

BRIEF CHRONOLOGY ON THE DEVELOPMENT OF SOUND MOTION PICTURES

- 1876 Alexander Graham Bell patented the telephone.
- 1877 Thomas A. Edison invented the phonograph.
- 1880 Bell and associates transmitted voice and music on a beam of light, using a selenium cell. Later Bell and associates developed a flat disc wax record.
- 1887 Edison started his research leading to the invention of the motion picture. His purpose was to provide a pictorial accompaniment to the phonograph.
- 1889 June 15, 1889, George Eastman advertised his "transparent flexible films for use in roll holders and kodak cameras" in the Photographic Times.
- Using Eastman film, Edison invented the Kinetoscope, a peephole viewing device, October 6, 1889. This date is popularly accepted as the birth of the motion picture.
- 1894 Edison's Kinetoscope, through which one person at a time could see 50 feet of silent motion pictures wound on a spool bank, was exhibited to the public for the first time on April 14, 1894, in a "Kinetoscope Parlor" opened in a vacant store at 1155 Broadway, New York City.
- 1896 Silent motion pictures were projected on a theatre screen for the first time at Koster and Bial's Music Hall on the site of Macy's department store on April 23, 1896, by the Vitascope, invented by Thomas Armat and manufactured by Edison.
- 1906 Warner Brothers opened their first theatre in New Castle, Penna.
- 1907 Lee de Forest invented the audion tube.
- 1912 Eastman Kodak Company established a research department under the directorship of Dr. C. E. Kenneth Mees.
- 1913 After continued experiments, Edison introduced the Kinetophone for projecting talking motion pictures. He produced 100 projection outfits and 19 brief film subjects, known as "talkers", which had recordings on phonograph records to match the action. The phonograph was placed behind the screen to make the sound seem to come from behind the picture. Volume was limited to that produced by the phonograph itself, because neither vacuum tubes nor electrical synchronization were available. A fire in the Edison laboratories on December 9, 1914, destroyed the motion picture department and manufacture of "talkers" was not resumed.



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Lee de Forest sold all rights in his audion tube to Western Electric Company. Dr. H. D. Arnold of Western Electric refined the audion tube into the high-vacuum tube, with associated circuits, now so widely used for amplification of sound.

1916 E. C. Wente developed the condenser microphone. By 1923 he had improved it so that it was 100 times more sensitive.

1917 Theodore W. Case and E. I. Sponable discovered the Thalofide cell, used in World Wars I and II for secret signalling. This was used as the sound reproducing cell in sound motion pictures until it was replaced by the photoelectric cell.

1918 Charles A. Hoxie of General Electric invented a new high speed recorder for trans-Atlantic radio signals.

Warner Bros. produced MY FOUR YEARS IN GERMANY.

1920 Among the new developments that came into use during and immediately after World War I were the public address system, electrical recording and broadcasting systems. Bell Telephone, Western Electric, RCA, General Electric and Westinghouse engineers as well as independent engineers and scientists were at work on these devices.

1921 Lee de Forest's first demonstration of sound-on-film recording was made in his High Bridge, N.Y. Laboratory in the Spring of 1921.

✓ 1921-22 E. C. Wente developed the light valve for recording sound on film.

1922 In December, 1922, Case and Sponable invented the AEO light.

1923 On April 15, 1923, and for three weeks thereafter, de Forest's Phonofilm was shown as part of an otherwise silent program at the Rivoli Theatre.

1924 Colonel (then Major) Nathan Levinson of Western Electric told the Warners about sound motion pictures he had seen at Bell Telephone Laboratories, New York City.

✓ 1925  
April Sam Warner saw a demonstration of sound motion pictures at Bell Telephone Laboratories, New York City.

✓ June 25 Warner Bros. Pictures, Inc., entered into an agreement to share in the development of sound motion pictures.

During the fall and winter of 1925-26, Sam Warner headed a crew of motion picture and electrical technicians in developing the commercial possibilities of sound motion pictures.



