Digital Video Recording

Five general principles for better video:

- Always use a tripod — always;
- Use good microphones and check your audio levels;
- Be aware of lighting and seek more light;
- Use the "rule of thirds" to frame your subject;
- Make pan/tilt movements slowly and deliberately;
- Don't shoot directly against a wall (unless you offer a blindfold and cigarette);
- Label your tapes.

Tripods

An inexpensive tripod is markedly better than shooting by hand. Use a tripod that is easy to level (look for ones with a leveling bubble) and use it for every shot.

Audio

Remember that this is an audiovisual medium! Use an external microphone when you are recording, not the built-in camcorder microphone. Studies have shown that viewers who watch video with poor audio quality will actually perceive the image as more inferior than it actually is, so good sound is crucial.

The camera will automatically disable built-in microphones when you plug in an external. There are several choices for microphones.

Microphones

There are several types of microphones to choose from:

- Omnidirectional
- Unidirectional
- Lavalier
- Shotgun
- Handheld

In choosing microphones you will need to make a decision to use a wired or a wireless system. Hardwired systems are inexpensive and dependable. Just plug one end of the cord into the microphone and the other into the recording device. Limitations of wired systems:

- Dragging the cord around on the floor causes it to accumulate dirt, which could result in equipment damage or signal distortion.
- Hiding the wiring when recording can be problematic.

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- You may pick up a low hum if you inadvertently run audio wiring in a parallel path with electrical wiring.

Wireless systems combat some of the wired system's problems but have limitations of their own, as follows:

- They have a never-ending demand for fresh batteries.
- The transmitter is hard to hide on clothing.
- Radio and/or cell phone interference is occasionally possible.

For reviews of microphones, c-net is always a good option: http://reviews.cnet.com/4566-6469_7-0.html?filter=500908_501216. More information about microphones is included in section 2 of this notebook, "Digital Audio Recording."

Lighting

Lighting is something that is often ignored but can make a big difference in the image captured on video. Considerations begin by evaluating natural lighting options and then move to bringing in additional lighting. Adding lighting can be done inexpensively with nice effect.

Tips for lighting:

- Your eyes and brain can quickly adapt to mixed lighting situations — such as tungsten, daylight, and fluorescent — but your camcorder has a much more difficult time. Fluorescent lights often cause a greenish cast, while tungsten makes things orangish; even daylight can color your scene blue if you're in the shade or next to an open window. The best solution is to try to limit your light sources, and then use your camcorder's *white balance* setting to adjust for the dominant light source.
- Turn on as many lights as possible when shooting indoors. The image may look decent in the small viewfinder, but dark video is noisy and lacks detail. The darker someone's complexion, the more light needed to allow the camera to properly focus and record.
- Be aware of "washout" when shooting outdoors or near windows. If a subject sits next to a window, one side (the bright side) may wash out compared to the shaded side. Strive for *even* lighting.

A cheap solution can be to use a reflector, which can be handheld or mounted on a stand. These generally come with several disc options:

- Silver increases the specular highlights and yields a high-contrast image.
- Gold produces a natural, golden fill.
- White produces an even, neutral-colored bounce light that works beautifully as a fill light source.
- Black is used as a flag to block light or can be used to subtract light.
- Translucent fabric is used to diffuse light, producing a broad light source and a soft, wraparound effect.

A wonderful site to experiment with additional lighting placement for interviews is http://www.lowel.com/edu/.

Media: Recording Systems

The most confusing part of buying a camcorder can be choosing among the four types of recording media available: MiniDV tapes, removable MiniDVDs, hard disk drives, and flash memory cards. The choice is really about convenience, price, and personal preference. Here are some pros and cons.

MiniDV tape

Pros: compact; affordable; able to preserve original image quality without compression; good software to support editing.

Cons: have to use camcorder for playback; winding/rewinding tape eventually degrades quality; need to transfer images to computer with large hard drive for editing.

DVDs

Pros: random access to any clip; easier editing in-camera or on computer; rapid duplication of discs for sharing; convenient playback on computer, DVD players, even PlayStations.

Cons: recording time limited to one hour with single-sided discs, two hours with dual layer; images are compressed when stored to disc and quality is subtly affected; some discs allow only one use, others rewritable.

