

Backscatter Hybrid Flash Intro

by Jim Decker

With the introduction of the Backscatter Hybrid Flash HF-1, underwater photographers can now capture stunning stills and video with a single versatile tool. With an underwater guide number of $f40$ and a 5,000 lumen video light, the Hybrid Flash is the most powerful strobe and video light combination ever created. The Backscatter Hybrid Flash also includes a 1,500 lumen spot light and a red light mode.

The Hybrid Flash is packed with tons of features and is the first strobe to feature Smart Control Automatic TTL Flash power for Sony, Olympus, and OM System cameras. The Hybrid Flash is also HSS compatible and can be used for remote shooting alongside the Mini Flash 2.

This all comes in an easy to travel medium sized strobe package that is perfect for both wide-angle and macro shooting. The Hybrid Flash special launch price is \$899, which is an incredible value for the power and features this strobe offers.

The powerful guide number $f40$ flash beam will easily illuminate subjects in high ambient light environments. Shallow brightly lit reefs, sunballs, and big scenes are easier than ever to light. The brightness of the Hybrid Flash has plenty of reach for more distant subjects in a scene.

The Hybrid Flash features a 5,000 lumen wide beam video light that can be used to capture video footage between still shots, or use the Hybrid Flash as a dedicated video light. This makes it an



Even when shooting with a 180° fisheye lens, dome diffusers provide complete edge to edge coverage.
Sony a7R V | Canon 8-15mm Lens | 1/125 | ISO 250 | $f14$
©James Emery - Backscatter

extremely versatile underwater lighting tool.

With a guide number of $f40$ and a 5,000 lumen video light, the Backscatter Hybrid Flash is the brightest strobe and video light combination ever created.

From the center to the edge, the Hybrid Flash has even light intensity with minimal drop-off. This



Coral Reef Wide Scene
With a max guide number of $f40$, big scenes are breeze to shoot with the Hybrid Flash.
Sony a7R V | Canon 8-15mm Lens | 1/250 | ISO 100 | $f13$
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will result in larger scenes being lit more evenly, with no harsh hot spots of light or major gaps. The wide angle coverage of the Hybrid Flash makes strobe positioning much simpler, due to the light's wide, even, and forgiving beam pattern.



The Hybrid Flash has plenty of options for creative lighting with flat and dome diffusers in different color temperatures and angles of coverage. The Hybrid Flash IR Filter is used in remote mode to mask the transmitting strobe from showing up in the image.

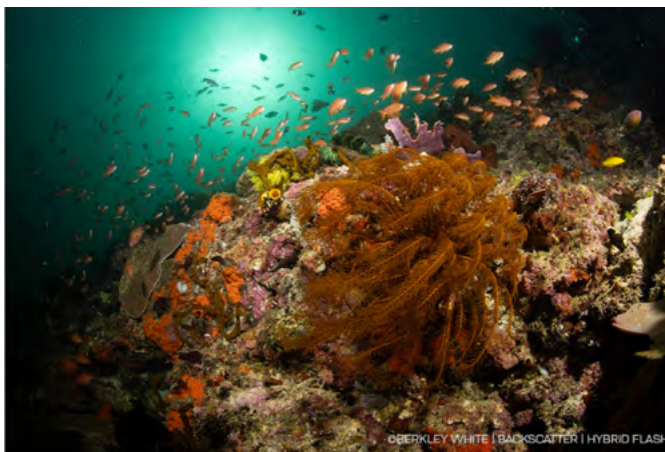
Master Creative Lighting

Dome Diffuser, Flat Diffuser - Choose Your Angle of Coverage

The Hybrid Flash is compatible with a variety of different diffusers. For brighter, more intense light, shoot the strobe without a diffuser to yield an angle of coverage of 120°. For wider, softer light, the included Hybrid Flash White 140 Flat Diffuser will expand the angle of coverage to 140° for bigger subjects and scenes. For the widest, softest, and most even lighting possible, the optional Hybrid Flash White 160 Dome Diffuser will expand angle of coverage to its maximum, at 160°.

