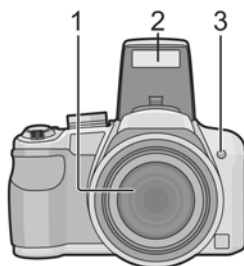
#### Note

- It is recommended to use a card with SD Speed Class<sup>\*1</sup> with "Class 6" or higher when recording motion pictures.
- \*1 The SD Speed Class Rating is the speed standard for successive writes.
- When you set the picture quality to , , or , we recommend using a high-speed card with "10MB/s" or greater displayed on the package.
- Motion picture recorded continuously in [MOTION JPEG] is up to 2 GB. Only the maximum recordable time for 2 GB is displayed on the screen. [AVCHD Lite] can be recorded to the capacity of the card.<sup>\*2</sup>
- \*2 The recording may stop even if there is more space left in the card depending on the life of the battery.
- The motion pictures recorded in [AVCHD Lite] can be played back with an AVCHD compatible device. Check the compatibility with the instruction manual of the device. However, some of the compatible devices may play back with lower image or audio qualities, or may not play back. Also, the recording information may not display correctly. In these cases, play back with this unit.
- The motion pictures recorded in [AVCHD Lite] cannot be played back with devices not compatible with AVCHD (such as conventional DVD recorders).
- Motion picture recorded in [AVCHD Lite] does not comply with the "DCF/Exif", so some information, will not display while playback.
- A sound might be muffled or warped when there is water on the microphone or the speaker. Wipe the residue after letting the water drip out from the microphone and speaker by tipping it down, and use it after letting it dry for a while.

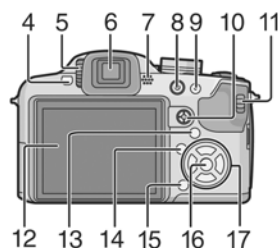
# 5 Location of Controls and Components

## Names of the Components

- 1 Lens
- 2 Flash
- 3 Self-timer indicator  
AF assist lamp



- 4 Flash open button
- 5 Diopter adjustment dial
- 6 Viewfinder
- 7 Speaker
- 8 Motion picture button
- 9 [AF/AE LOCK] button
- 10 Joystick



The joystick is operated in two different ways: it can be moved in the up, down, left and right directions to perform an operation, or it can be pressed to select. In these operating instructions, it is pictured as shown in the figure below or described with ▲/▼/◀/▶.

Example: When the joystick is moved toward ◀ (left)  
Place your finger on the right side of the joystick, and move the joystick toward the left.



or Move ◀

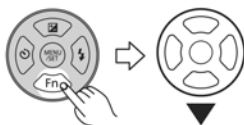
Push the joystick straight in.



or Press

- 11 [REC]/[PLAYBACK] selector switch
- 12 LCD monitor
- 13 [EVF/LCD] button
- 14 [DISPLAY] button
- 15 Delete button/  
Single or Burst Mode button
- 16 [MENU/SET] button
- 17 Cursor buttons
  - ◀/ Self-timer button
  - ▼/ Function button  
Assign [REC] Mode menu to ▼ button. It is convenient to register [REC] Mode menu that is used often.  
[REVIEW]/[SENSITIVITY]/[WHITE BALANCE]/[METERING MODE]/[AF MODE]/[I.EXPOSURE]
  - ▶/ Flash setting button
  - ▲/ Exposure compensation/  
Auto Bracket/Color Bracket/Flash output adjustment

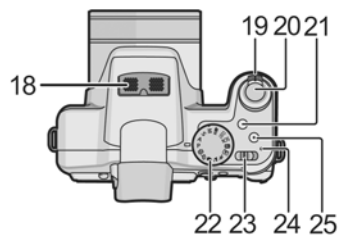
In these operating instructions, the cursor buttons are described as shown in the figure below or described with ▲/▼/◀/▶.  
e.g.: When you press the ▼ (down) button



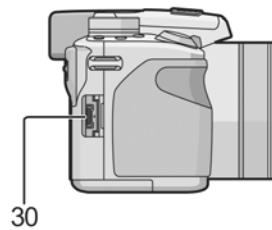
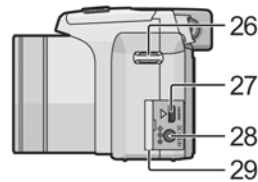
or

Press ▼

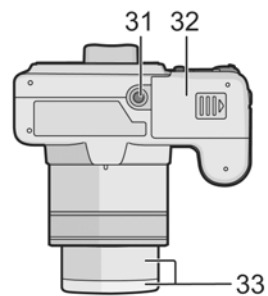
- 18 Stereo microphone
- 19 Zoom lever
- 20 Shutter button
- 21 [FOCUS] button
- 22 Mode dial
- 23 Camera ON/OFF switch
- 24 Power lamp
- 25 [AF/AF-LOCK/MF] button



- 26 Shoulder strap eyelet
  - Be sure to attach the shoulder strap when using the camera to ensure that you will not drop it.
- 27 [HDMI] socket
- 28 [DC IN] socket
  - Always use a genuine Panasonic AC adaptor (DMW-AC7PP; optional).
  - This camera cannot charge the battery even when the AC adaptor (DMW-AC7PP; optional) is connected to it.
- 29 Terminal door
- 30 [DIGITAL/AV OUT] socket

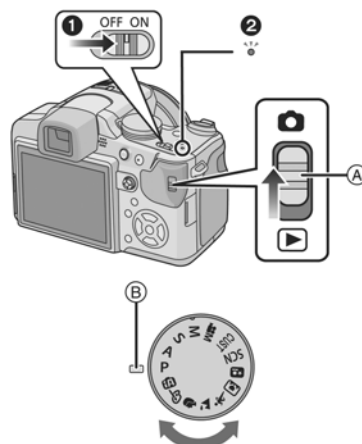


- 31 Tripod receptacle
  - When you use a tripod, make sure the tripod is stable when the camera is attached to it.
- 32 Card/Battery door
- 33 Lens barrel



## Selecting the [REC] Mode

- 1 Turn the camera on.**
  - Ⓐ [REC]/[PLAYBACK] selector switch
    - The power lamp **2** lights when you turn this unit on **1**.
- 2 Slide the [REC]/[PLAYBACK] selector switch to [O].**
- 3 Switching the mode by rotating the mode dial.**
  - Align a desired mode with part **Ⓑ**.
  - Rotate the mode dial slowly and surely to adjust to each mode. (The mode dial rotates 360°)



### ■ Basic

#### Ⓐ Intelligent auto mode

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

#### 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.

#### CM Creative motion picture mode

Record motion picture with manual settings.

#### CUST 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.

#### My Color mode

Easily adjust color, brightness and saturation when taking a picture.

### ■ Advanced Scene Mode

#### Portrait mode

Use this mode to take pictures of people.

#### Scenery mode

Use this mode to take pictures of scenery.

#### Sports mode

Use this mode to take pictures of sporting events, etc.

#### Close-up mode

Use this mode to take pictures of a close-by subject.

#### Night portrait mode

Use this mode to take pictures of night scenes and people against night time scenery.

## About the Battery

- This unit has a function that can distinguish useable batteries. Exclusive batteries are supported by this function. (Conventional batteries not supported by this function cannot be used.)

It has been found that counterfeit battery packs which look very similar to the genuine product are made available to purchase in some markets. Some of these battery packs are not adequately protected with internal protection to meet the requirements of appropriate safety standards. There is a possibility that these battery packs may lead to fire or explosion. Please be advised that we are not liable for any accident or failure occurring as a result of use of a counterfeit battery pack. To ensure that safe products are used we would recommend that a genuine Panasonic battery pack is used.

# 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:

1. Attach the Battery or AC Adaptor with a DC coupler to the unit.

#### NOTE:

\*Since this unit has built-in memory, it can be performed without inserting SD memory card.

#### • Step 1. The temporary cancellation of "INITIAL SETTINGS":

Set the REC/PLAYBACK selector switch to "REC (Camera mark)".

Set the model dial to P.

While keep pressing "UP of Cursor button" and FOCUS button simultaneously, turn the Power on.

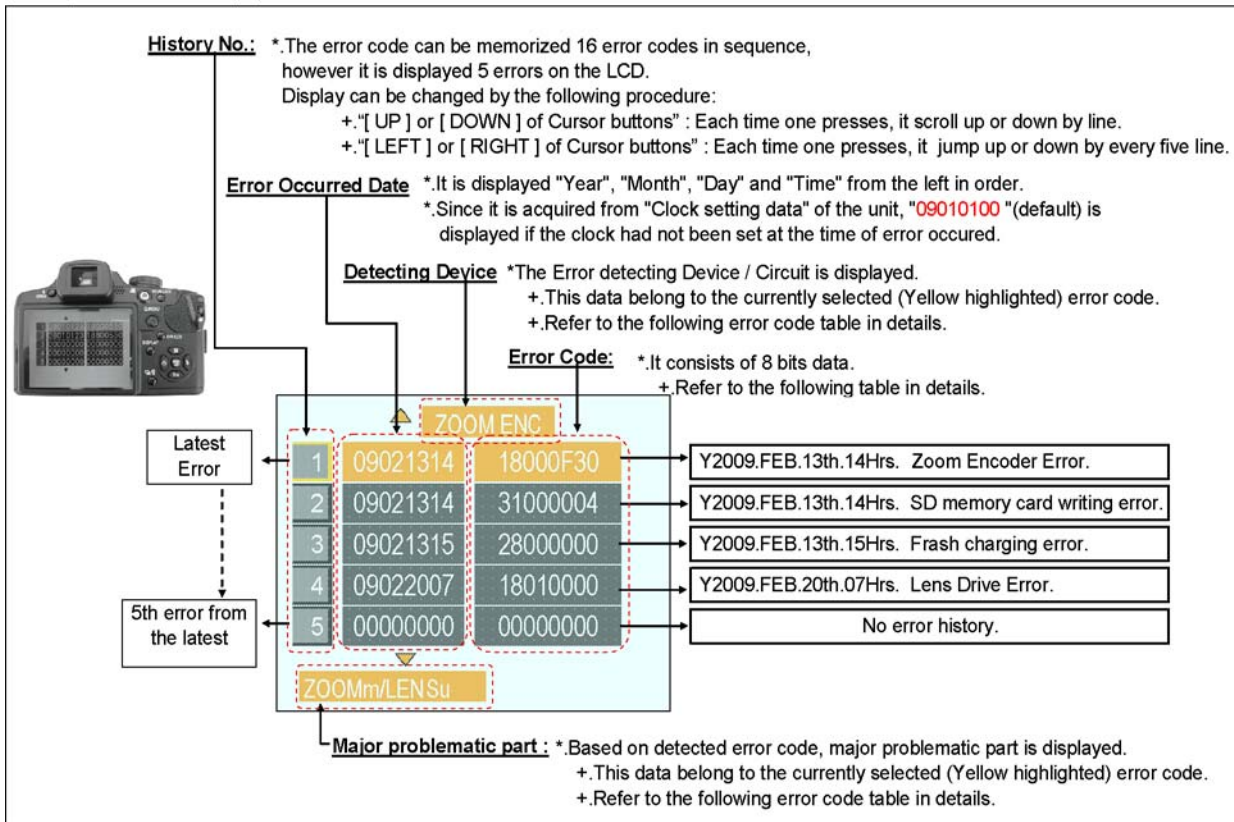
#### • Step 2. Execute the error code display mode:

Press the "LEFT of Cursor button", MENU/SET button and FOCUS button simultaneously.

The display is changed as shown below when the above buttons are pressed simultaneously.

Normal display → Error code display → Operation history display → Normal display → .....

Example of Error Code Display



Attribute	Main item	Sub item	Error code		Contents (Upper)	Error Indication			
			High 4bits	Low 4 bits	Check point (Lower)	Detecting device	Part/Circuit		
LENS	Lens drive	OIS	18*0	1000	PSD (X) error. Hall element (X axis) position detect error in OIS unit. OIS Unit, IC7202	OIS X	LENSu NG		
				2000	PSD (Y) error. Hall element (Y axis) position detect error in OIS unit. OIS Unit, IC7201	OIS Y			
				3000	GYRO (X) error. Gyro (IC7202) detect error on Main P.C.B.. IC7202 (Gyro element) or IC6001 (VENUS HD)	JYRO X		JYRO NG	
				4000	GYRO (Y) error. Gyro (IC7201) detect error on Main P.C.B.. IC7201 (Gyro element) or IC6001 (VENUS HD)	JYRO Y			
				5000	MREF error (Reference voltage error). IC9101 (LENS drive) or IC6001 (VENUS HD)	OIS REF		LENSSd/DSP NG	
				6000	Drive voltage (X) error. LENS Unit, LENS flex breaks, IC6001(VENUS HD) AD value error, etc.	OISX REF		LENSu/LENS FPC	
			7000	Drive voltage (Y) error. LENS Unit, LENS flex breaks, IC6001(VENUS HD) AD value error, etc.	OISY REF				
			Zoom (C.B.)	0?10	Collapsible barrel Low detect error (Collapsible barrel encoder always detects Low.) Mechanical lock, FP9005-(39) signal line or IC6001 (VENUS HD)		ZOOM L	ZOOMm/LENSu	
					0?20	Collapsible barrel High detect error (Collapsible barrel encoder always detects High.) Mechanical lock, FP9005-(39) signal line or IC6001 (VENUS HD)			ZOOM H
						0?30	Zoom motor sensor error. Mechanical lock (Including Lens Cap forgotten to be removed.), FP9005-(2), (4) signal line or IC6001 (VENUS HD)		ZOOM ENC
					0?40		Zoom motor sensor error. (During monitor mode.) Mechanical lock, FP9005-(2), (4) signal line or IC6001 (VENUS HD)		
						0?50	Zoom motor sensor error. (During monitor mode with slow speed.) Mechanical lock, FP9005-(2), (4) signal line or IC6001 (VENUS HD)		
		Focus			0?01		HP High detect error (Focus encoder always detects High, and not becomes Low) Mechanical lock, FP9005-(11) signal line or IC6001 (VENUS HD)		FOCUS L
			0?02	HP Low detect error (Focus encoder always detects Low, and not becomes High) Mechanical lock, FP9005-(11) signal line or IC6001 (VENUS HD)		FOCUS H			
				18*1	Power ON time out error. Lens drive system		LENS DRV	LENSu	
			18*2		Power OFF time out error. Lens drive system				
		Adj.History		OIS	19*0	2000	OIS adj. Yaw direction amplitude error (small)	OIS ADJ	OIS ADJ
			3000			OIS adj. Pitch direction amplitude error (small)			
			4000			OIS adj. Yaw direction amplitude error (large)			
			5000			OIS adj. Pitch direction amplitude error (large)			
			6000			OIS adj. MREF error			
			7000			OIS adj. time out error			
			8000			OIS adj. Yaw direction off set error			
			9000			OIS adj. Pitch direction off set error			
A000	OIS adj. Yaw direction gain error								
B000	OIS adj. Pitch direction gain error								

Attribute	Main item	Sub item	Error code		Contents (Upper)	Error Indication		
			High 4bits	Low 4 bits	Check point (Lower)	Detecting device	Part/Circuit	
				C000	OIS adj. Yaw direction position sensor error			
				D000	OIS adj. Pitch direction position sensor error			
				E000	OIS adj. other error			
HARD	VENUS A/D	Flash	28*0	0000	Flash charging error.	STRB CHG	STRB PCB/FPC	
					IC6001-(U1) signal line or Flash charging circuit			
	FLASH ROM (EEPROM Area)	FLASH ROM (EEPROM Area)	2B*0	0001 0003 0004	EEPROM read error	FROM RE	FROM	
					IC6002 (FLASH ROM)			
					0002	EEPROM write error	FROM WR	FROM
					0005	Firmware version up error	(No indication)	(No indication)
						Replace the firmware file in the SD memory card.		
					0008 0009	SDRAM error		
	SDRAM Mounting defective							
	SYSTEM	RTC	2C*0	0001	SYSTEM IC initialize failure error	SYS INIT	MAIN PCB	
				Communication between IC6001 (VENUS HD) and IC9101 (SYSTEM)				
SOFT	CPU	Reset	30*0	0001   0007	NMI reset Non Mask-able Interrupt (30000001-30000007 are caused by factors)	NMI RST	MAIN PCB	
	Card	Card	31*0	0001	Card logic error	SD CARD	SD CARD/DSP	
					SD memory card data line or IC6001 (VENUS HD)			
				0002	Card physical error	SD WRITE		
					SD memory card data line or IC6001 (VENUS HD)			
				0004	Write error			
	SD memory card data line or IC6001 (VENUS HD)							
	39*0	0005	Format error	INMEMORY	FROM			
	CPU, ASIC hard	Stop	Memory area	38*0	0001	Camera task finish process time out.	LENS COM	LENSu/DSP
						Communication between Lens system and IC6001 (VENUS HD)		
					0002	Camera task invalid code error.	DSP	DSP
						IC6001 (VENUS HD)		
					0100	File time out error in recording motion image		
						IC6001 (VENUS HD)		
					0200	File data cue send error in recording motion image		
						IC6001 (VENUS HD)		
	0300	Single or burst recording brake time out.						
	0008	work area partitioning failure			(No indication)	(No indication)		
		USB dynamic memory securing failure when connecting						
	Operation	Power on	3B*0	0000	FLASHROM processing early period of camera during movement.	INIT	(No indication)	
Zoom	Zoom	3C*0	0000	Imperfect zoom lens processing	ZOOM	ZOOMm/LENSu		
				Zoom lens				
		35*0	0000   FFFF	Software error (0-7bit : command, 8-15bit : status)	DSP	DSP		
				Though record preprocessing is necessary, it is not called.	(No indication)	(No indication)		
35*2	0000	Though record preprocessing is necessary, it is not completed.						



## Important notice about "Error Code List"

### 1) About "\*" indication:

The third digit from the left is different as follows.

+ .In case of 0 (example: 18 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: 18 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.

### 2) About "?" indication: ("18\*0 0?01" to "18\*0 0?50"):

The third digit from the right shows one of the hexadecimal ("0" to "F") character.

### 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.)

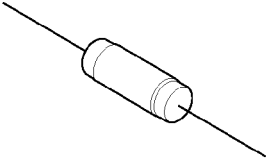
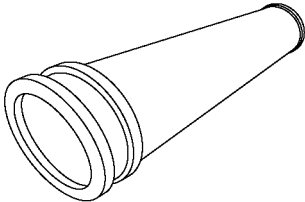
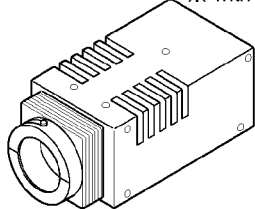
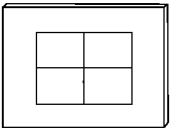
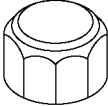


### NOTE:

The error code can not be initialized.

