Opti*Pix*

User's Manual

This manual describes how to use Opti*Pix* Full and Opti*Pix* Lite software

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1. Installation and Startup (First time)

## 1.1 How to Install Opti*Pix*

Prior to installing **Opti*Pix*** the user needs to install camera Device Drivers**.**

To install Opti*Pix* the user has to run the provided installer file. Double-click on it and a new window will be displayed.

1) Click "Next" to continue.

2) Choose a folder in which to install OptiPix. Click "Next" and "Next" again to start the installation.

3) When the installation is complete click "Close" to exit the window.

1.2 Using Opti*Pix* for the first time

1) Insert the software protection dongle into a free USB port on computer. If a full version of the software has been ordered, the protection dongle will be found inside the product box.

2) From Windows main menu, click "Start/All Programs/Optilia/OptiPix" and run **Opti*Pix***.

3) Select language from the list.

4) From the "Introduction" dialog box, select:

   a. "Full Version" if a full license has been ordered with the software protection USB dongle. All software functions will be enabled.

   b. "Lite Version" if a lite version has been ordered only image view, capture, annotation and distance measurement on image will be enabled.

   c. 30 days trial version for trying the software for 30 days. All software functions will be enabled for 30 days. Skip part 5 (license number).

5) Fill in license number (found in the package) and the other requested information.

6) PLEASE READ THE LICENSE AGREEMENT CAREFULLY before using **Opti*Pix*.**

7) Select device from the Input Device list. The software will start showing live image from the camera.
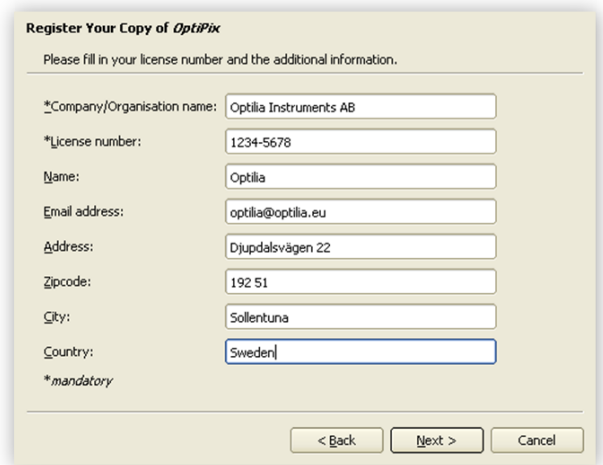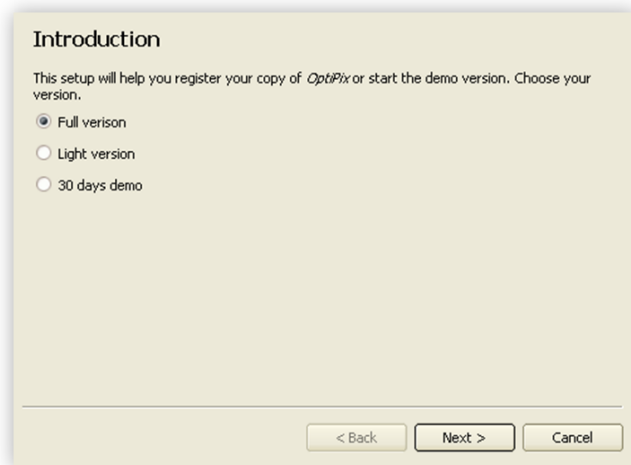
1.3 Language

It is possible to set language for Opti*P*ix upon first start up. Alternatively, the language settings can be changed from the "File/Preferences" menu.
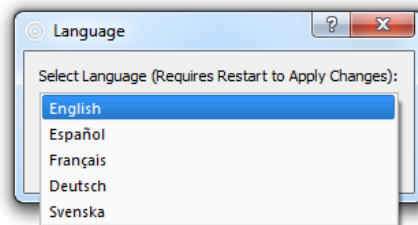
1.4 Device Resolution and Properties

