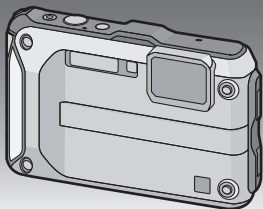


Panasonic®

Basic Owner's Manual Digital Camera

Model No. **DMC-TS3**

LUMIX



Before connecting, operating or adjusting this product,
please read the instructions completely.



More detailed instructions on the operation of this camera are contained in "Owner's Manual for advanced features (PDF format)" in the supplied CD-ROM. Install it on your PC to read it.



For Canadian assistance, please call: 1-800-99-LUMIX (1-800-995-8649) or
send e-mail to: lumixconcierge@ca.panasonic.com

Dear Customer,
Thank you for choosing Panasonic!

You have purchased one of the most sophisticated and reliable products on the market today. Used properly, we're sure it will bring you and your family years of enjoyment. Please take time to fill in the information on the below. The serial number is on the tag located on the underside of your Camera. Be sure to **retain this manual** as your convenient Camera information source. Please note that the actual controls and components, menu items, etc. of your Digital Camera may look somewhat different from those shown in the illustrations in this Owner's Manual.

Carefully observe copyright laws.

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

Model No. _____

Serial No. _____



A lithium ion battery that is recyclable powers the product you have purchased. Please call 1-800-8-BATTERY for information on how to recycle this battery.

Information for Your Safety

WARNING:

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

- Do not let water or other liquids drip or splash inside the unit.
- Do not expose accessories (battery pack, battery charger, AC adaptor, SD memory card and etc.) to rain, moisture, dripping or splashing.
- Do not place objects filled with liquids, such as vases, on accessories.
- Use only the recommended accessories.
- Do not remove covers.
- Do not repair this unit by yourself. Refer servicing to qualified service personnel.

THE SOCKET OUTLET SHALL BE INSTALLED NEAR THE EQUIPMENT AND SHALL BE EASILY ACCESSIBLE.

■ Product identification marking

Product	Location
Digital camera	Bottom
Battery charger	Bottom

This Class B digital apparatus complies with Canadian ICES-003.

■ About the battery pack

CAUTION

Battery pack (Lithium ion battery pack)

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

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

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

CAUTION

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

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

Warning

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

■ About the battery charger

CAUTION!

DO NOT INSTALL OR PLACE THIS UNIT IN A BOOKCASE, BUILT-IN CABINET OR IN ANOTHER CONFINED SPACE. ENSURE THE UNIT IS WELL VENTILATED. TO PREVENT RISK OF ELECTRIC SHOCK OR FIRE HAZARD DUE TO OVERHEATING, ENSURE THAT CURTAINS AND ANY OTHER MATERIALS DO NOT OBSTRUCT THE VENTILATION VENTS.

Battery charger

This battery charger operates on AC between 110 V and 240 V.

But

- In the U.S.A. and Canada, the battery charger must be connected to a 120 V AC power supply only.
- When connecting to an AC supply outside of the U.S.A. or Canada, use a plug adaptor to suit the AC outlet configuration.

■ Cautions for Use

- Do not use any other AV cables except the supplied one.
- Always use a genuine Panasonic HDMI micro cable (RP-CHEU15; optional).
Part numbers: RP-CHEU15 (1.5 m) (5 feet)
- Do not use any other USB connection cables except the supplied one.

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 (DMW-AC5PP; 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.

-If you see this symbol-

Information on Disposal in other Countries outside the European Union

This symbol is only valid in the European Union.

If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.



Contents

Information for Your Safety	3
Standard Accessories	8
When inner side of the lens is fogged (condensation)	9
(Important) About the Waterproof/ Dustproof and Anti-shock Performance of the Camera	10
Names of the Components	15
Charging the Battery	17
• Charging	17
• Approximate operating time and number of recordable pictures	18
About the Built-in Memory/the Card	19
Inserting and Removing the Card (optional)/the Battery	20
Setting Date/Time (Clock Set).....	21
• Changing the clock setting.....	22
Selecting the [Rec] Mode	23
Taking Pictures Using the Automatic Function (iA : Intelligent Auto Mode)	24
• Scene Detection.....	25
Recording Motion Pictures	26
Playing Back Pictures ([Normal Play])	27
Deleting Pictures	27
• To delete a single picture	27
Setting the Menu	28
Reading the Owner's Manual (PDF format)	29
Specifications	31
Digital Camera Accessory System	35

Please be sure to read “(Important) About the Waterproof/Dustproof and Anti-shock Performance of the Camera” (P10) before using this unit underwater to prevent the unit from being mishandled, which may cause water to seep in.

