

DIGITAL CAMERA

SAMSUNG WB200F/WB201F/WB202F

SERVICE Manual

DIGITAL CAMERA



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1. Repair information

1-1 Customer satisfaction statement

We hold ourselves to the highest standards of customer satisfaction and service.

- Combining perfect technical solutions with a customer-oriented approach is our top priority.
- We treat our customers we serve with kindness, loyalty, respect and dignity.
- We are committed to earn customers' trust continuously through excellence in repair solutions.
- We keep our promises and commitments to our customers.
- Committed to quick and easy resolution of all support issues, we deliver industry-leading response times.

Guide

1

We listen carefully to our customers' requirements and always find an optimum solution for their needs. We are committed to your satisfaction and have procedures in place to provide you with a fair, timely and effective means to resolve problems. It combines industry leading preventive assistance with responsive support that helps us address problems quickly and effectively. We will continuously maintain and improve our services to satisfy the needs of our customers.

1-2 Warranty and repair service information

(1) General terms and conditions

It is guaranteed to be free of charge from defects in material and workmanship under normal use for a period of one year from date of purchase.

Digital Camera and lens come with a one year limited warranty from the date of purchase.

* The duration of the warranty depends on the laws in the country in which it was purchased.

The following information will be required to process warranty requests:

- a. We imply warranties to one year from the original date of purchase. In the event that the purchaser is unable to provide a warranty card or proof of purchase, the warranty period will be determined by the date of manufacture. The warranty period shall be decreased to three months from the original product manufactured date.
- b. The coverage under this warranty begins on the date of your purchase of the product. In the event that a warranty card or proof of purchase is not available, a purchase receipt, preferably the purchase invoice, to confirm the date of purchase is required for warranty service.
- c. In the event that a valid date of purchase is not available, the warranty period will be determined by the date of manufacture. The warranty period shall be decreased to three months from the original product manufactured date.

Precautions

(2) Limited Warranty

It reserves the right to retain any parts or components replaced at its discretion in the event of a defect noticed in the product. The period with respect to retaining components may vary respectively depending on its components. We are not liable to repair or replace its faulty product after the Warranty Period has expired.

* We warrant its retaining camera and lenses for five years and three years for the accessories.

- a. If a warranty claim is filed after the product has been discontinued, we reserves the right to honor the components warranty. Warranty period may vary depending on the type of components.
- b. In the event that no identical warranty information is available for service repair, company has the right to provide warranty. The warranty does not affect the consumers' rights against the company related to its information.

For the length of the period indicated on the chart below, it starts with the date of original purchase.

(3) Warranty Period for components

Our liability under this warranty shall be limited to the following:

- a. In the event of a same malfunction problem within two months after repair service by Samsung authorized technician, we will repair or replace free of charge the component of the product which is found to be defective.
- b. In the event of the component that you have paid the replacement cost is returned under normal use within one year at our premises, such components will be replaced free of charge component of the product which is found to be defective.

<Table. 1-1 Warranty Periods for Parts>

Part Name	Warranty Period	
Battery Charger	- Six months	
AC Adaptor		
Battery		
Remote Control		
CD Software	Thursday	
Earphone	Three months	
Pouch for camera	Natawilashia	
Cable	Not applicable	

(4) Repair Claims

Essentially, the following causes of damage are covered:

- a. Failing to function properly under normal use during the limited warranty period.
- b. Repair Services free of charge is granted for the performance of a specific contract.

2) Repair charges

This warranty does not cover damage caused by:

- a. Defect occurring after the expiration of the Warranty Period.
- b. Damage due to negligence, immersion in water, impact, loss and tampering.
- c. Repair or alteration performed by any party other than Samsung authorized technicians.
- d. Misuse or other improper use of the power button.
- e. Exhausted parts such as batteries, lamps and filters, etc.
- f. Defect that occurs due to sand, dirt liquid, etc. entering the inside of the product casing.
- g. Consumable parts which have ceased working through normal use such as as earphone, battery discharger and various accessories.
- h. Products purchased second hand or any damage that occurs due to a second hand or repair performed by anyone other than Samsung or a Samsung authorized service station.
- i. Fire, earthquake, flood or other natural disasters.

The warranty cover period for components is listed below as per table 1-2.

<Table. 1-2 Warranty Period for components>

Types of consumer damages				Compensation
	Required for essential repair within 10 days after the purchase		Replace the prod- uct or refund	-
	Required for essential repair within or month after the purchase		Replace the product or repair at free of charge	Repair charges
Failing to perform or		Problem occurred twice due to same malfunction		Free of charge
failing to function properly under normal use	Applicable to repair	Problem occurred three times due to same malfunction	Replace the prod- uct or refund	Danciasharras
		Problem occurred four times due to some other malfunction		Repair charges
	Not applicable to repair	Within the period with respect to retaining components		dep
	Applicable repair			Repair charges
Failing to perform or failing to function properly as a result of willful intent and negligence of customer	Not applicable to repair (Except for defects or malfunction as a result of fire or flood or other natural disasters		Replacement charge	Repair charge and replace the prod- uct at the cost of the depreciated value

1-3 Precaution for disassembly and reassembly

CAUTION 1. Use the anti-static handing procedures included with the anti-static mat to ensure that there is no electrostatic discharge and component damage. 2. Static electricity is the biggest danger to the PCB parts you are about to disassemble or assemble. It's important to use your anti-static wrist strap to prevent damage to these components. 3. Dismantling a discrete electronic component such as main capacitor is dangerous. The capacitor contains high voltage, which can cause a severe electric shock if you touch it. This holds a charge even when the unit is not plugged in and is capable of delivering a fatal shock. 4. Using excessive force during disassembly and assembly can damage locking parts. Use care when handling "Locking parts" to avoid damage to FPCB or wire. Apply pressure only at the points designated in the maintenance instructions. 5. Due to increasing environmental concerns, a number of restrictions have been placed on the material content of electronic components and electronic assemblies. It requires utilizing Lead-Free (Pb-free) Soldering. 6. The following precautions must be observed when handling such components below.

<Table. 1-3 Precaution for disassembly and reassembly>

Component	Precautions
FPCB	FPCB is brittle material. It can be easily damaged thus it should be handled with care. It is recommended to use wooden or plastic tweezers for manual placement.
CCD (CMOS) IR CUT Filter LCD, LENS	Be careful not to stained your finger. It is recommended to use wooden or plastic tweezers for manual placement. Stain is often caused by the Alcohol used in these components. Find a clean, well-ventilated place to do your work.
РСВ	Use an anti-static mat as well as an anti-static wrist strap to avoid ESD damage to PCB.
CONNECTOR	The use wooden or plastic tweezers is recommended for manual placement. Metal tip tweezer might make marks or damage.
BARREL	Always follow proper direction while assembling the components of the barrel.

2-1 Specifications

<Table. 2-1 Specifications>

Image sensor	
-	$1/2.2^{\circ}$ (Approx. 7.76 mm) CCD
Type	1/2.3" (Approx. 7.76 mm) CCD
Effective pixels	Approx. 14.2 mega-pixels
Total pixels	Approx. 16.4 mega-pixels
Lens	
Focal length	Samsung Lens f = 4.0–72.0 mm (35 mm film equivalent: 24–432 mm)
F-stop range	F3.2(W)–F5.8(T)
Zoom	 Still image mode: 1.0–18.0X Playback mode: 1.0–14.4X (depending on image size)
Display	
Туре	TFT LCD
Feature	3.0" (75.0 mm) 460K
Shutter speed	
Shutter speed	 Smart Auto: 1/8–1/2,000 sec. Program: 1–1/2,000 sec. Night: 8–1/2,000 sec. Manual: 16–1/2,000 sec.
Exposure	
ISO equivalent	Auto, ISO 100, ISO 200, ISO 400, ISO 800, ISO 1600, ISO 3200
Flash	
Range	Wide: 0.3–3.38 m (ISO Auto) Tele: 0.5–1.51 m (ISO Auto)
Shake reduction	
Туре	Optical Image Stabilization (OIS)
Storage	
Media	 Internal memory: Approx. 9.5 MB External memory (Optional): SD card (2 GB guaranteed) SDHC card (up to 32 GB guaranteed) SDXC card (up to 64 GB guaranteed)
Interface	
Digital output connector	USB 2.0
DC power input connector	5.0 V
Power source	
Rechargeable battery	Lithium-ion battery (SLB-10A, 1,030 mAh)
Connector Type	Micro USB (5 pin)
Wight & Dimensions	
Wight	6.49 oz(without battery and memory card)
Dimensions	4.18 X 2.43 X 0.85 in(excluding protrusions)

2-2 Product comparison

<Table. 2-2 Product comparison>

Model Specs	WB200F	WB150F	
Product image			
Image Sensor	1/2.3" (Approx. 7.76 mm) CCD	1/2.3" (Approx. 7.76 mm) CCD	
Effective pixels	Approx. 14.2 mega-pixels	Approx. 14.2 mega-pixels	
Total pixels	Approx. 16.4 mega-pixels	Approx. 16.4 mega-pixels	
Wight	6.49 oz(without battery and memory card)	6.64 oz(without battery and memory card)	
Dimensions	4.18 X 2.43 X 0.85 in(excluding protrusions)	4.19 X 2.36 X 0.92 in(excluding protrusions)	
LCD	LCD TFT LCD, 3.0" (75.0 mm) 460K TFT LCD, 3.0" (7.62 cm) 460K		
Zoom	• Still image mode: 1.0–18.0X • Playback mode: 1.0–14.4X	• Still image mode: 1.0–18.0X • Playback mode: 1.0–14.4X	
Shutter Speeds			
ISO Range	Auto, ISO 100, ISO 200, ISO 400, ISO 800, ISO 1600, ISO 3200	Auto, ISO 80, ISO 100, ISO 200, ISO 400, ISO 800, ISO 1600, ISO 3200	
Focal Length	Samsung Lens f = 4.0–72.0 mm (35 mm film equivalent: 24–432 mm)	Schneider-KREUZNACH Lens f = 4.0–72.0 mm (35 mm film equivalent: 24–432 mm)	
Storage	 Internal memory: Over 9.5 MB External memory (Optional): SD card (2 GB guaranteed) SDHC card (up to 32 GB guaranteed) SDXC card (up to 64 GB guaranteed) 	 Internal memory: Approximately 18 MB External memory (Optional): SD card (1–2 GB guaranteed) SDHC card (up to 32 GB guaranteed) SDXC card (up to 64 GB guaranteed) 	
Image Stabilization	Optical Image Stabilization (OIS)	Optical Image Stabilization (OIS)	
Wireless network	Wireless network MobileLink, Remote Viewfinder, SNS & Cloud, Email, S/W Upgrade Notifier, AllShare Play, Auto Backup, AutoShare Social Sharing, Email, MobileLink, Remote V Cloud, Auto Backup, TV Link, Wi-Fi Direct, A Browser		
Battery Source	Lithium-ion battery (SLB-10A, 1,030 mAh)	Lithium-ion battery (SLB-10A, 1,030 mAh)	
Power source connect type	Micro USB (5 pin)	Micro USB (5 pin)	

2-3 Accessories information

<Table. 2-3 Packing items information>

	image	Description		Parts No.
	THE REAL PROPERTY OF THE REAL	Camera		WB200F /WB201F /WB202F
			AD5055_EXP	AD44-00183A
			AD5055_CHI	AD44-00184A
			AD5055_USA	AD44-00179A
	- North	AC adaptar	AD5055_UK	AD44-00182A
		AC adapter	AD5055_AUS	AD44-00185A
			AD5055_ARG	AD44-00181A
			AD5055_INDIA	AD44-00205A
			AD5055_BRA	AD44-00180A
		USB cable		AD39-00190A
Packing items	© SAMSUNG ⇒ SLB-10A SYUS 10 000mb/em 100mb/1390 3703.78 000mb/em 100mb/1390 U-ba halfy = U unit Jond compositions	Battery		4302-001221
			BLACK	AD63-07111A
		Strap	SILVER AD63-07	AD63-07112A
-			WHITE	AD63-07284A
			QSG_S.CHI_WB200F	AD68-07669A
			QSG_EUR1_WB200F	AD68-07670A
		Quick Start Guide	QSG_EUR2_WB200F	AD68-07671A
			QSG_EUR3_WB200F	AD68-07672A
			QSG_ASIA_WB200F	AD68-07673A
	it there.		QSG_CANADA_WB200F	AD68-07674A
			QSG_SEA_WB200F	AD68-07675A
			QSG_TUR_WB200F	AD68-07676A

