

Using the Nikon Digital Sight DS-2MBWc Camera on the Nikon Eclipse E800 Reflection Microscope

1. Turn white Nikon controller box on (power button is on the right front side).
2. Restart the Windows computer located to the right of the microscope.
3. Double-click on the “NIS-Elements F 2.20” icon located on the desktop. The application should launch.
4. There are three main sections within the application window. A large image area located on the left side. Below this there is a series of large thumbnail images. These show the most recently saved images. There is a slider bar which allows one to scroll through all the images. On the left side there is a tool bar containing the various camera controls.
5. The top section in the tool bar is called “Resolution”. There are two categories: “Fast focus” and “Quality capture”. The fast focus sets the resolution on the screen for live imaging and focusing. The default value is set at 800 x 600 pixels. It can be changed to a higher resolution by selecting from the drop down menu, but there will be a slight delay between adjusting the focus on the microscope and observing the result on the image. It is best to use the default value.
6. The “Quality capture” resolution sets the resolution of the captured image. The default value is 1600x1200 pixels. This can also be changed by selecting from the drop down menu.
7. The next section in the tool bar is called “Exposure”. There are two modes - “Auto” and “Manual”. The “Auto” mode works very well for all applications and is recommended. Within this mode, the user can adjust the contrast level observed using the various selections found underneath the “Contrast” drop down window. Also, brightness adjustments can be made by selecting the options underneath the “AE Compensation” drop down menu.
8. Below this section of the toolbar is a section with four buttons called “Camera”. From left to right the four buttons are “Live”, “Freeze”, “Capture” and “Auto”. The two used most often are “Live” and “Freeze”. Select “Live” to image and focus the sample in real time on the computer screen. When you find and focus on an area you wish to photograph, select “Capture”. The image will freeze there. You will need to go to the main drop down menu and select “File” and “Save As”. You may then give the image a name and save it to the appropriate directory.

Micron Bar Calibration and Display for Nikon DS-2MBWc Camera

Micron Bar Calibration

1. Put the reference slide with reticles underneath the microscope. The largest lines are 1 mm apart. At different locations along the slide, the reticles are divided into 500 μm , 100 μm and 20 μm increments.
2. Using the 20X objective, focus on the 100 μm increment reticles. Try to move the slide such that the lines are aligned parallel or perpendicular to the field of view.
3. In the NIS-Elements F software, on the tool bar on the right side, click on the down arrow to the right of the “Scale” button and select the 20X objective from the drop down menu.
4. From the main menu, select “Camera” and then “Calibrate”. A submenu will appear allowing you to choose the orientation of the calibration line you wish to draw (vertical, horizontal or diagonal). Select the appropriate button to coincide with the orientation of the reticles.
5. Click on the mid point of one reticle. A small red line will appear. Move the mouse over to the adjacent reticle and click on the midpoint of it.
6. A dialog box will appear asking you to input the actual distance. Fill in the appropriate distance (100 μm in this case).
7. The software will compute the calibration for all other objectives automatically.

Micron Bar Display

1. In “Live” acquisition mode, click on the down arrow to the right of the “Scale” button and select the objective from the drop down menu that is currently being used.
2. From the main menu, go to “View” - “Scale” - “Show Scale Bar”. The micron bar will display on the image.