

Panasonic

BUSINESS

2017/10

Remote Head Camera

GP-UH532 Series
GP-UH332 Series



Visibility means certainty.



GP-UH532 Series

With Panasonic, visibility means certainty.

Drawing on our many years of 3 sensor camera experience, Panasonic has developed a new image processor and unique optical design to achieve clear, outstanding, ultra high definition pictures.

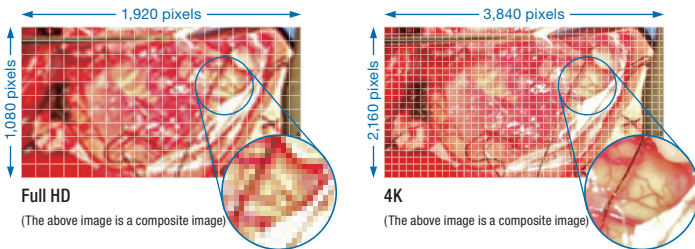
The GP-UH532 series supports 4K, and the GP-UH332 series supports Full HD.

Our design features a new level of operational ease which is ideal for the medical environment.

▶ High quality, high definition video

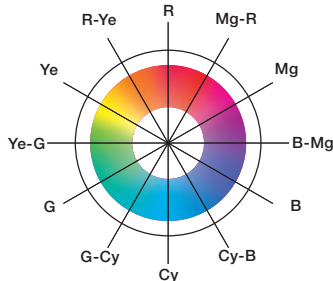
Realistic 4K ultra high definition **GP-UH532 series**

This product supports 4K resolution (3840 x 2160), which provides four times the resolution of Full HD, and a horizontal resolution of 1600 TV lines. Support for 59.94p/50p also provides smooth images. Our unique technology refined over many years enables amazing ultra high definition and faithful color reproduction. Additionally, it also supports ITC-R BT.2020, making it able to reproduce nearly all colors in the specified color reproduction range.



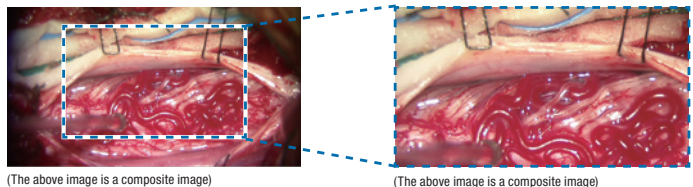
12-axis image adjustment function

In addition to the six axes for RGB and CyMgYe, intermediate colors can be manually adjusted to perform detailed tuning according to the user and intended application.



Digital Zoom function

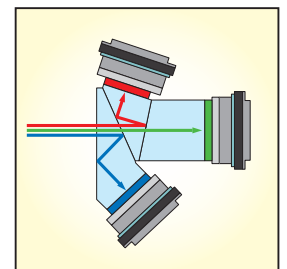
The zoom can be set between 1x to 2.5x in steps of 0.1x.



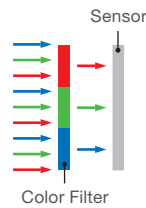
Unique Panasonic 3MOS

Our technology enables accurate color separation of the three primary colors of light (Red, Green, and Blue) using the same technology as professional cameras in broadcasting stations. A specialized sensor is used to process each color resulting in excellent color reproduction.

■ Overview of color analysis

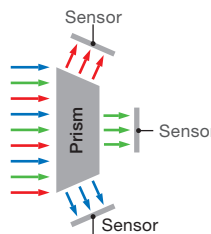


■ 1MOS sensor



(Photographed using our 1MOS model)

