

Motic®

Motic
Live Imaging
Module



Quick Start Guide

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Note:

The intention of this guide is to provide quick instructions to key tasks of the Motic Live Imaging Module. If more details are needed or what you are looking for is not contained in this guide, please consult the Help that comes with your software or visit our website <http://www.motic.com>.



Motic Live Imaging

Motic Live Imaging Module is a professional image adjustment and capture module which is used to improve, edit or change image quality before capturing the final picture.

It provides powerful video adjustment, live image transmission and image capturing functions, enabling users to view and adjust the real-time image, capture a still image to the assigned directory or directly transfer a live image into the main software for further processing or analysis.

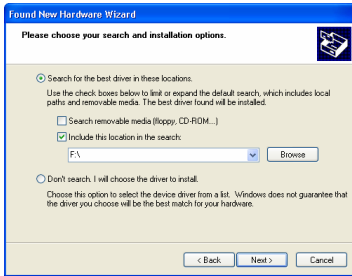
Driver Installation

The driver files of all camera devices supported by the Motic Live Imaging Module can be found on the installation CD of your main Motic imaging program (for example Motic Images Plus 2.0ML or Motic Images Advanced 3.2)

The following example is of a typical driver installation is of a Moticam 2300 (MC3001). Other supported Operating Systems have a similar approach.



Ensure the Moticam 2300 (MC3001) is plugged into the computer. The “Find New Hardware Wizard” will appear. With the software CD in the CD driver, select “Install the software automatically”. If this fails to install the driver, select “Install from a list or specific location (Advanced)”, and click “Next”.

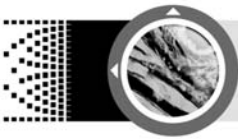


Select "Include this location in the search".
Click "Browse" to select the driver.

Locate the "Motic MC Camera V3" folder under "Driver" in the CD files (or select the corresponding driver according to the instructions on the CD case, or see the chart below) and click "OK".

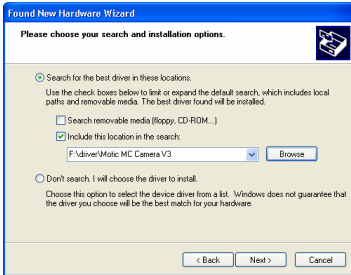


| Device | Interface | Driver |
|---|-----------|--------------------------|
| Camera 3 PAL | USB 2.0 | M230 |
| | USB 1.0 | M210 |
| Camera 3 NTSC | USB 2.0 | M230 |
| | USB 1.0 | AD640 |
| MC1001/MC2001/ MC 3001 | USB 2.0 | Motic MC Camera V3 |
| MC1001/MC2001/ MC3001/1002/2002 (for Vista) | USB 2.0 | Motic USB2 Camera |
| MC352 | USB 1.0 | MC352 |
| MC352+ | USB 1.0 | MC352+ |
| MD1500/MD3000/ MD5000 | IEEE1394 | MD3000/ MD5000 |



Note: If you use M230, please ensure that:

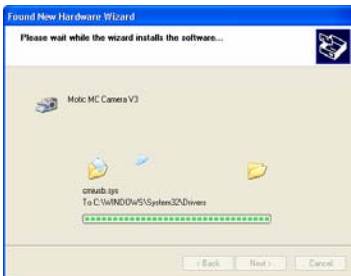
1. The driver is installed under Windows XP or Windows 2000 + SP4 operating system;
2. USB 2.0 driver and DirectX9.0b (or higher version) have been correctly installed.



Please confirm the destination path, and click "Next".



Click "Continue Anyway" to continue.

