

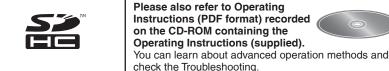


Basic **Operating Instructions Digital Camera**

Model No. DMC-F2



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









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 in the box 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.

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 EXPOSE THIS APPARATUS TO RAIN, MOISTURE, DRIPPING OR SPLASHING AND THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.
- USE ONLY THE RECOMMENDED ACCESSORIES.
- DO NOT REMOVE THE COVER (OR BACK); THERE ARE NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

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

Product Identification Marking is located on the bottom of units.

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

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.

- 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 these Operating Instructions.
- SDHC Logo is a trademark.

- Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.
- Other names, company names, and product names printed in these instructions are trademarks or registered trademarks of the companies concerned.

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 $^{\circ}\text{C}$ (140 $^{\circ}\text{F})$ 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 110V and 240V. But

- In the U.S.A. and Canada, the battery charger must be connected to a 120V 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.

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.

Cautions for Use

- Do not use any other cables except a genuine Panasonic AV cable (DMW-AVC1: optional).
- Do not use any other USB connection cables except the supplied one.
- Always use a genuine Panasonic AC adaptor (DMW-AC5PP: optional).

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

- If you use the camera on top of or near a TV, the pictures and sound on the camera may be disrupted by electromagnetic wave radiation.
- Do not use the camera near cell phones because doing so may result in noise adversely affecting the pictures and 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 the camera, disturbing the pictures and sound.
- If the camera is adversely affected by electromagnetic equipment and stops functioning properly, turn the camera off and remove the battery or disconnect AC adaptor (DMW-AC5PP: optional). Then reinsert the battery or reconnect AC adaptor and turn the camera on.

Do not use the camera near radio transmitters or high-voltage lines.

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

Care of the camera

Do not strongly shake or bump the camera by dropping it etc.

This unit may malfunction, recording pictures may no longer be possible or the lens or the LCD monitor may be damaged.

• We strongly recommend you do not leave the camera in your trousers pocket when you sit down or forcefully insert it into a full or tight bag etc.

Damage to the LCD monitor or personal injury may result.

- Be particularly careful in the following places as they may cause this unit to malfunction.
 - -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.
- Do not touch the lens or the sockets with dirty hands. Also, be careful not to allow liquids, sand and other foreign matter to get into the space around the lens, buttons etc.
- If water or seawater splashes on the camera, use a dry cloth to wipe the camera body carefully.

About Condensation (When the lens is fogged up)

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

About cards that can be used in this unit

You can use an SD Memory Card and an SDHC Memory Card.

- When the term **card** is used in these operating instructions this refers to the following types of Memory Cards.
 - -SD Memory Card (8 MB to 2 GB)
 - -SDHC Memory Card (4 GB to 32 GB)

More specific information about memory cards that can be used with this unit.

 When you use a card of 4 GB or more capacity, you can use only the SDHC Memory Card with SDHC logo that is based on the SD Standard.



Please confirm the latest information on the following website. http://panasonic.jp/support/global/cs/dsc/

(This Site is in English only.)

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

About illustrations in these operating instructions

• Please note that the appearance of the product, the illustration or the menu screen are a little different from those in actual use.

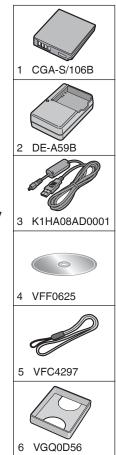
Contents

Information for Your Safety	2
Standard Accessories	
Names of the Components	
•	
Charging the Battery	
Inserting/Removing the Battery/Card (Optional)	11
Setting Date/Time (Clock Set)	12
About the Mode and Menu Operation	
Mode switching	
About the menu operation	
Taking Pictures Using the Automatic Function (Auto Scene Mode)	
Scene detection	
Taking Pictures with Your Favorite Settings (Normal Picture Mode)	
Focusing	
Playing Back Pictures (Normal Playback Mode)	
Deleting Pictures	
To delete a single picture	
To delete multiple pictures (up to 50) or all the pictures	
Reading the Operating Instructions (PDF format)	
Specifications	
Digital Camera Accessory System	

Standard Accessories

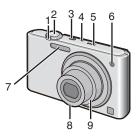
Check that all the accessories are included before using the camera. Product numbers are correct as of January 2010. These may be subject to change.

