CRAFT & VISION

MAKING WALLEN

An Introduction to Off-Camera Flash

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Introduction: Please Take Off Your Flash

I don't know about you, but flash used to scare me. I found it to be complicated, difficult to pre-visualize (I'm talking about the pre-digital era here), and lacking quality results. Of course, I only put my flash on my camera and the furthest I got to softening the light was to bounce my flash behind me. I worked on full auto because I found all the rest way too complicated.

So, I was an available-light photographer for a long time. Not so much by persuasion as by lack of understanding and, therefore, lack of alternative.

If you have a similar attitude to flash, then this eBook is for you. Because— other than firing a flash at full power into someone's eyes—there really isn't much to be afraid of. Puzzled, maybe. Intrigued by the possibilities? Definitely! Enthused by your first endeavours? Absolutely. Stimulated to experiment? By all means. But afraid? No.

The biggest thing to realize is that flash is just another light source. Or to quote Joe McNally, legendary Nikon off-camera flash shooter, on the eternal question of flash versus available light: "Available light is any light that is available," (i.e., including a flash, if you have one). In the case of Joe, that often translates into a truckload of flashes, by the way.

This eBook is meant to help you get the most out of your hot-shoe flash, and an important first step in that quest is to take it off your camera. This means you'll need a way of firing that flash remotely, but don't worry, we've got that covered.

Now is a great time to learn about off-camera flash. Although you still cannot see the flash until it actually fires, you can see the results seconds later on your camera LCD. So, the feedback loop is much shorter than it used to be.

Viewing flash as just another light source at your disposal is the best answer to the question "Why would I use flash?" You are doubling your options (from one light source, ambient, to two), opening up a wealth of opportunities. Whether you use your flash to fill in harsh shadows created by noon ambient light, to supplement fading evening light, or to substitute for a complete lack of light, an off-camera flash is a very reassuring ace to hold up your photographic sleeve.

Since flash is just another light source, this means that it follows the same fundamentals and descriptors as light. In the next chapter we'll briefly revisit these.

Flash is all about the quantity of light. Off-camera flash is about the quality of light.

Flash may be just another light source, but it differs in one important way from ambient light, and that's in the duration: a flash happens momentaneously, whereas ambient light is continuous. We'll discuss what this means in terms of control in the third chapter.

After the introductory chapters, there will be a couple of chapters on suggested gear that should satisfy even the biggest of geeks. In this eBook, we'll stick to the basics, both in terms of triggers and in terms of modifiers. After all, you don't want to break the bank when you start experimenting with off-camera flash and luckily, you don't have to: you can get started for as little as USD \$250 for a basic off-camera flash set. And that includes a flash!

However, the most important part of the book is the case studies in chapter 9. They were all taken with just one flash off-camera.

When you start off with off-camera flash, I recommend you do so one flash at a time. Not only is it cheaper, but from a learning perspective it's best to tackle it one step at a time. Learn to master using one, and then bring in more. The biggest "wow factor" you'll experience will be going from zero to one flashes. Keeping it down to one flash also means that things still remain portable.

In a future eBook, we'll explore more complicated set-ups that include more flashes and more advanced gear. But the basics covered in this eBook will still apply, whether you're using one flash or a hundred.



Nikon D90 | 10-24mm f/3.5-4.5G | 12mm | Manual exposure f/8 @ 1/200s | ISO 400 | Undiffused external flash at half power, triggered by camera built-in flash.

Saying "I don't need flash because my camera goes to ISO 2.5 zillion" is missing the point: it's not about the quantity of light, it's about the quality of light. Two are capable of more than one. The same applies to light sources.



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Off-camera flash used to complement existing light (coming from behind). Since ambient and flash light come from different angles and in different amounts, this simple set-up "threedimensionalizes" the subject.

Characteristics of Light 2

So, if flash is just another light source, let's consider some of the main characteristics of light in general. After all, photography is the language of light and what better way to learn a language than to study its basic grammar and vocabulary?

The basic characteristics of any light (including flash) are size, quality, direction, and colour.

2.1. Size and Quality

Size (big or small) and quality (soft or hard light) are related. We call a light soft when it gives soft shadows. The softness of any given light depends on the relative size of that light source compared to the subject.

By itself, the sun is a pretty big light source, but because it's so far away, it actually is a harsh light on a cloudless day. Add some clouds, and suddenly the clouds become the effective light source. That same sunlight is now diffused through the clouds and therefore gives a much softer light. As a photographer, it's your duty to recognize this quality of light and act upon it, because non-photographers will react differently. Ask any wedding couple if they'd like clouds on their wedding day. Most likely, their answer will be "No." Now, ask their photographer the same question!

2.2. Direction

Direction of light is another key feature that will greatly influence the look of your picture, especially when combined with the quality of light: just contrast, in your mind, the soft window light (or softbox light in flash equivalent) coming from a typical 45° angle to harsh sunlight (or undiffused flash) thrown straight at your subject. The first will reveal dimension, the latter will have all the subtlety of a driver's license picture.

Similarly, late afternoon raking light (almost parallel to the subject), or a strategically placed flash, will reveal texture (see chapter 9, case 8). Another thing to keep in mind with direction is that light, unless it hits something, always wants to travel in a straight line. This means that you can determine the location of a light source by the shadows it creates. Especially with regards to photographs that are lit by small flashes that don't have the so-called "modeling lights" their big studio counterparts have, this allows you to pre-visualize the shadows that your flash will create.

2.3. Colour

Lastly, all light is not white. From the cool morning light to the famous "Golden Hour" evening light, and from the greenish light in an office building to the yellow candlelight in a church or mosque, light sources, both natural and manmade, have a certain colour temperature. Balancing—or expressly unbalancing—your flash with the ambient (available) light by adding coloured filters to it will allow you to create anything from harmonious flash-lit pictures (see chapter 9, case 7) to special effects with contrasting colour temperatures (that we'll cover in a sequel to this book).

As you can see, these fundamental characteristics apply to all light sources. The main difference between flash and ambient light is that, for any day and location, the ambient light is mostly a given and largely beyond your control (unless you're working with reflectors and scrims), whereas you can independently control the quality, quantity, direction, and colour of your flash.

Another difference is that ambient or available light is continuous and therefore "previewable," whereas offcamera flash is momentaneous and by lack of pilot lights (as found in studio strobes) cannot be previewed.



Nikon D90 | 10-24mm f/3.5-4.5G | 12mm | Manual exposure f/5.6 @ 1/10s | ISO 200 | SB-900 fired at full power (M), triggered by camera built-in flash.

3 **Fundamental Flash Formulas**

We'll try to keep the math to a minimum, but there are a couple of things about light in general, and flash in particular, that you should be aware of. So, fasten those seatbelts!

3.1. $E_{T} = E_{A} + E_{F}$

This one is actually a lot easier to pick up when you write it in full: Total Exposure = Ambient Exposure + Flash Exposure. Or, to really simplify: when you make a picture with flash, there are two exposures (sources of light) that contribute to the final look of your image: there's the ambient exposure and there's the flash exposure. It's really up to you to decide how much of each will contribute to the final picture.

You can kill your flash, which leaves an ambient-only exposure. Or, you can decide to set your aperture, ISO and shutter speed in such a way that no ambient light comes through, and that any light you see comes from your flash. And of course, you can choose any of the in-between combinations as well.



Total exposure equals ambient exposure plus flash exposure. In this example, the ambient exposure acts as a kind of fill light to make the flash exposure less dramatic and the flash look less obvious. There is no "best" mix: it's a matter of taste.



For comparison, this image shows the ambient-only picture, with exposure increased in Lightroom, to give us an idea of what a correctly exposed, ambient-only picture would look like. In this large white room, with no directional ambient light (e.g. window light), the picture looks rather dull and flat. That's one of the vocations of off-camera flash: adding an extra quality (and sometimes quantity) of light.

3.2. Aperture Controls Flash, Shutter Speed Controls Ambient

This is a rule you might have heard before. It's more of a slogan, really, and as with all slogans, it could do with some nuance. First of all, it only applies when you're working with manual flash. (Because, in through-the-lens metering (TTL), no matter what variable you change on your camera, your flash power will automatically be adjusted by your camera's electronics. That's the whole point of TTL!).

What this rule actually means is the following: your ambient (non-flash) exposure is controlled by the ISO-aperture-shutter speed triangle. It's these three elements that determine how much of the ambient light will fall on your sensor.

Each camera has a maximum flash sync speed: this is the fastest shutter speed you can set that will still allow you to fire your flash. For most modern DSLRs, this sync speed is about 1/200 or 1/250 of a second. Check your camera manual if you're not sure.¹

As long as you stay on or under (slower than) this sync speed, the amount of flash exposure that hits your sensor is only controlled by your ISO and your aperture. Because the flash fires in such a short time (shorter than the sync speed), its exposure is not affected by the duration the shutter stays open: the amount of flash light that hits your sensor will not increase because you use a shutter speed of one second instead of 1/250 of a second. A longer shutter speed will only let more ambient light in.

So, the only thing that determines how much flash light hits your sensor is the sensitivity (ISO) and the aperture: the smaller the aperture, the less light will reach that sensor for a given ISO.

Continuing along, if we keep the ISO constant, there are various shutter/aperture combinations that will give you the same ambient exposure. Yet, when adding manual flash at a given power setting, each of those combinations will result in a different amount of flash light hitting the sensor.

So, for any given ISO, as long as you stay below your sync speed, changing the shutter speed will not affect the flash exposure, but changing the other variable—the aperture—will... And since, as far as ambient light is concerned, an increase/decrease in aperture can be offset by a decrease/increase in shutter speed, you get the notion that "aperture controls flash, shutter speed controls ambient."

An example to illustrate: you want to photograph a model in an old industrial warehouse. You want the picture to have that typical fashion, flash-lit look that consists of underexposing the ambient and then correctly exposing the model using flash (see chapter 9, case 6 for a real-life example).

Let's say your ambient light metering at ISO 100 tells you that a two stops underexposed ambient exposure should be 1/125 at f11.

You bring in a model and you want to light her with flash. Let's assume you have to put the flash at quarter power to light her as you want at f11 and ISO 100.

