Panasonic

2015
Digital Video Camera

Panasonic®

http://panasonic.com

Twin Camera 4K Video — Twice The Fun, 4 Times the Beauty

Now there's a camera with a picture-perfect memory.
It'll capture your family's most precious moments, and keep them sharp and vivid with 4K resolution for years to come.
And it's a Twin Camera, so it can put your smiling face right into the picture as well,
instead of hiding you behind the scene!

4K Camcorder
ULTRA HD

HD Camcorder
HIGH DEFINITION

HD Camcorder
HIGH DEFINITION

Works with iMovie and Final Cut Pro X
Mac

iFrame

4K Camcorder
ULTRA HD

LEICA DICOMAR
*Full-HD *Full-HD
Works with Final Cut Pro X
Mac

Wearable Camera

Works with iMovie
Mac

Preserve your memories in all their beauty with 4K definition

Full-HD

4K

4K

Full-HD

SD

2,160
1,080
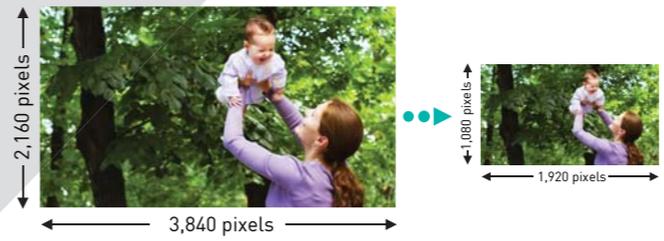480
720   1,920   3,840

4K Video Recording WX970 VX870

With four times the resolution of Full-HD, the WX970 and VX870 Series record in 4K (3,840 x 2,160) formats. This delivers true-to-life images for a wide variety of shooting situations, in extremely high detail.

More Details than Full-HD WX970 VX870

2,160 pixels

3,840 pixels

1,080 pixels

1,920 pixels

4K delivers a far more intense viewing experience than you have seen before. Its native resolution of 3,840 x 2,160 pixels is four times larger than Full-HD, resulting in a much higher level of detail. Even if you export your footage filmed in 4K to Full-HD, the video files will have even better definition and crisper details than those filmed in Full-HD.

Note: While footage recorded in Full-HD on the WX970 and VX870 Series is 60 fps/50 fps, files down-converted from 4K to Full-HD are 30 fps/25 fps.

4K Photo Mode WX970 VX870

4K PHOTO
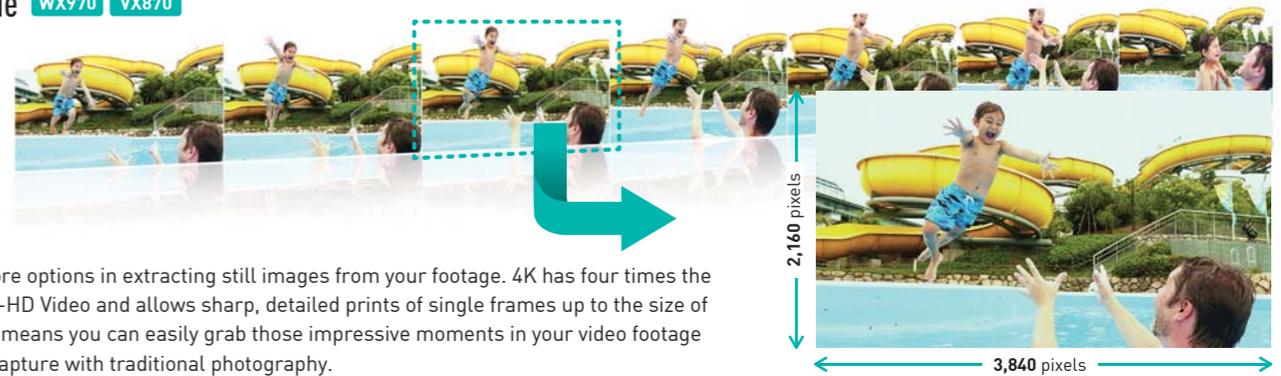
4K also offers more options in extracting still images from your footage. 4K has four times the resolution of Full-HD Video and allows sharp, detailed prints of single frames up to the size of A3. Filming in 4K means you can easily grab those impressive moments in your video footage that are hard to capture with traditional photography.

2,160 pixels

3,840 pixels

4K High-Precision AF WX970 VX870

High-Speed, High-Precision AF Technology in 4K

An image sensor with 60-fps/50-fps readout and a precise focus lens drive for 4K images enable superior focusing speed, stability and tracking performance. Complex 4K focusing is also automated for comfortable framing of stunning 4K shots.

6

7

Premium Picture Quality

Leica Dicomar Lens

This high-performance lens has passed the stringent inspection standards of Leica Camera AG for aspects such as resolution and contrast. In addition to rendering sharp, crisp images, it produces the distinctive nuances and subtle shading that Leica lenses are renowned for.

1/2.3" BSI Sensor

Increasing the readout speed has made it possible to handle large-volume 4K data. This suppresses the rolling shutter distortion that often occurs when shooting moving subjects.

Crystal Engine 4K

This high-speed LSI processes the massive volume of 4K data quickly and accurately. A new noise reduction system achieves clear images with minimal noise even in darkness.

20x Optical Zoom with 4-Drive Lens System `WX970` `VX870` `V770`

By driving each of four lens groups separately, the drive ranges are reduced, resulting in high image quality, high-powered zooming, and a compact camera body. This gives the WX970/VX870 Series its compact size even with a 20x optical zoom and 4K definition.

With 1 zoom lens group

Professional Video Camera

With 4 moving lens groups

WX970/VX870/V770

Reduced Rolling Shutter Distortion `WX970` `VX870`

The Rolling Shutter Distortion that is caused by the line-by-line readout of the MOS image sensor is suppressed by the combination of a MOS sensor with high-speed readout and an engine with high-speed signal processing. This delivers natural images with minimal distortion, even for fast-moving subjects.

Noticeable distortion

Natural-looking image with minimal distortion

Level Shot Function `WX970` `VX870` `V770` `W570` `V270`

The Level Shot function automatically detects and corrects the tilting of captured images. The setting can be adjusted to one of three levels (OFF, Normal, Strong*) depending on the shooting conditions.

* Except 4K mode

Level Shot Function OFF:
Images are often tilted without realizing it.

Level Shot Function ON:
An acceleration sensor and a gyrosensor detect the tilt, and automatically level the scene.

5-Axis HYBRID O.I.S. + `WX970` `VX870` `V770` `W570` `V270`

HYBRID O.I.S. + uses five-axis correction to thoroughly suppress blurring all the way from wide-angle to powerful zoom shots. This lets you capture crisp, clear images, without blurring, in almost every shooting situation.

O.I.S. OFF

O.I.S. ON

5-Axis Hand-Shake Detection

Roll rotation

For shooting while walking
Blurring in the roll direction from shooting while walking is suppressed to produce truly beautiful images.

Wrist movements

Across the entire shooting range
Detected blurring caused by vertical or horizontal wrist movements is corrected using a lens in the optical system.

Arm movements

For zooming
Areas of the sensor that are not used for zooming are electronically controlled to compensate for hand-shake.

The Twin Camera Delivers Twice the Fun

TWIN CAMERA ™

Sub Camera
- Pan/Tilt and Retractable
- 2x Electrical Zoom

2x zoom*

Tilting ±20°

Roatating 270°

Panasonic 4K

HC-WX970 WiFi

25x i.ZOOM

LEICA DICOMAR

Twin Camera Function WX970 W570

The WX970/W570 Series include a pan/tilt and retractable sub camera. Two cameras let you easily take shots from two different angles simultaneously. For example, you can catch a shot of the family at the side and a selfie, or both a tele and wide-angle shot from the front. Vertical ±20° rotation and a 2x zoom* function for the sub camera have been included for greater shooting versatility.

*WX970 Series only (except 4K mode)

Main Scene and Yourself

Tele and Wide

Main Scene and Person Aside

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Narration Mode WX970 W570

This mode shuts out surrounding sounds to give greater emphasis to the voice of the person shooting. When taking selfies with the Twin Camera, it captures clearer narrations.

Andrew receives the baton! Run Run!

Wide Variation of Sub Windows WX970 W570

The sub camera image is recorded into a sub window, and its display position can be changed by touch operation while shooting. The sub window size can be changed to three types, including a 1:1 type that is ideal for taking selfies. You can also select the frame color, apply a shadow effect, and use other sub window variations.

Note: There is no sub window frame when shooting in 4K.

Move by touch operation

Change sub window frame

4 Colors (Gray/Green/Pink/Orange)

Backup for Twin Camera* WX970 VX870 V770 W570

A Picture in Picture image and a main camera image without a sub window are recorded simultaneously, so either image can be played separately later. This assures you of getting a good video even if the subject in the sub window should move out of the frame and spoil the Picture in Picture shot.

* AVCHD 1080/60i(50i) only
Note: This function is also available with Wireless Twin Camera function.

Picture in Picture

Main Camera Only

Select from 3 sub window sizes

16:9 Large/Small size

1:1 for Selfie

No frame

Flat shadow

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Turn Your Smartphone into a Sub Camera

Wireless
TWIN CAMERA

Subjects in separate locations can be captured simultaneously

Subjects in separate locations can both be captured by the camcorder and smartphone and put into one picture.

Sub Camera

Main Camera

Image App
UNWIRE YOUR CREATIVITY
Panasonic

Same object from different angle

By shooting a practice scene from different angles with the camcorder and a smartphone, you can check your athletic form in greater detail.

Wireless Twin Camera `WX970` `VX870` `V770` `W570`

WI FI CERTIFIED

Using your smartphone with Wi-Fi operation as a sub camera, you can shoot from two angles at the same time. Since you are shooting with different cameras, you can use one at a distance, or at any angle you choose. This gives you a wide variety of Picture in Picture images.

• This function uses Wi-Fi signals. The distance that Wi-Fi signals will reach is 5 to 10 meters when there are no obstacles or other signals present. However, this should be considered only as a guideline because the distance may vary greatly depending on the devices being used and the environmental conditions.
• For Android devices, those with four or more CPU cores (Quad-Core CPU or higher) are recommended. For iOS devices, the newest models are recommended.

Sub Camera   Main Camera

P in P Composite!

A smartphone-captured image, and the shooting scene

A close-up of the squirrel captured by a smartphone, and the family enjoying shooting opportunity are taken at the same time.

Clear shots with excellent detail in both bright and dark areas

Long exposed movie

Short exposed movie

Combined

HDR MOVIE

HDR (High Dynamic Range) Movie `WX970` `VX870` `V770`

By combining two images taken with different exposure times, the HDR Movie function suppresses blown highlights and blocked shadows for crisper, clearer videos. This is the world's first* consumer camcorder to feature the HDR Movie function. Even in difficult shooting situations, such as backlighting, you can easily capture natural videos with excellent gradation.

Note: This function is not available with 4K mode.
*In a consumer Full-HD video camera. As of January 5th, 2015.

