



## JOHN D. LOWRY REMEMBERED

The Motion Picture industry and the Television industry each have had technologists who made major contributions to their successful development and to their transitions to digital technology. Rare, however, is the individual who has a major impact on both industries through the technology that he develops. John D. Lowry was such a rare individual.

He died on January 21, 2012, at the age of 79. He suffered from dyslexia all his life, and that factor gave him a visual orientation that drove many of his achievements.

Most recently known for founding Lowry Digital Images and developing the film restoration process on which that company is based, Lowry's career spanned six decades, starting at the Canadian Broadcasting Corporation in Toronto, where he was a stagehand and production assistant starting in 1952 at age 20. Self-taught in the business and technology, he had his own production company for a number of years, largely producing and directing commercials. Along the way in the late 1960s, he worked with Westinghouse on improvement of the Wescam aerial camera mount, which is still in service today (as the Wescam). To meet his own needs, he applied gyroscopic stabilization to the Wescam, making it practical for high-quality film image capture and resulting in several awards for commercial production.

Next on John's development agenda was finding a way to make the relatively noisy and unstable television images of the day suitable for use in producing films for distribution on that medium. To that end, he founded a company in Toronto called Image Transform. Once having invented the necessary methods to support high-quality television-to-film transfer, he moved the company to North Hollywood to be near potential customers. To demonstrate the power of the techniques, Image Transform contracted with NASA to process live images from the moon during the Apollo 16 moon-landing mission. Newspaper accounts from that period report markedly improved imagery delivered to the public over the television networks. Image Transform went on, over a period of years, to enable numerous film productions using television cameras.

John Lowry had become an entrepreneur and next founded Digital Video Systems (DVS), back in the Toronto area in the early 1970s. DVS built early time-base correctors, frame synchronizers, and similar equipment based on digital signal processing and a modular platform that permitted customization of functionality. Lowry was a proponent of video sampling at four times the color subcarrier frequency at a time when there was a huge debate occurring within the television industry over the use of 3x or 4x subcarrier sampling. He joined the SMPTE Working Group on Digital Video Standards during the late 1970s and was a strong advocate for the 4x approach. In the end, he carried the day, component sampling

was specified to be 4:2:2 instead of 3:1:1, and composite sampling was standardized at 4x subcarrier instead of 3x.

While running DVS, Lowry oversaw development of a multiplexed analog component system called B-MAC that won a competition for use in scrambling video for satellite transmission. This led to the sale of DVS and to a period in the 1980s and 90s of ventures in related media-areas such as offline, nonlinear editing systems, electronic publishing on compact discs, development of inverted database technology, creation of technology for video games, and many other leading-edge technologies. Companies included ImageX, Reteaco, Discis Knowledge Research, and DreamCatcher. At Discis, Lowry's passion to use technology to help children learn to read resulted in electronic books, the successors to which only now, 20 years later, resemble what was available in the early 90s. Used in schools and at home by teachers and children, the products garnered numerous accolades and awards.

In 1998, Lowry felt the pull of film calling him back to Hollywood. He had novel ideas for restoring film using computers and image processing. He founded Lowry Digital Images and began developing the technology. Within a couple years he had a working method and began with the restoration of Alfred Hitchcock's *North by Northwest*. Restorations followed over a period of years of such films as *Gone with the Wind*, *The Wizard of Oz*, four of the six *Star Wars* films, the entire collection of James Bond films, all of the *Indiana Jones* films, practically all of the crown jewels of Disney Animation, *Citizen Kane*, *Casablanca*, and many others. Two films—*Roman Holiday* and *Sunset Boulevard*—were restored to pristine condition and were among the first transferred back to film for preservation. The studio, Paramount, was so pleased with the results that it held premieres for the restored films in both Hollywood and New York. Matters came full circle when Lowry Digital Images, by then under different ownership but using what is now known as the Lowry Process, restored the imagery from the first moon landing—that of Apollo 11—with startling results. It was one of John Lowry's proudest moments.

Lowry spent the last few years of his life developing technology for stereoscopic 3D. He formed yet another company, TrioScopics, to work in the area of anaglyphic image separation. The work had applications to film, television, print, and other media. That work will be continued by others.

A SMPTE Fellow, John Lowry was the 2003 recipient of the SMPTE Leitch Gold Medal Award, as the citation read, "for his pioneering work in the application of digital signal processing methods to the improvement of images and systems in television and film applications. ..." He recently was inducted as a Member-at-Large of the Academy of Motion Picture Arts and Sciences (AMPAS). Just before his death, he learned that he was to receive the AMPAS Science and Engineering Award for his work on film restoration. The award was presented posthumously, just three weeks after he died.

— Contributed by Merrill Weiss