

# **D-Moticam BTW**

## **Microscope Tablet / Camera**

### **Use and Care Manual**

## Moticam BTW Introduction

### Introduction

Thank you for purchasing the D-Moticam BTW8 Tablet/Camera system.

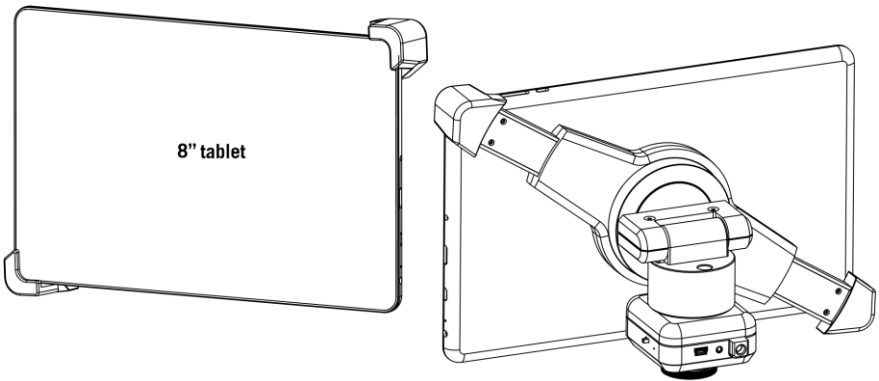
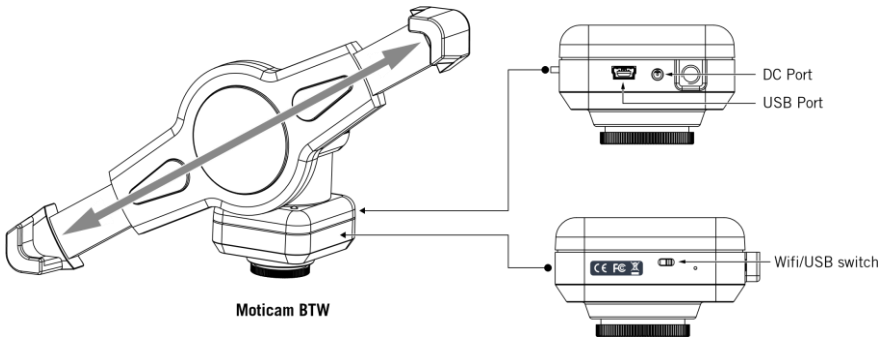
The **BTW** provides an effective method of attaching a camera system to any c-mount trinocular microscope using a 0.5x c-mount adapter. The image from the microscope can be viewed on the provided tablet or via WiFi to any WiFi enabled device.

The camera portion of the BTW houses a **5MP CMOS live view sensor**, a USB output as well as a WiFi transmission antenna. The user may switch between either the USB output which can be connected to the Android tablet provided; or the user can switch the camera to WiFi transmission mode which allows any WiFi enabled device to view, measure and annotate the microscope image through the available MotiConnect application. The MotiConnect app can be downloaded through Google's PlayStore or Apple's AppStore.

### Tablet Bracket Quick Assembly

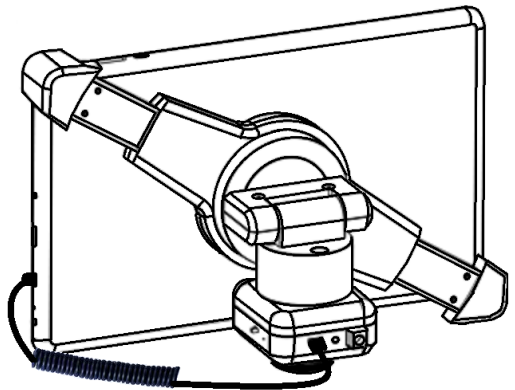


## BTW Diagram



### CONNECTING THE CAMERA TO TABLET

1. Take the 8" Tablet and mount it into the bracket assembly. The bracket will hold the tablet at opposite corners of the tablet screen.
2. Taking the spiral USB cable cord and plug one end into your camera and the other into the side of the Tablet screen. (See picture above)
3. Unless your tablet is fully charged, plug the power adapter into the back of the camera, next to the USB port.
4. This will both charge and allow you to use the camera/tablet at the same time.
5. **\*Unplugged from the charger, the tablet / camera are able to function for about 2hrs.\***

