DENOISE projects

User Manual

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Installation on Windows

The start screen for the installation will normally be automatically displayed. If the auto-start function of your CD/ DVD drive is deactivated, open the start screen manually by going to My Computer, double clicking on the CD/DVD drive symbol and then “**Starter.exe**” or “**Starter**”.

Once you are at the CD start screen, choose your language and then click on “Install **DENOISE projects**”.

Choose German, English or French as setup language and follow the installation assistant’s instructions. During the installation, you will be asked if you would like to install the Adobe® Photoshop plug-in. If you agree to this, you can use **DENOISE projects** as a plug-in for Adobe® Photoshop. Alternatively, the plug-ins can also be manually copied into the Adobe® Photoshop plug-in folder. Select the plug-in entry folder in the CD start menu to open it.

Installation on Mac

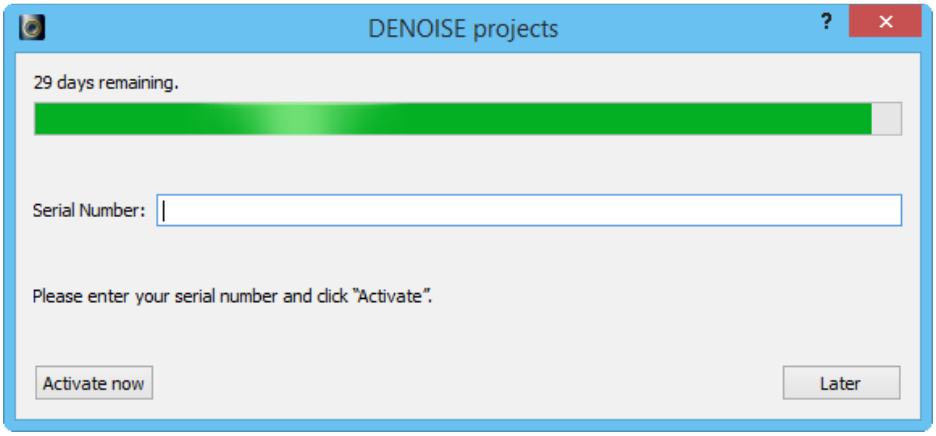
Load your CD into your CD/DVD drive and open the installation menu through the desktop. Drag the **DENOISE projects** file into the program link. To use the Adobe® Photoshop plug-ins, open the Adobe® Photoshop plug-ins folder and copy the appropriate plug-ins into your Photoshop plug-ins folder. You can now use **DENOISE projects** to edit your photos!

Registration

Upon opening **DENOISE projects** for the first time you will be requested to register the program. Proceed according to the following:

1. Install **DENOISE projects** as described.

2. Input the serial number. For the box version, this can be found in the accompanying booklet. If you have the downloadable version, the serial number will have been sent to you by email directly after the purchase.



3. Finally, click on the *"Activate now"* button. The software has now been successfully activated.

<u>Note:</u> Using the same serial number, DENOISE projects can be installed on up to two computers.

A second serial number is not necessary. For an additional installation on a different computer, enter the serial number and then click on *"Activate now"*.

1. Image Noise - what is it?

Image noise in digital image production occurs in many different ways.

One example is so-called low noise, a sensor-dependent noise caused by CDD and CMOS sensors. An additional multiplier is the reading strength in digital cameras, which produces read noise.

Hot pixels can appear with increased age of the camera or through image sensor manufacturing defects. These are individual pixel sensors that were incorrectly manufactured or have a significantly higher light sensitivity compared to the pixels around them.

It generally the case, that the higher the ISO Number (the camera's exposure setting) is, the more visible the noise will be.

What types of image noise can you reduce or remove with **DENOISE projects**?

- Chroma Noise (colour noise)
  (Filter: Denoising - colour)

- Luminance Noise (bright noise)
  (Filter: Denoising - HD)

- Hot pixels
  (Filter: Hotpixel noise suppression)

- Salt & Pepper (individual defective pixels)
  (Filter: Hotpixel noise suppression)

- Gaps
  (Filter: Denoising - fill gaps)

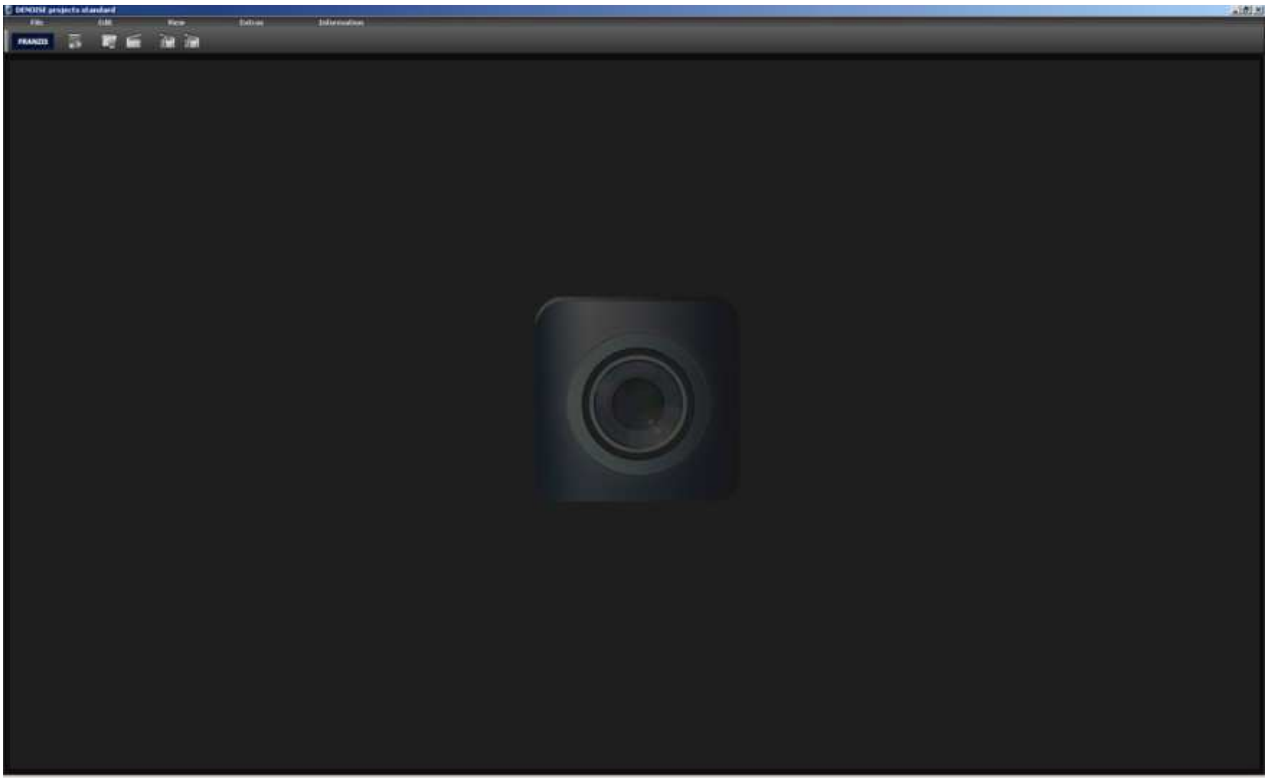
- Banding
  (Filter: Denoise - banding)