A device has to be chosen upon the first start of the program. This device is stored in the register and will be automatically loaded at next start of OptiPix. It is possible to change input device later from "Device/Input Device".
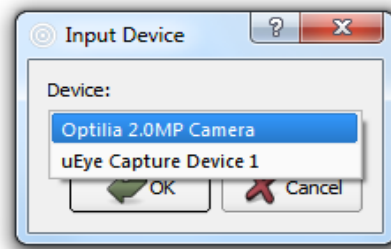

To change device resolution click on this icon [icon] or select "Device/Device Resolution".

To change device properties click on this icon [icon] or select "Device/Device Properties".

Note: To quickly change Input Device, right click on the camera status label and choose desired device.

1.5 Preferences

In Preferences, the user can change line thickness, measurement units (between metric and imperial) and define custom categories for the "Count" function. Change the preferences from "File/Preferences".
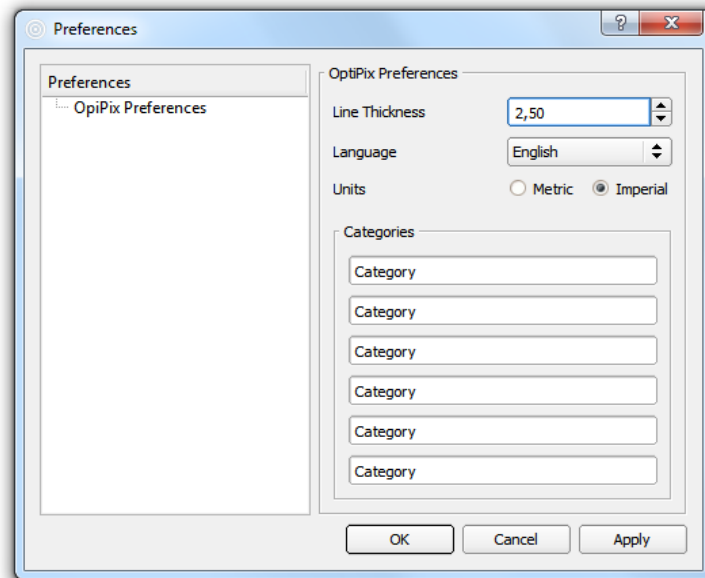
2. Opti*P*ix Overview

2.1 Destination Folder and Image Archive

In the folder structure, the user can choose the folder destination in which to save or recall images. Choose a destination folder by selecting "File/Set Destination Folder". The images in this folder are displayed as thumbnails beneath the folder structure. To hide the folder structure, click this icon ⬆.

To create a new folder, click this icon 📁 or right click inside the box to choose new folder.

The created folder will now be the destination folder.

Note: *By right clicking in the file structure or on the thumbnails user can choose from a number of different tools like copy/paste and rename.*

2.2 Open and Save Images

To open an image but keeping the destination folder click this icon 📂 or select "File/Open Image", then choose which image to be opened.

To load a thumbnail image or a document from the destination folder, double-click on it or right click and choose open. If the image contains measurement objects, the measurement results will also be loaded. Note that these measurements are part of the image and cannot be changed as they are "burnt into" the image.
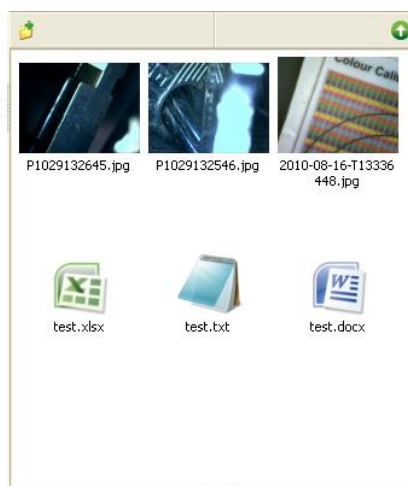
To save an image, there are two options:

- Save the image with a user specified name. The measurement results will be saved with the same name. The image is stored as a .jpg file and the results as .txt file. This is done by clicking on this icon 💾 or selecting "File/Save Image". *Hot key: Ctrl + S.*

- Take a snapshot of the image. The file will be automatically labeled with date and serial number. This is done by clicking this icon 📷. *Hot key: F11.*

To export the measurement results only, right click on the measurements results table and choose "Export Measurement Results" or select "Measurements/Export Measurement Results". This file will be saved in the destination folder.

