

Panasonic®

Basic Owner's Manual Digital Camera

Model No. DC-LX100M2



LUMIX

Please read these instructions carefully before using this product, and save this manual for future use.

More detailed owner's manual is available in "Owner's Manual for advanced features (PDF format)". To read it, download it from the website. (P81)

**Register online at <http://shop.panasonic.com/support>
(U.S. customers only)**

If you have any questions, visit:

USA : <http://shop.panasonic.com/support>

Canada : www.panasonic.ca/english/support

DVQX1572ZA

F0818SQ0



Dear Customer,

Thank you for choosing Panasonic!

You have purchased one of the most sophisticated and reliable products on the market today. Used properly, we're sure it will bring you and your family years of enjoyment. Please take time to fill in the information below. The serial number is on the tag located on the underside of your camera. Be sure to **retain this manual** as your convenient camera information source.

Date of Purchase	Dealer Phone No.
Dealer Purchased From	Model No.
Dealer Address	Serial No.

Please note that the actual controls and components, menu items, etc. of your Digital Camera may look somewhat different from those shown in the illustrations in this Owner's Manual.

Carefully observe copyright laws.

- Recording of pre-recorded tapes or discs or other published or broadcast material for purposes other than your own private use may infringe copyright laws. Even for the purpose of private use, recording of certain material may be restricted.

For the U.S.A. and Canada only



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.

Information for Your Safety

WARNING:

To reduce the risk of fire, electric shock or product damage,

- Do not expose this unit to rain, moisture, dripping or splashing.
- Use the recommended accessories.
- Do not remove covers.
- Do not repair this unit by yourself. Refer servicing to qualified service personnel.

The socket outlet shall be installed near the equipment and shall be easily accessible.

■ Product identification marking

Product	Location
Digital camera	Bottom

THE FOLLOWING APPLIES ONLY IN THE U.S.A.

FCC Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: To assure continued compliance, follow the attached installation instructions and use only shielded interface cables with ferrite core when connecting to computer or peripheral devices.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Declaration of Conformity

Trade Name: Panasonic
Model No.: DC-LX100M2
Responsible Party: Panasonic Corporation of North America
Two Riverfront Plaza, Newark, NJ 07102-5490
Support Contact: <http://shop.panasonic.com/support>

THE FOLLOWING APPLIES ONLY IN THE U.S.A.



Certification and Compliance

See Camera for the certification and compliance mark specific to that device.

- 1 Select [Wi-Fi] in the [Setup] menu**
- 2 Select [Wi-Fi Setup] in the [Wi-Fi]**
- 3 Press ▲/▼ to select [Approved Regulations], and press [MENU/SET]**

Contains FCC ID: VPYLB1JS955

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines.

This equipment has very low levels of RF energy that is deemed to comply without testing of specific absorption rate (SAR).

THE FOLLOWING APPLIES ONLY IN CANADA.

Certification and Compliance

See Camera for the certification and compliance mark specific to that device.

- 1 Select [Wi-Fi] in the [Setup] menu**
- 2 Select [Wi-Fi Setup] in the [Wi-Fi]**
- 3 Press ▲/▼ to select [Approved Regulations], and press [MENU/SET]**

CAN ICES-3(B)/NMB-3(B)

Contains IC : 772C-LB1JS955

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.

The available scientific evidence does not show that any health problems are associated with using low power wireless devices. There is no proof, however, that these low power wireless devices are absolutely safe. Low power Wireless devices emit low levels of radio frequency energy (RF) in the microwave range while being used. Whereas high levels of RF can produce health effects (by heating tissue), exposure of low-level RF that does not produce heating effects causes no known adverse health effects. Many studies of low-level RF exposures have not found any biological effects. Some studies have suggested that some biological effects might occur, but such findings have not been confirmed by additional research. DC-LX100M2 has been tested and found to comply with IC radiation exposure limits set forth for an uncontrolled environment and meets RSS-102 of the IC radio frequency (RF) Exposure rules.

■ About the battery pack

CAUTION

Battery pack (Lithium ion battery pack)

- Use the specified unit to recharge the battery pack.
- Do not use the battery pack with equipment other than the specified unit.
- Do not get dirt, sand, liquids, or other foreign matter on the terminals.
- Do not touch the plug terminals (+ and -) with metal objects.
- Do not disassemble, remodel, heat or throw into fire.

If any electrolyte should come into contact with your hands or clothes, wash it off thoroughly with water.

If any electrolyte should come into contact with your eyes, never rub the eyes. Rinse eyes thoroughly with water, and then consult a doctor.

CAUTION

- Danger of explosion if battery is incorrectly replaced. Replace only with the type recommended by the manufacturer.
- When disposing of the batteries, please contact your local authorities or dealer and ask for the correct method of disposal.

- Do not heat or expose to flame.
- Do not leave the battery(ies) in a car exposed to direct sunlight for a long period of time with doors and windows closed.

Warning

Risk of fire, explosion and burns. Do not disassemble, heat above 60 °C (140 °F) or incinerate.

■ About the AC adaptor (supplied)

CAUTION!

To reduce the risk of fire, electric shock or product damage,

- **Do not install or place this unit in a bookcase, built-in cabinet or in another confined space. Ensure this unit is well ventilated.**

AC adaptor

This AC adaptor operates on AC between 110 V and 240 V.

But

- In the U.S.A. and Canada, the AC adaptor must be connected to a 120 V AC power supply only.
 - When connecting to an AC supply outside of the U.S.A. or Canada, use a plug adaptor to suit the AC outlet configuration.
- The AC adaptor is in the standby condition when the mains plug is connected. The primary circuit is always "live" as long as the mains plug is connected to an electrical outlet.

Cautions for Use

- Do not use any other USB connection cables except the supplied one.
- Use a “High Speed HDMI micro cable” with the HDMI logo.
Cables that do not comply with the HDMI standards will not work.
“High Speed HDMI micro cable” (Type D–Type A plug, up to 2 m (6.6 feet) long)

Keep this unit as far away as possible from electromagnetic equipment (such as microwave ovens, TVs, video games etc.).

- If you use this unit on top of or near a TV, the pictures and/or sound on this unit may be disrupted by electromagnetic wave radiation.
- Do not use this unit near cell phones because doing so may result in noise adversely affecting the pictures and/or sound.
- Recorded data may be damaged, or pictures may be distorted, by strong magnetic fields created by speakers or large motors.
- Electromagnetic wave radiation may adversely affect this unit, disturbing the pictures and/or sound.
- If this unit is adversely affected by electromagnetic equipment and stops functioning properly, turn this unit off and remove the battery or disconnect AC adaptor. Then reinsert the battery or reconnect AC adaptor and turn this unit on.

Do not use this unit near radio transmitters or high-voltage lines.

- If you record near radio transmitters or high-voltage lines, the recorded pictures and/or sound may be adversely affected.

-
- **Before cleaning the camera, remove the battery or the DC coupler (DMW-DCC11: optional), or disconnect the power plug from the outlet.**
 - **Do not press the monitor with excessive force.**
 - **Do not press the lens with excessive force.**
 - **Do not spray the camera with insecticides or volatile chemicals.**
 - **Do not keep rubber or plastic products in contact with the camera for a long period of time.**
 - **Do not use solvents such as benzene, thinner, alcohol, kitchen detergents, etc., to clean the camera, since it may deteriorate the external case or the coating may peel off.**
 - **Do not leave the camera with the lens facing the sun, as rays of light from the sun may cause it to malfunction.**
 - **Always use the supplied cords and cables.**
 - **Do not extend the cords or the cables.**
 - **During access (image writing, reading and deleting, formatting etc.), do not turn this unit off, remove the battery, card or disconnect the AC adaptor. Furthermore, do not subject the camera to vibration, impact or static electricity.**
 - The data on the card may be damaged or lost due to electromagnetic waves, static electricity or breakdown of the camera or the card. We recommend storing important data on a PC etc.
 - Do not format the card on your PC or other equipment. Format it on the camera only to ensure proper operation.
-

- **The battery is not charged when the camera is shipped. Charge the battery before use.**
 - **The battery is a rechargeable lithium ion battery. If the temperature is too high or too low, the operating time of the battery will become shorter.**
 - The battery becomes warm after using and during and after charging. The camera also becomes warm during use. This is not a malfunction.
 - **Do not leave any metal items (such as clips) near the contact areas of the power plug or near the batteries.**
 - Store the battery in a cool and dry place with a relatively stable temperature: (Recommended temperature: 15 °C to 25 °C (59 °F to 77 °F), Recommended humidity: 40%RH to 60%RH)
 - **Do not store the battery for a long time while fully charged.** When storing the battery for a long period of time, we recommend charging it once a year. Remove the battery from the camera and store it again after it has completely discharged.
-

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Care of the camera

■ Handling of the camera

Do not subject to strong vibration, shock, or pressure.

Avoid using the camera under the following conditions, which may damage the lens, monitor, viewfinder, or external case.

This may also cause the camera to malfunction or prevent recording.

- Drop or hit the camera.
- Sitting down with the camera in your pants pocket or forcing it into a full bag.
- Press hard on the lens or the monitor.

The camera is not dust resistant, splash resistant, or waterproof.

Avoid using the camera in places with excessive dust or sand, or where water can come into contact with the camera.

- Avoid using the camera under the following conditions, which present a risk that sand, water, or foreign material may enter the camera through the lens or openings around buttons. Be especially careful because these conditions may damage the camera, and such damage may not be repairable.
 - In extremely dusty or sandy places.
 - In the rain or by the shore, where the camera may be exposed to water.

■ About Condensation (When the lens, the viewfinder or monitor is fogged up)

- Condensation occurs when the ambient temperature or humidity changes. Be careful of condensation since it causes lens, viewfinder and monitor stains, fungus and camera malfunction.
- If condensation occurs, turn the camera off and leave it for about 2 hours. The fog will disappear naturally when the temperature of the camera becomes close to the ambient temperature.

■ About the symbols in the text

MENU : Indicates that the menu can be set by pressing [MENU/SET] button.



Tips for skillful use and points for recording.

In this owner's manual, steps for setting a menu item are described as follows.

MENU → [Rec] → [Quality] → [-+]

Applicable modes: **P A S M**

The icons indicate the modes available for a function.

- Black icons: Applicable modes
- Gray icons: Unavailable modes

Standard Accessories

Check that all the accessories are supplied before using the camera.

Product numbers correct as of September 2018. These may be subject to change.

1	Battery Pack (Indicated as battery pack or battery in the text) Charge the battery before use.	1  DMW-BLG10PP	4  SXQ0155	7  VKF5259
2	AC Adaptor (Indicated as AC adaptor (supplied) in the text) This is used for charging and power supply.	2  SAE0012A	5  VFC4366	8  VEK0V37Z1-A
3	USB connection cable	3  K1HY04YY0106	6  VFC5137	9  VFC5140
4	Lens cap*			
5	Lens cap string			
6	Shoulder strap			
7	Hot shoe cover* (P47)			
8	Flash			
9	Soft case (for flash) Keep the flash in the soft case when not in use.			

* This is attached to the camera at the time of purchase.

- SD Memory Card, SDHC Memory Card and SDXC Memory Card are indicated as **card** in the text.
- **The card is optional.**
- Consult the dealer or Panasonic if you lose the supplied accessories. (You can purchase the accessories separately.)

(For U.S.A. only)

- If accessories are lost, customers can visit us at <http://shop.panasonic.com/support> for further information about obtaining replacement parts.

(For Canada only)

- If any accessories are lost, customers in Canada should visit our support page at www.panasonic.ca/english/support for further information about obtaining replacement parts.

■ Digital Camera Accessory System

Description	Accessory#
Battery Pack	DMW-BLG10
Battery Charger*1	DMW-BTC12
AC Adaptor*2	DMW-AC10
DC Coupler*2	DMW-DCC11
LED Video Light	VW-LED1
Auto Lens Cap	DMW-LFAC1
Flash	DMW-FL580L, DMW-FL360L, DMW-FL200L

*1 Supplied with an AC adaptor and a USB connection cable (for charger).

*2 The AC Adaptor (optional) can only be used with the designated Panasonic DC Coupler (optional). The AC adaptor (optional) cannot be used by itself.

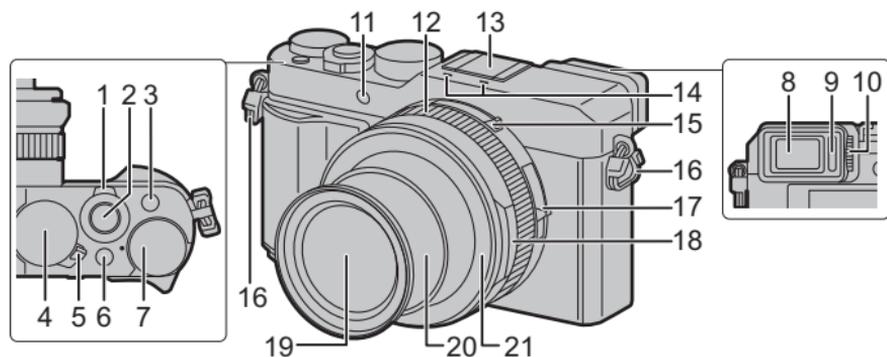
Product numbers correct as of September 2018. These may be subject to change.

- Some optional accessories may not be available in some countries.

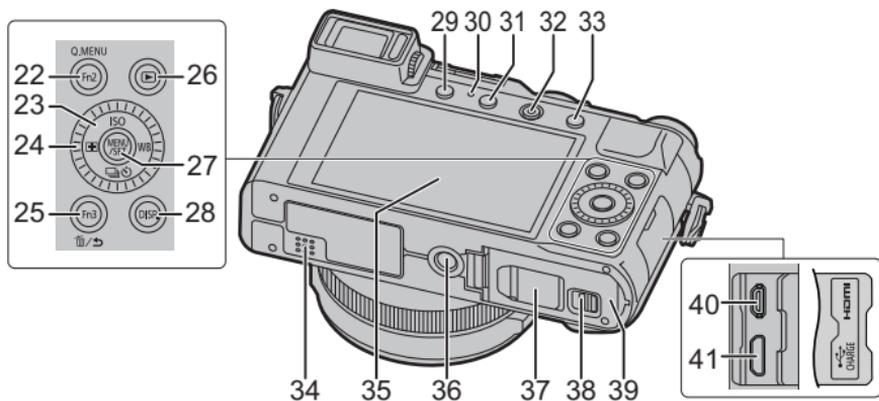
(For U.S.A. only)

- To order optional accessories please visit <http://shop.panasonic.com> or your local Photo Specialty Dealer.