Selectable Color Temperature – 6500K, 5500K, and 4500K

In addition to selecting the angle of coverage, the Hybrid Flash can be shot without a diffuser at 6500K, or the included flat diffuser for slightly warmer color. Optional 4500K and 5500K warming



No Diffuser

Choose the 4500K diffuser in green water to make backgrounds blue. Set your camera White Balance manually to 4500K to turn green water to blue in these sample raw images. The 4500K diffuser will correct your foreground to match the scene.

Canon EOS R3 | Canon 8-15mm Lens | 1/200 | ISO 200 | f18

filters are available in flat diffused and dome diffused filters. 4500K is perfect for adding richer, blue backgrounds at shallower depths, while the 5500K filters and diffusers will provide a more natural daylight appearance. Warming diffusers are also perfect for model shoots, providing you with warmer, more saturated skin tones for your human subjects.

Ambient Blue Filter for a More Natural Look

Traditional strobes use light that is significantly warmer than the much cooler blue light of the ocean. The Ambient Blue Filter matches the color temperature of the surrounding water, making the strobe match the color of the surrounding ambient light. When shot with the Ambient Blue Filter, the Hybrid Flash is filling shadows of the image, but not adding a different color to the scene. The Ambient Blue Filter is optimized for shooting at depths 10-35 feet.

(Top) No Strobe—Ambient Light Only (Middle) Hybrid Flash—No Filter (Below) Hybrid Flash—Ambient Blue Filter

©Jim Decker - Backscatter. Sony a1, Canon 8-15mm Lens, 1/160, ISO 200 f11



4500K diffuser



Pro Level Shooting

The Hybrid Flash is significantly brighter at maximum power than what most people are used to shooting. At guide number 40 it generates a lot of light but also generates a significant amount of heat if shot in rapid succession at that power level. The Hybrid Flash manages this with an aluminum flash head, internal heat sink, and multiple temperature sensors. These protections allow the hybrid flash to keep shooting without interruption, so you'll never miss a shot.

Full (GN f29) is more than enough light to tackle most situations. Boost +2 (GN f40) and Boost +1 (GN f34) are only needed for extra large scenes or shooting with diffusers to spread the light while maintaining a very bright output with plenty of reach.

We recommend starting at Full power. Boost +2 and Boost +1 are there when needed for extra punch on big wide scenes.

Shoot 30 Frames per Second with No Flash Drop Out

The Hybrid Flash has incredibly fast recycle times for a flash with its size and power and is built for rapid fire continuous shooting. The Backscatter Hybrid Flash will fire at 10 frames per second at 1/4 to 1/8 power, 20 frames at 1/8 power, and 30 frames at 1 click below 1/8 power.

Simple, Easy to Use Manual Mode

Only need manual mode? The first mode on the dial is manual mode. The Backscatter Hybrid Flash has 12 power levels in 1/2 stop increments.



For those only needing manual mode, it's conveniently located at the first position on the mode dial. Both controls have hard stops with different shapes making dial changes without looking a breeze. There are 12 power levels in 1/2 stop increments.

Fast Flash Duration to Sync with High Shutter Speeds

Flash duration is how long the flash tube is lit up when the strobe fires. This is measured in hundredths to thousandths of a second, making it relatable to the camera's shutter speed.

If the flash duration is slower than the shutter speed being used, the flash will be cut off by the shutter speed of the camera and will appear diminished in the photo.

With a fast flash duration of over 1/400th of a second at maximum power, the Hybrid Flash is faster than the flash sync speed of any SLR or mirrorless camera with a mechanical shutter available today. At power level Boost +1 (GN 34) the flash duration is over 1/900th of a second, and will increase in speed as the power level is turned down.

With such a fast flash duration, the Hybrid Flash gives the photographer with compact and global shutter cameras such as the Sony a9 III the freedom to shoot much faster shutter speeds to knock down high ambient light scenes.