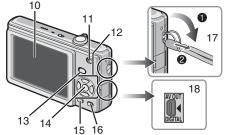
- 1 Battery Pack (Indicated as **battery** in the text) Charge the battery before use.
- 2 Battery Charger (Indicated as **charger** in the text)
- 3 USB Connection Cable
- 4 CD-ROM
 - Software:
 - Use it to install the software to your PC.
 - Operating Instructions
- 5 Hand Strap
- 6 Battery Case
- SD Memory Card and SDHC Memory Card are indicated as **card** in the text.
- 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, please refer to "Digital Camera Accessory System".
- If any of the accessories are lost, customers in Canada should contact 1 800 99-LUMIX (1-800-995-8649) for further information about obtaining replacement parts.



Names of the Components

- 1 Zoom lever
- 2 Shutter button
- 3 Camera ON/OFF switch
- 4 Microphone
- 5 Speaker
- 6 Self-timer indicator AF assist lamp
- 7 Flash
- 8 Lens part
- 9 Lens barrel
- 10 LCD monitor
- 11 Recording/playback switch
- 12 Cursor buttons
 - ④: ▲ /Exposure compensation
 - ⑧: ▼ /Macro button
 - ©: ◀ /Self-timer button
 - ①: ► /Flash mode button

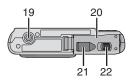








- 13 [MODE] button
- 14 [MENU/SET] button
- 15 [DISPLAY] button
- 16 [Q.MENU]/Delete button
- 17 Hand strap eyelet
 - Attach the strap when using the camera to prevent it from dropping.
- 18 [AV OUT/DIGITAL] socket
- 19 Tripod receptacle
 - When you use a tripod, make sure the tripod is stable with the camera attached to it.
- 20 Card/Battery door
- 21 DC coupler cover
 - When using an AC adaptor, ensure that the Panasonic DC coupler (DMW-DCC4; optional) and AC adaptor (DMW-AC5PP; optional) are used.
- 22 Release lever



Charging the Battery

About batteries that you can use with this unit Supplied battery or dedicated optional batteries (DMW-BCF10PP) can be used with this camera.

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.
- The camera has a function for distinguishing batteries which can be used safely. The dedicated battery supports this function. The only batteries suitable for use with this unit are genuine Panasonic products and batteries manufactured by other companies and certified by Panasonic. (Batteries which do not support this function cannot be used). Panasonic cannot in any way guarantee the quality, performance or safety of batteries which have been manufactured by other companies and are not genuine Panasonic products.
- The battery is not charged when the camera is shipped. Charge the battery before use.
- · Charge the battery with the charger indoors.
- Charge the battery in a temperature between 10 °C to 35 °C (50 °F to 95 °F). (The battery temperature should also be the same.)



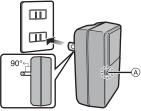
Attach the battery paying attention to the direction of the battery.





Connect the charger to the electrical outlet.

- Charging starts when the [CHARGE] indicator (& lights green.





Detach the battery after charging is completed.

When the [CHARGE] indicator flashes

- The battery temperature is excessively high or low. The charging time will be longer than normal. Also, charging may not be completed.
- The terminals of the charger or the battery are dirty. In this case, wipe them with a dry cloth.

Note

- After charging is completed, be sure to disconnect the power supply device from the electrical outlet.
- The battery becomes warm after using it, and while and after charging. The camera also becomes warm during use. This is not a malfunction.
- The battery will be exhausted if left for a long period of time after being charged.
- 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. (The battery has characteristics that will reduce its operating duration and cause the battery to swell up.)
- 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.
- 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.

Battery life

The number of recordable pictures (By CIPA standard in Normal Picture Mode [1)

	Supplied battery	Optional battery
Number of recordable pictures	Approx. 300 pictures	Approx. 390 pictures
Recording time	Approx. 150 min	Approx. 195 min

Recording conditions by CIPA standard

- Temperature: 23 °C (73.4 °F)/Humidity: 50% when the LCD monitor is on.
- Using a Panasonic SD Memory Card (32 MB)
- Starting recording 30 seconds after the camera is turned 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. Leaving the camera until the battery cools down.
- CIPA is an abbreviation of [Camera & Imaging Products Association].

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. (e.g. When recording once every 2 minutes: about 1/4 of the number when recording once every 30 seconds)

	Supplied battery	Optional battery
Playback time	Approx. 330 min	Approx. 420 min

The number of recordable pictures and playback time will vary depending on the operating conditions and storing condition of the battery.

