

TP-XFCAM1080PHD and Microscope HDMI with Wifi and auto focus.



XFCAM1080PHD and Its Back Panel

This camera allows simultaneous output to HDMI and WiFi. Wifi output to 3 devices at same time. You may use the mouse to setup the cameras auto focus system. This allows you to focus on different layers of thick sections on Compound, or Stereoscopic microscopes.

Specifications:

Order Code	Sensor & Size(mm)	Pixel(μm)	G Sensitivity Dark Signal	FPS/Resolution	Binning	Exposure
XFCAM1080PHD	1080P/2M/Sony IMX185(C) 1/1.9"(7.20x4.05)	3.75x3.75	1120mv with 1/30s 0.15mv with 1/30s	60/1920*1080 (HDMI) 25/1920x1080 (WiFi)	1x1	0.06ms~918ms

Other Specification for HDMI Output

UI Operation	With USB Mouse to operate on the embedded XCamView
Image Capture	JPEG Format with 2M Resolution in SD Card (XFCAM1080PHD)
Video Record	ASF Format 1080P 30fps in SD Card(8G)
Camera Control Panel	Including Exposure, Gain, White Balance, Color Adjustment, Sharpness and Denoising Control
Toolbar	Including Zoom, Mirror, Comparison, Freeze, Cross, Browser Function, Auto or Manual Focus function, Multi-language and XCamView Version Information

Other Specification for WiFi Output

UI Operation	ToupView or ToupLite on Windows/Linux/OSX/Android Platform
WiFi Performance	802.11n 150Mbps; RF Power 20dBm(Maximum)
Maximum Connected Devices	3~5(According to the Environment and Connection Distance)
White Balance	Auto White Balance
Color Technique	Ultra-Fine™ Color Engine (WiFi)
Capture/Control API	Standard SDK for Windows/Linux/Mac(WiFi), Apple and Android phone application available, upto 3 devices at one time.
Recording System	Still Picture or Movie (WiFi)

Standard Packing List

A	Gift box : L:25.5cm W:17.0cm H:9.0cm (1pcs, 1.43Kg/ box)
B	XFCAM1080PHD
C	Power Adapter: Input: AC 100~240V 50Hz/60Hz, Output: DC 12V 1A
D	HDMI Cable
E	USB Mouse
F	Wireless network adapter with USB interface
G	CD (Driver & utilities software, Ø12cm)
H	Note SD card is an accessory, not supplied

The XFCAM Camera Rear Cover Function

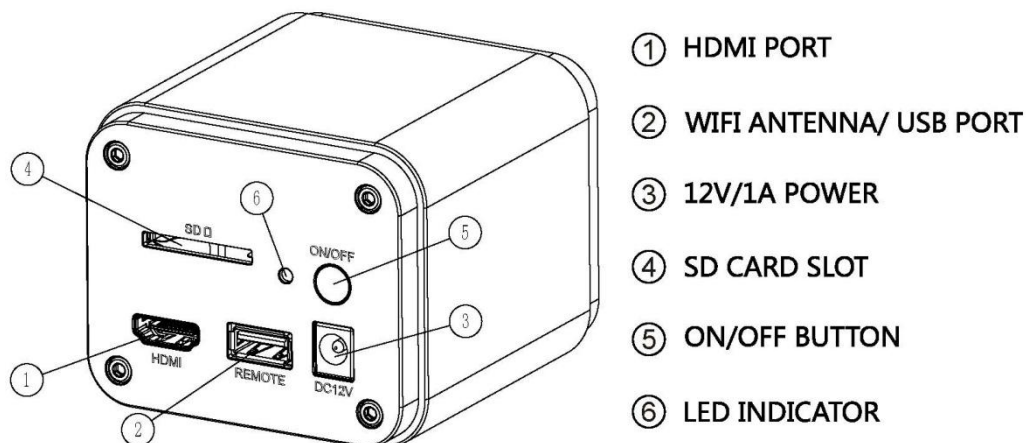


Figure 1 The Layout of XFCAM1080PHD Camera Rear Cover

The **XFCAM1080PHD** is a HDMI camera with auto focus function. Through the precise control of the sensor position, the image can be focused automatically for the stereo or biological microscope. However, this autofocus principle will destruct the microscope's imaging conjugate principle and we think only a minor focus adjustment can be made to keep the image with high quality.

