How to Take Great Photos of Holiday Lights

There are some photographic subjects where it makes little difference whether you use a digital camera or a film-based model to capture the image. The colors and warm glow of holiday lights is not one of them. If you're not careful, you can run into trouble with a digital camera. All photographers interested in getting great holiday photos should read this article. Digital camera users should make sure to read the special digital section written by NYI's digital expert Jim Barthman with care. While today's auto-everything cameras can do a lot of things following the wisdom of built-in programs, this is one area where you'll want to exercise some control.

At this time of year, many of the world's cultures and religions celebrate holidays that involve lights. While the use of lights and candles is often explained in terms of the rites of the particular culture, most scholars agree that the lights came first; the explanations followed. After all, since humans gained control of fire, light has been used to illuminate the darkness - especially, during the depths of winter - rather than curse it.

Christians explain the candles, tree lights, and Yule log in terms of the birth of Christ and the Star of Bethlehem. The impact of these lights - if not the explanation - is so powerful that even modern-day Buddhist and Shinto Japan is ablaze with lights and decorations at "Christmas time." And, in the same dark days of the winter solstice, Hanukkah is the "Festival of Lights" celebrated by Jews around the world.

Years ago, taking great photographs of holiday lights was difficult because the films of yesteryear weren't very sensitive. They had difficulty recording an image in the low-light of a candle, for example. And if the photographer opted for a "fast" film - which probably meant ISO 400 or less back then - the picture was going to be awfully grainy.

No longer. Technology has solved these problems. There have been a number of great color films introduced to the marketplace that offer high speed - ISO 800 and higher - with very little grain. We have found that two particularly good films are Fuji 800 Press and Kodak Max 800.

In addition, most photographers today rely on auto-exposure with their point-and-shoots or SLRs. Unlike the light meters of old, which were often "fooled" by low-light situations, today's meters in autoexposure cameras are able to give good readings even in low light.

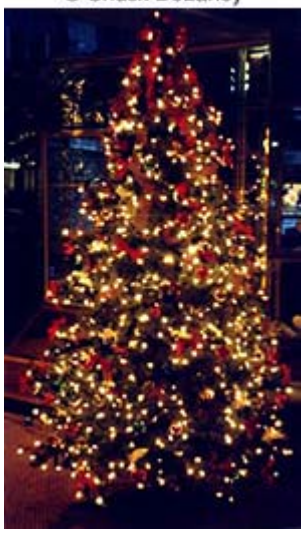
This is an important point because holiday lights usually look their best when shot without added light. In fact, this is Rule One when it comes to getting good pictures of lights: Turn off your flash. Let's repeat that: For most pictures of holiday lights, turn off your flash!

Note that we said "most." There are a few occasions when you will want to add light, but usually you won't.

So this brings us to the question: When should you use your flash, and when should you avoid it? Let's look at a few examples, starting with photos taken indoors.

Look at these two photos of the same beautifully decorated Christmas tree. The picture on the left was taken using flash. We see the tree and we see the lights - but not the lighting - and ornaments on it. When this is the effect you want, use your flash.

On the right we see the same tree, only this time the flash was turned off. What we see, in effect, is the lighting of the bulbs themselves - and this lighting is bright enough to also illuminate the tree and the ornaments. The effect is totally different.



Which is better? It really depends on your objective. The first example might be better to show what a great job you - or the tree trimmer in your family - did on the tree. The second example is better in showing off how great the lighted tree looks. Each has its place.

Now, let's remember one important point if you're taking a picture without flash: You're probably going to need a very slow shutter speed. This means you should mount your camera on a solid unmoving surface to avoid camera-shake. A tripod is best.

When else might you want to use your flash? Let's say the subject of your picture is your kids under the tree. How are you going to light their faces? On the one hand, you may find that the Christmas-tree lights are sufficient and give a very soft glow to their cherubic expressions. Or maybe it is Christmas morning, and they are lighted by window-light that is streaming into the room. In these cases, you don't need your flash. But, on the other hand, maybe you don't have enough light to really see their faces. Then you may have to use your flash. How do you know which way to go?

One approach is to shoot both ways, then select the better image. We think a better way is to plan ahead and meter your subject. Remember that Guideline One of the Three NYI Guidelines for Great Pictures is to decide on your subject before you do anything else. In this case, you've decided that the subject is the faces of the kids. Guideline Two is to draw attention to your subject. One method of drawing attention is to make sure your subject is well-exposed. So meter the light that falls on their faces from the lighted tree. Get in close and meter just the faces! If there's enough available light for a well-exposed picture, shoot it. If not, use your flash.

