

Panasonic

AUGUST 2019



BROADCAST AND PROFESSIONAL CAMCORDER
PRODUCT LINEUP

CONTENTS

Panasonic broadcast and professional camcorder product lineup covering all kinds of production needs, including cinema, broadcast, professional and business use.



Cinema Camera

» P.03



VariCam Pure
4K Camera Recorder



VariCam 35
4K Camera Recorder



VariCam LT
4K Camera Recorder



VariCam HS
2/3-type HD Camera Recorder



EVA1

AU-EVA1
Compact Cinema Camera



Professional Camera Recorder

» P.17



AG-DVX200
Memory Card Camera Recorder



AG-UX180
Memory Card Camera Recorder



AG-UX90
Memory Card Camera Recorder



AG-AC30
Memory Card Camera Recorder



POV CAM

AG-UMR20
Memory Card Portable Recorder
AG-UCK20GJ
Compact Camera Head



POV CAM

AG-MDR25
Memory Card Portable Recorder
AG-MDC20GJ
Compact Camera Head



CX series

» P.33



AJ-CX4000GJ **NEW**
Memory Card Camera Recorder



AG-CX350 **NEW**
Memory Card Camera Recorder

P2HD series

» P.39



AJ-PX5100GJ **HDR**
Memory Card Camera Recorder



AJ-PX800G
Memory Card Camera Recorder



AJ-PX380G
Memory Card Camera Recorder



AJ-PX270
Memory Card Camera Recorder



AJ-PX230
Memory Card Camera Recorder

LCD Monitor » P.57



AJ-PD500
Memory Card Recorder



AJ-PG50
Memory Card Recorder



US Only Model

BT-LH1770P
420 mm (16.5 inches)
LCD Video Monitor



Uncompressed V-RAW Recording



VariCam Pure

4K Camera Recorder

PL Lens super35mm 1MOS Codex Capture Drive Slot x 2

Uncompressed 4K/120p V-RAW Recording with Compact, Lightweight Package

- A Package of the VariCam 35 camera module and the Codex's "V-RAW 2.0" recorder¹.
- Super 35 mm 4K MOS sensor.
 - 14+ stops of latitude with "V-Log" gamma.
 - Dual Native ISO (ISO800/ISO5000).
- Uncompressed 4K/120p V-RAW Recording
 - The recorder captures uncompressed V-RAW data to Codex's Capture Drive 2.0 at 4K up to 120 fps.
 - Using Codex's Production Suite, recorded data can be offloaded as a wide range of file formats including V-RAW, ProRes and DNxHR. This ensures wide-ranging support for existing workflows.
- High mobility with compact size of 33 mm shorter than VariCam 35.
- Camera module and recorder module can be operated in separate locations using an extension module.



Achieve Your Vision



AVC ULTRA

VariCam 35

4K Camera Recorder

PL Lens super35mm 1MOS ProRes
expressP2/P2 card Slot x 2 microP2 card Slot x 2

Super 35 mm 4K MOS Sensor with 4K/120 fps Compatibility in a 4K Cinema Camera.

- Super 35 mm 4K MOS sensor.
 - 14+ stops of latitude with "V-Log" gamma.
 - Dual Native ISO (ISO800/ISO5000).
- Multiple codec recording for 4K/UHD/2K/HD.
- 4K/UHD-VFR recording: 1 fps to 120 fps.
- AVC-Intra4K recording (4:4:4 12 bit,² 4:2:2 10 bit).
- For 2K/HD recording, Apple ProRes² is supported in addition to AVC-ULTRA.
- AVC-Intra 4K/UHD/2K/HD recording.
- Dual codec recording as main (4K/UHD/2K/HD) and sub (2K/HD/Proxy) simultaneously.
- In-camera color grading function.
- Camera module and recorder module can be operated in separate locations using an extension module.



Capture Action



AVC ULTRA

VariCam HS

2/3-type HD Camera Recorder

2/3-type Lens 2/3-type 3MOS ProRes

expressP2/P2 card Slot x 2 microP2 card Slot x 2

HD Acquisition System with 2/3-type Depth of Field and Maximum 240 fps Speed for Capturing Decisive Moments.

- 2/3-type 2.2-megapixel 3MOS sensor.
 - 2/3-type bayonet mount for use with conventional HD lens.
 - 14 stops of latitude, "F REC" and "V-Log" gamma.
- Maximum 240 fps VFR recording: 1 fps to 240 fps.
- Multiple codec HD recording.
 - Visually loss-less quality codec AVC-Intra200.
 - Apple ProRes² supported.
 - Dual codec recording as main (HD) and sub (HD/Proxy) simultaneously.
- In-camera color grading function.
- Camera module and recorder module can be operated in separate locations using an extension module.



**Cinematic VariCam Look
in Your Hands**



AVC-ULTRA

VariCam LT 4K Camera Recorder

Ready for Live
CINE LIVE

EF Lens

PL Lens (option)

super35mm 1MOS

ProRes

expressP2/P2 card Slot x 1

SD Memory Card Slot x 1

Lightweight, Compact 4K Cinema Camera Offering Many of The Features of VariCam 35.

- Firmware version 8.0 or above supports HLG/Rec. 2020 enabling HDR operation for CINE LIVE.
- Same Super 35 mm 4K MOS sensor as VariCam 35.
 - 14+ stops of latitude with “V-Log” gamma.
 - Dual Native ISO (ISO800/ISO5000).
- A standard EF lens mount*³ and a optional PL mount user changeable mount.
- V-LOOK scene file mode for creating cinematic images without color grading.
- Native 4K/60p shooting and 2K/HD cropped 240p slow motion.
- AVC-Ultra 4K/UHD/2K/HD recording.
- For 2K/HD recording, Apple ProRes*² is supported in addition to AVC-Ultra.
- Dual codec recording as main (4K/UHD/2K/HD) and sub (proxy) simultaneously.
- Uncompressed RAW output with 4K or 2K cropped.
- In-camera color grading function.
- IR (Infrared) cinematography shooting function.

EVA1



AU-EVA1

Compact Cinema Camera

Ready for Live
EVA-LIVE

EF Lens

5.7K super35mm 1MOS

SD Memory Card Slot x 2

Explore Your Undiscovered Creativity With 5.7K Compact Cinema Camera

- The 5.7 K Super 35 mm image sensor achieves high-quality 4K/10 bit 4:2:2 images.
- The wide 14 stops dynamic range, V-Log gamma and wide-color-gamut V-Gamut colorimetry, which are inherited from the VariCam Series, ensure cinema-like pictures.
- Dual native ISO of 800/2500 offers very high sensitivity with low noise.
- Supports High-frame-rate recording of 4K 60 fps/2K 240 fps maximum.
- The IR (infrared ray) cut filter ON/OFF mechanism provides the ability to shoot fantasy-like IR images with Cinematography mode.
- Supports 5.7K RAW output compatible with third party recorders.
- The main unit is lightweight and compact, weighing only 1.2 kg.*⁵ It is equipped with an EF lens mount.*⁴ The LCD monitor features a touch-panel function and allows flexible mounting.
- The detachable handle and rotary grip add a new dimension of mobility by enabling the installation of the camera to a drone or gimbal.



VARICAM/AU-EVA1 Special Site
<https://pro-av.panasonic.net/en/>

* Pictures are the example of the configuration using options.

*1 : Customers who have already purchased the VariCam 35 camera module can also connect to the V-RAW 2.0 recorder AU-VCXRAW2. V-RAW 2.0 is manufactured by Codex and sold by Panasonic. Jointly developed with Codex Digital. *2 : ProRes is licensed from Apple Inc. Apple ProRes codec from Atomos under license. Atomos is trademark and copyright of Atomos Global Pty. Ltd. *3: Up to 30p of frame rate. *4: Panasonic does not guarantee the compatibility or performance of all EF lenses. For more details, to be updated on the Panasonic website. *5: Main unit only (excluding the handle, grip and LCD monitor).

Major Features of the VariCam Series

*Applicable function varies depending on the models.
*These do not include the function of AU-EVA1.



Super 35 mm Native 4K Sensor

All models in the Cinema VariCam Series are equipped with the super 35 mm sensor. This sensor won The Hollywood Post Alliance Engineering Excellence Award 2015.

Wide Latitude "V-Log" Gamma

All models in the series also offer the dynamic range of 14+ stops on "V-Log" gamma. This wide dynamic range assures accurate image rendering, particularly from the critical shadow to highlight areas. Transition into highlights is remarkable for its highly natural roll-off.

Natural "V-Gamut" Color Space

The color separation filter is optimized to achieve the Cinematic VariCam look. It offers natural color and accurate color linearity. The new "V-Gamut" color space encompasses the entire BT. 2020 color space. "V-Log" with "V-Gamut" has sufficient latitude and color space for HDR. Grading output is available for post production.

Dual Native ISO

The image sensor has two native ISO settings: 800 and 5000. This allows the camera to achieve much higher sensitivity without increased noise before gain processing. It captures images with very low light or natural light, reduces the amount of additional lighting required, and may extend the "Magic Hour."

In-Camera Color Grading

A built-in LUT box lets you make color decisions on-set with 3rd party applications. Grading information, such as 3D LUT files and CDL files, allows you to provide the same images you create on-set to post-production with easy management.

4K Master and HD Graded Simultaneous Recording

In addition to main recording up to 4K, you can record one more version up to 2K. This enables an ungraded 4K master recording with V-Log, simultaneous with an HD graded recording. You can use the HD graded recording for immediate viewing or off-line editing. Dailies that had been created after shooting can now be produced on-set and with only the camera.

Multi-Codec 4K/UHD/2K/HD Recording

- V-RAW: VariCam Pure supports uncompressed 4K resolution RAW recording with a frame rate of up to 120 fps. VariCam LT can output uncompressed RAW from SDI output terminals.
- AVC-ULTRA: VariCam 35 supports AVC-Intra 4K. It offers high picture quality and a manageable file size.
- Apple ProRes: ProRes (2K/HD) is the industry standard codec.

* ProRes is licensed from Apple Inc.

Large-Diameter OLED Viewfinder

Newly developed 1080p OLED panel shows very clear & accurate image, no lag, low latency, very sharp, accurate color. Wide field angle with viewfinder magnification of 0.78x and large-diameter 38 mm eyepiece lens offer comfortable viewing with minimum vignetting. Optical zoom adjusts image size to personal preference. This viewfinder assists you to expose properly with the Y-Get (spot meter), waveform, false color and zebra. It is capable of 2x, 3x and 4x expand focus.

Separate Operation with Extension Module

VariCam Pure, VariCam 35 and VariCam HS have a modular design. The camera module and recording module can be positioned at separate locations and connected with the AU-VEXT1G Extension Module. This lets you mount only the camera head to a crane, thus adding flexibility to your camera work.



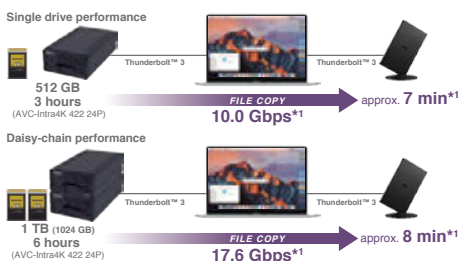
Remote Control App "VariCam ROP"

The VariCam ROP app for iPad/iPhone is available free of charge from the Apple App Store. It enables wireless remote control of the VariCam Series.

* For wireless LAN connection with the camera, the AJ-WM50 or AJ-WM30 Wireless Module must be purchased separately.

Incredibly Fast Offload — expressP2 x Thunderbolt™ 3

The expressP2 card B series has a data offload speed of 10 Gbps. The AU-XP2 expressP2 Drive, equipped with Thunderbolt™ 3 interface, brings out the best of the expressP2 card B series.



*1: The actual data transfer speed and time depend on the system.

* Thunderbolt and the Thunderbolt logo are trademarks of Intel Corporation in the U.S. and/or other countries.

Custom Splash Screen and Owner Information



The camera will have 2 visible and indelible marks of ownership.

- Custom Splash Screen: You can personalize your flash screen with any logo, text, or graphics.
- Owner Information: You can input the name, address, and contact information of the equipment's owner.

*Change of 1 and 2 requires password if CSS/Owner Info data in camera is password protected.



Custom Splash Screen



The Cinema VariCam line of cameras has been used on a wide variety of movies, commercials, and TV programs.

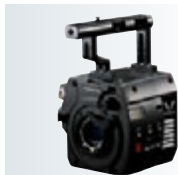
	VariCam PURE	VariCam 35	VariCam LT	AU-EVA1	VariCam HS
Module Configuration	Camera Module: AU-V35C1G Recording Module: AU-VCXRAW2	Camera Module: AU-V35C1G Recording Module: AU-VREC1G	AU-V35LT1G (Integrated)	AU-EVA1 (Integrated)	Camera Module: AU-V23HS1G Recording Module: AU-VREC1G
Viewfinder	AU-VCVF2GJ	AU-VCVF2GJ	AU-VCVF20GJ (HD-SDI Input Type)	Supplied LCD	AU-VCVF2GJ
Extension Module	AU-VEXT1G	AU-VEXT1G	—	—	AU-VEXT1G
Lens Mount	PL mount	PL mount	EF mount (exchangeable to optional PL mount)	EF mount	2/3-type B4 mount
Image Sensor	super35 mm, MOS, 8.9 megapixels	super35 mm, MOS, 8.9 megapixels	super35 mm, MOS, 8.9 megapixels	super35 mm, MOS, 17.25 megapixels	2.2 megapixels, MOS x 3
Exposure Latitude	14+ stop	14+ stop	14+ stop	14 stop	14 stop
V-Gamut Color Space.	✓	✓	✓	✓	—
Dual Native ISO	ISO 800, ISO 5000	ISO 800, ISO 5000	ISO 800, ISO 5000	ISO 800, ISO 2500	—
In Camera Grading	✓	✓	✓	—	✓
Recording Media	CODEX Capture Drive	expressP2 card, P2 card, microP2 card (sub)	expressP2 card, P2 card, SD Memory Card (proxy)	SD Memory Card	expressP2 card, P2 card, microP2 card (sub)
Recording Format	4K, UHD	4K, UHD, 2K, HD	4K, UHD, 2K, HD	4K, UHD, 2K, HD	HD
Maximum Frame Rate	120 fps/100 fps	120 fps/100 fps	4K/UHD: 60 fps/50 fps, 2K/HD: 240 fps/200 fps	4K: 60 fps 2K: 240 fps	240 fps/200 fps
Dual Codec Recording	—	✓	✓	—	✓
V-RAW Recording	✓	—	—	—	—
AVC-ULTRA Recording	—	✓	✓	—	✓
ProRes Recording	—	✓	✓	—	✓
RAW Output	—	—	✓	✓*1	—
Remote Control App supported	✓	✓	✓	✓*2	✓
Custom Splash Screen and Owner Information	✓	✓	✓	—	✓

✓: It is possible to use it. *1: This function will be supported by version upgrade. *2: "EVA ROP App" for iPad or Android tablet.

VariCam Modules, Accessories, Memory Card Drives and Memory Cards



AU-V35C1G
4K Camera Module



AU-V23HS1G
2/3 type HD Camera Module



AU-VREC1G
Recording Module



AU-VCXRAW2
V-Raw2.0 Recorder^{*1}



AU-V35LT1G
Memory Card Camera Recorder



AU-VCVF2GJ
HD Color View Finder



AU-VCVF20GJ
HD Color View Finder



AU-VSHL2G
Shoulder Mount Module



AU-VSHL1G
Shoulder Mount Module



AU-VMPL1G
PL Mount



AU-VGRP1G
Grip Module



AU-VEXT1G
Extension Module



AU-VCBL20G (20 m)
AU-VCBL05G (5 m)
Extension Cable



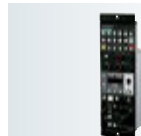
AJ-MC900G
Microphone



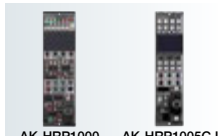
AG-MC200G
XLR Microphone



AJ-MH800G
Microphone Holder



AK-HRP200G
Remote Operation Panel (ROP)



AK-HRP1000
AK-HRP1005GJ
Remote Operation Panel (ROP)



AU-XP3
Memory Card Drive
expressP2 card drive^{*2}



AU-XP1
Memory Card Drive
expressP2 card drive^{*2+3+4}



AJ-WM50
Wireless Module^{*5}
^{*} Not available in some areas.



AJ-WM30
Wireless Module^{*5}
^{*} Not available in some areas.



Connection Confirmed
Wireless Module^{*5}
(including third-party products)



^{*5}: For details please visit Panasonic website (https://pro-av.panasonic.net/en/sales_o/p2/server/wireless_module.html)

^{*1}: The AU-VCXRAW2 is manufactured by Codex and sold by Panasonic. Jointly developed with Codex Digital. ^{*2}: Requires the optional AJ-P2AD1G Memory Card Adapter to use the microP2 card. ^{*3}: Connection of the AU-XP1 requires two USB cables. And a power supply is connected with USB 3.0 port of PC or an AC adaptor. ^{*4}: Exchanging AU-XP1 hardware, free of charge, might be necessary when expressP2 card B series used on AU-XP1. For details please visit Panasonic website. (<https://pro-av.panasonic.net/>). ^{*}Notes when using expressP2 card B series". ^{*6}: It is necessary to upgrade the recorder's firmware. For details please visit Panasonic website. (<https://pro-av.panasonic.net/>). ^{*}Notes when using expressP2 card C series"



AU-XP0512CG AU-XP0256CG

AU-XP0512CG (512 GB)
AU-XP0256CG (256 GB)

Memory Card
 expressP2 card C series**

NEW Coming soon *

* Replacement of B series due to manufacturing change.



AU-XP0512BG AU-XP0256BG

AU-XP0512BG (512 GB)
AU-XP0256BG (256 GB)

Memory Card
 expressP2 card B series**



AJ-P2E060FG AJ-P2E030FG

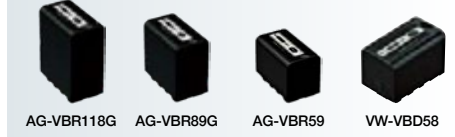
AJ-P2E060FG (60 GB)
AJ-P2E030FG (30 GB)

Memory Card
 P2card F series



V90 @ U II

AJ-P2M064BG (64 GB)
 Memory Card
 microP2 card B series

SDXC/SDHC/SD
Memory Card

AG-VBR118G (11,800 mAh)
AG-VBR89G (8,850 mAh)
AG-VBR59 (5,900 mAh)
 Battery Pack

VW-VBD58 (5,800 mAh)
 Battery Pack



AG-BRD50
 Battery Charger
AG-B23
 Battery Charger

Optional Accessories for AU-EVA1

		VariCam Pure	VariCam 35	VariCam LT	AU-EVA1	VariCam HS
Electronic HD Color View Finder	AU-VCVF2GJ	✓	✓			✓
View Finder	AU-VCVF20GJ			✓		
Shoulder Mount Module	AU-VSHL2G	✓	✓	✓		✓
Shoulder Mount Module	AU-VSHL1G	✓	✓	✓		✓
PL Mount	AU-VMPL1G			✓		
Grip Module	AU-VGRP1G			✓		
Extension Module	AU-VEXT1G	✓	✓			✓
Extension Cable (20 m)	AU-VCBL20G	✓	✓			✓
Extension Cable (5 m)	AU-VCBL05G	✓	✓			✓
Microphone	AJ-MC900G	✓	✓	✓		✓
XLR Microphone	AG-MC200G				✓	
Microphone Holder	AJ-MH800G	✓	✓	✓		✓
Remote Operation Panel (ROP)	AK-HRP200G	✓	✓	✓		✓
Remote Operation Panel (ROP)	AK-HRP1000			✓		
Remote Operation Panel (ROP)	AK-HRP1005GJ			✓		
Memory Card Drive expressP2 card drive	AU-XP03 AU-XP01		✓	✓		✓
Wireless Module**	AJ-WM50	✓	✓	✓	✓	✓
Wireless Module**	AJ-WM30	✓	✓	✓		✓
Wireless Module (third-party products)		✓	✓	✓		✓
expressP2 card (C series)	AU-XP0512CG AU-XP0256CG		✓	✓		✓
expressP2 card (B series)	AU-XP0512BG AU-XP0256BG		✓	✓		✓
P2 card (F series)	AJ-P2E060FG AJ-P2E030FG		✓*2	✓*2		✓
microP2 card (B series)	AJ-P2M064BG		✓	✓	✓	✓
SDXC/SDHC/SD Memory Card			✓	✓	✓	✓

✓: It is possible to use it. *1: Not available in some areas. *2: 2K/HD only.

4K Work Flow Partners

 Adobe		 ASSIMILATE	 ATOMOS	
		 calibrated SOFTWARE	 CDV 新奥特	
 colorfront	 convergent design	 DAYANG	 DigitalVision	 drastic.tv
 FilmLight	 FireFly CINEMA	 grass valley A BELDEN BRAND	 IBEX	 IMAGINE PRODUCTS, INC.
 IN2CORE	 MAIN CONCEPT	 mog	 PIXSPAN	 POMFORT ^{fm}
 ROHDE & SCHWARZ	 SGO	 sobey www.sobey.com	 WOWOW ENTERTAINMENT, INC.	 YoYotta creative workflow software

4K Workflow Partners are committed to support the VariCam 4K workflow, including AVC-Intra4K, V-LUT, V-RAW, and/or In-Camera Color Grading.

In Camera Grading

Colorfront: On-Set Live! RC6 b19262
 FilmLight: Prelight v5.0
 In2Core: Qtake v1.3
 Pomfort: Live Grade PRO v2.2
 WOWOW: Wonder Look Pro v3.5.2

Offloading

Codex: Production Suite
 Imagine Products: ShotPutPro
 Pomfort: SilverStack
 YoYotta: YoYottaID

RAW Recorder

Atomos: Shogun Inferno, Shogun Flame,
 Sumo19
 Codex: V-RAW 2.0 recorder
 Convergent Design: Odyssey 7Q/ 7Q+

Editing/Grading

Adobe: Premiere Pro CC
 Apple: Final Cut Pro X
 Assimilate: Scratch, Scratch Play
 Autodesk: Flame family, Smoke
 Avid: Media Composer
 Blackmagic Design: DaVinci Resolve,
 DaVinci Resolve Studio
 Colorfront: On-Set Dailies,
 Express Dailies, Transkoder
 Digital Vision: NuCoda
 FilmLight: Baselight, Daylight
 GrassValley: EDIUS Pro,
 Quantel Rio, Rio Assist

AVC-Ultra / RAW Import Plug-in

Calibrated Software: AVC-Intra LT Import for Adobe
 Drastic Technology: Media Reactor

VariCam PURE

General Specification

(Combination of AU-V35C1G and AU-VCXRAW2)

Power:	DC IN 24 V
Power Consumption:	105 W
Operating Temperature:	0°C to 40°C (32°F to 104°F)
Operating Humidity:	10 % to 85 % (Relative humidity)
Weight:	Approx. 5.15 kg (11.35 lb) (V35C1: 2.7 kg (5.95 lb)/VRAW2.0: 2.45 kg (5.40 lb)) *5.45 kg (12.02 lb) including a cheese plate
Dimensions:	180.2 mm (W) x 236.3 mm (H) x 314 mm (H) (7-3/32 inches x 9-19/64 inches x 12-23/64 inches) excluding protrusion and accessories

Camera

Pickup Device:	Super 35 mm, MOS sensor
Number of Pixels:	Total pixels: Approx. 10.3 million pixels Effective Pixels: Approx. 8.9 million pixels
Lens Mount:	PL mount
Optical Filter:	ND filter: 1: CLEAR, 2: 0.6 ND, 3: 1.2 ND, 4: 1.8 ND
Latitude:	14+ Stops
ISO Setting:	Native ISO: 800, 5000 800 Base: 200 to 4000 5000 Base: 1250 to 12800
Shutter Speed:	[deg] mode: 1.0 deg to 358 deg (0.5 deg step) [sec] mode: 1/24 sec. to 1/250 sec. (for 24p)

V-RAW2.0 Recorder (AU-VCXRAW2)

When used with AU-V35C1G

Memory Card Recorder

Recording Media:	CODEX Capture Drive
Recording Resolution:	4096 x 2160 (4K), 3840 x 2160 (UHD)
Recording Frame Rate:	Maximum 120 fps/100 fps
System Frequency	59.94p, 50p, 29.97p, 25p, 24p, 23.98p
Recording Format	V-RAW: 4K 12 bit/4K 10 bit/ UHD 12 bit/UHD 10 bit
Recording Video Signal:	4096 x 2160/ 59.94p, 50p, 29.97p, 25p, 24p, 23.98p 3840 x 2160/ 59.94p, 50p, 29.97p, 25p, 23.98p
Recording Time:	with 2 TB Capture Drive 4K 12 bit (23.98 fps): Approx. 100 min. 4K 10 bit (23.98 fps): Approx. 112 min. 4K 10 bit (120 fps): Approx. 22 min. UHD 12 bit (23.98 fps): Approx. 106 min. UHD 10 bit (23.98 fps): Approx. 119 min. UHD 10 bit (120 fps): Approx. 23 min.

Digital Video

Quantizing:	12 bit/10 bit
Video Data Process:	Uncompressed RAW

Digital Audio

Recording Audio Signal:	48 kHz/24 bit, 2 CH
Headroom:	18 dB/20 dB MENU switching

Digital Audio

SDI OUT 1-4:	HD (1.5 G)/3G-SDI: 0.8 V [p-p], 75 Ω
MON OUT 1/2:	HD (1.5 G)/3G-SDI: 0.8 V [p-p], 75 Ω
VF OUT:	HD (1.5 G)/3G-SDI: 0.8 V [p-p], 75 Ω

Audio Input/Output

INPUT 1/2:	XLR x 1, 5-pin
PHONES:	Stereo mini jack
Speaker:	20 mm diameter, round x 1

Other Input/Output

GENLOCK IN:	HD (1.5 G)/3G-SDI, 0.8 V [p-p], 75 Ω
TC IN/OUT:	BNC x 1 (Input/Output switching) IN: 0.5 V [p-p] ~ 8 V [p-p], 10 kΩ OUT: 2.0 V [p-p] ± 0.5 V [p-p], low impedance
DC IN:	24 V (10.5 V ~ 34 V) 2-pin Fisher
DC OUT/RS:	24 V x 3
DC OUT:	12 V x 1
LENS:	12-pin
LAN:	100BASE-TX/10BASE-T LEMO
USB 2.0 (HOST):	Type A connector, 4-pin
CONTROL PANEL:	20-pin, control panel contact terminals
SD Card Slot:	x1 for Version Up 3D LUT/ CDL file Upload and Save Set Up File Upload and Save

Control Panel

Control Pane:	LCD 3.5-type QHD color monitor, approx. 1.56 million dots
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Electronic HD Color View Finder (AU-VCVF2GJ)

Display Panel:	0.7-type OLED (Organic Light Emitting Diode) display
Input Video Signal:	1080/59.94p, 1080/50p, 1080/60p
Connector:	LEMO 14-pin

Offload Formats From CODEX Production Suite

Recording Mode	Recording Format
ProRes 422 HQ	1920 × 1080, 10 bit
	2048 × 1080, 10 bit
	4096 × 2160, 10 bit
	3840 × 2160, 10 bit
ProRes 4444	1920 × 1080, 12 bit
	2048 × 1080, 12 bit
	4096 × 2160, 12 bit
	3840 × 2160, 12 bit
ProRes 4444 XQ	1920 × 1080, 12 bit
	2048 × 1080, 12 bit
	4096 × 2160, 12 bit
	3840 × 2160, 12 bit
DNxHR 444	2048 × 1080, 10 bit
	3840 × 2160, 10 bit
	4096 × 2160, 10 bit
DNxHR HQX	2048 × 1080, 10 bit
	3840 × 2160, 10 bit
	4096 × 2160, 10 bit
	4096 × 2160, 10 bit
DNxHR HQ	2048 × 1080, 10 bit
	3840 × 2160, 10 bit
	4096 × 2160, 10 bit

VariCam 35

General Specification

(Combination of AU-V35C1G and AU-VREC1G)

Power:	DC 12 V (11.0 V – 17.0 V)
Power Consumption:	99 W (With all optional accessories connected and maximum power supplied from each output terminal)
Operating Temperature:	0°C to 40°C (32°F to 104°F)
Operating Humidity:	10 % to 85 % (Relative humidity)
Storage Temperature:	–20°C to 60°C (–4°F to 140°F)
Weight:	Approx. 5.0 kg (Body only)
Dimensions:	179 mm (W) x 230.5 mm (H) x 347 mm (D) (7-1/16 inches x 9-1/16 inches x 13-21/32 inches) (Body only, excluding protrusion)

Camera Module (AU-V35C1G)

Pickup Device:	super 35 mm MOS 8.9 megapixels
Number of Pixels:	Total pixels: Approx. 10.3 million pixels Effective Pixels: Approx. 8.9 million pixels
Lens Mount:	35 mm PL mount
Optical Filter:	ND filter: 1: CLEAR, 2: 0.6 ND, 3: 1.2 ND, 4: 1.8 ND
El Settings:	Native ISO: 800, 5000 800 Base: 200 to 4000 5000 Base: 1250 to 12800
Shutter Speed:	[deg] mode: 1.0 deg to 358 deg (0.5 deg step) [sec] mode: 1/24 sec. to 1/250 sec. (When 24p mode)

Recording Module (AU-VREC1G)

When used with AU-V35C1G

Memory Card Recorder

Recording Media:	expressP2 card, P2 card, microP2 card
Recording Resolution:	4096 x 2160, 3840 x 2160, 2048 x 1080, 1920 x 1080
Recording Frame Rate:	Maximum 4K/UHD 100p/120p, HD 100p/120p
System Frequency:	59.94p, 50p, 29.97p, 25p, 24p, 23.98p
Recording Format:	AVC-Intra4K444, AVC-Intra4K422, (Main Recorder) AVC-Intra4K-LT, AVC-Intra2K444, AVC-Intra2K422, AVC-Intra444, AVC-Intra200, AVC-Intra422, AVC-Intra100, ProRes 4444 XQ, ProRes 4444, ProRes 422 HQ, ProRes 422, ProRes 422 LT
Recording Format:	AVC-Intra2K422, AVC-Intra422, (Sub Recorder) AVC-Intra100, AVC-LongG 50, AVC-LongG 25
Recording Video Signal:	4096 x 2160/59.94p, 50p, 29.97p, 25p, 24p, 23.98p 3840 x 2160/59.94p, 50p, 29.97p, 25p, 23.98p 2048 x 1080/59.94p, 50p, 29.97p, 25p, 24p, 23.98p 1920 x 1080/59.94p, 50p, 29.97p, 25p, 23.98p, 59.94i, 50i
Recording Time:	When expressP2 card 512 GB is used* (Main Codec) AVC-Intra4K444 (24p): Approx. 90 min. AVC-Intra4K422 (VFR ON, 50 fps/60 fps): Approx. 72 min. AVC-Intra4K422 (VFR OFF, 24p): Approx. 180 min. AVC-Intra4K-LT (VFR ON, 100 fps/120 fps): Approx. 64 min. AVC-Intra100 (VFR ON, 100 fps/120 fps): Approx. 128 min. ProRes 422 HQ (VFR ON, 60 fps): Approx. 120 min.
Recording Time:	When microP2 card 64 GB is used* (Sub Codec) AVC-Intra2K422 (25p/29.97p): Approx. 64 min. AVC-Intra100 (25p/29.97p): Approx. 64 min. AVC-LongG 50 (25p/29.97p): Approx. 128 min. AVC-LongG 25 (25p/29.97p): Approx. 256 min.

