

SONY

ILCE-9/B

α9 Full-frame Mirrorless Interchangeable-Lens Camera

In one game-changing leap the revolutionary image sensor and high-speed processing of the α9 reaches performance levels far beyond the incremental improvements gained through decades of mechanical refinement. There is no viewfinder blackout². Continuous shooting speeds exceed those possible with mechanical shutters. Higher shutter speeds are available, and all without noise or vibration. The ability to keep an eye on moving subjects at all times leads to faultless AF and AE tracking, and the photographer's view is consistently up-to-date with an absolute minimum of lag. In short, the digital promise has been realized at last.



Key Features

World's first¹ Full-frame stacked CMOS sensor

From the world's largest sensor manufacturer comes the world's first¹ 35mm full-frame stacked Exmor RS[®] CMOS sensor with integrated memory and includes a number of features that contribute to outstanding image quality. High sensitivity, a back-illuminated configuration, gapless on-chip lens architecture, and other Sony innovations deliver stunning images in a wide range of photographic situations. This unique 24.2 megapixel sensor, when combined with the refined BIONZ X[™] image processing engine and front-end LSI, delivers approx. 20x faster data readout speed Sony full-frame mirrorless α7 II cameras. The result is unmatched by any DSLR or Mirrorless camera before it.

Up to 20fps³ continuous shooting

Capture fleeting moments and the highest speed subjects with incredible continuous shooting of up to 20fps³ at full 24.2MP resolution in RAW+JPEG with continuous AF/AE (autofocus and auto exposure) tracking and no EVF or LCD blackout². The large high speed buffer allow for up to 241 RAW images or 362 JPEG images. With camera set to "Hi" continuous shooting mode, UHS-II memory card. Sony tests, compressed RAW or J{PEG respectively.

World's first blackout-free² viewfinder

Ever since the film era, camera mechanisms have been designed with shutter and mirror mechanisms that interrupt the incoming light when creating a photographic image. High continuous shooting speeds pose even more of a problem for traditional DSLRs. It is time for a change. Even at up to 20fps³ continuous shooting, this isn't an issue for the groundbreaking α9 mirrorless camera. You have a continuous, uninterrupted view of the subject with a 60 fps live-view refresh rate thanks to the Quad-VGA OLED Tru-Finder EVF (Electronic Viewfinder) and minimal display lag while shooting continuous bursts. Display updating will be slower at slow shutter speeds.

Silent⁴, vibration-free anti-distortion shutter

Shooting wide open in brightly lit conditions or freezing a fast moving object in a moment without distorting the image due to slower shutter speeds is made possible with a fully electronic, high-speed, anti-distortion shutter that can achieve speeds as high as 1/32,000 sec.⁵, way beyond the limits of a mechanical system. In addition, the electronic vibration-free shutter delivers sharp images and is completely silent⁴, without mechanical noise that can be disruptive when shooting sports or events in a quiet environment.

World's most¹ Phase Detection AF points

In addition to industry-leading speed and innovative silent⁴ shooting, the α9 features a fast, wide and dependable 4D Focus system with the world's most¹: 693 Phase Detection AF points with wide coverage over 93% of the frame. Fast Hybrid AF System has been optimized for speed, achieving approximately 25% faster AF operation than the 7R II. This focusing system ensures that even the fastest moving subjects are reliably tracked and captured across the frame – even when shooting at high 20fps³.

Up to 60 AF/AE tracking calculations per sec.⁷

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The α 9 never rests. It employs an ingenious blend of mirrorless construction and new speed enhancing technologies to allow autofocus and auto-exposure calculations to continue even between the frames unlike conventional cameras. Unprecedented sensor readout speed means that subject motion and exposure changes can be tracked without interruption during continuous shooting², regardless of release timing. Up to 60 calculations are made per second⁷, providing accurate tracking of complex, erratic subject motion and brightness changes.

Enhanced BIONZ X™ image processing engine

The enhanced BIONZ X image processing engine incorporates a newly developed image-processing algorithm which reduces noise in the medium-to-high sensitivity range while enhancing subjective resolution. Sensitivity up to ISO 51,200⁹ (expandable to ISO 204,800) and a wide dynamic range, plus 14-bit readout and 14-bit uncompressed RAW format, deliver clean images in almost any lighting conditions with great detail, color and gradation.

