ACUCAL

High Tech Quality Instruments

AUTO FOCUS HIGH RESOLUTION MICROSCOPY CAMERA

Series: ACUHCAM-AF

INTRODUCTION

ACUCAL Microscopy cameras are particularly remarkable for their fast live images, short reaction times, high resolution and clear contrast. And they are compatible with almost all microscopes. Our product range covers digital Microscope Cameras with intuitive software for archiving, measurement, analysis and presentation. 100% reproducibility of the exposures and highly convenient remote control of the cameras and ensure a fast and economical workflow.

- ACUHCAM-AF Series camera is a multiple interfaces (4K HDMI+USB+Wifi+LAN Network+SD card+Pen Drive) CMOS camera and it adopts ultra-high performance CMOS sensor as the image-picking device. USB is used as the data transfer interface.
- For 4K HDMI output, a camera control panel and toolbar are over layed on the HDMI screen, in this case, the USB mouse can be used to set the camera, browse and compare the captured image.
- For USB output, unplug the mouse and plug in the USB cable into your PC USB , then the video stream can be transfer to computer with the supplied software.

FEATURES

- All in 1(4K HDMI+USB+WIFI+LAN Network +SD Card+Pen Drive) C-mount camera with high sensitivity Sony CMOS sensor.
- Support COLOR image capture(JPEG, BMP, TIFF, PNG, PCX, TGA, GIF,TFT, DICOM) & Video Recording(AVI, MOV).
- Simultaneous 4K HDMI & USB output for support both, the operation in stand-alone mode and in combination with a computer and software. Built-in mouse control.
- Built-in image capture & video record to SD card or USB Flash Drive & viewing gallery of images & videos.
- Built-in camera control panel for mouse control on Screen Display for fine tuning camera parameters and the image file name shall be selected and adjusted via mouse and keyboard.
- Interfaced to a computer via USB technology for rapid image download.
- ULTRA HDMI resolution (stand-alone on-screen display (OSD) capable to capture display image on large screen Image acquisition & Video acquisition via mouse and keyboard without PC
- Plug-to-use, suitable for imaging of any standard Biological, Stereo and Metallurgical microscopes for observations, such as bright field, DIC, phase contrast and fluorescence.
- Integrated zinc aluminium alloy housing & passive cooling system.
- Ultra-Fine color engine with perfect color reproduction capability.
- With advanced video & image processing application Software.
- Windows 7 / 8 / 8.1 / 10 (32/ 64 bit) /Linux/macOS/Android multiple platform SDK
- Supported Mobile Device OS: Version number: iOS 11 and later, Android 5.1 and later.
- Compatible with all makes of microscopes.

FIELDS OF APPLICATION

Materialography	Inspection Industry	Patrography
Quality Control	Geology	Mineralogy
Pathology	Forensic	Cell Biology

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INTERFACE & BUTTON FUNCTIONS

Interface	Function Description
USB Mouse	Connect USB mouse for easy operation with embedded software.
USB	1. Connect USB flash Pen drive to save pictures and videos. 2. Connect 5G WLAN (IEEE 802.11n) module to transfer video wirelessly in real time
USB2.0/3.0 (for PC)	Connect computer with USB connection to transfer Photo/video in real time with speed upto480Mbps.
HDMI (for Monitor without need of PC)	Comply with HDMI standard. 4K/1080P format video output and supporting automatic switch between 4K and 1080P format according to the connected monitors.
GE/LAN (Ethernet NETWORK)	Gigabit Ethernet port to connect router and switch to transfer content.
SD Card	Comply with SDIO3.0 standard and SD card could be inserted for video and images saving.
DC12V	Power adapter connection (12V/1A).
ON/OFF	Power switch.
LED	LED status indicator.

