SW150
Mark II filter system
The SW150 Mark II

With their ability to include vast amounts of information in the frame and exaggerate perspective, not to mention their capacity for emphasising the drama in a scene, it’s no surprise that ultra-wideangle lenses are experiencing a surge in popularity.

With this, however, comes a problem that has to be solved. Standard filter systems tend not to be compatible with such lenses, which have a protruding front element that is often protected by a non-removable petal lens hood. LEE Filters has overcome this technical problem with the introduction of the SW150 Mark II system. Designed specifically for use with ultra-wideangle lenses, and with its specially manufactured filters, it opens up all the same creative possibilities that are part of the standard filter systems, giving the photographer maximum control over their results.

*Front cover photography by Jeremy Walker (jeremywalker.co.uk)*
## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>The system</td>
<td>4</td>
</tr>
<tr>
<td>The filters</td>
<td>10</td>
</tr>
<tr>
<td>The Stopper range</td>
<td>20</td>
</tr>
<tr>
<td>Single SW150 filters</td>
<td>28</td>
</tr>
<tr>
<td>Accessories</td>
<td>32</td>
</tr>
<tr>
<td>Publications</td>
<td>34</td>
</tr>
<tr>
<td>Index</td>
<td>35</td>
</tr>
</tbody>
</table>

0.6ND hard grad & Little Stopper
The system

The most important part of the SW150 system is the adaptor ring. This will allow the filter holder to be attached to your lens. Each adaptor ring in the range has a slight design variation, so make sure you purchase the correct version for your lens (see compatible lenses, page 6).

In addition to the adaptor ring, you will also require a filter holder. Once the adaptor ring is attached to your lens, the filter holder simply locks on, the filters are slotted in, and your system is ready to use. The filter holder comes assembled with two slots, allowing you to combine filters where necessary.

Once attached, the filter holder can be rotated. This means that filters such as neutral-density grads can be used at an angle, for precise control.
How to fit the SW150 lens adaptor

To fix the lens adaptor, the lens must be detached from the camera.

The lens adaptor is made up of three rings: a front ring (which has small lugs), a compression ring (which is red) and a locking ring. The three rings must be unscrewed from one another before assembling.

Place the front ring over the lens shade, with the small lugs furthest from the lens body. The ring should locate in the correct position.

Invert the lens, keeping the front ring in place with your fingertips.

Introduce the red compression ring from the rear of the lens.

Once the red compression ring is in place, place the locking ring over it. Ensure the flange is facing upwards, towards the rear of the lens.

Screw the locking ring into the front ring in a clockwise rotation until tight. The collar is now fixed in place.

The SW150 filter holder slips easily over the lens adaptor. Tighten the locking screw to fix the holder firmly to the adaptor. The holder will still rotate.
Compatible lenses
The SW150 Mark II is available for the following lenses:

- Nikon AF-S Nikkor 14-24mm f/2.8G ED
- Canon EF 11-24mm f/4L USM*
- Samyang 14mm f/2.8 ED AS IF UMC
- Sigma 12-24mm f/4.5-5.6 DG HSM II
- Sigma 20mm F/1.4 DG HSM Art
- Tamron 15-30mm f/2.8 SP Di VC USD
- Tokina AT-X 16-28mm f/2.8 PRO FX

*Please note that due to the physical size of this lens, and the extremely wide angle of view, the SW150 filter holder will vignette (or rather, the filter guides intrude into the edges of the image) at the widest angles. To avoid any vignetting we recommend using a minimum focal length of 13.5mm when using the filter holder with two filter slots and 12.5mm when using the holder with one filter slot.