- Colour Clouds
  (Filter: Denoising - colour clouds)

In most cases, the different types of image noise do not appear individually, but rather in a mixed form. This is why it is important to

remove noise in the correct order, as shown above, to obtain optimal results.

2. DENOISE projects – the start screen



The start screen for **DENOISE projects** is simply set up.

You can find the main menu and tool list at the top edge of the screen. This tool list includes the following functions (from left to right):

- Image data browser

- Load image
- Open project

- Batch processing

- Load sample 1
- Load sample 2

Alternatively, photo files can also be dragged and dropped into the program. They will be automatically uploaded.

3. The Work Area

As soon as the photo file has been uploaded to the program, the virtual work area will open.

This interface is divided into four main areas:

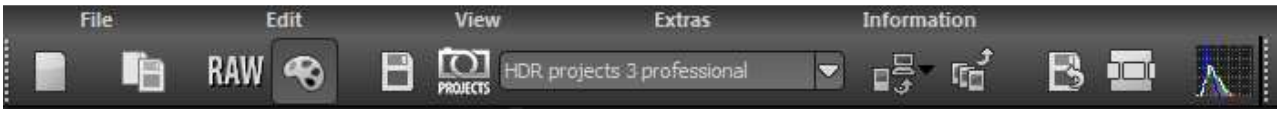
- Menu and tool list (top)
- Presets (left)
- Image (middle)
- Noise removal and expert mode (right)

You can remove the individual sections of the work area from the interface and place them in other spots or on another window.

To reset the work area to its original layout, go to *"View"* in the main Menu and select *"Restore window defaults"*.

3.1 Tool List

The tool list is divided into two sections. The left side refers to the program's control functions and the right tool list manages the image overview.



The functions in the tool list (from left to right):

- Start (new project)

- Save current project

- RAW-processing
- Post processing

- Save image
- Transfer image to selected *projects* program (Selection in the list to the right)

- Export image to external program
- Exposure bracketing and transfer to external program

- Create restore point
- Timeline

- Histogram

Certain primary functions of **DENOISE projects** will now be explained in greater detail.

3.1.1 Uploading and Saving Files

To load images into the program, you can either drag and drop them, use the button in the tool list in the start menu or use *"File", "Load image".*

When importing a file into the program with drag and drop, the image data browser will automatically open to display the folder's contents with preview images.

A double click on the preview in the image data browser directly loads the file.

Photo formats:

DENOISE projects can upload all photo formats. This also includes camera RAW images from various manufacturers.

If a RAW file is available, you should always use it. This file type contains considerably more information than, for example, a JPEG file.

3.1.2 Projects

A project includes the entire work in progress for the subject at hand. The current state of the project can be saved (File ☐ Projects ☐ Save project), and you can return to it and continue from this exact point at a later time.

In addition, the list of steps will be saved so that the work history can be accessed later.

3.1.3 External Programs

There are two steps to transfer an image to an external program.

The *projects* Interface:
All programs in the *projects* product family are automatically registered. Images can be directly transferred to the desired program using the dropdown list.

A transfer to *HDR projects 3 professional* is selected here as an example.

The Main Interface:
The main interface for external programs can be configured solely through settings (Menu ☐ Extras ☐ Settings).

The path for external editors (General, Photoshop CC, Lightroom, Photoshop Elements) can be configured here.

You can transfer a photo to one of the four external editors with the tool list:

Simply click on the arrow beside the transfer button and then on one of the four programs to transfer the image.

3.1.4 Undo & Timeline

An undo-restore point can be manually set at any time. This can be done using the “Create restore point” button in the tool list or through the “Shift+Z” keyboard shortcut.

Every restore point is shown and stored in the timeline. The restore points contain all the settings of the current project, to which you can revert to at any time.

To return to a restore point, click on the button beside the respective image. The restore point will then be recovered and automatically applied upon demand (provided changes have been made since).

With this method, you can switch at will between your restore points and retrieve previous steps at any time.

Furthermore, all restore points will be secured when a project is saved, so that they will be available for future editing.

3.2 Presets

Presets are located on the left side of the program's interface and are divided into 6 different categories.

The first two categories, *Noise suppression* and *Sharpening levels*, include presets for different ISO ranges, from ISO 50 up to ISO 2000000.