HDR OFF

HDR ON

HDR OFF

HDR ON

Full-HD Slow Motion Video `WX970` `VX870` `V770`

Normal Recording 1920 x 1080 `60fps*`   High Speed Recording 1920 x 1080 `120fps*`   Normal Recording 1920 x 1080 `60fps*`

1/4 Slow Motion for Selected Parts `240fps*equivalent`

Press Hold
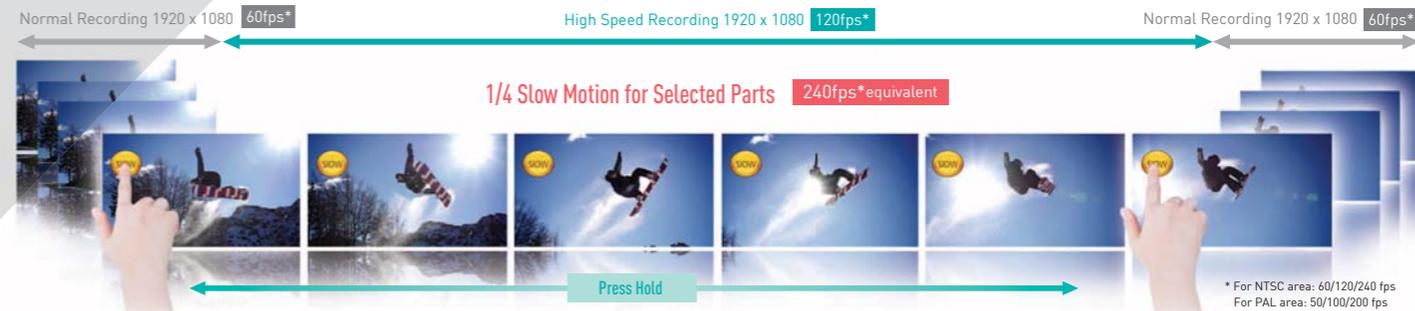
* For NTSC area: 60/120/240 fps
For PAL area: 50/100/200 fps

Effective for scenes like these

Sports   Pet   Hobby

Records Full-HD (1920 x 1080) at 120 fps.* And the Intelligent Frame Creation of the Crystal Engine interpolates to an equivalent of 240 fps,* for smooth slow motion. Switches to slow motion while you touch the icon on the LCD screen during shooting.

Note: You can switch up to three times during one shooting.

Night Mode (IR) `WX970` `VX870`

Infrared rays and IR-LED lighting let you shoot in the dark (0 lux). You can capture nighttime images without waking the baby up.

Night Mode [IR] OFF   Night Mode [IR] ON

50Mbps MP4 `WX970` `VX870` `V770`

In addition to the AVCHD format, Full-HD (1,920 x 1,080) 60p (50p) videos can be recorded in the 50-Mbps MP4 format. The MP4 format is suitable for editing videos on a computer.

* Playback on a VIERA TV and Blu-ray disc player cannot be guaranteed for data recorded in MP4 50Mbps.

WiFi CERTIFIED ®

Image App. ® UNWIRE YOUR CREATIVITY

🍼 Baby Monitor
📲 Easy Share with Highlight Photo Collage

📱 One-touch Connection
🔄 Auto Transfer

📶 Remote Shooting
📺 Wireless TV Playback

📷 Real Time Broadcasting
🏠 Home Monitoring

📱 Remote View

| WX970 | VX870 | V770 | W570 | V270 |

Panasonic Image App

Panasonic provides a free, dedicated application software called "Panasonic Image App" for iOS/Android smartphones and tablets.

Download on the **App Store**

ANDROID APP ON **Google play**

One-touch Connection

Without bothersome initial settings, NFC lets you connect a smartphone or tablet to the camcorder in one touch.

Easy Connection!

Easy Connection with QR Code

QR codes are also provided for use by those who don't have an NFC phone.

Remote Shooting

The "Panasonic Image App" lets you use a smartphone or tablet as a live-view remote controller and operate the camcorder from a distance.

Remote View

Videos and photos inside the camera can be viewed on a smartphone or tablet, and uploaded to an SNS site.

Highlight Playback and Easy Share

You can enjoy Highlight Playback with a smartphone or tablet right after shooting. Favorite scenes can be shared on SNS with simple drag and drop operation.

Highlight Photo Collage

Create a highlight photo collage with the best scenes picked out automatically from video.

Home Monitoring*

When you are away from home, you can monitor and record there with high-quality live video, and speak to your family or pets using your smartphone or tablet.

Hey Rocky!

Detect movement   Internet   Watch with a smartphone

Real Time Broadcasting*

You can live-stream events on USTREAM as they are being recorded in Full-HD resolution.

* Simultaneous recording is not possible with the W570/V270.

FULL HD 60x/60i

USTREAM

Baby Monitor*

You can check on the baby with a smartphone or tablet in another room. The Push Notification function alerts the smartphone or tablet if a voice sensor detects the baby waking up and crying.

Auto Transfer (Wireless PC Copy)

Images are transferred from your camcorder to a computer via the wireless access point at home.

Wireless TV Playback*

An access point at home can be used to transfer data wirelessly to the TV or a tablet in the living room, or other rooms in the house. You can play images on the large-screen display.

• WX970/VX870/V770/W570: AVCHD and MP4 720p only.
• V270: AVCHD HG/HE and MP4 720p only.

Access point at home   Smartphone   Tablet   TV

dlna CERTIFIED

* A wireless access point (router) is required.

Let Advanced Technologies Preserve Your Precious Memories

28mm Wide-Angle* `W570` `V270`

The 28mm wide-angle* fits more people and more of the background into the frame. This is especially handy when you want to take a group photo in a small room. It fits your subjects in even when you shoot from up close, and makes it possible to pick up even small sounds with the mic.

* 35mm camera equivalent

35mm Lens

28mm Wide-Angle

Intelligent 90x Zoom/Optical 50x Zoom `W570` `V270`

When using Intelligent 90x Zoom, Intelligent Resolution technology lets you shoot at high zoom rates while preserving the image resolution. You get sharp images of highly detailed objects – without the blurry edges.

1x

50x

90x

	WX970 WX970M	VX870 VX870M	V770 V770M V760	W570 W570M	V270 V260	V160	X920 X920M X910
Wide-Angle	30.8mm*	30.8mm*	29.5mm	28mm	28mm	32.3mm	29.8mm
Intelligent Zoom	25x*	25x*	50x	90x	90x	77x	25x
Optical Zoom	20x	20x	20x	50x	50x	38x	12x

* 4K

Wind Shield Zoom Microphone `WX970` `VX870` `V770`

A special damping material is provided in the space between the mic and the mic net to suppress wind noise for clear recording always.

High-Quality Audio Parts
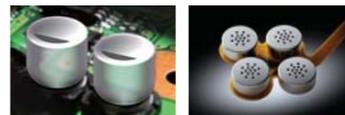
Aluminum electrolytic capacitors for audio use

High-S/N mics

Four 6mm-diameter, high-S/N mics and aluminum electrolytic capacitors reduce sound distortion and increase clarity.

Sound Scene Select

Record sound "just as you hear it", by changing frequency characteristics according to the shooting scene.

Speech   Festival   Music   Nature

Multi Manual Dial `WX970` `VX870` `V770`

By pushing or rotating the manual dial, you can easily adjust allocated functions, like focusing and changing the iris.

Adjustable Items

- Focus
- White Balance Mode
- Shutter Speed
- Iris
- Sharpness
- Color Saturation
- White Balance Fine
- Exposure

Baby Calendar `WX970` `VX870` `V770` `W570` `V270`

Jesica

4 months

Simply set the baby's birth date and name to display thumbnail images of scenes arranged by month around that date. Easy to find the scenes you want.

Creative and Handy Functions Give You Greater Shooting Enjoyment

Creative Control All Models

Four filter effects make it possible to shoot impressive video recordings that are matched to the shooting situation.

Miniature Effect

This effect defocuses peripheral areas while keeping the focus point sharp and clear making life-size subjects look like a diorama.

8mm Movie

You can record motion pictures with a faded retro effect.

Silent Movie

You can record motion pictures that are similar to black-and-white silent films by lowering the amount of incoming light.

Time Lapse Recording

A scene that moves slowly for a long period of time is recorded frame by frame with an interval, as a short time motion picture.

Stop Motion Animation Assist WX970 VX870 V770 W570

By moving the subject slightly and shooting still images, you can create a unique animated slideshow. Previously taken photos are displayed with an onion skin effect for easy layering.

Onion skin
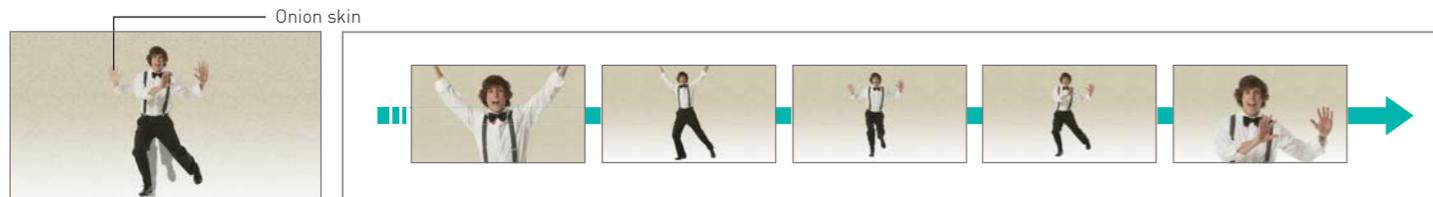
iA (Intelligent Auto) All Models

This powerful function senses the shooting conditions and automatically makes the settings and activates functions that deliver optimal results.

iA Plus– Easy to customize settings without releasing iA mode
WX970 VX870 V770 W570 V270

The iA Plus mode enables you to adjust exposure compensation and white balance by just pressing the button on the LCD.

Brightness Control

You can adjust the exposure compensation accurately and easily.

Color Control

You can adjust the white balance from warm red to cool blue.

O.I.S. (Optical Image Stabilizer) Lock
WX970 VX870 V770 W570 V270

The image-stabilizing effect is increased by pressing and holding the O.I.S. Lock indication on the LCD screen, which maximizes the blur detection sensitivity.

Level Gauge
WX970 VX870 V770 W570 V270

Level Gauge visibly assists you to shoot straight with horizontal and vertical gauges. It helps to correct even slight tilting.
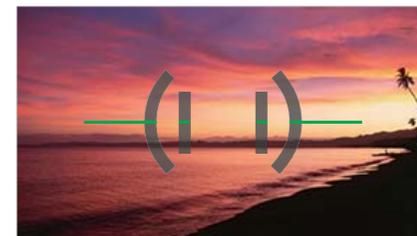
Zoom Mic
WX970 VX870 V770 W570 V270

The Zoom Mic function links the microphones to the lens action. When you zoom in on a subject, the microphones focus on the sound in that same direction.

Even distant sounds are crisp and clear.

Wind Noise Canceller
WX970 VX870 V770 W570

Automatically eliminates wind sounds picked up by the built-in mic to provide clear recordings of the subject's voice.

Easy Saving

WX970 | VX870 | V770 | W570 | V270

Image data from many hours of shooting can easily be backed up in an external portable HDD at the shooting location.

USB bus power supply

Portable HDD with USB bus power supply

* An AC adaptor connection is required for the camcorder.

Easy Connecting, Easy Viewing   All Models

VIERA Link
Connect your camcorder to a VIERA* or compatible Blu-ray Disc™ Player* via an HDMI mini cable or an HDMI micro cable, and you can control both units in synchronized operation with a single remote control.