Now let's move outdoors. Here we see elaborate lighting and decoration on houses, stores, and streets. Again, if you want to capture the lights themselves, don't use your flash.

But what if you want to take a picture of your friend in front of a brightly lit display?

You want to capture both the bright lights and your friend. If you use flash, you get your friend, but you're in danger of minimizing the bright lights behind. On the other hand, if you don't use flash, you get better detail of the lights but your friend is reduced to a silhouette.

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One other tip for outdoor lights - you'll get the best results when you shoot at twilight. That way, you'll capture some color in the sky, rather than the pitch-black tone that will be recorded on film later at night.

There's an answer. Many of today's point-and-shoot cameras both film and digital have a funny-looking setting that looks like this:

This setting tells the camera that you want the flash to fire (which will light your friend in the foreground), but that you also want the lens to stay open long enough to record the lights in the background. In fact, the symbol for this setting on many cameras is sort of a hieroglyph that tries to indicate "person at night in front of lights." Your solution to getting light on your friend's face and capturing the light display is to use this setting. The flash exposes the face. The long exposure captures the lights.

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But, again, watch out here. The long exposure - typically, one-quarter of a second long - requires that you steady your camera to avoid camera shake. Once again, we advise you to use a tripod.

There's one other key area of holiday lights - candles.

This young boy's portrait was made with a point-and-shoot camera using just the light of one candle which was about two feet from the boy's face. Normally, the camera's flash would have fired, but it was turned off by the photographer.

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Even using ISO 800 film, the exposure for this photograph was lengthy, probably about half a second.

That presented two dangers - either the camera would move and blur the picture, or the boy would move. Since he wasn't using a tripod, the photographer braced his elbows on a table to minimize camera shake - not as good as a tripod, but better than nothing. Recognizing the problem, he shot several frames of film. When he examined the prints, here's what he found: One was no good because the boy moved. The second was no good because the camera moved.

But in this frame, he got what he wanted: Both the boy and camera were still enough to produce a stunning photograph. While the photo isn't razor sharp, it's sharp enough to convey the warm felling clearly

By the way, he relied on the exposure meter in the point-and-shoot that he used for this great picture. As we said before, old-style amateur cameras were not good at calculating proper exposure in low light. They were really designed for bright daylight. But you can usually trust the meter in today's cameras.

Mel Wolk's sensitive photo of two boys with a Menorah on the last night of Hanukkah combines light from the nine candles with some sort of overhead room lighting, or bounce from a flash (probably off the ceiling) that gives clear illumination to the boy's faces and garb. How do we know that the lighting is not just from the candles themselves? One clue is that the lighting in not as warm as the first photo we looked at. Candle light is rich in reds and oranges, which we don't see here on their faces.

Secondly, the candles are not strong enough to produce the bright white on their yarmulkes (skullcaps). Our conclusion is that there is additional light in the room, and that light is bright enough to add light to the young subjects, but not so bright that it overpowers the light of the candle flames.

One thing we are certain of, Mel did not use direct flash here! Can you imagine what effect the harsh direct light of the flash would have on this photo?

So, to take great holiday photos in this season of lights, we offer you these four tips:

Turn off your flash unless you have a very good reason to use it. Use fast film - we suggest ISO 800. With a digital camera, select a higher ISO setting. Avoid camera shake. Use a tripod...or, at least, brace the camera. Trust your camera's built-in meter.

Digital Holiday Lights

Digital cameras add some new twists to the holiday light photography challenge. In fact, most consumer-level digital models struggle in low light situations. Here's why - the cost to manufacture a CCD or CMOS chip that is super-sensitive to a wide range of tonal (light) values is expensive. You'll find these expensive chips in professional-level SLRs, not in your $300 point-and-shoot model. One way to compensate for this deficiency is to use a cheaper image sensor and then process the digital signal with proprietary software. This can cause some problems. Let's look at the most important ones.

Problems

Digital ISO

Increasing your film speed makes a lot of sense when photographing subjects in low light. However increasing the ISO setting in your digital camera isn't always the best idea. In order to improve the sensitivity of an electronic image sensor, the digital signal is "amplified". Amplifying a digital signal is like turning the volume up on your radio as loud as it will go. At the maximum volume every hiss, pop, and scratch is heard and, depending on the quality of the equipment, quality is diminished. The same thing happens in a digital camera. When the ISO setting is increased, every image artifact and defect is magnified, reducing image quality quickly.

