

## PXW-X320

Three 1/2-inch type Exmor CMOS sensors XDCAM camcorder with 16x zoom HD lens recording Full HD XAVC 100 Mbps, with wireless options



### Overview

#### **Supports multiple SD and HD codecs including XAVC at 100 Mbps**

The PXW-X320 is a high-performance SxS memory camcorder which inherits field-proven operability from the reputable PMW-320. The PXW-X320 has become a part of the XDCAM HD422 family, comes equipped with cutting-edge imaging technology – three 1/2-inch-type Full-HD Exmor CMOS sensors with an extremely high S/N ratio – with Flash Band Reducer feature to provide outstanding picture quality.

The PXW-X320 supports XAVC offering high quality content creation in the HD domain. In addition to XAVC, MPEG HD422, MPEG HD, MPEG IMX, and DVCAM are supported. Two HD/SD-SDI, HDMI, i.LINK™, and composite outputs provide a wide range of AV and IT interfaces. The PXW-X320 also supports wireless operation using an optional adapter, the CBK-WA101. This enables easy and quick clip data transmission to broadcast stations, saving the time and transportation cost of shot clip delivery.

With various functions inherited from Sony's world-acclaimed XDCAM camcorders and yet highly cost effective with lens included, the PXW-X320 is an ideal choice for many different camera professionals, from those engaged in news gathering,

when speed is the key concern, to those who produce TV programs and documentaries, when quality is crucial.

## **High picture quality recording on SxS memory cards**

Offer high resolution, high sensitivity (F11 at 59.94 Hz / F12 at 50 Hz), low noise (60 dB), and a wide dynamic range.

## **Selectable format and bit rates**

Includes Full HD (1920 x 1080) 59.94i/50i/29.97p/25p/23.98p and HD (1280 x 720) 59.94p/50p, as well as XAVC Intra at 100 Mbps, XAVC Long at up to 50 Mbps, MPEG HD422 at 50 Mbps, MPEG HD at up to 35 Mbps, MPEG IMX at 50 Mbps and DVCAM at 25 Mbps.

## **Variety of interfaces**

Interfaces include 2 x SD / HD-SDI, HDMI, USB and i.Link.

## **Wireless adaptor increases operational flexibility**

Supports wireless operation using an optional wireless adapter, the CBK-WA101, for live streaming via an IP network.

## **1/2-inch 16x HD zoom lens**

Supplied with a 16x high definition auto-focus optical zoom lens.

## Features

### **High picture quality**

The PXW-X320 incorporates three 1/2-inch-type Full HD Exmor CMOS sensors (1920 x 1080) to achieve high resolution, high sensitivity (F11 at 59.94 Hz / F12 at 50 Hz), low noise (60 dB), and a wide dynamic range to give more freedom of expression for creative shooting.

### **Three-dimensional noise reducer**

In addition to existing noise reduction features, the PXW-X320 also includes a three-dimensional noise reducer. This not only detects vertical and horizontal direction in a frame picture but also noise components in a time axis, utilising correlation

characteristics between video frames. Using this feature, the S/N ratio is improved to 60 dB, which is the highest level of noise reduction in a 1/2-inch-type Full HD shoulder camcorder.

### **Selectable format and bit rates**

The PXW-X320 incorporates XAVC in the HD domain at a 100 Mbps data rate, enabling the creation of rich content with 10-bit quality. It is capable of recording XAVC Intra at 1920 x 1080 Full HD 59.94i, 50i, 29.97p, 25p and 23.98p, or 1280 x 720 HD 59.94p and 50p. The camcorder can also record Full HD video (1920 x 1080) at up to 50 Mbps using XAVC Long and MPEG HD422, as well as MPEG HD at 35 Mbps / 25 Mbps, MPEG IMX at 50 Mbps, and DVCAM at 25 Mbps in MXF file, as standard supported formats.

### **High resolution 3.5-inch colour LCD viewfinder**

With a large, easy-to-read 3.5-inch QHD colour LCD viewfinder as a standard accessory, the PXW-X320 offers outstanding resolution of 960 x 540 pixels, strongly supporting critical focus control during HD shooting. The viewfinder cover can be flipped up to enhance visibility when the camera is set on a tripod.

