

PMW-300K1

Three 1/2-inch Exmor™ CMOS sensors semi-shoulder XDCAM camcorder with interchangeable 14x zoom HD lens system recording XAVC HD 100 Mbps and MPEG HD422 at 50 Mbps



Overview

Semi-shoulder handheld camcorder integrates with multi-camera operations

The PMW-300K1 XDCAM camcorder is equipped with three 1/2-inch Exmor™ full-HD CMOS sensors, capable of delivering high-quality images even in low-light environments. Ample support for interchangeable lens and a robust metal body further ensure that PMW-300K1 is suitable for a wide range of applications. Additionally, the PMW-300K1 offers a convenient remote-control and multi-camera operation capability, which allows use with high-end camera systems. There are two SxS memory card slots, taking SxS Pro or SxS-1 cards, as well as having SDXC card compatibility (exFAT recordings only)*. The camcorder's user menu is also customisable and can be password locked to prevent unnecessary changes*.

* Requires Version 1.5 firmware.

- **XAVC 10-bit HD 422 and MPEG HD 422 50 Mbps recordings ideal for a wide range of shooting conditions**

An evolution of Sony's industry leading PMW-EX3, the PMW-300K is able to record XAVC 10-bit HD422 recordings, including XAVC Intra frame 10-bit HD 422 100 Mbps and XAVC Long GOP 10-bit HD 422 (low bit rate). It also records 50Mbps HD material in MPEG-2 HD422, meeting broadcast standards around the world, including the European Broadcasting Union's (EBU) requirements on HD broadcast acquisition for long form programme making. Standard Definition recording includes DVCAM format and MPEG IMX SD up to 50Mbps. MPEG IMX format offers exceptional visual quality for SD recording that is comparable to Digital Betacam broadcast standard. The high bit rate ensures excellent capture of fast moving objects, while its chroma subsampling feature is perfect for a wide range of video encoding areas such as VFX and green screen applications. The camcorder can also support Sony's revolutionary XAVC codec, extending the lifecycle of the product to ensure maximum return on investment.

Features

- **XAVC HD Intra 100 Mbps and Long GoP recordings plus Full HD MPEG-2 HD 422 50 Mbps**

The PMW-300K1 supports XAVC 10-bit HD422 recordings, including XAVC Intra frame 10-bit HD 422 100 Mbps and XAVC Long GOP 10-bit HD 422 (low bit rate). It also records Full HD (1920 x 1080) MPEG HD 422 at 50 Mbps in industry-standard MXF files, along with 24-bit 48 kHz, 4-channel audio. It is also capable of recording MPEG-2 HD 420 in Full HD (1920 x 1080) at 35 Mbps. Standard Definition recording includes DVCAM format and MPEG IMX SD up to 50Mbps. MPEG IMX format offers exceptional visual quality for SD recording that is comparable to Digital Betacam broadcast standard. Standard Definition options include MPEG IMX and DVCAM.

- **Wireless workflows**

The PMW-300K1/K2 allows full High Res and Proxy wireless operations in combination with the CBK-WA100 wireless adapter. Clip metadata management, XAVC proxy recording on SD-HC card, streaming to tablet/smartphone and Wi-Fi remote for camera and lens are provided. The CBK-WA101 allows secure file transfer of recorded content by FTP-push to cloud services or on-premises servers via Wi-Fi, 3G/4G /LTE. Content Browser Mobile free Android/iOS application gives you full control to wireless operations.

- **Three 1/2-inch type Exmor™ CMOS Full HD sensors and low-light 3DNR technology for a wide range of shooting conditions**

The three 1/2-inch Exmor™ Full-HD CMOS sensors offer high light sensitivity and low image noise. As a consequence, it delivers clear high-resolution images even when filming in low-light conditions. The camcorder also includes Sony's 3Dimensional Noise Reducer technology (3DNR), which reduce noise between frames and thus creates noticeably clearer images.

