INFINITY ANALYZE Software Quick Start Guide - *v4.0.2*

Thank you for purchasing a Lumenera INFINITY camera, which includes two complete software packages - **INFINITY CAPTURE** and **INFINITY ANALYZE.**

INFINITY CAPTURE is an intuitive user interface that contains all of the basic features needed to control the camera and capture images. **INFINITY ANALYZE** expands on the functionality of **INFINITY CAPTURE,** adding complete image analysis functions such as measurement, annotation, tiling, archiving and advanced image processing.

This guide will help you get started using **INFINITY ANALYZE.** For instructions on how to install your INFINITY camera and software please refer to the INFINITY Camera and Software Installation Guide.

1) Control Panel:

Global White Balance
Remove the sample from the light path and click on the W*hite Balance* icon. This produces a global white balance.

Area White Balance
With the sample in the light path click on the *Area WB* icon. The cursor is transformed into a dropper. Click on a white area of the sample. This produces an area white balance.

Capture
To capture an image select the *Capture* icon in the *Capture Control* section, or double click on the live image. In order to produce a preview, ensure that the *Preview Captured Image* box, located under the *Capture Options* section, is checked.

Field Group
The field group and imaging control menus can be toggled by clicking on the *Imaging Control* icon at the top of the control panel. The field group is a thumbnail work space that stores the captured images in cached memory.

To File/Field Group/Both
Choose where captured images are stored by selecting *File* to have them automatically saved to a local drive, *Field Group* to save in the field group or *Both.* The directory where images will be saved is shown in the area immediately below, and can be changed at any time by clicking on the icon next to the disk address.

Auto Increment File Name
Select the *File Path* box to increment saved files. You must select the icon next to the *Field Path* box to select an initial file name. Once this is done each capture file name is automatically incremented by one.
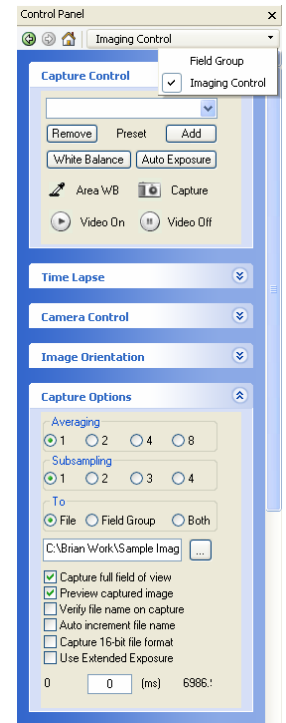

Figure 1: Capture Control

2) Calibration, Measurement and Annotation

Figure 2: Fit to Window icon

Calibration *(captured image only)*
Prior to performing calibration, turn off the *fit to window* option to display the image without sub sampling. To perform a calibration, place a stage micrometer in the field of view. Select the calibration icon which transforms the cursor into a crosshair. Left click once to start the calibration, drag the cursor over the known distance then left click again to complete the calibration. This produces a *Micrometer Calibration* dialog box. Input the length you have measured across the stage micrometer and the magnification on your microscope optics. Choose a linear measurement unit and input its conversion to microns (i.e. inch (in) = 25,400 microns). Press OK to complete the calibration. Please note*:* The .SIF file format retains all calibration and measurement information. Please ensure files are saved in this format if future measurements are to be taken.

Saving Calibrations
Multiple calibrations can be saved in the *Capture Control* section as seen in Figure 1. To save a calibration select the *Add* icon, which produces a *Preset Name* dialog box. Choose a name such as the optic you calibrated against (10x, 20x etc…) the select OK to save the calibration information. When previewing prior to capture you must choose the applicable calibration in the drop down box above the *Add* icon.

Finding Calibration Information
Calibration data for the live preview and captured images is found on the bottom right hand corner of the application window. The third item from the right is the current calibration setting.
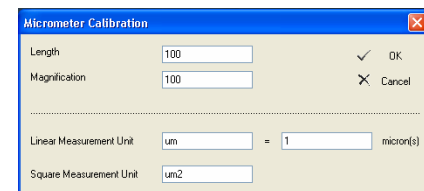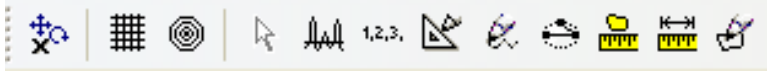

Figure 3: Micrometer Calibration Dialog Box

Figure 4: Calibration Data

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Figure 5: Measurement Box

Measurement

Measurements may be performed on any captured images once **INFINITY ANALYZE** has been calibrated. Left click a *Measurement* icon transforming the cursor to a crosshair, choose your starting point, drag your mouse to the end of you measurement and left click a second time to end the measurement.

Each time a measurement is produced an entry is created in the *Measurement* Box found at the bottom of the software. Send this information to Excel by opening the Excel software, clicking on the data in the *Measurement* Box, dragging it to the Excel software tab on your Windows Taskbar, and dropping it.

Measure Options

Measure Options can be found in the *Measure* drop down menu. Here users can select the number of decimal places and other measurement options such as nomenclature.

Measure Colors

To change the color or size of measurements, select O*verlay Color* or O*verlay Size* in the *View* drop down menu.

Annotation

To place an annotation on your image select the annotation icon. This greys out the measurement icons and allows access to the annotation icons. Once the annotation section is selected, double click on the annotation to bring up a dialog box which allows changes to its font, size and shape. Note that annotations and measurements may not be performed at the same time.

To go back to measurements, click the *annotation* icon a second time.

