

DENOISE PROJECTS 3

PROFESSIONAL

User manual

FRANZIS

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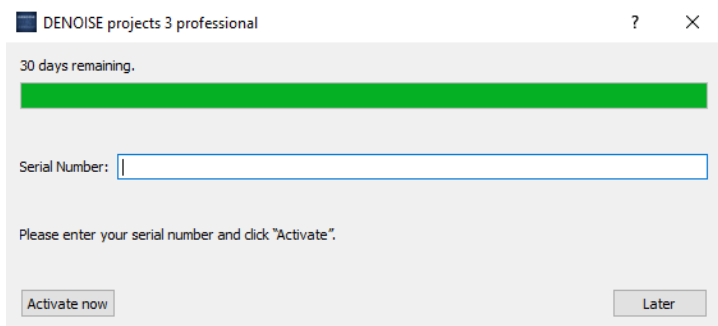
1. Activation

Activation using Windows

Upon starting **DENOISE projects 3 professional** for the first time you will be prompted to activate the program. Proceed as follows:

Install **DENOISE projects 3 professional** as described by the installation instructions.

Input your serial number. For the box version, this can be found on the accompanying booklet. If you have chosen to download the program, you will find the serial number in your customer account at www.franzis.de.



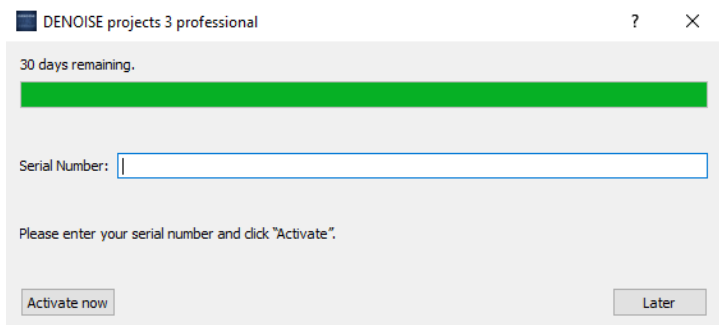
Finally, click on the "Activate" button. The software has now been successfully activated!

Activation using Mac

Upon starting **DENOISE projects 3 professional** for the first time you will be prompted to activate the program. Proceed as follows:

Install **DENOISE projects 3 professional** as described by the installation instructions.

Input your serial number. For the box version, this can be found on the accompanying booklet. If you have chosen to download the program, you will find the serial number in your customer account at www.franzis.de.



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

Note: DENOISE projects 3 professional can be installed on up to two computers using the same serial number.

A second serial number is not required. When installing the program on a second device, simply enter the serial number again and press "Activate".

2. Image Noise – what is it?

Image noise occurs in digital image generation in different ways.

On the one hand there is the so-called dark noise, which is caused by sensors on CDD and CMOS sensors. An additional multiplier is the readout amplifier in digital cameras, which generates the readout noise.

With increasing age or due to manufacturing inaccuracies in the image sensor, so-called hot pixels occur. These are individual pixel sensors that have been manufactured incorrectly or have a significantly higher light sensitivity than the surrounding pixels.

In general, the higher the ISO number (i.e. the light sensitivity setting of the camera), the more visible the noise becomes.

What types of image noise can you reduce or remove with **DENOISE projects 3 professional**?

- Chroma Noise (coloured noise)
(Filter: Denoising – Farbe)
- Luminance Noise (brightness noise)
(Filter: Denoising – HD)
- Hotpixel
(Filter: Denoising – hotpixel)
- Salt & Pepper (single pixels of distortion)
(Filter: Denoising – hotpixel)
- Gaps
(Filter: Denoising – fill gaps)
- Banding
(Filter: Denoising – banding)
- Colour Clouds
(Filter: Denoising – colour clouds)

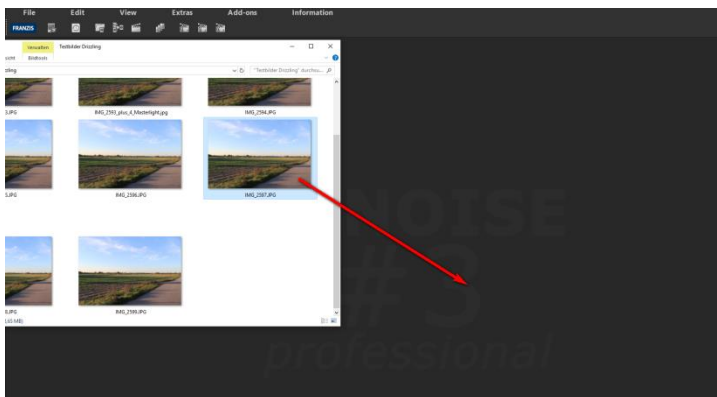
In most cases, the different types of image noise do not occur individually, but in a mixed form. Therefore, it is important to perform the noise reduction in the correct order (shown above) in order to achieve optimal results.

3. Quickstart with DENOISE projects 3 professional – image noise free photo in only three steps

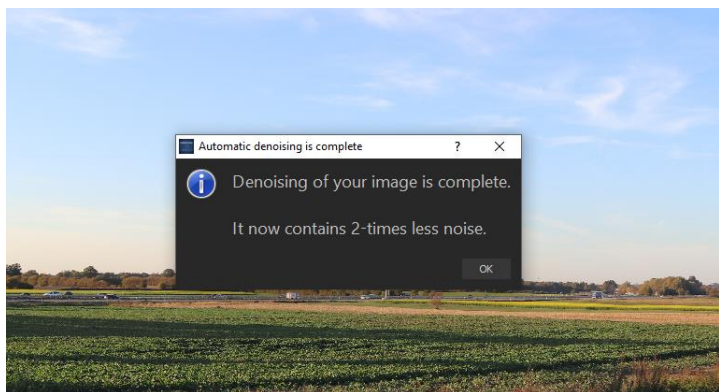
DENOISE projects 3 professional is an extremely powerful tool for editing images. The only limitation you have is your imagination. Especially people who use the software for professional purposes will appreciate the individual settings. For the average user, however, it is usually sufficient to have a snapshot of **DENOISE projects** completely noise-free automatically.

This is how the quick start with **DENOISE projects** works:

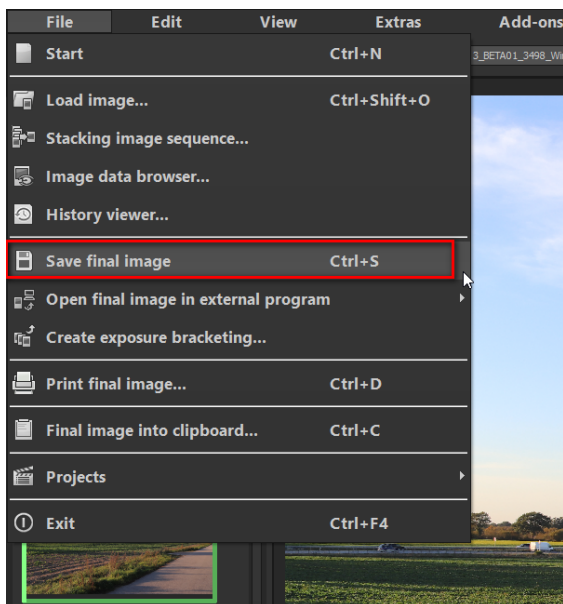
Step 1: Open your photo in **DENOISE projects 3 professional**. To load a photo, simply drag and drop the image files onto the program interface. Alternatively, select the toolbar or the file menu.



Step 2: Wait a few seconds as the image will be automatically denoised by the software. You will receive a confirmation message, when the process has been completed.



Step 3: Save the finished result in a chosen folder.



4. What's new?

- ✓ **Comprehensive Enhancements to Automatic Denoise Functions:**
 - Noticeably improved precision in 51 grades (previously 30)
 - ISO range from ISO 10 to ISO 5.000.000
 - Now including automatic colour cloud removal
- ✓ **New:** Quality modes for automatic denoise: Balanced, Pro and Pro+
- ✓ **New Developments in Automatic Optimization:** Automatic optimization of:
 - Brilliance
 - Colour Normalization
 - Sharpness
- ✓ **New Functions in the Noise-Stacking Module:**
 - Drizzle algorithm for increasing image resolution by 200%
 - New stacking mode "Median"
 - Complete distribution of bias frames
 - New RAM and HDD virtual memory management for even faster noise stacking
 - Automatic colour correction normalization with flat frames
 - Save stacking results in 32-Bit image formats
- ✓ **Redesigned Denoise Interface:**
 - New Denoise Automatics Interface
 - All regions are now collapsible and interface layout preferences save automatically
- ✓ **Smart-Grain Selection Window:** Now there is a virtual selection window for Smart Grain settings. This window appears automatically when starting the program or via **Extras → Reset**
- ✓ **Additional Presets:** 173 Presets
- ✓ **New Post Processing Filters:** DENOISE projects 3 professional includes 16 new Post Processing Filters
 - Denoise HD ultra+ (Luminance)

- Rotation and Zoom
- Horizon Alignment
- Perspective Correction
- Trapezoidal Distortion Correction
- Exposure
- Weighted Black / White Point
- Histogram Comparison
- Normalization
- Precise Percentile Adjustment
- White & Black Correction
- Colour Filters
- Colour Channel Gamma Correction
- Normalisation (RGB)
- Aura
- Gauss Blur

- ✓ **6 New Smart-Mask-Filters:**
 - Smooth areas
 - Luminance
 - Colour saturation
 - Midtones
 - Gradation
 - Vignette

- ✓ **New Composing Module in Selective Painting:**
 - 4 Layers of Composing images which can be integrated into the denoised result at any time
 - 66 layer-allocation methods included
 - Watch as real-time changes in brightness, contrast and colour are applied to your Composing Image

- ✓ **New Functions in Selective Painting:**
 - New effects: selective denoising, correct red eye and beauty
 - Boolean functions to combine masks
 - Multiple UnDo & ReDo of the paintbrush-tool

- ✓ **New 1:1 Comparison Window**
Comparison Modes:
 - Split left/right, split right/left
 - Adjacent left/right, adjacent right/left
 - Right/ Left
 - Zoom Function

✓ **Revamped Noise-Stacking Automatic Image Alignment with selectable Image Subject Types:**

- Landscape, Architecture, People
- Stardust, Night Sky
- Soft Touch (strong bokeh)

✓ **Enhancements to the RAW Module:** Save user profiles at any time

New category colour filter:

- | | |
|----------------|----------|
| • Red | • Green |
| • Orange | • Cyan |
| • Yellow | • Blue |
| • Yellow-green | • Violet |

New effects in RAW mode:

- | | |
|-----------------------|----------------------|
| • Exposure value (EV) | • Soft details |
| • Brightness red | • Pastel colours |
| • Brightness green | • Bleach Bypass |
| • Brightness blue | • Polarising filter |
| • Hue shift | • Reduce stray light |
| • Soft contrast | • Ageing |

✓ **Scaled saving of images:** The new add-on module for image cropping allows you to save images in a smaller size.

- About 30 templates for various platforms like Facebook, Instagram, Youtube, etc.
- Pixel-precise input of image formats

✓ **New Layer Allocation Methods:** 23 new layer allocation methods in HSV und HSL colour spaces.

✓ **Select a font:** A font can be selected from all installed and compatible fonts.

✓ **Add-on to the scratch- and sensor-correction:** 5 new quality modes for searching for corresponding areas automatically.

✓ **Erweiterung der Externen Programme**

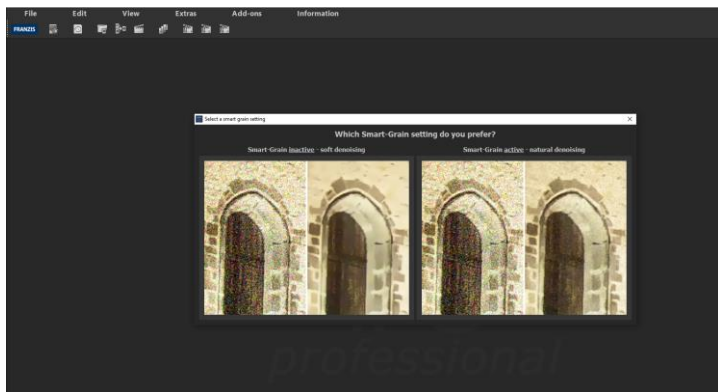
- Up to 12 external programs
- Names of external programs are configurable

- ✓ **Notes Function in the Undo Timeline**
- ✓ **Quick-Print Images**
- ✓ **Copy Images to the Clipboard:** For sending in an email, for example

Neue RAW-Formate:

- Apple iPhone 8(*), iPhone 8 plus, iPhone X
- BlackMagic URSA Mini 4k, URSA Mini 4.6k, URSA Mini Pro 4.6k
- Canon PowerShot A410, A480, A540, D10, ELPH 130 IS, ELPH 160 IS, SD750, SX100 IS, SX130 IS, SX160 IS, SX510 HS, SX10 IS, IXUS 900Ti PowerShot G1 X Mark III, G9 X Mark II, EOS 6D Mark II, EOS 77D, EOS 200D, EOS 800D, EOS 2000D, EOS 4000D, EOS M6, EOS M100
- Casio EX-ZR4100/5100
- DJI Phantom4 Pro/Pro+, Zenmuse X5, Zenmuse X5R
- Eyedea E1
- FujiFilm S6500fd, GFX 50S, GFX 50R, XF10, X100f, X-A3, X-A5, X-A10, X-A20, X-E3, X-H1, X-T3, X-T20, X-T100, DBP680
- GITUP GIT2P, G3 DUO (16:9 only)
- Hasselblad H6D-100c, A6D-100c
- Huawei P9 (EVA-L09/AL00), Honor6a, Honor9, Mate10 (BLA-L29)
- Kodak PIXPRO, AZ901
- Leica CL, M10, M10-D, M-10P, TL2
- LG V20 (F800K), VS995
- Nikon D850, D3500, D5600, D7500, Coolpix B700, Z6, Z7, P1000
- Olympus E-PL9, E-M10 Mark III, TG-5
- OnePlus One, A3303, A5000
- Panasonic DMC-FZ45, DMC-FZ72, DC-FZ80/82, DC-G9 (std. res mode only), DC-GF10/GF90, DC-GH5, DC-GX9, DC-GX800/850/GF9, DMC-LX1, DC-ZS70 (DC-TZ90/91/92, DC-T93), DC-TZ100/101/ZS100, DC-TZ200/ZS200, LX100M2
- PARROT Bebop 2, Bebop Drone
- Pentax KP, K1- II
- PhaseOne IQ3 100MP Trichromatic
- Samsung Galaxy Nexus, Galaxy S3, S6 (SM-G920F), S7, S7 Edge, S8 (SM-G950U),
- Sony A7R III, A7 III, A9, DSC-RX0, DSC-RX10IV, HX95, HX99, RX100-VA, RX-100VI
- Yi M1
- YUNEEC CGO3, CGO3P
- Xiaoyi YIAC3 (YI 4k)

5. DENOISE projects 3 professional – the start screen



Starting the program for the first time will open the Smart Grain settings window. Here you can designate a soft or natural denoise preference. Selecting natural denoising will help you achieve the most realistic results.

At the top of the screen are the main menu and a toolbar. This toolbar contains the following functions (from left to right):

- Image data browser
- History viewer
- Load image
- Stacking image sequence
- Open project
- Batch processing
- Load sample 1



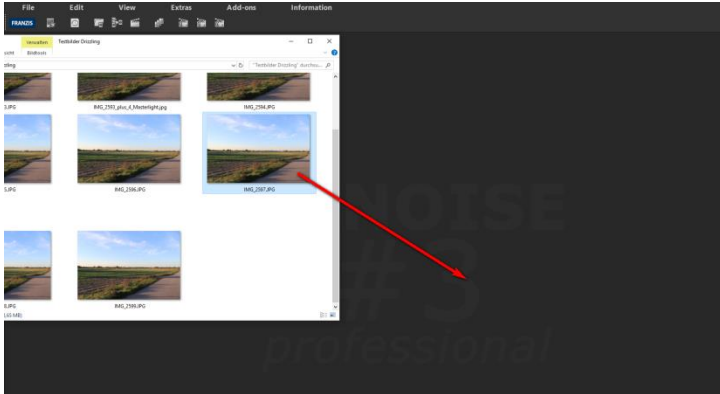
- Load sample 2



- Load sample 3

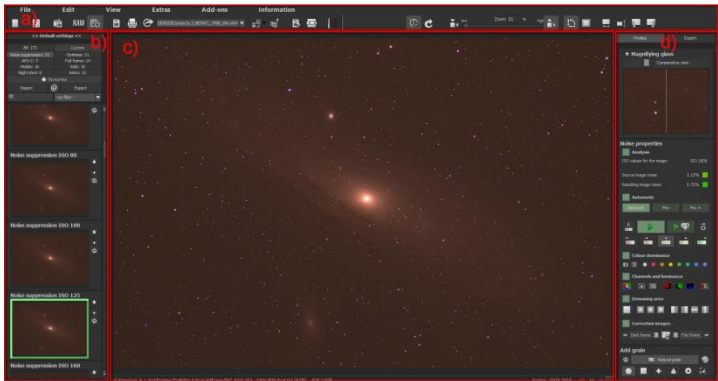


Alternatively, image data can simply be dragged and dropped onto the screen. The images will then automatically be uploaded.



6. The Work Area

As soon as an image file is loaded into the program, a work area will open up.



This is divided into four main areas:

- a) Menu and toolbars (top)
- b) Presets (left)
- c) Image area (center)
- d) Noise reduction and expert mode (right)

The individual work areas can be extracted from the interface and inserted into another place or onto a second screen.

New Features in the Denoise Interface: All regions are now collapsible and interface layout preferences save automatically.

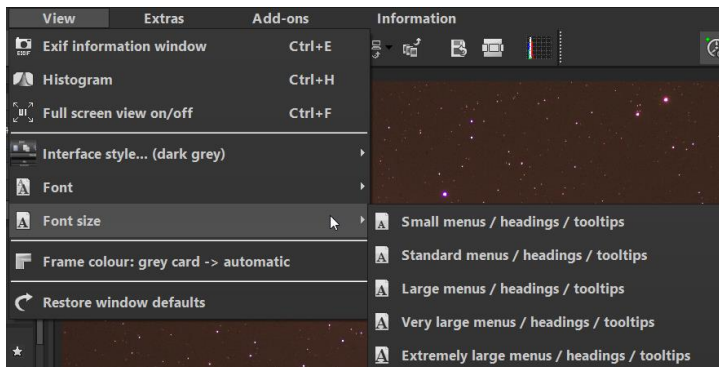
Return your workspace to the default layout settings by selecting **View → Restore window defaults** in the menu.