Charging

	Supplied battery	Optional battery
Charging time [*]	Approx. 100 min	Approx. 130 min

with the supplied charger

The charging time will vary slightly depending on the status of the battery and the conditions in the charging environment.

When the charging has been completed successfully, the [CHARGE] indicator turns off.

Note

- The battery may swell and its operating time may become shorter as the number of times it is charged increases. For long term battery use, we recommend you do not frequently charge the battery before it is exhausted.
- The performance of the battery may temporarily deteriorate and the operating time may become shorter in low temperature conditions (e.g. skiing/snowboarding).

Inserting/Removing the Battery/Card (Optional)

- Check that the camera is turned off.
- We recommend using a Panasonic card.



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

- Always use genuine Panasonic batteries (CGA-S/106B: supplied or DMW-BCF10PP: optional).
- If you use other batteries, we cannot guarantee the quality of this product.

2

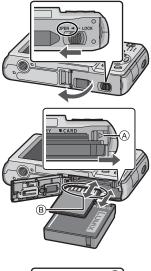
Battery: Insert it fully being careful about the direction for insert. Pull the lever in the direction of the arrow to remove the battery. Card: Push it fully until it clicks being careful about the direction for insert. To remove the card, push the card until it clicks, then pull the card out upright.

- In the connection terminals of the card.
- The card may be damaged if it is not fully inserted.



0: Close the card/battery door.

- Slide the release lever in the direction of the arrow.
- If the card/battery door cannot be completely closed, remove the card, check its direction and then insert it again.





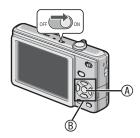
Setting Date/Time (Clock Set)

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



Turn the camera on.

- When you turn the camera on, [PLEASE SET THE CLOCK] message appears. (It does not appear in Playback Mode.)
- [MENU/SET] button
- B Cursor buttons
 A





Press [MENU/SET].

Press \triangleleft to select the items (year, month, day, hour, minute, display sequence or time display format), and press \blacktriangle / \bigtriangledown to set.

- © Time at the home area
- ① Time at the travel destination
- $\overleftarrow{\mathbbm}$: Cancel without setting the clock.
- Select either [24HRS] or [AM/PM] for the time display format.
- AM/PM is displayed when [AM/PM] is selected.





Press [MENU/SET].

- After completing the clock settings, turn the camera off. Then turn the camera back on, switch to Recording Mode, and check that the display reflects the settings that were performed.
- When [MENU/SET] has been pressed to complete the settings without the clock having been set, set the clock correctly by following the "Changing the clock setting" procedure.

Changing the clock setting

- Press [MENU/SET] in Normal Picture Mode.
- ❷ Press ▲/▼ to select [CLOCK SET].
- Image Press ► and perform steps 3 and 4 for setting.
- Press [MENU/SET] to close the menu.
- You can also set the clock in the [SETUP] menu.
- 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.)

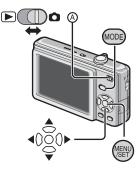
About the Mode and Menu Operation

Mode switching



Slide the recording/playback switch (A) to O (right) or ► (left).

- C : Recording Mode
- E : Playback Mode





Press [MODE] to display the mode selection screen.

(Example: Normal Picture Mode)



Press \blacktriangle/∇ to select a mode and press [MENU/SET] to close the menu.

List of Recording Modes

Auto Scene Mode	Taking pictures easily.
Normal Picture Mode	Taking pictures in the desired setting.
SCN Scene Mode	Taking pictures according to the scene.
E Motion Picture Mode	This mode allows you to record motion pictures with audio.

List of Playback Modes

► Normal Play Mode	Playing back the pictures normally.
Slide Show Mode	Playing back the pictures continuously.
★ Favorite Play Mode	Playing back the pictures set as your favorite. • Pictures do not appear when the [FAVORITE] is set to [OFF].

About the menu operation

The camera comes with menus that allow you to set the settings for taking pictures and playing them back just as you like.

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.

In Recording Mode	In Playback Mode
C [REC] menu	▶ [PLAYBACK] menu
This menu lets you set the coloring, sensitivity, or number of pixels, etc. of the pictures you are recording.	
[SETUP] menu	

• This menu lets you perform the clock settings, select the operating beep tone settings and set other settings which make it easier for you to operate the camera.

Available in Recording or Playback Mode.



How to use the menu

Press [MENU/SET] to display the menu.

