

# SONY

## ILCE9M2/B

### Alpha 9 II - Full-frame Mirrorless Interchangeable Lens Camera

#### High-speed 24.2MP up to 20FPS with 60 AF/AE per sec., pro-workflow.

Operability, reliability and connectivity are refined to support professional needs, including, in addition to its reliable AF, up to 20fps blackout-free continuous shooting, silent shooting capabilities, and vibration-free Anti-distortion shutter.



## Bullets

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- 24.2MP\*<sup>1</sup> Full-frame stacked CMOS sensor w/ integrated memory
- Up to 20fps\*<sup>2</sup> with 60 AF/AE tracking calculations per second\*<sup>3</sup>
- Add Voice memo<sup>4</sup> (.wav) to images or voice to text<sup>5</sup> for IPTC data
- Real-time Tracking<sup>6</sup> and Real-time Eye AF for human, animal<sup>6</sup> and movie
- High-speed 2.4/5GHz Wi-Fi<sup>7</sup>, 1 Gbps Ethernet and secure FTP transfer
- Continuous view Blackout-free<sup>8</sup> OLED Tru-Finder w/ 100% frame coverage
- 5-axis in-body image stabilization, 5.5 step\*<sup>9</sup> shutter speed advantage
- Anti-flicker<sup>10</sup> mode to reduce the effect of artificial lighting
- Silent, vibration-free, anti-distortion shutter\*<sup>14</sup> up to 1/32,000 sec.
- Up to ISO 204,800 w/ Wide dynamic range, 14-bit uncompressed RAW

## Features

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### Full-Frame Stacked CMOS Sensor with Integral Memory

α9 II is the mirrorless camera that delivers next-generation high-speed performance far exceeding SLRs. It's equipped with the outstanding 35 mm stacked CMOS image sensor with integral memory for impressively fast overall readout speed. This 24.2 MP image sensor achieves high sensitivity of up to ISO 204800 (extended) with the design of back-illuminated structure.

### High-speed BIONZ X image processing engine

The camera's image-processing algorithms represent the latest generation of advancements, allowing higher levels of natural tonal gradations and more stable AWB for continuous shooting.

### Uncompromising Image Quality

The combination of a 24.2 effective megapixel integral-memory full-frame stacked CMOS image sensor and the latest-generation BIONZ X makes possible high-sensitivity performance up to ISO 51200, high dynamic range, and support for 14-bit RAW output and 16-bit image processing. Together, they help capture maximum detail and image quality while reproducing rich tonal gradations and natural color, such as human skin.



## **Incredibly Fast Continuous Shooting**

Thanks to the  $\alpha 9$  II's incredible speed, continuous shooting is possible at up to 20fps with the electronic shutter and 10fps with the mechanical shutter, to capture fast-moving subjects with either shutter mode, and even at its highest speed, the flash can be synchronized with the mechanical shutter.

## **AF/AE Calculations up to 60 Times/sec**

AF/AE is calculated up to 60 times per second and is virtually uninterrupted, both while composing the image and even upon releasing the shutter. Continuous AF/AE—operated on the image sensor—locks onto and tracks erratically moving subjects with high speed, precision, and reliability. Additionally, AWB Lock capability makes it possible to lock/unlock auto white balance operation at any time, which is useful in mixed lighting situations where natural and man-made light sources coexist. (1) AF/AE calculations (2) 60 times/sec (3) 20 frames/sec

## **Blackout-free Shooting with Quad-VGA OLED Tru-Finder™**

In continuous shooting, the electronic shutter system banishes blackout interruption typical of optical viewfinders, and the high-speed image sensor eliminates distracting EVF display lag. A high 120fps refresh rate minimizes display blurring of moving subjects, and the Quad-VGA OLED Tru-Finder with approx. 3.68 million-dot high resolution employs ZEISS® T\* Coating to reduce reflections, with a dirt-repelling fluorine coating on the outer lens to enhance usability on location. (A) Blackout-free Shooting (B) Shooting with blackouts

## **High-Speed 1/32000 sec Anti-Distortion Shutter**

A result of Sony's image sensor innovation, this shutter achieves speeds up to 1/32000 sec, beyond the limits of mechanical systems. Additionally, the high curtain speed of the electronic shutter suppresses rolling shutter effect to excellently capture moving subjects during sports and other fast-moving activities.

## **Silent shooting**

Explore the advantages of high-speed silent shooting with a shutter that is fully digital — without a physical mechanism. The electronic shutter allows silent shooting without mechanical mirror and shutter noise. It's ideal for sports and subjects that demand quiet operation, greatly expanding camera versatility.

