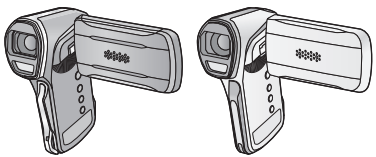
Panasonic

Basic Operating Instructions

Dual Camera

Model No. **HX-WA30**
HX-WA3



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 "Operating Instructions (PDF format)" which is recorded in the enclosed CD-ROM.

GC GA GN

VQT4X17
1AG6P1P6663--(S)

Information for Your Safety

WARNING:

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

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

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

■ Concerning the battery

Warning

Risk of fire, explosion and burns. Do not disassemble, heat above 60 °C 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	Inner side of LCD monitor

For Singapore only

Complies with
IDA Standards
DB01017

-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 micro cable (RP-CHEU15: 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).

■ 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 26 for more details on SD cards.

■ For the purposes of these operating instructions

- 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 these operating instructions.
- Functions that can be used for still picture recording/still picture playback are indicated by PHOTO in these operating instructions.
- Functions that can be used for audio recording/audio playback are indicated by AUDIO in these operating instructions.
- Pages for reference are indicated by an arrow, for example: ➜ 00
- “File” is used to mean “scene”, “still picture” and “audio file”.

These operating instructions are designed for use with models HX-WA30 and HX-WA3. Pictures may be slightly different from the original.

- The illustrations used in these operating instructions show model HX-WA30, however, parts of the explanation refer to different models.
- Depending on the model, some functions are not available.
- Features may vary, so please read carefully.
- Not all models may be available depending on the region of purchase.

Contents

■ **How to open the Operating Instructions (PDF format)**

When you insert the CD-ROM and open the [INDEX.pdf] in the CD-ROM, the Operating Instructions list will be displayed. Click the document name of the Operating Instructions 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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(Important) About the Waterproof/Dustproof and Anti-shock Performance of this unit

HX-WA30

Waterproof/Dustproof Performance

This unit's waterproof/dustproof rating complies with the "IP68" rating. Provided the care and maintenance guidelines described in this document are strictly followed, this unit can operate underwater, to a depth not exceeding 10 m for a time not exceeding 60 minutes. *1

Anti-shock Performance

This unit has cleared a test conducted by Panasonic, which complies with MIL-STD 810F Method 516.5-Shock (a drop test performed from a height of 1.5 m onto 3 cm thick plywood when the LCD monitor was closed with the screen facing inwards). *2

HX-WA3

Waterproof/Dustproof Performance

This unit's waterproof/dustproof rating complies with the "IP68" rating. Provided the care and maintenance guidelines described in this document are strictly followed, this unit can operate underwater, to a depth not exceeding 5 m for a time not exceeding 60 minutes. *1

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

*1 This means that this unit can be used underwater for specified time in specified pressure in accordance with the handling method established by Panasonic.

*2 "MIL-STD 810F Method 516.5-Shock" is the test method standard of the U.S. Defense Department, which specifies performing drop tests from a height of 122 cm, at 26 orientations (8 corners, 12 ridges,

6 faces) using 5 sets of devices, and passing the 26 orientation drops within 5 devices. (If failure occurs during the test, a new set is used to pass the drop orientation test within a total of 5 devices.)
Panasonic's test method is based on the above "MIL-STD 810F Method 516.5-Shock". However, the drop height was changed from 122 cm to 150 cm dropping onto 3 cm thick plyboard. This drop test was passed.
(Disregarding appearance change such as loss of paint or distortion of the part where drop impact is applied.)

■ Handling this unit

Waterproofing is not guaranteed if the unit is subject to an impact as a result of being hit or dropped etc. If an impact to this unit occurs, it should be inspected (subject to a fee) by a Panasonic's Service Centre to verify that the waterproofing is still effective.

- HX-WA30
  The waterproof performance may be degraded due to the strong water pressure when this unit is used deeper than 10 m underwater.
  HX-WA3
  The waterproof performance may be degraded due to the strong water pressure when this unit is used deeper than 5 m underwater.
- When this unit is splashed with detergent, soap, hot spring, bath additive, sun oil, sun screen, chemical, etc., wipe it off immediately.
- Waterproof function of this unit is for sea water and fresh water only.
- Any malfunction caused by customer misuse, or mishandling will not be covered by the warranty.
- The inside of this unit is not waterproof. Water leakage will cause malfunction.
- Supplied accessories such as battery pack etc. are not waterproof. (excluding handstrap)
- Supplied accessories such as battery, etc., are not dustproof or anti-shock performance.
- Cards are not waterproof. Do not handle with a wet hand. Also, do not insert wet card into this unit.
- Do not leave this unit for a long period of time in places where temperature is very low (at ski resorts or at high altitude etc.) or very

high (above 35 °C), inside a car under strong sunlight, close to a heater, on the beach, etc. Waterproof performance may be degraded.
- Wipe off any sand grains or dust on the speaker or microphones. Do not use a needle or other sharp object. (Waterproofing performance may be adversely affected)
- **Foreign objects may adhere to the inner side of the rear door (around the rubber seal or connecting terminals) when the rear door is opened or closed in places with sand or dust etc. This may result in the impairment of the waterproof performance if the rear door is closed with foreign objects adhered. Be extremely careful since it may result in malfunction etc.**
- **If foreign objects are present on the inner side of the rear door, wipe them off with a lint-free cloth.**
- **If any liquid such as water droplets has adhered to this unit or inner side of the rear door, wipe off with a soft dry cloth. Do not open or close the rear door near the water, when underwater, using wet hands, or when this unit is wet. It may cause water leakage.**

■ When inner side of the lens is fogged (condensation)

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

- Be careful of condensation since it causes lens stains, fungus and unit malfunction.

