

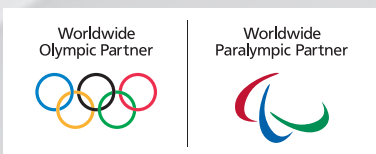
Panasonic

AG-CX350

Memory Card Camera Recorder

Supports 4K/60p/10-bit/HDR High Image Quality, Streaming
and IP (NDI | HX) Connection Capability,
The High-End Handheld Camcorder for Production,
Broadcasting and Distribution

CREATIVITY × CONNECTIVITY



AVC ULTRA



A CX SERIES 4K CAMCORDER DELIVER NEXT-GENERATION CREATIVITY AND CONNECTIVITY



CREATIVITY

CONNECTIVITY

4K/HDR 10-BIT REC
WIDE ANGLE LENS

LIVE STREAMING
NDI|HX CONNECT



The Panasonic CX Series is a lineup of camcorders that supports the fusion of video, broadcasting, and communication. The AG-CX350 is a handheld camcorder that features 4K/UHD resolution, 10-bit depth HDR-compatible V-Log/HLG image quality and various recording formats including broadcasting P2HD. It offers creative activities that meets the needs of various scenes. Furthermore, innovative network solutions are provided with the 4K/SRT-compatible direct streaming function and NDI|HX-compatible* IP connection function, to serve as a live camera, and clearly expands the usability of the handheld camcorder beyond conventional news gathering and recording applications to meet a wide range of professional needs. It is also lightweight, compact, and has low power consumption to support all professional users in production, broadcasting, and distribution.

* Recording, streaming and 4K output are not available when using NDI | HX mode. Industry's first camcorder to support NDI | HX. As of October 2020 (according to a Panasonic survey). To use this function, an activation keycode from NewTek is required. Keycodes can be purchased from the following website: http://new.tk/ndi_panic

Wide-Angle Lens with Face Detection/Tracking AE & AF and Image Stabilizer

Wide-Angle 24.5 mm Optical 20x Zoom, Plus i.Zoom



An image shot in a room using the wide angle.

Panasonic boasts the world's largest market share in the aspherical lens segment. Its cutting-edge optical technology was maximized in the development of the integrated lens used in the AG-CX350. This lens has the industry's widest angle of 24.5 mm*1 on the wide end and allows recording of wide-angle images with minimal distortion, without the use of a conversion lens. The optical 20x zoom covers up to 490 mm telephoto in all modes. Furthermore, the i.Zoom enables seamless zooming of up to 32x in HD or up to 24x in UHD from the telephoto end with no degradation in resolution. The AG-CX350 also comes with digital 2x/ 5x/ 10x zoom.*2



*1: In 35 mm equivalent. The AG-CX350's wide 24.5 mm angle is the widest in the industry for UHD/FHD (16:9). In the segment of camcorders with integrated lens, the Panasonic AG-UX180 achieved the industry's widest angle of 24 mm in UHD/24p (17:9). For UHD/FHD (16:9), 25.4 mm is the widest angle in the industry. (Both As of October 2020, according to a Panasonic survey)

*2: When using the digital zoom, picture quality degrades as the magnification rate increases.

Manual Three Rings and Focus Assist

The AG-CX350 comes with Manual Three Rings for zoom, focus and iris control. They deliver quick response and provide tactile feel that satisfies professionals. The zoom lever located at the upper section of the handle has a multi-step variable zoom function, allowing smooth zooming from ultra-low speed when shooting from low angle shooting and when a tripod is used.

The AG-CX350 is also equipped with Expand and Peaking (simultaneous display possible), Manual Focus Assist, LCD Touch Focus (switchable to Auto Iris or brightness display), Area Focus and One-Push AF Focus Assist.

Intelligent AF and Face Detection/Tracking AE & AF



An image of face detection autofocus in action

The AG-CX350's auto focus system is Intelligent AF, which is equipped with a micro drive focus unit to achieve high focusing speed, excellent tracking performance and superb stability. Equipped with Face Detection AE & AF, it detects human faces (up to 9 faces/automatically determines the main face) and automatically adjusts exposure and focus. In addition, it has an auto-tracking AE & AF function that follows the subject (color) touched on the LCD monitor.*

*The face detection AE & AF does not function during infrared recording, VFR/super slow recording or when using Expand/Focus Assist or AREA/AF AREA.

Built-in 5-Axis Hybrid Image Stabilizer

The AG-CX350 has a built-in hybrid image stabilizer that combines optical and electronic camera shake compensation functions. It corrects camera shake in five axial directions in all modes* including UHD to provide powerful camera shake compensation power in low-angle shooting, high-angle shooting and all other unstable conditions. There are three modes to choose from: NORMAL (standard), STABLE (effective for fixed-frame shooting) and PAN/TILT (effective in panning and tilting).

* Excluding Super Slow and VFR modes.



5-Axis Hybrid Image Stabilizer



Side Operation

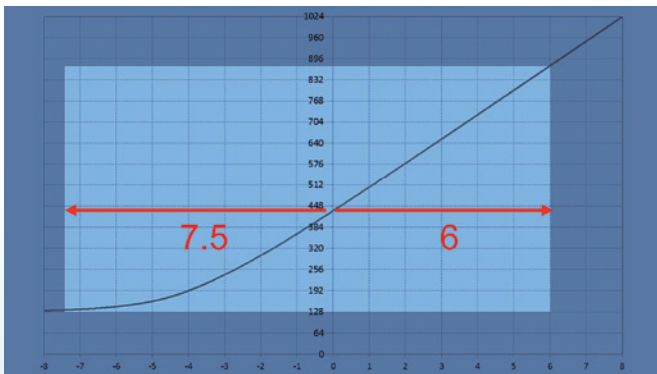
High-Quality 4K/HDR Images with a 1.0-type Sensor and V-Log/HLG Gamma

HDR-Compliant V-Log/HLG (Hybrid Log-Gamma)



HDR (High Dynamic Range) Image

The AG-CX350 features HLG (Hybrid Log-Gamma)*1 to support HDR (High Dynamic Range,) in addition to V-Log gamma, which is equipped with 13.5 stops of wide dynamic range. The gamma mode can be selected from nine modes (HD, SD, FILMLIKE 1, FILMLIKE 2, FILMLIKE 3, FILM-REC, VIDEO-REC, HLG, V-Log).