<Table. 2-4 Optional items information>

	image	Description		Parts No.
		Camera case	CC9S71N	AD69-03285A
			CC9S70B	AD69-03284A
			CC9S30B	AD69-03283A
			CC9U21B/P	AD69-02964A
Optional items				AD69-03010A
	TROOP		CC9U11B	AD69-02397B
		A/V cable		AD39-00191A
	Sam)isk 2 car mgs SAMSUNG		2G	1109-001378
		Memory card	4G	1109-001420
			8G	1109-001396
	Adepter		Memory card adapter	3719-001319

2-4 About the memory card

The memory capacity may differ depending on shooting scenes or shooting conditions. These capacities are based on a 2 GB microSD card:

	Size		Super Fine	Fine	Normal
	14m	4,320 X 3,240	248	489	722
	12mp	4,320 X 2,880	277	546	805
_	10m	4,320 X 2,432	325	638	940
P h	10m	3,648 X 2,736	341	669	984
o t	BM	2,832 X 2,832	418	817	1,196
0	SM	2,592 X 1,944	638	1,228	1,777
S	ME	1,984 X 1,488	1,006	1,897	2,692
	ZM	1,920 X 1,080	1,329	2,461	3,437
	1m	1,024 X 768	2,508	4,359	5,780
Size				30 FPS	

<Table. 2-5 Memory card capacity>

Size			30 FPS
*V	HD	1,280 X 720	Approx. 25' 53"
i d	VGA	640 X 480	Approx. 46' 12"
e	QVGA	320 X 240	Approx. 257' 31"
0 S	240 Was	For Sharing	Approx. 257' 31"

* The figures above are measured without using the zoom function. Available recording time may vary if you use the zoom. Several videos were recorded in succession to determine the total recording time.

2-5 About the battery

<Table. 2-6 Battery specifications>

Specification	Description
Model	SLB-10A
Туре	Lithium-ion battery
Cell capacity	1,030 mAh
Voltage	3.7 V
Charging time *(when the camera is switched off)	Approx. 240 min

* Charging the battery by connecting it to a computer may take longer.

<Table. 2-5 Battery life>

Average shooting time/ Number of photos		Test conditions (when the battery is fully charged)
Photos	Approx. 170 min/ Approx. 340 photos	 The battery life was measured under the following conditions: in P mode, in darkness, resolution, Fine quality OIS on. 1. Set the flash option to Fill in, take a single shot, and zoom in or out. 2. Set the flash option to Off, take a single shot, and zoom in or out. 3. Perform steps 1 and 2, waiting 30 seconds between each step. Repeat the process for 5 minutes, and then turn off the camera for 1 minute. 4. Repeat steps 1 to 3.
Videos	Approx. 130 min	Record videos at HD resolution and 30 FPS.

• The figures above are measured by Samsung's standards. Your results may differ, depending on your actual usage.

• Several videos were recorded in succession to determine the total recording time.

• When using network functions, the battery will be depleted more quickly.

3. Disassembly and reassembly

3-1 Disassembly of main unit

1. Remove the two SCREWS on the right side, two SCREWS on the left side, two SCREWS on the bottom side.





2. Insert open pry tool around the join of locking structure part to release the ASSY COVER BACK as illustrated in image below.

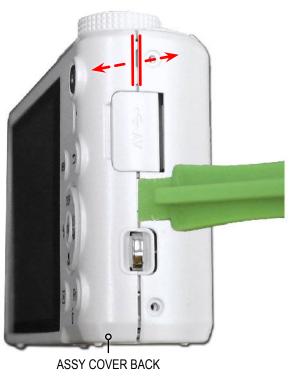


Fig. 3-2

3. Remove the ASSY COVER FRONT with ASSY COVER BACK.

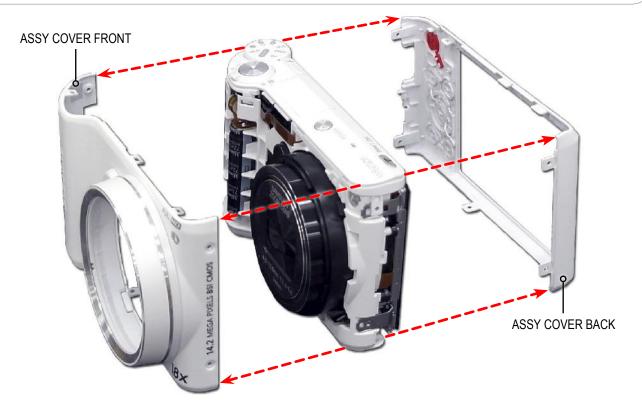


Fig. 3-3

4. Remove the four SCREWS of ASSY COVER FRONT.

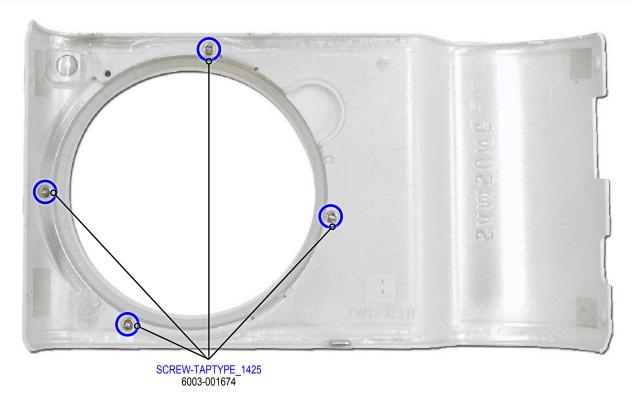


Fig. 3-4



6. Discharge.

CAUTION It must be processed for discharge to the main condenser as shown in the below picture.

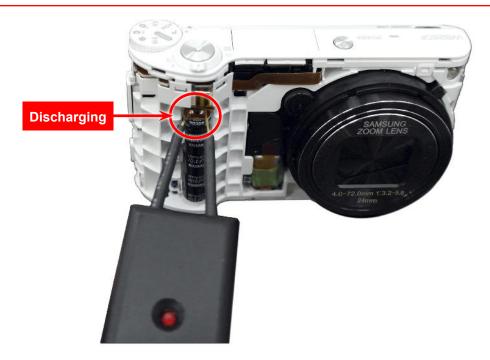


Fig. 3-6

7. Remove the one SCREW of ASSY-KEY_FPCB.

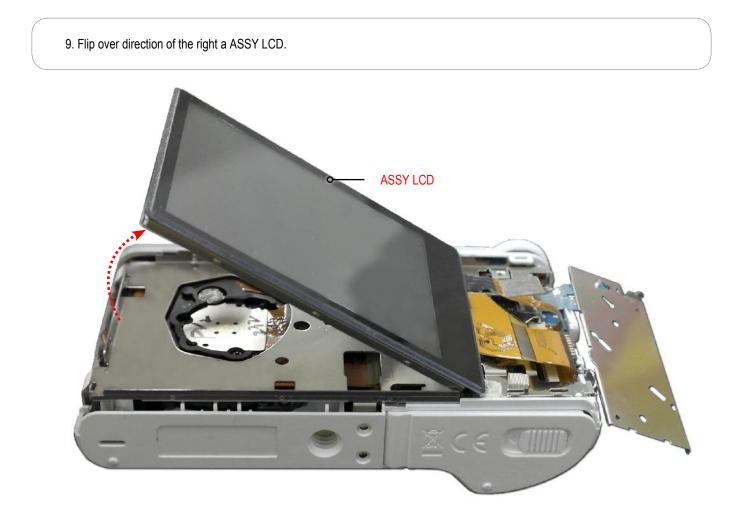


Fig. 3-7

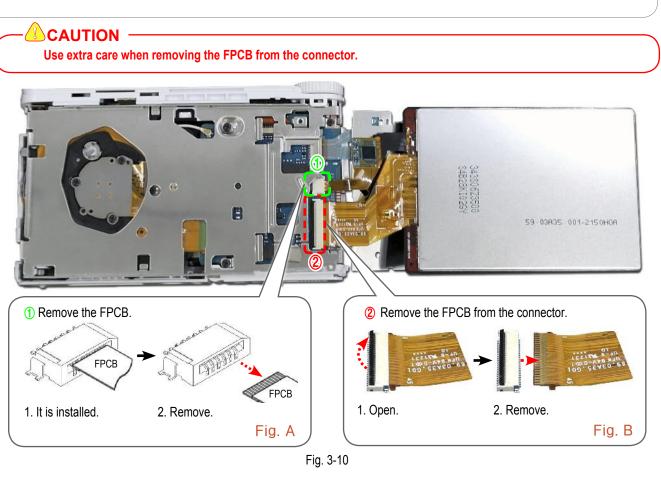
8. Flip over direction of the right a ASSY-KEY_FPCB.



Fig. 3-8



10. Remove the two FPCB as illustrated in "Fig. A", "Fig. B".



11. Remove the three SCREW.

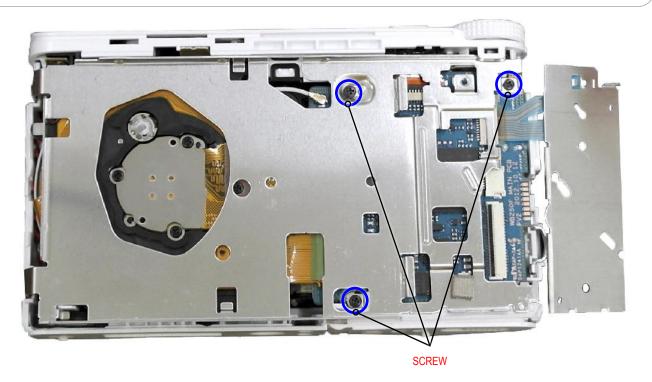


Fig. 3-11

12. Remove the ASSY FRAME-MAIN.

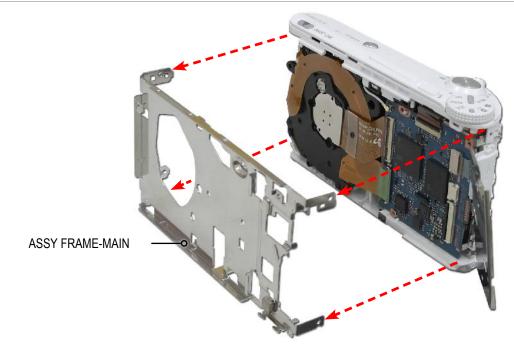


Fig. 3-12

13. Remove the WI-FI antena and FPCB adhesion part as illustrated in " Fig. C". 14. Remove the FPCB from the CONNECTOR as indicated in " Fig. D", " Fig. E".

