

# Go Fly a Kite

THE ART OF KITE AERIAL PHOTOGRAPHY

by **Scott Haefner**

*Kite aerial photography (KAP), the practice of taking low-altitude aerial photographs using a camera suspended from a kite, has a surprisingly long history. Frenchman Arthur Batut is credited as the first person to attach a camera to a kite—in 1888! Nearly 20 years later, George Lawrence flew his 46-pound, panoramic camera below a train of kites to document damage from the Great 1906 San Francisco earthquake.*

Due in large part to the invention of the airplane, KAP fell from favor for much of the 20<sup>th</sup> century. However, with the advent of the Internet, it has been resurrected and enjoys a growing base of new practitioners.

I learned about KAP less than three years ago after viewing an impressive web-based gallery by Cris Benton of University of California, Berkeley. Six months later, I began flying my Nikon Coolpix 5000 below a Sutton Flowform kite and creating my own images. In addition to flying two Flowform kites—one 16 square feet and another 30 square feet—I also use a Japanese kite called a Rokkaku, and a Dopero, a kite designed especially for KAP by Ralf Beutnagel, a German KAPer. Each kite targets a specific wind range. With my present lineup of kites, I can lift my 2.2-pound camera rig in winds ranging from about 4–25 mph.

## Equipment

Early on, I had to make a choice between film and digital for my kitecam. At the time, I had not taken the digital plunge because I prefer the color, resolution, and dynamic range that print film offers. However, digital cameras have distinct advantages, including the ability to review images in the field and the potential to shoot hundreds of images without needing to retrieve the camera to replace film. The most important factor, however, is that I shoot un-composed photos, which makes digital a more compelling choice.

I house my Coolpix 5000 digital camera in a hand-built rig made of carbon fiber, which hangs from the *kite line* approximately 50–100 feet below the kite. Like most KAPers, I use a Picavet suspension to



**Gasworks Park in Seattle**, a retired natural gas plant. Shot at  $f/2.8$ ,  $\frac{1}{400}$  second,  $-7$  EV, 28 mm, auto white balance (lots of fair weather, cumulus clouds in the sky).

[Also see cover shot] **Kids Enjoying International Fountain**, Seattle Washington. Shot at  $f/2.8$ ,  $\frac{1}{2000}$  sec.,  $-7$  EV, 28mm, manual white balance (sunny).

attach my camera. The Picavet is a cat's cradle-like device made up of string threaded through tiny pulleys. It is a self-leveling system that stabilizes the camera by dampening motion and by inhibiting the camera's ability to twist.

I have about 750 feet of 250-pound test line on a halo spool, but I rarely use all of it; I tend to fly my camera only 20–100 feet above the ground. I always shoot with my lens zoomed out to its widest setting, 28 mm (35 mm equivalent). Shooting with a wide-angle view at relatively low altitudes enables me to capture the most unique perspective.

## Camera settings

I shoot in aperture-priority mode and stop down the aperture as much as possible while still maintaining relatively fast shutter speeds. In stable winds, I can obtain sharp pictures with shutter speeds as slow as  $\frac{1}{200}$  second, but I prefer to stay in the range of  $\frac{1}{750}$ – $\frac{1}{1000}$  second or faster. Because I typically shoot late in the day to capture the richer lighting and longer shadows, I often need to open up the aperture to  $f/2.8$ – $f/4$ . I treat digital like slide film, underexposing every shot by  $\frac{2}{3}$  stop to avoid clipped highlights. It's relatively easy to recover shadow details in underexposed images in Adobe Photoshop, but highlight details can be lost forever in overexposed shots.

I set the camera to auto-focus mode and use one of the white balance presets (sunny, cloudy, etc.) except on days when the sun shifts in and out of the clouds in

rapid succession. In these conditions, I choose auto white balance. I shoot in ISO 100 (the lowest setting) almost exclusively, as this yields the best quality images. I shoot in the highest quality JPEG mode. I'm considering RAW capture instead, but I'm reluctant because the files are significantly larger and I frequently shoot more than 100 images per session.

To command the camera, I use a four-channel FM radio controller designed for a model airplane. I can pan, tilt and rotate the camera, plus snap the shutter electronically, all with my feet grounded on the Earth. I stripped the paint off the lens barrel of my camera, creating a large silver area on an otherwise black body and rig so that I can see which direction the camera is pointing. Although some KAPers use a video downlink to assist in composition, I prefer relying on my "minds eye" to imagine what the camera sees when I compose the image. This has proven quite reliable, and I am getting better with practice.

That's all there is to it! If you want to learn more about KAP, check out my web site, which includes a large gallery, photos of my equipment and links to the some of the best online resources. ■

*Scott Haefner is a photographer and web designer living in the San Francisco Bay area. He primarily shoots outdoor landscapes and scenics, using both film and digital cameras. In January 2002, he began taking kite-lofted aerial photos to gain a new perspective of our world. His portfolio, including 360° aerial Quicktime VR panoramas, is online at [scotthaefner.com](http://scotthaefner.com).*