

## . AG-CX20



- Top
- **Features**
- Specifications
- Accessories
- Software
- Third Party Products
- 1. Broadcast-quality High-definition Imaging
  - High-sensitivity 1/2.5-type MOS sensor
  - Wide-angle 25mm lens with 24x optical zoom
  - 4K High-precision Autofocus
  - Face Detection and Tracking AE/AF

- [5-axis Hybrid Stabilization](#)
- [Ball O.I.S](#)
- [Built-in ND Filter](#)
- [Efficient Heat Dissipation](#)
- [Venus Engine](#)
- [HEVC 4:2:0 10-bit Recording](#)
- [Multi-format Support](#)
- [Proxy Recording Support](#)
- [4:2:2 10-bit Internal Recording / HDMI Output](#)
- [Advanced File Management with MOV File System](#)
- [Super Slow-motion Shooting](#)
- [Infrared \(IR\) Shooting](#)
- [16-axis Color Correction](#)
- [Enhanced Skin Tones](#)
- [Edge Enhancement](#)
- [Flexible Gamma](#)
- [Customizable Scenes](#)
- [Save and Share Camera Settings](#)
- [Additional Shooting Assistance](#)
- [2. Enhanced Mobility for Seamless Operation](#)
  - [High-definition LCD and OLED EVF](#)
  - [Selfie Mode](#)
  - [Dual Manual Rings](#)
  - [Dual SD Card Slots](#)
  - [Additional Recording Features](#)
  - [Built-In LED Light](#)
  - [24-bit Linear PCM Audio Recording](#)
  - [Detachable Handle](#)
  - [Customizable User Buttons](#)
  - [USB Power Delivery \(PD\) Support](#)
- [3. Versatile Networking Features](#)
  - [Built-in Wi-Fi](#)
  - [Wireless Control via Mobile Devices](#)
  - [Wired Remote Support](#)

- Full HD Streaming and Recording
- 3G-SDI Output
- NDI HX2 Support
- Ethernet Support
- Key Components and Controls

## 1. Broadcast-quality High-definition Imaging

### High-sensitivity 1/2.5-type MOS sensor

Handles large 4K data at 60fps/50fps with high-speed readout, minimizing rolling shutter distortion when capturing moving subjects.



*\* Taken with the HC-X2100. Equivalent in picture quality.*

### Wide-angle 25mm lens with 24x optical zoom

4-drive lens system supports 24x optical zoom, ranging from a wide-angle 25mm (35mm film equivalent) to a telephoto 600mm. i.ZOOM technology enabling up to 32x zoom in 4K and 48x in Full HD provides exceptional flexibility for shooting even in confined spaces.

**25 mm Wide-Angle**



**24x**



**i.ZOOM 48x**



*\* Taken with the HC-X2100. Equivalent in picture quality.*

## 4K High-precision Autofocus

Optimized for dynamic shooting conditions on location, this autofocus system prioritizes speed and tracking accuracy. The Micro-drive Focus unit ensures precise lens control for fast, smooth focusing. Sharp focus is reliably maintained even when subjects move from background to foreground..

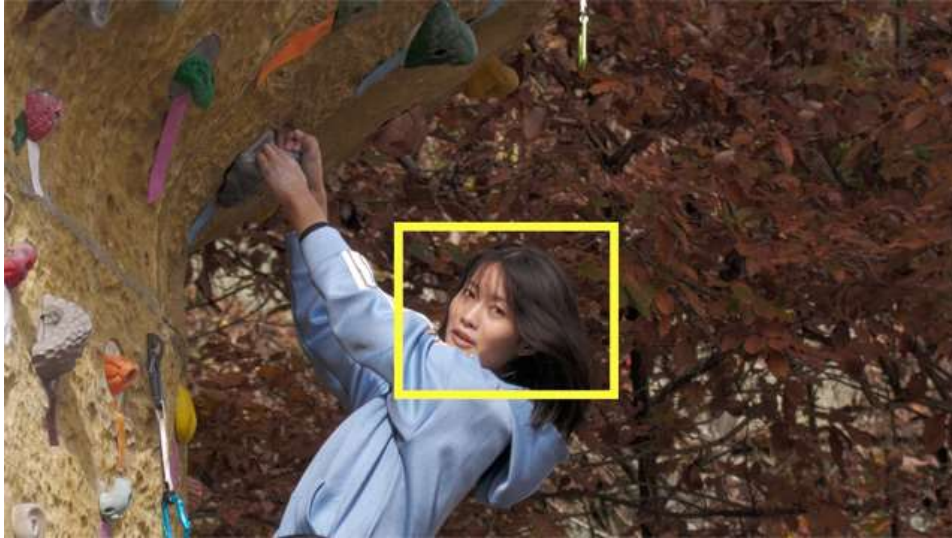




*\* Taken with the HC-X2100. Equivalent in picture quality.*

## Face Detection and Tracking AE/AF

Advanced Face Detection AE/AF automatically identifies and tracks human faces. Also, specific colors can be selected on the 3.5-inch touch LCD to enable Tracking AE/AF to follow people and other moving objects with increased accuracy.