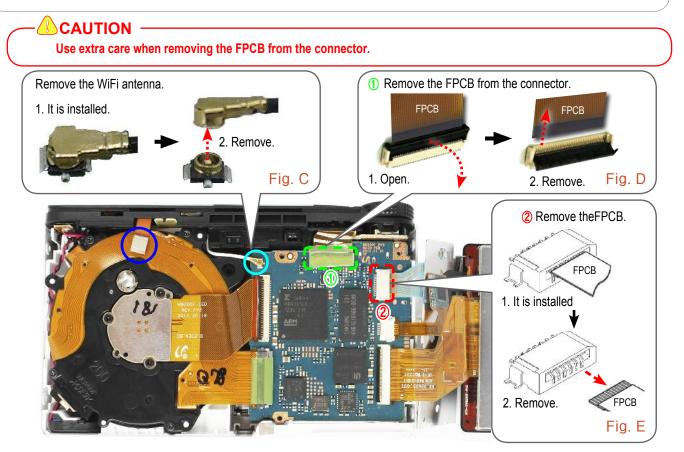


Fig. 3-13

15. Remove the ASSY-BARREL MAIN PCB.

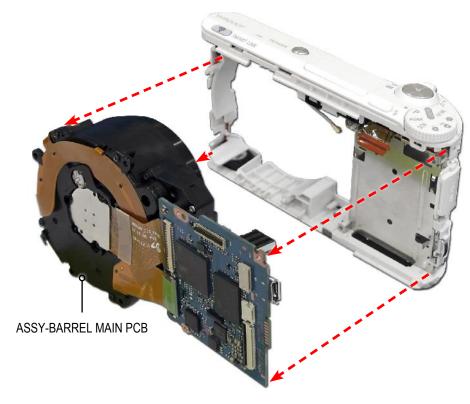
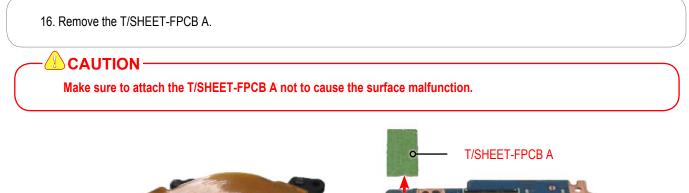


Fig. 3-14



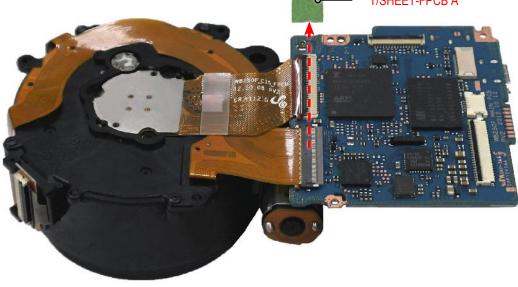


Fig. 3-15

17. Remove the two FPCB from the connector as illustrated in "Fig. F", "Fig. G".

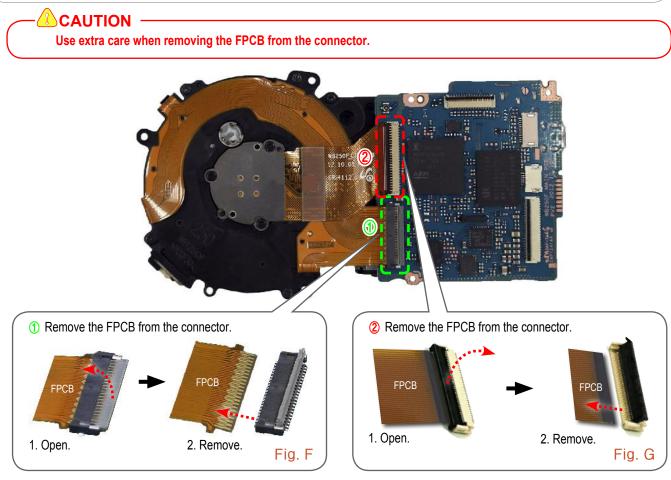


Fig. 3-16

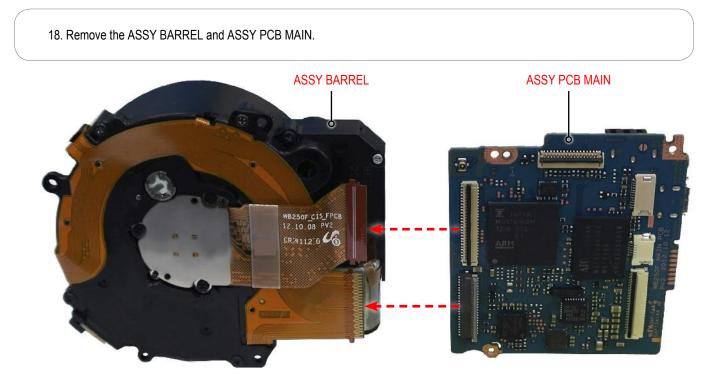


Fig. 3-17

19. Remove the MAIN CONDENSER.

20. Use a tweezers at locking of part shown in five green circle of COVER TOP and remove it.

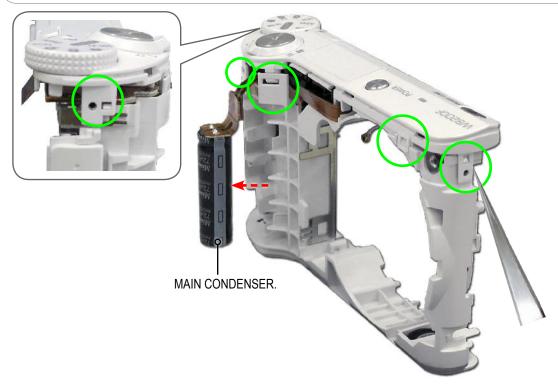
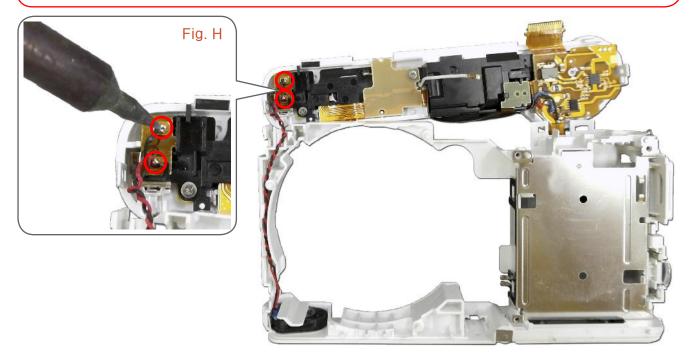


Fig. 3-18

21 . Remove the two solder marked in red circle as illustrated in "Fig. H".

CAUTION

Be especially careful not to touch the surrounding circuitry and components when removing the solder.



22. Remove the ASSY COVER TOP.

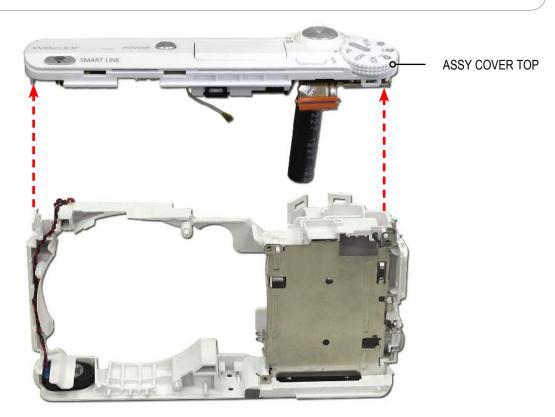


Fig. 3-20







24. Remove the three SCREWS.

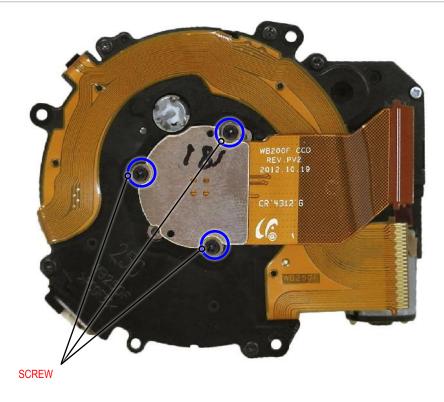
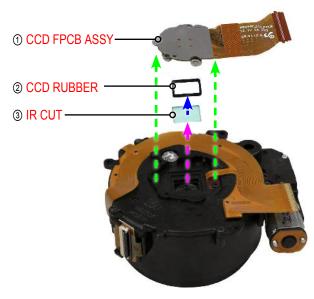


Fig. 3-22

25. Remove the following parts in the order indicated below.
① CCD FPCB ASSY
② CCD RUBBER
③ IR CUT





3-2 Barrel Disassembly

1. Remove the six SCREWS.

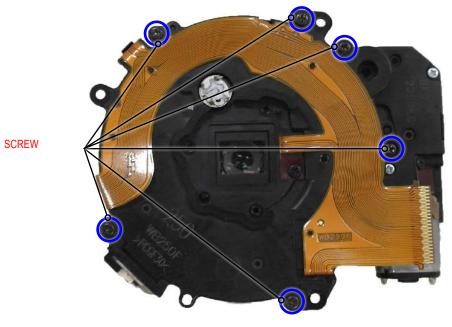
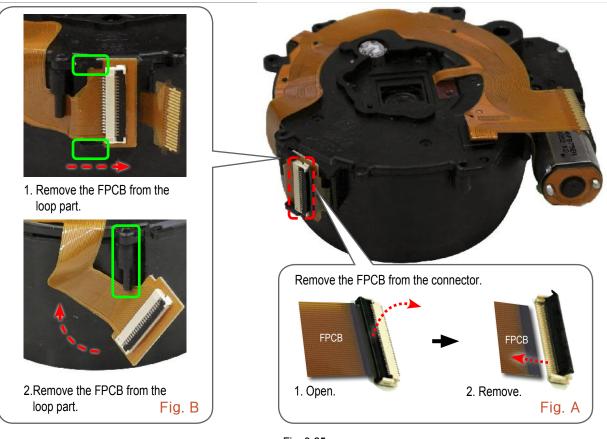


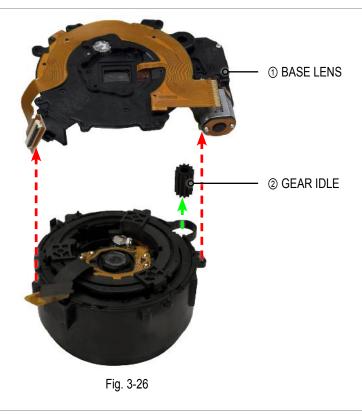
Fig. 3-24

- 2. Remove the FPCB from the connector as illustrated in "Fig. A".
- 3. Remove the loop part by slightly move the FPCB as shown in the "Fig.B".

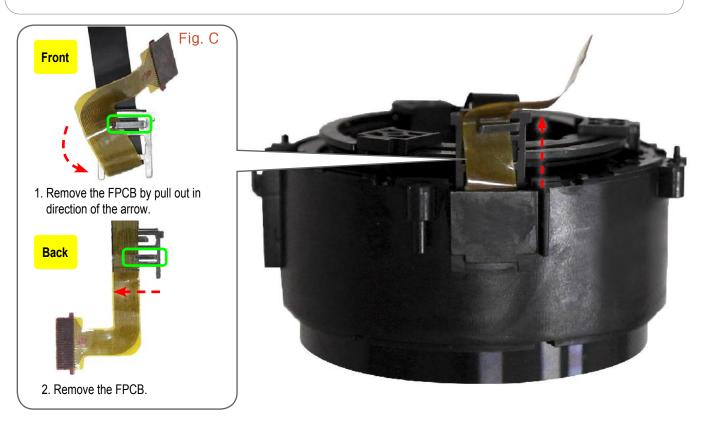




- 4. Remove the following parts in the order indicated below. ① **BASE LENS**
- ② GEAR IDLE



- 5. Remove the FPCB HOLDER.
- 6. Remove the FPCB from the loop part of FPCB HOLDER as indicated.





7. Remove the BARREL-OUTER GUIDE.



Fig. 3-28

8. Remove the BARREL-OUTER CAM.





9. Remove the BARREL-OUTER GUIDE PLATE.



Fig. 3-30





11. Remove the BARREL-ZOOM RING.



Fig. 3-32

12. Remove the SUB BARREL ASSY-2ND.



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3-3 Reassembly of barrel

3-3-1 How to use the lubricant for anti-friction to the ASSY BARREL assembly.

Anti-friction lubricant serves to prevent from the possibility of defective parts.

■ Replacement parts are required to apply the lubricant before installing the ASSY BARREL.

HANARL is volatile product. Keep its container tightly covered.

Make sure to shake the HANARL well first before you use it because it has a lot of particles in the bottom. (Otherwise it becomes ineffective.)