We expect further lenses to be added to the range. Check our website at www.leefilters.com for the latest additions.
SW150 screw-in adaptors
It’s now possible to adapt the SW150 for use with lenses other than ultra-wideangles, so it’s no longer necessary to purchase separate filter systems. All you need is one of the following screw-in adaptors:

- 72mm
- 77mm
- 82mm
- 86mm
- 95mm
- 105mm

The Lightshield
The SW150 Mark II system also comes fitted with a Lightshield. This sits in front of the lens, creating a light-tight seal, and is designed to prevent flare from spoiling images. It is particularly useful for photographs taken with long-exposure filters such as the Big and Little Stopper.

Users of the SW150 Mark I system can purchase a Lightshield separately and fit it to their existing filter holder. Once fitted, it can remain in place.
Dragon’s egg, by Sarah Hatton
The Little Stopper slows down the exposure sufficiently to create a sense of movement around the static rock formation, while a 0.9ND hard grad balances the exposure of the sky with the foreground.
Neutral-density graduated filters

An essential part of any photographer’s filter kit, neutral-density (ND) grads are designed to balance extremes of exposure in a scene – for example, a bright sky and a darker foreground. Manufactured from optically correct resin, LEE Filters ND grads are truly neutral, and do not create a colour cast across the area affected by the filter. Because the filter holder can be rotated, grads can also be used at angles and upside down, for use on occasions when the foreground is brighter than the sky.
All LEE Filters ND grads are made by hand, using technology that ensures the line of transition between the coated and clear areas of the filter is extremely precise. As a result, we have been able to expand the range of ND grads available to photographers using the SW150 filter system. Now, alongside the traditional hard and soft gradations, photographers can also choose very hard and medium gradations, giving more control than ever when it comes to balancing exposures in-camera.

**Very hard grad**
The very hard ND grad is perfect for scenes such as seascapes that feature a defined horizon line. The transition between the coated and clear sections of the filter is extremely sharp, allowing for precision separation between the filtered and unfiltered areas of the frame.

**Hard grad**
The hard ND grad remains the same versatile filter it’s always been. Featuring a slightly deeper area of transition than the very hard grad, it is as suited to the landscape as it is to the urban environment.

**Medium grad**
LEE Filters has been manufacturing a bespoke medium ND grad to order for a number of years. It proved so popular with professional photographers, it has now been made available to all. This filter is ideal for use when elements of the scene protrude into the sky, be that the rooftops of buildings or the peaks of mountains. The nature of the transition between coated and uncoated areas of the filter means that the sky can be filtered with minimal impact on the land beneath it.

*0.6ND medium grad*
Soft grad

The soft ND grad is essential when photographing scenes that don’t feature any sky, but which still require filtration to balance the exposure. A typical example might be a woodland scene the features streams of sunlight coming into the frame from an upper corner. The line of a hard grad would show up on the image, whereas the transition of a soft grad is undetectable. Soft grads are also ideal for scenes in which there is little definition between land and sky, or when large objects protrude into the sky.

Don’t forget, different ND grads can be combined in the same holder, whether it’s to create a staggered gradation effect, at different angles, or to subtly reduce contrast in differing parts of the frame.

All four types of grad are available in the following strengths: **0.3** (1 stop), **0.45** (1½ stops), **0.6** (2 stops), **0.75** (2½ stops), **0.9** (3 stops) and **1.2** (4 stops)
Neutral-density grad sets
In addition to being available individually, four ND grad sets are available for the SW150 system.

<table>
<thead>
<tr>
<th>ND Grad Very Hard Set</th>
<th>0.3ND very hard grad</th>
<th>0.6ND very hard grad</th>
<th>0.9ND very hard grad</th>
</tr>
</thead>
<tbody>
<tr>
<td>ND Grad Hard Set</td>
<td>0.3ND hard grad</td>
<td>0.6ND hard grad</td>
<td>0.9ND hard grad</td>
</tr>
<tr>
<td>ND Grad Medium Set</td>
<td>0.3ND medium grad</td>
<td>0.6ND medium grad</td>
<td>0.9ND medium grad</td>
</tr>
<tr>
<td>ND Grad Soft Set</td>
<td>0.3ND soft grad</td>
<td>0.6ND soft grad</td>
<td>0.9ND soft grad</td>
</tr>
</tbody>
</table>
Field and sky, by Jeremy Walker
A 0.9ND hard grad balances the exposure of the sky with the foreground, while a Big Stopper introduces a sense of movement to the sky and the crops.
Whereas the neutral-density grad features an area of transition where the dye fades to clear, a standard neutral-density filter is coated evenly all over. Standard neutral-density filters for the SW150 Mark II system come in the following strengths: 0.3 (1 stop), 0.45 (1½ stops), 0.6 (2 stops), 0.75 (2½ stops), 0.9 (3 stops)

