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Benjamin O. Davis Jr. Collection - Social

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ALEXANDERSON, E.F.W.—Continued
 this station a radio program was broadcast on Christmas Eve, 1906, which included a voice and a violin solo. Alexanderson subsequently improved the alternator by substituting iron for wood in the armature.

His work was immediately recognized as brilliant, and when he returned to Sweden on a visit, many industrialists there urged him to remain in his native land. However, his father predicted that the Old World was doomed to revolution and destruction, and advised his son to settle in America. Young Alexanderson heeded the advice, and became a naturalized citizen of the United States in 1908.

Alexanderson soon improved his alternator, which led to the development of reliable transatlantic radio communication. In 1915 Guglielmo Marconi, "father" of radio, came to see a demonstration of Alexanderson's 50-kilowatt alternator at the G.E. laboratories at Schenectady, New York, and one was subsequently installed at the Trans-Atlantic Marconi Company station at New Brunswick, New Jersey. During World War I a 200-kilowatt alternator, installed at this same station, was able to transmit to portable field sets in France and throughout the world. On October 20, 1918, it carried an ultimatum of President Woodrow Wilson direct to Germany. By 1925 there were Alexanderson alternators installed in Sweden, Hawaii, England, Poland, as well as in the United States. King Gustav V of Sweden decorated Alexanderson with the Order of the North Star.

At the end of World War I the British-Marconi Wireless Company renewed negotiations for the exclusive use of the Alexanderson alternator. However, the United States Government favored the retention of control of the machine by a domestic company. As a result, G.E. and several other large American corporations organized the Radio Corporation of America in 1919. Alexanderson was appointed chief engineer of this enterprise and spent the next five years dividing his time between G.E. and RCA. He relinquished his chief engineer's post at RCA in 1924, but remained as a consulting engineer with that firm until G.E. liquidated its holdings in RCA in 1932.

Several Alexanderson alternators are still in service in transoceanic radiotelegraph service. When modern short-wave transmitters and cables break down during magnetic storms, and "sun spots" are prevalent, the Alexanderson alternator at Rocky Point, Long Island is then used to maintain contact with Europe and England.

Dr. Alexanderson has been inventive in almost every branch of radio electricity. His tuned radio frequency receiver system, patented in 1916, provided selective tuning and became one of the basic principles of modern radio broadcasting. This system was soon to dominate the radio industry, but not until after an international legal wrangle in which selective tuning was attached as "unworkable." While on the witness stand during one of these trials, Alexanderson was confronted with the argument that no one in the court room had ever witnessed a demonstration of the system. The inventor called for a recess, sent out for the materials, built a model in the court room and successfully demonstrated the principle, all in the same day (New York Times, October 25, 1952).



During World War I he also created the multiple-tuned antenna, the antistatic receiver, and the magnetic amplifier. Together with the alternator and the multi-tuning system, the amplifier established the practicability of transatlantic telephony; in 1919 the first two-way conversation took place between the station at New Brunswick and the steamship George Washington, 900 miles at sea, with President Woodrow Wilson on board.

The magnetic amplifier was made obsolete by Alexanderson himself when he invented the highly important electronic modulator, which by applying an improved vacuum tube to radio telephony, made possible the construction of powerful transmitters for high frequencies, another milestone in the history of radio. An unexpected and dramatic use of Dr. Alexanderson's inventions in radio was made in 1923 when his son Verner was kidnapped from in front of his Schenectady home. The six-year-old boy was missing until a caretaker at a lake resort recognized him and the kidnappers from a description broadcast by radio station WGY, and notified the police.

Alexanderson's name will also be recorded in history for his pioneer efforts in television and the transmission of pictures by radio. On June 5, 1924, he transmitted the first facsimile message across the Atlantic, a hand-written greeting to his father. In 1927 he staged the first home reception of television at his own home in Schenectady, using high-frequency neon lamps and a perforated scanning disc. He gave the first public demonstration of television on January 13, 1928.

With the withdrawal of G.E. from the affairs of RCA in 1932, Dr. Alexanderson devoted himself at G.E. to the application of electronics to power. He holds patents on such devices as the inverter, by which direct current can be changed into alternating current through the mercury-vapor arc, and single-phase motors for railway electrification. He has also made important contributions to radiant energy guiding systems for aircraft and the automatic steering of both air and water craft, and has developed countless applications of vacuum tubes in power transmission.

Another electronic wonder with which the name of Alexanderson is associated is the amplidyne--an extremely sensitive and powerful system of amplification and automatic control which he designed in cooperation with other G.E. engineers. While the amplidyne was adapted to the firing of antiaircraft guns in World War II, it was originally designed for use in steel mills and other plants requiring delicate control of continuous manufacturing processes. Applications for the system are said to be practically limitless, since it can be extended to almost everything that moves under power.

Although he retired officially from his full-time position at G.E. on January 1, 1948, Dr. Alexanderson continues to work in the

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