

## BWHC Series C-mount WIFI+HDMI CMOS Camera



### Introduction

BWHC series cameras are multiple interfaces (HDMI+WIFI+SD card) CMOS cameras and they adopt ultra-high performance Sony CMOS sensor as the image capture device. HDMI+WIFI are used as the data transfer interface to HDMI display or computer.

For HDMI out, The XCamView software will be loaded and a camera control panel and toolbar are displayed on the HDMI screen, in this case, the USB mouse can be used to control the camera, browse and compare the captured image, play back the video.

For WIFI out, unplug the mouse and plug in the USB WIFI adapter, connect the computer WIFI to the camera, then the video stream can be transferred to computer with the advanced software ImageView. With ImageView, you can control the camera, process the image as other USB series camera.

### Features

The BWHC cameras' basic characteristic is as follows:

1. All in 1( HDMI+WIFI) C-mount camera with Sony high sensitivity CMOS sensor;
2. For HDMI application, with built-in multiple-language XCamView software. The camera characteristic can be controlled by XCamView through the USB mouse. The other basic processing and choosing can also be realized by the XCamView.;
3. 1920 × 1080 (1080P) resolutions to match the current high-definition displayer on the market; Support plug and play application;
4. For HDMI application, 5.04M resolution image(2592\*1944 [BWHC-1080B](#)) or 2.0M resolution image(1920\*1080 [BWHC-1080D/E](#)) can be captured and saved for browsing; For video, 1080P video stream(asf format) can be captured and saved;
5. With the USB WIFI adapter, the BWHC-1080B/D/E can be used as WIFI camera, the ImageView/ImageLite

advanced image processing software is used to view the video and capture image, support plug and play application;

6. Ultra-Fine color engine with perfect color reproduction capability(WIFI);

7. With advanced video & image processing application ImageView, which including professional image processing such as 2D measurement, HDR, image stitching, EDF(Extended Depth of Focus), image segmentation & count, image stacking, color composite and denoising(USB).

## Application

BWHC-1080B/D can meet various applications and can be widely used in industrial inspection, education and research, materials analysis, precision measurement, medical analyses etc.

The possible application of BWHC-1080B/D/E is as follows:

1. Scientific research, education (teaching, demonstration and academic exchanges);
2. Digital laboratory, medical research;
3. Industrial visual (PCB examination, IC quality control);
4. Medical treatment (pathological observation);
5. Food (microbial colony observation and counting);
6. Aerospace, military (high sophisticated weapons).

## Specification

Order Code	Sensor & Size(mm)	Pixel(μm)	G Sensitivity Dark Signal	FPS/Resolution	Binning	Exposure
<b>BWHC-1080B</b>	1080P/5M/Sony IMX178(C) 1/1.8"(6.22x4.67)	2.4x2.4	425mv with 1/30s 0.15mv with 1/30s	30@1920*1080(HDMI) 25@1920*1080(WiFi)	1x1	0.03ms~918ms
<b>BWHC-1080D</b>	1080P/2M/Sony IMX185(C) 1/1.9"(7.20x4.05)	3.75x3.75	1120mv with 1/30s 0.15mv with 1/30s	30@1920*1080(HDMI) 25@1920*1080(WiFi)	1x1	0.06ms~918ms
<b>BWHC-1080E</b>	Sony IMX249(C, <b>GS</b> ) 1/1.2"(11.25x6.33)	5.86*5.86	1016mv with 1/30s 0.15mv with 1/30s	30@1920*1080(HDMI) 25@1920*1080(WiFi)	1x1	0.043ms~1000ms

