Panasonic

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.

1

CX series

AJ-CX4000GJ *NEW*
Memory Card Camera Recorder

AG-CX350 *NEW*
Memory Card Camera Recorder

P2HD series

AJ-PX5100GJ
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

AJ-PD500
Memory Card Recorder

AJ-PG50
Memory Card Recorder

US Only Model

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

Cinema Camera

Professional Camera Recorder

CX series

P2HD series

LCD Monitor

2

CINEMA V VARICAM

Uncompressed V-RAW Recording

CINEMA V VARICAM

Achieve Your Vision

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" recorder[1].
- 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.

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,[3] 4:2:2 10 bit).
- For 2K/HD recording, Apple ProRes[2] 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.

V VARICAM

Capture Action

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 ProRes[2] 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.

CINEMA V VARICAM

Cinematic VariCam Look in Your Hands

EVΛ1

4K PROFESSIONAL HDR

AVC ULTRA

4K PROFESSIONAL HDR

EVA 3.0 FIRMWARE

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.

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

The Hollywood Post Alliance Engineering Excellence Award 2015

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.
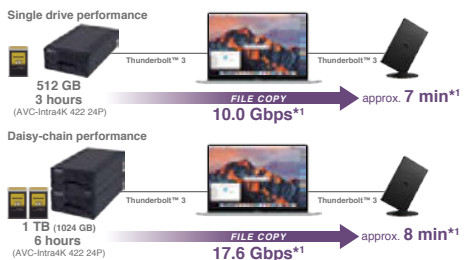

Remote Control App "VariCam ROP"
The VariCam ROP app for iPad/iPhone is available free of charge from the Apple App Store. It enables wireless remote control of the VariCam Series.

* 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-XPD3 expressP2 Drive, equipped with Thunderbolt™ 3 interface, brings out the best of the expressP2 card B series.

Single drive performance

512 GB
3 hours
(AVC-Intra4K 422 24P)

Thunderbolt™ 3   Thunderbolt™ 3

FILE COPY
10.0 Gbps*1   approx. **7 min***1

Daisy-chain performance

1 TB (1024 GB)
6 hours
(AVC-Intra4K 422 24P)

Thunderbolt™ 3   Thunderbolt™ 3

FILE COPY
17.6 Gbps*1   approx. **8 min***1

*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.

5

Custom Splash Screen and Owner Information

Digital Name Tag

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.

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)
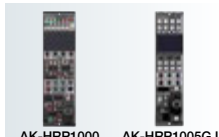**AU-VCBL05G** (5 m)
Extension Cable

AJ-MC900G
Microphone

AG-MC200G
XLR Microphone

AJ-MH800G
Microphone Holder
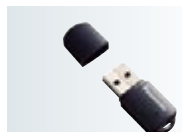
AK-HRP200G
Remote Operation Panel (ROP)

AK-HRP1000   AK-HRP1005GJ

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

THUNDERBOLT.

AU-XPD3
Memory Card Drive
expressP2 card drive*2

AU-XPD1
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-XPD1 requires two USB cables. And a power supply is connected with USB 3.0 port of PC or an AC adaptor. *4: Exchanging AU-XPD1 hardware, free of charge, might be necessary when expressP2 card B series used on AU-XPD1. 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-XP0512BG   AU-XP0256BG

AJ-P2E060FG   AJ-P2E030FG

AU-XP0512CG (512 GB)
AU-XP0256CG (256 GB)
Memory Card
expressP2 card C series*6

NEW Coming soon *
* Replacement of B series due to manufacturing change.