What to do when inner side of the lens is fogged

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

Conditions in which inner side of the lens may be fogged

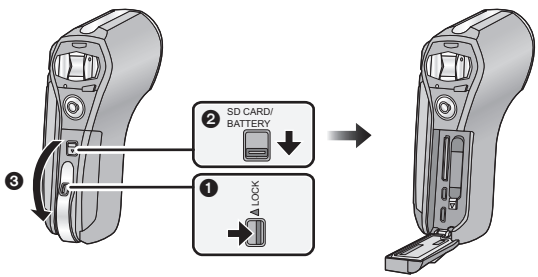
Condensation may occur and the inner side of the lens may be fogged when this unit is used in areas that undergo a significant change in temperature or in high humidity, such as the following:

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

Check before using underwater

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

1 Open the rear door.



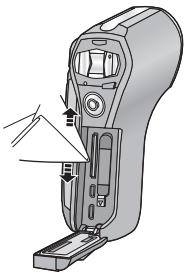
❶ Unlock the LOCK lever.
❷ Slide the open/close lever.
❸ Open the rear door.

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

- If there are any foreign objects, such as lint, hair, sand, etc., on the surrounding area, water will leak within a few seconds causing malfunction.

3 If foreign objects are present, wipe them off with a lint-free cloth.

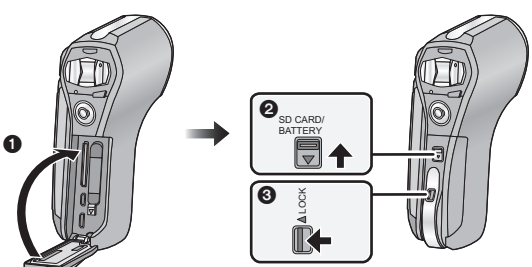
- Be extremely careful to remove any sand etc. that may adhere to the sides and corners of the rubber seal.
- Wipe it off with a dry soft cloth if there is any liquid. It may cause water leaks and malfunction if you use this unit with liquid adhered.



4 Check for cracks and deformation of the rubber seal on the rear door.

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

5 Close the rear door securely.



❶ Close the rear door.
❷ Slide the open/close lever.
❸ Lock the LOCK lever.

- Lock securely to the points where the red portion of the open/close lever and LOCK lever are no longer visible.
- To prevent water seeping into this unit, be careful not to trap foreign objects such as liquids, sand, hair or dust etc.

Using this unit underwater

- HX-WA30
  Use this unit underwater at a depth of down to 10 m with the water temperature between 0 °C and 35 °C.
  Do not use this unit at a depth of over 10 m.
  HX-WA3
  Use this unit underwater at a depth of down to 5 m with the water temperature between 0 °C and 35 °C.
  Do not use this unit at a depth of over 5 m.
- Do not use it in hot water over 35 °C (in a bath or hot spring).
- Do not use this unit underwater not longer than 60 minutes continuously.
- Do not open or close the rear door underwater.
- Do not apply shock to this unit underwater. (Waterproof performance may not be maintained, and there is a chance of water leak.)
- Do not dive into the water holding this unit. Do not use this unit in a location where the water will splash strongly, such as rapid flow or waterfall. (Strong water pressure may be applied, and it may cause malfunction.)
- This unit will sink in the water. Take care not to drop this unit and lose it underwater by securely placing the strap around your wrist or similar measure.

Caring for this unit after using it underwater

Do not open or close the rear door until the sand and dust is removed by rinsing this unit with water.
Make sure to clean this unit after using it.

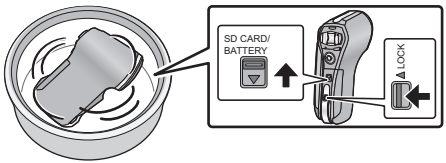
- Thoroughly wipe off any water droplets, sand, and saline matter on your hands, body, hair, etc.
- It is recommended to clean this unit indoors, avoiding places where water spray or sand may fall.

Do not leave this unit uncared for longer than 60 minutes after using it underwater.

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

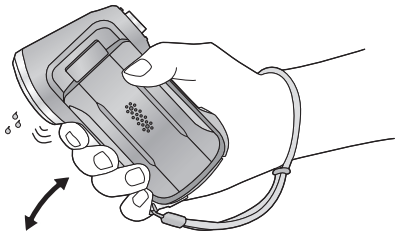
1 Rinse with water with the rear door closed.

- After use at the seaside or underwater, soak the unit in fresh water pooled in a shallow container for 10 minutes or less.



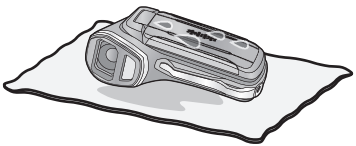
- Do not directly rinse this unit with tap water.

2 Hold this unit as shown in the illustration, and shake it gently several times to drain the water.



- Fasten the strap firmly to prevent this unit from dropping.

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



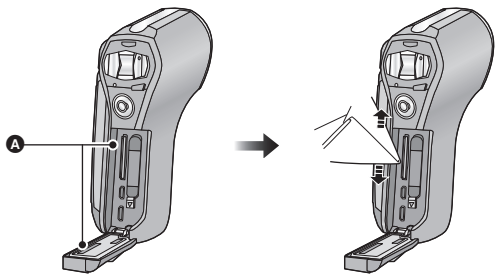
- Dry this unit by standing it on a dry cloth.
- If water collects on the microphones or speaker of this unit, it may cause lower sound or distorted sound. Dry for approximately 1 hour.
- Do not dry this unit with hot air from dryer or similar. It will deteriorate the waterproof performance or cause failure due to deformation.
- Do not use chemicals such as benzine, thinner, alcohol, or cleanser, or soap or detergents.