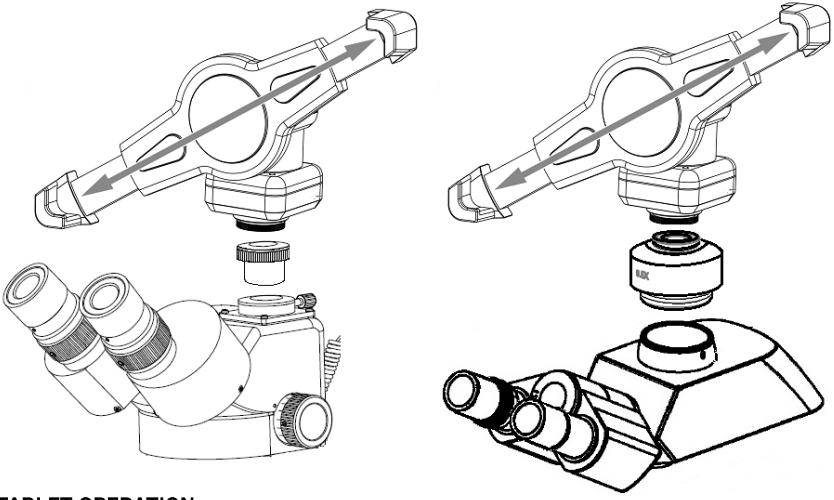


## TABLET ACCESSORIES

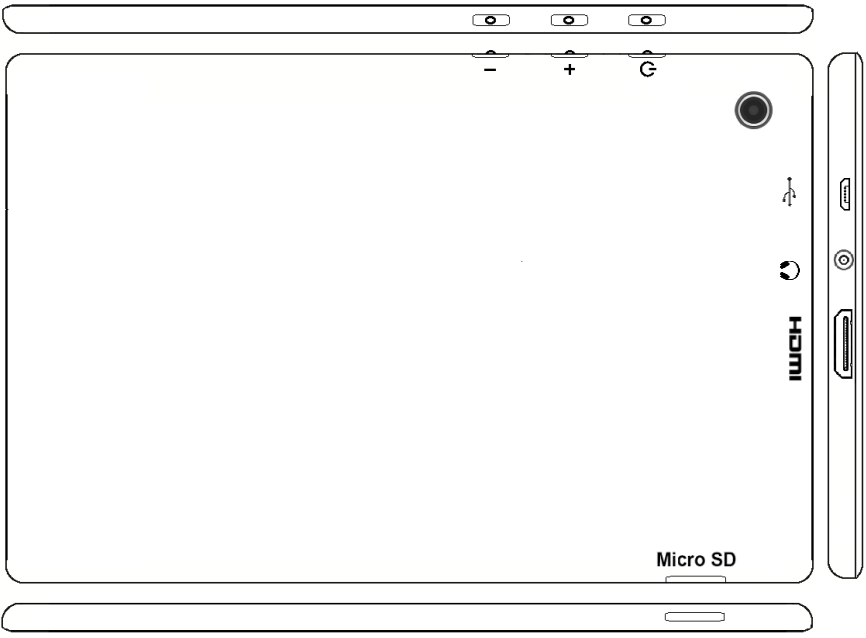


HDMI Cable	This cable will enable you to connect to an HDMI ready device, to view your tablet on a larger format. The displayed image will replicate the displayed image of the tablet.
Power Adapter	This 5V DC power adapter is for charging your tablet's battery. It is also used to power the camera in WiFi mode.
Calibration Slide	This slide will enable you to calibrate your tablet to your microscope, for accurate measurements. You do not need to calibrate your microscope in order to begin using your table/microscope.
C-Ring	This ring is used between the camera and c-mount to achieve par-focus. <b>Pre-installed on MA15602 – C-Mount.</b>
4GB Micro-SD	This storage card can be used with your tablet to store images and then transfer them to your computer. <b>This card is provided as a courtesy and cannot be replaced. *32GB Max Supported*</b>
Mini USB to Micro USB	Provides power and feed connection between the tablet and camera. To operate the camera, move the switch to the camera position.
USB to Micro USB	This cable when used in conjunction with the power adapter is used to charge the tablet.
USB to Mini Power Din	<b>This cable is used to power the camera, in WiFi mode. This cable can also be used to charge both the tablet and camera at the same time. Keep plugged into camera at all times, if possible.</b>
L-Wrench	Optional Wrench for mounting bracket to Motic branded trinocular microscopes

## Sample Trinocular Assembly



## TABLET OPERATION



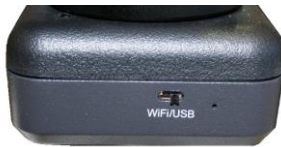
-	Volume adjustment - decrease
+	Volume adjustment - increase
G	Hold for a few seconds to turn unit on
Micro USB	Micro USB Port for charging tablet and connecting to bracket camera
Speaker	Provides sound via earphone/speaker
HDMI	Connects to HD ready device via HDMI cable
Micro SD	Micro SD Card Slot for storing images on Micro SD Card (4GB included)

## **CAMERA SWITCHES AND PORTS LIMITED PRODUCTION**

This feature is limited to a small production batch, not a standard feature of this camera.

- When the switch is in USB mode – The camera will only transmit one of two ways. It will transmit to either the tablet via the supplied coiled USB cable or through an optional A-Male to Mini-B USB 2.0. (Available to purchase through any electronics supply dealer) Motic Images 3.0 required for the computer connection. The light on the camera will not turn on in this mode.
- When the switch is in WiFi mode – The camera will only transmit out in WiFi. The light on the camera will turn blue, indicating it is transmitting. The image will not be available on the tablet in this mode.

