Panasonic

ORDER NO.DSC1703002CE

B26

Service Manual

Digital Camera

Model No. **DC-FZ80P**
DC-FZ80PP
DC-FZ80PR
DC-FZ80GA
DC-FZ80GC
DC-FZ80GH
DC-FZ80GN
DC-FZ82EB
DC-FZ82EE
DC-FZ82EF
DC-FZ82EG
DC-FZ82EP

Colour
(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.

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.

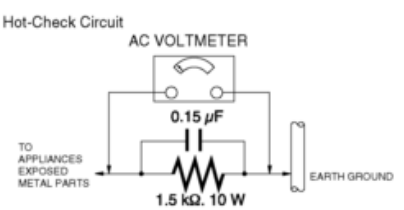


Figure. 1

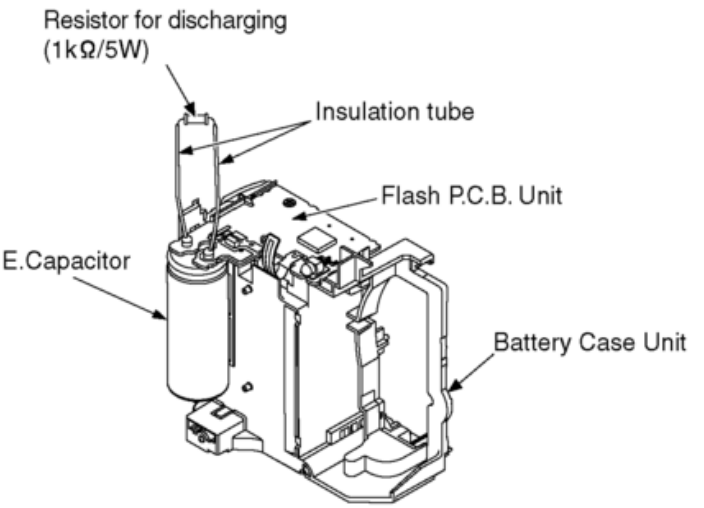
1.4 How to Discharge the E.Capacitor on Flash P.C.B. Unit

CAUTION:

- **Be sure to discharge the E.Capacitor on Flash P.C.B. Unit before disassembling.**
- **Be careful of the high voltage circuit on Flash P.C.B. Unit when servicing.**

[Discharging Procedure]

1. Put the insulation tube on the lead part of resistor (ERG5SJ102:1kΩ /5W).
   (An equivalent type of resistor may be used.)
2. Put the resistor between both terminals of E.Capacitor on the Flash P.C.B. Unit for approx. 5 seconds.
3. After discharging, confirm that the E.Capacitor voltage is lower than 10V by using a voltmeter.


Resistor for discharging
(1kΩ/5W)
Insulation tube
Flash P.C.B. Unit
E.Capacitor
Battery Case Unit

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 MOS image sensor, Ie (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

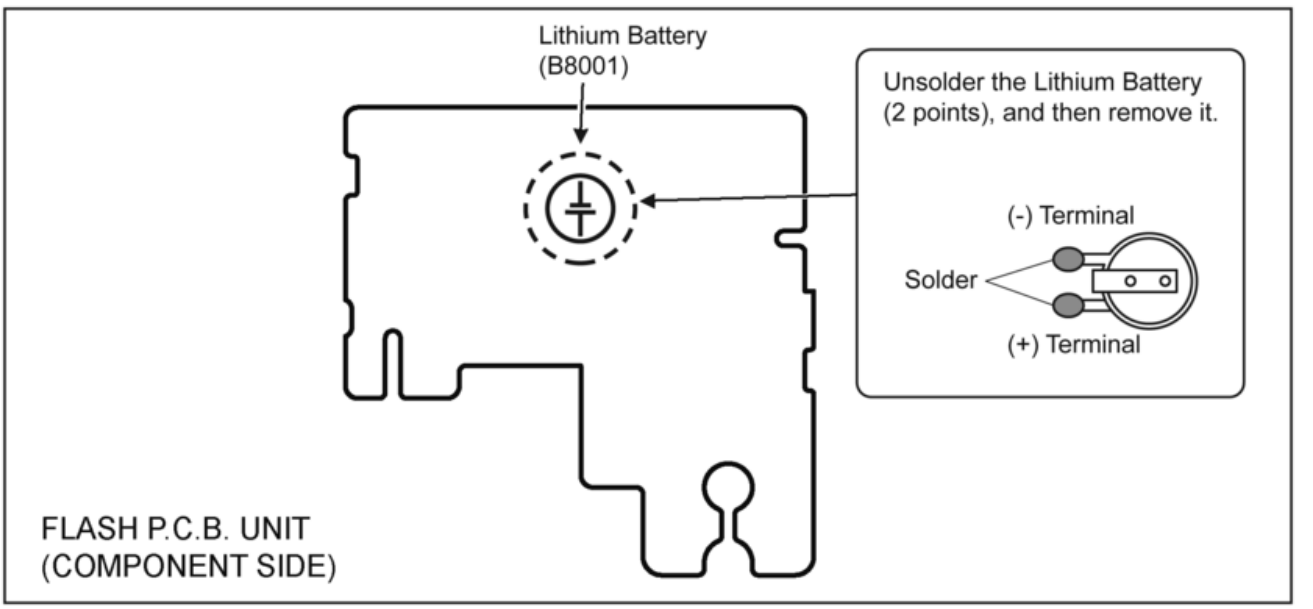
L'appareil que vous vous êtes procuré est alimenté par une batterie au lithium-ion recyclable. Pour des renseignements sur le recyclage de la batterie, veuillez composer le 1-800-8-BATTERY.

2.3 How to Replace the Lithium Battery

2.3.1 Replacement Procedure

1. Remove the Flash P.C.B.. (Refer to Disassembly Procedures.)
2. Unsolder the each soldering point of electric lead terminal for Lithium battery (Ref. No. "B8001" at component side of Flash P.C.B.) and remove the Lithium battery together with electric lead terminal. Then replace it into new one.

   NOTE:
   The Lithium battery includes electric lead terminals.



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

NOTE:
This Lithium battery is a critical component.
(Type No. : ML-421S/DB **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 DC-FZ80/FZ82 series, as well.

3 Service Navigation

3.1 Introduction

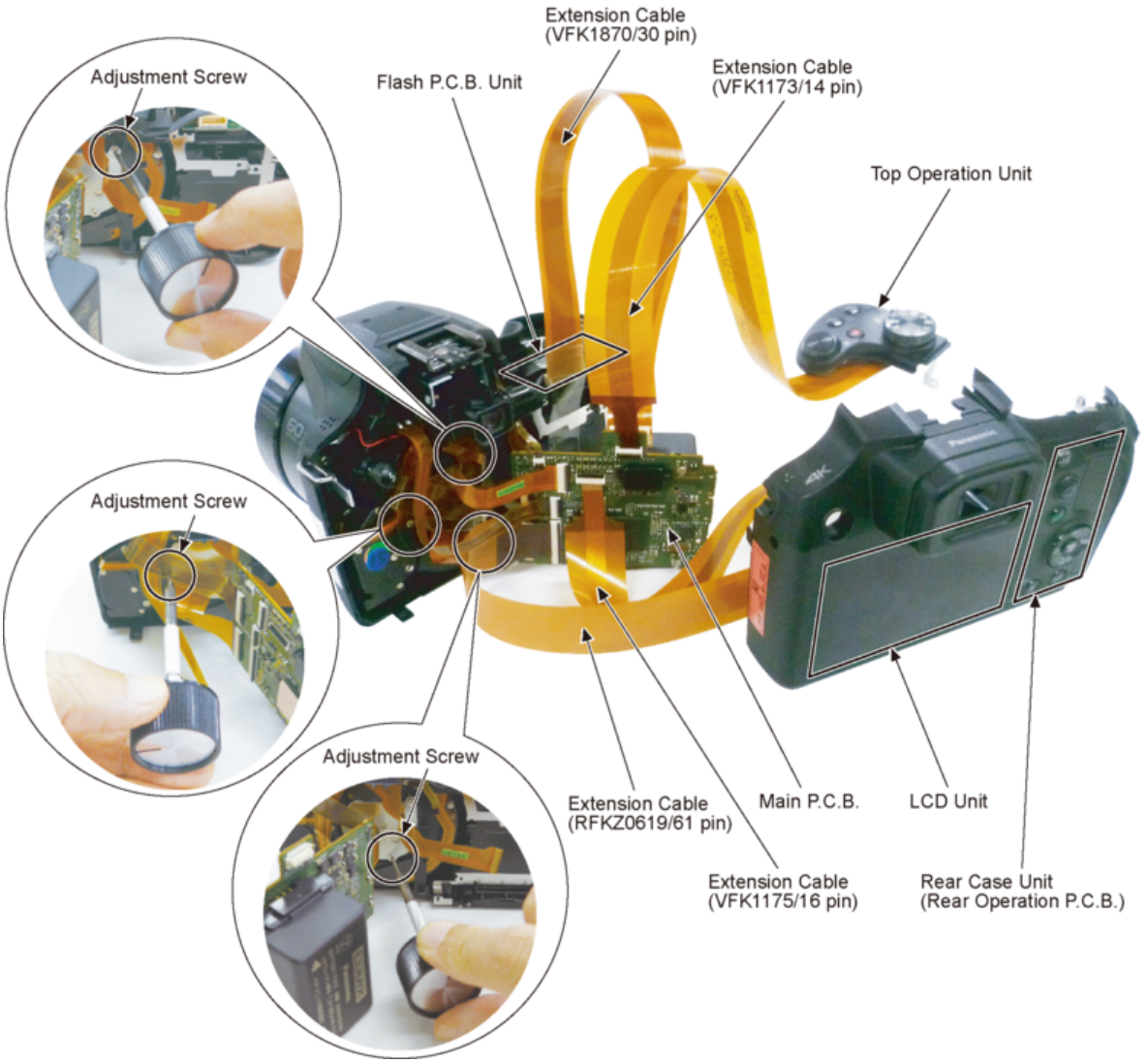
This service manual contains technical information, which allow service personnel's to understand and service this model.
Please place orders using the parts list and not the drawing reference numbers.
If the circuit is changed or modified, the information will be followed by service manual to be controlled with original service manual.

3.2 Important Notice

3.2.1 About Lens Block

The image sensor (MOS) Unit which are connected to the lens unit with 3 screws. These screws are locked, after performing the Optical tilt adjustment.
During servicing, if one of MOS Unit fixing screws are loosened, the Optical tilt adjustment must be performed.
(About the Optical tilt adjustment, refer to "10.3.2. Adjustment Specifications " for details.)

- Using the Extension cable, perform the Optical tilt adjustment according to the following procedure.
    1. Remove the Rear Case Unit. (Refer to "9.3.1. Removal of the Rear Case Unit ".)
    2. Remove the Main P.C.B.. (Refer to "9.3.2. Removal of the Main P.C.B. ".)
    3. Remove the Main P.C.B.. (Refer to "Refer to "9.3.3. Removal of the Top Operation Unit ".)
    4. Using the original FPC, connect the Main P.C.B. to each P.C.B..
    5. Using the Extension cable, connect the Main P.C.B. to Flash P.C.B. Unit.
    6. Using the Extension cable, connect the Main P.C.B. to Top Operation Unit.
    7. Using the Extension cable, connect the Main P.C.B. to Rear Case Unit (Rear Operation P.C.B.).
    8. Using the Extension cable, connect the Main P.C.B. to LCD Unit.
    9. Perform the Optical tilt adjustment.

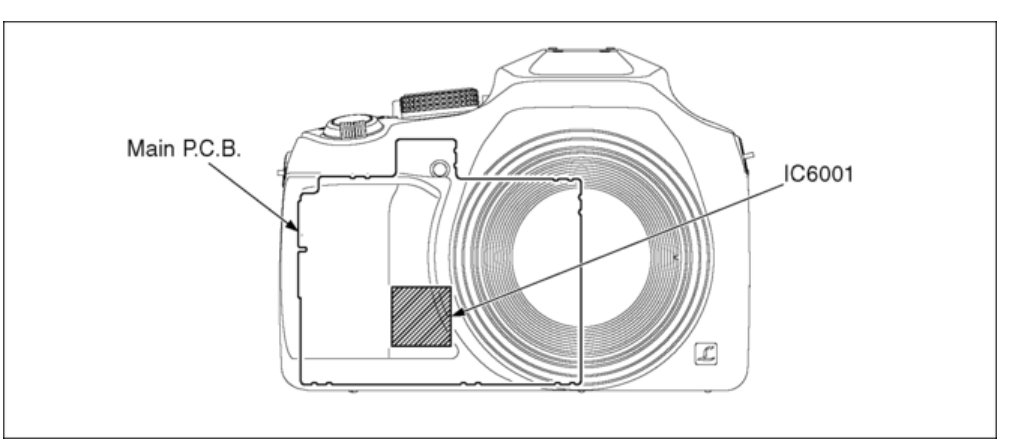


3.2.2 About Venus Engine (IC6001) [Located on the Main P.C.B.]:

The Venus Engine (IC6001) consists of two IC chips (DRAM and Venus) , which are fixed together with solder.
(It's called, "Package On Package" type IC.)
When replacing, always replace in pairs. (Units of service parts: integrated (one pair) state.)

NOTE:

- During servicing, do not press down hard on the surface of IC6001.



3.2.3 About Flash ROM (IC6003) and Charging Control Microcomputer (IC1502)

When the Flash Rom or Charging Control Microcomputer is replaced, it is need to adjust the firmware of the Charging Control Microcomputer to the one of the Flash ROM.
For details, refer to "10.3.2. Adjustment Specifications ".
It may takes about 10 seconds. While doing the adjustment, don't turn the power off forcibly.
(It cause the Charging Control Microcomputer crush, then the camera can not turn on.)

3.2.4 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.

3.3 Service Notes

3.3.1 About Wi-Fi Function

The page number in this chapter does not show the page number of this service manual.

- **Operating the camera by connecting it to a smartphone**
  - Taking pictures via a smartphone (→47)
  - Playing back pictures in the camera on a smartphone (→47)
  - Saving pictures in the camera to a smartphone
  - Sending pictures in the camera to social networking services
  - Adding location information to pictures in the camera from a smartphone
  - Combining motion pictures recorded with Snap Movie according to your preference on a smartphone
- **Displaying still pictures on a TV**
- **Wireless printing**
- **Sending pictures to AV device**
- **Sending pictures to a PC**
- **Using WEB services**

3.3.2 Important Notice of Servicing

This camera unit has the personal information of wireless LAN connection the customer has registered.
For the protection of private information, please erase the personal information after the completion of repair by "Initial Settings".
In addition, please print out the following documents, and pass to the customer with the camera unit.

Printing Material [Leaflet for Customer]

3.4 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.
  SVKZ000001 ---------- (0.3mm 100g Reel)
  SVKZ000002 ---------- (0.6mm 100g Reel)
  SVKZ000003 ---------- (1.0mm 100g Reel)

NOTE:
* Ingredient: tin (Sn) 96.5%, silver (Ag) 3.0%, copper (Cu) 0.5%. (Flux cored)

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

There are six kinds of DC-FZ80/FZ82 regardless of the colours.

- a) DC-FZ85 (Japan domestic model)
- b) DC-FZ80P/PP
- c) DC-FZ82EB/EF/EG/EP

- d) DC-FZ82EE
- e) DC-FZ80GN
- f) DC-FZ80GA/GC/GH/PR

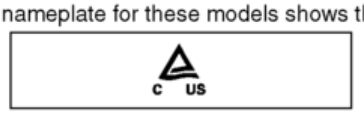
What is the difference is that the "Initial Settings" data which is stored in Flash-ROM mounted on Main P.C.B..

3.5.1 Defining methods:

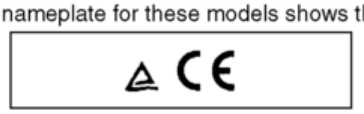
To define the model suffix to be serviced, refer to the nameplate which is putted on the bottom side of the unit.

a) DC-FZ85 (Japan domestic model)
The nameplate for this model shows the following Safety registration mark.

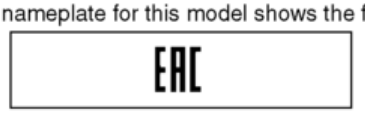
b) DC-FZ80P/PP
The nameplate for these models shows the following Safety registration mark.



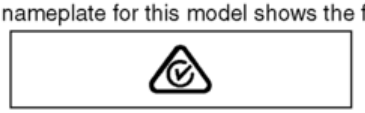
c) DC-FZ82EB/EF/EG/EP
The nameplate for these models shows the following Safety registration mark.



d) DC-FZ82EE
The nameplate for this model shows the following Safety registration mark.



e) DC-FZ80GN
The nameplate for this model shows the following Safety registration mark.



f) DC-FZ80GA/GC/GH/PR
The nameplate for these models does not show any above Safety registration mark.

NOTE:
After replacing the Main P.C.B., be sure to achieve adjustment.

3.5.2 Initial Settings:

After replacing the Main P.C.B. and/or Flash-ROM, 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. and/or Flash-ROM ---

[Except "DC-FZ82EB/EF/EG and EP" models]

*. The model suffix can be chosen JUST ONE TIME.
(Effective model suffix : DC-FZ80 "P/PP/PR/GA/GC/GH/GN, DC-FZ82EE and JPC")

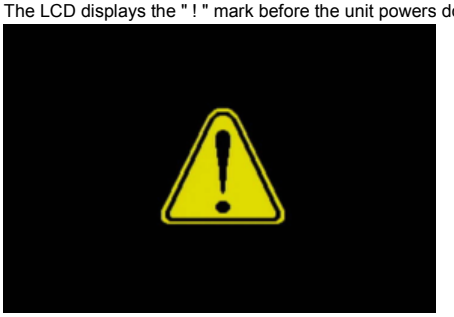
*. Once one of the model suffix has been chosen, the model suffix lists will not be displayed, thus, it can not be changed.

2. Procedures:

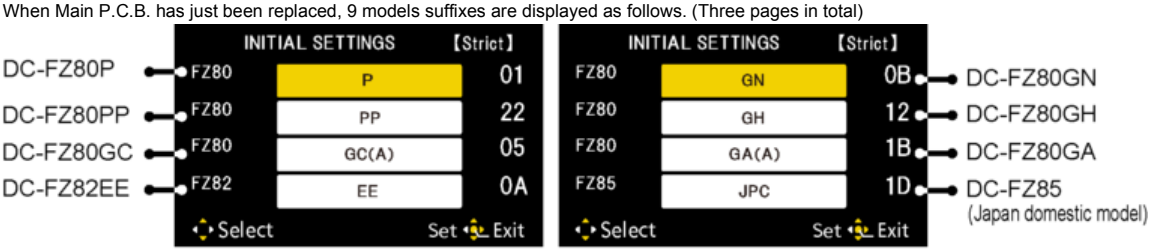
- Precautions: Read the above "CAUTION" carefully.
- Preparation:
  Attach the fully charged Battery, and insert the memory card (32MB or more).
  Remove the lens cap.

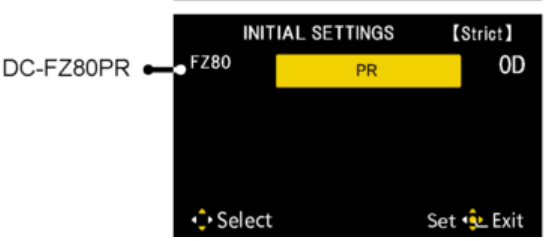
- **Step 1. The Temporary Cancellation of "Initial Settings":**
  Set the [Mode dial] to "[P](Program AE mode)".
  While pressing [DISP.] button, "[RIGHT] of Cursor buttons" and [AF/AE LOCK] button simultaneously, turn the power on.

- **Step 2. The Cancellation of "Initial Settings":**
  Press the [Playback] button in order to enter the [Playback] mode.
  Press [AF/AE LOCK] button and "[UP] of Cursor buttons" simultaneously, then turn the power off.
  The LCD displays the " ! " mark before the unit powers down.

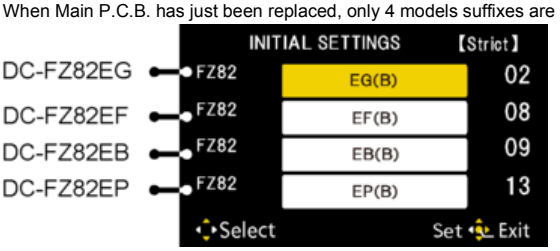


- **Step 3. Turn the Power on:**
  Set the mode dial to "[P] (Program AE mode)", then turn the power on.
- **Step 4. Display the Initial Settings:**
  While pressing [MENU/SET] button and "[RIGHT] of Cursor buttons" simultaneously, turn the power off.
  The "Initial Settings" menu is displayed.
  There are two kinds of "Initial Settings" menu form as follows:
  [CASE 1. After replacing Main P.C.B. and/or Flash-ROM]
  [Except "DC-FZ82EB/EF/EG and EP" models: (1PB1DV1053Z is used as a Main P.C.B.)]
  When Main P.C.B. has just been replaced, 9 models suffixes are displayed as follows. (Three pages in total)



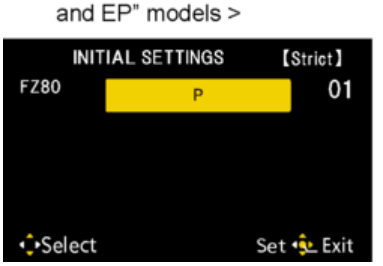


[Only "DC-FZ82EB/EF/EG and EP" models: 1PB1DV1053Y is used as a Main P.C.B.]
When Main P.C.B. has just been replaced, only 4 models suffixes are displayed as follows. (One page in total)

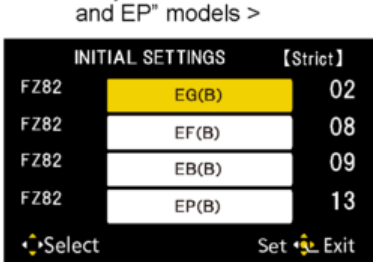


[CASE 2. Other than "After replacing Main P.C.B. and/or Flash-ROM"]

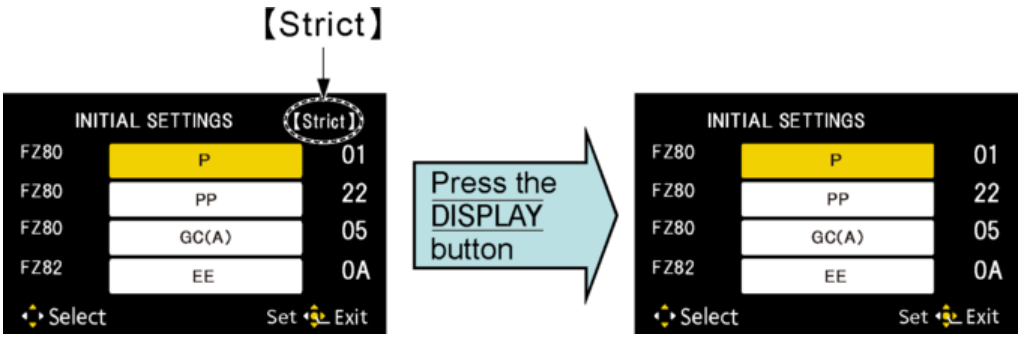
< Other than "FZ82EB/EF/EG and EP" models >



< Only "FZ82EB/EF/EG and EP" models >



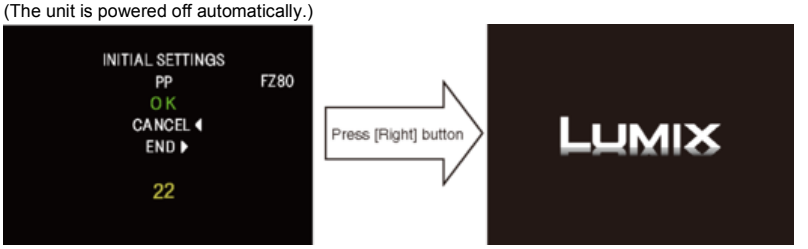
- **Step 5. The cancellation of "STRICT MODE":**
  Press [DISP.] button, then【Strict 】in the upper right corner of the LCD display will disappear.



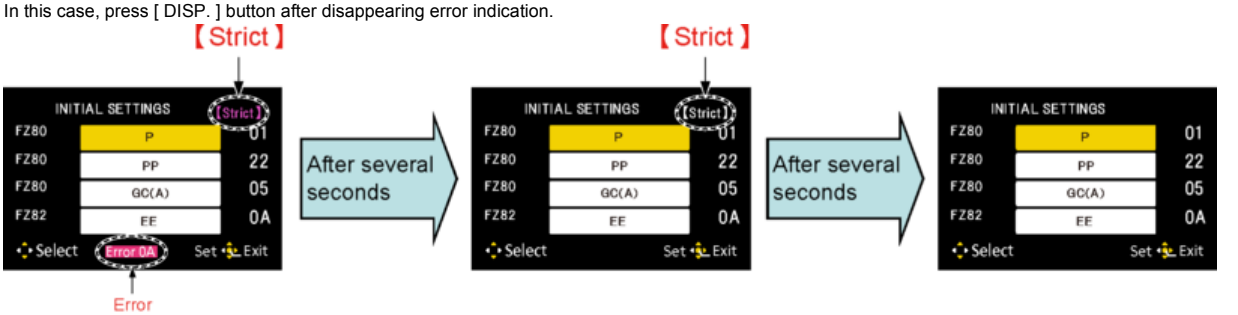
- **Step 6. Choose the model suffix in "Initial Settings": (Refer to "CAUTION")**

  [Caution: After replacing Main P.C.B. and/or Flash-ROM]
  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 not be changed.
  Therefore, select the area carefully.
  Select the area with pressing "[UP] / [DOWN] of Cursor buttons".

- **Step 7. 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.)



NOTE:
It may cause the following error indication without cancellation of "STRICT MODE".
In this case, press [DISP.] button after disappearing error indication.



- **Step 8. 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.

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

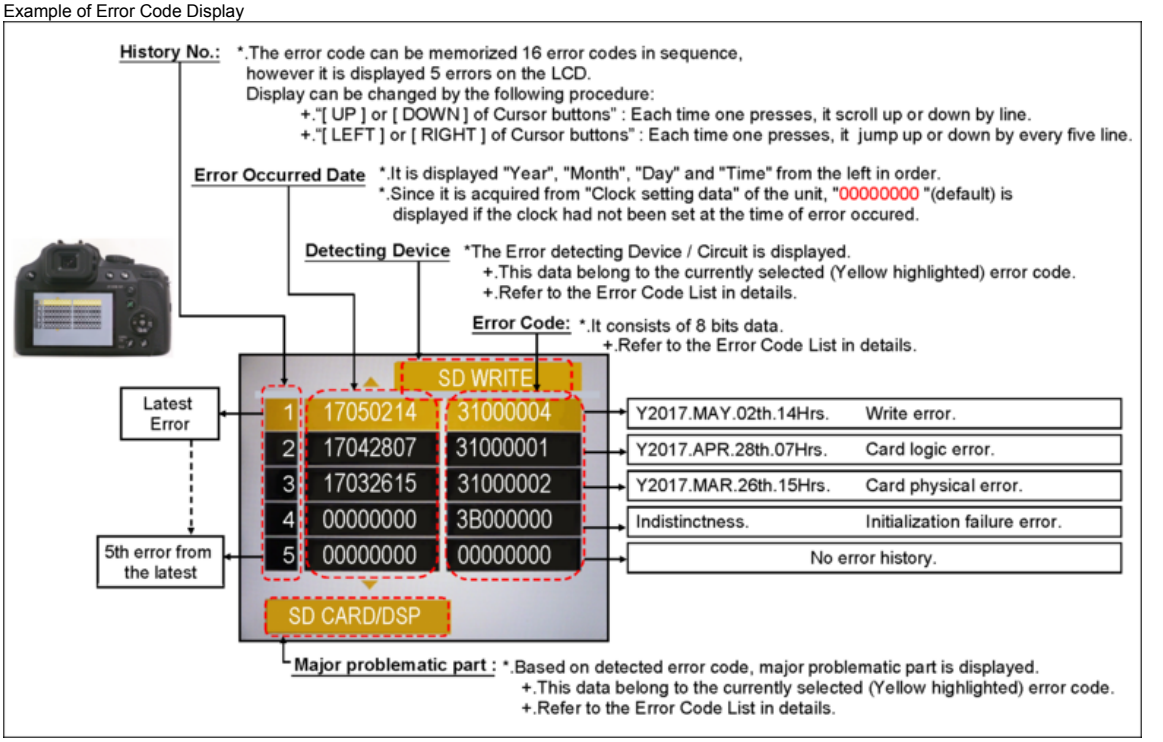
- **Default setting (After "Initial Settings")**

	MODEL	VIDEO OUTPUT	LANGUAGE	DATE	REMARKS
a)	DC-FZ85 (Japan domestic model)	NTSC	Japanese	Year/Month/Date	
b)	DC-FZ80P	NTSC	English	Month/Date/Year	
c)	DC-FZ80PP	NTSC	English	Month/Date/Year	
d)	DC-FZ80PR	NTSC	Spanish	Month/Date/Year	
e)	DC-FZ80GA	PAL	English	Date/Month/Year	
f)	DC-FZ80GC	PAL	English	Date/Month/Year	
g)	DC-FZ80GH	PAL	English	Date/Month/Year	
h)	DC-FZ80GN	PAL	English	Date/Month/Year	
i)	DC-FZ82EB	PAL	English	Date/Month/Year	
j)	DC-FZ82EE	PAL	Russian	Date/Month/Year	
k)	DC-FZ82EF	PAL	English	Date/Month/Year	
l)	DC-FZ82EG	PAL	English	Date/Month/Year	
m)	DC-FZ82EP	PAL	English	Date/Month/Year	

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 memory card (32MB or more).
     Remove the lens cap.
   - **Step 1. The Temporary Cancellation of "Initial Settings":**
     Set the [Mode dial] to "[P](Program AE mode)".
     While pressing [DISP.] button, "[RIGHT] of Cursor buttons" and [AF/AE LOCK] button simultaneously, turn the power on.
   - **Step 2. Execute the Error Code Display Mode:**
     Press [AF/AE LOCK], [MENU/SET] button and "[LEFT] of Cursor buttons" 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 bits data and it shows the following information.

Attribute	Main item	Sub item	Error code		Contents (Upper)	Error Indication	
			High 4 bits	Low 4 bits	Check point (Lower)	Detecting device	Part/Circuit
LENS	Lens drive	Focus	1C*0	0?01	HP High detect error (Focus encoder always detects High, and not becomes Low)	FOCUS L	LENS FPC/DSP
					Mechanical lock, FP9004-(35) signal line or IC6001 (VENUS ENGINE)		
				0?02	HP Low detect error (Focus encoder always detects Low, and not becomes High)	FOCUS H	
					Mechanical lock, FP9004-(35) signal line or IC6001 (VENUS ENGINE)		
		Zoom		0?10	Collapsible barrel Low detect error (Collapsible barrel encoder always detects High.)	ZOOM L	ZOOMm/LENSu
					Mechanical lock, FP9004-(24) signal line or IC6001 (VENUS ENGINE)		
				0?20	Collapsible barrel High detect error	ZOOM H	

					(Collapsible barrel encoder always detects Low.)		
					Mechanical lock, FP9004-(24) signal line or IC6001 (VENUS ENGINE)		
				0?30	Zoom motor sensor error. (Initialized or Terminated)	ZOOM ENC	
					Mechanical lock, FP9004-(38), (40) signal line or IC6001 (VENUS ENGINE)		
				0?40	Zoom motor sensor error. (During monitor mode.)		
					Mechanical lock, FP9004-(38), (40) signal line or IC6001 (VENUS ENGINE)		
				0?50	Zoom motor sensor error. (During monitor mode with slow speed.)		
					Mechanical lock, FP9004-(38), (40) signal line or IC6001 (VENUS ENGINE)		
				0?60	Detection of zoom misregistration by impact such as fails.	(No indication)	(No indication)
					Lens Unit		
		OIS		1000	PSD (X) error. Hall element (X axis) position detect error in OIS unit.	OIS X	LENSu NG
					OIS Unit		
				2000	PSD (Y) error. Hall element (Y axis) position detect error in OIS unit.	OIS Y	
					OIS Unit		
				3000	GYRO (X) error. Gyro (IC7101 : X axis) detect error on Main P.C.B.	GYRO X	GYRO NG
					IC7101 (Gyro element) or IC6001 (VENUS ENGINE)		
				4000	GYRO (Y) error. Gyro (IC7101 : Y axis) detect error on Main P.C.B.	GYRO Y	
					IC7101 (Gyro element) or IC6001 (VENUS ENGINE)		
				5000	GYRO (R) error, Gyro (IC7101 : R axis) detect error on Main P.C.B.	GYRO R	
					IC7101 (Gyro element) or IC6001 (VENUS ENGINE)		
				6000	Drive voltage (X) error.	OISX REF	LENSu/LENS FPC
					LENS Unit, LENS flex breaks, IC6001(VENUS ENGINE) AD value error, etc.		
				7000	Drive voltage (Y) error.	OISY REF	
					LENS Unit, LENS flex breaks, IC6001(VENUS ENGINE) AD value error, etc.		
				8000	OIS GYRO - Digital communication error.	(No indication)	(No indication)
					IC7101 (Gyro element) or IC6001 (VENUS ENGINE)		
		Lens	18*1	0000	Power ON time out error.	LENS DRV	LENSu
					Lens drive system		
			18*2	0000	Power OFF time out error.		
					Lens drive system		
	Adj.History	OIS	1D*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)		
				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		
				C000	OIS adj. Yaw direction position sensor error		
				D000	OIS adj. Pitch direction position sensor error		
				E000	OIS adj. other error		
HARD	FLASH	Flash	28*0	0000	Flash charge timeout error (system error indicated)	STRB CHG	STRB PCB/FPC
				0001	EEPROM of External Flash is damaged	EST EEP	E STRB
				0002	ZOOM function of External Flash is damaged	EST	
				0003	Other function of External Flash is damaged	EST	
	FLASH ROM	Data Area	2B*0	0001	IC6003 (Flash-ROM) data reading error is detected when the unit turns ON	FROM RE	FROM
				0002	IC6003 (Flash-ROM) data writing error is detected when the unit turns OFF	FROM WR	FROM
		Program Area		0005	Firmware update error	FIRMUP FAIL	FROM
				0006	Firmware update error (USB Micon)	USBFWUP FAIL	USB
SOFT	CPU	Reset	30*0	0001 | 0007	System error (NMI reset)	NMI RST	MAIN P.C.B.
	Recording Media	Memory card	31*0	0002	Memory card physical error During formatting the memory card, there is no response from the memory card If the mini-SD memory card is used, check the SD memory card adaptor	SD CARD	SD CARD/DSP
				0004	Memory card writing error Check the memory card. It might be damage one.	SD WRITE	
	Lens	Communication	3C11 | 3CF0	****	Lens communication error	LENS COMM	SOFT
	Camera	System	37*0	0001	Activation: Electronic signature hash value mismatch	VLOG	VLOG

				0002	Activation: Serial number mismatch		
				0003	Activation: Model name mismatch		
				0004	Activation: Origin countory mismatch		
				0005	Activation: Firmware version down		
				0006	Activation: Activaton code mismatch		
				0007	Activation: Old firmware		
			3B*0	0000	EEPROM writing during camera initialization	FROM	SOFT
			3D*0	0000	Assert occurrence	ASSERT	SOFT
			3E*0	0001	Exposure charging operation failure	MSHUT	MSHUT
				0002	Failure of the returning operation to the home position		
				0003	Failure of the mecha shutter sensor		
				0004	Failure of the mecha shutter sensor		
				0005	Failure of the mecha shutter sensor		
				0006	Exposure charging recovery operation failure		
				0011	Failure of the mecha shutter sensor		
				0012	Failure of the mecha shutter sensor		
				0013	Failure of the mecha shutter sensor		
				0014	Abnormal current of shutter drive motor		
				0101	Failure of the electromagnetic front curtain open		
				0102	Failure of the electromagnetic front curtain open		
				0111	Failure of the electromagnetic front curtain open		
				0112	Failure of the electromagnetic front curtain open		
	Recording	Motion Image Recording	3F*0	0001	File time out error in recording motion image	(No indication)	(No indication)
				0002	File data cue send error in recording motion image		
Wi-Fi			3211	**02 | **0C	Wi-Fi related errors: *Generally, above are unable to specified the, which cannot be used for malfunction diagnosis.		

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?60"):

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

- **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 Wi-Fi Circuit (Flash P.C.B. Unit)

7.1.1 How to Remove Wi-Fi Password Protection

To prevent incorrect operation or use of the Wi-Fi function by a third party and to protect saved personal information, this unit protects the Wi-Fi function with a password.
It is unable to service with password locked condition. When accepting for repair, the unit has been set the Wi-Fi password by customer, run the [Reset Wi-Fi Settings] for removing Wi-Fi password, then check the operation.

[Reset Procedure of Wi-Fi Settings]
1) Press the [MENU/SET] button, and select the [SETUP] mode by Cursor buttons, then press the [MENU/SET] button.
2) Select [Reset Wi-Fi Settings] by Cursor buttons, then press the [MENU/SET] button.
3) Select [YES] and press the [MENU/SET] button.
(The [Reset Wi-Fi Settings] performs not only resetting Wi-Fi Password but also resetting other all Wi-Fi Settings.)

7.1.2 Checking of Trouble Caused by Wi-Fi Circuit or Not

The Wi-Fi Circuit works properly if the wireless access point (broadband router) name (SSID) in use is displayed on a screen of [Manual Connection].

(Primary Confirmation)
Confirm that the wireless access point (broadband router) works properly.

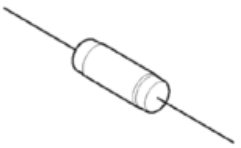
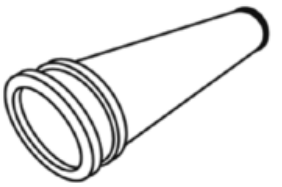
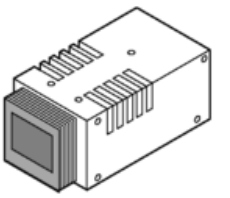
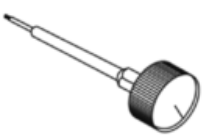
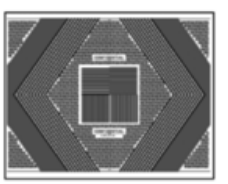
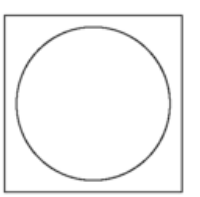
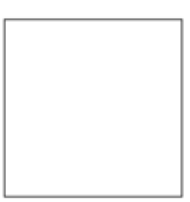
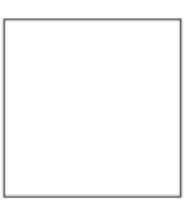
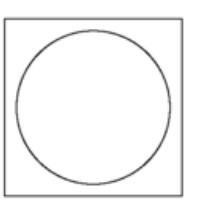
(Procedure)
1) Select [Wi-Fi] in [Setup] menu.
2) Select [Wi-Fi Function] in [Wi-Fi] menu.
3) Select [New Connection] in [Wi-Fi] menu.
4) Select optional function in [Select a function] menu, then select [Via Network] in [Select connection method] menu.
5) Select [From List] in [Select connection method] menu.
6) The Wi-Fi Circuit works properly if the wireless access point (broadband router) name (SSID) in use is displayed.