## **Anti-flicker shooting**

Flicker from fluorescent and other artificial lighting is automatically detected and shutter action is timed to minimize the effect of flicker on still images. This suppresses exposure and color anomalies at the top and bottom of images shot at high shutter speeds, as well as exposure and color inconsistency between continuous shots, so you can take images indoors with more confidence. (1) Anti-flicker ON (2) Anti-flicker OFF

## **4D FOCUS: From AF Wide Coverage, Speed, and Tracking Stability**

4D FOCUS means highly accurate subject detection, reliable rapid autofocus, and continuous tracking of subjects in motion, based on uninterrupted AF and an optimized AF algorithm as well as the approximately 93% AF coverage from 693 focal-plane phase-detection AF points that track random subject motion even during shutter release.



## **Real-time Tracking**

The Real-time Tracking technology uses AI to detect moving subjects from the wealth of information captured by the image sensor. Spatial data consisting of color, pattern (brightness) and distance information are processed in parallel at high speed, and human and animal face and eye location data are detected continuously in real time using AI, realizing high-accuracy with automatic detection and tracking performance for moving subjects.

## **Real-Time Eye AF for Humans and Animals**

Real-time Eye AF relies on advanced AI to continuously analyze and detect eyes from the image sensor's copious data, with left or right eye preference possible with a simple toggle. By half-pressing the shutter button, even animal eyes are detected. Team it up with Real-time Tracking for superior tracking performance of live subjects.

## **Precision AF Effective Down to EV-3 Brightness**

Low-light AF detection extends to EV-3 at ISO 100. The Focus Priority in Aperture Drive option enables more accurate focusing in dim lighting and when the aperture is stopped down with the result that the precision AF system will function properly even when shooting dimly lit scenes. This opens up new possibilities in low-light and night shooting.

## **AF/AE-tracking continuous shooting with A-mount lenses**

The body's 693-point focal-plane phase-detection AF provides wide-area coverage, fast response, and high tracking performance, not only for E-mount but also for A-mount lenses with use of a mount adaptor (LA-EA3). Continuous shooting of up to 10fps with AF tracking is possible.

## **User-Selectable Focus Area Circulation and Customization**

A new setting allows the focus area to be rotated through the upper, lower, left, and right edges of the frame to select an appropriate focus area for sports or other situations where the subject frequently moves through the frame. AF area and ISO display limiting makes it possible to display only the most frequently used focus area and ISO settings for quicker, easier selection for faster, more efficient shooting.

## **Body-Integrated 5-Axis Optical Image Stabilization**

The body-integrated image stabilization system is fine-tuned to compensate accurately for 5-axis camera shake that can compromise handheld shooting. This gives you extremely high performance in both stills and movies, whether shooting at longer focal lengths, in close-ups, or at night. It is equivalent to using a 5.5-step faster shutter speed, allowing stable determination of composition when capturing subjects in high-speed motion. Real-time effects can be monitored via live view. (1) Yaw (2) Pitch (3) Roll

## **Shutter Durability and Image Shake Suppression**

The shutter has been tested for durability in excess of 500,000 shutter-release cycles and incorporates an internal damper structure to absorb the impact of shutter motion for minimum shutter vibration and noise, helping to also realize more sharply resolved imaging.

## **Reliable Durability and Weather Resistance in Tough Situations**

The α9 II brings you further enhanced body durability, with full use of lightweight, high-rigidity

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magnesium alloy for covers and internal frame, keeping the camera highly rigid and light. In response to pro opinions, enhanced sealing is applied to the battery cover, terminal cover and all joints in the chassis. A double-sealed sliding mechanism replaces the hinge of the media compartment lid for better moisture resistance. Routes to dust and moisture entry have been re-examined, and a cushion around the lens mount has been added to ensure reliable operation in challenging environments.

## **Dual media slots, both supporting UHS-II**

The α9 II provides two media slots for SD cards, both SLOT 1 and SLOT 2 are now compatible with UHS-I and UHS-II for fast mass-volume data writing. Two cards in the slots can be used to simultaneously record or relay record data; separate RAW data from JPEG data, or stills from movies, and copy data from one card to the other. A slide lock structure prevents the memory card cover from being opened unintentionally.

## **Professional-Level Operating Stamina**

The α9 II employs the large-capacity NP-FZ100 battery and a highly energy-efficient circuit design to double operation longevity to professional session lengths. The robust VG-C4EM vertical-position grip is available for greater operability and even longer hours of shooting. In addition to other optional accessories, USB Type-C™ and Multi/Micro USB ports allow external mobile batteries to power the camera for further extended recording.

## **Redesigned controls for confident and comfortable operation**

A refined multi-selector, with a new surface texture for enhanced button response, lets you shift point of focus quickly and intuitively. With a thought for pro users, an improved grip shape reduces fatigue, and there is a new Exposure Compensation Dial Lock Button to increase operational security. In addition, the locations of the AF-ON and other key buttons have been analyzed for better feel and response. These improvements enhance your concentration on shutter release to capture the moment instantly.

## **Faster FTP Transfer**

You can directly transfer images to an FTP server with significantly higher speed via the camera's LAN terminal that supports the Ethernet 1000BASE-T standard. It is also possible to upload images to an FTP server through an available wireless access point. The camera supports either transfer mode in the background while shooting. Up to nine servers may be pre-registered for fast menu selection.