The JPEG, RAW, Mobile and Web categories contain specially customized denoising and optimizing presets.

The category *All* simultaneously displays all of the presets and the *Custom* category shows only the presets that you have made yourself.

3.2.1 Favourite System

The favourite system allows preferred presets to be marked as favourites.

To do so, click on the star beside the preset's preview image.

Once you have selected one or more favourites, the favourite category will be activated. With a single click on the favourite category, you are presented with all of your favourites.

3.2.2 Import & Export

The import and export functions are used to transfer presets. These data will be saved as .ini files.

The export button allows you to save the presently selected presets.

The import button lets you import the previously exported presets at a later time.
This way you can save your work or exchange presets with other users.

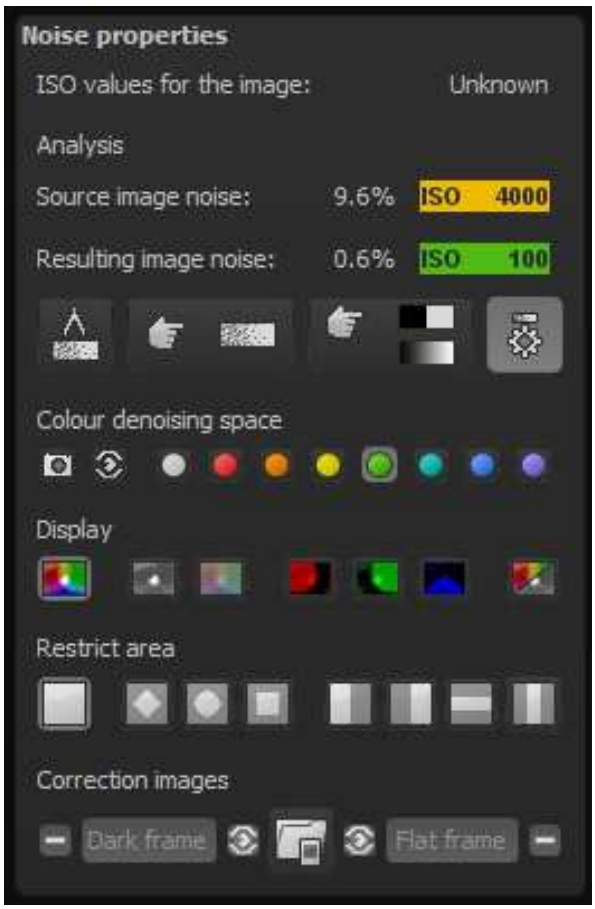
3.2.3 Search Field

You can enter any desired text you wish to search in the search field, located directly underneath the import area. All of the presets will then be searched by name based on the entered text and displayed accordingly.

For example, if you are looking for a preset with a soft look, simply enter *soft*.

A list of previously searched terms can be found to the right of the search box.

3.3 Denoise Section (Noise Properties)



The denoise section on the right side of the program's interface is the core of **DENOISE projects**. Here you will find details about the noise properties, can activate various processes, display colour channels, etc.

This topic will be introduced in detail in the following section.

Additionally, this group of functions provides the option of integrating corrective images such as dark frames and flat frames into the current project.

3.3.1 ISO Display

There are three ISO displays in the first segment of the denoise section.

The above display indicates the ISO sensitivity of the original exposure, the example here being at "Image ISO Value: ISO 1600".

Directly below are the mathematical analyses of the image noise.

Source image noise:
Here the noise in the image will be measured by a special process and assigned an average ISO sensitivity, for example "Source image noise: 2.3% ISO 400".

The analyzed image then contains 2.3% noise.

Note: Don't be disturbed by the fact that the ISO value of noise analysis does not match the ISO number of the shot. Camera sensors

react differently to the set sensitivity. This is how noise properties are distinctly distinguished between a D810 and an EOS7D Mark II.

The image noise must be based on an analyzed ISO value, which will be displayed here.

Resulting image noise: Directly under the source image noise you will find the analyzed noise value for the result image, in the example here "Result image noise 0.5% ISO 80".

The ISO value can be reduced from ISO 400 to ISO 80 with the noise removal.

Note: Be careful not to denoise the images too much, since the natural look can be lost. A result image noise of 0.5% to 1.0% is usually sufficient in most cases.

3.3.2 Image Noise Measurement

Image noise is analytically determined by a process which scans and categorizes the entire image for consistent surfaces without actual image data.

Image noise is measured in this "pure" type of noise.

Since measuring image noise throughout the entire image automatically occurs, a manual search for potential image noise is not necessary.

Click on the "Show measured noise areas" to display this calculation section.

Note: You cannot access the automatic noise removal while the calculation window is open. Simply deactivate the display.

3.3.3 Automatic Noise Removal and Optimization

Automatic Denoising

The automatic noise removal function analyses the current image and looks through the denoising presets for the optimal filter.

Three different degrees of intensity are available with this automatic process.

The balance option will be automatically applied after loading the image.

If you want an image with a softer or grainier noise removal result, you can adjust the automatic preset with one click on the corresponding photo.

Automatic image optimization

Once the noise removal has taken place (which automatically occurs following the initial uploading) you can select the "Automatic denoise/optimize" button.

One click selects the appropriate automatic noise removal optimizing filter from the default *Sharpen* category.

Manual Noise Removal

Directly to the right of the automatic sharpening and optimizing is the manual noise removal interface. Clicking this mode will temporarily deactivate the automatic system and you receive a pre-made preset with all of the important noise removal and sharpening effects.

You can directly edit this preset in expert mode.

3.3.4 Denoise Colour Space

The denoise colour space is a distinctive feature of **DENOISE projects**.

This colour space allows you to improve the noise removal quality of specific tones, with reduced loss to other colours.

