LEICA C

Instructions

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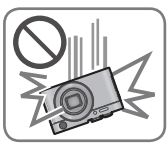
Before use

■Camera handling



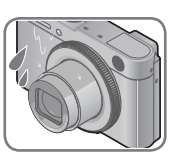
Keep the camera away from excessive vibration, force, or pressure.

- Avoid using the camera under the following conditions, which may damage the lens, the monitor, the viewfinder, or the camera body. This may also cause the camera to malfunction or prevent recording.
  - Dropping or hitting the camera against a hard surface
  - Sitting down with the camera in your pants pocket or forcing it into a full bag
  - Hanging accessories on to the camera strap
  - Exerting excessive force on the lens or the monitor

The camera is not dust or splash resistant, or waterproof.
Avoid using the camera in places with excessive dust or sand, or where the camera can get exposed to water.

- 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 gaps 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

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



- Condensation may occur when the camera is exposed to sudden changes of temperature or humidity. Avoid these conditions, which may fog up the lens, the monitor, or the viewfinder, cause mold, or damage the camera.
- If condensation does occur, turn off the camera and wait about two hours before using it. Once the camera adjusts to the surrounding temperature, the fogging will clear naturally.

■Always take a test shot first

Before important events when you intend to use the camera (at weddings, for example), always take a test shot to make sure that pictures and sound record correctly.

■No compensation for missed shots

Leica Camera AG cannot compensate for missed shots if technical problems with the camera or card prevent recording.

■Carefully observe copyright laws

Unauthorized use of recordings which contain works with copyright for purposes other than personal use is prohibited under copyright law. Recording of certain material may be restricted even for the purpose of personal use.

■Also refer to “Usage cautions and notes” (→235)

- Please note that the actual controls and components, menu items, and other information for your camera may differ from those in the illustrations and screens provided in these instructions.
- Some parts of displays, for example some of the icons, may be omitted from screens illustrated in these instructions.
- Recording mode icons
  In recording modes that show icons in black, you can select and execute indicated menus and functions.
  *C1 and C2 will differ depending on the recording modes registered under custom settings.

Scope of Delivery

	Order No.
Rechargeable battery	
BP-DC14-E	18 535
BP-DC14-U	18 536
	(delivery differs depending on markets)
Battery charger/ AC adapter	
ACA-DC11-U	423-106.001-003
ACA-DC11-K	423-106.001-004
ACA-DC11-E	423-106.001-005
ACA-DC11-B	423-106.001-006
ACA-DC11-A	423-106.001-007
ACA-DC11-C	423-106.001-008
	(delivery differs depending on markets)
Wrist strap	423-068.801-015
CD with instr. PDFs	423-112.001-016
USB cable	423-112.001-010
AV cable	423-105.001-010
Button template for Canada / Taiwan	423-112.001-018/-020 (only with camera models: 18 485/-486/ -489/-490)
Short instructions	93 512 -516 (delivery differs depending on markets)
Guarantee Card	439-399.100-026

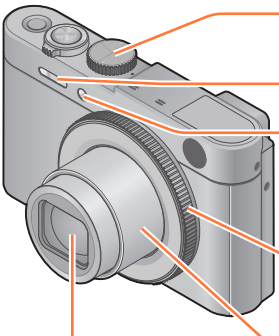
Accessories

	Order No.
C-TWIST (wraparound)	
light gold	18 784
dark red	18 785
C-SNAP (protector)	
light gold	18 786
dark red	18 787
C-CLUTCH	
light gold	18 788
dark red	18 789
C – Case	
Leather, black	18 790
C – Bag	
soft leather, black	18 791
Wrist straps	
Alcantara, light gold	18 792
Alcantara, dark red	18 793
Mini tripod	14 320
Tabletop tripod	14 100
Ball and Socket head 18	14 110

Notes:

- Memory cards are optional. You can record or play back pictures to/from the internal memory when you are not using a card.
- SD/SDHC/SDXC memory cards are referred to as memory cards or cards in these instructions.
- Check that all items belonging to the scope of delivery are included before using the camera.
- Depending on the country or area where the camera was purchased, the items and their shape may differ from the descriptions and illustrations in these instructions.
- Always keep small parts in a safe place out of the reach of children.
- Please dispose of all packaging appropriately.

Names of the components



Mode dial (→25)
Use to select the recording mode.

Flash (→75)

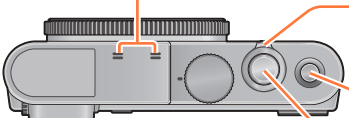
Self-timer indicator (→89) /
AF Assist Lamp (→136)
Lights up/flashes when the self-timer is used or when the Auto Focus function is operated in dark locations.

Control ring (→27)
Allows controlling different (previously selected) functions during recording such as changing the focal length.

Lens

Lens barrel

(Top)



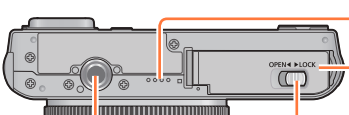
Microphones (→26, 40)

Zoom lever (→71)
Use change the focal length / enlarge or minimize a subject.

[OFF/ON] button
Use to turn the camera on and off.

Shutter button

(Bottom)



Speaker (→55)

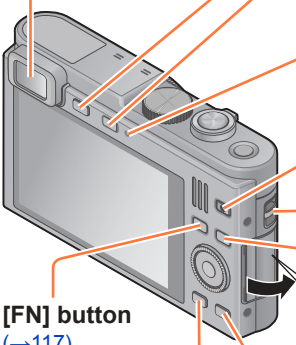
Card/Battery door (→14, 19)
Open to insert and remove card and/or battery.

Lock/release slider (→14, 19)

Tripod thread (→237)
Do not attach to a tripod using screws longer than 5.5mm / 7/32".
Doing so may damage the camera.

● The illustrations and screens in these instructions may differ from the actual camera.

Names of the components



Viewfinder (→66)

[LVF] button (→66)
Use to switch between viewfinder and monitor display.

[WIFI] button (→171)

Charging lamp (→15) **/ Wi-Fi® connection lamp** (→171)
- Charging in progress: Red
- When the Wi-Fi function is ON: Blue

Motion picture button (→40)
Use to record motion pictures.

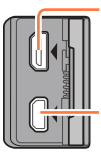
Strap eyelet (→12)

Playback button
Use to select recording or playback mode.

[FN] button (→117)
Use to call up registered functions.

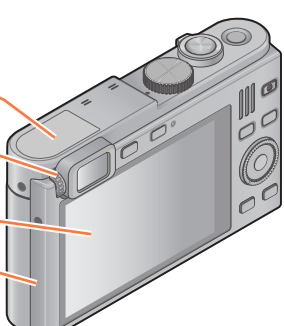
[DISP] button (→67, 142)
Use to change display sets.

[Q MENU/↩] / [🗑] button
Use to display the Quick Menu (→28) and erase pictures (→50).



[HDMI] socket (→201, 203)
Do not connect any other cables except a HDMI micro cable. Doing so may cause malfunction.

[AV OUT/DIGITAL] socket (→201, 210, 213)
This socket is also used when charging the battery. (→15)



[Wi-Fi] antenna

Diopter adjustment wheel (→66)
Turn to adjust viewfinder image sharpness.

Monitor (→55, 56, 217)

NFC antenna (→177)

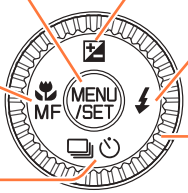
●The illustrations and screens in these instructions may differ from the actual camera.

Cursor buttons/Control dial

[MENU/SET] button
- Use to display the menus, enter the settings, etc. (→52)

Left cursor button (◀)
- Macro recording (→78, 80), Manual Focus (→87)

Down cursor button (▼)
- Drive Mode (Burst (→119), Auto Bracket (→91), Self-timer (→89))



Up cursor button (▲)
- Exposure Compensation (→90)

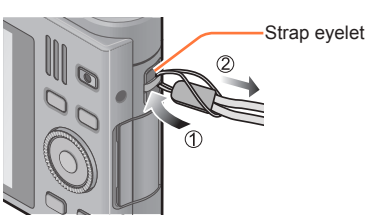
Right cursor button (▶)
- Flash mode (→75)

Control dial
- Turn to select setting items and change setting values.

●In these instructions, the button to be used is indicated by ▲▼◀▶.

Attaching the wrist strap

We recommend using the supplied wrist strap to avoid dropping the camera.



Charging the battery

Always use dedicated equipment such as the supplied charger/AC adapter, USB cable, and battery for this camera.

- **Always charge before first use!** (the battery is shipped uncharged)
- The battery can only be charged while it is in the camera.

Camera status	Charging takes place
Switched off	Yes
Switched on	No

■About batteries that you can use with this camera

It has been found that counterfeit batteries which look very similar to the genuine product are available in some markets. Some of these batteries are not adequately equipped with internal protection to meet the requirements of appropriate safety standards. Using such batteries may lead to fire or explosion. Please be advised that Leica Camera AG is not liable for any accident or failure occurring as a result of use of a counterfeit battery. To ensure that safe products are used we urgently recommend to use only the Leica battery BP-DC14 (→9)**.**

■Power supply

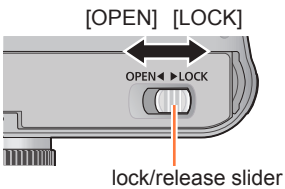
The camera can be used while the battery is being charged, i.e. when switched on, the camera is powered directly via the USB cable-/AC adapter-/electrical outlet connection.

- The battery may get drained during recording. If it does, the camera will switch itself off.
- The camera can only be switched on with an inserted battery.
- Switch off the camera before connecting or disconnecting the charger/AC adapter.

Inserting the battery

To charge the battery, insert it into the camera.

1 Move the lock/release slider to the [OPEN] position and open the card/battery door

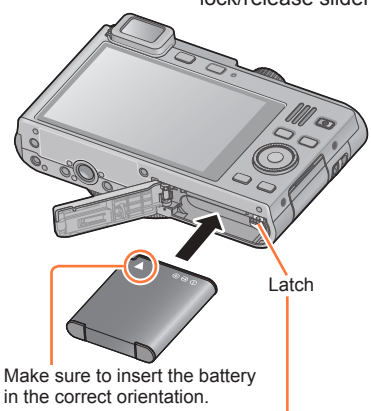


2 Insert the battery all the way

- Push it in until it is locked by the latch.

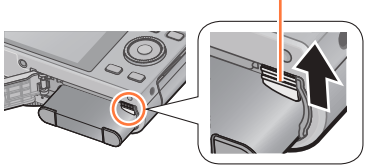
3 Close the card/battery door

- Move the lock/release slider to the [LOCK] position.



■To remove the battery

Move the latch in the card/battery compartment in the direction of the arrow.

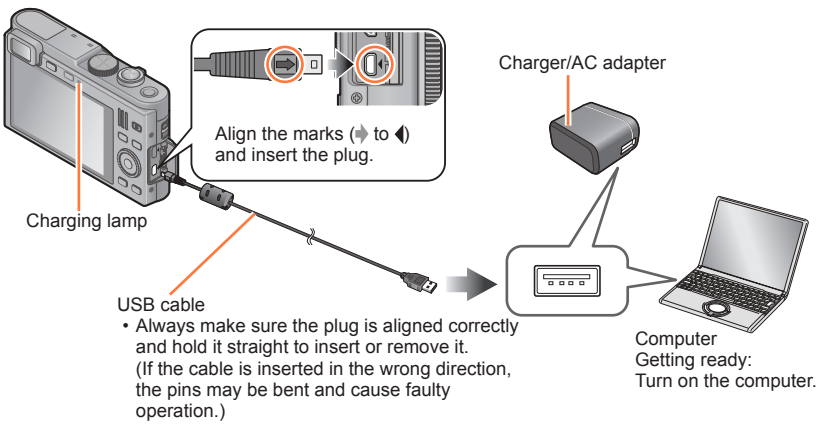


- Use only the Leica battery BP-DC14 (→9).
- If you use other batteries, Leica Camera AG cannot guarantee this camera's performance.
- **Remove the battery from the camera after use.**
  - Keep the battery in a plastic container, making sure that it is kept away from metallic objects (such as clips) when carrying or storing it.
- To remove the battery, turn the camera off and wait until the Leica logo on the screen disappears. (Failure to wait may cause the camera to malfunction and may damage the card or recorded data.)

Charging the battery

We recommend charging in a location where the ambient temperature is between 10°C and 30°C (50°F to 86°F) (temperature conditions also apply to the battery itself).

Make sure that the camera is turned off.



■Charging the battery by connecting the camera to the electrical outlet

Connect the charger/AC adapter and the camera using the USB cable, and plug the AC adapter into the electrical outlet.

• Charging must only be done indoors.

■Charging the battery through the computer

Connect the camera to a computer using the USB cable.

- It may not be possible to charge the battery from some computers depending on their specifications.
- If the computer enters sleep mode during charging, charging may be stopped.
- If a notebook computer that is not connected to an electrical outlet is connected to the camera, the battery of the notebook computer will be depleted. Do not leave camera and notebook connected for a long period of time.
- Always connect the USB cable to the USB socket on your computer. Do not connect it to the USB socket of a monitor, keyboard, printer, or USB hub.

■Charging lamp indications

On: Charging in progress (Red)
Off: Charging completed (After charging stops, disconnect the camera from the electrical outlet or your computer.)

■Notes on charging time

Charging time	approx. 160 min

- The charging time indicated above is the case when the battery is completely depleted. The time required for charging differs depending on conditions of battery usage. Charging takes longer in cases when temperatures are either high or low and when the battery has not been used for a long time.
- The time required for charging through a computer varies depending on its specifications.

- Do not use any other USB cables except the supplied one (→9). Doing so may cause malfunction of the camera.
- Do not use any other chargers/AC adapters except the supplied one.
- Do not use a USB extension cable.
- The supplied charger/AC adapter and the USB cable are dedicated accessories of this camera. Do not use them for other devices.
- If there is any trouble related to the electrical outlet (i.e. power failure), charging may not be completed properly. Disconnect the USB cable and reconnect it to the camera.
- If the charging lamp does not light up or if it flashes even when the camera is properly connected to the charger/AC adapter or your computer, charging has been put in pause status because the temperature is not in the appropriate range for charging. This is not a malfunction. Reconnect the USB cable 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).

Battery capacity

When using the camera, the remaining battery capacity is displayed.

Battery capacity

(flashes red)

If the battery symbol flashes red, recharge or replace the battery.

Guidelines for the number of recordable pictures and operating time

The number of recordable pictures or available operating time may vary according to surrounding environment and usage conditions. Figures may be reduced if flash, zoom, or other functions are used frequently, or in colder climates.

■Recording still pictures (When using the monitor)

Number of recordable pictures	approx. 250 pictures	By CIPA standard
Recording time	approx. 125 min	

●Recording conditions by CIPA standard

CIPA is an abbreviation of “Camera & Imaging Products Association”.

- Program mode
- Temperature: 23°C (73.4°F)/Humidity: 50% RH when the monitor is on.
- Using an SDHC Memory Card.
- Using the supplied battery.
- Starting recording 30 seconds after the camera is turned on. (When [Stabilizer] is set to [ON])
- Recording once every 30 seconds with full flash output every second recording.
- Zooming from Tele to Wide or vice versa in every recording.
- Turning the camera off every 10 recordings and leaving it until the temperature of the battery decreases.

The number is reduced if the intervals are longer (e.g. to approx. one quarter for 2-minute intervals under the above conditions).

■Recording motion pictures (When using the monitor)

[Rec Format]	[AVCHD]	[MP4]
[Rec Quality]	[FHD]	[FHD]
Available recording time	approx. 70 min	approx. 80 min
Actual available recording time*	approx. 30 min	approx. 35 min

* The time you can actually record when repeatedly turning the camera on and off, starting and stopping recording and using the lens' zoom function.

●**Recording conditions**
• Temperature 23°C (73.4°F), humidity 50% RH

●**Remaining time for continuous recording is displayed on the screen**
• The recording time for a single motion picture take is limited to 29 minutes or approx. 4 GB except in the case of the camera models 18 485/-486/-487/-489/-490/-491, which allow longer recording times when [Rec Quality] of [AVCHD] motion pictures is set to [HD].

■Viewing pictures (When using the monitor)

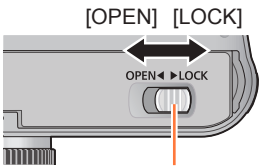
Playback time	approx. 150 min

●The number of recordable pictures or available operating time may vary according to the surrounding environment and usage conditions.
●If the available battery power is significantly reduced, the battery is reaching the end of its lifespan. Please purchase a new battery.

Inserting and removing the memory card

• Make sure that the camera is turned off.

1 Move the lock/release slider to the [OPEN] position and open the card/ battery door



2 Insert the card all the way

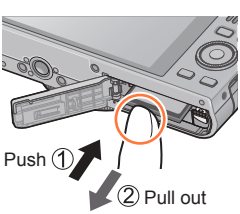
• Push it in down until it clicks into place.

3 Close the card/battery door

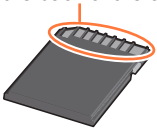
• Move the lock/release slider to the [LOCK] position.

■To remove the card

Push it further down until it clicks, then pull it out upright



Do not touch the terminals on the back of the card.



- Keep the memory card out of reach of children to prevent swallowing.
- To remove the card, turn the camera off and wait until the Leica logo display on the monitor disappears. (Failure to wait may cause the camera to malfunction and may damage the card or recorded data.)

Saving your pictures (to an inserted memory card or the built-in memory)

Pictures will be saved to a card if one is inserted, or to the built-in memory [IN] if not.

■Built-in memory (approx. 87 MB)

- **Pictures can be copied between cards and the built-in memory.** (→169)
- The access time for the built-in memory may be longer than the access time for a card.

■Compatible memory cards

The following SD standard-based cards can be used.

Type of Card	Capacity	Notes
SD Memory Cards	8 MB – 2 GB	• Can be used with devices compatible with the respective formats. • Before using SDXC Memory Cards, check that your computer and other devices support this type of card. • **Use a card of SD Speed "Class 4"* or higher for recording motion pictures.** • Only the cards listed on the left with the given capacities are supported.
SDHC Memory Cards	4 GB – 32 GB	
SDXC Memory Cards	48 GB, 64 GB	

* SD speed class refers to a specification for sustained write speeds. Confirm the SD speed by checking the card label or other card related materials.

(Example) CLASS 4 4

- While the camera is accessing the card or the built-in memory (for an operation such as picture writing, reading, deleting, or formatting), do not turn off the camera or remove the battery, or the card, and, if connected to the mains through the charger/AC adapter, do not interrupt this connection. Do not subject the camera to vibrations, impact, or static electricity. The card or the data on the card may be damaged, and the camera may no longer operate normally. If an operation fails due to vibration, impact or static electricity, perform it again.
- Please reformat the card with this camera if it has already been formatted with a computer or another device. (→64)
- If the write-protect switch is set to "LOCK", the card cannot be used to record or delete pictures, and it cannot be formatted.
- It is recommended that you copy important pictures to your computer (as electromagnetic fields, static electricity, or faults may cause data to be damaged).

Switch

Recording capacity guidelines (pictures/recording time)

The number of pictures you can take and the recording time vary in proportion to card capacity (and depending on recording conditions and type of card).

Estimated remaining number of pictures or recording time
(switch with [Remaining Disp.] (→58))

Displayed when no card is inserted
(pictures will be saved to the built-in memory)

■Recording picture capacity (still pictures)

[Picture Size]	Built-in memory	2 GB	32 GB	64 GB
4:3 12M	17	380	6260	12670
4:3 5M	29	650	10620	21490
4:3 0.3M	460	10050	162960	247150

• When the number of recordable pictures exceeds 99,999, “+99999” is displayed.

■Recording time capacity (motion pictures)

([h], [m] and [s] indicate “hours”, “minutes” and “seconds”.)

When [Rec Format] is [AVCHD]

[Rec Quality]	2 GB	32 GB	64 GB
[FHD] [HD]	14m00s	4h10m00s	8h26m00s

When [Rec Format] is [MP4]

[Rec Quality]	Built-in memory	2 GB	32 GB	64 GB
[FHD]	—	11m00s	3h22m00s	6h50m00s
[HD]	—	22m00s	6h27m00s	13h04m00s
[VGA]	2m00s	50m00s	14h12m00s	28h46m00s

• The time displayed in the table is the total time.

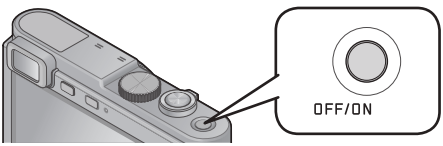
●Remaining time for continuous recording is displayed on the screen

• The recording time for a single motion picture take is limited to 29 minutes or approx. 4 GB except in the case of the camera models 18 485/-486/-487/-489/-490/-491, which allow longer recording times when [Rec Quality] of [AVCHD] motion pictures is set to [HD].

Setting language, time, and date

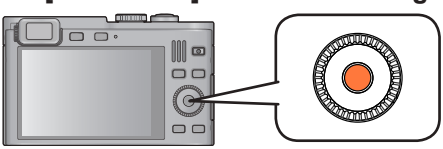
The clock is not set when the camera is shipped.
• Disconnect the camera from the charger/AC adapter.

1 Press the [OFF/ON] button



The camera is turned on.

2 Press [MENU/SET] while the message is displayed



3 Press ▲▼ to select the language, and then [MENU/SET]

• The [Please set the clock] message appears.

4 Press [MENU/SET]

5 Press ◄► to select the items (year, month, day, hour, minute, display order or time display format), and then ▲▼ to set

• To cancel: Press the [Q MENU/↩] button

6 Press [MENU/SET] to set

7 Press [MENU/SET]

• To return to the previous screen: Press the [Q MENU/↩] button

- If the clock is not set, the correct date cannot be printed when you order a photo shop to print the picture, or when you stamp the date on the pictures with [Date Stamp] or [Text Stamp].
- If the clock is set, the correct date can be printed even if the date is not displayed.

Changing time settings

When resetting date and time, select [Clock Set] from the [Setup] menu or [Rec] menu.
• Clock settings will be saved for approx. 3 months even after the battery is removed, provided a fully charged battery was inserted into the camera for 24 hours beforehand.

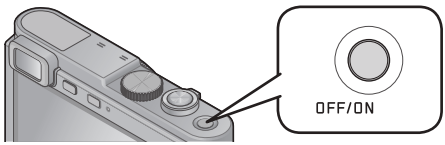
1 Select [Clock Set] from the [Setup] or [Rec] menu

• For details about how to set the menu (→52)

2 Set the date and time (Perform steps 5 - 6. (→23))

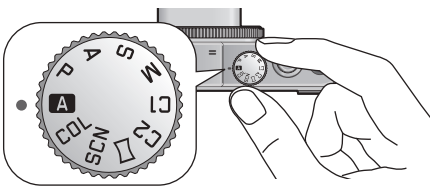
Basic settings/operation

1 Press the [OFF/ON] button to turn on the camera



2 Set the mode dial to the desired recording mode

Make sure the dial is set exactly to the click-stop position of the desired mode →



A	**[Snapshot Mode]**	For taking pictures with extended automatic settings. (→29)
P	**[Program AE] Mode**	For taking pictures with automatic exposure control. (→38)
A	**[Aperture-Priority] Mode**	The exposure is determined by the automatically controlled shutter speed, based on the manually set aperture value. (→92)
S	**[Shutter-Priority] Mode**	The exposure is determined by the automatically controlled aperture value, based on the manually set shutter speed. (→93)
M	**[Manual Exposure] Mode**	The exposure is determined by the manually set aperture value and shutter speed. (→94)
C1 C2	**[Custom] Mode**	For taking pictures with previously registered settings. (→115)
	[Panorama Shot] Mode	For taking panorama pictures. (→105)
SCN	**[Scene Mode]**	For taking pictures that match the scene being recorded. (→108)
COL	**[Creative Control] Mode**	For taking pictures using different picture effects such as [Dynamic Monochrome] or [Miniature Effect]. (→96)

(Continued on the next page)

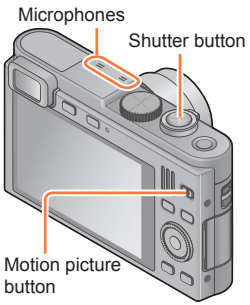
3 Aim the camera and shoot

■Taking still pictures

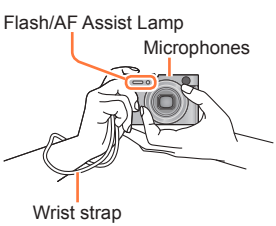
①Press the shutter button halfway to focus
②Press the shutter button fully to take the picture

■Recording motion pictures

①Press the motion picture button to start recording
②Press the motion picture button again to stop recording



■Holding the camera



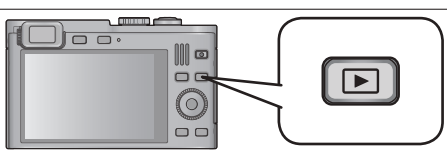
- To avoid camera shake, hold it with both hands keeping your arms close to your body while standing with your feet slightly apart.
- Do not touch the lens barrel.
- Do not cover the microphones when recording motion pictures.
- Do not cover the flash or the lamp. Do not look at them from close range.
- Make sure to hold the camera as still as possible at the moment the shutter button is pressed.

●We recommend using the supplied wrist strap to avoid dropping the camera.

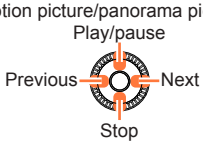
4 Playing back pictures

① Press the Playback button

② View pictures (→44)



During motion picture/panorama picture playback

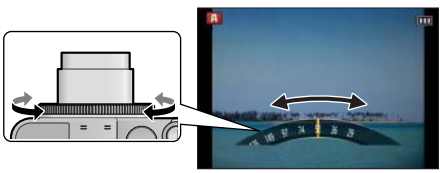


5 Press the [OFF/ON] button to turn off the camera

Using the control ring

Using the control ring is an easy and convenient way to adjust several settings, depending on the camera mode selected.

(In [Snapshot Mode])



Items that can be set by the control ring vary depending on recording modes. Following are the pre-assigned settings.

Recording mode		Setting
A	[Snapshot Mode]	Step zoom (→74)
P	Program mode	ISO Sensitivity (→130)
A	Aperture priority mode	Aperture value (→92)
S	Shutter priority mode	Shutter speed (→93)
M	Manual exposure mode	Aperture value (→94)
	[Panorama Shot] mode	Different picture effects (→105)
SCN	[Scene Mode]	Step zoom (→74)
COL	[Creative Control] mode	Different picture effects (→96)

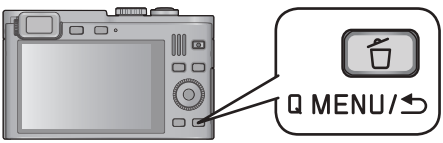
- The control ring can be used to change to your preferred settings. (→118)
- You can also perform operations with the control dial. (Some operations may differ under certain recording conditions such as manual exposure mode.)

●When Manual Focus is set, it is assigned to focus setting. (→87)

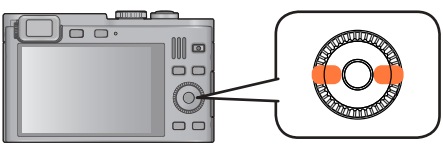
Using the Quick menu

Using the Quick menu, you can change camera settings with the control ring.

1 Press the [Q MENU/↩] button

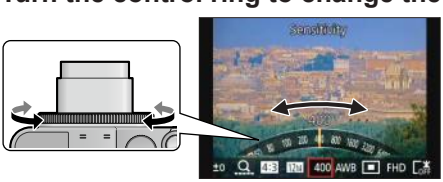


2 Press ◀▶ to select menu items



- The menu and setting items that are displayed differ depending on the recording mode.

3 Turn the control ring to change the setting



- You can also change settings with the control dial.

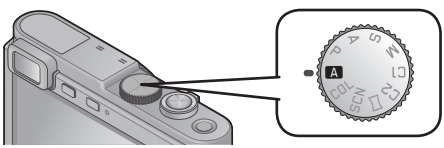
4 Press [MENU/SET]

Snapshot mode

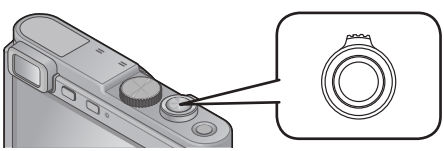
■ **Recording mode:** [A] P A S M C1 C2 SCN COL

This mode is recommended for those who want to point and shoot or beginners as the camera optimizes settings to match the subject and recording environment.

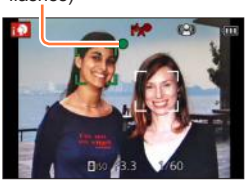
1 Set to [A] ([Snapshot Mode])



2 Take a picture



Focus display
(When the focus setting is correct: illuminated
When the focus setting is not correct or impossible: flashes)



Press halfway to focus

Press fully to take the picture

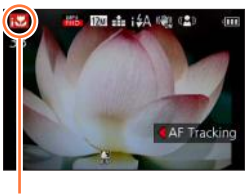
Using the flash

Press ▶ to select ¡ϟA or ⊛ .

- When ¡ϟA is selected, the optimum flash mode (¡ϟA, ¡ϟA◎, ¡ϟS◎, ¡ϟS) is selected automatically depending on conditions.
- When ¡ϟA◎ or ¡ϟS◎ is selected, the red-eye reduction function is activated.
- When ¡ϟS◎ or ¡ϟS is selected, slower shutter speeds may be used.

Automatic Scene Detection

When set to this mode, the camera recognizes several typical subjects/scenes, and makes optimum settings automatically.



The icon of the type of scene detected

	Recognizes people
	Recognizes children*1
	Recognizes landscapes
	Recognizes sunsets
	Recognizes night scenes and people in them*2 (Only when is selected)
	Recognizes night scenes*2
	Recognizes night scenes to be taken without a tripod.*3
	Recognizes close-ups
A	Reads subject movement to avoid blurring when the scene does not correspond to any of the above.

*1 When children (registered in the camera with Face Recognition mode) under 3 years old are recognized.
*2 We recommend using a tripod and the self-timer.
*3 When [iHandheld Nite Shot] is [ON].

- Depending on recording conditions, different scene types may be determined for the same subject.
- If the desired scene type is not selected, we recommend manually selecting the appropriate scene mode.
- When , , or is detected, Face Detection mode is activated, and focus and exposure are adjusted for the recognized faces.

■About Backlight Compensation

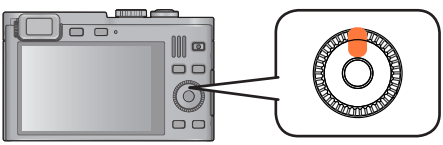
Backlight compensation is automatically activated in [Snapshot Mode]. Backlight is a situation in which the main subject is comparatively small and located in front of a bright background. In such situations a normal exposure would render such subjects too dark. When the camera detects backlight, is displayed on the monitor. (Depending on the conditions, backlighting may not be detected correctly.)

Snapshot mode

Determining the extent of the area rendered sharply

You can also use [Snapshot Mode] to easily adjust the depth of field, i.e. which parts are rendered sharply and which are not, as with [Aperture-Priority] mode.

1 Press ▲

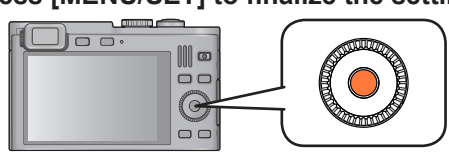


2 Turn the control ring to determine the extent of the depth of field

- [AUTO] is displayed in the icon during automatic adjustment.
- You can also make adjustments with ◀▶ and the control dial.
- To return to automatic adjustment: Press the [Q MENU/↩] button

Focus condition	more depth of field ◀—▶ less depth of field

3 Press [MENU/SET] to finalize the setting



- When you record motion pictures, the camera controls the aperture within the appropriate exposure range, and the depth of field may not change for some subject brightness levels.
- You can use [Snapshot Plus Mode] to adjust brightness and coloring. (→35)
- If the camera is turned off or the recording mode is changed, the depth of field setting returns to [AUTO].

Snapshot mode

Happy color settings

When [Color Mode] is set to [Happy], pictures are recorded with vivid coloring.

■ **Settings**

①Press [MENU/SET]
②Use the cursor button/s to select [Rec] menu and press [MENU/SET]
③Press ▲▼ to select [Color Mode] and then [MENU/SET]
④Press ▲▼ to select [Happy] and then [MENU/SET]

[Motion Deblur]

[Motion Deblur] automatically sets the optimum shutter speed in accordance with the movements of the subject to minimize the subject blurring.
This mode is preset to [ON].

■ **Settings**

①Press [MENU/SET]
②Use the cursor button/s to select [Rec] menu and press [MENU/SET]
③Press ▲▼ to select [Motion Deblur] and then [MENU/SET]
④Press ▲▼ to select either [ON] or [OFF] and then [MENU/SET]

- When [Motion Deblur] is set to [ON], (( )) appears on the screen.
- The subject may be recorded with a lower resolution than that set.

