

Power Retouche

correct lens-distortion

sharpen without artefacts ... & more...

Photo-retouching plug-ins

HDR - High Dynamic Range Compression - A Photoshop Plug-in

Brighten dark areas and darken lights in high contrast photos. Use it for shadow illumination. Make your photos match what the eye sees in nature by revealing what's hidden in dark areas. Shift the image's entire dynamic range or stretch the range to perfect white and black point. Our method does not create halos. Also, this plug-in does not require several exposures of the same image, but works from a single image.

- **Windows** version is for all versions of Photoshop, Elements, Fireworks, Paint Shop Pro, Corel Draw, Illustrator and other software that supports Photoshop plug-ins. See [list](#).
- **Mac** version is for all versions of Photoshop and Elements and all OS versions.



Dynamic Range Compressor plug-in - Tutorial

Benefits of the plug-in

- **Illuminate shadows without overexposing lights.**
- **Darken lights without darkening shadows.**
- **Apply compression as a graduated effect. Full in one side, none in the other.**
- **Master all aspects of dynamic range like offset and white- and black point stretching.**

The Dynamic Range Compression plug-in works with these image modes:
8 & 16 bit / channel: RGB, Grayscale, Duotone, Lab, CMYK, Multichannel.

Basic controls

This is the Dynamic Range plug-in's control panel. Click on the image to enlarge. The control panel and preview area can be changed by dragging the edges.

The filter has four groups of controls:

1. Range Compression - darks and lights
2. Graduated effect
3. Range adjustment - offset and black point
4. Overall effect and saturation



Examples:

Original

Darks

Darks & lights


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The Dynamic range Compression plug-in is indispensable for making high contrast photos look like what the scene really looked like when you took the picture. Original is leftmost.

What is HDR - High Dynamic Range - and why is it a problem?

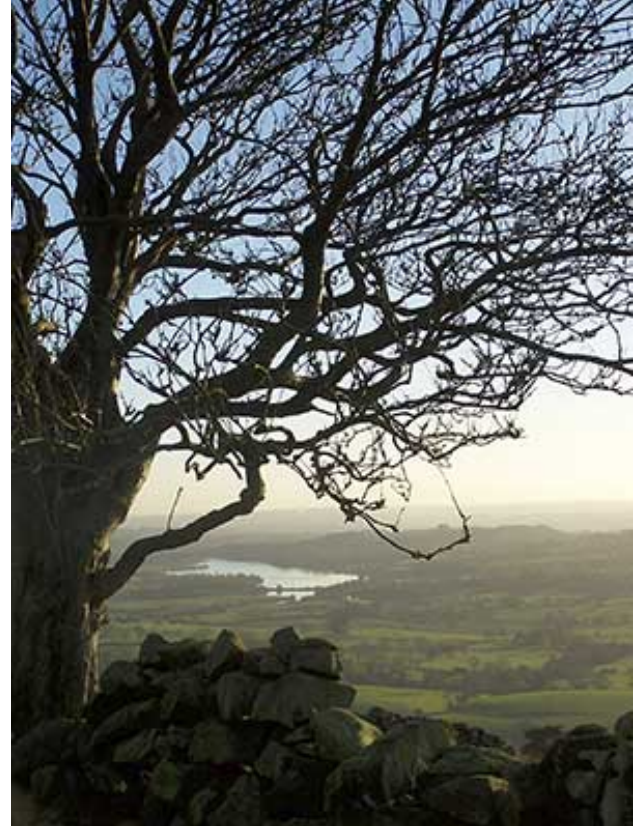
High Dynamic Range (HDR) and its problems

Dynamic range is the span from the darkest value to the brightest value. Now this sounds simple enough - but the sensors of the eye and the camera and the scanner are not equal. This means details in darks and lights are not registered equally by the eye, camera and scanner.

The problem is that the camera or scanner is not as sensitive to the entire dynamic range as the human vision is. In a scene where the eye will perceive details in both the light and dark areas at the same time, the camera or scanner will only be able to capture one end while rendering the other as an underexposed or overexposed mass. Below is a classic example of this: When exposing the scenery correctly the stone fence gets underexposed.



Original



Filtered to bring out the stone fence without changing the contrast of the branches or the scenery.
We used the Graduated Effect option of the plug-in to filter the lower part of the image and leave the upper part intact.

