VariCam/Cinema Camera

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

- Super 35mm 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.
- For 2K/HD recording, Apple ProRes∗ 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.

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∗ 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.
VariCam LT
4K Camera Recorder

| 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.

- Same Super 35mm 4K MOS sensor as VariCam 35.
  - 14+ stops of latitude with “V-Log” gamma.
  - Dual Native ISO (ISO800/ISO5000).
- A standard EF lens mount* 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

| 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 35mm 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.*4 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.

* 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 Digital. *2: Apple ProRes is licensed from Apple Inc. Apple ProRes codec from Assistos under license. Assistos is trademark and copyright of Assistos 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

Super 35mm Native 4K Sensor
All models in the Cinema VariCam Series are equipped with the super 35mm 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-WM30 or AJ-WM50 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
  - 10.0 Gbps*1
  - approx. 7 min*1

Daisy-chain performance
- 1 TB
  - 6 hours
  - 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.
As of September, 2018

Custom Splash Screen and Owner Information

The camera will have 2 visible and indelible marks of ownership.
- Custom Splash Screen: You can personalize your flash screen with any logo, text, or graphics.
- Owner Information: You can input the name, address, and contact information of the equipment’s owner.

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

---

### Module Configuration

<table>
<thead>
<tr>
<th>Module Configuration</th>
<th>VariCam PURE</th>
<th>VariCam 35</th>
<th>VariCam LT</th>
<th>AU-EVA1</th>
<th>VariCam HS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camera Module:</td>
<td>AU-V35C1G</td>
<td>AU-V35C1G</td>
<td>AU-V35LT1G</td>
<td>AU-EVA1</td>
<td>AU-V23HS1G</td>
</tr>
<tr>
<td>Recording Module:</td>
<td>AU-XCRRAW2</td>
<td>AU-XCRRAW2</td>
<td>(Integrated)</td>
<td>(Integrated)</td>
<td>AU-VREC1G</td>
</tr>
</tbody>
</table>

| Viewfinder           | AU-VCVF2GJ   | AU-VCVF2GJ | AU-VCVF20GJ | 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

<table>
<thead>
<tr>
<th>Sensor Type</th>
<th>VariCam PURE</th>
<th>VariCam 35</th>
<th>VariCam LT</th>
<th>AU-EVA1</th>
<th>VariCam HS</th>
</tr>
</thead>
<tbody>
<tr>
<td>super35 mm, MOS, 8.9 megapixels</td>
<td>AU-V35C1G</td>
<td>AU-V35C1G</td>
<td>AU-V35LT1G</td>
<td>AU-EVA1</td>
<td>AU-V23HS1G</td>
</tr>
</tbody>
</table>

### Exposure Latitude

14+ stop (VariCam PURE)
14+ stop (VariCam 35)
14+ stop (VariCam LT)
14 stop (AU-EVA1)
14 stop (VariCam HS)

### V-Gamut Color Space

VariCam PURE
VariCam 35
VariCam LT
AU-EVA1
VariCam HS

### Dual Native ISO

ISO 800, ISO 5000
ISO 800, ISO 5000
ISO 800, ISO 5000
ISO 800, ISO 2500

### In Camera Grading

VariCam PURE
VariCam 35
VariCam LT
AU-EVA1
VariCam HS

### Recording Media

<table>
<thead>
<tr>
<th>Recording Format</th>
<th>VariCam PURE</th>
<th>VariCam 35</th>
<th>VariCam LT</th>
<th>AU-EVA1</th>
<th>VariCam HS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CODEX Capture Drive</td>
<td>expressP2 card, P2 card, microP2 card (sub)</td>
<td>expressP2 card, P2 card, SD Memory Card (proxy)</td>
<td>SD Memory Card</td>
<td>expressP2 card, P2 card, microP2 card (sub)</td>
<td></td>
</tr>
</tbody>
</table>

### Maximum Frame Rate

VariCam PURE
VariCam 35
VariCam LT
AU-EVA1
VariCam HS

### Dual Codec Recording

VariCam PURE
VariCam 35
VariCam LT
AU-EVA1
VariCam HS

### V-RAW Recording

VariCam PURE
VariCam 35
VariCam LT
AU-EVA1
VariCam HS

### AVC-ULTRA Recording

VariCam PURE
VariCam 35
VariCam LT
AU-EVA1
VariCam HS

### ProRes Recording

VariCam PURE
VariCam 35
VariCam LT
AU-EVA1
VariCam HS

### RAW Output

VariCam PURE
VariCam 35
VariCam LT
AU-EVA1
VariCam HS

### Remote Control App supported

VariCam PURE
VariCam 35
VariCam LT
AU-EVA1
VariCam HS

### Custom Splash Screen and Owner Information

VariCam PURE
VariCam 35
VariCam LT
AU-EVA1
VariCam HS

*1: This function will be supported by version upgrade.
*2: “EVA ROP App” for iPad or Android tablet.
### VariCam Modules, Accessories, Memory Card Drives and Memory Cards

