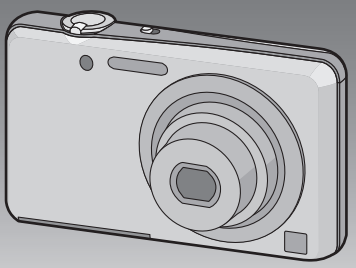
Panasonic®

Operating Instructions for advanced features

Digital Camera

Model No. DMC-FS22

LUMIX



Before use, please read these instructions completely.

SD XC™

VQT3Q01

Contents

Before Use

Care of the camera 4
Standard Accessories 5
Names of the Components 6
How to Use the Touch Panel 8

Preparation

Charging the Battery 9
• Charging 9
• Approximate operating time and number of recordable pictures 11
Inserting and Removing the Card (optional)/the Battery 13
About the Built-in Memory/the Card 15
• Approximate number of recordable pictures and available recording time 17
Setting Date/Time (Clock Set) 18
• Changing the Clock Setting 19
Tips for taking good pictures 20
• Fit the strap and hold the camera carefully 20
• Preventing jitter (camera shake) 20

Basic

Selecting the [Rec] Mode 21
Taking pictures using the automatic function (Intelligent Auto Mode) 22
• Changing the settings 23
• Scene Detection 24
Taking pictures with your favourite settings (Normal Picture Mode) 25
Focusing 26
Playing Back Pictures ([Normal Play]) 28
Motion Picture Mode 30
Playing Back Motion Pictures 31
Deleting Pictures 32
• To delete a single picture 32
• To delete multiple pictures (up to 50) or all the pictures 33
Setting the Menu 34
• Setting menu items 34
• Call up commonly used menus with ease (Shortcut setting) 36
About the Setup Menu 37

Recording

About the LCD Monitor 42
Taking pictures using the touch operation (Touch Shutter function) 43
Match the focusing and exposure to a desired subject using touch operations (Touch AF/AE) 44
Taking Pictures with the Zoom 45
• Using the Optical Zoom/ Using the Extra Optical Zoom (EZ)/ Using the Intelligent zoom/ Using the Digital Zoom 45
• Zooming with touch operation 48
Taking pictures while changing the skin texture (Cosmetic Mode) 49
Taking pictures that match the scene being recorded (Scene Mode) 50
• Selecting Scene Mode for each recording (Scene Mode) 50
• Registering frequently used Scene Modes (My Scene Mode) 51
• [Portrait] 52
• [Transform] 52
• [Self Portrait] 53
• [Scenery] 53
• [Panorama Assist] 54
• [Sports] 55
• [Night Portrait] 55
• [Night Scenery] 55
• [Food] 56
• [Party] 56
• [Candle Light] 56
• [Baby1]/[Baby2] 57
• [Pet] 58
• [Sunset] 58
• [High Sens.] 58
• [Hi-Speed Burst] 59
• [Flash Burst] 60
• [Starry Sky] 60
• [Fireworks] 61
• [Beach] 61
• [Snow] 61
• [Aerial Photo] 61
• [Pin Hole] 62
• [Film Grain] 62
• [High Dynamic] 62
• [Photo Frame] 63

Useful Functions at Travel Destinations 64
• Recording which Day of the Vacation and the Location of the Vacation ([Travel Date]).....64
• Recording Dates/Times at Overseas Travel Destinations ([World Time]).....66
Entering Text.....67
Using the [Rec] Mode Menu.....68
• [Flash] 68
• [Selftimer].....71
• [Picture Size].....72
• [Rec Quality] 73
• [Sensitivity].....74
• [White Balance].....75
• [AF Mode] 77
• [Macro Mode] 79
• [Exposure].....80
• [i.Exposure] 81
• [i.Resolution] 81
• [Digital Zoom].....81
• [Burst].....82
• [Color Mode] 83
• [AF Assist Lamp].....84
• [Red-Eye Removal].....84
• [Stabilizer] 85
• [Date Stamp] 85
• [Clock Set].....85

Playback/Editing

Various methods to play back 86
• [Slide Show] 87
• [Filtering Play] 89
• [Calendar] 90
Using the [Playback] Mode Menu 91
• [Upload Set] 91
• [Text Stamp].....93
• [Resize] 95
• [Cropping] 96
• [Favorite] 97
• [Print Set] 98
• [Protect].....100
• [Copy].....101

Having fun

Having Fun with Recorded Pictures.....102
• [Beauty Retouch] 103
• [Image Stamp].....105

Connecting to other equipment

Connecting to a PC 106
• Using “PHOTOfunSTUDIO” to copy to a PC 109
• Uploading the images to sharing sites.....109
Printing the Pictures 110
• Selecting a single picture and printing it 111
• Selecting multiple pictures and printing them 111
• Print Settings.....112
Playing Back Pictures on a TV Screen 115
• Playing back pictures using the AV cable (supplied).....115
• Playing back pictures on a TV with an SD Memory Card slot.....116

Others

Screen Display 117
Cautions for Use.....120
Message Display 125
Troubleshooting.....127

Care of the camera

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

- The lens, LCD monitor, or external case may be damaged if used in following conditions.
  It may also malfunction or image may not be recorded.
  – Drop or hit the camera.
  – Sit down with the camera in your trousers pocket or forcefully insert it into a full or tight bag, etc.
  – Attach any items such as accessories to the strap attached to the camera.
  – Press hard on the lens or the LCD monitor.

This camera is not dust/drip/water proof.
Avoid using the camera at location with a lot of dust, water, sand, etc.

- Liquids, sand and other foreign material may get into the space around the lens, buttons, etc. Be particularly careful since it may not just cause malfunctions, but it may become unrepairable.
  – Places with a lot of sand or dust.
  – Places where water can come into contact with this unit such as when using it on a rainy day or on a beach.

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

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

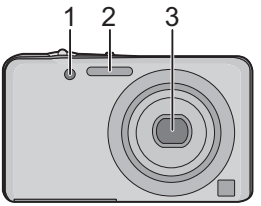
Standard Accessories

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

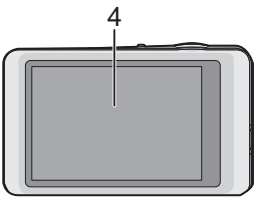
- The accessories and their shape will differ depending on the country or area where the camera was purchased.
  For details on the accessories, refer to Basic Operating Instructions.
- Battery Pack is indicated as **battery pack** or **battery** in the text.
- Battery Charger is indicated as **battery charger** or **charger** in the text.
- SD Memory Card, SDHC Memory Card and SDXC Memory Card are indicated as **card** in the text.
- **The card is optional.**
  You can record or play back pictures on the built-in memory when you are not using a card.
- Consult the dealer or your nearest Service Centre if you lose the supplied accessories. (You can purchase the accessories separately.)

Names of the Components

1 Self-timer indicator (P71)
AF Assist Lamp (P84)
2 Flash (P68)
3 Lens (P4, 121)

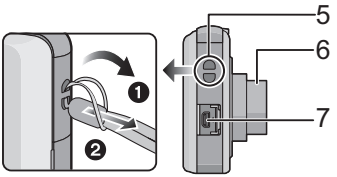


4 Touch panel/LCD monitor (P8, 42, 117)

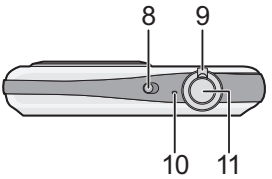


5 Strap eyelet
- Be sure to attach the strap when using the camera to ensure that you will not drop it.

6 Lens barrel
7 [AV OUT/DIGITAL] socket (P106, 110, 115)



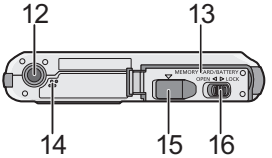
8 Camera ON/OFF switch (P18)
9 Zoom lever (P45)
10 Microphone
11 Shutter button (P22, 25, 30)



12 Tripod receptacle
13 Card/Battery door (P13, 14)
14 Speaker (P37)
- Do not cover the speaker with your fingers.

15 DC coupler cover (P14)
- When using an AC adaptor, ensure that the Panasonic DC coupler (optional) and AC adaptor (optional) are used. For connection details, refer to P14.

16 Release lever (P13)



How to Use the Touch Panel

This touch panel is a type that detects pressure.

Touch the screen To touch and release the touch panel.	**Drag** A movement without releasing the touch panel.
  Use this to perform tasks such as selecting icons or images displayed on the touch panel. • It may not operate properly when multiple icons are touched simultaneously, so try to touch the centre of the icon.	 This is used when performing tasks such as moving to the next image by dragging horizontally, or changing the range of the displayed image. This can also be used to perform tasks such as switching the screen by operating the slide bar.

Note

- If you use a commercially available liquid crystal protection sheet, please follow the instructions that accompany the sheet. (Some liquid crystal protection sheets may impair visibility or operability.)
- Apply a little extra pressure when touching if you have a commercially available protection sheet affixed or if you feel it is not responding well.
- Touch panel will not operate properly when the hand holding this unit is pressing on the touch panel.
- Do not press using anything with a sharp tip or anything hard, except for the supplied stylus pen.
- Do not operate with your fingernails.
- Do not scratch or press the LCD monitor too hard.
- Wipe the LCD monitor with dry soft cloth when it gets dirty with finger prints and others.
- For information about the icons displayed on the touch panel, refer to “Screen Display” on P117.

■ About the Stylus pen

It is easier to use the stylus pen (supplied) for detailed operation or if it is hard to operate with your fingers.

- Do not place it where small children can reach.
- Do not place the stylus pen on the LCD monitor when storing. LCD monitor may break when the stylus pen is pressed strongly against the LCD monitor.

Charging the Battery

■ **About batteries that you can use with this unit**

Supplied battery or dedicated optional batteries can be used with this unit.
Refer to Basic Operating Instructions about the accessory number of the available optional batteries in your area.

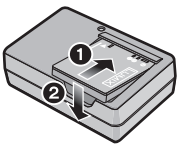
It has been found that counterfeit battery packs which look very similar to the genuine product are made available to purchase in some markets. Some of these battery packs are not adequately protected with internal protection to meet the requirements of appropriate safety standards. There is a possibility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

- **Use the dedicated charger and battery.**

Charging

- **The battery is not charged when the camera is shipped. Charge the battery before use.**
- Charge the battery with the charger indoors.

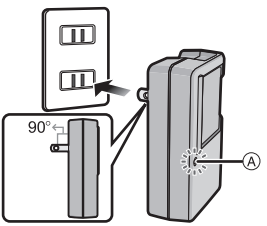
1 **Attach the battery paying attention to the direction of the battery.**



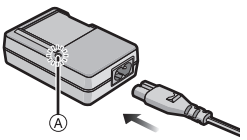
2 **Connect the charger to the electrical outlet.**

- The [CHARGE] indicator Ⓐ lights up and charging begins.

plug-in type



inlet type



■ About the [CHARGE] indicator

The [CHARGE] indicator turns on:
The [CHARGE] indicator is turned on during charging.

The [CHARGE] indicator turns off:
The [CHARGE] indicator will turn off once the charging has completed without any problem. (Disconnect the charger from the electrical socket and detach the battery after charging is completed.)

- **When the [CHARGE] indicator flashes**
  – The battery temperature is too high or too low. It is recommended to charge the battery again in an ambient temperature of between 10 °C to 30 °C (50 °F to 86 °F).
  – The terminals of the charger or the battery are dirty. In this case, wipe them with a dry cloth.

■ Charging time

	Supplied battery	Optional battery
Charging time	**Approx. 115 min**	**Approx. 120 min**

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

■ Battery indication

The battery indication is displayed on the LCD monitor.

- The indication turns red and blinks if the remaining battery power is exhausted. Recharge the battery or replace it with a fully charged battery.

Note

- **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.**
- The battery becomes warm after using and during and after charging. The camera also becomes warm during use. This is not a malfunction.
- The battery can be recharged even when it still has some charge left, but it is not recommended that the battery charge be frequently topped up while the battery is fully charged. (Since characteristic swelling may occur.)

Approximate operating time and number of recordable pictures

■ Picture recording

	Supplied battery	Optional battery
Capacity of the battery	660 mAh	680 mAh
Number of recordable pictures	Approx. 240 pictures	Approx. 245 pictures
Recording time	Approx. 120 min	Approx. 122 min

Recording conditions by CIPA standard

- CIPA is an abbreviation of [Camera & Imaging Products Association].
- Normal Picture Mode
- Temperature: 23 °C (73.4 °F)/Humidity: 50%RH when LCD monitor is on.
- Using a Panasonic SD Memory Card (32 MB).
- Starting recording 30 seconds after the camera is turned on. (When the Optical Image Stabilizer function is set to [ON].)
- **Recording once every 30 seconds** with full flash every second recording.
- Rotating the zoom lever 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 of recordable pictures varies depending on the recording interval time. If the recording interval time becomes longer, the number of recordable pictures decreases. [For example, if you were to take one picture every two minutes, then the number of pictures would be reduced to approximately one-quarter of the number of pictures given above (based upon one picture taken every 30 seconds).]

■ Playback

	Supplied battery	Optional battery
Playback time	**Approx. 200 min**	**Approx. 205 min**

Note

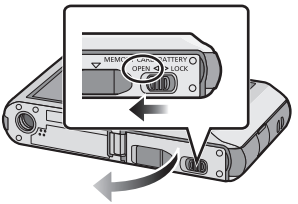
- **The operating times and number of recordable pictures will differ according to the environment and the operating conditions.**
  For example, in the following cases, the operating times shorten and the number of recordable pictures is reduced.
  – In low-temperature environments, such as on ski slopes.
  – When using [LCD Mode].
  – When operations such as flash and zoom are used repeatedly.
- When the operating time of the camera becomes extremely short even after properly charging the battery, the life of the battery may have expired. Buy a new battery.

Inserting and Removing the Card (optional)/the Battery

- Check that this unit is turned off.
- We recommend using a Panasonic card.

1 **Slide the release lever in the direction of the arrow and open the card/battery door.**

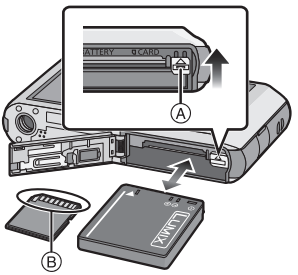
- **Always use genuine Panasonic batteries.**
- **If you use other batteries, we cannot guarantee the quality of this product.**



2 **Battery: Being careful about the battery orientation, insert all the way until you hear a locking sound and then check that it is locked by lever Ⓐ. Pull the lever Ⓐ in the direction of the arrow to remove the battery.**

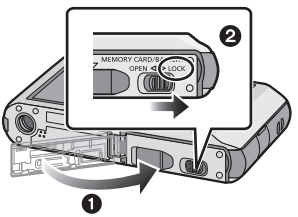
Card: Push it securely all the way until you hear a "click" while being careful about the direction in which you insert it. To remove the card, push the card until it clicks, then pull the card out upright.

Ⓑ: Do not touch the connection terminals of the card.



3 **❶:Close the card/battery door.**

❷:Slide the release lever in the direction of the arrow.

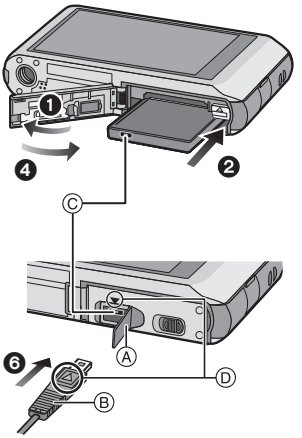


Note

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

Using an AC adaptor (optional) and a DC coupler (optional) instead of the battery

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



❶ Open the card/battery door.
❷ Insert the DC coupler, being careful of the direction.
❸ Open the DC coupler cover Ⓐ.
- Push open the coupler cover from the interior.

❹ Close the card/battery door.
- Ensure that the card/battery door is closed.

❺ Plug the AC adaptor into an electrical outlet.
❻ Connect the AC adaptor Ⓑ to the [DC IN] socket Ⓒ of the DC coupler.

Ⓓ Align the marks and insert.
- Ensure that only the AC adaptor and DC coupler for this camera are used. Using any other equipment may cause damage.

Note
- Always use a genuine Panasonic AC adaptor (optional).
- When using an AC adaptor, use the AC cable supplied with the AC adaptor.
- Some tripods cannot be attached when the DC coupler is connected.
- Make sure to unplug the AC adaptor when you open the card/battery door.
- If the AC adaptor and DC coupler are not necessary, then remove them from the digital camera. Also, please keep the DC coupler cover closed.
- Also read the operating instructions for the AC adaptor and DC coupler.

About the Built-in Memory/the Card

The following operations can be performed using this unit.

- **When a card has not been inserted: Pictures can be recorded on the built-in memory and played back.**
- **When a card has been inserted: Pictures can be recorded on the card and played back.**
- **When using the built-in memory**
  IN → IN (**access indication**✳)
- **When using the card**
  (**access indication**✳)

✳ The access indication lights red when pictures are being recorded on the built-in memory (or the card).

Built-in Memory

- **You can copy the recorded pictures to a card.** **(P101)**
- **Memory size: Approx. 84 MB**
- The access time for the built-in memory may be longer than the access time for a card.

Card

The following cards which conform to the SD video standard can be used with this unit. (These cards are indicated as **card** in the text.)

	Remarks
SD Memory Card (8 MB to 2 GB)	• **Use a card with SD Speed Class✳ with "Class 6" or higher when recording motion pictures.** • SDHC Memory Card can be used with SDHC Memory Card or SDXC Memory Card compatible equipment. • SDXC Memory Card can only be used with SDXC Memory Card compatible equipment. • Check that the PC and other equipment are compatible when using the SDXC Memory Cards. **http://panasonic.net/avc/sdcard/information/SDXC.html** • Only the cards with capacity listed left can be used.
SDHC Memory Card (4 GB to 32 GB)	
SDXC Memory Card (48 GB, 64 GB)	

✳ SD Speed Class is the speed standard regarding continuous writing. Check via the label on the card, etc.

e.g.:

• Please confirm the latest information on the following website.
http://panasonic.jp/support/global/cs/dsc/
(This Site is English only.)

Note

• **Do not turn this unit off, remove its battery or card, or disconnect the AC adaptor (optional) when the access indication is lit (when pictures are being written, read or deleted, or the built-in memory or the card is being formatted). Furthermore, do not subject the camera to vibration, impact or static electricity.**
The card or the data on the card may be damaged, and this unit may no longer operate normally.
If operation fails due to vibration, impact or static electricity, perform the operation again.
• Write-Protect switch Ⓐ provided (When this switch is set to the [LOCK] position, no further data writing, deletion or formatting is possible. The ability to write, delete and format data is restored when the switch is returned to its original position.)

• The data on the built-in memory or the card may be damaged or lost due to electromagnetic waves, static electricity or breakdown of the camera or the card. We recommend storing important data on a PC etc.
• Do not format the card on your PC or other equipment. Format it on the camera only to ensure proper operation. (P40)
• Keep the Memory Card out of reach of children to prevent swallowing.

