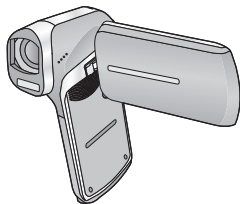


Panasonic®

Basic Owner's Manual Dual Camera

Model No. **HX-DC3**



Please read these instructions carefully before using this product, and save this manual for future use.

This document explains basic operations of the unit. For more detailed explanation, please refer to "Owner's Manual (PDF format)" which is recorded in the enclosed CD-ROM.



HDMI



For USA and Puerto Rico assistance, please call: 1-800-211-PANA(7262) or, contact us via the web at: <http://www.panasonic.com/contactinfo>

For Canadian assistance, please call: 1-800-561-5505 or visit us at www.panasonic.ca

Register online at www.panasonic.com/register (U.S. customers only)



VQT4U69

1AG6P1P6601--(S)

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 right.

The serial number is on the tag located on the battery holder of your camera. Be sure to **retain this manual** as your convenient camera information source.

Date of Purchase

Dealer Purchased From

Dealer Address

Dealer Phone No.

Model No.

Serial No.

Safety Precautions

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.

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.
- Do not obstruct this unit's ventilation openings with newspapers, tablecloths, curtains, and similar items.
- Do not place sources of naked flames, such as lighted candles, on this unit.

THE FOLLOWING APPLIES ONLY IN THE U.S.A.

FCC Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: To assure continued compliance, follow the attached installation instructions and use only shielded interface cables with ferrite core when connecting to computer or peripheral devices.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Declaration of Conformity

Trade Name: Panasonic

Model No.: HX-DC3

Responsible Party: Panasonic Corporation of North America
One Panasonic Way, Secaucus, NJ 07094

Support Contact: Panasonic Consumer Marketing Company of North America
1-800-211-PANA (7262)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



THE FOLLOWING APPLIES ONLY IN CANADA.

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

The socket outlet shall be installed near the equipment and shall be easily accessible.

THE FOLLOWING APPLIES ONLY IN THE U.S.A. AND CANADA.

AC adaptor

This AC adaptor operates on AC between 100 V and 240 V.

But

- In the U.S.A. and Canada, the AC adaptor 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.

■ Concerning the battery

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.

Warning

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

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.

■ Product Identification Marking

Product	Location
Dual Camera	Battery holder

U.S.A./CANADA CONSUMERS: ATTENTION:



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.



■ Cautions for use

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. 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.

About connecting to a PC

- Do not use any other USB cables except the supplied one.

About connecting to a TV

- Do not use any other AV cables except the supplied one.
- Always use a genuine Panasonic HDMI mini cable (RP-CDHM15, RP-CDHM30: optional).

■ About recording formats and compatibility of the unit

- The unit is an MP4 format (MPEG-4 AVC file standard) Dual Camera for recording high-definition motion pictures.
- AVCHD and MPEG2 motion pictures are different formats, and are not therefore supported by the unit.

■ Indemnity about recorded content

Panasonic does not accept any responsibility for damages directly or indirectly due to any type of problems that result in loss of recording or edited content, and does not guarantee any content if recording or editing does not work properly. Likewise, the above also applies in a case where any type of repair is made to the unit (including any other non-built-in memory related component).

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

Condensation occurs when there is a change in temperature or humidity, such as when the unit is taken from outside or a cold room to a warm room. Please be careful, as it may cause the lens or LCD monitor to become soiled, moldy, or damaged.

When taking the unit to a place which has a different temperature, if the unit is accustomed to the room temperature of the destination for about one hour, condensation can be prevented. (When the difference in temperature is severe, place the unit in a plastic bag or the like, remove air from the bag, and seal the bag.)

When condensation has occurred, remove the battery and/or the AC adaptor and leave the unit like that for about one hour. When the unit becomes accustomed to the surrounding temperature, foginess will disappear naturally.

■ Cards that you can use with this unit

SD Memory Card, SDHC Memory Card and SDXC Memory Card

- 4 GB or more Memory Cards that do not have the SDHC logo or 48 GB or more Memory Cards that do not have the SDXC logo are not based on SD Memory Card Specifications.
- Refer to page 16 for more details on SD cards.

■ For the purposes of this owner's manual

- SD Memory Card, SDHC Memory Card and SDXC Memory Card are referred to as the “SD card”.
- Functions that can be used for motion picture recording/motion picture playback are indicated by **VIDEO** in this owner's manual.
- Functions that can be used for still picture recording/still picture playback are indicated by **PHOTO** in this owner's manual.
- Functions that can be used for audio recording/audio playback are indicated by **AUDIO** in this owner's manual.
- Pages for reference are indicated by an arrow, for example: → 00
- “File” is used to mean “scene”, “still picture” and “audio file”.

