SONY

FDR-AX700/B

4K Handycam® camcorder with 1" sensor

If you've ever been astonished by the depth and beauty of 4K[1] High Dynamic Range, if you've ever longed to achieve these results for your own projects, Sony has the ideal camera. Presenting the FDR-AX700. Small as it is, it packs the most power we've ever built into a palm-sized Handycam® camera. With advances like 4K (3840 x 2160) resolution, Instant HDR[2], a generous 1" (1.0-type) image sensor and Fast Hybrid Auto Focus, this is the perfect tool for making unforgettable videos.

Key Features

Large, 1" back illuminated Exmor RS® stacked CMOS sensor

This large 1" (1.0-type) back illuminated Exmor RS® stacked image sensor with DRAM chip not only enhances efficiency and speed of A/D conversion through its stacked structure due to more circuit sections; it also realizes super-fast readout speed - thanks to a DRAM chip integrated into the sensor structure. Together with the BIONZ X® processing engine and front-end LSI, it allows for stunning 4K[1] (3840 x 2160) with fast AF and AE tracking, and super slow-motion HFR[2] (High Frame Rate) movie clip recording of up to 960fps (40x), not to mention remarkable low-light low-noise capability. The large sensor makes for more cinematic imagery, with the blurred backgrounds that cinematographers cherish.

Incredibly fast, Hybrid Auto Focus

The FDR-AX700 An extraordinarily accurate AF system Using 273 focus points covering 84% of the frame, the system combines the strengths of both Phase Detection AF and Contrast Detection AF for unsurpassed results. Focus is always important, especially in large-sensor 4K imaging. With its powerful high-speed BIONZ X image processing engine and advanced new movie AF algorithm, the FDR-AX700 can hold focus even on fast-moving subjects such as sports, pets or children at play. Refinements like 4K face detection and object tracking technology make it easy to follow your subject.

4K[1] movie w/ direct pixel readout, no pixel binning and fast AF

The FDR-AX700 offers the advantages of 4K[1] (QFHD 3840 x 2160) movie recording, with full pixel readout without pixel binning, capturing approximately 1.7x more information than is required for 4K[6] movie output ensuring that all the finest details are captured accurately. Utilizing the XAVC S™ codec to record video at a high data rates, users have the option of shooting at either 24p or 30p in 4K mode up to 100mpbs, or in frame rates of up to 120p in Full HD up to 50mbps..

The detail of 4K, the beauty of HDR[2]

4K High Dynamic Range[2] astonishes viewers with visual depth and impact that are less like conventional movies and television – and more like real life. With the ability to reproduce images from deep shadows to piercing highlights, 4K High Dynamic Range (HDR) is astonishing. With Instant HDR, a first in palm-sized cameras, the FDR-AX700 empowers you to capture High Dynamic Range without complex post production. Hybrid Log-Gamma (HLG) recording captures HDR, yet plays back beautifully on both HDR and conventional televisions. For added versatility, the camera also provides S-Log3 encoding.

ZEISS® Vario-Sonnar® T* 12x optical zoom lens

The FDR-AX700 comes equipped with a ZEISS® Vario-Sonnar T* 29-348 (35mm equivalent) lens that delivers corner to corner sharpness with beautiful defocused background bokeh. Not only is this 29mm wide-angle lens ideal for capturing grand landscapes, but it covers wide-ranging image expression thanks to maximum 12x optical zoom and 24x Clear Image zoom (18x in 4k). Lens ring enables smooth, natural adjustment of focus or zoom, depending on mode.

Compact size, packed with pro features

The FDR-AX700 has a variety of features for professional production, including Picture Profiles, S-Log3/S-Gamut3, Gamma Display Assist, Proxy recording, Time Code / User Bit and more, as well as input for external microphone via MI (multi-interface) shoe or mic jack and output for headphone monitoring. Focus and exposure can be monitored for fine control with peaking function and zebra respectfully. You also have the choice of region setting between NTSC and PAL movie frame rates. The AX700 uses XAVC® S for detailed recording up to 100 Mbps in 4K or HD and AVCHD® recording for HD.