Shake the HANARL until there are no lumps at all and apply it with brush.

1. Type of lubricant

<Table. 3-1 lubricant Information>

Component Name	Where to apply	Name of lubricant
Lens Base	Sliding contact surfaces of AF Lens.	Grease KG-513
Others components	Inside and outside friction surface	HANARL UD-420K

% Lubricant brand name : Kanto Kasei (http://www.kanto-kasei.co.jp/e/index.html)

Please contact us (KIHYUNG CO., LTD Distributor) by email if you are interested in purchasing.

e-mail : keeheung2000@yahoo.co.kr

2. Instructions

<Table. 3-3 Lubricating with Grease: Lens Base>

The pins that work AF Lens

- 1) Apply the Grease KG-513 to the two pins of AF Lens.
- 2) Do not get any Grease on the AF lens.
- 3) Apply a light coating of the Grease KG-513 and make sure not to get any on the AF lens and other components.





Fig. 3-34

3. Lubricating with HANARL: Others components

Apply the HANARL to the Inside and outside friction surface of the components such as ZOOMRING, CAM BARREL, GUIDE PLATE as illustrated in image below.

- Make sure to shake the HANARL well first before you use it until there are no lumps.
- Apply the HANARL with a clean and good-quality brush, making sure the surface is clean.
- HANARL is volatile product. Keep its container tightly covered.









3-3-2 Reassembly of BARREL ASSY.

1. Align the corresponding position of (a), (b), (c) as illustrated in "Fig. A" then install the SUB BARREL ASSY-2ND.

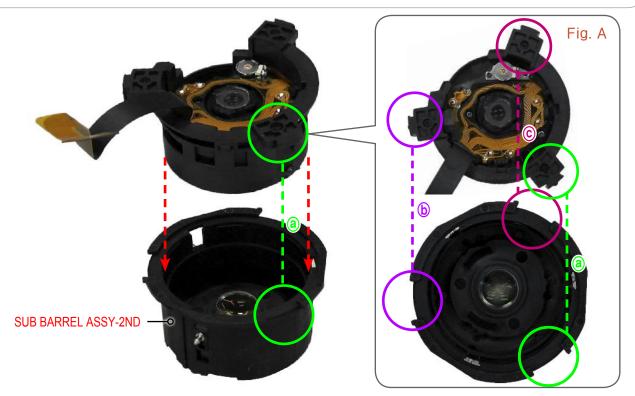


Fig. 3-37

2. Flip over the BARREL-ZOOM RING as illustrated in "Fig. B".
 3. Align the corresponding position of (a) as illustrated in "Fig. A" then install the BARREL-ZOOM RING.



4. Align the corresponding position of (a), (b) as illustrated in "Fig. D" then install the BARREL-CAM.

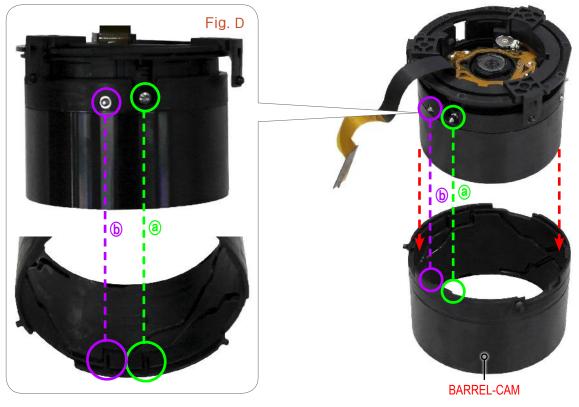
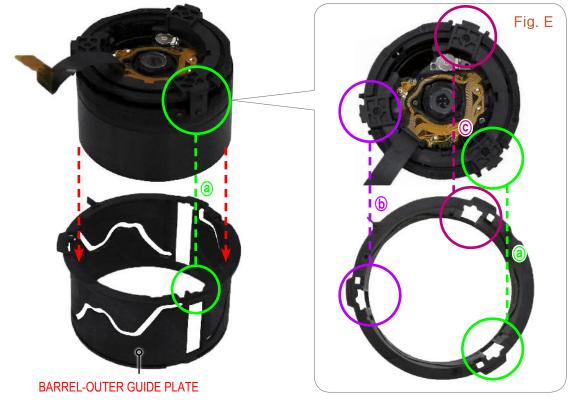
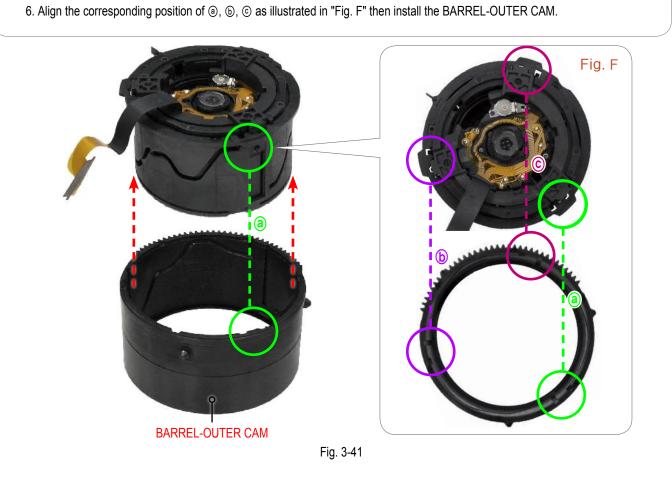


Fig. 3-39

5. Align the corresponding position of (a), (b), (c) as illustrated in "Fig. E" then install the BARREL-OUTER GUIDE PLATE.







7. Align the corresponding position of (a), (b), (c) as illustrated in "Fig. G" then install the BARREL-OUTER GUIDE.

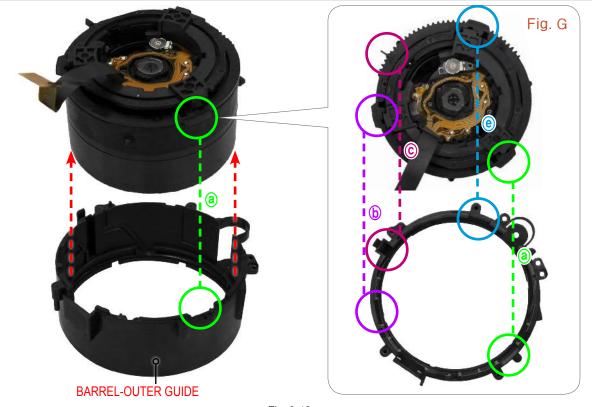


Fig. 3-42

- 8. Insert the FPCB into the groove of FPCB HOLDER as illustrated in "Fig. H".
- 9. Install the FPCB HOLDER.

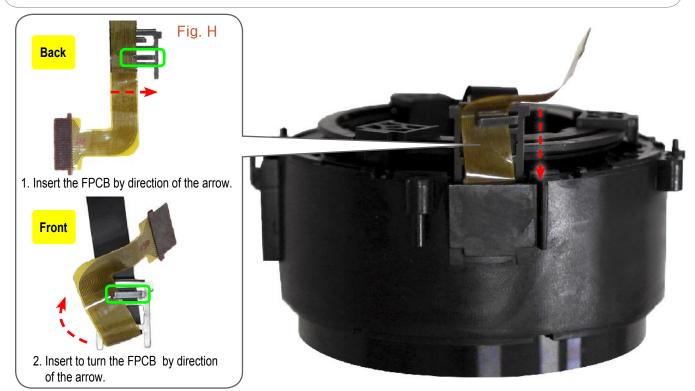


Fig. 3-43

10. Install the GEAR IDLE.

11. Align the corresponding position of (a), (b) as illustrated in "Fig. I" then install the BASE LENS.

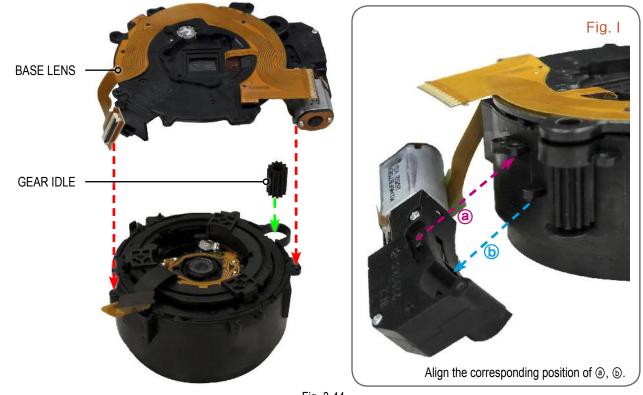
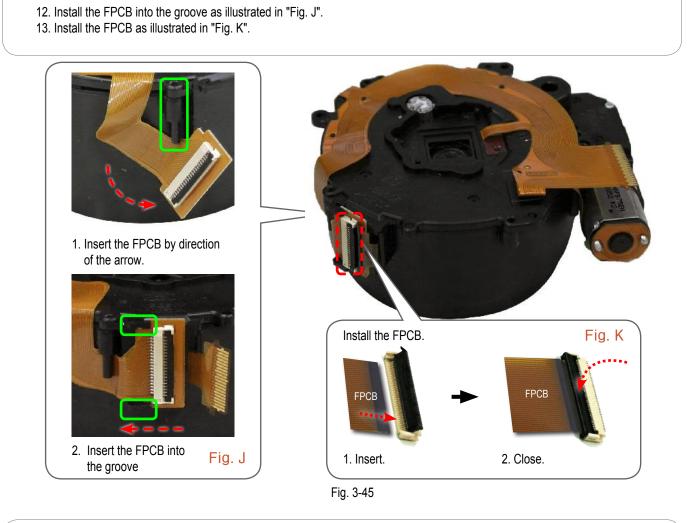


Fig. 3-44



14. Tighten the six screws.

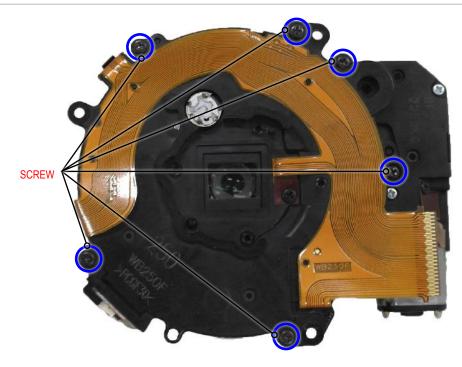


Fig. 3-46

4. Troubleshooting

4-1 SD CARD detect failA/error

	Situation Not recogniz	e the memory card	
	Suggested re	medies	Reference
1	Reinsert SD card after cle PAD pin.	eaning card's	C C C C C C C C C C C C C C C C C C C
2	Check the mechanical de socket's detect. Check the SMD states of nearby devices.		C278 C278 C278

4-2 Switch problems on TOP (Power/Release/Zoom)

	Situation The power, release, mode dial, zoom shutter does not work.					
\geq	Suggested remedies	Reference				
1	Check the MAIN PCB -TOP FPCB connecting condition.					
2	Check the SMD states of each shutter & zoom switches related devices. Check each switch's mechanical defects.					
3	Check the SMD states of each power & smart link switches related devices. Check each switch's mechanical defects.					

4-3 MAIN PCB connection issues

Situation 1.

Cannot turn on the camera.

	Suggested remedies	Reference
1	 Check the MAIN PCB -TOP FPCB connecting condition. Check the BARREL FPCB connecting condition. Check the Sensors FPCB connecting condition. 	

|--|

Situation 3. The touch does not work.

