

SONY



# Professional Camcorder Family

XDCAM® Handy Camcorders

NXCAM® Camcorders

Accessories

XDCAM NXCAM

# XDCAM<sup>®</sup> Full Line-up



PXW-FS7M2/PXW-FS7M2K



PXW-FS7



PXW-FS5/FSSK

Camera Section			
Imaging Device (Type)	Exmor Super35 CMOS		Exmor Super35 CMOS
Effective Picture Elements (Video)	Approx. 8.3M (16:9) Approx. 8.4M (17:9)		Approx. 8.3M (16:9) Approx. 8.4M (17:9)
Built-in Optical Filters	Clear, 1/4, 1/16, 1/64		Clear, 1/4, 1/16, 1/64
Slow & Quick Motion Function	Yes		
Super Slow Motion Function	XAVC-I mode 1920x1080: 1 to 180 frames (59.94p, 29.97p, 23.98p), 1 to 150 frames (50p, 25p)	XAVC-I mode 1920x1080: 1 to 180 frames (59.94p, 29.97p, 23.98p), 1 to 150 frames (50p, 25p)	[60i] Frame rate selectable 120, 240, 480, 960 fps [50i] Frame rate selectable 100, 200, 400, 800 fps
Gain	-3, 0, 3, 6, 9, 12, 18 dB, AGC		-3, 0, 3, 6, 9, 12, 18 dB, AGC
Gamma Curve	Selectable		
Minimum Illumination	0.7 lx (+18dB, 23.98p, Shutter OFF, ND Clear, F1.4)	0.7 lx (+18 dB, 23.98p, Shutter OFF, ND Clear, F1.4)	0.16 lux [60i] (IRIS F1.4, GAIN Auto, Shutter Speed 1/24) 0.18 lux [50i] (IRIS F1.4, GAIN Auto, Shutter Speed 1/25) 1.28 lux [60i] (IRIS F4.0, GAIN Auto, Shutter Speed 1/24) 1.40 lux [50i] (IRIS F4.0, GAIN Auto, Shutter Speed 1/25)
Lens			
Lens Mount	E MOUNT		
Zoom Ratio			
Focal Length			
Iris			
Filter Diameter			
Input/Output			
Audio Input	XLR-type 3-pin (female) (x2)		
HDMI Output	Type A (x1)		
SDI Output	BNC (x2), switchable with 3G-SDI/HD-SDI	BNC (x2), switchable with 3G-SDI/HD-SDI	BNC type (x1), SD/HD/3G (Level-B) selectable
Composite Output	No		Integrated into Multi/Micro USB jack (x1)
GENLOCK-IN	Option		No
Audio Output	No		Integrated into Multi/Micro USB jack (x1)
TC In/Out	Option		No
Remote	Stereo mini-mini jack (ø2.5 mm) (x1)		
MI Shoe	Yes		
Headphone Output	Stereo mini jack (x1)		
i.LINK* Interface	No		
Wired LAN	No		LAN Terminal 100BASE-TX/10BASE-T
Monitoring / Built-in Microphone & LED			
Viewfinder / LCD	3.5 inch type	3.5 inch type	0.39 inch type, 3.5 inch type
Built-in Microphone	Omni-directional monaural electret condenser microphone		Omni-directional stereo electret condenser microphone
Built-in LED Light	No		
Media			
Internal Memory/Type	XQD Card slot (x2), SD Card slot (x1) for saving configuration data	XQD card slot (x2), SD card slot (x1) for saving configuration data	Memory Stick Pro Duo™ and SD/SDHC/SDXC compatible (x1), SD/SDHC/SDXC (x1)
General			
Battery-type	BP-U		
Battery Operating Time	Approx. 3 hrs with BP-U90 battery (while recording XAVC-I QFHD 59.94p, SELP28135G Lens, Viewfinder ON, not using external device)	Approx. 3 hrs with BP-U90 battery (while recording XAVC-I QFHD 59.94p, SELP28135G Lens, Viewfinder ON, not using external device)	Approx. 280 min. [60i], Approx 285 min. [50i] with BP-U90 battery (While recording with LCD On, EVF Off when the external device connector is not used.)
Wireless functions	Wi-Fi remote control		Streaming/FTP/Wi-Fi remote control and monitoring
NFC	Yes		
GPS	Yes		Yes (after Future Upgrade)
Weight	Approx 4 lb 6.5 oz (Approx. 2.0 kg) (body only)	Approx 4 lb 6.5 oz (Approx. 2.0 kg) (body only)	Approx. 1lb 13.2 oz (Approx. 830 g) (Body only)
Dimension (W × H × D)	Approx. 6 3/8 × 9 3/4 × 9 3/4 inches (Approx. 158.9 × 245.2 × 247 mm) (body without protrusions)	Approx. 6 1/4 × 9 1/2 × 9 3/4 inches (Approx. 156 × 239 × 247 mm) (body without protrusions)	Approx. 4 1/2 × 5 1/8 × 6 7/8 inches (Approx. 111.3 × 128.7 × 172.4 mm) (Body only including the projecting parts)



PMW-300K1



PXW-X200



PXW-X180/X160

Camera Section			
Imaging Device (Type)	3-chip 1/2 type Exmor® CMOS		3-chip 1/3 type Exmor CMOS
Effective Picture Elements (Video)	1920 (H) x 1080 (V)		
Built-in Optical Filters	Clear, 1/4, 1/16, 1/64	Clear, 1/8, 1/64	Clear, 1/4, 1/16, 1/64, Variable (1/4-1/128)
Slow & Quick Motion Function	Yes	Yes	Yes
Super Slow Motion Function	No	No	No
Gain	-3, 0, 3, 6, 9, 12, 18 dB, AGC	-3, 0, 3, 6, 9, 12, 18 dB, AGC	-3, 0, 3, 6, 9, 12, 15, 18 dB, AGC
Gamma Curve	Selectable		
Minimum Illumination	0.12 lx (typical) (1920 x 1080/59.94i mode, F1.9, +18 dB gain, with 64-frame accumulation, Gamma off, 100% video level) 0.02 lx (typical) (1920 x 1080/59.94i mode, F1.9, +18 dB gain, with 64-frame accumulation, Gamma on, 50% video level)	0.09 lx (typical, 1920 x 1080/59.94i) 0.07 lx (typical, 1920 x 1080/50i) (F1.9, +18 dB gain, with 64-frame accumulation, Gamma off, 100% video level) 0.02 lx (typical, 1920 x 1080/59.94i) 0.02 lx (typical, 1920 x 1080/50i) (F1.9, +18 dB gain, with 64-frame accumulation, Gamma on, 50% video level)	0.12lx (typical) (1920 x 1080/59.94i mode, F1.6, +18 dB gain, with 16 frame accumulation, Gamma off, 100% video level) 0.02lx (typical) (1920 x 1080/59.94i mode, F1.6, +18 dB gain, with 16 frame accumulation, Gamma on, 50% video level)
Lens			
Lens Mount	EX MOUNT		Fixed
Zoom Ratio	K1: 14x (optical), servo/manual K2: 16x (optical), servo/manual	17x (optical), servo/manual	25x (optical), servo/manual
Focal Length	K1: f = 5.8 - 81.2 mm equivalent to 31.4 - 439 mm on 35 mm lens K2: f = 5.8 - 93 mm equivalent to 31.4 - 503 mm lens	f = 5.6 - 95.2 mm equivalent to 29.3 - 499 mm lens	f = 3.7 - 92.5 mm equivalent to 26 - 650 mm on 35 mm lens
Iris	F1.9 - F16 and Close auto/manual selectable		F1.6 - F11 and C (close)
Filter Diameter	K1: M77 mm K2: M82 mm	M77 mm	M82 mm
Input/Output			
Audio Input	XLR-type 3-pin (female) (x2)		
HDMI Output	Type A (x1)		
SDI Output	BNC (x2), HD/SD selectable	BNC (x1), 3G/HD/SD selectable	BNC (x1), 3G/HD/SD selectable
Composite Output	BNC (x1)	BNC (x1) (Switchable to Genlock In)	
GENLOCK-IN	BNC (x1)	BNC (x1) (Switchable to Composite Output)	
Audio Output	Phono jack (CH-1,CH-2)	A/V multi connector (x1)	Stereo mini jack ø3.5 mm (x1)
TC In/Out	BNC (x1)		
Remote	8-pin	8-pin, round (x1)	Stereo mini mini jack ø2.5 mm (x1)
MI Shoe	No	Yes	
Headphone Output	Stereo mini jack (x1)	Stereo mini jack (x1)	
i.LINK* Interface	IEEE 1394, 4-pin (x1), HDV (HDV 1080i) input/output, DV input/output, S400	IEEE 1394, 4-pin (x1), HDV (HDV 1080i) input/output, DV output, S400	No
Wired LAN	No		
Monitoring / Built-in Microphone & LED			
Viewfinder / LCD	3.5 type color LCD: Approx. 1.56M dots, 16:9	3.5 type color LCD monitor: Approx. 1.56M dots, 16:9 0.45 type color LCD: 0.40M dots, 16:9	0.5 type color OLED: 2.36M dots 3.5 type color LCD monitor: 16:9, 1.56M dots
Built-in Microphone	Omni-directional stereo electret condenser microphone		
Built-in LED Light	No		
Media			
Internal Memory/Type	ExpressCard/34 slot (x2)	ExpressCard/34 slot (x2) SD/SDHC (x1) forProxy	ExpressCard/34 slot (x2) (for XAVC/MPEG2/AVCHD/DV) SD/SDHC (x1) (for Proxy)* SD/SDHC (x1) (for Utility)
General			
Battery-type	BP-U		
Battery Operating Time	Approx. 216 min. with BP-U90 battery (while recording, with viewfinder, I/O Select Off)	Approx. 270 min. with BP-U90 battery (while recording with LCD Off, EVF On, I/O Select Off and Wireless function Off)	Approx. 240 min. with BP-U90 battery (While recording with LCD Off, EVF On when the external device connector is not used.)
Wireless Functions	No	QoS Streaming/Streaming/FTP/Wi-Fi remote control and monitoring	X180: QoS Streaming/Streaming/FTP/Wi-Fi remote control and monitoring X160: No
NFC	No	Yes	X180: Yes X160: No
GPS	No	Yes	X180: Yes X160: No
Weight	Approx 4 lb 14 oz (Approx. 2.2 kg) (body only)	Approx. 5 lb 4.7 oz (Approx. 2.4 kg) (body only)	Approx. 5lb 15.2 oz (Approx. 2.7 kg) (body only)
Dimension (W × H × D)	K1: Approx. 10 7/8 × 9 1/2 × 15 1/8 inches (Approx. 275 × 239 × 384 mm) (with lens, lens hood, viewfinder, without protrusions) K2: Approx. 11 × 9 1/2 × 16 3/4 inches (Approx. 279 × 239 × 424 mm) (with lens, lens mount adaptor, lens hood, viewfinder, without protrusions)	Approx. 6 5/8 × 6 3/8 × 13 1/8 inches (Approx. 168 × 161 × 331 mm) (without protrusions)	Approx. 7 5/8 × 8 × 16 1/4 inches (Approx. 191.5 × 201.5 × 412 mm) (without protrusions)