# 7 Service Fixture & Tools

## 7.1. Service Fixture and Tools

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

<b>Resistor for Discharging</b> <b>ERG5SJ102</b>	<b>Infinity Lens (Built-in Focus Chart)</b> <b>RFKZ0422</b>	<b>LIGHT BOX</b> <b>VFK1164TDVLB</b>
 <p>An equivalent type of Resistor may be used.</p>		 <p>※ with DC Cable</p> <p>※ RFKZ0523 can be used.</p>
<b>TR Chart</b> <b>RFKZ0443</b>	<b>Dome type magnifying glass</b> <b>VFK1835</b>	<b>Grease (for focus motor)</b> <b>RFKZ0472</b>
		
<b>Lens Cleaning Kit (BK)</b> <b>VFK1900BK</b>		
 <p>* Only supplied as 10 set/box.</p>		

## 7.2. Clean Box

### 7.2.1. Servicing the Lens unit.

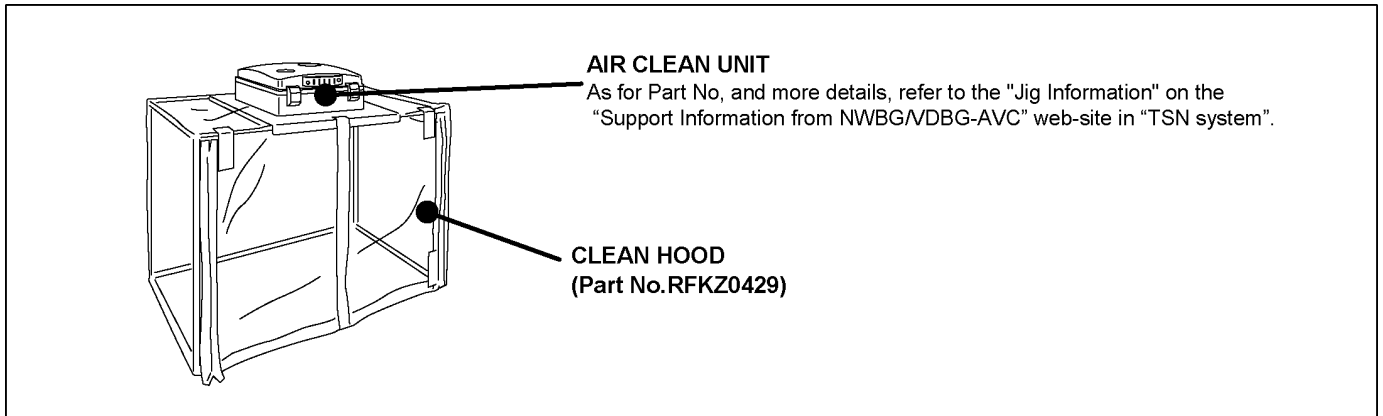
To keep dust proof environment when repairing lens unit, CLEAN BOX is recommended (less than class 10,000 Federal Standard 209D).

### 7.2.2. Introduction of Clean box.

One of our recommended clean box is as shown below.

It consists of "Air clean unit" and "Clean hood".

As for the "Air clean unit", refer to the "Jig Information" on the "Support Information from NWBG/VDBG-AVC" web-site in "TSN system".



## 7.3. When Replacing the Main PCB

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

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

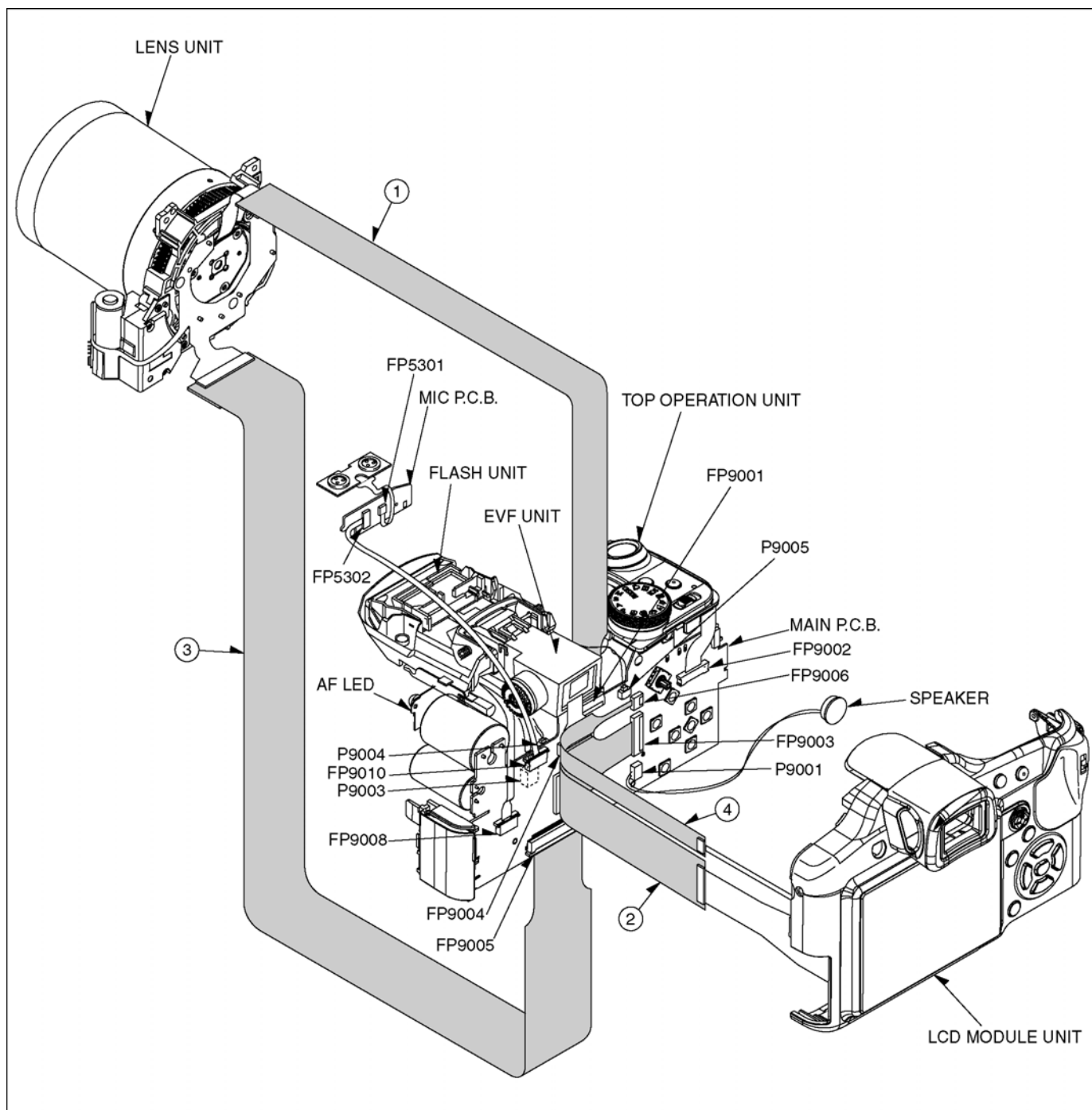
## 7.4. Service Position

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	RFKZ0416	FP9801 (MAIN) - CCD UNIT	41 PIN 0.3 FFC
2	VFK1951	FP9003 (MAIN) - LCD UNIT	39 PIN 0.3 FFC
3	VFK1953	FP9005 (MAIN) - LENS FPC UNIT	40 PIN 0.5 FFC
4	VFK1974	FP9006 (MAIN) - LCD UNIT	4 PIN 0.5 FFC

## 7.4.1. Extension Cable Connections

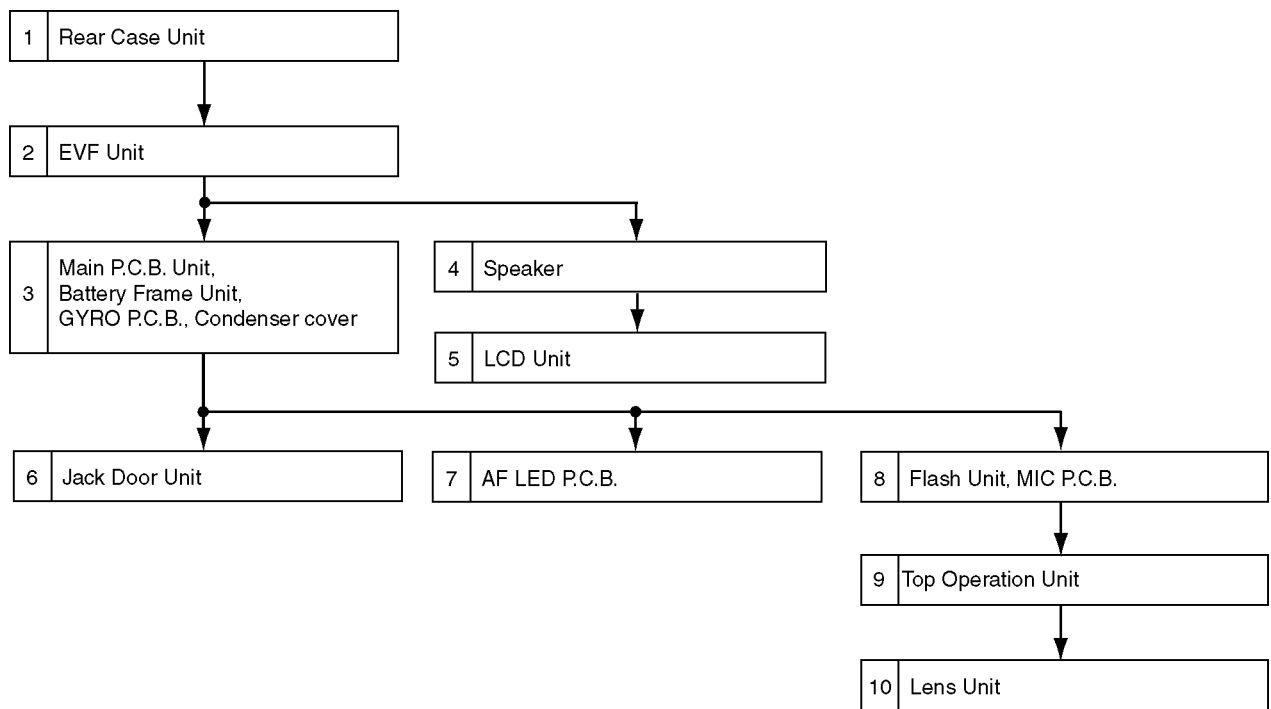


### CAUTION-1. (When servicing MAIN PCB)

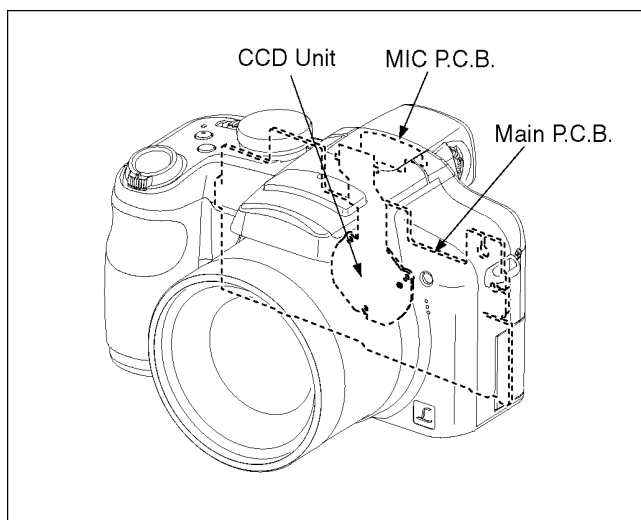
1. Be sure to discharge the capacitor on MAIN PCB.  
Refer to "HOW TO DISCHARGE THE CAPACITOR ON MAIN PCB".  
The capacitor voltage is not lowered soon even if the AC Cord is unplugged or the battery is removed.
2. Be careful of the high voltage circuit on MAIN PCB.
3. DO NOT allow other parts to touch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

# 8 Disassembly and Assembly Instructions

## 8.1. Disassembly Flow Chart



## 8.2. PCB Location



## 8.3. Disassembly Procedure

No.	Item	Fig.	Removal
1	Rear Case Unit	Fig.D1	Card
			Battery
			3 Screws (A)
			2 Screws (B)
			1 Screw (C)
		Fig.D2	P9001 (Connector)
			FP9003 (Flex)
			FP9006 (Flex)
			Rear Case Unit
2	EVF Unit	Fig.D3	FP9004 (Flex) EVF Unit
3	Main P.C.B. Unit, GYRO P.C.B., Battery Frame Unit, Condenser Cover	Fig.D4	2 Screws (D)
			1 Screw (E)
			FP9001 (Flex)
			FP9002 (Flex)
			FP9005 (Flex)
			FP9009 (Flex)
			FP9010 (Flex)
			P9003 (Connector)
			P9004 (Connector)
			P9005 (Connector)
		Main P.C.B. Unit	
		Fig.D5	1 Screw (F)
			7 Locking tabs
			FP9008 (Flex)
			Battery Frame Unit
			HD Terminal Door
		Fig.D6	Condenser Cover
			2 Screws (G)
			GYRO P.C.B.
4	Speaker	Fig.D7	2 Screws (H) SP FIX Plate Speaker
5	LCD Unit	Fig.D8	5 Locking tabs LCD Unit
6	Jack Door Unit	Fig.D9	1 Screw (I) Jack Door Unit
7	AF LED P.C.B.	Fig.D10	2 Locking tabs AF LED Holder AF LED P.C.B.
8	Flash Unit, MIC P.C.B.	Fig.D11	Flash Unit (with MIC P.C.B.)
		Fig.D12	2 Screws (J)
			4 Locking tabs
			Flash Case Top
			Flash Spring
			Flash Shaft
		Fig.D13	Flash SW Unit
			1 Screw (K)
		Fig.D14	2 Locking tabs
			Flash Case Bottom
			Flash Earth Plate
			Flash Base (1)
		Fig.D15	MIC Damper
			FP5201 (Flex)
			FP5202 (Flex)
MIC FPC			
4 Locking tabs			
Main-MIC-Joint FPC			
MIC P.C.B.			
9	Top Operation Unit	Fig.D16	Top Operation Unit
10	Lens Unit	Fig.D17	1 Screw (L)
			Lens Unit

### 8.3.1. Removal of the Rear Case Unit

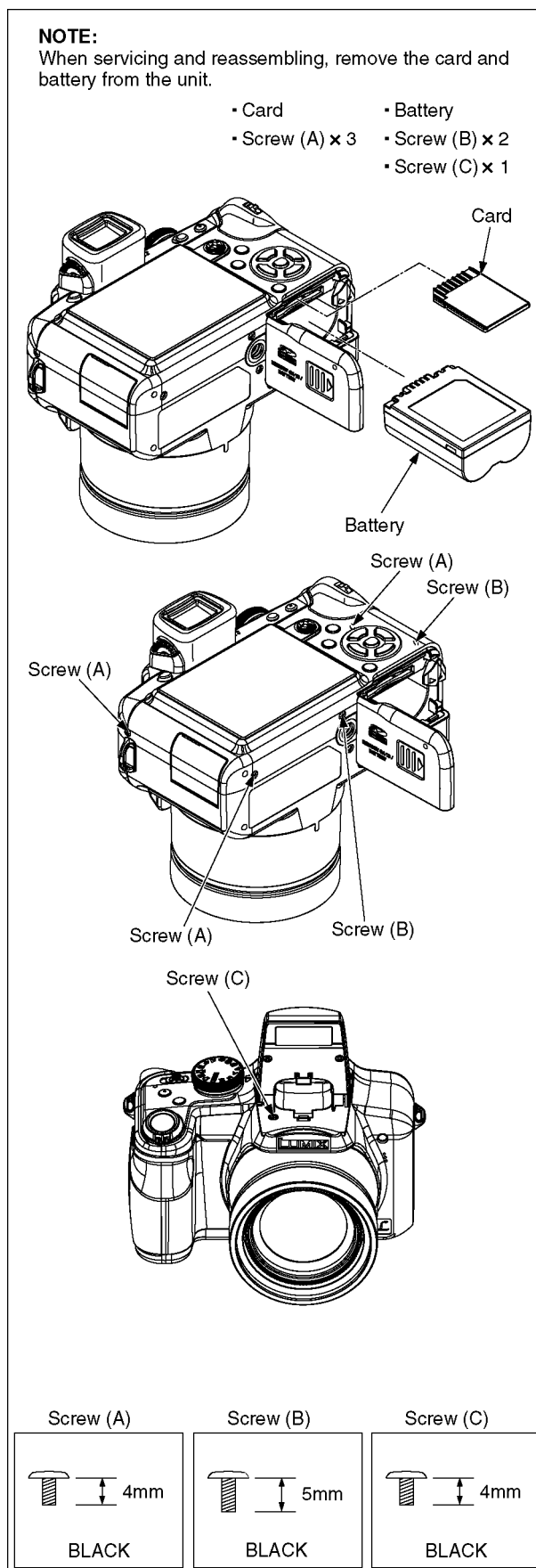


Fig. D1

### 8.3.2. Removal of the EVF Unit

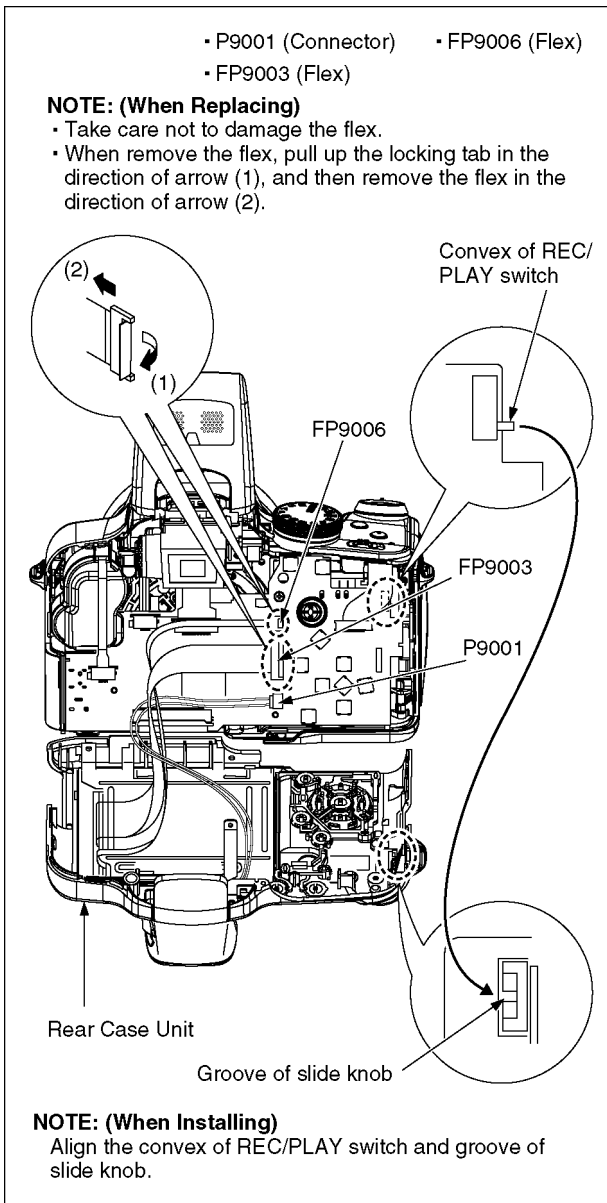


Fig. D2

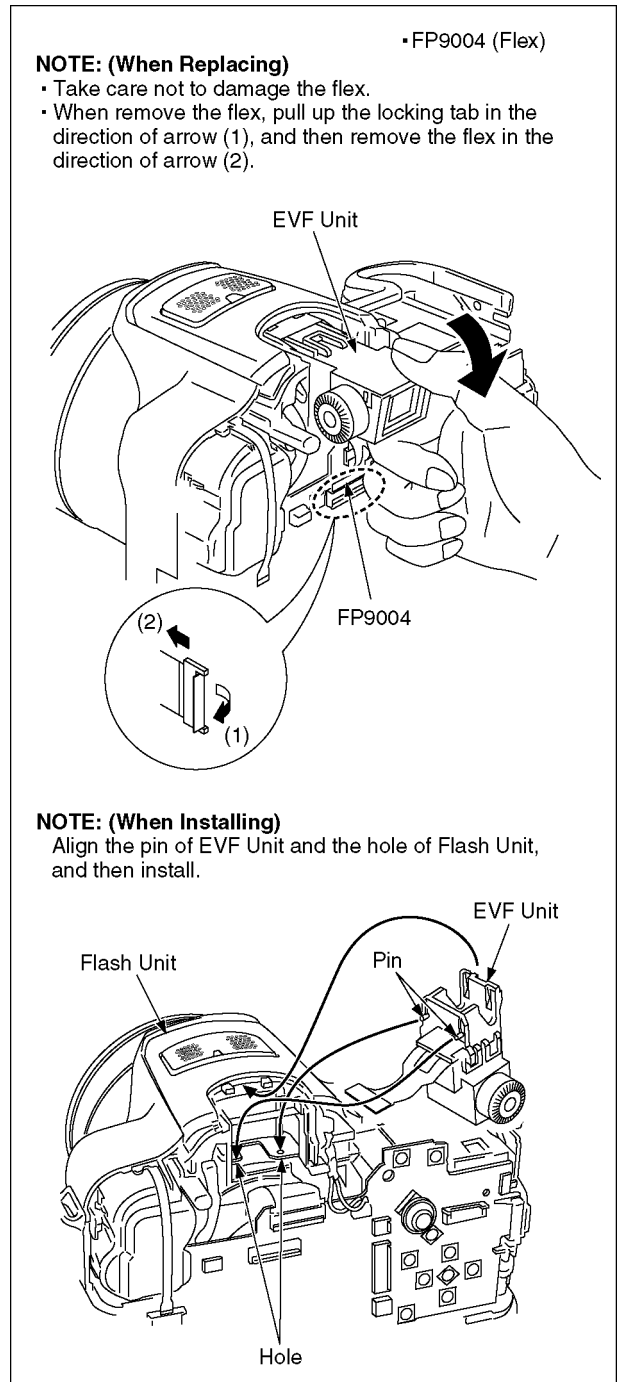


Fig. D3

### 8.3.3. Removal of the Main P.C.B. Unit, GYRO P.C.B., Battery Frame Unit and Condenser Cover

• This unit equipped with two pieces of capacitors as flash charging capacitors.  
 “Either one of the capacitor discharging operation” makes discharging for others as well.