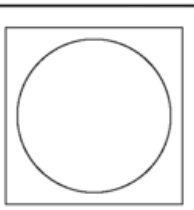
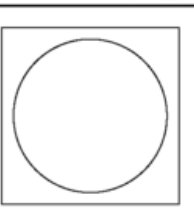
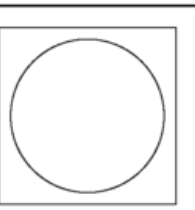
*Change the Flash P.C.B. Unit, when the above checking detected the abnormal of Wi-Fi Circuit.

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 (1kΩ/5W) **ERG5SJ102**	COLLIMATOR (built-in Focus Chart) **RFKZ0422**	LIGHT BOX (with DC Cable) **RFKZ0523**
 * An equivalent type of resistor may be used.		
Lens Cleaning Kit (BK) **VFK1900BK**	Torque Driver **RFKZ0542**	Diffuser **RFKZ0591**
 * Only supplied as 10 set/box.		
Driver (for Optical Axis Adjustment) **RFKZ0569**	Optical Axis Adjustment Chart **RFKZ0570**	Camera stand **RFKZ0333J**
 * T4 Torx type		
Grease (for Lens) **RFKZ0472**	Gray Card **RFKZ0506**	ND Filter (ND0.3) **RFKZ0513**
		
ND Filter (ND0.6) **VFK1164ND06**	ND Filter (ND0.9) **VFK1164ND09**	CC Filter (CC-C7.5) **RFKZ0511**
		

CC Filter (CC-Y10) **RFKZ0512**	LB Filter (LBB2) **RFKZ0520**	LB Filter (LBB8) **RFKZ0521**	LB Filter (LBB12) **VFK1164LBB12**
			

8.2 When Replacing the Main P.C.B.

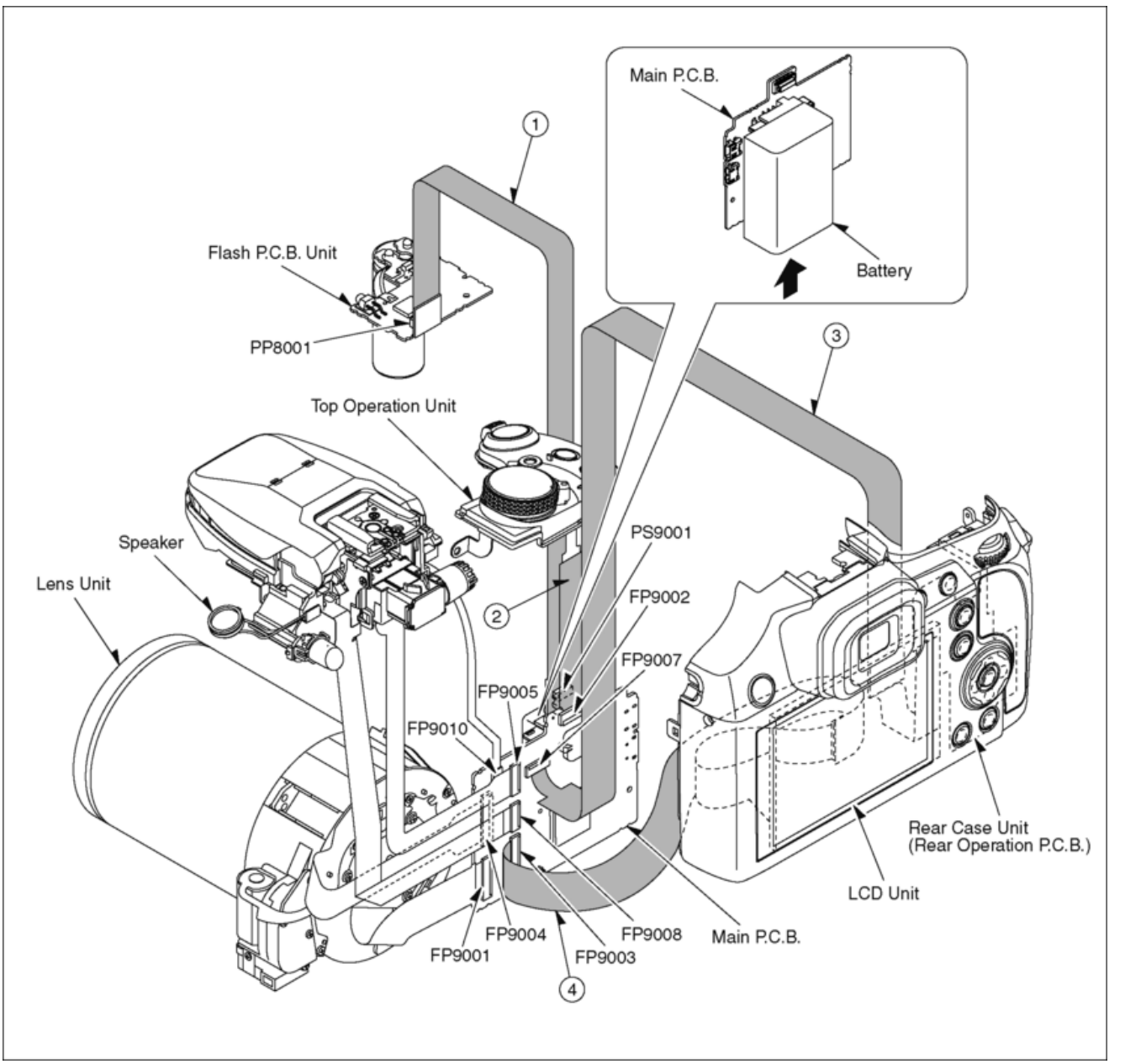
After replacing the Main P.C.B., be sure to achieve adjustment.

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	VFK1870	PS9001 (MAIN P.C.B.) ←→ PP8001 (FLASH P.C.B. UNIT)	30pin B to B
2	VFK1173	FP9002 (MAIN P.C.B.) ←→ TOP OPERATION UNIT	14pin / 0.5 FFC
3	VFK1175	FP9007 (MAIN P.C.B.) ←→ REAR CASE UNIT (REAR OPERATION P.C.B.)	16pin / 0.5 FFC
4	RFKZ0619	FP9003 (MAIN P.C.B.) ←→ LCD UNIT	61pin / 0.3 FFC



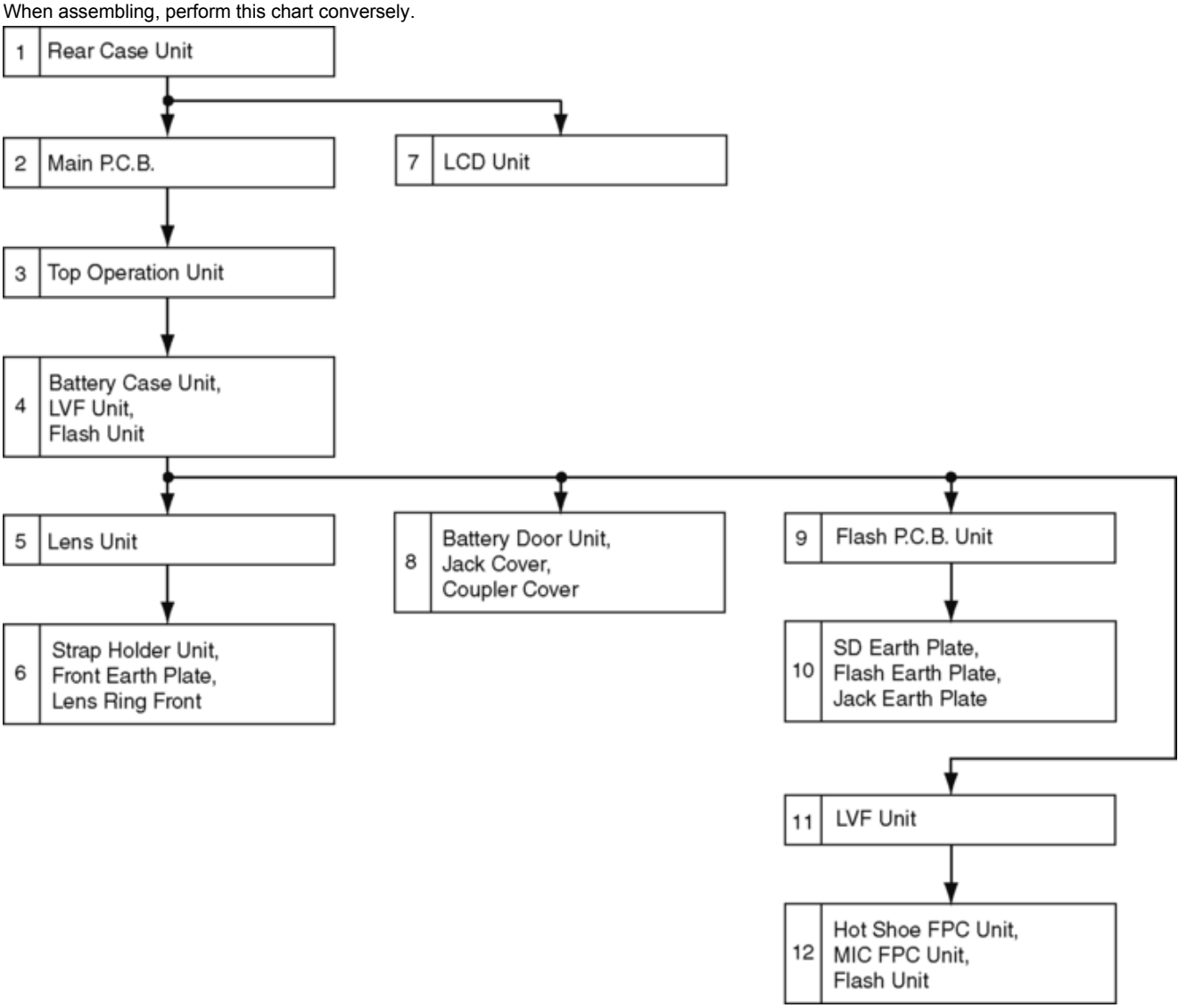
CAUTION (When servicing Flash P.C.B. Unit)

1. Be sure to discharge the E.Capacitor on Flash P.C.B. Unit.
   Refer to "How to Discharge the E.Capacitor on Flash P.C.B. Unit".
   The E.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 P.C.B. Unit.
3. DO NOT allow other parts to touch the high voltage circuit on Flash P.C.B. Unit

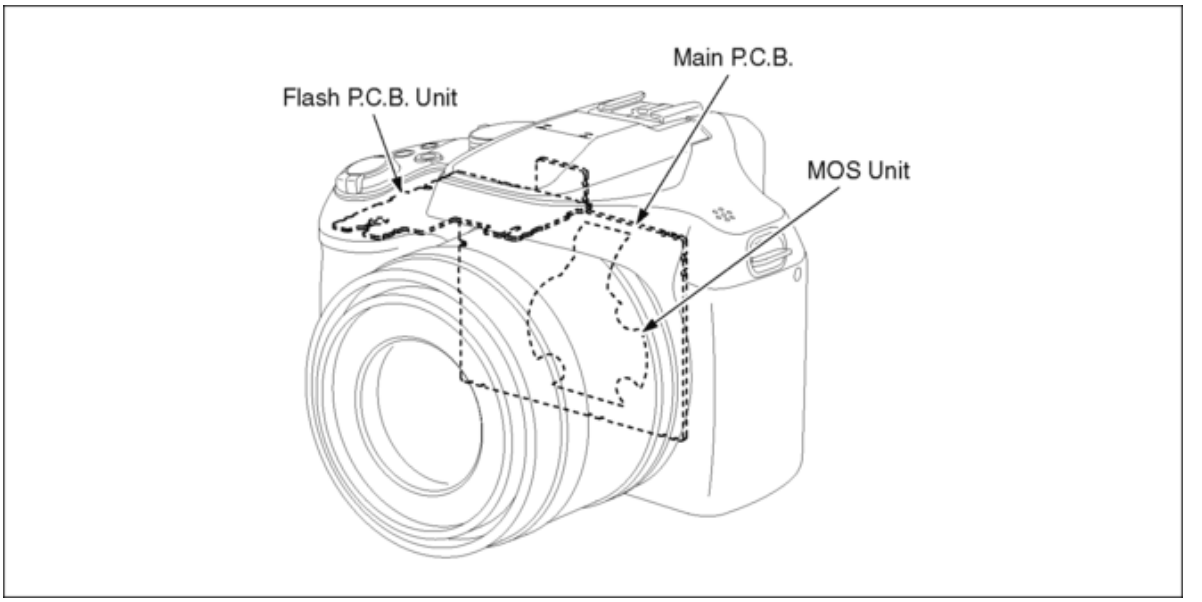
9 Disassembly and Assembly Instructions

9.1 Disassembly Flow Chart

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



9.2 P.C.B. Location



9.3 Disassembly Procedure

No.	Item	Fig.	Removal
1	Rear Case Unit	Fig. D1	Memory Card
			Battery
			Shoe Spring
			Screw (A) × 5
			Screw (B) × 2
		Fig. D2	FP9003 (Flex)
			FP9007 (Flex)
			Rear Case Unit
2	Main P.C.B.	Fig. D3	FP9001 (Flex)
			FP9002 (Flex)
			FP9004 (Flex)
			FP9005 (Flex)
			FP9008 (Flex)
			FP9010 (Flex)
		Fig. D4	Screw (C) × 2
			PP8001 (Connector)
			PS9001 (Connector)
			Jack Holder
			Main P.C.B.
3	Top Operation Unit	Fig. D5	Screw (D) × 1
			Top Operation Unit
4	Battery Case Unit, LVF Unit, Flash Unit	Fig. D6	Screw (E) × 2
			Battery Case Unit
			LVF Unit
			Flash Unit
5	Lens Unit	Fig. D7	Screw (F) × 3
			Lens Unit
6	Strap Holder R, Front Earth Plate, Lens Ring Front	Fig. D8	Screw (G) × 1
			Strap Holder R
			Front Earth Plate
			Screw (H) × 3
			Lens Ring Front
7	LCD Unit	Fig. D9	Screw (I) × 5
			Heat Sink
			Locking tab × 2
			LCD Holder Unit
			Strap Holder L

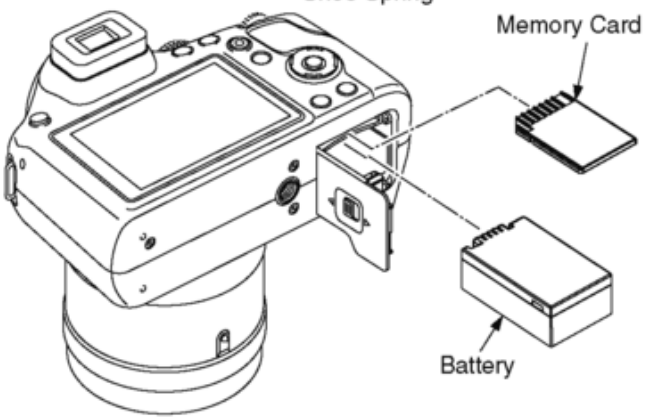
			LCD Unit
8	Battery Door Unit, Jack Cover, Coupler Cover	Fig. D10	Battery Door Shaft
			Battery Door Spring
			Battery Door Unit
			Hooking part (A) × 2
			Jack Cover
			Hooking part (B) × 1
			Coupler Cover
9	Flash P.C.B. Unit	Fig. D11	Locking tab (A) × 2
			Locking tab (B) × 1
			Condenser Cover
		Fig. D12	Screw (J) × 1
			Locking tab × 1
			Solder (4 points)
			Flash P.C.B. Unit
10	SD Earth Plate, Flash Earth Plate, Jack Earth Plate	Fig. D13	Locking tab (A) × 2
			Locking tab (B) × 1
			SD Earth Plate
			Locking tab (C) × 2
			Flash Earth Plate
			Locking tab (D) × 1
			Hooking part × 1
			Jack Earth Plate
11	LVF Unit	Fig. D14	Locking tab × 2
			LVF Unit
12	Hot Shoe FPC Unit, MIC FPC Unit, Flash Unit	Fig. D15	Screw (K) × 2
			Screw (L) × 2
			Hot Shoe FPC Unit
		Fig. D16	Screw (M) × 2
			Locking tab × 4
			Flash Case Top Unit
			Flash Shaft
			Flash Pop Up Spring
		Fig. D17	MIC Damper
			MIC Supporter
			MIC FPC Unit
			Flash Unit

9.3.1 Removal of the Rear Case Unit

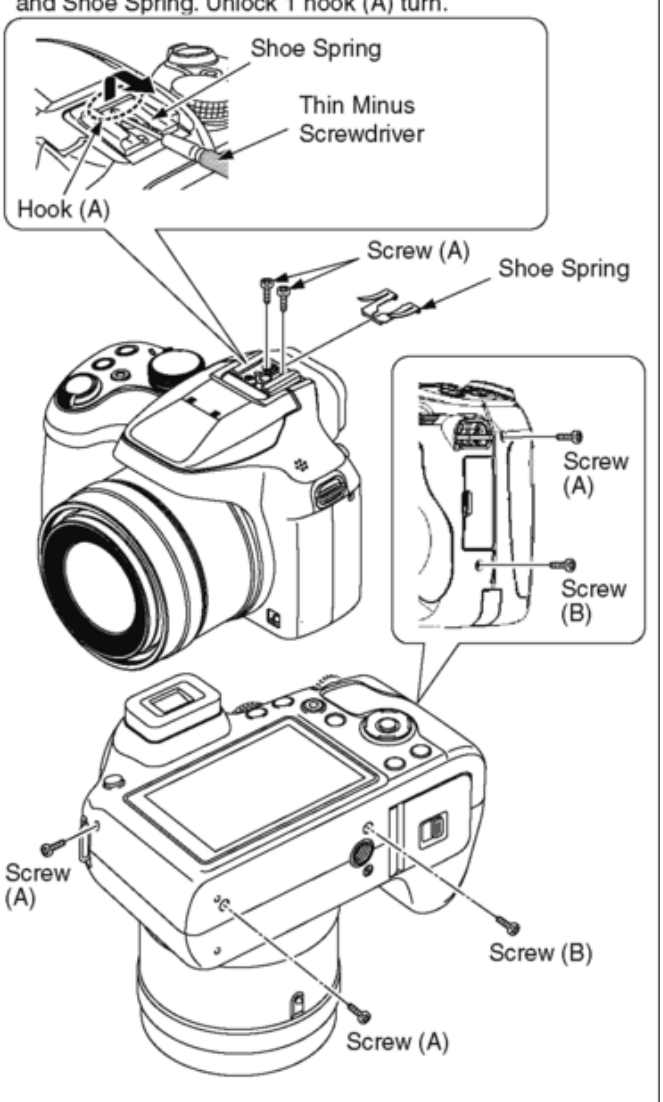
NOTE:

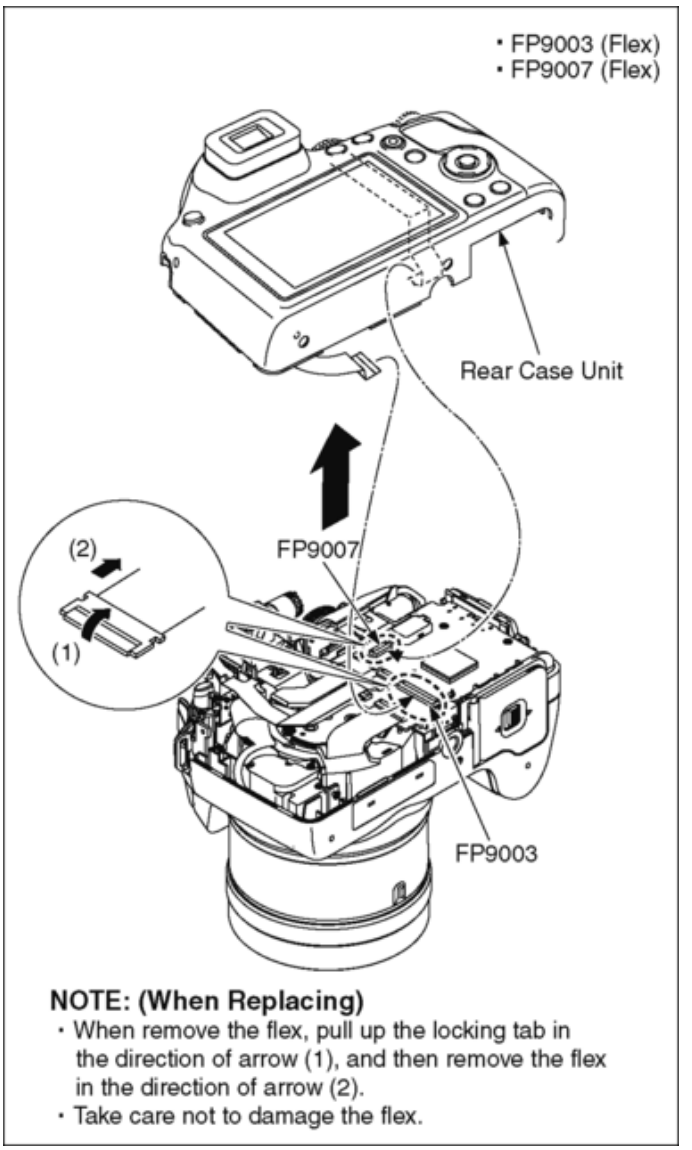
- When servicing and reassembling, remove the memory card and battery from the unit.
- Install the lens cap to prevent garbage and dust except when it is necessary.

- Memory Card
- Battery
- Shoe Spring
- Screw (A)×5
- Screw (B)×2



Insert the thin Minus screwdriver between Hot Shoe and Shoe Spring. Unlock 1 hook (A) turn.





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).
- Take care not to damage the flex.

9.3.2 Removal of the Main P.C.B.

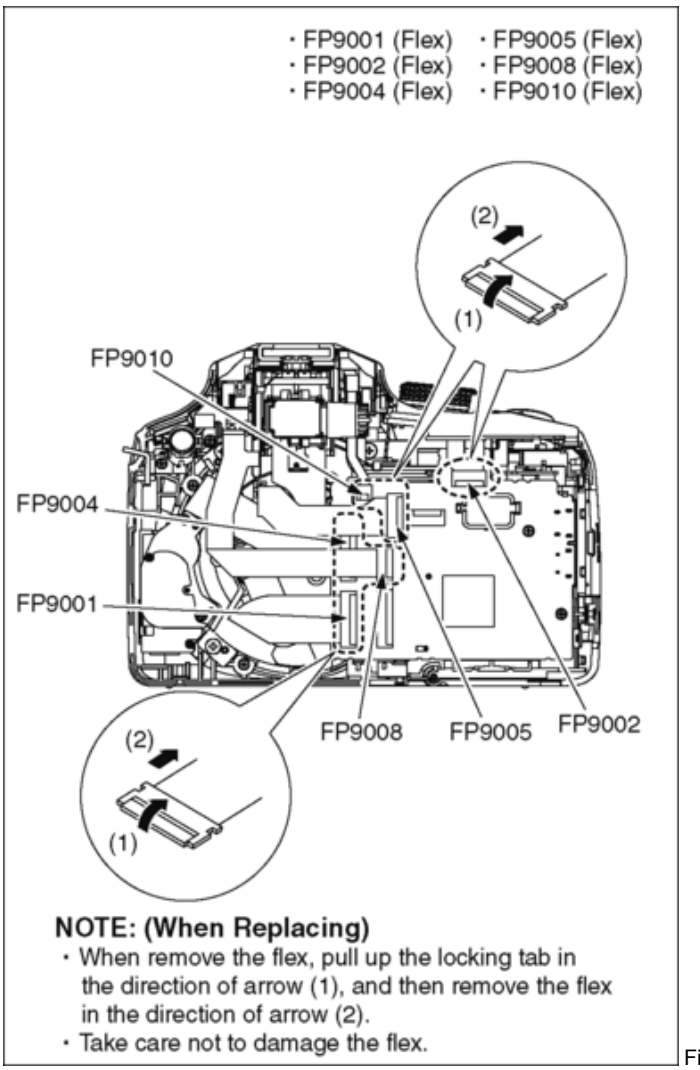
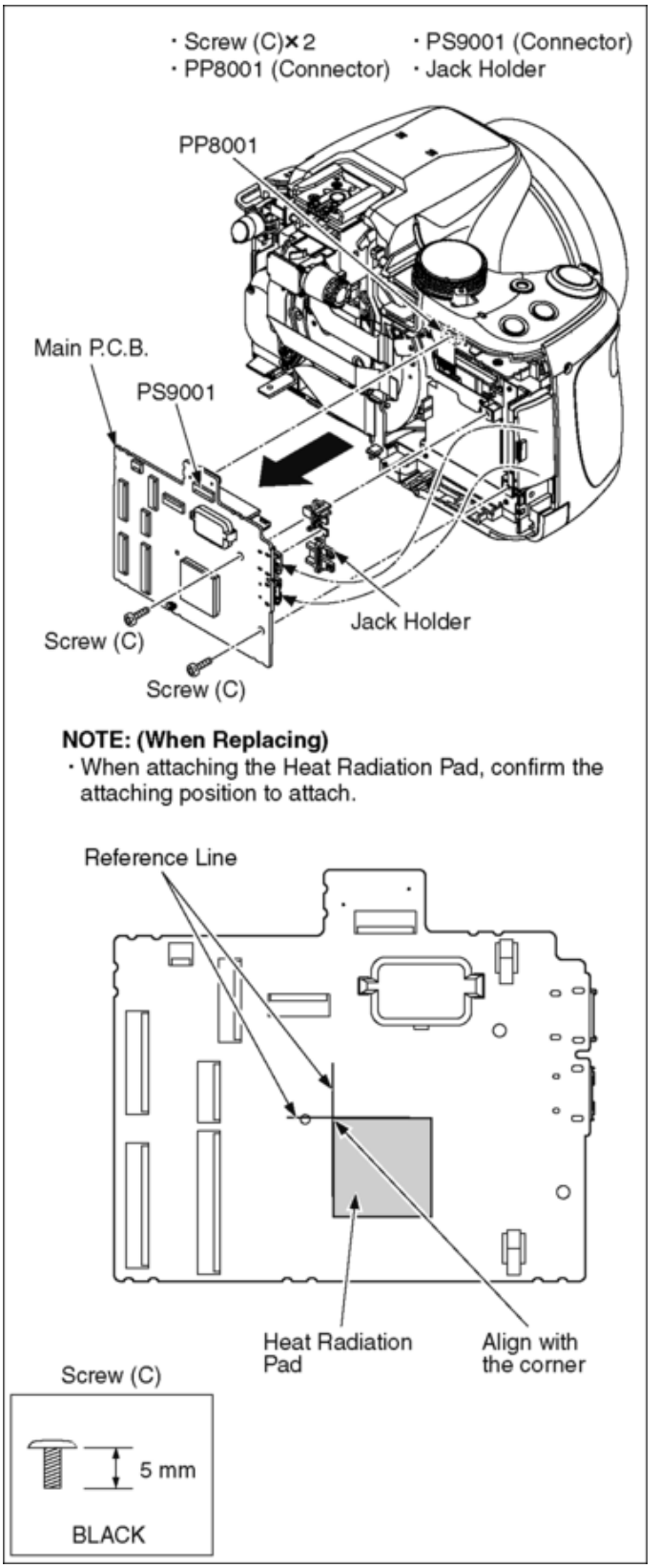

· FP9001 (Flex)
· FP9002 (Flex)
· FP9004 (Flex)
· FP9005 (Flex)
· FP9008 (Flex)
· FP9010 (Flex)
(2)
(1)
FP9010
FP9004
FP9001
FP9008
FP9005
FP9002
(2)
(1)
NOTE: (When Replacing)
· When remove the flex, pull up the locking tab in the direction of arrow (1), and then remove the flex in the direction of arrow (2).
· Take care not to damage the flex.

Fig. D3 Fig. D4



9.3.3 Removal of the Top Operation Unit

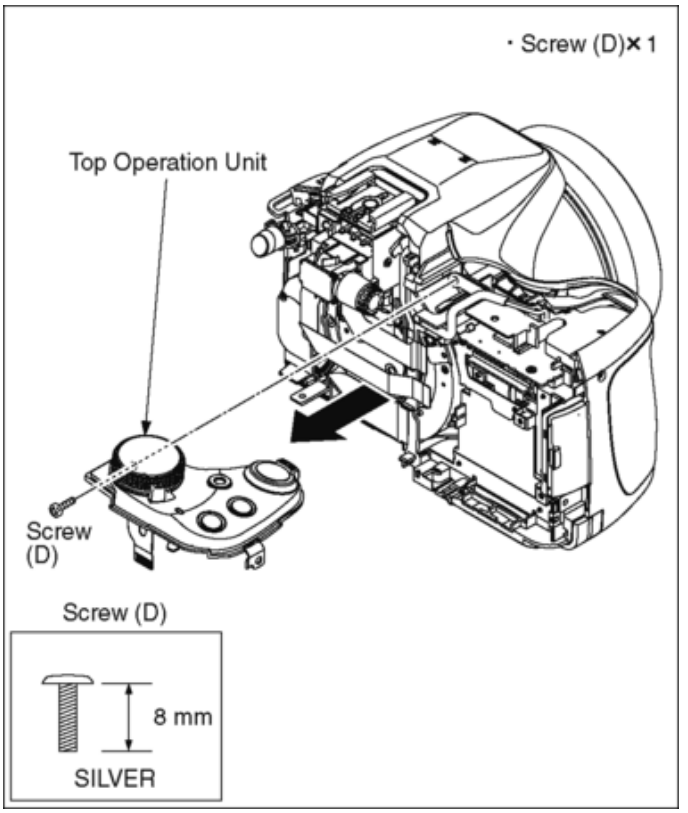
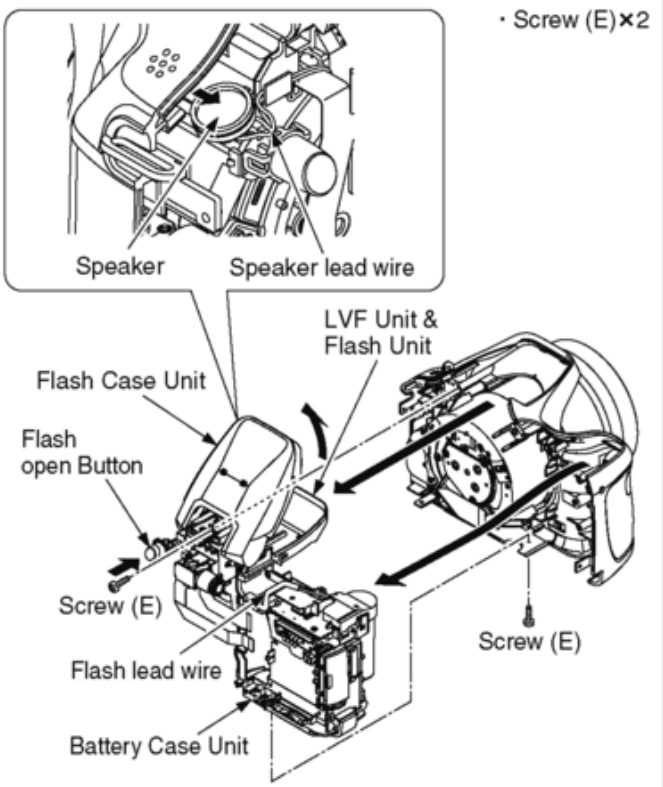


Fig. D5

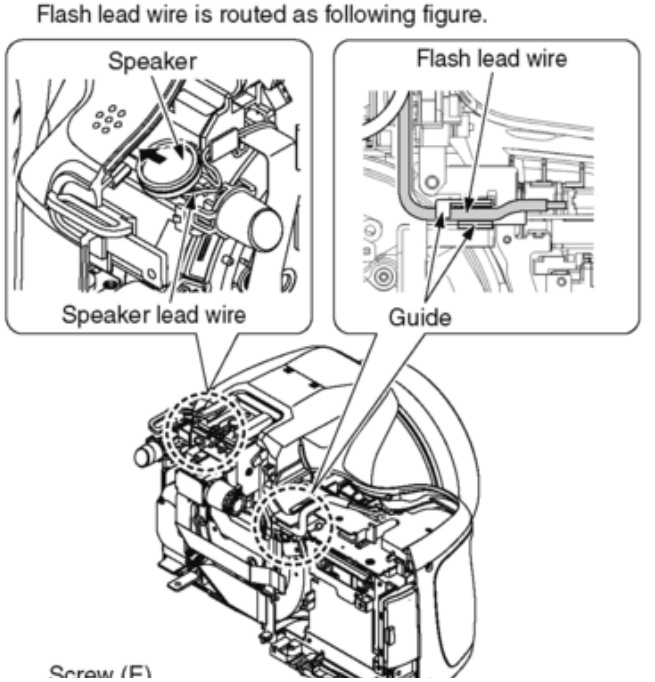
9.3.4 Removal of the Battery Case Unit, LVF Unit, Flash Unit

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



NOTE: (When Replacing)

- Push the flash open button in the direction of arrow to open the flash case unit.
- Attach the speaker while processing the lead wire of the speaker as shown below.
- When attaching the Flash Case Unit, make sure the Flash lead wire is routed as following figure.



9.3.5 Removal of the Lens Unit

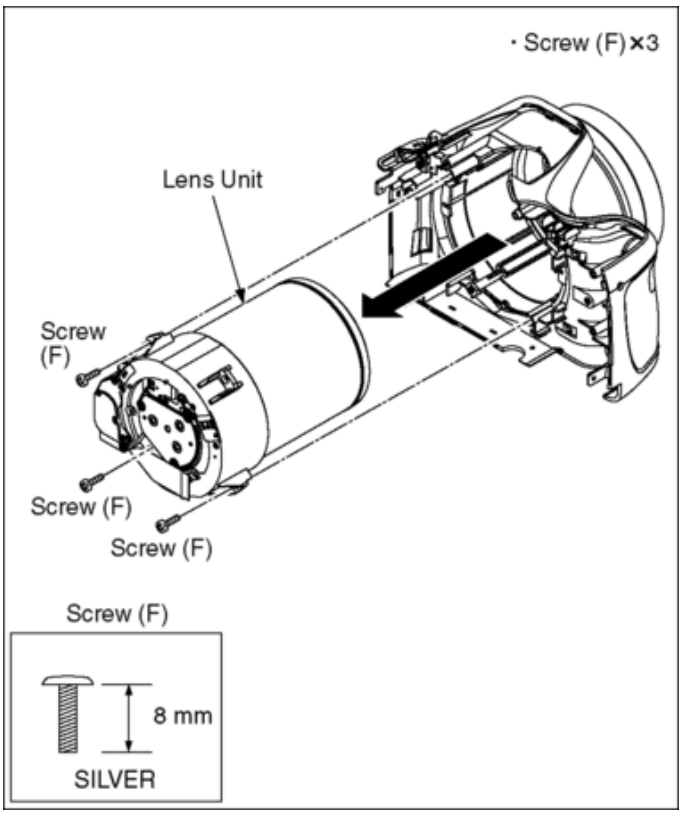


Fig. D7

9.3.6 Removal of the Strap Holder R, Front Earth Plate and Lens Ring Front

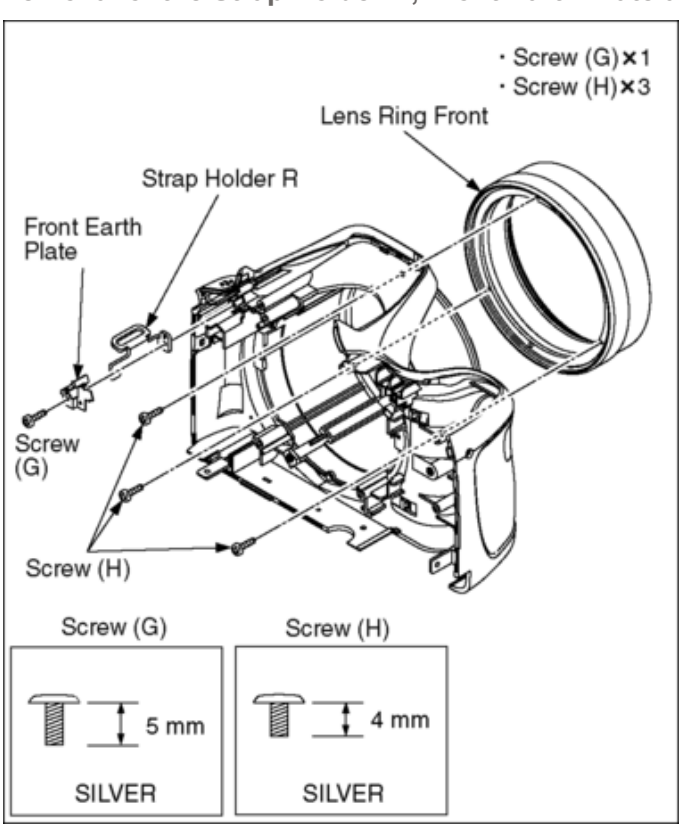
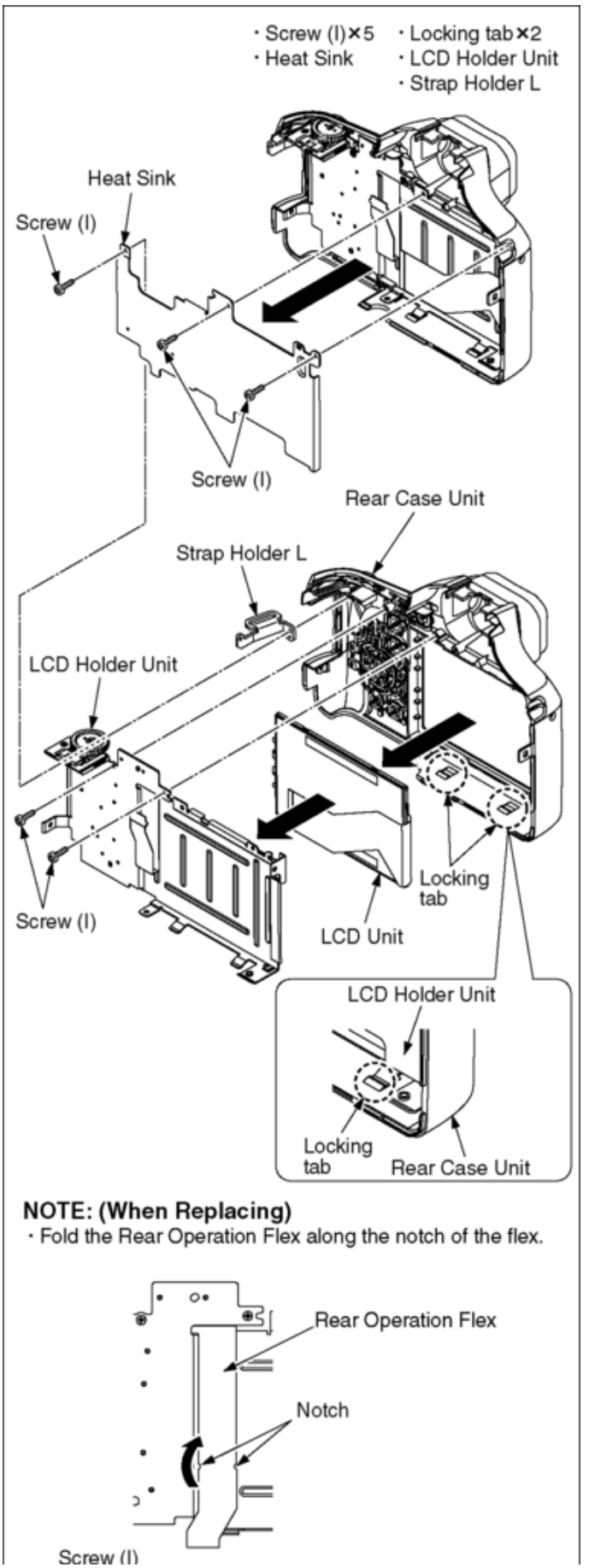


Fig. D8

9.3.7 Removal of the LCD Unit



NOTE: (When Replacing)

・Fold the Rear Operation Flex along the notch of the flex.

