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**\*HANDLEBAR MOVIES\* Digital Camera Epics on a Bicycle**  
Feature length documentaries well within your jersey pocket  
Eugene, OR-- **by Lynette Chiang , Bike Friday Minimalist Multimediaclast**

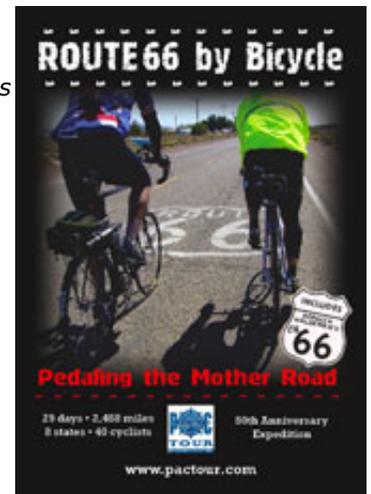


**Sweet handlebar movies are made like this: with a Bike Friday, digital camera, an Apple laptop and lotsa patience.**

*EVER SINCE* discovering the movie button my my little digital camera I've been augmenting the content on the Bike Friday website by attaching little Quicktime movie clips to various articles, more recently on YouTube (visit [Bike Friday on YouTube](#) and [Galfromdownunder on YouTube](#)).

I've since created a monster - I've progressed to creating length feature length DVD pebblebusters, which I've been sharing on my [transcontinental telecommute](#). Here's a semi-technical spiel on how you can be a Puccini in your own pee-break ... - [LC, aka The Galfromdownunder](#)

**GAL MOVIES** available in the [Bike Friday Store](#). These include [Desert Camp 2005](#), [16,000 Feet on a Friday](#) (voted [Audience Choice at the Boston Bike Film Festival](#)), and [Route 66 by Bicycle](#) plus much free YouTubing for herself and [Bike Friday](#) ...



**HAVE YOU fully explored that little movie button on your digi camera?**

The beauty of a digital camera, whether for shooting stills or movies, is its get-at-ability. When bicycling, you just string it on a lanyard around your neck and slip it in and out of your back jersey pocket as needed. You become very adept at whipping out your little memory-bottler while steering with one hand - just be careful on descents - especially on a [3-day descent in Peru](#). The lanyard is important so as not to drop it.

**Spontaneous.** When faced with a digi camera, people don't really register that you're taking a 'movie'. They keep talking, rather than freezing up when a real movie camera is thrust in their face. You get footage of people saying what they really want to say, or didn't mean to say. Let's hear it for authenticity!

**Less to edit.** Prior to faster memory cards and better batteries, digital cameras had

some limitations on how much you can record in one take. It's not such a problem now - you can keep it rolling for minutes at a time. Even so, I believe digital camera movie making encourages you to do 'grabs', and thus be economical and succinct with your shooting. You spend less time editing out swathes of 'waving the camera around at family reunions boring the hell out of us' footage.

*Pictured: In 2008 I switched from a Panasonic Lumix FX9, the first compact with image stabilization launched in early 2006, to a Canon Digital Elph SD850IS. See below for more info.*



### **WHAT TO LOOK FOR IN A DIGITAL CAMERA FOR MAKING HANDLEBAR MOVIES.**

If you want to fully exploit the movie mode available on most digital cameras for on-bike filming, look for these features:

**Easy access to movie mode** You need the ability to easily switch back and forth from movie to still mode with one hand, or rather, finger. Some cameras, in the quest for compactness, bury the movie setting in a menu, which is not workable. These little switches can wear out, however - the ratchet on the little mode wheel of my \$300 Panasonic Lumix broke and it cost me \$102 to get it repaired. If you can find a camera where the movie and still settings are side by side, all the better.

**Big screen.** The biggest you can find. A viewfinder is not necessary, but useful for times when the sun is too bright to see the screen. Bigger screens let you review what you've shot more easily. Try to find one with a nice sharp resolution, rather than a dotty grainy one that still seems to be the norm on many cameras.