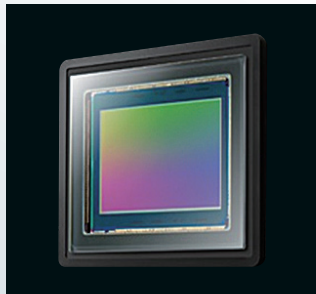


13.5 stop Wide Dynamic Range

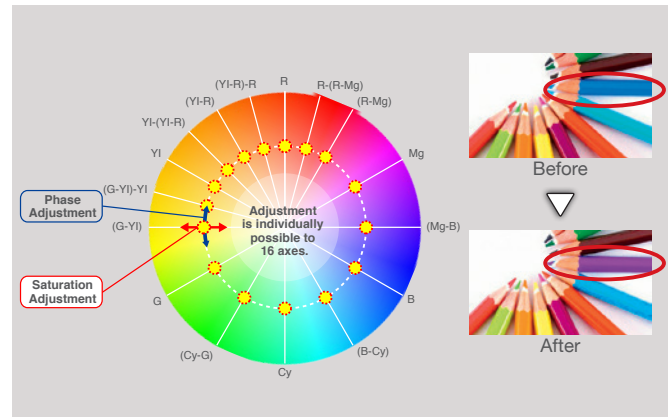
*1: The HLG specification was developed jointly by Japanese broadcaster NHK and the BBC in the UK. It is defined in ARIB STD-B67 and ITU Rec. 2100.

High-Definition, High-Sensitivity 1.0-type 15M MOS Sensor

The 1.0-type MOS (approximately 15,030,000 pixels) offers an outstanding depth of field and excellent balance between image quality and sensitivity. It supports multi-formats, such as UHD (3840 x 2160), FHD, HD and SD, and provides images without cropping in all modes. This MOS sensor also boasts high sensitivity of F12 (60 Hz) /F13 (50 Hz) (in both UHD and FHD in High Sensitivity mode).



Broadcast-Grade Picture Quality Adjustment Functions



16-Axis Independent Color Correction Illustration

- **16-Axis Independent Color Correction:** Provides an independent effect to each of the 16 phases of video images. It enables color matching of multiple cameras under the same lighting conditions as well as creative image rendering.
- **Master Detail:** Adjusts the overall degree of contour enhancement.
- **Skin Detail:** Makes skin colors appear soft and beautiful.
- **Scene Files:** Six preset files are provided. You can change any of the settings as desired.
- **Other Picture Settings:** Matrix tables, V detail, detail coring, chroma level, chroma phase, color temperature, master pedestal and knee.

Simultaneous Display on High-Brightness, High-Definition LCD and High-Resolution OLED EVF



LCD Monitor Screen While Shooting (Pictures simulated)

The AG-CX350 features a new 3.2-type high-definition LCD monitor (approximately 1,620,000 dots). This LCD monitor uses the RGBW (red, green, blue, white) pixel structure to provide high visibility even in bright sunlight. The 3:2 aspect ratio enables the display of timecode and camera status without superimposing on the image. The touch panel function allows convenient touch focus and menu setting. The viewfinder is a high-resolution color OLED (approximately 2,360,000 dots, with an image display area of approximately 1,770,000 dots) that offers superb color reproduction. Since the AG-CX350 newly supports simultaneous LCD and EVF outputs, the LCD monitor can display the captured image at all times even when you look away from the EVF.

Advanced System Functions Supporting Live Streaming and IP Connection

Streaming capabilities with 4K quality and SRT protocol support

4K (24p/25p/30p/50p/60p) high-definition streaming is supported. HD streaming output is possible while recording. The streaming method supports RTMP/RTMPS/RTSP/SRT protocols. SRT protocol enables high-quality streaming. Both of Client/Listener mode and encryption are supported. H.264/H.265 codec and 8/12/25/50/75Mbps bitrate can be selected. Also supports USB tethering using a 5G smartphone. It is compatible with many services such as Facebook and YouTube and allows you to directly broadcast without an external encoder unit. Automatic uploading to a specified server is also supported.

*Not compatible with NDI|HX connection. During 4K streaming, recording, thumbnail display, and playback cannot be performed at the same time. When using RTMPS, only H.264 codec is available. When using RTMPS or SRT encryption, the bit rate will be less than 25Mbps. The P2 Network Setting Software is convenient for setting up the RTMP, RTMPS and SRT Client functions. SRT streaming does not support 24p video and SD video. See the website, <https://pro-av.panasonic.net/en/support/connection_confirmed/server/usb_tethering.html> for the smartphone that have been confirmed to be compatible. See the website, <https://pro-av.panasonic.net/en/support/connection_confirmed/live_video/> for the live video streaming services that have been confirmed to be compatible.

Easy IP Connection: NDI|HX Is Enabled When an Optional NDI|HX License Is Purchased from NewTek

The AG-CX350 is the industry's first camcorder to support NDI | HX.* Equipped with NDI | HX mode, it allows video transmission and camera control via IP connection, without using an external converter. When connected to a system configured with the



Operating Instruction Manual



Connectivity-verified Live Video Services

AV-HLC100 Live Production Center and NDI|HX compatible PTZ cameras, the AG-CX350 realizes end-to-end live video production of live events as well as web distribution.

- NDI | HX, a technology of NewTek, Inc.
- * Recording, streaming and 4K output are not available when using NDI | HX mode. Industry's first camcorder to support NDI | HX. As of May 2021 (according to a Panasonic survey). To use this function, an activation keycode from NewTek is required. Keycodes can be purchased from the following website: http://new.tk/ndi_panasonic

Linked with IoT Cloud Platform

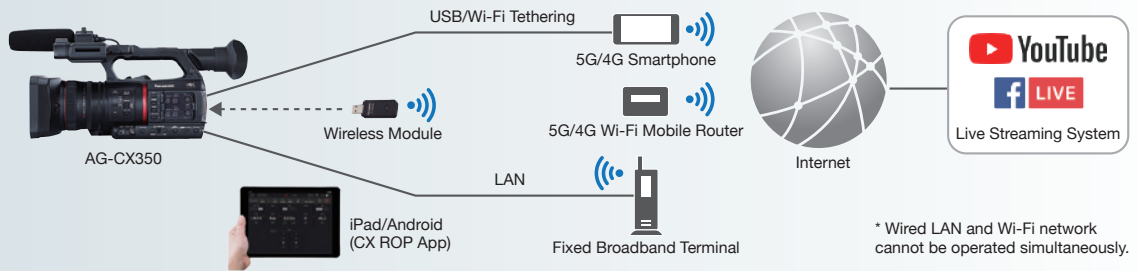
Supports operation linked with Panasonic's IoT Cloud Platform*. Remote operation such as video previews, uploading during and after recording are possible from a remote location via the cloud. It also allows integrated management of setup and firmware for multiple cameras. IoT Cloud Platform allows for remote coverage and video production.