When placing the switch in the WiFi mode, the power adapter must be connected to the camera. The cable supplies power to the camera.



**Camera Switch Camera Reset**



**Mini USB Power Din**

- **Switch on WiFi – No Tablet Connection – power must be plugged in**
- **Switch on USB – Tablet / Computer\* Connection**  
**\*Motic Images 3.0 required – see page 21\***

### **Connecting your WiFi enabled device to the BTW camera**

1. Download the MotiConnect app from the App Store, Google Play, or Chrome Store.
2. Connect the camera to the power supply.
3. Switch the camera to WiFi transmission mode.
4. Turn on your WiFi enabled device and connect to the SSID provided on the camera: MCX\_BTW\_XXXX. You will connect to the camera as you would any WiFi router.
5. Default password is always: 12345678
6. Start the MotiConnect application. The connection should be automatic.
7. You can now view the image live on the MotiConnect app as well as capture, measure and annotate the image using the tools provided.
8. You can connect up to 5 other tablets or other WiFi devices to the BTW signal at the same time in order to share the live image.

### **Connecting your WiFi enabled computer to the BTW camera**

The BTW camera can also be used with Motic Images Plus software for Windows computers. If you have a WiFi enabled laptop or computer you can install Motic Images Plus from the CD provided.

1. Connect the camera to the power supply.
2. Switch the WiFi transmission mode.
3. Connect to the SSID provided on the camera: MCX\_BTW\_XXX - You will connect to the camera as would any WiFi router.
4. Default password is always: 12345678
5. Start the Motic Images application – Click File – Click Capture
6. The Motic Live Imaging window will open.
7. The Imaging Device box should have the Moticam X selected and you should now have an image.

## **POWER MANAGEMENT**

Power to the BTW camera is supplied via the coiled USB cable provided with this product. Since the tablet batteries must supply power for both the tablet and camera simultaneously, approximately 2hrs of continued use can be expected. 8hrs of recharging is required to replenish the tablet battery. So allowing it to charge overnight is highly recommended.

1. Camera connected to tablet, supplying power via USB:



If more than two hours of continuous use is required, use the supplied wall charger and power cable included with your tablet. Leaving the power charger connected to the camera will trickle charge the tablet. This will be a much slower rate, but should allow time beyond 2hrs.

2. Camera connected to both tablet and wall charger: Trickle charging tablet via USB.



## CONNECTING THE BTW TABLET TO EXISTING WIRELESS NETWORK

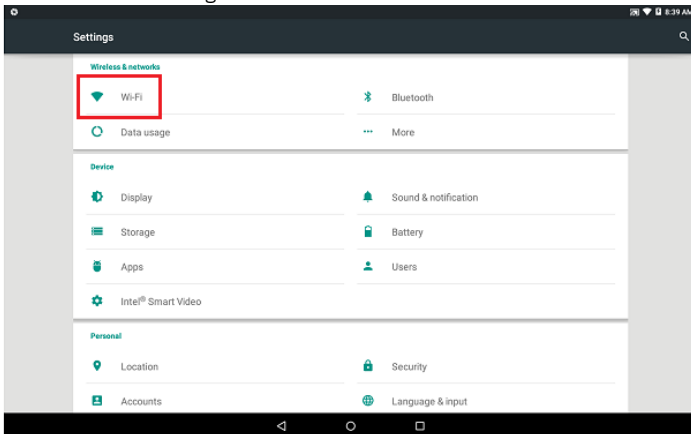
The BTW camera has the unique ability to connect to your existing network system using the MoticHub feature.



1. On the home screen of the tablet select the Settings icon.

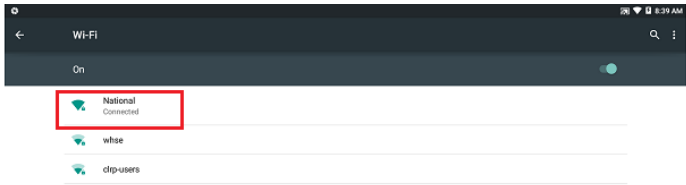


2. Select WiFi within the Settings window.





3. Find your Work/Home WiFi SSID and connect. \*turn WiFi on if turned off\*  
Note: In this case I have selected National.



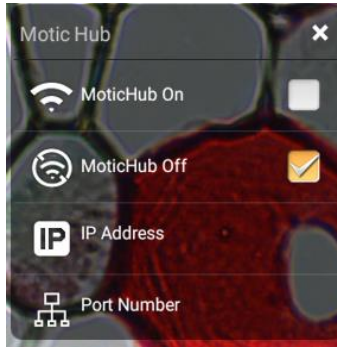
4. Now you have added the tablet to your WiFi network  
5. On the home screen of the tablet select the MotiConnect app.



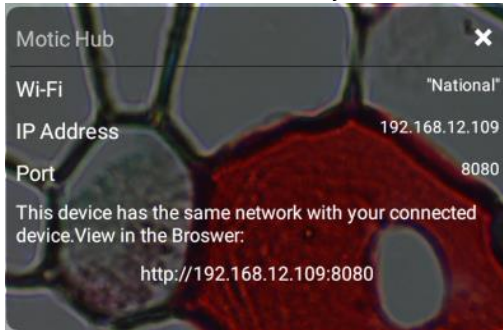
6. Then select the MotiHub icon and MotiHub will launch.