*\* Taken with the HC-X2100. Equivalent in picture quality.*

## 5-axis Hybrid Stabilization

Five-axis Hybrid Stabilization corrects for camera shake in five axes: vertical, horizontal, and rotational. Using a gyro sensor that detects motion at 4,000 times per second, the stabilization engine delivers fast corrections. Combining optical and electronic stabilization, it ensures stable video when zooming in at high magnification and also when walking or shooting in low light.

**OFF**





ON





*\* Taken with the HC-X2100. Equivalent in picture quality.*

## Ball O.I.S

A ball-bearing mechanism reduces friction when the lens system drive unit operates. The lens moves smoothly when zooming and delicately compensates for shake caused by small vibrations.



## Built-in ND Filter

The built-in ND filter (1/4, 1/16, 1/64, CLEAR) adjusts incoming light levels to suit the shooting environment. The filter can be used to prevent resolution loss caused by excessive aperture reduction (diffraction) and supports a wide aperture for sharp images with a shallow depth of field.

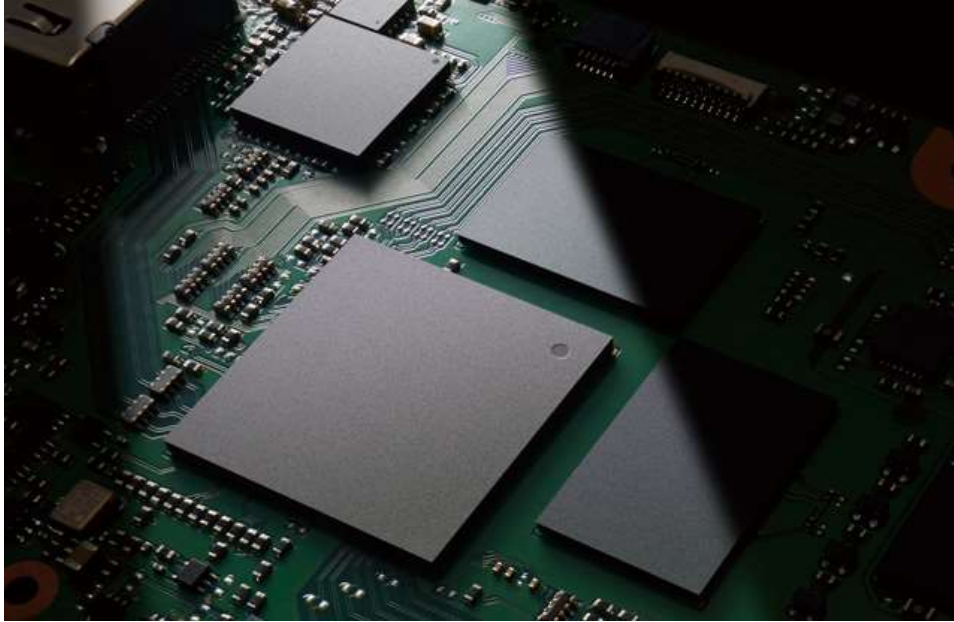
## Efficient Heat Dissipation

The image sensor typically heats up significantly as it collects external light through the lens, and its temperature rises further during high-speed 4K/60p signal processing, so an advanced, highly efficient heat dissipation design is employed to maintain stable performance under such conditions.



## Venus Engine

The Venus Engine features a new image processing system capable of rapidly handling large 4K/60p datasets for exceptional image quality. It also offers advanced image correction features to enhance creative video production. Internal recording supports resolutions up to 4K 29.97p and Full HD 59.94p in 4:2:2 10-bit.



## **HEVC 4:2:0 10-bit Recording**

Using the highly efficient new HEVC codec, the camcorder supports high-bitrate recording, including: 200 Mbps LongGOP (59.94p, 4:2:0 10-bit, MOV), 150 Mbps LongGOP (29.97p, 4:2:0 10-bit, MOV), 100 Mbps LongGOP (59.94p, 4:2:0 10-bit, MOV/MP4), and 72 Mbps LongGOP (29.97p, 4:2:0 10-bit, MP4).

## **Multi-format Support**

The camcorder supports a variety of formats and bitrates, including MOV and MP4 for streamlined editing workflows, as well as 720p AVCHD 8 Mbps (PM mode).

