

UMC-S3CA

Ultra High Sensitivity 4K Video
Camera with Full 35mm frame
Exmor™ CMOS Sensor



Overview

Compact 4K video camera with ultra-high sensitivity and internal recording, ideal for remote shooting applications.

The UMC-S3CA video camera can capture smooth 4K/29.97P/25P colour video. Its compact size and on-board recording capability make the camera ideal for remote PoV (Point of View), documentaries, wildlife and live action shooting, plus challenging environments where cabling or space are limited.

Class-leading sensitivity with a minimum illumination of 0.004 lx / ISO 409600* makes the camera ideal for environments where the human eye struggles to see. Extraordinary low-light imaging performance is delivered by the highly sensitive 35mm full-frame Exmor CMOS sensor that's teamed with advanced signal processing and interchangeable E-mount FE lenses.

The UMC-S3CA records crisp, clear 4K colour video using the XAVC S format at up to 100 Mbps, as well as very low-noise 12 megapixel colour still images. The high-speed electronic shutter can capture blur-free colour video of characters, numbers and human faces. The camera is also equipped with a mechanical shutter for extremely sharp still images, even when there's movement in a scene. A choice of interchangeable E-mount FE lenses (available separately) allows adjustment of camera's

viewing angle to suit a wide range of applications.

A new genlock function makes the UMC-S3CA ideal for multi-camera installations, such as 2D/3D Virtual Reality, multiple angle live broadcast coverage of various events, or as a supplementary studio camera.

Long-duration video and still images can be recorded to the camera's on-board SD memory card, or output to an external recorder or monitor via HDMI**. With an optional 256 GB memory card, for example, users can record up to 8 hours 35 minutes of 4K footage with standard quality (29.97P/60 Mbps)

Weighing approximately 395g (14oz), the UMC-S3CA is ideal for installation in mobile platforms like vehicles and robots. The camera can be controlled via multi terminal***, remote controller or a PC and compatible software.

* Standard ISO 100–102400, expandable to 50–409600

** HDMI Products

*** Supports Micro USB compatible devices

Features

Crisp, clear 4K video and still images, even under limited lighting environment.

With an ultra-high sensitivity of ISO 409600*, the UMC-S3CA captures crisp, clear 4K/29.97P/25P colour video and low-noise 12 megapixel still images in minimum illumination conditions of 0.004 lx.

The 35 mm full-frame Exmor sensor captures significantly more incident light than conventional cameras, while powerful image processing ensures very low image noise. Area-specific noise reduction selectively divides the image into areas based on patterns (such as edges, textures and evenly coloured areas like

blue skies) to efficiently reduce noise and improve image quality. Detail reproduction technology helps depict details with a more natural sense of dimension.

*Standard ISO 100–102400, expandable to 50–409600.

Shooting flexibility with choice of E-mount FE lenses

The camera's versatility is enhanced by a wide range of interchangeable E-mount FE lenses (available separately)*. These maximise the performance of the 35 mm full-frame sensor, maintaining high resolution across the entire image area from centre to edges.

*Compatible E mount FE lenses include the SEL35F14Z (35 mm, F1.4), SEL35F28 (35 mm, F2.8), SEL28F20 (28 mm, F2.0), and SEL55F18Z (55 mm, F1.8).

Small and light enough to go anywhere

Ideal for use in space-limited situations, the compact camera measures approximately 104.0 mm x 84.0 mm x 48.0 mm (4 1/8 inches x 3 3/8 inches x 1 15/16 inches). With a light weight of approximately 395 g (14 oz), it's ideal for installation in mobile environments such as vehicles and robots.

Genlock function for multi-camera operation

A new genlock function simplifies operation of multiple cameras at the same time. The UMC-S3CA can be synchronised to other video sources, broadening its appeal for an exciting range of new multi-camera applications. These include 2D/3D Virtual Reality, multiple angle live broadcast coverage of various events, or as a supplementary studio camera.