For subjects that are constantly changing distances TTL is a great tool for getting a correct flash exposure on the fly.

*Sony a7R V | Canon 8-15mm Lens | 1/125 | ISO 400 | f16
©James Emery - Backscatter*

Automatic TTL Flash Exposure for Olympus, OM System, & Sony

The Hybrid Flash is the first production strobe to have Olympus, OM System, and Sony Automatic TTL Exposure using the Backscatter Smart Control System. Smart Control TTL exposure utilizes OM System RC mode and Sony's native TTL protocol, which is much more accurate than mimic TTL systems. Standard Smart Control mode is perfect for wide angle and larger subjects, while Smart Control Macro will tailor the flash output for macro shooting. The Hybrid Flash also includes an underexposure warning, which sounds when the strobe has reached maximum output. If the resulting image is too dark, get closer, increase ISO, or open up the aperture to properly expose the image. Flash EV compensation is easily handled using the camera's native menu system.

High Speed Sync (HSS) for Open Apertures and Black Backgrounds

The Hybrid Flash is also equipped with HSS mode, which allows faster shutter speeds to be used beyond the sync speed limit of the camera. HSS allows for wider open apertures while still being able to maintain a darker background than otherwise would be impossible at slower shutter speeds.

Sony Mirrorless cameras can achieve HSS using the Backscatter Sony Smart Control Trigger. Olympus and OM System mirrorless cameras can achieve HSS through RC mode with internal and clip-on flashes or with built in RC compatible flash triggers in housings such as the Backscatter E-M10 IV Octo Housing. For Nikon and Canon 3rd party flash triggers that support HSS are available such as UW Technics and the Turtle Trigger from TRT Electronics.

Using a more open aperture allows for more creative control for bokeh blur while the fast shutter speed of HSS maintains a darker background normally associated with more stopped-down apertures. This HSS picture was shot at 1/1,250 of a second for the dark background.

Backscatter Sony Smart Control Flash Trigger for TTL and HSS

The Backscatter Sony Smart Control Trigger is required for automatic Sony TTL and HSS with the Hybrid Flash. The flash trigger is placed on the hot shoe of the camera and is equipped with two LED lights to fit into a housing's optical bulkheads.

The Backscatter Sony Smart Control Trigger is universal and will fit most housings. The trigger is charged via USB-C. The Backscatter Sony Smart Control Trigger will be available later this year.



*Without HSS. Olympus E-M10 IV | OM System 90mm Lens | 1/160 | ISO 200 | f3.5
©James Emery - Backscatter*



*With HSS. Olympus E-M10 IV | OM System 90mm Lens | 1/1250 | ISO 200 | f3.5
©James Emery - Backscatter*

Wireless Off Camera Power Level Remote Control

The Backscatter Hybrid Flash features a remote transmit and receive function for both wireless remote power control and triggering off camera strobes.

A camera mounted Hybrid Flash or Mini Flash 2 can wirelessly beam over new power output levels to other remotely placed Hybrid Flash or Mini Flash 2 strobes with just a press of a button. The included Hybrid Flash Light Pipe attaches to the fiber optic mount of the remote Hybrid Flash optically receives the signal from the transmitting strobe without the need for a Fiber Optic Cable or an electronic trigger.

No cables and no swimming over to a remote strobe to change power levels means less silt from moving around or potentially freaking out the critter.



Multiple Hybrid Flashes can be used in remote control mode. Use a camera-mounted Hybrid Flash or Mini Flash 2 to wirelessly beam over new power level settings and trigger remote strobes. No need to swim over to adjust the power on your remote strobes.

Dedicated Test Button

The Hybrid Flash includes a test button that allows the strobe to be fired at any desired power level. This is great to use for light painting, as a strobe freezes motion where a video light will not. The test flash can also be used as a signaling device. The test button can be used in all modes except for SOS and Video Mode.

