

Der Bingle Technology

by Steve Schoenherr

No revolution has shaped the modern mass media more profoundly than the recording revolution. To record is the ability to create an exact duplicate of an act of communication, to preserve and replicate this act quickly and cheaply, and distribute countless copies of this act to consumers everywhere, so they can replay it over and over whenever they so desire. Johannes Gutenberg birthed the revolution in 1454 with his movable-type printing press. Louis Daguerre used chemistry to permanently fix a photographic image in 1839 and William Fox Talbot replicated positive prints from a single negative. Thomas Edison added the recordability of sounds in 1877 with his phonograph and of motion in 1893 with his kinoscope. The man who would have the greatest impact on the mass media in the 20th century was not an inventor or scientist, but a crooner.

A crooner, you say?

Yes, it was Bing Crosby who was the leader of the revolution. The 1600 records he made during his 51-year career as a pop singer have never been equaled in number or influence. Bing sold 500 million copies during his career and only Elvis would sell more. His *White Christmas* was the No. 1 recorded song in total sales (35+ million) for over 50 years. He sang on 4000 radio shows from 1931 to 1962 and was the top-rated radio star for 18 of those years. He appeared in 100 movies and was the first popular singer to win a Academy Award for Best Actor (*Going My Way*, in 1944). He appeared in 300 television programs from 1948 through 1977, ending with his 42nd consecutive Christmas special taped before his collapse and death Oct. 14 after 18 holes on the La Moraleja Club golf course in Spain. The show was broadcast on CBS Nov. 30, 1977.

He was not the first singer-crooner. "Whispering" Jack Smith and Rudy Vallee had early in the 1920's discovered that a softer, natural style sounded better through the microphone than the live-stage Tin Pan Alley style. Crosby became the most famous crooner when he adapted the jazz-scat rhythmic style of Louis Armstrong to his own superb baritone voice. The new electrically-amplified condenser microphones of the mid-1920's favored a voice like Crosby's and he learned how to manipulate his voice to project a distinctive audio image onto a shellac disc. Radio also favored his voice (called "phonogenic" by Charles Henderson). CBS gave Bing his first big network contract in 1931 when William S. Paley heard his voice on a portable phonograph playing on the deck of an ocean liner. It was a voice that reproduced well.

By 1935, the year Elvis was born, Bing Crosby had become a star in several media. He was earning \$5000 per week for the Kraft Music Hall on radio and \$100,000 per film from Paramount. He was the first artist signed by new Decca Records and his soaring record sales made it possible for Jack Kapp to create

the 35-cent cheap 78 rpm record. Over the next 5 years he would invest his growing wealth in racetracks such as the Del Mar Turf Club, stables, real estate, music publishing, fish packing (he would become the most famous spokesman in the 1960's to Save the Salmon), philanthropy, the annual Clambake pro-am golf tournament, and his trademark loose sweaters. In 1940, his annual income of \$750,000 put him at the top of his profession. He was a rare independent powerhouse in the midst of the corporate radio, film, and music powers that dominated the mass media.

He used his power to innovate new methods of reproducing himself. In 1946 he wanted to shift from live performance to recorded transcriptions for his weekly radio show on NBC sponsored by Kraft. But NBC refused to allow recorded radio programs (except for advertisements). The live production of radio shows was a deeply-established tradition reinforced by the ASCAP union. The new ABC network, formed out of the sale of the old NBC Blue network in 1943 to Edward Noble, the "Lifesaver King," was willing to break the tradition. It would pay Crosby \$30,000 per week to produce a recorded show every Wednesday sponsored by Philco. He would also get \$40,000 from 400 independent stations for the rights to broadcast the 60-minute show that was sent to them every Monday on three 16-inch aluminum discs that played 10 minutes per side at 33-1/3 rpm. Crosby wanted to change to recorded production for several reasons. The legend that has been most often told is that it would give him more time for his golf game. And he did record his first Philco program in August 1947 so he could enter the Jasper National Park Invitational Gold Tournament in September when the new radio season was to start. But golf was not the most important reason. Crosby was always an early riser and hard worker. He sought better quality through recording, not more spare time. He could eliminate mistakes and control the timing of performances. Because his own Bing Crosby Enterprises produced the show, he could purchase the latest and best sound equipment and arrange the microphones his way (mic placement had long been a hotly-debated issue in every recording studio since the beginning of the electrical era). No longer would he have to wear the hated toupee on his head previously required by CBS and NBC for his live audience shows (Bing preferred a hat). He could also record short promotions for his latest investment, the world's first frozen orange juice to be sold under the brand name Minute Maid.