Digital Video

Quantizing:	12 bit (AVC-Intra4K444), 10 bit (Other than AVC-Intra4K444)
Video Compression Format:	AVC-Intra4K444, AVC-Intra4K422, AVC-Intra4K-LT, AVC-Intra2K422, AVC-Intra100: MPEG-4 AVC/H.264 Intra Profile AVC LongG50, AVC LongG25 MPEG-4 AVC/H.264 ProRes 422 HQ

Digital Audio

Recording Audio Signal:	48 kHz/24 bit, 4 ch
Headroom:	18 dB/20 dB menu switchable

Proxy

File Format:	MOV
Video Compression Format:	H.264/AVC High Profile
Audio Compression Format:	LPCM
Recording Time:	Approx. 25 min. (1 GB)*

Video Input/Output

SDI OUT:	HD (1.5 G)/3G-SDI, 0.8 V [p-p], 75 Ω (1 set, 4 pieces)
MON OUT1:	HD (1.5 G)/3G-SDI, 0.8 V [p-p], 75 Ω
MON OUT2:	HD (1.5 G)/3G-SDI, 0.8 V [p-p], 75 Ω
VF SDI:	HD (1.5 G) /3G-SDI, 0.8 V [p-p], 75 Ω

Audio Input/Output

AUDIO IN (CH1/CH2):	XLR x 2, 3-pin, LINE/MIC/MIC+48 V/AES switchable
MIC IN:	XLR x 1, 5-pin
PHONES:	Stereo mini jack
Speaker:	20 mm diameter, round x 1

Other Input/Output

GENLOCK IN:	HD (1.5 G) /3G-SDI, 0.8 V [p-p], 75 Ω
TC IN/OUT:	BNC x 1, IN/OUT switch selection IN: 0.5 V [p-p] to 8 V [p-p], 10 kΩ OUT: 2.0 V [p-p] ± 0.5 V [p-p], Low impedance
DC IN:	XLR 4-pin, DC 12 V (DC 11.0 V – 17.0 V)
DC OUT/RS:	4-pin, DC 12 V (DC 11.0 V – 17.0 V), maximum output current 1.0 A
DC OUT:	2-pin, DC12 V (DC 11.0 V – 17.0 V), maximum output current 1.0 A
LENS:	12-pin x 1, 4-pin x 2
VF:	14-pin
LAN:	100BASE-TX/10BASE-T
USB 2.0 (DEVICE):	Type B connector, 4-pin
USB 2.0 (HOST):	Type A connector, 4-pin
EXT:	50-pin (for external recording only)*

Control Panel

Display Panel:	LCD, 3.5-type QHD color monitor Approx. 1.56 million dots
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Extension Module (AU-VEXT1G)

Power:	DC 12 V (11.0 V – 17.0 V)
Power Consumption:	33 W (Body only) 63 W (With all optional accessories connected and maximum power supplied from each output terminal)
Operating Temperature:	0°C to 40°C (32°F to 104°F)
Operating Humidity:	10 % to 85 % (Relative humidity)
Storage Temperature:	–20°C to 60°C (–4°F to 140°F)
Weight:	Camera Extension Module: Approx. 0.95 kg Recording Extension Module: Approx. 0.65 kg
Dimensions:	Camera Extension Module: 121 mm (W) x 143 mm (H) x 73 mm (D) (4-13/16 inches x 5-11/16 inches x 2-7/8 inches) Recording Extension Module: 106 mm (W) x 143 mm (H) x 61 mm (D) (4-3/16 inches x 5-11/16 inches x 2-7/16 inches)

Input/Output

DC IN:	XLR 4-pin, DC 12 V (DC 11.0 V – 17.0 V)
DC OUT:	2-pin, DC 12 V (DC 11.0 V – 17.0 V), maximum output current 1.0 A
EXT:	48-pin

Electronic HD Color View Finder (AU-VCVF2GJ)

Display Panel:	0.7-type OLED (Organic Light Emitting Diode) display
Input Video Signal:	1080/59.94p, 1080/50p, 1080/60p
Connector:	LEMO 14-pin

*These are reference values for continuous recording. The recording time may differ depending on the scene or the number of clips.

VariCam LT

General Specification

Power:	DC 12 V (11.0 V – 17.0 V)
Power Consumption:	47 W (with body only) 77 W (with all optional accessories connected and maximum power supplied from each output terminal)
Operating Temperature:	0°C to 40°C (32°F to 104°F)
Operating Humidity:	10 % to 85 % (Relative humidity)
Storage Temperature:	–20°C to 60°C (–4°F to 140°F)
Weight:	Approx. 2.7 kg (6.0 lb), excluding handle and accessories Approx. 3.0 kg (6.6 lb), including handle, excluding accessories
Dimensions:	184.0 mm (W) x 230.5 mm (H) x 247.0 mm (D) (7-1/4 inches x 9-3/32 inches x 9-3/4 inches) Body only, excluding protrusion and accessories
Ensure that the total current taken from the DC OUT terminal, LENS/GRIP terminal, DC OUT/RS terminal and USB HOST terminal does not exceed 30 W.	

Camera Unit

Pickup Device:	Super 35 mm, MOS sensor
Number of Pixels:	Total pixels: Approx. 10.3 megapixels Effective pixels: Approx. 8.9 megapixels
Lens Mount:	EF mount
Optical Filter:	ND filter: 1: CLEAR, 2: 0.6 ND, 3: 1.2 ND, 4: 1.8 ND
Gain setting:	[ISO] mode: Native ISO: 800, 5000 800 Base: 200 to 4000 5000 Base: 1250 to 12800 [dB] mode: –12 dB to 14 dB (2 dB step)
Shutter Speed:	[deg] mode: 1.0 deg to 358 deg (0.1 deg step) [sec] mode: 1/24 sec. to 1/250 sec. (for 24p)
Sensitivity:	[GAIN MODE]=[NORMAL], [GAMMA]=[VIDEO45] F7 (2000 lx, 3200 K, 89.9 % reflection, 1080/59.94p) F8 (2000 lx, 3200 K, 89.9 % reflection, 1080/50p)

Memory Card Recorder

Recording Media:	Main slot x 1: expressP2 card, P2 card Sub slot x 1: SD memory card
Recording Resolution:	4096 x 2160 (4K), 3840 x 2160 (UHD), 2048 x 1080 (2K), 1920 x 1080 (HD)
Recording Frame Rate:	4K/UHD: Maximum 60 fps or 50 fps 2K/HD Crop: Maximum 240 fps or 200 fps
System Frequency:	59.94p, 50p, 29.97p, 25p, 24p, 23.98p, 59.94i, 50i
Recording Format: (Main Recorder)	AVC-Intra4K422, AVC-Intra4K-LT, AVC-Intra2K444, AVC-Intra2K422, AVC-Intra2K-LT, AVC-Intra444, AVC-Intra422, AVC-Intra-LT, AVC-Intra100, ProRes 4444 XQ, ProRes 4444 ProRes 422 HQ, ProRes 422, ProRes 422 LT
Recording Format (Sub Recorder):	AVC-LongG6 Recording
Video Signal:	4096 x 2160/ 59.94p, 50p, 29.97p, 25p, 24p, 23.98p 3840 x 2160/ 59.94p, 50p, 29.97p, 25p, 23.98p 2048 x 1080/ 59.94p, 50p, 29.97p, 25p, 24p, 23.98p 1920 x 1080/ 59.94p, 50p, 29.97p, 25p, 23.98p, 59.94i, 50i
Recording Time*1: (Main Codec)	When using expressP2 card 512 GB and when [FREQUENCY]=[23.98p] AVC-Intra4K422, 23.98 fps: Approx. 180 min. AVC-Intra4K22, VFR ON, 30 fps: Approx. 146 min. AVC-Intra4K-LT, VFR ON, 30 fps: Approx. 128 min. AVC-Intra422, VFR ON, 60 fps: Approx. 260 min. ProRes 422 HQ VFR ON, 60 fps: Approx. 134 min.
Recording Time*1: (Sub Codec)	AVC-LongG6: Approx. 655 min.

Digital Video

Quantizing:	AVC-Intra2K444, AVC-Intra444: 12 bit Others: 10 bit
Video Compression Format:	AVC-Intra4K422, AVC-Intra4K-LT, AVC-Intra2K444, AVC-Intra2K422, AVC-Intra2K-LT, AVC-Intra444, AVC-Intra422, AVC-Intra-LT, AVC-Intra100: MPEG-4 AVC/H.264 Intra Profile ProRes 422 HQ, ProRes 4444: Apple ProRes ²

Digital Audio

Recording Audio Signal:	48 kHz/24 bit, 4 ch
Headroom:	18 dB/20 dB switchable menu

AVC Proxy

File Format:	MOV
Video Compression Format:	MPEG-4 AVC/H.264 Intra Profile
Audio Compression Format:	AAC
Recording Time*3	Approx. 655 min. When using a 64 GB SDXC memory card

Video Input/Output

SDI OUT1/ SDI OUT2:	HD (1.5 G)/3G-SDI, 0.8 V [p-p], 75 Ω
VF SDI:	HD (1.5 G)/3G-SDI, 0.8 V [p-p], 75 Ω

Audio Input/Output

INPUT 1/2:	XLR x 1, 5-pin
INPUT 3/ INPUT 4:	XLR x 2, 3-pin, Supports menu switching to select LINE/MIC or enable/disable the power supply of the microphone.
PHONES:	Stereo mini jack
Speaker:	20 mm diameter, round x 1

Other Input/Output

GENLOCK IN:	HD (1.5 G)/3G-SDI, 0.8 V [p-p], 75 Ω
TC IN/OUT:	BNC x 1, Input/Output switching Input: 0.5 V [p-p] to 8 V [p-p], 10 kΩ Output: 2.0 V [p-p] ± 0.5 V [p-p], low impedance
DC IN:	XLR x 1, 4-pin, DC 12 V (DC 11.0 V – 17.0 V)
DC OUT/RS:	4-pin, DC 12 V (DC 11.0 V – 17.0 V), maximum output current 1.0 A
DC OUT:	2-pin, DC12 V (DC 11.0 V – 17.0 V), maximum output current 1.0 A
LENS/GRIP:	12-pin
LAN:	100BASE-TX/10BASE-T
USB DEVICE:	USB 2.0 devices: Type B connector, 4-pin
USB HOST:	USB 2.0 host: Type A connector, 4-pin
CONTROL PANEL:	20-pin, control panel contact terminals
EF Mounting Contact:	8-pin

Control Panel

Display Panel:	LCD, 3.5-type QHD color monitor, approx. 1.56 million dots
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Electronic HD Color View Finder (AU-VCVF20GJ)

Display Panel:	0.7-type OLED (Organic Light Emitting Diode) display
Input Video Signal:	1080/59.94p, 1080/50p, 1080/60p, 1080/23.98PsF, 1080/24PsF, 1080/25PsF, 1080/29.97PsF, 1080/59.94i, 1080/50i
Connector:	SDI, DC IN

*1: Figures are for continuous recording as one clips. Depending on the number or clips, the overall recording time may be shorter than the above.

*2: ProRes is licensed from Apple Inc. Apple ProRes codec is under license from Atomos. Atomos is a trademark and copyright of Atomos Global Pty. Ltd.

*3: Reference value for continuous recording. The recording may differ depending on the scene or the number of clips.

AU-EVA1

General Specification

Power:	DC 7.28 V (battery operation) DC 12 V (AC adapter operation)
Power Consumption:	19 W (when LCD monitor is used)
Operating Temperature:	0 °C to 40 °C (32°F to 104°F)
Operating Humidity:	10% to 80% (relative humidity)
Storage Temperature:	-20 °C to 60 °C (-4°F to 140°F)
Weight:	Body: 1.2 kg (2.65 lb) (excluding accessories) Shooting: Approx. 2.05 kg (4.52 lb) (with accessories)
Dimensions:	135 mm (W) x 133 mm (H) x 170 mm (D) (excluding protrusions and accessories) (5-5/16 inches x 5-1/4 inches x 6-11/16 inches)

Camera Unit

Image Sensor:	Super 35 mm, MOS sensor
Number of Pixels:	Total pixels: Approx. 20.49 megapixels, 6340 (H) x 3232 (V) Effective pixels: Approx. 17.25 megapixels, 5720 (H) x 3016 (V)
Sensor Area and Max Frame Rate:	S35: 4K/UHD 60 fps/50 fps 2K/HD 120 fps/100 fps 4/3-type: 2K/HD 240 fps/200 fps
Latitude:	14 stop
Log:	V-Log
Gamma:	eV-Look Gamma (2 types) Video Gamma Hybrid Log Gamma (HLG)
Gamut:	V-Gamut (V-Log)
El Settings:	[ISO] mode: NATIVE ISO: 800, 2500 800 Base: 200 to 2000 2500 Base: 1000 to 25600 [dB] mode: (Normal) -12 dB to 8 dB (High) -8 dB to 20 dB
Shutter Speed:	[deg] mode: 3.0 deg to 357.0 deg (0.5 deg step) 12 presets [sec] mode: 1/24.1 sec to 1/8000 sec (23.98p) 12 presets
Color Temp:	ATW, AWB, 2000 K to 15000 K ±10.0 GMg 12 presets
Lens Mount:	EF mount
Image Stabilization:	Electric Image Stabilization (EIS)
Auto Focus:	One push auto focus
ND Filter:	CLEAR, 0.6 ND, 1.2 ND, 1.8 ND, Electrical driven
IR Cut Filter:	USER assignable IR shooting (filter ON/OFF)

Memory Card Recorder

Recording Media:	SDXC memory card (32 GB to 128 GB), SDHC memory card (4 GB to 32 GB) UHS-I/UHS-II UHS Speed Class3 is supported, Video Speed Class V90 is supported
Recording Slot:	SD memory card slot x 2
Recording Resolution:	4096 x 2160 (4K), 3840 x 2160 (UHD), 2048 x 1080 (2K), 1920 x 1080 (FHD), 1280 x 720 (HD)
Recording System Frequency:	59.94p, 50p, 29.97p, 25p, 24p, 23.98p 59.94i, 50i (AVCHD only)
Recording Format:	Please see page 14 for the Recording Format and Recording Time table
Recording Time:	Please see page 14 for the Recording Format and Recording Time table
2 slot Functions:	Simul Rec, Relay Rec
Other Rec Functions:	Pre Rec, Interval Rec

Digital Video

Quantizing:	MOV: 4:2:2 10 bit/4:2:0 10 bit (HEVC)/4:2:0 8 bit AVCHD: 4:2:0 8 bit
Video Compression Format:	H.264/MPEG-4 AVC High Profile H.265/MPEG-H HEVC Main 10 High Profile

Digital Audio

Recording Audio Format:	MOV: 48 kHz/24 bit, 2 CH, Linear PCM AVCHD: 48 kHz/16 bit, 2 CH, Dolby Audio™
Headroom:	18 dB/20 dB (menu switchable)

Video Output

SDI OUT:	BNC x 1, SDI REC REMOTE is supported 0.8 V [p-p], 75 Ω, 4K (6G), HD (3G/1.5G) Output format (4:2:2 10 bit): • 4096 x 2160: 29.97p, 25p, 24p, 23.98p • 3840 x 2160: 29.97p, 25p, 24p, 23.98p • 1920 x 1080: 59.94p, 50p, 59.94i, 50i, 29.97p, 29.97PsF, 25p, 25PsF, 24p, 24PsF, 23.98p, 23.98PsF • 1280 x 720p: 59.94p, 50p RAW output format (10 bit): • 5760 x 3072: 29.97p, 25p, 24p, 23.98p (up to 30 fps / 25 fps) • 4096 x 2160: 59.94p, 50p, 29.97p, 25p, 24p, 23.98p (up to 60 fps / 50 fps) • 2048 x 1080: 59.94p, 50p, 29.97p, 25p, 24p, 23.98p (up to 240 fps / 200 fps)
HDMI:	HDMI x 1, TypeA, HDMI REC REMOTE is supported, Viera Link is NOT supported Output format (4:2:2 10 bit): • 4096 x 2160: 59.94p, 50p, 29.97p, 25p, 24p, 23.98p • 3840 x 2160: 59.94p, 50p, 29.97p, 25p, 24p, 23.98p • 1920 x 1080: 59.94p, 50p, 59.94i, 50i, 29.97p, 25p, 24p, 23.98p • 1280 x 720: 59.94p, 50p • 720 x 480: 59.94p • 720 x 576: 50p Output format (4:2:0 8 bit): • 4096 x 2160: 59.94p, 50p • 3840 x 2160: 59.94p, 50p

Audio Input/Output

Internal Mic:	Stereo microphone
INPUT1/2:	XLR (3-pin) x 2 (INPUT1/2), input high impedance, LINE/MIC/MIC +48 V (menu switchable) MIC: -40 dBu/-50 dBu/-60 dBu (menu switchable) LINE: +4 dBu/0 dBu (menu switchable)
SDI OUT:	Linear PCM 2 CH
HDMI:	Linear PCM 2 CH
PHONES:	3.5 mm stereo mini jack x 1
Speaker:	20 mm diameter, round x 1

Other Input/Output

TC IN/OUT:	BNC x1 for IN/OUT (menu switchable) IN: 1.0 V [p-p] x 2 to 4.0 V [p-p], 10 kΩ OUT: 2.0 V [p-p] ±0.5 V [p-p], low impedance
LCD:	40-pin (for connecting LCD monitor)
REMOTE:	2.5 mm Super Mini Jack
USB 2.0 (HOST):	Type-A, 4-pin for Wireless Module (AJ-WM50)
EF Mounting Contact:	8-pin
DC IN 12 V:	DC 12 V EIAJ type 4

LCD Monitor

Size:	3.5-type LCD monitor (approx. 1,150,000 dots) Touch panel (MENU control, Shooting assist functions)
Switches:	MIRROR (OFF, B/T, ROTATE)

Hand Grip

Mounting Mechanism:	One touch rotatable/Detachable
Switches:	REC, MENU, MENU/IRIS multi-dial, User switch x 2

Included Accessories

Accessories:	Battery (5900 mAh), Battery charger, AC adapter, AC cable, Shoulder strap, Microphone holder, Microphone holder adapter, LCD monitor (with hood and mounting attachment), Handle, Grip, Grip belt, Mount cap
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Recording Format and Recording Time

Format	Pixel	Main Codec (bps)	Frequency	Sampling	Bit Rate (average)	Recording Time (128 GB)
MOV*	4096 x 2160 (4K)	422ALL-I 400M	29.97p, 24p, 25p, 23.98p	4:2:2 10 bit	400 Mbps (VBR)	Approx. 40 min.
		422LongGOP 150M	29.97p, 24p, 25p, 23.98p	4:2:2 10 bit	150 Mbps (VBR)	Approx. 1 hour 50 min.
		HEVC LongGOP 200M	59.94p, 50p	4:2:0 10 bit	200 Mbps (VBR)	Approx. 1 hour 20 min.
		HEVC LongGOP 150M	29.97p, 24p, 25p, 23.98p	4:2:0 10 bit	150 Mbps (VBR)	Approx. 1 hour 50 min.
		420LongGOP 150M	59.94p, 50p	4:2:0 8 bit	150 Mbps (VBR)	Approx. 1 hour 50 min.
	3840 x 2160 (UHD)	420LongGOP 100M	29.97p, 24p, 25p, 23.98p	4:2:0 8 bit	100 Mbps (VBR)	Approx. 2 hours 40 min.
		422ALL-I 400M	29.97p, 25p, 23.98p	4:2:2 10 bit	400 Mbps (VBR)	Approx. 40 min.
		422LongGOP 150M	29.97p, 25p, 23.98p	4:2:2 10 bit	150 Mbps (VBR)	Approx. 1 hour 50 min.
		HEVC LongGOP 200M	59.94p, 50p	4:2:0 10 bit	200 Mbps (VBR)	Approx. 1 hour 20 min.
		HEVC LongGOP 150M	29.97p, 24p, 25p, 23.98p	4:2:0 10 bit	150 Mbps (VBR)	Approx. 1 hour 50 min.
	2048 x 1080 (2K)	420LongGOP 150M	59.94p, 50p	4:2:0 8 bit	150 Mbps (VBR)	Approx. 1 hour 50 min.
		420LongGOP 100M	29.97p, 25p, 23.98p	4:2:0 8 bit	100 Mbps (VBR)	Approx. 2 hours 40 min.
		422ALL-I 200M	59.94p, 50p	4:2:2 10 bit	200 Mbps (VBR)	Approx. 1 hour 20 min.
		422ALL-I 100M	29.97p, 24p, 25p, 23.98p	4:2:2 10 bit	100 Mbps (VBR)	Approx. 2 hours 40 min.
		422LongGOP 100M	59.94p, 50p	4:2:2 10 bit	100 Mbps (VBR)	Approx. 2 hours 40 min.
	1920 x 1080 (FHD)	422LongGOP 50M	29.97p, 24p, 25p, 23.98p	4:2:2 10 bit	50 Mbps (VBR)	Approx. 5 hours 20 min.
		420LongGOP 100M	59.94p, 50p	4:2:0 8 bit	100 Mbps (VBR)	Approx. 2 hours 40 min.
		420LongGOP 50M	29.97p, 24p, 25p, 23.98p	4:2:0 8 bit	50 Mbps (VBR)	Approx. 5 hours 20 min.
		422ALL-I 200M	59.94p, 50p	4:2:2 10 bit	200 Mbps (VBR)	Approx. 1 hour 20 min.
		422ALL-I 100M	29.97p, 25p, 23.98p, 59.94i, 50i	4:2:2 10 bit	100 Mbps (VBR)	Approx. 2 hours 40 min.
AVCHD	1920 x 1080 (FHD)	422LongGOP 100M	59.94p, 50p	4:2:2 10 bit	100 Mbps (VBR)	Approx. 2 hours 40 min.
		422LongGOP 50M	29.97p, 25p, 23.98p, 59.94i, 50i	4:2:2 10 bit	50 Mbps (VBR)	Approx. 5 hours 20 min.
		420LongGOP 100M	59.94p, 50p	4:2:0 8 bit	100 Mbps (VBR)	Approx. 2 hours 40 min.
		420LongGOP 50M	29.97p, 25p, 23.98p	4:2:0 8 bit	50 Mbps (VBR)	Approx. 5 hours 20 min.
	1280 x 720 (HD)	AVCHD PS	59.94p, 50p	4:2:0 8 bit	25 Mbps (VBR)	Approx. 11 hours
		AVCHD PH	23.98p, 59.94i, 50i	4:2:0 8 bit	21 Mbps (VBR)	Approx. 12 hours 30 min.
		AVCHD HA	59.94i, 50i	4:2:0 8 bit	17 Mbps (VBR)	Approx. 17 hours
		AVCHD PM	59.94p, 50p	4:2:0 8 bit	8 Mbps (VBR)	Approx. 35 hours

* SDXC memory card is required for MOV recording.

Available Memory Card

Format	Memory Card Type	Bit Rate or Recording Function	Speed Class
MOV	SDXC	400 Mbps	Video Speed Class V60 or faster
		2K/FHD VFR Mode* (ALL-I Codec)	
		200 Mbps	Video Speed Class V30, UHS Speed Class 3 or faster
		150 Mbps	
		100 Mbps	
		2K/FHD VFR Mode* (LongG Codec)	Video Speed Class V10, UHS Speed Class 1, Speed Class 10 or faster
		50 Mbps	
AVCHD	SDHC/SDXC	All	Speed Class 4 or faster

*VFR: Variable Frame Rate

Available Battery Pack

Battery	Voltage and Capacity	Charge time ^{*1}	Continuous shooting time ^{*2}
AG-VBR59 (Bundled)	7.28 V, 5900 mAh/43 Wh	Approx. 3 hours 20 min.	Approx. 2 hours 50 min.
AG-VBR89G	7.28 V, 8850 mAh/64 Wh	Approx. 4 hours	Approx. 4 hours 15 min.
AG-VBR118G	7.28 V, 11800 mAh/86 Wh	Approx. 4 hours 40 min.	Approx. 5 hours 40 min.
VW-VBD58	7.2 V, 5800 mAh/42 Wh	Approx. 5 hours 20 min.	Approx. 2 hours 40 min.

*1: When using bundled battery charger. *2: "Continuous shooting time" is when you use this machine in the following condition [Menu setting is factory preset, Have LCD monitor and grip attached, No cable is connected to outputs]. Under other conditions, continuous shootable time becomes shorter.

VariCam HS

General Specification

(Combination of AU-V23HS1G and AU-VREC1G)

Power:	DC 12 V (11.0 V – 17.0 V)
Power Consumption:	90 W (With all optional accessories connected and maximum power supplied from each output terminal)
Operating Temperature:	0°C to 40°C (32°F to 104°F)
Operating Humidity:	10 % to 85 % (Relative humidity)
Storage Temperature:	–20°C to 60°C (–4°F to 140°F)
Weight:	Approx. 4.5 kg (Body only)
Dimensions:	179 mm (W) x 230.5 mm (H) x 347 mm (D) (7-1/16 inches x 9-1/16 inches x 13-21/32 inches) (Body only, excluding protrusion)

Camera Module (AU-V23HS1G)

Pickup Device:	2/3-type 2.2 megapixels, MOS x 3
Lens Mount:	2/3-type bayonet
Optical filter:	CC filter A: 3200 K, B: 4300 K, C: 5600 K, D: 0.3N ND filter 1: CLEAR, 2: 0.6ND, 3: 1.2ND, 4: 1.8ND
Gain Settings:	[ISO] mode: ISO 2500 to 12800 [dB] mode: 0 dB to 18 dB (3 dB step)
Shutter Speed:	[deg] mode: 1.0 deg to 360 deg (0.5 deg step) [sec] mode: 1/24 sec. to 1/250 sec. (when 23.98p mode)
Sensitivity:	[Gamma: HD] mode: F9 (2000 lx, 3200 K, 89.9 % reflection, 1080/59.94p) F10 (2000 lx, 3200 K, 89.9 % reflection, 1080/50p)

Recording Module (AU-VREC1G)

When used with AU-V23HS1G

Memory Card Recorder

Recording Media:	expressP2 card, P2 card, microP2 card
Recording Resolution:	1920 x 1080, 1280 x 720
Recording Frame Rate:	Maximum 240p/200p
System Frequency:	59.94p, 50p, 29.97p, 25p, 23.98p, 59.94i, 50i
Recording Format:	AVC-Intra444, AVC-Intra200, (Main Recorder) AVC-Intra422, AVC-Intra100, ProRes 4444 XQ, ProRes 4444, ProRes 422 HQ, ProRes 422, ProRes 422 LT
Recording Format:	AVC-Intra422, AVC-Intra100, (Sub Recorder) AVC-LongG 50, AVC-LongG 25
Recording Video Signal:	1080/59.94p, 50p, 29.97p, 25p, 23.98p, 59.94i, 50i, 720/59.94p, 50p
Recording Time:	When expressP2 card 512 GB is used** (Main Codec) Approx. 256 min. (AVC-Intra100, VFR OFF) Approx. 64 min. (AVC-Intra100, VFR ON, 200 fps/240 fps) Approx. 120 min. (ProRes 422 HQ, VFR ON, 60 fps)
Recording Time:	When microP2 card 64 GB is used** (Sub Codec) Approx. 64 min. (AVC-Intra100, 25p/29.97p) Approx. 128 min. (AVC-LongG50, 25p/29.97p) Approx. 256 min. (AVC-LongG25, 25p/29.97p)

Digital Video

Quantizing:	AVC-Intra2K444, AVC-Intra444: 12 bit Others: 10 bit
Video Compression Format:	AVC-Intra444, AVC-Intra200, AVC-Intra422, AVC-Intra100: MPEG-4 AVC/H.264 Intra Profile AVC-LongG 50, AVC-LongG 25: MPEG-4 AVC/H.264 ProRes 422 HQ, ProRes 4444: Apple ProRes

Digital Audio

Recording Audio Signal:	48 kHz/24 bit, 4 ch Head room 18 dB/20 dB menu switchable
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Proxy

File Format:	MOV
Video Compression Format:	H.264/AVC High Profile
Audio Compression Format:	LPCM
Recording Time (1GB)*:	Approx. 25 min.

Video Input/Output

SDI OUT:	HD (1.5 G)/3G-SDI: 0.8 V [p-p], 75 Ω (1 set, 4 pieces)
MON OUT1:	HD (1.5 G)/3G-SDI: 0.8 V [p-p], 75 Ω
MON OUT2:	HD (1.5 G)/3G-SDI: 0.8 V [p-p], 75 Ω
VF SDI:	HD (1.5 G)/3G-SDI: 0.8 V [p-p], 75 Ω

Audio Input/Output

AUDIO IN (CH1/CH2):	XLR x 2, 3-pin, LINE/MIC/MIC+48 V/AES switchable
MIC IN:	XLR x 1, 5-pin
PHONES:	Stereo mini jack
Speaker:	20 mm diameter, round x 1

Other Input/Output

GENLOCK IN:	HD (1.5 G)/3G-SDI: 0.8 V [p-p], 75 Ω
TC IN/OUT:	BNC x 1, IN/OUT switch selection IN: 0.5 V [p-p] to 8 V [p-p], 10 kΩ OUT: 2.0 V [p-p] ± 0.5 V [p-p], Low impedance
DC IN:	XLR 4-pin, DC12 V (DC 11.0 V – 17.0 V)
DC OUT/RS:	4-pin, DC12 V (DC 11.0 V – 17.0 V), maximum output current 1.0 A
DC OUT:	2-pin, DC12 V (DC 11.0 V – 17.0 V), maximum output current 1.0 A
LENS:	12-pin
VF:	14-pin
LAN:	100BASE-TX/10BASE-T
USB 2.0 (DEVICE):	Type B connector, 4-pin
USB 2.0 (HOST):	Type A connector, 4-pin

Control Panel

Display Panel:	LCD, 3.5-type QHD color monitor Approx. 1.56 million dots
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Extension Module (AU-VEXT1G)

Power:	DC 12 V (11.0 V – 17.0 V)
Power Consumption:	33 W (Body only) 63 W (With all optional accessories connected and maximum power supplied from each output terminal)
Operating Temperature:	0°C to 40°C (32°F to 104°F)
Operating Humidity:	10 % to 85 % (Relative humidity)
Storage Temperature:	–20°C to 60°C (–4°F to 140°F)
Weight:	Camera Extension Module: Approx. 0.95 kg Recording Extension Module: Approx. 0.65 kg
Dimensions:	Camera Extension Module: 121 mm (W) x 143 mm (H) x 73 mm (D) (4-13/16 inches x 5-11/16 inches x 2-7/8 inches) Recording Extension Module: 106 mm (W) x 143 mm (H) x 61 mm (D) (4-3/16 inches x 5-11/16 inches x 2-7/16 inches)

Input/Output

DC IN:	XLR 4-pin, DC 12 V (DC 11.0 V – 17.0 V)
DC OUT:	2-pin, DC 12 V (DC 11.0 V – 17.0 V), maximum output current 1.0 A
EXT:	48-pin

Electronic HD Color View Finder (AU-VCVF2GJ)

Display Panel:	0.7-type OLED (Organic Light Emitting Diode) display
Input Video Signal:	1080/59.94p, 1080/50p, 1080/60p
Connector:	LEMO 14-pin

* These are reference values for continuous recording. The recording time may differ depending on the scene or number of clips.



