Basic Operating Instructions
High Definition Video Camera

Model No.  HC-X920
           HC-X920M
           HC-X910

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.
Information for Your Safety

WARNING:
To reduce the risk of fire, electric shock or product damage,
• Do not expose this unit to rain, moisture, dripping or splashing.
• Do not place objects filled with liquids, such as vases, on this unit.
• Use only the recommended accessories.
• Do not remove covers.
• Do not repair this unit by yourself. Refer servicing to qualified service personnel.

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 mains plug is the disconnecting device. Install this unit so that the mains plug can be unplugged from the socket outlet immediately.

Product identification marking

<table>
<thead>
<tr>
<th>Product</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Definition Video Camera</td>
<td>Battery holder</td>
</tr>
<tr>
<td>AC adaptor</td>
<td>Bottom</td>
</tr>
</tbody>
</table>

Concerning the battery

Warning
Risk of fire, explosion and burns. Do not disassemble, heat above 60 °C or incinerate.
How to replace the fuse

The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below.
Illustrations may differ from actual AC mains plug.

1) Open the fuse cover with a screwdriver.

2) Replace the fuse and close or attach the fuse cover.

For Singapore only

Complies with IDA Standards DB01017

For India only

The specifications are exempted for any licensing requirement by Ministry of Communications and Information Technology, G.S.R. 45 (E), dated 28th January, 2005.

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
For Australia and New Zealand
In the event of abnormal operation (e.g. if the unit emits smoke or an unusual smell), immediately stop operating the unit and consult the Panasonic Customer Care Centre on 132600.

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

About using a headphone
- Excessive sound pressure from earphones and headphones can cause hearing loss.
- Listening at full volume for long periods may damage the user’s ears.

About the recording format for recording motion pictures
You can select from AVCHD* or iFrame recording formats to record motion pictures using this unit.

* It is compatible with AVCHD 3D or AVCHD Progressive (1080/50p).

AVCHD 3D:
It is possible to record powerful, lifelike 3D full high-definition images.
A 3D compatible television compatible to the frame sequential format is required to view the 3D full high definition images.

AVCHD Progressive:
It is possible to record 2D image in the highest quality (1080/50p) for this unit.

iFrame:
This is a recording format suitable for viewing or editing on Mac (iMovie'11).
- It is not compatible with motion pictures recorded in AVCHD format.

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, the viewfinder or 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, the viewfinder 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 adapter and leave the unit like that for about one hour. When the unit becomes accustomed to the surrounding temperature, fogginess 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 11 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 Mode: [ ]
  Functions that can be used for Still Picture Recording Mode: [ ]
- Function that can be used for the Playback Mode: [ ]
  Function that can be used for the Playback Mode (motion picture only): [ ]
- Function that can be used for the Playback Mode (still pictures only): [ ]
- Scene(s) recorded in 1080/50p, 1080/50i, AVCHD 3D or side-by-side ([SbS 3D]): AVCHD scene(s)
- Pages for reference are indicated by an arrow, for example: ➔ 00

These operating instructions are designed for use with models HC-X920, HC-X920M and HC-X910. Pictures may be slightly different from the original.
- The illustrations used in these operating instructions show model HC-X920; however, parts of the explanation refer to different models.
- Depending on the model, some functions are not available.
- HC-X920 and HC-X920M correspond to Wi-Fi® functions.
- 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.

Information for Your Safety...........................2
Accessories.................................................... 7

Preparation

Power supply.................................................. 8
Inserting/removing the battery .................. 8
Charging the battery .................................9
Charging and recording time ................. 10
Recording to a card .................................. 11
Cards that you can use with this unit ...... 11
Inserting/removing an SD card .............. 11
Turning the unit on/off................................. 12
How to use the touch screen ...................... 12
About the Touch Menu............................ 13
Setting date and time...................................14

Basic

Selecting a media to record [HC-X920M]... 14
Changing the Recording Mode............... 15
Recording motion pictures ...................... 16
Recording still pictures ......................... 16
Using the zoom ............................................ 17
Motion picture/Still picture playback .... 17
Watching Video/Pictures on your TV ...... 18
Using the menu screen ............................ 19
Language selection ................................ 19
Formatting ..............................................19

Wi-Fi [HC-X920]/[HC-X920M]

What you can do with the Wi-Fi® function ........................................... 20
If the Wi-Fi connection cannot be established ........................................... 21

Others

Specifications ..............................................23
About copyright ..........................................26
Limited Warranty
(ONLY FOR AUSTRALIA)...............................27
## Accessories

Check the accessories before using this unit.  
Keep the accessories out of reach of children to prevent swallowing.  
Product numbers correct as of Dec. 2012. These may be subject to change.

