

**Capture more
of what you're
shooting for...**

Singh-Ray
*For over
50 Years* **Filters**

Blurred-motion images are easier and more fun with the Singh-Ray Vari-ND™ variable-density filter

Freezing the action of a moving subject is as easy as setting your camera's shutter for a very fast exposure. These days, however, more outdoor photographers are exploring the dramatic effects of extra-slow exposures that cause the moving elements in your image to blur and convey the impression of flowing motion and time.

Since Singh-Ray first introduced our pioneering variable-density Vari-ND filter in 2004, photographers have found it's not only an easy way to compose and control very long exposures, it's also a lot of fun!

By reducing the transmission of light through your lens, the Vari-ND lets you use much longer shutter speeds—even in bright sunlight. The Vari-ND can be easily adjusted from a minimum density of about 2 f-stops to nearly 8 f-stops simply by turning its front ring. It's an easy way to blur the motion of falling water, passing clouds, busy people, or other action in your image.

For example, to photograph a sunlit waterfall at mid-day, your exposure meter may call for a 1/500 second shutter speed at f/8 with no filter. Images made at this fast shutter speed will show the flowing water in sharp detail. By mounting the Vari-ND on your lens, you can reduce your shutter speed to be as slow as 1/2 second at f/8 and still maintain the same exposure (see chart on next page). At this slower shutter speed, the flowing water will appear to be soft and silky.

When you want to “pan” your camera to track something like a speeding car or a duck landing on water, the Vari-ND easily slows your shutter speed to achieve a blurred and “moving” background image.

It's also a simple matter to achieve “selective focus” images with a very shallow depth of focus in front of and behind your subjects—simply by opening your lens to its widest aperture, focusing, then dialing



Turn ocean waves into mist — 25 seconds Vari-ND Filter ©Tom Bol



Misty waterfalls and rivers — Vari-ND Filter ©Stephen Oachs



Calming the waters — 30 seconds Vari-ND Filter ©Cole Thompson

the Vari-ND to the density that's needed to correctly expose your image.

Since the Vari-ND provides all density values from 2 to 8 f-stops, you no longer need to carry a variety of solid ND filters. This not only saves you money, but time and effort when working in the field. Instead of trying to frame and focus your image through the darker density of a solid ND filter, you can easily frame and focus with the Vari-ND set at its minimum 2-stop density. Then, before making the exposure, reset the density you need.

The Vari-ND is most easily used with digital SLR cameras that let you quickly review and learn from each shot. Although blurring alters the sharpness of any moving subjects, the Vari-ND maintains optical resolution in the scene's non-moving areas, when the camera is on a solid tripod.

Due to the construction of the optics, the Vari-ND filter performs best at focal lengths longer than about 24mm (35mm equivalent). The filters also have a significant profile thickness that may lead to corner obstruction or vignetting when used with very wide-angle lenses.

Remember that most lenses are sharpest at f/8 or f/11, whereas using f/22 or higher may lead to noticeable diffraction. Also, your camera's "native ISO" will give you the lowest noise, however this may not be the lowest ISO setting on your camera. For instance, the Canon 5DIII has a native ISO of 160, and interpolates the image data to achieve the ISO 50 setting. But shooting at 160 is almost 2 stops faster. Using the Vari-ND lets you shoot at f/8 and ISO 160, while still achieving the slow shutter speeds needed to create long-exposure effects.



Panning and blurring — Vari-ND ©Nevada Wier



Pan to blur action — Vari-ND ©Joe DiMaggio

How Vari-ND slows down your shutter speed for a "typical" daylight scene	...as the effective exposure always remains the same:
Without a Vari-ND on your lens	Exposure = 1/500 sec. at f/8
Vari-ND on lens and set to "Min" density (2 stops)	Exposure = 1/125 sec. at f/8
Vari-ND on lens and set to a middle density (5 stops)	Exposure = 1/15 sec. at f/8
Vari-ND on lens and set near "Max" density (8 stops)	Exposure = 1/2 sec. at f/8
For even slower shutter speeds that will produce the same exposure, simply reduce your lens opening as you slow your shutter speed correspondingly	Exposure = 1 sec. at f/11 Exposure = 2 sec. at f/16 Exposure = 4 sec. at f/22



No filters — 1/15 at f/8 ©E.J. Peiker



With Vari-ND Filter — 25 seconds at f/8



Achieve shallow depth of field with studio flash (f/22 vs f/1.8) or in bright sunlight





Vari-N-Duo Filter ©Adam Barker

The Vari-N-Duo™ adds the power of a polarizer to variable density

As soon as Singh-Ray introduced the Vari-ND variable-density filter, many outdoor photographers began coupling it with their LB Warming Polarizers to not only blur moving elements in their images but also reduce glare from the sunlit blue sky, water, wet rocks, foliage, and other reflecting surfaces. This proved to be a great idea. The resulting extra-long exposures not only produced the magical blurred-motion effect, but the use of the polarizer increased the tonal detail and color saturation in all those areas where glare would have been a problem.

There were, however, two minor problems involved with stacking the two separate filters. It was somewhat cumbersome to adjust both the density and the polarization at the same time; and the mounting of both filters in front of many wide-angle lenses further increased the distance between the front of the lens and

the front filter ring, increasing the chance of vignetting or corner obstruction.

To address these limitations, Singh-Ray introduced the Vari-N-Duo, which combines the variable-density benefits of the Vari-ND with the polarizing functions of the LB Warming Polarizer in one compact, highly versatile and much easier-to-control filter. (Please note that the thickness of the filter can still lead to vignetting or corner obstruction when using wide-angle lenses.)

After mounting the Vari-N-Duo on your lens and setting the indicator to Min. (about 3 stops) you're able to compose the image, check the focus, and then control the polarizing effect simply by rotating the filter. Then it's a simple matter of adjusting the density up to as much as 8 stops, and setting the appropriate shutter speed. It's easy to experiment and find the settings best suited to capture the image you're shooting for.



Vari-N-Duo Filter ©Brian Rueb

For a bit more color intensity, the Vari-N-Trio™ is all you need

For outdoor photographers who are eager to capture truly outstanding blurred-motion images in their cameras—before they leave the location—the Vari-N-Trio provides three essential functions in one easy-to-use filter that's ready to help you achieve the highest image quality possible.

In addition to the same variable density and polarizing control functions offered by the Vari-N-Duo, the Trio also incorporates a color intensifying function that's always working and requires no adjustment.

The degree of color intensification will vary, depending on the colors and light in your scene—which means the effect will be more apparent in some images than in others. But you can always count on your images appearing natural and alive.

Singh-Ray's color intensifying feature is entirely unlike any other “enhancing” filter. It's formulated to subtly brighten nature's green colors as well as red, orange and

earth tones, without any hint of magenta in the clouds or other white areas.

The polarizing function also helps accentuate colors in many images by blocking the glare that can so often reduce color saturation and contrast.