9.3.8 Removal of the Battery Door Unit, Jack Cover and Coupler Cover

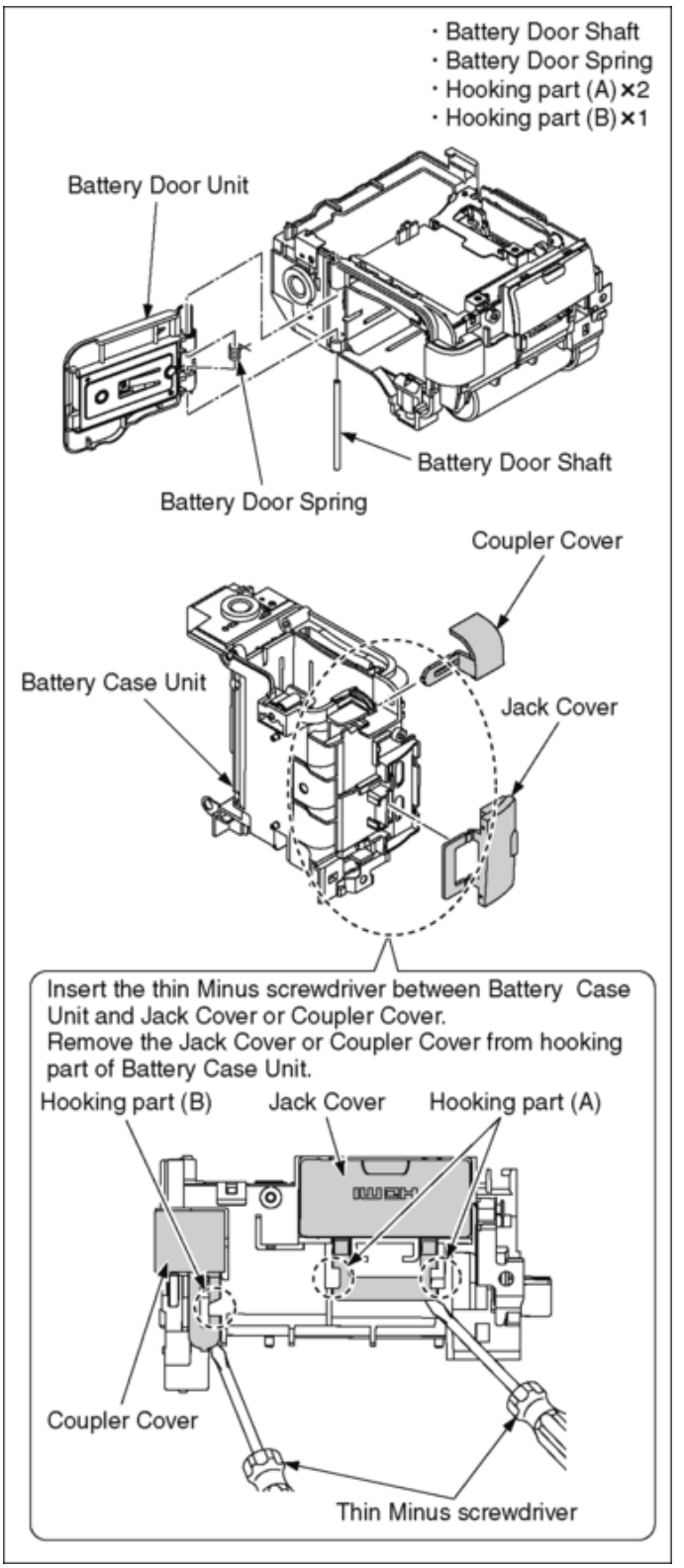


Fig. D10

9.3.9 Removal of the Flash P.C.B. Unit

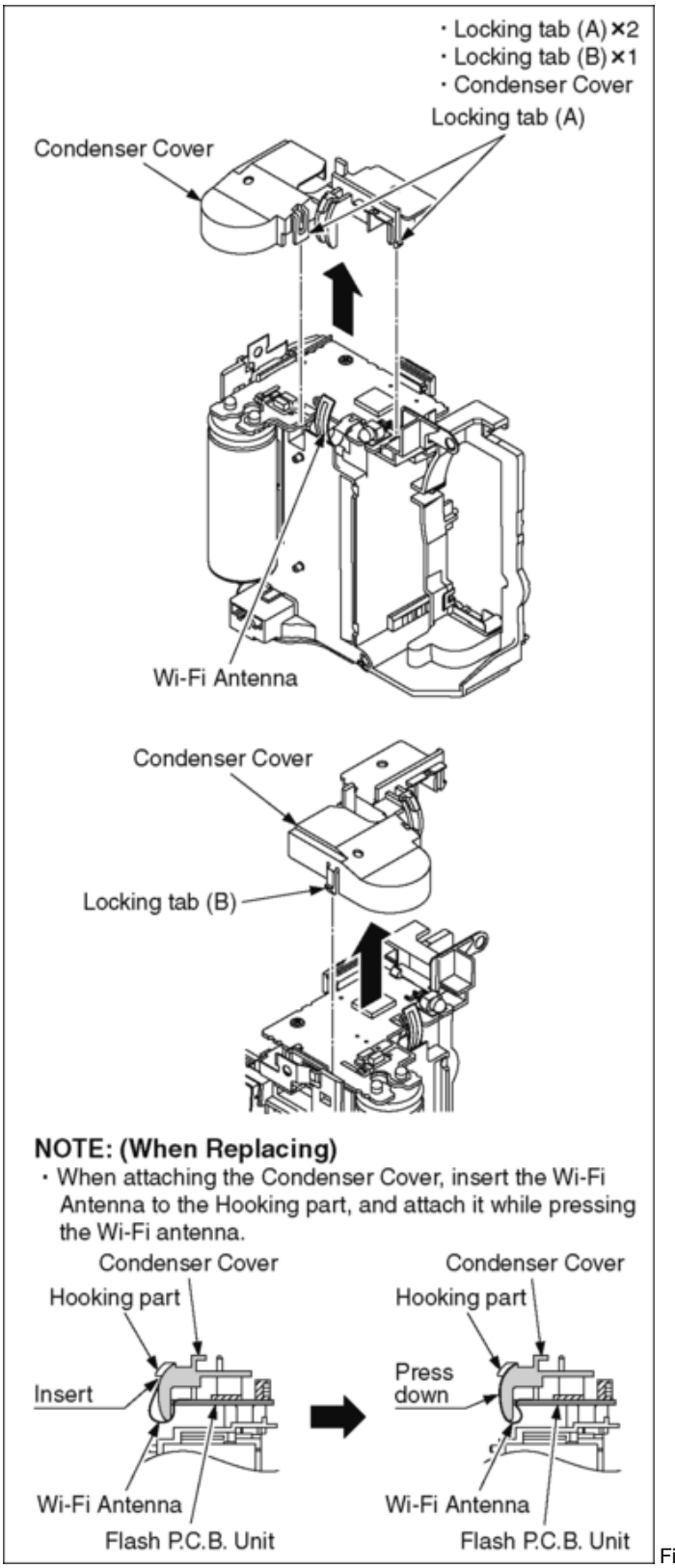
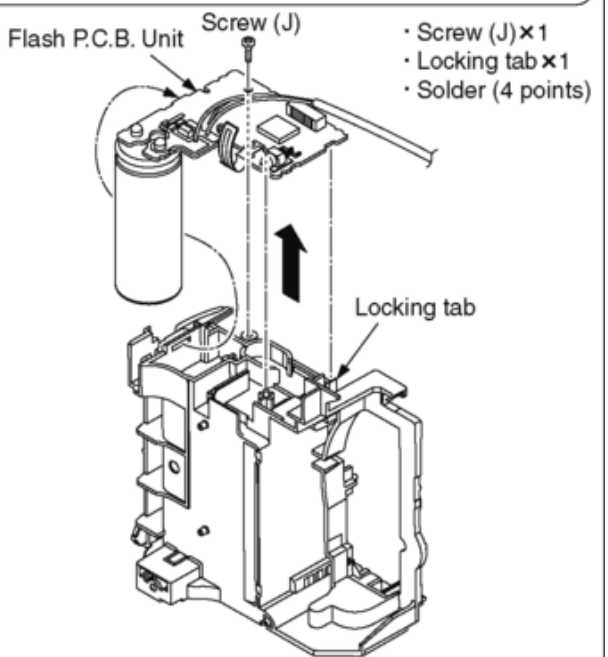
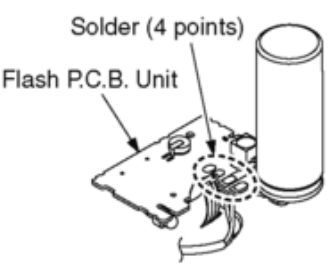
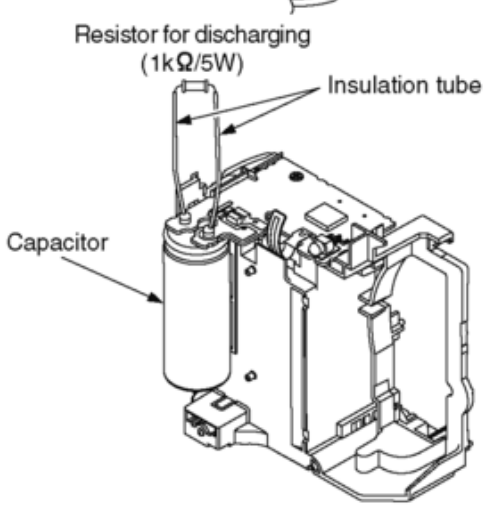


Fig. D11 Fig. D12

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







⚠ CAUTION

Be sure to discharge the capacitor on Flash P.C.B. Unit before disassembling.

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

Screw (J)

9.3.10 Removal of the SD Earth Plate, Flash Earth Plate and Jack Earth Plate

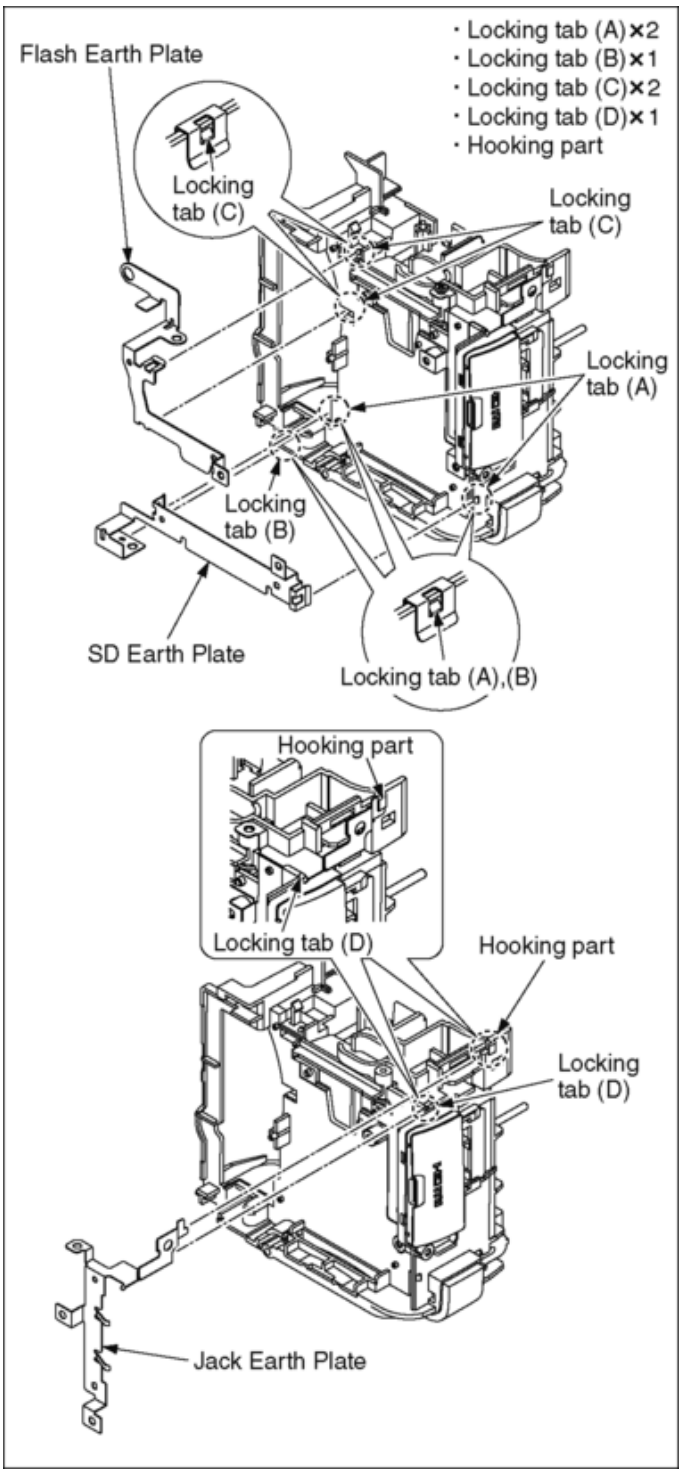


Fig. D13

9.3.11 Removal of the LVF Unit

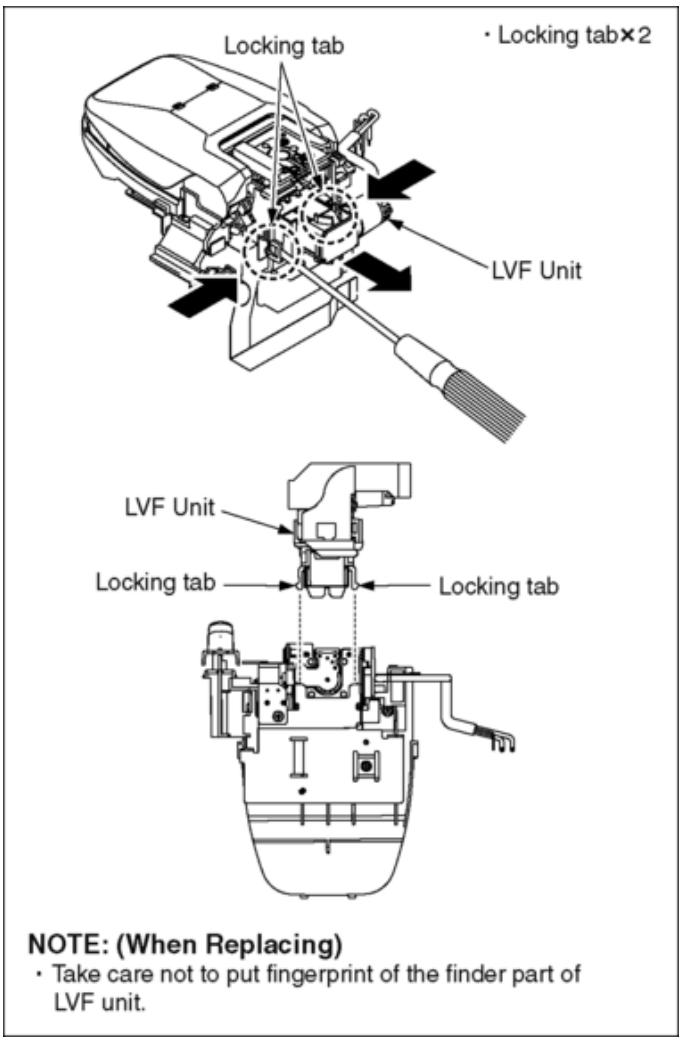
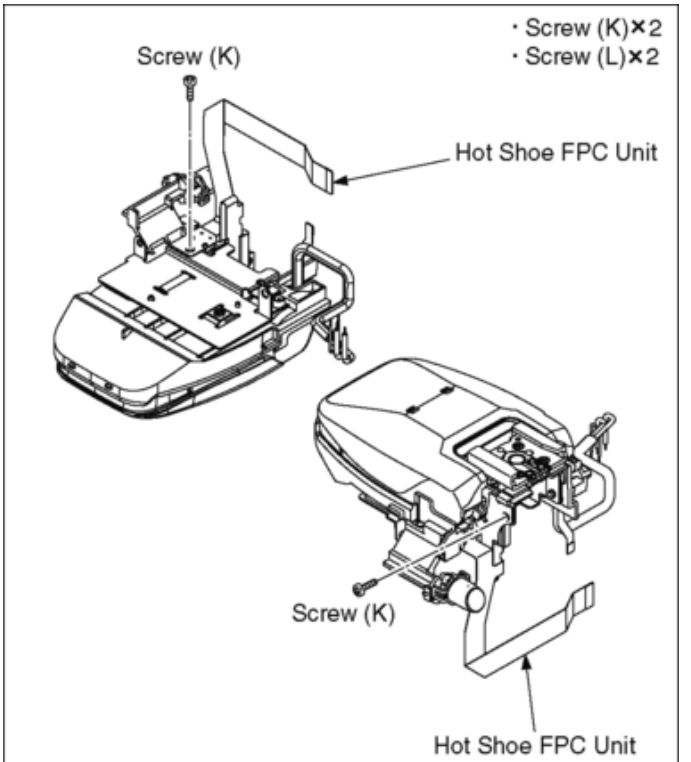


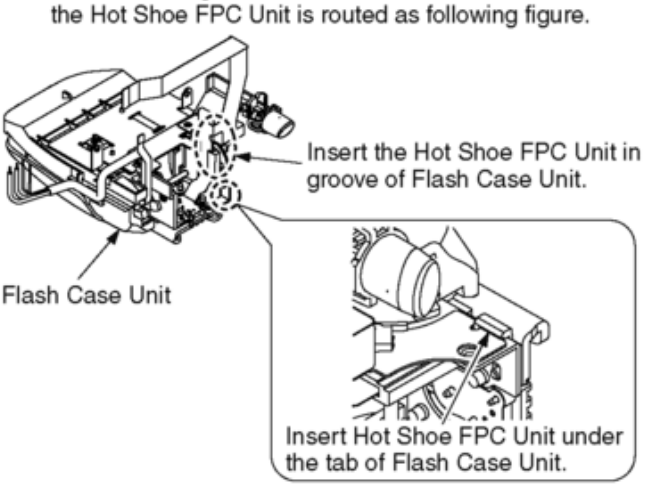
Fig. D14

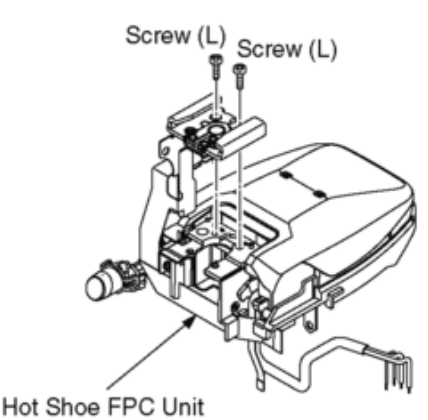
9.3.12 Removal of the Hot Shoe FPC Unit, MIC FPC Unit, Flash Unit



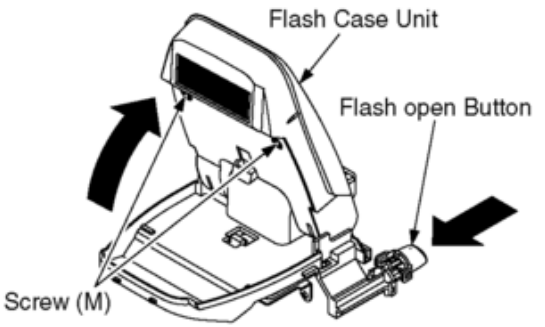
NOTE: (When Replacing)

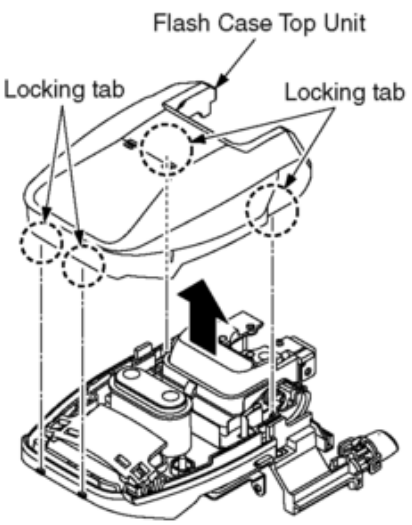
- Take care not to damage the flex.
- When attaching the Hot Shoe FPC Unit, make sure the Hot Shoe FPC Unit is routed as following figure.

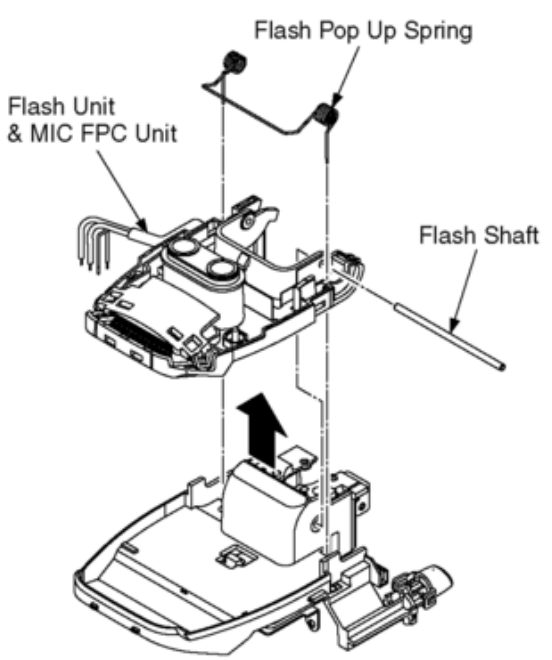




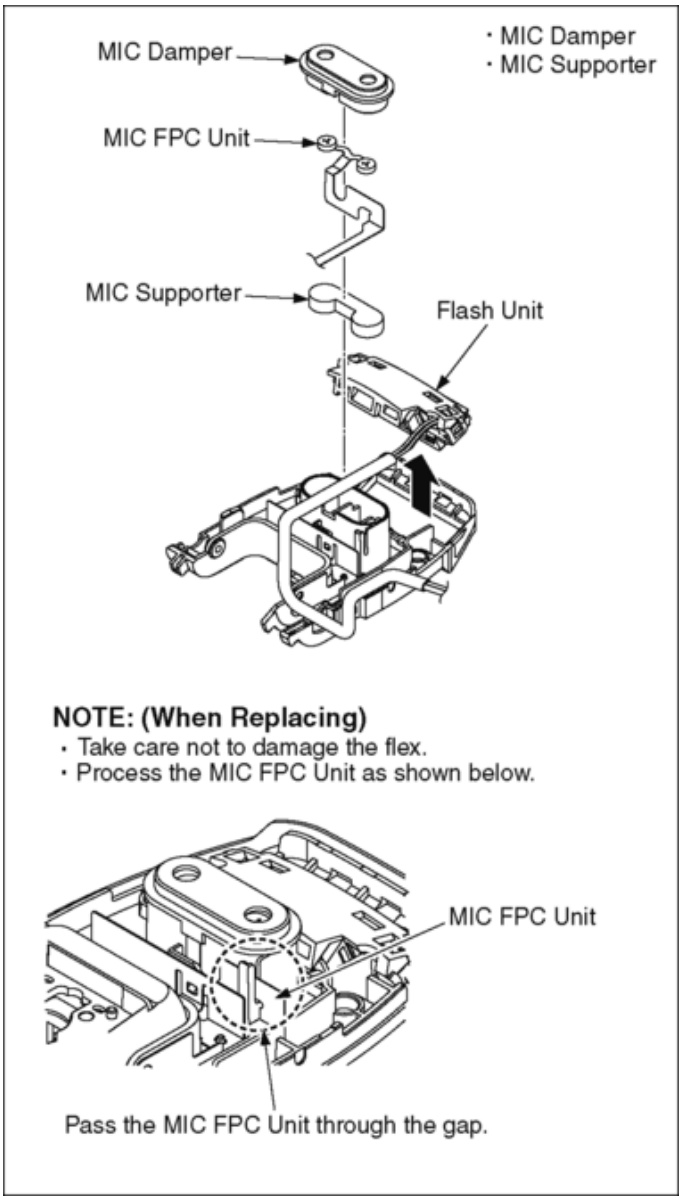
- Screw (M)×2
- Locking tab×4
- Flash Case Top Unit
- Flash Shaft
- Flash Pop Up Spring







Screw (M)



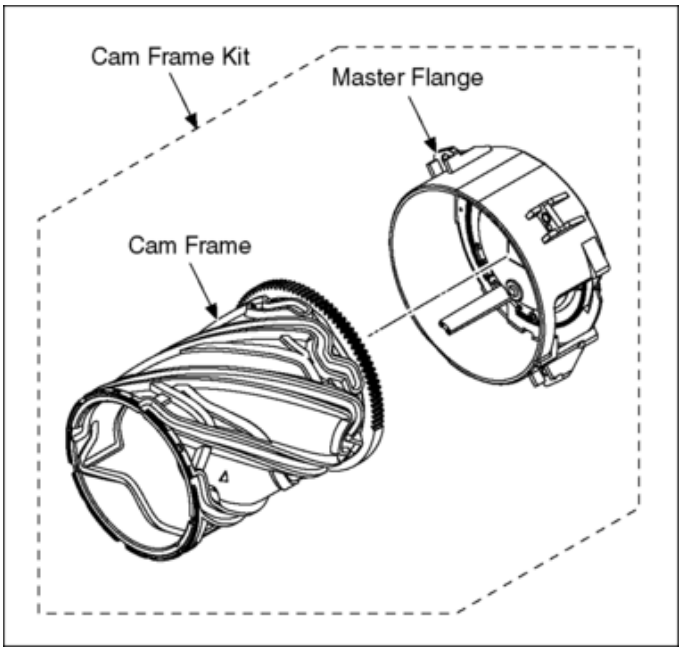
9.4 Lens Disassembly Procedure

Precaution:

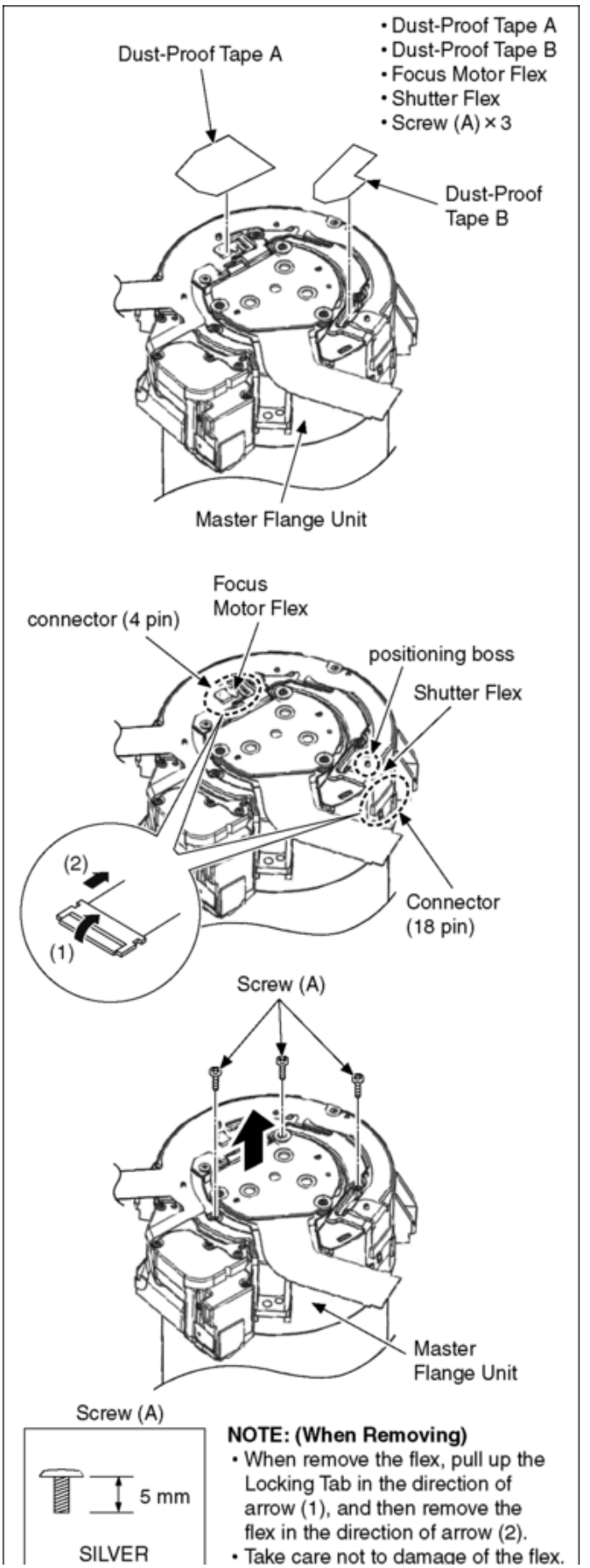
1. Do not remove the MOS when disassembling or re-assembling the lens in order to maintain it clean.
   When remove it, refer to item "9.5.".
2. Keep dust or dirt away from the lens.
3. Do not touch the lens surface.
4. Use lens cleaning KIT (BK)(VFK1900BK).
5. Apply grease as shown on item "9.4.6." and "9.4.7." in the figure.

9.4.1 Removal of the Master Flange Unit

- The Cam Frame and the Master Flange cannot be replaced as a single item to prevent the lens from being destroyed while assembling.
  Be sure to use the service part "Cam Frame Kit", and replace the whole unit.

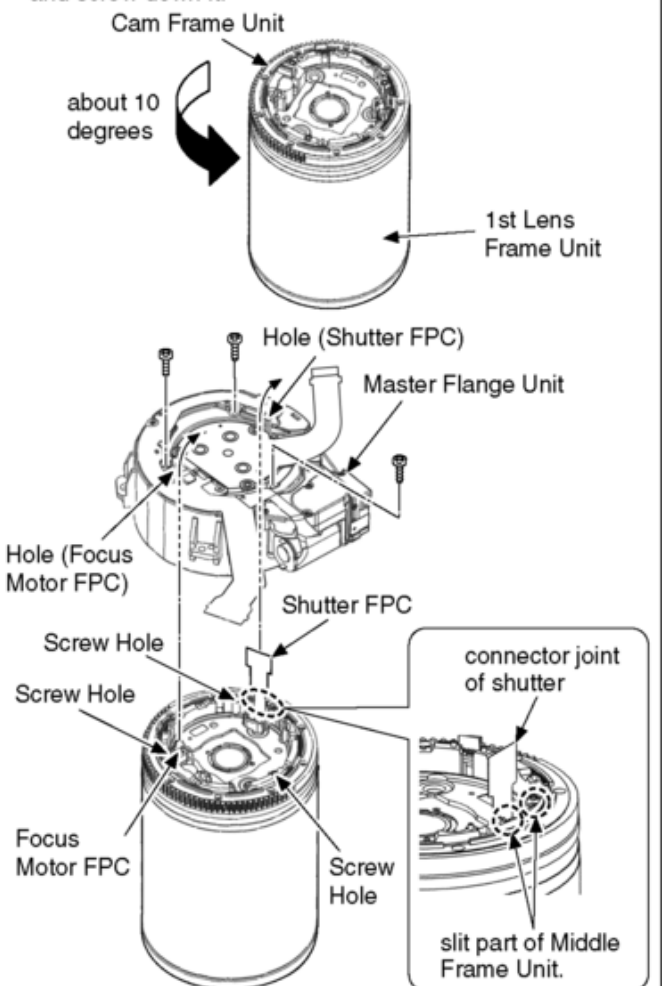


1. Remove the Dust-Proof Tape A and the Dust-Proof Tape B.
2. Disconnect the connector (4 pin) of Focus Motor Flex.
3. Disconnect the connector (18 pin) of Shutter Flex.
4. Remove the Shutter Flex from the positioning boss.
5. Remove the 3 Screws (A) to remove the Master Flange Unit.


• Dust-Proof Tape A
• Dust-Proof Tape B
• Focus Motor Flex
• Shutter Flex
• Screw (A) × 3
Dust-Proof Tape A
Dust-Proof Tape B
Master Flange Unit
Focus Motor Flex
connector (4 pin)
positioning boss
Shutter Flex
(2)
(1)
Connector (18 pin)
Screw (A)
Master Flange Unit
Screw (A)
5 mm
SILVER
NOTE: (When Removing)
• 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).
• Take care not to damage of the flex.

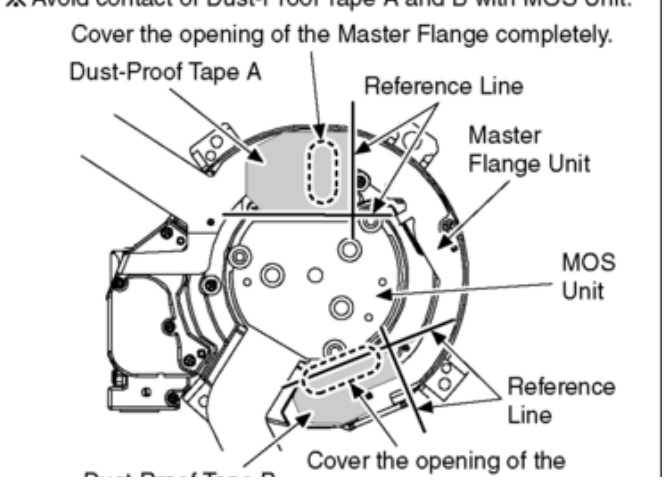
NOTE: (When Replacing)

1. Turn the Cam Frame Unit from the collapsible barrel position with 10 degrees toward the 1st Lens Frame Unit.
2. Insert the connector joint of shutter in slit part of Middle Frame Unit.
3. Pass the Shutter Flex and the Focus Motor Flex through the hole of master flange unit.
4. Align the screw hole, hold the Master Flange Unit evenly and screw down it.



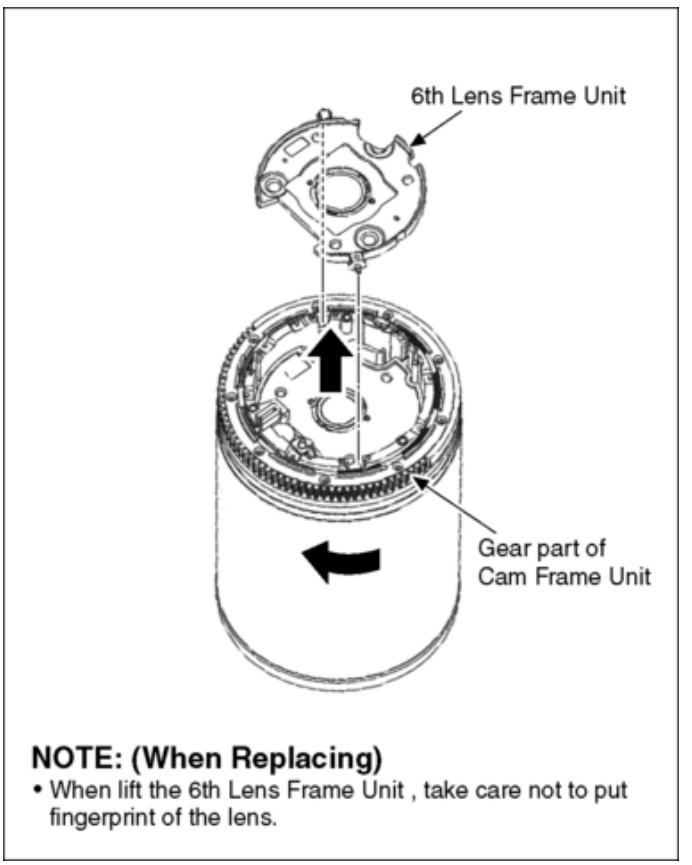
5. When attaching the Dust-Proof Tape A and B, confirm the reference line to attach.

※ Avoid contact of Dust-Proof Tape A and B with MOS Unit.



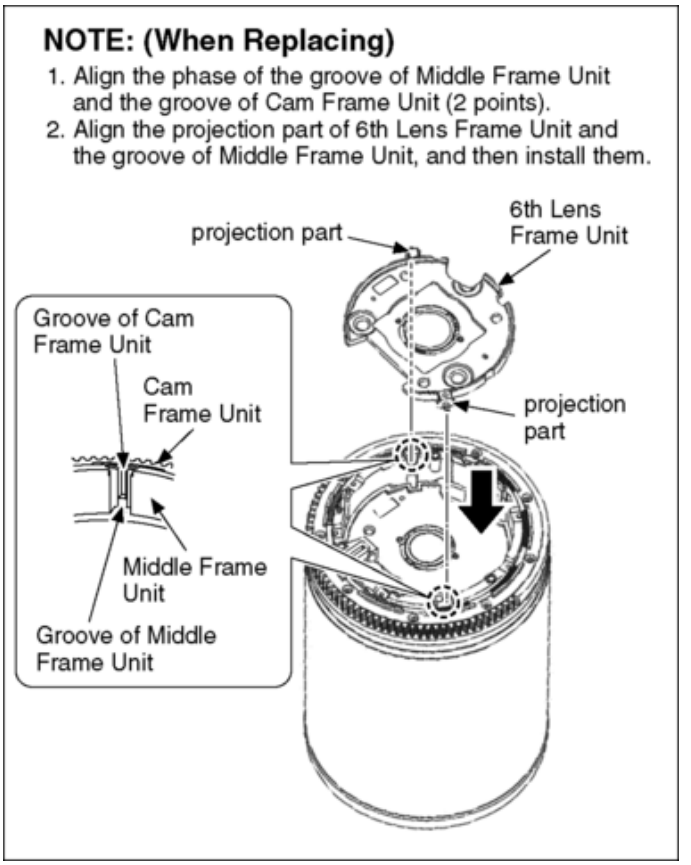
9.4.2 Removal of the 6th Lens Frame Unit

1. Turn the gear part of Cam Frame Unit in the direction of arrow fully.
2. Pull out the 6th Lens Frame Unit using tweezers, etc.