To reset the user interface to default layout settings, click on **Extra → Reset → User Interface**

Selecting **Extras → Reset → Natural Grain/ Soft Grain** will open the Smart Grain settings window which also appears when starting the program.

Optional font size for menus and titles

In the program's main menu, clicking **View → Font size** will provide you the option to customise the size of the letters in the menu as well as in the titles of the program.



The font size can be adjusted to the run time of the program.

4K – monitors gives you the option to enlarge the font size for better readability of the menu.













Select a font


HDR projects 7 professional offers you the opportunity to designate a suitable font of your preference. You will find a selection of the installed and compatible fonts in **View → Font**, simply pick your favourite.

If you want to change the font back to standard select **View → Font → reset font**.


7. Menu Bar

7.1 File

File	Edit	View	Extras
 Start			Ctrl+N
 Load image...			Ctrl+Shift+O
 Stacking image sequence...			
 Image data browser...			
 History viewer...			
 Save final image			Ctrl+S
 Open final image in external program			
 Create exposure bracketing...			
 Print final image...			Ctrl+D
 Final image into clipboard...			Ctrl+C
 Projects			
 Exit			Ctrl+F4

File → Start 

When you are finished editing an image or would like to close your current image, clicking on **Start** (or **Ctrl + N**) will close the image currently open.

File → Load image... 

Click on **Load image** (or **Ctrl + Shift + O**) to find and open the image that you want to work on.

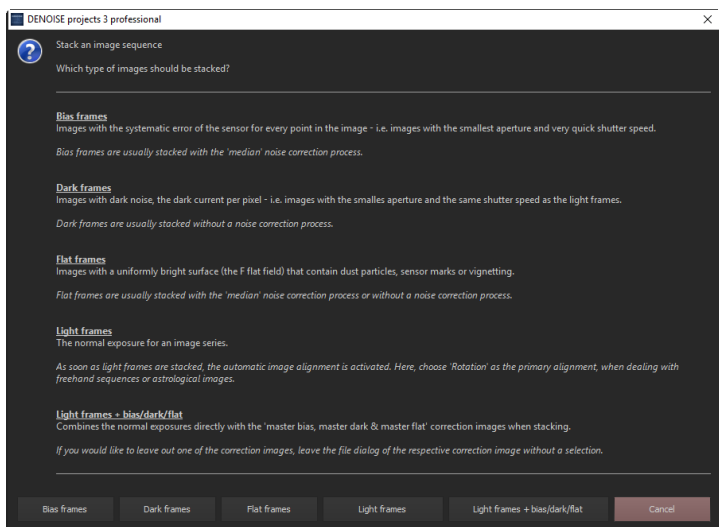
File → Stacking image sequence... 

If you have several images that you want to combine into a single image, click on **stacking image sequence...**

This will open a window in which you can select what type of images to stack:

- Bias frames (photos taken with a closed aperture with minimal exposure time)
- Dark frames (photos taken with a closed aperture and identical exposure time to light frames)
- Flat frames (photos with uniform brightness)
- Light frames (photos with normal exposure)
- Light frames + bias/dark/flat (directly combines normal exposures with the Master Bias, Master Dark & Master Flat photos when stacking)

Further information can be found in the chapters "8.2 Stacking image sequences" and "10.6 Correction images".



File → Image Data Browser... 


If you are not so sure where the image is, that you want to work on or if you need to search for your image, just click on **image data browser...**

File → History Viewer 

Clicking here will provide you with an overview of your separate projects and allow you to choose between them.

File → Save Final Image... 

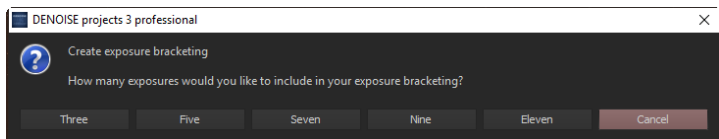
If you are pleased with the finished image and want to save your result, click **save final image** (or **Ctrl + S**) ...

File → Open Final Image in External Program 

If you want to edit your current photo on another editing program, you don't need to leave **DENOISE projects 2 professional**. Simply click on **open final image in external program**.

File → Create Exposure Bracketing... 


If you want to have photos with different exposures, for example to create an HDR image, **DENOISE projects 3 professional** lets you quickly and easily create an exposure bracket.



You have the choice whether you want to produce three, five, seven, nine or eleven differently exposed photos. The greater the number of exposure brackets you choose to include, the greater the amount of exposure levels you'll have to work with in the end. You can also designate the exposure range for each exposure bracket you create as well as which method to use when creating exposure brackets (exposure values EV or gamma correction).

File → Print Final Image 


Click here to print your final image. The image is automatically and correctly scaled to the print medium.

File → Final Image Into Clipboard 

The final image is posted to the clipboard. You can then seamlessly insert it into other programs.


File → Projects... 

If you have already started with **DENOISE projects 3 professional** and want to work on another project, simply click on **Projects...** to open another project.

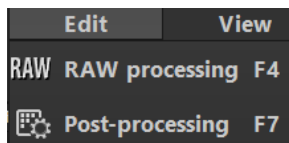
File → Exit 


Click on **Exit** (or **Ctrl + F4**) to close **DENOISE projects 3 professional**.

7.2 Edit

Edit → RAW processing 

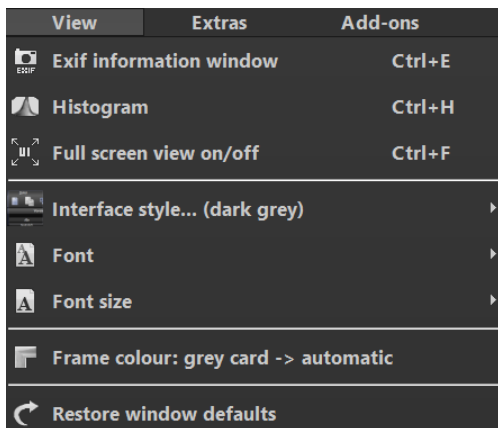
If you want to edit a photo easily, click on RAW Development to change colours and distort the image (see 8.4 RAW mode).




Edit → Post-processing 

Once you have edited or denoised an image, you are in post-processing mode.

7.3 View



View → EXIF Information Window 

This window shows you (if available) all image file EXIF information such as location, camera type, exposure duration and capture time.

View → Histogram 


The histogram provides you with a consolidated overview of the Light Distribution Information present within your photo. This makes it easy to recognize if your photo is over/ underexposed.

View → Full Screen View On/Off 

If you feel distracted by the taskbar, you can switch to full screen with a click on Full screen on/off.

View → Interface-Style... (dark gray) 

Click Interface Style.. to change the color scheme **of DENOISE projects 3 professional**. The color scheme currently in use is shown in brackets.

View → Font 

Choose your individual font from all compatible and loaded fonts. **DENOISE projects 3 professional** now displays the entire interface in the font you selected.

View → Font Size ... 

Change the font size levels between small, medium and large.

View → Frame Colour: Gray Cart → automatic 


If you click on Frame Colour: Gray Cart, the program will set the your image's average colour value as the frame colour.

View → Restore Window defaults 

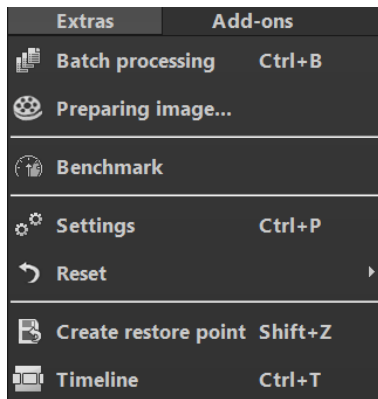
Returns the current window to its original size.

7.4 Extras

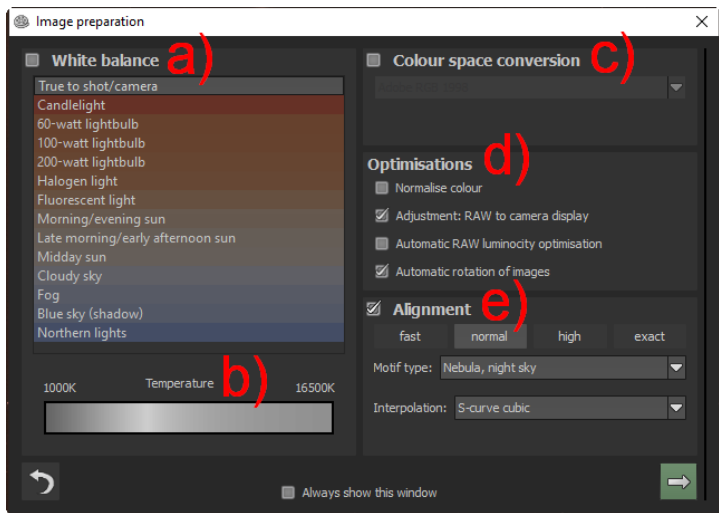
Extras → Batch processing...

(Ctrl + B) 

Batch processing in **DENOISE projects 3 professional** allows multiple exposure series to be processed automatically.



Extras → Preparing image... 



a) White balance: With white balance, you can correct color casts caused by warm room lighting, for example, when taking pictures.

b) Colour temperature: With this control the colour temperature can be adjusted during loading. It is recommended

to leave the setting at "Default" and to adjust the colour temperature later in the post-processing settings.

c) Colour space conversion: Here advanced users can set the colour space of the image. However, since most monitors can only display the sRGB colour space, you should only change the colour space if absolutely necessary.

d) Optimisation: Normalise colour ensures that the shadows in the image are black and the lights in the image are white. The **adjustment RAW to camera display** converts the RAW image during loading so that it comes as close as possible to the preview of the camera and the file preview. The **automatic RAW luminosity optimisation** can be activated in the image preparation in the RAW Options area. It is often the case with camera RAW formats that the image data does not take advantage of all possible tonal values. The automatic luminosity optimisation compensates this for the loaded RAW images and expands the tonal values so that a sensibly exploited histogram is created for each camera RAW image. If the **automatic rotation of images** is activated, they are automatically rotated according to the Exif orientation.

e) Alignment: Activate/deactivate the automatic alignment of the input images here. Finest movements of objects, unintended zooming, rotation of the camera and micro details can be considered here - the default setting leads to the preferred result in most cases. Under **Motif type** you can now choose between "Star Nebula, Night Sky" or "Landscape, Architecture, People" or "Soft Motifs (Strong Bokeh)" to achieve the right orientation for your image.

Extras → Benchmark 

If you would like to know how quickly your PC can remove noise from your images, Benchmark is the function to choose. The programs will render five different images in real-time and provides you with an evaluation on a five-star scale.

Extras → Settings (Ctrl + P) 

Here you will find many different settings to customize **DENOISE projects 3 professional** to your needs.

Program: Program location

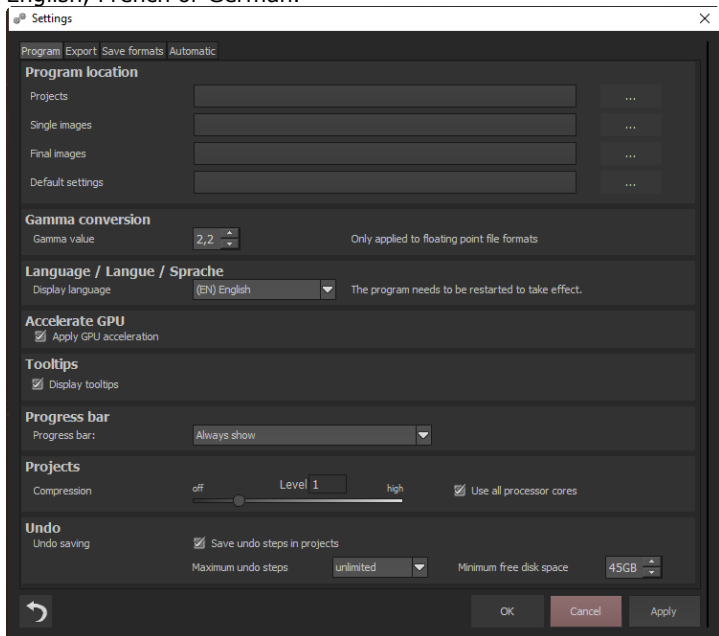
Here you can define in which folder projects, single images, final images and presets are stored.

Program: Gamma conversion

Here you can set the gamma value for the development for all loading and saving processes of images in the formats .hdr and .exr.

Program: Language/ Langue/ Sprache

Here you can switch **DENOISE projects 3 professional** to English, French or German.



Program: Accelerate GPU

Here you can activate or deactivate the acceleration of the calculation by the graphics card.

Program: Tooltips

If you hold the mouse pointer over certain tools or menu items for a longer period of time, a text will appear explaining the function. This is called a tooltip. Here you can deactivate these tooltips.

Program: Progress bar

During the calculation of effects in **DENOISE projects 3 professional**, the progress of this application is visualized using a progress bar. Here you can specify when or whether the progress bar should be displayed.

Program: Projects

During the calculation of effects in **DENOISE projects 3 professional**, the progress of this application is visualized using a progress bar. Here you can specify when or whether the progress bar should be displayed.

Program: Undo

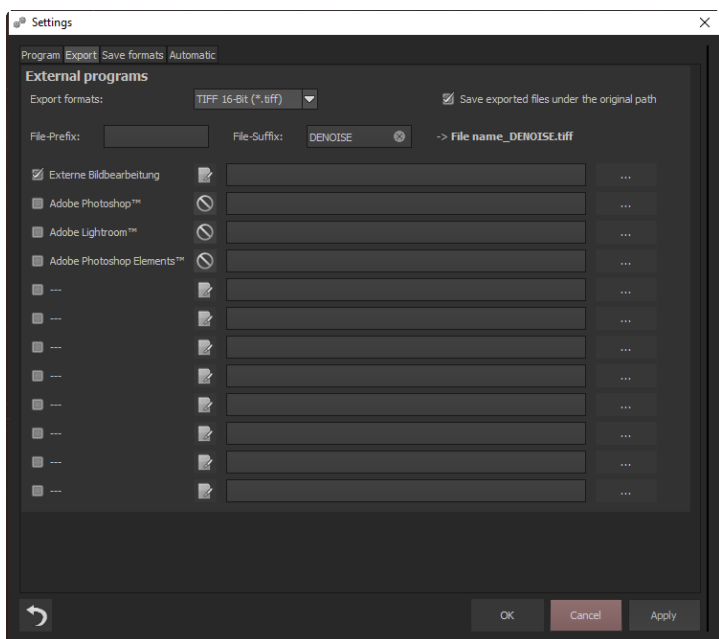
With the option **save undo steps in projects** all Undo levels are saved in the project file and completely restored when loading. This creates much larger project files. Set the **maximum** number of desired **Undo steps** (1, 5, 10, 20 or 50). If you do not want a maximum number, select "unlimited". The **minimum free hard disk space** indicates how much memory on your hard disk will not be used by undo levels. This ensures safe operation of the operating system. The default value is 10% of the hard disk capacity, but you can also reduce or increase it.

Export

External programs

Here you can set the format in **which DENOISE projects 3 professional** should export images to external programs. You can also specify exactly which programs should be used for external image processing.

Navigate to the folder in which the application is installed and select it.



NEW: You can now store up to twelve external programs and configure their names.

Save formats

Jpg

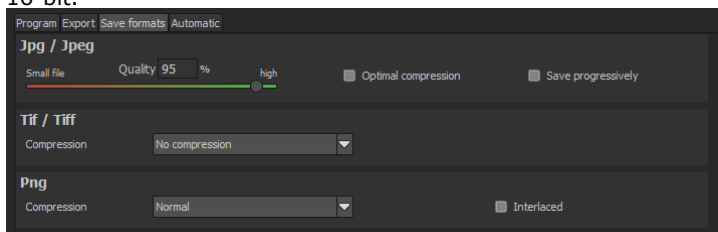
Jpg or Jpeg is the most common and popular format for most cameras and image processing programs. Here you can set the output quality and also compress the images optimally. High quality compressed images look better, but take up more space.

Tif

Here you can choose between different compression methods for compressing Tif files.

Png

Four compression levels are available for storing Png images in 16-bit.



Automatic

Automatic: Denoising properties

Here you can activate or deactivate the denoising optimisation after loading a photo as well as the automatic reset of the quality mode for the picture denoising. If you want to use a higher quality mode in batch processing, clear this option and the currently set quality mode will remain in batch processing.

Automatic: Post processing

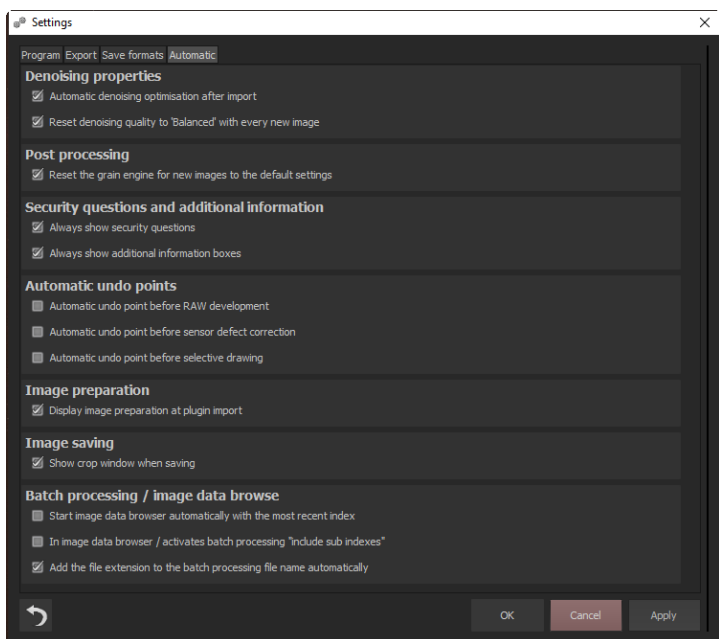
Automatically resets the grain module to the default values with each new project started. To use a fixed grit value in batch processing, set it directly in the program and then set this option to inactive.

Automatic: Security questions and additional information

Here you can choose whether security prompts or additional information should be displayed or no longer occur.

Automatic: Automatic undo points

Automatically generates an undo point before RAW development, sensor error correction or selective drawing. This gives you an absolute starting point after loading the image.



Automatic: Image preparation

Here you can set whether the image preparation window is displayed when images are exported via a plug-in.