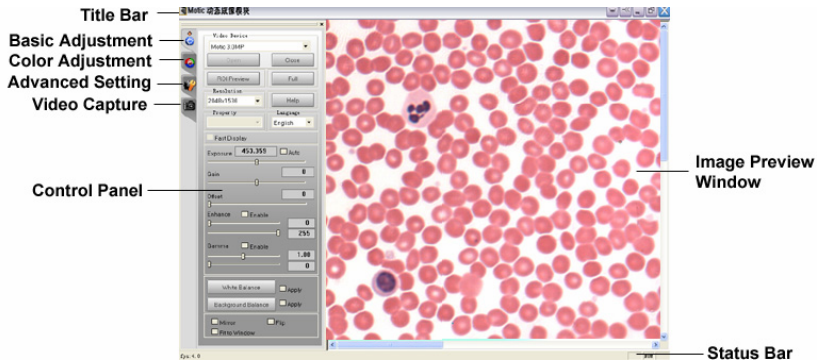


Files will be copied to your computer.



Click "Finish".

User Interface



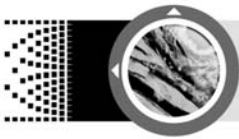
The Motic Live Imaging Module contains Title bar, Control Panel, Image Preview Window and Status Bar.

Title Bar: Shows the module name.

Control Panel: Four control panels are available. Click one of the following four buttons to display the corresponding control panel:



→ Basic Adjustment panel;



→ Color Adjustment panel;



→ Advanced Setting panel;



→ Video Capture panel.



Click the button  on the title bar to hide the control panel, re-click to display it again.

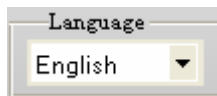
Image Preview Window: Displays the real-time live image coming from your Motacam or Digital Microscope.

Click the button  on the title bar to hide this window, re-click to display it again.

Status Bar: Shows the current frame rate you can increase the frame rate by increasing illumination and decreasing the exposure rate, or by lowering the live resolution

Basic Operation of Motic Live Imaging Module

Language Setting

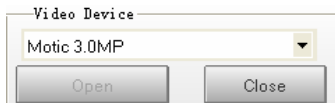


From the Language dropdown list, select a language of your choice.



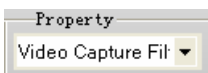
Device Setting & Image Preview

Connect an imaging device to your computer and open this image Module, the connected device will be auto-opened and the live image will display.



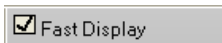
Note:

When several Motic devices have been connected and the auto-opened device is not what you want, please click "Close", select the desired one from the dropdown list and click "Open".



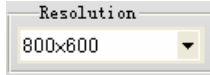
Note:

When connecting with our low resolution devices, the Property dropdown list will be activated allowing you to adjust more chip parameters.



Note:

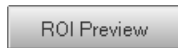
When connecting our Moticom 3000/5000 series, the Fast Display checkbox will be activated allowing you to start the Real Time Viewing (RTV) mode.



The Resolution drop-down menu allows you to switch between several resolution settings. These settings change the amount of data that are being transmitted to the computer by the imaging device. The lower the resolution the higher the frame rate.



By clicking on the Fit to Window box, the live image will be automatically resized to fit into the display window therefore allowing you to view the camera's full Field of View even while keeping the resolution high. The width to height ratio will not change



To view only a selected part of the image in full resolution, click and drag a Region Of Interest area on the live image with your mouse then click on the ROI Preview button.

Note: You can change the shape and outline color of your ROI selection by clicking the "ROI Property" settings.



Click the "Full" button to view the live image in full screen mode. Press "Esc" to exit the full screen mode.



Image Adjustment

1. Basic Adjustment

It is recommended that you do basic image adjustment according to the following steps:

- 1) Click the button  to display the Basic Adjustment panel.

Setup your microscope properly, focus on your slide, then move the slide away from your camera's field of view and drag the Exposure slider for manual, or click on the Auto box for automatic exposure.



Note:

Some camera chips have built-in hardware fine auto-exposure controls and so will also adjust the exposure. If you wish to override this, use the slider to adjust the settings manually.



The Background Balance function will help reduce the effects of uneven illumination. To use it properly, please setup your microscope, focus on your slide and adjust the microscope's illumination and the Exposure settings above accordingly. Next move the slide away from the camera's Field of View and click on the Background Balance button.