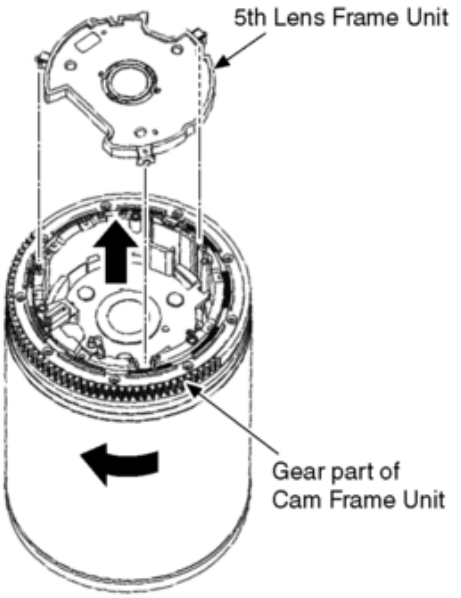
NOTE: (When Replacing)

- When lift the 6th Lens Frame Unit , take care not to put fingerprint of the lens.



9.4.3 Removal of the 5th Lens Frame Unit

1. Turn the gear part of Cam Frame Unit in the direction of arrow fully.
2. Pull out the 5th Lens Frame Unit using tweezers, etc.

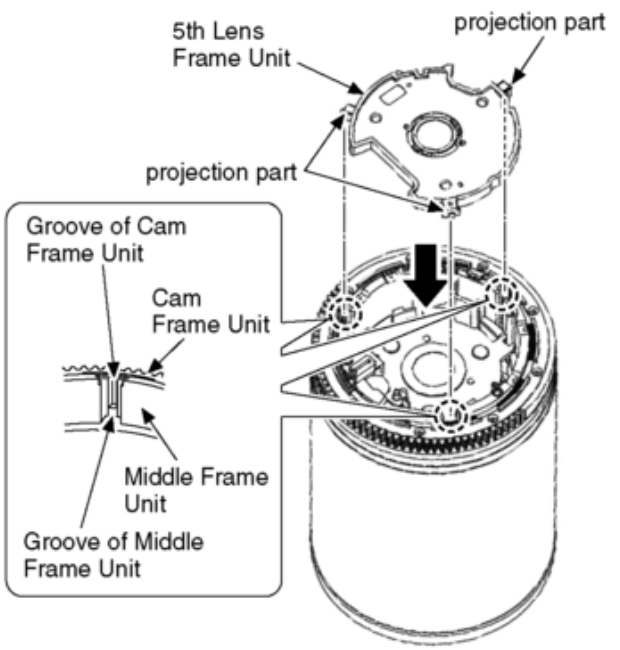


NOTE: (When Replacing)

- When lift the 5th Lens Frame Unit , take care not to put fingerprint of the lens.

NOTE: (When Replacing)

1. Align the phase of the groove of Middle Frame Unit and the groove of Cam Frame Unit (3 points).
2. Align the projection part of 5th Lens Frame Unit and the groove of Middle Frame Unit, and then install them.

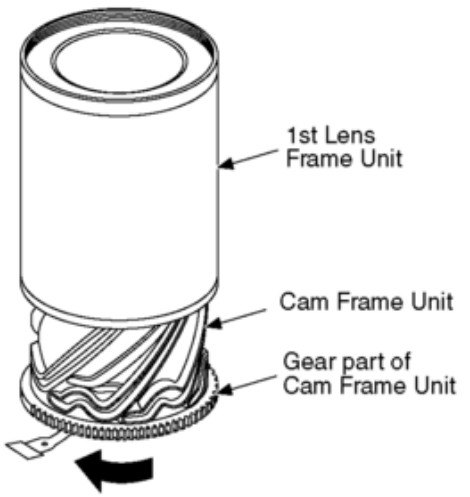


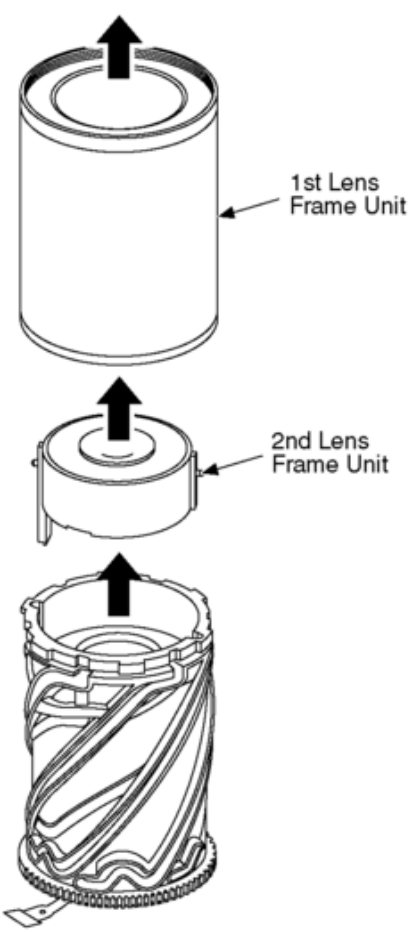
9.4.4 Removal of the 1st Lens Frame Unit and 2nd Lens Frame Unit

1. Turn the gear part of Cam Frame Unit in the direction of arrow fully.
2. Remove the 1st Lens Frame Unit and 2nd Lens Frame Unit.

■ **CAUTION**

- When remove and install, set the 1st Lens Frame Unit at the upper side at all times, or there is the danger that the 2nd Lens Frame Unit falls and be damaged.



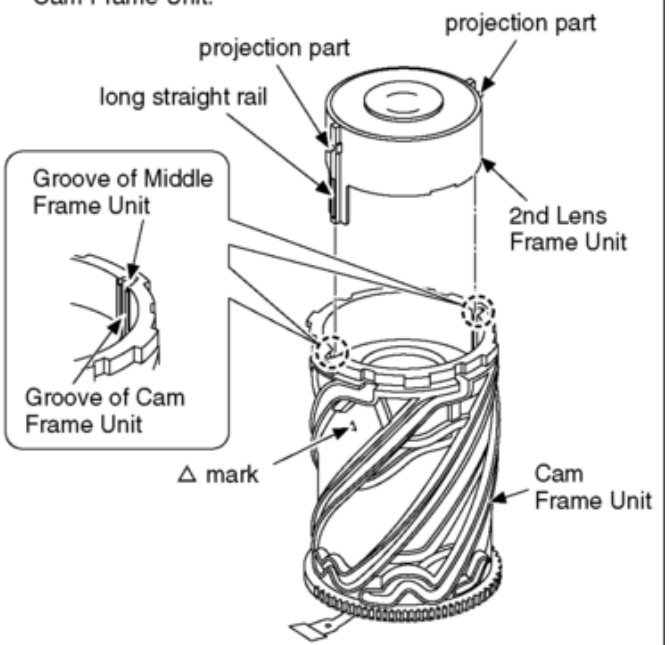


NOTE: (When Replacing)

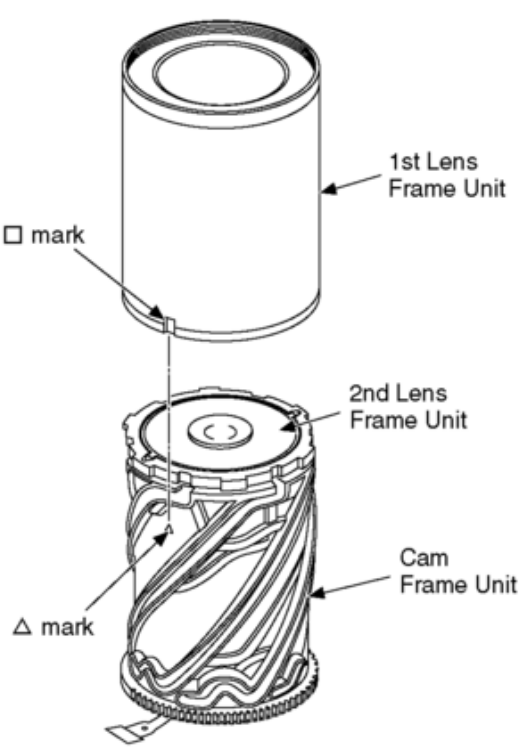
- When lift the 1st Lens Frame Unit and the 2nd Lens Frame Unit, take care not to put fingerprint of the lens.

NOTE: (When Replacing)

1. Align the phase of the groove of Middle Frame Unit and the groove of Cam Frame Unit (2 points).
2. Arrange the 2nd Lens Frame Unit, long straight rail on the triangle △ mark side of the Cam Frame Unit, and insert the protrusion of the 2nd Lens Frame Unit into the groove between the Middle Frame Unit and Cam Frame Unit.

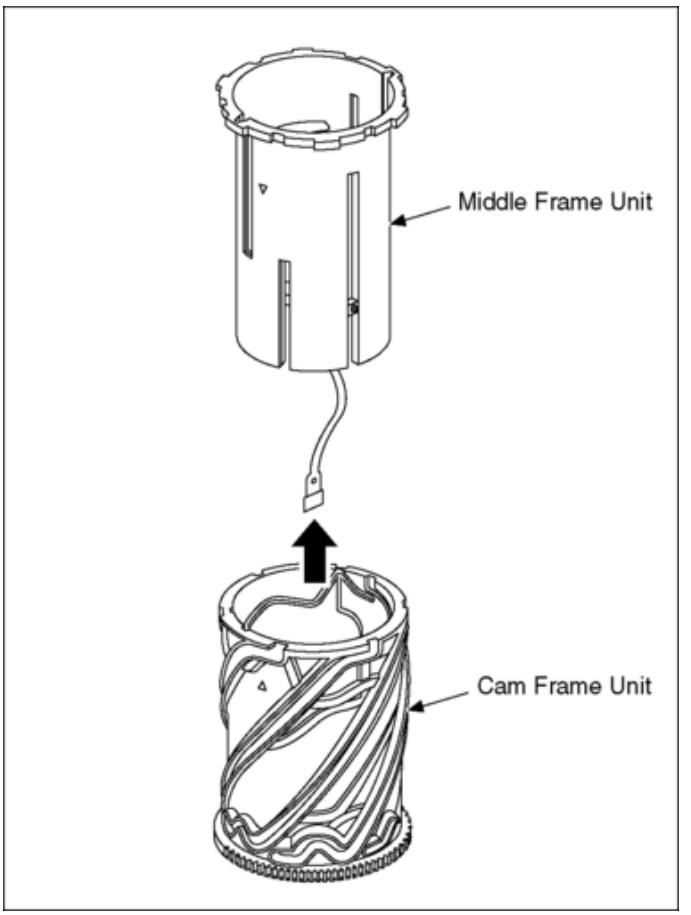


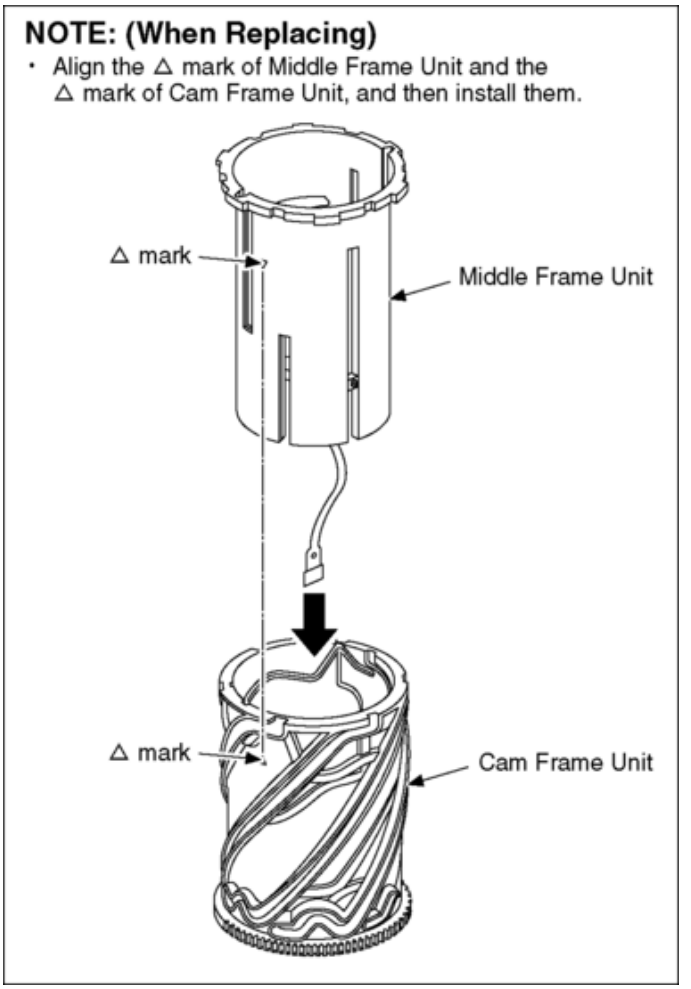
3. Align the □ mark of 1st Lens Frame Unit and the △ mark of Cam Frame Unit, and then install them.



9.4.5 Removal of the Middle Frame Unit

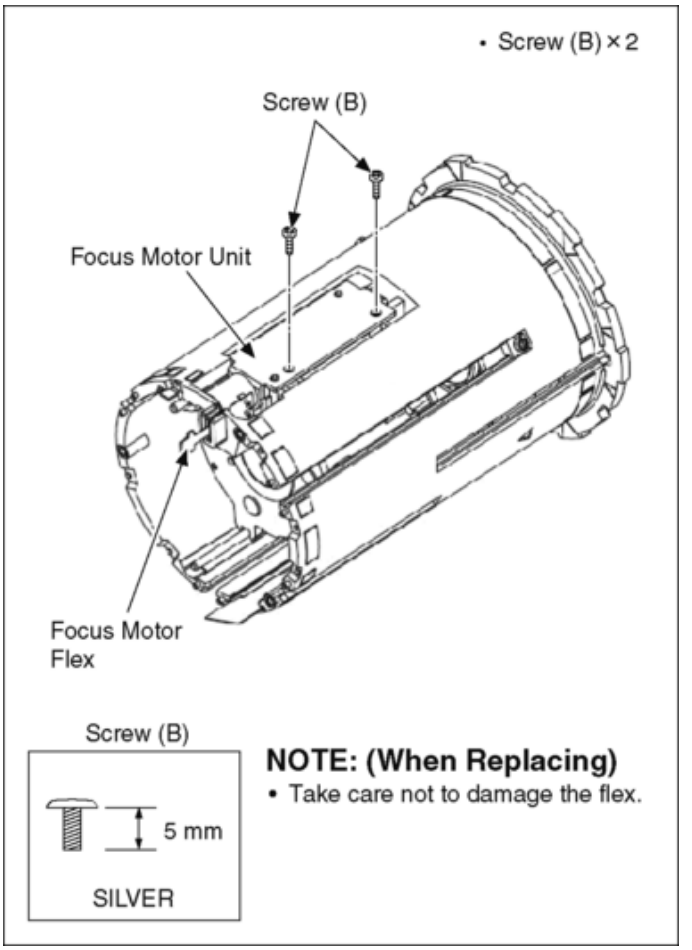
1. Remove the Middle Frame Unit in the direction of arrow.





9.4.6 Removal of the Focus Motor Unit

1. Remove the 2 Screws (B) to remove the Focus Motor Unit.

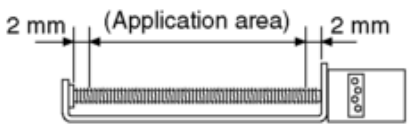

• Screw (B) × 2
Screw (B)
Focus Motor Unit
Focus Motor
Flex
Screw (B)
5 mm
SILVER
NOTE: (When Replacing)
• Take care not to damage the flex.

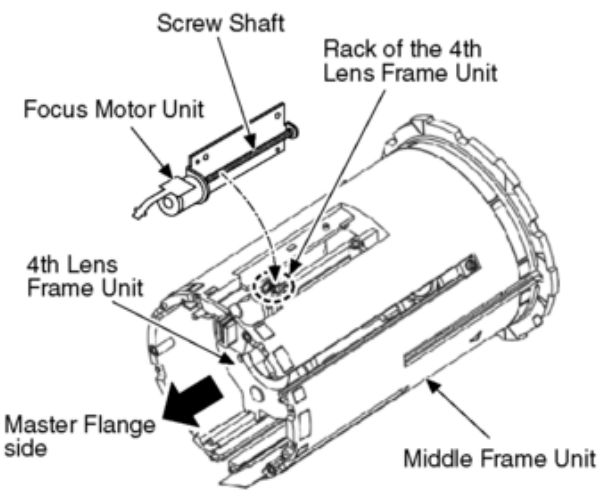
NOTE: (When Installing)

1. Blow air to the screw shaft of Focus Motor Unit to prevent the adhesion of foreign material.
2. Apply grease to the screw shaft of Focus Motor Unit.
3. Align the screw shaft to the rack of 4th Lens Frame Unit for insertion.
   (Set the 4th Lens Frame Unit at the Master Flange side)

- Grease Application Area

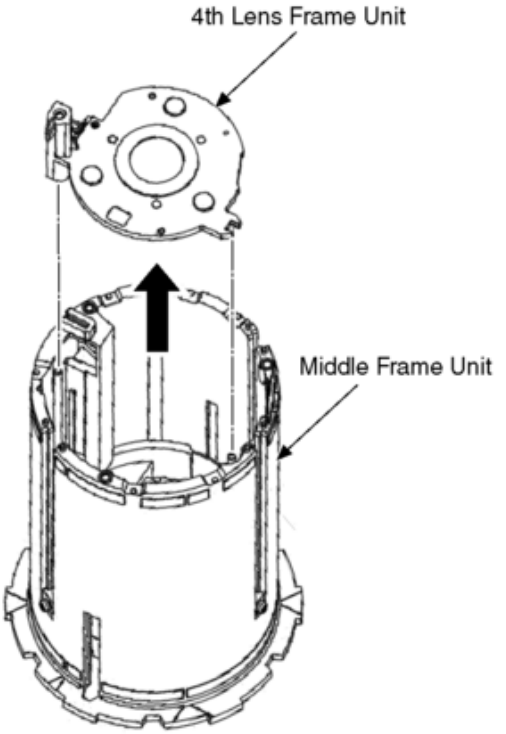
  Grease: RFKZ0472
  Amount of application: 4.5±0.3mg





9.4.7 Removal of the 4th Lens Frame Unit

1. Remove the 4th Lens Frame Unit in the direction of arrow.

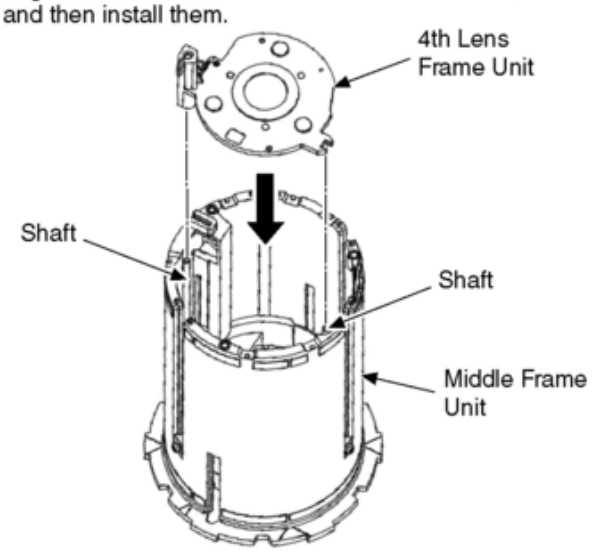


NOTE: (When Replacing)

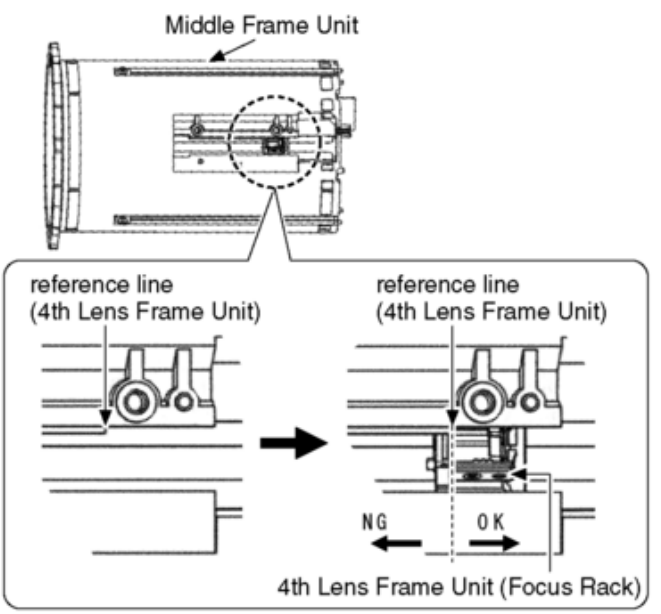
- When lift the 4th Lens Frame Unit, take care not to put fingerprint of the lens.

NOTE: (When Installing)

1. Align the 4th Lens Frame Unit and both the shaft, and then install them.



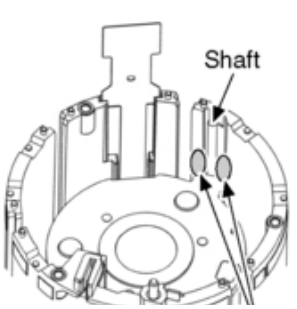
2. When attaching the 4th Lens Frame Unit, confirm the reference line to attach.

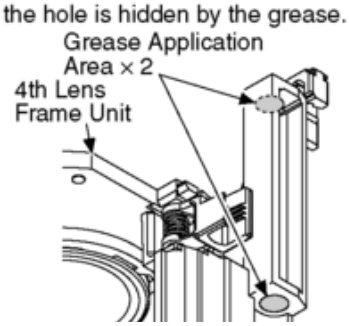


- Grease Application Area (Shaft × 2)
  Grease: RFKZ0472
  Amount of application: 3 ± 0.3mg

- Grease Application Area (4th Lens Frame Unit × 2)
  Grease: RFKZ0472
  Amount of application: 10 ± 1mg

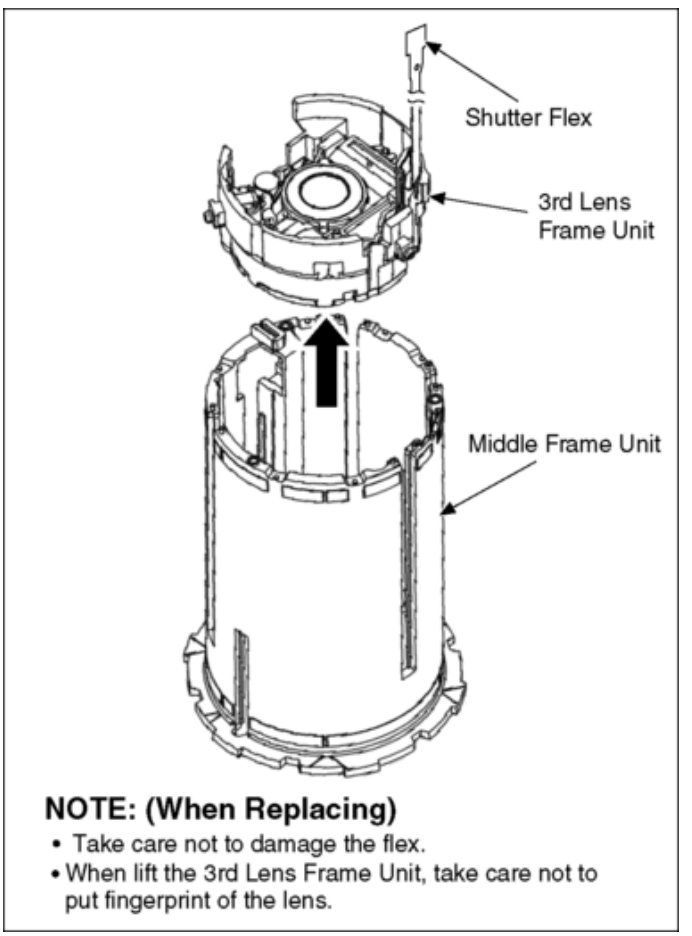
※ Apply the grease over the hole of the 4th Lens Frame Unit so the hole is hidden by the grease.





9.4.8 Removal of the 3rd Lens Frame Unit

1. Remove the 3rd Lens Frame Unit in the direction of arrow.

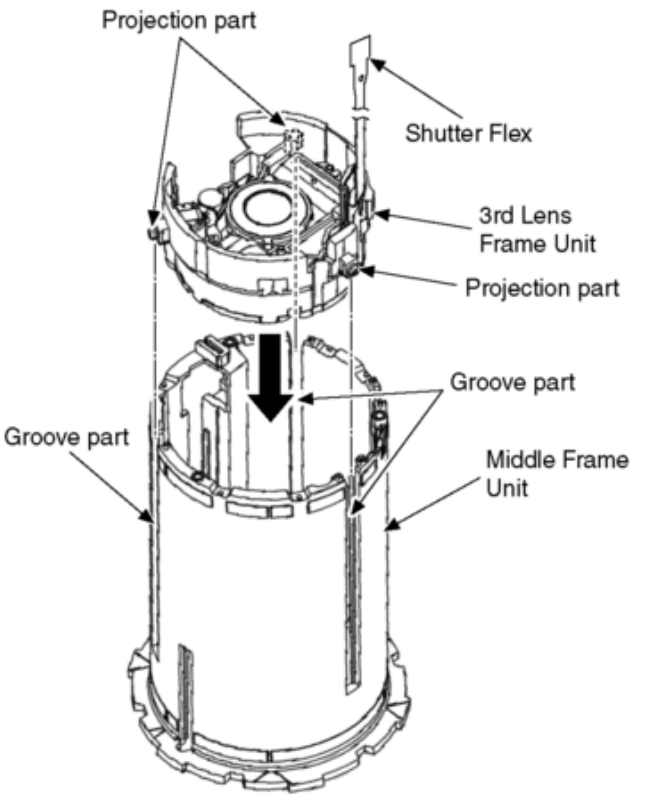


NOTE: (When Replacing)

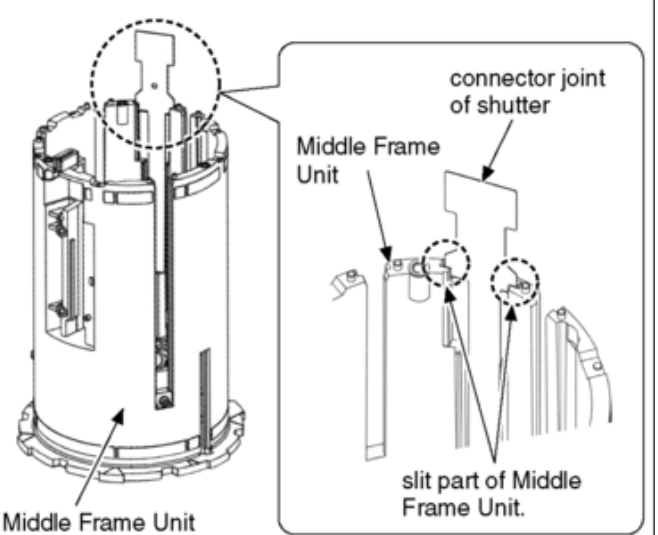
- Take care not to damage the flex.
- When lift the 3rd Lens Frame Unit, take care not to put fingerprint of the lens.

NOTE: (When Installing)

1. Align the projection part of 3rd Lens Frame Unit and the groove part of Middle Frame Unit, and then install them.



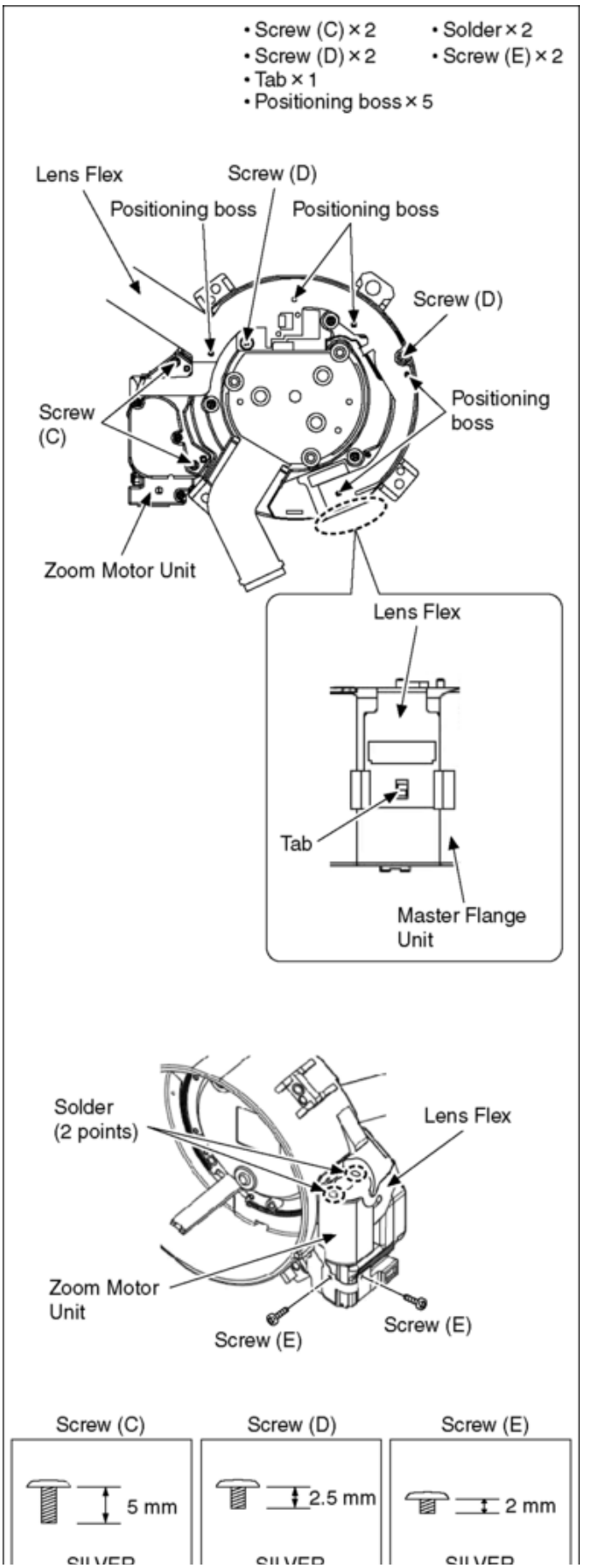
2. Pass the Shutter Flex and the Focus Motor Flex through the hole of master flange unit.



9.4.9 Removal of the Zoom Motor Unit and Lens Flex

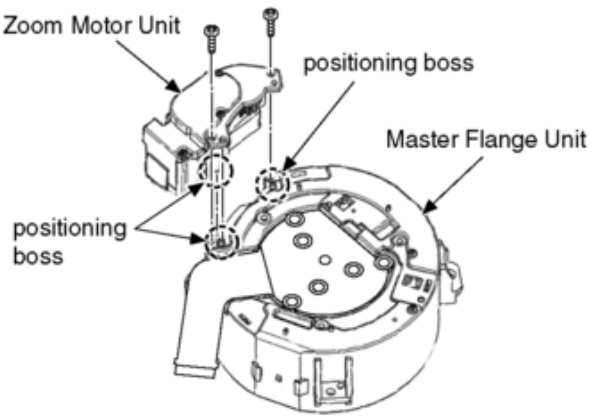
1. Remove the 2 Screws (C).
2. Remove the 2 Screws (D).
3. Remove the 1 tab turn.
4. Remove the Lens Flex from positioning boss to remove the Zoom Motor Unit and Lens Flex.

5. Unsolder 2 position.
6. Remove the 2 Screws (E) to remove the zoom Motor Unit.

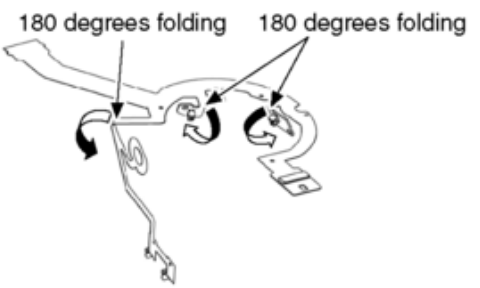

• Screw (C) × 2
• Screw (D) × 2
• Tab × 1
• Positioning boss × 5
• Solder × 2
• Screw (E) × 2
Lens Flex
Screw (D)
Positioning boss
Positioning boss
Screw (D)
Screw (C)
Positioning boss
Zoom Motor Unit
Lens Flex
Tab
Master Flange Unit
Solder (2 points)
Lens Flex
Zoom Motor Unit
Screw (E)
Screw (E)
Screw (C)
Screw (D)
Screw (E)
5 mm
2.5 mm
2 mm

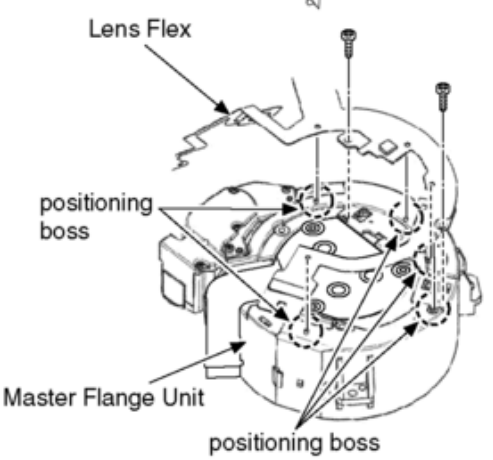
NOTE: (When Installing)

1. Align the Zoom Motor Unit and positioning boss, and then screw down it.

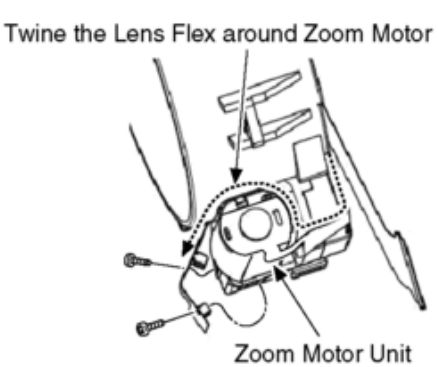


2. Fold the Lens Flex at the designated position. (3 locations)
3. Align the Lens Flex and positioning boss, and then screw down it.





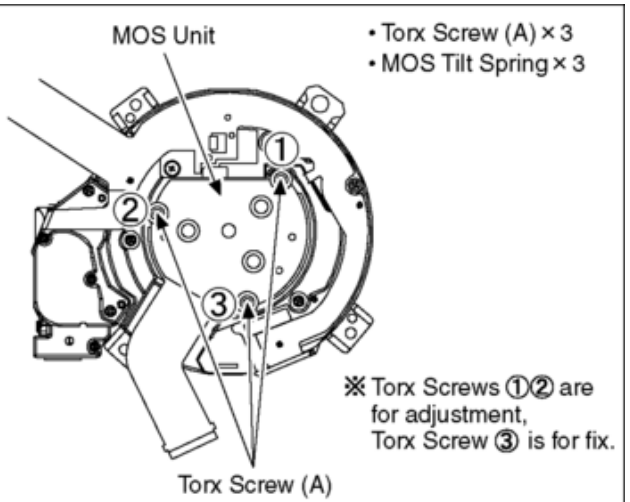
4. Twine the Lens Flex around Zoom Motor Unit, and then screw down it.



9.5 Removal of the MOS Unit

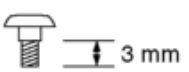
When remove the MOS Unit once (the Torx screw (A) is loosened even a little), the optical tilt adjustment is required.
When loosen the Torx screw (A), necessary the optical tilt adjustment at the end of assembling. (Refer to item "10.3.2.")
To prevent the MOS Unit from catching the dust and dirt, do not remove the MOS Unit except for replacing.

1. Remove the Torx screw (A) to remove the MOS Unit and the 3 Tilt Spring.

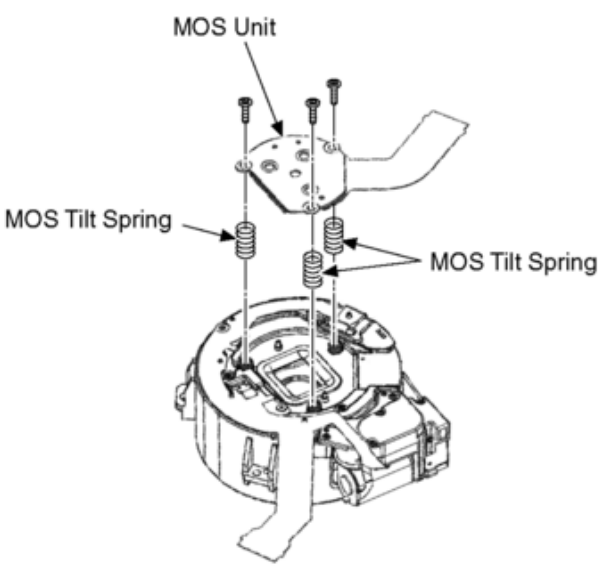


● Adjust all the three Torx Screws.
(Loosen the fixing Torx Screw③ after tightening.)

Torx Screw (A)



Torx type (T4)
SILVER



NOTE: (When Replacing)

- When attaching screw (A), tighten it according to the following order and torque.
  Set the bit of adjustment driver (VFKZ0569) to the torque driver (VFKZ0542).
- Be sure to execute the optical tilt adjustment with the Torx screw ①, ② and ③ .
- Tighten the 3 Torx screws in order ①→②→③ .
- Screw torque: 10±1N · cm
- Restored angle of screws: 315°

10 Measurements and Adjustments

10.1 Introduction

When servicing this unit, make sure to perform the adjustments necessary based on the part (s) replaced.
When trouble occurs, it is recommended to backup the Flash-rom data before disassembling the unit.

NOTE: (When replacing the Lens unit, Cam Frame Kit and MOS Unit)

- When the MOS Unit is unavoidably removed for Lens Unit, Cam Frame Kit and MOS Unit replaced, an optical tilt adjustment is necessary after parts are exchanged.
- The adjustment software (DSC_Tilt) is necessary to execute an optical tilt adjustment.
- The adjustment software "DSC_Tilt" is available at "TSN Website".

NOTICE (When replacing the Flash ROM(IC6003) or Charging Control Microcomputer(IC1502))
When the Flash Rom or Charging Control Microcomputer is replaced, it is need to adjust the firmware of the Charging Control Microcomputer to the one of the Flash ROM.
For details, refer to "10.3.2. Adjustment Specifications".
It may takes about 10 seconds. While doing the adjustment, don't turn the power off forcibly.
(It cause the Charging Control Microcomputer crush, then the camera can not turn on.)

NOTE: (When replacing the Main P.C.B.)

- Number of necessary adjustment items decreases by copying the backup data to new Main P.C.B. when adjustment data in old Main P.C.B. can be read by ROM_BACKUP "DSC→SD" in "10.2.2. Flash-ROM Data Backup".
  For more details, please refer an item "Main P.C.B. (to which the backup data was copied)" in the table of "10.3.2. Adjustment Specifications".

IMPORTANT NOTICE: (After replacing the Main P.C.B.)
After replacing the Main P.C.B., it is necessary to achieve adjustment.

10.2 Before Disassembling the unit

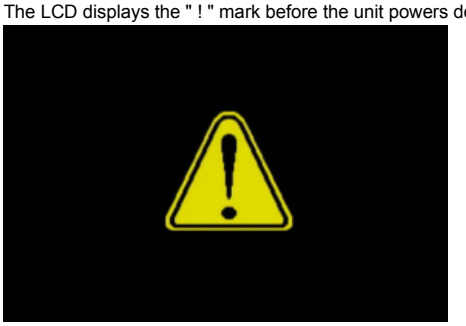
10.2.1 Initial Setting Release

The cameras specification are initially set in accordance with model suffix (such as EB/EG/GN and so on.).
Unless the initial setting is not released, an automatic alignment software in the camera is not able to be executed when the alignment is carried out.

