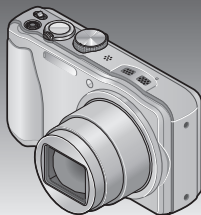# Panasonic®

Basic Owner's Manual
Digital Camera

Model No. DMC-ZS20

LUMIX

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

SDXC™ **3D** NANO SURFACE COATING

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

PC

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

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

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

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

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.

-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.

Information for Your Safety

WARNING:
To reduce the risk of fire, electric shock or product damage,
- **Do not expose this unit to rain, moisture, dripping or splashing.**
- **Do not place objects filled with liquids, such as vases, on this unit.**
- **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.

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

■ Product identification marking

Product	Location
Digital camera	Bottom

■ About the battery pack

CAUTION

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

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

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

CAUTION

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

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

Warning

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

■ About the AC adaptor (supplied)

CAUTION!
To reduce the risk of fire, electric shock or product damage,
· **Do not install or place this unit in a bookcase, built-in cabinet or in another confined space. Ensure this unit is well ventilated.**

AC adaptor
This AC adaptor operates on AC between 110V and 240V.
But
· In the U.S.A. and Canada, the AC adaptor 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.

■ Cautions for Use

- Do not use any other USB connection cables except the supplied one.
- Always use a genuine Panasonic HDMI mini cable
  (RP-CDHM15, RP-CDHM30: optional).
  Part numbers: RP-CDHM15 (1.5 m) (4.9 feet), RP-CDHM30 (3.0 m) (9.8 feet)
- Always use a genuine Panasonic AV cable (DMW-AVC1: optional).

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 (supplied). 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.

For information about the software used for this product, press [MENU/SET] and select [Setup] to display [Version Disp.] before pressing [MENU/SET] again.

Contents

Before use

■ Camera handling

- ●Keep the camera away from excessive vibration, force, or pressure.
- ●The camera is not dust resistant, splash resistant, or waterproof. Avoid using the camera in places with excessive dust or sand, or where water can come into contact with the camera.

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

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

Standard accessories
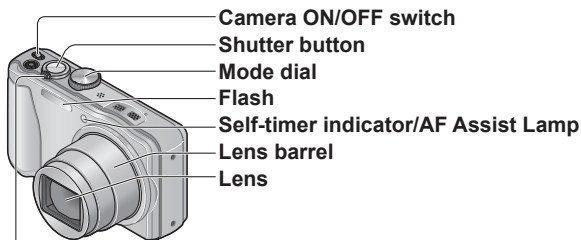
Check that all the accessories are supplied before using the camera. Part numbers are as of January 2012.

☐ **Battery pack** DMW-BCG10PP • Charge the battery before use. Battery pack is indicated as battery pack or battery in the text.	☐ **USB connection cable** K1HY08YY0025
☐ **AC adaptor** VSK0768	☐ **DVD** VFF0974 • Software: Use it to install the software on your PC. • Map data • Owner's Manual for advanced features DVD is indicated as disc in the text.
☐ **Hand strap** VFC4297	

• SD Memory Card, SDHC Memory Card and SDXC Memory Card are indicated as card in the text.
• Memory cards are 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.
• Please dispose of all packaging appropriately.
• Keep small parts in a safe place out of the reach of children.
• The illustrations and screens in this manual may differ from the actual product.

Names and Functions of Main Parts

Camera ON/OFF switch
Shutter button
Mode dial
Flash
Self-timer indicator/AF Assist Lamp
Lens barrel
Lens

Zoom lever

Built-in GPS antenna
Microphone
Speaker
Motion picture button
REC/PLAY switch
[HDMI] socket
[AV OUT/DIGITAL] socket
 • This socket is also used when charging the battery.
Charging lamp

GPS status indicator
[EXPOSURE] button
[MAP] button
LCD monitor
Cursor buttons
[MENU/SET] button
[DISP.] button
[Q.MENU]/[🗑 / ↩] (Delete/Cancel) button

