

# DV

BY BOB CONNOLLY

## Has it ever been simpler?

Even in these times of a looming recession, sales of consumer digital video (DV) cameras have been exploding. Costs have dropped significantly for entry level cameras, while the features of broadcast models (DVCAM) now rival BetacamSP quality standards. All DV cameras now feature Firewire connections for computer-based editing—and this data transfer method has created a whole new industry for video professionals to explore.

If you're thinking of going "DV", here are a few tips that you might want to consider before making the plunge into the world of digital video.

### "FIREWIRE" ISN'T ALWAYS DV

First of all, don't be misled by the term Firewire. Just because the camera has a Firewire connection does not mean that it is a DV camera.

DV is a video compression codec, like JPEG is for images. For example, Sony has a Digital 8 camera with a Firewire connection, but that camera uses Hi8 tapes. If you're purchasing a new camera, get a camera that uses MiniDV or DVCAM tapes. Those tapes are DV-compatible and have become the standard for all DV camera manufacturers. No Beta VHS was here, just pure DV, from almost everyone (an exception to this rule is a professional version made by Panasonic called DVCPRO that is semi-compatible with DVCAM, but I suggest that you stay clear of that format unless you are prepared to go all the way with Panasonic cameras and recorders). Most rental houses offer Sony DV, DVCAM, BetaCamSP, and Digital BetaCam.

Once you have shot your video, you will want to transfer it to a computer, and here you have two choices. You can use the Firewire port to transfer from camera to disk, or you can use a DV video player/recorder. Professionals will use the "Digital" port called SDI (serial digital interface) on broadcast recorders, which calls for a PCI card in your computer with SDI interface.

A good PCI card to consider for professional video production is the Pinnacle Cinéwave at about \$12,000. For far less money—about \$1500—the RTMAC (realtime for Mac) card has just been released by Matrox. For PC, there are hundreds of DV cards and I can't begin to offer any advice as to what works well with the various versions of Windows (including Windows XP).

You'll need to decide what computer platform you're going to use first, and then explore your options.

### WHAT DOES QUICKTIME OFFER?

Apple's QuickTime started the digital video revolution. It has a wide range of uses—sort of a Swiss army knife for multimedia. And because it is available for Mac and Windows, it is widely used for file transfer from one platform to another. The latest ver-

sion, QuickTime 5, adds streaming MPEG 1 and advanced DV software decoding.

Without question, QuickTime's DV playback capabilities are far ahead of the competition. From the iMac to the new Powerbook, DV and Apple are a good marriage. The quality of DV images will be the same on all models but a faster computer will allow you to render special effects in a shorter period of time, and it will allow more "live" audio and video tracks to be played back at the same time.

For editing software, I suggest you use either the free *iMovie* software or go right to *Final Cut Pro 2.0*. I love Adobe products, but *Premiere* and *Final Cut Pro* are worlds apart. *Final Cut Pro* is the new "Photoshop", and if you plan to grow with the industry, stick to a standard. I believe *Final Cut Pro* has now achieved this with version 2.0.

### FINAL CUT PRO 2 MAKES THE GRADE

The latest version of *Final Cut Pro* adds real-time features, a must for professional non-linear editing. It also adds media management, historically one of Avid's greatest strengths. Sales of Avid editing software have reportedly suffered of late, at least in the entry-level category—now it's only the big post-houses which are upgrading their systems.

*Final Cut Pro* has even made its way into CNN—some video journalists now shoot in DV, edit on a PowerBook using *Final Cut Pro*, and e-mail their completed segments as MPEG 2 video to the central office for broadcast.

This is exciting, and it's made possible because QuickTime is affordable, and it does it all. Since digital video manipulation and compression is software-based, it can replace several hardware cards or dedicated special effects generators. MPEG 2 compression is what Digital TV is all about, and Apple has added that capability to QuickTime 5 via *DVD Studio Pro*, along with its other QuickTime compression codecs.