Easy operation, even on the move

4K video or still images can be recorded internally to an SD card, or fed via HDMI to an external recorder or monitor, even when the

camera is on the move. The camera's multi terminal can connect to Micro USB-compatible devices, allowing remote control of functions such as zoom and shutter release, Rec Start/Stop, and Zoom using widely-available consumer accessories.

High quality internal recording to SD card

The camera can continuously record 4K/29.97P/25P colour video in the XAVC S format at up to 100 Mbps, and 12 megapixel colour still images in JPEG or RAW format at 14 bits to an SD memory card. For example, a 256 GB SD card can record up to 8 hours and 35 minutes of continuous 4K footage with standard quality (29.97P/60 Mbps).

Recorded video files can be reviewed on a wide range of ordinary PC media players compatible with the MP4 format such as Windows Media Player.

Specifications

General

Camera type	Interchangeable lens digital camera
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Lens mount	E-mount
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Lens compatibility	Sony E-mount lenses
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Image sensor

Type	35mm full frame Exmor CMOS sensor
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Number of pixels	
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(effective)	approx.12.2Megapixels
Number of pixels (total)	approx.12.4Megapixels
Image sensor aspect ratio	3:2
Color filter	R, G, B primary color
Anti-Dust function	Yes
Anti-Dust system	Charge protection coating on Optical Filter and ultrasonic vibration mechanism
Anti-Dust operation (auto)	Power off

Recording system (still image)

Recording format	JPEG (DCF Ver. 2.0, Exif Ver.2.3, MPF Baseline compliant), RAW (Sony ARW 2.3 format)
Image size (pixels) [3:2]	35mm full frame L: 4240 x 2832 (12M), M: 2768 x 1848 (5.1M), S: 2128 x 1416 (3.0M) APS-C L: 2768 x 1848 (5.1M), M: 2128 x 1416 (3.0M), S: 1376 x 920 (1.3M)"

Image size (pixels) [16:9]	35mm full frame L: 4240 x 2384 (10M), M: 2768 x 1560 (4.3M), S: 2128 x 1200 (2.6M) APS-C L: 2768 x 1560 (4.3M), M: 2128 x 1200 (2.6M), S: 1376 x 776 (1.1M)
Image quality modes	RAW RAW & JPEG JPEG Extra fine JPEG Fine JPEG Standard
14bit RAW	Yes
Picture Profile	Yes (Off / PP1-PP9) Parameters: Black level, Gamma (Movie, Still, Cine1-4, ITU709, ITU709 [800%], S-Log2, S-Log3), Black Gamma, Knee, Color Mode, Saturation, Color Phase, Color Depth, Detail, Copy, Reset
Dynamic Range functions	Off, Dynamic Range Optimizer (Auto/Level (1-5)), Auto High Dynamic Range (Auto Exposure Difference, Exposure Difference Level (1-6 EV, 1.0 EV step))
Color space	sRGB standard (with sYCC gamut)

Color space	sRGB standard (with sRGB gamma)
Delete	Yes

Recording system (movie)

Recording format	XAVC S
Video compression	XAVC S:MPEG-4 AVC/H.264
Image size (pixels) [XAVC S]	XAVC S 4K: 3810 x 2160 XAVC S HD: 1920 x 1080
Picture Profile	Yes (Off / PP1-PP9) Parameters: Black level, Gamma (Movie, Still, Cine1-4, ITU709, ITU709 [800%], S- Log2, S-Log3), Black Gamma, Knee, Color Mode, Saturation, Color Phase, Color Depth, Detail, Copy, Reset
Color space	xvYCC standard (x.v.Color when connected via HDMI cable) compatible with TRILUMINOS Color

Movie recording system (XAVC S 4K)