**640x480 movie resolution.** This is available on many cameras over \$300 nowadays. It is the same resolution as standard televisions which is why a movie produced on a digital camera is quite watchable and blows up to a bigger screen quite decently. It uses up a lot of memory card at this size, and of course nothing's stopping you from shooting at a lower resolution (320x240 or 160x120) if you're just making movies for the web and emailing to friends. But for making movies worth showing to an audience, the highest resolution produces the best results, and you never know what you want to do with it later - I was contacted by Leonardo de Caprio's production company seeking bicycle footage for "The Eleventh Hour". Regarding stills, I've found 6 megapixels quite sufficient. I used it to shoot the cover shots of the 2005 and 2006 [Bike Friday Catalog](#)

**Image stabilization.** This is a feature present on most post-January 2006 cameras. It smooths out motion and sharpens shots taken in dimmer light. My old 3.2 mpix Canon Digital Elph had 3 movie resolutions and I shot the entire [16,000 Feet on a Friday](#) | [view clip](#) on the middle 320x240 resolution, which, after processing through Apple iMove/iDVD, created quite a watchable DVD movie, even when blown up on a big



auditorium screen. However, there was some shakiness that the new cameras with image stabilization correct to a reasonable degree. My Panasonic Lumix FX9 (already superceded as I write), which I used for the [Route66 by Bicycle movie](#) | [view clip](#) generates much smoother movies than the old Elph.

**Microphone at the front.** The sound quality from modern digital cameras is impressive, given the tiny-ness of the microphone, usually a small hole the size of a pinhead. All my movies have been produced using no more than what the ic actually captured, i.e. I haven't used an external mic or experimented with adding voice-over afterwards. However, the mic catches quite a lot of wind noise. I think a mic at the front of the camera, like my Elph, catches less wind than one on top, as on the Panasonic. You may have to experiment with baffling it at times with a finger, or gluing one of those little foam earbud headphone covers on it. Perhaps make a fuzzy "condom" for your finger out of an old fleece glove! I'll stop that line of thought right now, other than to say, be careful. My Panasonic somehow developed a little smudge on the INSIDE of the lens, which affected all my photos. I hallucinate that a tiny filament may have crawled down the mic or speaker holes and taken up residence in there. That was part of the \$102 dollars to repair the camera. I had to use Photoshop to remove the smudge, but it remained on part of the movie footage as a "traveling smudge".

Actually, the wind noise adds quite a lot of relevant atmosphere for biking movies. You just don't have good control over it. You might miss some word - no big deal - you get what you get. I'm a big proponent of "getting everything you can out of all you've got", and I don't bother agonizing over stilted re-takes.

**External speaker on camera.** Make sure the camera has a speaker, so you can actually hear the sound when you play it back, especially when the audio is crucial (capturing someone promising to take you on an all expenses paid holiday). My old Elph did not have this feature.

**Use smaller memory cards.** With the Peru movie shot at medium resolution on the old Elph (2004), I used a single 256 Mb compact flash card to capture a day's worth of shots and movies, downloaded them each night. With my Route 66 movie shot at full resolution on the Panasonic (2006), I used two 512 Mb SD cards. I've since upgraded to a couple of 1 or 2 Gb cards. I prefer using smaller cards for the simple reason that if they get corrupted, and they do occasionally, you haven't lost as much. It's a good idea to purchase a data recovery program like PhotoRescue, but even these programs can't resurrect everything in some cases. Smaller cards force you to shoot economically too, which makes downloading a lot faster. A 512 Mb card gives about 5-10 minutes of footage at 640x480 resolution, which is an eternity in movie making.

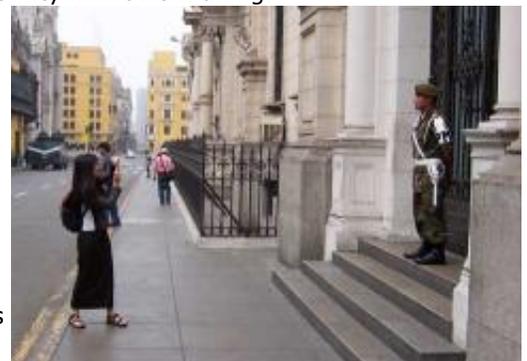
#### **TIPS FOR USING THE CAMERA**

**Avoid condensation.** For short rides and certain climates, the camera-in-and-out-of-jersey-pocket is fine. However, you might notice condensation building up on the case. Best stow it in a small flip top camera pouch in a strap around your waist to protect from this.