Standard Accessories

Check that all the accessories are supplied before using the camera.
Product numbers correct as of January 2011. These may be subject to change.

- 1 Battery Pack
(Indicated as **battery pack** or **battery** in the text)
Charge the battery before use.
- 2 Battery Charger
(Indicated as **battery charger** or **charger** in the text)
- 3 USB Connection Cable
- 4 AV Cable
- 5 CD-ROM
 - Software:
Use it to install the software to your PC.
 - Owner's Manual
- 6 Brush
- 7 Hand Strap

- Supplied accessories are not waterproof (excluding strap).

- Keep the Brush out of reach of children to prevent swallowing.

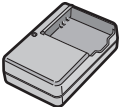
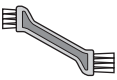
- SD Memory Card, SDHC Memory Card and SDXC Memory Card are indicated as **card** in the text.

- **The card is optional.**

You can record or play back pictures on the built-in memory when you are not using a card.

- For information about optional accessories, refer to the “Digital Camera Accessory System”.

- If any accessories are lost, customers in Canada should contact 1 800 99-LUMIX (1-800-995-8649) for further information about obtaining replacement parts.

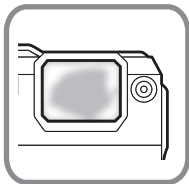
 DMW-BCF10PP	 DE-A59B
 K1HY08YY0017	 K1HY08YY0018
 VFF0787	 VFC4588
 VFC4393	

When inner side of the lens is fogged (condensation)

It is not a malfunction or failure of the camera. It may be caused by the environment in which the camera is used.

What to do when inner side of the lens is fogged

- Turn off the power and open the side door in a place with constant ambient temperature, away from high temperatures, humidity, sand and dust. The fog will disappear naturally in 10 minutes to 2 hours with the side door open when the temperature of the camera gets close to the ambient temperature.
- Contact Panasonic's Service Center if the fogging does not disappear.



Conditions in which inner side of the lens may be fogged

Condensation may occur and the inner side of the lens may be fogged when the camera is used in areas that undergo a significant change in temperature or in high humidity, such as the following:

- **When the camera is used underwater suddenly after being on a hot beach etc.**
- **When the camera is moved to a warm area from a cold area, such as at a ski resort or at high altitude**
- **When the side door is opened in a high-humidity environment**

(Important) About the Waterproof/ Dustproof and Anti-shock Performance of the Camera

Waterproof/Dustproof Performance

This camera's waterproof/dustproof rating complies with the "IPX8" and "IP6X" ratings. Provided the care and maintenance guidelines described in this document are strictly followed, this camera can operate underwater, to a depth not exceeding 12 m (40 feet) for a time not exceeding 60 minutes. (*1)

Anti-shock Performance

This camera also complies with "MIL-STD 810F Method 516.5-Shock". The camera has cleared a drop test from a height of 2 m (6.6 feet) onto 3 cm (0.10 feet) thick plywood. In most cases this camera should not sustain any damage if dropped from a height not exceeding 2 m (6.6 feet). (*2)

This does not guarantee no destruction, no malfunction, or waterproofing in all conditions.

- *1 This means that the camera can be used underwater for specified time in specified pressure in accordance with the handling method established by Panasonic.
- *2 "MIL-STD 810F Method 516.5-Shock" is the test method standard of the U.S. Defense Department, which specifies performing drop tests from a height of 122 cm (4.0 feet), at 26 orientations (8 corners, 12 ridges, 6 faces) using 5 sets of devices, and passing the 26 orientation drops within 5 devices. (If failure occurs during the test, a new set is used to pass the drop orientation test within a total of 5 devices)
Panasonic's test method is based on the above "MIL-STD 810F Method 516.5-Shock". However, the drop height was changed from 122 cm (4.0 feet) to 200 cm (6.6 feet) dropping onto 3 cm (0.10 feet) thick plywood. This drop test was passed.
(Disregarding appearance change such as loss of paint or distortion of the part where drop impact is applied.)