AVCHD™ Progressive HDMI™ S2 I DOLBY AUDIO™ LEICA DICOMAR

AG-DVX200

Memory Card Camera Recorder

4K/UHD/HD Integrated Lens System (Optical 13x Zoom)
4/3-type MOS SD Memory Card Slot x 2

New 4/3-type Sensor Opens New Doors for Image Production with an Integrated Lens 4K/60p*1 Camera Recorder.

- 4/3-type sensor for beautiful bokeh effects and 4K resolution.
- 12 stops of latitude from V-Log L gamma.
- Variable frame rate HD recording up to 120 fps.
- Nimble mobility with an optical 13x zoom lens and intelligent full-auto functions.
- High quality 4K 10-bit 4: 2: 2 images can be output via the HDMI terminal.
- Microdrive focus unit provides a high-speed, high-precision Intelligent AF.
- Advanced Optical Image Stabilizer (O.I.S.) expand correction area with ball OIS system.
- The Five-axis Hybrid Image Stabilizer effects hand-shake correction in various directions.*2
- Dual Codec Recording allows images to be simultaneously recorded into two different, Main UHD*/3/FHD and Sub FHD, formats.
- Two SD Memory Card slots boosts recording reliability: Background Recording, Relay Recording, Simultaneous Recording, SD Memory Card Copy.
- The manual three rings and other controls are specially designed to satisfy professional users.
- Equipped with professional interfaces such as 3G-SDI out, XLR in and TC preset in/out.
- Wireless remote control from an iPad.*4

LUX SERIES
FOR PROFESSIONAL 4K SHOOTING



AVCHD™ Progressive HDMI™ S2 I DOLBY AUDIO™ LEICA DICOMAR

AG-UX180

Memory Card Camera Recorder

4K/UHD/HD Integrated Lens System (Optical 20x Zoom)
1.0-type MOS SD Memory Card Slot x 2

4K 60p/50p*1 Camcorder featuring the Industry's Widest Angle 24 mm,*5 20x Optical Zoom and 1.0-type MOS Sensor.

- High-definition, high-sensitivity 1.0-type (effective size) MOS sensor.
- 4K 24p, UHD 60p/50p, FHD 60p/50p multi-format and HD 120 fps (59.94 Hz) /100 fps (50 Hz) super slow-motion recording are available.
- New microdrive focus unit provides a high-speed, high-precision Intelligent AF.
- Advanced hand-shake correction with increased correction area, ball OIS system, and Five-axis Hybrid Image Stabilizer. (FHD only)
- Dual Codec Recording allows images to be simultaneously recorded into two different, Main UHD*/3/FHD and Sub FHD, formats.
- Two SD Memory Card slots boosts recording reliability: Background Recording, Relay Recording, Simultaneous Recording.
- The manual three rings and other controls are specially designed to satisfy professional users.
- Equipped with professional interfaces such as 3G-SDI out, XLR in and TC preset in/out.
- Wireless remote control from an iPad.*4

*Pictures are the example of the configuration using options.

*1: Actual recording is UHD (3840 x 2160) 59.94p/50p.

*2: It does not work in 4K / UHD shooting mode.

*3: UHD 60p/50p recording mode is not supported.

*4: iOS 7.1, iOS 8.1, and iOS 9 are supported. The optional AJ-WM50/WM30 Wireless Module is required for wireless connection.

*5: Equivalent to 35 mm under 4K 24p (aspect ratio of 17:9) Wide angle 24 mm is the widest in the industry for a camcorder with integrated lens. (As of September 2018, according to Panasonic survey.)

*6: 35 mm film camera equivalent in FHD mode. 35.4 mm in UHD mode.

*7: 60 Hz area model: UHD 30p/24p, FHD 60p. 50 Hz area model: UHD 25p, FHD 50p.

*8: 35 mm camera equivalent

UX SERIES
FOR PROFESSIONAL 4K SHOOTING



AVCHD™ Progressive HDMI SxI DOLBY AUDIO™ LEICA DICOMAR

AG-UX90

Memory Card Camera Recorder

UHD/HD Integrated Lens System (Optical 15x Zoom)
1.0-type MOS SD Memory Card Slot x 2

4K (UHD) /FHD Camcorder with a Wide-Angle 24.5 mm*6, 15x Optical Zoom Lens and 1.0-type MOS Sensor.

- High-definition 1.0-type MOS sensor.
- UHD 30p (25p*7) /24p, FHD 60p (50p*7) multi-format recording are available.
- High bit rate 50 Mbps mode for FHD image recording.
- New microdrive focus unit provides a high-speed, high-precision Intelligent AF.
- Advanced hand-shake correction with increased correction area, ball OIS system, and Five-axis Hybrid Image Stabilizer. (FHD only)
- Two SD Memory Card slots boosts recording reliability: Relay Recording, Simultaneous Recording.
- The manual three rings and other controls are specially designed to satisfy professional users.
- Pro-level functions and design, including XLR audio input.
- Wireless remote control from an iPad.*4



AVCHD™ Progressive HDMI SxI DOLBY AUDIO™

AG-AC30

*This model is not available in some areas.

Memory Card Camera Recorder

HD Integrated Lens System (Optical 20x Zoom)
1/3.1-type 1MOS SD Memory Card slot x 2

Geared for the Mobile Shooter A New Dimension in Low-Light Shooting and Professional Functions.

- Built-in LED video light with a diffusion filter and a color conversion filter.
- 29.5 mm wide-angle*8 and 20x zoom lens.
- Five-axis hybrid O.I.S.+ (Optical Image Stabilizer).
- Intelligent AF achieves superior focus speed, excellent stability and high tracking performance.
- 3.0-type slide-retractable LCD with touch operation.
- Supports AVCHD progressive recording PS mode.
- Supports MP4/MOV FHD 50Mbps high bit rate recording.
- Dual SD Memory Card slots achieves relay and simultaneous recording to dual memory cards.
- Professional designed of sturdy handle, tiltable viewfinder with eyecup and three manual rings.
- Two-channel XLR audio input terminals.

4K lens and 4K Image Sensor

LEICA DICOMAR 4K Zoom Lens

• **LEICA DICOMAR:** The lenses have passed the stringent quality standards of Leica Camera AG. A multi-coating process minimizes ghosts and flaring.

* Leica is a registered trademark of Leica Microsystems IR GmbH.

* DICOMAR is a registered trademark of Leica Camera AG.

* LEICA DICOMAR products are manufactured using Leica-certified measuring instruments and quality assurance systems based on rigorous quality standards approved by Leica Camera AG.

• **Wide Angle Zoom:** Its enable wide-angle and minimal-distortion shooting without the use of a conversion lens and allows shooting in a vehicle or room. The AG-UX180 achieves 24 mm*1 wide-angle and 20x zoom ratio.

High Quality 4K Image Sensor

The AG-DVX200 features a 4/3-type, large format MOS sensor. It creates highly attractive Bolekeh effects by blending 4K resolution with shallow depth of field. The AG-UX180/UX90 feature a 1.0-type MOS sensor provides an appropriate depth of field and excellent balance between image quality and sensitivity.

i.Zoom in Super-High Resolution

In FHD shooting modes, the i.Zoom function increases the zooming capability while maintaining high resolution.

Digital Zoom (2x, 5x or 10x)

Using the optical zoom and i.Zoom*2 (in FHD) together, it gives you super telephoto magnification without dropping in light intensity.

Advanced Optical Image Stabilizer (O.I.S.)

The correction area has been expanded to the conventional model. This provides powerful correction even in unstable shooting situations. The ball OIS system reduces wear on the drive section, and greatly improves correction for small amplitude hand-shake.

Five-Axis Hybrid Image Stabilizer [in FHD]

In HD shooting modes, by using hand-shake correction that combines the effects of both optical and electronic image stabilization, hand-shake in various directions, including the rotary direction, is detected and corrected.

Manual Three Rings

All models feature manual three rings for Zoom, Focus and Iris control. Precise operation is possible by this function.



An image shot using the wide angle.(AG-UX180/UX90)

High-Speed AF, Various Picture Adjustment

High-Speed, High-Precision Intelligent Auto Focus

The Micro Drive Focus unit achieves high focusing speed, tracking performance and stability in 4K.

Custom AF Function

Auto focus operation can be customised by adjusting the AF Speed, AF Sensitivity and AF Area Width. This function enables the AF to operate exactly as intended by the user in accordance with the subject type or application.

Focus Assist

- **Expand and Peaking:** Expand (enlargement)*3 or Peaking (colored emphasis of focus point) is displayed to assist manual focusing. Its can also be displayed simultaneously.
- **One-Push AF:** This function temporarily activates Auto Focus when shooting in manual focus mode.
- **Manual Focus Assist*4:** Focus is automatically adjusted after you adjust it with the focus ring. (AG-DVX200/UX180)
- **Focus Transition:** The focus can be shifted to a preset position with a single touch. (AG-DVX200/UX180)
- **Area Function:** Auto Focus, Auto Iris or Brightness Display with just a touch on the LCD panel.

V-Log L Gamma/8-Mode Gamma

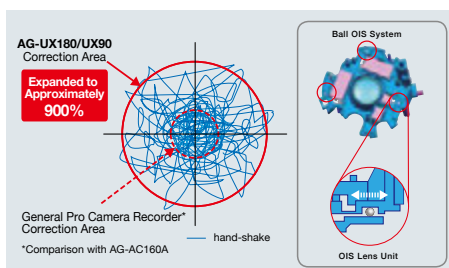
- **V-Log L gamma:** The AG-DVX200 features a 12-stop wide dynamic range of V-Log L gamma that is equivalent to the V-Log and curve characteristics provided on the Cinema VariCam Series.
- **8-Mode gamma:** All models are equipped with eight selectable gamma modes, including Cine-Like Gamma.

Creative Image Adjustment Functions

- **16-Axis Independent Color Correction:** It enables color matching of multiple cameras as well as creative image rendering. (AG-DVX200/UX180)
- **Skin Detail:** Makes skin colors appear soft and beautiful.
- **Master Detail:** Adjusts the overall degree of contour enhancement.
- **Scene Files:** Six files preset with picture quality settings are provided as Scene Files. You can change any of the settings as desired and store as Custom Files.

IR (Infrared) Shooting in Dark Places

IR shooting is possible by turning the IR REC ON*5. Images can be captured in dark places by using an IR light (commercially available). (AG-DVX200/UX180)



Advanced hand-shake correction (AG-UX180/UX90)

4K/High Frame Rate Shooting

4K/UHD/FHD/SD Multi-Format Recording

MOV (QuickTime), MP4 and AVCHD file formats are supported. The variety of recording modes with selectable image quality, frame rate and bit rate settings respond to a wide range of applications, from cinema production to online distribution.

*Applicable recording modes varies depending on the models.

High Frame Rate and Variable Frame Rate

- **AG-DVX200:** High frame rate of up to 60 fps at UHD. Variable frame rate of 2 to 120 fps at FHD.*⁶
- **AG-UX180:** High frame rate of maximum 120 fps at HD. Variable frame rate of 2 to 60 fps at FHD.*⁶
- **AG-UX90:** Variable frame rate of 2 to 60 fps at FHD.*⁶

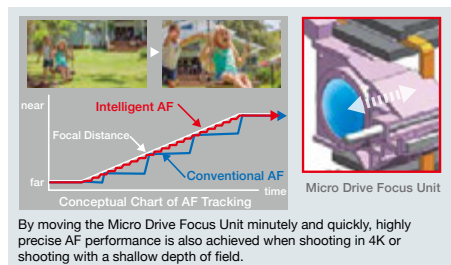
Double SD Memory Card Slots

Two SD card slots are provided. This enables below recording functions that ensure high operability and high recording reliability.

- **Relay Rec.:** Automatically records continuously*⁷ "Slot to Slot". Images can be recorded for many hours.
- **Simultaneous Recording:** Identical data is recorded onto cards in both slots.
- **Background Rec.:** Records Rec Start/Stop-controlled data in Slot 1, and records all data, even when Slot 1 is stopped, in Slot 2. (AG-DVX200/UX180)
- **Dual Codec Rec.:** This function records images simultaneously into two different formats, Main (UHD or FHD) and Sub FHD. Sub-recording files can be used for preview, off-line editing and online transmission, thus improving the workflow efficiency. (AG-DVX200/UX180)

Other Recording Functions

- **Pre Rec:** This function constantly caches few seconds of video and audio data prior to Rec Start, so the data can be recovered in case there is a delay in pressing Rec Start.
- **Interval Rec:** Records intermittently based on a set interval time of 1 sec, 10 sec, 30 sec, 1 minute or 2 minutes.
- **Freeze Frame:** Still Image can be recorded together with audio. This function is convenient when moving the camera to a different location or when shooting a different scene.
- **Time Stamp:** The date and time can be stamped onto recorded images.



By moving the Micro Drive Focus Unit minutely and quickly, highly precise AF performance is also achieved when shooting in 4K or shooting with a shallow depth of field.

The Micro Drive Focus Unit achieves highly precise AF performance (AG-DVX200/UX180/UX90)

Professional Function and Design

16-bit PCM Professional Audio

- **High-Quality Audio Recording:** All models record two audio channels using either the 16-bit linear PCM (MOV/MP4) or Dolby Audio (AVCHD).
- **XLR AUDIO IN:** Equipped with two channels of XLR audio input (with switchable 48 V phantom power supply, MIC and LINE), manual audio volume and OSD level meter.

Touch-panel LCD/EVF

- **LCD Monitor:** The monitor LCD built into the handle section can be pulled out and turned 270 degrees in the vertical direction. The touch panel function can be used for menu setting and area functions. It can be display WFM (AG-DVX200/UX180), ZEBRA, Marker (Y Level) and Level Gauge.
- **EVF:** The viewfinder features a high-resolution display for excellent color reproduction.

Shooting Assist Functions

- **User Buttons:** Any of the various functions can be allocated.
- **ND Filters:** OFF, 1/4, 1/16, 1/64.
- **Gain Selector:** Select from 3-position (L/M/H) allocation.
- **AWB Selector:** Two-value (A/B) memory and presets (3200/5600/VAR) can be selected.

Professional Interfaces

- **SDI OUT:** Panasonic recorders equipped with SDI input can be linked to the Rec Start/Stop function of the camera. (AG-DVX200/UX180)
- **HDMI OUT:** Digital outputs support 4K/UHD.
- **TC PRESET IN/OUT:** Time code synchronization is possible for two cameras. (AG-DVX200/UX180)
- **USB:** Connection with PC/external storage are possible.
- **REMOTE:** Wired remote operation of iris, focus, zoom and REC start/stop are possible.
- **iPad Remote Control:** The AG ROP app for iPad*⁸ is available free of charge from the Apple App Store. It enables wireless remote control of Panasonic 4K cameras with installation of a wireless module (optional AJ-WM50 or AJ-WM30).

*1: Equivalent to 35 mm, in 4K 24p (17:9 aspect ratio). 25.4 mm in UHD/FHD (16:9 aspect ratio). *2: The higher the magnification, the greater the image quality degradation. *3: The part to be expanded is designated by touching the screen. *4: Not operable in combination with VFR or wired remote controller. *5: When the IR REC is ON, iris, gain, and shutter speed are automatically adjusted. *6: Selective mode differs by product. *7: Recording can continue across multiple SD Memory Cards. However, each time the file reaches 96 GB, it will be split into two files, but the recording continues. If the Relay recording time reaches 10 hours, shooting will temporarily stop, and then automatically restart a few seconds later.

*8: iOS 7.1, iOS 8.1, and iOS 9 are supported.



Double SD Memory Card Slots (an example of AG-DVX200)

AG-DVX200

General

Power:	DC 7.2 V (when the battery is used) DC 12 V (when the AC adaptor is used)
Power Consumption:	21.7 W
Operating Temperature:	0°C to 40°C (32°F to 104°F)
Operating Humidity:	10 % to 80 % (no condensation)
Weight: Approx.	2.7 kg (5.95 lb) (body only, excluding lens hood, battery, and accessories) Approx. 3.1 kg (6.84 lb) (including lens hood, battery, and eye cup)
Dimensions:	181 mm (H) x 216 mm (W) x 374 mm (D) (excluding protrusion and eye cup) (7-1/8 inches x 8-1/2 inches x 14-23/32 inches)

Camera Unit

Pickup Device:	4/3-type MOS
Effective Pixels:	FHD (1920 x 1080): 15.49 megapixel UHD (3840 x 2160) 59.94p/50.00p: 8.71 megapixel UHD (3840 x 2160) 29.97p/25p.00: 12.89 megapixel 4K (4096 x 2160) 24p: 13.35 megapixel
Lens:	Optical image stabilizer lens, motorized/manual mode switching, 13x zoom F2.8 to F4.5 (f=12.8 mm to 167 mm) 35 mm equivalent: FHD: 28.0 mm to 365.3 mm UHD 59.94p/50.00p: 37.2 mm to 485.1 mm UHD 29.97p/25.00p: 30.6 mm to 398.7 mm 4K 24p: 29.5 mm to 384.9 mm
Filter Diameter:	72 mm
ND Filter:	OFF, 1/4, 1/16, 1/64
IR Filter:	Incorporates the ON/OFF control function
Shortest Shooting Distance (M.O.D.):	Approx. 1.0 m from the front lens
Gain Setting:	L/M/H selector switch -6 dB to -1 dB, 0 dB to 24 dB (Adjustable in 1 dB steps. Negative gain values are available only when [EXPAND] is enabled, and the automatic setting can be assigned to L/M/H.)
Super Gain:	30 dB and 36 dB switched (when assigning [S.GAIN] to the USER button)
Color Temperature Setting:	ATW, ATW LOCK, Ach, Bch, preset 3200 K/ preset 5600 K/VAR (2000 K to 15000 K)
Shutter Speed:	When [SYSTEM MODE] = 59.94 Hz • 60i/60p mode: 1/60 sec., 1/100 sec., 1/120 sec., 1/180 sec., 1/250 sec., 1/350 sec., 1/500 sec., 1/750 sec., 1/1000 sec., 1/1500 sec., 1/2000 sec., 1/3000 sec., 1/4000 sec., 1/8000 sec. • 30p mode: 1/30 sec., 1/50 sec., 1/60 sec., 1/100 sec., 1/120 sec., 1/180 sec., 1/250 sec., 1/350 sec., 1/500 sec., 1/750 sec., 1/1000 sec., 1/1500 sec., 1/2000 sec., 1/3000 sec., 1/4000 sec., 1/8000 sec. • 24p mode: 1/24 sec., 1/48 sec., 1/50 sec., 1/60 sec., 1/100 sec., 1/120 sec., 1/180 sec., 1/250 sec., 1/350 sec., 1/500 sec., 1/750 sec., 1/1000 sec., 1/1500 sec., 1/2000 sec., 1/3000 sec., 1/4000 sec., 1/8000 sec. When [SYSTEM MODE] = 50 Hz • 50i/50p mode: 1/50 sec., 1/60 sec., 1/100 sec., 1/125 sec., 1/180 sec., 1/250 sec., 1/350 sec., 1/500 sec., 1/750 sec., 1/1000 sec., 1/1500 sec., 1/2000 sec., 1/3000 sec., 1/4000 sec., 1/8000 sec. • 25p mode: 1/25 sec., 1/50 sec., 1/60 sec., 1/100 sec., 1/125 sec., 1/180 sec., 1/250 sec., 1/350 sec., 1/500 sec., 1/750 sec., 1/1000 sec., 1/1500 sec., 1/2000 sec., 1/3000 sec., 1/4000 sec., 1/8000 sec.

Shutter Speed: (Slow)	When [SYSTEM MODE] = 59.94 Hz • 60i/60p mode: 1/2 sec., 1/4 sec., 1/8 sec., 1/15 sec., 1/30 sec. • 30p mode: 1/2 sec., 1/4 sec., 1/8 sec., 1/15 sec. • 24p mode: 1/2 sec., 1/3 sec., 1/6 sec., 1/12 sec. When [SYSTEM MODE] = 50 Hz • 50i/50p mode: 1/2 sec., 1/3 sec., 1/6 sec., 1/12 sec., 1/25 sec. • 25p mode: 1/2 sec., 1/3 sec., 1/6 sec., 1/12 sec.
Shutter Speed: (Synchro Scan)	When [SYSTEM MODE] = 59.94 Hz • 60i/60p mode: 1/60.0 sec. to 1/249.8 sec. • 30p mode: 1/30.0 sec. to 1/249.8 sec. • 24p mode: 1/24.0 sec. to 1/249.8 sec. When [SYSTEM MODE] = 50 Hz • 50i/50p mode: 1/50.0 sec. to 1/250.0 sec. • 25p mode: 1/25.0 sec. to 1/250.0 sec.
Shutter Open Angle:	5.0 deg to 180.0 deg to 360.0 deg (in 0.5 deg steps, angle display)
VFR Recording Frame Rate:	When [SYSTEM MODE] = 59.94 Hz • 60p mode: 2, 15, 30, 40, 55, 58, 60, 62, 65, 75, 90, and 120 (frames per second) • 30p mode: 2, 15, 26, 28, 30, 32, 34, 45, 60, 75, 90, and 120 (frames per second) • 24p mode: 2, 12, 18, 20, 22, 24, 26, 28, 30, 36, 48, 60, 72, 84, 96, and 120 (frames per second) When [SYSTEM MODE] = 50 Hz • 50p mode: 2, 12, 25, 33, 45, 48, 50, 52, 55, 62, 75, 100, and 120 (frames per second) • 25p mode: 2, 12, 21, 23, 25, 27, 30, 37, 50, 62, 75, 100, and 120 (frames per second)
Sensitivity:	When [HIGH SENS.] mode F11 (2,000 lx, 3,200 K, 89.9 % reflect, 1080/59.94) F12 (2,000 lx, 3,200 K, 89.9 % reflect, 1080/50)
Minimum Subject Illumination:	0.2 lx (F2.8, gain 18 dB, [1/2S.], Manual slow shutter, [HIGH SENS.] mode)
Digital Zoom:	x2/x5/x10, i.Zoom (1.0x to 1.54x, Variable zoom)
Lens Hood:	Hood with lens cover

Memory Card Recorder

Recording Media*1:	SDHC Memory Card (4 GB to 32 GB), SDXC Memory Card (48 GB to 128 GB), UHS-I supported
Recording Slot:	Slot x 2
System Format:	59.94 Hz / 50 Hz
Video Recording Format:	Recording Format: MOV, MP4, AVCHD
Recording Mode:	Please see page 22 for the Video record mode table.
Recording Time:	Please see page 26 for the Recording Time table.
Still Picture Recording Format:	JPEG (DCF/Exif2.2) supported 8.M: 4096 x 2160 (17:9), 8.3M: 3840 x 2160 (16:9), 2.1M: 1920 x 1080 (16:9), 0.9M: 1280 x 720 (16:9), 0.2M: 640 x 360 (16:9), 0.3M: 640 x 480 (4:3)

Digital Video

External Output Video Signal*2:	8 bit 4:2:2/10 bit 4:2:2 (switchable menu)
Recording Video Signal:	8 bit 4:2:0
Video Compression Format:	MPEG-4 AVC/H.264 High Profile (MOV/MP4/AVCHD)

Digital Audio

Recording Audio Signal:	48 kHz/16 bit, 2 CH
Audio Compression Format:	LPCM (MOV/MP4) Dolby Audio (AVCHD)
Headroom:	12 dB

Dual Codec

File Format:	MOV, MP4
Video Compression Format:	MPEG-4 AVC/H.264 High Profile
Audio Compression Format:	LPCM
Recording Format:	When [Dual Codec] = FHD 50 Mbps [Main Recording Side] Recording mode = MOV/MP4 •UHD/29.97p/25.00p/23.98p 100 Mbps [Sub Recording Side] Recording mode = Same as the recording mode of the Main Recording Side •FHD/29.97p/25.00p/23.98p 50 Mbps When [Dual Codec] = FHD 8Mbps [Main Recording Side] Recording mode = MOV/MP4 •UHD/29.97p/25.00p/23.98p 100 Mbps •FHD/59.94p/50.00p/29.97p/25.00p/23.98p 200 Mbps •FHD/59.94p/50.00p 100 Mbps [Sub Recording Side] Recording mode = MOV •FHD/59.94p/50.00p/29.97p/25.00p/23.98p 8 Mbps

Video Output

SDI OUT:	BNC x1, 0.8 V [p-p], 75 Ω, 3 G/1.5 G HD SDI, SD-SDI supported Output format: 1080/59.94p LEVEL-A/50.00p LEVEL-A, 1080/29.97PsF/25.00PsF/24.00PsF/23.98PsF, 1080/59.94i/50.00i, 720/59.94p/50.00p, 480/59.94i, 576/50.00i
VIDEO OUT:	BNC x1, Composite 1.0 V [p-p], 75 Ω
HDMI OUT:	HDMI x1 (HDMI type A terminal, not compatible with VIERA Link) Output format: 2160/59.94p/50.00p/29.97p/25.00p/24.00p/23.98p, 1080/59.94p/50.00p/29.97p/25.00p/24.00p/ 23.98p/59.94i/50.00i, 720/59.94p/50.00p, 480/59.94p, 576/50.00p

Audio Input

Build-in Microphone:	Stereo microphone
XLR IN:	XLR (3-pin) x 2 (INPUT1, INPUT2) Input high impedance, LINE/MIC/MIC+48 V (switchable SW) LINE: 4 dBu/0 dBu (switchable menu) MIC: -40 dBu/-50 dBu/-60 dBu (switchable menu)

Audio Output

SDI OUT:	2 CH (LPCM) switchable gain: 0 dB/-6 dB/-12 dB
HDMI OUT:	2 CH (LPCM)
Audio OUT:	3.5 mm diameter stereo mini jack x1, Output level: 600 Ω, 316 mV
Headphone:	3.5 mm diameter stereo mini jack x1
Speaker:	20 mm diameter, round x1

Other Input/Output

CAM REMOTE:	2.5 mm diameter super mini jack x1 (ZOOM, S/S) 3.5 mm diameter mini jack x1 (FOCUS, IRIS)
TC PRESET IN/OUT:	BNC x1, Used as the input and output terminals Input: 1.0 V to 4.0 V [p-p], 10 kΩ Output: 2.0 V ±0.5 V [p-p], low impedance
USB HOST:	Type A connector, 9-pin, bus power supported In Recording mode; USB 2.0 compatible (5 V, 0.5 A) In Playback mode; USB 3.0 compatible (5 V, 0.9 A), used for external media device connection ^{*3}
USB DEVICE:	Micro-B connector, 10-pin, USB 3.0, Mass storage function (read only)
DC IN 12 V:	DC 12 V (11.4 V to 12.6 V), EIAJ type 4

Monitor/Viewfinder

LCD Monitor:	4.3-type HD color monitor (Approx. 2760000 dots)
Viewfinder:	0.39-type OLED (organic EL display) (Approx. 2360000 dots, video display area: Approx. 1770000 dots)

Included Accessories

Battery (AG-VBR59), Shoulder strap, Battery charger,
Microphone holder, AC adaptor, Screw for microphone holder
(12 mm), Power code x 2, Eye cup, Lens hood, INPUT terminal cap,
CD-ROM (Operating Instructions)

*1: An SD Memory Card with a capacity of UHS Speed Class 3 (U3) is required to shoot videos with a bit rate of 100 Mbps or higher. An SDXC Memory Card with a capacity of 64 GB or more and UHS Speed Class 3 (U3) is required to shoot UHD 2160/59.94p/50.00p videos with a bit rate of 150 Mbps or higher.
*2: HDMI output of UHD/59.94p/50.00p becomes 8 bit 4:2:0. Also, when 10 bit 4:2:2 is selected, recording is not possible with the main unit.
*3: *External media device with a capacity of 32 GB or below or a capacity above 2 TB cannot be used.

Video Recording Mode

When System Frequency is 59.94 Hz

Recording Mode	Recording Format	Bit Rate
MOV/MP4	4K	4096 x 2160/24.00p 100 Mbps
	UHD	3840 x 2160/59.94p 150 Mbps
		3840 x 2160/29.97p/23.98p 100 Mbps
	FHD	1920 x 1080/ 59.94p/29.97p/23.98p (ALL-I) 200 Mbps
AVCHD	FHD	1920 x 1080/59.94p 100 Mbps
		1920 x 1080/ 59.94p/29.97p/23.98p/59.94i 50 Mbps
	PS	1920 x 1080/59.94p 25 Mbps
	PH	1920 x 1080/59.94i/23.98p 21 Mbps
	HA	1920 x 1080/59.94i 17 Mbps
	HE	1440 x 1080/59.94i 5 Mbps
	PM	1280 x 720/59.94p 8 Mbps
	SA	720 x 480/59.94i (SIDE CROP/LETTERBOX/ SQUEEZE) 9 Mbps

When System Frequency is 50.00 Hz

Recording Mode	Recording Format	Bit Rate
MOV/MP4	4K	4096 x 2160/24.00p 100 Mbps
	UHD	3840 x 2160/50.00p 150 Mbps
		3840 x 2160/25.00p 100 Mbps
	FHD	1920 x 1080/ 50.00p/25.00p (ALL-I) 200 Mbps
AVCHD	FHD	1920 x 1080/50.00p 100 Mbps
		1920 x 1080/ 50.00p/25.00p/50.00i 50 Mbps
	PS	1920 x 1080/50.00p 25 Mbps
	PH	1920 x 1080/50.00i 21 Mbps
	HA	1920 x 1080/50.00i 17 Mbps
	HE	1440 x 1080/50.00i 5 Mbps
	PM	1280 x 720/50.00p 8 Mbps
	SA	720x576/50.00i (SIDE CROP/LETTERBOX/ SQUEEZE) 9 Mbps

AG-UX180

General

Power:	DC 7.28 V (when the battery is used) DC 12 V (when the AC adaptor is used)
Power Consumption:	19.7 W (when the LCD monitor is used)
Operating Temperature:	0 °C to 40 °C (32 °F to 104 °F)
Operating Humidity:	10 % to 80 % (no condensation)
Weight:	Body: Approx. 2.0 kg (4.41 lb) (body only, excluding lens hood, battery, and accessories) Shooting: Approx. 2.4 kg (5.29 lb) (including lens hood, battery, and eye cup)
Dimensions:	173 mm (W) x 195 mm (H) x 346 mm (D) (6-13/16 inches x 7-11/16 inches x 13-5/8 inches) (excluding protrusion and eye cup) 173 mm (W) x 195 mm (H) x 392 mm (D) (6-13/16 inches x 7-11/16 inches x 15-7/16 inches) (including eye cup, excluding protrusion)

Camera Unit

Pickup Device:	1.0-type (effective size) MOS solid state image sensor
Effective Pixels:	8.79 megapixel: UHD/FHD 59.94p/29.97p/23.98p 9.46 megapixel: 4K 24p
Lens:	Optical image stabilizer lens, optical 20x motorized zoom F2.8 to F4.5 (f=8.8 mm to 176 mm) 35 mm equivalent: f=25.4 mm to 508.0 mm: UHD/FHD 59.94p/29.97p/23.98p f=24.0 mm to 480.0 mm: 4K24.00p Filter Diameter: 67 mm ND Filter: 4 Positions (OFF, 1/4, 1/16, 1/64) IR Filter: Incorporates the ON/OFF control function Shortest Shooting Distance (M.O.D.): Approx. 1.0 m from the front lens
Gain Setting:	L/M/H selector switch Standard mode: 0 dB to 24 dB (Adjustable in 1 dB steps) (Automatic setting can be assigned to L/M/H) Extended ON: -3 dB to 24 dB (Adjustable in 1 dB steps) (Automatic setting can be assigned to L/M/H) 30 dB and 36 dB switched (when assigning [S. GAIN] to the USER button)
Color Temperature Setting:	ATW, ATW LOCK, Ach, Bch, preset 3200 K/preset 5600 K/VAR (2000 K to 15000 K)
Shutter Speed:	When [SYSTEM MODE] = 59.94 Hz 60i/60p mode: 1/60 sec., 1/100 sec., 1/120 sec., 1/180 sec., 1/250 sec., 1/350 sec., 1/500 sec., 1/750 sec., 1/1000 sec., 1/1500 sec., 1/2000 sec., 1/3000 sec., 1/4000 sec., 1/8000 sec. 30p mode: 1/30 sec., 1/50 sec., 1/60 sec., 1/100 sec., 1/120 sec., 1/180 sec., 1/250 sec., 1/350 sec., 1/500 sec., 1/750 sec., 1/1000 sec., 1/1500 sec., 1/2000 sec., 1/3000 sec., 1/4000 sec., 1/8000 sec. 24p mode: 1/24 sec., 1/48 sec., 1/50 sec., 1/60 sec., 1/100 sec., 1/120 sec., 1/180 sec., 1/250 sec., 1/350 sec., 1/500 sec., 1/750 sec., 1/1000 sec., 1/1500 sec., 1/2000 sec., 1/3000 sec., 1/4000 sec., 1/8000 sec. When [SYSTEM MODE] = 50.00 Hz 50i/50p mode: 1/50 sec., 1/60 sec., 1/100 sec., 1/125 sec., 1/180 sec., 1/250 sec., 1/350 sec., 1/500 sec., 1/750 sec., 1/1000 sec., 1/1500 sec., 1/2000 sec., 1/3000 sec., 1/4000 sec., 1/8000 sec. 25p mode: 1/25 sec., 1/50 sec., 1/60 sec., 1/100 sec., 1/125 sec., 1/180 sec., 1/250 sec., 1/350 sec., 1/500 sec., 1/750 sec., 1/1000 sec., 1/1500 sec., 1/2000 sec., 1/3000 sec., 1/4000 sec., 1/8000 sec.

