

## **WILLIAM A. PALMER (1911-1996): AUDIO & FILM INVENTOR AND FILMMAKER**

**Veteran San Francisco filmmaker, inventor, and audio recording pioneer Bill Palmer died of a stroke on Thursday, 6 June 1996, 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. (Jack) Mullin of San Francisco, perfected an American version of the German "Magnetophon" high-fidelity audio tape recorder in 1946. A memorable Palmer-Mullin demonstration of their magnetic recorders at the MGM studios in Hollywood in October, 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. In just one year, Palmer and Mullin took audio recording from "poor" by today's standards to contemporary analog quality. A critical listening test of the early MGM and Bing Crosby recordings made on the modified Magnetophons reveals sonic quality perfectly acceptable for any network or local FM broadcast today.**



**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, using the new Ampex version of the Mullin-Palmer machines, all of the radio networks were producing shows on tape, as well as using the new medium to time-shift programs for daylight savings broadcasts. Burl Ives, Les Paul, and other performers 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 Palmer-**

**Mullin and Ampex machines also spawned magnetic data recording for computers and instrumentation (1949), and later, videotape recording (1956). Without the incredible headstart that the two engineers gave to Ampex and the rest of the industry, we probably would not have had high-quality magnetic audio recording until the Germans came back into the world market in 1950. Mullin would not have gone to work for Bing Crosby and built for Crosby Enterprises the world's first working videotape recorder prototype (1950), and Ampex (which might not even have existed by that time) would not have built their successful videotape recorder (VTR) in 1956, the VR-1000.**

**With his wartime Hollywood connections, Palmer was the catalyst that made it all happen and set in motion a new industry. Jack Mullin says, "I was just an unknown engineer in San Francisco. Without Bill Palmer, I never would have been able to get my tape recorders known among broadcasters and film producers."**

**In the early 1950s, before the successful introduction of the VTR, Palmer invented a unique system for recording the TV image on 16mm film, a modified "kinescope" process, the Palmer Television Film Recorder, which eliminated the "kine" shutter bar problem was used around the world even after video tape. The 3-2 pull-down system used a "blending" shutter device that eliminated the characteristic "shutter bar" that plagued kine recordings. During the pre-videotape era, Palmer also recorded television shows on film (kinescopes) for San Francisco Bay Area TV stations, including the award-winning series, "The Standard Hour", broadcast on ABC's KGO-TV in 1951.**

**The accepted standard for professional motion picture production in the 1930s and '40s was 35mm film. 16mm was considered an amateur format. Palmer was among the first in the country to use 16mm film for commercial productions. During World War II, his compact 16mm technology enabled him to produce color sound films made aboard aircraft carriers at sea that greatly reduced the training time required for U.S. Navy pilots and their crews.**

**Palmer was one of the first filmmakers in the United States to use optical sound on film for commercial and educational productions, developing in 1933 his own design for a 16mm sound-on-film camera. Since the 16mm black-and-white film would need synchronized sound, Palmer built his own light valve, as well as the necessary amplifiers with the help of 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 16mm industrial and made-for-television films, as well as provided film production and laboratory services.**

**Bill Palmer was born in Oakland in 1911, and 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. He was a Fellow of both the Audio Engineering Society and the Society of Motion Picture and Television Engineers, and was 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, and 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, 26 June 1996. The family encourages donations in Bill Palmer's honor be made to the Organ Concert Fund, Stanford Memorial Church, Stanford, CA 94305-2090.**