Names and Functions of Components



1	Zoom lever (P26) • The operation of the zoom lever is indicated as shown below in this owner's manual. Rotate the zoom lever: 	15 Aspect ratio selector switch • You can easily switch the aspect ratio of still pictures using the aspect ratio selector switch. [4:3]/[1:1]/[16:9]/[3:2]
2	Shutter button (P25)	16 Shoulder strap eyelet (P17)
3	[Fn1] button (P31)	17 Focus selector switch – [AF]: Auto Focus operates when the shutter button is pressed halfway. – [AF ]: You can take pictures of a subject as close as 3 cm (0.098 feet) from the lens by rotating the zoom lever upmost to Wide. – [MF]: Use this function when you want to fix the focus or when the distance between the lens and the subject is determined and you do not want to activate Auto Focus.
4	Shutter speed dial (P23, 35)	18 Aperture ring (P23, 35)
5	Camera ON/OFF switch (P21)	19 Lens (Filter diameter \varnothing 43 mm)
6	[iA] button (P23)	20 Lens barrel
7	Exposure compensation dial	21 Lens front ring • To attach the auto lens cap (optional), remove the lens front ring.
8	Viewfinder (P22)	
9	Eye sensor (P22)	
10	Diopter adjustment dial (P22)	
11	Self-timer indicator/ AF Assist Lamp (P24)	
12	Control ring (P32)	
13	Hot shoe (Hot shoe cover) (P47)	
14	Stereo microphone (P24) • Be careful not to cover the microphone with your finger. Doing so may make sound difficult to record.	



22	[Q.MENU] button/[Fn2] button (P31)	34	Speaker (P24)
23	Cursor button (P27)	35	Touch screen (P29)/monitor (P69)
24	Control dial <ul style="list-style-type: none"> • Selection of items or setting of values etc., is performed. • The operation of rotating the control dial is illustrated as below in this owner's manual. When rotating the control dial to the left or right: 	36	Tripod mount <ul style="list-style-type: none"> • It may not be possible to attach and securely fasten a tripod with a screw length of 5.5 mm (0.22 inch) or more to the camera. Doing so may also damage the camera.
25	[Fn3] button (P31, 37)/ [Delete] button (P51)/ [Cancel] button (P30)	37	DC coupler cover <ul style="list-style-type: none"> • Always use a genuine Panasonic AC adaptor (DMW-AC10PP: optional). • When using an AC adaptor, ensure that the Panasonic DC coupler (DMW-DCC11: optional) and AC adaptor (DMW-AC10PP: optional) are used. • When using an AC adaptor (optional), use the AC cable supplied with the AC adaptor (optional).
26	[PLAY] (Playback) button (P51)	38	Release lever (P18)
27	[MENU/SET] button (P29) <ul style="list-style-type: none"> • Confirmation of setting contents, etc., is performed. 	39	Card/Battery door (P18)
28	[DISP.] button <ul style="list-style-type: none"> • This switches the screen display. 	40	[HDMI] socket <ul style="list-style-type: none"> • You can view pictures on a TV screen by connecting your camera to your TV with the HDMI micro cable.
29	[LVF] button (P22)/[Fn5] button (P31)	41	[USB/CHARGE] socket (P19)
30	Charging lamp (P19)/ WIRELESS connection lamp (P57)		
31	[Fn4] button (P31)		
32	Motion picture button (P49)		
33	[AF/AE LOCK] button		

• **Function buttons ([Fn6] to [Fn10]) are touch icons.**

Touch the  tab on the recording screen to display them.

About cards that can be used with this unit

SD Memory Card (512 MB to 2 GB)	<ul style="list-style-type: none"> This unit is compatible with UHS-I UHS Speed Class 3 standard SDHC/SDXC memory cards. Operation of the cards on the left has been confirmed with Panasonic's cards.
SDHC Memory Card (4 GB to 32 GB)	
SDXC Memory Card (48 GB to 128 GB)	

■ Recording of motion pictures/4K photos and speed class ratings

Use a card that meets the following ratings of the SD Speed Class or UHS Speed Class.

[Rec Format]	[Rec Quality]	Speed class	Label example
[AVCHD]	All	Class 4 or higher	CLASS  
[MP4]	FHD/HD		
		4K	UHS Speed Class 3
When recording in 4K Photo/ [Post Focus]		UHS Speed Class 3	

• Latest information:

<http://panasonic.jp/support/global/cs/dsc/>

(This Site is English only.)

- Keep the memory card out of reach of children to prevent swallowing.

Quick Start Guide

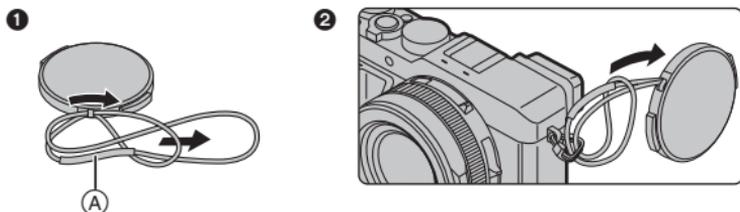
- Check that the camera is turned off.

Attaching the Lens Cap/Shoulder Strap

When the camera is not in use, attach the lens cap to protect the lens.

- We recommend attaching the lens cap to the camera using the lens cap string to prevent loss of the lens cap.
- Attach the shoulder strap when using the camera to prevent it from dropping.

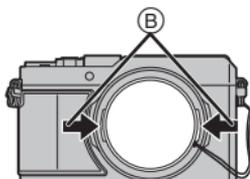
1 Use the lens cap string (supplied) to attach the lens cap to the camera.



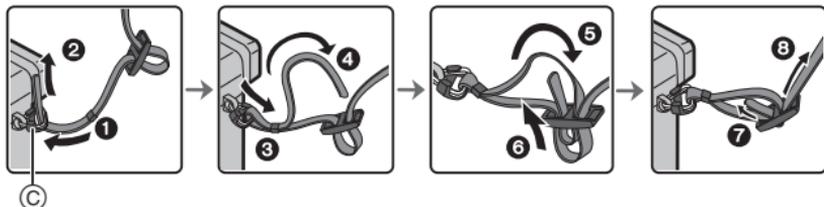
- Ⓐ: Make sure that the thicker portion of the string is not hanging over the lens cap or the shoulder strap eyelet.

2 Attach the lens cap.

- Ⓑ: To attach and remove the lens cap, press the areas shown by arrows in the illustration.



3 Attach the shoulder strap.



- Ⓒ: Shoulder strap eyelet

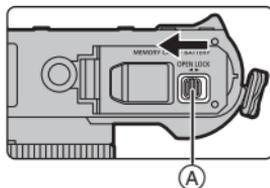
- In addition, attach the other side of the shoulder strap in the same manner.
 - Keep the lens cap string out of reach of children to prevent swallowing.
- Use the shoulder strap around your shoulder.
 –Do not wrap the strap around your neck.
 It may result in injury or accident.

- Do not leave the shoulder strap where an infant can reach it.
–It may result in an accident by mistakenly wrapping around the neck.

Inserting and removing the battery/the card (optional)

- Always use genuine Panasonic batteries (DMW-BLG10PP).
- If you use other batteries, we cannot guarantee the quality of this product.

- 1 Slide the release lever (A) to the [OPEN] position and open the card/battery door.**

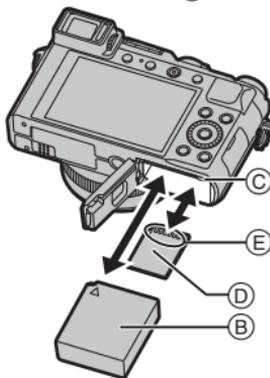


- 2 Battery (B):
Insert all the way in until a locking sound is heard and check that it is locked by the lever (C).**

**Card (D):
Insert until a clicking sound is heard.**

- Check the orientation of the battery and the card.
- Do not touch the card terminals (E).

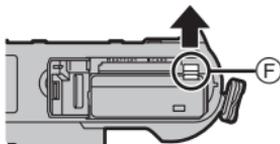
- 3 Close the card/battery door and slide the release lever to the [LOCK] position.**



■ To remove

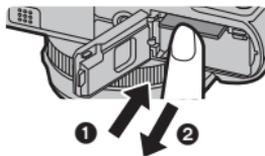
To remove battery

- Pull the lever (F) in the direction of the arrow to remove.



To remove card

- Insert until a clicking sound is heard and then pull it straight out.



- Remove the battery after use. (The battery will be exhausted if left for a long period of time after being charged.)
- Turn the camera off and wait for the "LUMIX" display on the monitor to clear before removing the card or battery. (Otherwise, this unit may no longer operate normally and the card itself may be damaged or the recorded pictures may be lost.)

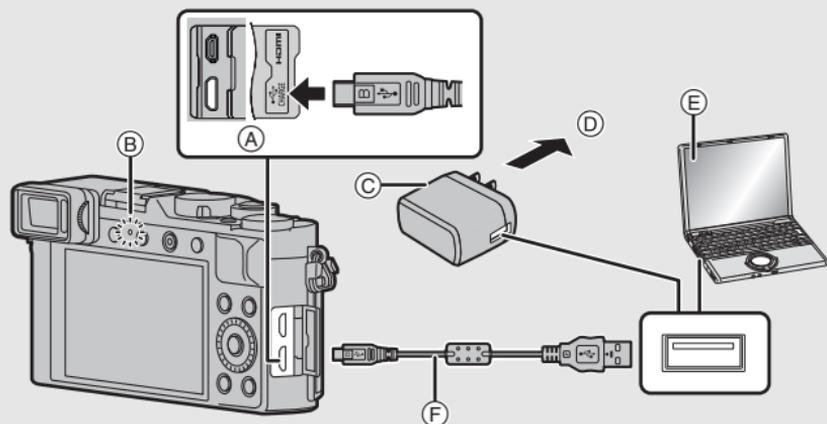
Charging the Battery

The battery that can be used with this unit is DMW-BLG10PP.

Charge the battery in areas with an ambient temperature, between 10 °C and 30 °C (50 °F and 86 °F) (same as the battery temperature), is recommended.

Insert the battery into this unit. (P18)

Check that the camera on/off switch is set to [OFF].



Ⓐ Connect the USB connection cable (supplied) to the [USB/CHARGE] socket.

- Place the camera in an upright position, and find the terminal at the bottom.

Ⓑ Charging lamp

Ⓒ AC adaptor (supplied)

Ⓓ To power outlet

Ⓔ PC (Turned on)

Ⓕ USB connection cable (supplied)

- Check the direction of the terminals and plug in/out straight holding onto the plug. (It may result in malfunction by the deforming of the terminal if it is plugged in obliquely or in wrong direction.) Do not connect devices to incorrect terminals. Doing so may cause malfunction.

- Do not use any other USB connection cables except the supplied one.
- Do not use any other AC adaptors except the supplied one.
- The AC adaptor (supplied) and USB connection cable (supplied) are for this camera only. Do not use them with other devices.

(Charging from the power outlet)

Connect the AC adaptor (supplied) and this camera with the USB connection cable (supplied), and insert the AC adaptor (supplied) into the power outlet.

(Charging from a computer)

Connect the computer and this camera with the USB connection cable (supplied).

■ **About the charging lamp**

Lit red: Charging.

Off: Charging has completed.
(When charging is complete, disconnect the camera from the power outlet or computer.)

• **When the charging lamp flashes**

- This occurs when charging is performed in an extremely hot or cold location. Reconnect the USB connection cable (supplied) in a location where the ambient temperature (and the temperature of battery) is in a 10 °C to 30 °C (50 °F to 86 °F) range, and try charging again.
- If your PC is not capable of supplying sufficient power, charging is not possible.

• **The battery becomes warm after using it and during and after charging. The camera also becomes warm during use. This is not a malfunction.**

■ **Charging time**

When using the AC adaptor (supplied)	Approx. 190 min
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• The indicated charging time is for when the battery has been discharged completely.

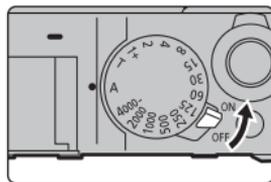
The charging time may vary depending on how the battery has been used. The charging time for the battery in hot/cold environments or a battery that has not been used for a long time may be longer than normal.

• When power is supplied from a computer, the power supply capacity of the computer determines the charging time.

Setting Date/Time (Clock Set)

- The clock is not set when the camera is shipped.

- 1 Turn the camera on.
- 2 Press [MENU/SET].
- 3 Press ▲/▼ to select the language, and press [MENU/SET].
- 4 Press [MENU/SET].
- 5 Press ◀/▶ to select the items (year, month, day, hour, minute), and press ▲/▼ to set.
- 6 Press [MENU/SET] to set.
- 7 When [The clock setting has been completed.] is displayed, press [MENU/SET].
- 8 When [Please set the home area] is displayed, press [MENU/SET].
- 9 Press ◀/▶ to select the home area, and then press [MENU/SET].



Formatting the card (initialization)

Format the card before recording a picture with this unit.

After formatting, all data stored on the card will be deleted and cannot be recovered. Back up necessary data on a PC or similar device first, and then format the card.

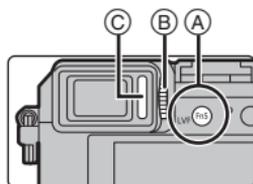
MENU →  [Setup] → [Format]

Switching the Viewfinder/Monitor

Press [LVF].

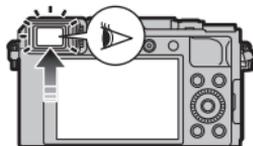
- (A) [LVF] button
- (B) Diopter adjustment dial
- (C) Eye sensor

- The monitor/viewfinder will switch as follows:
 - Automatic viewfinder/monitor switching
 - Viewfinder display
 - Monitor display



■ Notes on automatic viewfinder/monitor switching

Bring your eye or an object near the viewfinder to automatically switch to the viewfinder display using the eye sensor.