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AU-V35C1G</td>
<td>4K Camera Module</td>
</tr>
<tr>
<td>AU-V23HS1G</td>
<td>2/3 type HD Camera Module</td>
</tr>
<tr>
<td>AU-V35LT1G</td>
<td>Memory Card Camera Recorder</td>
</tr>
<tr>
<td>AU-VSHL1G</td>
<td>Shoulder Mount Module</td>
</tr>
<tr>
<td>AU-VCF2GJ</td>
<td>HD Color View Finder</td>
</tr>
<tr>
<td>AU-VVF20GJ</td>
<td>HD Color View Finder</td>
</tr>
<tr>
<td>AU-VSHL2G</td>
<td>Shoulder Mount Module</td>
</tr>
<tr>
<td>AU-VCBL20G</td>
<td>Extension Cable</td>
</tr>
<tr>
<td>AU-VCBL05G</td>
<td>Extension Cable</td>
</tr>
<tr>
<td>AU-VMPL1G</td>
<td>PL Mount</td>
</tr>
<tr>
<td>AU-VRP1G</td>
<td>Grip Module</td>
</tr>
<tr>
<td>AU-VEXT1G</td>
<td>Extension Module</td>
</tr>
<tr>
<td>AK-HRP200G</td>
<td>Remote Operation Panel (ROP)</td>
</tr>
<tr>
<td>AK-HRP1000</td>
<td>Remote Operation Panel (ROP)</td>
</tr>
<tr>
<td>AK-HRP1005GJ</td>
<td>Remote Operation Panel (ROP)</td>
</tr>
<tr>
<td>AJ-MC900G</td>
<td>Microphone</td>
</tr>
<tr>
<td>AG-MC200G</td>
<td>XLR Microphone</td>
</tr>
<tr>
<td>AJ-MH800G</td>
<td>Microphone Holder</td>
</tr>
<tr>
<td>AU-V35C1G</td>
<td>4K Camera Module</td>
</tr>
<tr>
<td>AU-V23HS1G</td>
<td>2/3 type HD Camera Module</td>
</tr>
<tr>
<td>AU-V35LT1G</td>
<td>Memory Card Camera Recorder</td>
</tr>
<tr>
<td>AU-VSHL1G</td>
<td>Shoulder Mount Module</td>
</tr>
<tr>
<td>AU-VCF2GJ</td>
<td>HD Color View Finder</td>
</tr>
<tr>
<td>AU-VVF20GJ</td>
<td>HD Color View Finder</td>
</tr>
<tr>
<td>AU-VSHL2G</td>
<td>Shoulder Mount Module</td>
</tr>
<tr>
<td>AU-VCBL20G</td>
<td>Extension Cable</td>
</tr>
<tr>
<td>AU-VCBL05G</td>
<td>Extension Cable</td>
</tr>
<tr>
<td>AU-VMPL1G</td>
<td>PL Mount</td>
</tr>
<tr>
<td>AU-VRP1G</td>
<td>Grip Module</td>
</tr>
<tr>
<td>AU-VEXT1G</td>
<td>Extension Module</td>
</tr>
<tr>
<td>AK-HRP200G</td>
<td>Remote Operation Panel (ROP)</td>
</tr>
<tr>
<td>AK-HRP1000</td>
<td>Remote Operation Panel (ROP)</td>
</tr>
<tr>
<td>AK-HRP1005GJ</td>
<td>Remote Operation Panel (ROP)</td>
</tr>
<tr>
<td>AJ-MC900G</td>
<td>Microphone</td>
</tr>
<tr>
<td>AG-MC200G</td>
<td>XLR Microphone</td>
</tr>
<tr>
<td>AJ-MH800G</td>
<td>Microphone Holder</td>
</tr>
<tr>
<td>AJ-WM50</td>
<td>Wireless Module</td>
</tr>
</tbody>
</table>

