

Calendar

SMPTE Activities

LOS ANGELES, CA—SMPTE Fall Film Conference, *September 25, 1999.*

MILAN, ITALY—SMPTE 1999 International Conference, *October 14-15, 1999.*

NEW YORK, NY—141st SMPTE Technical Conference and Exhibition, *November 19-22, 1999.*

SAN FRANCISCO, CA—34th SMPTE Advanced Motion Imaging Conference, *February 3-5, 2000.*

For more information on these and other SMPTE activities contact SMPTE Headquarters: 914-761-1100; fax: 914-761-3115.

OCTOBER

NAB, Eleventh Satellite Uplink Operators Training Seminar, Washington, DC. Info: NAB Science Technology: tel: (202) 429-5346; website: www.nab.org/scitech/sat992.asp. *October 4-7, 1999.*

Rocky Mountain Film and Video Expo, Denver, CO. Info: Mark Cramer, ExpoMasters, Inc., 7632 E. Costilla Ave., Englewood, CO 80112; tel: (303) 771-2000, fax: (303) 843-6232. *October 6-7, 1999.*

11th Annual New Orleans Film & Video Festival, New Orleans, LA. Info: Carol Gniady, Executive Director; tel: (504)

523-3818; website: www.neworleansfilm-fest.com. *October 8-14, 1999.*

IBTS '99, Milan, Italy. Info: IBTS '99, 11, Via Domenchino, I20149 Milan, Italy; tel: 39(0)2-4815541; fax: 39(0)2-4980330; e-mail: asspexpo@assoexpo.com. *October 14-18, 1999.*

NOVEMBER

ASA, 138th Meeting, Columbus, OH. Info: Acoustical Society of America, 500 Sunnyside Blvd., Woodbury, NY 11797, tel: (516) 576-2360. *November 1-5, 1999.*

Obituaries

John T. Mullin: The Man Who Put Bing Crosby on Tape

Audio and video engineer John T. (Jack) Mullin, who introduced America to high-fidelity magnetic tape recording, helped create postwar tape standards, and built the first successful prototype videotape recorder, died at the age of 85 of heart failure on June 24, 1999, at his home in Camarillo, Calif.

Stationed in England during World War II and working on Allied radar and other electronics, Mullin sometimes listened to German radio broadcasts, the only classical music on the air. The performances sounded "live," with none of the telltale noise of the 16-in. electrical transcription discs (ETs)—33-1/3 and 78 rpm records—that were the norm in American broadcasting. Mullin knew the Germans must have had some kind of outstanding, new recording technology.

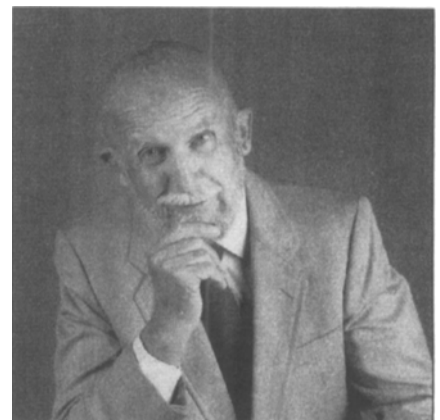
Relocated to Paris in the late summer of 1944, Mullin's new mission was to examine captured German electronic equipment and report to the Signal Corps and to Allied Intelligence. Ten months later, just after war's end, the engineer visited a studio in Germany occupied by the Allies and was shown the source of the high-fidelity recorded broadcasts he'd heard in England: AEG Magnetophon K-4 studio tape machines with AC bias in the record circuit, the key to its great quality.

Mullin filed extensive reports with Army and Allied engineers. He also obtained official permission to send home two of the German transports, head assemblies, and 50 reels of BASF and Agfa blank tape for his own postwar use. He decided to

build his own electronics at home in San Francisco using American components. In 1946, Mullin redesigned and improved his two Magnetophons with financial and mechanical engineering help from his partner, pioneer San Francisco filmmaker W.A. (Bill) Palmer. Mullin and Palmer created new methods for producing high-fidelity sound on 16mm film using "wild" magnetic tape tracks, a first in the U.S.

Mullin-Palmer Magnetophons were used to produce the first American commercial entertainment disc professionally mastered on tape, "Songs by Merv Griffin," released in 1946. The first public demonstration of high-fidelity tape, on May 16, 1946, at a local IRE meeting held in NBC's San Francisco studios, stunned the audience of engineers, who couldn't believe they weren't hearing live music. As word spread, during 1946, American film, recording, and radio executives began to consider adopting tape. The new medium was far superior to the then-current methods of transcription disc and optical-film recording. Sixteen-inch ET discs sounded so bad that recorded shows were forbidden on most networks.

In 1946, the fledgling ABC Radio Network, desperate for big-name talent, invited megastar Bing Crosby to record his show on the transcription discs. Crosby hated live radio—two shows a week, for each coast—and liked the more relaxed studio environment. But "Philco Radio Time" on ABC sounded awful, and the ratings plummeted. Bing thought about quitting radio, but instead hired Mullin in 1947 to record and edit the show on the two prototype tape machines. The ratings immediately shot up, with listeners convinced Bing was performing "live" again. The now-hit



John T. (Jack) Mullin

show remained tape-delayed, setting a precedent in broadcast production that remains the norm to this day. Most other radio and recording artists and producers, including Burl Ives and Les Paul, quickly adopted the liberating technology to create their shows and records.