## **Add Voice Memo to Your Images**

The α9 II brings higher efficiency to work delivery tasks with a new Voice Memo function that allows you to record up to 60-sec audio files (.wav) describing shooting conditions or image content with automatic transcription into text, which is then attached to images.

## **Extending Operability with Remote Camera Tool**

The camera is compatible with the updated Remote Camera Tool application that, after pairing to assure a secure connection, handles remote single or multi-camera shooting using a wired LAN connection in venues like sports stadiums. Remote switching of the camera's FTP server settings is also possible, as well as remote control of saving and loading settings to/from an SD memory card.

## **Support for Faster Data Transfer; 5 GHz Wi-Fi® and USB 3.2 Gen 1**

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Connectivity has been improved, with new support for the IEEE 802.11ac 5 GHz band Wi-Fi® when the camera is connected in wireless mode, along with the camera's USB Type-C™ terminal that supports USB 3.2 Gen 1.

## High-resolution 4K movie recording

The camera is capable of 4K movie recording with full-pixel readout without pixel binning. You can enjoy detail-rich, full-frame movies via the oversampling effect achieved by condensing approximately 2.4 times the amount of data required for 4K (6K equivalent) for 4K output (QFHD: 3840 x 2160). Additionally, the XAVC-S format is supported at bit rates as high as 100 Mbps.

## AF Improvements for Movie Shooting

When shooting 4K movies, the camera provides control of high speed, precision, and tracking performance, via adjustable tracking sensitivity, for smooth, stable AF movie shooting. More pronounced slow focus effects are now possible, and Real-time Eye AF is now also applicable when shooting movies, detecting and tracking eyes with high focus accuracy, which is critical when shooting 4K.

## Versatile movie recording functions

The α9 II provides a wide array of functions to facilitate movie shooting workflows, including interval recording, clean HDMI output, time code/user bits (TC/UB), REC Control, marker display/setting, zebra function, Slow and Quick Motion, simultaneous proxy movie recording, and extraction and separate storage of a still from a movie, among others. A combination with the ECM-B1M Shotgun Microphone or XLR-K3M XLR Adaptor Kit, via the new digital audio interface, enables clear sound recording with minimized quality deterioration by sending a digital audio signal to the camera.

## Improvement of camera settings saving function

Now, a dramatically increased number of camera settings can be stored in the memory card, and saved settings can be read by other cameras of the same model. Moreover, up to 10 sets of camera settings can be stored in a memory card, thanks to the Save/Load Setting function. Camera setups can also be imported to the Imaging Edge Mobile application while imported setups can be exported to other cameras of the same model.

## Customizability for maximized efficiency

Thanks to My Dial, three sets of menu options can be assigned through the front/rear dials and the control wheel. By assigning frequently used functions to these dials, they become instantly available for fingertip control while a custom button is held. Function sets can be assigned individually for stills and movies.

## Rating Function and Image Jump Setting

Ratings from 1 to 5 stars can be applied to still images and maintained as the images are imported into the Imaging Edge™ desktop application (Viewer) running on a PC. This function and a protect function to prevent accidental image deletion can each be assigned to a custom button (C3 by default for protect). Ratings and protection can be applied via review playback display and continuous groups can be reviewed, protected, and deleted while you're on location or traveling. With the Image Jump Setting, you can now also review large photo collections in 10 or 100-frame jumps, and group-review continuous burst shots for swift, efficient image evaluation.



## Capture One (for Sony)

Capture One Express (for Sony) is free, award-winning editing software that provides RAW development, easy management, and powerful editing tools. Capture One Pro (for Sony) can be bought for even more editing tools and tethered shooting capability.

## Imaging Edge Remote, Viewer, and Edit Desktop Apps

Elevate your photography with Imaging Edge desktop applications. Use “Remote” to control and monitor shooting live on your PC screen; “Viewer” to quickly preview, rate, and select photos from large image libraries; and “Edit” to develop RAW data into high-quality photos for delivery.

## Works with iMovie and Final Cut Pro X

This product is compatible with Final Cut Pro X and iMovie.

## Specification

At a Glance	
Maximum Photo Resolution and Frame Rates	24.2 MP up to 20 fps
Maximum Movie Resolution and Frame Rates	4K / 30p HD / 120p
Maximum ISO Sensitivity	Photo: ISO 100-51200 (expandable: ISO 50-204800) Movie: ISO 100-51200 (expandable: ISO 100-102400)
Audio	
Microphone	Built-in, stereo
Speaker	Built-in, monaural
Custom function	
Type	Custom key settings, Programmable Setting (Body 3 sets/memory card 4 sets), My Menu, My Dial Settings, Reg Cust Shoot Set
Drive	
Continuous Drive Speed (approx. max.)	AUTO/Electronic Shutter: Continuous shooting: Hi: max. 20 fps, Mid: max. 10fps, Lo: max. 5fps , Mechanical Shutter: Continuous shooting: Hi: max. 10fps, Mid: max. 8fps, Lo: max. 3 fps
Drive Modes	Single Shooting, Continuous shooting (Hi/Mid/Lo selectable), Self-timer, Self-timer (Cont.), Bracket: Single, Bracket: Cont., White Balance bracket, DRO bracket
No. of recordable frames (approx.)	JPEG Extra fine L: 361 frames, JPEG Fine L: 361 frames, JPEG Standard L: 361 frames, RAW: 239 frames, RAW & JPG: 226 frames, RAW (Uncompressed): 131 frames, RAW (Uncompressed) & JPG: 120 frames

