## Panasonic BUSINESS

# AW-UE70W [White Model] AW-UE70 K [Black Model] 4K Integrated Camera

For indoor use



# Capture and deliver the moment with 4K over IP





## 4K image quality gives greater depth to the video, and IP video output flexibly delivers content



The compact AW-UE70W/K integrated pan-tilt remote camera can output 4K video via HDMI, USB and IP transmission. By introducing technological capabilities developed in our 4K cameras for movie production and TV station use, we created the AW-UE70W/K as a 4K integrated camera that can be effectively used in a variety of environments. It achieves 4K shooting in situations where higher image quality is necessary, such as lecture recordings and conference, wedding and funeral hall content production.



## A four-drive lens system for high-image-quality zooming in 4K shooting

With the four-drive lens system, three zoom lenses and one focus lens are driven independently and simultaneously. Since the four groups of lenses can be driven separately, we were able to efficiently minimize the size and drive range of each lens and thereby achieve a smaller body and a zoom mechanism with high magnification and high image quality. Despite its compact size, the AW-UE70W/K has a high-resolution 20x optical zoom and a high-performance iA 22x zoom (4K mode).



\* Images are simulated.

## Four types of output connectors. 4K output via HDMI, USB and LAN.

On the back of the unit, there are four types of output connectors which are HDMI, SDI, USB and LAN. 4K video output can be done not only via HDMI, but also via USB and LAN. This makes it possible to build a flexible system matching the specific objectives and environment.

#### Output format list:

HDMI	2160/29.97p,2160/25p,1080/59.94p,1080/50p,1080/59.94i,1080/50i,1080/29.97PsF,1080/25PsF,1080/29.97p, 1080/25p,720/59.94p,720/50p
SDI	1080/59.94p,1080/50p,1080/59.94i,1080/50i,1080/29.97PsF,1080/25PsF,1080/29.97p,1080/25p,720/59.94p, 720/50p
USB	2160/5p,1080/30p,1080/25p,1080/15p,1080/12.5p,1080/5p,720/30p,720/25p,720/15p,720/12.5p,720/5p, 360/30p,360/25p,360/15p,360/12.5p,360/5p
LAN	For details, please see "List of Supported Multi-Streaming Outputs" on P4.

## 1/2.3-type MOS Sensor

Equipped with a 1/2.3-type MOS sensor and DSP (Digital Signal Processor) for high sensitivity and high resolution.

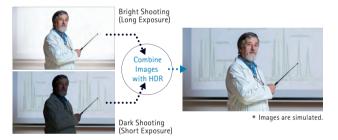
## High Performance Optical 20x Zoom Lens/ Super Resolution 30x Zoom

In addition to a 20x optical zoom, the AW-UE70W/K series can zoom up to 30x (22x when in 4K mode) while maintaining high resolution thanks to Super Resolution technology. It also features a 12x digital zoom\*1 and a 1.4x, 2.0x, 4.0x, 6.0x, and 8.0x digital extender zoom which can be used for 4K focus assist. These capabilities enable the AW-UE70W/K series to shoot in large conference halls and classrooms.



## Equipped with High Dynamic Range (HDR) Mode\*2

In addition to conventional Dynamic Range Stretch (DRS) and Digital Noise Reduction (DNR), the AW-UE70W/K is equipped with High Dynamic Range (HDR) mode. When shooting and synthesizing two images with differing exposure times, the AW-UE70W/K can create video with high visibility that corrects for halation and black defects even under backlit conditions.



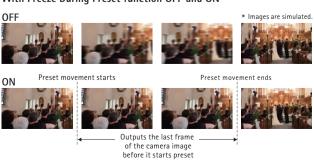
## Optical (FHD, 4K)/4-axis Hybrid Image Stabilizer (FHD) for Stable Shooting

Image shake is reduced with both optical and digital 4-axis automatic stabilization that detects mounting surface vibration caused by audio equipment and opening/closing doors.

## Outputs Still Image During Preset Movements; Supports One-Camera Operations

The Freeze During Preset function enableds to freeze the video during preset playback. The immediately preceding still image is output during preset movements so that the swiveling movement is not displayed, making operations possible with one camera.

#### With Freeze During Preset function OFF and ON



## Night Mode (supports automatic switching)

Switching to Night Mode makes shooting possible even in low light conditions in which shooting is normally difficult, such as when observing wildlife\*3. The AW-UE70W/K can also be set to switch to the mode automatically depending on surrounding light levels.



\* Images are simulated

## Optical ND Filter

There is an optical ND filter for adjusting to optimum brightness under a variety of light intensities.

### **Audio Input Function**

The AW-UE70W/K also supports audio input, embedding and encoding. Audio output to IP is also supported. The ALC (Audio Automatic Level Control) in the AW-UE70W/K can be switched ON/OFF and an equalizer function can be used. By reducing low-frequency sound from air conditioners, projectors, and other devices, it is possible to emphasize and increase the clarity of the spoken words.

## Both SDI and HDMI are Supported, and There is Also an External Synchronization Signal\* Input Connector



For SDI/HDMI output, 2160/29.97p (HDMI only), 2160/25p (HDMI only), 1080/59.94p, 29.97p, 59.94i, 29.97PsF, 1080/50p, 25p, 50i, 25PsF, 720/59.94p, and 50p image formats are supported. In addition, there is an external synchronization signal input connector, and BBS (Black Burst Sync) and tri-level synchronization are supported.

### Video/Audio Output with USB



USB Video Class 1.0 and USB Audio Class 1.0 are supported. This enables video and audio output via USB so the cameras can be used as high-image-quality Web cameras for Web conferencing, distance learning, and other applications utilizing communication software.

## MicroSD Card Recording Function\*5



Camera video and audio can be recorded in MP4 format on microSD card

(sold separately) inserted into the unit. In addition, using an IP network, it is possible to externally control recording start/stop and download the recorded files.



#### micro SD (recording) formats supported:

2160/29.97p,2160/25p,1080/59.94p,1080/50p,1080/29.97p, 1080/25p,720/59.94p,720/50p,720/29.97p,720/25p

- \*1: Picture quality is lower with the digital zoom.
- \*2: Cannot be used when in 4K mode.
- \*3: Video output is monochrome.
- \*4: External synchronization synchronizes with SDI video signals. It does not synchronize with HDMI video signals or IP video signals.
- \*5: There may be instances where it is not possible to record in the same format as the output video.

## Full HD Video Output Via IP Transmission\*



In addition to HDMI, SDI and USB output, production quality 4K/full HD video output via IP transmission is supported. For 4K video output via IP transmission, there can be one channel of IP video output of up to 30 frames/second. At full HD image quality, IP video output up to 60 frames/second is possible. One camera delivers up to four channels\*1 of IP streaming video (H.264), and simultaneous transmission to as many as 14 devices is supported\*2, so that flexible system setup is possible to meet various application needs.



## List of Supported Multi-Streaming Outputs (When priority mode "IP" or "IP (4K)" is selected)

Cattle		H.264				JPEG			
Settings			CH1	CH2*3	CH3*3	CH4*4	CH1	CH2	CH3
Resolution	IP selected		1920×1080 1280×720*3 640×360*5		1280×720 640×360 320×180		1920×1080*4 1280×720*3 640×360 320×180 <sup>*3</sup>		
IP (4K) selected			3840×2160		-		640×360 320×180	-	
Frame rate	IP selected	59.94 Hz	60/30/15/5 fps		30/15/5 fps		30/15/5 fps		
		50 Hz	50/25/12.5/5 fps		25/12.5/5 fp	S	25/12.5/5 fps		
	IP (4K) selected	59.94 Hz	30/15/5 fps	-			15/5 fps	-	
		50 Hz	25/12.5/5 fps		-		12.5/5 fps	-	-
Bit rate			Up to 50 Mbps at 4K or up to 24 Mbps otherwise						
Voice transmission			Yes (AAC48 KHz)						
PoE+			Yes						
Depending on the output mode, certain restrictions apply									

<sup>\*</sup> Depending on the output mode, certain restrictions apply.

## Transmit IP Video Without a Separate Encoder Reduces Cost and Simplifies Installation\*

There is no need for the separate encoder normally required when streaming video and audio via IP. Systems can be built with exceptional cost/performance benefits.

## Supporting PoE+\*6 for Lower Installation Costs

By connecting network devices that support the IEEE802.3at PoE+standard, power can be supplied via LAN cable. Since it is not necessary to install a power supply or even a local AC outlet, installation costs can be significantly reduced.

## IP Control with Image Monitoring Using PC, Mac and Mobile Terminals

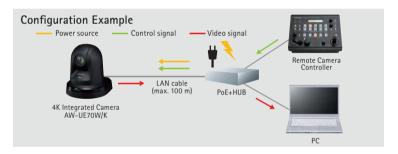
Using an IP browser, the camera can be controlled from a remote location, and IP video monitoring and remote camera control can be performed from a PC, Mac or mobile terminal such as an iPhone, iPad or Android device, enabling easy operations.

\*For the latest information on supported OS/browsers, please refer to the "service and support" section on the Panasonic website (http://pro-av.panasonic.net/en/).

## Flexible IP Control Architecture Simplifies System Design and Operation\*<sup>7</sup>

Up to  $100 \times AW$ -UE70W/K cameras can be controlled via IP from a single AW-RP120G/RP50 or PC. An AW-UE70W/K can also be simultaneously controlled by up to five AW-RP120G/RP50's via IP.

# Lecture Capture/Streaming System Example When used with cameras with only SDI/HDMI output: Storage/streaming server SDI/HDMI Cable LAN cable HUB LAN cable Terminals LAN cable Terminals



#### Camera Control Screen (PC)

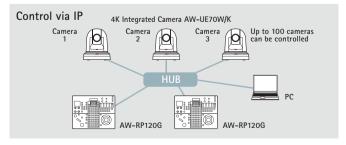


Live Screen

# Screen

Mobile Terminal

\*Images are simulated.

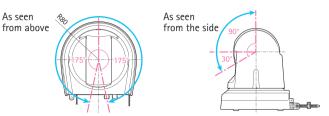


- \*1: 1920 x 1080 60 fps output is 1ch display only. For 2ch or more, display is max. 30 fps. Also, JPEG output is up to 3ch. \*2: Depends on your network environment.
- \*3: Settable when HDR is "Off". \*4: Settable when HDR is set to "Off" and the frame rate is other than 60fps (or 50fps). \*5: Not settable when HDR is "Off". \*6: Abbreviation of Power over Ethernet Plus.

7: Controller upgrade required. For details, please refer to the "service and support" section on the Panasonic website (http://jpro-av.panasonic.net).