*On presale in Japan.

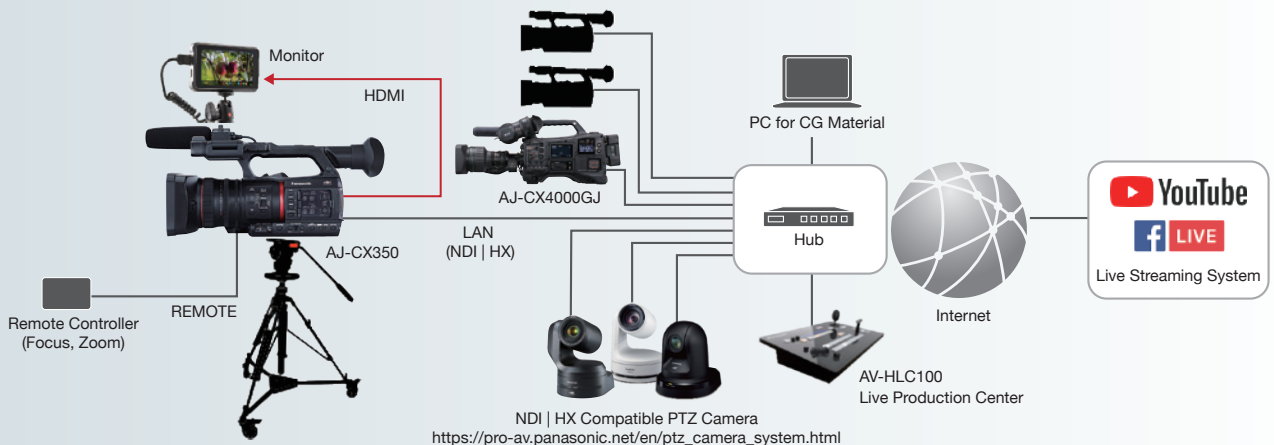


Media Bridge GUI (web browser)

Live Video Streaming System



NDI | HX Multi-Camera Live Production System



Multi-Codec Recording of 4K/10-bit HEVC and P2HD for broadcasting

HEVC Codec for High-Image-Quality 10-bit 4K/60p Recording at Low Bit Rate

The AG-CX350 is capable of recording in various formats at different compression rates (see the table below).

It can record 4K (UHD) 60p/50p videos in high-image-quality 10-bit on an SD memory card. Using the high-efficiency HEVC codec (H.265, LongGOP, 10-bit, 4:2:0, MOV), free software, such as the VLC Media Player or QuickTime Player, provides smooth playback on a notebook PC or MacBook.*

The AG-CX350 records MOV files that are highly compatible and easy to use. This file format supports long file names with up to 20 characters, allowing recorded video clips to be easily managed. The AG-CX350 also supports conventional AVCHD recording, including the AVCHD 8 Mb/s mode, used widely as the format in college and professional football coaching analysis.

* Playback may lack smoothness depending on the PC environment, such as storage and memory devices.



10-bit Variable Frame Rate (VFR) without Cropping



Simulated Image

In UHD, variable frame rate (VFR) recording at 1 fps to 60 fps is possible. In FHD, super-slow can be realized at a maximum of 120 fps. Both provide high-quality 10-bit, full-frame pictures with no image area cropping even at high frame rates.

* VFR and super slow are supported only in MOV recording mode.

P2 MXF File Formats Supported with Proxy and Shot Mark

The AG-CX350 supports the MXF P2 file format for broadcasting. Main recording with AVC-Intra or AVC-LongG codec and sub (proxy) recording with AVC-Proxy G6 codec can be recorded simultaneously. Despite the low bit rate of 12 Mbps or 6 Mbps, the proxy data has the same angle of view and resolution as the main recording, enabling highly immediate breaking news. The sub-recording gamma setting can be set to V-709 if the main recording is set to V-log, and to SDR when the main recording is set to SDR, allowing recording with and without grading in parallel. It also supports the Shot Mark function, which enables thumbnail display, playback, and upload of only the marked clips, just like a P2HD camera recorder for broadcasting.

* Proxy recording cannot be used during MOV/AVCHD/AVC-LongG12 codec recording, streaming, ND|HX, VFR, interval recording, simulcast recording, background recording and timestamp recording. Shot Mark cannot be used during MOV/AVCHD codec recording, interval recording and when playback is paused. In simultaneous recording mode, the Shot Mark as last clip is not supported.

Clip Metadata Functions

Clip metadata (cameraperson, location, date, time, text memory, etc.) is added to the clips. In addition to the camera itself, data settings can be transferred from an SD card, the CX ROP app or the cloud. A list of clip metadata can be displayed on the camcorder's LCD monitor.

24-bit PCM Audio 4-Channel Recording

The AG-CX350 enables 4-channel recording using the built-in microphone (2-channels) and XLR (2-channels)*1. In MOV or P2 MXF mode, 24-bit linear PCM recording delivers higher sound quality. Other audio features include manual volumes, OSD level meter, 1 kHz test tone output*2 and headphone output (3.5 mm-diameter stereo mini jack).

*1: When MOV or P2 MXF is selected as the main recording format. In AVC-LongG12 mode, only 16-bit LPCM 4-channel recording is supported. And in AVCHD mode, only 2-channel recording is possible.

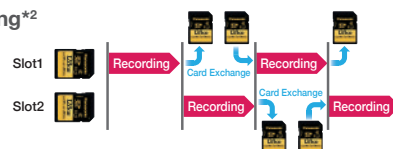
*2: This output is produced when the color bar is displayed. When the 50 Hz system frequency is selected, the output is 997 Hz.

Double Memory Card Slots Improve Recording Reliability

Two SD memory card slots capable of using SDXC/SDHC/microP2 cards* enable unlimited*2 relay recording by simply changing SD memory cards. Recording reliability is further improved with simultaneous recording and background recording. And the AG-CX350 is equipped with Pre Rec, Interval Rec and Time Stamp recording functions.

Unlimited Relay Recording*2

Automatically records continuously from Slot 1 to Slot 2. By changing a full card with a new card, images can be recorded continuously for many hours.



Simultaneous Recording

Identical data is recorded onto cards in both slots in this dual recording mode.



Background Recording*3

Records ordinary Rec Start/Stop-controlled data in Slot 1, and records all data, even when Slot 1 is stopped, in Slot 2.



*1: For memory card usage conditions, see the "Available Memory Card" chart on page 11.

*2: If the relay recording time reaches 10 hours, shooting will temporarily stop, and then automatically restart a few seconds later. If it is recorded in MOV format, the file will be split every 3 hours and recorded.