Ethernet port for FTP file transfer

In addition to wireless LAN capability, a new Ethernet terminal for wired LAN connection allows convenient transfer of high-volume still image files to a specified FTP server where they can be viewed and managed via a local computer. A wired LAN connection provides high stability and transfer speeds for large image files, and is an ideal solution for situations where large amounts of data must be transferred quickly and reliably as in studio photography, high-profile news, sporting events and more.

5.0-step⁶, 5-axis in-body image stabilization

The 5-axis SteadyShot™ in-body image stabilization unit and high-precision gyro sensors provide a 5.0-step⁶ shutter speed advantage for full-frame images. Camera shake is effectively compensated on 5 axes: pitch and yaw that have the largest overall impact on image quality; X and Y shift that is most apparent at high magnification, and roll that can ruin night shots and movies. Stabilization is applied to the live-view image, making it easier to frame fast-moving subjects. Effective stabilization is provided for movies as well as stills, and for A-mount lenses attached via a mount adapter.

Quad-VGA OLED Tru-Finder with 120 fps⁸ refresh rate

The α 9 boasts a high-luminance 3,686K-dot Quad-VGA OLED Tru-Finder which reproduces the finest details, and incorporates legendary ZEISS T* coating to greatly reduce reflections and double-sided aspherical element to achieve 0.78x magnification with outstanding corner-to-corner clarity. A 120 fps⁸ frame rate provides a smooth viewfinder image with minimum display motion blur when shooting fast moving subjects, and high luminance keeps the brightness of the viewfinder image close to that of the actual scene for natural, seamless viewing. There's even a fluorine coating on the outermost viewfinder lens that repels fingerprints, dust, water, oil, and dirt.

Wide dynamic range, 14-bit uncompressed RAW

14-bit RAW format is supported, and is a good choice in situations where the sensor's wide dynamic range and fine gradation reproduction will benefit the images being captured. 14-bit RAW output is even available when shooting single images using the electronic shutter.

Enhanced Eye-AF

Eye AF automatically detects and focuses on the subject's eye. It has been notably improved in the α 9, providing approximately 30% greater eye focus accuracy (Compared to the α 7 l) even when shooting a moving subject in continuous AF mode. Face detection has also been updated for higher reliability when the subject is looking away from the camera, when the face is in partial darkness, and other challenging situations.

Fast focus with A-mount lenses

The focal plane phase-detection AF system does its job even when an A-mount lens¹ is mounted via the optional LA-EA3 mount adaptor. 693-point focal plane phase-detection AF provides wide-area coverage and fast response for A-mount lenses as well as E-mount types, offering high tracking performance for an extensive lineup of lenses. A software update for the LA-EA3 (scheduled for release in May 2017) will allow continuous shooting with AF and AE tracking at up to 10 frames per second³.

Dual media slots (UHS-II SD Card compatible)

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Two SD media card slots are provided for still and movie storage (one slot for SD cards or Memory Stick) with the lower card slot being UHS-II compatible for faster write speed. Still or movie data can be simultaneously recorded to both cards for backup, or RAW images can be recorded to one card while JPEG images are recorded to the other. It is also possible to record stills and movies to different cards. Data can be copied between cards while in the camera, for convenient back-up. Sony SF-G series UHS-II SD cards are ideal for situations where maximum transfer speed is required, allowing up to 362 JPEG images or 241 compressed RAW images to be captured in a continuous burst.

Z battery with approximately 2.2x the capacity of W batteries

The high-capacity NP-FZ100 Rechargeable Battery has approximately 2.2x the capacity of the NP-FW50 W-series battery and can capture approximately 480 still frames (when using the EVF) on a single charge. But that's just with the body alone. The optional VG-C3EM vertical grip houses two batteries that let you shoot up to 950 images (when using the EVF) in continuous mode. And when you need serious stamina for long sessions there's the NPA-MQZ1K Multi Battery Adaptor Kit that can hold up to four batteries. The NP-FZ100 also supports InfoLITHIUM® technology, which makes it possible to view the remaining battery power as both a percentage display and five step icon on the camera's LCD screen.