C: Color; M: Monochrome; GS: Global Shutter

Interface & Button Functions		
	USB	USB Mouse/USB WIFI Adapter
	HDMI	HDMI Out
	DC12V	12V Power in
	SD	SD Card Slot
	ON/OFF	Power On/off Switch
	LED	Power Indicator
Other Specification for HDMI Out		
UI Operation	With USB Mouse to Operate on the embedded XCamView	
Image Capture	JPEG Format with 5M Resolution (2592*1944) in SD Card(8G) <b>(BWHC-1080B)</b> JPEG Format with 2M Resolution in SD Card(8G) <b>(BWHC-1080D/E)</b>	
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, Muti-language and XCamView Version Information	
Other Specification for WIFI Out		
UI Operation	ImageView or ImageLite on Windows/Linux/OSX/Android Platform	
WIFI Performance	802.11n 150Mbps; RF Power 20dBm(Maximum)	
Maximum Connected Devices	3~6(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)	
Recording System	Still Picture or Movie (WIFI)	
Software Environment (for USB2.0 Connection)		
Operating System	Microsoft® Windows® XP / Vista / 7 / 8 / 8.1/10(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(As Power Only, not as the USB Data Transfer)	
	Display: 19” or Larger	
	CD-ROM	
Operating Environment		
Operating Temperature (in Centigrade)	-10~ 50	
Storage Temperature (in Centigrade)	-20~ 60	
Operating Humidity	30~80%RH	
Storage Humidity	10~60%RH	
Power Supply	DC 12V/1A Adapter	