## **Exceptional Pan-tilt Performance** for Smooth Shooting Over a Wide Area\*1

The pan range of  $\pm 175^{\circ}$  and the tilt range of  $-30^{\circ}$  to  $+90^{\circ}$  cover a wide shooting area\*1. Pan and tilt operate at a maximum speed of 90°/second and respond quickly to remote control operation. They operate quietly at a sound level of NC35 or lower.



\*1: Depending on the position of the pan and tilt, the unit itself may be reflected in the image

Approx. 30°

#### Other Functions

- Preset memory up to 100 positions.
- Functions such as freeze during preset, digital extender zoom and color temperature settings can be assigned to the user buttons on Panasonic
- Equipped with RS422 remote terminal; up to five units can be controlled via serial control from a controller.
- Equipped with RS232C remote terminal (standard serial communication support). Up to seven units can be controlled via daisy chain connection.
- Up to four units can be operated with a wireless remote controller (AW-RM50G sold separately).

application "PTZ Cntrl" can be downloaded for free from the App Store.

Easy installation thanks to use of turn-lock mechanism.

#### Easy Wireless Control Using an iPad\*2 with a Control Assist Camera\*3 Used in combination with an 4K/HD Integrated Camera\*3. • 95° wide-angle view from the Control Assist Camera is displayed on an iPad. • Tapping the desired area of the wide-angle view displayed on the iPad\*2 turns the field of view of the 4K/HD Integrated Camera\*3 to the tapped position. • 4K/HD Integrated Camera\*3 pan, tilt, and zoom can be easily controlled from an iPad. Up to nine preset positions can be registered. \*2: An iPad (sold separately) and a wireless AP (sold separately) are required. Please install the iPad application "PTZ Cntrl" (free). For details, please visit Panasonic AW-HEA10W/K website Control Assist Camera Control Assist Camera (http://pro-av.panasonic.net/en/sales\_o/camera/aw-hea10/). AW-HEA10W AW-HEA10K \*3: AW-UE70W/K, AW-HE130W/K, AW-HE40 series, and AW-HE60 series only. When used with the AW-HE60 series, in some cases an AW-HE60 series software upgrade will be necessar iPad Range of lens movement ■ Usage example App Store CAT5e Cable This is adjustable 30° vertically and 45° horizontally. 4K/HD Integrated Camera video PoE+HUB Using the iPad application "PTZ Cntrl" on an iPad, it is possible to control pan, tilt, Control Assist Camera zoom, focus, iris and gain. For details, please visit the Panasonic AW-HEA10W/K product site (http://pro-av.panasonic.net/en/sales\_o/camera/aw-hea10/). The iPad Approx. 45° Approx. 45°

**System Camera Options** As of September, 2015

\*Images are simulated.

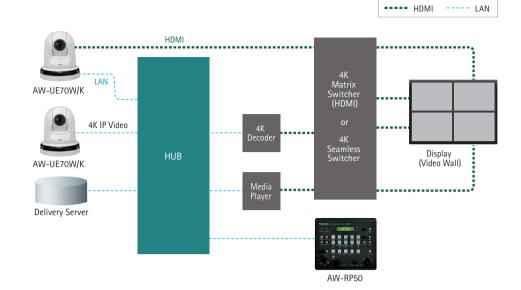


## Application 01: Signage

## Signage that expresses the mood of the location by 4K video

Place AW-UE70W/K cameras in a large commercial facility or event venue to record the live footage. You can then show 4K video on a large video wall. By splitting the screen display, you can show video from a variety of spots.



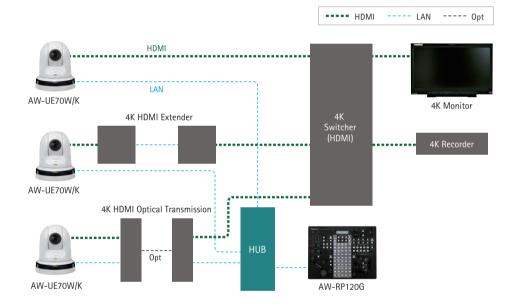


## Application 02: Video Production

## Production of 4K video using compact remote cameras

Efficiently add AW-UE70W/K cameras to a 4K switcher of an existing studio. This allows you to build a compact 4K program production system capable of handling professional uses while achieving good cost performance.



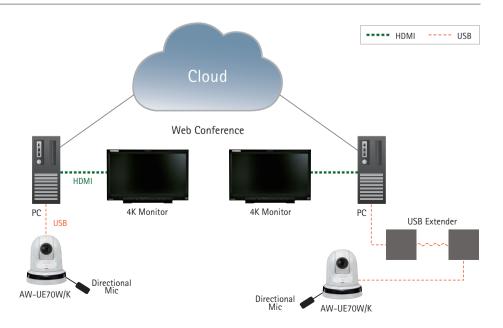


### Application 03: Web Conferencing

### Web conferences with high-definition views from the venue as a whole to individual speakers

Set up AW-UE70W/K cameras to achieve high-resolution zooming in 4K/HD at web conferences. Catch the big picture with high-definition video that shows all the details including the expressions of individual speakers by high-resolution zooming. That way, you can shoot conference video that gives a feel of almost like being there.