Automatic: Image saving


If you activate the option "Show cropping window when saving", the cropping window is automatically displayed before the image is saved.

Automatic: Batch processing/ image data browser

Here you can activate automatic loading when opening the image data browser with the last used directory and/or automatic inclusion of subdirectories in the image data browser and batch processing. You can also prevent files from being overwritten by automatically adding the original file extension (e.g. jpg, tif,...) to the file name created in batch processing.

Extras → Create Restore Point (Shift + Z) 

If you would like to save your image in its current state and continue editing without initiating a file-save, simply select the option Create Restore Point or (Shift + Z). This allows you to return to the last saved state of your image at any time.

Extras → Timeline (Ctrl + T) 

Click on the **Timeline** or (**Ctrl + T**) to display all saved Undo-Points.

7.5 Add-ons

Extras → Import Add-on

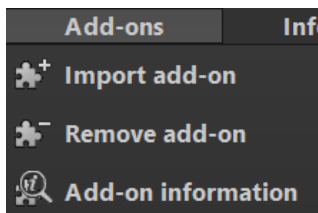
Using add-ons, you can not only import presets into **DENOISE projects 3 professional**, you can also integrate new post-processing modules that may be required for a new preset look. Currently there are no add-ons available.

Extras → Remove Add-on

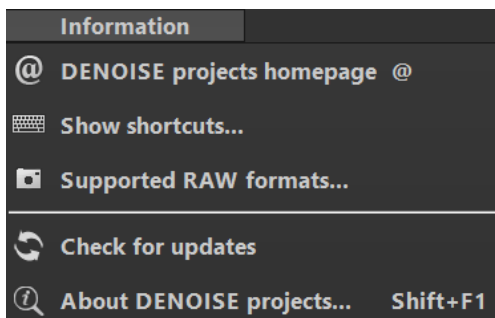
Use this button to remove the add-on.


Extras → Add-on Information

All information about the add-ons used is displayed here.



7.6 Information



Information → DENOISE projects – Homepage 

Click here to go to the homepage of **DENOISE projects 3 professional**.

Information → Show Shortcuts... 

Here you will find a clear list of all keyboard shortcuts in **DENOISE projects 3 professional**.

Information → Supported RAW Formats... 

A list of all cameras whose RAW files can be opened in **DENOISE projects 3 professional**.

Information → Check for updates

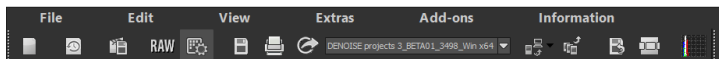
Checks online if new versions of the software are available.

Information → About DENOISE projects (Shift + F1) 














Information about version, 3rd party software and credits of **DENOISE projects 3 professional**.

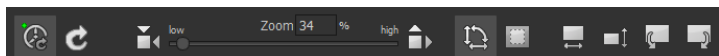
8. The Tool Bar

The toolbar area is divided into two areas. The left toolbar refers to the control functions of the program and the right toolbar controls the image view.



The functions (from left to right) of this toolbar are:


-  Start
-  History viewer
-  Save project
-  RAW RAW processing
-  Post-processing
-  Save final image
-  Print final image
-  Transfers the current image to the selected application of the product family
-  Open final image in external program
-  Create exposure bracketing
-  Create restore point
-  Timeline
-  Histogram



The functions (from left to right) of this toolbar are:



Real-time calculation

When activated, all of the changes that you have made to the preset settings will be immediately applied to the image. If this option is deactivated, then you will only see the outcome of your adjustments when you click the button "calculate afresh": 



Recalculate image



Original resolution view



Zoom to monitor size



Additional functions:



Crop image data



Horizontal mirroring of the images



Vertical mirroring of the images



Rotate the image 90 degrees anti-clockwise



Rotate the image 90 degrees clockwise

Some functions of the toolbar in **DENOISE projects 3 professional** are now explained in more detail.

8.1 Loading and saving files

To load images into the program, you can either "drop" them onto the program using Drag & Drop, click the buttons in the toolbar of the start screen or load image or project data at any time using the File menu.

If you "drop" a folder onto the program using Drag & Drop, the image data browser is automatically opened, which displays the contents of the folder with thumbnails.

Double-click on the preview in the image data browser to load the image file directly.

Image formats:

In **DENOISE projects 3 professional**, all common image formats can be loaded. This also includes camera RAW images from different producers.

If you have RAW files available, you should always use them. In this image format, considerably more information is stored than, for example, in a Jpeg file.

Alle Dateien (*.*)
JPEG (*.jpeg *.jpg *.jp2 *.jif)
TIFF (*.tif *.tiff *.tif32)
Jpeg-XR (*.jxr *.hdp *.wdp)
BMP (*.bmp)
PNG (*.png)
PSD (*.psd)
PCX (*.pcx)
TARGA (*.tga)
Open EXR (*.exr)
Radiance RGBE (*.hdr)
Portable Floatmap (*.pfm)
Digital Negative (*.dng)
Canon RAW (*.cr2 *.crw)
Fuji RAW (*.raf)
Hasselblad RAW (*.fff *.3fr)
Leica RAW (*.rwl)
Kodak RAW (*.kdc *.dcr)
Mamiya Leaf RAW (*.iiq)
Minolta RAW (*.mrw)
Nikon RAW (*.nef *.nrw *.nrf)
Olympus RAW (*.orf)
Panasonic RAW (*.rw2 *.raw *.rwl)
Pentax RAW (*.pef)
Sigma RAW (*.x3f)
Samsung RAW (*.srw)
Sony RAW (*.sr2 *.srf *.arw)
Photo CD (*.pcd)
Portable Pixmap (*.ppm)
others (*.koa *.iff *.lbm *.pict *.pct *.pic *.sgi)

8.2 Stacking image sequences – Noise-Stacking

The noise stacking procedure is based on the so-called Signal to Noise Ratio (SNR). Here, a sequence of a motif that has been recorded several times under the same conditions is offset against each other to form an image with lower image noise.

The image noise decreases in a ratio of 1: "root of number of images". If, for example, you photograph a subject at ISO 12800, you must expect a high image noise. If you now take the same

picture from a tripod four times in a row and place it on top of each other with the "**Stacking image sequence**", you get an image with 1:root from 4 \rightarrow i.e. 1:2, i.e. half the image noise.

This image noise can be further reduced with more shots, with 100 shots your ISO 12800 shot would have only 1/10 (one tenth) of the original image noise.

Using a practical example and a noise stack of 10 images, you can achieve the following comparison:



Single image noise stack with 10 images

The **Image Sequence Stacking** function is capable of stacking four various image types: Bias frames, dark frames, flat frames and light frames. This function also enables you to combine light frames with the various corrective images master bias, master dark and master flat. Once you've decided on an image noise correction method the images are stacked and the master images is saved. If not preferred, you can always select the option "**do not remove**".

When selecting a combination of light frames and master images, more windows will appear from which you can designate the following settings:

Image alignment mode: Rotation or shift.

Image alignment motif selection: Starry sky, landscapes/people or bokeh shots.

Dark frame sensitivity: Fine, balanced or stable.

Master flat analysis: Adjust brightness or do not adjust brightness.

Increase image resolution: Increase original resolution or to 200%.

Bias Frames: Images with systematic sensor errors for each pixel – i.e. photos taken with a closed aperture and minimal exposure time. Bias frames are primarily stacked using the image correction method “Median”.

Dark Frames: Images with dark noise, or dark current pixilation – i.e. photos taken with a closed aperture and identical exposure time to light frames. Dark frames are primarily stacked without applying image correction methods.

Flat Frames: Photos taken with the entire field of view lit as uniformly as possible (i.e. flat field), which contain grain particles, sensor spotting and vignetting. Flat frames are primarily stacked using the image correction method “Median” or without any designated method.

Light Frames: These are the normal exposures in an exposure series. Once light frames have been stacked, automatic image alignment is activated. Select “Rotation” or the primary alignment when working with the image sequences shot freehand or astro-photography.

Light Frames + Bias/ Dark/ Flat: This combines normal exposures with the Master Bias, Master Dark or “Master Flat” photos when stacking (= numerous bias, dark or flat frame images). If you prefer to exclude one of the correction images, continue by leaving the file dialogue without a selection.

Median: The median process is the easiest form of noise removal and is especially used when stacking bias frames as well as when increasing the resolution of daylight images. The median process works for this form as few as 3 images.

Sigma clipping: A stable process for the removal of unclear objects for image stacking from 5 to 15 images.

Not linear adjustment: The non linear adjustment removes noise very effectively with large image stacking of 15 images or more.

Further information and examples can be found in chapter "10.6 Correction Images".

8.3 Projects

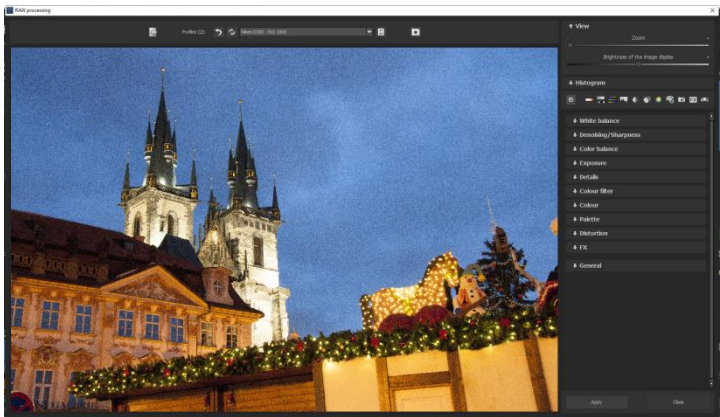
A project contains the entire work status of the current motif. You can save this work status (**File → Projects... → Save Project**) in order to continue working on this work status at a later point in time.

Undo points are also saved in the projects, so that you can access this work process later.

8.4 RAW mode

The RAW module is a RAW developer integrated into the program for your camera RAW files.

To open the module, simply click on the "RAW" icon in the toolbar or on **Edit → RAW Development** (F4).



There are eleven different setting modes in this module:

- White balance
- Denoising/ Sharpness
- Colour balance
- Exposure
- Details
- Colour filter
- Colour
- Palette
- Distortion
- FX
- General


Note: Processing is possible with JPG as well as TIF images. The development of your image can be applied at any time in the work process (even multiple times).

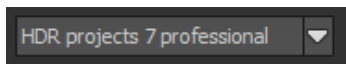
Further information on the RAW module can be found in chapter 17.

8.5 External programs

There are two interfaces for the transfer of an image to an external program.

The "projects" interface:

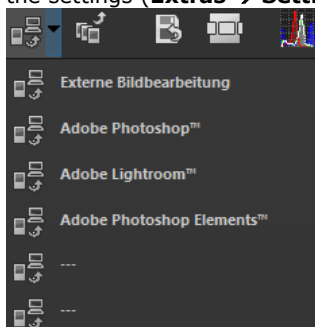
All programs of the projects product family are automatically registered here. Images can then be transferred directly by selecting the desired program from the list with the button .



In the example the transfer to **HDR projects 7 professional** is selected.

The general interface:

The general interface for external programs is configured once in the settings (**Extras → Settings → Export**).



The paths for four preset external editors (External Image Editing, Adobe Photoshop™, Adobe Lightroom™, Adobe Photoshop Elements™) can be configured here.

In the toolbar you can then transfer an image to one of the external editors:


Simply click on the arrow next to the transfer button and select one of the options to transfer the image to it.

8.6 Undo & Timeline

Undo points can be set manually at any time. This can be done either by clicking the button **Save Undo Point** in the toolbar or by using the keyboard shortcut **Shift + Z**.

Each Undo Point is stored and displayed in the Timeline. The Undo Points contain all settings of the current editing that you can access at any time.



To restore an Undo point, click on the upper button  next to the respective image. The Undo point will then be restored and if necessary an additional one will be created automatically (if you have made any changes). In this way you can jump between your Undo points and retrieve previous work statuses at any time.

In addition, all undo points are saved when saving a project, so that all undo points are still available when recording a project later.

If you click on  you can add your own note as a heading.

9. Presets

The presets are located on the left side of the program interface and it is divided into ten different categories.

The first two categories **Noise suppression** and **Optimise** contain presets for different ISO ranges from ISO 10 to ISO 5,000,000. **Noise suppression** contains presets suitable for fast and automatic denoising. **Optimise**, on the other hand, contains presets that also change the colours and brightness of the image.

The **Mobile** and **Web** categories contain custom noise reduction/optimization presets. **Mobile** is particularly suitable for mobile phone photos, for example.

Night shot and **astro**, as the name suggests, are used for shots taken at night and for astrophotography.

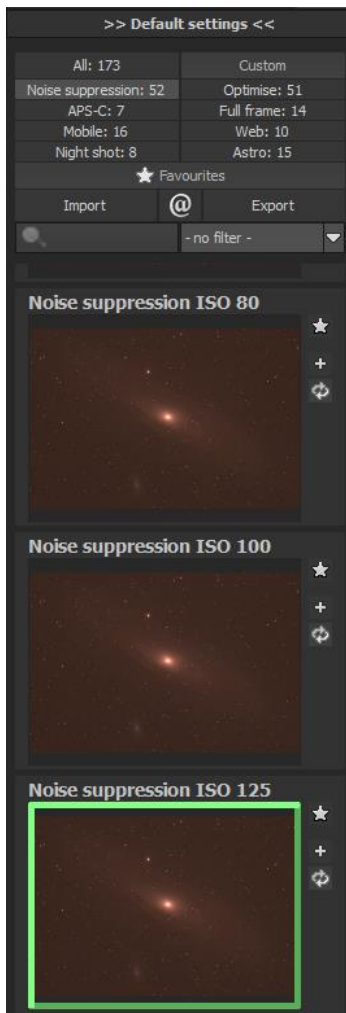
With the category **All** all presets can be displayed at the same time and the category **Own** shows only self-created presets.

9.1 Favourites

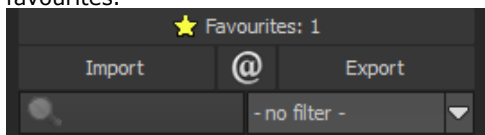
The favourites system allows you to give any preset the status of a "favourite".

To do this, click on the star next to the preview image.

As soon as you have set one or more favourites, the category "favourites" becomes active.



With a click on the favorite category you get a display of your favourites.



9.2 Import & Export

The Import and Export area is used to transfer default settings. This data is saved as an .ini file.

The Export button allows you to save the currently selected preset.

The Import button allows you to import these exported presets back into the program at a later time.

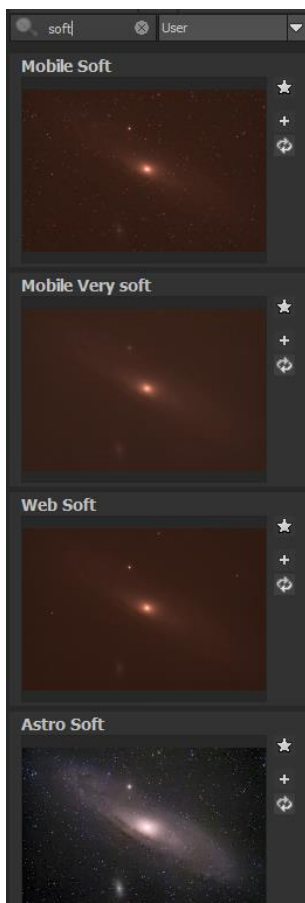
In this way you can save your work or share the presets with other users.

9.3 Search area

The search area is used to quickly find certain presets.

You can enter any search text in the search input directly below the import buttons. All presets are then searched in the name for the entered text and displayed accordingly.

For example, if you are looking for a preset with a soft look, type "soft" once in the search window.



10. Noise Properties (noise characteristics)

The noise properties area, on the right-hand side of the program interfaces, is the core of **DENOISE projects 3 professional**.

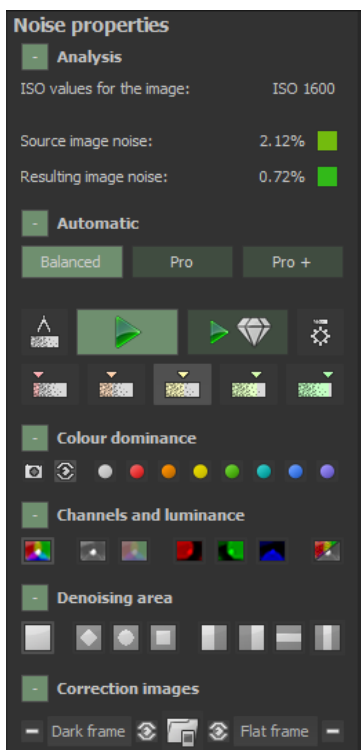
Here you can get information about the noise characteristics of the current image, activate different methods, display colour channels, etc.

These areas are introduced in detail in the following sections.

In addition, this function block contains the option of integrating correction images such as dark frames and flat frames into the current project.

More detailed explanations can be found in Section "10.6 Correction Images".

If you are satisfied with the current noise reduction and want to apply it to your image again, you also have the option of clicking on the green "Play" button and thus denoising the current image again.



10.1 Analysis

In the first section of the noise reduction area you will find three ISO displays.

a) ISO values for the image: The upper display shows the ISO sensitivity of the original recording, in the example "ISO value of recording: ISO 1600".

Directly below are the displays of the mathematical analysis of the image noise.

b) Source image noise: Here the noise in the image is measured with a special method and assigned to an average ISO sensitivity, in the example "Source image noise: 2.3% ISO 400". In terms of calculation, the image contains a noise component of 2.3%.

The coloured indicator on the right side shows you from red to yellow to green whether your source image contains a lot or noise.

Source image noise:

2.12%



Note: Do not be confused by the fact that the ISO number of the noise analysis does not correspond to the ISO number of the recording.

The sensors of the cameras react differently to the set ISO sensitivity. The noise behaviour of a D810 differs significantly from that of an EOS-7D Mark II. The image noise reduction must therefore be based on an analytical ISO value, which is displayed exactly here.

c) Resulting image noise: Directly below the source image noise you will find the analytical noise value of the result image, here in the example "Result image noise 0.5% ISO 80". Due to the noise reduction, the analytical ISO number could be reduced from ISO 400 to ISO 80.

The coloured indicator on the right shows you from red to yellow to green whether your source image contains a lot or residual noise.

Resulting image noise:

0.72%



Note: Be careful not to reduce the noise of the images too much, otherwise the natural look may be lost. A result image noise of 0.5 to 1.0% is in most cases acceptable.