■ Handling of the camera

- Waterproofing is not guaranteed if the unit is subject to an impact as a result of being hit or dropped etc. If an impact to the camera occurs, it should be inspected (subject to a fee) by a Panasonic's Service Center to verify that the waterproofing is still effective.
- When the camera is splashed with detergent, soap, hot spring, bath additive, sun oil, sun screen, chemical, etc., wipe it off immediately.
- Waterproof function of the camera is for sea water and fresh water only.
- Any malfunction caused by customer misuse, or mishandling will not be covered by the warranty.
- The inside of this unit is not waterproof. Water leakage will cause malfunction.
- Supplied accessories are not waterproof (excluding strap).
- Card and battery are not waterproof. Do not handle with a wet hand. Also, do not insert wet card or battery into the camera.
- Do not leave the camera for a long period of time in places where temperature is very low (at ski resorts or at high altitude etc.) or very high [above 40 °C (104 °F)], inside a car under strong sunlight, close to a heater, on the beach, etc. Waterproof performance may be degraded.

■ About the [Precautions] demonstration display

- [Precautions] is displayed when the power is turned on for the first time after purchase, with the side door completely closed.
- Please check beforehand to maintain the waterproof performance.

1 Press ◀ to select [Yes], and press [MENU/SET].

- It will automatically skip to the clock setting screen if [No] is selected before it starts.

2 Press ◀/▶ to select the picture.

◀: Return to the previous screen

▶: View the next screen

- It can be forcefully ended by pressing [MENU/SET].
- When it is forcefully ended while checking by turning the power off or pressing [MENU/SET], [Precautions] is displayed every time the power is turned on.

3 After the final screen (12/12), press [MENU/SET] to finish.

- When [MENU/SET] is pressed after the final screen (12/12), [Precautions] is not displayed from the next time the power is turned on.
- This can also be viewed from [Precautions] in the [Setup] menu.

Check before using underwater

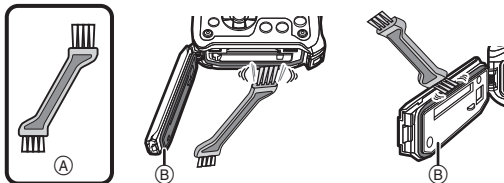
Do not open or close the side door in places with sand and dust, close to water, or with wet hands. Sand or dust adhering may cause water leaks.

1 Check that there are no foreign objects on the inner side of the side door.

- If there is any foreign object, such as lint, hair, sand, etc., on the surrounding area, water will leak within a few seconds causing malfunction.
- Wipe it off with a dry soft cloth if there is any liquid.
It may cause water leaks and malfunction if you use the camera with liquid adhered.
- If there is any foreign material, remove with supplied brush.
- Be extremely careful to remove the small pieces of sand etc. that may have adhere to the sides and corners of the rubber seal.
- Remove large foreign objects, wet sand, etc., using the shorter (harder) side of the brush.

(A) Brush (supplied)

(B) Side door



2 Check for cracks and deformation of the rubber seal on the side door.

- The integrity of the rubber seals may decrease after about 1 year, with use and age. To avoid permanently damaging the camera the seals should be replaced once each year. Please contact Panasonic's Service Center for related costs and other information.

3 Close the side door securely.

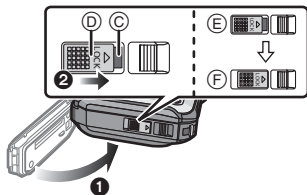
- Lock the [LOCK] switch securely until the red part is no longer visible.
- To prevent water seeping into the camera, be careful not to trap foreign objects such as liquids, sand, hair or dust etc.

(C): Red part

(D): [LOCK] switch (gray part)

(E): Released state

(F): Locked state



Using the camera underwater

- Use the camera underwater at a depth of up to 12 m (40 feet) with the water temperature between 0 °C and 40 °C (32 °F to 104 °F).
- Do not use for scuba diving (Aqualung).
- Do not use the camera at a depth of over 12 m (40 feet).
- Do not use it in the hot water over 40 °C (104 °F) (in the bath or hot spring).
- Do not use the camera underwater for longer than 60 minutes continuously.
- Do not open or close the side door.
- Do not apply shock to the camera underwater. (Waterproof performance may not be maintained, and there is a chance of a water leak.)
- Do not dive into the water holding the camera. Do not use the camera in a location where the water will splash strongly, such as near rapids or waterfalls. (Strong water pressure may be applied, and it may cause malfunction.)
- The camera will sink in the water. Take care not to drop the camera and lose it underwater by securely placing the strap around your wrist or similar measure.

Caring of the camera after using it underwater

Do not open or close the side door until the sand and dust is removed by rinsing the camera with water.

Make sure to clean the camera after using it.

