

# SONY



## PXW-X70

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

**This handheld camcorder is a new compact member of the XDCAM family, delivering the benefits of 1.0-type sensor technology and XAVC.**

The PXW-X70 is a compact, lightweight XDCAM camcorder with professional features including a high-sensitivity 1.0-type CMOS image sensor. It delivers high-resolution recording and superb performance even in low-light conditions and can record in various formats — including HD XAVC Long GOP (for 422 10-bit sampling), AVCHD, and DV® — to meet particular needs.

The lens features 12x Optical Zoom, which can be increased to 24x with Clear Image Zoom while retaining full resolution. Thanks to the 20-megapixel CMOS sensor and Sony's sophisticated Digital Extender, zoom performance can be further increased to 48x to satisfy the demand of professionals for wide-angle to telephoto shooting in various scenes. The rich feature set includes a four position switchable ND filter, 3G-SDI interface, XLR handle unit, built-in Wi-Fi function, and the future ability to record in 4K Ultra High Definition\* which will support at any situation, increasing the creative possibilities.

\* A firmware update service (fee required) will begin in the first half of 2015.

XDCAM

XAVC

AVCHD  
Progressive

Exmor R  
CMOS Sensor

WiFi  
CERTIFIED

Multi  
Interface Shoe

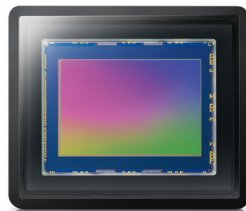


### 1.0-type Exmor® R CMOS Sensor with a Resolution of 20 Megapixels

The Exmor R CMOS sensor with 1.0-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 will become available in the near future via firmware update\*.

\* A firmware update service (fee required) will begin in the first half of 2015.

**Exmor R**  
CMOS Sensor



### 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. Moreover, seven shutter blades contribute to impressive background bokeh.



### 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. A firmware update in the near future will also enable recording of proxy video files.

**XAVC**

**AVCHD**  
Progressive

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

A Content Browser Mobile\* app enables confirmation of the angle of each shot before shooting, remote monitoring, and remote operation of the camcorder (field angle/white balance/iris, etc.). Near Field Communication (NFC) functions allow easy, one-touch wireless LAN connection to a smartphone or tablet. Streaming and file transfer will become available with a future firmware update.

\* The Content Browser Mobile smartphone app can be downloaded from the Google Play Store or Apple App Store.



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

The camcorder includes an advanced ND filter that facilitates shooting techniques such as the use of a slow shutter and iris adjustment in daylight and other bright conditions, providing fine aperture control with a standard four-position switch from Clear to 1/64 ND.



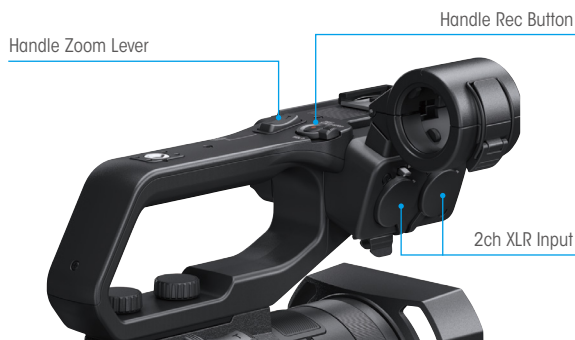
### Compatibility with HDMI and 3G-SDI Output

Professional interfaces such as a 3G-SDI output terminal allow image signals to be transferred at up to HD1080 60p through a single BNC cable. HDMI output in the native format is possible while transmitting progressive signals without any pull-down. It also offers convenient external recording with embedded timecode and REC trigger.



### XLR Handle Unit for Easy Recording and Intuitive Zoom Control

The PXW-70 includes an XLR handle unit with REC button and zoom lever, as well as two XLR inputs for usage of professional microphones (optional) in addition to the internal microphone. The XLR handle unit can be detached easily, enabling the camcorder to be more compact, for situations that require the smallest and lightest equipment.