■ Diopter adjustment

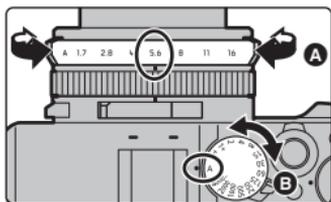
Rotate the diopter adjustment dial until you can see the characters displayed in the viewfinder clearly.

- If [LVF Display Speed] is set to [ECO30fps] when the viewfinder is used, the camera can be operated for a longer period since battery drainage is reduced.

Select the recording mode

Turn the aperture ring **A** and shutter speed dial **B**.

- Be sure to align them with the positions where a clicking sound is heard.
- The Recording Mode will change according to the combination of the aperture ring and shutter speed dial positions.

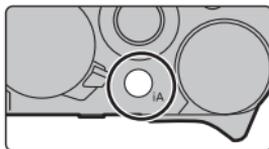


Recording mode	Aperture ring	Shutter speed dial
P Program AE Mode (P34)	[A] (AUTO)	[A] (AUTO)
A Aperture-Priority AE Mode (P35)	Setting values other than [A]	
S Shutter-Priority AE Mode (P35)	[A] (AUTO)	Setting values other than [A]
M Manual Exposure Mode (P36)	Setting values other than [A]	

To switch to Intelligent Auto Mode

Press [iA].

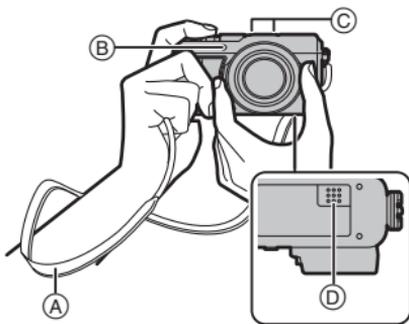
- Intelligent Auto Mode is set and the recording mode icon changes to [iA] or [iA]. (P33)
- When you press [iA] again, the recording mode is switched to one that enables settings to be made using the aperture ring and shutter speed dial.



Tips for taking good pictures

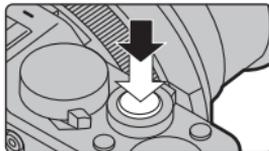
Hold the camera gently with both hands, keep your arms still at your side and stand with your feet slightly apart.

- We recommend using the supplied shoulder strap (A) to avoid dropping the camera.
- Do not cover the flash head being used for flash recording (P47), the AF Assist Lamp (B), microphone (C), or speaker (D) with your fingers or other objects.
- Make sure that the camera does not move at the moment the shutter button is pressed.
- Make sure your footing is stable and there is no danger of colliding with another person or object in the vicinity while taking pictures.



Taking pictures

1 Press the shutter button halfway to focus.

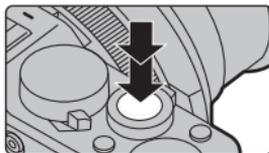


- (A) Aperture value
- (B) Shutter speed
- (C) Focus indication

- Aperture value and shutter speed are displayed. (It will turn red and blink if the exposure is not correct.)
- Once the subject is in focus, the focus indication is displayed. (When the subject is not in focus, the indication flashes.)



2 Press the shutter button fully (push it in further), and take the picture.



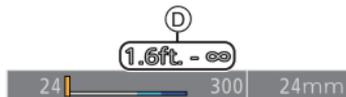
- Pictures cannot be taken until focus is achieved when [Focus/Release Priority] in the [Custom] ([Focus / Release Shutter]) menu is set to [FOCUS].
- Press [▶] to display the recorded image. (P51)

■ Focus range

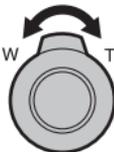
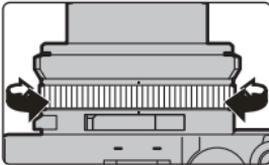
Focus range is displayed when operating the zoom.

The focus range may change gradually depending on the zoom position.

- (D) Recordable range indication



Zoom operations

Zoom lever	Control ring
Move the zoom lever 	Turn the control ring* 
<p>[T] side: Telephoto, Enlarge the subject</p> <p>[W] side: Wide-angle, Capture a wider area</p>	<p>Clockwise: Telephoto, Enlarge the subject</p> <p>Counterclockwise: Wide-angle, Capture a wider area</p>

* You can perform zoom operation by assigning the [Zoom] setting to the control ring. (P32)

■ Optical zoom

You can zoom in up to 3.1× without degrading the image quality.

■ Extended Optical Zoom

This operates when a picture size indicated with **EX** is selected. You can zoom in up to 6.2× without degrading the image quality.

(This includes the optical zoom magnification. The magnification level differs depending on [Picture Size] setting.)

■ Intelligent Zoom

Setting [i.Zoom] to [ON] allows you to increase the zoom magnification up to 2× higher than the original zoom magnification with limited degradation in image quality.

(Up to 1.5× the original zoom ratio when [Picture Size] is set to [S])

■ [Digital Zoom]

Although the image quality degrades as you zoom in further, setting [Digital Zoom] to [ON] allows you to zoom in up to 4× higher than the original zoom magnification.

- When using the [i.Zoom], the maximum magnification of the Digital Zoom is limited to 2×.
- This function is not available in the following cases:
 - When [Monitor Display Speed] is set to [ECO30fps] (setting at the time of purchase)
 - When [LVF Display Speed] is set to [ECO30fps]

■ [Step Zoom]

You can set the zoom operation to allow easy visualisation of the angle of view (picture angle) for the focal length of a regular fixed focal length lens (as with a 35 mm film camera). When using the [Step Zoom], you can operate the zoom ratio as easily as changing the camera lens.

- By default you can use Step Zoom by rotating the control ring in the following Recording Modes:
 - Intelligent Auto Mode
 - Program AE Mode
 - Aperture-Priority AE Mode

Cursor button

Pressing the cursor button:

Selection of items or setting of values etc., is performed.

- This owner's manual expresses the up, down, left, and right of the cursor button as ▲/▼/◀/▶.

■ Pressing the cursor button while recording

▲/[ISO] (ISO sensitivity)

This allows the sensitivity to light (ISO sensitivity) to be set.

▶/[WB] (White Balance)

White Balance adjusts the color of white according to the light source to make the overall color hue closer to what is seen by the eye.

▼/[] (Drive Mode)

You can change what the camera will do when you press the shutter button.

-  [Single]
-  [Burst]*
-  [4K PHOTO]* (P38)
-  [Post Focus]* (P42)
-  [Self Timer]*
-  [Panorama Shot]*

* To cancel the drive mode, select [] ([Single]) or [ OFF].

◀/[] (Auto Focus Mode)

-  ([Face/Eye Detection])
 - The camera automatically detects the faces and eyes of subjects. The camera adjusts the focus on the eye that is closer to the camera and the exposure using the face (when [Metering Mode] is set to [] (Multi Metering)).
-  ([Tracking])
 - The camera keeps adjusting the focus and exposure automatically to the specified moving object. (Dynamic Tracking) (When [Metering Mode] is set to [])
-  ([49-Area])
 - Up to 49 AF areas can be focused. This is effective when a subject is not in the center of the screen.
- , etc. ([Custom Multi])
 - From among 49 AF areas, you can freely set the optimum shape of the AF area for the subject.
-  ([1-Area])
 - The camera focuses on the subject in the AF area on the screen.
-  ([Pinpoint])
 - You can achieve a more precise focus on a point that is smaller than []. If you press the shutter button halfway, the screen that lets you check the focus will be enlarged.
- In Intelligent Auto Mode and Intelligent Auto Plus Mode, [] or [] can be set.

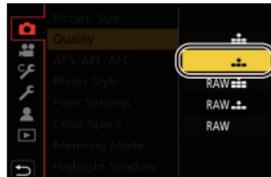
 [Intelligent Auto] (P52)	This menu lets you set the functions that can only be used in Intelligent Auto Mode.
 [Rec] (P52)	This menu lets you set picture settings.
 [Motion Picture] (P53)	This menu lets you set motion picture settings.
 [Custom] (P53)	Operation of the unit, such as displaying of the screen and button operations, can be set up according to your preferences.
 [Setup] (P54)	This menu lets you perform the clock settings, select the operating beep tone settings and set other settings which make it easier for you to operate the camera. You can also configure the settings of Wi-Fi/Bluetooth related functions.
 [My Menu] (P54)	This menu lets you register frequently-used menus.
 [Playback] (P54)	This menu lets you set the playback and editing settings for images.

4 Press [MENU/SET].

5 Press ▲/▼ to select the menu item and press [MENU/SET].

6 Press ▲/▼ to select the setting and press [MENU/SET].

- Depending on the menu item, its setting may not appear or it may be displayed in a different way.



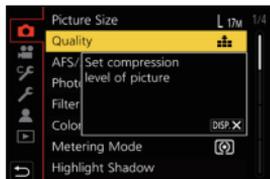
- You can also rotate the control dial to select the menu selector icon, menu item, or setting.

■ Close the menu

Press [↵] or press the shutter button halfway.



- Press [DISP.] to display the menu description.
- Menu items that are not available are displayed in gray. If you press [MENU/SET] while a gray item is selected, the reason why it cannot be set is displayed in some setting situations.

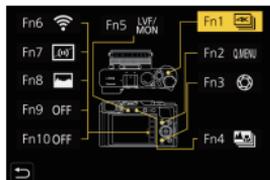


Assigning Frequently-Used Functions to Buttons (Function Buttons)

1 Select the menu.

MENU → [Custom] → [Operation] → [Fn Button Set] → [Setting in REC mode]/[Setting in PLAY mode]

2 Press ▲/▼ to select the function button you want to assign a function to and then press [MENU/SET].



3 Press ▲/▼ to select the function you want to assign and then press [MENU/SET].

- To restore the default function button settings, select [Restore to Default].

■ Function button settings at the time of purchase

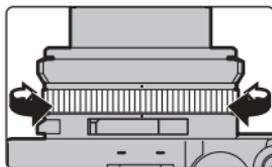
[Setting in REC mode]	[Fn1]: [4K Photo Mode] [Fn2]: [Q.MENU] [Fn3]: [Preview] [Fn4]: [Post Focus] [Fn5]: [LVF/Monitor Switch]	[Fn6]: [Wi-Fi] [Fn7]: [Level Gauge] [Fn8]: [Histogram] [Fn9]/[Fn10]: No function is set by default.
[Setting in PLAY mode]	[Fn1]: [Wi-Fi] [Fn2]: [Rating★3]	[Fn4]: No function is set by default. [Fn5]: [LVF/Monitor Switch]

- You can display the screen in step 3 by pressing and holding a function button ([Fn1] to [Fn5]) (2 seconds).
- Some functions may not be available depending on the mode or the displayed screen.
- Some functions cannot be assigned depending on the function button.

Changing settings using the control ring

You can rotate the control ring to change settings.

The functions that can be set with the control ring vary depending on the Recording Mode.



Listed below are the default settings.

Recording mode	Setting
iA Intelligent Auto Mode	Step Zoom (P27)
iA+ Intelligent Auto Plus Mode	
P Program AE Mode	
A Aperture-Priority AE Mode	Shutter speed adjustment*
S Shutter-Priority AE Mode	
M Manual Exposure Mode	

* You can set shutter speeds that are not indicated on the shutter speed dial. (P36)

- Rotating the control ring during panorama recording will change the selected image effect (filter).
- Rotating the control ring during Manual Focus will adjust the focus.

Changing the function assigned to the control ring

1 Set the menu.

MENU → **[Custom]** → **[Operation]** → **[Control Ring]**

2 Use ▲/▼ to select the setting and press [MENU/SET].

• You can assign the following functions:

- [Normal]	- [White Balance]	- [Highlight Shadow]
- [Zoom]	- [AF Mode]	- [i.Dynamic]
- [Step Zoom]	- [Drive Mode]	- [i.Resolution]
- [Exposure Comp.]	- [Photo Style]	- [Flash Mode]
- [Sensitivity]	- [Filter Effect]	- [Flash Adjust.]

- To return to the default setting, select [Normal].
- If you do not use the control ring, select [OFF] ([Not Set]).

- The assigned function setting will be applied to all Recording Modes.
- Some functions may not be available depending on the mode or the displayed screen.

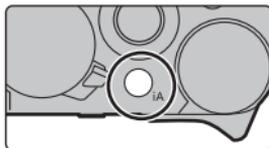
Taking Pictures using the Automatic Function (Intelligent Auto Mode)

Recording Mode:  

The camera chooses the optimal settings to match the subject and the recording conditions.

1 Press [iA].

- The camera switches to Intelligent Auto Mode.
- When you press the [iA] again, the recording mode is switched to one that is set using the aperture ring and shutter speed dial.
- At the time of purchase, the mode is set to Intelligent Auto Plus Mode.



2 Hold the camera with the lens facing toward the subject.

- When the camera identifies the optimum scene, the icon of the scene concerned will change. (Automatic Scene Detection)



■ Switching between Intelligent Auto Plus Mode and Intelligent Auto Mode

1 Select the menu.

MENU → **iA [Intelligent Auto]** → **[Intelligent Auto Mode]**

2 Press ▲/▼ to select [**iA+**] or [**iA**] and then press **[MENU/SET]**.

- [**iA+**] allows you to adjust some settings such as the brightness and color tone while also using [**iA**] for other settings so that you can record pictures more suited to your preferences.

■ Auto Focus, Face/Eye Detection

The Auto Focus Mode is automatically set to [**AF**]. If you touch the subject, the AF tracking function will work.

- The AF tracking function will also work if you press [**AF**] (◀) and then press the shutter button halfway.

■ About the flash

When recording with the flash, the camera automatically selects [**Flash A**], [**Flash B**], [**Flash S**] or [**Flash S**] according to the type and brightness of the subject.

- Refer to P47 for details about external flashes.

Taking Pictures by Specifying the Aperture Value and Shutter Speed

Recording Mode: **P** **A** **S** **M**

The available setting values vary depending on the combination of various settings, such as the aperture value, shutter speed, and zoom position.

- If the correct exposure is not achieved when the shutter button is pressed halfway, the aperture value and shutter speed turn red and blink.