There are a total of 10 different colour spaces available (from left to right):

- Colour space automatically selected based on image
- Brightness sensitivity appropriate for the human eye
- Neutral grey
- Red dominant (ex. Rose)
- Orange dominant
- Yellow dominant
- Green dominant (ex. Landscape)
- Turquoise dominant (ex. Turquoise)
- Blue dominant (ex. Water)
- Violet dominant

Let’s look at an example of a red rose:

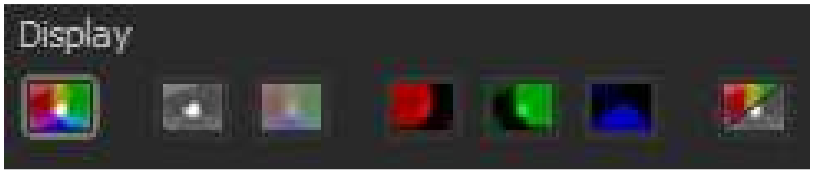
We see the original image on the left side with ISO 25600, an automatic noise removal with the *neutral grey* colour space selected and the image on the right with the *red dominant* colour space.

You can distinctly see the improved detail in the inside of the rose in the shot on the right.

Note: Choose the noise removal colour space based on the area of the subject that you want to highlight.

3.3.5 Channel Displays

The channel displays serve as the optical analysis of your image.



Note: Make sure that "Real-time calculation" is active in the tool list, so that the display will be refreshed.

There are 7 different channel displays to choose from:

(a) Full colour view

This display shows an image with all of the colour channels: red, green and blue.

(b) Luminance view

The brightness of the image (depending on the selected noise removal colour space).

(c) Chromatic view (Colour map view)

With the colour map view, you will very quickly see if your subject contains colour noise. If the colours are very "unsettled", you should use the *Denoise – colour* at a high intensity.

(d) Red channel

With the red channel, you can see brightness of the red portion of the image.

(e) Green channel

With the green channel, you can see the brightness of the green portion of the image.

(f) Blue channel

With the blue channel, you can see the brightness of the blue portion of the image.

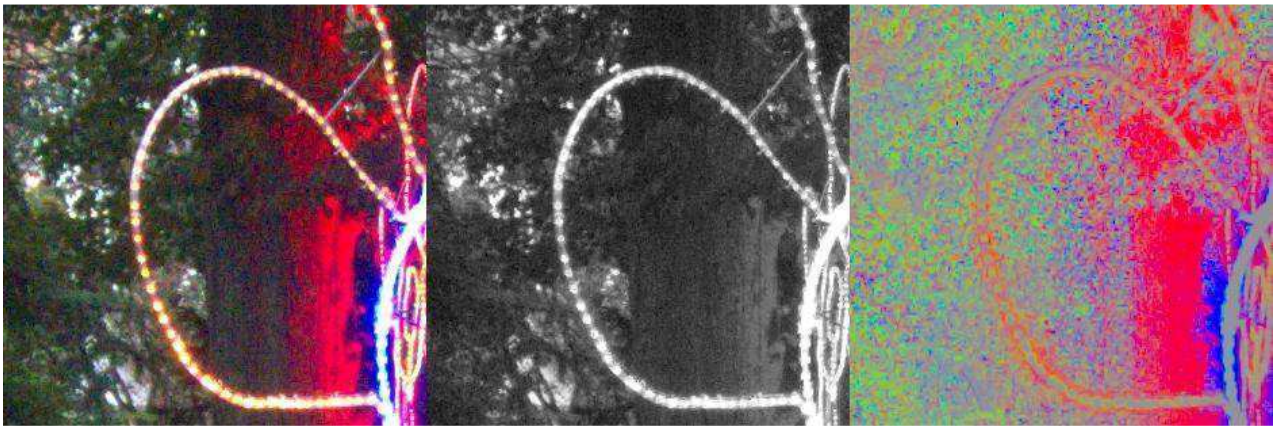
(g) Difference between the source and resulting images

The difference image shows you the noise removal from the image.
Now what counts: the fewer details of the original image that can be seen in the difference display, the better the noise removal (the fewer details of the image were influenced).

Once the difference view has been activated, a controller will appear where you can increase the contrast of the difference display. For images with minimal image noise, the difference is difficult to notice – in this case, simply increase the difference contrast.

A comparison of the different views of the image clarifies the functions.

Original image – Luminance view – Chromatic view

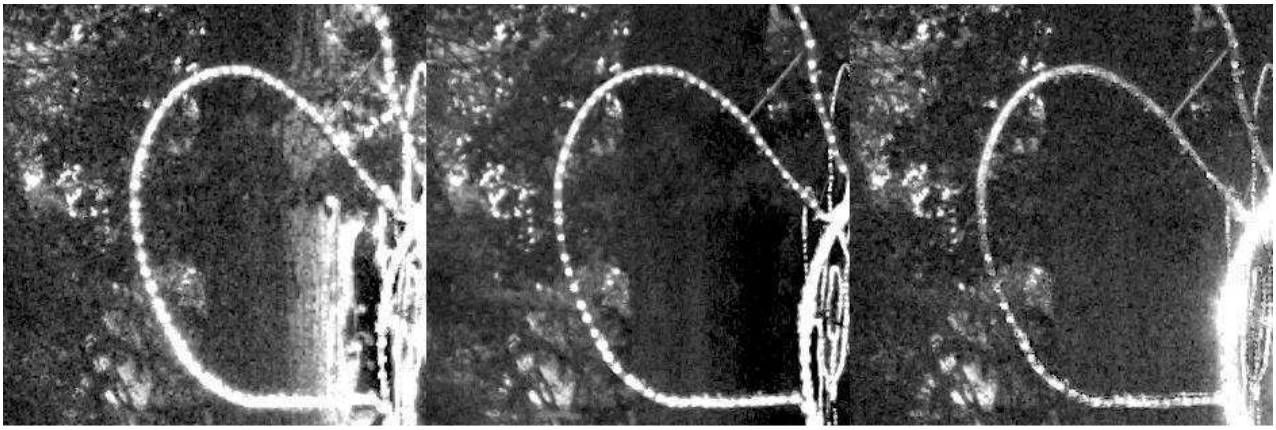


It is clear to see the distinct noise in the chromatic view on the right side, which indicates colour noise.