2.3 Zoom and Panning

There are four ways to zoom digitally, both in live and still image mode: zoom in, zoom out, zoom to fit and full size. Turning the wheel of the mouse zooms in/out, using the cursor as centre of the image.

- Zoom In 🔍⁺

  Zoom in by clicking on the icon or select "View /Zoom In".
  Hot key: F4.

- Zoom Out 🔍⁻

  Zoom out by clicking on the icon or select "View /Zoom Out".
  Hot key: F3.

- Zoom to Fit 🔍

  Zoom to fit the screen size by clicking on the icon or select "View /Zoom to Fit".
  Hot key: F2.

- Full Size

  To apply full size (no digital zoom) select "View/Full Size".
  Hot key: F5

- Full Screen 🔍

  Zoom to full screen by clicking on the icon or select "View/Full Screen". Hot key: F6. To close the full screen view press ESC. The snap and the trigger functions will work as usual even under full screen view. In Full Screen mode, the user can browse through images by turning the wheel of the mouse. A right click will give the option to exit Full Screen mode.

- Panning ✥

  To pan the image when zoomed in, use the middle button of the mouse, or click on the icon.

3. Magnifications and Calibrations

3.1 Magnification

To create a new magnification, select "Magnifications /Edit User Magnifications", and then click on the "Add…" button to add a new magnification. See picture below. Select the new magnification and click on the OK button. To start calibrating, click on the calibrate icon. See next section for further instructions.
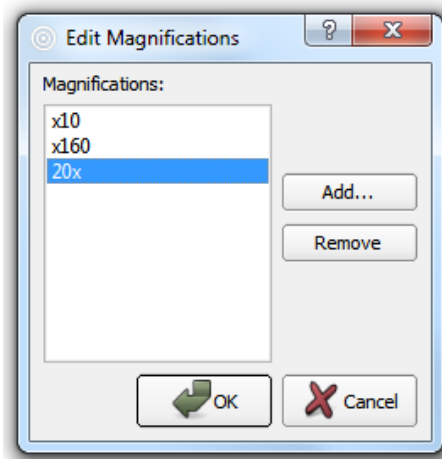
For quick selection of magnification, right click on the Magnification (bottom of the OptiPix window) and choose desired magnification.
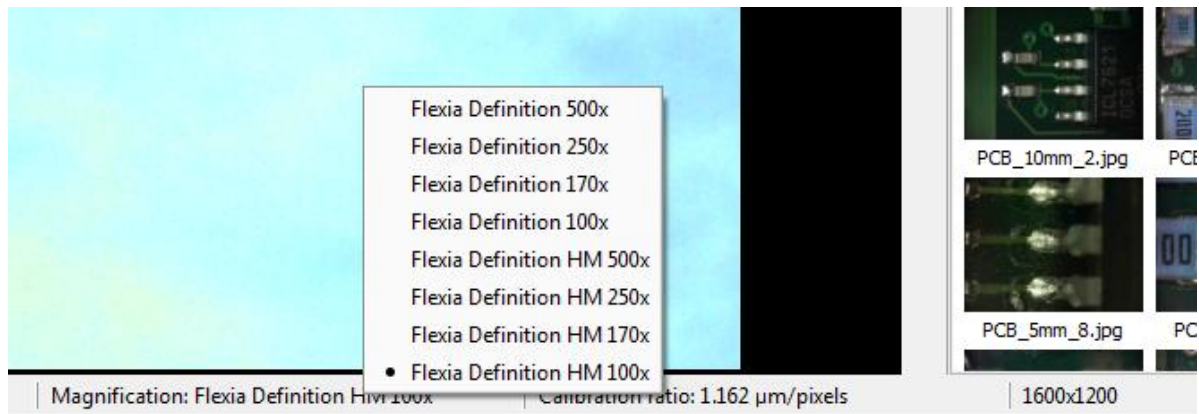
3.2 Calibration