[iHandheld Nite Shot]

If a night scene is detected automatically while the camera is handheld, [iHandheld Nite Shot] can create a still picture with less subject blurring and less noise by combining a series of exposures.
This mode is preset to [ON].

■ **Settings**

①Press [MENU/SET]
②Use the cursor button/s to select [Rec] menu and press [MENU/SET]
③Press ▲▼ to select [iHandheld Nite Shot] and then [MENU/SET]
④Press ▲▼ to select either [ON] or [OFF] and then [MENU/SET]

- When the camera is fixed in place on a tripod or by other means, [iHandheld Nite Shot] will not be identified.

Snapshot mode

[iHDR]

When there is, for example, strong contrast between the background and the subject, [iHDR] records multiple still pictures with differing exposures and combines them to create a single still picture rich in gradation.
This mode is preset to [ON].

■ **Settings**

①Press [MENU/SET]
②Use the cursor button/s to select [Rec] menu and press [MENU/SET]
③Press ▲▼ to select [iHDR] and then [MENU/SET]
④Press ▲▼ to select either [ON] or [OFF] and then [MENU/SET]

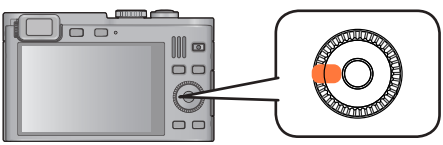
- This function is automatically activated only when is displayed on the monitor.
- In the case that a single picture is going to be composed from an exposure series, a message indicating that multiple pictures are to be recorded appears on the screen and an exposure series is carried out. Note that serial recording will not take place if the camera determines that it can compensate for the difference in contrast without composing the picture from a series.
- The camera does not combine pictures in the following cases:
  - When the magnification ratio exceeds the maximum optical zoom ratio
  - [Burst] mode
  - When the flash fires
- In the case of composition from an exposure series, moving subjects may be captured in slightly different positions.

Snapshot mode

AF Tracking

This function enables the camera to continue to focus and adjust the exposure even in the case of moving subjects.

1 Press ◀ to set [AF Mode] to AF Tracking



• To cancel AF Tracking → Press ◀.

2 Aim the AF Tracking frame at the subject, and then press the shutter button halfway to lock

• To cancel AF Lock: Press [MENU/SET]

AF Tracking frame
AF Lock successful: Yellow
AF Lock failed: Red

- The optimal scene for the AF locked subject is automatically identified.
- Face Recognition will be inactive while using AF Tracking.
- Under certain recording conditions, such as when the subject is small or when it is dark, [AF Tracking] may not operate correctly.
- When you press the shutter button halfway to activate AF lock, the AF Assist Lamp will not turn on.

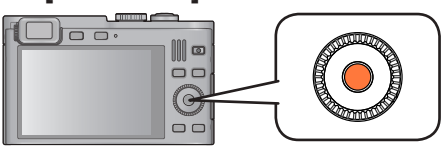
[Snapshot Plus Mode]

When [Snapshot Plus Mode] is selected, you can easily adjust the brightness and coloring, in addition to the depth of field, without compromising the user-friendly operation of [Snapshot Mode].

■Switching to [Snapshot Plus Mode]

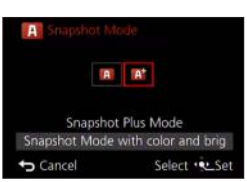
Use the [Snapshot Mode] menu to switch the mode.

1 **Press [MENU/SET]**



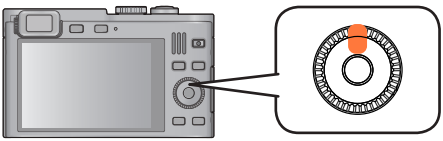
2 **Use the cursor button/s to select [Snapshot Mode] menu, and then press [MENU/SET]**

3 **Press ◀▶ to select [Snapshot Plus Mode], and then [MENU/SET]**



■Adjusting brightness, coloring, and depth of field

1 Press ▲



2 Press ▲▼ to select an item to set

• [AUTO] is displayed in the icon during automatic adjustment.

3 Use the control ring to make adjustments

Brightness	Underexposure (dark)	◀▶	Overexposure (bright)
Depth of field	less	◀▶	more
Coloring	Warm colors	◀▶	Cool colors

• You can also make adjustments with ◀▶ and the control dial.
• To return to automatic adjustment: Press the [Q MENU/↩] button

4 Press [MENU/SET]

- When you record motion pictures, the camera controls the aperture within the appropriate exposure range, and the depth of field may not change for some subject brightness levels.
- If the camera is turned off or the recording mode is changed, all settings return to [AUTO].

About [Snapshot Mode] setting items

Only the menu items which are displayed in [Snapshot Mode] can be set.
The settings selected in the [Program AE] or other modes will reflect on the menu items in the [Setup] menu that are not displayed.

- The settings for the following items are different from other recording modes:
  - [Picture Size] and [Color Mode] on the [Rec] menu
  - [Beep] on the [Setup] menu ([Beep Level] and [Shutter Vol.] only)
- The settings for the following functions are fixed:

[Setup] menu

- [Fn Button Set]: [Composition Guide]
- [Auto Power Off]: [5MIN.]
- [Control Ring Set]: [Step Zoom]
- [Auto Review]: [2SEC]

[Rec] menu

- [Quality]: [Fine]
- [White Balance]: [AWB]
- [Quick AF]: [ON]
- [i.Exposure]: [ON]
- [AF Assist Lamp]: [ON]
- [Stabilizer]: [ON]
- [Sensitivity]: ISO
- [AF Mode]: [Face Detection]*
- [Metering Mode]: [Multi Metering]
- [i.Resolution]: [i.ZOOM]
- [Red-Eye Removal]: [ON]

* (23-area-focusing) when a face cannot be recognized

[Motion Picture] menu

- [Continuous AF]: [ON]
- [Wind Cut]: [AUTO]

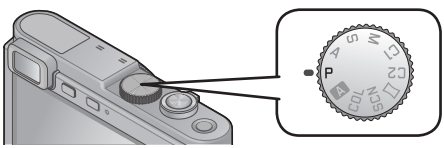
- The following functions cannot be used:
  [Histogram], [Video Rec Area], [Exposure Comp.], [Auto Bracket], [WB Adjust.], [Min. Shtr Speed], [Digital Zoom]

Program mode

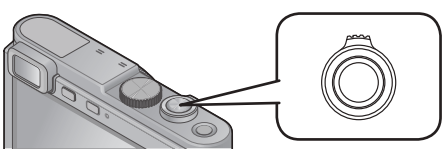
■ **Recording modes:** A P A S M C1 C2 SCN COL

The camera automatically sets both shutter speed and aperture value according to the brightness of the subject.
You can change various settings in the [Rec] menu.

1 Set to P ([Program AE] mode)



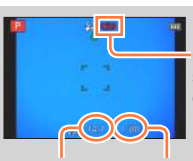
2 Take a picture



Press halfway to focus

Press fully to take the picture

- If a warning is displayed about camera shake, use [Stabilizer], a tripod, or [Self Timer].
- If aperture and shutter speed are shown in red, you will not get an appropriate exposure. You should either use the flash, change [Sensitivity] settings or set [Min. Shtr Speed] to a slower speed.



Automatic focusing (AF)

When [AF Mode] is set to ▣ (1-area-focusing), the subject parts targeted with the AF frame will determine the focus setting. If a subject you want to record is not in the center, follow the steps below.

1 First adjust focus according to subject

Aim the AF frame at the main subject

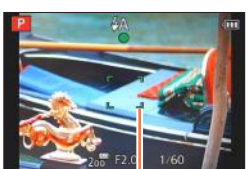
Press down halfway and hold

Focus display
(When the focus setting is correct: illuminated
When the focus setting is not correct or impossible: flashes)

AF frame
(When the focus setting is correct: green
When the focus setting is not correct or impossible: red)

2 Return to desired composition

Press fully



AF frame

- Subjects/environments which may make focusing difficult:
  - Fast-moving or extremely bright objects, or objects with no color contrast.
  - Taking pictures through windows or near objects emitting light.
  - In the dark, or with significant camera shake.
  - When too close to an object or when both distant and close objects are contained within the AF frame.
- The focus display flashes and a beep sounds when the focus setting is not correct or impossible.
  Use the setting range displayed in red as a reference.
  Even if the focus display is lit, the camera may be unable to bring the subject into focus if it is out of range.
- The AF frame display may be larger depending on recording conditions such as dark locations or the zoom ratio.

Focus display

Focus range

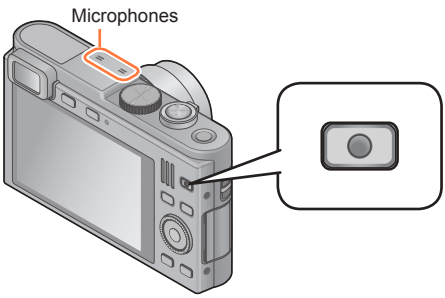
Taking motion pictures

■ **Recording modes:** [A] [P] [A] [S] [M] [C1] [C2] [SCN]*1 [COL]*2

*1 You cannot take motion pictures in [3D Photo Mode].
*2 You cannot take motion pictures in [Soft Focus] and [Star Filter].

You can record motion pictures with audio (stereo).

1 Press the motion picture button to start recording



- Do not cover the microphones when taking motion pictures.
- Release the motion picture button again immediately after pressing it.
- You can also change the lens' focal length, i.e. zoom while recording motion pictures.
  - The zoom speed will be slower than normal.
  - The zoom operating sounds may be recorded in some cases.
- Still pictures can be taken during motion picture recording. (→43)

2 Press the motion picture button again to end recording

Recording modes

■Taking motion pictures in A

The camera automatically detects and sets the type of scene for motion pictures with optimal settings.

A When the scene does not correspond to any on the right.		

- In mode, focus and exposure will be set according to the face detected.
- will be selected for nightscapes and other dark scenes.
- If the camera does not select your desired Scene mode, choosing an appropriate mode manually is recommended.
- The following menu options in the [Motion Picture] menu can be set:
  - [Rec Format] • [Rec Quality] • [Still Picture Size]

■Taking motion pictures in P

Aperture and shutter speed are automatically set.

■Taking motion picture in other recording modes

For details, refer to the pages relating to the respective recording modes.

■About the recording format for recording motion pictures

This camera can record motion pictures in either AVCHD or MP4 formats.

AVCHD:
You can record high definition quality images with this format. It is suitable for viewing motion pictures on a high-resolution TV or for saving them to a disc.

MP4:
This is a simpler video format best used when extensive editing is needed.
- You can record a motion picture to the built-in memory only in [MP4] using the [VGA] setting.

■About the compatibility of the recorded motion pictures

Motion pictures recorded in [AVCHD] or [MP4] may be played back with poor picture or sound quality or playback may not be possible at all even with equipment compatible with these formats. Also, the recording information may not be displayed properly. In this case, use the camera to play back.

- **If the surrounding temperature is high, or during a longer recording take, ⚠ may be displayed and recording may be stopped automatically to protect the camera.**
- When using lens' zoom function while taking motion pictures, it may take some time to focus.
- Depending on the environment when taking motion pictures, the screen may turn black for an instant or noise may be recorded because of static electricity, electromagnetic fields, etc.
- The available recording time displayed on the screen may not decrease regularly.
- If data is repeatedly recorded and deleted, the total available recording time on the memory card may be reduced. To restore the original capacity, use the camera to format the card. Be sure to save all important data to your computer or other media before formatting, as all data saved to the card will be erased.
- [Stabilizer] functions regardless of the settings before a motion picture is taken.
- The following functions are not available:
  Extended optical zoom, flash, [Face Recog.], [Rotate Disp.] for pictures taken vertically.
- For certain memory cards, recording may end while in progress.
- The aspect ratio may change in motion pictures compared to still pictures. Also, if the aspect ratio is different for still pictures and motion pictures, the angle of view will change when taking a motion picture. The recordable area is displayed by setting [Video Rec Area] (→57) to [ON].
- If Extended optical zoom is used before pressing the motion picture button, these settings will be cleared, and the aspect ratio will be changed significantly.

Recording still pictures while taking a motion picture

Still pictures can be recorded even while a motion picture is being taken.

1 Press the shutter button fully during the motion picture recording

[Still Picture Size] (→140)	Maximum number of pictures
9M	15 pictures
6M	
2M	

- The clicking sound made when the shutter button is operated may be recorded.
- When still pictures are recorded while simultaneously using the lens's zoom function, the zooming may stop.
- Using [Miniature Effect] in [Creative Control] mode, a still picture may be recorded with a slight delay from the time when the shutter button is pressed fully.

■Serial exposure function

When the serial exposure function has been set in advance, a series of still pictures can be recorded while taking a motion picture.

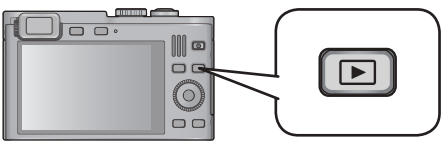
- When the serial exposure setting is set to 40, 60 or , still pictures are automatically recorded using the 10 setting.
- Even at the Z AF or 5 AF setting, the focus is fixed at the first picture.

- When you press the shutter button halfway while taking a motion picture, the camera will automatically refocus on a subject. This refocus movement is recorded, i.e. it will be visible. When priority is to be given to the motion pictures, press the shutter button fully, and record the still pictures. Still pictures can also be extracted after motion picture recording is completed. (→49)
- When the shutter button is pressed halfway, the resolution and the number of recordable pictures are displayed.
- Still pictures cannot be recorded in the following cases:
  - When [Rec Quality] is set to [VGA]
- The flash is set to [Forced Flash Off].
- Since the electronic shutter is used for motion pictures, the recorded still pictures may be distorted.
- Compared to normal still picture recording, the resolution may be lower.
- You cannot record pictures in RAW file format. (Only pictures in JPEG file format with the [Quality] setting [] can be recorded.)

Viewing still pictures

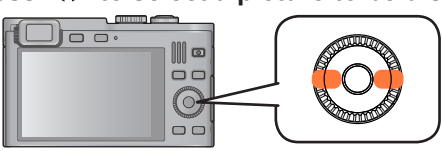
When a memory card is in the camera, pictures are played back from the card, without a card from the built-in memory.

1 Press the Playback button



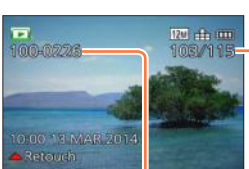
- To let the camera start with Playback mode, keep the playback button pressed while turning it on.

2 Press ◀▶ to select a picture to be displayed



- When the buttons are held down, the pictures are scrolled quickly forward or backward.
- Pictures can also be selected with the control dial.

3 View pictures



Number of displayed picture/Total picture number

Folder/File number

- To switch to Recording mode, press the playback button again or press the shutter button halfway.

- It may not be possible to view pictures on this camera that were previously edited on a computer.
- When the camera is switched to playback mode, the lens barrel will be retracted after approx. 15 seconds.
- This camera is compliant with the unified DCF (Design rule for Camera File system) standard formulated by the Japan Electronics and Information Technology Industries Association (JEITA), and with Exif (Exchangeable image file format). Files that are not DCF-compliant cannot be played back.

Enlarged viewing

1 Turn the zoom lever toward the T side

Current frame size

- Each time you turn the zoom lever toward the T side, the magnification increases through four levels: 2x, 4x, 8x, and 16x. (The picture quality displayed becomes successively lower.)
- To reduce the magnification: Turn the zoom lever toward the W side
- To move the enlarged section's position: Press ▲▼◀▶

●Enlarged playback is not available during motion picture or panorama picture playback.

Simultaneous viewing of several pictures

1 Turn the zoom lever toward the W side

Number of selected picture/Total picture number

Icon for panorama pictures

Icon for motion pictures

- Turning the zoom lever toward the W side repeatedly switches the display in the following order: 1-picture screen (full-screen) → 12-picture screen → 30-picture screen → Calendar screen. (Turn the lever to the T side to return.)
- When you select a picture using the cursor buttons and press [MENU/SET] on the 12-picture or 30-picture screen, the selected picture is displayed on the 1-picture screen (full-screen).
- Pictures can also be selected with the control dial.

●Pictures displayed with [!] cannot be played back.

Viewing pictures by their recording date

1 Turn the zoom lever toward the W side several times

2 Use the cursor buttons to select the recording date, and then press [MENU/SET]

- Pictures are displayed in Multi Playback (30-picture screen). The cursor will appear on the first picture taken on the selected date.
- You can also select the date with the control dial.

- Only months when pictures were taken are shown on the calendar screen. Pictures taken without clock settings are displayed with the date January 1st, 2013.
- Pictures taken with destination settings made in [World Time] are displayed in the calendar screen using the appropriate date for the destination's time zone.

Viewing motion pictures

This camera was designed to play motion pictures using the AVCHD, MP4 and QuickTime Motion JPEG formats.

1 Select a picture with the motion picture icon, and then press ▲

Playback starts.

Recording time

Motion picture icon (differs depending on the recording mode and picture quality setting)

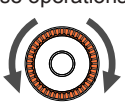
■Operations during motion picture playback

▲: Pause/play
▼: Stop
◀: Fast rewind (2 steps*1)/Single-frame rewind (while paused)
▶: Fast forward (2 steps*1)/Single-frame forward (while paused)
[MENU/SET]: Extracting still pictures from motion pictures (while paused) (→49)

*1 The fast forward or rewind speed increases if you press ◀▶ again.

• You can also perform these operations with the control dial.

Fast rewind (2 steps*2)/
Single-frame rewind
(while paused)



Fast forward (2 steps*2)/
Single-frame forward
(while paused)

*2 The fast forward or rewind speed increases if you turn the control dial again.

• If ▲ is pressed during fast forward or rewind, it will return to normal playback speed.
• The volume can be adjusted with the zoom lever.

- It may not be possible to properly play back the motion pictures recorded using other cameras.
- Some information will not be displayed for motion pictures recorded in [AVCHD].
- Motion pictures can be viewed on your computer using the available software (→209).
- **With camera models 18 484/-487/-488/-491**
  Motion pictures recorded with [Miniature Effect] in [Creative Control] Mode play back at approximately 8x speed.
- **With camera models 18 485/-486/-489/-490**
  Motion pictures recorded with [Miniature Effect] in [Creative Control] Mode play back at approximately 10x speed.

Extracting still pictures from motion pictures

You can save a scene from a motion picture as a still picture.

1 Display the picture that you want to extract as a still picture by pausing the motion picture during playback

2 Press [MENU/SET]

- A confirmation screen is displayed.
  Select [Yes] with the cursor button/s and then press [MENU/SET].

- Still pictures are saved with an [Aspect Ratio] setting of 16:9 and [Picture Size] at 2M*.
  *In the following cases, saved pictures become 4:3, 0.3M.
  - MP4 motion pictures with [Rec Quality] of [VGA]

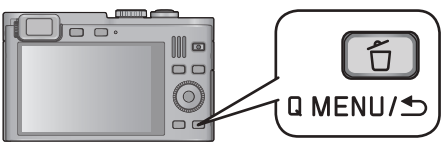
- The resolution becomes slightly lower depending on the [Rec Quality] setting of the original motion picture.
- It may not be possible to extract still pictures from motion pictures that were recorded with a different camera.

Deleting pictures

Pictures will be deleted from the memory card if one is inserted, or from the built-in memory if not. (Deleted pictures cannot be recovered.)

However, pictures will not be deleted in the following cases.
- Protected pictures
- Card switch is in “LOCK” position.
- Pictures not of DCF standard (→44)

1 Press the [🗑] button to delete the displayed picture



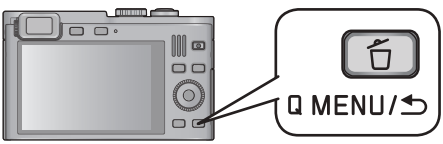
- A confirmation screen is displayed. Select [Yes] with the cursor buttons and then press [MENU/SET].

●Do not turn off the camera during deletion.

Deleting multiple (up to 100)/all pictures

A picture group (→143) is handled as 1 picture. (All the pictures in the selected picture group are deleted)

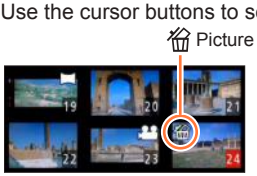
1 Press the [🗑] button while viewing a picture



2 Use ▲▼ to select [Delete Multi]/[Delete All], and then press [MENU/SET]

• Items can also be selected by turning the control dial.

● [Delete Multi]
Use the cursor buttons to select the picture and press the [DISP] button



• To cancel → Press the [DISP] button again.
• To execute → Press [MENU/SET].
• Pictures can also be selected with the control dial.

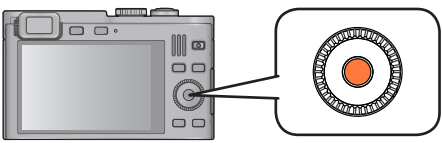
• You can select [All Delete Except Favorite] in [Delete All] if there are pictures that have been set as [Favorite] (→165).
• A confirmation screen is displayed. Select [Yes] with the cursor buttons and then press [MENU/SET].
• The process may take time depending on the number of pictures deleted.

Menu control

Refer to the procedure below for an example on how to operate the menus.

Example: Changing [AF Mode] in the [Rec] menu in [Program AE] mode

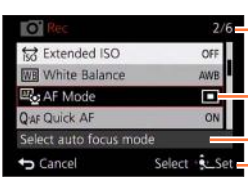
1 Press [MENU/SET]



2 Use the cursor buttons to select [Rec] menu, and then press [MENU/SET]

• Items can also be selected by turning the control dial.

3 Press ▲▼ to select [AF Mode], and then [MENU/SET]



Pages (The pages can also be selected with the zoom lever.)

Menu items

Menu description

Operation guide

4 Press ▲▼ to select a setting, and then [MENU/SET]

Setting items that can be selected

Selected setting

Setting description

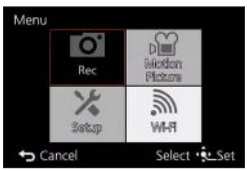
5 Press the [Q MENU/↩] button several times

The menu closes and the monitor returns to the previous screen.

• In recording mode, the menu screen can also be exited by pressing the shutter button halfway.

Menu sections

● **In recording mode**



● **In playback mode**

[Rec]	You can perform settings such as tones, Sensitivity, Aspect Ratio, and Resolution.
[Motion Picture]	You can select the recording format and resolution and other settings.
[Setup]	You can perform settings for convenience of use such as the clock setting and changing of the beep sounds.
[Wi-Fi]	You can perform settings required to use a Wi-Fi connection and Wi-Fi functions.
[Playback Mode]	You can choose the playback method to see [Slide Show] or to select the pictures to be shown, etc.
[Playback]	You can specify picture protection, resizing, print settings, and other settings for pictures you have taken.

- The operation screen examples in these instructions may differ from the actual screen display or some parts of the screen display are omitted.
- The menu types and items that are displayed vary according to the mode.
- The setting methods vary depending on the menu item.
- The following menus are also displayed depending on the recording mode.
  - In the [Snapshot Mode]: [Snapshot Mode] menu (→35)
  - In the [Creative Control] mode: [Creative Control] menu (→96)
  - In the [Scene Mode]: [Scene Mode] menu (→108)
  - In the [Custom] mode: [Custom] menu (→116)

Using the [Setup] menu

[Clock Set], [Economy] and [Auto Review] are important for clock setting and battery life. Please check these before use.
• For the setting procedures of the menu. (→52)

● In [Snapshot Mode], only [Clock Set], [World Time], [Airplane Mode], [Beep], [Composition Guide], [Language] and [O.I.S. Demo.] are set.

[Clock Set]

Sets time, date, and display format. (→23)

[World Time]

Sets the local time at travel destination. (→127)

[Travel Date]

Records the number of days elapsed in your travels. (→126)

[Airplane Mode]

Disables the Wi-Fi function. (→172)

[Beep]

Changes or mutes the beep/shutter sounds.

■ **Settings**

[Beep Level]
/ / : Low / High / Mute

[Beep Tone]
❶ / ❷ / ❸ : Changes beep tone.

[Shutter Vol.]
/ / : Low / High / Mute

[Shutter Tone]
❶ / ❷ / ❸ : Changes shutter tone.

• For the setting procedures of the menu. (→52)

[Speaker Volume]

Adjusts the volume of sound from the speakers (7 levels).

■ **Settings: [0] / [1] / [2] / [3] / [4] / [5] / [6]**

● This function cannot adjust TV speaker volume when connected to a TV.

[Cust.Set Mem.]

Registers the current camera settings. (→115)

[Fn Button Set]

Registers frequently used functions from the [Rec], [Setup] or other menus to the [FN] button for faster operation. (→117)

[Control Ring Set]

Changes the settings assigned to the control ring. (→118)

[Monitor Display] / [Viewfinder]

Adjusts brightness and color of the monitor or viewfinder image. It is suggested to use the default settings.
These are intended to provide a preview of the actual picture, as accurately as possible.

① Press ▲▼ to select the setting item and then ◀▶ to make adjustments
② Press [MENU/SET]

● Some subjects may look different from their actual appearance, but the recorded picture will not be affected.

• For the setting procedures of the menu. (→52)

[Monitor Luminance]

Improves monitor image visibility.

■ **Settings**

[Auto Power Monitor]	The brightness is adjusted automatically depending on how bright it is around the camera.
[Power Monitor]	The brightness is increased for easy viewing outdoors.
[OFF]	—

- [Auto Power Monitor] cannot be selected in playback mode.
- [Power Monitor] returns to ordinary brightness if there is no operation for 30 seconds when recording. (Press any button to make the screen brighter again.)
- Because the picture shown on the monitor emphasizes brightness, some subjects may look different than their actual appearance, but this will not affect the recorded picture.
- Setting [Monitor Luminance] reduces the operating time.

[Composition Guide]

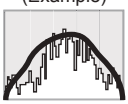
Selects guideline display and the specific type.
By setting the basic composition, you can take more impressive still pictures. (→68)

• For the setting procedures of the menu. (→52)

[Histogram]

Displays the distribution of brightness in a picture – e.g. if the graph peaks at the right, this means that a majority of the picture will be/is brighter than average. A peak in the center represents a correct exposure. This can be used as a reference for exposure compensation, etc.

(Example)



Dark ← OK → Bright

■ **Settings: [ON] / [OFF]**

- When the histogram is not the same as that of the recorded picture under the following conditions, it will be displayed in orange.
  - In dark places.
  - When manual exposure assist indicates settings other than 0 EV in [Manual Exposure] mode or during Exposure Compensation.
  - When the flash fires.
- The histogram displayed during recording is only a reference.
- The histogram displayed during recording and that displayed during playback may be different.
- The histogram is different from those displayed using image editing software on a computer.
- The histogram will not be displayed in the following cases.
  - [Snapshot Mode]
  - Playback Zoom
  - During motion picture recording
  - Multi Playback
  - When the HDMI micro cable is connected

[Video Rec Area]

Enables verification of the recordable area for a motion picture before recording.

■ **Settings: [ON] / [OFF]**

- The recordable area displayed for motion pictures should be interpreted as a guideline.
- When using Extended optical zoom, the recordable area may not always be displayed for certain zoom ratios.
- For [Snapshot Mode], the setting is fixed to [OFF].

• For the setting procedures of the menu. (→52)

[Remaining Disp.]

Switches the display between the remaining number of still pictures you can take or the remaining recording time of a motion picture that you can record for the available memory card or the built-in memory.

■ **Settings**

	Displays the number of pictures that can be recorded.
	Displays the remaining recording time.

[Lens Resume]

● **[Zoom Resume]**
Saves the zoom position when turning the camera off.

■ **Settings: [ON] / [OFF]**

● **[MF Resume]**
The camera will remember the manual focus setting when it is turned off and when the focus mode is set to anything else than [MF]. The next time the camera is turned on or the focus mode is set to [MF], it will return to the saved focus position.

■ **Settings: [ON] / [OFF]**

[MF Assist]

Sets whether to enlarge the focus point when Manual Focus mode is used. (→88)

• For the setting procedures of the menu. (→52)

[Economy]

Turns off the camera or the monitor while not using the camera to minimize battery consumption.

● **[Auto Power Off]**
Automatically switches off the camera while not in use.

■ **Settings: [2MIN.] / [5MIN.] / [10MIN.] / [OFF]**

● To restore → Turn on the camera again.
● This mode is not available in the following cases:
  • When connected to a computer/printer
  • During motion picture recording/playback
  • During Slide Shows
● Settings are fixed to [5MIN.] in [Snapshot Mode].

● **[Monitor Power Save]**
The monitor is switched off to minimize power consumption.

■ **Settings: [ON] / [OFF]**

● This mode reduces the picture quality of the monitor display during recording to minimize battery consumption (except for the Digital Zoom area). Note, however, that there is no effect on the recorded picture.
● The setting in [Monitor Luminance] is prioritized over the setting in [Monitor Power Save] for the brightness of the monitor.

• For the setting procedures of the menu. (→52)

[Auto Review]

Automatically displays still pictures immediately after taking them.

■ **Settings**

[1SEC] / [2SEC]	Displays the picture for the set time before automatically returning to the recording screen.
[HOLD]	Keeps the picture displayed until [MENU/SET] is pressed.
[OFF]	—

- For [Snapshot Mode], the setting is fixed to [2SEC].
- Motion pictures cannot be automatically reviewed.

[Self Timer Auto Off]

The self-timer is canceled if the camera is turned off.

■ **Settings: [ON] / [OFF]**

- At the time of purchase, the camera is set to [ON], so the self-timer is canceled when it is turned off.

[No.Reset]

Resets picture file numbers. (The folder number is updated and the file number starts from 0001.)

• To reset a folder number to 100:
First, format the built-in memory or card, and reset the file numbers using [No.Reset]. Then, select [Yes] on the folder number reset screen.

- A folder number between 100 and 999 can be assigned.
Numbers cannot be reset once the folder number reaches 999. In this case, save all necessary pictures to your computer, and format the built-in memory/card (→64).

• For the setting procedures of the menu. (→52)

[Reset]

Resets the camera to the default settings.

- **[Reset Rec. settings?]**
- **[Reset setup parameters?]**

- Information registered in [Face Recog.] is reset if recording settings are reset.
- Resetting the setup parameters will also reset the following:
  - Age in years/months and names in [Baby] and [Pet] Scene modes
- Folder numbers and clock settings will not be reset.
- Noise may be audible as the lens function is reset. This is not a fault.

[Reset Wi-Fi Settings]

Returns all [Wi-Fi] menu settings to the default settings.

- If you want to dispose or give away your camera, always reset it to prevent your personal information from being mistakenly used.
- When you have your camera to repaired, backup your personal information and always reset it as well.

[USB Mode]

Selects the communication method for connecting the camera to a computer or printer with the USB cable.

■ Settings

[Select on connection]	Selects the communication method each time you connect to a computer or PictBridge-compatible printer.
[PictBridge(PTP)]	Select this mode when connecting to a PictBridge-compatible printer.
[PC]	Select this mode when connecting to a computer.

• For the setting procedures of the menu. (→52)

[Output]

Changes the settings to be used when the camera is connected to a TV or an other device.

● **[Video Out]** (With camera models 18 484/-487/-488/-491)

■ **Settings**

[NTSC]	Video output is set to NTSC system.
[PAL]	Video output is set to PAL system.

● **[TV Aspect]** (This setting is available when an AV cable is connected.)

■ **Settings: 16:9 / 4:3**

[HDTV Link]

Enables automatic linking with other HDTV Link-compatible devices, and operability with a HDTV remote control when connecting via an HDMI micro cable (→203).

■ **Settings**

[ON]	Operations may be performed via the remote control of the HDTV Link-compatible device. • Not all operations will be available. • Operability of the camera's own buttons will be limited.
[OFF]	Operations must be performed via the camera's own buttons.

[3D Playback]

Sets how a 3D still picture is output.

■ **Settings: [3D] / [2D]**

● If you want to play back a picture in 2D (conventional picture) on a 3D television, set to [2D].
● This item of the menu functions when an HDMI micro cable is connected.
● For the procedure for playing back a 3D still picture. (→205)

• For the setting procedures of the menu. (→52)

[Rotate Disp.]

Automatically rotates portrait still pictures.

■ **Settings**

	Rotates and displays pictures displayed on a TV screen as well as those displayed on the monitor of the camera in portrait orientation.
	Rotates and displays only pictures displayed on a TV screen in portrait orientation.
[OFF]	—

- [Rotate Disp.] cannot be used with motion pictures.
- Still pictures taken with the camera facing up or down, or those taken with other cameras may not rotate.
- Pictures cannot be rotated during Multi Playback.
- Pictures will only be displayed rotated on a computer if in Exif-compatible (→44) environment (OS, software).

[Version Disp.]

Checks the camera firmware version or displays software information.

- When you press [MENU/SET] while the version is displayed, software information such as the license is displayed.

