# One-Light Butterfly Lighting Selfie

n this two-part article, I'd like to show you how to create professional-guality lighting for actor and model head-shots in your own front room using only one light. And to keep it really interesting, we are going to do it blind! That is with an ancient 1970s Vivitar flash which like most camera flashes has no modelling light to allow you to see where the light falls - hence blind! Crazy I know! But what the heck, this is my little photographic ego trip and these old flashes are dirt cheap and work well enough - well, work well enough if you are okay with 'forever' recycle times. Generally, I prefer to work with studio strobes and don't own any flashes other than this vintage Vivitar which actually still worked despite not being turned on in over 20 years! More importantly I'm using this old flash to show you that it is not the equipment, it's the knowledge that makes the shot - sure my strobes would be way easier and faster with their higher power, lightning fast recycle times, and bright modelling lights, but not every photographer is in a position to own such, and so for this article I'm doing the 'econoapproach'. So, with this one flash used off-camera, I'm going to create beautiful top-down lighting called 'Butterfly Lighting'. Butterfly refers to the shadow under the nose that occurs when the light comes from overhead. It is supposed to look like the shape of a butterfly but doesn't really - to me it looks more like a blob-fly. Anyhow, I suppose our photographic forefathers who named this lighting pattern, were more myopic than us or at the very least, drank more than we do.

Now the background is going to be a little tricky on this one because I want it to be pure white without detail and the background I'm going to use is not even a photographic backdrop, it happens to be one of the my living-room walls which isn't even white, it's a mid-tone green.

Okay and if that isn't enough, I'm going to do all this as a selfie, that is a self-portrait. By the way, this set-up doesn't have to be done with a Vivitar Flash - a Phottix, Canon, Sony, Nikon, or whatever brand flash you have will work just as well or better. Also, it doesn't have to be a camera flash, you could use any other light such as a studio strobe, an LED, a fluorescent, an HMI, a tungsten, or an El-cheapo work-light from your local hardware store; any of these can be used to achieve the same results.

I always start out my lighting set-ups by figuring out subject and camera placement relative to background. I had no subject to sit in for me, so I created a subject by attaching a Halloween mask to a shirt on a coathanger affixed to a light-stand. This 'stand-in' was placed right where I would be posing for the shoot - 1 metre (3<sup>1</sup>/<sub>3</sub> feet) in front of the greenwall backdrop. This assembly is adjusted so that the mask height matches my head height

To help me strike a relaxed pose, a table was added in front of the subject position for me to lean on (see diagram 003) and as you'll see in Part 2 of this tutorial, how it serves as a support for a shadow-fill reflector. As a posing aid, a laptop secured to a Tethertools' tray is positioned slightly below my camera lens in front of the camera. The camera, which is mounted on a tripod, is tethered to this computer via a TetherTools USB cable so that I can use my Remote Capture Software to view the camera's Live View feed on my laptop while posing and photographing myself on-set. With this Live View set-up I can use my Bluetooth mouse to trigger the camera via the laptop and change settings without ever having to leave my chair - talk about arm-chair photography! In one brilliant moment I've moved photography from an incredible physical art-form into couch-potato territory!

Now I did say I would do this shoot blind, but I was referring to the lighting not the posing, posing blind on a selfie of me with my heavylidded eyes would be disastrous! However, having said that, this Live View set-up isn't totally necessary but it sure makes getting a great selfie a lot easier!

To have complete control over the Vivitar flash's output, I reset its brightness control from auto to manual. I also set the flash to wide-angle so that its burst of light covers both subject and wall at the same time. To trigger the flash, I used a PC male-to-male sync cable by Paramount plus a PC adapter so that a radio remote receiver can be hooked up to the Vivitar flash. This off-camera flash needed to be placed up high in front of the subject so as to make it do the work of several lights, in other words I need to flood the whole set with light. My living room ceiling is standard North American height - 2.4 metres (8 feet) - this should give me enough height for the flash placement, although little higher would make this set-up even easier to achieve. Normally I would attach this flash unit to a light-stand but since I have a ceiling-light fixture pretty close to where the Vivitar needs to go, I clamped it to the fixture's cross-bar and voilà, no need for a stand! By the way, if you are setting up in a room with a dropceiling, the cross member frames that hold the ceiling panels in place are great supports to clamp light weight flash-units to. To finish off the flash placement, I set the Vivitar's angle adjustment so that its light spilled down directly onto both the subject and the backdrop wall.