*1: The AU-VCXRAW2 is manufactured by Codex and sold by Panasonic. Jointly developed with Codex Digital.
*2: 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". 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.
<table>
<thead>
<tr>
<th></th>
<th>VariCam Pure</th>
<th>VariCam 35</th>
<th>VariCam LT</th>
<th>AU-EVA1</th>
<th>VariCam HS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic HD Color View Finder</td>
<td>AU-VCVF2GJ</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>View Finder</td>
<td>AU-VCVF20GJ</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Shoulder Mount Module</td>
<td>AU-VSHL2G</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Shoulder Mount Module</td>
<td>AU-VSHL1G</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>PL Mount</td>
<td>AU-VMPL1G</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Grip Module</td>
<td>AU-VGRP1G</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Extension Module</td>
<td>AU-VEXT1G</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extension Cable (20 m)</td>
<td>AU-VCBL20G</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extension Cable (5 m)</td>
<td>AU-VCBL05G</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microphone</td>
<td>AJ-MC900G</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>XLR Microphone</td>
<td>AG-MC200G</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Microphone Holder</td>
<td>AJ-MH800G</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Remote Operation Panel (ROP)</td>
<td>AK-HRP200G</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Remote Operation Panel (ROP)</td>
<td>AK-HRP1000</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Remote Operation Panel (ROP)</td>
<td>AK-HRP1005GJ</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Wireless Module**</td>
<td>AJ-WM50</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Wireless Module**</td>
<td>AJ-WM30</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Memory Card Drive expressP2 card drive</td>
<td>AU-XPD3 AU-XPD1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>expressP2 card (B series)</td>
<td>AU-XP0512BG AU-XP0256BG</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>P2 card (F series)</td>
<td>AJ-P2E060FG AJ-P2E030FG</td>
<td>✓*2</td>
<td>✓*2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>microP2 card (B series)</td>
<td>AJ-P2M064BG</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>SDXC/SDHC/SD Memory Card</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

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

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, Rio, Rio Assist

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+

AVC-Ultra / RAW Import Plug-in

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

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

Products and versions are informed by Partners as of July 2018.
VariCam PURE

General (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:
- Appr. 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)
(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

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 2TB 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

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:
- 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: 1080i/59.94p, 1080/50p, 1080/60p
Connector: LEMO 14-pin

Offload Formats From CODEX Production Suite

<table>
<thead>
<tr>
<th>Recording Mode</th>
<th>Recording Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>ProRes 422 HQ</td>
<td>1920 x 1080, 10 bit</td>
</tr>
<tr>
<td></td>
<td>2048 x 1080, 10 bit</td>
</tr>
<tr>
<td></td>
<td>4096 x 2160, 10 bit</td>
</tr>
<tr>
<td></td>
<td>3840 x 2160, 10 bit</td>
</tr>
<tr>
<td>ProRes 444</td>
<td>1920 x 1080, 12 bit</td>
</tr>
<tr>
<td></td>
<td>2048 x 1080, 12 bit</td>
</tr>
<tr>
<td></td>
<td>4096 x 2160, 12 bit</td>
</tr>
<tr>
<td></td>
<td>3840 x 2160, 12 bit</td>
</tr>
<tr>
<td>ProRes 444 XQ</td>
<td>1920 x 1080, 12 bit</td>
</tr>
<tr>
<td></td>
<td>2048 x 1080, 12 bit</td>
</tr>
<tr>
<td></td>
<td>4096 x 2160, 12 bit</td>
</tr>
<tr>
<td></td>
<td>3840 x 2160, 12 bit</td>
</tr>
<tr>
<td>DNxHR 444</td>
<td>2048 x 1080, 10 bit</td>
</tr>
<tr>
<td></td>
<td>3840 x 2160, 10 bit</td>
</tr>
<tr>
<td></td>
<td>4096 x 2160, 10 bit</td>
</tr>
<tr>
<td>DNxHR HQX</td>
<td>2048 x 1080, 10 bit</td>
</tr>
<tr>
<td></td>
<td>3840 x 2160, 10 bit</td>
</tr>
<tr>
<td></td>
<td>4096 x 2160, 10 bit</td>
</tr>
<tr>
<td>DNxHR HQ</td>
<td>2048 x 1080, 10 bit</td>
</tr>
<tr>
<td></td>
<td>3840 x 2160, 10 bit</td>
</tr>
<tr>
<td></td>
<td>4096 x 2160, 10 bit</td>
</tr>
</tbody>
</table>

VariCam/Cinema Camera Specifications

As of September, 2018
VariCam 35

General (Combination of AU-V35C1G and AU-VREC1G)