Burning Annotations and Measurements

Select the *Burn Annotation* icon to permanently add measurements and annotations to an image. All measurements and annotations will be lost if an image is saved without burning it first.

Removing Annotations and Measurements

Measurements are removed using the *Reset Measurement* icon found in the measurement toolbar. Annotations are removed by selecting the *Delete* icon, but only when the annotation section is active. The number value for a measurement is considered an annotation and can only be removed when annotations are active. Measurements and annotations are removed separately.

Image Window Size

The size of the image window may be defined by the user. To activate this feature select the *Fit to Window* icon as seen in Figure 6, then the *Minimize/Restore* icon in the upper right hand side of the software. To set the window size select *Image Window Size* in the *View* drop down menu. To capture this section of the image uncheck the *Capture Full Field of View* box in the *Capture Options* section.

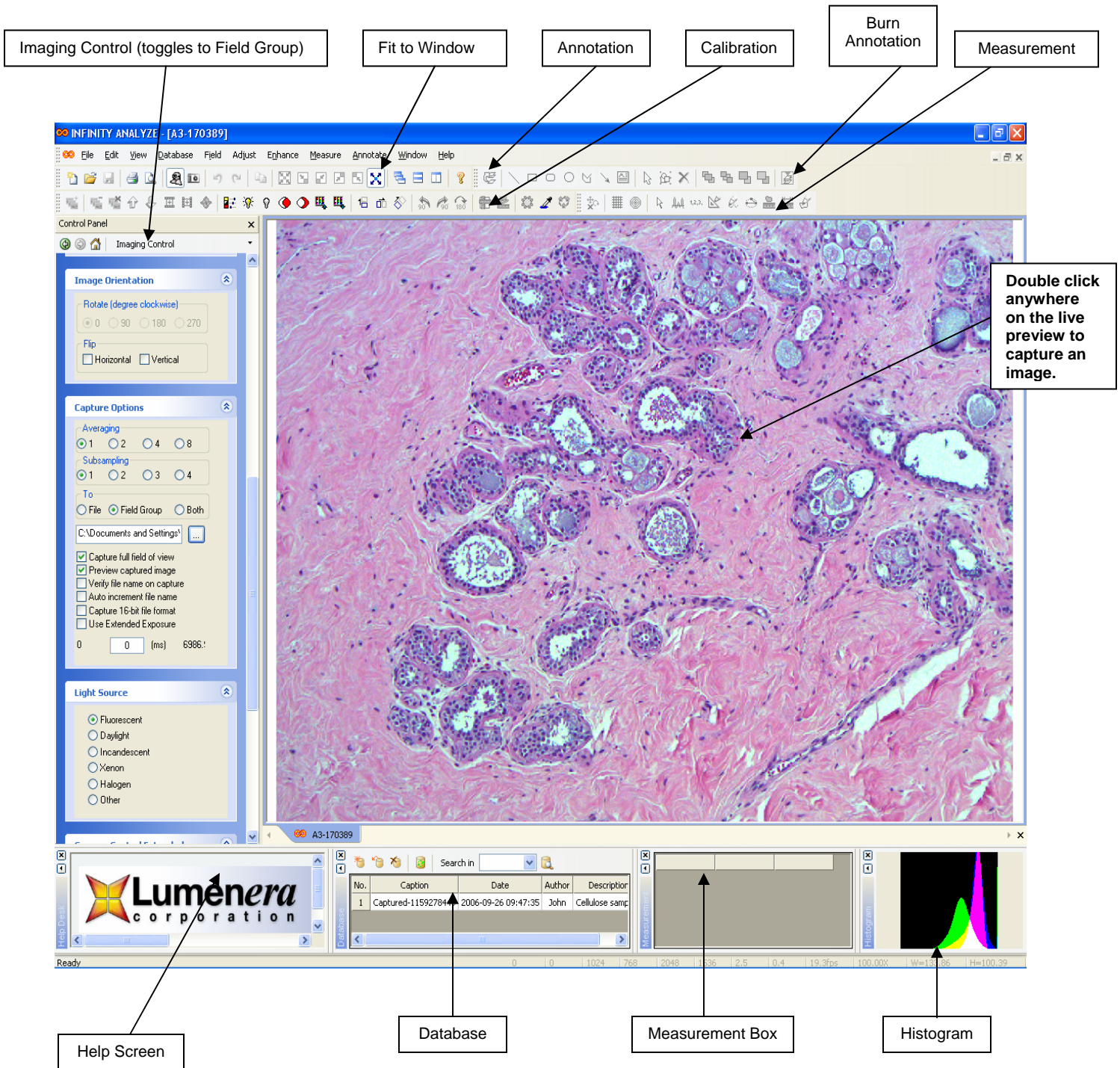**Figure 6: Fit to Window and Minimize/Restore Icons**

3) **Additional Help**

The help section of your **INFINITY ANALYZE** software contains a complete user-friendly manual that includes a detailed description of all the features available.

Flash tutorials are available on the support/download section of the Lumenera website at www.lumenera.com/support/download.php. These tutorials offer an excellent opportunity to view the various functions of **INFINITY ANALYZE**.

For further assistance contact:
Lumenera Technical Support   **(613)-736-4077**
                                    support@lumenera.com

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INFINITY ANALYZE Software Overview

Imaging Control (toggles to Field Group)

Fit to Window

Annotation

Calibration

Burn Annotation

Measurement

Double click anywhere on the live preview to capture an image.

Help Screen

Database

Measurement Box

Histogram