	Recording Format			Color Sampling	Bit Depth	Bit Rate	File Format	Audio
MOV	UHD	422 LongGOP 150M	3840 x 2160	4:2:2	10 bit	150M (VBR)	29.97p/ 25p/ 23.98p	24bit LPCM
		HEVC LongGOP 200M	3840 x 2160	4:2:0	10 bit	200M (VBR)	59.94p/ 50p	24bit LPCM
		HEVC LongGOP 150M	3840 x 2160	4:2:0	10 bit	150M (VBR)	29.97p/ 25p/ 23.98p	24bit LPCM
		HEVC LongGOP 100M	3840 x 2160	4:2:0	10 bit	100M (VBR)	59.94p/ 50p	24bit LPCM
		420 LongGOP 150M	3840 x 2160	4:2:0	8 bit	150M (VBR)	59.94p/ 50p	24bit LPCM
		420 LongGOP 100M	3840 x 2160	4:2:0	8 bit	100M (VBR)	29.97p/ 25p/ 23.98p	24bit LPCM

	FHD	422 ALL-I 200M	1920 x 1080	4:2:2	10 bit	200M (VBR)	59.94p/ 50p	24bit LPCM
		422 ALL-I 100M	1920 x 1080	4:2:2	10 bit	100M (VBR)	29.97p/ 25p/ 23.98p/ 59.94i/ 50i	24bit LPCM
		422 LongGOP 100M	1920 x 1080	4:2:2	10 bit	100M (VBR)	59.94p/ 50p	24bit LPCM
		422 LongGOP 50M	1920 x 1080	4:2:2	10 bit	50M (VBR)	29.97/ 25p/ 23.98p/ 59.94i/ 50i	24bit LPCM
MP4	UHD	HEVC LongGOP100M	3840 x 2160	4:2:0	10 bit	100M (VBR)	59.94p/ 50p	16bit AAC
		HEVC LongGOP 72M	3840 x 2160	4:2:0	10 bit	72M (VBR)	29.97p/ 25p/ 23.98p	16bit AAC
		420 LongGOP 72M	3840 x 2160	4:2:0	8 bit	72M (VBR)	29.97p/ 25p/ 23.98p	16bit AAC

	FHD	420 LongGOP 50M	1920 x 1080	4:2:0	8 bit	50M (VBR)	59.94p/ 50p/ 23.98p	16bit AAC
AVCHD	FHD	PS	1920 x 1080	4:2:0	8 bit	25M (VBR)	59.94p/ 50p	Dolby Audio
		PH	1920 x 1080	4:2:0	8 bit	21M (VBR)	23.98p/ 59.94i/ 50i	Dolby Audio
		HA	1920 x 1080	4:2:0	8 bit	17M (VBR)	59.94i/ 50i	Dolby Audio
	HD	PM	1280 x 720	4:2:0	8 bit	8M (VBR)	59.94p/ 50p	Dolby Audio
P2 (MXF)	FHD	AVC-Intra100	1920 x 1080	4:2:2	10 bit	100 Mbps (59.94i) (VBR)	59.94i, 50i	24 bit /16 bit LPCM
		AVC-LongG50	1920 x 1080	4:2:2	10 bit	50 Mbps (59.94i) (VBR)	59.94i, 50i	24 bit LPCM
		AVC-LongG25	1920 x 1080	4:2:2	10 bit	25 Mbps (59.94i)* (VBR)	59.94p, 50p, 59.94i, 50i	



	HD	AVC-LongG12	1920 x 1080	4:2:0	8 bit	12 Mbps (59.94i)* (VBR)	59.94p, 50p, 59.94i, 50i	16 bit LPCM
		AVC-Intra100	1280 x 720	4:2:2	10 bit	100 Mbps (59.94p)	59.94p, 50p	24 bit /16 bit LPCM
		AVC-Intra50	1440 x 1080	4:2:0	10 bit	50 Mbps (59.94i)	59.94i, 50i	
			960 x 720	4:2:0	10 bit	50 Mbps (59.94p)	59.94p, 50p	
		AVC-LongG50	1280 x 720	4:2:2	10 bit	50 Mbps (59.94p) (VBR)	59.94p, 50p	24 bit LPCM
		AVC-LongG25	1280 x 720	4:2:2	10 bit	25 Mbps (VBR)	59.94p, 50p	
		AVC-LongG12	1280 x 720	4:2:0	8 bit	12 Mbps (VBR)	59.94p, 50p	

- \* The bit rate increases to two times when recorded in 59.94p or 50p

## Proxy Recording Support

Proxy recording is possible with the AVC-Proxy G6 codec.