Note: Activate the measurement field to also display the colour noise as a numerical value, here 30.8% colour noise.

The brightness noise in the luminance view in the middle is significantly less noticeable.

Red channel – Green channel – Blue channel



The comparison of the noise properties in the colour channels provides important information for choosing the correct noise removal colour space.

In this section, prominent noise can be seen in the red and blue channels. The green ratio contains relatively little noise.

Putting this information together indicates that a purple colour space should be applied for the intense red and blue noise.

Note: What colour space should I use for which colour channel noise combinations?

Red & Green	= yellow colour space noise removal
Red & Blue	= purple colour space noise removal
Green & Blue	= turquoise colour space noise removal

Original image – Denoised image – Difference view

The view of the light noise around the string of lights in the denoising view (here with a difference contrast of 150%, i.e. enhanced) shows that practically only noise was removed from the image.

This can be confirmed by the fact that basically no details can be seen in the difference view.

3.4 Scratch & Sensor Spot Correction

Scratch and sensor spot correction can be found on the right hand side in the "Finalise" window, down at the bottom, with good reason. A

scratch and sensor spot correction should always be the last task to be performed.

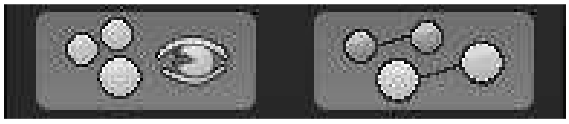
As soon as the correction has been activated, a new window will open:

The work area is in the middle and the settings can be adjusted on the right side.

At the very top of the right hand column are the preview settings, starting with the radar view. You can zoom in and out as well as move the image in this display.

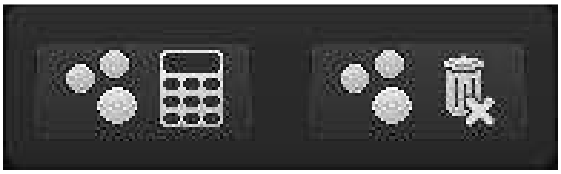
Beneath the radar is the contrast view, which aids in finding irregularities in the image.

Activate the contrast view with the button on the left and adjust the intensity of the view with the control beside it to the right.



Both of these buttons respectively activate and deactivate displaying corrective areas (left) as well as the correction area targets (right).

The two buttons in the section below effect the complete correction area.



The left button calculates a new optimal correction spot based on all of the correction areas. The right button deletes all current correction areas, which requires a security confirmation.

The bottom settings block contains the actual values of the correction areas:

As you can see in the above image, 14 of 200 correction areas are set here.

To select another area, click on the brush, set the desired size with the control beside it on the right and click on the portion of the image that you would like to correct.

The correction target area will then be automatically found, accordingly placed and displayed to you.

You can shift this target area with your mouse if you are not content with the automatic proposal.

The “Size” control under this section enables modification of correction area. Simply click on the correction area and adjust the size with the controller.

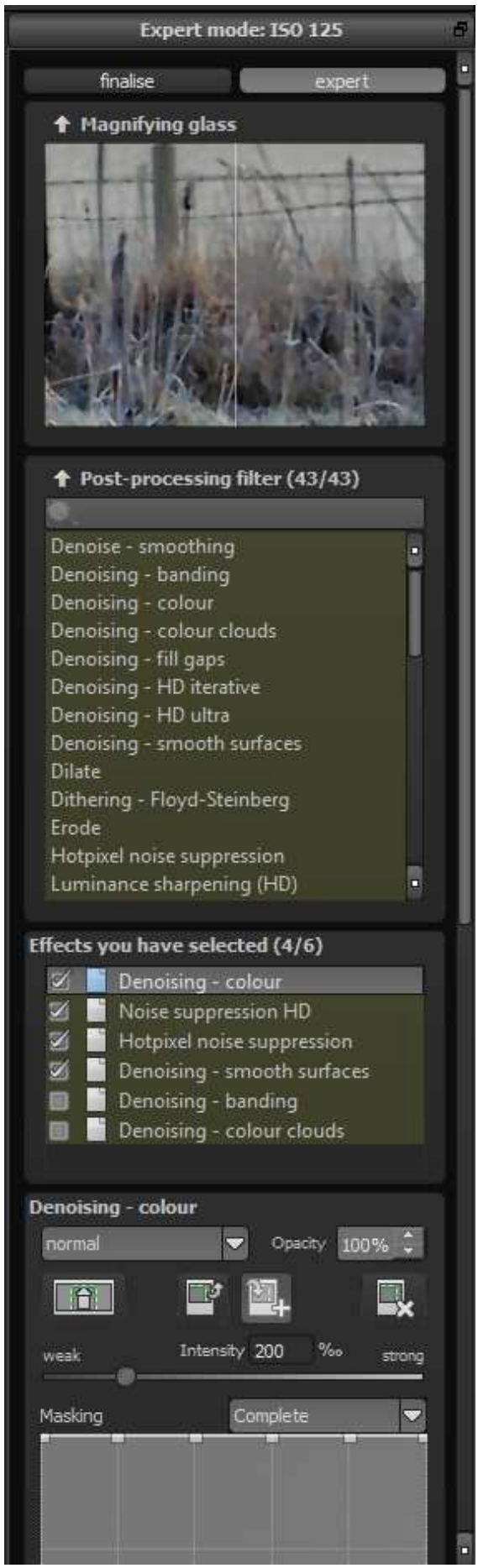
The bottom left button allows you to switch the currently selected correction area back to the automatic mode, as long as you have modified the area.

