

## BHC3-1080AF Autofocus HDMI Digital Camera



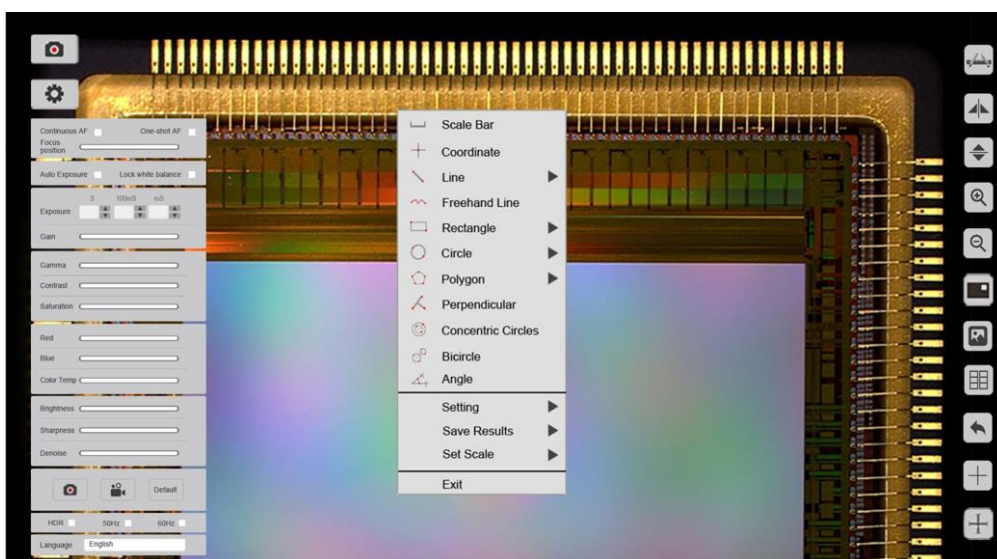
### Introduction

BHC3-1080AF Autofocus HDMI Microscope Camera is a 1080P scientific grade digital camera that has ultra superior color reproduction and super fast frame speed. BHC3-1080AF can be connected to a LCD monitor or HD TV via HDMI cable and operated independently without connecting to PC. The image/video capture and operate can be controlled by mouse, so no shaking when you take images and videos. It also can be connected to a PC via USB2.0 cable and operate with the software. With fast frame speed and short responding time features, BHC3-1080AF can be used in many areas like microscopy imaging, machine vision and similar image processing fields.

### Features

#### 1. Built-in mouse control for autofocus and image measurement operations.

The significant innovation of BHC3-1080AF is making the software implant inside the camera. This feature liberates users from computers and annoying buttons. You can control the camera by only a mouse.



## 2. An unprecedented high-speed focusing experience.

BHC3-1080AF offers both continuous and single-shot autofocus modes. It also supports mouse wheel control for fine-tuning. Data transfer up to 60 frames per second enables users to get clear images with ease.

## 3. Record image and video to SD card.

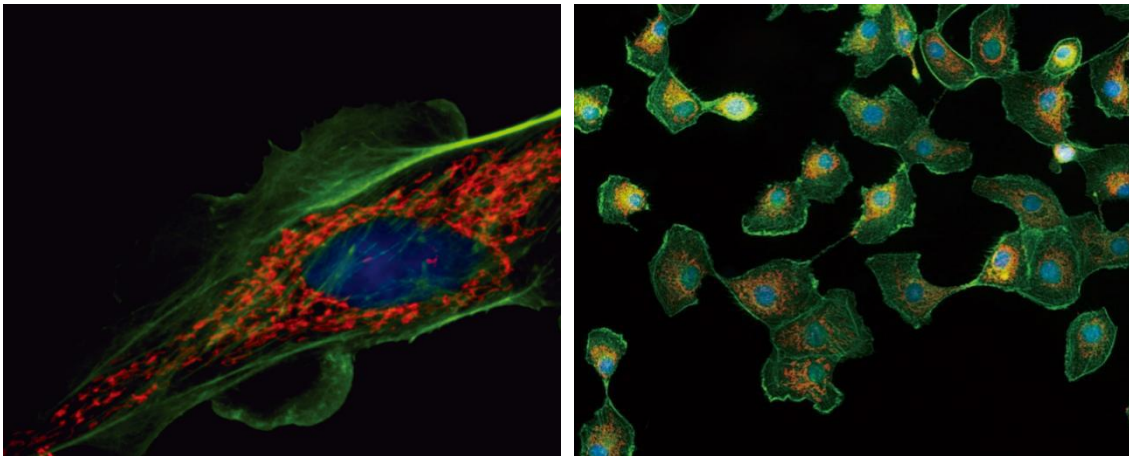
Capture images at 6.0MP resolution (3264 × 1836), record high definition videos at 30fps/1080P into the inserted SD card directly.

