High image quality –
giving you the details
to make the right decisions.

Image Enhancement tools – Color & FX of JENOPTIK GRYPHAX® software
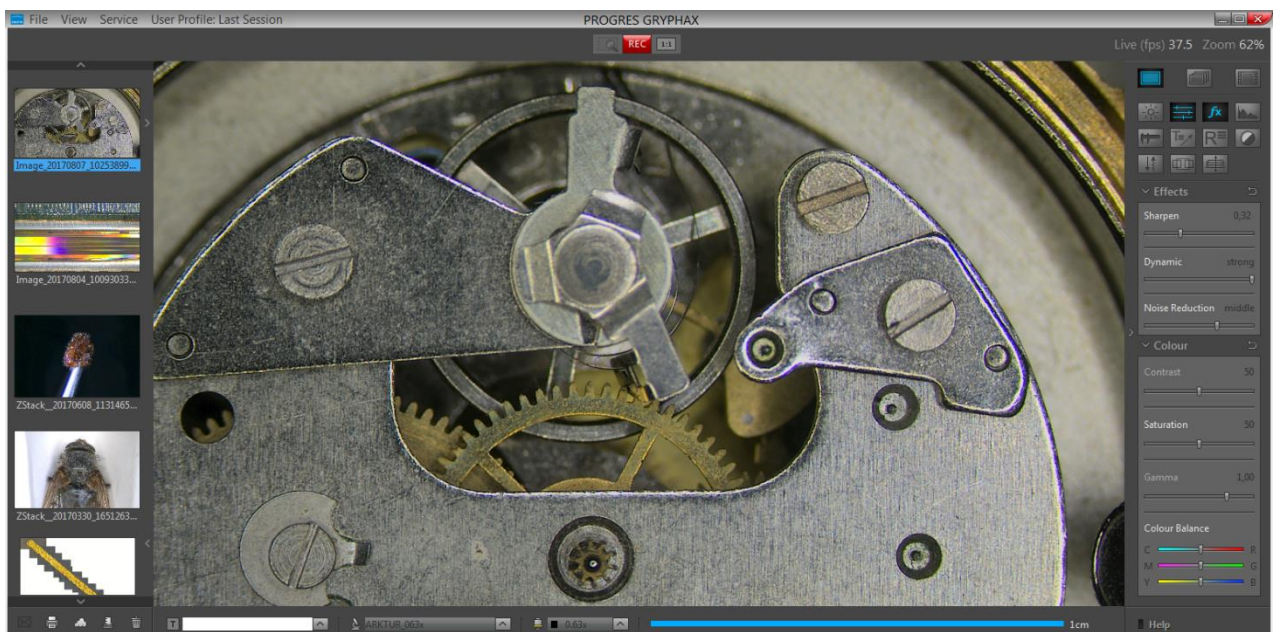
General description:

The "Image Enhancement tools" – Color & FX of JENOPTIK GRYPHAX software enables user to optimize images by wide range of techniques to reach perfect images results with true color representation of specimen.

A number of factors influences color representation of specimen. In addition of functions white balance and Ocular view from Exposure tool, enhanced functions available in the tools "Color" & "FX (Effects)" can be used to match the image display to the colors and contrasts in the specimen. The FX tool provides options to enhance image-processing using sharpen, noise reduction or high Dynamic function.

Any settings defined here are immediately displayed in the live image preview, and will be applied to the captured image as well.

All changes of the Image Enhancement tool settings are saved as preferences "Last Session" and will be available next time the software is started.

Overview JENOPTIK GRYPHAX software with applied High-Dynamic mode from FX tool:

Open Toolbar:
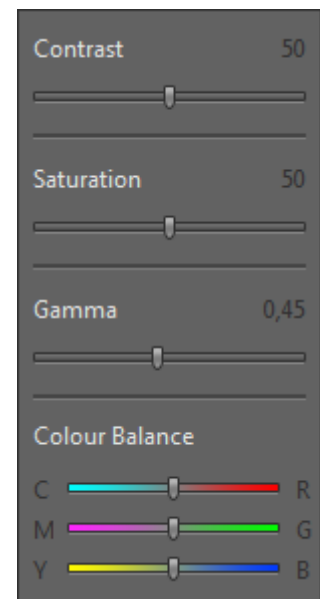
All JENOPTIK GRYPHAX camera control and image processing tools are located at the "Toolbar".