These filters are extremely useful for bringing shutter speeds down to a useable length – for example, when shooting into the sun. They are also versatile, in that they can be stacked one on top of the other, to lengthen the exposure even further. As with neutral-density graduated filters, they can be used in conjunction with other types of filter (a polariser or a warm-up, for example), for increased versatility.

However, they aren’t useful only for extending shutter speeds. They can also be used to bring down ISO ratings and to allow the photographer to use a wider aperture. For example, if your meter reading suggests an aperture of f/8, fitting a 0.9 ND standard filter would allow you to open up the aperture by three stops to f/2.8, allowing you to selectively focus and draw attention to the most important element of your composition.
**Polarising filter**
An extremely versatile filter, the polariser serves a number of functions. Most commonly, it is used to deepen the blue of a sky and increase its contrast against white clouds. It can also cut the reflections from surfaces such as glass and water, thus increasing the sense of depth.

Although square in shape, it is a circular polariser type, which makes it compatible with automated metering systems. When used alone, without any other filters, it can be rotated at any angle in the holder and its effect on the subject observed. However, when used in conjunction with an ND grad, the position of the grad will dictate the angle at which the polariser can be used.

**How to use the SW150 polariser**
When slotting the polariser into the filter holder, ensure that the printed face is away from the lens, facing the subject.

If used alone, without any other filters, the polariser can be rotated until the desired effect is achieved.

If used in conjunction with a graduated filter, the grad should be positioned first, then the polariser added.

Rotation is not possible without turning the grad. As a result, the polariser can only be used in one of two orientations, achievable by turning it through 90 degrees.
White horse, by Jeremy Walker

A polarising filter is essential for intensifying blue skies that would otherwise appear washed out.
Ethereal, moody and abstract, long-exposure photography has, in recent years, pushed the boundaries of what it’s possible to express in a picture. Its enjoyment lies in both the contemplative nature of the process, and in the fact that you never know quite what the result will be until you see the final image.

There are three filters in the Stopper range – the Little Stopper (6 stops), Big Stopper (10 stops) and the Super Stopper (15 stops). Together, they have revolutionised the genre of long-exposure photography, opening up all sorts of creative possibilities, and broadening the scope for photography throughout the day – not just in the early and late hours, which are traditionally seen as the best times for landscape photography.
But long-exposure photography isn’t only for land and seascapes. Using a Stopper filter in the urban environment to render moving people and vehicles as a blur – or indeed making them ‘disappear’ altogether – is a very effective technique for conveying the hustle and bustle of the city.

**The Little Stopper**
The Little Stopper’s name isn’t a reflection of its size (it measures 150 x 150mm – the same as the Big and Super Stopper), but of its strength. At six stops, it is four stops faster than its bigger brothers. This makes it indispensable for occasions when ten or fifteen stops is too great an extension of the exposure – for instance, when shooting in lower light conditions. For examples, a 1/30sec at f/8 becomes two seconds, while one second lengthens to one minute.