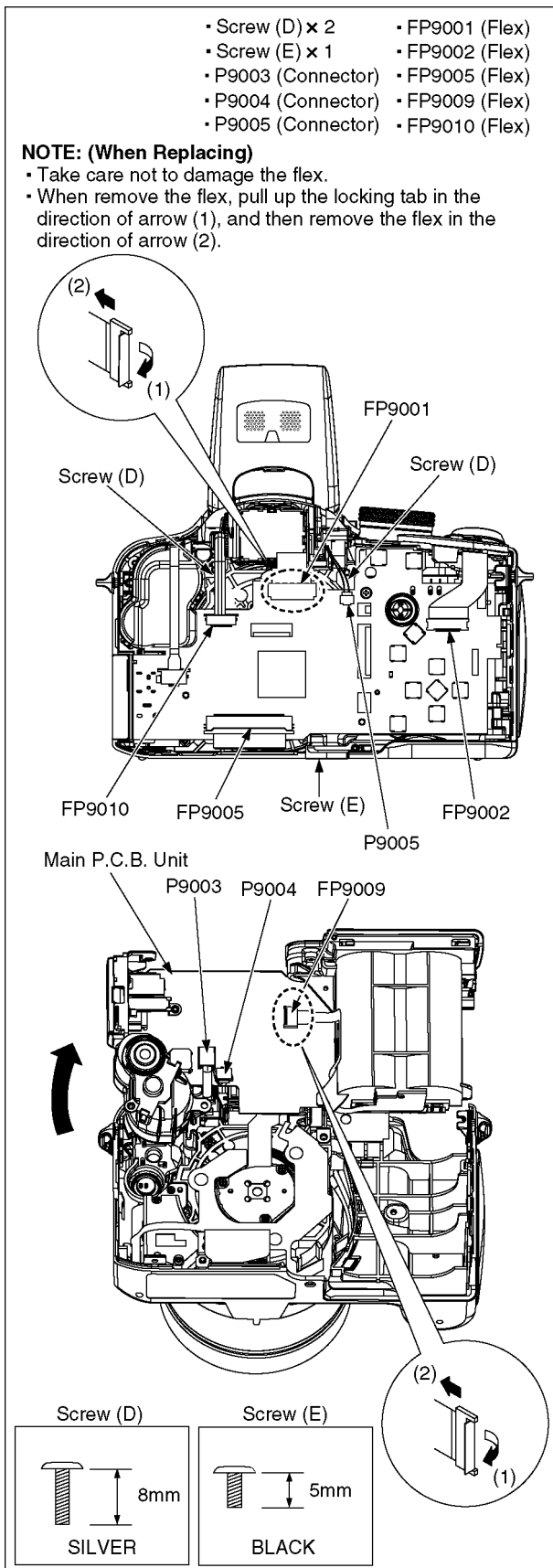


Fig. D4

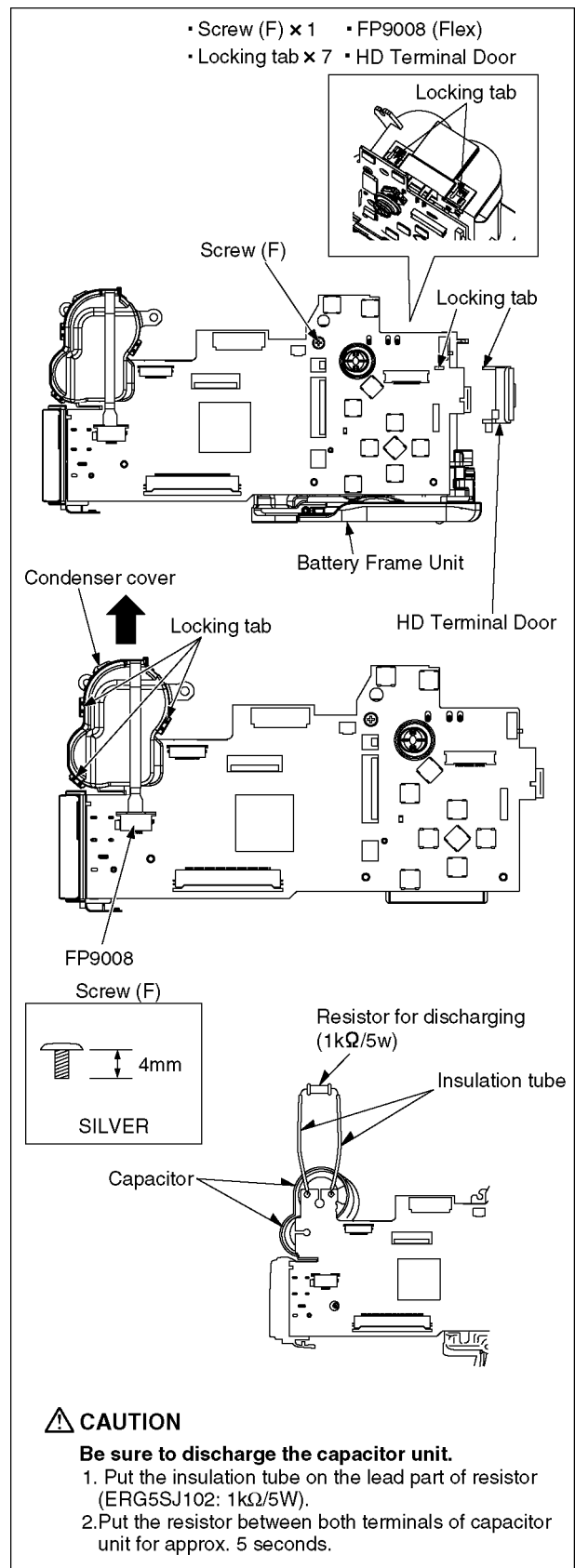


Fig. D5



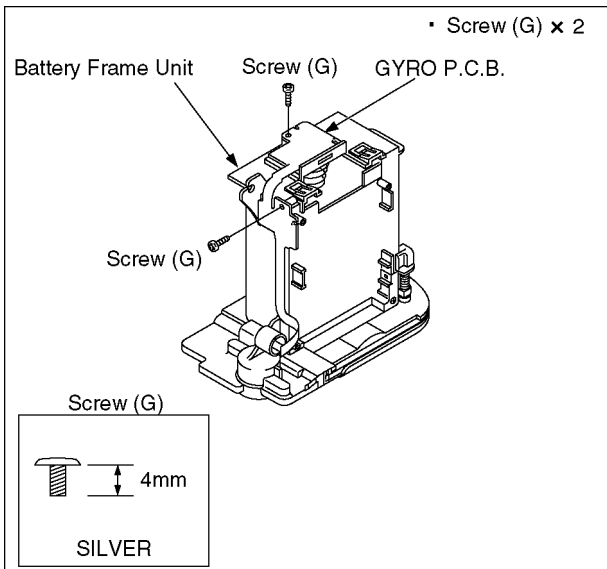


Fig. D6

### 8.3.4. Removal of the Speaker

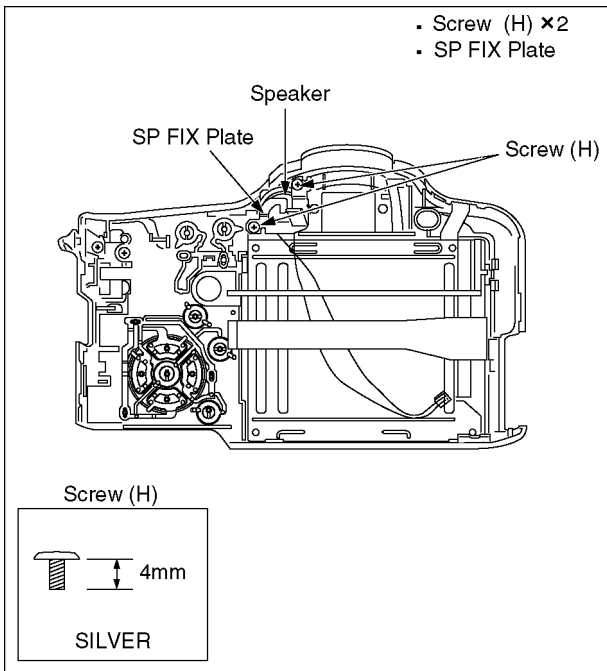


Fig. D7

### 8.3.5. Removal of the LCD Unit

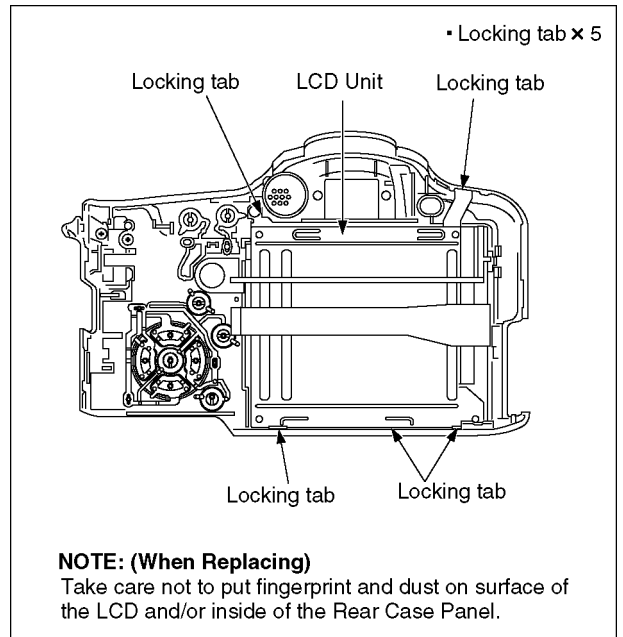


Fig. D8

### 8.3.6. Removal of the Jack Door Unit

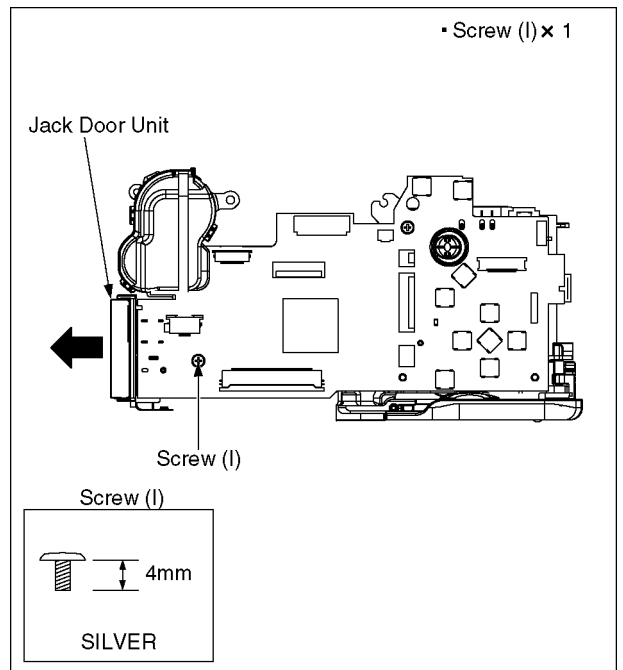


Fig. D9

### 8.3.7. Removal of the AF LED P.C.B.

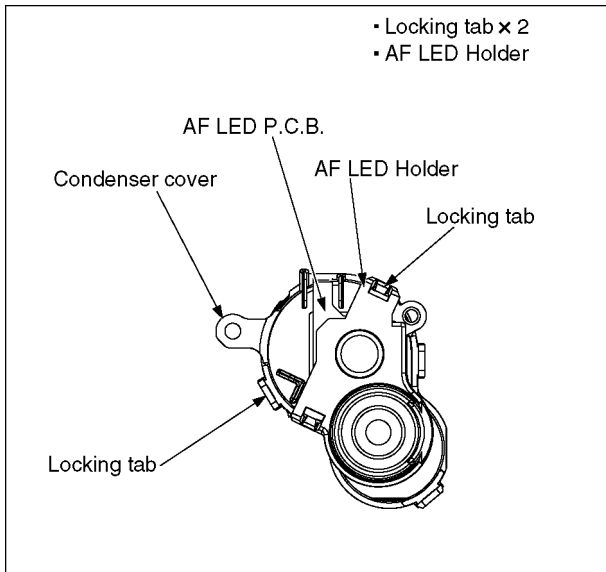


Fig. D10

### 8.3.8. Removal of the Flash Unit, MIC P.C.B.

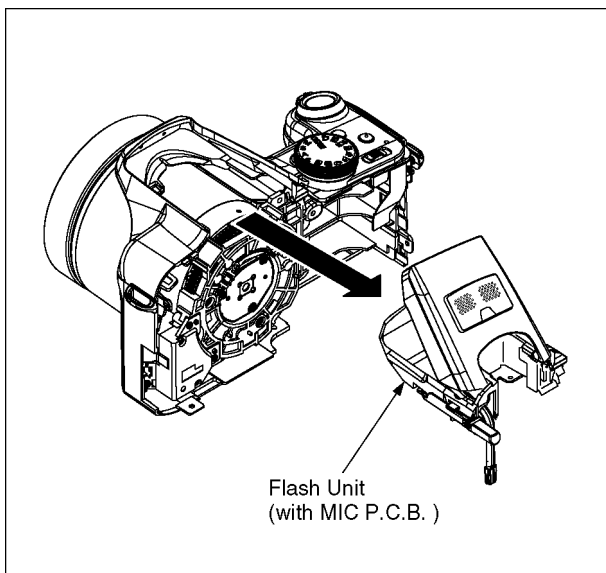


Fig. D11

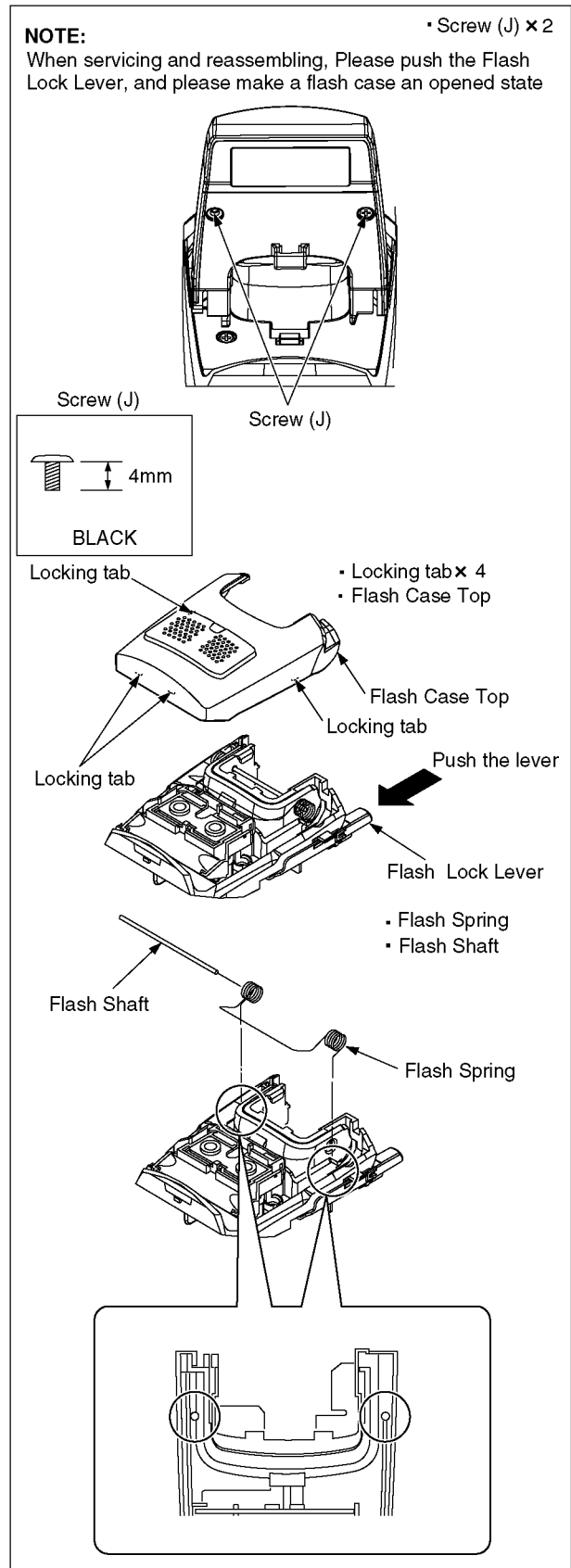


Fig. D12

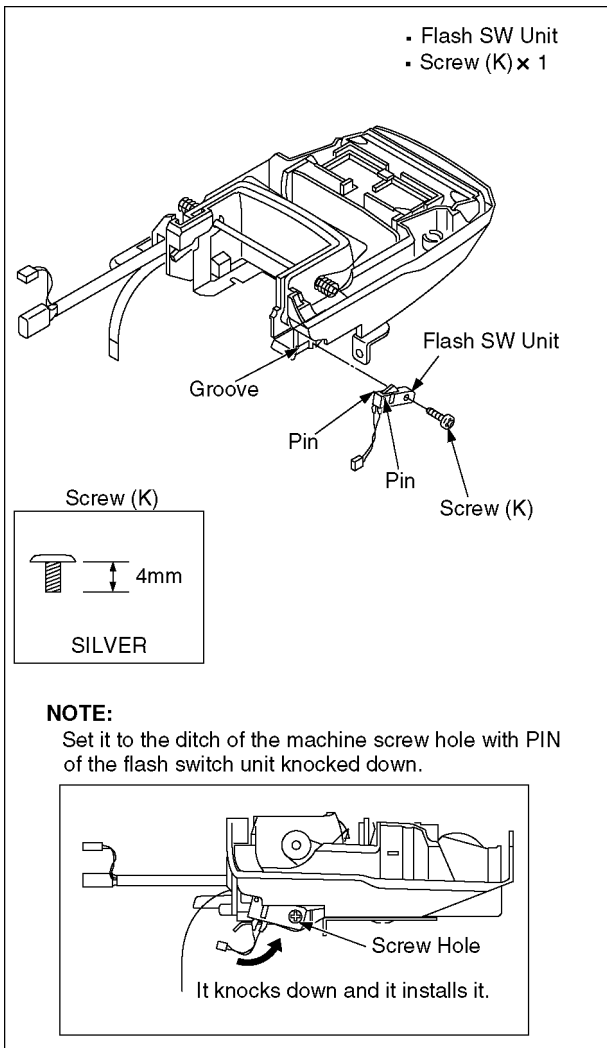


Fig. D13

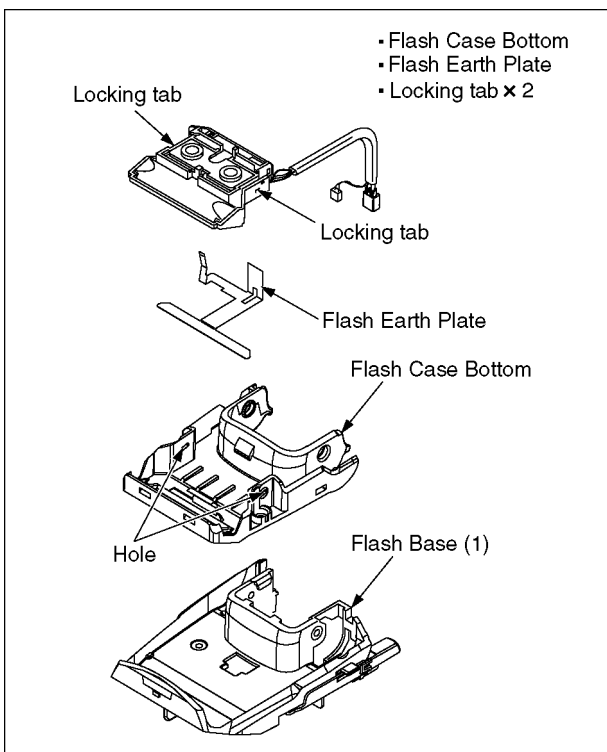


Fig. D14

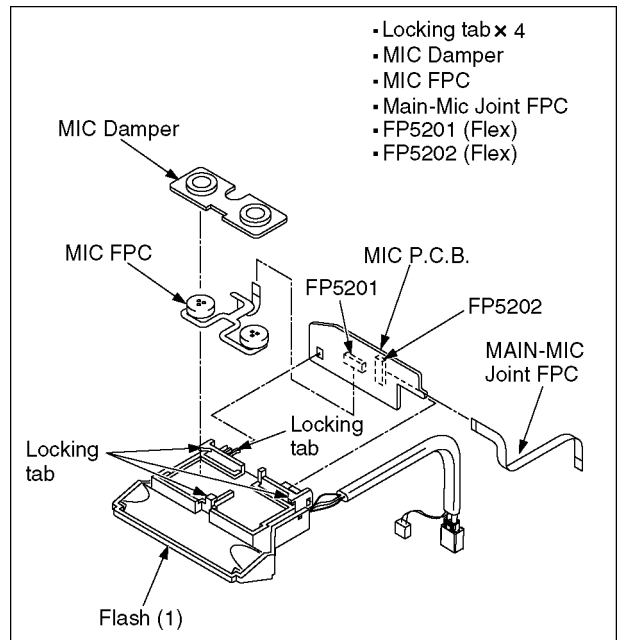


Fig. D15

### 8.3.9. Removal of the Top Operation Unit

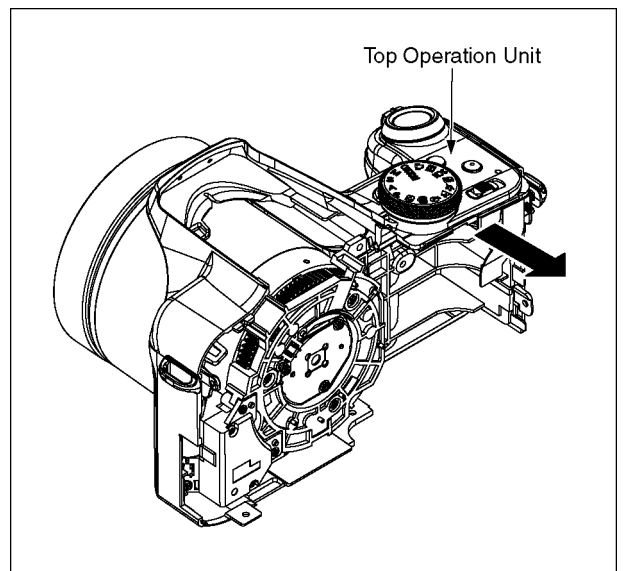


Fig. D16

### 8.3.10. Removal of the Lens Unit

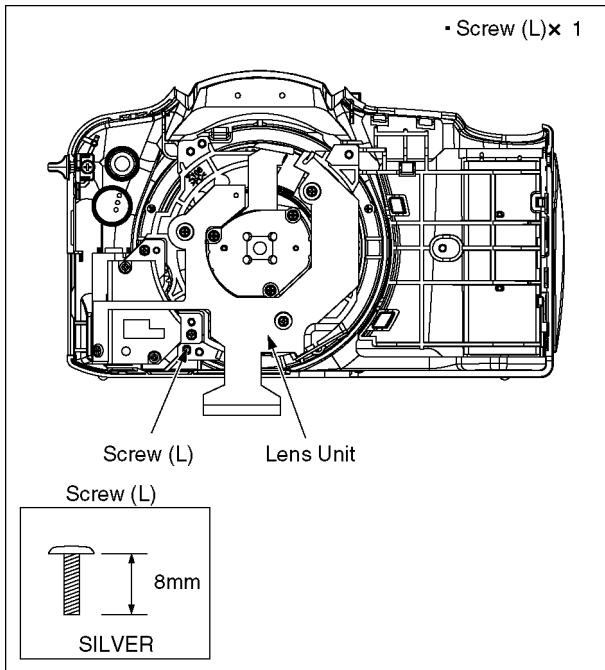


Fig. D17

#### NOTE: (When Assembling)

Be sure to confirm the following points when assembling.

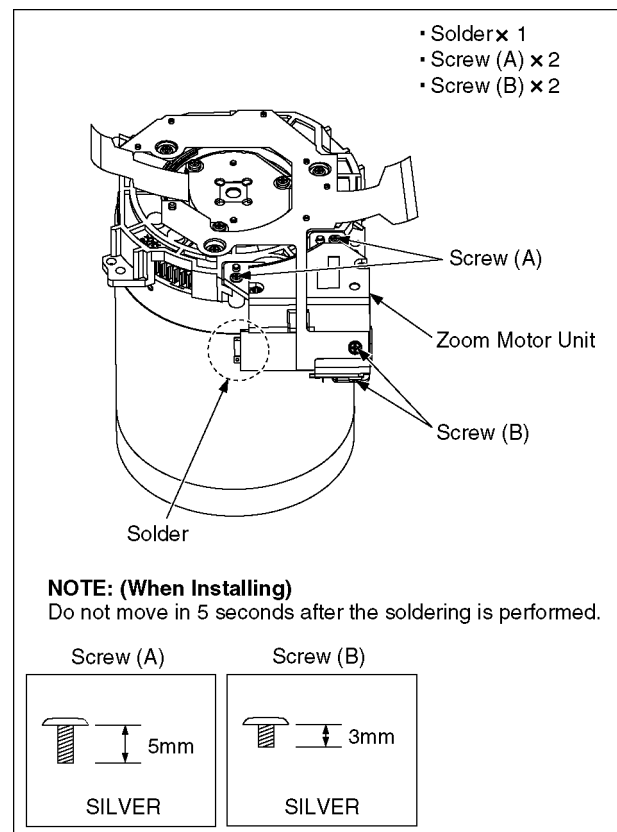
- Install the "Top operation unit" first, then install the "Flash unit & EVF unit".
- The Screw is tightened enough.
- Assembling conditions are fine. (No distortion, no illegal-space.)
- No dust and/or dirt on every Lens surfaces.
- LCD image is fine. (No dust and dirt on it, and no gradient images.)

## 8.4. Disassembly/Assembly Procedure for the Lens

#### NOTE: When Disassembling and Assembling for the Lens

1. Recommended clean level of repairing lens unit for this model is less than class 10,000. (Federal Standard 209D) To keep maintaining the dust proof environment, it is recommended dealing with Clean box (Refer to "7.2. Clean Box" which is found in section "7. Service Fixture & Tools" of this manual.)
2. To minimize the possibility of the CCD being dirt, perform disassemble and/or assemble under the condition of the CCD is being mounted.  
Disassembling procedures for the CCD unit, refer to item 8.5.
3. Take care that the dust and dirt are not entered into the lens.  
In case of the dust is putted on the lens, blow off them by airbrush.
4. Do not touch the surface of lens.
5. Use lens cleaning KIT (BK)(VFK1900BK).
6. Apply the grease (RFKZ0472) to the point where is shown to "Grease apply" in the figure.  
When the grease is applied, use a toothpick and apply thinly.

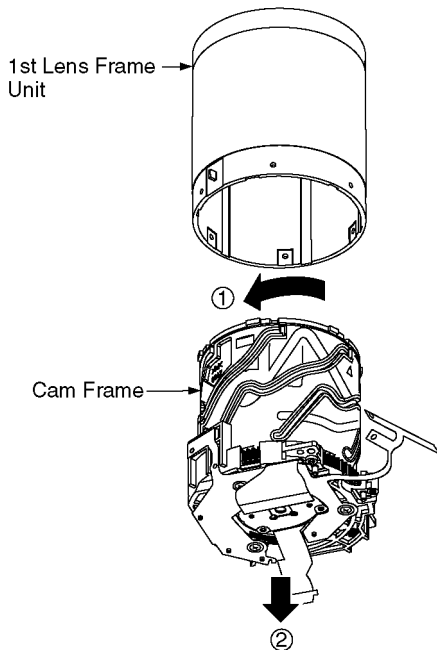
### 8.4.1. Removal of the Zoom Motor Unit



### 8.4.2. Removal of the 1st Lens Frame Unit

**IMPORTANT NOTE:**

Keep face up the lens frame unit when removing/installing. Otherwise, the 2nd Lens Frame Unit may be dropped and damaged.