But for the online basic observation, the **XFCAM1080PHD** camera can greatly increase the working efficiency and eliminate manual focus operations.















The Measurement Toolbar on the Upper Side of the Video Window

The **Measurement Toolbar** will pop up when moving mouse cursor to any place near the upper side of the video window. Here are the introduction of the various functions on the **Measurement Toolbar**:














Figure 2 The Measurement Toolbar Button on the Upper Side of the Video window

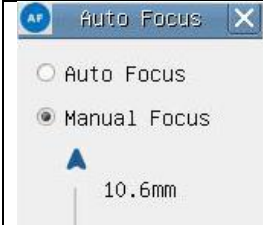
Icon	Function
	Float/ Fix switch of the Measurement Toolbar
<input checked="" type="checkbox"/> Visible	Define measuring object in Show up/ Hide mode
Pixel	Select the desired Measurement Unit
NA	Choose the same Magnification as the microscope to ensure accuracy of measurement result when measurement unit is not in Pixel unite
	Object Select
	Point
	Angle
	Arbitrary Line
	Parallel
	Horizontal Line
	Vertical Line
	Rectangle
	Circle

	Ellipse
	Annulus
	Two Circles and Center Distance
	Arc
	Polygon
	Curve
	Make Calibration to determine the corresponding relation between magnification and resolution, this will establish the corresponding relationship between measurement unit and the sensor pixel size. Calibration needs to be done with the help of a micrometer. For detailed steps of carrying out calibration please refer to ToupView help manual.
	Conjugate Correction: Click  to do the Conjugate Correction before doing any calibration. Then manually adjust the coarse and fine focus knob of microscope to make sure the video is clear. Make sure the magnification in the software stays in accordance with microscope magnification, and then select the corresponding Measurement Unit for doing the measurement.
	Export the measurement information to CSV file (*.csv)
	Delete All the Measurement Objects
	Setting
	Exit from Current Measurement Mode
	When the measurement ends, left-click on a single measuring object and the Object Location & Properties Control Bar will show up. The icons on the control bar mean Move Left , Move Right , Move Up , Move Down , Color Adjustment and Delete .

Icons and Functions of the Synthesis Camera Control Toolbar at the Bottom of the Video Window

Icon	Function	Icon	Function
	Zoom In the Video Window		Zoom Out the Video Window
	Horizontal Flip		Vertical Flip
	Video Freeze		Display Cross Line
	WDR		Start Auto Focus Control Panel
	Browse Images and Videos in the SD Card		Settings
	Check Version of XCamView		

Auto Focus Control Panel on the Right Side of the Video Window

	Auto Focus	With Auto Focus button checked, the system will start autofocus according to status of the specimen till it stays in focus;
	Manual Focus	With Manual Focus checked, users should reset position of the camera sensor by using the mouse to scroll up and down till the specimen stays in focus;
	One Push AF	Click One Push button can carry out autofocus operation for just once;

	Conjugate Correction	<p>Left-click the Conjugate Correction button can reset the camera sensor to standard C-mount position. Conjugate Correction allows users to get sensor position calibrated while ensuring that the camera video window is clear as well as image seen from eyepiece is clear. Suggest users do Conjugate Correction when using the camera for the first time to ensure the camera sensor at the standard C-mount position. This ensures the object plane, eyepiece image plane and camera adapter image plane at the standard position;</p> <p>Note: 1) When height of the specimen changes, users must make sure the sensor at the standard C-mount position while adjusting the coarse and fine focus knob of microscope to focus; 2) Before doing measurement please do Conjugate Correction to make sure accuracy of the measurement results (please refer to Measurement Toolbar> Conjugate Correction... for details).</p>
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