Shutter Speed:	When [SYSTEM MODE] = 59.94 Hz
(Slow Shutter)	60i/60p mode: 1/2 sec., 1/4 sec., 1/8 sec., 1/15 sec., 1/30 sec., 30p mode: 1/2 sec., 1/4 sec., 1/8 sec., 1/15 sec. 24p mode: 1/2 sec., 1/3 sec., 1/6 sec., 1/12 sec. When [SYSTEM MODE] = 50.00 Hz 50i/50p mode: 1/2 sec., 1/3 sec., 1/6 sec., 1/12 sec., 1/25 sec. 25p mode: 1/2 sec., 1/3 sec., 1/6 sec., 1/12 sec.
Shutter Speed:	When [SYSTEM MODE] = 59.94 Hz
(Synchro Scan)	59.94i/59.94p mode: 1/60.0 sec. to 1/249.7 sec. 29.97p mode: 1/30.0 sec. to 1/249.7 sec. 23.98p mode: 1/24.0 sec. to 1/249.6 sec. 24.00p mode: 1/24.0 sec. to 1/249.9 sec. When [SYSTEM MODE] = 50.00 Hz 50i/50p mode: 1/50.0 sec. to 1/250.0 sec. 25p mode: 1/25.0 sec. to 1/250.0 sec.

VFR Recording Frame Rate:	When [SYSTEM MODE] = 59.94 Hz 30p mode: 2, 15, 26, 28, 30, 32, 34, 45, 60 (fps) 24p mode: 2, 12, 20, 22, 24, 26, 28, 36, 48, 60 (fps) SYSTEM MODE = 50.00, Hz 25p mode: 2, 12, 21, 23, 25, 27, 30, 37, 50 (fps)
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Super-Slow Motion Recording:	When [SYSTEM MODE] = 59.94 Hz Shooting frame rate FHD 120 fps, Slow motion effect 1/4 speed (when 30p mode), 1/5 speed (when 24p mode) When [SYSTEM MODE] = 50.00 Hz Shooting frame rate FHD 100fps, Slow motion effect 1/4 speed (when 25p mode)
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Sensitivity:	When [HIGH SENS.] mode F11 (2000 lx, 3200 K, 89.9 % reflect, 1080/59.94) F12 (2000 lx, 3200 K, 89.9 % reflect, 1080/50)
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Minimum Subject Illumination:	0.2 lx (F2.8, gain 18 dB, Manual slow shutter 1/2S, When [HIGH SENS.] mode)
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Digital Zoom:	2x/5x/10x, i.Zoom (max. 30x)
Lens Hood:	Hood with lens cover

Memory Card Recorder

Recording Media:	*1 SDHC Memory Card (4 GB to 32 GB), SDXC Memory Card (48 GB to 128 GB), UHS-I supported
Recording Slot:	Slot x 2
System Format:	59.94 Hz/50 Hz
Motion Picture Recording:	Recording Format: MOV, MP4, AVCHD
Recording Mode:	Please see page 24 for the Recording Format table.
Recording Time:	Please see page 26 for the Recording Time table.
2 Slot Functions:	Relay, Simultaneous, Background*2, Dual codec
Still Picture Recording Mode:	JPEG (DCF/Exif2.2)
Still Picture Recording:	Motion Picture Playback: 8.8M: 4096 x 2160 (17:9), 8.3M: 3840 x 2160 (16:9), 2.1M: 1920 x 1080 (16:9), 0.9M: 1280 x 720 (16:9)

Digital Video

Video Signal for External Output:	8bit 4:2:2*3
Recording Video Signal:	8bit 4:2:0
Video Compression Format:	MPEG-4 AVC/H.264 High Profile (MOV/MP4/AVCHD)

Digital Audio

Recording Audio Signal:	48 kHz/16 bit 2CH
Audio Signal Format:	LPCM (MOV/MP4), Dolby Audio (AVCHD)
Headroom:	12 dB

Dual Codec

Recording Method: MOV, MP4

Video Compression Format:
MPEG-4 AVC/H.264 High Profile

Audio Signal Format: LPCM

Recording Format: Please see page 24 for
the Dual Codec Recording table.

Recording Time: FHD 50Mbps FHD 8Mbps
(32 GB) Approx. 1 hour 20 min. Approx. 8 hour 30 min.
(64 GB) Approx. 2 hour 40 min. Approx. 17 hour 10 min.
(128 GB) Approx. 5 hour 20 min. Approx. 35 hours

Video Output

SDI OUT: BNC x 1, 0.8 V [p-p], 75 Ω, 3 G/1.5 G,
HD SDI, SD SDI supported
Output format:
1080/59.94p LEVEL-A/50.00p LEVEL-A,
1080/29.97PsF/25.00PsF/24.00PsF/23.98PsF,
1080/59.94i/50.00i, 720/59.94p/50.00p,
480/59.94i, 576/50.00i

VIDEO OUT: AV connector x 1

HDMI: Type A connector x 1, VIERA Link not supported
Output format:
2160/59.94p/50.00p/29.97p/25.00p/24.00p/23.98p,
1080/59.94p/50.00p/29.97p/25.00p/24.00p/23.98p/
59.94i/50.00i,
720/59.94p/50.00p, 480/59.94p, 576/50.00p

Audio Input

Built-in Microphone: Stereo microphone

XLR Input: XLR (3-pin) x 2 (INPUT1, INPUT2)
Input high impedance,
LINE/MIC/MIC+48V (switchable SW)
LINE: +4 dBu/0 dBu (switchable menu)
MIC: -40 dBu/-50 dBu/-60 dBu (switchable menu)

Audio Output

SDI: 2 ch (LPCM) switchable gain: 0 dB/-6 dB/-12 dB

HDMI: 2 ch (LPCM)

AUDIO OUT: AV connector x 1, Output level: 600 Ω, 251 mV

Headphone: 3.5 mm diameter stereo mini jack x 1

Speaker: 20 mm diameter, round x 1

Other Input/Output

Camera Remote: 2.5 mm diameter super mini jack x1 (ZOOM, S/S)
3.5 mm diameter mini jack x1 (FOCUS, IRIS)

TC PRESET IN/OUT: BNC x 1, Used as the input and output terminals
Input: 1.0 V to 4.0 V [p-p] 10 KΩ
Output: 2.0 V ± 0.5 V [p-p] low impedance

USB HOST: Type A connector, 9-pin, bus power supported
In Recording mode; USB 2.0 compatible (5 V, 0.5 A)
In Playback mode; USB 3.0 compatible (5 V, 0.9 A),
used for external media device connection^{*4}

USB 3.0 DEVICE: Micro-B connector,
10-pin, Mass storage function (read only)

DC IN 12V: DC 12V (11.4V to 12.6V) EIAJ Type4

Monitor/Viewfinder

LCD Monitor: 3.5 type LCD color monitor, Approx. 1,150,000 dots

Viewfinder: 0.39 type OLED (organic EL display)
Approx. 2,360,000 dots,
video display area: approx. 1,770,000 dots

Included Accessories

Battery (AG-VBR59), Battery charger, AC adaptor,
Microphone holder kit, AC cable, Eye cup, Lens hood,
INPUT terminal cap, Operating instructions

^{*1}: An SD Memory Card with a capacity of UHS Speed Class 3 (U3) is
required to shoot videos with a bit rate of 100 Mbps or higher. An SDXC
Memory Card with a capacity of 64 GB or more and UHS Speed Class 3
(U3) is required to shoot UHD 2160/59.94p/50.00p videos with a bit rate of
150 Mbps or higher.

^{*2}: It supports in record mode less than 50 Mbps.

^{*3}: Output of UHD/59.94p/50.00p becomes 8 bit 4:2:0.

^{*4}: External media devices with a capacity of below 32 GB or a capacity
above 2 TB cannot be used.

Recording Format

When System Frequency is 59.94 Hz

Recording Mode	Recording Format	Bit Rate
MOV/MP4	4K	4096 x 2160/24.00p 100 Mbps
	UHD	3840 x 2160/59.94p 150 Mbps
		3840 x 2160/29.97p/23.98p 100 Mbps
	FHD	1920 x 1080/ 59.94p/29.97p/23.98p (ALL-I) 200 Mbps
		1920 x 1080/59.94p 100 Mbps
AVCHD	PS	1920 x 1080/59.94p 25 Mbps
		1920 x 1080/59.94i/23.98p 21 Mbps
	HA	1920 x 1080/59.94i 17 Mbps
	HE	1440 x 1080/59.94i 5 Mbps
	PM	1280 x 720/59.94p 8 Mbps
	SA	720 x 480/59.94i (SIDE CROP/SQUEEZE) 9 Mbps

When System Frequency is 50.00 Hz

Recording Mode	Recording Format	Bit Rate
MOV/MP4	4K	4096 x 2160/24.00p 100 Mbps
	UHD	3840 x 2160/50.00p 150 Mbps
		3840 x 2160/25.00p 100 Mbps
	FHD	1920 x 1080/ 50.00p/25.00p (ALL-I) 200 Mbps
		1920 x 1080/50.00p 100 Mbps
AVCHD	PS	1920 x 1080/50.00p 25 Mbps
		1920 x 1080/50.00i 21 Mbps
	HA	1920 x 1080/50.00i 17 Mbps
	HE	1440 x 1080/50.00i 5 Mbps
	PM	1280 x 720/50.00p 8 Mbps
	SA	720x576/50.00i (SIDE CROP/SQUEEZE) 9 Mbps

Dual Codec Recording

When FHD 50 Mbps mode

Recording Mode	Recording Format
Main-Recording	MOV/MP4 UHD 29.97p/25p/23.98p 100 Mbps
Sub-Recording	MOV/MP4* FHD 29.97p/25p/23.98p 50Mbps

^{*} Same recording mode selected in the main-recording side.

When FHD 8 Mbps mode

Recording Mode	Recording Format
Main-Recording	MOV/MP4 UHD 29.97p/25p/23.98p 100 Mbps FHD 59.94p/50p/29.97p/25p/23.98p 200 Mbps FHD 59.94p/50p 100 Mbps
Sub-Recording	MOV FHD 59.94p/50p/29.97p/25p/23.98p 8 Mbps

AG-UX90

General

Power:	DC 7.28 V (when the battery is used) DC 12 V (when the AC adaptor is used)
Power Consumption:	12.2 W (when the LCD monitor is used)
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 eye cup)
Dimensions:	169 mm (W) x 195 mm (H) x 340 mm (D) (6-21/32 inches x 7-11/16 inches x 13-3/8 inches) (excluding protrusion and eye cup) 169 mm (W) x 195 mm (H) x 382 mm (D) (6-21/32 inches x 7-11/16 inches x 15-1/32 inches) (including eye cup, excluding protrusion)

Camera Unit

Pickup Device:	1.0-type MOS solid state image sensor
Effective Pixels:	[59.94 Hz model] 17.78 megapixel: FHD 59.94p/29.97p/23.98p 8.59 megapixel: UHD 29.97p/23.98p [50.00 Hz model] 17.78 megapixel: FHD 50.00p/25.00p 8.59 megapixel: UHD 25.00p
Lens:	Optical image stabilizer lens, optical 15x motorized zoom F2.8 to F4.5 (f=8.8 mm to 132 mm) 35 mm equivalent: [59.94 Hz model] f=24.5 mm to 367.5 mm: FHD 59.94p/29.97p/23.98p f=35.4 mm to 531.0 mm: UHD 29.97p/23.98p [50.00 Hz model] f=24.5 mm to 367.5 mm: FHD 50.00p/25.00p f=35.4 mm to 531.0 mm: UHD 25.00p Filter Diameter: 67 mm ND Filter: 4 Positions (OFF, 1/4, 1/16, 1/64) Shortest Shooting Distance (M.O.D.): Approx. 1.0 m from the front lens
Gain Setting:	L/M/H selector switch Standard mode: 0 dB to 30 dB (Adjustable in 1 dB steps) (Automatic setting can be assigned to L/M/H) Extended ON: -3 dB to 30 dB (Adjustable in 1 dB steps) (Automatic setting can be assigned to L/M/H) 33 dB and 36 dB switched (when assigning [S.GAIN] to the USER button)
Color Temperature Setting:	ATW, ATW LOCK, Ach, Bch, preset 3200 K/preset 5600 K/VAR (2000 K to 15000 K)
Shutter Speed:	[59.94 Hz model] 60i/60p mode: 1/60 sec., 1/100 sec., 1/120 sec., 1/180 sec., 1/250 sec., 1/350 sec., 1/500 sec., 1/750 sec., 1/1000 sec., 1/1500 sec., 1/2000 sec., 1/3000 sec., 1/4000 sec., 1/8000 sec. 30p mode: 1/30 sec., 1/50 sec., 1/60 sec., 1/100 sec., 1/120 sec., 1/180 sec., 1/250 sec., 1/350 sec., 1/500 sec., 1/750 sec., 1/1000 sec., 1/1500 sec., 1/2000 sec., 1/3000 sec., 1/4000 sec., 1/8000 sec. 24p mode: 1/24 sec., 1/48 sec., 1/50 sec., 1/60 sec., 1/100 sec., 1/120 sec., 1/180 sec., 1/250 sec., 1/350 sec., 1/500 sec., 1/750 sec., 1/1000 sec., 1/1500 sec., 1/2000 sec., 1/3000 sec., 1/4000 sec., 1/8000 sec. [50.00 Hz model] 50i/50p mode: 1/50 sec., 1/60 sec., 1/100 sec., 1/125 sec., 1/180 sec., 1/250 sec., 1/350 sec., 1/500 sec., 1/750 sec., 1/1000 sec., 1/1500 sec., 1/2000 sec., 1/3000 sec., 1/4000 sec., 1/8000 sec. 25p mode: 1/25 sec., 1/50 sec., 1/60 sec., 1/100 sec., 1/125 sec., 1/180 sec., 1/250 sec., 1/350 sec., 1/500 sec., 1/750 sec., 1/1000 sec., 1/1500 sec., 1/2000 sec., 1/3000 sec., 1/4000 sec., 1/8000 sec.

Shutter Speed:	[59.94 Hz model] 60i/60p mode: 1/2 sec., 1/4 sec., 1/8 sec., 1/15 sec., 1/30 sec. 30p mode: 1/2 sec., 1/4 sec., 1/8 sec., 1/15 sec. 24p mode: 1/2 sec., 1/3 sec., 1/6 sec., 1/12 sec. [50.00 Hz model] 50i/50p mode: 1/2 sec., 1/3 sec., 1/6 sec., 1/12 sec., 1/25 sec. 25p mode: 1/2 sec., 1/3 sec., 1/6 sec., 1/12 sec.
VFR Recording Frame Rate:	[59.94 Hz model] 30p mode: 2, 15, 26, 28, 30, 32, 34, 45, 60 (fps) 24p mode: 2, 12, 20, 22, 24, 26, 28, 36, 48, 60 (fps) [50.00 Hz model] 25p mode: 2, 12, 21, 23, 25, 27, 30, 37, 50 (fps)
Minimum Subject Illumination:	[59.94 Hz model] 1.3 lx (F2.8, Super Gain 36dB, Manual slow shutter 1/30s) [50.00 Hz model] 1.1 lx (F2.8, Super Gain 36dB, Manual slow shutter 1/25s)
Digital Zoom:	2x/5x/10x, i.Zoom: max. 25x (optical zoom + digital zoom)
Lens Hood:	Hood with lens cover

Memory Card Recorder

Recording Media:	*1 SDHC Memory Card (4 GB to 32 GB), SDXC Memory Card (48 GB to 128 GB) UHS-I supported
Recording Slot:	Slot x 2
System Format:	[59.94 Hz model] 59.94 Hz [50.00 Hz model] 50 Hz
Recording Format:	MOV, MP4, AVCHD
Recording Mode:	Please see page 26 for the Recording Format table.
Recording Time:	Please see page 26 for the Recording Time table.
2 Slot Functions:	Relay, Simultaneous
Still Picture Recording Mode:	JPEG (DCF/Exif2.2)
Still Picture Recording:	Motion Picture Playback: 8.3 M: 3840 x 2160 (16:9), 2.1 M: 1920 x 1080 (16:9), 0.9 M: 1280 x 720 (16:9)

Digital Video

Video Signal for External Output:	8 bit 4:2:2
Recording Video Signal:	8 bit 4:2:0
Video Compression Format:	MPEG-4 AVC/H.264 High Profile (MOV/MP4/AVCHD)

Digital Audio

Sampling Frequency:	48 kHz/16 bit 2 ch
Audio Signal Format:	LPCM (MOV/MP4), Dolby Audio (AVCHD)
Headroom:	12 dB

Video Output

VIDEO OUT:	VIDEO OUT connector x 1
HDMI:	Type A connector x 1, VIERA Link not supported [59.94 Hz model] Output format: 2160/29.97p/23.98p, 1080/59.94p/29.97p/23.98p/59.94i, 720/59.94p, 480/59.94p [50.00 Hz model] Output format: 2160/25.00p, 1080/50p/25p/50i, 720/50p, 576/50p

Audio Input

Built-in Microphone:

Stereo microphone

XLR Input: XLR (3-pin) x 2 (INPUT1, INPUT2)
high impedance,
LINE/MIC/MIC+48V (switchable SW)
LINE: +4 dBu/0 dBu (switchable menu)
MIC: -40 dBu/-50 dBu/-60 dBu (switchable menu)

Audio Output

HDMI: 2 ch (LPCM)

AUDIO OUT: AUDIO OUT x 2

Headphone: 3.5 mm diameter stereo mini jack x 1

Speaker: 20 mm diameter, round x 1

Other Input/Output

Camera Remote: 2.5 mm diameter super mini jack x1 (ZOOM, S/S)
3.5 mm diameter mini jack x1 (FOCUS, IRIS)

USB HOST: Type A connector, 9-pin, bus power supported
In Recording mode; USB 2.0 compatible (5 V, 0.5 A)
In Playback mode; USB 3.0 compatible (5 V, 0.9 A),
used for external media device connection*2

USB 3.0 DEVICE: Micro-B connector, 10-pin,
Mass storage function (read only)

DC IN 12V: DC 12 V (11.4 V to 12.6 V) EIAJ Type4

Monitor/Viewfinder

LCD Monitor: 3.5-type LCD monitor,
Approx. 1,150,000 dots

Viewfinder: 0.24-type EVF,
Approx. 1,560,000 dots equivalent

Included Accessories

Battery (AG-VBR59), Battery charger, AC adaptor, Microphone holder,
Screw for microphone holder (12 mm), AC cable, Eye cup,
Lens hood, INPUT terminal cap, Operating instructions

*1: An SD Memory Card with a capacity of UHS Speed Class 3 (U3) is
required to shoot videos with a bit rate of 100 Mbps or higher.

*2: External media devices with a capacity of below 32 GB or a capacity
above 2 TB cannot be used.

Recording Format

59.94 Hz Model

Recording Mode	Recording Format	Bit Rate
MOV/MP4	UHD 3840 x 2160/29.97p/23.98p	100 Mbps
	FHD 1920 x 1080/59.94p/29.97p/ 23.98p/59.94i	50 Mbps
AVCHD	PS 1920 x 1080/59.94p	25 Mbps
	PH 1920 x 1080/59.94i/23.98p	21 Mbps
	HA 1920 x 1080/59.94i	17 Mbps
	HE 1440 x 1080/59.94i	5 Mbps
	PM 1280 x 720/59.94p	8 Mbps
	SA 720 x 480/59.94i (SIDE CROP/SQUEEZE)	9 Mbps

50.00 Hz Model

Recording Mode	Recording Format	Bit Rate
MOV/MP4	UHD 3840 x 2160/25.00p	100 Mbps
	FHD 1920 x 1080/50.00p/25.00p/ 50.00i	50 Mbps
AVCHD	PS 1920 x 1080/50.00p	25 Mbps
	PH 1920 x 1080/50.00i	21 Mbps
	HA 1920 x 1080/50.00i	17 Mbps
	HE 1440 x 1080/50.00i	5 Mbps
	PM 1280 x 720/50.00p	8 Mbps
	SA 720 x 576/50.00i (SIDE CROP/SQUEEZE)	9 Mbps

Recording Time of AG-DVX200/UX180/UX90

Recording Format		Bit Rate	32 GB	64 GB	128 GB
MOV/MP4	4K	100 Mbps*	Approx. 40 min.	Approx. 1 hour 20 min.	Approx. 2 hours 40 min.
		150 Mbps*	—	Approx. 55 min.	Approx. 1 hour 50 min.
	FHD	100 Mbps	Approx. 40 min.	Approx. 1 hour 20 min.	Approx. 2 hours 40 min.
		200 Mbps*	Approx. 20 min.	Approx. 40 min.	Approx. 1 hour 20 min.
		100 Mbps*	Approx. 40 min.	Approx. 1 hour 20 min.	Approx. 2 hours 40 min.
		50 Mbps	Approx. 1 hour 20 min.	Approx. 2 hours 40 min.	Approx. 5 hours 20 min.
AVCHD	PS	25 Mbps	Approx. 2 hours 40 min.	Approx. 5 hours 20 min.	Approx. 11 hours
		21 Mbps	Approx. 3 hours	Approx. 6 hours	Approx. 12 hours 30 min.
	PH	21 Mbps	Approx. 3 hours	Approx. 6 hours	Approx. 12 hours 30 min.
	HA	17 Mbps	Approx. 4 hours 10 min.	Approx. 8 hours 30 min.	Approx. 17 hours
	HE	5 Mbps	Approx. 13 hours 40 min.	Approx. 27 hours 30 min.	Approx. 56 hours
	PM	8 Mbps	Approx. 8 hours 30 min.	Approx. 17 hours 10 min.	Approx. 35 hours
	SA	9 Mbps	Approx. 8 hours	Approx. 16 hours 30 min.	Approx. 34 hours

* Not support AG-UX90.

AG-AC30

General Specifications

Power Supply:	DC 7.2 V (Battery) / DC12 V (AC Adaptor)
Power Consumption:	11.7 W (Recording) / 27.4 W (Charging)
Weight:	Approx. 1500 g (3.31 lb) without battery and SD Memory Cards
Dimensions:	170 mm (W) x 170 mm (H) x 335 mm (D) (6.69 inches x 6.69 inches x 13.2 inches)

Lens

F Value:	F1.8 (WIDE)/F3.6 (TELE)
Zoom:	Optical Zoom: 20x Intelligent Zoom OFF: 20x, ON: 40x
Digital Zoom:	2x / 5x / 10x
Focal Length:	4.08 mm to 81.6 mm
35 mm Film Camera Equivalent: (Motion Image/Still Image)	29.5 mm to 612 mm [16:9]
Filter Diameter:	49 mm

Camera Section

Image Sensor:	1/3.1-type MOS Sensor Effective Pixels: 6.03 megapixels [16:9]
Standard Illumination:	1400 lx
Minimum Illumination:	[59.94 Hz model] 1.4 lx (Super Gain 36 dB, Shutter 1/30) [50 Hz model] 1.2 lx (Super Gain 36 dB, Shutter 1/25)
White Balance:	Auto/3200 K/5600 K/VAR (2000 K to 15000 K)/ Ach Fixed / Bch Fixed
Shutter Speed:	60p/60i: 1/8 to 1/8000 [59.94 Hz model] 23.98p: 1/6 to 1/8000 Super Slow: 1/120 to 1/8000 50p/50i: 1/6 to 1/8000 Super Slow: 1/100 to 1/8000
Super Slow Recording:	[59.94 Hz model] Shooting Frame Rate: FHD 120 fps, Slow Motion Effect: 1/2 speed, 1/4 speed, 1/5 speed
[50 Hz model]	Shooting Frame Rate: FHD 100 fps, Slow Motion Effect: 1/2 speed, 1/4 speed

Recording Section

Recording Media:	SDHC/SDXC Memory Card
Recording Format:	MOV/MP4/AVCHD: AVCHD Progressive
Video Compression:	MPEG-4 AVC/H.264
Audio Compression:	MOV: LPCM (2 ch)/MP4: LPCM (2 ch)/ AVCHD: Dolby Digital (2 ch)
Thumbnail Display:	20 thumbnails/page, 9 thumbnails/page, 1 thumbnail/page
Microphone:	Stereo Microphone
Speaker:	Dynamic Type

Recording Mode of 59.94 Hz Model

Recording Mode	Recording Video Format	Bit Rate
MOV/MP4	FHD 1920 x 1080/59.94p/29.97p/23.98p/59.94i	50 Mbps
AVCHD	PS 1920 x 1080/59.94p	25 Mbps
	PH 1920 x 1080/59.94i/23.98p	21 Mbps
	HA 1920 x 1080/59.94i	17 Mbps
	HE 1440 x 1080/59.94i	5 Mbps
	PM 1280 x 720/59.94p	8 Mbps
	SA 720 x 480/59.94i (SIDE CROP/SQUEEZE)	9 Mbps

Recording Time

Recording Mode	Bit Rate	32 GB Memory Card*	64 GB Memory Card*	128 GB Memory Card*
MOV/MP4	FHD 50 Mbps	Approx. 1 hour 20 min.	Approx. 2 hours 40 min.	Approx. 5 hours 20 min.
AVCHD	PS 25 Mbps	Approx. 2 hours 40 min.	Approx. 5 hours 20 min.	Approx. 11 hours
	PH 21 Mbps	Approx. 3 hours	Approx. 6 hours	Approx. 12 hours 30 min.
	HA 17 Mbps	Approx. 4 hours 10 min.	Approx. 8 hours 30 min.	Approx. 17 hours
	HE 5 Mbps	Approx. 13 hours 40 min.	Approx. 27 hours 30 min.	Approx. 56 hours
	PM 8 Mbps	Approx. 8 hours 30 min.	Approx. 17 hours 10 min.	Approx. 35 hours
	SA 9 Mbps	Approx. 8 hours	Approx. 16 hours 30 min.	Approx. 34 hours

*These times are approximations. *A Class 4 or higher SDXC/SDHC Memory Card is required for AVCHD recording. A Class 10 or higher, or UHS Speed Class 1 or higher SDXC/SDHC Memory Card is required for MP4/MOV 50Mbps recording. A UHS Speed Class 3 or higher SDXC/SDHC Memory Card is required for Super Slow recording. (The use of a Panasonic SDXC/SDHC Memory Card is recommended.)

Still Image Section

Recording Format:	JPEG (DCF/Exif2.2)
Recording Image Size:	• Recording Mode [16:9] 2.1 megapixels (1920 x 1080), 0.2 megapixels (640 x 360) [4:3] 0.3 megapixels (640 x 480) • Playback Mode [16:9] 2.1 megapixels (1920 x 1080), 0.9 megapixels (1280 x 720)

Interface

AV OUT:	Yes
HDMI OUT:	Type A
XLR IN:	XLR (3-pin) x 2, Line: 0 dBu/+4 dBu, Mic: -40 dBu/-50 dBu/-60 dBu
Headphone:	3.5 mm stereo mini
USB:	Micro-B: USB 2.0 Hi-Speed, Mass Storage Function (read only) Type A: USB 2.0 Hi-Speed, for External Media Device Connection*, Bus Power Supply
Camera Remote:	2.5 mm super mini jack x 1 (ZOOM S/S) 3.5 mm mini jack x 1 (FOCUS/IRIS)

Monitor

Monitor:	3.0-inch (3.0-type) Wide LCD monitor (Approx. 460 k dots)
Viewfinder:	0.24-inch (0.24-type) Wide EVF (Approx. 1555 K dots equivalent)

LED Video Light

Average Illumination:	Approx. 300 lx (1.0 m)
Irradiation Angle:	Approx. 30°
Color Temperature:	Approx. 5000 K
Average Illumination with Diffusion Filter:	Approx. 70 lx (1.0 m)
Color Temperature with Color Conversion Filter:	Approx. 3000 K

Standard Accessory

AC Adaptor, AC Cable, Rechargeable Battery Pack (2900 mAh), AV Cable, Microphone Holder, Microphone Holder Screws (x2), Input Terminal Cap (x2), Eye Cup, Lens Cap, LED Light Filter (Diffusion Filter / Color Conversion Filter)

* External media device with a capacity of 32 GB or less, or more than 2 TB, cannot be used.

