



Filters for Digital Photography

heliopan[®]

LICHTFILTER

Whether for analog or Digital Photography: The best results are achieved by using correction filters - not by digitally enhancing in a software program as once undesired light parts are included in the image information a correction can only be achieved by reducing quality, if at all. Eg: A simulated IR effect will always remain a simulation and unsharpness from UV radiation in the blue channel, if no filter is used, will occur.

The filter program from Heliopan - made in Germany - allows you to produce images of the highest quality - right from the start.

Filter Quality

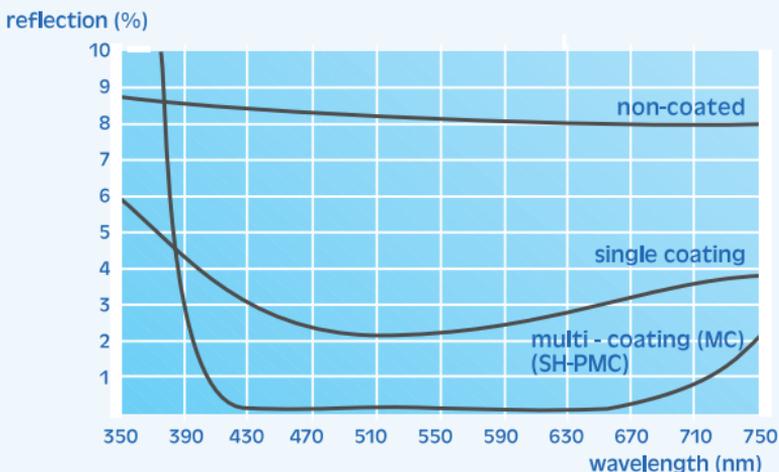
For brilliant color reproduction, highest contrast and sharpness Heliopan offers:

- The highest quality optical glass from the German Schott Group
- The longest life expectancy thanks to brass filter rims
- Minimal reflections because of matte black filter rings
- At least one high quality hard coating on each filter side to reduce stray light, to maintain high contrast and to avoid flare (Reflections are reduced from 8% to only 2.5% for each glass to air surface on each side of the filter).
- SH-PMC broadband coatings of 8 layers per side for the highest reflection reduction (below 0.2%) and:
- Dust and moisture repellent top coating on each side of the SH-PMC coated filters for easy cleaning and longest life.



The functionality of the new SH-PMC coating is demonstrated in the above pictures:

- A drop of water falling on the SH-PMC coating, due to the special properties of the top coating, does not stick to the filter but collects with other drops.
- and runs to the edge of the filter
- where it stays since on the edge of the filter above does there is no SH-PMC coating on the edge of the sample.





HELIOPAN UV Filter

The UV or Haze filter is not only an excellent filter for visually improving images on both digital and film but it can always stay on the lens to protect it from fingerprints, dust, moisture, etc. It absorbs the short wave portion of the spectrum so in hazy conditions a better image of the scene is possible. Loss of sharpness from UV Rays and the blue tones common in infinity scenes are eliminated. No exposure correction is needed. Available in both standard and SH-PMC coatings.

HELIOPAN Protection Filter

The Heliopan Protection Filter is optimally ground from special raw glass and coated with Heliopan's SH-PMC 16 layer multi-coating to protect the lens while adding no color whatsoever. This protects the lens, and to avoid expensive repairs to lenses, especially as many digicams have a non-removable built-in zoom lens.

HELIOPAN KR 1.5 Skylight (1A) Filter

This light salmon colored skylight filter reduces the bluish cast in scenic shots, in snow scenes or of normal objects around noon time it adds a pleasant warmth and soft color character with digital cameras whose sunlight white balance can be too cool it absorbs UV Rays and serves as a protection filter as no exposure correction is necessary. It is available in standard and SH-PMC coatings.



HELIOPAN Polarizing Filters

Polarizing Filters reduce reflections and glare, they are a neutral color and can be used for color or black and white imaging.

As the light coming from the sun is not polarized parts of the light become partially polarized due to the scattering of particles in the atmosphere. This scattering reduces the transparency of the air and creates haze in the distance and the blue in the sky on a sunny day.

Polarization also controls in the reflections of light on the original color of the surface.

The Heliopan Polarizer improves the color of the sky, (in distant pictures, mountain scenes, etc.) it reduces the bluish cast in landscapes and increases the blue color of the sky. The effect is strongest at a 90° angle to the sun.

In addition polarizers enhance the color saturation of the scene by suppressing the reflections on the surface, undesired reflections are largely eliminated.

While increasing color saturation with software can also improve the color saturation the faded parts of the leaves in the illustration above will increase as well. This procedure will not replace the need for a polarizer. For digicams we recommend using a circular polarizer, linear polarizers may result in incorrect exposure or focus under some lighting conditions. They are available with or without SH-PMC coating and in slim or standard rims. The rims are calibrated to help in finding the proper settings when a TTL preview is not available.