3840 x 2160 (29.97P, 100M)	Approx. 100 Mbps (NTSC mode)
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3840 x 2160 (25P, 100M)	Approx. 100 Mbps (PAL mode)
3840 x 2160 (23.98P, 100M)	Approx. 100 Mbps (NTSC mode)
3840 x 2160 (29.97P, 60M)	Approx. 60 Mbps (NTSC mode)
3840 x 2160 (25P, 60M)	Approx. 60 Mbps (PAL mode)
3840 x 2160 (23.98P, 60M)	Approx. 60 Mbps (NTSC mode)

Movie recording system (XAVC S HD)

1920 x 1080(119.88P, 100M)	Approx.100Mbps (NTSC mode)
1920 x 1080(100P, 100M)	Approx.100Mbps (PAL mode)
1920 x 1080(119.88P, 60M)	Approx.60Mbps (NTSC mode)
1920 x 1080(100P, 60M)	Approx.60Mbps (PAL mode)
1920 x 1080(59.94P, 100M)	Approx.50Mbps (NTSC mode)

50M)	(NTSC mode)
1920 x 1080(50P, 50M)	Approx.50Mbps (PAL mode)
1920 x 1080(29.97P, 50M)	Approx.50Mbps (NTSC mode)
1920 x 1080(25P, 50M)	Approx.50Mbps (PAL mode)
1920 x 1080(23.98P, 50M)	Approx.50Mbps (NTSC mode)

High Frame Rate Recording

1920 x 1080(29.97P, 16M)	Approx.16Mbps (NTSC mode)
1920 x 1080(25P, 16M)	Approx.16Mbps (PAL mode)
1920 x 1080(23.98P, 12M)	Approx.12Mbps (NTSC mode)

Movie function

PAL/NTSC Selector	Yes
	Yes (TC Preset/UB Preset/TC
TC/UB	

	Format/TC Run/TC Make/UB Time Rec)
Auto Slow Shutter	Yes
REC Control	Yes
HDMI Output	3840 x 2160(25P) 1920 x 1080(50P) 1920 x 1080(50i) 1920 x 1080(23.98P) 1920 x 1080(59.94P) 1920 x 1080(59.94i) 3840 x 2160(29.97P) 3840 x 2160(23.98P), YCbCr 4:2:2 8bit / RGB 8bit

Recording system

Media	SD memory card SDHC memory card (UHS-I compliant) SDXC memory card (UHS-I compliant) microSD memory card microSDHC memory card microSDXC memory card
Memory card slot	SD memory card
File system	FAT12, 16, 32, exFAT

Noise reduction	Long exposure NR: On/Off , available at shutter speeds longer than 1 sec. High ISO NR: Normal/Low/Off
Multi Frame NR	Auto/ISO 100 to 409600

White balance

Modes	Auto / Daylight / Shade / Cloudy / Incandescent / Fluorescent / Flash /Underwater/ Color Temperature & color filter
AWB micro adjustment	Yes

Focus system

Type	Contrast-detection AF
Focus sensor	"Exmor" CMOS sensor
Focus point	169 points (contrast-detection AF)
Sensitivity range	EV-4 to EV20 (ISO100 equivalent with F2.0 lens attached)
AF mode	AF-S (Single-shot AF), AF-C (Continuous AF), Manual Focus

Focus area	Wide (169 points(contrast-detection AF))
Other features	Focus lock
Exposure control	
Metering type	1200-zone evaluative metering
Metering sensor	"Exmor" CMOS sensor
Metering sensitivity	EV-3 to EV20 (at ISO100 equivalent with F2.0 lens attached)
Modes	Multi-segment
Exposure modes	AUTO(iAuto/Superior Auto) Programmed AE (P) Aperture priority (A) Shutter-speed priority (S) Manual (M) Movie / High Frame Rate (Programmed AE (P) / Aperture priority (A) / Shutter-speed priority (S) / Manual (M))
Exposure compensation	+/- 5.0EV(1/3 EV, 1/2 EV steps selectable)
AE Lock	Locked when shutter button is pressed halfway. Available with AE

lock button. (On/Off/Auto)

