

Touptek Microscope - USB-Camera XFCAM-4K-Series 4k-HDMI + USB 3.0 + SD-Card + Wifi

The XFCAM4K8MPA camera is a camera designed by Touptek that includes multiple modes of output (HDMI+Wi-Fi+USB), where X in 'XFCAM' means a CMOS camera with multiple interfaces, and F means auto focus. It uses ultra-high-performance CMOS sensor.

The camera can be directly connected to an HDMI display, or it can be connected to a computer via Wi-Fi or USB, and the image and video can be saved in an SD card for on-site analysis and subsequent research. Enhanced with an embedded ARM core, this camera integrates various functions inside. With the help of a USB mouse and well-designed UI on the HDMI monitor, all functions could be easily controlled.

The XFCAM4K8MPA camera comes with the built-in auto focus system, which can realize auto focus on specific areas of the scene.



By inserting a Wi-Fi module or connecting with a computer via a USB cable, the user can directly control the camera's hardware with the software ToupView or ToupLite.

- XFCAM4K8MPA camera can be used for tool field inspection, microscope, observation, etc.
- Auto/Manual focus with the movement of the sensor
- Sony Exmor/STARVIS back-illuminated CMOS sensor
- 4K HDMI/USB/LAN/Wi-Fi multiple video outputs
- 4K/1080P auto switching according to monitor resolution
- SD card/USB flash drive for captured image and video storage, support local preview and playback
- Embedded XCamView for the control of the camera and image processing
- Excellent ISP with local tone mapping and 3D denoising
- ToupView/ToupLite software for PC
- iOS/Android applications for smart phones or tablets

The XCAM4K8MPA camera is intended to be used for the acquisition of digital images from the stereo microscope, biological microscope or online interactive teaching.


The basic characteristics are listed as below:

- Sony Exmor/STARVIS back-illuminated CMOS sensor
- 4K HDMI/ LAN/Wi-Fi / USB multiple video outputs
- 4K/1080P auto switching according to monitor resolution
- SD card/USB flash drive for captured image and video storage, support local preview and playback
- Embedded XCamView for the control of the camera and image processing
- Excellent ISP with local tone mapping and 3D denoising
- ToupView/ToupLite software for PC
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Applications of Touptek XFCAM-4K series:

- Scientific research, digital teaching (teaching, demonstration and academic discussing)
- Digital laboratory, medical research
- Machine vision (PCB detection, IC quality control)
- Medical treatment (pathological observation)
- Food (microbial colony observation and counting)
- Aviation and military;

Technical Data:

Order Code	Sensor & Size(mm)	Pixel(μm)	G Sensitivity	FPS/Resolution	Binning	Exposure (ms)
XFCAM4K8MPA	Sony IMX334(C) 1/1.8"(7.68x4.32)	2.0x2.0	505mv with 1/30s 0.1mv with 1/30s	60@3840*2160(HDMI) 30@3840*2160(NETWORK) 30@3840*2160(USB)	1x1	0.04~2000
Interface & Button Functions						
	ON/OFF	Power switch				
	SD	Comply with SDIO3.0 standard and SD card could be inserted for video and images saving				
	LED	LED status indicator				
	DC12V	Power adapter connection (12V/1A)				
	USB Mouse	USB Mouse for control of XCamView software				
	USB3.0	Connect USB flash drive to save picture and video(Host Mode) Connect 5G WLAN module to transfer video wirelessly in real time(AP/STA, Host Mode) Connect the computer to transfer video image(Device Mode)				
	HDMI	Comply with HDMI2.0 standard. 4K/1080P format video output and supporting automatic switch between 4K and 1080P format according to the connected monitors				
Other Specification for HDMI Output						
UI Operation	With USB Mouse to operate on the embedded XCamView					
Image Capture	JPEG Format with 8M(3840*2160) Resolution in SD Card					
Video Record	Video format: 8M (3840*2160) video file encoded by MP4 and H264 Storage frame rate: 50~60fps (related to SD card speed grade and image resolution)					
Camera Control Panel	Including focus, exposure, gain, white balance (automatic, manual, ROI), color adjustment, sharpness and 3D noise reduction control					
Toolbar	Including Zoom, Mirror, Comparison, Freeze, Cross, Browser Function, Multi-language and XCamView Version Information					
Other Specification for Wi-Fi/USB3.0 Output						
UI Operation	ToupView or ToupLite on Windows/Linux/OSX/Android Platform					
Wi-Fi Performance	Frequency: 2.4G Bandwidth: 20M Protocol: 802.11n Highest rate: 150Mbps RF Power 20dBm(Maximum)					
	Frequency: 5G Bandwidth: 40M Protocol: 802.11ac Highest rate: 400Mbps RF Power 20dBm(Maximum)					
USB3.0 Performance	5Gbps					
Maximum Connected Devices	WiFi:1~3 (According to the Environment and Connection Distance)/USB: 1					
White Balance	Automatic/manual/ROI					
Recording System	Still Picture or Movie					
Software Environment						
PC Operating System	Microsoft® Windows® XP /Vista /7/8/8.1(32 & 64 bit) OSx(Mac OS X) Linux					
PC Requirements	CPU: Equal to Intel Core2 2.8GHz or Higher					
	Memory:4GB or More					
	USB Port:USB2.0 High-speed Port					
	Display:19" or Larger					
	CD-ROM					
Operating Environment						
Operating Temperature(Celsius)	-10~ 50					
Storage Temperature(Celsius)	-20~ 60					
Operating Humidity	30~80%RH					
Storage Humidity	10~60%RH					
Power Supply	DC 12V/2A Adapter					
Size						
Length x Width x Height	78 mm (3.07") x 70 mm (2.76") x 92mm (3.62")					
Weight	0.47 kg (1.0lbs)					

Sizes






Packing Information:



H, I , J , K adapters and L, M do not belong to standard scope of delivery.

Standard Packing List			
A	Gift box : L:25.5cm W:17.0cm H:9.0cm (1pcs, 1.43Kg/ box)		
B	XCAM4K Series camera		
C	Power Adapter: Input: AC 100~240V 50Hz/60Hz, Output: DC 12V 1A American standard: Model: GS12U12-P11 12W/12V/1A: UL/CUL/BSMI/CB/FCC EMI Standard: EN55022, EN61204-3, EN61000-3-2,-3, FCC Part 152 class B, BSMI CNS14338 EMS Standard: EN61000-4-2,3,4,5,6,8,11, EN61204-3, Class A Light Industry Standard European standard: Model:GS12E12-P11 12W/12V/1A: TUV(GS)/CB/CE/ROHS EMI Standard: EN55022, EN61204-3, EN61000-3-2,-3, FCC Part 152 class B, BSMI CNS14338 EMS Standard: EN61000-4-2,3,4,5,6,8,11, EN61204-3, Class A Light Industry Standard		
D	USB Mouse		
E	HDMI 2.0 Cable(Support 3840x2160, 60FPS)		
F	High-speed USB3.0 A male to A male gold-plated connectors cable /2.0m		
G	CD (Driver & utilities software, Ø12cm)		
Optional Accessory			
H	SD Card (16G or above; Speed: Class 10)		
I	USB WLAN adapter		
J	Ethernet cable		
K	Adjustable lens adapter	C-Mount to Dia.23.2mm eyepiece tube (Please choose 1 of them for your microscope)	108001/AMA037 108002/AMA050 108003/AMA075
		C-Mount to Dia.31.75mm eyepiece tube (Please choose 1 of them for your telescope)	108008/ATA037 108009/ATA050 108010/ATA075
L	Fixed lens adapter	C-Mount to Dia.23.2mm eyepiece tube (Please choose 1 of them for your microscope)	108005/FMA037 108006/FMA050 108007/FMA075
		C-Mount to Dia.31.75mm eyepiece tube (Please choose 1 of them for your telescope)	108011/FTA037 108012/FTA050 108013/FTA075
Note: For K and L optional items, please specify your camera type (C-mount, microscope camera or telescope camera), ToupTek engineer will help you to determine the right microscope or telescope camera adapter for your application;			
M	108015(Dia.23.2mm to 30.0mm Ring)/Adapter rings for 30mm eyepiece tube		
N	108016(Dia.23.2mm to 30.5mm Ring)/ Adapter rings for 30.5mm eyepiece tube		
O	Calibration kit	106011/TS-M1(X=0.01mm/100Div.);	
		106012/TS-M2(X,Y=0.01mm/100Div.);	
		106013/TS-M7(X=0.01mm/100Div., 0.10mm/100Div.)	