Super Slow Motion and Slow & Quick Motion[3]

Enjoy creative ways to express time's passage with Super Slow Motion and Slow & Quick Motion[3]. Super Slow Motion (HFR) high frame rate lets you shoot short bursts of 960fps, 480fps or 240fps capture rates to playback at 1920 x 1080, in either 60p, 30p or 24p for up to 40x super slow motion. Slow & Quick Motion allows you to set continuous recording frames rates from 1 to 120p for time lapse to slow motion in eight selectable steps.

Dual media slots with Relay and Simultaneous recording modes

To extend recording time and flexibility, the camera provides two slots for SDXC™ and SDHC™ cards. Slot 1 is also compatible with Memory Stick PRO Duo™ (Mark 2) / PRO-HG Duo™ cards. To take advantage, Relay mode automatically switches recording to the second memory card when the first is full. Simul mode enables simultaneous recording to two memory cards (for example to create an immediate back-up version).

Built-in ND filters

The FDR-AX700 makes it easy to take advantage of shallow depth of field even in exterior day shoots. There's no need to carry and mount external Neutral Density (ND) filters. Choose among Clear, 1/4 (2 Stops), 1/16 (4 Stops) and 1/64 (6 Stops) Neutral Density filters to adjust the light level entering the lens.

2.4 GHz wireless networking

The FDR-AX700 comes with 2.4 GHz Wi-Fi as standard. Simply turn on and log onto your preferred network to enjoy advanced wireless capabilities. Ustream® Direct Streaming enables you to share scenes as they happen with high quality picture and sound. No switcher required. Smartphone or tablet remote control. You can operate the camera – and view the image – from a smartphone or tablet using Sony's free Content Browser Mobile™ app (requires iOS 9.0 - 10.3 or Android 4.4 - 7.1 operating system). You can even connect compatible devices with one-touch NFC authentication.

Bright, high resolution 2,359K dot OLED Tru-Finder™ viewfinder

For precise manual focus, Sony's 0.39-type OLED viewfinder combines high brightness and contrast with the resolution of 2359K dots. The highly responsive viewfinder also eliminates color breaking.

Large 3.5" Xtra Fine LCD™ (1,550K)

The 3.5" (16:9) Xtra Fine LCD™ screen (1,550K) displays sharp, bright, vivid images, letting you compose a shot more easily -- even outdoors, while enabling you to change settings to best represent the scene.

Multi-Interface (MI) Shoe

The FDR-AX700 takes advantage of Sony's flexible Multi-Interface (MI) Shoe, which provides power, signal connections and coordinated on/off switching to compatible accessories. For example, you can connect and control Sony's 2-channel UWP-D Series wireless microphone systems[4].

Wired remote interface

You can control Focus, Zoom, Rec Start/Stop and Rec Review via the LANC wired remote interface and an accessory controller[4] like the RM-1BP or RM-30BP, sold separately. With this interface, the camera forms a powerful, yet simple live solution with the RM-30BP and MCX-500 multi camera live producer, both sold separately.

Simple live solution

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The FDR-AX700 can also function in professional live production with the MCX-500 multi camera live producer and the companion RM-30BP remote control. In this system, a Tally indicator will automatically appear on each camera's LCD panel and viewfinder. A red icon indicates when the shot is live (PGM) while Green indicates preview mode (NEXT). The MCX-500 supports up to nine video inputs, five stereo inputs including XLR. There are both internal recording and live streaming via Ustream, Facebook Live and YouTube Live. (Facebook Live and YouTube Live require V2.0 firmware.). You can also synchronize timecode among multiple camcorders using our free Content Browser Mobile™ 3.0 app with optional CBKZ-WTCL upgrade and devices running iOS® (9.0 - 10.3) or Android® (4.4 - 7.1) operating systems. Sync to your choice of camcorder or to a time that you determine.

