

Digitizing Video 101: Basic Questions



Why Digitize?

- Working tape playback equipment is getting scarce – even for popular professional formats.
- Tapes themselves are reaching the end of their lifespans.
- Digitization eases access to your collection – by making DVDs, watching clips on a computer and via the Internet.
- More options for backing up data than video tape.

Should We Do It Ourselves?

Digitization can be done if you have:

- Access to a trustworthy video deck and knowing a good video service person in your area. (not recommended for 2" Quad, 1/2" EIAJ open reel work)
- A time-base corrector (highly recommended).
- Have a computer with a video encoding card or a firewire/IEEE-1394 port (and a firewire converter box).
- Adequate hard drive space.
- Somebody to set up the machines and somebody who can monitor the digitization.

Digitize To What Format?

What are your digitizing goals?

- PRESERVATION – to outlive the tape
- ACCESS for TV - DVD, stock footage.
- ACCESS on a computer– watching on a computer or via Internet.

Codecs (Compression - Decompression)

- **Uncompressed (wrapped in a Quicktime , AVI or MXF file)**
- **Lossless** - (JPEG2000, Huffiyuv, Sheervideo, Lagarith) Frames are compressed and can be uncompressed without any loss.
- **Visually Lossless/ Mathematically Lossy** (Cineform, MSU Lossless Codec) Frames are compressed with loss of information but you can't see it visually.

Codecs (Compression – Decompression) continued..

- Lossy (Intraframe) (DV, JPEG2000, MJPEG, MPEG-2 I-frame)
Frames are compressed with loss of information.
- Lossy (Intraframe and Interframe) (MPEG-2, MPEG-4)
Frames are compressed and some frame content is reduced to save space.

Cheap Software Tools

- **Mac**

Quicktime Pro (\$29) – capture and editing.

MPEG Streamclip (free)

- **Windows**

Virtualdub (Free) – capture and editing program.

WinDV (Free) – DV capture program.

- **Linux**

Kino (free)

Low Budget Setup for Access

- VTR deck to DVD recorder (\$200-\$300)
- Rip DVD file to MPEG2 file or MPEG-4 with MPEG Streamclip or other app.
- End result: Access DVD, MPEG2 file, derivative files.

Low Budget Setup for Digitization

- VTR deck to miniDV camera (\$200).
- MiniDV camera hooks to computer via Firewire.
Save DV files to hard drive. Make derivative files as necessary (including DVD, MPEG4)
- End result: miniDV tape backup, DV file, derivative files.

Mid Budget Setup for Digitization

- VTR deck to digitizing card (\$350 up).
- Digitize uncompressed AVI or Quicktime to RAID array (\$300 up).
- Make derivative files as needed. (DVD, MPEG-4, etc).
- End result: high quality uncompressed video file, derivative files

Prelinger Archives Project

- 1000s of Beta SP tapes.
- Client wants to go tapeless but wants to maintain the tapes' timecode.
- VTR to Digital Rapids DRC-1000 via component video.
- Saving to MPEG-2, I frame, 4:2:2 profile, 50Mbps (similar to IMX or D10).
- Use a variety of open source tools to make derivative files.

Questions?

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