Recording Mode of 50 Hz Model

Recording Mode	Recording Video Format	Bit Rate
MOV/MP4	FHD 1920 x 1080/50.00p/25.00p/50.00i	50 Mbps
AVCHD	PS 1920 x 1080/50.00p	25 Mbps
	PH 1920 x 1080/50.00i	21 Mbps
	HA 1920 x 1080/50.00i	17 Mbps
	HE 1440 x 1080/50.00i	5 Mbps
	PM 1280 x 720/50.00p	8 Mbps
	SA 720 x 576/50.00i (SIDE CROP/SQUEEZE)	9 Mbps



AG-VBR118G
Battery Pack (11,800 mAh)



AG-VBR89G
Battery Pack (8,850 mAh)



AG-VBR59
Battery Pack (5,900 mAh)



AG-BRD50
Battery Charger



VW-VBD58
Battery Pack (5,800 mAh)



AG-B23
Battery Charger



AG-MC200G
XLR Microphone



VW-LED1
LED Video Light



AJ-WM50
Wireless Module*
* Not available in some areas.



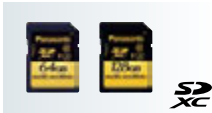
AJ-WM30
Wireless Module*
* Not available in some areas.



Connection Confirmed
Wireless Module*
(including third-party products)



* For details please visit Panasonic website (https://pro-av.panasonic.net/en/sales_o/p2/server/wireless_module.html)



SDXC/SDHC/SD Memory Card

Optional Accessories		AG-DVX200	AG-UX180	AG-UX90	AG-AC30
Battery Pack (11,800 mAh)	AG-VBR118G	✓	✓	✓	
Battery Pack (8,850 mAh)	AG-VBR89G	✓	✓	✓	✓
Battery Pack (5,900 mAh)	AG-VBR59	✓	✓	✓	✓
Battery Charger	AG-BRD50	✓	✓	✓	✓
Battery Pack (5,800 mAh)	VW-VBD58	✓	✓	✓	✓
Battery Charger	AG-B23	✓	✓	✓	✓
XLR Microphone	AG-MC200G	✓	✓	✓	✓
LED Video Light	VW-LED1	✓	✓	✓	
Wireless Module*1	AJ-WM50	✓	✓	✓	
Wireless Module*1	AJ-WM30	✓	✓	✓	
SDXC/SDHC/SD Memory Card*2		✓	✓	✓	✓

✓: It is possible to use it. *1: Not available in some areas. *2: 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 UHD 2160/59.94p/50.00p 150 M.



POVCAM



AVCHD™
Progressive

HDMI

SD
XC

DOLBY AUDIO™

AG-UMR20

Memory Card Portable Recorder

"POVCAM" with a Compact, Lightweight, Free Style Shooting and IP Networking Capability

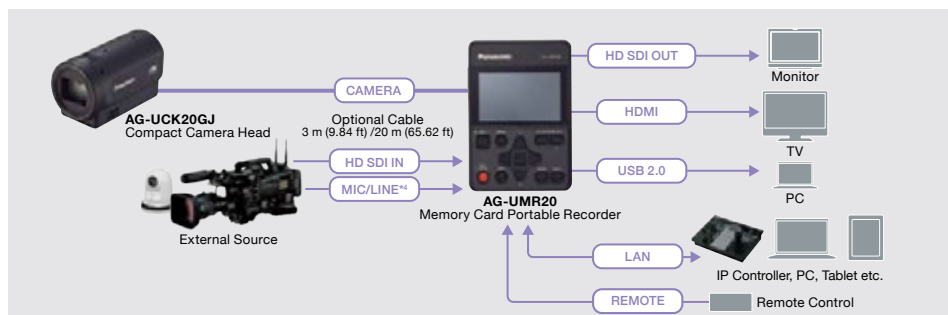
- Light weight, handy size. Improved recorder operation with a touch-panel monitor and large buttons.
- Capable of battery drive and DC12V power supply. (Equipped with an AC adaptor.)
- LAN terminal for IP streaming and IP control. Recorded image files can be transferred to an FTP server.
- High quality FHD/4K (UHD)*1 image acquisition are supported.
- Equipped with double SD Memory Card Slots, enabling Relay Recording with two memory cards to extend the recording time (SDXC/SDHC Memory Card supported).^{*2}
- Two remote terminals provide fingertip control of Rec Start/Stop, Zoom, focus and iris.
- 3G-SDI input/output, HDMI output and a USB 2.0 connector.
- Time stamp and repeat playback.
- Waveform Monitor (WFM) and Vector Scope display (LCD only).

AG-UCK20GJ

Compact Camera Head (Special Option for the AG-UMR20)

Angle Free, High Quality Shooting with 29.5 mm Wide-Angle Optical 20x Zoom Lens

- Compact, lightweight design and remote operation^{*3} allow the camera to be installed in places and angles where it previously couldn't, for free-style operation.
- Equipped with a 29.5 mm wide-angle 20x optical zoom lens.
- 16-axis independent color correction function allows the fine color adjustment required in image production applications.
- Five-axis hybrid (optical and electronic) image stabilizer (HD mode only).
- The optical ND filter can be manually switched.
- Equipped with an Infrared (IR) Shooting mode.
- Equipped with a built-in microphone for recording both images and sounds.
- Scan Reverse mode (horizontal/vertical inversion) is equipped for shooting with a ceiling-mount.



*1: 4K acquisition is possible only when connected to Compact Camera Head. 4K refers to UHD (3840 x 2160) resolution. The maximum resolution in 4K shooting mode via HDMI/SDI output is FHD (1920 x 1080) 59.94i/50i. *2: Regardless of the memory card and recording mode, continuous recording that exceeds 10 hours is stopped and automatically restarted, causing the recording to stop for several seconds. *3: Requires the Camera Head Option Cable AG-C20003G/C20020G. *4: Audio input can not be used when a compact camera head is connected.

Surgical Image Recording System (medical specifications)



POVCAM

Compact Portable Recorder System Suitable for Recording High-Quality Medical Video

- Compact, lightweight, free-style shooting inherited from the 1st generation POVCAM.
- Excellent network operation through IP remote and IP streaming.
- High-quality, high-resolution image production for medical recording.

Medical Functions

(add with full functions of black model AG-UMR20/UCK20GJ)

- Recorder controls are covered with a membrane sheet for easy cleaning with an ethanol disinfectant.
- Surgical light mode for recording under surgical lamps, and 16-axis independent color correction function.
- Optical ND filter ideal for bright surgical lights (manual switchable).
- Lens protector (MC Protector/Accessory) for the front panel Compact Camera Head is included.

AVCHD™
Progressive

HDMI

SDXC™

DOLBY AUDIO™

AG-MDR25

Memory Card Portable Recorder

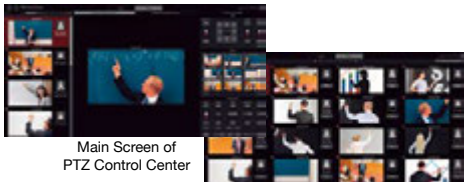
AG-MDC20GJ

Compact Camera Head (Special Option for the AG-MDR25)

*1: 4K acquisition is possible only when connected to Compact Camera Head. 4K refers to UHD (3840 x 2160) resolution. The maximum resolution in 4K shooting mode via HDMI/SDI output is FHD (1920 x 1080) 59.94/50i. *2: Requires the Camera Head Option Cable AG-C20003G/C20020G.

Note: Regardless of the memory card and recording mode, continuous recording that exceeds 10 hours is stopped and automatically restarted, causing the recording to stop for several seconds. Audio input can not be used when a compact camera head is connected.

POVCAM-Compatible PC Software (Free of Charge)



Main Screen of
PTZ Control Center

View Screen of PTZ Control Center

PTZ Control Center

Images from multiple LAN-connected POVCAMs can be controlled (Focus, Iris, Zoom, Gain, White Balance, Shutter, ND Filter, and Rec Start/Stop) while they are monitored on a PC screen.

PTZ Virtual USB Driver

This driver allows LAN-connected POVCAMs to be used as USB cameras. This is helpful for network distribution and conferences. Up to 5 POVCAMs can be registered.

Download Site: https://pro-av.panasonic.net/en/products/ptz_software/index.html

AG-UMR20/AG-MDR25 Optional Accessories



AG-VBR118G
Battery Pack (11,800 mAh)



AG-VBR89G
Battery Pack (8,850 mAh)



AG-VBR59
Battery Pack (5,900 mAh)



AG-BRD50
Battery Charger



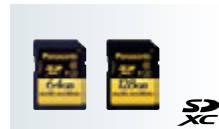
VW-VBD58
Battery Pack (5,800 mAh)



AG-B23
Battery Charger



AG-C20003G 3 m (9.84 ft)
AG-C20020G 20 m (65.62 ft)
Camera Head Option Cable



SDXC/SDHC Memory Card

AG-UMR20/AG-MDR25

General

Power:	DC 7.28 V (with battery), DC 12 V (with AC adaptor)
Power Consumption:	In standalone condition: 1.1 A (with battery), 0.7 A (with AC adaptor) With the optional Camera Head*1: 2.2 A (with battery), 1.4 A (with AC adaptor)
Operating Temperature:	0 °C to 40 °C (32 °F to 104 °F)
Operating Humidity:	10 % to 80 % (no condensation)
Weight:	Approx. 590 g (1.3 lbs)
Dimensions:	100 mm (W) x 53.5 mm (H) x 140 mm (D) (excluding protrusion) (3-15/16 inches x 2-3/32 inches x 5-1/2 inches)

Memory Card Recorder

Recording Media:	SDXC Memory Card (48 GB to 128 GB), SDHC Memory Card (4 GB to 32 GB) MP4: more than Class10, AVCHD: more than Class4
Recording Slot:	2 Slots
System Format:	59.94 Hz / 50.00 Hz
Motion Recording:	Recording system: MP4, AVCHD Recording mode/Recording time: Please see page 32 for the "Recording Format" table
Still Picture Recording:	Recording system: JPEG (DCF/Exif2.2)

Digital Video/Digital Audio

Output Video Signal:	8 bit 4:2:2
Recording Video Signal:	8 bit 4:2:0
Video Compression:	MP4: MPEG-4, AVCHD: AVC/H.264 High Profile
Recording Audio Signal:	48 kHz/16 bit 2 CH
Audio Compression:	MP4: LPCM, AVCHD: Dolby Audio
Headroom:	12 dB

Video Input/Output

SDI IN:	BNC x 1, 0.8 V [p-p], 75 Ω, 3 G/1.5 G HD SDI supported Input format: 1080/59.94p LEVEL-A/LEVEL-B, 1080/50p LEVEL-A/LEVEL-B, 1080/29.97PsF/25PsF/23.98PsF, 1080/59.94i/50i, 720/59.94p/50p
SDI OUT:	BNC x 1, 0.8 V [p-p], 75 Ω, 3 G/1.5 G HD SDI supported Output format: same as input format
HDMI OUT:	Type A connector x 1, VIERA Link not supported Output format: 2160/29.97p/25p/23.98p, 1080/59.94p/50p/ 29.97p/25p/23.98p/59.94i/50i, 720/59.94p/50p, 480/59.94p, 576/50p

Audio Input/Output

MIC/LINE IN:	3.5 mm diameter, stereo mini jack (MIC IN and LINE IN) MIC: -60 dBV (sensitivity -40 dB equivalent, 0 dB=1 V/Pa 1 kHz), plug in power supported LINE : -10 dBV
SDI OUT:	2 CH (LPCM), Gain: 0 dB/-6 dB/-12 dB (selectable menu)
HDMI OUT:	2 CH (LPCM)
Headphone:	3.5 mm diameter, stereo mini jack x 1
Speaker:	20 mm diameter, round x 1

External Terminal

CAMERA:	20 pin dedicated interface*1
LAN:	IP control LAN connector (RJ-45) Straight/cross cable auto-detect function
REMOTE:	2.5 mm diameter stereo mini jack x 1 (ZOOM, S/S) 3.5 mm diameter mini jack x 1 (FOCUS, IRIS)
USB 2.0:	Type Mini-B connector, mass storage (read/write)
DC IN 12 V:	DC 12 V (11.4 V to 12.6 V) EIAJ Type4

Monitor

LCD Monitor:	3.5-type LCD monitor, approx. 1,150,000 dots
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Network

Video Compression:	Motion JPEG MP4:MPEG-4, AVCHD: AVC/H.264 High Profile
Audio Compression:	AAC-LC (48kHz, 16 bit, 2 CH, 128 kbps)
Transfer Mode*2:	Resolution 640 x 360: (JPEG) Frame rate (59.94 Hz) : 30 fps, 15 fps, 5 fps Frame rate (50.00 Hz) : 25 fps, 12.5 fps, 5 fps
Transfer Mode*2:	Resolution 3840 x 2160/640 x 360: (H.264) Frame rate (59.94 Hz) : 30 fps, 15 fps, 5 fps Frame rate (50.00 Hz) : 25 fps, 12.5 fps, 5 fps Resolution 1920 x 1080/1280 x 720: Frame rate (59.94 Hz) : 60 fps, 30 fps, 15 fps, 5 fps Frame rate (50.00 Hz) : 50 fps, 25 fps, 12.5 fps, 5 fps

Supported Protocol:	TCP/IP, UDP/IP, HTTP, HTTPS, RTSP, RTP, RTP/RTCP, FTP, DHCP, DNS, NTP, IGMP, UPnP, ICMP, ARP, RTSP over TCP, RTSP over HTTP, SSL (TLS) , MultiCast/UniCast
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IP Connector Cable: LAN cable*3 (more than category 5) max. 100 m

Supported OS

Windows:	Microsoft® Windows 10 (32 bit/64 bit) Pro, Microsoft® Windows 7 (32 bit/64 bit) Professional SP1*4, Internet Explorer 11*5
Mac:	MacOS 10.12, OS X v10.11, Safari10

Supported Browser

iOS Device:	iPhone/iPad/iPod touch, iOS 10, standard browser
Android:	Android OS 4.4/6.0, standard browser

Supported Controller

Controller*6:	AW-RP50, AW-RP120G, AK-HRP200G
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AC Adaptor

Rated Input Voltage:	AC 100 V - 240 V, 50 Hz/60 Hz, 1.2 A
Input Capacitance:	79 VA (AC 100 V) , 99 VA (AC 240 V)
Rated Output:	DC 12 V, 3.0 A
Operating Temperature:	0 °C to 40 °C (32 °F to 104 °F)
Operating Humidity:	10 % to 90 % (no condensation)
Weight:	Approx. 225 g (0.496 lbs)
Dimensions:	115 mm (W) x 37 mm (H) x 57 mm (D) (excluding DC code) (4-1/2 inches x 1-7/16 inches x 2-1/4 inches)

*1: AG-UMR20 option camera head is AG-UCK20GJ. AG-MDR25 option Camera head is AG-MDC20GJ.

*2: By the conditions, the frame rate is lower than setting.

*3: STP (Shielded Twisted Pair) recommend.

*4: Windows XP Compatible Mode cannot be used.

*5: Microsoft Edge cannot be used.

*6: Depending on a model, upgrade is required.

AG-UCK20GJ/AG-MDC20GJ

General

Power:	DC 9 V (supplied from the Portable Recorder) *AG-UCK20GJ is supplied from AG-UMR20. *AG-MDC20GJ is supplied from AG-MDR25.
Power Consumption:	0 A
Operating Temperature:	0 °C to 40 °C (32 °F to 104 °F)
Operating Humidity:	10 % to 80 % (no condensation)
Weight:	AG-UCK20GJ/AG-MDC20GJ: approx. 325 g (0.717 lbs) AG-MDC20GJ (including protector): approx. 333 g (0.734 lbs)
Dimensions:	AG-UCK20GJ/AG-MDC20GJ (excluding protrusion): 64 mm (W) x 72 mm (H) x 131 mm (D) (2-17/32 inches x 2-27/32 inches x 5-5/32 inches) AG-MDC20GJ (including lens protector): 64 mm (W) x 72 mm (H) x 134.5 mm (D) (2-17/32 inches x 2-27/32 inches x 5-9/32 inches)

Camera

Pickup Device:	1/2.3-type MOS solid state image sensor Total pixels: 4168 x 3062 (approx. 12.76 megapixels)
Lens:	Optical image stabilizer lens Zoom: optical 20x motorized zoom F value: F1.8 to F3.6, Focal length: f= 4.08 mm to 81.6 mm 35 mm conversion: 29.5 mm to 612.0 mm (Hybrid O.I.S. mode "OFF") Filter diameter: 49 mm, ND filter (built-in): CLEAR, 1/4, 1/16, 1/64 Shortest shooting distance: 1.5 m (4.9 ft) at zoom range, 3 cm (0.1 ft) at wide angle IR cut filter: incorporates the ON/OFF control function
Zoom:	i. Zoom: x30 (HD), x22 (4K) Digital zoom: x1.4, x2, x4, x6, x8
Image Stabilizer:	Optical image stabilizer (HD/4K) 5-Axis hybrid image stabilizer (HD)
Gain Setting:	Automatic, manual 0 dB to 30 dB (1 dB step), Super Gain 33 dB, 36 dB *At auto mode, 3 dB to 30 dB (3 dB steps) can be selected with AGC limit setting.
White balance:	ATW, ATW LOCK, AWB A, AWB B, P3200K, P5600K, VAR (2000 K to 15000 K)

Shutter Speed:	59.94i/59.94p mode: 1/60 sec., 1/100 sec., 1/120 sec., 1/180 sec., 1/250 sec., 1/350 sec., 1/500 sec., 1/750 sec., 1/1000 sec., 1/1500 sec., 1/2000 sec., 1/3000 sec., 1/4000 sec., 1/8000 sec. 29.97p mode: 1/30 sec., 1/50 sec., 1/60 sec., 1/100 sec., 1/120 sec., 1/180 sec. to 1/8000 sec. (same as above) 23.98p mode: 1/24 sec., 1/48 sec., 1/50 sec., 1/60 sec., 1/100 sec., 1/120 sec., 1/180 sec. to 1/8000 sec. (same as above) 50i/50p mode: 1/50 sec., 1/60 sec., 1/100 sec., 1/125 sec., 1/180 sec. to 1/8000 sec. (same as above) 25.00p mode: 1/25 sec., 1/50 sec., 1/60 sec., 1/100 sec., 1/125 sec., 1/180 sec. to 1/8000 sec. (same as above)
Slow Shutter:	59.94i/59.94p mode: 1/2 sec., 1/4 sec., 1/8 sec., 1/15 sec., 1/30 sec. 29.97p mode: 1/2 sec., 1/4 sec., 1/8 sec., 1/15 sec. 23.98p mode: 1/2 sec., 1/3 sec., 1/6 sec., 1/12 sec. 50i/50p mode: 1/2 sec., 1/3 sec., 1/6 sec., 1/12 sec., 1/25 sec., 25.00p mode: 1/2 sec., 1/3 sec., 1/6 sec., 1/12 sec.
Synchro Scan:	59.94i/59.94p mode: 1/60.0 sec. to 1/285.6 sec. 29.97p mode: 1/30.0 sec. to 1/206.5 sec. 23.98p mode: 1/24.0 sec. to 1/280.1 sec. 50i/50p mode: 1/50.0 sec. to 1/209.2 sec. 25p mode: 1/25.0 sec. to 1/224.3 sec.
Minimum Illumination:	0.2 lx (slow shutter: 1/2 sec., gain: +36 dB)
Horizontal Resolution:	1300 TV lines (HDMI output 2160/29.97p, (Typ, Center) when 25.00p playback) 1000 TV lines (HDMI output 1080/59.94p, when 50.00p playback)
Input/Output	
AUDIO IN:	Built-in microphone (2 CH stereo)
Connector:	20 pin dedicated interface *AG-UCK20GJ is connected with AG-UMR20. *AG-MDC20GJ is connected with AG-MDR25.

Recording Format (AG-UMR20/AG-MDR25 Memory Card Portable Recorder)

Recording Mode		Image Size	Bit Rate	Frame Rate		Audio	Recording Time*2 (128 GB)
				59.94 Hz	50.00 Hz		
MP4*1	4K	3840 x 2160	50 Mbps (VBR)	29.97p 23.98p	25p	LPCM 1.5 Mbps	Approx. 5 hours 20 min.
AVCHD	PS	1920 x 1080	25 Mbps (VBR)	59.94p	50p	Dolby Audio 384 kbps	Approx. 11 hours
	PH		21 Mbps (VBR)	59.94i 23.98p	50i		Approx. 12 hours 30 min.
	HA		17 Mbps (VBR)	59.94i	50i		Approx. 17 hours
	HE	1440 x 1080	5 Mbps (VBR)	59.94i	50i	Dolby Audio 256 kbps	Approx. 56 hours
	PH	1280 x 720	21 Mbps (VBR)	59.94p	50p	Dolby Audio 384 kbps	Approx. 12 hours 30 min.
	PM		8 Mbps (VBR)	59.94p	50p	Dolby Audio 256 kbps	Approx. 35 hours

*1: When using optional Camera Head. *2: When continuous recording exceeds 10 hours, the recording is stopped and automatically restarted approximately each 10 hours, causing the recording to stop for several seconds.

CX SERIES

Preliminary



AVC ULTRA HDR



AJ-CX4000GJ **NEW**

Scheduled for release
in December 2019

Memory Card Camera Recorder

2/3-type Lens Large size 4.4K 1 MOS 24 bit Audio
expressP2 card slot x 1 microP2 card slot x 2 Network

Next-Generation ENG Shoulder Camcorder Supporting 4K/HDR and IP Connection

- Depth of field secured with the B4 lens mount and 2/3-in. image circle.
- Two filter wheels (ND and CC).
- Includes a newly developed large 4.4K image sensor. Sampling exceeding 4K is used to achieve a resolution of 2000 TV lines.
- F10 (60 Hz)/F11 (50 Hz) sensitivity in High Sens. mode.
- Supports HDR (High Dynamic Range)*1 image acquisition and outputs SDR*2 while acquiring HDR.
- Multi-formats: MOV (4K/HD) and P2 MXF*3 (HD only).
- New HEVC Codec 100 Mbps mode for ENG (4K 60p 4:2:0 10-bit).
- 4:2:2 10-bit recording: 4K up to 30p/25p and HD up to 60p/50p (H.264/AVC, AVC-Intra and AVC-LongG).
- Four-channel 24-bit LPCM audio recording.
- The express P2 card offers ultra high speed offloading.
- Lower running cost media: microP2 card/SDXC memory card.
- Light weight: 7.5 lbs./3.4kg (body only) and excellent weight balance.
- Offers the Direct Streaming function compatible with RTSP, RTMP and RTMPS.*4
- 4K 60p/50p 4:2:2 10-bit output via 12G-SDI out and HDMI out.
- Newly developed built-in LCD monitor of HD720p resolution with touch panel function.
- Newly developed High-contrast monochrome OLED display for the timecode and audio level indicator.
- Includes various network connections: Gigabit Ethernet with locking connector, wireless LAN (option) and USB 3.0 connector.
- NDI|HX compatibility (requires license purchase).*5
- Wireless remote from an ROP App (iOS/Android).*6

CX SERIES



AVC ULTRA HDR



AG-CX350 **NEW**

Memory Card Camera Recorder

Integrated Lens System (Optical 20x Zoom) 1.0-type MOS
24 bit Audio SD Memory Card Slot x 2 Network

High-End Handheld Camcorder Supporting 4K/HDR, IP Control and Streaming.

- Wide angle 24.5 mm, 20x optical zoom lens with three manual rings.
- New high-definition, high-sensitivity 1.0-type 15M MOS sensor.
- Supports HDR (High Dynamic Range)*1 image acquisition and outputs SDR*2 while acquiring HDR.
- New HEVC Codec 100 Mbps mode for ENG (4K 60p 4:2:0 10-bit).*3
- Multi-formats: MOV (4K/HD), AVCHD (HD/SD) and P2 MXF*3 (HD).
- 4:2:2 10-bit recording: 4K up to 30p/25p and HD up to 60p/50p (H.264/AVC, AVC-Intra and AVC-LongG).
- Variable frame rate up to 120 fps (100 fps) of FHD, 60 fps (50 fps) of 4K.
- New microdrive focus unit provides a high-speed, high-precision Intelligent AF.
- Advanced hand-shake correction with ball OIS system, and 5-axis Hybrid Image Stabilizer. (FHD only)
- Two memory card slots boost recording reliability: Background Recording, Relay Recording, Simultaneous Recording.
- Offers the Direct Streaming function compatible with RTSP, RTMP and RTMPS.*4
- NDI|HX compatibility (requires license purchase).*5
- Broadcast-grade picture adjustment functions, such as 16-axis independent color correction.
- Parallel output of SDI, HDMI and LCD and individual HDR/SDR setting.
- Four-channel 24-bit LPCM Audio recording.
- Simultaneous display on high-brightness, high-definition LCD and high-resolution OLED EVF.
- Wireless remote from an ROP App (iOS/Android).*6

*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.

*2: SDR image is output with monitor gamma. *3: To be supported within 2019. *4: P2 Network Setting Software is required for using the RTMP and RTMPS functions. See the "Connectivity-verified live video services" section for live video streaming services with confirmed compatibility.

New CX Series Delivers Next-Generation Creativity and Connectivity



HDR (High Dynamic Range) Image

4K/HDR Image Acquisition

Equipped with a new, high-definition, high-sensitivity MOS sensor, the CX Series supports multi-formats, such as 4K (UHD: 3840×2160), FHD, HD, and SD. It also features HLG (Hybrid Log Gamma)*1 to support HDR (High Dynamic Range) image acquisition. When shooting in HLG, it can be used to monitor and output SDR images.

Easy IP Connection, NDI|HX Compatibility

The CX Series is the industry's first camcorder to support NDI|HX.*5 Equipped with an 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 PTZ cameras, it enables end-to-end video production of live events and web distribution.

RTSP/RTMP/RTMPS-Compatible HD Streaming

HD streaming is possible while images are being acquired,*7 and RTSP, RTMP and RTMPS streaming methods are compatible.*4 Facebook, YouTube, and other streaming services are also supported. This allows the CX Series to be used for live coverage of concerts and sports events as well as for live streaming of breaking news. Multicast streaming is also supported.*3

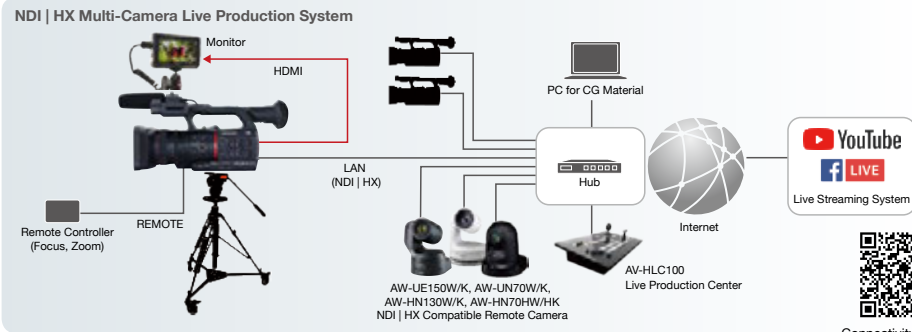
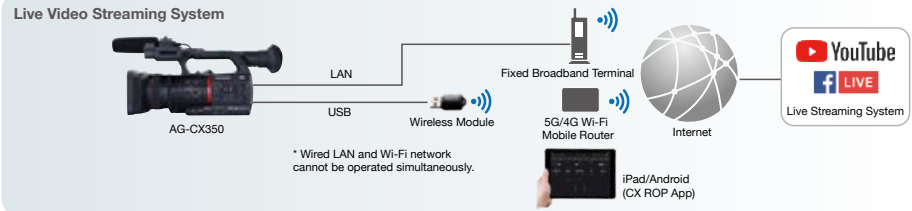


MOV/P2 MXF File Formats Supported

The CX Series records MOV files that are highly compatible and easy to use. It also supports the MXF P2 file format for broadcasting, enabling AVC-Intra or AVC-LongG HD recording.*3

10-bit 4:2:2 Recording or New HEVC Codec

The CX Series is capable of recording in various formats at different compression rates (see the table below). It can record high-image-quality 10-bit 4:2:2, 4K 30p/25p, and HD 60p/50p. The new HEVC Codec achieves high-quality 4K 60p/50p, 10-bit 4:2:0 at a bit rate of 100 Mbps for playback using the free VLC Media Player or QuickTime Player on a notebook PC or MacBook.*8



*5: 4K image output not supported in NDI|HX mode. To use this function, an activation keycode from NewTek is required. Keycodes can be purchased from the following website: http://new.tk/ndi_panasonic *6: iPad: iOS 9 or later is supported. Android devices: Android 5.0 or later is supported. Wireless module (sold separately: AJ-WM50/WM50G or recommended third-party Wi-Fi dongle) is required. *7: There are some conditions under which streaming is not possible, such as when recording in UHD format or using NDI|HX mode. Please see the Operating Instruction Manual for details. *8: To be supported within 2019. AVC-Intra200/100/50 codec will be supported in the future. Use a microP2 card for recording in P2 format.*9: Playback may lack smoothness depending on the PC environment, such as storage and memory devices.



Connectivity-verified Live Video Services



Operating Instruction Manual

Cinema Camera

Professional Camera Recorder

CX series

P2HD series

LCD Monitor

CX series Recording Format

AG-CX350 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	24 bit LPCM
		HEVC LongGOP 150M	3840 x 2160	4:2:0	10 bit	150 Mbps (VBR)	29.97p, 25p, 23.98p	
		HEVC LongGOP 100M*1	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	24 bit LPCM
		422LongGOP 150M	3840 x 2160	4:2:2	10 bit	150 Mbps (VBR)	29.97p, 25p, 23.98p	
		420LongGOP 150M	3840 x 2160	4:2:0	8 bit	150 Mbps (VBR)	59.94p, 50p	
		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	
		422ALL-I 100M	1920 x 1080	4:2:2	10 bit	100 Mbps (VBR)	29.97p, 25p, 23.98p, 59.94i, 50i	
		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	1920 x 1080	4:2:0	8 bit	25 Mbps (VBR)	59.94p, 50p	Dolby Audio
		PH	1920 x 1080	4:2:0	8 bit	21 Mbps (VBR)	23.98p, 59.94i, 50i	
		HA	1920 x 1080	4:2:0	8 bit	17 Mbps (VBR)	59.94i, 50i	
	HD	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*1 (MXF)	FHD	AVC-Intra422*1	1920 x 1080	4:2:2	10 bit	200 Mbps (CBR)	59.94p, 50p	24 bit LPCM
		AVC-LongG50*1	1920 x 1080	4:2:2	10 bit	50 Mbps (VBR)	59.94i, 50i	
		AVC-LongG25*1	1920 x 1080	4:2:2	10 bit	25 Mbps (VBR)	59.94p, 50p, 59.94i, 50i	16 bit LPCM
		AVC-LongG12*1	1920 x 1080	4:2:0	8 bit	12 Mbps (VBR)	59.94p, 50p, 59.94i, 50i	
	HD	AVC-LongG50*1	1280 x 720	4:2:2	10 bit	50 Mbps (VBR)	59.94p, 50p	24 bit LPCM
		AVC-LongG25*1	1280 x 720	4:2:2	10 bit	25 Mbps (VBR)	59.94p, 50p	16 bit LPCM
		AVC-LongG12*1	1280 x 720	4:2:0	8 bit	12 Mbps (VBR)	59.94p, 50p	

*1: To be supported within 2019.