### Dual media slots, "Simul" or "Relay" recording, and independent recording control

Two media slots allow either simultaneous recording to two memory cards in the "Simul" mode, or "Relay" recording in which recording automatically switches to the second memory card when the first is full. The user can set up the two Start/Stop buttons on the PXW-X70, one on the XLR handle unit and one on the camcorder body, to independently start and stop recording on different memory cards while recording in Simul mode.

### 3.5-type LCD Panel and 0.39-type OLED Viewfinder

The PXW-X70 features a 3.5-type touch panel LCD panel (1.56 million dots, 16:9) that provides easy viewing in a wide range of lighting conditions. Also, the high-resolution 0.39-type OLED viewfinder (1.44 million dots, 4:3) will offer crisp and bright view without any color breaking, making precise manual focusing easy.



### Picture Profile Function for Image Parameter Adjustment

This feature allows adjustment of parameters that define image characteristics such as gamma curve, black level, and color level. Moreover, calibration of multiple cameras and tone control throughout entire recordings are possible. Picture Profile data and other recording settings can be stored on a SD card and a memory stick.

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

A Multi-Interface shoe is equipped on PXW-X70. This MI shoe is used to connect the XLR handle unit. When the handle is detached, it can be used as a multi purpose intelligent shoe. For instance, power and audio connections for a UWP-D11 or UWP-D12 wireless microphone receiver are made via this shoe, minimizing the need for extra batteries and additional cabling.



# Specifications

PXW-X70	
<b>General</b>	
Mass	Approx. 900 g (1 lb 15 oz) (body) Approx. 1400 g (3lb 1oz) (with lens hood, XLR handle unit, eyecup, NP-FV70 battery)
Dimensions (W x H x D)*1	120.7 x 103.5 x 274.3 mm (4 7/8 x 4 1/8 x 10 7/8 inches) (With the accessories (lens hood, large eyecup), excluding the grip belt and including the projecting parts) 130.3 x 180.9 x 287 mm (5 1/4 x 7 1/8 x 11 3/8 inches) (With the accessories (lens hood, large eyecup, XLR handle unit), excluding the grip belt and including the projecting parts)
Power Requirements	DC In: 8.4 V Battery: 6.8 V / 7.2 V
Power Consumption	Approx. 5.5 W (while recording with viewfinder and XAVC HD 1080/60i 50Mbps) Approx. 5.8 W (while recording with LCD and XAVC HD 1080/60i 50Mbps)
Operating Temperature	0°C to 40°C (32°F to 104°F)
Storage Temperature	-20°C to +60°C (-4°F to +140°F)
Battery Operating Time	Approx. 120 min. with NP-FV70 battery (while recording with LCD, XAVC 1080/60i, 50Mbps) Approx. 200 min. with NP-FV70 battery (while playing with LCD, XAVC 1080/60i, 50Mbps)
Recording Format (Video)	XAVC HD : MPEG-4 AVC/H.264 4:2:2 Long profile AVCHD : MPEG-4 AVC/H.264 AVCHD 2.0 format compatible DV
Recording Format (Audio)	XAVC HD : Linear PCM 2ch, 24 bit, 48 kHz AVCHD : Linear PCM 2ch, 16 bit, 48 kHz / Dolby Digital 2ch, 16 bit, 48 kHz DV : Linear PCM 2ch, 16 bit, 48 kHz
Recording Frame Rate	XAVC HD (1920 x 1080)@59.94p, 50p, 50Mbps/35Mbps XAVC HD (1920 x 1080)@59.94i, 50i, 50Mbps/35Mbps/25Mbps XAVC HD (1920 x 1080)@29.97p, 25p, 23.98p, 50Mbps/35Mbps XAVC HD (1280 x 720)@59.94p, 50p, 50Mbps AVCHD (1920 x 1080)@59.94p, 50p, PS mode (28Mbps) AVCHD (1920 x 1080)@59.94i/50i/29.97p/25p/23.98p, FX mode (17Mbps), FH mode (17Mbps) AVCHD (1280 x 720)@59.94p, 50p, FX mode (24Mbps), FH mode (17Mbps), HQ mode (9Mbps) DV (720 x 480) @59.94i, 25Mbps DV (720 x 576) @50i, 25Mbps
Recording/Playback Time	XAVC HD@LPCM 2ch 50Mbps Approx. 120 min with 64 GB memory card XAVC HD@LPCM 2ch 35Mbps Approx. 170 min with 64 GB memory card XAVC HD@LPCM 2ch 25Mbps Approx. 220 min with 64 GB memory card AVCHD@LPCM 2ch PS Mode Approx. 290 min with 64 GB memory card Approx. 145 min with 32 GB memory card AVCHD@LPCM 2ch FX Mode Approx. 340 min with 64 GB memory card Approx. 170 min with 32 GB memory card AVCHD@LPCM 2ch FH Mode Approx. 450 min with 64 GB memory card Approx. 225 min with 32 GB memory card DV Approx. 280 min with 64 GB memory card Approx. 140 min with 32 GB memory card
<b>Lens</b>	
Lens Mount	Fixed
Zoom Ratio	12x (optical), servo