### **Wireless adaptor increases operational flexibility**

The PXW-X320 is designed to support wireless operation using an optional wireless adaptor, the CBK-WA101, which can be attached without any additional cables. Using this adaptor, you can stream out pictures for live shooting via an IP network. After shooting, you can select a recorded proxy or high resolution\* file from the list and upload it to an on-premises server or to a cloud service via a mobile Wireless LAN router or 3G/4G/LTE device. The adaptor also provides live monitoring and remote control of the PXW-X320 by mobile tablet or smartphone with mobile application software.

\* A USB connection is required.

## **Enhanced flash band reducer**

Incorporating a newly developed algorithm, the PXW-X320 detects and processes flash banding inside its hardware before recording begins. This provides greater flexibility in reducing flash banding across different shooting environments. This feature can be disabled from the menu if you want to use Content Browser for flash band reduction after shooting. You are free to choose to reduce flash band before or after shooting, depending on each shooting circumstance.

## **Customisable menu**

The PXW-X320 has a User Menu feature that is typically associated only with high-end camcorders. This feature allows you to pick and organize frequently used menu items much in the same way as the bookmark feature of a web browser. By using this feature, you can save a lot of time – you won't have to repeatedly search for specific menu items – and experience more efficient operation.

## **Variety of interfaces including SD / HD-SDI and i.Link**

Two lines of SDI output connection are provided by the PXW-X320. This enables, for example, the director and camera operator to concurrently check shot content via two separate monitors. Also, for monitoring purposes this camcorder 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.

## **Supplied with 1/2-inch 16x HD zoom lens**

With a 1/2-inch type bayonet lens mount, the PXW-X320 is supplied with a 16x high definition auto-focus optical zoom lens.

## **Low power consumption**

The lightweight PXW-X320 has a low power consumption of 25W (with viewfinder, lens and microphone while recording).

## Specifications

General	
Mass	Approx. 3.4 kg (body only without lens, VF, Mic) Approx. 7.9 lb (body only without lens, VF, Mic)
Dimensions (W x H x D) *1	124 x 269 x 332 mm (excluding protrusions, body only) 5 x 10 5/8 x 13 1/8 inches (excluding protrusions, body only)
Power Requirements	DC 12 V
Power Consumption	Approx. 25W (with viewfinder, lens and microphone while recording)
Operating Temperature	0° C to 40° C 32° F to 104° F
Storage Temperature	-20° C to +60° C -4° F to +140° F
Continuous Operating Time	Approx. 194 min with BP-L80S
	- XAVC-I mode: CBG, 112Mbps max, MPEG-4 AVC/H.264

Recording Format (Video) : XAVC	-XAVC-L50 mode: VBR, 50Mbps, MPEG-4 AVC/H.264 -XAVC-L35 mode: VBR, 35Mbps, MPEG-4 AVC/H.264 -XAVC-L25 mode: VBR, 25Mbps, MPEG-4 AVC/H.26
Recording Format (Video) : MPEG-2 Long GOP	- HD 422 mode: CBR, 50 Mbps max., MPEG-2 422P@HL - HQ mode: VBR, 35 Mbps max., MPEG-2 MP@HL - SP mode: CBR, 25 Mbps, MPEG-2 MP@H-14 - SD mode : MPEG IMX, DVCAM
Recording Format (Audio) :	- XAVC-I mode: LPCM 24 bits, 48 kHz, 4 channels -XAVC-L mode:LPCM 24 bits, 48 kHz, 4 channels -HD 422 50 mode: LPCM 24 bits, 48 kHz, 4 channels -HD 420 HQ mode: LPCM 16 bits, 48 kHz, 4 channels -SD MPEG IMX mode: LPCM 16/ 24 bits, 48 kHz, 4 channels -SD DVCAM mode: LPCM 16 bits, 48 kHz, 4 channels
	- HD 422 50 mode: LPCM 24 bits, 48

Recording Format (Audio) : kHz, 4 channels  
- HD 420 HQ mode: LPCM 16 bits, 48 kHz, 4 channels  
- SD MPEG IMX mode: LPCM 16/ 24 bits, 48 kHz, 4 channels  
- SD DVCAM mode: LPCM 16 bits, 48 kHz, 4 channels