*3: Supported only in MOV recording mode.

Freeze Frame (Still Image Capture)

When playing back video clips on the AG-CX350, any desired frame can be captured as a still image (JPEG) and recorded onto an SD memory card. Video playback, frame advance (+/-), and still-image captures can all be done intuitively by touch panel operation.

Recording Format

| Recording Format | | Pixels | Color Sampling | Bit Depth | Bit Rate | File Format | VFR*2 | Audio |
|------------------|-----------------|-------------------|---------------------------------------|-----------|----------------|----------------------------------|----------------------------------|--|
| MOV (HEVC) | | HEVC LongGOP 200M | 3840 x 2160 | 4:2:0 | 10 bit | 200 Mbps (VBR) | 59.94p, 50p | 1 to 60 fps [50 fps] (Max. 200 Mbps) |
| | | HEVC LongGOP 150M | 3840 x 2160 | 4:2:0 | 10 bit | 150 Mbps (VBR) | 29.97p, 25p, 23.98p | |
| | | HEVC LongGOP 100M | 3840 x 2160 | 4:2:0 | 10 bit | 100 Mbps (VBR) | 59.94p, 50p | |
| MOV (AVC) | UHD | 422ALL-I 400M | 3840 x 2160 | 4:2:2 | 10 bit | 400 Mbps (VBR) | 29.97p, 25p, 23.98p | 1 to 30 fps [25 fps] |
| | | 422LongGOP 150M | 3840 x 2160 | 4:2:2 | 10 bit | 150 Mbps (VBR) | 29.97p, 25p, 23.98p | 1 to 30 fps [25 fps] |
| | | 420LongGOP 150M | 3840 x 2160 | 4:2:0 | 8 bit | 150 Mbps (VBR) | 59.94p, 50p | 1 to 60 fps [50 fps] (Max. 150 Mbps) |
| | 420LongGOP 100M | 3840 x 2160 | 4:2:0 | 8 bit | 100 Mbps (VBR) | 29.97p, 25p, 23.98p | | |
| | FHD | 422ALL-I 200M | 1920 x 1080 | 4:2:2 | 10 bit | 200 Mbps (VBR) | 59.94p, 50p | 1 to 60 fps [50 fps] Super Slow: 120 fps [100 fps] (Max. 400 Mbps) |
| | | 422ALL-I 100M | 1920 x 1080 | 4:2:2 | 10 bit | 100 Mbps (VBR) | 29.97p, 25p, 23.98p, 59.94i, 50i | 1 to 60 fps [50 fps] Super Slow: 120 fps [100 fps] (Max. 200 Mbps) |
| | | 422LongGOP 100M | 1920 x 1080 | 4:2:2 | 10 bit | 100 Mbps (VBR) | 59.94p, 50p | |
| 422LongGOP 50M | | 1920 x 1080 | 4:2:2 | 10 bit | 50 Mbps (VBR) | 29.97p, 25p, 23.98p, 59.94i, 50i | | |
| AVCHD | PS | PH | 1920 x 1080 | 4:2:0 | 8 bit | 21 Mbps (VBR) | 23.98p, 59.94i, 50i | Dolby Audio |
| | | HA | 1920 x 1080 | 4:2:0 | 8 bit | 17 Mbps (VBR) | 59.94i, 50i | |
| | | PM | 1280 x 720 | 4:2:0 | 8 bit | 8 Mbps (VBR) | 59.94p, 50p | |
| | SD | SA | 720 x 480 (59.94i) 720 x 576 (50i) | 4:2:0 | 8 bit | 9 Mbps (VBR) | 59.94i, 50i | |
| | | | | | | | | |
| P2 (MXF) | FHD | AVC-Intra422 | 1920 x 1080 | 4:2:2 | 10 bit | 200 Mbps (59.94p) | 59.94p, 50p | 24 bit LPCM |
| | | AVC-Intra200 | 1920 x 1080 | 4:2:2 | 10 bit | 200 Mbps (59.94i) | 59.94i, 50i | |
| | | AVC-Intra100 | 1920 x 1080 | 4:2:2 | 10 bit | 100 Mbps (59.94i)*1 | 59.94p, 50p, 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)*1 (VBR) | 59.94p, 50p, 59.94i, 50i | |
| | | AVC-LongG12 | 1920 x 1080 | 4:2:0 | 8 bit | 12 Mbps (59.94i)*1 (VBR) | 59.94p, 50p, 59.94i, 50i | 16 bit LPCM |
| | HD | AVC-Intra200 | 1280 x 720 | 4:2:2 | 10 bit | 200 Mbps (59.94p) | 59.94p, 50p | 24 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 | 16 bit LPCM |
| | | AVC-LongG12 | 1280 x 720 | 4:2:0 | 8 bit | 12 Mbps (VBR) | 59.94p, 50p | |

*1: The bit rate increases to two times when recorded in 59.94p or 50p. *2: VFR is supported only in Progressive mode. Square brackets [] indicate a system frequency of 50.00 Hz.

Proxy Recording Format

| Main Line Recording Format (P2 MXF) | | | Proxy Format (AVC-Proxy G6) | | | |
|-------------------------------------|-----------|--------------|-----------------------------|----------------|----------------|-----------------------|
| Pixels | Frequency | Video Codec | Pixels & Frequency | Video Sampling | Video Codec | Audio |
| 1920 x 1080 *1 | 59.94/50p | AVC-Intra422 | 1920x1080_59.94/50p | 4:2:0_8 bit | AVC-G6_12 Mbps | AAC_2CH_48 kHz_16 bit |
| | | AVC-Intra100 | 1920x1080_59.94/50p | 4:2:0_8 bit | AVC-G6_12 Mbps | AAC_2CH_48 kHz_16 bit |
| | | AVC-LongG25 | 1920x1080_59.94/50p | 4:2:0_8 bit | AVC-G6_12 Mbps | AAC_2CH_48 kHz_16 bit |
| | 59.94/50i | AVC-Intra200 | 1920x1080_59.94/50p | 4:2:0_8 bit | AVC-G6_6 Mbps | AAC_2CH_48 kHz_16 bit |
| | | AVC-Intra100 | 1920x1080_59.94/50p | 4:2:0_8 bit | AVC-G6_6 Mbps | AAC_2CH_48 kHz_16 bit |
| | | AVC-Intra50 | 1920x1080_59.94/50p | 4:2:0_8 bit | AVC-G6_6 Mbps | AAC_2CH_48 kHz_16 bit |
| | | AVC-LongG50 | 1920x1080_59.94/50p | 4:2:0_8 bit | AVC-G6_6 Mbps | AAC_2CH_48 kHz_16 bit |
| 1280 x 720 *2 | 59.94/50p | AVC-Intra200 | 1280x 720_59.94/50p | 4:2:0_8 bit | AVC-G6_6 Mbps | AAC_2CH_48 kHz_16 bit |
| | | AVC-Intra100 | 1280x 720_59.94/50p | 4:2:0_8 bit | AVC-G6_6 Mbps | AAC_2CH_48 kHz_16 bit |
| | | AVC-Intra50 | 1280x 720_59.94/50p | 4:2:0_8 bit | AVC-G6_6 Mbps | AAC_2CH_48 kHz_16 bit |
| | | AVC-LongG50 | 1280x 720_59.94/50p | 4:2:0_8 bit | AVC-G6_6 Mbps | AAC_2CH_48 kHz_16 bit |
| | | AVC-LongG25 | 1280x 720_59.94/50p | 4:2:0_8 bit | AVC-G6_6 Mbps | AAC_2CH_48 kHz_16 bit |