■ 3MOS sensor

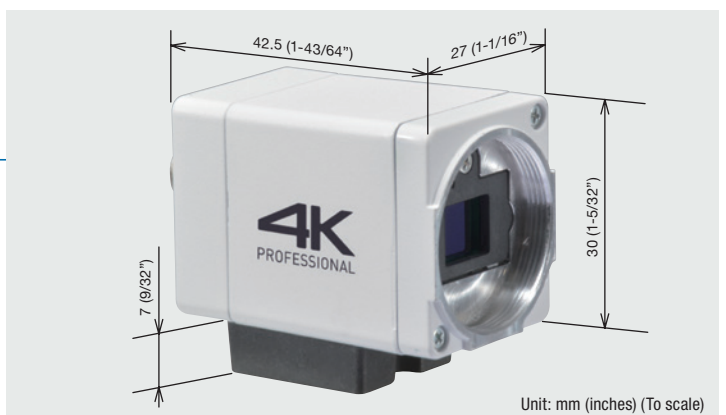


(Photographed using our 3MOS model)

▶ Compact

Ultra compact and light camera head

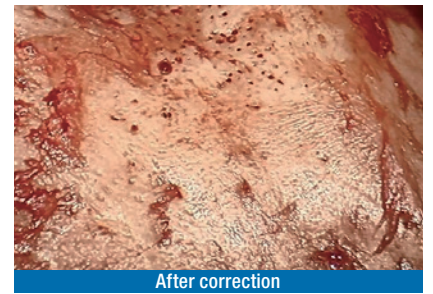
Whether 4K or HD, the camera heads are the same compact size. This allows the head to be used in many situations requiring a small profile.



▶ Image enhancement functions

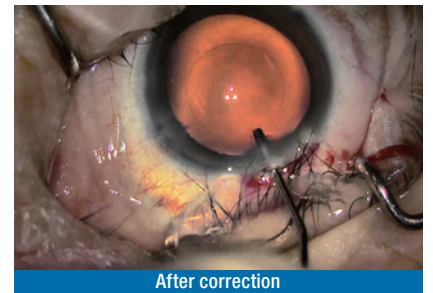
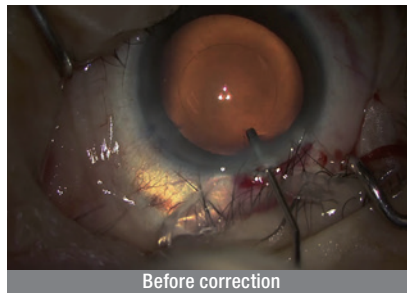
WDR (Wide Dynamic Range)

The dynamic range expansion function brightens dark areas while controlling the amount of overexposure.



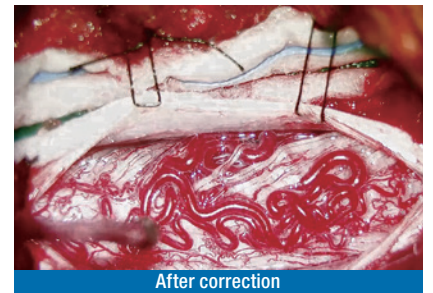
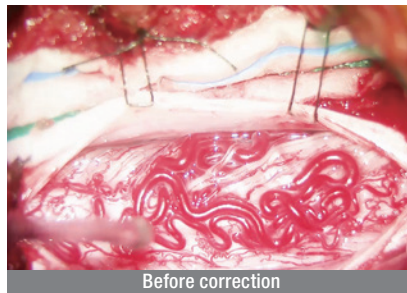
Dark Area Correction

The adaptive black stretch function brightens dark areas.



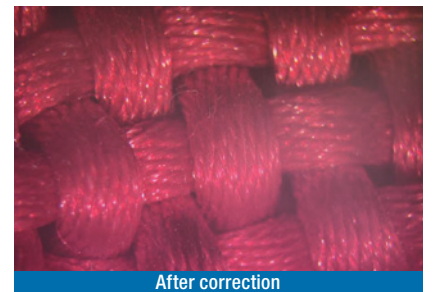
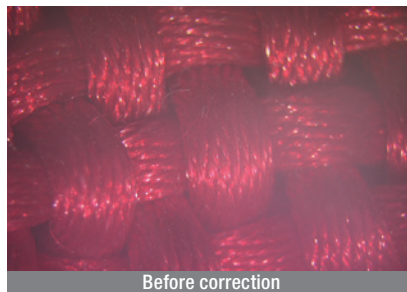
Overexposure Reduction

The exposure correction function controls the amount of overexposure.