If you were to change the shutter speed to 1/30 and close down the aperture to f22, your

ambient light exposure would be the same, right? Opening two stops up on the shutter speed, cancelled out by two stops down on the aperture. The aesthetics might change (depth of field) but the overall ambient exposure will remain the same. However, since the flash, still at quarter power, now has to travel through an aperture that's two stops smaller (i.e. four times as small in total)², it will now effectively be less powerful, so less flash will hit the sensor. That's the long story to the short "aperture controls flash." It does, when you're in manual. Otherwise, your clever camera will just compensate (up to your maximum flash power, of course).

> ¹There are even ways of firing flashes beyond the sync speed of your camera. We'll discuss these advanced features in a separate eBook.

² One less stop of light actually means half the amount, so two stops less means a quarter of the original amount.



Nikon D700 | VR 70-200mm f/2.8G | 102mm | f/2.8 @ 1/30s aperture priority -0.7EV | ISO 2500 | No flash allowed (luckily)

3 Fundamental Flash Formulas

3.3. Angle of Incidence = Angle of Reflectance

This and the next formula are actually also valid for ambient light, but they're especially relevant to flash photography.

This formula is important for when you start to bounce light: off a wall, a reflector, or even the groom's white shirt at a wedding. Light behaves like a ball in snooker: when it hits a surface, it bounces back in the same, but opposite angle. And, in the process, it picks up the color from whatever it bounces off.



3.4. The Inverse Square Law

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We've saved the best for last. The inverse square law states that the power of light falls off at a rate equal to the square of the distance. What this means in plain English is the following:

Suppose you need to set your flash to quarter power to light someone correctly from four feet away. If you decide that, for whatever reason (for example, your flash is showing up in your composition), you want to light him from eight feet instead, then you will have to set that same flash to full power! The distance is doubled, and the inverse square law states that the power falls off at a rate equal to the square of the distance. The square of 2 (double the distance) is 4. Therefore, the power of the flash is four times weaker. Since, at your original setting, only 1/4 of your light will reach your subject, you should set your flash to four times its original power to compensate.

bring it in closer, to two feet from your subject (halving the distance), your flash output would effectively become four times more powerful . So, if you don't want to blow out your subject, you'd have to adjust your flash to 1/16 power.

As with the second rule, the inverse square law is something you'll only become aware of when working with your flashes in manual mode: when working in iTTL or eTTL modes (the highly advanced automatic flash exposure modes of Nikon and Canon, respectively), your camera does all the measuring for you and will automatically compensate for the inverse square law.

You can forget about the actual "formulas" as long as you remember their practical consequences.

The inverse square law is less complicated than it sounds. Even if you don't have a mathematical mindset, just try to remember these practical consequences of the inverse square law.

• If your flash if too powerful, even at its dimmest setting, move it further away.

• If your flash is too weak, even at full power, move it in closer: putting it at half the original distance will make it four times as powerful. This one is also handy to remember even if you work in one of the fancy TTL modes: after all, your camera's electronics can only compensate up to the maximum absolute flash power!

> • If you only have one flash, and you want to control your subject and the background (e.g. a backdrop, a wall) as independently as possible, move your subject as far away from the background as possible. In other words, make the distance between your subject and the background bigger in relationship to the distance

between the light and your subject. Like any traveller, the further the photons have to travel,

Conversely, using the same example, if instead of moving your flash further away, you decide to the more energy they lose along the way to their final destination: the backdrop. All of this is a direct consequence of the inverse square law.

• If you want to light a group of people who are standing one slightly behind the other, then you shouldn't put your light too close to them, or the last one in line runs the risk of being underexposed. Instead, increase the distance from the light to the group so that the distance between the group's members is small compared to the distance between the light source and the group.

The inverse square law and its consequences also have to be seen in conjunction with the other determinants: moving a light closer to a person will not only make that light more powerful, it will also make it softer. That may or may not be something you want.

Conversely, moving a light away from a group of people because you want the exposure on their faces to be relatively equal, will make that light source relatively hard.

As said before, don't bust your head over the actual formulas and "laws," it's their practical application in your everyday photography that counts. Even if you don't fully grasp the math behind the formulas, just make sure you get their overall implication. Use the fundamentals to your advantage, whether you're making high-end fine art photography or just a product picture for an eBay ad or... a screenshot of a camera LCD for an eBook on off-camera flash.

A little further into the book (chapters 6 and 7), you'll see some screenshots of the Nikon D7000 and the Canon 60D LCDs. While they're far from advertising quality, they are a lot better than a straight-on ambient-only snap would be.

Using ambient light, no matter where I put my camera, I always had a reflection in the LCD. So, I decided to kill the ambient light in my exposure. Remember, total exposure = ambient exposure + flash exposure, so by putting the ambient at zero (selecting a shutter/ISO/aperture combination that would make a shot lit without flash pure black), the picture would completely be lit by flash.

Next use of the fundamentals was to run the flash through a small LumiQuest softbox. It's small by itself, but it's the relative size that matters. Because it's so close to the tiny LCD, it's now a huge light source. It's so big, there are no nasty reflections and it makes the camera bathe in soft, yet directional light.

Finally, I wanted the background to be dark and not to be influenced by stray light from the flash. Four things helped me out here: first, the background was already a dark color; second, the choice of modifier (a softbox) left less light spilling around than an umbrella would. Third, the softbox was pointing down. This was done to reveal the shape of the buttons (direction of light—yet another one of the fundamentals), but it had the bonus effect of causing any spill to travel mostly downward (out of frame) and not to the wall. Last, the distance between the light and the subject (the LCD) was ten times smaller than the distance between the subject and the background (don't let the distorted view from the wide angle setup shot fool you). That let the inverse square law kick in big time: even if the softbox light had been turned straight at the wall, by the time the light hit the wall it would have been only a fraction of the light hitting the subject.

Keep these fundamentals in mind when you're creating your own pictures, or when you're studying someone else's. They'll be a great help in getting you out of many difficult lighting problems you encounter.



Below you'll find a walk-through of some examples. The aim of these examples is to give a recap of the fundamental laws, they're not meant as a course on portrait photography lighting setups.



1. There's a reason why straight, on-camera flash has such a bad rep: the harsh frontal light throws an ugly cast shadow behind the model (even worse when you put your camera in the portrait orientation, as we did here).

The catchlights are tiny.

The harsh frontal light also does not give any definition to the face.





2. Bounced on-camera flash (increasing the flash power to compensate for the loss of light): when bouncing your flash, the surface you're bouncing off becomes the effective light source.

Bouncing improves the softness of your light, but doesn't give you that much control: after all, a wall is hard to move. In this setup, the light now comes from almost everywhere.

Also remember that light picks up any color that it hits. So much for trying to bounce your flash in a room with dark blue walls or wood panelling.





3. Now let's start with moving the flash off camera.

We use a bare flash, placed at a 45° angle, zoomed to about 50mm and eight feet away from the subject.

The light becomes more directional, revealing highlights and shadows, but the shadows are relatively hard, because the light source is small.





4. Same picture, same settings, but we've added a LumiQuest SoftBox III to the flash and increased the flash power to compensate for the loss of light the softbox induces.



The hoped-for softbox effect (softer light quality) is marginal and hardly noticeable: at this distance, the softbox is still a very small light source and hence projects hard shadows.



5. We've moved the light five times closer. The inverse square law predicts that the flash output should be dropped to 1/25 of the original power to achieve the same exposure on the face, and effectively... I had to dial the flash down from full power to between 1/16 and 1/32 power.

The picture becomes more moody, because placing the light source closer increases the contrast between lit and unlit areas but does so in a soft way: the shadows become softer because the relative size of this light source is now a lot bigger. You also notice the background becomes darker. In the previous picture, the subject was about halfway between the flash and the background. In this picture, she's much closer to the flash than to the background. Therefore, the flash light that correctly exposes her has lost a lot of power by the time it reaches the wall, which is, in fact, almost completely lit by the available light.

This 45° placement of the light source also produces the typical "Rembrandt lighting" triangle below the model's left eye.





6. When working with flash, it's always interesting to explore different setups. Here, the light comes from a 90° angle. With a subject facing the camera, this would result in what we call "split lighting" (one side of the face lit and one not, or only by ambient light).

By turning the subject towards the light, though, we now have a very dramatic lighting setup that is great for showing the structure of cheek bones. It's a simple light setup that works great in black and white.







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7. As we'll discuss in chapter 8, always set up your lights in a multi-flash setup one by one. Here, we're back to the lighting setup (5) but we added a second light to give some life to the hair.

5 **Basic Off-Camera Flash Gear**

Over the next pages, we'll cover some of the essential gear you'll need to explore the world of off-camera flash. We'll start off with the flashes themselves. From the moment you take your flash off the camera hotshoe contact, you'll need a way of triggering that flash. This is discussed in the aptly named "Triggers" section. After that, we'll have a look at the various ways you can modify the quality of the light that comes out of your flash. Lastly, we'll cover some useful accessories.

5.1. Flashes

It's impossible to cover every flash known to man in this eBook. Nor is it necessary. Instead, I'll cover some of the basics, distinguish between the two main categories (TTL versus manual flashes), and list some of the criteria that might be important when you go flash hunting. Some of this information will only become relevant when you dive deeper into the world of off-camera flash, yet it's useful to know before purchasing.

5.1.1. TTL versus Manual

The biggest choice you'll have to make is between a flash that offers both TTL and manual control versus only manual control. The latter, such as the LumoPro LP160, costs less than half of the former, but of course you lack the option of TTL control. While I do recommend you start out working manually with off-camera flash, there are some occasions when TTL comes in very handy (see chapter 9, case 6). When you buy only one flash, the price difference may not be that important, but when you start adding a second, third, and fourth flash to your setup, the costs start to add up.

The fact that you can get up to three manual flashes for the price of one TTL flash makes it very difficult to choose.

When you start working with more than one flash, try to limit the number of different versions: not only do different versions have different power settings (not ideal if you want to symmetrically light something), but they also have different controls and menus and you really don't want to have to deal with those during the heat of a multi-flash setup.

5.1.2. Brand versus Third-Party Flash

The former distinction of TTL versus manual roughly also boils down to the choice between a (same-) brand flash versus a third-party one, although some thirdparty developers, such as Metz, make flashes that are fully compatible with the TTL systems of other cameras.

In the "all-manual" third-party department, LumoPro is a name to remember: the LP160 only does one thing-fire

manually (i.e. no TTL)—but it does so very efficiently: it packs the same power as the top Canon and Nikon flashes and has four different ways of being triggered (including a slave eye). Priced at about a third of a brand flash, this is one of the cheaper entry tickets into the world of off-camera flash.

nikon.com | canon.com | lumopro.com



The top-of-the-line Nikon and Canon flashes with enhanced TTL possibilities, flanked by one of the available third-party manual flashes: a LumoPro LP160. The power output of these three is comparable. The brand flashes win on the feature front (allowing for TTL measuring and remote triggering by compatible cameras) but come at a price premium: they cost roughly three times as much.