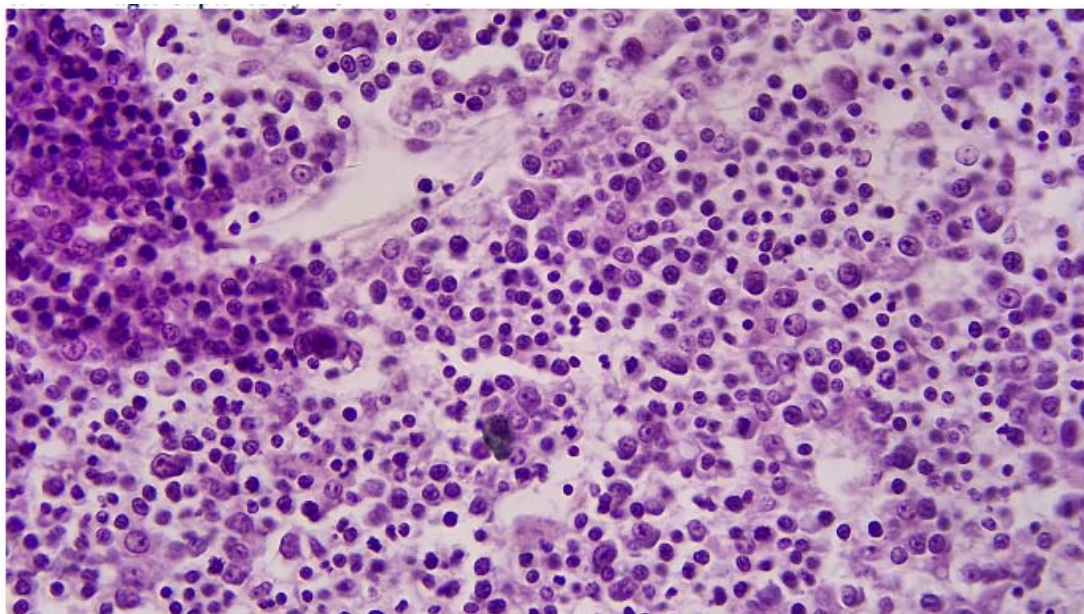
Optional adapters to connect XFCAM-4K to 23.2 mm eye piece tubus

Extension	Picture	
C-mount Camera	 <p>Machine vision; Medical imaging; Semiconductor equipment; Test instruments; Document scanners; 2D barcode readers; Web camera and security video; Microscope imaging;</p>	
Microscope Camera	 <p>4K HDMI+AMAXXX(23.2mm Adapter) 4K HDMI+FMAXXX(23.2mm Adapter)</p>	
Telescope Camera	 <p>4K HDMI+ATAXXX(31.75mm Adapter) 4K HDMI+FTAXXX(31.75mm Adapter)</p>	