Program AE Mode

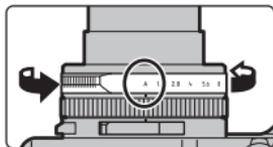
The camera automatically sets the shutter speed and the aperture value according to the brightness of the subject.

You can take pictures with greater freedom by changing various settings in the [Rec] menu.

Changing the aperture value and shutter speed combination

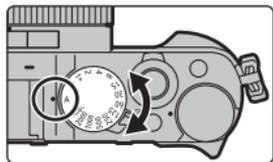
You can use Program Shift to take pictures by adjusting the aperture value and shutter speed even in Program AE Mode.

- 1 Turn the aperture ring to select [A] (AUTO).



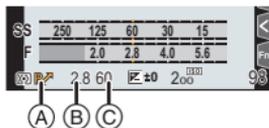
- 2 Turn the shutter speed dial to select [A] (AUTO).

- Program AE Mode is set and the recording mode icon changes to [P].



- 3 Press the shutter button halfway to display the aperture and shutter speed values on the screen.

- 4 While the numeric values are displayed (approximately 10 seconds), turn the control dial to change the values using Program Shift.**

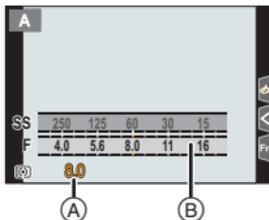


- (A) Program Shift indication
- To cancel Program Shift, perform either of the following operations:
 - Turn off the camera.
 - Rotate the control dial until the Program Shift indication disappears.
- (B) Aperture value
- (C) Shutter speed

Aperture-Priority AE Mode

Pictures are taken at a specified aperture value.

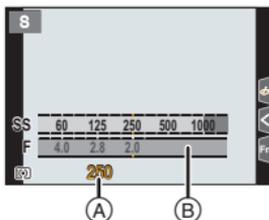
- Turn the shutter speed dial to select [A] (AUTO).**
 - Turn the aperture ring to select the aperture value.**
 - Aperture-Priority AE Mode is set and the recording mode icon changes to [A].
- (A) Aperture value
- (B) Exposure meter



Shutter-Priority AE Mode

Pictures are taken at a specified shutter speed.

- Turn the aperture ring to select [A] (AUTO).**
 - Turn the shutter speed dial to select the shutter speed.**
 - Shutter-Priority AE Mode is set and the recording mode icon changes to [S].
- (A) Shutter speed
- (B) Exposure meter



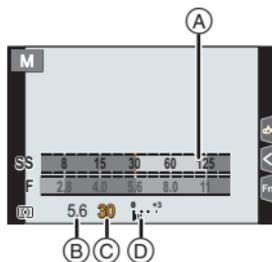
Manual Exposure Mode

Determine the exposure by manually setting the aperture value and the shutter speed.

- 1 Turn the aperture ring to select the aperture value.
- 2 Turn the shutter speed dial to select the shutter speed.

- Manual Exposure Mode is set and the recording mode icon changes to [M].

- Ⓐ Exposure meter
- Ⓑ Aperture value
- Ⓒ Shutter speed
- Ⓓ Manual Exposure Assistance



Setting the shutter speed to values not provided on the shutter speed dial

Turn the control ring or control dial to set the following shutter speeds. Check the shutter speed on the screen.

Higher shutter speed than 1/4000 seconds or slower shutter speed than 1 second

- 1 Set the [Shutter Type] in the [Rec] menu (P52)
- 2 Turn the shutter speed dial to select [4000-] or [1+]
- 3 Turn the control ring or control dial to select the shutter speed

Shutter speed setting in 1/3 EV steps

- You can set the shutter speed from the setting value of the shutter speed dial in the range of $\pm 2/3$ steps.

Example: To set the shutter speed to 1/400 seconds

- 1 Turn the shutter speed dial to select [500]
- 2 Turn the control ring or control dial to select [400]

Optimizing the ISO sensitivity for the shutter speed and aperture value

When the ISO sensitivity is set to [AUTO], the camera sets the ISO sensitivity automatically so that the exposure will be appropriate for the shutter speed and aperture value.

- Depending on recording conditions, an appropriate exposure may not be set or the ISO sensitivity may become higher.



Hints for using Manual Exposure Mode

Manual Exposure Assistance



: Properly exposed/



: Brighter images/



: Darker images

■ About [T] (Time)

If you set the shutter speed to [T] (Time), the shutter stays open while the shutter button is pressed fully (up to approximately 30 minutes).

The shutter closes if you release press the shutter button again.

- When the shutter speed is set to [T] (Time), we recommend using a tripod and taking pictures remotely by connecting the camera to a smartphone via Wi-Fi connection to prevent camera shake. [B] (Bulb) is also available when connected via Bluetooth. (P66)
- When you take still pictures with the shutter speed set to [T] (Time), the pictures may have higher noise levels. If you want to suppress noise, we recommend taking pictures by setting [Long Shtr NR] to [ON] in the [Rec] menu.

[Constant Preview]

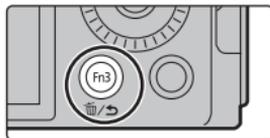
If you set [Constant Preview] in the [Custom] ([Monitor / Display]) menu to [ON], you can check the effects of aperture and shutter speed on the recording screen.

Confirm the Effects of Aperture and Shutter Speed (Preview Mode)

Applicable modes:   P A S M

Switch to confirmation screen by pressing [Fn3].

- Normal recording screen
- Aperture effect preview screen
- Shutter speed effect preview screen



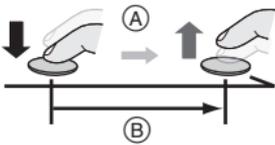
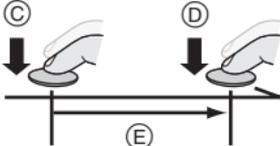
Recording 4K Photos

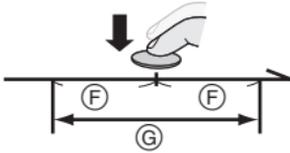
Applicable modes: **[A]** **[Av]** **[P]** **[A]** **[S]** **[M]**

The camera allows you to take burst pictures of 8 million pixels (approx.) at 30 frames/second. After taking these pictures, you can save the desired moment extracted from their burst file.

- Use a UHS Speed Class 3 card.

- 1 Press **[ ]** (**[▼]**).
- 2 Press **◀/▶** to select a 4K photo icon (**[]**, etc.), and then press **▲**.
 - By default, you can also perform the same operations as steps 1 and 2 by pressing **[Fn1]**.
- 3 Select the recording method with **◀/▶**, and then press **[MENU/SET]**.
 - You can also set the recording method in **[4K PHOTO]** in the **[Rec]** menu.

 [4K Burst]	<p>For capturing the best shot of a fast-moving subject</p> <p>Burst recording is performed while the shutter button is pressed and held.</p> <p>(A) Press and hold (B) Recording is performed</p> 
 [4K Burst(S/S)] "S/S" is an abbreviation of Start/Stop.	<p>For capturing unpredictable photo opportunities</p> <p>Burst recording starts when the shutter button is pressed and stops when pressed again.</p> <p>(C) Start (First) (D) Stop (Second) (E) Recording is performed</p> <p> Adding markers to select and save pictures</p> <p>You can add markers if you press [Fn2] during recording. (Up to 40 markers per recording) When selecting and saving pictures from a 4K burst file, you can skip to the positions where you added markers.</p> 

 <p>[4K Pre-Burst]</p>	<p>For recording as needed whenever a photo opportunity arises</p> <p>Burst recording is performed for approximately 1 second before and after the moment that the shutter button is pressed.</p> <p>Ⓕ Approximately 1 second Ⓖ Recording is performed</p> 
---	---

4 Press the shutter button to perform recording.

- The camera will perform burst recording of a 4K photo and saves it as a 4K burst file with a [Rec Format] setting of [MP4].
- When [Auto Review] is enabled, the picture selection screen will be displayed automatically. To continue recording, press the shutter button halfway to display the recording screen.
- For information on how to select and save pictures from recorded 4K burst files, refer to P40.

■ Preventing camera shake when you are recording pictures

When you perform [Light Composition] or [Sequence Composition], we recommend using a tripod and taking pictures remotely by connecting the camera to a smartphone to prevent camera shake. (P65)

■ Canceling 4K Photo

In step 2, select [] or [].

- If the surrounding temperature is high or 4K photos are recorded continuously, [] may be displayed and recording may be stopped halfway through. Wait until the camera cools down.
- When [] ([4K Pre-Burst]) is set, the battery drains faster and the camera temperature rises. (To protect itself, the camera may switch to [] ([4K Burst]).) Select [] ([4K Pre-Burst]) only when recording.
- Recording stops when the continuous recording time exceeds 15 minutes. When using an SDHC memory card, you can continue the recording of a 4K photo without interruption even if the file size exceeds 4 GB, but its burst file will be divided into smaller files for recording and playback. With an SDXC memory card, you can save a burst file size exceeding 4 GB as a single file.
- The angle of view becomes narrower.

Selecting pictures from 4K burst file and saving

1 Select an image with the icon on the playback screen, and press **▲**.

- If the image was recorded with [4K Pre-Burst], proceed to step **3**.



2 Drag the slide bar to make a rough selection of scenes.

- You can select its scenes on the 4K burst playback screen by touching  (Fn1).
- Touch  to switch to the marker operation screen. (P41)

Slide view screen



3 Drag the frames to select the frame you want to save as a picture.

- To continuously rewind/forward frame-by-frame, touch and hold  [< />].



4 Touch to save the picture.

- The picture will be saved in JPEG format.

Marker

When selecting and saving pictures from a 4K burst file, you can select pictures easily by skipping between marked positions.

White marker:

This is manually set during recording or playback.

Green marker:

This is automatically set by the camera during recording.
(Auto Marking function^{*1})

Marker operation screen



- *1 The camera automatically sets markers on scenes in which a face or the movement of a subject is detected.
(Example: At the scene when a vehicle passes by, a balloon bursts, or a person turns around)

■ Skips to the marked positions

Touching [] allows you to switch to the marker operation screen, where you can press ◀/▶ to skip to the marked positions.

Touch [] to return to the original operation.

- Up to 10 markers are displayed for each file.
- In the following cases, markers may not be set by the Auto Marking function depending on the recording conditions and the status of subjects.
 - The camera is moving because of panning or jitter
 - The movement of a subject is slow/small
 - The subject is small
 - A face is not facing front

■ Switches a marker to be displayed

Touch [].

[Auto]/[Face Priority]/[Motion Priority]/[Off]^{*2}

*2 Displays manually set markers only.

Controlling Focus After Recording (Post Focus/Focus Stacking)

Applicable modes:   P A S M

The camera allows you to take 4K burst pictures while shifting the focus to different areas. After taking these pictures, you can select the desired focus area.

This function is suited for recording still objects.

- Use a UHS Speed Class 3 card.
- We recommend that you use a tripod when recording images to be used for Focus Stacking.

1 Press   (▼).

2 Press   to select the Post Focus icon (), and press [MENU/SET].

- By default, you can also perform the same operations as steps **1** and **2** by pressing [Fn4] and then selecting [ON].

3 Decide on the composition, and press the shutter button halfway.

- Auto Focus will detect focus areas on the screen. (Excluding the edges of the screen)
- If no areas on the screen can be brought into focus, the focus display (A) will flash. Recording is not possible in this case.



From the time you press the shutter button halfway until the end of recording:

- Maintain the same distance to the subject and the same composition.

4 Press the shutter button fully to start recording.

- The focus point changes automatically while recording. When the icon (B) disappears, recording automatically ends.
- A motion picture will be recorded with [Rec Format] set to [MP4].
- When [Auto Review] is enabled, a screen that lets you select the desired focus area will be displayed. (P43)



■ To cancel the [Post Focus] recording

In step 2, select [] or [OFF].

- When the ambient temperature is high or Post Focus recording is performed continuously, the camera may display [] and recording may stop. Wait until the camera cools down.
- During recording, the angle of view will be narrower.

Selecting the desired focus area and saving a picture ([Post Focus])

- 1 Select an image with the [] icon on the playback screen, and press ▲.



- 2 Touch the desired focus area.

- If a picture that is in focus is not available for the selected area, a red frame will be displayed. You cannot save a picture in this case.
- You cannot select the edges of the screen.



Button operation	Touch operation	Description of operation
▲/▼/◀/▶/ ()	Touching	Selects a focus area. • It cannot be selected during enlarged display.
⌂	(+)	Enlarges the display.
	(↶)	Reduces the display (during enlarged display).
[Fn1]	()	Switches to the Focus Stacking function. (P44)
[Fn2]	PEAK	In-focus portions are highlighted with color. ([Peaking]) • Switches in order of [PEAK OFF] → [PEAK L] ([LOW]) → [PEAK H] ([HIGH]).
[MENU/SET]	()	Saves the picture.

- You can fine-adjust the focus by dragging the slide bar during enlarged display. (You can also perform the same operation by pressing ◀/▶.)

3 Touch [] to save the picture.

- The picture will be saved in JPEG format.



Merging multiple pictures to widen the focus range (Focus Stacking)

- Touch [] on the screen where you select the desired focus area in step 2 of "Selecting the desired focus area and saving a picture ([Post Focus])" (P43).
- Touch the merging method.

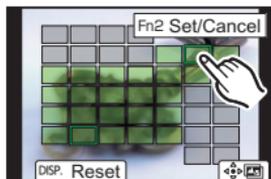
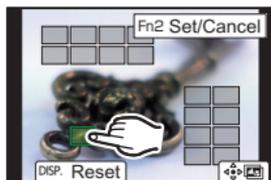
[Auto Merging]	Automatically selects pictures that are suited to be merged, and merges them into a single picture. <ul style="list-style-type: none"> Priority will be given to pictures with closer focus. Perform the focus stacking and save the picture.
[Range Merging]	Merges pictures with specified focus areas into a single picture.

(When [Range Merging] is selected)

3 Touch the desired focus area.

- Specify at least two areas.
- In-focus parts between the selected two points are indicated.
- Parts that cannot be selected are indicated in gray.

- To cancel the selection, touch the focus area again.