**Specifications** As of September, 2015

	Power requirements	DC 12 V (Supplied AC adaptor)				2160:29.97p/25p (HDMI only)		
GENERAL	rower requirements	DC 42 V to 57 V (PoE+ power supply)				1080:59.94p/50p		
		1.3 A (Supplied AC adaptor)				1080:59.94i/50i		
	Current consumption	0.5 A (PoE+ power supply)		Output format	HD	1080:29.97p/25p		
	A 12 A 22 A 2					1080:29.97PsF/25PsF		
		0 °C to 40 °C (32 °F to 104 °F)				720:59.94p/50p		
	Storage temperature	-20 °C to 50 °C (-4 °F to 122 °F)		Synchronization system	n Intorn	nal synchronization/External synchronization (BBS, Tri-level sync)		
_	Allowable humidity ranges			Image stabilization	Ontion	al (FHD, 4K)/4-axis hybrid image stabilizer (FHD) for stable		
	Mass	Approx. 1.5 kg (3.30 lb)		[USB connection]				
·		160 mm x 186 mm x 179 mm				y vary depending on the operating environment.		
	Dimensions (W x H x D)	(6-5/16 inches x 7-41/128 inches x 7-3/64 inches)		Video output		/ideo Class Ver1.0		
		[excluding protrusions, direct ceiling mount bracket]	_	Video compression forn		on JPEG		
		[AW-UE70W] Pearl white		Resolution		x 1080, 1280 x 720, 640 x 360		
	Finish				max 3	30 fps (59.94 Hz)		
-	0 . 11	[AW-UE70 K] Metallic black		Frame rate	max 2	max 25 fps (50 Hz)		
	Controller supported*1	AW-RP50, AW-RP120G, AK-HRP200G	i i	Audio output	USB A	Audio Class Ver1.0		
	Power	DC 12 V IN, PoE+ (IEEE802.3at standard)		Audio compression form	mat Linear	r PCM, 48 kHz, 16-bit, 2 channels		
		Stereo mini-jack (ø3.5 mm)		,	3840			
		Input impedance: Approx. 2 kΩ (unbalanced)			59.94	Hz: 5fps, 50 Hz: 5fps		
		[Mic input]		Transfer modes(JPEG)		x1080/1280x720/640x360		
		Supported microphones: Stereo mic				Hz: 30fps/15fps/5fps, 50 Hz: 25fps/12.5fps/5fps		
INPUT	Mic/line input	(plug-in power, on/off switching via menu)	-	Supported models		es standardly equipped with a USB 2.0 compatible port		
	wite/iiiie iiiput	Supplied voltage: 2.5 V ± 0.5 V		[Pan-tilt head unit		es standardly equipped with a OSB 2.0 compations port		
		Mic input level: -60 dBV ± 3 dBV (0 dB=1 V/Pa,1 kHz)		Installation method		-  (D -+)		
				installation method		Stand-alone (Desktop) or suspended (Hanging)*5		
		[Line input]		Pan/tilt operation speed		num speed during preset: 300°/s		
		Input level: -10 dBV ± 3 dBV			Maxir	num speed during manual: 90°/s		
G/L IN		Compatible with BBS (Black Burst Sync) signals and ternary synchronizing signals (BNC x 1)		Panning range	±175°			
		HDMI connector		Tilting range		o 90°*6		
OUTPUT	Video HDMI	* HDCP is not supported. * VIERA Link is not supported.				g preset: NC40 or less		
001101	output 26/HD SDLOUT	Compliant with the SMPTE424/SMPTE292M standards/75 Ω(BNC x 1)				g manual: NC35 or less		
	30/110 301 001			[Camera/pan-tilt h				
	LAN	LAN connector for IP control (RJ-45)				connecting through a hub:		
INPUT/		Equipped with straight/crossover cable auto detection function	FUNCTIONS			able*7 (category 5 or above),max. 100 m (328 ft)		
OUTPUT	Output 115 Zozo	Mini DIN 8-pin (IN) Mini DIN 8-pin (OUT)	AND	IP connecting cable	When	using a PoE+ hub:		
OUIFUI	connector RS-422	CONTROL IN RS422A (RJ-45)	PERFORMANCE	ii comiccing caoic	LAN c	able*7 (category 5e or above),max. 100 m (328 ft)		
	USB	Mini-B port			When	a hub is not used:		
	SD card	microSD card slot			LAN c	table*7 (category 5 or above),max. 100 m (328 ft)		
	[Camera unit]		i i	AW protocol connecting of		cable*7 (category 5 or above, straight cable), max. 1000 m (3280 ft)		
	Imaging sensors	1/2.3-type MOS	·	Standard protocol				
-						DIN 8-pin cable, male		
		Motorized 20x zoom, F1.8 to F3.6		connecting cable	IVIIII L			
	Lens	Motorized 20x zoom, F1.8 to F3.6 [f=4.08 mm (5/32 inches) to 81.6 mm (3-7/32 inches): 35 mm (1-3/8 inches)		Connecting cable				
	Lens	[f=4.08 mm (5/32 inches) to 81.6 mm (3-7/32 inches); 35 mm (1-3/8 inches)		[SD card recording	g]	S-4 AVC file standard compliant ( MP4)		
		[f=4.08 mm (5/32 inches) to 81.6 mm (3-7/32 inches); 35 mm (1-3/8 inches) equivalent: 29.5 mm (1-5/32 inches) to 612.0 mm (24-3/32 inches)]		[SD card recording SD card recording	g] MPEG	S-4 AVC file standard compliant (.MP4)		
	Focus	[f=4.08 mm (5/32 inches) to 81.6 mm (3-7/32 inches); 35 mm (1-3/8 inches) equivalent: 29.5 mm (1-5/32 inches) to 612.0 mm (24-3/32 inches)] Switching between auto and manual		SD card recording SD card recording Video compression form	MPEG	i-4 AVC/H.264 High Profile		
		[f=4.08 mm (5/32 inches) to 81.6 mm (3-7/32 inches); 35 mm (1-3/8 inches) equivalent: 29.5 mm (1-5/32 inches) to 612.0 mm (24-3/32 inches)] Switching between auto and manual Entire zooming range:1.5 m (4.92 ft)		[SD card recording SD card recording	MPEG mat MPEG mat AAC-I	6-4 AVC/H.264 High Profile LC (48 kHz, 16 bit, 2 ch, 128 kbps)		
	Focus Focus distance	[f=4.08 mm (5/32 inches) to 81.6 mm (3-7/32 inches); 35 mm (1-3/8 inches) equivalent: 29.5 mm (1-5/32 inches) to 612.0 mm (24-3/32 inches)] Switching between auto and manual		SD card recording SD card recording Video compression form	MPEG mat MPEG mat AAC-I 3840x	6-4 AVC/H.264 High Profile LC (48 kHz, 16 bit, 2 ch, 128 kbps) v2160/29.97p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps),		
	Focus Focus distance Color separation	[f=4.08 mm (5/32 inches) to 81.6 mm (3-7/32 inches); 35 mm (1-3/8 inches) equivalent: 29.5 mm (1-5/32 inches) to 612.0 mm (24-3/32 inches)] Switching between auto and manual Entire zooming range:1.5 m (4.92 ft)		[SD card recording SD card recording Video compression form Audio compression form	MPEG mat MPEG mat AAC-I 3840x 1920x	i-4 AVC/H.264 High Profile LC (48 kHz, 16 bit, 2 ch, 128 kbps) c2f60/29.97p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), r1080/29.97p (Average 15 Mbps/Average 10 Mbps/Average 6 Mbps),		
	Focus Focus distance	[f=4.08 mm (5/32 inches) to 81.6 mm (3-7/32 inches); 35 mm (1-3/8 inches) equivalent: 29.5 mm (1-5/32 inches) to 612.0 mm (24-3/32 inches)] Switching between auto and manual Entire zooming range:1.5 m (4.92 ft) Wide end: 10 cm (0.33 ft)  On-chip color filter system		SD card recording SD card recording Video compression form Audio compression form 59.94 k	MPEG mat MPEG mat AAC-I 3840x 1920x Hz 1280x	i-4 AVC/H.264 High Profile LC (48 kHz, 16 bit, 2 ch, 128 kbps) v2160/29.97p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), v1080/29.97p (Average 15 Mbps/Average 10 Mbps/Average 6 Mbps), v720/59.94p (Average 15 Mbps),		
	Focus Focus distance Color separation optical system	[f=4.08 mm (5/32 inches) to 81.6 mm (3-7/32 inches); 35 mm (1-3/8 inches) equivalent: 29.5 mm (1-5/32 inches) to 612.0 mm (24-3/32 inches)]  Switching between auto and manual  Entire zooming range:1.5 m (4.92 ft)  Wide end: 10 cm (0.33 ft)  On-chip color filter system  0.7 lx (50 IRE, F1.8, 48 dB,1/60 without accumulation)		SD card recording SD card recording Video compression form Audio compression form 59.94 H Recording format	MPEG mat MPEG mat AAC-I 3840x 1920x Hz 1280x 1280x	i-4 AVC/H.264 High Profile LC (48 kHz, 16 bit, 2 ch, 128 kbps) c2160(29.97) (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), r.1080/29.97p (Average 15 Mbps/Average 10 Mbps/Average 6 Mbps), r/20/59.94p (Average 8 Mbps/Average 4 Mbps/Average 2 Mbps)		
	Focus distance Color separation optical system Minimum 59.94 Hz	[f=4.08 mm (5/32 inches) to 81.6 mm (3-7/32 inches); 35 mm (1-3/8 inches) equivalent: 29.5 mm [1-5/32 inches) to 612.0 mm (24-3/32 inches)] Switching between auto and manual Entire zooming range:1.5 m (4.92 ft) Wide end: 10 cm (0.33 ft)  On-chip color filter system  0.7 lx (50 IRE, F1.8, 48 dB,1/60 without accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/30 with accumulation[Frame Mix 6 dB])		SD card recording SD card recording Video compression form Audio compression form 59.94 k	MPEG mat MPEG mat AAC-I 3840x 1920x 1280x 1280x 3840x 3840x	i-4 AVC/H.264 High Profile I.C (48 kHz, 16 bit, 2 ch, 128 kbps) 2160/29.370 (µp to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), x1080/29.97p (Average 15 Mbps/Average 10 Mbps/Average 6 Mbps), x720/59.94p (Average 15 Mbps), x720/59.97p (Average 8 Mbps/Average 4 Mbps/Average 2 Mbps) x2160/25p(Up to 72 Mbps), 1920x1080/50p(Up to 28 Mbps)		
	Focus distance Color separation optical system  Minimum illumination	[f=4.08 mm (5/32 inches) to 81.6 mm (3-7/32 inches); 35 mm (1-3/8 inches) equivalent: 29.5 mm (1-5/32 inches) to 612.0 mm (24-3/32 inches)]  Switching between auto and manual  Entire zooming range:1.5 m (4.92 ft)  Wide end: 10 cm (0.33 ft)  On-chip color filter system  0.7 lx (50 IRE, F1.8, 48 dB,1/60 without accumulation)		SD card recording SD card recording Video compression forn Audio compression forn  59.94   Recording format //Bit rate	MPEG mat MPEG mat AAC-I 3840x 1920x Hz 1280x 1280x 3840x 1920x	1-4 AVC/H. 264 High Profile LC (48 kHz, 16 bit, 2 ch, 128 kbps) (2160/29.97p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), (1080/29.97p (Average 15 Mbps/Average 10 Mbps/Average 6 Mbps), (x720/59.94p (Average 15 Mbps), (x720/59.94p (Average 15 Mbps), (x720/29.97p (Average 8 Mbps/Average 4 Mbps/Average 2 Mbps), (2160/25p(Up to 72 Mbps), (1080/25p(Up to 72 Mbps), (1080/25p(Average 15 Mbps/Average 10 Mbps/Average 6 Mbps),		
	Focus distance Color separation optical system Minimum 59.94 Hz	[f=4.08 mm (5/32 inches) to 81.6 mm (3-7/32 inches); 35 mm (1-3/8 inches) equivalent: 29.5 mm [1-5/32 inches) to 612.0 mm (24-3/32 inches)] Switching between auto and manual Entire zooming range:1.5 m (4.92 ft) Wide end: 10 cm (0.33 ft)  On-chip color filter system  0.7 lx (50 IRE, F1.8, 48 dB,1/60 without accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/30 with accumulation[Frame Mix 6 dB])		SD card recording SD card recording Video compression form Audio compression form 59.94 H Recording format	MPEG mat MPEG mat AAC-I 3840x 1280x 1280x 1280x 1280x 1280x	i-4 AVC/H.264 High Profile LC (48 kHz, 16 bit, 2 ch, 128 kbps) (2160/29.97 (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), (1080/29.97p (Average 15 Mbps/Average 10 Mbps/Average 6 Mbps), (720/59.94p (Average 8 Mbps/Average 4 Mbps/Average 2 Mbps), (720/59.97p (Average 8 Mbps/Average 4 Mbps/Average 2 Mbps), (2160/25p(Up to 72 Mbps), 1920x1080/50p(Up to 28 Mbps), (720/50/50p(Average 15 Mbps/Average 10 Mbps/Average 6 Mbps), (720/50p(Average 15 Mbps/Average 10 Mbps/Average 6 Mbps),		
	Focus Focus distance Color separation optical system  Minimum illumination  59.94 Hz 50 Hz	[f=4.08 mm (5/32 inches) to 81.6 mm (3-7/32 inches); 35 mm (1-3/8 inches) equivalent: 29.5 mm (1-5/32 inches) to 612.0 mm (24-3/32 inches)] Switching between auto and manual Entire zooming range:1.5 m (4.92 ft) Wide end: 10 cm (0.33 ft)  On-chip color filter system  0.7 lx (50 IRE, F1.8, 48 dB,1/60 without accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/30 with accumulation) Frame Mix 6 dB))  0.7 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation)		[SD card recording SD card recording Video compression form Audio compression form  59,94 I Recording format /Bit rate	MPEG mat MPEG mat AAC-I 3840x 1280x 1280x 1280x 1280x 1280x	1-4 AVC/H. 264 High Profile LC (48 kHz, 16 bit, 2 ch, 128 kbps) (2160/29.97p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), (1080/29.97p (Average 15 Mbps/Average 10 Mbps/Average 6 Mbps), (x720/59.94p (Average 15 Mbps), (x720/59.94p (Average 15 Mbps), (x720/29.97p (Average 8 Mbps/Average 4 Mbps/Average 2 Mbps), (2160/25p(Up to 72 Mbps), (1080/25p(Up to 72 Mbps), (1080/25p(Average 15 Mbps/Average 10 Mbps/Average 6 Mbps),		