Specifications

Camera	
Camera Type	Digital 4K Video Camera Recorder
Imaging Sensor	
Imaging Sensor	1.0" (13.2 x 8.8 mm) back-illuminated Exmor RS CMOS sensor
Processor	BIONZ X image processor
Pixel Gross	Approx.21.0M pixels
Effective Picture Resolution	Movie: Approx.14.2M pixels(16:9)* Still: Approx.14.2M pixels(16:9)/Approx.12.0M pixels(3:2) *When "STEADYSHOT" is set to "STANDARD" or "OFF".
Color Filter System	RGB primary color filters
Recording	
Media Type	XAVC S 4K(100Mbps), XAVC S HD(100Mbps), S&Q MOTION : SDHC/SDXC Memory Card(UHS-I U3) XAVC S 4K(60Mbps), XAVC S HD(60Mbps or less), SUPER SLOW MOTION : SDHC/SDXC Memory Card(Class10 or Higher, U1 or Higher) AVCHD,Still: Memory Stick PRO Duo (Mark 2), Memory Stick PRO-HG Duo, SD/SDHC/SDXC Memory Card(Class 4 or Higher, U1 or Higher)
Still Image Mode	JPEG
Still Image Max Effective Resolution	14.2 megapixels
Video Format	XAVC S format MPEG4-AVC/H264 AVCHD format ver.2.0 compatible:MPEG4-AVC/H.264 XAVC S Proxy: MPEG-4 AVC/H.264
Video Resolution	60i/50i Selector: (50i(PAL)) XAVC S 4K :3840×2160/25p 60i/50i Selector: (60i(NTSC)) XAVC S 4K :3840×2160/30p, 24p 60i/50i Selector: (50i(PAL)) XAVC S HD :1920x1080/100p, 50p, 25p 60i/50i Selector: (60i(NTSC)) XAVC S HD :1920x1080/120p, 60p, 30p, 24p 60i/50i Selector: (50i(PAL)) AVCHD:1920x1080/50i(FX,FH), 1440x1080/50i(LP) 60i/50i Selector: (60i(NTSC)) AVCHD:1920x1080/60i(FX,FH), 1440x1080/60i(LP) 60i/50i Selector: (50i(PAL)) XAVC S Proxy : 1280×720 50p,25p, 640×360 50p,25p 60i/50i Selector: (60i(NTSC)) XAVC S Proxy : 1280×720 60p,30p,24p, 640×360 60p,30p,24p
Video Actual (Pixel)	Approx.14.2M pixels(16:9) When "STEADYSHOT" is set to "STANDARD" or "OFF".
Video Signal	4K (UHDTV), HDTV, 60i/50i Selector: (50i(PAL)), PAL color, CCIR standards, 60i/50i Selector: (60i(NTSC)), NTSC color, EIA standards

Audio Format	Linear PCM 2ch(48kHz/16bit) Dolby Digital 2ch Stereo, Dolby Digital Stereo Creator* MPEG-4 AAC-LC 2ch(Proxy Recording)** *Video Mode is AVCHD. **Video Mode is XAVC S HD or 4K.
Microphone/Speaker	Built-in Stereo Microphone; Monoral Speaker
Mic Level Control	Yes (31 steps)
Movie Recording Rate(Average Bit Rate/VBR)	XAVC S 4K 100Mbps:Approx.100Mbps/ 60Mbps:Approx.60Mbps XAVC S HD 100Mbps(120p,100p): Approx.100Mbps/ 60Mbps(120p,100p):Approx.60Mbps/ 50Mbps:Approx.50Mbps/25Mbps:Approx.25 Mbps/16Mbps:Approx.16Mbps/ AVCHD FX: Approx.24Mbps / FH: Approx.17Mbps/ LP: Approx.5Mbps XAVC S Proxy: Approx.9Mbps(1280×720)/ Approx.3Mbps(640×360) S&Q MOTION 4K:Approx.100Mbps,Approx.60Mbps/ HD:Approx.50Mbps,Approx.25Mbps(High Frame Rate"ON") SUPER SLOW MOTION: Approx,50Mbps
Still Image File Format	DCF Ver.2.0 compatible, Exif Ver.2.3 compatible, MPF Baseline compatible
Still Image Size(Photo Mode)	12.0 megapixels 3:2 (4240x2824) 14.2 megapixels 16:9 (5024x2824)