 You can switch menu screens by the page from any menu item by rotating the zoom lever.
 (Example: Selecting the Normal Picture Mode [])

You can move to the next page by pressing ▼ at

Press \blacktriangle / ∇ to select a menu item.

(Example: Selecting [AF MODE])















Press ►.

the very bottom.

• Depending on the item, the settings may not appear or it may be displayed in a different way.

Press ▲/▼ to select a setting. (Example: Selecting [😫])





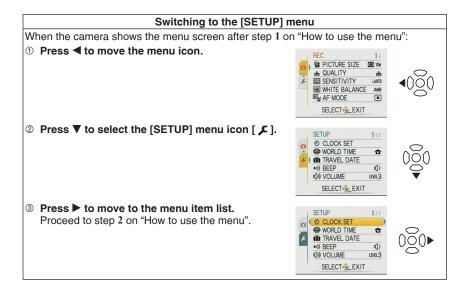


Press [MENU/SET] to confirm your setting.





Press [MENU/SET] to close the menu.



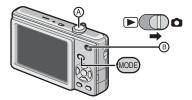
Recording Mode:

Taking Pictures Using the Automatic Function

(Auto Scene Mode)

The camera automatically sets the appropriate settings according to the subject and recording condition. This mode is recommended for beginners to take pictures easily.

- The following functions are activated automatically.
 - Scene detection/Face detection/Motion detection/Backlight Compensation
 - Shutter button
 - B Recording/playback switch





Slide the recording/playback switch to [



Press \blacktriangle/\forall to select [AUTO SCENE MODE] and then press [MENU/SET].

- Hold this unit gently with both hands, keep your arms still at your side and stand with your feet slightly apart.
 - © Flash
 - AF assist lamp



Press the shutter button halfway to focus.

- The focus indication [©] lights green when the subject is focused.
- The AF area

 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 focus range is 5 cm (0.17 feet) (Wide)/50 cm (1.64 feet) (Tele) to ∞ .
- The maximum close-up distance (the shortest distance at which the subject can be taken) differs depending on the zoom magnification.

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

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



A AUTO SCENE MODE

NORMAL PICTURE SCN SCENE MODE

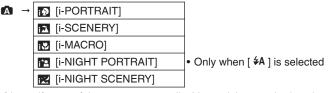
SELECT SET





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.



• [\Lambda] is set if none of the scenes are applicable, and the standard settings are set.

Face detection

When []] or [] is selected, the camera automatically detects a person's face, and it will adjust the focus and exposure.

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 distance to the subject, The contrast of the subject, When the subject is moving, When zoom is used
- Recording conditions: Sunset, Sunrise, Under low brightness conditions, When the camera is shaken
- To take pictures in an intended scene, 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. Recording Mode: O

Taking Pictures with Your Favorite Settings (Normal Picture Mode)

This mode allows you to take pictures freely as more options are available than Auto Scene Mode [(A)].



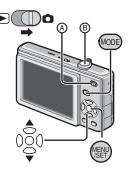
Slide the recording/playback switch to [

Recording/playback switch



Press \blacktriangle/∇ to select [NORMAL PICTURE] and press [MENU/SET].

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





Press the shutter button [®] halfway to focus.

- The focus indication (green) lights when the subject is focused.
- The focus range is 50 cm (1.64 feet) to ∞ .



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

• The access indication lights red when a picture is being recorded on the built-in memory (or the card).

Focusing

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



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

© Focus indication

- O AF area (normal)
- © AF area (when using the digital zoom or when it is dark)



Playback Mode: **•**

Playing Back Pictures (Normal Playback Mode)



Slide the recording/playback switch $(\begin{array}{c}\begin{$

- Normal playback is set automatically in the following cases:
 - -When the mode was switched to the Playback Mode.
 - When the camera was turned on while the recording/ playback switch was at [▶].

Press \triangleleft to select the picture.

- Play back the previous picture
- ►: Play back the next picture
- Speed of picture forwarding/rewinding changes depending on the playback status.

Fast forwarding/Fast rewinding

Press and hold **I** during playback.

• The file number (18) and the picture number (12) only change one by one.





- Release **I** when the number of the desired picture appears to play back the picture.
- If you keep pressing </b, the number of pictures forwarded/rewound increases.

Playback Mode: 🕟 ★

Deleting Pictures

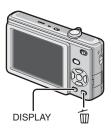
Once deleted, pictures cannot be recovered.

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

To delete a single picture

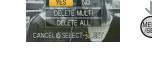


Select the picture to be deleted, and then press [m].





