HDR PROJECTS 7
PROFESSIONAL

Manual

FRANZIS

Content

1. Activation

Activation using Windows

Upon starting **HDR projects 7 professional** for the first time, you will be prompted to activate the program. Proceed as follows:

Install **HDR projects 7 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!
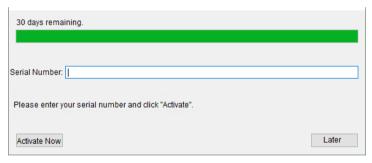
Activation using Mac

Upon starting **HDR projects 7 professional** for the first time, you will be prompted to activate the program. Proceed as follows:

Install **HDR projects 7 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.

30 days remaining.

Serial Number:

Please enter your serial number and click "Activate".

Activate   Later

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

Note: HDR projects 7 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. **Fascinating High Dynamic Range Photography**

Even the most modern digital cameras have a limited dynamic range. Drastic lighting contrasts exhibit this restriction easily, such as with a photo taken indoors looking outside, like in the first example shot. You either have a properly lit interior, where the surrounding park behind the arches are far too bright, or an image with an adequately lit park, but with an interior that is far too dark.

HDR technology, short for **High Dynamic Range**, clears up this problem by generating images with an extremely large dynamic range, unmatchable by monitor displays or prints.

The idea is simple - several images with varying exposure times are assembled into one image. In our example, three shots are fused: an image with a longer exposure time to capture the dark details inside the pavilion, a short exposure shot where the park behind the pavilion is correctly lit, as well as an exposure exactly in the middle.

The combined result is a single image containing all of the light, midtone and shadow detail. **HDR projects 7 professional** does the work for you. The capable program merges the bracketing exposure images and uses tone mapping to establish a photo fit for printing and screen displays.

The combined image contains all of the details of the pavilion and park, properly lit just as we saw the scene with our own eyes.

In the next few pages we will show you how quickly you can create fascinating images with **HDR projects 7 professional** and what you can achieve with its immense range of functions.

An obvious case for **HDR projects 7 professional** - an evening scene with lanterns can only be captured naturally using HDR technology. Otherwise, the dark surroundings would not be capturable with the bright lights. A camera sensor's range of contrast is very limited when compared to that of the human eye.

All of the details are realistically depicted in the fused photo.

Tip: Always capture your bracketing series with different exposure times and not just with different blending values. Merging the images requires an identical depth of focus for all of the individual shots.

3. What´s New?

HDR projects 7 professional offers many new features. Here is a summary of some of the most important developments:

- ✓ **New ultra-HDR mode „Highlight Boost":** The standard activated ultra-HDR mode „Highlight Boost" creates more realistic HDR-pictures. Especially tricky lighting conditions can be mastered with the new mode. It helps to bring even the finest details in your image to life – details such as hair structure, for example.

Originalimage   *„Highlight Boost"*

- ✓ **5 presets for the HDR-weight-distribution:** For calculating the HDR-weight-distribution the program offers 5 different exposition (exposure bracketing) methods. The standard setup is the denoising technique ("midtones dominate").

- ✓ **New tonemapping:** The new tonemapping „Retina" offers colour fidelity and a „tonal value" which matches the human eye's colour perception. It is particularly suitable for pictures with high contrast. To access „Ret-

ina" in the Post-Processing-Mode, simply enter "expert" in the search bar.

Originalimage

Tonemapping „Retina"

- ✓ **Add-on to the HDR-Styles:** The tonemappings (Colour fidelity & Retina) support the HDR-Styles as well.

- ✓ **Improvement of the automatic image alignment** by the use of options such as**:**
  - Landscape
  - Nebula, night sky
  - Soft motifs (strong bokeh)

- ✓ **New Presets**:
- 33 new Presets
- New category „grunge" → 16 presets
- New category „microdetails" → 17 presets

- ✓ **4 New Smart-Mask-Filter:** Smooth areas, midtones, gradiation, vignette

- ✓ **New „colour filter" module in selective drawing:** 8 different colour filters (red, orange, yellow, green-yellow, green, cyan, blue, violet)

- ✓ **Add-ons in selective drawing:**
- - Adjustable contrast and colour saturation of the composing-pictures
- - Bool'sche functions to combine masks
- - Perspective tilting of textures
- - Adjustable texture-calculation- quality-tools in 3 levels
- - Automatic construction of crossfaded texture-databases
- - Mulitple UnDo & ReDo of the paintbrush-tool

- ✓ **Select a font:** Select one of the installed and compatible fonts according to your own personal preference. In addition to the font size, you now have the possibility to create an individual working space with your entire user interface displayed in the font of your choice.

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

- ✓ **Additional external programs**: up to 12 external programs and their configurable names.

- ✓ **Extras in the RAW-module:**
  - Exposure value (EV)
  - Brightness red, green, blue
  - Hue shift
  - Soft contrast
  - Soft details
  - Pastel colours
  - Bleach Bypass
  - Polarising filter
  - Reduce stray light
  - Ageing

- ✓ **Scaled saving of images**: A new sub-module in image cropping allows you to save images in a smaller size. This also includes around 30 templates for various platforms including Facebook, YouTube and Instagram as well as pixel-precise input of image formats.

- ✓ **18 New layer processing methods** in HSV and HSL colour spectrums

- ✓ **Notes in the undo-timeline**

New Automations:

- ➢ Automatic File Save with or without cropping edits
- ➢ Automatic File Save in maximum resolution

- ➢ Automatic Grain Engine reset capabilities
- ➢ File Save extensions added to the file name in batch-processing can now be optionally deactivated
- ➢ Information dialogues display on/off
- ➢ Automatic Denoise Optimisation on/off
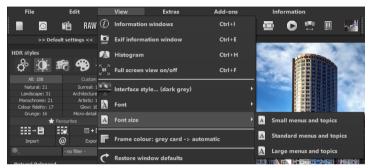
New RAW-Formats:

- ➢ 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
- ➢ Eyedeas 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 KP, K1- II
- ➢ 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)

4. Configuring the User Interface

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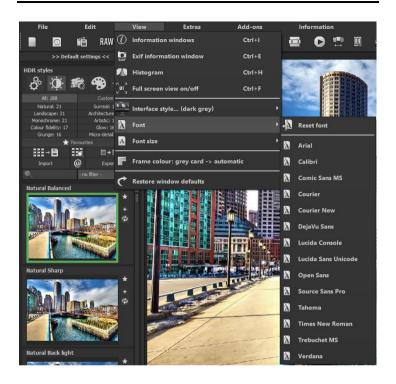
The font size can be adjusted to the run time of the program.

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.**

5. HDR Photos Done Quickly
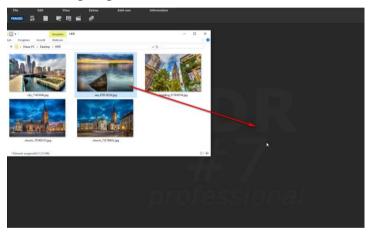
You can obtain a finished HDR image in just 5 clicks with **HDR projects 7 professional.**
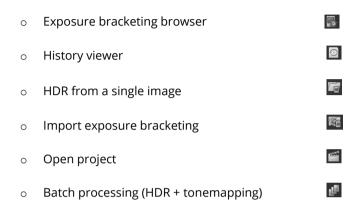
1. Load Images

2. HDR Preparation

3. Post-Processing → Select HDR Style → Preset Selection

4. Set the optimisation assistant

5. Select Image segment and Save, that´s it!

You can simply drag and drop your images or bracketing series onto the start screen.

How to get the results you want, and fast - the elaborated presets and looks, individual image adaption and selected drawing allows you to go down your own creative route. **HDR projects 7 professional** offers both options.

At the top of the screen are the main menu as well as the menu bar. This menu bar contains the following functions (from left to right):

o Exposure bracketing browser

o History viewer

o HDR from a single image

o Import exposure bracketing

o Open project

o Batch processing (HDR + tonemapping)

Optionally, image data may also simply be „dropped" onto the screen by Drag & Drop. The image data is then uploaded automatically.

6. Importing Image Material

To load a single image or a bracketing series, simply drag and drop the images onto the start screen. Alternatively, you can also use the toolbar buttons or drop-down file menu.

The **maximum number** of possible exposures of a bracketing series is **100 pictures** in **HDR projects 7 professional**.

How does this number come about?

A HDR- photograph (High Dynamic Range) differentiates from other photographs through one major characteristic:

The information of 32 exposure levels (32 Bit/ 32 ev) can be saved in one image.

These 32 exposure levels (32 Bit/32 ev) are made up of the accuracy of RAW images with 14 exposure levels (14 Bit/ 14 ev) as well as the exposure differences throughout the bracketing series.

Let´s take for example a bracketing series that was taken with -2ev, 0ev, and +2ev. Which has as a result the dynamic range of +2-(-2) = 4 ev as exposure difference. This plus the 14 exposure levels from RAW, has a total of 18 ev exposure levels (18 Bit/18ev).

55 Images are already sufficient to exactly replicate a bracketing series from -9 ev to +9 ev with intervals of 1/3 ev between two images. This ensures that you have used the maximum exposure that you can get out of a very good camera.

Adjusting the +/- exposure value controls on your camera to positive/negative values will allow you to generate additional exposures for your standard exposure bracket.

The HDR preparation dialog will open as soon as an image or a bracketing series has been selected or dragged and dropped into the program.
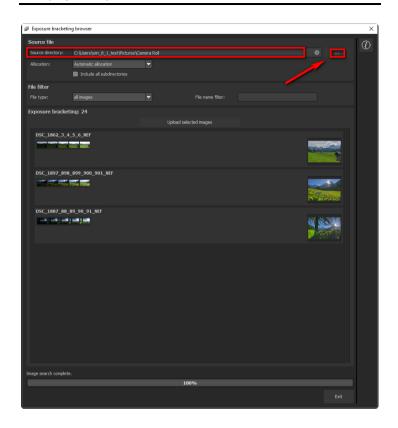
Here you can choose if you want to see the dialog each time you upload a bracketing series (click on the box at the bottom).

> **Exposure bracketing browser**

For a better overview of your bracketing series you can use the exposure bracketing browser before uploading your bracketing series.

Click on the corresponding symbol in the task bar. A preview window will open. Chose by „quell folder" your exposure bracketing browser folder.
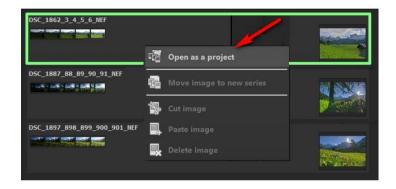
HDR projects 7 professional starts immediately with the calculation, fitting automatically the right images together as well as showing a preview image. If you go across the image with the mouse, the image will automatically enlarge itself.

The file type-filter is practical here, since one often has jpg rows and RAW images together in one folder. But if you type in RAW

in the file type, only the RAW rows will be shown. You won´t have any doubles any more.

At 100% the search for images is finished.

From this point on you will be able to upload the desired bracketing series. Click on the desired row with a right mouse click and chose in the context menu "open as project".

HDR projects 7 professional uploads the images of the desired row and just like the simple Drag & Drop of the images on the desktop. Now you are ready to begin with HDR preparation.
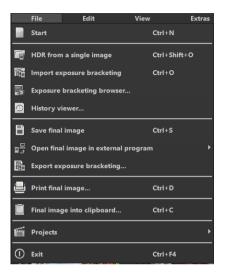
7. Menu Bar

7.1 File

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 → HDR from a Single Image 🖼

To open an image, click **HDR from a single image** (or **Ctrl + Shift + O**).

File	Edit	View	Extras
⬜ Start			Ctrl+N
🖼 HDR from a single image			Ctrl+Shift+O
🖼 Import exposure bracketing			Ctrl+O
🖼 Exposure bracketing browser...			
⏱ History viewer...			
💾 Save final image			Ctrl+S
🖼 Open final image in external program			▶
🖼 Export exposure bracketing...			
🖨 Print final image...			Ctrl+D
📋 Final image into clipboard...			Ctrl+C
📷 Projects			▶
⏻ Exit			Ctrl+F4

File → Import Exposure Bracketing 🖼

In order to open an image, click on **Import Exposure Bracketing** (or **Ctrl + Shift + O**) ... to search for the exposure bracket you would like to edit.

File → Exposure Bracketing Browser 🖼

Select your bracket folder from within the "Source-Folder". **HDR projects 7 professional** immediately begins its calculation process and automatically gathers the best photos from your bracketed series. From here you can then upload your preferred exposure bracket.

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 content with your editing results and would like to save your image, click on **Save Final Image** (or **Ctrl + S**).

File →Open Final Image in External Program

If you would like to continue editing your current image in another program, you don't even need to leave **HDR projects 7 professional**. For this, simply click on **Open Final Image in External Program**.

File → Export Exposure Bracketing

Select **Export Exposure Bracketing** in order to save your edited exposure bracket and open it in an external program.

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've already begun a project in **HDR projects 7 professional** and would like to continue editing, open the file by clicking on **Projects**.

File → Exit ⓞ

Click on **Exit** (or **Ctrl + F4**) to close **HDR projects 7 professional**

7.2 Edit

Edit → RAW Processing **RAW**

Whenever you want to easily edit a photo, simply click on **RAW Processing** to do things like alter colours within the photo or distort the image (please see 21. RAW Processing)

Edit → Edit Exposure Bracketing 🔳

HDR projects 7 professional utilizes a complex process to filter out all accurately exposed pixels and combine them into one image (please see 16. HDR Creation and RAW Image Editing).

Edit → Edit Weightings 🎚️

The Weight Painter is a tool used for manually editing individual HDR images in a series in order to selectively alter specific regions of the photograph. (Please see 17. Edit Weighting with HDR Painter).

Edit → Post-Processing 📖

Once you have edited or removed noise from an image, you find your-self in Post-Processing Mode.