NOTE:
The initial setting should be again done after completing the alignment. Otherwise, the camera may not work properly.
Therefore as a warning, the camera display a warning symbol " ! " on the LCD monitor every time the camera is turned off.
Refer to the procedure described in "3.5.2. Initial Settings" for details.
[How to Release the camera initial setting]

- Preparation:
  Attach the fully charged Battery, and insert the memory card (32MB or more).
  Remove the lens cap.

- **Step 1. The temporary cancellation of "Initial Settings":**
  Set the [Mode dial] to "[P](Program AE mode)".
  While pressing [DISP.] button, "[RIGHT] of Cursor buttons" and [AF/AE LOCK] button simultaneously, turn the power on.
- **Step 2. The cancellation of "Initial Settings":**
  Press the [Playback] button in order to enter the [Playback] mode.
  Press [AF/AE LOCK] button and "[UP] of Cursor buttons" simultaneously, then turn the power off.
  The LCD displays the " ! " mark before the unit powers down.



10.2.2 Flash-ROM Data Backup

Number of necessary adjustment items decreases by copying the backup data to new Main P.C.B. when adjustment data in old Main P.C.B. is usually read by

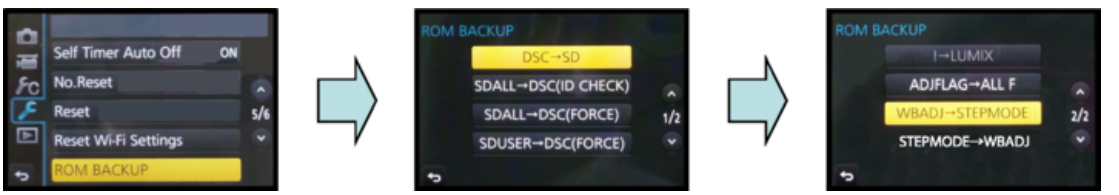
ROM_BACKUP "DSC→SD". It is recommended to backup the Flash-ROM data as the way of return when trouble occurs before disassembling the unit depending on each case.

[ROM_BACKUP (Method of Non-PC backup)]

1. Insert the memory card into the camera.
2. Set the camera to "Temporary cancellation of the initial settings".
3. Select the "SETUP" menu.
   From the "SETUP" menu, select "ROM_BACKUP".

   NOTE:
   This item is not listed on the customer's "SETUP" menu.
4. When this "ROM_BACKUP" item is selected, the following submenus are displayed.

Fig. 2-1



Item	Function	Details
DSC → SD	Save all the DSC's Flash-rom data to Memory Card	• DSC's Flash-rom data is saved to the Memory Card as a data file. (DATA BACKUP) -File location: ROOT DIRECTORY in Memory Card. -File Name: 1) User Setup Information data: <Model No.>U.txt [Depending on the model, more than one file may be generated (e.g. <Model No.>U.TXT and <Model No.>U3.TXT).] 2) Electrical Adjustment data: <Model No.>F.txt [Depending on the model, more than one file may be generated (e.g. <Model No.>F.TXT and <Model No.>F3.TXT).] • If the concerned file already exists, "OVERWRITE?" message is displayed.
SDALL→ DSC (ID CHECK)	Write the all data to DSC's Flash-rom from Memory Card	• The backup data stored in the Memory Card is transferred to DSC unit. • ID CHECK: When the model ID is different, data is not transferred. • FORCE: Even if the model ID is different, data is transferred. * If the main PCB is replaced, select "SDALL→DSC(FORCE)".
SDALL → DSC (FORCE)	Write the all data to DSC's Flash-rom from Memory Card	
SDUSER → DSC (FORCE)	Only "User setup information" is written from the saved file in the Memory Card to DSC's Flash-rom.	• Only the user's "setup" setting condition is transferred to DSC unit. • FORCE: Even if the model ID is different, the data is transferred.
I → LUMIX	Shipping set without initializing "User setup information"	• Initial setting is executed without initializing the user's set up setting condition. * The initial setting must be performed while the Self-timer LED is blinking, * The picture data stored in the built-in memory of the DSC is not erased, with this operation.
ADJFLAG → ALL F	Set all adjustment flags completion	• Status of the all adjustment flags are changed to "F"(completion).
WBADJ → STEPMODE	ISO: Adjustment WBL, WBM: Setting	• ISO: Sensitivity adjustment. • WBL: Setting up the white in low color temperature. • WBM: Setting up the white in high color temperature.
STEPMODE → WBADJ	Cancel "STEPMODE"	• Cancel the "STEPMODE" mode.

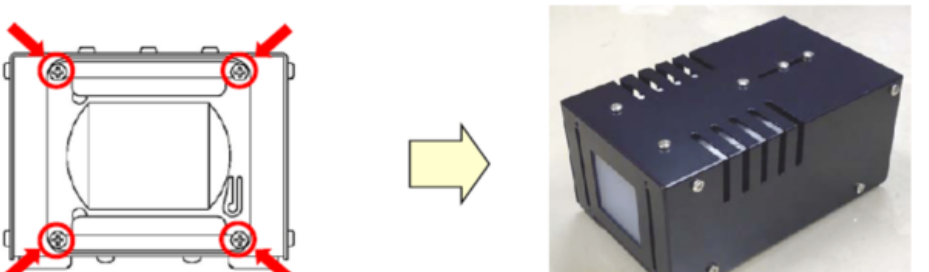
10.2.3 About Light Box

How to remove the Front Hood

In order to utilize maximum of the diffusing surface of light box, some adjustment items need the distance between diffusing surface of light box and camera body becomes several cent-meters.

Before the adjustments, remove the front hood of light box following steps below.

[For RFKZ0523 Light Box]



Unscrew the 4 screws, then remove the front hood.

10.3 Details of Electrical Adjustment

10.3.1 How to execute the Electrical Adjustment

It is not necessary to connect the camera to a PC to perform adjustments.
"Flag reset operation" and "Initial setting operation" are required when carrying out the alignment, follow the procedure below.

10.3.1.1 Startup Electrical Adjustment mode

1. Release the initial settings.
2. Insert a recordable memory card (32MB or more).
   (Without a memory card, the automatic adjustment can not executed.)
3. Procedure to set the camera into adjustment mode:
   1. Set the mode dial to "[P] (Program AE mode)".
   2. Turn the Power on pressing "[LEFT] of Cursor buttons" and [AF/AF LOCCK] button simultaneously.
      LCD monitor displays "SERVICE MODE". (Refer to Fig. 3-1)

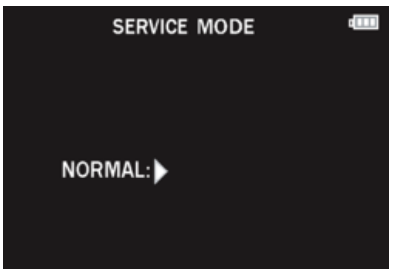


Fig. 3-1

10.3.1.2 Status Adjustment Flag Setting

Reset (Not yet adjusted) the status flag condition.

1. After pressing the [DISP.] button, the LCD monitor displays the Flag status screen. (Refer to Fig.3-2)
2. Select item by pressing the Cursor buttons. (Gray cursor is moved accordingly.)
3. Press the [(Delete/Cancel)/Fn3] button.

   NOTE:
   The selected item's flag has been changed from
   "F (green)" to "0 (yellow)".
   *Flag conditions:
   F (green)
   means that the alignment has been completed and the status flag condition is set. In this case, the flag condition should be reset, if you try to carry out the automatic alignment.
   0 (yellow)
   means that the alignment has been not "completed" and the status flag condition is "reset". In this case, automatic alignment is available.

Fig. 3-2

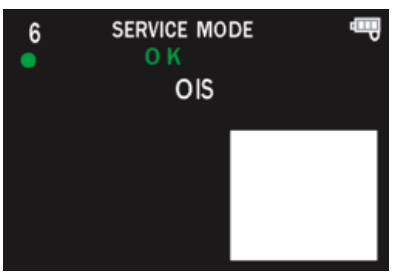
- To display the "BK2" flag, choose the "FOC" and press the "[DOWN] of Cursor buttons".
- In case of setting the status flag into set condition again without completion of the alignment, the status flag should be UNDO by using ROM BACKUP function.

10.3.1.3 Execute Adjustment (In case of "OIS Adjustment")

1. Perform step "10.3.1.1." to "10.3.1.2.", to reset the OIS flag status "F" (Set) to "0" (Reset)
2. Press [DISP.] button after Flag reset.
   OIS Adjustment screen is displayed on the LCD panel. (Refer to Fig.3-3)
3. Press the [Shutter] button.
   The adjustment will start automatically.

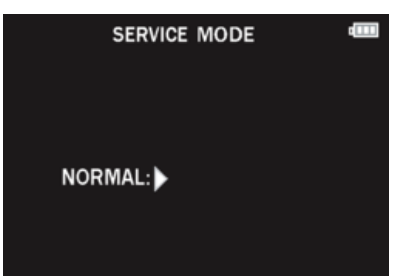
Fig. 3-3 

4. When the adjustment is completed successfully, adjustment report menu appears with Green OK on the LCD monitor. (Refer to Fig.3-4)

Fig. 3-4 

10.3.1.4 Attention point during Adjustment

1. Step "10.3.1.3." procedure shows OIS adjustment as an example. To perform the adjustment, refer to the "10.3.2. Adjustment Specifications" table which shows key point for each adjustment.
2. Do not move the light box, the camera or the chart while adjusting. If one of these is moved accidentally, start the adjustment again.
3. Do not press any buttons/keys until the default menu (Refer to Fig.3-5) is displayed on the LCD monitor. Otherwise, adjustment data may not be stored properly.
4. If the adjustment is interrupted accidentally, the alignment data may not be properly saved in the Flash-ROM.

Fig. 3-5 

10.3.1.5 Finalizing the Adjustment

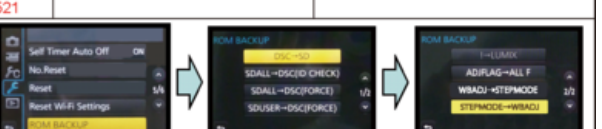
1. Several adjustment flags can be reset ("F" into "0") at the same time. In this case, when the adjustment has been completed, the screen will change showing the adjustment for the next item until all reset items are completed.
   Also, when the [Shutter] button is pressed, the screen jump to the next adjustment item.
2. To cancel the adjustment mode while in the process of performing the adjustment, follow this procedures.
3. Operate the following, when escaping the Electrical Adjustment mode on the way.
   (1) Press "[DISP.] button".
   (2) Press "[RIGHT] of Cursor buttons".

   NOTE:
   - If adjustment is cancelled with above procedure, adjustment is not completed. Make sure to adjust it later.

10.3.2 Adjustment Specifications

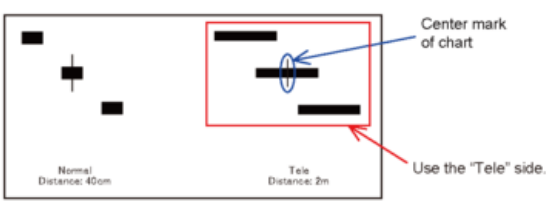
The following matrix table shows the relation between the replaced part and the Necessary Adjustment.
When a part is replaced, make sure to perform the necessary adjustment(s) in the order indicated.
The table below shows all the information necessary to perform each adjustment.

Adjustment order	Adjustment Item	FLAG	Purpose	Replacing Parts: MAIN P.C.B./VENUS ENGINE	MAIN P.C.B. (When written Backup data)	Flash-ROM (IC6003)	Charging Control Microcomputer (IC1502)	Lens Part (Excluding Image Sensor)	Image Sensor	Microphone	Flash Part	JIG/TOOLS	SET UP	How to Operate
1	Synchronization of Flash-ROM with the charge control micro computer	—	Executing synchronization (optimization) of Flash-ROM with the charge control micro computer (Upgrading the software version)	—	—	O	O	—	—	—	—	• Do adjust the firmware of the Charging Control Microcomputer to the firmware of the one of the Flash ROM by the following procedure. 1) Release the camera initial setting. 2) Insert a memory card (32MB or more). 3) Turn the power off. The camera check the firmware of both the Flash ROM and the Charging Control Microcomputer. If they are not match, the firmware of the Charging Control Microcomputer is updated and the camera is turned the power off automatically. *While doing adjustment, don't turn the power off forcibly. It takes about 10 seconds to update the firmware of the Charging Control Microcomputer. While updating, the camera is displaying a warning symbol " ! " on the LCD and lighting the AF Assist Lamp. (If the firmware of the camera(Flash ROM) is old, the AF Assist Lamp does not light.)		
2	Optical Tilt	—	Adjustment of MOS Unit installation angle to the Lens	—	—	—	—	O	O	—	—	Note: It is necessary to use the "DSC_Tilt" software to allow the "Optical tilt adjustment". The Adjustment software "DSC_Tilt" is available at "TSN Website". ・Optical Tilt Adjustment Chart RFKZ0570 ・Optical Tilt Adjustment Driver RFKZ0569: T4 ・Camera Stand RFKZ0333J ・Torque Driver RFKZ0542		
3	Zoom Home Position	ZHP	Zoom Home Position inspection	O	—	O	—	O	O	—	—	NONE	NONE	1) Change the flag into the "0", and then proceed to the adjustment mode. 2) Press the shutter button fully. (When a result is OK, it is the completion of an inspection.)
4	Venus Zoom *4	PZM	Venus Zoom inspection	O	O	O	—	—	—	—	—	NONE	NONE	1) Change the flag into the "0", and then proceed to the adjustment mode. 2) Press the shutter button fully. (When a result is OK, it is the completion of an inspection.)
5	OIS sensor	OIS	OIS sensor output level adjustment	O	—	O	—	O	O	—	—	NONE	NONE	1) Change the flag into the "0", and then proceed to the adjustment mode. 2) Press the shutter button fully. (When a result is OK, it is the completion of an inspection.)
6	Backfocus / GYRO *4	BF	To have the focus tracking curve be appropriate shape and GYRO sensor adjustment	O	O	O	—	O	O *1	—	—	・Collimator RFKZ0422	1) Set the camera in front of collimator so that the distance between collimator and camera body becomes 7.0 cm as shown in Fig. A. (It is not distance between lens barrel top and diffusing surface of light box.) * Set the camera on a tripod to prevent it from falling down.	1) Change the flag into the "0", and then proceed to the adjustment mode. 2) Set the camera angle so that the star chart is displayed to the center, and press the shutter button fully. (Green ● mark is displayed on LCD.) 3) Press the shutter button fully, again. (When a result is OK, it is the completion of an inspection.)
7	Resolution adjustment ("Tele" position)	RS2t	Resolution improvement (AF precision) near the "Tele" position.	O	O	O	—	O	O	—	—	・Collimator RFKZ0422	1) Set the camera in front of collimator so that the distance between collimator and camera body becomes 7.0 cm as shown in Fig. A. (It is not distance between lens barrel top and diffusing surface of light box.) * Set the camera on a tripod to prevent it from falling down.	1) Change the flag into the "0", and then proceed to the adjustment mode. (RS2t flag is 2nd pages.) 2) Set the camera angle so that the star chart is displayed to the center, and press the shutter button fully. 3) Press the shutter button fully, again. (When a result is OK, it is the completion of an inspection.)
8	Iris	IRS	Iris adjustment	O	—	O	—	O	O	—	—	・Light Box RFKZ0523	1) Set in the close-up photography state between the front surface of camera and the diffusing surface of light box (Fig.B). (It is not distance between lens barrel top and diffusing surface of light box.)	1) Change the flag into the "0", and then proceed to the adjustment mode. 2) Set the camera angle so that the diffusing surface of light box is displayed on the full of LCD monitor, and press the shutter button fully. (When a result is OK, it is the completion of an inspection.)
9	Shutter	SHTs	Shutter speed adjustment	O	—	O	—	O	O	—	—	・Light Box RFKZ0523	1) Set in the close-up photography state between the front surface of camera and the diffusing surface of light box (Fig.B). (It is not distance between lens barrel top and diffusing surface of light box.)	1) Change the flag into the "0", and then proceed to the adjustment mode. 2) Set the camera angle so that the diffusing surface of light box is displayed on the center of LCD monitor, and press the shutter button fully. (When a result is OK, it is the completion of an inspection.)

Adjustment order	Adjustment Item	FLAG	Purpose	Replacing Parts: MAIN P.C.B./VENUS ENGINE	MAIN P.C.B. (When written Backup data)	Flash-ROM (IC6003)	Charging Control Microcomputer (IC1502)	Lens Part (Excluding Image Sensor)	Image Sensor	Microphone	Flash Part	JIG/TOOLS	SET UP	How to Operate
10	Incident angle dependent WB adjustment	IAD	Incident angle dependent WB adjustment	○	–	○	–	○	○	–	–	・Light Box RFKZ0523	1) Set in the close-up photography state between the front surface of camera and the diffusing surface of light box (Fig.B). (It is not distance between lens barrel top and diffusing surface of light box.)	1) Change the flag into the "0", and then proceed to the adjustment mode. 2) Set the camera angle so that the diffusing surface of light box is displayed on the center of LCD monitor, and press the shutter button fully. (When a result is OK, it is the completion of an inspection.)
	● Set "STEPMODE" to adjust 11: ISO, 12: WBL and 13: WBM. <How to switch to "STEPMODE">>> 1. Perform "10.2.2. Flash-ROM Data Backup", and select "WBADJ → STEPMODE" for ROM_BACKUP. 2. Press "SET", and move to the flag setting screen at "STEPMODE". ⇒ The screen appears on the LCD. (See Fig. on the right.)												Normal flag setting screen 	[STEPMODE] flag setting screen 
11	ISO	ISO	ISO sensitivity adjustment	○	–	○	–	–	○	–	–	・Light Box RFKZ0523 ・ND0.3 Filter RFKZ0513	1) Set the ND0.3 filter to diffusing surface of light box. 2) Set the camera in front of light box so that the distance between diffusing surface of light box and camera body becomes 2.0cm as shown in Fig. B. (It is not distance between lens barrel top and diffusing surface of light box.)	1) Change the flag into the "0", and then proceed to the adjustment mode. 2) Set the camera angle so that the diffusing surface of light box is displayed on the center of LCD monitor, and press the shutter button fully. (When a result is OK, it is the completion of an inspection.)
12	White balance (Low color temp.)	WBL	Setting up the white in low color temperature	○	–	○	–	–	○	–	–	・Light Box RFKZ0523 ・ND0.9 Filter VFK1164ND09 ・ND0.3 Filter RFKZ0513 ・CC-C7.5 Filter RFKZ0511	1) Set the relevant filter to diffusing surface of light box. 2) Set the camera in front of light box so that the distance between diffusing surface of light box and camera body becomes 2.0cm as shown in Fig. B. (It is not distance between lens barrel top and diffusing surface of light box.)	1) Change the flag into the "0", and then proceed to the adjustment mode. 2) Set the camera angle so that the diffusing surface of light box is displayed on the center of LCD monitor, and press the shutter button fully. (When a result is OK, it is the completion of an inspection.)
13	White balance (High color temp.)	WBM	Setting up the white in high color temperature	○	–	○	–	–	○	–	–	・Light Box RFKZ0523 ・ND0.9 Filter VFK1164ND09 ・ND0.3 Filter RFKZ0513 ・CC-C7.5 Filter RFKZ0511 ・CC-Y10 Filter RFKZ0512 ・LBB2 Filter RFKZ0520 ・LBB8 Filter RFKZ0521	1) Set the relevant filter to diffusing surface of light box. 2) Set the camera in front of light box so that the distance between diffusing surface of light box and camera body becomes 2.0cm as shown in Fig. B. (It is not distance between lens barrel top and diffusing surface of light box.)	1) Change the flag into the "0", and then proceed to the adjustment mode. 2) Set the camera angle so that the diffusing surface of light box is displayed on the center of LCD monitor, and press the shutter button fully. (When a result is OK, it is the completion of an inspection.)
	● After adjusting 11. ISO, 12: WBL and 13: WBM, perform Initial Settings once. Then, cancel "STEPMODE". <How to release of "STEPMODE">>> ・Perform "10.2.2. Flash-ROM Data Backup", and select "STEPMODE → WBADJ" for ROM_BACKUP. Press "SET". Then again, cancel the Initial Settings. Move to the servicing mode, and continue the subsequent adjustment.													
14	Offset gain	SAT	Setting up the offset gain	○	–	○	–	–	○	–	–	・Light Box RFKZ0523 ・ND0.6 Filter VFK1164ND06	1) Set the ND0.6 filter to diffusing surface of light box. 2) Set in the close-up photography state between the front surface of camera and the diffusing surface of light box (Fig.B).	1) Change the flag into the "0", and then proceed to the adjustment mode. 2) Set the camera angle so that whiten is displayed on the LCD monitor fully. 3) Press the shutter button fully. (When a result is OK, it is the completion of an inspection.)
		SHD	Do not use "SHD" adjustment flag for this unit. Use "BK2" adjustment flag, instead.											

Adjustment order	Adjustment Item	FLAG	Purpose	Replacing Parts								JIG/TOOLS	SET UP	How to Operate
				MAIN P.C.B./VENUS ENGINE	MAIN P.C.B. (When written Backup data)	Flash-ROM (IC6003)	Charging Control Microcomputer (IC1502)	Lens Part (Excluding Image Sensor)	Image Sensor	Microphone	Flash Part			
15	Flash adjustment *4	STB	Flash adjustment	O	O	O	–	–	–	–	O	NONE	NONE	1) Change the flag into the "0", and then proceed to the adjustment mode. 2) Slide the Flash Open Lever, and open the Flash. 3) Press the shutter button fully. 4) Check that a flash shines. (It is different for every model how many times it shines.) * When a flash does not shine, there is a possibility that the flash unit is out of oder. 5) Check a test result. * Results of the tests are usually NG. (When a result is OK, it is the completion of an inspection.) 6) When a result is NG, rewrite STB flag to an adjustment using ADJFLAG → ALL F of ROM BACKUP. * The flag "STB" is an item which checks shines operation of a flash automatically at a Manufacturing facility. For this reason,except environment for exclusive use, a result will be NG. but it is no problem if shines operation can be checked visually.
16	MOS sensor Temp. white missing pixels *2	SKI	Registration of the Temp. white missing pixels	O	–	O	–	–	O	–	–	NONE	NONE	1) Change the flag into the "0", and then proceed to the adjustment mode. 2) Press the shutter button fully. (When a result is OK, it is the completion of an inspection.)
17	MOS sensor FD white missing pixels *2	WKI	Registration of the FD (floating diffusion) white missing pixels	O	–	O	–	–	O *1	–	–	NONE	NONE	1) Change the flag into the "0", and then proceed to the adjustment mode. 2) Press the shutter button fully. (When a result is OK, it is the completion of an inspection.)
		BKI	Do not use "BKI" adjustment flag for this unit. Use "BK2" adjustment flag, instead. (In case of most DSC models, the adjustment flag for MOS SENSOR Missing Pixels is "BKI". But, in this model, "BK2" the adjustment flag for MOS SENSOR Missing Pixels.)											
18	Shading Compensation (Low color temp.)	SHD2	Compensation of Shading in low color temperature	O	–	O	–	–	O	–	–	• Light Box RFKZ0523 • Diffuser RFKZ0591	1) Set the Diffuser to diffusing surface of light box. 2) Set the "SHD2" flag to "0", and proceed to the adjustment mode. 3) Confirm the "SHD2" display on the screen, and set the distance of 7.0cm from the diffusing surface of the light box to the front edge of the camera lens.	1) Press the shutter button fully. Make the adjustment automatically after zooming in. (When a result is OK, it is the completion of an inspection.)
19	Color reproduction inspection Microphone check	COL	Color reproduction inspection and Microphone check	O	–	O	–	O	O	O	–	NONE	NONE	1) Change the flag into the "0", and then proceed to the adjustment mode. 2) Press the shutter button fully. 3) Utter the voice for about 5 seconds into the microphone, just before pushing a shutter release. * Utter the voice at the above the MIC. * Comparatively high voice is ideal. (Standard: about 1KHz) (When a result is OK. It is the completion of an inspection.)

Adjustment order	Adjustment Item	FLAG	Purpose	Replacing Parts: MAIN P.C.B./VENUS ENGINE	MAIN P.C.B. (When written Backup data)	Flash-ROM (IC6003)	Charging Control Microcomputer (IC1502)	Lens Part (Excluding Image Sensor)	Image Sensor	Microphone	Flash Part	JIG/TOOLS	SET UP	How to Operate
20	Linear adjustment	OLN	OIS Linear adjustment	O	–	O	–	O	O	–	–	・Linear Adjustment Chart	1) Download the "Linear Adjustment chart [C-OLD_Chart_FZ-01.pdf]" and print it by the actual size. ("Linear Adjustment chart [C-OLD_Chart_FZ-01.pdf]" is available at "TSN Website". (Fig. 1) To download, click on "Support information from NWBG/VDBG -AVC") 2) Put the Linear adjustment chart on the wall. 3) Fix the camera on the tripod, and set the distance of 2.0m from the Linear adjustment chart to the front edge of the camera lens. (Fig.2) 4) Operate the zoom lever to the "Tele" end in [Program AE] mode, and make the adjustment so that the chart on the "Tele" side is positioned in center. (Fig.1)	1) Change the flag into the "0", and then proceed to the adjustment mode. 2) Press the shutter button fully, and then the camera will zoom in. Align the center mark of the Linear adjustment chart with the center of the screen angle adjustment guide frame (white frame) displayed on the LCD. (When a result is OK, it is the completion of an inspection.)
21	Shading Compensation and MOS SENSOR Missing Pixels (Black) *3	BK2	Compensation of Shading and Compensation of MOS SENSOR Missing Pixels (Black)	O	–	O	–	–	O *1	–	–	・Light Box RFKZ0523 ・Diffuser RFKZ0591 ・LBB12 Filter VFK1164LBB12	1) Set the Diffuser to diffusing surface of light box. (LBB12 filter not inserted)	1) Change the flag into the "0", and then proceed to the adjustment mode. (BK2 flag is 2nd pages.) 2) Press the shutter button fully. → Green● mark is displayed on LCD. 3) Attach the Camera Lens on the Diffuser. And set the camera angle so that the diffusing surface of light box is displayed on the full of LCD monitor, and press the shutter button fully. Note) When installing the camera, make the fine adjustment to prevent the four corners of the LCD screen from darkening. 4) Press the shutter button fully. → Green● mark is displayed on LCD. 5) Press the shutter button fully. → The lens starts zooming and stops automatically, then green● mark is displayed on LCD. 6) Insert the LBB12 filter to the diffusing surface of the light box. 7) Attach the Camera Lens on the Diffuser. And set the camera angle so that the diffusing surface of light box is displayed on the full of LCD monitor, and press the shutter button fully. → The 1st adjustment of SHD is executed, and then Green● mark is displayed on LCD. 8) Press the shutter button fully. → The lens starts zooming and stops automatically, then green● mark is displayed on LCD. 9) Attach the Camera Lens on the Diffuser. And set the camera angle so that the diffusing surface of light box is displayed on the full of LCD monitor, and press the shutter button fully. → The 2nd adjustment of SHD is executed. When a result is OK, it is the completion of an inspection.
	Wi-Fi check	WiFi	Do not use "WiFi" adjustment flag for servicing. This adjustment is for factory procedure. (For confirmation of Wi-Fi function, use the reception of Wi-Fi access point as usual.)											



Linear adjustment chart

Fig.1

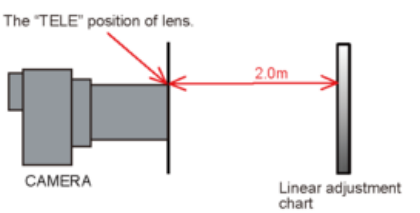


Fig.2

Fig.A Distance between Collimator and Camera

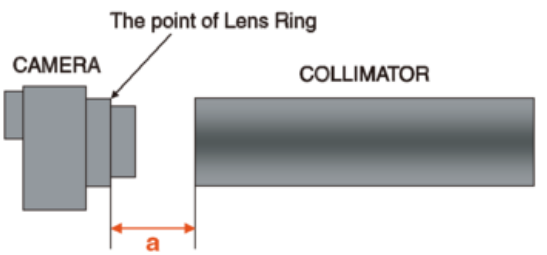
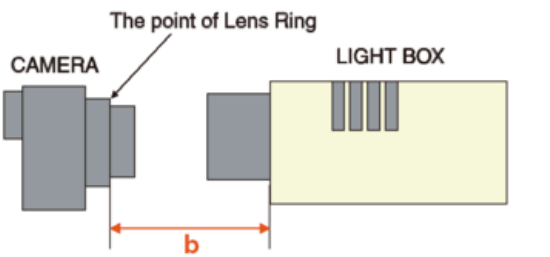


Fig.B Distance between Light Box and Camera



*1. This adjustment must be performed not only replacing the MOS unit, but also simply removing the MOS unit.

*2. The pixel that always lights while shaded is called a white wound.

*3. The pixel that does not light while complete exposed is called a black wound.

*4: If the adjusted data is backed up from the main board before replacement or repair, write the data to the new main board. If parts other than the main board are not replaced, adjustment is not necessary for items other than "Venus Zoom(PZM)/Backfocus/GYRO(BF)/Flash(STB)".

IMPORTANT NOTICE: (After replacing the Main P.C.B. (Venus Engine is included) or Venus Engine)

After replacing the Main P.C.B. (Venus Engine is included) or Venus Engine, make sure to perform the "Initial Settings" first, then release the "Initial Settings" in order to proceed the electrical adjustment.

NOTE:

1. If electrical adjustment or data re-writing is executed before "Initial Settings", suffix code list is never displayed, and it cannot be chosen suitable suffix code.
2. Never remove the battery during initial setting in process.

10.4 After Adjustment

10.4.1 Initial Setting

Since the initial setting has been released to execute the built-in adjustment software, it should be set up again before shipping the camera to the customer. Refer to the procedure described in "3.5.2. Initial Settings" for details.

[IMPORTANT]

1. The initial setting should be done again after completing the alignment. Otherwise, the camera will not work properly.
   Therefore as a warning, the camera display a warning symbol " ! " on the LCD monitor every time the camera is turned off.
2. Confirm that status of all adjustment flag show "F". Even if one of the adjustment flag shows "0", initial setting programmed is never executed.

11 Maintenance

11.1 Cleaning Lens and LCD Panel

Do not touch the surface of lens 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 its surface.

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

Model No. : DC-FZ80/82 Schematic Diagram Note

IMPORTANT SAFETY NOTICE:

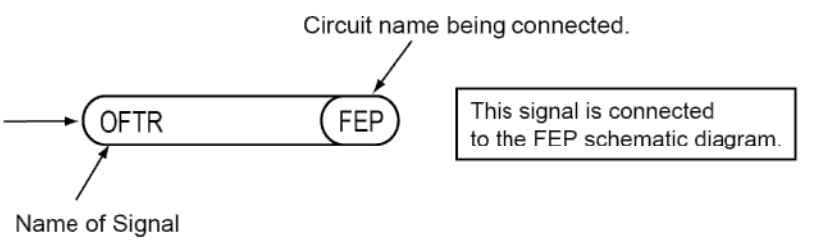
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS USE ONLY THE SAME TYPE.

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

4.Indication on Schematic diagrams:



5. It might be taking time for display and/or access of the Schematic Diagrams & P. C. B. having the heavy data volume.

Model No. : DC-FZ80/82 Parts List Note

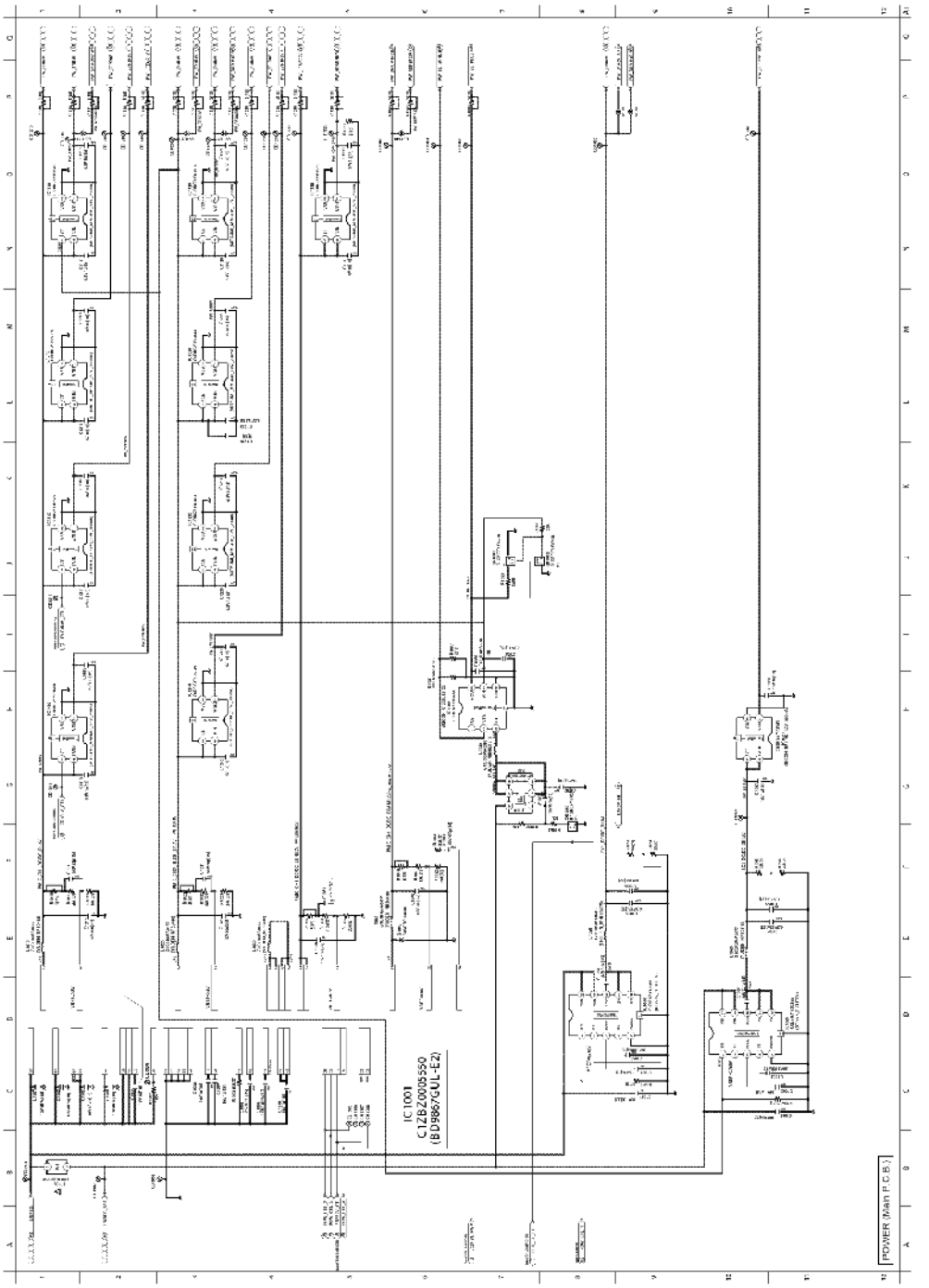
Note:
1. * Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
   Components identified with the mark ⚠have the special characteristics for safety.
   When replacing any of these components, use only the same type.
3. Unless otherwise specified,
   All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

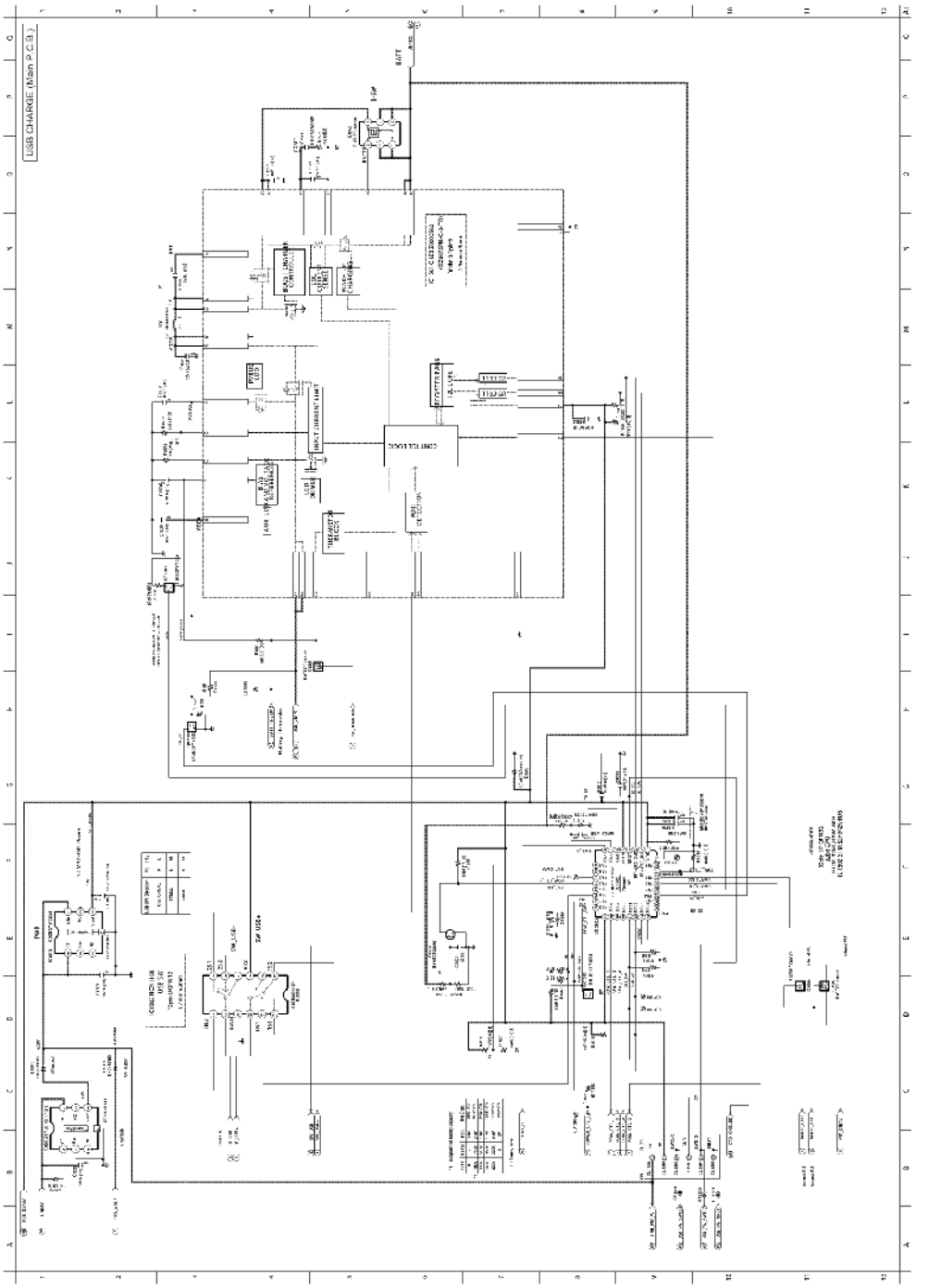
Definition of Parts supplier:

1. **Parts marked with [INBD] in the remarks column are supplied from AVC-IMAGING. Others are supplied from PAVCX.**

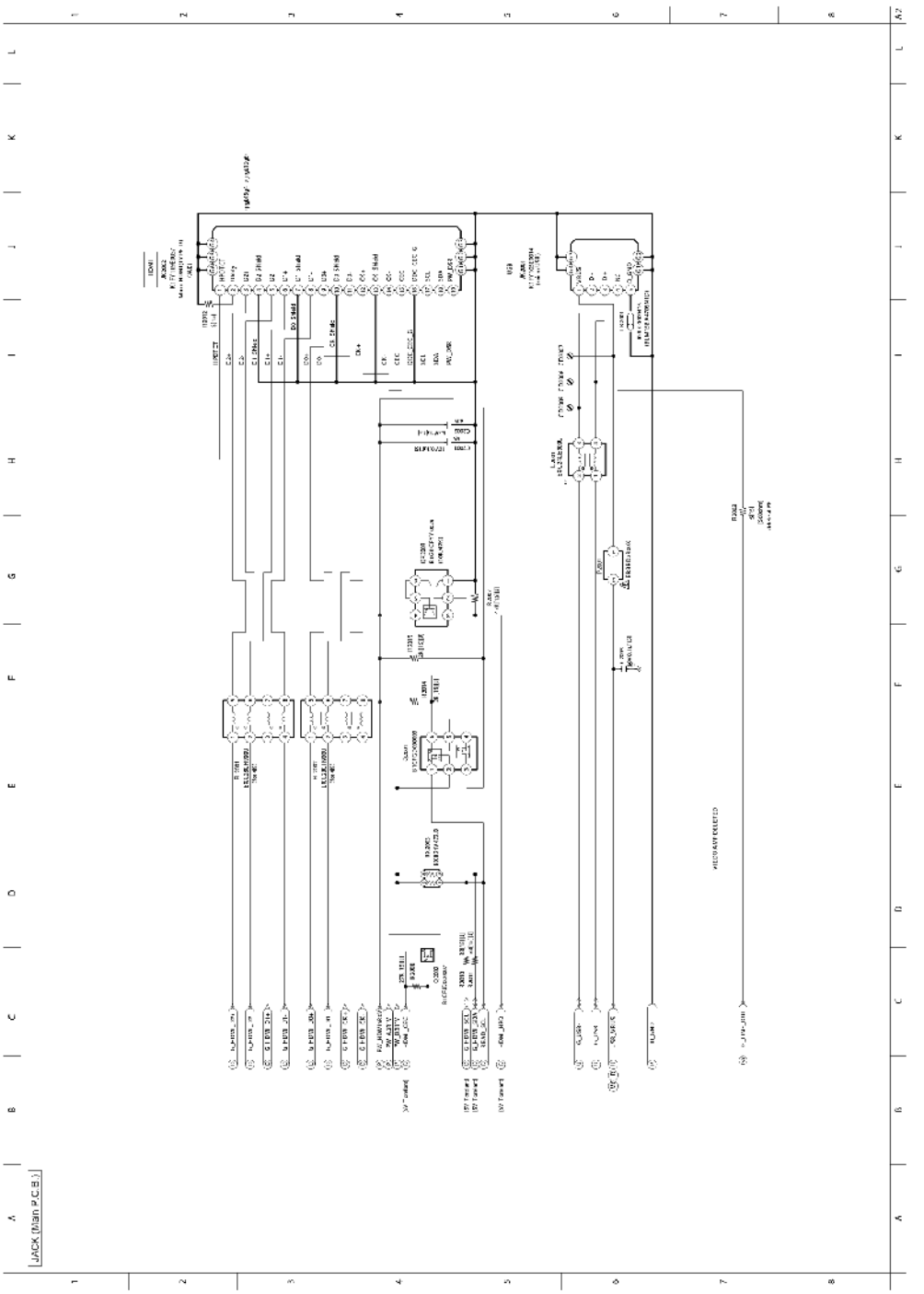
Model No. : DC-FZ80/82 Power (P) (Main P.C.B.)