### Proxy Recording Format

File format	Main Line Recording Format			Proxy Format			
	Line	Frequency	Video codec	Line & frequency	Video sample	Video codec	Audio
P2	1920 x 1080	59.94/50.00p	AVC-LongG25(1b)	1920 x 1080 59.94/50p	4:2:0 8bit	AVC-G6 12Mbps	AAC 2ch 48kHz 16bit
		59.94/50.00i	AVC-Intra100(atom)	1920 x 1080 59.94/50i	4:2:0 8bit	AVC-G6 6Mbps	AAC 2ch 48kHz 16bit
			AVC-Intra50(atom)				
			AVC-LongG50(1b)				
			AVC-LongG25(1b)				
	1280 x 720	59.94/50.00p	AVC-Intra100(atom)	1280 x 720 59.94/50p	4:2:0 8bit	AVC-G6 6Mbps	AAC 2ch 48kHz 16bit
			AVC-Intra50(atom)				
			AVC-LongG50(1b)				
			AVC-LongG25(1b)				

- *\* Proxy recording is not supported for file formats such as MOV, MP4, AVCHD, or AVC-LongG12.*

## 4:2:2 10-bit Internal Recording / HDMI Output

Internal recording on SD cards supports 4:2:2 10-bit LongGOP UHD 29.97p/25p (150 Mbps) and Full HD 59.94p/50p (100 Mbps). Enabling 10-bit recording activates 4K/60p 4:2:2 10-bit HDMI output, ideal for capturing high-quality video from external recorders.

## Advanced File Management with MOV File System

Using the same system as Panasonic's AG-CX350, this camcorder automatically generates 20-character filenames for simplified clip management. It also maintains compatibility with traditional AVCHD recording formats.

## Super Slow-motion Shooting

Capture slow-motion video in Full HD mode at 120fps (59.94Hz) or 100fps (50Hz). The system supports 10-bit recording and delivers full-frame images without cropping, even at high frame rates. Autofocus remains active during super slow-motion shooting.



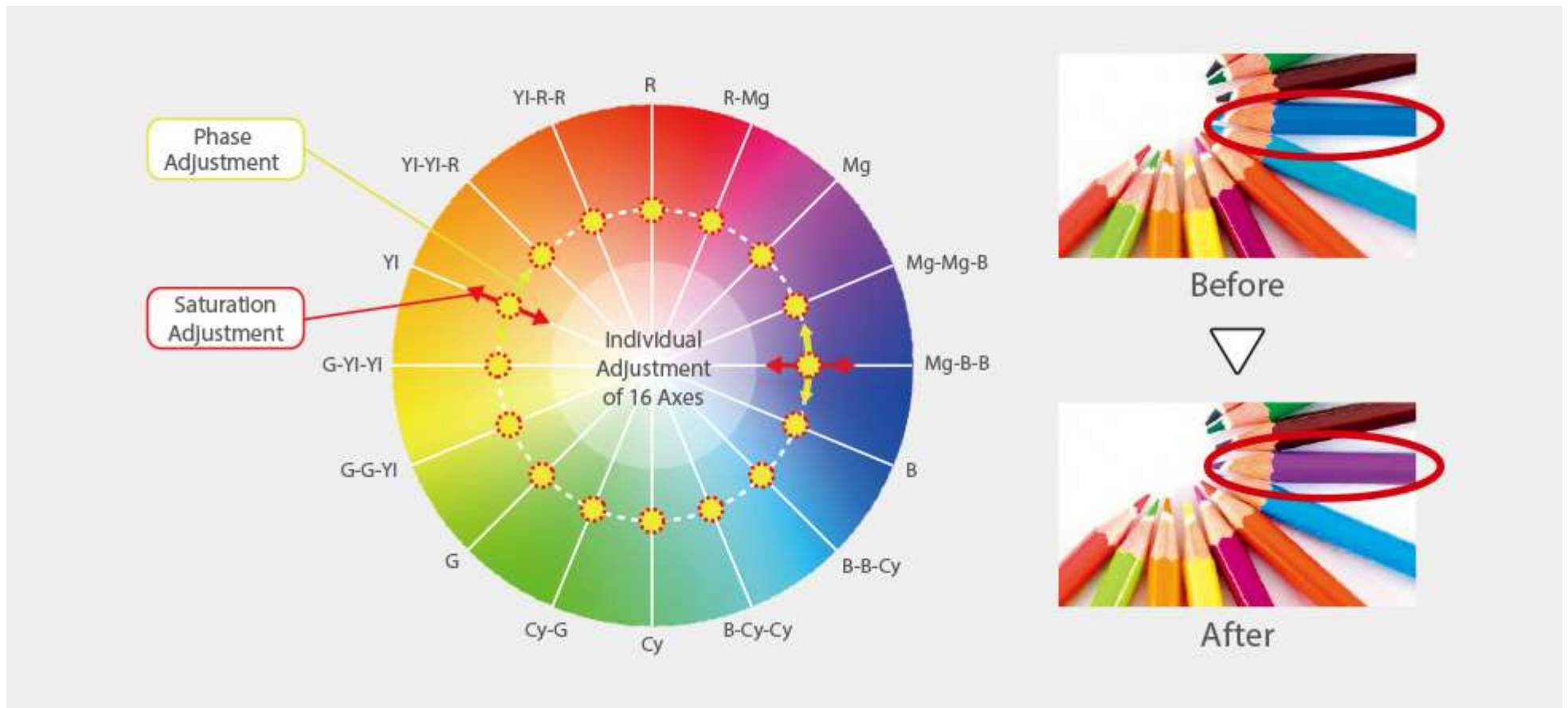
*\* Taken with the HC-X2100. Equivalent in picture quality.*