7.3 View

View → Information Windows ⓘ

This window displays all exposure bracket infor-mation regarding the preset settings.

View → EXIF Infor-mation Window 🖳

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

View	Extras	Add-ons
ⓘ **Information windows**		Ctrl+I
🖳 **Exif information window**		Ctrl+E
📶 **Histogram**		Ctrl+H
⛶ **Full screen view on/off**		Ctrl+F
▦ Interface style... (dark grey)		▶
🅰 Font		▶
🅰 Font size		▶
▦ Frame colour: grey card -> automatic		
↻ Restore window defaults		

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 ever feel distracted by the task bar, you can toggle between a normal and full screen view by clicking on **Full Screen View On/Off.**

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

Clicking on **Interface Style...** will allow you to alter the colour scheme for **HDR projects 7 professional.** The colour scheme you have currently selected will appear in brackets.

View → Font 🅰

Choose your individual font from all compatible and loaded fonts. **HDR projects 7 professional** now displays the entire interface in the font you have selected.

View → Font Size... 🅰

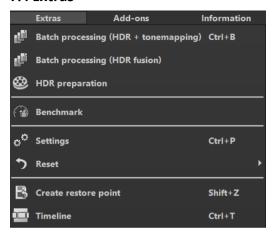Change the font size levels between small, medium and large.

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 (HDR + Tonemapping)... (Ctrl + B)

Batch Processing in **HDR projects 7 professional** enables the automatic processing of multiple bracketed series.

Extras → HDR Preparation

Here you can begin to prepare your images prior to HRD Creation (please see 8. HDR Preparation)

Extras → Benchmark

If you would like to test 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.

Here the text size can be scaled in 4 sizes.

Extras → Settings (Strg + P) ⚙

Here you will find the various configuration options adaptable to your unique preferences offered in **HDR projects 7 professional.**
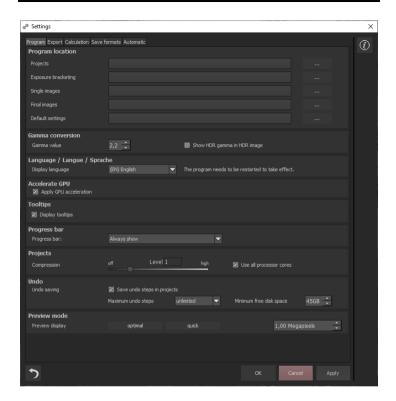
Program: Program Location

Here you can determine to which folder to save your projects, exposure bracketing/ photo series, final images and default settings.

Program: Gamma conversion

You can enter the development gamma value for all floating point file format HDR images (i.e. *.hdr and *.exr files) you load or save.

Program: Language

Here you can change the **HDR projects 7 professional** program language to either German, English or French.

Program: Accelerate GPU

Here you can choose to either activate or deactivate graphic card computing speed acceleration.

Program: Tooltips

Hovering your cursor long enough over specific tools or menu options will prompt the display of a short text offering an explanation of the function or tool. This is called Tooltip. Tooltips can also be deactivated here if preferred.

Program: Progress bar

During processing of effects in **HDR projects 7 professional,** processing will be displayed with the help of a progress bar. Here you can decide when and whether to display the progress bar.

Program: Projects

When selecting the compression level, you are deciding how much storage space will be allocated for each one of your projects. At the same time, you are also deciding on how quickly the storage is performed. A lower level saves the projects faster, a higher level reduces the amount of storage space available on your hard disc.

Program: Undo

With the option "**save undo steps in projects**", you can save all undo steps within the project file. The undo-steps will then be completely reproduced when the file is opened. This creates a significantly larger project file. Set the **maximum** number of **undo steps** (1, 5, 10, 20 or 50). If you do not wish to set a maximum, select "unlimited".
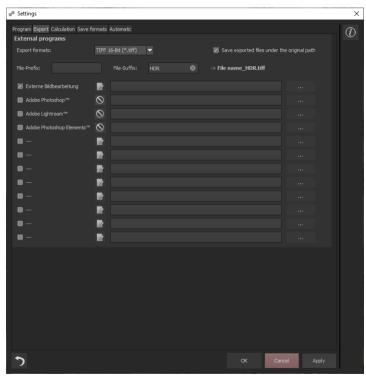
The **minimum free disk space** specifies the amount of free space on your hard drive that will not be taken up by saving undo steps. This ensures the proper functioning of your operating software. By default, this is set to 10% of your hard disk capacity but can be increased or decreased accordingly.

Program: Preview Mode

In preview mode you can choose between the modes "optimal" and "quick". With the "optimal" mode activated, the preview size is adapted to the size of the original image. It guarantees maximum preview quali-

ty. If the "quick" mode is activated, the preview size is reduced to half of that of the original image. This guarantees you the highest possible speed in preview mode. Moreover, you can set the size of your preview area in megapixels if you have not selected optimal or quick mode). Select a high value if you have a very fast computer.
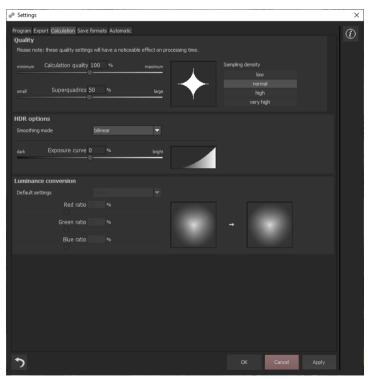
Export

External Programs

Here you can choose in which format **HDR projects 7** will export images to external programs. You can specify as well which programs should be used for external image editing.

Navigate to the file in which the function is installed and select it.

Calculation

Quality

The **Calculation quality** is a measure of the size of the area of influence around a given pixel used when it is calculated in an algorithm.

Superquadrics describe geometrical forms (in this case, areas) with specific curvatures. This geometrical form is transferred to the influential area of the algorithms. For each pixel only surrounding pixels that are within its superquadric are considered (shown as a white area). If you want to maximize calculation quality for your shots, push both slides as far right as they go. Remember that this will require far more processing power.

Scanning density: Choose from four options how thoroughly the area of influence is scanned by the different algorithms. The option low provides fast results with lower quality, while the very high option provides the highest quality at the expense of processing time.

HDR options

There are two settings in HDR options:

Smoothing mode

There are four algorithms available for smoothing HDR weighting matrices.

(a) linear smoothing is the simplest form of smoothing and is best for soft shots such as landscapes.

(b) bilinear smoothing is a squared smoothing technique good for shots with some details.

(c) trilenear smoothing is a cubed smoothing technique ideal for shots with some but not too many details.

(d) quadrilinear smoothing is smoothing to the power of four and useful for shots with strong or complicated details.

Exposure curve

Use the exposure curve to determine how your exposure series should be converted when optimised. The further to the right you slide the control, the lighter your exposures will become. The exposure curve resulting from the selected value will be shown to the right of the slider.

Luminance conversion

Luminance conversion allows you to determine which colour is valued higher when converted to brightness (luminance). You can select the three usual standard options in default settings. Alternatively, you can set colour weighting directly by using the slider. For this control, the sun of all three colour rations must add up to 100%.

The two colour circles displayed help you to get an idea of how the value you entered affects the various colours. The left-hand circle shows the original colours while the right-hand circle shows the brightness as converted using your values.

Save formats

Jpg

Jpg or Jpeg is the most common and popular format for most cameras and image editing programs. Here you can control the quality as well as optimally compress the image. Compressed images with high quality look better but do require more storage space.

Tif

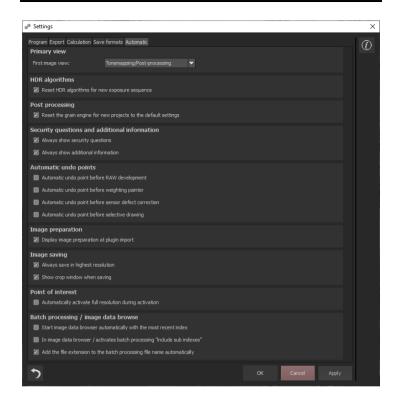Here you can choose between different compression methods for your Tif files.

Png

Png is popular for its graphics and digital visualisation. Here you can choose between a number of compression methods.

Automatic

Automatic: Primary View

Select whether the software should start in the post-processing or directly in the motion analysis after uploading image files.

Automatic: Motion Algorithms

Here you can activate the resetting of the motion algorithms when opening a new sequence.

Automatic: Post Processing

Post-processing automatically sets the corn engine back to its original settings with every newly started project. To use a fixed corn value in batch processing, set this in the program and then deactivate this option.

Automatic: Security Questions and Additional Information

Here you can choose whether or not to display security questions or additional information.

Automatic: Automatic Undo Points

Creates an automatic Undo-Point before RAW development, sensor correction or selective drawing. This creates a definitive starting point after uploading the image.

Automatic: Image Preparation

Displays the image preparation window when images are exported over a Plug-in.

Automatic: Image Saving

Activate the option "always save in highest resolution" and the processed image will automatically be saved in full resolution, even if the preview mode is active. Activate the option "show crop window when saving" and the crop window will automatically be displayed before image saving.

Automatic: Point of Interest

Is this option active, the full resolution image will automatically be displayed when the Point of Interest is started.

Automatic: Batch Processing/ Image Data Browser

Here you can activate the automatic loading with the last used directory when opening the image data browser. You also activate the 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,...) for the file name created in batch processing.

Extras → Reset 🔄

This returns the current user interface to its original size.

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.
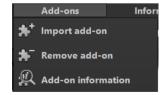
Extras → Timeline (Ctrl + T) 🖼

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

7.5 Add-ons

Add-ons → Import Add-on 🧩

With the help of Add-ons, you can now not only import Presets into **HDR projects 7 professional** but also integrate new Post Processing Modules that gives your Presets with an entirely new look.
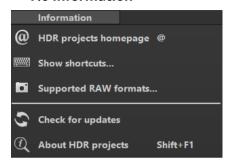
Add-ons → Remove Add-on

This button lets you remove add-ons.

Add-ons → Addon Information

Here you are provided with a display of all information regarding currently active Add-ons

7.6 Information

Information → HDR projects – Homepage

Click here to navigate to the **HDR projects 7 professional** homepage.

Information → Show Shortcuts …

Here you will find all keyboard shortcuts available in **HDR projects 7 professional**

Information → Supported RAW Formats …

A list of all cameras whose RAW Files are able to be opened in **HDR projects 7 professional**.

Information → Check For Updates …

This checks online whether newer versions of the software are available for download.

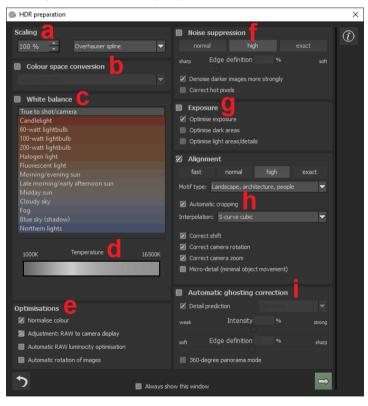Information → About HDR projects (Shift + F1)

Information about the current version, 3rd-Party Software and Credits from **HDR projects 7 professional**.
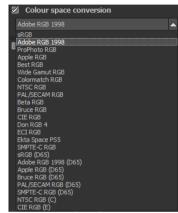
8. HDR Preparation

Here you can precisely configure the program's settings.

For the first steps, please use the standard settings. These default settings can be restored with the arrow at the bottom left. Nothing can be irretrievably adjusted.
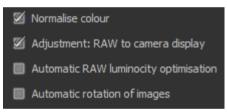
a. **Scaling:** When bracketed series are uploaded, the images can be scaled from 25% up to 900% using any one of 6 different available Scaling Processes.

b. **Colour space conversion**: Advanced users can choose a colour space here - for all other users, it is recommended to not make any adjustments, in order to avoid incorrect colour rendering later. **HDR projects 7 professional** offers several new colour spaces (D65). The **standard illuminant D65** is representative for a phase of natural daylight with the colour temperature of 6500° Kelvin.

☑ Colour space conversion

Adobe RGB 1998
sRGB
Adobe RGB 1998
ProPhoto RGB
Apple RGB
Best RGB
Wide Gamut RGB
Colormatch RGB
NTSC RGB
PAL/SECAM RGB
Beta RGB
Bruce RGB
CIE RGB
Don RGB 4
ECI RGB
Ekta Space PS5
SMPTE-C RGB
sRGB (D65)
Adobe RGB 1998 (D65)
Apple RGB (D65)
Bruce RGB (D65)
PAL/SECAM RGB (D65)
SMPTE-C RGB (D65)
NTSC RGB (C)
CIE RGB (E)

c. **White balance**: Corrects colour casts that occur with shots taken in shooting environments such as warmly lit rooms. To start, leave this setting unchanged.

d. With this regulator one can adjust the **colour temperature** when you´re already uploading. It is advised that you leave the setting on "default" and to regulate the colour temperature later in post-processing.

e. **Optimisations:** The **colour normalisation** turns shadows black and lights white in the picture. During loading the **Adjustment: RAW to camera display** converts the RAW picture so that it's almost the same as the camera preview as well as the file preview. The **automatic brilliance optimisation** for RAW files can be activated in image preparation under RAW options. Frequently it is with camera RAW formats that the image data will not use all tonal values that are available. The automatic brilliance optimisation compensates this with the uploaded RAW images by amplifying the tonal values so that a meaningful utilised histogram is created for every camera RAW image.