- **Interchangeable lens system with 14x Fujinon HD lens package option (PMW-300K1)**

The PMW-300K1 features the same EX-mount interchangeable lens system as the PMW-EX3, making it compatible with a wide range of 1/2-inch and 2/3-inch lenses (with optional ACM-21 adaptor). The camcorder also comes with two auto-focusing zoom lens packages, one for a 14x (PMW-300K1) and the other a 16x zoom lens (PMW-300K2). Both lenses include a focus ring for quick switching between auto and manual focus.

- **Precision focusing with 3.5-inch colour LCD viewfinder**

An enhanced HD-resolution 3.5-inch colour LCD viewfinder (960x540 pixels) enables precision focusing for HD camcorder work, while the 8-pin remote-control and multi-camera operation capability allows the PMW-300K1 to be used in 3D configurations and high-end camera systems.

- **Multi-camera operation with 8-pin remote control**

The camcorder has a Genlock In and Timecode In/Out interface, so that it can link together with other cameras for multi-camera operation capability and 3D configurations. The 8-pin 700-Protocol remote control interface allows for remote adjustment from the RM-B170* or RM-B150** remote control, sold separately.

* The RM-B750 and the RCP remote control cannot be connected due to the power supply capacity of the PMW-300.

** RM-B150 is discontinued.

- **HD/SD-SDI and HDMI interfaces for integration with broadcast infrastructures**

The PMW-300K1 has an SDI interface so that it can connect with broadcast infrastructures and professional equipment. It's also possible to down-convert from HD to SD. There is also an HDMI interface making it possible to link to consumer products, including a standard consumer TV. SDI and HDMI interfaces are

available in the same time.

- **Wide range of frame rates**

The camcorder has standard recording modes of 1920 x 1080/25P or 50i and can additionally record at 59.94i, 23.98P and 29.97P in MPEG-2 HD 422 mode. At 1280 x 720, the camcorder can record 25P as well as 23.98P, 29.97P, 50P and 59.94P. Further recording modes are also possible at MPEG-2 HD 420 and DVCAM.

- **Slow and quick motion from 1 fps to 60 fps**

Slow motion shooting is possible with up to 60 frames per second (fps) recording in 720P or 30 fps recording in 1080P, when used with the SxS Pro or SxS-1 memory card. Quick motion can be obtained by slowing the frame rate down to 1 fps.

- **Semi-shoulder robust design with metal body**

The PMW-300K1 features an innovative semi-shoulder design with an extendable chest pad mechanism and rotary hand grip, allowing comfortable recording over long periods of time. Its magnesium metal body ensures the camcorder is robust and, like its predecessor, the PMW-EX3, can withstand even the harshest production environments.

- **Wi-Fi remote control with optional Wi-Fi adaptor**

In addition to the 8-pin remote control interface, Apple iPads or Android mobile devices can be used as simple remote controllers. By attaching the optional CBK-WA01 or IFU-WLM3 Wi-Fi adaptor, the remote can control zoom, focus, iris and white balance as well as the recording functions such as recording trigger.

- **Cache recording**

Utilising a 15 second cache recording function, the PMW-300K1 can help prevent the loss of important scenes or events that occur up to 15 seconds before the camcorder's REC start button is pressed.

- **Two SxS Memory Card slots plus Memory Stick, SD card and XDQ card options**

The PMW-300 has two SxS memory card slots and, using two 64GB SxS memory cards, this allows for around four hours of continuous recording, with two hours of HD 422 50 Mbps recorded on each card. Content can also be copied between the two slots. The camcorder can use either SxS Pro or SxS-1 cards. In addition, SDXC cards can be used to record exFAT files only. The camcorder will also accept consumer recording media, including Memory Stick, SD card and XDQ card with an appropriate adaptor for emergency use.

* Requires Version 1.5 firmware.