To activate the Image Enhancement tools "Color" or "FX" open the JENOPTIK GRYPHAX "Toolbar" by pressing the arrow ◀ on right-hand software site or use keyboard short cut (**ctrl / cmd + T**).

10.1   Open Color tool:

To open Color tool click to the Color icon ▦ at the "Toolbar", the Color widget will be opened and contains the following image color enhancement tools:

- **Contrast** – to adjust image desired target contrast of image preview from active camera displayed on screen by slider or value

- **Saturation** – to adjust image desired target saturation of image preview from active camera displayed on screen by slider or value

- **Gamma** – to adjust image desired target Gamma value of image preview from active camera displayed on screen by slider or value

- **Colour Balance** – optionally to set manually color balance of image preview from active camera displayed on screen by slider

Note: To reset separate tool value to initial factory value, double-click on slider at any position. According slider and value will be reset to default.

Contrast

Use the slider controls to adjust contrast, in the displayed image preview according to your needs. A low contrast value results in a lower contrast, a high contrast value results in a higher contrast. A contrast value of 50 is preset as initial factory value, which represent contrast function is off.

Saturation

Use the slider controls to adjust saturation in the displayed image preview according to your needs. Value of 0 is displaying a completely de-saturated image preview. A high saturation value results in an over saturated image preview. A saturation value of 50 is preset as initial factory value and color reproduction will be displayed as neutral.

Gamma

The gamma slider control enables the conversion of camera pixel values into the pixel values displayed in the image window. A low gamma value results in a brighter, low contrast image, a high gamma value results in a darker image with higher contrast. The gamma settings do not influence the dynamic range of your image. The current used gamma curve is visualized at "Histogram" widget and changes will be immediately applied.

Note: Gamma adjustment does not reduce the dynamic range of the image. Please note that the preset gamma value is 0.45 for color cameras, which results in a well-balanced, contrasting color reproduction. For linear reproduction of the image data, select a gamma value of 1.0 which is used for monochrome cameras as default.
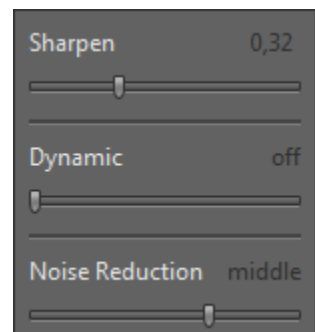
Colour Balance

Use the slider controls to adjust the color balance in the entire image between an RGB base color and the respective complementary CMYK color. The color balance adjustments will also be kept when a white balance is carried out using the functions in the Exposure tool.

10.2   Open FX tool:

To open FX (Effects) tool click to the FX icon at the "Toolbar", the Color widget will be opened and contains the following image color enhancement tools:

- Sharpen – to adjust image desired target sharpness of image preview from active camera displayed on screen by slider or value A sharpen value of 0 is preset as initial factory value, which represent sharpen function is off. A high sharpen value results in a higher sharpness impression.

- Dynamic – optionally tool to activate special image dynamic extension by one-image-high-dynamic-mode. Which will take advantage of the new generation sensor technology used by JENOPTIK GRYPHAX cameras. It will be applied directly at image preview and to captured images as well.

  Note: Dynamic extension mode requires a high demand of CPU performance and can reduce the live speed performance on certain computers. Please also take note of the system requirements.

- Noise Reduction – to reduce the noise level at image preview from camera by select noise reduction level by slider. It is recommend to enable noise reduction function especially by high gain values or long exposure times e.g. Fluorescence applications. The following options can be selected:

  - off – no noise reduction enhancement
  - soft – slightly noise reduction
  - middle – moderate noise reduction
  - strong – maximum noise reduction, especially for high gains or long exposure times

Note: FX tools can reduce the live speed performance due to high CPU utilization.

Tool status:

- Activated tools are highlighted in blue. Click on tool icon again to deactivate appropriate tool.
- Tools which are not access able are "greyed out" by software automatically and cannot be reached.

Collapse / expand ⌄ button on each tool to hide separate widgets on active tool section.

Reset button ↩ on a tool sets all properties to their initial values. Initial values are fixed.

Video tutorial:

Press the link to watch the video tutorial for **Exposure tool & Histogram** of JENOPTIK GRYPHAX software.

Limitations:

- FX tools can reduce the live speed performance due to high CPU utilization.
- Contrast and Gamma will be deactivated while FX tool "Dynamic" is active.