Internal hard drives

Pros: with capacities up to 60GB, internal drives can hold 28 hours of video, far more than other formats; one-button burning of DVDs for easy sharing, transfer, playback; in-camera or in-computer editing.

Cons: still pricey; still require image compression; and what happens to your video if that big hard drive goes down?

Flash memory cards

Pros: first offered as an extra storage option for still images on both tape and disk camcorders; now coming into use as primary storage media for video as well as stills, thereby eliminating moving parts, reducing size, increasing durability.

Cons: not yet supported by in-camera editing software; requires image compression; less storage than hard drives.

Source: http://www.demystifyingdigital.com/Camcorders/camcorder-media-recording/index.aspx

Camcorders: Optical Systems

There are a wide range of camcorders available to do your work as well. Some of the essential features that you will definitely want on your camcorders include:

- Audio/video terminal
- Display and data code buttons
- DV terminal

- Exposure compensation control
- Headphone jack
- LCD screen
- Manual focus control
- Microphone jack
- Zoom control
- White balance control

Here are some selected examples of appropriate cameras.

Canon Vixia HV 30 Suggested Retail Price: $899.00

"The dramatic Canon VIXIA HV30 is the latest in our offering of HD camcorders, incorporating advanced features to bring knowledgeable and demanding videographers the ultimate in HD video and digital photo quality. The VIXIA HV30 is packed with Canon Exclusive features you won't find anywhere else. Our own Full HD CMOS sensor and advanced DIGIC DV II image processor deliver breathtaking detail and the best in color reproduction. SuperRange Optical Image Stabilization and Instant Auto Focus give you the shot control High Definition demands. With the Genuine Canon 10x HD video zoom lens and a host of other advanced features the VIXIA HV30 is sure to be your choice in High Definition camcorders. And, with its HD and Standard Definition recording modes, you can make the move to HD without making your SD equipment obsolete.

All this is possible thanks to the vast experience Canon has with photographic and broadcast television cameras with optical excellence, advanced image processing, superb performance, and the latest in technological advancements. Canon has long been a leader in bringing advanced features to its products, taking advantage of our superiority in optics and image processing.

The VIXIA HV30 is easy to use and delivers the high level of performance you've come to expect from Canon. It's the next step in premium quality High Definition camcorders for which sophisticated and discerning videographers have been waiting."

Source:
http://www.usa.canon.com/consumer/controller?act=ModelInfoAct&fcategoryid=177&modelid=16206

Sony Handycam HDR-SR11 Suggested Retail Price: $1199.00

"Shoot video and still photographs like a pro. Sony's HDR-SR11 Handycam® camcorder has everything you need for a superior video and photo experience. Its Face Detection technology, made possible by the ClearVid™ CMOS sensor (with Exmor™ technology) and BIONZ™ image processor, helps make sure people look their best in videos and photos. Capture extremely detailed video in Full 1920 x 1080 High Definition resolution, as well as stunning 10.2 megapixel still photos. Records directly to a built-in 60GB hard drive or your choice of removable Memory Stick Duo™ or Memory Stick PRO Duo™ media."

Source:
http://www.sonystyle.com/webapp/wcs/stores/servlet/ProductDisplay?catalogId=10551&storeId=10151&langId=-1&productId=8198552921665291500

Canon Vixia HF10 Suggested Retail Price: $999.00

"From Canon's long history of optical excellence, advanced image processing, superb performance and technological innovation in photographic and broadcast television cameras comes the latest in high definition camcorders.

Now, with the light, compact Canon VIXIA HF10, you can have stunning AVCHD (Advanced Video Codec High Definition) format recording with the ease and numerous benefits of Flash Memory. It's used in some of the world's most innovative electronic products such as laptop computers, MP3 players, PDAs and cell phones. Canon offers the best in Flash Memory with Dual Flash Memory – record to both the camcorder's 16 GB internal memory and a removable SDHC card, extending your available recording space and offering added flexibility in file transfer and playback.

Add to that the VIXIA HF10's Canon Exclusive features such as our own 3.3 Megapixel Full HD CMOS sensor and advanced DIGIC DV II Image Processor, SuperRange Optical Image Stabilization, Instant Auto Focus, our 2.7" Widescreen Multi-Angle Vivid LCD and the Genuine Canon 12x HD video zoom lens and you have a Flash Memory camcorder that's hard to beat and unmistakably Canon."