Button operation	Touch operation	Description of operation
▲/▼/◀/▶/ 	Touching	Selects an area.
[Fn2]	[Set/Cancel]	Specifies/cancels an area.
[DISP.]	[All]	Selects all areas. (Before selecting areas)
	[Reset]	Cancels all selections. (After selecting areas)
[MENU/SET]		Merges pictures and saves the resulting picture.

4 Touch [] to merge the pictures and save the resulting picture.

- The picture will be saved in JPEG format. Recording information (Exif information) of the original picture with the closest focus distance, including the shutter speed, aperture, and ISO sensitivity, will also be recorded to the new picture.
- The camera may automatically correct the misalignments of pictures caused by camera shake. If they are corrected, the angle of view becomes slightly narrower when pictures are merged.
- Pictures may be merged into an unnatural picture in the following cases:
 - When the subject moves during recording
 - When the distance between subjects is great
 - When pictures are too defocused (If you take pictures with a larger aperture value, the resulting picture may look less unnatural.)
- You may not be able to use Focus Stacking for images recorded with other devices.

Taking Pictures While Adjusting a Setting Automatically (Bracket Recording)

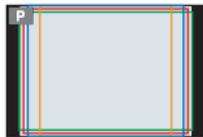
Applicable modes:   **P** **A** **S** **M**

You can take multiple pictures while automatically adjusting a setting by pressing the shutter button.

1 Select the menu.

MENU →  **[Rec]** → **[Bracket]** → **[Bracket Type]**

 Exposure Bracket	Press the shutter button to perform recording while adjusting the exposure. <ul style="list-style-type: none"> • This is disabled when recording using the flash.
 Aperture Bracket	Press the shutter button to perform recording while adjusting the aperture. <ul style="list-style-type: none"> • Available in Aperture-Priority AE Mode or when the ISO sensitivity is set to [AUTO] in Manual Exposure Mode.
FOCUS Focus Bracket	Press the shutter button to perform recording while adjusting the focus position.
 White Balance Bracket	Press the shutter button once to take three pictures with different white balance settings automatically.
 Aspect Bracket	When you press the shutter button once, the camera automatically takes four pictures with four types of aspect ratios (4:3, 3:2, 16:9, and 1:1). (The shutter sounds only once.) <ul style="list-style-type: none"> • The range that can be recorded for each aspect ratio is displayed.



2 Press ▲/▼ to select [More Settings] and then press [MENU/SET].

- Press the shutter button halfway to exit the menu.

3 Focus on the subject and take a picture.

■ To deactivate Bracket

Select [OFF] in step 1.

Taking pictures using the flash (supplied)

Applicable modes: P A S M

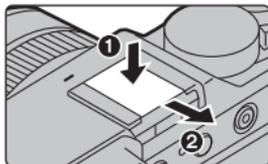
This section describes how to take a picture using the flash (supplied). For details about how to attach external flashes other than the supplied flash, refer to their operating instructions.

Attaching the flash

■ Removing the Hot Shoe Cover

The camera comes with a hot shoe cover attached to the hot shoe.

Remove the hot shoe cover by pulling it in the direction indicated by arrow ② while pressing it in the direction indicated by arrow ①.



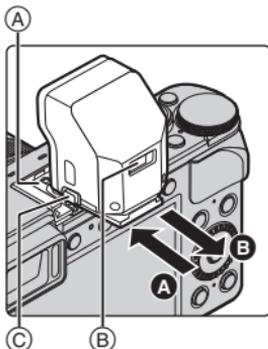
- Be sure to attach the hot shoe cover when the hot shoe is not in use.
- Keep the hot shoe cover safely after removing it so that you do not lose it.
- Keep the hot shoe cover out of reach of children to prevent swallowing.

■ Attaching the flash

- 1 Turn off the camera and the flash.
- 2 Firmly insert the flash into the hot shoe of this unit until it clicks. (A)

- When recording, set the on/off switches of the camera and flash to [ON].
- Do not hold the flash to carry the camera when the flash is attached to the camera.

- (A) Hot shoe
- (B) Flash [ON/OFF] switch
- (C) Lock release button



■ Removing the flash

- 1 Turn off the camera and the flash.
- 2 Press and hold the lock release button and pull the flash in the direction indicated by the arrow to detach the flash. (B)

- When detaching the flash, do so slowly and carefully.
- Attach the hot shoe cover to the hot shoe of the camera.
- Store the detached flash in its soft case.



In the following cases, the flash is fixed to [⊕] (forced flash off).

- When recording motion pictures
- When recording 4K photos
- When recording with the Post Focus function
- When using [Panorama Shot]
- When using the electronic shutter
- When an image effect in [Filter Effect] of [Filter Settings] is set
- When [Silent Mode] is set to [ON]
- When [HDR] is set to [ON]

Changing Flash Mode

Applicable modes: **P** **A** **S** **M**

- [Flash] in the [Rec] menu is available only when an external flash is attached.

MENU → **[Rec]** → **[Flash]** → **[Flash Mode]**

((Forced Flash On)) ((Forced On/Red-Eye))	<p>The flash is activated every time regardless of the recording conditions.</p> <ul style="list-style-type: none"> • Use this when your subject is back-lit or under fluorescent light.
((Slow Sync.)) ((Slow Sync./Red-Eye))	<p>When taking pictures against a dark background landscape, this feature will slow the shutter speed when the flash is activated. Dark background landscape will appear brighter.</p> <ul style="list-style-type: none"> • Use this when you take pictures of people in front of a dark background. • Using a slower speed can cause motion blur. Using a tripod can enhance your photos.
((Forced Flash Off))	<p>The flash is not activated in any recording conditions.</p> <ul style="list-style-type: none"> • Use this when you take pictures in places where the use of flash is not permitted.

The flash is activated twice.

The interval between the first and second flash is longer when [⚡⊕] or [⚡S⊕] is set. The subject should not move until the second flash is activated.

- In Intelligent Auto Plus Mode, [⚡A] or [⊕] can be set.

Recording Motion Picture/4K Motion Picture

Applicable modes: **FA** **AV** **P** **A** **S** **M**

This camera can record full high definition motion pictures compatible with the AVCHD format or motion pictures recorded in MP4.

In addition, the camera can record 4K motion pictures in MP4.

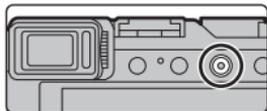
Audio will be recorded in stereo.

- You can record motion pictures by manually setting the aperture value and shutter speed. (P35, 36)
- In Intelligent Auto Mode, the camera automatically sets the aperture value and shutter speed and detects the scene to record motion pictures. (P33)

1 Start recording by pressing the motion picture button.

- (A) Elapsed recording time
- (B) Available recording time

- The recording state indicator (red) (C) will flash while recording motion pictures.
- Release the motion picture button right after you press it.
- Still picture recording is also possible during the motion picture recording by fully pressing the shutter button.



2 Stop the recording by pressing the motion picture button again.

■ When recording 4K motion pictures

- When recording motion pictures in 4K, use a card rated as UHS Speed Class 3.
- When recording motion pictures in 4K, the angle of view will be narrower than motion pictures of other sizes.
- To ensure highly accurate focus, 4K motion pictures are recorded at reduced Auto Focus speeds. It may be difficult to focus on the subject with Auto Focus, but this is not a malfunction.
- With recording in a quiet environment, the sound of aperture and focus may be recorded in motion pictures. This is not a malfunction. The focus operation during recording of motion pictures can be set to [OFF] in [Continuous AF].
- When the ambient temperature is high or motion picture is recorded continuously, after [>] is displayed, recording may stop to protect the camera. Wait until the camera cools down.

■ Setting the recording format and recording quality

MENU →  [Motion Picture] → [Rec Format]

Settings: [AVCHD]/[MP4]

MENU →  [Motion Picture] → [Rec Quality]

AVCHD:	[FHD/28M/60p] ^{*1} /[FHD/17M/60i]/[FHD/24M/30p]/[FHD/24M/24p]
MP4:	[4K/100M/30p] ^{*2} /[4K/100M/24p] ^{*2} , [FHD/28M/60p]/[FHD/20M/30p]/[HD/10M/30p]

*1 AVCHD Progressive

*2 4K motion pictures

- Motion picture recording stops when the continuous recordable times below have elapsed.

[Rec Format]	[Rec Quality]	Continuous recordable time	Size interval for dividing files
[AVCHD]	[FHD/28M/60p]	29 minutes and 59 seconds	Files exceeding 4 GB in size will be divided into smaller files for recording. ^{*3}
	[FHD/17M/60i]		
	[FHD/24M/30p]		
	[FHD/24M/24p]		
[MP4]	[4K/100M/30p]	15 minutes	When an SDHC card is used: Files exceeding 4 GB in size will be divided into smaller files for recording and playback. ^{*3} When an SDXC card is used: Files are not divided for recording.
	[4K/100M/24p]		
	[FHD/28M/60p]	29 minutes and 59 seconds	Files exceeding 4 GB in size will be divided into smaller files for recording and playback. ^{*3}
	[FHD/20M/30p]		
	[HD/10M/30p]		

*3 You can continue recording without interruption.

Playing Back Pictures

- 1 Press [▶].
- 2 Press ◀/▶.

◀: Play back the previous picture

▶: Play back the next picture

- If you press and hold ◀/▶, you can play back the pictures in succession.



■ To finish playback

Press [▶] again or press the shutter button halfway.

- The playback screen is displayed if you set the camera on/off switch to [ON] while pressing and holding [▶].
- When [Lens Retraction] in the [Custom] ([Lens / Others]) menu is set to [ON], the lens barrel is retracted after approx. 15 seconds as the camera is switched to the playback screen from the recording screen.

■ Playing Back Motion Pictures

This unit was designed to play motion pictures using the AVCHD and MP4 formats.

- Motion pictures are displayed with the motion picture icon ([▶]).

Press ▲ to play back.

- (A) Motion picture recording time
- (B) You can also play back the motion picture by touching [▶] in the center of the screen.



■ Deleting Pictures

Once deleted, pictures cannot be recovered.

- 1 In Playback Mode, select the picture to delete and then press [🗑️].
- 2 Press ▲/▼ to select [Delete Single] and then press [MENU/SET].

Menu list

If you press [DISP.] while a menu item or setting is selected, a description of the menu is displayed.



[Intelligent Auto] menu

[Intelligent Auto Mode] (P33)

[iHandheld Night Shot]

[iHDR]



[Rec] menu

[Picture Size]

[Flash] (P47)

[4K PHOTO] (P38)

[Quality]

[Red-Eye Removal]

[Self Timer]

[AFS/AFF/AFC]

[ISO Auto Upper Limit
(Photo)]

[Time Lapse Shot]

[Photo Style]

[Min. Shtr Speed]

[Stop Motion Animation]

[Filter Settings]

[Long Shtr NR]

[Panorama Settings]

[Color Space]

[Diffraction Compensation]

[Silent Mode]

[Metering Mode]

[Stabilizer]

[Shutter Type]

[Highlight Shadow]

[i.Zoom] (P26)

[Bracket] (P46)

[i.Dynamic]

[Digital Zoom] (P27)

[HDR]

[i.Resolution]

[Burst Rate]

[Multi Exp.]

**[Motion Picture] menu**

[Rec Format] (P50)	[Highlight Shadow]	[Digital Zoom] (P27)
[Rec Quality] (P50)	[i.Dynamic]	[Picture Mode in Rec.]
[AFS/AFF/AFC]	[i.Resolution]	[Sound Rec Level Disp.]
[Continuous AF]	[ISO Auto Upper Limit (Video)]	[Sound Rec Level Adj.]
[Photo Style]	[Diffraction Compensation]	[Wind Noise Canceller]
[Filter Settings]	[Stabilizer]	
[Metering Mode]	[i.Zoom] (P26)	

**[Custom] menu**

[Exposure]	[MF Assist]	[Histogram]
[ISO Increments]	[MF Assist Display]	[Guide Line]
[Extended ISO]		[Center Marker]
[Exposure Comp. Reset]	[Operation]	[Highlight]
	[Fn Button Set] (P31)	[Zebra Pattern]
[Focus / Release Shutter]	[Q.MENU]	[Expo.Meter]
[AF/AE Lock]	[iA Button Switch]	[MF Guide]
[AF/AE Lock Hold]	[Control Ring] (P32)	[LVF/Monitor Disp. Set]
[Shutter AF]	[Operation Lock Setting]	[Monitor Info. Disp.]
[Half Press Release]	[Video Button]	[Rec Area]
[Quick AF]	[Touch Settings]	[Remaining Disp.]
[Eye Sensor AF]	[Dial Guide]	
[Pinpoint AF Setting]	[Zoom lever]	[Lens / Others]
[AF Assist Lamp]		[Lens Position Resume]
[Direct Focus Area]	[Monitor / Display]	[Lens Retraction]
[Focus/Release Priority]	[Auto Review]	[Self Timer Auto Off]
[Focus Switching for Vert / Hor]	[Monochrome Live View]	[Face Recog.]
[Loop Movement Focus Frame]	[Constant Preview] (P37)	[Profile Setup]
[AF Area Display]	[Live View Boost]	
[AF+MF]	[Peaking]	

**[Setup] menu**

[Online Manual] (P81)	[Economy]	[Version Disp.]
[Utilize Custom Set feature]	[Monitor Display Speed]	[Folder / File Settings]
[Cust.Set Mem.]	[LVF Display Speed]	[No.Reset]
[Clock Set] (P21)	[Monitor Display]/[Viewfinder]	[Reset]
[World Time]	[Monitor Luminance]	[Reset Network Settings]
[Travel Date]	[m/ft]	[Level Gauge Adjust.]
[Wi-Fi] (P62)	[Eye Sensor]	[Demo Mode]
[Bluetooth] (P60)	[USB Mode]	[Format] (P22)
[Wireless Connection Lamp]	[TV Connection]	
[Beep]	[Language]	

**[My Menu]**

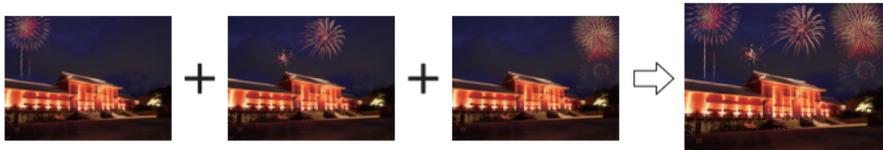
[My Menu Setting]

**[Playback] menu**

[Slide Show]	[4K PHOTO Bulk Saving]	[Rotate]
[Playback Mode]	[Light Composition] (P55)	[Video Divide]
[Protect]	[Sequence Composition] (P56)	[Time Lapse Video]
[Rating]	[Clear Retouch]	[Stop Motion Video]
[Title Edit]	[Text Stamp]	[Rotate Disp.]
[Face Rec Edit]	[Resize]	[Picture Sort]
[RAW Processing]	[Cropping]	[Delete Confirmation]

[Light Composition]

Select multiple frames from 4K burst files that you wish to combine. Parts of the image that are brighter than the preceding frame will be superimposed on the preceding frame to combine the frames into one picture.