Optics/Lens

Lens Type	ZEISS Vario-Sonnar T*
Lens Stabilization	Optical SteadyShot image stabilization w/ Active mode (Wide to Tele)
Aperture	F2.8-F4.5
Optical Zoom	12x
Digital Zoom	192x
Focal Length (35mm equivalent)	Movie: f=1 3/16-13 3/4inch(16:9); f=29.0-348.0mm(16:9) Photo: f=1 3/16-13 3/4inch(16:9),f=1 5/16-15 1/2inch(3:2); f=29.0-348.0mm(16:9),f=32.8-393.6mm(3:2)
Filter Diameter	2 1/2inch (62 mm)
Minimum Focus Distance	Approx.13/32inch (1 cm) (Wide) Approx.39 3/8inch (100cm) (Tele)
Aperture Blade	7 blades
Clear Image Zoom	4K: 18x; HD: 24x
Focal Distance	f=3/8-4 1/2inch (f=9.3-111.6mm)
ND Filter	OFF, 1/4, 1/16, 1/64

Viewfinder

Type	0.39 type (1.0 cm) OLED/ Color 2,359,296dots equivalent
Field of View	100%

LCD Display

LCD Type	3.5 type (8.8 cm) Xtra Fine LCD™ display(1555K) Wide(16:9)
Angle Adjustment	Opening Angle:max.90 deg., Turning Angle:max.270 deg.
Brightness Control	Yes (Menu)
Coverage	100%
Histogram	Yes
Touch Panel	Yes

Focus Control

Focus System	Fast Hybrid AF (phase-detection AF/contrast-detection AF)
Focus Points	Max.273 points (phase-detection AF)
AF Modes	Auto/Manual(Touch Panel/Dial)
Focus Area	Wide/Zone/Center/Flexible Spot
Manual Focus Assist	Magnified display for precise manual focus (x4/x8); Peaking Display
Focus Features	Lock-on AF

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Exposure System	
Metering Modes	Multi-segment/Spot
Exposure Compensation	AE Shift (Dial/Touch Panel)
Exposure Settings	Auto; Flexible Spot (Touch Panel); Manual (Dial / Menu)
Scene Mode(s)	Night Scene/ Sunrise & Sunset/ Fireworks/ Landscape/ Portrait/ Spotlight/ Beach
Noise Reduction	Yes
White Balance Mode	Auto/ Onepush A/ Onepush B/ Outdoor/ Indoor/ WB Temp
Minimum Illumination	60i/50i Selector: (50i(PAL)) Standard:3 lux(1/50 Shutter Speed, Gain 33dB) 60i/50i Selector: (60i(NTSC)) Standard:3 lux(1/60 Shutter Speed, Gain 33dB) 60i/50i Selector: (50i(PAL)) Low Lux 1.7lux(1/25 Shutter Speed, Gain 33dB) 60i/50i Selector: (60i(NTSC)) Low Lux 1.7lux(1/30 Shutter Speed, Gain 33dB) NightShot:0 lux(1/60 Shutter Speed)
Auto Iris Control	F2.8-F11
Backlight Compensation	Yes(Auto)
LOW LUX Mode	Yes
Manual Exposure Assist	Zebra Pattern Display
Manual Iris Control	F2.8-F11
WB Shift	Yes (Outdoor -7to+7 15steps)
Drive System	
Drive Mode	Photo Mode:Single-shot
Shutter Speeds	Auto Control Range: 60i/50i Selector: (50i(PAL)) 1/6-1/10000 60i/50i Selector: (60i(NTSC)) 1/8-1/10000 Standart: 60i/50i Selector: (50i(PAL)) 1/50-1/10000 60i/50i Selector: (60i(NTSC)) 1/60-1/10000 Manual Iris Control: 60i/50i Selector: (50i(PAL)) 1/50-1/10000 60i/50i Selector: (60i(NTSC)) 1/60-1/10000 Manual Shutter: 60i/50i Selector: (50i(PAL)) 1/6-1/10000 60i/50i Selector: (60i(NTSC)) 1/8-1/10000
Convenience Features	
Manual / Auto Lens Cover	Lens Cap
Date / Time Stamp	Yes (Rec Date and Time, Camera info)
Erase/Protect	Yes / Yes
Media/Battery Indicator	Yes (recordable time, free and used media space)/Yes(remaining capacity)
Multiple Language Display	English; Brazilian Portugese; French; Spanish
Remote Control	Yes
On Screen Main Indicators	Intelligent Auto Status/ Zoom Position/ Recording/Playback/Editing Media/ Recording Status/ Recording Mode/ Recording Image Quality/ Photo Size/ Shooting Mode Status
Advanced Features	
Assignable Dial	Yes (Iris/Gain/Shutter Speed)
AGC Limit	Yes
Airplane Mode	Yes
Audio Level Display	Yes