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1926

- April 8 Vitaphone Corporation formed. Warner Bros. Pictures, Inc. supplied the capital.
- April 20 Vitaphone Corporation entered into an agreement with Western Electric Co. granting to Vitaphone the exclusive right to use Western Electric apparatus for recording sound motion pictures, to sublicense other producers, to use and sublicense the use of Western Electric reproducing apparatus in theatres.
- July 23 Theodore W. Case and E. I. Sponable, co-inventors of the AEO light used in sound-on-film recording, entered an agreement with William Fox which led to the formation of Fox-Case Corporation to develop their system commercially.
- Summer By the summer of 1926 E. C. Wente had completed development of a loud speaker capable of handling enough power to make it suitable for theatre use.
- Aug. 6 Warner Bros. and Vitaphone, by arrangement with Western Electric and Bell Telephone Laboratories, presented DON JUAN with a Vitaphone (Sound-on-disc) score and a program of Vitaphone shorts including Will H. Hays, the New York Philharmonic, Mischa Elman, Roy Smeck, Marion Talley, Efrem Zimbalist, Harold Bauer, Giovanni Martinelli and Anna Case. DON JUAN was made as a silent picture, then recorded score was added. Shorts were 100% all-talking. At Warners' Theatre, New York. This was the world premiere of commercially successful sound motion pictures.
- Oct. 7 Warner Bros. presented THE BETTER MOLE (Vitaphone score) with Sydney Chaplin and Vitaphone subjects including Elsie Janis, Al Jolson, Reinald Werrenrath, Willie and Eugene Howard, George Jessel and an orchestral overture. At the Colony Theatre.
- Dec. 31 Vitaphone licensed Fox-Case Corporation to use Vitaphone system of recording and reproduction.
- 1927
- Jan. 21 Fox-Case Corporation presented a number of sound-on-film short subjects at the Sam Harris Theatre in New York City in connection with the showing of the silent picture, WHAT PRICE GLORY. On Feb. 24, a more complete program was shown to newspapermen at the Sam Harris. It was explained that the AEO light used in recording was developed by Case and Sponable, but the amplifiers, microphones and loud speakers used in recording and reproducing were supplied by Western Electric.
- Jan. 30 General Electric Company presented a demonstration of a sound-on-film device which resulted from six years of experimentation in General Electric laboratories in Schenectady, N. Y. This drew on the Hoxie pallophotophone and the Hewlett loudspeaker. Exhibition was held in a Schenectady theatre.



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1927

- Feb. 3 Warner Bros. presented WHEN A MAN LOVES (Vitaphone score) with John Barrymore and a program of Vitaphone subjects including the Quartet from Rigoletto, with Beniamino Gigli, Marion Talley, Giuseppe de Luca and Jeanne Gordon; Van and Schenck, musical comedy performers; Charles Hackett of the Chicago Civic Opera Company. At the Selwyn Theatre.
- Feb. 11 General Electric, RCA and Westinghouse sponsored a demonstration of their sound-on-film device at the Rivoli Theatre, New York.
- April Sam Warner shifted the Vitaphone crew to Hollywood.
- Apr. 29 A preview of the first talking newsreel produced with the Fox-Case sound-on-film system was shown at the Roxy Theatre, New York, and continued on exhibition all week. This included shots of the West Point cadets, with simultaneous registration of sound and action.
- June 18 Fox presented the Charles A. Lindbergh Washington reception at the Roxy Theatre. The sound-on-film reproduction of the Coolidge and Lindbergh speeches brought applause.
- Sept. Eastman Kodak Co. established a sound-on-film research department under Dr. Otto Sandvik for intensive research in photographic aspects of recording, processing and reproducing sound motion pictures.
- Fox presented SUNRISE, the first feature with a synchronized score recorded by the Fox-Case sound-on-film method.
- Oct. 5 Sam Warner died in Hollywood.
- Oct. 6 THE JAZZ SINGER, starring Al Jolson, opened at Warners' Theatre in New York. This was made partly silent with a synchronized score. Singing sequences and two short dialogue sequences were recorded directly by Vitaphone (sound-on-disc). The first line of dialogue recorded by Vitaphone in a feature picture was Al Jolson's ad libbed: "Wait a minute! You ain't heard nothin' yet." It proved to be prophetic for this picture is credited as the one which convinced film industry leaders that sound motion pictures were here to stay.
- 1928
- Jan. 6 Sound devices developed by the GE, RCA and Westinghouse organizations were made available to the film industry through a deal with FBO, according to a joint announcement made by David Sarnoff, v.p. of RCA, and Joseph P. Kennedy, pres. of FBO.
- Jan. 9 Warner Bros. opened THE FORTUNE HUNTER.
- Mar. 14 " " " TENDERLOIN
- Apr. 26 " " " GLORIOUS BETSY
- June 15 " " " THE LION AND THE MOUSE