*2: VFR is supported only in Progressive mode. Square brackets [] indicate a system frequency of 50.00 Hz.

AG-CX350 Options



AG-VBR118G
Battery Pack (11,800 mAh)



AG-VBR89G
Battery Pack (8,850 mAh)



AG-VBR59
Battery Pack (5,900 mAh)



AG-BRD50
Battery Charger



VW-VBD58
Battery Pack (5,800 mAh)



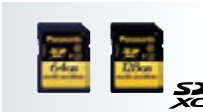
AG-B23
Battery Charger



AG-MC200G
XLR Microphone



AJ-P2M064BG
Memory Card
“microP2 card B series”



SDXC/SDHC/SD Memory Card*1



AJ-WM50
AJ-WM50G **NEW**
Wireless Module*2
* Not available in some areas.



Connection Confirmed
Wireless Module*2
(including third-party products)



*2: A version upgrade may be required for the software version of the camera recorder. For details please visit Panasonic website (https://pro-av.panasonic.net/en/sales_o/p2/server/wireless_module.html)

*1: 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.

AG-CX350 Available Battery Pack

Battery	Voltage and Capacity	Charge time*1	Continuous shooting time*2
AG-VBR59 (Bundled)	7.28 V, 5900 mAh/43 Wh	Approx. 3 hours 20 min.	Approx. 2 hours 50 min.
AG-VBR89G	7.28 V, 8850 mAh/64 Wh	Approx. 4 hours	Approx. 4 hours 15 min.
AG-VBR118G	7.28 V, 11800 mAh/86 Wh	Approx. 4 hours 40 min.	Approx. 5 hours 40 min.
VW-VBD58	7.2 V, 5800 mAh/42 Wh	Approx. 5 hours 20 min.	Approx. 2 hours 40 min.

*1: When using bundled battery charger. *2: “Continuous shooting time” is when you use this machine in the following condition [Menu setting is factory preset, Have LCD monitor and grip attached, No cable is connected to outputs]. Under other conditions, continuous shootable time becomes shorter.

AG-CX350 Available Memory Card

Format	Memory Card Type	Bit Rate / Recording Function	Speed Class
MOV	SDXC memory card/ microP2 card B series	400 Mbps	Video Speed Class V60 or faster
		FHD ALL-I VFR mode	
		200 Mbps	Video Speed Class V30 UHS Speed Class 3 or faster
		150 Mbps	
		100 Mbps	
		FHD LongG VFR mode	
		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*	—

* To be supported within 2019.

AG-CX350

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 -3 dB to 18 dB (Adjustable in 1 dB steps) 24dB, 30 dB, 36 dB switched (when assigning [S. GAIN] to the USER button)
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 (4 GB to 32 GB), SDXC memory card (32 GB to 128 GB) UHS-I/UHS-II UHS Speed Class3 supported, Video Speed Class V90 supported microP2 card (A series, B series) Please see 36 page 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), 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*1
Recording Format:	Please see page 35 for the "Recording Format" table.
Recording Time:	Please see page 38 for the "Recording Format" 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*1: 4:2:2 10 bit/4:2:0 8 bit (AVC-LongG12)
Video Compression Format:	MOV: H.264/MPEG-4 AVC High Profile, H.265/MPEG-H HEVC Main10 Profile P2*1: AVC-Intra422/AVC-LongG 50/ AVC-LongG25/ AVC-LongG12: MPEG-4 AVC/H.264 High Profile

Digital Audio

Recording Audio Signal:	MOV: 48 kHz/24 bit, 2 ch, Linear PCM AVCHD: 48 kHz/16 bit, 2 ch, Dolby Audio™ P2*1: 48 kHz/24 bit, 4 ch, Linear PCM (In AVC-LongG12, 48 kHz/16 bit, 4 ch)
Headroom:	12 dB/18 dB/20 dB switchable (menu)

Live Streaming

Video Compression Format:	H.264/MPEG-4 AVC Main Profile, High Profile
Video Resolution:	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: 30 fps, 60 fps System frequency = 50.00 Hz: 25 fps, 50 fps
Bit Rate:	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 Format:	AAC-LC, 48 kHz/16 bit, 2 ch
Network Protocol:	RTSP/RTP/RTMP/RTMPS

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 : supported,	HDMI x 1, Type A, HDMI REC REMOTE 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
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

Recording Time

Recording Format		64 GB Memory Card	128 GB Memory Card
MOV (AVC, HEVC)	UHD	400 Mbps Approx. 20 min.	Approx. 40 min.
		200 Mbps Approx. 40 min.	Approx. 1 hour 20 min.
		150 Mbps Approx. 55 min.	Approx. 1 hour 50 min.
		100 Mbps Approx. 1 hour 20 min.	Approx. 2 hours 40 min.
	FHD	100 Mbps Approx. 1 hour 20 min.	Approx. 2 hours 40 min.
AVCHD		50 Mbps Approx. 2 hours 40 min.	Approx. 5 hours 20 min.
	PS	25 Mbps Approx. 5 hours 20 min.	Approx. 11 hours
	PH	21 Mbps Approx. 6 hours	Approx. 12 hours 30 min.
	HA	17 Mbps Approx. 8 hours 30 min.	Approx. 17 hours
	PM	8 Mbps Approx. 17 hours 10 min.	Approx. 35 hours
P2*	SA	9 Mbps Approx. 16 hours 30 min.	Approx. 34 hours
	AVC-Intra422	200 Mbps Approx. 32 min.	Approx. 1 hour 4 min.
	AVC-LongG50	50 Mbps Approx. 2 hours 8 min.	Approx. 4 hours 16 min.
	AVC-LongG25	25 Mbps Approx. 4 hours 16 min.	Approx. 8 hours 32 min.
	AVC-LongG12	12 Mbps Approx. 8 hours	Approx. 16 hours

*To be supported within 2019.

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
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 TFTLCD 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)

*To be supported within 2019.



HDR

AJ-PX5100GJ AVC ULTRA

Memory Card Camera Recorder

2/3-type Lens

2/3-type 3MOS

24 bit Audio

P2 card slot x 2

microP2 card slot x 2

Network

High-End ENG Camera Recorder with HDR Acquisition and RTSP/RTMP Streaming/Transmission.

- Supports HDR (High Dynamic Range) image acquisition and outputs SDR*¹ while acquiring HDR.
- 1080/60p*² (50p) recording and 3G-SDI output.
- AVC-Intra or AVC-LongG high-quality images and dual codec recording of AVC-Proxy.
- Includes various network connections, such as "Wired/wireless LAN"*³, "4G/LTE"*³ and "Bonding Services"*³ (with LiveU, TVU Networks etc.)
- Provides near-live uploading to P2 Cast, and live streaming with P2SS by QoS mode.
- Offers a streaming function compatible with RTMP (Real-Time Message Protocol), in addition to RTSP (Real-Time Streaming Protocol).



AJ-PX800G AVC ULTRA

Memory Card Camera Recorder

AJ-PX800GH: Bundled with AG-CVF15G Color LCD Viewfinder

2/3-type Lens

2/3-type 3MOS

24 bit Audio

P2 card slot x 2

microP2 card supported*³

Network

2/3-type Shoulder-Type HD Camera Recorder with Three Image Sensors.

- Light weight of approx. 2.8 kg (6.2 lb).
- AVC-Intra or AVC-LongG high-quality images and dual codec recording of AVC-Proxy.
- Various network connections such as "Wired/wireless LAN"*³, "4G/LTE"*³ and "Bonding Services"*³ (with LiveU, TVU Networks etc.)
- Provides near-live uploading to P2 Cast, and live streaming with P2SS by QoS mode.
- RTMP/RTSP compatible streaming function.



AJ-PX380G AVC ULTRA

Memory Card Camera Recorder

1/3-type Lens

1/3-type 3MOS

24 bit Audio

P2 card slot x 1

microP2 card slot x 2

Network

High Cost-Performance, Lightweight Design with High-Quality Shooting and Network Operation.**

- 1080/60p*² (50p) recording and 3G-SDI output.
- AVC-Intra or AVC-LongG high-quality images and dual codec recording of AVC-Proxy.
- Various network connections such as "Wired/wireless LAN"*³, "4G/LTE"*³ and "Bonding Services"*³ (with LiveU, TVU Networks etc.)
- The built-in camera adaptor function provides direct linking for simpler studio camera workflows*⁴.
- Provides near-live uploading to P2 Cast, and live streaming with P2SS by QoS mode.
- RTMP/RTSP compatible streaming function.

*Pictures are the example of the configuration using options. **For details, refer to "Notes Regarding Network Connections" on the back page.

*1: SDR image is output with monitor gamma. *2: 60i, 60p, 24p and 30p are actually recording in 59.94p, 23.98p, 29.97p respectively. *3: Requires the optional AJ-P2AD1G Memory Card Adapter to use the microP2 card.

*4: Not available in some areas. *5: Requires the optional AJ-YC500G AVCHD Codec Board.



AJ-PX270

AVC ULTRA

Memory Card Camera Recorder

Integrated Lens System 1/3-type 3MOS 24 bit Audio

P2 card slot x 1 microP2 card slot x 2 Network

High-Performance, Handheld Shooting with Shoulder-Type Quality and Network Operation.

- 22x zoom lens with three manual operation rings.
- 600% dynamic range with 1/3-type 3MOS sensors.
- 1080/60p*2 (50p) recording and 3G-SDI output.
- AVC-Intra200 or AVC-LongG high-quality images and dual codec recording of AVC-Proxy.
- Variable Frame Rate Supporting 1080p.
- Various network connections such as "Wired/wireless LAN**", "4G/LTE***" and "Bonding Services***" (with LiveU, TVU Networks etc.)
- Provides near-live uploading to P2 Cast, and live streaming with P2SS by QoS mode.
- RTMP/RTSP compatible streaming function.



AJ-PX230**

AVC ULTRA

Memory Card Camera Recorder

Integrated Lens System 1/3-type 3MOS 24 bit Audio

microP2 card slot x 2

Featuring Superb Image Quality, Functionality and Operability Matching Shoulder-Type Cameras.

- 22x zoom lens with three manual operation rings.
- Switches and controls designed to match shoulder-type usability.
- 600% dynamic range with 1/3-type 3MOS sensors.
- 1080/60p*2 (50p) recording and 3G-SDI output.
- AVC-Intra200 or AVC-LongG high-quality images.
- Variable Frame Rate Supporting 1080p.



AJ-PD500

AVC ULTRA

Memory Card Recorder

P2 card slot x 2 microP2 card slot x 2 24 bit Audio

Network AVCHD 3G-SDI I/O AES/EBU HDMI OUT

USB 3.0/2.0 RS-422A Parallel AC/DC

From Mastering to Network Solutions, a Half-Rack Size Recorder for a High-Quality, High-Speed Workflow.

- AVC-Intra200, AVC-LongG, AVC-Proxy recording and AVCHD⁵ playback capability.
- Gigabit-Ethernet-compatible client function.**
- Playlist editing via LAN.**
- Wide range of interfaces, including USB 3.0, 3G-SDI and HDMI.

HDMI™



AJ-PG50

AVC ULTRA

Memory Card Recorder

P2 card slot x 1 microP2 card slot x 2 Network

24 bit Audio Analog I/O 3G-SDI I/O HDMI I/O

USB 3.0/2.0 Battery/DC

High Picture Quality AVC-Intra200 codec, A Compact Field Recorder Realizing Network Workflow.

- AVC-Intra200 or AVC-LongG high-quality images and dual codec recording of AVC-Proxy.
- Various network connections such as "Wired/wireless LAN**", "4G/LTE***" and "Bonding Services***" (with LiveU, TVU Networks etc.)
- Clips are automatically uploaded to FTP server while recording (Rec during uploading).
- Provides near-live uploading to P2 Cast, and live streaming with P2SS by QoS mode.
- RTMP/RTSP compatible streaming function.
- Versatile interfaces, including HDMI IN/OUT and 3G-SDI IN/OUT.

HDMI™

High Picture Quality Codec, High Reliable Media, HDR Support and Various Remotes for Broadcast and Professional Needs.

FHD Image Acquisition with AVC-ULTRA Codecs

The AVC-ULTRA codecs feature high picture quality, high efficiency H.264 based video compression. The main recording can be selected from AVC-Intra200 for mastering, AVC-Intra100 with FHD/60p/50p support, AVC-Intra50, or AVC-LongG (50/25/12) for FHD 10-bit 4:2:2 with affordable bit rate. While offering a low bit rate suitable for previewing, sub recording AVC-Proxy provides an FHD resolution mode that can be used as is for breaking news and similar applications.

The conventional DVCPRO codec is also supported.

*Applicable codec varies depending on the models. Please see page 47 to 48 for details.



HDR Support (AJ-PX5100GJ)

In addition to being equipped with HLG "Hybrid Log Gamma**", the following functions assist HDR acquisition.

- **SDR Monitoring Gamma:** Gamma curves for monitoring HLG images with the SDR viewfinder or other SDR monitor. These gamma curves possess characteristics for expressing the gradation in high-brightness area while maintaining the contrast of ordinary-brightness area.
- **HDR/SDR Output:** Dual SDI can output both HDR (HLG) and SDR (monitoring gamma) simultaneously.
- **One-Push HLG View:** While the viewfinder display with monitoring gamma ordinary, the gradation of high-brightness area can be checked by selecting HLG temporarily.
- **High-Brightness Zebra Display:** The zebra pattern can be displayed in white-out areas of the viewfinder image.

* BT.709 color gamut (BT.2020 is not supported)

HDR



SDR (monitoring gamma) View

HLG View on Viewfinder

Reliable Recording Media: P2 Card/microP2 Card

The P2 card, which was designed for broadcast use, features a rugged case and highly reliable connector. The microP2 card features high reliability and a large capacity together with a reduced size and cost. In an emergency, an SD memory card can also be used.



Versatile Remote Control Compatibility

- **10-pin Remote Terminal:** All camera recorder models are equipped. Dedicated cord supplies power to the remote control and a composite video to confirm the menu. Camera remote operation is enabled with the optional AG-EC4G Extension Remote Control Unit or AK-HRP200G Remote Operation Panel.
- **IP Remote (LAN Terminal):** All camera recorder models are equipped. Remote operation, including menu settings, is possible by using the optional AK-HRP200G Remote Operation Panel.
- **iPad Remote:** All camera recorder models are compatible. P2 ROP APP (downloadable for free from the App Store) for the following iPad*1 wireless remote control operations: picture quality setting, rec start/stop, clip thumbnail display and proxy preview, metadata display and editing.

* For all remote controllers, only functions that are supported by each camera recorder can be controlled.

*1: It supports iOS 12.

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



"P2 ROP App" Control from iPad
Picture simulated

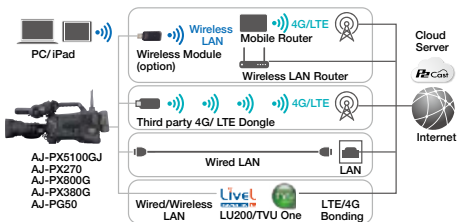
Advanced Network Functions Support Streaming and File Transfer

Single Dongle, Flexible Network Connection

Proxy preview, camera remote, and playlist editing can all be done on a PC, Mac, or tablet connected to wireless LAN. When connected to the internet, files can be transferred and live streaming can be done. Nimble operation is possible using single dongle of the Wireless Module (optional: AJ-WM50/WM50G, AJ-WM30 or third party products). Wired LAN connection and LiveU/TVU bonding services are also supported. The connection method is selected to match the usage environment.

RTMP/RTSP Compatible Full-HD Streaming

Full-HD streaming is possible while images are being acquired. Both RTSP and RTMP streaming methods are compatible. And Facebook, YouTube, and other streaming services are supported. A unique QoS (Quality of Service) mode*1 optimizes the bit rate according to the network conditions for stable streaming distribution. High performance is also achieved by linking to P2SS (streaming server).*2



* For details, see, "Streaming Mode" and "Streaming Output;" and "Notes Regarding Network Functions."

*1 It may not be possible to deliver streaming from the unit when services such as Facebook or YouTube stopped or discontinued operation for some reason.

*1: P2 Streaming Receiver software (Windows only, not supported by Mac; available free of charge) is required for receiving the QoS mode.

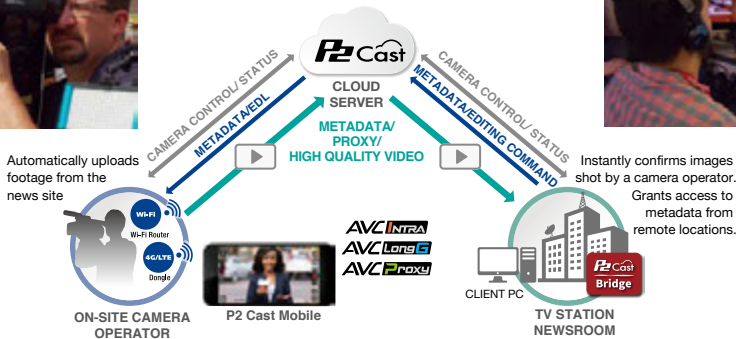
*2: A server with the Streaming Receiver Server Kit (Optional: AJ-SRK001G) installed.



A Revolutionary Solution to News Operations Achieved by P2 and IoT Technology



P2 Cast Case Study
(US COX MEDIA GROUP)



By connecting the AJ-PX5100GJ/PX800G/PX380G/PX270/PG50 to the cloud-based P2 Cast integrated control system, a connectivity that approaches live relay can be achieved with automatic operation and camera control for interviews and other ENG. The system also helps to reduce costs.

*For details, see P2 Cast <<https://pro-av.panasonic.net/en/p2cast/index.html>>

Automatic Upload from a P2cam to a Cloud Server

Recorded clips are automatically uploaded in the background from a P2cam to a cloud server. The Rec During Upload function also enables recording and playback while transferring data. In the event that the network connection or power is cut off during the data transfer, the transfer operation resumes immediately after the network connection or power is restored. This allows the camera operator to concentrate on shooting without being bothered by uploading operations.



Near-Live Upload

This is a unique P2cam and P2 Cast solution. In the Near Live mode, image data is split into 2-minute files, and those proxy video data files are automatically and sequentially uploaded to the P2 Cast Cloud. The files can be previewed on a web browser. After the shooting/recording is finished, the data is merged into one clip on the P2 Cast Cloud. Then it can be shared on the web.



News Content Web Sharing, Integrated Camera Control

- Allows sharing of proxy clips on the P2 Cast Cloud by multiple staff members.
- Highlight Editing function reduces the time for previewing, editing and obtaining high-res news image sources.
- Monitors camera recorder status and GPS location information.
- Enables remote metadata editing and remote camera recorder setting.
- P2 Cast Bridge: Connects directly to nonlinear editors and news systems.
- P2 Cast Mobile App: Connects smartphone cameras to P2 Cast/P2SS.

* Clips for Interval Rec, Loop Rec, One-Clip Rec, and One-Shot Rec are not automatically transferred. The streaming function also does not operate.

*See the following App Store for information on the P2 Cast Mobile operating environment.

• App Store is a registered service mark of Apple Inc.

• iPhone is a registered trademark of Apple Inc. in the U.S. and other countries.



P2 Streaming Server Delivers Full-HD Streaming

- Provides stable streaming by original QoS technology.
- Features drag & drop and other intuitive GUI operations.
- Manages 1,000 cameras and monitors 20 cameras/page.
- Allows a maximum of 4 simultaneous streaming outputs.



Display Example



AJ-SRK001

Streaming Receiver Server Kit

(Software Key for Windows; Mac not supported)

*P2SS is a software product (AJ-SRK001 Streaming Receiver Server Kit) that is installed onto the server. The customer must provide the server.



AU-XPB3^{*1}

Memory Card Drive "expressP2 drive"

expressP2/P2 card slot x 1

microP2 card supported^{*2}

Thunderbolt™ 3

The expressP2 drive with High-Speed Thunderbolt™ 3 Interface

• Power Source: DC 16 V 3.1 A • Weight: approx. 1.2 kg (2.65 lb) main unit only • AC adapter: Input: AC 100 V – 240 V, 50 Hz/60 Hz, 1.5 A – 0.8 A, Output: DC 16 V 3.75 A • Dimensions (W x H x D): 126 mm x 62 mm x 215.6 mm, excluding protruding parts (4-31/32 inches x 2-7/16 inches x 8-17/32 inches)



AU-XPB1^{*3}

Memory Card Drive "expressP2 drive"

expressP2/P2 card slot x 1

microP2 card supported^{*2}

USB 3.0/2.0

Drive supports both of expressP2 card and P2 card
• Power Source: DC 5 V 1.8 A • Weight: approx. 280 g (0.62 lb) main unit only • AC adapter: AC 100 V, 50 Hz/60 Hz • Dimensions (W x H x D): 97 mm x 33 mm x 155 mm, excluding protruding parts (3-13/16 inches x 1-5/16 inch x 6-1/8 inches)



AJ-P2E060FG



AJ-P2E030FG



AJ-P2M064BG



AJ-P2AD1G

AJ-P2E060FG

AJ-P2E030FG

P2 card F series

AJ-P2M064BG^{*4}

microP2 card B series

AJ-P2AD1G^{*5}

Memory Card Adapter



P2 Viewer Plus^{*6}

Viewing Software

(Download Free/Optional Functions require Licensing Fees)

Supports P2HD. This Windows/Mac utility makes it easy to view and copy P2 files.

AJ-SK001G

Ingesting Function Software Key^{*7}

(Optional, Subject to Licensing Fee)

The ingesting function copies all clips on P2 cards to a storage medium, such as an HDD. During ingesting, the clips are verified for secure copying, with log files created.

■ Avid NLE P2 Plug-In Software*



AJ-PS001G

Software Key

for AVC-Proxy file import to edit and re-link to Hi-res.

AJ-PS002G

Software Key

for AVC-Intra 4K and AVC-Intra50/100 P2 file export.

AJ-PS003G

Software Key

for AVC-LongG P2 file export.

AJ-PS004G

Software Key

for AVC-LongG file import to edit.

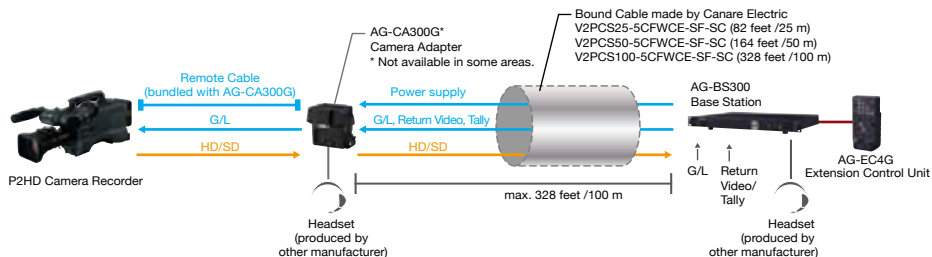
*Please refer to the "service and support" on the Panasonic website (<https://pro-av.panasonic.net/>).

^{*1}: The AU-XPB3 do not support the CPS (Content Protection System). ^{*2}: Requires the optional AJ-P2AD1G Memory Card Adapter to use the microP2 card. ^{*3}: Connection of the AU-XPB1 requires two USB cables. Power supply to be connected with an AC adaptor or USB 3.0 port of PC. ^{*4}: Encoding formats cannot be used because the microP2 Card B Series does not support the CPS (Content Protection System). If the card is mistakenly formatted with a P2 device, card access will be temporarily disabled. It's can be recovered by removing a card from P2 equipment. ^{*5}: "AVC-Intra100 of 1080/59.94p, 50p recording" and "AVC-Intra200 recording" is not supported. ^{*6}: For P2 Viewer Plus download and operating requirement information, see "P2 Viewer Plus" on the Panasonic web site https://pro-av.panasonic.net/en/sales_o/p2/p2viewerplus/ ^{*7}: For information on purchasing software keys, see "Service and Support" on the Panasonic web site <https://pro-av.panasonic.net/>

Camera Recorders and Recorders		AJ-PX5100GJ	AJ-PX800G	AJ-PX380G	AJ-PX270	AJ-PX230	AJ-PD500	AJ-PG50
Camera Adapter	AG-CA300G	✓	✓	✓				
Base Station	AG-BS300	✓	✓	✓				
Extension Control Unit	AG-EC4G	✓	✓	✓				
Remote Operation Panel (ROP)	AK-HRP200G	✓	✓	✓	✓			
Color HD EVF	AG-CVF15G	✓	✓	✓				
38.1 mm (1.5 inches) HD EVF	AJ-CVF50G	✓	✓	✓				
HD/SD LCD Monitor	BT-LH910G	✓*1	✓*1	✓*1				
Stereo Microphone	AJ-MC900G	✓						
Microphone Kit (monaural)	AJ-MC700P		✓	✓				
XLR Microphone (monaural)	AG-MC200G		✓	✓	✓	✓		
Tripod Adaptor	SHAN-TM700	✓	✓	✓				
AVCHD Codec Board	AJ-YCX500G						✓	
Wireless Module	AJ-WM50 AJ-WM50G	✓*2	✓*2	✓*2	✓*2			✓*2
Wireless Module	AJ-WM30	✓*2	✓*2	✓*2	✓*2			✓*2
Battery Pack (11,800 mAh)	AG-VBR118G				✓	✓		✓
Battery Pack (8,850 mAh)	AG-VBR89G				✓	✓		✓
Battery Pack (5,900 mAh)	AG-VBR59				✓	✓		✓
Battery Charger	AG-BRD50				✓	✓		✓
Battery Pack (5,800 mAh)	VW-VBD58				✓	✓		✓
Battery Charger	AG-B23				✓	✓		✓
Rain Cover	SHAN-RC700	✓	✓	✓				
P2 card (F series)	AJ-P2E060FG AJ-P2E30FG	✓	✓	✓	✓		✓	✓
microP2 card (B series)	AJ-P2M064BG	✓	✓*3	✓	✓	✓	✓	✓
SDXC Memory Card		✓	✓	✓	✓	✓	✓	✓
SDHC/SD Memory Card		✓	✓	✓	✓	✓	✓	✓
Memory Card Adapter	AJ-P2AD1G	✓*4	✓*4				✓*4	✓*4

✓: It is possible to use it. *A version upgrade may be required for the software version of some camera recorders. For details, please visit the following website. <https://pro-av.panasonic.net/> (Service and Support) *1: A mounting bracket (purchased separately) is required to mount on a camera recorder.

*2: For details please visit Panasonic website (https://pro-av.panasonic.net/en/sales_o/p2/server/wireless_module.html) *3 : Memory Card Adapter AJ-P2AD1G is required. *4: "AVC-Intra100 of 1080/59.94p,50p recording" and "AVC-Intra200 recording" is not supported.



AG-CA300G
Camera Adapter
* Not available in some areas.



AG-BS300
Base Station



AG-EC4G
Extension Control Unit



AK-HRP200G
Remote Operation Panel (ROP)



AG-CVF15G
87.6 mm (3.45 inches)
Color HD EVF



AJ-CVF50G
38.1 mm (1.5 inches) HD EVF



BT-LH910G
228.6 mm (9 inches)
HD/SD LCD monitor



AJ-MC900G
Stereo Microphone



AJ-MC700P
Microphone Kit



AG-MC200G
XLR Microphone



SHAN-TM700
Tripod Adaptor



AJ-YCX500G
AVCHD Codec Board



AJ-WM50
AJ-WM50G **NEW**
Wireless Module*
* Not available in some areas.



AJ-WM30
Wireless Module*
* Not available in some areas.



Connection Confirmed
Wireless Module*
(including third-party products)



*1: A version upgrade may be required for the software version of some camera recorders. For details please visit Panasonic website (https://pro-av.panasonic.net/en/sales_o/p2/server/wireless_module.html)



AG-VBR118G
Battery Pack (11,800 mAh)



AG-VBR89G
Battery Pack (8,850 mAh)



AG-VBR59
Battery Pack (5,900 mAh)



AG-BRD50
Battery Charger



VW-VBD58
Battery Pack (5,800 mAh)



AG-B23
Battery Charger



SHAN-RC700
Rain Cover
* Not available in some areas.

■ Operation-Verified 3rd Party Devices

2/3-type CAC Applicable Lenses

The use of Canon, Fujinon and Angenieux lenses with CAC (Chromatic Aberration Compensation) is recommended.

* For the latest information on CAC applicable lenses, see "Support & Download" on the Panasonic website (<https://pro-av.panasonic.net/>). The installation of CAC data might be required depending on the lens. Some Angenieux lenses do not support CAC operation. Be sure to specify CAC applicability when purchasing lenses.

Bound Cable for Camera Studio System
(Between AG-BS300 and AG-CA300G)

[Canare]

V2PCS25-5CFWCE-SF-SC (82 feet/25 meters)

V2PCS50-5CFWCE-SF-SC (164 feet/50 meters)

V2PCS100-5CFWCE-SF-SC (328 feet/100 meters)

Power Cable for Camera Studio System
(Between AG-BS300 and AG-CA300G)

[Canare]

DC50V10-CE01PS-SC (164 feet/50 meters)

DC100V10-CE01PS-SC (328 feet/100 meters)

LiveU LU200

LiveU Portable Uplink Unit

TVU One

TVU Networks Mobile Video Transmission System

Canare Electric CO., Ltd. <http://www.canare.co.jp/oversea/mainmenu.html>

Contract with LiveU is required separately. LiveU: <http://www.liveu.tv>

Contact: info_us@liveu.tv (US & Americas), info@liveu.tv (International)

Recording Codec Specifications

Recording Codecs	Digital Video			Digital Audio		Recording Times*2
	Sampling Frequency	Quantizing	Video Compression	Recording Audio Signal*1	Headroom	
AVC-Intra200	(59.94 Hz) Y: 74.1758 MHz Pb/Pr: 37.0879 MHz (50 Hz) Y: 74.2500 MHz Pb/Pr: 37.1250 MHz	10 bit	MPEG-4 AVC/ H.264 Intra Profile	48 kHz/24 bit, 16 CH 48 kHz/24 bit, 4 CH	12 dB*3/ 18 dB/ 20 dB	Approx. 32 min.
AVC-Intra100	(59.94 Hz) Y: 74.1758 MHz Pb/Pr: 37.0879 MHz (50 Hz) Y: 74.2500 MHz Pb/Pr: 37.1250 MHz	10 bit	MPEG-4 AVC/ H.264 Intra Profile	48 kHz/16 bit, 8 CH 48 kHz/16 bit, 4 CH 48 kHz/24 bit, 8 CH 48 kHz/24 bit, 4 CH		Approx. 64 min.
AVC-Intra50	(59.94 Hz) Y: 74.1758 MHz Pb/Pr: 37.0879 MHz (50 Hz) Y: 74.2500 MHz Pb/Pr: 37.1250 MHz	10 bit	MPEG-4 AVC/ H.264 Intra Profile	48 kHz/16 bit, 8 CH 48 kHz/16 bit, 4 CH 48 kHz/24 bit, 8 CH 48 kHz/24 bit, 4 CH		Approx. 128 min.
AVC-LongG50	(59.94 Hz) Y: 74.1758 MHz Pb/Pr: 37.0879 MHz (50 Hz) Y: 74.2500 MHz Pb/Pr: 37.1250 MHz	10 bit	MPEG-4 AVC/H.264	48 kHz/24 bit, 8 CH 48 kHz/24 bit, 4 CH		Approx. 128 min.
AVC-LongG25	(59.94 Hz) Y: 74.1758 MHz Pb/Pr: 37.0879 MHz (50 Hz) Y: 74.2500 MHz Pb/Pr: 37.1250 MHz	10 bit	MPEG-4 AVC/H.264	48 kHz/24 bit, 8 CH		Approx. 220 min.
				48 kHz/24 bit, 4 CH		Approx. 256 min.
AVC-LongG12	(59.94 Hz) Y: 74.1758 MHz Pb/Pr: 37.0879 MHz (50 Hz) Y: 74.2500 MHz Pb/Pr: 37.1250 MHz	8 bit	MPEG-4 AVC/H.264	48 kHz/24 bit, 4 CH		Approx. 480 min.
DVCPRO HD	(59.94 Hz) Y: 74.1758 MHz Pb/Pr: 37.0879 MHz (50 Hz) Y: 74.2500 MHz Pb/Pr: 37.1250 MHz	8 bit	DV-Based compression (SMPTE370M)	48 kHz/16 bit, 8 CH 48 kHz/16 bit, 4 CH		Approx. 64 min.
DVCPRO 50	Y: 13.5 MHz Pb/Pr: 6.75 MHz	8 bit	DV-Based compression (SMPTE314M)	48 kHz/16 bit, 8 CH 48 kHz/16 bit, 4 CH		Approx. 128 min.
DVCPRO	Y: 13.5 MHz Pb/Pr: 3.375 MHz	8 bit	DV-Based compression (SMPTE314M)	48 kHz/16 bit, 4 CH 48 kHz/16 bit, 2 CH		Approx. 256 min.
DV	Y: 13.5 MHz Pb/Pr: 3.375 MHz	8 bit	DV Compression (IEC 61834-2)	48 kHz/16 bit, 4 CH 48 kHz/16 bit, 2 CH		Approx. 256 min.