AU-XP0512BG (512 GB)
AU-XP0256BG (256 GB)
Memory Card
expressP2 card B series*4

AJ-P2E060FG (60 GB)
AJ-P2E030FG (30 GB)
Memory Card
P2card F series

AJ-P2M064BG (64 GB)
Memory Card
microP2 card B series
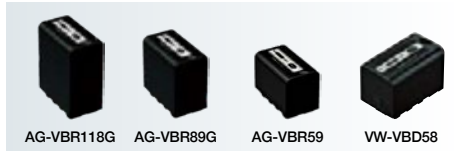
SDXC/SDHC/SD
Memory Card

■ Optional Accessories for AU-EVA1

AG-VBR118G   AG-VBR89G   AG-VBR59   VW-VBD58

AG-BRD50

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

		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-XPD3 AU-XPD1		✓	✓		✓
Wireless Module*1	AJ-WM50	✓	✓	✓	✓	✓
Wireless Module*1	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 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

Products and versions are informed by Partners as of June 2019.

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

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
DNxHR HQ	2048 × 1080, 10 bit 3840 × 2160, 10 bit 4096 × 2160, 10 bit

Cinema Camera

Professional Camera Recorder

CX series

P2HD series

LCD Monitor

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
EI 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: (Main Recorder)	AVC-Intra4K444, AVC-Intra4K422, 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: (Sub Recorder)	AVC-Intra2K422, AVC-Intra422, 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: (Main Codec)	When expressP2 card 512 GB is used* 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: (Sub Codec)	When microP2 card 64 GB is used* 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 (1.5G) /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

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-Intra4K422, VFR ON, 30 fps: Approx. 146 min. AVC-Intra4K-LT, VFR ON, 60 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

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 time 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: Approx. 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)
EI 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] 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

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
		420LongGOP 100M	29.97p, 24p, 25p, 23.98p	4:2:0 8 bit	100 Mbps (VBR)	Approx. 2 hours 40 min.
	3840 x 2160 (UHD)	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.
		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.
	2048 x 1080 (2K)	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.
		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.
	1920 x 1080 (FHD)	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.
		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.
AVCHD	1920 x 1080 (FHD)	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
	1280 x 720 (HD)	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)	
		50 Mbps	Video Speed Class V10, UHS Speed Class 1, Speed Class 10 or faster
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.

Cinema Camera

Professional Camera Recorder

CX series

P2HD series

LCD Monitor

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: (Main Recorder)	AVC-Intra444, AVC-Intra200, AVC-Intra422, AVC-Intra100, ProRes 4444 XQ, ProRes 4444, ProRes 422 HQ, ProRes 422, ProRes 422 LT
Recording Format: (Sub Recorder)	AVC-Intra422, AVC-Intra100, 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: (Main Codec)	When expressP2 card 512 GB is used*[1] 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: (Sub Codec)	When microP2 card 64 GB is used*[1] 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

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

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   SDXC [U3] 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]

UX SERIES
FOR PROFESSIONAL 4K SHOOTING

AVCHD™ Progressive   HDMI   SDXC [U3] 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]

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*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

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

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.

Cinema Camera

Professional Camera Recorder

CX series

P2HD series

LCD Monitor

18

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 Bokeh 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.

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)

An image shot using the wide angle.(AG-UX180/UX90)
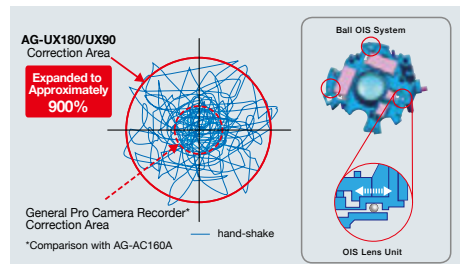
Advanced hand-shake correction (AG-UX180/UX90)

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.

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.

Conceptual Chart of AF Tracking

near
Intelligent AF
Focal Distance
Conventional AF
far
time

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.