To achieve the best image quality, you might try working with a slower ISO setting to start. If you are having trouble getting a good exposure, increase the ISO as needed. You might even try using the Auto ISO setting and see how the camera handles exposure.

Multi-colored noise in a digital image

Digital Noise

Regardless of the ISO setting chosen, most reasonably priced digital cameras produce "noise" during long exposures. Noise is caused by the small electrical disturbances that are present in every electrical system. In order to capture a weak light signal, such as a subject in low-light, longer exposures are usually needed. The longer a digital camera shutter is open, the more electrical noise is recorded as well.

So, it seems we have a double-edged sword.

Increase the ISO to achieve faster shutter speeds and you will amplify noise and other image problems.

Reduce the ISO and shutter speeds are slower. As a result, you will record inherent noise that might not be seen in a "normal" exposure.

Limited Dynamic Range

To make things worse, digital cameras have a limited dynamic range. Image sensors are only sensitive to a specific range of brightness. Anything outside of that range is recorded as pure white or pure black. This can result in an image without shadow or highlight detail.

Solutions

Here are a few ways to solve these problems. Noise can be reduced with software. In fact some cameras offer in-camera noise reduction features. Proprietary software is used exclusively, yielding uneven results. Test your camera's capabilities before committing to this feature. There are many noise reduction software products on the market today, some as stand-alone applications and others which are plug-ins that work in conjunction with your favorite image editor. This means you can select a camera with noise reduction or address any problems later in the digital "darkroom."

Timing is Everything

When shooting holiday lights outside, I find that the best exposures can be made at twilight. Twilight is after the sun has set but before the dark of night. This fleeting balance of light and shadow will yield the brilliance of the lights while maintaining details in the shadow. Don't underestimate shadow detail to help establish your composition. Consult your camera's manual for details on your white balance options and how to adjust them.

When shooting holiday lights inside, try turning on lights in the room to increase the ambient light, rather than using a flash. Flash can produce a harsh, high-contrast quality that obliterates the brilliance of the light. A carefully positioned incandescent light can work increase the ambient light without overpowering your holiday lights.

Shoot Two Exposures

One way to extend the tonal range of a digital image is by making two exposures of a scene. Shooting in Manual mode, make one exposure configured to capture the best highlight detail. Make a second exposure to capture the best shadow detail. Then combine the two exposures in Photoshop as separate Layers. Using the Eraser tool remove poorly exposed areas to reveal detail and take advantage of the best parts of each Layer/exposure. Using this technique you could extend the tonal range well beyond the possibility of any single exposure made with the same camera. Of course this requires a strong tripod to ensure both compositions match perfectly. Consider using a remote control to reduce the possibility of camera movement.

Turn Off Automatic White Balance

In many photographic situations white balance is a godsend. By automatically neutralizing extreme color casts, believable digital color is rendered without breaking a sweat. It is important to remember, not all photos require white balance. Tone down the rich, saturated colors of a sunset and you're left with nothing. Attempt to white balance a fireworks display and you end up with dull lifeless, de-saturated bursts and streaks of light. Holiday lights should be treated similarly. By turning off the auto white balance feature you are sure to capture the exaggerated colors the holidays have to offer.

You could try turning off white balance altogether or even experiment with any of the other manual settings to find a color balance that suits your visual needs. Either way is a better bet than giving the decision to the camera.

Test, Test, Test

The immediacy of digital photography begs you to test your exposures to determine what works best. Take advantage of the metadata that most digital cameras embed inside every digital picture you make. Metadata can include camera make and model, exposure, flash, white balance and other important information that can help you to determine what works and what doesn't work. This means you don't even have to take notes! To access your digital image metadata, open a file in Adobe Photoshop.

Choose **File > File Info.**
The **File Info** dialog box appears.
Select the **Camera Data** option on the left side of the screen.
The **Camera Data** screen reveals shutter speed, aperture, ISO settings, lens focal length, flash settings and even the metering modes.

Holiday lights are usually around for more than a couple of days each year, take advantage of this by shooting early in the season and then re-shooting if you have too.

Digital cameras offer some real benefits for holiday season picture taking. As look as you pay attention to the drawbacks we've mentioned, you should get great results.

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