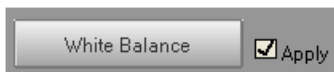
The screen will then be even. You can adjust exposure settings if you wish and also perform the White Balance function below. Next, move the slide back into the camera's field of view.

Note:

When you change the microscope's objective or adjust the microscope's illumination intensity, please perform the above steps again.



The “White Balance” button will help get the best Color similar to what you see through the eyepieces. Setup your microscope properly, focus on your slide, then remove the slide from the Field of View and click on the White Balance button. Next, you can move the slide back into the camera’s view.

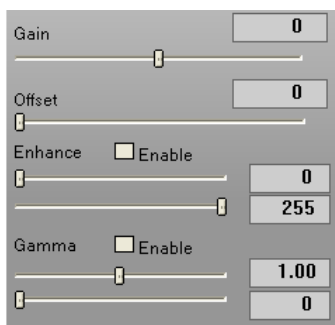


Note:

Some imaging chips will have an automatic hardware white balance. You will see the white balance being adjusted automatically as close to the real color as possible. In order to adjust the color even closer, please use the tools in the Color Adjustment Panel.

Note:


Each “Apply” checkbox will be auto checked while clicking the “Background Balance” and “White Balance” buttons. Recheck it to cancel the corresponding function.

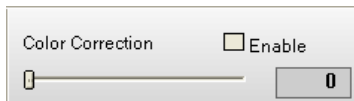


You can also adjust the gain, offset and other values by dragging the corresponding slider bar to improve the image quality; if the image is displayed upside down, check “Mirror” or “Flip” to correct it.



2. Color Adjustment

Click the button  to display the Color Adjustment panel, in which you are able to do some color adjustments to the image if necessary.



Color Correction

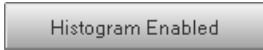
Click on “Enable” to activate this function. Then drag the slider bar to a suitable setting for the intensity of the correction. This function was designed to distinguish between Blue, Red and Purple and will enhance in that spectrum. This is useful especially for H&E stained specimens.



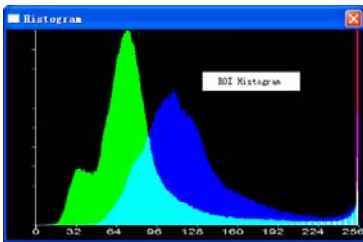
RGB Adjustment

For full manual color control, you can adjust both Gain and Brightness of a specific color separately.

To go back to the default camera settings, click on “Reset”.



You can display a color Histogram by clicking on the button. This will show the pixel gray scale distribution of the entire image or a user defined ROI area.




By default, the Histogram window displays the histogram of the entire image. Right click within the window and select the "ROI Histogram" command to display the histogram of the user defined ROI area, click the command again to cancel it.

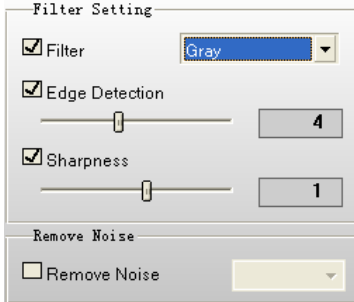
Note:

Please define an ROI area before selecting the command "ROI Histogram".



Advanced Setting

Click the button  to set advanced settings.



From the Filter Setting group box, check the corresponding checkbox to enable the function of Filter, Edge Detection or Sharpness. You can choose a specific filter from the dropdown list, and specify the values of edge detection and sharpness by dragging the slider bars.

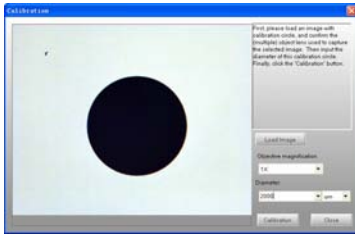
Note:


Filter and Edge Detection functions only work on an ROI area. Sharpness function only works on the entire image.

Check “Remove Noise” and select 1, 2, 3 or 4 from the dropdown list to remove any noise from the current image. The larger the value, the greater the effect, and more system resources will be consumed causing the live image to appear slower.