Micro Drive Focus Unit

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

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 Pixcels:	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 1/249.6 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, 1080/59.94i)
	F12 (2,000 lx, 3,200 K, 89.9 % reflect, 1080/50i)
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
	8.8M: 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), 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 x 1, Composite 1.0 V [p-p], 75 Ω
HDMI OUT:	HDMI x 1 (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

Built-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 x 1, Output level: 600 Ω, 316 mV
Headphone:	3.5 mm diameter stereo mini jack x 1
Speaker:	20 mm diameter, round x 1

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 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*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
		1920 x 1080/59.94p	100 Mbps
		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/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
		1920 x 1080/50.00p	100 Mbps
		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	720×576/50.00i (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: (Slow Shutter)	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] = 50.00 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: (Synchro Scan)	When [SYSTEM MODE] = 59.94 Hz
	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)
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)
Sensitivity:	When [HIGH SENS.] mode
	F11 (2000 lx, 3200 K, 89.9 % reflect, 1080/59.94i)
	F12 (2000 lx, 3200 K, 89.9 % reflect, 1080/50i)
Minimum Subject Illumination:	
	0.2 lx (F2.8, gain 18 dB, Manual slow shutter 1/2S,
	When [HIGH SENS.] mode)
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/25.00/24.00p/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
		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

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
		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	720×576/50.00i (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]
(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.
	[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.
	UHD	150 Mbps*	—	Approx. 55 min.	Approx. 1 hour 50 min.
		100 Mbps	Approx. 40 min.	Approx. 1 hour 20 min.	Approx. 2 hours 40 min.
	FHD	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
	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:	
[59.94 Hz model]	60p/60i: 1/8 to 1/8000 23.98p: 1/6 to 1/8000 Super Slow: 1/120 to 1/8000
[50 Hz model]	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

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 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 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

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.)

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
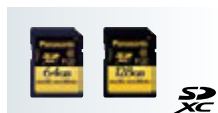Wireless Module*
* Not available in some areas.

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   SDXC   ▶◀ DOLBY AUDIO™

AG-UMR20

Memory Card Portable Recorder

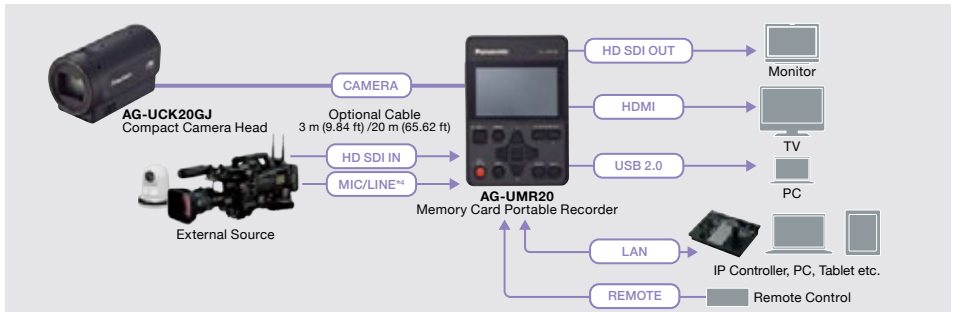**"POVCAM" with a Compact, Lightweight, Free Style Shooting and IP Networking Capability**

• 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.

AG-UCK20GJ
Compact Camera Head

Optional Cable
3 m (9.84 ft) /20 m (65.62 ft)

CAMERA

HD SDI IN

MIC/LINE*4

External Source

AG-UMR20
Memory Card Portable Recorder

HD SDI OUT → Monitor
HDMI → TV
USB 2.0 → PC
LAN → IP Controller, PC, Tablet etc.
REMOTE → Remote Control

*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)

*The cable is optional.

AVCHD™ Progressive HDMI SDXC DOLBY AUDIO™

AG-MDR25
Memory Card Portable Recorder

AG-MDC20GJ
Compact Camera Head (Special Option for the AG-MDR25)

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.