**Power:**
- DC 12 V (11.0 V – 17.0 V)

**Power Consumption:**
- 99 W (With all optional accessories connected and maximum power supplied from each output terminal)

**Operating Temperature:**
- 0°C to 40°C (32°F to 104°F)

**Operating Humidity:**
- 10 % to 85 % (Relative humidity)

**Storage Temperature:**
- -20°C to 60°C (-4°F to 140°F)

**Weight:**
- Approx. 5.0 kg (Body only)

**Dimensions:**
- 179 mm (W) x 230.5 mm (H) x 347 mm (D)
  - (7-1/16 inches x 9-1/16 inches x 13-21/32 inches)
  - (Body only, excluding protrusion)

**Camera Module (AU-V35C1G)**

**Pickup Device:**
- super 35 mm MOS 8.9 megapixels

**Number of Pixels:**
- Total pixels: Approx. 10.3 million pixels
- Effective Pixels: Approx. 8.9 million pixels

**Lens Mount:**
- 35 mm PL mount

**Optical Filter:**
- ND filter: 1: CLEAR, 2: 0.6 ND, 3: 1.2 ND, 4: 1.8 ND

**El Settings:**
- Native ISO: 800, 5000
- 800 Base: 200 to 4000
- 5000 Base: 1250 to 12800

**Shutter Speed:**
- [deg] mode: 1.0 deg to 358 deg (0.5 deg step)
- [sec] mode: 1/24 sec. to 1/250 sec.
  - (When 24p mode)

**Recording Module (AU-VREC1G)**

When used with AU-V35C1G

**Memory Card Recorder**

**Recording Media:**
- expressP2 card, P2 card, microP2 card

**Recording Resolution:**
- 4096 x 2160, 3840 x 2160, 2048 x 1080, 1920 x 1080

**Recording Frame Rate:**
- Maximum 4K/UHD 100p/120p, HD 100p/120p

**System Frequency:**
- 59.94p, 50p, 29.97p, 25p, 24.98p

**Recording Format:**
- AVC-Intra4K444, AVC-Intra4K222,
  - (Main Recorder)
  - AVC-Intra4K-LT, AVC-Intra2K444,
  - AVC-Intra2K242, AVC-Intra444,
  - AVC-Intra200, AVC-Intra422, AVC-Intra100,
  - ProRes 4444 XQ, ProRes 444,
  - ProRes 422 HQ, ProRes 422, ProRes 422 LT

**Display Panel:**
- Electronic HD Color View Finder

**Audio Input/Output**

**Input Video Signal:**
- HD (1.5G) / 3G-SDI, 0.8 V [p-p], 75 Ω

**Output Video Signal:**
- SDI OUT: HD (1.5G) / 3G-SDI, 0.8 V [p-p], 75 Ω
- MON OUT1: HD (1.5G) / 3G-SDI, 0.8 V [p-p], 75 Ω
- MON OUT2: HD (1.5G) / 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**

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

**Prox**

**File Format:**
- MOV

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

**Audio Compression Format:**
- LPCM

**Recording Time:**
- Approx. 25 min. (1 GB)*

**Video In/Output**

**Audio IN (CH1/CH2):**
- XLR x 2, 3-pin, LINE/MIC/MIC+48V switchable

**MIC IN:**
- XLR x 1, 5-pin

**PHONES:**
- Stereo mini jack

**Speaker:**
- 20 mm diameter, round x 1

**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:**
- 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:**
- 4-pin, DC 12 V (DC 11.0 V – 17.0 V),
  - maximum output current 1.0 A

**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)*

**Other Input/Output**

**GENLOCK IN:**
- HD (1.5G) / 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, DC 12 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)*

**Connector:**
- LEMO 14-pin

**Input/Output**

**Audio IN:**
- XLR x 2, 3-pin, LINE/MIC/MIC+48V switchable

**MIC IN:**
- XLR x 1, 5-pin

**PHONES:**
- Stereo mini jack

**Speaker:**
- 20 mm diameter, round x 1

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

**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 In/Output**

**Audio IN (CH1/CH2):**
- XLR x 2, 3-pin, LINE/MIC/MIC+48V switchable

**MIC IN:**
- XLR x 1, 5-pin

**PHONES:**
- Stereo mini jack

**Speaker:**
- 20 mm diameter, round x 1

*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
- **Including handle and accessories:** Approx. 3.0 kg (6.6 lb)
- **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)

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, 1080/50p, 1080/60p, 1080/23.98PsF)
  F8 (2000 lx, 3200 K, 89.9 % reflection, 1080/50p, 1080/60p, 1080/23.98PsF)

**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 (2K), 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 (Sub Recorder):** AVC-LongG6, AVC-LongG6e
- **Recording Time:** (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-Intra4K422, VFR ON, 60 fps: Approx. 260 min. ProRes 422 HQ VFR ON, 60 fps: Approx. 134 min.
- **Recording Time:** (Sub Codec) Approx. 655 min.