- Thoroughly wipe off any water droplets, sand, and saline matter on your hands, body, hair, etc.
- It is recommended to clean the camera indoors, avoiding places where water spray or sand may fall.

Do not leave the camera uncared for more than 60 minutes after using it underwater.

- Leaving the camera with foreign objects or saline matter on it may cause damage, discoloration, corrosion, unusual odour, or deterioration of the waterproof performance.

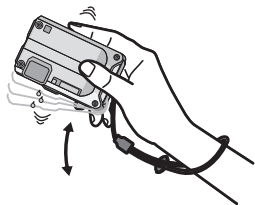
1 Rinse with water with the side door closed.

- After use at the seaside or underwater, soak the unit in fresh water pooled in a shallow container for 10 minutes or less.
- If the zoom button or camera [OFF/ON] button do not move smoothly, it may be caused by an adhesion of foreign objects. Using in such a state may cause malfunctions, such as locking up, so wash off any foreign objects by shaking the camera in fresh water.
- Bubbles may come out of the drainage hole when you immerse the camera in water, but this is not a malfunction.



2 Drain water by holding the camera upside down and shaking it lightly a few times.

- After using the camera at the seaside or under water, or after washing it, water will remain at the speaker site of the camera for a while and it may cause lower sound or sound distortion.
- Fasten the strap firmly to prevent the camera from dropping.



3 Wipe off water drops on the camera with a dry soft cloth and dry the camera in a shaded area which is well ventilated.

- Dry the camera by standing it on a dry cloth. This unit incorporates drain design, draining water in gaps in the camera [OFF/ON] button and zoom button etc.
- Do not dry the camera with hot air from dryer or similar. Waterproof performance will deteriorate due to deformation.
- Do not use chemicals such as benzine, thinner, alcohol, or cleanser, or soap or detergents.

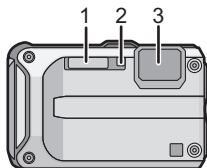


4 Confirm that there are no water droplets, open the side door, and wipe off any water droplets or sand left inside using a soft dry cloth.

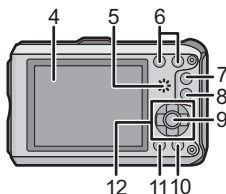
- Water droplets may adhere to the card or battery when the side door is opened without thoroughly drying. Also, water may accumulate in the gap around the card/battery compartment or the terminal connector. Be sure to wipe any water off with a soft dry cloth.
- The water droplets may seep into the camera when the side door is closed while it is still wet, causing condensation or failure.

Names of the Components

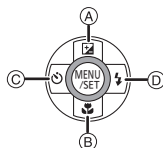
- 1 Flash
- 2 Self-timer indicator/
AF Assist Lamp/LED light
- 3 Lens



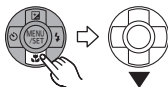
- 4 LCD monitor
- 5 Speaker
- 6 Zoom button
- 7 Playback button
- 8 [MODE] button
- 9 [MENU/SET] button
- 10 [Q.MENU]/Delete/Cancel button
- 11 [DISP.] button



- 12 Cursor buttons
 - Ⓐ: ▲/Exposure compensation
Auto Bracket
 - Ⓑ: ▼/Macro Mode
AF Tracking
 - Ⓒ: ◀/Self-timer
 - Ⓓ: ▶/Flash setting

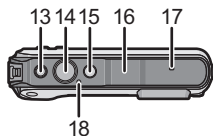


In this Owner's Manual, the cursor buttons are described as shown in the figure below or described with ▲/▼/◀/▶.
e.g.: When you press the ▼ (down) button

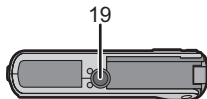


or **Press ▼**

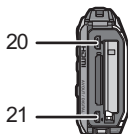
- 13 Motion picture button
- 14 Shutter button
- 15 Camera [OFF/ON] button
- 16 GPS antenna
- 17 Microphone
- 18 GPS status indicator



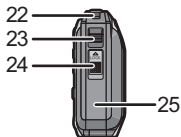
- 19 Tripod receptacle



- 20 [HDMI] socket
- 21 [AV OUT/DIGITAL] socket



- 22 Strap eyelet
- Be sure to attach the strap when using the camera to ensure that you will not drop it.
- 23 Release lever
- 24 [LOCK] switch



- 25 Side door
 - When using an AC adaptor, ensure that the Panasonic DC coupler (DMW-DCC4; optional) and AC adaptor (DMW-AC5PP; optional) are used.
 - Always use a genuine Panasonic AC adaptor (DMW-AC5PP; optional).
 - It is recommended to use a fully charged battery or AC adaptor (DMW-AC5PP; optional) and DC coupler (DMW-DCC4; 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.