MENU → **[Playback]** → **[Light Composition]**

- 1 Press **◀/▶** to select the 4K photo burst files and press **[MENU/SET]**.
- 2 Choose the combining method, and then press **[MENU/SET]**.

[Composite Merging] setting

Select the frames you want to combine to superimpose brighter parts.

- 1 Drag the slide bar or use **▲/▼/◀/▶** to select the frames to combine.
- 2 Press **[MENU/SET]**.
 - The selected frames are remembered, and the display goes to the preview screen.
 - Press **▲/▼** to select items and press **[MENU/SET]** to perform the following operations.
 - **[Next]:**
Lets you select more frames for combining.
 - **[Reselect]:**
Discards the frame selected immediately before and lets you select a different image.
- 3 Repeat steps 1 and 2 to select more frames to combine.
 - You can select up to 40 frames.
- 4 Press **▼** to select **[Save]**, and then press **[MENU/SET]**.



[Range Merging] setting

Select the first and last frames to superimpose the brighter parts of the frames between them.

- 1 Select the frame of the first picture, and press **[MENU/SET]**.
 - The selection method is the same as in step 1 of [Composite Merging] setting.
 - 2 Select the frame of the last picture, and press **[MENU/SET]**.
- 3 **Select [Yes] at the confirmation screen, and then press [MENU/SET].**
- Pictures are saved in JPEG format. Recording information (Exif information) of the first frame such as shutter speed, aperture, and ISO sensitivity are also registered.

[Sequence Composition]

Select multiple frames from a 4K burst file to create a sequence composition of a moving subject into one picture.



MENU → [Playback] → [Sequence Composition]

- 1 Press / to select the 4K burst files and press [MENU/SET].
- 2 Select frames to combine.

Select the frames so that the moving subject will not overlap on the preceding or subsequent frames. (The sequence composition may not be created properly if the subject overlaps.)

- 1 Drag the slide bar or use / / / to select the frames to combine.
 - 2 Press [MENU/SET].
 - The selected frames are remembered, and the display goes to the preview screen.
 - Press / to select items and press [MENU/SET] to perform the following operations.
 - [Next]: Lets you select more frames for combining.
 - [Reselect]: Discards the frame selected immediately before and lets you select a different image.
 - 3 Repeat steps 1 and 2 to select more frames to combine.
 - You can select 3 to 40 frames.
 - 4 Press / to select [Save], and then press [MENU/SET].
- Pictures are saved in JPEG format. Recording information (Exif information) of the first frame such as shutter speed, aperture, and ISO sensitivity are also registered.



Tips for [Sequence Composition]

We recommend using a tripod to take pictures for [Sequence Composition].

What you can do with the Wi-Fi®/Bluetooth® function

Controlling with a Smartphone (P64)

- Recording with a smartphone (P65)
- Playing back or saving images stored on the camera, or uploading them on social media sites (P67)

Explore more enjoyment possibilities with Bluetooth®

You can connect to a smartphone that supports Bluetooth low energy any time. Connect to a smartphone to use a full range of features.

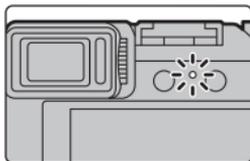
- Pairing (Connection setup) (P60)
- Turning on/off the camera with a smartphone (P64)
- [B] (Bulb) recording (P66)
- Sending recorded images to a smartphone automatically
- Recording location information of a smartphone on recorded images
- Synchronizing the camera's clock with a smartphone

This owner's manual refers to both smartphones and tablets as smartphones from this point on unless noted otherwise.

- For details, refer to the "Owner's Manual for advanced features (PDF format)".

■ About the WIRELESS connection lamp

Lit blue	When the Wi-Fi/Bluetooth function is ON or connected
Blinking blue	When sending image data by operating the camera



- In [Wireless Connection Lamp] in the [Setup] menu, you can set the lamp so that it will not light/flash.

■ About the [Wi-Fi] button

In this owner's manual, a function button to which [Wi-Fi] is assigned is referred to as the [Wi-Fi] button.

(By default, [Wi-Fi] is assigned to [Fn6] when the camera is in Recording Mode, while it is assigned to [Fn1] when the camera is in Playback Mode.)

- For information about the function button, refer to P31.

Steps for pressing [Wi-Fi] (in Recording Mode)

- 1 Touch [Fn].
- 2 Touch [].



- The camera cannot be used to connect to a public wireless LAN connection.

■ Use the camera as a wireless LAN device

When using equipment or computer systems that require more reliable security than wireless LAN devices, ensure that the appropriate measures are taken for safety designs and defects for the systems used. Panasonic will not take any responsibility for any damage that arises when using the camera for any purpose other than as a wireless LAN device.

■ Use of the Wi-Fi function of this camera is presumed to be in countries where this camera is sold

There is the risk that the camera violates the radio wave regulations if used in countries other than those where this camera is sold, and Panasonic takes no responsibility for any violations.

■ There is the risk that data sent and received via radio waves may be intercepted

Please note that there is the risk that data sent and received via radio waves may be intercepted by a third party. We strongly recommend that you set an encryption to maintain information security.

■ Do not use the camera in areas with magnetic fields, static electricity or interference

- Do not use the camera in areas with magnetic fields, static electricity or interference, such as near microwave ovens. These may cause the interruption of the radio waves.
- Using the camera near devices such as microwave ovens or cordless telephones that use the 2.4 GHz radio wave band may cause a decrease in performance in both devices.

■ Do not connect to the wireless network you are not authorized to use

When the camera utilizes its Wi-Fi function, wireless networks will be searched automatically. When this happens, wireless networks that you are not authorized to use (SSID*) may be displayed, however do not attempt to connect to the network as it may be considered as unauthorized access.

- * SSID refers to the name that is used to identify a network over a wireless LAN connection. If the SSID matches for both devices, transmission is possible.

Connecting to a smartphone

Installing the smartphone/tablet app “Panasonic Image App”

• OS

App for Android™: Android 4.4 or higher
(Android 5.0 or higher is required to use the Bluetooth function.)

App for iOS: iOS 9.0 or higher
(The Bluetooth function cannot be used with the iPad 2.)

- 1 Connect the smartphone to a network.
- 2 (Android) Select “Google Play™ Store”.
(iOS) Select “App Store”.
- 3 Enter “Panasonic Image App” or “LUMIX” into the search box.
- 4 Select “Panasonic Image App”  and install it.

- Use the latest version.
- Supported OSs are current as of September 2018 and are subject to change.
- The service may not be able to be used properly depending on the type of smartphone being used.

Refer to the support site below for details about the “Image App”.

<http://panasonic.jp/support/global/cs/dsc/>

(This Site is English only.)

- When downloading the app on a mobile network, high packet communication fees may be incurred depending on the details of your contract.
- Read the [Help] in the “Image App” menu for further details on how to operate.
- When you operate the “Image App” on the smartphone that is connected to the camera via Wi-Fi, [Help] in the “Image App” may not be displayed depending on the smartphone. In this case, after terminating the connection to the camera, reconnect the smartphone to a mobile phone network such as the 3G or LTE network or to a Wi-Fi router, and then display [Help] in the “Image App”.
- Some of the screens and information provided in this owner's manual may differ from your device depending on the supported OS and “Image App” version.

Connecting the camera to a smartphone compatible with Bluetooth low energy

You can connect the camera to a smartphone via a Bluetooth connection.

• Supported smartphones

Android: **Android 5.0 or higher equipped with Bluetooth 4.0 or higher**
(excluding those that do not support Bluetooth low energy)

iOS: **iOS 9.0 or higher** (excluding the iPad 2)

First-time connection

You need to set up pairing (connection) for the first time only.
When pairing is set up, a Wi-Fi connection is made automatically.

(On the camera)

MENU →  **[Setup]** → **[Bluetooth]** →
[Bluetooth] → **[SET]** → **[Pairing]**

- The camera enters pairing standby mode and displays its device name.

(On your smartphone)

1 Start “Image App”.

- If a message is displayed indicating that the smartphone is searching for cameras, close the message.

2 Select **[Bluetooth]**.

3 Turn on the **Bluetooth**.

4 Select the device name displayed on the camera’s screen from the **[Camera enable to be registered]** list.

- Bluetooth connection between the camera and the smartphone will be made.
(For Android devices) A Wi-Fi connection will be made by selecting **[Connection]**.

If you are using an Android device, follow the steps up to here to complete the setup. Proceed to the steps below only if you are using an iOS device.

- If **[Wi-Fi Password]** is set to **[OFF]** on the camera, select **[Wi-Fi Setup]**. (At the time of purchase, **[Wi-Fi Password]** is set to **[OFF]**.)
- If **[Wi-Fi Password]** is set to **[ON]** on the camera, you need to install the profile.

❶ Install the profile.

- If a pass code is set on the smartphone, you need to enter it.

❷ Press the home button to close the browser.



- 5 Turn on the Wi-Fi function in the smartphone's setting menu.
- 6 On the Wi-Fi setting screen, select the SSID displayed on the camera. (The device name selected in step 4)



- If the SSID is not displayed, it may be displayed after the Wi-Fi function is turned off and on.

- 7 Start "Image App".

- The paired smartphone will be registered as a paired device after connected via Wi-Fi.

■ Connecting to the paired smartphone (connecting for the second and subsequent times)

(On the camera)

MENU →  [Setup] → [Bluetooth] → [Bluetooth] → [ON]

(On your smartphone)

- 1 Start "Image App" and then select [Bluetooth].
- 2 Turn on the Bluetooth.
- 3 Select the camera (device name) you want to connect to from the [Camera registered] list.

■ Deleting the pairing information of a smartphone

(On the camera)

- 1 Select the menu.

MENU →  [Setup] → [Bluetooth] → [Bluetooth] → [SET] → [Delete]

- 2 Select the smartphone you want to delete.

(On your smartphone)

Select the camera (device name) for which to delete the pairing information from the [Camera registered] list, and delete the registration.

- [] is displayed on the recording screen during Bluetooth connection. When the Bluetooth function is enabled, but a connection is not established, [] appears translucent.
- When it takes time to set up pairing between a smartphone and a camera, delete the pairing information of both devices and register them again. This may enable the devices to be recognized properly.

Connecting the camera to a smartphone that does not support Bluetooth low energy

Connect to a smartphone via Wi-Fi.

- You can also connect via Wi-Fi to a smartphone that supports Bluetooth low energy by following the same steps.

Connecting without using the password

(On the camera)

MENU →  **[Setup]** → **[Wi-Fi]** → **[Wi-Fi Function]** → **[New Connection]** → **[Remote Shooting & View]**

A SSID

- The information required for directly connecting your smartphone to this unit (SSID) is displayed.

(On your smartphone)

- Turn on the Wi-Fi function in the setup menu.
- On the Wi-Fi setting screen, select the SSID displayed on the camera.
- Start "Image App".

- When the connection confirmation screen is displayed on the camera, select [Yes] to connect. (For first time connection only)



At the time of purchase, [Wi-Fi Password] is set to [OFF].

Before connecting to a Wi-Fi network, ensure that the device displayed on the connection confirmation screen is the one you actually want to connect to. When a wrong device is displayed, if you select [Yes], the camera will automatically connect to that device.

We recommend that you set [Wi-Fi Password] to [ON] if, for example, there is another Wi-Fi device nearby.

Using a password to set up a connection

Preparations:

(On the camera) Set the [Wi-Fi Password] to [ON].

MENU →  [Setup] → [Wi-Fi] → [Wi-Fi Setup] → [Wi-Fi Password] → [ON]

(On the camera)

MENU →  [Setup] → [Wi-Fi] → [Wi-Fi Function] → [New Connection] → [Remote Shooting & View]

(A) SSID and password

(B) QR code

- The information required for directly connecting your smartphone to this unit (SSID, password and QR code) is displayed.



(On your smartphone)

- 1 Turn on the Wi-Fi function in the setting menu.
- 2 On the Wi-Fi setting screen, select the SSID displayed on the camera.
- 3 Enter the password displayed on the camera into the smartphone. (For first time connection only)
- 4 Start "Image App".



Terminating the Wi-Fi connection

- 1 Set the camera to Recording Mode.
 - Press the shutter button halfway to return to recording mode.
- 2 Select the camera's menu items to terminate the Wi-Fi connection.

MENU →  [Setup] → [Wi-Fi] → [Wi-Fi Function] → [Yes]

- 3 On the smartphone, close "Image App".



Controlling with a Smartphone

■ Required wireless connectivity mode

The wireless connectivity mode required varies depending on the function to be used after connecting to a smartphone.

Wireless connectivity required	Support for Bluetooth low energy
Bluetooth	Indicates that the function can be used with smartphones that support Bluetooth low energy.
Wi-Fi	Indicates that the function can be used with smartphones that do not support Bluetooth low energy.
Bluetooth Wi-Fi	Indicates that the function can be used with smartphones that support Bluetooth low energy. • Indicates that the function requires you to connect to a smartphone using both Bluetooth and Wi-Fi.

Turning on/off the camera with a smartphone

Wireless connectivity required: **Bluetooth** Wi-Fi

This function allows you to turn on the camera from a distant location and take pictures or view images on the camera even when it is in your bag.

- 1 **Make a Bluetooth connection to the smartphone. (P60)**
- 2 **Select the camera's menu.**

MENU →  [Setup] → [Bluetooth] → [Remote Wakeup] → [ON]

- 3 **Set the camera ON/OFF switch to [OFF].**
- 4 **On the smartphone, start up the "Image App", and set the Bluetooth function to a state in which a connection can be made (standby state).**
- 5 **Operate the smartphone.**

① Select [].