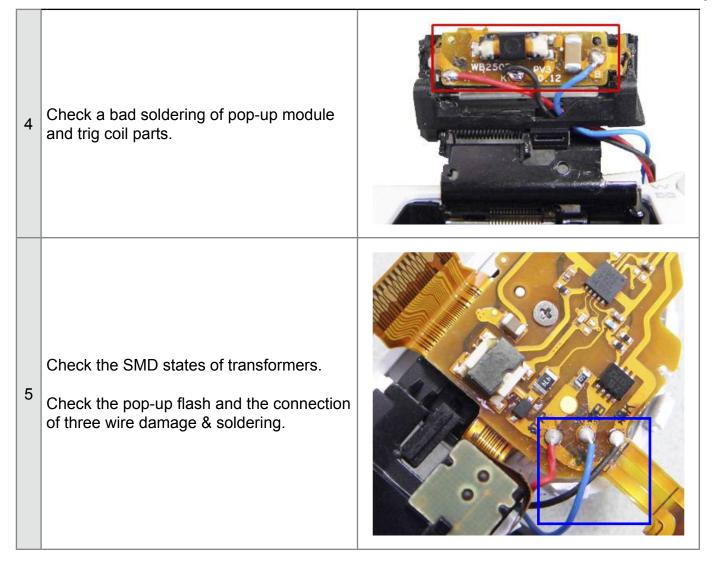
Situation 4. Does not input in Rear button.

	Suggested remedies	Reference
1	 Situation 2. Check the LCD FPCB connecting condition Situation 3. Check the TSP FPCB connecting condition Situation 4. Check the KEY FPCB connecting condition 	

4-4 Flash related problems

	Situation The flash does not work.				
\mathbf{i}	Suggested remedies	Reference			
1	Check the MAIN PCB -TOP FPCB connecting condition.				
2	Check a reverse insertion of Xe-TUBE.	means (-) plus (+)			
3	Check the connector and polarity of Main Condenser.				

Troubleshooting



4-5 Image output related problems

When horizontal/vertical noise preview Image or Situation emulsification occurs when preview black out occurs. Suggested remedies Reference Check the FPCB connecting condition 1 and SMD states of CMOS CONNECTOR. 07 Check the CMOS SENSOR ASSY crack. 2 Change the CMOS SENSOR ASSY & check. Check the FPCB connecting condition 3 and SMD states of CMOS connector.

4-6 When you cannot hear the recorded sound

Situation		Does not sound.	
$\overline{\ }$	Suggested rer	nedies	Reference
1	Check the connector and p Check the soldering point an		

Situation

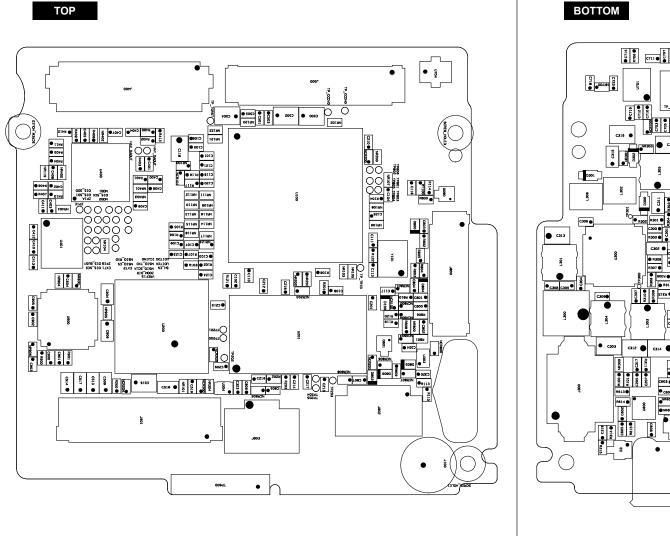
Be heard sound of button but have no sound of voice recording

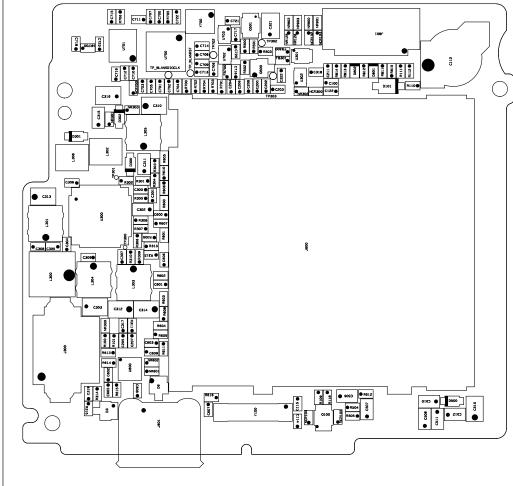
\searrow	Suggested remedies	Reference
1	Check the polarity to soldering of MIC. Check the damage states of MIC FPCB.	

PCB diagrams

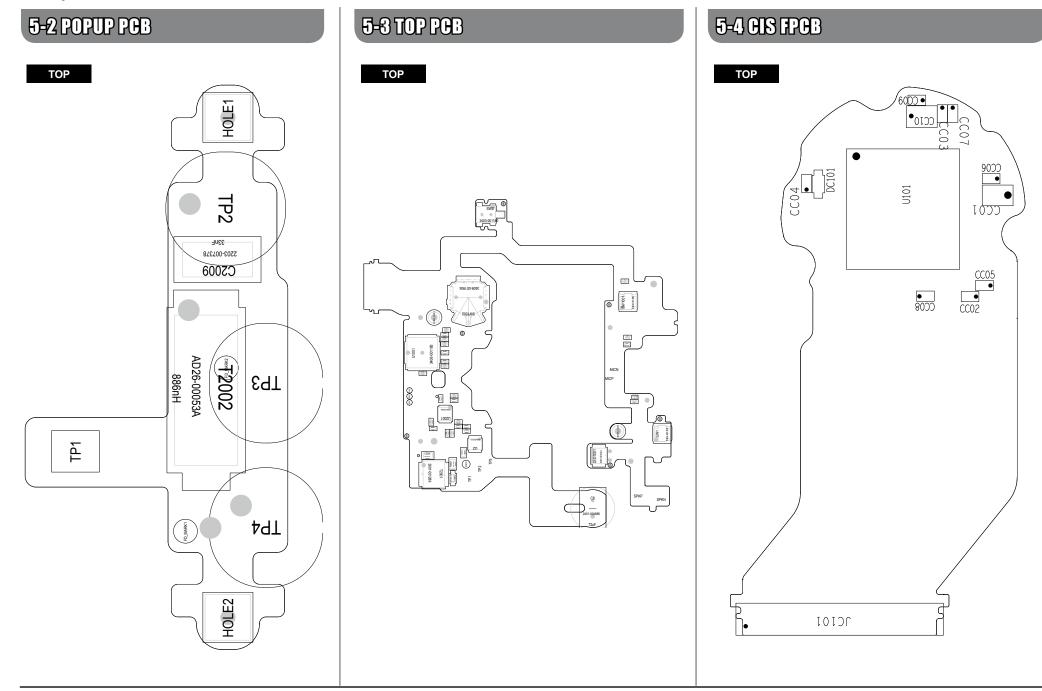
5. PCB diagrams

5-1 MAIN PCB

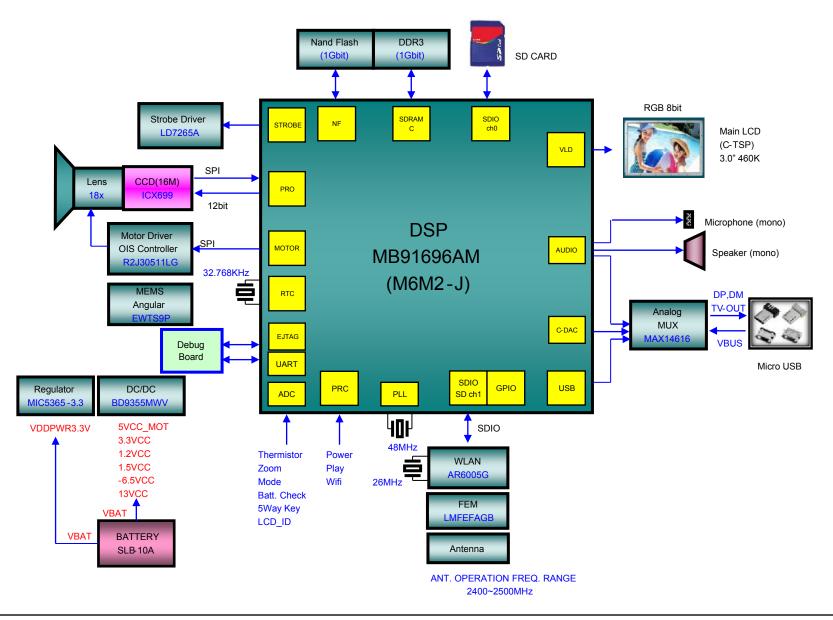




PCB diagrams



6. Block diagram



7. Firmware update

7-1 Product reset



This describes how to reset the camera to factory default setting.

1. First turn on the power of the camera.



Fig. 7-1

2. Press the (1) SHUTTER button + WIDE direction and then turn the (2) POWER off.

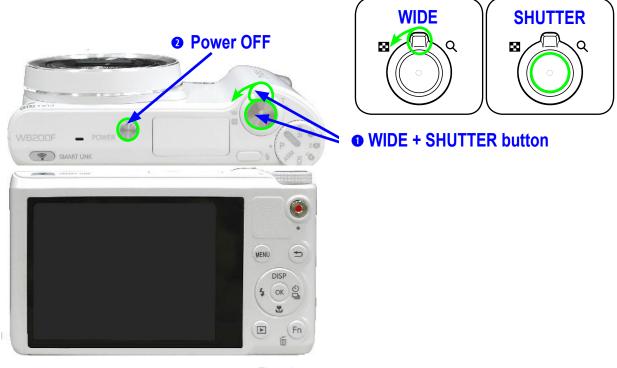


Fig. 7-2

Firmware update

3. Turn the power of the camera on again to check whether it has been reset.

	General General	
	Language	English 🕽
	Time Zone	Home >
	Date/Time Set	
	Date Type	MM/DD/ >
	Exit	Select
	5 Exit	Select
NAARY LINK V	5 Exit	Select
	Exit	Select
	English >	Select
General		Select
Ceneral	English >	Select
Ceneral Language Time Zone	English > Home >	Select

Fig. 7-3

7-2 Version check

This describes how to check the version of the current firmware of the camera.

- 1. Use fully charged battery for power.
- 2. First turn off the power of the camera.
- 3.Press the (1) SHUTTER button + WIDE direction, and then turn the (2) POWER on.



Fig. 7-4

4. Check the version of the firmware and then turn the power off.





7-3 Update

How to execute the firmware

The firmware is configured in the following structure.

Code area is where the execution codes to operate the camera are located, and the Partition [1:3] area is where the various resources necessary to operate the camera are saved. Among these areas, Partition 3 area is where the Defective Pixel adjustment data and Lens Shading adjustment data are saved.

User Area is where the setting values are saved through the menu when the user uses the camera, and the adjusted data through integrated process is saved.

<Table. 7-1>

	code	partition1	partition2	partition3	User Area
--	------	------------	------------	------------	-----------

Reference of general version:

- As the version to update the Code + Partition [1:2] area, this protects both the adjusted data saved in the User Area and the Partition 3 area.

1. Insert the memory card containing the firmware data file and Update Script file into the camera.

- * You need two files to update the firmware and the required files are firmware data file and Update Script file. * Because all data saved on the FLASH memory will be reset when you update the firmware, back up
- your data before proceeding with the update.

fwup.txt	
DATAWB200.bin	۱

2. Use the AC adaptor or fully charged batteries for the power.

* You can proceed with the update only when the battery level is full (Icon showing full up to 3rd level).

3. Turn on the power of the camera.



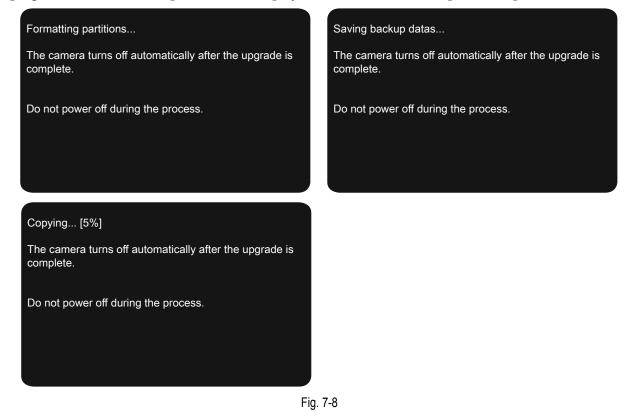


4. The version of the firmware to update will be displayed on the LCD screen. When you press the SHUTTER button, the firmware update will start.



