Panasonic

ideas for life

3CCD HD Camera

Camera head

GP-US932H

Camera control unit

GP-US932CU

GP-US932CUS

(Lenses and camera cables are optional.)

High-Definition Camera Solution for Wide Range of Applications

HD HIGH DEFINITION

Broadening the possibilities of video expression

1920 x 1080 True HD 3CCD camera

Panasonic's 3CCD camera with true 16 x 9 multi format high definition delivers sharp, pure color images. The camera is an ideal solution for microscopy, industrial endoscopy, special effects, and many other applications.

*Recommended lenses are optionally available.

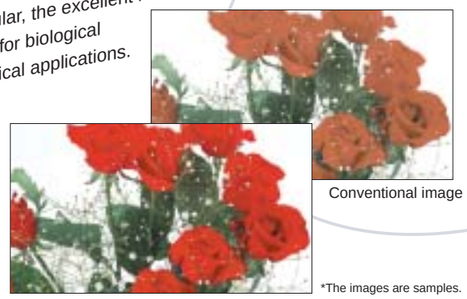
True multi-format HD

In addition to the 1080i (1920 x 1080) true HD mode, 720p (1280 x 720), 576p and 576i (720 x 576)* modes are selectable for sharp, high resolution flicker-free images.

*480p and 480i (720 x 480) for 59.94 Hz model

True-to-life colors Twelve independently adjustable axis

In particular, the excellent red-color reproducibility is suited for biological and medical applications.



Conventional image

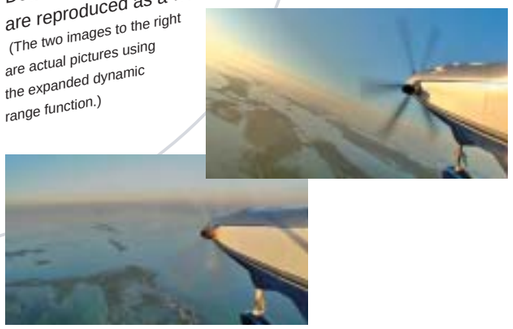
GP-US932 image

*The images are samples.

Expanded dynamic range

Detail in the bright areas and contrast in the dark areas are reproduced as a well-balanced image.

(The two images to the right are actual pictures using the expanded dynamic range function.)

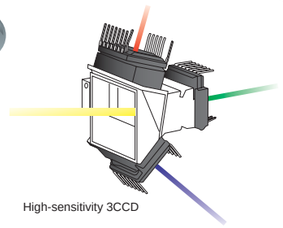


New high-sensitivity progressive CCD

The new 1/3-type progressive CCD features exceptionally high sensitivity with a large light-receiving area for each pixel. Balanced high resolution and S/N ratio is achieved from the combination of high-performance image processing technology implemented by a new digital signal processor (DSP).

Newly developed DSP with 14-bit A/D conversion and 19-bit processing functions

Progressive capture is followed by 14-bit A/D conversion and newly developed DSP for 19-bit internal processing. The result is extraordinary high-precision 1920 x 1080 true HD image output.



High-sensitivity 3CCD

Panasonic technology enables high definition image quality covering a wide range of applications

Excellent color performance

Beautiful, true-to-life colors are reproduced. Each of the 12 axis can be independently adjusted without affecting the adjacent color vector. The excellent red-color reproduction is ideal for biological and medical applications.

GP-US932 image

Conventional image *The images are samples.

Proprietary expanded dynamic range function

The new proprietary expanded dynamic range function expands the contrast of the dark areas while maintaining detail in the bright areas. Objects with high contrast can be represented as natural images.

Expanded dynamic range image

Conventional image *Actual camera images

14-bit A/D conversion and 19-bit processing DSP

The functions provide high-precision true HD outputs.

HDMI output model lineup

The lineup includes HDMI output and HD-SDI/SD-SDI output models for different applications and purposes.

HDMI, HDMI logo, and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.

High-resolution native progressive scan

A higher-level vertical resolution is obtained from P/I conversion, line conversion, and down conversion of native images with high vertical resolution from full-frame 50 fps* progressive scanning. High image quality unparalleled by electronically interpolated interlace scanning is obtained.

*59.94 fps for 59.94 Hz model

Easy set-up menu

Simply select the appropriate functions from the list of camera functions displayed on the monitor screen to complete the setting. Images can be adjusted easily and efficiently while observing the images.

Three scene files

Each of the three independent scene files has twelve parameters that can be customized to suit any applications.

<Parameters>

- Detail
- Red detail
- Gamma
- Knee
- Black stretch
- Dynamic range
- White clip
- Flare compensation
- Digital noise reduction
- Color matrix
- Chroma gain
- Total pedestal

■Other features

Electronic zoom up to 2.5x	Electronic zoom up to 2.5x allows checking finer detail.
Freeze function	Motionless video images can be displayed while capturing video.
White balance	ATW (auto-tracking white balance) mode, AWC (automatic white balance) mode, or manual white balance mode can be selected according to the illumination of the scene.
Electronic shutter	ELC mode (automatic shutter speed control according to the object's amount of light), STEP mode (selection from 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, or 1/10000 to obtain the optimal setting), or select MANU mode.
Gain control	AUTO (automatic gain control) will provide automatic adjustment of sensitivity. Manual adjustment of sensitivity is also available.