② Select [Remote operation].



- The camera automatically turns on, allowing it to make a Wi-Fi connection automatically.
 - (iOS devices) Depending on the connection status of the smartphone, you may need to change the connected device on the Wi-Fi setup screen. Follow the on-screen message on the smartphone to change the setting.

■ Turning off the camera with the smartphone

- 1 Select [].
- 2 Select [ OFF].

- When [Remote Wakeup] is set to [ON], the Bluetooth function continues to operate even after the camera is turned off, thus causing the battery to drain.

Taking images via a smartphone (remote recording)

Wireless connectivity required: Wi-Fi

- 1 **Connect to a smartphone. (P59)**
- 2 **Operate the smartphone.**

(When connected via Bluetooth) Select [] → [Remote operation]

(iOS devices) If you need to change the connected device on the Wi-Fi setup screen, follow the on-screen message to change the setting.

- 1 Select [].
- 2 Record an image.



- The recorded images are saved in the camera.
- Some settings are not available.

■ Setting the priority of which device to be operated during remote recording

MENU →  [Setup] → [Wi-Fi] → [Wi-Fi Setup] → [Priority of Remote Device]

 [Camera]	Allows you to perform operations with both the camera and the smartphone during remote recording. <ul style="list-style-type: none"> • The camera's dial settings, etc. cannot be changed with the smartphone.
 [Smartphone]	Allows you to perform operations only with the smartphone during remote recording. <ul style="list-style-type: none"> • The camera's dial settings, etc. can be changed with the smartphone. • To end remote recording, press any of the buttons on the camera to turn on the screen, and select [End].

Operating the shutter button with a smartphone via a Bluetooth connection alone

Wireless connectivity required: **Bluetooth**

- 1 **Make a Bluetooth connection to the smartphone. (P60)**
- 2 **Operate the smartphone.**

① Select [].

② Select [Shutter Remote Control].



③ Take pictures.

- [Shutter Remote Control] is available when the camera on/off switch is set to [ON].
 - The live view image of the camera cannot be monitored on the smartphone.
- When the camera turns off after [Sleep Mode] is activated during recording, you can reselect [Shutter Remote Control] on the smartphone to turn it on again. (The following settings are required.)
 - [Remote Wakeup]: [ON]
 - [Auto Transfer]: [OFF]
 - You can perform [B] (Bulb) recording by setting the shutter speed dial to [T] (Time) in Manual Exposure Mode. (Up to 30 minutes) This function is useful when you take pictures of stars in the night sky or a night scene, since the shutter can be kept open from start of recording to end of recording. Further information is provided in the “Owner’s Manual for advanced features (PDF format)”.

■ Reducing the time to recover from Sleep mode

Select the smartphone function to be used as a priority function when waking the camera from [Sleep Mode] with a smartphone.

Preparation:

Set [Bluetooth] and [Remote Wakeup] to [ON]. (P64)

MENU →  **[Setup]** → **[Bluetooth]** → **[Returning from Sleep Mode]**

 [Remote / Transfer Priority]	Shortens the time required to wake the camera with [Remote operation] or [Transfer image].
 [Shutter Remote Priority]	Shortens the time required to wake the camera with [Shutter Remote Control].

Playing back/saving images stored on the camera, or uploading them on social media sites

Wireless connectivity required: Wi-Fi

- 1 **Connect to a smartphone. (P59)**
- 2 **Operate the smartphone.**

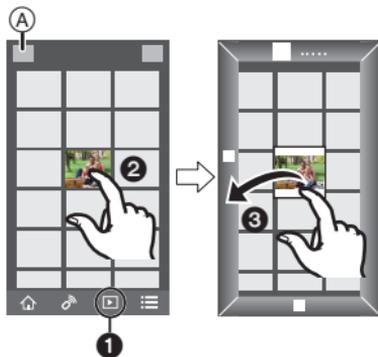
(When connected via Bluetooth) Select [] → [Remote operation]

(iOS devices) If you need to change the connected device on the Wi-Fi setup screen, follow the on-screen message to change the setting.

- 1 Select [].
 - You can switch the images to be displayed by selecting the icon (A) on the top left of the screen. To display images stored in the camera, select [LUMIX].

(To play back the image)

- 2 Touch the image to enlarge it.
 - When you play a motion picture, image quality differs from that of the actual recorded motion picture. The image quality may deteriorate or the sound may skip during motion picture or picture playback.



(To save the image or upload it on a social media site or other web service)

- 3 Touch and hold and then drag the image.
- An OS version of Android 7.0 or higher or iOS 10.0 or higher is required to save pictures in RAW format.
 - Depending on the smartphone or its OS version, pictures in RAW format may not be displayed correctly.
 - You cannot save the following types of images:
 - Motion pictures in AVCHD and 4K formats
 - 4K burst files
 - Images recorded with the Post Focus function

Saving still pictures and motion pictures on your PC

Downloading software

- To download the software, you need to connect the PC to the Internet.
- It may take some time to download the software depending on the communication environment.
- Supported OSs are current as of September 2018 and are subject to change.

PHOTOfunSTUDIO 10.0 AE (Windows® 10 / 8.1 / 7)

This software allows you to manage images. For example, you can send pictures and motion pictures to a PC and sort them by recording date or model name. You can also perform operations such as writing images to a DVD, processing and correcting images, and editing motion pictures.

Check the site below to download and install the software.

Download the software while it is available for download.

- Download expiration: September 2023

http://panasonic.jp/support/global/cs/soft/download/d_pfs10ae.html

(This Site is English only.)

- For details about information such as the operating environment or operating method, refer to the "Owner's Manual for advanced features (PDF format)" or the operating instructions for the respective software programs.

SILKYPIX Developer Studio SE (Windows® 10 / 8.1 / 8 / 7, Mac OS X v10.6 to v10.11, macOS 10.12, macOS 10.13)

This software processes and edits RAW files.

Edited images can be saved in a format (JPEG, TIFF, etc.) that can be displayed on a personal computer.

Check the site below to download and install the software.

<http://www.isl.co.jp/SILKYPIX/english/p/>

- For details on how to use the SILKYPIX Developer Studio, refer to the Help or the Ichikawa Soft Laboratory's support website.

LoiLoScope 30 day full trial version (Windows® 10 / 8.1 / 8 / 7)

This software allows you to edit motion pictures with ease.

Check the site below to download and install the software.

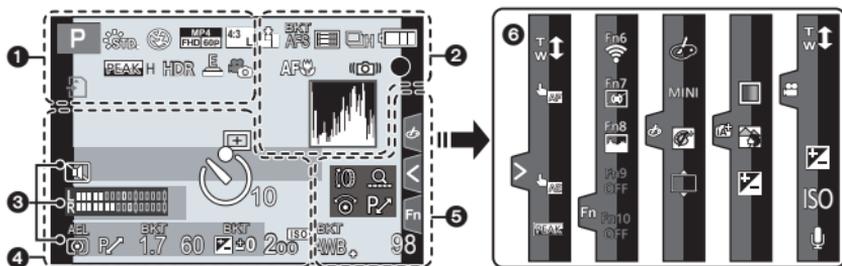
<http://loilo.tv/product/20>

- For more information on how to use LoiLoScope, read the LoiLoScope manual available for download at the site.

Monitor Display/Viewfinder Display

- The following images are examples of when the display screen is set to [] (monitor style) in the monitor.

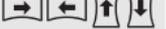
In recording



1

	Recording Mode (P23)
C 1	Custom settings
	Motion picture recording mode (P49)
	Photo Style
	Panorama Mode
	Flash Mode (P48)
	Flash
	Recording format/ Recording quality (P50)
	Aspect Ratio/Picture size
	Picture size (Panorama Shot Mode)
	Image effect (filter) adjustment display

EXPS	Image effect (filter) setting
	Card (displayed only during recording)
8m30s	Elapsed recording time*1 (P49)
	Simultaneous recording indicator
LVF/ MON/AUTO	Automatic viewfinder/ monitor switching (P22)
PEAK H PEAK L	Peaking
	Highlight Shadow
HDR	HDR/iHDR
	Multi exposure
E	Electronic shutter
	Picture-taking during motion picture recording (Photo Priority)
	Overheat indicator (P73)

2	 RAW	Quality
	AFS AFC MF	Focus Mode
	 AFS	Focus Bracket
	 AF Mode (P28)	
	 Face Recognition	
	AFL	AF Lock
	 Burst (P28)	
	 4K Photo (P38)	
	 Post Focus (P42)	
	 Self-timer	
	 Panorama Direction	
	 Battery indication	
	AF  Macro recording (P14)	
	 Image Stabilizer	
	 Jitter alert	
	 Focus (Lights green.) (P25)/Recording state (Flashes red.) (P49)	
	 Focus (Under low illumination)	
	 Focus (Starlight AF)	
	 Connected to Wi-Fi	
	 Connected to Bluetooth (P61)	
	GPS	Location Logging
	 Histogram	

3	Name ^{*2}
	Number of days that have passed since the departure date ^{*3}
	Age ^{*2}
	Location ^{*3}
	Current date and time/Travel destination setting ^{*3} : 
	Exposure meter
	Zoom (P26)

4	 AF area
	+ Spot metering target
	+ Center marker display
	 Self-timer
	 Recording level display
	 Silent Mode
	AEL AE Lock
	 Metering Mode
	 Program Shift (P35)
	1.7 Aperture value (P25)
	 Aperture Bracket
	60 Shutter speed (P25)
	Exposure compensation value
	 Exposure Bracket
	Brightness
	Manual Exposure Assistance
	200  ISO sensitivity

	Dial Guide
	White Balance Bracket
	White Balance Fine Adjustment
	White Balance
	Color
98	Number of recordable pictures
r20	Maximum number of pictures that can be taken continuously
R8m30s	Available recording time* ¹ (P49)

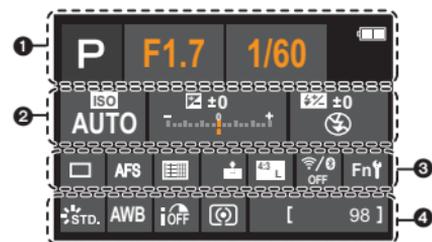
Touch tab	
	 Touch zoom
	 Touch Shutter
	 Touch AF
	 Touch AE
	 Peaking
	Fn6  Function button (P31)
  	 Color
	 Defocus control function
	 Brightness
	 Type of defocus ([Miniature Effect])
	 One point color
	 Position of the light source
	 Image effect (filter) adjustment
	 Image effect ON/OFF
	MINI Image effect (filter)
	ISO ISO sensitivity
	 Sound recording level adjustment

*1 m: minute, s: second

*2 This is displayed for about 5 seconds when the camera is turned on if the [Profile Setup] setting is set.

*3 This is displayed for about 5 seconds when the camera is turned on, after setting the clock and after switching from Playback Mode to Recording Mode.

On-monitor recording information



1		Recording Mode (P23)
		Motion picture recording mode (P49)
		Panorama Mode
	F1.7	Aperture value (P25)
	1/60	Shutter speed (P25)
	TIME	Time recording (P37)
		Battery indication
		Card (displayed only during recording)

2		ISO sensitivity
		Exposure compensation value
		Brightness
		Manual Exposure Assistance
		Flash Mode (P48)
		Flash

3		Single (P28)
		Burst (P28)
		4K Photo (P38)
		Post Focus (P42)
		Self-timer
		Panorama Direction
		Focus Mode
		AF Mode (P28)
		Quality
		Aspect Ratio/Picture size
		Wi-Fi/Bluetooth (P57)
		Function button setting (P31)

4		Photo Style
		White Balance
		Intelligent Dynamic Range Control
		Metering Mode
	98	Number of recordable pictures
	r20	Maximum number of pictures that can be taken continuously
	R8m30s	Available recording time*
	----	No card

* m: minute, s: second

Troubleshooting

First, try out the following procedures.

If the problem is not resolved, it may be improved by selecting [Reset] on the [Setup] menu.

- Further information is provided in the “Owner’s Manual for advanced features (PDF format)”. Check it together with the information in this section.

Recording stops before finishing. Cannot record. Cannot use some functions.

- When the ambient temperature is high or continuous recording is performed, the camera’s temperature will rise. After [>] is displayed, recording may stop or the functions below may be temporarily disabled to protect the camera. Wait until the camera cools down.
 - 4K Photo
 - Post Focus
 - Motion picture recording

The charging lamp blinks.

- Charging is being performed in a place with extremely high or low temperature.
 - Reconnect the USB connection cable (supplied) and retry charging in a place where ambient temperature is 10 °C to 30 °C (50 °F to 86 °F) (temperature conditions also apply to the battery itself).
- Charging is not possible if the power supply capacity of the computer is low.

The camera cannot be operated even when it is turned on. The camera turns off immediately after it is turned on.

- The battery is exhausted.
 - Charge the battery. (P19)

The battery becomes flat too quickly.

- When [>] ([4K Pre-Burst]) has been selected, the battery drains faster.
 - Use these functions only when recording with them.

The subject is not focused properly.

- The subject is beyond the focus range of the camera.
- Is [Focus/Release Priority] in the [Custom] menu set to [RELEASE]?
- Is [Shutter AF] in the [Custom] menu set to [OFF]?
- Is the AF Lock applied incorrectly?
- If there are fingerprints or dirt on the lens, the focus may be set to the lens and not the subject.

**The recorded picture is blurred.
The Image Stabilizer is not effective.**

- The shutter speed will become slower and the Image Stabilizer function may not work properly when taking pictures especially in dark places.
→ We recommend using a tripod and the self-timer when taking pictures with a slow shutter speed.

The subject appears distorted on the picture.

- If you record a moving subject when using the electronic shutter or recording motion picture or a 4K photo, the subject may appear distorted on the picture. This is characteristic of MOS sensors which serve as the camera's pickup sensors. This is not a malfunction.

Flicker or horizontal stripes may appear under lighting such as a fluorescent or LED lighting fixture.

- This is characteristic of MOS sensors which serve as the camera's pickup sensors. This is not a malfunction.
- When using the electronic shutter, lowering the shutter speed may reduce the effect of the horizontal stripes. (P35, 36)
- If noticeable flicker or horizontal stripes appear under lighting such as a fluorescent or LED lighting fixture during motion picture recording, manually adjust the shutter speed to 1/60 or 1/100. Setting a fixed shutter speed can reduce the flicker or horizontal stripes.