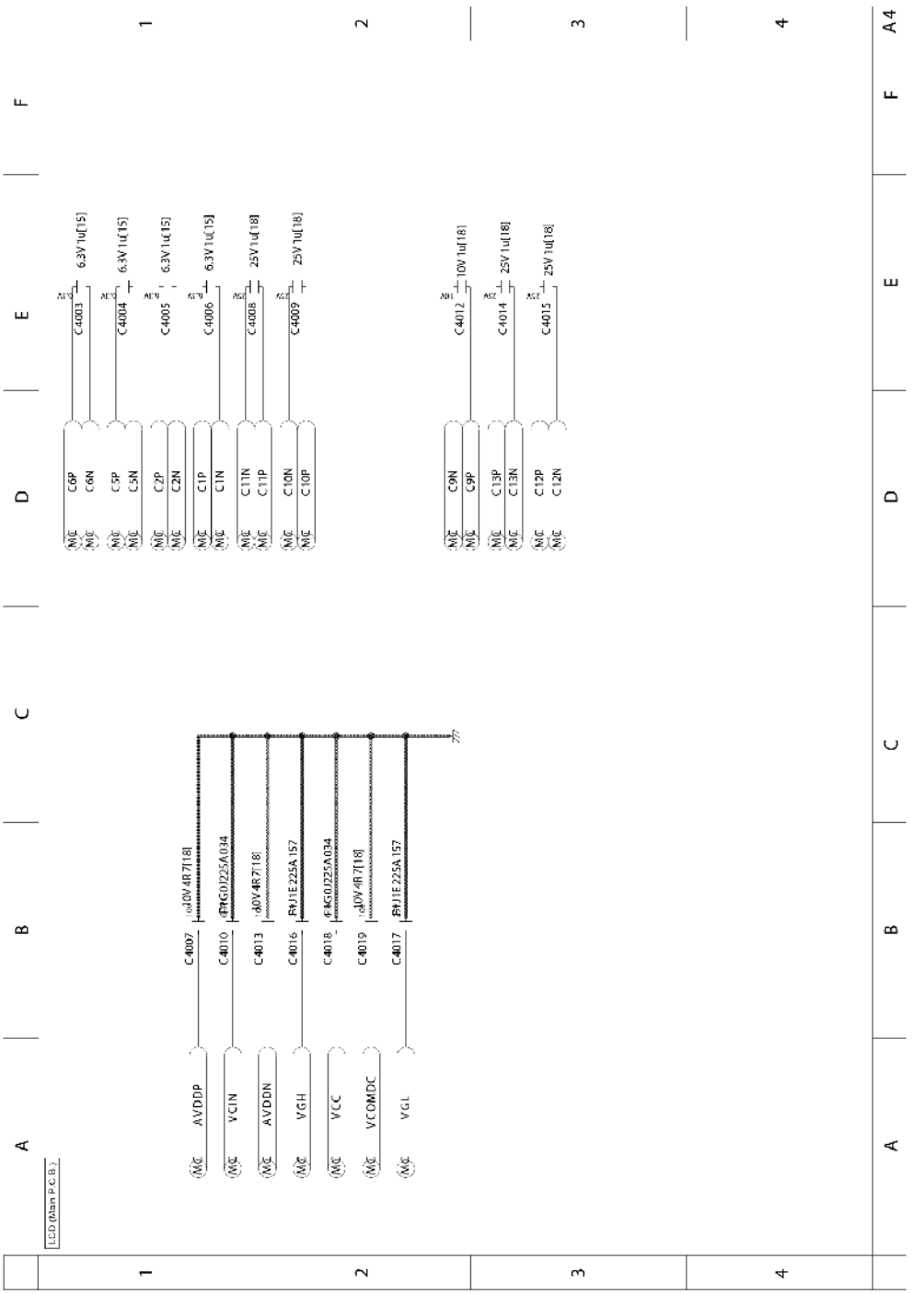
Model No. : DC-FZ80/82 USB Charge (UC) (Main P.C.B.)



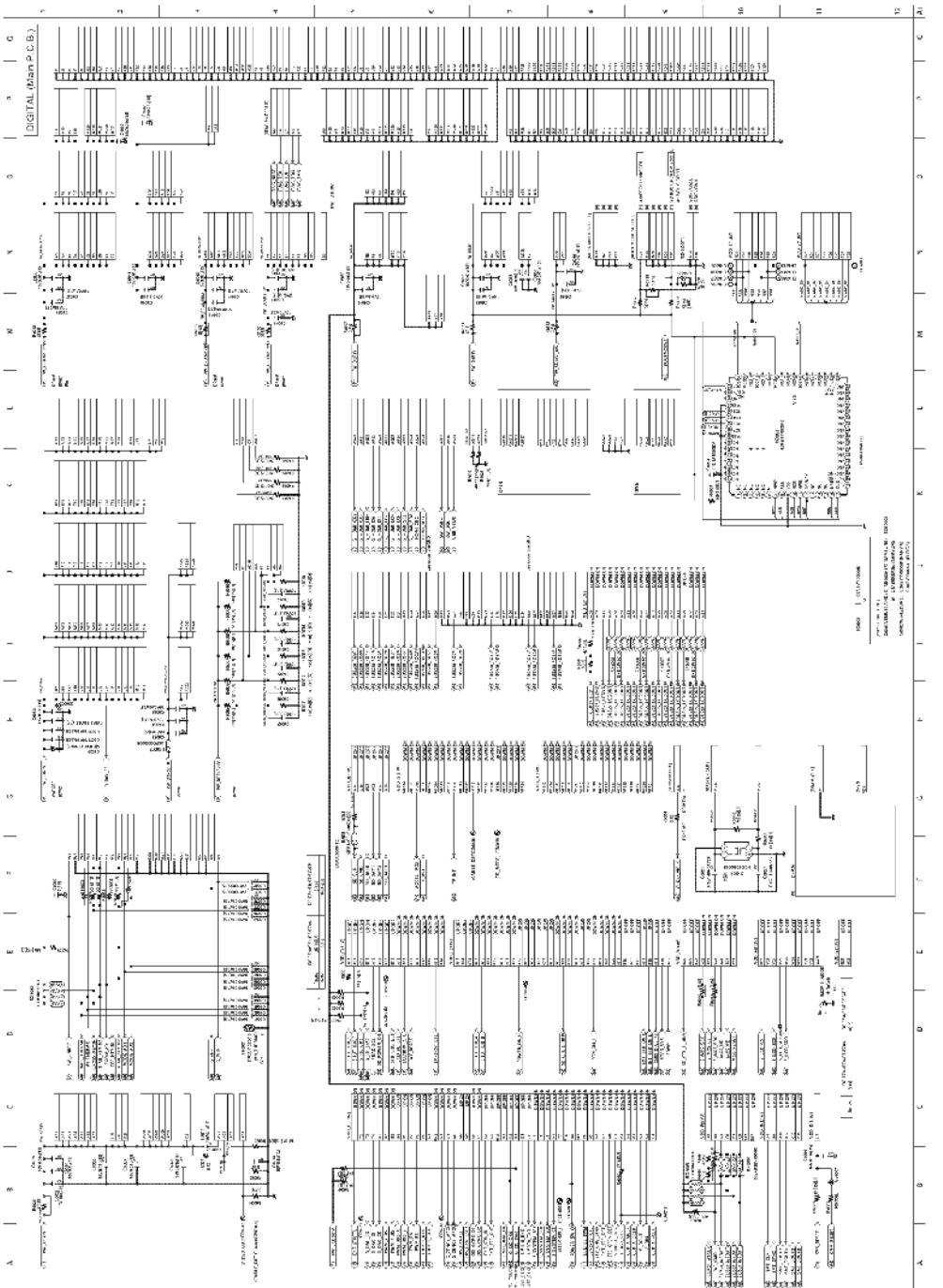
Model No. : DC-FZ80/82 Jack (J) (Main P.C.B.)



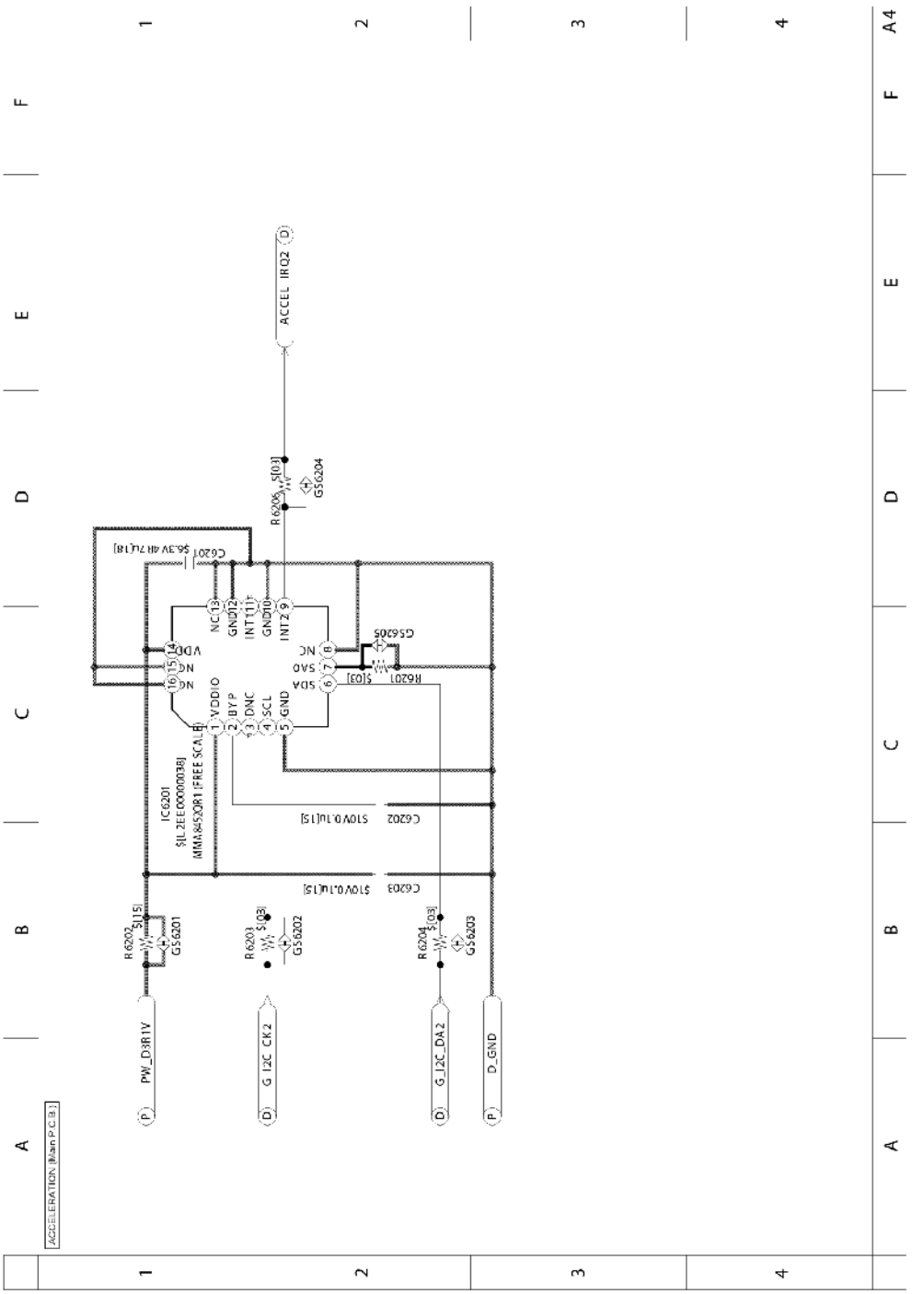
Model No. : DC-FZ80/82 LCD (L) (Main P.C.B.)



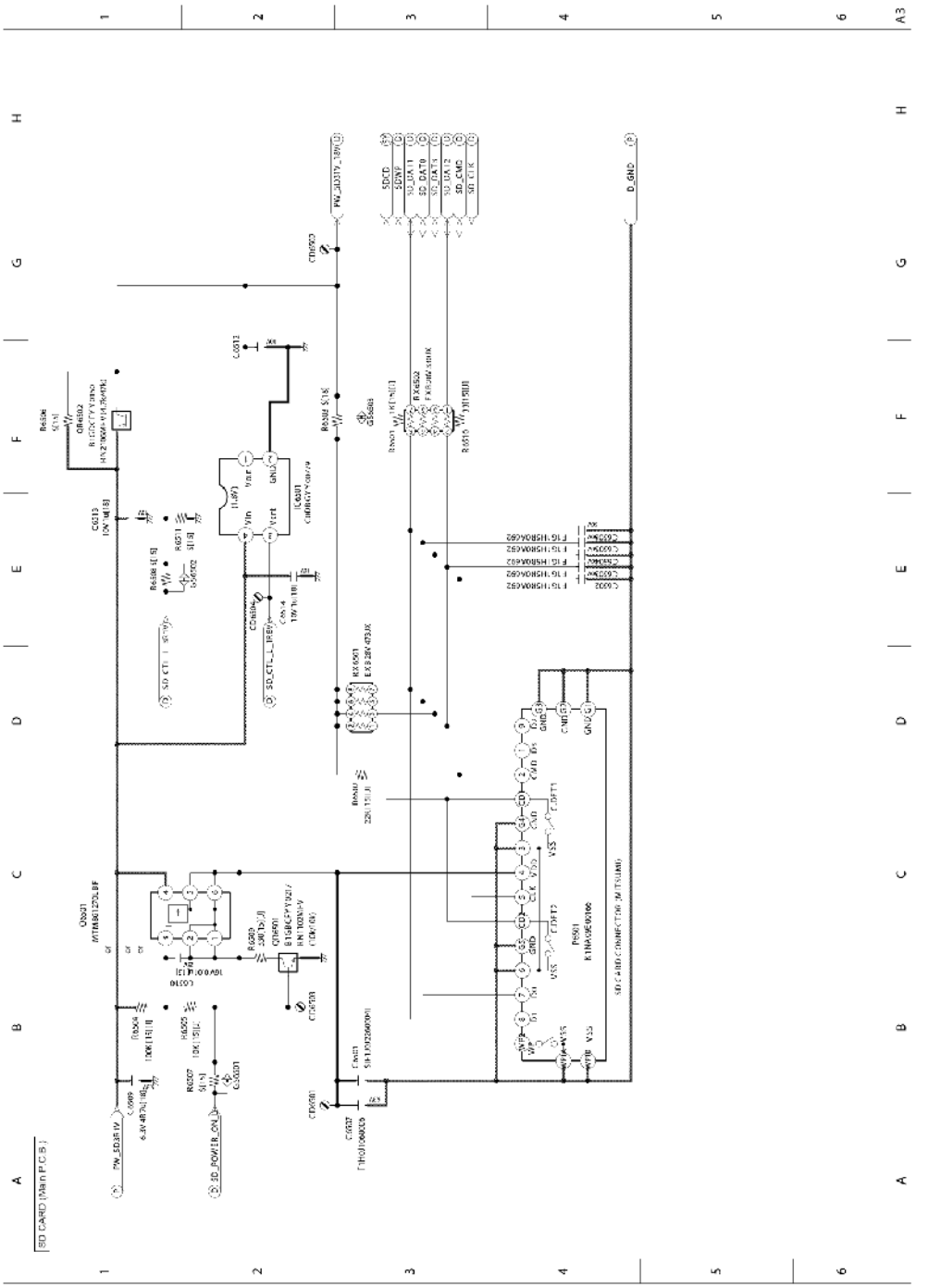
Model No. : DC-FZ80/82 Digital (D) (Main P.C.B.)



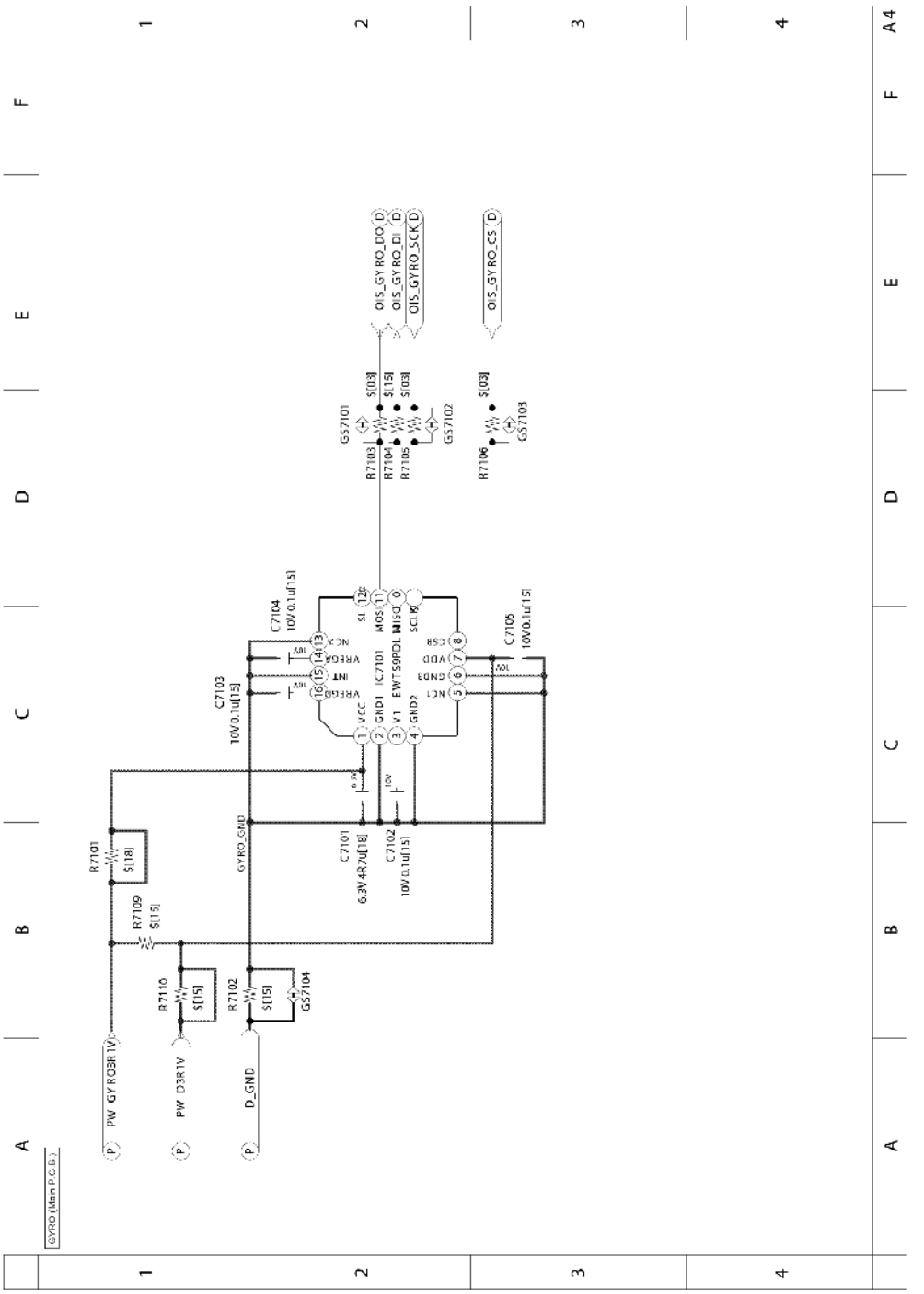
Model No. : DC-FZ80/82 Acceleration (AC) (Main P.C.B.)



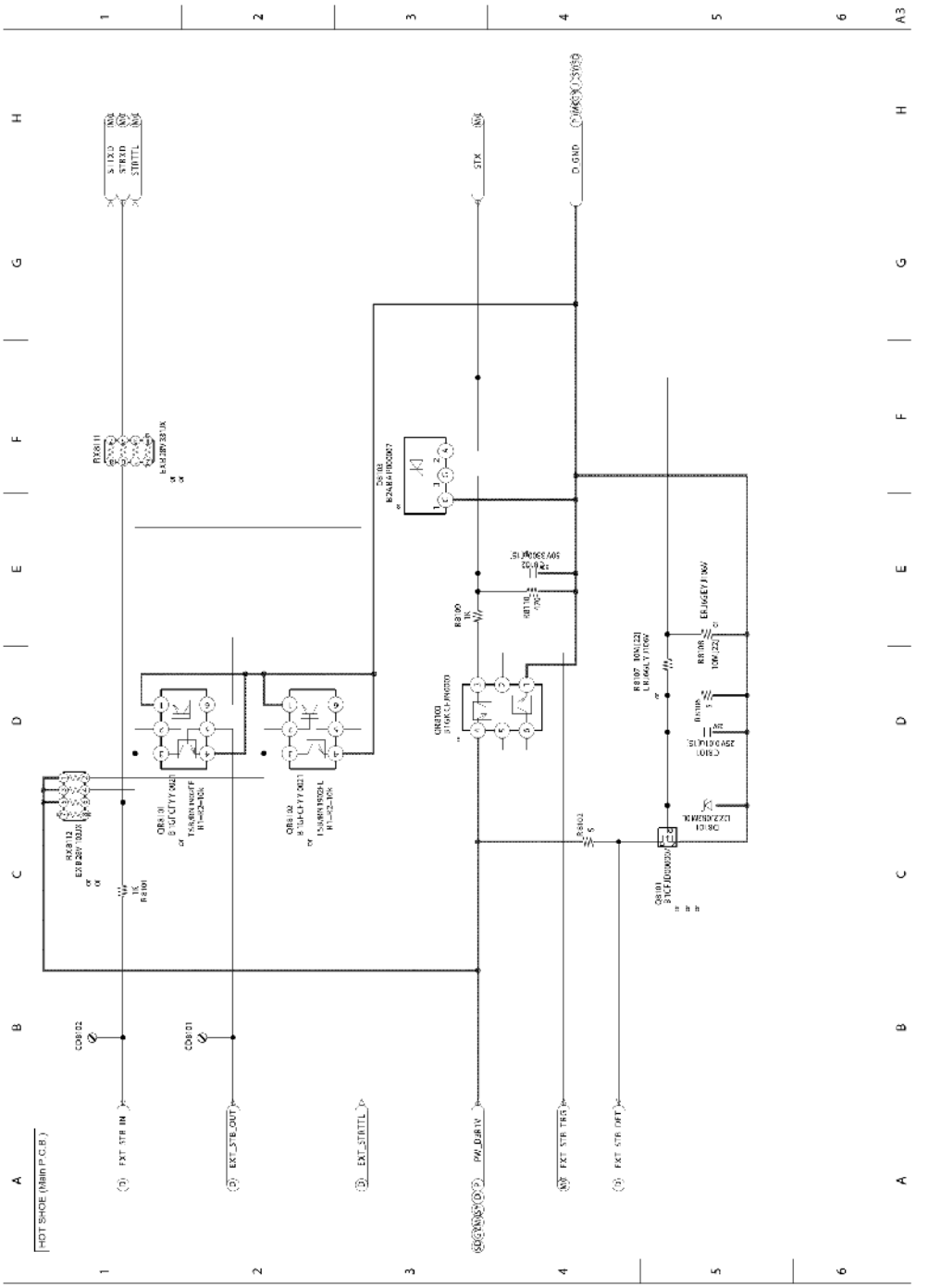
Model No. : DC-FZ80/82 SD Card (SD) (Main P.C.B.)



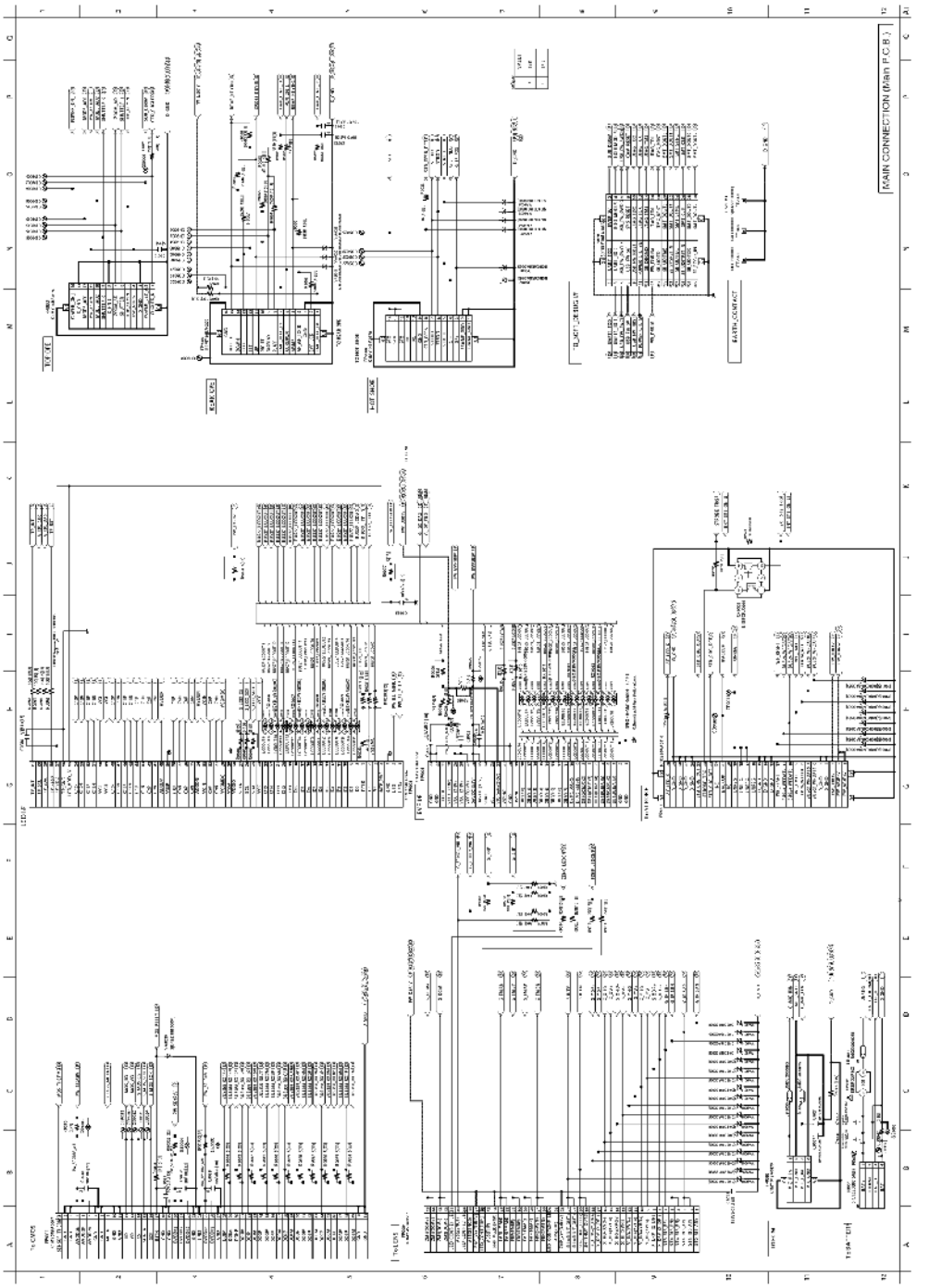
Model No. : DC-FZ80/82 Gyro (GY) (Main P.C.B.)



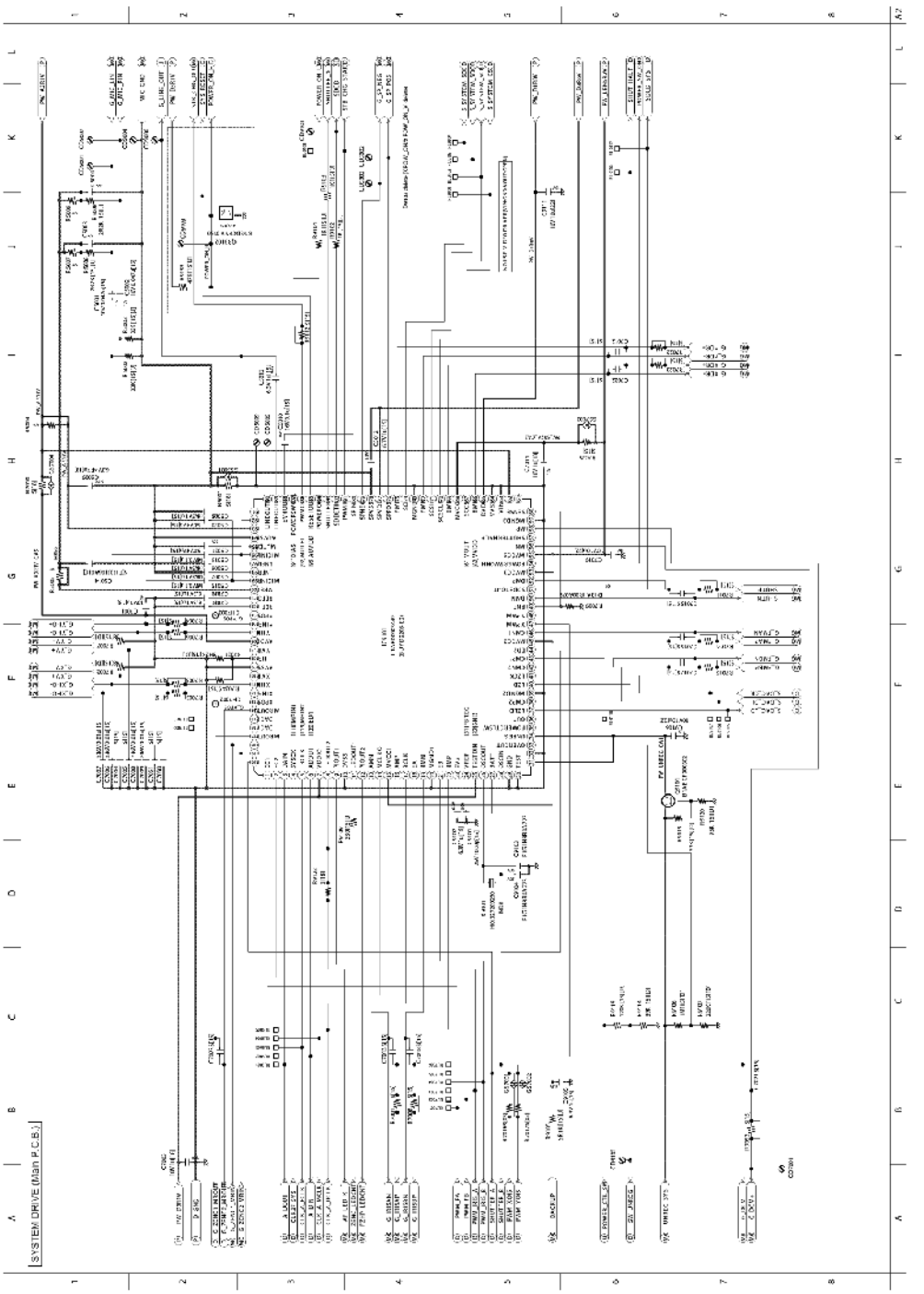
Model No. : DC-FZ80/82 Hot Shoe (HS) (Main P.C.B.)



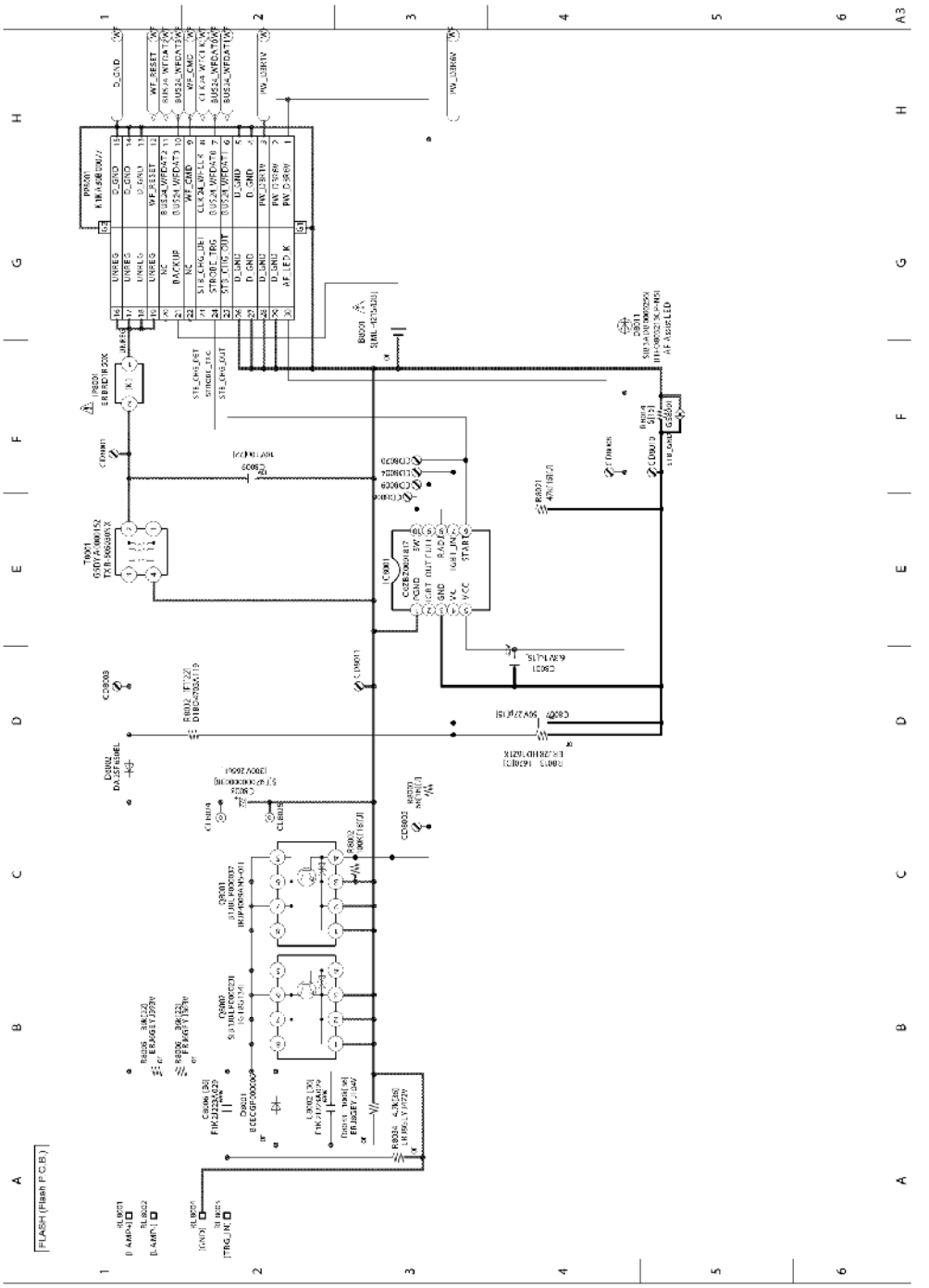
Model No. : DC-FZ80/82 Main Connection (MC) (Main P.C.B.)