• For the setting procedures of the menu. (→52)

[Format]

Use this mode when [Built-In Memory Error] or [Memory Card Error] appears, to format the built-in memory or the memory card.
When a card/the built-in memory is formatted, the data cannot be restored. Check the content of the card/the built-in memory carefully before formatting.

- To format the built-in memory, remove the memory card.
  (Only the inserted card will be formatted; the built-in memory will only be formatted if no card is inserted.)
- **All protected pictures and other picture data will be deleted.**
- Do not turn off the camera or perform other operations during formatting.
- Always format the cards with this camera.
- Formatting the built-in memory may take several minutes.
- If you cannot format, contact your dealer or your nearest Leica Customer Care department.

[Language]

Changes display language.
Sets the language displayed on the screen.

[O.I.S. Demo.]

Extent of camera shake is shown on graph (estimate).

Extent of camera shake

Extent of camera shake effect after correction

- During demo screen display, the Optical Image Stabilizer switches ON and OFF every time [MENU/SET] is pressed.

Entering Text

Use the cursor buttons to enter names with the Face Recognition function and in the Scene modes [Baby] and [Pet], or to register locations in [Travel Date] etc.

1 Use the cursor buttons to select characters

2 Press [MENU/SET] several times until the desired character is displayed

Cursor position

The character is inserted at the cursor position.
- To change the character type:
  Select [Aa/1&], and press [MENU/SET]

■ **To continue entering characters**
- Use the cursor buttons to select ▶, and then press [MENU/SET]
- Push the zoom lever toward the T side
- Turn the control dial to the right

■ **Editing text**

①Use the cursor buttons to select ◀ ▶ and press [MENU/SET]. Then, move the cursor to the character to edit
- You can also use the zoom lever or control dial to reposition the cursor.

②Use the cursor buttons to select [Delete], and then press [MENU/SET]

③Use the cursor buttons to select the correct text, and then press [MENU/SET]

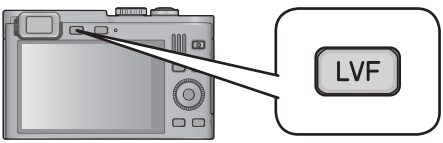
3 When you are finished entering text, use the cursor buttons to select [Set], and press [MENU/SET]

- A maximum of 30 characters can be entered. (Maximum of 9 characters for [Face Recog.] names)
- Up to 15 characters can be entered for [＼], [「], [」], [・] and [—]. (Maximum of 6 characters for [Face Recog.] names)

Switching between monitor and viewfinder

Using the viewfinder allows checking subject and framing regardless of the ambient light conditions

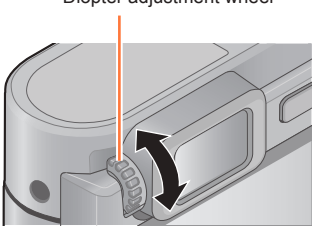
1 Press the [LVF] button



■About diopter adjustment

Turn the diopter adjustment wheel until you are able to clearly see all the displays in the viewfinder.

Diopter adjustment wheel

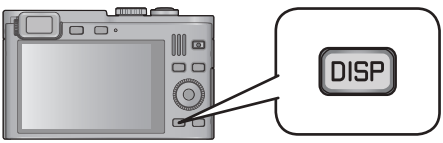


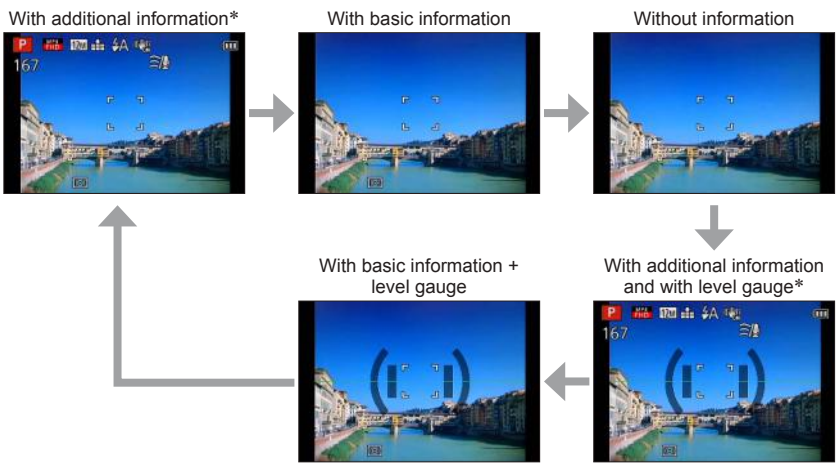
●When adjusting the diopter, align your eye in the center of the viewfinder.

Switching displays

You can select the type of displays, e.g. turn off the recording information (such as icons for various settings) and the level gauge (→70).

1 Press the [DISP] button to change displays





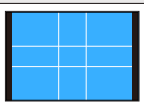
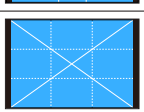
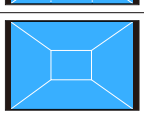
* Set [Histogram] to display a histogram. (→57)

Using reference lines to assist composition

■ **Recording modes:** [A] [P] [A] [S] [M] [C1] [C2] [SCN] [COL]

You can utilize the viewfinder or the monitor for still pictures to carefully and precisely position your subject (the composition) along the reference lines.

The following guidelines can be used.

Composition principle	Guideline	Description
[Rule of Thirds Offset]		This composition creates a more interesting photo by offsetting the subject from the center.
		Example for an off-center positioned flower.
		Example for an off-center positioned person.
[Diagonal lines]		This composition gives an alternate perspective by aligning the subject along the diagonal lines.
[Tunnel]		This composition is intended to emphasize the depth of long narrow subjects.
[Radiation 1]		This composition adds an expansive perspective to your photo by aligning the subject along the radial lines.
[Radiation 2]		
[S-shape]		This composition can enhance your photo by drawing attention to wandering elements of the scene.

■How to select guidelines

1 Press the [FN] button

2 Use the cursor buttons to select the guideline to display, and then press [MENU/SET]

• You can also select guidelines with the control dial.

• Explanations and examples of the composition will be displayed in turn when you press the [DISP] button.
• If the guideline/s allows horizontal flipping, use ◀ ▶ to flip.
• To turn off guideline display, select [No Guide].

●When other functions are registered to the [FN] button
①Select [Composition Guide] from the [Setup] menu and press [MENU/SET]
②Use the cursor buttons to select the guideline/s to display and press [MENU/SET]
③Press the [Q MENU/↩] button several times

■Taking still pictures with guideline/s

1 Align your subject along the guideline/s, and then press the shutter button

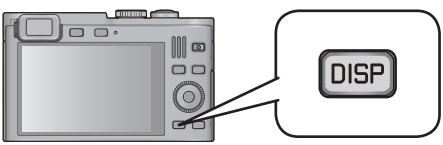
●When pictures are taken in portrait orientation, the guideline/s are automatically changed to the portrait orientation.
●The guideline/s will not appear on the actual still picture.

Using the level gauge

■ **Recording modes:** A P A S M C1 C2 SCN COL

If you want to make sure that the camera is not tilted up, down, to the left or to the right, for example, when you take a picture of a landscape, use the level gauge indication as a reference.

1 Press the [DISP] button to switch the display



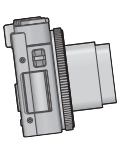
Press the button until the level gauge is displayed.

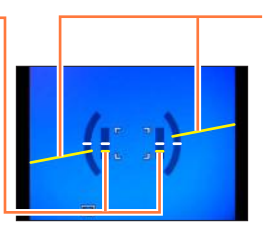
2 Correct the camera angle

■Using the level gauge

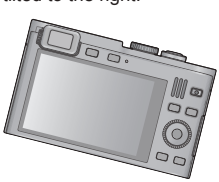
The yellow line indicates the current angle (horizontal line). Correct the angle of the camera so that it matches the white line.

Tilting up or down
- In this case, it is facing upward.





Tilting left or right
- In this case, the camera is tilted to the right.



- When the camera's angle is near level, the level gauge will turn green.
- When pictures are taken in portrait orientation, the level gauge is automatically switched to portrait orientation.

- Even when the angle is more or less correct, there may be an error of about ±1 degree.
- When the camera is moved, the level gauge may not be displayed correctly.
- The level gauge may not be displayed correctly or the direction detect function may not operate correctly if the pictures are taken with the camera pointing sharply up or down.

Using the zoom lens

■ **Recording modes:** [A] [P] [A] [S] [M] [C1] [C2] [▭] [SCN] [COL]

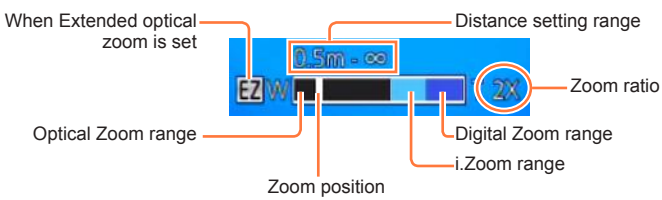
You can determine how much of a subject is to be captured / how large a subject is to be rendered by selecting the appropriate focal length, i.e. by zooming.

1 Zooming In/Out

To widen the angle of view, use shorter focal lengths (hence wideangle, also makes subjects appear further away)

To make subjects appear closer use longer focal lengths (telephoto, also narrows the angle of view)

- The zooming speed is determined by how far the zoom lever is turned in the respective direction.



- Do not touch the lens barrel during zooming.
- Adjust the focus setting after zooming.
- The zoom ratio and the zoom bar displayed on the screen are approximations.
- The camera may make a noise and vibrate while zooming - this is not a malfunction.

Zoom functions

The zoom ratio changes when the resolution is changed.

■Optical zooming

Zooming in up to 7.1x is possible if pictures without EZ have been selected by [Picture Size] in the [Rec] menu. (→128)

- Optical zooming cannot be used in the following cases:
  - [Macro Zoom]
  - With the Scene mode ([3D Photo Mode])

■Extended optical zoom

Zooming in up to 13.9x is possible when pictures with EZ have been selected by [Picture Size] in the [Rec] menu (→128). EZ is short for “Extended optical zoom”.

- Extended optical zoom cannot be used in the following cases:
  - [Macro Zoom]
  - Motion pictures
  - When the [Burst] setting is set to 40 or 60
  - With the Scene modes ([HDR], [3D Photo Mode])
  - [Creative Control] Mode ([Toy Effect])
  - When the [Quality] setting is set to [RAW], [RAW] or [RAW]

To increase the zoom ratio further, the following zoom modes can be used in combination.

■[i.ZOOM]

You can use the camera's Intelligent Resolution technology to increase the zoom ratio up to 2x higher than the original with limited deterioration of picture quality. Set [i.Resolution] to [i.ZOOM] in the [Rec] menu. (→135)

- When [i.Resolution] is set to [i.ZOOM], Intelligent Resolution technology is applied to the picture.
- [i.ZOOM] always works when in [Snapshot Mode].
- [i.ZOOM] does not function in the following cases.
  - [Macro Zoom]
  - When the [Burst] setting is set to 40 or 60
  - When the [Quality] setting is set to [RAW], [RAW] or [RAW]
  - With the Scene modes ([Handheld Night Shot], [HDR], [3D Photo Mode])
  - [Creative Control] Mode ([Toy Effect])

■[Digital Zoom]

This mode allows zooming 4x further than with Optical/Extended optical zoom. Note that, with Digital Zoom, enlarging will decrease picture quality. Set the [Digital Zoom] in the [Rec] menu to [ON]. (→135)

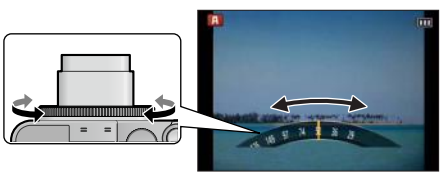
- Digital Zoom cannot be used in the following modes:
  - [Snapshot Mode]
  - When the [Burst] setting is set to 40 or 60
  - With the Scene modes ([Handheld Night Shot], [HDR], [3D Photo Mode])
  - [Creative Control] Mode ([Toy Effect], [Miniature Effect])
  - When the [Quality] setting is set to [RAW], [RAW] or [RAW]
- This mode is fixed to [ON] when [Macro Zoom] is set.
- When [Digital Zoom] is used simultaneously with [i.ZOOM], you can only increase the zoom ratio up to 2x.

■[Step Zoom]

You can select to set the focal length in steps. The displayed figures are the respective equivalent focal lengths for 35mm cameras.

- If recording in [Snapshot Mode] or Scene mode, you can set [Step Zoom] with the control ring.
  If the setting assigned to the control ring is [Step Zoom], [Step Zoom] will also be available for use in other modes. (→118)

1 Turn the control ring



- When the control ring is operated, the focal length is displayed on a standard picture aspect ratio of 4:3 as a reference.
- The focal length will change in the following cases:
  - When [iHandheld Nite Shot] is set to [ON]
  - When [Burst] is set to [60]
  - When [Handheld Night Shot] is set in Scene mode
- [Step Zoom] cannot be used in the following cases:
  - When recording motion pictures
  - With the Scene mode ([3D Photo Mode])

Using the built-in flash

■ **Recording modes:** [A] [P] [A] [S] [M] [C1] [C2] [SCN] [COL]

1 Press ▶ to display [Flash]

2 Use the cursor buttons to select the desired mode, and then press [MENU/SET]

Modes, function		Application
⚡A i⚡A*1	**[Auto]** • Automatically judges whether or not to flash	Normal use
⚡A◎	**[Auto/Red-Eye]***2 • Automatically judges whether or not to flash (reduce red-eye)	For pictures of subjects in dark places
⚡	**[Forced Flash On]** • Always flash	For pictures with backlight or under bright lighting (e.g. fluorescent)
⚡S◎	**[Slow Sync./Red-Eye]***2 • Automatically judges whether or not to flash (reduce red-eye; slow shutter speed to take brighter pictures)	For pictures of subjects against a nightscape (tripod recommended)
⊘	**[Forced Flash Off]** • Never flash	For situations in which flash use is prohibited or undesirable

*1 Only in the [A] mode

*2 Two flashes will be emitted. Do not move until after the second flash. The interval between flashes varies according to brightness of subject.
When [Red-Eye Removal] in the [Rec] menu is set to [ON], the icon changes to [⚡A◎]/[⚡S◎], red-eye is automatically detected and the picture data is corrected. (only if the camera has detected a face)

- **Do not put your hands over the light-emitting area of the flash** (→10) **or look at it from close range.**
  Do not use the flash at close distances to other subjects (heat/light may damage subject).
- The effect of red-eye reduction varies depending on the subject and is affected by factors such as distance to the subject, whether the subject is looking at the camera during preliminary flash, and so on. In some cases, the effect of red-eye reduction may be negligible.
- Flash settings may be changed when changing the recording mode.
- Scene mode flash settings are restored to default when the Scene mode is changed.
- The picture edges may become slightly dark when using flash at short distances and short focal lengths (close to max. W). This may be remedied by zooming a little.
- No pictures can be taken if these marks (e.g. ⚡A) are flashing (flash is charging).
- If the flash illumination on a subject is insufficient, neither the proper exposure nor a proper White Balance is achieved.
- The flash effect may not be sufficient in the following cases:
  - When the shutter speed is fast
  - When [Burst] is set to [⚡]
- Flash charging may take time if battery is low, or if using flash repeatedly.

■Available flash modes in each exposure mode

(○: Available, –: Not available, ▭: Default setting)

	A	P A	S M	[Scene Mode]						
⚡A	○*1	○	○	○	○	○	–	○	○	○
⚡A ◎	–	○	○	○	○	–	–	–	○	–
⚡	–	○	○	○	○	○	–	○	○	○
⚡S ◎	–	○	–	–	–	–	○	–	–	–
⊛	○	○	○	○	○	○	○	○	○	○

*1 Set to ¡⚡A, ¡⚡A ◎, ¡⚡S ◎ or ¡⚡S depending on the subject and brightness.

- The flash cannot be used when recording motion pictures or in the , , , , , , , and 3D Scene modes.

■The available flash range when [Sensitivity] setting is [AUTO]

Max. Wide	approx. 0.6m - 7.0m (2′ - 23′)
Max. Tele	approx. 0.8m - 2.3m (2′ - 7′)

■Shutter speed range for each flash mode

Setting	Shutter speed
⚡A ⚡A ◎ ⚡	1/60*2 - 1/4000s
⚡S ◎ ⊛	1*2*3 - 1/4000s

*2 Varies according to the [Min. Shtr Speed] setting.

*3 When [Min. Shtr Speed] is set to [AUTO], and camera shake is detected when [Stabilizer] is turned to [ON], the maximum speed is 1/4 second. Also varies according to [Snapshot Mode] and the Scene modes, etc.

Close-up pictures

■ **Recording modes:** [A] [P] [A] [S] [M] [C1] [C2] [SCN]* [COL]
*Only [3D Photo Mode] can be set.

For maximum enlargement of a subject, the camera has to be very close to it. Setting to [AF Macro] (AF) enables you to take pictures from a shorter distance than the normal focus range (up to 3cm ($1^{3}/_{16}$″) for max. Wide).

1 Press ◄

2 Use the cursor buttons to select [AF Macro] (AF), and then press [MENU/SET]

AF display

Focus range

When a subject is too close to the camera, the picture may not be properly focused.

■Shortest focusing distance

The shortest focusing distance is the distance from the front lens element's surface to the subject. This distance changes gradually depending on the zoom position.

Zoom	Focus Mode	
	[AF] [MF]	[AF]
Max. W	3cm (1 3/16″)	50cm (1′ 7″)
Max. T	80cm (2′ 7″)	80cm (2′ 7″)

• The focus range is displayed when operating the zoom, etc.

Distance setting range

- When set to this mode, it may take some time until distant subjects come into focus.
- Using a tripod and [Self Timer] is recommended. Also, we recommend that you close the flash to set to [⊘] (Forced flash off).
- Moving the camera after focusing is likely to result in poorly focused pictures with close subjects, due to the severely reduced depth of field.
- The resolution may be reduced at the edges of the picture.

[Macro Zoom]

■ **Recording modes:** iA P A S M C1 C2 SCN COL*
*This mode cannot be set in the following modes: [Toy Effect], [Miniature Effect]

To take even larger images of the subject, setting to [Macro Zoom] (🌷) enables the subject to appear even larger than when using [AF Macro] (AF🌷).

1 Press ◄

2 Use the cursor buttons to select [Macro Zoom] (🌷), and then press [MENU/SET]

3 Adjust the magnification with the zoom lever

Reduce Enlarge

The zoom position is fixed at the Wide end.
Focus range is 3cm ($1^{3}/_{16}$") - ∞.

Magnification (1x to 3x)

- In [Macro Zoom], higher magnification results in lower picture quality.
- When [Macro Zoom] is set, Extended optical zoom or [i.ZOOM] does not work.
- When [AF Tracking] is set, zoom macro is canceled.
- When the [Burst] setting is set to 40 or 60, the [Macro Zoom] cannot be set.

Using Auto focus

■ **Recording modes:** A P A S M C1 C2 SCN COL

When Auto Focus is enabled, you only have to press the shutter button halfway to focus. The focusing methods differ depending on the [Rec] mode and the [AF Mode] setting.

1 Press ◄

2 Use the cursor buttons to select [AF], and then press [MENU/SET]

■Switching [AF Mode]

1 Select [AF Mode] from the [Rec] menu

• For the setting procedures of the menu. (→52)

2 Press ▲▼ to select Auto Focus mode items, and then [MENU/SET]

(Face Detection)	For taking front-on pictures of people (→82)
(AF Tracking)	Automatically locks the focus on a moving subject (→83)
(23-area-focusing)	For subjects positioned off-center (→84)
(1-area-focusing)	For precise focusing on small subjects (→84)

Face detection

Recognizes faces (up to 15 persons) and adjusts exposure and focus accordingly.

AF frame
Yellow: When the shutter button is pressed halfway, the frame turns green when the camera is focused.
White: Displayed when more than one face is detected. Other faces that are the same distance away as faces within the yellow AF frame are also focused.

- (Face Detection) is not available in the following cases:
  - With the Scene modes ([Night Scenery] [Handheld Night Shot] [Food] [Starry Sky])
  - [Creative Control] mode ([Miniature Effect] [Soft Focus])
  - [Panorama Shot] mode
- If the camera misinterprets a non-human subject as a face in (Face Detection) setting, switch to another setting.
- If conditions prevent the face from being recognized, such as when the movement of the subject is too rapid, the [AF Mode] setting switches to (23-area-focusing).

Automatically locking the focus on a moving subject

1 Aim the AF Tracking frame at the subject, and then press the shutter button halfway

AF Tracking frame
When the subject is recognized, the AF Tracking frame changes from white to yellow, and the subject is automatically kept in focus.
If AF Lock fails, the frame flashes red.

- To switch off AF Tracking → Press [MENU/SET].
- The focus range is the same as macro recording

- Under certain recording conditions, such as when the subject is small or dark, (AF Tracking) may not operate correctly.
- (AF Tracking) is not available in the following cases.
  - [Starry Sky] Scene mode
  - [Creative Control] mode ([Sepia] [Dynamic Monochrome] [High Dynamic] [Toy Effect] [Miniature Effect] [Soft Focus])
  - [Panorama Shot] mode
  - [Color Mode] ([B&W] [SEPIA])
- When you press the shutter button halfway to activate AF lock, the AF Assist Lamp will not turn on.

Focusing based on metering in 23 areas

With this mode, focusing is based on the closest registered object in the 23 metered areas.

●The focus setting is fixed to ▣ (1-area-focusing) during motion picture recording.

Focusing on a small part of the frame

Focusing is based on the subject registered in the center of the picture. (Recommended when focusing is difficult, or when it is supposed to be based on a specific off-center detail)

• You can freely position the AF area. (→85)

●Focus is fixed to ▣ (1-area-focusing) in the following cases:
- [Starry Sky] Scene mode
- [Miniature Effect] in [Creative Control] mode

■Changing the position and size of the AF area

When [AF Mode] is set to [▣] (1-area-focusing), you can move the position or change the size of the AF area.

① Select [AF Mode] from the [Rec] menu
② Use the cursor buttons to select [[▣]] from the [AF Mode] items and press the [DISP] button
③ To move the AF area: Press ▲▼◀▶
To change the size of the AF area: Turn the control dial
• To restore the AF area to its initial state (position and size): Press the [DISP] button
④ Press [MENU/SET]

- This is not possible during motion picture recording.
- When the AF area is small, it may be difficult to focus.
- When [Metering Mode] is set to [⊙] (spot-focusing), the new position of the AF area will be measured.

Locking the exposure and/or focus setting

■ **Recording modes:** A P A S M* C1 C2 SCN COL
*AF lock only

The Lock function is convenient for achieving perfect exposure and focusing based on the most important part of a subject.
For example, if you wish to position it anywhere in the frame, and also in the case of large brightness differences.
If an important subject detail is to be positioned off-center: Lock exposure (AE) and focus (AF)
If the main subject is comparatively small and the rest of the frame is significantly brighter or darker: Lock exposure (AE)

Preparation:
To utilize the AF/AE Lock function, it is necessary to register it to the [FN] button. (→117)

1 Aim the AF area at the subject

2 Press the [FN] button to lock focus and/or exposure

• To cancel AF/AE Lock: Press the [FN] button

3 Move the camera for the desired composition, and then press the shutter button fully

• When AE is set, press the shutter button halfway to focus, then press it fully.

■AF/AE Lock presets

By using [AF/AE Lock] in the recording menu, you can set whether to lock focus and/or exposure.

[AE]	Locks exposure only. ([AEL] is displayed on the screen.)
[AF]	Locks focus only. ([AFL] is displayed on the screen.)
[AF/AE]	Locks focus and exposure. ([AFL] and [AEL] are displayed on the screen.)

- During Manual focusing, only AE Lock can be used.
- Lock is canceled when the lens is zoomed after locking exposure and/or focus.

Manual focusing

■ **Recording modes:** A P A S M C1 C2 SCN COL

Use this function when you want to determine the focus setting yourself or when using Autofocus proves difficult.

1 Press ◄

2 Use the cursor buttons to select [MF], and then press [MENU/SET]

3 Use the control ring to focus

• Settings assigned to the control ring in each mode are made with the control dial.

■1 Shot AF

When [1 Shot AF] is registered in [Fn Button Set] (→117), you can press the [FN] button once to temporarily activate Auto Focus and focus on a subject.

• First use [1 Shot AF] to focus on an area close to the subject. This makes it easier to adjust the focus with the control ring.

- After zooming, refocus.
- The focus range displayed during manual focusing is a reference value. Confirm the focus on the screen ([MF Assist] screen).
- The control ring cannot be used to focus if the control ring settings have been changed.
- You can focus by pressing ▲ and turning the control dial.

■Enlarged display (MF assist)

When [MF Assist] in the [Setup] menu is [ON] and you manually focus, an enlarged section appears.

• Shortly after you stop focusing manually, the display switches to normal.

●To change the position of an enlarged section

①Press [MENU/SET] while manually focusing (while the enlarged section is displayed)

②Use the cursor buttons to move the enlarged section

• To return to the original position → Press the [DISP] button

③Press [MENU/SET]

●MF assist is not displayed in the Digital Zoom area.

Using the self-timer

■ **Recording modes:** [A] [P] [A] [S] [M] [C1] [C2] [SCN] [COL]

We recommend using a tripod. Setting the self-timer to 2 seconds can also be used to prevent camera shake caused by pressing the shutter button.

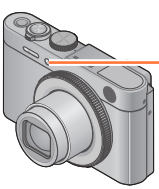
1 Press ▼

2 Use the cursor buttons to select [Self Timer], and then press [MENU/SET]

- To change the time setting:
  Press the [DISP] button and select a time setting with ▲▼

3 Take a picture

Press the shutter button fully to release the shutter after the preset time.



Self-timer indicator
(Flashes for set duration)

- To cancel while in operation: Press [MENU/SET]

■To cancel self-timer

In step 2, select [□] or [OFF]

- The self-timer is canceled if the camera is turned off as [Self Timer Auto Off] is set to [ON] at the time of purchase. (→60)
- After the self-timer indicator stops flashing, it may then be lit for AF Assist Lamp.
- This function cannot be used in the following case:
  - Recording motion pictures

Exposure Compensation

■ **Recording modes:** iA P A S M C1 C2 SCN* COL
*Not available when using [Starry Sky].

Use this function to adjust the exposure in case you prefer a brighter/darker rendition than the image initially displayed on the screen.

1 Press ▲

• Press ▲ again when focusing manually

2 Use the control ring to select a compensation value, and then press [MENU/SET]

• If the main subject is too dark: Compensate the exposure to the “+” direction
• If the main subject is too bright: Compensate the exposure to the “-” direction
• With an exposure compensation set, the compensation value (+1/3 for example) is displayed in the bottom-left corner of the screen.
• You can also press ◀▶ to set a compensation.
• You can also make settings with the control dial.

● Depending on the brightness, it may not be possible to set a compensation in some cases.
● The exposure compensation value you set is retained even after the camera is turned off.

Picture series with automatically changing exposures

■ **Recording modes:** [A] [P] [A] [S] [M] [C1] [C2] [▭] [SCN*1] [COL*2]

*1 Not available in the following modes: [Handheld Night Shot] [HDR] [Starry Sky] [3D Photo Mode]
*2 Not available in the following modes: [Toy Effect] [Miniature Effect] [Soft Focus] [Star Filter]

In this mode, 3 pictures are automatically recorded with the selected exposure steps each time the shutter button is pressed. When an Exposure Compensation is set, the exposures are based on the set Exposure Compensation value.

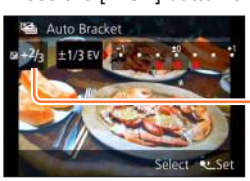
1 Press ▼

2 Use the cursor buttons to select [Auto Bracket], and then press [MENU/SET]

- The camera takes the first picture without compensation, the second with minus compensation and the third with plus compensation.

■To change the exposure steps

Press the [DISP] button and select an exposure step with ◄►



Value displayed after an exposure step is set

■To cancel [Auto Bracket]

In step 2, select [▭] or [OFF]

- This mode cannot be used with flash.
- During motion picture recording, [Auto Bracket] cannot be set.

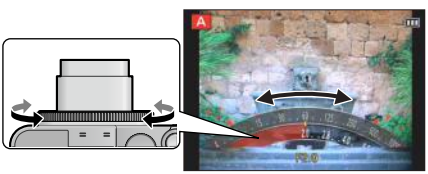
Aperture priority mode

■ **Recording modes:** A P A S M C1 C2 SCN COL

Set the aperture value to a higher number when you want a larger in-focus area (in front of and behind the main subject), to a lower number for a smaller in-focus area.

1 Set the mode dial to A

2 Turn the control ring to select the aperture value



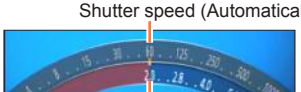
- You can also make settings with the control dial.
- When the aperture value is increased, the depth of field expands, i.e. more of the fore- and background is rendered sharply. When the aperture value is reduced, the depth of field gets smaller, i.e. less of the fore- and background is rendered sharply.

Aperture values that can be set*	Automatically controlled shutter speed range
F2.0 - F8.0	8 - 1/4000s

* You may not be able to select some values depending on the focal length the lens is set to (zoom position).

About the exposure meter

Shutter speed (Automatically controlled adjustment)



Set aperture value

- A proper exposure is not possible in the range indicated in red.

■Recording motion pictures in A

- Aperture and shutter speed are automatically set.

- When the resulting picture would be too bright or too dark, i.e. incorrectly exposed, the numbers for the aperture value and shutter speed are shown in red.
- The monitor or the viewfinder brightness may vary from the recorded picture.

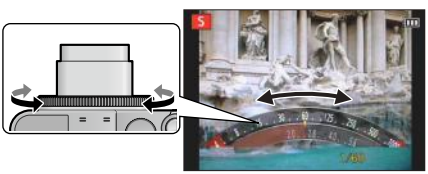
Shutter priority mode

■ **Recording modes:** A P A S M C1 C2 SCN COL

When you want to take a sharp picture of a fast moving subject, set with a faster shutter speed. When you want to create a trailing effect, set to a slower shutter speed.

1 Set the mode dial to S

2 Turn the control ring to select the shutter speed



- You can also make settings with the control dial.
- At faster shutter speeds, moving subjects are rendered sharper. At slower shutter speeds, moving subjects are rendered less sharp.

Shutter speeds that can be set	Automatically controlled aperture value range
8 - 1/4000s	F2.0 - F8.0

About the exposure meter

Set shutter speed

Aperture value (Automatically controlled)

- A proper exposure is not possible in the range indicated in red.

■Recording motion pictures in S

- Aperture and shutter speed are automatically set.

- When the resulting picture would be too bright or too dark, i.e. incorrectly exposed, the numbers for the aperture value and shutter speed are shown in red.
- The monitor or the viewfinder brightness may differ from the recorded picture.

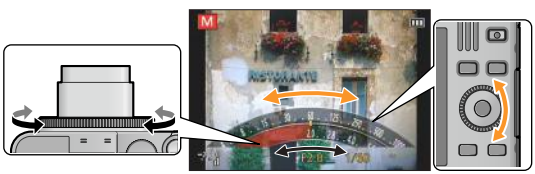
Manual exposure mode

■ **Recording modes:** A P A S M C1 C2 SCN COL

If you e. g. wish to create a specific effect based on over- or under exposure, or want to make sure a series of shots is exposed identically regardless of differing brightness, you can do so by manually setting aperture and shutter speed

1 Set the mode dial to M

2 Turn the control ring to select the aperture value, and the control dial to select the shutter speed

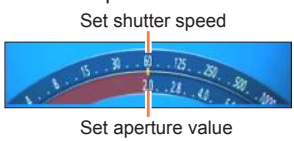


- If Manual focusing is set (→87): Press ▲ twice to allow setting the aperture value with the control dial
- If the control ring settings have been changed (→118): Press ▲ to allow setting the aperture value with the control dial

Aperture values that can be set*1	Shutter speeds that can be set*2
F2.0 - F8.0	250 - 1/4000s

*1 You may not be able to select some values depending on the focal length the lens is set to (zoom position).
*2 You may not be able to select some values depending on the set aperture value.

About the exposure meter



- A proper exposure is not possible in the range indicated in red.

■Recording motion pictures in M

- Aperture and shutter speed are automatically set.

■Light balance (approximation)

	Indicates a correct exposure.
	Indicates overexposure. For a standard exposure, use a faster shutter speed and/or increase the aperture value.
	Indicates underexposure. For a standard exposure, use a slower shutter speed and/or reduce the aperture value.

- In the case of deviations from the standard exposure, the numbers for aperture value and shutter speed are shown in red.
- The monitor or the viewfinder brightness may differ from the recorded picture.
- The shutter speed setting range changes depending on the [Sensitivity] setting.

[Sensitivity]	Shutter speed
80 - 1600	250 - 1/4000s
3200	30 - 1/4000s
6400/H.12800	8 - 1/4000s

[Creative Control] mode

■ **Recording modes:** A P A S M C1 C2 SCN COL

You can select your own settings from various effects and take pictures while confirming these effects on the monitor.