Source:
http://www.usa.canon.com/consumer/controller?act=ModelInfoAct&fcategoryid=177&modelid=16186

Sony HVR-V1U Suggested retail price: $3375.00

"The HVR-V1U camcorder, along with the companion HVR-DR60 HDV Hard Drive Recorder, represents the latest addition to Sony's tremendously popular line of professional HDV products. The HVR-V1U camcorder provides affordable HD acquisition by offering true 1080p image capture in a small camcorder form factor. Three ClearVid® CMOS Sensors, combined with Sony's 14-bit Enhanced Image Processor, create an exceptional camcorder capable of capturing images at 1080p24, 1080p30, and 1080 60i. All video is processed at 1920x1080 at 60p in full 4:2:2, for optimum picture quality. In the 1080 24p mode, the images are scanned at the full 1080 lines, and 2:3 pull down is added and recorded to the 60i HDV tape. From SD to HD, and 24p to 60i, Sony's HVR-V1U and HVR-DR60 offer an extremely versatile, high-quality production package for video professionals."
Review: http://www.videomaker.com/article/13184/

Canon XH-A1 Suggested retail price: $3999.00

"Your Vision…in High Definition"
"For the professional and serious non-professional alike, the XH A1 combines a wealth of features with the outstanding performance of a 3 CCD, High Definition camcorder.

If you need HD SDI, Gen Lock, and Time Code, then the XH G1 XH G1 is the HD camcorder for you.

The excellence of the XH A1 begins with its Genuine Canon 20x HD zoom lens with Professional L Series Fluorite. Super-Range Optical Image Stabilization corrects for a wide range of camera movement and vibration, and Instant AF (Auto Focus) ensures ultra-quick, accurate focus. The DIGIC DV II HD image processor then ensures improved color reproduction and noise reduction – for a final result that is the zenith of image quality.

If you need advanced image control, the XH A1 gives you features that let you make manual adjustments to fine-tune your video. If you prefer to concentrate on your subject and let your camcorder take care of exposure and image controls, the XH A1 lets you do that as well.

With a wide range of features and optional accessories, the XH A1 is a versatile, flexible and powerful performer that is sure to meet your uncompromising standards."

Source:
www.usa.canon.com/consumer/controller?act=ModelInfoAct&fcategoryid=175&modelid=14061

Great Web sites for Camcorder Reviews:

http://reviews.cnet.com/best-camcorders/
http://www.smart-review.com/digitalcamcorders.html
http://www.intellireview.com/category/catalog_electronics_camera_camcorders/?aid=318&top=10&gclid=CMfNzomRuZcCFQ0xawod01d-TA
http://www.epinions.com/Camcorders--price_range_900_47216

Video Editing Software

Once you have captured your oral history on video, there are many options for selecting video editing software to help you work with your collection. Below are several popular applications.

Windows Movie Maker 2.1 **Suggested Retail Price: free**

"Windows Movie Maker 2.1 makes home movies amazingly fun. With Movie Maker 2.1, you can create, edit, and share your home movies right on your computer. Build your movie with a few simple drag-and-drops. Delete bad shots and include only the best scenes. Then share your movie via the Web, e-mail, or CD. Using third-party software you can even take movies you've made and turn them into DVDs. You can also save your movie back to the video tape in your camera to play back on a TV or on the camera itself."

Source: http://www.microsoft.com/windowsxp/downloads/updates/moviemaker2.mspx

Reviews:

http://www.winsupersite.com/reviews/wmm2.asp
http://www.pcmag.com/article2/0,2817,1116115,00.asp

Sony Vegas Pro 8* Suggested Retail Price: $549.95

"The Vegas Pro collection combines Vegas Pro 8, DVD Architect Pro 4.5, and Dolby® Digital AC-3 encoding software to offer an integrated environment for all phases of professional video, audio, DVD, and broadcast production. These tools let you edit and process DV, AVCHD, HDV, SD/HD-SDI, and all XDCAM™ formats in real time, fine-tune audio with precision, and author surround sound, dual-layer DVDs."