The flash exposure was set using my Sekonic hand-held meter. Knowing that the Vivitar flash is not very powerful, I set the ISO to a relatively fast ISO (800 ISO) and chose the fastest shutter speed I could sync to. With non-dedicated off-camera flash you should be able to use 1/200th of a second but go no higher otherwise the shutter will cut off part of the flash exposure. If you are using studio strobe, do a little test first, you may well find that you cannot shoot as high as 1/200th of a second - some of my older uber-powerful studio strobes start to get dark on part of the frame at 1/125 of a second. If you are using a light that produces constant light, such as a tungsten hot light or LED, obviously shutter speeds will come more into play and you will have to use your meter to figure out the shutter-speed/aperture combination for exposure. Just remember, when working with flash, shutter speed has to be long enough to capture the burst of light while being fast enough to over-power the ambient light in the room; you may need to turn off the house lights and you may need to pull the curtains or blinds on your windows.

With the Sekonic set to read incident light, that is to read light striking the subject, I placed the back of the meter against the dummy standin's face and pointed the white incident dome of the meter directly at the Vivitar flash. It read f22 at a 1/200th of a second at 800 ISO; I set this exposure on the camera as a starting point for this lighting exercise - f22 sounds a bit extreme but the lighting and the aperture will evolve quite a bit before the final image is captured (final shot was taken at f5.6).

Next I needed to figure out what's going on with the background ... no point in trying to perfect lighting on areas of the wall that weren't going to be in the shot! So, it makes perfect sense to identify what part of the wall the camera sees. To this end I stood at the wall, placed my hand on the wall, then looked back to my laptop's Live View screen to reference my hand's position on the background. I then moved my hand until it was at one of the four corners of the camera frame, then moved it slightly out of frame and marked this corner with a piece of masking-tape. After doing the same for all four corners, I could then see with my naked eye what area of the wall would be in the shot.

If you don't have LiveView remote software for your camera, you could enlist another person who, while you view the wall background through the camera, places the tape under your direction. Or if on your own, a lot more trial and error will be necessary; you need to run back and forth setting the tape, viewing, resetting tape, viewing and so on until the tape marks out the rectangle area of the wall that will serve as the image's backdrop.



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#### Bio

Dave Montizambert lectures internationally on lighting, digital photography and Adobe Photoshop. He is also a published author having written two books on lighting and digital photography (www.montizambert.com] plus numerous magazine articles on these topics in North America, Europe, Russia and Asia. Dave also creates lighting and Photoshop tutorial DVDs for www.software-cinema.com & www.PhotoshopCAFE.com/video and authors 'Dave On Demand' (www.montizambert.com) lighting tutorial based photo-training. Dave is available for lectures and workshops in your area and can be reached through www. montizambert.com.



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To predict the wall's brightness at the current camera-exposure setting, I changed the meter from incident to reflective then pointed the meter at the wall to read its brightness within the masking-tape borders. It read f11.0 at a 1/200th of a second at 800 ISO. This reading when compared to the camera setting of f22.0 at a 1/200th of a second at 800 ISO tells me that the background tone will appear in the image as two stops darker than middle grey - that's about five stops too dark for pure white; it needs to read about three stops brighter than middle grey, not two stops darker.

By the way, the exposure on the camera aways equals middle grey, so to interpret your reflective meter readings, just compare them to the camera exposure setting to see if the tone you read off images is brighter darker, or the same as middle-grey.

With everything set, I removed the dummy, added a chair for my sitting pose, seated myself, posed myself using the Live View display, then triggered the camera with the Bluetooth mouse. The resulting image, as you can see in Image 002A, is less than ideal because the lighting on me is really hard-looking. What I mean by hard-looking is: unflattering hardedged shadows that draw attention to every wrinkle and imperfection. Plus, the specular contrast is too high. What does this mean in lay-person terms? Well, high specular contrast means that the glare on my face is too bright looking and on this capture of me, too bright means it is not only distracting, but is unbecoming, especially on my forehead and nose.

When we find the specular contrast too high we tend to call it 'glare,' and when we think the specular contrast is just right, which on a face is usually lower specular contrast, we refer to it as 'sheen'. Either way, sheen, shine, glare, hotspot, call it what you may, it is a specular highlight. A specular highlight is a reflection of a light-source imaging on the surface of a subject or object.