Wide, Spot, and Red Focus and Target Lights

The Backscatter Hybrid Flash comes equipped with several different light modes for the target light in Photo Mode. The strobe can be set to wide for use as a general focus or target light, spot for more specific macro work, or red to sneak up at critters and to avoid the swarmies at night. Red, Spot, and Wide Mode are available in M, SC, HSS, REM modes.

375 to 1000+ Flashes

With twin 21700 lithium ion batteries the Backscatter Hybrid Flash will allow for over 375 flashes on maximum power (GN40) or a full day of diving with over 1000 flashes when set to normal power. Professional photographers will be stunned by the full power brightness duration. Amateur photographers will appreciate only using one set of batteries for a full day of diving.



Up to 90 Minutes of Video Runtime

The Hybrid Flash is designed to optimize battery consumption in Video Mode. In Video Mode, the light can run continuously for 45 minutes at 5,000 lumens. After 45 minutes, the Hybrid Flash will gradually ramp down to the next lower setting, to give a total runtime of 90 minutes. This gives the Hybrid Flash plenty of runtime for long night dives. If power consumption is managed by shutting the light off or using a lower power level between scenes, the Hybrid Flash can easily last a whole dive at 5,000 lumens.

To keep up with the high performance needs of the Backscatter Hybrid Flash, high performing 21700 batteries with a 20A continuous



discharge are required. Currently the Nitecore NL2153HP is the only 21700 battery that meets this specification. Nitecore batteries include built-in overcharge and over discharge protection circuitry safety features. Nitecore batteries are available at Backscatter Dealers and many other retail outlets worldwide.

Automatic Flash Synchronization

Setting up pre-flash cancellation is a breeze. Simply plug in a Fiber Optic Cable and take a test shot. The Backscatter Hybrid Flash will automatically detect the camera's internal flash shooting mode on the first flash after power-up and store it in memory on your first test shot. If camera or flash settings change, simply turn the Hybrid Flash off and



The controls are radically different both physically and visually so the user will never be confused on what dial does what.

back on and take another test shot to update the setting. No need to worry about the wrong setting on the strobe. This feature can also be disabled if the Hybrid Flash is being triggered by a manual flash trigger or internal flash set to manual.

The Backscatter Hybrid Flash has two dials and two buttons. Mode is a black pointer style control while the flash power control is a red knurled knob. Both controls are large and raised and easily controlled with thick gloves. Each control has a different appearance and feel making both controls easy to differentiate by feel or with a quick glance. Both dials have hard stops, making finding the exact mode and full power easy and quick, without needing to look at the strobe.

The Backscatter Hybrid Flash is a medium-sized strobe and video light all in one. The size of the strobe makes



In The Box. The Hybrid Flash includes Hybrid Flash White 140 Flat Diffuser, 1-inch Ball Mount, Hybrid Flash Light Pipe, O-ring Grease, & Spare O-rings.

it easy to travel with no compromise in performance, and eliminates the need for a separate video light or strobe making packing easier. In air, the Hybrid Flash is 1.1 kg / 2.5 lbs with batteries, ball mount, and diffuser. In water, the Hybrid Flash weighs 227 grams / 0.5 lbs with batteries, ball mount, and diffuser.

The Hybrid Flash is protected by two O-rings and a sand gasket to make sure the battery compartment

remains dry. The double O-ring seal allows for two lines of defense against leak-causing debris, both of which are protected by a sand gasket, which keeps fine sand from building on the O-rings.

The Hybrid Flash has a sealed battery compartment, and in the rare event of a leak in the battery compartment water will not enter the front compartment of the strobe. The strobe also has two over-pressure relief valves, one on the strobe body, and one in the battery cap.

An integrated LED indicator shows battery level remaining in 3 levels: green, yellow, and red.

The Backscatter Hybrid Flash is available at an introductory Launch Price of \$899.00. Batteries & Fiber Optic Cable Not Included
Shipping End Of May 2024.

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www.backscatter.com