*versions 6 and higher are HD compatible

Source: http://www.sonycreativesoftware.com/vegaspro

Reviews:

http://www.geek.com/articles/labs/review-sony-vegas-pro-8-20071018/
http://videoediting.digitalmedianet.com/articles/viewarticle.jsp?id=187809
http://www.newegg.com/Product/ProductReview.aspx?Item=N82E16832135191
http://www.microfilmmaker.com/reviews/Issue27/Vegas8_1.html

Adobe Premiere Pro CS4 Suggested Retail Price: $799.00

"Take advantage of the benefits of the Adobe workflow to finish your Final Cut Pro project, moving content to Adobe After Effects®, using Speech Search to create searchable video, and exporting through Encore to Blu-ray, DVD, and the web. Use Final Cut Pro XML interchange to transfer projects directly from Final Cut Pro to Adobe Premiere Pro without conversion or rerendering, preserving commonly used effects and transitions."

Source: http://www.adobe.com/products/premiere/

Reviews:

http://www.pcmag.com/article2/0,2817,2330905,00.asp
http://www.photoshopcafe.com/cs4/premiere.htm

Avid Media Composer Suggested Retail Price: $2,495.00

"If you're a creative editor, you want an editing tool that not only makes storytelling simple, but helps you track your project, organize your media, and pull you through the trouble spots. That's why so many professionals trust their best ideas to Avid Media Composer. Unsurpassed creative tools, rock-solid media management, and the highest quality effects and output make Media Composer the most powerful editing solution available."

Source: http://www.avid.com/products/Media-Composer-Software/index.asp

Reviews:

http://www.videomaker.com/article/13465/
http://www.macworld.com/article/137735/2009/01/avidmediacomp3.html?lsrc=rss_reviews

iMovie Suggested Retail Price: $79.00

"Maybe you want to throw together a few video clips. Maybe you have more time and want to fine-tune every edit. Or maybe you just want to flip through clips the way you flip through album covers in iTunes. iMovie lets you do it all — then share it all."

Source: http://www.apple.com/ilife/imovie/

Apple Final Cut Pro 6 Suggested Retail Price: $1299.00

"The first choice of professional editors worldwide, Final Cut Pro 6 delivers high-performance digital nonlinear editing, native support for virtually any video format, and facility-class extensibility and interoperability. Its workflow extends through the other Final Cut Studio applications and Final Cut Server for even more power. Whether you're working solo or collaborating with a team, Final Cut Pro gives you more creative options and technical control than ever before."

Source: http://www.apple.com/finalcutstudio/finalcutpro/

Reviews:

http://www.macworld.com/article/58488/2007/06/finalcutpro6.html
http://www.lafcpug.org/reviews/review_Visual_quickpro6.html

Suggestions for Vendors

GovConnection is dedicated to fulfilling the unique, specialized IT needs of federal, state, and local governments and academic institutions (K-12 and higher education) throughout the United States. We help academic and government IT and purchasing professionals make informed decisions and reduce procurement costs." https://www.govconnection.com/ipa/home

A vendor that offers very competitive pricing and delivery on audio and video is B&H Photo Video. http://www.bhphotovideo.com/

Additional Reading: Tips and Advice

The Digital Video Information Network (a community forum)

- http://www.dvinfo.net/conf/
  "Don't Shoot! 10 Tips for Avoiding Bad Home Video"
- http://reviews.cnet.com/4520-6500_7-5510172-1.html
  "Family Oral History Using Digital Tools"
- http://familyoralhistory.us/news/C19
  "Learn Videography, Video Editing, and Lighting"
- http://www.videomaker.com/learn/

Lillian Brown, *Your Public Best: The Complete Guide to Making Successful Public Appearances in the Meeting Room, on the Platform and on TV*, (Newmarket Press: New York 1989).

- http://www.public-speaking.org/public-speaking-tvvideo-article.htm
  A handy list of some things you should keep in mind when a video camera is trained on you.
- http://oreilly.com/pub/a/mac/2003/06/13/dv_tips.html
  "Top Ten Digital Video Tips"
- http://www.camcorderinfo.com/content/ten_steps_better_video.htm#
  "Ten Tips to Better Video"