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

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

■ Wiping moisture from the unit

If there is moisture inside the rear door, wipe every crevice completely clear of moisture.
(This moisture is not due to exposure to water)



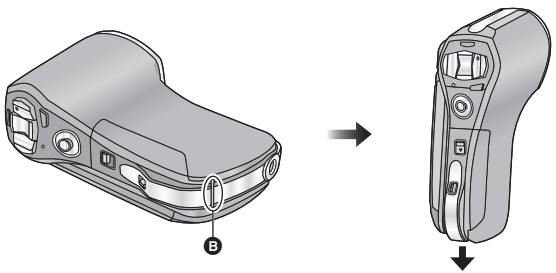
Ⓐ Moisture here

■ About the water draining design

This unit is designed so that water that entered the gaps around the zoom button etc. drains out. For this reason, bubbles may appear when the unit is immersed in water, but this is not a malfunction.

Draining water from the unit

Drainage holes are found on the bottom of the unit. Hold the unit vertically, as shown, to drain off the water.
When draining, attach the hand strap to the unit and secure the hand strap to your wrist to prevent the unit from dropping. (➜ 14)



Ⓑ Drainage holes

When using in a cold climate or at low temperatures

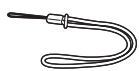
- **It may cause injury to the skin if you directly touch the metal parts of the unit in places where temperature is very low [environments under 0 °C, such as ski resorts or places at high altitude] for a long period of time.**
  Use gloves or similar when using it for long periods.
- The performance of the battery (recording time/operating time) may decrease temporarily when using in a temperature between −10 °C and 0 °C (cold places such as ski resorts or places at high altitude). Charge the battery sufficiently in a place where the ambient temperature is between 10 °C and 30 °C.
- The battery cannot be recharged in a temperature less than 0 °C. (The Status indicator blinks when the battery cannot be recharged.)
- Power cannot be supplied to the device via an electric wall socket using the AC adaptor when the temperature is under 0 °C.
- If the unit gets very cold in cold places such as ski resorts or places at high altitude, performance of the LCD monitor may temporarily drop immediately after turning the power on, e.g. the picture on the LCD monitor being slightly darker than usual or ghost images appearing. In cold environments, keep the unit warm during use by keeping it inside your cold-weather gear or clothes. The performance will resume as normal when the internal temperature rises.
- If the unit is used in cold places such as ski resorts or places at high altitude with snow or water droplets adhered to the unit, some parts of the unit may become hard to move or the sound may become dim with snow or water droplets freezing in the gap of the zoom button, the power button, speakers, and microphone. This is not a malfunction.
- HX-WA30
  If the Wi-Fi® function is used in cold places such as ski resorts or places at high altitude, playback may not be performed correctly.

Accessories

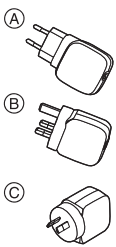
Check the accessories before using this unit.
Product numbers correct as of Jan. 2013. These may be subject to change.

Battery pack
VW-VBX090

Handstrap*
VFC4817

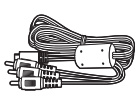


AC adaptor
(GA)
Ⓐ VSK0751
(GC)
Ⓑ VSK0752
(GN)
Ⓒ VSK0753



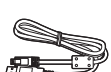
CD-ROM
Software

AV cable
VFA0555



CD-ROM
Operating Instructions
VFF1184

USB cable
VFA0554



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

Optional accessories

Some optional accessories may not be available in some countries.

Battery pack (lithium/VW-VBX090)
HDMI micro cable (RP-CHEU15)

Power supply

■ About batteries that you can use with this unit

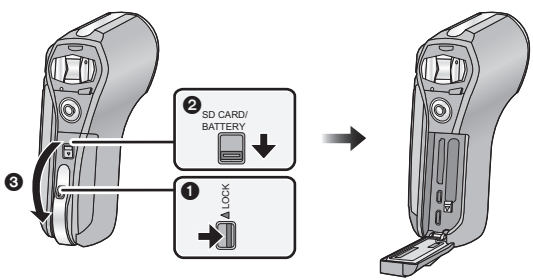
The battery that can be used with this unit is VW-VBX090.

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. (➔ 29)**

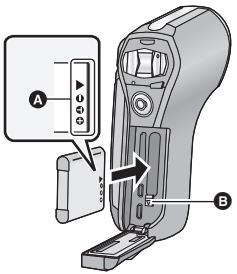
1 Open the rear door.



❶ Unlock the LOCK lever.
❷ Slide the open/close lever.
❸ Open the rear door.

2 (To insert the battery pack)

Confirm the orientation of the terminal markings and insert the battery.

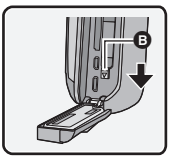


Ⓐ terminal markings

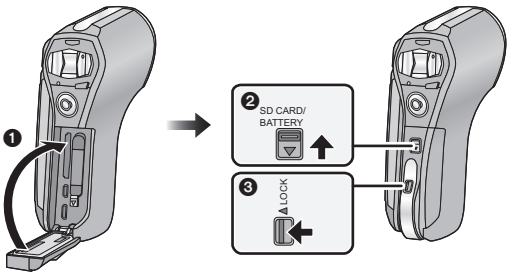
- Confirm that lever Ⓑ is locked on to the battery.
- It is possible to mistakenly insert the battery upside down, so be sure to check the orientation carefully.

(To remove the battery pack)

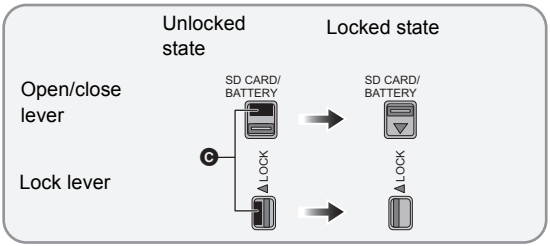
Push the lever Ⓑ toward the direction of arrow, and pull the battery straight out.



3 Close the rear door.



❶ Close the rear door.
❷ Slide the open/close lever.
❸ Lock the LOCK lever.



