

Booklet #12: The Northern Virginia Alliance of Camera Clubs

## **NIGHT PHOTOGRAPHY**

by

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## PREFACE

The Northern Virginia Alliance of Camera Clubs (NVACC) is an informal organization started in 1997 by Joseph Miller with the assistance of Dave Carter\* and Ed Funk. Our purpose is to promote communication and cooperation among camera clubs. We accomplish this by (a) publishing a monthly calendar of the member clubs' activities; (b) conducting training seminars for photographic judges; (c) maintaining a registry of trained judges who serve the clubs' monthly competitions and critiques; and (d) maintaining a directory of speakers who have been recommended by the various clubs. You can learn more about NVACC by going to our web site at [www.NVACC.org](http://www.NVACC.org).

This booklet is one of a series that was developed by NVACC during the period 1998-2008 to capture the considerable expertise of the many accomplished photographers in Northern Virginia and share it with others. Over recent years, we have seen significant change in the photographic art form and very rapid technical advance in both the media of photography (film and digital) and the tools (cameras, lenses, computers, and software). For that reason, the detail of some of these booklets may seem "dated", although the ideas and techniques presented transcend "progress" and the digital-film divide. Watch the NVACC web for new booklets as well as revisions that incorporate new technology and ideas into the existing ones.

Originally, our booklets were made available through member clubs for a small fee that covered the cost of reproduction. Now, however, the booklets are available on [www.NVACC.com](http://www.NVACC.com) where individuals may download one machine-readable copy and one print copy per page for personal, noncommercial use only. Written permission from NVACC is required for any other use.

If you would like to know more about NVACC or have questions or suggestions concerning our booklets or services, please feel free to contact us at [JoeMiller@NVACC.org](mailto:JoeMiller@NVACC.org).

\* Dave Carter, one of the creators of this booklet and a founding father of NVACC has passed but his photographic skill and artistic vision live on in the technique of all photographers who were fortunate enough to work with him.



# Night Photography

## Introduction

This booklet describes basic techniques and provides examples of good subjects for night photography. We define night photography as any picture taken between sunset and sunrise. Some books suggest that the best time to take night photos is 15-30 minutes after sunset (when there is still enough natural light to assure good separation between your subject and the sky). We disagree. With a little knowledge and a lot of practice, you should be able to take stunning photos at any hour of the night.

There are four primary reasons that we take photos at night:

- The character of light is very different at night. We notice objects that we might otherwise overlook if they were illuminated by sunlight.
- People respond favorably to night photographs. This is often because they think that night photos are more difficult to take than daytime photos (they're not).
- It is not necessary to wait for a picture-perfect day to take night photos. In fact, inclement weather often enhances nighttime photo possibilities.
- We have day jobs.

## Equipment

**Camera.** Any single lens reflex camera (SLR) with a tripod socket (still found on all SLRs) can be used for night photography. Several camera features are ideal (but not essential):

- The ability to set shutter speeds of at least 8 seconds. While the longest shutter speed on many older cameras is only 1-2 seconds, most newer models allow shutter speeds of as long as 30 seconds.
- A Bulb ("B") setting is necessary for especially long exposures (on "B" the shutter will remain open for as long as the shutter release button is depressed). For example, if you want to photograph star trails, you will likely need an exposure of anywhere between 4-6 hours.
- The ability to bracket exposures. Many night photos require that the image be overexposed by ½ to 1 full stop. This can either be done by manually setting the shutter speed or using the camera's exposure-compensation dial.

- An illuminated viewfinder to distinguish the meter reading in dark conditions.

**Tripod.** Most nighttime exposures require that the shutter be open for longer than 1/60th of a second. It is therefore necessary to use a tripod to eliminate movement during long exposures. The lighter the tripod, the greater the risk that the camera will jiggle during the exposure, especially when using a telephoto lens. We therefore recommend using the heaviest tripod that you can afford to buy and/or can physically carry (a good tripod will probably cost about \$150 and weigh approximately 5-6 pounds). To further minimize camera vibrations, we recommend raising the camera by extending the tripod's legs and only using the center-post as a last resort. In addition to minimizing camera movement, the use of a tripod can prompt you to more closely examine the composition of the photo you are about to take.

**Lenses.** While any lens will work for night photography, it can be useful to rely on lenses with maximum apertures of f/2.8 or wider. Even if you do not expose a nighttime scene at f/2.8, lenses with wide apertures allow more light into the viewfinder—an especially important feature when shooting in darkness. All focal lengths have their advantages and disadvantages, although we tend to do most of our nighttime work with medium telephoto lenses. These lenses allow distant objects to appear closer and are ideal for isolating a portion of a scene. Macro telephoto lenses are also useful for capturing such small objects as items in a store window. In addition, zoom lenses, which combine several focal lengths into one lens, can be used to create special effects by changing focal lengths (i.e., zooming in or out) during long exposures.