Even with all these features, it's simple to use. Start with your camera on a tripod, and mount the Vari-N-Trio to your lens. Set your density indicator to Min. (about 3 stops), then frame and focus. (You may want to switch off autofocus.) Rotate the filter to find your desired polarizing effect—the color intensification requires no adjustment. Then adjust the density up to as much as 8 stops, and set the appropriate shutter speed. Then shoot! (Note: The Vari-N-Trio may vignette or obstruct corners on wide-angle lenses.)

You can easily explore a variety of filter setting combinations and shutter speeds to add even more visual interest!



Vari-N-Trio Filter ©Kevin Thompson



Vari-N-Trio Filter ©Stephen Oachs

Singh-Ray Graduated Neutral Density filters let you balance bright skies with darker foregrounds for more natural images

When photographing landscapes and other outdoor scenes, it's often a challenge to capture enough detail and color saturation in the bright sky, distant mountains and in areas along the horizon while also properly exposing the scene's foreground. The smaller photo below illustrates what can happen when the range of exposure levels (f-stops) within a scene exceeds the "dynamic range" of the film or digital sensor in your camera.

When we're photographing a scene such as this, with its wide range of light and shadow areas, our camera is unable to record as many levels of brightness as our eyes. That's why the skies in our images of a beautiful scene can appear washed out and less dramatic than what we visualized.

It's easy to extend your camera's dynamic range and capture more color and picturesque detail in high-contrast scenes by using a Singh-Ray Graduated Neutral Density (ND) Filter to "hold back" the stronger light from the bright sky and background areas. The upper half of the Graduated ND Filter is a neutral gray tone with a transition in the middle to the clear lower half (see the photo on page 20).

By placing the filter in front of your lens and looking through the camera's viewfinder, or using your camera's live view, you can quickly see how the



With no filter

filter's denser gray half reduces the bright areas in the upper part of your image to help balance the overall exposure.

For example, to capture the scene as it appears below, the photographer positioned a Graduated ND Filter in front of his lens to hold back the sky area. The same lens opening and shutter speed were used for both images.

When using a digital camera that offers a histogram of each image, it's easy to gauge the effect of the Graduated ND Filter. Start by shooting an image of a high-contrast outdoor scene without using any filter. Meter your image to properly record the open shadow areas in the foreground and then take the picture.

When you check the histogram of your first image, you'll find the shadow areas are properly exposed, but the brightest light levels in the sky will likely be piled up



3-stop Hard-Step Grad ND ©Joe Rossbach



Graduated ND Filter + LB Warming Polarizer ©Ethan Meleg



Graduated ND Filter ©Jon Cornforth

against the right side of the histogram—indicating that they are “blown out” with little or no detail in the bright areas of the image. If you reduce the exposure by a few f-stops, the brightness of the highlights can be controlled, but the shadow areas are now stacked against the left side of the histogram—warning you that the shadow details in the foreground may be lost. An exposure in between the previous exposures will show neither the highlights nor the shadows looking their best.

By positioning a Graduated Neutral Density filter in front of your lens, you can simply hold back the brightness of the sky. If you make another exposure at the same setting used for your first image, you’ll see a big improvement. The histogram will show much less burning out of the highlight areas. With practice, you’ll learn how easy it is to capture more detail in all your high-contrast scenes simply by using Singh-Ray Graduated ND Filters.

The series of six “standard” Singh-Ray Graduated ND Filters was originally developed with extensive field tests by

renowned outdoor photographer Galen Rowell. The series includes 1-, 2-, and 3-stop gradient densities in both hard-step and soft-step gradient patterns. Singh-Ray currently offers 4-stop hard-step and soft-step gradient densities as well.

Many outdoor photographers consider Singh-Ray Graduated ND Filters essential to their success for several reasons:

- The longer height of each filter allows raising, lowering and tilting the filter to position the gradient area precisely. Filters can also be hand held.
- Superior optical clarity, spectral response and color neutrality assure a high-quality image every time—even when used with other Singh-Ray Filters.
- A broad range of gradient densities in two gradient patterns gives photographers more options.
- Photographers report their Graduated ND Filters save considerable post-production time and effort by enabling them to control high-contrast scenes and balance exposures for most of their shots right in the camera.



4-stop Hard-Step Graduated ND Filter + LB ColorCombo ©Steve Kossack

Sunrise and sunset were made for Singh-Ray's unique Reverse Graduated ND

When photographers use their Singh-Ray Graduated ND Filters for sunset and sunrise scenes, they soon discover that the standard gradient patterns—which are darkest at the top and lighter toward the middle—may not always be the perfect match for the scene they're shooting.

When shooting toward the glowing sun at sunrise or sunset, the foreground is often dark or backlit and the upper sky is not as bright as it is along the horizon. The standard gradient pattern can work against that, darkening the upper areas of the sky rather than the brighter middle area.

Several years ago, outdoor photographer Daryl Benson discussed this problem with Singh-Ray. His call soon led to the Reverse Graduated ND Filter which has a gradient pattern that is densest near the filter's midline and then becomes gradually lighter in the upper third of the filter (see photo on page 20). When the rising or setting sun

is close to the horizon and shining brightly, this unique filter can help you achieve a better exposure balance in both the foreground and in the open sky overhead.

Singh-Ray offers the Reverse Graduated ND Filter in densities of either 1, 2, 3 or 4 f-stops, with the 3- and 2-stop used most frequently. Sometimes, experienced photographers will “sandwich” this filter along with other filters for even greater control over the scene.

Working closely with leading outdoor photographers helps Singh-Ray learn new things about how our filters are being used. For example, we've found that many photographers prefer to hand hold their Graduated ND Filters rather than placing them in a lens-mounted filter holder.

Their reasons for manually positioning their Graduated ND Filters include faster handling, no holder to carry, and being able to avoid vignetting by placing the

filter directly in front of their wide-angle lens—since it's the filter holder not the filter that usually leads to vignetting. When you want to “sandwich” two Graduated ND Filters together, it's also much easier to hold them up to the light to “fine tune” the gradients before holding them in front of the lens for the actual shot.

Photographers who hand hold their Graduated ND Filters should consider the benefits of using Singh-Ray's 4x6-inch (100mm) size filters, which are 50% larger and thus provide greater handling ease and control than the standard P-size filters. We also offer even larger widths (130 or 150mm) for other holder systems.

Manually positioning larger Graduated ND Filters can really help when working in quickly changing light to capture a rainbow, fast-moving clouds or the rising sun. It's also easier to “bracket” the scene using various gradient positions and filter combinations. The larger filters also help reduce the possibility that your image will accidentally include the edge of the filter or a fingertip.

The larger Singh-Ray Graduated ND Filters use

the same premium quality optical resin as our standard size Graduated ND Filters and are available in the same gradient densities and patterns, including Reverse Graduated ND Filter. The choice is yours!