5.1.3. Flash Buying 101

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If you haven't gone and bought a flash yet, below is a list of important criteria:

• Flash power: The flash power is usually expressed in a GN (guide number) at a specific ISO and zoom setting of the flash head. The higher the number, the more powerful the flash.

• Recycle time: How fast does the flash recycle?

• Thermal protection: Some flashes offer thermal protection to keep you from frying your flash. This can be a good thing to have, as long as the manufacturer does not program the thermal protection to be too protective.

• TTL and manual versus manual only: As noted above, this is one of the main differences. The first kind is more flexible, but does come at a higher cost. And you don't always need that flexibility: if all you ever want to do is use your flash outside to compete with the sun, a manual flash (or even better: a lot of manual flashes) might be all you need, as you'll rarely have to dial them down below their full power capacity. • Can it be optically triggered by your camera's built-in pop-up flash? This is also an important feature: if your flash can be optically triggered, you don't (at least not immediately) need a triggering system. A flash that can be triggered optically by a compatible camera, such as is the case with Nikon's and Canon's proprietary optical triggering systems, might not be much more expensive than a manualonly third-party flash that does need a trigger.

Is there a PC jack or other type of connection (such as a 1/8 inch audio cable)?
A PC jack is a connection that allows the flash to be triggered remotely, e.g. by a radio transmitter like the PocketWizard Plus II.
The LumoPro LP160 even features both.
Oh, and the "PC" in PC jack has nothing to do with computers. It's short for prontor-compur. And yes, I had to look that up, too!

• Does it have a slave mode? Another interesting feature to have: if you can set your flash to slave mode, this means that it will automatically fire when it detects another flash that fires. This is the cheapest (but also least controllable) way of remotely triggering a flash. This feature can come in very handy in those situations where you have more flashes than triggers. You just set the flashes that don't have a trigger up as slaves. Provided they see the burst of the flash that does have a trigger to it, they'll also fire. Of course, you'll have to set the power level manually.

• Do any accessories come with it? You might think of the ubiquitous frosted plastic cap that you can put on your flash, but that is actually quite worthless for off-camera flash although chapter 9, case 3 shows you one example where I did use it. No, I'm thinking more in terms of a (basic) colour filter set.

• Can the flash head be swivelled and tilted? Flexibility of your flash head is most important when you trigger it optically, especially if the optical receiver is on one side of the flash. A 270° swivelling head will allow you to always put the receiver in the direction of the triggering flash. If you use another flash as a commander (see the upcoming section on triggers if this sounds like geek talk to you, you'll soon be geek-speaking along), a swivelling head can allow you to fire remote flashes behind you or to your side, something a pop-up flash is less likely to do.

• Is the size convenient? This may not be so important when you buy only one flash, but when you start working with more than one, weight and space considerations can become an issue: there's a big difference between packing four SB-900s versus four SB-700s, for example.

• Does the flash have high-speed sync abilities? High-speed syncing or focal plane syncing means that you can use your flash at higher than the normal sync speed and still get good exposures. This is especially important if you're planning on using your flash outside, in bright sunlight, at wide open apertures, or high shutter speeds. We'll discuss this in a future eBook.

• Is the firmware upgradeable? Always a good thing to have, though not a deal breaker. With upgradeable firmware, you can download and install improvements to the flash's behaviour and menu structure.

Manual or TTL?



Manual or TTL? It's not a head-to-head war kind of thing. It's more a hand-in-hand kind of fling: knowing and using both ways of remotely triggering your flash will make you focus less on the process and more on the result.

This picture also shows that all of my flashes have Velcro attached to them, necessary to attach some of the lighting accessories. If you don't like to stick stuff onto your flash, you can use a dedicated Velcro loop such as the Honl Speed Strap. There are two schools, or should I say religions, with regards to off-camera flash: there's the all manual camp and there's the TTL camp. As in many polarized situations, the truth lies somewhere in the middle. If your flash only works manually, you don't have much of a choice, but even if you do have the latest and greatest Nikon or Canon and use a TTL-capable triggering system, such as the proprietary Nikon and Canon systems we'll cover in this eBook, or the latest generation PocketWizards we'll cover in another title, I'd still advise you to start out manually.

The reason is simple: TTL and especially the even more advanced iTTL or eTTL variants take into account a zillion different parameters (and even compare those to a built-in database of different scenes) and pop out a flash value. Slightly changing your composition (for example after having checked your LCD) may slightly change these variables and therefore change the database "blueprint" that the actual scene is being compared with. This might lead your flash to react differently. While TTL may be great for fast-paced action shots where you can't calculate everything, while you're still learning to juggle the off-camera flash variables it's best to do so one at a time and this means setting power manually.

The whole discussion can be compared to car transmissions: if you're used to a manual gear box, you'll have far less trouble renting a car that's equipped with an automatic one. On the other hand, if you're used to an automatic gear box and all of a sudden you have to drive a manual shift, I would not want to be driving behind you!

With the old radio triggers, you don't have a choice but to work manually (and go over to your remote flash every time you want to change its power), but with the latest MiniTT1 and FlexTT5 PocketWizard triggers, or Nikon's or Canon's own optical triggering systems, you have the luxury of changing the power remotely (i.e. you don't have to walk over to your flash), but still maintain full manual control.

Once you get better at using off-camera flash—or in situations that don't change much (or change all the time), making manual control almost impossible—TTL gives you a much better chance of getting at least in the ballpark with your exposure. And that's always better than no exposure at all.

I also tend to switch to TTL when I only have one shot at making a picture. Yet, I'll often influence my TTL settings by dialing in exposure compensation, both to the ambient metering and to the flash (see chapter 9, cases 6 and 7).

Ideally, you should have a working knowledge of both.

Basic Off-Camera Flash Gear

5.2. Triggers

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From the moment you take your flash off your camera hotshoe, you'll need something else to trigger it. There's a plethora of options, with varying degrees of reliability and price. We could fill an entire eBook by deep diving into the different options, but we'll just cover some of the basics and leave the more advanced (and pricier) options for a future title. Put very roughly, you have four ways to trigger your off-camera flash: one wired and three wireless.

5.2.1. Are You Wearing a Wire?

The wired option simply consists of connecting your flash to your camera with a so-called TTL sync cord, such as Nikon's SC-28 (which extends to nine feet) or Canon's OCE-3. Manufacturers tend to offer different lengths. The advantage is that you can fire your flash manually as well as with TTL. TTL cords are also relatively inexpensive and since there's a physical connection between the flash and the camera, they'll almost never fail to trigger your flash. For shooting events, receptions, parties and even weddings, a sync cord will give you much more creative control over the angle, direction and relative size of your light than simple on-camera flash will. Of course, that physical connection is also the main drawback: you're limited by your cable's length as to how far you can put yourself (and your light source) from the camera.



Nikon's SC -28 Speedlight sync cord >

Speedlight or Speedlite? Speedlight is the way Nikon refers to hotshoe flashes. Speedlite is Canon terminology.

5.2.2. Wireless Triggering, the Infrared Way³

5.2.2.1. Nikon's Creative Lighting System As with many things, the future of flash photography seems to be wireless. Sure, you can hook up sync cords to some extent to allow for more flexibility, but in the long run they're just more cables you could trip over, and longer cables can also draw some of your flash's maximum output. If you're really into this off-camera flash thing, then you'll want to move to the wireless way of triggering your flash. Not only will you have more freedom and be able to put yourself and your lights farther apart, if you happen to have the right combination of camera and flash, it'll actually cost you less than buying a dedicated cable because in many modern DSLRs and flashes, the infrared triggering is already built in.

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Nikon was the first to equip its flashes and cameras with so-called CLS (creative lighting system) technology: a way of letting you wirelessly trigger one or more remotely placed Nikon Speedlights by using either the built-in flash of your Nikon camera, or another Speedlight set up to act as a so-called commander, or even a dedicated commander unit such as the SU-800. Nikon's CLS system allows for independent remote control of up to three different groups, where each group can consist of an unlimited number of flashes. The photographer can set and change the power of these groups from his camera, and can choose between manually setting power (in third-stop increments from full power to 1/128 power), letting the iTTL system determine the power (with optional flash exposure compensation), or using a combination of both, e.g. have group A fire at a manually set power and group B fire with iTTL. CLS uses an infrared signal to communicate.

With CLS, you can stick a flash in a tree, fire a test shot and if it's too bright, you don't need to climb the tree again! You just dial down its manual power (or its TTL flash compensation) from the comfort of your camera LCD. It's a system I used and came to love during my one-year PortraitsOfAsia bicycle tour. Being on a bike really limited the amount of gear I could take, so I only took one SB-900 Speedlight with me and triggered it with the built-in pop-up flash from my D700.

Another advantage of the CLS system is that you can sync your flash at up to 1/8000 of a second via an advanced setting called High Speed Sync, which we'll leave for another Craft & Vision title.

If your camera doesn't have a built-in flash or has a built-in flash that doesn't support CLS, as with entry-level models, you can use an optional infrared transmitter called the SU-800 or another Speedlight to command the remote flashes. The fact that the pop-up flash on the camera can function as a commander (without interfering with the actual exposure) is one of the things I adore about my D700. It's the only full-frame camera I know of that has this option.

If you have a D70, D200, D300(s), D90, D700, or a D7000 and an SB600, SB800, SB900, or SB700, you can enjoy the wonders of off-camera flash without extra expenses, and you'll even be able

For many users, it's a pleasant and welcome surprise that they have wireless triggering functionality built in to their camera bodies and they only need a compatible flash to start their discovery of off-camera flash!

to work in manual, TTL, or Nikon's latest and greatest iTTL. You just have to set your built-in flash to commander and your Speedlight to remote. If you have an expensive D3, D3s, or D3x, you'll have to shell out some more to either buy an SB700, SB800, or SB900 and set that up as a commander, or get the dedicated SU800. Ah, the price of owning pro equipment! When you're looking for a Nikon flash, I recommend you go for an SB 700 or SB 900. Both can be used as commander as well as remote and, contrary to their older family members SB 600 and SB 800, it's incredibly easy to switch them to the desired mode (the older models required quite some thumb strokes to set up).