Just connect with a cable

VIERA

Playback with SD Card
Simply slip the SD card from your camcorder into the SD card slot on your VIERA TV* or Blu-ray Disc™ Player,* and you're ready to view recorded Full-HD moving images.

* The models availability varies depending on countries and regions. JPEG format still images can be viewed with other SD Memory Card Slot-equipped models.
* Playback on a VIERA TV and Blu-ray disc player cannot be guaranteed for data recorded in MP4 50Mbps and 4K/30p.

Eye-Fi Compatible   All Models

By using the Eye-Fi™ card, you can save files recorded on the card on a PC, or upload them to SNS via a wireless network. You can also directly transport the data to your device (smartphone, tablet etc.) without connecting another access point.

- The functions of the Eye-Fi™ card (including wireless transmission) are not guaranteed to work on this product. In the case of a malfunction of the card, please contact the card manufacturer.
- To use the Eye-Fi™ card, permission from the national or regional government is required. Do not use if you have not obtained permission. If you are unsure as to whether use is permitted, please check with the card manufacturer.
- Install the software supplied with the Eye-Fi™ card in advance on your PC, and configure the Eye-Fi™ settings. (For setting methods, etc., please read the card operating instructions or consult the card manufacturer.)

HD Writer AE 5.2/LE 3.0*

All Models   WX970/VX870/V770: AE 5.2
W570/V270/V160: LE 3.0

Downloadable HD Writer software makes it easy to play or edit videos on your PC and have more fun when the shooting's done.

* For Windows OS

Importing Data
When the camcorder is connected to a PC, the software automatically starts up. Importing data takes only a few clicks of the mouse.

Video Retouch
This function lets you decorate images with text, graphics, or stamp pens. By using a gamelike approach to add an extra editing touch to finished images, they become even more attractive and enjoyable.

Editing
It's easy to add titles, rearrange scenes, provide transition effects, and edit images in single frame units.

Feature Comparison

	WX970	VX870	V770	W570	V270	V160	X920
4K Video Recording	●	●	—	—	—	—	—
Recording Format	1080/60p(50p) AVCHD iFrame MP4	1080/60p(50p) AVCHD iFrame MP4	1080/60p(50p) AVCHD iFrame MP4	1080/60p(50p) AVCHD iFrame MP4	1080/60p(50p) AVCHD iFrame MP4	AVCHD iFrame MP4	1080/60p(50p) AVCHD 3D iFrame
Lens	Leica Dicomar	Leica Dicomar	Panasonic	Panasonic	Panasonic	Panasonic	Leica Dicomar
Sensor	BSI 1/2.3"	BSI 1/2.3"	BSI 1/2.3"	BSI 1/5.8"	BSI 1/5.8"	BSI 1/5.8"	3MOS BSI 1/2.3" x 3
Engine	Crystal Engine 4K	Crystal Engine 4K	Crystal Engine	Crystal Engine	Crystal Engine	Crystal Engine	Crystal Engine Pro II
Effective Motion Image Pixel	8.29 megapixels*1	8.29 megapixels*1	6.03 megapixels	2.20 megapixels	2.20 megapixels	2.20 megapixels	8.49 megapixels
LCD Monitor	3.0"(7.5cm), Full Flat	3.0"(7.5cm), Full Flat	3.0"(7.5cm), Full Flat	3.0"(7.5cm), Full Flat	2.7" (6.7cm)	2.7" (6.7cm)	3.5" (8.8cm)
Wi-Fi/NFC	● / ●	● / ●	● / ●	● / ●	● / ●	—	● / —
Optical Zoom/Intelligent Zoom	20x/25x*1	20x/25x*1	20x/50x	50x/90x	50x/90x	38x/77x	12x/25x
Level Shot Function	●	●	●	●	●	—	●
Image Stabilizer	5 -Axis HYBRID O.I.S. +	5 -Axis HYBRID O.I.S. +	5 -Axis HYBRID O.I.S. +	5 -Axis HYBRID O.I.S. +	5 -Axis HYBRID O.I.S. +	Image Stabilizer	5 -Axis HYBRID O.I.S. +
Wide Angle*2	30.8mm*1	30.8mm*1	29.5mm	28mm	28mm	32.3mm	29.8mm
Twin Camera	●	—	—	●	—	—	—
Wireless Twin Camera	●	●	●	●	—	—	—
HDR Movie	●	●	●	—	—	—	—
Compatible with Remote Pan Tilt Cradle	●	●	●	●	●	—	—
Wind Shield Zoom Microphone	●	●	●	—	—	—	—
Night Mode (IR)	●	●	—	—	—	—	—
Full-HD Slow Motion Video	●	●	●	—	—	—	—
Multi Manual Dial	●	●	●	—	—	—	Manual Ring
Baby Calendar	●	●	●	●	●	—	—
Stop Motion Animation Assist	●	●	●	●	—	—	—
iA (Intelligent Auto)	iA Plus	iA Plus	iA Plus	iA Plus	iA Plus	iA	iA Plus
Creative Control	●	●	●	●	●	●	●
Audio	5.1ch/2ch	5.1ch/2ch	5.1ch/2ch	2ch	2ch	2ch	5.1ch/2ch
Still Image Recording Size	25.9 megapixels	25.9 megapixels	24 megapixels	10 megapixels	10 megapixels	8.9 megapixels	20.4 megapixels

*1 4K *2 35mm camera equivalent

4K ULTRA HD

TWIN CAMERA™

Wireless TWIN CAMERA

-K (Black)

1 **4K Video Recording and 4K Photo Mode**
With LEICA Dicomar lens and lens hood

2 **New Twin Camera and Wireless Twin Camera**
Picture-in-picture twin camera recording

3 **HDR (High Dynamic Range) Movie**
Crisp, clear detail in both bright and dark areas

4K Video Recording

Twin Camera

	WX970	WX970M
Wi-Fi/NFC	○	○
SD Card	○	○
Built-in Memory	—	16GB
Twin Camera	○	○

Recording Format

AVCHD Progressive · iFrame · MP4

Lens

LEICA DICOMAR

Sensor

BSI sensor · 1/2.3"

LCD Monitor

Full Flat LCD · 3.0" 7.5cm

CRYSTAL ENGINE 4K · 30mm WIDE · Intelligent 25x Zoom · Extra 20x Zoom · Wi-Fi CERTIFIED · N · HDR MOVIE · Level Shot Function · 5-Axis HYBRID O.I.S.+ · iA+ · Creative Control

*4K   *4K

4K ULTRA HD

Wireless TWIN CAMERA

-K (Black)

1 **4K Video Recording and 4K Photo Mode**
With LEICA Dicomar lens and lens hood

2 **HDR (High Dynamic Range) Movie**
Crisp, clear detail in both bright and dark areas

3 **Wireless Twin Camera**
Add sub camera shots with a smartphone

4K Video Recording
Delivers true-to-life images for a wide variety of shooting situations, in extremely high detail.

	VX870	VX870M
Wi-Fi/NFC	○	○
SD Card	○	○
Built-in Memory	—	16GB
Twin Camera	Wireless	Wireless

Recording Format	Lens	Sensor	LCD Monitor
AVCHD Progressive iFrame MP4	LEICA DICOMAR	BSI sensor 1/2.3"	Full Flat LCD 3.0" 7.5cm

*4K   *4K

Wireless
TWIN CAMERA
(Except V760)

-W (White)
(Except V770M)

-K (Black)

1 Optical 20x Zoom and High Sensitivity
High 6.03-megapixel picture quality

2 HDR (High Dynamic Range) Movie
Crisp, clear detail in both bright and dark areas

3 Wireless Twin Camera (Except V760)
Add sub camera shots with a smartphone

Premium Picture Quality
An advanced lens, sensor and engine combine for powerful zooming and high sensitivity.

	V770	V770M	V760
Wi-Fi/NFC	○	○	—
SD Card	○	○	○
Built-in Memory	—	16GB	—
Twin Camera	Wireless	Wireless	—

Recording Format	Lens	Sensor	LCD Monitor
AVCHD Progressive iFrame MP4	Panasonic LENS	BSI sensor 1/2.3"	Full Flat LCD 3.0" 7.5cm

(Except V760)

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TWIN CAMERA™ Wireless TWIN CAMERA

-W (White)

-K (Black)

1 New Twin Camera and Wireless Twin Camera
Picture-in-picture twin camera recording

2 Intelligent 90x Zoom
For imaging power that's out of this world

3 Level Shot Function
And 5-Axis hand-shake detection

Twin Camera
Take shots of your subjects, and also include shots of yourself.

	W570	W570M
Wi-Fi/NFC	○	○
SD Card	○	○
Built-in Memory	—	16GB
Twin Camera	○	○

Recording Format	Lens	Sensor	LCD Monitor
AVCHD Progressive iFrame MP4	Panasonic LENS	BSI sensor 1/5.8"	Full Flat LCD 3.0" 7.5cm

28 WIDE · Intelligent 90x Zoom · 50x Optical Zoom · WiFi CERTIFIED · N · Level Shot Function · 5-Axis HYBRID O.I.S.+ · iA+ · Creative Control

V270/V260 | Powerful 90x Zooming and Stable Images

-K (Black)

-R (Red)
V270

-W (White)

1 Intelligent 90x Zoom
For imaging power that's out of this world

2 Level Shot Function
And 5-axis hand-shake detection

3 Wi-Fi Function with NFC (Except V260)
Featuring a baby monitor and USTREAM

	V270	V260
Wi-Fi/NFC	○	—
SD Card	○	○
Built-in Memory	—	—

Recording Format	Lens	Sensor	LCD Monitor
AVCHD iFrame MP4 Progressive	Panasonic LENS	BSI sensor 1/5.8"	2.7" 6.7cm

28 WIDE | 90x | 50x | Wi-Fi CERTIFIED | N | Level Shot Function | 5-Axis HYBRID O.I.S.+ | iA+ | Creative Control

(Except V260)

V160 | Zoom with Power and Ease

-K (Black)

1 Intelligent 77x Zoom
Take dynamic close-ups of distant subjects!

2 Image Stabilizer
For clear images and less blurring

3 32.3mm Wide-angle Shooting
Ideal for group photos and landscapes

	V160
SD Card	○
Built-in Memory	—

Recording Format	Lens	Sensor	LCD Monitor
AVCHD iFrame MP4	Panasonic LENS	BSI sensor 1/5.8"	2.7" 6.7cm

32.3 WIDE | 77x | 38x | Image Stabilizer | iA | Creative Control

X920 series | Shoot the Moment, Together with its Atmosphere

-K (Black)

1 3MOS System Pro with the BSI Sensor
2 Manual Ring/EVF/Level Gauge
3 Real Time Broadcasting with Full-HD Recording

	HC-X920	HC-X920M	HC-X910
Wi-Fi	○	○	—
SD Card	○	○	○
Built-in Memory	—	32GB	—

3MOS System Pro

The 3MOS System Pro is comprised of the F1.5 LEICA Dicomar Lens, the 3MOS BSI Sensor, and Crystal Engine Pro II.