Recommend Lenses

Fujinon* HD lens

HAF4.8DA-1

XA4x7.5DA-1

Fujinon* SD lens

TF2.8DA-8

TF4DA-8

TF8DA-8

TF15DA-8

Specifications of Recommend Lenses

	HD Lenses		SD Lenses			
Model No.	HAF4.8DA-1	XA4x7.5DA-1	TF2.8DA-8	TF4DA-8	TF8DA-8	TF15DA-8
Manufacturer	Fujinon*	Fujinon*	Fujinon*	Fujinon*	Fujinon*	Fujinon*
Focal Length (mm)	4.8	7.5 —— 30	2.8	4	8	15
Zoom Ratio		4				
Maximum Aperture Ratio	2.2	2.8	2.2	2.2	2.2	2.2
Angle of View (ß) Horizontal	57.07ß	38.38ß — 9.94ß	85.98ß	66.25ß	36.14ß	19.74ß
Vertical	34.05ß	22.18ß — 5.61ß	55.40ß	40.36ß	20.82ß	11.19ß
Minimum Object Distance (m)	0.1	0.45	0.1	0.1	0.1	0.1
Filter Thread	M55	M52	N/A	M27 x 0.5	M25.5 x 0.5	M25.5 x 0.5
Mount	C	C	C	C	C	C
Focus	Manual	Manual	Manual	Manual	Manual	Manual
Iris	Manual	Manual	Manual	Manual	Manual	Manual
Length (from focal plane)	53.126 (in air)	178.926 (in air)	64.025 (in air)	63.025 (in air)	56.526 (in air)	56.526 (in air)
Full Aperture (mm)	¿42	¿54	¿34	¿29	¿29	¿29
Weight (g)	95	500	75	70	60	60

* Fujinon Lenses: Please contact to your distributor

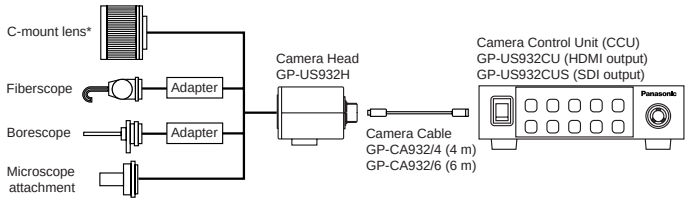
3CCD Camera Lineup

Camera Control Unit
GP-US932CU
(HDMI output)
GP-US932CUS
(SDI output)

Camera Head
GP-US932H

Camera Cable
GP-CA932/4 (4 m)
GP-CA932/6 (6 m)

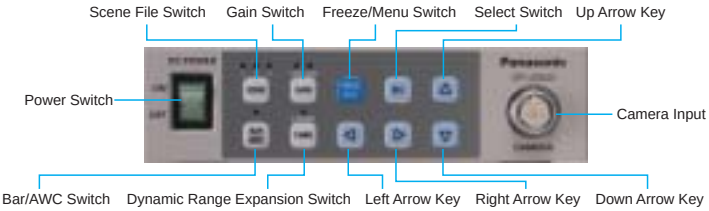
System Block Diagram



*Back focus adjustment may not be available depending on the C-mount lens model.

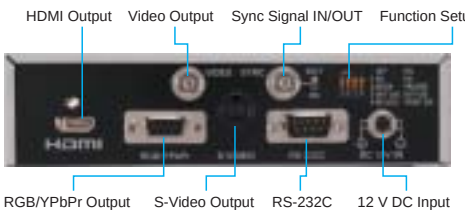
Part Names and Functions

Front View

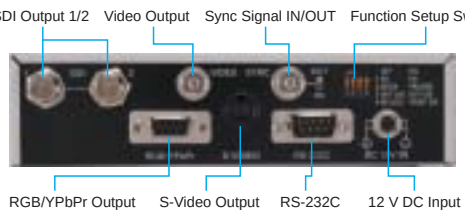


Rear View

GP-US932CU
(HDMI output)



GP-US932CUS
(SD output)