PXW-X70



PXW-Z150

Camera Section		
Imaging Device (Type)	1.0 type Exmor R CMOS	1.0 type Exmor R CMOS
Effective Picture Elements (Video)	Approx. 14.2M (16:9)	Approx. 14.2M (16:9)
Built-in Optical Filters	Clear,1/4,1/16,1/64	
Slow & Quick Motion Function	Yes	
Super Slow Motion Function	No	[60i]: XAVC HD: 120 fps [50i]: XAVC HD: 100 fps
Gain	-3, 0, 3, 6, 9, 12,15, 18, 21, 24, 27, 30, 33 dB, AGC	-3, 0, 3, 6, 9, 12,15, 18, 21, B6, 27, 30, 33 dB, AGC
Gamma Curve	Selectable	
Minimum Illumination	[60i] 3 lux (1/60 Shutter Speed, iris/gain AUTO) [50i] 3 lux (1/50 Shutter Speed, iris/gain AUTO) [60i] 1.7 lux (1/30 Shutter Speed, iris/gain AUTO) [50i] 1.7 lux (1/25 Shutter Speed, iris/gain AUTO)	1.7 lux (Low Lux)
Lens		
Lens Mount	FIXED	
Zoom Ratio	12x (optical), servo [HD] 24x Clear image zoom, [4K] 18x Clear image zoom (with CBKZ-X70FX)	12x (optical), servo [HD] 24x Clear image zoom, [4K] 18x Clear image zoom
Focal Length	f=9.3 - 111.6 mm equivalent to f=29.0 - 348.0 mm on 35 mm lens (16:9)	f = 9.3 - 111.6 mm equivalent to f = 29.0 - 348.0 mm on 35 mm lens (16:9)
Iris	F2.8 - F4.5 auto/manual selectable	F2.8 - F4.5 auto/manual selectable
Filter Diameter	M62 mm	M62 mm
Input/Output		
Audio Input	XLR-type 3-pin (female) (x2)	
HDMI Output	Type A (x1)	
SDI Output	BNC (x1), 3G/HD/SD selectable	BNC (x1), 3G/HD/SD SMPTE ST 424/ST 292-1/ST 259 standards
Composite Output	Integrated into Multi/Micro USB jack (x1), Composite 1.0Vp-p, 75Ω	Integrated into Multi/Micro USB jack (x1), Composite 1.0Vp-p, 75Ω
GENLOCK-IN	No	
Audio Output	Integrated into Multi/Micro USB jack	Integrated into Multi/Micro USB jack (x1), RCA pin (Monaural) (x1)
TC In/Out	No	No
Remote	Integrated into Multi/Micro USB jack	Stereo mini mini jack ø2.5mm (x1)
MI Shoe	Yes	Yes
Headphone Output	Stereo mini jack (x1)	
i.LINK* Interface	No	
Wired LAN	Use with VMC-UAM2 and CBK-NA1. Both sold separately.	Use with VMC-UAM2 and CBK-NA1. Both sold separately.
Monitoring / Built-in Microphone & LED		
Viewfinder / LCD	0.39 type OLED: Approx. 1.44M dots 3.5 type LCD monitor: Approx. 1.56M dots	0.39 type OLED: Approx. 1.44M dots 3.5 type LCD monitor: Approx. 1.56M dots
Built-in Microphone	Omni-directional stereo electret condenser microphone.	
Built-in LED Light	No	
Media		
Internal Memory/Type	Memory Stick Pro Duo™ and SD/SDHC/SDXC compatible (x1), SD/SDHC/SDXC (x1)	Memory Stick Pro Duo™ and SD/SDHC/SDXC compatible (x1), SD/SDHC/SDXC (x1)
General		
Battery-type	InfoLITHIUM V	InfoLITHIUM L
Battery Operating Time	Approx. 120 min. with NP-FV70 battery (while recording with LCD, XAVC 1080/60i, 50 Mbps)	Approx. 260 min. with NP-F770 battery (while recording with LCD, XAVC 1080/60i, 50 Mbps) Approx. 400 min. with NP-F970 battery (while recording with LCD, XAVC 1080/60i, 50 Mbps)
Wireless Functions	QoS Streaming/Streaming/FTP/Wi-Fi remote control and monitoring	QoS Streaming/Streaming/FTP/Wi-Fi remote control and monitoring
NFC	Yes	Yes
GPS	No	No
Weight	Approx. 1 lb 15 oz (900 g) (body only)	Approx. 4 lbs 3 oz (1895g) (body only) Approx. 5 lbs (2270g) (with lens hood, eyecup, NP-F770 battery)
Dimension (W × H × D)	Approx. 4 7/8 × 4 1/8 × 10 7/8 inches (Approx. 120.7 × 103.5 × 274.3 mm) (With the accessories (lens hood, large eyecup), excluding the grip belt and including the projecting parts)	6 3/4 × 7 3/8 × 14 5/8 inches (171.3 × 187.8 × 371.3 mm) (With the accessories (lens hood, large eyecup), excluding the grip belt and including the projecting parts)

# NXCAM<sup>®</sup> Full Line-up



HXR-NX100



HXR-NX5R



HXR-MC2500

Camera Section			
Imaging Device (Type)	1.0 type Exmor R CMOS	3-chips 1/2.8 type Exmor CMOS Sensor	1/3.95 type Exmor R CMOS
Effective Picture Elements (Video)	Approx. 14.2 M (16:9)/Approx. 10.6 M (4:3)	Approx. 2.07M	Approx. 6.14M (16:9)
Built-in Optical Filters	OFF: Clear, 1: 1/4ND, 2: 1/16ND, 3: 1/64ND	OFF: Clear, 1: 1/4ND, 2: 1/16ND, 3: 1/64ND	No
Slow & Quick Motion Function	Yes		No
Super Slow Motion Function	No		
Gain	-3, 0, 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33 dB, AGC	-6, -3, 0, 3, 6, 9, 12, 15, 18, 21, 24, 27, 30 dB, AGC	0, 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33 dB, AGC
Gamma Curve	Selectable		No
Minimum Illumination	1.7 lux (LOW LUX mode)	60i : 1.2lux (1/30 Shutter Speed, iris/gain Auto)	[60i] 1.6 lux (MAN setting: SS 1/30sec, Iris F1.8, Gain 33dB) [60i] 0.8 lux (MAN setting: SS 1/15sec, Iris F1.8, Gain 33dB) [50i] 1.4 lux (MAN setting: SS 1/25sec, Iris F1.8, Gain 33dB) [50i] 0.7 lux (MAN setting: SS 1/12sec, Iris F1.8, Gain 33dB)
Lens			
Lens Mount	FIXED		
Zoom Ratio	12x (optical), 24x Clear image zoom, servo	20x (optical), 40x (Clear Image Zoom), servo/manual	12x (Optical), 24x Clear image zoom, 200x Digital zoom, servo/manual
Focal Length	f = 9.3 - 111.6 mm equivalent to f = 29.0 - 348.0 mm on 35 mm lens (16:9)	f=4.1 - 82.0mm equivalent to f=28.8 - 576mm on 35 mm lens(16:9) equivalent to f=35.2 - 705mm on 35 mm lens(4:3)	f = 2.9-34.8 mm equivalent to f = 26.8-321.6 mm on 35 mm lens (16:9)
Iris	F2.8 - F4.5 auto/manual selectable	F1.6 (Wide) - F3.4 (Tele) auto/manual selectable	F1.8 - F3.4 auto/manual selectable
Filter Diameter	M62 mm	M72 mm	M37 mm
Input/Output			
Audio Input	XLR-type 3-pin (female) (x2)	XLR-type 3-pin (female) (x2), line/mic/mic +48 V selectable	No
HDMI Output	Type A (x1)		
SDI Output	No	BNC type (x1), SD/HD/3G(Level-B) selectable SMTPE 259M/292M/424M/425M standards	No
Composite Output	BNC (x1)		
GENLOCK-IN	No		
Audio Output	RCA pin	Stereo mini jack (x1)	RCA pin
TC In/Out	No		
Remote	Stereo mini mini jack ø2.5mm (x1)		
MI Shoe	Yes		
Headphone Output	Stereo mini jack (x1)		
i.LINK* Interface	No		
Wired LAN	No		
Monitoring / Built-in Microphone & LED			
Viewfinder / LCD	0.24 type LCD: Approx. 1.56 M dots. 3.5 type LCD monitor: Approx. 1.56 M dots.	0.39-inch* type OLED (1.0cm) Approx. 1.44 M dots 3.5-inch* type (8.8cm) Approx. 1.56 M dots.	0.39 type OLED: Approx. 1.44M dots 3.0 type LCD monitor: Approx. 921K dots.
Built-in Microphone	Omni-directional stereo electret condenser microphone.		
Built-in LED Light	No	Yes	No
Media			
Internal Memory/Type	Memory Stick Pro Duo™ and SD/SDHC/SDXC compatible (x1), SD/SDHC/SDXC (x1)	Memory Stick Pro Duo™ and SD/SDHC/SDXC compatible (x1) SD/SDHC/SDXC (x1)	Flash Memory 32GB Memory Stick Pro Duo™ and SD/SDHC/SDXC compatible (x1)
General			
Battery-type	InfoLITHIUM L		
Battery Operating Time	Approx. 345 min. with NP-F770 battery (while recording with LCD, AVCHD 1080/60i FX)	Approx. 240 min. with NP-F770 battery (while recording with LCD, AVCHD 1080/60i FX) Approx. 440 min. with NP-F770 battery (while playing with LCD, AVCHD 1080/60i FX)	Approx. 285 min with NP-F570 battery (video light Off)
Wireless Functions	No	Wi-Fi remote control	
NFC	No	NFC Forum Type 3 Tag compliant	
GPS	No		
Weight	Approx. 4 lb 3 oz (Approx. 1.90 kg) (body) Approx. 4 lb 10 oz (Approx. 2.10 kg) (with lens hood, eyecup, NP-F770 battery)	Approx 4 lb 10 oz (Approx. 2110 g) (body) Approx. 5 lb 8 oz (Approx. 2500 g) (with lens hood, eyecup, NP-F770 battery)	Approx 6 lb 2.8 oz (Approx. 2.80 kg) (body)
Dimension (W × H × D)	Approx. 6 3/4 × 7 3/8 × 14 5/8 inches (Approx. 171.3 × 187.8 × 371.3 mm) (With the accessories (lens hood, large eyecup), excluding the grip belt and including the projecting parts)	7 x 7 7/8 x 15 1/4 inches (176.0 x 199.5 x 385.0 mm) (With the accessories (lens hood, large eyecup), excluding the grip belt and including the projecting parts)	Approx. 10 1/2 × 9 3/8 × 18 inches (Approx. 265.0 × 235.0 × 455.0 mm) (body)

# Recording Format



PXW-FS7M2/PXW-FS7M2K



PXW-FS7



PXW-FS5/FS5K



PMW-300K1  
(Ver1.30 and above)



PXW-X200



PXW-X180/X160

NTSC / PAL Switchable	Switchable				
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## Recording Format (Video)

XAVC Intra 4096 x 2160	59.94p: 600Mbps, 50p: 500Mbps, 29.97p: 300Mbps, 25p: 250Mbps, 23.98p: 240Mbps (after Upgrade in Mar.2015)	59.94p: 600Mbps, 50p: 500Mbps, 29.97p: 300Mbps, 25p: 250Mbps, 23.98p: 240Mbps (after Upgrade in Mar.2015)			
XAVC Intra 3840 x 2160	59.94p: 600Mbps, 50p: 500Mbps, 29.97p: 300Mbps, 25p: 250Mbps, 23.98p: 240Mbps	59.94p: 600Mbps, 50p: 500Mbps, 29.97p: 300Mbps, 25p: 250Mbps, 23.98p: 240Mbps			
XAVC Intra 1920 x 1080	59.94p: 222Mbps max, 50p: 185Mbps max, 59.94i, 29.97p: 111Mbps max, 50i, 25p: 112Mbps max, 23.98p: 89Mbps max	59.94p: 222Mbps max, 50p: 185Mbps max, 59.94i, 29.97p: 111Mbps max, 50i, 25p: 112Mbps max, 23.98p: 89Mbps max	59.94i, 29.97p: 111Mbps, 50i, 25p: 112Mbps, 23.98p: 89Mbps		
XAVC Intra 1280 x 720			59.94p:111Mbps, 50p: 112Mbps		
XAVC-Long 3840 x 2160	59.94p, 50p: 150Mbps max, 29.97p, 25p, 23.98p: 100Mbps max	59.94p, 50p: 150Mbps max, 29.97p, 25p, 23.98p: 100Mbps max	29.97p, 25p, 23.98p: 100Mbps, 60Mbps		
XAVC-Long 1920 x 1080	59.94p, 50p, 59.94i, 50i, 29.97p, 25p, 23.98p: 50/35Mbps max, 59.94i, 50i:h 25Mbps max	59.94p, 50p, 59.94i, 50i, 29.97p, 25p, 23.98p: 50/35Mbps max, 59.94i, 50i:h 25Mbps max	59.94p, 50p, 59.94i, 50i, 29.97p, 25p, 23.98p: 50Mbps, 35Mbps 59.94i, 50i: 25Mbps	59.94i, 50i: 50/35/25Mbps, 29.97p, 25p, 23.98p: 50/35Mbps	59.94i, 50i: 50/35/25Mbps, 59.94p, 50p, 29.97p, 25p, 23.98p: 50/35Mbps
XAVC-Long 1280 x 720			59.94p, 50p: 50Mbps	59.94p, 50p:50Mbps	
XAVC S 1920 x 1080					
MPEG HD422 1920 x 1080	59.94i, 50i, 29.97p, 25p, 23.98p: 50Mbps max	59.94i, 50i, 29.97p, 25p, 23.98p: 50Mbps max	59.94i, 50i, 29.97p, 25p, 23.98p: 50Mbps		
MPEG HD422 1280 x 720	59.94p, 50p, 29.97p, 25p, 23.98p: 50Mbps max	59.94p, 50p, 29.97p, 25p, 23.98p: 50Mbps max	59.94p, 50p, 29.97p, 25p, 23.98p: 50Mbps		
MPEG HD420 1920 x 1080			59.94i, 50i, 29.97p, 25p, 23.98p: 35Mbps		
MPEG HD420 1440 x 1080			59.94i, 50i, 23.98p: 35/25Mbps, 29.97p, 25p: 35Mbps		59.94i, 50i: 35Mbps
MPEG HD420 1280 x 720			59.94p, 50p, 29.97p, 25p, 23.98p: 35Mbps		59.94p, 50p: 35Mbps
MPEG IMX50 720 X 486			59.94i, 29.97p: 50Mbps		
MPEG IMX50 720 x 576			50i, 25p: 50Mbps		
AVCHD™ 1920 x 1080			59.94p, 50p: 28Mbps 59.94i, 50i, 29.97p, 25p, 23.98p: 24Mbps, 17Mbps		59.94p, 50p: 28Mbps, 59.94i, 50i, 29.97p, 25p, 23.98p: 24Mbps
AVCHD 1440 x 1080					
AVCHD 1280 x 720			59.94p, 50p: 24Mbps, 17Mbps, 9Mbps		59.94p, 50p: 24Mbps
DVCAM® 720 x 480			59.94i, 29.97p (NTSC): 25Mbps		59.94i (NTSC): 25Mbps
DVCAM 720 x 576			50i, 25p (PAL): 25Mbps		50i (PAL): 25Mbps
PROXY H.264				1280 x 720:9Mbps, 640 x 360:3Mbps 480 x 270:1Mbps, 480 x 270:500Kbps	(X180 only) 1280 x 720:9Mbps, 640 x 360:3Mbps, 480 x 270:1Mbps,500Kbps
MP4					