In the area for bracketing series this option is **only wise, if you create HDR images from a single RAW.** If the **Automatic rotation of images** is activated, they are automatically rotated according to the Exif orientation.

f. **Noise suppression:** these buttons allow you to select the precision of the noise removal, and the slider regulates the degree of the sharpness for the edges. Here dark images can undergo significant noise removal and

have hot pixels (light spots caused by the camera's sensor in dark situations) eliminated.

g. **Exposure**: can be chosen if an image in a bracketing series is improperly lit and/or blurry, and must therefore be supplemented by the program. With a dark bracketing series, it is recommended to use the "Optimise dark areas" function to remove any colour casts. Light areas and details can also be optimised for bright bracketing series.

h. **Alignment:** Here you can control how individual images within the exposure series are superimposed upon one another. Fixes to the finest movements, unintended zooming, rotation of the camera and micro details can be considered here, however the default setting will most often lead you to the preferred result. Automatic cutting removes edges which appear when overlapping exposures. You can select "Nebula, night sky" or "landscape, architecture, people" or "soft motifs (strong bokeh)" to find the perfect alignment for your picture.

i. **Automatic ghosting correction: HDR projects 7 professional** uses a highly precise ghosting removal to filter out subjects and people moving within the bracketing series, i.e. which appear in different places on the individual images. Without a correction, people or vehicles would appear multiple times as a semi-

transparent blur within your result image and create a complete mess, as they move and are at a different location with each exposure.

Fusing the images without ghosting removal. People are always on the move in a busy train station! Without correction, ghosting always occurs with multiples exposures.

A special procedure is the detailed forecast: It tries to predict movements within the exposure series and thus remove the ghost images more specifically. In addition, the intelligent coordination is adapted to living creatures, landscape, architecture and sport. Here the correction with the setting "creature" works perfectly.

9. Post-Processing: Presets

Just like in the last version of HDR projects professional, after the uploading of images we dive right into post-processing. Here we control the tone mapping of the images, before editing the results with filters and effects.

Left side of the post-processing screen:

Before you begin testing the different Presets when continuing to edit your photos, remember you also have the HDR Style option at your disposal. Here you can choose between options such as "Balanced", "Shade and Light", Fine Details", "Grunge", and "Vibrancy".

The presets show the breakdown of the live preview in categories – „All", „Natural", „Landscape", „Monochrome", „Colour fidelity", „Grunge", „Custom", „Surreal", „Architecture", „Artistic", „Glow" and „Micro-detail" - along the quantity of presets in the appropriate category.

To begin, we've chosen the "Natural balanced" preset. Clicking on the preview image applies the effect to the image in real time, which will then be displayed in the middle of the screen.

Discover the wide variety of different looks by clicking on the 188 different presets. You will be amazed by the intriguing styles in the artistic section!

Image with „Micro-detail Crisp" preset

Image with „Grunge Aura" preset

All 188 **HDR projects 7 professional** presets at a single glance. The bar "default settings" you can detach easily and adjust to the desired size.

> ➢ **Preview Gallery**

Would you like to see all the previews for the loaded image or series? Open up the category "all" and then click on the symbol.

HDR projects 7 professional now constructs a browser gallery with all the presets. For a larger display click on the image.

This very practical feature is reminiscent of good old contact sheets. You can create proofs to assess how the image with your favourite presets would look when printed.

➢ **The variation browser**

The variation browser allows you to choose from different versions of a function and is primarily operated with the mouse:

- **Shifting the segment:** hold down the left mouse button, before moving the mouse
- **Zooming in:** scroll up
- **Zooming out:** scroll down
- **Choosing the variant:** double left click on the image
- **Setting a referent:** left click on the image
- **Comparison with referent:** hold down the right mouse button over the image

The corresponding short cuts you can find under "information -> short cuts".

Click on the symbol and **HDR projects 7 professional** will show you the entire preview gallery of that **chosen category**. Zoom in now on the variant that you want to compare and set a reference image.

This reference image you will be able to put on any image **through a left click** of the mouse. You can fade in this reference image into the other image **by holding down the right mouse button.**

The border surrounding the image in a green dashed line shows you the reference image so that you can make the comparison. In this way you can compare any two variants in the browser directly and visually.

Example: As a reference image you choose the variant "landscape brilliant" and mark the image with a left mouse click. The green dashed line shows that you have chosen this image.

Now you look for a different preview image, in this case Preset landscape bicolour 1 has been chosen.

Right click on the preset landscape bicolour 1 and the refer-ence preset will fade in. As soon as you let go of the mouse button, you will see the Bicolour 1 Preset again. This is how you simply and purposefully compare looks with another before choosing the ones you like the best.

Selection of your desired variation:

With a double click you chose the variant. The relevant program settings will be carried out automatically.

Tip:

Your current choice will, when you open the window, be auto-matically set as your reference image.

> **Combine Presets** [□ + □]

To merge two looks together use the "Combine default presets" button directly under the categories. These new presets will be

saved under "Custom". It's that easy to expand your numerous options and accumulate new ideas!

> **Name Favourites**

Have you found certain presets that you love and instantly want to have handy? Click on the **top right star** in the preset window and add the setting to your favourites. By clicking the button, previews all of your favourite presets will be displayed.
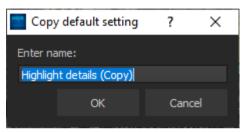

> **Custom Presets**

One thing is certain - regardless of which settings have been changed - If you have applied additional filters or adjusted a filter's settings, the selected preset has been modified with the following symbol appearing to the right of the preview image:

Clicking will reset the preset back to its initial state. Careful: All of the modifications applied up to this point will be undone!

Clicking saves all of the changes in a new preset.

A dialog box will open where you can enter a new name for your preset or confirm the suggested one. The system will name it "Copy".

The preset will be saved and moved to the "Custom" presets category. The new preset has been additionally generated and the starting preset is preserved. You can also never overwrite a default preset!

Let's switch now to the "Custom" preset category.

Here we can find our first custom preset.

There are a few new symbols to the right of the preview image:

⭐ Is this the favourite preset that you have made? Mark it to find it right away next time!

+ Have you changed this preset and don't want to lose this new look? Then create a new one!

⟳ Reset the most recently changed settings for the newest preset.

🖫 You have readjusted once again? No problem. Save the changes with the disk symbol.

✎ Change the preset's name.

– You can also delete your cus-
tom preset entirely.

🔍 Use this to enter a search
filter. For example, enter the
search filter "Colour play", and
subsequently type the term into
the search filter bar directly under
"Import". All presets with this search filter will be displayed.

You can enter the names of places you've visited on holiday and all of the presets that you used for those specific holiday photos will then be easy to find and to apply to other pictures.

The filter drop down menu to the right already contains "Colour play". Simply select it from the entered search filters.

➢ **Save Undo-Point**

With the Save Undo-Point Function you can save your edits to an image at different intervals and later view these in the Timeline and pick up where you left off.

➢ **Timeline**

In the Timeline you can view and directly access all saved Undo-Points.

➢ **Image Sequence View**

Image Sequence View lets you view all sequences of your image or series at a glance.
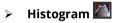

➢ **Panoramic View**

Panoramic View enables you to take an even closer look at your image by displaying it as a panorama image.
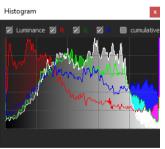
➢ **Comparison View**

Do you want a comparison to the HDR image without tone mapping? Simply right click on the middle of the image to see the before/after result.

A quick check on the editing process is available at any time. For an extensive overview with selectable areas and luminance display, click on the symbol bar.

➢ **Histogram**

The Histogram shows the distribution of tonal values within your image.

➢ **Real Time Processing**

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":
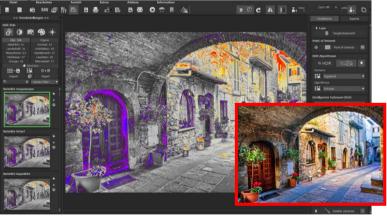
➢ **High-Quality Display**

Activate this option to see the preview image in high-resolution. If the preview is set at 100%, there will be no difference. If you zoom in on a section of the photo however, there is a noticeable difference in quality.

➢ **Border Pixel Display**

The border pixel display helps to reveal areas that tend towards maximal light and dark values that is to white and black. Dark border pixels are depicted by blue/ purple and light pixels by orange/ yellow.

Depiction of border pixels in purple and orange tones.

If you would want to brighten this image, you have to be careful of the orange border pixels. Light surfaces on the car and the walls should not become too white, in order to avoid losing detail. In technical terms, these patches are called "burned

highlights". The border pixel view helps to find these critical image areas

> **Symbol „original resolution setting"**

With this pushbutton you will set the zoom factor on the original resolution.

> **„Increase the Zoom factor to screen size"**

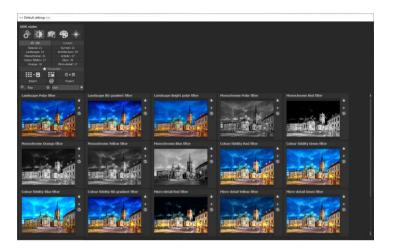With this symbol you will enlarge the zoom factor to the maximum possible screen size.

> **Import/Export from Presets**

| Import | @ | Export |

Presets from earlier versions can be easily imported. Do you wish to exchange all of your presets with a friend or just secure all of your treasures? Use the practical export function.

> **Filter presets**

Locating presets can be difficult when you have imported presets or created many additional looks. For example, enter "filter" into the search bar and only presets relating to "filter" will be shown, e.g. "red filter", "gradient filter" or "polarising filter". This makes the search a lot easier.
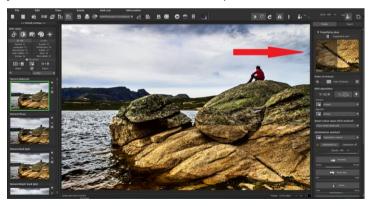
10.Post-Processing: Finalisation

Now that we have understood the most important part of post-processing, let's move on into the fine-tuning. This can be found on the right side of the screen under "Finalise". These features are intended only to be used to continue to edit pictures after selecting a preset.

> ➢ **The magnifying glass**

On the right-hand side (at the very top) in Post-processing you will find the 1:1 magnifying glass. The magnifying glass shows you the area under the mouse in a 1:1 pixel view.

When clicking on the magnifying glass, the compare window will appear. This compares your edited image and the original image. It simultaneously gives you the opportunity to examine the comparison through the magnifier display.
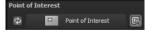
To keep the magnifying glass on a specific point, press down on the "L" key, while you move the mouse over the screen.

Click into the image area of the magnifying glass, to change between the display modus "divided before/after comparison" and "direct before/after comparison". To unlock the locked area, press the L button again.

> **Point of Interest**

Activated "Point of Interest" renders current edit only to a specially defined area of the image. The effects will be applied in their full form, however only visible in the specified spots, the

rest of the image will be left unaffected. This effect is intended for very large, high-resolution photos, e.g. panorama pictures.

> **HDR/Ultra HDR**

This technology describes the art of fusion of bracketing series images. Ultra HDR processes up to 30 intermediate images between two photos with 64-bit precision. The result speaks for itself, and clearly shows a more detailed picture, especially in difficult situations, for example when shooting directly against the light.

The strength of Ultra HDR can be seen in sensitive situations: the sunlight in the image on the right is significantly more detailed and less overexposed.

This highly precise calculation system can be applied to specific types of motives: daylight, landscape, twilight, architecture, interior, night-time and mixed light.

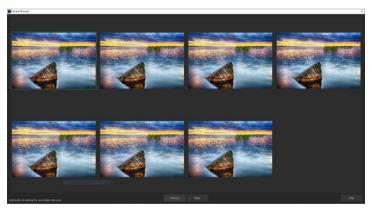These settings can be accessed in post-processing at any time.

> **Ultra-HDR mode "highlight boost"**

Activate the „highlight boost" to create a lot more realistic HDR-photos in the 64-Bit-Ultra-HDR-Fusion. This mode is especially helpful when it comes to difficult lighting conditions. The „highlight booster" is activated by default and enables you to bring to life even the most subtle details within your photo.

> **Scenario**

Additionally, the HDR fusions can be influenced by different scenarios. If you would like to adjust your result to a certain lighting, select one of the following seven scenarios: "Daylight", "Landscape", "Twilight", "Architecture", "Interior", "Night-time" and "Mixed Light". The scenario option has an overview of all of the possibilities that can be directly applied with just one click.

> **HDR-Algorithms**

Here a mathematical equation is used to determine the weighting of each individual exposure in a series - pixel for pixel. Every algorithm has a different effect depending on the

bracketing and subject. There is no right or wrong here, rather your originality is in command. Test your bracketing series with different algorithms and see how they affect your photos. Tip: The HDR algorithm "Entropy", in most cases, will yield a finely tuned and detailed result in all tone values.

➤ Intelligent Colour Space (SCA Method)

This menu offers you options for optimal colour detail grada-tion of your tone mapping re-sults. Selecting SCA method (Smart Colourspace Adaptation) demonstrates differences in the details of more saturated col-ours.

Tip: With "Supersampling" you will get exceptional details and saturated colours and stark col-our variations around contrast edges.

➤ Optimisation assistant

The optimisation assistant is a very efficient tool for fast, fascinating results.
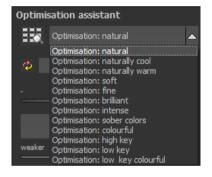
When the preset is activated, **denoising, tonal value, clarity, dynamic and sharpness** settings can all be adjusted by sliding the control to the left or right. The result can be seen live.

The optimisation assistant is intelligent; it remembers the values you entered, and applies the same settings to the next image in the same way, but tuning the result to the new motif.

If you would like to edit without the assistant, you can simply turn it off. If you would like to turn off the values that have been "learned" so far, click on the ⟳.
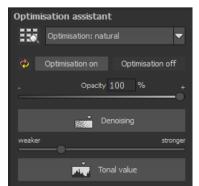
Additionally, the assistant can be given optimising specifications for an entire image style: choose between „naturally cool", „naturally warm", „soft", „fine" „brilliant", „intense", „muted colours", „Multicolour", „High-Key" , „Low-Key" und „Low-Key Multicolour".

> ➢ **The opacity regulator of the optimisation assistant**

The opacity regulator in the optimisation assistant activates itself automatically as soon as one optimisation is activated. The opacity regulator works on every effect that optimises the image as well as the optimising preset-

tings.