If you check out the background in Image 002A you will see that the backdrop appears two stops darker than middle-grey – a far cry from pure white! Somehow, I need to increase the brightness of that wall by five whole stops so that it records as three stops brighter than middlegrey.

You are probably thinking, 'If you want to make the background brighter all you need to do is add more light'. I could add another light but like most photographers, I only have one camera flash and I promised at the out-set that this was to be a one-light exercise. So, what to do?

Well ... I could turn up the flash if it were not already on full power, but unfortunately this would over-brighten the subject too - so that's not going to work. Or how about leaving the background exactly as it is while decreasing the amount of light striking the subject, then open up the aperture to compensate for the loss of light on the subject and WHAM! the background gets the overexposure it needs! Now that's thinking way outside the box, that is, beyond normal photographic training!

So, that all seems good and fine, but how do you decrease the light from the Vivitar on the subject without affecting the light striking the wall backdrop? As I see it, the problem is that the flash is directly lighting the subject and background simultaneously; it is both origin and source, so we need to separate its effect on both. My solution, add some sort of translucent fabric between the flash and the subject; this fabric will allow only a portion of the light through onto the subject, thus darkening the subject.

I could have used one of my panel scrims with white translucent fabric stretched over its frame, but the average photographer is more likely to own something like a '5-in-1' reflector. I happen to have a 106 cm 5-in-1 reflector so I removed the various layers of reflector fabric, leaving me with its base translucent fabric. This fabric is for transmitting light through the reflector rather than bouncing light off its surface. So I guess we shouldn't call this lighting modifier a 'reflector' anymore since we are transmitting light rather than reflecting light. Henceforth I decree we will refer to this transmissive main-light as 'The Panel'!

The panel was positioned forward of the subject's head so that the subject is just at the panel's back edge. I checked the panel placement in terms of catching light from the flash to see if the panel was too far forward - I wanted the panel to catch light right up to its front edge. If it is too far forward then only part of the panel will receive light, making it a smaller light-source. A smaller light-source will make for harder lighting which I didn't want. Since there was no modelling light to verify this, I stood on a chair at the back of the panel, then laid-flat a little mirror on the top-side of the panel fabric, then while positioning it over different parts of the fabric, I looked for the reflection of the front face of the flashlens in the mirror. If I couldn't see the flash-lens, which is where the burst of light emits from, then I know that that part of the panel is receiving no liaht.

Knowing that the translucent fabric has reduced the volume of light striking the subject, I took a new incident meter reading from the subject's position with the dome pointed towards the fabric. Using this new reading, I reset the aperture on the camera, then triggered the camera shutter with the mouse taking yet another portrait of myself.

As you can see in Image 002B, the addition of this modifier softens the light quality on my face, creating soft wrap-around lighting that exhibits much softer-edged shadows and way less intense glare/specular highlights on my face. The background is much brighter but is still not reproducing as pure white and if you look at the bottom portion of it, you'll notice that the main-light panel is blocking light from the flash to the background - not good. You are probably thinking that I screwed up! Normally before taking a picture, I would have checked the background for shadows from the panel, but to add much needed drama to this tutorial I didn't and so now I'll deal with it. If you have the advantage of a modelling light, or if you are using constant lights such as tungsten or LEDs, you would have seen this shadow show up on the backdrop. However, since we are shooting 'blind' as it were, we can't see, so must take drastic measures and physically place one's head near the background and look back towards the off-camera flash. If the mainsource panel blocks any part of our view of the flash then we know that the panel will be blocking light from the backdrop – slightly tilting the panel, that is lowering the panel back edge while raising the front edge, fixed this. Obviously if you are shooting digitally you could take a test shot to see, but that's slower than my 'sticking your nose in it' method.

Image 002C shows that the shadow on the background is gone, it also shows that the top of my forehead is a little distracting due to it appearing brighter than the rest of my face. Since my forehead curves upwards, it receives the light more directly; it is also closer to the panel than the rest of my face and so receives more light.

To darken this area I retrieved a nearby white linen napkin and laid it over the back third of the panel. This fabric reduces the light on my forehead and the top of my head; it also reduces some light off my face, but to a much lesser degree. The front of my face, which is where I want the exposure to be true, now reads one stop under-exposed. To compensate, I reset the camera aperture from f11.0 to f8.0. See the result of this in Image 002D; notice how the brightness ratio between my face and my forehead is more balanced, taking the emphasis off my forehead and directing it onto my eyes.







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