- **Customisable menu with lock function***

Typically associated only with high-end camcorders, this feature allows you to pick and organize frequently used menu items – similar to the bookmark feature of a web browser. By using this feature, you can save a lot of time with no need to repeatedly search for specific menu items. In addition, the user menu can be locked with a 4-digit passcode to ensure there are no unnecessary changes.

* Requires Version 1.5 firmware.

- **Planning metadata automatically recorded**

By loading a pre-recorded Planning Metadata file (XML file) to the PMW-300K1, either from an SxS memory card or a USB memory, the metadata is automatically generated and recorded as described in the XML file while recording. Also the filename of a clip is automatically set as described in the XML file.

- **i.LINK Input/Output for DV/HDV recordings**

i.LINK (HDV) Out can be activated while SP 1440 (FAT) or DVCAM (FAT) is selected and the i.LINK (HDV) In

signal can be recorded while the video format is set appropriately.

- **4 channels 24-bit 48 kHz audio recordings**

The PMW-300K1 is equipped with two XLR connectors, which connect to Sony's range of professional microphone products. 24-bit 48kHz audio can be recorded in HD 422 50 Mbps, with up to four channels of audio recorded.

- **Multiple language system**

The PMW-300K1 has multiple language system. The language for the menu and warning messages can be selected among English, Chinese, Spanish, Brazilian Portuguese, Russian and Indonesian.

- **4 Neutral Density filters**

The PMW-300K1 is equipped with four built-in ND (Neutral Density) filters – Clear, 1/4, 1/16, 1/64 – that help to vary the depth of field with iris control.

- **Power on Quick Rec to help get up and running quicker**

If the camcorder power is turned on while pushing a REC button, the 'Quick Rec' mode is activated. By accelerating the power on process, the camcorder can start up and start recording more quickly than normal.

- **Direct access to the thumbnails**

With the PMW-300K1, there is no need to switch between Camera and Media mode to access to the recording video. The access to the thumbnails is direct and without any reboot internal process.

- **Continuous recordings for easier ingest**

This mode allows users to create a single, large clip with multiple starts and stops in recording. The benefit of this mode is a faster transport speed for single clips – there is no overhead for the file open/close process. Please note this function works only in UDF (MXF) mode.

Technical Specifications

General	
● Mass	Approx 2.2 kg (without lens, VF) Approx. 4 Lb 14 oz (without lens) Approx. 3.9 kg (with lens hood, viewfinder, BP-U30 battery, a SxS memory card) Approx. 8 lb 9.6 oz (with lens hood, eye piece, BP-U30 battery, a SxS memory card)
● Dimensions (W x H x D) *	259x239x405mm (101/4x91/2x16inches) (with lens & viewfinder, without protrusions)
●	* The values for dimensions are approximate.
● Power Requirements	DC 12 V
● Operating Temperature	0°C to 40°C 32°F to 104°F
● Storage Temperature	-20°C to +60°C -4°F to +140°F
● Recording Format (Video)**	XAVC XAVC-I mode: CBG, 112 Mbps max. MPEG-4 AVC/H.264 UDF HD422 mode: CBR, maximum bit rate: 50 Mbps, MPEG-2 422P@HL HD420 mode: VBR, 35 Mbps, MPEG-2 MP@HL SD mode: MPEG IMX 50Mbps SD mode : DVCAM 25Mbps FAT HQ 1920 mode: VBR, 35 Mbps, MPEG-2 MP@HL HQ 1440 mode: VBR, 35 Mbps, MPEG-2 MP@HL HQ 1280 mode: VBR, 35 Mbps, MPEG-2 MP@HL SP 1440 mode: CBR, 25 Mbps, MPEG-2 MP@H-14 DVCAM mode: DVCAM DVCAM mode: DVCAM 25Mbps (AVI)
●	** Design and specifications are preliminary and subject to change without notice
● Recording Format (Audio)	exFAT XAVC-I mode: LPCM 24-bit, 48 kHz, 4 channels UDF HD422 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 FAT HD mode: LPCM 16 bits, 48 kHz, 4 channels SD mode: LPCM 16 bits, 48 kHz, 2 channels
● Recording Frame Rate	exFAT XAVC-I mode: CBG, 112 Mbps max. MPEG-4 AVC/H.264 1920 x 1080/59.94i, 50i, 29.97p, 25p, 23.98p 1280 x 720/59.94p, 50p UDF HD422 Mode: MPEG-2 422P@HL, 50Mbps/ CBR - 1920x1080/ 59.94i, 50i, 29.97p, 25p, 23.98p - 1280x720/ 59.94p, 50p, 29.97p, 25p, 23.98p HD420 Mode: MPEG-2 MP@HL, 35Mbps/ VBR 1920x1080/ 59.94i, 50i, 29.97p, 25p, 23.98p 1440x1080/ 59.94i, 50i, 29.97p, 25p, 23.98p 1280x720/ 59.94p, 50p, 23.98p SD Mode: IMX50 720x486/ 59.94i, 29.97PsF 720x576/ 50i, 25PsF SD Mode: DVCAM 720x486/ 59.94i, 29.97PsF 720x576/ 50i, 25PsF
●	FAT HQ 1920 Mode: MPEG-2 MP@HL, 35Mbps/ VBR ● 1920x1080/ 59.94i, 50i, 29.97p, 25p, 23.98p HQ 1440 Mode: MPEG-2 MP@HL, 35Mbps/ VBR ● 1440x1080/ 59.94i, 50i, 29.97p, 25p, 23.98p HQ 1280 Mode: MPEG-2 MP@HL, 35Mbps/ VBR ● 1280x720/ 59.94p, 50p, 29.97p, 25p, 23.98p SP 1440 Mode: MPEG-2 MP@H-14, 25Mbps/ CBR