*Each recording codecs differ for every model. Please look at the following table for details. Depending on a model and a codec, upgrade is required. Please go to the Product Information on the Panasonic web page (<https://pro-av.panasonic.net/>) *1: Each recording audio signal differ for every model. Eight-channel record is impossible for a camera recorder all model. *2: For 1080/60p and 1080/50p, the recording times become 1/2 of those shown above. All of the times apply when single clips are recorded continuously one after the other onto a P2 card. Depending on the number of clips to be recorded, the recordable time may be shorter than the times given. *3: This mode can be chosen only from the AJ-PX270/PX230/PD500/PG50.

Supported Recording Codec by Model

Recording Codecs	AJ-PX5100GJ	AJ-PX800G	AJ-PX380G
AVC-Intra200	✓		
AVC-Intra100	✓	✓	✓
AVC-Intra50	✓	✓	✓
AVC-LongG50	✓	✓	✓
AVC-LongG25	✓	✓	✓
AVC-LongG12	✓	✓	✓
DVCPRO HD	✓	✓	✓
DVCPRO 50	✓	✓	✓
DVCPRO/DV	✓	✓	✓
AVCHD			

Supported AVC-Proxy Recording Mode by Model

Recording Mode	AJ-PX5100GJ	AJ-PX800G	AJ-PX380G
AVC-G6 2CH MOV	✓	✓	✓
SHQ 2CH MOV	✓	✓	✓
HQ 4CH MOV	✓		
HQ 2CH MOV	✓	✓	✓
LOW 2CH MOV*	✓	✓	✓
STD 2CH MP4	✓		

*Each Recording modes differ for every model.

*1: Requires the optional AJ-YCX500G AVCHD codec board.

AVC-Proxy Recording Mode Specifications

Recording Mode	Resolution	Video		Audio		
		Codec	Bit Rate	Codec	CH	Bit Rate/1CH
AVC-G6 2CH MOV	1080i mode: 1920 x 1080 720p mode: 1280 x 720	H.264 High Profile	6 Mbps	AAC-LC	2 CH	64 kbps
SHQ 2CH MOV	960 x 540	H.264 High Profile	3500 kbps	Linear PCM	2 CH	768 kbps
HQ 4CH MOV	640 x 360	H.264 High Profile	1500 kbps	AAC-LC	4 CH	64 kbps
HQ 2CH MOV	640 x 360	H.264 High Profile	1500 kbps	AAC-LC	2 CH	64 kbps
LOW 2CH MOV*	1080i mode: 480 x 270 480 59.94i mode: 352 x 240 (SIF_NTSC) 576 50i mode: 352 x 288 (SIF_PAL) 1080 60/50p mode: 320 x 180 1080 30/25/24p mode: 480 x 270 720 60/50p mode: 320 x 180 720 30/25/24p mode: 480 x 270	H.264 Baseline Profile 800	800 kbps	AAC-LC	2 CH	64 kbps
STD 2CH MP4	320 x 240 (QVGA)	MPEG-4 Simple Profile	1500 kbps	AAC-LC	2 CH	64 kbps

Each Recording modes differ for every model.

Streaming Mode Specifications (AJ-PX5100GJ/PX800G/PX380G/PX270/PG50)

Mode	Resolution	Frame Rate	Bit Rate	Codec ^{*1}
AVC-G6	1920 x 1080 ^{*2}	30 fps/25 fps	6 Mbps	H.264 High Profile
	1280 x 720 ^{*3}	60 fps/50 fps		
HQ	640 x 360	30 fps/25 fps	1,500 kbps	H.264 Baseline Profile
LOW	480 x 270	30 fps/25 fps	800 kbps	
AVC-G (QoS) ^{*4}	1920 x 1080 ^{*2}	30 fps/25 fps	Variable depending on the communication bandwidth Maximum 9 Mbps	H.264 High Profile
	1280 x 720 ^{*3}	60 fps/50 fps		
SHQ (QoS) ^{*4}	960 x 540	30 fps/25 fps	Variable depending on the communication bandwidth Maximum 6 Mbps	H.264 High Profile

*1: The audio codec is AAC LC 2ch in all streaming mode. *2: When only the record signal is 1080/59.94i or 1080/50i. *3: When only the record signal is 720/59.94p or 720/50p. *4: The AJ-PX800G/PG50 does not support QoS modes.

	AJ-PX270	AJ-PX230	AJ-PD500	AJ-PG50
	✓	✓	✓	✓
	✓	✓	✓	✓
	✓	✓	✓	✓
	✓	✓	✓	✓
	✓	✓	✓	✓
	✓	✓	✓	✓
	✓	✓	✓	✓
	✓	✓	✓	✓
			Playback only ^{*1}	

	AJ-PX270	AJ-PX230	AJ-PD500	AJ-PG50
	✓		✓	✓
	✓		✓	✓
			✓	
	✓		✓	✓
	✓		✓	✓
			✓	

AJ-PX5100GJ

General

Power Supply:	DC 12 V (11.0 V – 17.0 V)
Power Consumption:	29 W (body only, 1080/59.94i, AVC-Intra100 standard recording status, LCD ON) 70 W (with all optional accessories connected and maximum power supplied from each output terminal)
Operating Temperature:	0°C to 40°C (32°F to 104°F)
Operating Humidity:	10 % to 85 % (relative humidity)
Storage Temperature:	–20°C to 60°C (–4°F to 140°F)
Weight:	Approx. 3.4 kg (7.5 lbs.) (body only, excluding the battery and accessories)
Dimensions:	147 mm (W) x 267 mm (H) x 342 mm (D) (5-25/32 inches x 10-1/2 inches x 13-15/32 inches) Body only, excluding protrusion

Camera Section

Pickup Device:	2/3-type, 2.2 million pixels, MOS x 3
Lens Mount:	2/3-type bayonet
CC Filter:	A: 3200 K, B: 4300 K, C: 5600 K, D: 6300 K
ND Filter:	CLEAR, 1/4, 1/6, 1/64
Gain Setting:	NORMAL mode: –3 dB, 0 dB, 3 dB, 6 dB, 9 dB, 12 dB, 15 dB, 18 dB, 21 dB, 24 dB, 27 dB, 30 dB HIGH SENS mode: –6 dB, –3 dB, 0 dB, 3 dB, 6 dB, 9 dB, 12 dB, 15 dB, 18 dB, 21 dB, 24 dB, 27 dB, 30 dB
Digital Super Gain:	Selectable from 6 dB, 10 dB, 12 dB, 15 dB, (DS.GAIN) 20 dB, 24 dB, 28 dB, 34 dB
Super Gain (S.GAIN):	Selectable from 30 dB, 36 dB, 42 dB
Shutter Speed: (Preset)	[59.94 Hz] 60i/60p mode: 1/100 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec., 1/2000 sec., HALF 30p mode: 1/100 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec., 1/2000 sec., HALF 24p mode: 1/100 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec., 1/2000 sec., HALF 180.0 deg, 172.8 deg, 144.0 deg, 120.0 deg, 90.0 deg, 45.0 deg [50 Hz] 50i/50p mode: 1/60 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec., 1/2000 sec., HALF 25p mode: 1/60 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec., 1/2000 sec., HALF 180.0 deg, 172.8 deg, 144.0 deg, 120.0 deg, 90.0 deg, 45.0 deg
Shutter Speed: (Synchro Scan)	60i/60p mode: 1/60.1 sec. to 1/7200 sec. 30p mode: 1/30.1 sec. to 1/3600 sec. 24p mode: 1/24.1 sec. to 1/2880 sec. 50i/50p mode: 1/50.1 sec. to 1/6000 sec. 25p mode: 1/25.1 sec. to 1/3000 sec.
Shutter Open Angle:	Configurable between 3 deg and 359.5 deg (in 0.5 deg steps)
Sensitivity:	NORMAL mode: F9 (2000 lx, 3200 K, 89.9 % reflection, 1080/59.94i) F10 (2000 lx, 3200 K, 89.9 % reflection, 1080/50i) HIGH SENS mode: F12 (2000 lx, 3200 K, 89.9 % reflection, 1080/59.94i) F13 (2000 lx, 3200 K, 89.9 % reflection, 1080/50i)
Minimum Subject Illumination:	Approx. 0.004 lx (F1.4, +42 dB (S.GAIN), +34 dB (DS.GAIN))
Image S/N:	62 dB (standard)
Horizontal Resolution:	1000 TV or higher (center)
Memory Card Recorder Section	
Recording Media:	P2 card, microP2 card
System Format:	1080/59.94p, 1080/59.94i, 1080/23.98PsF, 720/59.94p, 480/59.94i, 1080/50p, 1080/50i, 720/50p, 576/50i

Recording Format:	AVC-Intra200/AVC-Intra100/AVC-Intra50/ AVC-LongG50/AVC-LongG25/AVC-LongG12/ DVCPRO HD/DVCPRO50/DVCPRO/DV formats switchable
Recording Video Signal:	1080/59.94p, 1080/59.94i, 1080/29.97pN, 1080/23.98pN, 720/59.94p, 720/29.97pN, 720/23.98pN, 480/59.94i, 1080/50p, 1080/50i, 1080/25pN, 720/50p, 720/25pN, 576/50i

*Please see 47 – 48 page for Digital Video, Digital Audio and Proxy Specifications.

Video Input/Output

SDI IN:	BNC x 1 HD SDI: 3 G: 0.8 V [p-p], 75 Ω 1.5 G: 0.8 V [p-p], 75 Ω SD SDI: 0.8 V [p-p], 75 Ω Switch the menu to use as <SDI IN> terminal/return video input terminal/ <GENLOCK IN> terminal
SDI OUT1:	BNC x 1 HD SDI: 3 G: 0.8 V [p-p], 75 Ω, 1.5 G: 0.8 V [p-p], 75 Ω SD SDI: 0.8 V [p-p], 75 Ω,
SDI OUT2:	BNC x 1 HD SDI: 3 G: 0.8 V [p-p], 75 Ω, 1.5 G: 0.8 V [p-p], 75 Ω SD SDI: 0.8 V [p-p], 75 Ω
VIDEO OUT:	BNC x 1 Composite: 1.0 V [p-p], 75 Ω
HDMI OUT:	HDMI x 1 (HDMI type A terminal, not compatible with VIERA Link)

Audio Input/Output

AUDIO IN: (CH1/CH2)	XLR x 2, 3-pin, LINE/MIC/MIC +48 V switchable type LINE: 4 dBu (–3 dBu/0 dBu/4 dBu selectable menu) MIC: –60 dBu (–60 dBu/–50 dBu selectable menu) MIC+48 V: Phantom +48 V supported, –60 dBu (–60 dBu/–50 dBu selectable menu)
MIC IN:	XLR x 1, 5-pin Phantom +48 V (selectable menu), –40 dBu (–50 dBu/–40 dBu selectable menu)
Wireless Slot:	25-pin, D-SUB, –40 dBu, 2 CH supported
AUDIO OUT: (CH1/CH2)	XLR x 1, 5-pin, equilibrium low impedance 4 dBu (–3 dBu/0 dBu/4 dBu selectable menu)
PHONES Out:	Stereo o mini jack x 2
Speaker:	20 mm diameter, round x 1

Other Input/Output

GENLOCK IN:	BNC x 1, 1.0 V [p-p], 75 Ω
TC IN:	BNC x 1, 0.5 V [p-p] to 8 V [p-p], 10 kΩ
TC OUT:	BNC x 1, 2.0 V [p-p] ±0.5 V [p-p], low impedance
DC IN:	XLR x 1, 4-pin, DC 12 V (DC 11.0 V to 17.0 V)
DC OUT:	4-pin, DC 12 V (DC 11.0 V to 17.0 V), maximum output current 1.5 A
REMOTE:	10-pin
LENS:	12-pin
VF:	20-pin
LAN:	100BASE-TX/10BASE-T
USB 2.0 (Device):	Type B connector, 4-pin
USB 3.0 (Host):	Type A connector, 9-pin
USB 2.0 (Host):	Type A connector, 4-pin
LIGHT:	2-pin, DC 12 V (DC 11.0 V to 17.0 V), maximum output current 4.5 A (up to 50 W equivalent)
LCD Monitor:	3.5-type QHD color monitor (approx. 1560000 dots)

Included Accessories

Shoulder strap, Mount cap

AJ-PX800G

General

Power Supply:	DC 12 V (11.0 V – 17.0 V)
Power Consumption:	22 W (body + AG-YA600G)
Operating Temperature:	0°C to 40°C (32°F to 104°F)
Operating Humidity:	10 % to 85 % (relative humidity)
Storage Temperature:	–20°C to 60°C (–4°F to 140°F)
Weight:	Approx. 2.8 kg (6.2 lbs.) body only, excluding the battery and accessories
Dimensions:	144 mm (W) x 267 mm (H) x 350 mm (D) (5-21/32 inches x 10-1/2 inches x 13-25/32 inches) body only, excluding protrusion

Camera Section

Pickup Device:	2/3-type 2.2 million pixels, MOS x 3
Lens Mount:	2/3-type bayonet
ND Filter:	CLEAR, 1/4, 1/16, 1/64
Gain Setting:	NORMAL mode: –3 dB, 0 dB, 3 dB, 6 dB, 9 dB, 12 dB, 15 dB, 18 dB, 21 dB, 24 dB, 27 dB, 30 dB HIGH SENS mode: –6 dB, –3 dB, 0 dB, 3 dB, 6 dB, 9 dB, 12 dB, 15 dB, 18 dB, 21 dB, 24 dB, 27 dB, 30 dB
Super Gain (S.GAIN):	Selectable from 30 dB, 36 dB, 42 dB
Shutter Speed: (Preset)	60i/60p mode: 1/60 (OFF) sec., 1/100 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec., 1/2000 sec. 30p mode: 1/30 (OFF) sec., 1/50 sec., 1/60 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec. 24p mode: 1/24 (OFF) sec., 1/50 sec., 1/60 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec. 50i/50p mode: 1/50 (OFF) sec., 1/60 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec., 1/2000 sec. 25p mode: 1/25 (OFF) sec., 1/50 sec., 1/60 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec.
Shutter Speed: (Synchro Scan)	60i/60p mode: 1/60.0 sec. to 1/250.0 sec. 30p mode: 1/30.0 sec. to 1/250.0 sec. 24p mode: 1/24.0 sec. to 1/250.0 sec. 50i/50p mode: 1/50.0 sec. to 1/250.0 sec. 25p mode: 1/25.0 sec. to 1/250.0 sec.
Shutter Speed: (Slow)	60i/60p mode: 1/15 sec., 1/30 sec. 30p mode: 1/15 sec. 24p mode: 1/12 sec. 50i/50p mode: 1/12.5 sec., 1/25 sec. 25p mode: 1/12.5 sec.
Shutter Open Angle:	3.0 deg to 360.0 deg (in 0.5 deg steps, angle display)
Sensitivity:	NORMAL mode: F9 (2000 lx, 3200 K, 89.9 % reflection, 1080/59.94i) F10 (2000 lx, 3200 K, 89.9 % reflection, 1080/50i) HIGH SENS mode: F12 (2000 lx, 3200 K, 89.9 % reflection, 1080/59.94i) F13 (2000 lx, 3200 K, 89.9 % reflection, 1080/50i)
Minimum Subject Illumination:	Approx. 0.22 lx (F1.4, +42 dB (S.GAIN))
Image S/N:	62 dB (standard)
Horizontal Resolution:	1000 TV or higher (center)

Memory Card Recorder Section

Recording Media:	P2 card (for microP2 card: adaptor is required)
System Format:	1080/59.94i, 1080/23.98pF, 720/59.94p, 480/59.94i, 1080/50i, 720/50p, 576/50i
Recording Format:	AVC-Intra100/AVC-Intra50/AVC-LongG50/ AVC-LongG25/AVC-LongG12/DVCPRO HD/ DVCPRO50/DVCPRO/DV formats switchable
Recording Video Signal:	1080/59.94i, 1080/29.97pN, 1080/23.98pN, 720/59.94p, 720/29.97pN, 720/23.98pN, 480/59.94i, 480/29.97p, 1080/50i, 1080/25pN, 720/50p, 720/25pN, 576/50i, 576/25p

*Please see 47 – 48 page for Digital Video, Digital Audio and Proxy Specifications.

Video Input/Output

SDI OUT/IN*:	BNC x 1 1.5 G HD SDI: 0.8 V [p-p], 75 Ω SD SDI: 0.8 V [p-p], 75 Ω
MON OUT:	BNC x 1 (Can be switched to HD SDI/SD SDI/ analog composite on SmartUI.) 1.5 G HD SDI: 0.8 V [p-p], 75 Ω SD SDI: 0.8 V [p-p], 75 Ω Composite: 1.0 V [p-p], 75 Ω
HDMI OUT:	HDMI x 1 (HDMI type A terminal, not compatible with VIERA Link)

Audio Input/Output

Audio IN:	XLR x 2, 3-pin LINE/MIC (switch selection) LINE: 0 dBu MIC: –50 dBu/–60 dBu (menu selection), +48 V ON/OFF (switch selection) MIC IN: XLR x 1, 5-pin
MIC IN:	XLR x1, 3-pin +48 V supported (selectable menu) –40 dBu/–50 dBu/–60 dBu (selectable menu)
Wireless IN:	25-pin, D-SUB, –40 dBu, 2 CH supported
Audio OUT:	Pin jack x 2 (CH1, CH2), Output level: 600 Ω, 316 mV
Phones OUT:	3.5 mm diameter stereo mini jack x1
Speaker:	20 mm diameter, round x 1

Other Input/Output

GENLOCK IN:	BNC x 1, 1.0 V [p-p], 75 Ω
TC IN/OUT:	BNC x 1, IN/OUT switch selection IN: 0.5 V [p-p] to 8 V [p-p], 10 kΩ OUT: 2.0 V [p-p] ±0.5 V [p-p], low impedance
DC IN:	XLR x1, 4-pin, DC 12 V (DC 11.0 V to 17.0 V)
DC OUT:	4-pin, DC 12 V (DC 11.0 V to 17.0 V), maximum output current 1.5 A
REMOTE:	10-pin
Lens:	12-pin
VF:	20-pin
LAN:	100BASE-TX/10BASE-T
USB 2.0 (Host):	Type A connector, 4-pin
USB 2.0 (Device):	Type B connector, 4-pin
USB 2.0 (Sub Host):	Type A connector, 4-pin (exclusively for wireless module AJ-WM50/WM50G/WM30)

Included Accessories

Shoulder strap, Mount cap

* The optional AJ-YA600G SDI board is required.

AJ-PX380G

General

Power:	DC 12 V (11.0 V – 17.0 V)
Power Consumption:	19 W (body only, 1080/60i, AVC-Intra 100 standard recording status, LCD ON) 58W (with all optional accessories connected and maximum power supplied from each output terminal)
Operating Temperature:	0°C to 40°C (32°F to 104°F)
Operating Humidity:	10 % to 85 % (relative humidity)
Storage Temperature:	–20°C to 60°C (–4°F to 140°F)
Weight:	Approx. 2.7 kg (6.0 lb) body only, excluding the battery and accessories
Dimensions:	144 mm (W) × 267 mm (H) × 348 mm (D) (5-21/32 inches × 10-1/2 inches × 13-11/16 inches) body only, excluding protrusion

Camera Unit

Pickup Device:	1/3-type 2.2 million pixels, MOS × 3
Lens Mount:	1/3-type bayonet
ND Filter:	1CLEAR, 1/4ND, 1/16ND, 1/64ND
Gain Setting:	NORMAL mode: 0 dB, 3 dB, 6 dB, 9 dB, 12 dB, 15 dB, 18 dB HIGH SENS mode: –3 dB, 0 dB, 3 dB, 6 dB, 9 dB, 12 dB, 15 dB, 18 dB
Super Gain (S.GAIN):	Selectable from 24 dB, 30 dB, 36 dB
Shutter Speed:	60i/60p mode: 1/60 (OFF) sec., 1/100 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec., 1/2000 sec. 30p mode: 1/30 (OFF) sec., 1/50 sec., 1/60 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec. 24p mode: 1/24 (OFF) sec., 1/50 sec., 1/60 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec. 50i/50p mode: 1/50 (OFF) sec., 1/60 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec., 1/2000 sec. 25p mode: 1/25 (OFF) sec., 1/50 sec., 1/60 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec.
Shutter Speed: (Synchro Scan)	60i/60p mode: 1/60.0 sec. to 1/249.8 sec. 30p mode: 1/30.0 sec. to 1/249.8 sec. 24p mode: 1/24.0 sec. to 1/249.8 sec. 50i/50p mode: 1/50.0 sec. to 1/250.0 sec. 25p mode: 1/25.0 sec. to 1/250.0 sec.
Shutter Speed: (Slow)	60i/60p mode: 1/15 sec., 1/30 sec. 30p mode: 1/15 sec. 24p mode: 1/12 sec. 50i/50p mode: 1/12.5, 1/25 sec. 25p mode: 1/12.5 sec.
Shutter Open Angle:	3.0 deg to 360.0 deg (in 0.5 deg steps, angle display)
Sensitivity:	NORMAL mode: F8 (2000 lx, 3200 K, 89.9 % reflection, 1080/59.94i) F9 (2000 lx, 3200 K, 89.9 % reflection, 1080/50i) HIGH SENS mode: F11 (2000 lx, 3200 K, 89.9 % reflection, 1080/59.94i) F12 (2000 lx, 3200 K, 89.9 % reflection, 1080/50i)
Horizontal Resolution:	1000 TV or higher (center)

Memory Card Recorder

Recording Media:	P2 card × 1, microP2 card × 2
System Format:	1080/59.94p, 1080/59.94i, 1080/23.98pF, 720/59.94p, 480/59.94i, 1080/50p, 1080/50i, 720/50p, 576/50i
Recording Format:	AVC-Intra100/AVC-Intra50/AVC-LongG50/AVC-LongG25/ AVC-LongG12/DVCPRO HD/DVCPRO50/DVCPRO/DV formats switchable
Recording Video Signal:	1080/59.94p, 1080/59.94i, 1080/29.97pN, 1080/23.98pN, 720/59.94p, 720/29.97pN, 720/23.98pN, 480/59.94i, 480/29.97p, 1080/50p, 1080/50i, 1080/25pN, 720/50p, 720/25pN, 576/50i, 576/25p

*Please see 47 – 48 page for Digital Video, Digital Audio and Proxy Specifications.

Video Input/Output

SDI OUT1:	BNC×1 HD SDI (3 G/1.5 G), SD SDI: 0.8 V [p-p], 75 Ω
SDI OUT2/IN:	BNC ×1, SDI OUT2, SDI IN (menu selection) (Can be switched to HD SDI/SD SDI on SmartUI.) HD SDI (1.5 G), SD SDI: 0.8 V [p-p], 75 Ω
GL IN/VIDEO OUT:	BNC ×1, GENLOCK IN, VIDEO OUT (menu selection) GENLOCK IN: 1.0 V [p-p], 75 Ω VIDEO OUT: Composite, 1.0 V [p-p], 75 Ω
HDMI OUT:	HDMI × 1 (HDMI type A terminal, not compatible with VIERA Link)

Audio Input/Output

Audio IN CH1/3, AUDIO IN CH2/4:	XLR (3-pin) × 2, LINE/MIC (switch selection) LINE: 0 dBu MIC: –50 dBu/–60 dBu (menu selection), +48 V ON/OFF (switch selection)
MIC IN:	XLR (3-pin) × 1, +48 V supported (selectable menu) –40 dBu/–50 dBu/–60 dBu (selectable menu)
Wireless IN:	25-pin, D-SUB, –40 dBu, 2 CH supported
Audio OUT:	Pin jack × 2 (CH1, CH2), Output level: 600 Ω, 316 mV
Phones OUT:	3.5 mm diameter stereo mini jack × 1
Speaker:	20 mm diameter, round × 1

Other Input/Output

TC IN/OUT:	BNC ×1, IN/OUT (menu selection) IN: 0.5 V [p-p] to 8 V [p-p], 10 kΩ OUT: 2.0 V [p-p] ±0.5 V [p-p], Low impedance
LAN:	100BASE-TX/10BASE-T
USB2.0 (device):	Type B connector, 4-pin
USB2.0 (host):	Type A connector, 4-pin
USB2.0 (sub host):	Type A connector, 4-pin (exclusively for wireless module AJ-WM50/WM50G/WM30)
DC IN:	XLR × 1, 4-pin, DC 12 V (DC 11.0 V to 17.0 V)
DC OUT:	4-pin, DC 12 V (DC 11.0 V to 17.0 V), maximum output current 1.5 A
REMOTE:	10-pin
Lens:	12-pin
EVF:	20-pin

Included Accessories

Shoulder strap, Mount cap

AJ-PX270

General

Power Supply:	DC 7.2 V (when the battery is used) DC 12 V (when the AC adaptor is used)
Power Consumption:	19.5 W (when the LCD monitor is used)
Operating Temperature:	0°C to 40°C (32°F to 104°F)
Operating Humidity:	10 % to 80 % (no condensation)
Weight:	Approx. 2.2 kg (4.9 lbs.) body only, excluding lens hood, battery, and accessories Approx. 2.6 kg (5.7 lbs.) including lens hood, supplied battery, and microphone holder
Dimensions:	176 mm (H) x 171 mm (W) x 329 mm (D) (6-15/16 inches x 6-23/32 inches x 12-15/16 inches) (excluding protrusion)

Camera Section

Pickup Device:	1/3-type 2.2 million pixels, MOS solid state image sensor x 3
Lens:	Optical image stabilizer lens, optical 22x motorized zoom F1.6 to F3.2 (f=3.9 mm to 86 mm) 35 mm conversion: 28 mm to 616 mm (16:9)
Filter Diameter:	72 mm
Optical System:	Prism system
ND Filter:	OFF, 1/4, 1/16, 1/64
Shortest Shooting Distance:	1.1 m from the front lens (M.O.D.) Approx. 0.06 m from front lens (When Macro=On, at wide-end)
Gain Setting:	L/M/H selector switch, -3 dB to 18 dB (in 1 dB steps) (Negative value of gain is only in [HIGH SENS.] mode.) (When assigning [S.GAIN] to the USER button: Switching between 24 dB, 30 dB, and 36 dB)
Color Temperature Setting:	ATW, ATW LOCK, A CH, B CH, preset 3200 K/preset 5600 K/VAR (2000 K to 15000 K)
Shutter Speed: (Preset)	[59.94 Hz] 60i/60p mode: 1/60 (shutter off) sec., 1/100 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec., 1/2000 sec. 30p mode: 1/30 sec., 1/50 (shutter off) sec., 1/60 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec., 1/2000 sec. 24p mode: 1/24 sec., 1/50 (shutter off) sec., 1/60 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec., 1/2000 sec. [50 Hz] 50i/50p mode: 1/50 (shutter off) sec., 1/60 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec., 1/2000 sec. 25p mode: 1/25 sec., 1/50 (shutter off) sec., 1/60 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec., 1/2000 sec.
Shutter Speed: (Synchro Scan)	[59.94 Hz] 60i/60p mode: 1/60.0 sec. to 1/249.8 sec. 30p mode: 1/30.0 sec. to 1/249.8 sec. 24p mode: 1/24.0 sec. to 1/249.8 sec. [50 Hz] 50i/50p mode: 1/50.0 sec. to 1/250.0 sec. 25p mode: 1/25.0 sec. to 1/250.0 sec.
Shutter Speed: (Slow)	Setting is possible when [VFR]=[OFF] [59.94 Hz] 60i/60p mode: 1/1 sec., 1/2 sec., 1/4 sec., 1/6 sec., 1/15 sec., 1/30 sec. 30p mode: 1/1 sec., 1/2 sec., 1/4 sec., 1/6sec., 1/15 sec. 24p mode: 1/1 sec., 1/2 sec., 1/4 sec., 1/6 sec., 1/12 sec. [50 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 Open Angle:	3.0 deg to 180.0 deg to 360.0 deg (in 0.5 deg steps, angle display)
Frame Rate:	1080/59.94p: 1/24/6/ 9/12/15/18/20/21/22/24/ 25/26/27/28/30/32/34/36/40/44/48/54/60 fps (frames per second) 25 steps 1080/50p: 1/24/6/9/12/15/18/20/21/22/23/ 24/25/26/27/28/30/32/34/37/42/45/48/50 fps (frames per second) 25 steps

Sensitivity:	[HIGH SENS.] mode F11 (2000 lx, 3200 K, 89.9 % reflection, 1080/59.94i) F12 (2000 lx, 3200 K, 89.9 % reflection, 1080/50i)
Minimum Subject Illumination:	0.02 lx (F1.6, gain 18 dB, [1S.EXP], [HIGH SENS.] mode)
Digital Zoom:	2x, 5x, 10x
Lens Hood:	Hood with lens cover

Memory Card Recorder Section

Recording Media:	microP2 card, P2 card
Recording Slot:	microP2 card slot x 2, P2 card slot x 1
System Format:	1080/59.94p, 1080/59.94i, 1080/23.98PsF, 720/59.94p, 480/59.94i, 1080/50p, 1080/50i, 720/50p, 576/50i
Recording Format:	AVC-Intra200/AVC-Intra100/AVC-Intra50/ AVC-LongG50/AVC-LongG25/AVC-LongG12/ DVCPRO HD/DVCPRO50/DVCPRO/DV formats
Recording Video Signal:	1080/59.94p, 1080/59.94i, 1080/29.97pN, 1080/23.98pN, 720/59.94p, 720/29.97pN, 720/23.98pN, 480/59.94i, 480/29.97p 1080/50p, 1080/50i, 1080/25pN, 720/50p, 720/25pN, 576/50i, 576/25p

*Please see 47 ~ 48 page for Digital Video, Digital Audio and Proxy Specifications.