The transcription method however had problems. The 16-inch aluminum program discs were made from master discs running at 78 rpm and holding only 4 minutes per side. This presented editing and timing problems that often caused gaps or glitches in the flow of the 60-minute program. Also, the acetate surface coating of the aluminum discs was little better than the wax that Edison had used at the turn of the century, with the same limited dynamic range and frequency response. In June of 1947, Murdo MacKenzie of Crosby Enterprises saw a demonstration of the German Magnetophone that Jack Mullin had brought back from Radio Frankfurt with 50 reels of tape at the end of the war. This machine was one of the magnetic tape recorders that BASF and AEG had built in Germany starting in

1935. The 1/2 inch ferric-coated tape could record 20 minutes per reel of high-quality sound. Alexander M. Poniatoff ordered his Ampex company (founded in 1944 from his initials A.M.P. plus the starting letters of "excellence") to manufacture an improved version of the Magnetophone.

Bing Crosby hired Mullin and his German machine to start recording his Philco show in August 1947 with the same 50 reels of German magnetic tape that Mullin had found in Frankfurt. The crucial advantage was editing. As Bing wrote in his autobiography, "By using tape, I could do a thirty-five or forty-minute show, then edit it down to the twenty-six or twenty-seven minutes the program ran. In that way, we could take out jokes, gags, or situations that didn't play well and finish with only the prime meat of the show; the solid stuff that played big. We could also take out the songs that didn't sound good. It gave us a chance to first try a recording of the songs in the afternoon without an audience, then another one in front of a studio audience. We'd dub the one that came off best into the final transcription. It gave us a chance to ad lib as much as we wanted, knowing that excess ad libbing could be sliced from the final product. If I made a mistake in singing a song or in the script, I could have some fun with it, then retain any of the fun that sounded amusing." Mullin's 1976 memoir of these early days of experimental recording agrees with Bing's account: "In the evening, Crosby did the whole show before an audience. If he muffed a song then, the audience loved it - thought it was very funny - but we would have to take out the show version and put in one of the rehearsal takes. Sometimes, if Crosby was having fun with a song and not really working at it, we had to make it up out of two or three parts. This ad-lib way of working is commonplace in the recording studios today, but it was all new to us."

Crosby also invested in Ampex to produce more machines. In 1948, the second season of Philco shows was taped with the new Ampex Model 200 tape recorder (introduced in April) using the new Scotch 111 tape from the Minnesota Mining and Manufacturing company. Mullin explained that new techniques were invented on the Crosby show with these machines: "One time Bob Burns, the hillbilly comic, was on the show, and he threw in a few of his folksy farm stories, which of course were not in Bill Morrow's script. Today they wouldn't seem very off-color, but things were different on radio then. They got enormous laughs, which just went on and on. We couldn't use the jokes, but Bill asked us to save the laughs. A couple of weeks later he had a show that wasn't very funny, and he insisted that we put in the salvaged laughs. Thus the laugh-track was born." Crosby had launched the tape recorder revolution in America. In his 1950 film *Mr. Music*, Bing Crosby can be seen singing into one of the new Ampex tape recorders that reproduced his voice better than anything else. Also quick to adopt tape recording was his friend Bob Hope, who would make the famous "Road to..." films with Bing and Dorothy Lamour.

Mullin continued to work for Crosby to develop a videotape recorder. Television production was mostly live in its early years but Crosby wanted the same ability

to record that he had achieved in radio. *The Fireside Theater* sponsored by Proctor and Gamble was his first television production for the 1950 season. Mullin had not yet succeeded with videotape, so Crosby filmed the series of 26-minute shows at the Hal Roach Studios. The "telefilms" were sent to television stations and projected into a camera using a film chain. This would be the same method used by Desi Arnaz in 1951 for the production of the *I Love Lucy* sitcom and Desilu became the industry model for the independent syndication of filmed episodic series. Crosby did not remain a television producer but continued to finance the development of videotape. Mullin would demonstrate a blurry picture on December 30, 1952, but he was not able to solve the problem of high tape speed. It was the Ampex team led by Charles Ginsburg that made the first videotape recorder. Rather than speeding tape across fixed heads at 30 mph, Ginsburg used rotating heads to record at a slant on tape moving at only 15 ips. The helical scan model VR-1000 was demonstrated at the NAB show in Chicago on April 14, 1956, and was an immediate success. Ampex made \$4 million in sales during the NAB convention and by 1957 most TV production was done on videotape. Ampex developed a color videotape system in 1958 and recorded the spirited debate between Khrushchev and Nixon on a demonstration model at the Moscow trade Fair September 25, 1959. By this time, Crosby had sold his videotape interests to the 3M company and no longer played the role of tape recorder pioneer. Yet his contribution had been crucial. He had opened the door to Mullin's machine in 1948 and financed the early years of the Ampex company. The rapid spread of the tape recorder revolution was in no small measure caused by Crosby's efforts.