Fig. 7-7

5. The progress of the firmware update will be displayed on the LCD and the update will proceed.



6. When the update is completed, the camera will automatically be turned off.

7-4 How to recover the MAIN PCB



• This section describes how to recover the MAIN PCB when camera stops functioning due to power failure or some other reasons during the firmware process.

It is not necessary to go over all the adjustment process again since the existing adjustment data is deleted.

Required materials

- 1. SD card less than 1GB
- It is recommended to use a SD card with less than 1GB.
- 2. Soldering iron
- It is used to short out the TP on MAIN PCB.
- 3. The latest firmware files such as WB200F_U_SR_SXXXXX.zip
- You can download the latest firmware file from the K-zone or Samsung website.
- Note that the name of the firmware file may vary depending on WB model.
- 1. Remove the camera as Fig. 7-9.
 - Removing the BACK COVER \rightarrow KEY PCB \rightarrow LCD \rightarrow MAIN FRAME.
- 2. Download the latest firmware file and copy it to the SD card .
 - Save the latest version firmware file into root folder in SD card.
 - (DATAWB200.bin)
 - Do not need to save the "fwup.txt" file. Only save the "DATAWB200.bin" file.
- 3. Insert the memory card containing the firmware data file into the camera.
- * You can proceed with the upgrade only when the battery level is full (Icon showing full up to 3rd level).
- 4. Soldering the TP in red circle on Main PCB to short out the circuit. Then press the power button to turn on the camera.

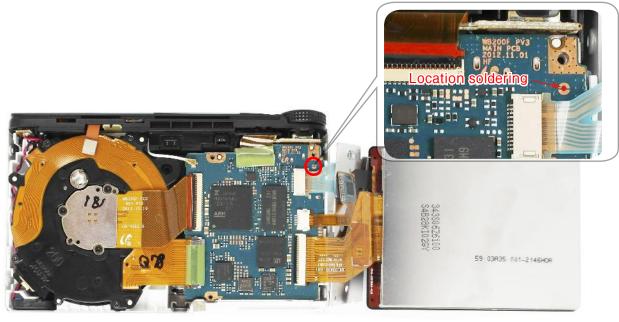


Fig. 7-9

- 5. LED will turn on blink when turn on the camera. The MAIN PCB recovery process will proceed. (It will takes about 2 minutes.)
- 6. LED will turn off when the recovery process is complete.
- 7. Remove the Soldering.
- 8. Remove the SD card and then assemble the camera. - Assemble the MAIN FRAME \rightarrow LCD \rightarrow KEY PCB \rightarrow BACK COVER
- 9. Turn the power of the camera on again to check whether camera has been functioning.

8. Adjustment

8-1 Basic guide for adjustment

- After replacing an electronic part, you must make changes for each adjustment item in the WB200F.
 - The following table shows the necessary adjustment item for replacing each part.
- The camera must be fixed with a tripod and levelled condition must be maintained.

1. After replacing an electronic part, you must make adjustments for each item by referring to the following table.

<Table. 8-1 Adjustment information>

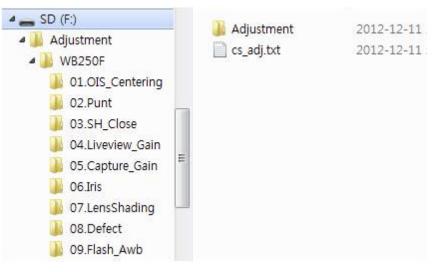
	MAIN PCB	TOP FPCB POPUP PCB	BARREL ASSY	CIS ASSY
Firmware update	0	X	X	Х
OIS CENTERING ADJ	0	X	0	0
PUNT(Auto Focus) ADJ	0	X	0	0
SHUTER CLOSE, CCD, IRIS ADJ	0	X	0	0
LENS SHADING ADJ	0	X	0	0
CIS DEFECT PIXEL ADJ (DPC)	0	X	0	0
FLASH & AWB ADJ	0	0	0	0
WIFI SETTING, MAC ADDR, SERIAL NO WRITE enter	0	X	X	X

2. Adjustment equipment

- Light source box: Light source box that supporting LV 12.
- The colour temperature specification of the Light box is **3300K**.
- Infinity Collimator for PUNT adjustment.
- Gray chart (18%) and DARK BOX for FLASH & AWB adjustment.
- POWER SUPPLY: 4.2V/2A

3. Adjustment program file

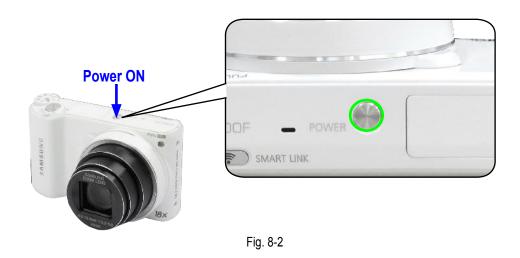
Save the "Adjustment" file and "cs_adj.txt" file on memory card as follows.



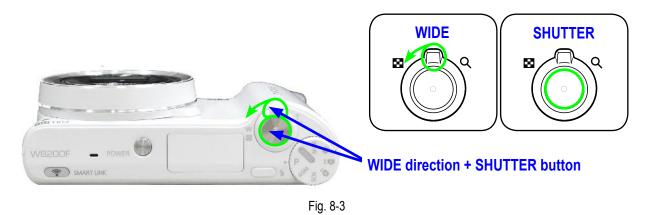


4. Adjustment mode entry process.

1) Insert the memory card containing the two adjustment file into the camera and then turn on the power of the camera.



2) Entering the adjustment mode to press the WIDE direction + SHUTTER button as shown below.



3) The adjustment can be performed by select the adjustment item desired from the menu below.



Fig. 8-4

8-2 OIS CENTERING ADJ



Process to check if OIS performs well or not.

<Adjustment method>

- 1. Insert the memory card containing the adjustment file into the camera and then entering the adjustment mode.
- 2. Select the OIS Centering of adjustment menu.
- 3. Adjustment is made automatically. - OIS module will be operated left/right/up/down 2-3 times.



4. When the adjustment is completed, the camera will be off automatically.

Put your camera up straight on a steady surface such as a table or anything solid that won't move. Don't put your camera on a highly unstable surface. Also don't put your camera down or hold it. The noise may significantly affect degrading the Gyro Sensor and Hall Sensor performance.

8-3 PUNT(Auto Focus) ADJ

Adjustment objective: Adjustment for implement the performance of AF optimized by adjustment to assembly deviation of barrel(Lens).

Necessary equipment: Infinity Collimator

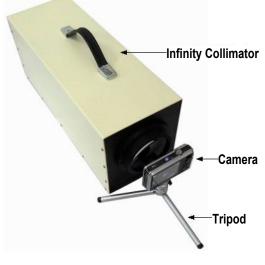
<Adjustment method>

0

1. Refer to the following adjustment environment specification to adjust the focus.

1) Used specification of Infinity Collimator.

- Set the illuminance specification of the Collimator to 6 LV.
- Maintain distance of less than 1cm between the end of the camera body tube to the lens surface of the Infinity Collimator.
- The camera must be fixed while the adjustment is made.

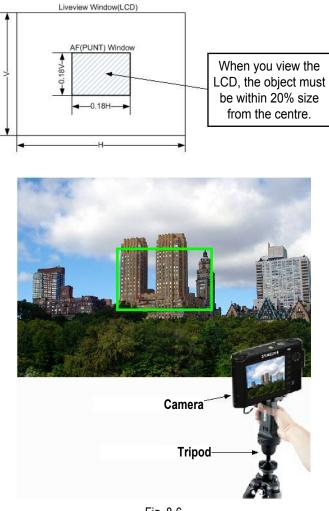




Adjustment

2) Used specification for infinite object.

- The camera must be fixed with a tripod and levelled condition must be maintained.
- Set up the camera toward a building or object in infinite distance (more than 500m). (Do not use the chart)
- Set a cathedral, apartment or object with high contrast in day environment/AF area display.





For the object, exclude full glass buildings or objects with low contrast, and this cannot be adjusted for night time. For the adjustment in these environments, AF may not be accurate when shooting Tele or macro.

- 2. Insert the memory card containing the adjustment file into the camera and then entering the adjustment mode.
- 3. Select the Punt(Auto Focus) of adjustment menu.
- 4. Adjustment is made automatically.
- 5. When the adjustment is completed, the camera will be off automatically.

8-4 SHUTTER CLOSE, CIS GAIN, IRIS ADJ



Adjust the Close timing of the device shutter by camera.

Because there is a deviation of shutter closing time by each set, make adjustments by each set to reduce this deviation.
 CCD Gain item and AWB LOW are adjusted simultaneously.

<Adjustment method>

- 1. Prepare the Light source box that can be adjusted to LV 12.
- 2. Insert the memory card containing the adjustment file into the camera and then install the camera to the Light source box.
 - * Luminance specification of the Light box is LV 12.
 - * The colour temperature specification of the Light box is 3300K.





3. Select the Shutter Close Time of adjustment menu.

4. The adjustment process will automatically start.

- Check the number of maximum adjustments which have been set, and adjust the Shutter close time, CMOS sensor gain, IRIS
- Carry out inspection by referring to the specifications for brightness.
 The line delay and sub delay, Gain, IRIS value are adjusted to find the proper values for the specifications for brightness.
- **3** If the result value are within spec, it is OK. Otherwise, it is NG.
- Write the adjustment value in the EEPROM by referring to the EEPROM WRITE data.
- Write the result of the adjustment value in the data file by referring to the CARD WRITE data.

5. When the adjustment is completed, the camera will automatically be turned off.

6. Liveview Gain, Capture Gain, Iris are also perform in the same way.

8-5 LENS SHADING ADJ



- Adjust the lens shading for the brightness of the periphery of the lens for each camera.
- Because the surrounding brightness is lower compared to the centre for each set, separately adjust each set so that the surrounding brightness is higher.

<Adjustment method>

- 1. Prepare the Light source box.
 - * Luminance specification of the Light box is LV 12.
 - * The Light box is located at 10mm ± 1mm with the body tube open.
 - * The colour temperature specification of the Light box is **3300K**.
- 2. Insert the memory card containing the adjustment file into the camera and then install the camera to the Light source box.



Fig. 8-8

4. Select the Lens Shading of adjustment menu.

5. The adjustment process will automatically start.

- Adjust the Lens Shading with large lense, Zoom 0 condition.
- **2** Refer to the EEPROM WRITE information and write the adjustment result to EEPROM.
- **3** Write the result of the adjustment value in the data file by referring to the CARD WRITE data.
- Set the lower and upper specification.

6. When the adjustment is completed, the camera will automatically be turned off.

8-6 FLASH & AWB ADJ



Set a limit to the illuminance by the Strobo light to classify the hardware defect.

Classify the set that deviates from the specifications by illuminating times and then calculate the flash R, B gain.

AWB HIGH item is adjusted simultaneously.

<Adjustment method>

- 1. Attach an 18% reflective paper in the dark room where the light is blocked.
- 2. Set up the camera in the dark room.
- 3. Set the distance between the reflective paper and camera to 50cm.



- 4. Insert the memory card containing the adjustment file into the camera and then entering the adjustment mode.
- 5. Select the Flash & AWB of adjustment menu.
- 6. The adjustment will automatically start.
 - Compare the reference illumination for 2 illuminations using the flash algorithm, and make a judgment.
 - By using the average value of the illuminance of 2 times, check the R and B gain to make Pass/No Pass judgment.
 - B Record the R and B gain to EEPROM during flash process and R, B gain success.
- 7. When the adjustment is completed, the camera will automatically be turned off.

