AG-DVX200
Memory Card 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 5-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*/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

AG-UX180
Memory Card Camera Recorder

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 5-axis Hybrid Image Stabilizer. (FHD only)
- Dual Codec Recording allows images to be simultaneously recorded into two different, Main UHD*/FHD and Sub FHD, formats.
- Two SD Memory Card slots boosts recording reliability: Background Recording, Relay Recording, Simultaneous Recording.
- The manual three rings and other controls are specially designed to satisfy professional users.
- Equipped with professional interfaces such as 3G-SDI out, XLR in and TC preset in/out.
- Wireless remote control from an iPad.*4

*Pictures are the example of the configuration using options.
*1: Actual recording is UHD (3840 x 2160) 59.94p/50p.
*2: It does not work in 4K / UHD shooting mode.
*3: UHD 60p/50p recording mode is not supported.
*4: iOS 7.1, iOS 8.1, and iOS 9 are supported. The optional AJ-WM30/WM50 Wireless Module is required for wireless connection.
*5: Equivalent to 35mm under 4K 24p (aspect ratio of 17:9) Wide angle 24mm is the widest in the industry for a camcorder with integrated lens. (As of September 2018, according to Panasonic survey.)
*6: 35mm film camera equivalent in FHD mode. 35.4mm in UHD mode.
*7: 60 Hz area model: UHD 30p/24p, FHD 60p. 50 Hz area model: UHD 25p, FHD 50p.
4K (UHD) /FHD Camcorder with a Wide-Angle 24.5 mm**, 15x Optical Zoom Lens and 1.0-type MOS Sensor.

- High-definition 1.0-type MOS sensor.
- UHD 30p (25p**) /24p, FHD 60p (50p**) 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 5-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.*

### 4K Camcorder Comparison Table

<table>
<thead>
<tr>
<th>Feature</th>
<th>AG-DVX200</th>
<th>AG-UX180</th>
<th>AG-UX90</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lens Angle of View (FHD)/ Magnification</td>
<td>28 mm to 365.3 mm/x13</td>
<td>24 mm to 480 mm/x20</td>
<td>25.4 mm to 367.5 mm/x15</td>
</tr>
<tr>
<td>i.Zoom/Digital Zoom</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>5-Axis Hybrid Image Stabilizer</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Manual Three Rings</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Intelligent AF</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Custom AF</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Expand/Peaking</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>One-Push AF</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Manual Focus Assist</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Focus Transition</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Area Function</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Image Sensor</td>
<td>4/3-type MOS</td>
<td>1.0-type (effective size) MOS</td>
<td>1.0-type MOS</td>
</tr>
<tr>
<td>Gamma</td>
<td>V-Log L + 8 mode</td>
<td>8 mode</td>
<td>8 mode</td>
</tr>
<tr>
<td>16-Axis Independent Color Correction</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>IR (Infrared) Shooting in Dark Places</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Skin Detail/Master Detail</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Variable Frame Rate</td>
<td>FHD: 2 fps to 120 fps</td>
<td>FHD: 2 fps to 60 fps</td>
<td>FHD: 2 fps to 60 fps</td>
</tr>
<tr>
<td>Super Slow</td>
<td>—</td>
<td>HD: 120 fps</td>
<td>—</td>
</tr>
<tr>
<td>Recording Format</td>
<td>4K/UHD/FHD/HD/SD</td>
<td>4K/UHD/FHD/HD/SD</td>
<td>UHD/FHD/HD/SD</td>
</tr>
<tr>
<td>Relay/Simultaneous Recording</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Background Recording</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Dual Codec Recording</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Pre Rec/Interval Rec</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Time Stamp</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>16 bit PCM Audio</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>XLR Microphone /Line Input</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>LCD Monitor</td>
<td>4.3-type</td>
<td>3.5-type</td>
<td>3.5-type</td>
</tr>
<tr>
<td>(Approx. 2,760,000 dots)</td>
<td>(Approx. 1,150,000 dots)</td>
<td>(Approx. 1,150,000 dots)</td>
<td>(Approx. 1,150,000 dots)</td>
</tr>
<tr>
<td>Viewfinder</td>
<td>0.39-type OLED</td>
<td>0.39-type OLED</td>
<td>0.24-type LCD</td>
</tr>
<tr>
<td>(Approx. 2,360,000 dots)</td>
<td>(Approx. 2,360,000 dots)</td>
<td>(Approx. 1,560,000 dots)</td>
<td></td>
</tr>
<tr>
<td>User Buttons</td>
<td>4 buttons on the body, 4 buttons on the touch screen</td>
<td>4 buttons on the body, 9 buttons on the touch screen</td>
<td>4 buttons on the body, 9 buttons on the touch screen</td>
</tr>
<tr>
<td>ND Filters</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>SDI OUT</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>HDMI OUT</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>TC PRESET</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>USB (HOST/DEVICE)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>iPad Remote</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
4K Camcorder Features and Functions