*1: At AVC-Intra50, the number of pixels for main recording is 1440 x 1080. *2: At AVC-Intra50, the number of pixels for main recording is 960 x 720.

Professional-Grade System Expandability and Mobility

Cabled/Wireless Remote Control Capability



• Wired Remote Control with a Third-Party Controller

The remote terminal (2.5 mm super mini jack) enables the control of the focus and zoom using a remote controller (third-party product).

• Compatible with the IP remote control (AW-RP150GJ)

In addition to supporting multi-functional control such as audio levels and REC S/S from the AW-RP150GJ remote camera controller with an IP (wired LAN) connection, it also enables integrated operation with a remote camera system.



*Not compatible with all of the control items of the AW-RP150GJ. Also, some of the functions will not work.

• Wireless Control from a Tablet or Smartphone

The AG-CX350 can be controlled remotely and wirelessly using the tablet/smartphone app "CX ROP"^{*1} (downloadable for free from the App Store or Google Play). This app allows you to display camera information and change camera settings. The settings are easy to see and can be changed by tap-and-slide operation. It can operate multiple functions such as zoom, i.Zoom, focus, camera settings/adjustments, REC S/S, and menu settings.

Clip metadata supported. Metadata can be sent from CX ROP to a camcorder and be recorded onto a recording clip.

What's more, the app can be used to select the camera to control from up to eight cameras in the CX Series (AG-CX350 and AJ-CX400GJ).^{*2} The automatic camera search function also supports multi-camera mode, allowing you to easily select and connect to any camera on the network from a list.

*The Apple App Store and iPad are service marks or trademarks of Apple Inc. registered in the United States and other countries.

*1: Please see the website <https://pro-av.panasonic.net/en/software/cx_rop/index.html> for compatible tablets, smartphones, and operating systems. For connection, wireless module (optional AJ-WM50, AJ-WM50G or recommended third-party Wi-Fi dongle) is required.

*2: The app does not support simultaneous/synchronous control of multiple cameras. Camera switching takes several seconds.



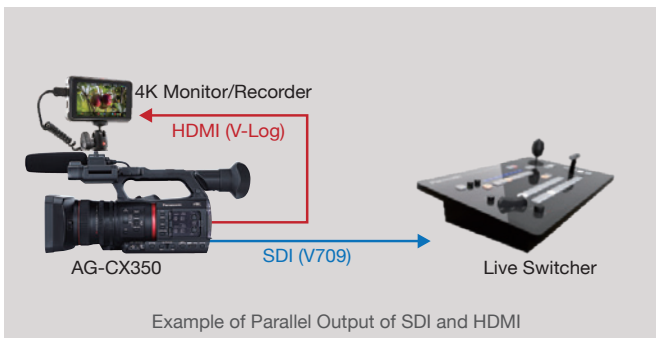
* Pictures simulated.



CX ROP



Professional System Features



• **Parallel Output of SDI and HDMI:** Output of UHD video via HDMI and output of HD video in high-image-quality 10-bit, 4:2:2 via SDI enable a variety of uses. In V-Log shooting, either V-Log or V709 (HDR or SDR in HLG shooting) can be selected for each of the SDI, HDMI and LCD video outputs.

• **TC synchro multi-camera recording:** The TC IN/OUT terminal (BNC) allows synchronization of the time code in multi-camera shooting. The camera number (A to Z) can be added* to the name of the recording folder to facilitate editing.

*Only when the MOV codec recording. Setting must be made in each camera.

• **Compatible with LiveU/TVU bonding connection:** displays the device information (battery status/remaining battery capacity/errors) onto the viewfinder/LCD monitor.

Low Power Consuming, Large-Capacity Battery, Quick Charge

The AG-CX350 boasts low power consumption of 11.5 W (in factory setting, with no devices connected to the terminals), which is the industry's lowest in the UHD/HD 10-bit recording professional camcorder segment. The maximum power consumption is only 17 W (HEVC recording, LCD turned ON, devices connected to the terminals).^{*1} With the supplied battery pack (5900 mAh), the AG-CX350 operates continuously for about 3 hours and 20 minutes. This large-capacity battery pack supports quick charges.^{*2} For product details, see page 6.

*1: As of May 2021. According to a Panasonic survey.

*2 Quick charge is possible only when the AG-BRD50 battery charger is used.



Rear Terminal



AG-VBR118G (11,800 mAh)
Battery Pack



AG-VBR89G (8,850 mAh)
Battery Pack



AG-VBR59 (5,900 mAh)
Battery Pack



AG-BRD50
Battery Charger



VW-VBD58 (5,800 mAh)
Battery Pack



AG-B23
Battery Charger

Available Battery Pack

| Battery | Voltage/Capacity | Charge Time | Continuous Shooting Time |
|-------------------|------------------------|-------------------------|--------------------------|
| AG-VBR59 (bundle) | 7.28 V 5900 mAh 43 Wh | Approx. 3 hours 20 min. | Approx. 3 hours 20 min. |
| AG-VBR89G | 7.28 V 8850 mAh 65 Wh | Approx. 4 hours | Approx. 5 hours |
| AG-VBR118G | 7.28 V 11800 mAh 86 Wh | Approx. 4 hours 40 min. | Approx. 6 hours 40 min. |
| VW-VBD58 | 7.2 V 5800 mAh 42 Wh | Approx. 5 hours 20 min. | Approx. 3 hours 10 min. |

*When using bundled battery charger.



