

Digital Techniques: Creative Time Lapse Video

by Photographer Raymond Klass

We've all seen those incredible videos of clouds whizzing by – or of cars and people at a busy intersection zipping through the frame. It's video that takes minutes and sometimes hours, and compresses it into just a few seconds – giving the illusion of things happening at the speed of light.

I posted an example video a couple days ago on my blog: <http://www.klassphoto.com/blog/?p=56>

If you follow the link there is a short clip of an approaching storm. It was taken over the course of almost two hours.

It might seem like a video camera is the natural way to capture these events, but in practice, a digital SLR is perhaps the most effective tool. What you'll be doing, is taking an image even couple of seconds – I used an interval of 10 seconds between shots. Then you'll use the computer to make all the still frames into one cohesive video. Don't worry if this sounds complicated or time consuming, the computer automates all the hard stuff.

The first step is to choose a scene. The best subjects are those with motion – after all, this is video. Clouds are a classic choice, but anything that moves will do. To start, I would avoid subjects, or times of day, that have great shifts in exposure. Some of the most difficult time lapses involve shooting the transition from day to night. Let's avoid this for our first video.

Secondly, you'll need a camera that has an interval shutter option, or you'll need to buy a special interval shutter cable release. Many newer cameras come standard with this interval shutter option – I



used a Nikon D300 for my video. If your camera doesn't have an interval shutter built in, then it may be possible to purchase a special cable release that you can program to take an exposure ever so many seconds. Check with your camera manufacturer for this option.

For most nature subjects, I shoot in RAW, but for creating a time lapse video, I shoot JPEG. Typically, I select one of the smallest sizes available. Remember that there is a tremendous difference in the resolution required to make a big print, and that required to make a high definition video. Widescreen HD video is typically shown at 1920 pixels X 1080 pixels, this is just under a 2 mega-pixel image. If you're capturing the images at 12 mega-pixels, you'll just be spending more processor power trying to produce a file 6 times larger than it needs to be. For this reason, I turn the image size way down.

After you have a camera body that will execute the interval shutter option, you need to choose a lens. For Nikon users, it is best to choose a lens

with a manual aperture ring – this can be found on the older Nikon lenses, but has been left out of some of the newer DX series lenses. This manual ring is important because it bypasses the camera's electronic aperture controls, thus giving a more consistent exposure, and reducing any possible flicker in the final video. For Canon people, this ring isn't necessary, as Canon cameras aren't prone to this issue.

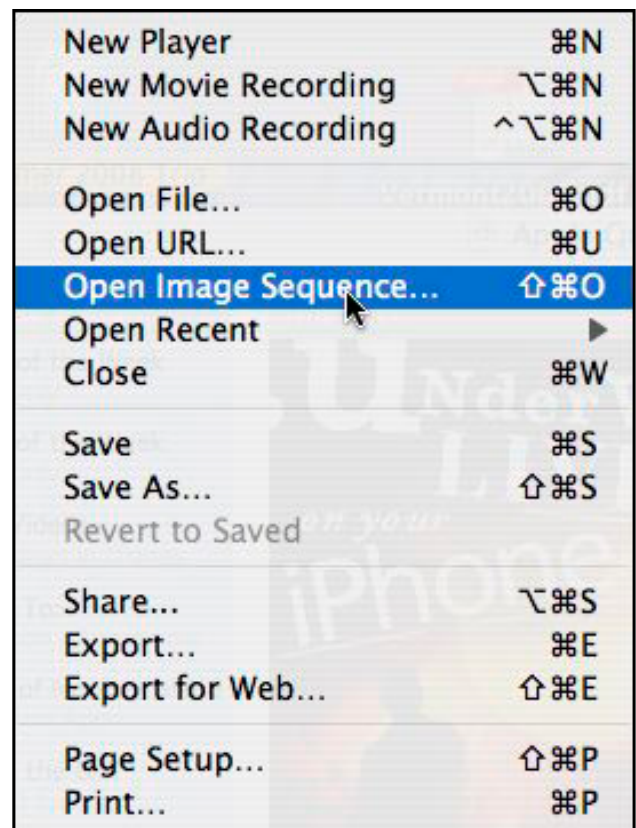
After you've worked out the subject and equipment, take a test exposure of the scene. Use your camera's histogram to determine if the exposure is correct, adjusting the aperture or shutter speed if necessary. For creating a time lapse video, you'll want to be using the manual exposure mode of your camera. If you were to choose automatic, the camera might try to compensate between images, creating a video with flickering light levels. Finally, when you choose a proper exposure, you'll want to take into account the change in exposure that you anticipate over the course of the video. Remember that although it is sunny now, it might become cloudy, or vice versa. Always try to leave room for conditions to change during the course of the video, and remember that in video, having a small over or under exposed area is not as disturbing to the viewer as it might be in a still image. After all, each exposure is going to be but a small fraction of a second in the finished video.