To calibrate a selected magnification, place a Micrometer Scale or a Ruler (depending on the magnification of current optics) in the live image and focus. To calibrate, select "Magnification/Calibrate Magnifi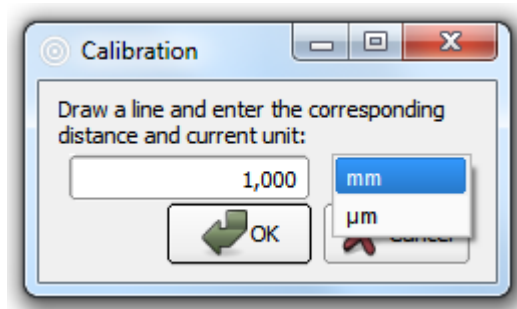cation". The image of the Micrometer Scale or the Ruler will be frozen and a new dialog window will appear. See image below.

On the image, click-and hold to drag the desired distance.

Type in the distance and select the desired unit. If imperial units are selected in the preferences, imperial units are shown in the calibration window. Selected calibration ratio will be seen on the status bar at the bottom of the Opti*P*ix window.

Note: Predefined magnifications cannot be calibrated.
Note: The last calibration used will always be stored upon closing the program, and reloaded when starting the program.
Note: The selected calibration will always be saved together with the image.

4. Measurement and Analysis

4.1 Measurements

There are several ways measure on the picture. It is possible to measure distances, radius, curve length, areas and angles. If no magnification has been selected the measurement results will be presented in pixels.

Before making measurements, current magnification (e.g. optical lens) should be calibrated in the software. See section Magnification and Calibration.

- Distance

To measure a distance click on the icon or select "Measurements / Distance ". Click and drag the distance to measure in the image.

- Radius

To measure a radius, there are two different methods: either by selecting three points on the perimeter, or by dragging the radius. In order to use the first method, press the icon or select "Measurements/Radius/Radius 3 Points". In order to use the second method, select "Measurements /Radius/Radius By Radius".

- Angle

To measure an angle, there are two different methods: either by selecting three points or by drawing two lines. In order to use the first method, press the icon or select "Measurements/Angle/Angle 3 Points". In order to use the second method, select "Measurements/Angle/Angle 2 Lines".

- Curve

To measure a length of a curve, press the icon or select "Measurements / Curve". Click and draw the curve in the picture.

- Area

To measure an area click on the icon or select "Measurements / Area". Click and draw the perimeter of the area. The area will close when releasing the mouse button.

- Polygon

To measure using a polygon click on the icon or select "Measurements/Polygon". Click the polygon's corners and double-click to close it.

- Count ✔ 1, 2, 3

To count objects click on the icon or select "Measurements / Count". A new window will appear where users can choose a category. When user has chosen desired category, start counting objects in the image by clicking on them. When you name a category, the counting object will be marked with the first letter of that name in a certain colour. In the measurement results window, however, the full name will be displayed. To count using another category, simply choose another category in the category window. When finished counting objects, press done. To modify the name of the categories, go to "File/Preferences".

Note: Make sure not to close the category window while counting.

- Select

To use the selection tool click on the icon or select "Measurements/Select". Select an object (measurement) on the image to change, move or delete it.

Note: When selected, right click on the object to change or delete it.

