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# Digitizing Chevron's Media Legacy: A Case Study

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# Digitizing Chevron's Media Legacy: A Case Study

## **Abstract**

Digital Revolution digitized four decades' worth of Chevron's legacy media, including film, video tapes of multiple different formats and audio reels. The collection included fourteen different video tape formats, five audio tape formats, three film formats and 35mm slides, including PAL tapes from overseas. Preserving the content involved proper cleaning and handling of the older formats, which requires delicacy and knowledge of the media in order to ensure the best possible playback.

## **Keywords**

legacy, media, archive, analog, video, tapes, digitize, preservation

## **Author Bio & Acknowledgements**

In 1983, Paul founded Fast Forward - the largest video tape duplication company in San Francisco. He owned and operated that company for seventeen years before creating Digital Revolution.

Paul has been a consultant to companies involved in media preservation, archiving, film, audio recording, special effects, production and broadcast spot distribution. He has also served on the Board of Directors of the San Francisco Film/Tape Council and the San Francisco Advertising Agency Association. In addition, Paul was the President of the International Teleproduction Society and the Northern California Production Council. He is a published author of industry articles for countless trade publications and is a sought after industry seminar speaker.

He is currently a member of the National Academy of Recording Arts and Sciences, Society of California Archivists, American Library Association, Visual Resource Association and ARLIS.

When Paul isn't helping his customers preserve and distribute their creative content through the power of digital media, he enjoys hiking and golfing with his spirited, adventurous son and watching movies and attending live events with his bride.



*A CASE STUDY*

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There are many challenges in digitizing a media collection that spans four decades. Such was the case for **Digital Revolution** in digitizing **Chevron's** vast media library.

Step one was for Chevron to choose which elements to preserve and which ones to simply degauss and recycle. The collection included content such as, TV commercials, employee training, exploration, shareholder meetings, public service announcements, video news reports etc. Chevron historian John Harper thoughtfully made the decisions regarding what to keep and what to discard.

The elements had come into the archives from all over the world. They included media from companies that Chevron had merged with: **Texaco**, **Gulf Oil** and **CalTex**. Digital Revolution spent three weeks on-site at the Chevron Archives, bar coding each asset and creating an inventory list of the chosen media.

The collection included fourteen different video tape formats, five audio tape formats, three film formats and 35mm slides. The videos included PAL (Phase Alternating Line) tapes from overseas. They were digitized in their native format in order to maintain quality. We cleaned and scanned over 50,000 feet of film in high definition 2K resolution. Film can shrink over time, that's why we scan film instead of running it through a transfer unit that requires the use of sprockets. Running shrunken film on sprockets can severely damage the film and of course make for a poor quality transfer.

Digital Revolution recommended making two levels of files:

- Video & Film: Pro Res 422 for the preservation archival format and H264's for easy office use
- Audio: .WAV files for the preservation archival format and MP3's for easy office use

Conscious of the fact that the work we do today will still be used decades from now, Digital Revolution's goal in preservation is to get the best quality playback possible. Oxide-based tapes such as: ¾" Umatic, 1" Reel to Reel, Betacam video and some audio reel tapes in particular gain moisture over time.

Therefore, we “bake” those tapes to get the moisture out before playback. Otherwise, the tape can get stuck in the machine or the oxide can rip right off of the tape as it is played, causing “sticky shed.”

As ¾” Umatic tapes decompose there can be a fine layer of oxide dust that forms on the length of the tape. As the tape plays in the machine it will cause a catastrophic playback head-clog. After baking the ¾” Umatic tapes, for many of them, we hand-cleaned the entire length of the tape with a moist alcohol cloth before playback.

We also had to perform tape repair and transplanted dozens of tapes into new shells. The most common tape repair happens when the glue that holds the recording part of the tape to the leader dries out and comes apart. The case needs to be disassembled and the tape spliced back together. In order for some tapes to track properly the tape itself needs to be transplanted into a new shell. Especially with ¾” Umatic and VHS tapes, the moving parts in the shell can dry out and cause the tape not to roll properly causing poor playback results.



Some of the Gulf Oil tapes had mold build up and rusty parts from being stored in a damp environment. When working with moldy tapes, Digital Revolution bakes them and hand-cleans them. Then we transplant the tape into a new shell. All but one Gulf tape played back. It was too decomposed to salvage.

Most tapes have not been played in years. Therefore, they can tighten up or have sticking points. In order to loosen them up and get a more even playback we fast forward and rewind each one before digitizing. If a tape is so decomposed or damaged that we believe we will only get one good play from it, we capture it on first playback without the forward and rewinding procedure.

In working to get the best possible playback Digital Revolution has: machines with manual tracking, skew functions and adjustable audio output capabilities. We also have multiple machines of each tape format so if we are not getting good playback on one machine we can try others that may play a particular tape better.

As we digitized the assets we also updated an Excel spreadsheet with metadata for each element. Meta data included: content creation date, original media format, program length, content details from the original labeling, audio disposition and notes.

When we were finished with phase one of digitizing Chevron’s media collection we had over 40 terabytes of data. We made two sets of hard drives and a set of LTO (Linear Tape Open) data tapes for long term

archiving. When we were satisfied that we had a digital replica of the media collection, we degaussed and recycled the tapes.

The Chevron project makes for an interesting case study. A large amount of physical media had been created over such a long period of time that just about every iteration of tape and film was present in the collection. It consisted of media from many different manufacturers and came together from a variety storage environments. All of these variables made it challenging to convert all of the media into consistent digital files that Chevron can now utilize for decades to come.

-Paul Grippaldi CEO Digital Revolution San Francisco