*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: 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)
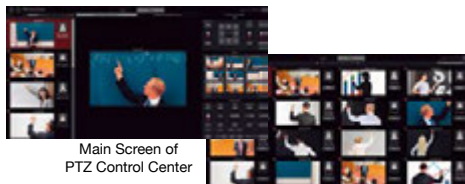
Main Screen of
PTZ Control Center

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)
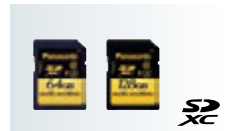

AG-BRD50
Battery Charger

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) x140 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

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: (JPEG)	Resolution 640 x 360: 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: (H.264)	Resolution 3840 x 2160/640 x 360: 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
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

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 × 1-7/16 inches × 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:	0.6 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: (Typ, Center)	1300 TV lines (HDMI output 2160/29.97p, 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	Dolby Audio 256 kbps	Approx. 17 hours
	HE	1440 x 1080	5 Mbps (VBR)	59.94i	50i		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.

Preliminary

AVC ULTRA HDR 4K PROFESSIONAL

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]

AVC ULTRA HDR 4K PROFESSIONAL

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

Live Video Streaming System

NDI | HX Multi-Camera Live Production System
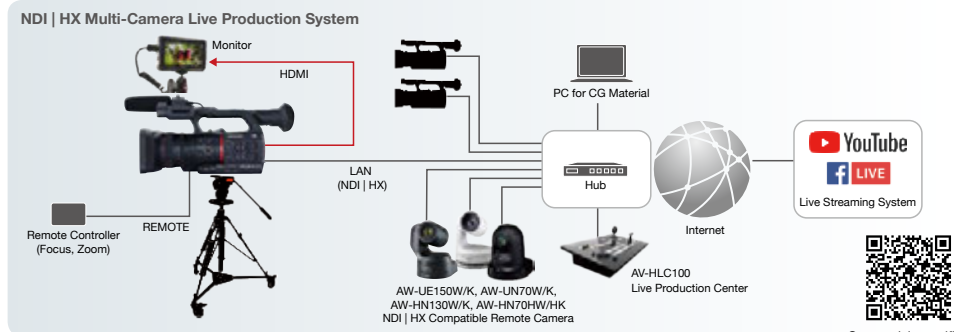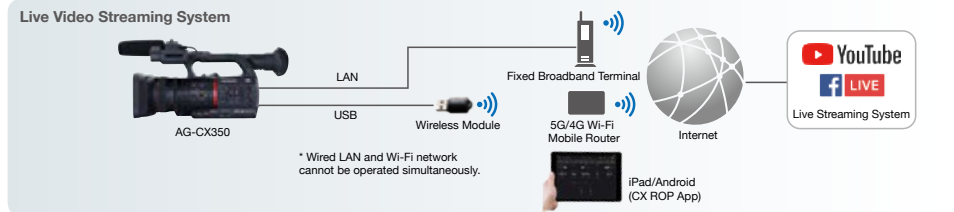
Connectivity-verified Live Video Services

Operating Instruction Manual

*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.

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	1 to 60 fps [50 fps] (Max. 200 Mbps)	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	1 to 30 fps [25 fps]	
		422LongGOP 150M	3840 x 2160	4:2:2	10 bit	150 Mbps (VBR)	29.97p, 25p, 23.98p	1 to 30 fps [25 fps]	
		420LongGOP 150M	3840 x 2160	4:2:0	8 bit	150 Mbps (VBR)	59.94p, 50p	1 to 60 fps [50 fps] (Max. 150 Mbps)	
		420LongGOP 100M	3840 x 2160	4:2:0	8 bit	100 Mbps (VBR)	29.97p, 25p, 23.98p		
	FHD	422ALL-I 200M	1920 x 1080	4:2:2	10 bit	200 Mbps (VBR)	59.94p, 50p	1 to 60 fps [50 fps] Super Slow: 120 fps [100 fps] (Max. 400 Mbps)	
		422ALL-I 100M	1920 x 1080	4:2:2	10 bit	100 Mbps (VBR)	29.97p, 25p, 23.98p, 59.94i, 50i		
		422LongGOP 100M	1920 x 1080	4:2:2	10 bit	100 Mbps (VBR)	59.94p, 50p	1 to 60 fps [50 fps] Super Slow: 120 fps [100 fps] (Max. 200 Mbps)	
		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)		AVC-Intra422*[1]	1920 x 1080	4:2:2	10 bit	200 Mbps (CBR)	59.94p, 50p	—	24 bit LPCM
	FHD	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	—	
		AVC-LongG12*[1]	1920 x 1080	4:2:0	8 bit	12 Mbps (VBR)	59.94p, 50p, 59.94i, 50i	—	16 bit LPCM
	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	—	
		AVC-LongG12*[1]	1280 x 720	4:2:0	8 bit	12 Mbps (VBR)	59.94p, 50p	—	16 bit LPCM