	<ul style="list-style-type: none"> ● 1440x1080/ 59.94i, 50i, 23.98p (2-3 pull down) ● DVCAM Mode ● 720x480/ 59.94i, 29.97PsF ● 720x576/ 50i, 25PsF
● Recording/Playback Time**	<p>exFAT XAVC-I mode When using SBP-128B (128 GB): Approx. 120 minutes When using SBP-64B / SBS-64G1A (64GB): Approx. 60 minutes When using SBS-32G1A (32GB): Approx. 30 minutes</p> <p>FAT HQ 1920 Mode: MPEG-2 MP@HL, 35Mbps/ VBR 1920x1080/ 59.94i, 50i, 29.97p, 25p, 23.98p HQ 1440 Mode: MPEG-2 MP@HL, 35Mbps/ VBR 1440x1080/ 59.94i, 50i, 29.97p, 25p, 23.98p HQ 1280 Mode: MPEG-2 MP@HL, 35Mbps/ VBR 1280x720/ 59.94p, 50p, 29.97p, 25p, 23.98p SP 1440 Mode: MPEG-2 MP@H-14, 25Mbps/ CBR 1440x1080/ 59.94i, 50i, 23.98p (2-3 pull down)</p> <p>DVCAM Mode 720x480/ 59.94i, 29.97PsF 720x576/ 50i, 25PsF</p>
● Recording/Playback Time**	<p>UDF HD 422 mode Approx. 240 min with SBP-128B (128 GB) memory card Approx. 120 min with SBP-64B/ SBS-64G1A (64 GB) memory card Approx. 60 min with SBS-32G1A (32 GB) memory card</p> <p>HD 420 mode: Approx. 360 min with SBP-128B (128 GB) memory card Approx. 180 min with SBP-64B/ SBS-64G1A (64 GB) memory card Approx. 90 min with SBS-32G1A (32 GB) memory card</p>
●	<p>FAT HQ 1920/HQ 1440 mode/HQ 1280 mode:</p> <ul style="list-style-type: none"> ● Approx. 400 min with SBP-128B (128 GB) memory card ● Approx. 200 min with SBP-64B/ SBS-64G1A (64 GB) memory card ● Approx. 100 min with SBS-32G1A (32 GB) memory card <p>SP 1440 Mode:</p> <ul style="list-style-type: none"> ● Approx. 560 min with SBP-128B (128 GB) memory card ● Approx. 280 min with SBP-64B/ SBS-64G1A (64 GB) memory card ● Approx. 140 min with SBS-32G1A (32 GB) memory card <p>DVCAM mode</p> <ul style="list-style-type: none"> ● Approx. 520 min with SBP-128B (128 GB) memory card ● Approx. 260 min with SBP-64B/ SBS-64G1A (64 GB) memory card ● Approx. 130 min with SBS-32G1A (32 GB) memory card
●	** Design and specifications are preliminary and subject to change without notice