**Battery pack**  
VW-VBN130

**AC adaptor**  
VSK0733

**AC cable**  
(GC)  
A K2CT2YY00095  
B K2CQ2YY00117  
- In Saudi Arabia, always use A

(GN)  
C K2CJ2YY00052

**AV cable**  
K1HY12YY0018

**USB cable**  
K2KYYYY00201

**HDMI mini cable**  
K1HY19YY0021

**Lens hood**  
VDW2412

**Shoe adaptor**  
VYC0996

**CD-ROM**  
Operating Instructions  
VFF1128

### Optional accessories

Some optional accessories may not be available in some countries.

- Battery charger (VW-BC20E/EB)
- Battery charger (VW-BC20GN)  
- Battery pack (lithium/VW-VBN130)  
- Battery pack (lithium/VW-VBN260)  
- HDMI mini cable (RP-CDHM15, RP-CDHM30)  
- Wide conversion lens (VW-W4907H)  
- 3D Conversion Lens (VW-CLT2)*  
- Filter kit (VW-LF49N)*  
- Stereo microphone (VW-VMS10E)  
- Shoe adaptor (VW-SK12E)

* Remove the lens hood (supplied) and set to the flash setting to $\text{(OFF)}$.  

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*HF-X920&X920M&X910GC&GN_VQT4R24_eng.book  7 ページ  2013年1月7日 月曜日 午前10時54分*
Preparation

Power supply

About batteries that you can use with this unit
The battery that can be used with this unit is VW-VBN130/VW-VBN260.

- The unit has a function for distinguishing batteries which can be used safely. The dedicated battery (VW-VBN130/VW-VBN260) supports this function. The only batteries suitable for use with this unit are genuine Panasonic products and batteries manufactured by other companies and certified by Panasonic. (Batteries which do not support this function cannot be used). Panasonic cannot in any way guarantee the quality, performance or safety of batteries which have been manufactured by other companies and are not genuine Panasonic products.

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. (12)
Open the LCD monitor and install the battery by inserting it in the direction shown in the figure.

Removing the battery
Be sure to hold down the power button until the status indicator goes off. Then remove the battery while supporting the unit to prevent it from dropping.

Move the battery release lever in the direction indicated by the arrow and remove the battery when unlocked.

A Insert the battery until it clicks and locks.
B Battery holder
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:
- Do not use the AC cable with any other equipment as it is designed only for this unit. Also, do not use the AC cable from other equipment with this unit.
- The battery will not be charged if the unit is turned on.
- It is recommended to charge the battery in a temperature between 10 °C and 30 °C. (The battery temperature should also be the same.)
- Do not use any other AC adaptors except the supplied one.
- We recommend using Panasonic batteries (⇒ 7).
- 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.

1. Connect the AC cable to the AC adaptor, then the AC outlet.
2. Connect the AC adaptor to the DC input terminal.
   - The status indicator will flash red at an interval of 2 seconds (approximately 1 second on, 1 second off), indicating that charging has begun. It will turn off when the charging is completed.

Connecting to the AC outlet

If you turn on the unit while connecting with the AC adaptor, you can use the unit with power supplied from the outlet. When recording for a long time, keep the AC adaptor connected and use it together with the battery.
Charging and recording time

**Charging/Recording time**
- Temperature: 25 °C/humidity: 60%RH
- When using the viewfinder (times in parentheses are when using the LCD monitor)

<table>
<thead>
<tr>
<th>Battery model number</th>
<th>Charging time</th>
<th>Recording mode</th>
<th>Maximum continuous recordable time</th>
<th>Actual recordable time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplied battery/</td>
<td>2 h 30 min</td>
<td>[1080/50p], [AVCHD 3D]*</td>
<td>1 h 25 min (1 h 15 min)</td>
<td>55 min (45 min)</td>
</tr>
<tr>
<td>VW-VBN130 (optional) [7.2 V/1250 mAh]</td>
<td></td>
<td>[PH], [HA], [HG], [HE]</td>
<td>1 h 30 min (1 h 20 min)</td>
<td>55 min (50 min)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[iFrame], [SbS 3D]*</td>
<td>1 h 35 min (1 h 20 min)</td>
<td>55 min (50 min)</td>
</tr>
</tbody>
</table>

* This will be the recording mode when the 3D Conversion Lens (optional) is attached.
- 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.