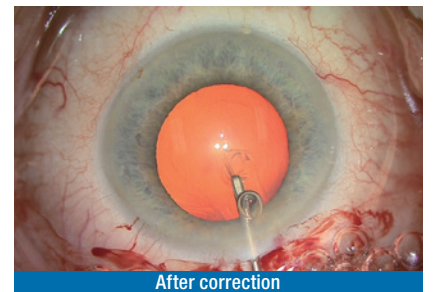
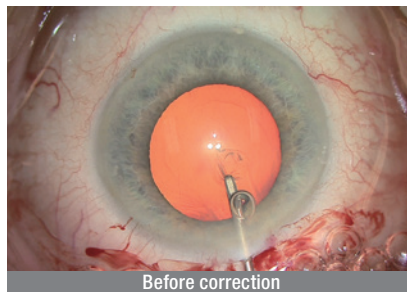
Smoke Correction

The smoke correction function clears white blur.



Color Enhancement

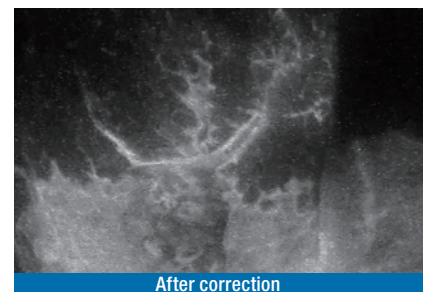
The color enhancement function enhances the selected color.



Fluorescent Image

Set the image quality suitable for each fluorescent image capture mode.

* It can be adjusted in detail.



▶ High quality

Chemical-resistant coating

The chassis is treated with a chemical-resistant coating to prevent deterioration when using disinfectants and cleansers.

Complies with medical safety standards

- IEC60601-1 (3rd Edition)
- IEC60601-1-2 (3rd Edition)

* When using the designated AC adapter MPU60A-105.

▶ Efficient

Designed for medical environments

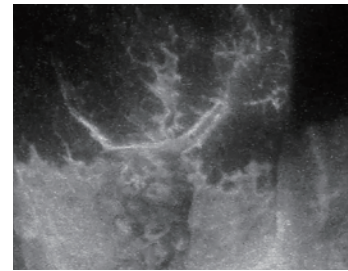
Ease of operation has been achieved through the highly visible layout design and easy to handle button shapes. Rotary volume dials are adopted and can be used to move the cursor during menu operation in addition to adjusting the red, blue, and brightness. In addition, the dials can also be stored to prevent operation mistakes and the flat panel allows for easy cleaning after use.



Rotary volume dials

User profile function

The included user profile function supports six profiles on-board. It is possible to change the user configuration by simply inserting a USB memory drive and using the save/load functions. The settings appropriate for fluorescent image capturing are preset in PROFILE 5 and PROFILE 6.



* This photo is for illustrative purposes.

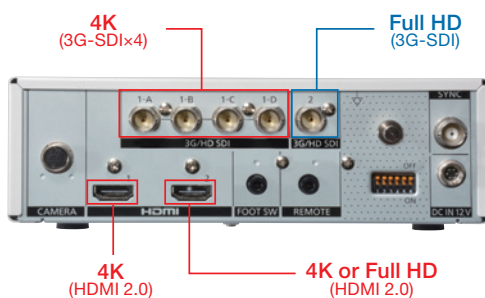


USB terminal for user profiles

Simultaneous 4K output

GP-UH532 series

Simultaneous monitoring and recording with high image quality is possible due to the ability to output two 4K signals simultaneously using HDMI and SDI. In addition to 4K images, Full HD images (1080p/1080i) can be output at the same time for use with Full HD monitors and recorders. Extra devices are not necessary and smooth migration from existing environments is possible.