Note:

This function only works on the entire image.




You must do the live calibration before using Grid, Scale Cross or Scale Bar tools. Click  button to perform calibration following the instructions on the popup Calibration window.

Note:

You will need the calibration slide.



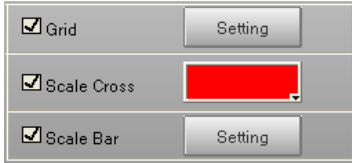
Click the “Calibration” button in the Calibration window to display the Save dialog. First input a sign name or select a sign name from the left list, then click the “Save” button to save the result to the Calibration table for a later use.

Click  button, and select an item from the Calibration Table window, then click “ok” to apply the calibration results to the current image.

| Sign No. | width | height | Observed | Zoom | Sign size | Sign area | Calibration |
|------------|--------|--------|----------|-------|-----------|-----------|-------------|
| 10X | 7.46 | 7.48 | 1 | false | 840 | 512 | true |
| 1X | 100.00 | 100.00 | 1 | false | 320 | 240 | false |
| 20X | 5.00 | 5.00 | 20 | false | 320 | 240 | false |
| 2X | 50.00 | 50.00 | 2 | false | 320 | 240 | false |
| 5X | 33.33 | 33.33 | 3 | false | 320 | 240 | false |
| 40X | 4.83 | 4.91 | 40 | true | 840 | 512 | true |
| 4x | 25.00 | 25.00 | 4 | false | 320 | 240 | false |
| 4x ds | 1.37 | 1.38 | 4 | false | 320 | 240 | true |
| 4x ds area | 1.37 | 1.38 | 4 | false | 320 | 240 | false |
| 5X | 20.00 | 20.00 | 5 | false | 320 | 240 | false |
| 80X | 1.67 | 1.67 | 60 | false | 320 | 240 | false |
| 8X | 18.87 | 18.87 | 6 | false | 320 | 240 | false |
| 7X | 14.29 | 14.29 | 7 | false | 320 | 240 | false |

Note:

In the initial state, the data saved in this table is the initial data of each objective magnification before calibration and is marked “false” in the “Calibration” column. Please perform calibration before you apply it.



Having done the calibration, check the corresponding checkbox below the “Calibration” button to analyze the image with Grid, Scale Cross or Scale Bar. Users are able to set the properties of each function.

Note:

The unit of calibration circle selected from the Calibration window will be the units of Grid, Scale Cross and Scale Bar.



You can set the shape and outline color of the ROI defined on the image.



Users are able to save and load the parameter settings that have been set within the Basic Adjustment panel, Color Adjustment panel, and Advanced Setting panel.

Note:

A name should be input in the blank before saving the corresponding parameter settings.




Check “Cooler Enabled” to enable the Peltier camera cooler.

Note:

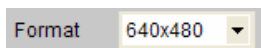
Only available with Cooled Cameras.



Video Capture

Click the button  to display the Video Capture panel, with which you are able to capture images and record videos.

1. Image Capture



Select a size at which to capture an image from the Format dropdown list.



Click the "Capture" button to capture the real-time image shown in the preview window to the main software; if you open this module directly without running the main software, a dialog will appear for you to define the image saving path when you click the "Capture" button.

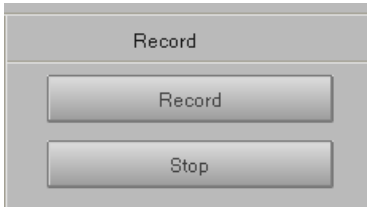
To capture an ROI image, hold down the left mouse button and drag the mouse to define an ROI on the image then click "Capture".



To auto capture images, click the "AutoCapture" button and specify the auto capture settings from the popup dialog, then click "OK" to capture a sequence of still images according to the preset settings.



2. Video Recording



To record video, click the "Record" button and specify the video settings from the popup dialog, then click "OK" to start recording video according to the preset settings. Click the "Stop" button to stop recording at any time.

Note:

It is recommended that you download the Xvid Codec in order to capture smaller size video files.



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