Applicable function varies depending on the models. Please see page 18 for details.

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.
- 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 mm1 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 supertelephoto 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.

5-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**: 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)
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.

4K Camcorder
HD Camcorder
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 35mm, 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.
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 (6.35 lb)
(battery 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)
(7-1/8 inches x 8-1/2 inches x 14-23/32 inches)

Camera Unit

Pickup Device: 4/3-type MOS

Effective Pixels:
FHD (1920 x 1080): 15.49 megapixel

UHD (3840 x 2160): 59.49p/50.00p: 8.71 megapixel
UHD (3840 x 2160) 29.7p/25.00: 12.89 megapixel
4K (4096 x 2160) 24p: 13.35 megapixel

Lens: Optical image stabilization lens, motorized/manual mode switching, 13x zoom
F2.8 to F4.5 (f=12.8 mm to 167 mm)
36 mm equivalent:
FHD: 28.0 mm to 365.3 mm
UHD 59.49p/50.00p: 37.2 mm to 485.1 mm
UHD 29.7p/25.00: 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
- 60/60p mode: 1/80 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.,
- 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.,
- 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.,
1/125 sec., 1/150 sec., 1/2000 sec., 1/1500 sec.,
1/1800 sec., 1/2500 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.

When [SYSTEM MODE] = 50 Hz
- 50/50p mode: 1/60 sec., 1/80 sec.,
1/100 sec., 1/125 sec., 1/180 sec., 1/250 sec.,
1/350 sec., 1/500 sec., 1/750 sec., 1/1000 sec.,
1/1500 sec., 1/2000 sec., 1/3000 sec.,
1/4000 sec., 1/8000 sec.
- 25p mode: 1/25 sec., 1/50 sec., 1/60 sec.,
1/100 sec., 1/125 sec., 1/180 sec., 1/250 sec.,
1/350 sec., 1/500 sec., 1/750 sec., 1/1000 sec.,
1/1500 sec., 1/2000 sec., 1/3000 sec.,
1/4000 sec., 1/8000 sec.

Shutter Speed: When [SYSTEM MODE] = 59.94 Hz
(Slow)
- 60/60p 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
- 50/50p mode: 1/2 sec., 1/3 sec., 1/6 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
- 60/60p mode: 1/60.0 sec. to 1/249.8 sec.
- 30p mode: 1/30.0 sec. to 1/249.8 sec.
- 24p mode: 1/24.0 sec. to 1/249.8 sec.
When [SYSTEM MODE] = 50 Hz
- 50/50p 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, 45, 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
(1.0 x to 1.54x, Variable zoom)

Lens Hood: Hood with lens cover

Memory Card Recorder

Recording Media*: 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**: 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

<table>
<thead>
<tr>
<th>Mode</th>
<th>Video Format</th>
<th>Bit Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Main Recording Side]</td>
<td>FHD/29.97p/25.00p/23.98p 100 Mbps</td>
<td>50 Mbps</td>
</tr>
<tr>
<td>[Sub Recording Side]</td>
<td>FHD/29.97p/25.00p/23.98p 100 Mbps</td>
<td>50 Mbps</td>
</tr>
</tbody>
</table>