A complete explanation of CLS and how to set up your flash and camera can be found in your user manuals, but I still want to show you how easy it is by walking you through the basic setup procedure for a D7000 and an SB700 (see chapter 6). If you have a different model, work by analogy or check your manual.

³Both Nikon and Canon also have dedicated macro flashes that can be triggered remotely. They fall beyond the scope of this eBook, however.



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If your camera doesn't have a built-in flash (like the high-end D3 range) or the built-in flash does not support CLS (like the D3100 and D5100), you can put another SB-700, SB-800, or SB-900—set to "commander" on your camera hotshoe to trigger remote flashes. This means you'll be needing at least two flashes (or a flash and an SU-800), so this option is more costly and you might want to look into other triggering systems.

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If your Nikon camera has a pop-up flash and supports Nikon's CLS (such as the D70, D80, D90, D200, D300, D7000, and D700), using that pop-up flash as a commander is among the easiest and cheapest ways of triggering a compatible remote Nikon Speedlight such as the SB-600, SB-700, SB-800, or SB-900. In chapter 6, we'll walk you through the basic setup procedure for a Nikon D7000 or similar camera. In chapter 7, we'll do the same for a Canon 60D or comparable.



Basic Off-Camera Flash Gear

5.2.2.2. Canon's Wireless Flash System

Canon was a little later to join the party and come up with an answer to Nikon's CLS, called the Canon Wireless Flash System. Until quite recently, you needed a Speedlite like the 580 EX or a dedicated ST-E2 external trigger (the Canon equivalent of Nikon's SU-800) if you wanted to wirelessly trigger a remote Canon flash with some degree of control. With the advent of the 7D and later models such as the 60 D and the 600 D, Canon also lets the built-in flash trigger a remote flash. Chapter 7 will walk you through the basic setup for a Canon 60D and a 580 EX flash. For other models, the procedure is similar.

Regardless of whether you own a Nikon or a Canon, optically triggering an off-camera flash, especially if you can use your built-in flash to do so, is a very attractive and cheap proposition, but it's not without its limitations:

Because the signal is infrared, it requires some line of sight between the commander and the slave flash. I found the recommendations in the Nikon manual to be very conservative and I've been able to shoot without line of sight or at much wider angles than suggested (see chapter 9, case 2). However, this will not always work, especially in bright sunlight, where the infrared signal is less easily picked up by the receiver. There are ways to try and counter these limitations, such as bouncing the commander signal from your built-in flash with some white cardboard, or switching to a proper Speedlight/ Speedlite as a commander (which gives you the ability to rotate its head and hence the direction of the commander signal. Some photographers such as Joe McNally even hook up a Speedlight, set to commander, to a flash sync cord, which gives even more flexibility.

Still, there will be situations where infrared triggering won't work. If your livelihood doesn't depend on it, that won't matter to you, but if reliability and 100% repeat performance really is an issue (like in a commercial environment), then it's safer to stick to the manufacturer's guidelines or... choose a totally different way of wireless triggering: radio.





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If your Canon's built-in flash doesn't support the Wireless Flash System, or your Canon simply doesn't have a pop-up flash, you can use a 580 EX or EXII Speedlite as a master, or use a dedicated Canon trigger such as the ST-E2. This trigger offers less control than the other options, however.

If you have a 7D, 60 D, or 600 D, your built-in flash can remotely fire a compatible remote ("slave," in Canon parlance) Canon Speedlite, such as a 270EXII, 320 EX, 430EX, 430 EXII, 580 EX, or 580 EXII.



5.2.3. Using Radio

The alternative to using infrared to trigger remote flashes is radio. A radio signal travels farther (more than one hundred meters) and doesn't require line-of-sight. So, you can stick a flash behind a soccer goal and fire it from across the field if you want. Radio triggers come in different price categories: from cheap (and not always as reliable as radio would lead you to believe) triggers that are mainly sold on eBay, giving them their name "eBay triggers," to the industry-standard but pricey PocketWizards that cost about 200 dollars each. Knowing that you'll need at least two (one on your camera and one for every flash you want to fire remotely), you can see the bill adds up quickly. Especially considering that the original radio triggers only did that: they triggered the flash at whatever power you set it to manually. No remotely changing the power nor working in TTL, and... strictly working at (or even slightly under to be safe) your camera's synch speed!

Recently, manufacturers started to look for ways to combine the ease-of-use of the proprietary Nikon and Canon systems with the reliability of radio.

The first to offer TTL and remote control via radio were the aptly named RadioPoppers. I cannot comment on them as I haven't used them myself, but a lot of people seem to be using them to their satisfaction. PocketWizard now also has a system that will be discussed in a follow-up to this eBook. For now, suffice it to say that, if you do own a Canon or a Nikon, the new TTL-enabled PocketWizard TT1/





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TT5 system (available in a Nikon and Canon version) costs only slightly more than the allmanual Plus II system and offers much more in terms of flexibility and control, making it the most logical choice between the two.

radiopopper.com pocketwizard.com gadgetinfinity.com (Cactus)

< Manual-only radio triggers come in all shapes and prices. These entry-level Cactus triggers (left) are but one type of a huge offering of radio triggers. They cost me... about \$40 for one receiver and one transmitter. Two PocketWizard Plus IIs (right), the industry standard for triggering manual flash by radio, will cost about eight times as much.

Basic Off-Camera Flash Gear

5.3. Modifiers

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Modifiers are things you put on your flash or between your flash light and your subject to influence and shape it, or to redirect it. They come in all shapes and sizes... and price categories.

5.3.1. Softening Modifiers

Unless you're lighting an ant or a matchbox car, a flash is a pretty small light source, relative to most subjects. That means its light will be hard, contrasty and the shadows it provokes will be harsh as well. While this can be something you want in a picture, very often you'll want to soften your light to make it nicer and gentler. Putting any translucent (not transparent) surface (a shower curtain, a flash umbrella) between your flash and your subject will turn that modifier into the effective light source, softening the light. The price you pay is a loss of power.

If you're starting out with off-camera flash, the best light modifier would be an umbrella. Countless models exist. Personally, I very much like the collapsible reversible ones from Westcott: they're very compact, and can be used as a shoot-through as well as a reflective umbrella when you add the included black cover. It's a very well-spent \$25 to give the harsh, unforgiving light of a bare flash a very pleasing light quality that looks much more expensive than the actual price tag. I encourage you to play with umbrella light. Just don't stop there, because there are other modifiers waiting to be discovered.



A Westcott collapsible reversible umbrella. It extends to a 43-inch diameter umbrella, yet collapses to a mere 14.5 inches. I had one with me during my one-year Asian odyssey by bike, ready to be taken out at a moments notice.

In terms of value for money, flexibility, and instant "wow" effect, a \$25 collapsible reversible umbrella is one hard-to-beat light modifier.



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Then put the same girl in front of a gritty, textured wall and put a bare flash parallel to the wall so the light just rakes across the wall and her face. Convert to a contrasty black and white for added effect. Same girl, same flash, but a totally different look.

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Umbrella light is soft, but also safe, sometimes a little too safe... Take for example these pictures: a lovely little girl, photographed with the sun as a rim light coming from behind and a softbox to camera right. Classic light for a classic, dreamy portrait.

5.3.1. Softening Modifiers – Continued

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Still in the softening range of modifiers are the softboxes. Just like umbrellas, they come in various sizes and models. They also produce soft light, but the quality is different: since the light is contained in the box, it doesn't bounce around (spill) that much across the edges like umbrella light does. It also produces square catchlights that many photographers find more professionallooking (because they look more like window light). If you really want to mimic window light, try gaffer-taping a cross in the middle of your softbox front cover! Softboxes are more expensive and also slightly more difficult to carry. Therefore, I'll only talk about one specific softbox here—one that complements the above-mentioned umbrella really well—and I'll leave a more thorough discussion of the softboxes I use for a future title.

A 43-inch umbrella turns your flash into a very big soft light source. Yet, there are occasions when such a huge light source is difficult to master: say you're working alone without a light stand handholding your flash, or you're in a windy environment. In these cases, I very often turn to my other favourite light modifier, the LumiQuest SB III.



At 8 x 9 inches, it's a small softbox in absolute terms, but it's still 20 times bigger than your bare flash and approaches the size of a human head. When placed close enough, this little softbox really can behave like a soft light source and, even at a few feet away, it will soften your light considerably. Another advantage of the LumiQuest SB III is that it is light, and thus hand-holdable (for wedding/reception work). It also folds completely flat, and has Velcro that allows you to hook it to a Velcro loop (such as the Honl Speed Strap) that you tighten around your flash. Or, if you're like me, you'll just stick Velcro to your flash right away.

fjwestcott.com | lumiquest.com

 A LumiQuest SoftBox III, shown here on a stand. I very often use mine handheld. For anything up to a head or headand-shoulders portrait, this little softbox goes a long way to softening your flash output. The centre has extra diffusion, to minimize hotspots.

The graph shows these modifiers true to scale. See the little square on the left (1)? That is a bare flash head. The yellow oval (3) is an average human head. It's easy to see that no matter how close you put your bare flash to a person (e.g. for portraiture), it'll always be a small, hard light source. The LumiQuest SB III (2), small by itself, is actually about as big as a human head. When placed close enough, it can make for a soft light source if the subject is not too big. At 43 inches, the Westcott collapsible reversible umbrella(4) is a relatively big modifier that allows you to softly light anyone from the waist up.

Soft light is nice and safe. But do experiment with hard light sources. Make your light match the mood you want to convey. Or, take it one step further and use a contrasting light source.

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Basic Off-Camera Flash Gear

5.3.2. Restricting Modifiers

When you start out with off-camera flash, softening modifiers like umbrellas and softboxes are very tempting to use: first of all, they really make flattering portraits, so it's instant gratitude from your subjects. They take your pictures up a notch or two, so when you're insecure about your photography skills and prone to self-doubt ("I'm no good, my photography sucks") that all photographers and artists sooner or later are confronted with, a \$25 umbrella will do more good for your troubled soul and self-esteem than a ten-hour session with a shrink. In fact, you might as well save the shrink money to buy some PocketWizards.

Lastly, umbrella light is not only forgiving to flaws in your subject, as it smoothes out wrinkles and bathes people in soft light, it's also quite forgiving to your own flaws as a photographer: your angle of light needn't be spot-on.