10.2 Automatic

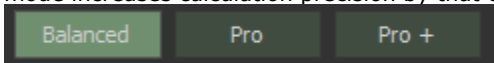
The analytical determination of image noise is based on a method that searches and categorizes the entire image for uniform areas without actual image details.

The image noise is measured in these "pure" noise areas.

Since the measurement of the image noise is performed automatically over the entire image, a manual setting of potential noise areas is not necessary.

a) New: Three different automatic denoising modes at your disposal: **Balanced**, **Pro** and **Pro+**

Balanced mode enhances images with short exposure times. **Pro** mode increases calculation precision by a factor of five. **Pro+** mode increases calculation precision by that of ten.



b) To display these measurement ranges, click on the "**Display calculated noise areas**" button. The measured noise ranges are determined completely automatically. Image areas without image details are preferred - with increasing image noise additional areas with details are included in order not to underestimate the image noise.



Note: During the display of the measuring ranges, you cannot access the automatic denoise function. Simply deactivate the display again.

c) Automatic noise reduction: Automatic noise reduction analyses the current image and searches the noise reduction presets for optimal noise reduction.

In this section, you can choose from five levels of Intelligent Noise Reduction:



Intelligent automatic denoising will create a denoised image with an increased residual noise.



Intelligent automatic denoising will create a denoised image with a slight residual noise. Noise reduced images



will often look more natural.



Intelligent automatic denoising will create a homogeneously denoised image.



Intelligent automatic denoising will create a softly denoised image.

Intelligent automatic denoising will create a very softly denoised image.

d) Automatic noise reduction and image optimisation: This function automatically selects a noise reduction and optimisation preset that matches your original image.



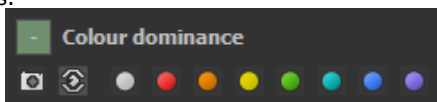
e) User Denoising: Activates a preset with different denoising methods that you can try out as you like. Simply activate one of the methods in the list of selected effects.



10.3 Colour dominance

The denoising colour space is a speciality of **DENOISE projects 3 professional**.

With this colour space, you can improve the noise reduction quality in the selected shade at the expense of a slight loss of other colours.



A total of ten different colour spaces are available (from left to right):

- Determine colour space automatically from the image
- Equal to the brightness perception of the human eye
- Neutral grey
- Red dominates (e.g. rose petals)
- Orange dominates
- Yellow dominates



- Green dominates (e.g. landscapes)
- Turquoise dominates (e.g. sky)
- Blue dominates (e.g. water)
- Violet dominates



Let us take a look at the example of a red rose:

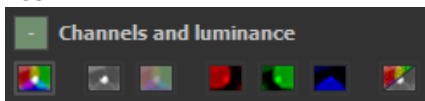


In the picture on the left we see the original image at ISO 25600, in the middle with automatic noise reduction and the selected noise reduction colour space "neutral grey" and in the picture on the right "red dominates" with the selected colour space. One can clearly see an improvement in detail within the flower in the right picture.

Note: So decide on the colour space, the motif area, which you attach particular importance to.

10.4 Channels and luminance

This area is used for the optical analysis of your image.




Note: Make sure that the real-time mode in the upper toolbar is active so that the display is updated.

Seven display modes are available here.


- **Full colour display** 

This display is the denoised result image with all three colour channels red, green and blue.




- **Luminance display**  Brightness of the image (depending on the selected noise reduction colour space)




- **Chrominance display (colour chart)**  In the chrominance display, you can see very quickly whether there is a colour noise in your motif. If the colours are very "restless" you should use the effect **Denoising - colour** with a higher intensity.




- **Red channel**  In the red channel you can see the red parts of the image in brightness.




- **Green channel**  In the green channel you can see the green parts of the image in brightness.



- **Blue channel** 
The blue channel shows the blue parts of the image in brightness.



- **Difference to the original image** 
The difference display shows the noise components removed from the image.
The following applies here: The fewer details of the original image are visible in the difference display, the better the noise reduction was (the less image details were influenced by the noise reduction).
As soon as you have activated the difference view, a slider appears with which you can increase the contrast of the difference display. For images with little image

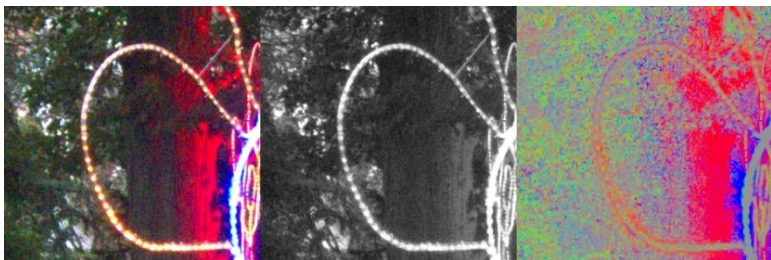
noise, this difference is difficult to see - in this case, simply increase the contrast of the display.

A comparison of the views in the picture illustrates the mode of operation of the display modes.

Original image

Luminance display

Chrominance display



The noise is clearly visible in the chrominance display on the right, it indicates a colour noise.

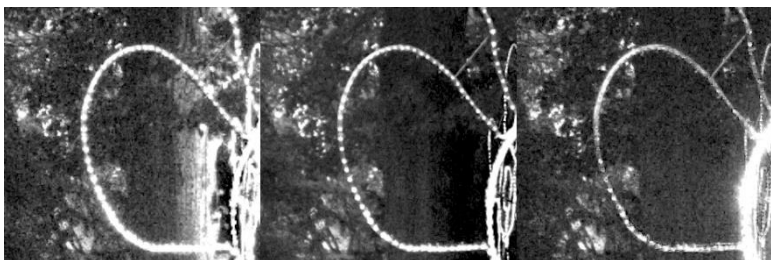
Note: If you activate the measuring ranges, the colour noise is additionally displayed as a numerical value, here 30.8% colour noise.

The brightness noise in the luminance display in the middle is rather low here.

Red channel

Green channel

Blue channel



The comparison of the noise behavior in the colour channels provides important information for the selection of the correct denoising colour space.

In this image section you can see a strong noise in the red as well as in the blue part. The green component contains comparatively little image noise.

If we combine this information, i.e. a strong noise in red and blue, the violet colour space should be used here.

Tip: Which colour space do I choose for which combination of strong colour channel noise?

Red & Green	= Yellow denoising colour space
Red & Blue	= Violet denoising colour space
Green & Blue	= Turquoise denoising colour space

Original image

Denoised image

Differential image

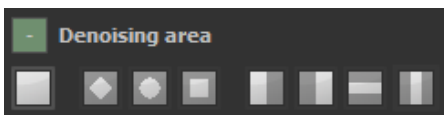


The differential image, (here with a difference contrast of 150%, i.e. amplified) shows in the area of the light tube that almost all noise was removed from the image.

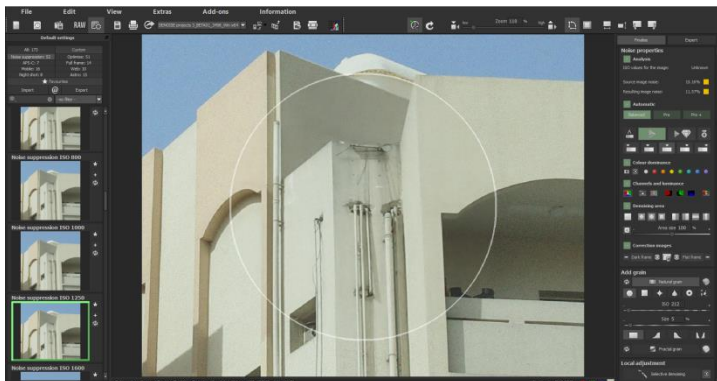
This can be seen from the fact that there are almost no details to be seen in the difference display.

10.5 Denoising area

The range restriction allows you to reduce the noise reduction to a certain range.



In this way, a direct comparison is made between the original image and the denoised result image.

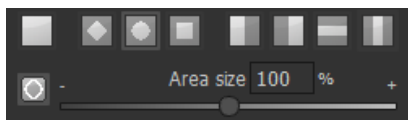


The smaller the area to be denoised the faster the calculation. If you are pleased with the result, activate the full-area denoising again (first button).

The eight area modes from left to right:

- Full surface (entire image)
- Diamond shaped
- Elliptical
- Rectangular
- Left side
- Right side
- Horizontal centric
- Vertical centric

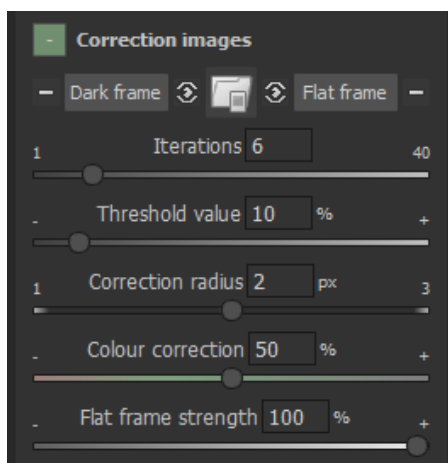
As soon as an area restriction is activated, a control will appear with which you will be able to change the size of the area.



With a click on this symbol: you can activate or deactivate the border display around the restricted area.

10.6 Correction images

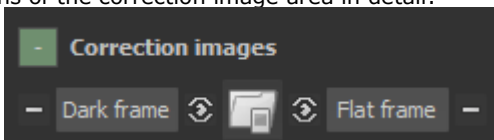
This section offers the possibility to denoise image data on a professional basis by using correction images.



In contrast to classical mathematical denoising, this method is an **exact procedure**.

In general, **DENOISE projects 3 professional** supports the calculation of dark frames and flat frames.

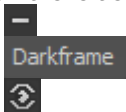
The buttons of the correction image area in detail:



The buttons are divided into three areas.

In the middle is the "Invite correction image" function. This button is active until a maximum of two correction images have been loaded. The software automatically detects whether a dark frame or a flat frame is loaded.

On the left side there are three buttons for (from left to right):



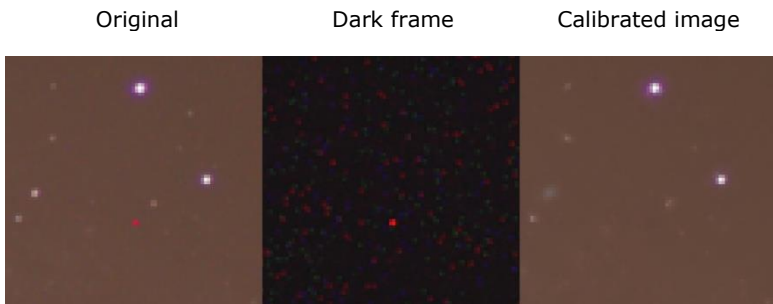
- Delete the currently loaded dark frame
- Activate dark frame calculation
- Display of the current dark frame

On the right side you will find the same three buttons for controlling the flat frame.

A dark frame - what is that?

A dark frame (or dark image) is a recording of the sensor noise with the sensor covered. To take a dark frame, use an opaque lens cap or alternatively the camera body with protective cap and take a picture of the dark noise.

It is important to use the same settings (exposure time and operating temperature) - ideally, take the normally exposed shot (light frame) and then take a dark frame shot immediately afterwards so that the temperature of your camera does not change too much.



On the left side we see the original image, which is disturbed by the dark noise of the sensor.

In the middle is the dark frame, i.e. the image of the dark noise. A strong disturbance is clearly visible in the bright pixel, which is also clearly visible in the original image. These disturbances are mostly caused by a micro defect on the sensor.

Right in the image we can see the corrected (calibrated) image with the help of the dark frame.

For the adjustment of the dark frame correction there are four parameters available:

- **Iterations**
The iterations indicate the number of passes through the dark frame correction algorithms. This correction method works very precise, a high number of iterations improves the accuracy, but may also produce a softer result.
- **Threshold**
The threshold value determines how bright the pixels in the dark frame must be at least for a correction to be performed for the respective pixel.
- **Correction radius**
With the correction radius you can determine in which pixel environment the correction calculations take place. A radius of 1 uses an environment of one pixel, i.e. a total of 3x3 pixels, a radius produces a correction matrix of 7x7 pixels.

- **Colour Correction**

The colour correction is able to reduce the so-called colour cloudiness. Colour clouds are very soft and extensive colour noise.

Note: In the practice of astrophotography a lot of dark frames are taken, which are then combined to a so called masterdark. Here 50 or more darkframe shots can be taken, which will then be added to the **masterdark**.

As a rule of thumb, more dark frames than normal exposures should always be taken, so that the noise in the Masterdark is lower than in the Masterlight.

You can do this directly in **DENOISE projects 3 professional** using the **Stacking Image Sequence** function.

A flat frame – and what is that?

Flat frames are exposed images of a uniformly illuminated surface. It is very important to take the flat frames with the same optics (i.e. filter, lens, etc.) as the exposures of the actual subject (light frames).

With the help of these flat frames, brightness distortions such as vignetting of the camera and dust inclusions (sensor spots) are removed.

Also with the flat frames in practice, as with the dark frames numerous photographs are made, which are then offset against each other to a **Masterflat**.

As for the dark frames, the **Stacking image sequence** function has a special mode for stacking flat frames.

Original

Dark frame

Calibrated image



Left in the picture you can see the original image with a brightness disturbance in the upper left half.

The middle image is the recorded flat frame (masterflat) - here, too, the disturbance clearly shows up as a shadowing of the brightness.

On the right side you can see the result image calibrated with the flat frame. The disturbance was completely removed.

There is a parameter for the adjustment of the flat frame correction:

- **Flat frame intensity**

With the flat frame intensity the intensity of the flat frame correction can be readjusted if it is too weak.

Note: The flat frames must also be offset against the dark frames. **DENOISE projects 3 professional** automatically does this for you in the background.

A Bias frame – and what is that?

A bias frame contains unwanted signal resulting from the electronics which elaborate the sensor data and not the unwanted signal within the sensor itself (as is the case with dark frames).

Original



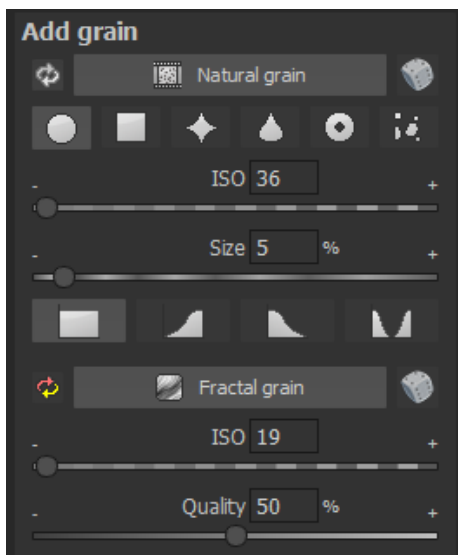
Bias frame




As for the dark frames or flat frames, the **Stacking image sequence** function has a special mode for stacking bias frames.

11. Add Grain


Even though **DENOISE projects 3 professional** was designed to remove noise from photos, it sometimes makes sense to add a "good" kind of noise. This trick will give you a much sharper look on some motifs.



To change the noise level, use the "**ISO**" and "**Size**" sliders. When you have done this and want to reset them back to their original settings, click on this icon in the upper left corner: 

You can also add a natural grain by clicking on "**natural grain**". Here you have the possibility to determine the shape of the grain. Six different shapes are available.



To create a new, random distribution of the grain, click on the cube in the upper right corner: 

With the following four options you can selectively edit lights and shadows in the photo:



All brightness areas receive natural film grain.

The lights receive a natural film grain.

The shadows receive a natural film grain.

The lights and shadows receive a natural film grain.

The **fractal grain** simulates a large-area irregularity caused by the storage or aging of photographic material. Here you can also set "**ISO**" and "**Quality**". The quality determines the calculation accuracy (the number of iterations for the fractal algorithm) of the fractal grain.

In general, the following applies to the grain size module: Here there is not the best setting, but the ideal grain size, shape and quality are 100% dependent on the motif. Here you can try it out and also break new ground.

12. Expert Mode

The expert mode is used for fine adjustment of your image. After you have found a suitable setting for the automatic noise reduction, you can adjust all details in the expert mode.

12.1 Magnifying glass

The magnifying glass shows you a 1:1 comparison between the original image and the noiseless image. To do this, hold the mouse pointer at any position over the image. With the **L key** you can lock the magnifying glass to observe a specific area during processing.

If an area is detected, a white broken line is displayed at the edge of the magnifying glass.

Click into the image area of the magnifying glass to switch between the two display modes "split before/after comparison" and "direct before/after comparison".

To release the detected area, press the L key again.

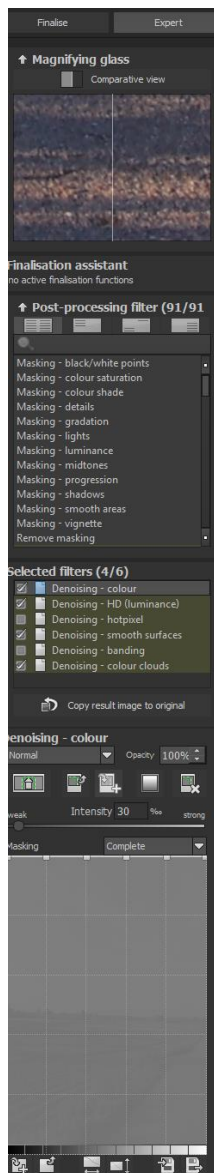
You can also find the magnifying glass in post-processing.

12.2 Post-Processing effects (91)

The list of available post-processing effects (filters) contains all the tools that make up the presets.

Here you will find different types of effects:

- **Maskings (Smart-Mask)** (black background)
Masking details, Masking colour saturation, Masking colour shade, Masking lights, ...



- **Border effects** (yellow background)
Denoising, Sharpen, Erode, Dilate, ...
- **Geometric effects** (green background)
Rotation & Zoom, Adjust horizon, correct perspective, ...
- **Exposure effects** (cyan background)
Gradiation curve, Brightness control, Contrast, Brightness-Contrast-Gamma, Vignetting, ...
- **Colour effects** (blue background)
Colour-Saturation-Exposure, Colour balance, chromatic correction, Manual white balance, ...
- **Smoothing effects** (violet background)
Soft focus – keep details, Smooth colour tone

A right click opens a so-called context menu. Here you can switch off the individual effect groups in order to get a better overview of the effects of an individual category.

The most important effects for the noise reduction of your image are the edge effects, especially all effects that start with "denoising -".