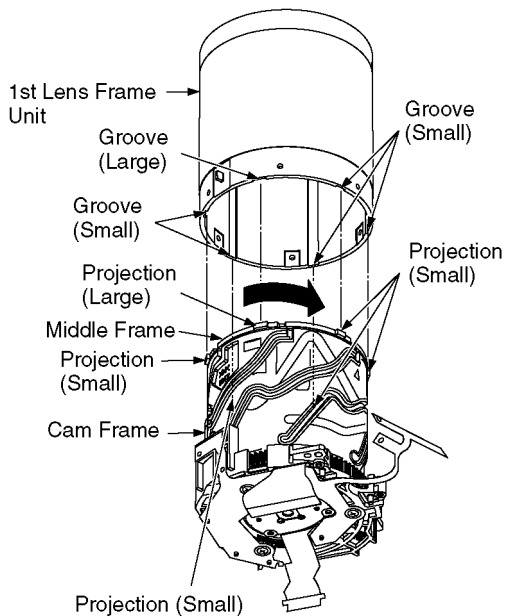


**NOTE: (When Removing)**

Remove the 1st Lens Frame Unit by rotating the Cam Frame in arrow directions.

Removal order: ①→②.

When the Cam Frame is hard to rotate, use the tweezers and rotate round gear of the Cam Frame.



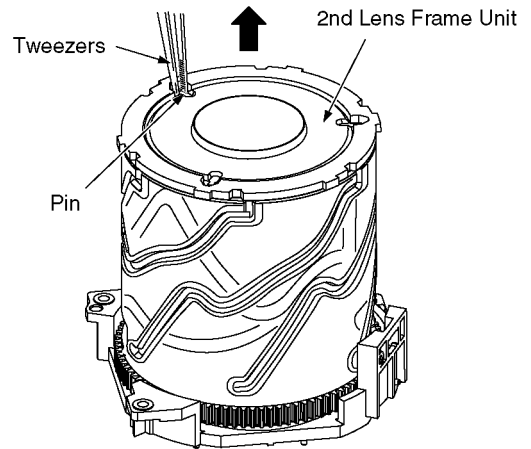
**NOTE: (When Installing)**

Align the groove of 1st Lens Frame Unit and the projection of Middle Frame, and then turn the Cam Frame counterclockwise fully to make retract position.

### 8.4.3. Removal of the 2nd Lens Frame Unit

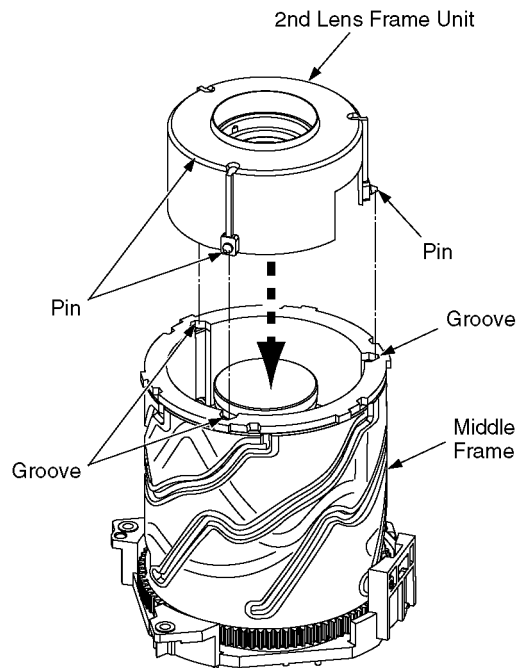
**NOTE: (When Removing)**

Anchor the pin of 2nd Lens Frame Unit with tweezers, then remove it in the direction of an arrow.



**NOTE: (When Installing)**

Align the pin of 2nd Lens Frame Unit and the groove of Middle Frame, and then install.

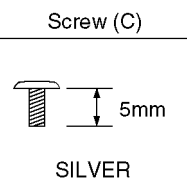
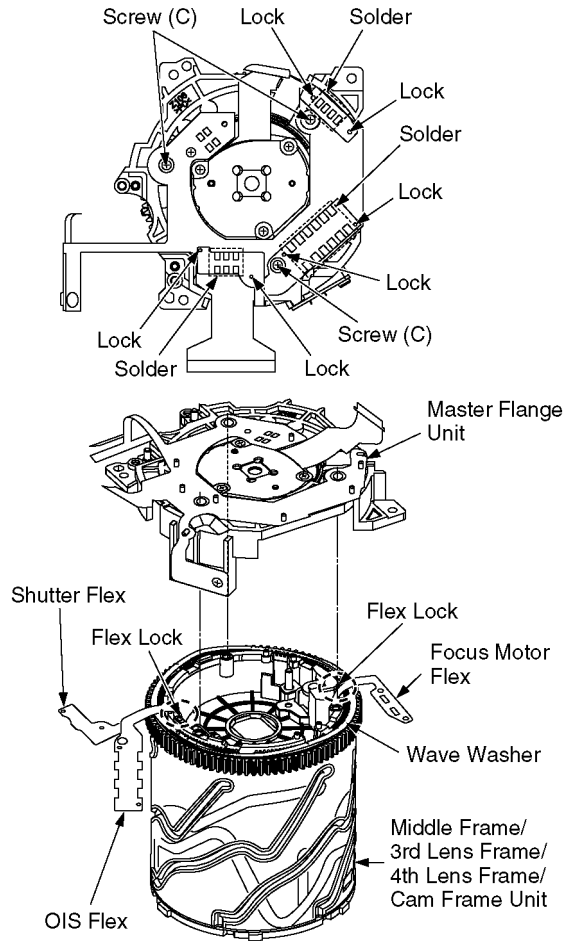


### 8.4.4. Removal of the Master Flange Unit

- Screw (C) × 3
- Lock × 6
- Solder × 3

**NOTE: (When Removing)**

When remove the Master Flange Unit, take care not to damage the OIS, Shutter and Focus Motor flex.



**NOTE: (When Installing)**

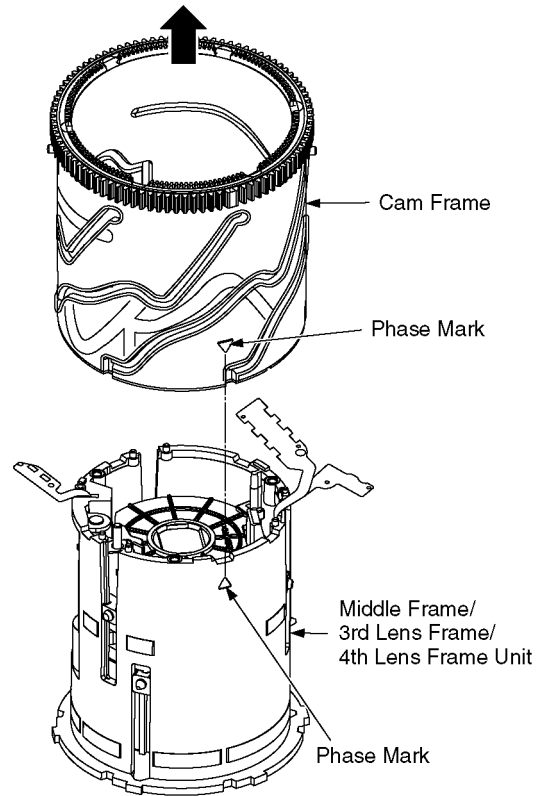
1. Attach the Wave Washer.
2. Fix the OIS, Shutter and Focus Motor Flex on the lock.
3. Tighten 3 screws (C).
4. Fix 6 locks on Master Flange Unit.
5. Soldered.

- ※ Do not move in 5 seconds after the soldering is performed.
- ※ Take care not to cut the OIS, Shutter and Focus Motor Flex.

### 8.4.5. Removal of the Cam Frame

**NOTE: (When Removing)**

When remove the Cam Frame, take care not to damage the OIS, Shutter and Focus Motor Flex.



**NOTE: (When Installing)**

Align phase mark of middle frame unit and phase mark of Cam Frame, and then install.

### 8.4.6. Removal of the Focus Motor Unit

- Screw (D) × 2
- Lock × 3

**NOTE: (When Removing)**  
When remove the Focus Motor, take care not to damage the Focus Motor Flex.

**NOTE: (When Installing)**

1. Insert the Focus Motor Flex to the cut of Middle Frame, and then install Focus Motor Unit.
2. Confirm the rack of 4th Lens Frame Unit is engaged with screw shaft of Focus Motor.

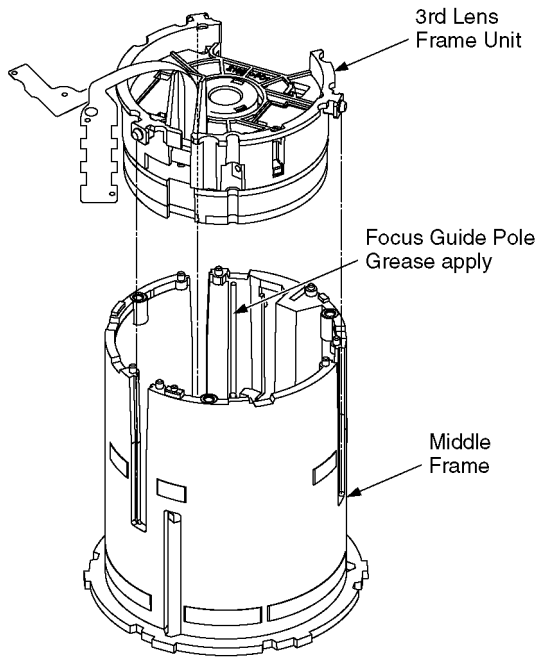
### 8.4.7. Removal of the 4th Lens Frame Unit

**NOTE: (When Installing)**  
Turn the rack of 4th Lens Frame Unit to the indication by arrow fully.

### 8.4.8. Removal of the 3rd Lens Frame Unit

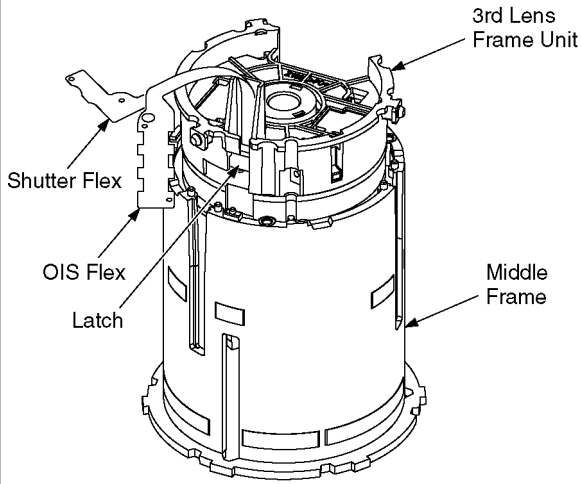
**NOTE: (When Removing)**

When remove the 3rd Lens Frame Unit, take care not to damage the OIS and Shutter Flex.