SPECIFICATION

Description	ACUHCAM-AF8MP
Image Sensor	1/1.8" Single Plate type SONY Color CMOS (7.680 mm × 4.320 mm), 8 Mega pixels
Frame Rate:	30 fps to 60fps
Resolutions :	8.3 Megapixels Resolutions • 3840*2160 **4K ULTRA HD** • 1920*1080 **FULL HD**
Pixel Size	2.0 µm x 2.0 µm
Sensitivity	505 mv with 1/30s
Scan Mode	Progressive Scan
Operating Temperature	0° C to + 60° C
Operating Humidity	30%-80%, Non-condensing
Exposure Time	0.04 ms to 30s
White Balance	Automatic / Manual
Exposure Control :	Automatic / Manual
Shutter	Electronic Rolling
Quantum Efficiency	≥ 65% at 500nm
Digitization Bit Depth	12 bit
ISO sensitivity	ISO 50 to ISO 3200
Digital Binning	1x1

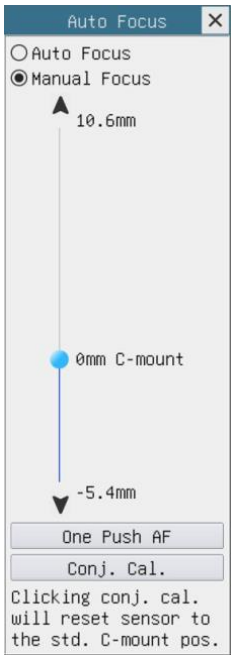
Other Specification

- Camera Control Panel : Including Exposure, Gain, Gamma, Saturation, Contrast, White Balance Auto/Manual, Color Adjustment, Sharpness and Denoising Control
- Toolbar : Including Zoom, Mirror, Comparison, Freeze, Cross, Browser Function
- White Balance : Manual / Auto White Balance
- Color Technique : Ultra-Fine Color Engine
- Recording System : Still Picture or Movie

Standard Supply

- **HDMI Cable, USB Cable, Wifi Dongle, Power Adopter, Software CD**

AUTO FOCUS CONTROL PANEL

	**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;
	OnePush AF	Click One Push AFbutton can carry out autofocus operation for just once;
	Conjugate Correction	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; 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).

PHOTOGRAPHS CAPTURED

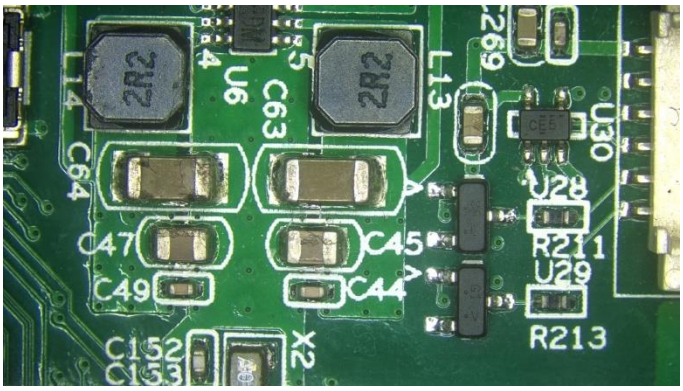


Figure 1) Circuit Board Captured

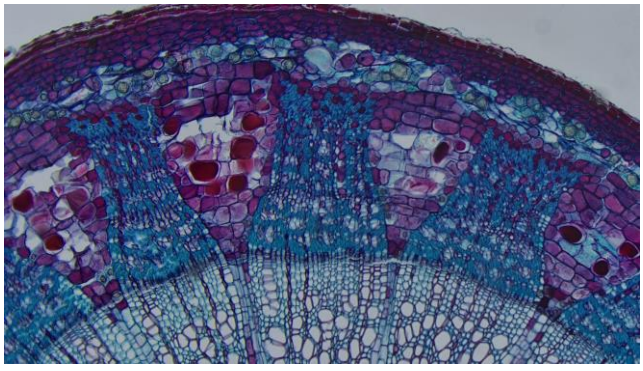


Figure 2) Two Year Tilia Stem.C.S. Captured

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