**Battery capacity indication**
The battery capacity indication is displayed on the LCD monitor.

- If there is less than 3 minutes remaining, then \[\square\] will become red. If the battery discharges, then \[\square\] will flash. Recharge the battery or replace it with a fully charged battery.
The unit can record still pictures or motion pictures 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. (→ 19) 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 access lamp has gone off.

1. Open the SD card cover and 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 centre of the SD card and then pull it straight out.

2. Press the C part of the SD card cover and close the SD card cover.
   - Securely close it until it clicks.

**Access lamp [ACCESS] A**

- When this unit is accessing the SD card or built-in memory, the access lamp lights up.
Preparation

Turning the unit on/off

You can turn the unit on and off using the power button, the LCD monitor or the viewfinder.

Turning the unit on and off with the power button

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

To turn off the unit
Hold down the power button until the status indicator goes off.

The status indicator lights on. Opening the LCD monitor or extending the viewfinder turns on the unit. Closing the LCD monitor/viewfinder turns off the unit.

Preparation

How to use the touch screen

You can operate by directly touching the LCD monitor (touch screen) with your finger.

Touch

Touch and release the touch screen to select icon or picture.
- Touch the centre of the icon.
- Touching the touch screen will not operate while you are touching another part of the touch screen.

Slide while touching

Move your finger while pressing on the touch screen.
About the operation icons

△ / □ / ○ / ◇: Touch when changing a page or performing settings.

■: Touch to return to the previous screen.

About the Touch Menu

Touch ◄ (left side)/ ► (right side) of  on the Touch Menu to switch the operation icons.
- It is also possible to switch the operation icons by sliding the Touch Menu right or left while touching it.

To display the Touch Menu

Display of the Touch Menu will disappear when no touch operation is performed for a specific period of time during recording of motion picture/still picture. To display it again, touch □.
Setting date and time

The clock is not set at the time of purchase. Make sure to set the clock.

1 Select the menu. (→ 19)

2 Touch the date or time to be set, then set the desired value using / .

Displaying the World Time setting:

- The year can be set between 2000 and 2039.

3 Touch [ENTER].

- A message prompting for World Time setting may be displayed. Perform the World Time setting by touching the screen.
- Touch [EXIT] to complete the setting.

- At the time of purchase, the confirmation screen for the Wi-Fi setup is displayed after setting the world time.
- Exit the screen if the setup is not necessary.

When the unit is turned on for the first time, a message asking you to set the date and time will appear. Select [YES] and perform Steps 2 to 3 to set the date and time.

Selecting a media to record [HC-X920M]

The card and built-in memory can be selected separately to record motion pictures or still pictures.

1 Change the mode to or .

2 Select the menu. (→ 19)

3 Touch the media to record motion pictures or still pictures.

- The media is selected separately to motion pictures or still pictures is highlighted in yellow.

4 Touch [ENTER].
### Changing the Recording Mode

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

![Intelligent Auto button](image)

**Intelligent auto button**
Pressing the Intelligent auto button can change the Recording Mode.

- Pressing the Intelligent auto button when other Recording Modes are set will change to Intelligent Auto Mode.

#### To change to the other Recording Modes

1. Touch the Recording Mode button icon.

2. Touch the desired Recording Mode button icon.

<table>
<thead>
<tr>
<th>Mode</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>IA</td>
<td>You can switch the mode to the Intelligent Auto Mode, which optimises settings to the recording environment you are in.</td>
</tr>
<tr>
<td>IA+</td>
<td>You can add manually-adjusted brightness and colour balance settings to the Intelligent Auto Mode, and record.</td>
</tr>
<tr>
<td>🎥</td>
<td>You can record motion pictures with added effects.</td>
</tr>
<tr>
<td>SCN</td>
<td>This option allows this unit to automatically adjust the shutter speed and aperture according to the scene you want to record.</td>
</tr>
<tr>
<td>MNL</td>
<td>You can set the shutter speed, focus, White Balance, and brightness (iris/gain).</td>
</tr>
</tbody>
</table>

* In Motion Picture Recording Mode only

* Pressing the Intelligent auto button while in Intelligent Auto Mode can also change the Recording Mode.
Basic

Recording motion pictures

1. Change the mode to .
2. Open the LCD monitor or extend the viewfinder.
3. Press the recording start/stop button to start recording.