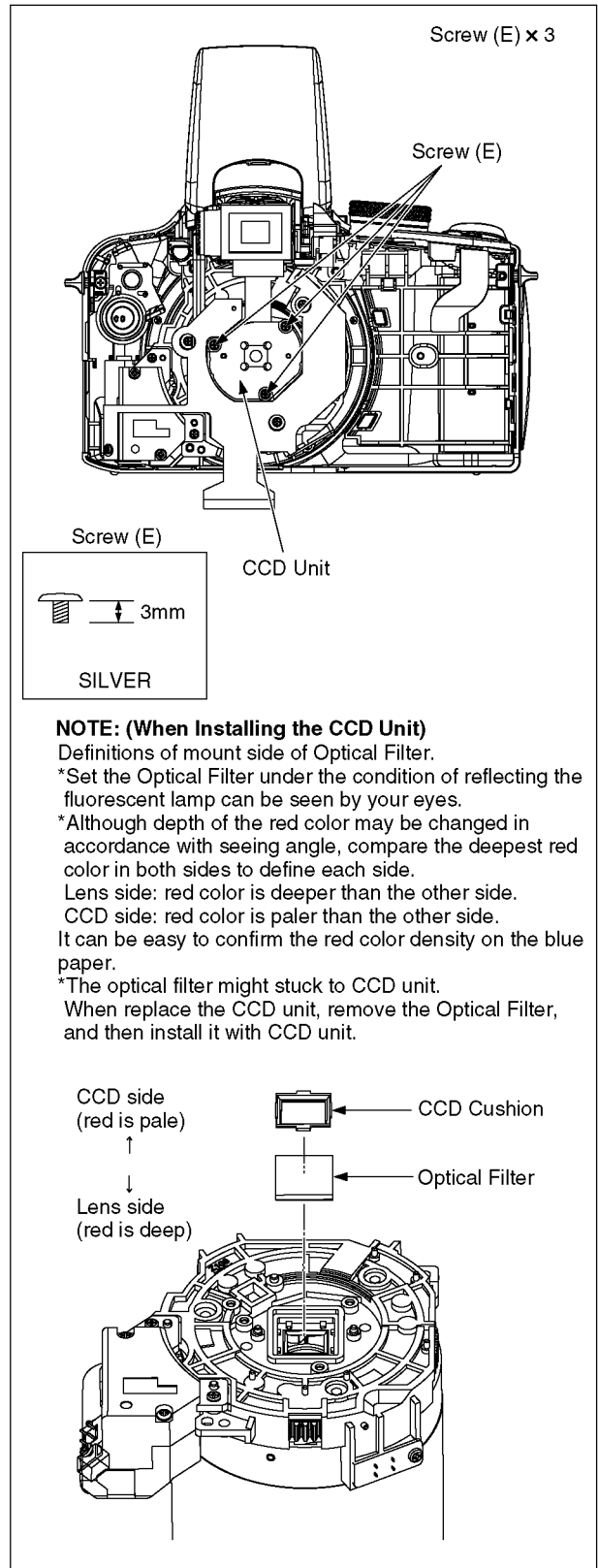
**NOTE: (When Installing)**

Install the focus guide pole to the Middle Frame. Fix the OIS and Shutter Flex to the latch of Middle Frame. (Installing order: Shutter Flex → OIS Flex)



### 8.5. Removal of the CCD Unit

To prevent the CCD unit from catching the dust and dirt, do not remove the CCD unit except for replacing.





# 9 Measurements and Adjustments

## 9.1. 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.

The Adjustment software is available at "TSN Web-site", therefore, access to "TSN Web-site" at "Support Information from NWBG/VDBG-AVC".

**NOTE:**

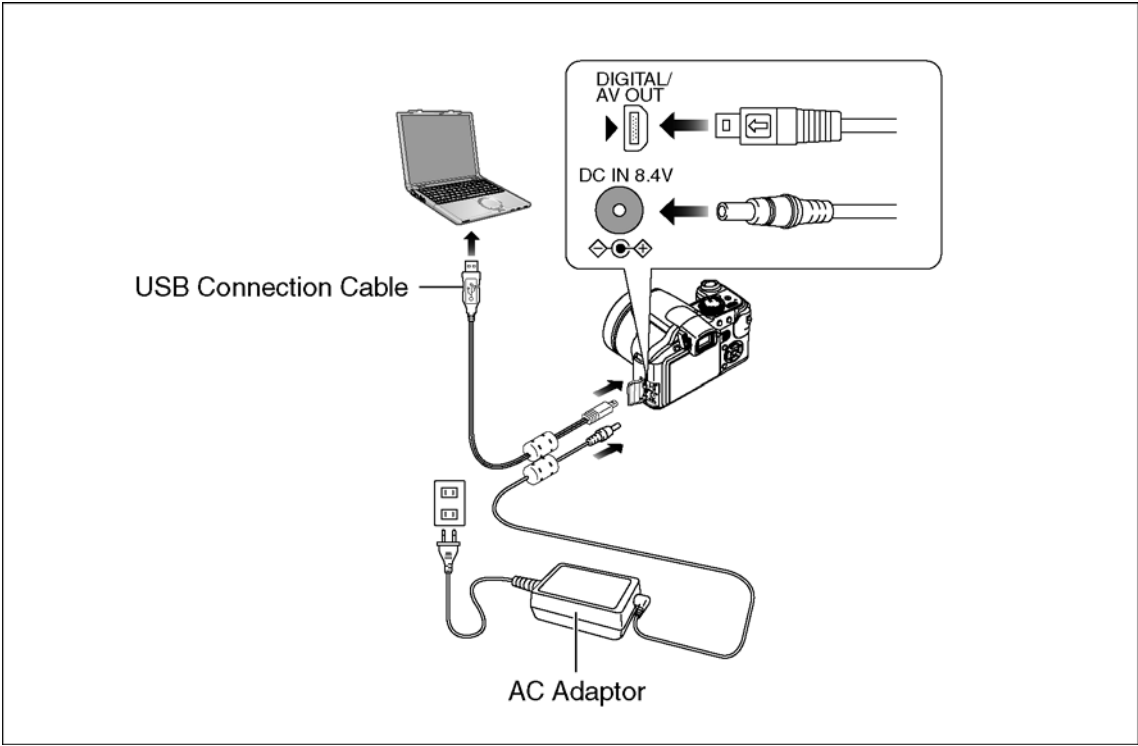
After adjustments have been terminated, make sure to achieve "INITIAL SETTINGS".

Adjustment Item		Replaced Part					
		Main P.C.B.	VENUS (IC6001)	Flash-ROM (IC6002)	Lens Part (Excluding CCD)	CCD Unit	Gyro Flex P.C.B. (IC7201, IC7202)
Camera Section	Venus zoom inspection (PZM)	○	○	○	-	-	-
	OIS hall element adjustment (OIS)	○	○	○	○	-	-
	Back focus adjustment Gyro adjustment (BF)	○	○	○	○	○*1	○
	Iris adjustment (IRS)	○	○	○	○	○	-
	Monitor linearity inspection (MLN)	○	○	○	○	○	-
	Shutter adjustment (SHT)	○	○	○	○	○	-
	ISO sensitivity adjustment (ISO)	○	○	○	○	○	-
	AWB adjustment High brightness coloration inspection (WBL)	○	○	○	○	○	-
	Linearity adjustment (LIN)	○	○	○	○	○	-
	CCD white scratch compensation (WKL)	○	○	○	-	○*1	-
	Color reproduction inspection / mic inspection (COL)	○	○	○	○	○	-
	CCD black scratch compensation (BKI)	○	○	○	-	○*1	-

\*1 Make the adjustment when the CCD unit is removed from the lens unit as well as when the CCD unit is replaced.

**NOTE:**

\*There is no LCD and EVF adjustment in this model.



# 10 Maintenance

## 10.1. Cleaning Lens, Viewfinder and LCD Panel

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

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

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

**Note:**

The Lens Cleaning KIT ; VFK1900BK(Only supplied as 10 set/Box) is available as Service Aid.

# Service Manual

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## Diagrams and Replacement Parts List

### Digital Camera

Model No.

DMC-FZ38EG	DMC-FZ35GC
DMC-FZ38EP	DMC-FZ35GT
DMC-FZ38EF	DMC-FZ35GK
DMC-FZ38EB	DMC-FZ35GN
DMC-FZ38EE	DMC-FZ35GD
DMC-FZ38SG	
DMC-FZ35P	
DMC-FZ35PC	
DMC-FZ35PU	

Vol. 1  
 Colour  
 (K).....Black Type

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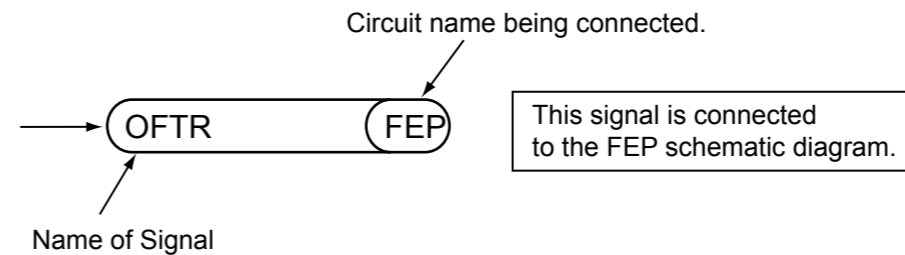
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## S1. About Indication of The Schematic Diagram

### S1.1. Important Safety Notice

COMPONENTS IDENTIFIED WITH THE MARK  $\triangle$  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. Voltage Chart

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

### S2.1. Gyro Flex P.C.B.

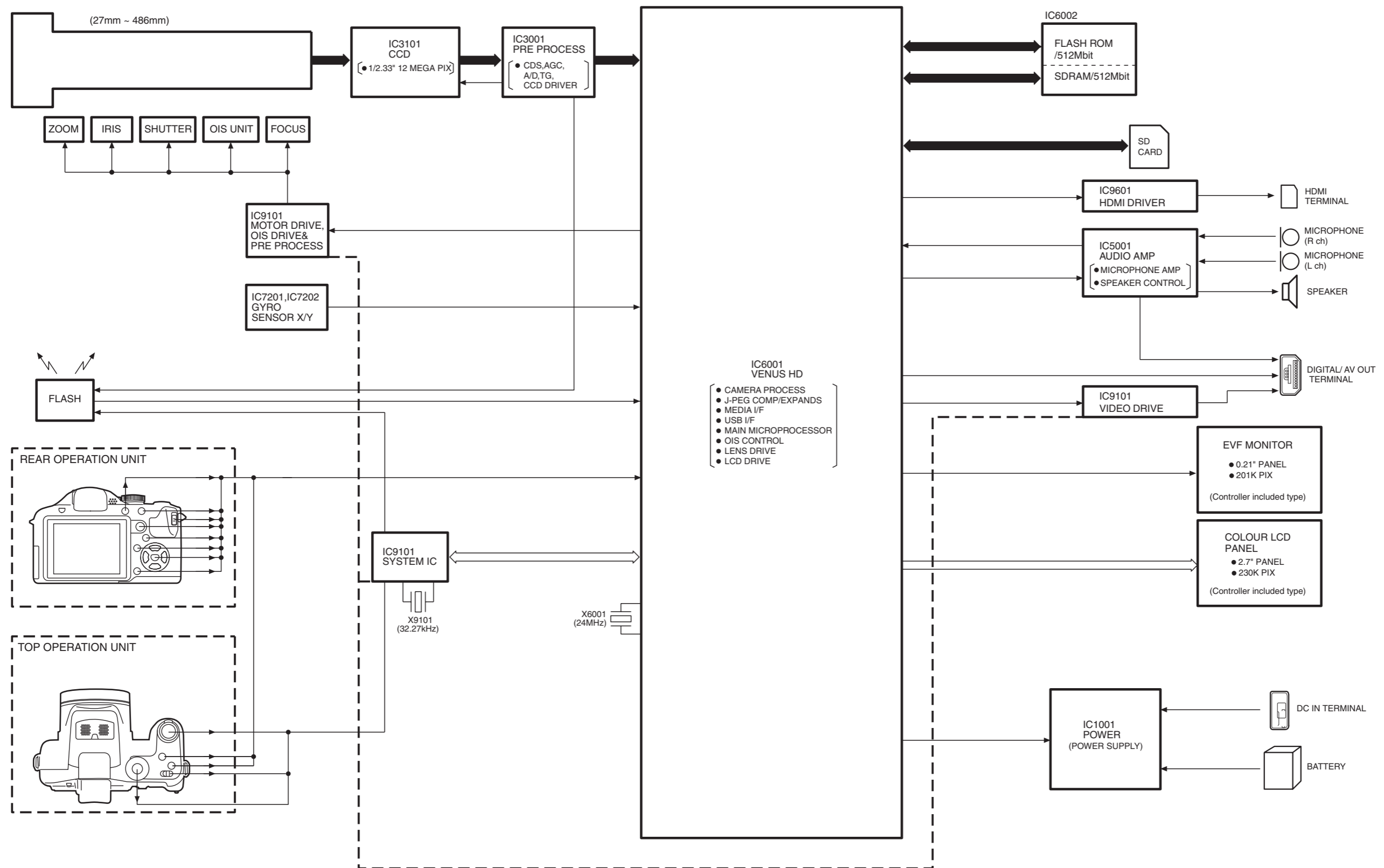
### S2.2. Mic P.C.B.

REF No.	PIN No.	POWER ON
IC7201	1	-
IC7201	2	-
IC7201	3	-
IC7201	4	0
IC7201	5	1.5
IC7201	6	1.5
IC7201	7	0
IC7201	8	3.1
IC7202	1	-
IC7202	2	-
IC7202	3	-
IC7202	4	0
IC7202	5	1.5
IC7202	6	1.5
IC7202	7	0
IC7202	8	3.1

REF No.	PIN No.	POWER ON
IC5201	1	0
IC5201	2	0.1
IC5201	3	0
IC5201	4	0.1
IC5201	5	0
IC5201	6	0.1
IC5201	7	0.1
IC5201	8	0
IC5201	9	0.1
IC5201	10	0.1
IC5201	11	0
IC5201	12	0
IC5201	13	0
IC5201	14	0
IC5201	15	0
IC5201	16	0.1
IC5201	17	0.1
IC5201	18	0.1
IC5201	19	0.1
IC5201	20	0.1
Q5201	E	0
Q5201	C	0.1
Q5201	B	0
Q5202	E	0
Q5202	C	0.1
Q5202	B	0
Q5203	E	4.9
Q5203	C	4.9
Q5203	B	4.2
QR5204	1	0
QR5204	2	0
QR5204	3	0.1
QR5204	4	4.9
QR5204	5	4.9
QR5204	6	4.9