Reverse Graduated ND ©Ethan Meleg



Reverse Graduated ND ©Richard Thompson

Capture that “light beyond” with the I-Ray™ Infrared filter

Outdoor, portrait, wedding and commercial photographers working in the artistic medium of infrared photography—using either infrared film or IR-sensitive digital cameras—will appreciate the advantages of Singh-Ray’s I-Ray Infrared filter.

While efficiently transmitting over 90% of the near-infrared wavelengths between 700 and 1100 nanometers, this totally opaque black filter eliminates virtually all visible and ultraviolet light. The result is a purely infrared, often dreamlike image, different from conventional photography.

Digital infrared photography eliminates the challenging and unpredictable process of loading, shooting and processing IR film in the traditional manner. Now IR images can be achieved with most digital cameras and a few simple post-processing steps.

Many digital cameras have strong “hot mirror” internal IR-blocking filters, which can make infrared imaging a much slower process involving much longer exposures. The long exposures that are generally required for infrared photography can also be used to get spectacular “long-exposure” effects for moving clouds, water, or other subjects.

This also means you can shoot digital infrared without “sacrificing” a camera to expensive infrared conversion, and carrying that extra camera in the field.

See our website for more information on how to determine your camera’s infrared sensitivity and suitability, or our blog for tips on shooting and post-processing.

Maybe it’s time to open up a whole new world with the I-Ray Infrared filter?



30 seconds at f/20 with I-Ray ©Michael James



I-Ray ©Chris Moore



133 seconds at f/5.6 with I-Ray ©Tony Sweet

For extremely long exposures, count on 5-stop, 10-stop and 15-stop Mor-Slo™ Solid ND filters

More and more photographers are discovering how easy it is to use solid ND filters to create images with blurred motion long-exposure effects or very shallow depth of field. That's where your Mor-Slo Solid ND filter comes in handy.

Start by putting your camera in manual mode, compose your shot and lock in the focus. Next set the shutter speed, f-number and ISO for the exposure you want. Then add your 5, 10 or 15-stop Mor-Slo filter, and either dial down the shutter speed by the appropriate number of stops to achieve motion blur OR open up the lens setting to reduce your depth of field, or a combination. You have total flexibility.

In addition to our variable-density filters (featured on pages 2 through 5), we offer several choices of "solid" ND filters of fixed densities: our 5, 10, or 15-stop Mor-Slo

filters, and also our George Lepp solid ND filters, which range from 1 to 4 stops. They are available in a full range of sizes and mounts to fit your lens or filter holder system. These solid ND filters work great when combined with Graduated ND Filters, Reverse ND Grads, our LB ColorCombo, or nearly any filter we offer.

They can even be used in conjunction with our Vari-ND, Vari-N-Duo or Vari-N-Trio to achieve EXTREME density up to 23 stops!

Other brands of high density ND filters are known to create what Tony Sweet calls "bizarre color casts" that can be difficult to correct in camera or in software. With the Mor-Slo, Tony reports "I found that the color migration was natural and acceptable, the filter adding only a slight warm (amber) cast, easily manageable in software, or by setting a custom white balance in the field."



Softer, less cluttered backgrounds are simple with a 10-stop Mor-Slo, going from f/16 at 1/10 to f/1.4 at 1/2 second.



No filter set to 1/15 second at f/14 (above). 10-stop Mor-Slo extends exposure to 4 minutes at f/14. Both images ©Tony Sweet



30 seconds at f/20 with 10-stop Mor-Slo Filter ©Brian Rueb

How slow is Mor-Slo?	no filter	5-stop Mor-Slo	10-stop Mor-Slo	15-stop Mor-Slo
Extend an average "slow" exposure such as 1/30 to 1 second, 30 seconds or as much as 16 minutes ...as easy as Mor-Slo!	1/1000	1/30	1 sec	30 sec
	1/500	1/15	2	1 min
	1/250	1/8	4	2
	1/125	1/4	8	4
	1/60	1/2	15	8
	1/30	1 sec	30	16
	1/15	2	1 min	32
	1/8	4	2	1h 4m
	1/4	8	4	2h 8m
	1/2	16	8	4h 16m
	1 sec	30	16	8h 32m
	2	1 min	32	17h 4m
	4	2	1h 4m	34h 8m



4 minutes at f/16 with 15-stop Mor-Slo Filter ©Tony Sweet



5-stop Mor-Slo Filter ©Kevin McNeal



5-stop Mor-Slo Filter ©Kevin McNeal



10-stop Mor-Slo Filter ©Cole Thompson

Singh-Ray lighter, brighter LB Warming and Neutral Polarizers are your best choice to block glare and boost color saturation

Whether you choose to use Singh-Ray's LB Warming Polarizer or the LB Neutral Polarizer, you'll be well prepared to create images with the best possible color saturation. Any time of day, you can easily improve color saturation by blocking the glare from various reflecting light sources, including wet foliage, bodies of water, snow, metal and glass, pavement, etc.

Until a few years ago, the use of polarizing filters—including Singh-Ray's previous Polarizer PLUS—required an exposure increase of 2-stops for most outdoor scenes. Then Singh-Ray introduced the remarkable LB (for lighter, brighter) Warming Polarizer that requires only 1-1/3 f-stops of additional exposure.

This lighter, brighter density means the current LB Warming Polarizer transmits more of the available light in every scene to give you an exposure advantage of 2/3 of

an f-stop compared to conventional 2-stop polarizers—that's 66% more light!

This improvement in light transmission is achieved without any loss in the filter's polarizing ability to block glare and light reflections. The benefits this filter offers in the field are obvious immediately.

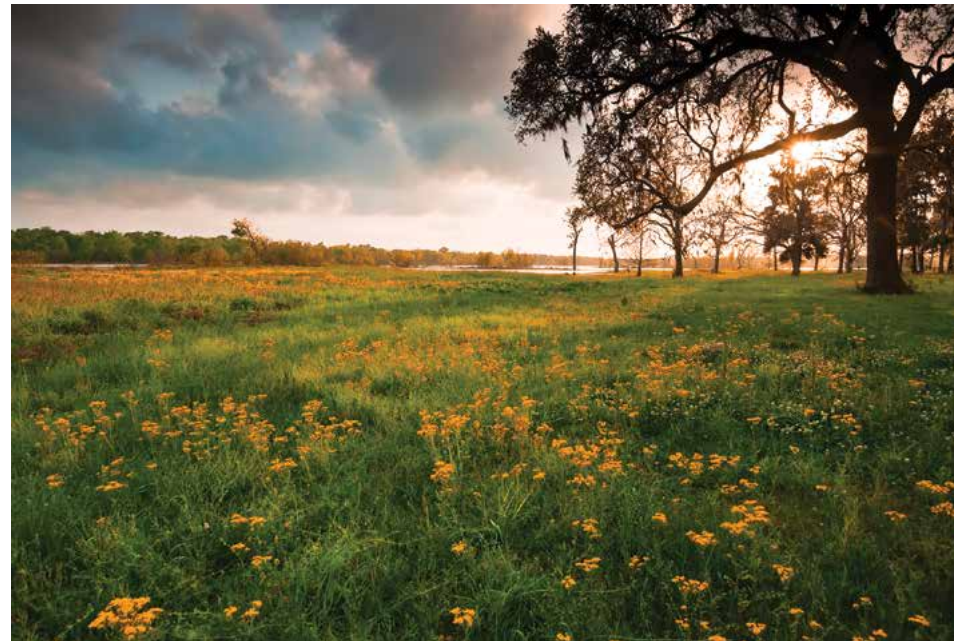
The first difference you'll notice is the bright image in your viewfinder that helps you compose each shot and control the right degree of polarization. Exposures will be about 2/3 of an f-stop faster than they would be with your previous polarizer. This extra speed lets you choose either a smaller lens opening for more depth of field or a faster shutter speed for sharper images. For example, an exposure that would have been 1/100 at f/8 with the previous Singh-Ray Polarizer will now be either 1/160 at f/8 or—when you prefer to have greater depth of field—1/100 at f/10.



