Video Overview

# Adobe Creative Primer

1. There has always been a war between film and digital video because with the rise of digital, film may soon become a thing of the past. With any new technology, users and specialists who have been using old techniques and old media will need to adapt to the newer capabilities of digital.
2. This is a good time to get into digital video because the technology is still relatively new. If you are already using a computer that is optimized for high-resolution print graphics, you won’t need to add much hardware to get started. Digital photographers will especially find the jump to digital video very easy.
3. The basic equipment needed to get started with digital video is:

* A DV camcorder
* Audio recorder
* Lighting
* Additional storage to hold large video files
* DVD burner to output files
* Editing software such as Adobe Premier Pro, After Effects, Audition, Encore DVD, or Final Cut Pro

# Adobe Digital Video Primer

1. Digital has many advantages over analog. One is the high fidelity of the content. Whereas analog has no way to distinguish between the original signal and electronic interference, digital only reads ones and zeros and therefore can more easily discriminate between the original signal and noise.
2. The two types of digital television are SDTV (standard definition) and HDTV (high definition).
3. The typical frame rates for NTSC are approximately 30 fps (29.97 fps) for television and 24 fps for film.
4. NTSC resolution is based on 525 vertical lines of resolution displayed as two interlaced fields. However only 486 lines are visible in the active picture area.
5. Frame aspect ratio is the ratio of the width of an image to the height of an image whereas pixel aspect ration is the ratio of the width of a pixel to the height of a pixel.
6. Luminance is the brightness of an image and chominance is the color information of an image.
7. A codec is a device or program that compresses data to enable faster transmission and decompresses received data. Some codecs have as fixed compression ratio that compresses video at a fixed data rate. Other can compress each frame differently depending on the content, resulting in a data rate that varies over time.
8. When looking to purchase a digital camcorder you’ll want to look for one that gives you the ability to change lenses, optical zoom, higher CCDs, a higher lux rating, optical image stabilization, ability to override automatic settings, widescreen mode, progressive scan mode (to shoot 24 fps), high-definition shooting, and high-quality audio recording.

# A Beginners Guide to HD Video

1. 720p is a progressive scan image where each frame is composed of a single, solid picture. 1080i is an interlace image where the image is made up of two interlaced fields at half second intervals which together make up the full frame rate.
2. HDV is high definition video, which stretches the image and uses the MPEG-2 codec for compression, which is the same that is used in DVDs and digital broadcast signals.
3. Anamorphic uses curved lenses to squeeze a wider image onto a narrow frame of film. This allows for an image to be visually the same width as 1920 but recorded with fewer actual pixels and thus reducing the amount of data required.
4. AVCHD (Advanced Video Codec High Definition) employs the same anamorphic stretching of HDV but specifically uses the H.264 codec, which is able to greatly compress a video signal while still retaining a large degree of quality.
5. It’s too early to tell who will win in the HD-DVD vs Blu-Ray war. While Blu-Ray does offer the better quality video, HD-DVD is the more affordable option.
6. HDMI is an alternative to component connections with the advantage that the three plugs are merged into one. HDMI also carries the audio signal as well as the video.

# Research

These two videos I shot 5 years apart from each other.

## Low quality

<https://vimeo.com/43906281>

This video was shot with a Canon XH A1 at 60 fps and 720p (because I was new to shooting video and didn’t know what frame rate was). The audio comes from a Sennheiser lapel mic, which I apparently didn’t sync up with the video when editing. Compression was made with separate video and audio files (mpeg and aiff). The recording was made onto mini-dv tapes that required manual digitizing by firewire onto an external hard drive…many times this resulted in lost frames.

## High quality

<https://vimeo.com/248064797>

This video was shot primarily on a Nikon D7000 at 24 fps and 1080i. Unlike the previous 60 fps that made the video look like a home movie, this gives the video more of a film look. In addition to upgrading my camera equipment, we also invested in tripods, monopods, a slider, a glidecam, off-camera lighting, and an external audio recorder with xlr and ¼ inch capabilities allowing me to record audio directly hooked up to the dj booth. This eliminates ambient noise that was previously being caught with the lapel and on-camera mic. This also allows for clear recording of whole songs that can be used for background music in the videos. Video was recorded directly onto SD cards for easy import onto external hard drives. The compression was made for an output of 1080 HD.