- Recording button icon
- When you begin recording, changes to .
4. Press the recording start/stop button again to pause recording.
- Recording can also be started/stopped by touching the recording button icon.

Basic

Recording still pictures

1. Change the mode to .
2. Open the LCD monitor or extend the viewfinder.
3. Press the button halfway. (For Auto Focus only)
4. Press the button fully.
1 Change the mode to \[ \] .
2 Touch the play mode select icon A.
   • You can also set by touching [ ] , selecting [VIDEO SETUP] or [PHOTO SETUP] → [MEDIA, VIDEO/PICTURE]. ( 19)
3 \[HC-X920]/[HC-X910]
   Select the still picture B or the recording format of the motion picture C you wish to play back.

\[HC-X920M\]
Select the media type D and then select the still picture E or the recording format of the motion picture E you wish to play back.
   • Touch [ENTER].

Using the zoom

Zoom lever/Zoom button icons
T side:
Close-up recording (zoom in)
W side:
Wide-angle recording (zoom out)
• The zoom speed varies depending on the range over which the zoom lever is moved.

Basic

Motion picture/Still picture playback
The icon is displayed in the thumbnail display when the item for motion picture is touched.

- [AVCHD], [1080i], [1080p], [10mm], [MP4], [AVCHD 3D], [3D 3D]

- 50p is displayed on the 1080/50p scene, 3D (Blue) is displayed on the AVCHD 3D scene and 3D is displayed on the side-by-side scene by touching [ALL AVCHD].

4 Touch the scene or the still picture to be played back.

- To display the next (previous) page:
  - Slide the thumbnail display upward (downward) while touching it.
  - Switch the touch menu, and then touch ▲ (up) / ▼ (down) on the thumbnail scroll lever.

5 Select the playback operation by touching the operation icon.

Watching Video/Pictures on your TV

Connect this unit to a TV using an HDMI mini cable (supplied) or an AV cable (supplied).

- Operation icons and screen display will disappear when no touch operation is performed for a specific period of time. To display them again, touch the screen.
- Touch ▶/II to start/pause playback of motion pictures.
Using the menu screen

1. Touch \( \mathcal{M} \) on the Touch Menu to display \( \mathcal{M} \). (\( \rightarrow \) 13)

2. Touch the top menu \( \mathcal{A} \).

3. Touch the submenu \( \mathcal{B} \).

4. Touch the desired item to enter the setting.

5. Touch [EXIT] to exit the menu setting.

About guide display
After touching \( \mathcal{I} \), touching the submenus and items will cause function descriptions and settings confirmation messages to appear.

After the messages have been displayed, the guide display is cancelled.

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

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, DVD disc etc.

Media selection screen is not displayed when the USB HDD is not connected. Touch [YES].
By linking with Wi-Fi compatible devices, you can use the Wi-Fi functions of [Remote Ctrl], [DLNA Play], [Live Cast] and [Hom.Monitor].

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.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description of functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Remote Ctrl]</td>
<td>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).</td>
</tr>
<tr>
<td>[DLNA Play]</td>
<td>Connecting this unit to a DLNA-compatible TV via Wi-Fi, you can play back scenes and still pictures on the TV.</td>
</tr>
<tr>
<td>[Live Cast]</td>
<td>You can broadcast motion pictures of this unit live by setting up a link between the “LUMIX CLUB” and USTREAM.</td>
</tr>
<tr>
<td>[Hom.Monitor]</td>
<td>You can confirm the recording screen of this unit from outside using a smartphone.</td>
</tr>
</tbody>
</table>
# If the Wi-Fi connection cannot be established