7. Turn MotiHub On.



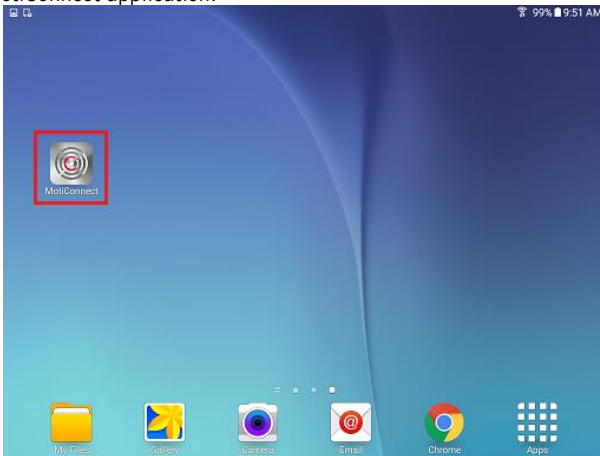
8. MotiHub will create an IP address for the tablet on your network.



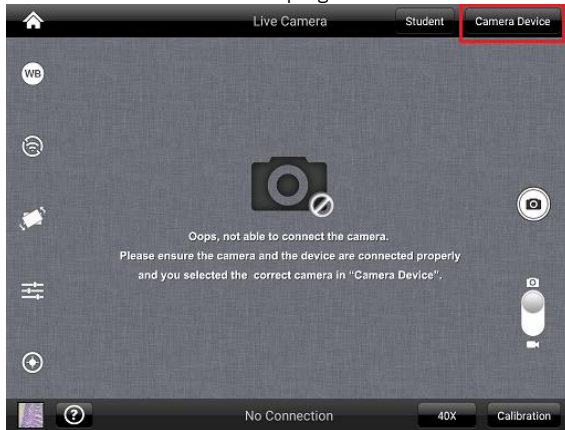
9. Write down the generated IP address, you will need this to connect your WiFi enabled device/tablet/phone/computer/laptop.
10. Now any tablet or computer/laptop connected to your network will have access to your live image.

### Connecting your WiFi enabled device to the BTW tablet

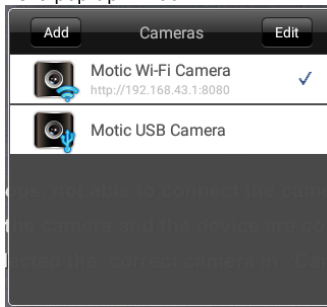
1. Make sure you are first connected to your office/home WiFi network.
2. Download the MotiConnect app from the App Store, Google Play, or Chrome Store, to your android or apple device/tablet/phone.
3. Start the MotiConnect application.



4. Click on the Camera Device button at the top right hand of the screen.



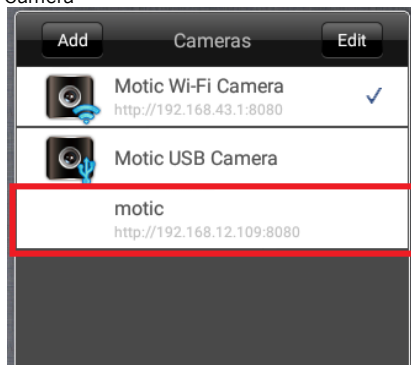
5. Click on the Add button on the pop up window



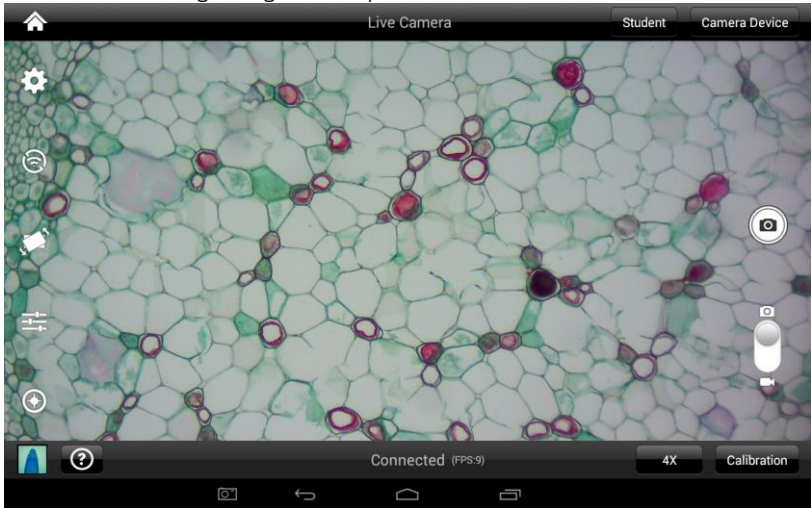
6. You may give your New Device any name, however the IP Address must be same as the IP generated by MoticHub.