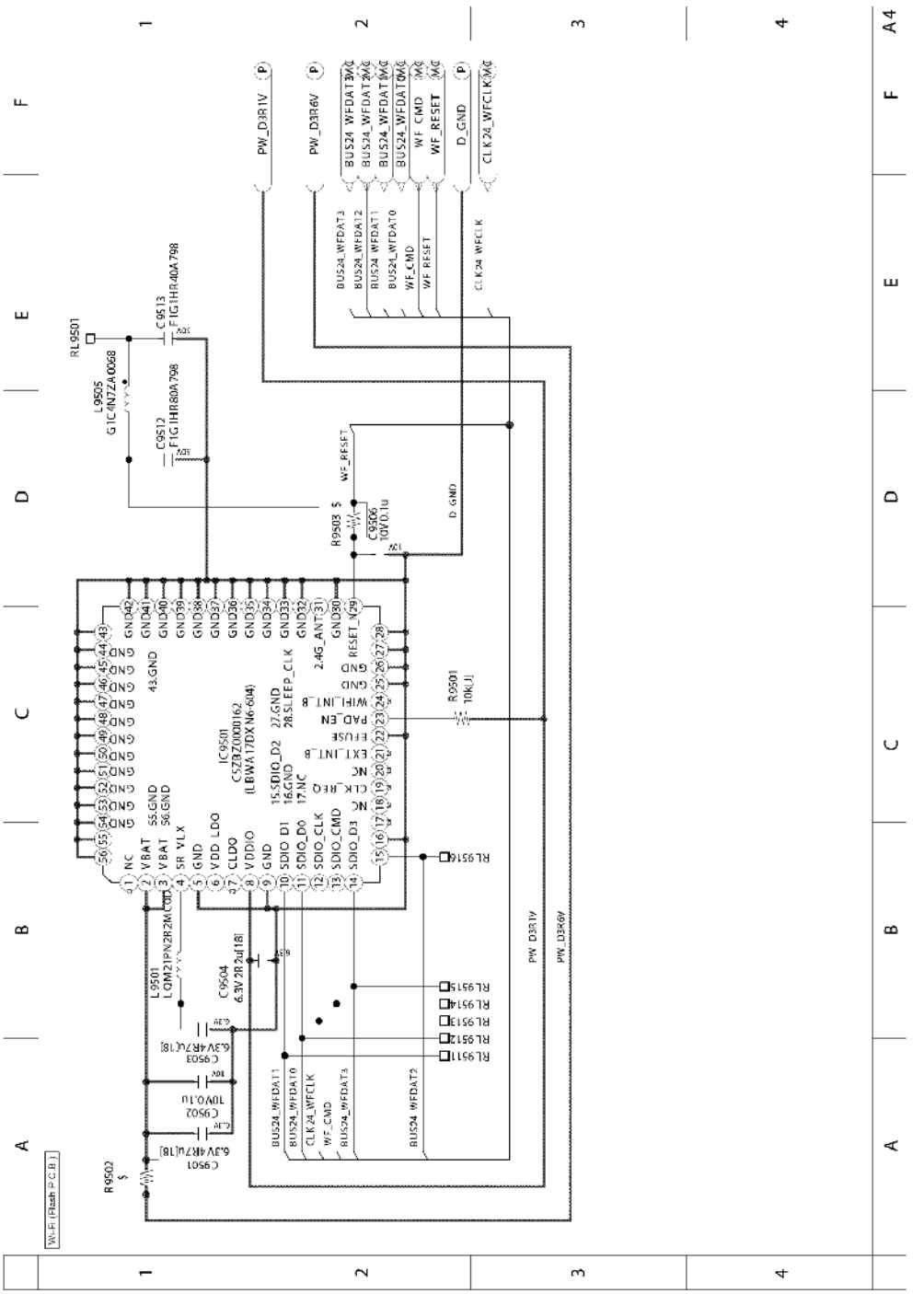
Model No. : DC-FZ80/82 System Driver (SY) (Main P.C.B.)



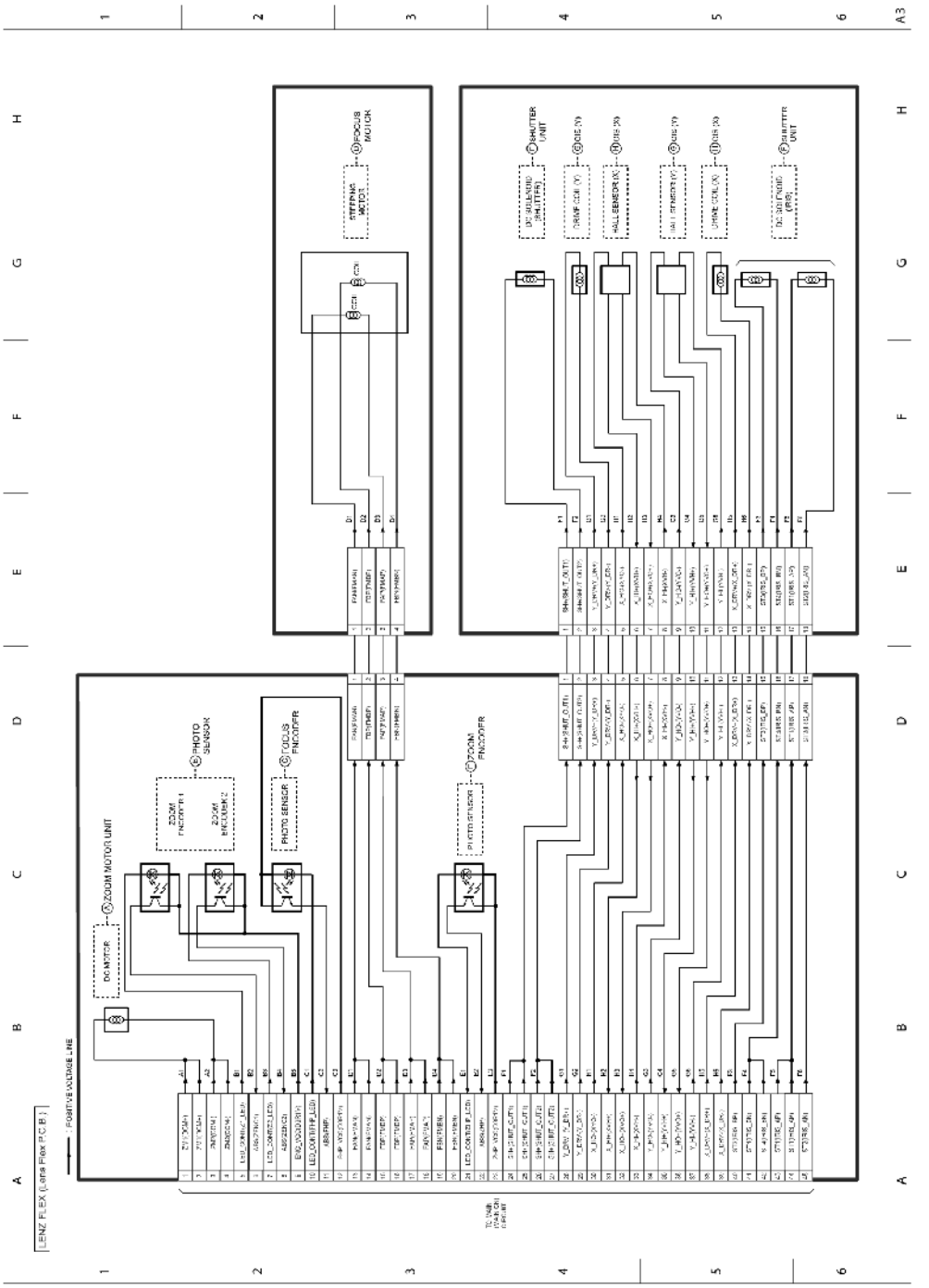
Model No. : DC-FZ80/82 Flash (Flash P.C.B.)



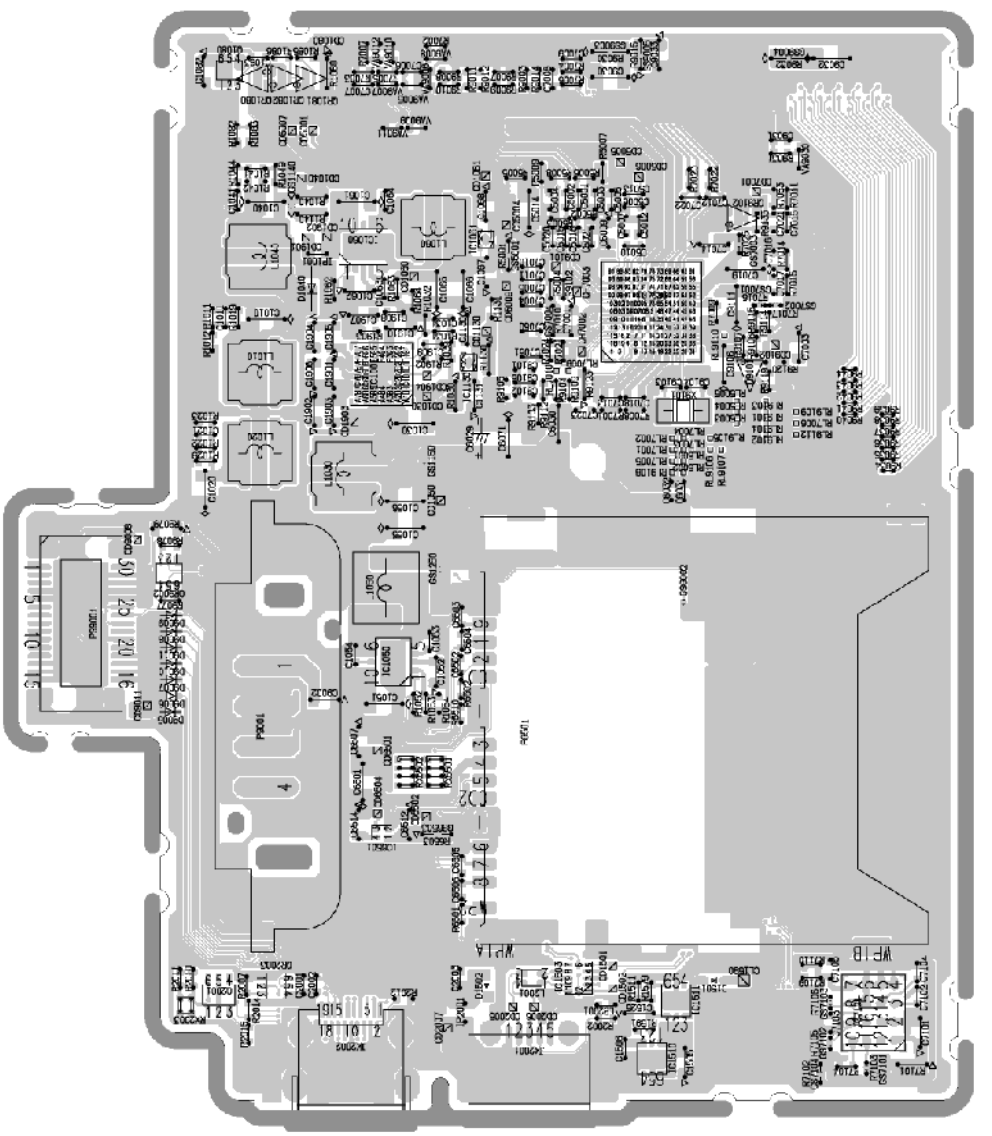
Model No. : DC-FZ80/82 WiFi (WF) (Flash P.C.B.)



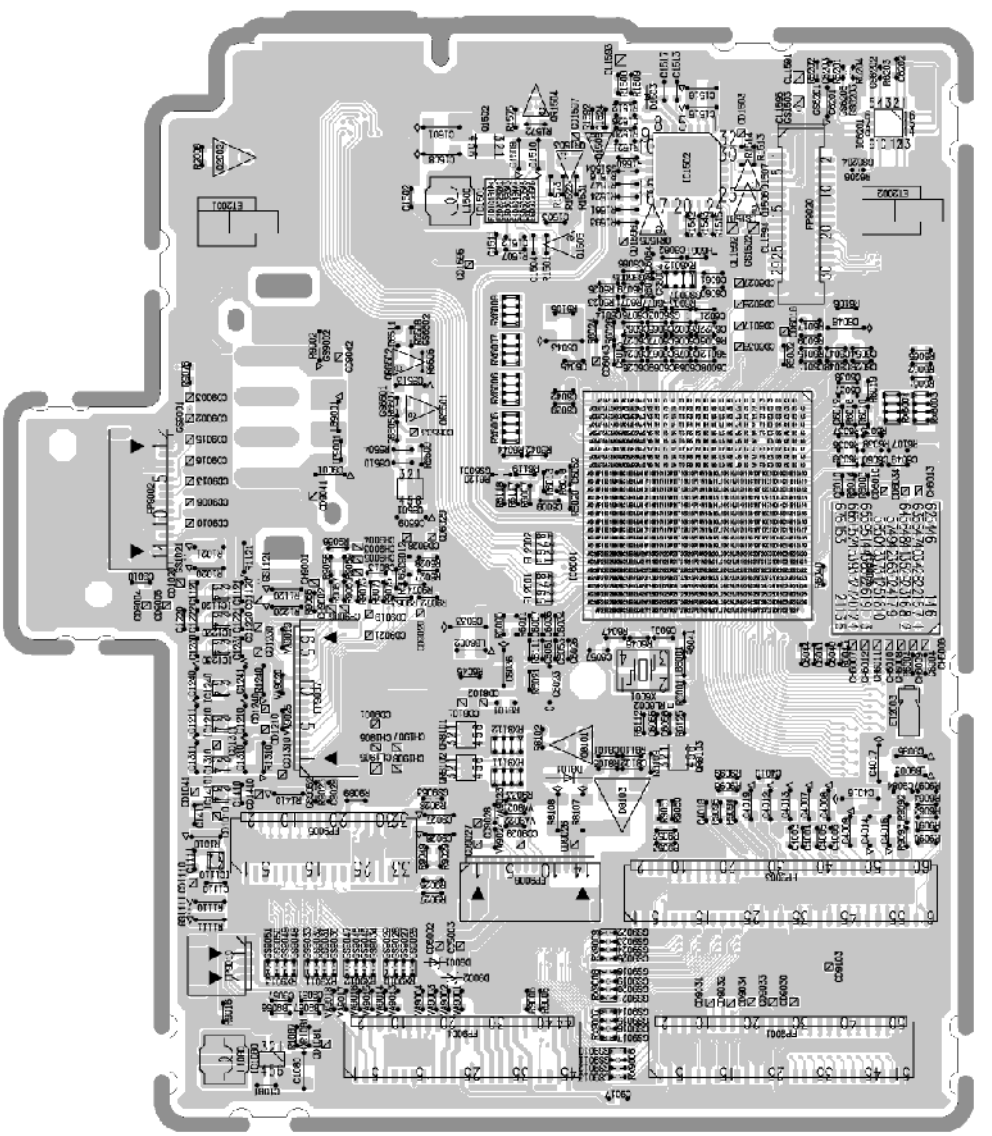
Model No. : DC-FZ80/82 Lens Flex (Lens Flex P.C.B.)



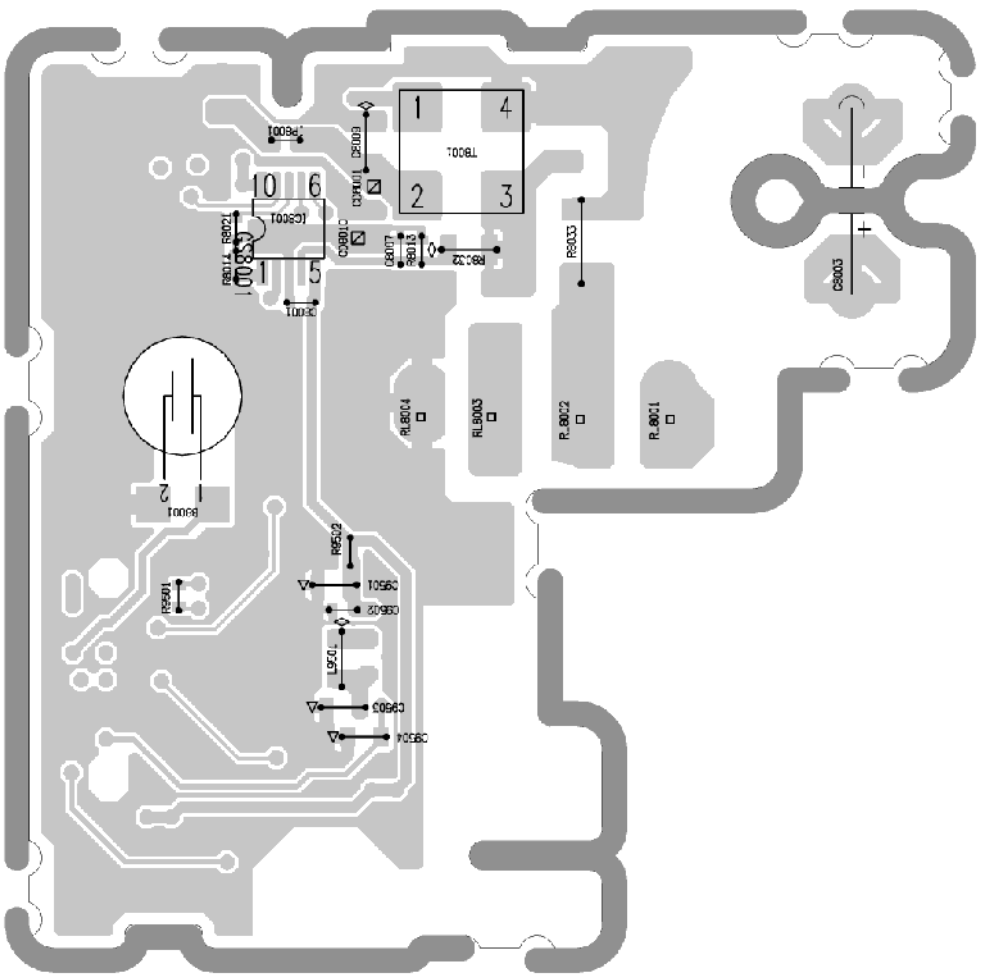
Model No. : DC-FZ80/82 Main P.C.B. (Component Side)



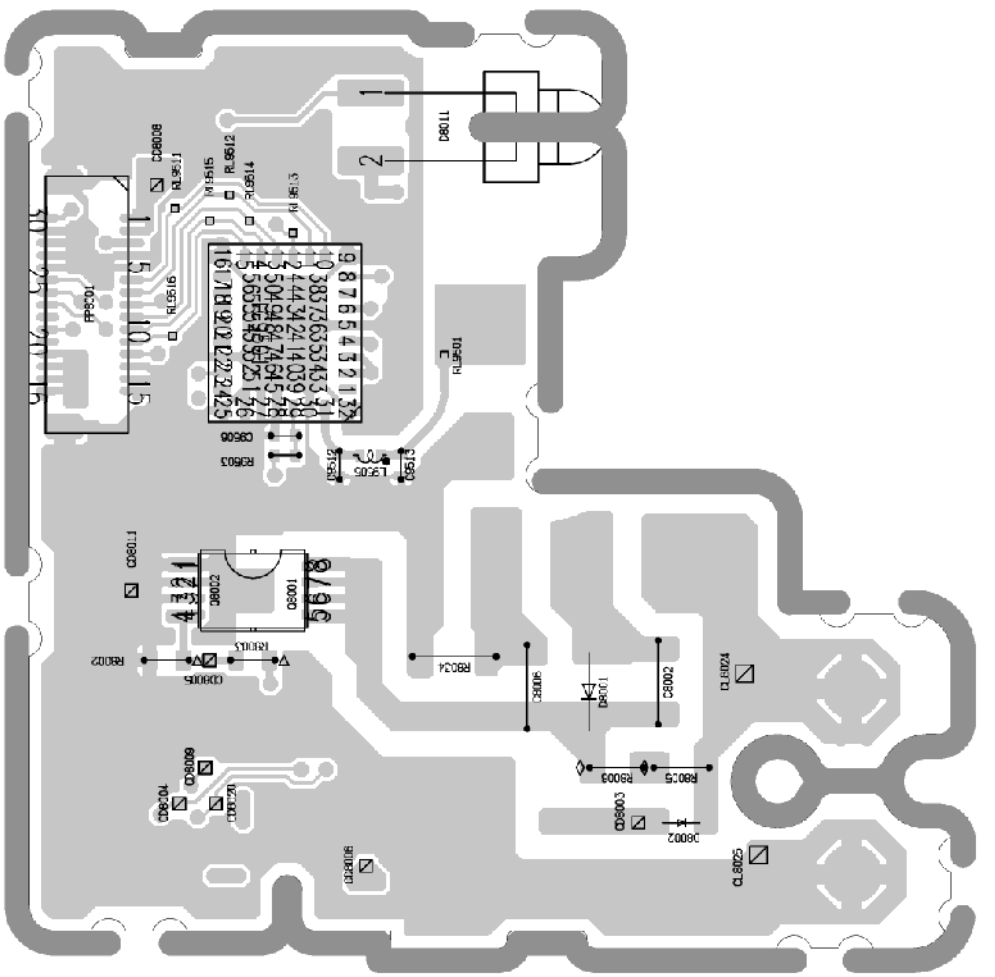
Model No. : DC-FZ80/82 Main P.C.B. (Foil Side)



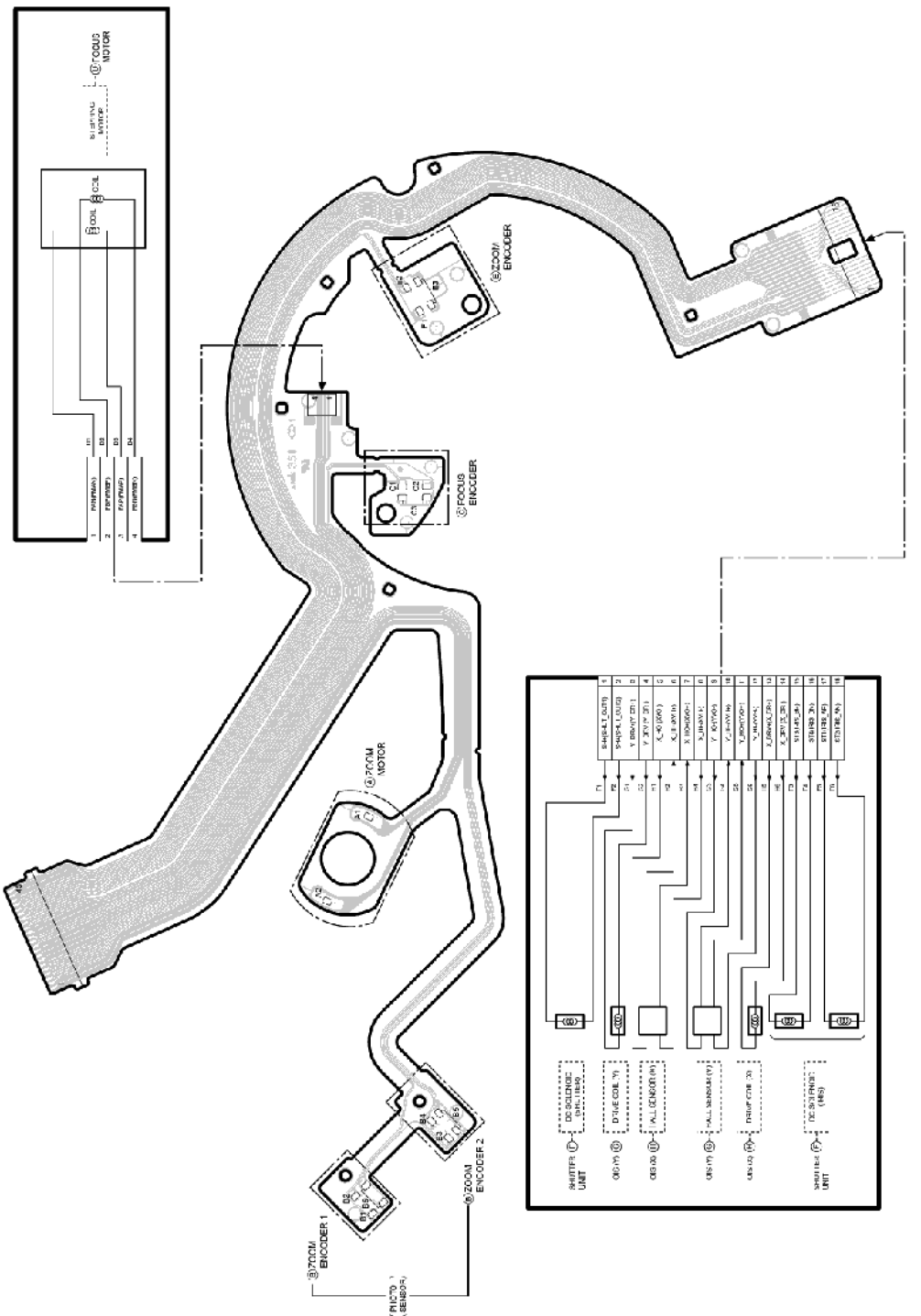
Model No. : DC-FZ80/82 Flash P.C.B. (Component Side)



Model No. : DC-FZ80/82 Flash P.C.B. (Foil Side)



Model No. : DC-FZ80/82 Lens Flex P.C.B.



Model No. : DC-FZ80/82 Parts List

Change	Safety	Ref. No.	Part No.	Part Name & Description	Q'ty	Remarks
		C1010	F1J1A106A043	C.CAPACITOR CH 10V 10U	1	
		C1011	F1G1H330A834	C.CAPACITOR CH 50V 33P	1	
		C1020	F1J1A106A043	C.CAPACITOR CH 10V 10U	1	
		C1021	F1G1H680A834	C.CAPACITOR CH 50V 68P	1	
		C1030	F1J1A106A043	C.CAPACITOR CH 10V 10U	1	
		C1031	F1G1H270A834	C.CAPACITOR CH 50V 27P	1	
		C1040	F1J1A106A043	C.CAPACITOR CH 10V 10U	1	
		C1041	F1G1H471A830	C.CAPACITOR CH 50V 470P	1	
		C1051	F1J1A106A043	C.CAPACITOR CH 10V 10U	1	
		C1052	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C1053	F1G1H392A830	C.CAPACITOR CH 50V 3900P	1	
		C1054	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C1055	F1J0J2260004	C.CAPACITOR CH 6.3V 22U	1	
		C1056	F1J1A106A043	C.CAPACITOR CH 10V 10U	1	
		C1061	F1J1A106A043	C.CAPACITOR CH 10V 10U	1	
		C1062	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C1063	F1G1H392A830	C.CAPACITOR CH 50V 3900P	1	
		C1064	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C1065	F1J0J2260004	C.CAPACITOR CH 6.3V 22U	1	
		C1066	F1J1A106A043	C.CAPACITOR CH 10V 10U	1	
		C1067	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C1068	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C1080	F1J1V1050001	C.CAPACITOR CH 35V 1U	1	
		C1081	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C1082	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C1083	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C1110	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C1111	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C1120	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C1121	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C1130	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C1131	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C1210	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C1211	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C1221	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C1222	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C1230	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C1231	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C1240	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C1241	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C1310	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C1311	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C1410	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C1411	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C1501	F1J1A106A043	C.CAPACITOR CH 10V 10U	1	
		C1502	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C1503	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C1504	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C1505	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C1506	F1G0J225A034	C.CAPACITOR CH 6.3V 2.2U	1	
		C1508	F1J1A106A043	C.CAPACITOR CH 10V 10U	1	
		C1509	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C1510	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C1511	F1G1A2240008	C.CAPACITOR CH 10V 0.22U	1	
		C1512	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C1513	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C1515	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C1516	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C1517	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C1525	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C1526	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	

		C1901	F1H1A475A083	C.CAPACITOR CH 10V 4.7U	1	

Model No. : DC-FZ80/82 Parts List

Change	Safety	Ref. No.	Part No.	Part Name & Description	Q'ty	Remarks
		C1902	F1H1A475A083	C.CAPACITOR CH 10V 4.7U	1	
		C1903	F1H1A475A083	C.CAPACITOR CH 10V 4.7U	1	
		C1904	F1H1A475A083	C.CAPACITOR CH 10V 4.7U	1	
		C1905	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C1906	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C1907	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C1908	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C1909	F1G1C223A146	C.CAPACITOR CH 16V 0.022U	1	
		C1910	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C2001	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C2002	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C2003	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C4003	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C4004	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C4005	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C4006	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C4007	F1H1A475A083	C.CAPACITOR CH 10V 4.7U	1	
		C4008	F1H1E105A116	C.CAPACITOR CH 25V 1U	1	
		C4009	F1H1E105A116	C.CAPACITOR CH 25V 1U	1	
		C4010	F1G0J225A034	C.CAPACITOR CH 6.3V 2.2U	1	
		C4012	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C4013	F1H1A475A083	C.CAPACITOR CH 10V 4.7U	1	
		C4014	F1H1E105A116	C.CAPACITOR CH 25V 1U	1	
		C4015	F1H1E105A116	C.CAPACITOR CH 25V 1U	1	
		C4016	F1J1E225A157	C.CAPACITOR CH 25V 2.2U	1	
		C4017	F1J1E225A157	C.CAPACITOR CH 25V 2.2U	1	
		C4018	F1G0J225A034	C.CAPACITOR CH 6.3V 2.2U	1	
		C4019	F1H1A475A083	C.CAPACITOR CH 10V 4.7U	1	
		C5001	F1G1A473A012	C.CAPACITOR CH 10V 0.047U	1	
		C5002	F1G1A473A012	C.CAPACITOR CH 10V 0.047U	1	
		C5005	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C5006	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C5007	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C5009	F1H0J4750004	C.CAPACITOR CH 6.3V 4.7U	1	
		C5010	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C5012	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C5013	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C5015	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C5016	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C5020	F1G1H470A834	C.CAPACITOR CH 50V 47U	1	
		C5021	F1G1H470A834	C.CAPACITOR CH 50V 47U	1	
		C6001	F1G1H9R0A833	C.CAPACITOR CH 50V 9P	1	
		C6004	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C6006	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6007	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C6008	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C6009	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C6010	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C6011	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C6012	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C6013	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C6014	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C6021	F1G1H102A830	C.CAPACITOR CH 50V 1000P	1	
		C6022	F1G1H102A830	C.CAPACITOR CH 50V 1000P	1	
		C6023	F1J1A106A043	C.CAPACITOR CH 10V 10U	1	
		C6024	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C6025	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6026	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6027	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6028	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6030	F1J1A106A043	C.CAPACITOR CH 10V 10U	1	

		C6031	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	

Model No. : DC-FZ80/82 Parts List

Change	Safety	Ref. No.	Part No.	Part Name & Description	Q'ty	Remarks
		C6032	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6033	F1J1A106A043	C.CAPACITOR CH 10V 10U	1	
		C6034	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C6035	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6036	F1J1A106A043	C.CAPACITOR CH 10V 10U	1	
		C6037	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C6038	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6039	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6040	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C6041	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6042	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6044	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C6045	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6046	F1J1A106A043	C.CAPACITOR CH 10V 10U	1	
		C6047	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C6048	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6049	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C6050	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6051	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C6052	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6053	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6054	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6055	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C6056	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6057	F1G1H100A834	C.CAPACITOR CH 50V 10P	1	
		C6061	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6062	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6063	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6064	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6065	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6066	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6067	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6068	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6069	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6071	F1J1A106A043	C.CAPACITOR CH 10V 10U	1	
		C6076	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6077	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6078	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6502	F1G1H5R0A831	C.CAPACITOR CH 50V 5P	1	
		C6503	F1G1H5R0A831	C.CAPACITOR CH 50V 5P	1	
		C6504	F1G1H5R0A831	C.CAPACITOR CH 50V 5P	1	
		C6505	F1G1H5R0A831	C.CAPACITOR CH 50V 5P	1	
		C6506	F1G1H5R0A831	C.CAPACITOR CH 50V 5P	1	
		C6507	F1H0J1060006	C.CAPACITOR CH 6.3V 10U	1	
		C6509	F1H0J4750004	C.CAPACITOR CH 6.3V 4.7U	1	
		C6510	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C6512	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C6513	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C6514	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C7001	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C7003	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C7006	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C7007	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C7008	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C7009	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C7010	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C7011	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C7014	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C7019	F1J1A106A043	C.CAPACITOR CH 10V 10U	1	
		C7101	F1H0J4750004	C.CAPACITOR CH 6.3V 4.7U	1	
		C7102	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	

		C7103	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	

Model No. : DC-FZ80/82 Parts List

Change	Safety	Ref. No.	Part No.	Part Name & Description	Q'ty	Remarks
		C7104	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C7105	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C8001	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C8002	F1K2J223A029	C.CAPACITOR 630V 0.022U	1	
		C8006	F1K2J223A029	C.CAPACITOR 630V 0.022U	1	
		C8007	F1G1H270A834	C.CAPACITOR CH 50V 27P	1	
		C8009	F1J1A106A043	C.CAPACITOR CH 10V 10U	1	
		C8101	F1G1E103A144	C.CAPACITOR CH 25V 0.01U	1	
		C8102	F1G1H3320004	C.CAPACITOR CH 50V 0.01U	1	
		C9001	F1H1C105A167	C.CAPACITOR CH 16V 1U	1	
		C9012	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C9013	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C9027	F1H0J4750004	C.CAPACITOR CH 6.3V 4.7U	1	
		C9028	F1H0J1060006	C.CAPACITOR CH 6.3V 10U	1	
		C9029	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C9030	F1J1A106A043	C.CAPACITOR CH 10V 10U	1	
		C9031	F1G1C104A077	C.CAPACITOR CH 16V 0.1U	1	
		C9032	F1J1A106A043	C.CAPACITOR CH 10V 10U	1	
		C9033	F1H1A475A083	C.CAPACITOR CH 10V 4.7U	1	
		C9084	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C9085	F1H1A475A083	C.CAPACITOR CH 10V 4.7U	1	
		C9101	F1G1H102A830	C.CAPACITOR CH 50V 1000P	1	
		C9102	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C9103	F1G1H8R0A723	C.CAPACITOR CH 50V 8P	1	
		C9104	F1G1H8R0A723	C.CAPACITOR CH 50V 8P	1	
		C9105	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
		C9106	F1J1A106A043	C.CAPACITOR CH 10V 10U	1	
		C9111	F1J1A106A043	C.CAPACITOR CH 10V 10U	1	
		D1040	B0ACRC000001	DIODE	1	E.S.D.
		D1501	DB2S31100L	DIODE	1	E.S.D.
		D1502	DB2S31100L	DIODE	1	E.S.D.
		D8001	B0ECGP000006	DIODE	1	E.S.D.
		D8002	DA2SF650EL	DIODE	1	E.S.D.
		D8011	B3ADB0000256	DIODE	1	E.S.D.
		D8101	DZ2J082M0L	DIODE	1	E.S.D.
		D8103	B2ABAP000007	DIODE	1	E.S.D.
		D9001	B0BC6R8A0663	DIODE	1	E.S.D.
		D9002	B0BC6R8A0663	DIODE	1	E.S.D.
		ET2001	K4CC01000001	EARTH SPRING	1	
		ET2002	K4CC01000001	EARTH SPRING	1	
		FL2001	EXC28CH900U	FILTER	1	
		FL2002	EXC28CH900U	FILTER	1	
		FP9001	K1MY51BA0667	CONNECTOR 51P	1	
		FP9002	K1MY14BA0370	CONNECTOR 14P	1	
		FP9003	K1MY61BA0667	CONNECTOR 61P	1	
		FP9004	K1MY45BA0667	CONNECTOR 45P	1	
		FP9005	K1MY33BA0556	CONNECTOR 33P	1	
		FP9007	K1MY16BA0370	CONNECTOR 16P	1	
		FP9008	K1MY14BA0370	CONNECTOR 14P	1	
		FP9010	K1MY04BA0370	CONNECTOR 4P	1	
		IC1001	C1ZBZ0005550	IC	1	E.S.D.
		IC1050	C0DBAYY02385	IC	1	E.S.D.
		IC1060	C0DBAYY02385	IC	1	E.S.D.
		IC1061	C0DBGYY05343	IC	1	E.S.D.
		IC1080	C0DBAYY02664	IC	1	E.S.D.
		IC1110	C0DBGYY03640	IC	1	E.S.D.
		IC1120	C0DBGYY03614	IC	1	E.S.D.
		IC1130	C0DBGYY03678	IC	1	E.S.D.
		IC1210	C0DBGYY05359	IC	1	E.S.D.
		IC1220	C0DBGYY03614	IC	1	E.S.D.
		IC1230	C0DBGYY03614	IC	1	E.S.D.

		IC1240	C0DBGYY05349	IC	1	E.S.D.

Model No. : DC-FZ80/82 Parts List

Change	Safety	Ref. No.	Part No.	Part Name & Description	Q'ty	Remarks
		IC1310	C0DBGYY02527	IC	1	E.S.D.
		IC1410	C0DBGYY03640	IC	1	E.S.D.
		IC1501	C1ZBZ0005562	IC	1	E.S.D.
		IC1502	SUBF000022	IC	1	E.S.D. [INBD]
		IC1503	C1CB00004574	IC	1	E.S.D.
		IC1510	C0DBGYY02368	IC	1	E.S.D.
		IC1511	C0DBGYY06165	IC	1	E.S.D.
		IC6001	SCG0002	IC	1	E.S.D.
		IC6003	1VK1DCFZ80	IC	1	E.S.D.
		IC6501	C0DBGYY00779	IC	1	E.S.D.
		IC7101	EWTS9PDL1A	IC	1	E.S.D. [INBD]
		IC8001	C0ZBZ0001817	IC	1	E.S.D.
		IC9101	C1AB00003449	IC	1	E.S.D.
	⚠	IP1001	ERBRD0R75X	FUSE 32V 750MA	1	
	⚠	IP2001	ERBRD2R00X	FUSE 32V 2.0A	1	
	⚠	IP8001	ERBRD1R50X	FUSE 32V 1.5A	1	
	⚠	IP9001	ERBRD2R50X	FUSE 32V 2.5A	1	
		JK2001	K1FY105E0014	JACK	1	
		JK2002	K1FY119E0057	JACK	1	
		L1010	G1C150MA0477	CHIP INDUCTOR 15UH	1	
		L1020	G1C150MA0477	CHIP INDUCTOR 15UH	1	
		L1030	G1C150MA0477	CHIP INDUCTOR 15UH	1	
		L1040	G1C4R7MA0477	CHIP INDUCTOR 4.7UH	1	
		L1050	G1C1R5MA0943	CHIP INDUCTOR 1.5UH	1	
		L1060	G1C2R2MA0477	CHIP INDUCTOR 2.2UH	1	
		L1080	G1C100MA0392	CHIP INDUCTOR 10UH	1	
		L1500	G1C2R2MA0392	CHIP INDUCTOR 2.2UH	1	
		L2001	EXC24CE900U	FILTER	1	
		LB2001	J0JCC0000415	FILTER	1	
		LB6002	J0JFC0000006	FILTER	1	
		LB9001	J0JYC0000627	FILTER	1	
		LB9003	J0JFC0000006	FILTER	1	
		LB9056	J0JDC0000095	FILTER	1	
		LB9057	J0JDC0000095	FILTER	1	
		P6501	K1NA09E00166	SD CARD CONNECTOR	1	
		PP8001	K1KA30B00077	CONNECTOR 30P	1	
		PS9001	K1KB30AA0116	CONNECTOR 30P	1	
		Q1080	MTM861280LBF	TRANSISTOR	1	E.S.D.
		Q1502	B1CHPB000008	TRANSISTOR	1	E.S.D.
		Q1505	B1CFGC000022	TRANSISTOR	1	E.S.D.
		Q1506	B1CFGC000022	TRANSISTOR	1	E.S.D.
		Q1507	B1CFGC000022	TRANSISTOR	1	E.S.D.
		Q1508	B1ABCF000302	TRANSISTOR	1	
		Q2001	B1CFGD000003	TRANSISTOR	1	E.S.D.
		Q2002	B1CFJD000007	TRANSISTOR	1	E.S.D.
		Q6501	MTM861270LBF	TRANSISTOR	1	E.S.D.
		Q8001	B1JBLP000037	TRANSISTOR	1	E.S.D.
		Q8101	B1CFJD000007	TRANSISTOR	1	E.S.D.
		Q9101	B1ABCF000302	TRANSISTOR	1	E.S.D.
		QR1080	B1GBCFYY0217	TRANSISTOR-RESISTOR	1	E.S.D.
		QR1081	B1GBCFYY0218	TRANSISTOR	1	E.S.D.
		QR1082	B1GBCFYY0218	TRANSISTOR	1	E.S.D.
		QR1503	B1GBCFYY0224	TRANSISTOR-RESISTOR	1	E.S.D.
		QR1504	B1GBCFYY0224	TRANSISTOR-RESISTOR	1	E.S.D.
		QR1505	B1GBCFYY0224	TRANSISTOR-RESISTOR	1	E.S.D.
		QR2003	B1GKCFJN0008	TRANSISTOR-RESISTOR	1	
		QR6501	B1GBCFYY0217	TRANSISTOR-RESISTOR	1	E.S.D.
		QR6502	B1GDCFYY0150	TRANSISTOR-RESISTOR	1	E.S.D.
		QR8101	B1GFCFJJ0016	TRANSISTOR-RESISTOR	1	
		QR8102	B1GFCFJJ0016	TRANSISTOR-RESISTOR	1	
		QR8103	B1GKCFYY0029	TRANSISTOR-RESISTOR	1	

		QR9002	B1GFCFJJ0016	TRANSISTOR-RESISTOR	1	E.S.D.