- Lock securely to the points where the red portion **C** of the open/close lever and LOCK lever are no longer visible.

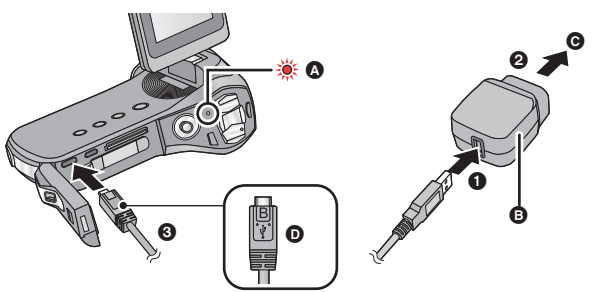
Charging the battery

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. (The battery temperature should also be the same.)**



- A Status indicator
- B AC adaptor
- C To the AC outlet
- D Turn the side with the symbol up to connect.

- Insert the plugs as far as they will go.

1 Connect the USB cable to the AC adaptor.

2 Plug 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 connector of the unit. If the connector has become damaged, it may not operate correctly, including failure to recognise 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 (➜ 18).
- 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/humidity: 60%RH (When using AC adaptor)

HX-WA30				
Battery model number [Voltage/Capacity (minimum)]	**Charging time**	**Recording Mode**	**Maximum continuous recordable time**	**Actual recordable time**
Supplied battery/ VW-VBX090 (optional) [3.7 V/880 mAh]	2 h 30 min	1080-60i	1 h 5 min	40 min
		1080-30p	1 h 15 min	45 min
		720-60p	1 h 10 min	40 min
		720-30p	1 h 25 min	45 min
		480-30p	1 h 50 min	55 min
		iFrame	1 h 25 min	50 min
		🎙	1 h 55 min	–

HX-WA3				
Battery model number [Voltage/Capacity (minimum)]	**Charging time**	**Recording Mode**	**Maximum continuous recordable time**	**Actual recordable time**
Supplied battery/ VW-VBX090 (optional) [3.7 V/880 mAh]	2 h 30 min	1080-60i	1 h	40 min
		1080-30p	1 h 10 min	45 min
		720-60p	1 h 5 min	40 min
		720-30p	1 h 20 min	50 min
		480-30p	1 h 45 min	50 min
		iFrame	1 h 20 min	50 min
		🎙	1 h 45 min	–

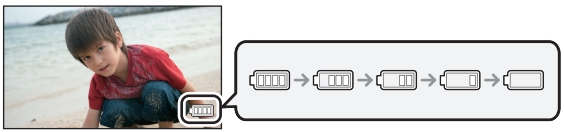
- These times are approximations.

- **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. In particular, using the battery at a low temperature below 0 °C will drastically shorten the usable time due to a characteristic of the battery.**
- 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.)

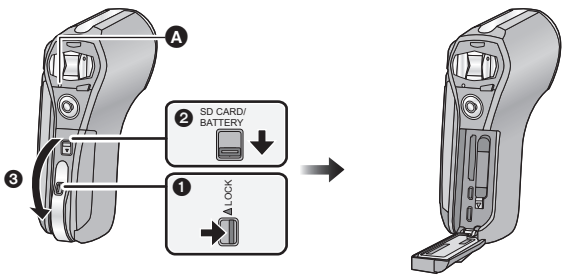
- Keep the Memory Card out of reach of children to prevent swallowing.

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. (➜ 39) 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 rear door.

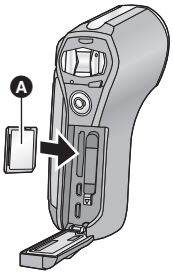


Status indicator A

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

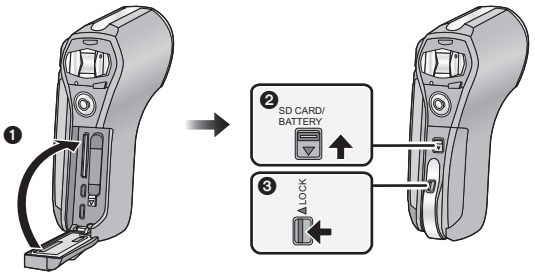
❶ Unlock the LOCK lever.
❷ Slide the open/close lever.
❸ Open the rear door.

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



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

3 Close the rear door.



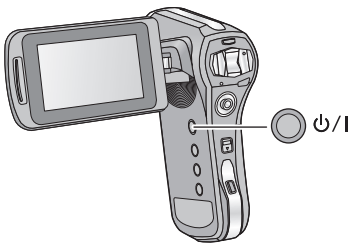
❶ Close the rear door.
❷ Slide the open/close lever.
❸ Lock the LOCK lever.

- Lock securely to the points where the red portion of the open/close lever and LOCK lever are no longer visible.

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.

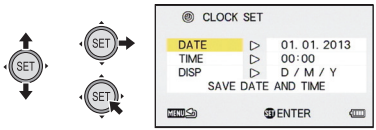
Setting date and time

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. (➜ 37)

[MENU]: → [CLOCK SET]

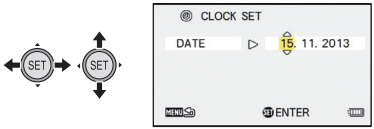
2 Select an item ([DATE]/[TIME]/[DISP]) using the SET button and then tilt the SET button to the right or press the SET button.



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.

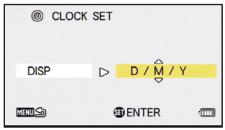
e.g.: When [DATE] is selected



- 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.**

6 (At the time of purchase only)

After setting [CLOCK SET], notes for underwater use are displayed. Check them to maintain the waterproof performance.

- HX-WA30

  After the notes are displayed, the recording mode setting screen is automatically displayed. To move to the next display, press the SET button.
- HX-WA3

  After the notes are displayed, the recording standby screen is automatically displayed. To exit the display, press the MENU button.