Device Name	<input type="text" value="motic"/>
IP Address	<input type="text" value="192.168.X.X"/>
Port Number	<input type="text" value="8080"/>
<input type="button" value="OK"/> <input type="button" value="Cancel"/>	

7. Now select your New Camera

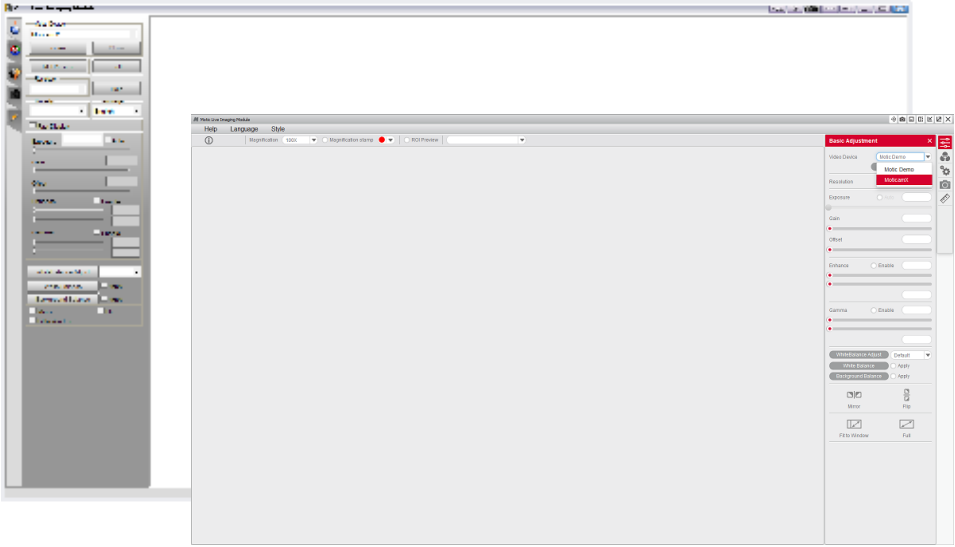


- You can now view the image live on the MotiConnect app as well as capture, measure and annotate the image using the tools provided.

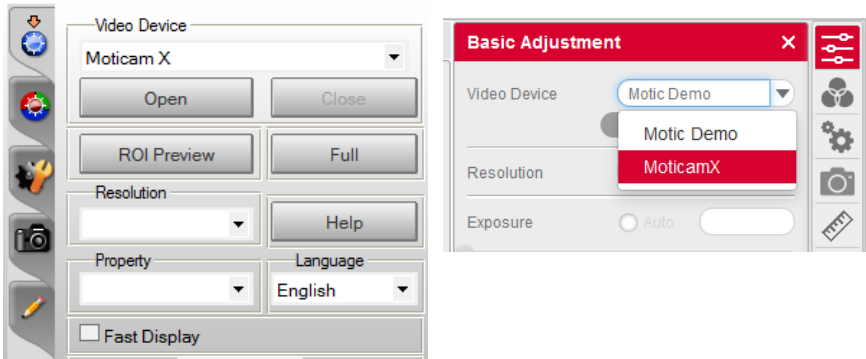


**Connecting your WiFi enabled computer/laptop to the BTW camera connected to your local network**

1. Install the Motic Images software into your computer or laptop.
2. Start the Motic Images application – Click File – Click Capture
3. The Motic Live Imaging window will open.