Foot switch

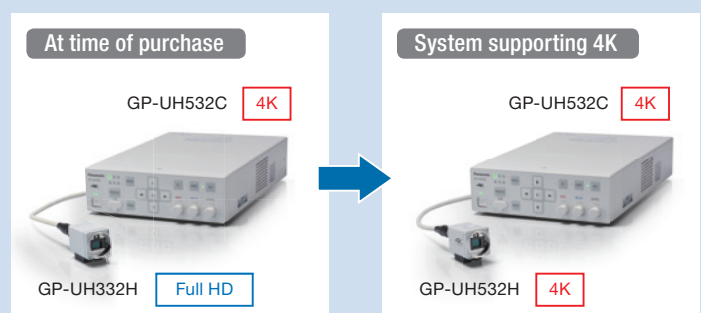
Even when you cannot use your hands, the camera can be operated with ease by connecting the foot switch. Using the foot switch to switch profiles, freeze, flip, mirror and zoom in/out the camera allows smooth operation in medical environments. The foot switch can be assigned two functions using CH1/CH2.

Camera cable

The lineup includes 3, 6 and 15 m cables, and changes to the cable length are automatically detected, which eliminates the need to change settings.

Full HD system supporting the move to 4K

If you are considering moving to an entire 4K system that includes a 4K monitor and 4K recorder in the future, it is possible to build a system that uses a Full HD camera head together with a 4K camera control unit. By replacing just the camera head with a 4K type, the system will identify the camera type and automatically make adjustments, so there is no need to manually change settings. In addition, the same camera cable can also be used.



GP-UH532

4K Ultra HD 3MOS camera - boasts four times the resolution of Full HD.



Image sensor:
1/3" type 3MOS

Screen resolution:
3840×2160

Horizontal resolution:
1600 TV lines at center
(when 2160p output)

Simultaneous output of 4K and Full HD

- Simultaneous outputs of Full HD also possible
- Simultaneous 4K output possible using a combination of HDMI and SDI

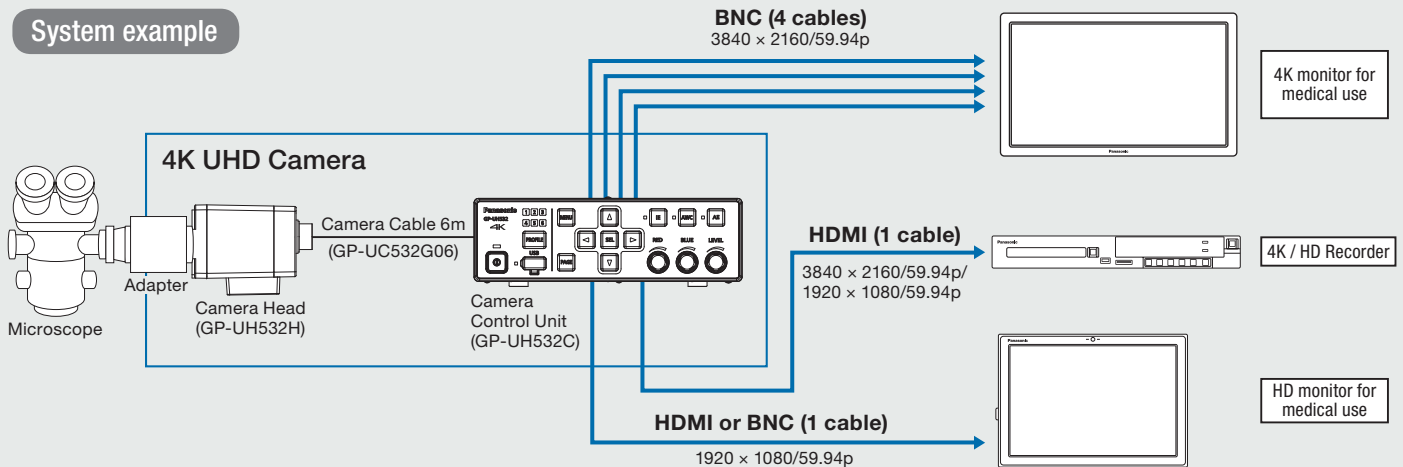
Video format

- 3840×2160/59.94p, 3840×2160/50p
- 1920×1080/59.94p, 1920×1080/59.94i
- 1920×1080/50p, 1920×1080/50i

Other

- User profile function (six profiles on-board)
- 12-axis image adjustment function
- Foot switch compatible
- Compliance with medical safety and EMC standards (IEC 60601-1 and IEC 60601-1-2)

System example



GP-UH332

3MOS Full HD camera for use with surgical microscopes.