7 HX-WA30

(At the time of purchase only)

Select the desired recording mode using the SET button and then press the SET button.

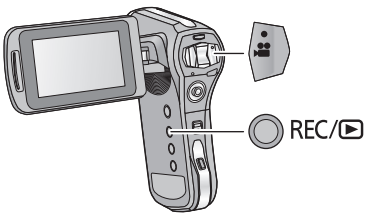
8 HX-WA30

(At the time of purchase only)

Configure the Wi-Fi settings.

Recording motion pictures

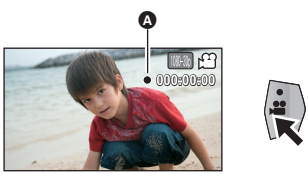
- Motion pictures are recorded to the SD card if one is inserted. If no SD card is inserted, the motion pictures are recorded to the built-in memory.



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.

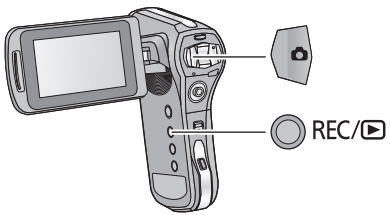


A When you begin recording, ● appears.

4 Press the recording start/stop button again to pause recording.

Recording still pictures

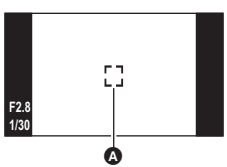
- Still pictures are recorded to SD card if one is inserted. If no SD card is inserted, the still pictures are recorded to the built-in memory.



1 **Open the LCD monitor.**

2 **Press the REC/▶ button to change to recording mode.**

3 (For Auto Focus only)
Press the 📷 button halfway.



Ⓐ 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.

Basic AUDIO

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. (➜ 37)**

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

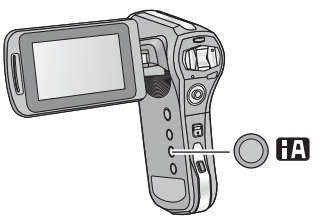
4 **Start recording by pressing the recording start/stop button.**

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

Basic VIDEO PHOTO

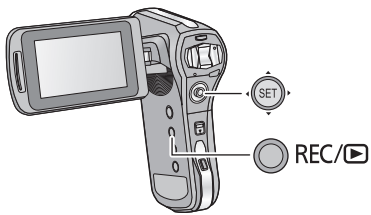
Intelligent Auto Mode

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



Press the iA button to switch to Intelligent Auto Mode.

Motion picture/Still picture/Audio playback



1 Press the REC/▶ button to change to Playback Mode.

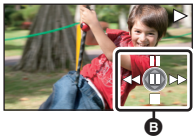
2 Select the file to play back using the SET button and press the SET button.

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.



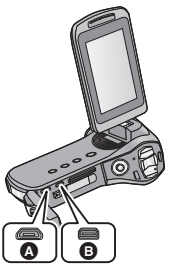
B Operation icon*

* 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

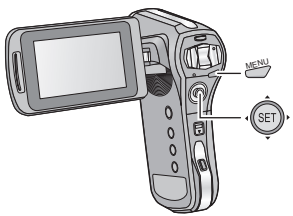
Connect the unit to a TV using the AV cable (supplied) or a HDMI micro cable (optional).



A USB/AV connector
B HDMI micro connector

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

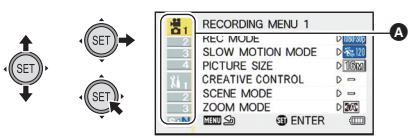
Using the menu screen



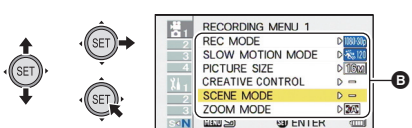
1 **Press the MENU button.** MENU

2 **Tilt the SET button to the left.** ←SET

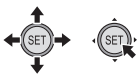
3 **Select tab Ⓐ using the SET button, and tilt the SET button to the right or press the SET button.**

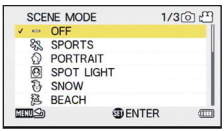


4 **Select from menu items Ⓑ using the SET button, and tilt the SET button to the right, or press the SET button.**



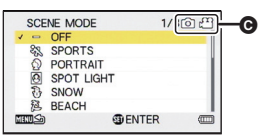
5 Select the setting content using the SET button and press the SET button to set.





■ About applicable mode indicator

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



C 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]

Using the zoom

Press the REC/▶ button to change to recording mode.

Ⓐ Zoom bar

Zoom button

T side : Close-up recording (zoom in)

W side : Wide-angle recording (zoom out)

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

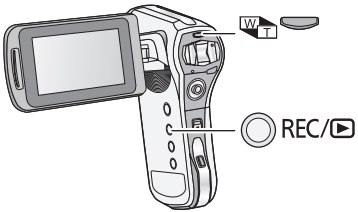
Double range zoom [HX-WA3]

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.**

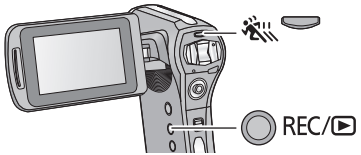
2 **Press the zoom range button.**



- On the normal zoom recording screen, the W icon is displayed. On the double-range zoom recording screen, the T 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.

Recording in Slow Motion Mode [HX-WA30]

You can record fast-moving objects in sports scene, etc. in slow motion.



1 Press the REC/▶ button to change to recording mode.

2 Press the button to switch the recording mode.

- Each time you press the button, display changes.

SLOW MOTION MODE:

Records a slow motion picture at 120, 240 or 480 frames per second.

↓

SLOW MOTION (CONTINUOUS MODE):

Slow motion pictures of 60 frames (720-60p) per second and 120 frames (120) per second are recorded as one scene.