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Self-Timer	10 sec delay/5 sec delay/2 sec delay/Continuous self-timer (3 frames after 10 sec delay/5 frames after 10 sec delay/3 frames after 5 sec delay/5 frames after 5 sec delay/3 frames after 2 sec delay/5 frames after 2 sec delay)/Bracketing self-timer (Off/2 sec delay/5 sec delay/10sec delay)
<b>Exposure</b>	
AE Lock	Locked when shutter button is pressed halfway. Available with AE lock button. (On/Off/Auto)
Anti-Flicker Shoot.	Yes
Exposure Bracketing	Bracket: Cont., Bracket: Single, 3/5/9 frames selectable. With 3 or 5 frames, in 1/3, 1/2, 2/3, 1.0, 2.0, or 3.0 EV increments, with 9 frames, in 1/3, 1/2, 2/3, or 1.0 EV increments.
Exposure Compensation	+/- 5.0EV (1/3 EV, 1/2 EV steps selectable) (with exposure compensation dial: +/- 3EV (1/3 EV steps))
Exposure Modes	AUTO (iAuto), Programmed AE (P), Aperture priority (A), Shutter-speed priority (S), Manual (M), Movie (Programmed AE (P) / Aperture priority (A) / Shutter-speed priority (S) / Manual (M) ), Slow & Quick Motion (Programmed AE (P) / Aperture priority (A) / Shutter-speed priority (S) / Manual (M))
ISO Sensitivity (Recommended Exposure Index)	[Still images] Mechanical Shutter: ISO 100-51200 (ISO numbers up from ISO 50 to ISO 204800 can be set as expanded ISO range), AUTO (ISO 100-12800, selectable lower limit and upper limit), Electronic Shutter: ISO 100-25600 (ISO numbers up from ISO 50 can be set as expanded ISO range), AUTO (ISO 100-12800, selectable lower limit and upper limit), [Movies] ISO 100-51200 equivalent (ISO numbers up to ISO 102400 can be set as expanded ISO range), AUTO (ISO 100-12800, selectable lower limit and upper limit)
Metering Mode	Multi-segment, Center-weighted, Spot, Spot Standard/Large, Entire Screen Avg., Highlight
Metering Sensitivity	EV -3 to EV 20 (at ISO100 equivalent with F2.0 lens attached)
Metering Sensor	Exmor RS CMOS sensor
Metering Type	1200-zone evaluative metering
Scene Selection	-
<b>Flash Control</b>	
Control	Pre-flash TTL
External Flash Compatibility	Sony $\alpha$ System Flash compatible with Multi Interface Shoe, attach the shoe adapter for flash compatible with Auto-lock accessory shoe
FE Level Lock	Yes

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Flash Bracketing	3/5/9 frames selectable. With 3 or 5 frames, in 1/3, 1/2, 2/3, 1.0, 2.0, 3.0 EV increments, with 9 frames, in 1/3, 1/2, 2/3, 1.0 EV increments.
Flash Compensation	+/- 3.0 EV (switchable between 1/3 and 1/2 EV steps)
Flash Modes	Flash off, Autoflash, Fill-flash, Slow Sync., Rear Sync., Red-eye reduction (on/off selectable), Wireless, Hi-speed sync.
Flash coverage	-
Guide No.	-
TYPE	-
Wireless Control	Yes (Light signal: Available with Fill-flash, Slow Sync., Hi-speed sync. /Radio signal: Available with Fill-flash, Rear Sync., Slow Sync., Hi-speed sync.)
<b>Focus</b>	
AF Illuminator	Yes (with built-in LED type)
AF Illuminator range	Approx. 0.3 m - approx. 3.0 m (with FE 28-70 mm F3.5-5.6 OSS attached)
Focus Area	Wide (693 points (phase-detection AF), 425 points(contrast-detection AF)) / Zone / Center / Flexible Spot (S/M/L) /Expanded Flexible Spot/ Tracking (Wide / Zone / Center / Flexible Spot (S/M/L)/Expanded Flexible Spot)
Focus Mode	AF-S (Single-shot AF), AF-C (Continuous AF), DMF (Direct Manual Focus), Manual Focus
Focus Point	35 mm full frame: 693 points (phase-detection AF), APS-C mode with FF lens: 299 points (phase-detection AF), with APS-C lens: 221 points (phase-detection AF) / 425 points (contrast-detection AF)
Focus Sensitivity Range	EV-3 to EV 20 (ISO 100 equivalent with F2.0 lens attached)
Focus Sensor	Exmor RS CMOS sensor
Focus Type	Fast Hybrid AF (phase-detection AF/contrast-detection AF)
Focus type with LA-EA3 (Sold separately)	phase-detection
Other Features	Eye-start AF (only with LA-EA2 or LA-EA4 attached (Sold separately)), Tracking, [Still images] Human (Right/Left Eye Select) / Animal, [Movie] Human (Right/Left Eye Select), AF micro adjustment with LA-EA2 or LA-EA4 (Sold separately), Predictive control, Focus lock, Swt.V/H AF Area, AF Area Regist., Circ. of Focus Point
<b>Image Sensor</b>	