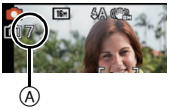
Approximate number of recordable pictures and available recording time

■ About the display of the number of recordable pictures and available recording time

Ⓐ Number of recordable pictures
Ⓑ Available recording time

- The number of recordable pictures and the available recording time are an approximation. (These vary depending on the recording conditions and the type of card.)
- The number of recordable pictures and the available recording time varies depending on the subjects.

when taking still pictures



when recording motion pictures

■ Number of recordable pictures

- [+99999] is displayed if there are more than 100,000 pictures remaining.

Picture size	Built-in Memory (Approx. 84 MB)	2 GB	32 GB	64 GB
16M (4:3)	12	300	4910	9880
5M (4:3)	28	650	10620	21490
0.3M (4:3)	440	10050	162960	247160

■ Available recording time (when recording motion pictures)

- “h” is an abbreviation for hour, “m” for minute and “s” for second.

Recording quality setting	Built-in Memory (Approx. 84 MB)	2 GB	32 GB	64 GB
HD	–	10m10s	2h47m	5h39m
VGA	–	21m40s	5h54m	11h56m
QVGA	2m45s	1h2m	16h59m	34h21m

Note

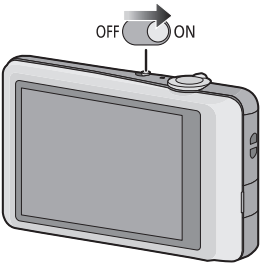
- Number of recordable pictures/available recording time for the card may decrease when [Upload Set] is performed.
- Motion pictures can be recorded continuously for up to 15 minutes. Also, continuous recording exceeding 2 GB is not possible.
  Remaining time for continuous recording is displayed on the screen.

Setting Date/Time (Clock Set)

• **The clock is not set when the camera is shipped.**

1 Turn the camera on.

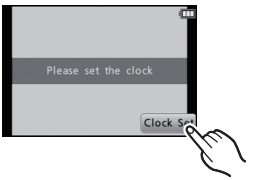
- If the language select screen is not displayed, proceed to step **4**.



2 Touch [Language Set].

3 Select the language, and then touch [Set].

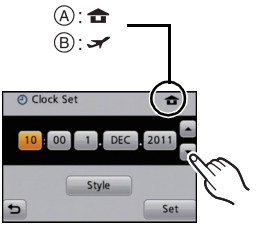
4 Touch [Clock Set].



5 Touch the items you wish to set (Year/Month/Day/Hours/Minutes), and set using [▲]/[▼].

Ⓐ: Time at the home area
Ⓑ: Time at the travel destination

- You can continue to switch the settings by continuously touching [▲]/[▼].
- Touch [↩] to cancel the date and time settings without setting a date and time.



To set the display order and the time display format.

- Touch [Style] to display the settings screen for setting display order/time display format.

6 Touch [Set] to set.

7 Touch [Set] in the confirmation screen.

Changing the Clock Setting

Select [Clock Set] in the [Rec] or [Setup] menu. (P34)

- It can be changed in steps **5** and **6** to set the clock.
- **The clock setting is maintained for 3 months using the built-in clock battery even without the battery. (Leave the charged battery in the unit for 24 hours to charge the built-in battery.)**

Note

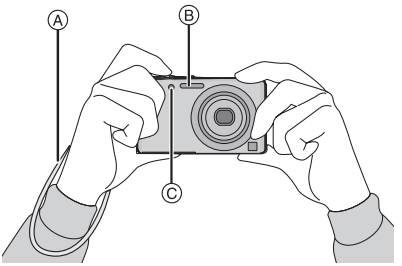
- If the clock is not set, the correct date cannot be printed when you order a photo studio to print the picture, or when you stamp the date on the pictures with [Date Stamp] or [Text Stamp].
- If the clock is set, the correct date can be printed even if the date is not displayed on the screen of the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

Tips for taking good pictures

Fit the strap and hold the camera carefully

- **To prevent dropping, be sure to attach the supplied strap and fit it to your wrist.** (P6)
- Hold the camera gently with both hands, keep your arms still at your side and stand with your feet slightly apart.
- Be careful not to move the camera when you press the shutter button.
- Be careful not to put your fingers on the flash, AF assist lamp, microphone, speaker or lens etc.

Ⓐ Strap
Ⓑ Flash
Ⓒ AF assist lamp



■ Direction Detection Function ([Rotate Disp.])

Pictures recorded with the camera held vertically are played back vertically (rotated). (Only when [Rotate Disp.] (P40) is set)

- When the camera is held vertically and tilted up and down to record pictures, the Direction Detection function may not work correctly.
- Motion pictures taken with the camera held vertically are not displayed vertically.

Preventing jitter (camera shake)

When the jitter alert [((📷))] appears, use [Stabilizer] (P85), a tripod or the Self-timer (P71).

- Shutter speed will be slower particularly in the following cases. Keep the camera still from the moment the shutter button is pressed until the picture appears on the screen. We recommend using a tripod.
  – In [Panorama Assist], [Night Portrait], [Night Scenery], [Party], [Candle Light], [Starry Sky], [Fireworks] or [High Dynamic] in Scene Mode

Selecting the [Rec] Mode

1 Touch [◀📷].

- When operating in Playback Mode, touch [📷] to switch to Recording Mode and then touch [◀📷].

2 Touch the Recording Mode icon.

■ List of [Rec] Modes

iA	**Intelligent Auto Mode** (P22)
The subjects are recorded using settings automatically selected by the camera.	
📷	**Normal Picture Mode** (P25)
The subjects are recorded using your own settings.	
🎨	**Cosmetic Mode** (P49)
Takes a picture adjusting the skin texture.	
MS	**My Scene Mode** (P51)
Pictures are taken using previously registered recording scenes.	
SCN	**Scene Mode** (P50)
This allows you to take pictures that match the scene being recorded.	
🎞	**Motion Picture Mode** (P30)
This mode allows you to record motion pictures with audio.	

Note

- When the mode has been switched from [Playback] Mode to [Rec] Mode, the previously set [Rec] Mode will be set.

[Rec] Mode: iA

Taking pictures using the automatic function
(Intelligent Auto Mode)

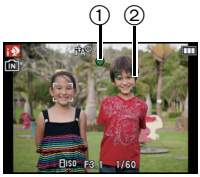
The camera will set the most appropriate settings to match the subject and the recording conditions so we recommend this mode for beginners or those who want to leave the settings to the camera and take pictures easily.

- The following functions are activated automatically.
  – Scene Detection/[Stabilizer]/Intelligent ISO sensitivity control/Face Detection/[i.Exposure]/Backlight Compensation/[Red-Eye Removal]/[i.Resolution]/[i.ZOOM]/Auto White Balance/[AF Assist Lamp]

1 **Touch [ ].**

2 **Touch [iA].**

3 **Press the shutter button halfway to focus.**



- The focus indication ① (green) lights when the subject is focused.
- The AF area ② is displayed around the subject's face by the Face Detection function. In other cases, it is displayed at the point on the subject which is in focus.
- The maximum close-up distance (the shortest distance at which the subject can be taken) differs depending on the zoom magnification. Please check with the focus range display on the screen. (P26)
- When the subject is touched, AF tracking function works. For details, refer to P78.

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

Changing the settings

Following menus can be set with the Intelligent Auto Mode.

Menu	Item
[Rec]	[Flash]✳/[Selftimer]/[Picture Size]✳/[Burst]/[Color Mode]✳
[Setup]	[Clock Set]/[World Time]/[Beep]✳/[Language]/ [Stabilizer Demo.]

- For the setting method of the menu, refer to P34.

✳ Settings may be different from other [Rec] Modes.

- **Menus specific to Intelligent Auto Mode**
  – Colour setting of [Happy] is available in [Color Mode]. It is possible to automatically take a picture with a higher level of brilliance for the colour brightness and vividness.

■ About the flash

- When [iϟA] is selected, [iϟA], [iϟA◎], [iϟS◎] or [iϟS] is set depending on the type of subject and brightness.
- When [iϟA◎] or [iϟS◎] is set, Digital Red-Eye Correction is enabled.
- Shutter speed will be slower during [iϟS◎] or [iϟS].

Scene Detection

When the camera identifies the optimum scene, the icon of the scene concerned is displayed in blue for 2 seconds, after which its colour changes to the usual red.

iA →

[i-Portrait]	
[i-Scenery]	
[i-Macro]	
[i-Night Portrait]	• Only when [i⚡A] is selected
[i-Night Scenery]	
[i-Sunset]	

- [iA] is set if none of the scenes are applicable, and the standard settings are set.
- When [i] or [i] is selected, the camera automatically detects a person's face, and it will adjust the focus and exposure. **(Face Detection)**
- If a tripod is used, for instance, and the camera has judged that camera shake is minimal when the Scene Mode has been identified as [i], the shutter speed will be set to a maximum of 8 seconds. Take care not to move the camera while taking pictures.

Note

- Due to conditions such as the ones below, a different scene may be identified for the same subject.
  - Subject conditions: When the face is bright or dark, the size of the subject, the colour of the subject, the distance to the subject, the contrast of the subject, when the subject is moving
  - Recording conditions: Sunset, sunrise, under low brightness conditions, when the camera is shaken, when zoom is used
- For the best results, it is recommended that you take pictures in the appropriate Recording Mode.
- **The Backlight Compensation**
  - Backlight refers to when light comes from the back of a subject. In this case, the subject will become dark, so this function compensates the backlight by brightening the whole of the picture automatically.

[Rec] Mode:

Taking pictures with your favourite settings
(Normal Picture Mode)

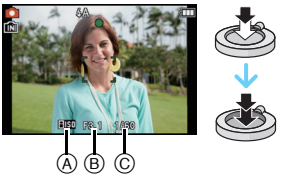
The camera automatically sets the shutter speed and the aperture value according to the brightness of the subject.
You can take pictures with greater freedom by changing various settings in the [Rec] menu.

1 Touch [ ].

2 Touch [ ].

3 Aim the AF area at the point you want to focus on.

4 Press the shutter button halfway to focus and then press it fully to take the picture.



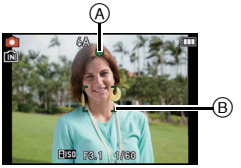
Ⓐ ISO sensitivity
Ⓑ Aperture value
Ⓒ Shutter speed

- Aperture value and shutter speed is displayed in red when correct exposure is not achieved. (Exclude when using a flash)

Focusing

Aim the AF area at the subject, and then press the shutter button halfway.

Focus	When the subject is focused	When the subject is not focused
Focus indication Ⓐ	On	Blinks
AF area Ⓑ	White→Green	White→Red
Sound	Beeps 2 times	Beeps 4 times

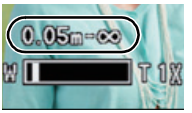


• AF area is displayed larger during the digital zoom or when it is dark.

■ About focus range

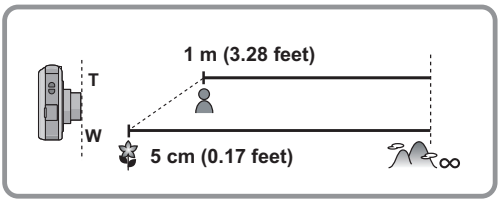
The focus range is displayed when operating the zoom.

• The focus range is displayed in red when it is not focused after pressing the shutter button halfway.



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

e.g.: Range of focus during the Intelligent Auto Mode



■ When the subject is not in focus (such as when it is not in the centre of the composition of the picture you want to take)

1 Aim the AF area at the subject, and then **press the shutter button halfway** to fix the focus and exposure.

2 **Press and hold the shutter button halfway** while moving the camera as you compose the picture.

- You can repeatedly retry the actions in step **1** before pressing the shutter button fully.

■ Subject and recording conditions which are difficult to focus in

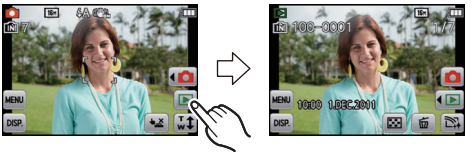
- Fast-moving subjects, extremely bright subjects or subjects without contrast
- When recording subjects through windows or near shiny objects
- When it is dark or when jitter occurs
- When the camera is too close to the subject or when taking a picture of both distant and near subjects

[Playback] Mode: ▶

Playing Back Pictures ([Normal Play])

Touch [▶].

- The display switches to normal playback.



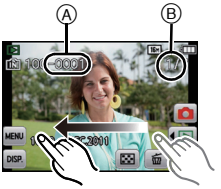
Note

- This camera complies with the DCF standard “Design rule for Camera File system” established by JEITA “Japan Electronics and Information Technology Industries Association” and with Exif “Exchangeable Image File Format”. Files which do not comply with the DCF standard cannot be played back.
- Pictures recorded with other camera may not be able to playback on this unit.
- The lens barrel retracts about 15 seconds after switching from [Rec] Mode to [Playback] Mode.

Selecting a picture

Drag (P8) the screen horizontally.

– Forward: drag from right to left
– Rewind: drag from left to right



Ⓐ File number
Ⓑ Picture number

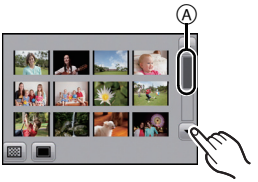
- Speed of picture forwarding/rewinding changes depending on the playback status.
- You can forward or rewind pictures continuously by keeping your finger on the left or right sides of the screen after forwarding/rewinding a picture.
  (Pictures are displayed reduced in size.)

Displaying Multiple Screens (Multi Playback)

Touch [ ].

Ⓐ Slide bar

- It is possible to switch the playback screen by touching the following icons.
  - –[ ]: 1 screen
  - –[ ]: 12 screens
  - –[ ]: 30 screens
  - –[CAL]: Calendar screen display
- Switch the screen by touching [▲]/[▼] if these are displayed on the slide bar.
- The screen can be switched by dragging the slide bar up or down (P8).
- The screen can be switched gradually by dragging the screen up or down (P8).
- Pictures displayed using [[!]] cannot be played back.



Using the Playback Zoom

Firmly touch the part to enlarge.

1×→2×→4×→8×→16×

- You can also enlarge/reduce the picture by rotate the zoom lever.
- When you change the magnification, the zoom position indication Ⓐ appears for about 1 second.
- The more a picture is enlarged, the more its quality deteriorates.
- You can move the enlarged part by dragging (P8) the screen.
- Picture will return to the original size (1×) by touching [ ].
- When you touch [ ], the magnification becomes lower.

[Rec] Mode: 🎞

Motion Picture Mode

1 **Touch [◀📷].**

2 **Touch [🎞].**

3 **Press the shutter button halfway to focus and then press it fully to start recording.**

Ⓐ Available recording time
Ⓑ Elapsed recording time

- After pressing the shutter button fully, release it straight away.
- The focus and zoom are fixed to the setting when recording starts (the first frame).
- The recording state indicator (red) Ⓒ will flash while recording motion pictures.

4 **Press the shutter button fully to stop recording.**

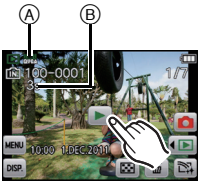
Note

- Use a card with SD Speed Class with “Class 6” or higher when recording motion pictures.
- The available recording time displayed on the screen may not decrease regularly.
- Depending on the type of the card, the card access indication may appear for a while after recording motion pictures. This is not a malfunction.
- Following functions operate automatically in the Motion Picture Mode.
  – [▣] in [AF Mode]/[Stabilizer]
- [Digital Zoom] or [AF Assist Lamp] cannot be setup in the Motion Picture Mode. Settings from other [Rec] mode are used.
- **When motion pictures recorded with the camera are played back on other equipment, the quality of the picture and sound may deteriorate and it may not be possible to play them back. Also the recording information may not be displayed correctly.**
- It is recommended to use a fully charged battery or AC adaptor (optional) and DC coupler (optional) when recording motion pictures.
- If while recording motion pictures using the AC adaptor and the power supply is cut off due to a power outage or if the AC adaptor is disconnected etc., the motion picture being recorded will not be recorded.
- Sound of operation may be recorded when button or other operations are performed during motion picture recording.

[Playback] Mode:

Playing Back Motion Pictures

Select a picture with a Motion Picture icon (such as [QVGA]), and then touch [▶] to play back.



Ⓐ Motion picture icon
Ⓑ The motion picture recording time
• After playback starts, the elapsed playback time is displayed on the screen.
For example, 8 minutes and 30 seconds is displayed as [8m30s].

■ Operations performed during Motion Picture Playback

1 Display control panel by touching screen.

• If no operation is performed for 2 seconds, it will return to original status.

2 Operate control panel by touching.

▶/II	Play/Pause	■	Stop
◀◀	Fast rewind	▶▶	Fast forward
◀II	Frame-by-frame rewind (In the Pause Mode)	II▶	Frame-by-frame forward (In the Pause Mode)
+	Increase volume level	−	Reduce volume level

• About fast forward/rewind playback

– Touch [▶▶] during playback to fast forward (touch [◀◀] to fast rewind). The fast forward/rewind speed increases if you touch [▶▶]/[◀◀] again. (The display on the screen changes from [▶▶] to [▶▶▶].)

– Touch [▶/II] to resume normal playback speed.

– When using a high capacity card, it is possible that fast rewinding may be slower than usual.

Note

• The file format that can be played back with this camera is QuickTime Motion JPEG.
• To play back the motion pictures recorded by this unit on a PC, use the “QuickTime” or the “PHOTOfunSTUDIO” software on the CD-ROM (supplied).
• Motion pictures recorded with other camera may not be able to play back on this unit.
• Be careful not to block the speaker in the bottom of the camera during playback.

[Playback] Mode:

Deleting Pictures

Once deleted, pictures cannot be recovered.
• Pictures on the built-in memory or the card that are being played back will be deleted.

To delete a single picture

1 Select the picture to be deleted, and then touch [ ].

2 Touch [Delete Single].

• Confirmation screen is displayed.
Picture is deleted by selecting [Yes].

To delete multiple pictures (up to 50) or all the pictures

1 Touch [🗑].

2 Touch [Delete Multi] or [Delete All].

- [Delete All] → Confirmation screen is displayed.
  Picture is deleted by selecting [Yes].
- It is possible to delete all pictures except the ones set as favourite when [All Delete Except★] is selected with the [Delete All] set.

3 (When [Delete Multi] is selected) Touch the picture to be deleted. (Repeat this step.)

- [🗑] appears on the selected pictures. Touching again cancels the setting.

4 (When [Delete Multi] is selected) Touch [OK].

- Confirmation screen is displayed.
  Picture is deleted by selecting [Yes].

Note

- Do not turn the camera off while deleting. Use a battery with sufficient battery power or the AC adaptor (optional) and DC coupler (optional).
- Depending on the number of pictures to be deleted, it may take some time to delete them.
- If pictures do not conform to the DCF standard or are protected, they will not be deleted even if [Delete All] or [All Delete Except★] is selected.

Setting the Menu

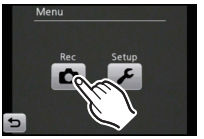
The camera comes with menus that allow you to choose the settings for taking pictures and playing them back just as you like and menus that enable you to have more fun with the camera and use it more easily.
In particular, the [Setup] menu contains some important settings relating to the camera's clock and power. Check the settings of this menu before proceeding to use the camera.