AG-MC200G
XLR Microphone



AJ-WM50
Wireless Module
*Not available in some areas



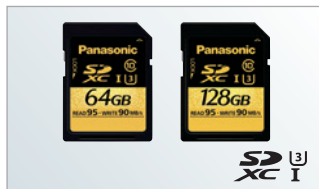
Connection confirmed wireless module (including third-party products)
https://pro-av.panasonic.net/en/sales_o/p2/server/wireless_module.html



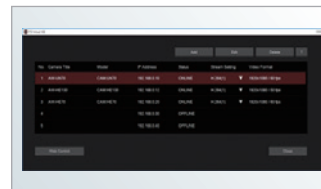
AW-RP150GJ
Remote Camera Controller
High operability ensured through touch-panel GUI monitor and a new type of joystick.



AJ-P2M064BG
Memory Card "microP2 card B series"



SDHC/SDXC Memory Card *
* UHS Speed Class 3 (U3) SD memory card is necessary for video recording of 100 Mbps or more. UHS Speed Class 3 (U3) SDXC memory card of 64 GB or more is necessary for video recording of UHD2160/59.94p/50.00p 150 Mbps.



PTZ Virtual USB Driver

Free (OS: Windows 10)

Able to use CX series camera recorders the network as USB cameras.

For more information, please visit our website at <https://pro-av.panasonic.net/en/software/ptz_vud/>.

General

| | |
|------------------------|---|
| Power: | DC 7.28 V (when the battery is used) DC 12 V (when the AC adaptor is used) |
| Power Consumption: | 17 W (when the LCD monitor is used) 11.5 W (1080i / 422ALL-I 100M recording, when the LCD monitor is used, no external device connection) |
| Operating Temperature: | 0 °C to 40 °C (32 °F to 104 °F) |
| Operating Humidity: | 10 % to 80 % (no condensation) |
| Weight: | Body: approx. 1.9 kg (4.19 lb) (body only, excluding lens hood, battery, and accessories) Shooting: approx. 2.3 kg (5.07 lb) (including lens hood, battery, and microphone holder) |
| Dimensions: | 180 mm (W) x 173 mm (H) x 311 mm (D) (7-1/8 inches x 6-13/16 inches x 12-1/4 inches) (excluding protrusion and eye cup) |

Camera Unit

| | |
|----------------------------------|--|
| Pickup Device: | 1.0-type (effective size) MOS solid state image sensor |
| Effective Pixels: | 15,030,000 pixel |
| Lens: | Optical image stabilizer lens, optical 20x motorized zoom F value: F2.8 to F4.5 Focal length: f=8.8 mm to 176 mm 35 mm equivalent: 24.5 mm to 490 mm Filter Diameter: 67 mm ND Filter: Clear, 1/4, 1/16, 1/64 IR Filter: Incorporates the ON/OFF control function Shortest Shooting Distance (M.O.D.): Approx. 10 cm (W), 1.0 m (T) from the front lens |
| Gain Setting: | L/M/H selector switch GAIN/ISO mode = dB -3 dB to 18 dB (adjustable in 1 dB steps) 24 dB, 30 dB, 36 dB switched (when assigning [S. GAIN] to the USER button) GAIN/ISO mode = ISO ISO 400, ISO 500, ISO 640, ISO 800, ISO 1000, ISO 1250, ISO 1600, ISO 2000, ISO 2500, ISO 3200, ISO 4000, ISO 5000, ISO 6400, ISO 8000, ISO 10000, ISO 12800 |
| Color Temperature Setting: | ATW, ATW LOCK, A ch, B ch, preset 3200 K/preset 5600 K/VAR (2000 K to 15000 K) |
| Shutter Speed: | When [SYSTEM MODE] = 59.94 Hz • 59.94i/59.94p mode: 1/60 sec. (shutter off), 1/100 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec., 1/2000 sec., 1/4000 sec., 1/8000 sec., 1/10000 sec. • 29.97p mode: 1/30 sec., 1/50 sec. (shutter off), 1/60 sec., 1/100 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec., 1/2000 sec., 1/4000 sec., 1/8000 sec., 1/10000 sec. • 23.98p mode: 1/24 sec., 1/48 sec., 1/50 sec. (shutter off), 1/60 sec., 1/100 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec., 1/2000 sec., 1/4000 sec., 1/8000 sec., 1/10000 sec. When [SYSTEM MODE] = 50.00 Hz • 50i/50p mode: 1/50 sec. (shutter off), 1/60 sec., 1/100 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec., 1/2000 sec., 1/4000 sec., 1/8000 sec., 1/10000 sec. • 25p mode: 1/25 sec., 1/50 sec. (shutter off), 1/60 sec., 1/100 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec., 1/2000 sec., 1/4000 sec., 1/8000 sec., 1/10000 sec. |
| Shutter Speed: (Slow Shutter) | When [SYSTEM MODE] = 59.94 Hz • 59.94i/59.94p mode: 1/1 sec., 1/2 sec., 1/4 sec., 1/6 sec., 1/15 sec., 1/30 sec. • 29.97p mode: 1/1 sec., 1/2 sec., 1/4 sec., 1/6 sec., 1/15 sec. • 23.98p mode: 1/1 sec., 1/2 sec., 1/4 sec., 1/6 sec., 1/12 sec. When [SYSTEM MODE] = 50.00 Hz • 50i/50p mode: 1/1 sec., 1/2 sec., 1/4 sec., 1/6 sec., 1/12 sec., 1/25 sec. • 25p mode: 1/1 sec., 1/2 sec., 1/4 sec., 1/6 sec., 1/12 sec. |
| Shutter Speed: (Synchro Scan) | When [SYSTEM MODE] = 59.94 Hz • 59.94i/59.94p mode: 1/60.0 sec. to 1/7200 sec. • 29.97p mode: 1/30.0 sec. to 1/7200 sec. • 23.98p mode: 1/24.0 sec. to 1/7200 sec. When [SYSTEM MODE] = 50.00 Hz • 50i/50p mode: 1/50.0 sec. to 1/7200 sec. • 25p mode: 1/25.0 sec. to 1/7200 sec. |
| Shutter Open Angle: | 3.0 deg to 180.0 deg to 360.0 deg (in 0.5 deg steps) |
| VFR Recording Frame Rate: | When [SYSTEM MODE] = 59.94 Hz 1, 2, 4, 6, 9, 12, 15, 18, 20, 21, 22, 24, 25, 26, 27, 28, 30, 32, 34, 36, 40, 44, 48, 54, 60 (fps) When [SYSTEM MODE] = 50.00 Hz 1, 2, 4, 6, 9, 12, 15, 18, 20, 21, 22, 23, 24, 25, 26, 27, 28, 30, 32, 34, 37, 42, 45, 48, 50 (fps) |

| | |
|------------------------|--|
| Super Slow Recording: | When [SYSTEM MODE] = 59.94 Hz 1920 x 1080 (FHD): shooting frame rate 120 fps When [SYSTEM MODE] = 50.00 Hz 1920 x 1080 (FHD): shooting frame rate 100 fps |
| Sensitivity: | When [HIGH SENS.] mode F12 (2000 lx, 3200 K, 89.9 % reflect, 2160/59.94p, 1080/59.94i) F13 (2000 lx, 3200 K, 89.9 % reflect, 2160/50p, 1080/50i) |
| Horizontal Resolution: | 2000 TV or higher (UHD: center) 1000 TV or higher (FHD: center) |
| i.Zoom: | x 32 (FHD), x 24 (UHD) |
| Digital Zoom: | x 2 / x 5 / x 10 |
| Lens Hood: | Hood with lens cover |