Supporting the move to 4K
Only possible when the GP-UH532C camera control unit is purchased.

Image sensor:
1/3" type 3MOS

Screen resolution:
1920×1080

Horizontal resolution:
1000 TV lines at center
(when 1080p output)

Diverse video output

- Video output: HDMI x 2, SDI x 5

Video format

- 1920×1080/59.94p, 1920×1080/59.94i
- 1920×1080/50p, 1920×1080/50i

Other

- User profile function (six profiles on-board)
- 12-axis image adjustment function
- Foot switch compatible
- Compliance with medical safety and EMC standards (IEC 60601-1 and IEC 60601-1-2)
- Sync type: Internal sync and external sync

Other Features

Complies with medical safety and EMC standards

The Panasonic GP-UH532 series/GP-UH332 series of remote head cameras complies with IEC 60601-1 (basic safety and essential performance of medical electrical equipment) and IEC 60601-1-2 (EMC requirements for medical devices).

AE function	External sync function	Binning
Flip & mirror	Supports external command control	Removable IR-cut filter
HDMI output switching	Equipotential terminal	Made in Japan

GP-UH532 series

GP-UH532 Components

3MOS 4K Ultra HD camera head
GP-UH532H



4K Ultra HD camera control unit
GP-UH532C



UHD camera cable
GP-UC532G03 (3m)
GP-UC532G06 (6m)
GP-UC532G15 (15m)

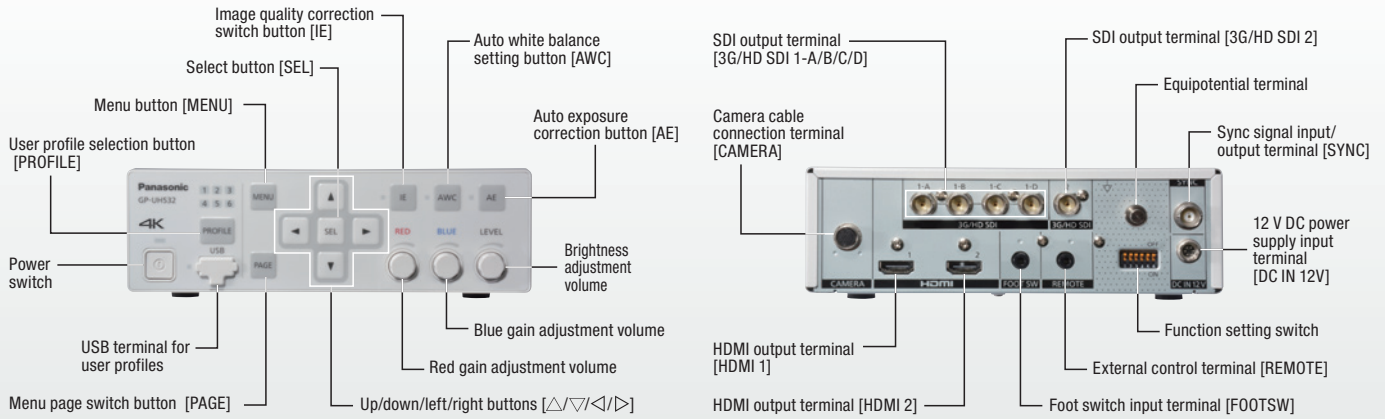


GP-UC532G03A (3m)
GP-UC532G06A (6m)
GP-UC532G15A (15m)

Black cables will be available soon.



