

Obituaries

Charles Coleman, Jr., the engineer who pioneered some of the most important developments in 20th-Century video technology, died on July 13, 2005. He was 79. Coleman designed and built the first successful analog time-base corrector for videotape recorders that stabilized video output for a reliably solid picture, enabled reliable videotape interchange, and led to electronic videotape editing. He also helped create high-band "direct-color" videotape recording. He was the holder and co-holder of over 20 U.S. patents. He received many industry awards, including the SMPTE David Sarnoff Gold Medal and the IEEE Vladimir K. Zworykin Award.

Coleman started his video engineering career at CBS station WBKB-TV (in 1953 renamed WBBM-TV) in Chicago. In 1958, he designed a greatly improved "chroma keying" process, the ability to insert a video picture over a background image derived from two sources.

By 1959, the Ampex "quadruplex" transverse-scan videotape recorder (VTR) had become the standard television recording device, replacing the film-based kinescope recorder. Ampex and RCA had recently introduced low-band color VTRs, but their pictures still suffered from instability caused by timing errors in playback. Those errors manifested themselves as visibly objectionable horizontal picture displacements, which also interfered with video switching. Misadjusted recorders occasionally made tapes other VTRs could not properly play, an interchange problem that wasn't apparent until after the recordings were made.

At WBBM, Coleman figured out a set of analog signal-processing circuits that stabilized the VTR playback output, largely solving the picture stability and interchange problems. The "time domain" signal corrector electronically compensated for the geometric errors in the recording as the four transverse-scanning heads reproduced the 32 2-in.-long tracks that formed one frame of video. Coleman's device retimed the VTR video output to be time-coincident with a stable reference signal that matched the absolute timing of other equipment in a TV facility. His prototype was dubbed "Coltec."

In 1960, Ampex Corporation, a pioneer in audio- and videotape recording, licensed the CBS patent and hired Coleman to work at the company's headquarters in

Redwood City, CA. He worked at Ampex for another three decades until his retirement. At the convention of the National Association of Broadcasters in 1961, Ampex introduced Amtec or "Ampex time-error corrector," Coleman's perfected commercial version. Amtec created a sensation and opened the still-young VTR technology to many more applications.

By 1962, a Coleman-led team had developed Colortec, allowing the reproduction of VTR color-component video signals that were especially sensitive to time-based errors. Also called "direct color recovery," the process was an extension of Coleman's original Amtec invention for correcting timing errors in the monochrome signal. Colortec helped make possible the first commercial, high-band, direct-color VTR, the Ampex VR-2000, introduced in 1964. The successful European introduction of the PAL television system depended on the new high-band recording technology, which also transformed the look of NTSC.

In his last decade at Ampex, Coleman and his team in the company's advanced engineering group filed numerous patents for data compression and digital recording on magnetic media, the basis for professional, military, and consumer recording and data-processing devices still in use today. In the 1980s, Coleman led the design of the Ampex Digital Cassette Recording System (DCRS), a small, high-storage-capacity data recorder that worked well under adverse conditions. The machine is still used in a variety of surveillance, communications, and aerospace applications.

By Peter Hammar, Clovis, CA, and Fraser Morrison, Redwood City, CA. Morrison worked with Coleman at Ampex. SMPTE-SF Secretary Hammar was the creator and curator of the Ampex Museum of Magnetic Recording, Redwood City. The collection is now a part of the Silicon Valley Archives at Stanford University.

Harold F. Huntsman, a Life Member, has passed away. He had been a member of the Society for over 50 years.

Sam P. La Foca of Walnut Creek, CA, has passed away. He was a member for over 20 years.

Howard F. Ott, a Life Fellow of the Society, died on September 17, 2005, at 90 years old. A member for over 50 years, Ott became a Fellow in 1968.

Joseph T. Welsh of Westhampton, N.J., passed away on July 9, 2005. He was 53 years old.