Tripod receptacle
 • Ensure that the tripod is stable.
Card/Battery door
Release lever
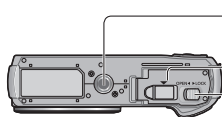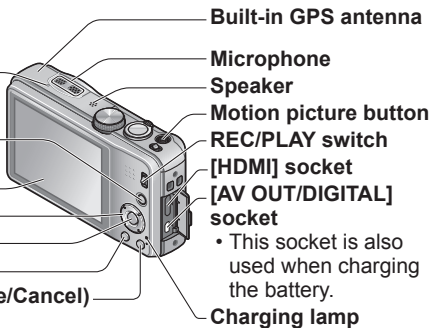
We recommend using the supplied hand strap to avoid dropping the camera.
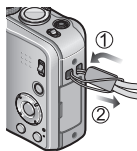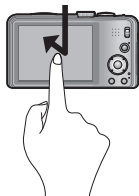
Touch operations

This camera's touch screen senses pressure that is applied to the screen.

Touch
To "touch" is to press the touch screen and then pull the finger back again.

Touching is used to select icons or pictures, among other actions.

- Touch an icon near its center. If multiple icons are touched simultaneously, the camera may not operate normally.

Drag
To "drag" is to touch and slide your finger across the touch screen surface.

Dragging (sliding your finger across the screen) is used to scroll the pictures or change the range of the pictures displayed.
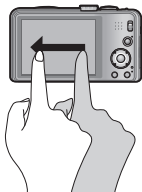
- If the type of sheet made to protect LCD screens that are available in the market is to be used, observe the precautions that are contained with the sheet. (Some types of protective sheets may impair the screen's appearance and ease of operation.)
- If the camera is used with a protective sheet available on the market attached to its screen or if the screen is not very responsive, touch the screen with a little more pressure.
- If your hand is pressed against the touch screen when holding the camera, the touch screen will not work properly.
- Do not press on the LCD monitor with hard pointed tips, such as ballpoint pens.
- Do not press the touch screen with your fingernails.
- Clean the LCD monitor with a soft, dry cloth if there are fingerprints or other kinds of dirt on it.

Inserting and removing the card (optional)/ the battery

To charge the battery, insert it into the camera.

1 **Set the camera ON/OFF switch to OFF and slide the release lever (Ⓐ) to [OPEN] before opening the card/battery door**

[OPEN] [LOCK]
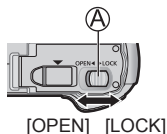
2 **Insert the battery and card, making sure that their orientation is correct**

- Battery: Insert all the way firmly until a locking sound is heard, and check that it is locked by lever (Ⓑ).
- Card: Insert all the way firmly until it clicks.

Do not touch the terminals on the back of the card.
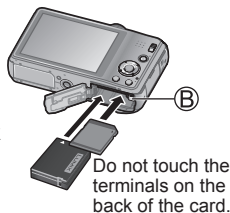
3 **Close the card/battery door**

Slide the release lever to the [LOCK] position.

■ To remove

- **To remove battery:**
  Move lever in direction of arrow.

  Lever
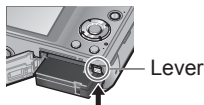
- **To remove card:**
  Push the card until it clicks, then pull the card out.

  ① ②
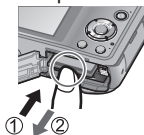
- Always use genuine Panasonic batteries (DMW-BCG10PP).
- If you use other batteries, we cannot guarantee the quality of this product.
- Keep the Memory Card out of reach of children to prevent swallowing.
- We recommend using a Panasonic Memory card.

Charging the battery

- **The battery is not charged when the camera is shipped. Charge the battery before use.**
- **Charge the battery with the AC adaptor (supplied) indoors (10 °C to 30 °C (50 °F to 86 °F)).**
- **Always use the dedicated AC adaptor (supplied), USB connection cable (supplied), and battery.**

- To charge the battery, insert it into the camera.
- Make sure that the camera is turned off.