It's critical to stay in the digital domain if you want to compete with professional broadcast products. But if your source material is DV and your final product is DVD or MPEG 2, you won't see any difference between QuickTime and Betacam—or Digital BetaCam, for that matter. The only dropoff in quality might be in the raw camera footage that captured the video—less expensive DV cameras will produce noise (resembling grain) when shooting under low light conditions, whereas DVCAM cameras usually have three CCDs (chips) and are much more sensitive in low light situations.

Special effects make the difference in a polished production. Digital video manipulation is the key, and *Adobe After Effects 5* is the preferred choice. Version 5 adds 3D lighting effects, and that



to DLT tape (digital linear tape); then you can send it to a pressing plant. The cost to replicate a DVD is very close to the cost of a CD-ROM or VHS video (in Canada, about two dollars each). *Toast 5* can now even combine “Title Set” files from DVD-Video with data files such as PDF and *Director* .DIR files. That means you can burn a DVD Hybrid disc that plays video on your television and *Director* productions on your computer.

And let’s not forget the Web. *Media Cleaner 5* can take DV files and output them to several different resolutions, utilizing QuickTime, Real-Media and Microsoft’s Windows Media Player codecs all in a single batch file.

#### DV IS GOING RETAIL

At first, all these applications might seem baffling. But once you get the hang of editing and compressing the final file format, it’s really quite simple—especially if you’re using a Macintosh.

On May 19th Apple’s first two retail stores, staffed by DV specialists, opened in Glendale, California and McLean, Virginia; twenty-three

more across the U.S. have been announced for 2001. And in Toronto, a new store specializing in this evolving medium, The DV Shop ([www.dvshop.ca](http://www.dvshop.ca)), has also just opened up.

Imagine—stores where Mom and Dad can learn to edit home DV videos! A place where high school grads can network with others to produce debut films. It isn’t hard to see where Apple is going with its digital video products.

If you’re in print media production, you may be a little apprehensive about what lies ahead. How will the industry adapt? Some video professionals are crying the blues because the magic of broadcast quality video is in the hands of anyone who can afford an inexpensive camera and computer. Creativity will now be rewarded and production value will be everything.

Sure, you still need good sound, great lighting, good stories and talented actors or hosts to make a professional production. But that all comes with experience, and it’s never too late to start. Besides, it’s fun to make movies, especially if they feature your family, friends, pets or exotic adventures.

Go DV!

And finally—lest we neglect to mention it—if you produce a *really* hot DVD that you think is good enough to show the world, you might want to enter it into the GRAPHIC EXCHANGE DIGITAL ART AWARDS. Just go to [www.gxo.com/gxx](http://www.gxo.com/gxx) to find out how. 🍷

puts it on a par with high end special effects compositing systems. It now also allows you to export *Flash* (SWF) files for the Web.

#### HOW TO PRODUCE YOUR OWN DV

To get your final DV to tape or disc, it is better to stay clear of transferring the production to an analog-based tape format. Instead, output it to DVCAM, or Digital Betacam via SDI, or back to DV via Firewire. If you don’t have a video recorder, just transfer the DV back to the camera and then send the tape to a duplication house that can master from DV.

Don’t output via S-Video to Betacam or any other analog format for duplication. All the duplication houses can now dub from MiniDV but it’s best to make a Digital Beta safety tape for duplication purposes because the tape format is less prone to digital dropout, commonly encountered when using MiniDV tapes.

If your final product is targeted at computer-based presentations, DVD-Video (MPEG 2) is the best way to go—full screen full motion interactive video. For portable presentations, you don’t have to actually cut a DVD to accomplish this. You can use Apple’s *DVD Studio Pro* to make a DVD image file called a “Title Set” and then use Apple’s DVD player application to play it from your hard drive or from a CD-ROM.

If you want to distribute DVDs, *DVD Studio Pro* can output