**Digital Video**

- **Quantizing:** AVC-Intra4K444, AVC-Intra444: 12 bit Others: 10 bit

**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:** 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), maximum output current 1.0 A
- **DC OUT:** 2-pin, DC 12 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 the may differ depending on the scene or the number of clips.
VariCam/Cinema Camera Specifications

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) 135/16 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
- 1280 x 720: 29.97p, 25p, 24p, 23.98p

Latitude: 14 stop

Log:
- V-Log

Gamma:
- eV-Log Gamma (2 types)
- Video Gamma
- Hybrid Log Gamma (HLG)

Gamut:
- V-Gamut (V-Log)
- 4/3-type: 2K/HD 240 fps/200 fps
  - 2K/HD 120 fps/100 fps
  - S35: 4K/UHD 60 fps/50 fps
- 240 fps/200 fps

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)
- [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, 0.6ND, 1.2ND, 1.8ND, 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

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

2slot Functions:
- Simul Rec, Relay Rec

Other Rec Functions:
- Pre Rec, Interval Rec

Digital Video

Quantizing:
- MOV: 4:2:2 10 bit/4:2:0 8 bit
- AVCHD: 4:2:0 8 bit

Video Compression Format:
- H.264/MPEG-4 AVC 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 (8G), 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
- 2560 x 1080: 59.94p, 50p, 29.97p, 25p, 24p, 23.98p
- 2400 x 1080: 59.94p, 50p, 29.97p, 25p, 24p, 23.98p
- 2240 x 1080: 59.94p, 50p, 29.97p, 25p, 24p, 23.98p

Output format (4:2:0 8 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
- 2560 x 1080: 59.94p, 50p, 29.97p, 25p, 24p, 23.98p
- 2240 x 1080: 59.94p, 50p, 29.97p, 25p, 24p, 23.98p
- 1920 x 1080: 59.94p, 50p, 29.97p, 25p, 24p, 23.98p

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 x 1 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

