

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.

*NDI® is a new protocol developed by NewTek, Inc. that supports IP video production workflow. NDI® is a registered trademark of NewTek, Inc. in the United States and other countries. In this instance, NDI®|HX is used to indicate high efficiency low bandwidth NDI®|HX. Recording, streaming and 4K output are not available when using NDI®|HX mode. To use this function, an activation keycode from NewTek is required. Keycodes can be purchased from the following website: <https://store.newtek.com/index.php/panasonicndihxlicense-1.html>

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 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, wide angle of 24.5mm is achieved in UHD/FHD (16:9).

*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

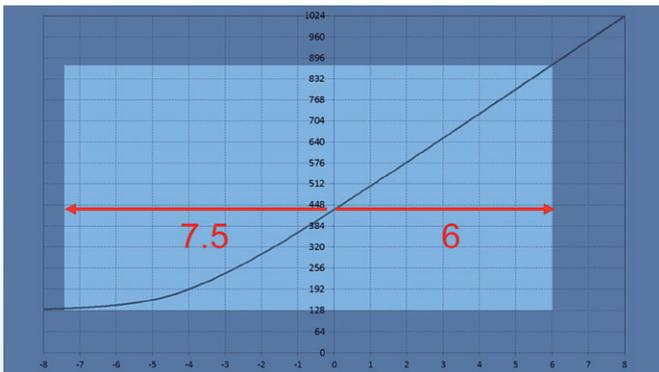
High-Quality 4K/HDR Images with a 1.0-type Sensor and V-Log/HLG Gamma

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).

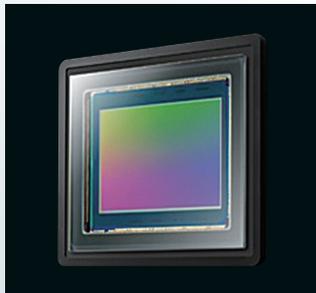


13.5 stop Wide Dynamic Range

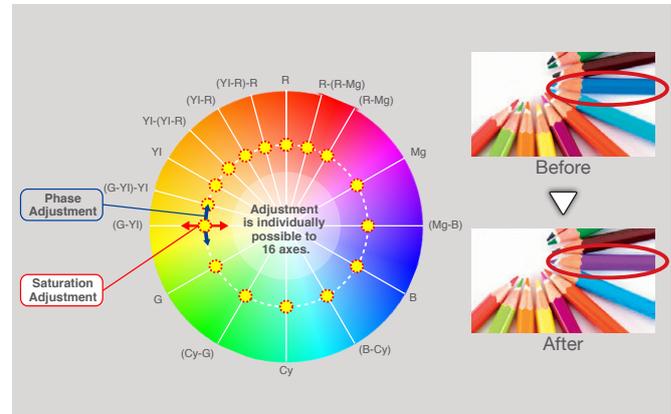
*1: The HLG specification was developed jointly by Japanese broadcaster NHK and the BBC in the UK. It is defined in ARIB STD-B67 and ITU Rec. 2100.

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 8/12/25/50/75 Mbps 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.

Collaborative with IoT Cloud Platform MB

Works together with Panasonic's IoT Cloud Platform "MB". Remote operation such as video previews, uploading during and after recording is possible from a remote location via cloud.

It also allows to centrally manage the setup and firmware for multiple cameras. IoT Cloud Platform MB allows video production and broadcasting industry to work remotely.

See the website, <<https://pro-av.panasonic.net/en/products/media-bridge/>> for IoT Cloud Platform MB.

Easy IP Connection: NDI®|HX is enabled by an optional NDI®|HX license purchased from NewTek

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 AV-UHS500 Live Switcher, 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® is a new protocol developed by NewTek, Inc. that supports IP video production workflow. NDI® is a registered trademark of NewTek, Inc. in the United States and other countries. Recording, streaming and 4K output are not available when using NDI®|HX mode. Industry's first camcorder to support NDI®|HX. To use this function, an activation keycode from NewTek is required. Keycodes can be purchased from the following website: <https://store.newtek.com/index.php/panasonicndihxlicense-1.html>