Contents

■ How to open the Owner's Manual (PDF format)

When you insert the CD-ROM and open the [INDEX.pdf] in the CD-ROM, the Owner's Manual list will be displayed. Click the document name of the Owner's Manual you would like to open.

- Adobe Reader is required to view the PDF file. Please download it from the homepage of Adobe Systems Incorporated.

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Accessories

Check the accessories before using this unit.

Product numbers correct as of Dec. 2012. These may be subject to change.

Battery pack

VW-VBX070



Handstrap^{*2}

VFC4627



AC adaptor

VSK0750



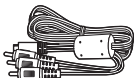
CD-ROM

Software



AV cable

VFA0543



CD-ROM

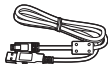
Owner's Manual

VFF1165



USB cable

VFA0554



Lens cap^{*1}

VFC4701



Lens cap strap

VFC4702



*1 Keep the lens cap out of reach of children to prevent swallowing.

*2 To prevent the unit from dropping, be sure to attach the handstrap.

Power supply

■ About batteries that you can use with this unit

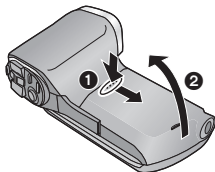
The battery that can be used with this unit is VW-VBX070.

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.

Inserting/removing the battery

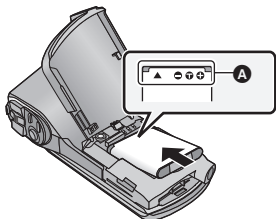
- Press the power button to turn off the unit. (→ 18)

1 Open the battery/card cover.



- 1 Slide while pushing the battery/card cover.
- 2 Open the battery/card cover.

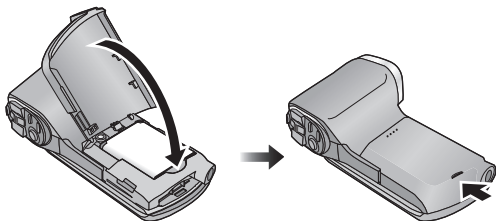
2 Insert the battery, taking care to match up the terminal markings.



A terminal markings

- Insert the battery so that the terminal markings face up. It is possible to mistakenly insert the battery upside down, so be sure to check the orientation carefully.

3 Close the battery/card cover.

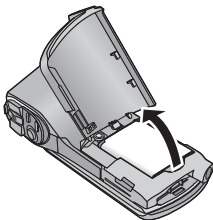


- Securely close it until it clicks.

Removing the battery

Press and hold down the power button to turn off the unit, then pull up and remove the battery.

- Always check that the LCD monitor and status indicator lamp are off.
- Keep the battery pack out of reach of children to prevent swallowing.



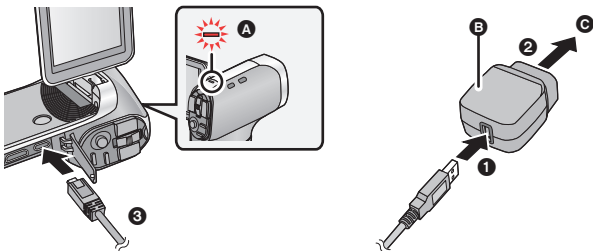
Charging the battery

When this unit is purchased, the battery is not charged. Charge the battery fully before using this unit for the first time.

The unit is in the standby condition when the AC adaptor is connected. The primary circuit is always “live” as long as the AC adaptor is connected to an electrical outlet.

Important:

- The AC adaptor and USB cable are for use with this unit only. Do not use them with other equipment. Similarly, do not use AC adaptors and USB cables from other equipment with this unit.
- The battery is charged while the unit is off or in the Standby Mode. The battery cannot be charged while the unit is recording or playing back.
- It is recommended to charge the battery in a temperature between 10 °C and 30 °C (50 °F and 86 °F). (The battery temperature should also be the same.)



- A Status indicator
- B AC adaptor
- C To the AC outlet

- Insert the plugs as far as they will go.

1 Connect the USB cable to the AC adaptor.

- Check that the plug portion of the AC adaptor is not misaligned.

2 Connect the AC adaptor into the AC outlet.

3 Connect the USB cable to the unit.


- Connecting the USB cable in the wrong direction may cause damage to the USB/AV terminal of the unit. If the terminal has become damaged, it may not operate correctly, including failure to recognize the cable even if it has been connected.
 - The status indicator flashes red with a period of approximately 2 seconds (approximately 1 second on, 1 second off), and charging begins. It will turn off when the charging is completed.
-

- Do not use any other AC adaptors except the supplied one.
- Do not use any other USB cables except the supplied one.
- We recommend using Panasonic batteries (→ 10, 15, 34).
- If you use other batteries, we cannot guarantee the quality of this product.
- 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.