If you want to add a post-processing effect to the other effects of the current preset, double-click on the entry in the list and the effect will automatically be added to the list of "selected effects" at the end.

Liste aller Post-Processing-Effekte

DENOISE projects 3 professional offers you a wealth of different filters so that you can achieve the best result for every image with the least possible effort. You can choose from a total of 91 post-processing effects, which you can combine with each other and change individually.

If you want to develop a feeling for these different filters, it is advisable to experiment with different images until you know which filter has which effect. To make it easier for you to get

started with **DENOISE projects 3 professional**, you can see each filter and its effect listed below in chronological order. Please note that different filters on different images can produce completely different results.

12.3 Selected effects

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

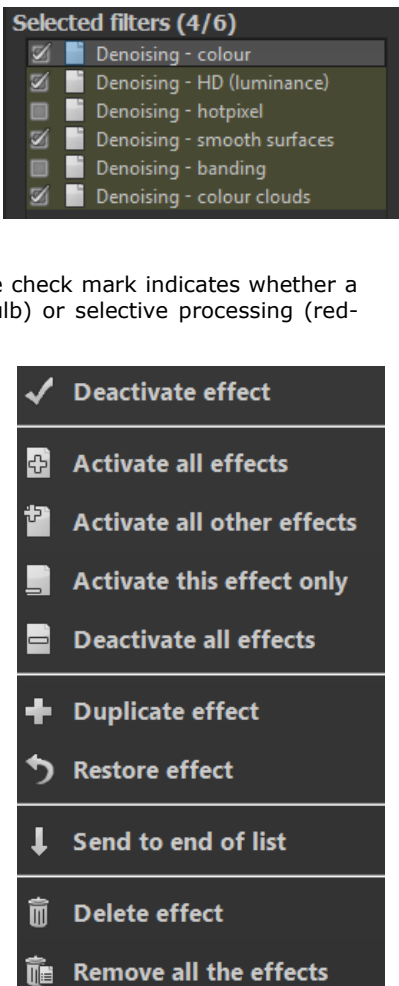
The effects can be switched on or off by checking the box in front of the name.

The small icon to the right of the check mark indicates whether a layer calculation (with a light bulb) or selective processing (red-green circle) is active here.

If you want to move an effect to another position in the calculation sequence, simply grab it with the mouse and move it to the desired position. The calculation is then automatically updated.

Note: The order of the effect levels has a significant influence on the result depending on the combination. If, for example, you want to reduce chromatic aberrations, you should always do this before increasing the colour intensity. If you intensify the colours first, the aberrations will also be intensified.

Right-click on the list of selected effects to open a context menu with the following functions:

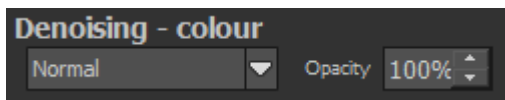


- Deactivate effect
- Activate all effects
- Activate all other effects
- Activate this effect only
- Deactivate all effects
- Duplicate effect
- Restore effect
- Send to end of list
- Delete effect
- Remove all the effects

Once you have selected an effect, the parameters available for that effect appear directly below this area.

12.4 Setting the parameters for the desired effect – calculation method

Right at the beginning of the parameter area for the selected effect (here: Denoising - Colour) you will find the area of the layer calculation method.



In the list above you can select a **calculation method for the layer effect**. There are many variations available, starting with simple methods such as **brighten, darken, post-exposure** and **dodging**.

Note: Try this method out for yourself - if you reset the allocation method to Normal, you can deactivate the level allocation at any time.





On the right side you can also set the opacity for the current effect layer. If an effect is too strong for you, reduce the opacity a little until you like the result.

12.5 Setting the parameters for the desired effect – selective editing

Below the plane calculation you will find the buttons for selective processing.



The functions from left to right:

- Open selective editing 
- Copying Selective Areas to the Clipboard 
- Copy selective area from clipboard to current effect (existing areas will be replaced) 
- Delete all selective areas of the selected effect 

Selective processing is a special feature here. You can set up to 32 selective areas for each effect layer.

Selective areas can be positive (green) or negative (red) and you can mix them as you like.

What is the effect of a positive selected area?

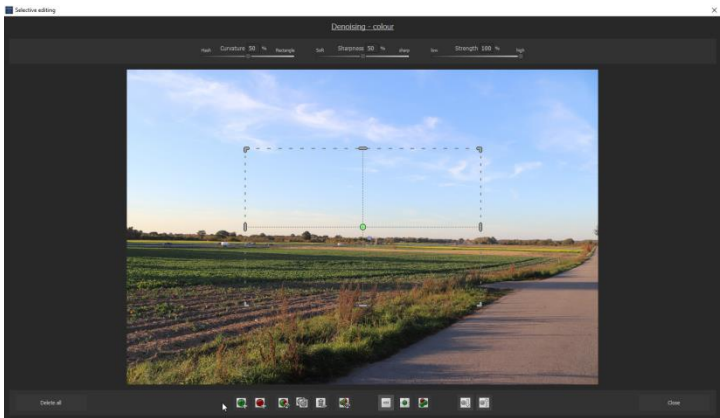
With a positive area, you specify that the current effect layer is to be calculated in this area and not in the rest of the image.

And what is the effect of a negative selected area?

And what does a negative selective area do?










Negative selective areas work exactly the other way round. With these you exclude the selected areas from the current effect layer.

As soon as you have activated selective processing, a new window opens. In this window, you define the selective areas for the selected effect layer (here: Denoising - Colour).



The lower toolbar is used to create areas and display the masks created by the areas.

The functions in detail are (from left to right):

- Add positive selective area 
- Add negative selective area 
- Invert the selected selective area
(positive becomes negative and vice versa) 
- Duplicate the selected selective area 
- Delete the selected selective area 
- Invert all selective areas 
- Deactivate mask display 
- Display only the mask of the currently selected selective area 
- Display entire mask of selective areas 

- Select the next selective area
- Select the previous selective area

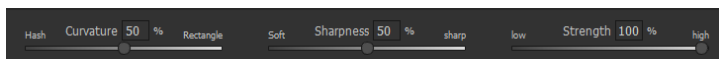


For example, if you add a positive selective area for the Colour Luminosity effect.

You can deform this area as you like. Use the mouse to grab the markers at the edge of the area and move the borders of the area to the desired shape.

To move the area as a whole, simply drag the mouse into the rectangle and move the area to the desired position.

As soon as you have selected a selective area, the three sliders at the top of the window are activated. Here you can exert additional influence.



Curvature:

The shape of the area can be adjusted from a rhombus (slider on the far left) to a rectangle (slider on the far right).

Sharpness:

Adjust the transition sharpness of the selective range from soft (slider far left) to sharp (slider far right). If, for example, you want to mask a window, select the **rectangle=100%** for the rounding and **sharp=100%** for the sharpness.

Strength:

The Strength determines the opacity of the selected selective area. In this way you can "slightly" exclude areas from the calculation.

Once you have finished defining the selective areas, click Close at the bottom right. The settings are applied and the result image is updated.

12.6 Setting the parameters for the desired effect – adjusting the values

In the area of the effect layer parameters, there are different types of data that you can change.

In the example above, we see a "**Intensity**" control parameter.

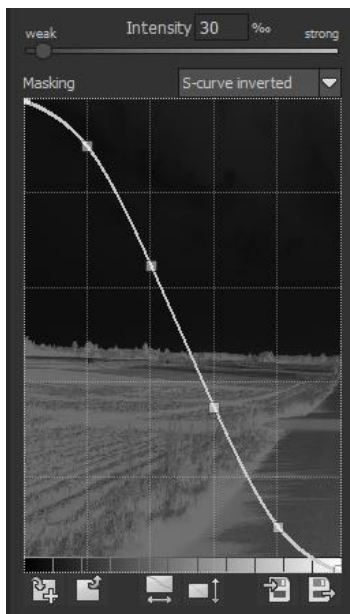
You can change these control parameters by setting them directly on the control or by entering a numerical value in the number field.

A double-click on the "Handle" on the slider always resets the parameter to its default value.

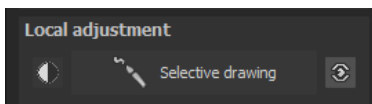
Directly below the slider you will see a masking curve with some default settings in the list above the displayed curve.

With the Masking Curve you can automatically create a brightness mask. To do this, move the control points of the brightness curve to the desired strength. At the top edge, 100% effect strength means effect strength, at the bottom edge 0% effect strength.

As you move one of the control points, you get a real-time display of the mask resulting from the curve. Light areas show a high strength for the effect and dark areas a low strength.



13. Local Adjustments/ selective drawing

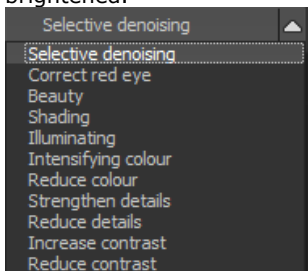


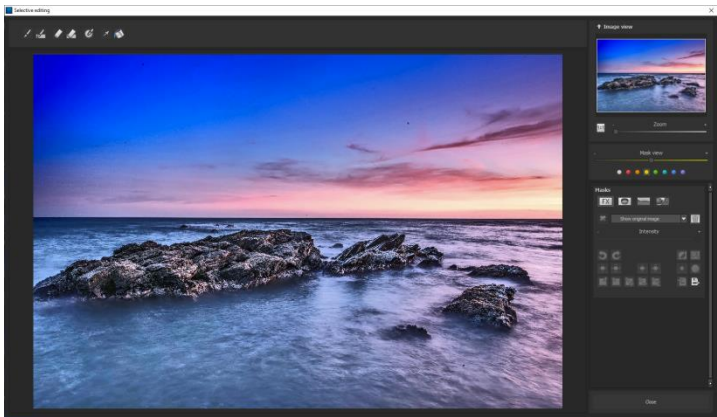
The selective highlight tool from **DENOISE projects 3 professional** deserves very special attention. Firstly, this tool selectively edits chosen areas without complicated masks done by hand, like other photo editing programs. **DENOISE projects 3 professional** includes a completely newly developed intelligent border recognition algorithm that independently identifies borders, lines, differentiations and light differences in drawing mode. The boundaries of the area that the mouse skimmed over are saved as a mask. These easily and precisely set masks serve as the basis for eleven important image enhancements: „Shading“, „Illuminating“, „Intensifying colour“, „Reduce colour“, „Strengthen details“, „Reduce details“ und „Selective denoising“, etc...

These masks can even be saved as it's own image file and used in other photo editing programs.

How it all works is probably easiest to explain with an example. Open the selective drawing window (post-processing, finalise - bottom right). Our example is a single image file of a typical twilight on the beach. The picture's colour details are already well edited.

Now we want to slightly brighten the rocks without taking away the evening mood; the sky, water and beach should not be brightened.

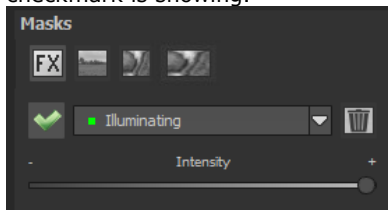




➤ **Quickly finalize your image with Selective Drawing**

1. Select editing objective

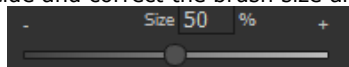
For this case, select "Illuminating". Make sure that the selected mask function is activated and the green checkmark is showing.



2. Activate Drawing Mode 

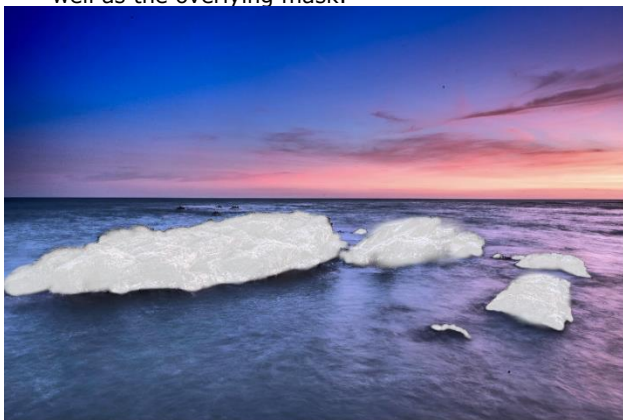
3. Activate Filling Mode 

4. Run the mouse over the contours without clicking. You can decide and correct the brush size afterwards.

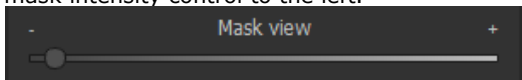


5. Now look at the mask display. The object where the borders were automatically recognised is now depicted. Click and hold, and then trace your mouse along the edges of your chosen object until it is completely

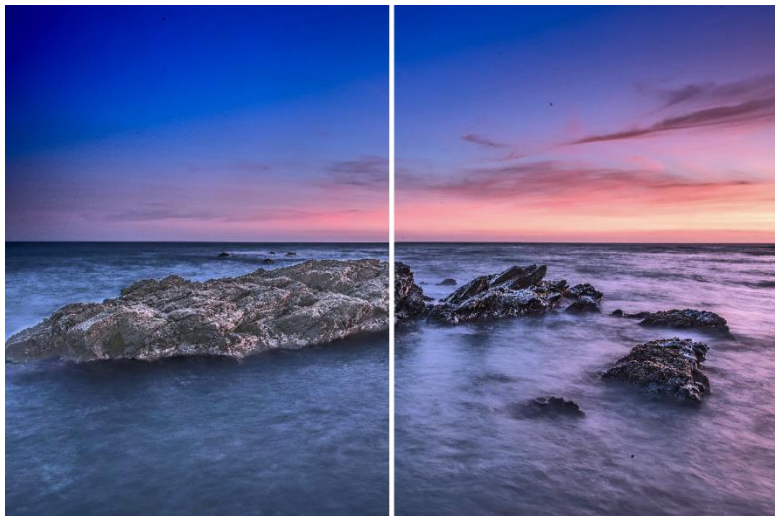
selected. In the blink of an eye we will see the effect as well as the overlying mask.





6. Once fully selected, blend the mask out by moving the mask intensity control to the left.

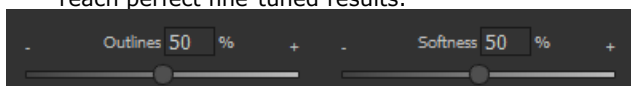


7. You will now see only the effect that is brighter rocks - our objective was "Illuminating". Now you can adjust the intensity of the effect by sliding the control towards the + or -, according to your preferred strength. Done: the rocks are brighter while the sky, beach and water remain untouched by the editing.
8. Click on "Close". You will be returned to post-processing and the selective change will be applied.



The rocks on the left are significantly brighter after the selective correction. The sky and sea still have the same tone values as before.

9. Use your quickly made mask for a further effect. Go back to the selective drawing. Our selective mask has remained.
10. Click on  and copy the mask to the clipboard. Switch the mask to "Sharpen" and use the  to paste the mask back again. Now you have sharpened just the rocks, and the other parts of the image were not influenced.
11. Every selectively applied effect can be activated and deactivated with the green checkmarks.
12. Borders have different intensities in every image. Presets normally do just fine, but sometimes it is necessary to adjust the contour and sharpness settings in order to reach perfect fine-tuned results.



13. Have you drawn outside of the lines, despite the border recognition? You can easily remove it with the eraser




If you only want to remove a small section, use the eraser with limitation. When set to 50%, you can only remove 50% of the mask, regardless of how much you erase. The limited drawing mode works in the same way, and only draws at a certain opacity.


14. If you want to mask the entire image except for a small object, it is a good idea to mask only the small object

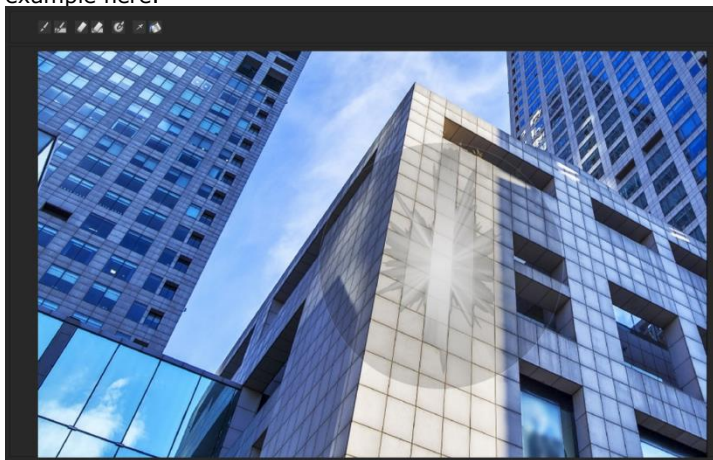
and then reverse the mask by clicking on the



Pro Tip: You have two filling modes to choose from when you want to fill a mask. When do you use which mask? We used the

normal fill mode  as in our example for a large surface, which is also preferred for water and sky areas

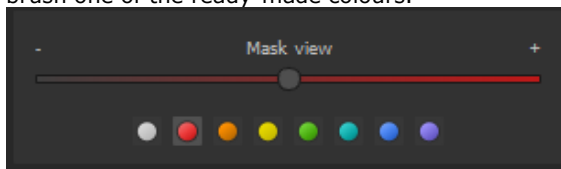
Ray filling mode  is very precise and favoured for smaller objects, geometric forms or subjects with straight lines, like in our example here.



With ray filling mode you can mask just the walls of the skyscraper while the window surfaces are not selected.

➤ **Optional Mask Colours**

Designate a colour for the presentation of the mask as well as the brush one of the ready-made colours.



The display will be immediately adjusted to your desired colour.

➤ **Selective Drawing – Creating Masks**

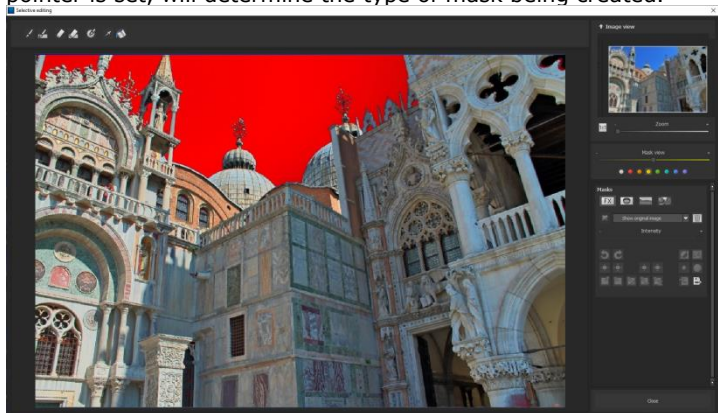
Masks can also be created from a colour or brightness.