<table>
<thead>
<tr>
<th>Problem</th>
<th>Check points</th>
</tr>
</thead>
</table>
| It cannot connect to the wireless access point. | (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 wireless access point is not detected. | (Easy Connection)  
- Make sure the wireless access point is in the correct WPS standby mode.  
- Make sure the PIN code has been correctly input. |
| Radio waves of the wireless access point get disconnected. | (Manual Connection)  
- Make sure the SSID and password have been correctly input.  
- Check the Authentication method, Encryption type, and Encryption key (Password).  
- 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. |
<table>
<thead>
<tr>
<th>Problem</th>
<th>Check points</th>
</tr>
</thead>
</table>
| 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. |
| 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. |
Specifications

High Definition Video Camera
Information for your safety

Power source:
DC 9.3 V (When using AC adaptor)
DC 7.2 V (When using battery)

Power consumption:
Recording:
HC-X920 / HC-X920M
9.3 W
HC-X910
8.7 W
Charging:
10.3 W

Motion picture recording format:
[AVCHD]; AVCHD format version 2.0 compliant
(AVCHD 3D/Progressive)
[iFrame]; MPEG-4 AVC file format compliant
(.MP4)

Motion picture compression:
MPEG-4 AVC/H.264
MPEG-4 MVC/H.264 (AVCHD 3D)

Audio compression:
[AVCHD]; Dolby® Digital/5.1 ch (built-in microphone), 2 ch (built-in microphone/external microphone)
[iFrame], [MP4]; AAC/2 ch

Recording mode and transfer rate:
[1080/50p]; Maximum 28 Mbps (VBR)
[PH]; Maximum 24 Mbps (VBR)
[HA]; Average 17 Mbps (VBR)
[HG]; Average 13 Mbps (VBR)
[HE]; Average 5 Mbps (VBR)
[iFrame]; Maximum 28 Mbps (VBR)
[AVCHD 3D]; Maximum 28 Mbps (VBR)
[SbS 3D]; Average 17 Mbps (VBR)
Refer to the operating instructions (PDF format) for the picture size and recordable time of motion picture.

Still picture recording format:
JPEG (Design rule for Camera File system, based on Exif 2.2 standard)
MPO format compatible (3D still picture)
Refer to the operating instructions (PDF format) for picture size of a still picture 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.

HC-X920M
Built-in memory; 32 GB

Image sensor:
1/2.3 type (1/2.3") 3MOS image sensor
Total; 12760 K x 3
Effective pixels; Motion picture; 2830 K x 3 (16:9)
Still picture; 2260 K x 3 (4:3), 2540 K x 3 (3:2),
2830 K x 3 (16:9)

Lens:
Auto Iris, 12× Optical Zoom, F1.5 to F2.8
Focal length; 2.84 mm to 34.1 mm
Macro (Full range AF)
35 mm equivalent;
Motion picture;
29.8 mm to 399.2 mm (16:9)
Still picture;
36 mm to 431.7 mm (4:3),
33.1 mm to 397.1 mm (3:2),
29.8 mm to 399.2 mm (16:9)

Minimum focus distance;
Normal;
Approx. 3.5 cm (Wide)/Approx. 1.2 m (Tele)
Tele Macro;
Approx. 95 cm (Tele)
Intelligent Auto Macro;
Approx. 1 cm (Wide)/Approx. 95 cm (Tele)

Filter diameter:
49 mm
Zoom: 12× optical zoom, 25× i.Zoom, 40×/700× digital zoom

Image stabilizer function:
Optical (Hybrid Optical Image Stabilizer, Active Mode (Rotation correction), Optical Image Stabilizer Lock, Tilt correction function)

Creative Control:
[Miniature Effect]/[Silent movie]/[8mm movie]/[Time Lapse Rec]

Monitor:
8.8 cm (3.5") wide LCD monitor (Approx. 1152 K dots)

Viewfinder:
0.61 cm (0.24") wide EVF (Approx. 263 K dots equivalent)

Microphone:
5.1 channel surround microphone/
Zoom microphone/Focus microphone/
Stereo microphone

Minimum required illumination:
Approx. 1.6 lx (1/25 with Low Light mode in the Scene Mode)
Approx. 1 lx with the Colour Night View function

AV connector video output level:
1.0 Vp-p, 75 Ω, PAL system

HDMI mini connector video output level:
HDMI™ (x.v.Colour™) 1080p/1080i/576p

AV connector audio output level (Line):
316 mV, 600 Ω, 2 ch

Headphone output:
77 mV, 32 Ω (Stereo mini jack)