## BWHC-1080B/D/E and Microscope



BWHC-1080B/D/E and Its Back Panel



Different Views of BWHC-1080B/D/E

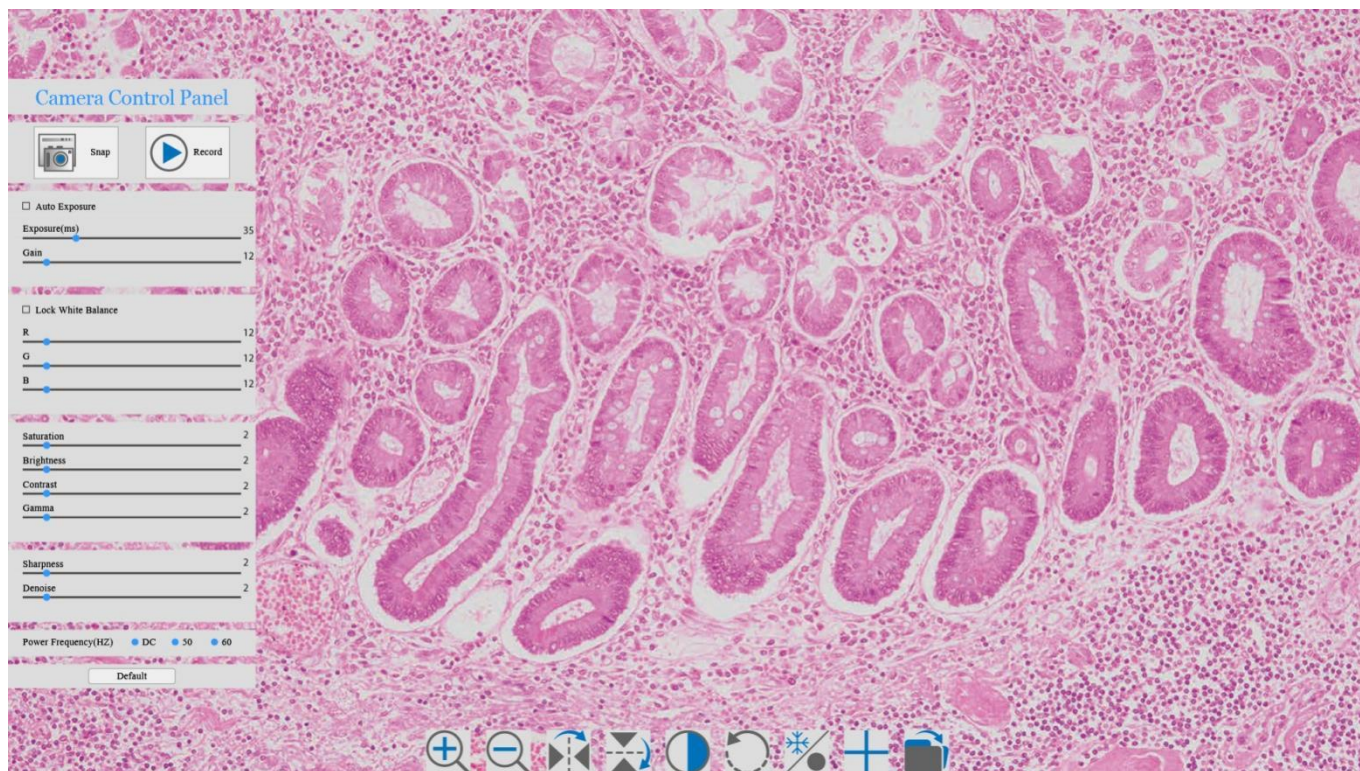


BWHC-1080B/D/E and Microscope



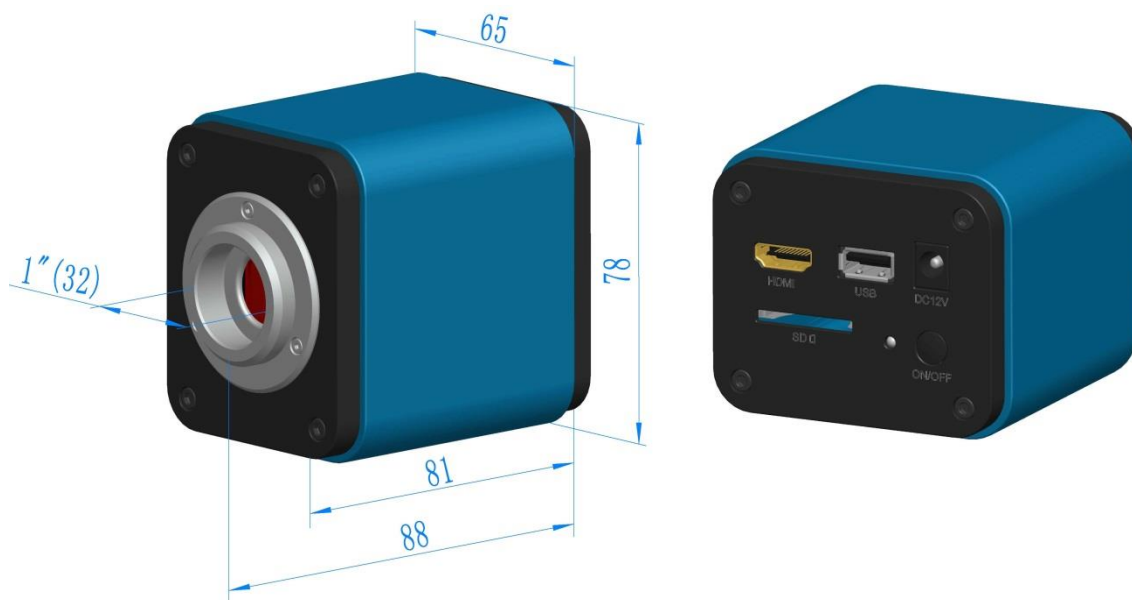
BWHC-1080B/D/E+ Microscope+Display





XCamView UI for Mouse Control

## Dimension



Dimension of BWHC-1080B/D/E

## Packing Information








Packing information of BWHC-1080B/D/E

Standard Packing List		
A	Gift box : L:25.5cm W:17.0cm H:9.0cm (1pcs, 1.43Kg/ box)	
B	XCAM1080PHB or XCAM1080PHD or XCAM1080PHE camera	
C	Power Adapter: Input: AC 100~240V 50Hz/60Hz, Output: DC 12V 1A	
	American standard: Model: GS12U12-P1I 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-P1I 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	HDMI Cable	
E	USB Mouse	
F	Wireless network adapter with USB interface	
G	CD (Driver & utilities software, Ø12cm)	
Optional Accessory		
H	Adjustable lens adapter	C-Mount to Dia.23.2mm Eyepiece Tube (Please choose 1 of them for your microscope)
		C-Mount to Dia.31.75mm Eyepiece Tube (Please choose 1 of them for your telescope)
I	Fixed lens Adapter	C-Mount to Dia.23.2mm Eyepiece Tube (Please choose 1 of them for your microscope)

		C-Mount to Dia.31.75mm Eyepiece Tube (Please choose 1 of them for your telescope)
	Note: For H and I optional items, please specify your camera type(C-mount, microscope camera or telescope camera), our engineer will help you to determine the right microscope or telescope camera adapter for your application;	
J	108015(Dia.23.2mm to 30.0mm Ring)/Adapter rings for 30mm eyepiece tube	
K	108016(Dia.23.2mm to 30.5mm Ring)/ Adapter rings for 30.5mm eyepiece tube	
L	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.)
M	SD Card(4G or 8G)	

### Extension of BWHC-1080B/D/E with Microscope or Telescope Adapter

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>(23.2mm Adapter)</p>  <p>(23.2mm Adapter)</p>	
Telescope Camera:	 <p>(31.75mm Adapter)</p>  <p>(31.75mm Adapter)</p>	