Names and Functions



GP-UH332 series

GP-UH332 Components

HD camera head
GP-UH332H



HD camera control unit
GP-UH332C



UHD camera cable
GP-UC532G03 (3m)
GP-UC532G06 (6m)
GP-UC532G15 (15m)

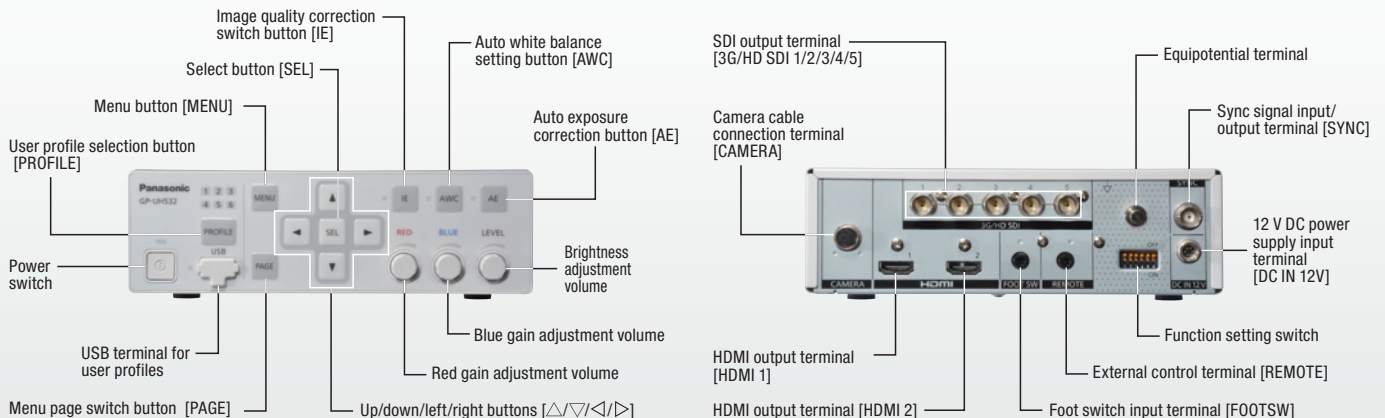


GP-UC532G03A (3m)
GP-UC532G06A (6m)
GP-UC532G15A (15m)

Black cables will be available soon.