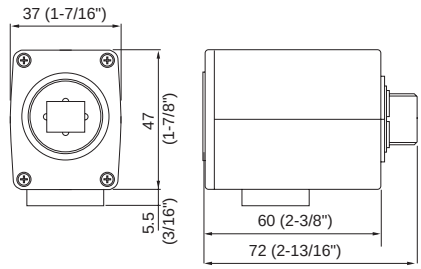


Specifications

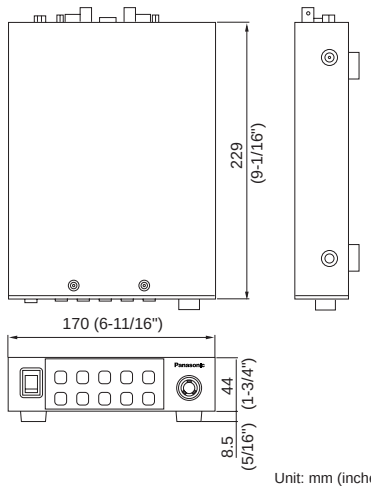
Scan Frequency	**50 Hz (PAL for SD)**	**59.94 Hz (NTSC for SD)**
Power Source	12 V DC	
Power Consumption	15 W (excluding camera head)	
Pick-up System	Micro prism system	
Image Sensor	1/3-type 3CCD, interline transfer (IT) equipped (progressive scanning supported)	
Synchronization	Internal or external synchronization	
Video Output		
Video Output	BNC Connector x 1, 1.0 V [P-P] / 75 ‰	
S-Video Output	S-Video connector x 1 Y: 0.7 V [P-P] / 75 ‰ C: 0.3 V [P-P] / 75 ‰	S-Video connector x 1 Y: 0.714 V [P-P] / 75 ‰ C: 0.286 V [P-P] / 75 ‰
RGB/YPbPr Output	D-sub 9-pin connector x 1 R, G, B: 0.7 V [P-P] / 75 ‰ Y: 0.7 V [P-P] / 75 ‰ Pb, Pr: 0.525 V [P-P] / 75 ‰ SYNC: 0.6 V [P-P] / 75 ‰ (at output using 1 080i or 720p) 0.3 V [P-P] / 75 ‰ (at output using 576p or 576i) VIDEO: 1.0 V [P-P] / 75 ‰	D-sub 9-pin connector x 1 R, G, B: 0.7 V [P-P] / 75 ‰ Y: 0.7 V [P-P] / 75 ‰ Pb, Pr: 0.525 V [P-P] / 75 ‰ SYNC: 0.6 V [P-P] / 75 ‰ (at output using 1 080i or 720p) 0.3 V [P-P] / 75 ‰ (at output using 480p or 480i) VIDEO: 1.0 V [P-P] / 75 ‰
HDMI Output	HDMI connector x 1 (GP-US932CU only)	
SDI Output	BNC connector x 2 (GP-US932CUS only)	
Video Format		
Video Output	576/50i	480/59.94i
S-Video Output	576/50i	480/59.94i
RGB/YPbPr Output	1 080/50i, 720/50p, 576/50p, 576/50i	1 080/59.94i, 720/59.94p, 480/59.94p, 480/59.94i
HDMI Output	1 080/50i, 720/50p, 576/50p (GP-US932CU only)	1 080/59.94i, 720/59.94p, 480/59.94p (GP-US932CU only)
SDI Output	1 080/50i, 720/50p, 576/50i (GP-US932CUS only)	1 080/59.94i, 720/59.94p, 480/59.94i (GP-US932CUS only)
Required Illumination	2 000 lux (3 200 K, F5.6)	
Minimum Illumination	40 lux (0.4 fc) (F2.8, GAIN: HIGH, 30 % output, at center)	
Signal-to-Noise Ratio	54 dB (at output using 1 080i)	
Horizontal Resolution	700 TV lines at center (when 1 080i output)	
Color Bar	EUB color bar with 0 % set-up	SMPTE color bar with 0 % set-up
Functions	Camera title, ELC, electronic shutter, gain adjustment, electronic sensitivity enhancement, output signal, scene file, white balance, black balance, synchronization, electronic zoom, image freezing	
External Control	RS-232C D-sub 9-pin connector x 1	
Ambient Operating Temperature	0 ßC to 40 ßC (32 ßF to 104 ßF)	
Ambient Operating Humidity	30 % to 90 %	
Dimensions GP-US932CU GP-US932CUS	170 (W) x 44 (H) x 229 (D) mm (6-11/16" (W) x 1-3/4" (H) x 9-1/16" (D)) (excluding rubber feet and protruding portions)	
Dimensions GP-US932H	37 (W) x 47 (H) x 60 (D) mm (1-7/16" (W) x 1-7/8" (H) x 2-3/8" (D)) (excluding tripod socket and protruding portions)	
Weight GP-US932CU GP-US932CUS GP-US932H	1.3 kg (2.9 lbs.) 1.45 kg (3.2 lbs.) 150 g (0.3 lbs.)	
Finish	Ivory color coating	

Appearance

GP-US932H



GP-US932CU
GP-US932CUS



Unit: mm (inches)

Important
— Safety Precaution: carefully read the operating instructions and installation manual before using this product.
— These products do not have medical standard approvals.

¥ All TV pictures/menu are simulated.
¥ Weights and dimensions are approximate.
¥ Specifications are subject to change without notice.
¥ These products may be subject to export control regulations.

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