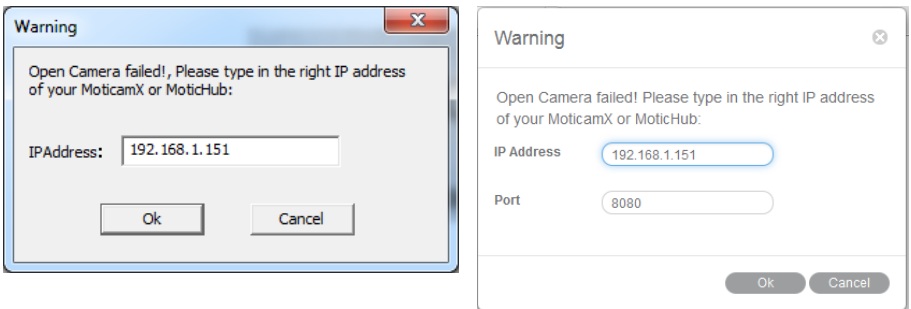


4. The Video Device box should have the Moticam X selected.

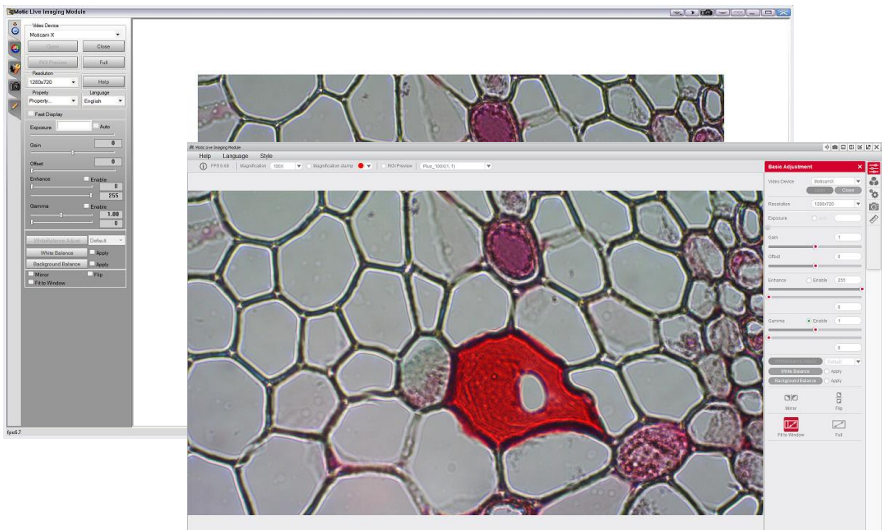


5. Click on Open to open the Moticam X IP address box.

6. In the open Moticam X IP address box type in the IP address generated by the MoticHub feature of the BTW tablet.



7. Once you click OK, the image produced by your BTW tablet should appear.



## TABLET SOFTWARE


This android tablet comes equipped with all the necessary software needed to start using your equipment out of the box. Since it is an android tablet, you will be able to connect to your office/school Wi-Fi network to access the internet and download additional applications. The primary application for accessing your camera is MotiConnect T.

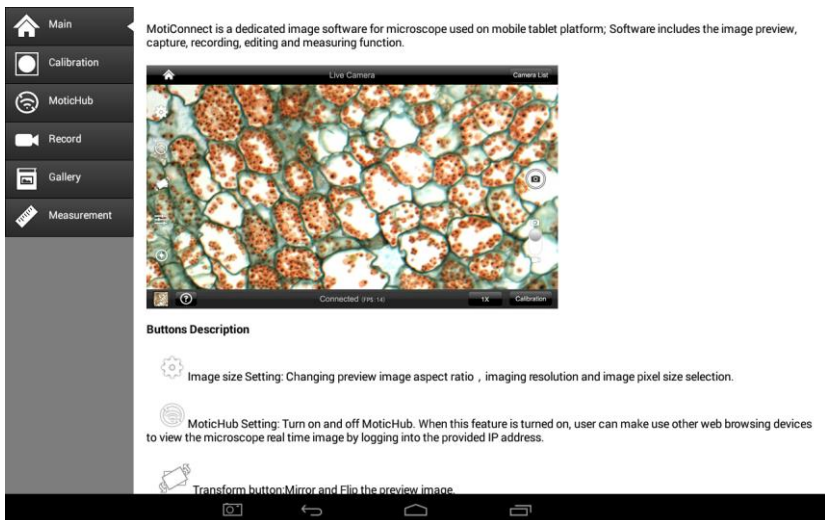
### MOTICONNECT-T OVERVIEW – HELP MENU

MotiConnect is a dedicated image processing Android app for Motic cameras, which includes image preview, capture, recording, editing and measuring functions. Please refer to the Application Help guide for a complete description of the MotiConnect Application.






### HELP BUTTON

	Help Menu - Opens a new window which provides a complete description of all the features available with the MotiConnect Application
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MotiConnect is a dedicated image software for microscope used on mobile tablet platform; Software includes the image preview, capture, recording, editing and measuring function.

**Buttons Description**

-  Image size Setting: Changing preview image aspect ratio , imaging resolution and image pixel size selection.
-  MotiHub Setting: Turn on and off MotiHub. When this feature is turned on, user can make use other web browsing devices to view the microscope real time image by logging into the provided IP address.
-  Transform button: Mirror and Flip the preview image.

## **CALIBRATION – (\*Optional – not necessary to use your microscope\*)**

To prepare for the calibration process, please make sure you have the calibration slide. The calibration slide has four individual dark round circles. Each dark round circle corresponds with each objective on your microscope.

- The 1.5mm dot (150um – microns) with the 4X objective.
- The 0.6mm (600um – microns) with the 10X objective.
- The 0.15mm (150um – microns) with the 40x objective.
- The 0.07mm (70um – microns) with the 100X objective.

To begin the calibration process, place the calibration on the stage.

1. First place your calibration slide on the stage, switch to the 4X objective, and move the slide over to the 1.5mm dot.
2. With the dot centered on the tablet screen, select the calibration button, located on the bottom right hand side of the screen.
3. You should have a bright green circle on the screen.
4. Click the calibration button a second time.
5. This time the calibration settings window will open.
6. In the objective magnification window select the objective you captured the dot with. In this case the 4X objective.
7. In the diameter window select the diameter of the dot you captured. In this case the 150um. Then click OK.
8. The last window that will open is the Save Sign window. Since you capture this image with the 4X objective, it is best to enter this on this line.
9. The objective line should default to the objective you are calibrating. In this case it should say 4X.
10. The X and Y numbers on the next two lines should be near identical. Look at the first three numbers. As long as they are the same within one or two digits, you have a good calibration.
11. Click Ok and you are done.