Charging the Battery

■ About batteries that you can use with this unit

The battery that can be used with this unit is DMW-BCF10PP.

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.

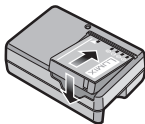
- Use the dedicated charger and battery.

Charging

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

1

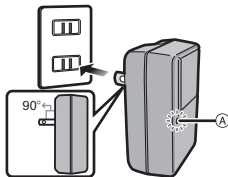
Attach the battery paying attention to the direction of the battery.



2

Connect the charger to the electrical outlet.

- Disconnect the charger from the electrical socket and detach the battery after charging is completed.



■ About the [CHARGE] indicator

The [CHARGE] indicator turns on:

The [CHARGE] indicator (A) is turned on during charging.

The [CHARGE] indicator turns off:

The [CHARGE] indicator (A) will turn off once the charging has completed without any problem.

• 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 off the dirt with a dry cloth.

■ Charging time

Charging time	Approx. 130 min
----------------------	------------------------

Approximate operating time and number of recordable pictures

Number of recordable pictures	Approx. 310 pictures
Recording time	Approx. 155 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).
- Using the supplied battery.
- 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.
- Changing the zoom magnification 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.
- Not using the GPS function.

Playback time	Approx. 300 min
----------------------	------------------------

About the Built-in Memory/the Card

Built-in Memory

- You can copy the recorded pictures to a card.
- **Memory size: Approx. 19 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.)

Type of card which can be used with this unit	Remarks
SD Memory Card (8 MB to 2 GB)	• Use a card with SD Speed Class* with “Class 4” or higher when recording motion pictures in [AVCHD]. Also, use a card with SD Speed Class with “Class 6” or higher when recording motion pictures in [Motion JPEG]. • 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.:

CLASS 4

CLASS 6

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



Note

- Keep the Memory Card out of reach of children to prevent swallowing.

Inserting and Removing the Card (optional)/the Battery

- Check that this unit is turned off.
- **Confirm that there is no foreign object.**
- We recommend using a Panasonic card.

1

①: Slide the [LOCK] switch (B), and release the lock.

②: Slide the release lever (A) and open the side door.

- Always use genuine Panasonic batteries (DMW-BCF10PP).
- 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 (C). Pull the lever (C) in the direction of the arrow to remove the battery.

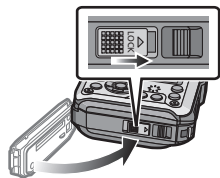
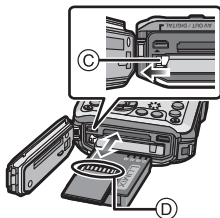
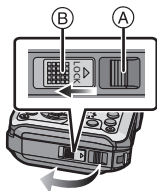
Card: Push it securely all the way until you hear a “click” while being careful about the direction in which you insert it. To remove the card, push the card until it clicks, then pull the card out upright.

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

3

Close the side door until it clicks, and then lock the [LOCK] switch by sliding it toward [▶].

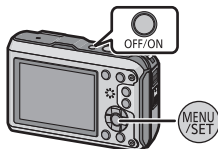
- Confirm that the red part on the release lever is not showing.



Setting Date/Time (Clock Set)

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

1 Press the [OFF/ON] button.



- [Precautions] is displayed. Be sure to check this so that you can maintain the waterproof performance. [Please set the clock] is displayed by selecting [No] before it starts or by pressing [MENU/SET] after viewing the last screen (12/12).
For details about the [Precautions] demo, refer to P11.

2 Press [MENU/SET].

3 Press ◀/▶ to select the items (year, month, day, hour, minute, display sequence or time display format), and press ▲/▼ to set.

- You can cancel without setting the clock by pressing [🗑️/↩️].



4 Press [MENU/SET] to set.

- A setting screen for automatic clock correction is displayed.

5 Select [Yes] to automatically correct the clock, and then press [MENU/SET].

- [GPS Setting] will be set to [ON], and the clock is automatically corrected to the current time.

6 Press [MENU/SET] in the message display screen.

7 Press ◀/▶ to select the home area, and then press [MENU/SET].



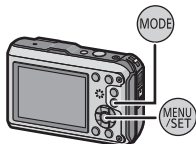
Changing the clock setting

Select [Clock Set] in the [Rec] or [Setup] menu, and press [MENU/SET].