Charging and recording time

■ Charging/Recording time

- Temperature: 25 °C (77 °F)/humidity: 60%RH (When using AC adaptor)

Battery model number [Voltage/Capacity (minimum)]	Charging time	Recording Mode	Maximum continuously recordable time	Actual recordable time
Supplied battery/ VW-VBX070 (optional) [3.7 V/700 mAh]	2 h	1080-60i	50 min	30 min
		1080-30p	55 min	35 min
		720-60p	50 min	30 min
		720-30p	1 h 5 min	35 min
		480-30p	1 h 25 min	45 min
		iFrame	1 h 5 min	40 min
			1 h 30 min	—

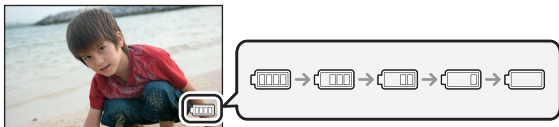
- These times are approximations.
- **The indicated charging time is for when the battery has been discharged completely. Charging time and recordable time vary depending on the usage conditions such as high/low temperature.**
- The actual recordable time refers to the recordable time when repeatedly starting/stopping recording, turning the unit on/off, moving the zoom lever etc.

■ Remaining battery level display

The remaining battery level is displayed on the LCD monitor.

- The display will turn red and start flashing when the remaining battery level has been used up.

Charge the battery or replace with a fully charged battery.



Recording to a card

The unit can record motion pictures, still pictures or audio to an SD card or built-in memory. To record to an SD card, read the following.

Cards that you can use with this unit

Use SD cards conforming to Class 4 or higher of the SD Speed Class Rating for motion picture recording.

Please confirm the latest information about SD Memory Cards/SDHC Memory Cards/SDXC Memory Cards that can be used for motion picture recording on the following website.

http://panasonic.jp/support/global/cs/e_cam

(This website is in English only.)

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

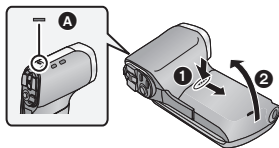
Inserting/removing an SD card

When using an SD card not from Panasonic, or one previously used on other equipment, for the first time on this unit, format the SD card. (→ 27)
When the SD card is formatted, all of the recorded data is deleted. Once the data is deleted, it cannot be restored.

Caution:

Check that the status indicator has gone off.

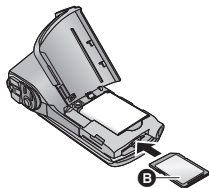
1 Open the battery/card cover.



Status indicator **A**

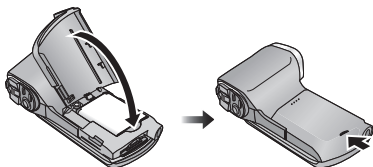
- When this unit is accessing the SD card or built-in memory, the status indicator lights up red.

2 Insert (remove) the SD card into (from) the card slot.



- Face the label side **B** in the direction shown in the illustration and press it straight in as far as it will go.
- Press the center of the SD card and then pull it straight out.

3 Close the battery/card cover.

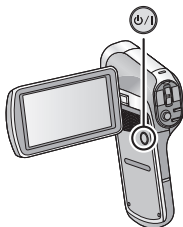


- Securely close it until it clicks.

Turning the unit on/off

Open the LCD monitor and press the power button to turn on the unit.

The LCD monitor turns on.



To turn off the unit


Hold down the power button until the LCD monitor goes off.

- Pressing the power button for a short time sends the unit into Standby Mode.

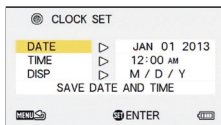
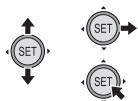
Setting date and time

If the screen to set the date and time appears when you turn on the unit, skip to step 2 and follow the steps to set the date and time.

1 Select the menu. (→ 25)

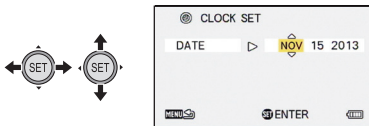
[MENU]:  → [CLOCK SET]

2 Select an item ([DATE]/[TIME]/[DISP]) using the SET button and then tilt the SET button to the right or press the SET button.



- 3** (When [DATE] or [TIME] is selected)
Tilt the SET button to the left or right to select the desired item and then up and down to set the numerical values.

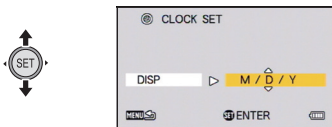
e.g.: When [DATE] is selected



- The year can be set between 2000 and 2039.

