Panasonic
ideas for life

3MOS FULL HD MICRO CAMERA
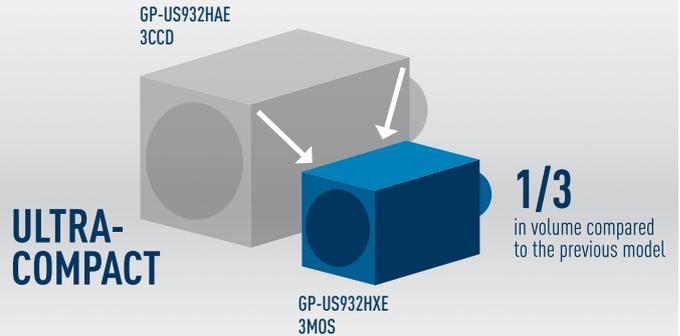## CCU CONTROL UNIT GP-US932CSXE
COMPACT CAMERA HEAD GP-US932HXE

Smallest 3MOS Camera Head

Amazing Sensitivity & Resolution

Brilliant Colour Reproduction

Multi Format up to 1080p

OEM

QUALITY STARTS WITH THE HEAD

Thanks to MOS Technology the video signal chain inside the Panasonic HD micro cameras becomes fully digitized. The digital, Full HD progressive scan signal generated in the head and loss free transmitted via the camera cable is processed with high bandwiths at the control unit.

GP-US932HAE
3CCD

ULTRA-COMPACT

GP-US932HXE
3MOS

1/3
in volume compared
to the previous model

3MOS FULL HD MICRO CAMERA GP-US932CSXE

· MULTI VIDEO FORMATS

Beside the 1080p FULL HD mode for HDMI, the remote head camera also supports the HD formats 1080i, 1080/25p(sF) and 720p as well as the SD formats 576p and 576i. To be backward compatible the CCU control unit also supports Standard Definition simultaneously on a BNC connector for composite video and a S-video connector for Y/C.

· DIGITAL VIDEO INTERFACES

By supporting the digital HDMI interface the camera can be connecting to a wide range of FullHD video monitors without loss of image quality. To support also long distance HD video transmission the control unit also offers 2 HD-SDI interfaces. To be also compatible with the commonly used analogue component standard the camera also provides a RGB/YPbPr terminal. And of cause all outputs are working simultaneously. Therefore the camera is well prepared to connect almost all types of existing video monitors and recorders.
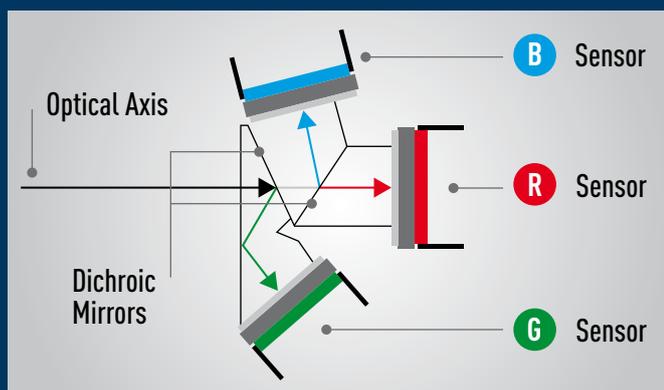
· EASE AND FEXIBILITY OF OPERATION

By using the front panel keys in combination with the user friendly OSD (On-Screen-Menu) the micro camera can be controlled efficiently and easily. This means parameters can be changed quickly during operation. It is also extremely easy to save your own settings as presets for up to three different users. Camera control and configuration can also be done remotely via the RS232 interface. The Panasonic GP-GUI/HDCam software makes it very simple to create PC based remote control solution. In case of the OEM components customer can create their own OSD solution to adapt the camera to their specific needs.