Compressing lights only

High dynamic range compression of lights

You will find that most of the discussions about correcting HDR (high dynamic range) images is concerned with how to compress the shadows and expand visibility into the dark areas. However, images can improve considerably by compressing the lights.



Original.

One might impulsively think this picture needs some sort of shadow illumination. But no, we need to compress the lights. Illuminating the shadows would destroy the impression of being in the shade under a pier.



After compressing the lights only.
These are the settings used:

Range Compression		Rset
Shadows %	<input type="text" value="0"/>	0
Compression Factor	<input type="text" value="80"/>	80
Highlights %	<input type="text" value="50"/>	50
Compression Factor	<input type="text" value="100"/>	100

Now, this improves the picture a lot (perhaps it's overdone, but this is for the sake of illustration). There is one thing that stands out now: the negative edge line along the edge of the pillar. This line is there either because the photographer used Photoshop's unsharp mask to sharpen the image or because he had set his digital camera to sharpen his pictures (you can see it in the original also). You should be aware that all such defects become enhanced when expanding the dynamic range. If the photographer had used Power Retouche to sharpen the image, this would not have been a problem because Power Retouche Sharpness Editor does not create these edge lines.

In any case, the lesson to learn from this is that you should always sharpen as a final retouch. So turn off the automatic sharpening in your digital camera, - this also because these hardware sharpenings are always the most basic forms of unsharp mask around.

Shadow Illumination

Compressing shadows can of course be used for shadow illumination. The following image shows how much information actually resides in underexposed areas.

But you should be aware that any noise in the darks (and there is much) will be greatly enhanced.

You could illumine the shadows even more than what we suggest below, but one should respect the original image. Trying to over do editing will always invite nasty side effects like noise enhancement and exaggerated variations where no variations should be.



Original



Corrected



Overdone - be careful

The Controls

Range compression

First group lets you compress either shadows or lights.

Shadow compression is sometimes called shadow illumination.

Compression Factor boosts the effect of the compression.

Range adjustment

Offset will add (or subtract) a given value from every pixel of the image, thus brightening or darkening the impression, but not changing the dynamic range by compression or expansion.

Black Point will stretch the dynamic range down towards black, leaving the highlights as they are, but progressively deepening the darker colors. Turn on Black Alert, or watch the histogram, when using this slider, so you don't overkill the darkest areas.

Shadow Depth does the same in principle, but it leaves everything brighter than Shadow Threshold alone. Thus you can specify the threshold from where you will expand the dark range to the black point.

The last group lets you adjust saturation and also adjust the effect by mixing more or less with the original.

Range Compression		Rset
Shadows %	<input type="text" value="50"/>	50
Compression Factor	<input type="text" value="85"/>	85
Highlights %	<input type="text" value="0"/>	0
Compression Factor	<input type="text" value="85"/>	85
Range Adjustment		Rset
Offset	<input type="text" value="0"/>	0
Black Point	<input type="text" value="0"/>	0
Shadow Depth %	<input type="text" value="0"/>	0
Shadow Threshold	<input type="text" value="92"/>	92
<input checked="" type="checkbox"/> Black Alert		<input checked="" type="checkbox"/> White Alert
Overall Effect %	<input type="text" value="100"/>	100
Saturation %	<input type="text" value="100"/>	100

Graduated effect

These controls are common for many of the Power Retouche plug-ins. Using graduated effect will cause the filter to apply it's filtering at full strength in one side of the image and then fade the effect out towards the other side. You can change direction by right clicking the preview. Midpoint will shift the balance between how large an area will be filtered at full strength and how much will have a faded out effect. Contrast will change the acceleration and spread of the fade-out.



In this example we applied a graduated effect towards the bottom, setting midpoint to the edge of the gray clouds. This retouch brought light into the underexposed foreground, bringing it forward, without altering the sunset.



Histogram and Color values

Histogram

These controls are common to most of the Power Retouche plug-ins. The displayed histogram will be for the area in the preview. You can choose between individual color channels, all color channels or luminance.

Pixel data

The color picker allows you to pick a point (pixel) in the preview and get some interesting data about it. The d-values tell how much the pixel is changed in percent. L tells the luminance value (brightness) of the pixel.