8-7 CIS DEFECT PIXEL ADJ



Calibrate the Defective pixel of CIS for each camera.

<Adjustment method>

- 1. Insert the memory card containing the adjustment file into the camera and then entering the adjustment mode.
- 2. Select the Defect(CIS Defect Pixel) of adjustment menu.
- 3. The adjustment will automatically start.
 - Check the set reference level, exposure time and loop, and execute the Defective Pixel calibration.
 - **2** Refer to the specification (Maximum number of defective cells) and execute the check.
 - **3** Refer to the CARD WRITE information to write the number of defective cells to the data file.
- 4. When the adjustment is completed, the camera will automatically be turned off.

8-8 COUNTRY CODE(Wi-Fi) Input

- In case of Wi-Fi Built-in models, MAC Address Write procedure is required after replacing Main PCB.
- Symptom : If country is not selected after replacing Main PCB;
- Proper SNS for its country as below is not available.
- Keypad for its country when using Wi-Fi (English default)
- Wi-Fi data trasmission speed is low.

<Adjustment method>

/@`

- **1**. Insert the memory card containing the adjustment file into the camera and then entering the adjustment mode.
- 2. Select the **Country Code** of adjustment menu.
- 3. Input the 3-digit country code in the screen below.

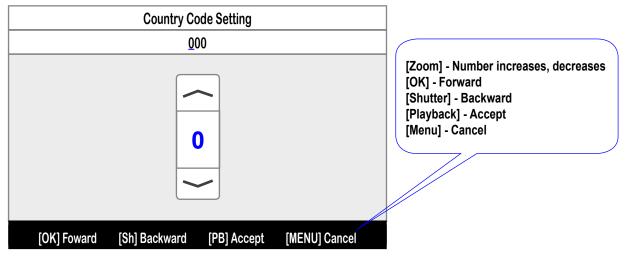


Fig. 8-10

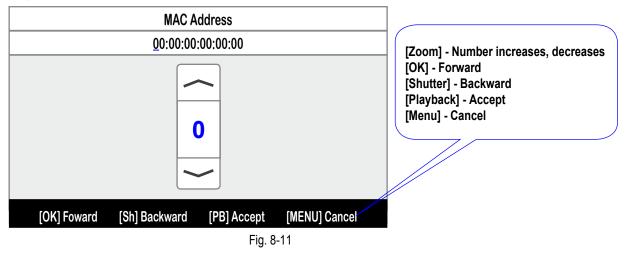
8-9 MAC ADDRESS(Wi-Fi) Input



When you can not find MAC Adress due to failure or malfunction of components in the Main PCB, contact to headquarter. It will offer the new MAC Adress.

<Adjustment method>

- **1**. Insert the memory card containing the adjustment file into the camera and then entering the adjustment mode.
- 2. Select the Mac Address of adjustment menu.
- 3. Input the 12-digit Mac Address in the screen below.



8-10 SERIAL NO. Input

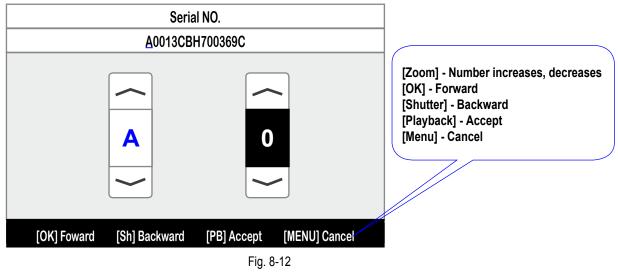
If the Serial Number label of the camera has been Erased, check the Serial Number into version check mode.

- Version check mode: Press the (1) SHUTTER button + WIDE button, and then turn the (2) POWER on.
- Check the repair history or genuine to through Serial Number of camera.

<Adjustment method>

∕₿\

- **1.** Insert the memory card containing the adjustment file into the camera and then entering the adjustment mode.
- 2. Select the Serial No. of adjustment menu.
- 3. Input the 15-digit Serial No. in the screen below.



8-11 Input confirm

1. When checking the version (Press SHUTTER button and WIDE direction to turn on), Mac address, Serial number, Nation appears on the screen.



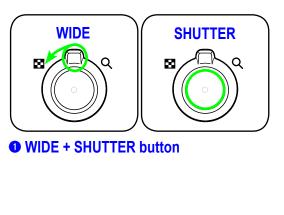


Fig. 8-13

2. Check the Mac address, Serial number, Nation.

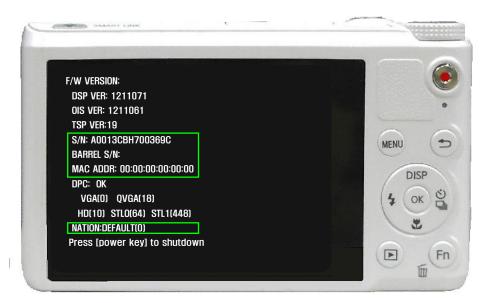
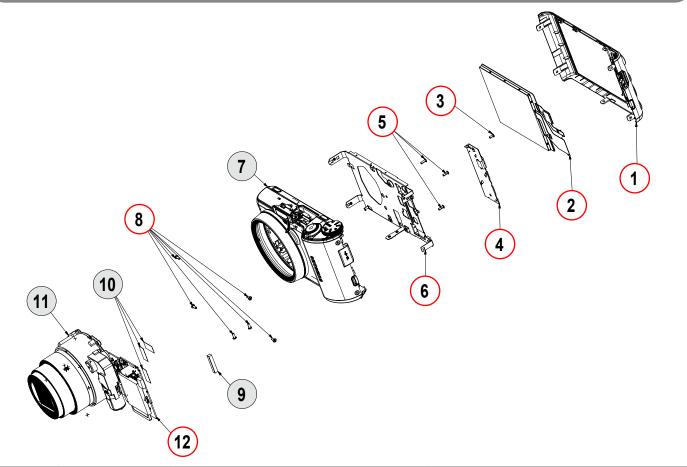


Fig. 8-14

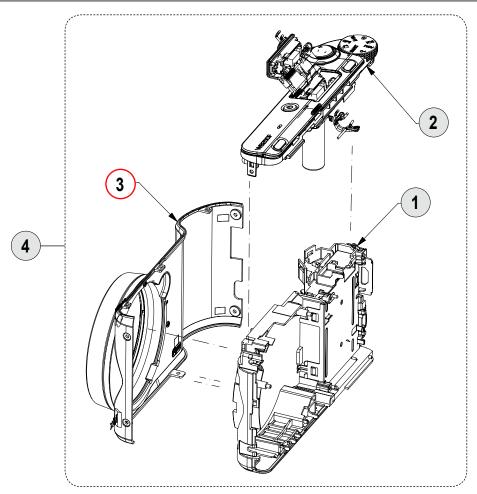
9. Exploded view and parts list

9-1 BODY ASSEMBLY



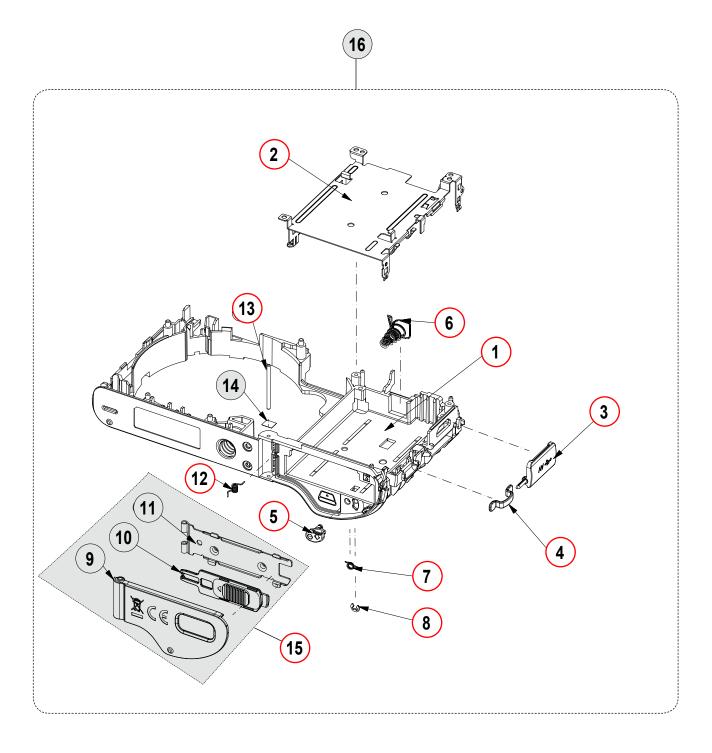
Loc. No	Parts No.	Description	Q ty	Available	Remark
	AD97-23035A	ASSY COVER BLACK_BK	1	0	BLACK
1	AD97-23035B	ASSY COVER BLACK_WT	1	0	WHITE
	AD97-23035C	ASSY COVER BLACK_RD	1	0	RED
2	AD97-23145A	ASSY-LCD_TSP	1	0	
3	6001-001811	SCREW-MACHINE_1430_BK	1	0	
4	AD92-02003A	ASSY-KEY PCB	1	0	
5	6003-001659	SCREW-TAPTYPE_1440_BK	3	0	
6	AD97-23190B	ASSY FRAME MAIN	1	0	
	AD97-23166A	ASSY MAIN_BK	1	Х	BLACK
7	AD97-23166B	ASSY MAIN_WT	1	Х	WHITE
	AD97-23166C	ASSY MAIN_RD	1	Х	RED
0	6001-002152	SCREW-MACHINE_1440_BK	6	0	BLACK/RED
8	6001-002159	SCREW-MACHINE_1440_SL	6	0	WHITE
9	AD63-07409A	CUSHION-KEY PCB	1	Х	
10	AD63-04837A	T/SHEET-FPCB A	3	Х	
11	AD97-23167A	ASSY BARREL PCB MAIN	1	Х	
12	AD92-02042A	ASSY PCB MAIN	1	0	

9-2 MAIN ASSEMBLY



Loc. No	Parts No.	Description	Q ty	Available	Remark
	AD97-23037A	ASSY- CHAMBER_BK	1	Х	BLACK
1	AD97-23037B	ASSY- CHAMBER_WT	1	Х	WHITE
	AD97-23037C	ASSY- CHAMBER_RD	1	Х	RED
	AD97-23165A	ASSY-COVER TOP_BK	1	Х	BLACK
2	AD97-23165D	ASSY-COVER TOP_WT	1	Х	WHITE
	AD97-23165D	ASSY-COVER TOP_RD	1	Х	RED
	AD97-23221A	ASSY- COVER FRONT_BK	1	0	BLACK
3	AD97-23221B	ASSY- COVER FRONT_WT	1	0	WHITE
	AD97-23221C	ASSY- COVER FRONT_RD	1	0	RED
	AD97-23166A	ASSY MAIN_BK	1	Х	BLACK
4	AD97-23166B	ASSY MAIN_WT	1	Х	WHITE
	AD97-23166C	ASSY MAIN_RD	1	Х	RED

