UMC-S3C

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

Overview

With an ultra-high sensitivity of ISO 409600* and internal recording, this compact 4K video camera is ideal for a wide range of remote shooting applications in almost total darkness.

The UMC-S3C can capture smooth 4K/29.97P/25P colour video in almost pitch-black conditions, from night-time starlight to poorly lit rooms. It's extremely 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.

With the highest sensitivity in its class with minimum illumination of 0.004 lx, ISO 409600, the camera is ideal for environments where the human eye struggles to see. Extraordinary low-light imaging performance is delivered by the highly sensitive 35 mm full-frame Exmor CMOS sensor, advanced signal processing and interchangeable E-mount FE lenses. This UMC-S3C records crisp, clear 4K/29.97P/25P 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-less colour video of written 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) offers the flexibility to adjust the camera's viewing angle to suit a wide range of applications.

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. For example: with a 64 GB memory card, users can record up to 125 minutes of 4K footage with standard quality (29.97P/60 Mbps).

Weighing approximately 390g (13.8 oz), the UMC-S3C 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
** Supports Micro USB compatible devices

Features

Crisp, clear 4K video and still images, even in near darkness

With an ultra-high sensitivity of ISO 409600*, the UMC-S3C 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 the image processing extremely enhances the high sensitivity with very low 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 to accurately depict details with a more natural sense of dimension.

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

Greater shooting flexibility with choice of E-mount FE lenses

The camera's versatility in a wide range of shooting applications is enhanced by compatibility with 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 390 g (13.8 oz), it's ideal for installation in mobile environments such as vehicles and robots.

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

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 64 GB SD card can record up to 125 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
Lens mount	E-mount
Lens compatibility	Sony E-mount lenses

Image sensor	
Type	35mm full frame Exmor CMOS sensor
Number of pixels (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)
	RAW

Image quality modes	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)
Delete	Yes

Recording system (movie)

Recording format	XAVC S
Video compression	XAVC S:MPEG-4 AVC/H.264

![SONY]

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)
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)

Approx. 60 Mbps

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, 50M)	Approx.50Mbps (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,	Approx.50Mbps

50M)	(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
TC/UB	Yes (TC Preset/UB Preset/TC 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

Auto / Daylight / Shade / Cloudy /

Modes	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
Digital zoom (Movie)	35mm full frame: approx. 4x APS-C: approx. 4x

Shutter

Type	Electronically-controlled, vertical-traverse, focal-plane type
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)
Electronic Front Curtain Shutter	Yes(ON/OFF)
Silent Shooting	Yes(ON/OFF)

Drive

Drive modes	Single Shooting Continuous shooting
Speed (approx., max.)*1	Continuous mode: max. 2.5 fps
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

PC interface	PC remote
Multi / Micro USB Terminal*3	Yes
HD output	HDMI (Type-D)
DC IN Terminal	VDC 12V—25%＋10%　(9V～13.2V)
PC Remote	Yes

Power

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

Power consumption

With Viewfinder	19W(including lens)

Weight

Body only	Approx. 390 gr (without lens)

Oz Body only	Approx. 13.8 oz (without lens)

Dimensions

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

Body material

Body material	Magnesium alloy, High rigidity engineering plastic exterior

Operating Temperature

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

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)

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.

SONY

Related products

SNC-VB770

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

SEL90M28G

90mm F2.8 medium telephoto macro G Lens

SEL35F14Z

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

SEL057FEC

Fisheye Lens Converter for SEL28F20

SEL1635Z

ZEISS Vario-Tessar T* FE 16-35mm F4 ZA wide-angle zoom lens with OSS

SEL24240

24-240mm F3.5-6.3 telephoto zoom lens with OSS

SEL075UWC

Ultra Wide Lens Converter for SEL28F20

AC-UES1230

Universal AC Adaptor

AC-UES1230MT

Universal AC Adaptor

Gallery