## **TRANSFERRING IMAGES TO YOUR COMPUTER**

By default all your images are saved to the Micro SD card included with your M29TZ-SM99CL-BTW1 series microscope. This card is provided as a courtesy. If it is missing or lost, you will need to purchase a replacement. It is highly recommend that you purchase a Micro SD to Standard SD card adapter.



This is simplest and easiest way to transfer images to your computer. Images are automatically captured as Jpeg images. If your computer/laptop does not come with an SD card slot, a SD card reader will need to be purchased as well. \*Please note: 32GB Max\*

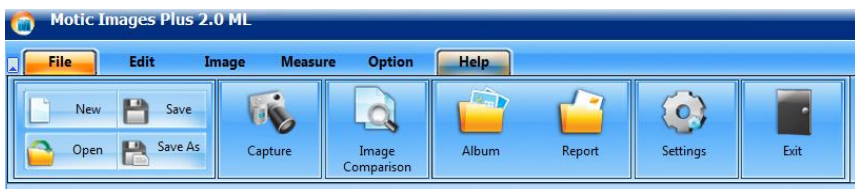
## MOTIC IMAGES 2.0 SOFTWARE

You can use your transfer images with the Motic Images 2.0 software included with microscope to annotate, save and file your images.

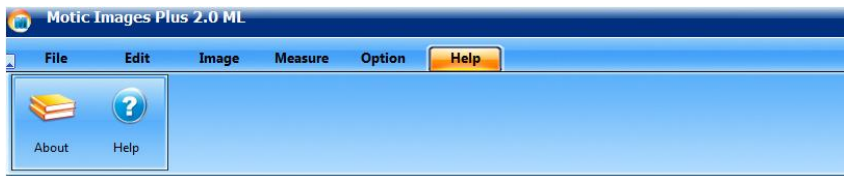
### Full Help Menu

The full software manual for Motic Images is accessible within the software's main page.

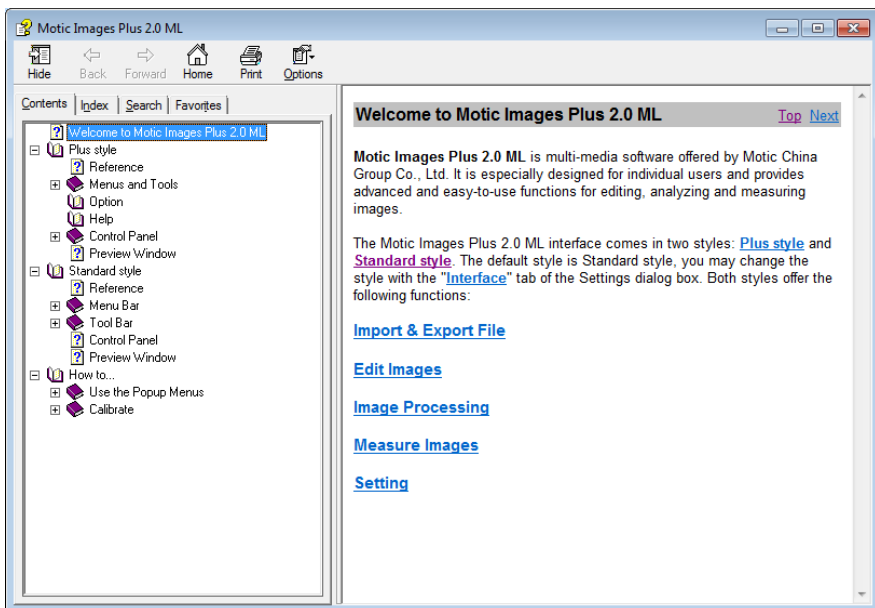
- To begin, open the Motic Images Software.
- At the top of main screen find the menu tab labeled Help:



- Click on Help and then select the help option:



- This will open the Motic Images help file contents, containing the full help menu:





## Motic Live 2.0 Live Imaging Module

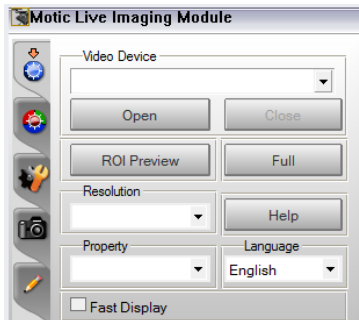
If you are connecting your camera via WiFi to your laptop of WiFi enabled computer, you can use the Motic Images 2.0 software to view and capture your images.