Recording Format

AVCHD 3D/Progressive   iFrame

Lens

LEICA DICOMAR   NANO SURFACE COATING Premium Lens

Sensor

BSI sensor   3MOS SENSOR

ENGINE PRO   29.8mm WIDE   Intelligent 25x Zoom   Optical 12x Zoom   Wi-Fi CERTIFIED   Level Shot Function   5-Axis HYBRID O.I.S.+   iA+   Creative Control   3D FULL HD   High Quality Sound Recording

[Except X910]

X1000 | 4K Ultra High Definition Video Recording with Mobility

4K ULTRA HD

1 4K 60p/50p Video Recording with Mobility
2 High-Bit-Rate Recording for Both 4K and Full-HD
3 Great Functions for Professional Needs

Recording Format

AVCHD Progressive   MP4 MOV

Lens

LEICA DICOMAR

Sensor

BSI sensor

CRYSTAL ENGINE 4K   30mm WIDE   Intelligent 20x Zoom   Wi-Fi CERTIFIED   N   5-Axis HYBRID O.I.S.+   iA+

* Full-HD

Let the camera operate itself!

Compatible with Remote Pan Tilt Cradle [WX970] [VX870] [V770] [W570] [V270]

Remote operation is possible with a smartphone or tablet

Operate directly from the camcorder, or use remote control with the Panasonic Image App.

Pan ±180°*/Tilt ±15°*

±15°*

±180°*

The unit can also be mounted on a tripod.

* Approximately

Party Scene

The motion sensor and face recognition function will capture all of your guests, and framing is automatically adjusted.

Note: A USB cable (supplied with the camcorder) is required to connect the VW-CTR1 and the camcorder.

Moving Object

The motion sensor will find and follow your pet. If the pet stops moving for a while, the camera will zoom in. And if the pet is not found, the camera will search for it.

Preset Positon

You can register certain angles in advance to change the shooting angle quickly from your smartphone.

* Except V270

Remote Shooting

The Wi-Fi function can also be connected to control panning, tilting, and zooming from outside the house.

Optional Accessories

Remote Pan Tilt Cradle **VW-CTR1**[*1] (for WX970/VX870/V770/W570/V270 Series[*2])	LED Video light **VW-LED1**[*1] (for all models[*3])	3D Conversion Lens **VW-CLT2** (for X920 Series)	Wide Conversion Lens **VW-W4907H**[*1] (for X920/WX970/VX870/V770 Series)	Suction Cup Mount **VW-SCA100**[*1] (for W570/V270/V160 Series)
Filter Kit **VW-LF49N**[*1] (for X920/WX970/VX870/V770 Series) Lens Diameter 49mm *ND Filter *MC Protector *Lens Cap	Accessory Kit **VW-ACT190**[*1] (for WX970/VX870/V770/W570/V270/V160 Series)	Microphone **VW-VMS10**[*1] (for X920/WX970/VX870/V770 Series)	Shoe Adaptor[*1] **VW-SK12** (for all models)	Video Camera Mount **RP-CMC10**[*1] (for W570/V270/V160 Series)
High Capacity Battery Pack **VW-VBN130/VW-VBN260** (for X920 Series) **VW-VBT190/VW-VBT380**[*1] (for WX970/VX870/V770/W570/V270/V160 Series) **VW-VBY100** (for V160)	Battery Charger **VW-BC20**[*1] for VBN130/VBN260 (for X920 Series) **VW-BC10**[*1] for VBT190/VBT380 (for WX970/VX870/V770/W570/V270/V160 Series)		USB Adaptor Cable **VW-CUA1** (for X920 Series)	

*1 Not available in China. *2 The Wi-Fi function cannot be used with the V760/V260.
*3 The W570/V270/V160 Series require the Shoe Adaptor.

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SD Memory Card

SDUD

UHS Speed Class 3

Speed Class 10

Read: up to 95MB/s [*1]
Write: up to 90MB/s [*1]

4K Video Support

128GB: RP-SDUD128AK
64GB: RP-SDUD64GAK
32GB: RP-SDUD32GAK

SDUC

UHS Speed Class 3

Speed Class 10

Read: up to 90MB/s [*1]
Write: up to 45MB/s [*1]

4K Video Support

32GB: RP-SDUC32GAK

SDLC

Speed Class 6

Read: up to 20MB/s

16GB: RP-SDLC16GAK

SDRC

Speed Class 6

Read: up to 20MB/s

The best imaging storage media

8GB: RP-SDRC08GAK

SMGA

UHS Speed Class 1

Speed Class 10

Read: up to 45MB/s[*1]
Write: up to 12MB/s[*1]

32GB: RP-SMGA32GAK
16GB: RP-SMGA16GAK
8GB: RP-SMGA08GAK

*1 With a non-compliant UHS-I device, high speed mode or default mode is implemented. • SD, SDHC, SDXC, and microSD Card utilize a portion of the memory for copy protection and other purposes. Therefore usable capacity will be less than the viewing capacity. (1GB means 1,073,741,824 bytes) • SDXC/SDHC Memory Card can be used only with SDXC/SDHC equipment. • Please use SD card with a necessary speed class which host devices require for video recording. • SDHC, SDXC and microSDHC Logos are trademarks of SD-3C, LLC.

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HX-A500

4K ULTRA HD

-H (Gray)   -D (Orange)

1 **Light and Truly Wearable**
Separate Units for Comfortable Control/Built-in LCD Is Easy to See

2 **World's First* 4K30p Wearable Camera**
Lens, Sensor and Engine are Renewed for 4K30p Recording/
Level Shot/Image Stabilizer
* In a consumer 4K30p(25p) wearable camera. As of March 24, 2014.

3 **Superb Usability, Shoot and Share Instantly**
NFC/Create Highlights and Easy Share

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Light and Truly Wearable

Separate Units for Comfortable Control

This separate-type wearable camera divides the Lens Unit and Main Unit, so you enjoy reliable shooting while viewing the control buttons and LCD. The Lens Unit weighs only 31g, so it does not cause fatigue when worn on the head. Compared to the Full-HD HX-A100 model, the Lens Unit has been increased only 1g, and the Main Unit has been increased only 11g, by downsizing advanced functions like 4K recording and the LCD monitor. Even kids can wear it. Everyone can capture videos with hands-free or handheld operation.

Main Unit 128g

1.5 Inch Color LCD Display

Power Button

Joystick
Image and other menu settings can be set by up/down, left/right operation.

Rec Button

Lens Unit 31g

For wearer comfort, the camera comes with Head Mount and Armband Case

The Head Mount is supported at three points. It is so easy to wear that while shooting you may even forget that it's there. Meanwhile, it's easy to put in and take out the main unit from the flip case on the armband.

Head Mount   Armband Case

Built-in 1.5 inch Color LCD Display

The A500 comes with an LCD on the Main Unit. As well as enabling you to check your movies* on location, it also makes it easy to change various settings. Operations are performed using the Joystick beneath the LCD. With visual feedback from the LCD, control soon becomes intuitive and fumble-free.

* Playback of recorded data using only the Main Unit is limited to the first few seconds (without sound) of the most recent file. A Wi-Fi connected smartphone is required to view all of the content.

Easy Operation

Setting for resolution, Wi-Fi® and others using the Joystick can be done for fast and easy operation. Just jog the on-screen cursor to the desired menu item.
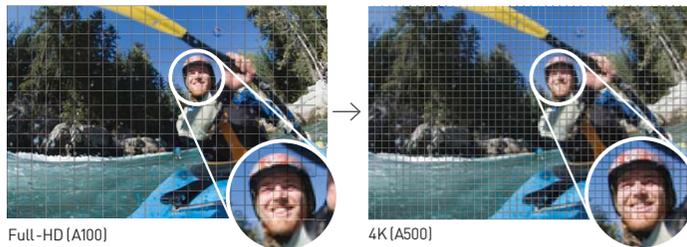
Tough, waterproof and dustproof

The A500 is designed to enable underwater recording for 30 minutes at 3 meters. Dustproofing also allows you to actively use the camera at the beach and other places.

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World's First 4K Wearable Recording 4K ULTRA HD

4K Quality

Full-HD (A100)   4K (A500)

The A500 has 4K video capability. New sensor and imaging engine technology make it easy to shoot finer and more beautiful movies.

4K 30 Frames per Second Recording

15fps/12.5fps*   30fps/25fps*

The A500 can record 4K video at 30(25*) frames per second. Now, even in active sports, without dropping a frame, you can shoot with this wearable camera and later enjoy smooth-motion video.

*For PAL model.

Tilt Correction and Image Stabilization

Tilt correction

Movement of the head is sensed and the image is automatically straightened to the horizontal.
*When shooting at Full-HD in standard resolution.

Image stabilization

Reduces image blurring. Reduced blur from camera motion means you can enjoy your video on large screen TVs.
*When shooting at Full-HD in standard resolution.

Slow Motion Video Recording

Slow motion function. You can video fast action and play back in slow motion to better see the actual movements.

Mode (NTSC)	Mode (PAL)	Resolution
60 fps	50 fps	1920 × 1080 pixel
120 fps	100 fps	1280 × 720 pixel
240 fps	200 fps	848 × 480 pixel

Superb Usability, Shoot and Share Instantly

One-touch Connection

If you have a smartphone or tablet with NFC (near field communication) capabilities, just install and run our app. Without bothersome initial settings, you can connect your smart device to A500 in one-touch.

Built-in Wi-Fi ®

As well as movie sharing, the app provides remote recording, sequence trimming, and other functions.

Create Highlights and Easy Share with Image App

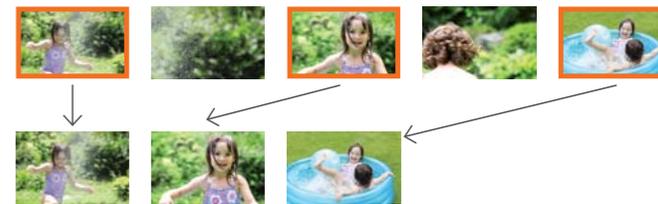You can instantly let your friends see the movies you have taken.

Real-time Broadcasting

Memorable scenes are distributed as videos on the Internet while recording. Live relays can be seen anywhere in the world.

USTREAM

Create Highlights

Only the highlighted scenes can be easily edited in one clip with automatic selection.

Micro SDHC Card

You can record to a micro SD card with speed class 10.

Gold Micro SMGA

32GB : RP-SMGA32GAK / 16GB : RP-SMGA16GAK
8GB : RP-SMGA08GAK

UHS Speed Class 1
Speed Class 10
Read: up to 45 MB/s*1
Write: up to 12 MB/s*1

*1 With a non-compliant UHS-I device, high speed mode (Read: up to 23MB/s, Write: up to 12MB/s) or default mode is implemented.

- SDHC, and microSD Card utilize a portion of the memory for copy protection and other purposes. Therefore usable capacity will be less than the viewing capacity. (1GB means 1,073,741,824 bytes)
- SDHC Memory Card can be used only with SDHC equipment.
- Please use microSD card with a necessary speed class which host devices require for video recording.
- SDHC, and microSDHC Logos are trademarks of SD-3C, LLC.

Video Camera Mount (For Handlebar)/RP-CMC10

Clip Mount / VW-CLA100

Multi Case / VW-HLA500

Suction Cup Mount / VW-SCA100

Tripod Mount / VW-CTA100

Bundled with HX-A500

Head Mount / VW-HMA100
[Headband]
This ergonomically designed head mount is comfortable to wear even during long video sessions. *Also sold separately.