With the bottom right button, you can delete the currently active correction area.

The keyboard configuration for this window can be found in the “Keyboard Shortcuts” chapter.

3.5 Expert Mode

Expert mode serves to fine tune your images. After you have found an automatic noise removal setting, you can adjust all details in expert mode.



3.5.1 Lupe

The magnifying glass shows you a 1:1 comparison between the original and edited images. Hold your cursor over any desired point on the image. You can fix the magnification with the "L" key (Lock) to monitor a specific area while editing it.

When the area is fixed, a white dotted line will appear around the edge of the magnifying glass.

3.5.2 Post-Processing Effects

The list of available post processing effects (filters) includes all of the tools used to assemble the presets.

Different types of effects can be found here:

- Edge effects
  Denoise, sharpen, erode, dilate...
- Exposure effects
  Gradation curve, brightness, contrast, gamma correction, vignetting...
- Colour effects
  Colour intensity, colour balance, chromatic

aberrations, manual white balance...

- Soft focus effects
  Smooth colour tone, soft focus

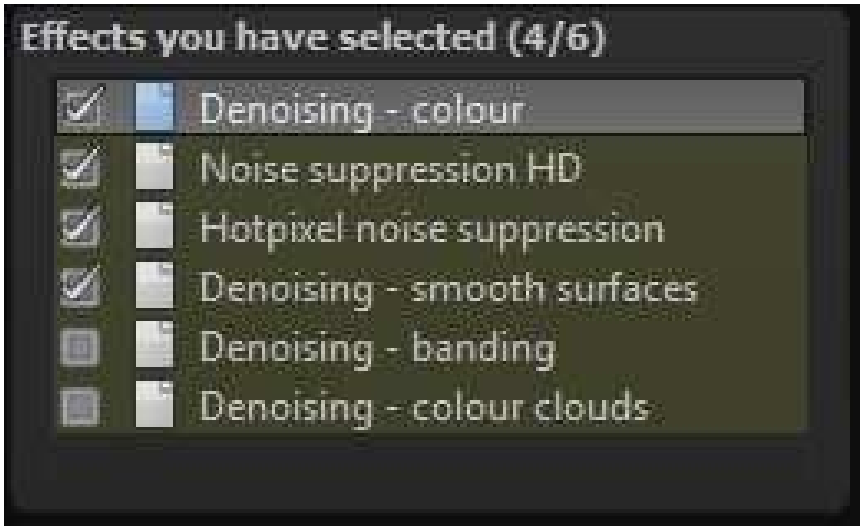
The so called context menu can be opened with a right click. Here you can disable individual effect groups to get a better overview of the effect of a singular category.

The most important effects for denoising your images are with the edge effects, notably all effects beginning with "Denoise -" here. (An exact overview can be found in Chapter 1.)

If you want to add a post processing effect to those of the current filter, double click on the list entry and the effect will be automatically added to the end of the "Effects you have selected" section.

3.5.3 Effects you have selected

The list of effects you have selected represents the entire calculation process for the current image.



The effects can be turned on and off by selecting the check marks beside the names.

A small icon to the right of the checkmark shows you if a layer effect (light bulb) or selective editing (red-green circle) is active.

If you have an effect that you would like to have at a different position in the order of edits, simply use the mouse to pick it up and slide it to the desired place. The result will be automatically refreshed.

Note: The order of the effects has a crucial influence on the results, depending on the combination. If you want to reduce the chromatic aberration for example, you should always do so before enhancing

colour intensity. By boosting the colours first, the aberration will also be amplified.

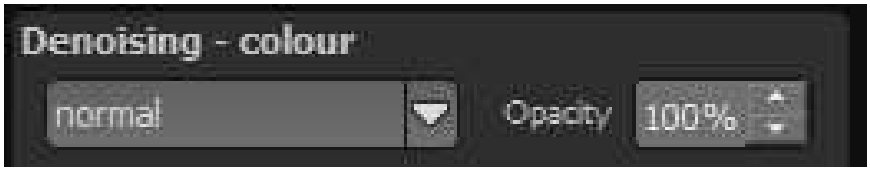
A right click on the effects you have selected menu will open a context menu with the following functions:

- Activate effect
- Activate all effects
- Activate all other effects
- Activate this effect only
- Deactivate all effects
- Duplicate effect
- Restore effect
- Send to top of list
- Send to end of list
- Delete effect
- Remove all the effects

As soon as you have selected an effect in this field, the settings for the effect at hand will appear directly below this area.

3.5.4 Parameters – layer methods

At the very beginning of the parameter section for the selected effect (here Denoise – colour) is the tool to set the calculation method for this effect layer.



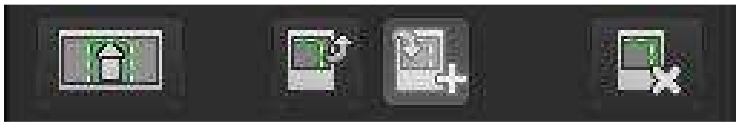
The calculation method for this effect layer can be chosen in the dropdown menu. Numerous variations are available here, starting with simple methods like *brighten* and *darken* to *colour burning* and *linear dodging*.

Note: Feel free to try out these techniques – the layer calculations can be restored back to normal at any time when you deactivate them.

On the right side, the opacity of the effect layer can also be adjusted. If an effect is too strong for you, you can reduce the opacity some until you are pleased with the result.

3.5.5 Parameters – Selective Editing

Underneath the layer calculations are the buttons for selective editing.