**Video Input/Output**

SDI OUT: BNC x 1, Composite 1.0 V [p-p], 75 Ω, 3 G/1.5 G HD SDI, SD-SDI supported

HDMI OUT: HDMI x 1 (HDMI type A terminal, not compatible with VIERA Link)

**Audio Input**

Built-in Microphone: Stereo microphone

XLR IN: XLR (3-pin) x 2 (INPUT1, INPUT2)

Audio OUT: 2 CH (LPCM) switchable gain: 0 dB/–6 dB/–12 dB

**Audio Output**

SDI OUT: 2 CH (LPCM)

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

**Other Input/Output**

CAM REMOTE: 2.5 mm diameter super mini jack x 1 (ZOOM, S/S)

TC PRESET IN/OUT: BNC x 1, Used as the input and output terminals

USB HOST: Type A connector, 9-pin, bus power supported

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)

**Included Accessories**

Battery (VV-VBD58), 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

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

When System Frequency is 50.00 Hz

<table>
<thead>
<tr>
<th>Recording Mode</th>
<th>Recording Format</th>
<th>Bit Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>4K</td>
<td>4096 x 2160/24.00p</td>
<td>100 Mbps</td>
</tr>
<tr>
<td>UHD</td>
<td>3840 x 2160/50.00p</td>
<td>150 Mbps</td>
</tr>
<tr>
<td>MOV/MP4</td>
<td>1920 x 1080/50.00p/25.00p (ALL-I)</td>
<td>100 Mbps</td>
</tr>
<tr>
<td>FHD</td>
<td>1920 x 1080/50.00p</td>
<td>100 Mbps</td>
</tr>
<tr>
<td>PS</td>
<td>1920 x 1080/50.00i</td>
<td>25 Mbps</td>
</tr>
<tr>
<td>PH</td>
<td>1920 x 1080/50.00i</td>
<td>21 Mbps</td>
</tr>
<tr>
<td>HA</td>
<td>1920 x 1080/50.00i</td>
<td>17 Mbps</td>
</tr>
<tr>
<td>HE</td>
<td>1440 x 1080/50.00i</td>
<td>5 Mbps</td>
</tr>
<tr>
<td>PM</td>
<td>1280 x 720/50.00p</td>
<td>8 Mbps</td>
</tr>
<tr>
<td>SA</td>
<td>720x576/50.00i (SIDE CROP/LETTERBOX/SQUEEZE)</td>
<td>9 Mbps</td>
</tr>
</tbody>
</table>
## AG-UX180

### General

<table>
<thead>
<tr>
<th>Power:</th>
<th>DC 7.28 V (when the battery is used) DC 12 V (when the AC adaptor is used)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Consumption:</td>
<td>19.7 W (when the LCD monitor is used)</td>
</tr>
<tr>
<td>Operating Temperature:</td>
<td>0 °C to 40 °C (32 °F to 104 °F)</td>
</tr>
<tr>
<td>Operating Humidity:</td>
<td>10 % to 80 % (no condensation)</td>
</tr>
<tr>
<td>Weight:</td>
<td>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)</td>
</tr>
<tr>
<td>Dimensions:</td>
<td>173 mm (W) x 195 mm (H) x 346 mm (D) (excluding protrusion and eye cup) 173 mm (W) x 195 mm (H) x 392 mm (D) (including eye cup, excluding protrusion)</td>
</tr>
</tbody>
</table>

### Camera Unit

| Pickup Device: | 1.0-type (effective size) |
| Effective Pixels: | 8.79 megapixel: UHD/FHD 59.94p/29.97p/23.98p 9.46 megapixel: 4K 2.4p |
| 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: 4K24.0p |
| 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 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, Bich, preset 3200 K/preset 5600 K/VAR (2000 K to 15000 K) |

### Shutter Speed:

When [SYSTEM MODE] = 59.94 Hz


When [SYSTEM MODE] = 50.00 Hz


### Memory Card Recorder

| Recording Media: | 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*, Dual codec |
| Still Picture Recording Mode: | JPEG (DCF/Exif2.2) |