- Export Measurement Results

Measurement results are recorded in a "text" file with same name as the image file in current destination folder. The results can also be exported to a new text file and/or renamed.

4. 2 Annotation

- Text A

To write text in an image click on the icon or select "Measurements/Text". Click on the image to put the text. A new window appears where user input the text.

- Annotation with Line ✎A

To write an annotation with a line, click on the icon or select "Measurements/Annotation Line". Draw the line and a text window will appear. Write a text or leave it blank.

Note: Leave the text blank to just draw a line.

4. 3 Tools

- Compare Images 🦋

To compare images click on the icon or select "View/Compare Images". A new window will appear. Select "View" and choose between 1, 2 or 4 images. To start comparing images drag one thumbnail and drop it onto one a frames in the compare window or double-click the thumbnail, see image below. To clear the compare view, right click on the image to clear, or click to "File/Clear Window" to clear all images.

The user can Zoom In/Out and rotate each individual image. Slide the rotation bar or click the rotation buttons to rotate the image up to 180 degrees.
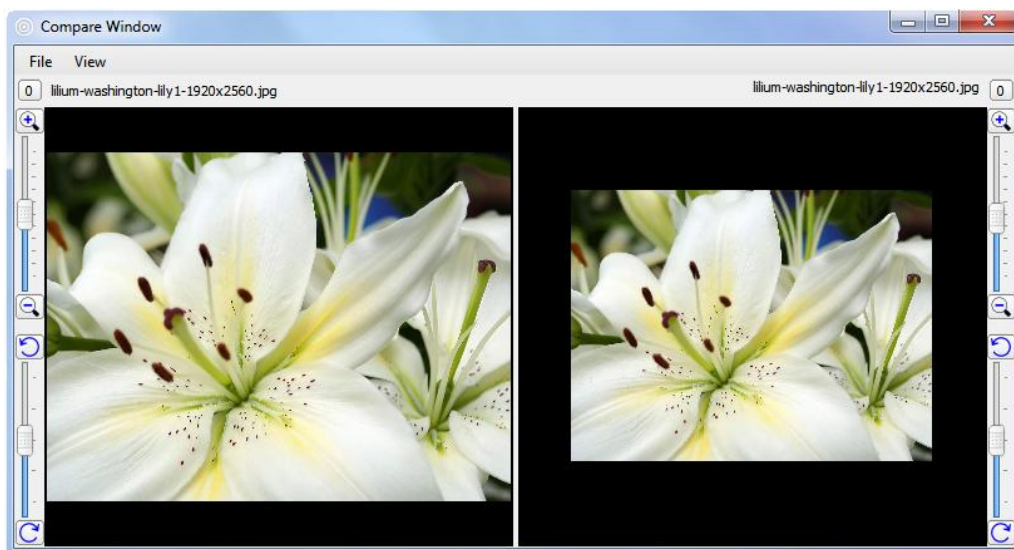

- Compare Live Image ▶🦋

To compare the live image with a reference image, click on the icon or select "View/Compare Live Image". A new window will appear. To start comparing images drag a thumbnail and drop it onto the reference image frame in the compare window, or double-click to the thumbnail.

The reference image can be saved and reloaded by clicking "File/Save Compare Live Window" and "File\Load Compare Live Window".

- Image Adjustment ☀

To adjust colour, contrast and other graphics properties of the image, click on the icon or select "View/Image Adjustment". A new window will appear. If Opti*P*ix is in live or still image mode different windows will be shown.