Multi Mount / VW-MKA100

Wind Jammer / VW-WJA100

Multi Belt / VW-MBA100

Accessories

Clip Mount / **VW-CLA100**
The lens unit can be easily mounted to a cap or other object.

Multi Belt / **VW-MBA100**
Neatly holds the main unit and cable. In different situations, you can wear it around the waist, across your body from the shoulder, or any way you like.

Multi Case / **VW-HLA500**
The case lets you keep the camera, cable, and main unit all together.

Multi Mount / **VW-MKA100**
You will find it useful in all kinds of outdoor situations. For example, you can mount the lens unit on goggles or a backpack strap.

Tripod Mount / **VW-CTA100**
The tripod mount will hold the lens unit on screw mounting platforms, such as tripods. Ideal for fixed-point shooting.

Video Camera Mount (For Handlebar) / **RP- CMC10**
Mounting the lens unit on your handlebars is a great way to capture cycle rides.
*Used together with Tripod Mount VW-CTA100, which holds the lens unit.

Suction Cup Mount / **VW- SCA100**
Helps when you want to fix the lens unit to a boat or other flat surface.
*Used together with Tripod Mount VW-CTA100, which holds the lens unit.

Wind Jammer / **VW-WJA100**
By shielding the microphone, you can get a clear sound track when shooting on a bicycle, motorbike, or in windy conditions.

4K Ultra HD/HD Camcorder Specifications (NTSC / PAL)

		HC-WX970/WX970M	HC-VX870/VX870M	HC-V770/V770M/V760	HC-W570/W570M	HC-V270/V260	HC-V160	HC-X920/X920M/X910
SENSOR SECTION								
SENSOR FOR MAIN CAMERA								
Image Sensor		1/2.3-type BSI MOS Sensor (For Europe) / 1/2.3" BSI MOS Sensor (For North America / Asia)	1/2.3-type BSI MOS Sensor (For Europe) / 1/2.3" BSI MOS Sensor (For North America / Asia)	1/2.3-type BSI MOS Sensor (For Europe) / 1/2.3" BSI MOS Sensor (For North America / Asia)	1/5.8-type BSI MOS Sensor (For Europe) / 1/5.8" BSI MOS Sensor (For North America / Asia)	1/5.8-type BSI MOS Sensor (For Europe) / 1/5.8" BSI MOS Sensor (For North America / Asia)	1/5.8-type BSI MOS Sensor (For Europe) / 1/5.8" BSI MOS Sensor (For North America / Asia)	1/2.3-type BSI MOS Sensor x 3 (For Europe) / 1/2.3" BSI MOS Sensor x 3 (For North America / Asia)
Total Pixels		18.91 megapixels	18.91 megapixels	12.76 megapixels	2.51 megapixels	2.51 megapixels	2.51 megapixels	38.28 megapixels (12.76 megapixels x 3)
Effective Pixels	Motion Image	4K: 8.29 megapixels [16:9], Full-HD: 6.1 megapixels [16:9] (Level Shot Function OFF or Normal)	4K: 8.29 megapixels [16:9], Full-HD: 6.1 megapixels [16:9] (Level Shot Function OFF or Normal)	6.03 megapixels [16:9] (Level Shot Function OFF or Normal)	2.20 megapixels [16:9] (O.I.S. Standard Mode, Level Shot Function OFF)	2.20 megapixels [16:9] (O.I.S. Standard Mode, Level Shot Function OFF)	2.20 megapixels [16:9]	8.49 megapixels (2.83 megapixels x 3) [16:9]
	Still Image	7.00 megapixels [3:2] / 8.29 megapixels [16:9] / 6.22 megapixels [4:3]	7.00 megapixels [3:2] / 8.29 megapixels [16:9] / 6.22 megapixels [4:3]	5.21 megapixels [3:2] / 6.03 megapixels [16:9] / 4.72 megapixels [4:3]	1.67 megapixels [3:2] / 2.20 megapixels [16:9] / 1.70 megapixels [4:3]	1.67 megapixels [3:2] / 2.20 megapixels [16:9] / 1.70 megapixels [4:3]	2.20 megapixels [16:9]	8.49 megapixels (2.83 megapixels x 3) [16:9] / 7.62 megapixels (2.54 megapixels x 3) [3:2] / 6.78 megapixels (2.26 megapixels x 3) [4:3]
SENSOR FOR SUB CAMERA								
Image Sensor		1/4-type MOS Sensor (For Europe) / 1/4" MOS Sensor (For North America / Asia)	—	—	1/5-type MOS Sensor (For Europe) / 1/5" MOS Sensor (For North America / Asia)	—	—	—
Total Pixels		5.27 megapixels	—	—	2 megapixels	—	—	—
LENS SECTION								
LENS FOR MAIN CAMERA								
F Value		F1.8 (WIDE) / F3.6 (TELE)	F1.8 (WIDE) / F3.6 (TELE)	F1.8 (WIDE) / F3.6 (TELE)	F1.8 (WIDE) / F4.2 (TELE)	F1.8 (WIDE) / F4.2 (TELE)	F1.8 (WIDE) / F4.2 (TELE)	F1.5 (WIDE) / F2.8 (TELE)
Optical Zoom		20x	20x	20x	50x	50x	38x	12x
Focal Length		4.08 — 81.6 mm	4.08 — 81.6 mm	4.08 — 81.6 mm	2.06 — 103 mm	2.06 — 103 mm	2.35 — 89.3 mm	2.84 — 34.1 mm
35 mm Film Camera Equivalent	Motion Image	4K: 30.8 — 626 mm [16:9], Full-HD: 37 — 752 mm [16:9] (Level Shot Function OFF or Normal)	4K: 30.8 — 626 mm [16:9], Full-HD: 37 — 752 mm [16:9] (Level Shot Function OFF or Normal)	29.5 — 612 mm [16:9] (Level Shot Function OFF or Normal)	28.0 — 1740 mm [16:9] (O.I.S. Standard Mode, Level Shot Function OFF)	28.0 — 1740 mm [16:9] (O.I.S. Standard Mode, Level Shot Function OFF)	32.3 — 1646 mm [16:9]	29.8 — 399.2 mm [16:9]
	Still Image	34.5 — 690.3 mm [3:2] / 30.8 — 626 mm [16:9] / 37.6 — 752.8 mm [4:3]	34.5 — 690.3 mm [3:2] / 30.8 — 626 mm [16:9] / 37.6 — 752.8 mm [4:3]	33.5 — 669.9 mm [3:2] / 29.5 — 612 mm [16:9] / 36.2 — 724.6 mm [4:3]	33.6 — 1714 mm [3:2] / 28.0 — 1740 mm [16:9] / 34.0 — 1766 mm [4:3]	33.6 — 1714 mm [3:2] / 28.0 — 1740 mm [16:9] / 34.0 — 1766 mm [4:3]	32.3 — 1646 mm [16:9]	29.8 — 399.2 mm [16:9] / 33.1 — 397.1 mm [3:2] / 36.0 — 431.7 mm [4:3]
Filter Diameter		49 mm	49 mm	49 mm	—	—	—	49 mm
Lens Brand		Leica Dicomar Lens	Leica Dicomar Lens	Panasonic Lens	Panasonic Lens	Panasonic Lens	Panasonic Lens	Leica Dicomar Lens
LENS FOR SUB CAMERA								
F Value		F2.2	—	—	F2.8	—	—	—
Focal Length		3.54 mm	—	—	2.48 mm	—	—	—
35 mm Film Camera Equivalent		37.2 mm (Motion picture recording mode)	—	—	30.6 mm	—	—	—
CAMERA SECTION								
Standard Illumination		1400 lx	1400 lx	1400 lx	1400 lx	1400 lx	1400 lx	1400 lx
Minimum Illumination		2 lx (Scene Mode Low Light 1/30) [For NTSC Area] / 2 lx (Scene Mode Low Light 1/25) [For PAL Area] / 1 lx (Night Mode (Color)) / 0 lx (Night Mode (IR))	2 lx (Scene Mode Low Light 1/30) [For NTSC Area] / 2 lx (Scene Mode Low Light 1/25) [For PAL Area] / 1 lx (Night Mode (Color)) / 0 lx (Night Mode (IR))	2 lx (Scene Mode Low Light 1/30) [For NTSC Area] / 2 lx (Scene Mode Low Light 1/25) [For PAL Area] / 1 lx (Night Mode (Color))	4 lx (Scene Mode Low Light 1/30) [For NTSC Area] / 4 lx (Scene Mode Low Light 1/25) [For PAL Area] / 1 lx (Night Mode (Color))	4 lx (Scene Mode Low Light 1/30) [For NTSC Area] / 4 lx (Scene Mode Low Light 1/25) [For PAL Area] / 1 lx (Night Mode (Color))	[For NTSC Area] 4 lx (Scene Mode Low Light 1/30), 1 lx (Night Mode (Color)) / [For PAL Area] 4 lx (Scene Mode Low Light 1/25), 1 lx (Night Mode (Color))	[For NTSC Area] 1.6 lx (Scene Mode Low Light 1/30), 1 lx (Color Night Rec) / [For PAL Area] 1.6 lx (Scene Mode Low Light 1/25), 1 lx (Color Night View)
Focus		Auto / Manual	Auto / Manual	Auto / Manual	Auto / Manual	Auto / Manual	Auto / Manual	Auto / Manual
Zoom	Intelligent Zoom OFF	20x	20x	20x	62x (O.I.S. Standard Mode, Level Shot Function OFF)	62x (O.I.S. Standard Mode, Level Shot Function OFF)	50x	12x
	Intelligent Zoom ON	4K: 25x, Full-HD: 40x	4K: 25x, Full-HD: 40x	50x	90x (O.I.S. Standard Mode, Level Shot Function OFF)	90x (O.I.S. Standard Mode, Level Shot Function OFF)	77x	25x
	Digital Zoom	60x / 1500x (WX979EG: 60x / 250x) (The maximum value of zoom magnification can be set in two patterns)	60x / 1500x (VX878EG: 60x / 250x) (The maximum value of zoom magnification can be set in two patterns)	60x / 1500x (V777EG: 60x / 250x) (The maximum value of zoom magnification can be set in two patterns)	150x / 3000x (The maximum value of zoom magnification can be set in two patterns)	150x / 3000x (The maximum value of zoom magnification can be set in two patterns)	100x / 2500x (The maximum value of zoom magnification can be set in two patterns)	40x / 700x (The maximum value of zoom magnification)
White Balance		Auto / Indoor1 / Indoor2 / Sunny / Cloudy / White set	Auto / Indoor1 / Indoor2 / Sunny / Cloudy / White set	Auto / Indoor1 / Indoor2 / Sunny / Cloudy / White set	Auto / Indoor1 / Indoor2 / Sunny / Cloudy / White set	Auto / Indoor1 / Indoor2 / Sunny / Cloudy / White set	Auto / Indoor1 / Indoor2 / Sunny / Cloudy / White set	Auto / Indoor1 / Indoor2 / Sunny / Cloudy / White set
Shutter Speed	Motion Image	[For NTSC Area] [60p / 60i] 1/30 — 1/8000 (Auto Slow Shutter ON) 1/60 — 1/8000 (Auto Slow Shutter OFF) [For PAL Area] [50p / 50i] 1/25 — 1/8000 (Auto Slow Shutter ON) 1/50 — 1/8000 (Auto Slow Shutter OFF)	[For NTSC Area] [60p / 60i] 1/30 — 1/8000 (Auto Slow Shutter ON) 1/60 — 1/8000 (Auto Slow Shutter OFF) [For PAL Area] [50p / 50i] 1/25 — 1/8000 (Auto Slow Shutter ON) 1/50 — 1/8000 (Auto Slow Shutter OFF)	[For NTSC Area] [60p / 60i] 1/30 — 1/8000 (Auto Slow Shutter ON) 1/60 — 1/8000 (Auto Slow Shutter OFF) [For PAL Area] [50p / 50i] 1/25 — 1/8000 (Auto Slow Shutter ON) 1/50 — 1/8000 (Auto Slow Shutter OFF)	[For NTSC Area] [60p / 60i] 1/30 — 1/8000 (Auto Slow Shutter ON) 1/60 — 1/8000 (Auto Slow Shutter OFF) [For PAL Area] [50p / 50i] 1/25 — 1/8000 (Auto Slow Shutter ON) 1/50 — 1/8000 (Auto Slow Shutter OFF)	[For NTSC Area] [60p / 60i] 1/30 — 1/8000 (Auto Slow Shutter ON) 1/60 — 1/8000 (Auto Slow Shutter OFF) [For PAL Area] [50p / 50i] 1/25 — 1/8000 (Auto Slow Shutter ON) 1/50 — 1/8000 (Auto Slow Shutter OFF)	[For NTSC Area] [60i] 1/30 — 1/8000 (Auto Slow Shutter ON) 1/60 — 1/8000 (Auto Slow Shutter OFF) [For PAL Area] [50i] 1/25 — 1/8000 (Auto Slow Shutter ON) 1/50 — 1/8000 (Auto Slow Shutter OFF)	[For NTSC Area] [60p / 60i] 1/30 — 1/8000 (Auto Slow Shutter ON) [30p] 1/30 — 1/8000 (Auto Slow Shutter ON) [For PAL Area] [50i] 1/25 — 1/8000 (Auto Slow Shutter ON) [25p] 1/25 — 1/8000 (Auto Slow Shutter ON)
	Still Image	1/2 — 1/2000	1/2 — 1/2000	1/2 — 1/2000	1/2 — 1/2000	1/2 — 1/2000	—	1/2 — 1/2000, (Video Flash ON : 1/2 — 1/500)
Iris		Auto / Manual	Auto / Manual	Auto / Manual	Auto / Manual	Auto / Manual	Auto / Manual	Auto / Manual
Image Stabilizer		HYBRID O.I.S.+ with Active Mode, O.I.S. Lock, Level Shot Function	HYBRID O.I.S.+ with Active Mode, O.I.S. Lock, Level Shot Function	HYBRID O.I.S.+ with Active Mode, O.I.S. Lock, Level Shot Function	HYBRID O.I.S.+ with Active Mode, O.I.S. Lock, Level Shot Function	HYBRID O.I.S.+ with Active Mode, O.I.S. Lock, Level Shot Function	Electric Image Stabilizer	HYBRID O.I.S.+ with Active Mode, O.I.S. Lock, Level Shot Function
Creative Control*		Miniature Effect, Silent Movie, 8mm Movie, Time Lapse Rec	Miniature Effect, Silent Movie, 8mm Movie, Time Lapse Rec	Miniature Effect, Silent Movie, 8mm Movie, Time Lapse Rec	Miniature Effect, Silent Movie, 8mm Movie, Time Lapse Rec	Miniature Effect, Silent Movie, 8mm Movie, Time Lapse Rec	Miniature Effect, Silent Movie, 8mm Movie, Time Lapse Rec	Miniature Effect, Silent Movie, 8mm Movie, Time Lapse Rec