The decade following the end of World War II witnessed what has been called the "revolution in sound." The Decca Company introduced FFRR 78 rpm records (Full Frequency Range Recording) that had the finest frequency response (80-15,000 cps) of any recording process before magnetic tape recording. Decca's method of reducing the size of the groove and designing a delicate elliptical stylus to track on the sides of the groove would be the same innovation of the new microgroove process introduced by Columbia in 1948 on the new 33-1/3 rpm LP vinyl record. Crosby's sponsor Philco would join Columbia in selling a new \$29.95 record player with jeweled stylus (not steel) tracking at only 10 grams (not 200) for these LPs. No longer would records wear out after 75 plays. Crosby's Ampex Company would be joined by Magnecord, Webcor, Revere, and Fairchild in selling one million tape recorders to a rapidly growing consumer audio component market by 1953. The 1949 Magnecord tape recorder had stereo capability eight years before any vinyl record had it. These components soon began to feature the transistor invented by Bell Labs in 1948. Crosby's 1942 film *Holiday Inn* (where he first sang his most famous song) would be remade in 1954 as *White Christmas*, the first film to use Paramount's new VistaVision wide-screen film process with multi-channel magnetic sound.

Bing Crosby made many mistakes in his life. The date on his tombstone in Spokane shows the wrong year of birth. Bing always thought he was born on

May 2, 1904, but it really was May 3, 1903. He drank too much gin, went to jail several times, consorted with gangsters such as Machine Gun Jack McGurn, spent too much time away from his 2 wives, and beat his 4 sons. He endorsed Wendell Willkie in 1940 and vowed never to do it again. Louis Armstrong died bitter in 1971 for never being invited to Bing's home even though they were good friends. Yet Louis's and Bing's records were the only records found in the jukeboxes of Harlem in the 1930's. Denmark banned his records because Bing opposed fishing the Atlantic salmon, but Czechoslovakia defied communist censorship and played his records to applauding audiences. Whatever his personal flaws, Bing Crosby would always be Mr. Music.

NOTE ON SOURCES

The most recent biography is Gary Giddins, ***Bing Crosby: a Pocketful of Dreams*** (Boston: Little, Brown, 2001). Also reliable is J. Roger Osterholm, ***Bing Crosby: a Bio-Bibliography*** (Westport, Conn.: Greenwood, 1994) with a more complete discography (and filmography, radiography, videography and bibliography) than the previous standard ***Bing Crosby: a Lifetime of Music***, by Laurence J. Zwisohn (Los Angeles: Palm Tree Library, 1978). ***The Crosby Years***, by Ken Barnes (New York: St. Martins, 1980) is laudatory and ***Bing Crosby: The Hollow Man***, by Donald Shepherd and Robert F. Slatzer (New York: St. Martins Press, 1981) is prejudicial and unreliable. ***The Great American Popular Singers***, by Henry Pleasants (New York: Simon and Schuster, 1974) and ***Jazz Singing***, by Will Friedwald (New York: Macmillan, 1992) have good chapters on Bing as a singer. Bing's autobiography is ***Call Me Lucky***, (New York: Simon and Schuster, 1953, re-issued by Da Capo Press 1995 with new introduction by Gary Giddins) but says very little about his media career. The quote from Bing about using the tape recorder is from pp. 151-152. The history of Crosby and the tape recorder is found in John T. Mullin, "Creating the Craft of Tape Recording" in *High Fidelity*, April, 1976, and the quotes about working with Crosby are on pp. 66-67. Robert Angus has a two-part article on the "History of Magnetic Recording" in *Audio*, August and September, 1984. The post-1945 changes in the recording industry are described in C. A. Schicke, ***Revolution in Sound: A Biography of the Recording Industry*** (Boston: Little, Brown, 1974). A recent history of the industry is ***America on Record: A History of Recorded Sound***, by A. J. Millard (New York: Cambridge University Press, 1995). Videotape history can be found in Aaron Nmungwun, ***Video Recording Technology***, (Hillsdale, N.J. : L. Erlbaum Associates, 1989) and ***Shifting Time and Space: the Story of Videotape***, by Eugene Marlow and Eugene Secunda (New York: Praeger, 1991). Larry Klein, "Collecting Old Audio" in *Electronics Now*, April, 1994, reviews the videotape "An Afternoon with Jack Mullin" published 1994 by the Audio Engineering Society. The [History of Magnetic Recording](#) has more information on the influence of Crosby.