1 Set the mode dial to COL

2 Press ▲▼ to select an effect, and then [MENU/SET]

• If you press the [DISP] button, an explanation of the effect appears.

■Changing the selected picture effects

●[Creative Control] menu

①Press [MENU/SET]
②Use the cursor buttons to select [Creative Control] menu and press [MENU/SET]
③Press ▲▼ to select a setting, and then [MENU/SET]

●Control ring

①Turn the control ring to select the effect

• You can also select effects with the control dial.

■Recording motion pictures in COL

A motion picture is recorded at the optimum settings for the selected effects.
• You cannot record motion pictures with [Soft Focus] or [Star Filter].

[Creative Control] mode

- The flash is set to [⊗] ([Forced Flash Off]).
- The display of a picture reflecting a selected effect in the preview screen or recording screen may differ from the recorded pictures.
- A setting that was selected in [Creative Control] mode is retained even after the camera is turned off.
- The following [Rec] menu settings will be automatically adjusted and cannot be selected manually.
  [Sensitivity], [White Balance], [i.Exposure], [Min. Shtr Speed], [Color Mode]

■Adjusting the brightness, depth of field, of a selected effect, etc.

1 Press ▲

• Press ▲ again if Manual focusing is set

2 Press ▲▼ to select an item to adjust

Adjusts the brightness.

Adjusts depth of field.

Adjusts the setting conditions of the selected effect, etc. (The settings to be adjusted vary depending on the selected effect.)

• [AUTO] is displayed in the icon during automatic adjustment.
• The items that can be adjusted differ depending on the selected effect.

3 Turn the control ring to make adjustments

• You can also make adjustments with ◀▶ and the control dial.
• To return to automatic adjustment: Press the [Q MENU/↩] button

4 Press [MENU/SET]

- When you record motion pictures, the camera controls the aperture within the appropriate exposure range, and the depth of field may not change for some subject brightness levels.

[Creative Control] mode

For the [Creative Control] menu setting procedures. (→96)

[Expressive]

This effect creates a pop art style picture that enhances the color.

■ **Items that can be set** (→97)

Brightness	Underexposure (darker)	◄►	Overexposure (brighter)
Depth of field	Less	◄►	More
Vividness	Subdued coloring	◄►	Gaudy coloring

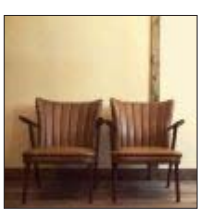
[Retro]

This effect creates the soft appearance of a tarnished picture.

■ **Items that can be set** (→97)

Brightness	Underexposure (darker)	◄►	Overexposure (brighter)
Depth of field	Less	◄►	More
Coloring	Yellowish coloring	◄►	Reddish coloring

[Old Days]



This effect adds a bright, soft and nostalgic feel to the overall image.

■ **Items that can be set** (→97)

Brightness	Underexposure (darker)	◄►	Overexposure (brighter)
Depth of field	Less	◄►	More
Contrast	Low contrast	◄►	High contrast

[Creative Control] mode

For the [Creative Control] menu setting procedures. (→96)

[High Key]

This effect creates a brighter and lighter toned appearance for the entire picture.

■ **Items that can be set** (→97)

Brightness	Underexposure (darker)	◄►	Overexposure (brighter)
Depth of field	Less	◄►	More
Coloring	Pinkish coloring	◄►	Light-bluish coloring

[Low Key]

This effect creates a darker somber appearance for the entire picture to emphasize the bright portions.

■ **Items that can be set** (→97)

Brightness	Underexposure (darker)	◄►	Overexposure (brighter)
Depth of field	Less	◄►	More
Coloring	Reddish coloring	◄►	Bluish coloring

[Sepia]

This effect creates a picture with sepia tone.

■ **Items that can be set** (→97)

Brightness	Underexposure (darker)	◄►	Overexposure (brighter)
Depth of field	Less	◄►	More
Contrast	Low contrast	◄►	High contrast

[Creative Control] mode

For the [Creative Control] menu setting procedures. (→96)

[Dynamic Monochrome]

This effect creates a monochromatic picture with a higher contrast and more dramatic atmosphere.

■ **Items that can be set** (→97)

Brightness	Underexposure (darker)	◄►	Overexposure (brighter)
Depth of field	Less	◄►	More
Contrast	Low contrast	◄►	High contrast

[Impressive Art]

An effect with strong contrast that illustrates a surreal and dramatic atmosphere.

■ **Items that can be set** (→97)

Brightness	Underexposure (darker)	◄►	Overexposure (brighter)
Depth of field	Less	◄►	More
Vividness	Black & white	◄►	Gaudy coloring

[High Dynamic]

This effect creates a picture with a well-balanced brightness for the entire picture (from dark to bright areas).

■ **Items that can be set** (→97)

Brightness	Underexposure (darker)	◄►	Overexposure (brighter)
Depth of field	Less	◄►	More
Vividness	Black & white	◄►	Gaudy coloring

[Creative Control] mode

For the [Creative Control] menu setting procedures. (→96)

[Cross Process]

This effect creates a unique atmosphere with surprising colors.

■ **Items that can be set** (→97)

Brightness	Underexposure (darker)	◄►	Overexposure (brighter)
Depth of field	Less	◄►	More
Coloring	Greenish coloring / Bluish coloring / Yellowish coloring / Reddish coloring		

[Toy Effect]

This effect creates a picture that resembles pictures taken by a toy camera with a reduced amount of peripheral light.

■ **Items that can be set** (→97)

Brightness	Underexposure (darker)	◄►	Overexposure (brighter)
Depth of field	Less	◄►	More
Coloring	Orangish color	◄►	Bluish coloring

[Creative Control] mode

For the [Creative Control] menu setting procedures. (→96)

[Miniature Effect]

This effect blurs peripheral areas to give the impression of a diorama.

■ **Items that can be set** (→97)

Brightness	Underexposure (darker)	◄►	Overexposure (brighter)
Vividness	Subdued coloring	◄►	Gaudy coloring

■Defocusing a picture

①Press the [FN] button
②Press ▲▼ or ◄► to move the focusing area (frame)
③Turn the control dial to select the size of the focusing area (frame)
④Press [MENU/SET]
- When you press the [DISP] button, the initial setting condition is restored.

- The monitor image is displayed with a slight delay compared to normal recording.
- Portrait orientation recording does not affect the blurred part. (The left and right edges will be blurred.)
- No audio is recorded for motion pictures.
- **With camera models 18 484/-487/-488/-491**
  When a motion picture is recorded, the finished recording will be approximately 1/8th of the actual recorded time period. (If you record a motion picture for 8 minutes, the resulting motion picture recording time will be approximately 1 minute.) The recordable time displayed on the camera is approx. 8x longer than actual recording. When the recording mode is changed, be sure to check the recordable time.
- **With camera models 18 485/-486/-489/-490**
  When a motion picture is recorded, the finished recording will be approximately 1/10th of the actual recorded time period. (If you record a motion picture for 10 minutes, the resulting motion picture recording time will be approximately 1 minute.) The recordable time displayed on the camera is approx. 10x longer than actual recording. When the recording mode is changed, be sure to check the recordable time.
- If you stop recording motion pictures too soon, the camera may continue recording for a certain time. Hold the camera still until the camera stops recording.
- When you take a picture using a large resolution setting, the screen will become dark for a certain period of time after the picture is taken. However, this occurs due to signal processing and is not a defect.

[Creative Control] mode

For the [Creative Control] menu setting procedures. (→96)

[Soft Focus]

This effect creates a soft appearance by intentionally blurring the entire picture.

■ **Items that can be set** (→97)

Brightness	Underexposure (darker)	◄►	Overexposure (brighter)
Depth of field	Less	◄►	More
Degree of defocusing	Slight defocusing	◄►	Strong defocusing

- The monitor image is displayed with a slight delay compared to normal recording.
- When you take a picture using a large resolution setting, the screen will become dark for a certain period of time after the picture is taken. However, this occurs due to signal processing and is not a defect.

[Star Filter]

This effect adds reflections in the shape of a cross to all small and very bright light sources.

■ **Items that can be set** (→97)

Brightness	Underexposure (darker)	◄►	Overexposure (brighter)
Depth of field	Less	◄►	More
Length of the rays of light	Rays of light is short	◄►	Rays of light is long

- The monitor image is displayed with a slight delay compared to normal recording.
- When you take a picture using a large resolution setting, the screen will become dark for a certain period of time after the picture is taken. However, this occurs due to signal processing and is not a defect.

[Creative Control] mode

For the [Creative Control] menu setting procedures. (→96)

[One Point Color]

This picture effect creates a monochromatic picture by retaining the color you selected only, and adds memorable emphasis to it.

■ **Items that can be set** (→97)

Brightness	Underexposure (darker)	◄►	Overexposure (brighter)
Depth of field	Less	◄►	More
Area of retained color	Smaller	◄►	Larger

■ **Selecting color**

①Press the [FN] button
②Select the color to be retained using the frame in the center of the screen and press [MENU/SET]

● The selected color may not be retained for some subjects.

[Panorama Shot] mode

■ **Recording modes:** A P A S M C1 C2 SCN COL

You can easily record a panorama picture by panning the camera in the direction you want, while the camera automatically combines the pictures series taken during that time.
• The recording direction is set as “left → right” at the time of purchase.

■Tips

• Pan the camera in the recording direction as steadily as possible. If the camera shakes too much, it may not be able to take pictures or may end up creating a narrower (small) panorama picture.

Pan the camera to a point slightly ahead of the point that you want to take.
(However, the last frame is not recorded to the end.)

1 Set the mode dial to [▭]

2 Check the recording direction, and then press [MENU/SET]

If you take pictures “left → right” or “right → left”, a horizontal guide is displayed. If you take pictures “up → down” or “down → up”, a vertical guide is displayed.

• Changing picture effects

①Turn the control ring or the control dial to select a picture effect

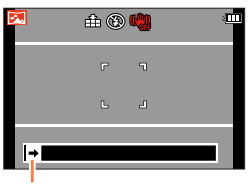
• For more details about picture effects. (→98 - 104)
• If you do not want to add picture effects, please select [No Effect].
• You cannot select [Toy Effect] or [Miniature Effect].
• You can adjust the brightness and setting condition of the selected effect.
For details. (→97)
• If the control ring settings have been changed. (→106)

3 Press the shutter button halfway to focus

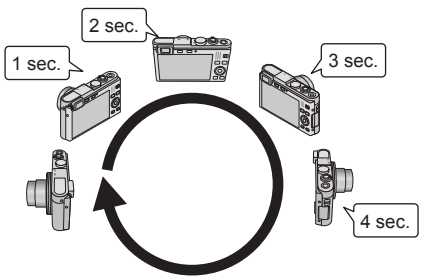
(Continued on the next page)

4 Press the shutter button fully and pan the camera in a small circular motion in the selected direction to start recording

• Taking pictures from left to right



Recording direction and progress status (approximation)



• Pan the camera so that you make a complete circle in approx. 8 seconds
- Pan the camera at a constant speed.
- You may not be able to take pictures successfully if you move the camera too quickly or too slowly.
- Pan the camera in a small circular motion.

5 Press the shutter button fully again to end recording

• You can also end recording if you stop panning the camera while taking pictures.

■Changing the recording direction or picture effects

① Press ▶
② Use the cursor buttons to select the recording direction to change
③ Press [MENU/SET]
④ Use the cursor buttons to select the picture effect and press [MENU/SET]

[Panorama Shot] mode

- The lens is fixed to its shortest focal length/the utmost W-position.
- The focus, exposure and White Balance are all fixed to optimal values for the first picture.
  If the focusing or brightness of pictures recorded as part of a panorama picture after the first picture are significantly different from those of the first one, the panorama picture as a whole (when all pictures are stitched together) may not have consistent focus and brightness.
- The following functions are fixed to the settings indicated below.
  [Stabilizer]: [OFF] [Date Stamp]: [OFF]
- [White Balance] cannot be set when applying picture effects.
- Since several pictures are stitched together to create a panorama picture, some subjects may be distorted or the joining sections of successively taken pictures that are stitched may be noticeable.
- The resolution per horizontal line and vertical line of a panorama picture varies depending on the recording direction and number of stitched pictures.
  The maximum resolution is as follows:
  - Taking pictures in landscape orientation: Approx. 8000 x 1080 pixels
  - Taking pictures in portrait orientation: Approx. 1440 x 8000 pixels
- Panorama pictures may not be created or pictures may not be recorded properly in the case of the following subjects or in the following recording conditions:
  - Subjects that have totally monotone areas or a pattern (sky, beach, etc.)
  - Moving subjects (persons, animals, vehicles, waves, or flowers swaying in the wind, etc.)
  - Subjects whose colors or patterns change quickly (such as an image appearing on a display)
  - Dark locations
  - Locations with a flickering light source (fluorescent lamp, candle light, etc.)
- When set to [High Key], the effect may be difficult to see, depending on the brightness of the subject.
- When set to [Impressive Art], stitches may stand out.
- While recording with [Soft Focus] [Star Filter], you cannot see the effects on the monitor or the viewfinder.
- The settings will be stored when the camera is turned off.

■About panorama playback

Panorama pictures can be enlarged by operating the zoom lever the same way as with other still pictures. If you play back panorama pictures in the same way as playing back a motion picture, the panorama pictures are scrolled automatically. (→48)

- Unlike motion picture playback, you cannot perform fast forward or fast rewind while the panorama pictures are scrolling automatically. (You can perform single-frame forward or rewind while the automatic scrolling operation is paused.)

[Scene Mode]

■ **Recording modes:** A P A S M C1 C2 SCN COL

Using [Scene Mode] enables you to take pictures with optimum settings (exposure, coloring, etc.) for given scenes.

1 Set the mode dial to SCN

2 Use the cursor buttons to select the type of scene, and then press [MENU/SET]

■Changing the selected scene mode

①Press [MENU/SET]
②Use the cursor buttons to select [Scene Mode] menu and press [MENU/SET]
③Use the cursor buttons to select the type of scene and press [MENU/SET]

■Recording motion pictures in SCN

For recording a motion picture at the optimum settings for the selected scene.
- Motion pictures cannot be recorded in [3D Photo Mode].
- Some scene modes are switched to the following scene modes:

Selected scene mode	Scene modes for motion picture
[Baby]	Portrait motion picture
[Night Portrait], [Night Scenery], [Handheld Night Shot], [Starry Sky]	Low light motion picture
[Sports], [HDR], [Pet]	Normal motion picture

- Selecting a Scene mode inappropriate for the actual scene may affect the coloring of your picture.
- The following [Rec] menu settings will be automatically adjusted and cannot be selected manually.
  [Sensitivity], [Metering Mode], [i.Exposure], [Min. Shtr Speed], [i.Resolution], [Color Mode]

[Scene Mode]

• How to select a scene (→108)

[Portrait]

Improves the skin tone of subjects for a healthier appearance in bright daylight conditions.

■Tips

• The longer the set focal length, i.e. the zoom lens is set to the T limit and a distant background is selected, the greater the effect will be.

[Soft Skin]

Smoothes skin colors in bright, outdoor daylight conditions (portraits from chest upwards).

■Tips

• The longer the set focal length, i.e. the zoom lens is set to the T limit and a distant background is selected, the greater the effect will be.

[Scenery]

Takes clear pictures of wide, distant subjects.

[Scene Mode]

• How to select a scene (→108)

[Sports]

Takes pictures of scenes with fast movement, e.g. sports.

■Tips

• Stand at least 5m (16 feet) away.

● The shutter speed may slow down to 1 second.

[Night Portrait]

Takes pictures of people and nightscapes with close to actual brightness.

■Tips

• Use flash.
• The subject should not move.
• Using a tripod and/or the self-timer is recommended.

● The shutter speed may slow down to 8 seconds.
● After recording, the shutter may stay closed (up to 8 seconds) to process the file. This is not a malfunction.

[Night Scenery]

Takes clear pictures of night scenes.

■Tips

• Using a tripod and/or the self-timer is recommended.

● The shutter speed may slow down to 8 seconds.
● After recording, the shutter may stay closed (up to 8 seconds) to process the file. This is not a malfunction.

[Scene Mode]

• How to select a scene (→108)

[Handheld Night Shot]

For creating less blurry still pictures of night scenes with less noise by combining a series of still pictures.

■Tips

• After the shutter button has been pressed, do not move the camera during the exposure series.
• Stand at least 5m (16 feet) away.

●Since a series of still pictures are combined after they have been recorded, it will take a few moments before you will be able to take another picture.

[HDR]

The camera can combine several still pictures taken with different exposures into a single picture with rich gradation. The individual pictures used to create the HDR picture are not saved. You can minimize the loss of gradations in bright and dark areas when, for example, the contrast between background and subject is large.

■What is HDR?

HDR stands for High Dynamic Range and refers to a technique for creating a wide contrast range.

■Tips

• After the shutter button has been pressed, do not move the camera during the exposure series.

●Since a series of still pictures are combined after they have been recorded, it will take a few moments before you will be able to take another picture.
●A subject that was in motion when it was captured may be recorded as an afterimage.
●The camera may take a single still picture instead of several pictures under certain recording conditions.

[Food]

Takes natural-looking pictures of food.

[Scene Mode]

• How to select a scene (→108)

[Baby]

This takes pictures of children with a healthy complexion. When you use the flash, the light from it is weaker than usual.

■To record age and name

[Baby1] and [Baby2] can be set separately.

1 **Use the cursor buttons to select [Age] or [Name], and then press [MENU/SET]**

2 **Select [SET] with the cursor buttons, and then press [MENU/SET]**

3 **Set the birthday and name**

Age: Set the birthday with the cursor buttons, and press [MENU/SET]
Name: (See “Entering Text”: (→65))

4 **Use the cursor buttons to select [Exit], and then press [MENU/SET]**

■Tips

• Make sure [Age] and [Name] are [ON] before taking a picture.

- The age display format depends on [Language] setting.
- The shutter speed may slow down to 1 second.
- Text may also be stamped onto the still picture using [Text Stamp].

[Pet]

For recording an animals’ age and name when taking pictures.
• Refer to [Baby] for other tips etc.

[Sunset]

For taking sharp pictures of scenes such as sunsets.

[Scene Mode]

• How to select a scene (→108)

[Starry Sky]

Gives starry skies and dark subjects a clear appearance.

1 Use the cursor buttons to select the shutter speed, and then press [MENU/SET]

■ **Settings: [15 sec.] / [30 sec.] / [60 sec.]**

■ **Tips**

• Using a tripod and/or the self-timer is recommended.

- Do not move the camera until the countdown is finished. After taking the picture, the countdown is displayed again while the file is processed.
- [Stabilizer] mode does not work.

[Through window]

The camera prioritizes focusing on distant subjects. Suitable for taking pictures such as a landscapes through windows of a train/vehicle or building.

- If there are stains such as dust or a reflection on the window, the camera may focus on it instead of a subject.
- The color of pictures may appear unnatural due to the color of the window. (You may be able to reproduce the appropriate color by adjusting the White Balance.)

[Scene Mode]

• How to select a scene (→108)

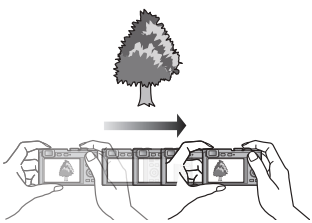
[3D Photo Mode]

Pictures are recorded continuously while moving the camera horizontally, and two pictures selected automatically are combined to make a single 3D picture.
To view 3D pictures, a television that supports 3D is required (This camera will play back in 2D). (→205)

• 3D still pictures are recorded in the MPO format (3D).
• The resolution is fixed to 2M 16:9.

1 Start the recording and then pan the camera horizontally straight from left to right

• A guide is displayed while recording.
• Move the camera approximately 10cm (4″) within approximately 4 seconds using the guide.



Tips for 3D pictures

• Stationary subjects should be preferred.
• Bright locations or outdoor situations should be preferred.
• Press the shutter button halfway to fix focus and exposure, press it fully, and then pan the camera.
• Hold the camera so that the subject is slightly to the right of the center on the screen at the start of the recording. This makes it easier to position the subject in the center of the recorded picture.

- **3D still pictures cannot be recorded when holding the camera vertically.**
- The zoom lens is fixed to the shortest focal length /the utmost W-position.
- The ISO sensitivity is automatically adjusted. However, it is increased to make the shutter speed faster.
- Motion pictures cannot be recorded.
- [Stabilizer] mode does not work.
- When any of the recording conditions listed below exist, it may be impossible to record any images at all. Or there may be no 3D effect, or the image may be distorted even if a picture is recorded.
  - When the subject is too dark or too bright
  - When the subject's brightness changes
  - When the subject is moving
  - When the subject lacks contrast

Registering your own settings in [Custom] mode

Registering your preferred recording mode, [Rec] menu settings, etc. to [Cust.Set Mem.] and setting the mode dial to C1 / C2 allows you to switch quickly to those settings.

[Cust.Set Mem.]

■ **Recording modes:** A P A S M C1 C2 SCN COL

Up to 4 current camera settings can be registered.

1 Select the recording mode you wish to register and set the [Rec] menu, [Motion Picture] menu, [Setup] menu, etc.

2 Select [Cust.Set Mem.] from the [Setup] menu

- For the setting procedures of the menu. (→52)

3 Use the cursor buttons to select custom set for registration, and then press [MENU/SET]

- A confirmation screen is displayed. Select [Yes] with the cursor buttons and then press [MENU/SET].
- The custom settings registered in [C1] can be used with the C1 of the mode dial. It is convenient if the custom setting used often is registered, since it can be used by just setting the mode dial.
- The custom settings registered in [C2-1], [C2-2] or [C2-3] can be selected in the C2 of the mode dial. Up to 3 custom settings can be registered, so select the one matching the needs.

● Some menu items are not saved, such as [Clock Set] and [Beep].

[Custom]

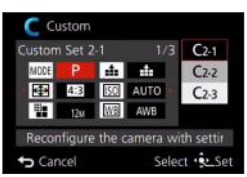
■ **Recording modes:** A P A S M C1 C2 SCN COL

Settings registered in [Cust.Set Mem.] can be quickly called up by setting the mode dial to C1 / C2.

1 Set the mode dial to C1 / C2 ([Custom] mode)

- When set to C1
  → The camera switches to the recording mode and settings registered in C1.
- When set to C2
  → Perform steps 2 - 3

2 Use the cursor buttons to select custom set



- Use ◀ and ▶ to confirm the registered settings.
- Only the main menu items are displayed.

3 Press [MENU/SET] to enter the settings

The camera switches to the recording mode and settings of the selected custom set.

■When changing the menu settings

Even if the menu settings are changed temporarily when [C1], [C2-1], [C2-2] or [C2-3] is selected for using the custom set, the currently registered settings will remain unchanged.
To change the currently registered settings, overwrite the registered data using [Cust. Set Mem.] (→115) in the [Setup] menu.

■Changing from one C2 custom setting to another C2 custom setting ([Custom] menu)

①Press [MENU/SET]
②Select the [Custom] menu and press [MENU/SET]
③Use ▲▼ to select custom set and press [MENU/SET]

■Recording motion pictures in C1 / C2

Records motion pictures in the registered recording mode.

Registering preferred functions to the [FN] button

■ **Recording modes:** A P A S M C1 C2 SCN COL

For registering frequently used functions from the [Rec], [Setup] or other menus to the [FN] button for faster operation.
• [Composition Guide] is the function set at the time of purchase.

■How to register

1 Select [Fn Button Set] from the [Setup] menu, and then press [MENU/SET] (→52)

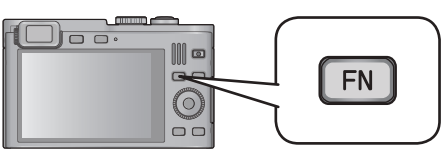
2 Use the cursor buttons to select the function to register, and then press [MENU/SET]

●Functions that can be registered

[Focus Area Set] (→85)	[Quality] (→129)
[Composition Guide] (→68)	[Histogram] (→57)
[AF/AE Lock] (→86)	[1 Shot AF] (→87)
[Metering Mode] (→134)	[AF Mode] (→81)

■Using registered functions

1 Press the [FN] button



• The registered function is called up.

●The [Fn Button Set] does not function in the following cases.
• [Creative Control] mode ([Miniature Effect], [One Point Color])

Changing the settings assigned to the control ring

■ **Recording modes:** A P A S M C1 C2 SCN COL

For changing the settings assigned to the control ring.

1 **Select [Control Ring Set] from the [Setup] menu, and then press [MENU/SET]** (→52)

2 **Use the cursor buttons to select the setting to change, and then press [MENU/SET]**

- Settings that can be assigned
  - [Step Zoom] (→74)
  - [Exposure Comp.] (→90)
  - [Aspect Ratio] (→128)
  - [Sensitivity] (→130)
  - [White Balance] (→131)

- To return to the default setting, select [Default Control] from [Control Ring Set].
- The changed setting may not work depending on the recording mode.
- The control ring cannot be used to for manual focusing if its settings have been changed.
- For [Snapshot Mode], the setting is fixed to [Step Zoom].

Exposure series function

■ **Recording modes:** [A] [P] [A] [S] [M] [C1] [C2] [SCN]*1 [COL]*2

*1 Not available in the following modes: [Handheld Night Shot] [HDR] [Starry Sky] [3D Photo Mode]
*2 Not available in the following modes: [Toy Effect] [Miniature Effect] [Soft Focus] [Star Filter]

A series pictures is recorded when the shutter button is pressed fully. This allows you to capture moving subjects in sequences and/or to select the most favorable picture.

1 Press ▼

2 Use the cursor buttons to select [Burst], and then press [MENU/SET]

• To change the setting: Press the [DISP] button and select a setting with ▲▼

Setting	Speed	Description	No. of pictures*4
*3	Approx. 2 - 10 pictures/sec.	• The frame rate is adjusted automatically in accordance with the movements of people, animals or other subjects. ([Intelligent Burst mode]) • When a fast-moving subject is recorded, the frame rate becomes faster and the number of pictures that can be recorded in a series is restricted to about 10.	100
2 AF 2	Approx. 2 pictures/sec.	• The subject is brought into focus as far as this is allowed by the frame rate (excluding [MF]). However, when the function is operating during motion picture recording, the focus is fixed to the first picture. • The pictures are taken with the exposure and White Balance continually being adjusted. • The frame rate may be reduced under certain recording conditions.	100
5 AF 5	Approx. 5 pictures/sec.		

*3 [Snapshot Mode] only
*4 The number of pictures is limited by the picture-taking conditions and the type and/or status of the memory card used.

(Continued on the next page)

Exposure series function

Setting	Speed	Description	No. of pictures*1
10	Approx. 10 pictures/sec.	• Focus, exposure and White Balance are fixed in the first picture.	12
40 *2	40 pictures/sec.	• Focus, exposure and White Balance are fixed in the first picture. • The resolution setting may be reduced.	40
60 *2	60 pictures/sec.	• Focus, exposure and White Balance are fixed in the first picture. • The recordable range is reduced. • The resolution setting may be reduced.	60
*3	Complies with recording conditions	• An exposure series can be recorded even in low light conditions with flash. ([Flash Burst]) • Focus, exposure, and flash level are all fixed to the settings for the first picture.	5

*1 The number of pictures is limited by the picture-taking conditions and the type and/or status of the memory card used.
*2 When [Quality] is set to [RAW], [RAW] or [RAW], pictures are not recorded.
*3 Only in [Program AE], [Aperture-Priority] and [Shutter-Priority] modes

■Note on the resolution setting

[Aspect Ratio]	40	60
4:3	5M, 3M, 0.3M	2.5M, 0.3M
3:2	4.5M, 2.5M, 0.3M	3M, 0.3M
16:9	3.5M, 2M, 0.2M	3.5M, 0.2M
1:1	3.5M, 2.5M, 0.2M	2M, 0.2M

■To cancel the exposure series mode

In step 2, select [▭] or [OFF]

Exposure series function

- Pictures taken with the 40 or 60 setting are recorded together as a group (picture group). (→143)
- Depending on changes in the brightness of the subject, the second and subsequent pictures may be recorded brighter or darker when using the exposure series function at the 10, 40, 60 or flash setting.
- The frame rate may be reduced if shutter speed is reduced in darker locations.
- The pictures taken using the exposure series mode at the 40 or 60 setting may be distorted if the subjects were moving or the camera was moved.
- The flash is set to [Forced Flash Off]. (Excluding [Flash Burst])
- Settings will be stored even if the camera is turned off.
- When [Snapshot Mode] is set or Scene mode is set to [Night Portrait] or [Night Scenery], 40 and 60 cannot be selected.
- It may take a while to store the pictures that were taken using the exposure series mode. If you continue to record while storing, the number of pictures that can be taken will be reduced. A high-speed memory card is recommended when recording using the exposure series mode.
- You cannot change the focal length (zoom) during serial exposures.

Using the Face Recognition function

■ **Recording modes:** [A] [P] [A] [S] [M] [C1] [C2] [SCN]*1 [COL]*2

*1 Not available in the following modes: [Night Scenery] [Handheld Night Shot] [Food] [Starry Sky] [3D Photo Mode]

*2 Not available in the following modes: [Miniature Effect] [Soft Focus]

- The default [Face Recog.] setting is [OFF].
- When face pictures are registered, the setting will be [ON] automatically.

■How the Face Recognition function works

During recording

- The camera recognizes a registered face and adjusts focus and exposure.
- When registered faces that have set names are recognized, the names are displayed (up to 3 persons).

During playback

- The name and age are displayed (if this information is registered).
- The names that have been set for the recognized faces are displayed (up to 3 persons).
- Only pictures of the selected registered persons are played back ([Category Selection] in [Filtering Play] or [Slide Show]).

■Recording tips when registering face pictures

- Make sure the person's eyes are open and mouth closed; have the person face the camera directly, and make sure the outline of the face, the eyes and eyebrows are not hidden by hair.
- Make sure there are no heavy shadows on the face. (During registration, the flash is not used.)

■If the camera seems to have difficulty recognizing faces when recording

- Register additional pictures of the same person's face, indoors and outdoors or with different expressions or angles.
- Register additional pictures at the place you are recording.
- If a registered person is no longer recognized, re-register that person.

- Face Recognition searches for faces similar to those registered, but there is no guarantee it will always recognize these faces. In some cases, the camera cannot recognize or incorrectly recognizes even registered people depending on their expression or the environment.
- **Even if Face Recognition information is changed, the Face Recognition information for previously recorded pictures is not changed.**
  For example, if a name is changed, pictures recorded before the change are not categorized for Face Recognition in [Category Selection].
- During an exposure series, recording information relating to Face Recognition is only added to the first picture.
- If you press the shutter button halfway, then point the camera at a different person and record, recording information for a different person may be added to the picture.
- Face recognition does not work during motion picture recording.
- Even if Face Recognition information is registered, pictures recorded when the name is [OFF] are not categorized for Face Recognition in [Category Selection].
- To change name information for pictures already recorded, perform a [REPLACE] (→168) in [Face Rec Edit].

Registering face pictures

Up to 6 person's face pictures can be registered along with such information as name and date of birth.
You can facilitate Face Recognition by the way you register faces: for example, register multiple face pictures of the same person (up to 3 pictures in one registration).

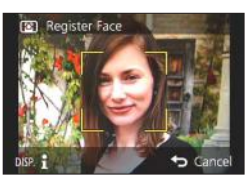
1 Select [Face Recog.] from the [Rec] menu (→52)

2 Select [MEMORY] with the cursor buttons, and then press [MENU/SET]

3 Select [New] with the cursor buttons, and then press [MENU/SET]

- If 6 persons are already registered, first delete a registered person. (→125)

4 Take the face picture



① Align the face with the guide and shoot
② Select [Yes] with the cursor buttons, and then press [MENU/SET]
- If re-recording, select [No]

- Faces of subjects other than persons (e.g. animals) cannot be registered.
- When the [DISP] button is pressed, an explanation is displayed.

5 Press ▲▼ to select the item for editing, and then [MENU/SET]

[Name]	① Select [SET] with the cursor buttons, and then press [MENU/SET] ② Enter the name (See "Entering Text": (→65))
[Age]	Set the birth date. ① Select [SET] with the cursor buttons, and then press [MENU/SET] ② Use ◀▶ to select year, month and day, set with ▲▼, and press [MENU/SET]
[Focus Icon]	Change the icon that is displayed when the person is in focus. ① Select the focus icon with the cursor buttons, and then press [MENU/SET]
[Add Images]	Up to 3 face pictures of the person can be registered. ① Use the cursor buttons to select [Add Images], and then press [MENU/SET] • When a registered face picture is selected with the cursor buttons, a screen to confirm deletion is displayed. Select [Yes] to delete the face picture (If only one picture is registered, it cannot be deleted.) ② Record the picture (Step 4 above) ③ Press the [Q MENU/↩] button

Editing or deleting information about registered persons

Information about registered faces can be edited or deleted.