Lens	
● Lens Mount	Sony 1/2-inch type EX mount
● Zoom Ratio	14x (optical), servo/manual
● Focal Length	f = 5.8 - 81.2 mm (equivalent to 31.4-439 mm on 35 mm lens)
● Iris	F1.9 - F16 and Close auto/manual selectable
● Focus	AF/MF/Full MF selectable, 800 mm to ∞ (MACRO OFF), 50 mm to ∞ (MACRO ON, Wide), 735 mm to ∞ (MACRO ON, Tele)
● Image Stabilizer	ON/OFF selectable, shift lens
● Filter Diameter	M77 mm, pitch 0.75mm

Camera Section	
● Imaging Device (Type)	3-chip 1/2-inch type "Exmor" Full HD CMOS
● Effective Picture Elements	1920 (H) x 1080 (V)
● Optical System	F1.6 prism system

● Built-in Optical Filters	OFF: Clear, 1: 1/4ND, 2: 1/16ND, 3: 1/64ND
● Sensitivity (2000 lx, 89.9% reflectance)	F11 (typical) (1920 x 1080/59.94i mode)
● 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)
● S/N Ratio	60 dB (Y) (typical)
● Horizontal Resolution	1,000 TV lines or more (1920 x 1080i mode)
● Shutter Speed	1/32 sec to 1/2,000 sec
● Slow Shutter (SLS)	2, 3, 4, 5, 6, 7, 8, 16, 32, and 64-frame accumulation
● Slow & Quick Motion Function	720p: Frame rate selectable from 1 fps to 60 fps (from 1 fps to 50 fps in PAL area setting in UDF mode) 1080p: Frame rate selectable from 1 fps to 30 fps (from 1 fps to 25 fps in PAL area setting in UDF mode)
● White Balance	Preset (3200K), Memory A, Memory B/ATW
● Gain	-3, 0, 3, 6, 9, 12, 18 dB, AGC
● Gamma Curve	Selectable

Input/Output

● Audio Input	XLR-type 3-pin (female) (x2), line/mic/mic +48 V selectable Line: +4dBu Mic: -70dBu--30dBu
● Video Output	BNC (x1), HD-Y/Composite 1.0Vp-p, 75Ω (switchable to Genlock in)
● Audio Output	Phono jack (CH-1,CH-2)
● SDI Output	BNC (x2), HD/SD selectable SMPTE 292M/259M standards
● i.LINK	IEEE 1394, 4-pin (x1), HDV (HDV 1080i) input/output, DV input/output, S400
● Timecode Input	BNC (x1) (switchable to TC out) SMPTE 12M-2-2008 standard 0.5V-1.8Vp-p, 10kΩ
● Timecode Output	BNC (x1) (switchable to TC in) SMPTE 12M-2-2008 standard 1.0Vp-p, 10kΩ
● Genlock Input	BNC (x1) (switchable to Video out) 1.0 Vp-p, 75Ω
● USB	USB device, mini-B (x1) USB Host, Type A (x1)
● Headphone Output	Stereo mini jack (x1) -18dBu 16Ω
● Speaker Output	Monaural, 150mW
● DC Input	DC jack
● Remote	8-pin
● Lens Remote	8-pin, round
● HDMI Output	Type A (x1)