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Anti-Dust System	Charge protection coating on optical filter and image sensor shift mechanism
Aspect Ratio	3 : 2
Number Of Pixels (Effective)	Approx. 24.2 megapixels
Number of Pixels (total)	Approx. 28.3 megapixels
Sensor Type	35mm full frame (35.6×23.8mm), Exmor RS CMOS sensor
<b>Image Stabilization</b>	
Compensation Effect	5.5 stops (based on CIPA standard. Pitch/yaw shake only. With Planar T* FE 50mm F1.4 ZA lens mounted. Long exposure NR off.)
TYPE	Image Sensor-Shift mechanism with 5-axis compensation (compensation depends on lens specifications)
<b>Interface</b>	
Auto-lock Accessory Shoe	-
Bluetooth®	Yes (Bluetooth Standard Ver. 4.1 (2.4 GHz band))
DC IN Terminal	-
HD Output	HDMI micro connector (Type-D), BRAVIA Sync (Control for HDMI), PhotoTV HD, 4K movie output/4K still image PB
Headphone Terminal	Yes (3.5 mm Stereo minijack)
LAN Terminal	Yes (1000BASE-T)
Mic Terminal	Yes (3.5 mm Stereo minijack)
Multi Interface Shoe	Yes (with Digital Audio Interface)
Multi/Micro USB Terminal	Yes
NFC™	Yes (NFC forum Type 3 Tag compatible), One-touch remote, One-touch sharing
PC Interface	Mass-storage, MTP, PC remote
PC Remote	Yes
Smart Accessory Terminal 2	-
Sync terminal	Yes
Vertical Grip Connector	Yes
Wireless LAN (Built-In)	Wi-Fi Compatible, IEEE 802.11a/b/g/n/ac (2.4 GHz band/5 GHz band), View on Smartphone, Remote control via Smartphone, Send to Computer, View on TV
<b>LCD Screen</b>	

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Adjustable Angle	Up by approx. 107 degrees, Down by approx. 41 degrees
Brightness Control	Manual (5 steps between -2 and +2), Sunny Weather mode
Display Content	Graphic Display, Display All Info, No Disp. Info, Digital Level Gauge, Histogram, For viewfinder, Monitor Off
Display Selecter (Finder/LCD)	Yes (Auto/Manual)
Focus Magnifier	Yes (35mm full frame: 4.7x, 9.4x, APS-C: 3.1x, 6.2x)
Monitor Type	2.95 inch (3.0-type) wide type TFT
Number of Dots	1,440,000 dots
Others	WhiteMagic, Grid Line (Rule of 3rds Grid/Square Grid/Diag. + Square Grid/Off), Movie Marker (Center/Aspect/Safety Zone/Guideframe)
Peaking MF	Yes (Level setting: High/Mid/Low/Off, Color: Red/Yellow/Blue/White)
Quick Navi	Yes
Real-time Image Adjustment Display (LCD)	On/Off
Touch Panel	Yes
Zebra	Yes (selectable level + range or lower limit as custom setting)
<b>Lens</b>	
Lens Compatibility	Sony E-mount lenses
Lens Mount	E-mount
<b>Lens Compensation</b>	
Setting	Peripheral Shading, Chromatic Aberration, Distortion
<b>Noise Reduction</b>	
Multi Frame NR	-
Noise Reduction	Long exposure NR: On/Off, available at shutter speeds longer than 1 sec., High ISO NR: Normal/Low/Off
<b>Other Features</b>	
Clear Image Zoom	Still images: Approx. 2x, Movies: Approx. 1.5x (4K), Approx. 2x (HD)