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Recording Format (Audio) :  
- HD mode: LPCM 16 bits, 48 kHz, 4 channels  
- SD DVCAM mode: LPCM 16 bits, 48 kHz, 2 channels

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XAVC-I Mode:

- Approx. 120 min with SBP-128B (128GB) memory card
- Approx. 60 min with SBS-64G1A/SBP-64B (64 GB) memory card
- Approx. 30 min with SBS-32G1A (32 GB) memory card

XAVC-L50 mode:

Recording/Playback Time (MPEG HD) :  
-Approx. 240 min with SBP-128B (128GB) memory card  
-Approx. 120 min with SBS-64G1A/SBP-64B (64 GB) memory card  
-Approx. 60 min with SBS-32G1A (32 GB) memory card

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XAVC-L35 mode:

-Approx. 340 min with SBP-128B (128GB) memory card

-Approx. 170 min with SBS-64G1A/SBP-64B (64 GB) memory card

-Approx. 85 min with SBS-32G1A (32 GB) memory card

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XAVC-L25 mode:

-Approx. 440 min with SBP-128B (128GB) memory card

-Approx. 220 min with SBS-64G1A/SBP-64B (64 GB) memory card

-Approx. 110 min with SBS-32G1A (32 GB) memory card

HD 422 50/ SD MPEG IMX Mode:

-Approx. 240 min with SBP-128B (128GB) memory card

Recording/Playback  
Time (MPEG HD) :

-Approx. 120 min with SBS-64G1A/SBP-64B (64 GB) memory card

-Approx. 60 min with G49SBS-32G1A (32 GB) memory card

HD 420 HQ Mode:

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-Approx. 360 min with SBP-128B (128GB) memory card

-Approx. 180 min with SBS-64G1A/SBP-64B (64 GB) memory card

-Approx. 90 min with SBS-32G1A (32 GB) memory card

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Recording/Playback Time (MPEG HD) :

SD DVCAM Mode:

-Approx. 440 min with SBP-128B (128GB) memory card

-Approx. 220 min with SBS-64G1A/SBP-64B (64 GB) memory card

-Approx. 110 min with SBS-32G1A (32 GB) memory card

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HD 422 50/ SD MPEG IMX Mode\*2:

- Approx. 240 min with SBP-128B (128GB) memory card

- Approx. 120 min with SBS-64G1A/SBP-64B (64 GB) memory card

- Approx. 60 min with G49SBS-32G1A (32 GB) memory card

HD 420 HQ Mode:

- Approx. 360 min with SBP-128B (128GB) memory card

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Recording/Playback Time (MPEG HD) :  
- Approx. 180 min with SBS-64G1A/SBP-64B (64 GB) memory card  
- Approx. 90 min with SBS-32G1A (32 GB) memory card

SD DVCAM Mode:

- Approx. 440 min with SBP-128B (128GB) memory card  
- Approx. 220 min with SBS-64G1A/SBP-64B (64 GB) memory card  
- Approx. 110 min with SBS-32G1A (32 GB) memory card

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HD HQ Mode:

- Approx. 400 min with SBP-128B (128GB) memory card  
- Approx. 200 min with SBS-64G1A/SBP-64B (64 GB) memory card  
- Approx. 100 min with SBS-32G1A (32 GB) memory card

HD SP Mode:

- Approx. 560 min with SBS-64G1A (64 GB) memory card  
- Approx. 280 min with SBS-64G1A/SBP-64B (64 GB) memory

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Recording/Playback

Time (MPEG HD) : \*2 card  
 - Approx. 140 min with SBS-32G1A (32 GB) memory card

SD DVCAM Mode:

- Approx. 520 min with SBP-128B (128GB) memory card

- Approx. 260 min with SBS-64G1A/SBP-64B (64 GB) memory card

- Approx. 260 min with SBS-64G1A/SBP-64B (64 GB) memory card

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XAVC-I Mode: CBG, 112Mbps max, MPEG-4 AVC/H.264