	Focus distance Color separation optical system  Minimum illumination	[F=4.08 mm [5/32 inches] to 81.6 mm (3-7/32 inches); 35 mm (1-3/8 inches) equivalent: 29.5 mm (1-5/32 inches) to 612.0 mm (24-3/32 inches)] Switching between auto and manual Entire zooming range:1.5 m (4.92 ft) Wide end: 10 cm (0.33 ft) On-chip color filter system  0.7 lx [50 IRE, F1.8, 48 dB,1/60 without accumulation] 0.35 lx (50 IRE, F1.8, 48 dB,1/30 with accumulation[Frame Mix 6 dB]) 0.71 lx [50 IRE, F1.8, 48 dB,1/50 without accumulation[Frame Mix 6 dB]) 0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation[Frame Mix 6 dB])		SD card recording SD card recording Video compression forn Audio compression forn  59.94   Recording format //Bit rate	mat MPEG mat MPEG mat AAC-I 3840x 1920x Hz 1280x 1280x 1280x 1280x 1280x	i-4 AVC/H.264 High Profile LC (48 kHz, 16 bit, 2 ch, 128 kbps) (2160/29.97p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), (1080/29.97p (Average 15 Mbps/Average 10 Mbps/Average 6 Mbps), (720/59.94p (Average 15 Mbps), (720/29.97p (Average 8 Mbps/Average 4 Mbps/Average 2 Mbps) (2160/25p(Up to 72 Mbps), 1920x1080/50p(Up to 28 Mbps), (1080/25p(Average 15 Mbps/Average 10 Mbps/Average 6 Mbps), (720/50p(Average 15 Mbps), (720/50p(Average 15 Mbps), (720/50p(Average 8 Mbps/Average 4 Mbps/Average 2 Mbps))		
	Focus Focus distance Color separation optical system  Minimum illumination  59.94 Hz 50 Hz	[f=4.08 mm (5/32 inches) to 81.6 mm (3-7/32 inches); 35 mm (1-3/8 inches) equivalent: 29.5 mm [1-5/32 inches) to 612.0 mm (24-3/32 inches)] Switching between auto and manual Entire zooming range:1.5 m (4.92 ft) Wide end: 10 cm (0.33 ft)  On-chip color filter system  0.7 lx (50 IRE, F1.8, 48 dB,1/60 without accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/50 with accumulation) 0.71 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation)		[SD card recording SD card recording Video compression form Audio compression form  59.94 I Recording format /Bit rate 50 Hz	mat MPEG mat MPEG mat AAC-I 3840x 1920x 1280x 1280x 1280x 1280x 1280x 1280x 1280x	i-4 AVC/H.264 High Profile LC (48 kHz, 16 bit, 2 ch, 128 kbps) (2160/29.97 (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), (1080/29.97p (Average 15 Mbps), (1080/29.94p (Average 15 Mbps), (1720/59.94p (Average 8 Mbps), (1720/59.94p (Average 8 Mbps), (1720/29.97p (Average 8 Mbps), (1720/29.97p (Average 8 Mbps), (1720/29.97p (Average 8 Mbps), (1720/59.10p to 72 Mbps), (1720/50.10p to 72 Mbps), (1720/50.10p (Average 15 Mbps), (1720/50.10p (Average 15 Mbps), (1720/50.10p (Average 15 Mbps), (1720/25.10p (Average 8 Mbps), (17		
FUNCTIONS	Focus Focus distance Color separation optical system  Minimum illumination 59.94 Hz Forizontal resolution Gain selection*2	[f=4.08 mm (5/32 inches) to 81.6 mm (3-7/32 inches); 35 mm (1-3/8 inches) equivalent: 29.5 mm (1-5/32 inches) to 612.0 mm (24-3/32 inches)] Switching between auto and manual Entire zooming range:1.5 m (4.92 ft) Wide end: 10 cm (0.33 ft) On-chip color filter system O.7 lx (50 IRE, F1.8, 48 dB,1/60 without accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/30 with accumulation) 0.71 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 4K: 1300 TV lines Typ (Center area) HD: 1000 TV lines Typ (Center area) HD: 1000 TV lines Typ (Center area) Auto, 0 dB to 48 dB (3 dB step)		[SD card recording SD card recording Video compression form Audio compression form Audio rompression form 59,94 l Recording format /Bit rate 50 Hz  [Network]	mat MPEG mat MPEG mat AAC-I 3840x 1920x 1280x 1280x 1280x 1280x 1280x 1280x 1280x	i-4 AVC/H.264 High Profile LC (48 kHz, 16 bit, 2 ch, 128 kbps) (2160/29.97 (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), (1080/29.97p (Average 15 Mbps), (1080/29.94p (Average 15 Mbps), (1720/59.94p (Average 8 Mbps), (1720/59.94p (Average 8 Mbps), (1720/29.97p (Average 8 Mbps), (1720/29.97p (Average 8 Mbps), (1720/29.97p (Average 8 Mbps), (1720/59.10p to 72 Mbps), (1720/50.10p to 72 Mbps), (1720/50.10p (Average 15 Mbps), (1720/50.10p (Average 15 Mbps), (1720/50.10p (Average 15 Mbps), (1720/25.10p (Average 8 Mbps), (17		
AND -	Focus Focus distance Color separation optical system  Minimum illumination  59.94 Hz  Horizontal resolution Gain selection*2 Frame mix*3	[f=4.08 mm (5/32 inches) to 81.6 mm (3-7/32 inches); 35 mm (1-3/8 inches) equivalent: 29.5 mm [1-5/32 inches) to 612.0 mm (24-3/32 inches)] Switching between auto and manual Entire zooming range:1.5 m (4.92 ft) Wide end: 10 cm (0.33 ft)  On-chip color filter system  0.7 lx (50 IRE, F1.8, 48 dB,1/60 without accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/30 with accumulation)[Frame Mix 6 dB])  0.7 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 1.35 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.36 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.37 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.38 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.39 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.30 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.30 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.31 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.32 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.33 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.34 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.35 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.35 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.35 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.35 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.35 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.35 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.35 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.35 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.35 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.35 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.35 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.35 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.35 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.35 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.35 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.35 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.35 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.35 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 1.35		[SD card recording SD card recording Video compression form Audio compression form  59.94 I Recording format /Bit rate 50 Hz  [Network]  JPEG Transfer	mat MPEG mat MPEG mat AAC-I 3840x 1920x 1280x 1280x 1280x 1280x 1280x 1280x 1280x	i-4 AVC/H.264 High Profile LC (48 kHz, 16 bit, 2 ch, 128 kbps) (2160/29.97 (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), (1080/29.97p (Average 15 Mbps), (1080/29.94p (Average 15 Mbps), (1720/59.94p (Average 8 Mbps), (1720/59.94p (Average 8 Mbps), (1720/29.97p (Average 8 Mbps), (1720/29.97p (Average 8 Mbps), (1720/29.97p (Average 8 Mbps), (1720/59.10p to 72 Mbps), (1720/50.10p to 72 Mbps), (1720/50.10p (Average 15 Mbps), (1720/50.10p (Average 15 Mbps), (1720/50.10p (Average 15 Mbps), (1720/25.10p (Average 8 Mbps), (17		
	Focus Focus distance Color separation optical system  Minimum illumination 59.94 Hz Forizontal resolution Gain selection*2	[F=4.08 mm [5/32 inches) to 81.6 mm (3-7/32 inches); 35 mm (1-3/8 inches) equivalent: 29.5 mm (1-5/32 inches) to 612.0 mm (24-3/32 inches)] Switching between auto and manual Entire zooming range:1.5 m (4.92 ft) Wide end: 10 cm (0.33 ft)  On-chip color filter system  0.7 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/30 with accumulation/Frame Mix 6 dB)) 0.7 lx (50 IRE, F1.8, 48 dB,1/30 with accumulation/Frame Mix 6 dB)) 4.8: 1300 TV lines Typ (Center area) HD: 1000 TV lines Typ (Center area) Auto, 0 dB to 48 dB (3 dB step) Auto, 0 dB to 48 dB (3 dB step) Auto, 410 F1.04 MB (1/64 dB) Auto 41, F1.04 MB (1/64 dB)		[SD card recording SD card recording Video compression form Audio compression form Audio rompression form 59,94 l Recording format /Bit rate 50 Hz  [Network]	mat MPEG mat MPEG mat MPEG mat AAC-I 3840x 1920x 1280x 1280x 1280x 1280x 1280x 1280x 1280x 1590x	i-4 AVC/H.264 High Profile LC (48 kHz, 16 bit, 2 ch, 128 kbps) (2160/29.37 [Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), (1080/29.97p (Average 15 Mbps), Average 10 Mbps/Average 6 Mbps), (720/59.94p (Average 8 Mbps/Average 4 Mbps/Average 2 Mbps), (720/59.94p (Average 8 Mbps/Average 4 Mbps/Average 2 Mbps), (2160/25p(Up to 72 Mbps), 1920x1080/50p(Up to 28 Mbps), (1080/25p(Average 15 Mbps/Average 10 Mbps/Average 6 Mbps), (720/50p(Average 15 Mbps/Average 10 Mbps/Average 2 Mbps), (720/25p(Average 8 Mbps/Average 4 Mbps/Average 2 Mbps)) (1080, 1280x720, 640x360, 320x180, Hz (30fps/15fps/5fps) <sup>16</sup> , (125fps/12.5fps/5fps) <sup>18</sup> , (125fps/12.5fps/5fps) <sup>18</sup>		
AND	Focus Focus distance Color separation optical system  Minimum illumination  59.94 Hz  Horizontal resolution Gain selection*2 Frame mix*3	[f=4.08 mm (5/32 inches) to 81.6 mm (3-7/32 inches); 35 mm (1-3/8 inches) equivalent: 29.5 mm (1-5/32 inches) to 612.0 mm (24-3/32 inches)] Switching between auto and manual Entire zooming range: 1.5 m (4.92 ft) Wide end: 10 cm (0.33 ft) On-chip color filter system  0.7 lx (50 IRE, F1.8, 48 dB,1/60 without accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/30 with accumulation) 0.7 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/30 with accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/30 with accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 4k: 1300 TV lines Typ (Center area) HD: 1000 TV lines Typ (Center area) Auto, 0 dB to 48 dB (3 dB step) Auto, 0 dB to 48 dB (3 dB step) Auto, 0 dF, 6 dB, 12 dB, 18 dB, 24 dB Auto*, Through, 1/4, 4/16, 1/64		[SD card recording SD card recording Video compression form Audio compression form  59.94 I Recording format /Bit rate 50 Hz  [Network]  JPEG Transfer	mat MPEG mat MPEG mat MPEG mat AAC-I 3840x 1920x 1280x 1280x 1280x 1280x 1280x 1280x 1280x 1590x	i-4 AVC/H.264 High Profile LC (48 kHz, 16 bit, 2 ch, 128 kbps) (2160/29.37 [Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), (1080/29.97p (Average 15 Mbps), Average 10 Mbps/Average 6 Mbps), (720/59.94p (Average 8 Mbps/Average 4 Mbps/Average 2 Mbps), (720/59.94p (Average 8 Mbps/Average 4 Mbps/Average 2 Mbps), (2160/25p(Up to 72 Mbps), 1920x1080/50p(Up to 28 Mbps), (1080/25p(Average 15 Mbps/Average 10 Mbps/Average 6 Mbps), (720/50p(Average 15 Mbps/Average 10 Mbps/Average 2 Mbps), (720/25p(Average 8 Mbps/Average 4 Mbps/Average 2 Mbps)) (1080, 1280x720, 640x360, 320x180, Hz (30fps/15fps/5fps) <sup>16</sup> , (125fps/12.5fps/5fps) <sup>18</sup> , (125fps/12.5fps/5fps) <sup>18</sup>		