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Digital Zoom	Smart zoom (Still images):35mm full frame: M:approx 1.5x, S:approx 2x, APS-C: M:approx 1.3x, S:approx 2x, Digital zoom (Still images):35mm full frame: L:approx 4x, M:approx 6.1x, S:approx 8x, APS-C: L:approx 4x, M:approx 5.2x, S:approx 8x, Digital zoom (Movie):35mm full frame: approx 4x, APS-C: approx 4x
Eye-Fi ready	-
Face Detection	Modes: Face Priority in AF (On/Off), Face Priority in Multi Metering (On/Off), Regist. Faces Priority (On/Off), Face registration, Max. number detectable: 8 faces
Others	Interval Recording, Touch Focus: Yes (Touch Focus/Touch Pad/Touch Tracking), ISO AUTO Min. SS, Bright Monitoring, Copyright Info, Set File Name, FTP Transfer Func., Help guide, Area Setting, Shop Front Mode, Video Light Mode, Zoom Ring Rotate
PlayMemories Camera Apps™	-
Self-Portrait Self-Timer	-
<b>Others</b>	
Operating Temperature	32 - 104 degrees F / 0 - 40 degrees C
<b>Playback</b>	
Modes	Single (with or without shooting information Y RGB histogram & highlight/shadow warning), 9/25-frame index view, Enlarged display mode (L: 15.0x, M: 9.84x, S: 7.52x), Auto Review (10/5/2 sec, Off), Image orientation (Auto/Manual/Off selectable), Slideshow, Folder selection (Date/Still/MP4/AVCHD/XAVC S HD/XAVC S 4K), Forward/Rewind (movie), Delete, Protect, Rating, Display as Group, Voice Memo
Photo Capture	Yes
<b>Power</b>	
Battery Life (Movie, actual recording)	Approx. 110 min (Viewfinder) / Approx. 120 min (LCD monitor) (CIPA standard)
Battery Life (Movie, continuous recording)	Approx. 195 min (Viewfinder) / Approx. 200 min (LCD monitor) (CIPA standard)
Battery Life (Still Images)	Approx. 500 shots (Viewfinder) / approx. 690 shots (LCD monitor) (CIPA standard)
External Power	-
Internal Battery Charge	Yes (Available with Multi/Micro USB Terminal or USB Type-C Terminal)

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Power consumption with LCD screen	Still images: approx. 2.9 W (with FE 28–70 mm F3.5–5.6 OSS lens attached), Movies: Approx. 4.9W (with FE 28-70 mm F3.5-5.6 OSS lens attached)
Power consumption with Viewfinder	Still images: approx. 3.9 W (with FE 28-70 mm F3.5-5.6 OSS lens attached), Movies: Approx 5.0 W (with FE 28-70 mm F3.5-5.6 OSS lens attached)
Supplied Battery	One rechargeable battery pack NP-FZ100
USB Power Supply	Yes (Available with Multi/Micro USB Terminal or USB Type-C Terminal)
<b>Print</b>	
Compatible Standards	Exif Print, Print Image Matching III, DPOF setting
<b>Recording (still images)</b>	
14bit RAW	Yes
Color Space	sRGB standard (with sYCC gamut) and Adobe RGB standard compatible with TRILUMINOS Color
Creative Style	Standard, Vivid, Neutral, Clear, Deep, Light, Portrait, Landscape, Sunset, Night Scene, Autumn leaves, Black & White, Sepia, Style Box (1-6), (Contrast (-3 to +3 steps), Saturation (-3 to +3 steps), Sharpness (-5 to +5 steps))
Dynamic Range Functions	Off, Dynamic Range Optimizer (Auto/Level (1-5)), Auto High Dynamic Range (Auto Exposure Difference, Exposure Difference Level (1-6 EV, 1.0 EV step))
IMAGE SIZE (PIXELS) [1:1]	35 mm full frame L: 4000 x 4000 (16M), M: 2624 x 2624 (6.9 M), S: 2000 x 2000 (4.0 M), APS-C L: 2624 x 2624 (6.9 M), M: 2000 x 2000 (4.0 M), S: 1312 x 1312 (1.7 M)
IMAGE SIZE (PIXELS) [4:3]	35 mm full frame L: 5328 x 4000 (21 M), M: 3488 x 2624 (9.2 M), S: 2656 x 2000 (5.3 M) APS-C L: 3488 x 2624 (9.2 M), M: 2656 x 2000 (5.3 M), S: 1744 x 1312 (2.3 M)
Image Quality Modes	RAW, RAW & JPEG (Extra fine, Fine, Standard), JPEG (Extra fine, Fine, Standard)
Image Size (pixels) [16:9]	35 mm full frame L: 6000 x 3376 (20 M), M: 3936 x 2216 (8.7M), S: 3008 x 1688 (5.1M), APS-C L: 3936 x 2216 (8.7M), M: 3008 x 1688 (5.1M), S: 1968 x 1112 (2.2M)
Image Size (pixels) [3:2]	35 mm full frame L: 6000 x 4000 (24M), M: 3936 x 2624 (10M), S: 3008 x 2000 (6.0M), APS-C L: 3936 x 2624 (10M), M: 3008 x 2000 (6.0M), S: 1968 x 1312 (2.6M)
Image Size (pixels) [Sweep Panorama]	-