PXW-X70



PXW-Z150



HXR-NX100



HXR-NX5R



HXR-MC2500

NTSC / PAL Switchable	Switchable				Not Switchable			
	NTSC		PAL		NTSC		PAL	

Recording Format (Video)								
XAVC Intra 4096 x 2160								
XAVC Intra 3840 x 2160								
XAVC Intra 1920 x 1080								
XAVC Intra 1280 x 720								
XAVC-Long 3840 x 2160	29.97p, 25p, 23.98p: 60Mbps with CBKZ-X70FX firmware option	29.97p, 25p, 23.98p: 100Mbps, 60Mbps						
XAVC-Long 1920 x 1080	59.94p, 50p, 59.94i, 50i, 29.97p, 25p, 23.98p: 50/35Mbps, 59.94i, 50i: 25Mbps	59.94p, 50p, 59.94i, 50i, 29.97p, 25p, 23.98p: 50Mbps, 35Mbps 59.94i, 50i: 25Mbps						
XAVC-Long 1280 x 720	59.94p, 50p: 50Mbps	59.94p, 50p: 50Mbps						
XAVC S 1920 x 1080			59.94p, 29.97p, 23.98p, 50 Mbps	50p, 25p, 50 Mbps	59.94p, 29.97p, 23.98p, 50 Mbps	50p, 25p, 50 Mbps		
MPEG HD422 1920 x 1080	59.94i, 50i, 29.97p, 25p, 23.98p: 50Mbps max with CBKZ-SLMP firmware option	59.94i, 50i, 29.97p, 25p, 23.98p: 50Mbps max						
MPEG HD422 1280 x 720	59.94p, 50p, 29.97p, 25p, 23.98p: 50Mbps max with CBKZ-SLMP firmware option	59.94p, 50p, 29.97p, 25p, 23.98p: 50Mbps max						
MPEG HD420 1920 x 1080	59.94i, 50i, 29.97p, 25p, 23.98p: 35Mbps with CBKZ-SLMP firmware option	59.94i, 50i, 29.97p, 25p, 23.98p: 35Mbps						
MPEG HD420 1440 x 1080	59.94i, 50i: 35Mbps with CBKZ-SLMP firmware option	59.94i, 50i: 35Mbps						
MPEG HD420 1280 x 720	59.94p, 50p: 35Mbps with CBKZ-SLMP firmware option	59.94p, 50p: 35Mbps						
MPEG IMX50 720 x 486								
MPEG IMX50 720 x 576								
AVCHD 1920 x 1080	59.94p, 50p: 28Mbps, 59.94i, 50i, 29.97p, 25p, 23.98p: 24/17Mbps	59.94p, 50p: 28Mbps, 59.94i, 50i, 29.97p, 25p, 23.98p: 24Mbps, 17Mbps	59.94p, PS mode (28 Mbps) 59.94i/29.97p/23.98p, FX mode (24 Mbps) FH mode (17 Mbps)	50p, PS mode (28 Mbps) 50i/25p, FX mode (24 Mbps) FH mode (17 Mbps)	59.94p, PS mode (28 Mbps) 59.94i/29.97p/23.98p, FX mode (24 Mbps) FH mode (17 Mbps)	50p, PS mode (28 Mbps) 50i/25p, FX mode (24 Mbps) FH mode (17 Mbps)	59.94p: 28 Mbps 59.94i/29.97p/ 23.98p: 24 Mbps, 17 Mbps	50p: 28 Mbps 50i/25p, 24 Mbps, 17 Mbps
AVCHD 1440 x 1080			59.94i, HQ mode (9 Mbps) LP mode (5 Mbps)	50i, HQ mode (9 Mbps) LP mode (5 Mbps)	59.94i, HQ mode (9 Mbps) LP mode (5 Mbps)	0i, HQ mode (9 Mbps) LP mode (5 Mbps)		
AVCHD 1280 x 720	59.94p, 50p: 24Mbps/17Mbps/9Mbps	59.94p, 50p: 24Mbps, 17Mbps, 9Mbps	59.94p, FX mode (24 Mbps) FH mode (17 Mbps) HQ mode (9 Mbps)	50p, FX mode (24 Mbps) FH mode (17 Mbps) HQ mode (9 Mbps)	59.94p, FX mode (24 Mbps) FH mode (17 Mbps) HQ mode (9 Mbps)	50p, FX mode (24 Mbps) FH mode (17 Mbps) HQ mode (9 Mbps)	59.94p, 24 Mbps, 17 Mbps, 9 Mbps	50p: 24 Mbps, 17 Mbps, 9 Mbps
DVCAM® 720 x 480	59.94i (NTSC): 25Mbps		59.94i, 25 Mbps		59.94i, 25 Mbps		59.94i, 25 Mbps	
DVCAM 720 x 576	50i (PAL): 25Mbps			50i, 25 Mbps		50i, 25 Mbps		50i, 25 Mbps
PROXY H.264	1280 x 720:9Mbps, 640 x 360:3Mbps (ver 2.0 is needed)	1280 x 720:9Mbps, 640 x 360:3Mbps						
MP4								





SELP18110G sold separately

# PXW-FS7M2/PXW-FS7M2K

## Ultimate Super35 versatility

How did we improve on our bestselling FS7? We listened to our users to create an advanced version of the FS7 with technical, mechanical and ergonomic enhancements to take your products to even greater heights. A host of enhancements, from an all-new lens mount to Electronic Auto Variable ND system and enhanced ergonomics, transform the possibilities of what you can do.

Shoot and move. Handheld, shoulder-mount or suspended from a gimbal. FS7 II delivers the spectacular imagery you expect from Sony.

### E mount flexibility extended

E-mount offers unsurpassed compatibility with Sony's E-mount lenses, along with simple third-party adapter for PL Mount cinema lenses, SLR and DSLR glass, and even classic rangefinder lenses. And for FS7 II there's an all-new lever lock design. Simply put the lens in place and rotate the collar until it locks in place. A lens release lever provides added security. The process of switching lens can be simplified to save time. And of course, the E-mount can take cinema lenses and SLR lenses with a third party adapter, as well as Sony's E-mount and A-mount lenses. Whatever your lens requirements, FS7 II has you covered.



### Freedom to shoot & move with Electronic Auto Variable ND

Shooting with FS7 II is a truly liberating experience – shoot and move with no need to worry about changing light conditions, no time wasted fiddling with exposure settings or changing filters. Sony's unrivalled technology continuously adjusts the density of the electronic ND Filter without losing resolution while maintaining color balance. See FS7 II in action for yourself to discover how Sony has transformed shooting on the move.



### Super 35/APS-C power zoom for 4K movies

SELP18110G powered zoom lens delivers optimum performance in Super 35/APS-C moviemaking applications, starting at 18 mm wide-angle and extending through an impressive 6.1x zoom range with a constant F4 maximum aperture.





## G Lens optical performance suitable for 4K throughout the zoom range.

- Lag-free mechanical manual zoom for high-level, versatile zoom control.
- Refined manual focus operation for subtle adjustment.
- Optical SteadyShot image stabilization helps keep images blur-free as well as minimizing the need to boost ISO in low light conditions.
- Compact, lightweight design ideal for active shooting and when using gimbals.
- Reliable in challenging conditions with a sealed dust and moisture-resistant design.

You also have the choice of purchasing the FS7 II on its own (PXW-FS7M2) or with SELP18110G lens (PXW-FS7M2K).



## Shoulder mount comfort and control

FS7 delivered a revolution in ergonomics, but we listened to cinematographers to make FS7 II even more comfortable to use, especially when operating for hours in the field. The number of assign buttons is increased from six to ten, all extra large, while the LCD monitor arm and mic holder can be swapped for left-eye shooting. The telescoping arm offers even more settings, allowing the camcorder to be mounted closer to your body. You no longer need a tool for adjustments.

You can be sure the remarkable Sony smart grip is always at hand with all the key controls at your fingertips.



## 180 fps High Frame Rates

High Frame Rate shots can turn everyday actions into slow-motion ballet, a visual feast of elegant movement. The FS7 II delivers a maximum of 180 frames per second (fps) continuous shooting in Full HD. If your project plays at the cinematic 24 fps, you get beautiful 7.5x Super Slow Motion. There's no sacrifice in bit depth and no "windowing" of the sensor. So there's no crop factor, no loss in angle of view. The camera also performs Slow & Quick (S&Q) motion from 1 to 180 fps in 1 fps increments. So you can alter the narrative by selectively speeding up or slowing down the action.

## Luxurious color at money-saving bitrates

Long-form projects shine with Sony's XAVC™ L (Long GOP) recording system. Record luxurious QFHD at 59.94p/50p at a maximum bit rate of 150 Mbps. Or take advantage of the superior grayscale rendition of 10-bit High Definition, plus the uncompromised detail of 4:2:2 color – all at budget-friendly data rates of 50, 35 or even 25 Mbps in HD mode. You can also record on-board 4K (4096x2160) at cinema standard 24p, 59.94p, 50p, 29.97p, 23.98p or 25p. The camera captures different color spaces, including the wide ITU-R BT.2020 for Ultra High Definition.

Other formats include XAVC I (Intra) 4K at 600 Mbps, QFHD (3840x2160) and Full HD (1920x1080), plus the well-accepted MPEG HD 422, Apple ProRes 422 (with XDCA-FS7 extension unit, sold separately), and even outboard RAW recording (with XDCA-FS7 and outboard recorder, sold separately).



## Next-generation memory

Long-form programs need media that's both reliable and affordable. As specified by the CompactFlash Association, XQD™ memory cards score big on both accounts. Reliability comes from in-camera recovery. You get very low cost-per-minute compared to CFast™ cards.

Sony's G-Series XQD card extends these benefits with "EB Stream" technology for a blistering 400 Mbps write-speed and 440 Mbps read-speed. Using our 256GB G-Series card, you can record approximately 45 minutes of 4K footage at 60P or 3.5 hours at 30P in 2K. And when it's finally time to swap out cards, it's now even easier – on FS7 II the card protrudes by a more easily pinchable 8mm.

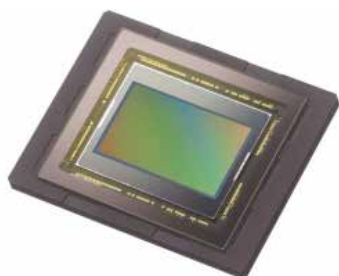


# PXW-FS7

## Solid-State Memory Camcorder

### High-sensitivity 4K Super35 Exmor CMOS Sensor

The FS7 is equipped with a Super 35 Exmor CMOS Sensor with approximately 11.6 million total pixels and 8.8 million effective pixels. The high image readout speed of the image sensor allows the FS7 to support 4K motion- picture shooting and Super Slow Motion. The sensor also realizes a high sensitivity of ISO20000 and a wide dynamic range of 14 stops. Thanks to its full-pixel readout capability without pixel binning and sophisticated camera processing, jaggies and moiré are minimized.