1 Select [Face Recog.] from the [Rec] menu (→52)

2 Select [MEMORY] with the cursor buttons, and then press [MENU/SET]

3 Use the cursor buttons to select the picture of the person to be edited or deleted, and then press [MENU/SET]

4 Use the cursor buttons to select the item, and then press [MENU/SET]

[Info Edit]	For editing a name or other registered information. (→124)
[Priority]	For setting the priority order for focus and exposure. ① Select the registration order with the cursor buttons, and then press [MENU/SET]
[Delete]	For deleting information and face pictures of registered persons.

Useful features for travel

[Travel Date]

If you set your travel schedule and record pictures, the day of your trip on which the picture was taken will be recorded.

1 Select [Travel Date] from the [Setup] menu (→52)

2 Use the cursor buttons to select [Travel Setup], and then press [MENU/SET]

3 Use the cursor buttons to select [SET], and then press [MENU/SET]

4 Use the cursor buttons to select the departure date, and then press [MENU/SET]

5 Use the cursor buttons to select the return date, and then press [MENU/SET]

■To record [Location]

Once the [Travel Setup] is set, you can set the location.
①Select [Location] in step 2 above
②Use the cursor buttons to select [SET], and then press [MENU/SET]
③Enter your location (Entering text (→65))

- The travel date is calculated from the set departure date and the date set in the camera's clock. When the destination is set in [World Time], the elapsed days are calculated based on local destination time.
- When [Travel Setup] is set to [OFF], the number of elapsed days is not recorded. It is not displayed even if [Travel Setup] is set to [SET] after recording.
- If settings are made before departure date, the number of days to departure are not recorded.
- To print [Location] or the number of days that have passed, use [Text Stamp].
- [Travel Date] cannot be recorded for AVCHD motion pictures.
- [Location] cannot be recorded for MP4 motion pictures.
- This mode is not available when using [Snapshot Mode]. The settings in other recording modes are applied.

[World Time]

For setting the recording date and time with the local time at your destination.

1 Select [World Time] from the [Setup] menu (→52)

- A message will be displayed when setting for the first time. In this case, press [MENU/SET] and skip to step 3.

2 Use the cursor buttons to select [Destination], and then press [MENU/SET]

3 Use the cursor buttons to select area, and then press [MENU/SET]

■To set daylight savings

Press ▲ in step 3. (Press again to release the setting)

- When daylight savings is set, the current time is advanced by 1 hour. If the setting is canceled, the time automatically returns to the current time.

■When you come back from your travel destination

Select [Home] and press [MENU/SET] twice in step 2.

- If you cannot find your destination in the area displayed on the screen, set it based on the difference to your home time.
- ✈ is displayed on the screen for pictures recorded at the destination when they are played back.

Using the [Rec] menu

You can perform settings such as color rendition, Sensitivity, Aspect Ratio, and resolution.

• For the setting procedures of the menu. (→52)

[Aspect Ratio]

■ **Recording modes:** A P A S M C1 C2 SCN*1 COL

*1 Not available when using [3D Photo Mode].

For setting the aspect ratio of pictures.

■ **Settings:** 4:3 / 3:2 / 16:9 / 1:1

● Picture edges may be cut off when printing – be sure to check in advance.

[Picture Size]

■ **Recording modes:** A P A S M C1 C2 SCN*2 COL

*2 Not available when using [3D Photo Mode].

Set the resolution (number of pixels) of pictures. The number of pictures which can be recorded depends on this setting and on [Quality].

■ **Settings**

[Aspect Ratio]	4:3	3:2	16:9	1:1
Resolution	12M	10.5M	9M	9M
	4000×3000	4000×2672	4000×2248	2992×2992
	8M EZ*3	7M EZ*3	6M EZ*3	6M EZ*3
	3264×2448	3264×2176	3264×1840	2448×2448
	5M EZ	4.5M EZ*3	3.5M EZ*3	3.5M EZ*3
	2560×1920	2560×1712	2560×1440	1920×1920
	3M EZ*3	2.5M EZ*3	2M EZ*3	2.5M EZ*3
	2048×1536	2048×1360	1920×1080	1536×1536
	0.3M EZ	0.3M EZ*3	0.2M EZ*3	0.2M EZ*3
	640×480	640×424	640×360	480×480

*3 This setting is not available in A ([Snapshot Mode]).

● A mosaic effect may appear depending on subject and recording conditions.
● [Picture Size] is not available when [Quality] is set to [RAW].

Setting guide

Higher resolution ◄►	Lower resolution
Sharper	Less detailed
Lower recording capacity	Higher recording capacity

• For the setting procedures of the menu. (→52)

[Quality]

■ **Recording modes:** A P A S M C1 C2 SCN COL

This function allows you to select the file format, e. g. JPEG and/or RAW, and in the case of JPEG, the compression rate. [RAW] is especially suited for the subsequent comprehensive editing of the image data using respective software such as Adobe® Photoshop® Lightroom®, which is available after registering your camera on the Leica Camera AG homepage (→209). The JPEG setting [Fine] delivers higher image quality than [Standard] due to its lower compression rate, while the latter has the advantage of smaller files.

■ **Settings**

[Fine]	Gives priority to picture quality by saving pictures in JPEG file format with a low compression rate.
[Standard]	Gives priority to file size by saving pictures in JPEG file format using a standard compression rate.
RAW [RAW+Fine]	Saves pictures in JPEG and RAW file format.*1
RAW [RAW+Standard]	
RAW [RAW]	Saves pictures in the RAW file format only.*2
3D [3D+Fine]	Simultaneously saves 3D picture data (MPO) and pictures in JPEG file format. (Only when [3D Photo Mode] Scene mode is set.)
3D [3D+Standard]	

*1 If you delete a RAW file from the camera, the corresponding JPEG file is also deleted.
*2 You cannot set the resolution. (The pictures are saved using the maximum recordable resolution for each aspect ratio.)

■About the RAW format

You can perform comprehensive editing of RAW pictures using the available software available as download after registering your camera at the Leica Camera AG homepage (→209).
(The edited pictures can be saved in a file format such as JPEG that can be displayed on your computer.)

• For the setting procedures of the menu. (→52)

[Sensitivity]

■ **Recording modes:** A P A S*1 M*2 C1 C2 SCN COL

*1 [ISO] cannot be set.

*2 [AUTO] and [ISO] cannot be set.

For setting the ISO sensitivity (sensitivity to light) manually.
We recommend higher settings to take sharp, i.e. unblurred pictures in darker locations.

■ **Settings: [AUTO] / ISO / [80] / [100] / [200] / [400] / [800] / [1600] / [3200] / [6400] / [H.12800]*3**

Setting guide

[Sensitivity]	[80] ◄►	[H.12800]*3
Location (recommended)	Bright (outdoors)	Dark
Shutter speed	Slow	Fast
Interference	Low	High
Subject blur	High	Low

- [AUTO] is automatically set in a range up to 1600 based on subject brightness.
- ISO is automatically set in a range up to 1600 based on subject movement and brightness.
- The [Sensitivity] is automatically set in the following cases:
  - When recording motion pictures
  - [Panorama Shot] mode
  - Scene modes
  - When [Burst] is set to
- The shutter speed is restricted as follows based on the [Sensitivity] setting.

[Sensitivity]	Shutter speed
AUTO / ISO	Automatically changes depending on the [Sensitivity] setting.
80 - 1600	250 - 1/4000s
2000 - 3200	30 - 1/4000s
4000 - 12800*3	8 - 1/4000s

*3 Only when [Extended ISO] is [ON].

• For the setting procedures of the menu. (→52)

[Extended ISO]

■ **Recording modes:** A P A S M C1 C2 SCN COL

For extending the [Sensitivity] setting to [H.12800].

■ **Settings: [ON] / [OFF]**

[White Balance]

■ **Recording modes:** A P A S M C1 C2 SCN COL

For setting the color depending on the light source to ensure the desired color rendition.

■ **Settings**

AWB (automatic)	Automatic adjustment in accordance with the light source.
(clear sky)	Matched to the colors under a clear sky.
(cloudy sky)	Matched to the colors under a cloudy sky.
(shade)	Matched to the colors in the shade.
(Incandescent lighting)	Matched to the colors under incandescent lights.
(set mode)	For setting a metered white balance value.
SET **(set mode settings)**	For setting a white balance value manually.

- When [AWB] (Automatic White Balance) is set, the color rendition is adjusted in accordance with the light source. However, if the scene is too bright or too dark or if other extreme conditions apply, the pictures may appear reddish or bluish. The White Balance may not operate correctly if there are several different light sources.
- Under fluorescent lighting, LED lighting fixtures etc., the appropriate White Balance will vary depending on the lighting type, so use [AWB] or SET.
- The [White Balance] setting is fixed to [AWB] in the following cases:
  - Scene modes ([Scenery], [Night Portrait], [Night Scenery], [Handheld Night Shot], [Food], [Sunset], [Starry Sky])
  - Except when the [Panorama Shot] mode effect is [No Effect]
- Even if the camera is turned off, the set White Balance is remembered. (If the Scene mode is changed, the white balance setting returns to [AWB] automatically.)

■ **White Balance fine adjustment (excluding [AWB])**

White Balance settings can be individually fine-tuned if colors still do not appear as desired.

①Select the white balance to be fine-tuned, and press the [DISP] button to display the [WB Adjust.] screen

②Adjust with ▶ if red is strong, with ◀ if blue is strong

③Press [MENU/SET]

- Settings are remembered even if the camera is turned off.
- Settings remain applied when using flash.
- Fine adjustments cannot be made when [Color Mode] (→136) is set to [B&W] or [SEPIA].

■ **Manual setting of a metered White Balance value (SET)**

For setting a white balance manually based on a metered value.

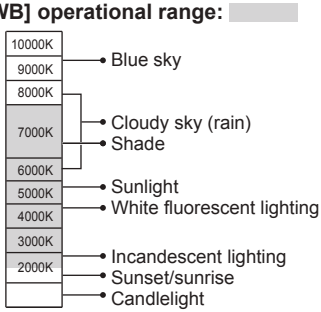
①Select SET and press [MENU/SET]

②Aim the camera at a neutrally-colored, i.e. white or gray object and press [MENU/SET]

White Balance is set to .

- Even if the camera is turned off, the set White Balance is remembered.
- It may not be possible to set the correct White Balance if subjects are too bright or too dark. In this case, adjust the brightness and try to set the White Balance again.

■ **[AWB] operational range:**



K=Color temperature in degrees Kelvin

Using the [Rec] menu

• For the setting procedures of the menu. (→52)

[AF Mode]

■ **Recording modes:** A P A S M C1 C2 SCN COL

For details (→81).

[Quick AF]

■ **Recording modes:** A P A S M C1 C2 SCN* COL

*The following modes are fixed to [OFF]: [Night Portrait] [Night Scenery] [Handheld Night Shot] [Starry Sky]

The focus is automatically adjusted when camera blurring is low even when the shutter button is not pressed. (Increases battery consumption)

■ **Settings: [ON] / [OFF]**

- Focusing may take slightly longer than usual when simultaneously changing the lens' focal length/zooming or when changing the distance to the subject.
- Press the shutter button halfway if focusing is difficult.
- [Quick AF] will not work while AF Tracking is operating.

[Face Recog.]

■ **Recording modes:** A P A S M C1 C2 SCN COL

For details (→122).

[AF/AE Lock]

■ **Recording modes:** A P A S M C1 C2 SCN COL

For details (→86).

• For the setting procedures of the menu. (→52)

[Metering Mode]

■ **Recording modes:** A P A S M C1 C2 SCN COL

This function allows adapting the metering mode to different subjects and situations.

■ **Settings**

[Metering Mode]	Metering characteristics	Conditions
[Multi Metering]	The brightness is detected in different sections of the frame. The exposure is then based on the probable main subject	Normal usage (high probability of automatically correctly exposed main subjects even with greater brightness differences)
[Center Weighted]	The metering sensitivity is concentrated on the center while also registering the rest of the frame	Use when subject is in the center, or to deliberately base the exposure on an off-center subject (provided, subject is of medium brightness)
[Spot]	Only a small area in the center is registered	Use to base the exposure on very small subject parts (provided, these parts are of medium brightness)

[i.Exposure]

■ **Recording modes:** A P A S M C1 C2 SCN COL

Automatically adjusts contrast and exposure to give more lifelike colors when there is significant contrast between the main subject and the background.

• When [i.Exposure] works, the color of ¡◑ changes.

■ **Settings: [ON] / [OFF]**

● Even if [Sensitivity] is set to [80] or [100], when [i.Exposure] is activated, pictures may be taken at a higher ISO Sensitivity than the setting.

• For the setting procedures of the menu. (→52)

[Min. Shtr Speed]

■ **Recording modes:** A P A S M C1 C2 SCN COL

For setting the minimum shutter speed. Slower shutter speeds can be employed to achieve brighter pictures in dark locations, provided the increased danger of camera shake is considered.

■ **Settings: [AUTO] [1/250] [1/125] [1/60] [1/30] [1/15] [1/8] [1/4] [1/2] [1]**

- Since slower shutter speeds increase the risk of camera shake, we recommend using a tripod and/or the self-timer.
- As pictures may become dark when using faster shutter speeds such as [1/250], we recommend to prefer bright locations in such cases (MIN flashes red when the shutter button is pressed halfway if the picture may be underexposed).
- MIN is displayed on the screen for settings other than [AUTO].

[i.Resolution]

■ **Recording modes:** A P A S M C1 C2 SCN COL

You can use the camera's Intelligent Resolution technology to record still pictures with sharper outlines and clearer resolution.

■ **Settings: [ON] / [i.ZOOM] / [OFF]**

- About [i.ZOOM] (→73)

[Digital Zoom]

■ **Recording modes:** A P A S M C1 C2 SCN COL

For extending the zoom range 4 times further than with Optical/Extended optical zoom. Note that enlarging will decrease picture quality with Digital Zoom.
For details (→73).

■ **Settings: [ON] / [OFF]**

• For the setting procedures of the menu. (→52)

[Color Mode]

■ **Recording modes:** A P A S M C1 C2 SCN COL

■ **Settings: [STANDARD] / [VIVID]*1 (Vivid looking picture) / [Happy]*2 (For taking a picture with a higher level of color brightness and vividness) / [B&W] / [SEPIA]**

*1 Except [Snapshot Mode]
*2 [Snapshot Mode] only

[AF Assist Lamp]

■ **Recording modes:** A P A S M C1 C2 SCN*3 COL

*3 The following modes are fixed to [OFF]: [Scenery] [Night Scenery] [Handheld Night Shot] [Sunset] [Through window]

Switches on the lamp in poor light to facilitate focusing.
• The AF Assist Lamp has an effective range of approx. 1.5m (5 feet).

■ **Settings**

[ON]	The lamp lights up in poor ambient light when the shutter button is pressed halfway (AF☼ appears)
[OFF]	The lamp does not light up, regardless of the ambient light. (taking pictures of animals in the dark, etc.)

● Do not cover the lamp with your fingers or look at it from close range.

[Red-Eye Removal]

■ **Recording modes:** A P A S M C1 C2 SCN*4 COL

*4 The setting is set to [OFF] except in the following Scene modes: [Portrait] [Soft Skin] [Night Portrait] [Baby]

This mode automatically detects red-eye and corrects still picture data when recording with the flash modes with red-eye reduction (ϟA◎ ϟS◎).

■ **Settings: [ON] / [OFF]**

● Depending on the circumstances, it may not be possible to correct red-eye.
● When this function is set to [ON], the flash icon changes to [ϟA◎]/[ϟS◎].
● This function only works when the camera detects a subject as a face.

• For the setting procedures of the menu. (→52)

[Motion Deblur]

■ **Recording mode:** [A] P A S M C1 C2 SCN COL

For details (→32).

[iHandheld Nite Shot]

■ **Recording mode:** [A] P A S M C1 C2 SCN COL

For details (→32).

[iHDR]

■ **Recording mode:** [A] P A S M C1 C2 SCN COL

For details (→33).

[Stabilizer]

■ **Recording modes:** A P A S M C1 C2 SCN* COL

*[Handheld Night Shot] is fixed to [ON].
The following modes are fixed to [OFF]: [Starry Sky] [3D Photo Mode]

This mode automatically detects and reduces the effects of camera shake. When recording motion pictures, [Active Mode] (stabilizer for motion pictures) will automatically function. This decreases image blurring when recording motion pictures while walking, etc.

■ **Settings: [ON] / [OFF]**

- Cases where the stabilizer function may be ineffective:
  - When the camera is moved violently
  - When the lens' focal length setting is long, i. e. it is zoomed towards its utmost T position (also in the Digital Zoom range)
  - When taking pictures while following a moving subject
  - When the shutter speed becomes slower while taking pictures indoors or in dark places
- In [Active Mode], a stronger effect of the correction can be achieved with shorter focal lengths.
- In the following case, [Active Mode] will not function even when recording motion pictures.
  - When [Rec Quality] is set to [VGA] in [MP4]

• For the setting procedures of the menu. (→52)

[Date Stamp]

■ **Recording modes:** A P A S M C1 C2 SCN COL

For taking still pictures with the recording date and time stamped on them.

■ **Settings: [W/O TIME] / [WITH TIME] / [OFF]**

- Do not request date printing in store or make date printing on printer for still pictures with date stamps. (Date printing may be overlapped.)
- Date stamps on still pictures cannot be erased.
- The date cannot be stamped when [Auto Bracket] or [Burst] is set, when recording a motion picture, or when the [3D Photo Mode] Scene mode is set.
- The setting cannot be changed in [Snapshot Mode]. In other recording modes, the setting is applied.

[Clock Set]

■ **Recording modes:** A P A S M C1 C2 SCN COL

For setting the clock. The function is the same as that in [Setup] menu. (→24)

Using the [Motion Picture] menu

You can select the recording mode and picture quality and other settings.

• For the setting procedures of the menu. (→52)

[Rec Format]

■ **Recording modes:** A P A S M C1 C2 ⊏ SCN COL

For setting the file format of the motion picture that is recorded.

■ **Settings**

[AVCHD]	This is a file format suitable for playback on high-definition TVs.
[MP4]	This file format is suited for playing back motion pictures on a computer and other such devices.

●For details (→41)

[Rec Quality]

■ **Recording modes:** A P A S M C1 C2 ⊏ SCN COL

For setting the resolution of the motion picture that is recorded.

■ **Settings**

[AVCHD] in [Rec Format]

Item	Resolution	Frame rate (fps)	Bit rate
[FHD]	1920×1080	50i*1 / 60i*2	approx. 17 Mbps
[HD]	1280×720	50p*1 / 60p*2	approx. 17 Mbps

[MP4] in [Rec Format]

Item	Resolution	Frame rate (fps)	Bit rate
[FHD]	1920×1080	25p*1 / 30p*2	approx. 20 Mbps
[HD]	1280×720	25p*1 / 30p*2	approx. 10 Mbps
[VGA]	640×480	25p*1 / 30p*2	approx. 4 Mbps

*1 With camera models 18 484/-487/-488/-491
*2 With camera models 18 485/-486/-489/-490

■About the motion picture icon

[Rec Format] → MP4
Resolution → FHD

●What is the bit rate
This is the volume of data for a definite period of time; the quality becomes higher when the number gets larger. This camera uses the “VBR” recording method. “VBR” is the abbreviation of “Variable Bit Rate”, which is changed automatically depending on the recorded subject to record. Therefore, the recording time is shortened when a subject with fast movement is recorded.

• For the setting procedures of the menu. (→52)

[Still Picture Size]

■ **Recording modes:** A P A S M C1 C2 SCN COL

For setting [Still Picture Size] for when you take still pictures while recording motion pictures.

■ **Settings**

[9M]	For printing up to A3 (11x14″) size prints.
[6M]	For printing up to A3 (11x14″) size prints.
[2M]	Suitable for display on a high-definition television.

●The aspect ratio becomes [16:9].

[Continuous AF]

■ **Recording modes:** A P A S M C1 C2 SCN* COL
*[Starry Sky] is fixed to [OFF].

With this mode on, the focus is constantly adjusted during motion picture recording, or the focus position is fixed at the start of recording.

■ **Settings**

[ON]
[OFF]: Fixes the focus position at the start of motion picture recording.

• For the setting procedures of the menu. (→52)

[Wind Cut]

■ **Recording modes:** A P A S M C1 C2 SCN COL*
*Not available when using [Miniature Effect].

This mode automatically detects wind noise captured by the microphones and suppresses it if it is too loud.

■ **Settings**

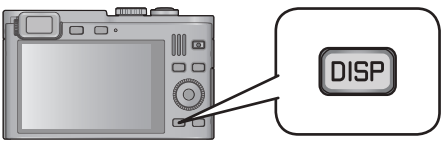
[AUTO]: Wind noise is automatically suppressed depending on volume
[OFF]

● When [Wind Cut] is set to [AUTO], the sound quality may differ from that of normal recordings.

Changing the picture information displays, etc.

You can change the display of picture information (file number, etc.) and recording information (settings used for recording, etc.) during playback.

1 Press the [DISP] button to change the displays



Basic picture information (recording date and time, etc.)

Additional recording information ([Flash], [Sensitivity] etc.)

No information

- During enlarged viewing, Motion Picture Playback, Slide Show: You can only turn the displays on or off.
- During Multi Playback or calendar screen: Displays cannot be changed.

Playing back pictures recorded using the serial exposure function

Pictures taken with the 40 or 60 setting are recorded together as a group (picture group).

■Representative picture display

A representative picture (first of the exposures) is displayed when it is displayed together with other still or motion pictures.

Number of exposure series pictures

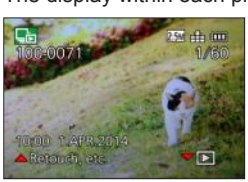
- All the pictures in a picture group can be deleted or edited together.
- Continuous playback can be performed using the same operations as for motion pictures. (→48)

■Display within each picture group ( )

Still pictures recorded by a single exposure series can be displayed separately or as a list.

1 Press ▼ while the representative first exposure series picture is being displayed

The display within each picture group appears on the screen.



On the display within each picture group, only the series of pictures are displayed.

- To return to the representative screen display → Press ▼.

■Re-acquiring the picture group information

When the camera is turned on, the (acquiring information icon) may appear. While is displayed, pictures cannot be deleted and the [Playback] menu cannot be used. Only [All] or [Calendar] is available as the [Playback Mode].

Playing back pictures recorded using the serial exposure function

- If only one still picture is left in a picture group after deletion or other operations, it will not be formed into a group.
- Serial exposure pictures will not be grouped if recorded without setting the clock.
- When pictures set to [Favorite] are played back using [Slide Show] or [Filtering Play], the pictures cannot be displayed in a group.
- The following operations cannot be performed while a representative first serial exposure picture is being displayed.
  - [Auto Retouch]
  - [Creative Retouch]
  - [Cropping] of [Playback] menu
- The serially exposed pictures recorded by another device may not be recognized as picture group pictures.
- If the total number of still pictures exceeds 50,000, subsequently recorded pictures will not be grouped.

Different playback methods

Recorded pictures can be played back in a variety of ways.
To change the Playback mode, refer to and perform the following steps.

1 Press [MENU/SET] in playback mode

The menu selection screen is displayed.

2 Use the cursor buttons to select [Playback Mode] menu, and then press [MENU/SET]

3 Press ▲▼ to select the Playback mode, and then press [MENU/SET]

[2D/3D Settings]	Switches the output format between 2D and 3D pictures. (Only available during HDMI output.) (→205)
[All]	Plays back all pictures. (→44)
[Slide Show]	Automatically plays back recorded pictures, one after another. (→150)
[Filtering Play]	Plays back the pictures after narrowing them down according to various conditions. (→146)
[Calendar]	Displays pictures by date of recording. (→152)

- If the pictures displayed with [Slide Show] or [Filtering Play] are the those selected, selecting [All] will cancel the filtering.
- The playback method automatically becomes [All] when the camera is turned on, or when switching from [Rec] mode to [Playback Mode].

[2D/3D Settings]

• For switching the [Playback Mode] (above)
The playback method for the 3D pictures can be switched. This menu is only displayed during HDMI output. For the procedure for playing back a 3D still picture (→205).

Selecting pictures to play back

Allows selecting the pictures to be displayed with set filters, such as recording dates, categories, or favorite pictures.

1 Select [Filtering Play] from the [Playback Mode] menu (→145)

2 Select the filtering method using the cursor buttons, and then press [MENU/SET]

[Picture Only]	Plays back only still pictures. (→147)
[Video Only]	Plays back only motion pictures. (→147)
[3D Play]	Plays back only 3D still pictures. (→147)
[Category Selection]	Plays back pictures that have been selected according to a category, such as Scene mode. (→148)
[Select Date]	Plays back only the pictures taken on the selected date. (→149)
[Favorite]	Plays back only the pictures set as [Favorite]. (→149)

■About operations during [Filtering Play]

During [Filtering Play], the operation when ▲ is pressed in the 1-picture Playback screen is different. Select the operation you want to perform and press [MENU/SET].

- [Retouch]: Retouching pictures (→153)
- [Burst Play]: Plays back only serially exposed pictures, one after another (→143)
- [Play Video]: Plays back only motion pictures (→48)
- [Play Panorama]: Plays back panorama pictures (→107)
- [Change Date]: Changes the recording date to display (→149)
- [Filtering Off]: Switches Playback mode to [All] (→145)

■Canceling filtering

During [Filtering Play], only pictures under the set filters are displayed.
In the following cases, filtering will be canceled.

- When ▲ is pressed in the 1-picture Playback screen and [Filtering Off] is selected
- When [All] is selected from the [Playback Mode] menu
- When switching to Recording mode
- When the camera is turned off

Selecting according to picture type

Selected according to a picture type, such as still pictures only or motion pictures only, then play them back.

1 Select [Picture Only] / [Video Only] / [3D Play] in [Filtering Play], and then press [MENU/SET] (→146)

[Picture Only]	Plays back only still pictures. (Also applies to panorama and continuously recorded pictures)
[Video Only]	Plays back only AVCHD and MP4 motion pictures.
[3D Play]	Plays back only 3D still pictures taken using [3D Photo Mode] Scene mode.

Selecting a picture according to category or a person in the picture

For playing back pictures that have been selected according to a category, such as Scene mode. Also, from among the pictures taken using the Face Recognition function (→122), select a person in the picture and play back.

1 Select [Category Selection] in [Filtering Play], and then press [MENU/SET] (→146)

2 Use the cursor buttons to select the setting, and then press [MENU/SET]

[Face Recog.]	Selects a person registered to Face Recognition and displays the pictures ① Use the cursor buttons to select a person, and then press [MENU/SET]
[Portrait etc.]	Only displays pictures taken with [Portrait], [Soft Skin], [Night Portrait], [Baby] from Scene mode*
[Scenery etc.]	Only displays pictures taken with Panorama mode, and [Scenery], [Sunset], [Through window] from Scene mode*
[Night Scenery etc.]	Only displays pictures taken with [Night Portrait], [Night Scenery], [Handheld Night Shot], [Starry Sky] from Scene mode*
[Events]	Only displays pictures taken with [Sports] from Scene mode
[Baby]	Only displays pictures taken with [Baby] from Scene mode*
[Pet]	Only displays pictures taken with [Pet] from Scene mode
[Food]	Only displays pictures taken with [Food] from Scene mode
[Travel Date]	Only displays pictures taken when [Travel Date] is set
[Burst Shooting]	Only displays pictures taken with 40, 60 in serial exposure mode

* Even if the scene is auto-detected with [Snapshot Mode], it will be categorized in the same way.

Selecting according to the recording date

For selecting the recorded date, and playing only those pictures back.

1 **Select [Select Date] in [Filtering Play], and then press [MENU/SET]** (→146)

2 **Use the cursor buttons to select recording date, and then press [MENU/SET]**

■To change the date to display

①Press ▲ in the 1-picture Playback screen
②Use the cursor buttons to select [Change Date], and then press [MENU/SET]

- Only months when pictures were taken are shown on the calendar screen. If the clock was not set, pictures will be displayed as January 1st, 2013.
- Pictures taken with destination settings made in [World Time] are displayed in the calendar screen using the appropriate date for the destination's time zone.

Selecting favorite pictures

For selecting pictures that were set in [Favorite] from the [Playback] menu, and playing only those pictures back.

1 **Select [Favorite] in [Filtering Play], and then press [MENU/SET]** (→146)

Playing back pictures in order automatically

For automatically playing pictures back in order. Recommended when viewing on a TV.

1 Select [Slide Show] from the [Playback Mode] menu (→145)

2 Use the cursor buttons to select [Start], and then press [MENU/SET]

■To select pictures for automatic play back

If you have previously selected the pictures to display for [Filtering Play] from the [Playback Mode] menu, the Slide Show will play back with the same criteria.
If you want to reselect pictures to play back: Use the cursor buttons to select [Filtering], and then press [MENU/SET]

- For details on how to select (→146)
- The filtering will not be canceled, even after the Slide Show finishes.
- If you select [All], the filtering will be canceled.

■To change settings such as music or display time

Use the cursor buttons to select [Setup] and press [MENU/SET]

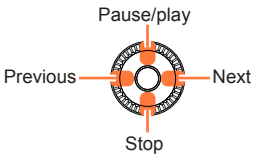
[Effect]	[NATURAL] / [SLOW] / [SWING] / [URBAN] / [OFF]*
[Duration]*	[1SEC] / [2SEC] / [3SEC] / [5SEC]
[Repeat]	[ON] / [OFF]
[Sound]	[OFF]: Music and audio will not play back. [AUTO]: With still pictures, music will play back, and with motion pictures, audio will play back. [Music]: Music effect will play back. [Audio]: Audio is played back from motion pictures.

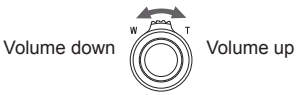
* In the following case, [Effect] is fixed to [OFF]. The [Duration] setting is also disabled.
  - [Motion Pic. Only]

■Operations during Slide Show

●Cursor buttons

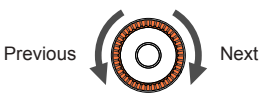
The operation guide appears on the bottom right of the screen.





• If you do not perform any operation for approx. 2 seconds, the operation guide is turned off. To display the guide again, press the [DISP] button.

●Control dial



●When [URBAN] has been selected, the picture may appear in black and white as a screen effect.
●When panorama pictures, motion pictures, or serially exposed pictures (picture group) are played back, the [Duration] setting is disabled.
●Part of [Effect] cannot be used when displaying pictures on a TV using an HDMI micro cable or when displaying pictures recorded in portrait position.
●Screen effects do not operate during a [3D Play] slide show.
●Music effects cannot be added.

Searching by recording date

This mode allows you to search for pictures according to the date they were recorded.

1 Select [Calendar] from the [Playback Mode] menu (→145)

2 Use the cursor buttons to select the recording date to display

- Only months when pictures were taken are shown on the calendar screen.

3 Press [MENU/SET] to display a list of pictures from the selected date

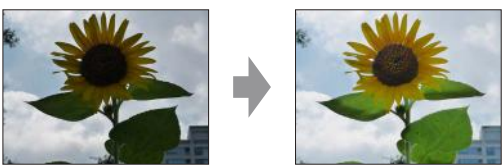
4 Use the cursor buttons to select picture, and then press [MENU/SET]

- If there is more than one picture recorded on the same date, the first picture taken on that date will be selected.
- You can display the calendar between January 2000 to December 2099.
- Pictures recorded without configuring [Clock Set] will show the date January 1st, 2013.
- Pictures taken with destination settings made in [World Time] are displayed in the calendar screen using the appropriate date for the destination's time zone.

Retouching pictures

[Auto Retouch]

You can adjust the color and brightness of a still picture to bring them into balance.
- New pictures are created after editing pictures with [Auto Retouch]. Before starting to edit, make sure that there is enough free space in the built-in memory or the memory card.



• Example picture

1 Select a still picture to retouch during playback, and then press ▲

2 Use the cursor buttons to select [Auto Retouch], and then press [MENU/SET]

3 Use the cursor buttons to select [ON], and then press [MENU/SET]

- A confirmation screen is displayed. If you select [Yes], the new retouched still picture is saved.
- When [OFF] is selected, you can restore a picture to its original condition (before retouching).

■Operation from the [Playback] menu

①Select [Retouch] in the [Playback] menu, and then press [MENU/SET]
②Use the cursor buttons to select [Auto Retouch], and then press [MENU/SET]
③Use the cursor buttons to select picture, and then press [MENU/SET]
Read Step 3 above to perform further steps.

- The retouch effect may be less apparent in some still pictures.
- Some still pictures may have higher noise levels after retouching.
- It may not be possible to use [Auto Retouch] with still pictures that have already been retouched.
- It may not be possible to retouch still pictures recorded with other cameras.
- You cannot retouch the pictures in a picture group as a group. Retouch each picture in a picture group separately after displaying it.
- [Auto Retouch] is cannot be used in the following cases:
  - Motion pictures
  - Panorama pictures
  - 3D still pictures
  - Still pictures recorded with the [Quality] setting [RAW], [RAW] or [RAW]

[Creative Retouch]

This mode allows you to retouch recorded still pictures by selecting the effect that you want to apply.