From left to right:

- Open selective editing
- Copy selective areas to the clipboard
- Copy selective areas from the clipboard into the currently selected effect (existing areas will then be replaced)
- Delete all selective areas from the selected effects

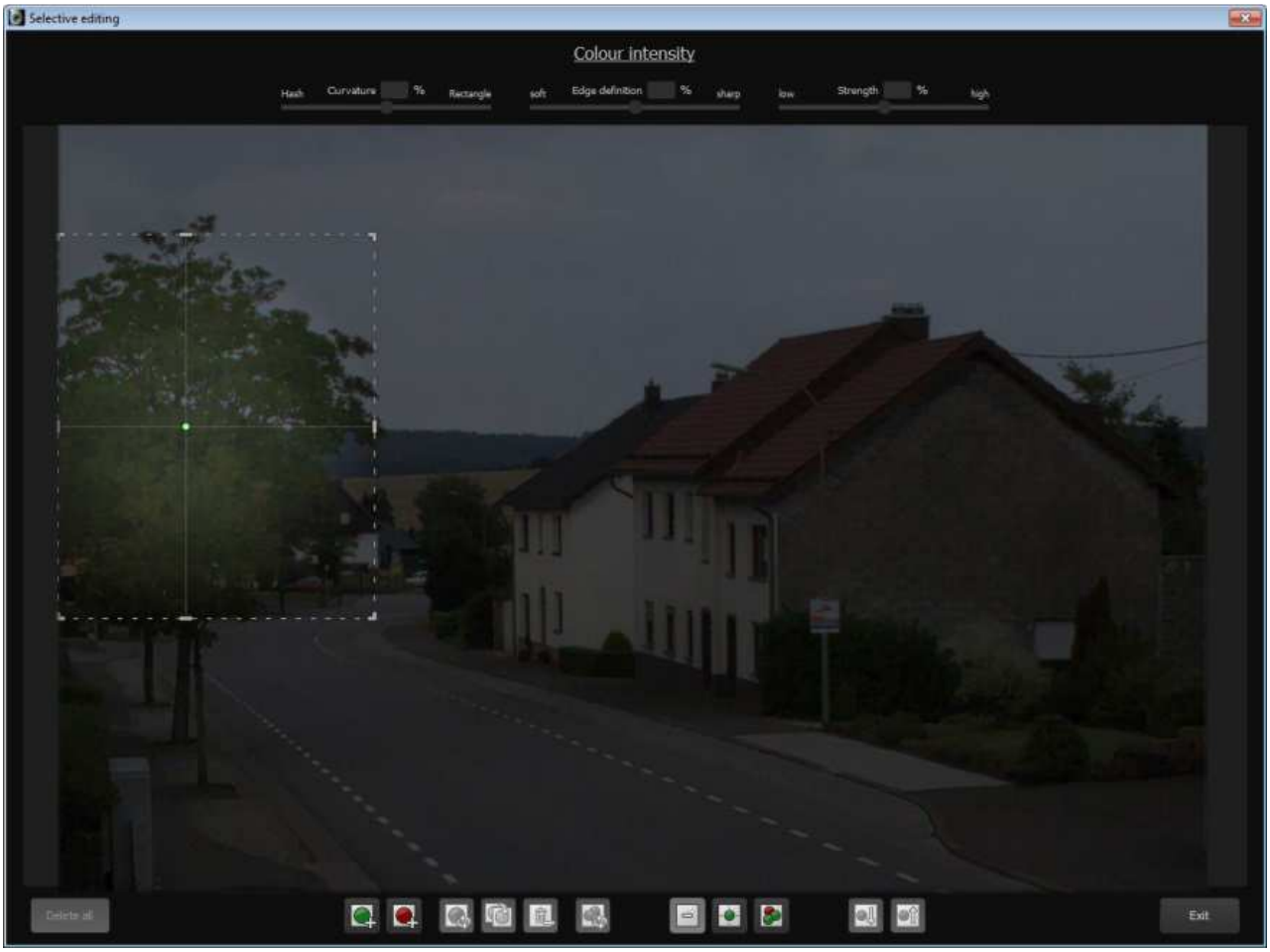
Selective areas present a special feature. You can set up to 32 selective layers for every effect layer.

Selective areas can be either positive (green) or negative (red), and you can be mixed according to your preference.

What establishes a positive selective area?
A positive area allows you to specify an area of the effect layer to be modified while the rest of the image remains unaffected.

And what establishes a negative selective area?
Negative selective areas do the exact opposite. This effect excludes selected areas from the current effect layer.

A new window will open once the selective editing has been activated. Here you can fix the selective area for the chosen effect layer (here colour intensity).



The below tool list enables the creation of areas and the generation of masks using these areas.

The individual functions are (from left to right):

- Add positive selective area
- Add negative selective area

- Inverts the selective areas (positive becomes negative and vice versa)
- Duplicate currently selected area
- Delete currently selected area

- Invert all selective areas

- Deactivate the display of selective areas
- Show only the selected selective areas
- Show all selective areas

- Select next selective area
- Select the previous selective area

In the example image we see a positive selective area over the top of the tree for the colour intensity effect.

The area can be shaped however you like. Grab the marked edge of the area with your mouse and move the area's borders into your preferred form.

To move the entire area, simply grab the depicted right corner and move the area to where you want it.

Once a selective area has been selected, the three controls on the top edge of the window will be activated, giving you with additional influence on the image.