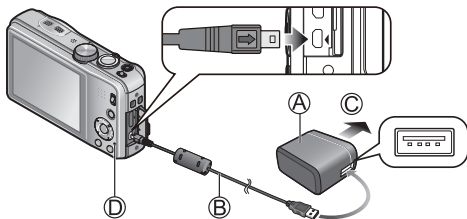**1** Connect the AC adaptor (Ⓐ) (supplied) and the camera using the USB connection cable (Ⓑ) (supplied), and plug the AC adaptor (Ⓐ) (supplied) into the electrical outlet

Ⓒ To the electrical outlet
- Do not use any other USB connection cables except the supplied one. Doing so may cause malfunction of the camera.
- Do not use any other AC adaptors except the supplied one.
- The AC adaptor (supplied) and the USB connection cable (supplied) are dedicated accessories of this camera. Do not use them for other devices.

■Charging lamp (Ⓓ)
On: Charging in progress **(approx. 260 min. if fully depleted)**
Off: Charging stops

■About batteries that you can use with this unit
The battery that can be used with this unit is DMW-BCG10PP.

Setting the clock

The clock is not set when the camera is shipped.

Set REC/PLAY switch to ● before turning the camera on.
Disconnect the unit from the AC adaptor (supplied).

1 **Turn the camera on (Ⓐ)**

2 **Press [MENU/SET] (Ⓑ)**

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

4 **Press [MENU/SET] to set**

5 **Confirm the setting and press [MENU/SET]**
 • To return to the previous screen, press [🗑 / ↩].

6 **Press ◄ to select [Yes] and press [MENU/SET] if automatically correcting time of day using the GPS function**
 • To manually set date and time →select [No].
 • When you select automatic time adjustment using the GPS function, [GPS Setting] is set to [ON].

7 **When [Please set the home area] is displayed, press [MENU/SET]**

8 **Press ◄ ► to set your home area and press [MENU/SET]**

The current time and home area are set.

■**To change the time setting**

Select [Clock Set] from [Rec] or [Setup] menu, perform **3** and **4**.

Setting the menu

Refer to the following procedures to operate the menus.
Example: Setting [AF Mode] from ▣ to 🙂 in the [Program AE] Mode

1 Press [MENU/SET] to display the menu (MENU/SET)

> **Switching to the [Rec] menu**
>
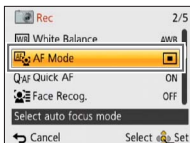> **Use cursor button to select [Rec] and press [MENU/SET].**
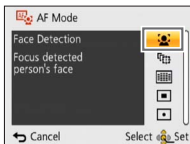> • The menu type can also be selected by touch operations.

2 Press ▲ ▼ to select [AF Mode] and then press [MENU/SET]

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

3 Press ▲ ▼ to select 🙂 and then press [MENU/SET] to set

4 Press [🗑 / ↩] several times to close the menu

Taking pictures

1 **Turn the camera on (Ⓐ)**

Shutter button

2 **Slide the REC/PLAY switch (Ⓑ) to ▢**

3 **Set to the desired recording mode (Ⓒ)**
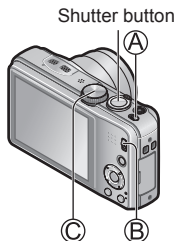
■Recording mode

iA	Take pictures with automatic settings.
P	The subjects are recorded using your own settings.
A	The shutter speed is automatically determined by the aperture value you set.
S	The aperture value is automatically determined by the shutter speed you set.
M	The exposure is adjusted by the aperture value and the shutter speed that are manually adjusted.
C1 C2	Use this mode to take pictures with previously registered setting.
3D	Record 3D still pictures.
SCN	Take pictures according to the scene.
🎨	Take pictures while confirming the picture effect.

4 **Take a picture**

Press halfway
(press lightly and focus)

Press fully
(press the button
all the way to record)

Taking motion pictures
Recording mode: 🅐 🅟 🅐 🅢 🅜 🅒1 🅒2 ᴣᴅ 🆂🅲🅽 🅰

You can record motion pictures with audio (stereo). Zoom can also be used during recording.