<table>
<thead>
<tr>
<th>Format</th>
<th>Pixel</th>
<th>Main Codec (bps)</th>
<th>Frequency</th>
<th>Sampling</th>
<th>Bit Rate (average)</th>
<th>Recording Time (128 GB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOV*</td>
<td>4096 x 2160 (4K)</td>
<td>422ALL-I 400M</td>
<td>29.97p, 24p, 25p, 23.98p</td>
<td>4:2:2</td>
<td>10 bit</td>
<td>400 Mbps (VBR)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>422LongGOP 150M</td>
<td>29.97p, 24p, 25p, 23.98p</td>
<td>4:2:2</td>
<td>10 bit</td>
<td>150 Mbps (VBR)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>420LongGOP 150M</td>
<td>59.94p, 50p</td>
<td>4:2:0</td>
<td>8 bit</td>
<td>150 Mbps (VBR)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>420LongGOP 100M</td>
<td>29.97p, 24p, 25p, 23.98p</td>
<td>4:2:0</td>
<td>8 bit</td>
<td>100 Mbps (VBR)</td>
</tr>
<tr>
<td>3840 x 2160 (UHD)</td>
<td>422ALL-I 400M</td>
<td>29.97p, 25p, 23.98p</td>
<td>4:2:2</td>
<td>10 bit</td>
<td>400 Mbps (VBR)</td>
<td>Approx. 40 min.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>422LongGOP 150M</td>
<td>29.97p, 25p, 23.98p</td>
<td>4:2:2</td>
<td>10 bit</td>
<td>150 Mbps (VBR)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>420LongGOP 150M</td>
<td>59.94p, 50p</td>
<td>4:2:0</td>
<td>8 bit</td>
<td>150 Mbps (VBR)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>420LongGOP 100M</td>
<td>29.97p, 25p, 23.98p</td>
<td>4:2:0</td>
<td>8 bit</td>
<td>100 Mbps (VBR)</td>
</tr>
<tr>
<td>2048 x 1080 (2K)</td>
<td>422ALL-I 200M</td>
<td>59.94p, 50p</td>
<td>4:2:2</td>
<td>10 bit</td>
<td>200 Mbps (VBR)</td>
<td>Approx. 1 hour 20 min.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>422LongGOP 100M</td>
<td>59.94p, 50p</td>
<td>4:2:2</td>
<td>10 bit</td>
<td>100 Mbps (VBR)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>422LongGOP 50M</td>
<td>29.97p, 24p, 25p, 23.98p</td>
<td>4:2:2</td>
<td>10 bit</td>
<td>50 Mbps (VBR)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>420LongGOP 100M</td>
<td>59.94p, 50p</td>
<td>4:2:0</td>
<td>8 bit</td>
<td>100 Mbps (VBR)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>420LongGOP 50M</td>
<td>29.97p, 24p, 25p, 23.98p</td>
<td>4:2:0</td>
<td>8 bit</td>
<td>50 Mbps (VBR)</td>
</tr>
<tr>
<td>1920 x 1080 (FHD)</td>
<td>422ALL-I 200M</td>
<td>59.94p, 50p</td>
<td>4:2:2</td>
<td>10 bit</td>
<td>200 Mbps (VBR)</td>
<td>Approx. 1 hour 20 min.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>422ALL-I 100M</td>
<td>29.97p, 25p, 23.98p, 59.94i, 50i</td>
<td>4:2:2</td>
<td>10 bit</td>
<td>100 Mbps (VBR)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>422LongGOP 100M</td>
<td>59.94p, 50p</td>
<td>4:2:2</td>
<td>10 bit</td>
<td>100 Mbps (VBR)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>422LongGOP 50M</td>
<td>29.97p, 25p, 23.98p, 59.94i, 50i</td>
<td>4:2:2</td>
<td>10 bit</td>
<td>50 Mbps (VBR)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>420LongGOP 100M</td>
<td>59.94p, 50p</td>
<td>4:2:0</td>
<td>8 bit</td>
<td>100 Mbps (VBR)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>420LongGOP 50M</td>
<td>29.97p, 25p, 23.98p</td>
<td>4:2:0</td>
<td>8 bit</td>
<td>50 Mbps (VBR)</td>
</tr>
<tr>
<td>AVCHD</td>
<td>1920 x 1080 (FHD)</td>
<td>PS</td>
<td>59.94p, 50p</td>
<td>4:2:0</td>
<td>8 bit</td>
<td>25 Mbps (VBR)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PH</td>
<td>23.98p, 59.94i, 50i</td>
<td>4:2:0</td>
<td>8 bit</td>
<td>21 Mbps (VBR)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HA</td>
<td>59.94i, 50i</td>
<td>4:2:0</td>
<td>8 bit</td>
<td>17 Mbps (VBR)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>59.94p, 50p</td>
<td>4:2:0</td>
<td>8 bit</td>
<td>8 Mbps (VBR)</td>
</tr>
</tbody>
</table>

* SDXC memory card is required for MOV recording.

### Available Memory Card

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

*VFR: Variable Frame Rate

### Available Battery Pack

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

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

**General (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)

**Camera Module (AU-V23HS1G)**

- **Pickup Lens:** 2/3-type 2.2 megapixels, MOS x 3
- **Lens Mount:** 2/3-type bayonet
- **Optical filter:** ND filter 1: CLEAR, 2: 0.6ND, 3: 1.2ND, 4: 1.8ND
- **F9:** (2000 lx, 3200 K, 89.9% reflection, 1080/59.94p)
- **Display:** 0.7-type OLED (Organic Light Emitting Diode) display
- **HD (1.5 G):** 0.8 V [p-p], 75 Ω (1 set, 4 pieces)
- **Approx. 256 min.** (AVC-Intra100, VFR OFF)
- **CC filter:** A: 3200 K, B: 4300 K, C: 5600 K, D: 0.3N
- **XLR x 2, 3-pin, LINE/MIC/MIC+48 V/AES switchable**

**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, 0.5N
  - **Recording Format:**
    - (Main Recorder)
    - (Main Codec)
      - When expressP2 card 512 GB is used
        - Approx. 256 min. (Main Codec)
        - Approx. 120 min. (ProRes 422 HQ, VFR ON, 50 fps)
    - (Sub Codec)
      - When microP2 card 64 GB is used
        - 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-Intra222, AVC-Intra100
      - MPEG-4 AVC/H.264 Intra/Profile
      - 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 (1 GB):** 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, 2-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 Ω
  - OUT: 2 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
  - 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 5-1/16 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:** 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.*