**The Big Stopper**
The original long-exposure filter, the Big Stopper increases exposure time by ten stops. Equally effective whether you are shooting in colour or black and white, the Big Stopper can extend the exposure so that fast-moving clouds render as streaks of grey, and even rough seas can appear flat and calm. Of course, depending on the combination of shutter speed, aperture and ISO, varying levels of detail can be captured. Its stopping ability means that a 1/30sec at f/8 becomes 30 seconds, while a one-second reading converts to a full 16-minute exposure time.
The Super Stopper

With its 15 stops of light-reducing power, the Super Stopper sits at the head of the Stopper family, joining the Big and Little Stoppers in the long-exposure photography revolution. Together, they have changed the way we look at moving objects and their relationship to the land, and have given photographers new ways of expanding their creativity.

The Super Stopper is designed for use in bright conditions during the middle of the day – a time that’s traditionally considered unsuitable for photography because of the harsh, contrasty nature of the light. However, with the Super Stopper filter fitted, the softness that arises from any movement contrasts pleasingly with any areas of bright light, creating an effect rarely seen in photography before now.

Like all the filters in the Stopper family, the Super Stopper is constructed from the high-quality optical glass and is supplied in a metal case for protection. It has only a minimal colour cast that is easily corrected in postproduction.
How to use the SW150 Stopper range

The Stopper should be placed in the rear filter slot, closest to the lens, with the filter’s foam seal facing the lens.

If you apply slight pressure to the foam from the rear of the filter as you slide it in, this will ensure that the foam edge does not snag on the top edge of the Lightshield. Only slight pressure is required.

Ensure that the Lightshield is secure.

The filter should be accurately aligned with the edge of the Lightshield, with the filter’s foam snugly against it. This prevents any light leaking in behind the filter and causing flare.

If using the holder in bright conditions, you should always shade the holder to avoid any direct sunlight hitting it. This is good practice in all conditions and limits the likelihood of flare and rear reflections.

Don’t forget to cover the eyepiece when taking long exposures, to prevent light entering the camera through the viewfinder and fogging the sensor.
Combining filters
One of the most useful aspects of the Stopper filters is that they can be combined with other filters, such as an ND grad or a polariser. This allows for even more precise control of the image at the shooting stage, and means less time spent making corrections with image-manipulation software.

Exposure guide
The Big Stopper will have a density of somewhere between 9⅓ and 10⅔ stops, the Little Stopper will have a density of somewhere between 5⅓ and 6⅔ stops, while the Super Stopper will have a density of somewhere between 14⅓ and 15⅔ stops. We recommend taking some test shots when you first fit your Stopper filter, to ensure you know the correct exposure compensation to use when out in the field.
# Exposure Guide

## Little Stopper

<table>
<thead>
<tr>
<th>Normal Shutter Speed</th>
<th>with Little Stopper</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2000 sec</td>
<td>1/30 sec</td>
</tr>
<tr>
<td>1/1000 sec</td>
<td>1/15 sec</td>
</tr>
<tr>
<td>1/500 sec</td>
<td>1/8 sec</td>
</tr>
<tr>
<td>1/250 sec</td>
<td>1/4 sec</td>
</tr>
<tr>
<td>1/125 sec</td>
<td>1/2 sec</td>
</tr>
<tr>
<td>1/60 sec</td>
<td>1 second</td>
</tr>
<tr>
<td>1/30 sec</td>
<td>2 seconds</td>
</tr>
</tbody>
</table>

## Big Stopper

<table>
<thead>
<tr>
<th>Normal Shutter Speed</th>
<th>with Big Stopper</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2000 sec</td>
<td>1/2 sec</td>
</tr>
<tr>
<td>1/1000 sec</td>
<td>1 second</td>
</tr>
<tr>
<td>1/500 sec</td>
<td>2 seconds</td>
</tr>
<tr>
<td>1/250 sec</td>
<td>4 seconds</td>
</tr>
<tr>
<td>1/125 sec</td>
<td>8 seconds</td>
</tr>
<tr>
<td>1/60 sec</td>
<td>15 seconds</td>
</tr>
<tr>
<td>1/30 sec</td>
<td>30 seconds</td>
</tr>
</tbody>
</table>