Names and Functions



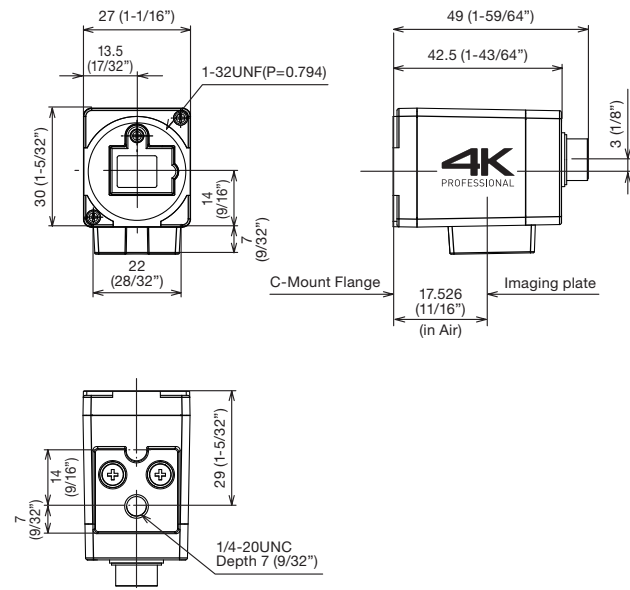
Specifications

		GP-UH532 series	GP-UH332 series
General			
Power supply		12 V DC ± 10%	
Power consumption		Approx. 40 W (including camera head)	
Dimensions	Camera head	27 mm (W) x 30 mm (H) x 42.5 mm (D) (1-1/16 inches (W) x 1-5/32 inches (H) x 1-43/64 inches (D)) (excluding tripod mount base and protrusions)	
	Camera control unit	185 mm (W) x 57 mm (H) x 270 mm (D) (7-9/32 inches (W) x 2-1/4 inches (H) x 10-5/8 inches (D)) (excluding rubber feet and protrusions)	
Weight	Camera head	Approx. 65 g (0.14 lbs.)	
	Camera control unit	Approx. 2 kg (4.41 lbs.)	
Coating		Chemical-resistant coating (sail white)	
Ambient operating temperature		0°C to 40°C (32°F to 104°F)	
Ambient operating humidity		30% to 90% (without condensation)	
Ambient operating pressure		700 hPa to 1060 hPa	
Transport and storage temperature		-10 °C to +60 °C (14 °F to 140°F)	
Transport and storage humidity		10% to 90%	
Transport and storage pressure		700 hPa to 1060 hPa	
Safety Standards		IEC60601-1 (3rd Edition), IEC60601-1-2 (3rd Edition), UL60065, EN55032	
Connector			
Video output	HDMI output	HDMI terminal x 2 (for 4K and 4K/Full HD)	HDMI terminal x 2 (for Full HD)
	SDI output	BNC terminal x 5 (4 for 4K and 1 for Full HD)	BNC terminal x 5 (for Full HD)
Foot switch		3.5 mm diameter stereo mini jack (2 inputs)	
External control		3.5 mm diameter stereo mini jack (3-pole serial, RS232C signal compliant)	
Equipotential terminal		Available	
USB		USB 2.0 (for USB Memory)	
Sync signal input/output terminal		BNC connector x 1 (Three value sync)	
Image			
Video format	HDMI output	3840×2160/59.94p, 3840×2160/50p 1920×1080/59.94p, 1920×1080/59.94i 1920×1080/50p, 1920×1080/50i	1920×1080/59.94p, 1920×1080/59.94i 1920×1080/50p, 1920×1080/50i
	SDI output	3840×2160/59.94p, 3840×2160/50p 1920×1080/59.94p, 1920×1080/59.94i 1920×1080/50p, 1920×1080/50i	1920×1080/59.94p, 1920×1080/59.94i 1920×1080/50p, 1920×1080/50i
Image sensor		1/3" type 3MOS	
Standard illumination		Default: 2000 lx (3200 K, F8)	Default: 2000 lx (3200 K, F16), LINE MIX
S/N		54dB (GAIN OFF, HEAD GAIN OFF)	54dB (GAIN OFF, HEAD GAIN -6dB)
Horizontal resolution		1600 TV lines center (When 2160p output)	1000 TV lines center (When 1080p output)
Function/Setting			
Exposure	AE (Automatic exposure)	Auto/Level (0~63)	
	Shutter (Electronic shutter)	AUTO/MANUAL(FIX)/MANUAL(VAL) [59.94Hz] 1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 [50Hz] 1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000	
	Binning	OFF/LINE MIX/PIX MIX/P/L MIX	
	Gain	OFF/AUTO/MANUAL(FIX)/MANUAL(VAL)	
	Long exposure	OFF/AUTO/MANUAL(FIX)/FIX(x1) [MANUAL (FIX)] OFF/×2/×4/×8	
	Area selection	ALL/S CIRCLE/M CIRCLE/L CIRCLE/MANU/AUTO	
Picture	Head gain	-9dB/-6dB/-3dB/OFF (0dB)/+3dB/+6dB/+9dB	
	White balance mode	AWC, R gain/B gain: 0~255/MANUAL, R gain/B gain: 0~255	
	Detail band	OFF/SOFT/MEDIUM SHARP/SHARP/SHARPEST	
	Digital noise reduction	0~10	
	Pedestal level	68~95	
	Flare compensation	ON/OFF	
	Hue	B-Mg/Mg-Mg-R/R-R-Ye/Ye-G/G-G-Cy/Cy-B/B	
	Gamma correction mode	NORMAL/S-CURVE	
	Gamma correction level	0.35~0.55/OFF	
	KNEE mode	MANUAL/AUTO *It can be set to KNEE POINT and KNEE SLOPE	
	Fluorescent image capture mode	OFF/MODE1/MODE2/MODE3	
	White shading correction	AUTO(SET)/MANUAL	
	Image enhancement	Horizontal/vertical position of the screen	Horizontal (right/left), vertical (up/down)
WDR		0~255	
Shadow reduction		0~255	
Overexposure reduction		0~255	
Smoke correction		0~255	
Color enhancement	0~255, RED/YELLOW/RED&YELLOW		
Flip & mirror	OFF/VERTICALLY/HORIZONTALLY/VERTICALLY AND HORIZONTALLY		
Color bar output	Available		
Foot switch	OFF/FREEZE/FLIP+MIRROR/FLIP/MIRROR/ZOOM-IN-OUT/CHANGE PROFILE *1		
Digital zoom	1x - 2.5x up to 0.1x increments		
HDMI output signal	[2160p] YPbPr (420) 8BIT, YPbPr (422) 10BIT [1080p]/[1080i] YPbPr (422), YPbPr (444), RGB (LIMITED), RGB (FULL)	[1080p]/[1080i] YPbPr (422), YPbPr (444), RGB (LIMITED), RGB (FULL)	
Synchronizing signal input/output connector		IN/OUT	
Single camera head 3D		OFF/ON(SIMULTANEOUS)/ON(SIDE BY SIDE)	N/A
Clock	Time adjustment	"MONTH/DAY/YEAR" and "HOUR/MINUTE"	
User profile		Six profiles supporting save/load functions PROFILE 1~4: DEFAULT PROFILE 5: FLUORESCENCE2 PROFILE 6: FLUORESCENCE1	Six profiles supporting save/load functions PROFILE 1~4: DEFAULT PROFILE 5: FLUORESCENCE3 PROFILE 6: FLUORESCENCE1
BT.2020 color space support (only 4K)		Available	N/A