### Digital Video

| Video Signal for External Output: | 8bit:4:2:2*1 |
| 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: Approx. 1 hour 20 min. Approx. 8 hour 30 min.
- (32 GB) Approx. 2 hour 40 min. Approx. 17 hour 10 min.
- (64 GB) Approx. 5 hour 20 min. Approx. 35 hours

Video Input/Output
SDI OUT: BNC x 1, 0.8 V [p-p], 75 Ω, 3 G/1.5 G, HD SDI, SDI SDI supported
Output format: 1080/59.94p LEVEL-A/50.00p LEVEL-A, 1080/29.77pF/25.00pF/24.00pF/23.98pF, 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/29.77p/25.00p/24.00p/23.98p, 1080/59.94p/50.00p/29.77p/25.00p/24.00p/23.98p/59.94i/50.00i, 720/59.94p/50.00p, 480/59.94i, 576/50.00i

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 (PCM) switchable gain: 0 dB/–6 dB/–12 dB
HDMI:
- 2 ch (PCM)
AUDIO OUTPUT:
- 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 x 1 (ZOOM, S/S)
- 3.5 mm diameter mini jack x 1 (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**
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 Type 4

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

<table>
<thead>
<tr>
<th>Recording Mode</th>
<th>Recording Format</th>
<th>Bit Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOV/MP4</td>
<td>4K 2160 x 200p 30i</td>
<td>200 Mbps</td>
</tr>
<tr>
<td></td>
<td>3840 x 2160/59.94p</td>
<td>50 Mbps</td>
</tr>
<tr>
<td></td>
<td>1920 x 1080/59.94p</td>
<td>100 Mbps</td>
</tr>
<tr>
<td></td>
<td>1920 x 1080/59.94i</td>
<td>100 Mbps</td>
</tr>
<tr>
<td></td>
<td>1920 x 1080/29.77p/23.98p</td>
<td>200 Mbps</td>
</tr>
<tr>
<td>AVCHD</td>
<td>PS 1080 x 59.94p</td>
<td>25 Mbps</td>
</tr>
<tr>
<td></td>
<td>PH 1080 x 59.94i</td>
<td>21 Mbps</td>
</tr>
<tr>
<td></td>
<td>HA 1080 x 59.94i</td>
<td>17 Mbps</td>
</tr>
<tr>
<td></td>
<td>HE 1440 x 59.94i</td>
<td>5 Mbps</td>
</tr>
<tr>
<td></td>
<td>PM 1280 x 720/59.94p</td>
<td>8 Mbps</td>
</tr>
<tr>
<td></td>
<td>SA 720 x 480/59.94i</td>
<td>9 Mbps</td>
</tr>
</tbody>
</table>

When System Frequency is 50.00 Hz

<table>
<thead>
<tr>
<th>Recording Mode</th>
<th>Recording Format</th>
<th>Bit Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOV/MP4</td>
<td>4K 2160 x 200p 30i</td>
<td>200 Mbps</td>
</tr>
<tr>
<td></td>
<td>3840 x 2160/59.94p</td>
<td>50 Mbps</td>
</tr>
<tr>
<td></td>
<td>1920 x 1080/59.94p</td>
<td>100 Mbps</td>
</tr>
<tr>
<td></td>
<td>1920 x 1080/59.94i</td>
<td>100 Mbps</td>
</tr>
<tr>
<td></td>
<td>1920 x 1080/29.77p/23.98p</td>
<td>200 Mbps</td>
</tr>
<tr>
<td>AVCHD</td>
<td>PS 1080 x 50.00p</td>
<td>25 Mbps</td>
</tr>
<tr>
<td></td>
<td>PH 1080 x 50.00i</td>
<td>21 Mbps</td>
</tr>
<tr>
<td></td>
<td>HA 1080 x 50.00i</td>
<td>17 Mbps</td>
</tr>
<tr>
<td></td>
<td>HE 1440 x 50.00i</td>
<td>5 Mbps</td>
</tr>
<tr>
<td></td>
<td>PM 1280 x 720/50.00p</td>
<td>8 Mbps</td>
</tr>
<tr>
<td></td>
<td>SA 720x576/50.00i</td>
<td>9 Mbps</td>
</tr>
</tbody>
</table>