Model No. : DC-FZ80/82 Parts List

Change	Safety	Ref. No.	Part No.	Part Name & Description	Q'ty	Remarks
		QR9102	B1GDCFYY0150	TRANSISTOR-RESISTOR	1	E.S.D.
		R1011	D1BA5602A022	M.RESISTOR CH 1/16W 56K	1	
		R1012	D1BA1602A022	M.RESISTOR CH 1/16W 16K	1	
		R1022	D1BA6802A022	M.RESISTOR CH 1/16W 68K	1	
		R1023	D1BA2402A022	M.RESISTOR CH 1/16W 24K	1	
		R1031	D1BA1103A022	M.RESISTOR CH 1/16W 110K	1	
		R1032	D1BA2002A022	M.RESISTOR CH 1/16W 20K	1	
		R1041	D1BA1502A022	M.RESISTOR CH 1/16W 15K	1	
		R1042	D1BA6802A022	M.RESISTOR CH 1/16W 68K	1	
		R1044	D1BA3302A022	M.RESISTOR CH 1/16W 33K	1	
		R1053	D1BA1002A022	M.RESISTOR CH 1/16W 10K	1	
		R1054	D1BA3002A022	M.RESISTOR CH 1/16W 30K	1	
		R1063	D1BA2202A022	M.RESISTOR CH 1/16W 22K	1	
		R1064	D1BA2002A022	M.RESISTOR CH 1/16W 20K	1	
		R1081	D1BA14R0A023	M.RESISTOR CH 1/16W 14	1	
		R1082	D0GA473JA023	M.RESISTOR CH 1/10W 47K	1	
		R1083	D0GA103JA023	M.RESISTOR CH 1/10W 10K	1	
		R1085	D0GA152JA023	M.RESISTOR CH 1/10W 1.5K	1	
		R1086	D0GA223JA023	M.RESISTOR CH 1/10W 22K	1	
		R1501	D1BA1002A022	M.RESISTOR CH 1/16W 10K	1	
		R1507	D0GA470JA023	M.RESISTOR CH 1/10W 47	1	
		R1508	D0GA332JA023	M.RESISTOR CH 1/10W 3.3K	1	
		R1509	D0GA332JA023	M.RESISTOR CH 1/10W 3.3K	1	
		R1511	D1BA6803A022	M.RESISTOR CH 1/16W 680K	1	
		R1512	D1BA3003A022	M.RESISTOR CH 1/10W 3.3K	1	
		R1513	D0GA104JA023	M.RESISTOR CH 1/10W 100K	1	
		R1520	D0GA754JA023	M.RESISTOR CH 1/10W 750K	1	
		R1521	D0GA184JA023	M.RESISTOR CH 1/10W 180K	1	
		R1522	D1BA3001A022	M.RESISTOR CH 1/16W 3K	1	
		R1531	D1BA8201A022	M.RESISTOR CH 1/16W 8.2K	1	
		R1560	D0GA104JA023	M.RESISTOR CH 1/10W 100K	1	
		R1561	D0GA104JA023	M.RESISTOR CH 1/10W 100K	1	
		R1573	D0GA104JA023	M.RESISTOR CH 1/10W 100K	1	
		R1579	D0GA102JA023	M.RESISTOR CH 1/10W 1K	1	
		R1591	D0GA334JA023	M.RESISTOR CH 1/10W 330K	1	
		R1592	D0GA104JA023	M.RESISTOR CH 1/10W 100K	1	
		R1593	D0GA102JA023	M.RESISTOR CH 1/10W 1K	1	
		R1902	D0GA104JA023	M.RESISTOR CH 1/10W 100K	1	
		R1903	D1BA8202A022	M.RESISTOR CH 1/16W 82K	1	
		R2007	D0GA473JA023	M.RESISTOR CH 1/10W 47K	1	
		R2008	D0GA273JA023	M.RESISTOR CH 1/10W 27K	1	
		R2010	D0GA330JA023	M.RESISTOR CH 1/10W 33	1	
		R2011	D0GA330JA023	M.RESISTOR CH 1/10W 33	1	
		R2014	D0GA202JA023	M.RESISTOR CH 1/10W 2K	1	
		R2015	D0GA202JA023	M.RESISTOR CH 1/10W 2K	1	
		R5002	D0GA333JA023	M.RESISTOR CH 1/10W 33K	1	
		R5003	D0GA333JA023	M.RESISTOR CH 1/10W 33K	1	
		R5006	D0GA222JA023	M.RESISTOR CH 1/10W 2.2K	1	
		R5008	D0GA222JA023	M.RESISTOR CH 1/10W 2.2K	1	
		R6001	D0GAR00J0005	M.RESISTOR CH 1/10W 0	1	
		R6002	D0GA102JA023	M.RESISTOR CH 1/10W 1K	1	
		R6003	D0GA101JA023	M.RESISTOR CH 1/10W 100	1	
		R6004	D0GA103JA023	M.RESISTOR CH 1/10W 10K	1	
		R6005	D1BA5100A022	M.RESISTOR CH 1/16W 510	1	
		R6006	D1BA5100A022	M.RESISTOR CH 1/16W 510	1	
		R6007	D1BA5100A022	M.RESISTOR CH 1/16W 510	1	
		R6008	D1BA5100A022	M.RESISTOR CH 1/16W 510	1	
		R6009	D1BA5100A022	M.RESISTOR CH 1/16W 510	1	
		R6010	D1BA5100A022	M.RESISTOR CH 1/16W 510	1	
		R6011	D1BA5100A022	M.RESISTOR CH 1/16W 510	1	
		R6012	D1BA5100A022	M.RESISTOR CH 1/16W 510	1	

		R6013	D1BA5100A022	M.RESISTOR CH 1/16W 510	1	

Model No. : DC-FZ80/82 Parts List

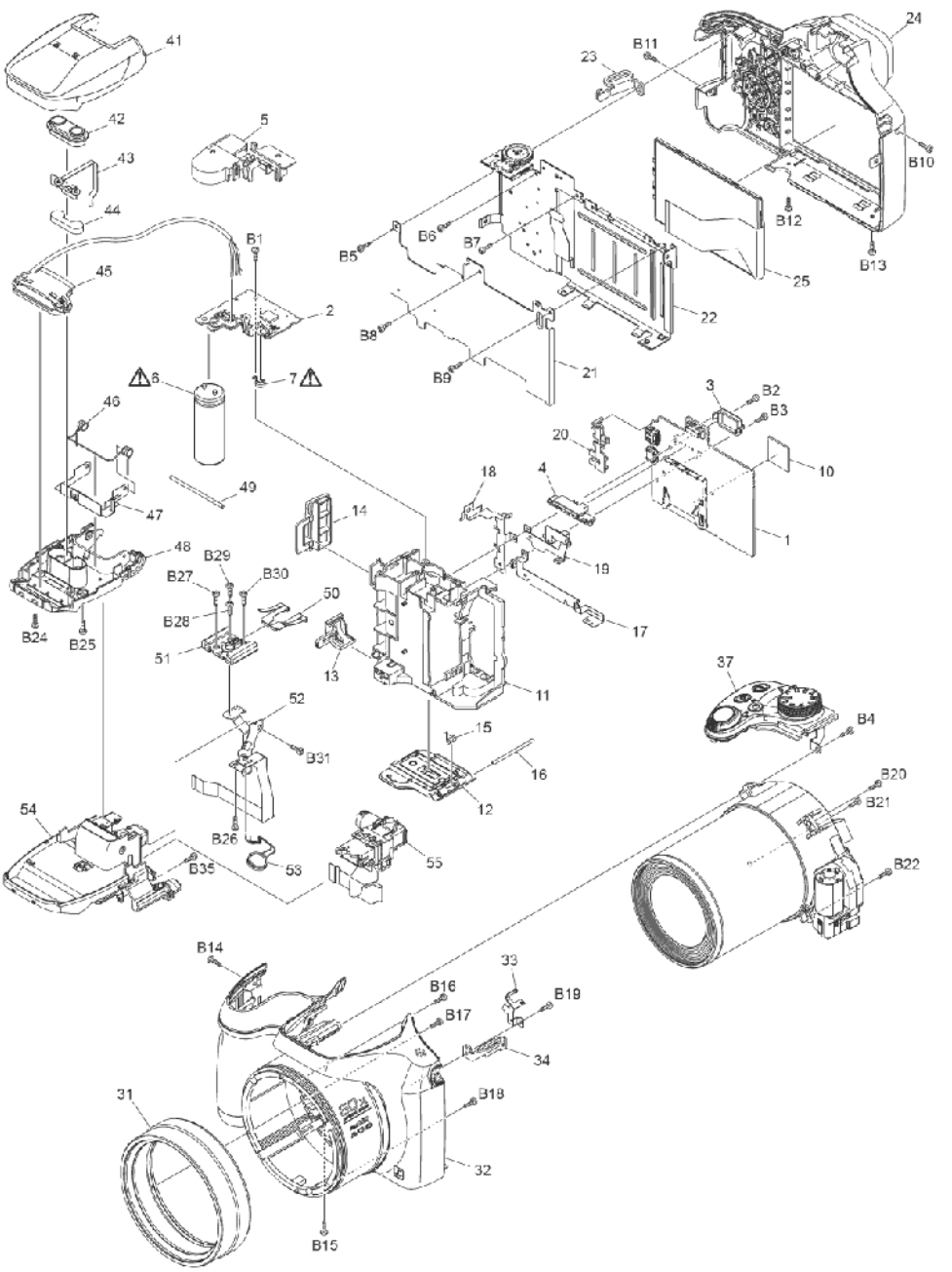
Change	Safety	Ref. No.	Part No.	Part Name & Description	Q'ty	Remarks
		R6014	D1BA5100A022	M.RESISTOR CH 1/16W 510	1	
		R6015	D1BA5100A022	M.RESISTOR CH 1/16W 510	1	
		R6016	D1BA5100A022	M.RESISTOR CH 1/16W 510	1	
		R6017	D1BA2400A022	M.RESISTOR CH 1/16W 240	1	
		R6018	D1BA2400A022	M.RESISTOR CH 1/16W 240	1	
		R6019	D1BA2400A022	M.RESISTOR CH 1/16W 240	1	
		R6020	D1BA2400A022	M.RESISTOR CH 1/16W 240	1	
		R6026	D1BA6801A022	M.RESISTOR CH 1/16W 6.8K	1	
		R6027	D1BA4701A022	M.RESISTOR CH 1/16W 4.7K	1	
		R6028	D1BA2000A022	M.RESISTOR CH 1/16W 200	1	
		R6032	D0GA470JA023	M.RESISTOR CH 1/10W 47	1	
		R6035	D0GA473JA023	M.RESISTOR CH 1/10W 47K	1	
		R6036	D0GA470JA023	M.RESISTOR CH 1/10W 47	1	
		R6039	D0GA102JA023	M.RESISTOR CH 1/10W 1K	1	
		R6041	D0GA270JA023	M.RESISTOR CH 1/10W 27	1	
		R6042	D0GA470JA023	M.RESISTOR CH 1/10W 47	1	
		R6046	D0GA105JA023	M.RESISTOR CH 1/10W 1M	1	
		R6047	D0GA102JA023	M.RESISTOR CH 1/10W 1K	1	
		R6061	D0GA302JA023	M.RESISTOR CH 1/10W 3K	1	
		R6062	D0GA302JA023	M.RESISTOR CH 1/10W 3K	1	EE,P,PP,PR,GC,GA,GH,GN
		R6063	D0GA302JA023	M.RESISTOR CH 1/10W 3K	1	
		R6064	D0GA302JA023	M.RESISTOR CH 1/10W 3K	1	
		R6065	D0GA302JA023	M.RESISTOR CH 1/10W 3K	1	EG,EP,EF,EB
		R6071	D0GA103JA023	M.RESISTOR CH 1/10W 10K	1	
		R6077	D0GA101JA023	M.RESISTOR CH 1/10W 100	1	
		R6078	D0GA101JA023	M.RESISTOR CH 1/10W 100	1	
		R6079	D0GA101JA023	M.RESISTOR CH 1/10W 100	1	
		R6125	D0GAR00J0005	M.RESISTOR CH 1/10W 0	1	EG,EP,EF,EB
		R6501	D0GA102JA023	M.RESISTOR CH 1/10W 1K	1	
		R6502	D0GA223JA023	M.RESISTOR CH 1/10W 22K	1	
		R6504	D0GA104JA023	M.RESISTOR CH 1/10W 100K	1	
		R6505	D0GA103JA023	M.RESISTOR CH 1/10W 10K	1	
		R6509	D0GA331JA023	M.RESISTOR CH 1/10W 330	1	
		R6510	D0GA330JA023	M.RESISTOR CH 1/10W 33	1	
		R7002	D1BA68R0A022	M.RESISTOR CH 1/16W 68	1	
		R7007	D1BA68R0A022	M.RESISTOR CH 1/16W 68	1	
		R7009	D1BA1R00A079	M.RESISTOR CH 1/16W 1	1	
		R7021	D1BA8201A022	M.RESISTOR CH 1/16W 8.2K	1	
		R8002	D0GB104JA065	M.RESISTOR CH 1/10W 100K	1	
		R8003	D0GB680JA065	M.RESISTOR CH 1/10W 68	1	
		R8005	D0GD393JA052	RESISTOR	1	
		R8006	D0GD363JA052	RESISTOR	1	
		R8013	D1BA1621A022	M.RESISTOR CH 1/16W1.621K	1	
		R8021	D0GA473JA023	M.RESISTOR CH 1/10W 47K	1	
		R8032	D1BD4703A119	M.RESISTOR CH 1/3W 470K	1	
		R8033	D0GF104JA048	RESISTOR	1	
		R8034	D0GF472JA048	RESISTOR	1	
		R8101	D0GA102JA023	M.RESISTOR CH 1/10W 1K	1	
		R8107	D0GD106JA052	RESISTOR	1	
		R8108	D0GD106JA052	RESISTOR	1	
		R8109	D0GA102JA023	M.RESISTOR CH 1/10W 1K	1	
		R8110	D0GA471JA023	M.RESISTOR CH 1/10W 470	1	
		R9003	D0GA821JA023	M.RESISTOR CH 1/16W 820	1	
		R9005	D0GA563JA023	M.RESISTOR CH 1/10W 56K	1	
		R9006	D0GA563JA023	M.RESISTOR CH 1/10W 56K	1	
		R9007	D0GA153JA023	M.RESISTOR CH 1/10W 15K	1	
		R9008	D0GA153JA023	M.RESISTOR CH 1/10W 15K	1	
		R9009	D0GA123JA023	M.RESISTOR CH 1/10W 12K	1	
		R9010	D0GA123JA023	M.RESISTOR CH 1/10W 12K	1	
		R9011	D0GA221JA023	M.RESISTOR CH 1/16W 220	1	
		R9012	D0GA221JA023	M.RESISTOR CH 1/16W 220	1	

		R9014	D0GA821JA023	M.RESISTOR CH 1/16W 820	1	

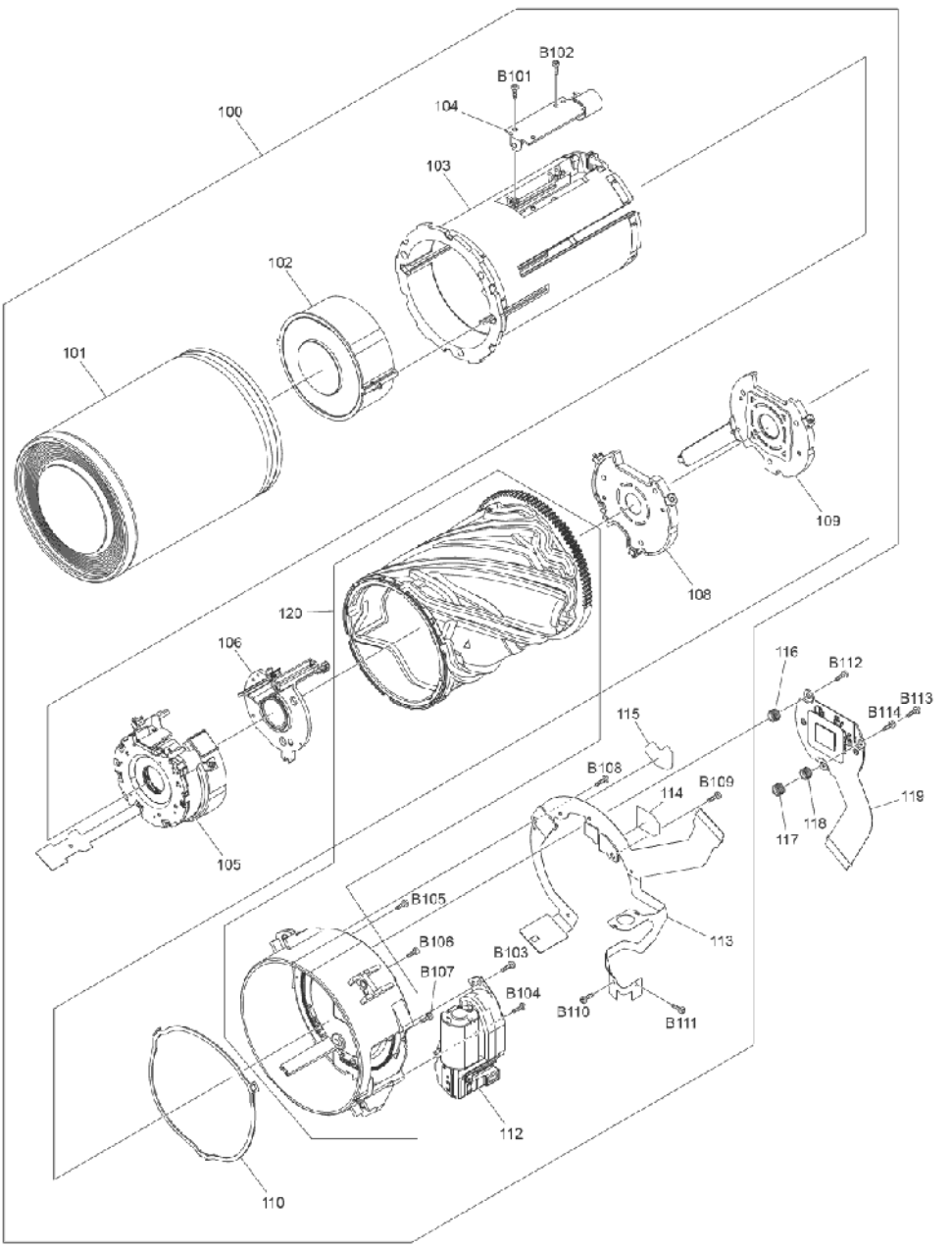
Model No. : DC-FZ80/82 Parts List

Change	Safety	Ref. No.	Part No.	Part Name & Description	Q'ty	Remarks
		R9031	D0GA102JA023	M.RESISTOR CH 1/10W 1K	1	
		R9033	D0GA102JA023	M.RESISTOR CH 1/10W 1K	1	
		R9049	D0GA680JA023	M.RESISTOR CH 1/10W 68	1	
		R9053	D0GA470JA023	M.RESISTOR CH 1/10W 47	1	
		R9058	D0GA242JA023	M.RESISTOR CH 1/10W 2.4K	1	
		R9059	D0GA392JA023	M.RESISTOR CH 1/10W 3.9K	1	
		R9061	D0GA752JA023	M.RESISTOR CH 1/10W 7.5K	1	
		R9062	D0GA332JA023	M.RESISTOR CH 1/10W 3.3K	1	
		R9063	D0GA682JA023	M.RESISTOR CH 1/10W 6.8K	1	
		R9065	D0GA242JA023	M.RESISTOR CH 1/10W 2.4K	1	
		R9066	D0GA392JA023	M.RESISTOR CH 1/10W 3.9K	1	
		R9067	D0GA752JA023	M.RESISTOR CH 1/10W 7.5K	1	
		R9071	D0GA392JA023	M.RESISTOR CH 1/10W 3.9K	1	
		R9072	D0GA103JA023	M.RESISTOR CH 1/10W 10K	1	
		R9073	D0GA103JA023	M.RESISTOR CH 1/10W 10K	1	
		R9074	D0GA392JA023	M.RESISTOR CH 1/10W 3.9K	1	
		R9075	D0GA102JA023	M.RESISTOR CH 1/10W 1K	1	
		R9076	D0GA331JA023	M.RESISTOR CH 1/10W 330	1	
		R9077	D0GA152JA023	M.RESISTOR CH 1/10W 1.5K	1	
		R9078	D0GA472JA023	M.RESISTOR CH 1/10W 4.7K	1	
		R9079	D0GB240JA065	M.RESISTOR CH 1/10W 24	1	
		R9090	D0GA101JA023	M.RESISTOR CH 1/10W 100	1	
		R9091	D0GA101JA023	M.RESISTOR CH 1/10W 100	1	
		R9092	D0GA101JA023	M.RESISTOR CH 1/10W 100	1	
		R9093	D0GA101JA023	M.RESISTOR CH 1/10W 100	1	
		R9102	D0GA102JA023	M.RESISTOR CH 1/10W 1K	1	
		R9103	D0GA102JA023	M.RESISTOR CH 1/10W 1K	1	
		R9104	D0GA102JA023	M.RESISTOR CH 1/10W 1K	1	
		R9105	D0GA512JA023	M.RESISTOR CH 1/10W 5.1K	1	
		R9106	ERJ2RKD105X	M.RESISTOR CH 1/16W 1M	1	
		R9107	D1BA2203A022	M.RESISTOR CH 1/16W 220K	1	
		R9109	D0GA331JA023	M.RESISTOR CH 1/10W 330	1	
		R9114	D1BA3902A022	M.RESISTOR CH 1/16W 39K	1	
		R9115	D1BA1203A022	M.RESISTOR CH 1/16W 120K	1	
		R9119	D1BA3302A022	M.RESISTOR CH 1/16W 33K	1	
		R9120	D1BA7502A022	M.RESISTOR CH 1/16W 75K	1	
		R9133	D0GA473JA023	M.RESISTOR CH 1/10W 47K	1	
		RX2003	EXB24V472JX	RESISTOR NETWORKS	1	
		RX6003	D1H84734A042	RESISTOR NETWORKS	1	
		RX6005	D1H81014A042	RESISTOR NETWORKS	1	
		RX6006	D1H81014A042	RESISTOR NETWORKS	1	
		RX6007	D1H81014A042	RESISTOR NETWORKS	1	
		RX6008	D1H81014A042	RESISTOR NETWORKS	1	
		RX6012	D1H81034A042	RESISTOR NETWORKS	1	
		RX6501	D1H84734A042	RESISTOR NETWORKS	1	
		RX6502	D1H83304A042	RESISTOR NETWORKS	1	
		RX8111	D1H83314A042	RESISTOR NETWORKS	1	
		RX8112	D1H81034A042	RESISTOR NETWORKS	1	
		T8001	G5DYA0000152	TRANSFORMER	1	
		TH6001	D4CC11030013	THERMISTORS	1	
		VA9015	D4ED18R00008	VARISTOR	1	
		VA9016	D4ED18R00008	VARISTOR	1	
		VA9017	D4ED18R00008	VARISTOR	1	
		VA9018	D4ED18R00008	VARISTOR	1	
		VA9019	D4ED18R00008	VARISTOR	1	
		VA9020	D4ED18R00008	VARISTOR	1	
		VA9025	D4ED18R00008	VARISTOR	1	
		X6001	H0J240500048	CRYSTAL OSCILLATOR	1	
		X9101	H0J327200230	CRYSTAL OSCILLATOR	1	

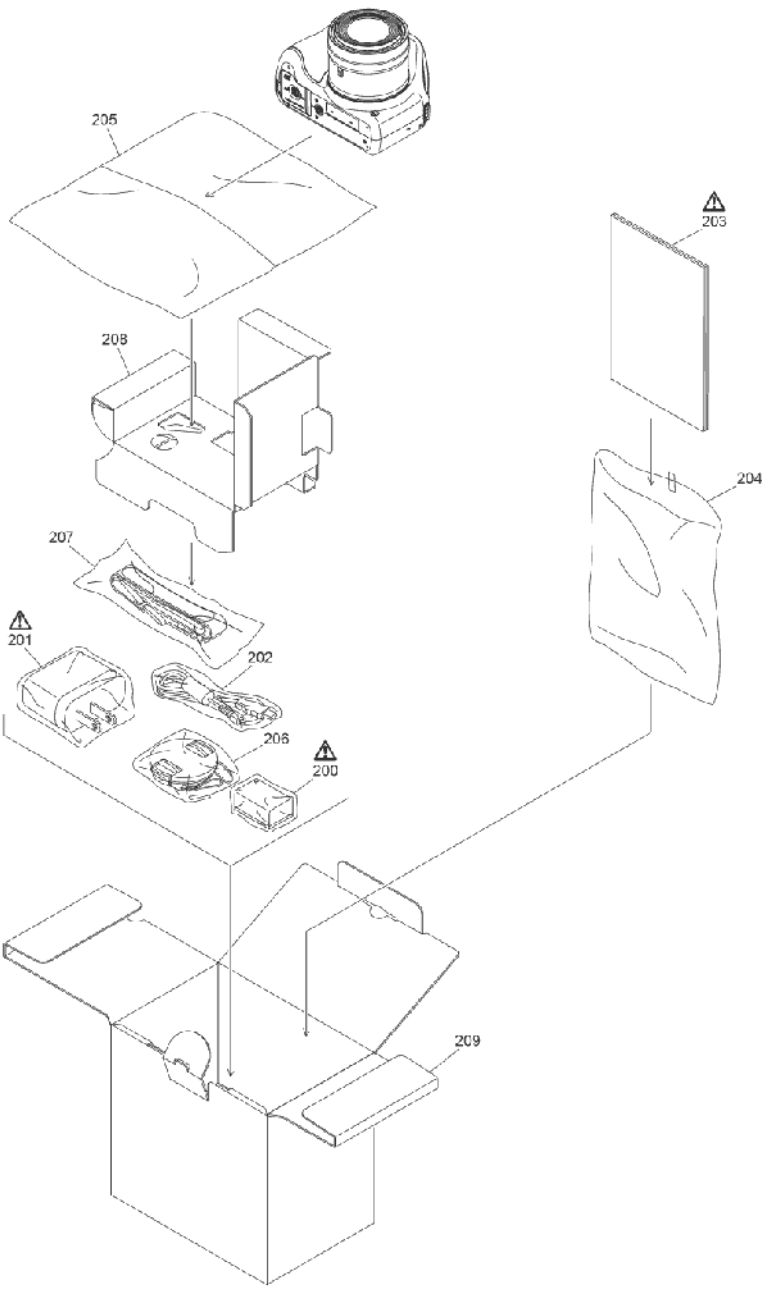
Model No. : DC-FZ80/82 Frame and Casing Section



Model No. : DC-FZ80/82 Camera Lens Section



Model No. : DC-FZ80/82 Packing Parts and Accessories Section



Model No. : DC-FZ80/82 Parts List

Change	Safety	Ref. No.	Part No.	Part Name & Description	Q'ty	Remarks
		1	1PB1DV1053Y	MAIN P.C.B.	1	(RTL)E.S.D. EG,EP,EF,EB
		1	1PB1DV1053Z	MAIN P.C.B.	1	(RTL)E.S.D. EE,P,PP,PR,GC,GA,GH,GN
		2	DVVE1009Z	FLASH P.C.B. UNIT	1	E.S.D.
		3	VMP0G37-A	FRAME SPACER A	1	
		4	K1ZZ00001648	BATTERY CONNECTOR	1	(P9001)
		5	DVME1042Z	CONDENSOR COVER	1	
	⚠	6	F9Z000000038	E.CAPACITOR	1	(C8003)
	⚠	7	ML-421S/DB	BUTTON BATTERY	1	(B8001)
		10	SJD0034	HEAT RADIATION PAD	1	
		11	1KK1CFZ80PK	BATTRY CASE UNIT	1	
		12	1KK2CFZ80PK	BATTRY DOOR UNIT	1	
		13	VGQ1N58-A	COUPLER COVER	1	
		14	VKF5236-A	JACK COVER	1	
		15	VMB4406-A	BATTRY DOOR SPRING	1	
		16	VMS7525-B	BATTERY DOOR SHAFT	1	
		17	DVMH1046Z	SD EARTH PLATE	1	
		18	DVMH1047Z	JACK EARTH PLATE	1	
		19	VMP0G30	FLASH EARTH PLATE	1	
		20	DVGE1140Z	JACK HOLDER	1	
		21	DVMY1012Z	HEAT SINK	1	
		22	1KE1CFZ80PK	LCD HOLDER UNIT	1	
		23	VGQ1N48	STRAP HOLDER L	1	
		24	2KM1CFZ80PK	REAR CASE UNIT	1	
		25	L5BDDYY00227	LCD UNIT	1	
		31	DVGX1054Z	LENS RING FRONT	1	
		32	1KM3CFZ80PK	FRONT CASE UNIT	1	
		33	VMP0G29	FRONT EARTH PLATE	1	
		34	VGQ1N56	STRAP HOLDER R	1	
		37	3KM1CFZ80PK	TOP 0PETATION UNIT	1	
		41	1KM1FZ85Z	FLASH CASE TOP UNIT	1	
		42	VGQ1N61	MIC DUMPER	1	
		43	VEP54041B	MIC FPC UNIT	1	
		44	VGQ1R80	MIC SUPPORTER	1	
		45	1SE1CFZ80PK	FLASH UNIT	1	
		46	VMB4748	FLASH POP UP SPRING	1	
		47	VMP0G33	FLASH EARTH PLATE	1	
		48	VKM0H09	FLASH CASE BOTTOM	1	
		49	VMS7911-A	FLASH SHAFT	1	
		50	VMC2111	SHOE SPRING	1	
		51	VEK0T23	HOT SHOE UNIT	1	
		52	VEP59131A	HOT SHOE FPC UNIT	1	
		53	L0AA01A00187	SPEAKER	1	
		54	1YK1CFZ80PK	FLASH BASE UNIT	1	
		55	1KP3CFZ80PK	LVF UNIT	1	
		B1	VHD1870	SCREW	1	
		B2	VHD1870	SCREW	1	
		B3	VHD1870	SCREW	1	
		B4	XTV2+8JFN	SCREW	1	
		B5	VHD2418	SCREW	1	
		B6	VHD2418	SCREW	1	
		B7	VHD2418	SCREW	1	
		B8	VHD2418	SCREW	1	
		B9	VHD2418	SCREW	1	
		B10	VHD2438	SCREW	1	
		B11	VHD1870	SCREW	1	
		B12	VHD1870	SCREW	1	
		B13	VHD2438	SCREW	1	
		B14	VHD2438	SCREW	1	
		B15	VHD1870	SCREW	1	
		B16	VHD2252-B	SCREW	1	

		B17	VHD2252-B	SCREW	1	

Model No. : DC-FZ80/82 Parts List

Change	Safety	Ref. No.	Part No.	Part Name & Description	Q'ty	Remarks
		B18	VHD2252-B	SCREW	1	
		B19	VHD2418	SCREW	1	
		B20	XTV2+8JFN	SCREW	1	
		B21	XTV2+8JFN	SCREW	1	
		B22	XTV2+8JFN	SCREW	1	
		B24	VHD1870	SCREW	1	
		B25	VHD1870	SCREW	1	
		B26	VHD2301-A	SCREW	1	
		B27	VHD2247-A	SCREW	1	
		B28	VHD2247-A	SCREW	1	
		B29	VHD2438	SCREW	1	
		B30	VHD2438	SCREW	1	
		B31	VHD2301-A	SCREW	1	
		B35	VHD1870	SCREW	1	
		100	VXW1702	LENS UNIT (W/O MOS)	1	
		101	VXP3966	1ST LENS FRAME UNIT	1	
		102	VXP3946	2ND LENS FRAME UNIT	1	
		103	VXQ2472	MIDDLE FRAME UNIT	1	
		104	L6HAYYYD0075	FOCUS MOTOR UNIT	1	
		105	VXP3947	3RD LENS FRAME UNIT	1	
		106	VXP3948	4TH LENS FRAME UNIT	1	
		108	VXP3949	5TH LENS FRAME UNIT	1	
		109	VXP3950	6TH LENS FRAME UNIT	1	
		110	VMC2249	WAVE WASHER	1	
		112	L6DAYYYD0009	ZOOM MOTOR UNIT	1	
		113	VEK0U53	LENS FPC UNIT	1	
		114	SZT0025	DUST-PROOF TAPE A	1	
		115	VZT1190	DUST-PROOF TAPE B	1	
		116	VMB4541	TILT SPRING	1	
		117	VMB4541	TILT SPRING	1	
		118	VMB4541	TILT SPRING	1	
		119	1SE2Z178K3Z	MOS UNIT	1	
		120	SDW0020ZKIT	CAM FRAME KIT	1	[INBD]
		B101	VHD1974	SCREW	1	
		B102	VHD1974	SCREW	1	
		B103	VHD1974	SCREW	1	
		B104	VHD1974	SCREW	1	
		B105	VHD1974	SCREW	1	
		B106	VHD1974	SCREW	1	
		B107	VHD1974	SCREW	1	
		B108	VHD2011	SCREW	1	
		B109	VHD2011	SCREW	1	
		B110	VHD2492	SCREW	1	
		B111	VHD2492	SCREW	1	
		B112	VHD2351	SCREW	1	
		B113	VHD2351	SCREW	1	
		B114	VHD2351	SCREW	1	
	⚠	200	-----	BATTERY	1	
	⚠	201	SAE0012DA	AC ADAPTOR	1	EG,EP,EF,EE,GA
	⚠	201	SAE0012FA	AC ADAPTOR	1	EB,GH
	⚠	201	SAE0012AA	AC ADAPTOR	1	P,PP
	⚠	201	SAE0012JA	AC ADAPTOR	1	PR
	⚠	201	SAE0012HA	AC ADAPTOR	1	GC
	⚠	201	SAE0012GA	AC ADAPTOR	1	GN
		202	K1HY04YY0106	USB CABLE	1	
	⚠	203	DVQX1139Z	BASIC O/I (GERMAN)	1	EG
	⚠	203	DVQX1140Z	BASIC O/I (FRENCH)	1	EG,EF
	⚠	203	DVQX1141Z	BASIC O/I (ITALIAN)	1	EG
	⚠	203	DVQX1142Z	BASIC O/I (DUTCH)	1	EG,EF
	⚠	203	DVQX1143Z	BASIC O/I (SPANISH)	1	EG

	⚠	203	DVQX1144Z	BASIC O/I (PORTUGUESE)	1	EG
	⚠	203	DVQX1145Z	BASIC O/I (FINNISH)	1	EP

Model No. : DC-FZ80/82 Parts List

Change	Safety	Ref. No.	Part No.	Part Name & Description	Q'ty	Remarks
	⚠	203	DVQX1146Z	BASIC O/I (DANISH)	1	EP
	⚠	203	DVQX1147Z	BASIC O/I (SWEDISH)	1	EP
	⚠	203	DVQX1148Z	BASIC O/I (POLISH)	1	EP
	⚠	203	DVQX1149Z	BASIC O/I (CZECH)	1	EP
	⚠	203	DVQX1150Z	BASIC O/I (HUNGARIAN)	1	EP
	⚠	203	DVQX1151Z	BASIC O/I (ENGLISH)	1	EB
	⚠	203	DVQX1152Z	BASIC O/I (RUSSIAN)	1	EE
	⚠	203	DVQX1153Z	BASIC O/I (UKRAINIAN)	1	EE
	⚠	203	DVQX1136Z	BASIC O/I (ENGLISH)	1	P,PP
	⚠	203	DVQX1137Z	BASIC O/I (SPANISH)	1	P,PP
	⚠	203	DVQX1138Z	BASIC O/I (FRENCH)	1	PP
	⚠	203	DVQX1247Z	BASIC O/I (SPANISH)	1	PR
	⚠	203	DVQX1154Z	BASIC O/I (ENGLISH)	1	GC
	⚠	203	DVQX1155Z	BASIC O/I (ARABIC)	1	GC
	⚠	203	DVQX1156Z	BASIC O/I (ENGLISH)	1	GA,GH
	⚠	203	DVQX1157Z	BASIC O/I (CHINESE(TRADITIONAL))	1	GA,GH
	⚠	203	DVQX1158Z	BASIC O/I (ENGLISH)	1	GN
		204	VPF1539	BAG, POLYETHYLENE	1	
		205	VPF1526	CAMERA BAG	1	
		206	VYQ8752	LENS CAP UNIT	1	
		207	VFC4453	SHOULDER STRAP	1	
		208	DVPN1065Z	CUSHION	1	
		209	DVPK1038Z	PACKING CASE	1	EG,EP,EF,EB,EE
		209	DVPK1037Z	PACKING CASE	1	P,PP,GC,GA,GH,GN
		209	DVPK1039Y	PACKING CASE	1	PR