Multiple pictures are taken at one time.

- Drive mode is set to other than [Single]. (P28)
- Are you using the bracket function? (P46)

The brightness or the hue of the recorded picture is different from the actual scene.

- When recording under fluorescent or LED lighting fixture, etc., increasing the shutter speed may introduce slight changes to brightness and color. These are a result of the characteristics of the light source and do not indicate a malfunction.
- When recording subjects in extremely bright locations or recording under fluorescent lighting, LED lighting fixture, mercury lamp, sodium lighting, etc., the colors and screen brightness may change or horizontal striping may appear on the screen.

Recording motion pictures is not possible.

- You may not be able to record for a short while after turning this unit on when using a large capacity card.

Sometimes focus adjustment with Auto Focus mode is difficult while recording 4K motion pictures.

- This may occur when taking a picture by reducing the Auto Focus speed in order to adjust the focus at high precision. This is not a malfunction.

The flash is not activated.

- The flash becomes unavailable in the following case.
 - Flash set to [☹] (Forced Flash Off). (P47)
- When the electronic shutter is used, the flash is not activated.
- When [Silent Mode] is set to [ON], the flash is not activated.

The Monitor turns off although the camera is turned on.

- When an object or your hand is positioned near the eye sensor, the Monitor display may switch to the Viewfinder display.

**The picture is not played back.
There are no recorded pictures.**

- Is the card inserted?
- Is this a folder or picture which was processed in the PC?
If it is, it cannot be played back by this unit.
→ It is recommended to use the software "PHOTOfunSTUDIO" (P68) to write pictures from PC to card.
- Set [Playback Mode] to [Normal Play].

**A Wi-Fi connection cannot be established.
Radio waves get disconnected.
Wireless access point is not displayed.**

■ **General tips for using a Wi-Fi connection**

- Use within the communication range of the device to be connected.
- Is any device, such as microwave oven, cordless phone, etc., that uses 2.4 GHz frequency operated nearby?
→ Radio waves may get interrupted when used simultaneously. Use them sufficiently away from the device.
- When the battery indicator is flashing red, the connection with other equipment may not start or the connection may be disrupted.
(A message such as [Communication error] is displayed.)
- If you place the camera on a metal table or shelf, the radio waves may be adversely affected. In such cases, you may not be able to establish a connection. Move the camera away from the metal surface.

■ **About a wireless access point**

- Check if the wireless access point to connect is in operating state.
- Check the radio wave condition of the wireless access point.
→ Perform the connection closer to the wireless access point.
→ Change the location and orientation of the wireless access point.
- It may not display even if the radio waves exist depending on the setting of the wireless access point.
→ Turn off and on the wireless access point.
→ If the wireless channel of the wireless access point cannot be set automatically, set it manually by selecting from channel 1 to 11.
→ When the network SSID of the wireless access point is set not to broadcast, the wireless access point may not be detected. Enter the network SSID to start the connection or enable the SSID broadcast of the wireless access point.

**It takes time to transmit an image to the web service.
Transmission of the image fails midway. Some images cannot be transmitted.**

- Is the size of the image too large?
 - Transmit after dividing the motion picture with [Video Divide].
 - Reduce the image size at [Size], and then send.
- It may take longer time to transmit when distance to the wireless access point is far.
 - Transmit closer to the wireless access point.
- File format of the motion picture that can be sent differs depending on the destination.

There is a sound from lens unit.

- It is a sound of lens movement or aperture operation when this unit is turned on or off. This is not a malfunction.
- This is the sound of automatic aperture adjustment, which occurs when a zoom operation, etc, causes the brightness to change. It is not a malfunction.

Zooming stops instantaneously.

- When using the Extended optical zoom, the zooming action will stop temporarily. This is not a malfunction.

The camera becomes warm.

- The camera may become somewhat warm during use, but this does not affect the performance or quality of the camera.

The clock is reset.

- If you do not use the camera for a long time, the clock may be reset.
 - Please reset the clock. (P21)

Specifications

Specifications are subject to change without notice.

Digital Camera:

Information for your safety

Power Source:	8.4 V ===
Power Consumption:	2.1 W (When recording with Monitor) 2.8 W (When recording with Viewfinder) 1.7 W (When playing back with Monitor) 1.9 W (When playing back with Viewfinder)

Camera effective pixels	17,000,000 pixels	
Image sensor	4/3" MOS sensor, total pixel number 21,770,000 pixels, Primary color filter	
Lens	Optical 3.1× zoom, f = 10.9 mm to 34 mm (35 mm film camera equivalent: 24 mm to 75 mm) Wide: F1.7 to F16 Tele: F2.8 to F16 Filter diameter \varnothing 43 mm	
Image stabilizer	Optical method	
Focus range	AF	50 cm (1.6 feet) to ∞
	AF Macro / MF / Intelligent auto / Motion Picture	3 cm (0.098 feet) (Wide) / 30 cm (0.98 feet) (Tele) to ∞
Shutter system	Electronic shutter+Mechanical shutter	
Minimum Illumination	Approx. 5 lx (when i-Low light is used, the shutter speed is 1/30th of a second)	
Shutter speed	<p>Still picture:</p> <p>T (Time) (Max. approx. 30 minutes)*, 60 seconds to 1/4000th of a second (Mechanical shutter) 1 second to 1/16000th of a second (Electronic shutter) * B (Bulb) recording is available when using Shutter Remote Control (via Bluetooth connection).</p> <p>Motion picture:</p> <p>1/25th of a second to 1/16000th of a second (When [FHD/ 24M/24p] is set in [AVCHD], or [4K/100M/24p] is set in [MP4]), 1/2nd of a second to 1/16000th of a second (When Manual Exposure Mode is set and [MF] is selected), 1/30th of a second to 1/16000th of a second (Other than the above)</p>	

Exposure (AE)	Program AE (P) / Aperture-priority AE (A) / Shutter-priority AE (S) / Manual exposure (M) Exposure Compensation (1/3 EV Step, -5 EV to +5 EV, -3 EV to +3 EV dial setting range)	
Light metering system	Multiple / Center weighted / Spot	
Monitor	3.0" TFT LCD (3:2) (Approx. 1,240,000 dots) (field of view ratio about 100%) Touch screen	
Viewfinder	0.38" Color LCD Live Viewfinder (16:9) (Approx. 2,760,000 dots equivalent) (field of view ratio about 100%) (Magnification approx. 0.7× (35 mm film camera equivalent)), with 50 mm lens at infinity; -1 m ⁻¹ (with diopter adjustment -4 to +3 diopter)	
Flash mode	AUTO, AUTO/Red-Eye Reduction, Forced ON, Forced ON/Red-Eye Reduction, Slow Sync., Slow Sync./Red-Eye Reduction, Forced OFF	
Microphone	Stereo	
Speaker	Monaural	
Recording media	SD Memory Card / SDHC Memory Card* / SDXC Memory Card* (* UHS-I UHS Speed Class 3)	
Recording file format		
Still picture	RAW/JPEG (based on "Design rule for Camera File system", based on "Exif 2.31" standard)	
4K photo	MP4 (H.264/MPEG-4 AVC, AAC (2 ch))	
Motion pictures	AVCHD Progressive / AVCHD / MP4	
Audio compression	AVCHD	Dolby Audio™ (2 ch)
	MP4	AAC (2 ch)
Interface		
[HDMI]	micro HDMI Type D	
[USB/CHARGE]	USB 2.0 (High Speed) / USB 2.0 Micro-B	
Dimensions	Approx. 115.0 mm (W)×66.2 mm (H)×64.2 mm (D) (4.53" (W)×2.61" (H)×2.53" (D)) (excluding the projecting parts)	
Mass (Weight)	Approx. 392 g / 0.86 lb (with card and the battery) Approx. 350 g / 0.77 lb (excluding card and battery)	

Others

Operating temperature	0 °C to 40 °C (32 °F to 104 °F)
Operating humidity	10%RH to 80%RH
Language select	[ENGLISH]/[DEUTSCH]/[FRANÇAIS]/[ESPAÑOL]/ [PORTUGUÊS]/[ITALIANO]/[繁體中文]/[日本語]

Wireless transmitter

Wireless LAN	
Compliance standard	IEEE 802.11b/g/n (standard wireless LAN protocol)
Frequency range used (central frequency)	2412 MHz to 2462 MHz (1 to 11 ch)
Encryption method	Wi-Fi compliant WPA™/WPA2™
Access method	Infrastructure mode
Bluetooth function	
Compliance standard	Bluetooth v4.2 (Bluetooth low energy (BLE))
Frequency range used (central frequency)	2402 MHz to 2480 MHz

AC adaptor (Panasonic SAE0012A):

Information for your safety

Input:	110 V–240 V \sim 50/60 Hz 0.2 A
Output:	5 V \equiv 1.0 A

Battery Pack (lithium-ion) (Panasonic DMW-BLG10PP):

Information for your safety

Voltage/capacity:	7.2 V / 1025 mAh
--------------------------	------------------

Flash (supplied)

Guide number	10 equivalent (ISO 200• m), 7 equivalent (ISO 100• m)
Lighting angle	24 mm (35 mm film camera equivalent)

The symbols on this product (including the accessories) represent the following:

\sim	AC
\equiv	DC
\square	Class II equipment (The construction of the product is double-insulated.)

Reading the owner's manual (PDF format)

More detailed owner's manual are available in "Owner's Manual for advanced features (PDF format)". To read it, download it from the website.

<http://panasonic.jp/support/dsc/oi/index.html?model=DC-LX100M2&dest=P>

- Click the desired language.



■ Confirming URLs and QR codes with the camera

MENU →  **[Setup]** → **[Online Manual]**

Settings: [URL display]/[QR Code display]

- The URL or QR code will be displayed on the camera monitor.

- You will need Adobe Reader to browse or print the "Owner's Manual for advanced features (PDF format)".
You can download and install a version of Adobe Reader that you can use with your OS from the following website. (As of September 2018)

<http://www.adobe.com/products/acrobat/readstep2.html>

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Panasonic Products Limited Warranty

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Product or Part Name	Parts	Labor
Digital Camera	1 Year	1 Year
All included Accessories (Except Non-Rechargeable Batteries)	90 Days	Not Applicable
Only Non-Rechargeable Batteries	10 Days	Not Applicable

During the "Labor" warranty period there will be no charge for labor. During the "Parts" warranty period, there will be no charge for parts. This Limited Warranty excludes both parts and labor for non-rechargeable batteries, antennas, and cosmetic parts (cabinet). This warranty only applies to products purchased and serviced in the United States. This warranty is extended only to the original purchaser of a new product which was not sold "as is".

Mail-In Service--Online Repair Request

Online Repair Request

To submit a new repair request and for quick repair status visit our Web Site at <http://shop.panasonic.com/support>.

When shipping the unit, carefully pack, include all supplied accessories listed in the Owner's Manual, and send it prepaid, adequately insured and packed well in a carton box. When shipping Lithium Ion batteries please visit our Web Site at <http://shop.panasonic.com/support> as Panasonic is committed to providing the most up to date information. Include a letter detailing the complaint, a return address and provide a daytime phone number where you can be reached. A valid registered receipt is required under the Limited Warranty.

IF REPAIR IS NEEDED DURING THE WARRANTY PERIOD, THE PURCHASER WILL BE REQUIRED TO FURNISH A SALES RECEIPT/PROOF OF PURCHASE INDICATING DATE OF PURCHASE, AMOUNT PAID AND PLACE OF PURCHASE. CUSTOMER WILL BE CHARGED FOR THE REPAIR OF ANY UNIT RECEIVED WITHOUT SUCH PROOF OF PURCHASE.

Limited Warranty Limits and Exclusions

This warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by the warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, misadjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, introduction of sand, humidity or liquids, commercial use such as hotel, office, restaurant, or other business or rental use of the product, or service by anyone other than a Factory Service Center or other Authorized Servicer, or damage that is attributable to acts of God.

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Consumer Affairs Department
Panasonic Corporation of North America
661 Independence Pkwy
Chesapeake, VA 23320

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For Product Information, Operating Assistance, Parts, Owner's Manuals, Dealer and Service info
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For the hearing or speech impaired TTY: 1- 877-833-8855

As of July 2015

Limited Warranty (ONLY FOR CANADA)

Panasonic Canada Inc.

5770 Ambler Drive, Mississauga, Ontario L4W 2T3

PANASONIC PRODUCT – LIMITED WARRANTY

Panasonic Canada Inc. warrants this product to be free from defects in material and workmanship under normal use and for a period as stated below from the date of original purchase agrees to, at its option either (a) repair your product with new or refurbished parts, (b) replace it with a new or a refurbished equivalent value product, or (c) refund your purchase price. The decision to repair, replace or refund will be made by Panasonic Canada Inc.

Digital Camera	One (1) year, parts and labour
Digital Camera Peripherals	One (1) year, parts and labour
Digital Camera Accessories	Ninety (90) days, parts and labour

This warranty is given only to the original purchaser, or the person for whom it was purchased as a gift, of a Panasonic brand product mentioned above sold by an authorized Panasonic dealer in Canada and purchased and used in Canada, which product was not sold "as is", and which product was delivered to you in new condition in the original packaging.

**IN ORDER TO BE ELIGIBLE TO RECEIVE WARRANTY SERVICE
HEREUNDER, A PURCHASE RECEIPT OR OTHER PROOF OF DATE OF
ORIGINAL PURCHASE, SHOWING AMOUNT PAID AND PLACE OF
PURCHASE IS REQUIRED**

LIMITATIONS AND EXCLUSIONS

This warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by Panasonic Canada Inc., or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, misadjustment of consumer controls, improper maintenance, improper batteries, power line surge, lightning damage, modification, introduction of sand, humidity or liquids, commercial use such as hotel, office, restaurant, or other business or rental use of the product, or service by anyone other than a Authorized Servicer, or damage that is attributable to acts of God.

Dry cell batteries, printer ink cartridge and paper are also excluded from coverage under this warranty.

Rechargeable batteries are warranted for ninety (90) days from date of original purchase.

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www.panasonic.ca/english/support

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