Robust magnesium alloy body w/ dust and moisture resistant design¹²

The α9 body construction features a lightweight, high-rigidity magnesium alloy for the internal frame as well as the top, front, and rear covers. The grip area has also been reinforced with an integrated magnesium alloy grip and front cover. Although about the same size and weight as the α7 series, the α9 body is packed with unprecedented functionality and performance. The number of screws securing the lens mount has been increased to six in order to maximize rigidity and durability even when using heavy telephoto lenses. Sealing is provided throughout the body to minimize dust and moisture ingress, allowing it to function reliably in challenging environments¹². All major buttons and dials are provided with seals, while media jack cover and enclosure edges feature tongue-and-groove joints for double protection. Maximum dust and moisture resistance is maintained at lens, vertical grip, and flash unit joints too, providing excellent system reliability.

Full-frame 4K¹¹ video¹⁰ w/ full-pixel readout and no pixel binning

The new α9 is very capable as a video camera as well, as it offers 4K¹¹ (3840x2160p) video¹⁰ recording across the full width of the full-frame image sensor. When shooting in this format, the camera uses full pixel readout without pixel binning to collect 6K of information, oversampling it to produce high quality 4K footage with exceptional detail and depth. Recording is also available in the popular Super35 size. Additionally, the camera can record Full HD¹¹ at 120 fps at up to 100 Mbps, which allows footage to be reviewed and eventually edited into 4x or 5x slow motion video files in Full HD resolution with AF tracking.

Simple connectivity to smartphones via Wi-Fi®/NFC.

Thanks to built-in Wi-Fi®, you can easily connect to a compatible iOS or Android™ smartphone or tablet with the free PlayMemories Mobile App. From there you can control your camera, preview and frame using your mobile device and trigger the camera shutter or movie button. Then instantly transfer a photo or MP4 movie to your device. NFC™ (Near Field Communication) provides "one-touch connection" convenience to Android™ smartphones and tablets with NFC. Simply touch devices to connect. Setting up your mobile device is as simple as downloading a free PlayMemories Mobile app (www.sony.net/pmm/).

My Menu, customizable interface and buttons, plus back focus button

Make it your own with easy button customization. A new My Menu feature allows up to 30 menu items to be registered for instant recall when needed. The registered items can be arranged in any convenient order, and unused items can be erased as required. The primary menus have also been reorganized for smoother search and operation. In addition, You can assign any of 72 functions to any of 11 customizable buttons as you like. This makes operation more intuitive, quick and easy, and is extra-convenient for accessing such functions as starting and stopping of movie recording and switching between viewfinder and monitor.

3-inch 1,440K-dot tiltable LCD screen with touch AF

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The tiltable 3-inch (1,440k dots) Xtra Fine LCD™ Display makes it easy to photograph over crowds, or objects close to the ground or maybe you just want to get a different perspective. The screen can tilt up approx. 107° and down approx. 41° and features a convenient touch AF function for fast intuitive focus. The large display delivers brilliant-quality still images and movies thanks to WhiteMagic™ technology that nearly doubles the brightness of the display through a unique RGBW pixel structure for easier checking of the focus and image details.

Touch AF function

Focusing doesn't get any more intuitive than this. With Touch Focus you can simply touch the LCD screen to specify the desired focus point. Even subjects near the edges of the frame can be instantly selected without having to reframe or manually shift the focus point. Double-tap any point on the monitor for a magnified view of that area when focusing manually. Touch AF allows smooth focus point changes when shooting movies too.

AF-ON button (back focus button)

The α9 has several new and updated focus functions that support faster, easier focusing in a variety of situations including the AF-ON button (back focus button) which activates autofocus when pressed while shooting stills or movies.

AF Multi-selector

The camera features a multi-selector joystick on the back of the camera, allowing shooters to easily shift focus within the frame by pressing the multi-selector in any direction up, down, left or right when shooting in Zone, Flexible Spot or Expanded Flexible Spot focus area modes.

Anti-dust system and coating

To keep your photos blemish-free, a special anti-static coating on the surface of the optical filter suppresses the attachment of both dry and moist dust particles when changing lenses. An anti-dust mechanism also vibrates at high speed when you select Cleaning Mode, to remove any particles adhering to the filter.

Meticulously crafted controls

Controls are refined for intuitive operation and immediate adjustment even while looking through the viewfinder. The α9 features front and rear dials for easier, more efficient handling and turning. A mode dial locking mechanism prevents inadvertent changes of shooting mode at all times and a stacked independently operable dials allow fast selection of drive and focus modes. Quickly select the single or continuous drive mode, or the single AF or continuous AF focus mode, for example, without having to scroll through menus. Both dials are lockable, preventing unwanted mode changes during use.