LB Warming Polarizer ©Jon Cornforth



LB Warming Polarizer ©Ethan Meleg



LB Warming Polarizer ©Ernesto Santos

The improved light transmission also helps your camera's autofocus and metering systems respond more quickly in low light—especially when your maximum lens aperture is smaller than f/2.8.

When the LB Polarizer is used with our Graduated Neutral Density Filters, the added brightness in the viewfinder helps you position the gradient area quickly and more precisely. It won't take long, in fact, before you realize just how helpful the added exposure speed can be for almost all your outdoor imaging. In fact, many leading outdoor and nature photographers often point to their polarizers as the most essential filter for their range of subjects and lighting situations.

Over the years, countless photographers have trusted the superior optical resolution and color performance of Singh-Ray's circular polarizers. Because it's faster and easier to use for sports, wildlife, travel and other action photography, the LB Warming Polarizer has won even more friends.

More and more digital camera users are discovering the importance of using a

polarizer whenever they are photographing, since there is no effective way to produce the same results in post production.

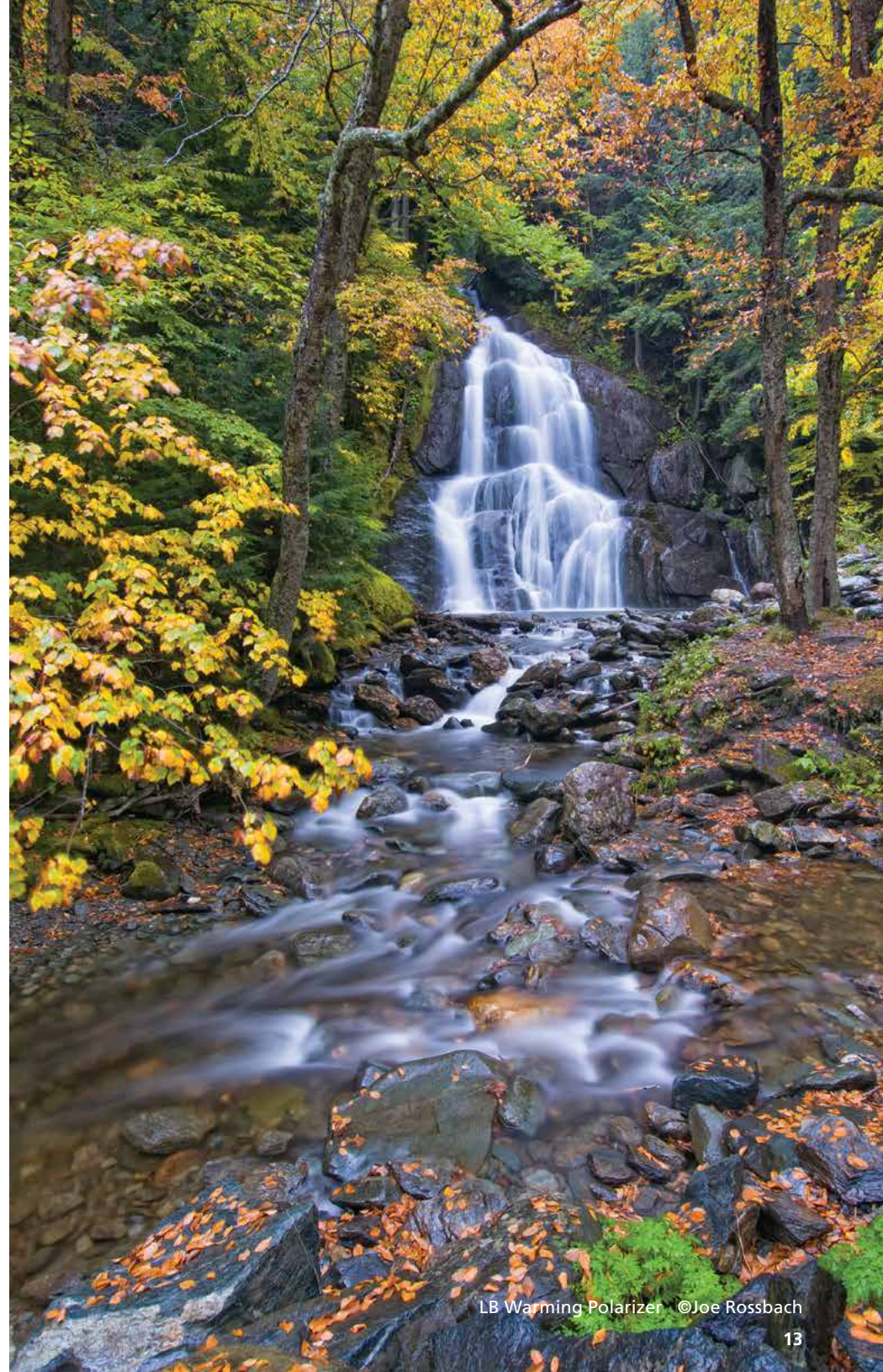
Whenever you use a warming polarizer to increase the contrast between a bright blue sky and white clouds, it's important to remember maximum skylight polarization occurs along an arc 90 degrees to the sun's axis. The deepest blue in the sky will be on your right or left or directly over head as you face toward or away from the sun. It's simple to preview the polarizer's effect by holding it to your eye and rotating the filter as you evaluate the scene.

If you plan to use your LB Polarizer with a wide-angle lens, consider Singh-Ray's optional thin-ring mount to minimize the risk of vignetting or corner obstruction. This ring is less than 5mm thick since it has no filter threads on its front rim. Front-rim threads are necessary, however, if you plan to screw in another filter or a filter holder on the front of your polarizer.

Singh-Ray offers the LB Warming and Neutral Polarizers in sizes to fit many popular cameras and filter systems.



LB Neutral Polarizer ©Ricardo La Pietra



LB Warming Polarizer ©Joe Rossbach

Singh-Ray's LB Color Intensifier remains the professional's first choice for improving color saturation

Ask veteran outdoor photographers what they miss the most about shooting color film, and their answer will often be the exceptional color saturation they enjoyed with their various transparency films. Fortunately, the LB Color Intensifier filter has helped many of those photographers fully recover from their loss.

