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# Dhyana Camera Quick Start

For more information please visit:

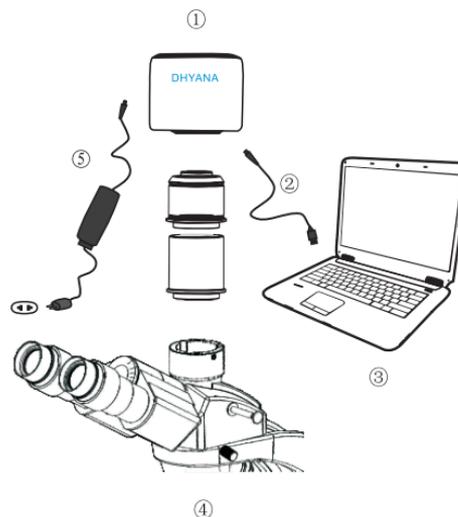
<http://www.tucsens.net>

## 1. List of Accessories

Item Name	Specification	Picture
1x sCMOS camera	Dhyana	
1x Power cord	Three-pin 10A, 250V	
1x USB3.0 data cable	2M with screw set hole	
1x Power adapter	12V/8A	
1x USB-Stick	Software and drivers	
2x USB port set screw	M 3*13.5mm	
*3x Hexagonal set screw	M 2.5*3mm	
*1x Adjustable ring	M 42mm	
*1x T ring	Φ 50mm	
*1x Hexagon wrench	1.3mm (L type)	

Note: Items with \* are only equipped for Dhyana95 Camera

## 2. Camera Installation



① Dhyana Camera

② USB Cable

③ PC

④ Microscope or Lens

⑤ Power

### 3. Driver Installation

#### 1. System Requirements:

OS	Windows 7/8/10 (32 & 64bit)
CPU	Intel i5 or higher is recommended
Memory	2GB or More is recommended
USB ports	USB3.0 Hi-Speed port
Mainboard	Compatible with 5th Intel Core processor (i3-5xxx, i5-5xxx, i7-5xxx) and above

2. Connect the camera to the PC. Insert the USB-Stick comes with the camera, copy the driver "Tucsen Dhyana Camera Driver.exe" to the computer. Double click on it and follow the [Next] button to finish the installation.

3. Go to the Device Manager and check whether the driver is installed properly. If there is NO YELLOW FLAG with the camera under Imaging Devices in Device Manager, the driver is installed successfully. If there is YELLOW FLAG, You need to reinstall the driver:



### 4. Software Installation

1. Double-click the software to start the installation and follow the [Next] button to finish the installation.



2. After finish the installation, a software shortcut will be created on the desktop.

Note: If previous version Mosaic was installed in your PC, the installer will automatically detect it and ask to remove it first before install the new one. If the previous installed Mosaic is still running, it will ask to close the software and then start the installation.

3. Double-click the Mosaic shortcut  to start the software. Software will automatically detect the device and start the preview.



Note: If get the "No Camera" error, it could be the camera is not detected by the PC or the driver is not installed properly. Please go to Device Manager to check the camera driver installation status.

## 5. Software Settings

### 5.1. Basic Settings



① Click the resolution drop-down box to select the working resolution of the camera.

② Start/stop preview, after preview is disabled, the image will be frozen.

③ Different adjustment modes can be obtained through different cameras. During use, user can choose the most appropriate level to transmit and browse image data depending on specific application requirements.

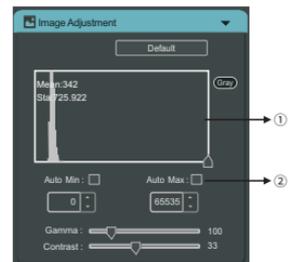
Note: For Dhyana 95/400D, user can choose HDR or High Gain mode; 400DC supports 9-level Gain adjustment; 400BSI supports three mode options HDR/HG/CMS.

④ Exposure control: Depending on actual applications, user may set the camera's exposure time manually.

Note: 1) For monochrome camera: Click [OnceAE], the software automatically adjusts the exposure time according to the brightness of the specimen.

2) For color camera: When checked [Auto Exp], the software will acquire images of appropriate brightness by automatic adjustment of exposure time depending on image brightness.