Flash Sync terminal

There is a sync terminal enabling external flash units and cables to be connected directly for convenient flash sync.

Specifications

Camera	
Lens Compatibility	Sony E-mount lenses
Lens Mount	E-mount
Camera Type	Interchangeable lens digital camera
Flash	
	Pre-flash TTL**
Control	** A flash cannot be used when (Shutter Type) is set to (Electronic Shut.). A flash can be used during continuous shooting with (Shutter Type) set to (Auto). The mechanical shutter will be used.
External flash	Sony α System Flash compatible with Multi Interface Shoe, attach the shoe adaptor for flash compatible with Auto-lock accessory shoe
FE Level Lock	Yes
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 and Hi-speed sync. (With compatible external flash)
Microphone	
Microphone	Built-in stereo microphone or XLR-K2M/XLR-K1M/ECM-XYST1M(sold separately)
Speaker	
Speaker	Built-in, monaural
Clear Image Zoom	
Movies	Approx. 2x
Still images	Approx. 2x
Custom function	
Custom key settings	Yes
My Menu	Yes
Programmable Setting	Yes (Body 3 sets /memory card 4 sets)
Reg Cust Shoot Set	Yes
Digital zoom	
Digital zoom (Movie)	35mm full frame: approx 4x APS-C: approx 4x
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
Smart zoom (Still images)	35mm full frame: M:approx 1.5x, S:approx 2x APS-C: M:approx 1.3x, S:approx 2x
Drive	
Drive modes	Single Shooting, Continuous shooting (Hi/Mid/Lo selectable), Self-timer, Self-timer (Cont.), Bracket: Single, Cont., White Balance and DRO bracket
No. of frame recordable* (approx.)	JPEG Extra fine L: 362 frames, JPEG Fine L: 362 frames, JPEG Standard L: 362 frames, RAW: 241 frames, RAW&JPG: 222 frames, RAW(Uncompressed): 128 frames, RAW(Uncompressed)&JPG: 118 frames
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)
Speed (approx., max.)	AUTO/Electronic Shutter: Continuous shooting: Hi: max. 20 fps, Mid: max. 10fps, Lo: max. 5 fps *** Mechanical Shutter: Continuous shooting: Hi: max. 5 fps, Mid: max. 5fps, Lo: max. 2.5 fps * When A-mount lens is used via mount adapter, the speed of continuous shooting varies depending on the attached lens. * When the Focus Mode is set to AF-C (Continuous AF), the speed of continuous shooting varies depending on the attached lens. See Sony support page for compatibility details. * During uncompressed RAW shooting, 12 images are shot per second at maximum.
No. of frame recordable* (approx.)	JPEG Extra fine L: 362 frames, JPEG Fine L: 362 frames, JPEG Standard L: 362 frames, RAW: 241 frames, RAW&JPG: 222 frames, RAW(Uncompressed): 128 frames, RAW(Uncompressed)&JPG: 118 frames
Exposure control	
AE Lock	Locked when shutter button is pressed halfway. Available with AE lock button. (On/Off/Auto)
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 100-6400, 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 100-6400, 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 100-6400, selectable lower limit and upper limit)
Metering sensitivity	EV-3 to EV20 (at ISO100 equivalent with F2.0 lens attached)
Metering sensor	Exmor RS CMOS sensor
Metering type	1200-zone evaluative metering
Modes	Multi-segment, Center-weighted, Spot, Spot Standard/Large, Entire Screen Avg., Highlight
Face detection	
Face registration	Yes
Face selection	Yes
Max. number of detectable	8
Modes	On/On (Regist. Faces)/Off
Focus system	
AF illuminator	Yes(with Built-in LED type)
AF illuminator range	Approx. 0.3m - approx. 3.0m (with FE 28-70mm F3.5-5.6 OSS attached)
AF micro adjustment	Yes, (Sold separately) with LA-EA2 or LA-EA4
Eye AF	Yes
Eye-start AF	Yes (only with LA-EA2 or LA-EA4 attached(Sold separately))
Focus area	Wide (693 points (phase-detection AF), 25 points(contrast-detection AF)) / Zone / Center / Flexible Spot (S/M/L) /Expanded Flexible Spot/ Lock-on AF (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	35mm 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) / 25 points (contrast-detection AF)
Focus sensor	Exmor RS CMOS sensor
Focus Type with LA-EA1 or LA-EA3 (Sold separately)	selectable (phase-detection, contrast-detection)
Lock-on AF	Yes
Other Features	Predictive control, Focus lock, AF Track Sens, Swt.V/H AF Area, AF Area Regist.
Sensitivity range	EV-3 to EV20 (ISO100 equivalent with F2.0 lens attached)
Type	Fast Hybrid AF(phase-detection AF/contrast-detection AF)
Image sensor	
Anti-Dust function	Yes
Anti-Dust operation (auto)	Cleaning Mode
Anti-Dust system	Charge protection coating on optical filter and image sensor shift mechanism
Color filter	R, G, B primary color
Image sensor aspect ratio	3:2
Number of pixels (effective)	Approx. 24.2 megapixels