While there are “enhancing” filters that accent red and orange areas in fall foliage and red-rock canyons, Singh-Ray's LB Color Intensifier responds to the full spectrum of colors in your scene and accentuates the most prominent ones—even blues or greens. What's more, your images will show no hint of the disturbing magenta cast often attributed to some color enhancers.

In other words, the LB Color Intensifier is formulated to further boost the strongest colors in the scene so that your image

will appear just a bit more colorful, while remaining natural and lifelike.

In spite of its “intense” name, the effect of the LB Color Intensifier is always subtle and realistic—just enough to enrich the inherent color contrast in many scenes. Neutral colors and white areas remain unchanged and entirely natural. And it adds only 2/3 of a stop, so light loss is minimal.

At first, some are surprised to find the filter's effects are consistently subtle; perhaps seeming at first to be too subtle. Photographers who benefit the most from their LB Color Intensifier will be those who use it to fine-tune the color contrast in their images—without going too far.

That's why so many of those veteran photographers still rely on their Singh-Ray LB Color Intensifiers to highlight the best color of any subject in any kind of light.



LB Color Intensifier + 4-stop Soft-Step ND Grad ©Joe Rossbach



LB Color Intensifier ©Brian Rueb



LB Color Intensifier ©Steve Kossack

One LB Polarizer plus one LB Color Intensifier adds up to the totally versatile LB ColorCombo™

For many years, truly serious outdoor photographers mounted their Singh-Ray Color Intensifiers on the front of their polarizers to create what several referred to as their “secret weapon.” Then came the Polarizer PLUS Color Intensifier in 1994 that combined all the polarizing and color intensifying capability of Singh-Ray’s Polarizer and Color Intensifier into one much more compact and easy-to-use filter.

Then in 2005, Singh-Ray introduced the LB (for “lighter, brighter”) ColorCombo combining all the capabilities of the LB Warming Polarizer and the LB Color Intensifier into one compact, easy-to-use unit with a filter factor of only 2 f-stops.

The formerly “secret” advantage of using both a polarizer to control reflecting sunlight and a color intensifier to improve color saturation has gradually earned the LB ColorCombo growing popularity among top landscape photographers.

Versatility best describes the LB ColorCombo’s importance. With this one filter on your lens—supplemented with several Graduated ND Filters—you’ll be well prepared to handle almost any photographic opportunity you find.

The best part, however, is discovering how often the LB ColorCombo can help you “save the picture” by reducing glare and reflections as it subtly enriches the colors in your image. As one outdoor photographer explains, “I find that I leave the ColorCombo on

until there’s a reason to take it off.”

Because the LB ColorCombo blocks less light to your viewfinder, it’s very easy to see your subject and fine tune the variable effect of the polarizer and the positioning of your Graduated ND Filters.

Whether you’re using the LB ColorCombo for dramatic or subtle effect, your images will always look natural. White clouds, bright snow and polar bears will remain white and every color will appear clean and true. The versatility of this filter includes almost every type of outdoor photography from landscapes to aerial views to macro subjects. When combined with the Vari-ND, it produces exciting effects virtually identical to those of the Singh-Ray Vari-N-Trio.



LB ColorCombo ©Richard Thompson



LB ColorCombo ©Kevin McNeal



LB ColorCombo ©Ernesto Santos

Capture more color and life in your images, with the versatile Gold-N-Blue™ Polarizer

For those photo moments when everything is right except the light—when you can't return later and the clock is running—it's a relief to have your trusty Gold-N-Blue Polarizer in hand to brighten the day.

Over the years, the Gold-N-Blue has proven to be a “life saver” for a growing number of working photographers. It's been known to rescue many a dull-day lighting challenge. What's more, it's also an exciting filter to use on bright sunny days. It's even used by some to add tonal contrast in black-and-white images.

However, until you mount this filter on your lens and begin rotating the polarizing ring, you won't quite know what to expect. As you rotate the Gold-N-Blue, you'll see light-reflecting areas in the scene changing from strong golden yellows to little or no effect, then on to dramatic blue tones. These polarized colors are strongest when your lens is directed at a 90° angle to the sun. That's why the effects can vary

considerably from scene to scene and offer a wide choice of visual options.

Even when there is no trace of sunlight, the Gold-N-Blue Polarizer will frequently pick up just enough polarized reflection from the sky to add new light and life to an image. This filter is easy to fine-tune to add only subtle changes just where you want them. Areas of the scene reflecting little or no polarized light remain unchanged.

Experienced users of the Gold-N-Blue appreciate that its effects are not always predictable. Many who began using the Gold-N-Blue back when they were shooting film have been pleased to discover the effects are sometimes recorded a bit more subtly by their digital cameras.

As outdoor photographers have switched from color slide film to digital images, they have found that their camera's “auto white balance” may not work well with the Gold-N-Blue Polarizer. The filter itself has a noticeable magenta tint that does not

appear on film, but which will generally appear on digital images.

Solving this issue is simple. Before

composing your image, set a “custom” white balance in your camera with the Gold-N-Blue mounted on your lens.



Soft gold effect at left, no filter center, soft blue effect at right ©Thierry Hennet