Setting menu items

Example: In the [Rec] menu, change [AF Mode] from [■] (1-area-focusing) to [ ] (Face Detection)

1 Touch [MENU].

2 Touch the menu icon.



Menu	Description of settings
[Rec] **(P68 to 85)** **([Rec] Mode only)**	The menu lets you set the Colouring, Sensitivity or Number of pixels, etc. of pictures you are recording.
[Playback] **(P91 to 101)** **([Playback] Mode only)**	This menu lets you set the Protection, Cropping or Print Settings, etc. of recorded pictures.
[Setup] **(P37 to 41)**	This menu lets you perform the clock settings, beep tone settings and other settings which make it easier for you to operate the camera. The [Setup] menu can be set from either the [Rec] Mode or [Playback] Mode.

3 Touch the menu item.

- The page can be changed by touching [◁]/[▷].

4 Touch the Settings.

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

Description of the icon is displayed by touching and holding the icon for menu item/setting in steps **3** and **4**.
– It will be set when you release your finger.
– It will not be set when you move your finger to the position where there is no icon, and then release your finger.

■ Close the menu

Touch [↩] several times or press the shutter button halfway.

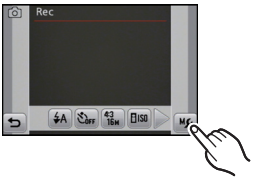
Note

- Due to the camera's specifications, it may not be possible to set some of the functions or some functions may not work in some of the conditions under which the camera is used.

Call up commonly used menus with ease (Shortcut setting)

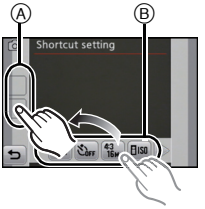
You can have the LCD monitor display desired menu items.
Up to 2 frequently-used menu items can be registered per [Rec]/[Playback] Mode.
• Read P68 for the [Rec] Mode menu, and P91 for the [Playback] Mode menu.

1 Touch [MF] on the menu item selection screen.



2 Drag the menu item to register to the shortcut setting area.

Ⓐ Shortcut setting area
Ⓑ Menu item
• The registered menu item is displayed.
• Exit the menu after it is set.



■ Replacing or removing items

• In Step **2**, drag the menu item you want to register to an item already registered. The items will be replaced.
• In Step **2**, drag registered items out of the shortcut setting area. Registration is cancelled leaving an empty item.

Note

• The [Setup] menu cannot be set.
• You may not be able to use some of the registered items depending on the [Rec] Mode.

About the Setup Menu

[Clock Set], [Sleep Mode] and [Auto Review] are important items. Check their settings before using them.
For details on how to select the [Setup] menu settings, refer to P34.

[Clock Set]	Setting Date/Time.

• Refer to P18 for details.

[World Time]	**[Destination]:** Travel destination area **[Home]:** Your home area

• Refer to P66 for details.

[Travel Date]	**[Travel Setup]:** **[SET]/[OFF]**	**[Location]:** **[SET]/[OFF]**

• Refer to P64 for details.

[Beep]	This allows you to set the beep and shutter sound.	
	[Beep Level]: **[ ] (Low)** **[ ] (High)** **[ ] (Muted)**	**[Shutter Vol.]:** **[ ] (Low)** **[ ] (High)** **[ ] (Muted)**
	[Beep Tone]: **[❶]/[❷]/[❸]**	**[Shutter Tone]:** **[❶]/[❷]/[❸]**

[Volume]	Adjust the volume of the speaker to any of 7 levels.

• When you connect the camera to a TV, the volume of the TV speakers does not change.

[LCD Mode]	These menu settings make it easier to see the LCD monitor when you are in bright places.
	[Auto Power LCD]*: The brightness is adjusted automatically depending on how bright it is around the camera. **[Power LCD]:** The LCD monitor becomes brighter and easier to see even when taking pictures outdoors. **[OFF]** * Can be set only when [Rec] mode is set.

- The brightness of the pictures displayed on the LCD monitor is increased so some subjects may appear different from real life on the LCD monitor. However, this does not affect the recorded pictures.
- The LCD monitor automatically returns to normal brightness after 30 seconds when recording in Power LCD Mode. It will light up brightly again by button or touch operation.
- The number of recordable pictures decreases in [LCD Mode].

[Focus Icon]	Change the focus icon.
	[●]/[ ]/[ ]/[ ]/[ ]/[ ]

[Sleep Mode]	The camera is automatically turned off if the camera has not been used for the time selected on the setting.
	[2MIN.]/[5MIN.]/[10MIN.]/[OFF]

- Press the shutter button halfway or turn the camera off and on to cancel [Sleep Mode].
- [Sleep Mode] is set to [5MIN.] in the Intelligent Auto Mode.
- [Sleep Mode] does not work in the following cases.
  – When using the AC adaptor
  – When connecting to a PC or a printer
  – When recording or playing back motion pictures
  – During a Slide Show
  – [Auto Demo]

[Auto Review]	Set the length of time that the picture is displayed after taking it.
	[1SEC.] **[2SEC.]** **[HOLD]:** The pictures are displayed until [Exit] is touched. **[OFF]**

- [Auto Review] is activated regardless of its setting when using [Hi-Speed Burst] and [Flash Burst] in Scene Mode and [Burst] in [Rec] Mode menu.
- In Intelligent Auto Mode or [Photo Frame] in Scene Mode, the Auto Review function is fixed to [2SEC.].
- [Auto Review] does not work in Motion Picture Mode.

[Reset]	The [Rec] or [Setup] menu settings are reset to the initial settings.

- When the [Reset] setting is selected during recording, the operation that resets the lens is also performed at the same time. You will hear the sound of the lens operating but this is normal and not indicative of malfunctioning.
- When the [Rec] Mode settings are reset, the following settings are also reset.
  – The setting and registration for My Scene Mode
- When [Setup] menu settings are reset, the following settings are also reset.
  – [Shortcut setting]
  – The birthday and name settings for [Baby1]/[Baby2] and [Pet] in Scene Mode.
  – The [Travel Date] setting. (Departure date, return date, destination)
  – The [World Time] setting.
- The folder number and the clock setting are not changed.

[Output]	Set to match the colour television system in each country or the type of TV.
	[Video Out]*: **[NTSC]:** Video output is set to NTSC system. **[PAL]:** Video output is set to PAL system. **[TV Aspect]:** **[16:9]:** When connecting to a 16:9 screen TV. **[4:3]:** When connecting to a 4:3 screen TV. * Can be set only when Playback Mode is set.

- This will work when the AV cable is connected.

[Rotate Disp.]	This mode allows you to display pictures vertically if they were recorded holding the camera vertically.
	[ ]: It will rotate and display vertically. [ ]: It will display vertically only when playing back connected to a TV. [OFF]

- Refer to P28 for information about how to play back pictures.
- When you play back pictures on a PC, they cannot be displayed in the rotated direction unless the OS or software is compatible with Exif. Exif is a file format for still pictures which allows recording information etc. to be added. It was established by “JEITA (Japan Electronics and Information Technology Industries Association)”.
- It may not be possible to rotate pictures that have been recorded with other equipment.
- The display is not rotated during Multi Playback.

Ver. [Version Disp.]	It is possible to check which version of firmware is on the camera.

[Format]	The built-in memory or card is formatted. Formatting irretrievably deletes all the data so check the data carefully before formatting.

- Use a battery with sufficient battery power or the AC adaptor (optional) and DC coupler (optional) when formatting. Do not turn the camera off during formatting.
- If a card has been inserted, only the card is formatted. To format the built-in memory, remove the card.
- If the card has been formatted on a PC or other equipment, format it on the camera again.
- It may take longer to format the built-in memory than the card.
- If you cannot format, contact the dealer or your nearest Service Centre.

[Calibration]	Adjust the position of the touch panel if a different thing gets selected from what you touched or touch operation does not respond.
	1 Touch [Start]. **2 Touch the orange [+] mark displayed on the screen in order with the stylus pen (supplied) (5 places).** • A message is displayed once the position is set. **3 Touch [End] to finish.**

• Calibration is not done if correct position is not touched. Touch the [+] mark again.

[Language]	Set the language displayed on the screen.

• If you set a different language by mistake, select [ ] from the menu icons to set the desired language.

[Demo Mode]	Displays the amount of jitter the camera has detected. ([Stabilizer Demo.]) The camera's features are displayed as slide shows. ([Auto Demo])
	[Stabilizer Demo.]: Ⓐ Amount of jitter Ⓑ Amount of jitter after correction **[Auto Demo]:** **[ON]/[OFF]**

• The Stabilizer function is switched between [On] and [Off] every time [Stabilizer] is touched during the [Stabilizer Demo.].
• [Stabilizer Demo.] is an approximation.
• [Auto Demo] is not output to the television.

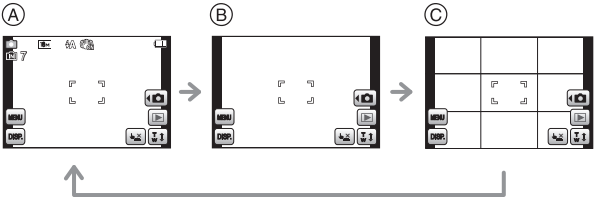
About the LCD Monitor

Touch [DISP.] to change.

- During Playback Zoom, while playing back motion pictures and during a slide show, you can only select “Normal display Ⓓ” or “No display Ⓕ”.

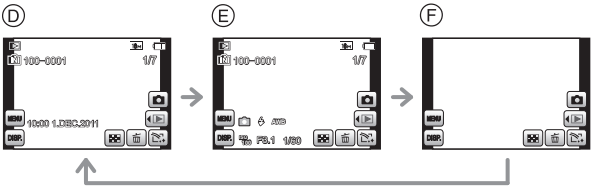
In Recording Mode

Ⓐ Normal display
Ⓑ No display∗
Ⓒ No display (Recording guideline)∗



In Playback Mode

Ⓓ Normal display
Ⓔ Display with recording information
Ⓕ No display∗



∗ When operation ceases for a certain amount of time, only the icons shown below are displayed.
– In Recording Mode: [ ]/[ ]/[DISP.]
– In Playback Mode: [ ]/[DISP.]

■ Recording guideline

This is used as a reference of composition, such as balance, while taking a picture.
- In [Photo Frame] in Scene Mode, the guideline is not displayed.

[Rec] Mode: iA MS SCN

Taking pictures using the touch operation
(Touch Shutter function)

Just by touching the subject to focus, it will focus on the subject and take the picture automatically.

1 Touch [ ].

- Icon will change to [ ], and taking a picture with the Touch Shutter function becomes possible.

  : Touch Shutter enabled

  : Touch Shutter disabled

2 Touch the subject you wish to focus on, and then take a picture.

- AF area is displayed at the position you touch, and a picture is taken. (It cannot be set to edge of the screen)

3 Touch [ ] to cancel the Touch Shutter function.

Note

- Touch operation is not possible at the top right of the LCD monitor even if image is displayed.
- The Touch Shutter setting is memorised even if the camera is turned off.

[Rec] Mode: iA MS SCN

Match the focusing and exposure to a desired subject using touch operations (Touch AF/AE)

It is possible to set the focus and exposure to the subject specified on the touch panel.
• Perform the operation after cancelling the touch shutter function.

1 Touch the subject you wish to focus on.

- The AF area can be set freely at a position on the screen. (Cannot be set at the edge of the screen)
- Action will vary depending on the setting of [AF Mode] (P77).
- Touch AF/AE will be fixed to AF Tracking during Intelligent Auto Mode and the most appropriate scene will be determined for the touched subject.

[AF Mode]	Operations when touched
[ ]:Face Detection/ [ ]:11-area-focusing/ [ ]:1-area-focusing	• In [ ] (Face Detection), the AF area turns yellow when touched. • AF area [ ] (1-area) is displayed.
[ ]:AF Tracking	• The AF area turns yellow and the subject is locked. The camera will continuously adjust the focus and exposure automatically, following the movement of the subject. (Dynamic Tracking) • Refer to P78 for details.

- Touch [ ] to go back to the original Focus Mode.

2 Press the shutter button halfway to focus and then press it fully to take the picture.

Note

• Touch operation is not possible at the top right of the LCD monitor even if image is displayed.

[Rec] Mode: iA MS SCN

Taking Pictures with the Zoom

Using the Optical Zoom/Using the Extra Optical Zoom (EZ)/ Using the Intelligent zoom/Using the Digital Zoom

You can zoom-in to make people and objects appear closer or zoom-out to record landscapes in wide angle.
To make subjects appear even closer (maximum of 9×), set the [Picture Size] to [10M] or less.

To make subjects appear closer use (Tele)

Rotate the zoom lever towards Tele.

To make subjects appear further away use (Wide)

Rotate the zoom lever towards Wide.

■ Types of zooms

Feature	Optical Zoom	Extra Optical Zoom (EZ)
Maximum magnification	4×	9×*
Picture quality	No deterioration	No deterioration
Conditions	None	[Picture Size] with EZ (P72) is selected.
Screen display	W T	Ⓐ EZ W T Ⓐ [EZ] is displayed.

Feature	Intelligent Zoom	Digital Zoom
Maximum magnification	Approximately 1.3 times the Optical Zoom or Extra Optical Zoom	Approximately 4 times the Optical Zoom, Extra Optical Zoom, or Intelligent Zoom
Picture quality	No noticeable deterioration	The higher the magnification level, the greater the deterioration.
Conditions	[i.Resolution] (P81) on the [Rec] Mode menu is set to [i.ZOOM].	[Digital Zoom] (P81) on the [Rec] Mode menu is set to [ON].
Screen display	Ⓑ [i.ZOOM] is displayed.	Ⓒ The Digital Zoom range is displayed.

- **When using the Zoom function, an estimate of the focus range will appear in conjunction with the zoom display bar. [Example: 0.5 m (1.64 ft.) –∞]**

✳ The magnification level differs depending on [Picture Size] setting.

Note

- The indicated zoom magnification is an approximation.
- “EZ” is an abbreviation of “Extra Optical Zoom”. It is possible to take more magnified pictures with the Optical Zoom.
- The lens barrel extends or retracts according to the zoom position. Take care not to interrupt the motion of the lens barrel while the zoom lever is rotated.
- When using the Digital Zoom, we recommend using a tripod and the Self-timer (P71) for taking pictures.
- The Intelligent Zoom cannot be used in the following cases.
  - In Macro Zoom Mode
  - In [High Sens.], [Hi-Speed Burst], [Flash Burst] or [Pin Hole] in Scene Mode
  - In Motion Picture Mode
- The Extra Optical Zoom cannot be used in the following cases.
  - In Macro Zoom Mode
  - In [Transform], [High Sens.], [Hi-Speed Burst], [Flash Burst], [Pin Hole] or [Photo Frame] in Scene Mode
  - In Motion Picture Mode
- [Digital Zoom] cannot be used in the following cases.
  - In Intelligent Auto Mode
  - In [Transform], [High Sens.], [Hi-Speed Burst], [Flash Burst], [Pin Hole], [Film Grain] or [Photo Frame] in Scene Mode

Zooming with touch operation

1 Touch [T/W].

- Zoom icon is displayed on the LCD monitor.

2 Touch the zoom icon on the screen.

[T]	The zoom position automatically moves to Tele.*
[W]	The zoom position automatically moves to Wide.*
[L]	Slow zooming
[H]	Fast zooming

*Touching the icon again during the move stops the move.

[Rec] Mode:

Taking pictures while changing the skin texture (Cosmetic Mode)

Pictures can be taken while setting the texture or clearness of the skin.

1 Touch [ ].

2 Touch [ ].

3 Touch the item.

- Touch [▲]/[▼] to set the clearness.

Item	Adjustment contents
[Soft Skin]	To take a picture with soft skin.
[Natural Skin]	To bring out the original beauty of the skin.
[Summer Look]	To create healthy tanned skin such as at the beach.

- For each of the items, any of 3 levels of clearness can be selected.

4 Touch [OK].

Note

- Effect is not applied if no skin tone is detected.
- Cosmetic Mode setting set is memorised even if the camera is turned off.
- The following items cannot be set because the camera automatically adjusts them to the optimal setting.
  – [Sensitivity]/[Macro Mode]/[i.Exposure]/[i.Resolution]/[Color Mode]

[Rec] Mode: MS SCN

Taking pictures that match the scene being recorded (Scene Mode)

When you select a Scene Mode to match the subject and recording situation, the camera sets the optimal exposure and hue to obtain the desired picture.

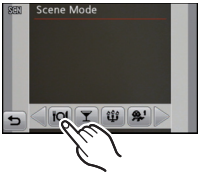
Selecting Scene Mode for each recording (Scene Mode)

1 Touch [◀ 📷].

2 Touch [SCN].

3 Touch the scene mode to set.

- The page can be changed by touching [◁]/[▷].



■ Changing Scene Mode

1 Touch [MENU].

2 Touch [SCN].

3 Touch the scene mode to set.

Note

- The following items cannot be set in Scene Mode because the camera automatically adjusts them to the optimal setting.
  – [Sensitivity]
  – [Macro Mode]
  – [i.Exposure]
  – [i.Resolution]
  – [Color Mode]

Registering frequently used Scene Modes (My Scene Mode)

You can register the Scene Mode you use most frequently as one of the Recording Modes.

1 Touch [◀ 📷].

2 Touch [MS].

- If you have already registered My Scene Mode, the icon for the registered Scene Mode will be displayed, rather than [MS].

3 Touch the scene mode to set.

- The page can be changed by touching [◁]/[▷].
- The selected Scene Mode is registered as My Scene Mode, so that the next time you are recording, you can select it from [Rec] mode.

■ Changing My Scene Mode

1 Touch [MENU].

2 Touch [SCN].

3 Touch the scene mode to set.

[Portrait]

When taking pictures of people outdoors during the daytime, this mode allows you to improve the appearance and make their skin tones look healthier.

■ Technique for Portrait Mode

To make this mode more effective:

❶ Rotate the zoom lever as far as possible to Tele.

❷ Move close to the subject to make this mode more effective.

[Transform]

Subject can be recorded either slim or stretched, and at the same time, skin can be recorded smoothly.

■ Setting the level of transform

Select the level of transform.

Note

- The picture size is fixed to 3M (4:3), 2.5M (3:2), 2M (16:9) or 2.5M (1:1).
- Do not use the material against the public order and morals, or to offend someone.

[Self Portrait]

Select this to take pictures of yourself.

■ Technique for Self Portrait Mode

- Press the shutter button halfway to focus. The Self-timer indicator lights up when you are brought into focus. Making sure you hold the camera still, press the shutter button fully to take the picture.
- The subject is not focused when the Self-timer indicator is blinking. Make sure to press the shutter button halfway again to focus.
- If the picture is blurry due to the slow shutter speed, we recommend using the 2 second Self-timer.

[Scenery]

This allows you to take pictures of a wide landscape.

[Panorama Assist]

You can take pictures with connections suitable for creating panorama images.