Memory Card Recorder

| | |
|------------------------------|--|
| Recording Media: | SDHC memory card, SDXC memory card UHS-I/UHS-II UHS Speed Class 3 supported, Video Speed Class V90 supported microP2 card (A series, B series) Please see page 11 for the "Available Memory Card" table. |
| Recording Slot: | microP2/SDXC UHS-II card slot x 2 |
| Recording Pixels: | 3840 x 2160 (UHD), 1920 x 1080 (FHD), 1280 x 720 (HD) (AVC-Intra50: 1440 x 1080, 960 x 720) 720 x 480 (SD), 720 x 576 (SD) |
| System Frequency: | 59.94 Hz/50.00 Hz |
| Recording File Format: | MOV (AVC), MOV (HEVC), AVCHD, P2 MXF |
| Recording Format: | Please see page 6 for the "Recording Format" table. |
| Recording Time: | Please see page 11 for the "Recording Time" table. |
| 2 Slot Functions: | Relay Rec, Simultaneous Rec, Background Rec |
| Special Recording Functions: | Pre Rec, Interval Rec, Time Stamp |

Digital Video

| | |
|--------------------|--|
| Quantization: | MOV: 4:2:2 10 bit/4:2:0 8 bit/4:2:0 10 bit (HEVC) AVCHD: 4:2:0 8 bit P2: 4:2:2 10 bit/4:2:0 10 bit (AVC-intra50)/ 4:2:0 8 bit (AVC-LongG12) |
| Video Compression: | MOV: H.264/MPEG-4 AVC High Profile H.265/MPEG-H HEVC Main10 Profile AVC-Intra422/AVC-LongG 50/AVC-LongG 25/ AVC-LongG 12 : MPEG-4 AVC/H.264 High Profile AVC-Intra200/AVC-Intra100/AVC-Intra50 : MPEG-4 AVC/H.264 Intra Profile |

Digital Audio

| | |
|-------------------------|---|
| Recording Audio Signal: | MOV: 48 kHz/24 bit, 4 ch, Linear PCM AVCHD: 48 kHz/16 bit, 2 ch, Dolby Audio™ P2: 48 kHz/24 bit, 4 ch (excluding AVC-LongG12) 48 kHz/16 bit, 4 CH (AVC-Intra100/AVC-Intra50/ AVC-LongG12) *24 bit/16 bit switch by menu |
| Headroom: | 12 dB/18 dB/20 dB switchable (menu) |

AVC Proxy

| | |
|--------------------|--|
| File Format | MOV |
| Video Compression: | H264/AVC High Profile |
| Audio Compression: | AAC-LC |
| Recording Time: | Approx. 13 min. per 1 GB of AVC-G6 2CH MOV |

*The recording time decreases to one-half when recorded in 60p/50p. These are reference values for continuous recording using the Panasonic products. The recording time may differ depending on the scene or the number of clips.

Streaming

| | |
|--------------------|--|
| Video Compression: | H.264/MPEG-4 AVC Main Profile, H.264/MPEG-4 AVC High Profile |
| Video Resolution | 3640 x 2160 (UHD), 1920 x 1080 (FHD), 1280 x 720 (HD), 640 x 360, 360 x 180 |
| Streaming Method | Unicast, Multicast |
| Frame Rate | System frequency = 59.94 Hz: 24 fps, 30 fps, 60 fps System frequency = 50.00 Hz: 25 fps, 50 fps |
| Bit Rate | 3640 x 2160 (UHD): 75 Mbps, 50 Mbps, 25 Mbps, 12 Mbps, 8 Mbps Other than those above: 24 Mbps, 20 Mbps, 16 Mbps, 14 Mbps, 8 Mbps, 6 Mbps, 4 Mbps, 3 Mbps, 2 Mbps, 1.5 Mbps, 1 Mbps, 0.7 Mbps, 0.5 Mbps |
| Audio Compression | AAC LC: 48 kHz/16 bit, 2 CH |
| Supported Protocol | RTSP/RTP/RTMP/RTMPS/SRT |

Video Output

| | |
|------------|---|
| SDI OUT: | BNC x 1, SDI REC REMOTE supported HD: 0.8 V [p-p], 75 Ω SD: 0.8 V [p-p], 75 Ω, Output format (4:2:2 10 bit): • 1920 x 1080: 59.94p, 50p, 59.94i, 50i, 29.97Psf, 25Psf, 23.98Psf • 1280 x 720: 59.94p, 50p • 720 x 480: 59.94i • 720 x 576: 50i |
| HDMI OUT : | HDMI x 1, Type A, HDMI REC REMOTE supported, VIERA Link not supported Output format (4:2:2 10 bit): • 3840 x 2160: 59.94p, 50p, 29.97p, 25p, 23.98p • 1920 x 1080: 59.94p, 50p, 59.94i, 50i, 29.97p, 25p, 23.98p • 1280 x 720: 59.94p, 50p • 720 x 480: 59.94p • 720 x 576: 50p |
| VIDEO OUT: | 3.5 mm diameter mini jack, composite 1.0 V [p-p], 75 Ω |

Audio Input/Output

| | |
|----------------------|--|
| Built-in Microphone: | Stereo microphone |
| Input 1/2: | XLR (3-pin) x 2 (INPUT1, INPUT2) Input high impedance, LINE/MIC/MIC+48V (switchable SW) MIC: -40 dBu/-50 dBu/-60 dBu (switchable menu) LINE: +4 dBu/0 dBu (switchable menu) |
| SDI OUT: | Linear PCM 4 ch |
| HDMI OUT: | Linear PCM 2 ch/4 ch (switchable menu) |
| Headphone: | 3.5 mm diameter stereo mini jack x 1 |
| AV OUT: | 3.5 mm diameter stereo mini jack x 1, Output level: 600 Ω, 316 mV |
| Speaker: | 20 mm diameter, round x 1 |