Tip:

Put the optimisation presetting in "High-Key" and chose an opacity regulator between 40-60%.

Pro Tip:

Remember that the preset specifications and Optimisation Assistant are added together. If you select the "Surreal powerful colours" preset and the "Intense" optimisation, you will get strong, saturated colours and dramatic contrast. Not to worry, you can quickly change back to the "Natural" optimisation and have the familiar look of the "Surreal powerful colours" again. On the other hand, you can compile new creative ideas and jump between intense, unsaturated and high and low key looks lightning fast.

➢ **Granulation module**

a) Natural grain

In natural grain the different levels of photographic paper are simulated, which creates a natural irregularity.

These following parameters are therefore at your disposal:

> **Form**
>
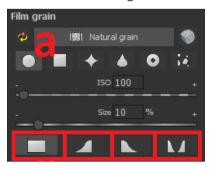> Choose here from six different variants.

- **ISO-Number**
  The preset value conforms to the average "restless value" on a naturally grey surface.
- **Size**
  The maximum size of the simulated grain.

- **Masking**
  Gives you the opportunity to calculate the granulation in all different types of daylight or alternatively in light, shade or shade and light.

A Click on the button creates a new random distribution of grain and therefore a whole new look.

b) Fractal grain

Fractal grain simulates a large-scale irregularity, which is created through the storing and deterioration of photo material. For this, you have the following parameters at your disposal:

- **ISO-Number**

  The preset value conforms to the average "restless value" of a naturally grey surface.

- **Quality**

  Determines the accuracy of the calculation (number of iterations for the fractal algorithm) of the fractal granulation.

  In the granulation module there is no singular best setting, since the ideal grain size, form and quality is 100%

dependant on the motif. Here you can try out different things and find new creative paths.

A Click on the button creates a new random distribution of grain and grants your image a whole new look.

➢ Information and helpful tips on making local adjustments and using Selective Painting can be found in Chapter 12. Local Adjustments/Selective Painting.

11. Post-Processing Expert Mode

The Post-Processing expert mode can be found on the right side of the screen. Here you can configure all postprocessing, try new effects, adjust a selected preset or construct a completely new preset to meet your desires.

Overview of the Tools:

   a) Tone Mapping Algorithms

   b) Post-Processing Effects

   c) Selected Tone Mapping and Effects

   d) Settings for Selected Effects

➢ **a) Tonemappings (14)**

Tone mapping algorithms compromise the dynamic range of images with strong contrast down to a presentable range and serve to improve the quality of the image.

HDR projects 7 professional offers 14 different algorithm options that can be applied individually or combined.

Simply double click on the entry to add the tone mapping to your selected filter.

All tone mapping works by compressing the local tone values and contains an integrated detail enhancer for macro and micro details.

Tone Mapping Contrast:
Contrast Tone Mapping creates well defined shadows and lights and well suited for landscape and architecture photographs.

Tone Mapping Brilliance:
Brilliance Tone Mapping creates a soft luminosity in the shot and is suitable for broad palettes in motifs.

Tone Mapping Colour Fidelity:
The newly developed colour fidelity processing works with maximum precision for colours in tone compression and is exceptionally suited to shots with intense colours.

Tone Mapping Gradient:
The tone mapping gradient algorithm has a substantial effect and is well suited to subjects with weak colours and high contrast.

Tone Mapping Gradient Luminance:
This process is a modified version of the gradient process, and especially enhances lighter areas.

Tone Mapping Constant Gradient:
This option yields best results for subjects with mainly middle colours.

Tone Mapping Averaged:

Tone mapping middle values is a very stable process and suitable for almost every subject.

Tone Mapping Averaged Exponent:
This effect is stable and works best for dark areas. It is especially well suited to tunnel and archway shots.

Tone Mapping Averaged Gradient:
This process was specially optimised for dark bracketing. Dark areas will be significantly lightened even with slight intensity (tone compression).

Tone Mapping Quotient:
This is a general tone mapping process that neutralises a colour saturated image, when compared to the effect of a gradient process.

Tone Mapping Sigmoid:
The sigmoid function is specialised for scaling brightness of motives with drastic highlights.

Tone Mapping Surreal:
A very intense feature and therefore a good basis for extreme HDR images.

Tonemapping Intense:
Intense tone mapping works with a high bandwidth of tone com-pression and therefore can be very effective for both dark and light bracketing series.

Tonemapping Retina:
The new tonemapping „Retina" offers colour fidelity and a „toal value" which matches the human eye's colour perception. It is particularly suitable for pictures with high contrast.

➢ **b) Post Processing Effects (126)**

The list includes 126 different post-processing effects that can be freely applied and combined.

The effects are divided into seven categories, each with a corresponding background colour.

Black: masking effects

Yellow: border effects

Green: geometric effects

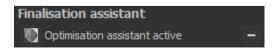**Turquoise**: exposure effects

Blue: colour effects

Purple: diffusing effects

Pink: artistic effects

Tip: If you are looking for a certain effect and know its name or part thereof, you can save time by using the search bar.

When you are applying new post-processing effects, check to see if the optimising assistant is active. If it is, please remember that effects will act differently, and sometimes more extreme. When constructing or enhancing a preset, it is best to turn it off. (Button above the tone mapping).

Finalisation assistant
Optimisation assistant active

Filter (126/126)

Maskierung - Details	Linsenkorrektur	Chromatische Korrektur (CA)	Warp
Maskierung - Farbanteil Blau	Offset	Farbbalance	Bleistiftzeichnung
Maskierung - Farbanteil Grün	Perspektive korrigieren	Farbdynamik	Comic-Stil
Maskierung - Farbanteil Rot	Spiegelung horizontal	Farbfilter	Farbton ausblenden
Maskierung - Farbsättigung	Spiegelung vertikal	Farbkanal Gammakorrektur	Farbton isolieren
Maskierung - Farbton	automatischer Schwarz-/Weiß...	Farbkanal Gradation	künstlerischer Detail-Verstärker
Maskierung - Glatte Bereiche	Bleach Bypass	Farbkanal Gradation (Log)	Lichtschein
Maskierung - Gradation	Dunst + Nebel reduzieren	Farbkanäle mischen	Linsenreflexion
Maskierung - Helligkeit	dynamische Helligkeit	Farbleuchtkraft	Miniaturwelt
Maskierung - Lichter		Farbpalette	Pop-Art
Maskierung - Mitteltöne	Filmkorn - Analog	Farbtemperatur	Posterize
Maskierung - Schatten	Filmkorn - Digital	Farbton korrigieren	Rahmen
Maskierung - Schwarz-/Weißp...	Filmkorn - Fraktal	Farbton-Sättigung-Belichtung	Solarisieren
Maskierung - Verlauf	gewogener Schwarz-/Weißpu...	Farbtöne anpassen	Spiegelung
Maskierung - Vignette	Gradationskurve	Farbtöne belichten	Unter Wasser
Maskierung entfernen	Gradationskurve (Log)	Farbverlauf	Wachsbild
Detail-Verstärker	Graustufenumwandlung	Foto-Reflektor	Weiches Relief
Dilatation	Helligkeit-Kontrast-Gamma	gewogene Farbkanäle	Wellenverzerrung
Entrauschen - Banding	Helligkeitsverlauf	Lichter & Schatten färben	
Entrauschen - Farbwolken	Histogramm Abgleich	lokaler Farbkontrast-Ausgleich	
Entrauschen - glätten	Lichter & Schatten anpassen	manuelle RGB-Punkte	
Entrauschen - Hotpixel	Lichttuner	manueller Weißabgleich	
Entrauschen - konturiert	lokaler Kontrast-Ausgleich	Negativ	
Entrauschen - mehrfach	manueller Schwarz-/Weißpunkt	Normalisieren (RGB)	
Entrauschen - weich	Normalisieren	Originalbild einblenden	
Entrauschen optimieren	Randlicht-Verteilung	Polfilter	
Erosion	Spitzlichter restaurieren	RGB Transformation	
Farbton Detail-Verstärker	Streulicht reduzieren	Sepia Tönung	
Himmel entrauschen	Struktur optimieren	Aura	
Schärfe optimieren	Vignettierung	detailerhaltende Weichzeichn...	
Schärfen - fein	Weiche Details	Farbton Weichzeichnung	
Schärfen - HD	Weicher Kontrast	Fokus-Vignette	
Airbag Verzerrung	Weiß & Schwarz Korrektur	Gauß-Weichzeichnung	
Auflösen	Zentrum belichten	Glamour Leuchten	
Chromatische Verzerrung	Ausbleichen	Intensiv-Leuchten	
Drehung & Zoom	Automatischer lokaler Weißa...	RGB Weichzeichnung	
	Chromatische Aberration redu...		

Overview of Post-Processing effects in HDR projects 7 professional

➢ **c) Select Effects**

Have you found an effect that you would like to try out? Simply double click on it in the post-processing effect list.

The effect will now be shown in the block below called "Effects you have selected".

The block of selected effects is the heart of the tone mapping and post-processing area. It includes all of the post-processing effects and the set-tings for each individual effect.

The filters in the example are auto-matically applied one after the other to the HDR image and lead to the result tone mapping image.

To temporarily deactivate an effect, simply click on the box beside the effect's name and remove the checkmark.

Double clicking on an effect removes it from the list.

Effects can be sorted at will by dragging and dropping them up or down the list.

One click on Result to Original will copy your image result into the pro-gram as its own original image. This allows for the creation of an export within the program itself.

Tip: The order of the effects within the list can have a substantial effect on the resulting image. It's worth playing with!

Activate the 360° panorama mode in the bottom left box to prepare your images for a perfect panorama stitching. The images will be optimised, so that no borders can be seen when the panorama is assembled.

The context menu for the effects you have selected has numerous functions that allow you to activate, deactivate, move or duplicated effects.

Smart-Mask-Filter

HDR projects 7 professional calculates the selected effects from top to bottom. This means that the order of the effects within the list can have a significant influence on your result image. For example, if you activate the effect "Masking Lights", all subsequent effects will only affect the lights in your image.

Below the selected effects display, you will also find the "Copy result image to original" function. This sets the current event image as the new original image. Use this function to save calculation time for many effects.

> ➢ **d) Settings for selected Effects**

Settings for the selected effects can be found directly below the block for the effects you have selected. The parame-

ters for the currently selected effects will always be shown here.

The available settings and options change depending on the effect you click on. There are sliders, gradation and mask curves, colours and pipettes etc. Alternatively, a numerical value can be entered into the box above the slider.

In the example, we see the parameters for "Colour Balance", which consists of three controls for balance: cyan-red, magenta-green and yellow-blue. Sliding the controls instantly adjusts the image. The adjustments will be immediately portrayed in the result image. You will also see a colour flow within the controls, which will give you a direct indication of how the new value will affect the photo.

Adjusting the cyan-red and yellow-blue values creates a signifi-cantly warmer feeling for the image.

Example Mask Curves

This curve regulates the intensity of the effect for particular bright areas of the image. When you pull a point downwards, pixels with this brightness will be

impacted less by this specific effect, and vice versa.

Here as well you will find on the top right hand side a choice box with presettings. The setting "bright lights" has been chosen as an example.

For the gradation curve in this example, this means the lights in the picture will be brightened, and the dark roots exempted in order to create a striking contrast. This is how mask curves give you the opportunity to selectively influence images.

During the editing, the preview behind the mask curve immediately shows the effect's intensity from black (no effect) to white (full effect).

Layer Processing Methods

These features determine the way that an applied effect appears on a layer. Effects can thus be enhanced or reduced, and looks can even be completely changed, which opens up a plethora of opportunities to play with. To apply processing methods, click on the drop down menu beginning with "Normal".

In **HDR projects 7 professional** there are now 18 new layer processing methods in HSV and HSL colour spaces.

HSV stands for Hue, Saturation and Value. HSL stands for Hue (colour angle), Saturation (colour saturation) and Lightness (brightness).

So that you don't have to try out every single effect, we have a layer mode browser:

With just one click, you have an overview of all of the processing methods and can comfortably choose which method fits the effect best. Give it a try! The effects that you can generate with layer processing methods are astounding!

➢ **Selective Editing**

For every single one of the 81 post-processing effects it is possible to apply the selected effect to only a certain area.

Furthermore, specified areas of an image can be influenced at different intensities by different effects.

The selective editing can be controlled in the parameter area of each effect and you can open the accompanying window with the button at the far left.

At the bottom of this window there are three blocks with six, three and two buttons.

6er-Block: add, remove, duplicate, flip and delete the selected areas

3er-Block: various display modes for the resulting intensity of the effect

2er-Block: choice of selected surfaces, very practical if the specified areas are very small or overlapping

You can add up to 32 amplifying (positive) or reducing (negative) areas for the current effect. The size and position can be determined directly in the image, optionally in the corners or on the sides of the area.

The roundness of the rectangle as well as the sharpness and severity of the selected area can be adjusted with the three controls at the top of the window.

The example clearly shows that the „Colour Luminosity" effect has only been applied to the selected section. Since the edge definition is only set to 95%, this area is almost rectangular.
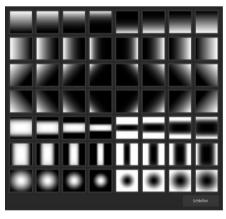
The result will always be instantly displayed upon releasing the mouse button.

> **Selective Editing – gradient module**

You can choose from every post-processing effect in the area of selective editing a course (gradient) of 56 premade models with a single click.

To activate the desired post-processing effect from your chosen effects, click in the underlying parameter area on the gradient-slider.

A window will open with different types of gradients. From there choose with a left click your desired type of gradient.

Tip:

When you choose a gradient model the selected areas (that are possibly already part of the current chosen effect present) will

be copied into the clipboard. The selected areas can be brought back via the insertion of the slider.