■ Setting the recording direction

1 Touch the direction to take picture.

2 Touch [OK].

- The horizontal/vertical guideline will be displayed.

3 Take the picture.

- You can retake the picture by selecting [Retake].

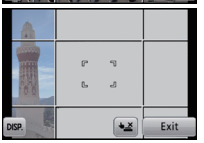
4 Touch [Next].

- Part of the recorded image is displayed as a transparent image.

5 Take picture after moving the camera horizontally or vertically so the transparent image overlaps.

- When taking the third and later pictures, repeat steps **4** and **5**.

6 Touch [Exit].



Note

- The focus, zoom, exposure, White Balance, shutter speed and ISO sensitivity are fixed to the settings for the first picture.
- We recommend using a tripod. When it is dark, we recommend using the self-timer for taking pictures.
- Shutter speed may slow down up to 8 seconds.
- The shutter may remain closed (max. about 8 sec.) after taking the picture because of signal processing. This is not a malfunction.
- The recorded images can be combined into panorama pictures using the software “PHOTOfunSTUDIO” on the CD-ROM (supplied).

[Sports]

Set here when you want to take pictures of sports scenes or other fast-moving events.

Note
- Shutter speed may slow down up to 1 second.
- This mode is suitable for taking pictures of subjects at distances of 5 m (16.4 feet) or more.

[Night Portrait]

This allows you to take pictures of a person and the background with near real-life brightness.

■ Technique for Night Portrait Mode

- **Use the flash. (You can set to [⚡S👁].)**
- Ask the subject not to move while taking a picture.

Note
- We recommend using a tripod and the Self-timer for taking pictures.
- Shutter speed may slow down up to 8 seconds.
- The shutter may remain closed (max. about 8 sec.) after taking the picture because of signal processing. This is not a malfunction.
- Noise may become visible when you take pictures in dark places.

[Night Scenery]

This allows you to take vivid pictures of the nightscape.

Note
- We recommend using a tripod and the Self-timer for taking pictures.
- Shutter speed may slow down up to 8 seconds.
- The shutter may remain closed (max. about 8 sec.) after taking the picture because of signal processing. This is not a malfunction.
- Noise may become visible when you take pictures in dark places.

[Food]

This mode allows you to take pictures of food with a natural hue without being affected by the ambient light in restaurants etc.

[Party]

Select this when you want to take pictures at a wedding reception, an indoor party etc. This allows you to take pictures of people and the background with near real-life brightness.

■ Technique for Party Mode

- **Use the flash. (You can set to [⚡◎] or [⚡S◎].)**
- We recommend using a tripod and the Self-timer for taking pictures.
- We recommend rotating the zoom lever to Wide (1×) and being about 1.5 m (4.92 feet) from the subject when taking pictures.

[Candle Light]

This mode allows you to take pictures with a candle-lit atmosphere.

■ Technique for Candle Light Mode

- This is more effective when taking pictures without using the flash.

Note

- We recommend using a tripod and the Self-timer for taking pictures.
- Shutter speed may slow down up to 1 second.

[Baby1]/[Baby2]

This takes pictures of a baby with a healthy complexion. When you use the flash, the light from it is weaker than usual.
It is possible to set different birthdays and names for [Baby1] and [Baby2]. You can select to have these appear at the time of playback, or have them stamped on the recorded image using [Text Stamp] (P93).

■ Birthday/Name setting

1 Touch [Age] or [Name].

2 Touch [SET].

3 Enter the birthday or name.

Birthday:
Touch [▲]/[▼] for each item to set year/month/day, and touch [Set].
Name: For details on how to enter characters, refer to “Entering Text” on P67.

- When the birthday or name is set, [Age] or [Name] is automatically set to [ON].
- If [ON] is selected when the birthday or name has not been registered, the setting screen appears automatically.

4 Touch [Exit] to finish.

■ To cancel [Age] and [Name]

Select the [OFF] setting in step **2**.

Note

- The age and name can be printed out using the “PHOTOfunSTUDIO” bundled software on the CD-ROM (supplied).
- If [Age] or [Name] is set to [OFF] even when the birthday or name has been set, the age or name will not be displayed.
- Shutter speed may slow down up to 1 second.

[Pet]

Select this when you want to take pictures of a pet such as a dog or a cat.
You can set your pet's birthday and name.

For information about [Age] or [Name], refer to [Baby1]/[Baby2] on P57.

[Sunset]

Select this when you want to take pictures of a sunset view. This allows you to take vivid pictures of the red colour of the sun.

[High Sens.]

This mode minimises the jitter of the subjects, and enables you to take pictures of these subjects in dimly lit rooms.

■ Picture Size

Select the picture size of 3M (4:3), 2.5M (3:2), 2M (16:9) or 2.5M (1:1).

[Hi-Speed Burst]

This is a convenient mode for shooting rapid movement or a decisive moment.

■ Picture Size

Select the picture size of 3M (4:3), 2.5M (3:2), 2M (16:9) or 2.5M (1:1).
• Still pictures are taken continuously while the shutter button is pressed fully.

Maximum Burst speed	approx. 4.4 pictures/second
Number of recordable pictures	approx. 15 (built-in memory)/approx. 15 to 100∗ (card) ∗ the maximum is 100.

• The Burst speed changes according to the recording conditions.
• The number of Burst recording pictures are limited by the picture-taking conditions and the type and/or status of the card used.
• The number of Burst recording pictures may increase when you use a card with fast writing speed or card is formatted.

Note

• The focus, zoom, exposure, White Balance, shutter speed and ISO sensitivity are fixed to the settings for the first picture.
• The ISO sensitivity is automatically adjusted. However, the ISO sensitivity is increased to make the shutter speed become high-speed.
• Depending on the operating conditions, it may take time to take the next picture if you repeat taking a picture.

[Flash Burst]

Still pictures are taken continuously with flash. It is convenient to take continuous still pictures in dark places.

■ Picture Size

Select the picture size of 3M (4:3), 2.5M (3:2), 2M (16:9) or 2.5M (1:1).

- Still pictures are taken continuously while the shutter button is pressed fully.

Number of recordable pictures	max. 5 pictures

Note

- The focus, zoom, exposure, shutter speed, ISO sensitivity, and flash level are fixed to the settings for the first picture.
- Number of recordable pictures will be fixed to 5 pictures when the self-timer is used.

[Starry Sky]

This allows you to take vivid pictures of a starry sky or a dark subject.

■ Setting the shutter speed

Select a shutter speed of [15 sec.], [30 sec.] or [60 sec.].

- Press the shutter button fully to display the countdown screen. Do not move the camera after this screen is displayed. When countdown finishes, [Please wait...] is displayed for the same length of time as the set shutter speed for signal processing.

■ Technique for Starry Sky Mode

- The shutter opens for 15, 30 or 60 seconds. Be sure to use a tripod. We also recommend taking pictures with the self-timer.

[Fireworks]

This mode allows you to take beautiful pictures of fireworks exploding in the night sky.

■ Technique for Fireworks Mode

• Since the shutter speed becomes slower, we recommend using a tripod.

Note

• This mode is most effective when the subject is 10 m (32.8 feet) or more away.
• The shutter speed is fixed to 1/4th of a second or 2 seconds.
• You can change the shutter speed by compensating the exposure.
• The AF area is not displayed.

[Beach]

This allows you to take even more vivid pictures of the blue colour of the sea, sky etc. It also prevents underexposure of people under strong sunlight.

Note

• Do not touch the camera with wet hands.

[Snow]

This allows you to take pictures that show the snow as white as possible at a ski resort or a snow-covered mountain.

[Aerial Photo]

This mode allows you to take pictures through an airplane window.

■ Technique for Aerial Photo Mode

• We recommend using this technique if it is difficult to focus when taking pictures of clouds etc. Aim the camera at something with high contrast, press the shutter button halfway to fix the focus and then aim the camera at the subject and press the shutter button fully to take the picture.

[Pin Hole]

Picture is taken darker and with soft focus around the subjects.

Note

- Face Detection may not operate normally in the dark areas around the edges of the screen.

[Film Grain]

Picture is taken with a grainy texture as though blasted with sand.

[High Dynamic]

You can use this mode to easily record pictures in which bright and dark regions of the scene are expressed with suitable brightness when looking into the sun, at night, or in similar circumstances.

■ Setting the effect

[STD.]: Natural colour effect

[ART]: Eye-catching effect which emphasises contrast and colour

[B&W]:Black and white effect

Note

- Compensation effect may not be achieved depending on the conditions.
- When it is dark, we recommend using a tripod and the self-timer for taking pictures.
- Shutter speed may slow down up to 8 seconds.
- The shutter may remain closed (max. about 8 sec.) after taking the picture because of signal processing. This is not a malfunction.
- LCD screen noise may be more visible than during normal recording due to brightness compensation of the darker areas.

[Photo Frame]

Record the image with a frame around it.

■ Setting the frame

Select from 3 types of frames.

Note

- The picture size is fixed to 5M (4:3).
- The colour of the frame displayed on the screen and the colour of the frame around the actual image may differ, but this is not a malfunction.

[Rec] Mode: iA MS SCN

Useful Functions at Travel Destinations

Recording which Day of the Vacation and the Location of the Vacation ([Travel Date])

For details on the [Setup] menu settings, refer to P34.

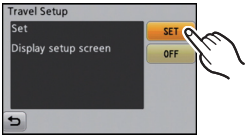
If you set the departure date or the travel destination of the vacation in advance, the number of days that have passed since the departure date is recorded when you take the picture. You can display the number of days that have passed when playing back the pictures and stamp it on the recorded pictures with [Text Stamp] (P93).

- The number of days that have passed since the departure date can be printed out using the "PHOTOfunSTUDIO" bundled software on the CD-ROM (supplied).
- **Select [Clock Set] to set the current date and time in advance. (P18)**

1 Select [Travel Date] from the [Setup] menu.

2 Touch [Travel Setup].

3 Touch [SET].

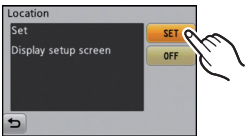


4 Touch year/month/day, set the departure date using [▲]/[▼], and then touch [Set].

5 Touch year/month/day, set the return date using [▲]/[▼], and then touch [Set].

6 Touch [Location].

7 Touch [SET].



8 Enter the location.

- For details on how to enter characters, refer to “Entering Text” on P67.
- Exit the menu after it is set.

■ Cancelling the travel date

The travel date is automatically cancelled if the current date is after the return date. If you want to cancel the travel date before the end of the vacation, select [OFF] on the screen shown in step **3**. If the [Travel Setup] is set to [OFF], [Location] will be also set to [OFF]. To delete only the [Location] data, select [OFF] on the screen in step **7**.

Note

- The travel date is calculated using the date in the clock setting and the departure date you set. If you set [World Time] to the travel destination, the travel date is calculated using the date in the clock setting and the travel destination setting.
- The travel date setting is memorised even if the camera is turned off.
- If [Travel Date] is set to [OFF], the number of days that have passed since the departure date will not be recorded. Even if [Travel Date] is set to [SET] after taking the pictures, which day of the vacation you took them is not displayed.
- The number of days that have passed since the departure date is not recorded before the departure date.
- [Location] cannot be recorded when taking motion pictures.
- Intelligent Auto Mode cannot be set. Setting of other Recording Mode will be reflected.

Recording Dates/Times at Overseas Travel Destinations ([World Time])

For details on the [Setup] menu settings, refer to P34.

You can display the local times at the travel destinations and record them on the pictures you take.

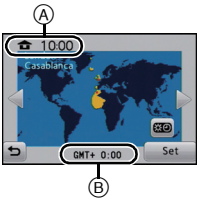
- **Select [Clock Set] to set the current date and time in advance. (P18)**

1 Select [World Time] from the [Setup] menu.

- When first using the camera after purchasing it, the message appears. Touch [Set], and set the home area on the screen in step **3**.

2 Touch [Home].

3 Select the region in which you live using [◁]/[▷], and then touch [Set].

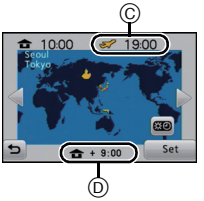


Ⓐ Current time
Ⓑ Time difference from GMT (Greenwich Mean Time)

- If daylight saving time [☼] is used at the home area, touch [☼]. (The time advances by one hour.) Touch [☼] again to return to the original time.

4 Touch [Destination].

5 Select the destination area of your trip using [◁]/[▷], and then touch [Set].



Ⓒ Current time of the destination area
Ⓓ Time difference from home area

- If daylight saving time [☼] is used at the travel destination, touch [☼]. (The time advances by one hour.) Touch [☼] again to return to the original time.
- Exit the menu after it is set.

Note

- If you cannot find the travel destination in the areas displayed on the screen, set by the time difference from the home area.
- The travel destination icon [✈] appears when playing back pictures taken at the travel destination.

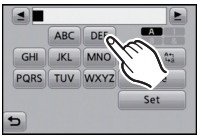
Entering Text

It is possible to enter babies' and pets' names and the names of travel destinations when recording. (Only alphabetical characters and symbols can be entered.)
You can use the stylus pen (supplied) if it is hard to operate with your fingers.

1 Display the entry screen.

- You can display the entry screen via the following operations.
  – [Name] of [Baby1]/[Baby2] or [Pet] in Scene Mode. (P57)
  – [Location] in [Travel Date] (P64).

2 Enter characters.



- Touch [A↔a] to switch text between [A] (capitals), [a] (small case), [1] (numbers) and [&] (special characters).
- To enter the same character again, touch [▶] to move the cursor.
- By touching the items, the operations below are carried out.
  – [␣]: Enter a blank
  – [Delete]: Delete a character
  – [◀]: Move the entry position cursor to the left
  – [▶]: Move the entry position cursor to the right
- A maximum of 30 characters can be entered.

3 Touch [Set].

Note
- Text can be scrolled if all of the entered text does not fit on the screen.

Using the [Rec] Mode Menu

[Flash]

For details on [Rec] Mode menu settings, refer to P34.

Set the flash to match the recording.

■ **Applicable modes:** iA ◘ ✎ MS SCN

■ **Settings**

⚡A: AUTO	The flash is automatically activated when the recording conditions make it necessary.
⚡A◎: AUTO/Red-Eye Reduction*	The flash is automatically activated when the recording conditions make it necessary. It is activated once before the actual recording to reduce the red-eye phenomenon (eyes of the subject appearing red in the picture) and then activated again for the actual recording. **• Use this when you take pictures of people in low lighting conditions.**
⚡: Forced Flash ON **⚡◎: Forced ON/ Red-Eye Reduction***	The flash is activated every time regardless of the recording conditions. **• Use this when your subject is back-lit or under fluorescent lights.**
⚡S◎: Slow sync./ Red-Eye Reduction*	If you take a picture with a dark background landscape, this feature will slow the shutter speed when the flash is activated so that the dark background will become bright. Simultaneously it reduces the red-eye phenomenon.
⊛: Forced Flash OFF	The flash is not activated in any recording conditions. **• Use this when you take pictures in places where the use of the flash is not permitted.**

* **The flash is activated twice. The subject should not move until the second flash is activated. Interval until the second flash depends on the brightness of the subject.**

■ Available Flash Settings by Recording Mode

The available flash settings depend on the Recording Mode.
(○: Available, —: Not available, ●: Scene Mode initial setting)

	⚡A	⚡A👁	⚡	⚡👁	⚡S👁	⊛
iA	○*	—	—	—	—	○
	○	○	○	—	—	○
	○	○	○	—	—	○
	○	●	○	—	—	○
	○	●	○	—	—	○
	○	●	○	—	—	○
	—	—	—	—	—	●
	—	—	—	—	—	●
	●	—	○	—	—	○
	—	—	—	—	●	○
	—	—	—	—	—	●
	○	—	○	—	—	●
	—	—	—	○	●	○
	—	—	—	○	○	●
1	○	●	○	—	—	○
2	○	●	○	—	—	○

	⚡A	⚡A👁	⚡	⚡👁	⚡S👁	⊛
	○	—	○	—	—	●
	—	—	—	—	—	●
	○	—	○	—	—	●
	—	—	—	—	—	●
	—	—	●	—	—	—
	—	—	—	—	—	●
	—	—	—	—	—	●
	—	—	●	—	—	○
	●	—	○	—	—	○
	—	—	—	—	—	●
	●	—	○	—	—	○
	●	—	○	—	—	○
	—	—	—	—	○	●
	●	○	○	—	—	○
	—	—	—	—	—	○

* [i⚡A] is displayed.

- The flash setting may change if the Recording Mode is changed. Set the flash setting again if necessary.
- The flash setting is memorised even if the camera is turned off. However, the Scene Mode flash setting is reset to the initial setting when the Scene Mode is changed.

■ The available flash range

• The available flash range is an approximation.

	Wide	Tele
In [ISO] in [Sensitivity]	40 cm (1.32 feet) to 3.3 m (10.8 feet)	1.0 m (3.28 feet) to 1.6 m (5.24 feet)

■ Shutter speed for each flash setting

Flash setting	Shutter speed (Sec.)
	1/60 to 1/600

Flash setting	Shutter speed (Sec.)
	1 or 1/8 to 1/600∗1 1 or 1/4 to 1/600∗2

∗1 The shutter speed changes depending on the [Stabilizer] setting.
∗2 When [ISO] in [Sensitivity] is set.

• ∗1, 2: The shutter speed becomes a maximum of 1 second in the following cases.
  – When the Optical Image Stabilizer is set to [OFF].
  – When the camera has determined that there is very little jitter when the Optical Image Stabilizer is set to [ON].
• In Intelligent Auto Mode, shutter speed changes depending on the identified scene.
• In Scene Mode, shutter speed will be different from the above table.

Note

• If you bring the flash too close to an object, the object may be distorted or discoloured by the heat or lighting from the flash.
• When you take a picture beyond the available flash range, the exposure may not be adjusted properly and the picture may become bright or dark.
• When the flash is being charged, the flash icon blinks red, and you cannot take a picture even when you press the shutter button fully.
• When you take a picture beyond the available flash range, the White Balance may not be properly adjusted.
• The flash effect may not be sufficient when using [Flash Burst] in Scene Mode or when shutter speed is fast.
• It may take time to charge the flash if you repeat taking a picture. Take a picture after the access indication disappears.
• The Red-Eye Reduction effect differs between people. Also, if the subject is far away from the camera or was not looking at the first flash, the effect may not be evident.

[Selftimer]

For details on [Rec] Mode menu settings, refer to P34.

This is for recording still pictures using the timer.

■ **Applicable modes:** iA MS SCN

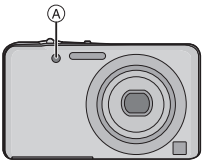
■ **Settings**

[10] (10 seconds)	Picture is taken after 10 seconds. • Self-timer cannot be set to 10 seconds in [Self Portrait] in Scene Mode.
[2] (2 seconds)	Picture is taken after 2 seconds. • When using a tripod etc., this setting is a convenient way to avoid the jitter caused by pressing the shutter button.
[OFF]	–

• Press the shutter button halfway to focus and then press it fully to take the picture. The self-timer indicator blinks and the shutter is activated after 10 seconds (or 2 seconds).