Dual Codec Recording
When FHD 50 Mbps mode

<table>
<thead>
<tr>
<th>Recording Mode</th>
<th>Recording Format</th>
<th>Bit Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main-Recording</td>
<td>MOV/MP4 29.77p/25p/23.98p</td>
<td>100 Mbps</td>
</tr>
<tr>
<td>Sub-Recording</td>
<td>MOV/MP4* 29.77p/25p/23.98p</td>
<td>50 Mbps</td>
</tr>
</tbody>
</table>

* * Same recording mode selected in the main-recording side.

When FHD 8 Mbps mode

<table>
<thead>
<tr>
<th>Recording Mode</th>
<th>Recording Format</th>
<th>Bit Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main-Recording</td>
<td>MOV/MP4 29.77p/25p/23.98p</td>
<td>100 Mbps</td>
</tr>
<tr>
<td></td>
<td>FHD 59.94p/50p/29.77p/23.98p</td>
<td>200 Mbps</td>
</tr>
<tr>
<td>Sub-Recording</td>
<td>MOV/MP4* 29.77p/25p/23.98p</td>
<td>8 Mbps</td>
</tr>
</tbody>
</table>

* Same recording mode selected in the main-recording side.
4K Camcorder Specifications

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 215 mm (D) (excluding protrusion and eye cup)

32 mm equivalent: 24.5 mm to 367.5 mm: UHD 59.94p/29.97p/23.98p

35 mm equivalent: F=2.8 to F=4.5 (f=8.8 mm to 132 mm)

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: 24.5 mm to 367.5 mm: FHD 59.94p/29.97p/23.98p

[50.00 Hz model]

f=35.4 mm to 531.0 mm: UHD 59.94p/29.97p/23.98p

[50.00 Hz model]

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)

Shooting Distance (M.O.D.): Approx. 1.0 m from the front lens

Gain Setting:

L/M/H selector switch

Extended ON: ~3 dB to 30 dB

[Adjustable in 1 dB steps]

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]

60/60p mode: 1/2 sec., 1/4 sec., 1/8 sec., 1/15 sec., 1/30 sec.


[50.00 Hz model]

50/50p mode: 1/2 sec., 1/3 sec., 1/6 sec., 1/12 sec.


VFR Recording Frame Rate:

[59.94 Hz model]

30p mode: 2, 12, 24, 25, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50

[50.00 Hz model]

25p mode: 2, 12, 24, 25, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50

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: SDHC Memory Card (4 GB to 32 GB), SDXC Memory Card (48 GB to 128 GB)

Recording Slot: Slot 5 x 2

System Format: [59.94 Hz model]

50.00 Hz

Recoding 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.

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 Input/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 Input/Output
Camera Remote:
2.5 mm diameter mini jack x 1 (ZOOM, S/S)
3.5 mm diameter mini jack x 1 (FOCUS, IRIS)

USB HOST:
Type A 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 x 2, 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 Time of AG-DVX200/UX180/UX90

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

* Not support AG-UX90.