After a while however, you'll find that safe can sometimes become a little predictable, maybe even boring. Two things are possible when you get to this point. The first is to use your

umbrella or softbox in new ways: try to fly it overhead instead of at a typical 45° angle. Move it in closer or further than you normally would. Work with the "edges" of your umbrella instead of the centre by turning it slightly farther away from your subject than you normally would the bulk of your light will pass by your subject and you'll be working in the falloff zone of the light towards the edges of the modifier, which can lead to more dramatic results.

Another way is to explore the options of hard light. The simplest and cheapest option is just to use a bare flash. If your flash has a zoom head, zooming that head to its maximum (e.g. 105 or 200 mm) will tighten the beam of light coming out of it (and make it more powerful in the process). Some flashes, like Nikon's SB-900, allow you to control the flash distribution pattern to tighten the beam even more.

Sometimes, flags are used to prevent the flash light from entering the lens and causing flare. Flags can be made from black light-absorbing

cardboard, or you can buy them ready-made from David Honl (www.honlphoto.com), amongst others. In a pinch, even your assistant's hand will work, as demonstrated in chapter 9, case 8. In a future title, we'll cover restricting modifiers that offer even more control.

Look at your flash from the position of your model. If you can't see the light source, then the light source can't see your model.

5.4. Other Really Useful Stuff

5.4.1. Gels

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Gels might seem like a gimmick, but once you start mixing flash with ambient light, you'll really have to learn to use them. The colour temperature of your flash is daylightbalanced. That's not a problem if your flash is the only light source. In post-production (or by switching the white balance setting on the camera), you can change the colour temperature of the entire scene easily. But what if you start mixing flash with ambient light? At noon, on a sunny day, not much of a problem still, but what if you use flash indoors, in a scene that's lit by incandescent (household) lights? You'll have a mixture of white flash light and yellow ambient light. Making the flash light warmer in post by changing the white balance of your raw file in your raw converter will make your background too yellow. Choosing a colder white balance will neutralize the ambient-lit parts of the photo, but will make the flash-lit parts too cool. If you want to avoid manually



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The Rosco Strobist Collection is a collection of 55 colour gels, available for under \$10.

correcting hundreds of pictures in Lightroom or Photoshop using layer masks and selections, there's a simple solution: gel your flash to the ambient colour, in this example by adding a CTO (color temperature orange) gel to your flash. Chapter 9, case 7 shows you the typical use of a CTO gel.

As always, there are various ways of getting gels: a starter pack might be included with your flash, as Nikon does with most of its recent Speedlights. Rosco, traditionally a manufacturer of large gels for studio lights, has a set of gels for Speedlights called the Rosco Strobist Collection. You can also cut them yourself if you're the DIY type and if you're not, David Honl also has gels in his

product range that have Velcro attached to them so you can quickly slap them on to any flash that has either Velcro or a Honl Speed Strap.

5.4.2. Light Stands and Brackets

I won't go into a lot of detail as there are many different models around and they don't really influence the look of your picture.

I like the Manfrotto Nano light stands as they are relatively lightweight and fold up nicely. When choosing an umbrella bracket, make sure it will fit your flash (some flashes like the SB900 have quite a big footprint) and that it will also accept your light modifier.

5.4.3. Sandbags

Umbrellas and breezes will never make good friends. So unless you want your umbrella (and your flash and your trigger) to go AWOL on you, sandbag your light stand, or put a heavy camera case or bag on it. Seriously. Do it. Lots of people I know, myself included, have lost expensive gear to concrete, rivers, pavements, and other flash-unfriendly environments this way.



(4) Tightening knob for the hotshoe.

(5) Infrared receiver: when triggering optically (see 5.2.), always make sure this receiver points towards the commander unit. Use the tilt and swivel capabilities of your flash head if necessary.

< An umbrella attached to an umbrella swivel bracket, placed on a light stand.

(1) Knob to tighten the bracket to the spigot of the light stand.

(2) This knob allows the bracket to swivel, making it point upward or downward.

(3) Knob to tighten the umbrella shaft in the opening. This opening has a small slope. Always put your umbrella so that there is convergence between the umbrella's axis and the flash head's axis (yellow lines). Turn knob tight enough, but not too tight, as you risk damaging the hollow shaft of the umbrella. To prevent this, some manufacturers, like Westcott now make the bottom 2 inches of the shaft solid instead of hollow.



Basic Off-Camera Flash Gear

5.5. Adding It All Up

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After reading these chapters, you might come to the conclusion that off-camera flash is expensive. Well, it can be, but it needn't. Off-camera flash isn't dirt cheap. But then again, you didn't choose photography because you wanted a cheap hobby or career, did you? Even if you're DIYing your modifiers, there's still some essential hardware that needs to be bought. The bare minimum kit (third-party flash + cheap "eBay triggers" + an umbrella + light stand) will set you back \$200 to \$300. If you move up to the brand solution (brand flash that can be triggered optically) and add a medium softbox, you're now looking at \$500. Add two PocketWizards and you're neighbouring \$1000. Spending five times as much as the "starter kit" won't make your pictures five times better, it just adds flexibility, reliability, and ease of use.

If your camera allows it, starting out with a brand flash that can be optically triggered is a very versatile solution: you can always add radio triggers later if you want (when you start running into the limits of optical

triggering), and you can use the flash in TTL mode as well as manual mode, both on- or off-camera. Cheaper still is to buy a thirdparty manual-only flash with some cheap eBay triggers, but you give up the option of ever using TTL. And of course, there's also the second-hand market. Just make sure you know who you're buying from.

On the other hand, if you already have a flash, then the investment needed is minimal, and the return you get in terms of photographic options is tremendous. Having your own little portable sun opens up a world of opportunity and will allow you to improve your pictures in a way that few gear investments can.

I'd much rather spend less on a camera and have an off-camera flash set than the other way around. As much as I love my D700, if money was a concern, I'd gladly trade it in for a D7000 or a D90 with an off-camera flash kit, actually saving me some money that I could use on going places to photograph things.

5 Basic Off-Camera Flash Gear

5.6. Less Is More

This title refers to two things: not only is less gear sometimes better (always good to remember after a multi-spread gear smorgasbord), less light on your picture can also make more of an impact. You're probably familiar with the concept of contrast: the difference between the dark and bright parts of a photograph. Contrast is mostly thought of as something you add in post-production. But contrast can also be used during capture, with your lighting setup: then it refers to the difference between the lit and the unlit parts of a photograph. After all, why would you put a big vignette on a picture in post-production to focus on the subject, when you can do it during capture?

Sure, playing with the big, broad light sources is safe and pleasing, but after a while, start to experiment with a bare flash. Or, restrict that bare flash by adding a snoot or a grid to it, so you have an even tighter beam of light. Use the shadows as a graphic element in your composition. Snoots and grids are among the cheapest light modifiers (in fact, you can make them yourself if you're half-way handy—a prerequisite that immediately excludes me, by the way).



 A grid (such as this one from Honl) makes a very concentrated light source. It's also effective to help avoid spill light causing flare.



Nikon D700 | 24-70mm f/2.8G | 24mm | Manual exposure | Remote flash: SB900 at full power.

5.7. My Travel Setup

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At home I have four Speedlights and a LumoPro LP160, an extensive array of light modifiers, light stands, backdrops, and PocketWizards. However, when I'm travelling, I have to make choices. I like to travel by bicycle, so I'm limited (probably even more than someone travelling on foot or public transportation) as to what I can take.

I want to include this setup because I don't want you to think that you need all the stuff from the previous pages. Most of the pictures in this eBook (and in fact, all the "exotic" ones) were lit with only one Speedlight, an SB-900, triggered by the built-in flash of my D90 or D700. Did I miss a few shots because the optical didn't work? I sure did, but I also made a few shots in challenging circumstances I thought would never work, and where I'd never dream of lugging all the heavy stuff to in the first place.

I don't carry a light stand with me when travelling. I usually just ask my partner or a passenger for assistance. Sometimes I use a lightweight umbrella swivel adapter on my Gitzo Traveler tripod as a makeshift light stand.

Does this setup go up as high as I want it to? No, but most of the time I can ask someone to hold it higher for me.

As far as light modifiers go, I carry a Westcott collapsible reversible umbrella, a LumiQuest SoftBox III, a Honl Speed Strap, and some Honl filters and gobos. My choice of camera and lens nowadays is a D700 with a 16–35 F4 VR, an 85 mm 1.4 or 1.8 and sometimes a 50 mm 1.4. I have a 24–70 and a 70–200 but rarely take them with me for travel. The lens kit I use now, including the flash and the umbrella, weighs about the same as those two 2.8 lenses and offers me much more flexibility in terms of depth of field and wide-angle focal length. And the flash allows me to enhance the existing light.

All of this gear nicely fits in or on my ThinkTank Speed Racer, which to me is the ultimate camera bag.



This is my lightest travel setup: (1): Nikon SB-900 Speedlight (and other miscellaneous items such as Honl filters) (2) Westcott collapsible 43-inch umbrella (I almost always use it shoot-through), tied to the handle of the bag with rubber bands or to an optional ThinkTank Skin Chimp Cage (not shown here) (3) LumiQuest LQ3 Softbox (4) 85 mm 1.4 or 1.8 (5) Filters / 50 mm 1.4 (6) Nikon D700 with battery grip and 16–35 F4 VR (7) Hoodman loupe (8) The bag that holds it all: the ThinkTank Speed Racer. This bag has a modular belt, so if I need to carry more gear, I can add extra pouches to the belt. Most of the travel pictures in this book were shot with this "minimalist" setup, or a variation thereof.

6 Setting Up a Nikon for Off-Camera Flash: Seven Easy Steps



1. Just to show you how simple it is, we'll give you a quick walk-through on how to start working with off-camera flash with a Nikon D7000 and an SB-700 Speedlight. You only need three buttons: the Menu button (1), the OK button (2), and the directional pad (3), which can be pressed upwards, downwards, to the left, and to the right.





3. Scroll down (by repeatedly pressing the pad downwards) until you reach custom setting e: Bracketing/flash. Press OK or press the right side of the pad.

(When you're in a menu, pressing the right side of the pad will dive deeper into that menu, pressing the left side is like an escape key, returning to the previous level.)



2. Press the Menu button. Depending on where you last were, it might be necessary to press the left side of the directional pad until one of the seven menu items is highlighted. Then press the pad up or down until the pencil icon (the icon for the Custom Setting menu) is highlighted, and press the OK button or press the right side of the pad.