Monitoring

● Viewfinder	3.5-inch type color LCD: 960 (H) x 3 (RGB) x 540 (V), 16:9
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Built-in Microphone

● Built-in Microphone	Omni-directional stereo electret condenser microphone.
Media	
● Type	ExpressCard/34 slot (x2)
Supplied Accessories	
● Supplied Accessories**	Lens hood (1), Pre-installed to the Camcorder Infrared Remote Commander (1) USB cable (1) BP-U30 battery pack (1) BC-U1 battery charger (1) Shoulder strap (1) Lithium battery (CR2032 for data backup) (1), Pre-installed to the Camcorder Lithium battery (CR2025 for the IR Remote Commander) (1), Pre-installed to the IR Remote Commander "Before Using this Unit" (1) CD-ROM: Operating instructions in PDF (1)
●	** Design and specifications are preliminary and subject to change without notice

Analogue Portable Microphone Packages



UWP-V2
UWP wireless microphone package



UWP-V6
Belt-pack UWP wireless microphone package with XLR plug-on transmitter

Batteries and Power Supplies



ACC-U60
Battery accessory kit for XDCAM handy type camcorders



BC-U1
Battery charger/AC adaptor for BP-U90/U60/U30 Lithium-ion battery



BC-U2
Two-channel simultaneous battery charger/AC adaptor for BP-U90/U60/U30 Lithium-ion battery



BP-U30
Lithium-ion Battery



DMX-P01
Portable digital audio mixer

Option Boards, Modules and Plug-ins



CBK-WA01
Wi-Fi Adaptor for use with the XMPilot Planning Metadata Solution



MEAD-MS01
Adaptor for using Memory Stick™ with XDCAM EX products



MEAD-SD01
Adaptor for using SD Card™ with XDCAM EX products



MEAD-SD02
Adaptor for using SD Card™ with XDCAM EX products

Shotgun



ECM-673
Short Shotgun Electret Condenser Microphone.



BP-U60
Lithium-ion Battery



BP-U90
Lithium-ion battery (85 Wh)

Cases



LCS-BP1BP
Soft Backpack Style Carrying Case



LCS-G1BP

Control Panels



RM-B150
Remote Control Unit



RM-B170
Affordable handheld remote control unit for Sony studio cameras and camcorders

Creative Software



ECM-674
Affordable shotgun Electret condenser microphone



ECM-678
Shotgun Electret condenser microphone



ECM-680S
MS stereo shotgun Electret condenser microphone



ECM-VG1
Shotgun Electret condenser microphone

UWP-D Series Microphone Packages



UWP-D11
Belt-pack UWP-D wireless microphone package

Wireless TX/RX Accessories



CBK-NA1
3G/4G/LTE and Wi-Fi network adapter kit for XDCAM camcorders



Catalyst Browse

A powerful clip management tool for the latest portfolio of Sony cameras and decks.



Catalyst Prepare

The fast, simple, reliable path from camera to post.

Headphones



MDR-7510

Studio professional headphones



MDR-7520

High quality studio professional headphones

Lenses and Lens Adaptors



VCL-EX0877

Wide conversion lens for PMW-EX1/1R and PMW-200

Lights



HVL-LBPC

LED battery video light



CBK-WA100

Wireless adapter for PMW-400 and PXW-X320 (Mobile network 3G / 4G / LTE / Wireless LAN)



IFU-WLM3

USB wireless LAN module



PWS-100RX1

Network RX Station for XDCAM camcorders live streaming over 4G/LTE and Wi-Fi

XDCAM (Disc/Memory)



SBAC-US20

SxS PRO solid state memory USB 3.0 & 2.0 reader/writer



SBAC-US30

SxS PRO+ and SxS-1 solid state memory USB 3.0 reader/writer



SBAC-UT100

Dual slots SxS PRO+ and SxS-1 solid state memory Thunderbolt 2 and USB 3.0 reader/writer