Note

• When you press the shutter button once fully, the subject is automatically focused just before recording. In dark places, the Self-timer indicator Ⓐ will blink and then may turn on brightly to operate as an AF Assist Lamp to allow the camera to focus on the subject.
• We recommend using a tripod when recording with the Self-timer.
• Self-timer cannot be used while in [Hi-Speed Burst] in Scene Mode.



[Picture Size]

For details on [Rec] Mode menu settings, refer to P34.

Set the number of pixels. The higher the numbers of pixels, the finer the detail of the pictures will appear even when they are printed onto large sheets.

■ **Applicable modes:** iA MS SCN

■ **Settings**

4:3 16M	4608×3456 pixels
4:3 EZ ∗ 10M	3648×2736 pixels
4:3 EZ 5M	2560×1920 pixels
4:3 EZ ∗ 3M	2048×1536 pixels
4:3 EZ 0.3M	640×480 pixels
3:2 14M	4608×3072 pixels
16:9 12M	4608×2592 pixels
1:1 12M	3456×3456 pixels

∗ This item cannot be set in the Intelligent Auto Mode.

[4:3]: Aspect ratio of a 4:3 TV

[3:2]: Aspect ratio of a 35 mm film camera

[16:9]: Aspect ratio of a high-definition TV, etc.

[1:1]: Square aspect ratio

Note

- The Extra Optical Zoom does not work when [Macro Zoom] is set or in [Transform], [High Sens.], [Hi-Speed Burst], [Flash Burst], [Pin Hole] and [Photo Frame] in Scene Mode so the Picture Size for [EZ] is not displayed.
- Pictures may appear mosaic depending on the subject and the recording conditions.

[Rec Quality]

For details on [Rec] Mode menu settings, refer to P34.

This sets up the picture quality of motion pictures.

■ **Applicable modes:** 🎞

■ **Settings**

Item	Picture Size	fps	Aspect Ratio
HD ✳	1280×720 pixels	24	16:9
VGA ✳	640×480 pixels	30	4:3
QVGA	320×240 pixels		

✳ Cannot be recorded in the built-in memory.

[Sensitivity]

For details on [Rec] Mode menu settings, refer to P34.

This allows the Sensitivity to light (ISO sensitivity) to be set. Setting to a higher figure enables pictures to be taken even in dark places without the resulting pictures coming out dark.

■ **Applicable modes:**

■ **Settings: [ISO]/[ISO100]/[ISO200]/[ISO400]/[ISO800]/[ISO1600]**

	[ISO100] ⇔ [ISO1600]	
Recording location (recommended)	When it is light (outdoors)	When it is dark
Shutter speed	Slow	Fast
Noise	Less	Increased
Jitter of the subject	Increased	Less

ISO sensitivity	Settings
ISO maximum [ISO1600] (Intelligent)	The ISO sensitivity is adjusted according to the movement of the subject and the brightness.
100/200/400/800/1600	The ISO sensitivity is fixed to various settings.

■ **About [ISO] (Intelligent ISO sensitivity control)**

The camera detects movement of the subject and then automatically sets the optimum ISO sensitivity and shutter speed to suit the movement of the subject and brightness of the scene to minimise the jitter of the subject.

- The shutter speed is not fixed when the shutter button is pressed halfway. It is continuously changing to match the movement of the subject until the shutter button is pressed fully.

Note

- For the focus range of flash when [ISO] is set, refer to P70.

[White Balance]

For details on [Rec] Mode menu settings, refer to P34.

In sunlight, under incandescent lights or in other such conditions where the colour of white takes on a reddish or bluish tinge, this item adjusts to the colour of white which is closest to what is seen by the eye in accordance with the light source.

■ Applicable modes:

■ Settings

[AWB]	Automatic adjustment
[☼]	When taking pictures outdoors under a clear sky
[☁]	When taking pictures outdoors under a cloudy sky
[⌂]	When taking pictures outdoors in the shade
[☼]	When taking pictures under incandescent lights
[SET]	Value set by using [SET]

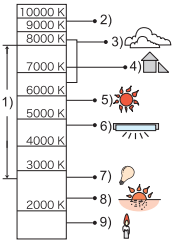
Note

- Under fluorescent lighting, LED lighting fixture etc., the appropriate White Balance will vary depending on the lighting type, so use [AWB] or [SET].
- The White Balance setting is memorised even if the camera is turned off. (However, the White Balance setting for a Scene Mode returns to [AWB] when the Scene Mode is changed.)
- In the Scene Modes listed below, White Balance is fixed to [AWB].
  – [Scenery]/[Night Portrait]/[Night Scenery]/[Food]/[Party]/[Candle Light]/[Sunset]/[Flash Burst]/[Starry Sky]/[Fireworks]/[Beach]/[Snow]/[Aerial Photo]/[Film Grain]

■ Auto White Balance

Depending on the conditions prevailing when pictures are taken, the pictures may take on a reddish or bluish tinge. Furthermore, when a multiple number of light sources are being used or there is nothing with a colour close to white, Auto White Balance may not function properly. In this case, set the White Balance to a mode other than [AWB].

1 Auto White Balance will work within this range
2 Blue sky
3 Cloudy sky (Rain)
4 Shade
5 Sunlight
6 White fluorescent light
7 Incandescent light bulb
8 Sunrise and sunset
9 Candlelight
K=Kelvin Colour Temperature



Setting the White Balance manually

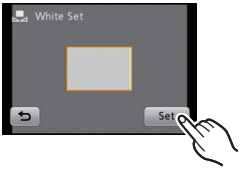
Set the White Balance value. Use to match the condition when taking photographs.

1 Touch [ ].

2 Touch [SET].

3 Aim the camera at a sheet of white paper etc., so that the frame in the centre is filled by the white object only and then touch [Set].

- White Balance may not be set when the subject is too bright or too dark. Set the White Balance again after adjusting to appropriate brightness.
- Exit the menu after it is set.



[AF Mode]

For details on [Rec] Mode menu settings, refer to P34.

This allows the appropriate focusing method to be selected.

■ **Applicable modes:** MS SCN

■ **Settings**

[ ]: Face Detection	The camera automatically detects the person's face. The focus and exposure can then be adjusted to fit that face no matter what portion of the picture it is in. (max. 15 areas)
[ ]: AF Tracking	Focus can be adjusted to a specified subject. Focus will keep on following the subject even if it moves. (Dynamic tracking)
[ ]: 11-area-focusing	The camera focuses on any of 11 focus areas. This is effective when the subject is not in the centre of the screen.
[ ]: 1-area-focusing	The camera focuses on the subject in the AF area on the centre of the screen.

Note

- The AF Mode is fixed to [ ] in [Starry Sky], [Fireworks] in Scene Mode.
- It is not possible to set [ ] in the following cases.
  – In [Panorama Assist], [Night Scenery], [Food] or [Aerial Photo] in Scene Mode.

■ **About [ ] (Face Detection)**

The following AF area frames are displayed when the camera detects the faces.
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 areas are also brought into focus.

- Under certain picture-taking conditions including the following cases, the face detection function may fail to work. [AF Mode] is switched to [ ].
  – When the face is not facing the camera
  – When the face is at an angle
  – When the face is extremely bright or dark
  – When there is little contrast on the faces
  – When the facial features are hidden behind sunglasses, etc.
  – When the face appears small on the screen
  – When there is rapid movement
  – When the subject is not a human being
  – When the camera is shaking
  – When Digital Zoom is used

■ Setting up [ ] (AF Tracking)

Touch the subject.

- The AF area turns yellow and the subject is locked.
  It will continuously adjust the focus and exposure automatically following the movement of the subject. (Dynamic Tracking)
- Lock is cancelled when [ ] is touched.

Note

- Touch operation is not possible at the top right of the LCD monitor even if image is displayed.
- Dynamic tracking function may fail to lock, lose the subject in AF tracking, or track different subject depending on the recording conditions such as the ones below.
  – When the subject is too small
  – When the recording location is too dark or bright
  – When the subject is moving too fast
  – When the background has the same or similar colour to the subject
  – When jitter is occurring
  – When using the zoom
- When the AF lock fails, the Tracking AF frame will turn red and then disappear. Redo the AF lock.
- AF Tracking will not operate when the subject is not specified, the subject is lost, or has failed to be tracked. The picture will be taken with [ ] in [AF Mode] in that case.
- AF Tracking is cancelled when the Touch Shutter is set to [ ].
- It cannot be set to [ ] in the following conditions.
  – In [Panorama Assist], [Pin Hole], [Film Grain], or [High Dynamic] in Scene Mode
  – In [B/W], [Sepia], [Cool], or [Warm] in [Color Mode]

[Macro Mode]

For details on [Rec] Mode menu settings, refer to P34.

This mode allows you to take close-up pictures of a subject, e.g. when taking pictures of flowers.

■ **Applicable modes:**

■ **Settings**

[AF] ([AF Macro])	You can take pictures of a subject as close as 5 cm (0.17 feet) from the lens by rotating the zoom lever upmost to Wide (1×).
[ ] ([Macro Zoom])	You can take a picture with the Digital Zoom up to 3× while maintaining the distance to the subject for the extreme Wide position [5 cm (0.17 feet)]. • The image quality is poorer than during normal recording. • Zoom range will be displayed in blue. (digital zoom range) • Macro Zoom Mode cannot be used when [ ] in [AF Mode] is set.
[OFF]	–

Note

- We recommend using a tripod and the Self-timer.
- We recommend setting the flash to [ ] when you take pictures at close range.
- If the distance between the camera and the subject is beyond the focus range of the camera, the picture may not be properly focused even if the focus indication lights.
- When a subject is close to the camera, the effective focus range is significantly narrowed. Therefore, if the distance between the camera and the subject is changed after focusing on the subject, it may become difficult to focus on it again.
- Macro Mode gives priority to a subject close to the camera. Therefore, if the distance between the camera and the subject is far, it takes longer to focus on it.
- When you take pictures at close range, the resolution of the periphery of the picture may decrease slightly. This is not a malfunction.

[Exposure]

For details on [Rec] Mode menu settings, refer to P34.

Use this function when you cannot achieve appropriate exposure due to the difference in brightness between the subject and the background. Look at the following examples.

■ **Applicable modes:**

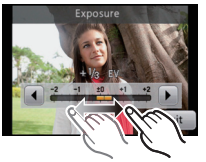
Underexposed **Properly exposed** **Overexposed**

Compensate the exposure towards positive.

Compensate the exposure towards negative.

1 Adjust the exposure by dragging the slide bar.
- Select [0 EV] to return to the original exposure.

2 Touch [Exit].
- Exit the menu after it is set.
- The exposure compensation value appears on the screen.



Note
- EV is an abbreviation of [Exposure Value]. It refers to the amount of light given to the CCD by the aperture value and the shutter speed.
- The set exposure value is memorised even if the camera is turned off.
- The compensation range of the exposure will be limited depending on the brightness of the subject.
- Exposure compensation cannot be used when in [Starry Sky] in Scene Mode.

[i.Exposure]

For details on [Rec] Mode menu settings, refer to P34.

Contrast and exposure will be adjusted automatically when there is a big difference in brightness between the background and subject, to bring the image close to real life.

■ **Applicable modes:**
■ **Settings: [ON]/[OFF]**

Note
- [ ] in the screen turns to yellow when [i.Exposure] is in effect.
- Even when the [Sensitivity] is set to [ISO100], [Sensitivity] may be set higher than [ISO100] if the picture is taken with [i.Exposure] set to valid.
- Compensation effect may not be achieved depending on the conditions.

[i.Resolution]

For details on [Rec] Mode menu settings, refer to P34.

Pictures with sharp profile and resolution can be taken by utilising the Intelligent Resolution Technology.

■ **Applicable modes:**
■ **Settings**

[ON]	[i.Resolution] is activated.
[i.ZOOM]	[i.Resolution] is activated, and the zoom magnification is increased by approximately 1.3× without noticeable deterioration in the picture.
[OFF]	—

Note
- Refer to P45 for information about the Intelligent Zoom.

[Digital Zoom]

For details on [Rec] Mode menu settings, refer to P34.

This can enlarge subjects even more than the Optical Zoom, Extra Optical Zoom or [i.ZOOM].

■ **Applicable modes:** MS SCN
■ **Settings: [ON]/[OFF]**

Note
- Refer to P45 for details.
- The setting is fixed to [ON] in Macro Zoom Mode.

[Burst]

For details on [Rec] Mode menu settings, refer to P34.

Pictures are taken continuously while the shutter button is pressed.

■ **Applicable modes:** iA MS SCN

■ **Settings: [ON]/[OFF]**

Burst speed (pictures/second)	approx. 1.3
Number of recordable pictures	Depends on the remaining capacity of the built-in memory/card.

Note

- **The burst speed becomes slower halfway.** The exact timing of this depends on the type of card and the Picture Size.
- You can take pictures until the capacity of the built-in memory or the card is full.
- The focus is fixed when the first picture is taken.
- The exposure and White Balance are adjusted each time you take a picture.
- When the Self-timer is used, the number of recordable pictures in Burst Mode is fixed to 3.
- The Burst speed (pictures/second) may become slower depending on the recording environment such as in dark places, if the ISO sensitivity is high etc.
- Burst Mode is not cancelled when the camera is switched off.
- If you take pictures in Burst Mode with the built-in memory, it will take time to write the picture data.
- **[⚡] is set for the flash when Burst is set.**
- Burst cannot be used in [Panorama Assist], [Hi-Speed Burst], [Flash Burst], [Starry Sky], [Fireworks], [Pin Hole] or [Photo Frame] in Scene Mode.

[Color Mode]

For details on [Rec] Mode menu settings, refer to P34.

Using these modes, the pictures can be made sharper or softer, the colours of the pictures can be turned into sepia colours or other colour effects can be achieved.

■ **Applicable modes:** iA

■ **Settings**

[STD.] ([Standard])	This is the standard setting.
[Happy] ([Happy])＊1	Image with enhanced brightness and vividness.
[NAT] ([Natural])＊2	The picture becomes softer.
[VIVID] ([Vivid])＊2	The picture becomes sharper.
[B/W] ([B/W])	The picture becomes black and white.
[SEPIA] ([Sepia])	The picture becomes sepia.
[COOL] ([Cool])＊2	The picture becomes bluish.
[WARM] ([Warm])＊2	The picture becomes reddish.

＊1 This can be set only when Intelligent Auto Mode is set.
＊2 This can be set only during Normal Picture Mode or Motion Picture Mode.

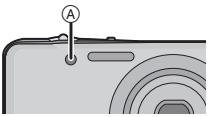
[AF Assist Lamp]

For details on [Rec] Mode menu settings, refer to P34.

AF assist lamp will illuminate the subject when the shutter button is pressed half-way making it easier for the camera to focus when recording in low light conditions. (Larger AF area is displayed depending on the recording conditions.)

■ **Applicable modes:**
■ **Settings: [ON]/[OFF]**

Note



- The effective range of the AF Assist Lamp is 1.5 m (4.92 feet).
- When you do not want to use the AF Assist Lamp Ⓐ (e.g. when taking pictures of animals in dark places), set the [AF Assist Lamp] to [OFF]. In this case, it will become more difficult to focus on the subject.
- [AF Assist Lamp] is fixed to [OFF] in [Self Portrait], [Scenery], [Night Scenery], [Sunset], [Fireworks] and [Aerial Photo] in Scene Mode.

[Red-Eye Removal]

For details on [Rec] Mode menu settings, refer to P34.

Red-Eye Reduction ([ ], [ ], [ ]) is selected, Digital Red-Eye Correction is performed whenever the flash is used. The camera automatically detects red-eye and corrects the picture.

■ **Applicable modes:**
■ **Settings: [ON]/[OFF]**

Note

- Only available when [AF Mode] is set to [ ] and Face Detection is active.
- Under certain circumstances, red-eye cannot be corrected.
- [ ] is displayed on the icon when it is set to [ON].

[Stabilizer]

For details on [Rec] Mode menu settings, refer to P34.

Using one of these modes, jitter during picture taking is detected, and the camera automatically compensates the jitter, enabling jitter-free images to be taken.

■ **Applicable modes:** MS SCN
■ **Settings: [ON]/[OFF]**

Note
- The stabilizer function may not be effective in the following cases.
  – When there is a lot of jitter.
  – When the zoom magnification is high.
  – In Digital Zoom range.
  – When taking pictures while following a moving subject.
  – When the shutter speed becomes slower to take pictures indoors or in dark places.
  Be careful of camera jitter when you press the shutter button.
- The setting is fixed to [ON] in [Self Portrait] in Scene Mode.
- The setting is fixed to [OFF] in [Starry Sky] in Scene Mode.

[Date Stamp]

For details on [Rec] Mode menu settings, refer to P34.

You can take a picture with date and time of recording.

■ **Applicable modes:** MS SCN
■ **Settings**

[DATE] ([W/O Time])	Stamp the year, month, and day.
[TIME] ([With Time])	Stamp the year, month, day, hour, and minutes.
[OFF]	—

Note
- **Date information for pictures recorded with the [Date Stamp] set cannot be deleted.**
- **When printing pictures with [Date Stamp] at a shop or with a printer, the date will be printed on top of the other if you choose to print with the date.**
- If the time has not been set, you cannot stamp with the date information.
- The setting is fixed to [OFF] in the following cases.
  – In [Panorama Assist], [Hi-Speed Burst] and [Flash Burst] in Scene Mode
  – [Burst] in [Rec] Mode menu
- [Text Stamp], [Resize], and [Cropping] cannot be set for pictures recorded with [Date Stamp] set.
- Even if you take a picture with [Date Stamp] set to [OFF], it is possible to stamp dates onto the recorded pictures using [Text Stamp] (P93) or setup the Date print (P99, 112)

[Clock Set]

For details on [Rec] Mode menu settings, refer to P34.

Note
- Refer to P18 for details.

[Playback] Mode:

Various methods to play back

You can play back the recorded pictures in various methods.

1 Touch [ ].

2 Touch the Playback Mode icon.

Playback Mode	Description of settings
[Normal Play] (P28)	All the images are played back.
[Slide Show] (P87)	Images are played back in sequence.
[Filtering Play] (P89)	Images are sorted into categories and played back.
[Calendar] (P90)	Images are played back by the date the picture was taken.

[Slide Show]

You can play back the pictures you have taken in synchronisation with music, and you can do this in sequence while leaving a fixed interval between each of the pictures.
Furthermore, you can play back the pictures grouped together by category or play back only those pictures you have set as favourites as a slide show.
This playback method is recommended when you have connected the camera to a TV set to view the pictures you have taken.

1 Touch the group to playback.

- In [Category Selection], touch the category you wish to play back.
  For details on categories, refer to P89.

2 Touch [Start].

■ Operations performed during slide show

1 Display control panel by touching screen.

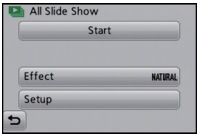
- If no operation is performed for 2 seconds, it will return to original status.