# S3. Block Diagram

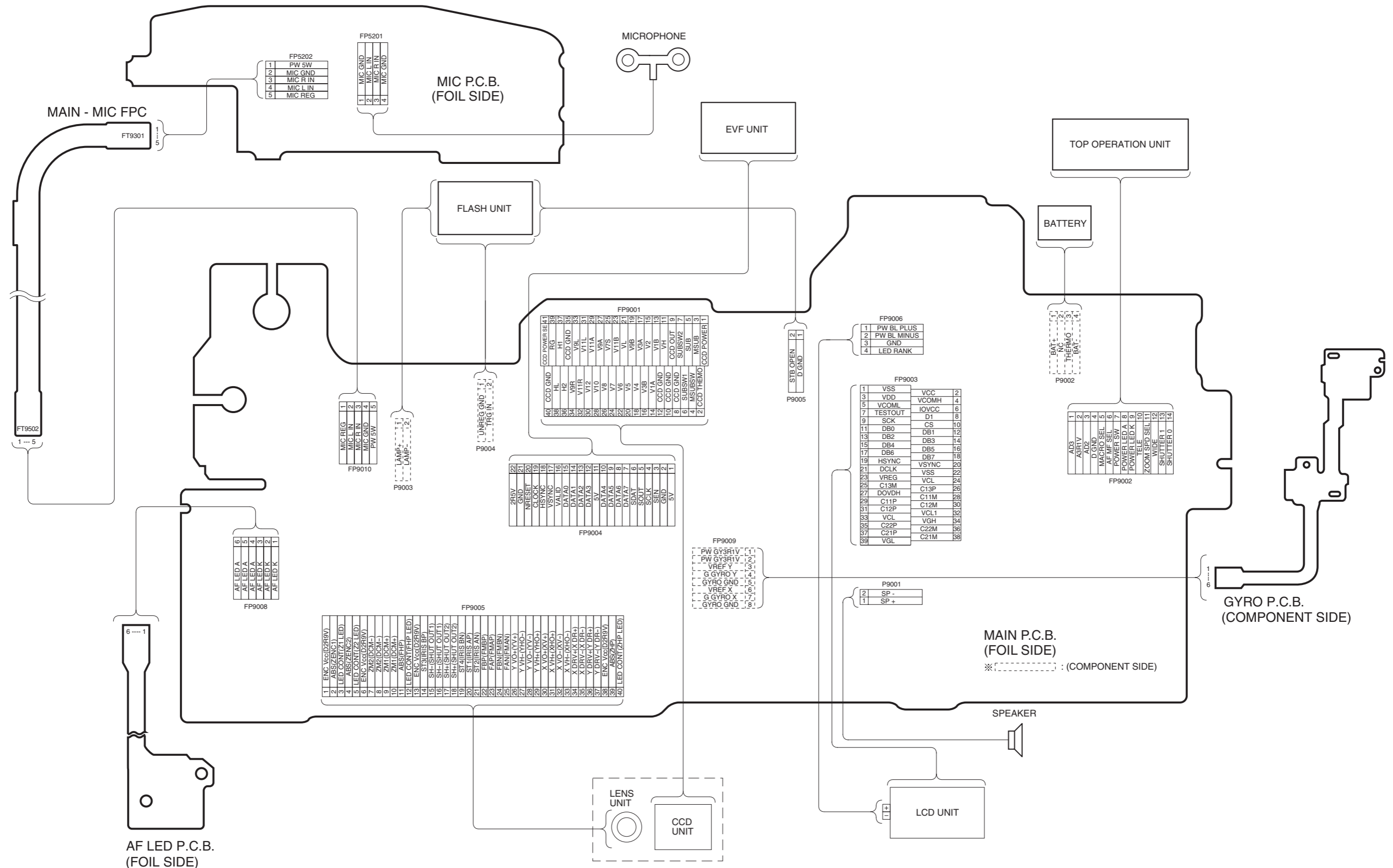
## S3.1. Overall Block Diagram



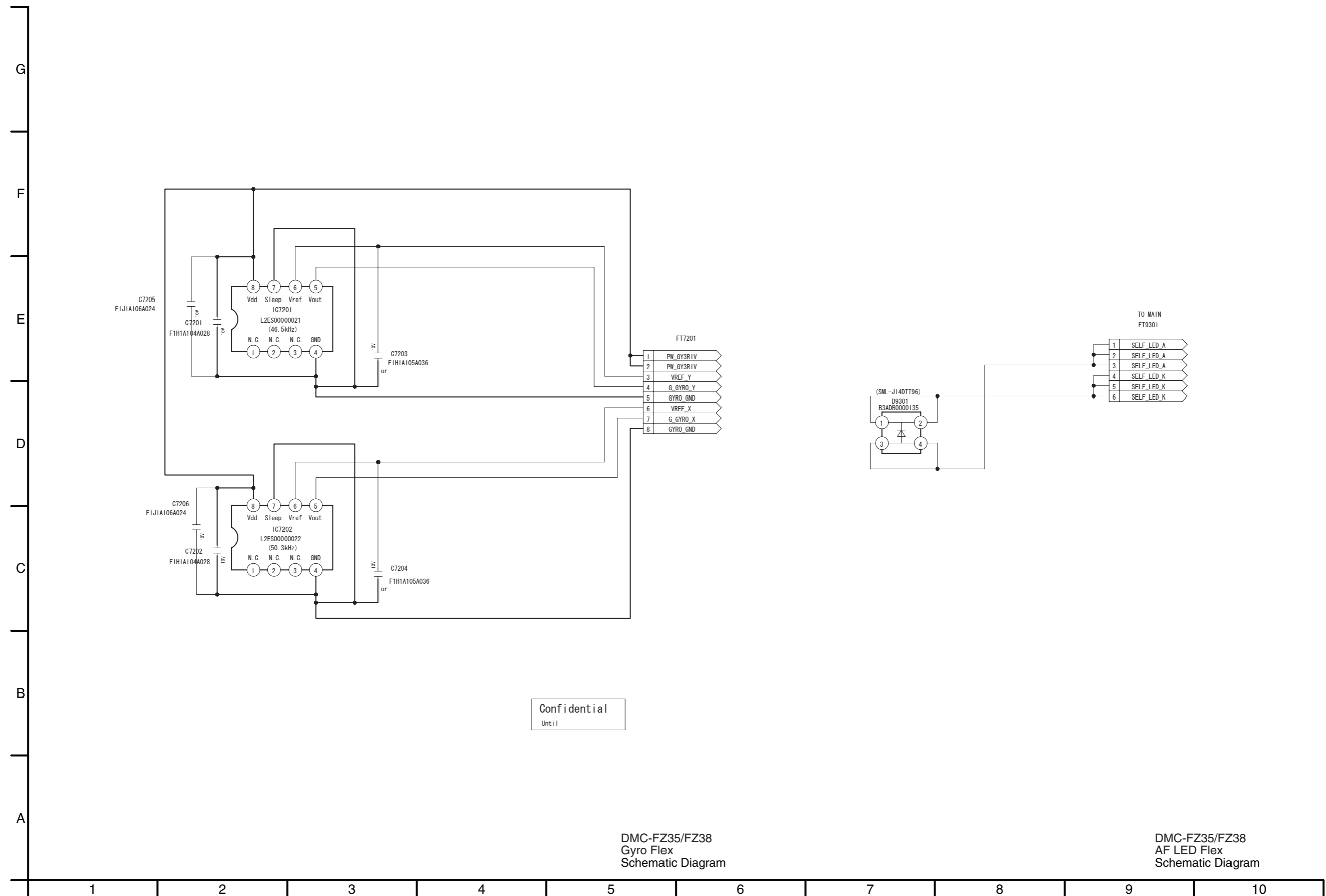
DMC-FZ35, FZ38 OVERALL BLOCK DIAGRAM

# S4. Schematic Diagram

## S4.1. Interconnection Diagram



S4.2. Gyro Flex Schematic Diagram / S4.3. AF LED Flex Schematic Diagram



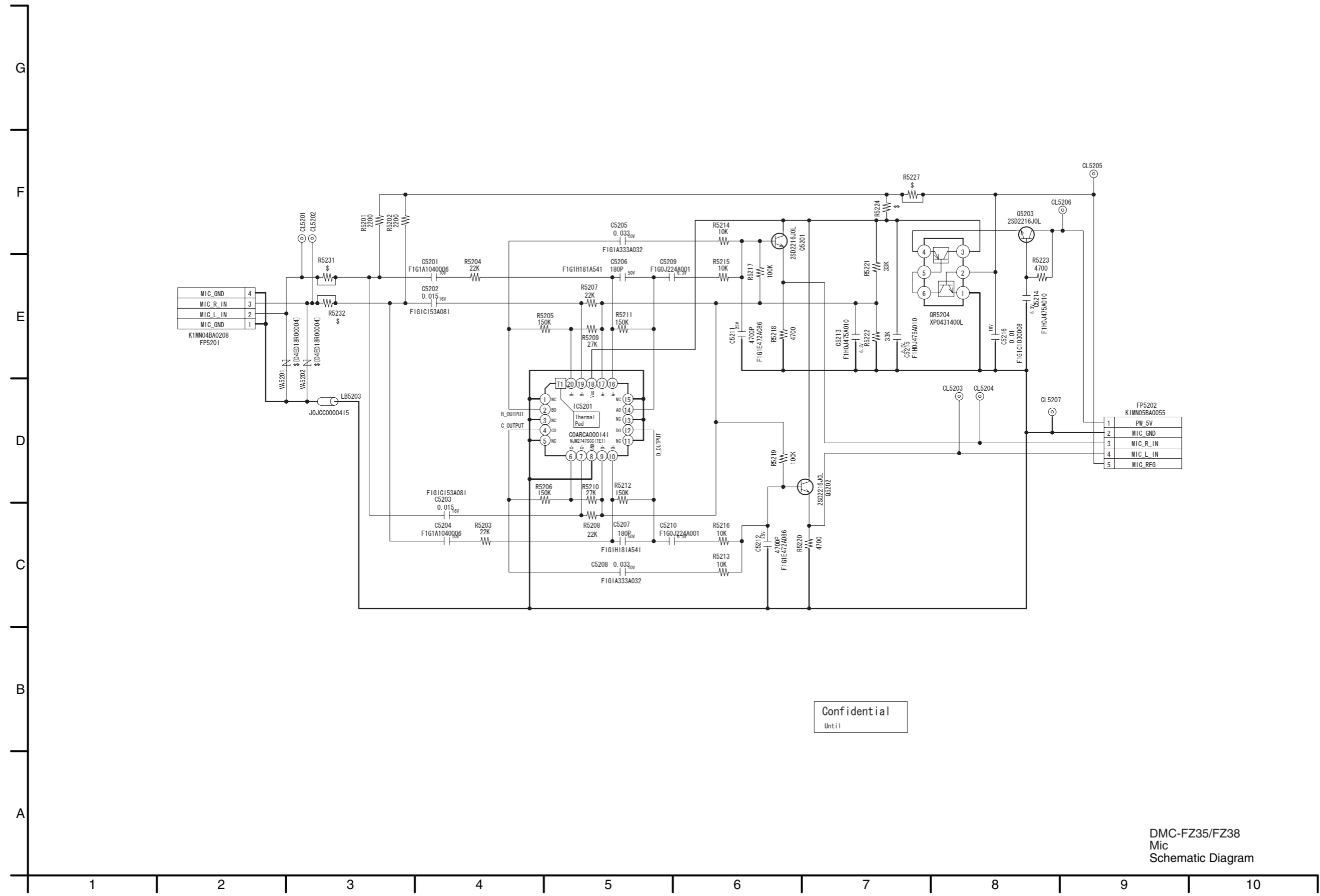
Confidential  
Until

DMC-FZ35/FZ38  
Gyro Flex  
Schematic Diagram

DMC-FZ35/FZ38  
AF LED Flex  
Schematic Diagram



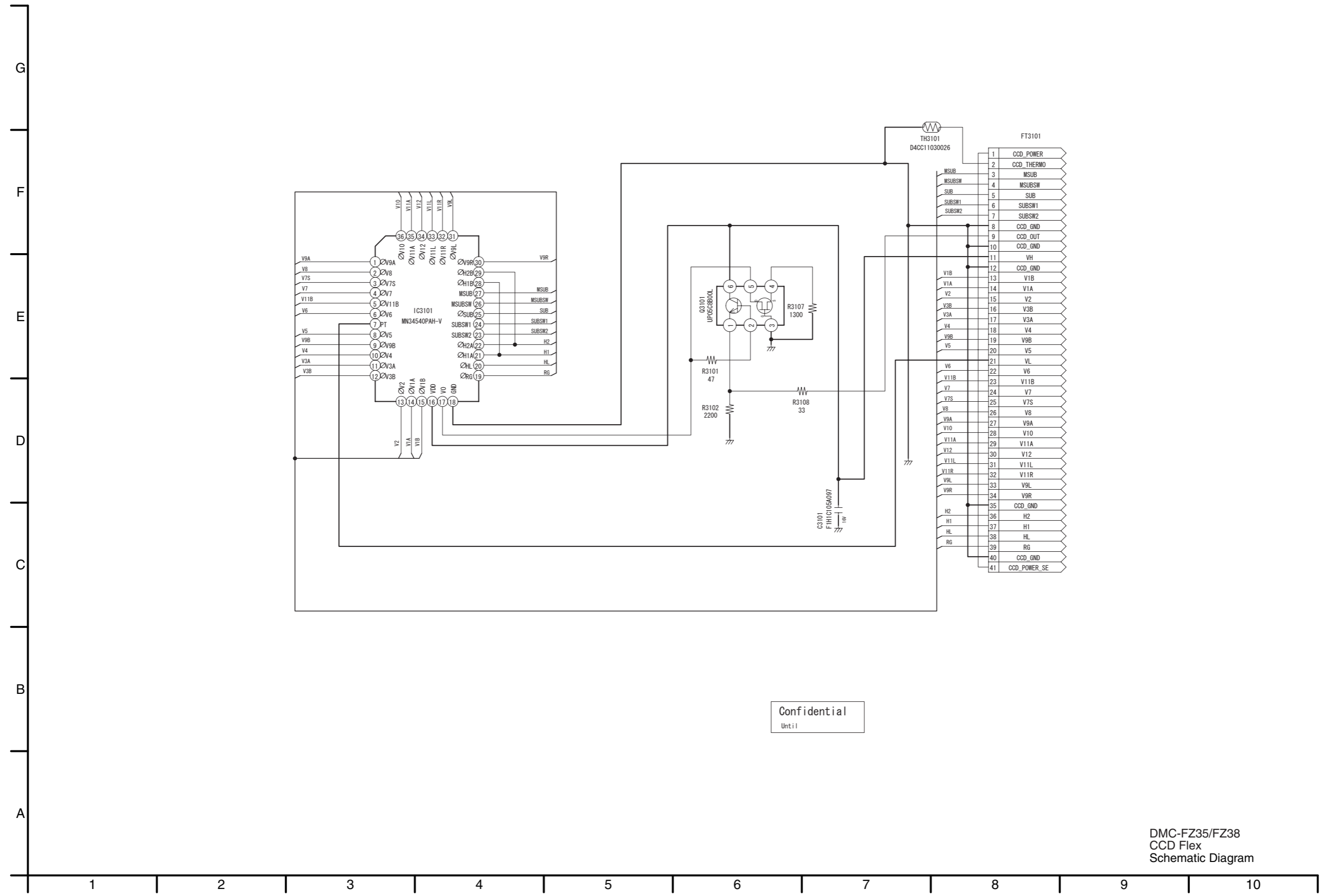
# S4.4. Mic Schematic Diagram



Confidential  
Until

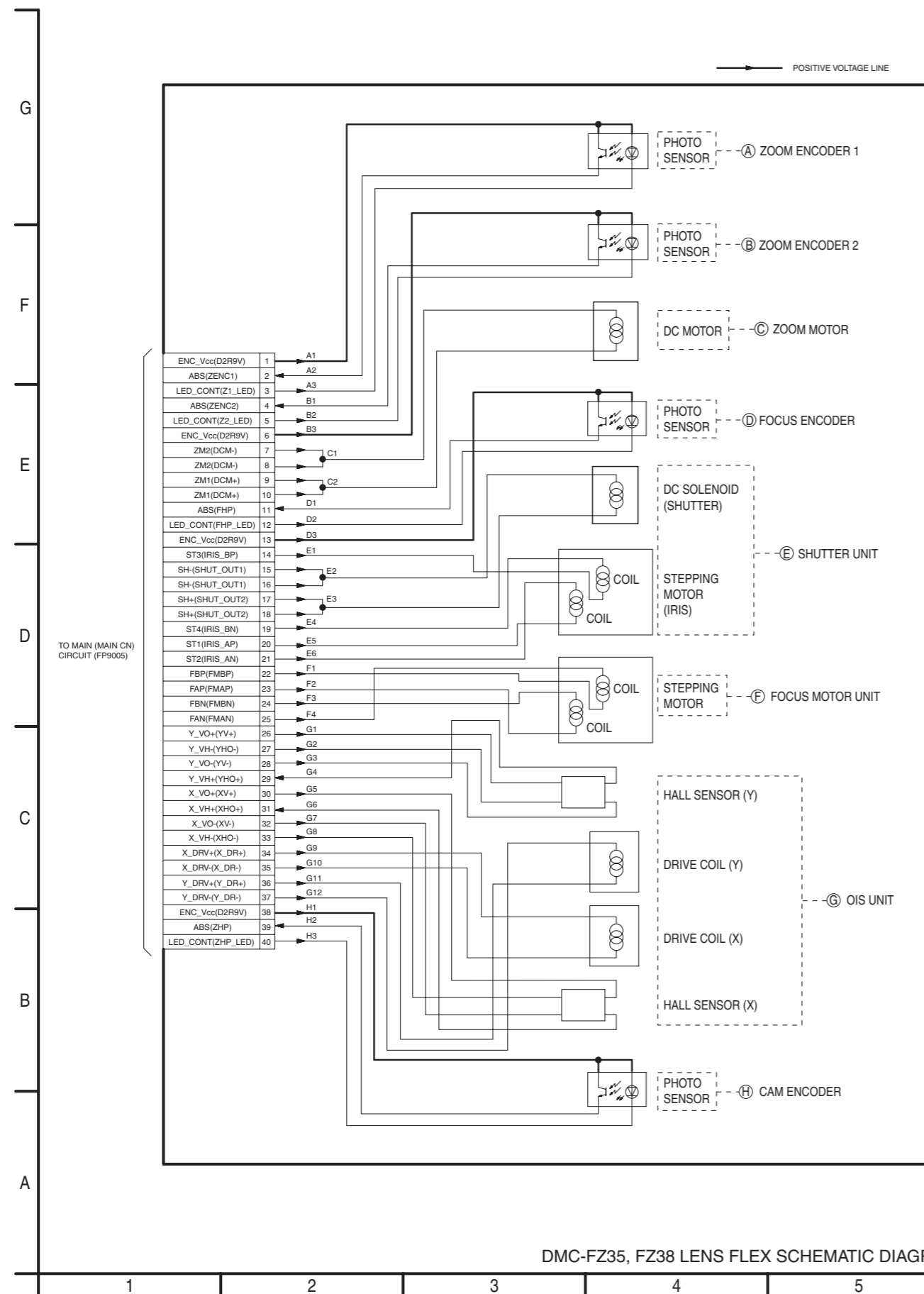
DMC-FZ35/FZ38  
Mic  
Schematic Diagram

# S4.5. CCD Flex Schematic Diagram



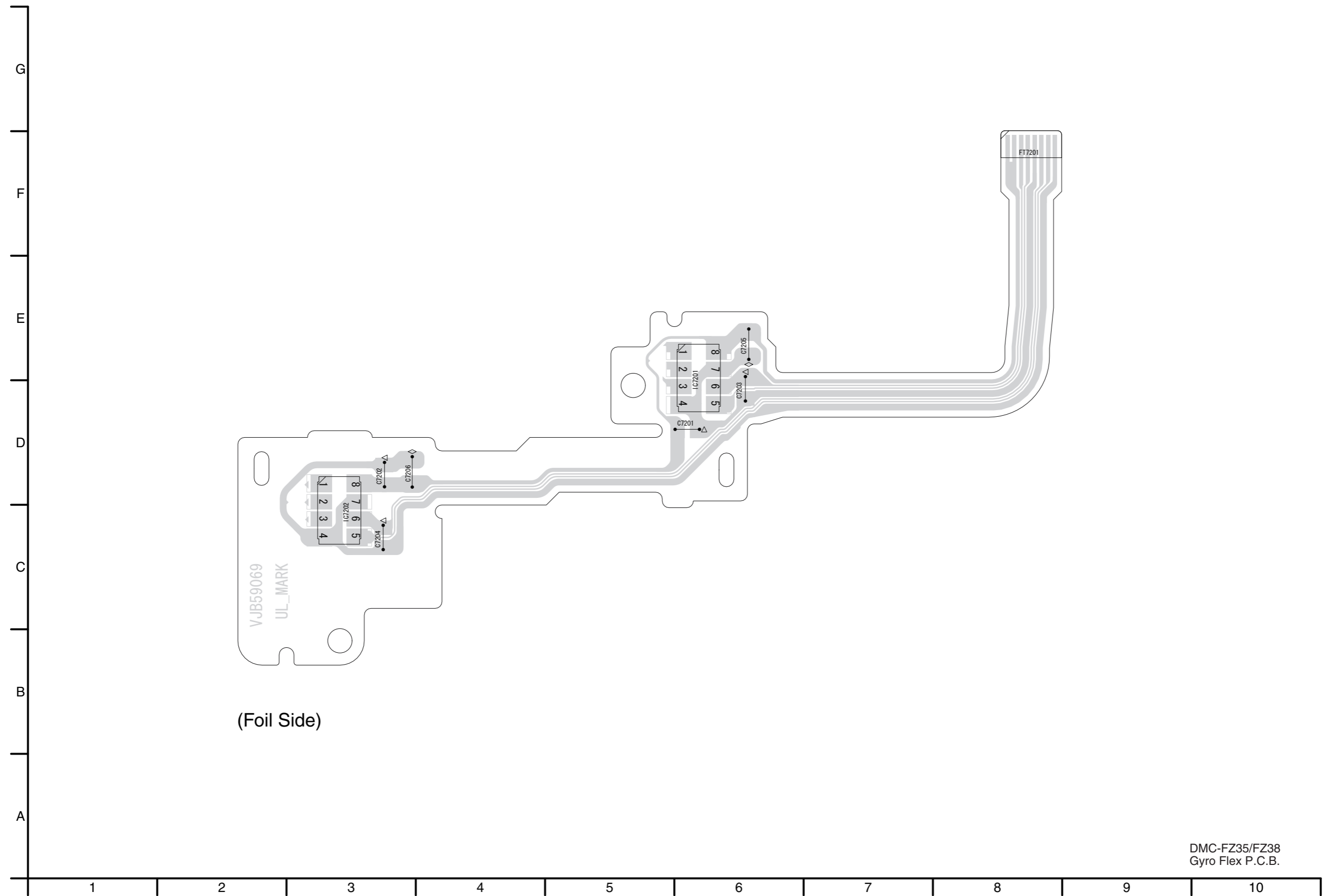
Confidential  
Until

# S4.6. Lens Flex Schematic Diagram

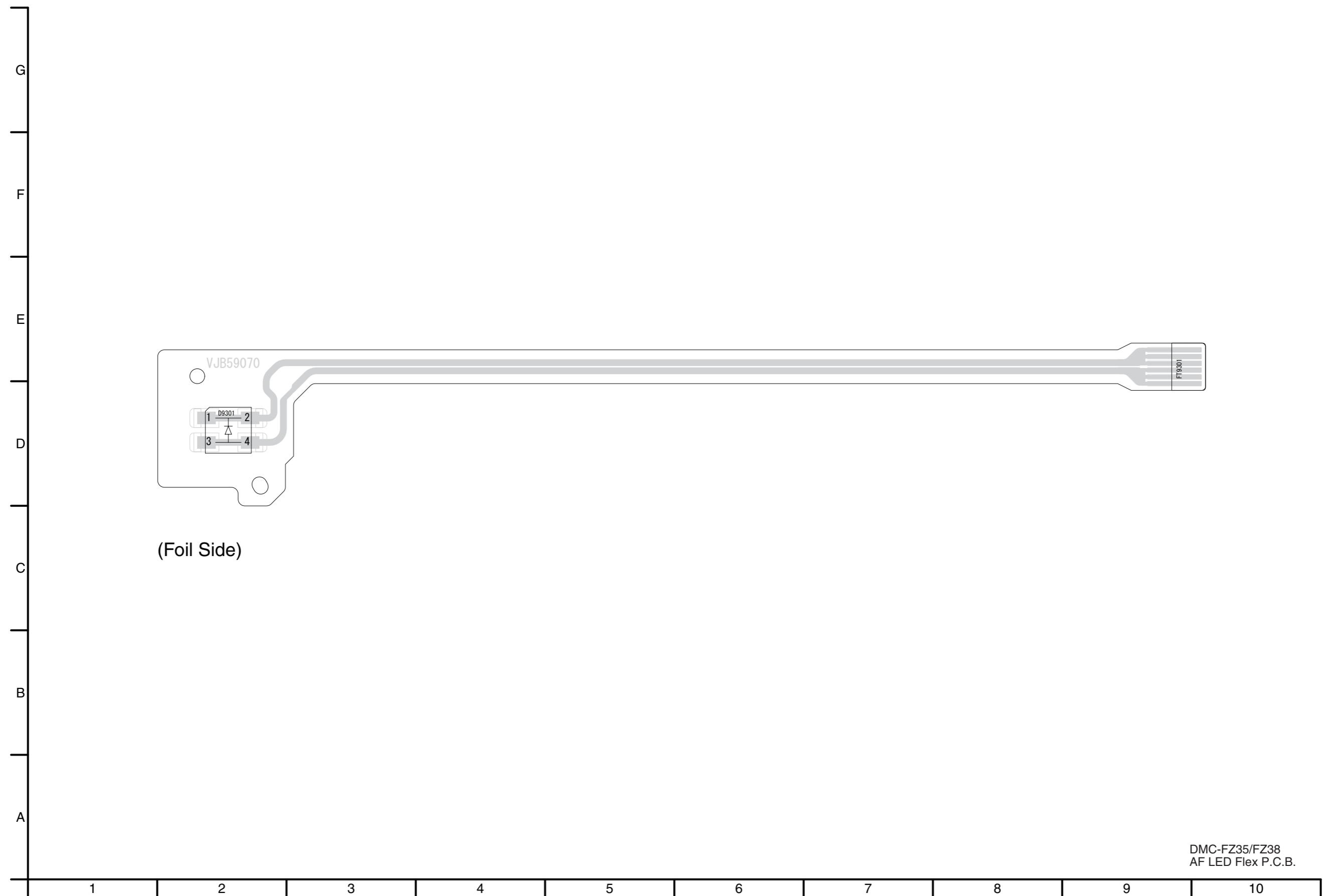


# S5. Print Circuit Board

## S5.1. Gyro Flex P.C.B.

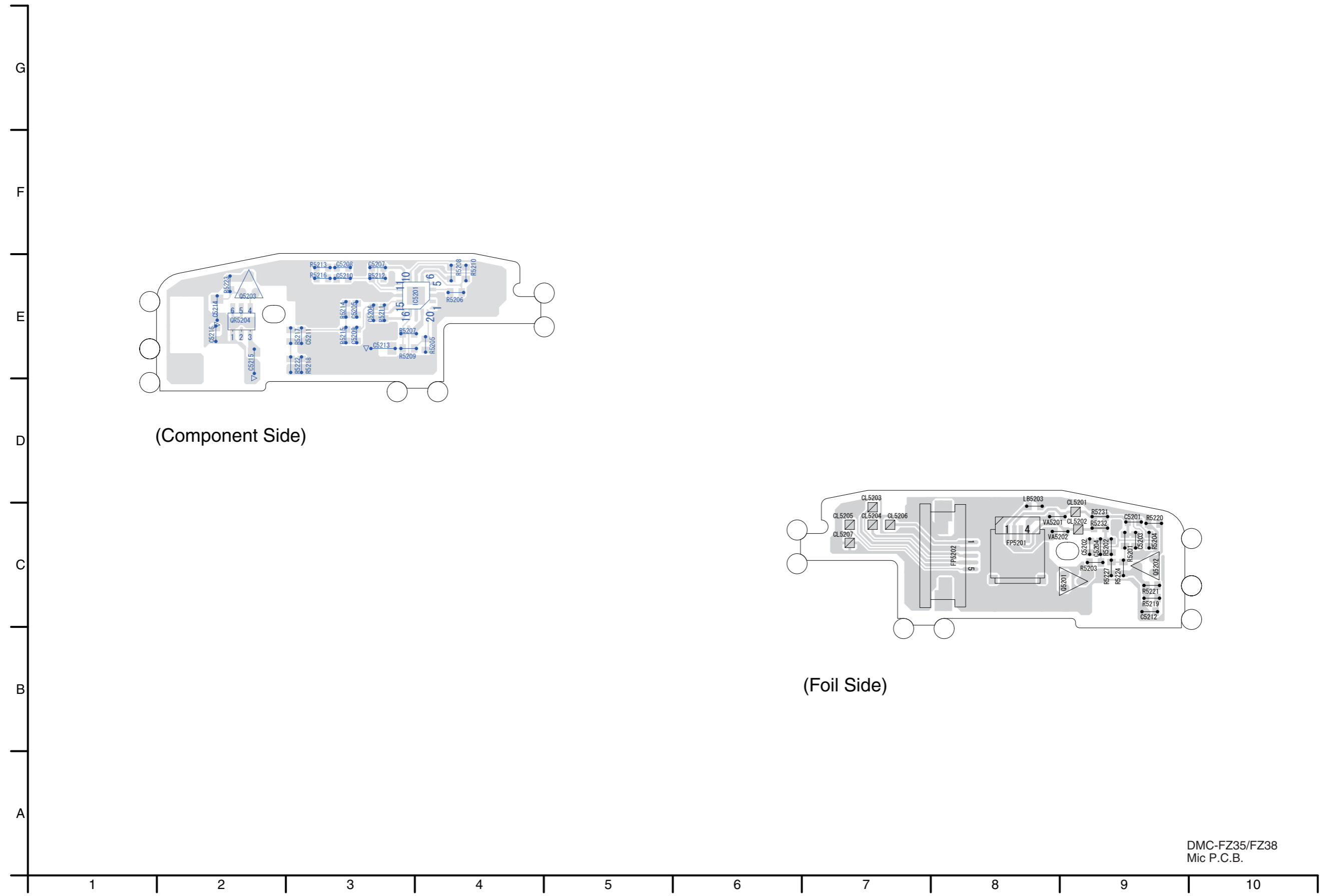


S5.2. AF LED Flex P.C.B.



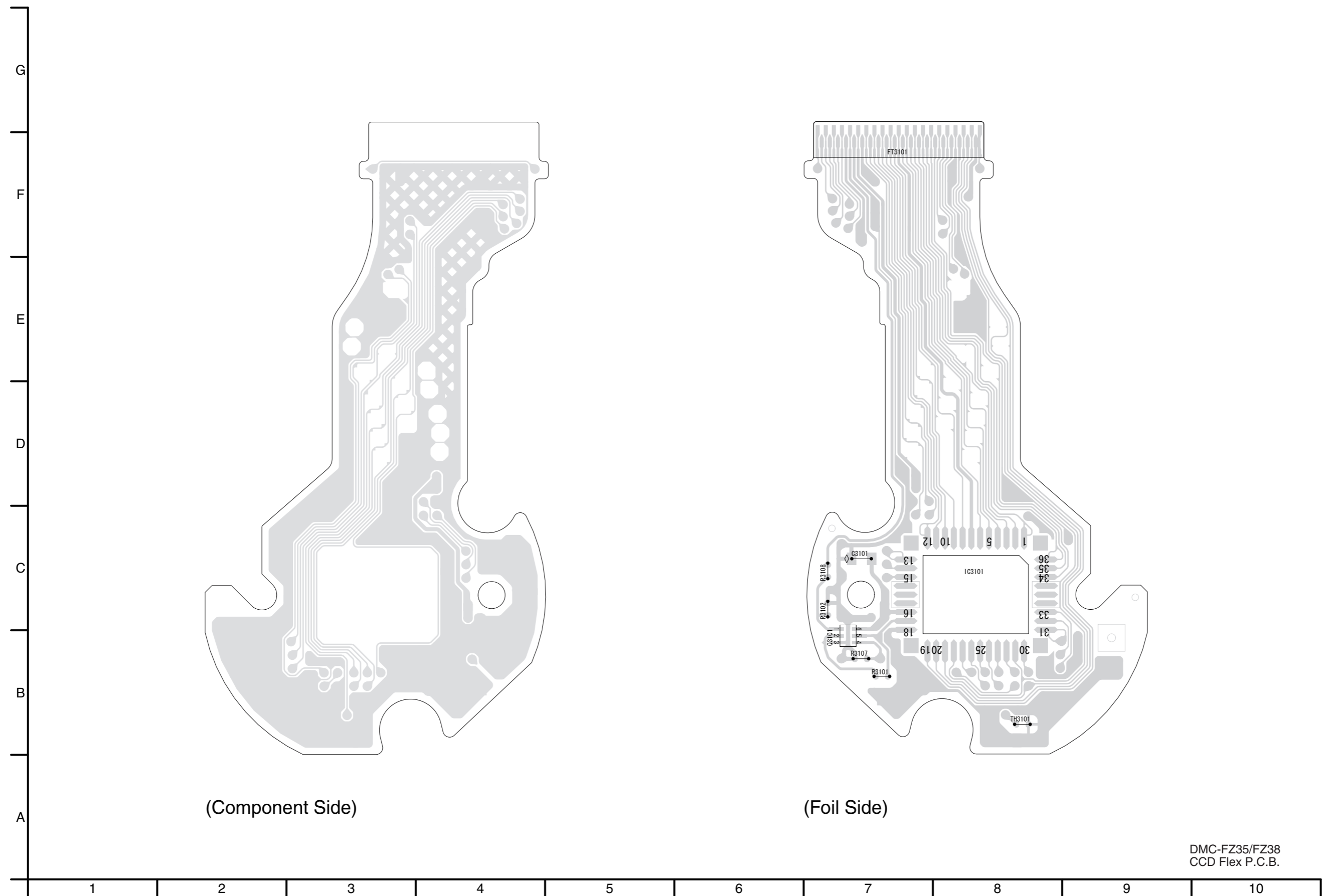
DMC-FZ35/FZ38  
AF LED Flex P.C.B.

S5.3. Mic P.C.B.

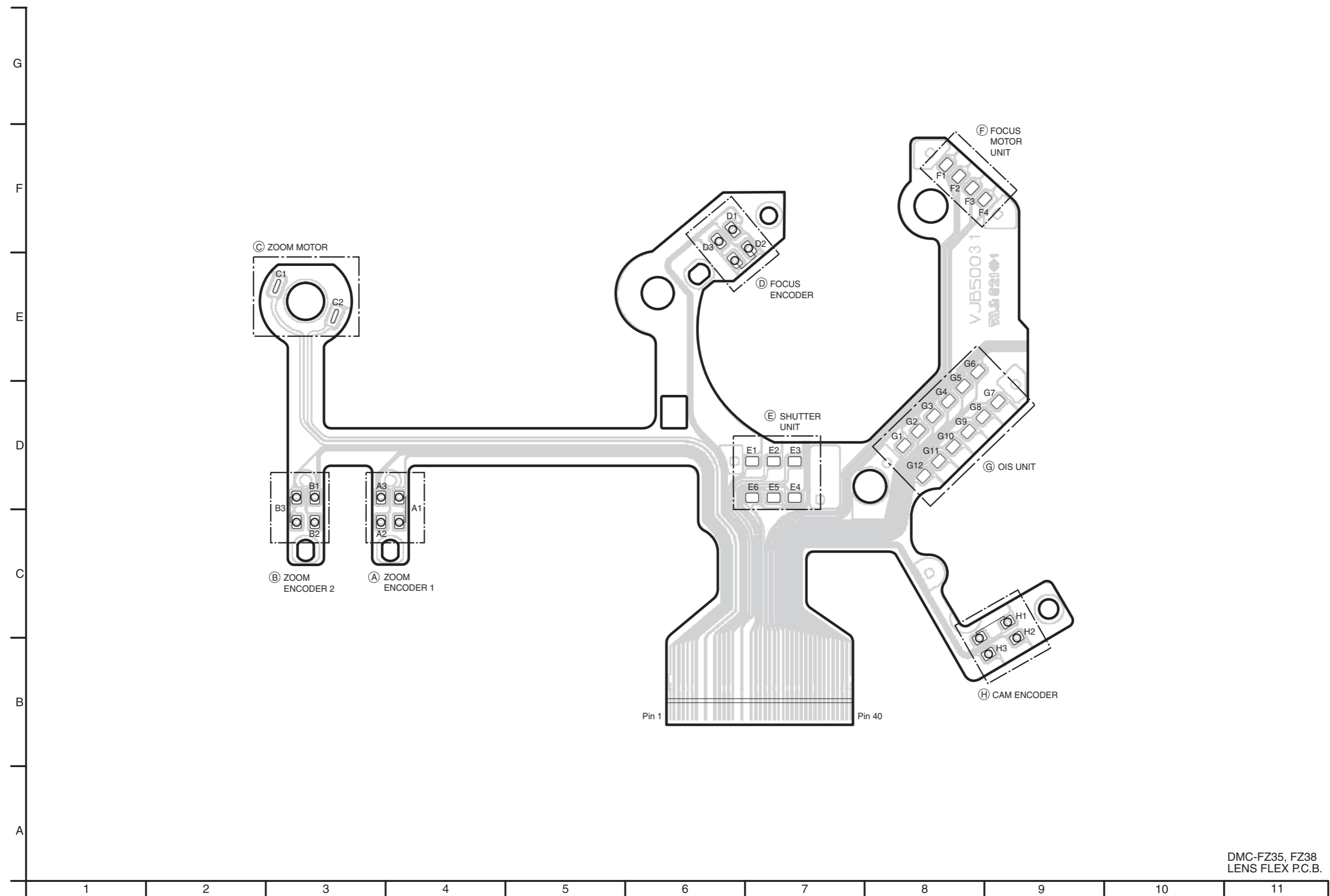


DMC-FZ35/FZ38  
Mic P.C.B.

S5.4. CCD Flex P.C.B.



S5.5. Lens Flex P.C.B.







## S6. Replacement Parts List

- Note: 1.\* Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE  
Components identified with the mark  $\triangle$  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.**

### <DEFINITION OF PARTS SUPPLIER>

1. Parts marked with [Energy] in the remarks column are supplied from Panasonic Corporation Energy Company.
2. Parts marked with [SPC] in the remarks column are supplied from AVC-CSC-SPC. Others are supplied from "Panasonic Shikoku Electronics Co., Ltd." (PSEC-SAIJO).

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
##	VEP56091A	MAIN P.C.B.	1	(RTL) E.S.D. EE,SG,P,PC, PU,GC,GT,GK,GN,GD
##	VEP56091B	MAIN P.C.B.	1	(RTL) E.S.D. EG,EP,EF,EB
##	VEP59069A	GYRO P.C.B.	1	(RTL) E.S.D.
##	VEP59070A	AF LED P.C.B.	1	(RTL) E.S.D.
##	VEP54015A	MIC P.C.B.	1	(RTL) E.S.D.
##	VEK0P47	CCD UNIT	1	[SPC]
##	VEP59069A	GYRO P.C.B.		(RTL) E.S.D.
C7201	F1H1A104A028	C.CAPACITOR CH 10V 0.1U	1	
C7202	F1H1A104A028	C.CAPACITOR CH 10V 0.1U	1	
C7205	F1J1A106A043	C.CAPACITOR CH 10V 10U	1	
C7206	F1J1A106A043	C.CAPACITOR CH 10V 10U	1	
IC7201	L2ES00000021	IC	1	
IC7202	L2ES00000022	IC	1	