- It can be changed in steps 3 and 4 to set the clock.

Selecting the [Rec] Mode

1 Press [MODE].



2 Press ▲/▼/◀/▶ to select the mode.



3 Press [MENU/SET].

■ List of [Rec] Modes

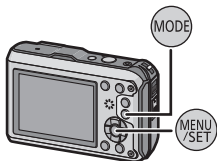
	Normal Picture Mode
The subjects are recorded using your own settings.	
	Intelligent Auto Mode
The subjects are recorded using settings automatically selected by the camera.	
	Sports Mode
Use this mode to take pictures of sporting events, etc.	
	Snow Mode
This allows you to take pictures that show the snow as white as possible at a ski resort or a snow-covered mountain.	
	Beach & Snorkeling Mode
This mode is optimal for taking pictures underwater and at the beach.	
	Underwater Mode
This is optimal for taking pictures underwater deeper than 12 m (40 feet) by the use of the marine case (DMW-MCFT3; optional).	
SCN	Scene Mode
This allows you to take pictures that match the scene being recorded.	
3D	3D Photo Mode
Takes a 3D picture.	

Taking Pictures Using the Automatic Function

(**iA**): 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.

1 Press **[MODE]**.



2 Press **▲/▼/◀/▶** to select **[Intelligent Auto]**, and then press **[MENU/SET]**.



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

① Focus indication

- 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.



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 color changes to the usual red.

iA →		[i-Portrait]
		[i-Scenery]
		[i-Macro]
		[i-Night Portrait]
		[i-Night Scenery]
		[i-Sunset]
		[i-Baby]

• Only when [iA] is selected

- [iA] is set if none of the scenes are applicable, and the standard settings are set.
- When [iA], [iA] or [iA] is selected, the camera automatically detects a person's face, and it will adjust the focus and exposure. **(Face Detection)**

Recording Motion Pictures

This can record full high definition motion pictures that are compatible with the AVCHD format or motion pictures recorded in Motion JPEG.

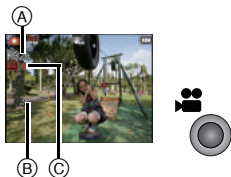
Audio will be recorded in monaural.

1 Start recording by pressing the motion picture button.

(A) Available recording time

(B) Elapsed recording time

- You can record motion pictures fitting each Recording Mode.
- Release the motion picture button right after you press it.
- The recording state indicator (red) © will flash while recording motion pictures.



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



Note

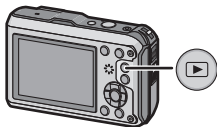
- Maximum time to record motion pictures continuously with [GFS]/[FSH] in [AVCHD] is 29 minutes 59 seconds.
- Motion picture recorded continuously in [Motion JPEG] is up to 2 GB. Only the maximum recordable time for 2 GB is displayed on the screen.

[Playback] Mode: 

Playing Back Pictures ([Normal Play])

1 Press .

- Normal Playback is displayed automatically when the power is turned on by pressing and holding the  button.



2 Press or .

- After selecting the motion picture, press  to start playback.



[Playback] Mode: 

Deleting Pictures

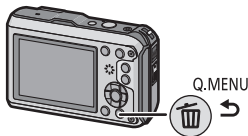
Once deleted, pictures cannot be recovered.

- Pictures on the built-in memory or the card, that are being played back will be deleted.

To delete a single picture

Select the picture to be deleted, and then press  / .

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



Setting the Menu

1 Press [MENU/SET].

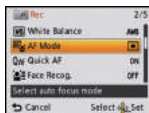


2 Press ▲/▼/◀/▶ to select menu and then press [MENU/SET].



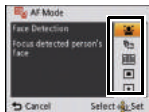
3 Press ▲/▼ to select the menu item and then press [MENU/SET].

- It will switch to next page when you reach the bottom. (It will also switch by pressing the zoom button)
- Screen to the right is an example of selecting [AF Mode] in [Rec] mode Menu.



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

- Depending on the menu item, its setting may not appear or it may be displayed in a different way.
- Screen at right is an example to set the [AF Mode] from [1] (1-area-focusing) to [Face Detection].



■ Close the menu

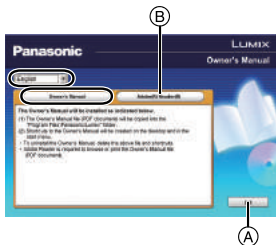
Press [T] / [Z] several times or press the shutter button halfway.