HDMI mini connector audio output level:
[AVCHD]: Dolby Digital/Linear PCM
[iFrame], [MP4]: Linear PCM

MIC input:
-60 dBV (Mic sensitivity -40 dB equivalent,
0 dB=1 V/Pa, 1 kHz)
(Stereo mini jack)

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 Mini AB
USB host function (for USB HDD)

Flash:
Available range; Approx. 1.0 m to 2.5 m

Dimensions:
67 mm (W) x 72 mm (H) x 150 mm (D)
(including projecting parts)

Mass:
Approx. 417 g [without battery (supplied) and an SD card (optional)]
(Approx. 419 g [without battery (supplied)])

Mass in operation:
Approx. 477 g [with battery (supplied) and an SD card (optional)]
(Approx. 479 g [with battery (supplied)])

Operating temperature:
0 °C to 40 °C

Operating humidity:
10%RH to 80%RH

Battery operation time:
See page 10

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 110 V to 240 V, 50/60 Hz
Power consumption:
16 W
DC output:
DC 9.3 V, 1.2 A

Dimensions:
52 mm (W) × 26 mm (H) × 86.3 mm (D)
Mass:
Approx. 115 g

When using 3D Conversion Lens (optional)

Lens:
F2.0 (f = 1.64 mm)
35 mm equivalent, 36 mm
Minimum recording distance; Approx. 1.2 m

Minimum illumination:
Approx. 12 lx (1/25 with Low Light Mode in the Scene Mode)
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.
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- The Wi-Fi CERTIFIED Logo is a certification mark of the Wi-Fi Alliance.
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- "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.

This product incorporates the software licensed under the GNU General Public License Version 2.0 (GPL V2.0), the GNU LESSER General Public License Version 2.1 (LGPL V2.1) or the other open source software licenses. A copy of the corresponding source code licensed under GPL V2.0 or LGPL V2.1 is available to you in response to your request. For the detailed terms and conditions thereof and the contact information, please refer to the Operating Instructions shown in the attached Operating Instructions CD-ROM.
6. To claim warranty service, when required, you should:

- Noting that Panasonic, at its discretion, may choose to repair or replace the product and will do so in a
  reasonable period of time if the failure is due to non-conformity to specifications, defects in craftsmanship, or
  defects in materials.
- If the failure in the product is not a major failure, you may elect to have your product repaired or
  replaced or if you wish you may elect to keep the goods and elect to have a refund or to have the product
  replaced or if you wish you may elect to keep the goods excluded under the Australian Consumer Law.
- 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 if the failure is due to non-conformity to specifications, defects in craftsmanship, or
  defects in materials.
- In addition to your rights under this warranty, Panasonic products come with consumer guarantees that cannot
  be excluded under the Australian Consumer Law.

5. Some products may be supplied with Ethernet connection hardware. The warranty is limited on such products
and will not cover:

- Direct or consequential costs associated with the incorrect use or misuse of the hardware, its
  connection to the internet or any other device.
- Any indirect or consequential costs associated with the incorrect use or misuse of the hardware, its
  connection to the internet or any other device.
- Indirect or consequential loss associated with the incorrect use or misuse of the hardware, its
  connection to the internet or any other device.

4. This warranty does not cover the following items unless the fault or defect existed at the time of purchase:

- (a) Cabinet Parts
- (b) Video or Audio Tape
- (c) SD cards or USB devices
- (d) User replaceable Batteries
- (e) DVD, Blu-ray or Restrongable 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)

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
malfuction or failure resulting from use of incorrect voltages, incorrect installation, accident, misuse, neglect,
bust-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.

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 its
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.

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.

- Please check that your warranty card and the purchase docket (or similar proof of purchase)
- SHOULD BE RETAINED BY THE CUSTOMER AT ALL TIMES.
- Panasonic Australia Pty. Limited
- ACN 001 592 187   ABN 83 001 592 187
- 1 Innovation Road, Macquarie Park  NSW  2113
- 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.
- 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.
- Plasma/LCD televisions / displays (screen size greater than 103 cm)
- 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 Centre:
- 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,
  bust-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.
- 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.
- 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 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 if the failure is due to non-conformity to specifications, defects in craftsmanship, or
  defects in materials.