- 1920 x 1080/ 59.94i, 50i, 29.97p, 25p, 23.98p

- 1280 x 720/ 59.94p, 50p

XAVC-L50 mode: VBR, 50Mbps, MPEG-4 AVC/H.264

- 1920 x 1080/ 59.94i, 50i, 29.97p, 25p, 23.98p

- 1280 x 720/ 59.94p, 50p

Recording Frame Rate XAVC-L35 mode: VBR, 35Mbps, MPEG-4 AVC/H.264

: - 1920 x 1080/ 59.94i, 50i, 29.97p,  
25p, 23.98p

XAVC-L25 mode: VBR, 25Mbps,  
MPEG-4 AVC/H.264

- 1920 x 1080/ 59.94i, 50i

HD 422 50 Mode: MPEG-2  
422P@HL, 50 MBps/ CBR

- 1920 x 1080/ 59.94i, 50i, 29.97p,  
25p, 23.98p

- 1280 x 720/ 59.94p, 50p, 29.97p,  
25p, 23.98p

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HD 420 HQ Mode: MPEG-2 MP@HL,  
35 MBps/ VBR

- 1920 x 1080/ 59.94i, 50i, 29.97p,  
25p, 23.98p

- 1440 x 1080/ 59.94i, 50i, 29.97p,  
25p, 23.98p

- 1280 x 720/ 59.94p, 50p, 23.98p (2-  
3 pull down)

Recording Frame Rate

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SD MPEG IMX Mode:

- 720 x 486/ 59.94i, 29.97PsF

- 720 x 576/ 50i, 25PsF

SD DVCAM Mode:

- 720 x 480/ 59.94i, 29.97PsF
  - 720 x 576/ 50i, 25PsF
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- HD 422 50 Mode: MPEG-2  
422P@HL, 50 MBps/ CBR
- 1920 x 1080/ 59.94i, 50i, 29.97p,  
25p, 23.98p
  - 1280 x 720/ 59.94p, 50p, 29.97p,  
25p, 23.98p

Recording Frame Rate  
:

- HD 420 HQ Mode: MPEG-2 MP@HL,  
35 MBps/ VBR
- 1920 x 1080/ 59.94i, 50i, 29.97p,  
25p, 23.98p
  - 1440 x 1080/ 59.94i, 50i, 29.97p,  
25p, 23.98p
  - 1280 x 720/ 59.94p, 50p, 23.98p (2-  
3 pull down)

- SD MPEG IMX Mode
- 720 x 486/ 59.94i, 29.97PsF
  - 720 x 576/ 50i, 25PsF

- SD DVCAM Mode:
- 720 x 486/ 59.94i, 29.97PsF
  - 720 x 576/ 50i, 25PsF
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- HD HQ 1920 Mode: MPEG-2  
MP@HL, 35 Mbps/ VBR
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- 1920 x 1080/ 59.94i, 50i, 29.97p,  
25p, 23.98p

HD HQ 1440 Mode: MPEG-2  
MP@HL, 35 Mbps/ VBR

- 1440 x 1080/ 59.94i, 50i, 29.97p,  
25p, 23.98p

Recording Frame Rate  
:

HD HQ 1280 Mode: MPEG-2  
MP@HL, 35 Mbps/ VBR

- 1280 x 720/ 59.94p, 50p, 29.97p,  
25p, 23.98p

HD SP 1440 Mode: MPEG-2 MP@H-  
14, 25 Mbps/ CBR

- 1440 x 1080/ 59.94i, 50i, 23.98p (2-3  
pull down)

SD DVCAM Mode

- 720 x 480/ 59.94i, 29.97PsF

- 720 x 576/ 50i, 25PsF

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## Lens

Lens Mount

Sony 1/2-inch type bayonet mount

Zoom Ratio

16x (optical), servo/manual (AF  
lens for PXW-X320)

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Focal Length	f = 5.8 mm to 93 mm (equivalent to 31.4 mm to 503 mm on 35 mm lens)
Iris	F1.9 to F16 and Close, Auto/Manual selectable
Focus	AF/MF/Full MF selectable 800 mm to ∞ (MACRO OFF) 50 mm to ∞ (MACRO ON, Wide) 782 mm to ∞ (MACRO ON, Tele)
Filter Diameter	M82 mm, pitch 0.75 mm (on lens)
Input/Output	
Genlock Input	BNC (x1)
Timecode Input	BNC (x1)
Audio Input	XLR-type 3-pin (female) (x2), Line/Mic/Mic +48 V selectable
Mic Input	XLR-type 5-pin
SDI Output	BNC (x2), HD-SDI/SD-SDI selectable
Video Output	BNC (x1) HD-Y or Analog composite
Audio Output	XLR-type 5-pin