With the button **(1)** you activate the "Create Mask" modus. You will find yourself in the standard mode "Create Mask out of Colour"**(2)**. If you want to create the mask from a brightness, chose the **(3)** button.

The tolerance controller decides, how sharp (smaller value) or soft (higher value) the created mask will be.

While you are in the "create mask" mode your mouse pointer will turn into a pipette. The colour or brightness in which your mouse pointer is set, will determine the type of mask being created.



In the above example we can see how a red mask has been created for the sky.

Tip: If you want to combine several colours in one mask, simply click on the desired colours after each other with the pipette on the screen. The current colour will with every click be added to the current mask.

➤ **Selective Drawing – Smoothing Brush**

The smoothing brush (1) gives you the opportunity to draw selective areas of the mask softly.



To draw an area even softer, just go over the same area with the smoothing brush several times.

➤ **Global Mask Functions**

In the area of global mask functions you will find several special modes that you can use directly.

Undo of the last drawing steps



Invert the current mask



Deletes the current mask



Minimizes the outline of the mask by one pixel



Minimizes the outline of the masks by five pixels



Enlarges the outline of the current masks by one pixel



Enlarges the outline of the current masks by five pixels



Slight smoothing of the whole mask



Strong smoothing of the whole mask



Copy the current mask to the clipboard



Paste the mask in the clipboard into the selected mask



Saves the current mask as image file

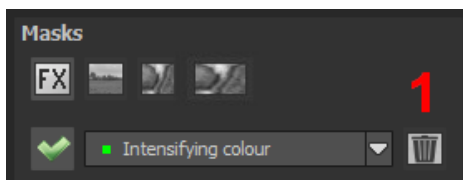


Uploads an image file into the current mask



➤ **Reset the Function of a Mask**

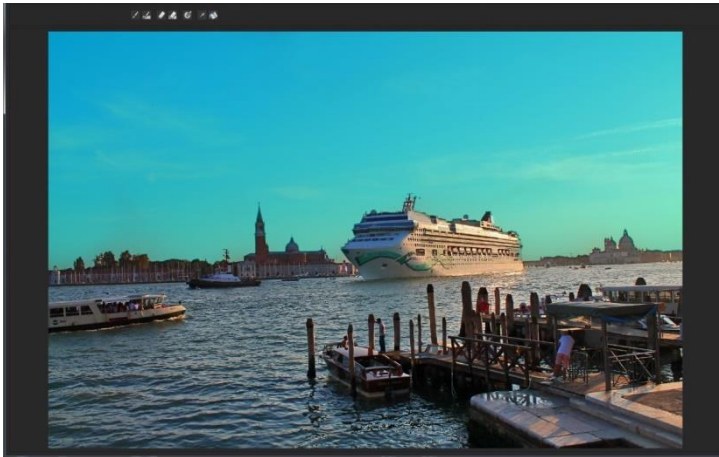
Every mask can be reset to its original state without effecting any other masks. Simply click on the waste paper button **(1)**.



After clicking on the button a security query will appear, so that no important work is lost by accident.

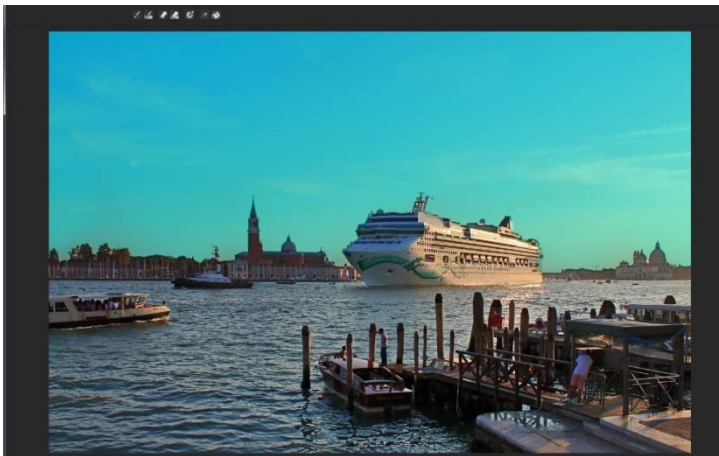
- **Adaptation of automatic masks in the "Distortion correction" section of the RAW module**

Selective drawing works directly with the RAW module. This includes the "Distortion correction" that is part of the RAW module and that is applied completely automatically on several drawn masks.

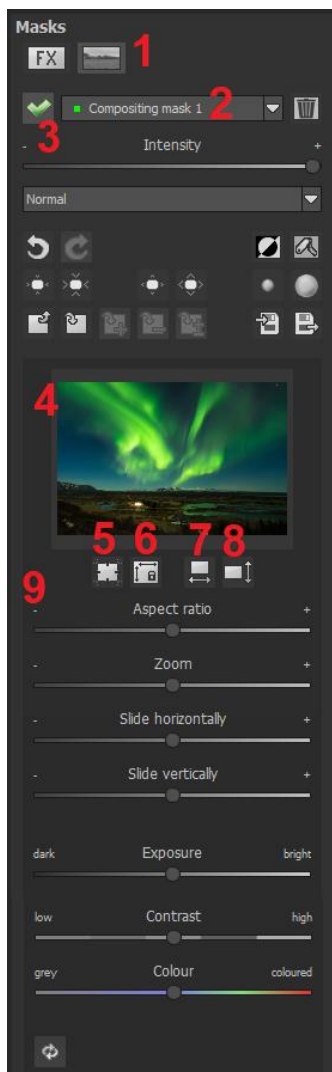


In the example we have an image, in which the sky has already been masked.

When we now continue by correcting the horizon within the image in the RAW module, the drawn mask will automatically adjust itself to the "Distortioncorrection".



➤ Composing Mode



In the Composing mode of selective drawing you have the ability to build up to **4 layers** of images into your current motif.

To switch into the composing modus, click on the “composing” button **(1)**.

From the list of choices **(2)** you can choose with which composing level you want to work with.

With the button **(3)** you activate the currently chosen mask. Now you can through a click on the frame of the image **(4)** upload any image you wish to create the next level.

You can use RAW images, Jpg, Tiff as well as several other image formats.

Underneath the display screen you will find the parameter area that begins with two buttons with the following functions:

(5) Multiple applications

Reduce the size of the image on a different level than the one that you’re currently working on. With this option you will be able to stretch the reduced image outwards (up, down, left, right).

(6) Determine the width-to-height ratio

This function allows you to determine the width-to-height ratio of the uploaded levels, since the width-to-height ratio in an uploaded image level can differentiate from the current image you're working on. This preserves the proportion of the levels.

(7) Horizontal Reflection

This function allows the image layer to be mirrored horizontally. This enables more precise adjustment to the current image without having to make changes to the image layer.

(8) Vertical Reflection

This function allows the image layer to be mirrored vertically. This enables more precise adjustment to the current image without having to make changes to the image layer.

(9) The Control-parameter

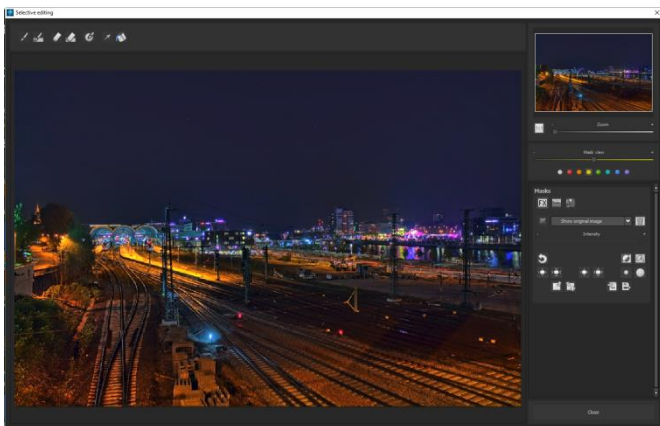
Width-to-height ratio: If the width-to-height ratio isn't fixed with the button **(6)**, you will be able to change the width-to-height ratio however you desire.

Zoom: Choose the size of that image level by zooming in or out

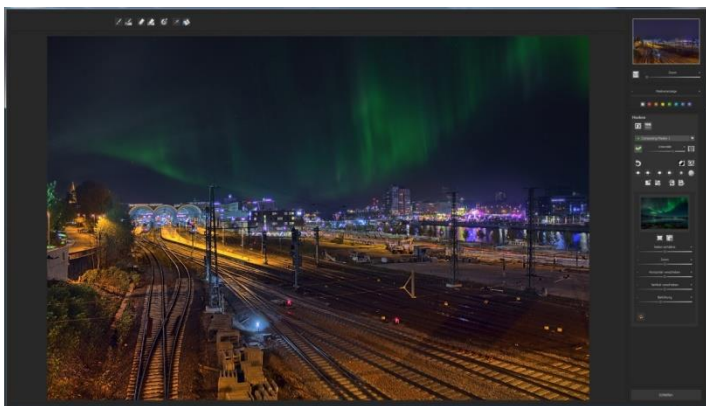
Shifting horizontally: Move the image level to the left or right

Shifting vertically: Move the image of that level up or down.

Exposure to light: Regularly the light from your current image does not match with the exposure of your other image levels. Here you can adapt the exposure and darken or brighten the images however you want, so that they match.



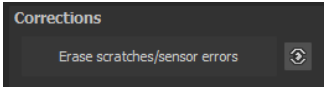
A night image with a not very fascinating night sky...



...you can change within a minute with the help of composing into an eyecatcher.

14. Removal of Scratch and Sensor Errors

You will find the scratch & sensor error correction on the right hand side in the "Finalise" section at the bottom for a good reason. A Scratch & Sensor Error Correction should always be done as the last step.



As soon as you activate the correction, a new window opens:



In the middle is the image and work area, the parameters are set on the right side.

At the top on the right-hand side is the display control, starting with the radar view. You can zoom and pan the image in this view.

Below the radar is the contrast display, which helps you find irregularities in the image better.



Activate the contrast display with the front button and change the intensity of the display with the slider to the right.



These two buttons activate or deactivate the display of the correction areas (left) and the display of the target areas.

In the area below there are two buttons which affect all correction areas.



The left button calculates a new optimal target area for all set correction areas. With the right button you can delete all set correction areas, you must confirm this in a confirmation prompt.

The lower setting block deals with the actual values of the correction areas:

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

To set another area, click on the brush, set the desired size with the slider to the right, and then click in the image area on the desired position for the correction.

The target area of the correction is automatically searched for by the program, set accordingly and displayed to you.

You can now move this target area with the mouse if you do not agree with the automatic suggestion.

The "Size" slider at the bottom of this area allows you to subsequently change the size of a correction area. Simply click on a correction area and then change the size with the slider.

The lower left button allows you to return a selected correction area to the automatic mode if you have defined the target area yourself.

The lower right button deletes the currently active correction area.

The keyboard layout of this window can be found in the chapter "Keyboard Shortcuts".

15. Astro Photography

The following example should give you the opportunity to introduce the program to you in more detail – galaxy M31 – Andromeda.

A sincere thank you at this point to Markus Jane, who provided the astro image sequences.

The top photograph shows an individual image, while on the bottom you see the complete **DENOISE projects 3 professional** edited image.

Applications used:

20 exposures each for the exposure time of five minutes, calculated together to a „master light“

20 dark frames calculated together to a “master dark”

30 flat frames calculated together to a “master flat”



The Workflow:

1. Stacking of dark frames with the function „stacking image sequences” to create the master dark.
2. Stacking of flat frames with the function “stacking image sequences” to create the master flat.
3. Stacking of light frames with the function „stacking image sequences” to create the actual image of the motive. This master light image you upload into the program.
4. Now you upload the corrector image (master dark and master flat) over the control “load corrector image”, before activating the dark or flat frame calculation.
5. In the export mode you can use the fine adjustments of the image.

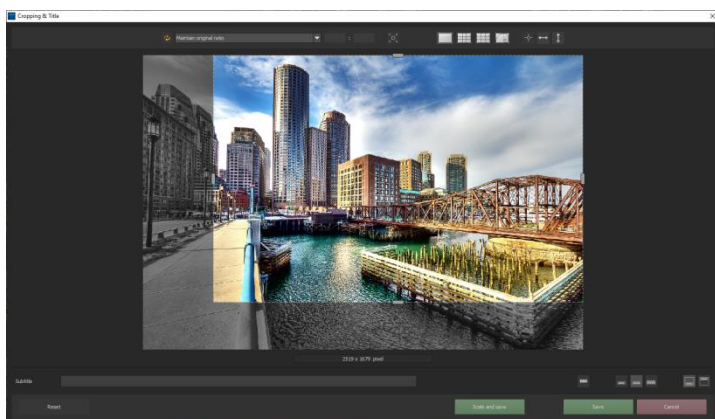
16. Selecting and Saving Sections of Images



To save a final image, click on the button in the toolbar, go through the file menu or use the corresponding keyboard shortcut (Ctrl + S).

➤ Cropping and captions

As soon as you have initiated a file save, the cropping and caption window will open. If you would not like to crop or add a caption to your image, click “continue”.



At the top are several practical aids for perfect image composition and cropping.

You can set the aspect ratio and activate guidelines like the rule of thirds, the golden section or the golden spiral. The new photo centre display is also quite practical which you can access by simply clicking on this button.



The centre of the window shows your final image. Fix the area to be saved by adjusting the corners and borders of the photo.

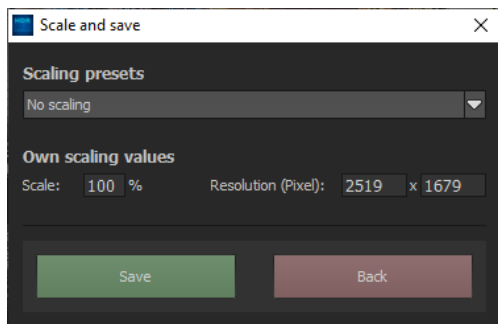
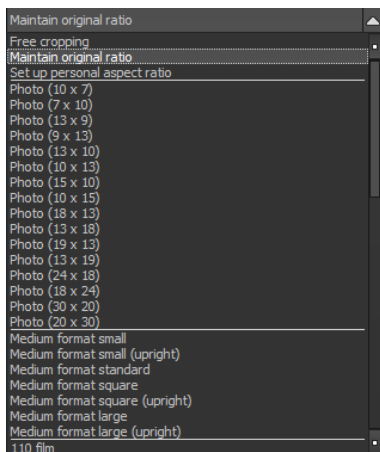
At the bottom is an option to enter a caption. You can determine the size, position and background for the text.

The size of the text will be automatically coordinated to the final cropping.

You can either crop by hand or use one of the 71 provided formats.

Please note: If you choose the cropping ration, 13 x 18, for example the final image will not be saved as 13 x 18 cm, rather as a ratio of 13 to 18.

You will also find the "Scale and Save" button at the bottom. With this option you can choose between 30 different templates for various online platforms such as Facebook, Instagram, YouTube, etc. or simply specify your own scaling values (scaling in percent and resolution in pixels).

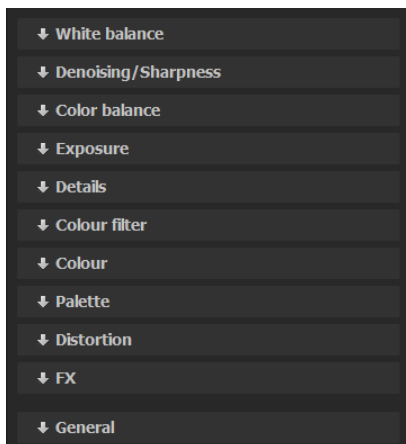


As soon as the image has been cropped and captioned, confirm the save and the following window will prompt you to select a file format and name your file.

17. RAW Mode

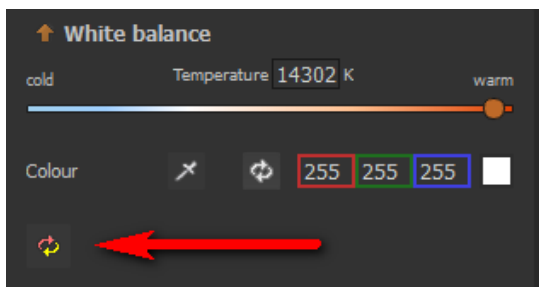
You can upload and edit RAW image data with the integrated RAW mode. Numerous tools are available to you here, such as denoising/sharpen, exposure, colour and detail as well as powerful distortion capabilities.

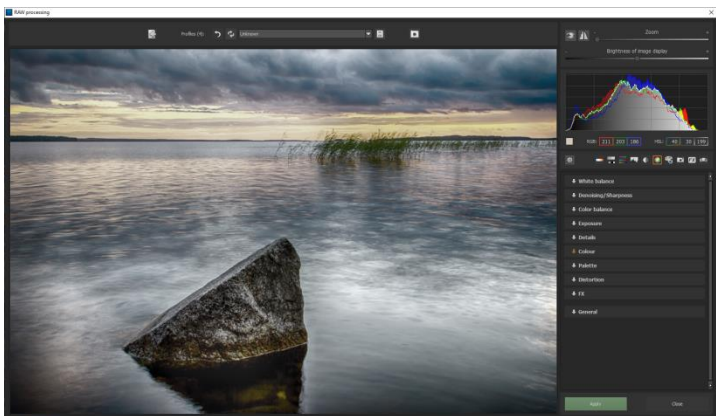
In this RAW mode changes that are made will be transferred onto the entire bracketing series, so that you only have to put in the settings once.



Resetting the category:

Every category can through a click on the reset-button (bottom left) be reset to its original state without influencing the settings of the other categories.





Overview of the most important RAW functions:

White balance: Here you can regulate the colour temperature. Use the pipette to select a white balancing colour directly from the image.

Denoising/ Sharpness: This feature regulates the image's noise and sharpness. Control the quality and different types of noise such as colour noise, banding or hot pixels.

Colour balance/ white balance: Here it's all about colour and black/white correction. Modify the general colour mood and neutralise white and black - the icing on the cake for professional colour correction.

Exposure: Influence lights, shadows, contrast and brightness in the final image. With the new dynamic brightness you can adapt the light to the contents of each image individually.

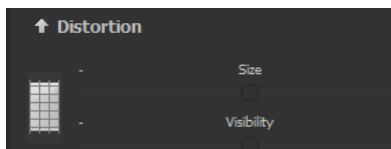
Details: Fine-tune clarity and micro-details with lights, shadows and midtones.

Colour: These colour settings are about luminosity in shadows and lights. Here you can also counteract unloved chromatic aberrations.