> ➤ **Overview of Certain Keyboard Shortcuts**

Cursor Buttons: movement of the currently active selected area.

Ctrl/Alt + Cursor: fast movement of the currently, active, selected area

1,2,3: switch the display mode

Delete: deletes the current, active, selected area

Esc: closes the window

Upon closing the window, the chosen effect will only be applied to the selected area and displayed in the middle of the screen.

You can transfer other effects to the selected area with the "Copy" and "Paste" buttons , without having to retrace the selection again.

 This button deletes all selected areas of the active filter, of course with a confirmation prompt first.

12. Local Adjustments and Selective Drawing

The selective highlight tool from **HDR projects 7 professional** deserves very special attention. Firstly, this tool selectively edits chosen areas without complicated masks done by hand, like other photo editing programs. **HDR projects 7 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: „Correct red eye", „Beauty", „Shading", „Illuminating", „Intensifying colour", „Reduce colour", „Strengthen details", „Reduce details" and „Sharpen", etc…

These masks can even be saved as its 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
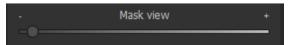
4. Run the mouse over the contours without clicking. You can decide and correct the brush size afterwards.

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.
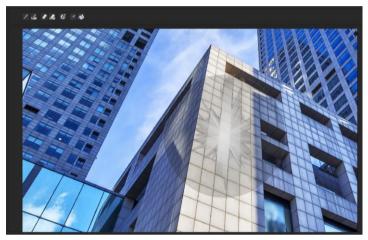
11. Every selectively applied effect can be activated and deactivated with the green checkmarks.

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.

Pro Tip 2: If you would like to incorporate sections of your original image into the edited image, you should work with bracketed series. Recommended here is the use of at least three different exposures.

This dark field will serve as an example:

After uploading the bracketed series, select a preset you would like to use and make further improvements to it using any of the various editing options.

The edited version now appears much brighter:

Because the edited field appears unrealistic, the darker field from the original image is taken. For that you change to the selective painting and choose "show original image" as mask function.

Adjust the size and opacity of the brush and select the whole field. Now you can move the mask intensity control to the left to blend out the mask. The field is optimally exposed if you adjust a medium intensity for the effect.

As a result the field is darker, but there is still a HDR effect recognisable:

Functions and Possibilities in Selective Drawing

- **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**
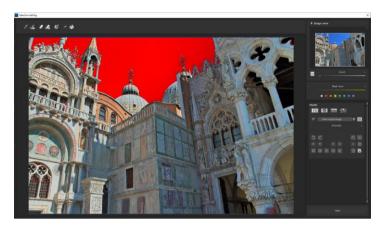
Masks can also be created from a colour or brightness.

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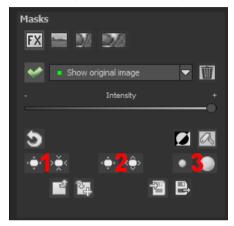
The smoothing brush (1) gives you the opportunity to draw selective areas of the mask softly.

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.

1. Reducing the entire mask outline

 becomes

2. Increasing the entire mask outline

becomes

3. Soft-focus effect on the entire mask

becomes

With global functions there are two buttons – the left button fulfils the function with a lower effect while the one on the right with a bigger effect.

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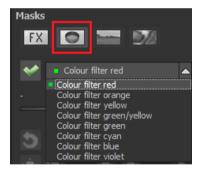
Every mask can be reset to its original state without effecting any other masks. Simply click on the waste paper button **(1).**

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

- **Colour filter in selective drawing**

In addition to effect masks you will find the field of colour filter masks. Click on the dropdown menu to choose one of the following filters: red, orange, yellow, yellow-green, green, cyan, blue and violet.

- **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".

13. 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 application

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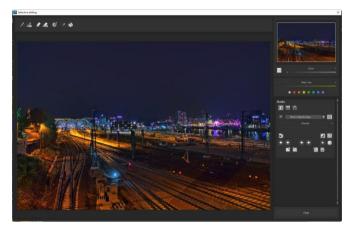
This function allows the image layer to be mirrored vertically. This enables more precise adjustment to the current image without having to make changes to the image layer.

(9) The Control-parameter
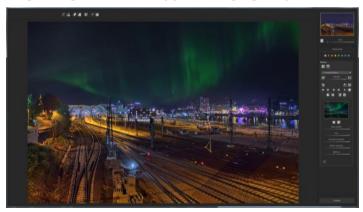
Width-to-height ratio: If the width-to-height ratio isn´t fixed with the button **(6),** you will be able to change the width-to-height ratio however you desire.

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. Texture Masks

The texture module of **HDR projects 7 professional** in Selective Drawing allows you to add textures and materials to your image. By clicking on the corresponding symbol, the texture selection appears.

Here you can find the 64 different textures you have at your disposal. These can be applied to your image on up to 16 different layers.

Clicking on the *Zoom Field* will show all 64 different textures at a glance and allow to choose between them.

For this, simply click on your preferred texture and use the Selective Paintbrush to apply it to your image.
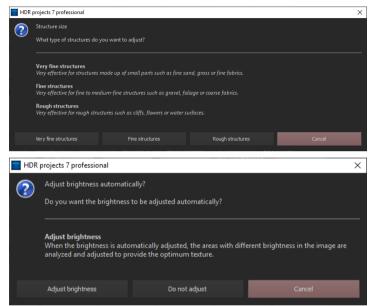
In the Menu at the right of your screen you are given the option to further adjust your chosen textures according to various parameters. The editing possibilities available here include options such as Exposure, Contrast, Zoom, Highlight, Image Structure, Distortion and Colour Variation.

In addition to these, Selective Drawing also includes a module for creating your own textures using your own individual design. Here you can choose between four different automatic edge alignment procedures.

To open the module, move the mouse over a texture until the plus symbol appears: 🔲. This opens the additional functions.

Click on , to load an image file and convert it to a square texture. To save a texture as an image file, click . After you have decided on an edge angle, either a selection for adjusting the structure size or for adjusting the brightness opens.

Save mask: Click on to save the current mask as an image file.

Load image file as mask: Click on to load an image file into the current mask. The resolution of the loaded image file is automatically adjusted to the resolution of the current mask.

It is also possible to import or export textures from the texture database. Click on the corresponding button and choose between import and export of the textures.
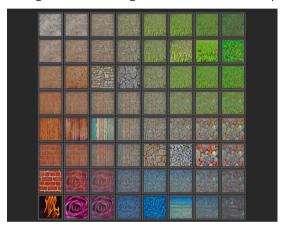
Note: By resetting the database, you can return to the supplied textures at any time.

Click on to reset the texture database to the installation state. If you click on a complete texture database is created from the textures you have loaded.

Generate texture data bank   ?   ✕

Do you really want to generate a complete texture data bank from the textures you have loaded?

Yes   No
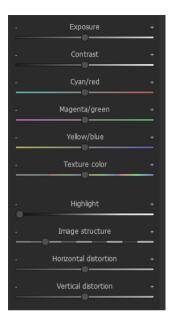
Note: The textures generated with the program are created by fading the surrounding textures around the respective texture.

Use the sliders on the left to adjust the textures.

Exposure
- +

Contrast
- +

Cyan/red
- +

Magenta/green
- +

Yellow/blue
- +

Texture color
- +

Highlight
- +

Image structure
- +

Horizontal distortion
- +

Vertical distortion
- +

Calculation quality - normal

Zoom
- +

Zoom horizontally
- +

Zoom vertically
- +

left   Tilt horizontally   right

up   Tilt vertically   down

Offset horizontally
- +

Offset vertically
- +
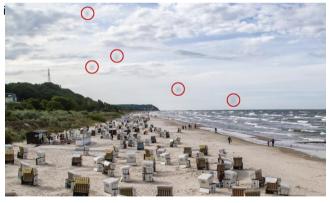
15. Removal of Scratch and Sensor Errors

Micro-contrast enhancement used in HDR photography unfortunately shows every unwanted sensor imperfection that every photographer, despite internal camera sensor cleaning, knows and dreads. Don't stress - just eliminate them! With the easy to apply correction function from **HDR projects 7 professional,** it can even be fun.

Pro Tip: This intelligent correction doesn't only remove sensor spots, but other disturbing things too - a deserted beach has never been so easy to produce.

Simply mark defects in your motif, the program will automatically substitute these areas with other appropriate parts of the

The sensor spots are circled in red

Here's how to go about correcting:

Select the brush tool under **(6)** and click on the point of the image that you would like to correct. A circle will appear beside

it that will serve as a source.

Move this circle to a place on the image that can act as a source for the first marking. The selected area will then be improved based on the source.

Prior to this, you can reveal sensor spots, which will appear as a bright patch in the image, with **(1)**.

(2) Allows you to expose or hide the fixed areas. The corrections are still active, even if they have

been blended in. Hiding is solely to enable a before and after comparison.

You can select multiple areas to correct by simply clicking on the brush symbol **(6)** and adding another point.

The button marked **(3)** can blend the targeted corrections in and out, which also controls clarity.

NEW: Under the quality **(10)** tab, a dropdown menu including five new quality modes allowing you to automatically search for corresponding areas will open. With the different quality levels you can scale how the automatic search proceeds.

Note: This search quality is used for all of the following search area settings.

(5) Deletes the added corrections.

The section marked **(7)** controls the size of the area that is to be corrected.

You also have the option to automatically search for the best source area for the improvement. Click on the **(8)** button.

Button **(4)** calculates the appropriate correction spots for all of the points automatically set using **(8)**.
All currently selected corrections can be deleted with the **(9)** button.

The sensor spot corrector marks all of the patches and determines a source within the image that can be used as a substitute.

Successful sensor spot correction.

16. HDR Generation and Bracketing Editing

What happens in actual HDR image generation in **HDR projects 7 professional** before post-processing has made the image printable and suitable for display on monitors?

In a bracketing series, every individual image area contains a various number of pixels that are either under or over exposed. Let's assume that every section of the **photo is correctly exposed** in at least one of the images in the series.

HDR projects 7 professional uses a complex process to correctly filter out all of the accurately lit pixels and assemble them into one complete image. The process is determined by mathematical commands - the algorithms. Various algorithms influence different HDR results, which depend on the final brightness of the series of images.

The software professionally takes over this process for us. We simply have to attend to the result and decide which outcome is most visually pleasing to us and which HDR image we would like to edit further.

> ➢ **HDR Weighting**

From post-processing in **HDR projects 7 professional**, transfer to HDR generation with this button. We see the work area on the left-hand side for HDR weighting, and HDR algorithms on the right. Your HDR picture will always be displayed in the middle of the screen while editing. At the moment the image doesn't look all that spectacular, but remember that the monitor cannot yet properly show what was actually calculated.

> ➢ **NEW: Presets for the HDR weighting distribution**

Above the actual bracket series you can find presets controlling the automatic settings for global weightings.

The denoising technique „midtones dominate" is set in default.

Even distribution: All pictures have the same influence on the HDR picture and thus create a unique result for every bracketed series. However, some aspects of image noise such as dark exposure may remain.

Master dominant: The master image (centrally exposed image) dominates the fusion of the HDR image.

Therefore, the processed image of the HDR fusion is close to the central exposure but contains additional details from dark and light images.

Lights dominate: The HDR fusion concentrates on the light images, and primarily attempts to determine the details there.

Exposure brackets that are generally very dark are lightened with this weighting algorithm and are thus optimised for further processing.

Shadow dominant: Here, most of the information is taken from the dark images of the exposure bracketing.

Processing leaves your image with the maximum amount of details but also possesses the tendency of intensifying image noise in darker images and is thus suitable for exposure brackets with low ISO value.

Midtones dominate: With this form of weighting, the main information from the images within the exposure bracket which are optimally exposed in the midtones is used.

This method reduces noise and is extremely suitable for dark pictures with high ISO values.

To further fine-tune the weight distribution, you will find the following functions under the presets for weight distribution:

    a. The checkbox at the top left allows you to exclude or activate an image from the series for HDR processing. If you remove a bright picture from the series, the HDR image will be darker in the midtones in certain areas and vice versa.

b. Directly below is the miniature view of the single bracketing exposure. Left click to display the image at full size. Another left click on the mini-picture will return the HDR final image.

c. To the right of the colour view you can see the HDR weighting matrix of the exposure series image. **Bright pixels** mean that this area is very strongly reflected in the HDR result image. **Dark pixels** mean that this area is weak in the HDR result image.

d. The minus button under the weighting colour removes an image from the loaded bracketing series. It is only possible to delete exposures that are above or below the master image. The master image itself cannot be removed and has no minus symbol.

e. The button to the left under the bracketing preview image selects a new master image. You will clearly see a significant difference in the brightness distribution of the HDR fusion.

> ➢ **Synthetic Bracketing**

With help from this exceptional technique, gaps in bracketing series can be filled.

Let's suppose, and this is no individual case, that the longest expo-sure of a series came out somewhat blurry. Click to re-move the image from the series and let the system generate a synthetic bright image for you. All of the shots in the series are already sharp.

This technique can also be used for manufacturing an HDR image out of a single picture. Two synthetic exposures will be generated for an uploaded single image, one with reduced expo-sure time and one with in-creased exposure time. An addi-tional image will be syn-thesised when only two bracketing images are uploaded so that there are always at least three photos available in a bracketing series.

Click on and add anoth-er synthetic image to the series. The original image will always be used as the master image. New images will be labelled as "Synthetic".

> ➢ **Global weight & Exposure value (EV)**

For every exposure in bracketing series, synthetic or real, there are two controls that are very influential on the HDR process:

• Global weight

• Exposure value (EV)

The example shows the master image direct-ly after being loaded. The weighting and ex-posure controls are in the middle. The win-dow to the right of the preview shows how the image is represented in the HDR fusion. Sliding the global weight to the right, raising it, increases the proportion of this image in the final HDR fusion. This can also be recog-nised through a brighter weighting matrix. Here "Bright" does not mean that the image

will become brighter, rather that the shot will compose a greater portion of the HDR fusion. The result can become brighter or darker.
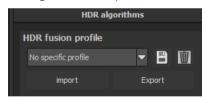
The picture will become brighter once you adjust the exposure control underneath towards "Bright". This adjustment can be applied to each image in the bracketing series and therefore have a substantial impact on the HDR fusion.