(When [DISP] is selected)

Select the date format display method using the SET button.



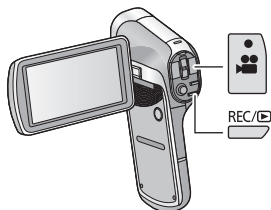
4 Press the SET button.

5 Select [SAVE DATE AND TIME] using the SET button and then press the SET button.

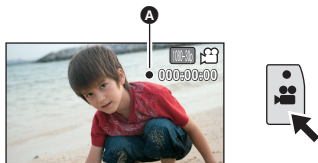
- To return to the recording screen or playback screen, press the MENU button.

Recording motion pictures

- Before turning on the unit, remove the lens cap.
- Motion pictures are recorded to the SD card if one is inserted. If no SD card is inserted, the motion pictures are recorded to the built-in memory.



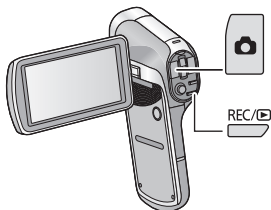
- 1 Open the LCD monitor.
- 2 Press the REC/▶ button to change to recording mode.
- 3 Press the recording start/stop button to start recording.




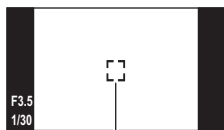
- A When you begin recording, ● appears.
- 4 Press the recording start/stop button again to pause recording.

Recording still pictures

- Before turning on the unit, remove the lens cap.
- Still pictures are recorded to SD card if one is inserted. If no SD card is inserted, the still pictures are recorded to the built-in memory.



- 1 Open the LCD monitor.
- 2 Press the REC/▶ button to change to recording mode.
- 3 (For Auto Focus only)
Press the  button halfway.



- A** Focus area (area inside brackets)


- 4 Press the  button fully.



- If you continue to hold down the  button, you can check the recorded image on the LCD monitor.

Recording audio

- Audio is recorded to the SD card if one is inserted. If no SD card is inserted, the audio is recorded to the built-in memory.

- 1 Open the LCD monitor.
- 2 Press the REC/  button to change to recording mode.
- 3 Select the menu. (→ 25)

[MENU]:  → [REC MODE] → [ (VOICE RECORD)]

- 4 Start recording by pressing the recording start/stop button.



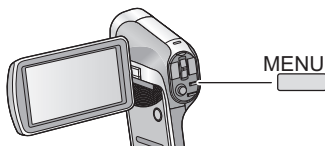
- 5 Press the recording start/stop button again to stop recording.

Intelligent Auto Mode

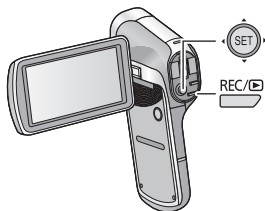
The modes (appropriate for the condition) are set just by pointing the unit to what you want to record.

Select the menu. (→ 25)

[MENU]:  → [INTELLIGENT AUTO] → [ (ON)]



Motion picture/Still picture/Audio playback



- 1 Press the REC/▶ button to change to Playback Mode.
- 2 Select the file to play back using the SET button and press the SET button.

Thumbnail display



- A** The information for the file in the yellow frame is displayed.
- Tilt and hold the SET button up or down to display the next (or previous) page.

- 3 Play back using the SET button.

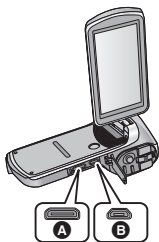


B Operation icon*

- * If the operation icon disappears, perform a SET button operation to display it.
- Tilt the SET button up to start/pause playback of motion pictures.

Watching Video/Pictures on your TV

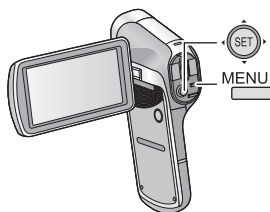
Connect the unit to a TV using the AV cable (supplied) or a HDMI mini cable (optional).





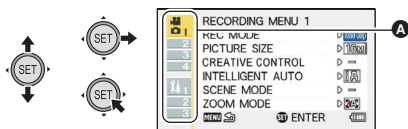
- A** HDMI mini connector
- B** USB/AV connector

- Connecting the AV cable in the wrong direction may cause damage to the USB/AV terminal of the unit. If the terminal has become damaged, it may not operate correctly, including failure to recognize the cable even if it has been connected.