## **Infrared (IR) Shooting**

The IR cut filter can be toggled ON/OFF and assigned to a user button. Disabling the filter allows shooting in low-light conditions using commercially available IR illuminators (recommended: 850nm IR illuminator).

## **16-axis Color Correction**

The color phase can be divided into 16 axes for independent adjustment, making it ideal for multi-camera color matching and creative enhancements.



## Enhanced Skin Tones

The Skin Detail function refines skin tones for a softer and more natural appearance, which is especially beneficial for close-up shots.

## Edge Enhancement

Master Detail makes it possible to fine tune the edge sharpness of entire images.

## Flexible Gamma

Select from eight gamma modes, including CINE-LIKE developed with Panasonic's expertise in VARICAM cinema cameras and FILM-LIKE for film-like gradation. The various modes offer a wide range of cinematic expression.

## Customizable Scenes

Shooting can be tailored to specific conditions using six professional-grade presets: Standard, Fluorescent Lighting, Spark, Still-like, Cinema-like with contrast, and Cinema-like with dynamic range. Settings can be customized and saved in the camcorder for future use.

## Save and Share Camera Settings

Shooting can be tailored to specific conditions using six professional-grade presets: Standard, Fluorescent Lighting, Spark, Still-like, Cinema-like with contrast, and Cinema-like with dynamic range. Settings can be customized and saved in the camcorder for future use.

## Additional Shooting Assistance

- Flash band compensation (FBC)
- Shockless auto white balance
- Customizable matrix tables, including CINE-LIKE mode
- V-detail and detail coring
- Chroma level/phase, color temperature, and master pedestal controls
- Knee point configuration

## 2. Enhanced Mobility for Seamless Operation



## High-definition LCD and OLED EVF

The 3.5-inch, 2.76-million-dot LCD monitor with touch functionality features an RGB pixel structure for excellent visibility even in bright sunlight. The 0.39-inch OLED viewfinder (1.77 million dots) has a tilt design and a large eyecup for added comfort. Both displays can operate simultaneously, allowing continuous monitoring on the LCD when stepping away from the EVF.



*\* The monitor and viewfinder overlay shown in this image was captured using the HC-X2100. Equivalent in picture quality.*

## Selfie Mode

The LCD monitor rotates 180 degrees and displays touch icons for convenient operation, making it easy to check framing and expressions while shooting.

## Dual Manual Rings

Two manual rings are included: one for focus adjustment and the other for zoom and iris control. The rings are different sizes and are located on the front and rear of the lens assembly, allowing them to be easily distinguished by touch.



## Dual SD Card Slots

The camcorder uses compact SD cards with two available slots. For 4K recording, it enables relay and backup recording. For Full HD recording, slot 1 records specific scenes while slot 2 records continuously. This design reduces the risk of data loss when changing cards as well as ensures consistent recording.

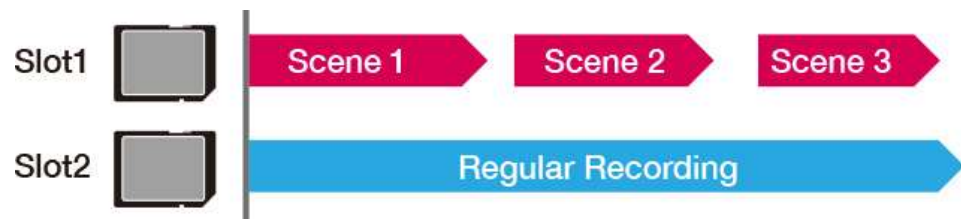


### Dual Codec Recording



The dual codec feature allows main and sub formats to be recorded simultaneously in different slots.

