

CHROMYX 4K Pro Series Dual-channel microscope camera

4K HDMI and USB3.0 two-in-one

Doubled functionality, with uncompromising performance



4K HDMI + USB3.0

Opens the dual-mode era of microscopic imaging



CHROMYX 4K Pro series are the microscope cameras mixing HDMI shortcut operation and USB3.0 professional software functions.

Generally one set of HDMI cameras can complete many regular operation in microscope application. And people is fond of this shortcut. However, it usually requires the professional cooperation of USB camera and computer software when performing fine image analysis and process.

CHROMYX 4K Pro series perfectly meet the both working needs. It not only inherits the shortcut operation function of "no computer need, mouse control" from CHROMYX HD camera, but also perfectly transplants MIchrome USB 3.0 camera with its advanced functions like complete imaging control, fine image process and live stitching, live EDF etc.

CHROMYX 4K Pro series are opening a complete new dual-channel imaging mode, with doubled functions and uncompromising performance!

What can 4K bring to you?

4K presents more details than 1080P

Please refer to "The Resolution Table of Flat Field Semiachromatic Objective Lens" for below microscope resolutions: 4x objective lens corresponds to resolution of 2.8µm, 10x for 3.0µm, 20x for 3.7µm, 40x for 4.9µm and 60x for 6.4µm. The resolution of microscope will be even higher if a more higher quality lens used. A 1080P (1920x1080) HDMI camera only has a resolution of 4.6µm under the field of view with 2/3 inch (diagonal: 11mm), and only barely meet the requirements of 40x and 60x objective lens. However, under same FOV, 4K(3840x2160) UHD camera has a resolution of 2.3µm, totally meeting the demands of all objective lens and making the optical lens work at its best efficiency. No matter it is equipped with 4K or 1080P monitor, it can get higher resolution results.





The Resolution Table of Flat Field Semiachromatic Objective Lens

Magnification	NA	Incident wavelength	Resolution	4K	1080p
4	0.13	450nm	2.8µm	\checkmark	×
10	0.3	450nm	3.0µm	\checkmark	×
20	0.5	450nm	3.7µm	\checkmark	×
40	0.75	450nm	4.9µm	\checkmark	~
60	0.85	450nm	6.4µm	\checkmark	\checkmark

Much Stronger 4K Image Signal Processor

The upgrade of 4K resolution requires camera to process a larger amount of data. Generally it is not easy to perfectly reveal 4K image, but CHROMYX 4K ISP performs a very good professional level. It not only can accurately determine the exposure intensity of complex light scenes, but also accurately restore difficult colors such as blue, purple and pink, and maintain a high speed of 30 frames per second.



Embedded-type functionality upgrade

Based on previous generation of CHROMYX HD embedded software, three utility functions are added on CHROMYX 4K Pro to continuously optimize your shortcut operation experience.

1.Time stamp

The file name automatically save the time image taken. The image attributes can record the shooting time for long time.



2.Measurement edit

The data display the position can be moved arbitrarily. Data modification can be undone and recovered



3.Image comparison Support dynamic, static image comparison. The comparison images can be zoom in and zoom out.



USB 3.0+Mosaic professional analysis software

○ Finetune analysis processing, efficient operation experience

The USB3.0 channel on CHROMYX 4K Pro series can realize high speed transmission at 25fps @ 4k full resolution.It contains the same perfect color reproduction and complete parameter control functions as USB3.0 cameras from CHROMYX. Meantime, loaded with CHROMYX Mosaic professional imaging software, containing shooting, processing, measurement, report etc. self-defined function modules, it also allows users to have efficient and stable operation experience when perform advanced functions like

"Live Stitching" and "Live EDF".

○ Live Stitching

When moving the loading platform, the software automatically completes the image stitching, which can be accurately and quickly done under different magnifications and any angle!



O Live EDF

When turning the focus ring to shoot different DOF points, the software automatically generates large DOF images, and the feature points of different focal planes are clearly displayed on the same plane!



The actual image seen under the microscope



The clear images obtained through real-time depth of field fusion

○ Mosaic software features

Capture	Image	Measure	Report
Real-time EDF Real-time image stitching	HDR image synthesis	Customize measuring gauges, layers, precision	Report generation and printing
Real-time 3D noise reduction Real-time sharpening	Real-time fluorescence image synthesis and editing	Implements drawing: points, lines, rectangles, polygons, circles, arcs, angles	Data export as TXT or Excel
Intelligent flat field correction	Binaryzation	Dynamic measurement	
intelligent automatic exposure	Smooth	static measurement	
HDR	Filter/Extract/Inverse Color	Layered measurement	
Delay Capture		Intelligent metrics flow is established, reused to improve measurement efficiency	
JPG, PNG, TIF, BMP are supported			
User parameter group save and load			

Internet interface, more flexible space application

O Remote control, separate human and experimental devices

The CHROMYX 4K Pro series can meet the needs of many medical laboratories or clean workshops that often need to separate operators from operating areas to avoid unnecessary contact or contamination: only by connecting an observer with the CHROMYX 4K Pro series and a computer with the Mosaic software to Internet, you can use Mosaic software to remotely control all features of the camera, and the CHROMYX 4K Pro series can still deliver high speeds of up to 30FPS @ 4K full resolution, even remotely, without affecting the experience.



○ Live interaction, share videos with multiple people in real time

The rapid development of internet technology makes communication more convenient and efficient, and the need of huge resources into multi media interactive platform now can be easily done with one camera. CHROMYX 4K Pro series camera support network standard transmission protocol, and can be connected with the third party live platforms like Ding Talk, Kwai and Tik Tok etc. to set up the internet conference, teaching platform, and interact images with multiple people in real time.



Remark: ① USB 3.0: can perform voice interaction under the help of computer audio function. ② LAN / Wi-Fi: No simultaneous voice interaction supported since no audio interface on camera.

Camera specification

Product Model	CHROMYX 4K Pro			
Sensor Type	SONY IMX485			
Resolution	8MP (3840x2160)			
Frame	HDMI: 30fps@3840x2160 USB 3.0: 30fps@3840x2160			
Image format	HDMI: JPG/TIFF USB 3.0: JPG/PNG/TIFF/DICOM Ethernet: JPG/PNG/TIFF/DICOM			
Exposure Mode	Auto/Manual			
Exposure Time	1µs ~ 1s			
White Balance	Auto/Manual			
Optical Interface	Standard C-Mount			
Data Interface	HDMI:Connect monitorUSB3.0:Connect computerLAN:Connect InternetUSB2.0:Connect mouse			
Software	HDMI: Cloud			
	PC: Mosaic V2 / Mosaic V3			
Operating system	Windows 7 , 10 (32 Bit / 64 Bit) , Mac			
Camera size	105.7x78x70.8 (mm)			
Camera weight	505g			

K-Tec Microscope Services Ltd

Tel: 44 (0) 1438 315262 Web: www.ktecmicroscopes.co.uk E-mail: info@ktecmicroscopes.co.uk