· ADDITIONAL FUNCTIONALITY

The new GP-US932X HD camera system offers a image mirror, flip and rotate function. This can be activated and deactivated even during operation, and extends the range of applications even further. The 3 pre-sets for an easy switch between customer made adjustments also include the white balance and global settings like ELC measurement area. The switch from artificial light to natural lighting can now take place without having to perform white balancing again. Of course, traditionally must functions are still available: Freeze picture, 2.5x electronic Zoom, 12-axis colour matrix, and frequency-depending detail enhancement. The new Binning Mode for increased sensitivity extends the range of low light application.
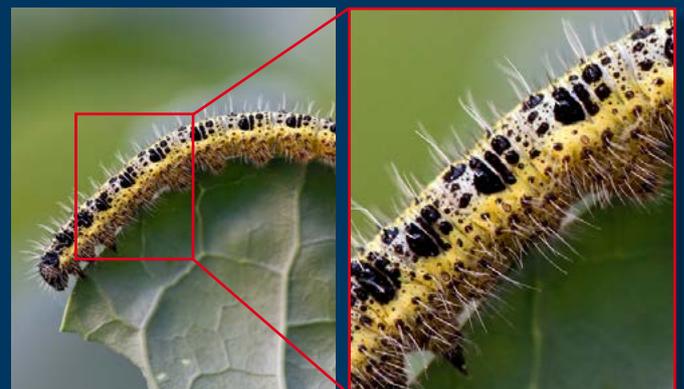
· ADVANTAGES OF PRISM TECHNOLOGY

- Brilliant Colour Reproduction
- Amazing Sensitivity
- Separate colour channels red, green and blue allow an increase in brilliance of colours, accuracy of details and depth of focus

· ADVANTAGES OF MOS TECHNOLOGY

- Extraordinary resolution with 1000 TV lines
- Binning mode with increased sensitivity and almost no loss in resolution
- Further reduction in camera head dimension

B Sensor

Optical Axis

R Sensor

Dichroic Mirrors

G Sensor

GP-US932X SERIE 3MOS FULL HD MICRO CAMERA

Full HD in 1080p, also for miniaturised camera systems. The smallest 3MOS remote camera head can also be used in confined spaces. The outstanding sensitivity provides clearer images in all sorts of possible ambient light conditions.
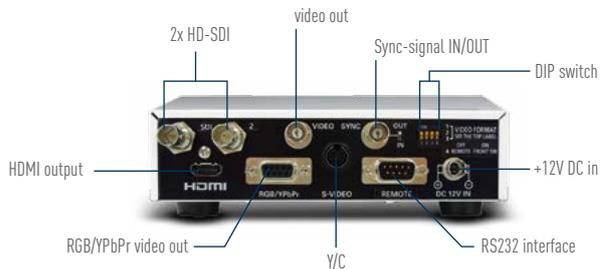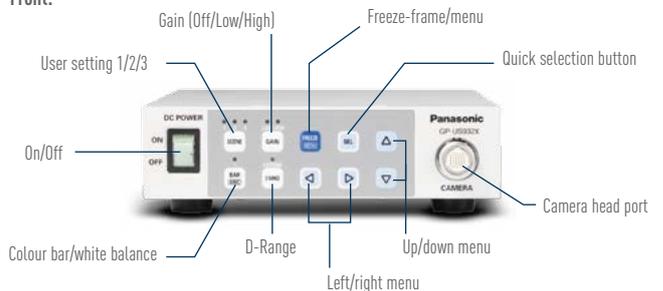
FULL HD 1080p

FEATURES

· Resolution: 1000TV lines (at 1080i output)

· Sensitivity: 2000lx with F11

· Binning Mode for increased sensitivity (2000lx with F12)

· Multi-format camera
  - HD: 1080p (HDMI only), 1080/25psF, 1080i and 720p
  - SD: 576p and 576i

· CCU with HD-SDI & HDMI output

· Simultaneous HD and SD video output

· Flexible connectivity: equipped with HDMI, 2x HD-SDI, analogue RGB/component, Y/C and video outputs

· A/D conversion in head for loss-free digital data transmission

· Signal cable up 10m length

· Natural colour setting (12-axis colour matrix)