**Film.** The choice of films depends on both your personal preference and the situation (e.g., characteristics of the light source, weather conditions, and the level of detail in the scene). Slower films (i.e., films with a lower ISO rating) produce images with very fine grain. This is especially important if you intend to enlarge your image to 11x14 or greater. Conversely, films with a higher ISO rating require less exposure time but tend to produce images with more grain. One important consideration may be your camera's maximum shutter speed. If the shutter speed only extends to 8 seconds or less, you may need to rely on faster film to stay within the range of your camera's meter. This is because a faster film speed will shorten the required duration of the exposure (e.g., if the suggested exposure of a nighttime scene is 16 seconds at f/5.6 at ISO 100, the equivalent exposure will be 8 seconds at f/5.6 at ISO 200).

We do almost all of our shooting with color slide film. Films we like to use are:

- *Kodachrome 200.* This is our favorite nighttime slide film. It is not overly

grainy (some grain, by the way, can enhance the mood of a nighttime image), and it generally captures nighttime images as they appear to the naked eye. This is especially true of scenes that include fluorescent lighting.

- *Kodachrome 25 and Kodachrome 64.* These slower films render images that are less grainy than Kodachrome 200. However, fluorescent lighting often appears as an unnatural green (which is why we started using Kodachrome 200). Kodachrome 64 is especially good for photographing red neon signs and fireworks.
- *Kodachrome 40.* Because the resulting images have a blue cast, this tungsten-balanced film is useful when shooting foggy or snowy conditions at night.
- *Velvia 50 and Ektachrome 100S.* These films are especially good for shooting sunrises, sunsets, and images with a great deal of detail (because of their ultrafine grain). After nightfall, however, the resulting images have a strong green cast.
- *Agfachrome 50 RS Professional Film.* Although we have had little experience with this film, some of our colleagues have used it at night with good results.

Black-and-white print film is another option for nighttime shooting. There are several advantages to using black-and-white films at night. Because they are not affected by the color of artificial light sources, black-and-white films eliminate concerns about color shifting. In addition, black-and-white films provide a much wider exposure latitude than color slide film and provide photographers extensive creative control in the dark room. We have had some limited experience using black-and-white negative film at night. In addition, we have recently begun using Scala 200, a black-and-white slide film produced by Agfa. So far, we have been extremely impressed by this film's latitude and grain.

**Filters.** Filters can be used to counteract the detrimental effects of artificial light on color film. For example, there are several filters that can be used to balance daylight film for tungsten light. One type that we find especially useful is a fluorescent-light filter that is designed to neutralize the green cast associated with fluorescent lighting. Filters can also be used at night to create special effects. For example, star filters turn points of light into dramatic spotlights.

**Other Useful Items.** During long exposures, a *cable release* is needed to minimize movement when the shutter is released. If you do not have a cable release, you can use the camera's self timer. It may also be useful to have the following items in your camera

bag: *exposure table or reference guide* (to help determine exposure in tricky lighting situations), a *note pad* (to record exposure information), a *flash* (to illuminate nearby objects), a *small lightweight* tripod (for special situations, such as shooting off of a narrow ledge), a *small flash light* (to help locate items in your camera bag or to view camera settings in the dark), and a *small radio* (to keep you entertained during particularly long exposures).

## Exposure

The amount of time that the shutter stays open during a nighttime exposure will depend on a number of factors, such as the ISO rating of your film, the aperture setting on your lens, and the amount of light in the scene you are recording. Determining the correct exposure at nighttime is not as difficult as it seems. Your in-camera meter can serve as a good starting point. When in doubt, for reasons that are explained below, use the exposure compensation dial on your camera to *overexpose* by  $\frac{1}{2}$  to 1 full f-stop. What follows are some hints about setting exposures after dark.