Simply try it out! If need be you can set the controls any time back to its original setting.

> **Right side "Edit Exposure Bracketing"**

a. HDR Fusion profiles

HDR fusion profiles are the optimal way to save the HDR fusion settings from an exposure series for later work and reuse them.

- ✓ The following functions are available for the HDR fusion profiles:
- ✓ Selection of a profile in the selection list by clicking on it
- ✓ Saving the current settings as a profile
- ✓ Delete the current profile
- ✓ Import / export of profiles

Which settings are stored in an HDR fusion profile?

Basically, all data of the HDR fusion settings are stored in a profile:

- ✓ The settings of all HDR algorithms
- ✓ The automatic motif brilliance
- ✓ Ghost Correction Settings
- ✓ Contrast range optimization

b. HDR Fusions Method

HDR/Ultra HDR

Ultra-HDR technology for the fusion of exposure series images: Ultra-HDR calculates up to 30 intermediate images between two photos, with an accuracy of 64 bit.

The result is impressive and shows much more detailed images and better results at critical points (e.g. when photographing in direct backlighting), see **Chapter 10 "Post-Processing: Finalisation**". You can also access these settings at any time in postprocessing.

Ultra HDR Mode „Highlight Boost"

The standard activated ultra-HDR mode „Highlight Boos" creates more realistic HDR-pictures. Especially tricky lighting conditions can be mastered with the new mode. It helps to bring all the details in your images to life – details such as hair structure, for example.

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Scenario

In addition, the HDR mergers can be influenced with scenarios. If you want your results to be adapted to specific lighting situations, select from seven scenarios: "daylight", "landscape", "twilight", "architecture", "interior", "night shot" and "mixed light". The scenario browser gives us an overview of all the options that we can set directly by clicking on the picture.

HDR Algorithms

The HDR algorithms are located together with the parameter controls on the right side of the user interface.

An HDR algorithm is a mathematical rule that defines the weights (see weighting view in the exposure bracket) of each exposure bracket image per pixel. Each algorithm has a different effect on the HDR result image and has strengths and weaknesses depending on the subject.

Overview of HDR Algorithms

HDR projects 7 professional offers 13 different HDR algorithms to choose from. Click on the algorithm browser for a quick overview. Here you can choose your preferred settings.

Average: The average is the easiest form of HDR generation and uses the bracketing midtones.

Entropy: In information theory, entropy is a measure of the density of information. When applied to an HDR fusion, the appropriate algorithm measures the density of information of each of the bracketing images pixel for pixel and converts this weight into the HDR generation. The result is a very stable process that is set as a standard algorithm for **HDR projects 7**.

Luminance Distance: Luminance distance applies the average brightness distance in the image as the weighting for the HDR fusion. This algorithm is also a universally applicable process that can be used for almost every bracketing series.

Colourmix: The colour mix process applies the colour proportions of the pixels as a weighting measurement. It is particularly suitable for bracketing series with limited brightness differences in certain areas, for example fog, smoke or cloud shots.

Luminance Entropy: The luminance entropy is a combination of the *Luminance Distance* and *Entropy processes.*

Luminance RGB: The RGB process combines the *Luminance Distance* and *Colourmix* processes into a new procedure which is best suited to landscape shots

Linear Luminance: The linear luminance applies the luminance as the weighting for the pixels.

Logarithmical Luminance: This algorithm works with logarithmic brightness (luminance). This corresponds to the human eye's perception of brightness, which makes this algorithm appropriate for most bracketing series.

Quadratic Luminance: This algorithm works with the fourth power of brightness and is thus well suited to editing bright bracketing series.

Chroma: This algorithm calculates the weighting from the colours of the individual images and is best suited to bracketing series with high colour contrast.

Absolute Distance: A very powerful HDR fusion technique, which combines two essential features. When **HDR Smoothing** is deactivated, all HDR images are free of halos and brightness outlines are avoided.

Luminance Sharpness: For this algorithm, the luminance sharpness (brightness) is determined for each pixel and converted into a weighting. This process yields the best detail for HDR fusions.

Colour Sharpness: The colour sharpness process, like the luminance sharpness feature, determines the sharpness - the level of detail, that is - for every pixel. This technique uses each colour channel, and is thus best suited for bracketing series with intense colours.

Repro neutral: This HDR-process is specially optimised for bracketing series of scanned photo data with normal light situations.

Repro intensive: The Repro intensive HDR-process is built for scanned images with low quality such as images from old Dia-scans. The fusion of images is here clearly carried out even more intensive.

Which algorithm should I choose? If you are not sure which algorithm would be best suited to your subject, use the "Absolute Distance". This one is always a good choice.

Otherwise, you can always access and adjust the HDR algorithms and post-processing/tone mapping at any time.
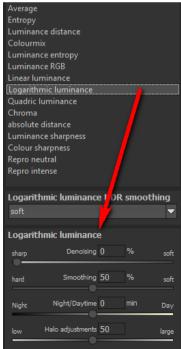
c. HDR Smoothing for Selected Algorithms

Just below the selection list for HDR algorithms is a block with controls for fine-tuning colour sharpness: "Chroma HDR smoothing" from sharp to very soft.

Further parameters for the adjustments of HDR algorithms:

Denoising: Denoising appears directly on the HDR image and the noise removal intensity is also presented as a percent. A value of 0% means that no noise pixel will be removed, and a higher value removes more noise from the HDR image, which would be favoured for sharpening an image.

HDR Smoothing: HDR smoothing directly influences the weighting matrixes that were created by the HDR algorithms. The smoothing intensity is displayed as a percentage, indicating how dependent the result is on the image resolution. A value of 50% means that weighting matrixes will be smoothed by 50% of the image resolution. The smoothing works with the Gauß´schen scrim diffuser.

Night/Daytime: The day and night controls match the HDR algorithms to day or night shots. Move the control to the left for night, when your bracketing series is suited to a night image, and to the right for day, when your bracketing series is suited to a photo taken during the day. You can also just as easily switch the setting to quickly change the picture's mood.

For some HDR algorithms there is an additional feature available, in this example the "Luminance Distance".

Halo Adjustment: The halo adjustment deals with a typical HDR generation problem: the formation of halo effect (HDR shadows). The image on the left has a minor defect, there are halos where the roof meets the sky.

In the right-hand image, the halos were reduced by 85%, so that the halo effect around the roof has disappeared.

The halo control is available for certain HDR algorithms, here the "Luminance Entropy" algorithm was used.
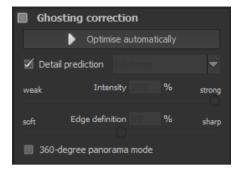
Subject-brilliance: Activate the automatic intelligent optimisation by clicking on the box.
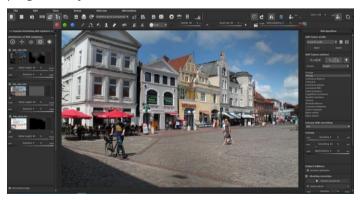
Ghosting correction
(Interactive, automatic optimisation of ghosting correction)

In the area of ghosting correction the automatic optimisation is started by clicking on the "automatic optimisation" button.

Directly on screen you will be to see the optimisation process. Here different parameters for the detail prognosis as well as for the intensity are tested by the program until the best combination is found. This combination will then be inserted into the program for you.

This calculation can take several seconds, depending on the size of your bracketing series.

In the result you will get a HDR-image without ghosting and which through automatic optimisation now includes the maximum possible amount of details.

Tip:

When you adjust the focus of the ghosting correction, you will be able to start the automatic optimisation anew and to receive a new result that is optimal for the new focus.

e. Contrast range
(HDR-contrast range and automatic optimisation)
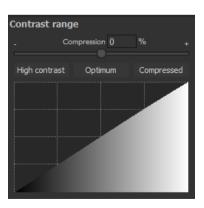
The contrast range of an HDR image is made up of the division between the brightest area of a photo – a photo shot directly into the sun, for example - and the darkest area, so in the shaded areas of the image.

A calculation example:
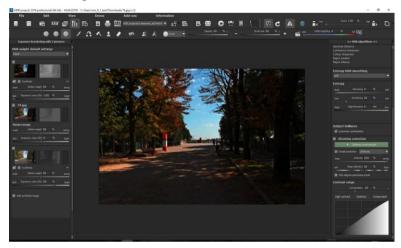
The brightest area of an image has a value of 5 (the value 1 would mean a white pixel in the image) and the darkest area in the HDR image has a value of 0.01.

If one divides now 5 by 0.01 then the resulting contrast rage of 5/0.01 = 500. This means that the proportion between the brightest to the darkest area of the image is 500 to 1.

From this contrast range you can take inspiration from the area "contrast range".

The compression value shows how strong the compression of the HDR image brightness is in comparison to a non-manipulated HDR image. Here it is 0%, since we haven't done any changes yet.

The compression value you can adjust as you wish to. A low value creates a higher contrast range in the HDR image (the HDR is being "stretched" in its brightness). A higher value creates a smaller contrast range (the HDR is being "compressed" in its brightness).

Underneath the controller you will find three buttons, which control the automatic optimisation of the contrast range:

✓ **High-contrast:** Creates a high-contrast HDR image. This is an image with very deep shadows and very bright lights.

✓ **Optimal:** Creates a well-balanced HDR image.

✓ **Compressed:** Creates an HDR image with a small contrast range. This can be helpful with contrast rich bracketing series, since it helps to bring out further details in tone mapping.

As soon as you confirm the automatic mode, you will be able to follow in real time how the best values for your current HDR image are determined searched.

Tip:

This value is for every HDR algorithm different. Therefore it may be a good idea to click on the desired automatic function after changing an HDR algorithm.
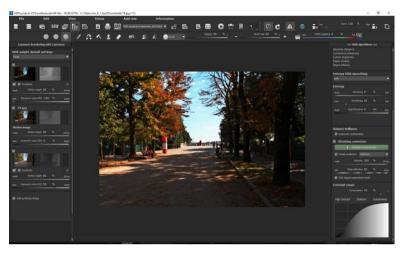
Under the automatic optimisation buttons you will find a curve display. This shows how much the brightness values of the HDR image have been adapted in the contrast range optimisation of the program.

Curve display of the distribution of the brightness value:

High-contrast   Optimal   Compressed

In the above example, we see how the same HDR image with the optimisation "high-contrast" (above image) and the other with the optimisation "compressed" (bottom image) are handled.

17. Edit Weighting with the HDR Painter

HDR painter is a powerful tool to manually adjust certain areas by editing individual images of a bracketing series

Exposure Bracketing View (left): The individual images of a series are sorted into red, green and blue. When the bracketing has more than 3 exposures, the master image will be set as green and the next active neighbouring images as red and blue. If you would now like to make changes to the weighting of a particular image, pay attention to the image's colour and choose the respective colour in the paint symbol bar.

To clarify: The brush does not mean that you are painting colours directly onto the image, you are adjusting the brightness
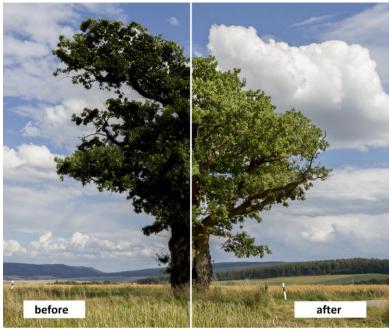
weighting in certain areas of individual images. For example, an HDR result shows a landscape where the exposure is correct everywhere except for the tree in the foreground, which is too dark. Here you can select the brightest image from the series and enhance the brightness of the tree by "painting" the object. The final fusion is a balanced image with a correctly lit tree in the foreground.

Adjusted Weighting:
After drawing, the adjusted weighting can be seen to the right of the individual image. The white drawn strokes mean that you have emphasised the tree in the brightest image and that the tree will be brighter in the HDR result.

The tree was selectively brightened, and this without altering the brightness of the sky, clouds or plains. The diffused brush makes the transitions invisible. The result is a properly weighted image with a correctly lit tree in the foreground. The well structured sky remains in the background.

➢ **Important tools of the HDR-Painter:**

Increase weighting: Draw on the selected area to enhance the weighting of this portion of the image.

Reduce weighting: Draw on the selected area to reduce the weighting of this portion of the image.

Brush size: Adjust the size of the brush.
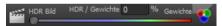
Brush form: With numerous new brushes, you will find the right from for your selected area.

Stamp: The stamping mode not only edits the weighting of the current image but adjusts the weighting of all of the other exposures accordingly. For example, if you use the paint tool to increase the weighting of an area in one image, the weighting of that same section will be reduced in all of the other exposures to amplify the effect.

Blurring: If you want soft transitions between corrected and original areas, trace the blurring function over the borders to soften the transitions.

HDR-image/ weighting: This function mixes the view between the HDR image and the weighting. This is very effective for maintaining control while drawing.

Delete weighting: Delete the drawn weighting for the active image of the series.

Delete all: Warning: This function deletes all of the drawn weightings and returns to the initial settings.

18. Ghosting Removal with HDR Painter

When we manually adjust parts of images, it naturally has an effect on the program's ghost image correction. Ghosting can occur when capturing a bracketing series of a scene where people or vehicles are in motion and thus captured at a different position in every shot. Without the automatic ghosting removal from **HDR projects 7 professional**, the moving objects would appear at a different position in every image, thus causing a ghost-like effect.

Manually removing ghosting:

The following example illustrates how HDR painter can eliminate the regular problem of people walking through a bracketing series.