### Background Recording



Slot 2 is used for continuous recording, while slot 1 can be used to record selected scenes by toggling REC ON/OFF.

### Recording Time

Recording Format		Recording Time
MOV/MP4 64 GB SDXC Memory Card	200 Mbps	Approx. 40 min.
	150 Mbps	Approx. 55 min.
	100 Mbps	Approx. 1 hour 20 min.
	72 Mbps	Approx. 1 hour 50 min.
	50 Mbps	Approx. 2 hours 40 min.
AVCHD 64 GB SDHC Memory Card	PS	Approx. 5 hours 20 min.
	PH	Approx. 6 hours.

	HA		Approx. 8 hours 30 min.
	PM		Approx. 17 hours 10 min.
P2 64 GB microP2 Card	AVC-I100	1080-59.94i, 1080-50.00i, 720-59.94p, 720-50.00p	Approx. 1 hour 4 min.
	AVC-G25	1080-59.94p, 1080-50.00p	Approx. 2 hours 8 min.
	AVC-I50	1080-59.94i, 1080-50.00i, 720-59.94p, 720-50.00p	
	AVC-G50	1080-59.94i, 1080-50.00i, 720-59.94p, 720-50.00p	
	AVC-G12	1080-59.94p, 1080-50.00p	Approx. 4 hours.
	AVC-G25	1080-59.94i, 1080-50.00i, 720-59.94p, 720-50.00p	Approx. 4 hours 16 min.
	AVC-G12	1080-59.94i, 1080-50.00i, 720-59.94p, 720-50.00p	Approx. 8 hours.

## Additional Recording Features

### Pre-REC:

Always caches video and audio data before recording begins: up to 10 seconds for AVCHD and FHD MOV/MP4 formats, up to 5 seconds for UHD MOV/MP4 formats, and up to 3 seconds for P2 formats. This allows critical moments to be captured even for delayed recording.

### Interval Recording:

Eight interval settings, from 1 second to 10 minutes, are provided for time-lapse recording.

**Timestamp:**

Allows date and time stamps to be embedded directly into recorded video.

## Built-In LED Light

The built-in LED light provides 70 lux at a distance of 1 meter for effective illumination in low-light environments. Brightness can be adjusted from 30% to 100% using the dimmer dial on the handle.



## 24-bit Linear PCM Audio Recording

The camcorder supports professional audio recording with +48V phantom power, MIC and LINE inputs. It has two XLR inputs and manual volume controls, enabling 24-bit PCM audio recording with a professional microphone.





## Detachable Handle

The handle unit can be easily attached/detached to suit shooting needs. It includes a REC button, zoom lever, dual XLR audio inputs and LED light. This setup is perfect for professional audio recording with professional microphones.



## Customizable User Buttons

The camcorder has 13 user-assignable buttons: 6 on the body and 7 on the LCD touch panel. Up to 46 functions can be assigned, and the OIS and AE LEVEL buttons can also be customized.

## USB Power Delivery (PD) Support

The USB-C port enables power supply and charging with a mobile battery when the power is turned off.



### 3. Versatile Networking Features

#### **Built-in Wi-Fi**

The camcorder is equipped with a built-in 5 GHz/2.4 GHz Wi-Fi module, enabling wireless connectivity without the need for additional LAN modules.

#### **Wireless Control via Mobile Devices**

The camcorder can be controlled wirelessly using the HC ROP tablet/smartphone app, available for free at the App Store and Google Play.\*<sup>1</sup> The app allows management of zoom, focus, camera settings, image adjustments, recording start/stop, and menu configurations. It also supports switching control between up to eight cameras.\*<sup>2</sup>

- \*<sup>1</sup>: iPad/iPhone: iOS 11 or later required. Android devices: Android 6.0 or later required.
- \*<sup>2</sup>: Simultaneous or synchronized control of multiple cameras is not supported. Also, switching between cameras may take a few seconds.

App Store and iPad are trademarks of Apple Inc., registered in the U.S. and other countries.



*\* Taken with the HC-X2100. Equivalent in picture quality.  
This image is illustrative purpose only.*



## Wired Remote Support

A REMOTE terminal (2.5 mm super mini jack) provides wired remote control for operations such as focus, zoom, and recording start/stop.

- *\* A verified, commercially available wired remote control is required. See section on related equipment for details on verified third-party remote controls.*

## Full HD Streaming and Recording

Use SRT, RTSP/RTP, RTMP or RTMPS protocols to stream Full HD video, including concerts, sporting events or breaking news, directly to platforms such as Facebook and YouTube. The camcorder also supports simultaneous recording to an SD card (Full HD or lower modes) during live streaming.