## Super Stopper

<table>
<thead>
<tr>
<th>Normal Shutter Speed</th>
<th>with Super Stopper</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2000 sec</td>
<td>15 seconds</td>
</tr>
<tr>
<td>1/1000 sec</td>
<td>30 seconds</td>
</tr>
<tr>
<td>1/500 sec</td>
<td>1 minute</td>
</tr>
<tr>
<td>1/250 sec</td>
<td>2 minutes</td>
</tr>
<tr>
<td>1/125 sec</td>
<td>4 minutes</td>
</tr>
<tr>
<td>1/60 sec</td>
<td>8 minutes</td>
</tr>
<tr>
<td>1/30 sec</td>
<td>16 minutes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Normal Shutter Speed</th>
<th>with Super Stopper</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/15 sec</td>
<td>32 minutes</td>
</tr>
<tr>
<td>1/8 sec</td>
<td>1 hr 4 mins</td>
</tr>
<tr>
<td>1/4 sec</td>
<td>2hrs 8 mins</td>
</tr>
<tr>
<td>1/2 sec</td>
<td>4hrs 16 mins</td>
</tr>
<tr>
<td>1 second</td>
<td>8hrs 32 mins</td>
</tr>
<tr>
<td>2 seconds</td>
<td>17hrs 4 mins</td>
</tr>
</tbody>
</table>
Swanage Pier, by Mark Bauer

A graduated filter means that the tones of the sky and sea are almost equal, making them appear almost to merge into one other. Extending the exposure with the Little Stopper enhances the effect.
Single SW150 Filters

Neutral Density:

0.3ND Very Hard Grad

0.45ND Very Hard Grad

0.6ND Very Hard Grad

0.75ND Very Hard Grad

0.9ND Very Hard Grad

1.2ND Very Hard Grad

0.3ND Hard Grad

0.45ND Hard Grad

0.6ND Hard Grad

0.75ND Hard Grad

0.9ND Hard Grad

1.2ND Hard Grad

0.3ND Medium Grad

0.45ND Medium Grad

0.6ND Medium Grad

0.75ND Medium Grad

0.9ND Medium Grad

1.2ND Medium Grad

0.3ND Soft Grad

0.45ND Soft Grad

0.6ND Soft Grad

0.75ND Soft Grad

0.9ND Soft Grad

1.2ND Soft Grad

0.3ND Standard

0.45ND Standard

0.6ND Standard

0.75ND Standard

0.9ND Standard
Single SW150 Filters

Coral continued:

- Coral 7 Grad
- Coral 8 Grad
- Coral 9 Grad
- Coral 10 Grad
- Coral 11 Grad
- Coral 12 Grad
- Coral 13 Grad
- Coral 14 Grad
- Coral Stripe
- Pale Coral Stripe

Straw:

- Straw 1 Grad
- Straw 2 Grad
- Straw 3 Grad

Sunset:

- Sunset 1
- Sunset 2
- Sunset 3
- Sunset Red
- Sunset Yellow
- Sunset Orange

Mist:

- Mist Grad
- Mist Stripe
Colours:

Chocolate 1 Grad
Chocolate 2 Grad
Cyan Grad
Cyan 1 Grad
Mahogany 1 Grad
Mahogany 2 Grad
Mahogany 3 Grad
Pink 1 Grad
Pink Stripe
Real Blue 1 Grad
Real Blue 2 Grad
Real Blue 3 Grad
Sepia 1 Grad
Sepia 2 Grad
Sepia 3 Grad
Sky Blue 1 Grad
Sky Blue 2 Grad
Sky Blue 3 Grad
Sky Blue 4 Grad
Sky Blue 5 Grad
Tobacco 1 Grad
Tobacco 2 Grad
Tobacco 3 Grad
Twilight

Black and White:

No 3
No 8
No 11
No 12
No 15
No 16
No 21
No 23A
Accessories

Field pouch
Keeping your filters dry and clean is as much of a priority for your grads, Stoppers and polariser as it is for your lenses. Dust and smears on filters can degrade the quality of your image, and create extra work at the postproduction stage.