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Face Detection	Yes
Image Stabilization	Optical SteadyShot image stabilization w/ Active mode (Wide to Tele)
Intelligent Auto	Portrait/ Baby/ Walk/ Tripod/ Backlight/ Landscape/ Spotlight/ Twilight/ Macro/ Low light
NightShot® Infrared System	Yes
Priority Setting (for Face Detection)	Yes
Wi-Fi	Built-In; Control with Smartphone
x.v.Color™	Yes
Interface	
Memory Card Slot	Slot A:Memory Stick PRO Duo and SD/SDHC/SDXC cards compatible Slot B:SD/SDHC/SDXC cards compatible
NFC	Yes (NFC forum Type 3 Tag compatible)
Wi-Fi	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)
HD Output	HDMI Out (sold separately)
PhotoTV HD	Yes
Headphone Jack	Stereo Minijack
Microphone Input	Stereo Minijack
Accessory Shoe	Yes (Multi Interface Shoe)
DC IN	Yes
HDMI Terminal	Yes (HDMI)
Multi/Micro USB Terminal	Yes
Power	
Power Consumption (in Operation)	In View Finder: 4K:4.8 LCD: 4K:5.1W
Power Requirements	7.4V (battery pack); 8.4V (AC Adaptor)
Battery Type	InfoLITHIUM with AccuPower Meter System (V Series)
Camera(details)/ Shutter Speed	
Auto (Auto Slow Shutter OFF)	60i/50i Selector: (50i(PAL)) 1/50-1/10000 60i/50i Selector: (60i(NTSC)) 1/60-1/10000
LOW LUX	60i/50i Selector: (50i(PAL)) 1/25-1/10000 60i/50i Selector: (60i(NTSC)) 1/30-1/10000
Manual Iris Control (Photo Mode)	60i/50i Selector: (50i(PAL)) 1/6-1/1000 60i/50i Selector: (60i(NTSC)) 1/8-1/1000
Manual Shutter Control (Photo Mode)	60i/50i Selector: (50i(PAL)) 1/6-1/1000 60i/50i Selector: (60i(NTSC)) 1/8-1/1000
Scene Selection	60i/50i Selector: (50i(PAL)) 1/6-1/10000 60i/50i Selector: (60i(NTSC)) 1/8-1/10000
Convenience Features(details)	
Fast Playback	About 5 times/10 times/30 times/60 times
Image Management File Repair	Yes
Slow Playback	Forwad:1/5 speed, Reverse:1/2 speed

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General	
Operating Temperature	32 degrees F. - 104 degrees F. (0 degrees C. - +40 degrees C)
Storage Temperature	-4 degrees F. - +131 degrees F. (-20 degrees C. - +55 degrees C=

Imaging Sensor(details)	
Effective (movie, 16:9)	Approx. 14 200 000 pixels
Recording pixels (photo, 16:9)	Max. 14 200 000 pixels

Others(details)	
XLRBox	Yes (w/ optional XLR Adaptor Kit)

Weights and Measurements	
Dimensions (Approx.)	4 5/8 x 3 5/8 x 7 3/4inch, Approx.4 7/8 x 4 1/8 x 10 7/8 in) (116 × 89.5 × 196.5 mm, Approx.121×104×274.5 mm (including Lens Hood and Large Eyecup))
Weight (Approx.)	2lb 1oz (935 g) (including Lens Hood and Large Eyecup) 2lb 2.7oz (985 g)(NP-FV50A)(including Lens Hood and Large Eyecup) 2lb 4.3oz (1030 g) (NP-FV70A)(supplied battery)(including Lens Hood and Large Eyecup) 2lb 6.1oz (1080 g) (NP-FV100A)(including Lens Hood and Large Eyecup)

Accessories	
Supplied Accessories	Rechargeable Battery Pack(NP-FV70A) (1) AC Adaptor (1) Power Cord (1) USB Cable (1) Operating Guide (1) Remote Commander(RMT-835 with Battery(CR2025)) (1) Lens Hood (1) Lens Cap (1) Large Eyecup (1)