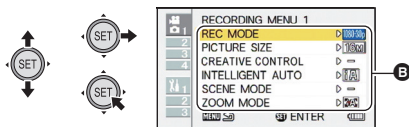
Using the menu screen



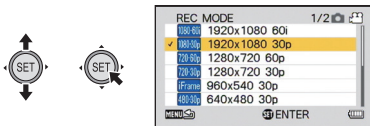
- 1 Press the MENU button. 
- 2 Tilt the SET button to the left. 
- 3 Select tab **A** using the SET button, and tilt the SET button to the right or press the SET button.



- 4 Select from menu items **B** using the SET button, and tilt the SET button to the right, or press the SET button.

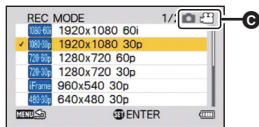


5 Select the setting content using the SET button and press the SET button to set.



■ About applicable mode indicator



In the recording menu, the Recording Mode that reflects the currently displayed setting is displayed.



● Applicable mode indicator

  : Setting is applied to still picture and motion picture recording.

  : Setting is applied to still picture recording.

  : Setting is applied to motion picture recording.

To get back to the previous screen


Press the MENU button.

To end the menu setting

Press the MENU button several times.


Language selection

You can select the language on the screen display and the menu screen.

[MENU]:  → [LANGUAGE]

Formatting

Please be aware that if a medium is formatted, then all the data recorded on the medium will be erased and cannot be restored. Back up important data on a PC, disc, etc.

[MENU]:  → [FORMAT]

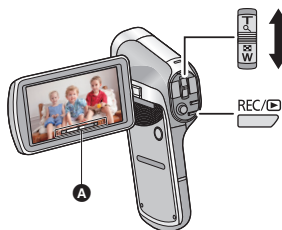
Basic

VIDEO

PHOTO

Using the zoom

Press the REC/  button to change to recording mode.



T side: Close-up recording (zoom in)

W side: Wide-angle recording (zoom out)

A Zoom bar

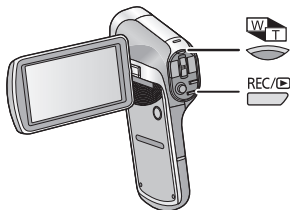
- During zoom operations, the zoom bar is displayed.
- i.Zoom and Digital Zoom can be set in [ZOOM MODE].



Double range zoom

VIDEO

The enlarged size will be approximately double size (double range zoom). Press again to return to normal size.

- 1 Press the REC/▶ button to change to recording mode.**
- 2 Press the zoom range button.**



- On the normal zoom recording screen, the  icon is displayed. On the double-range zoom recording screen, the  icon is displayed.
- You cannot operate the zoom range button in the i.Zoom/Digital Zoom region (blue).
- The image enlarged using the double range zoom can be recorded only as a motion picture. Still pictures are recorded without being enlarged.

About copyright

■ Carefully observe copyright laws

Whatever you have recorded and created can be used for your personal entertainment only. Under copyright laws, other materials cannot be used without obtaining permission from the holders of the copyrights.

■ Licenses

- SDXC Logo is a trademark of SD-3C, LLC.
- HDMI, the HDMI Logo, and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.
- Other names of systems and products mentioned in these instructions are usually the registered trademarks or trademarks of the manufacturers who developed the system or product concerned.

This product is licensed under the AVC patent portfolio license for the personal and non-commercial use of a consumer to (i) encode video in compliance with the AVC Standard ("AVC Video") and/or (ii) decode AVC Video that was encoded by a consumer engaged in a personal and non-commercial activity and/or was obtained from a video provider licensed to provide AVC Video. No license is granted or shall be implied for any other use. Additional information may be obtained from MPEG LA, LLC. See <http://www.mpegla.com>.

Specifications

Dual Camera

Information for your safety

Power source: DC 5.0 V (When using AC adaptor)
DC 3.7 V (When using battery)

Power consumption: Recording; Charging;
4.0 W 3.3 W

Recording format:

MPEG-4 AVC file format standard (.MP4)

Motion picture compression:

MPEG-4 AVC/H.264, iFrame

Audio compression:

AAC (2 ch)

Recording mode and transfer rate:

1080-60p; Approx. 17 Mbps (VBR)

1080-30p; Approx. 15 Mbps (VBR)

720-60p; Approx. 15 Mbps (VBR)

720-30p; Approx. 9 Mbps (VBR)

480-30p; Approx. 3 Mbps (VBR)

iFrame; Approx. 24 Mbps (VBR)

Refer to the owner's manual (PDF format) for the recordable time and picture size.

Still picture recording format:

JPEG (Design rule for Camera File system, based on Exif 2.2 standard)

Refer to the owner's manual (PDF format) for the picture size and number of recordable pictures.

Recording media:

SD Memory Card

SDHC Memory Card

SDXC Memory Card

Refer to the owner's manual (PDF format) for details on SD cards usable in this unit.