Top image shows strong gold effect, bottom shows strong blue. ©Jim Patterson



Gold-N-Blue Polarizer ©Steve Kossack

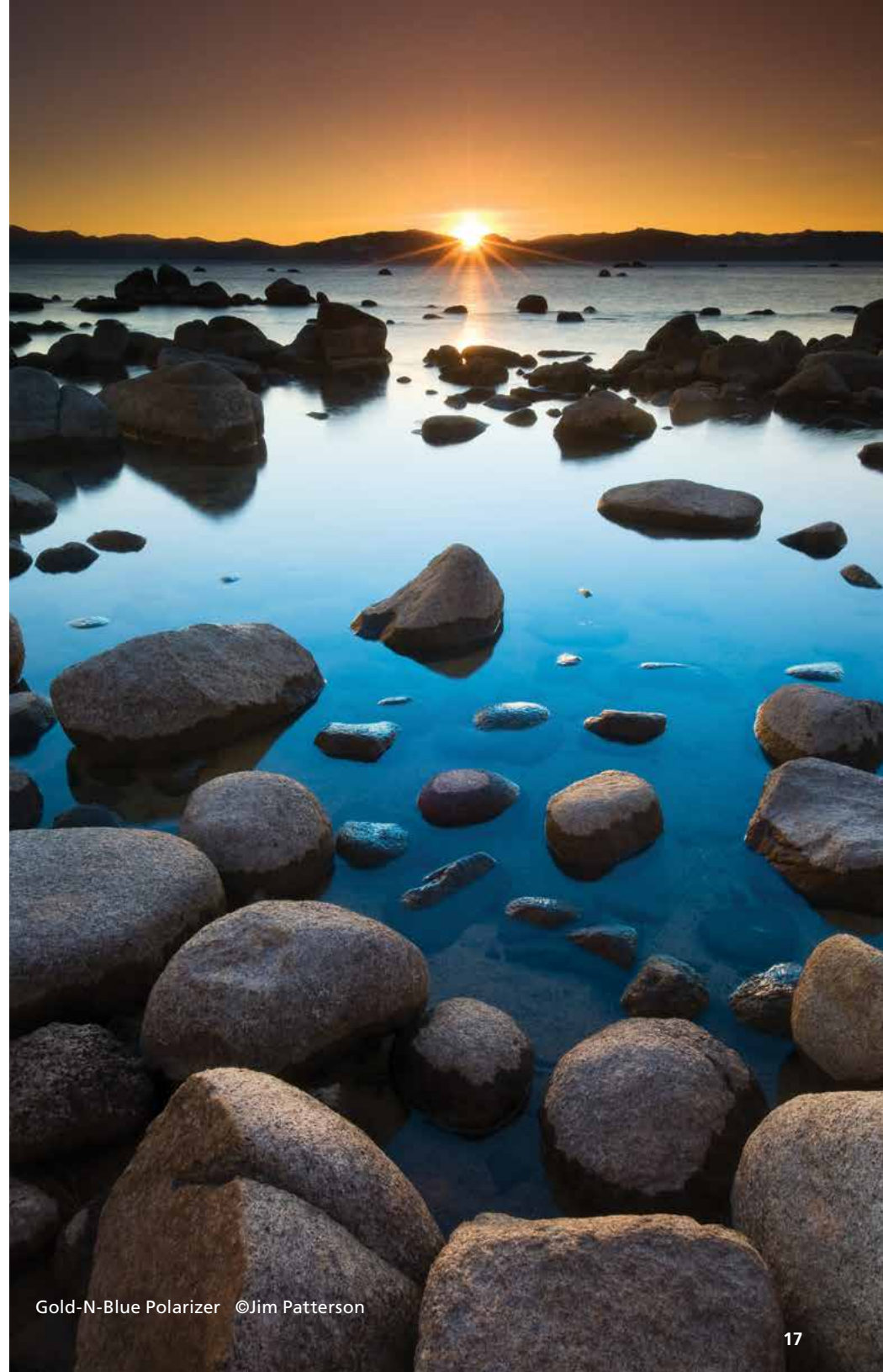
(Refer to your camera's operation manual.) Your digital camera will promptly compensate for the magenta tint and display a corrected image on the LCD, and show you the gold and/or blue effect of the

filter. You can also correct for the magenta tint in RAW post-processing by using the "eye dropper" to correct white balance.

Now get set to enjoy all the surprising images the Gold-N-Blue makes possible.



Gold-N-Blue Polarizer ©Russ Bishop



Gold-N-Blue Polarizer ©Jim Patterson

Hi-Lux™ Warming UV Filter assures optical clarity as well as full-time lens protection



Hi-Lux Filter ©Chris Moore



Hi-Lux Filter with electronic flash ©Destination Cape Breton/Dale Wilson

In 2004, with the photographic world already supplied with enough UV filters to guard the front element of most of its camera lenses, Singh-Ray nevertheless set out to formulate a “professional” UV filter that would be well worth using for its optical qualities alone. The result is the Hi-Lux Warming UV Filter.

Designed to do what many would say can’t be done—improve the peak acuity and chromatic clarity of lenses under certain light conditions—the Hi-Lux offers special optical characteristics that not only control ultraviolet light, but help optimize the quality, contrast, and edge separation between colors and add just slightly less warming than an 81-A filter. The Hi-Lux is very effective in bright sunlight, with electronic flash, and at high altitudes.

The Hi-Lux difference may not always be obvious. Even keen-eyed professionals won’t always see the advantage. Those who are now using a Hi-Lux full-time on their lenses, however, are convinced they get much more than simple lens protection and professional-grade optical integrity.



Hi-Lux Filter ©Nevada Wier



Hi-Lux Filter ©Nevada Wier

Tony Sweet Soft-Ray™ diffusion filter works like a dream

Developed initially for leading nature photographer Tony Sweet, who asked us for a “serious” professional grade diffusion filter, the Singh-Ray Soft-Ray filter offers you a poetic way to portray what you see.

By softly diffusing your image without masking its essential content, you'll find that a Soft-Ray filter can often produce a stronger emotional impact for various scenes and subjects. It's capable of optically accentuating the softness in the scene without losing too much detail or contrast.

The Soft-Ray filter series incorporates a high-tech design that maintains its diffusing effect at all lens apertures and generates its luminous effect very evenly from corner to corner without losing the essential detail.

For added impact try stacking your Soft-Ray filter with any of your other Singh-Ray filters—from Graduated ND Filters to

the LB ColorCombo or Gold-N-Blue. It's another great way to achieve surprisingly artistic effects right in the camera, in one quick simple step.

It can also be used to create a dramatic and romantic effect for wedding and portrait photography, creating a painterly effect that can be simply magical.



Soft-Ray Diffuser ©Tony Sweet



Soft-Ray Diffuser ©Tony Sweet



Soft-Ray Diffuser ©John Barclay



In just one step, the Soft-Ray adds a romantic glow effect for portraits and bridal images.

Serious black-and-white photography seriously benefits from Singh-Ray Filters

People generally associate Singh-Ray filters with color landscape work, but sometimes overlook their usefulness when it comes to black-and-white photography. Without color to help paint the picture, it's even more important to maximize dynamic range, manage contrast, and control how colors are captured for the best B&W results.

Whether you're shooting RAW files and converting to monochrome, shooting monochrome JPG, or shooting black-and-white film in any format, consider the benefits Singh-Ray filters can offer.

LB Polarizers: glare and reflected light are as much of a problem for B&W as for color. Using a polarizer will help control your image contrast, and can darken skies to make clouds even more dramatic.

Graduated ND Filters: when shooting digital monochrome, it's even more important to ensure you don't

exceed the dynamic range your camera can capture, as you reduce millions of colors to essentially 256 levels of gray. And digital isn't as forgiving as B&W film photographers may be used to.

Variable Density Filters: long exposures in B&W can be impressively dramatic. Our Vari-ND, Vari-N-Duo and Vari-N-Trio, Mor-Slo, and other filters can help you extend your exposures beyond the ordinary to not only blur water and clouds (below left) but to ghost or eliminate pedestrians, traffic, or other distractions. (The shot below right was taken on a busy pier, but the long exposure rendered most of the people invisible or mere ghosts.)

LB Color Intensifier or Gold-N-Blue: brighter colors will still "pop" from an image, even with B&W conversion.

So, next time you're shooting B&W, reach for your filters to see the difference.