- New pictures are created after editing pictures with [Creative Retouch]. Before starting to edit, make sure that there is enough free space in the built-in memory or the memory card.

1 Select a still picture to retouch during playback, and then press ▲

2 Use the cursor buttons to select [Creative Retouch], and then press [MENU/SET]

3 Press ▲▼ to select effect

- The picture retouched with the selected effect is displayed.
- When [No Effect] is selected, you can restore a picture to its original condition (before retouching).

Setting	Effect
[Expressive]	This effect creates a pop art style picture that enhances the color.
[Retro]	This effect creates the soft appearance of a tarnished picture.
[Old Days]	This effect adds a bright, soft and nostalgic feel to the overall image.
[High Key]	This effect creates a brighter and lighter toned appearance for the entire picture.
[Low Key]	This effect creates a darker somber appearance for the entire picture to emphasize the bright sections.
[Sepia]	This effect creates a picture with sepia tone.
[Dynamic Monochrome]	This effect creates a monochromatic picture with a higher contrast and more dramatic atmosphere.
[Impressive Art]	An effect with strong contrast that illustrates a surreal and dramatic atmosphere.
[High Dynamic]	This effect creates a picture with a well-balanced brightness for the entire picture (from dark areas to bright areas).
[Cross Process]	This effect creates a unique atmosphere with surprising colors. • Use the cursor buttons to adjust coloring, then press [MENU/SET].
[Toy Effect]	This effect creates a picture that resembles pictures taken by a toy camera with a reduced amount of peripheral light. • Use the cursor buttons to adjust coloring, then press [MENU/SET].

(Continued on the next page)

Setting	Effect
[Miniature Effect]	This effect blurs peripheral areas to give the impression of a diorama.
[Soft Focus]	This effect creates a soft appearance by intentionally slightly reducing sharpness in the entire picture.
[Star Filter]	This effect adds reflections in the shape of a cross to all small and very bright light sources.
[One Point Color]	This effect creates a monochromatic picture and retains only the color you selected, that is only objects of the selected color retain their color. • Use the cursor buttons to move the frame in the center of the screen, select the color to retain, and then press [MENU/SET].

• For more information about picture effects (→98 - 104)
• When you press the [DISP] button, a description of the selected effect is displayed.

4 Press [MENU/SET]

• A confirmation screen is displayed. If you select [Yes], the new retouched still picture is saved.

■Operation from the [Playback] menu

①Select [Retouch] in the [Playback] menu, and then press [MENU/SET]
②Use the cursor buttons to select [Creative Retouch], and then press [MENU/SET]
③Use the cursor buttons to select a picture, and then press [MENU/SET]
Read Step 3 (→154) to perform further steps.

- The retouch effect may be less apparent in some still pictures.
- The effect may appear weak compared to that set with the [Creative Control] mode.
- It may not be possible to retouch still pictures recorded with other cameras.
- You cannot retouch the pictures in a picture group as a group. Retouch each picture in a picture group after displaying it.
- [Creative Retouch] is unavailable in the following cases:
  - Motion pictures
  - Panorama pictures
  - 3D still pictures
  - Still pictures recorded with the [Quality] setting [RAW], [RAW] or [RAW]

Using the [Playback] menu

This menu allows you to specify picture protection, resizing, print settings, and other settings for pictures you have taken.
- For the setting procedures of the menu. (→52)
- The setting methods vary depending on the menu item.

[Location Logging]

You can send location information (latitude and longitude) obtained with your smartphone/tablet to this camera, and write the location information to the pictures.
- Location information cannot be written to still pictures in the built-in memory. If you want to record location information on them, copy the pictures in the built-in memory to a memory card, then perform [Location Logging].

Preparation:
Send location information to this camera from your smartphone/tablet (→184)

1 Use the cursor buttons to select [Add Location Data], and then press [MENU/SET]

2 Use the cursor buttons to select a period for writing location information, and then press [MENU/SET]

- A confirmation screen is displayed. If you select [Yes], the operation is executed.
- Location information is written to the picture.
- [GPS] is displayed for pictures that have location information written to it.

■Aborting writing location information

Press [MENU/SET] while location information is being written

- [○] is displayed for the period of the abort operation.
  If selected again while [○] is displayed, writing location information will resume where it left off.

■Deleting received location information

①Use the cursor buttons to select [Delete Location Data], and then press [MENU/SET]
②Use the cursor buttons to select a period for deleting location information, and then press [MENU/SET]

- A confirmation screen is displayed. If you select [Yes], the operation is executed.

- Location information may not be written if there is not enough free space on your memory card.
- If the card is locked, you cannot write location information to pictures or delete received location information.
- You can only write location information to pictures recorded with this camera.
- Location information will not be written to pictures that were recorded after you selected [Send location data] (→184).
- Location information will not be written to AVCHD motion pictures.

• For the setting procedures of the menu. (→52)

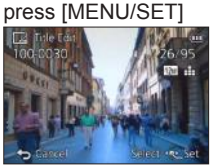
[Title Edit]

This mode allows you to give titles, etc. to your favorite still pictures.

1 Use the cursor buttons to select [SINGLE] or [MULTI], and then press [MENU/SET]

2 Select a still picture

●[SINGLE]
Use the cursor buttons to select a still picture, and then press [MENU/SET]



●[MULTI]
(up to 100 pictures with the same text)
Use the cursor buttons to select a still picture, and then press the [DISP] button

[Title Edit] setting
[Title Edit] already set

- To cancel:
  Press the [DISP] button again
- To execute:
  Press [MENU/SET]

3 Enter characters (Entering text (→65))

- To delete a title: Delete all the characters in the character input screen

●This mode is not available in the following cases:
- Motion pictures
- 3D still pictures
- Still pictures recorded with the [Quality] setting [RAW], [RAW] or [RAW]

●To print the entered text, use [Text Stamp].

• For the setting procedures of the menu. (→52)

[Text Stamp]

This mode allows you to stamp the recording date and time, names, travel destination, travel dates, etc. on the recorded still pictures.

1 Use the cursor buttons to select [SINGLE] or [MULTI], and then press [MENU/SET]

2 Select a still picture

● [SINGLE]
Use the cursor buttons to select a still picture, and then press [MENU/SET]

● [MULTI] (up to 100 pictures)
Use the cursor buttons to select a still picture, and then press the [DISP] button

[Text Stamp] setting
• To cancel:
Press the [DISP] button again
• To execute:
Press [MENU/SET]

3 Use the cursor buttons to select [Set], and then press [MENU/SET]

4 Use the cursor buttons to select items, and then press [MENU/SET] (→160)

5 Use the cursor buttons to select settings, and then press [MENU/SET] (→160)

6 Press the [Q MENU/↩] button

7 Use the cursor buttons to select [OK], and then press [MENU/SET]

• A confirmation screen is displayed. If you select [Yes], the operation is executed.

■Items that can be stamped

[Shooting Date]	[W/O TIME]: Stamps only the recording date [WITH TIME]: Stamps the recording date and time
[Name]	: Stamps the name registered in Face Recognition /: Stamps the name registered in [Baby] or [Pet]
[Location]	Stamps the location registered in [Setup] menu's [Travel Date]
[Travel Date]	Stamps the Travel Date set in [Setup] menu's [Travel Date]
[Title]	Stamps the text registered in [Title Edit]

• Items set to [OFF] are not stamped.

- **Do not request date printing in a store or set date printing on a printer for still pictures with date stamps. (The date prints may overlap.)**
- Stamping texts is not possible on the following pictures.
  - Motion pictures
  - 3D still pictures
  - Panorama pictures
  - Still pictures on which date or other texts had already been stamped
  - Still pictures taken without setting the clock
  - Still pictures recorded with the [Quality] setting [], [] or [RAW]
- Characters may be cut off on certain printers.
- The text is difficult to read when stamped on pictures of 0.3M or less.

[Retouch]

[Auto Retouch]: For details (→153)
[Creative Retouch]: For details (→154)

• For the setting procedures of the menu. (→52)

[Video Divide]

A single motion picture take can be split into 2 parts. This is convenient when you want to keep just the necessary scenes, or if you wish to delete unnecessary scenes to increase free space on your memory card, such as when traveling.

1 Select the motion picture take to split with the cursor buttons, and then press [MENU/SET]

2 Press ▲ at where you want to split a motion picture take to pause it

3 Press ▼

- A confirmation screen is displayed.
  Select [Yes] with the cursor buttons, and then press [MENU/SET].
- **The original motion picture take that was split is not retained.**
  (There will be only the 2 motion picture takes that were created after the split.)

- During splitting, do not turn off the camera or remove the memory card or the battery. If you do so, the motion picture may be deleted.
- Splitting a motion picture recorded in [MP4] changes the order of pictures. It is recommended to display with [Calendar] (Calendar Playback) or [Filtering Play].
- Motion pictures with a short recording time cannot be split.

• For the setting procedures of the menu. (→52)

[Resize]

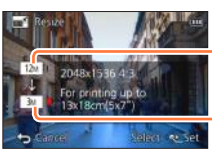
This mode allows you to reduce a picture's resolution to facilitate e-mail attachment and use in web pages, etc.
(Still pictures taken with the smallest resolution do not allow further reduction.)

■[SINGLE]

1 Use the cursor buttons to select [SINGLE], and then press [MENU/SET]

2 Use the cursor buttons to select a still picture, and then press [MENU/SET]

3 Use the cursor buttons to select size, and then press [MENU/SET]



Current resolution

Resolution after change

• A confirmation screen is displayed. If you select [Yes], the operation is executed.

(Continued on the next page)

■**[MULTI]**

1 Use the cursor buttons to select [MULTI], and then press [MENU/SET]

2 Use the cursor buttons to select size, and then press [MENU/SET]

3 Use the cursor buttons to select a still picture, and then press the [DISP] button (up to 100 pictures)

Resolution before/after resizing

Resize setting

- To cancel:
  Press the [DISP] button again
- To execute:
  Press [MENU/SET]

• A confirmation screen is displayed. If you select [Yes], the operation is executed.

- The picture quality is reduced after resizing.
- The following pictures cannot be resized.
  - Motion pictures
  - 3D still pictures
  - Panorama pictures
  - Still pictures on which date or other texts had already been stamped
  - Still pictures recorded with the [Quality] setting [RAW], [RAW] or [RAW]

• For the setting procedures of the menu. (→52)

[Cropping]

This mode allows you to enlarge the decisive parts of still pictures (cropping), i.e. by “cutting off” unwanted areas.

1 Use the cursor buttons to select a still picture, and then press [MENU/SET]

2 Select the area to crop, and then press [MENU/SET]

Enlarges the selected section

Changes the position of the section

• A confirmation screen is displayed. If you select [Yes], the operation is executed.
• You can also enlarge the selected section with the control dial.

- Original Face Recognition information will not be copied when still pictures are cropped.
- The picture quality is reduced after cropping.
- The following pictures cannot be cropped.
  - Motion pictures
  - 3D still pictures
  - Panorama pictures
  - Still pictures on which date or other texts had already been stamped
  - Still pictures recorded with the [Quality] setting [RAW], [RAW] or [RAW]

• For the setting procedures of the menu. (→52)

[Favorite]

By labeling your favorite pictures with a star (★), you can play back these only, or you can exclude all pictures except your favorites. Up to 999 pictures can be set as favorites.

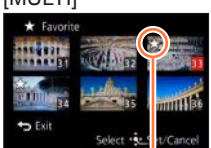
1 Use the cursor buttons to select [SINGLE] or [MULTI], and then press [MENU/SET]

2 Use the cursor buttons to select picture, and then press [MENU/SET]

●[SINGLE]

Favorite picture setting

●[MULTI]



Favorite picture setting

• To cancel: Press [MENU/SET] again

■ **To clear all**

Select [CANCEL] in step 1 and then [Yes]

●You cannot select the [Favorite] setting for still pictures recorded with the [Quality] setting [RAW].

• For the setting procedures of the menu. (→52)

[Print Set]

This mode allows you to make picture/picture no./date printing settings for when printing with DPOF print-compatible shops or printers. (Ask at the shop to check for compatibility.)

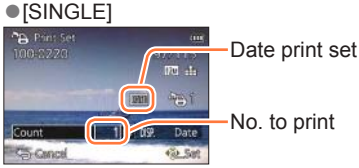
1 Use the cursor buttons to select [SINGLE] or [MULTI], and then press [MENU/SET]

2 Use the cursor buttons to select picture, and then press [MENU/SET]

3 Use the cursor buttons to set number of pictures, and then press [MENU/SET]

(repeat steps 2 and 3 when using [MULTI] (up to 999 pictures))

●[SINGLE]



●[MULTI]

• Date print setting/release: Press the [DISP] button

■ **To clear all**

Select [CANCEL] in step 1 and then [Yes]

- ●Date print setting cannot be made for still pictures that have been taken with [Date Stamp] and pictures with a [Text Stamp] applied.
- ●Depending on the type of printer, the printer settings may take priority over camera settings.
- ●[Print Set] is not available for files that are not compliant with the DCF standard.
- ●Some DPOF information set by other equipment cannot be used. In such cases, delete all of the DPOF information and then set it again with this camera.
- ●Print settings cannot be made for motion pictures.
- ●You cannot select the [Print Set] setting for still pictures recorded with the [Quality] setting [RAW].

• For the setting procedures of the menu. (→52)

[Protect]

This mode allows you to set protection to disable picture deletion, e. g. of important pictures.

1 Use the cursor buttons to select [SINGLE] or [MULTI], and then press [MENU/SET]

2 Use the cursor buttons to select a picture, and then press [MENU/SET]

●[SINGLE]

Picture protected

●[MULTI]

Picture protected

• To cancel: Press [MENU/SET] again

■ **To clear all**

Select [CANCEL] in step 1 and then [Yes]

- ●Even a protected picture is erased when formatting the internal memory/the memory card.
- ●The protection set in this camera may not be effective in other devices.
- ●When you set the write-protect switch on the card to the “LOCK” position, the picture is not erased.

• For the setting procedures of the menu. (→52)

[Face Rec Edit]

This mode allows you to edit or delete the recognition information for pictures with mistaken Face Recognition.

1 Use the cursor buttons to select [REPLACE] or [DELETE], and then press [MENU/SET]

2 Use the cursor buttons to select the picture, and then press [MENU/SET]

3 Use the cursor buttons to select a person, and then press [MENU/SET]

- If [DELETE], go to step 5
- Persons whose Face Recognition information has not been registered cannot be selected.

4 Use the cursor buttons to select the person to replace instead of another, and then press [MENU/SET]

5 Use the cursor buttons to select [Yes], and then press [MENU/SET]

- When Face Recognition information is deleted, it cannot be restored.
- Pictures for which all Face Recognition information has been deleted are not categorized in Face Recognition during [Category Selection].
- Recognition information cannot be edited in protected pictures.

• For the setting procedures of the menu. (→52)

[Copy]

This mode allows you to copy pictures between the built-in memory and the memory card.

1 Use the cursor buttons to select the copy method (direction), and then press [MENU/SET]

: Copies all pictures from the built-in memory to the card (go to step 3).
: Copies 1 picture at a time from the card to the built-in memory.

2 Use the cursor buttons to select the picture, and then press [MENU/SET]

3 Use the cursor buttons to select [Yes], and then press [MENU/SET]

• To cancel: Press [MENU/SET]

- Copying pictures may take several minutes. Do not turn off the camera or perform other operations during copying.
- If identical names (folder/file numbers) are present in the copy destination, a new folder for copying will be created when copying from built-in memory to a card ( ). Identically-named files will not be copied from a card to the built-in memory ( ).
- The following settings are not copied. Set them again after copying.
  - [Print Set] - [Protect] - [Favorite]
- Only pictures from Leica digital cameras (except Digilux, Digilux 4.3, Digilux Zoom) may be copied.
- Motion pictures recorded in [AVCHD] format cannot be copied.

Wi-Fi® Function and NFC Function

■Using 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. Leica Camera AG will not take any responsibility for any damage that arises when using the camera for any purpose other than as a wireless LAN device.

■The 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 transmission regulations if used in countries other than those where this camera is sold, and Leica Camera AG takes no responsibility for any violations.

■There is the risk that data sent and received via radio transmission may be intercepted by a third party

■Do not use the camera in areas with magnetic fields, static electricity or interference such as near microwave ovens. Radio transmission may not reach the camera.

- Using the camera near devices such as microwave ovens or cordless telephones that use the 2.4GHz 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.

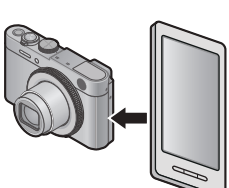
*SSID refers to the name that is used to identify a network over a wireless LAN connection. If the SSID matches for both devices, transmission is possible.

■Before Use

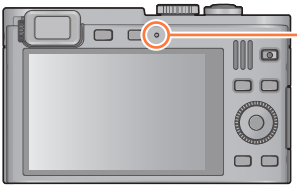
- To use the Wi-Fi function on this camera, a wireless access point or a destination device equipped with the wireless LAN function is required.

■The camera is compatible with NFC

Using the NFC (Near Field Communication) function, the camera and a smartphone can easily exchange the information needed to establish a Wi-Fi connection.



■About the Wi-Fi connection lamp



Wi-Fi connection lamp
Lit blue: When the Wi-Fi function is ON
Flashing blue: When sending data

■Pressing the [WIFI] button during a Wi-Fi connection

Pressing the [WIFI] button during a Wi-Fi connection enables the following operation. (excluding [Remote Shooting & View])

Item	Description
[Terminate the Connection]	Terminates the Wi-Fi connection. • Closing the connection ([Remote Shooting & View]) (→176)
[Change the Destination]	Terminates the Wi-Fi connection, and allows you to select a different Wi-Fi connection.
[Change Settings for Sending Images]	For details (→199).
[Register the Current Destination to Favorite]	Registering the current connection destination or the connection method, you can easily connect with the same connection method the next time.
[Network Address]	Displays the MAC and IP addresses of this camera. (→200)

- The camera cannot be used to connect to a public wireless LAN connection.
- Use a IEEE802.11b, IEEE802.11g or IEEE802.11n compatible device when using a wireless access point.
- We strongly recommend that you set an encryption to maintain information security.
- We recommend that you use a fully charged battery when you send pictures.
- 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.)
- When sending images on a mobile network, high packet communication fees may be incurred depending on the details of your contract.
- Pictures may not be completely sent depending on radio transmission conditions. If the connection is terminated while sending pictures, pictures with missing sections may be sent.
- **Do not remove memory card or battery or move to an area without any reception while sending images.**
- The monitor display may become distorted for an instant while connected to the service, however this will not affect the image being sent.

[Airplane Mode]

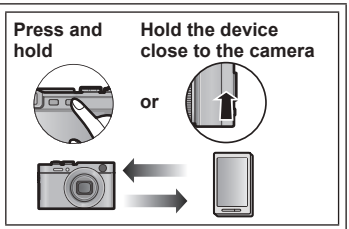
To disable Wi-Fi connection: Set [Airplane Mode] to [ON]

1 Select [Airplane Mode] from the [Setup] menu, and then press [MENU/SET] (→52)

2 Use the cursor buttons to select [ON], and then press [MENU/SET]

- Electromagnetic fields from the camera can affect instruments and meters. In airplane cabins or in other restricted areas: Set [Airplane Mode] to [ON]

What you can do with the Wi-Fi function

What you can do	
Operate the camera using a smartphone **Record by smartphone** **Save pictures in the camera to the smartphone** **Send pictures to social networking services (Only for Android app)**	
Connect easily, transfer pictures easily You can easily use the Wi-Fi function by pressing and holding the [WIFI] button or using the NFC function. 	(→174)

• Hereafter, these instructions use the term “smartphone” for both smartphones and tablets except for cases of specific differences.

Operating the camera using a smartphone

You can remotely operate the camera using a smartphone.
The “Leica C Image Shuttle” must be installed on your smartphone.

Installing the smartphone/tablet app “Leica C Image Shuttle”

The “Leica C Image Shuttle” is an application provided by Leica Camera AG that allows your smartphone to perform the following operations of a Wi-Fi-compatible Leica compact digital camera.

- Taking pictures via a smartphone/tablet (remote recording) (→179)
- Saving pictures in the camera to the smartphone (→180)
- Sending pictures in the camera to social networking services (Only for Android app) (→183)
- Sending location information to the camera from a smartphone/tablet (→184)

	For Android™ apps	For iOS apps
Supported OS	Android 2.2 - Android 4.2*1	iOS 4.3 - iOS 6.1
Installation procedure	① Connect your Android device to a network ② Select “Google Play™ Store”*2 ③ Enter “Leica C Image Shuttle” into the search box ④ Select “Leica C Image Shuttle” and install it • The icon will be added to the menu. *2 Not available in China. To download in China, please visit the site below: www.leica-camera.com	① Connect the iOS device to the network ② Select “App Store℠” ③ Enter “Leica C Image Shuttle” into the search box ④ Select “Leica C Image Shuttle” and install it • The icon will be added to the menu.

- Use the latest version.
- The service may not be able to be used properly depending on the type of smartphone being used.
- When downloading the app on a mobile network, high packet communication fees may be incurred depending on the details of your contract.

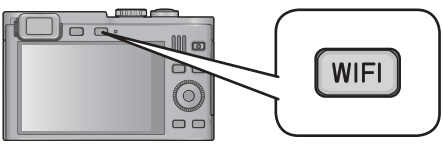
*1 To connect this unit with [Wi-Fi Direct], Android OS 4.0 or above is required and the device must be compatible with Wi-Fi Direct™.

Connecting to a smartphone/tablet

You can easily establish a Wi-Fi connection on the camera by pressing and holding the [WIFI] button or using the NFC function.

Preparation: Install “Leica C Image Shuttle” in advance (→174)

1 Press and hold the [WIFI] button



- The information (SSID and password) required for directly connecting your smartphone to the camera is displayed.
- To change the connection method:
  Press the [DISP] button, and select the connection method
- The same screen can be displayed by selecting items from the menu as follows.
  ①Press the [WIFI] button
  ②Use the cursor buttons to select [New Connection], and then press [MENU/SET]
  ③Use the cursor buttons to select [Remote Shooting & View], and then press [MENU/SET]
- To let the camera start with the Wi-Fi mode:
  Keep the [WIFI] button pressed while turning it on

2 Operate the smartphone

①Set the Wi-Fi function to “ON”
②Select the SSID that matches the one displayed on the screen of the camera, and then enter the password
③Start “Leica C Image Shuttle” (→174)
- When the connection is complete, live images being captured by the camera are displayed on the smartphone.

■Changing the connection method

To change the connection method:
Press the [DISP] button, and select the connection method

(On the camera)

Select [Via Network] or [Direct] to connect (→191)

(On your smartphone)

● When connecting with [Via Network]

1 **Set the Wi-Fi function to “ON”**

2 **Select the wireless access point you want to connect to, and then set**

3 **Start “Leica C Image Shuttle”** (→174)

● When connecting with [Wi-Fi Direct] or [WPS Connection] in [Direct]

Start “Leica C Image Shuttle” (→174)

■Closing the connection ([Remote Shooting & View])

After use, close the connection with the smartphone. When the connection is canceled, you will be able to record and play back pictures on the camera as normal.

1 **Press the [Q MENU/↩] button**

- A confirmation screen is displayed. Select [Yes] with the cursor buttons, and then press [MENU/SET]

Connecting to a smartphone using NFC function

Using the NFC (Near Field Communication) function, the camera and a smartphone can easily exchange the information needed to establish a Wi-Fi connection.

Compatible models:
This function can be used with NFC compatible devices with Android (2.3.3 or above). (Not available in certain models)
- See the instructions of your NFC-compatible smartphone for more information about smartphone operation and settings.

Preparations:
(On the camera)
- Set [NFC Operation] to [ON] (→200)

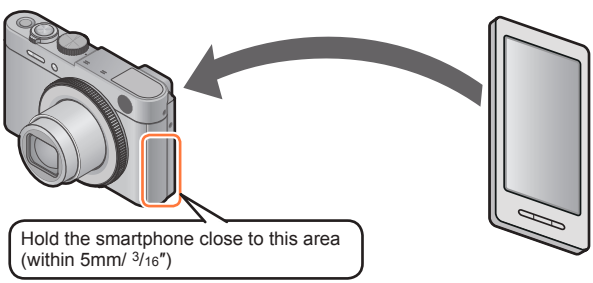
(On your smartphone)
- Check if your smartphone is a compatible model
- Set Wi-Fi function to “ON”
- Install “Leica C Image Shuttle” in advance (→174)

1 Start “Leica C Image Shuttle” on your smartphone

- After it has started, a screen is displayed from which you select a connection destination.

2 While the [ ] is displayed on the connection screen of the “Leica C Image Shuttle”, hold the smartphone close to the camera

- It may take some time to complete connecting.
- When the connection is complete, live images captured by the camera will be displayed on your smartphone.
- If you connect during playback of one picture, it will be transferred to the smartphone. (→181)



3 Press ◀▶ to select [Yes], and then [MENU/SET]

4 Hold the smartphone close to this area of the camera again

- When the connection is complete, live images captured by the camera will be displayed on your smartphone.
- Connected smartphones are registered to the camera. From the next time and on, you can connect by performing steps 1 and 2.

- You can register up to 20 smartphones. If the number exceeds 20, registrations will be deleted starting from the smartphone touched first.
- If you perform [Reset Wi-Fi Settings], smartphone registration will be deleted.
- If the communication environment is bad, the NFC function may not be usable.
- If there is not a response immediately, shift the position slightly.
- Do not bump your smartphone strongly against the camera.
- See the instructions of your NFC-compatible smartphone for more information about smartphone operation and settings.
- Metal objects between the camera and the smartphone may interfere with communication. Also, any stickers, etc., near the NFC area may affect communication performance.
- You can still connect to the smartphone even if the camera is turned off. The camera lens may extend when the power is turned on after making a connection. Be careful that the movement does not cause the camera to drop.
- The NFC function cannot be used in the following cases:
  - When connected to a television, computer, or printer
  - When recording motion pictures
  - During motion picture playback, during slide shows, and during panorama playback (including pauses in each case)
  - While sending pictures by Wi-Fi
  - While recording still pictures (during self-timer countdown)
  - While editing
  - When the [Airplane Mode] is [ON]
- After “Leica C Image Shuttle” is forced to end or after the connection has been canceled, it is necessary to hold the smartphone close to the camera again.

Taking pictures via a smartphone/tablet (remote recording)

1 Connect to a smartphone (→175)

2 Select [ ] from “Leica C Image Shuttle”

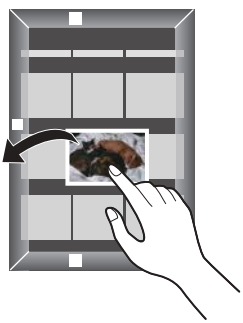
- The recorded images are saved in the camera.
- Motion pictures can also be recorded.
- Some settings are not available.
- When the camera is in [Panorama Shot] mode or when [Scene Mode] is set to [3D Photo Mode], recording will be in [Program AE] mode.
- The screen differs depending on the operating system.

Saving pictures in the camera to the smartphone

1 **Connect to a smartphone** (→175)

2 **Select [ ] from “Leica C Image Shuttle”**

3 **Drag the picture and save it to the smartphone**



- When the picture is tapped, it is played back at a larger size. (Motion pictures cannot be played back.)
- Functions can be assigned to the top, bottom, left and right as you wish.

■Easily transferring pictures in the camera

You can establish a Wi-Fi connection using the NFC function and easily transfer the picture on display simply by holding the smartphone close to the camera. Pictures can be transferred as soon as they are recorded, so you can easily transfer them to your friends' and family's smartphones.*

*"Leica C Image Shuttle" must be installed to use this function.

Preparations:

(On the camera)

- Set [NFC Operation] to [ON] (→200)

(On your smartphone)

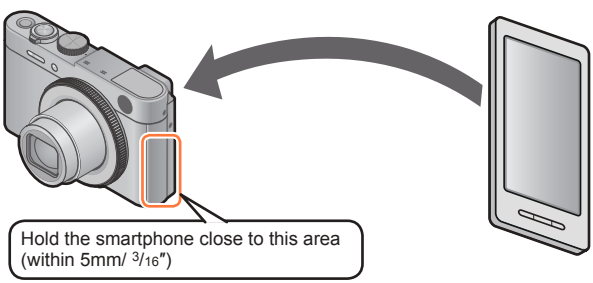
- Check if your smartphone is a compatible model
- Set Wi-Fi function to "ON"
- Install "Leica C Image Shuttle" in advance (→174)

1 On the camera, play back the picture you wish to transfer to a smartphone

2 Start “Leica C Image Shuttle” on the smartphone you are transferring the picture to

3 While the [ ] is displayed on the connection screen of the “Leica C Image Shuttle”, hold the smartphone close to the camera

- It may take some time to complete connecting.
- If you are transferring multiple pictures, repeat steps 1 and 3. (Multiple pictures cannot be transferred in one batch.)



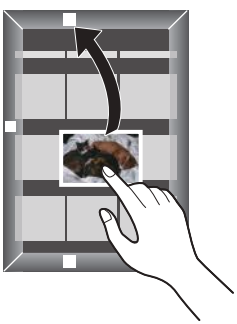
- It may take several minutes to complete the picture transfer depending on the prevailing conditions.

Sending pictures in the camera to social networking services

1 **Connect to a smartphone** (→175)

2 **Select [ ] from “Leica C Image Shuttle”**

3 **Drag the picture and send it to the social networking service, etc.**



- The picture will be sent to the social networking service.
- Functions can be assigned to the top, bottom, left and right as you wish.

Sending location information to the camera from a smartphone/tablet

You can acquire location information from a smartphone, and write it on images afterwards.
Refer to (→156) for how to write the location information on the images recorded by the camera.

- Read the [Help] in the “Leica C Image Shuttle” menu for further details on how to operate.
- **Caution:**
  Be sure to pay special attention to the privacy, the personal rights, etc. of the persons when you use this function. Use it at your own risk.
- If you have changed the clock setting of the camera or the smartphone after [Time sync], perform [Time sync] again.
- On the smartphone, you can set the acquisition interval of location information and check the transfer status of location information. Refer to [Help] in the “Leica C Image Shuttle” menu for details.
- (When using “Leica C Image Shuttle” for iOS)
  If you press the Home or On/Off button of a smartphone while [Rec. loc. Info] is working, location information recording is stopped.
- The smartphone may fail to acquire location information in China and the border area in the neighboring countries of China. (As of March 2013)

Operating the camera to send pictures to a smartphone or tablet

■Sending method, and pictures that can be sent

	JPEG	RAW	MP4	AVCHD	3D
Sending a picture each time one is recorded [Send Images While Recording]	○	–	–	–	–
Sending selected pictures [Send Images Stored in the Camera]	○	–	○	–	–

- Some images may not be played back or sent depending on the device.
- See the instructions of the destination device for more information about picture playback.
- For more details about picture sending methods. (→198)

Preparation: Install “Leica C Image Shuttle” in advance (→174)

See the part of the instructions that applies to your objective.

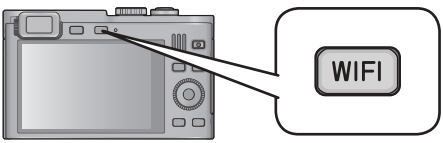
Sending a picture each time one is recorded ([Send Images While Recording]) (→186)

Sending selected pictures ([Send Images Stored in the Camera]) (→188)

●When sending images on a mobile network, high packet communication fees may be incurred depending on the details of your contract.

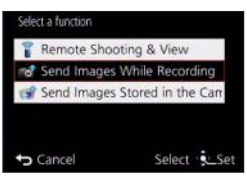
■Sending a picture each time one is recorded ([Send Images While Recording])

1 Press the [WIFI] button



2 Use the cursor buttons to select [New Connection], and then press [MENU/SET]

3 Use the cursor buttons to select [Send Images While Recording], and then press [MENU/SET]



(Continued on the next page)

4 Select [Via Network] or [Direct] to connect (→190)

(On your smartphone)

- When connecting with [Via Network]
  ①Set the Wi-Fi function to “ON”
  ②Select a wireless access point, and set
  ③Start “Leica C Image Shuttle”* (→174)
- When connecting with [Wi-Fi Direct] or [WPS Connection] in [Direct]
  ①Start “Leica C Image Shuttle”* (→174)
- When connecting with [Manual Connection] in [Direct]
  ①Set the Wi-Fi function to “ON”
  ②Select the SSID that matches the one displayed on the screen of the camera, and then enter the password
  ③Start “Leica C Image Shuttle”* (→174)

* A window indicating that the smartphone is connecting to the camera is displayed. Press the “Back” button on Android devices / Select “Close” on iOS devices

5 Select the device you wish to connect to

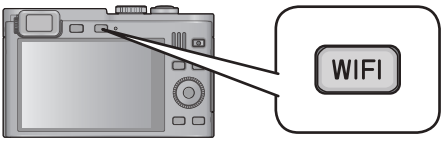
- When the connection is established, the screen is displayed. To change the send setting: Press the [DISP] button (→199)

6 Take still pictures

- The still pictures are sent automatically after taking them.
- To change the setting or disconnect: Press the [WIFI] button
  You cannot change the settings while sending still pictures. Wait until sending is complete.