Press ◀ to select [YES] and then press [MENU/SET].



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



Press [<u> </u>].



Press \blacktriangle/V to select [DELETE MULTI] or [DELETE ALL] and then press [MENU/SET].

[DELETE ALL] → step 5.



Press A/V/4/b to select the picture and then press [DISPLAY] to set. (Repeat this step.)





Press [MENU/SET].



Press ▲ to select [YES] and then press [MENU/SET] to set.

Reading the Operating Instructions (PDF format)

- You have practised the basic operations introduced in these operating instructions and want to progress to advanced operations.
- You want to check the Troubleshooting.

In these kinds of situations refer to Operating Instructions (PDF format) recorded on the CD-ROM containing the Operating Instructions (supplied).

[Windows]



Turn the PC on and insert the CD-ROM containing the Operating Instructions (supplied).



Click the [Operating Instructions].



Select the desired language and then click [Operating Instructions] to install.

To return to the install menu.

Double click the "Operating Instructions" shortcut icon on the desktop.



■ When the Operating Instructions (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 Operating Instructions (PDF format).

Insert the CD-ROM containing the Operating Instructions (supplied), click [®] and then follow the messages on the screen to install. (Compatible OS: Windows 2000 SP4/ Windows XP SP2 or SP3/Windows VISTA SP1 or SP2/Windows 7)

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

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

To uninstall the Operating Instructions (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.

[Macintosh]



Turn the PC on and insert the CD-ROM containing the Operating Instructions (supplied).



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



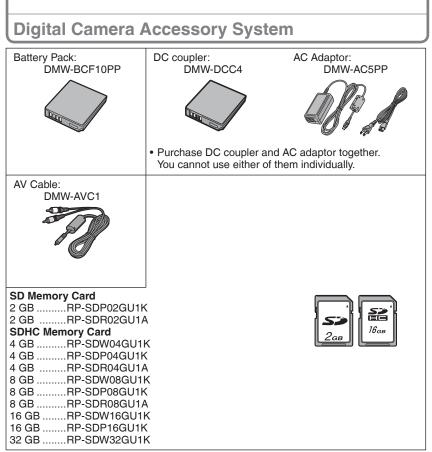
Double click the PDF file to open it.

Specifications

Digital Camera:	Information for your safety
Power Source:	DC 5.1 V
Power Consumption:	1.1 W (When recording) 0.5 W (When playing back)
Camera Effective pixels:	10,100,000 pixels
Image sensor:	1/2.5″ CCD
Total pixels:	10,300,000 pixels Primary color filter
Lens:	Optical 4 \times zoom, f=5.5 to 22 mm [35 mm film camera equivalent: 33 to 132 mm] / F2.8 to F5.9
Digital zoom:	Max. 4 ×
Extended optical zoom:	Max. 7.1 ×
Focus:	Normal / Macro Face detection / 9-area-focusing / 1-area-focusing
Focus range:	Normal : $50 \text{ cm} (1.64 \text{ feet}) \text{ to } \infty$ Macro / Auto scene : $5 \text{ cm} (0.17 \text{ feet}) \text{ (Wide) } / 50 \text{ cm} (1.64 \text{ feet}) \text{ (Tele) to } \infty$ Scene mode: settings may be different to those shown above
Shutter system:	Electronic shutter+Mechanical shutter
Motion picture recording	: [WVGA] 848 × 480 pixels (30 frames/second) (When a card is used.) [VGA] 640 × 480 pixels (30 frames/second) (When a card is used.) [QVGA] 320 × 240 pixels (30 frames/second) With audio
Burst recording	
Burst speed:	Approx. 2.3 pictures/second (NORMAL), Approx. 1.7 pictures/second (Unlimited)
Number of recordable pictures:	Max. 5 pictures (Standard), Max. 3 pictures (Fine), Depends on the remaining capacity of the built-in memory or the card (Unlimited).
Hi-speed burst	
Burst speed:	Approx. 6 pictures/second
Picture size:	[43 3M], [52 2.5M] or [169 2M] is selected as the picture size.