Here is the example after being uploaded and without ghost removal:

Looking at the image, the people on the left and right are immediately recognisable as ghost images.

Let's remove the ghosting as follows:

1. Find the image in the series displayed on the left that comes closest to the brightness of the HDR image. This is usually the master image or one above/below.

2. Select the button for the appropriate colour for this photo, and **HDR projects 7 professional** will allocate red to this image and automatically open the HDR drawing mode.
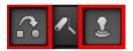
3. Select the "Increase Weighting" function and activate stamping mode.

4. Draw over the people by carefully dabbing with the brush.

5. Select the "Blurring" button and stamping mode.

6. Carefully trace the edges of the correction with the blurring brush. Done!

Switch to tone mapping and select the "Natural sharp" preset to see the result.

The ghosting has disappeared from the HDR image!

Tip: "Dabbing" the brush is the optimal method for best results.

If you would like the program to automatically remove ghosting or you have simply forgotten to activate the ghosting removal in the HDR preparation when loading the images, click on this button to start a new evaluation.

Warning! A new evaluation eliminates all manually re-moved ghosting!
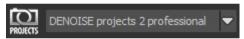
19. Workflow

> ➢ **Edit final image further in an external program**

HDR projects 7 professional offers interaction with external programs. This way you can take a successful HDR result to another photo editing program and continue there.

> ➢ **Open in other projects programs**
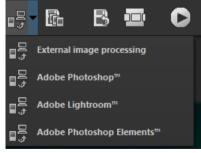
Click on the "Projects" symbol in the toolbar to open the image in a different program from the projects series. Use the drop-down menu beside the symbol to choose one of the programs that you already have installed on your computer.
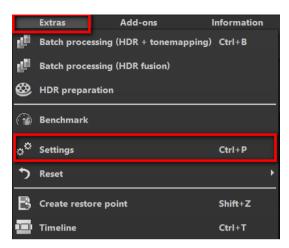
> ➢ **Open in other photo-editing programs**

To directly open the image in another photo editing program, such as Adobe Photoshop, click on the corresponding button in the symbol bar.
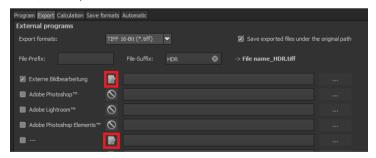
If necessary, go through the settings to show the path to the program. Click on "Extras" in the menu and select "Settings" in the drop-down menu:

Next, click on the "Export" tab. You can enter the name of a photo editing program here, and save it for later as well.

With the exception of Adobe, you have the option to rename the external editors. The name you assign will be displayed in the Quick Export menu in the toolbar of the main screen.

> ➢ **Work with a Timeline and Restore Points**

This option can be found in the symbol bar at the top edge of the screen:

"Create Restore Point" saves a virtual snapshot of the current settings. You can now always return to this stage of your editing. You can save as many editing restore points as you like. The timeline displays the restore points and makes it possible to call up any phase of the editing process with just a single click:

This function is especially useful when, for example, you are satisfied with an image, yet want to continue trying out different settings and effects. Simply set a restore point and carry on editing your picture. If you want to go back, simply click on your restore point in the timeline.

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

20. 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.
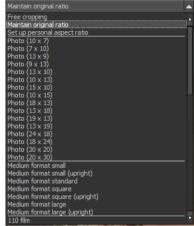
The centre of the window shows your final image. Fix the area to be saved by adjusting the corners and borders of the photo.

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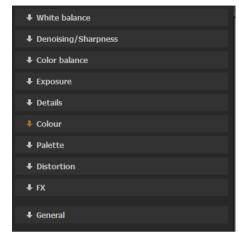
As soon as the image has been cropped and captioned, confirm the save and the following window will prompt you to select a file format and name your file.

21. RAW Processing

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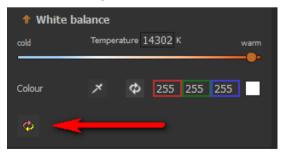
In this RAW mode changes that are made will be transferred onto the entire bracketing series, so that you only have to put in the settings once.

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 counter-act 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:
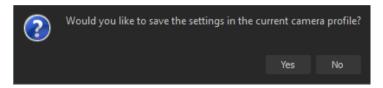
When you take a landscape shot, shift the controller to "Gradient top**"** to a dark tone and create in that way a neutral thick (ND) – process filter.

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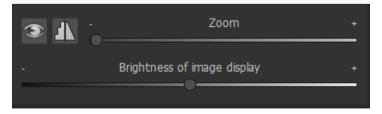
If you save your settings in the camera profile, you will save a lot of time for future photographs. The settings can be reversed at any time

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).

22. Batch processing

HDR projects 7 professional's batch processing allows for automatic processing of multiple bracketing series. The function can be found in the drop-down menu for **"Extras"** in the menu bar.

Here you will find two types of batch processing:

  a. Batch processing HDR + tone mapping

  b. Batch processing HDR fusion

> **a. Batch processing HDR + tone mapping**

First, choose the source folder where the individual images (HDR from one exposure) and/or the bracketing series are located. The files can also be mixed, since the system will automatically recognise and sort the bracketing series vs single shots.

The "Include all subdirectories" checkbox not only searches through all of the selected folders, but also all subfolders and their further subfolders.

Batch processing: Renaming and sorting

In the area of the target folder you will be able to activate the "sort mode". You set thereby the batch processing in the renaming and sort mode.

As soon as the sortation mode is active, new push buttons will appear.

File name filter:

Here you can insert a file name for renaming the image with the help of Syntax:

-Text

##.# for the number of bracketing series, the number of # signs gives the number of places of numbering

-Text

##.# for the number of images within the current bracketing series, the number of # signs shows the lists the number of places that are numbered.

The **file name** "Shooting072016_####_##" creates image data in the form of:

Shooting072016_0001_01.cr2, Shooting072016_0001_02.cr2, … , Shooting072016_0002_01.cr2,   Shooting072016_0002_01.cr2, …

Note: To sort your image data into the data carrier without renaming, leave the file name simply empty.
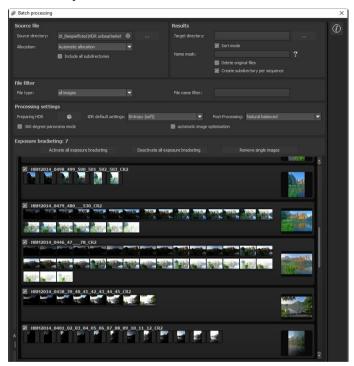
Deleting the original file

This option you should only use if you are absolutely sure that your insertions are correct.

The original data of the image will then be deleted. Only the newly changed sortation and names will remain, the original data of the image will then have been deleted.

Install a subdirectory per sequence:

When this function is active, each bracketed series gets its own subdirectory.

Note: Remember that looking through folders with several subfolders can require a lot of time. This is why selecting "C:\" is not recommended.

> ➢ **Allocation and automatic bracketing recognition**

This feature takes on all of the work for you. Now you can choose between different modes:

Automatic allocation: Loads all of the images and based on the images' content, locates those that belong to an exposure bracketing series. The brightness as well as the coverage are compared, which results in very good automatic recognition.
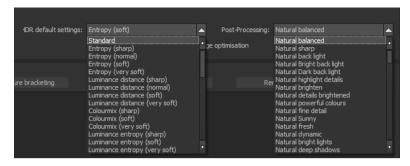
Individual images: The "Individual images" option sorts every image into its own bracketing series. This setting is very well suited for editing image sequences, for example, those generated from footage.

2 image to 9 image groupings: Select this option if you have taken HDR films or are certain that the bracketing series in your folder all contain the same number of shots. The file names for the final images will automatically be successive, so that the edited images can be directly used in a video editing program.

Results: Here you can set where the resulting images of the batch processing will be saved. Select the corresponding folder with the "Target directory (. . .)" button or enter the name of the folder directly into the text box.

Format: You can choose from nine different formats to save your resulting images. With .jpg, .tif and .png, there are two 8-bit formats (LDR) and four 16-bit formats (HDR). JPG images are always the highest quality and TIF files are saved uncompressed and without defects.

For further web editing, the final images can be saved in Open EXR as well as in Portable Floatmap and Radiance RGBE.

> ➢ **Processing settings**

Select the settings for the HDR preparation and tone mapping here. These apply to all of the bracketing series in the batch processing.
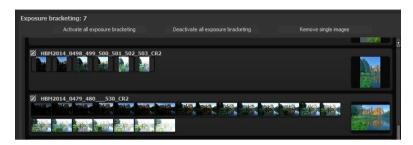
HDR default settings: The HDR default settings offer three to four presets for every HDR algorithm. Simply select your preferred preset from the list.

Post-processing: The presets contain all post-processing/tone mapping presets, including all of the presets from your "Custom" category that you designed yourself. You can also choose a special preset before batch processing and apply it to multiple bracketing series. As soon as the HDR presets and post-processing switch, all of the preview images in the bracketing series will be recomputed, so that you always see a real view of the results.

HDR preparation: Open this dialog to adjust options like colour space, white balance, alignment etc.

Note: Apple computers systematically open this dialog before the batch processing window.

Exposure bracketing view: Here you will find information about the located bracketing exposure series.

At the top of the display is the number of listed bracketing series. Directly below it are three buttons for global activation and deactivation of series.

Activate all exposure bracketing: Activate all corresponding bracketing series for the calculation. (Standard setting)

Deactivate all exposure bracketing: Deactivates all assigned exposure bracketing for the calculation.

Remove single images: Removes all exposure bracketing for single images from the calculation and display. You can use this option if the program develops a very bright or very dark image incorrectly, or if you have taken photos that should not be processed by HDR.

> **Batch processing for HDR fusion**

In HDR fusion batch processing, you calculate the image stacks for the pure fusion HDR images without applying any post-processing or tone mapping filters.

These methods make the most sense when you want to edit the fused results further in other programs or want to create and save pure 32-bit HDR formats.

The available lossless final formats:

- Radiance RGBE (.hdr)

- Open EXR (.exr)

- Tiff 32-bit (.tif32)

- Portable Floatmap 32-bit (.pfm)

23. Via GPS coordinates directly to Open-StreetMaps

If the GPS coordinates are in your Exif-files (Menu → Exif information), then you will be able to locate the place where the photo was shot when you click on the button "Open GPS coordinates via Browser". You will see the place the photo was shot in www.OpenStreetMaps.org.
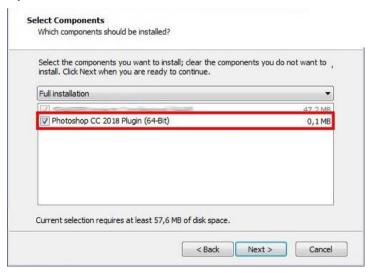
24. Plug-in Installation

HDR projects 7 professional can also be used as a plug-in for Adobe® Photoshop. Newer versions of Photoshop are automatically detected by **HDR projects 7 professional** during installation and the plug-ins are installed in the respective plug-in folder. Older versions of Photoshop might require manual installation.

If you purchased your software as a download or if you have lost your CD, the plug-ins are also available for download at: www.projects-software.de/plugins

24.1 Using Photoshop Plug-Ins in Windows

The following window will appear when installing **HDR projects 7 professional**
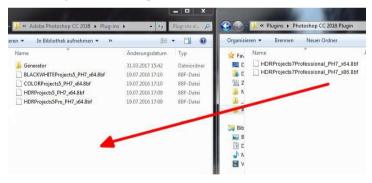
Select the version of Photoshop where you would like to install the **HDR projects 7 professional** plug-in. Click on "next" and follow the instructions from the installation assistant. The plug-ins will then be automatically installed.

Please note: When using older Windows systems, it can occur that not all Plug-ins are automatically installed. Should this occur, simply copy the preferred Plug-in directly into the appropriate folder of your current Photoshop version as shown in the picture below. Should you be using an older Photoshop version, simply copy the lowest Plug-in.
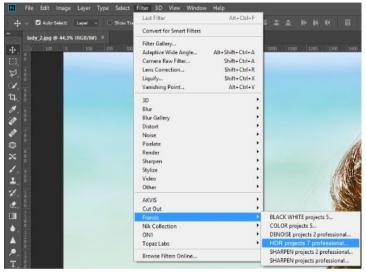
Example: Photoshop CS6 users should copy the Plug-in for Photoshop CS6 and not Photoshop CC 2014. In this case CC 2017. The corresponding Plug-in can be found on the CR-ROM under "Plugins".

The folder can be found under **C:\Programme\Adobe\Adobe Photoshop CC 2017\Plug-ins**
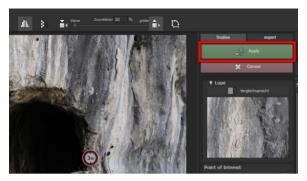
You can also complete the Plug-ins installation at a later date. **Please install Photoshop before attempting to install the Plug-ins!** Following installation of the Plug-ins, please reopen Photoshop.

In Photoshop under the menu tab "**Filters"** you will the entry **Franzis**. All Plug-ins from the projects-collection can be found listed here.

Click on **HDR projects 7 professional.** The image opened and edited in Photoshop will now be opened in **HDR projects 7 professional.**

The program now finds itself in Photoshop Filter Plug-in Mode. You can edit the photo in **HDR projects 7 professional** just as usual. Once you are done editing, you can send the finished version back to its original Photoshop Layer by clicking on "**Apply**".

The "**Cancel**" button closes the Filter Plug-in without sending the changes made to the image back to the Photoshop Layer. Changes made in **HDR projects 7 professional** are therefore discarded.
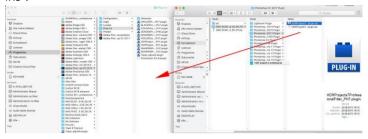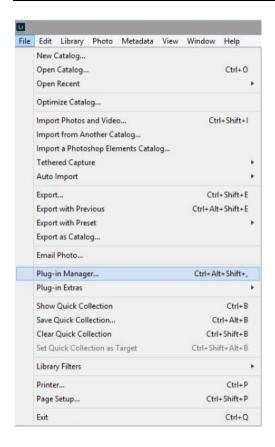
The project program will then automatically close itself. This mechanism is conducted by Adobe Photoshop and cannot be stopped.