The differentiated chromatic aberration by colour is used to remove chromatic aberrations of a certain colour. A lens curvature is calculated backwards on the selected colour channel. You have the choice between: "Light Diffraction Green", "Light Diffraction Blue" and "Light Diffraction Red".

Palate: Adjust the saturation of individual colours.

Distortion: Take a closer look. These mighty tools can straighten out the horizon, correct camera angles and lens errors. Use "Autofit" to automatically trim any awkward borders.



The reference grid can be adapted in the distance between the grids as well as in its transparency. This is how you will always have the maximum overview when you are correcting your settings.





Lens correction: Corrects the edge light loss that occurs with some lenses.

Peripheral light: Corrects the curvature of the lens.

Horizon: Corrects the horizon by rotating the image.

Vertical: Tilt the image left or right for vertical perspective correction.

Horizontal: Tilt the image left or right for horizontal perspective correction.

Zoom: Zooming the image avoids empty areas that may occur during distortion correction.

Trapezoid left/ right: The vertical trapezoid correction pulls the image either at the left or right edge of the image and corrects the perspective.

Trapezoid top/ bottom: Horizontal trapezoid equalization draws the image either at the top or bottom of the image and corrects the perspective.

Stretch left/right: With this parameter you can stretch the image into the width, starting from the left or right edge of the image.

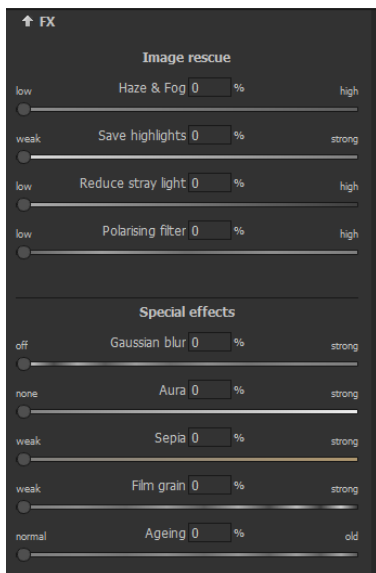
Stretch top/ bottom: With this parameter you can stretch the image upwards, starting from the top or bottom edge.

Aspect: Change the aspect ratio of your image files.

Shift L-R: Shift the image files to the left or right.

Shift U-D: Shift the image data up or down.

Category FX:



This category contains special effects like a mist & fog correction, save highlights, sepia and film grains as well as different **gradients**.

Pro Tip:

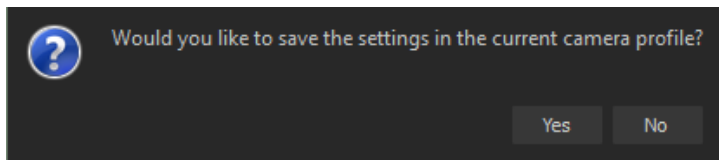
When you take a landscape shot, shift the controller to “Gradient top” to a dark tone and create in that way a neutral thick (ND) – process filter.

General:

Activate the “360° panorama mode” to optimise matching edges of images in a panorama series. Save your settings as a camera profile to save time in the future. This can be reset at any time.

If you have conducted the settings in RAW mode, click on “apply”.

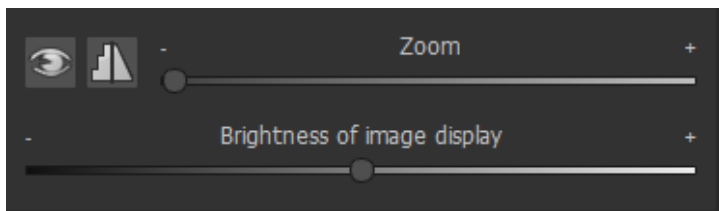
If you save your settings in the camera profile, you will save a lot of time for future photographs. The settings can be reversed at any time.



Zoom and Brightness

At the top right are the sliders for zoom and brightness of the picture display.

Note: With the brightness setting of the picture display, you do not change the brightness of your picture, but only the display, for example to be able to recognize the effect of a picture noise in darker areas.



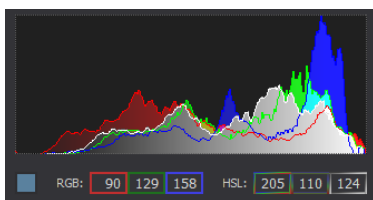
Histogram

The histogram is located below the sliders.

RGB: Here the RGB values of the pixel are displayed below the mouse pointer.

HSL: Displays the HSL values of the pixel below the mouse pointer.

Note: HSL stands for Hue (colour angle), Saturation (colour saturation) and Lightness (brightness).



18. Batch Processing

Batch processing can be accessed via "**Extras → Batch Processing**" or the keyboard shortcut **Ctrl + B**.

As soon as you have activated batch processing, a window opens with various settings and a graphical preview of the images found in the source folder.

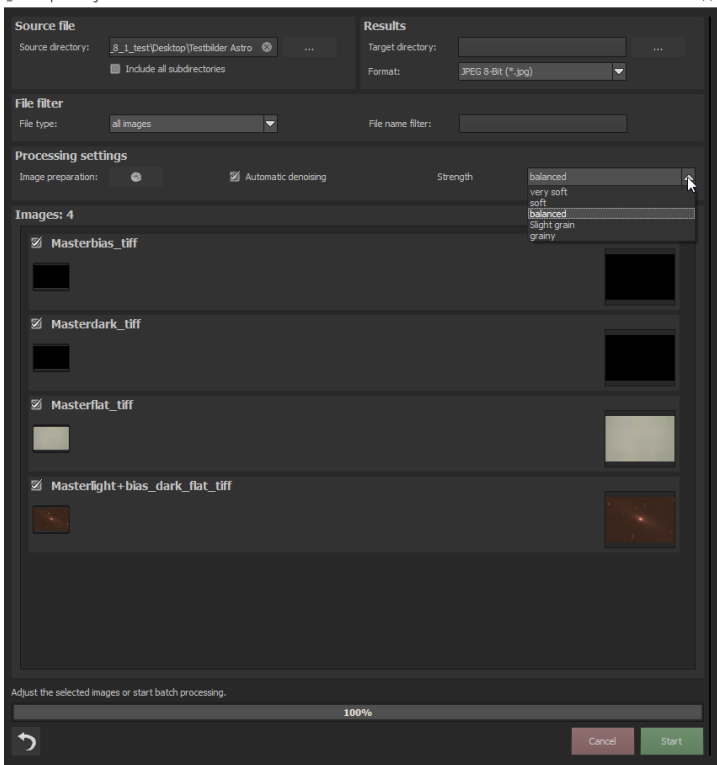
In the upper area, select the source directory for batch processing and enter a folder in the upper right corner where the results are to be saved. You specify the format directly below the target directory.

If you check "**include all subdirectories**", you activate the recursive search for image data starting from the respective source folder. For very large folders, this function will take a little more time.

Under "**File filter**" you can select whether you want to search only for certain file types or file names. You can search for RAW, Jpeg, Tif, Png or HDR formats.

In the **processing settings**, you can select whether the noise reduction is to be automatic (in five different degrees of softness) or via a fixed default setting. As soon as you deactivate "**Automatic denoising**", you will see the list of available post-processing presets at the position of the strength.

Now that you have made all the settings, click on the "**Start**" button in the lower right corner and the batch processing will noise-deaden all the selected images and save them individually as TIF format.

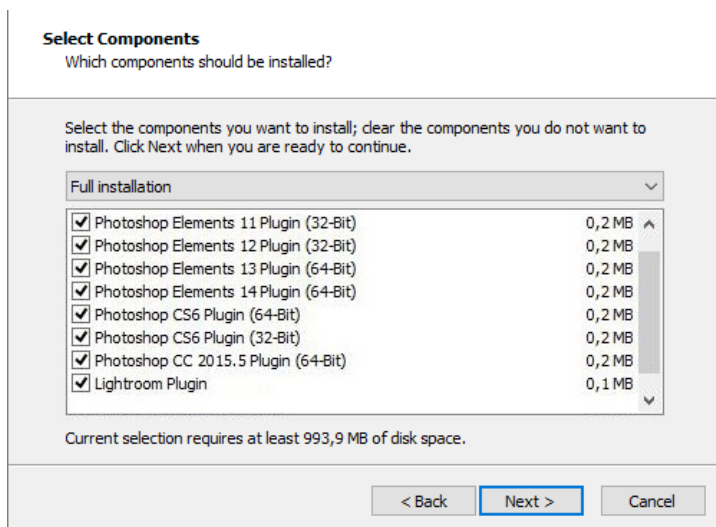


19. Plug-in Installation

DENOISE projects 3 professional allows you to use the software with a filter plug-in for Adobe Photoshop. Current Photoshop versions are automatically detected under Windows during the installation of **DENOISE projects 3 professional** and the plug-ins are installed in the respective plug-in folder. For older Photoshop versions, the plug-ins may have to be installed manually.

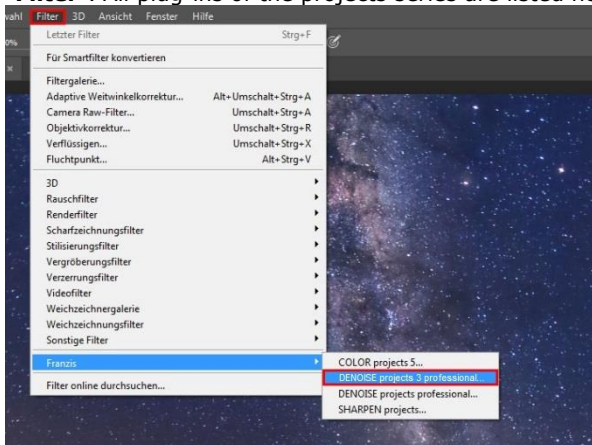
19.1 Using Photoshop Plug-Ins in Windows

During the installation of **DENOISE projects 3 professional**, the following window appears:



Select the Photoshop version for which you want to install the **DENOISE projects 3 professional** plug-in. Then click "Next" and follow the instructions of the installation wizard. The corresponding plug-ins will then be installed automatically.

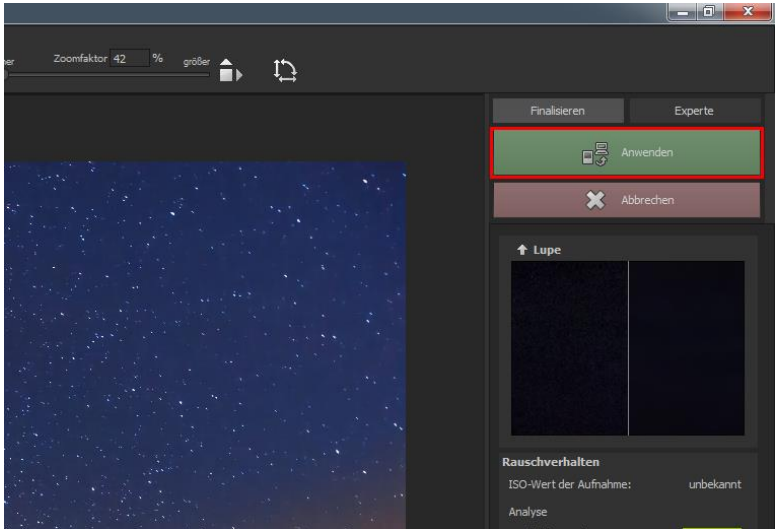
After installing the plug-ins, please open Photoshop again. In Photoshop you will find the entry **Franzis** under the menu item **"Filter"**. All plug-ins of the projects series are listed here.



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The program is now in Photoshop Filter-Plugin mode. You can edit the image as usual in **DENOISE projects 3 professional**.

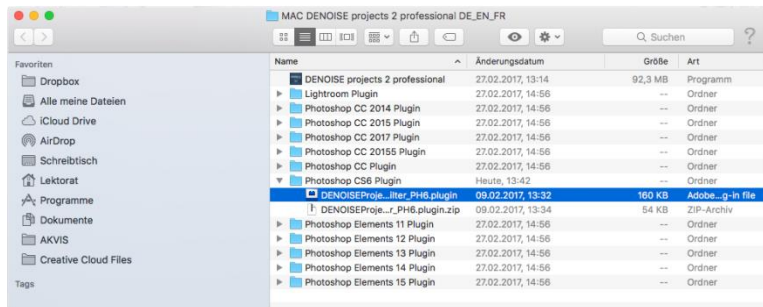
Then use the "**Apply**" button to send the finished photo directly back to the Photoshop layer you came from.



The "**Cancel**" button terminates the filter plug-in without sending your changes to the image back to the Photoshop layer. Editing in **DENOISE projects 3 professional** is cancelled.

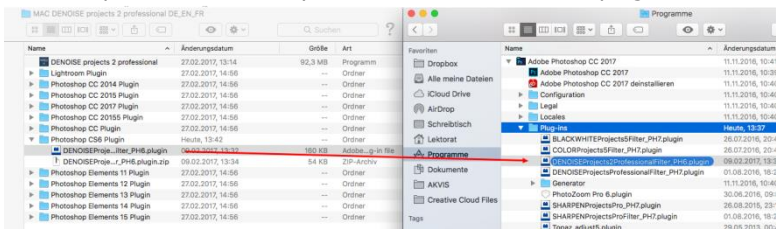
The projects program will then close automatically, a mechanism that is mandatory here in Adobe Photoshop.

19.2 Using Photoshop Plug-ins with MAC OS X



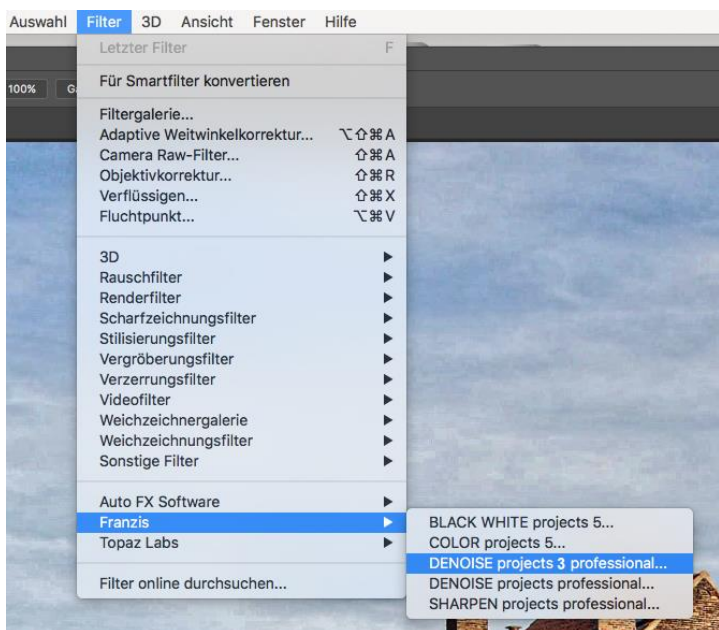
You will find the plug-ins in the "Plug-Ins" folder in the start screen. In this folder select the folder that corresponds to your Photoshop version (in the following example Photoshop CS6 is selected). Double-click on the .zip file to unpack the plug-in.

Then drag and drop the unpacked plug-in **DENOISEprojects3ProfessionalFilter_PH6.plugin** (PH7 for other Photoshop versions) into the plug-in folder of your Photoshop version. Normally this folder has the name "plug-ins":



Now start your Photoshop version, load an image and navigate to

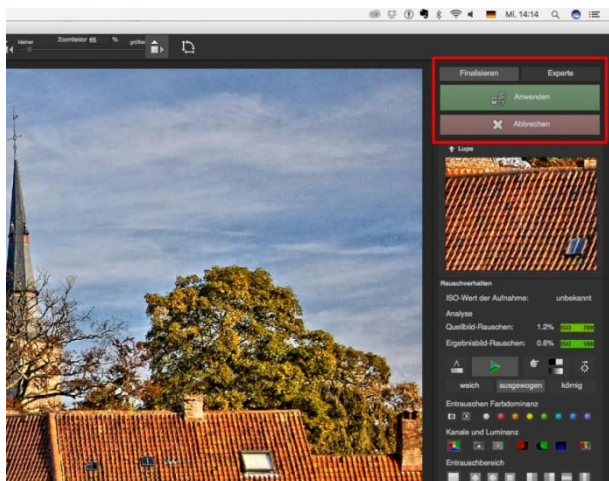
„Menu → Filter → Franzis→ DENOISE projects 3 professional“



With one click you start the plug-in. The image will now be opened in **DENOISE projects 3 professional**.

The program is now in Photoshop Filter-Plugin mode. You can edit the image as usual in **DENOISE projects 3 professional**.

Then use the "**Apply**" button to send the finished photo directly back to the Photoshop layer you came from.



The "**Cancel**" button terminates the filter plug-in without sending your changes to the image back to the photoshop layer. Editing in **DENOISE projects 3 professional** is cancelled.

The projects program will then close automatically, a mechanism that is mandatory here in Adobe Photoshop.

19.3 Using Adobe Lightroom Plug-ins - Windows

Start the installation program and check whether "**Lightroom Plugin**" is selected in the component selection.

Then open your Lightroom version. Start Lightroom and navigate to „**File → Plugin-Manager**“ to check if the plugin is activated.

Select Components

Which components should be installed?

Select the components you want to install; clear the components you do not want to install. Click Next when you are ready to continue.

Full installation ▼

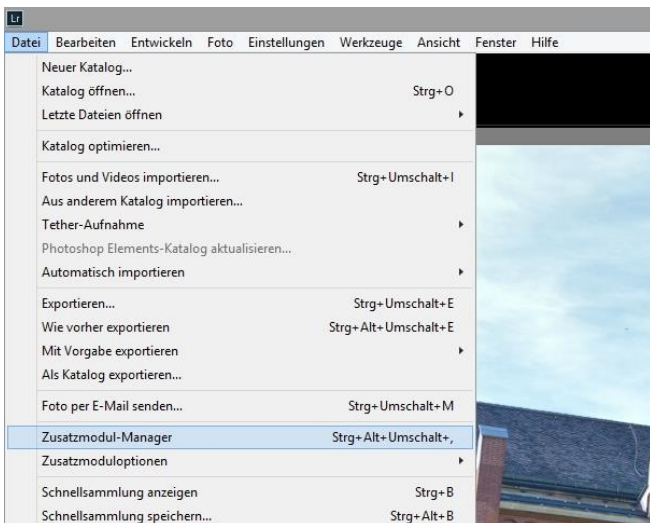
<input type="checkbox"/>	[Redacted]	47,2 MB
<input checked="" type="checkbox"/>	Lightroom Plugin	0,1 MB

Current selection requires at least 57,6 MB of disk space.