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Number of pixels (total)	Approx. 28.3 megapixels
Type	35mm full frame (35.6x23.8mm), Exmor RS CMOS sensor
Interface	
Bluetooth	Yes (Bluetooth Standard Ver. 4.1 (2.4GHz band))
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
Mic Terminal	Yes (3.5 mm Stereo minijack)
Multi / Micro USB Terminal	Yes (Supports Micro USB compatible device.)
Multi Interface Shoe	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
Remote Control	Yes (RMT-DSLR2 (sold separately))
Sync. Terminal	Yes
Vertical Grip	Yes
Wireless LAN(built-in)	Yes (Wi-Fi Compatible, IEEE 802.11b/g/n(2.4GHz band)) (Configuration method/Access method) WPS or manually /infrastructure mode. When connecting to smartphones, the camera can always work as a base without a wireless access point. (Security: WEP/WPA-PSK/WPA2-PSK)
LCD screen	
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 Contents	Graphic Display Display All Info No Disp. Info Digital Level Gauge Histogram For viewfinder
Focus Check	Yes (35mm full frame: 4.7x, 9.4x APS-C: 3.1x, 6.2x)
Grid Line	Yes (Rule of 3rds Grid/Square Grid/Diag. + Square Grid/Off)
Movie Marker	Yes (Center/Aspect/Safety Zone/Guideframe)
Number of dots (total)	1,440,000 dots
Peaking MF	Yes (Level setting: High/Mid/Low/Off, Color: White/Red/Yellow)
Quick Navi	Yes
Real-time image-adjustment display	On/Off
Touch panel	Yes
Type	7.5cm (3.0-type) type TFT
WhiteMagic	Yes
Zebra	Yes (selectable level + range or lower limit as custom setting)
Lens compensation	
Lens compensation	Peripheral Shading, Chromatic Aberration, Distortion
Movie Function	
AF Drive Speed	Yes
AF Tracking Duration	Yes
Audio Level Display	Yes
Audio Rec Level	Yes
Auto Slow Shutter	Yes

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Clean HDMI Info.	ON/OFF selectable
Dual Video REC	Yes
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 8bit / RGB 8bit
PAL/NTSC Selector	Yes
REC Control	Yes
TC/UB	Yes (TC Preset/UB Preset/TC Format/TC Run/TC Make/UB Time Rec)
Operating Temperature	
Operating temperature	32 - 104 degrees F / 0 - 40 degrees C
Other Features	
Area Setting	Yes
Bright Monitoring	Yes
Clock Function,Setting	Yes
Copyright Info	Yes
FTP Transfer Func.	Yes
Help guide	Yes
ISO AUTO Min. SS	Yes
Set File Name	Yes
Shop Front Mode	Yes
Touch Focus	Yes (Available with LCD monitor operation)
Video Light Mode	Yes
Zoom Ring Rotate	Yes
Playback	
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
Photo Capture	Yes
Power	
Battery	One rechargeable battery pack NP-FZ100
Internal battery charge	Yes
Movies (actual recording)	Approx. 105 min (Viewfinder) / Approx. 120 min (LCD monitor) (CIPA standard) Approx. 185 min (Viewfinder) / Approx. 195 min (LCD monitor) (CIPA standard)br
Movies (continuous recording)	*Continuous movie recording is possible for approximately 29 minutes (limited by product specifications).br *The total movie recording time. When the limit of the continuous movie recording time (29 minutes) is reached, let the camera continue movie recording by pressing the MOVIE button again. No other operation such as zoom are performed.