4. Scroll down again until you've reached custom setting e3: Flash cntrl for built-in flash. Press OK (or press the right side of the pad) to enter the submenu shown here. Navigate to the bottom by pressing the pad downwards until you've reached the last option, Commander mode, and press OK.

Setting Up a Nikon for Off-Camera Flash: Seven Easy Steps



5. Fields that are highlighted in yellow can be changed by pressing up and down. Committing those changes and moving on to the next field is done by pressing left or right. First, set the Built-in flash to Mode '---', so it will only trigger remote flashes, but not contribute to the exposure. Then, move to Group A and set that up how your want. Best choices are M (where you can set the power in the Comp. field) or TTL, where you can dial in any flash compensation in the Comp. field.



6. Pop up your built-in flash and then grab your Speedlight, because now it's time to turn on that SB700 and set it up as a remote. The great thing about recent Nikon flashes is that they have a dedicated lever switch to turn the flash on in normal mode or into Remote or Commander mode. In order to turn the lever to Remote or Commander, you have to press down the button inside the lever and turn it at the same time. It's a safeguard to prevent you from accidentally entering these modes.



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7. You have to assign the flash to a group (you've determined the flash mode and power output of that group in step 5). The Sel button allows you to highlight the GR (Group) field or the CH (Channel) field. When highlighted, you can change groups (or channels) by turning the rotary wheel left or right. To applying the changes, press the OK button. Make sure the channel setting corresponds to the one you have on your camera (step 5). The Zoom button, combined with the rotary wheel, will allow you to change the zoom setting. Now, put the flash on a light stand (or handhold it), attach any modifier you like, press the shutter, and see the wireless magic happen!

7 Setting Up a Canon for Off-Camera Flash: Seven Easy Steps



1. Just to show you how simple it is, we'll give you a quick walk-through on how to start working with off-camera flash with a Canon 60D and a 580EX Speedlite. You only need two buttons (the Menu button (1) and the OK/Set button (2)), the rotary wheel (4), and the rocker switch (3) inside the rotary wheel.





3. Press the Set button to go into the flash control menu. Using the rotary wheel, scroll down to Built-in flash func. setting and press Set.



2. Press the Menu button. Depending on where you last were, it might be necessary to push the left side of the rocker switch until the leftmost icon (a camera and one white dot) is highlighted. Then use the rotary wheel to highlight the last option: Flash control.

4. Scroll down with the rotary wheel to the item called Wireless func. Press Set to enter its menu. In this menu, use the rotary wheel to choose the third option: this symbol means that the built-in flash will function to trigger your remote flash, but it will not participate in the actual exposure.

Setting Up a Canon for Off-Camera Flash: Seven Easy Steps

Shutter sync.	1st curtain	
E-TTL II meter.	Evaluative	
Wireless func.	¥∎2	
Channel	1 ch	
Firing group	₽ All	
Sexp. comp.	-321	

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5. In the Built-in flash func. setting menu, you'll also find the other important controls, such as:

- Flash mode: lets you select between firing your remote flash in E-TTL mode or Manual mode.
- Channel: lets you set the channel that is used for communication between your onboard flash and the remote flash.
- Firing group: lets you assign flashes to different groups (A, B) and control their power independently.
- Flash output/exp. comp: lets you set the remote flash's output manually or lets you enter an exposure compensation amount (if you're in E-TTL mode).



6. Pop up your built-in flash and then grab your Speedlite, because now it's time to turn on that 580 EX and set it up as a remote. Just switch on the flash with the On/Off button and set the dedicated switch below (just above the tightening knob) to Slave. "Slave" will show up on the LCD Screen. If you have a 580 EX II, there's no longer a dedicated switch and you have to press the ZOOM button for a couple of seconds: a menu will appear that lets you set the flash to remote.



Pressing the Zoom button three times will allow you to go into the slave settings, where you can assign the flash to any of the three groups (A, B, and C).

7. Make sure the channel is set to 1. If it's not, press the ZOOM button twice until the CH. icon blinks. Change the channel with the flash's rotary wheel and press the center button of the rotary wheel to apply the changes.

Shooting Pictures with Off-Camera Flash: A Failsafe Ten-Step Approach 8

In chapters 6 and 7 we looked at the actual "button-pressing" sequence of setting up a flash to be optically triggered. If you're working with other camera models or radio triggers, please refer to their manuals.

Once you've got your flash and your camera talking to each other, either via a proprietary optical system or through an interpreter like a radio trigger or even a sync cable, you are ready to shoot pictures with off-camera flash. The purpose of this chapter is to give you a more theoretical walk-through of the steps involved in making a picture that is—at least partly—lit by off-camera flash.

Off-camera flash isn't that much more complicated than other forms of photography, especially considering the extra control and possibilities you get.

First of all, remember that flash is just another light source, albeit with some particular characteristics we discussed earlier.

Some of your options will be dictated by your gear, for others you'll have a choice. As always in photography, it's a matter of priorities.

Most of my pictures start out as follows... I normally work in manual mode and I'd advise you to do the same, at least until you have wrapped your head around how all the variables interact. Then you can shove all that carefully built knowledge aside and surrender yourself to the whims of TTL off-camera flash. Just kidding! Both TTL and manual have their place in a workflow. As with lenses, it's a matter of choosing the right tool for the right job.

1. Setting the Ambient Exposure

For starters, leave that flash turned off and first determine how much (if any) available light you want in the picture. You can either work in full manual mode or in aperture or shutter priority. In the latter cases, use exposure compensation to change the ambient exposure from what your meter suggests. Choose a combination of f-stop, shutter speed, and ISO that suits your needs. Do you want more or less depth of field? Do you want to freeze action or not? When setting shutter speed, make sure not to exceed the sync speed, unless you're working with a system that's capable of high-speed sync. We'll discuss high-speed sync in an upcoming eBook.

2. Set Up the First Flash

Then switch on your flash. If you're going to use multiple flashes in different locations, start with the most important one first. Choose a modifier that suits the mood you're after and apply any gels needed for creative or colour-correction purposes.

3. Check Your Triggering System

Make sure your triggering system is working. If you're triggering optically, that means ensuring the infrared receiver of your remote flash is facing your commander flash.

4. Fire a Test Shot

Assuming you work manually, you could start with the lowest power setting of your flash, but as that is almost always be too low, I would generally start anywhere from 1/16 to 1/4 power. When working with TTL flash, I'll very often start at one stop under the camera suggestion, using flash exposure compensation.

5. Inspect the Test Shot

Chimp at (sorry: carefully inspect) the image on your LCD. (By the way: it helps if you've matched your camera LCD brightness to that of a calibrated monitor.)

Shooting Pictures with Off-Camera Flash: A Failsafe Ten-Step Approach

6. Adjust Your Flash Output When Needed, or...

Flash power too low? Dial up your flash. Flash power too high? Dial it down. Pretty simple, huh?

7. Adjust the Flash-to-Subject Distance and Position, or...

There's another way of changing your flash power, if you think back to our discussion of the inverse square law: flash power too high? Move flash farther away. In fact, increasing the flash-to-subject distance by 40% will halve the power of your flash. Doubling it will put it to 1/4 of its original power. Bear in mind that this will also make the quality of your light harder. The relative size of your light source diminishes, remember? It's all interconnected!

Flash power too low? This one's especially important if you're already maxed out and only have one flash. Put your flash closer: halving the distance will make that flash four times as powerful. Again, this move will also change the quality of your light and the lighting of your background (if you're working with a

background): moving the light closer to the subject will make the flash-to-subject distance relatively short, and the flash-to-background distance relatively long. This means the light will fall off more quickly, causing your background to become darker. This needn't be a bad thing. It's just something you have to be aware of.

Changing the effective power of your flash by moving it farther or closer is something that only works in manual mode: in TTL, your almighty camera processor immediately compensates for any changes in distance. Again, a good thing when time is of the essence, less so when you want control.

8. Use a Combination of Both...

In practice, you'll soon find yourself combining both: changing flash power to quickly get you in the ball park and then fine-tuning your flash's distance (and orientation).

9. Add a Second Light and Go Back to Step 2

Make sure everything is set before you add another light (e.g. a so-called rim or separa-

tion light or a fill light), and repeat steps 2 to 8. Don't set up all your lights at once: if you run into lighting problems, it will be difficult to know which flash is causing them.

10. ...

Start with the ambient, then add your flashes one by one.

1 to 9 is really all there is, but "nine steps" sounds kinda off, doesn't it?

9 Nine Cases

In this chapter I'll have a look at nine pictures that used at least some amount of off-camera flash. Sometimes that light was a pretty important part of the total exposure, at other times you hardly even notice it's there (that is, until you would actually take it away)... I'll always include the Exif info and either describe or show the light setup. I hope these pictures will encourage you to experiment with off-camera flash.

All of these were lit using one Nikon SB-900, optically triggered by the on-camera flash of either a D90 or a D700. The only modifiers I used were a LumiQuest SoftBox III and a Westcott collapsible reversible umbrella. For a complete look on my travel set, see 5.7.

If you use one of the entry level or top of the line Nikons, or a different brand of camera or flash alltogether, you still could have made those pictures. You just might have needed a different triggering system, as discussed in Chapter 5.2.

We'll end this chapter with a bonus case that announces some more advanced techniques that will be discussed in an upcoming title.





















Young Guitar God at Temple: Soft Light from Above...

Nikon D90 | Nikon VR 16-85mm f/3.5-5.6G @ 22mm | Manual exposure f/9 @ 1/100s | Flash exposure: SB-900 set to full power manual.

1. Young Guitar God at Temple: Soft Light from Above...

Near Yogyakarta, Java's cultural hotspot, I met this young boy while I was visiting a ruined temple. He played his guitar with such zeal, pose, and devotion that it made Guns N' Roses look like a bunch of debutants. The modernity of the electric guitar and his youth contrasted beautifully with the old crumbling ruins of the temple. I asked his parents if I could take his picture and they agreed.

I wanted the light to come from above and in front of him, so I improvised a boom (a light stand that you can fly over your subject) by attaching my flash and umbrella to a bracket, which I in turn put on my fully extended Gitzo Traveler tripod. Instead of opening the tripod's legs, I left them together and asked the boy's father to stand behind me and extend the whole rig above me, in front of and over the boy, just out of frame. The umbrella is a soft light source, but part of that softness is lost because of the distance between the modifier and the subject. The relatively soft shadows below his feet show that the light is indeed coming from the top. This very symmetrical, even light gives an open, young feel to the subject but the shadows are still distinct enough to give the image depth and some drama.

