

HDMI Camera with Built-in Measurement Software

**HDMI-800M**

# **User's Manual**



## 1. Camera Installation

1.1 HDMI-800 series camera is a standalone 4K camera connects to UHD display through HDMI cable directly. And it can only recognize monitor with resolution 3840x2160. If the camera connected to normal display without 4K resolution, you can get image from the display.

1.2 HDMI-800 need 12V3A DC power supply, any power adapter that does not meet this specification may damage the camera.

1.2 There are two USB ports on the camera, one for USB storage and the other for connecting a USB mouse to control the camera.

## 2. Basic Function

Four sub functions: File, Primitive import, Primitive export and Create excel are included in menu "File".



2.1 The File function is mainly used to set the parameters of the camera photo storage function, including the storage name, photo format and storage content. The specific settings are shown in the figure below.



2.1.1 The Primitive import function is corresponding to the Primitive export function. The intelligent camera can customize the silk screen graphics. The customized silk screen graphics can be exported to the external U disk of the camera, and can be imported from the U disk. For the specific usage of the silk screen graphics, please refer to the corresponding instructions.

2.1.2 The Primitive export function corresponds to the element import function.

2.1.3 The Create excel function is for drawing measurement data, which can be exported to U disk in Excel format.

2.2 The File function is mainly used to set the parameters of the camera photo storage function, including the storage name, photo format and storage content. The specific settings are shown in the figure below.

2.2.1 The System function is to set the size of measurement data and to edit font property.

2.2.2 The Camera setting function is used to set basic parameters of the camera, including Brightness, Contrast, R, G, B, Saturation, HDR, Sharpen, AE (Auto exposure), AWB (Auto white balance).



**Brightness:** adjust the brightness of the image.

**Contrast:** adjust the contrast of the image.

**R:** adjust color level in red channel.

**G:** adjust color level in green channel

**B:** adjust color level in blue channel.

**Saturation:** adjust the saturation once only for the first time.

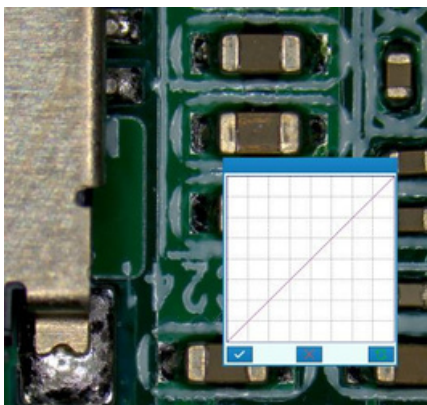
**HDR:** Adjust the flat field according to the reflection of light to enhance the dynamic range of the image.

**Sharpen:** sharpen the details of the image and make the details more prominent.

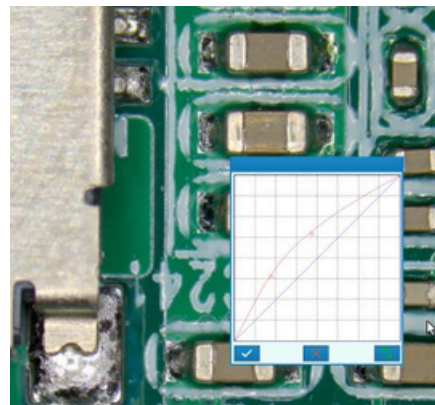
**AE:** Select "Yes" to make camera is in auto-exposure mode and clicks "✓" to execute.

**AWB:** Click to execute once, the camera will perform automatic white balance function, and exit automatically after execution.

2.2.3 The "Custom HDR" function is mainly used to adjust the brightness of the image, similar to the adjustment of the gamma parameters of Photoshop. For some observation objects with strong reflection, the parameters can be adjusted to achieve a good effect of suppressing strong light.



Before HDR adjustment



After HDR adjustment

2.2.4 Factory reset This function can restore the camera to the factory default settings.

**2.3** The Browse function is mainly used to browse the pictures saved on the camera's U disk. At the same time, when browsing, you can delete some or all photos on the U disk.



This icon is the photo execution button. Click this icon with the mouse, and the camera will automatically store the current image photo to the USB flash disk.



This icon is a manual point taking mode. In this mode, click where the mouse is, and the software will sample the current position and make corresponding measurement calculation.



This icon is the automatic point fetching mode. In this mode, the software system will correct the point fetching position of the mouse through calculation within a certain range, and the corrected data will be measured and calculated accordingly. This method can effectively avoid human error and improve measurement accuracy.



Click this button to hide the measurement data and only keep the measurement graph. Mainly for screen printing module function.



Screen printing module save function, the biggest feature of the camera can be for secondary editing of measurement data to generate customer's standard production graphics. The edited figures can be saved in groups by clicking this button.

### 3. Measurement Tools



All supported measurement elements are shown in the following figure: mark the measurement object, and the mark result is the coordinate information of the current mark point.



Measurement of horizontal line segment.



Measurement of vertical line segments.



The measurement of any angle line segment.



Angle measurement.



Measurement of distance between horizontal and parallel lines.



Measurement of the distance between vertical parallel lines.



Measurement of the distance between parallel lines at any angle.



Measurement of rectangles.



The sector measurement adopts the method of three-point calibration.



The sector measurement adopts the method of three-point calibration.



The measurement of circle adopts the method of three-point circle determination.



Center distance measurement.

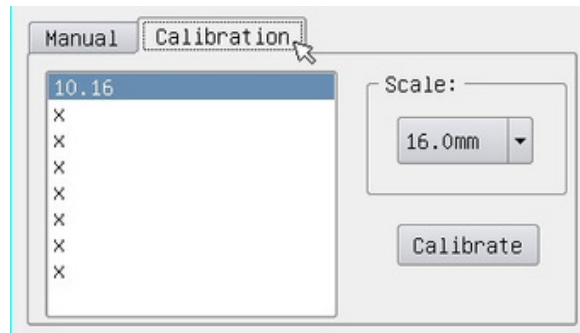


Measurement of concentric circles.



Add text.

### 3. Calibration



The camera need to re select or calibrate size when replacing the lens magnification, the specific process is as follows:

- a) Firstly click on the button Calibration, the calibration sheets in under the lens and adjustment of the focal length, which makes the calibration sheet round can show.
- b) Secondly, in the calibration of 8 discs in the selection of a suitable circle, select the corresponding size from the Scale button. Use the three point circle manner after the completion of calibration, calibration, select double-click on 8 X left, and input a name, then click enter button. Then the calibration work is finished.
- c) NOTE: For a plurality of lens magnification, in the calibration time can one to a plurality of magnification calibration, and save a plurality of different name, next time when replacing the lens magnification, only need to select the corresponding calibration name, there is no need to re calibrate.

### 4. Caution

- HDMI cable is for connecting the camera to display. The camera requires LCD screen with resolution as Full HD 1080P or 4K UHD. The size of displayer must be above 21.5 inches. 17 or 19 inch display may not work properly.
- Connect the 12V DC power supply.
- Connect a USB mouse to a USB port of the camera, and insert a USB memory card to the other USB port of the camera.

Specifications are subject to change without any obligation on the part of the manufacturer.

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