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Still images	Approx. 480 shots (Viewfinder) / approx. 650 shots (LCD monitor) (CIPA standard) *The LCD screen is turned on, shot once every 30 seconds, operate zoom alternately between W and T ends, flash strobe once every two times, turn power off and on once every ten times.
USB power supply	Yes
Power consumption	
With LCD screen	Still images: approx. 3.0W(with FE 28-70mm F3.5-5.6 OSS lens attached), Movies: approx.5.0W(with FE 28-70mm F3.5-5.6 OSS lens attached)
With Viewfinder	Still images: approx. 4.1W(with FE 28-70mm F3.5-5.6 OSS lens attached), Movies: approx.5.3W(with FE 28-70mm F3.5-5.6 OSS lens attached)
Print	
Compatible standards	Yes
Recording system	
File system	FAT12, 16, 32, exFAT
Media	Memory Stick PRO Duo, Memory Stick PRO-HG Duo, Memory Stick Micro(M2), 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: Multi slot for Memory Stick Duo/SD(UHS-I compliant) memory card
Noise reduction	Long exposure NR: On/Off , available at shutter speeds longer than 1 sec. High ISO NR: Normal/Low/Off
Recording mode on 2 memory cards	Simult. Rec (Still), Simult. Rec (Movie), Simult. Rec (Still/Movie), Sort (JPEG/RAW), Sort (Still/Movie), Copy
Recording system (movie)	
Audio recording format	XAVC S: LPCM 2ch AVCHD: Dolby Digital (AC-3) 2ch, Dolby Digital Stereo Creator MP4: MPEG-4 AAC-LC 2ch
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 (-3 to +3 steps))

	<p>XAVC S 4K: 3840 x 2160 / 30p @ Approx.100Mbps 3840 x 2160 / 25p @ Approx.100Mbps 3840 x 2160 / 24p @ Approx.100Mbps 3840 x 2160 / 30p @ Approx.60Mbps 3840 x 2160 / 25p @ Approx.60Mbps 3840 x 2160 / 24p @ Approx.60Mbps</p> <p>XAVC S HD: 1920 x 1080 / 120p @ Approx.100Mbps 1920 x 1080 / 100p @ Approx.100Mbps 1920 x 1080 / 120p @ Approx.60Mbps 1920 x 1080 / 100p @ Approx.60Mbps 1920 x 1080 / 60p @ Approx.50Mbps 1920 x 1080 / 50p @ Approx.50Mbps 1920 x 1080 / 30p @ Approx.50Mbps 1920 x 1080 / 25p @ Approx.50Mbps 1920 x 1080 / 24p @ Approx.50Mbps</p>
Movie recording system	<p>AVCHD: PS - 1920 x 1080 / 60p @ Maximum bit-rate 28Mbps PS - 1920 x 1080 / 50p @ Maximum bit-rate 28Mbps FX - 1920 x 1080 / 60i @ Maximum bit-rate 24Mbps FX - 1920 x 1080 / 50i @ Maximum bit-rate 24Mbps FH - 1920 x 1080 / 60i @ Average bit-rate 17Mbps FH - 1920 x 1080 / 50i @ Average bit-rate 17Mbps FX - 1920 x 1080 / 24p @ Maximum bit-rate 24Mbps FX - 1920 x 1080 / 25p @ Maximum bit-rate 24Mbps FH - 1920 x 1080 / 24p @ Average bit-rate 17Mbps FH - 1920 x 1080 / 25p @ Average bit-rate 17Mbps</p> <p>AVC MP4: 1920 x 1080 / 60p @ 28Mbps 1920 x 1080 / 50p @ 28Mbps 1920 x 1080 / 30p @ 16Mbps 1920 x 1080 / 25p @ 16Mbps 1280 x 720 / 30p @ 6Mbps 1280 x 720 / 25p @ 6Mbps</p>
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
Recording format	XAVC S AVCHD format Ver. 2.0 compliant MP4
Video compression	XAVC S:MPEG-4 AVC/H.264, AVCHD: MPEG-4 AVC/H.264, MP4: MPEG-4 AVC/H.264
Recording system (still image)	
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 (-3 to +3 steps))
Delete	Yes
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 quality modes	RAW RAW & JPEG JPEG Extra fine JPEG Fine JPEG Standard
Image size (pixels) (16:9)	35mm full frame L: 6000 x 3376 (20M), 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)	35mm 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)