Built-in memory; Approx. 65 MB

Image sensor:

1/2.33" 1MOS image sensor

Total; Approx. 14400 K

Effective pixels;

Motion picture; 14300 K (4:3), 11900 K (16:9)

Still picture; 14300 K (4:3), 11900 K (16:9)

Lens:

Auto iris

F3.5 to F3.7

Focal length;

6.8 mm to 34.0 mm

35 mm equivalent;

Motion picture;

38.9 mm to 233.4 mm (Double range zoom W mode, 4:3)

40.0 mm to 240.0 mm (Double range zoom W mode, 16:9)

80.9 mm to 485.4 mm (Double range zoom T mode, 4:3)

82.4 mm to 494.4 mm (Double range zoom T mode, 16:9)

Still picture;

38.6 mm to 193.0 mm (4:3)

39.9 mm to 199.5 mm (16:9)

Minimum focus distance;

Normal; Approx. 10 cm (3.9") (Wide)/Approx. 1 m (3.3 feet) (Tele)

Macro; Approx. 1 cm (0.39") (Wide)/ Approx. 80 cm (2.6 feet) (Tele)

Zoom:

Motion picture; 5× optical zoom, 12× double range zoom, 15× i.Zoom, 120× digital zoom

Still picture; 5× optical zoom, 50× digital zoom

Image stabilizer function:

Electronic

Monitor:

3.0" wide LCD monitor (Approx. 230 K dots)

Microphone:

Stereo

Minimum required illumination:

Approx. 4 lx (1/15 with Low Light mode in the Scene Mode)

Approx. 12 lx (Scene mode off 1/30)

USB/AV connector video output level:

1.0 Vp-p, 75 Ω

HDMI mini connector video output level:

HDMI™ 1080i/720p/480p

USB/AV connector audio output level (Line):

155 mV, 220 Ω , 2 ch

HDMI mini connector audio output level:

Linear PCM

USB:

Reader function

SD card; Read only (No copyright protection support)

Built-in memory; Read only

Hi-Speed USB (USB 2.0), USB terminal Type micro B (AV output share)

Battery charging function (Charges from USB terminal when the unit is off, 500 mA)

Web camera;

Compression format; Motion JPEG

Image size; 640×480/30p (VGA)

Flash:

Available range; Approx. 80 cm to 2.1 m (2.6 feet to 6.9 feet)

Dimensions:

86.2 mm (W)×120.8 mm (H)×38.1 mm (D)

[3.40" (W)×4.76" (H)×1.50" (D)] (including projecting parts)

Mass (Weight):

Approx. 162 g (Approx. 0.358 lbs.)

[without battery (supplied) and an SD card (optional)]

Mass (Weight) in operation:

Approx. 180 g (Approx. 0.397 lbs.)

[with battery (supplied) and an SD card (optional)]

Operating temperature:

0 °C to 35 °C (32 °F to 95 °F)

Operating humidity:

10%RH to 80%RH

Battery operation time:

See page 15

AC adaptor

Information for your safety

Power source: AC 100 V to 240 V, 50/60 Hz

Power consumption: 7 W

DC output: DC 5.0 V, 1.0 A

Dimensions:



48.9 mm (W)×32.8 mm (H)×75.2 mm (D)

[1.93 " (W)×1.29 " (H)×2.96 " (D)]

Mass (Weight):

Approx. 54 g (Approx. 0.119 lbs.)

Optional accessories

Accessory No.	Figure	Description
VW-VBX070*		Rechargeable Lithium Ion Battery Pack
RP-CDHM15 RP-CDHM30		HDMI mini cable

* Please refer to page 15, concerning the battery charging time and available recording time.

NOTE:

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

Accessory Order Form

(For USA and Puerto Rico Customers)

Please photocopy this form when placing an order.

1. Model # _____

2. Items Ordered

Accessory #	Description	Price Each	Quantity	Total Price
Shipping & Handling				\$6.95
Subtotal				
Your State & Local Sales Tax				
Total				

3. Method of payment (check one)

American Express

VISA Credit Card # _____

MasterCard Expiration Date _____

Discover Customer Signature _____

(Please do not send cash)

4. Shipping information (UPS delivery requires complete street address)

Ship To:

Mr.

Mrs.

Ms.

First

Last

Phone#:

Day () _____

Street Address

Night () _____

City

State

Zip

TO OBTAIN ANY OF OUR ACCESSORIES YOU CAN DO ANY OF
THE FOLLOWING:
VISIT YOUR LOCAL PANASONIC DEALER
OR
CALL PANASONIC'S ACCESSORY ORDER LINE AT 1-800-332-5368
[6 AM-6 PM M-F, PACIFIC TIME]
OR
MAIL THIS ORDER TO: PANASONIC NATIONAL PARTS CENTER
20421 84th Ave. S., Kent, WA 98032

In CANADA, please contact your local Panasonic dealer for more information on Accessories.