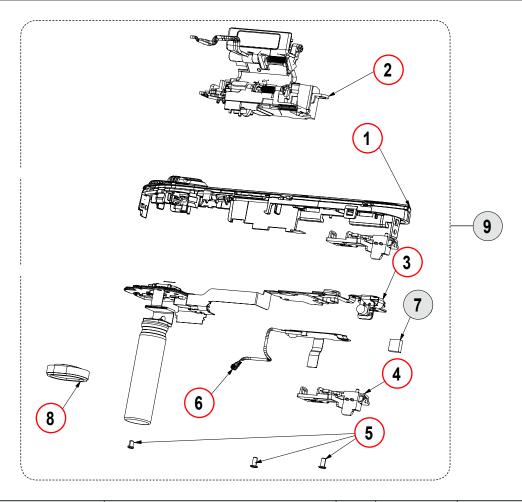
9-3 CHAMBER ASSEMBLY



Exploded view and parts list

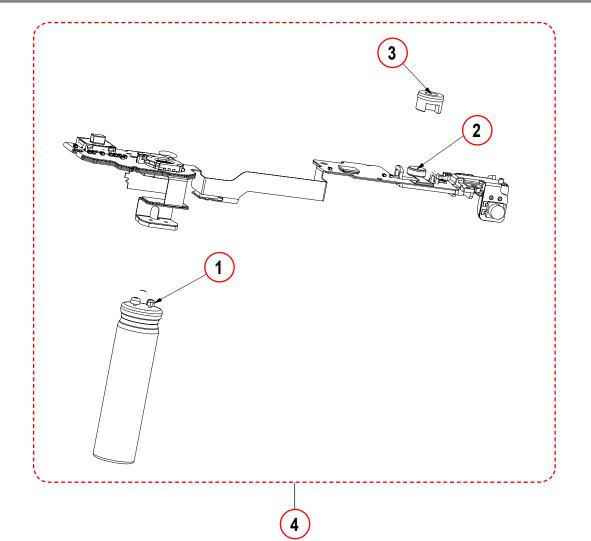
Loc. No	Parts No.	Description	Q ty	Available	Remark
	AD62-00208A	CHAMBER BODY_BK	1	0	BLACK
1	AD62-00208B	CHAMBER BODY_WT	1	0	WHITE
	AD62-00208C	CHAMBER BODY_RD	1	0	RED
2	AD61-05821A	PLATE-BATTERY HOLDER	1	0	
	AD63-07177A	COVER SOCKET_BK	1	0	BLACK
3	AD63-07177B	COVER SOCKET_WT	1	0	WHITE
ſ	AD63-07177C	COVER SOCKET_RD	1	0	RED
4	AD61-05834A	HOLDER-STRAP	1	0	
5	AD66-00655B	LEVER-BATTERY LOCK	1	0	
6	AD61-05213A	SPRING ETC-BATTERY PUSH	1	0	
7	6107-001678	SPRING-TS	1	0	
8	6044-001137	RING-E	1	0	
	AD63-07178A	COVER-BATTERY-BK	1	Х	BLACK
9	AD63-07178B	COVER-BATTERY-WT	1	Х	WHITE
-	AD63-07178C	COVER-BATTERY-RD	1	Х	RED
	AD63-06580A	COVER-BATTERY LOCK_BK	1	Х	BLACK
10	AD63-06580C	COVER-BATTERY LOCK_WT	1	Х	WHITE
-	AD63-06580E	COVER-BATTERY LOCK_RD	1	Х	RED
11	AD61-05818A	PLATE-COVER BATTERY	1	Х	
12	AD61-05245A	SPRING-BATTERY COVER	1	0	
13	AD61-05863A	HINGE-COVER BATTERY	1	0	
14	AD63-07388A	SHEET-EMI	1	Х	
	AD97-23038A	ASSY COVER-BATTERY_BK	1	0	BLACK
15	AD97-23038B	ASSY COVER-BATTERY_WT	1	0	WHITE
-	AD97-23038C	ASSY COVER-BATTERY_RD	1	0	RED
	AD97-23037A	ASSY CHAMBER-BK	1	Х	BLACK
16	AD97-23037B	ASSY CHAMBER-WT	1	Х	WHITE
	AD97-23037C	ASSY CHAMBER-RD	1	Х	RED

9-4 TOP COVER ASSEMBLY



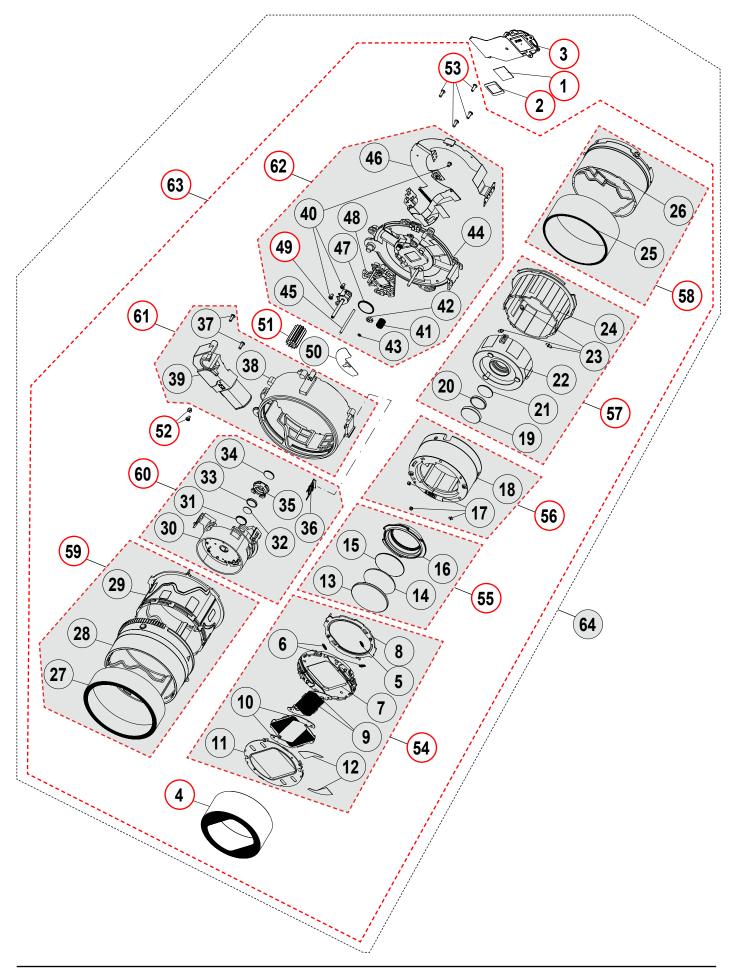
Loc. No	Parts No.	Description	Q ty	Available	Remark
1	AD97-23164A	ASSY-COVER TOP SUB_BK	1	0	BLACK
	AD97-23165D	ASSY-COVER TOP SUB_BK	1	0	WHITE/RED
2	AD97-23046E	ASSY-POP UP_BK	1	0	BLACK/WHITE/RED
3	AD92-01992A	ASSY-PCB TOP	1	0	
4	AD61-05814A	HOLDER-MIC	1	0	
5	6003-001660	SCREW-TAPTYPE -TOP	3	0	
6	AD42-00023A	WIFI ANTENNA FPCB	1	0	
7	AD63-02322A	CUSHION SHIELD FOAM-LCD	1	Х	
8	3001-002712	SPEAKER	1	0	
	AD97-23165A	ASSY COVER TOP_BK	1	Х	BLACK
9	AD97-23165D	ASSY COVER TOP_WT	1	Х	WHITE/RED
	AD97-23165D	ASSY COVER TOP_RD	1	Х	RED

9-5 TOP PCB ASSEMBLY



Loc. No	Parts No.	Description	Q ty	Available	Remark
1	2401-004886	MAIN CONDENSOR	1	0	
2	3003-001198	MIC	1	0	
3	AD67-02581A	RUBBER-MIC	1	0	
4	AD92-01992A	ASSY PCB TOP	1	0	

9-6 BARREL ASSEMBLY



Exploded view and parts list

Loc. No	Parts No.	Description	Q ty	Available	Remark
1	AD63-03625A	CUSHION-IR CUT FILTER	1	0	
2	AD63-05607A	CUSHION-IR_FILTER	1	0	
3	AD92-02043A	ASSY PCB CCD-WB200F	1	0	
4	AD64-03846A	DECO RING-ZOOM RING-WB250F	1	0	
5	6107-002825	SPRING-ES	1	Х	
6	6107-003354	SPRING-ES	2	Х	
7	AD63-05493A	BARRIER-BASE	1	Х	
8	AD63-05494A	BARRIER-LEVER	1	Х	
9	AD63-06037A	BARRIER-BLADE A_BL	2	Х	
10	AD63-06038A	BARRIER-BLADE B_BL	2	Х	
11	AD63-06039A	BARRIER-FRONT PANEL_BL	1	Х	
12	AD63-07008A	T/SHEET-BARRIER-WB150	2	Х	
13	AD67-01863A	LENS-G1	1	Х	
14	AD67-01864A	LENS-G2	1	Х	
15	AD67-01865A	LENS-G3	1	X	
16	AD67-01935A	BARREL-1ST LENS	1	Х	
17	AD66-00845A	SHAFT-1ST MOVE	3	Х	
18	AD67-01934A	BARREL-ZOOM RING	1	Х	
19	AD67-01866A	LENS-G4	1	Х	
20	AD67-01867A	LENS-G5	1	Х	
21	AD67-01868A	LENS-G6	1	X	
22	AD67-01936A	BARREL-2ND LENS	1	Х	
23	AD66-00846A	SHAFT-2ND MOVE	3	X	
24	AD67-01933A	BARREL-GUIDE PLATE	1	Х	
25	AD64-03852A	DECO RING-CAM-WB250F	1	X	
26	AD67-01932A	BARREL-CAM	1	Х	
27	AD64-03853A	DECO RING-OUTER CAM-WB250F	1	Х	
28	AD67-01930A	BARREL-OUTER CAM	1	Х	
29	AD67-01931A	BARREL-OUTER GUIDE PLATE	1	Х	
30	AD97-23048A	ASSY SHUTTER-OIS	1	Х	
31	AD67-01872A	LENS ASP LENS-G7	1	Х	
32	AD67-01869A	LENS-G8	1	Х	
33	AD67-01870A	LENS-G9	1	Х	
34	AD67-01871A	LENS-G10	1	Х	
35	AD67-01937A	BARREL-3RD LENS	1	Х	
36	AD61-04466A	HOLDER-FPCB_E14	1	Х	
37	6003-001659	SCREW-TAPTYPE	2	Х	
38	AD67-01929A	BARREL-OUTER GUIDE	1	Х	
39	AD97-19970A	ASSY ZOOM	1	X	
40	6003-001629	SCREW-TAPTYPE	3	X	
41	6107-002826	SPRING-CS	1	X	
42	AD61-04909A	CLIP-AF	1	X	
43	AD61-05239A	CLIP-AF_STOPPER	1	X	

Loc. No	Parts No.	Description	Q ty	Available	Remark
44	AD61-05784A	BASE-LENS-WB200F	1	Х	
45	AD66-00847A	SHAFT-AF GUIDE BAR	1	Х	
46	AD92-01990A	ASSY PCB LENS MAIN-WB250	1	Х	
47	AD67-01873A	LENS ASP LENS-G11	1	Х	
48	AD67-01938A	BARREL-4TH LENS	1	Х	
49	AD97-19969A	ASSY MOTOR-AF	1	0	
50	AD63-06858A	SHEET-4TH-WB150	1	Х	
51	AD66-00839A	GEAR-IDLE	1	0	
52	6003-001288	SCREW-TAPTYPE	2	0	
53	6003-001659	SCREW-TAPTYPE	4	0	
54	AD97-20707A	ASSY SUB BARREL-BARRIER_BL	1	0	
55	AD97-20070A	ASSY SUB BARREL-1ST LENS	1	0	
56	AD97-20428A	ASSY SUB BARREL-ZOOM RING	1	0	
57	AD97-20420A	ASSY SUB BARREL-2ND	1	0	
58	AD97-23255A	ASSY SUB BARREL-CAM-WB250F	1	0	
59	AD97-23256A	ASSY SUB BARREL-OUTER CAM-WB250F	1	0	
60	AD97-23114A	ASSY SUB BARREL-3RD-WB250F	1	0	
61	AD97-20424A	ASSY SUB BARREL-OUTER GUIDE	1	0	
62	AD97-23168A	ASSY LENS BASE-WB200F	1	0	
63	AD97-23169A	ASSY BARREL	1	0	
64	AD97-23065A	ASSY BARREL CCD	1	Х	





Area	Web Site
Europe, MENA, CIS, Africa	https://gspn1.samsungcsportal.com
E.Asia, W.Asia, China, Japan	https://gspn2.samsungcsportal.com
N.America, S.America	https://gspn3.samsungcsportal.com

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