1 Slide the REC/PLAY switch (Ⓐ) to 🔘

2 Press the motion picture button (Ⓑ) to start recording

3 Press the motion picture button (Ⓑ) again to end recording
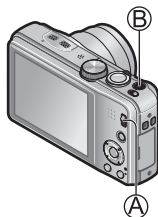
Remaining recording time (approx.)

Elapsed recording time

- We recommend you use a battery with sufficient battery power when recording motion pictures.
- Immediately release the motion picture button after pressing it all the way.
- You can continuously record a motion picture in [MP4] for up to 29 minutes 59 seconds or approx. 4 GB. In this case, you can continuously record a motion picture in [FHD] for up to approx. 27 minutes 12 seconds.
- If [Rec Quality] of [AVCHD] motion pictures is set to [GPH], [PSH], [GFS] or [FSH], you can continuously record a motion picture for up to 29 minutes 59 seconds.
- **If the surrounding temperature is high, or a motion picture is recorded continuously, ⚠ is displayed and recording may be stopped halfway through to protect the camera. (Only when [Rec Quality] is set to [GPH], [PSH], [GFS] or [FSH])**
- Motion pictures cannot be recorded in the built-in memory.

Viewing your pictures [Normal Play]

1 **Slide the REC/PLAY switch (Ⓐ) to ▶**

2 **Drag your finger across the screen, and select the picture to be played back**
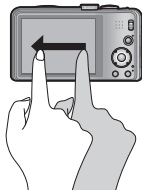
- To play back a motion picture, touch ▶ or press ▲ after selecting a picture.
- You can print pictures by connecting a camera to your computer or printer, or by giving an SD card to a shop assistant at a photo shop.

Deleting pictures

Deleted pictures cannot be recovered.

1 **Press [🗑 / ��531] (Ⓐ) to delete the displayed picture**

2 **Press ◄ to select [Yes] and then press [MENU/SET] (Ⓑ)**

🗑 Delete

Delete Single

| Yes | No |

Delete Multi

Delete All

↩ Cancel   Select ⮕ Set
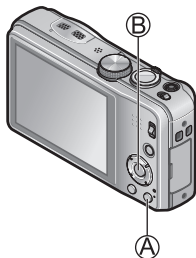
GPS and map functions

Before using the camera, be sure to read "License Agreement for Place Name and Map Data" (Owner's Manual for advanced features).

This camera can record the location information of a place where a picture was taken on the pictures. The camera can also automatically adjust the time or display a place where a picture was taken on a map during playback.

Using the GPS function to execute positioning

1. **Press [MENU/SET] (Ⓐ)**

2. **Use cursor button to select [GPS] menu and press [MENU/SET]**

3. **Use cursor button to select [GPS Setting] and press [MENU/SET]**

4. **Use cursor button to select [ON] and press [MENU/SET]**
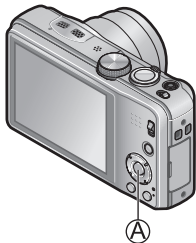
   • A message appears on the screen. After confirming the message, press [MENU/SET].

■ **When [GPS Setting] is [ON], the GPS function works even if the camera's power is off.**

   • Electromagnetic waves from the camera can affect instruments and meters. During takeoff and landing of airplanes or in other restricted areas, set [GPS Setting] to [OFF] or set [Airplane Mode] to [ON], and then turn off the camera.
   • When [GPS Setting] is [ON] and [Airplane Mode] is [OFF], power will drain from the battery even if the camera is turned OFF.

◼Displaying the status and result of positioning

The icons that indicate the status and result of positioning will appear on the LCD monitor. When positioning is successful, camera will search the place name information (name of place and landmark) inside its internal database and display it.

GPS reception icon

The same number of icons as the number of the GPS satellites (from which radio signals are successfully received) stop flashing and light (blue). If the three bars of the GPS reception icon do not light and the icon turns off, it means that positioning was unsuccessful.

