

Frank Conrad

May 4, 1874 - December 10, 1941

**Engineer, Inventor, and Radio
Broadcasting Pioneer**

A glimpse of the American scene through the window of history shows a unique success formula in action throughout the length and breadth of the land. The people of many countries joining hands to build a great nation . . . in an atmosphere of individual freedom and opportunity for achievement consistent with ability. Everywhere, one notes a contagious display of self-reliance, perseverance and ambition—a deep sense of national pride and patriotism.

This is the heritage of the United States of America which had its beginning nearly 200 years ago—July 4, 1776.

From this way of life has come many of our great men of science—men like the late Dr. Frank Conrad, often cited as the radio pioneer whose research and creative thought paved the way for today's commercial broadcasting industry.

Dr. Conrad, the son of a railroad mechanic, was born in Pittsburgh, Pennsylvania, on May 4, 1874. His father, according to some accounts, believed profoundly that mechanical ability was a greater asset than formal schooling. Thus, young Frank may well have been influenced by his father's philosophy, in addition to his own developing interest in mechanics, to drop out of school after completing the seventh grade at the old Sterrett Grammar School.

In October, 1890, at the age of 16, he went to work as a bench-hand in the original Westinghouse plant in Garrison Alley, Pittsburgh. His keen grasp of mechanical problems soon won him a transfer to the testing department. This was the beginning of a brilliant career that was to span 51 years, and would carry him up the ladder of success to a position as assistant chief engineer of the company.

An unceasing quest for knowledge—which overcame the handicap of limited formal schooling—combined with an extraordinary aptitude for analyzing mechanical operations to produce many noteworthy contributions in his chosen field of engineering.

By age 23, Dr. Conrad had developed his first important contribution for his employer and the world—the round type electric watt-hour meter now in universal use. Many notable inventions followed—pantagraph trolleys to power the nation's trains, electric clocks, automotive electric apparatus, and countless other useful inventions. More than 200 patents were



Photo Courtesy Westinghouse Electric Corporation

This photograph, taken in the later years of his life, shows Dr. Frank Conrad as he thoughtfully examines a new radio tube. His early experiments led to establishment of the famed Westinghouse radio station KDKA.

granted to the wizard of mechanics.

Perhaps the greatest achievement of Dr. Conrad's long and distinguished career was his experimental work in radio broadcasting which led to the establishment of the Westinghouse radio station KDKA and modern radio broadcasting, and to the world's first regularly scheduled radio broadcast on November 2, 1920.

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Photo Courtesy Westinghouse Electric Corporation

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DR. FRANK CONRAD

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It is said that Dr. Conrad's interest in radio began in 1912 as the result of a friendly \$5 wager on the accuracy of his watch against a more expensive one owned by another engineer. A Western Union clock was the arbiter. Dr. Conrad won the wager. But more important the incident awakened a keen interest in time synchronization. As a result, he proceeded to build a simple radio receiving set in order to pick up the time signals transmitted by the Naval Radio Station at Arlington, Virginia. This experimental venture led to a friendship with a young wireless experimenter who lived less than a block from the Conrad home. They built sets to communicate with each other.

These circumstances led to even greater enthusiasm in the new field of radio when Dr. Conrad began operating his own amateur radio station, with the call letters 8XK, in the garage at the rear of his residence in Wilksburg, a suburb of Pittsburgh. The first official record of his station appeared in the August 1, 1916, edition of the Radio Service Bulletin issued then by the Bureau of Navigation of the U. S. Department of Commerce.

During World War I, the government drafted the young engineer and his talent for invention. Shortly thereafter Dr. Conrad developed one of the first practical aircraft radio transmitters.

After the war, he resumed his broadcast experiments, adding a notable substitute for spoken words during tests, popular phonograph records, in October, 1919. Overnight he found himself deluged with requests from fellow amateurs seeking to convince skeptics among their acquaintances that music could be sent through air by radio.

These requests prompted Dr. Conrad to play phonograph records several nights during the week while conducting his broadcast experiments. Then, in September, 1920, the Joseph Horne Company, a Pittsburgh department store, ran an advertisement in the newspaper listing radio sets to enable listeners to hear these "special music broadcasts." The matter came to the attention of the late H. P. Davis, then a Westinghouse vice president, and later chairman of the board of the National Broadcasting Company. It resulted in an application to Federal authorities to use the station for commercial broadcasting. New call letters were assigned for "a commercial land broadcast station." Thus began the famous Westinghouse radio station KDKA, the world's first commercial broadcast station. Its first regularly scheduled broadcast began on November 2, 1920, fifty-one years ago.

Dr. Conrad, like other famous men of science, has been accorded many honors in recognition of his achievements. In 1928, he received the honorary degree of Doctor of Science from the University of Pittsburgh. In 1936, he was awarded the Morris Liebman Prize by the Institute of Radio Engineers; the Edison Medal of the American Institute of Electrical Engineers in 1931;

the John Scott Medal of the City of Philadelphia in 1933; and the Lamme Medal of the A.I.E.E. in 1936.

Dr. Conrad was an authority in the fields of biology, botany, and astronomy. He was a fellow of the Institute of Radio Engineers, a member of the American Society for the Advancement of Science, and a member of the Society of Automotive Engineers. He also held the rank of Lieutenant Commander in the U. S. Naval Reserve.

Dr. Conrad was unanimously selected by the Awards Committee of the Radio Pioneers as the fourth annual award for the Radio Hall of Fame on April 27, 1953. Receiving the award on behalf of Dr. Conrad was his son, Francis Conrad, director of radio, Western Division, American Broadcasting Company.

Dr. Frank Conrad, a great American and a great man of science, died in Miami, Florida, on December 10, 1941.



Photo Courtesy Westinghouse Electric Corporation

The late Dr. Frank Conrad, assistant chief engineer of the Westinghouse Electric & Manufacturing Company and famous radio pioneer, at work in his laboratory at the Company's headquarters works, East Pittsburgh, Pennsylvania.



Photo Courtesy Westinghouse Electric Corporation

One of the most famous of all broadcasting events, KDKA began broadcasting November 1, 1920. In the picture is the entire personnel and equipment, including the station engineer, announcer and two assistants obtaining news reports. The broadcast consisted of reports of the Harding-Cox election returns. Left to right: R. S. McClelland; William Thomas, licensed operator; L. H. Rosenberg, announcer; and John Frazier.