2 Operate control panel by touching.

▶/II	Play/Pause	■	Exit slide show
⏮	Back to previous picture (In the Pause Mode)	⏭	Ahead to next picture (In the Pause Mode)
+	Increase volume level	−	Reduce volume level

- Normal playback resumes after the slide show finishes.

■ Changing the slide show settings



You can change the settings for Slide Show Playback by selecting [Effect] or [Setup] on the slide show menu screen.

[Effect]

This allows you to select the screen effects or music effects when switching from one picture to the next.

[NATURAL], [SLOW], [SWING], [URBAN], [OFF], [AUTO]

- When [URBAN] has been selected, the picture may appear in black and white as a screen effect.
- [AUTO] can be used only when [Category Selection] has been selected. The pictures are played back with the recommended effects in each category.
- Some [Effect] will not operate when playing back pictures displayed vertically.

[Setup]

[Duration] or [Repeat] can be set.

Item	Settings
[Duration]	[1 SEC.]/[2 SEC.]/[3 SEC.]/[5 SEC.]
[Repeat]	[ON]/[OFF]
[Music]	[ON]/[OFF]

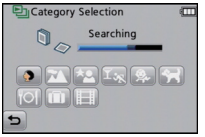
- [Duration] can be set only when [OFF] has been selected as the [Effect] setting.
- [Music] cannot be selected when [OFF] has been selected as the [Effect] setting.

Note

- Motion pictures cannot be played back as a slide show. When [ ] (motion picture) is selected in [Category Selection], the first frames of the motion pictures are displayed as still pictures in a slide show.

[Filtering Play]

The images sorted into the category or images set as favourite are played back.

Item	Description of settings
[Category Selection]	This mode allows you to search images by Scene Mode or other categories (such as [Portrait], [Scenery] or [Night Scenery]) and sort the pictures into each of the categories. You can then play back the pictures in each category. **Touch the category to play back.** • Only the category for which pictures have been found can be selected. 
[Favorite]	You can play back the pictures you have set as [Favorite] (P97).

■ About the categories to be sorted

It will be sorted as following when [Category Selection] is set.

	Recording information e.g. Scene Modes
	[Portrait], [i-Portrait], [Transform], [Self Portrait], [Night Portrait], [i-Night Portrait], [Baby1]/[Baby2], [Cosmetic Mode]
	[Scenery], [i-Scenery], [Sunset], [i-Sunset], [Aerial Photo]
	[Night Portrait], [i-Night Portrait], [Night Scenery], [i-Night Scenery], [Starry Sky]
	[Sports], [Party], [Candle Light], [Fireworks], [Beach], [Snow], [Aerial Photo]
	[Baby1]/[Baby2]
	[Pet]
	[Food]
	[Travel Date]
	[Motion Picture]

[Calendar]

You can display pictures by recording date.

1 Touch [▲]/[▼] to select the month to be played back.

- If there were no pictures recorded during a month, that month is not displayed.
- Touch [ ] to display the multi playback screen.

2 Select the date you wish to play back, and then touch [Set].

3 Touch the picture you wish to play back.

- Touch [CAL] to return to the calendar search display screen.

Note

- The recording date of the picture selected in the playback screen becomes the date selected when the calendar screen is first displayed.
- If there are multiple pictures with the same recording date, the first picture recorded on that day is displayed.
- You can display the calendar between January 2000 and December 2099.
- If the date is not set in the camera, the recording date is set as the 1st January, 2011.
- If you take pictures after setting the travel destination in [World Time], the pictures are displayed by the dates at the travel destination in Calendar Playback.

[Playback] Mode:

Using the [Playback] Mode Menu

You can set up pictures to be uploaded to image sharing sites and perform editing like cropping recorded pictures, as well as set up the protection of recorded images, etc.
- With [Text Stamp], [Resize] or [Cropping], a new edited picture is created. A new picture cannot be created if there is no free space on the built-in memory or the card so we recommend checking that there is free space and then editing the picture.

[Upload Set]

It is possible to set up the images to be uploaded to the image sharing sites (Facebook/YouTube) on this unit.
- You can only upload still pictures to Facebook, and only motion pictures to YouTube.
- **This cannot be done to the images in the built-in memory. Copy the images to a card (P101), and then perform the [Upload Set].**

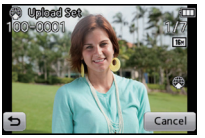
1 Select [Upload Set] on the [Playback] Mode menu. (P34)

2 Touch [S] ([Single]) or [M] ([Multi]).

3 Select the picture.

[Single] setting

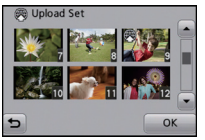
Drag the screen horizontally to select an image, and then touch [Set].
- Setting is cancelled by touching [Cancel].
- Exit the menu after it is set.



[Multi] setting

1 Touch the picture you wish to upload (repeat).
- Selection will be cancelled by touching the same picture again.

2 Touch [OK].
- Confirmation screen is displayed. It is executed when [Yes] is selected.
  Exit the menu after it is executed.



■ Upload to the image sharing sites

An upload tool built-in to the camera “LUMIX Image Uploader” is automatically copied to the card when you setup [Upload Set].
Perform the upload operation after connecting the camera to a PC (P106). For details, refer to P109.

■ Cancelling all the [Upload Set] settings

1 Select [Upload Set] on the [Playback] Mode menu.

2 Touch [CANCEL].

- Confirmation screen is displayed. It is executed when [Yes] is selected.
  Exit the menu after it is executed.

Note

- Setting may not be possible for pictures recorded with other cameras.
- It cannot be set with the card less than 512 MB.

[Text Stamp]

You can stamp the recording date/time, name, location or travel date onto the recorded pictures.

1 Select [Text Stamp] on the [Playback] Mode menu. (P34)

2 Touch [S] ([Single]) or [M] ([Multi]).

3 Select an image you wish to stamp with text.

- [✓] is displayed on pictures already with date or text stamped.

[Single] setting

1 Drag the screen horizontally and select an image.

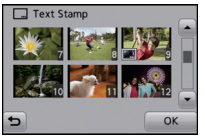
2 Touch [Set].

[Multi] setting

1 Touch a picture (repeat).

- Selection will be cancelled by touching the same picture again.

2 Touch [OK].



4 Touch [Set].

5 Select the item to stamp.

Item	Setting item	
[Shooting Date]	**[W/O TIME]:**	Stamp the year, month and day.
	[WITH TIME]:	Stamp the year, month, day, hour and minutes.
	[OFF]	
[Name]	**[👶/🐾] (BABY/PET):**	Stamps names registered in name settings for [Baby1]/[Baby2] or [Pet] in Scene Mode.
	[OFF]	
[Location]	**[ON]:**	Stamps the travel destination name set under [Location].
	[OFF]	
[Travel Date]	**[ON]:**	Stamps the travel date set under [Travel Date].
	[OFF]	

6 Touch [↩].

7 Touch [OK].

- Confirmation screen is displayed. It is executed when [Yes] is selected.
  Exit the menu after it is executed.

Note

- When you print pictures stamped with text, the date will be printed over the stamped text if you specify printing of the date at the photo shop or on the printer.
- You can set up to 50 pictures at one time in [Multi].
- The picture quality may deteriorate when text stamping is carried out.
- Depending on the printer being used, some characters may be cut at printing. Check before printing.
- When text is stamped onto the 0.3M (4:3) pictures, it is difficult to read it.
- Text and dates cannot be stamped on the pictures in the following cases.
  – Motion pictures
  – Pictures recorded without setting the clock
  – Pictures with date or text stamped
  – Pictures recorded with other equipment

[Resize]

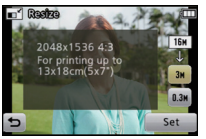
To allow easy posting to web pages, attachment to email etc., picture size (number of pixels) is reduced.

1 Select [Resize] on the [Playback] Mode menu. (P34)

2 Touch [S] ([Single]) or [M] ([Multi]).

3 Select the picture and size.

[Single] setting



1 Drag the screen horizontally to select an image, and then touch [Set].

2 Touch the size you wish to change, and then touch [Set].

- Confirmation screen is displayed. It is executed when [Yes] is selected.
  Exit the menu after it is executed.

[Multi] setting

1 Touch the size you wish to change.

2 Touch a picture (repeat).

- Selection will be cancelled by touching the same picture again.

3 Touch [OK].

- Confirmation screen is displayed. It is executed when [Yes] is selected.
  Exit the menu after it is executed.

Note

- You can set up to 50 pictures at one time in [Multi].
- The picture quality of the resized picture will deteriorate.
- It may not be possible to resize pictures recorded with other equipment.
- Motion pictures or still pictures with date or text stamped cannot be resized.

[Cropping]

You can enlarge and then clip the important part of the recorded picture.

1 Select [Cropping] on the [Playback] Mode menu. (P34)

2 Drag the screen horizontally to select an image, and then touch [Set].

3 Select the parts to be cropped.

Touch [⊕]: Enlarge
Touch [⊖]: Reduce
Drag: Move

4 Touch [Set].

- Confirmation screen is displayed. It is executed when [Yes] is selected.
  Exit the menu after it is executed.

Note

- The picture quality of the cropped picture will deteriorate.
- It may not be possible to crop pictures recorded with other equipment.
- Motion pictures or still pictures with date or text stamped cannot be cropped.

[Favorite]

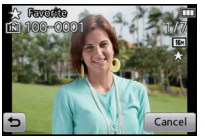
You can do the following if a mark has been added to pictures and they have been set as favourites.
• Play back only the pictures set as favourites. ([Favorite] in [Filtering Play])
• Play back the pictures set as favourites only as a Slide Show.
• Delete all the pictures not set as favourites. ([All Delete Except★])

1 Select [Favorite] on the [Playback] Mode menu. (P34)

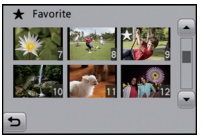
2 Touch [★S] ([Single]) or [★M] ([Multi]).

3 Select the picture.

[Single] setting
Drag the screen horizontally to select an image, and then touch [Set].
• Setting is cancelled by touching [Cancel].
• Exit the menu after it is set.



[Multi] setting
Touch the pictures you wish to set as favourites.
• Setting is cancelled by touching the same picture again.
• Exit the menu after it is set.



■ Cancelling all the [Favorite] settings

1 Select [Favorite] on the [Playback] Mode menu.

2 Touch [CANCEL].
• Confirmation screen is displayed. It is executed when [Yes] is selected. Exit the menu after it is executed.

Note
• You can set up to 999 pictures as favourites.
• You may not be able to set pictures taken with other equipment as favourites.

[Print Set]

DPOF “Digital Print Order Format” is a system that allows the user to select which pictures to print, how many copies of each picture to print and whether or not to print the recording date on the pictures when using a DPOF compatible photo printer or photo printing store. For details, ask at your photo printing store.
When you want to use a photo printing store to print pictures recorded on the built-in memory, copy them to a card (P101) and then set the print setting.

1 Select [Print Set] on the [Playback] Mode menu. **(P34)**

2 Touch [S] ([Single]) or [M] ([Multi]).

3 Select the picture.

[Single] setting
Drag the screen horizontally to select an image, and then touch [Set].

[Multi] setting
Touch the picture you wish to print.

4 Touch [▲]/[▼] to set the number of prints, and then touch [Set] to set.

- When [Multi] has been selected, repeat steps **3** and **4** for each picture. (It is not possible to use the same setting for a multiple number of pictures.)
- Exit the menu after it is set.

■ Cancelling all the [Print Set] settings

1 Select [Print Set] on the [Playback] Mode menu.

2 Touch [CANCEL].

- Confirmation screen is displayed. It is executed when [Yes] is selected.
  Exit the menu after it is executed.

■ To print the date

After setting the number of prints, set/cancel printing with the recording date by touching [Date].

- Depending on the photo printing store or the printer, the date may not be printed even if you set to print the date. For further information, ask at your photo printing store or refer to the operating instructions for the printer.
- The date cannot be printed on pictures with date or text stamped.

Note

- The number of prints can be set from 0 to 999.
- Depending on the printer, the date print settings of the printer may take precedence so check if this is the case.
- It may not be possible to use the print settings with other equipment. In this case, cancel all the settings, and reset the settings.
- [Print Set] cannot be set for motion pictures.
- If the file is not based on the DCF standard, the print setting cannot be set.

[Protect]

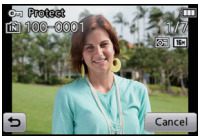
You can set protection for pictures you do not want to be deleted by mistake.

1 Select [Protect] on the [Playback] Mode menu. (P34)

2 Touch [S] ([Single]) or [M] ([Multi]).

3 Select the picture.

[Single] setting
Drag the screen horizontally to select an image, and then touch [Set].
- Setting is cancelled by touching [Cancel].
- Exit the menu after it is set.



[Multi] setting
Touch the picture you wish to protect.
- Setting is cancelled by touching the same picture again.
- Exit the menu after it is set.

■ Cancelling all the [Protect] settings

1 Select [Protect] on the [Playback] Mode menu.

2 Touch [CANCEL].
- Confirmation screen is displayed. It is executed when [Yes] is selected. Exit the menu after it is executed.

Note
- The protect setting may not be effective on other equipment.
- Even if you protect pictures in the built-in memory or a card, they will be deleted if the built-in memory or the card is formatted.
- Even if you do not protect pictures on a card, they cannot be deleted when the card's Write-Protect switch is set to [LOCK].

[Copy]

You can copy the data of the pictures you have taken from the built-in memory to a card or from a card to the built-in memory.

1 Select [Copy] on the [Playback] Mode menu. (P34)

2 Touch the copy destination.

IN→SD : All the picture data in the built-in memory are copied onto the card at one time.

SD→IN : One picture at a time is copied from the card to the built-in memory.
Drag the screen horizontally to select an image, and then touch [Set].

- Confirmation screen is displayed. It is executed when [Yes] is selected.
  Exit the menu after it is executed.
- Do not turn the camera off at any point during the copying process.

Note

- If a picture exists with the same name (folder number/file number) as the picture to be copied in the copy destination when [IN→SD] is selected, a new folder is created and the picture is copied. If a picture exists with the same name (folder number/file number) as the picture to be copied in the copy destination when [SD→IN] is selected, that picture is not copied.
- It may take time to copy the picture data.
- [Print Set], [Protect] or [Favorite] settings will not be copied. Perform the settings again after copying is finished.

Having Fun with Recorded Pictures

You can easily process recorded pictures.
Being able to stamp or add cosmetic effects to brighten faces allows you to create pictures you like.

- The processed pictures are newly generated, so be sure that you have enough space in the built-in memory or the card.

1 Touch [ ] on the playback screen.

2 Touch the icon.

Item	Description of settings
[Beauty Retouch] (P103)	You can change the impression made by faces by adjusting the clearness and shine of the skin using [Aesthetic Retouch] and adjusting lip colour and skin tone using [Make Up Retouch].
[Image Stamp] (P105)	You can stamp a recorded picture with up to 10 of your favourite stamps, including stars and hearts.

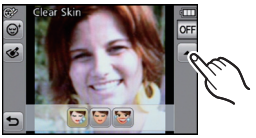
[Beauty Retouch]

1 Drag the screen horizontally to select an image, and then touch [OK].

2 Touch the face of the person to edit.

- Only a person with an arrow can be selected.

3 Select [ ] or [ ], and touch an item.



- Touch [▲]/[▼] to arrange settings of your choice.
- To continue to add effects, repeat these steps.
- Touch [OK] when picture editing has finished. Images before application and after application are displayed.

[ ] [Aesthetic Retouch]
(For each of the following items, any of 5 levels of effect can be selected)

Item	Description of settings
[Clear Skin]	Reduces blemishes and dullness in the skin while bringing out clearness.
[Shine Removal]	Shiny areas of the skin are matted down.
[Whitening]	Eyes and teeth are whitened and beautified.

[ ] [Make Up Retouch]
(For each of the following items, any of 5 colour effects can be selected)

Item	Description of settings
[Foundation]	Colour of the skin is adjusted.
[Lip Color]	Colour of the lips is adjusted to highlight the texture.
[Cheek Color]	Outline can be selected from 3 options to produce a 3D appearance.
[Eye Shadow]	Shape of the eye is defined.

4 Touch [OK].

- You can go ahead and edit another person.
  Repeat steps **2** and **3**.
- People already edited cannot be edited again. If you want to edit again, save the picture once and go back to select the person again.

5 Touch [Save].

- Confirmation screen is displayed. It is executed when [Yes] is selected.

Note

- [Beauty Retouch] cannot be performed on motion pictures.
- [Beauty Retouch] may not be performed on images recorded with other equipment.
- Intended retouching may not be possible when the face detection is not performed properly.
- To take pictures appropriate for [Beauty Retouch]:
  – Take pictures of the face from the front
  – Avoid taking pictures in a very dark place
  – Clearly record the part you intend to retouch
- Reallusion is a trademark of Reallusion Inc.

REALLUSION

[Image Stamp]

1 Drag the screen horizontally to select an image, and then touch [OK].

2 Touch the position you wish to stamp.

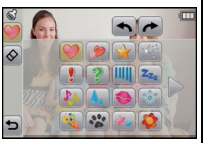
3 After finishing the picture editing, touch [OK].

4 Touch [OK].

- Confirmation screen is displayed. It is executed when [Yes] is selected.
- The picture size is fixed to 5M (4:3), 4.5M (3:2), 3.5M (16:9) or 3.5M (1:1).

■ Changing or removing stamps

Touch the icon below to change or remove a stamp.

Item	Description of settings
[Image Stamp]	**Touch the icon of the stamp you wish to use.** • You can select from 32 different stamps. • The display of [ ] will change to the selected stamp. • The icon can be rotated by touching [ ]/[ ]. • The page can be changed by touching [ ]/[ ]. 
[Delete Stamps]	**Touch the stamp you wish to delete on the screen.**
	• This undoes the directly preceding operation.

Note

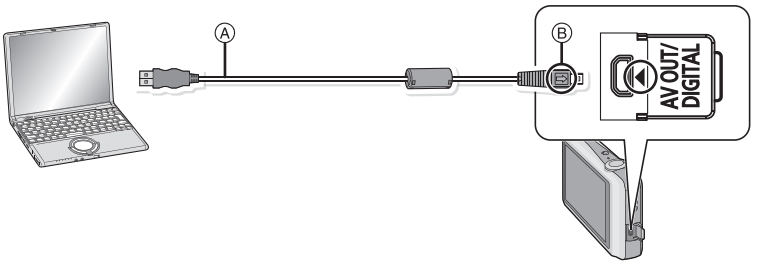
- Motion pictures cannot be stamped.
- When you stamp 3M (4:3)/0.3M (4:3) pictures, the picture quality will deteriorate.
- When you stamp a picture that was recorded vertically, the picture will be displayed horizontally.

Connecting to a PC

You can transfer the pictures in the camera to a PC by connecting the camera and the PC.

- Some PCs can read directly from the card removed from the camera. For details, refer to the operating instructions of your PC.
- **If the computer being used does not support SDXC Memory Cards, a message prompting you to format may appear. (Doing so will cause recorded images to be erased so do not choose to format.)**
  If the card is not recognised, please refer to the below support site.
  http://panasonic.net/avc/sdcard/information/SDXC.html

Preparations:
Turn on the camera and the PC.
Remove the card before using the pictures in the built-in memory.