ISO sensitivity
(Recommended
Exposure Index)

Still images: ISO 100-102400 (ISO numbers up from ISO 50 to ISO 409600 can be set as expanded ISO range.),
AUTO (ISO 100-12800, selectable lower limit and upper limit) Movies: ISO 100-102400 equivalent (ISO numbers up to ISO 409600 can be set as expanded ISO range.),
AUTO (ISO 100-12800, selectable lower limit and upper limit)

Other features

ISO AUTO Min. SS Yes

Clock Function,
Setting Yes

Area Setting Yes

Clear Image Zoom

Still images Approx. 2x

Movies Approx. 2x

Digital zoom

Digital zoom (Still images)	35mm full frame: L:approx 4x, M:approx 6.1x, S:approx 8x APS-C: L:approx 4x, M:approx 5.2x, S:approx 8x
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Digital zoom (Movie)	35mm full frame: approx. 4x APS-C: approx. 4x
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Shutter

Type	Electronically-controlled, vertical-traverse, focal-plane type
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Shutter speed	Still images:1/8000 to 30 sec, Bulb, Movies: 1/8000 to 1/4(1/3 steps) up to 1/60 in AUTO mode (up to 1/30 in Auto slow shutter mode)
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Electronic Front Curtain Shutter	Yes(ON/OFF)
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Silent Shooting	Yes(ON/OFF)
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Drive

Drive modes	Single Shooting Continuous shooting
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Speed (approx., max.)*1	Continuous mode: max. 2.5 fps
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No. of frame recordable* (approx.)*1, *2	Continuous mode: JPEG Extra fine L: 109 frames "Continuous mode: JPEG Fine L: 200 frames Continuous mode: JPEG Standard L: 200 frames Continuous mode: RAW: 67 frames Continuous mode: RAW&JPG: 42 frames
Playback	Delete
Interface	
Multi / Micro USB	USB2.0
HDMI	Type-D UHD/HD Output
DC IN Terminal	IEC60130-10 (JEITA standard RC-5320A) TYPE4 VDC 12V—25%+10% (9V~13.2V)
I/O Terminal	8PIN mini DIN External Sync. Input: 75Ω Internal termination, HD 3-level sync, SD Black Burst

Power

Battery for clock	MS621T, Button Type, Manganese-Silicon, Approx.0.23g(without Tabs), 1pcs
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Power consumption

With Viewfinder	19W(including lens)
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Weight

Body only	Approx. 395 gr (without lens)
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Oz Body only	Approx. 14 oz (without lens)
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Dimensions

mm (WxHxD) excluding protrusions	Approx. 104mm x 84mm x 48mm
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inch (WxHxD) excluding protrusions	Approx. 4 1/8 x 3 3/8 x 1 15/16 inches
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Body material

Body material	Magnesium alloy, High rigidity
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engineering plastic exterior

Operating Temperature

Operating temperature	0 - 45 degrees C 32 - 113 degrees F
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Supplied Accessory

Body cap (1)
Tripod adapter (1)
Tripod adapter fixing screw (4)
Safety Regulations (1)
Operating Instructions - Download site Information (1)
Warranty booklet (1-year) (1)
Ferrite core (1)

Safety Regulations

UL60950-1, cUL No.60950-1,
IEC60950-1
VCCI (Class A), FCC Part15B (Class A), IC ICES-003 (Class A)
Emission: EN55032 (Class A),
EN61326-1 (Class A)
Immunity: EN55024, EN61326-1
Emission: AS/NZS

CISPR32(EN55032) (Class A)
MSIP EMC KN32 (Class A), KN35
EAC(EMC-TR) CISPR32 (Class A),
CISPR24

Notes

*1	Varies according to shooting conditions or memory card used
*2	Continuous drive (Hi) in Drive mode
*3	Supports Micro USB compatible device.

Related products



SEL35F14Z

ZEISS Distagon T* FE
35mm F1.4 ZA wide-angle prime lens

Gallery