## 4. High frame rate upto 60fps.

With 60fps preview frame rate at resolution 1920x1080 when it is connected via HDMI interface.

## 5. HDMI Fluorescent imaging Capability.

Taking advantage of the ultra high signal-to-noise ratio sensor, BHC3-1080AF allows you to set up to 10 seconds exposure time. So it can be used with fluorescent microscopes.



## 6. The functions inside camera (Cloud 1.0)

### (1) Simple to operate.

The implanted software is very simple to operate. There are only the icons on the software starting screen, one for capture, the other one for setting menu.

### (2) Set Exposure Time Capability.

Based on the auto exposure, the first time, HDMI camera also has a full control of the exposure time and gain. It allows to set the exposure time from 1ms to up to 10 seconds and adjusts 20 scales of Gain value.

### (3) 3D Noise Reduction.

The extension of the exposure increases the image noise. But the integrated 3D noise reduction function keeps the BHC3-1080AF image always clean and sharp. The following comparison images show the amazing 3D noise reduction effect.




Original image



After 3D noise reduction

(4) 1080P Video Recording.

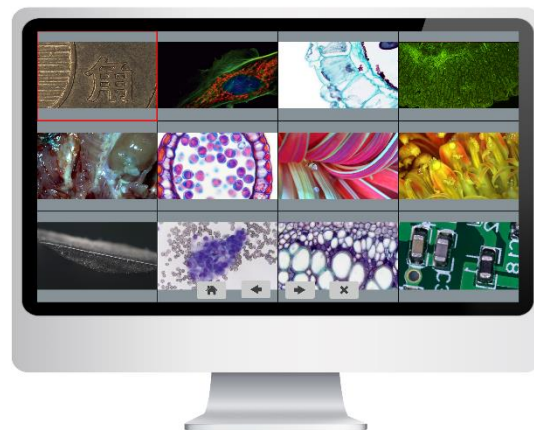
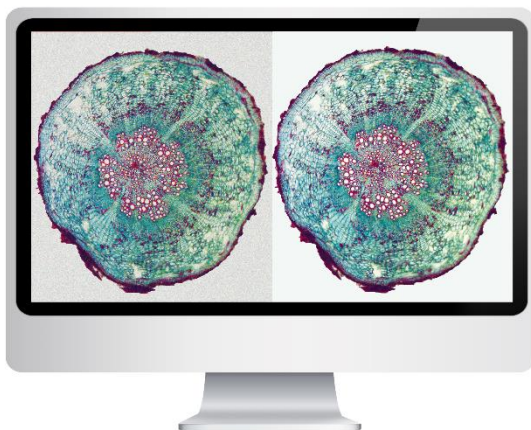
Just click “” to start recording 1080P videos at 30fps. The recorded video files will be saved to the high speed SD card directly. It is also allowed to play back the videos in the SD card directly.

(5) Get more Details with ROI Magnification Function.

A series image operation buttons on the right side of the screen allow to do the image flip, rotation and zoom. Zoom function can help you get more image details with a magnified image.

(6) Image Comparison Function.

The image comparison function is available in the setting menu. You can choose one image, even move the image position or select the ROI area to compare with the live images.



(7) Browse Captured Images.

All the captured images are saved in the SD card. The users can browse all the images in the SD card, zoom in images or delete unnecessary images. You also can review and play back the video files in the SD card directly.

(8) Measurement function when it is connected to LCD monitor.

When it is connected to LCD monitor, BHC3-1080AF provides extremely powerful measurement functions including freehand line, rectangle, polygon, circle, bicircle, angle, point-line distance and much more. Three different length units of micrometer, millimeter and centimeter are provided to meet various measurement requirements in different applications.



## 7. PC software.

Connect the camera to the PC via the USB2.0 port, the camera support Win XP, Win7/8/10, 32/64bit, MAC OSX operation system, driver free. The frame rate is 30fps(with 1080P resolution) when it is connected to PC. The application software Capture2.0, which integrate the remarkable functions like live and still image measurement, live EDF, live stitching, captured image stacking and stitching etc., can fully control the camera. We keep a copy of Capture2.0 in the SD card come with the camera.

