

## 5.2 XCAM1080PHA C-mount HDMI+USB Output CMOS Camera(1)



### 5.2.1 XCAM1080PHA's Basic Characteristic

XCAM1080PHA is a multiple interfaces (HDMI+USB2.0+SD card, so X here means multiple interfaces) CMOS camera and it adopts ultra-high performance Sony IMX236 CMOS sensor as the image-picking device. HDMI+USB2.0 are used as the data transfer interface to HDMI display or computer.

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

For USB2.0 output, unplug the mouse and plug in the USB2.0 cable to the camera and computer, then the video stream can be transfer to computer with the advanced software ToupView. With ToupView, you can control the camera, process the image as ToupTek's other USB series camera.

The XCAM1080PHA's basic characteristic is as follows:

- All in 1( HDMI+USB+SD card) C-mount camera with Sony high sensitivity CMOS sensor;
- Simultaneous HDMI & USB output;
- CNC precision machining shell;
- Built-in mouse control;
- Built-in image capture & video record to SD card;
- Built-in camera control panel, including exposure(manual/auto)/gain, white balance(lockable), color adjustment, sharpness and denoising control;
- Built-in toolbar including zoom, mirror, comparison, freeze, cross, browser functions;
- Built-in image & video browsing, display & play;
- Ultra-Fine color engine with perfect color reproduction capability(USB);
- With advanced video & image processing application ToupView, 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);
- Support standard UVC for Windows/Linux/Mac(USB);

The possible applications of XCAM1080PHA are as follows:

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

## 5.2.2 XCAM1080PHA Datasheet(1)

| Order Code                     | Sensor & Size(mm)                      | Pixel(μm) | G Sensitivity<br>Dark Signal            | FPS/Resolution                           | Binning | Exposure    |
|--------------------------------|--|-----------|---|--|---------|-------------|
| <b>XCAM1080PHA<br/>XP1080A</b> | 1080P/Sony IMX236<br>1/2.8"(5.38x3.02) | 2.8x2.8   | 510 mv with 1/30s<br>0.15 mv with 1/30s | 30@1920*1080P(HDMI)<br>30@1920*1080(USB) | 1x1     | 0.1ms~999ms |

C: Color; M: Monochrome;

### Interface & Button Functions



|        |                         |
|--------|-------------------------|
| USB    | USB Camera or USB Mouse |
| HDMI   | HDMI Output             |
| DC12V  | 12V Power in            |
| SD     | SD Card Slot            |
| ON/OFF | Power On/off Switch     |

### Other Specification for HDMI Output

|                      |  |
|----------------------|--|
| UI Operation         | With USB Mouse   |
| Image Capture        | High Speed in SD Card(8G)  |
| Video Record         | 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                        |

### Other Specification for USB Output

|                     |   |
|---------------------|---|
| White Balance       | Auto White Balance                        |
| Color Technique     | Ultra-Fine™ Color Engine (USB)            |
| Capture/Control SDK | Standard UVC for Windows/Linux/macOS(USB) |
| Recording System    | Still Picture or Movie (USB)              |

### Software Environment (for USB2.0 Connection)

|                  |  |
|------------------|--|
| Operating System | Microsoft® Windows® XP / Vista / 7 / 8 / 8.1 / 10(32 & 64 bit)<br>OSx(Mac OS X)<br>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(in Centidegree) | -10~ 50           |
| Storage Temperature(in Centidegree)   | -20~ 60           |
| Operating Humidity                    | 30~80%RH          |
| Storage Humidity                      | 10~60%RH          |
| Power Supply                          | DC 12V/1A Adapter |