*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	microP2 card A series (64 GB)	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:	When [SYSTEM MODE] = 59.94 Hz
(Slow Shutter)	• 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:	When [SYSTEM MODE] = 59.94 Hz
(Synchro Scan)	• 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*1

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 : HDMI x 1, Type A, HDMI REC REMOTE
supported,
VIERA Link not supported
Output format (4:2:2 10 bit):
・3840 x 2160: 59.94p, 50p, 29.97p, 25p, 23.98p
・1920 x 1080: 59.94p, 50p, 59.94i, 50i, 29.97p, 25p, 23.98p
・1280 x 720: 59.94p, 50p
・720 x 480: 59.94p ・720 x 576: 50p

VIDEO OUT: 3.5 mm diameter mini jack, composite 1.0 V [p-p], 75 Ω

Audio Input/Output

Built-in Microphone: Stereo microphone

Input 1/2: XLR (3-pin) x 2 (INPUT1, INPUT2)
Input high impedance,
LINE/MIC/MIC+48V (switchable SW)
MIC: −40 dBu/−50 dBu/−60 dBu (switchable menu)
LINE: +4 dBu/0 dBu (switchable menu)

SDI OUT: Linear PCM 4 ch

HDMI OUT: Linear PCM 2 ch

Headphone: 3.5 mm diameter stereo mini jack x 1

AV OUT: 3.5 mm diameter stereo mini jack x 1, Output level: 600 Ω, 316 mV

Speaker: 20 mm diameter, round x 1

Other Input/Output

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

REMOTE: 2.5 mm diameter super mini jack

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.

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.
		50 Mbps	Approx. 2 hours 40 min.	Approx. 5 hours 20 min.
AVCHD	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
	SA	9 Mbps	Approx. 16 hours 30 min.	Approx. 34 hours
P2*	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.

Cinema Camera

Professional Camera Recorder

CX series

P2HD series

LCD Monitor

AJ-PX5100GJ AVC ULTRA   HDR
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"**, "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.
- 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**", "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-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**", "4G/LTE**" and "Bonding Services**" (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-YCX500G 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*[4] 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 AVCHD*[5] 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)

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
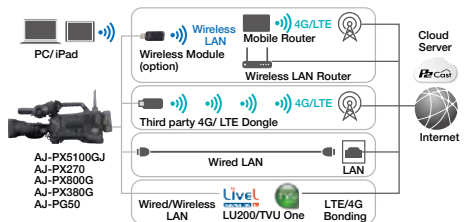
* For details, see, "Streaming Mode" and "Streaming Output;" and "Notes Regarding Network Functions."
* It may not be possible to deliver streaming from the unit when services such as Facebook or YouTube stopped or discontinued operation for some reason.
*1: P2 Streaming Receiver software (Windows only, not supported by Mac; available free of charge) is required for receiving the QoS mode.
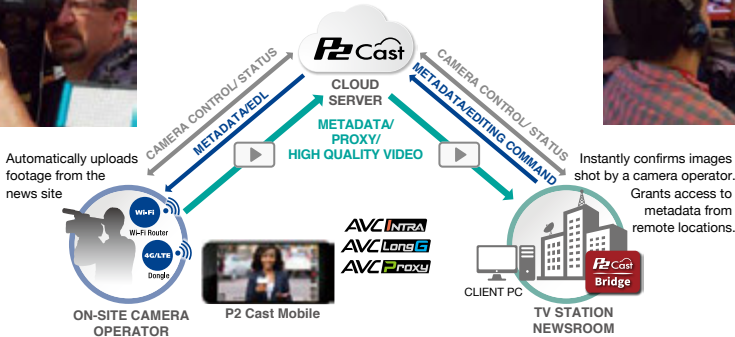*2: A server with the Streaming Receiver Server Kit (Optional: AJ-SRK001G) installed.