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1928

- June 17 FBO released THE PERFECT CRIME, the first feature with Photophone (sound-on-film) recording.
- June 22 Film Daily reported SOUND EQUIPMENT INSTALLING BEING SPEEDED EVERYWHERE  
85 Vitaphones ordered by Loew's--  
Many Orders for Both Systems

The story went on to say that theatres throughout the country were beginning "what is assuming the proportions of a stampede to sound projection systems." Vitaphone and Movietone systems were being installed with increasing speed. Publix was equipping all of its de luxe theatres and many of the others. All B and K houses in Chicago were being equipped. Keith-Albee-Orpheum, through its affiliation with FBO, was expected to install photophone equipment.

- June 25 A Film Daily story reported that 125 sound features would be a minimum for the following season.
- June 27 Announcement to trade said photophone would be used for 10 Pathe pictures. The first demonstration of a synchronized picture would be GODLESS GIRL in August, 1928, at the Gaiety Theatre in New York and the Biltmore in Los Angeles. KING OF KINGS synchronized. (Film Daily, June 27, 1928)
- July 6 Warner Bros. opened LIGHTS OF NEW YORK at the Strand Theatre, New York. Film Daily predicted:

"Will clean up as first 100% all-talker."

It did.

- July 15 Film Daily carried the following editorial comment by Red Kann:

"NOTHING BUT SOUND

"Sound. It's staggering. Nothing but sound. Wherever one turns, the same old story. An amazing commentary on the sensitiveness of this industry. In less weeks than you can count on fingers and toes, and because of one outstanding success, THE JAZZ SINGER, a business that extends into every nook and corner of the land - let foreign markets remain out of this - undergoes complete metamorphosis...

"Then the Rivoli incident. An RCA Photophone score with THE KING OF KINGS in a Western Electric equipped theatre... Western Electric graciously granted RCA permission to go ahead, providing Western Electric engineers supervised adjustments in the equipment."

- July 17 Film Daily reported that Photophone decided to standardize its sound track the same width as Movietone. Then the two systems could be used on projectors without altering the light slit.



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1928

July 27 Survey showed theatres in all sections wiring for sound.

Aug. 15 Warner Bros. opened THE TERROR

Sept. 19 Warner Bros. opened THE SINGING FOOL

Oct. 1 RCA began installation of Photophone equipment in theatres.

Oct. 23 Warner Bros. opened THE HOME TOWNERS

Dec. 29 Total of 1046 theatres wired for sound with Western Electric equipment.

1929

Jan. 20 Fox opened IN OLD ARIZONA, with outdoor sound recorded in true perspective by Movietone sound-on-film under E. I. Sponable's supervision.

Mar. 8 Warner Bros. opened SONNY BOY

Mar. 13 " " " NOAH'S ARK

Mar. 25 N. Y. Times reported Fox had changed over 100% to talking pictures.

Mar. 26 N. Y. Times reported that other studios were still holding back in adopting sound 100%.

Mar. 31 Pathe presented THE GODLESS GIRL, part talking, with Photophone recording.

May 1 Warner Bros. opened THE DESERT SONG

May 28 " " " ON WITH THE SHOW, first sound film in color.

Aug. 6 " " " SAY IT WITH SONGS

Aug. 30 " " " GOLD DIGGERS OF BROADWAY

Oct. 2 " " " DISRAELI, a dramatic film biography with George Arliss.

Nov. 20 Warner Bros. opened SHOW OF SHOWS

Dec. 3 " " " GENERAL CRACK, with John Barrymore

Dec. 24 " " " TIGER ROSE