Thanks to the seeming miracle of scissors-and-tape editing, Mullin was able to cut out the bloopers that had plagued a generation of live radio performers. Bing and his producers were amazed by this sleight of hand and ordered Mullin to "punch up" dull shows with laughter and applause from outtakes. He reluctantly established the first regular use of laugh tracks and applause tracks, although he disliked the fake-sounding laughter and applause that were painfully mismatched to the material.

Mullin's two prototype machines proved the feasibility of the new tape technology to Ampex Corp., a tiny northern California company that audaciously decided to

become the first American manufacturer of the radically new German invention. Most people assumed that the ex-soldier's reports from Germany on the Magnetophon would motivate the large U.S. electronics firms, including RCA and GE, to introduce their own professional tape recorders in 1946 or in 1947, at the latest. Strangely, that never happened.

Ampex went on to design and build America's first professional, commercially-sold audiotape recorder, the Model 200, which went into service in Hollywood, Chicago, and New York on all the radio networks in the spring of 1948 for producing and time-delaying shows. They used the newly developed 3M Scotch #111 tape that replaced Mullin's dwindling supply of BASF and Agfa Type L tape. That same year, other American manufacturers, including Magnecord, began building audiotape machines for both professional and consumer use. Mullin's pioneering work became the basis for many recording industry standards, including the famous NAB equalization curve still in use for analog studio recording.

In 1950, as television was exploding onto the American entertainment scene, a magnetic-tape replacement was needed for the poor-quality film-based kinescope video recorders using 16mm and 35mm film. Working for Bing Crosby Enterprises, Mullin led the team that built the world's first working prototype videotape recorder (VTR), a 1-in., 12-track, fixed-head machine first demonstrated in 1951. Mullin used two Ampex Model 200s as the basis for the first "Crosby Video" tape transport. The work culminated in 1955 with a 3-channel, 1/2-in. color VTR, still with fixed heads. While never released commercially, the Crosby Video prototypes established engineering principles that became the basis for many professional and consumer tape recorders, including the closed-loop capstan. Mullin's machine also spurred Ampex to begin the video development work that led to the first commercially successful VTR in 1956, the Ampex VR-1000.



Jack Mullin, in 1949, with his two portable Ampex Model 200 audiotape machines. The model 300 is pictured in the foreground.

Jeffrey B. Friedman, 1939-1999

It is with great sadness that SMPTE informs its members of the death of Jeffrey B. Friedman, Editor/Publisher of the *SMPTE Journal*.

Jeff passed away, on August 20, 1999, after a short illness. Following a memorial service at the Weinstein Chapel on Sunday, August 22, he was buried at Beth Moses Cemetery, on Long Island, New York.

He is survived by his wife, Barbara, and two children, Jennifer and David.

SMPTE will publish a tribute to Jeff in the October issue.



The engineer also pioneered the use of magnetic tape in instrumentation and data recording. His 1949 installations of modified Ampex Model 300 audio recorders at the Point Mugu Naval Air Station and at Edwards Air Force Base, both in southern California, revolutionized data gathering for both military and civilian applications. Since then, R&D progress in aerospace and other industries has depended heavily on tape to record instrumentation data.

Bing Crosby sold his electronics lab to 3M in 1956, which led to the creation of the Camarillo-based 3M Mincom electronics division, a maker of military and civilian data recorders and later, professional and consumer audio machines. Mullin served as Mincom's chief engineer until his retirement in 1975, when he began a second career of voluntary teaching, writing, and lecturing, in addition to helping Recording for the Blind and Dyslexic. He voiced-over 2,000 hours of books on tape that now reside in their own library in Princeton, NJ, and are still distributed nationally to the sight-impaired.

He created one of the finest collections of historic entertainment technology—radios, recorders, microphones, tapes, and

discs—which were widely shown at trade shows around the country. A video, "An Afternoon with Jack Mullin," based on those shows, is available from the Audio Engineering Society [www.aes.org] in New York. The Mullin collection is now a part of the Pavek Museum of Broadcasting in St. Louis Park, Minn., near 3M in St. Paul. Some of the engineer's collection can be seen on the Pavek website at www.pavek-museum.org.

Jack Mullin was a member of SMPTE and a Fellow and Honorary Member of the Audio Engineering Society.

—Peter Hammar, Secretary/Treasurer,
(San Francisco Section)



Peter J. Gartland, Esq.

SMPTE regrets the passing of Peter J. Gartland, Esq., who died suddenly at his home in Rhode Island on June 23, 1999.

Gartland was the legal advisor to SMPTE for many years while he was associated with the firm of Donovan Leisure Newton & Irvine.

At the time of his death, he was with Winthrop, Stimson, Putnam & Roberts, counseling U.S. and non-U.S. clients in international trade and business matters.

Gartland is survived by five grown children.