##	VEP59070A	AF LED P.C.B.		(RTL) E.S.D.
D9301	B3ADB0000135	DIODE	1	
##	VEP54015A	MIC P.C.B.		(RTL) E.S.D.
C5201	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C5202	F1G1C153A081	C.CAPACITOR CH 16V 0.015U	1	
C5203	F1G1C153A081	C.CAPACITOR CH 16V 0.015U	1	
C5204	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C5205	F1G1A333A032	C.CAPACITOR CH 10V 0.033U	1	
C5206	F1G1H181A541	C.CAPACITOR CH 50V 180P	1	
C5207	F1G1H181A541	C.CAPACITOR CH 50V 180P	1	
C5208	F1G1A333A032	C.CAPACITOR CH 10V 0.033U	1	
C5209	F1G0J224A004	C.CAPACITOR CH 6.3V 0.22U	1	
C5210	F1G0J224A004	C.CAPACITOR CH 6.3V 0.22U	1	
C5211	F1G1E472A086	C.CAPACITOR CH 25V 4700P	1	
C5212	F1G1E472A086	C.CAPACITOR CH 25V 4700P	1	
C5213	F1H0J475A010	C.CAPACITOR CH 6.3V 4.7U	1	
C5214	F1H0J475A010	C.CAPACITOR CH 6.3V 4.7U	1	
C5215	F1H0J475A010	C.CAPACITOR CH 6.3V 4.7U	1	
C5216	F1G1C1030008	C.CAPACITOR CH 16V 0.01U	1	
FP5201	K1MN04BA0208	CONNECTOR 4P	1	
FP5202	K1MN05BA0055	CONNECTOR 5P	1	
IC5201	C0ABCA000141	IC	1	
LB5203	J0JCC0000415	FILTER	1	
Q5201	2SD2216J08	TRANSISTOR	1	
Q5202	2SD2216J08	TRANSISTOR	1	
Q5203	2SD2216J08	TRANSISTOR	1	
QR5204	XP4314	TRANSISTOR-RESISTOR	1	
R5201	D0GA222JA021	RESISTOR	1	
R5202	D0GA222JA021	RESISTOR	1	
R5203	D0GA223JA021	RESISTOR	1	
R5204	D0GA223JA021	RESISTOR	1	
R5205	D0GA154JA021	RESISTOR	1	
R5206	D0GA154JA021	RESISTOR	1	
R5207	D0GA223JA021	RESISTOR	1	
R5208	D0GA223JA021	RESISTOR	1	
R5209	D0GA273JA021	RESISTOR	1	
R5210	D0GA273JA021	RESISTOR	1	
R5211	D0GA154JA021	RESISTOR	1	
R5212	D0GA154JA021	RESISTOR	1	
R5213	ERJ2GEJ103	M.RESISTOR CH 1/16W 10K	1	
R5214	ERJ2GEJ103	M.RESISTOR CH 1/16W 10K	1	
R5215	ERJ2GEJ103	M.RESISTOR CH 1/16W 10K	1	
R5216	ERJ2GEJ103	M.RESISTOR CH 1/16W 10K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R5217	D0GA104JA021	RESISTOR	1	
R5218	D0GA472JA021	RESISTOR	1	
R5219	D0GA104JA021	RESISTOR	1	
R5220	D0GA472JA021	RESISTOR	1	
R5221	D0GA333JA021	RESISTOR	1	
R5222	D0GA333JA021	RESISTOR	1	
R5223	D0GA472JA021	RESISTOR	1	
##	VEK0P47	CCD UNIT		[SPC]
C3101	F1H1C105A097	C.CAPACITOR CH 16V 1U	1	[SPC]
Q3101	UP05C8B00L	TRANSISTOR	1	[SPC]
R3101	ERJ2GEJ470	M.RESISTOR CH 1/16W 47	1	[SPC]
R3102	ERJ2GEJ182	M.RESISTOR CH 1/16W 1.8K	1	[SPC]
R3107	ERJ2GEJ132	M.RESISTOR CH 1/16W 1.3K	1	[SPC]
R3108	ERJ2GEJ270	M.RESISTOR CH 1/16W 27	1	[SPC]
TH3101	D4CC11030026	NTC THERMISTORS	1	[SPC]