* Except 4K mode

		HC-WX970/WX970M	HC-VX870/VX870M	HC-V770/V770M/V760	HC-W570/W570M	HC-V270/V260	HC-V160	HC-X920/X920M/X910
RECORDING SECTION								
Recording Media		[WX970] SD/SDHC/SDXC Memory Card [WX970M] Built-in memory (16GB), SD/SDHC/SDXC Memory Card	[VX870] SD/SDHC/SDXC Memory Card [VX870M] Built-in memory (16GB), SD/SDHC/SDXC Memory Card	[V770/V760] SD/SDHC/SDXC Memory Card [V770M] Built-in memory (16GB), SD/SDHC/SDXC Memory Card	[W570] SD/SDHC/SDXC Memory Card [W570M] Built-in memory (16GB), SD/SDHC/SDXC Memory Card	SD/SDHC/SDXC Memory Card	SD/SDHC/SDXC Memory Card	[X920/X910] SD/SDHC/SDXC Memory Card [X920M] Built-in memory (32GB), SD/SDHC/SDXC Memory Card
Recording Format		[AVCHD] AVCHD Progressive [iFrame / MP4] MP4	[AVCHD] AVCHD Progressive [iFrame / MP4] MP4	[AVCHD] AVCHD Progressive [iFrame / MP4] MP4	[AVCHD] AVCHD Progressive [iFrame / MP4] MP4	[AVCHD] AVCHD Progressive [iFrame / MP4] MP4	[AVCHD] AVCHD [iFrame / MP4] MP4	[AVCHD] AVCHD 3D / Progressive [iFrame] MP4
Compression Method		MPEG-4 AVC/H.264	MPEG-4 AVC/H.264	MPEG-4 AVC/H.264	MPEG-4 AVC/H.264	MPEG-4 AVC/H.264	MPEG-4 AVC/H.264	[2D] MPEG-4 AVC/H.264 [3D] MPEG-4 MVC/H.264
Recording / Playback Mode	3840 x 2160	MP4/2160p(72M) (72Mbps / VBR)	MP4/2160p(72M) (72Mbps / VBR)	—	—	—	—	—
	1920 x 1080	1080/60p (28Mbps / VBR) [For NTSC Area] 1080/50p (28Mbps / VBR) [For PAL Area] PH (24Mbps / VBR), HA (17Mbps / VBR) HG (13Mbps / VBR), HE (5Mbps / VBR) MP4/1080p(50M) (50Mbps / VBR) MP4/1080p(28M) (28Mbps / VBR)	1080/60p (28Mbps / VBR) [For NTSC Area] 1080/50p (28Mbps / VBR) [For PAL Area] PH (24Mbps / VBR), HA (17Mbps / VBR) HG (13Mbps / VBR), HE (5Mbps / VBR) MP4/1080p(50M) (50Mbps / VBR) MP4/1080p(28M) (28Mbps / VBR)	1080/60p (28Mbps / VBR) [For NTSC Area] 1080/50p (28Mbps / VBR) [For PAL Area] PH (24Mbps / VBR), HA (17Mbps / VBR) HG (13Mbps / VBR), HE (5Mbps / VBR) MP4/1080p(28M) (28Mbps / VBR)	1080/60p (28Mbps / VBR) [For NTSC Area] 1080/50p (28Mbps / VBR) [For PAL Area] PH (24Mbps / VBR), HA (17Mbps / VBR) HG (13Mbps / VBR), HE (5Mbps / VBR) MP4/1080p(28M) (28Mbps / VBR)	1080/60p (28Mbps / VBR) [For NTSC Area] 1080/50p (28Mbps / VBR) [For PAL Area] PH (24Mbps / VBR), HA (17Mbps / VBR) HG (13Mbps / VBR), HE (5Mbps / VBR) MP4/1080p(28M) (28Mbps / VBR)	HA (17Mbps / VBR) HG (13Mbps / VBR) HE (5Mbps / VBR)	1080/60p (28Mbps / VBR) [For NTSC Area] 1080/50p (28Mbps / VBR) [For PAL Area] PH (24Mbps / VBR), HA (17Mbps / VBR) HG (13Mbps / VBR), HE (5Mbps / VBR) AVCHD 3D (28Mbps / VBR) SbS(17Mbps / VBR)
	1280 x 720	MP4/720p(9M) (9Mbps / VBR)	MP4/720p(9M) (9Mbps / VBR)	MP4/720p(9M) (9Mbps / VBR)	MP4/720p(9M) (9Mbps / VBR)	MP4/720p(9M) (9Mbps / VBR)	—	—
	960 x 540	iFrame (28Mbps / VBR)	iFrame (28Mbps / VBR)	iFrame (28Mbps / VBR)	iFrame (28Mbps / VBR)	iFrame (28Mbps / VBR)	iFrame (28Mbps / VBR)	iFrame (28Mbps / VBR)
	640 x 360	—	—	—	—	—	MP4 (1.5Mbps / VBR)	—
Thumbnail Display		20 thumbnails/page, 9 thumbnails/page, 1 thumbnail/page	20 thumbnails/page, 9 thumbnails/page, 1 thumbnail/page	20 thumbnails/page, 9 thumbnails/page, 1 thumbnail/page	20 thumbnails/page, 9 thumbnails/page, 1 thumbnail/page	20 thumbnails/page, 9 thumbnails/page, 1 thumbnail/page	20 thumbnails/page, 9 thumbnails/page, 1 thumbnail/page	20 thumbnails/page, 9 thumbnails/page, 1 thumbnail/page
Audio Recording System		AVCHD: Dolby Digital (5.1ch / 2ch) iFrame, MP4: AAC (2ch)	AVCHD: Dolby Digital (5.1ch / 2ch) iFrame, MP4: AAC (2ch)	AVCHD: Dolby Digital (5.1ch / 2ch) iFrame, MP4: AAC (2ch)	AVCHD: Dolby Digital (2ch) iFrame, MP4: AAC (2ch)	AVCHD: Dolby Digital (2ch) iFrame, MP4: AAC (2ch)	AVCHD: Dolby Digital (2ch) iFrame, MP4: AAC (2ch)	AVCHD: Dolby Digital (5.1ch / 2ch) iFrame: AAC (2ch)
Microphone		5.1ch Surround, Zoom, Focus and Stereo Microphone	5.1ch Surround, Zoom, Focus and Stereo Microphone	5.1ch Surround, Zoom, Focus and Stereo Microphone	2ch Stereo, Zoom Microphone	2ch Stereo, Zoom Microphone	2ch Stereo	5.1ch Surround, Zoom, Focus and Stereo Microphone
Speaker		Dynamic type	Dynamic type	Dynamic type	Dynamic type	Dynamic type	Dynamic type	Dynamic type
STILL IMAGE SECTION								
Recording Format		JPEG (DCF/Exif2.2)	JPEG (DCF/Exif2.2)	JPEG (DCF/Exif2.2)	JPEG (DCF/Exif2.2)	JPEG (DCF/Exif2.2)	JPEG (DCF/Exif2.2)	JPEG (DCF/Exif2.2), MPO
Recording Image Size	16:9	25.9 megapixels (6784 x 3816), 14 megapixels (4992 x 2808), 2.1 megapixels (1920 x 1080)	25.9 megapixels (6784 x 3816), 14 megapixels (4992 x 2808), 2.1 megapixels (1920 x 1080)	24 megapixels (6528 x 3672),12.6 megapixels (4736 x 2664), 2.1 megapixels (1920 x 1080)	10 megapixels (4224 x 2376) 2.1 megapixels (1920 x 1080)	10 megapixels (4224 x 2376) 2.1 megapixels (1920 x 1080)	8.9 megapixels (3968 x 2232) 2.1 megapixels (1920 x 1080)	20.4 megapixels (6016 x 3384), 9.4 megapixels (4096 x 2304) 2.1 megapixels (1920 x 1080)
	3:2	20 megapixels (5472 x 3648), 10.6 megapixels (3984 x 2656), 2.0 megapixels (1728 x 1152)	20 megapixels (5472 x 3648), 10.6 megapixels (3984 x 2656), 2.0 megapixels (1728 x 1152)	20 megapixels (5472 x 3648), 10.6 megapixels (3984 x 2656), 2.0 megapixels (1728 x 1152)	7.7 megapixels (3408 x 2272) 2.0 megapixels (1728 x 1152)	7.7 megapixels (3408 x 2272) 2.0 megapixels (1728 x 1152)	—	16 megapixels (4896 x 3264), 8.0 megapixels (3456 x 2304) 2.0 megapixels (1728 x 1152)
	4:3	20.4 megapixels (5216 x 3912), 10.9 megapixels (3808 x 2856), 0.3 megapixels (640 x 480)	20.4 megapixels (5216 x 3912), 10.9 megapixels (3808 x 2856), 0.3 megapixels (640 x 480)	18 megapixels (4896 x 3672), 8 megapixels (3264 x 2448), 0.3 megapixels (640 x 480)	7.4 megapixels (3136 x 2352) 0.3 megapixels (640 x 480)	7.4 megapixels (3136 x 2352) 0.3 megapixels (640 x 480)	—	15.1 megapixels (4480 x 3360), 5.8 megapixels (2784 x 2088) 0.3 megapixels (640 x 480)