Had I had a second flash with me, I could have used it as a rim light to separate his dark hair from the temple stairs but to paraphrase a well-known photography book: the best flash is the one you have with you.



Λ

A mobile phone BTS (behind the scenes) shot. Umbrella rigged to a fully expanded tripod due to a lack of a proper light stand. Improvisation rocks, as does this boy! When you're travelling, you can't put a whole lighting studio in your backpack. Improvisation is not only mandatory, it's fun!



 To contrast with the medium-soft light, I gave the raw file you see here a a contemporary, desaturated, and gritty postproduction, letting the chrome on the guitar and the crumbling rocks stand out.



Nikon D90 | 10-24mm f/3.5-4.5G @ 12mm | Aperture Priority f/5.6 @ 1/100s -0.7EV | ISO 400 | Remote flash set to TTL, 0EV.

...versus Hard Light from Below



2. ...versus Hard Light from Below

Warning: this picture may damage your appetite!

I don't know if this only happens to me, but I often find that the pictures I doubt are worth taking end up becoming my favourites.

I saw this scene from the corner of my eye, because I was speeding down some South Indian hill on my bicycle and the potholed road demanded the bulk of my attention.

I squeezed the brakes and nodded my head towards the camera, the universal sign language for "can I take your picture?"

This open-air butcher shop had a slightly apocalyptic feel to it. There were carcasses everywhere and I wanted to portray that. So that called for a wide angle lens. But shooting wide exaggerates distance, so I knew the butcher, who is also an important part of the image, would wind up rather small in the frame. Backing up and using a telephoto lens to compress perspective wasn't an option, so I decided to emphasize the butcher by lighting him.

I wanted to put my Speedlight behind the metal bowl on the counter but there were puddles of blood all over the place.

The idea of literally frying my flash in blood did not appeal to me. Luckily, the butcher saw my agony and gave me a plastic bag to rest the flash on. I normally carry those with me but I had run out of them.

I returned to my position and triggered the flash using the builtin flash from my camera.

This isn't your average safe "45° up and over" soft umbrella light. It's harsh light that comes from below and throws a harsh, spooky shadow. About as harsh and spooky as the actual scene was.

Choose your light's position and its quality (hard or soft) to match the atmosphere.

Packing a couple of 10-cent Ziplock bags goes a long way to protect a \$400 flash from rain... or blood.



Flash wrapped in Ziplock bag and put in a pool of animal blood behind the metal tile. Many times, when triggering a remote flash with infrared, you can go beyond the manufacturer recommendations that state there should be line of sight between your commander and remote flash.

Many times, but not always: if you need 100% consistency, as in commercial shoots, you'll want to invest in radio triggers. Systems such as the new state-of-the-art PocketWizard TT1/TT5 combo (available for Canon and Nikon) allow you to combine manual and TTL control from your camera with a range of up to 100 meters without need of line of sight.



The Tiniest Cobbler Shop in the World: Bouncing and Slow Shutter Speed

Nikon D700 | 24-70mm f/2.8G @ 24mm | Manual exposure f/5.6 @ 1/15s | ISO 800 | Remote flash triggered in TTL mode (- 1 flash exposure compensation) by pop-up flash.

3. The Tiniest Cobbler Shop in the World: Bouncing and Slow Shutter Speed

This Iranian cobbler's shop must have been the smallest shop I ever set foot in. I think it was maximum five feet by five feet. The lighting was difficult: outside it was pitch black and inside there was just a household bulb dangling from the ceiling, high above the man. So, we had a relatively distant, small, unsoftened light source right

above our subject. That means without any extra light, the eyes would be dark and lifeless, because they'd be in the shade caused by the light bulb.

So, I set up an SB-900. There was no way I could diffuse the light with an umbrella without the diffuser showing up in my ultra wide-angle view, so I decided to bounce the flashlight.

This is one of those rare occasions where I used the little diffuser that comes with many flashes. Don't use them outside, in the sun, because the only thing they'll do is eat up a lot of power. When used straight on outside, they don't really diffuse a lot, they just waste lot of light through their sides. But in very confined quarters like this shop, the diffuser sends light in all directions, which can then bounce against the nearby walls. The light also picks up the colour of the walls it hits. These walls were

Take your time to build a rapport with the people you're photographing.

covered with all kinds of posters, but I knew I was going to give the picture a vintage post-processing treatment anyway, so colour accuracy was the least of my concern.

As I wanted to convey motion, I used a relatively slow shutter speed. Slow enough to have the hammering motion shown as a blur but still somewhat recognizable. I love wide-angle portraiture, because it shows people in their context.

I think I spent half an hour in the shop, until my legs cramped up... In situations like these, you're bound to draw

> a crowd. If you're insecure about asking people to take their photograph, just ask one and chances are the others will ask you

to have their photograph taken.

One year later, I revisited this city on another trip and I thought it would be nice to bring him some larger prints than the usual PoGo prints I offer people. The shop hadn't changed a bit. Nor had he—still lovingly mending shoes in the tiniest shoe store in the world.



∧ One



One of the few times I used the diffuser dome.



Nikon D700 | VR 16-35mm f/4G @ 19mm | f/6.3 @ 1/2.5s | Aperture priority -1.0EV exposure compensation | ISO 1000 | SB-900 Remote flash fired in TTL, +0.3EV flash exposure compensation.

When in Doubt: Leave the Light Stand, Bring the Light

9 **Nine Cases**

4. When in Doubt: Leave the Light Stand, Bring the Light

I find it harder and harder to carry lots of gear. It's one of the main reasons I was contemplating buying a Leica M9 last year. But then I thought of all the fun stuff I'd be missing, like this whole off-camera flash thing. Sure, you can put a PocketWizard on a Leica but it's really not a pretty sight. I'll reconsider when PocketWizard brings out a vintage-looking version!

Nevertheless, I try to keep my weight down. I did a search through my Lightroom catalog that showed me what focal lengths I use a lot and, based on that research, I now tend to leave the heavy 2.8 zoom lenses at home in favour of an F/4 wide-angle zoom, an F/1.4 50 mm, and an F/1.4 or F/1.8 85 mm. I rarely bring a proper light stand. I do carry a light-weight umbrella adapter and my Gitzo Traveler tripod because, in a pinch, the Gitzo can double as a light stand. (But I wouldn't want to carry the kind of light stand that can double as a tripod...)

Often, I just ask a passerby to hold my light for me. It's always a lot of fun and makes for an instant connection, even if you don't know the language.



Λ

You generally don't have to look far to find a voice-activated light stand (VAL). The only thing to watch out for is that your VAL's hand does not accidentally cover up the infrared receiver (encircled in red on the inset in the picture), if you're using infrared to trigger.



Catch Those Catchlights

Nikon D90 | 50mm f/1.4D @ 50mm | f/2 @ 1/160s | Aperture priority -0.3EV | ISO 200 | Built-in flash triggers remote SB-900 through umbrella, TTL, no flash exposure compensation.



5. Catch Those Catchlights

If the eyes are the window to the soul, then catchlights are the window to the eyes.

Gather ten portraits you really, really like. Now gather ten more that you find OK, but not completely.

If something's missing in a portrait, it very often is a catchlight.

Creating catch-

lights with ambient-only light is a matter of trying to position your subject in relative shade, facing a large bright object, such as a white wall, a window or... a reflector.

The closer you place that white reflective surface—be it a wall or a reflector—to your

subject, the larger the catchlights will be and the more lively the person will appear.

The same holds for flash-induced catchlights: the catchlight of your on-camera flash will be

Catching a catchlight in your subject's eyes will make your photograph catch the eyes of its viewers later on.

just taped a cross onto the face of the softbox using black gaffer tape, making its catchlight resemble a classic four-pane window.

When you're feeling romantic, you could try

cutting out a heart in an otherwise black piece of cardboard and tape that to your softbox. Just bring it in close enough and people will

see hearts in your subject's eyes... Of course, you'll stand little chance of passing the image off as one that was lit without flash.

but a pin in the eyes of your subject, which might be more of a nuisance than something welcome. If you want bigger catchlights, use a larger diffuser or bring your subject closer. Dean Collins, the guru of flash education in the eighties, even had a cool technique to make a softbox simulate window light: he

Four Weddings and a Fashion Shoot:

Nikon D90 | Nikon VR 16-85mm f/3.5-5.6G @ 25mm | f/6.3 @ 1/250s | ISO 320 | Underexposed Ambient + Remote Flash triggered by pop up flash through umbrella.

9.6.

Classic Umbrella Light for a Classy Lady

Nine Cases

9

6 Four Weddings and a Fashion Shoot: Classic Umbrella Light for a Classy Lady

No fan, no running water, no electricity: guesthouse infrastructure really wasn't South Javanese Pantai Balekambang's (Balekambang beach) main draw. But the view, oh the view! The beach with its picturesque water temple appeared to be on every Indonesian photographer's list that day. In one hour's time, no less than four wedding photographers showed up, allowing for a much-needed gear and geek chat. But that was nothing compared to the fashion team that set up shop later that afternoon. In between two shoots, I took my chance and asked if I could take a shot. I was allowed the proverbial one minute, which stressed me out so much I almost forgot my camera controls! I decided to play it safe and put up an umbrella to the model's left. I underexposed the background by about one stop and let Nikon's CLS TTL magic do its thing. When you've only got a minute, there's not much time to be brave or innovative. You just press and pray!

When working TTL, there are a couple of important things to bear in mind. First of all, most camera manufacturers program

their flashes to complement the ambient light, trying to make that "perfect" fill-in flash.

However, that may not be how you want to render the scene. Luckily, there's such a thing as exposure compensation (EC) and flash exposure compensation (FEC).

A very common technique when working TTL is to underexpose the background by one or two stops (as I did in this picture) and then bring out the subject with flash. This makes for an instant dramatic, obviously flash-lit look that automatically pulls the eye to the subject. It looks spectacular and is quite easy to achieve.

There's just an important difference in the way Nikon and Canon TTL flashes work.

When you've only got one shot at it, play it safe, press and pray.

For me, that's working TTL with a slightly underexposed background.