## 5.2.3 XCAM1080PHA and Microscope



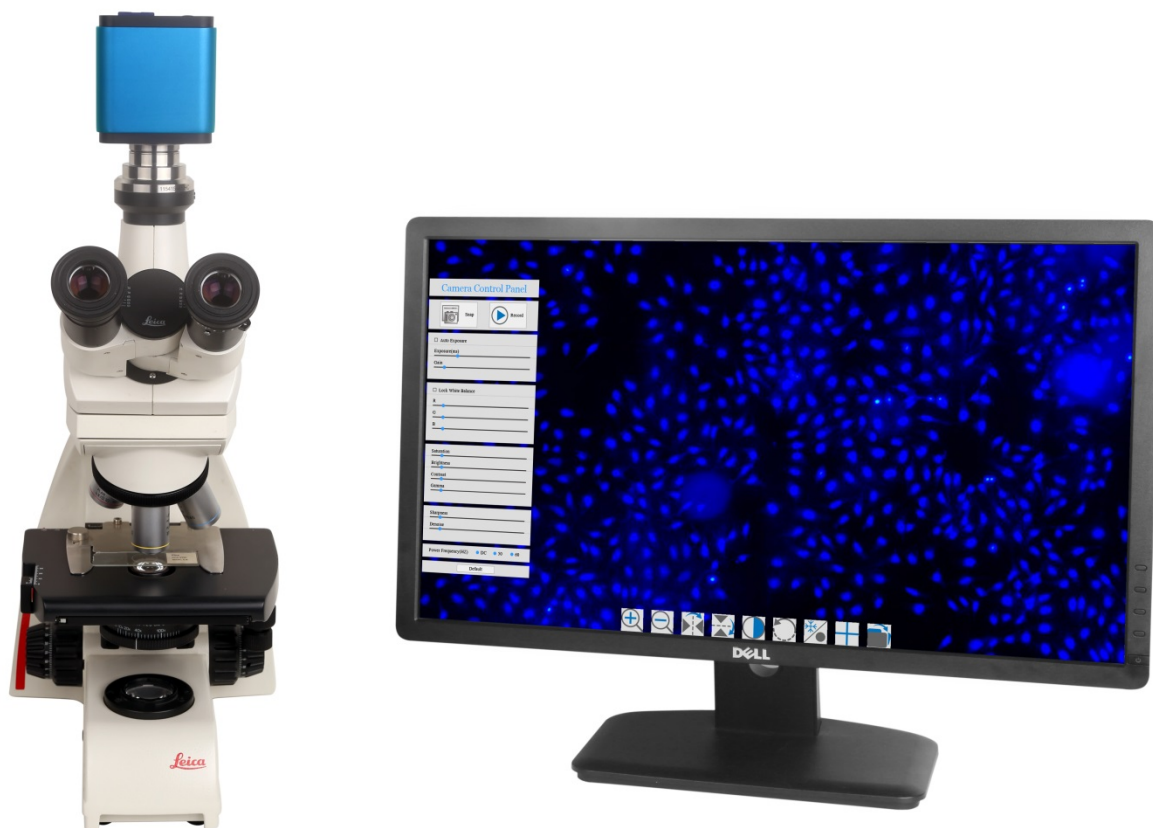
XCAM1080PHA and Its Back Panel



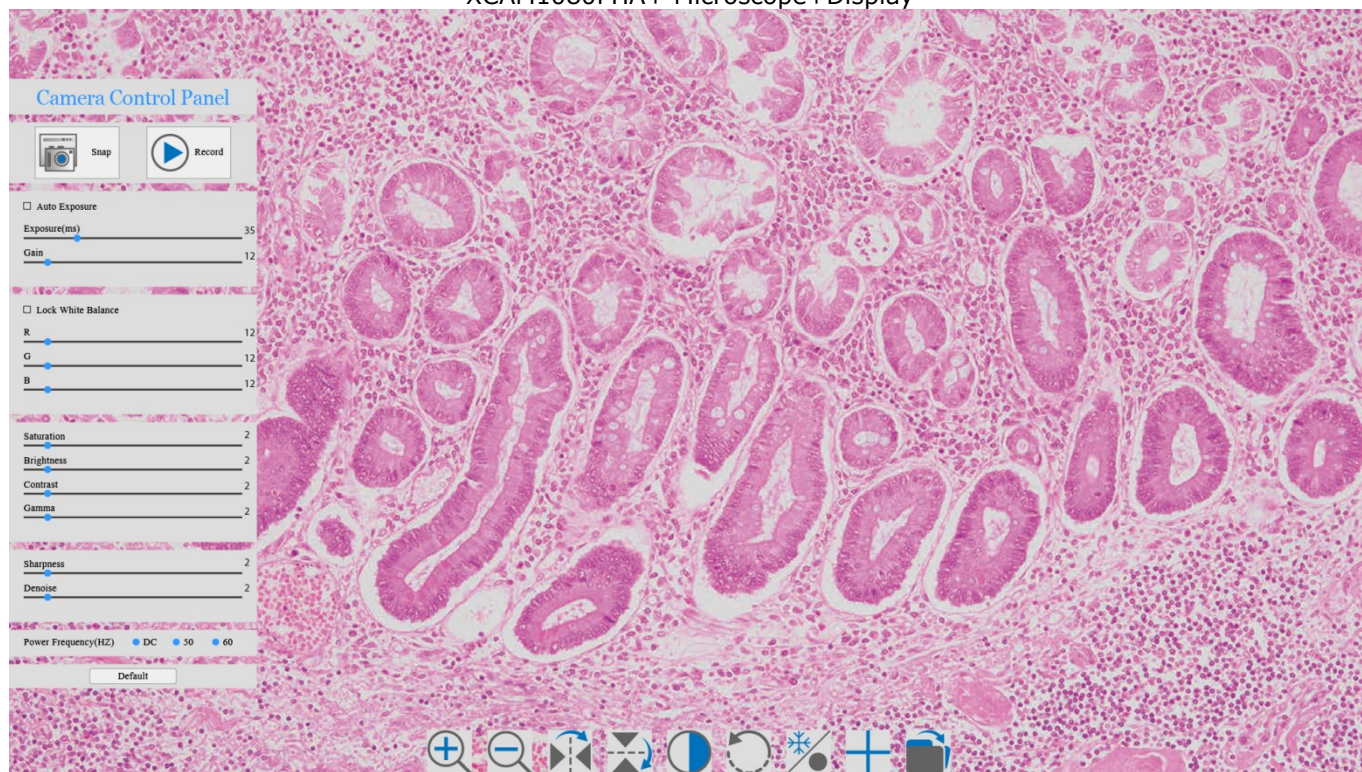
Different Views of XCAM1080PHA



XCAM1080PHA and Microscope

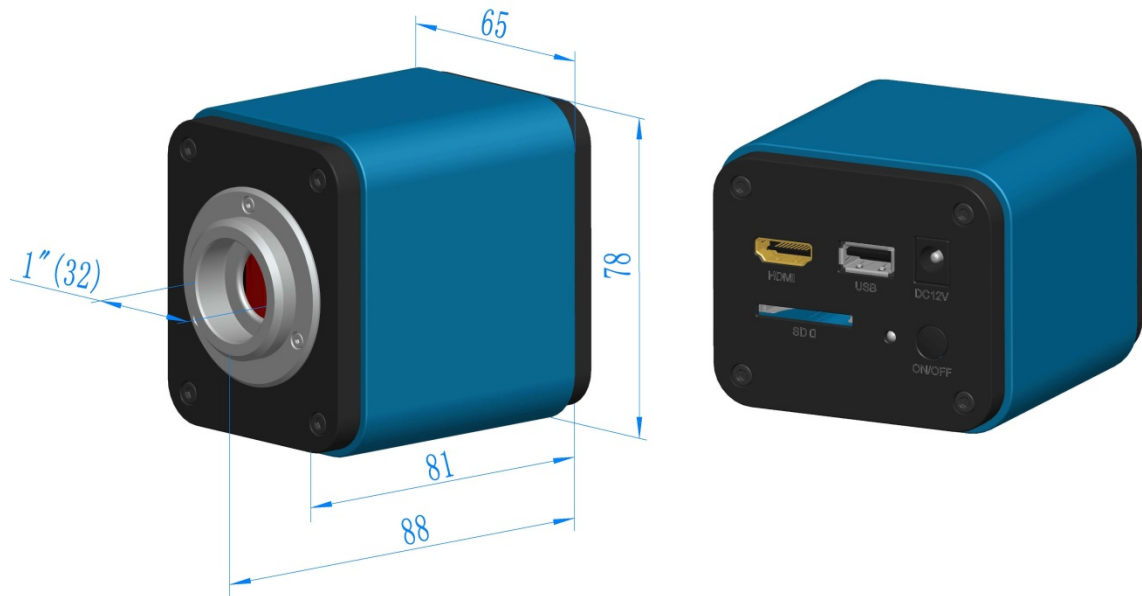


XCAM1080PHA+ Microscope+Display



XCamView UI for Mouse Control

## 5.2.4 Dimension of XCAM1080PHA



Dimension of XCAM1080PHA






## 5.2.5 Packing Information for XCAM1080PHA



Packing Information of XCAM1080PHA

| <b>Standard Packing List</b>   |  |  |   |
|--|--|--|---|
| A  | Gift box : L:25.5cm W:17.0cm H:19.0cm (1pcs, 1.55kg/ box)  |  |   |
| B  | XCAM1080PHA camera   |  |   |
| C  | Power Adapter: Input: AC 100~240V 50Hz/60Hz, Output: DC 12V 1A<br>American standard: Model: GS12U12-P11 12W/12V/1A: UL/CUL/BSMI/CB/FCC<br>EMI Standard:EN55022,EN61204-3, EN61000-3-2,-3, FCC Part 152 class B, BSMI CNS14338<br>EMS Standard:EN61000-4-2,3,4,5,6,8,11,EN61204-3,Class A Light Industry Standard<br>European standard:Model:GS12E12-P11 