**Exmor**  
CMOS Sensor

### Full HD Recording with Super Slow Motion

The FS7 offers Continuous Recording at Full HD image quality and a frame rate of up to 180fps. This makes it possible to attain up to 7.5x Super Slow Motion when played back at 23.98fps. Furthermore, support for unlimited shooting at Super Slow Motion means no more mistimed shots leading to extra takes. It also lets you pick out footage at exactly the point that you want.

### Internal Recording in 4K\*1 Resolution at 60fps\*2

The FS7 supports internal recording at 4Ki resolution as well as a wide range of frame rates (59.94p, 50p, 29.97p, 25p, and 23.98p).

\*1 Support for QFHD 3840 x 2160 resolution will be available by the date of launch. 4096 x 2160 resolution support will be provided by firmware update scheduled for early 2015.

\*2 59.94fps

### Supports Various Formats

The FS7 supports two formats, XAVC and MPEG-2 HD 422, which can be selected to suit the application. Two XAVC compression systems (IntraFrame and Long GOP) are provided through an H.264/MPEG-4 AVC codec. IntraFrame supports recording with 4:2:2 10-bit sampling for 4K and Full HD, as well as a high bit rate of up to 600 Mbps\*3. In Long GOP, image quality and recording time are balanced to allow Full HD shooting with 4:2:2 10-bit sampling at 50, 35 or 25 Mbps, making this format suitable for longer duration shooting. Support is also provided for the MPEG2 HD 422 recording format which is mainly used at broadcast stations around the world. Supported formats and bit rates are indicated below.

\*3 During 4K 59.94 fps recording.

### Support for S-Gamut3.Cine/S-Log3, S-Gamut3/S-Log3 and Other Log Curves

The FS7 supports such log gamma curves as S-Gamut3. Cine/S-Log3 and S-Gamut3/S-Log3. Due to the fact that 18% gray is set at a bright level, S-Log3 is noted for delivering a wider dynamic range than the 1300% achieved by S-log2 incorporated in a camera such as the NEX-FS700R, a difference equal to 1.5 stops. The log gamma itself is close to Cineon log, so color correction is easier to perform and it is possible to achieve the look of film. In addition, compared to the color gamut of S-Gamut3.Cine, which is geared toward reproducing the wide color gamut of DCI-P3 color space used in digital cinema, the color gamut of S-Gamut3 is geared toward the reproduction of almost all actual colors, and is thereby suitable for archival purposes. In latest version, S-log2 which is popular among cinematographers and videographers is supported as well.

### Two XQD Media Slots Support Simultaneous and Relay Recording

### Built-in Multi-Interface (MI) Shoe



### Built-in ND Filter Unit

Clear, 1/4 (2eV), 1/16 (4eV), and 1/64 (6eV)



### Support for 4-channel Audio Input and Recording




### Flexible Design Supports a Wide Range of Shooting Styles

The FS7 is equipped with a shoulder pad for stable shoulder-style shooting. Users can also choose other supported shooting styles including handy style, chest style (using the curved rear part of the FS7), tripod shooting, etc. depending on conditions

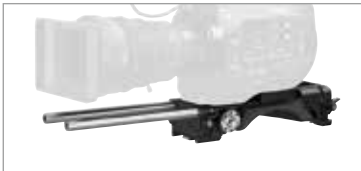


### Extension Unit "XDCA-FS7" for Shooting Support

Extension Unit "XDCA-FS7" can be connected directly to the PXW-FS7 to enable the use of functions that support the operator's shooting style or workflow.



XDCA-FS7



VCT-FS7

### RAW Output for External 4K/2K RAW Recording

The FS7's FS RAW Interface can be connected to an HXR-IFR5 interface unit and RAW AXS-R5 recorder to enable external 4K/2K RAW recording. The interface also allows the use of compatible third-party external recorders. Full HD footage shot with the unit is time code-synchronized to allow offline editing of the content.

### Precise Timecode Synchronization Provided by Genlock

### Timecode In/Out Functions

### Support for Apple ProRes 422 Recording

The FS7 now supports ProRes recording\* (ProRes 422 HQ and ProRes 422)\*\*, providing an easy-to-use environment for those accustomed to the ProRes workflow. \* ProRes recording requires attachment of the optional XDCA-FS7 extension unit and a compatible optional power supply (BP-FL75 V-mount battery, etc.) \*\* This function does not support simultaneous recording, S&Q recording, Picture Cache Rec or other special shooting functions. The corresponding frame rates are listed below.

## ProRes

Format	Resolution	Wrap	Frame-Rate
ProRes 422 HQ	1920 × 1080	MOV	59.94i
			29.97p
			23.98p
			50i
			25p
ProRes 422	1920 × 1080	MOV	59.94i
			29.97p
			23.98p
			50i
			25p





# PXW-FS5/FS5K

## Solid-State Memory Camcorder

### Grab and Shoot with Handheld Super35

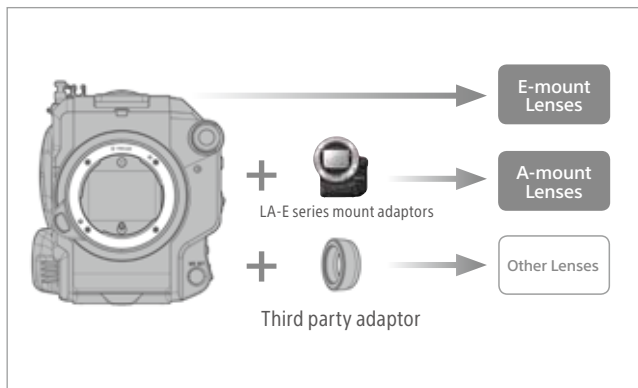
A handheld camera should be able to get you into tight places. To work in your lap. To move with the talent. To shoot high and low angles with equal agility. And a handheld camera should function beautifully against your chest comfortably steadied by your right hand with all the controls at your fingertips. Sony's extraordinary PXW-FS5 does all of this, and more.

### Ultimate Mobility

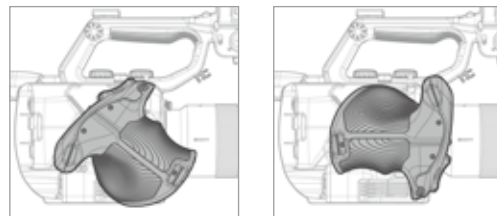
The FS5 is a radical re-imagining of the FS7 for unsurpassed on the go shooting in the most demanding of conditions. With a body-only weight less than half the FS7 at 0.83kg, you can shoot almost anywhere. Handheld operation is simply exceptional as the superbly balanced chassis is easily configured to shoot from high to low angles thanks to a flexible, rotatable grip and a LCD viewfinder that can be mounted in no less than nine locations.

### $\alpha$ Mount Flexibility

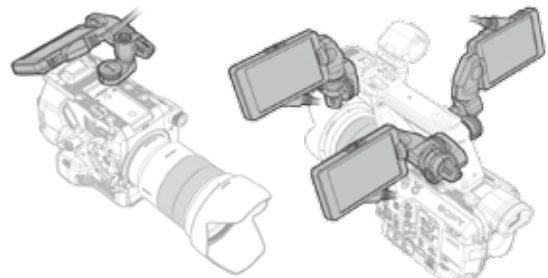
Sony's  $\alpha$  mount system offers unsurpassed compatibility with both Sony and third-party lenses. The FS5's E-Mount can take Cinema lenses and SLR lenses with a third party adaptor, as well as Sony's E-mount and A-mount lenses. So whether buying new lenses, or making use of lenses you've already purchased, the FS5 makes it easy.



1 lb 12 oz  
(0.8Kg)



Rotatable Grip



Versatile Monitoring

## 4K Super35 Exmor® Sensor

The FS5 is built around a Exmor CMOS Sensor that offers all the benefits of a large format sensor in combination with the exceptional image readout speeds required for 4K motion-picture shooting and Super Slow Motion.

## RAW Output Option\*

Sony's FS RAW allows user to record 4K (4096x2160) 60p/50p and continuous 2K (2048x1080) 240fps/200fps on an external recorder.

Note: Since lens compensation is not compliant with RAW output, distortion might appear under specific condition with use of the SELP18105G, part of PXW-F55K kit lens.

\* Requires Version 2.0 firmware or above, plus CBKZ-F55RIF upgrade kit.

Full HD **10** bit

## High Frame Rate (HFR) Recording

The FS5 offers High Frame Rate (HFR) cache recording at Full HD 10bit 4:2:2 image quality and a frame rate of up to 240 fps. The 8-second cache recording means no more mistimed shots leading to extra takes. It also lets you pick out footage at exactly the point that you want. It is also possible to record 120 fps with up to 16-second cache recording. Higher frame rates of 480 fps and 960 fps are also possible

**240** fps



(Actual images)

## Color, Contrast and the XAVC Codec

When quality is everything, make the most of the FS5's Super35 Exmor sensor and shoot 100Mbps 4K (3840 x 2160) using Sony's advanced XAVC (Long GOP) recording system. In the future, there will even be the option to record RAW externally (details to be announced). If you need a fast turnaround, switch to Full-HD (1920 x 1080)- recording at up to 60p XAVC 10bit 4:2:2 50Mbps. The FS5 has the flexibility to suit how you need to work, today and tomorrow.

## Built-in Electronic Variable ND Filter / Auto ND

The FS5 is the world's first Super 35mm camcorder\* with a built-in electronic variable Neutral Density (ND) filter, further expanding the depth of field capability of its large format sensor. Unlike conventional optical ND filters, the electronic ND filter on the FS5 can be controlled from 1/4ND to 1/128ND linearly. This makes the FS5 ideal for fast-moving shoots in changeable environments - there's no need to change filters as lighting conditions change and variable control makes it easy to keep depth of field under control. Furthermore, ND filter can be set to Auto\* to automatically keep the best exposure while keeping the aperture and depth of field.

\*Requires Version 2.0 firmware or above.

**1/128** ND



Std. Gamma, ISO1000 F2, No ND Filter (Clear)



Std. Gamma, ISO1000 F2, 1/128ND



# PMW-300 K1

## Solid-State Memory Camcorder

K1 supplied with 14x zoom lens

### High Picture Quality

Three 1/2-inch type Full HD Exmor CMOS sensors (1920 x 1080) to achieve high resolution, high sensitivity, low noise and a wide dynamic range.

### Powerful Noise Suppression

The camcorder's advanced camera signal processing includes a powerful noise suppression feature. The signal processor detects the noise not only in vertical and horizontal directions in a frame picture but also detects noise components in a time axis, utilizing correlation characteristics between video frames. Using this feature, noise is effectively suppressed, creating cleaner images.

### Various Conveniences via a Wireless Adapter

The PMW-300 is designed to support wireless operation using an optional wireless adapter, the CBK-WA100. With this adapter, the user can stream out pictures to a remote location. After shooting, proxy files created on the CBK-WA100 can be immediately transmitted to a remote location. The adapter also provides remote control of the PMW-300 with mobile application software.

### Selectable Format and Bit Rates

The PMW-300 provides a wide variety of codec operation points. Users can record Full-HD video (1920 x 1080) at up to 50 Mbps using MPEG HD422 as well as MPEG HD™ at 35 Mbps / 25 Mbps, MPEG IMX at 50 Mbps, and DVCAM® at 25 Mbps in MXF files. The PMW-300 also incorporates XAVC Intra at 100 Mbps and XAVC Long GOP at 50 Mbps / 35 Mbps / 25 Mbps data rate, enabling the creation of rich content with 10-bit quality.

### Comfortable and Stable Shooting

An improved extendable shoulder pad is included as standard, which means the operator can always find a comfortable shooting position, even for long-duration shooting. Also, the operator can keep a well-balanced camera position even when the unit is docked with long lenses.



### Variety of Interfaces

There are two lines of SDI output connection enabling, for example, one connection to an external recording device and one to the optional CBK-WA100. Also, for monitoring purposes the PMW-300 can be connected via HDMI to professional displays as well as domestic-use TVs with an HDMI connector. The i.LINK connector can be used for HDV™ when SP 1440 (FAT) mode is selected, and for DV when DVCAM (FAT) mode is selected, for both input and output signal flows. In addition, the USB connector is handy when connecting directly to a PC.