Heliopan Neutral Density Filters

Neutral Density filters are important tools for controlling light reduction. They permit less depth of field under bright lighting since the aperture has to be larger and, in addition, they permit long time exposures with stronger ND filters in sunlight.

With digital imaging over exposure can be avoided resulting in natural color reproduction. ND gray filters are manufactured from color neutral Schott glass so they can be used for color imaging. They are available in 3 densities. Higher densities are available on special order for technical and scientific applications.

On most digicams the imaging sensor is smaller than the 35mm format. This results in a relatively large depth of field, even with a large aperture opening this can be disturbing - when eg. A portrait has to be separated from the background and the available light requires the use of a smaller aperture, reducing the available light allows the choice of the best aperture. Also with digicams that only operate in full auto mode, the depth of field can be reduced. Digicams frequently have fewer apertures than film cameras, (eg. 2.8 to 5.6 or 2.0 to 8.0) a neutral density filter allows a much larger choice of exposure combinations.

Creative Tip:

For evening and night exposures, totally close the aperture, use a strong ND filter and use a tripod. Long time exposure, will result in moving objects disappearing and a surreal effect.



Light value description for Neutral Density Filters

Density	Light Loss	Filter Factor	Exposure Correction
ND 0,3	50,00 %	2x	-1
ND 0,6	25,00 %	4x	-2
ND 0,9	12,50 %	8x	-3
ND 1,2	6,25 %	16x	-4
ND 2,0	1,00 %	100x	-6,66
ND 3,0	0,10 %	1000x	-10
ND 4,0	0,012 %	10000x	-13



HELIOPAN Infrared Filters

A very interesting area in digital photography is infrared images for creative and artistic effects. Heliopan filters made from Schott glass, pass only the exact areas of the IR Spectrum: RG695(89B), RG715(88A), RG780(87), RG850, RG1000. For digital landscape pictures we recommend the R715 to RG830 filters.

TIPS FOR TAKING PICTURES WITH HELIOPAN IR FILTERS:

- Subjects with a lot of sun light have the greatest IR radiation.
- Always use a Giotto's Tripod because of the long exposure times.
- Compose your image before mounting the filter.
- Because of the focus shift set the distance manually to the IR index on the lens or use the AF setting with the filter in place and do not use open aperture. AF sensors can sometimes partially focus to IR. Alternatively make a test with a series of adjustments manually going from the normal sharp setting in small steps into the close-up area.
- Quite often the exposure needs a lot of increase. Use the +/- correction or the manual mode for additional over exposure.
- In the black and white mode you can see the proper exposure in the camera display. In the color mode you can see it in the histogram display. This applies especially for the red channel.
- Use JPEG to avoid the complex signal processing in the RAW mode.



Both CMOS as well as CCD chips are sensitive to IR light, (because the active pixel surfaces have a streamlined dichroic coating on a substrate that is sensitive to IR light.) your digicam can therefore be used for IR photography. When using IR filters it is important that your digicam measures the light with TTL metering. This applies to almost all DSLRs. Compact digicams often have a separate sensor in the front. Test: Switch the time to AV on Automatic and hold the IR Filter in front of the lens. Then see if the exposure time increases. You can measure through the filter. To avoid stray light cover the viewfinder eyepiece.

TIPS FOR IMAGE ENHANCEMENT:

- For brilliant B&W reproduction use LAB mode and use the L channel or only the Red channel.
- Since the contrast of the image is often too low due to the camera's internal calculations simply reset in your enhancement software the black and the white points.
- The simple digital method will give you dramatic IR Images eg. Landscapes which were only possible before with special film.



HELIOPAN Digital Filter

This filter has been especially designed for imaging with digital sensors since they have a significantly higher sensitivity in the IR area than film material it blocks both disturbing UV and IR light. The result is improved color separation and sharpness.

The UV protection blocks UV radiation in daylight. In addition colors are improved especially in the blue and red channels. Since artificial light contains especially high IR radiation the filter ensures better control of the blue channel. This dichroic coated specialty filter should not be used with extreme wide angle lenses.



HELIOPAN Close-up Lenses

Close-up lenses are used when you need to extend the camera's focusing range into the close-up range. These convex lenses (+) shorten the focal length while maintaining the same distance setting. They are available in the most popular screw-in sizes. Close-up lenses can be combined to obtain greater strengths. No exposure correction is required. The following strengths are available: NL 1.0, NL 2.0, NL 3.0, NL 4.0. The higher the number the closer you can focus. For best results stop down to f 5.6 or f8.

Additional Standard Accessories

- Lens hoods
- Adapter Rings
- Lens Caps
- Special Effects Filters
- Graduated ND Filters

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