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Picture Effect	8 types: Posterization (Color), Posterization (B/W), Pop Color, Retro Photo, Partial Color (R/G/B/Y), High Contrast Monochrome, Toy Camera (Normal/Cool/Warm/Green/Magenta), Soft High-key, Rich-tone Monochrome
Picture Profile	-
Recording Format	JPEG (DCF Ver. 2.0, Exif Ver.2.31, MPF Baseline compliant), RAW (Sony ARW 2.3 format)
Uncompressed RAW	Yes
<b>Recording (movie)</b>	
Audio Recording Format	XAVC S: LPCM 2ch, AVCHD: Dolby® Digital (AC-3) 2ch, Dolby® Digital Stereo Creator
Color Space	xvYCC standard (x.v.Color when connected via HDMI cable) compatible with TRILUMINOS Color
Creative Style	Standard, Vivid, Neutral, Clear, Deep, Light, Portrait, Landscape, Sunset, Night Scene, Autumn leaves, Black & White, Sepia, Style Box (1-6), (Contrast (-3 to +3 steps), Saturation (-3 to +3 steps), Sharpness (-5 to +5 steps))
HDMI Output	3840 x 2160 (25p), 1920 x 1080 (50p), 1920 x 1080 (50i), 1920 x 1080 (24p), 1920 x 1080 (60p), 1920 x 1080 (60i), 3840 x 2160 (30p), 3840 x 2160 (24p), YCbCr 4:2:2 8 bit / RGB 8 bit
Image Size (pixels), NTSC	XAVC S 4K: 3840 x 2160 (30p, 100 M), 3840 x 2160 (24p, 100 M), 3840 x 2160 (30p, 60 M), 3840 x 2160 (24p, 60 M), XAVC S HD: 1920 x 1080 (120p, 100 M), 1920 x 1080 (120p, 60 M), 1920 x 1080 (60p, 50 M), 1920 x 1080 (30p, 50 M), 1920 x 1080 (24p, 50 M), 1920 x 1080 (60p, 25 M), 1920 x 1080 (30p, 16 M), AVCHD: 1920 x 1080 (60i, 24 M, FX), 1920 x 1080 (60i, 17 M, FH)
Image Size (pixels), PAL	XAVC S 4K: 3840 x 2160 (25p, 100 M), 3840 x 2160 (25p, 60 M), AVCHD: 1920 x 1080 (50i, 24 M, FX), 1920 x 1080 (50i, 17 M, FH)
Movie Functions	Audio Level Display, Audio Rec Level, Proxy Recording (1280 x 720 (Approx. 9 Mbps)), TC/UB (TC Preset/UB Preset/TC Format/TC Run/TC Make/UB Time Rec), Auto Slow Shutter, REC Control, Clean HDMI Info. (ON/OFF selectable)
Picture Effect	Posterization (Color), Posterization (B/W), Pop Color, Retro Photo, Partial Color (R/G/B/Y), High Contrast Monochrome, Toy Camera(Normal/Cool/Warm/Green/Magenta), Soft High-key
Picture Profile	-
Recording Format	XAVC S, AVCHD format Ver. 2.0 compliant
Slow & quick motion (recording frame rate & image size)	NTSC mode: 1920x1080 (60p, 30p, 24p), PAL mode: 1920x1080 (50p, 25p)

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Slow & quick motion (shooting frame rate)	NTSC mode: 1fps, 2fps, 4fps, 8fps, 15fps, 30fps, 60fps, 120fps, PAL mode: 1fps, 2fps, 3fps, 6fps, 12fps, 25fps, 50fps, 100fps,
Video Compression	XAVC S: MPEG-4 AVC/H.264, AVCHD: MPEG-4 AVC/H.264
<b>Recording System</b>	
Location information Link from smartphone	Yes
Media	SD memory card, SDHC memory card (UHS-I/II compliant), SDXC memory card (UHS-I/II compliant), microSD memory card, microSDHC memory card, microSDXC memory card
Memory Card Slot	SLOT1: Slot for SD (UHS-I/II compliant) memory card, SLOT2: Slot for SD (UHS-I/II compliant) memory card
Recording mode on 2 memory cards	Simult. Rec (Still), Simult. Rec (Movie), Simult. Rec (Still/Movie), Sort (JPEG/RAW), Sort (Still/Movie), Auto Switch Media (On/Off), Copy
<b>Shutter</b>	
Electronic Front Curtain Shutter	Yes (ON/OFF)
Flash Sync. Speed	1/250 sec.
Shutter Speed	[Still images, Single shot] Mechanical Shutter: 1/8000 to 30 sec, Bulb, AUTO: 1/32000 to 30 sec, Bulb, Electronic Shutter: 1/32000 to 30 sec, [Still images, Continuous shooting] Mechanical Shutter: 1/8000 to 30 sec, AUTO: 1/32000 to 1/8 sec, Electronic Shutter: 1/32000 to 1/8 sec, [Movies]: 1/8000 to 1/4 (1/3 steps) up to 1/60 in AUTO mode (up to 1/30 in Auto slow shutter mode)
Shutter Type	Auto/Mechanical shutter/Electronic shutter
Silent Shooting	Yes (Electronic Shutter)
TYPE	Electronically controlled, vertical-traverse, focal-plane type
<b>Size &amp; Weight</b>	
Dimensions (W x H x D)	Approx. 128.9 mm x 96.4 mm x 77.5 mm, Approx. 128.9 mm x 96.4 mm x 67.3 mm (from grip to monitor)/Approx. 5 1/8" x 3 7/8" x 3 1/8", Approx. 5 1/8" x 3 7/8" x 2 3/4" (from grip to monitor)
Weight (with battery and memory card included)	Approx. 1 lb 8.0 oz / approx. 678 g
<b>Viewfinder</b>	
Brightness Control (Viewfinder)	Auto/Manual (5 steps between -2 and +2)
Color Temperature Control	Manual (5 steps)