Ⓐ USB connection cable (supplied)
- Check the directions of the connectors, and plug them straight in or unplug them straight out. (Otherwise the connectors may be bent out of shape which will cause a malfunction.)

Ⓑ Align the marks, and insert.
- Use a battery with sufficient battery power or the AC adaptor (optional) and DC coupler (optional). If the remaining battery power becomes low while the camera and the PC are communicating, the alarm beeps.
  Refer to “Disconnecting the USB connection cable safely” (P108) before disconnecting the USB connection cable. Otherwise, data may be destroyed.

1 Connect the camera to a PC via the USB connection cable Ⓐ (supplied).

- Do not use any other USB connection cables except the supplied one.
  Use of cables other than the supplied USB connection cable may cause a malfunction.

2 Touch [PC].

3 Operate the PC.

- You can save the images into the PC by drag and drop the image or the folder with the image you would like to transfer onto the different folder in the PC.

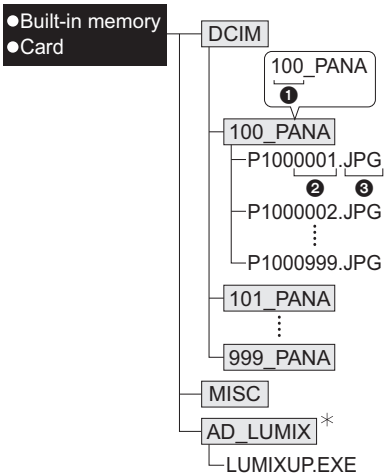
Note

- Before connecting or disconnecting the AC adaptor (optional), turn the camera off.
- Before inserting or removing a card, turn the camera off and disconnect the USB connection cable. Otherwise, data may be destroyed.

■ Viewing the contents of the built-in memory or card using the PC (folder composition)

For Windows: **A drive ([Removable Disk]) is displayed in [My Computer]**

For Mac: **A drive ([LUMIX], [NO_NAME] or [Untitled]) is displayed on the desktop**



DCIM:		Images
	❶ Folder number	
	❷ File number	
	❸ JPG:	Still pictures
	MOV:	Motion pictures
MISC:		DPOF print
		Favourite
AD_LUMIX:		For Upload set
	LUMIXUP.EXE:	Upload tool “LUMIX Image Uploader”

✳ Cannot be created in the built-in memory.

A new folder is created when pictures are taken in the following situations.
- When a card containing a folder with the same folder number has been inserted (Such as when pictures were taken using another maker of camera)
- When there is a picture with file number 999 inside the folder

■ Disconnecting the USB connection cable safely

- Proceed with the hardware removal using “Safely Remove Hardware” on the task tray of the PC. If the icon is not displayed, check that [Access] is not displayed on the LCD monitor of the digital camera before removing the hardware.

■ Connection in the PTP Mode (Windows® XP, Windows Vista®, Windows® 7 and Mac OS X only)

Select [PictBridge(PTP)] when connecting USB cable.
- When there are 1000 or more pictures on a card, the pictures may not be imported in the PTP Mode.

Using “PHOTOfunSTUDIO” to copy to a PC

Transferred images can be printed or sent via mail.

- Read the separate instructions for the supplied software for more information about the operating environment and how to install it.

Uploading the images to sharing sites

Still pictures and motion pictures can be uploaded to image sharing sites (Facebook/YouTube) using the upload tool “LUMIX Image Uploader”.
You do not need to transfer the images to the PC or install dedicated software onto the PC, so you can easily upload the images even away from your home or work if there is a PC that is connected to the network.

- It is only compatible with a PC with Windows XP/Windows Vista/Windows 7.
  (View the operating instructions of the “LUMIX Image Uploader” using Internet Explorer)

Preparations:
Setup the images to upload with [Upload Set] (P91).
Connect the PC to the Internet.
Create an account at the image sharing site to be used, and prepare the login information.

1 Startup the “LUMIXUP.EXE” by double-clicking it. **(P108)**

- An upload tool “LUMIX Image Uploader” may startup automatically if the “PHOTOfunSTUDIO” software on the CD-ROM (supplied) is installed.

2 Select the destination to upload.

- Operate following the instructions displayed on the PC screen.

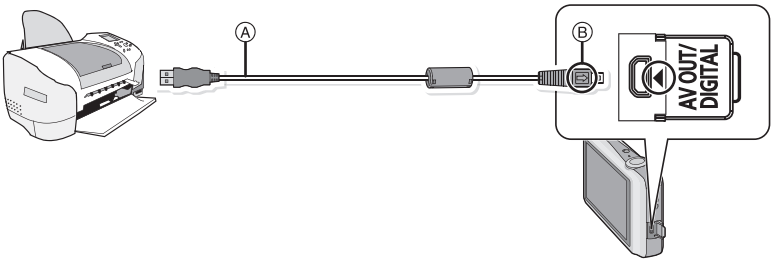
Note

- Operation cannot be guaranteed for future specification changes of the YouTube and Facebook services. Service contents or screen may be modified without notice.
  (This service is as of May 1st, 2011)
- Do not upload any images protected by copyright, unless you own the copyright yourself, or have permission from the relevant copyright holder.

Printing the Pictures

If you connect the camera to a printer supporting PictBridge, you can select the pictures to be printed out and instruct that printing be started on the camera's LCD monitor.
- Some printers can print directly from the card removed from the camera. For details, refer to the operating instructions of your printer.

Preparations:
Turn on the camera and the printer.
Remove the card before printing the pictures from the built-in memory.
Check print quality and other settings on the printer before printing the pictures.



Ⓐ USB connection cable (supplied)
- Check the directions of the connectors, and plug them straight in or unplug them straight out. (Otherwise the connectors may be bent out of shape which will cause a malfunction.)

Ⓑ Align the marks, and insert.
- Use a battery with sufficient battery power or the AC adaptor (optional) and DC coupler (optional). If the remaining battery power becomes low while the camera and the printer are connected, the alarm beeps. If this happens during printing, stop printing at once. If not printing, disconnect the USB connection cable.

1 Connect the camera to a printer via the USB connection cable Ⓐ (supplied).

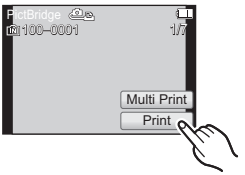
2 Touch [PictBridge(PTP)].

- When the camera is connected to the printer, the cable disconnect prohibit icon [⊠] appears. Do not disconnect the USB cable while [⊠] is displayed.

Note
- Do not use any other USB connection cables except the supplied one.
  Use of cables other than the supplied USB connection cable may cause malfunction.
- Before connecting or disconnecting the AC adaptor (optional), turn the camera off.
- Before inserting or removing a card, turn the camera off, and disconnect the USB connection cable.
- Motion pictures cannot be printed out.

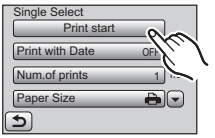
Selecting a single picture and printing it

1 Drag the screen horizontally to select an image, and then touch [Print].



2 Touch [Print start].

- Refer to P112 for the items which can be set before starting to print the pictures.
- Disconnect the USB connection cable after printing.



Selecting multiple pictures and printing them

1 Touch [Multi Print].

2 Touch the item.

- If the print check screen has appeared, select [Yes], and print the pictures.

Item	Description of settings
[Multi Select]	Multiple pictures are printed at one time. • Select the picture you wish to print. (Touch the same picture again to cancel the selection.) • After the pictures have been selected, touch [OK].
[Select All]	Prints all the stored pictures.
[Print Set (DPOF)]	Prints the pictures set in [Print Set] only. (P98)
[Favorite]	Prints the pictures set as favourites only. (P97)

3 Touch [Print start].

- Refer to P112 for the items which can be set before starting to print the pictures.
- Disconnect the USB connection cable after printing.

Print Settings

Select and set the items both on the screen in step 2 of the "Selecting a single picture and printing it" and in step 3 of the "Selecting multiple pictures and printing them" procedures.

- When you want to print pictures in a paper size or a layout which is not supported by the camera, set [Paper Size] or [Page Layout] to [🖶] and then set the paper size or the layout on the printer. (For details, refer to the operating instructions of the printer.)
- When [Print Set (DPOF)] has been selected, the [Print with Date] and [Num.of prints] items are not displayed.

[Print with Date]

Item	Description of settings
[ON]	Date is printed.
[OFF]	Date is not printed.

- If the printer does not support date printing, the date cannot be printed on the picture.
- Depending on the printer, the date print settings of the printer may take precedence so check if this is the case.
- When printing images with [Date Stamp] or [Text Stamp], please remember to set Print With Date to [OFF] or the date will print on top.

Note

When asking the photo shop to print the pictures

- By stamping the date using [Date Stamp] (P85) or [Text Stamp] (P93) or setting date printing at the time of the [Print Set] (P98) setting before going to a photo shop, the dates can be printed at the photo shop.

[Num.of prints]

You can set the number of prints up to 999.

[Paper Size]

Item	Description of settings
🖶	Settings on the printer are prioritised.
[L/3.5″×5″]	89 mm×127 mm
[2L/5″×7″]	127 mm×178 mm
[POSTCARD]	100 mm×148 mm
[16:9]	101.6 mm×180.6 mm
[A4]	210 mm×297 mm
[A3]	297 mm×420 mm
[10×15cm]	100 mm×150 mm
[4″×6″]	101.6 mm×152.4 mm
[8″×10″]	203.2 mm×254 mm
[LETTER]	216 mm×279.4 mm
[CARD SIZE]	54 mm×85.6 mm

• Paper sizes not supported by the printer will not be displayed.

[Page Layout] (Layouts for printing that can be set with this unit)

Item	Description of settings
	Settings on the printer are prioritised.
	1 picture with no frame on 1 page
	1 picture with a frame on 1 page
	2 pictures on 1 page
	4 pictures on 1 page

• An item cannot be selected if the printer does not support the page layout.

■ Layout printing

When printing a picture several times on 1 sheet of paper

For example, if you want to print the same picture 4 times on 1 sheet of paper, set [Page Layout] to [ ] and then set [Num.of prints] to 4 for the picture that you want to print.

When printing different pictures on 1 sheet of paper

For example, if you want to print 4 different pictures on 1 sheet of paper, set [Page Layout] to [ ] and then set [Num.of prints] to 1 for each of the 4 pictures.

Note

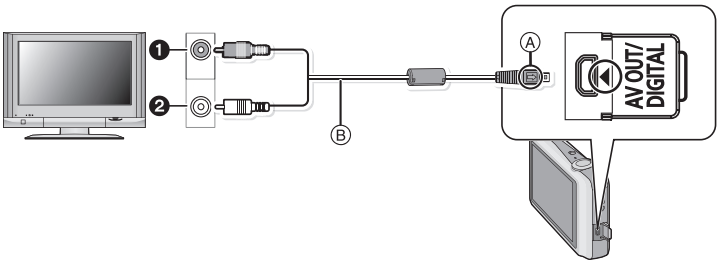
• The camera is receiving an error message from the printer when the [●] indication lights orange during printing. After finishing printing, make sure there are no problems with the printer.
• If the number of prints is high, the pictures may be printed several times. In this case, the remaining number of prints indicated may differ from the number set.

[Playback] Mode:

Playing Back Pictures on a TV Screen

Playing back pictures using the AV cable (supplied)

Preparations:
Set the [TV Aspect]. (P39)
Turn this unit and the TV off.



❶ Yellow: to the video input socket
❷ White: to the audio input socket
Ⓐ Align the marks, and insert.
Ⓑ AV cable (supplied)
• Check the directions of the connectors, and plug them straight in or unplug them straight out. (Otherwise the connectors may be bent out of shape which will cause a malfunction.)

1 Connect the AV cable (supplied) to the video input and the audio input sockets on the TV.

2 Connect the AV cable to the [AV OUT] socket on the camera.

3 Turn the TV on and select external input.

4 Turn the camera on, and set to the [Playback] Mode.

Note
• Depending on the [Picture Size], black bands may be displayed on the top and bottom or the left and right of the pictures.
• Do not use any other AV cables except the supplied one.
• Read the operating instructions for the TV.
• When you play back a picture vertically, it may be blurry.
• You can view pictures on TVs in other countries (regions) which use the NTSC or PAL system when you set [Video Out] in the [Setup] menu.
• Change the screen mode on your TV if the picture is displayed with the top or bottom cut off.

Playing back pictures on a TV with an SD Memory Card slot

The recorded still pictures can be played back on a TV with an SD Memory Card slot.

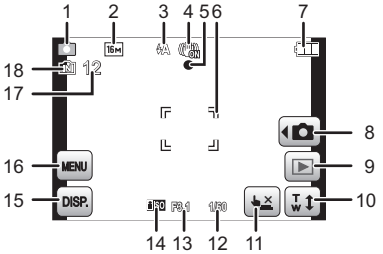
Note

- Depending on the TV model, pictures may not be displayed on the full screen.
- Motion pictures cannot be played back. To play back motion pictures, connect the camera to the TV with the AV cable (supplied).
- SDHC Memory Cards cannot be played back unless it is a TV compatible with SDHC Memory Cards or SDXC Memory Cards.
- SDXC Memory Cards cannot be played back unless it is a TV compatible with SDXC Memory Cards.

Screen Display

■ In recording

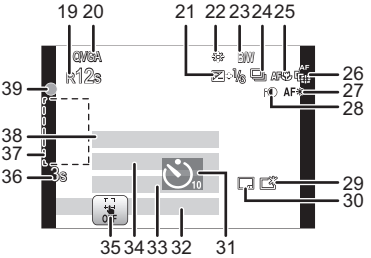
Recording in Normal Picture Mode [📷] (Initial setting)



1 Recording Mode
2 Picture Size (P72)
3 Flash Mode (P68)
4 Optical Image Stabilizer (P85)/((📷)): Jitter alert (P20)
5 Focus (P26)
6 AF area (P26)
7 Battery indication (P10)
8 Recording Mode selection (P21)
9 Playback Mode selection (P28)
10 Zooming with touch operation (P48)
11 Touch shutter (P43)
12 Shutter speed (P25)
13 Aperture value (P25)
14 ISO sensitivity (P74)
15 Display (P42)
16 Menu (P34)
17 Number of recordable pictures*1 (P17)
18 Built-in memory (P15)
(➡): Card (P15) (displayed only during recording)

*1 [+99999] is displayed if there are more than 100,000 pictures remaining.

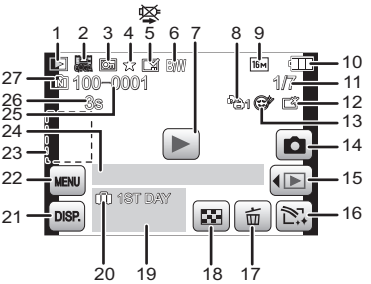
■ In recording (after settings)



19 Available recording time∗2 (P30): R8m30s
20 Recording Quality (P73)
21 Exposure compensation (P80)
22 White Balance (P75)
23 Colour Mode (P83)
24 Burst (P82)
25 Macro Mode (P79)
26 Auto Focus Mode (P77)
27 AF assist lamp (P84)
28 Intelligent Exposure (P81)
29 LCD Mode (P38)
30 Date Stamp (P85)
31 Self-timer Mode (P71)
32 EZ i.ZOOM W T 1X : Zoom/Extra Optical Zoom (P45)/Intelligent Zoom (P45)/ Digital Zoom (P45, 81)
33 Current date and time/✈: Travel destination setting∗3 (P66)
34 Age∗4 (P57)
Location∗3 (P64)
35 Touch AF/AE cancelled (P44)
36 Elapsed recording time∗2 (P30)
37 Shortcut setting area (P36)
38 Name∗4 (P57)
Number of days that have passed since the departure date∗3 (P64)
39 Recording state

∗2 “m” is an abbreviation for minute and “s” for second.
∗3 This is displayed for about 5 seconds when the camera is turned on, after setting the clock and after switching from Playback Mode to Recording Mode.
∗4 This is displayed for about 5 seconds when this unit is turned on in [Baby1]/[Baby2] or [Pet] in Scene Mode.

■ In playback



1 Playback Mode (P86)
2 Recording Quality (P73)
3 Protected picture (P100)
4 Favourites (P97)
5 Date/Text stamped display (P85, 93)
Cable disconnection warning icon (P110)
6 Colour Mode (P83)
7 Motion picture playback (P31)
8 Number of prints (P98)
9 Picture Size (P72)
10 Battery indication (P10)
11 Picture number/Total pictures
Elapsed playback time∗1 (P31): 8m30s
12 Power LCD (P38)
13 Beauty Retouch (P103)
14 Recording Mode selection (P21)
15 Playback Mode selection (P86)
16 Beauty Retouch/Image Stamp selection (P102)
17 Delete (P32)
18 Multi Playback (P29)
19 Recording information
20 Number of days that have passed since the departure date (P64)
Age (P57)
Recorded date and time/World Time (P66)
21 Display (P42)
22 Menu (P34)
23 Shortcut setting area (P36)
24 Name∗2 (P57)
Location∗2 (P64)
25 Folder/File number (P108)
26 Motion picture recording time∗1 (P31): 8m30s
27 Built-in memory (P15)

∗1 “m” is an abbreviation for minute and “s” for second.
∗2 It is displayed in order of [Location], [Name].

Cautions for Use

Optimal use of the camera

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

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

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

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

Always use the supplied cords and cables. If you use optional accessories, use the cords and the cables supplied with them.
Do not extend the cords or the cables.

Do not spray the camera with insecticides or volatile chemicals.

- If the camera is sprayed with such chemicals, the body of the camera may be damaged and the surface finish may peel off.
- Do not keep rubber or plastic products in contact with the camera for a long period of time.

The speaker does not have magnetic shielding. Do not keep this speaker and magnetised cards (bank cards, commuter passes, etc.) close together.

Cleaning

Before cleaning the camera, remove the battery or the DC coupler (optional), or disconnect the power plug from the outlet. Then wipe the camera with a dry soft cloth.

- When the camera is soiled badly, it can be cleaned by wiping the dirt off with a wrung wet cloth, and then with a dry cloth.
- Do not use solvents such as benzine, thinner, alcohol, kitchen detergents, etc., to clean the camera, since it may deteriorate the external case or the coating may peel off.
- When using a chemical cloth, be sure to follow the accompanying instructions.

About the LCD monitor

- Do not press the LCD monitor with excessive force. Uneven colours may appear on the LCD monitor and it may malfunction.
- If the camera is cold when you turn it on, the picture on the LCD monitor will be slightly darker than usual at first. However, the picture will return to normal brightness when the internal temperature of the camera increases.

Extremely high precision technology is employed to produce the LCD monitor screen. However there may be some dark or bright spots (red, blue or green) on the screen. This is not a malfunction. The LCD monitor screen has more than 99.99% effective pixels with a mere 0.01% of the pixels inactive or always lit. The spots will not be recorded on pictures on the built-in memory or a card.