**XDCAM** HD

**Exmor**  
FULL HD 3CMOS

**XAVC**

**MPEG HD422**

**MPEG HD**

**MPEG IMX**

**DVCAM**

**SXS**



# PXW-X200

## Solid-State Memory Camcorder

### 1/2 inch-type 3CMOS Image Sensors

The PXW-X200 incorporates three 1/2-inch type Exmor Full HD (1920 x 1080) CMOS sensors to achieve high resolution, high sensitivity, low noise, and a wide dynamic range. With these image sensors, the PXW-X200 achieves a high sensitivity of F12 at 1080/59.94i and F13 at 1080/50i – essential levels for professionals shooting under challenging lighting conditions.

### 1/2 inch-type 17x Zoom Lens

The PXW-X200 has a newly developed 17 times zoom lens. This compact body lens can zoom from 29.3 mm to 499 mm (35 mm equivalent), which is a powerful capability for event shooting and many other applications. The lens also has focus, zoom, and iris-independent manual control rings. Each function has a physical end stop and absolute marking which enable precise adjustment.



### Multi-format Recording

The PXW-X200 has an XAVC recording capability. It uses 4:2:2 10-bit sampling, efficiently compressing Full HD (1920 x 1080) resolution images using the MPEG-4 AVC/H.264 CODEC. In XAVC, the user can select intra-frame compression at a maximum of 112 Mbps or high-efficiency long GOP compression at 50/35/25 Mbps. In addition to XAVC intra/long GOP, the PXW-X200 records in MPEG-2 HD422 at 50 Mbps, MPEG-2 HD420 at 35/25 Mbps, MPEG IMX at 50 Mbps and DV at 25 Mbps. Depending on requirements, there is a flexible choice of CODEC. In XAVC long CODEC, 1080/59.94P or 50P can be selected as well as 1080/59.94i, 50i, etc. Four channels of 24-bit 48 kHz LPCM audio is recorded in XAVC and MPEG-2 HD422, while four channels of 16-bit 48 kHz LPCM is recorded in MPEG-2 HD420.

### Multi-interface (MI) Shoe

The PXW-X200 takes advantage of Sony's flexible Multi-Interface (MI) Shoe, which provides power, signal connections and coordinated on/off switching to compatible Sony accessories. This function is supported by version 1.2.

### Timecode & Genlock

The PXW-X200 is equipped with timecode input/output (selectable) and genlock input interfaces.

### 3.5 inch\*-type QHD (960x540) Color LCD Panel

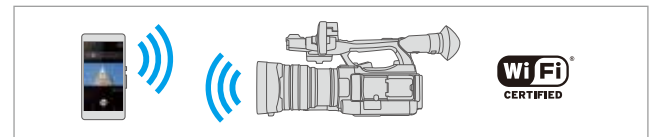
\* Viewable area measured diagonally.

### File Transfer and Streaming

Users can simply attach the supplied Wireless LAN module to activate the wireless function on the PXW-X200. And by connecting with separately sold internet routers, proxy or high resolution files can be transferred to a cloud server, and the editing process can be started while location shooting continues. The PXW-X200 also has a streaming capability\*<sup>1</sup>. By attaching a separately sold LTE USB module\*<sup>2</sup>, live video and audio can be streamed, watched, and recorded at a remote location. The QoS controlled streaming is supported by version 1.3.

\*<sup>1</sup> Version 1.2 is required to activate this function.

\*<sup>2</sup> This function works only with compatible modules.



### NFC

NFC allows close-range wireless communication between the PXW-X200 and an NFC-equipped smartphone or tablet device.

### Slow & Quick Motion

A Slow & Quick Motion function is available on the PXW-X200. The recording frame rate can be selected from 1 frame per second (fps) up to 60 fps both in 1080P and 720P format to create high-quality slow motion or quick motion images.\*<sup>3</sup>

\*<sup>3</sup> The selectable frame rate depends on the CODEC selected in the camera.

### SDI, HDMI™, and i.LINK Interface

The SDI interface allows the PXW-X200 to interface with other professional products. The SDI connector is 3G, HD, and SD switchable and it outputs 1080/59.94P, 50P, 59.94i, 50i, 720/59.94P, 50P, or SD signals. The PXW-X200 has a simple signal conversion function, and an 1080/59.94i (50i) signal can be output for monitoring while the camcorder is set to 1080/59.94P (50P). The PXW-X200 can also be connected via HDMI to HD displays to perform monitoring. The i.LINK connector can be used for HDV™ when SP 1440 (FAT) mode is selected and for DV when DVCAM (FAT) mode is selected.



**XDCAM HD**

**Exmor**  
FULL HD 3CMOS

**XAVC**

**MPEG HD422**

**MPEG HD**

**MPEG IMX**

**DVCAM**

**SXS**





# PXW-X180/X160

## 1/3-inch type 3CMOS Solid-state Memory Camcorder

### 25x Optical Zoom G Lens with 26 mm Wide Angle

This new lens delivers uncompromising Sony G Lens quality and a 26 mm angle of view at the wide end of its 25x zoom range (35 mm equivalent: 26 mm to 650 mm). That's more than enough range for a wide variety of shooting situations. Independent manual zoom and focus rings with end-stop and iris control are provided, and a slide mechanism on the focus ring enables easy switching between auto and manual focusing.



### Sony's Innovative Image Sensor, Image Processor, and Lens Achieve Outstanding Image Quality

Sony's Exmor 3CMOS Sensor system provides independent 1/3-type CMOS image sensors for the red, blue, and green color channels, each with 2.07 effective megapixels (16:9). The result is high resolution and sensitivity that contribute to superior color reproduction. An advanced image processor that features sophisticated noise reduction and distortion compensation is instrumental in delivering superb detail and texture reproduction, with image quality settings rivaling high end broadcast camcorders.

### Compatible with XAVC and a Range of Other Recording Formats

In addition to XAVC Intra/Long GOP, the PXW-X180 and PXW-X160 can record in MPEG2, AVCHD, and DV format. The MXF file format is used for XAVC recording, efficiently compressing full HD (1920 x 1080) resolution using the MPEG-4 AVC/H.264 codec. Image sampling is 4:2:2 10-bit with Intra-frame compression at 112 Mbps, or high-efficiency Long-GOP compression at 50/35/25 Mbps.

### Support for SxS, XQD, and SD Memory Cards Plus Memory Stick

### 3.5-inch\* type LCD Panel and 0.5-inch\* type OLED Viewfinder

\* Viewable area measured diagonally.

### Multi-Interface Shoe

Compatible accessories attached to the Multi-Interface (MI) Shoe can be controlled from the PXW-X180 or PXW-X160.



### Variable ND Filter

A new filter device that electronically controls density enables continuous adjustment from 1/4 ND to 1/128 ND via a simple dial operation. In conjunction with iris setting that controls depth of field and brightness, this advanced filter facilitates shooting techniques such as the use of slow shutter in daylight and other bright conditions. For operators who prefer the conventional ND selector interface, the PXW-X180 and PXW-X160 feature a dual ND filter control mechanism that provides both continuous electronic control and the standard four-position switch. By using Auto ND filter function\*, the PXW-180 and PXW-X160 can adjust the density of the ND filter automatically.

\* Firmware version 3.0 is required.



ND 1/4 Overexposed  
(Simulated images)



ND 1/128 Optimum Exposure

### Wireless functions for file transmission, remote control and QoS streaming (PXW-X180 only)

The Content Browser Mobile\*1 application enables confirmation of the angle of the shot before shooting, monitor recording and operation of the camcorder by remote. The use of separately sold mobile routers and other mobile devices also allows transmission of files after shooting. In addition, lightweight proxy video files can be generated separately from the main line recording and recorded to SD cards for quick sharing of content over low-bandwidth mobile networks. By enabling the network client mode\*2 and connecting the camcorder to Connection Control Manager of the PWS-100RX1 network RX station (sold separately).

Sony developed unique Quality of Service (QoS) technology that dramatically improves the clarity that's possible on a single, affordable 3G/4G/LTE cellular channel or your own Wi-Fi® network. You get better pictures, even given the limitations of real-world networks (Version 3.0 is required).

\*1 Firmware version 3.0 is required. The Content Browser Mobile can be downloaded from the Google Play Store or App Store.

\*2 Firmware version 3.0 is required.

XDCAM

Exmor  
3CMOS Sensors

XAVC

MPEG HD422

AVCHD  
Progressive

G

WiFi  
CERTIFIED



# PXW-X70

## 1.0-inch type CMOS Compact Solid-State Memory Camcorder

### 1.0-inch type Exmor® R CMOS Sensor with a Resolution of 20 Megapixels

The Exmor R CMOS sensor with 1.0-inch type picture elements delivers high resolution and minimal noise even when shooting in low-light conditions. The 20-megapixel sensor comfortably supports 4K resolution, and 4K recording requires purchase of an optional 4K Upgrade License (CBKZ-X70FX).

### 29-mm Wide-angle Carl Zeiss Vario-Sonnar T\* Lens with 12x Optical Zoom (Maximum 48x Zoom)

The wide-angle 29-mm ZEISS Vario-Sonnar T\* lens ensures stunning quality to the very corners of the image and offers 12x optical zooming that can be increased to 24x via Clear Image Zoom. Magnification can be further increased to 48x by Digital Extender, which takes full advantage of the 20-megapixel high-resolution image sensor. From wide-angle to telephoto shooting, this lens enables various professional level applications. Additionally, seven shutter blades contribute to impressive background bokeh.

### Wi-Fi and Wireless Functions for Remote Control

#### Streaming

This feature allows images to be streamed live from the PXW-X70 for viewing at a remote location. Data transfer rate, specified by two image quality menu settings (9Mbps and 3Mbps), can be selected to suit the network environment being used.

#### FTP Transfer

This feature supports FTP file transfers on the PXW-X70, allowing content files recorded with the XAVC Proxy Recording feature and other content files shot in XAVC (4K/HD) and AVCHD formats to be sent over the Internet for remote storage on an FTP server.

#### Wired LAN Connection

When wireless LAN is unavailable, this feature allows the PXW-X70 to be connected to the Internet over a wired connection via a USB adapter cable "VMC-UAM2" and Network adaptor kit "CBK-NA1R", both sold separately, allowing files to be streamed or transferred by FTP.

#### XAVC Proxy Recording

Proxy recording supports the use of a low-bit-rate video file in place of an XAVC format, high-bit-rate file with the same timecode.

### Wide Variety of Recording Format Capabilities Including XAVC Long GOP (MXF)

The PXW-X70 provides multiple choices depending on the application required, including XAVC, AVCHD™, and DV® file based recording. When recording in XAVC, the PXW-X70 uses the MXF file format, efficiently compressing Full HD (1920 x 1080) resolution using the MPEG-4 AVC/H.264 CODEC. Image sampling is 4:2:2 10-bit with high-efficiency Long GOP compression at 50 Mbps, 35 Mbps, or 25 Mbps. Moreover, the ability to record in AVCHD format, which is widely used already, provides playback compatibility with wide range of consumer electronics equipment.

### 3.5-inch\* type LCD Panel and 0.39-inch\* type OLED Viewfinder

### Four Position (clear, 1/4, 1/16, 1/64) Switchable

### Compatibility with HDMI and 3G-SDI Output

### XLR Handle Unit

### Dual Media Slots

### Picture Profile Function

### Compatible Accessories Attached to the Multi-Interface (MI) Shoe

### Optional 4K Upgrade License "CBKZ-X70FX"

CBKZ-X70FX is the Upgrade License which enables 4K recording on the PXW-X70. Firmware version 2.0 is required for use of the Upgrade License.

\* Viewable area measured diagonally.

### Optional MPEG2HD Upgrade License "CBKZ-SLMP"

CBKZ-SLMP is the Upgrade License which enables MPEG2HD recording on the PXW-X70. Firmware version 3.0 is required for use of the Upgrade License.

**XDCM**

**Exmor R**  
CMOS Sensor

**XAVC**

**AVCHD**  
Progressive

**WiFi**  
CERTIFIED

**Multi**  
Interface Shoe

**MPEG HD422**

\* Requires Version 3.0 firmware or above, plus CBKZ-SLMP upgrade kit.



# PXW-Z150

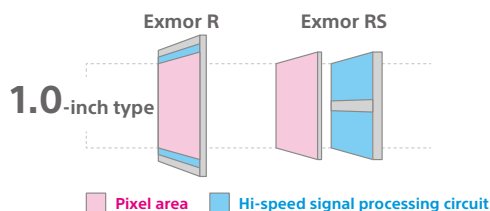
## 4K Handheld Memory Camcorder

### Imaging performance with Exmor RS™ sensor

To deliver imaging performance previously impossible for a compact camcorder, Sony has developed the world's first 1.0-inch type stacked CMOS image sensor that delivers amazing imaging performance professionals have come to expect.

#### Exmor RS sensor

Advanced 'stacked' sensor design allows for a larger signal processing area without reducing pixel size within a compact chassis.