24.2 Using Photoshop Plug-ins with MAC OS X

Plug-ins can be found on the start screen in the "Plug-ins" folder. Select the appropriate folder for your version of Photoshop (we chose Photoshop CS6 for our example). Double click the .zip file to extract the plug-ins.

Next, drag & drop the plug-in **HDRprojects7ProfessionalFilter_PH6.plugin** (PH7 with other Photoshop versions) to the plug-in folder for your version of Photoshop, which is normally labelled as "plug-

ins":
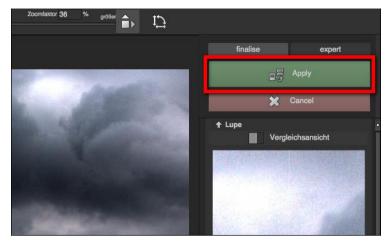
Start up your version of Photoshop, load an image and navigate to **„Menu → Filter → Franzis → HDR projects 7 professional"**

One click will start the plug-in. With a click you start the Plug-In. The image will now be opened in **HDR projects 7 professional.**

Now you will find the program in Photoshop Filter-Plugin mode. You will be able to edit the image as you´re used to in **HDR projects 7 professional.**
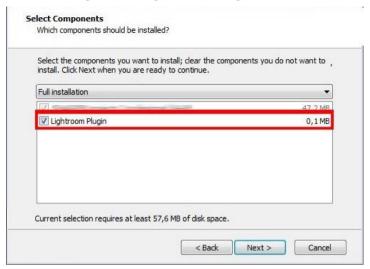
When you´re finished editing the image you can send the image directly back to Photoshop by clicking on the button "**apply**".

With the button "**discard**" you finish the filter Plug-in, without sending the changes that you have done to the image back to the Photoshop level. The editing that you have done in **HDR projects 7 professiona**l will be discarded.

The project program will then automatically close itself. This mechanism is conducted by Adobe Photoshop and cannot be stopped.

24.3 Using Adobe Lightroom Plug-ins - Windows
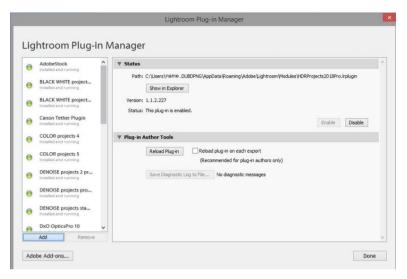
Start the installation program and check in the component selection if "**Lightroom Plugin**" has been chosen

If you have no CD, the plug-in is also available for download at: **www.projects-software.de/plugins**.

Subsequently open your Lightroom version. Start Lightroom and navigate to "**File → Plug-in manager**" to check if the plug-in has been activated.
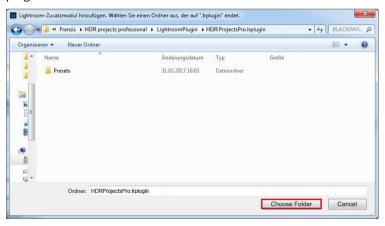
Should this not be the case, you have the additional possibility of manually installing the Lightroom Plug-in by clicking on "**Add**" option found in the Plug-in Manager.

To do this, navigate your way to the Plug-in folder containing Ap-

pData/Roaming/Adobe/Lightroom/Modules/HDRProjects7Pro.lr plugin
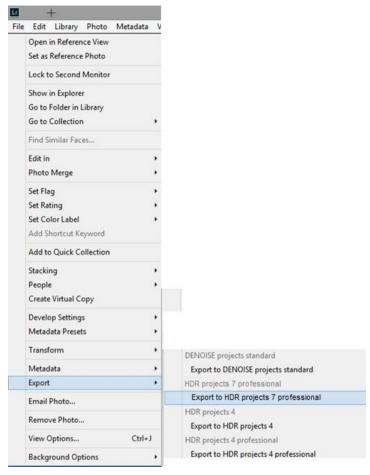
As soon as you find yourself in the folder labeled HDRProjectsPro.lrplugin, click on the option "Choose Folder" to install the Lightroom Plug-in.
Lightroom: **HDR projects 7 professional**: Installed and executed.
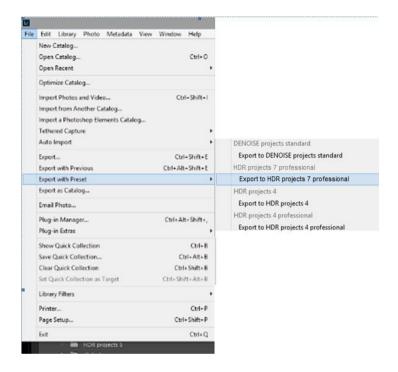
Mark a bracketing series in your lightroom library.

Right-click on the image directly in Lightroom and select "**Export** → **Export to HDR projects 7 professional".**

Or: Choose „**File** → **Export with Preset** → **Export to HDR projects 7 professional".**

24.4 Using Adobe Lightroom Plug-ins - MAC OS X
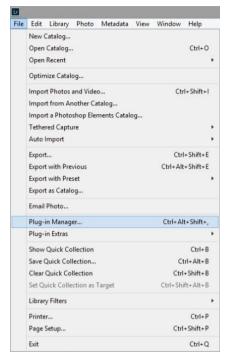
The Plug-In for Adobe Lightroom will not be automatically in-stalled with MAC OS X. To integrate it into Lightroom, continue as follows:

Install **HDR projects 7 professional** to the program link of your Mac.
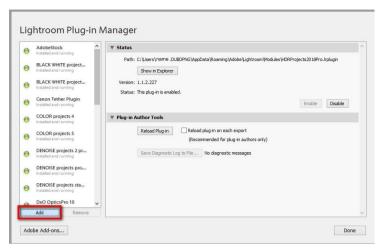
Copy the plug-in .zip file from the "**Lightroom Plug-in**" folder on your CD-ROM. We recommend the folder where also your presets are stored:

"**Users/*username* HDR projects 7 professional**".
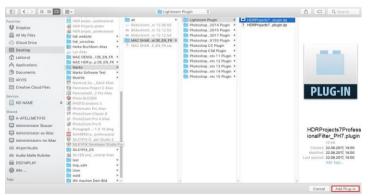
Start Lightroom und navigate to „**File ➔   Plug-In Manager"**.
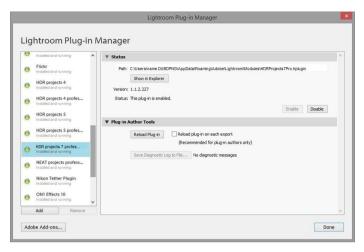
Click the "**Add**" button in the Lightroom Plug-In Manager.

Choose the relevant Lightroom-Plug-In of **HDR projects 7 professional** that you have just copied to your computer, by navigating towards it.
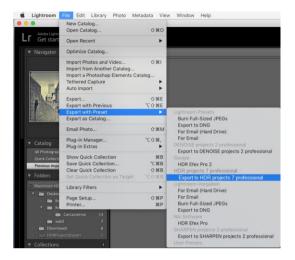

If the Plug-in is not instantly marked with a green active dot, close Lightroom and start it again.
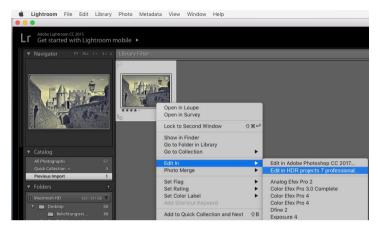
Now the Plug-In should be installed and be up and running.

You have now several options to get your image from Lightroom to **HDR projects 7 professional.**

"File → Export with file → Export to HDR projects 7 professional".

OR:

Right-click on the image directly in Lightroom and select "**Export→Export to HDR projects 7 professional".**

25. 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:

In the overview you will be able to scroll through the different areas, where you can take shortcuts.

General:

Windows	Apple	
Ctrl N	cmd N	New Project
Ctrl Shift O	cmd Shift O	Upload Single Image
Ctrl O Series	cmd O	Upload Image Sequence/Bracketed
Ctrl S	cmd S	Save Image Result
Ctrl D	cmd D	Print Image Result
Shift Z	Shift Z	Create Undo-Point
Ctrl T	cmd T	Open Timeline
Ctrl F4	cmd F4	Quit Program
F4	F4	Open RAW Module
F5	F5	Edit Image Sequence/Bracketed Series
F6	F6	Edit Weighting
F7	F7	Switch to Post Processing
Ctrl P	cmd P	Open Settings
Ctrl B	cmd B	Open Batch Processing
@		Access Homepage
Shift F1	Shift F1	Open About Dialogue
Ctrl I	Ctrl I	Show Information Section
Ctrl E	cmd E	Show Exif-Information
Ctrl H	cmd H	Show/Hide Histogram
Ctrl F	cmd F	Fullscreen Display

Display Functions:

Windows	Apple	
Ctrl +	cmd +	Zoom in
Ctrl -	cmd -	Zoom out
Ctrl 0	cmd 0	Fit Image to Screen
Ctrl 1	cmd 1	100% Display View

R	R	Real-time Mode on/off
L	L	Configure Radar Window (lock)

RAW Development:

Windows	Apple	
Ctrl +	cmd +	Zoom in
Ctrl -	cmd +	Zoom out

Progress Browser:

Windows	Apple	
Image up	Image up	Back one page
Image down	Image down	Forward one page
Pos1 key	Pos1 key	To the Beginning
End key	End key	To the End
Cursor left	Cursor left	Previous Item
Cursor right	Cursor right	Next Item

Variation Browser:

Windows	Apple	
Ctrl +	cmd +	Zoom in
Ctrl -	cmd -	Zoom out
Cursor left	Cursor left	Shift View to the Left
Cursor right	Cursor right	Shift View to the Right
Cursor upwards	Cursor upwards	Shift View Upwards
Cursor downwards	Cursor downwards	Shift View Downwards
Ctrl 0	cmd 0	Show All
Space Bar	Space Bar	Center View
Enter Key	Enter Key	Select Item

Weight Painter:

Windows	Apple	
1	1	Choose Red Brush Tool
2	2	Choose Green Brush Tool
3	3	Choose Blue Brush Tool
Ö	Ö	Increase Brush Size
#	#	Reduce Brush Size
Ctrl G	cmd G	Calculate Automatic Ghosting Correction

Sensitive Selective Painting:

Windows	Apple	
Ctrl +	cmd +	Zoom in
Ctrl -	cmd -	Zoom out
Ctrl O	cmd O	100% Display View/Adjust Fit
A	A	Activate Brush Tool
Shift A	Shift A	Activate Brush Tool with Limit
S	S	Activate Eraser Tool
Shift S	Shift S	Activate Eraser Tool with Limit
W	W	Activate Blur Tool
E	E	Activate Image Mask Creator
D	D	Activate Fill Mode
F	F	Activate Brush Fill Mode
R	R	Activate Brush Streak Mode
1	1	Reduce Brush Size
2	2	Increase Brush Size
3	3	Reduce Opacity
4	4	Increase Opacity
5	5	Soften Outline Recognition
6	6	Sharpen Outline Recognition

7	7	Reduce Blur
8	8	Increase Blur
Ctrl Z	cmd Z	Back One Step
M, Shift M	M, Shift M	Mask Display On/Off

Scratch and Sensory Error Correction:

Windows	Apple	
Ctrl +	cmd +	Zoom in
Ctrl -	cmd -	Zoom out

Cursor left, Shift Cursor left, Ctrl Cursor left Region left	Move Active Correction
Cursor right, Shift Cursor right, Ctrl Cursor right	Shift Active Correction Region right
Cursor upwards, Shift Cursor upwards, Ctrl Region upwards	Shift Active Correction
Cursor upwards	
Cursor downwards, Shift Cursor downwards, Ctrl Cursor downwards	Shift Active Correction Region downwards

Image up	Image up	Select Previous Correction Region
Image down	Image down	Select Next Correction Region
C	C	Activate all Correction Regions
N	N	Set New Correction Region
Entf	Entf	Delete Correction Region
+	+	Enlarge Active Correction Region
-	-	Minimize Active Correction Region

Selective Editing:

Windows	Apple

Cursor left, Shift Cursor left, Ctrl Cursor		Shift Selective Editing Region left
Cursor right, Shift Cursor right,		Shift Selective Editing Region right
Ctrl Cursor right		
Cursor upwards, Shift Cursor upwards, Ctrl Cursor		Shift Selective Editing
Region upwards		
upwards		
Cursor downwards, Shift Cursor downwards,		Shift Selective Editing
downwards		
Ctrl Cursor upwards		
Image up	Image up	Select Previous Correction Region
Image down	Image down	Select Next Correction Region
Entf	Entf	Delete Active Correction Region
1	1	Hide All Masks
2	2	Show Active Selective Editing Region
Masks		
3	3	Show All Selective Editing Region
Masks		

Image Cropping:

Cursor left, Shift Cursor left, Ctrl Cursor left	Shift Cropping Region to the left
Cursor right, Shift Cursor right, Ctrl Cursor	Shift Cropping Region to the right
right	
Cursor upwards, Shift Cursor upwards,	Shift Cropping Region upwards
Ctrl Cursor upwards	
Cursor downwards, Shift Cursor downwards,	Shift Cropping Region
downwards	
Ctrl Cursor downwards	

26. 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.

In the top area of the window you will find a selection of choices, with which you will be able to filter the list for singular camera manufacturers. This way you will find your camera faster. To have constant access to the supporting camera RAW- formats via a separate window, you can use the function „open in browser"(window bottom left), which will show the list in a

standard browser. You will also be able to print the supporting RAW-formats from there.

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