## Application

BHC3-1080AF HDMI digital camera can be widely used in video conferencing, remote medical diagnosis, microscopy images, industrial inspection, video projectors, security monitoring field. With the high image quality and easy to operate features, it will be your best assistant for following applications:

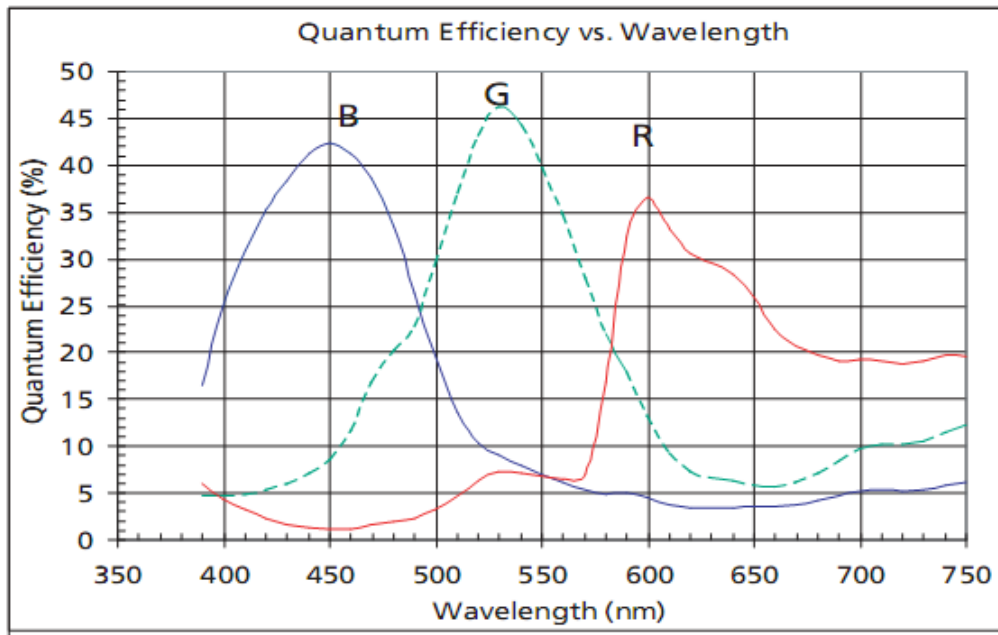
1. Live Cell Imaging
2. Surgical Microscopic Imaging
3. Pathology
4. Cytology
5. Defect Analysis
6. Semiconductor Inspection
7. Metrology
8. Navigation for Processed Imaging
9. Industrial Optical HD Digital Imaging
10. Astronomical Observation

## Specification

Model	BHC3-1080AF
Image Sensor	Sony IMX307 color CMOS Sensor
Chip Size	1/2.8"
Pixel Size	2.8um × 2.8um
Video Resolution	1920 × 1080
Captured Image	3264 × 1836 on SD card to LCD monitor,

Resolution	1920 × 1080 and 3264 × 1836 with software to PC
Preview Frame Rate	1920 × 1080 30fps via USB2.0 1920 × 1080 60fps via HDMI
Data Record	High speed SD Card (8G)
Video Record	1080p 30fps @ SD Card 1080p 30fps @ PC
Scan Mode	Progressive
Electronic Shutter	Electronic Rolling Shutter
A/D conversion	8 bit
Color Depth	24bit
Sensitivity	510mV
Dynamic Range	68dB
S/N ratio	52dB
Exposure time	0.001 sec ~ 10.0 sec
Exposure	Automatic & Manual
White balance	Automatic
Settings	Exposure time, Gain, Gamma, Contrast, Saturation, Color, Color Temperature, Brightness, Sharpness, Noise Reduction, HDR, scale bar function
Measurement Function when connected to LCD Monitor	Complete measurement function, including Anchor Point, Line, Freehand Line, Rectangle, Circle, Polygon, Point-line Distance, Concentric Circles, Bicircle, Angle etc.
PC software	Capture2.0
Output model 1	USB2.0
Output model 2	HDMI
System Compatible	Windows XP/Vista/Win 7/8/10(32 and 64-bit ), MAC OSX (Real-time image stitching needs to run on a 64-bit system)
Optical port	C- Mount
Power Supply	DC 12V /2A
Working Temperature	0-60°C
Humidity	45%-85%
Storage Temperature	-20-70°C
Dimension & Weight	78*70.8*90.7mm, 452g

### Characteristic Curve of Photographic Transmission



### Sample Images