### Sony's G lens with maximum 24x zoom

To maximize the quality of your images, the PXW-Z150 has a stunning optical 12x zoom lens that offers high resolution and contrast across the entirety of the image. Sony's advanced Clear Image Zoom feature doubles magnification to 18x when shooting in 4K QFHD and 24x in HD, to fully exploit the imaging capabilities of the PXW-Z150's large 1.0-inch type stacked sensor.

### Compact and lightweight body

The PXW-Z150 is ergonomically designed to provide a lightweight and easy-to-use shooting experience. Three manual, independent lens rings enable smooth, natural adjustment of focusing, zooming and iris control. The camcorder can also be used in full-auto mode or completely manual for maximum creative control. Exceptional 6.3W power efficiency offers high performance within a compact handheld body style without compromising battery life. Up to 400 minutes with optional NP-F970 battery.\*

\* While recording XAVC 1080/50i or 60i, 50Mbps with LCD on.

### Hybrid Log Gamma

The Z150 is one of the world's first handheld camcorders to support HDR shooting with the HLG (Hybrid Log Gamma) curve and BT.2020 color space. HLG offers amazing HDR imagery with minimal color grading requirements for the fastest possible turnaround times. And, due to its unique compatibility with SDR technology, it's easier to work with and deploy to customers without expensive upgrades.

### Flexible 4K and Full HD recordings

Stunning 4K picture performance is supported with 4K QFHD (3840x2160) XAVC Long GOP at 100Mbps, while integration with established broadcast workflow is simplified with Full HD recording in XAVC Long GOP(4:2:2/10bit 50Mbps) and MPEG-2 HD (50Mbps/35Mbps). You can even use AVCHD to further expand workflow flexibility.

### Networked for high mobility

The PXW-Z150 has advanced networking capabilities that give you more mobility in your work, allowing you to FTP files directly from the camcorder or live stream from any event using built-in Wi-Fi® features with no accessories required. Sony's unique QoS technology<sup>1</sup> dramatically improves the clarity that's possible on a wireless connection, giving you better pictures even with the limitations of today's real-world networks. You can also remotely control the PXW-Z150 with a smartphone or tablet, including the ability to adjust settings such as focus, zoom, iris, REC START/STOP and more using Sony's Content Browser Mobile<sup>2</sup> software.

### High resolution monitoring

The PXW-Z150 gives you precise monitoring and low latency, however you choose to shoot, with its advanced, wide viewing-angle and high contrast 0.39 type 1440K dots OLED electronic viewfinder (EVF) with large eye-cap, and an easily adjustable, flip-out 3.5-inch<sup>3</sup> type 1550K dots LCD panel.

### Multi-Interface (MI) Shoe

The PXW-Z150 takes advantage of Sony's flexible built-in Multi-Interface (MI) Shoe, which provides power, signal connections and coordinated on/off switching to compatible accessories from Sony. For example, you can connect and control Sony's wireless microphone systems such as the UWP-D11 or UWP-D12 or attach the HVL-LBPC light.

<sup>1</sup> QoS will initially require a firmware update and PWS-100RX1 receiver. <sup>2</sup>The Content Browser Mobile application can be downloaded at no additional cost from the Google Play Store or App Store. <sup>3</sup>Viewable area measured diagonally.





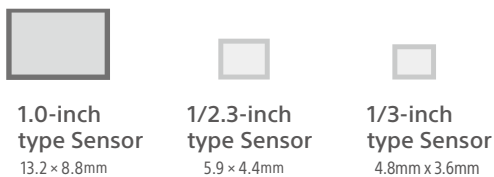
# HXR-NX100

## Large 1.0-inch type CMOS Compact Solid-State Memory Camcorder

### Large 1.0-inch Type Exmor® R CMOS Sensor for Stunning Picture Quality

Sony's unique large 1.0-inch type Exmor R back-illuminated CMOS sensor which is approximately the same size as a Super 16mm film frame, delivers high resolution and fantastic low light performance, as well as offering more depth of field control as demanded by today's diverse shooting requirements. High sensitivity and fantastic resolution with 20 mega pixels\*1 delivers striking detail and colors, with minimum illumination 1.7 lux\*2.

\*1 14.2 million effective pixels \*2 1/30 second shutter speed, Iris and gain Auto

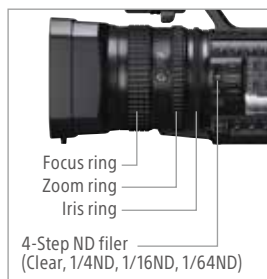


### Maximum 48x zoom for Wide Range Shooting

Sony's G lens offers a 12x Optical Zoom from 29mm angle of view at wide end, which can be increased to 24x with Clear Image Zoom while retaining full resolution thanks to By Pixel Super Resolution Technology. Zoom performance can be doubled at any point with a Digital Extender up to 48x.

### Three Independent Manual Lens Rings, Built-in 4-step ND Filter and Other Professional Functions

3 manual lens rings ensure intuitive control of zoom, focus and iris. The HXR-NX100 is equipped with 4 step conventional mechanical ND filter positions (Clear, 1/4ND, 1/16ND and 1/64ND) for better exposure and depth of field control in bright scene, 0.24 type 1550K dots EVF and 3.5 type 1550K dots LCD for easy monitoring.



### Dual Media Slots for Recording Flexibility

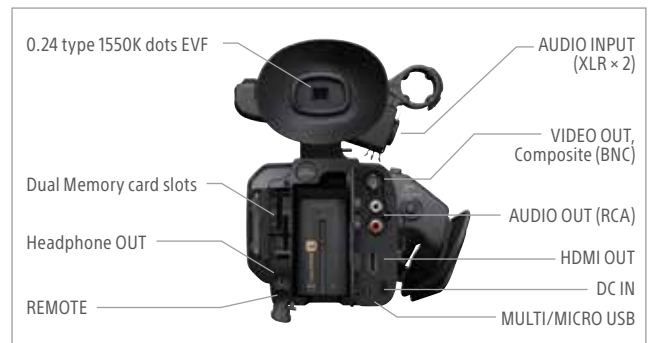
Two memory card slots enable various recording options such as backup, simultaneous, relay and independent recording. "SIMUL" mode permits simultaneous recording to two memory cards, while "RELAY" mode automatically switches recording from the first to the second memory card when the first is full. The user can also use buttons on the camcorder to independently start and stop recording on different memory cards.

### Wide Choice of Connections

The HXR-NX100 provides a wide variety of connectivity options including HDMI, Multi/Micro USB, XLR terminals, REMOTE, Composite (BNC) and Multi Interface (MI) Shoe, which allows for a wide range of accessories without the need for cables, such as the HVL-LBPC Video Light and the UWP-D wireless microphone series.

### Breadth of Recording Format Capabilities

The HXR-NX100 provides multiple choices including AVCHD and DV which are suitable for conventional workflow, and newly implemented XAVC S 50Mbps, which realizes better image quality or professional needs.







# HXR-NX5R

## Full-HD 3CMOS Compact Camcorder

Sony's HXR-NX5U was a classic: our first NXCAM® camcorder and a landmark in the transition from tape to memory recording. Now that classic is reborn in the form of Sony's new HXR-NX5R. With enhanced features like Wi-Fi® file transfer, OLED viewfinder and MI shoe, the NX5R is a worthy successor. It's the ideal tool for documentaries and corporate assignments, weddings and events, nature, sports and journalist newsgathering.

### Stunning pictures made easy

Designed to get the job done quickly and efficiently, the NX5R's advanced three 1/2.8-type Full HD Exmor® CMOS system can be relied upon to deliver sharp, cleanly focused imagery in almost any shooting scenario. Recorded images are remarkably life-like in texture and detail, while shooting is fast and hassle-free with all the NX5R's key functions right at your fingertips. Direct Menu options display on-screen, so shooting parameters can be changed quickly and conveniently without taking your eyes off the action.

### Working smarter

The NX5R's advanced network functions mean there's no need for expensive add-on's to take advantage of new business opportunities or speed-up your workflow efficiency. The HXR-NX5R is ready to go straight out of the box, whatever the business opportunity today or tomorrow – live streaming events, multi-camera shoots and FTP'ing breaking news to your editor are all just a button press away.

### Simple multi-camera shoots

The NX5R is also an ideal partner for Sony's innovative MCX-500 Multi Camera Live Producer\* – an affordable, easy-to-operate and full-featured switcher that delivers broadcast quality results. Expand your business with multi-camera shoots for live presentation, live streaming and recording across a wide number of applications.

\* RM-30BP Remote Commander required for advanced integrated functionality.

### Everything you need

Forget about expensive accessories: the NX5R's built-in features include an adjustable brightness LED video light, 3G-SDI terminal with Full HD 60p output and advanced Multi-Interface (MI) Shoe to power and control key accessories. The HXR-NX5 and HXR-NX3's accessories are fully compatible,\* including Sony's popular L-Series batteries, so your existing investment is protected. Widely available consumer SDHC and SDXC media make shooting with NX5R both economical and convenient.

\* HXR-FMU128 is not supported as dual-relay recording has been built into NX5R.

## Features

### Rich color imagery

The NX5R offers latest-generation imaging performance, with Full-HD progressive image capture rather than the interlaced output of the original HXR-NX5. Its three 1/2.8-type Full HD Exmor CMOS sensors provide 2.07 million effective pixel count at the 16:9 aspect ratio. Red, blue, and green light are independently captured by separate image sensors, contributing to high resolution, high sensitivity and wide dynamic range. An advanced LSI (featuring intelligent noise reduction, enhanced detail reproduction and distortion correction technologies) delivers remarkably life-like images.



## Built-in LED lighting

An easily adjustable brightness LED video light is positioned just above the camcorder's built-in microphone, providing convenient illumination for a wide range of shooting situations and minimizing the need to carry external lighting equipment. Illumination is approximately 200 lux/1m (approx. 800 lux/0.5m) with a beam angle of 30° and a color temperature of approximately 5500K.

\*An external microphone connected via the XLR connector may cast a shadow if used simultaneously with the built-in LED video light.



## Networked for high usability

Live internet stream from any event using hassle-free live streaming service such as Ustream™ or a generic streaming mode for a local area network for a secure corporate presentation. Remote control makes the NX5R perfect for multi-camera shoots. Mount on a tripod and use your smart phone or tablet to monitor and control focus, zoom, iris, REC START/STOP and more.\* FTP allows you to click and send Full-HD content to your editor for fast-breaking news stories.

\* Sony's Content Browser mobile application can be downloaded from the Google Play Store or App Store.



## Wide choice of connections including 3G-SDI

The NX5R provides all the connectivity options professionals expect, including 3G-SDI (Full HD 60p output), plus REMOTE, composite (BNC) and audio XLR terminals.



## Multi-Interface (MI) Shoe

The NX5R takes advantage of Sony's flexible Multi-Interface (MI) Shoe, which provides power, signal connections and coordinated on/off switching to compatible Sony accessories. For example, you can connect and control Sony's UWP-D wireless microphone systems (sold separately).



## Dual media slots

To extend recording time and workflow flexibility, the NX5R has dual media slots compatible with SDXC and SDHC cards as well as Memory Stick PRO Duo™ (Mark 2) and PRO-HG Duo™. Relay mode automatically switches recording from the first to the second memory card when the first is full; Simul mode allows simultaneous recording to two memory cards (for example, to create a back-up). Start/Stop buttons on the NX5R's handle grip and camcorder body can independently start and stop recording on different memory cards in Simul mode.



## Get closer with 40x zoom

The NX5R's high-performance Sony G lens offers an expansive 28.8 mm (35mm full-frame format equivalent) angle of view at the wide end and a stunning 40X zoom.

The 20x optical zoom range will easily cover most shooting situations, but when more reach is required, Sony's advanced Clear Image Zoom employs Super Resolution Technology to double your optical zoom up to 40x while still delivering exceptional image quality.



## Multi-format recording

The NX5R is designed to provide exceptional performance for Full HD productions, recording in AVCHD and DV to support proven legacy workflows, as well as the newer, more advanced XAVC S at 50Mbps. XAVC S offers stunning picture quality, but also workflow flexibility and storage efficiency. In XAVC S, the NX5R uses the MP4 file format, sampling at 50Mbps. Compared to AVCHD, XAVC S 50Mbps captures more details and less noise, thanks to the higher bitrate.

	Format	Color space/bit rate	Max rate
HD	XAVC S	4:2:0/8 bit	50 Mbps
	AVCHD	4:2:0/8 bit	28 Mbps
SD	DV	DV 4:1:1 (60Hz)/8bit (NTSC)	25 Mbps

## Flexible controls

All of the NX5R's key functions are at your fingertips – from intuitive Direct Menu controls to a responsive joystick on the hand grip. Direct Menu options display on-screen, so shooting parameters can be changed quickly and conveniently without taking your eyes off the action.