AND	Focus Focus distance Color separation optical system  Minimum illumination  59.94 Hz  Horizontal resolution Gain selection*2 Frame mix*3	[f=4.08 mm (5/32 inches) to 81.6 mm (3-7/32 inches); 35 mm (1-3/8 inches) equivalent: 29.5 mm [1-5/32 inches) to 612.0 mm (24-3/32 inches)] Switching between auto and manual Entire zooming range:1.5 m (4.92 ft) Wide end: 10 cm (0.33 ft)  On-chip color filter system  0.7 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) (0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 4.7 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 4.7 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 0.36 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 4.7 lx (50 I		[SD card recording SD card recording Video compression form Audio compression form  S9.94 I Recording format /Bit rate  50 Hz  [Network]  JPEG Transfer modes	mat MPEG mat MPEG mat MPEG mat AAC-I 3840x 1920x 1280x 1280x 1280x 1280x 1280x 1280x 1280x 1590x	i-4 AVC/H.264 High Profile LC (48 kHz, 16 bit, 2 ch, 128 kbps) (2160/29.37 [Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), (1080/29.97p (Average 15 Mbps), Average 10 Mbps/Average 6 Mbps), (720/59.94p (Average 8 Mbps/Average 4 Mbps/Average 2 Mbps), (720/59.94p (Average 8 Mbps/Average 4 Mbps/Average 2 Mbps), (2160/25p(Up to 72 Mbps), 1920x1080/50p(Up to 28 Mbps), (1080/25p(Average 15 Mbps/Average 10 Mbps/Average 6 Mbps), (720/50p(Average 15 Mbps/Average 10 Mbps/Average 2 Mbps), (720/25p(Average 8 Mbps/Average 4 Mbps/Average 2 Mbps)) (1080, 1280x720, 640x360, 320x180, Hz (30fps/15fps/5fps) <sup>16</sup> , (125fps/12.5fps/5fps) <sup>18</sup> , (125fps/12.5fps/5fps) <sup>18</sup>		
AND -	Focus Focus distance Color separation optical system  Minimum illumination  59.94 Hz  Horizontal resolution Gain selection*2 Frame mix*3	[F=4.08 mm [5/32 inches] to 81.6 mm [3-7/32 inches]; 35 mm [1-3/8 inches] equivalent: 29.5 mm [1-5/32 inches] to 612.0 mm [24-3/32 inches]] Switching between auto and manual Entire zooming range:1.5 m [4.92 ft] Wide end: 10 cm (0.33 ft)  On-chip color filter system  0.7 lx [50 IRE, F1.8, 48 dB,1/60 without accumulation]  0.35 lx [50 IRE, F1.8, 48 dB,1/30 with accumulation]  0.35 lx [50 IRE, F1.8, 48 dB,1/30 without accumulation]  0.35 lx [50 IRE, F1.8, 48 dB,1/30 without accumulation]  0.35 lx [50 IRE, F1.8, 48 dB,1/30 with accumulation]  4K: 1300 TV lines Typ (Center area)  1DL: 1000 TV lines Typ (Center area)  Auto, 0 dB to 48 dB (3 dB step)  Auto, 0 dB to 48 dB (3 dB step)  Auto, 0 dB to 17 (2000 (Auto Slow Shutter: Off][59.94 Hz]  1/60 to 1/2000 (Auto Slow Shutter: Off][59.94 Hz]		[SD card recording SD card recording Video compression form Audio compression form  S9.94 I Recording format /Bit rate  50 Hz  [Network]  JPEG Transfer modes	MPEG MPEG MPEG MPEG MPEG MPEG MPEG MPEG	i-4 AVC/H.264 High Profile LC (48 kHz, 16 bit, 2 ch, 128 kbps) (2160/29.37p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), (1080/29.97p (Average 15 Mbps), Average 10 Mbps/Average 6 Mbps), (720/29.97p (Average 15 Mbps), (720/29.97p (Average 8 Mbps/Average 4 Mbps/Average 2 Mbps), (720/29.97p (Average 8 Mbps/Average 4 Mbps/Average 2 Mbps), (7160/256/Up to 72 Mbps), (720/250/Up to 72 Mbps), (720/250/Average 15 Mbps/Average 10 Mbps/Average 6 Mbps), (720/250/Average 8 Mbps/Average 4 Mbps/Average 2 Mbps) (1080, 1280x720, 640x360, 320x180, 114 (30fps/15fps) <sup>16</sup> ), (125fps/15fps/5fps) <sup>18</sup> )		
AND	Focus Focus distance Color separation optical system  Minimum illumination  59.94 Hz  Horizontal resolution Gain selection*2 Frame mix*3	[F=4.08 mm (5/32 inches) to 81.6 mm (3-7/32 inches); 35 mm (1-3/8 inches) equivalent: 29.5 mm (1-5/32 inches) to 612.0 mm (24-3/32 inches)] Switching between auto and manual Entire zooming range:1.5 m (4.92 ft) Wide end: 10 cm (0.33 ft)  On-chip color filter system  O.7 lx (50 IRE, F1.8, 48 dB, 1/50 without accumulation)  0.35 lx (50 IRE, F1.8, 48 dB, 1/50 with accumulation)  O.7 lx (50 IRE, F1.8, 48 dB, 1/50 with accumulation)  O.35 lx (50 IRE, F1.8, 48 dB, 1/50 with accumulation)  Als (50 IRE, F1.8, 48 dB, 1/50 with accumulation)  4K: 1300 TV lines Typ (Center area)  HD: 1000 TV lines Typ (Center area)  Auto, 0 dB to 48 dB (3 dB step)  Auto, 0 dF to 48 dB (3 dB step)  Auto, 0 dF to 48 dB (3 dB step)  Auto, 0 dF to 48 dB (3 dB step)  Auto, 0 dF to 1/2000 (Auto Slow Shutter: 0ff)[59.94 Hz]  During 1/30 to 1/2000 (Auto Slow Shutter: 0ff)[50 Hz]  1/25 to 1/2000 (Auto Slow Shutter: 0ff)[50 Hz]		SD card recording SD card recording Video compression form Audio compression form Audio compression format /Bit rate 50 Hz  [Network]  Transfer modes H.264	MPEG mat MPEG mat MPEG 3840x 1920x 1280x 1280x 1280x 1280x 1280x 1280x 159.94 50.94 59.94 59.94 TOPJIE	i-4 AVC/H.264 High Profile LC (48 kHz, 16 bit, 2 ch, 128 kbps) (2160/29.97p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), (1080/29.97p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), (720/59.94p (Average 15 Mbps), (720/59.94p (Average 15 Mbps), (720/59.97p (Average 28 Mbps), (720/59.97p (Average 28 Mbps), (720/59.97p (Average 38 Mbps), (720/59/Up to 72 Mbps), 1920x1080/50p(Up to 28 Mbps), (720/59/Up to 72 Mbps), (720/59/Up to		
AND	Focus Focus distance Color separation optical system  Minimum illumination  59.94 Hz  Horizontal resolution Gain selection*2 Frame mix*3	[f=4.08 mm (5/32 inches) to 81.6 mm (3-7/32 inches); 35 mm (1-3/8 inches) equivalent: 29.5 mm [1-5/32 inches) to 612.0 mm (24-3/32 inches)] Switching between auto and manual Entire zooming range:1.5 m (4.92 ft) Wide end: 10 cm (0.33 ft) On-chip color filter system  0.7 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation)[Frame Mix 6 dB]) 0.7 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 4.1 lx (100 IRE, F1.8, 48 dB,1/50 without accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 4.1 lx (100 IRE, F1.8, 48 dB,1/50 without accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 4.1 lx (100 IRE, F1.8, 48 dB,1/50 with acc		SD card recording SD card recording Video compression form Audio compression form Audio compression form  S0,94 H Recording format Bit rate  50 Hz  [Network]  Transfer modes  H.264  Supported	g1 MPEG mat MPEG mat MPEG mat MPEG 13840 12800 1	1-4 AVC/H.264 High Profile LC (48 kHz, 16 bit, 2 ch, 128 kbps) (2160/29.97p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), (2160/29.97p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), (2720/59.94p (Average 15 Mbps), (2720/59.94p (Average 15 Mbps), (2160/25p(Up to 72 Mbps), 1920x1080/50p(Up to 28 Mbps), (2160/25p(Up to 72 Mbps), (2160/25p(Up to 72 Mbps), (2160/25p(Up to 72 Mbps), (220/50p(Average 15 Mbps),Average 10 Mbps),Average 6 Mbps), (220/50p(Average 15 Mbps),Average 10 Mbps,Average 6 Mbps), (220/50p(Average 15 Mbps),Average 2 Mbps) (1080, 1280x720, 640x360, 320x180, (1450x),15fps),15fps),16fps),16fps,16fp		
AND	Focus Focus distance Color separation optical system  Minimum illumination  59.94 Hz Horizontal resolution Gain selection*2 Frame mix*3  ND filter	[F=4.08 mm [5/32 inches] to 81.6 mm [3-7/32 inches]; 35 mm [1-3/8 inches] equivalent: 29.5 mm [1-5/32 inches] to 612.0 mm [24-3/32 inches]] Switching between auto and manual Entire zooming range:1.5 m [4.92 ft] Wide end: 10 cm (0.33 ft) On-chip color filter system  0.7 lx [50 IRE, F1.8, 48 dB,1/60 without accumulation] 0.35 lx [50 IRE, F1.8, 48 dB,1/30 with accumulation[Frame Mix 6 dB]] 0.7 lx [50 IRE, F1.8, 48 dB,1/50 without accumulation] 0.35 lx [50 IRE, F1.8, 48 dB,1/50 without accumulation] 0.35 lx [50 IRE, F1.8, 48 dB,1/50 without accumulation] 4k: 1300 TV lines Typ (Center area) HD: 1000 TV lines Typ (Center area) Auto, 0 dB to 48 dB [3 dB step] Auto, 0 dB to 48 dB [3 dB step] Auto, 0 dF, 6 dB, 12 dB, 18 dB, 24 dB Auto*4, Through, 1/4, 4/16, 1/64 1/60 to 1/2000 (Auto Slow Shutter: 0ff)[59.94 Hz] During 1/30 to 1/2000 (Auto Slow Shutter: 0ff)[59.94 Hz] HII Auto 1/25 to 1/2000 (Auto Slow Shutter: 0ff)[50 Hz] 1/25 to 1/2000 (Auto Slow Shutter: 0f)[50 Hz] 1/50 to 1/2000 [50 Hz]		SD card recording SD card recording Video compression form Audio compression form Audio compression format /Bit rate 50 Hz  [Network]  Transfer modes H.264  Supported protocol	MPEG mat MPEG mat MPEG mat MAC-C 3840x 1280x 159.44 59.44 59.44 17.67//// 67.67// 67.67/// 67.67	i-4 AVC/H.264 High Profile LC (48 kHz, 16 bit, 2 ch, 128 kbps) (2160/29.37p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), 12080/29.97p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), x720/59.94p (Average 15 Mbps), kvrage 6 Mbps/Average 6 Mbps), x720/29.97p (Average 8 Mbps/Average 4 Mbps/Average 2 Mbps), x720/29.97p (Average 8 Mbps/Average 4 Mbps/Average 2 Mbps), x720/50.96(Average 15 Mbps), x720/50.96(Average 15 Mbps), x720/50.96(Average 15 Mbps), x720/50.96(Average 15 Mbps), x720/25p(Average 8 Mbps/Average 4 Mbps/Average 2 Mbps) x720/25p(Average 8 Mbps/Average 4 Mbps/Average 2 Mbps) x1080, 1280x720, 640x360, 320x180, Hz (307ps/15ps/5fps) <sup>30</sup> , 1225fps/12.5ps/5fps) <sup>30</sup> , x2160, 1920x1080, 1280x720, 640x360, 320x180, Hz (607ps *)30fps/15fps/5fps) <sup>30</sup> , x2160, 1920x1080, 1280x720, 640x360, 320x180, Hz (607ps *)30fps/15fps/5fps) <sup>30</sup> , x2160, 1920x1080, 1280x720, 640x360, 320x180, Hz (607ps *)30fps/15fps/5fps) <sup>30</sup> , x2160, 1920x1080, 1280x720, 640x360, 320x180, Hz (607ps *)30fps/15fps/5fps) <sup>30</sup> , x2160, 1920x1080, 1280x720, 640x360, 320x180, Hz (607ps *)30fps/15fps/5fps, RTP, RTP/RTCP, FTP, DNS, NTP, GMP, UPNP, ICMP, ARP, RTSPOverTCP, voverHTTP, SSLTILS, MultiCast/UniCast		