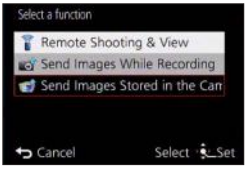
■**Sending selected pictures ([Send Images Stored in the Camera])**

1 **Press the [WIFI] button**



2 **Use the cursor buttons to select [New Connection], and then press [MENU/SET]**

3 **Use the cursor buttons to select [Send Images Stored in the Camera], and then press [MENU/SET]**



(Continued on the next page)

4 Select [Via Network] or [Direct] to connect (→190)

(On your smartphone)

- When connecting with [Via Network]
  ①Set the Wi-Fi function to “ON”
  ②Select a wireless access point, and set
  ③Start “Leica C Image Shuttle”* (→174)
- When connecting with [Wi-Fi Direct] or [WPS Connection] in [Direct]
  ①Start “Leica C Image Shuttle”* (→174)
- When connecting with [Manual Connection] in [Direct]
  ①Set the Wi-Fi function to “ON”
  ②Select the SSID that matches the one displayed on the screen of the camera, and then enter the password
  ③Start “Leica C Image Shuttle”* (→174)

* A window indicating that the smartphone is connecting to the camera is displayed. Press the “Back” button on Android devices / Select “Close” on iOS devices

5 Select the device you wish to connect to

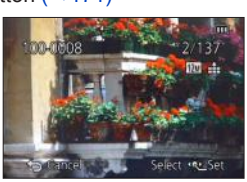
• When the connection is established, the screen is displayed. To change the send setting: Press the [DISP] button (→199)

6 Select [SINGLE] or [MULTI]

• To change the setting or disconnect: Press the [WIFI] button (→171)

■ **When [SINGLE] is selected**

①Select the picture
②Select [Set]



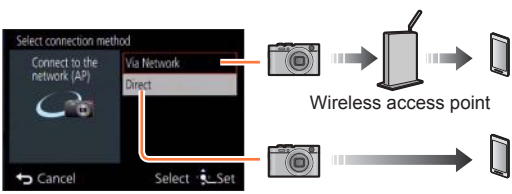
■ **When [MULTI] is selected**

①Select the picture (repeat)
• If selected again, the setting will be canceled.
②Select [OK]
• The number of pictures that can be sent by [MULTI] is limited.

• A confirmation screen is displayed. If you select [Yes], the operation is executed.

About connections

After selecting the Wi-Fi function, select the connection method.
If you are out and unable to use your wireless access point, or temporarily connecting to equipment you do not ordinarily use, or in a similar situation, it is convenient to make a direct connection.
If you are connecting with the same settings as used previously, you can quickly start using the Wi-Fi function by connecting with [History Connection] or [Favorite Connection].



Connection method	Description	
[Via Network]	Connects through a wireless access point.	(→191)
[Direct]	Your equipment connects directly to the camera.	(→194)

Connecting at home (through a network)

Select a connection method to the wireless access point.
* WPS refers to a function that allows you to easily configure the settings related to the connection and security of wireless LAN devices. To check if the wireless access point you are using is compatible with WPS, refer to the instructions of the wireless access point.

Connection method	Description
[WPS (Push-Button)]	Saves push button type wireless access point that is compatible with Wi-Fi Protected Setup™ with a WPS mark. **Press the wireless access point WPS button until it switches to WPS mode** • Refer to the wireless access point instructions for details.
[WPS (PIN code)]	Saves PIN code type wireless access point that is compatible with Wi-Fi Protected Setup with a WPS mark. ① Select the wireless access point you are connecting to ② Enter the PIN code displayed on the camera screen into the wireless access point ③ Press [MENU/SET] • Refer to the wireless access point instructions for details.
[Manual Connection]	Select this option when you are not sure about the WPS compatibility, or when you want to search for and connect to a wireless access point. • For details (→192).

■If you are not sure about the WPS compatibility (connecting by [Manual Connection])

Search for available wireless access points.

- Confirm the encryption key of the selected wireless access point if the network authentication is encrypted.
- When connecting by [Manual Input], confirm SSID, encryption type, encryption key of the wireless access point you are using.

1 Use the cursor buttons to select the wireless access point you are connecting to, and then press [MENU/SET]

- Pressing the [DISP] button will search for a wireless access point again.
- If no wireless access point is found, refer to “When connecting with [Manual Input]” (→193).

2 (If network authentication is encrypted) Enter the encryption key

- For details on how to enter characters, refer to “Entering Text” (→65).

■**When connecting with [Manual Input]**

1 **On the screen of step 1 of "If you are not sure about the WPS compatibility (connecting by [Manual Connection])", select [Manual Input]** (→192)

2 **Enter the SSID of the wireless access point you are connecting to, and then select [Set]**

- For details on how to enter characters, refer to "Entering Text" (→65).

3 **Select the network authentication type**

- For information on network authentication, see the instructions of the wireless access point.

4 **Select the encryption type**

- The type of settings that can be changed may vary depending on the details of network authentication settings.

Network authentication type	Encryption types that can be set
[WPA2-PSK] / [WPA-PSK]	[TKIP] / [AES]
[Common Key]	[WEP]
[Open]	[No Encryption] / [WEP]

5 (When an option other than [No Encryption] is selected)
Enter the encryption key

- Check the wireless access points instructions and settings when saving a wireless access point.
- If no connection can be established, the wireless access point's radio transmission may be too weak. Refer to "Message displays" (→222) and "Troubleshooting" (→225) for details.
- Transmission speed may decrease, or may not be usable depending on the environment it is used in.

Connecting when you are out (direct connection)

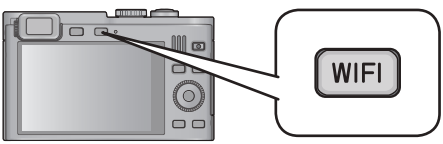
You can select the connection method to your equipment. Select a connection method with which your equipment is compatible.

Connection method	Description
[Wi-Fi Direct]	① Set the device to Wi-Fi Direct™ mode ② Select [Wi-Fi Direct] ③ Select the device to connect to • Read the instructions of your device for details.
[WPS Connection]	[WPS (Push-Button)] ① Select [WPS (Push-Button)] ② Set the device to WPS mode • You can wait longer for a connection by pressing the [DISP] button on this unit.
	[WPS (PIN code)] ① Select [WPS (PIN code)] ② Enter the PIN code of the device into the camera
[Manual Connection]	Enter the SSID and password into the device The SSID and password are displayed on the connection waiting screen of the camera.

Connecting quickly with the same settings as used previously ([History Connection]/[Favorite Connection])

The camera keeps a history of times you used the Wi-Fi function. You can register items in the History to Favorite.
You can easily connect with the same settings as used previously by connecting from History or Favorite.

1 Press the [WIFI] button



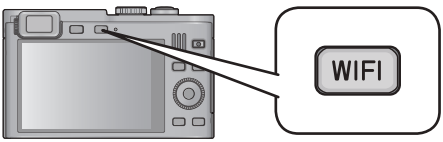
2 Select [History Connection] or [Favorite Connection]

Item	Description
[History Connection]	Connects using the same settings as used previously.
[Favorite Connection]	Connects using settings registered in Favorite.

3 Select the desired connection setting

■**Registering History items to Favorite**

1 **Press the [WIFI] button**



2 **Select [History Connection]**

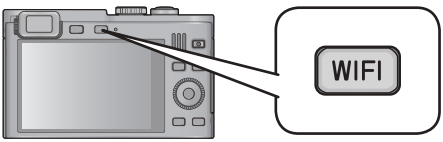
3 **Select the item you wish to register, and then press ▶**

4 **Enter a registration name**

- For details on how to enter characters, refer to “Entering Text” (→65).
- Up to 30 characters can be entered. A double-byte character will be treated as two characters.

■**Editing items registered in Favorite**

1 Press the [WIFI] button



2 Select [Favorite Connection]

3 Select the Favorite item you wish to edit, and then press ▶

4 Select the item

Item	Description
[Remove from Favorite]	—
[Change the Order in Favorite]	For selecting the destination
[Change the Registered Name]	• For details on how to enter characters, refer to “Entering Text” (→65). • Up to 30 characters can be entered. A double-byte character will be treated as two characters.

- The number of settings that can be saved in the history is limited. We recommend that you register and save frequently used Wi-Fi connection settings to Favorite. (→196)
- When selecting History or Favorite items, you can view connection details by pressing the [DISP] button.
- Performing [Reset Wi-Fi Settings] deletes content registered in History and Favorite.

Settings for sending pictures

When sending pictures, first select [New Connection], then the method of sending pictures.
After you have completed connecting, you can also change the sending settings, such as the resolution of the pictures to be sent.

- When sending images on a mobile network, high packet communication fees may be incurred depending on the details of your contract.

■Sending Images While Recording

A picture can be automatically sent to a specified device every time you take it.

- Since the camera gives priority to recording, sending may take longer.

- [ ] is displayed on the recording screen while connected by [Send Images While Recording], and [ ] is displayed while files are being sent.
- If you turn off the camera before you have completed sending, or if you close the Wi-Fi connection, or in similar situations, unsent files will not be resent.
- You may not be able to delete files or use the playback menu while sending.

■Sending Images Stored in the Camera

You can select and send recorded images.

- Details of the playback menu [Favorite] or [Print Set] settings will not be sent.
- Some images taken with a different camera may not be able to be sent.
- Images that have been modified or edited with a computer may not be able to be sent.

■Changing the settings for sending images

After you have completed connecting, you can change the sending settings, such as the resolution of the pictures to be sent, by pressing the [DISP] button.

Item	Description
[Size]	Resize the image to send. **[Original]/[Change]** • You can select the resolution for [Change] from [M] or [S]. The aspect ratio does not change.

[Wi-Fi Setup] menu

For configuring the settings required for the Wi-Fi function.
[Wi-Fi Setup] cannot be changed when connected to Wi-Fi. (excluding [Network Address])
• For details on how to select the [Setup] menu settings, refer to (→52).

1 Select [Wi-Fi Setup] in the [Wi-Fi] menu

2 Use the cursor buttons to select item, and then press [MENU/SET]

Item	Description
[Device Name] You can change the name of this unit.	① Press the [DISP] button ② Enter the desired device name • Refer to “Entering Text” (→65) for information on how to enter text. • Up to 32 characters can be entered.
[NFC Operation] Makes NFC function setting.	**[ON]:** The NFC function works. **[OFF]**
	• It is set to [ON] at the time of purchase.
[Wi-Fi Password] To prevent incorrect operation or use of the Wi-Fi function by a third party and to protect saved personal information, it is recommended that you protect the Wi-Fi function with a password.	Setting a password will automatically display the password input screen when the Wi-Fi function is used. **[Setup]:** Enter any 4-digit numbers as the password. Close the menu after changing settings. **[Delete]:** A confirmation screen is displayed. It is executed when [Yes] is selected. Exit the menu after it is executed.
	• For details on how to enter characters, refer to “Entering Text” (→65). • Make a copy of password. If you forget the password, you can reset it with [Reset Wi-Fi Settings] in the [Setup] menu, however other settings will also be reset.
[Network Address] Displays the MAC address and IP address of this unit.	• A “MAC Address” is a unique address that is used to identify network equipment. • “IP address” refers to a number that identifies a computer connected to a network such as the Internet. Usually, the addresses for homes are automatically assigned by the DHCP function such as a wireless access point. (Example: 192.168.0.87)
[Approved Regulations] Displays certification note	–

Viewing on a TV screen

You can view pictures on a TV by connecting your camera to it with either an HDMI micro cable or the supplied AV cable.

- Compatible HDMI micro cables are available from specialist photo dealers. Make absolutely sure to use only cables compatible with this camera.
- Also consult the TV's instructions.

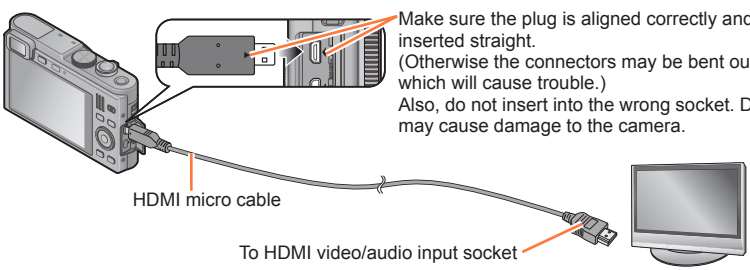
Preparation:

- Set [TV Aspect] to connect your camera to a TV using the AV cable (→62)
- Turn off both camera and TV

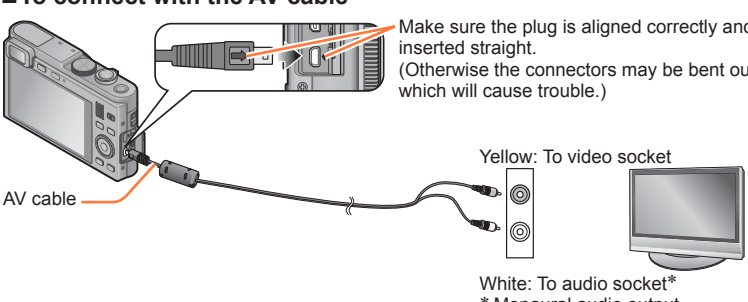
1 Connect the camera to the TV

■To connect with an HDMI micro cable

An HDMI micro cable can be used to enable viewing of still and motion pictures in high resolution.



■To connect with the AV cable



2 Turn on the TV

- Set to auxiliary input

3 Turn on the camera, and then press the playback button

- To let the camera start with Playback mode, keep the playback button pressed while turning it on.

■ To connect with an HDMI micro cable

- 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 2m (6′6″) long)
  Compatible HDMI micro cables are available from specialist photo dealers. Make absolutely sure to use only cables compatible with this camera.
- Some of the playback functions are not available.
- The following menus cannot be used: [Setup], [Playback], and [Wi-Fi].
- Bars may appear at the sides or at the top and bottom of the screen, depending on the aspect ratio setting.
- When an HDMI micro cable is connected, pictures are not displayed on the monitor.
- HDMI output will be canceled if the USB cable is connected simultaneously.
- AV output will be canceled if the HDMI micro cable is connected simultaneously.
- Pictures may be momentarily distorted immediately after commencing playback or pausing on certain TVs.
- Audio output is stereo.

■ To connect with the supplied AV cable

- Do not use any other AV cables except the supplied type.
- Depending on the country (region), TVs use either the NTSC or the PAL system. Set [Video Out] accordingly in the [Setup] menu to play back pictures. (With camera models 18 484/-487/-488/-491)
- Pictures rotated to portrait may be blurred slightly.
- Change the picture mode settings on the TV if aspect ratios are not displayed correctly on widescreen or high-definition TVs.
- The viewfinder display cannot be used.

When you insert a memory card into the SD card slot in a TV or a DVD recorder, you can play back recorded still pictures.

- AVCHD motion pictures can be played back on TVs displaying the AVCHD logo.
- You may not be able to play back panorama pictures. In addition, automatic scrolling playback of panorama pictures is also not available.
- If you intend to use SDHC and SDXC memory cards, make sure the receiving devices are compatible with the respective standards.

HDTV Link (HDMI)

What is HDTV Link (HDMI)?

- HDTV Link is a function that automatically links this camera to HDTV Link-compatible devices by connecting the HDMI micro cable for enabling easy operation with a HDTV compatible remote control. (Some operations are not available.)
- HDTV Link (HDMI) is an exclusive function added to the industry-standard HDMI control functions known as HDMI CEC (Consumer Electronics Control). Operation is not guaranteed when connecting with other HDMI CEC-compatible devices. Refer to your product's instructions to verify compatibility with HDTV Link (HDMI).

- 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 2m (6′6″) long)
  Compatible HDMI micro cables are available from specialist photo dealers. Make absolutely sure to use only cables compatible with this camera.
- If you do not know if your TV is HDTV Link (HDMI) compatible, see the TV's instructions.
- If the [HDTV Link] setting on the camera is [ON], operations via the camera buttons will be limited.
- Ensure that the TV you are connecting to has been set up to enable HDTV Link (HDMI) (consult your TV's instructions for details).

Preparation: Set [HDTV Link] to [ON] (→62).

1 Connect the camera to an HDTV Link (HDMI)-compatible TV set with an HDMI micro cable (→201)

2 Turn on the camera, and then press the playback button

- To let the camera start with Playback mode:
  Keep the playback button pressed while turning it on

3 Proceed with the operation while referring to what is displayed on the TV screen

- When operating, refer to the HDTV Link instructions.

■Other related operations

- Turning the camera OFF
  The camera can also be turned off when the television is turned off with the remote control.
- Automatic input select
  - This function automatically switches the TV input to the camera screen whenever the camera is turned on while it is connected via an HDMI micro cable. The TV can also be switched on via the camera from Standby Mode
    (if “Power on link” on the television is set to “on”, provided, it has this function).
  - If HDTV Link (HDMI) does not function correctly (→232)

Viewing 3D still pictures

If you connect this camera to a 3D-capable TV and play back still pictures recorded in 3D, you can enjoy impressive 3D still pictures on the TV. If the 3D-capable TV has an SD card slot, you can play back 3D still pictures by inserting the card into the slot.

Preparation: Set [3D Playback] to [3D] (→62).

1 Connect the camera to a 3D-capable TV using an HDMI micro cable to display the playback screen (→201)

2 Display still pictures recorded in 3D

- When the [HDTV Link] setting on the camera is set to [ON] and the camera is connected to a HDTV Link (HDMI)-compatible TV, it automatically switches its input and the playback screen is displayed.
- [3D] appears on the thumbnail of the 3D still pictures.

■To perform Slide Show playback of only still pictures recorded in 3D

Select [3D Play] in [Slide Show] of the [Playback Mode] menu (→150)

■To select and play back only still pictures recorded in 3D

Select [3D Play] in [Filtering Play] of the [Playback Mode] menu (→146)

■To switch the playback method for the still pictures recorded in 3D

①Select the picture recorded in 3D
②Select [2D/3D Settings] on the [Playback Mode] menu, and then press [MENU/SET] (→145)

- The playback method will switch to 3D if it is playing back in 2D (conventional image), or to 2D if it is playing back in 3D.
- If you feel tired, uncomfortable or otherwise strange when viewing pictures recorded in 3D, set to 2D.

- Viewing 3D still pictures too close to a TV may cause eyestrain.
- When an image is not suitable for 3D viewing (due to excessive parallax, etc.)
  - During Slide Show playback: The image is displayed in 2D.
  - During [Filtering Play]: A message appears confirming whether to display the image in 3D or not.
- When a 3D image is played back on a TV that is not 3D-capable, 2 pictures may appear side-by-side on the screen.
- On the monitor of this camera, 3D still pictures will be played back in 2D (conventional pictures).
- If you switch between 3D still pictures and normal still pictures while playing them back, a black screen will be displayed for a few seconds.
- If you select a thumbnail of 3D still pictures or display a thumbnail after playing back 3D still pictures, it may take a few seconds to start playing back or displaying the pictures.
- When a TV has not been converted for viewing 3D still pictures, do the necessary preparation on the TV. (For details about the necessary preparation of the TV, read the instructions of the TV.)
- During 3D playback, the [Wi-Fi], [Setup], [Playback] menu, Playback Zoom, and delete operation cannot be used.
- You can store 3D still pictures on a computer or a recorder. (→207, 208)

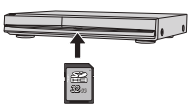
Copying still and motion pictures to a recorder

Follow the correct method for your device.

Copy by inserting the memory card into the recorder

You can copy pictures using equipment (such as Blu-ray disc recorders) with support for each file format.

- See the instruction of the recorder for details for copying and playing back.



Dubbing playback pictures via AV cable

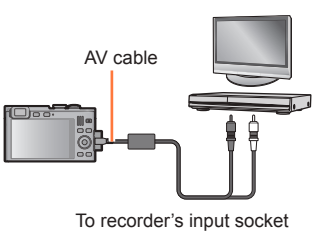
Videos that are played on this camera can be dubbed on media such as a disc, a hard disk or a videotape using a device such as a video recorder. This method is useful as it allows dubbing to be performed even with devices that are not compatible with high definition images. The picture quality will be reduced from high definition to standard definition. Audio will be monaural.

1 Connect camera and recorder

2 Start playback on the camera

3 Start recording on the recorder

- To stop recording (dubbing):
  Stop the recording on your recorder first before stopping the playback on the camera



- Do not use any other AV cables except the supplied type (→9).
- When using a TV with a 4:3 aspect ratio, always change the camera's [TV Aspect] setting (→62) to [4:3] before dubbing. Motion pictures copied in the [16:9] setting will appear vertically stretched when viewed on a 4:3 TV screen.
- For details on dubbing and playback methods, refer to your recorder's instructions.

Using with your computer

Still/motion pictures can be copied from the camera to your computer by connecting the two.

- Some computers can read directly from the camera's memory card. For details, see your computer's instructions.
- If your computer does not support SDXC Memory Cards a message will be displayed requesting you to format the card. (Do not format the card. This will erase recorded pictures.)

■Computer specifications

You can connect the camera to a computer that can detect a mass storage device (device that stores a large volume of data).

- Windows: Windows 8 / Windows 7 / Windows Vista / Windows XP
- Mac: OS X v10.1 - v10.8

Some motion pictures recorded in [AVCHD] may not be scanned correctly by copying a file or folder.

- When using Windows, be sure to use the available software to copy motion pictures recorded in [AVCHD].
- When using Mac, you can copy motion pictures recorded in [AVCHD] using "iMovie '11". (For details about iMovie '11, please contact Apple Inc.)

Copying the recorded image data to a computer with the available software

Using the Adobe® Photoshop® Lightroom® software (available for download, see below), you can import the image data recorded with this camera in all file formats to a computer - for still and motion pictures.
Three preparatory steps are necessary when initially installing the software to utilize it.

1 Install the software to your computer

2 Register your camera on the Leica Camera AG homepage

a. Open an account at http://owners.leica-camera.com. As a result, you will receive access to the “Owners area”.

b. Register your camera at “My products” by entering its serial number. Do so by following the respective instructions.

c. Then select “...software download...”. You will be requested to enter the TAN code which you will find on a sticker on the Guarantee Card.

• The key with which you can activate the software will be sent to you by email.

3 Activate the software with the key (numbers) you have received

• Do so by following the respective instructions appearing after opening the software.

■Using the software

1 Connect the camera to your computer

2 Use Adobe® Photoshop® Lightroom® to copy still and motion pictures to your computer

• For details on how to operate the software, refer to the online assistance.

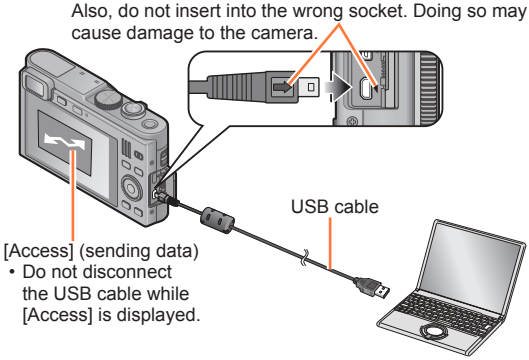
● Files and folders containing copied AVCHD motion pictures cannot be played back or edited if they have been deleted, modified, or moved using Windows Explorer or similar methods.

Using with your computer

Copying still and motion pictures

Preparation:
- When importing pictures from the built-in memory, remove any memory cards.
- Turn on the camera and computer.

Make sure the plug is aligned correctly and that it is inserted straight.
(Otherwise the connectors may be bent out of shape which will cause trouble.)
Also, do not insert into the wrong socket. Doing so may cause damage to the camera.



1 Connect camera and computer

- Do not use any other USB cables except a genuine Leica USB cable of the supplied type.
  Using cables other than the above may cause a malfunction.

2 Use the cursor buttons on the camera to select [PC], and then press [MENU/SET]

3 Operate with your computer

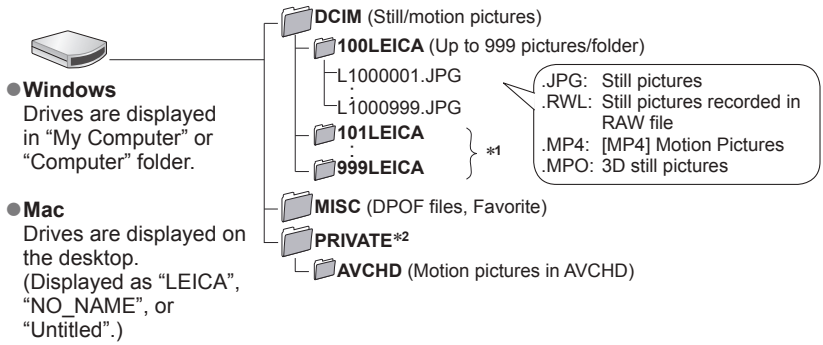
- You can save pictures to use on your computer by dragging and dropping folders and files into separate folders on your computer.

● Files and folders containing copied AVCHD motion pictures cannot be played back or edited if they have been deleted, modified, or moved using Windows Explorer or similar methods.

To cancel the connection
- Windows: Execute “Safely Remove Hardware” on the taskbar
- Mac: Open the Finder and click the eject icon that appears on the sidebar

■Copying to your computer without using Adobe® Photoshop® Lightroom®

You can save pictures to use on your computer by dragging and dropping folders and files into separate folders on your computer.



*1 New folders are created in the following cases:
- When the number of files in a folder exceeds 999.
- When using memory cards already containing the same folder number (for example, pictures taken with other cameras, etc.).
- When recording after performing [No.Reset].

*2 This folder is not created in the built-in memory.

- Turn off the camera before inserting or removing memory cards.
- When the battery begins to run out during communication, a warning beep sounds. Cancel communication via your computer immediately.
- Setting the [USB Mode] to [PC] removes the need to make the setting each time the camera is connected to the computer.
- For more details, consult your computer’s instructions.

■For PTP mode

The camera can be connected to your computer even if [USB Mode] (→61) is set to [PictBridge(PTP)].

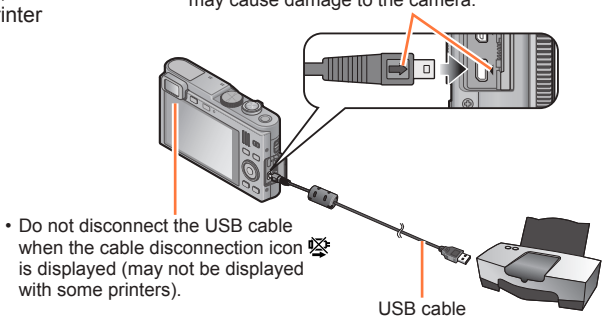
- Only picture output can be performed.
- If you cannot connect to your computer in PTP mode, set [USB Mode] to [PC] and reconnect.
- It may not be possible to import if there are 1000 or more pictures on the card.
- Motion pictures, 3D still pictures or RAW pictures cannot be read.

Printing

You can connect directly to a PictBridge-compatible printer for printing.
- Some printers can print directly from the camera's memory card. For details, see the instructions for your printer.

Preparation:
- When printing pictures from the built-in memory, remove the memory card
- Adjust the print quality or other settings on your printer, as needed
- Turn on camera and printer

Make sure the plug is aligned correctly and that it is inserted straight.
(Otherwise the connectors may be bent out of shape which will cause trouble.)
Also, do not insert into the wrong socket. Doing so may cause damage to the camera.



1 Connect camera and printer

- Do not use any other USB cables except a genuine Leica USB cable of the supplied type.
  Using cables other than the above may cause a malfunction.

2 Use the cursor buttons on the camera to select [PictBridge(PTP)], and then press [MENU/SET]

3 Use the cursor buttons to select a picture to print, and then press [MENU/SET]

4 Use the cursor buttons to select [Print start], and then press [MENU/SET]

(Print settings (→216))

■To cancel print

Press [MENU/SET]

Printing

- Turn off the camera before inserting or removing memory cards.
- Disconnect the USB cable after printing.
- When the battery begins to run out during communication, a warning beep sounds. Cancel printing and disconnect the USB cable.
- Still pictures recorded in a RAW file cannot be printed. (The still pictures recorded in JPEG file format at the same time as the RAW file can be printed.)
- Motion pictures cannot be printed.

Printing multiple pictures

1 Use the cursor buttons to select [Multi Print] in step 3 (→213)

2 Use the cursor buttons to select item, and then press [MENU/SET]

- **[Multi Select]**: ① Scroll between pictures with the cursor buttons, and then select pictures to print with the [DISP] button (Press the [DISP] button again to erase selection)
  ② Press [MENU/SET] when selection is complete
- **[Select All]**: Prints all pictures.
- **[Print Set (DPOF)]**: Prints the pictures selected in [Print Set]. (→166)
- **[Favorite]**: Prints the pictures selected as [Favorite]. (→165)

3 Use the cursor buttons to select [Print start], and then press [MENU/SET]

(Print settings (→216))

- Select [Yes] if the print confirmation screen is displayed

- An orange "●" displayed during printing indicates an error message.
- Printing may be divided into several pictures if printing a large amount of pictures. (Remaining sheets display may differ from the number of pictures set for printing.)

Printing with date and text

■ Printing date without [Text Stamp]

- Printing in store: Only the recording date can be printed. Request date printing in the store.
  - Making [Print Set] (→166) settings on the camera in advance allows settings for numbers of copies and date printing to be designated before giving the card to the store.
  - When printing still pictures of 16:9 Aspect Ratio, check in advance that the store can accept this size.
- Using a printer: The recording date can be printed by setting [Print Set] on the camera, or by setting [Print with Date] (→216) to [ON] when connecting to a printer compatible with date printing.

- Time and date can be set to be printed on the picture when taking the picture by activating the [Date Stamp] function in the [Rec] menu. (→138)

Making print settings on the camera

The setting options include the number of printed pictures and their size. Make the settings before selecting [Print start].

1 Use the cursor buttons to select the item, and then press [MENU/SET]

Item	Settings
[Print with Date]	[ON] / [OFF]
[Num.of prints]	Sets the number of pictures (up to 999 pictures)
[Paper Size]	**When is selected, the printer settings take priority.**
[Page Layout]	**(printer takes priority) / (1 picture, no border) / (1 picture, with border) / (2 pictures) / (4 pictures)**

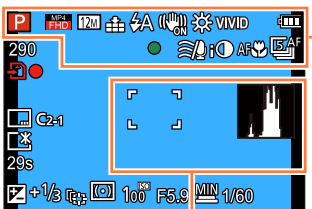
2 Use the cursor buttons to select setting, and then press [MENU/SET]

- When setting [Print with Date] to [ON], check the date printing settings on the printer (printer settings may be prioritized).
- To print a picture on which text or a date has been stamped, set [Print with Date] to [OFF]. (The still picture is printed with the date superimposed on it.)
- Items may not be displayed if incompatible with the printer.
- To arrange “2 pictures” or “4 pictures” in the same still picture, set the number of prints for the still picture to 2 or 4.
- To print to paper sizes/layouts not supported by this camera, set to and make settings on the printer. (Consult your printer’s instructions.)
- Even with completed [Print Set] settings, dates may not be printed, depending on the shop or printer used.

Monitor/Viewfinder displays

The screens shown here are only examples. The actual display may vary.

In recording

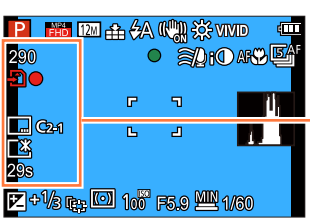


	AF frame/metering area (→39)
	Histogram (→57)

P	Recording Mode (→25)
	Backlight Compensation (→30, 33, 137)
MP4 FHD	Rec Format (→139) Rec Quality (→139)
12M	Resolution (→128)
	Quality (→129)
A	Flash Mode (→75)
ON	Stabilizer (→38, 137)
	Motion Deblur (→32)
	Camera shake alert (→38)
	White Balance (→131)
VIVID	Color Mode (→136)
	Creative control adjustment display (→97)
	Battery capacity (→17)
	Focus (→39)
	Wind cut (→141)
i	Intelligent exposure (→134)
AF	AF macro (→78)
	Macro zoom (→80)
MF	Manual Focus (→87)
AFL	AF Lock (→86)
	Coloring (→36)
5 AF	Exposure series Mode (→119)
	Auto Bracket (→91)
10	Self-timer (→89)

Monitor/Viewfinder displays

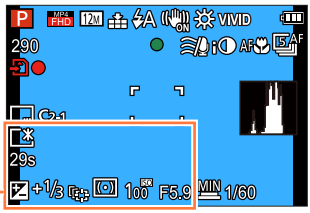
+1/3	Brightness (→36) Exposure Compensation (→90)
	AF Tracking (→34, 83)
AF	AF Assist Lamp (→136)
	Metering mode (→134)
AEL	AE Lock (→86)
100 ISO	ISO Sensitivity (→130)
	Defocusing control (→31, 36, 97)
F5.9	Aperture value (→38, 92, 94)
MIN	Minimum shutter speed (→135)
1/60	Shutter speed (→38, 93, 94)



290	Number of recordable pictures (→21)
R29m00s	Remaining recording time* (→40)
	Recording state
IN	Storage destination (→20)
	Date Stamp (→138)
C2-1	Custom Set (→115)
	Monitor luminance (→56)
29s	Elapsed recording time* (→40)
ECO	Monitor Power Save (→59)

* [m] and [s] indicate “minutes” and “seconds”. (With camera models 18 484/-488)
[h], [m] and [s] indicate “hours”, “minutes” and “seconds”.
(With camera models 18 485/-486/-487/-489/-490/-491)

Monitor/Viewfinder displays



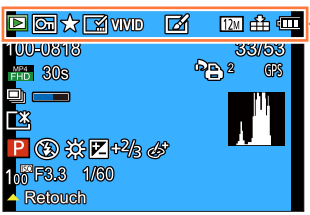
Current date/time World time (→127)
Name (→112, 124) Age in years/months (→112, 124)
Destination settings (→126) Travel; elapsed days (→126)

Focus range (→79)
Zoom (→71)

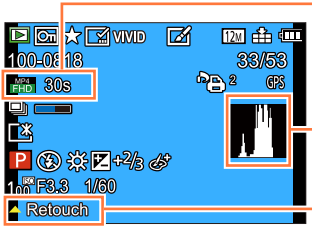
Monitor/Viewfinder displays

The screens shown here are only examples. The actual display may vary.