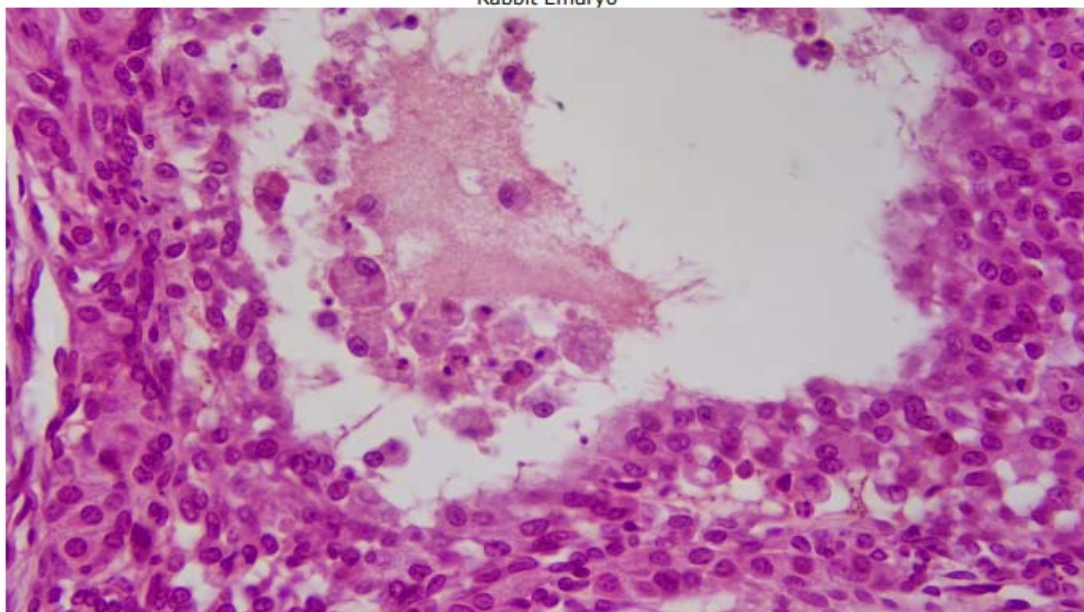
Application Example:



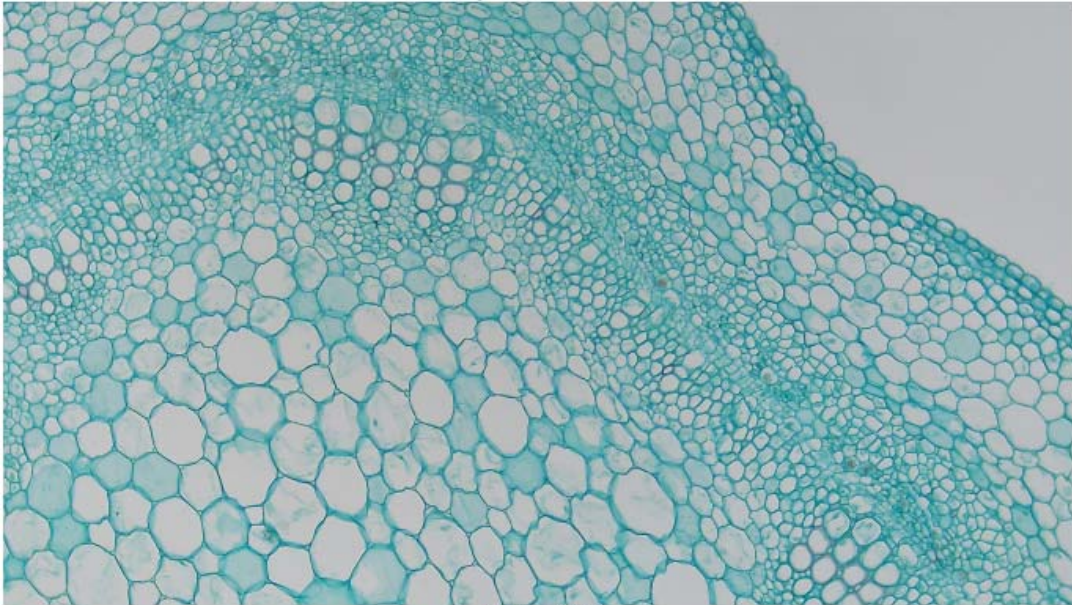
Images:



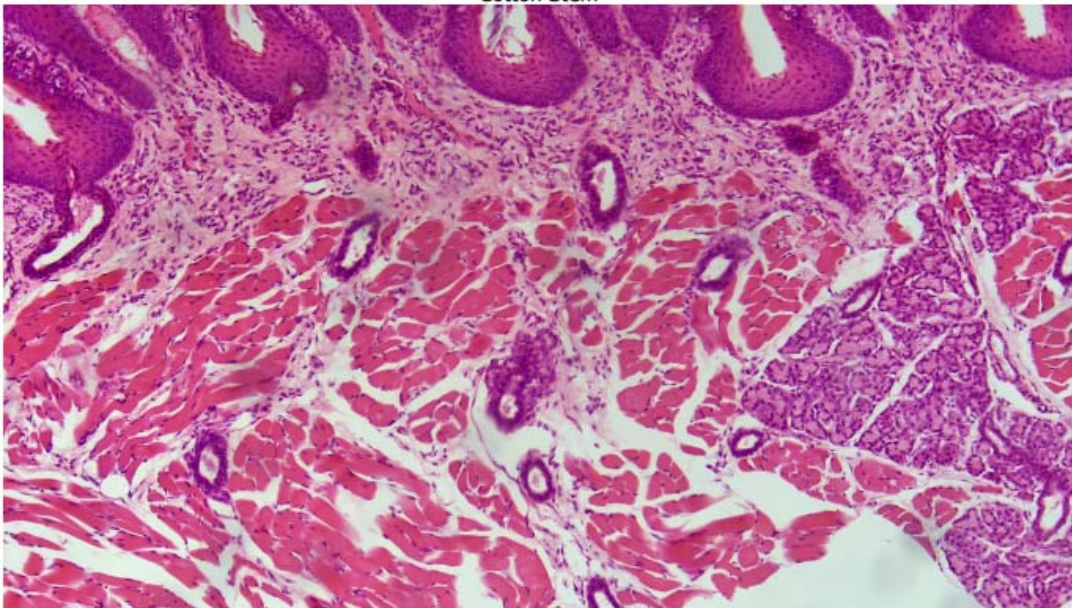
Rabbit Embryo



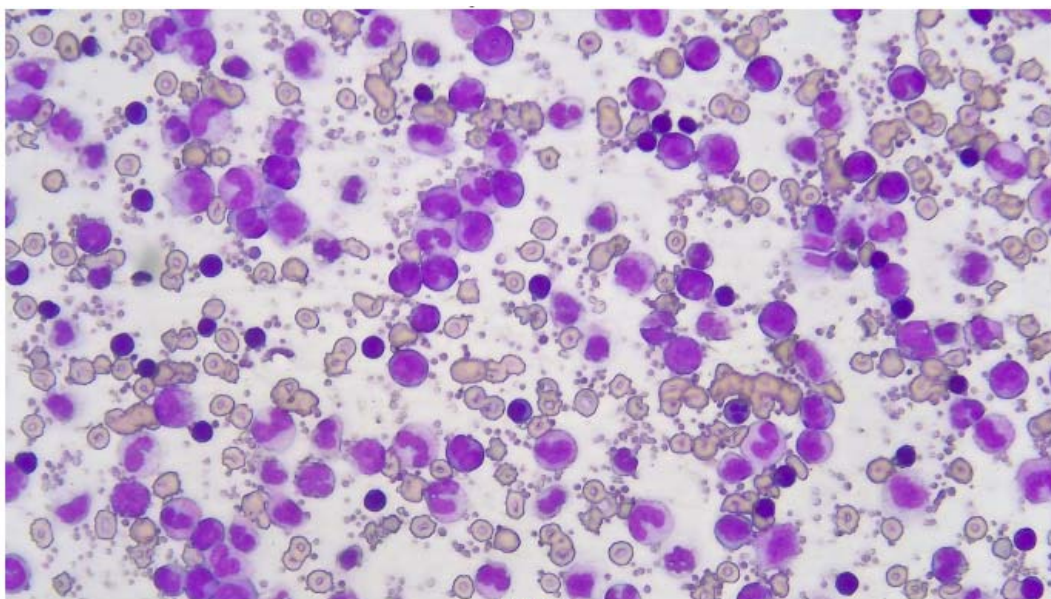
Ovary



Cotton Stem



Taste Bud



MK54-40



Figure 6-1 XCAM4K Camera and Leica Microscope



Figure 6-2 XCAM4K Camera and Zeiss Microscope

All images made by Touptek

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