· Special DSP functions: Image rotation (Mirror, Flip, Rotate), zoom and freeze, dynamic range enhancement and low frequency booster

· OEM components available

· Global settings adjustable per Scene File

OVERVIEW OF CONTROLS AND CONNECTIONS

GP-US932CSXE
Front:

- Gain (Off/Low/High)
- Freeze-frame/menu
- User setting 1/2/3
- Quick selection button
- On/Off
- Camera head port
- Colour bar/white balance
- D-Range
- Up/down menu
- Left/right menu

- 2x HD-SDI
- video out
- Sync-signal IN/OUT
- DIP switch
- HDMI output
- +12V DC in
- RGB/YPbPr video out
- Y/C
- RS232 interface

SYSTEM COMPONENTS

GP-US932CSXE CCU Control Box
· Supports GP-US932HXE/HUX head
· Output: 2x HDSDI, HDMI, RGB/YPbPr, Y/C, video
· Dimension: app. 170 x 44 x 229 mm
· RS232 remote control

GP-US932HXE Remote camera head
· 1/3" type 3MOS with Full-HD Pixel
· C-Mount
· Dimension: app. 27 x 30 x 38.5 mm

GP-CA932 Signal Cable
· Industrial grade
· GP-CA932/4E 4m long
· GP-CA932/6E 6m long
· GP-CA932/10E 10m long

GP-NT14/DTM-65PW Power Supply
· 90...240V AC(50/60Hz) and 12V DC
· Adapter cable with Hirose plug
· Medical IEC60601-1 3rd edition approval

GP-US932CBSX Control Board
· Supports GP-US932HXE/HUX
· Output: HDSDI, HDMI, YUV and analogue
· RS232C (3.3V) remote control

GP-US932HUX Remote Module Head
· 1/3" type 3MOS with Full-HD Pixel
· C-Mount
· Dimension: app. 27 x 30 x 34 mm

GP-CA932/100-7 Raw Cable
· Non-assembled raw cable in black
· Outer diameter 7.0 mm
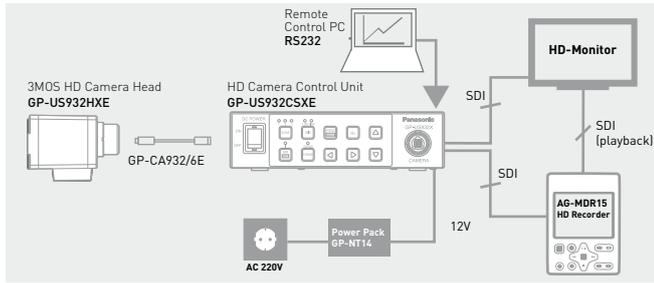· Suitable for medical applications
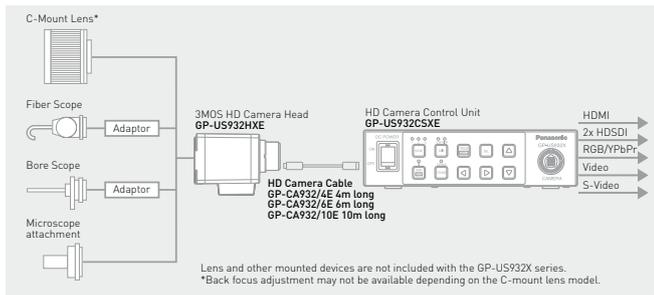
GP-GUI/HDCam
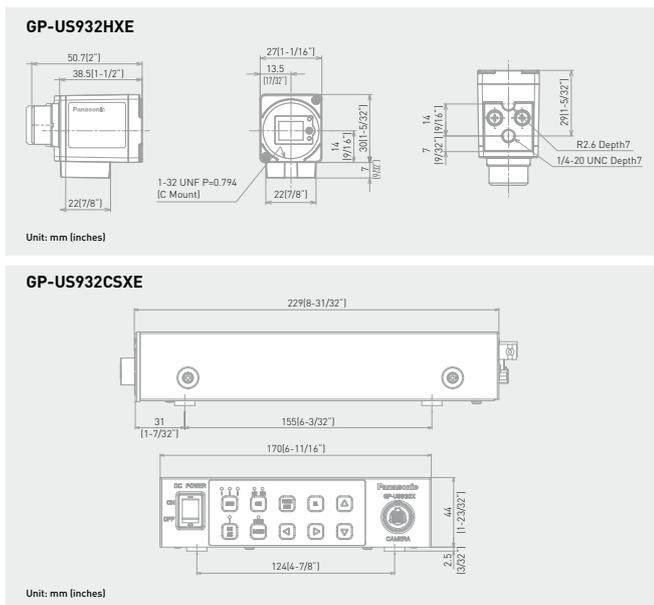- Remote Control SW
- RS232