Reading the Owner's Manual (PDF format)

More detailed instructions on the operation of this camera are contained in “Owner’s Manual for advanced features (PDF format)” in the supplied CD-ROM. Install it to your PC to read it.

■ For Windows

- 1** Turn the PC on and insert the CD-ROM containing the Owner’s Manual (supplied).
- 2** Click the [Owner’s Manual].
- 3** Select the desired language and then click [Owner’s Manual] to install.
Ⓐ To return to the install menu.
- 4** Double click the “Owner’s Manual” shortcut icon on the desktop.



■ When the Owner's Manual (PDF format) will not open

You will need Adobe Acrobat Reader 5.0 or later or Adobe Reader 7.0 or later to browse or print the Owner's Manual (PDF format).

Insert the CD-ROM containing the Owner's Manual (supplied), click  and then follow the messages on the screen to install.

(Compatible OS: Windows 2000 SP4/Windows XP SP3/Windows Vista SP2/Windows 7)

- You can download and install a version of Adobe Reader that you can use with your OS from the following website.

<http://get.adobe.com/reader/otherversions>

■ To uninstall the Owner's Manual (PDF format)

Delete the PDF file from the "Program Files\Panasonic\Lumix\" folder.

- When the contents in the Program Files folder cannot be displayed, click the [Show the contents of this folder] to display them.

■ For Macintosh

1

Turn the PC on and insert the CD-ROM containing the Owner's Manual (supplied).

2

Open the "Manual" folder in the CD-ROM and then copy the PDF file with the desired language inside the folder.

3

Double click the PDF file to open it.

Specifications

Digital Camera:

Information for your safety

Power Source:	DC 5.1 V
Power Consumption:	1.4 W (When recording) 0.7 W (When playing back)

Camera effective pixels	12,100,000 pixels	
Image sensor	1/2.33" CCD, total pixel number 12,500,000 pixels, Primary color filter	
Lens	Optical 4.6× zoom, f=4.9 mm to 22.8 mm (35 mm film camera equivalent: 28 mm to 128 mm)/F3.3 (Wide) to F5.9 (Tele)	
Digital zoom	Max. 4×	
Extended optical zoom	Max. 9.1× (When set to 3,000,000 pixels [3M] or less)	
Focus range	Normal	30 cm (0.99 feet) to ∞
	Macro/ Intelligent auto/ Motion Picture	5 cm (0.17 feet) (Wide)/30 cm (0.99 feet) (Tele) to ∞
	Scene Mode	There may be differences in the above settings.
Shutter system	Electronic shutter+Mechanical shutter	
Burst recording		
Burst speed	Approx. 3.7 pictures/second	
Number of recordable pictures	Max. 7 pictures	

Hi-speed burst		
Burst speed	Approx. 10 pictures/second (Speed priority) Approx. 7 pictures/second (Image priority) 3M (4:3), 2.5M (3:2), 2M (16:9), 2.5M (1:1) is selected as the picture size.	
Number of recordable pictures	When using the built-in memory: Approx. 15 pictures (immediately after formatting) When using a Card: Max. 100 pictures (differs depending on the type of Card and the recording conditions)	
Minimum Illumination	Approx. 12 lx (when i-low light is used, the shutter speed is 1/30th of a second)	
Shutter speed	8 seconds to 1/1300th of a second [Starry Sky] Mode: 15 seconds, 30 seconds, 60 seconds	
Exposure (AE)	Program AE Exposure compensation (1/3 EV Step, -2 EV to +2 EV)	
Metering mode	Multiple	
LCD monitor	2.7" TFT LCD (Approx. 230,000 dots) (field of view ratio about 100%)	
Flash range	Approx. 30 cm (0.99 feet) to 5.6 m (18.4 feet) (Wide, [ISO AUTO] is set)	
Microphone	Monaural	
Speaker	Monaural	
Recording media	Built-in Memory (Approx. 19 MB)/SD Memory Card/ SDHC Memory Card/SDXC Memory Card	
Recording file format		
Still Picture	JPEG (based on "Design rule for Camera File system", based on "Exif 2.3" standard, DPOF corresponding)/MPO	
Motion pictures with audio	AVCHD/QuickTime Motion JPEG	
Interface		
Digital	"USB 2.0" (High Speed)	
Analog video audio	NTSC, Audio line output (monaural)	