## Precision monitoring

However you choose to shoot, the NX5R adapts to fit your style. It has a high visibility wide viewing angle and high contrast 0.39-type 1440K OLED viewfinder and an easily adjustable, flip-out 3.5-inch\* type 1550K LCD, for precision monitoring and low latency.

\*Viewable area measured diagonally.



## Perfect partnership

The NX5R was designed alongside Sony's MCX-500 Multi Camera Live Producer, a robust and cost-effective switcher that makes it easy for one person to run a multi-camera live event shoot. When used with the MCX-500 and optional RM-30BP Remote Commander, a Tally indicator will automatically appear on each NX5R's LCD panel and Electronic Viewfinder – a Red icon indicates when the shot is live (PGM) while Green indicates preview mode (PVW). The MCX-500 supports up to 9 video inputs, 5 channel stereo inputs including XLR with both internal recording and live streaming via Ustream™ service.\*

\*Service agreement purchased separately.





# HXR-MC2500

## Solid-State Memory Camcorder

### Highly-sensitive Exmor™ R CMOS Sensor and Built-in LED Light

The HXR-MC2500 is capable of shooting clearly even in low-light or indoor environments. Its highly-sensitive Exmor R CMOS sensor adopts a back-illuminated technology that enables the image sensor to utilize incidental light more efficiently (minimum illuminance of 0.8 lux\* [60i], 0.7 lux [50i]\*\*). The HXR-MC2500 is also equipped with a convenient built-in LED light for valuable extra illumination.

\* Manual setting mode: Shutter Speed - 1/15 sec, F1.8, Gain33dB

\*\* Manual setting mode: Shutter Speed - 1/12 sec, F1.8, Gain33dB



### Wi-Fi/NFC Functions for Seamless Connection to Smartphones

The HXR-MC2500 can connect to mobile devices such as smartphones or tablets via a Wi-Fi connection, enabling monitoring and remote control functions such as start/stop recording, zoom control, iris control and touch auto focus. Furthermore, it is also NFC-capable (Near Field Communications) to allow easy, one touch wireless connections to compatible mobile devices.

### High Contrast 1.44 Million Dots OLED Viewfinder and 0.92 Million Dots 3-inch\* Wide LCD Panel

\* Viewable area measured diagonally.

### 32GB internal flash memory and low power consumption

A 32GB internal flash memory storage system on board of the HXR-MC2500 enables longer duration recording of more than 150 minutes. In addition, by using a combination of the internal flash memory and memory card in the MS/SD slot, recording functions such as "Relay" and "Simultaneous" for backup can be available. When Sony's L-Series InfoLithium batteries (such as the optional NP-F970) are used, the HXR-MC2500 is capable of continuous long recording of up to 14 hours.

### 26.8 mm Wide-Angle Lens

### Multi-Interface (MI) Shoe

Expands options to use accessories without cables, such as the UWP-D11 wireless micro phone receiver and XLR audio input by XLR adapter

### BNC Composite Terminal

### TC/UB Implementation







# RM-30BP

## Remote Commander

The RM-30BP is the successor to the RM-1000BP, one of the industry's first comprehensive, multifunctional remote commanders.



Ideal for freelancers and small-budget productions, the lightweight remote can be handheld, placed on a table or attached to a tripod arm for operation. The RM-30BP can control most camera functions including:

- Lens control: one push auto / manual focus, iris and zoom control
- Camera control: recording / display functions, shutter speed, white balance - including six assignable buttons
- Playback and multi camera control (up to 3 cameras)

The RM-30BP can also be connected to the new MCX-500 for multi-camera control directly from the switcher, and is compatible with the HXR-NX5R and PXW-FS7 v4.0, with plans to introduce compatibility for other camcorders from Sony. Check the latest compatible camcorder on the Sony website.





# MCX-500

## Multi-Camera Live Producer

The MCX-500 is an affordable, uniquely user-friendly and flexible production switcher that makes it simple for a single operator or small team to produce a broadcast-quality live event. Multiple video inputs, including professional 3G-SDI, HDMI, Composite Video plus dedicated DSK, mean you can mix and match as needed for each production.

### Smart controls with configurable LCD Touchscreen

If you're running the show on your own, you need controls that suit the way you work – intuitive and yet somehow also fully featured. The MCX-500 achieves this by carefully thought-out physical controls that you will find easy to operate without looking away from the action for a second.

More advanced features can be tuned to your exact workflow requirements and mapped to an LCD touch-screen control with easily recognizable ICON buttons. Trigger the sophisticated effects you've pre-defined with a single touch on a user-defined ICON. It's a robust, user-friendly system that's easily extended to bring in additional team members as productions grow.



### Multi-view monitoring

See all your sources simultaneously on one display. The switcher's multi-view output makes it easy for you to see all your sources and outputs on a single screen. Monitoring on the multi-view is always four inputs.

### Mix between 8 video sources + 1 Title (total 9 inputs)

The switcher is designed to expand your operations for full control of a multi-camera shoot. There is no need to worry about swapping out inputs during a production – the MCX-500 features no less than 8 video inputs (plus dedicated Title input) to easily accommodate any small-to-medium sized production. Inputs include professional 3G-SDI (x4), standard HDMI (x2) and even composite video (x2), allowing you to connect a wide variety of cameras and other equipment. A dedicated RGB Title input allows you to connect a PC or Macintosh to use as a dedicated source of titles for your production.



### Stream content live over the internet

The MCX-500 is ideal for live streaming events and productions. The switcher allows you to live-mix the output of multiple sources with direct streaming in real time using services such as Ustream. Share scenes as they happen with high-quality picture and sound, direct from the MCX-500 to a router via Ethernet – no PC required.



## Advanced titles and effects

The MCX-500 allows you to easily create advanced video effects such as Chroma key, transitions and PinP (Picture in Picture).

### Transitions

Cut, Mix and Wipe effects allow you to select the pattern, timing and more of each transition. The switcher lets you set-up your transitions beforehand or do it manually on the fly. You can also easily add effects and titles with a one-button operation both before or after a transition.



### Chroma key

Superimpose a presenter over a background video or static image with pin-sharp accuracy using chroma key technology developed for Sony's MVS Series broadcast switchers.



### PinP (Picture in Picture)

To insert a second picture into your main footage, simply choose its size and position, then push live.



### Overlay logo

Your logo data can be uploaded from an SD card and using the logo function you can overlay the graphic on the screen.

\* Logo function requires version 2.0 firmware.



### Insert and overlay titles

Down-stream key (DSK) function will automatically erase the white background and overlay the title for you. A dedicated RGB (DSK) computer input allows you instant access to titles stored on an external computer to overlay onto your video, freeing up your other eight inputs for camera.



## PC, Macintosh & tablet integration

The MCX-500 is designed to allow you to control multi-camera shoots in the most flexible way possible. Plug-in an Ethernet cable or WiFi router to open up a fully functional control interface that can be viewed on a standard web browser with PC, Macintosh or tablet. Use browser tabs to click between the Switcher's main control panel and advanced settings, including the simple set-up of easily recognizable ICON buttons.

## Worldwide Full HD support

MCX-500 is a global model allowing you to record a variety of HD standards, depending on your needs. You can record AVCHD Full HD 1920x1080 60i/50i or 1440x1080 60i/50i.

## Record direct to SD memory card

An internal memory card slot means all you need to record your production is an SD card, affordable and widely available with no need for an external recorder. As soon as the shoot wraps, you can provide the customer with a high quality AVCHD recording to archive, re-broadcast or even re-edit into a highlights package on any leading non-linear editing software.

## Audio mixing of up to 5 channels including XLR

You can perform a sophisticated multi-channel stereo audio mix in the MCX-500 with no need for an external audio mixer. With a stereo XLR (left/right) interface for external sources, the audio mixer function allows you to mix XLR inputs and 4 channels of embedded audio. You can control all five stereo channels individually, including intuitive audio level control on the LCD touch-screen control panel, mixing channels and also linking the audio to the video. Pre-Fader Listen (PFL) allows you to monitor each audio source before executing the mix.

## Seamless integration with Sony's professional camcorders and PTZ cameras

The MCX-500 works with most of Sony's compact camcorders, such as the HXR-NX5R, and select pan/tilt/zoom cameras, such as BRC Series PTZ (Pan Tilt Zoom) HD camera.

## Synchronized recording of connected cameras

You can trigger the recording of connected camcorders through the MCX-500 and record the output on SD memory card in the switcher.

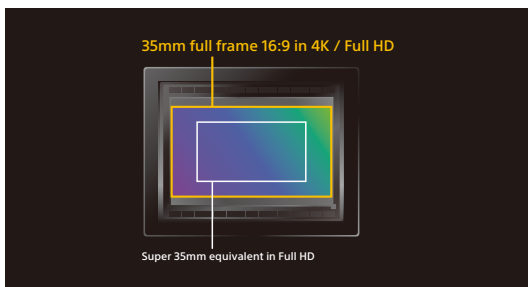
## Affordable tally system

Tally signals can be sent to the connected camcorders so you always know which camcorder is live on-air. A tally indicator will automatically appear on each camcorder's LCD panel and Electronic Viewfinder – a red icon indicates when the shot is live (PGM) while green indicates preview mode (PVW).\*

\* Compatible camcorders only.



\*Required a tally box when using tally function



# $\alpha$ 7S II

## Ultra-high Sensitivity up to ISO 409600 with Wide Dynamic Range and Internal 4K Movie Recording

- Ultra-high sensitivity up to ISO 409600\*<sup>1</sup> and wide dynamic range for stills and movies, thanks to the 35mm full-frame Exmor CMOS sensor with 12.2 megapixels\*<sup>2</sup>
- Internal 4K (QFHD: 3840 x 2160)\*<sup>3</sup> movie recording in full-frame format features full pixel readout\*<sup>4</sup> with no binning for higher image quality
- Professional video features include S-Gamut3.Cine/S-Log3 profile as well as XAVC S
- Full HD recording at 120fps and 4x/5x slow motion recording
- 5-axis optical image stabilization extends the expressive potential of still and movie images
- Fast Intelligent AF with enhanced speed and accuracy performs reliably in light as low as EV -4
- Full frame image sensor provides extensive control of plane of focus for creative movie making

\*<sup>1</sup> Standard ISO range: 100-102400 for stills and movies.  
Expandable ISO range: 50-409600 for stills, 100-409600 for movies.

\*<sup>2</sup> Approximate effective megapixels.

\*<sup>3</sup> Internal recording and HDMI output, both at 4K resolution, are available in full-frame format.

\*<sup>4</sup> 1 In 29.97p (25p)/23.98p movie setting.

\*<sup>5</sup> The viewfinder magnification is approx. 0.78x (with 50mm lens at infinity, -1m<sup>-1</sup>).

Exmor  
CMOS Sensor

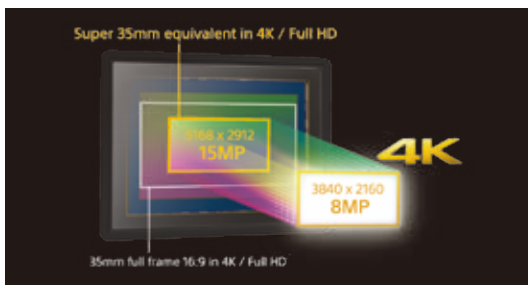
BIONZ X

4K  
3840 x 2160

XAVC S

5-axis  
SteadyShot  
INSIDE

XGA OLED  
Tru-Finder



# $\alpha$ 7R II

## The World's First\*<sup>1</sup> Back-illuminated 35mm Full-frame Exmor R CMOS Sensor with 42.4 Megapixels\*<sup>2</sup>

- High-resolution 4K (QFHD: 3840 x 2160) movie recording features full pixel readout without pixel binning in Super 35mm format
- User selectable Super35 4K mode with 1.6X oversampling for movies of extraordinary detail
- High sensitivity up to ISO 102400\*<sup>3</sup>
- Fast Hybrid AF upgraded to 399-point wide focal plane phase-detection AF coverage
- 5-axis optical image stabilization for stills and movies
- XGA OLED Tru-Finder with ZEISS® T\* Coating features viewfinder magnification of 0.78x\*<sup>4</sup>
- High-bit-rate XAVC S movie recording

\*<sup>1</sup> Among digital still cameras equipped with a 35mm full-frame image sensor.  
As of June 2015 based on Sony's research.