Number of recordable pictures:	When using the built-in memory: Approx. 10 pictures (immediately after formatting) When using a Card: Max 100 pictures (differe depending on the type of Card on
	Max. 100 pictures (differs depending on the type of Card and the recording conditions)
ISO sensitivity:	i.AUTO/ 80 / 100 / 200 / 400 / 800 / 1600 [HIGH SENS.] mode: 1600 to 6400
Shutter speed:	8 seconds to 1/2,000th of a second [STARRY SKY] mode:15 seconds, 30 seconds, 60 seconds
White balance:	Auto white balance / Daylight / Cloudy / Shade / Halogen / White set
Exposure (AE):	Program AE Exposure compensation (1/3 EV Step, -2 EV to +2 EV)
Metering mode:	Multiple
LCD monitor:	TFT LCD 2.5" (Approx. 230,000 dots) (field of view ratio about 100%)
Flash:	Flash range: Approx. 30 cm (0.99 feet) to 6.3 m (20.7 feet) (Wide [i.AUTO AUTO, AUTO / Red-eye reduction, Forced ON (Forced ON / Red-eye reduction), (Slow sync. / Red-eye reduction), Force OFF
Microphone:	Monaural
Speaker:	Monaural
Recording media:	Built-in Memory (Approx. 50 MB) / SD Memory Card / SDHC Memory Card
Picture size	
Still picture:	[₩ 10M] 3648 × 2736 pixels, [₩ 5M] 2560 × 1920 pixels, [₩ 3M] 2048 × 1536 pixels
	 [32 9M] 3648 × 2432 pixels, [32 2.5M] 2048 × 1360 pixels [1000] 7.5M] 3648 × 2056 pixels, [1000] 2M] 1920 × 1080 pixels
Motion pictures:	[522 2.5M] 2048 × 1360 pixels [1552] 5.5M] 3648 × 2056 pixels,
Motion pictures: Quality:	 [522 2.5M] 2048 × 1360 pixels [1000] 7.5M] 3648 × 2056 pixels, [1000] 2M] 1920 × 1080 pixels [WVGA] 848 × 480 pixels (When a card is used.), [VGA] 640 × 480 pixels (When a card is used.),
·	 [B2 2.5M] 2048 × 1360 pixels [B2 2.5M] 3648 × 2056 pixels, [B2 2M] 1920 × 1080 pixels [WVGA] 848 × 480 pixels (When a card is used.), [VGA] 640 × 480 pixels (When a card is used.), [QVGA] 320 × 240 pixels
Quality:	 [B2 2.5M] 2048 × 1360 pixels [B2 2.5M] 3648 × 2056 pixels, [B2 2M] 1920 × 1080 pixels [WVGA] 848 × 480 pixels (When a card is used.), [VGA] 640 × 480 pixels (When a card is used.), [QVGA] 320 × 240 pixels
Quality: Recording file format	 [SE2 2.5M] 2048 × 1360 pixels [ISE2 7.5M] 3648 × 2056 pixels, [ISE3 2M] 1920 × 1080 pixels [WVGA] 848 × 480 pixels (When a card is used.), [VGA] 640 × 480 pixels (When a card is used.), [QVGA] 320 × 240 pixels Fine/Standard JPEG (based on "Design rule for Camera File system",
Quality: Recording file format Still Picture: Motion pictures:	 [522 2.5M] 2048 × 1360 pixels [152 2.5M] 3648 × 2056 pixels, [152 7.5M] 3648 × 2056 pixels, [153 2M] 1920 × 1080 pixels [WVGA] 848 × 480 pixels (When a card is used.), [VGA] 640 × 480 pixels (When a card is used.), [QVGA] 320 × 240 pixels Fine/Standard JPEG (based on "Design rule for Camera File system", based on "Exif 2.21" standard)/DPOF corresponding

Terminal	
AV OUT/DIGITAL:	Dedicated jack (8 pin)
Dimensions:	97.6 mm (W) \times 55.4 mm (H) \times 24.8 mm (D) (3.84" (W) \times 2.18" (H) \times 0.98" (D)) (excluding the projection part)
Mass (Weight):	Approx. 112 g/0.25 lb (excluding Memory Card and battery) Approx. 134 g/0.30 lb (with Memory Card and battery)
Operating Temperature:	0 °C to 40 °C (32 °F to 104 °F)
Operating Humidity:	10% to 80%
Battery Charger (Panasonic DE-A59B):	Information for your safety
Input:	110 V to 240 V \sim 50/60 Hz, 0.2 A
Output:	CHARGE 4.2 V 0.65 A
Equipment mobility:	Movable
Battery Pack (lithium-ion))
(Panasonic CGA-S/106B):	Information for your safety



 Refer to P10 for information about the battery charging time and the number of recordable pictures.

NOTE: Accessories and/or model numbers may vary by country. Please consult your local dealer.



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