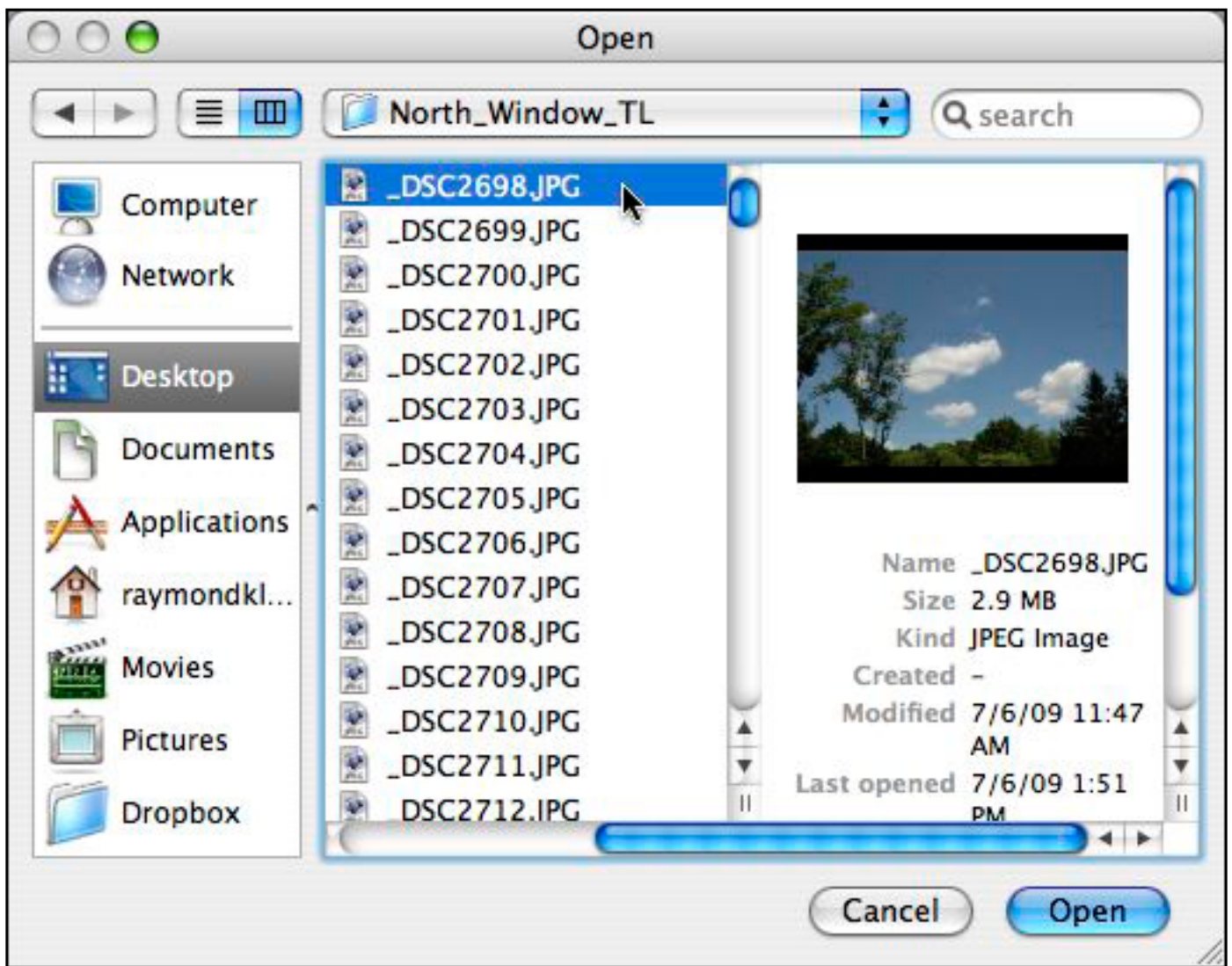
With the exposure set, the next step is to program the camera to take the set of exposures. I used one image every 10 seconds for my time lapse video, and told the camera to take a total of 500 images. This might sound like a lot of pictures, but remember that when we convert this to video, it takes 24 images to make up 1 second of video, so your 500 pictures will end up being just about 20 seconds of video. At one image every 10 seconds, expect the 500 exposures to take almost 1.5 hours. That's right, when we're finished, we'll have compressed an hour and a half into a mere 20 seconds.

After you've finished with your siesta, and the exposures have been made – take the card back to your computer and download. I typically make a special folder for the images – it's important to note that you should NOT renumber the images – use the original numbers that came out of the camera. The video software will be using these numbers to determine the proper order for the images.

With the files downloaded, open Quicktime Pro. Quicktime Pro is simply an upgrade to the free Quicktime you may be familiar with. The upgrade, and more information can be found on Apple's website, www.apple.com. It's important to note that although Quicktime is created by Apple, they also have a version available for PC users.

Click on the File menu, and select the Open Image Sequence option. From here, a dialogue box appears that allows you to navigate through the files on your computer. Find the folder of the images you downloaded, then select the first file in the sequence of images. Click the Open button.





From here, Quicktime gives you the option of selecting the frame rate for the video. Typically I use 24 frames per second, but feel free to experiment with different rates. Remember that a lower frame rate will yield a longer final video, as each frame is shown for a longer amount of time. A faster frame rate will yield faster action and a shorter final video. Click OK when you've made your decision.

From here, Quicktime will create the final video. You can then view it on your screen, or use Quicktime's Export function to save the video to share with others. Congratulations, you've successfully turned a collection of still images into a video clip.