Positioning executed successfully

Place name information

Positioning result icons (Time elapsed after successful positioning) (minute)

GPS : Positioning failed. No location information/ place name information available.

● Positioning will take time in environments where it is difficult to receive the signals from the GPS satellites. For details, refer to "Using the GPS function to record the location of a picture" (Owner's Manual for advanced features).
● Even if GPS reception is good, it will take approx. 2 to 3 minutes to successfully execute positioning under the following conditions; when positioning is executed for the first time, or when positioning is executed after the camera is turned off with the [GPS Setting] set to [OFF] or [Airplane Mode] set to [ON], and then turned on again.

Confirming the place where you took a picture using a map

You can display a map showing the location where a picture was taken or your current location.
● If you copy the map data stored on the supplied DVD to a memory card, you can display more detailed maps. For details, refer to "Using the map data on the DVD (supplied)" (Owner's Manual for advanced features).

1 Display the pictures in playback mode

 • The GPS is displayed during playback for pictures that are recorded with location and place name information.

2 Press [MAP] button (Ⓐ)
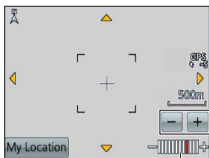
A map of the place where you took the picture will appear.

Touch the +/- button to enlarge or reduce the map size.
(You can also enlarge or reduce the map size using the zoom lever.)

Map scale level
(The levels that can be displayed vary depending on the region)

 • You can drag the screen or press the cursor button to operate the display location of a map.
 • When you press the [🗑 / ↩] button, it will return to the previous display.

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 disc. Install it on your PC to read it.

To read the supplied DVD, use a DVD drive with single-sided dual layer support.

■**For Windows**

1 Turn the PC on and insert the disc 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
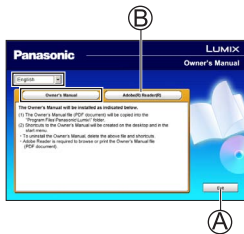
■**When the Owner's Manual (PDF format) will not open**

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 disc containing the Owner's Manual (supplied), click Ⓑ and then follow the messages on the screen to install.
Compatible OS: 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/

Installing supplied software

This software allows you to acquire pictures to the PC, and also categorize these acquired pictures by their recording date or the model name of the camera used.

• Before inserting the disc, close all running applications.

1 Check the environment of your PC
Operating environment of PHOTOfunSTUDIO 8.1 PE

OS	Windows XP (32 bit) SP3 Windows Vista (32 bit) SP2 Windows 7 (32 bit/64 bit) and SP1	
CPU	Windows XP	Pentium III 500 MHz or higher
	Windows Vista	800 MHz or higher
	Windows 7	1 GHz or higher
Display	1024 × 768 pixels or more (1920 × 1080 pixels or more recommended)	
RAM	Windows XP	512 MB or more
	Windows Vista	
	Windows 7	1 GB or more (32 bit) 2 GB or more (64 bit)
Free hard disk space	450 MB or more for installing software	

• Refer to the Operating Instructions of "PHOTOfunSTUDIO" (PDF) for further information about the operating environment.

2 Insert the disc with the supplied software

When you insert the supplied disc, the install menu will start.

3 Click on the [Applications] on the install menu

4 Click on the [Recommended Installation]

• Proceed with installation according to messages appearing on the screen.

● The software compatible with your PC will be installed.
  – PHOTOfunSTUDIO (Windows XP/Vista/7)
  – LoiLoScope 30-day full-trial version (Windows XP/Vista/7)
    (This will only install a shortcut to the trial version download site.)
  – LUMIX Map Tool (Windows XP/Vista/7, Mac OS X)
● PHOTOfunSTUDIO is not compatible with Mac.

