

Nikon

NIS-Elements LE

User's Guide (Ver. 2.00)

Thank you very much for choosing Nikon.

This manual explains installation and use of the NIS-Elements LE. For trouble-free operation, read this manual before using the program.

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Be sure to read the instruction manuals for the microscope and PC you plan to use with the NIS-Elements LE.

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- * Operation cannot be guaranteed on all computer models. For further information, contact your nearest Nikon representatives.

★ Application software "NIS-Elements" is not intended to be used for medical purposes.

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1. Introduction

NIS-Elements LE is a tablet software supplied with a Nikon camera. This touch-screen application enables to manually set all the microscope acquisition parameters and fully control the connected camera.

Key features of the software are:

- camera live observation
- still image and video acquisition
- loading images from an external storage
- annotating
- measuring
- viewing graticules
- adding a scale
- comparing using the split view
- full screen and fit screen viewing
- image information and histogram viewing
- saving to an external (USB) storage
- supports Windows

2. Installation and Startup

Execute the installation file and follow the instructions. Do not connect the camera to the tablet device before NIS-Elements LE installation is finished.

3. Basic Workflows

3.1 Connecting Camera

Connect the camera after NIS-Elements LE is installed on your tablet device:

1. Connect the camera to your device using the supplied USB cable.
2. Switch the camera ON.
3. Start NIS-Elements LE.

Alternative connections

LAN connection Some cameras can be accessed via a local area network.

3.2 Starting the Software

Connect the camera and start the software by tapping on the NIS-Elements LE icon on the desktop or in the main Windows menu.





Note

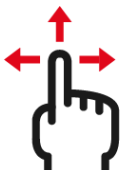


Some functions may not work correctly after recovery from the sleep mode. Please turn the sleep mode off.

3.3 Gestures


To control the program effectively, the following touch screen gestures can be used.


Table 3.1.

	Tap (single click)	Works as a selection, turns a function on/off
	Double tap (double click)	Runs the <i>Fit Screen</i>  function
	Pinch in/out (scroll mouse wheel)	Zooms the image in or out

	One finger swipe in any direction	Moves the zoomed-in image around
	One finger swipe left/right	Opens the next/previous file in the current folder. If the image is zoomed in, the gesture will only move the image. Use the <i>Fit Screen</i>  button to zoom it out.


3.4 Creating Objective Presets

You can create a number of presets which will represent different combinations of objective magnification and zoom. Whenever the objective or the zoom factor is changed on the microscope, the corresponding preset shall be selected via the *Objectives*  button to ensure that the captured image will have correct calibration. To create a preset:

1. Tap on the *Objectives*  button in the vertical panel. A window opens.
2. Tap on the **Setup** tab in the window.
3. There is a stripe of preset positions at the top of the window. Tap one of the positions to select it. The number of available positions can be adjusted in general options.
4. Specify parameters of the optical path:
 - objective name
 - objective magnification
 - **Zoom** magnification
 - **Relay Lens** magnification
5. Tap the **Default** button to calculate the calibration from the inserted values.


3.5 Calibration

Having the objective presets calibrated correctly is important in order to ensure realistic measurement results. There are two ways to assign a calibration to an objective preset:

Automatic calibration The calibration is calculated from the values specified in the *Objectives*  window. See 3.4 Creating Objective Presets.




Manual calibration The default calibration can be overwritten manually:

1. Open the *Objectives*  panel, tap on the **Setup** tab.

2. Select the calibration preset which corresponds to the hardware which is currently in use and tap the **Recalibrate** button.
3. Insert a calibration sample to the microscope. It can be a specialized calibration slide or a ruler for low-magnification objectives.
4. A window opens containing three drawing tools. Select one of them, e.g.: .
5. Draw a distance of known length on the calibration sample.
6. Enter the distance to the window which appears. Do not forget to select the correct units.
7. Tap **OK** to finish the calibration.






3.6 Running Live Image

To run a live image from the camera:

1. Open the *Camera*  panel and set the parameters of the camera image in the **Advanced** tab.
2. Tap *Live*  to start the camera live signal.
3. Control the parameters of the camera in the **Basic** tab of the *Camera*  panel.





3.7 Measuring


To measure a feature in the image:

1. Use the *Live*  button to run the live image or open an image (*Open* ) to be measured.
2. Tap the  button next to the *Measure*  button to reveal the list of measurement tools.
3. At the bottom of the menu select color and font size for future measurement objects.
4. Select the required measurement tool. Once you do that, the menu will be closed and the *Measure*  button gets activated.
5. Tap into the image to start measuring.

3.8 Annotating






To add annotations to the image:

1. Use the *Live*  button to run the live image or open an image (*Open* ) on which the annotation will be placed.
2. Tap the  button next to the *Annotate*  button to reveal the list of annotation tools.
3. Select color and line thickness for the intended annotation.


4. Select the required annotation tool. Once you do that, the menu will be closed and the *Annotate*  button gets activated.
5. Tap into the image to create the selected annotation.

3.9 Comparing

The screen can be split into halves, the left half showing the live image and the right half showing the frozen image or a file.

1. Tap the  button next to the *Split*  tool.
2. Select either the *Live + File*  or the *Live + Frozen*  tool.
3. Use the *Split*  button to activate the split mode selected in the previous step.

3.10 Saving

To save an opened or captured image together with any annotations or measurements, simply tap the *Save*  button in the top toolbar.

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Manual

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