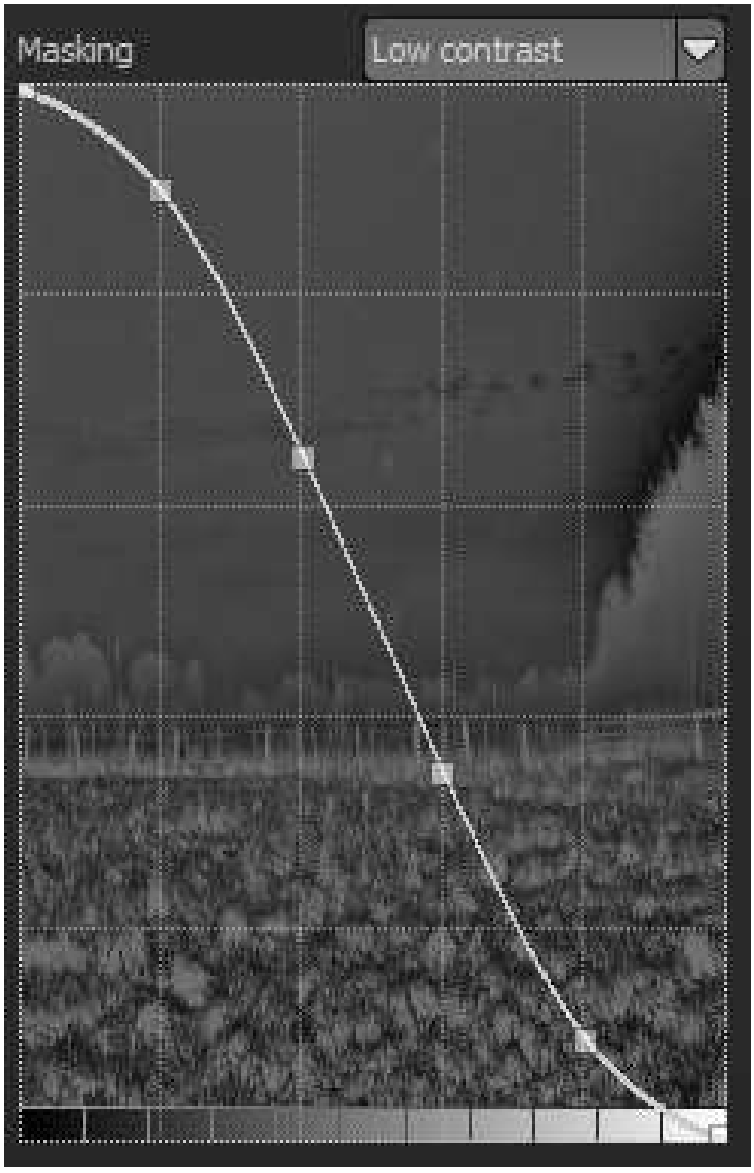
Curvature:
Adjust the curvature of the selected area from a hash (controller to the left) to a rectangle (controller to the right).

Sharpness (edge definition):
Adjust the edge definition of the selective area from soft (controller to the left) to sharp (controller to the right). If you want to mask a window, for example, select *curvature=100%* and *edge definition=100%*

Strength:
The intensity sets the opacity of the selective area at hand. This way you can somewhat reduce the effect.

When you are finished setting the selective areas, click "Exit". The adjustments will be applied and the results refreshed.

3.5.6 Parameters – Set values



There are different types of data that you can modify within the parameters of an effect layer.

The "Intensity" control parameter can be seen here as an example.

You can either directly adjust the control parameter with the controller or by inputting a numerical value.

Double clicking the controller's handle will always reset the conditions back to their standard values.

Directly below the controller is a masking curve with a few presets above the displayed curve.

You can automatically create brightness masking with the masking curve. Move the control points on

the brightness curve to your preferred levels. The top edge has a 100% effect intensity while the bottom edge has a 0% effect intensity.

You can see a real time display of the curve’s masking while moving the control points. The effect shows a high intensity in bright areas and a lesser intensity in darker areas.

4. Keyboard and Mouse Shortcuts

General Functions

Function	Windows	Mac OS
New project	CTRL + N	CMD + N
Upload image	CTRL + SHIFT + O	CMD + SHIFT + O
Save result image	CTRL + S	CMD + S
Lock magnifying glass	L	L
RAW processing	F4	F4
Show histogram	CTRL + H	CMD + H
EXIF information	CTRL + E	CMD + E
Full screen view	CTRL + F	CMD + F
Quit full screen view	CTRL + F / ESC	CMD + F / ESC
Call up home page	@	@
Help	F1	F1
About **DENOISE projects**	SHIFT + F1	SHIFT + F1
Stacking	CTRL + B	CMD + B
Settings	CTRL + P	CMD + P
Timeline on/off	CTRL + T	CMD + T
Save project	SHIFT + Z	SHIFT + Z
Image to fit	Double click	Double click
Image to fit 1:1 view	Double click again	Double click again
Quick comparison	Right click	Right click

Selective Editing

Function	Windows	Mac OS
Move selected area	Arrow keys	Arrow keys
Select previous field	Image up	Image up
Select next field	Image down	Image down
Delete current	Delete	Delete
Deactivate mask display	1	1
Display selected mask areas	2	2
Display all mask areas	3	3

Hotline/Support

If you have questions regarding the installation, problems or errors of the software, please contact the FRANZIS customer support team.

E-Mail: support@franzis.de

Phone (Monday to Friday 12am to 6pm): +49 (0)180 30 02 644
(0,09 EUR/minute from German landlines, prices from mobile phones might vary)
Fax: +49 (0)180 300 26 45 (0,09 EUR/minute from German landlines, prices from mobile phones might vary)

Please understand that your questions can only be answered directly by FRANZIS customer support. This is to give us the opportunity to constantly enhance our customer service for you and to make sure that you receive only the most qualified answers to all of your questions as fast as possible.

This is how our customer support works best:
Please have the most important details about your computer and about our product at hand when you call our customer support. These include:

- Name of the product
- Product **ISBN (which you can find on the back of the packaging, above the easy to spot barcode).**
- Operating system of your computer
- Technical details of your PC including all your peripheral devices