- *\* requires firmware update*
- *\* For the purpose of compliance with RED DELEGATED REGULATION (EU) 2022/30, a streaming functionality with RTP/RTSP/RTMP will no longer be provided around summer 2025 onward.*

## 3G-SDI Output

The 3G-SDI output terminal (BNC connector, 5CFB) can be used to transmit FHD 1080/60p, 1080/50p signals through a coaxial cable over a distance of up to 100m. Output of UHD 4:2:2 10-bit via HDMI and FHD 4:2:2 10-bit via SDI enable a variety of uses.

When used with a Panasonic recorder with SDI input, recording can be started and stopped from the AG-CX20.



## NDI HX2 Support

NDI HX2 compatibility enables IP-based data transfer and camera control without external converters. Combine with Panasonic AV-UHS500 live switcher and NDI HX2-compatible PTZ cameras for a seamless live streaming setup.

- For detailed product information on Panasonic's live switcher, please visit the [AV-UHS500](#) page.
- For detailed product information on NDI HX2-compatible PTZ cameras, [please visit here](#).
- \* NDI® is a video connectivity technology and is registered as a trademark by Vizrt NDI AB in the United States and other countries.

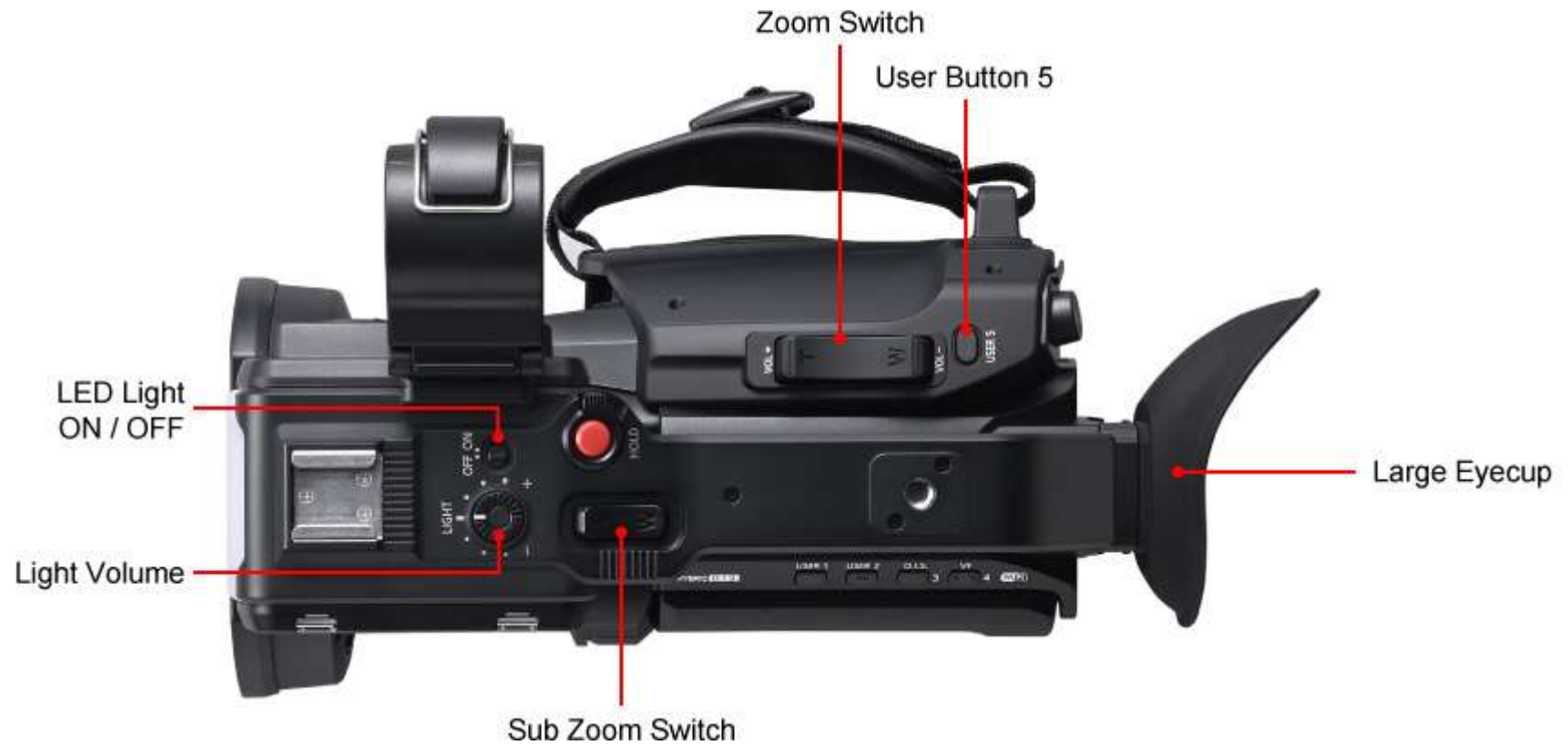
## Ethernet Support

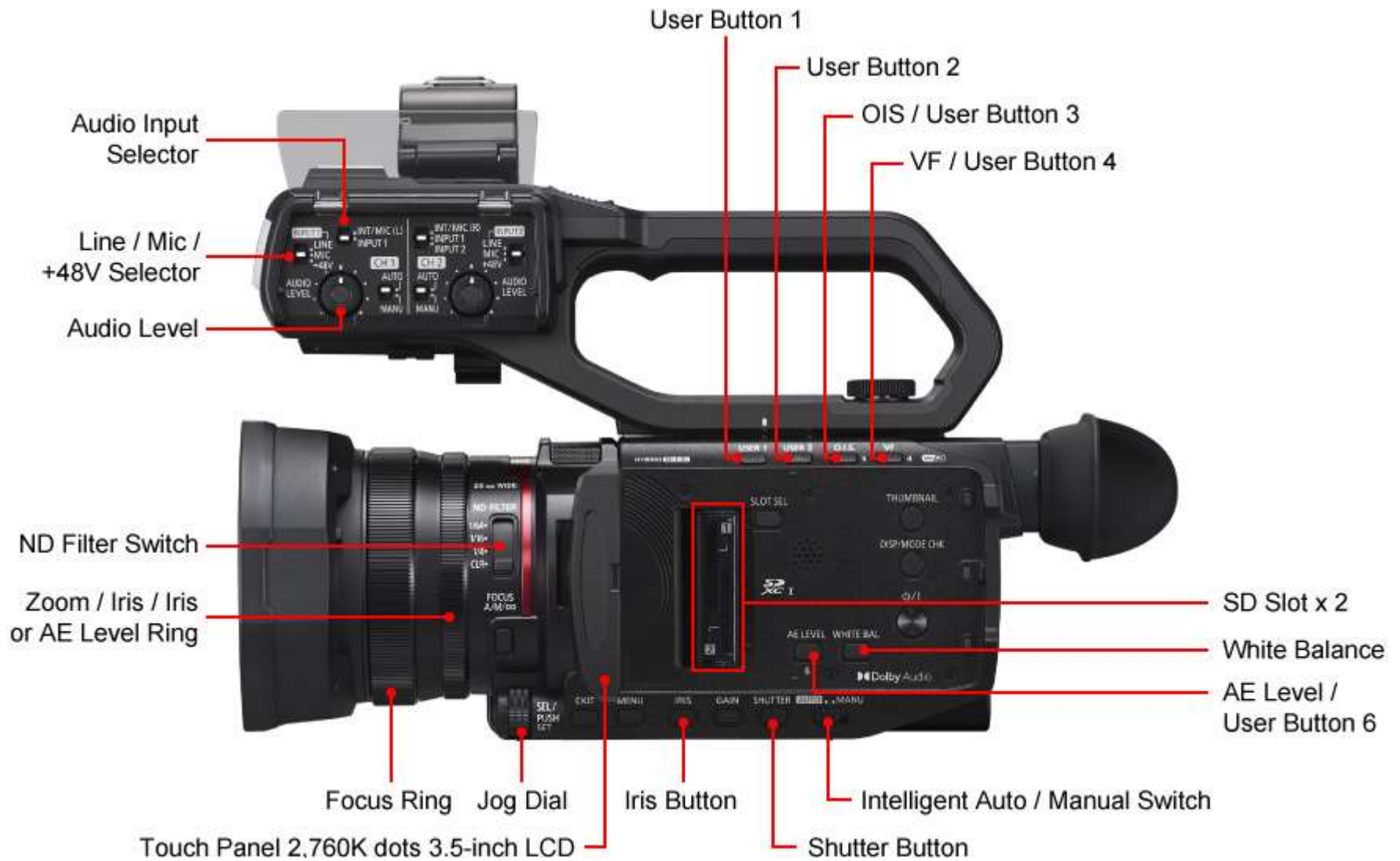
A LAN connection ensures stable live streaming in areas where Wi-Fi may be unreliable.

- \* Requires USB adapter and USB-to-Ethernet adapter (sold separately)



## Key Components and Controls









- 1. Broadcast-quality High-definition Imaging
- 2. Enhanced Mobility for Seamless Operation
- 3. Versatile Networking Features