PXW-X70	
Focal Length	f=9.3 - 111.6 mm equivalent to f=29.0 - 348.0 mm on 35 mm lens (16:9) equivalent to f=35.5 - 426.0 mm on 35 mm lens (4:3)
Iris	F2.8 - F4.5 auto/manual selectable
Focus	AF/MF selectable, 10 mm to ∞ (Wide), 1000 mm to ∞ (Tele)
Image Stabilizer	ON/OFF selectable, shift lens
Filter Diameter	M62 mm
<b>Camera Section</b>	
Imaging Device (Type)	1.0-type (13.2 mm x 8.8 mm) back-illuminated Exmor R CMOS sensor
Effective Picture Elements	Approx. 14.2M pixels (16:9)/Approx. 10.6M pixels (4:3)
Built-in Optical Filters	OFF: Clear, 1: 1/4ND, 2: 1/16ND, 3: 1/64ND
Minimum Illumination	[60i]** 3lux (1/60 Shutter Speed, iris/gain AUTO) [50i]** 3lux (1/50 Shutter Speed, iris/gain AUTO) [60i]** 1.7lux (1/30 Shutter Speed, iris/gain AUTO) [50i]** 1.7lux (1/25 Shutter Speed, iris/gain AUTO)
Shutter Speed	[60i]**: 1/8 - 1/10,000 (1/6 - 1/10,000 when shooting with 24p) [50i]**: 1/6 - 1/10,000
Slow & Quick Motion Function	[60i]**: 1080p: Frame rate selectable 1.2, 4, 8, 15, 30, 60 fps [50i]**: 1080p: Frame rate selectable 1.2, 3, 6, 12, 25, 50 fps
White Balance	Preset (Indoor: 3200K Outdoor: 5600K) x7 steps, Color temperature set range: 2300-15000K Onepush A, B, Auto selectable
Gain	-3, 0, 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33 dB, AGC
Gamma Curve	Selectable
<b>Input/Output</b>	
Audio Input	XLR-type 3-pin (female) (x2), line/mic/mix +48 V selectable
Video Output	Integrated into Multi/Micro USB jack (x1), Composite 1.0Vp-p, 75Ω
Audio Output	Integrated into Multi/Micro USB jack
SDI Output	BNC (x1), 3G/HD/SD SMPTE 424M/292M/259M standards
USB	Multi/Micro USB jack (x1)
Headphone Output	Stereo mini jack (x1)
Speaker Output	Monaural
DC Input	DC jack
Remote	Integrated into Multi/Micro USB jack
HDMI Output	Type A (x1)
<b>Monitoring</b>	
Viewfinder	1.0 cm (0.39 type) OLED Approx. 1.44M dots
LCD	8.8 cm (3.5 type) Approx. 1.56M dots.
<b>Built-in Microphone</b>	
Built-in Microphone	Omni-directional stereo electret condenser microphone.
<b>Media</b>	
Type	Memory Stick Pro Duo™ and SD/SDHC/SDXC compatible x1, SD/SDHC/SDXC x1
<b>Wi-Fi/NFC</b>	
Supported format	IEEE 802.11 b/g/n
Frequency band	2.4 GHz bandwidth
Security	WEP/WPA-PSK/WPA2-PSK
NFC	NFC Forum Type 3 Tag compliant
<b>Supplied Accessories</b>	
XLR handle unit (1), Lens hood (1), Lens cap (1), Large eyecup (1), Accessory shoe kit (1), USB cable (1) Rechargeable battery pack (NP-FV70) (1), AC Adaptor (AC-1200D) (1), Power cord (mains lead) (1) Wireless Remote Commander (RMF-845) (1), Lithium battery (CR2025 for the Wireless Remote Commander) (1), Pre-installed to the Wireless Remote Commander, Operating Guide (2), CD-ROM "Manuals for Solid-State Memory Camcorder" (1), Warranty (1)	