On a Nikon, when you set exposure compensation, the camera will think you want to darken the whole scene (including any flash you might want to add). So, you have to compensate for that, if you want to have a "correct" amount of flash on your subject. Say you underexpose the background by one stop, you're better off dialing in + 1 FEC on your flash. Simply put, the +1 on the flash will cancel out the -1 you dialed in on your camera. The result should be an underexposed background and a correctly exposed subject.

Canon tackles this differently: (ambient) exposure compensation and flash exposure compensation are two separate things. In the same example as above, you'd just have to set your flash to TTL and only underexpose the background by one stop.

> Yet, this is theory. In practice, there are so many variables contributing to the calculation of the flash output in TTL that, along with theory, you'll need some experience to get predictable and repeatable results.



Λ

Thanks to me forgetting to set my pop-up flash to commander, I now actually have a picture that shows what the ambient-only (without flash) exposure looks like.



Λ

Belgian photographer, wearing a highly unfashionable mix of flip-flops, detachable travel pants, and orange checkered shirt, about to lose big time in a game of "my modifier is bigger than yours."



Gelling Your Flash to Match the Ambient

Nikon D700 | 50mm f/1.4G @ 50mm | f/2 @ 1/250s | Aperture priority -0.3EV | ISO 200 | Remote flash triggered by on-camera flash, TTL, +1.0EV flash exposure compensation.

F. V. F.

7 Gelling Your Flash to Match the Ambient

I very rarely pay cash for photographs. I prefer to give people a print from my portable PoGo printer. It makes for a much warmer, friendlier, and longer-lasting thank you than handing over cold cash.

For that reason, I wasn't planning on taking a picture of this man. He was standing in an open-air square of a bazaar in Esfahan, Iran. Everybody who photographed him had to pay a little baksjiesj (a tip). And boy, did

this guy make a good living or what: tons of tourists, both local and international photographed him.

Some used no flash, which was quite a

challenge because the ambient light was quite low. Others used pop-up flashes, and there was even someone who whipped out his flashgun and put it on his camera. I can only guess what the resulting pictures must have looked like: underexposed and blurry (in the case of the non-flash ones) or flat, Xerox-like driver's licence style mug shots.

Because I thought the guy deserved better, I opened both my wallet and the Westcott

The difference between this picture and the countless others made of the same man lies in using off-camera flash and a cheap, \$25 umbrella.

\$25 also makes the difference between a snapshot that won't even make it to Flickr and a cover photo for a national magazine.

collapsible reversible umbrella I almost always carry with me and asked my girlfriend to hold it (the umbrella, not the wallet: giving your wallet to your girlfriend in an Iranian bazaar is not recommended) at a 45° angle above him and to his right.

When asking people to act as a VAL (voiceactivated light stand), the single most important thing to check is that their fingers don't cover the infrared receiver.

> I warmed the light of the flash by adding some amount of CTO filter to make it better match the warm light of the bazaar shops behind the man.

A couple of months later, this image was used as the cover for a national photography magazine.

It wouldn't have featured there if I hadn't had my umbrella with me.



Introducing the Stoned Cyclist

9.8 .

Nikon D90 | VR 16-85mm f/3.5-5.6G | 20mm | f/13 @ 1/250s Manual Exposure | ISO 200 | Remote SB-900 with CTO Gel triggered at full power.



8 Introducing the Stoned Cyclist

The Balinese temple Pura Maduwe Karang is a pretty little temple in its own right, but for cyclists, it has extra appeal. There's a sculpture of a man riding a bicycle with flower wheels on one of the temple's sides. We arrived there—on our slightly less poetic bicycles—during the day, when the sun was high and the light all but flattering.

I had a very specific image in my mind of how I wanted to portray this sculpture: I wanted the feeling of late-afternoon, low sunlight that would gently rake along the edges of the sculpture, nicely revealing texture and form. However, what I got is shown in the square picture on the right of the page. So much for my vision. Waiting until sunset was not an option (cycling after dark in Bali is something only the locals and tired-of-life Westerners do).

So I asked my girlfriend Ruth once again to be a voice-activated light stand. The light, on which I had put a CTO gel to mimic the golden afternoon sunlight, was almost placed parallel to the sculptured wall. A first test showed too much light spilling from the flash directly onto the left side of the picture so I used a VAF (voice-activated flag, i.e. Ruth's hand) to keep the light from spilling too much. There was still some spill left, but I took care of that in post production by dragging in a graduated filter in Lightroom at about a 45° angle from the top left corner.

Subjects don't have to be alive to be lit.



Λ

Using a hand as an impromptu flag to prevent light from spreading to undesired areas in the frame.



The scene as it actually looked with the ambient "white" daylight.



Nikon D700 | VR 16-35mm f/4G | 22mm | f/20 @ 1/250s Manual Exposure | Hand-held remote flash with CTO gel at full power –1/3 of a stop, triggered by internal flash.

Two Lights for the Price of One

9 Two Lights for the Price of One

Photography is still mostly a two-dimensional medium. Reality, however, is three-dimensional. The trick is to translate that third dimension, distance, as well as possible onto your flat photograph. One could easily fill an entire eBook on various ways to add depth back into a two-dimensional image. In fact, that book's already been written by David duChemin and it's called A Deeper Frame. It's a recommended read, available from Craft & Vision.

Now, specifically with regards to lighting: ask any studio photographer how they'd separate (and therefore add depth to) a dark-clothed woman from a dark background and they'll immediately say: add a second flash as a rim (or separation light). But what if you're in an Indian village at 10,000 feet, and you only have one flash?

Well, you may have only one flash, but you have two light sources: the second light source in this picture was of course the low setting sun. By photograph-



ing into the sun, the sun became an automatic rim light, nicely separating the woman's shoulder and hat from the crop behind her, and separating that crop in turn from the mountains behind.

Photographing against the sun also would have plunged her face in shadows, so I used a bare flash to lighten up the foreground. I was working alone without a light stand so I had to handhold the flash. The resulting raw file was not completely what I had in mind, but I decided it was worth trying to salvage in Lightroom and Photoshop. Since the scene was already lacking in colour anyway, I decided to convert it to black and white. I also brightened the foreground area that was out of reach for my flash and I darkened the camera left part that had too much flash.

The whole post-processing took about an hour and a half. It's those lengthy post-processing experiences that are humbling reminders that it's better to get it right in camera.



Λ

What I saw on my LCD, and later on my monitor, wasn't really what I had envisioned: a foreground that was way too bright, and haystacks to the right that were dull, lifeless, and underexposed. Still, I thought the picture was worth trying to salvage so I remembered the old adage "If you can't get it right in camera, fix it in Photoshop." So, one could actually say that there were three light sources used in the final picture: the setting sun, the Speedlight and the digital light added in Photoshop!

Enhancing pictures post-capture by lightening certain parts and darkening others is almost as old as photography itself. It's < still a process that requires patience and skill, and above all, a good vision of what you want the final picture to say, and a fundamental knowledge of how pictures are interpreted by viewers. I use dodging and burning so often that I've not only created my own custom Photoshop palette for it but I'll also dedicate an entire Craft & Vision eBook to the subject.

Conclusion: And Now... It's Up To You! C

First of all, congratulations for making it so far. The world of off-camera flash is a highly intriguing one that opens fantastic creative opportunities.

I've tried my best to lay out the foundations (and even some more advanced topics) to get you on the road. Now, it's up to you. Don't be tempted to go and buy the expensive goodies right away. As noted above, the basic kit really isn't that expensive. In fact, you might already have all you need to get started.

Now put this book away (or take it with you) and start practicing. Team up with a friend and go shooting together. Start inside, where it's easier to control the ambient light. Always think things through. Think of the fundamental laws and how you can use them to your advantage.

When you feel confident enough inside, take your gear outside so you can learn to work with (and sometimes fight with) the biggest ambient light source of them all: the sun. Start out when the sun's not at its brightest: in the mornings or evenings, or in shaded areas.

Working with small flashes in really sunny conditions poses its own set of problems, and opportunities like we saw in the last case study.

Team up with a friend and share your gear: two flashes last longer than one. But more importantly, two minds are smarter than one: share your ideas. Alternate between being a photographer and being a voice-activated light stand.

Models are everywhere. Go to your local ballet school or skate park. Offer to work on a TFP⁴ or TFCD⁵ basis. That'll give you some shots to add to your lighting portfolio.

Take along a laptop or iPad so you can review your images after a couple of hours. On your LCD, everything looks great. It takes a bigger screen to notice flaws. Learn from your mistakes and write them down. Build up a mental "do and don't" list.

Next time, take your in-progress lighting portfolio with you, and you'll have even less trouble convincing people to pose. After a while, people will ask you and, if that's your aim, you might even start charging for it!

Oh, and don't forget to turn your flash off every once in a while and work with "true" available light.

Enjoy!

⁴ TFP = (Model's) Time (in exchange) For Prints ⁵TFCD = (Model's) Time (in exchange) For (a) CD (with images)

All pictures © Piet Van den Eynde, unless noted otherwise

Thanks to you, Ruth, for your continued support.

My gratitude also goes out to the many people portrayed in this book and to the lovely folks of YourPix.be photo studio. My simple set-up pictures of chapter 4 don't do your great place justice. And I have to come back for that rain curtain!

Share your gear... and your ideas with other photographers.



Nikon D700 | VR 16-35mm f/4G | 22mm | Manual exposure f/22 @ 1/320s | Manual | ISO 200 | NFW. (no flash whatsoever)



Nikon D700 | VR 16-35mm f/4G | 16mm | Manual exposure f/22 @ 1/320s | 2 SB-900s at full power triggered by PocketWizard Plus II receiver | PocketWizard TT1 mini transmitter on camera.

Bonus Picture: Sunburst at Noon. When One Light Just Won't Do...

All of the images up to now had a number of factors in common: they were shot at or below sync speed, using only one remote flash. They all used a manufacturer-specific (in this case Nikon, but you could have done something similar with a Canon) triggering system and used a limited range of modifiers.

This limited gear already allows for a very immersive experience with off-camera flash. But there's a lot more to be discovered: as you can see from the Exif info of this skater picture, there might be reasons to choose different triggers or higher-than-sync speeds. You might also want to use more than one flash. We'll cover these more advanced features like working with more flashes, overpowering sunlight, and high-speed syncing in a follow-up to this eBook. We'll also introduce you to some more modifiers and, to prevent you growing tired of travel pictures, we'll add some new themes. The book will also feature interviews with, and tips and advice from, four other photographers that are knee-deep into off-camera flash.

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An Introduction to Off-Camera Flash

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