Video Input/Output

SDI OUT:	BNC x 1, HD (3 G/1.5 G), SD: 0.8 V [p-p], 75 Ω
VIDEO OUT:	BNC x 1, Also used as the GENLOCK IN, IN/OUT switch selection Composite: 1.0 V [p-p], 75 Ω
HDMI OUT:	HDMI x 1 (HDMI type A terminal, not compatible with VIERA Link)

Audio Input

Built-in Microphone:	Supports stereo microphone
AUDIO INPUT 1/AUDIO INPUT 2:	XLR x 2, 3-pin.Input high impedance, LINE/MIC switch selection LINE: 4 dBu/0 dBu (selectable menu) MIC: -40 dBu/-50 dBu/-60 dBu (selectable menu), +48 V ON/OFF (switch selection)

Audio Output

AUDIO OUT:	3.5 mm diameter stereo mini jack x 1, Output level: 600 Ω, 316 mV
Headphones:	3.5 mm diameter stereo mini jack x 1 100 Ω, -16 dBV (32 Ω load, at maximum output level)
Speaker:	20 mm diameter, round x 1

Other Input/Output

CAM REMOTE:	2.5 mm diameter super mini jack x 1 ZOOM S/S 3.5 mm diameter mini jack x 1 FOCUS IRIS
GENLOCK IN:	BNC x 1, also used as the VIDEO OUT, IN/OUT switch selection, 1.0 V [p-p], 75 Ω
TC IN/OUT:	BNC x 1, Used as the input and output terminals, IN/OUT switch selection Input: 1.0 V [p-p] to 4.0 V [p-p], 10 kΩ Output: 2.0 V [p-p] ±0.5 V [p-p], low impedance
LAN:	100BASE-TX/10BASE-T
USB 2.0 (Device):	Type miniB connector, 4-pin
USB 3.0 (Host):	Type A connector, 9-pin
USB 2.0 (Sub-Host):	Type A connector, 4-pin (exclusively for wireless module AJ-WM50/WM50G/WM30)
DC IN 12 V:	DC 12 V (DC 10.5 V ~ 13.5 V), EIAJ type 4

Monitor and Viewfinder

LCD Monitor:	3.5-type QHD color monitor (approx. 1560000 dots)
Viewfinder:	0.5-type OLED (organic EL display) (Approx. 2360000 dots, video display area: Approx. 1770000 dots)

Included Accessories

Battery (VW-VBD58), Shoulder strap, Battery charger, AC adaptor, Microphone holder, Screw for microphone holder (12 mm), Power code x 2, Eye cup, Lens hood, Grip belt
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AJ-PX230

General

Power Supply:	DC 7.2 V (when the battery is used) DC 12 V (when the AC adaptor is used)
Power Consumption:	19.5 W (when the LCD monitor is used)
Operating Temperature:	0°C to 40°C (32°F to 104°F)
Operating Humidity:	10 % to 80 % (no condensation)
Weight:	Approx. 2.2 kg (4.9 lbs.) body only, excluding lens hood, battery, and accessories Approx. 2.6 kg (5.7 lbs.) including lens hood, supplied battery, and microphone holder
Dimensions:	176 mm (H) x 171 mm (W) x 329 mm (D) (6-15/16 inches x 6-23/32 inches x 12-15/16 inches) (excluding protrusions)

Camera Section

Pickup Device:	1/3-type 2.2 megapixels, MOS solid state image sensor x3
Lens:	Optical image stabilizer lens, optical 22x motorized zoom F1.6 to F3.2 (f=3.9 mm to 86 mm) 35 mm conversion: 28 mm to 616 mm (16.9)
Filter Diameter:	72 mm
Optical System:	Prism system
ND Filter:	OFF, 1/4, 1/16, 1/64
Shortest Shooting Distance:	1.1 m from the front lens (M.O.D.) Approx. 0.06 m from front lens (When Macro=On, at wide-end)
Gain Setting:	L/M/H selector switch, -3 dB to 18 dB (in 1 dB steps) (Negative value of gain is only in [HIGH SENS.] mode.) (When assigning [S.GAIN] to the USER button: Switching between 24 dB, 30 dB, and 36 dB)
Color Temperature Setting:	ATW, ATW LOCK, A ch, B ch, preset 3200 K/preset 5600 K/VAR (2000 K to 15000 K)
Shutter Speed: (Preset)	[59.94 Hz] 60i/60p mode: 1/60 (shutter off) sec., 1/100 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec., 1/2000 sec. 30p mode: 1/30 sec., 1/50 (shutter off) sec., 1/60 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec., 1/2000 sec. 24p mode: 1/24 sec., 1/50 (shutter off) sec., 1/60 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec., 1/2000 sec. [50 Hz] 50i/50p mode: 1/50 (shutter off) sec., 1/60 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec., 1/2000 sec. 25p mode: 1/25 sec., 1/50 (shutter off) sec., 1/60 sec., 1/120 sec., 1/250 sec., 1/500 sec., 1/1000 sec., 1/2000 sec.
Shutter Speed: (Synchro Scan)	[59.94 Hz] 60i/60p mode: 1/60.0 sec. to 1/249.8 sec. 30p mode: 1/30.0 sec. to 1/249.8 sec. 24p mode: 1/24.0 sec. to 1/249.8 sec. [50 Hz] 50i/50p mode: 1/50.0 sec. to 1/250.0 sec. 25p mode: 1/25.0 sec. to 1/250.0 sec.
Shutter Speed: (Slow)	Setting is possible when [VFR]=[OFF] [59.94 Hz] 60i/60p mode: 1/1 sec., 1/2 sec., 1/4 sec., 1/6 sec., 1/15 sec., 1/30 sec. 30p mode: 1/1 sec., 1/2 sec., 1/4 sec., 1/6sec., 1/15 sec. 24p mode: 1/1 sec., 1/2 sec., 1/4 sec., 1/6 sec., 1/12 sec. [50 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 Open Angle:	3.0 deg to 180.0 deg to 360.0 deg (in 0.5 deg steps, angle display)
Frame Rate:	1080/59.94p: 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 (frames per second) 25 steps 1080/50p: 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 (frames per second) 25 steps

Sensitivity:	[HIGH SENS.] mode F11 (2000 lx, 3200 K, 89.9 % reflection, 1080/59.94i) F12 (2000 lx, 3200 K, 89.9 % reflection, 1080/50i)
Minimum Subject Illumination:	0.02 lx (F1.6, gain 18 dB, [1S.EXP], [HIGH SENS.] mode)
Digital Zoom:	2x, 5x, 10x
Lens Hood:	Hood with lens cover

Memory Card Recorder Section

Recording Media:	microP2 card
Recording Slot:	microP2 card slot x 2
System Format:	1080/59.94p, 1080/59.94i, 1080/23.98PsF, 720/59.94p, 480/59.94i, 1080/50p, 1080/50i, 720/50p, 576/50i
Recording Format:	AVC-Intra200/AVC-Intra100/AVC-Intra50/ AVC-LongG50/AVC-LongG25/AVC-LongG12/ DVCPRO HD/DVCPRO50/DVCPRO/DV formats
Recording Video Signal:	1080/59.94p, 1080/59.94i, 1080/29.97pN, 1080/23.98pN, 720/59.94p, 720/29.97pN, 720/23.98pN, 480/59.94i, 480/29.97p 1080/50p, 1080/50i, 1080/25pN, 720/50p, 720/25pN, 576/50i, 576/25p

*Please see 47 – 48 page for Digital Video and Digital Audio Specifications.

Video Input/Output

SDI OUT:	BNC x 1, HD (3 G/1.5 G), SD: 0.8 V [p-p], 75 Ω
HDMI OUT:	HDMI x 1 (HDMI type A terminal, not compatible with VIERA Link)

Audio Input

Built-in Microphone:	Supports stereo microphone
AUDIO INPUT 1/AUDIO INPUT 2:	XLR x 2, 3-pin.Input high impedance, LINE/MIC switch selection LINE: 4 dBu/0 dBu (selectable menu) MIC: -40 dBu/-50 dBu/-60 dBu (selectable menu), +48 V ON/OFF (switch selection)

Audio Output

Headphones:	3.5 mm diameter stereo mini jack x 1 100 Ω, -16 dBV (32 Ω load, at maximum output level)
Speaker:	20 mm diameter, round x 1

Other Input/Output

CAM REMOTE:	2.5 mm diameter super mini jack x 1 ZOOM S/S 3.5 mm diameter mini jack x 1 FOCUS IRIS
USB 2.0 (Device):	Type miniB connector, 4-pin
USB 2.0 (Sub-Host):	Type A connector, 4-pin (exclusively for maintenance)
DC IN 12 V:	DC 12 V (DC 10.5 V – 13.5 V), EIAJ type 4

Monitor and Viewfinder

LCD Monitor:	3.5-type QHD color monitor (Approx. 1560000 dots)
Viewfinder:	0.5-type OLED (organic EL display) (Approx. 2360000 dots, video display area: Approx. 1770000 dots)

Included Accessories

Battery (VW-VBD58), Shoulder strap, Battery charger, AC adaptor, Microphone holder, Screw for microphone holder (12 mm), Power code x 2, Eye cup, Lens hood, Grip belt
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AJ-PD500

General

Power Source:	AC 100 – 240 V, 50 Hz/60 Hz, 45 W DC 12 V, 3.6 A (included option)
Operating Temperature:	0°C to 40°C (32°F to 104°F)
Operating Humidity:	10 % to 80 % (no condensation)
Storage Temperature:	–20°C to 50°C (–4°F to 122°F)
Weight:	Approx. 3.65 kg (8.05 lbs) (main unit only)
Dimensions:	210 mm (W) x 125.5 mm (H) x 253 mm (D) (8-9/32 inches x 4-15/16 inches x 9-31/32 inches) (not including the Handle, set foot, knob and terminal)
Recording Media:	P2 card, microP2 card
Recording Formats:	AVC-Intra200/AVC-Intra100/AVC-Intra50/ AVC-LongG50/AVC-LongG25/AVC-LongG12/ DVCPRO HD/DVCPRO50/DVCPRO/DV (selectable)
Proxy:	File Format: MP4 (ISO/IEC14496 standard), MOV (QuickTime format) Video Compression Formats: MPEG4 Simple Profile, H.264/AVC Baseline Profile, H.264/AVC High Profile Audio: AAC-LC, Linear PCM
Video Recording Signals:	1080/59.94p, 1080/50p, 1080/59.94i, 1080/50i, 1080/29.97PsF, 1080/25PsF, 1080/24PsF, 1080/23.98PsF, 720/59.94p, 720/50p, 480/59.94i, 576/50i
Audio Recording Signals:	AVC-Intra200/AVC-LongG50/AVC-LongG25: 48 kHz, 24 bit, 8 CH AVC-LongG12: 48 kHz, 16 bit, 4 CH AVC-Intra100/AVC-Intra50: 48 kHz, 24 bit, 8 CH 48 kHz, 16 bit, 8 CH DVCPRO HD: 48 kHz, 16 bit, 8 CH DVCPRO 50: 48 kHz, 16 bit, 4 CH DVCPRO/DV: 48 kHz, 16 bit, 4 CH
Video Specification (Digital Video)	
Sampling Frequency:	AVC-Intra200/AVC-Intra100/AVC-LongG50/ AVC-LongG25/DVCPRO HD: (59.94 Hz) Y: 74.1758 MHz, Pb/Pr: 37.0879 MHz (50 Hz) Y: 74.2500 MHz, Pb/Pr: 37.1250 MHz AVC-Intra100/AVC-LongG25 (1080/59p) Y: 148.3516 MHz, Pb/Pr: 74.1758 MHz (1080/50p) Y: 148.5000 MHz, Pb/Pr: 74.2500 MHz DVCPRO50: Y: 13.5 MHz, Pb/Pr: 6.75 MHz DVCPRO: Y: 13.5 MHz, Pb/Pr: 3.375 MHz
Quantizing:	AVC-Intra200/AVC-Intra100/AVC-Intra50/ AVC-LongG50/AVC-LongG25: 10 bit AVC-LongG12/DVCPRO HD/ DVCPRO50/DVCPRO/DV: 8 bit
Video Compression Methods:	AVC-Intra200/AVC-Intra100/AVC-Intra50: MPEG-4 AVC/H.264 Intra Profile AVC-LongG50/AVC-LongG25/AVC-LongG12/ MPEG-4 AVC/H.264 High Profile DVCPRO HD: DV-Based Compression (SMPTE ST 370) DVCPRO50/DVCPRO: DV-Based Compression (SMPTE ST 314) DV: DV Compression (IEC 61834-2)
Color Sampling:	AVC-Intra200/AVC-Intra100/ AVC-LongG50/AVC-LongG25: Y: Pb: Pr = 4: 2: 2

Resolution:	AVC-Intra100/AVC-LongG25/AVC-LongG12: 1920×1080 (1080/59.94p, 1080/50p) AVC-Intra200/AVC-Intra100/AVC-LongG50/ AVC-LongG25/AVC-LongG12: 1920 × 1080 (1080/59.94i, 1080/50i), 1280 × 720 (720/59.94p, 720/50p) AVC-Intra50: 1440×1080 (1080/59.94i, 1080/50i) 960×720 (720/59.94p, 720/50p)
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Audio Specification (Digital Audio)

Sampling Frequency:	48 kHz (synchronized with video)
Quantizing:	AVC-Intra200/AVC-LongG50/AVC-LongG25: 24 bit AVC-Intra100/AVC-Intra50: 24 bit/16 bit (selectable) AVC-LongG12/DVCPRO HD/DVCPRO50/ DVCPRO/DV: 16 bit
Headroom:	12 dB/18 dB/20 dB (selectable)
De-emphasis:	T1 = 50 µs, T2 = 15 µs (ON/OFF auto)

Video Input

Reference Input:	BNC x 1, Auto switching of black burst/HD 3-value sync
SDI Input:	BNC x 1

Video Output

Monitor Output:	BNC x 1, SD analog composite
Reference through Output:	BNC x 1
SDI Output:	BNC x 2 (HD/SD switchable)
SDI Monitor Output:	BNC x 1 (HD/SD switchable)
HDMI Output*1:	HDMI x 1 (HDMI TypeA terminal), VIERA Link not supported

Audio Input

Analog Input:	XLR x 2 (CH1, CH2)
Digital Input:	BNC x 2 (CH1/2, CH3/4), AES/EBU Format
SDI Input:	BNC x 1

Audio Output

SDI Output:	BNC x 3
Analog Output:	XLR x 2 (CH1, CH2), Monitor Output (L/R) switchable
Digital Output:	BNC x 2 (CH1/2, CH3/4), AES/EBU Format
Headphone Output:	φ3.5 mm Stereo Mini Jack x 1, 8 Ω, variable level
HDMI Output:	2 channels (Linear PCM)
Internal Speaker:	Round x 1 (monaural)

Other Input/Output

Time Code Input:	BNC x 1, 0.5 V [p-p] to 8.0 V [p-p], 10 kΩ
Time Code Output:	BNC x 1, low impedance, 2.0 V [p-p] ±0.5 V [p-p]
REMOTE:	D-SUB 9-pin x 1, RS-422A Interface
PARALLEL REMOTE:	D-SUB 15-pin x 1
LAN:	RJ-45 x 1, 1000BASE-T/100BASE-TX/10BASE-T
USB Host:	USB 3.0 HOST (TYPE A) x 1
USB Device:	USB 2.0 DEVICE (TYPE B) x 1
Keyboard*2:	USB 2.0 (TYPE A) x 1 (maximum 100 mA)

Standard Accessories

AC cable

*1: HDMI output does not support 480/59.94i and 576/50i. Convert to 480/59.94p and 576/50p for output.

*2: This port is intended for keyboard connection. If the keyboard draws more than 100 mA, a protective circuit may shut down the unit.

AJ-PG50

General

Power Supply:	DC 7.2 V (during battery use) DC 12 V (during AC Adaptor use)
Power Consumption:	21.4 W
Operating Temperature:	0°C to 40°C (32°F to 104°F)
Operating Humidity:	10 % to 80 % (non-condensing)
Storage Temperature:	-20°C to 50°C (-4°F to 122°F)
Weight:	1.1 kg (2.4 lbs)
Dimensions:	108 mm (W) x 85 mm (H) x 217 mm (D) (4-1/4 inches x 3-3/8 inches x 8-9/16 inches) (Excluding the foot parts and protrusions such as the cap)
Recording Media:	P2 card, microP2 card
Recording Formats:	AVC-Intra200/AVC-Intra100/AVC-Intra50/ AVC-LongG50/AVC-LongG25/AVC-LongG12/ DVCPRO HD/DVCPRO50/DVCPRO/DV formats selectable
Proxy:	File Formats: MOV (QuickTime format) Video Compression Formats: H.264/AVC Baseline Profile, H.264/AVC High Profile Audio: AAC-LC, Linear PCM
Video Recording Signals:	1080/59.94p, 1080/50p, 1080/59.94i, 1080/50i, 720/59.94p, 720/50p, 480/59.94i, 576/50i
Audio Recording Signals:	AVC-Intra200/AVC-LongG50/AVC-LongG25: 48 kHz, 24 bit, 4 CH AVC-Intra100/AVC-Intra50: 48 kHz, 24 bit, 4 CH 48 kHz, 16 bit, 4 CH AVC-LongG12: 48 kHz, 16 bit, 4 CH DVCPRO HD: 48 kHz, 16 bit, 4 CH DVCPRO 50: 48 kHz, 16 bit, 4 CH DVCPRO/DV: 48 kHz, 16 bit, 4 CH

Video Specification (Digital Video)

Sampling Frequencies:	AVC-Intra200/AVC-Intra100/AVC-LongG50/ AVC-LongG25/DVCPRO HD: (59.94 Hz) Y: 74.1758 MHz, Pb/Pr: 37.0879 MHz (50 Hz) Y: 74.2500 MHz, Pb/Pr: 37.1250 MHz AVC-Intra100/AVC-LongG25: (1080/59.94p) Y: 148.3516 MHz, Pb/Pr: 74.1758 MHz (1080/50p) Y: 148.5000 MHz, Pb/Pr: 74.2500 MHz DVCPRO50: Y: 13.5 MHz, Pb/Pr: 6.75 MHz DVCPRO: Y: 13.5 MHz, Pb/Pr: 3.375 MHz
Quantization:	AVC-Intra200/AVC-Intra100/AVC-Intra50/ AVC-LongG50/AVC-LongG25: 10 bit AVC-LongG12/DVCPRO HD/DVCPRO50/ DVCPRO/DV: 8 bit
Video Compression Methods:	AVC-Intra200/AVC-Intra100/AVC-Intra50: MPEG-4 AVC/H.264 Intra Profile AVC-LongG50/AVC-LongG25/AVC-LongG12: MPEG-4 AVC/H.264 High Profile DVCPRO HD: DV-Based Compression (SMPTE ST 370)
Color Sampling:	AVC-Intra200/AVC-Intra100/AVC-LongG50/ AVC-LongG25: Y:Pb:Pr = 4:2:2
Resolution:	AVC-Intra100/AVC-LongG25/AVC-LongG12: 1920 x 1080 (1080/59.94p, 1080/50p) AVC-Intra200/AVC-Intra100/AVC-LongG50/ AVC-LongG25/AVC-LongG12: 1920 x 1080 (1080/59.94i, 1080/50i) 1280 x 720 (720/59.94p, 720/50p) AVC-Intra50: 1440 x 1080 (1080/59.94i, 1080/50i) 960 x 720 (720/59.94p, 720/50p)

Audio Specification (Digital Audio)

Sampling Frequency:	48 kHz (synchronized with video)
Quantization:	AVC-Intra200/AVC-LongG50/AVC-LongG25: 24 bit AVC-Intra100/AVC-Intra50: 24 bit/16 bit (selectable) AVC-LongG12/DVCPRO HD/DVCPRO50/ DVCPRO/DV: 16 bit
Headroom:	12 dB/18 dB/20 dB (selectable)
De-emphasis:	T1=50 µs, T2=15 µs (ON/OFF auto select)

Video Input

SDI Input:	BNC x 1
HDMI Input:	HDMI x 1 (HDMI TYPE A connector) (VIERA Link not supported, HDCP supported)

Video Output

SDI Output:	BNC x 1
HDMI Output*:	HDMI x 1 (HDMI Type A) (VIERA link not supported)

Audio Input

Analog Input:	XLR x 2 (CH1, CH2)
SDI Input:	BNC x 1
HDMI Input:	2 channels (Linear PCM), 16 bit

Audio Output

SDI Output:	BNC x 1
Analog Output (monitor (L/R)):	Stereo mini jack (3.5 mm (1/8 inch) dia.)
Headphone Output:	Stereo mini jack (3.5 mm (1/8 inch) dia.), variable level
HDMI Output:	2 channels (Linear PCM), 16 bit
Internal Speaker:	Round x 1 (monaural)

Other Input/Output

Time Code Input:	BNC x 1, 0.5 V [p-p] to 8.0 V [p-p], 10 kΩ
LAN:	RJ-45 x 1, 100BASE-TX/10BASE-T
USB HOST:	USB 3.0 Host (Type A) x 1
USB Device:	USB 2.0 Device (Type B) x 1

Standard Accessories

Battery pack, AC adaptor/AC cable, Battery charger/AC cable

*When "VIDEO" – "INPUT SEL" is set to "HDMI", video, audio, and other signals from the HDMI output connector will not be output.

AVC-ULTRA Partners

P2 Partners

AVC-ULTRA Partners are committed to continue expanding support as Panasonic introduces additional compression modes with AVC-ULTRA. And P2 Partners are committed to support the P2 format, including AVC-Intra100 and AVC-Intra50. Panasonic joins with its partners to offer new production workflows for the networking age.

US Only Model



BT-LH1770P

420 mm (16.5 inches)

Connector: SDI 1/2 (3G) VBS HDMI AUDIO IN HEADPHONE

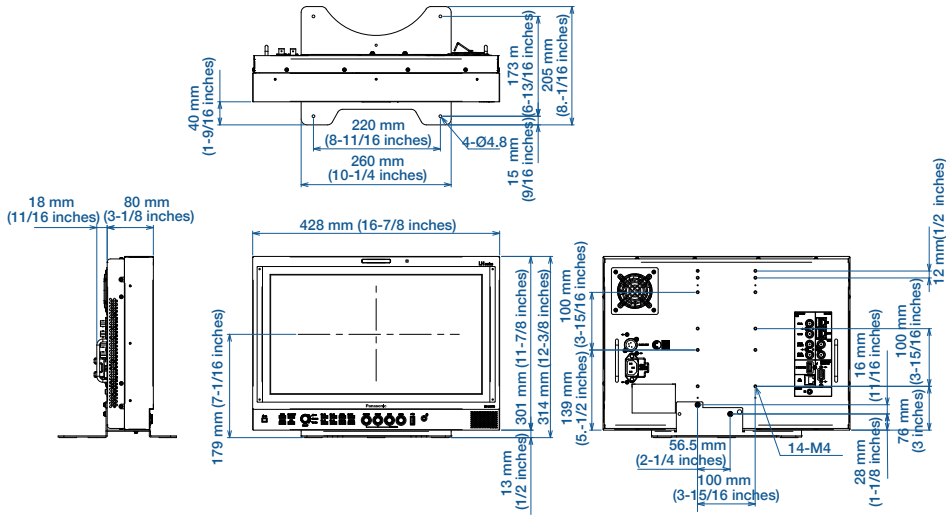
Power: AC DC

HDMI

From the Studio to Live Broadcasting — High-Quality, Full-HD, 16.5-inch Model

- High-contrast 1500:1, 10-bit display with high quality IPS LCD panel for Full-HD resolution.
- Equipped with convenient external USB Memory function for setting data and screen captures.
- CC (Closed Caption) data embedded in the SDI signal can be decoded and displayed.
- Functions such as adjustment assist, versatile display functions, and USB mouse operation.
- Network functions via a LAN connector.
- Mountable in a 19" rack. Optional stand and brackets are also available.

■ Dimensions



BT-LH1770P

US Only Model

General

Power Supply:	AC 100 V—120 V, 50 Hz/60 Hz
	AC 200 V—240 V, 50 Hz/60 Hz
	DC 12V (10.5 V—18 V)
Power Consumption:	AC Input: 40 W
	DC (12V) Input: 36 W
Operating Temperature:	0 °C to 40 °C (32 °F to 104 °F)
Operating Humidity:	20 % to 85 % (no condensation)
Storage Temperature:	−20 °C to 60 °C (−4 °F to 140 °F)
Storage Humidity:	5 % to 85 % (no condensation)
Weight:	Approx. 5.8 kg (12.8 lbs) (unit only, not including stand)
Dimensions:	428 mm (W) x 301 mm (H) x 80 mm (D) (16-7/8 inches x 11-7/8 inches x 3-1/8 inches) (unit only, not including stand)

LCD Panel

Panel Size:	42 cm (16.5 inches) of effective display area
Aspect Ratio:	16:9
Resolution:	1920 dots x 1080 dots
Display Colors:	1000.7 million colors
Viewing Angle:	178° both of horizontal and vertical

Connectors

Video (VBS) Input:	BNC x 1 (loop-through), analog composite (NTSC/PAL-B) signal
SDI Input:	BNC x 2 (3G-SDI/HD SDI/SD SDI), embedded audio supported
HDMI Input:	HDMI x 1, HDCP supported, embedded audio supported
SDI Output:	BNC x 2*, active through-out
Analog Audio Input:	Ø3.5 stereo mini jack, 0 dBV max (0 dBV=1 Vrms)
Headphone Output:	Ø3.5 stereo mini jack type, 85 mW/ch (RL: 32 Ω)

Other Output

Speaker Output:	1W or more
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Others

Supplied Accessories:	Operation Manual, Parallel remote connector, AC power cord, Monitor stand, Screw for monitor stand
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*The two outputs can be used as two inputs depending on the setting.

Optional Accessories



BT-MA1772G
Tilt Stand

BT-MA1773G
Rack Mount Bracket



BT-MA1774G
Rack Mount Bracket
(with Tilt Function)

Supported Video Input Formats

Video Input Signal	VIDEO	SDI	HDMI
NTSC	✓		
PAL	✓		
480/59.94i		✓	✓*7
480/59.94p			✓*7
576/50i		✓	✓
576/50p			✓
720/23.98p		✓	
720/24p		✓	
720/25p		✓	✓
720/29.97p		✓	✓*8
720/30p		✓	✓
720/50p		✓	✓
720/59.94p		✓	✓*7
720/60p		✓	✓
1035/59.94i		✓*1	
1035/60i		✓*2	
1080/23.98PsF		✓*3	✓*9
1080/24PsF		✓*4	✓
1080/25PsF		✓*5	✓*5
1080/29.97PsF		✓*6	✓*8
1080/30PsF		✓	✓
1080/50i		✓	✓
1080/59.94i		✓	✓*7
1080/60i		✓	✓
1080/23.98p		✓	✓*9
1080/24p		✓	✓
1080/25p		✓	✓
1080/29.97p		✓	✓*8
1080/30p		✓	✓
1080/50p		✓	✓
1080/59.94p		✓	✓*7
1080/60p		✓	✓

✓: Supported
* RGB444 and YCbCr422 (12 bit) are not supported.
*1: When 1035/59.94i signal is input, images are displayed in 1080/59.94i. In that case, the displayed markers are for 1080/59.94i.
*2: When 1035/60i signal is input, images are displayed in 1080/60i. In that case, the displayed markers are for 1080/60i.
*3: When SDI is input at 1080/23.98PsF signal, status display shows as 1080/48i.
*4: When SDI is input at 1080/24PsF signal, status display shows as 1080/48i.
*5: When 1080/25PsF signal is input, status display shows as 1080/50i.
*6: When SDI is input at 1080/29.97PsF signal, status display shows as 1080/60i.
*7: When HDMI is input at 59.94i/p signal, status display shows as 60i/p.
*8: When HDMI is input at 29.97p signal, status display shows as 30p.
*9: When HDMI is input at 23.98p signal, status display shows as 24p.

Supported PC Input Signal

Input Signal	HDMI Input
VGA (640 x 480)	✓
SVGA (800 x 600)	✓
XGA (1024 x 768)	✓
WXGA (1280 x 768)	✓
SXGA (1280 x 1024)	✓
UXGA (1600 x 1200)	✓
WUXGA (1920 x 1200)	✓

✓: Supported *Not all frequencies are supported.

*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 a 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.

** Notes Regarding Network Connections

•**For 4G/LTE connection:** 4G/LTE module is required from a 3rd party. Availability of this function may vary depends on areas. For details, please visit Panasonic website <https://pro-av.panasonic.net/en/sales_o/p2/server/4gte.html>.

•**For wireless LAN connection:** Wireless module (optional) is required. For the connection confirmed wireless module details please visit Panasonic website <https://pro-av.panasonic.net/en/sales_o/p2/server/wireless_module.html>. For the OS, browser, device compatibility information, see "Service and Support" on the Panasonic website <https://www.pass.panasonic.co.jp/pro-av/support/content/download/EN/ep2main/soft/wirelesslist_e.htm>.

•**For streaming:** Transfers only to a designated server (one server). The proxy image cannot be recorded while streaming. The streaming function cannot be used together with dual codec recording and simultaneous recording, or with the Rec during Uploading function. For details on downloading and the operating environment of video streaming compatible application software, see "Support & Download" on the Panasonic website <<http://pro-av.panasonic.net/>>. For streaming, 4G/LTE USB modem and PC must be able to access directly each other by Public IP (Global IP). Please contact your provider to get Public IP (Global IP). To display the streaming video using P2 browser, player is required (VLC MEDIA PLAYER for Windows PC, QuickTime Player for Mac). P2 Streaming Receiver software (Windows only, not supported by Mac, available free of charge) is required for receiving the QoS mode. Please visit Panasonic website <<https://pro-av.panasonic.net/en/download/>>.

•**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"

Precautions When Using SDHC/SDXC Memory Cards with the AJ-P2AD1G Memory Card Adapter

•Only the DV, DVCPRO, DVCPRO50, and AVC-Intra50 recording formats can be used when using the Memory Card Adapter on P2 Series products. Memory cards of Class 10 or higher are recommended, but recording may not be possible with some cards. •DVCPRO HD and AVC-Intra100 cannot be used. •Memory card data capacity must be 4 GB to 128 GB. •Interval Rec, One-Shot Rec, Loop Rec, or One-Clip Rec cannot be used. •If the reading performance is insufficient during playback, frames might be skipped (Best-effort playback). •When copying clips that extend over two SDHC/SDXC memory cards onto another SDXC/SDHC memory card, the connecting relationship between the cards will not be saved. Under certain conditions, the connecting relationship between original and copied SDXC/SDHC memory cards is saved.

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



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



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