About the Lens

- Do not press the lens with excessive force.
- Do not leave the camera with the lens facing the sun, as rays of light from the sun may cause it to malfunction. Also, be careful when placing the camera outside or near a window.

Battery

The battery is a rechargeable lithium ion battery. Its ability to generate power comes from the chemical reaction that takes place inside it. This reaction is susceptible to the surrounding temperature and humidity. If the temperature is too high or too low, the operating time of the battery will become shorter.

Always remove the battery after use.
- Place the removed battery in a plastic bag, and store or carry away from metallic objects (clips, etc.).

If you drop the battery accidentally, check to see if the body of the battery and the terminals are damaged.
- Inserting a damaged battery in the camera will damage the camera.

Bring charged spare batteries when going out.
- Be aware that the operating time of the battery becomes shorter in low temperature conditions such as at a ski resort.
- When you travel, do not forget to bring the battery charger (supplied) so that you can charge the battery in the country that you are travelling in.

Dispose of unusable battery.
- The battery has a limited life.
- Do not throw the battery into fire because it may cause an explosion.

Do not allow battery terminals to come into contact with metal objects (such as necklaces, hairpins etc.).
- This can cause short circuiting or heat generation and you may be badly burned if you touch a battery.

Charger

- If you use the battery charger near a radio, the radio reception may be disturbed.
- Keep the charger 1 m (3.28 feet) or more away from radios.
- The charger 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.)
- Keep the terminals of the charger and battery clean.

Card

Do not leave the card where the temperature is high, where electromagnetic waves or static electricity are easily generated or exposed to direct sunlight.
Do not bend or drop the card.

- The card may be damaged or the recorded content may be damaged or deleted.
- Put the card in the card case or the storage bag after use and when storing or carrying the card.
- Do not allow dirt, dust or water to get into the terminals on the back of the card and do not touch the terminals with your fingers.

Notice for when transferring to another party, or disposing of the memory card

- "Format" or "delete" using the camera or a PC will only modify the file management information, and it will not erase the data in the memory card completely.
  It is recommended to physically destroy the memory card or use the commercially available computer data deletion software to completely erase the data in the memory card before transferring to another party or disposing.
  Management of data in the memory card is the responsibility of the user.

About the personal information

If a name or birthday is set for [Baby1]/[Baby2], this personal information is kept in the camera and recorded in the image.

Disclaimer

- Information including personal information may be altered or vanish due to erroneous operation, static electricity, accident, malfunction, repair, or other handlings.
  Please note in advance that Panasonic is not liable in any way for any direct or indirect damage from the alteration or vanishing of information or personal information.

When requesting a repair, transferring to another party or disposing

- Reset the settings to protect the personal information. (P39)
- If there are pictures stored in the built-in memory, copy them onto the memory card (P101) before formatting the built-in memory (P40) as needed.
- Remove the memory card from the camera when requesting a repair.
- Built-in memory and settings may return to factory default when camera is repaired.
- Please contact the dealer where you purchased the camera or your nearest Service Centre if above operations are not possible due to malfunction.

When transferring to another party, or disposing of the memory card, please refer to "Notice for when transferring to another party, or disposing of the memory card" on P123.

When not using the camera for a long period of time

- Store the battery in a cool and dry place with a relatively stable temperature: [Recommended temperature: 15 °C to 25 °C (59 °F to 77 °F), Recommended humidity: 40%RH to 60%RH]
- Always remove the battery and the card from the camera.
- If the battery is left inserted in the camera, it will discharge even if the camera is turned off. If the battery continues to be left in the camera, it will discharge excessively and may become unusable even if charged.
- When storing the battery for a long period of time, we recommend charging it once a year. Remove the battery from the camera and store it again after it has completely discharged.
- We recommend storing the camera with a desiccant (silica gel) when you keep it in a closet or a cabinet.

About the picture data

Recorded data may be damaged or lost if the camera breaks down due to inappropriate handling. Panasonic will not be liable for any damage suffered due to loss of recorded data.

About tripods or unipods

- When you use a tripod, make sure the tripod is stable when this unit is attached to it.
- You may not be able to remove the card or the battery when using a tripod or unipod.
- Make sure that the screw on the tripod or unipod is not at an angle when attaching or detaching the camera. You may damage the screw on the camera if you use excessive force when turning it. Also, the camera body and the rating label may be damaged or scratched if the camera is attached too tightly to the tripod or unipod.
- Read the operating instructions for the tripod or unipod carefully.
- Some tripods or unipods cannot be attached when the DC coupler (optional) and AC adaptor (optional) are connected.
- Some tripods or unipods may block the speaker, making it difficult to hear operating sounds etc.

Message Display

Confirmation messages or error messages will be displayed on the screen in some cases. The major messages are described below as examples.

[This picture is protected]

→ Delete the picture after cancelling the protect setting. (P100)

[Some pictures cannot be deleted]/[This picture cannot be deleted]

- Pictures not based on the DCF standard cannot be deleted.
  → If you want to delete some pictures, format the card after saving necessary data on a PC etc. (P40)

[Cannot be set on this picture]

- [Text Stamp] or [Print Set] cannot be set for pictures not based on the DCF standard.

[Not enough space on built-in memory]/[Not enough memory on the card]

- There is no space left on the built-in memory or the 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.

[Some pictures cannot be copied]/[Copy could not be completed]

- The following pictures cannot be copied.
  – When a picture with the same name as the picture to be copied exists in the copy destination. (Only when copying from a card to the built-in memory.)
  – Files not based on the DCF standard.
- Moreover, pictures recorded or edited by other equipment may not be copied.

**[Built-In Memory Error
Format built-in memory?]**

- This message will be displayed when you format the built-in memory on a PC.
  → Format the built-in memory on the camera again. (P40) The data on the built-in memory will be deleted.

**[Memory card error.
This card cannot be used in this camera.
Format this card?]**

- It is a format that cannot be used with this unit.
  → Insert a different card.
  → Format the card again with the camera after saving necessary data on a PC etc. (P40) The data on the card will be deleted.

[Please turn camera off and then on again]/[System Error]

- This message appears when the camera is not operating properly.
  → Turn the camera off and on. If the message persists, contact the dealer or your nearest Service Centre.

[Memory card parameter error]/[This memory card cannot be used]

→ Use a card compatible with this unit. (P16)
– SD Memory Card (8 MB to 2 GB)
– SDHC Memory Card (4 GB to 32 GB)
– SDXC Memory Card (48 GB, 64 GB)

[Insert SD card again]/[Try another card]

- An error has occurred accessing the card.
  → Insert the card again.
  → Insert a different card.

[Read Error/Write Error Please check the card]

- It has failed to read or write data.
  → Remove the card after turning the power [OFF]. Insert the card again, turn the power on, and try to read or write the data again.
- The card may be broken.
  → Insert a different card.

[Motion recording was cancelled due to the limitation of the writing speed of the card]

- Use a card with SD Speed Class with “Class 6” or higher when recording motion pictures.
- In the event that it stops even after using a “Class 6” card or higher, the data writing speed has deteriorated so it is recommended to make a backup and then format (P40).
- Depending on the type of the card, motion picture recording may stop in the middle.

[A folder cannot be created]

- A folder cannot be created because there are no remaining folder numbers that can be used.
  → Format the card after saving necessary data on a PC etc. (P40)

[Picture is displayed for 16:9 TV]/[Picture is displayed for 4:3 TV]

- Select [TV Aspect] in the [Setup] menu if you want to change the TV aspect. (P39)
- This message also appears when the USB connection cable is connected to the camera only. In this case, connect the other end of the USB connection cable to a PC or a printer. (P106, 110)

Troubleshooting

First, try out the following procedures (P127–134).

If the problem is not resolved, **it may be improved by selecting [Reset] (P39) on the [Setup] menu**.

Battery and power source

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

- The battery is exhausted. Charge the battery.
- If you leave the camera on, the battery will be exhausted.
  → Turn the camera off frequently by using the [Sleep Mode] etc. (P38)

Recording

The picture cannot be recorded.

- Is the mode set to [Rec] Mode? (P21)
- Is there any memory remaining on the built-in memory or the card?
  → Delete the pictures which are not necessary to increase the available memory. (P32)

The recorded picture is whitish.

- The picture can become whitish if there is dirt e.g. fingerprints on the lens.
  → If the lens is dirty, turn on the camera, eject the lens barrel and gently wipe the lens surface with a soft dry cloth.

The recorded picture is too bright or dark.

→ Check that the exposure is correctly compensated. (P80)

Multiple pictures are taken at one time.

→ Set [Burst] (P82) of the [Rec] Mode menu to [OFF].
- Has [Hi-Speed Burst] (P59) or [Flash Burst] (P60) in Scene Mode been set?

The subject is not focused properly.

- The focus range varies depending on the Recording Mode.
  → Set to the proper mode for the distance to the subject.
- The subject is beyond the focus range of the camera. (P26)
- There is camera shake (jitter) or the subject is moving slightly. (P20)

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

→ The shutter speed becomes slower when pictures are taken in dark places so hold the camera firmly with both hands to take the pictures. (P20)
→ When taking pictures at a slow shutter speed, use the Self-timer. (P71)

The recorded picture looks rough. Noise appears on the picture.

- Is the ISO sensitivity high or the shutter speed slow?
  (ISO sensitivity is set to [ISO] when the camera is shipped. Therefore, when taking pictures indoors etc. noise will appear.)
  → Decrease the ISO sensitivity. (P74)
  → Set [Color Mode] to [Natural]. (P83)
  → Take pictures in bright places.
- Has [High Sens.] or [Hi-Speed Burst] in the Scene Mode been set? If so, the resolution of the recorded picture decreases slightly because of high sensitivity processing, but this is not a malfunction.

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

- When recording under fluorescent or LED lighting fixture etc., increasing the shutter speed may introduce slight changes to brightness and colour. These are a result of the characteristics of the light source and do not indicate a malfunction.

When recording pictures or half-pressing the shutter button, reddish stripes may appear on the LCD monitor. Alternatively, part or all of the LCD monitor may turn a reddish colour.

- This is a characteristic of CCDs, and 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 recorded on still pictures.
- It is recommended that when you take pictures you take care not to expose the screen to sunlight or any other source of strong light.

Motion picture recording stops in the middle.

- Use a card with SD Speed Class with “Class 6” or higher when recording motion pictures.
- Depending on the type of the card, recording may stop in the middle.
  → In the event that it stops even after using a “Class 6” card or higher or if you use a card that has been formatted on a PC or other equipment, the data writing speed has deteriorated so it is recommended to make a backup and then format (P40).

The subject cannot be locked. (AF track fails)

- If the subject has different colours as the periphery, set the AF area to those colours specific to the subject by aligning that area with the AF area. (P78)

LCD monitor

The LCD monitor becomes darker or brighter for a moment.

- This phenomenon appears when you press the shutter button halfway to set the aperture value and does not affect the recorded pictures.
- This phenomenon also appears when the brightness changes when the camera is zoomed or when the camera is moved. This is because of operation of the automatic aperture of the camera, and it is not a malfunction.

The LCD monitor flickers indoors.

- The LCD monitor may flicker for a few seconds after the power is switched on. This is an operation to correct flicker caused by lighting such as fluorescent lights, LED lights etc. and is not a malfunction.

The LCD monitor is too bright or dark.

- Is [LCD Mode] active? (P38)

Black, red, blue and green dots appear on the LCD monitor.

- This is not a malfunction.
  These pixels do not affect the recorded pictures.

Noise appears on the LCD monitor.

- In dark places, noise may appear to maintain the brightness of the LCD monitor. This does not affect the pictures you are recording.

Flash

The flash is not activated.

- Is the flash setting set to [⊛]?
  → Change the flash setting. (P68)
- Flash Mode is not available when [Burst] (P82) in [Rec] Mode menu has been set.

Flash is activated several times.

- The flash is activated twice when Red-Eye Reduction (P68) has been set.
- Has [Flash Burst] (P60) in Scene Mode been set?

Playback

The picture being played back is rotated and displayed in an unexpected direction.

- [Rotate Disp.] (P40) is set to [ ] or [ ].

The picture is not played back.
The recorded pictures are not displayed.

- Is the mode set to [Playback] Mode? (P28)
- Is there a picture on the built-in memory or the card?
  → The pictures on the built-in memory appear when a card is not inserted. The picture data on the card appears when a card is inserted.
- Is this a folder or picture which was processed in the PC? If it is, it cannot be played back by this unit.
  → It is recommended to use the “PHOTOfunSTUDIO” software in the CD-ROM (supplied) to write pictures from PC to card.
- Has [Filtering Play] been set for playback?
  → Change to [Normal Play]. (P86)

The folder number and the file number are displayed as [—] and the screen turns black.

- Is this a non-standard picture, a picture which has been edited using a PC or a picture which was taken by another maker of digital cameras?
- Did you remove the battery immediately after picture-taking or did you take the picture using a battery with a low remaining charge?
  → Format the data to delete the pictures mentioned above. (P40)
  (Other pictures will be deleted as well and it will not be possible to restore them. Therefore, check well before formatting.)

With a Calendar Search, pictures display dates different from the actual dates on which the pictures were taken.

- Is the clock in the camera set properly? (P18)
- When pictures edited using a PC or pictures taken by other equipment are searched, they may display dates different from the actual dates on which the pictures were taken.

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 off of particles of dust in the air. This is not a malfunction.
  A characteristic of this is that the number of round spots and their position differ in every picture.

Red part of the recorded image has changed colour to black.

- When Digital Red-Eye Correction ([⚡A◎], [⚡◎], [⚡S◎]) is in operation, if you take a picture of a subject with red colour surrounded by a skin tone colour, that red part may be corrected to black by the Digital Red-Eye Correction function.
  → It is recommend to take picture with Flash Mode set to [⚡A], [⚡] or [⊛], or [Red-Eye Removal] on the [Rec] Mode menu set to [OFF]. (P84)

[Thumbnail is displayed] appears on the screen.

- Is it a picture that has been recorded with other equipment? In such cases, these pictures may be displayed with a deteriorated picture quality.

The sound of the recorded motion pictures sometimes breaks up.

- This unit automatically adjusts the aperture during motion picture recording. At such times, the sound may break up. This is not a malfunction.

Motion pictures recorded with this model cannot be played back on other equipment.

- Motion pictures recorded with this unit may not be able to play back on another brand of camera.
- Sound from motion pictures recorded by this camera cannot be played back by older models of Panasonic digital cameras (LUMIX) launched before July 2008.

TV, PC and printer

The picture does not appear on the television.

- Is the camera connected to the TV correctly?
  → Set the TV input to External Input Mode.

The display areas on the TV screen and the camera's LCD monitor are different.

- Depending on the TV model, the pictures may be elongated horizontally or vertically or they may be displayed with their edges cut off.

The motion pictures cannot be played back on a TV.

- Are you trying to play back the motion pictures by directly inserting the card in the card slot of the TV?
  → Connect the camera to the TV with the AV cable (supplied) and then play back the pictures on the camera. (P115)

The picture is not displayed fully on the TV.

→ Check [TV Aspect] setting. (P39)

The picture cannot be transferred when the camera is connected to a PC.

- Is the camera connected to the PC correctly?
- Is the camera recognised by the PC correctly?
  → Select [PC] when connecting. (P106)

The card is not recognised by the PC. (The built-in memory is recognised.)

→ Disconnect the USB connection cable. Connect it again while the card is inserted in the camera.

The card is not recognised by the PC. (SDXC memory card is used)

→ Check if your PC is compatible with SDXC memory cards.
http://panasonic.net/avc/sdcard/information/SDXC.html
→ A message prompting to format the card may be displayed when connecting, but do not format.
→ If the [Access] displayed on the LCD monitor does not disappear, disconnect the USB connection cable after turning off the power.

There is a problem trying to upload to YouTube or Facebook.

→ Confirm that the login information (login ID/user name/mail address/password) is correct.
→ Confirm that the PC is connected to the Internet.
→ Confirm that resident software such as virus protection software or firewall is not blocking access to YouTube or Facebook.
→ Confirm with YouTube or Facebook as well.

The picture cannot be printed when the camera is connected to a printer.

- Pictures cannot be printed using a printer which does not support PictBridge.
  → Select [PictBridge(PTP)] when connecting. (P110)

The ends of the pictures are cut at printing.

→ When using a printer with a Cropping or borderless printing function, cancel this function before printing. (For details, refer to the operating instructions for the printer.)
→ When you order photo studios to print pictures, ask the photo studio if the 16:9 pictures can be printed.

Others

An unreadable language was selected by mistake.

→ Touch the [Setup] menu icon [🔧] and then select [Q] to set the desired language. (P41)

A red lamp sometimes turns on when the shutter button is pressed halfway.

- In dark places, the AF Assist Lamp (P84) lights red to make it easier to focus on a subject.

The AF Assist Lamp does not turn on.

- Is [AF Assist Lamp] on the [Rec] Mode menu set to [ON]? (P84)
- The AF Assist Lamp does not turn on in bright places.

The camera becomes warm.

- The surface of the camera may become warm during use. This does not affect the performance or quality of the camera.

The lens clicks.

- When the brightness changes due to zoom or camera movement etc., the lens may click and the picture on the screen may drastically change. However, the picture is not affected. The sound is caused by the automatic adjustment of the aperture. This is not a malfunction.

The clock is reset.

- If you do not use the camera for a long time, the clock may be reset.
  → [Please set the clock] message will be displayed; please re-set the clock. (P18)

When pictures are taken using the zoom, they are slightly distorted and the areas around the subject contain colours which are not actually present.

- It is possible that the subject may be warped slightly, or the borders get coloured, depending on the zoom magnification, due to the characteristics of the lens, but this is not a malfunction.

Zooming stops instantaneously.

- When using the Extra Optical Zoom or the Intelligent Zoom, the zooming action will stop temporarily. This is not a malfunction.

Zoom does not go up to maximum magnification.

- Is the camera set to Macro Zoom Mode? (P79)
  Maximum zoom during Macro Zoom Mode is 3× digital zoom.

The file numbers are not recorded consecutively.

- When you perform an operation after taking a certain action, the pictures may be recorded in folders with different numbers from the ones used prior to the operation.

The file numbers are recorded with previously used numbers.

- If the battery was inserted or removed without first turning the camera's power off, the folder and file numbers for the pictures taken will not be stored in the memory. When the power is then turned back on and pictures are taken, they may be stored under file numbers which should have been assigned to previous pictures.

A different thing gets selected from what you touched.

→ Perform calibration (P41).

When the camera is left alone, the Slide Show is suddenly displayed.

- This is the [Auto Demo] which introduces the features of the camera.

- SDXC Logo is a trademark of SD-3C, LLC.
- QuickTime and the QuickTime logo are trademarks or registered trademarks of Apple Inc., used under license therefrom.
- Mac and Mac OS are trademarks of Apple Inc., registered in the U.S. and other countries.
- Windows and Windows Vista are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- YouTube is a trademark of Google Inc.
- This product uses “DynaFont” from DynaComware Corporation. DynaFont is a registered trademark of DynaComware Taiwan Inc.
- Other names of systems and products mentioned in these instructions are usually the registered trademarks or trademarks of the manufacturers who developed the system or product concerned.