Other Input/Output

| | |
|-----------------|---|
| TC IN/OUT: | BNC x 1, Used as the input and output terminals (switchable menu) Input: 1.0 V to 4.0 V [p-p] 10 kΩ Output: 2.0 V ± 0.5 V [p-p] low impedance |
| REMOTE: | 2.5 mm diameter super mini jack *The analog control remote controller used with previous Panasonic models may not be used with this device. |
| LAN: | RJ-45: 1000BASE-T/100BASE-TX/10BASE-T NDI HX supported* *To use this function, an activation keycode from NewTek is required. Keycodes can be purchased from the following website: http://new.tk/ndi_panasonic |
| USB 2.0 HOST: | Type-A, 4-pin (5 V, 0.5 A) for Wireless Module (option) |
| USB 3.0 DEVICE: | USB 3.1 GEN1 Type-C, USB Mass storage function No USB bus power function |
| DC IN 12V: | DC 12 V EIAJ Type 4 |

Monitor/Viewfinder

| | |
|--------------|--|
| LCD Monitor: | 3.5 type TFT LCD color monitor (3:2), approx. 1,620,000 dots, Touch panel video display (16: 9) area: Approx. 1,370,000 dots |
| Viewfinder: | 0.39 type OLED (organic EL display), approx. 2,360,000 dots, video display (16: 9) area: approx. 1,770,000 dots |

Included Accessories

Battery (AG-VBR59), Battery charger (AG-BRD50), AC adaptor, AC cable, Microphone holder kit, Shoulder strap, Eye cup, Lens hood*, Grip belt* and Operating instructions (Items marked by an asterisk (*) come already attached to the camera)

Available Memory Card

| Format | Memory Card Type | Bit Rate / Recording Function | Speed Class |
|---------|--|---|--|
| MOV | SDXC memory card/ microP2 card B series microP2 card A series (64 GB) | 400 Mbps | Video Speed Class V60 or faster |
| | | FHD ALL-I VFR (23.98p)/super slow | |
| | | 200 Mbps | Video Speed Class V30 UHS Speed Class 3 or faster |
| | | 150 Mbps | |
| | | 100 Mbps | |
| | | FHD LongG VFR/super slow FHD ALL-I VFR (59.94o/50p/29.97p/25p) | |
| 50 Mbps | Video Speed Class V10 UHS Speed Class 1 Speed Class 10 or faster | | |
| AVCHD | SDHC/SDXC memory card/microP2 card | All | Speed Class 4 or faster |
| P2* | microP2 card | All P2 recording modes supported by the AG-CX350* | — |

*Use a microP2 card for recording in P2 format. For emergency recording, SDXC memory cards can be used for recording in P2 format. but it is not covered under the manufacturer's support.

Recording Time

| Recording Format | | microP2 Card 64 GB SDXC/SDHC Memory Card | 128 GB SDXC/SDHC Memory Card |
|--------------------|--|---|------------------------------|
| MOV (AVC, HEVC) | UHD | 400 Mbps | Approx. 20 min. |
| | | 200 Mbps | Approx. 40 min. |
| | | 150 Mbps | Approx. 55 min. |
| | FHD | 100 Mbps | Approx. 1 hour 20 min. |
| | | 100 Mbps | Approx. 1 hour 20 min. |
| | | 50 Mbps | Approx. 2 hours 40 min. |
| AVCHD | PS | Approx. 5 hours 20 min. | Approx. 11 hours |
| | PH | Approx. 6 hours | Approx. 12 hours 30 min. |
| | HA | Approx. 8 hours 30 min. | Approx. 17 hours |
| | PM | Approx. 17 hours 10 min. | Approx. 35 hours |
| | SA | Approx. 16 hours 30 min. | Approx. 34 hours |
| P2 MXF | AVC-Intra422/AVC-Intra200 | Approx. 32 min. | — |
| | AVC-Intra100 (1080-59.94i/50i or 720-59.94p/50p)* | Approx. 1 hour 4 min. | — |
| | AVC-Intra50 | Approx. 2 hours 8 min. | — |
| | AVC-LongG50 | Approx. 2 hours 8 min. | — |
| | AVC-LongG25 (1080-59.94i/50i or 720-59.94p/50p)* AVC-LongG12 (1080-59.94i/50i or 720-59.94p/50p)* | Approx. 4 hours 16 min. Approx. 8 hours | — — |

*The recording time decreases to one-half when recorded in 1080-59.94p/50p.

Notes Regarding Network Functions

- For wireless LAN connection:** The optional wireless module is required. For the OS, browser, device compatibility information, see “Service and Support” on the Panasonic website <<https://pro-av.panasonic.net/>>. Some functions are not supported by some devices.
- For streaming:** PC must be able to access directly each other by Public IP (Global IP). Please contact your provider to get Public IP (Global IP).
- For LiveU and TVU bonding services:** Connection requires communication devices offered by both LiveU and TVU Networks. For details, please visit the following website. <https://pro-av.panasonic.net/en/sales_o/p2/bonding_devices/index.html> “Connection Confirmed Bonding Devices”

Notes regarding the handling of p2 files using a PC Mounting and Transferring Files

The PC must be installed with the included P2 driver in order to recognize, copy and transfer P2 files. This driver is also necessary when using the PC card slot and when handling P2 files stored on a hard-disk device, such as P2 store. For other operating requirements, refer to the P2 installation manual. The P2 driver and the P2 installation manual can be downloaded free from a Panasonic website. Visit <<https://pro-av.panasonic.net/en/download/>>

Preview and Nonlinear Editing

To preview (play) P2 files on a PC, it is necessary to install P2 Viewer Plus software (downloadable for free, for Windows and Mac), both from Panasonic, or P2-compatible editing software available from other companies (for details, visit <https://pro-av.panasonic.net/en/sales_o/p2/partners.html>). Note that each software places specific requirements on the operating environment, and the operating environment must meet additional requirements to play and edit HD content on Windows PCs and Macs. For P2 Viewer Plus download and operating requirement information, visit <<https://pro-av.panasonic.net/en/download/>>. For operating requirements and details of other P2 editing software, visit the website of the relevant software manufacturer.

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*Specifications are subject to change without notice.

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For more information, please visit Panasonic web site
<https://pro-av.panasonic.net/en/qr/>



Factories of AVC Networks Company have received ISO14001:2004-the Environmental Management System certification. (Except for 3rd party's peripherals.)



Broadcast and Professional AV Website



Contact Information



Facebook



Mobile App