< Back

Next >

Cancel



Lightroom-Zusatzmodul-Manager

▼ Status

Pfad: C:\Users\hbuchborn.DUBDPNG\AppData\Roaming\Adobe\Lightroom\Plug-ins\Adobe\Lightroom\Plug-ins\Zusatzmodul-Manager\Zusatzmodul-Manager

Im Explorer anzeigen

Version: 1.1.2.227

Status: Dieses Zusatzmodul ist aktiviert.

▼ Zusatzmodul-Autorenwerkzeuge

Zusatzmodul neu laden ☒ Zusatzmodul bei jedem Start von Lightroom laden (Nur für Zusatzmodul)

Diagnoseprotokoll in Datei speichern... Keine Diagnoseprotokolle

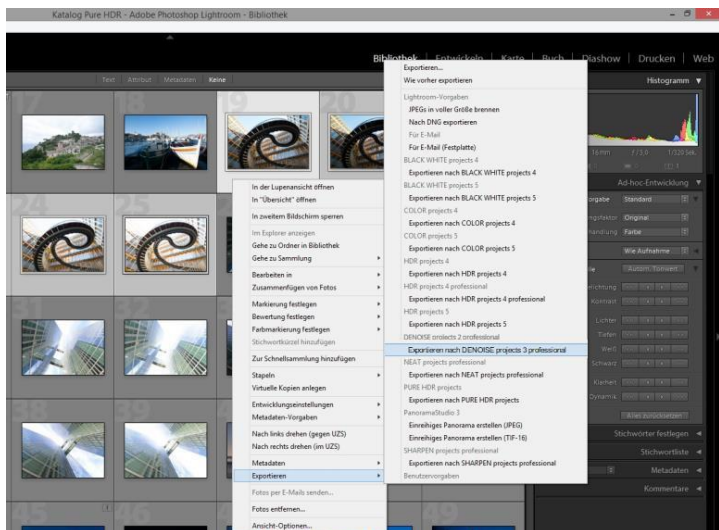
Left Pane List:

- Exportiere nach PanoramaSt... (Installiert und wird ausgeführt)
- Facebook (Installiert und wird ausgeführt)
- Flickr (Installiert und wird ausgeführt)
- HDR projects 4 (Installiert und wird ausgeführt)
- HDR projects 4 professional (Installiert und wird ausgeführt)
- HDR projects 5 (Installiert und wird ausgeführt)
- DENOISE projects 3 professional (Installiert und wird ausgeführt)**
- Leica Tether-Zusatzmodul (Installiert und wird ausgeführt)
- NEAT projects professional (Installiert und wird ausgeführt)
- Nikon Tether-Zusatzmodul (Installiert und wird ausgeführt)
- PURE HDR projects (Installiert und wird ausgeführt)
- SHARPEN projects professional (Installiert und wird ausgeführt)

Hinzufügen Entfernen

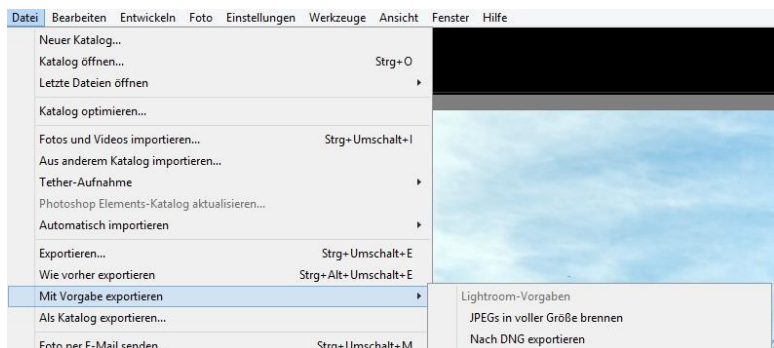
Adobe-Add-ons...

LR: **DENOISE projects 3 professional**: Installiert und wird ausgeführt.



Markieren Sie eine Belichtungsreihe in Ihrer Lightroom-Bibliothek. Sie klicken mit der rechten Maustaste direkt auf die markierten Bilder und wählen den Eintrag **„Exportieren → Exportieren nach DENOISE projects 3 professional“**.

Oder: Sie wählen **Datei → Mit Vorgabe exportieren → Exportieren nach DENOISE projects 3 professional**.



19.4 Using Adobe Lightroom Plug-ins - MAC OS X

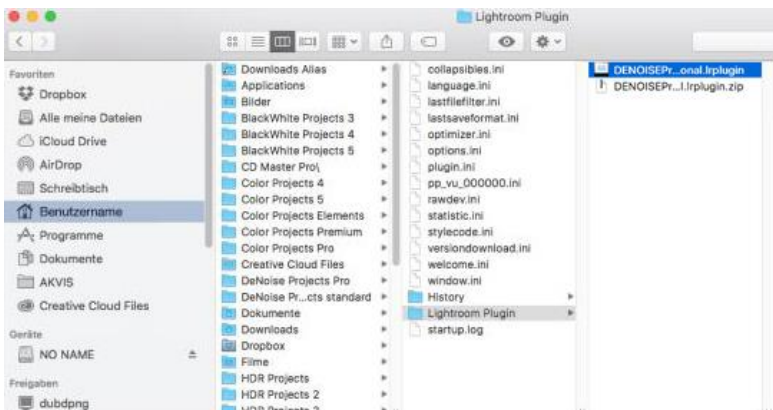
Das Plug-in für Adobe Lightroom wird bei MAC OS X nicht automatisch installiert. Um es in Lightroom zu integrieren, gehen Sie wie folgt vor:

Installieren Sie **DENOISE projects 3 professional** in den Programme-Ordner Ihres Macs.

Kopieren Sie von der CD das Plug-in-ZIP aus dem Ordner „Lightroom Plugin“. Dieses wurde zur Sicherheit in ein ZIP „gepackt“. Entpacken Sie das ZIP per Doppelklick und fügen Sie das Plug-in in einen Ordner Ihrer Wahl ein.

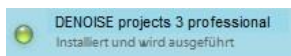
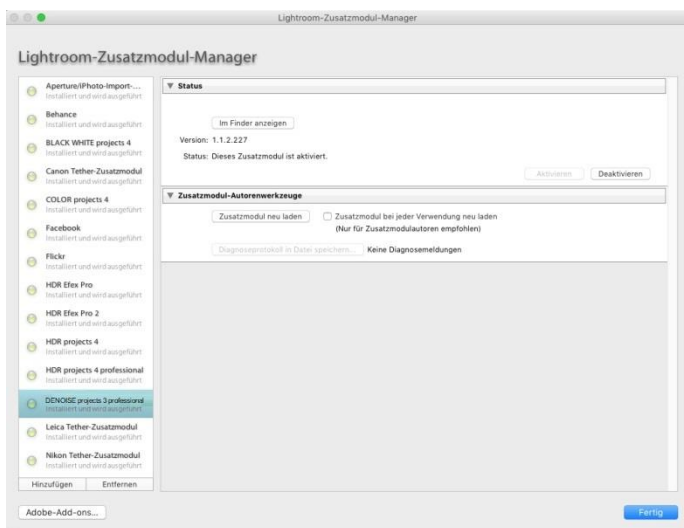
Wir empfehlen den Ordner, in dem auch Ihre Presets gespeichert werden:

„Benutzer/Benutzername/Denoise 3 professional“.



Starten Sie Lightroom und navigieren Sie zu „Datei → Zusatzmodul-Manager“.

Klicken Sie im Zusatzmodul-Manager auf „Hinzufügen“.



Wählen Sie das entsprechende Lightroom-Plug-in von **DENOISE projects 3 professional** aus, das Sie soeben auf Ihren Mac kopiert haben, indem Sie zu diesem navigieren.

Sollte das Plug-in nicht sofort mit einem grünen Aktiv-Punkt gekennzeichnet sein, schließen und starten Sie Lightroom noch einmal.

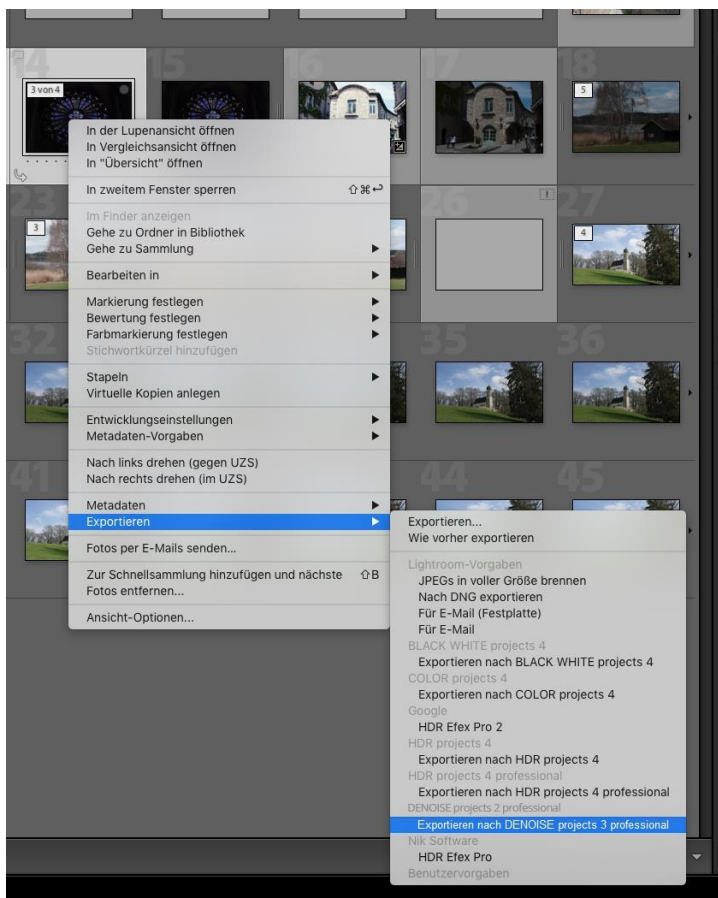
Nun sollte das Plug-in installiert und ausgeführt werden.

Sie haben mehrere Möglichkeiten, Ihr Bild von Lightroom an **DENOISE projects 3 professional** zu übergeben.

„Datei → Mit Vorgabe exportieren → Exportieren nach DENOISE projects 3 professional“.

ODER:

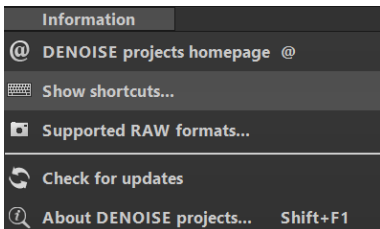
Klicken Sie mit der rechten Maustaste in Lightroom direkt auf das Bild und wählen Sie den Eintrag „**Exportieren → Exportieren nach Denoise projects 3 professional**“.



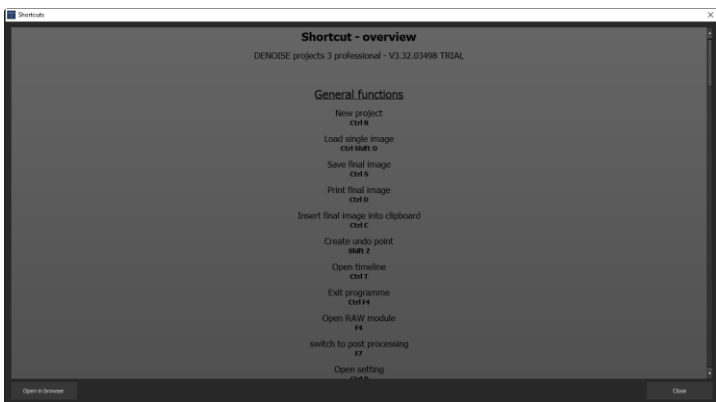
20. Keyboard Shortcuts

Overview of the integrated Keyboard shortcuts

In the main menu in the area of information you will find an overview of all available keyboard shortcuts.



Click on this item to open the overview:



You can now scroll through the individual areas in the overview of keyboard shortcuts.

To have permanent access to the shortcuts in an external window, you can use the function "**Open in browser**" (in the lower left window) and thus display the entire list in your standard browser or print it from there.

General functions

Function	Windows	Mac OS
New Project	CTRL + N	CMD + N
Upload Single Image	CTRL + SHIFT + O	CMD + SHIFT + O
Save Image	CTRL + S	CMD + S
Print final image	CTRL + D	CMD + D
Insert final image into clipboard	CTRL + C	CMD + C
Create undo point	Shift Z	Shift Z
Open timeline	CTRL + T	CMD + T
Exit programme	CTRL + F4	CMD + F4
Open RAW Module	F4	F4
Switch to post processing	F7	F7
Open setting	CTRL + P	CMD + P
Open batch processing	CTRL + B	CMD + B
Open homepage	@	@
Open about dialogue	Shift + F1	Shift + F1
Display exif information	CTRL + E	CMD + E
Display/ hide histogram	CTRL + H	CMD + H
Display full image	CTRL + F	CMD + F

Image Display Functions

Function	Windows	Mac OS
Zoom in	CTRL +	CMD +
Zoom out	CTRL -	CMD -
Fit Image to Screen	CTRL 0	CMD 0
100% Display View	CTRL 1	CMD 1
Real-time Mode on/off	R	R
Configure Radar Window (lock)	L	L

RAW Developement

Function	Windows	Mac OS
Zoom in	CTRL +	CMD +
Zoom out	CTRL -	CMD -

History Browser

Function	Windows	Mac OS
Previous page	Page up	Page up
Next page	Page down	Page down
To start	Home	Home
To end	End	End
Previous entry	Cursor left	Cursor links
Next entry	Cursor right	Cursor right

Sensitive selektive Drawing

Function	Windows	Mac OS
Zoom in	CTRL +	CMD +
Zoom out	CTRL -	CMD -
100% Display View/ Adjust Fit	CTRL 0	CMD 0
Activate Brush Tool	A	A
Activate Brush Tool with Limit	SHIFT A	SHIFT A
Activate Eraser Tool	S	S
Activate Eraser Tool with Limit	SHIFT S	SHIFT S
Activate Blur Tool	W	W
Activate Image Mask Creator	E	E
Activate Fill Mode	D	D
Activate Brush Fill Mode	F	F
Activate Brush Streak Mode	R	R
Reduce Brush Size	1	1
Increase Brush Size	2	2
Reduce Opacity	3	3
Increase Opacity	4	4
Soften Outline Recognition	5	5
Sharpen Outline Recognition	6	6
Reduce Blur	7	7
Increase Blur	8	8
Back One Step	CTRL Z	CMD Z
Mask Display On/Off	M, SHIFT M	M, SHIFT M

Scratch & sensor error correction

Function	Windows	Mac OS
Zoom in	CTRL +	CMD +
Zoom out	CTRL -	CMD -

Move active correction area to the left	Cursor/ Shift Cursor/ CTRL left	Cursor/ Shift Cursor/ CMD left
Move active correction area to the right	Cursor/ Shift Cursor/ CTRL right	Cursor/ Shift Cursor/ CMD right
Move active correction area up	Cursor/ Shift Cursor/ CTRL up	Cursor/ Shift Cursor/ CMD up
Move active correction area down	Cursor/ Shift Cursor/ CTRL down	Cursor/ Shift Cursor/ CMD down
Select previous correction area	Page up	Page up
Select next correction area	Page down	Page down
Activate all correction areas	C	C
Set new correction area	N	N
Delete active correction area	Del	Del
Increase active correction area	+	+
Reduce active correction area	-	-

Selective Processing

Function	Windows	Mac OS
Move selective area to the left	Cursor/ Shift Cursor/ CTRL left	Cursor/ Shift Cursor/ CMD left
Move selective area to the right	Cursor/ Shift Cursor/ CTRL right	Cursor/ Shift Cursor/ CMD right
Move selective area up	Cursor/ Shift Cursor/ CTRL up	Cursor/ Shift Cursor/ CMD up
Move selective area down	Cursor/ Shift Cursor/ CTRL down	Cursor/ Shift Cursor/ CMD down
Select previous selective area	Page up	Page up
Select next selective area	Page down	Page down
Delete active selective area	Del	Del
Do not display mask	1	1
Display mask of the active selective area	2	2
Display mask of all selective areas	3	3

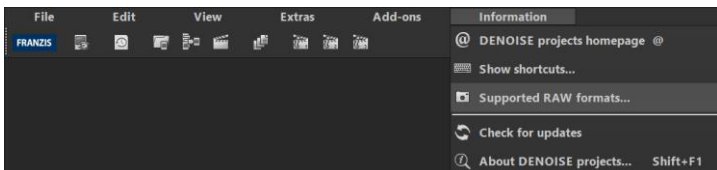
Picture Cropping

Function	Windows	Mac OS
Move cropping area to left	Cursor/ Shift Cursor/ CTRL left	Cursor/ Shift Cursor/ CMD left

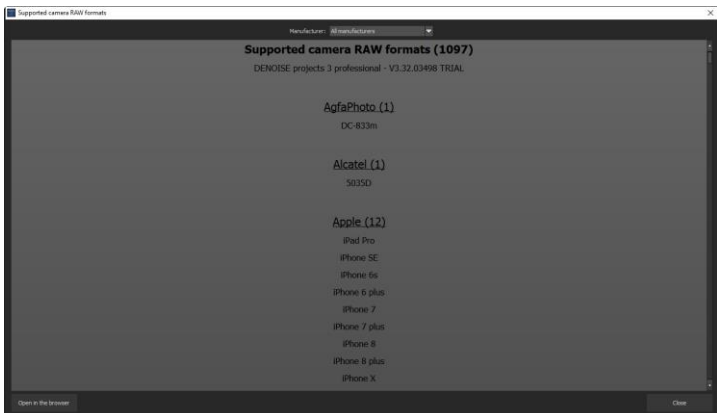
Move cropping area to right	Cursor/ Shift Cursor/ CTRL right	Cursor/ Shift Cursor/ CMD right
Move cropping area upwards	Cursor/ Shift Cursor/ CTRL up	Cursor/ Shift Cursor/ CMD up
Move cropping area downwards	Cursor/ Shift Cursor/ CTRL down	Cursor/ Shift Cursor/ CMD down

21. Integrated list of supported RAW formats

In the main menu in the area information you will find an integrated list of supporting camera RAW-formats sorted by manufacturer.



If you chose this menu item a camera RAW-format window will open.



To have permanent access to the shortcuts in an external window, you can use the function "**Open in browser**" (in the lower left window) and thus display the entire list in your standard browser or print it from there.

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