AND	Focus Focus distance Color separation optical system  Minimum illumination  59.94 Hz Horizontal resolution Gain selection*2 Frame mix*3  ND filter	[f=4.08 mm (5/32 inches) to 81.6 mm (3-7/32 inches); 35 mm (1-3/8 inches) equivalent: 29.5 mm (1-5/32 inches) to 612.0 mm (24-3/32 inches)] Switching between auto and manual Entire zooming range:1.5 m (4.92 ft) Wide end: 10 cm (0.33 ft)  On-chip color filter system  O.7 lx (50 IRE, F1.8, 48 dB,1/60 without accumulation)  O.35 lx (50 IRE, F1.8, 48 dB,1/30 with accumulation) Frame Mix 6 dB)]  O.7 lx (50 IRE, F1.8, 48 dB,1/30 with accumulation)  O.35 lx (50 IRE, F1.8, 48 dB,1/30 with accumulation)  O.35 lx (50 IRE, F1.8, 48 dB,1/32 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/32 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/35 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/35 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/35 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/35 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/35 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/35 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/35 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/35 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/35 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/35 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/35 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/35 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/35 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/35 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/35 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/35 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/35 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/36 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/36 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/36 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/36 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/36 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/36 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/36 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/36 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/36 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/36 with accumulation)  Als k (50 IRE, F1.8, 48 dB,1/36 wit		SD card recording SD card recording Video compression form Audio compression form Audio compression form  S0,94 H Recording format Bit rate  50 Hz  [Network]  Transfer modes  H.264  Supported	MFG mat MPEG 1920> 1280> 12	i-4 AVC/H.264 High Profile  (C (48 kHz, 16 bit, 2 ch, 128 kbps)  (2160/29.97p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps),  (2160/29.97p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps),  (720/59.94p (Average 15 Mbps),  (720/59.97p (Average 15 Mbps),  (720/59.97p (Average 8 Mbps/Average 10 Mbps/Average 2 Mbps),  (720/59.97p (Average 8 Mbps/Average 4 Mbps/Average 2 Mbps),  (720/59/(Up to 72 Mbps),  (720/59/(Up to 72 Mbps),  (720/59/(Average 15 Mbps),  (720/59/(Average 2 Mbps))  (1080, 1280x720, 640x360, 320x180,  Hz (30fps/15fps/5fps) <sup>16</sup> ,  (125fps/12.5fps/5fps) <sup>16</sup> (125fps/12.5fps/5fps) <sup>16</sup> (150/fps <sup>2</sup> /25fps/12.5fps/5fps) <sup>18</sup> (150/fps <sup>2</sup> /25fps/12.5fps/5fps) <sup>18</sup> (150/fps <sup>2</sup> /25fps/12.5fps/5fps) <sup>18</sup> (109/fps/HTH, HTTPS, RTS, RTP, RTP/RTCP, FTP,  10NS, NTP, IGMP, UPAP, ICMP, ARP, RTSPOVerTCP,  10VERITTP, SSL(TLS), MultiCast/Unicast  (100/fpr/10 Mprince 10 Mprince		
AND -	Focus Focus distance Color separation optical system  Minimum illumination  59.94 Hz Horizontal resolution Gain selection*2 Frame mix*3  ND filter	[F=4.08 mm [5/32 inches] to 81.6 mm [3-7/32 inches]; 35 mm [1-3/8 inches] equivalent: 29.5 mm [1-5/32 inches] to 612.0 mm (24-3/32 inches]]  Switching between auto and manual Entire zooming range:1.5 m [4.92 ft] Wide end: 10 cm (0.33 ft)  On-chip color filter system  0.7 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation] 0.35 lx (50 IRE, F1.8, 48 dB,1/30 with accumulation[Frame Mix 6 dB]) 0.7 lx (50 IRE, F1.8, 48 dB,1/30 with accumulation[Frame Mix 6 dB]) 0.7 lx (50 IRE, F1.8, 48 dB,1/30 with accumulation[Frame Mix 6 dB]) 4K: 1300 TV lines Typ (Center area)  10.7 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation[Frame Mix 6 dB])  4K: 1300 TV lines Typ (Center area)  10.1 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  4K: 1300 TV lines Typ (Center area)  10.1 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  4K: 1300 TV lines Typ (Center area)  10.1 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  4K: 1300 TV lines Typ (Center area)  10.1 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  4K: 1300 TV lines Typ (Center area)  10.1 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  4K: 1300 TV lines Typ (Center area)  10.1 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  4K: 1300 TV lines Typ (Center area)  10.1 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  4K: 1300 TV lines Typ (Center area)  10.2 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  10.3 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  10.3 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  10.3 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  10.3 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  10.3 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  10.3 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  10.3 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  10.3 lx (50 IRE, F1.8, 48 dB,1/25 with accumulatio		SD card recording   SD card recording format   SD card record	MPEG   MPEG	i-i-4 AVC/H. 264 High Profile LC (148 kHz, 16 bit, 2 ch, 128 kbps) (2160/29.37p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), (1260/29.37p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), (12080/29.97p (Average 15 Mbps), 4720/59.34p (Average 15 Mbps), 4720/59.34p (Average 8 Mbps/Average 4 Mbps/Average 2 Mbps), (1260/256/Up to 72 Mbps), 1920x1080/50p(Up to 28 Mbps), (1260/256/Up to 72 Mbps), 1920x1080/50p(Up to 28 Mbps), (1260/256/Up to 72 Mbps), (12		
AND -	Focus Focus distance Color separation optical system  Minimum illumination  59.94 Hz Horizontal resolution Gain selection*2 Frame mix*3  ND filter	[F=4.08 mm (5/32 inches) to 81.6 mm (3-7/32 inches); 35 mm (1-3/8 inches) equivalent: 29.5 mm (1-5/32 inches) to 612.0 mm (24-3/32 inches)]  Switching between auto and manual Entire zooming range:1.5 m (4.92 ft)  Wide end: 10 cm (0.33 ft)  On-chip color filter system  0.7 lx (50 IRE, F1.8, 48 dB,1/60 without accumulation)  0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation)  0.7 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation)  0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation)  0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation)  0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation)  0.7 lx (50 IRE, F1.8, 48 dB,1/50 with		ISD card recording SD card recording Video compression form Audio compression form Audio compression form  59.94 I Recording format /Bit rate 50 Hz  INETWORK  Transfer modes H.264  Supported protocol IPv4 IPv6 i-OS, Android support	MPEG MPEG MPEG MPEG MPEG MPEG MPEG MPEG	i-4 AVC/H.264 High Profile LC (48 kHz, 16 bit, 2 ch, 128 kbps) (2160/29.37p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), 12080/29.97p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), 10180/29.97p (Average 15 Mbps), 4720/59.94p (Average 15 Mbps), 4720/59.94p (Average 8 Mbps/Average 4 Mbps/Average 2 Mbps), 1920x1080/5p(Up to 28 Mbps), 1080/25p(Average 15 Mbps), 1920x1080/5p(Up to 28 Mbps), 1080/25p(Average 15 Mbps), 4720/5p(Average 15 Mbps), 4720/5p(Average 15 Mbps), 4720/5p(Average 8 Mbps/Average 9 Mbps/Average 2 Mbps), 4720/5p(Average 8 Mbps/Average 4 Mbps/Average 2 Mbps)  1080, 1280x720, 640x360, 320x180, 112 (30fps/15fps) <sup>16</sup> (22fps/12.5fps/5fps) <sup>18</sup> , 126fps/15fps/5fps) <sup>18</sup> , 126fps/15fps/15fps/15fps/5fps) <sup>18</sup> , 126fps/15fps/1		
AND -	Focus Focus distance Color separation optical system  Minimum illumination  59.94 Hz Horizontal resolution Gain selection*2 Frame mix*3  ND filter	[F=4.08 mm [5/32 inches] to 81.6 mm [3-7/32 inches]; 35 mm [1-3/8 inches] equivalent: 29.5 mm [1-5/32 inches] to 612.0 mm (24-3/32 inches]]  Switching between auto and manual Entire zooming range:1.5 m [4.92 ft] Wide end: 10 cm (0.33 ft)  On-chip color filter system  0.7 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation] 0.35 lx (50 IRE, F1.8, 48 dB,1/30 with accumulation[Frame Mix 6 dB]) 0.7 lx (50 IRE, F1.8, 48 dB,1/30 with accumulation[Frame Mix 6 dB]) 0.7 lx (50 IRE, F1.8, 48 dB,1/30 with accumulation[Frame Mix 6 dB]) 4K: 1300 TV lines Typ (Center area)  10.7 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation[Frame Mix 6 dB])  4K: 1300 TV lines Typ (Center area)  10.1 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  4K: 1300 TV lines Typ (Center area)  10.1 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  4K: 1300 TV lines Typ (Center area)  10.1 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  4K: 1300 TV lines Typ (Center area)  10.1 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  4K: 1300 TV lines Typ (Center area)  10.1 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  4K: 1300 TV lines Typ (Center area)  10.1 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  4K: 1300 TV lines Typ (Center area)  10.1 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  4K: 1300 TV lines Typ (Center area)  10.2 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  10.3 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  10.3 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  10.3 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  10.3 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  10.3 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  10.3 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  10.3 lx (50 IRE, F1.8, 48 dB,1/25 with accumulation [Frame Mix 6 dB])  10.3 lx (50 IRE, F1.8, 48 dB,1/25 with accumulatio		ISD card recording SD card recording Video compression form Audio compression form Audio compression form  S9.94 I Recording format /Bit rate  50 Hz  INetwork  IPEG Transfer modes H.264  Supported protocol IPv4 IPv6 i-OS, Android support Mount bracket for insta	MFG mMFG mat MPEG 19200 19200 19200 19200 19200 59.94 50.Hz 38400 59.94 50.Hz TCP/IF DHCP, RTSPC TCP/IF JPEG JPEG allation surfa	i-4 AVC/H.264 High Profile  (C (48 kHz, 16 bit, 2 ch, 128 kbps)  (2160/29.97p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps),  (2160/29.97p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps),  (720/59.94p (Average 15 Mbps),  (720/59.94p (Average 15 Mbps),  (720/59.97p (Average 28 Mbps),  (720/59.97p (Average 28 Mbps),  (720/59.97p (Average 38 Mbps),  (720/59/Up to 72 Mbps),  (720/59/(Average 15 Mbps),  (720/59/(Average 15 Mbps),  (720/59/(Average 15 Mbps),  (720/59/(Average 38 Mbps)/Average 4 Mbps/Average 2 Mbps)  (1080, 1280x720, 640x360, 320x180,  (126/59/15/69/5/69) <sup>36</sup> ,  (125/59/12.5/69/5/69) <sup>36</sup> ,  (125/59/12.5/69/5/69) <sup>36</sup> ,  (125/59/12.5/69/5/69) <sup>36</sup> ,  (125/59/12.5/69/5/69) <sup>36</sup> ,  (125/69/12.5/69/5/69)		