Graduated ND Filter ©Adam Barker



Gold-N-Blue ©Alec Johnson



Vari-ND ©Cole Thompson



Graduated ND Filter ©Ben Chase



Joel Addams "The goal for this shot was to capture all of the highlights in the scene. I simply made sure there were no large spikes on the right side of my histogram. By improving my RAW color image with a properly exposed sky—thanks to the ND Grad—I was able to produce a more natural-looking sky and a more balanced image from top to bottom."



Graduated ND Filter ©Joel Addams

More sizes to perfectly fit the needs of more photographers

Many photographers are discovering their new, larger lenses need bigger filters, and they're finding that Singh-Ray can deliver them. We're ready to provide you with ND Grads, Reverse ND Grads, and Solid ND Filters in widths of 84 (P-size), 100, 130 and 150mm to fit nearly any holder, as well as LB Warming Polarizers for 100mm holders and 105mm standard ring-mount.

Although P-size filters remain popular among many outdoor photographers, there has been a steady increase in the use of larger Graduated ND Filters. Singh-Ray's 4x6-inch Graduated ND Filters are not only sized to fit both the Z-Pro™ and Lee™ filter holders, but many outdoor photographers have discovered they are just the right size to hand-hold in front of their lenses instead of bothering with a lens-mounted filter holder.

Their reasons for manually positioning Graduated ND Filters include faster handling, no holder to carry, and being able to avoid vignetting by placing the filter directly in front of their wide-angle lens—since it's the filter holder, not the filter that

usually leads to vignetting. When stacking two ND Grads together, it's also much easier to hold them up to the light to fine tune the gradients before holding them in front of the lens and making the exposure. The recent development of the "live-view" focusing feature on many cameras may also contribute to the preference for hand-holding ND Grads.

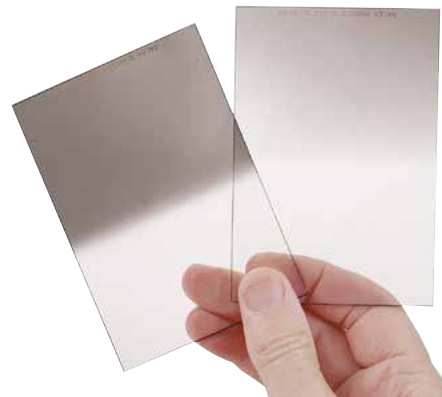
In addition to larger sizes, we also offer many filters in smaller sizes to fit compact still and video cameras. We also offer custom configurations—just call us!



Adam Barker hand-holds his 4x6-inch ND Grads ©Adam Barker

These Singh-Ray Filters will help you get there sooner...

Galen Rowell Graduated Neutral Density Filters



Hold back bright sky to balance exposure with foreground. Available in Hard-Step or Soft-Step Graduation. See page 6 for details.

P-size (84x120mm)

Hard-Step or Soft-Step

☐ 1, 2 or 3-Stop – \$99 each

☐ 4-Stop – \$150 each

Z-Pro™, Lee™ (4x6 inch or 100x150mm)

Hard-Step or Soft-Step

☐ 1, 2 or 3-Stop – \$160 each

☐ 4-Stop – \$250 each

X-Pro™ size (130x185mm)

Hard-Step or Soft-Step

☐ 1, 2 or 3-Stop – \$225 each

☐ 4-Stop – \$315 each

Lee SWF™ (6x9 inch or 150x225mm)

Hard-Step or Soft-Step

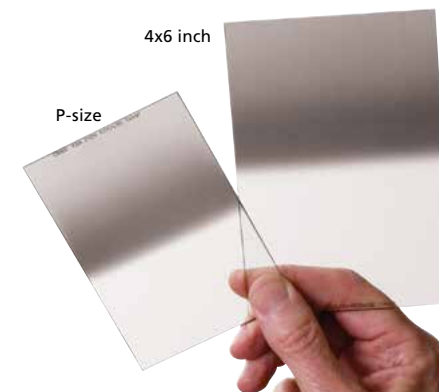
☐ 1, 2 or 3-Stop – \$350 each

☐ 4-Stop – \$400 each

More sizes, mounts and varieties may be available. Visit our website for current information and other available products. Extra charge for thin ring, special mounts and custom filters. Specifications, materials, pricing, and availability are subject to change.

Order online anytime...
www.Singh-Ray.com
or call 1-800-486-5501

REVERSE Graduated Neutral Density Filters



Reverse Graduation (darkest in center) is ideal for balancing exposure of sunset or sunrise shots. See page 8 for details.

P-size (84x120mm)

☐ 1, 2 or 3-Stop – \$120 each

☐ 4-Stop – \$210 each

Z-Pro, Lee (4x6 inch or 100x150mm)

☐ 1, 2 or 3-Stop – \$190 each

☐ 4-Stop – \$275 each

X-Pro size (130x185mm)

☐ 1, 2 or 3-Stop – \$260 each

☐ 4-Stop – \$360 each

Lee SWF (6x9 inch or 150x225mm)

☐ 1, 2 or 3-Stop – \$360 each

☐ 4-Stop – \$460 each

Graduated Strip Filters

Strip Filters add density in a concentrated central strip.

Available in neutral, orange or pink, they add about one stop of density at the darkest point.



☐ P-Size – \$120 each

☐ Z-Pro, Lee – \$190 each

☐ Lee SWF – \$360 each



Vari-ND™ Variable Neutral Density Filter

True neutral density filter, adjustable from roughly 2 to 8-stop density, in a single filter. Thin-ring has no front threads to minimize vignetting with wide-angle lenses. See page 2 for more details and examples.



- ❑ 77mm standard ring – \$340 each
- ❑ 77mm thin-ring mount – \$390 each
- ❑ 82mm standard ring – \$420 each

Vari-N-Duo™ Polarizing Variable Density Filter

Up to 8 stops of variable density, with the addition of polarizing to control glare, reflections, and improve color saturation. Visit our website for details and examples.

- ❑ 77mm standard ring – \$390 each
- ❑ 77mm thin-ring mount – \$440 each

Vari-N-Trio™ Polarizing Variable Density Filter with Color Intensifier

Up to 8 stops of variable density, with polarization, and color intensifier to deliver a natural boost to your images in camera. Visit our website for details and examples.

- ❑ 77mm standard ring – \$540 each
- ❑ 77mm thin-ring mount – \$580 each

George Lepp Solid Neutral Density Filters

Solid ND Filters allow slower shutter speeds for special motion effects, or wider lens apertures for shallower depth of field. Fixed density simplifies calculation of exposure.



P-size (84x120mm)

- ❑ 1, 2 or 3-Stop – \$99 each
- ❑ 4-Stop – \$150 each

Z-Pro, Lee (4x6 inch or 100x150mm)

- ❑ 1, 2 or 3-Stop – \$160 each
- ❑ 4-Stop – \$250 each

X-Pro size (130x185mm)

- ❑ 1, 2 or 3-Stop – \$210 each
- ❑ 4-Stop – \$300 each

Lee SWF (150mm or 6 inches wide)

- ❑ 1, 2 or 3-Stop – see website

Ring Mount (Standard sizes up to 77mm)

- ❑ 1, 2 or 3-Stop – \$139 each
- ❑ 4-Stop – \$190 each

Mor-Slo™ Extreme Density

For super-long exposures, our Mor-Slo filters come in 5, 10 and 15-stop densities.