Simultaneous Recording*[1]	2160p*[2]	20.4 megapixels (6016 x 3384), 8.3 megapixels (3840 x 2160)	20.4 megapixels (6016 x 3384), 8.3 megapixels (3840 x 2160)	—	—	—	—	—
	Other than 2160p	14.0 megapixels (4992 x 2808), 2.1 megapixels (1920 x 1080)	14.0 megapixels (4992 x 2808), 2.1 megapixels (1920 x 1080)	12.6 megapixels (4736 x 2664), 2.1 megapixels (1920 x 1080)	2.1 megapixels (1920 x 1080)	2.1 megapixels (1920 x 1080)	—	20.4 megapixels (6016 x 3384), 9.4 megapixels (4096 x 2304) 2.1 megapixels (1920 x 1080)
GENERAL SECTION								
Power Supply		3.6V (Battery) / 5.0V (AC Adaptor)	3.6V (Battery) / 5.0V (AC Adaptor)	3.6V (Battery) / 5.0V (AC Adaptor)	3.6V (Battery) / 5.0V (AC Adaptor)	3.6V (Battery) / 5.0V (AC Adaptor)	3.6V (Battery) / 5.0V (AC Adaptor)	7.2V (Battery) / 9.3V (AC Adaptor)
Power Consumption		Max. 7.6W (Recording) / Max. 7.7W (Charging)	Max. 7.1W (Recording) / Max. 7.7W (Charging)	Max. 6.7W (Recording) / Max. 7.7W (Charging)	Max. 5.4W (Recording) / Max. 7.7W (Charging)	Max. 4.7W (Recording) / Max. 7.7W (Charging)	Max. 3.5W (Recording) / Max. 5.3W (Charging)	[X920/X920M] Max.9.3W (Recording) / Max.10.3W (Charging) [X910] Max.8.7W (Recording) / Max.10.3W (Charging)
Dimensions (W x H x D)		Approx. 65 x 73 x 139 mm (2.559 x 2.874 x 5.472 inch)	Approx. 65 x 73 x 139 mm (2.559 x 2.874 x 5.472 inch)	Approx. 65 x 73 x 139 mm (2.559 x 2.874 x 5.472 inch)	Approx. 60 x 62 x 129 mm (2.362 x 2.441 x 5.079 inch)	Approx. 53 x 59 x 116 mm (2.087 x 2.323 x 4.567 inch)	Approx. 53 x 60 x 114 mm (2.087 x 2.362 x 4.488 inch)	Approx. 67 x 72 x 150 mm (2.64 x 2.83 x 5.90 inch)
Weight (without battery and SD card)		[WX970] Approx. 360g (0.794 lb) [WX970M] Approx. 361g (0.796 lb)	[VX870] Approx. 353g (0.778 lb) [VX870M] Approx. 354g (0.781 lb)	[V770] Approx. 353g (0.778 lb) [V770M] Approx. 354g (0.781 lb) [V760] Approx. 350g (0.772 lb)	[W570] Approx. 266g (0.585 lb) [W570M] Approx. 268g (0.590 lb)	[V270] Approx. 216g (0.476 lb) [V260] Approx. 211g (0.465 lb)	Approx. 181g (0.399lb)	[X920] Approx. 417g (0.919 lb) [X920M] Approx. 419g (0.924 lb) [X910] Approx. 415g (0.915 lb)
LCD Monitor (Wide)		7.5 cm (3.0") Touch LCD (460,800 dots) [For Europe] 3.0" Touch LCD (460,800 dots) [For North America / Asia]	7.5 cm (3.0") Touch LCD (460,800 dots) [For Europe] 3.0" Touch LCD (460,800 dots) [For North America / Asia]	7.5 cm (3.0") Touch LCD (460,800 dots) [For Europe] 3.0" Touch LCD (460,800 dots) [For North America / Asia]	7.5 cm (3.0") Touch LCD (460,800 dots) [For Europe] 3.0" Touch LCD (460,800 dots) [For North America / Asia]	6.7cm (2.7") Touch LCD (230,400 dots) [For Europe] 2.7" Touch LCD (230,400 dots) [For North America / Asia]	6.7cm (2.7") LCD (230,400 dots) [For Europe] 2.7" LCD (230,400 dots) [For North America / Asia]	8.8 cm (3.5") Touch LCD (1,152,000 dots) [For Europe] 3.5" Touch LCD (1,152,000 dots) [For North America / Asia]
View Finder		—	—	—	—	—	—	—
Manual Ring / Dial		Yes [Dial]	Yes [Dial]	Yes [Dial]	—	—	—	Yes [Ring]
Interface		AV, HDMI(micro), Microphones (stereo mini), Headphone (stereo mini), USB (2.0 Hi-Speed), USB Charge	AV, HDMI(micro), Microphones (stereo mini), Headphone (stereo mini), USB (2.0 Hi-Speed), USB Charge	AV, HDMI(micro), Microphones (stereo mini), Headphone (stereo mini), USB (2.0 Hi-Speed), USB Charge	AV, HDMI (mini), USB (2.0 Hi-Speed), USB Charge	AV, HDMI (mini), USB (2.0 Hi-Speed), USB Charge	AV, HDMI (mini), USB (2.0 Hi-Speed), USB Charge	AV, HDMI (mini), Microphones (stereo mini), Headphone (stereo mini), USB (2.0 Hi-Speed)
Flash / LED Video Light		— / Yes	— / Yes	— / Yes	— / —	— / —	— / —	Yes / —
Accessory Shoe		Yes (cold)	Yes (cold)	Yes (cold)	—	—	—	Yes (cold)
Lens Cover		Yes (Auto)	Yes (Auto)	Yes (Auto)	Yes (Auto)	Yes (Manual)	Yes (Manual)	Yes (Auto)
Standard Accessory		AC Adaptor, DC Cable (USB Type), Rechargeable Battery Pack (1,940mAh), HDMI micro Cable, Shoe Adaptor, Lens Hood, USB Cable, HD Writer AE5.2 (Download)	AC Adaptor, DC Cable (USB Type), Rechargeable Battery Pack (1,940mAh), HDMI micro Cable, Shoe Adaptor, Lens Hood, USB Cable, HD Writer AE5.2 (Download)	AC Adaptor, DC Cable (USB Type), Rechargeable Battery Pack (1,940mAh), HDMI micro Cable, Shoe Adaptor, USB Cable, HD Writer AE5.2 (Download)	AC Adaptor, DC Cable (USB Type), Rechargeable Battery Pack (1,940mAh), HDMI mini Cable, USB Cable, HD Writer LE3.0 (Download)	AC Adaptor, DC Cable (USB Type), Rechargeable Battery Pack (1,940mAh), HDMI mini Cable, USB Cable, HD Writer LE3.0 (Download)	AC Adaptor, Rechargeable Battery Pack (970mAh), HDMI mini Cable,*[3] AV Cable,*[4] USB Cable, HD Writer LE3.0 (Download)	AC Adaptor, Rechargeable Battery Pack (1,250mAh), HDMI mini Cable, AV Cable, Shoe Adaptor, Lens Hood, USB Cable, CD-ROM (HD Writer AE 5.0)
Wi-Fi								
Standard		IEEE 802.11b/g/n	IEEE 802.11b/g/n	[V770/V770M] IEEE 802.11b/g/n [V760] —	IEEE 802.11b/g/n	[V270] IEEE 802.11b/g/n [V260] —	—	[X920 / X920M] IEEE 802.11b/g/n [X910] —
Frequency		2.4GHz band	2.4GHz band	[V770/V770M] 2.4GHz band [V760] —	2.4GHz band	[V270] 2.4GHz band [V260] —	—	[X920 / X920M] 2.4GHz band [X910] —
NFC		Yes	Yes	[V770/V770M] Yes [V760] —	Yes	[V270] Yes [V260] —	—	—

*1 16:9 *2 Number of pixels recorded in a still image during REC PAUSE. *3 [For NTSC Area] PU/PR model only. [For PAL Area] GC / GA / GW model only.
*4 [For NTSC Area] Not available for PU/PR model. [For PAL Area] Not available for GC / GA / GW model.