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Diopter Adjustment	-4.0 to +3.0 m <sup>-1</sup>
Display Contents	Graphic Display, Display All Info, No Display Info, Digital Level Gauge, Histogram
Eye Point	Approx. 23 mm from the eyepiece lens, 18.5 mm from the eyepiece frame at -1m <sup>-1</sup> (CIPA standard)
Field Coverage	100%
Finder Frame Rate Selection	STD 60fps / HI 120fps
Magnification	approx. 0.78 x (with 50mm lens at infinity, -3.28 feet <sup>-1</sup> )
Number of Dots	3 686 400 dots
Viewfinder Type	0.51 inch (0.5 type) electronic viewfinder (color), Quad-VGA OLED
<b>White Balance</b>	
AWB Micro Adjustment	Yes (G7 to M7, 57-step)(A7 to B7, 29-step)
Bracketing	3 frames, H/L selectable
Priority Set in AWB	Yes
SHUTTER AWB LOCK	Yes (Shut. Halfway Down/ Cont. Shooting/ Off)
White Balance Modes	Auto / Daylight / Shade / Cloudy / Incandescent / Fluorescent (Warm White / Cool White / Day White / Daylight) / Flash / Underwater / Color Temperature (2500 to 9900K) & color filter (G7 to M7 (57-step), A7 to B7 (29-step)) / Custom

1. Approximately effective megapixels
2. "Hi" continuous shooting mode. At shutter speed 1/125 sec. or higher. In AF-C mode the maximum continuous frame rate will depend on the shooting mode and lens used. A software update may be required for some lenses. Visit Sony's support web page for lens compatibility information
3. At shutter speeds of 1/125 sec. or higher. The number of AF calculations will depend on the lens used
4. Voice memos are associated to images as WAVE (.wav) file format with the same name as the image.
5. Voice to text requires the use of Imaging Edge™ application with 'Transfer and Tagging Add-on' app. Version 1.1 or later required (released in October 2019). Only available in regions where Google services are available. Voice Memo exceeding 50 seconds cannot be converted to text. For more information on the new application updates, please visit the 'Transfer & Tagging add-on' website at <https://sony.net/ttad/6s> Real-time Tracking activated in the menu. Eye-AF for Animal works for stills only.
6. Models sold in some countries/regions support IEEE 802.11b/g/n (2.4 GHz) wireless LAN only. 5 GHz communication may be restricted in some countries and regions
7. Electronic shutter mode. Display updating will be slower at slow shutter speeds
8. CIPA standards. Pitch/yaw shake only. Planar T\* FE 50mm F1.4 ZA lens. Long exposure NR off
9. Only 100 Hz and 120 Hz flicker is detected. Continuous shooting speed may decrease. Flicker-free shooting is not available during electronic shutter, BULB exposure, or movie recording
10. Not guaranteed to be 100% dust and moisture proof
11. Version 2.0 or later required. For more information on the new application updates, please visit the 'Remote Camera Tool' website at <https://support.d-imaging.sony.co.jp/app/remotecameratool//index.php13> A Class 10 or higher SDHC/SDXC card is required for XAVC S format movie recording. UHS speed class 3 or higher is required for 100 Mbps recording.
12. 1/32000 shutter speed is available only in the S and M modes (there are no intermediate settings between 1/16000 and 1/32000). The highest shutter speed in all other modes is 1/16000. Some distortion may occur when shooting fast-moving

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subjects or if the camera is moved sideways rapidly while using the electronic shutter.

13. Digital audio interface recording requires compatible Sony's microphone, e.g. ECM-B1M or XLR-K3M XLR microphone adaptor
14. "Hi" continuous shooting mode, UHS-II memory card. Sony tests.
15. When the camera [Aperture Drive in AF] is set to [Focus Priority], the aperture value can be set greater than F16. The continuous speed slows down. Compatible lenses: SEL200600G, SEL35F18F, SEL400F28GM, SEL600F40GM
16. Sony internal tests with electronic front curtain shutter.

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