Specifications

Digital Camera: Information for your safety

Power Source	DC 5.1 V
Power Consumption	When recording: 1.4 W When playing back: 1.1 W
Camera effective pixels	14,100,000 pixels
Image sensor	1/2.33" MOS sensor, total pixel number 15,300,000 pixels Primary color filter
Lens [NANO SURFACE COATING]	Optical 20 x zoom f=4.3 mm to 86.0 mm (35 mm film camera equivalent: 24 mm to 480 mm) / F3.3 (Max. W) to F6.4 (Max. T)
Image Stabilizer	Optical method
Focus range	
P / A / S / M	50 cm (1.6 feet) (Wide) / 2 m (6.6 feet) (Tele) to ∞
Macro / Intelligent Auto / Motion picture	3 cm (0.098 feet) (Wide) / 1 m (3.3 feet) (Tele) to ∞ (5 × to 7 × is 2 m (6.6 feet) to ∞)
Scene Mode	There may be difference in above settings.
Shutter system	Electronic shutter + Mechanical shutter
Minimum Illumination	Approx. 10 lx (when i-Low light is used, the shutter speed is 1/30th of a second)
Shutter speed	15 seconds to 1/2000th of a second
Exposure (AE)	Program AE (P) / Aperture-priority AE (A) / Shutter-priority AE (S) / Manual exposure (M)
Metering Mode	[Multi Metering] / [Center Weighted] / [Spot]

LCD monitor	3.0" TFT LCD (4:3) (Approx. 460,800 dots) (field of view ratio about 100%) / Touch screen
Microphone	Stereo
Speaker	Monaural
Recording media	Built-in Memory (Approx. 12 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	AVCHD / MP4 / QuickTime Motion JPEG
Audio compression format	AVCHD: Dolby Digital (2 ch) MP4: AAC (2 ch)
Interface	
Digital	USB 2.0 (High Speed)
Analog video	NTSC Composite
Audio	Audio line output (Monaural)
Terminal	HDMI: MiniHDMI TypeC AV OUT/DIGITAL: Dedicated jack (8 pin)
Dimensions	Approx. 104.9 mm (W) x 58.9 mm (H) x 28.2 mm (D) [4.13" (W) x 2.32" (H) x 1.11" (D)] (excluding the projection part)
Mass (Weight)	With card and battery: Approx. 206 g (0.454 lb) Excluding card and battery: Approx. 184 g (0.406 lb)
Operating temperature	0 °C to 40 °C (32 °F to 104 °F)
Operating humidity	10%RH to 80%RH

Specifications

AC adaptor
(Panasonic VSK0768): Information for your safety

Input	~ 110 V to 240 V, 50/60 Hz, 0.2 A
Output	=== 5 V, 800 mA

Battery pack (lithium-ion)
(Panasonic DMW-BCG10PP): Information for your safety

Voltage / capacity	3.6 V / 895 mAh

Digital Camera Accessory System

Description	Accessory#
Battery Pack	DMW-BCG10
AV Cable	DMW-AVC1
HDMI mini cable	RP-CDHM15, RP-CDHM30
Marine Case	DMW-MCTZ30
Class 10 64 GB SDXC Memory Card	RP-SDU64GE1K
Class 10 32 GB SDHC Memory Card	RP-SDU32GU1K
Class 10 16 GB SDHC Memory Card	RP-SDU16GU1K
Class 10 8 GB SDHC Memory Card	RP-SDU08GU1K
Class 10 4 GB SDHC Memory Card	RP-SDU04GU1K
Class 4 16 GB SDHC Memory Card	RP-SDL16GU1K
Class 4 8 GB SDHC Memory Card	RP-SDL08GU1K
Class 4 4 GB SDHC Memory Card	RP-SDL04GU1K
Class 4 2 GB SD Memory Card	RP-SDL02GU1K

●Product numbers are correct as of January 2012. These may be subject to change.
●Accessories and/or model numbers may vary between countries. Consult your local dealer.

HDMI

VIERA Link™

AVCHD ™
Progressive

DOLBY
DIGITAL
STEREO CREATOR

QuickTime

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