↓

Off (The setting is cancelled)

3 (When [SLOW MOTION MODE] is selected) **Select the menu.**

[MENU]: → [SLOW MOTION MODE] → desired setting

120	:	Records a motion picture at 120 frames/second (1280×720 pixels)
240	:	Records a motion picture at 240 frames/second (640×360 pixels)
480	:	Records a motion picture at 480 frames/second (320×180 pixels)

- Press the MENU button to exit the menu setting.

4 Press the recording start/stop button to start recording.

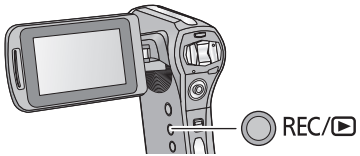
- (When [SLOW MOTION (CONTINUOUS MODE)] is selected) If you press the SET button, the recording mode (120 / 720 60) switches. (You can also switch the mode during recording standby)

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

Recording with a filter effect

You can add various types of filter effects when recording motion pictures and still pictures.

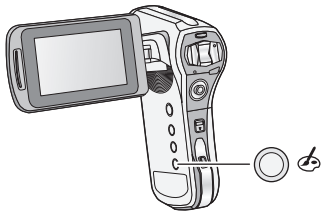
1 Press the REC/▶ button to change to recording mode.



2 Select the menu. (➜ 37)

[MENU]: 🎥 → [CREATIVE CONTROL] → desired setting

- HX-WA3
  You can also display the [CREATIVE CONTROL] menu by pressing the 🎨 button.



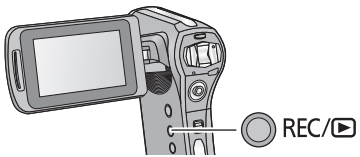
Recording underwater

The unit can record underwater at depths of down to 10 m (HX-WA30) / 5 m (HX-WA3). (for periods within 60 minutes)

Before recording underwater, be sure to read "(Important) About the Waterproof/Dustproof and Anti-shock Performance of this unit" (page 8 to 16) and to use the camera correctly. Incorrect use may result water entering the unit and malfunction.

When recording underwater, set [SCENE MODE] to (UNDER WATER). The colour balance and audio recording will be suitable for recording underwater.

1 Press the REC/ button to change to recording mode.



2 Select the menu. (➜ 37)

[MENU]: → [SCENE MODE] → [(UNDER WATER)]

- When [SCENE MODE] is set to (UNDER WATER), [Before using the unit under water] and [Maintenance after use in water] are displayed. Please check beforehand to maintain the waterproof performance. Press the MENU button to exit the message screen.
- After use underwater, wash the unit in fresh water and dry well. (➜ 13)
- Do not use the Under Water Mode except when recording underwater.

What you can do with the Wi-Fi® function

By linking with Wi-Fi compatible devices, you can use the Wi-Fi functions of **[REMOTE CTRL]** and **[DLNA PLAYBACK]**.
Before using the respective Wi-Fi functions, check and prepare your device.
To use the Wi-Fi function, connect this unit to a wireless access point or smartphone via Wi-Fi.

- Please refer to the Operating Instructions (PDF format) for details about the Wi-Fi connection.
- **For the operations and settings of your device such as the smartphone, please read the operating instructions of the device.**

Feature	Description of functions
[REMOTE CTRL]	Using a smartphone, you can perform record/ playback operations from a remote location or upload motion pictures and still pictures recorded in this unit on SNS (Social Networking Service).
[DLNA PLAYBACK]	Connecting this unit to a DLNA-compatible TV via Wi-Fi, you can play back scenes and still pictures on the TV.

If the Wi-Fi connection cannot be established

Please refer to the operating instruction of the device in use for details about the setting of the wireless access point or smartphone.

Problem	Check points
It cannot connect to the wireless access point. **The wireless access point is not detected.**	**(General)** ● Turn ON the wireless access point. ● Approach the wireless access point and reconnect. ● If it takes time to complete the connection, the Wi-Fi connection will be aborted. Reset the connection settings. ● Check how to connect to the wireless access point and how to set the security settings. ● Make sure the wireless access point is registered in this unit. ● The device may be unable to locate the wireless access point due to problems with the signal. Use [Manual Connection]. ● The Wi-Fi function will not work underwater. **(Easy Connection)** ● Make sure the wireless access point is in the correct WPS standby mode. ● Make sure the PIN code has been correctly input. **(Manual Connection)** ● Make sure the SSID and password have been correctly input. ● Check the Authentication method, Encryption type, and Encryption key (Password).

Problem	Check points
Radio waves of the wireless access point get disconnected.	● The condition may improved by moving the location or changing the angle of the wireless access point. ● If you use another 2.4 GHz band device such as a microwave oven or cordless telephone nearby, you may interrupt the signal. Keep a sufficient distance from these types of devices.
The Wi-Fi connection is not possible between this unit and a smartphone.	**(Wireless Access Point Connection)** ● Make sure the smartphone is properly connected to the wireless access point by checking the Wi-Fi settings of the smartphone. ● Make sure this unit and the smartphone are connected to the same wireless access point. ● Make sure the wireless access point is registered in this unit. **(Direct Connection)** ● Make sure the smartphone is properly connected to this unit by checking the Wi-Fi settings of the smartphone. ● Make sure the SSID and password have been correctly input. ● Make sure the smartphone is not connected to the wireless access point. If it is connected to the wireless access point, change the Wi-Fi access point using the smartphone's Wi-Fi set up.
It takes long time every time to connect to a smartphone.	● It may take longer time to connect depending on the Wi-Fi connection setting of the smartphone, but it is not a malfunction.

Problem	Check points
This unit is not displayed in the Wi-Fi setting screen of the smartphone.	● Try switching the ON/OFF of the Wi-Fi function in the Wi-Fi settings of the smartphone.
The Wi-Fi connection is disconnected immediately.	● If there is a setting for avoiding poor connections in the Wi-Fi setting menu of the Android™ device 4.0 or later version, turn it OFF.