- The scene you are trying to record will likely include bright highlights and dark shadows. Taking a meter reading off of the darkest shadows will overexpose the highlights, and vice versa. Try to minimize the level of contrast in the photo (unless you want to use the dark shadows to accentuate or frame the highlights). Other solutions include averaging the readings from the brightest and darkest areas and/or exposing for the most important part of the scene.
- You will often be shooting directly toward the primary source of illumination (e.g., a street light). This is different from taking pictures in the daytime when you try to keep your primary light source (i.e., the sun) to your back or side. It is usually best to keep the light source out of the photo. If you must include the light source, however, stop down to f/6 to minimize lens flare (the light source will appear as a starburst). Also, be careful not to take your exposure reading from the primary light source, since the rest of your image will likely be severely underexposed.
- Under daylight conditions, the relationship between the length of time the camera remains open (shutter speed) and the amount of light that enters the lens (aperture setting) is invariable. At shutter speeds of 1 second or longer, however, this relationship breaks down. To compensate for this condition, known as reciprocity failure, use the exposure compensation dial on your camera to *overexpose* by  $\frac{1}{2}$  to 1 full f-stop.

## Subjects

There is no limit to what you can photograph at night. Some of our favorite nighttime subjects include city skylines, small towns, street scenes, store windows, neon signs, county fairs, amusement parks, trains, Christmas lights, Halloween decorations, the moon, star trails, traffic patterns, and fireworks. Two special subjects are discussed below.

- *The Moon.* There are two approaches for shooting the moon at night. When photographing the full moon as it rises above the horizon, you should use normal metering methods to set your exposure (just be careful not to meter off of the darkest part of the landscape as you risk overexposing the moon). When photographing the full moon an hour or more after sunset, set your lens aperture to f/11 or f/16 (depending on how bright you want the moon) and use a shutter speed that is the reciprocal of the ISO rating of your film, e.g., 1/60th of a second for ISO 64 film.
- *Light Streaks.* One benefit of night photography is that you can capture moving patterns of light in ways that are not visible to the naked eye. Think about what happens when a shutter remains open as a car's taillights pass through your picture. The taillights will be transformed into red streaks of light that illuminate the path taken by the car. Using this method, amusement park rides and fireworks displays will appear as a kaleidoscope of bright colors. Lightning will be recorded as vertical streaks of white light, while stars will move across the sky in an almost perfect circular pattern (star trails require clear skies and exposures lasting several hours). The trick to using long exposures to "paint" at night is (1) visualizing how and where a streak of light will appear in your image and (2) using small apertures (e.g., f/22) to obtain shutter speeds of sufficient duration (e.g., 8 seconds or longer).

## Weather

A "picture perfect" day is generally described as having a combination of blue sky and billowy white clouds. By our definition, a picture perfect night includes one or more of the following climatic conditions: rain (preferably a light drizzle), snow, fog, or haze.

- *Rain and Snow.* Shooting during or after rain and snow is ideal because wet pavement reflects neon and other bright light sources (thereby illuminating what might otherwise have been a dark surface). The trick is finding ways to keep your camera dry. The easiest way is to carry an umbrella or shoot from sheltered

areas. In addition, you can buy protective wraps for your cameras and lenses. *Kodachrome 40* renders snowy scenes blue, while *Kodachrome 200* usually produces a sepia cast.

- *Fog and Haze*. The challenge of taking photos on a foggy or hazy night is not finding interesting subjects. This is because even the most ordinary of objects can become striking and mysterious when partially concealed in fog. Tall buildings disappear into the clouds. Trees loom larger and more dramatic, especially when backlit by a streetlight. The challenge is getting a semi-accurate meter reading. Our recommendation is to overexpose and underexpose in the hopes of getting an acceptable image. Because *Kodachrome 64* will generally render fog scenes pea green, we recommend *Kodachrome 40* to get photos with a blue cast, *Kodachrome 200* to produce images with a sepia hue.

## Safety

We have never been threatened or bothered while taking night photos, in part because we take some simple precautions when carrying a camera and tripod after dark. First and foremost, always be aware of your surroundings. Whenever possible, invite a friend or organize a group night photo session. If you are alone in an area that does not have a lot of foot traffic, make a note to return with a friend at a later date. If traveling alone in an unfamiliar city, restrict your nighttime photography to places that have a high volume of tourist traffic. For example, many cities have observation decks atop their tallest skyscrapers, including the John Hancock Tower and Prudential Center (Boston), the Empire State Building and World Trade Center (New York City), the Sears Tower and John Hancock Center (Chicago), the Space Needle (Seattle), and the Washington Monument and Old Post Office Tower (Washington, D.C.).

## Other Sources of Information

We suggest the following:

*Capturing the Night With Your Camera. How to Take Great Pictures After Dark* by John Carucci (Amphoto Books, 1995)

*Night Photography: A Photographer's Guide to Shooting in the Dark*(a 45 minute video by Dan Norris).

To view some dramatic examples of black and white nighttime photography, we recommend Brassai's *Paris By Night*, Volkmar Wentzel's *Washington By Night*, and Lynn Saville's *Acquainted With the Night*.