Recording Format

59.94 Hz Model

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

50.00 Hz Model

<table>
<thead>
<tr>
<th>Recording Mode</th>
<th>Recording Format</th>
<th>Bit Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOV/MP4</td>
<td>UHD 3840 x 2160/25.00p</td>
<td>100 Mbps</td>
</tr>
<tr>
<td></td>
<td>FHD 1920 x 1080/50.00p/25.00p/50.00i</td>
<td>50 Mbps</td>
</tr>
<tr>
<td>AVCHD</td>
<td>PS 1920 x 1080/50.00p</td>
<td>25 Mbps</td>
</tr>
<tr>
<td></td>
<td>PH 1920 x 1080/50.00i</td>
<td>21 Mbps</td>
</tr>
<tr>
<td></td>
<td>HA 1920 x 1080/50.00i</td>
<td>17 Mbps</td>
</tr>
<tr>
<td></td>
<td>HE 1440 x 1080/50.00i</td>
<td>5 Mbps</td>
</tr>
<tr>
<td></td>
<td>PM 1280 x 720/50.00p</td>
<td>8 Mbps</td>
</tr>
<tr>
<td></td>
<td>SA 720 x 675/50.00i (SIDE CROP/SQUEEZE)</td>
<td>9 Mbps</td>
</tr>
</tbody>
</table>
### 4K Camcorder Optional Accessories

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AG-VBR118G</td>
<td>Battery Pack (11,800 mAh)</td>
</tr>
<tr>
<td>AG-VBR89G</td>
<td>Battery Pack (8,850 mAh)</td>
</tr>
<tr>
<td>AG-VBR59</td>
<td>Battery Pack (5,900 mAh)</td>
</tr>
<tr>
<td>AG-BRD50</td>
<td>Battery Charger</td>
</tr>
<tr>
<td>VW-VBD58</td>
<td>Battery Pack (5,800 mAh)</td>
</tr>
<tr>
<td>AG-B23</td>
<td>Battery Charger</td>
</tr>
<tr>
<td>AG-MC200G</td>
<td>XLR Microphone</td>
</tr>
<tr>
<td>VW-LED1</td>
<td>LED Video Light</td>
</tr>
<tr>
<td>VW-VBD58</td>
<td>Battery Pack (5,800 mAh)</td>
</tr>
<tr>
<td>AG-B23</td>
<td>Battery Charger</td>
</tr>
<tr>
<td>AG-MC200G</td>
<td>XLR Microphone</td>
</tr>
<tr>
<td>AJ-WM50</td>
<td>Wireless Module</td>
</tr>
<tr>
<td>AJ-WM30</td>
<td>Wireless Module</td>
</tr>
<tr>
<td>BT-4LH310</td>
<td>787.4 mm (31 inches) 4K LCD Monitor</td>
</tr>
<tr>
<td>AG-VBR118G</td>
<td>Battery Pack (11,800 mAh)</td>
</tr>
<tr>
<td>AG-VBR89G</td>
<td>Battery Pack (8,850 mAh)</td>
</tr>
<tr>
<td>AG-VBR59</td>
<td>Battery Pack (5,900 mAh)</td>
</tr>
<tr>
<td>AG-BRD50</td>
<td>Battery Charger</td>
</tr>
<tr>
<td>AG-VBR118G</td>
<td>Battery Pack (11,800 mAh)</td>
</tr>
<tr>
<td>AG-VBR89G</td>
<td>Battery Pack (8,850 mAh)</td>
</tr>
<tr>
<td>AG-VBR59</td>
<td>Battery Pack (5,900 mAh)</td>
</tr>
<tr>
<td>AG-BRD50</td>
<td>Battery Charger</td>
</tr>
<tr>
<td>SDXC/SDHC/SD Memory Card</td>
<td>SDXC/SDHC/SD Memory Card is necessary for video recording of 100 Mbps or more. SDXC Memory Card of 64 GB or more is necessary for video recording of UHD2160/59.94p/50.00p 150 M.</td>
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</tbody>
</table>

4K Camcorder options

<table>
<thead>
<tr>
<th>Item</th>
<th>AG-DVX200</th>
<th>AG-UX180</th>
<th>AG-UX90</th>
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</thead>
<tbody>
<tr>
<td>Battery Pack (11,800 mAh)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Battery Pack (8,850 mAh)</td>
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<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Battery Pack (5,900 mAh)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Battery Charger</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Battery Pack (5,800 mAh)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Battery Charger</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>XLR Microphone</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Wireless Module*1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Wireless Module*1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>787.4 mm (31 inches) 4K LCD Monitor</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

*: It is possible to use it. **: Not available in some areas. **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 M.