

In Memoriam

William A. Palmer, veteran San Francisco filmmaker, inventor, and audio recording pioneer, died of a stroke on Thursday, June 6, at his home in Menlo Park, California, at the age of 85. Palmer founded W. A. Palmer & Co. in San Francisco in 1936, later renamed W. A. Palmer Films, Inc., a business over which he actively presided until his death.

Working with Bing Crosby, ABC, and Ampex just after World War II, Palmer was the essential catalyst that began the era of high-quality audio magnetic tape recording in America. Palmer and his colleague, John T. Mullin of San Francisco, perfected an American version of the German "Magnetophon" high-fidelity audio tape recorder in 1946. A memorable Mullin-Palmer demonstration of their magnetic recorders at the MGM studios in Hollywood in October of 1946, grabbed the town's attention with a stunningly clear recording of a studio performance by Jose Iturbi, George E. Stoll and the MGM Symphony Orchestra. The new medium was demonstrably superior to the then-new method of optical film recording for the production of film sound tracks, the MGM 200-mil push-pull system.

Using the Mullin-Palmer tape machines in 1946, Merv Griffin in San Francisco was the first U.S. performer to master a commercial disc on tape, "Songs by Merv Griffin," with Lyle Bardo and his Orchestra. The next year, crooner Bing Crosby became the first to go on the air coast to coast with magnetic tape, using the Mullin-Palmer tape decks to record and edit his "Philco Radio Time" show on the ABC Radio Network for the 1947-48 season, a revolution in an era of "live," unedited broadcasts. By the summer of 1948, all of the radio networks were producing shows on tape, as well as using the new medium to time-shift programs for different time zone broadcasts. Burl Ives, Les Paul, and other per-

formers quickly adopted tape to produce their shows and record albums. The work of Palmer and Mullin led to an almost immediate acceptance of tape as the standard American recording method for radio, film sound tracks, and records—a sweeping technical revolution.

Meanwhile, the two engineers provided Ampex Corporation in Redwood City, California, with essential help in perfecting that company's Model 200, the first U.S. commercial professional audio tape recorder, introduced in 1948. The Mullin-Palmer and Ampex machines also spawned magnetic data recording for instrumentation and computers, and later, videotape recording.

In the early 1950s, before the successful introduction of the videotape recorder, Palmer developed a unique system for recording the TV image on 16-mm film, a modified "kinescope" process, the Palmer Television Film Recorder, which eliminated the "kine" shutter bar problem.

The accepted standard for professional motion picture production in the 1930s and '40s was 35-mm film—16-mm was considered an amateur format. Palmer was among the first in the country to use 16-mm film for commercial productions. During World War II, his compact 16-mm technology enabled him to produce color sound films made aboard aircraft carriers at sea.

Palmer was one of the first filmmakers in the United States to use optical sound on film for commercial and educational productions. In 1933 he developed his own design for a 16-mm sound-on-film camera. Since the 16-mm black-and-white film would need synchronized sound, Palmer built his own light valve, as well as the necessary amplifiers with the help of his future business partner, Jack Mullin. In 1934, he received an exclusive contract from the Columbia Steel Company to document on film the construction of the San Francisco-Oakland Bay Bridge, an industrial

film classic. Over the next 60 years, Palmer and his company produced hundreds of 16-mm industrial and made-for-television films, as well as providing film production and laboratory services.

Born in Oakland in 1911, Palmer was descended from a family of early California settlers who came from Maine to enter the foundry, farming, and dredging businesses during the Gold Rush of the 1850s. Shortly after his birth, his family moved to Palo Alto, where he was raised and educated. He graduated from Stanford University in 1932 with a B.A. degree in engineering. He held numerous film, audio, and video patents and was a fellow of both the Audio Engineering Society and the Society of Motion Picture and Television Engineers as well as an active member of the San Francisco Bohemian Club.

He is survived by nieces Nancy D. Palmer of Palo Alto and Nancy Phelps of Felton; nephews Hall Palmer of Palo Alto; Bruce Palmer of Los Altos; Barton P. Phelps of Sunnyvale, and several grandnephews.

An organ recital in his memory was held at the Stanford University Memorial Church in Palo Alto, California, on Wednesday, June 26. The family requests donations in Palmer's memory be made to the Organ Concert Fund, Stanford Memorial Church, Stanford, CA 94305-2090.

Peter Hammar
San Carlos, CA

William S. Bachman, AES fellow and honorary member, retired vice president of Columbia Records Division of the Columbia Broadcasting System, died April 8 in Greenville, Delaware, USA. He was 87 years old.

Bachman graduated from Cornell University in 1932 and began his professional career at General Electric where he remained for a number of years. During the latter part of his work there he designed a phono- ➤

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graph pickup having a unique electro-mechanical configuration. This device was a wide frequency response, low distortion and low tracking force transducer, known as the GE Model DM 1RM 6C variable reluctance pickup. This item was produced in large numbers and became a part of the postwar audio technology that initiated the "high fidelity" era in phonograph reproduction.

In the spring of 1946 he was invited to join Columbia Records in their newly created post of director of engineering. He accepted, and in this position he undertook the complex task of re-engineering the various unsuccessful commercial and laboratory attempts to produce a viable fine groove, extended playing time, disc recording, suitable for both the consumer market and the radio broadcast field. This work, by a development team under his direction, continued on into 1948 and led to the formal public introduction of the Columbia long playing (LP) microgroove record

in June of that year.

During the course of the continuing LP product improvement program that followed, Mr. Bachman contributed some notable advances to the art of disc recording. Among them were such innovations as the feather-edge hot-stylus disc cutting system, which greatly extended high frequency detail while lowering unmodulated groove noise at the same time, and the automatic variable pitch groove spacing technique.

In 1953 he accepted an invitation by the Record Industry Association of America (RIAA) to become a member of their engineering group composed of the technical representatives of the major producers of LP recordings in the U.S. The purpose of the RIAA in forming this group was to request that a mutually agreed upon specification for a common LP recording and reproducing frequency response be adopted industrywide. Since the Columbia Records pioneering position was recognized de facto,

Bachman proposed and consequently reached concurrence with the other members in establishing what has since become known as the world standard RIAA recording & reproducing curve for LP records.

Prior to his retirement from Columbia, Bachman turned his attention to the problem of achieving and maintaining a higher level of product quality from their processing plants. This work led to his design of an almost completely automated LP pressing plant at the Columbia Santa Maria, CA, operation. This novel manufacturing approach also extended to a separate facility for the recording, rewinding, and final assembly of compact cassettes as well. Later these same disc and tape production systems were duplicated in the construction of their Pitman, NJ processing plant.

Bachman is survived by his wife, a son, daughter, and five grandchildren.

William Savory
Falls Church, VA