Timecode Output	BNC (x1)
Earphone Output	Stereo mini jack (x1)
Speaker Output	Monaural
DC Input	XLR-type 4-pin
DC Output	4-pin
Lens	12-pin
Remote	8-pin
Light	2-pin
i.LINK	IEEE 1394, 6-pin (x1), HDV (HDV 1080i)/DVCAM stream input/output *3, S400
USB	USB device B Type (x1), host A Type (x1)
HDMI	A type (x1)

## Camera Section

Imager	3-chip 1/2-type "Exmor" Full HD CMOS
Effective Resolution	1920 (H) x 1080 (V)
Optical System	F1.6 prism system



Built-in Optical Filters	1: Clear, 2: 1/4ND, 3: 1/16ND, 4: 1/64ND
Shutter Speed (Time)	1/60 sec to 1/2,000 sec + ECS (Extended Clear Scan)
Shutter Speed (Slow Shutter (SLS))	2, 3, 4, 5, 6, 7, 8, 16, 32, 64-frame accumulation
Slow & Quick Motion Function	720p: Frame rate selectable from 1 fps to 60 fps 1080p: Frame rate selectable from 1 fps to 30 fps
Sensitivity (2000 lx, 89.9% reflectance)	F11 (typical) (1920 x 1080/59.94i mode) F12 (typical) (1920 x 1080/50i mode)
Minimum Illumination	0.04 lx (typical) (1920 x 1080/59.94i mode, F1.6, +42 dB gain, with 64-frame accumulation)
White Balance	Preset (3200K), Memory A, Memory B/ATW
Gain Selection	-3, 0, 3, 6, 9, 12, 18, 24 dB
S/N Ratio	60 dB (Y) (typical)
Horizontal Resolution	1,000 TV lines or more (1920 x 1080i mode)

## Viewfinder

Viewfinder	3.5-inch *4 type color LCD monitor: 960 (H) x 540 (V), Quarter HD Size
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## Other Equipment

Built-in LCD Monitor	Black & White LCD (Audio level, TC, battery and media remaining capacity)
Built-in Speaker	1

## Supplied Accessories

Supplied Accessories	Viewfinder (1) Shoulder strap (1) Stereo microphone (1) Wind-screen (1) Cold shoe kit (1) Lens mount cap (1) Flange back adjustment chart (1) Auto focus lens (1) Before Using this Unit (1) CD-ROM Operating Instructions (English) Operating Instructions (Japanese)
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## General Notes

General Notes

The specifications are measured with supplied lens of PXW-X320.

## Notes

\*1

The values for dimensions are approximate.

\*2

Recording/ Playback time may vary the according to the encoding or memory.

\*3

HDV/ DV stream input/ output are available only in FAT mode. Depending on the connected products, it may not be recorded correctly.

\*4

Viewable area measured diagonally.

## Related products



### **PVM-741**

7.4-inch TRIMASTER EL OLED monitor with 2x 3G/HD/SD-SDI inputs and smart



### **LMD-941W**

Full-HD 9-inch LCD monitor with 2x 3G/HD/SD-SDI inputs and smart functions.



### **LMD-B170**

17-inch cost-effective, lightweight basic grade Full HD LCD monitor for versatile



### **PVM-A250 v2.0**

25-inch TRIMASTER EL™ OLED high grade

functions.

use

picture monitor



## **PVM-A170 v2.0**

17-inch TRIMASTER  
EL™ OLED high grade  
picture monitor

## **LMD-A170**

17-inch lightweight  
Full HD high grade  
LCD monitor for  
studio and field use

## **LMD-A240**

24-inch lightweight  
Full HD high grade  
LCD monitor for  
studio and field use

## **LMD-A220**

21.5-inch lightweight  
Full HD high grade  
LCD monitor for  
studio and field use

## Gallery