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

P2 Cast Case Study
(US COX MEDIA GROUP)

Automatically uploads footage from the news site

CLOUD SERVER

CAMERA CONTROL/ STATUS
METADATA/EDL

CAMERA CONTROL/ STATUS
METADATA/EDITING COMMAND

METADATA/ PROXY/ HIGH QUALITY VIDEO

Instantly confirms images shot by a camera operator. Grants access to metadata from remote locations.

Wi-Fi
Wi-Fi Router
4G/LTE
Dongle

ON-SITE CAMERA OPERATOR

P2 Cast Mobile

AVC INTRA
AVC Long G
AVC Proxy

CLIENT PC

TV STATION NEWSROOM

P2 Cast Bridge

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.

Start Stop Start Stop Start Stop
Scene 1 Rec Upload
Scene 2 Rec Upload
Scene 3 Rec Upload

Automatic Transfer
Cloud Server

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 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.

Split Split Split Split Split
2 min 2 min 2 min 2 min 2 min
META DATA META DATA META DATA META DATA META DATA

Automatic Transfer
Cloud Server

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 Cast Mobile App Store

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.

Cinema Camera

Professional Camera Recorder

CX series

P2HD series

LCD Monitor

AU-XPD3*1

THUNDERBOLT.

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-XPD1*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)

V90 SDXC II

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-XPD3 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-XPD1 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-P2E030FG	✓	✓	✓	✓		✓	✓
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.

Cinema Camera

Professional Camera Recorder

CX series

P2HD series

LCD Monitor

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

Bound Cable made by Canare Electric
V2PCS25-5CFWCE-SF-SC (82 feet /25 m)
V2PCS50-5CFWCE-SF-SC (164 feet /50 m)
V2PCS100-5CFWCE-SF-SC (328 feet /100 m)

Remote Cable
(bundled with AG-CA300G)

Power supply

G/L

G/L, Return Video, Tally

HD/SD

HD/SD

P2HD Camera Recorder

AG-BS300
Base Station

G/L   Return
Video/
Tally

AG-EC4G
Extension Control Unit

max. 328 feet /100 m

Headset
(produced by
other manufacturer)

Headset
(produced by
other manufacturer)

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
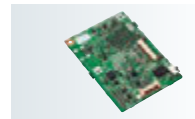
AJ-YCX500G
AVCHD Codec Board

AJ-WM50
AJ-WM50G *NEW*
Wireless Module*1
* Not available in some areas.

AJ-WM30
Wireless Module*1
* Not available in some areas.

Connection Confirmed
Wireless Module*1
(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	Card x 1 (64 GB)
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 × 1080 720p mode: 1280 × 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	
LOW	480 x 270	30 fps/25 fps	800 kbps	H.264 Baseline Profile
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
✓		✓	✓
✓	✓	✓	✓
		✓	
✓		✓	✓
✓		✓	✓
		✓	

P2 Specifications

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, /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
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:	[59.94 Hz]
(Preset)	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:	60i/60p mode: 1/60.1 sec. to 1/7200 sec.
(Synchro Scan)	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:	XLR x 2, 3-pin, LINE/MIC/MIC +48 V switchable type
(CH1/CH2)	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:	XLR x 1, 5-pin, equilibrium low impedance
(CH1/CH2)	4 dBu (–3 dBu/0 dBu/4 dBu selectable menu)
PHONES Out:	Stere 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, 1080/23.98psF, 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