About copyright

■ 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.

■ 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.
- Android and Google Play are trademarks or registered trademarks of Google Inc.
- The Wi-Fi CERTIFIED Logo is a certification mark of the Wi-Fi Alliance.
- The Wi-Fi Protected Setup Mark is a mark of the Wi-Fi Alliance.
- “Wi-Fi”, “Wi-Fi Protected Setup”, “WPA” and “WPA2” are marks or registered marks of the Wi-Fi Alliance.
- DLNA, the DLNA Logo and DLNA CERTIFIED are trademarks, service marks, or certification marks of the Digital Living Network Alliance.
- 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.

HX-WA30

This product incorporates the following software:

(1) the software developed independently by or for Panasonic Corporation,

(2) the software owned by third party and licensed to Panasonic Corporation, and/or

(3) the open source software.

For the software categorized as (3), please refer to the detailed terms and conditions thereof shown in the attached Application Software CD-ROM.

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;
	HX-WA30 4.8 W	HX-WA30 4.8 W
	HX-WA3 4.1 W	HX-WA3 4.8 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:
1080-60i ; 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)
HX-WA30
120 ; Approx. 24 Mbps (VBR)
240 ; Approx. 18 Mbps (VBR)
480 ; Approx. 14 Mbps (VBR)
Refer to the operating instructions (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 operating instructions (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 operating instructions (PDF format) for details on SD cards usable in this unit.
Built-in memory; Approx. 65 MB

Image sensor:

HX-WA30
1/2.33 type (1/2.33″) 1MOS image sensor
Total; Approx. 16400 K
Effective pixels;
Motion picture; 9810 K (4:3), 8290 K (16:9)
Still picture; 9890 K (4:3), 8370 K (16:9)

HX-WA3
1/2.33 type (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:

HX-WA30
Auto iris
F2.8 to F3.9
Focal length;
4.0 mm to 20.0 mm
35 mm equivalent;
Motion picture (1080-60i / 1080-30p / 720-60p / 720-30p / 480-30p / iFrame / 120);
28.0 mm to 280.0 mm
Motion picture (240);
28.1 mm to 140.5 mm
Motion picture (480);
28.3 mm to 141.5 mm
Still picture;
28.0 mm to 140.0 mm
Minimum focus distance;
Normal; Approx. 10 cm (Wide)/Approx. 1.1 m (Tele)
Macro; Approx. 1 cm (Wide)/Approx. 80 cm (Tele)

HX-WA3
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 (Wide)/Approx. 1 m (Tele)
Macro; Approx. 1 cm (Wide)/Approx. 80 cm (Tele)

Zoom:

HX-WA30
Motion picture; 5× optical zoom, 18× i.Zoom, 120× digital zoom
Still picture; 5× optical zoom, 10× Extra Optical Zoom (when [PICTURE SIZE] is set to [0.3M] or [2M]), 120× digital zoom (when [PICTURE SIZE] is set to [0.3M] or [2M])

HX-WA3
Motion picture; 5× optical zoom, 18× i.Zoom, 12× double range zoom, 120× digital zoom
Still picture; 5× optical zoom, 50× digital zoom

Image stabiliser function:

Electronic

Monitor:

6.7 cm (2.6″) wide LCD monitor (Approx. 230 K dots)

Microphone:

Stereo

Minimum required illumination:

HX-WA30
Approx. 2 lx (1/15 with Low Light mode in the Scene mode)
Approx. 6 lx (Scene mode off 1/30)

HX-WA3
Approx. 3 lx (1/15 with Low Light mode in the Scene mode)
Approx. 9 lx (Scene mode off 1/30)
USB/AV connector video output level:
1.0 Vp-p, 75 Ω
HDMI micro connector video output level:
HDMI™ 1080i/720p/480p
USB/AV connector audio output level (Line):
155 mV, 470 Ω, 2 ch
HDMI micro 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)
Web camera;
Compression format; Motion JPEG
Image size; 640×480/30p (VGA)
Flash:
HX-WA30
Available range; Approx. 80 cm to 2.0 m
HX-WA3
Available range; Approx. 80 cm to 2.1 m
Dimensions:
96.6 mm (W)×127.2 mm (H)×46.2 mm (D)
(including projecting parts)
Mass:
HX-WA30
Approx. 269 g
[without battery (supplied) and an SD card (optional)]
HX-WA3
Approx. 257 g
[without battery (supplied) and an SD card (optional)]
Mass in operation:
HX-WA30
Approx. 290 g
[with battery (supplied) and an SD card (optional)]

HX-WA3

Approx. 278 g

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

Operating temperature:

−10 °C* to 35 °C

* The performance of the battery (recording time/operating time) may decrease temporarily when using in a temperature between −10 °C and 0 °C (cold places such as ski resorts or places at high altitude).

Operating humidity:

10%RH to 80%RH

Waterproof performance:

HX-WA30

Equivalent to IEC 60529 “IPX8”

Depths less than 10.0 m for 60 minutes or less

HX-WA3

Equivalent to IEC 60529 “IPX8”

Depths less than 5.0 m for 60 minutes or less

Dustproof performance:

Equivalent to IEC 60529 “IP6X”

HX-WA30

Crash resistance performance:

The test method of this unit is in compliance with “MIL-STD 810F Method 516.5-Shock”*.

* “MIL-STD 810F Method 516.5-Shock” is the test method standard of the U.S. Defense Department, which specifies performing drop tests from a height of 122 cm, at 26 orientations (8 corners, 12 ridges, 6 faces) using 5 sets of devices, and passing the 26 orientation drops within 5 devices.
  (If failure occurs during the test, a new set is used to pass the drop orientation test within a total of 5 devices.)