AND	Focus Focus distance Color separation optical system  Minimum illumination  59,94 Hz  For Hz  Frame mix*3  ND filter  Electronic shutter speed	[F=4.08 mm (5/32 inches) to 81.6 mm (3-7/32 inches); 35 mm (1-3/8 inches) equivalent: 29.5 mm (1-5/32 inches) to 612.0 mm (24-3/32 inches)]  Switching between auto and manual Entire zooming range:1.5 m (4.92 ft)  Wide end: 10 cm (0.33 ft)  On-chip color filter system  0.7 lx (50 IRE, F1.8, 48 dB,1/60 without accumulation)  0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation)  0.7 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation)  0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation)  0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation)  0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation)  0.7 lx (50 IRE, F1.8, 48 dB,1/50 with		ISD card recording SD card recording Video compression form Audio compression form Audio compression form  59.94 I Recording format /Bit rate 50 Hz  INETAINS   FOR Transfer modes H.264  Supported protocol IPv4 IPv6  i-OS, Android support Mount bracket for insta	MPEG mat MPEG mat MPEG mat MPEG mat MACL 1920x 1920x 1280x 1	i-i-a AVC/H.264 High Profile  (C (48 kHz, 16 bit, 2 ch, 128 kbps)  (2160/29.37p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), (1080/29.97p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), (1080/29.97p (Average 15 Mbps), Average 6 Mbps), (1080/29.97p (Average 15 Mbps), 400x1080/25p(Up to 72 Mbps), 1920x1080/50p(Up to 28 Mbps), (1080/25p(Warage 15 Mbps), 400x1080/25p(Warage 15 Mbps), 400x		
AND -	Focus Focus distance Color separation optical system  Minimum illumination  59.94 Hz Horizontal resolution Gain selection*2 Frame mix*3  ND filter	[f=4.08 mm (5/32 inches) to 81.6 mm (3-7/32 inches); 35 mm (1-3/8 inches) equivalent: 29.5 mm (1-5/32 inches) to 612.0 mm (24-3/32 inches)] Switching between auto and manual Entire zooming range:1.5 m (4.92 ft) Wide end: 10 cm (0.33 ft) On-chip color filter system  0.7 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 0.7 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 4K: 1300 TV lines Typ (Center area) HD: 1000 TV lines Typ (Center area) Auto, 0 dB to 48 dB (3 dB step) Auto, 0 dB to 48 dB (3 dB step) Auto, 0 dB to 48 dB (3 dB step) Auto, 0 dF, 6 dB, 12 dB, 18 dB, 24 dB Auto-1/10 to 1/2000 (Auto Slow Shutter: 0ff)[59.94 Hz] Full Aut 1/50 to 1/2000 (Auto Slow Shutter: 0n)[59.94 Hz] Full Aut 1/50 to 1/2000 (Auto Slow Shutter: 0n)[59.94 Hz] Full Aut 1/50 to 1/2000 (Auto Slow Shutter: 0n)[50 Hz]  During Auto 1/50 to 1/2000 (59.94 Hz) 1/100 1/2000 (59.94 Hz) 1/100 1/2000 (59.94 Hz) 1/100 1/2000 (59.94 Hz) Manual 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 [59.04 Hz)		ISD card recording SD card recording Video compression form Audio compression form Audio compression form  S9.94 I Recording format /Bit rate  50 Hz  INetwork  IPEG Transfer modes H.264  Supported protocol IPv4 IPv6 i-OS, Android support Mount bracket for insta	MPEG mat MPEG mat MPEG mat MPEG mat MACL 1920x 1920x 1280x 1	i-i-a AVC/H.264 High Profile  (C (48 kHz, 16 bit, 2 ch, 128 kbps)  (2160/29.37p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), (1080/29.97p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), (1080/29.97p (Average 15 Mbps), Average 6 Mbps), (1080/29.97p (Average 15 Mbps), 400x1080/25p(Up to 72 Mbps), 1920x1080/50p(Up to 28 Mbps), (1080/25p(Warage 15 Mbps), 400x1080/25p(Warage 15 Mbps), 400x		
AND -	Focus Focus distance Color separation optical system  Minimum illumination  59.94 Hz  For Hz  Frame mix <sup>43</sup> ND filter  Electronic shutter speed	[F=4.08 mm (5/32 inches) to 81.6 mm (3-7/32 inches); 35 mm (1-3/8 inches) equivalent: 29.5 mm (1-5/32 inches) to 612.0 mm (24-3/32 inches)]  Switching between auto and manual  Entire zooming range:1.5 m (4.92 ft)  Wide end: 10 cm (0.33 ft)  On-chip color filter system  0.7 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation)  0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation)  0.7 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation)  0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation)  0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation)  0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation)  0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation)  0.7 lx (50 IRE, F1.8, 48 dB,1/50 wi	ACCESSORIFS	SD card recording	MPEG	i-i-4 AVC/H. 264 High Profile LC (148 kHz, 16 bit, 2 ch, 128 kbps) 2(160/29.37p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), 120x1080/59.97p (Up to 72 Mbps), 1920x1080/59.97p (Up to 28 Mbps), 2720/59.39p (Average 15 Mbps/Average 10 Mbps/Average 6 Mbps), 2720/59.39p (Average 8 Mbps/Average 4 Mbps/Average 2 Mbps), 2(160/25p(Up to 72 Mbps), 1920x1080/50p(Up to 28 Mbps), 2(160/25p(Up to 72 Mbps), 1920x1080/50p(Up to 28 Mbps), 2720/50p(Average 15 Mbps), 2720/50p(Average 15 Mbps), 2720/50p(Average 6 Mbps), 2720/50p(Average 15 Mb		
AND -	Focus Focus distance Color separation optical system  Minimum illumination  59,94 Hz  For Hz  Frame mix*3  ND filter  Electronic shutter speed	[F=4.08 mm [5/32 inches] to 81.6 mm [3-7/32 inches]; 35 mm [1-3/8 inches] equivalent: 29.5 mm [1-5/32 inches] to 612.0 mm [24-3/32 inches]]  Switching between auto and manual Entire zooming range:1.5 m [4.92 ft] Wide end: 10 cm (0.33 ft)  On-chip color filter system  0.7 lx [50 IRE, F1.8, 48 dB,1/60 without accumulation]  0.35 lx [50 IRE, F1.8, 48 dB,1/30 with accumulation]  0.35 lx [50 IRE, F1.8, 48 dB,1/30 without accumulation]  0.35 lx [50 IRE, F1.8, 48 dB,1/30 without accumulation]  0.35 lx [50 IRE, F1.8, 48 dB,1/30 without accumulation]  4K: 1300 TV lines Typ (Center area)  1DL: 1000 TV lines Typ (Center area)  Auto, 0 dB to 48 dB (3 dB step)  Auto, 0 dB to 48 dB (3 dB step)  Auto, 0 dB to 48 dB (3 dB step)  Auto, 0 dB to 1/2000 (Auto Slow Shutter: 0ff)[59.94 Hz]  1/60 to 1/2000 (Auto Slow Shutter: 0ff)[59.94 Hz]  1/25 to 1/2000 (Auto Slow Shutter: 0ff)[50 Hz]  1/25 to 1/2000 (Auto Slow Shutter: 0ff)[50 Hz]  1/25 to 1/2000 (Auto Slow Shutter: 0ff)[50 Hz]  1/100, 1/250, 1/500, 1/1000, 1/2000,  1/4000, 1/1000 [59.94 Hz]  Manual 1/120, 1/250, 1/500, 1/1000, 1/2000,  1/4000, 1/1000 [59.94 Hz]  59.94 Hz: 59.94 Hz to 660.09 Hz (255 step)	ACCESSORIES	SD card recording	MPEG mat MPEG mat MPEG mat MPEG mat MACL 19200 1	i-i-4 AVC/H. 264 High Profile LC (48 kHz, 16 bit, 2 ch, 128 kbps) (2160/29.37p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), 10180/29.97p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), 1720/59.94p (Average 15 Mbps), 4720/59.94p (Average 15 Mbps), 4720/59.94p (Average 8 Mbps/Average 4 Mbps/Average 2 Mbps), 1920x1080/5p(Up to 28 Mbps), 1920x1080/5p(Up to 28 Mbps), 1920x1080/5p(Up to 28 Mbps), 1920x1080/5p(Up to 28 Mbps), 1920x1080/25p(Average 15 Mbps), 1920x1080/25p(Average 6 Mbps), 1920x1080/25p(Average 15 Mbps), 1920x1080/25p(Average 8 Mbps/Average 4 Mbps/Average 2 Mbps), 1920x1080, 1280x720, 640x360, 320x180, 1920x1080, 1280x720, 540x360, 320x180, 1920x1080, 192		
AND -	Focus Focus distance Color separation optical system  Minimum illumination  59.94 Hz Horizontal resolution Gain selection*2 Frame mix*3 ND filter  Electronic shutter speed  Synchro scan  Gamma White balance	[F=4.08 mm [5/32 inches] to 81.6 mm [3-7/32 inches]; 35 mm [1-3/8 inches] equivalent: 29.5 mm [1-5/32 inches] to 612.0 mm [24-3/32 inches]] Switching between auto and manual Entire zooming range:1.5 m [4.92 ft] Wide end: 10 cm (0.33 ft) On-chip color filter system  0.7 lx [50 IRE, F1.8, 48 dB,1/60 without accumulation] 0.35 lx [50 IRE, F1.8, 48 dB,1/30 with accumulation] 0.35 lx [50 IRE, F1.8, 48 dB,1/30 with accumulation] 0.35 lx [50 IRE, F1.8, 48 dB,1/30 with accumulation] 0.35 lx [50 IRE, F1.8, 48 dB,1/30 with accumulation] 0.35 lx [50 IRE, F1.8, 48 dB,1/30 with accumulation] 0.36 lx [50 IRE, F1.8, 48 dB,1/25 with accumulation] 4k: 1300 TV lines Typ (Center area) HD: 1000 TV lines Typ (Center area) Auto, 0 dB to 48 dB [3 dB step] Auto, 0 dB to 48 dB [3 dB step] Auto, 0 dB to 48 dB [3 dB step] Auto, 0 dB to 150 dB	ACCESSORIES	ISD card recording SD card recording Video compression form Audio compression form Audio compression form  S9.94 I Recording format /Bit rate  50 Hz  INetwork  IPV4  Supported protocol IPv4  i-OS, Android support  Mount bracket for insta Drop-prevention wire (a. Bracket mounting screw Main unit	MPEG mat MPEG mat MPEG mat MPEG mat MACL 19200 1	i-i-4 AVC/H. 264 High Profile LC (48 kHz, 16 bit, 2 ch, 128 kbps) (2160/29.37p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), 10180/29.97p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), 1720/59.94p (Average 15 Mbps), 4720/59.94p (Average 15 Mbps), 4720/59.94p (Average 8 Mbps/Average 4 Mbps/Average 2 Mbps), 1920x1080/5p(Up to 28 Mbps), 1920x1080/5p(Up to 28 Mbps), 1920x1080/5p(Up to 28 Mbps), 1920x1080/5p(Up to 28 Mbps), 1920x1080/25p(Average 15 Mbps), 1920x1080/25p(Average 6 Mbps), 1920x1080/25p(Average 15 Mbps), 1920x1080/25p(Average 8 Mbps/Average 4 Mbps/Average 2 Mbps), 1920x1080, 1280x720, 640x360, 320x180, 1920x1080, 1280x720, 540x360, 320x180, 1920x1080, 192		
AND -	Focus Focus distance Color separation optical system  Minimum illumination 59.94 Hz Horizontal resolution Gain selection*2 Frame mix*3 ND filter  Electronic shutter speed  Synchro scan Gamma	[F=4.08 mm (5/32 inches) to 81.6 mm (3-7/32 inches); 35 mm (1-3/8 inches) equivalent: 29.5 mm (1-5/32 inches) to 612.0 mm (24-3/32 inches)] Switching between auto and manual Entire zooming range:1.5 m (4.92 ft) Wide end: 10 cm (0.33 ft) On-chip color filter system  0.7 lx (50 IRE, F1.8, 48 dB,1/60 without accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/30 with accumulation)[Frame Mix 6 dB]) 0.7 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/50 without accumulation) 0.35 lx (50 IRE, F1.8, 48 dB,1/35 with accumulation) 4K: 1300 TV lines Typ (Center area) HD: 1000 TV lines Typ (Center area) Auto, 0 dB to 48 dB (3 dB step) Auto, 0 dB to 48 dB (3 dB step) Auto, 0 dB to 48 dB (3 dB step) Auto, 0 dF to 48 dB (3 dB step) Auto, 0 dF to 47/200 (Auto Slow Shutter: 0 ff)[59.94 Hz] Full Aut 1/50 to 1/2000 (Auto Slow Shutter: 0 ff)[59.94 Hz] Full Aut 1/50 to 1/2000 (Auto Slow Shutter: 0 ff)[50 Hz] 1/50 to 1/2000 (Auto Slow Shutter: 0 ff)[50 Hz] 1/50 to 1/2000 (Auto Slow Shutter: 0 ff)[50 Hz] 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 [50 Hz] Manual 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 [50 Hz] 59.94 Hz: 59.94 Hz: 59.94 Hz: 1660.09 Hz (255 step) 50 Hz: 50.00 Hz to 570.12 Hz (255 step) 50 ff, Normal (Low, Mid, High), Cinema	ACCESSORIES	ISD card recording SD card recording Video compression form Audio compression form Audio compression form  59.94 I Recording format /Bit rate 50 Hz  INTERPRESSION FORM H.264  Supported protocol IPv6 I-OS, Android support Mount bracket for insta Drop-prevention wire [a Bracket mounting screw Main unit mounting screw	MPEG mat MPEG mat MPEG mat MPEG mat MACL 19200 1	i-i-4 AVC/H. 264 High Profile LC (48 kHz, 16 bit, 2 ch, 128 kbps) (2160/29.37p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), 10180/29.97p (Up to 72 Mbps), 1920x1080/59.94p (Up to 28 Mbps), 1720/59.94p (Average 15 Mbps), 4720/59.94p (Average 15 Mbps), 4720/59.94p (Average 8 Mbps/Average 4 Mbps/Average 2 Mbps), 1920x1080/5p(Up to 28 Mbps), 1920x1080/5p(Up to 28 Mbps), 1920x1080/5p(Up to 28 Mbps), 1920x1080/5p(Up to 28 Mbps), 1920x1080/25p(Average 15 Mbps), 1920x1080/25p(Average 6 Mbps), 1920x1080/25p(Average 15 Mbps), 1920x1080/25p(Average 8 Mbps/Average 4 Mbps/Average 2 Mbps), 1920x1080, 1280x720, 640x360, 320x180, 1920x1080, 1280x720, 540x360, 320x180, 1920x1080, 192		