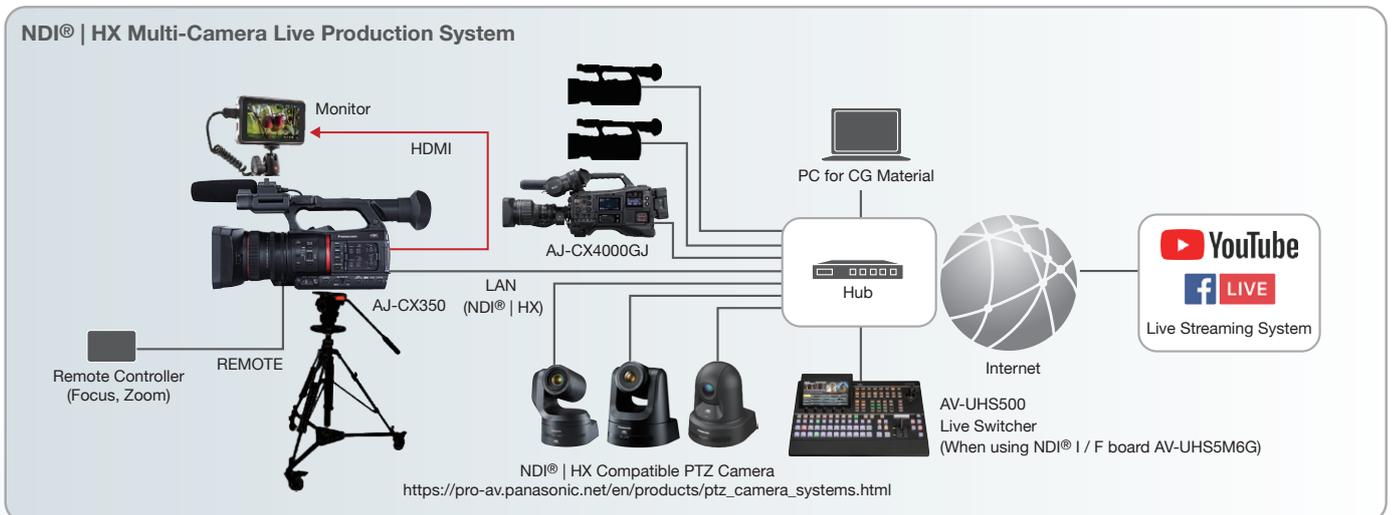
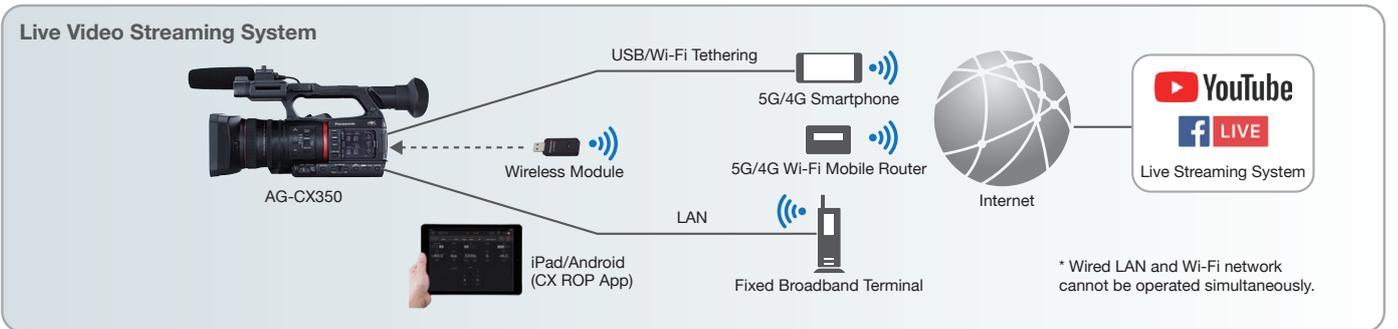
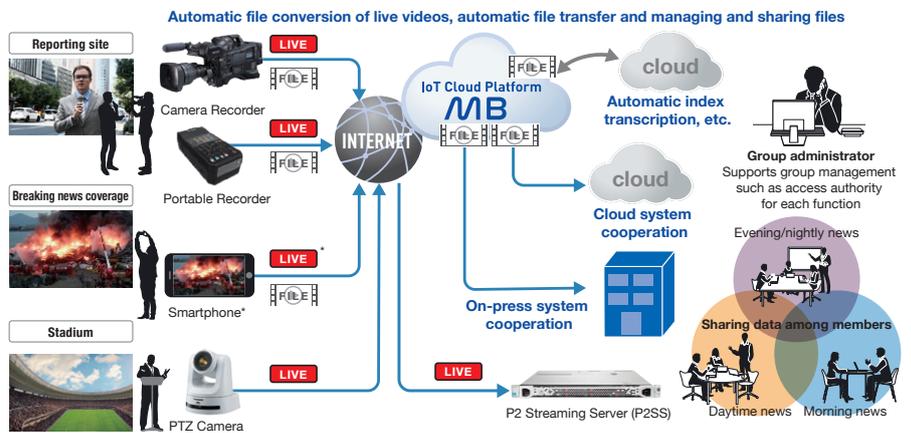
Connectivity-verified live video services



NDI®|HX license keycodes



IoT Cloud Platform MB



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, NDI®/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.

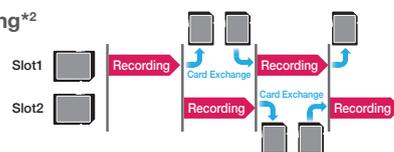
*2: This output is produced when the color bar is displayed. When the 50 Hz system frequency is selected, the output is 997 Hz.

Double Memory Card Slots Improve Recording Reliability

Two SD memory card slots capable of using SDXC/SDHC/microP2 cards*1 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.