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 x 1, microP2 card 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-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 x 2 (CH1, CH2), Output level: 600 Ω, 316 mV
Phones OUT:	3.5 mm diameter stereo mini jack ×1
Speaker:	20 mm diameter, round x 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: 1/2/4/6/ 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, 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

P2 Specifications

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 × 1, HD (3 G/1.5 G), SD: 0.8 V [p-p], 75 Ω
HDMI OUT:	HDMI × 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

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, P$_B$/P$_R$: 37.0879 MHz
	(50 Hz) Y: 74.2500 MHz, P$_B$/P$_R$: 37.1250 MHz
	AVC-Intra100/AVC-LongG25
	(1080/59p) Y: 148.3516 MHz, P$_B$/P$_R$: 74.1758 MHz
	(1080/50p) Y: 148.5000 MHz, P$_B$/P$_R$: 74.2500 MHz
	DVCPRO50: Y: 13.5 MHz, P$_B$/P$_R$: 6.75 MHz
	DVCPRO: Y: 13.5 MHz, P$_B$/P$_R$: 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: P$_B$: P$_R$ = 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 x 1080 (1080/59.94i, 1080/50i),
	1280 x 720 (720/59.94p, 720/50p)
	AVC-Intra50:
	1440×1080 (1080/59.94i, 1080/50i)
	960×720 (720/59.94p, 720/50p)

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.

P2 Specifications

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.

US Only Model

BT-LH1770P

420 mm (16.5 inches)

Connector: SDI 1/2 (3G) | VBS | HDMI | AUDIO IN | HEADPHONE
Power: AC | DC

HƆMI

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
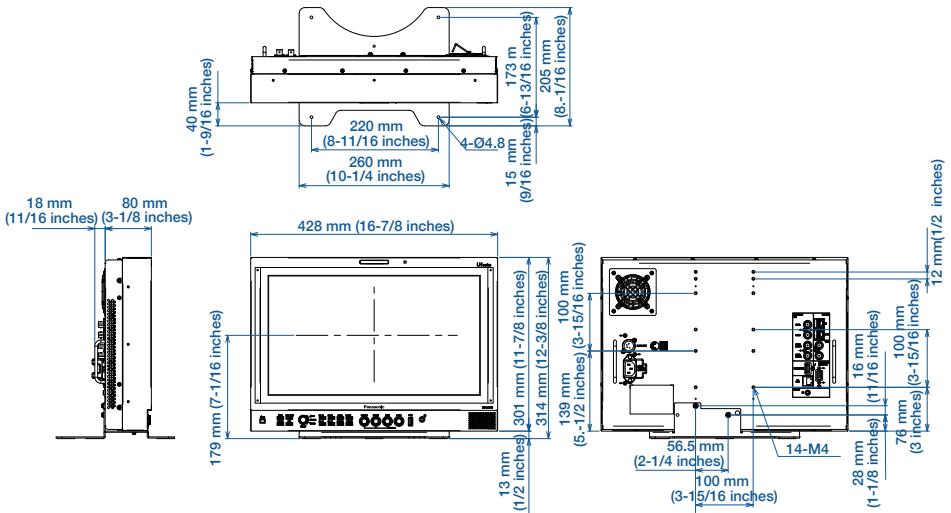
BT-LH1770P　　US Only Model

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 V 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

Others

Supplied Accessories:
　　Operation Manual, Parallel remote connector,
　　AC power cord, Monitor stand,
　　Screw for monitor stand

*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 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/4glte.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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Panasonic®

Panasonic Corporation
Connected Solutions Company

2-15 Matsuba-cho, Kadoma, Osaka 571-8503 Japan

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

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

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