*1. It can be assigned two functions within the foot switch setting.

Appearance

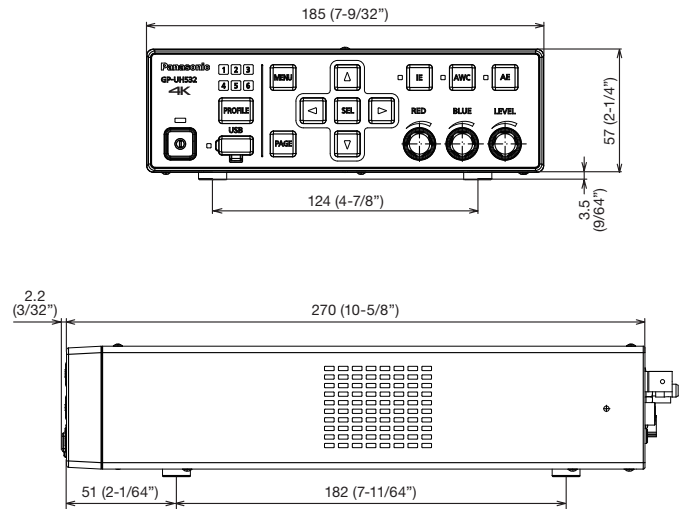
GP-UH532H/GP-UH332H



Unit: mm (inches)

* 4K logo is only on GP-UH532H.

GP-UH532C/GP-UH332C



Unit: mm (inches)

* 4K logo is only on GP-UH532C. Other marks vary depending on the model.

Important

- Safety Precaution: Carefully read the Important Information, Installation Guide and operating instructions before using this product.
- This product is intended for usage in general electronics applications.
- Usage of this product for special purposes, such as traffic control instruments, transportation instruments, and medical instruments, may be prohibited without authorization under the applicable laws and regulations of each country or region where this product is in practical use. Arrangement for authorization shall be made under the customer's or user's own responsibility.

- Masses and dimensions are approximate.
- Specifications are subject to change without notice.

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