SDXC/SDHC/microP2 memory cards

*1: * The production of microP2 cards have been discontinued. When recording to SD memory cards in P2 format, please use SDXC memory cards with video speed class V90 or faster. Please use the latest version of the camera recorder software. 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	
		AVC-LongG12	1280 x 720	4:2:0	8 bit	12 Mbps (VBR)	59.94p, 50p	16 bit LPCM

*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

In addition to supporting multi-functional control such as audio levels and REC S/S from the AW-RP150GJ remote camera controller or AK-HRP1010GJ/HRP1015GJ/HRP250GJ remote operation panels with an IP (wired LAN) connection, it also enables integrated operation with PTZ cameras or studio cameras.



*Not compatible with all of the control items of these remote camera controller and remote operation panel. 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-CX4000GJ).^{*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.



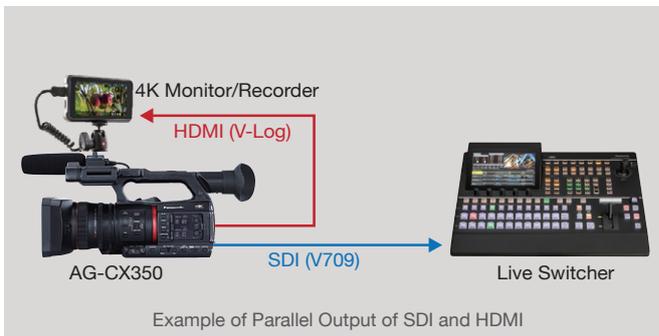
* Pictures simulated.



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). The maximum power consumption is only 17 W (HEVC recording, LCD turned ON, devices connected to the terminals).

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.*

*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

Available Battery Pack

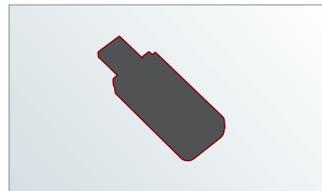
Battery	Voltage/Capacity	Charge Time	Continuous Shooting Time
AG-VBR59 (bundle)	7.28 V 5900 mAh 43 Wh	Approx. 3 hours 20 min.	Approx. 3 hours 20 min.
AG-VBR89G	7.28 V 8850 mAh 65 Wh	Approx. 4 hours	Approx. 5 hours
AG-VBR118G	7.28 V 11800 mAh 86 Wh	Approx. 4 hours 40 min.	Approx. 6 hours 40 min.

*When using bundled battery charger.



AJ-WM50
AJ-WM50G
Wireless Module

*Not available in some areas



Connection confirmed
Wireless Module
https://pro-av.panasonic.net/en/support/connection_confirmed/server/wireless_module.html



AG-MC200G
XLR Microphone



AW-RP150GJ
Remote Camera Controller

High operability ensured through touch-panel GUI monitor and a new type of joystick.



AK-HRP1010GJ
Remote Operation Panel (ROP)
1/4 rack size, supports PoE and IP control.



AK-HRP1015GJ
Remote Operation Panel (ROP)
*Not available in some areas
1/5 rack size, supports PoE and IP control.



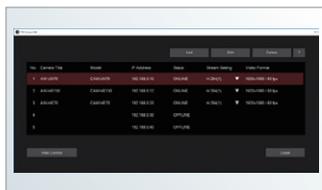
AK-HRP250GJ
Remote Operation Panel (ROP)
Compact operation panel with IP control and PoE support.



PTZ Control Center
Free Software

Using a PC, several PTZ cameras or CX series camera recorders can be simultaneously checked, camera control, and Rec start/stop.

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



PTZ Virtual USB Driver
Free Software

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/.



CX ROP App
Free Software

CX Series Memory Camera Recorder Remote Operation Panel App

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 ¹ /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)/ 4:2:2 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:	3.2 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*1 B series microP2 card*1 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)	Video Speed Class V10 UHS Speed Class 1 Speed Class 10 or faster		
50 Mbps			
AVCHD	SDHC/SDXC memory card, microP2 card*1	All	Speed Class 4 or faster
P2	microP2 card*1, SDXC memory card	All P2 recording modes supported by the AG-CX350	Video Speed Class V90 or faster

Recording Time

Recording Format		microP2 Card*1 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.
		100 Mbps	Approx. 1 hour 20 min.
	FHD	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)*2	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)*2	Approx. 4 hours 16 min.	—
	AVC-LongG12 (1080-59.94i/50i or 720-59.94p/50p)*2	Approx. 8 hours	—

*1: The production of microP2 cards have been discontinued. When recording to SD memory cards in P2 format, please use SDXC memory cards with video speed class V90 or faster. Please use the latest version of the camera recorder software.

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

For "Notes regarding the handling of P2 files using a PC," "Notes regarding network connections," "Precautions for using SDHC/SDXC memory cards with a memory card adapter," and "Note regarding 24 bit audio," please refer to the Panasonic web site <<https://pro-av.panasonic.net/en/support/notes/p2.html>> "Notes when using P2 series".



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Panasonic®

Panasonic Connect Co., Ltd.
2-15 Matsuba-cho, Kadoma, Osaka 571-8503 Japan



Factories of Panasonic Connect Co., Ltd. have received ISO14001:2015-the Environmental Management System certification. (Except for 3rd party's peripherals.)



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



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