4K Ultra HD Camcorder Specifications (NTSC / PAL)

HC-X1000		
SENSOR SECTION		
Image Sensor		1/2.3-type BSI MOS Sensor (For Europe) / 1/2.3" BSI MOS Sensor (For North America / Asia)
Total Pixels		18.91 megapixels
Effective Pixels		8.85 megapixels [17:9], 8.29 megapixels [16:9]
LENS SECTION		
F Value		F1.8 (WIDE) / F3.6 (TELE)
Optical Zoom		20x
Focal Length		4.08 — 81.6 mm
35 mm Film Camera Equivalent (Motion Image/Still Image)		29.5 — 600 mm [17:9], 30.8 — 626 mm [16:9]
Filter Diameter		49 mm
Lens Brand		Leica Dicomar Lens
CAMERA SECTION		
Standard Illumination		1400 lx
Minimum Illumination		4 lx (Super Gain 30dB, Shutter 1/30, 1/25)
Focus		Auto / Manual
Zoom	Intelligent Zoom OFF	20x
	Intelligent Zoom ON	40x (1920 x 1080 or lower)
	Digital Zoom	2x / 5x / 10x
White Balance		Auto / 3200K / 5600K / VAR (2400K — 9900K) / Ach Fixed / Bch Fixed
Image Stabilizer		C4K/4K: POWER O.I.S. / Full-HD or lower: 5-axis HYBRID O.I.S.+ with Active Mode
RECORDING SECTION		
Recording Media		SD/SDHC/SDXC Memory Card
Recording Format		MOV (LPCM) / MP4 (LPCM) / MP4 / AVCHD: AVCHD Progressive
Video Compression Method		MPEG-4 AVC/H.264
Audio Compression Method		MOV: LPCM (2ch), MP4: LPCM / AAC (2ch) / AVCHD: Dolby Digital (2ch)
Recording/Playback Mode	MP4	4096x2160 24p 100M: Average 100Mbps (VBR), LPCM
		3840x2160 60p/50p 150M: Average 150Mbps (VBR), LPCM
		3840x2160 30p/25p 100M: Average 100Mbps (VBR), LPCM or AAC
		3840x2160 24p 100M: Average 100Mbps (VBR), LPCM
		1920x1080 60p/50p 200M (ALL-Intra): Average 200Mbps (VBR), LPCM
		1920x1080 60p/50p 100M: Average 100Mbps (VBR), LPCM
		1920x1080 60p/50p 50M: Average 50Mbps (VBR), LPCM or AAC
		1920x1080 30p/25p 200M (ALL-Intra): Average 200Mbps (VBR), LPCM
		1920x1080 30p/25p 50M: Average 50Mbps (VBR), LPCM
		1920x1080 24p 200M (ALL-Intra): Average 200Mbps (VBR), LPCM
		1920x1080 24p 50M: Average 50Mbps (VBR), LPCM
	MOV	1920x1080 60p/50p 200M (ALL-Intra): Average 200Mbps (VBR), LPCM
		1920x1080 60p/50p 100M: Average 100Mbps (VBR), LPCM
		1920x1080 60p/50p 50M: Average 50Mbps (VBR), LPCM
		1920x1080 30p/25p 200M (ALL-Intra): Average 200Mbps (VBR), LPCM
		1920x1080 30p/25p 50M: Average 50Mbps (VBR), LPCM
		1920x1080 24p 200M (ALL-Intra): Average 200Mbps (VBR), LPCM
		1920x1080 24p 50M: Average 50Mbps (VBR), LPCM
	AVCHD	PS 1080 60p/50p: 1920x1080, Max. 28Mbps (VBR)
		PH 1080 60i/50i: 1920x1080, Max. 24Mbps (VBR)
		HA 1080 60i/50i: 1920x1080, Average 17Mbps (VBR)
		HE 1080 60i/50i: 1440x1080, Average 5Mbps (VBR)
		PM 720 60p/50p: 1280x720, Average 8Mbps (VBR)

System Frequency	59.94 Hz / 50.00 Hz
Thumbnail Display	20 thumbnails/page, 9 thumbnails/page, 1 thumbnail/page
Microphone	Stereo Microphone
Speaker	Dynamic type
STILL IMAGE SECTION	
Recording Format	JPEG (DCF/Exif2.2)
Recording Image Size	[17:9] 8.8 megapixels (4,096 x 2,160) / [16:9] 8.3 megapixels (3,840 x 2,160), / 2.1 megapixels (1,920 x 1,080)
GENERAL SECTION	
Power Supply	7.2V (Battery) / 12V (AC Adaptor)
Power Consumption	15.4W (LCD Monitor) / 14.3W (Viewfinder)
Dimensions (W x H x D)	Approx. 160 x 170 x 315 mm (6.3 x 6.69 x 12.4 inch)
Weight (without battery and SD card)	Approx. 1550g (3.42 lb)
LCD Monitor (Wide)	8.8 cm (3.5") LCD monitor (1,152,000 dots) (For Europe) / 3.5" LCD monitor (1,152,000 dots) (For North America / Asia)
View Finder (Wide)	1.15 cm (0.45") EVF (1,226,880 dots) (For Europe) / 0.45" EVF (1,226,880 dots) (For North America / Asia)
Manual Ring	Focus / Zoom / Iris
Interface	AV, HDMI(Type A), XLR (3 pins) x 2 [Line: 0dBu/+4dBu, Mic: -40dBu/-50dBu/-60dBu], Headphone (stereo mini), USB (Micro-B: USB 3.0 SuperSpeed, Type A: USB 3.0 SuperSpeed, Host (for USB HDD*), Bus Power Supply), Camera Remote (2.5mm super mini jack x 1 [ZOOM S/S], 3.5mm mini jack x 1 [FOCUS/IRIS])
Accessory Shoe	Yes
Standard Accessory	AC Adaptor, AC Cable (2 Cables), Rechargeable Battery Pack (5,800mAh), Battery Charger, High Speed HDMI Cable, USB Cable, Microphone Holder, Microphone Holder Screws (2 Screws), Input Terminal Cap (2 Caps), Shoulder Strap, Eye Cap, HD Writer XE2.0 (Download)
Wi-Fi	
Standard	IEEE 802.11b/g/n
Frequency	2.4GHz band
NFC	Yes

* USB hard disks with a capacity of 32 GB or less, or more than 2 TB, cannot be used.

Wearable Camera Specifications (NTSC / PAL)

HX-A500		
SENSOR SECTION		
Image Sensor		1/2.3-type BSI MOS Sensor (For Europe), / 1/2.3" BSI MOS Sensor (For North America / Asia)
Total Pixels		12.76 megapixels
Effective Pixels	Motion Image	9.03 megapixels [16:9] [Normal Shooting mode, 1920 x 1080 30p (For NTSC)/1920 x 1080 25p (For PAL), Angle of view: Wide]
	Still Image	8.34 megapixels [16:9] [Picture Recording Mode, Angle of view: Wide]
LENS SECTION		
F Value		F2.8
Focal Length		3.4mm
Angle of View		Approx. 160° [Normal Shooting mode, 1920 x 1080 30p (For NTSC)/1920 x 1080 25p (For PAL), Angle of view: Wide]
Minimum Focus Distance		Approx. 50 cm
Lens Brand		Panasonic Lens
CAMERA SECTION		
Standard Illumination		1400 lx
Minimum Illumination		6 lx, 1 lx (Color Night Rec.)
Focus		Fixed
White Balance		Auto / Indoor1 / Indoor2 / Sunny / Cloudy / White set
Image Stabilizer		Image Stabilizer, Level Shot Function
Shutter Speed		1/30 — 1/12000 (for NTSC), 1/25 — 1/12000 (for PAL)
RECORDING SECTION		
Recording Media		micro SD / micro SDHC
Recording Format		MPEG-4 AVC file format compliant (.MP4), Video Recording System MPEG-4 AVC/H.264
Recording/Playback Mode	Normal Shooting Mode	3840 x 2160 30p/25p (Max. 72Mbps/VBR)
		1920 x 1080 60p/50p (Max. 28Mbps/VBR)
		1920 x 1080 30p/25p (Average 15Mbps/VBR)
		1280 x 720 60p/50p (Average 15Mbps/VBR)
		1280 x 720 30p/25p (Average 9Mbps/VBR)
		848 x 480 30p/25p (Average 4.5Mbps/VBR)
	Slow Motion Mode (30p/25p)	1920 x 1080 60fps/50fps (Average 15Mbps/VBR)
		1280 x 720 120fps/100fps (Average 9Mbps/VBR)
		848 x 480 240fps/200fps (Average 4.5Mbps/VBR)
Audio Recording System		AAC
Microphone		Monaural
Speaker		Dynamic type
STILL IMAGE SECTION		
Recording Format		JPEG (DCF/Exif2.2)
Recording Image Size		[16:9] 16.3 megapixels (5376 x 3024), 8.3 megapixels (3840 x 2160), 5.3 megapixels (3072 x 1728)
Intermitting Recording		Yes (3 sec, 5 sec, 10 sec, 30 sec, 60 sec)

HX-A500		
SYSTEM SECTION		
Power Supply		3.7V (Battery) / 5.0V (Portable Power Supply**)
Power Consumption	Recording	NTSC: Max. 4.5W, PAL: Max. 4.3W
	Charging	5.3W (Portable Power Supply**), 2.3W (PC)
Weight	Without SD Card	[Camera] Approx. 31g (0.069lb), [Body] Approx. 128g (0.282lb)
	With SD Card	[Camera, Body and Cable] Approx. 185g (0.408lb)
Dimensions (W x H x D)		[Camera] Approx. Ø26.5 x 68.5 x — mm (1.04 x 2.70 x — inch) [Body] Approx. 59.5 x 94 x 26.7 mm (2.34 x 3.70 x 1.05 inch)
LCD Monitor		1.5" Wide LCD monitor (115,200 dots) (For North America / Asia) 3.7 cm (1.5") Wide LCD monitor (115,200 dots) (For Europe)
Interface		USB 2.0 Hi-Speed
Standard Accessories		Built-in Rechargeable Battery (1450mAh / Lithium-polymer), USB Cable, HD Writer WE2.0 (Download), Head Mount, Headband, Armband Case
Wi-Fi		
Standard		IEEE 802.11b/g/n
Frequency		2.4 GHz band
OTHERS		
Tough Design	Waterproof	3.0 m/10 ft (IPX8 compliant)
	Dustproof	Yes (IP5X compliant)

** Portable Power Supply availability depends on the sales area.

• Weight and dimensions shown are approximate. • Design, functions, and specifications are subject to change without notice. • All monitor and TV pictures are simulated. • Waterproof and Dustproof : The HX-A500 has IP5X dustproof rating. Meeting IPX8 rating, the HX-A500 is waterproof at 3.0 m (10 ft), for 30 min. Ratings do not guarantee effective protection in all conditions, and constitute no warranty against damage or equipment malfunction. • 1 GB = 1 billion bytes. Usable capacity will be less. • You are not allowed to reproduce (copy), or transfer to a network, any part of the software applications supplied with these products for commercial purposes without written authorization. • Panasonic will in no way be liable for any damages sustained directly or indirectly from the use of these products or from any trouble occurring therein. • Panasonic will also in no way be liable for any losses of data caused by these products. • SDXC Logo is a trademark. • SDHC Logo is a trademark. • SD Logo is a trademark. • Microsoft®, Windows® and DirectX® are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. • Leica is a registered trademark of Leica Microsystems IR GmbH. • Dicomar is a registered trademark of Leica Camera AG. • Microsoft product screen shot(s) are reprinted with permission from Microsoft Corporation. • The Wi-Fi CERTIFIED Logo is a certification mark 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. • Android and Google Play are trademarks or registered trademarks of Google Inc. • App Store is a service mark of Apple Inc. • Picasa is a registered trademark or trademark of Google Inc. • YouTube is a registered trademark or trademark of Google Inc. • Flickr is a registered trademark or trademark of Yahoo! Inc. • The Twitter name and logos are trademarks of Twitter, Inc. • Facebook™ and the Facebook logo are registered trademarks or trademarks of Facebook, Inc. • iMovie and Mac are trademarks of Apple Inc., registered in the U.S. and other countries. •The iFrame logo and the iFrame symbol are trademarks of Apple Inc. • The Works with iMovie and Final Cut Pro X logo is a trademark of Apple Inc. • Other names of systems and products mentioned in this brochure are generally the registered trademarks or trademarks of the manufacturers who developed the system or product concerned. • All other company and product names are trademarks of their respective corporations.