### 5.2. Image Adjustment



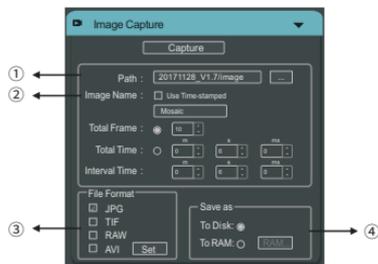
① With the histogram, the user can manually adjust the image's shade, Gamma and brightness to calibrate image tone, including contrast, also brightness and layer of color images.

② Auto level: By checking [ Auto Min ] or [ Auto Max ], the software will automatically define maximum and minimum pixels of each channel as white and black, and redistribute the pixels proportionally between the two limits. (Single RGB channel does not support AutoLevel function).

③ \* Color adjustment (only supported by color camera): Mosaic allows the user to adjust the display parameters of the image depending on actual applications to obtain the image effects that better meet user needs.



## 5.3. Image Taking



① Save path Under default status, the image file shall be saved to a filefolder specified in defined [ Path ]; user could modify save path through [ ... ].

② Image naming : A file will be saved with the name "Mosaic" as default, but the name can be customized. "Customized name + time stamp" is supported. A name can contain up to 64 bytes .

③ File format: Support JPG \ TIF \ RAW \ AVI, default to TIF, and can be checked simultaneously, but at least one of them must be chosen.

Note: 1) Select AVI for video storage, click Setting beside AVI to pop up a dialog box to select compression format and video playback rate; 2) Dhyana 400DC does not support RAW format.

④ There are two modes of saving files:

[To RAM] Save the data into computer memory; after image capturing, write the data into a disc file. Limited by the size of memory space, this mode is not suitable for capturing images for a long time.

[To Disk] Instant reading and writing; in the process of capturing images, the function will automatically write the data into disk. This is good for long-term shooting .

## 6. Precautions

 **CAUTION**

 Do not disassemble	Do not disassemble, repair or modify on your own. Otherwise it will cause damage to the camera chip or devices on the circuit board.
 Do not contact water	Avoid allowing the camera to get wet, since this may cause the failures such as circuit board device corrosion, burnout and so on.
 Do not subject the camera to physical shock	Avoid physical impacts such as dropping or banging.
 Immediate repair request	Unplug the data cable and the power supply then request TUCSEN to have the authorized dealer or sales for repair.

Note: Man-made damage including self-disassembly, water ingress, physical shock and so on is not within the scope of warranty.

## 7. Maintenance

1. Avoid removing the lens cap in a dusty environment.
2. When removing the lens cap or mounting a lens, hold the camera face down to prevent dust from falling on the sensor surface.
3. When the camera is not being used, the lens cap should be replaced.
4. Use a professional dust removal tool to remove any dust on the camera optical filter.
  - If dust gets on the filter, it should be removed using low pressure air.
  - For stubborn oily dust, the surface can be gently wiped using a lint-free cotton swab dipped in ethanol.
  - If it still cannot be cleaned, contact the after-sales personnel for assistance. The use of non-professional equipment for cleaning is prone to lead to scratches on the filter surface.
5. If the camera has been stored in a low temperature environment, allow the camera to gradually warm up before use, because otherwise condensation may form on the optics and electronics.
6. Use only the original power adapter. Ensure the adapter and associated cables are free from items that may cause damage. If the power adapter is damaged, please contact the supplier for an immediate replacement.
7. In event that the adaptor appears to be operating abnormally, cut off the adapter power supply immediately in order to avoid damage to the camera.
8. The camera has been designed for external triggering functions, that can be activated via an external connector. Consult the supplier if you require additional information regarding these functions.

## 8. After-sales support

1. Obtain software-related information and technical support information from the official website [support] -> [FAQ].
2. Contact technical support:
  - TEL: +86-591-88194580-811
  - Email: [service@tucsen.com](mailto:service@tucsen.com)
  - Or landing the official website to leave a message: <http://www.tucsen.net>. please have the following information prepared:
    - 1) Camera model and S/N (product serial number);
    - 2) Software version number and system information;
    - 3) Description of the problem and any images related to the problem.