**Pan the camera either slow or fast.** This is just basic filming technique. The image stabilization helps to smooth motion, but don't make your audience seasick, I know of what I speak! Pan super slow or zip back and forth between subjects.

**Vertical lines and flare.** Yes, you will probably get some vertical pin lines and lens flare on your footage where sun or lights hits a surface. This is a limitation of the lens. This has never been a big issue to me, as in my opinion it simulates the glare you see when you wear sunglasses in the sun. You're not Scorsese, you're capturing life as it really is.

**Photo: Shooting in Lima, Peru, on the [World's Highest Paved Road expedition](#). Photo by Glenn Martin.**



## PUTTING IT ALL TOGETHER

**A 12" Apple Powerbook, a couple of decent hard drives and a place to lay my helmet - that's all I need to make a feature length movie.**

I use an Apple Powerbook G4 12" with Quicktime Pro, iMovie and iDVD. I've managed to make public-broadcast quality DVD movies using these simple and cheap or free tools. There is equivalent software for the PC world, but here's my drill:



**Shoot a day's worth.** About 4 minutes of footage at maximum resolution (640x480, 30 frames per second) for on a 512 Mb SD card, say 8 minutes for a 1gb, 15 minutes for a 2Gb card - my choice. I carry 2x 2Gb cards and a spare battery.

**Download to external hard drive.** When shooting at 640 the movie data takes up a huge amount of space. My 57 minute Route66 movie blew out to 56 gigabytes of movie data and my laptop only has a 60 gb internal hard drive. When on the road I download all movies and pictures to TWO external Firewire (USB 2.0 is OK, Firewire is better for Mac) mobile drives, ideally at least 100+ Gb each, with a rotational speed of at least 5400 rpm (ideally 7200 rpm - but they only make 'em up to 120 gb as at Oct 2005). Mobile drives are bus-powered - you plug them directly into your laptop using Firewire or USB 2.0 cable, no clunky power adaptor. I like the pricey LACIE ruggedized ones, I've a 60gb that cost an outrageous \$420 several years ago, and it still works well. They're a lot cheaper than that now. [Some mobile hard drives to drool over.](#)

Why two mobile drives? One is the data, one is an exact copy of the data. You don't want to lose that precious data. It's worth the expense. Hard drive heads crash.

I Use Quicktime Pro to quickly concatenate movies each night, saving them as a 'reference file' (to save space) and show to the tour group I am with. Quite often I use that tool to do most of my day to day footage for Bike Friday. Visit [Bike Friday on YouTube.](#)

**Make your DVD movie.** When all the shooting is done, I transfer all data to a mother of all hard drives, ideally a bigger, mains-powered, 7200 rpm 250+ Gb hard drive. [Here are some examples.](#) This is a rather bulky item that requires an adaptor, and as a road warrior, I await the day that flash storage can be bought in gigabytes for a fair price. I import the concatenated Quicktime movies into iMovie, edit (add titles, effects, chapter markers), export to iDVD, then render a disk image (.img) file - this takes several hours of overnight processing on my oldish Powerbook G4. The Route 66 DVD took me a good two months to finish the DVD. I arranged (I can hardly say 'composed') most of the music using Apple Garageband - a program I had to learn, but where I didn't have to plunk a note on a real instrument - but it helps to have an ear. I did incorporate ne of my original songs on it, the instrumental of "[Song for Jungle Boy](#)"

**Burn movie to DVD.** I then burn the .img file - the finished DVD movie ready to plug in 'n' play, to a DVD - using Roxio Toast or Apple's Disk Utility. The final DVD movie file usually boils down to between 2 and 4 gigabytes for a <1 hour movie. Burning can be quite a headache - my laptop burner has been spitting out DVD's that just don't play in all DVD players. I am told that laptop DVD players can become unreliable after enough miles of jostling on the road. I usually try and burn it on someone else's dedicated burner.

**Use decent DVD media.** What's decent? I've used cheap 100-per-spindle Staples specials and fancy individually packaged ones and have had success and grief with both. DVD's appear to be touchier than CD's. I hear the duplication houses use Verbatim and Taiyo Yuden because they consider them reliable, though I have never seen the latter commercially available.