In order to keep your filters clean, safe and – above all – close to hand so they’re there exactly when you need them, LEE Filters has introduced the Field Pouch. A versatile accessory, it will soon become as essential as the filters you carry in it. Its concertina design permits one slot per filter – up to a maximum of ten – and makes each filter easily accessible.

The Field Pouch has three strap options: it can be worn over the shoulder, on a belt loop, or it can be attached to a tripod. As a result, your filters are easy to reach, whether you’re on the move or plan to be in one spot for an extended period of time.

Available in black or sand, the Field Pouch is constructed of a tough, durable fabric that will withstand the kind of wear and tear that the average outdoor photographer is likely to subject it to.

The Field Pouch holds 10 filters and can be worn with either a shoulder strap or belt loop. An additional tripod strap allows the pouch to be attached to a tripod for easy access during use.
Stopper case
Protect your Stopper filters from unwanted knocks whilst in your camera bag with this protective tin case. The case has a foam insert that holds the filter firmly in place reducing the risk of damaging the filter.

Filter wrap
The Filter Wrap is a simple, yet ingenious design. Made from a microfibre cleaning cloth, it holds a single filter and can be stored, using only minimal space.

Filter cleaning solution
For use on resin and glass filters.

Cleaning cloth
A high quality cleaning cloth which can be used either dry or with the cleaning solution.
Publications

Xposure
The online magazine from LEE Filters, Xposure features interviews with some of the world’s finest photographers – including the likes of Colin Prior, David Noton and Karl Taylor – as well as advice on how to get the best from your filters and create inspiring images of your own. Download Xposure for free at leefilters.com

Learn from the professionals
With contributions from Joe Cornish, Charlie Waite, David Ward, Mark Denton, John Gravett, David Noton, Jeremy Walker, Paul Gallagher and Tom Mackie, Inspiring Professionals and Inspiring Professionals 2 are packed full of world-class photography and invaluable hints on how to get the best out of your LEE Filters products.

Both publications are also available as ebooks from the iBooks store (suitable for Mac and iPad). The multi-touch versions have been specifically designed for the best possible experience on screen. The high-quality images can be viewed full screen or alongside the commentary and diagrams that explain which filters were used for each shot.
Index

Accessories 32
Big Stopper 14, 20, 21, 25, 29
Black & White filters 31
Cleaning cloth 33
Coloured filters 31
Combination filters 29
Compatible lenses 6
Coral filters 29, 30
Filter cleaning solution 33
Filter holder 4
Field pouch 32
Filter wrap 33
Inspiring professionals books 34
Inspiring professionals ebooks 34
Lens adaptors 5, 6
Lightshield 7
Little Stopper 3, 8, 21, 24, 25, 26, 29
Mist filters 30
Neutral density 10, 11, 12, 13, 14
Neutral density graduated filters 26, 28
Neutral density graduated filter sets 13
Neutral density standard filters 16, 28
Polariser 17, 19, 29
Publications 34
Screw-in adaptors 7
Single SW150 filters 28, 29, 30, 31
Stopper case 33
Stopper range 20
Straw filters 30
Sunset filters 30
Super Stopper 22, 25, 29
Warm-up filters 29
Xposure magazine 34

Contact details

LEE Filters
Central Way, Walworth Business Park, Andover, Hampshire, SP10 5AN. UK
T: + 44 (0) 1264 366245
F: + 44 (0) 1264 355058
sales@leefilters.com
leefilters.com

LEE Filters USA
2237 North Hollywood Way, Burbank, CA 91505 USA
T: (800) 576 5055
F: (818) 238 1228
sales@leefiltersusa.com
leefilters.com

Contributing photographers: Mark Bauer (markbauerphotography.com), Sarah Hatton (iso100.com.au) and Jeremy Walker (jeremywalker.co.uk)