12W/12V/1A; TUV(GS)/CB/CE/ROHS<br>EMI Standard:EN55022,EN61204-3, EN61000-3-2,-3, FCC Part 152 class B, BSMI CNS14338<br>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  | High-speed USB2.0 A male to A male gold-plated connectors cable /2.0m  |  |   |
| G  | CD (Driver & utilities software, Ø12cm)  |  |   |
| <b>Optional Accessory</b>  |  |  |   |
| H  | Adjustable lens adapter  | C-Mount to Dia.23.2mm Eyepiece Tube<br>(Please choose 1 of them for your microscope)                                   | 108001/AMA037<br>108002/AMA050<br>108003/AMA075 |
|  |  | C-Mount to Dia.31.75mm Eyepiece Tube<br>(Please choose 1 of them for your telescope)                                   | 108008/ATA037<br>108009/ATA050<br>108010/ATA075 |
| I  | Fixed lens Adapter   | C-Mount to Dia.23.2mm Eyepiece Tube<br>(Please choose 1 of them for your microscope)                                   | 108005/FMA037<br>108006/FMA050<br>108007/FMA075 |
|  |  | C-Mount to Dia.31.75mm Eyepiece Tube<br>(Please choose 1 of them for your telescope)                                   | 108011/FTA037<br>108012/FTA050<br>108013/FTA075 |
| <b>Note: For H and I 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;</b> |  |  |   |
| 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.);<br>106012/TS-M2(X,Y=0.01mm/100Div.);<br>106013/TS-M7(X=0.01mm/100Div., 0.10mm/100Div.) |   |
| M  | SD Card(4G or 8G)  |  |   |

## 5.2.6 Extension of XCAM1080PHA with Microscope or Telescope Adapter

| Extension                | Picture  |  |
|--------------------------|--|--|
| <p>C-mount Camera</p>    |  <p>Machine vision; Medical imaging;<br/>Semiconductor equipment; Test instruments;<br/>Document scanners; 2D barcode readers;<br/>Web camera and security video;<br/>Microscope imaging;</p> |  |
| <p>Microscope Camera</p> |  <p>XCAM1080PHA+AMAXXX(23.2mm Adapter)</p>  <p>XCAM1080PHA+FMAXXX(23.2mm Adapter)</p>                       |  |
| <p>Telescope Camera:</p> |  <p>XCAM1080PHA+ATAXXX(31.75mm Adapter)</p>  <p>XCAM1080PHA+FTAXXX(31.75mm Adapter)</p>                     |  |