

AMPAS study

raises red flags on



Properly archiving media libraries maintains the history of moving images for posterity, but it's also smart business. For movie studios and content holders, "evergreen" titles have proven to be a commercial legacy. They are valuable corporate assets that retain earning power a half-century or longer since the films were made.

To satisfy audiences' desire to see damaged and decayed movies return to "opening night" quality, digital technologies offer remarkable solutions beyond the capabilities of traditional film technology. But even as the restoration of moving images moves into a digital workflow, celluloid remains the gold standard in preservation - the storage and maintenance of our cinematic heritage. For their feature films, every major studio makes a 35mm film protection master from the digital source master. Black-and-white color separation records on film are the only proven archival medium that stands the test of time. Imaging scientists say that those black-and-white separation masters - silver halide on a polyester base - will last for centuries, while the manufacturers of digital media candidly advise their customers to check their data in five years, and migrate it in seven years at most.

The Academy of Motion Picture Arts & Sciences recently released an important study that spotlights the risks of depending on digital storage methods. The Academy's Science and Technology Council thoroughly studied the issue and concluded that there are currently

no proven long term storage methods for digital information. The study also noted that the current 2K digital cinema standard is inferior to the quality of 35mm film, and that the annual cost of archiving a 4K master is \$104 per running minutes versus \$8.83 for film.

We asked a number of professional archivists for their opinions and policies on archiving methods. According to Rick Utley, vice-president, Preservation Services at PRO-TEK Media Preservation Services, digital preservation formats being touted today aren't up to the long-term task.

"The plans for digital archiving that we're hearing about do not have grounding in the real world of preservation," says Utley. "Digital is here to stay - that's reality. But it's also a reality that, for long-term keeping, the digital solution is not here yet. The fact is that we are already losing data, and if a title is not recorded back out to film for storage, there's a risk that it will be lost forever. There are a number of well-known titles, films that were 'born digital,' so to speak, where through accident or media failure, data has been lost. Had these movies not had film elements

made from the DI tapes, there would be major losses. Making black-and-white separations is a proven solution, and in the world of risk management it's relatively inexpensive when you consider the investment in producing a contemporary blockbuster, and the unlimited potential for future revenue streams."

Securing our future

PRO-TEK Director of Restoration Management Scott MacQueen agrees. "The digital archive solution is often presented as a magic bullet, which it's not," he says. "As we move away from the tradition of an artifact-based archive, to the paradigm of a digital archive with its allure of pure ones and zeros and transparent data relay, the processes remain unproven. Experienced asset managers have learned to be wary of blithe solutions. The business model includes the task of migrating mountains of data every five years as the storage media fails, and fashionable operating platforms are swapped out with the frequency of new model cars. A feature film at 2K works out to about two-and-a-half terabytes. Multiply

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digital storage

that by the number of films made each year, add in television, add in the libraries, and the sheer volume of data is overwhelming. By storing film, you're storing a very robust, very dense and very efficient data carrier capable of holding the highest possible amount of image information. If you cast aside film, you're eliminating one of the most valuable, proven tools in your archiving toolbox. It doesn't need to be an absolute either-or proposition. Wise people who deal with archiving every day use the appropriate technology for the appropriate application."

"Digital technology is wonderful, and it has tremendous potential," says Utley. "But right now, let's secure our future and make sure we've got it written to film."

Bob O'Neil, vice president of Image Assets and Preservation, Universal Operations Group, sees the market for such assets growing. "With proper vault management (temperature and humidity controls) and inventory management, Universal has been able to fulfill all ancillary market needs, for example networks, foreign languages and DVD versioning," he explains. "This becomes even more important as market demands increase and new distribution platforms are created."

O'Neil agrees that either-or is not the right approach. "We feel comfortable with our approach to restoration and preservation," he says. "Universal has been able to preserve titles on digital and analog formats. Our library will be protected for decades to come. After a title is completed, back-up digital media of the DI files are made. This data is quality controlled and saved as 35mm polyester separation masters that will last hundreds of years. In conjunction with this, all primary

audio files are stored on LTO data tapes, DVDs (used as work copies), 35mm magazine and stored on servers for easy access."

Artistic Vision

Tom Regal, Director of Audio Restoration and Preservation at Universal Studios BluWave Audio, takes a similar approach. The short life of digital formats is a concern. "Our mission is to preserve and restore while maintaining the original artistic vision," Regal remarks. "In preservation, more is better. Multiple digital copies and an analog copy are a prudent and responsible plan. It is imperative that the digital archiving be done as open source to protect from the whims of the marketplace."

Gregory Lukow, chief of the Motion Picture, Broadcasting and Recorded Sound division at the Library of Congress, uses a hybrid model. "Most film is still being preserved on film in our wet lab, while other material is being preserved digitally," he says. "We remain committed to both film preservation on film and to film preservation digitally."

Schawn Belston, vice-president of Film Preservation at 20th Century Fox, counts on celluloid for preserving assets at his studio. "The only thing

that I know of that is permanent is film," he says. "Here at Fox, all of our feature productions record YCM black-and-white separations, negatives or positives on every feature that we make, and we finish digital as sort of an insurance policy. It's scary, the rate at which data tapes become obsolete. We rely on film preservation all the time. I can take YCM masters that are 50 years old, re-combine them, and make a new negative. I have data tapes that are 10 years old that I can't get the data off of. It's really just that simple. It's really a no-brainer."

Data migration is problematic, according to Belston. "We do data migration here at Fox, but the amount of data increases," he reports. "It's been doubling every year for the past few years. It quickly becomes unmanageable. I know that there are a lot of very smart people working on solutions to this problem, and I'm confident that eventually someone will come up with something. But until they do, I'm going to keep film on the shelf."