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
RAW Output	Yes
Recording format	JPEG (DCF Ver. 2.0, Exif Ver.2.31, MPF Baseline compliant), RAW (Sony ARW 2.3 format)
Uncompressed RAW	Yes
Shutter	
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) * 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.
Silent Shooting	Yes (Electronic Shutter)
Type	Electronically-controlled, vertical-traverse, focal-plane type, Auto/Mechanical shutter/Electronic shutter
Slow & Quick Motion (S&Q)	
Image frame rate	NTSC mode: 1fps, 2fps, 4fps, 8fps, 15fps, 30fps, 60fps, 120fps PAL mode: 1fps, 2fps, 3fps, 6fps, 12fps, 25fps, 50fps, 100fps
Image size (frame rate)	NTSC mode: 1920x1080 (60p, 30p, 24p), PAL mode: 1920x1080 (50p, 25p)
SteadyShot INSIDE (image stabilization)	
Compensation effect	5.0 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)
Viewfinder	
Brightness control	Auto/Manual (5 steps between -2 and +2)
Color temperature control	Manual (5 steps)
Diopter adjustment	-4.0 to +3.0m ⁻¹
Display Contents	Graphic Display Display All Info. No Disp. Info. Digital Level Gauge Histogram
Eye point	Approx. 23mm from the eyepiece lens, 18.5mm from the eyepiece frame at -1m ⁻¹ (CIPA standard)
Field coverage	100%
Finder Frame Rate Selection	STD 60fps / HI 120fps
Magnification	approx. 0.78 x (with 50mm lens at infinity, -1m ⁻¹)
Number of dots	3 686 400 dots
Quad-VGA OLED	Yes

SONY

Type	1.3 cm (0.5 type) electronic viewfinder (color)
White balance	
AWB micro adjustment	Yes G7 to M7, 57-step A7 to B7, 29-step
Bracketing	3 frames, H/L selectable
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
Priority Set in AWB	Yes
Wi-Fi	
Send to Computer	Yes
View on Smartphone	Yes
View on TV	Yes
Weights and Measurements	
Dimensions (Approx.)	5 x 3 7/8 x 2 1/2" (126.9 x 95.6 x 63.0mm) (WxHxD) excluding protrusions
Weight (Approx.)	1 lb 7.7 oz (673 g) (with battery and memory card included)
Weight (Approx) (Main unit only)	1 lb 4.7 oz (588 g)
Accessories	
Supplied Accessories	Power cord Rechargeable Battery (NP-FZ100) Cable Protector AC Adaptor (AC-UUD12) Battery Charger (BC-QZ1) Shoulder strap Body cap Accessory shoe cap Eyepiece cup Micro USB cable

1. As of April 19th, 2017

2. Electronic shutter mode. At apertures smaller than F11 (F-numbers higher than F11), focus will not track the subject and focus points will be fixed on the first frame. Display updating will be slower at slow shutter speeds.

3. "Hi" continuous shooting mode. The maximum frame rate will depend on the shooting mode and lens used. Visit Sony's support web page for lens compatibility information.

4. Silent shooting is possible when Shutter Type is set to "Electronic" and Audio signals is set to "Off."

5. 1/32000 shutter speed is available only in the S and M modes. The highest shutter speed in all other modes is 1/16000.

6 CIPA standards. Pitch/yaw stabilization only. Planar T* FE 50mm F1.4 ZA lens. Long exposure NR off.

7. At shutter speeds higher than 1/125 sec, smooth and blackout-free live view images are shown in EVF.

8. When the auto or electronic shutter mode is selected the viewfinder frame rate is fixed at 60 fps during continuous shooting.

9. Still images, (mechanical shutter: ISO 100 - 51200 expandable to ISO 50 - 204800/ electronic shutter: ISO 100 - 25600 expandable to ISO 50 - 25600), Movie recording (ISO 100 - 51200 expandable to ISO 100 - 102400)

10. In full-frame shooting, the angle of view will be narrower when [File Format] is set to [XAVC S 4K] and [Record Setting] is set to [30p]

11. Class 10 or higher SDHC/SDXC memory card required for XAVC S format movie recording. UHS Speed Class U3 required for 100Mbps or higher recording.

12. Not guaranteed to be 100% dust and moisture proof

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