### Full Help Menu

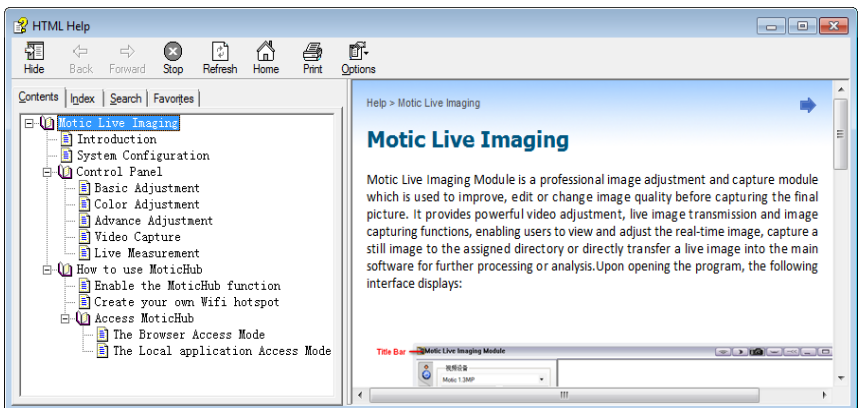
- The full Live Imaging Module manual is accessible within the live Imaging main page.
- To begin, open the Motic Images Software.
- At the top of main screen find the menu tab labeled File and click on Capture:



- Once the Motic Live Imaging Module has opened, click on Help:



- This will open the Motic Live Imaging Module help file, containing the full help menu:



## **USING MOTIC IMAGES 3.0 SOFTWARE WITH THE BTW CAMERA**

To connect the BTW camera (USB Mode) to a computer or laptop, you will need to download and install Motic Images 3.0, and purchase separately, an optional A-Male to Mini-B USB 2.0 cable (Available from any electronics website or retail store).

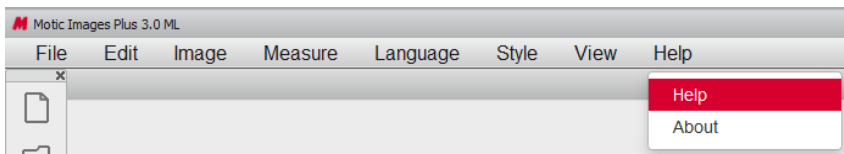
1. Download and install Motic Images 3.0 from the Motic website.
2. The Motic Images 3.0 is constantly updating, so please check the Motic Website for updates. Registration is necessary. Use the DM number located on the sticker, on the software sleeve.
3. Switch your camera to USB mode.
4. Plug the Mini-B end of your USB cable into the camera.
5. Plug the flat A-Male end of your USB cable in the computer.
6. The drivers for the camera should load automatically.
7. Once the drivers have installed, open the Motic Image 3.0 Software.
8. Click File, then scroll down to Capture.
9. This will open the Motic Live Imaging Module.
10. Your image should automatically display on the screen.
11. By default your live image is 3MP or 2048 x 1536 resolution.

## **MOTIC IMAGES 3.0 SOFTWARE**

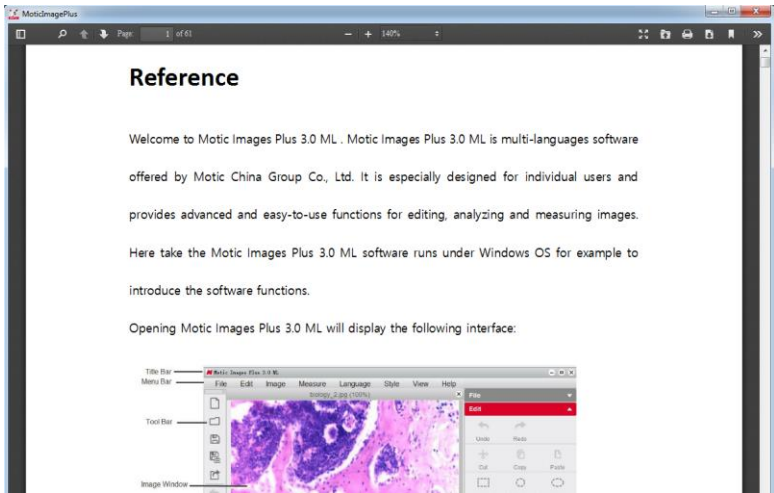
The Motic Images 3.0 software, like the Motic Images 2.0 software will allow you to view, capture, annotate and save your images. For further assistance in using the Motic Images 3.0 software please refer to the Motic Help files. These files will help explain the functions of software. There are help files for both the main Motic Images software window, as well as the Motic Images Live Imaging window.

## **MOTIC IMAGES 3.0 HELP GUIDE**

To access the Motic Images 3.0 help menu, click on Help, located at the top of the Motic Images software screen.

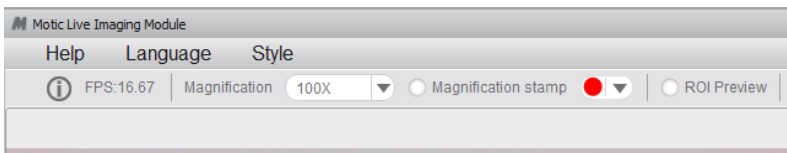


Once the Help window open you will find the help guide within.



## Motic Live Imaging Module Help

To access the Motic Images Live Imaging help menu, click on Help located at the top left hand side of the screen.



Once the Help window open you will find the help guide within.