Terminal		
	[AV OUT/ DIGITAL]	Dedicated jack (8 pin)
	[HDMI]	MicroHDMI TypeD
Dimensions (excluding the projecting parts)		Approx. 103.5 mm (W)×64 mm (H)×26.5 mm (D) [4.07"(W)×2.52"(H)×1.04"(D)]
Mass (weight)		Approx. 197 g/0.434 lb (with card and battery) Approx. 175 g/0.386 lb (excluding card and battery)
Operating temperature		– 10 °C* to 40 °C (14 °F* to 104 °F) * The performance of the battery (number of recordable pictures/operating time) may decrease temporarily when using the camera in a temperature between – 10 °C to 0 °C (14 °F to 32 °F) (at the cold climate such as ski resorts).
Operating humidity		10%RH to 80%RH
Bearing sensor		8 bearing detection (with angular position correction function by the 3 axes acceleration sensor, with automatic declination correction, and with automatic offset adjustment function)
Atmospheric pressure/altitude sensor		
	Atmospheric pressure	Measurement range 300 hPa to 1100 hPa, with 24 hour memory function in 1 hPa unit (every 1.5 hours)
	Altitude	Convert atmospheric pressure to altitude using International Standard Atmosphere (ISA), accuracy: –5 m (–16.4 feet) to +5 m (16.4 feet)
	Depth	Displays in 3 levels (displays 0 m (0 feet) to 12 m (40 feet) in 3 levels)
GPS		Reception frequency: 1575.42 MHz (C/A code) Geographical coordinate system: WGS84
Waterproof performance		Equivalent to IEC 60529 "IPX8". (Usable for 60 minutes in 12 m (40 feet) water depth)

Crash resistance performance	The test method of the camera is in compliance with "MIL-STD 810F Method 516.5-Shock"*. * "MIL-STD 810F Method 516.5-Shock" is the test method standard of the U.S. Defense Department, which specifies performing drop tests from a height of 122 cm (4.0 feet), at 26 orientations (8 corners, 12 ridges, 6 faces) using 5 sets of devices, and passing the 26 orientation drops within 5 devices. (If failure occurs during the test, a new set is used to pass the drop orientation test within a total of 5 devices) • Panasonic's test method is based on the above "MIL-STD 810F Method 516.5-Shock". However, the drop height was changed from 122 cm (4.0 feet) to 200 cm (6.6 feet) dropping onto 3 cm (0.10 feet) thick plywood. This drop test was passed. (Disregarding appearance change such as loss of paint or distortion of the part where drop impact is applied.) There is no guarantee of not breaking or malfunctioning under all conditions.
Dustproof performance	Equivalent to IEC 60529 "IP6X".

Battery Charger (Panasonic DE-A59B):

Information for your safety

Input:	110 V to 240 V ~ 50/60 Hz, 0.2 A
Output:	4.2 V === 0.65 A
Operating temperature:	0 °C* to 40 °C (32 °F* to 104 °F) * The battery cannot be recharged in a temperature less than 0 °C (32 °F). (The [CHARGE] indicator blinks when the battery cannot be recharged.)

Equipment mobility: Movable

Battery Pack (lithium-ion) (Panasonic DMW-BCF10PP):

Information for your safety

Voltage/capacity:	3.6 V/940 mAh
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Digital Camera Accessory System

Accessory#	Illustration	Description
DMW-BCF10PP		Battery Pack
DMW-AC5PP		AC Adaptor*
DMW-DCC4		DC Coupler*
RP-CHEU15		HDMI micro Cable
DMW-MCFT3		Marine Case
RP-SDW64GU1K RP-SDW48GU1K RP-SDW32GU1K RP-SDW16GU1K RP-SDW08GU1K RP-SDW04GU1K		Class 10 64 GB SDXC Memory Card Class 10 48 GB SDXC Memory Card Class 10 32 GB SDHC Memory Card Class 10 16 GB SDHC Memory Card Class 10 8 GB SDHC Memory Card Class 10 4 GB SDHC Memory Card
RP-SDN16GU1A RP-SDN08GU1A RP-SDN04GU1A RP-SDN02GU1A		Class 4 16 GB SDHC Memory Card Class 4 8 GB SDHC Memory Card Class 4 4 GB SDHC Memory Card Class 4 2 GB SD Memory Card

Product numbers correct as of January 2011. These may be subject to change.

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

• NOTE: Accessories and/or model numbers may vary between countries.
Consult your local dealer.

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