**Do a DVD sleeve cover.** Always nice to have a professional looking product, even if, like me, you're enjoying being a legend in your own lunchtime. There are quite a lot of

templates available on the web.

**Get it duplicated.** A master disc can then be sent off to a duplication house such as [MediaTechnics](#) if you want bulk copies made. They'll do batches under 100 for a reasonable cost, including the DVD case and cover. tell Trevor Bono there that I sent you!

## SHOWING THE MOVIES

For presentations I normally show my movies through an LCD/Powerpoint projector that my hosts scrounge up. This is hooked to my laptop using a special Apple 15 pin [Mini DVI-VGA adapter](#). I then play the movie in one of three ways in decreasing order of preference:

**From an external hard drive.** I have a little 20 gb Firewire hard drive where I store all my final DVD movies. I plug that into the laptop and play it using the Apple DVD player software. I prefer this to playing the actual DVD, as it is not subject to the whims of spinning media seizing up half way. I used this hard drive at the Apple Stores in Chicago and New York, plugging it directly into their system.

**From the laptop DVD player.** I insert the DVD disk in my laptop and play it.

**From an external DVD player hooked up to the projector** If you're and hope that the DVD doesn't seize. If it does, stick another one in and hope for the best.

**Through a television.** If there is no projector available, I have a different Apple adapter, a [mini DVI to Video](#) that connects the red white jacks of a TV with RCA plugs to the laptop. You can some cool retractable cables in all kinds of jack permutations from my pal Steve Ransom at Cyberguys - [look at this neato cable](#).

**What about sound?** If you have to provide your own sound system, I recommend the fantastic sub-\$100 [JBL OnTour speaker](#) that plugs into the headphone jack of a laptop. Great looking and great sound for such a little box, and will suit a medium sized quiet room.

Happy shooting ... [The Gal](#)

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[See examples of the Gal's digital camera mayhem on YouTube.com](#)

Emailable link to this article: <http://www.bikefriday.com/movietips>

**Below: Doing my shtick at the Apple Store in Soho, NY, Oct 2, 2006. The store put up a very nice slide which fortunately distracted viewers from my indecision as to whether to wear pants or a skirt that day. Thanks to Frank Bonomo and his team at the Mac Store for welcoming the Galfromdownunder. Read more about [Gal gear](#) and [Gal talks](#).**

### CAMERAS I HAVE KNOWN

As of Jan 2008 I am using a **Canon OowerShot SD850IS**. Good sound (mic at front), solid feel, zooms (fixed focus) while filming, 8 megapixels, plus an increasingly rare, bonus viewfinder for when the light is too bright for the screen.

I used it for extensive Bike Friday multimedia including:

<http://www.bikefriday.com/sanfrancisco08>

<http://www.bikefriday.com/hawaii08>

<http://www.bikefriday.com/desertcamp08>

<http://www.bikefriday.com/australia08>





I used a **PANASONIC FX9** in 2006 to make [Route 66 by Bicycle](#), where it was the first compact camera with image stabilization. Pros: great screen (until it went black, never to wake up). Cons: It probably wasn't designed for the heavy on the road use I gave it - ratchet in the view selector broke, something smudged the lens from the inside, some pinline and purple haze artifacts, and the mic on the top seemed to attract more wind noise. Nonetheless, it produced a very watchable full length movie I've been able to show around the USA in Apple Stores and to many audiences with pride.



**Canon Digital PowerShot SD110, "The Digital Elph", 3.2 mpix** - my first foray into the world of handlebar moviemaking, resulting in my first feature length movie, [16,000 Feet on a Friday](#). No image stabilization, no external sound so you can't hear what you've recorded until you actually download it, but still a movie people enjoy watching at my [Film Fests](#). It was voted [Audience Choice](#) at the inaugural Boston Bike Festival.



#### RELATED LINKS

[Photography on a Friday](#) Some pro customer tips

[MOVIE: Mike Zamansky's handlebar camera mount](#) around 6:13 mins in

[Photojojo's Bike Helmet Mount](#) your head becomes a tripod, thanks to Brad Miter for sending this along

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Common Bike Friday questions

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