\*1 The values for dimensions are approximate.

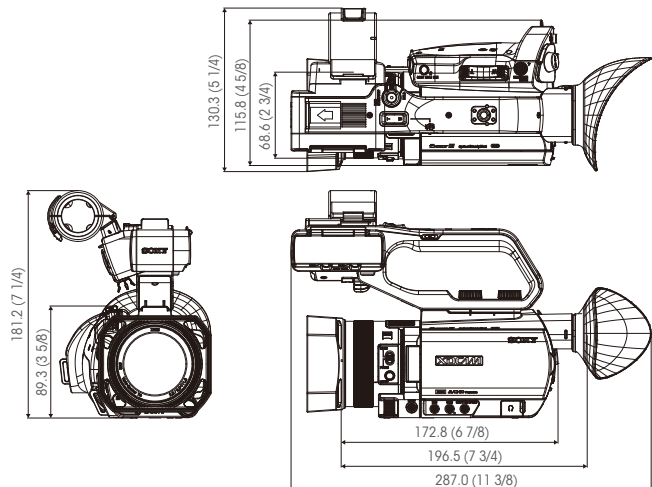
\*2 [60i] : when [60/50i SEL] is set to 60i

\*3 [50i] : when [60/50i SEL] is set to 50i

## Available Accessories

 <p><b>NP-FV70</b> (6.8 V / 14.0 Wh / 2060 mAh) <b>NP-FV100</b> (6.8 V / 26.5 Wh / 3900 mAh) Rechargeable Battery Pack</p>	 <p><b>AC-VQV10</b> (AC 100 V ~ 240 V) AC Adaptor/Charger</p>	 <p><b>UWP-D11/WWP-D12</b> Wireless Microphone Package</p>	 <p><b>SMAD-P3</b> MI Shoe Mount Adaptor * required for cable-free operation with UWP-D11/WWP-D12</p>	 <p><b>ECM-VG1</b> Electret Condenser Microphone</p>	 <p><b>ECM-MS2</b> Electret Condenser Microphone</p>	 <p><b>ECM-673</b> Electret Condenser Microphone</p>
 <p><b>SF-128UX2</b> (128 GB, 64 GB, 32 GB) SDXC Memory Card</p>	 <p><b>SF-32UX</b> (32 GB, 16 GB, 8 GB) SD/SDHC Memory Card</p>	 <p><b>MS-HX32B</b> (32 GB, 16 GB, 8 GB) Memory Stick PRO-HG Duo™</p>	 <p><b>RM-VPR1</b> Remote Commander</p>	 <p><b>VMC-15MR2</b> AV Cable</p>	 <p><b>ECM-W1M</b> MI Shoe Wireless Microphone *5.1ch MIX mode is not available</p>	

## Dimensions



Unit: mm (inches)

MK11164V10HB14AUG

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