

i-Solution software quickstart - Pixera

The following procedures are some of the more commonly used items in the i-Solutions lite software. The package can perform many other functions. See the manual for more detail.

CAPTURING IMAGES:

Pixera Camera (150,600 series) :

Images will be captured using the TWAIN interface supplied with the Pixera camera. The sequence is as follows:

To setup: (only need to do this when first starting i-Solutions)

- > ACQUIRE (pulldown menu)
- > SELECT TWAIN SOURCE
- > TWAIN Viewfinder (this selects using the Pixera TWAIN)

To capture:

- > ACQUIRE
- > Acquire from TWAIN device (launches the Pixera TWAIN interface)

* The TWAIN will continue running after capturing, access on Windows toolbar

* The captured image will appear in the i-Solutions program window

MEASURING:

In order to measure specimen features a calibration table (see Calibration below) needs to be created. This is very straightforward for compound microscopes (models with fixed magnification lenses) but zoom microscopes are only consistent if they have 'click' stops for magnification.

CALIBRATION:

i-Solutions provides 3 methods of calibration; manual, semi-automatic, and automatic.

- **Manual:** provides most accurate calibration since the user specifies the actual point to point region to calibrate with. Select MEASURE>CALIBRATION>CALIBRATION to access the procedure. (see pg 101)
- **Semi-automatic:** uses a mouse drag but automatically determines the defining calibration lines. Select MEASURE>CALIBRATION>Semi-auto (see pg 106)
- **Auto:** uses a standard stage micrometer and detects the lines automatically. Only requires user to specify line spacing. Select MEASURE>CALIBRATION>Auto (see pg 105)

MEASUREMENTS:

Measurements can only be taken on the captured images with the Pixera cameras.

Captured image: (see pg 110)

- Use ACQUIRE>IMAGE CAPTURE to do initial setup of the camera and calibrations
- Select calibration scale to be used (from previous calibration) either from the *spatial calibration icon* on the toolbar or by MEASURE>CALIBRATION>CALIBRATION and the appropriate named calibration (e.g. 100x lense)
- Select measurement tool to use (e.g. Point to point) from ToolList (enable by VIEW>ToolList) or by selecting MEASURE> MANUAL MEASUREMENTS>tool
- Measure by using left mouse click and hold as appropriate

MULTI-FOCUS

Multi-focus is a process that allows multiple images of a specimen taken at different focal planes to be combined for a complete in-focus final image. Software depth-of-field is performed and only the focused portions of each image are used to produce the resultant final image. (see pg 94)

- Activate Context window to view images (VIEW>Context Window)
- Acquire 2 or more images of the same sample at different focus settings.
- Select images to be summed from the context window:
 - To select images and specify the order of the images, click the left mouse button
 - while holding down the <Ctrl> button on the keyboard. The images will be selected in order. They can be de-selected by the same procedure.
- Apply focus enhancement (PROCESS>Focus Enhancement). This procedure may take some time depending on the number of images and processor speed. The process can be terminated at any time by pressing the <ESC> button.

* **NOTE:** Multi-focus is only effective with vertical optical systems. Images captured with stereozoom models usually don't combine well due to the inherent 5° angle of the optics in most stereo models.