In *live image mode* user can only flip the image and change the contrast.
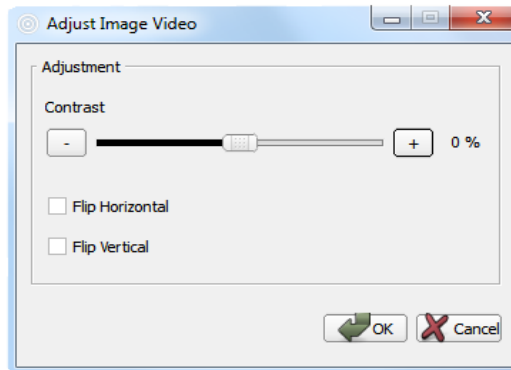
In *still image mode* user can also change the red, green and blue colour mix as well as brightness and contrast.
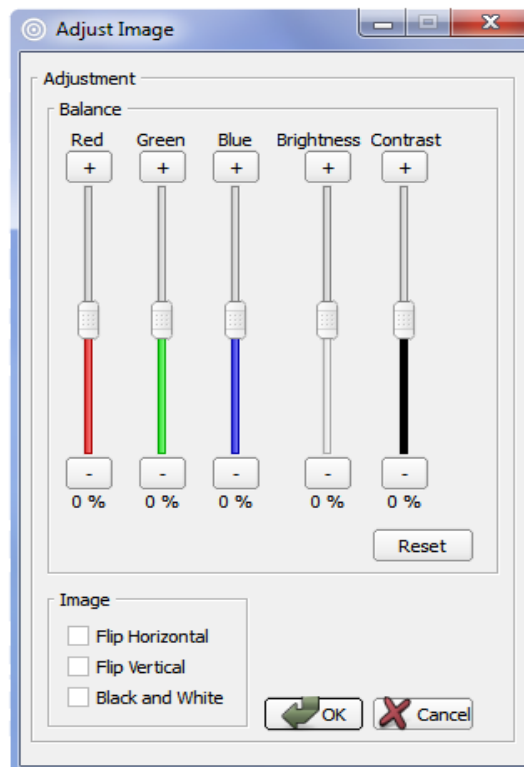
Note: *Select both flip horizontal and flip vertical to rotate the image 180°*

- Ruler

To show the ruler click the icon or select "Measurements/Show Ruler". The size of the ruler depends on the current calibration. To rotate the ruler, select the object and right click on it.

- Grid

To project the grid on the screen, click on the icon or select "Measurements/Show Grid". A new window will appear to input the size of each grid cell in mm or inches.

- Crosshair

To project the crosshair on the screen, click on the icon or select "Measurements/Show Crosshair".

- Rectangle

To project the rectangle on the screen, click on the icon or select "Measurements / Rectangle". A new window will appear to input the length of the sides of the rectangle in mm or inches.

- Graticule

To project a reference (semi-transparent) image on screen, click on the icon and select the reference image with exactly the same resolution as the live image. Opti*P*ix will automatically switch to full screen and project the graticule over the live image. Press ESC to exit full screen.

- Change Font & Color

To change the font click on the icon. A new window appears where user can choose font type, colors for the text. This will be stored in the register.

- Change Color of objects

To change the color of the objects click on the icon. A new window appears where user can choose colors of the objects. This does not affect the color of the grid nor the crosshair.

Notes

System Requirements:

Component	System recommendation
Computer	Intel Core i5 2,3 GHz or similar Recommended systems: Station: HP PRO 34500 MT, Win7P or similar Laptop: HP ProBook 4740s 17.3" HD+ LED or similar
Operating System	Windows XP, Windows 7P (32 or 64 bit)
Memory	1 GB or higher of RAM, Recommended: 2 GB
Hard disk	Minimum: 10 GB of Free Space Recommended: 100 GB of Free Space
Display	Laptop: 15 " / 1600x900 (HD+) PC: 22" /1920 x 1080 (Full HD) Recommended: Laptop: 15 " / 1920x1080 (Full HD) PC: 24" /1920 x 1200
Graphic card	Direct X compatible graphics card is recommended to avoid unnecessary load on the CPU. Avoid using integrated simple graphics cards. Example cards are nVidia G-Force or ATI Recommended: ATI Radeon HD 5000/6000 Series nVIDIA GTX 500 Series
Other	Two USB2.0 ports. PCI express x1 One USB3.0 port.

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