In playback



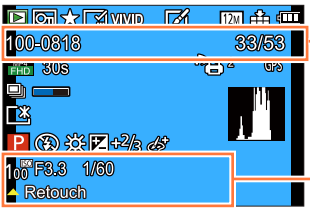
▶	Playback mode (→145)
Protected picture	Protected picture (→167)
★	Favorites (→165)
Date/text stamped display	Date/text stamped display (→138, 159)
VIVID	Color Mode (→136)
Retouched picture	Retouched picture (→153, 154)
12M	Resolution (→128)
Quality	Quality (→129)
Battery capacity	Battery capacity (→17)



MP4 FHD	Rec Format (→139) Rec Quality (→139)
30s	Motion picture recording time* (→40)
Exposure series	Exposure series (→143)
Histogram	Histogram (→57)
Retouch	Retouch (→153) Motion picture playback (→48) Panorama playback (→107) Exposure series playback (→143)

* [m] and [s] indicate “minutes” and “seconds”. (With camera models 18 484/-488)
[h], [m] and [s] indicate “hours”, “minutes” and “seconds”.
(With camera models 18 485/-486/-487/-489/-490/-491)

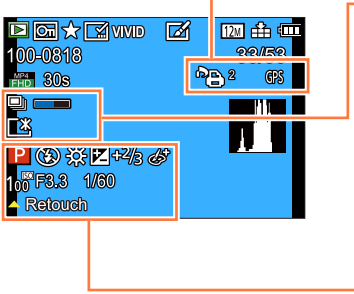
Monitor/Viewfinder displays



Folder/File number (→44, 211)	
Picture number/Total number of pictures (→44)	

Recording date/time World time (→127)	
Name* (→112, 124) Age in years/months* (→112, 124)	
Title* (→158)	
Destination settings* (→126) Travel, elapsed days* (→126)	

	Print settings (→166)
GPS	With location information (→156)



	Acquiring information icon (→143)
	Monitor luminance (→56)

P	Recording mode (→25)
	Flash Mode (→75)
	White Balance (→131)
	Exposure Compensation (→90)
	Creative control adjustment display (→97)
ISO 100	ISO Sensitivity (→130)
F3.3	Aperture value (→38, 92, 94)
1/60	Shutter speed (→38, 93, 94)

* The displaying is performed in the following priority order: title, travel destination, name ([Baby]/[Pet]), and name ([Face Recog.]). When the number of days elapsed from day of departure is displayed, age in years/months is not displayed.

Message displays

The following explains the meaning of major messages displayed on the monitor or the viewfinder, and how to respond to them.

[This memory card cannot be used]

- A MultiMediaCard was inserted.
  → Not compatible with the camera. Use a compatible card.

[Some pictures cannot be deleted] **[This picture cannot be deleted]**

- Non-DCF pictures (→44) cannot be deleted.
  → Save the needed data on a computer or other device, and then use [Format] on the camera. (→64)

[No additional selections can be made]

- The number of pictures that can be deleted at once has been exceeded.
- More than 999 pictures have been set as [Favorite].
- The number of pictures allowing [Title Edit], [Text Stamp] or [Resize] (multiple settings) at once has been exceeded.

[Cannot be set on this picture]

- [Print Set], [Title Edit], or [Text Stamp] cannot be made for non-DCF pictures (→44).

[Please turn camera off and then on again] **[System Error]**

- The lens is not working correctly.
  → Turn the camera on again.
  (Consult your dealer or your nearest Leica Customer Care center if the display still remains)

[Some pictures cannot be copied] **[Copy could not be completed]**

- Pictures cannot be copied in following cases.
  → A picture of same name already exists in the built-in memory when copying from a memory card.
  → The file is not of DCF standard (→44).
  → The picture was taken or edited on a different device.

[Not enough space on built-in memory] **[Not enough memory on the card]**

- There is no space left in the built-in memory or the memory card. When you copy pictures from the built-in memory to the card (batch copy), the pictures are copied until the capacity of the card becomes full.

[Built-In Memory Error] **[Format built-in memory?]**

- Displayed when formatting the built-in memory via a computer, etc.
  → Reformat directly using the camera. The data will be deleted.

[Memory card error. This card cannot be used in this camera. Format this card?]

- The card format cannot be used with this camera.
  → Save the needed data on a computer or an other device, and then use [Format] on the camera. (→64)

[Insert SD card again] **[Try another card]**

- Access to the card has failed.
  → Insert the card again.
- Try with a different card.

[Memory card parameter error]

- The card is not of SD standard.
- Use a card compatible with the camera.
  - SD memory cards (8 MB to 2 GB)
  - SDHC memory cards (4 GB to 32 GB)
  - SDXC memory cards (48 GB, 64 GB)

[Read Error] / [Write Error] [Please check the card]

- Data reading has failed.
  → Check whether the card has been inserted correctly (→19).
- Data writing has failed.
  → Turn off the camera and remove the card. Reinsert the card and turn the camera on again.
- The card may possibly be damaged.
- Try with a different card.

[Cannot record due to incompatible format(NTSC/PAL) data on this card.]

- Format the card after saving the necessary data on a computer etc. (→64)
  → Insert a different card.

[Motion recording was cancelled due to the limitation of the writing speed of the card]

- Motion picture recording may be automatically terminated with certain cards.
  → If recording stops even when using a card of the recommended speed class (→20), the data writing speed drops. If this happens, we recommend backing up the data on the memory card and formatting it (→64).

[A folder cannot be created]

- The folder numbers in use have reached 999.
  → Save the needed data on a computer or other device, and then use [Format] on the camera. (→64)
  The folder number is reset to 100 when performing [No.Reset] (→60).

[Picture is displayed for 16:9 TV] [Picture is displayed for 4:3 TV]

- The supplied AV cable is connected to the camera.
  → To remove the message immediately → Press [MENU/SET].
  → To change the aspect ratio → Change [TV Aspect] (→62).
- The supplied USB cable is only connected to the camera.
  → A message disappears when the cable is also connected to another device.

[This battery cannot be used]

- Use a genuine Leica battery (→9).
- The battery cannot be recognized as its terminals are dirty.
  → Wipe any dirt from the battery's terminals.

[Recording failed.]

- Recording may be impossible if the recording location for a 3D image is too dark/too bright, or if the subject lacks contrast.

Monitor/Viewfinder displays

[Failed to connect wireless access point] / [Connection failed] / [No destination found]

- Check the following regarding the wireless access point.
  → The wireless access point information set on the camera is wrong. Check the authentication type, encryption type, and encryption key. (→193)
  → The power of the wireless access point is not turned on.
  → The setting of the wireless access point is not supported by the camera.
- Check the network setting of the destination.
- Radio transmission from other devices may block the connection to a wireless access point.
  → Check other devices that are connected to the wireless access point and devices that use the 2.4GHz band.

[No picture to send]

- This is displayed when there is no image to transmit due to the restriction of the destination. Check the file type of the image to transmit. (→185)

[Connection failed. Please retry in a few minutes.] / [Network disconnected. Transfer stopped.]

- Radio transmission from the wireless access point are getting weak.
  → Perform the connection closer to the wireless access point.
- There is no reply from the server or it has exceeded the communication processing time.
  → Try again after a while.
- Depending on the wireless access point, connection may be automatically disconnected after specific time has passed.
  → Reconnect the connection again.

[Connection failed]

- Check the following regarding the smartphones you intend to connect.
  → The smartphone does not operate.
  → Change the access point to connect to in the smartphone Wi-Fi settings to this camera.
  → There is no free storage space on the smartphone.

[Some files cannot be sent because of destination limit] / [Transfer completed. Some files are left because of destination limit.]

- Check the file format of the image to send.
- Sending motion pictures may fail if the file size is too large. Split the motion picture using [Video Divide]. (→161)

[Cannot get IP address. Please set wireless AP's IP address setting to DHCP.]

- Turn on DHCP settings of the IP address of the connected wireless access points.

[Cannot connect to server]

- If a message is displaying asking to update the root certificate, agree to update the root certificate.

Troubleshooting

Try checking these items (→225 - 234) first.
If the problem persists, performing [Reset] in the [Setup] menu may resolve the issue (→61). (Note that except for some items such as [Clock Set], all settings are returned to their values at the time of purchase.)

Battery, power

The charging lamp turns off before the battery is fully charged.

- Charging is being performed in a place with extremely high or low temperature.
  → Reconnect the supplied USB cable (→9) 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).
  (When the USB cable is reconnected after the battery is fully charged, the charging lamp will light for approximately 15 seconds.)

The camera does not work even if it is turned on.

- The battery is not inserted correctly (→14), or needs recharging.

The camera switches off as soon as it is turned on.

- The battery needs recharging.

The camera is turned off automatically.

- If you connect to a TV compatible with HDTV Link (HDMI) with an HDMI micro cable (→201) and turn off the TV with the remote control for the TV, the camera also turns off.
  → If you are not using HDTV Link (HDMI), set [HDTV Link] to [OFF]. (→62)

Recording

Pictures cannot be recorded.

- The built-in memory/the card is full.
  → Free space by deleting unwanted pictures (→50).

Recorded pictures look white.

- The lens is dirty (fingerprints, etc.).
  → Turn the camera on to extend the lens barrel, and clean lens surface with a soft, dry cloth.
- The lens is foggy (→7).

Recorded pictures are too bright/too dark.

- **Adjust the exposure (→90).**
- **[Min. Shtr Speed] is set to a fast speed. Check the setting (→135).**

Several pictures are taken when I press the shutter button just once.

- The camera is set to [Auto Bracket] or [Burst].

Recorded pictures are not sharp.

- The set mode is not appropriate for the distance to the subject. (Focusing ranges vary according to the recording mode.)
- The subject is outside of focus range. (→79)
- This can be caused by camera shake or subject movement. (→38)

Recorded pictures are blurred. The stabilizer function ineffective.

- The shutter speed is slower in dark locations and the stabilizer function is less effective.
  → Hold the camera firmly with both hands, keeping arms close to body.
- Use a tripod and the self-timer (→89) when using slower shutter speeds with [Min. Shtr Speed].

[Auto Bracket] cannot be used.

- There is only enough memory for 2 pictures or fewer.

Recorded pictures appear coarse, or there is interference.

- The ISO Sensitivity is high, or the shutter speed is low.
  (The Default [Sensitivity] setting is [AUTO] – interference may appear with indoor pictures.)
  → Reduce the [Sensitivity] (→130).
  → Take pictures in brighter locations.

Stripes or flickering may appear under lighting such as fluorescent lighting and LED lighting fixtures.

- This is characteristic of MOS sensors like the one in this camera. This is not a malfunction.

Brightness or coloring of recorded pictures are different than in reality.

- When recording under fluorescent or LED lighting fixtures 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 fixtures, mercury lamps, sodium lighting etc., the colors and screen brightness may change or horizontal stripes may appear on the screen.

Recording (continued)

Reddish horizontal streaks appear on the monitor during recording.

- This is characteristic of MOS sensors like the one in this camera. It appears when the subject has a bright part. Some unevenness may occur in the surrounding areas, but this is not a malfunction. It is recorded in motion pictures but is not on still pictures.
- It is recommended that you take pictures while taking care not to expose the screen to sunlight or any other source of strong light.

Motion picture recording stops midway.

- If the surrounding temperature is high, or a motion picture is recorded continuously, ⚠ is displayed and recording may be stopped halfway through to protect the camera.
- With some memory cards, access display may appear briefly after recording, and recording may end midway.
- Use a card of SD Speed “Class 4” or higher. If recording stops even when using a card of the recommended speed class, the data writing speed has dropped. If this happens, we recommend backing up the data on the memory card and formatting it (→64).

Panorama picture recording stops before finishing.

- If the pan motion of the camera is too slow, the camera assumes that the operation has been aborted and stops recording.
- If the pan motion of the camera is too shaky when it is moved toward the recording direction, the camera stops recording.
  → To record panorama pictures, pan the camera in a small circular motion parallel to the recording direction at a speed of approx. 8 seconds per revolution (guideline).

The subject cannot be locked. (AF tracking fails)

- If the color of the subject is similar to that of its background, AF Tracking may not function. Aim the AF frame at an area of the subject with color specific to it.

Monitor/Viewfinder

Pictures do not show on the monitor.

- The camera is set for viewfinder display.
  → Press [LVF] button and switch to monitor display.

The brightness is unstable.

- The aperture value is set while shutter button is pressed halfway. (This does not affect the recorded picture.)
  This symptom may also occur when the brightness changes because the zoom is operated or the camera is moved. This is the automatic aperture operation of the camera and is not a malfunction.

The monitor flickers indoors.

- The monitor may flicker for a few seconds after turning on. This is an operation to correct flicker caused by lighting such as fluorescent lights, LED lights etc. and is not a malfunction.

The monitor is too bright/too dark.

- [Monitor Luminance] is activated (→56)
- Use [Monitor Display] to adjust the brightness of the LCD monitor. (→55)

Black/blue/red/green dots or interference appear. The monitor looks distorted when touched.

- This is not a fault, and will not be recorded on the actual pictures.

Pressing the [LVF] button does not switch between monitor and viewfinder.

- When it is connected to a computer or printer, the camera can only display pictures on the monitor.

Flash

No flash is emitted.

- The flash is set to [Forced Flash Off] (→75).
- The flash becomes unavailable in the following cases :
  - [Auto Bracket]
  - [Burst] (Excluding [Flash Burst])
  - Scene Modes ([Scenery], [Night Scenery], [Handheld Night Shot], [HDR], [Sunset], [Starry Sky], [Through window], [3D Photo Mode])
  - [Creative Control] Mode
  - [Panorama Shot] Mode

Multiple flashes are emitted.

- Red-eye reduction is active (→75). (Flashes twice to prevent eyes appearing red.)
- [Burst] is set to [Flash Burst].

Playback

Pictures have been rotated.

- [Rotate Disp.] is activated (→63)

Pictures cannot be viewed. There are no recorded pictures.

- There are no pictures in the built-in memory or the memory card (pictures are played from the card if inserted, from the built-in memory if not).
- Has the file name of the picture been changed on a computer? If so, it cannot be played back on the camera.
- During [Filtering Play], only pictures under the set filters are displayed.
  → Cancel filtering (→146).

The folder/file number displayed as [-]. The picture is black.

- The picture was edited on a computer or taken on a different device.
- The battery was removed immediately after the picture was taken, or the picture was taken with low battery capacity.
  → Use [Format] to delete (→64).

Picture display takes a lot of time during Multi Playback.

- When you have many pictures that were edited with [Resize], [Retouch], etc., it may take several minutes for all pictures to be displayed during Multi Playback.

An incorrect date is displayed in Calendar Search.

- The picture was edited on a computer or taken on a different device.
- [Clock Set] is incorrect (→24).
  (An incorrect date may be displayed in Calendar Search on pictures copied to a computer and then back to the camera, if computer and camera dates differ.)

White round spots like soap bubbles appear on the recorded picture.

- If you take a picture with the flash in a dark place or indoors, white round spots may appear on the picture caused by the flash reflecting particles of dust in the air. This is not a fault. A characteristic of this is that the number of round spots and their position differ in every picture.

[Thumbnail is displayed] is shown on the screen.

- The pictures may have been recorded on another device. If so, they may be displayed with poor picture quality.

Red areas of recorded pictures are rendered black.

- When digital red-eye correction (,) is operating, if a subject is recorded that has skin-colored areas with red areas inside, the digital red-eye correction function may blacken the red areas.
  → We recommend setting the flash to , , or , or [Red-Eye Removal] to [OFF] before recording.

Sounds of camera operations such as zooming are audible in motion picture recordings.

- Camera operation sounds may be recorded as camera automatically adjusts the lens aperture during motion picture recording; this is not a fault.

Motion pictures taken by this camera cannot be played in other cameras.

- Even if a device is compatible with AVCHD and MP4, the motion pictures that were recorded with this camera may have bad picture quality or sound quality upon playback, or may be unable to be played back. Also, there might be a case that a recording information does not display correctly.

About the Wi-Fi function

The camera cannot connect to the wireless LAN. The radio transmission gets disconnected.

- Use the camera within the communication range of the wireless LAN network.
- Connection types and security setting methods are different depending on the wireless access point.
  → Refer to the instructions of the wireless access point.
- When the radio transmission is interrupted, the condition may improve by moving the location or changing the angle of the wireless access point.
- The camera may not automatically connect when the network SSID of the wireless access point is set not to broadcast.
  → Set the network SSID of the wireless access point to broadcast.
- Is any device, such as microwave oven, cordless phone, etc., that uses 2.4GHz frequency operated nearby?
  → Radio transmissions may get interrupted when used simultaneously. Use them sufficiently away from the device.
- Is the 5GHz/2.4GHz switchable wireless access point connected to other equipment using the 5GHz band?
  → The use of a wireless access point that can use 5GHz/2.4GHz simultaneously is recommended. It cannot be used simultaneously with this camera if it is not compatible.
- 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.)

The wireless access point is not displayed. Or it cannot be connected.

- Check if the wireless access point to connect is in operating state.
- The camera may not display or connect to a wireless access point depending on the radio transmission condition.
  → Perform the connection closer to the wireless access point.
- It may not be displayed even if the radio transmission works depending on the setting of the wireless access point.
  → Check the settings of the wireless access point.
- The wireless access point may not be found depending on the radio transmission condition.
  → Perform the [Manual Connection]. (→192)
- Is the network SSID of the wireless access point set not to broadcast?
  → It may not be detected when it is set not to broadcast. Enter and set the network SSID. (→193)
- Try the following:
  → Move the camera closer to the wireless access point
  → Remove the obstacles between the camera and the wireless access point
  → Change the direction of the camera

It takes long time every time to connect to a smartphone.

- It may take longer time to connect depending on the Wi-Fi connection setting of the smartphone, but it is not a malfunction.

The camera is not displayed in the Wi-Fi setting screen of the smartphone. It takes time to setup the connection.

- Try switching the ON/OFF of the Wi-Fi function in the Wi-Fi settings of the smartphone.

About the Wi-Fi function (continued)

It takes time to transmit an image.

- Is the size of the image too large?
  → Transmit after dividing the motion picture with [Video Divide] (→161).
  → Reduce the image size at [Size] (→199), 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.

There is an image that could not be transmitted.

- Is the size of the image too large?
  → Divide the motion picture using [Video Divide] (→161).
  → Reduce the image size at [Size] (→199), and then send.

I have forgotten the password for the Wi-Fi.

→ Execute the [Reset Wi-Fi Settings] in the [Setup] menu. (→61)
→ However, all the information you have set on the [Wi-Fi Setup] menu, will be reset.

Transmission of the image fails midway.

- Is the size of the image too large?
  → Transmit after dividing the motion picture with [Video Divide] (→161).
  → Reduce the image size at [Size] (→199), and then send.
  → The image cannot be transmitted when the battery indicator is flashing red.

Motion pictures cannot be transmitted.

- The file format of the motion picture that can be sent differs depending on the destination. (→185)
- Is the size of the image too large?
  → Transmit after dividing the motion picture with [Video Divide] (→161).

I cannot connect using the NFC function.

- The smartphone is not NFC compatible.
  This function can be used with NFC compatible devices with Android (2.3.3 or above).
- Is the NFC function on the smartphone turned off?
- The [NFC Operation] on the camera is set to [OFF]. (→200)
- The camera has a hard time recognizing some smartphone models. If it is not recognized, slowly shift the smartphone while it is next to the camera.

TV, computer, printer

No image appears on TV. The image is blurred or not colored.

- The camera is not connected correctly (→201).
- The television has not been switched to auxiliary input.
- Check the [Video Out] setting (NTSC/PAL) on the camera. (→62)
  (With camera models 18 484/-487/-488/-491)

The TV screen display differs from that of the monitor.

- The aspect ratio may be incorrect or the edges may be cut off with certain TVs.

Motion pictures on TV cannot be played back.

- Card is inserted into TV.
  → Connect with the supplied AV cable (→9) or an HDMI micro cable and play on the camera (→201).

The picture is not displayed on the full TV screen.

- Check the [TV Aspect] settings (→62).

No sound is output from the camera speaker.

- When the supplied AV cable (→9) or an HDMI micro cable is connected to the camera, no sound is output from the camera.

HDTV Link (HDMI) is not working.

- Is the HDMI micro cable connected correctly? (→201)
  → Check that the HDMI micro cable is fully inserted.
- Is the camera's [HDTV Link] setting set to [ON]? (→62)
  → The input setting may not be able to be changed automatically with certain TVs' HDMI sockets. In this case, please change the input setting with your TV's remote control (consult your TV's instructions for details).
  → Check the HDTV Link (HDMI) settings on the device you are connecting to.
  → Turn the camera off and on again.
  → Provided it has this function, turn the "HDTV Link control (HDMI device control)" setting on your HDTV compatible television set to off and then to on again. (Consult your TV's instructions for details.)

Communication with the computer does not succeed.

- The connection is not correct (→210).
- Check whether computer has recognized camera.
  → Set [USB Mode] to [PC] (→61).
  → Turn the camera off and then back on again.

TV, computer, printer (continued)

The computer does not recognize the memory card (it only reads the built-in memory).

- Disconnect the USB cable and reconnect with an inserted card.

The computer does not recognize the memory card. (When using an SDXC memory card)

→ Check whether your computer is compatible with SDXC memory cards.
→ A message prompting you to format the card may appear when you connect it. Do not format the card.
→ If the [Access] indicator on the monitor does not go off, turn the camera off before disconnecting the USB cable.

Printing does not work in spite of an existing connection to a printer.

- The printer is not compatible with PictBridge.
- Set [USB Mode] to [PictBridge(PTP)] (→61).

The edges of pictures are cut off when printing.

- Erase any trimming or edgeless printing settings on the printer before printing. (Consult the printer's instructions.)
- The pictures were recorded in 16:9 aspect ratio.
  → If printing in a shop, check if 16:9 sizes can be printed.

Panorama pictures are not printed properly.

- The aspect ratio of panorama pictures is different from that of regular still pictures, and some panorama pictures may not be printed correctly.
  → Use a printer with support for panorama pictures. (Refer to the instructions for the printer.)
  → We recommend adjusting the size of a picture in accordance with print paper using the software available (→209).

Others

The menu is not displayed in the desired language.

- Change the [Language] setting (→64).

The camera rattles if shaken.

- This sound is made by the lens movement and is not a fault.

The red lamp is illuminated when pressing the shutter button halfway in dark locations.

- [AF Assist Lamp] is set to [ON] (→136).

The AF Assist Lamp is not illuminated.

- [AF Assist Lamp] is set to [OFF] (→136).
- In bright locations the lamp is not necessary and therefore it does not light up.

The camera gets hot.

- The camera may become a little warm during use, but this does not affect performance or quality.

The lens makes a clicking noise.

- When brightness changes, the lens may make a clicking noise and the monitor or viewfinder brightness may also change, but this is due to aperture settings being made. (Does not affect recording.)

The clock is incorrect.

- The camera has been left for a long period.
  → Reset the clock (→24).
- A long time was taken to set the clock (the clock will be behind by the same lapse of time).

The complete zooming range is not accessible.

- If the zoom ratio stops at 3x, [Macro Zoom] has been set. (→80)

File numbers are not recorded in sequence.

- File numbers are reset when new folders are created (→211).

File numbers have jumped backwards.

- The battery was removed/inserted with the camera turned on. (Numbers may jump backwards if folder/file numbers are not correctly recorded.)

Usage cautions and notes

When in use

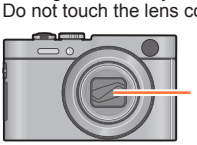
- The camera may become warm if used for long periods of time, but this is not a fault.
- **Keep the camera as far away as possible from electromagnetic equipment (such as microwave ovens, TVs, video games etc.).**
  - If you use the camera on top of or near a TV, the pictures and/or sound on it may be disrupted by electromagnetic fields.
  - Do not use the camera near cell phones because doing so may result in noise adversely affecting the pictures and/or the sound.
  - Recorded data may be damaged, or pictures may be distorted by strong magnetic fields created by speakers or large motors.
  - Electromagnetic fields generated by microprocessors may adversely affect the camera, disturbing the pictures and/or the sound.
  - If the camera is adversely affected by electromagnetic equipment and stops functioning properly, turn it off and remove the battery or disconnect the supplied charger/AC adapter. Then reinsert the battery or reconnect the charger/AC adapter and turn the camera on.

  Do not use the camera near radio transmitters or high-voltage lines.
  - If you record near radio transmitters or high-voltage lines, the recorded pictures and/or the sound may be adversely affected.
- Do not extend the supplied cord or cable.
- Do not allow the camera to come into contact with pesticides or volatile substances (they can cause surface damage or coating to peel).
- Do not keep objects that may be influenced magnetically close to the speaker.
  - Magnetized objects such as bank cards, commuter passes, watches, may be adversely affected by the magnetic influence of the speaker.
- Never leave the camera and the battery in a car or on a car hood in the summer.
  It may cause leakage of the battery electrolyte, the development of heat, and may cause a fire and the battery to explode due to the high temperature.

Caring for your camera

To clean your camera, remove the battery or disconnect the power plug from the outlet, and wipe with a soft, dry cloth.

- Use a damp cloth to remove stubborn stains, before wiping with a dry cloth.
- Do not use benzine, thinners, alcohol, or kitchen detergent, as these may damage the outer casing and finish of the camera.
- If using a chemically-treated cloth, read the supplied instructions carefully.
- Do not touch the lens cover.



When not using for a while

- Turn off the camera before removing the battery and the memory card (ensure that battery is removed to prevent damage through over-discharge).
- Do not leave in contact with rubber or plastic bags.
- Store together with a drying agent (silica gel) if leaving in drawer, etc. Store batteries in cool (15°C to 25°C (59°F to 77°F)) places with low humidity (40% RH to 60% RH) and no major temperature changes.
- Charge the battery once per year and use completely before storing again.

Memory cards

- To prevent damage to cards and data
  - Avoid high temperatures, direct sunlight, electromagnetic fields, and static electricity.
  - Do not bend, drop, or expose to strong impacts.
  - Do not touch the terminals on reverse of card or allow them to become dirty or wet.
- When disposing of/transferring memory cards
  - If using the “format” or “delete” functions on your camera or computer, this only changes the file management information, and does not completely delete the data from within the memory card. When disposing of or transferring your memory cards, we recommend physically destroying the memory card itself, or using commercially available computer data erasing software to completely delete the data from the card. Data within memory cards should be managed responsibly.

Monitor/Viewfinder

- Do not exert excess pressure on the monitor. This may cause uneven display and damage the monitor.
- In cold climates or other situations when the camera becomes cold, the monitor or the viewfinder may appear slightly darker than normal immediately after the camera is turned on. Normal brightness will return once the internal components have warmed up.

The monitor and the viewfinder are made with extremely high precision technology. However there may be some dark or bright spots (red, blue or green) on the screen. This is not a malfunction. The monitor and viewfinder screens are controlled with extremely high precision (greater than 99.99%), but some pixels (under 0.01%) may be inactive. The spots will not be recorded on pictures on the built-in memory or a card.

About charging the battery

- The time required for charging varies depending on conditions of battery usage. Charging takes longer at high or low temperatures and when the battery has not been used in some time.
- The battery will be warm during charging and for some time thereafter.
- The battery will run out if not used for long periods of time, even after being charged.
- Do not leave any metal items (such as clips) near the contact areas of the power plug. Otherwise, a fire and/or electric shocks may be caused by short-circuiting or the resulting heat generated.
- Frequently charging up the battery is not recommended. (Frequently charging the battery reduces the maximum usage time and can cause the battery to expand.)
- If the available battery power is significantly reduced, the battery is reaching end of its lifespan. Please purchase a new battery.
- When charging:
  - Wipe dirt from the battery terminals with a dry cloth.
  - Keep at least 1m (3′ 4″) away from an AM radio (this may cause radio interference).
- Do not use a damaged or dented battery (especially terminals), e.g. by dropping (can cause faults).
- Do not peel off or scratch the covering on the battery.
  - Using a battery with a part of or all of its covering removed or broken may cause malfunction.

About the supplied charger/AC adapter (→9)

- Keep at least 1m (3′ 4″) away from an AM radio (this may cause radio interference).
- The charger/AC adapter may generate whirring sounds when it is being used. This is not a malfunction.
- After use, be sure to disconnect the power supply device from the electrical outlet. (A very small amount of current is consumed if it is left connected.)

Lens

- Images may appear slightly white if the lens is dirty (fingerprints, etc.). Turn the camera on, hold the extended lens barrel with your fingers, and gently wipe the lens surface with a soft, dry cloth.
- Do not leave the lens exposed to direct sunlight.
- Do not touch the lens cover, as this may damage the lens. Be careful when removing the camera from a bag, etc.

When using a tripod or unipod

- Do not apply excessive force or tighten damaged screws. (This may damage the camera, tripod thread, or label.)
- Ensure that the tripod is stable. (Refer to the tripod instructions.)
- You may not be able to remove the card or the battery when using a tripod or unipod.

About 3D viewing

- Anyone who is hypersensitive to light, suffers from heart disease or is otherwise unwell should avoid viewing 3D pictures.
  - Viewing 3D pictures may have an adverse effect to the individual.
- If you feel tired, uncomfortable or otherwise strange when viewing 3D pictures, stop viewing at once.
  - Continuing to view may cause illness.
  - After stopping viewing, please rest appropriately.
- When viewing 3D pictures, we recommend taking a break every 30 to 60 minutes.
  - Viewing for extended periods may cause eye-fatigue.
- Short-sighted or long-sighted persons, those with differences in the sight of their right and left eyes, and those with astigmatism are advised to correct their vision by wearing glasses etc.
  Stop viewing if you can clearly see a double image while viewing 3D pictures.
  - There are differences in the way that different people experience 3D pictures. Please correct your sight appropriately before viewing 3D pictures.
  - You can change the 3D setting of your television or 3D output setting of the unit to 2D.

Personal Information

To protect personal information, we recommend that you set a Wi-Fi password. (→200)
If names or birthdays are set in [Baby] Mode or in the [Face Recog.] function, keep in mind that the camera and recorded pictures will contain personal information.

- **Disclaimer**
  - Data containing personal information can be altered or lost due to malfunction, static electricity, accidents, breakdowns, repairs, or other operations.
    Leica Camera AG will not be liable for any damage that occurs, direct or indirect, as a result of the alteration or loss of data containing personal information.
- **When ordering repairs or transferring/disposing of the camera**
  - To protect your personal information, please reset the settings. (→61)
  - If any pictures are contained in the built-in memory, copy (→169) them to a memory card if necessary, and then format (→64) the built-in memory.
  - Remove the memory card from the camera.
  - When ordering repairs, the built-in memory and other settings may be returned to the initial purchase state.
  - If the above operations cannot be performed because of a camera malfunction, consult your dealer or the nearest Leica Customer Care department.
- **When transferring or disposing of your memory card, see “When disposing of/transferring memory cards” in the previous section** (→236)**.**

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Leica service addresses

Leica Product Support

The Leica Product Support department can provide you with an answer to any technical questions relating to Leica products, including software supplied, either in writing, on the telephone or by e-mail.
They are also the contact point for purchasing advice and to order instructions.
Alternatively, you can send us your questions using the contact form on the Leica Camera AG homepage.

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Leica Customer Care

For servicing your Leica equipment or in the event of damage, the Leica Camera AG Customer Care department or the repair service provided by authorized Leica agents in your country are available (for addresses, see Guarantee Card).

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my point of view

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