SPECIFICATIONS
GP-US932X SERIES

Sample Configuration

System Block Diagram

Lens and other mounted devices are not included with the GP-US932X series.
*Back focus adjustment may not be available depending on the C-mount lens model.

Appearance

GP-US932HXE

Unit: mm (inches)

GP-US932CSXE

Unit: mm (inches)

Model No.		GP-US932X Series
		50 Hz
Power source:		12 V DC ±10 % with HR10A-7P-4S Connector
Power consumption:		Approx. 14.4 W (including camera head)
Pick-up system:		Micro prism system
Image sensor:		1/3 type 3MOS
Synchronization:		Internal or external synchronization
Video output:		
Video output		BNC connector x1, 1.0 V [p-p]/75 Ω
S-video output		S-video connector x1 Y: 1.0 V [p-p]/75 Ω C: 0.3 V [p-p]/75 Ω
RGB/YPbPr Output:		D-sub 9-pin connector x1 G: 1.0 V [p-p]/75 Ω B, R: 0.7 V [p-p]/75 Ω Y: 1.0 V [p-p]/75 Ω Pb, Pr: 0.7 V [p-p]/75 Ω SYNC: 0.3 V [p-p]/75 Ω VIDEO: 1.0 V [p-p]/75 Ω
HDMI output:		HDMI connector x1
SDI output:		BNC connector x2
Video format:		
Video output:		576/50i
S-video output:		576/50i
RGB/YPbPr Output:		1080/50i, 1080/25p(sF), 720/50p, 576/50i
HDMI output:		1080/50p, 1080/50i, 1080/25p(sF), 720/50p, 576/50p
SDI output:		1080/50i, 1080/25p(sF), 720/50p, 576/50i
Required illumination:		2000 lx (3200 K, F12, BINNING: ON)
Minimum illumination:		5 lx (F2.2, GAIN: HIGH, BINNING: ON, 30 % output, at center)
S/N:		54 dB (at output using 1080i)
Horizontal resolution:		1000 TV lines at center (typ. when 1080i output)
Color bar:		SMPTE color bar with 0 % set-up
Function:		Camera title, ELC, Electronic shutter, Gain adjustment, Electronic sensitivity enhancement, Binning, Output signal changeover, Scene file, White balance, Black balance, Electronic zoom, Freeze, Flip, Mirror, Status display, Display format changeover for the SD format
External control:		RS-232C D-sub 9-pin connector x1
Ambient operating temperature:		0 °C to 40 °C (32 °F to 104 °F)
Ambient operating humidity:		30 % to 90 %
Dimensions	GP-US932CSXE	170 mm (W) x 44 mm (H) x 229 mm (D) {6-11/16 inches (W) x 1-23/32 inches (H) x 9 inches (D)} (excluding rubber feet and projections)
	GP-US932HXE	27 mm (W) x 30 mm (H) x 38.5 mm (D) {1-1/16 inches (W) x 1-5/32 inches (H) x 1-1/2 inches (D)} (excluding the tripod mount base and projections)
Weight	GP-US932CSXE	Approx. 1.35 kg (2.98 lbs)
	GP-US932HXE	Approx. 70 g (0.15 lbs)
Finish:		Ivory color coating

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