Mor-Slo 5-stop Density Filter

- ❑ 77mm standard ring – \$250 each
- ❑ 77mm thin-ring mount – \$280 each
- ❑ 82mm standard ring – \$300 each
- ❑ 82mm thin-ring mount – \$330 each
- ❑ 84x84mm P-size – \$315 each
- ❑ 4x4 (100mm) square – \$350 each

Mor-Slo 10-stop Density Filter

- ❑ 77mm standard ring – \$350 each
- ❑ 77mm thin-ring mount – \$380 each
- ❑ 82mm standard ring – \$390 each
- ❑ 82mm thin-ring mount – \$400 each
- ❑ 84x84mm P-size – \$400 each
- ❑ 4x4 (100mm) square – \$415 each

Mor-Slo 15-stop Density Filter

- ❑ 77mm standard ring – \$450 each
- ❑ 77mm thin-ring mount – \$480 each
- ❑ 82mm standard ring – \$550 each
- ❑ 82mm thin-ring mount – \$580 each
- ❑ 84x84mm P-size – \$550 each
- ❑ 4x4 (100mm) square – \$590 each

LB Warming and LB Neutral Polarizers

LB stands for “lighter, brighter.” True circular polarizing effects with only 1-1/3 stop density.

Available in Warming or Neutral formulation. See page 12 or website for full product details.



- ❑ 52 to 77mm filter rings – \$210 each
- ❑ 62 or 77mm thin-ring – \$240 each
- ❑ 82mm standard ring – \$260 each
- ❑ 82mm thin-ring – \$290 each
- ❑ P-size sprocket – \$210 each
- ❑ Z-Pro sprocket ring – \$390 each

LB Color Intensifier

Singh-Ray's signature Color Intensifier effect is now 66% brighter. Subtly and naturally enhances color contrast without affecting neutrals. See page 14.



- ❑ 52 to 77mm filter rings – \$240 each
- ❑ 62 or 77mm thin-ring – \$270 each
- ❑ 82mm standard ring – \$290 each
- ❑ 82mm thin-ring – \$320 each
- ❑ P-size square – \$240 each
- ❑ 4x4 (100mm) square – \$390 each

LB ColorCombo™

Combines the benefits of our LB Warming Polarizer and our LB Color Intensifier for the best of both worlds in a single versatile filter. See page 15 for details.



- ❑ 52 to 77mm filter rings – \$370 each
- ❑ 62 or 77mm thin-ring – \$400 each
- ❑ 82mm standard ring – \$420 each
- ❑ 82mm thin-ring – \$450 each
- ❑ P-size sprocket – \$370 each

Gold-N-Blue™ Polarizer

Transforms ordinary light into extraordinary images. The “secret weapon” of many pros adds variable gold or blue tones to polarized light for effects ranging from subtle to dramatic. See page 16 and website for more details.



- ❑ 52 to 77mm filter rings – \$240 each
- ❑ 62 to 77mm thin-ring – \$290 each
- ❑ P-size sprocket – \$240 each

Hi-Lux™ Warming UV Filter

Blocks UV and adds a warming touch. In certain lighting conditions, it can improve peak acuity, chromatic clarity and edge separation. See page 18 for details.



- ❑ 52 to 77mm filter rings – \$160 each
- ❑ 62 or 77mm thin-ring – \$190 each
- ❑ 82mm standard ring – \$210 each
- ❑ 82mm thin-ring – \$240 each
- ❑ P-size – \$160 each

Tony Sweet Soft-Ray™ Diffuser

Dramatic diffusion effects while retaining detail. Works evenly corner to corner at any aperture, and with other filters. See page 19 for details.



- ❑ 77mm standard ring – \$210 each
- ❑ 77mm thin-ring mount – \$240 each
- ❑ 82mm standard ring – \$260 each
- ❑ 82mm thin-ring mount – \$290 each

I-Ray™ Infrared Filter

Eliminate all visible and ultraviolet light for pure infrared effect, either with digital or film cameras. See page 9 for details.

- ❑ 52 to 77mm filter rings – \$160 each
- ❑ 62 to 77mm thin-ring – \$190 each

Celebrating Over 50 Years of Service...

Time flies when you're having fun. It's hard to believe that we at Singh-Ray have been serving our friends for over 50 years!

It has been our pleasure to work with so many wonderful photographers, from enthusiastic hobbyists to experienced professionals, providing premium quality filters to help achieve your creative vision.

In addition to nature photography, our filters have been used by movie studios, scientific labs, airlines, industry, hundreds of television stations, universities, journalists, and the White House Press Corps. They have even been used in outer space during NASA missions.

But our primary mission has always been to provide professional-grade filters to help serious photographers like you make the most of your opportunities in the field and get more of what you're shooting for.

We appreciate all the support and loyalty we have received from our friends over the years, and we look forward to a bright future.

Bob Singh
Robert Singh

Singh-Ray For over 50 Years Filters

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Singh-Ray.com

Our blog "Focus on Singh-Ray Filters" is your never-ending worldwide filter workshop

When it comes to the latest examples and information on using Singh-Ray Filters, the first place to check is our blog, "Focus on Singh-Ray Filters." You'll find many feature length stories and stunning images from many of today's top photographers.

These photographers candidly discuss their use of Singh-Ray Filters to get the best possible image while they're still at the scene. You'll find valuable insights and tips for selecting the best filters for each situation and visual setting, from seashores and deserts, to ski slopes and studios.

But there's more... many of the stories on the blog reveal the photographer's "inner game" and thought process to visualize and capture world-class images. You'll get new ideas for solving problems in the field, using filters, or other tools and methods in easy-to-understand language.

You'll frequently find scouting reports from various photo destinations around the world that can help you plan your next adventure. You'll also get ideas for finding potential images anywhere you are and wherever you go.

And best of all, you'll find a continuing flow of new stories to keep you inspired and motivated to follow the lead of top professionals and accomplished amateurs.

The impressive images you'll see on the blog will quickly confirm the fact that Singh-Ray filters are as useful and essential as ever for serious outdoor and nature photographers.

There are over 500 stories in the blog archive, with more being added each week. It's like a never-ending worldwide filter workshop, taught by dozens of the world's top photographers. Check it out!

www.SinghRayBlog.com



Marco Crupi: "As dawn broke, I was lucky to experience a beautiful light with an amazing sunrise to follow... The light was just right and the colors were truly overwhelming. Because the light was still very low, and because I wanted to apply my Singh-Ray Vari-ND to give the shot motion, I had no option but to bring down the f-stop to f8, while retaining the ISO 100. I was able to shoot this frame at a 30 second exposure."

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Front Cover Image: LB ColorCombo with 3-stop Hard-Step ND Grad ©Kevin McNeal