Limited Warranty

(ONLY FOR U.S.A. AND PUERTO RICO)

**Panasonic Consumer Marketing Company of North America,
Division of Panasonic Corporation of North America**
One Panasonic Way, Secaucus, New Jersey 07094

Panasonic Products Limited Warranty

Limited Warranty Coverage (For USA and Puerto Rico Only)

If your product does not work properly because of a defect in materials or workmanship, Panasonic Consumer Marketing Company of North America (referred to as "the warrantor") will, for the length of the period indicated on the chart below, which starts with the date of original purchase ("warranty period"), at its option either (a) repair your product with new or refurbished parts, (b) replace it with a new or a refurbished equivalent value product, or (c) refund your purchase price. The decision to repair, replace or refund will be made by the warrantor.

Product or Part Name	Parts	Labor
Dual Camera	1 Year	90 Days
All included Accessories (Except Non-Rechargeable Batteries)	90 Days	Not Applicable
Only Non-Rechargeable Batteries	10 Days	Not Applicable

During the "Labor" warranty period there will be no charge for labor. During the "Parts" warranty period, there will be no charge for parts. This Limited Warranty excludes both parts and labor for non-rechargeable batteries, antennas, and cosmetic parts (cabinet). This warranty only applies to products purchased and serviced in the United States or Puerto Rico. This warranty is extended only to the original purchaser of a new product which was not sold "as is".

Mail-In Service

For assistance in the U.S.A. and Puerto Rico in obtaining repairs, please ship the product prepaid to:

Panasonic Exchange Center
4900 George McVay Drive Suite B McAllen, TX 78503
panacare@us.panasonic.com

Online Repair Request

To submit a new repair request and for quick repair status visit our Web Site at www.panasonic.com/repair.

When shipping the unit, carefully pack, include all supplied accessories listed in the Owner's Manual, and send it prepaid, adequately insured and packed well in a carton box. When shipping Lithium Ion batteries please visit our Web Site at www.panasonic.com/BatteryHandling as Panasonic is committed to providing the most up to date information. Include a letter detailing the complaint, a return address and provide a daytime phone number where you can be reached. A valid registered receipt is required under the Limited Warranty.

IF REPAIR IS NEEDED DURING THE WARRANTY PERIOD, THE PURCHASER WILL BE REQUIRED TO FURNISH A SALES RECEIPT/PROOF OF PURCHASE INDICATING DATE OF PURCHASE, AMOUNT PAID AND PLACE OF PURCHASE. CUSTOMER WILL BE CHARGED FOR THE REPAIR OF ANY UNIT RECEIVED WITHOUT SUCH PROOF OF PURCHASE.

Limited Warranty Limits And Exclusions

This warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by the warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, misadjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, introduction of sand, humidity or liquids, commercial use such as hotel, office, restaurant, or other business or rental use of the product, or service by anyone other than a Factory Service Center or other Authorized Servicer, or damage that is attributable to acts of God.

THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY COVERAGE".

THE WARRANTOR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY.

(As examples, this excludes damages for lost time, travel to and from the servicer, loss of or damage to media or images, data or other memory or recorded content. The items listed are not exclusive, but for illustration only.)

ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTY OF MERCHANTABILITY, ARE LIMITED TO THE PERIOD OF THE LIMITED WARRANTY.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the exclusions may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state. If a problem with this product develops during or after the warranty period, you may contact your dealer or Service Center. If the problem is not handled to your satisfaction, then write to the warrantor's Consumer Affairs Department at the addresses listed for the warrantor.

PARTS AND SERVICE, WHICH ARE NOT COVERED BY THIS LIMITED WARRANTY, ARE YOUR RESPONSIBILITY.

Customer Services Directory (United States and Puerto Rico)

Obtain Product Information and Operating Assistance; locate your nearest Dealer or Service Center; purchase Parts and Accessories; or make Customer Service and Literature requests by visiting our Web Site at:

<http://www.panasonic.com/help>

or, contact us via the web at:

<http://www.panasonic.com/contactinfo>

You may also contact us directly at:

1-800-211-PANA (7262)

Monday-Friday 9am-9pm, Saturday-Sunday 10am-7pm EST

For hearing or speech impaired TTY users, TTY: 1-877-833-8855

Accessory Purchases (United States and Puerto Rico)

Purchase Parts, Accessories and Instruction Books online for all Panasonic Products by visiting our Web Site at:

<http://www.pstc.panasonic.com>

Or, send your request by E-mail to:

npcparts@us.panasonic.com

You may also contact us directly at:

1-800-332-5368 (Phone) 1-800-237-9080 (Fax Only)

(Monday-Friday 9am-9pm EST)

Panasonic National Parts Center

20421 84th Ave. S., Kent, WA 98032

(We accept Visa, MasterCard, Discover Card, American Express)

For hearing or speech impaired TTY users, TTY: 1-866-605-1277

As of October 2012

Warranty (For Canadian Customers)

Panasonic Canada Inc.
5770 Ambler Drive, Mississauga, Ontario L4W 2T3

PANASONIC PRODUCT – LIMITED WARRANTY EXCHANGE PROGRAM

Panasonic Canada Inc. warrants this product to be free from defects in material and workmanship under normal use and for a period as stated below from the date of original purchase agrees to, at its option either (a) repair your product with new or refurbished parts, (b) replace it with a new or a refurbished equivalent value product, or (c) refund your purchase price. The decision to repair, replace or refund will be made by Panasonic Canada Inc.

Camcorder Products One (1) year

This warranty is given only to the original purchaser, or the person for whom it was purchased as a gift, of a Panasonic brand product mentioned above sold by an authorized Panasonic dealer in Canada and purchased and used in Canada, which product was not sold "as is", and which product was delivered to you in new condition in the original packaging.

IN ORDER TO BE ELIGIBLE TO RECEIVE WARRANTY SERVICE HEREUNDER, A PURCHASE RECEIPT OR OTHER PROOF OF DATE OF ORIGINAL PURCHASE, SHOWING AMOUNT PAID AND PLACE OF PURCHASE IS REQUIRED

LIMITATIONS AND EXCLUSIONS

This warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by Panasonic Canada Inc., or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, misadjustment of consumer controls, improper maintenance, improper batteries, power line surge, lightning damage, modification, introduction of sand, humidity or liquids, commercial use such as hotel, office, restaurant, or other business or rental use of the product, or service by anyone other than a Authorized Servicer, or damage that is attributable to acts of God.

Dry cell batteries are also excluded from coverage under this warranty. Rechargeable batteries are warranted for ninety (90) days from date of original purchase.

THIS EXPRESS, LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT WILL PANASONIC CANADA INC. BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT OR ARISING OUT OF ANY BREACH OF ANY EXPRESS OR IMPLIED WARRANTY. (As examples, this warranty excludes damages for lost time, travel to and from the Authorized Servicer, loss of or damage to media or images, data or other memory or recorded content. This list of items is not exhaustive, but for illustration only.)

In certain instances, some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, or the exclusion of implied warranties, so the above limitations and exclusions may not be applicable. This warranty gives you specific legal rights and you may have other rights which vary depending on your province or territory.

CONTACT INFORMATION

For product operation and information assistance, please contact:

Our Customer Care Centre: Telephone: 1-800-995-8649
Fax #: (905) 238-2360
Email link: camcorderconciierge@ca.panasonic.com

For defective product exchange within the warranty period, please contact the original dealer or our Customer Care Centre.

Others

Useful Information

(Only For Latin American Countries)

Customer Service

Customer Service Directory

Obtain product information and operative assistant; localize the closer distributor or Service Center; buy spare parts and accessories by our web site to Latin American:

<http://www.lar.panasonic.com>

Also you may contact us directly by our Contact Center:

Panama	800-PANA (800-7262)
Colombia	01-8000-94PANA (01-8000-947262)
Ecuador	1800-PANASONIC (1800-726276)
Costa Rica	800-PANA737 (800-7262737)
El Salvador	800-PANA (800-7262)
Guatemala	1-801-811-PANA (1-801-811-7262)
Chile	800-390-602
	From a cell phone: 797-5000
Venezuela	800-PANA-800 (800-7262-800)
Uruguay	0-800-PANA (0-800-7262)
Peru	0-800-00-PAN (0-800-00726)
Argentina	0800-333-PANA (0800-333-7262)
	0810-321-PANA (0810-321-7262)
Paraguay	0800-11-PANA (0800-11-7262)
Dominican Republic	809-200-8000

Mexico Service

To obtain information in the Republic of Mexico contact us at:

[email: atencion.clientes@mx.panasonic.com](mailto:atencion.clientes@mx.panasonic.com)

Or you may contact us in the next following phones numbers:

**01800-VIP-PANA (01800-847-7262) - Interior
(55) 5000-1200 - Mexico D.F. and Metropolitan Area**

Panasonic Consumer Marketing Company of North America,
Division of Panasonic Corporation of North America
One Panasonic Way, Secaucus, NJ 07094

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