- Panasonic’s testing method calls for the drop height to be increased from 122 cm to 150 cm and the device to be dropped onto a plywood panel 3 cm thick with the LCD screen folded with the screen side inward, per the above MIL-STD 810F Method 516.5-Shock standards. (Paint peeling, deformations, and other cosmetic changes at the point of impact are not considered significant)

There is no guarantee of not breaking or malfunctioning under all conditions.

Battery operation time:

See page 24

HX-WA30

Wireless transmitter:

Compliance standard; IEEE802.11b/g/n
Frequency range used; Central frequency 2412 MHz to 2462 MHz [11ch]
Encryption method; Wi-Fi compliant WPA™/WPA2™/WEP
Access method; Infrastructure mode

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
Operating temperature:	0 °C to 35 °C

(GA)
VSK0751
Dimensions:
48.9 mm (W)×32.8 mm (H)×95.1 mm (D)
Mass:
Approx. 58 g

(GC)
VSK0752
Dimensions:
49.7 mm (W)×49.0 mm (H)×80.9 mm (D)
Mass:
Approx. 64 g

(GN)
VSK0753
Dimensions:
48.9 mm (W)×40.5 mm (H)×76.0 mm (D)
Mass:
Approx. 56 g

Limited Warranty (ONLY FOR AUSTRALIA)

Panasonic Warranty

1. The product is warranted for 12 months from the date of purchase. Subject to the conditions of this warranty Panasonic or its Authorised Service Centre will perform necessary service on the product without charge for parts or labour, if in the opinion of Panasonic, the product is found to be faulty within the warranty period.
2. This warranty only applies to Panasonic products purchased in Australia and sold by Panasonic Australia or its Authorised Distributors or Dealers and only where the products are used and serviced within Australia or it's territories. Warranty cover only applies to service carried out by a Panasonic Authorised Service Centre and only if valid proof of purchase is presented when warranty service is requested.
3. This warranty only applies if the product has been installed and used in accordance with the manufacturer's recommendations (as noted in the operating instructions) under normal use and reasonable care (in the opinion of Panasonic). The warranty covers normal domestic use only and does not cover damage, malfunction or failure resulting from use of incorrect voltages, incorrect installation, accident, misuse, neglect, build-up of dirt or dust, abuse, maladjustment of customer controls, mains supply problems, thunderstorm activity, infestation by insects or vermin, tampering or repair by unauthorised persons (including unauthorised alterations), introduction of sand, humidity or liquids, commercial use such as hotel, office, restaurant, or other business or rental use of the product, exposure to abnormally corrosive conditions or any foreign object or matter having entered the product.
4. This warranty does not cover the following items unless the fault or defect existed at the time of purchase:
   (a) Cabinet Part(s)
   (b) Video or Audio Tapes
   (c) SD cards or USB devices
   (d) User replaceable Batteries etc
   (e) DVD, Blu-ray or Recordable Discs
   (f) Video / Audio Heads from wear and tear in normal use
   (g) Information stored on Hard Disk Drive, USB stick or SD card
   (h) DTV reception issues caused by TV Aerial / Cabling / Wall socket(s)
5. Some products may be supplied with Ethernet connection hardware. The warranty is limited on such products and will not cover
   (a) Internet and or DLNA connection / setup related problems
   (b) Access fees and or charges incurred for internet connection
   (c) The use of incompatible software or software not specifically stipulated in the product operations manual; and
   (d) Any indirect or consequential costs associated with the incorrect use or misuse of the hardware, its connection to the internet or any other device.
6. To claim warranty service, when required, you should:
   - Telephone Panasonic's Customer Care Centre on 132600 or visit our website referred to below and use the Service Centre Locator for the name/address of the nearest Authorised Service Centre.
   - Send or take the product to a Panasonic Authorised Service Centre together with your proof of purchase receipt as a proof of purchase date. Please note that freight and insurance to and / or from your nearest Authorised Service Centre must be arranged by you.
   - Note that home or pick-up/delivery service is available for the following products in the major metropolitan areas of Australia or the normal operating areas of the nearest Authorised Service Centres:
     - Plasma/LCD televisions / displays (screen size greater than 103 cm)
7. The warranties hereby conferred do not extend to, and exclude, any costs associated with the installation, de-installation or re-installation of a product, including costs related to the mounting, de-mounting or remounting of any screen, (and any other ancillary activities), delivery, handling, freighting, transportation or insurance of the product or any part thereof or replacement of and do not extend to, and exclude, any damage or loss occurring by reason of, during, associated with, or related to such installation, de-installation, re-installation or transit.

Panasonic Authorised Service Centres are located in major metropolitan areas and most regional centres of Australia, however, coverage will vary dependant on product. For advice on exact Authorised Service Centre locations for your product, please telephone our Customer Care Centre on 132600 or visit our website and use the Service Centre Locator.

In addition to your rights under this warranty, Panasonic products come with consumer guarantees that cannot be excluded under the Australian Consumer Law. If there is a major failure with the product, you can reject the product and elect to have a refund or to have the product replaced or if you wish you may elect to keep the goods and be compensated for the drop in value of the goods. You are also entitled to have the product repaired or replaced if the product fails to be of acceptable quality and the failure does not amount to a major failure.

If there is a major failure in regard to the product which cannot be remedied then you must notify us within a reasonable period by contacting the Panasonic Customer Care Centre. If the failure in the product is not a major failure then Panasonic may choose to repair or replace the product and will do so in a reasonable period of time from receiving notice from you.

THIS WARRANTY CARD AND THE PURCHASE DOCKET (OR SIMILAR PROOF OF PURCHASE) SHOULD BE RETAINED BY THE CUSTOMER AT ALL TIMES

If you require assistance regarding warranty conditions or any other enquiries, please visit the **Panasonic Australia** website **www.panasonic.com.au** or contact by phone on **132 600**

If phoning in, please ensure you have your operating instructions available.

Panasonic Australia Pty. Limited

ACN 001 592 187 ABN 83 001 592 187

1 Innovation Road, Macquarie Park NSW 2113

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