\*<sup>2</sup> Approximate effective megapixels.

\*<sup>3</sup> ISO 100-25600 expandable to ISO 50-102400 for shooting still images.

\*<sup>4</sup> The viewfinder magnification is approx. 0.78x (with 50mm lens at infinity, -1m<sup>-1</sup>).

Exmor R  
CMOS Sensor

BIONZ X

4K  
3840 x 2160

XAVC S

5-axis  
SteadyShot  
INSIDE

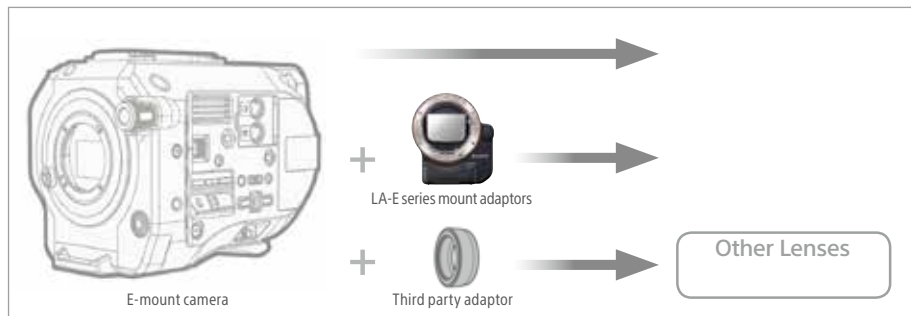
XGA OLED  
Tru-Finder



# α Mount System for a Wide Selection of Lenses

## E-Mount Interchangeable Lens System

Sony's E-mount interchangeable lens system enables the attachment of Sony's lenses as well as other brand lenses that utilize third-party adapters.

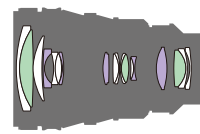


### E-mount FE PZ 28-135mm F4 G OSS SELP28135G

Full

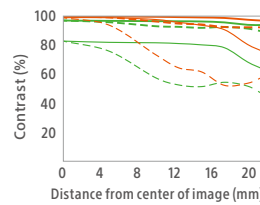


This top-quality powered zoom lens for 35mm full-frame and Super35 format cameras has been created to satisfy professional moviemaking requirements, including the high resolution 4K format. Focus breathing and zoom image shift have been reduced to an absolute minimum, while aspherical elements and advanced multi-coating technology effectively suppress aberration. Quiet operation is also a priority, so an SSM (Super Sonic wave Motor) drive system has been employed for precise, quiet zooming. Independent control rings for zoom, focus, and aperture are provided for the first time in an α lens. Built-in Optical SteadyShot® image stabilization adds to the extraordinary performance of this outstanding lens.

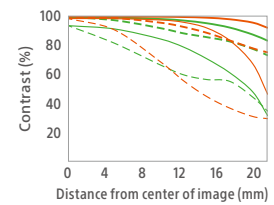


- Lens groups/elements: 12 / 18
- Minimum focus: 0.4 m (AF) / 0.95 m (MF)
- Filter diameter: 95 mm
- Size: 105 mm (diameter) x 162.5 mm (length)
- Weight: approx. 1190 g (without tripod mount)
- Aspherical lens ● ED glass

#### ■ 28 mm focal length



#### ■ 135 mm focal length



(R: radial target, T: tangential target)

### E-mount FE 24-70mm F2.8 GM SEL2470GM

Full



- Lens groups/elements: 13/18
- Minimum focus: 0.38 m
- Filter diameter: 82 mm
- Size: 87.6 mm (diameter) x 136 mm (length)
- Weight: approx. 886 g (without tripod mount)



- Extreme aspherical lens ● Aspherical lens
- ED glass ● Super ED glass

### E-mount FE 70-200mm F2.8 GM OSS SEL70200GM

Full



- Lens groups/elements: 18/23
- Minimum focus: 0.96 m
- Filter diameter: 77 mm
- Size: 88 mm (diameter) x 200 mm (length)
- Weight: approx. 1480g (without tripod mount)



- Extreme aspherical lens ● Aspherical lens
- ED glass ● Super ED glass

### E-mount Vario-Tessar T\* FE 16-35mm F4 ZA OSS SEL1635Z

Full



- Lens groups/elements: 10/12
- Minimum focus: 0.28 m
- Filter diameter: 72 mm
- Size: 78 mm (diameter) x 98.5 mm (length)
- Weight: approx. 518 g



- Advanced aspherical lens
- Aspherical lens ● ED glass

# Accessories

## Battery and Charger BP-U Series



### Specifications

	BP-U90	BP-U60	BP-U60T	BP-U30
Maximum voltage	16.4 V DC			
Nominal voltage	14.4 V DC			
Nominal capacity	85 Wh	57 Wh		28 Wh
Operating temperature	-4°F to +113°F (-20°C to +45°C)			
Dimensions (W x H x D)	1 11/16 x 4 7/8 x 2 3/4 inches (41.5 x 120.7 x 69.7 mm)	1 11/16 x 3 1/4 x 2 3/4 inches (41.5 x 82.5 x 69.7 mm)	1 11/16 x 4 1/8 x 2 3/4 inches (41.5 x 102.5 x 69.7 mm)	1 11/16 x 1 13/16 x 2 3/4 inches (41.5 x 41.5 x 69.7 mm)
Weight	1 lb 6 oz (630 g)	15 oz (420 g)	16 oz (450 g)	8 oz (220 g)
Supplied accessory	Operating Instructions (1)			



BC-U2

Two-channel Simultaneous Battery Charger

- Simultaneously charges two BP-U90/U60/U30 batteries
- Can charge one battery while supplying DC power to a camcorder



BC-U1

Battery Charger

- Charges one BP-U90/U60/U30 battery
- 12 V DC power output

### Specifications

	BC-U2	BC-U1
Power requirements	100 V AC to 240 V AC, 50/60 Hz	
Power consumption	85 Wh	38 Wh
Operating temperature	32°F to 113°F (0°C to 45°C)	
Dimensions (W x H x D)	7 x 8 1/8 x 5 1/2 inches (177 x 53.2 x 137 mm)	5 1/8 x 1 13/16 x 3 7/8 inches (128 x 45 x 98 mm)
Weight	1 lb 7 oz (650 g)	12 oz (330 g)
DC output	12 V, 2.0 A	
Number of mountable batteries	2	1
Chargable battery	BP-U90/BP-U60/U30	
Supplied accessories	Operating Instructions (1), DC output cable (1), Warranty Booklet (1)	

### Approximate Charge Time

Model name (capacity)	BC-U2		BC-U1
	1 battery	2 battery	1 battery
BP-U90 (85 Wh)	190	190	220
BP-U60 (57 Wh)	150	150	170
BP-U30 (28 Wh)	130	130	130

unit: minutes

## Battery and Charger L / V / W-Series

### Batteries L-series



#### Specifications

	NP-F970
Voltage	7.2 V
Capacity	6300 mAh
Performance	45 Wh



#### AC-VQ1051D

AC Adapter / Charger compatible with L-series

- InfoLITHIUM™ batteries

### Batteries V-series



#### Specifications

	NP-FV50	NP-FV70	NP-FV100A
Voltage	6.8 V	6.8 V	7.4 V
Capacity	980 mAh	1960 mAh	3410 mAh
Performance	6.6 Wh	13.0 Wh	25.0 Wh



#### AC-VQV10

AC Adapter / Charger compatible with V-series

- Quick and easy charging for InfoLITHIUM™ P/M/V series batteries

### Batteries W-series For $\alpha$ series



#### Specifications

	NP-FW50
Voltage	7.2 V
Capacity	1020 mAh
Performance	7.3 Wh



#### BC-TRW

Battery Charger compatible with W-series

- Quick and easy charging for InfoLITHIUM™ W series batteries

## Video Light



HVL-LBPC  
Battery Video Light

## Wireless LAN



CBK-WA100/WA101  
Wireless LAN Adapter



CBK-NA1  
Network Adapter Kit



CBK-WA02  
5GHz/2.4GHz Wireless LAN  
Adapter



# Related Products

## Recording Media



SBP-256D/128D/64D  
SxS® PRO+ Memory Card



SBS-128/64/32G1B  
SxS-1 Memory Card



QD-G128A/64A/32A  
XQD Memory Card



SF-G1/64/32/16UZ  
SDXC/SDHC Memory Card



SF-G1/64/32UX2  
SDXC/SDHC Memory Card



MS-HX32B  
Memory Stick®  
PRO-HG Duo™



SFUZ series  
(16/32/64GB)  
SD Memory Card



SFUX series  
(32/64/128GB)  
SD Memory Card



QDA-EX1  
XQD Express  
Card Adapter



MEAD-SD02  
SD Card Adapter  
for XDCAM



SBAC-UT100  
Thunder bolt2 and USB3.0  
Reader/Writer for SxS



SBAC-US30  
USB3.0 reader/writer  
for SxS



MRW-E90  
Card Reader for  
XQD and SD



MRW-E80  
Card reader for XQD



QDA-SB1  
USB adapter for XQD



### HXR-FMU128

128 GB flash memory recording unit

The HXR-FMU128 Flash Memory Unit is an optional solid-state memory recorder designed for NEX-FS700, NEX-FS100 and NEX-EA50 camcorders, and attaches directly to the right side of the camera with ease. Hybrid recording functionality is possible by being able to record on both the HXR-FMU128 and Memory card at the same time. The unit also offers long recording times of up to 10 hours at the highest HD quality (28Mbps) and 11 hours at 24 Mbps



## Audio



UWP-D11

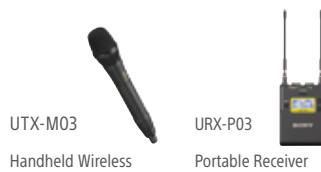


UTX-B03  
Bodypack Transmitter

URX-P03  
Portable Receiver



UWP-D12



UTX-M03  
Handheld Wireless  
Microphone

URX-P03  
Portable Receiver



UWP-D16



UTX-P03  
Plug-on Transmitter

UTX-B03  
Bodypack Transmitter

URX-P03  
Portable Receiver



URX-P03D  
2-channel Portable  
Receiver



SMAD-P3D  
MI Shoe Adapter  
(For URX-P03D)



SMAD-P3  
MI Shoe Adapter  
(For URX-P03)



1Channel use :  
SMAD-P3 + URX-P03 with Camcorder  
2Channel use :  
SMAD-P3D + URX-P03D with Camcorder



- Internal connection
- No need for separate audio cable
- Power supply from camera\*1
- On/Off control from camera\*1



ECM-VG1  
Shotgun Microphone



ECM-MS2  
Stereo Microphone

For more info visit [sony.com/UWP](http://sony.com/UWP)

\*1 For details on cameras that support this unit, visit Sony's website: [www.sony.com/professional](http://www.sony.com/professional).

## LCD Picture Monitors



	LMD-A240	LMD-A220	LMD-A170	LMD-B240	LMD-B170
Screen Size (Inch, Diagonal)	24" (24.1")	22" (21.5")	17" (16.5")	24" (23.8")	17" (17.3")
SDI Input	3G-SDI (x2)	3G-SDI (x2)	3G-SDI (x2)	HD-SDI (x2)	HD-SDI (x2)
HDMI Input	●	●	●	●	●
Image Comparison	Side by Side, Blending, Wipe	Side by Side, Blending, Wipe	Side by Side, Blending, Wipe	Side by Side	Side by Side

## Software



### Catalyst Browse

Catalyst Browse is a free, simple viewing and logging tool exclusively for all of Sony's Pro formats

Catalyst Browse offers simple media management functions such as browsing a collection of files from a particular device, viewing in detail individual clips, viewing and editing metadata associated with the media, source color space support for accurate viewing, basic color correction and color looks, copying from the device to a local hard drive, transcoding files to a variety of formats, and ingesting and exporting clip lists for Sony Professional Discs.



### Catalyst Prepare

The fast, simple, reliable path from camera to post

The ultimate preproduction assistant that allows you to easily and intuitively browse your camera, deck, or card reader, view clips, off-load the media for safe backup, view and edit metadata, batch copy, batch transcode to a wide variety of pro formats, precisely perform first-pass color correction, and more.



### Catalyst Production Suite

Focused, fast production for 4K, RAW, and HD video

Catalyst Production Suite fuses powerful media preparation and fast, focused video editing to provide the backbone for video productions. Catalyst Prepare paves your path from camera to post production, while Catalyst Edit provides a lean, focused video editing environment. Both support 4K and Sony's RAW media from beginning to end.



To find out more and download a free trial please see:  
<http://www.sonycreativesoftware.com/catalyst>



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