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	L0AA01A00041	SPEAKER	1	
3	VMP9538	SP FIX PLATE	1	
4	VMP9421	LCD HOLDER	1	
5	VYK3P91	REAR CASE (1) U	1	
5-1	VMS7523	STRAP HOLDER	1 [SPC]	
5-2	VXU1691	ANI AF/AE BUTTON U	1 [SPC]	
5-3	VGU0E71	MENU BUTTON	1 [SPC]	
5-4	VGU0F13	SLIDE KNOB	1 [SPC]	
5-5	VGQ0F62	GRIP PIECE REAR	1 [SPC]	
5-6	VMP9422	EARTH PLATE REAR	1	
6	VYQ5034	LCD MODULE U	1	
7	K0RB02100007	TOP OPERATION UNIT	1	
8	L5EDDXE00005	EVF UNIT	1	
9	VDW1845	LENS RING FRONT	1	
10	VGU0E64	FLASH LOCK LEVER KNOB	1	
12	VYK3H10	FRONT CASE (1) U	1 (DMC-FZ38)	
12	VYK3H50	FRONT CASE (1) U	1 (DMC-FZ35)	
12-1	VGQ9469	GRIP PIECE FRONT	1 [SPC]	
12-2	VMS7523	STRAP HOLDER	1 [SPC]	
14	VEP56091A	MAIN P.C.B.	1 (RTL) E.S.D. EE,SG,P,PC,	
				PU,GC,GT,GK,GN,GD
14	VEP56091B	MAIN P.C.B.	1 (RTL) E.S.D. EG,EP,EF,EB	
15	VEP59069A	GYRO P.C.B.	1 (RTL) E.S.D.	
16	VEP59070A	AF LED P.C.B.	1 (RTL) E.S.D.	
17	VGQ8573	JOY STICK COVER	1	
18	VGQ9541	CONDENSER COVER (A)	1	
19	VGQ9542	CONDENSER COVER (B)	1	
20	VGQ9543	AF LED HOLDER	1	
21	VGU0E65	JOY STICK KNOB	1	
22	VYK3H16	BATTERY FRAME U	1	
22-1	VMB4039	BATTERY SPRING	1 [SPC]	
23	VYK3H51	HD TERMINAL DOOR U	1	
24	VYQ4946	JACK DOOR U	1	
25	VWJ2120	MAIN-MIC-JOINT FPC	1	
26	VEK0P40	FLASH U	1	
27	VEP54015A	MIC P.C.B.	1 (RTL) E.S.D.	
28	VKM8017	FLASH CASE BOTTOM	1	
29	VMB4274	FLASH SPRING	1	
30	VMP9419	FLASH EARTH PLATE	1	
31	VMS7911	FLASH SHAFT	1	
32	VMT1962	MIC DAMPER	1	
33	VYK3H12	FLASH CASE TOP U	1	
34	VYQ3749	FLASH SW UNIT	1	
35	WM-58A602	MIC FPC U	1	
36	VYK3J55	FLASH BASE (U)	1	
37	K1ZZ00001463	BATTERY CATCHER	1 (P9002)	
38	VGQ0J27	DPR SHEET	1	
39	VMT2011	MIC CUSHION	1	
53	VXP2968	2ND. LENS FRAME UNIT	1 [SPC]	
54	VDW1926	MIDDLE FRAME	1 [SPC]	
55	L6HA68ZD0001	FOCUS MOTOR UNIT	1 [SPC]	
56	VXP2944	3RD. LENS FRAME UNIT	1 [SPC]	
57	VXP3057	4TH. LENS FRAME UNIT	1 [SPC]	
58	VDW1927	CAM FRAME	1 [SPC]	
59	VDW1607	MASTER FLANGE	1 [SPC]	
60	L6DA8BGD0001	ZOOM MOTOR UNIT	1 [SPC]	
61	VEK0M96	LENS FLEX. UNIT	1 [SPC]	
61-1	B3NAA0000074	PHOTO SENSOR	1 [SPC]	
61-2	B3NAA0000132	PHOTO SENSOR	1 [SPC]	
61-3	B3NAA0000132	PHOTO SENSOR	1 [SPC]	
61-4	B3NAA0000132	PHOTO SENSOR	1 [SPC]	
62	VDL2318	OPTICAL FILTER	1 [SPC]	
63	VMX3650	CCD CUSHION RUBBER	1 [SPC]	
64	VEK0P47	CCD UNIT	1 [SPC]	
65	VXP3299	1ST. LENS FRAME UNIT	1 [SPC]	
66	VMC2028	WASHER	1 [SPC]	
71	VMS7833	FOCUS GUIDE POLE	1 [SPC]	
72	VXW1087	LENS UNIT (W/O CCD)	1 [SPC]	

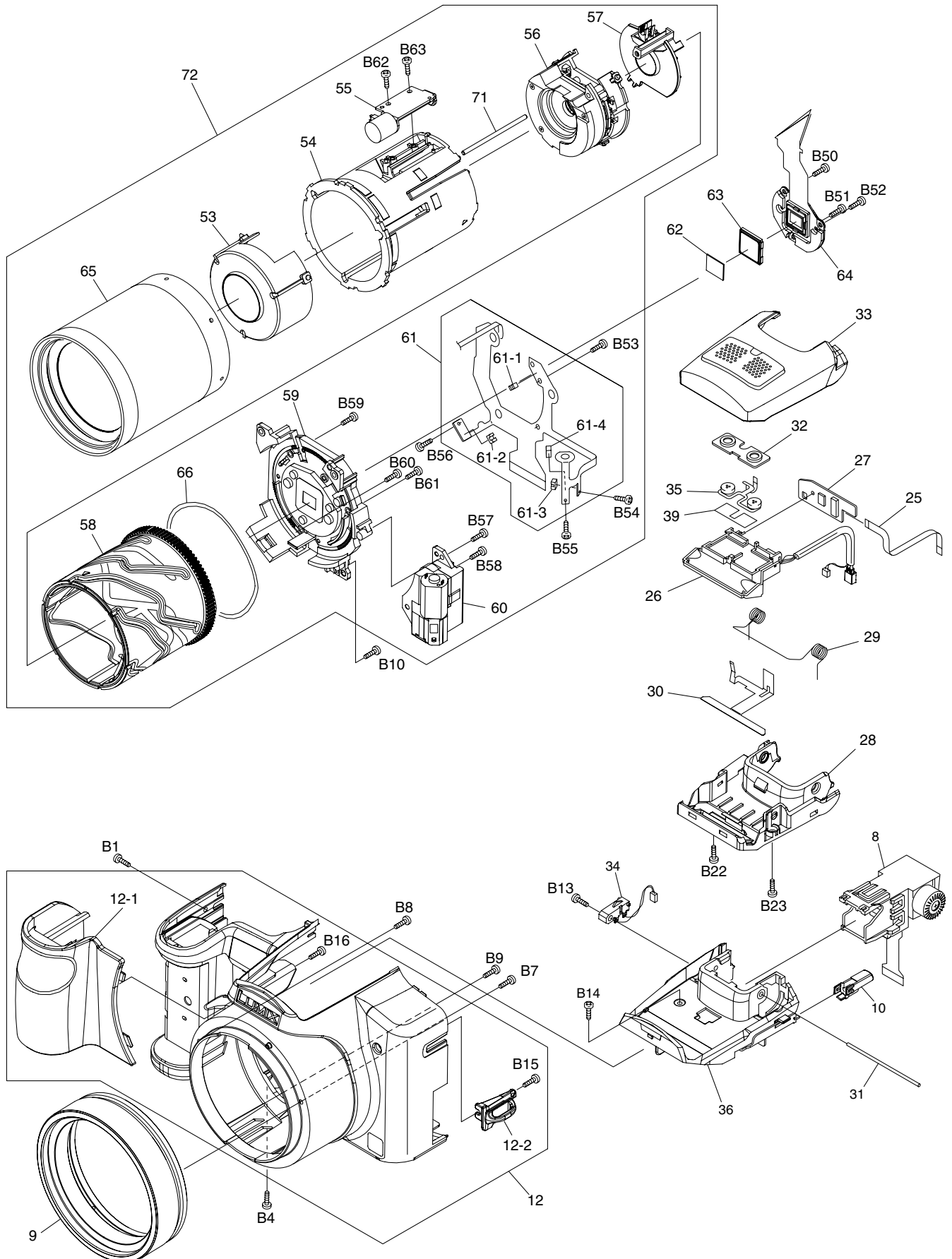
Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
B1	VHD1684	SCREW	1	
B2	VHD1684	SCREW	1	
B3	VHD1684	SCREW	1	
B4	VHD1870	SCREW	1	
B5	VHD1870	SCREW	1	
B6	VHD1870	SCREW	1	
B7	VHD1680	SCREW	1	
B8	VHD1680	SCREW	1	
B9	VHD1680	SCREW	1	
B10	XQN16+BJ8FN	SCREW	1	
B11	XQN16+BJ8FN	SCREW	1	
B12	XQN16+BJ8FN	SCREW	1	
B13	VHD1839	SCREW	1	
B14	VHD1684	SCREW	1	
B15	VHD1870	SCREW	1 [SPC]	
B16	XQN16+BJ4FN	SCREW	1 [SPC]	
B17	VHD1680	SCREW	1	
B19	XQN16+BJ4FN	SCREW	1	
B20	XQN16+BJ4FN	SCREW	1	
B21	XQN16+BJ4FN	SCREW	1	
B22	VHD1870	SCREW	1	
B23	VHD1870	SCREW	1	
B25	VHD1870	SCREW	1 [SPC]	
B27	XQN16+BJ4FN	SCREW	1 [SPC]	
B28	XQN16+BJ4FN	SCREW	1 [SPC]	
B29	XQN16+BJ4FN	SCREW	1 [SPC]	
B50	XQN14+CJ3FN	SCREW	1 [SPC]	
B51	XQN14+CJ3FN	SCREW	1 [SPC]	
B52	XQN14+CJ3FN	SCREW	1 [SPC]	
B53	XQN14+CJ3FN	SCREW	1 [SPC]	
B54	XQN14+CJ3FN	SCREW	1 [SPC]	
B55	XQN14+CJ3FN	SCREW	1 [SPC]	
B56	XQN14+CJ3FN	SCREW	1 [SPC]	
B57	XQN16+CJ5FN	SCREW	1 [SPC]	
B58	XQN16+CJ5FN	SCREW	1 [SPC]	
B59	XQN16+CJ5FN	SCREW	1 [SPC]	
B60	XQN16+CJ5FN	SCREW	1 [SPC]	
B61	XQN16+CJ5FN	SCREW	1 [SPC]	
B62	XQN16+CJ5FN	SCREW	1 [SPC]	
B63	XQN16+CJ5FN	SCREW	1 [SPC]	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
△ 100	----	BATTERY PACK	1	EG,EP,EF,EB,EE,SG,PU, GC,GT,GN,GD
△ 100	----	BATTERY PACK	1	P,PC
△ 100	----	BATTERY PACK	1	GK
△ 101	DE-A44AD	BATTERY CHARGER	1	EG,EP,EF,EB,GN
△ 101	DE-A44BF	BATTERY CHARGER	1	EE,SG,GC,GK,GD
△ 101	DE-A43BB	BATTERY CHARGER	1	P,PC,PU
△ 101	DE-A44CC	BATTERY CHARGER	1	GT
102	K1HA14AD0001	USB CABLE	1	[SPC]
103	K1HA14CD0001	AV CABLE	1	[SPC]
104	VPF1166	PROTECTION BAG	1	
105	VFC4453	SHOULDER BELT	1	
106	VFF0499-S	CD-ROM (EXCEPT CHINA)	1	EG,EP,EF,EB,EE,SG,P, PC,PU,GC,GT,GN,GD "See note" [SPC]
106	VFF0500-S	CD-ROM (CHINA)	1	GK "See note" [SPC]
△ 107	VFF0521	CD-ROM(O/I)	1	EG,EP,EF,EB
△ 107	VFF0535	CD-ROM(O/I)	1	EE,SG
△ 107	VFF0520	CD-ROM(O/I)	1	P,PC,PU
△ 107	VFF0522	CD-ROM(O/I)	1	GC,GN
108	VPF1294	POLY BAG	1	[SPC]
113	VYK2U93	LENS CAP U	1	
116	VYQ4122	STAR HOOD U	1	[SPC]
117	VYQ4124	HOOD HOLDER U	1	[SPC]
120	VPK3974	PACKING CASE	1	(DMC-FZ38)
120	VPK3973	PACKING CASE	1	P,PC
120	VPK3975	PACKING CASE	1	PU,GC,GT,GN,GD
120	VPK3976	PACKING CASE	1	GK
123	VPN6927	CUSHION	1	
△ 124	K2CQ29A00002	AC CABLE	1	EG,EP,EF,EE,GC
△ 125	K2CT39A00002	AC CABLE	1	EB,GC
△ 126	K2CA29A00023	AC CABLE	1	SG
△ 127	K2CA29A00021	AC CABLE	1	GT
△ 128	K2CA2YY00070	AC CABLE	1	GK
△ 129	K2CJ29A00002	AC CABLE	1	GN
△ 130	K2CR29A00001	AC CABLE	1	GD
△ 132	VQT2F01	O/I SUPPLIED SOFTWARE (GERMAN/FRENCH/ITALIAN/ DUTCH/SPANISH/ PORTUGUESE)	1	EG [SPC]
△ 132	VQT2F02	O/I SUPPLIED SOFTWARE (FINNISH/SWEDISH/DANISH/ POLISH/CZECH/ HUNGARIAN)	1	EP [SPC]
△ 132	VQT2F03	O/I SUPPLIED SOFTWARE (FRENCH)	1	EF [SPC]
△ 132	VQT2F04	O/I SUPPLIED SOFTWARE (ENGLISH)	1	EB,GN [SPC]
△ 132	VQT2F05	O/I SUPPLIED SOFTWARE (RUSSIAN/UKRAINIAN)	1	EE [SPC]
△ 132	VQT2F06	O/I SUPPLIED SOFTWARE (ENGLISH/ CHINESE(TRADITIONAL)/ ARABIC/PERSIAN)	1	SG,GC [SPC]
△ 132	VQT2E99	O/I SUPPLIED SOFTWARE (ENGLISH/CANADIAN FRENCH)	1	P,PC [SPC]
△ 132	VQT2F00	O/I SUPPLIED SOFTWARE (SPANISH/PORTUGUESE)	1	PU [SPC]
△ 132	VQT2F07	O/I SUPPLIED SOFTWARE (CHINESE(TRADITIONAL))	1	GT [SPC]
△ 132	VQT2F08	O/I SUPPLIED SOFTWARE (CHINESE(SIMPLIFIED))	1	GK [SPC]
△ 132	VQT2F09	O/I SUPPLIED SOFTWARE (KOREAN)	1	GD [SPC]
△ 133	VQT2E81	OPERATING INSTRUCTIONS (GERMAN/FRENCH)	1	EG [SPC]
△ 133	VQT2E82	OPERATING INSTRUCTIONS (ITALIAN/DUTCH)	1	EG [SPC]
△ 133	VQT2E83	OPERATING INSTRUCTIONS (SPANISH/PORTUGUESE)	1	EG [SPC]
△ 133	VQT2E84	OPERATING INSTRUCTIONS (SWEDISH/DANISH)	1	EP [SPC]

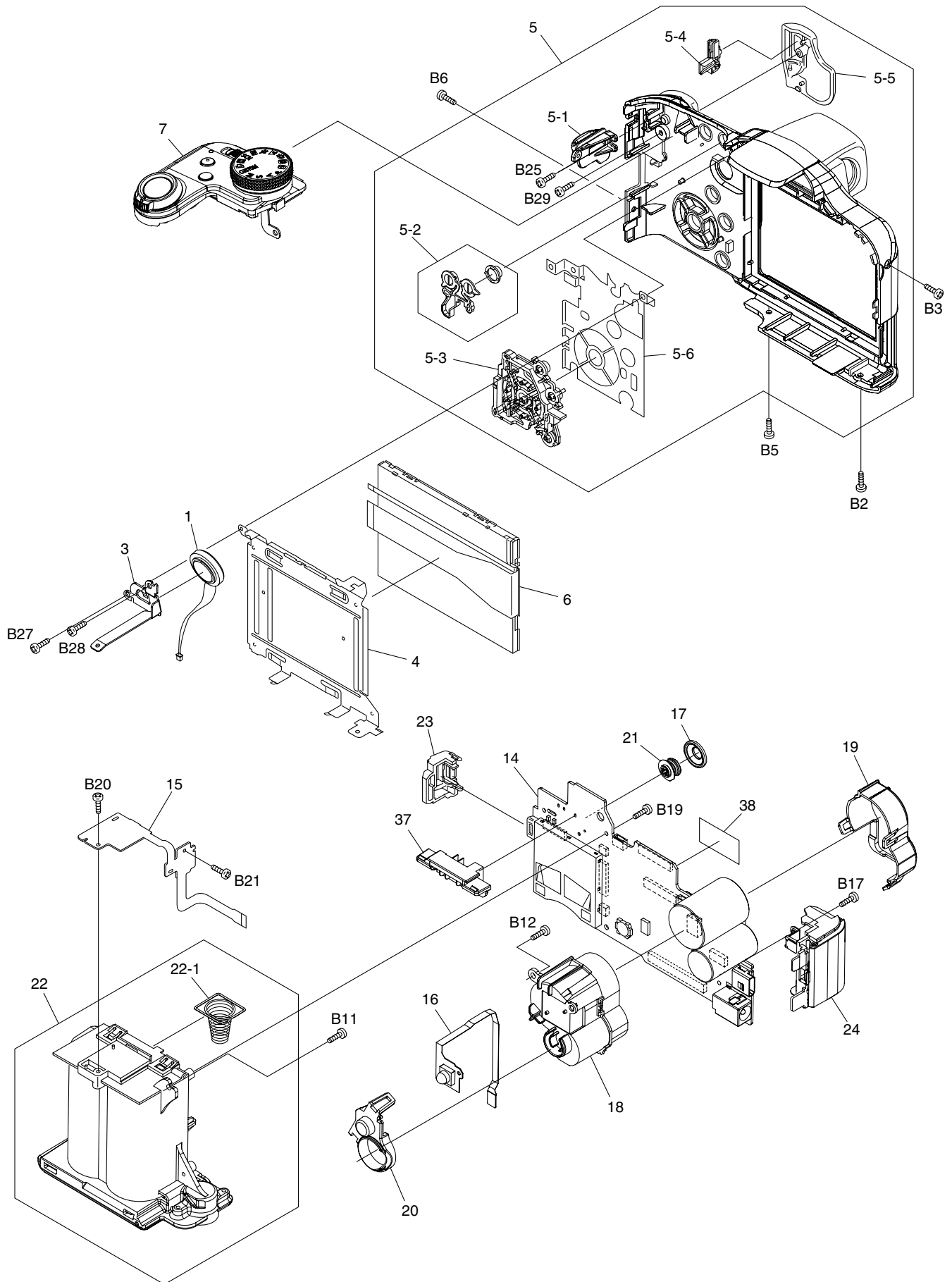
Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
△ 133	VQT2E85	OPERATING INSTRUCTIONS (POLISH/CZECH)	1	EP [SPC]
△ 133	VQT2E86	OPERATING INSTRUCTIONS (HUNGARIAN/FINNISH)	1	EP [SPC]
△ 133	VQT2E87	OPERATING INSTRUCTIONS (FRENCH)	1	EF [SPC]
△ 133	VQT2E88	OPERATING INSTRUCTIONS (ENGLISH)	1	EB [SPC]
△ 133	VQT2G42	OPERATING INSTRUCTIONS (RUSSIAN/UKRAINIAN)	1	EE [SPC]
△ 133	VQT2E91	OPERATING INSTRUCTIONS (ENGLISH/ CHINESE(TRADITIONAL))	1	SG,GC [SPC]
△ 133	VQT2G40	OPERATING INSTRUCTIONS (ENGLISH/SPANISH)	1	P [SPC]
△ 133	VQT2G41	OPERATING INSTRUCTIONS (ENGLISH/CANADIAN FRENCH)	1	PC [SPC]
△ 133	VQT2E80	OPERATING INSTRUCTIONS (SPANISH/PORTUGUESE)	1	PU [SPC]
△ 133	VQT2E92	OPERATING INSTRUCTIONS (ARABIC/PERSIAN)	1	GC [SPC]
△ 133	VQT2E93	OPERATING INSTRUCTIONS (CHINESE(TRADITIONAL))	1	GT [SPC]
△ 133	VQT2E94	OPERATING INSTRUCTIONS (CHINESE(SIMPLIFIED))	1	GK [SPC]
△ 133	VQT2E95	OPERATING INSTRUCTIONS (ENGLISH)	1	GN [SPC]
△ 133	VQT2E96	OPERATING INSTRUCTIONS (KOREAN)	1	GD [SPC]
134	VQL1L48-6	OPERATING LABEL (C.FRENCH)	1	PC [SPC]
134	VQL1G34-6	OPERATING LABEL (CHINESE)	1	GT [SPC]
137	VQL1S66	LABEL	1	GK
138	VQL1T54	GK LABEL	1	GK

# S7. Exploded View

## S7.1. Frame and Casing Section (1)



## S7.2. Frame and Casing Section (2)



### S7.3. Packing Parts and Accessories Section