\*1: It may be necessary to upgrade the version of the controller so that the controller will support the unit. \*2: During Auto, 0 dB to 48 dB (6 dB step) are available for AGC Max Gain setting.

\*3: During Auto, 0 dB, 6 dB, 12 dB and 18 dB are available for Auto F.Mix Max Gain setting. \*4: "Auto" is available when "Scene" setting is "Full Auto".

\*5: To ensure safety, the unit must be secured using the mount bracket supplied. \*6: Depending on the pan or tilt position, the camera may be reflected in the image.

\*7: Use of an STP (shielded twisted pair) cable is recommended. \*8: The frame rate may be to lower than the setting depending on the operating conditions.

\*9: When the image resolution is "3840x2160", "640x360" or "320x180", 60fps or 50fps cannot be selected for the frame rate. \*10: To ensure more safety, AW-UE70W/K can be secured by using the direct ceiling mount bracket (WV-Q105A).

### Required personal computer environment

As of September, 2015

СРИ	When using 1080/60p [59.94 Hz] and 1080/50p [50 Hz] Intel® CoreTM i7 3.4 GHz or higher recommended  Other than above Intel® CoreTM2 Duo 2.4 GHz or higher recommended					
Memory	For Windows	1 GB or higher (2 GB or higher for Microsoft® Windows® 8.1, Microsoft® Windows® 8, Microsoft® Windows® 7 64-bit edition)				
	For Mac	2 GB or more				
Network function	10BASE-T or 100BASE-TX port x 1					
Image display function	Resolution: 1024 x 768 pixe	olution: 1024 x 768 pixels or more Color generation: True Color 24-bit or more				
Supported operating system and web browser	Windows	Microsoft® Windows® 8.1 Pro 64-bit/32-bit* <sup>11</sup> Windows® Internet Explorer® 11.0 Microsoft® Windows® 8 Pro 64-bit/32-bit* <sup>11</sup> Windows® Internet Explorer® 10.0* <sup>11</sup> Microsoft® Windows® 7 Professional SP1 64-bit/32-bit* <sup>12</sup> Windows® Internet Explorer® 8.0 / 9.0 / 10.0 / 11.0* <sup>13</sup>				
	Mac	OS X 10.8 Safari 6.2 / OS X 10.9 Safari 7.1 / OS X 10.10 Safari 8.0				
	iPhone / iPad / iPod touch	iOS 8.3 Standard browser				
	Android	Android OS 4.4 Standard browser				
Other	CD-ROM drive (for using the Operating Instructions and various software) Adobe® Reader® (for viewing the Operating Instructions on the CD-ROM)					

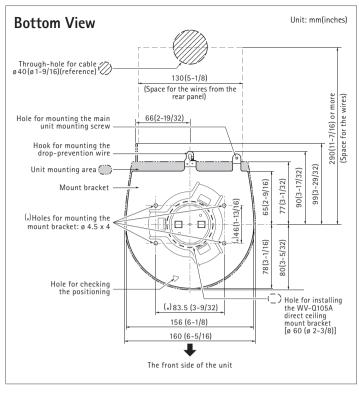
- \*11: Use the desktop version of Internet Explorer. (Internet Explorer for Windows UI is not supported.) \*12: Windows® XP compatibility mode is not supported. \*13: The 64-bit version of Internet Explorer® is not supported.

For the latest information on supported OS/brower, please refer to the "service and support" on the Panasonic website (http://pro-av.panasonic/en/).

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   Apple, Mac, OS X, iPhone, iPod Touch, iPad, and Safari are registered trademarks of Apple Inc., in the United States and other countries.
   Android™ is a trademark of Google Inc.

#### Rear View





Please refer to the latest information, etc. at the following Panasonic web site:



## **Panasonic**

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JQA-0443



Factories of AVC Networks Company have received ISO14001:2004-the Environmental Management Sycertification. (Except for 3rd party's peripherals.)