Donald Bellamy Sinclair

1910–1985

By Gordon S. Brown

Donald Bellamy Sinclair, chairman emeritus of GenRad Inc., died on August 24, 1985, following a brief illness. Dr. Sinclair was one of our nation's early pioneers in the development and manufacture of today's widely used electrical measuring instruments and automated test systems. He was also a dedicated public servant—a man who left his mark on a large number of professional, civic, and cultural activities.

Dr. Sinclair's professional career spanned more than four decades, thirty-nine years of which were spent with GenRad Inc. He joined the company as an engineer in July 1936, when it was known worldwide as the General Radio Company. At that time the company was privately owned and engaged primarily in the bench-top scientific laboratory business. Don held numerous engineering and management positions with GenRad Inc., including those of chief engineer from 1950 to 1960 and president from 1963 to 1973. Dr. Sinclair was chairman of the board when he retired in 1974.

During his tenure, the technical focus of the company shifted to those activities in which it would become best known as a leader in the development and manufacture of modern electronic test systems for use in electrical and semiconductor manufacturing, field service, and engineering design applications. This success was primarily a result of Donald
Sinclair's vision, his professional skill, and his ability to lead. Always uppermost in his mind was the welfare of his colleagues, whom he viewed as team players and not mere employees. His goal was to enhance their productivity, creativity, and stature.

Dr. Sinclair was born in Winnipeg, Manitoba, on May 23, 1910, and became an American citizen in 1943. As a teenager, he was a radio ham and operated a high-power spark transmitter from the attic of his parents' home. From 1926 to 1929, while an undergraduate at the University of Manitoba, he was a radio operator for Western Canada Airways.

In 1930 he transferred to the Massachusetts Institute of Technology (MIT). As an undergraduate in MIT's cooperative course in electrical engineering, he spent his cooperative school terms with the New York Telephone Company, the Bell Telephone Laboratories, and the Western Electric Company. After receiving a B.S. in 1931, Don worked first as a research assistant and later as a research associate at MIT. In 1935 he was awarded a D.Sc. and shortly thereafter joined the staff of the General Radio Company.

One of Dr. Sinclair's early achievements with the General Radio Company was his development of a state-of-the-art, wide-tuning-range, high-frequency radio receiver that had a field strength measurement application covering the band from one hundred to three thousand MHz. This important development occurred at a time when the U.S. military had a critical need for wide-range receivers with radar countermeasure applications.

In July 1941 the General Radio Company received orders from the Radiation Laboratory at MIT for a number of airborne intercept equipment prototypes that were based on Sinclair's receiver. These prototypes became the first U.S. radar intercept receivers built for use by the military. His work then led quickly to the development of the receiver designated by the Signal Corps as the SCR-587 and by the U.S. Navy as the ARC-1 receiver.

Early in 1942 the Radio Research Laboratory (RRL) was
established at Harvard University. Under the direction of Professor F. E. Terman of Stanford University, its mission was the development of radar countermeasures. As a consequence of Dr. Sinclair's earlier work on broadband receivers, General Radio permitted him to split his time between its Cambridge Laboratory and RRL. At RRL, he was one of the leaders in organizing, managing, and providing technical direction for the overall program. He was also appointed technical director of the RRL Search Receiver Group.

The book *The History of U.S. Electronic Warfare* by Alfred Price, published by the Association of Old Crows, provides an excellent overview of Sinclair's role in this important phase of World War II. It specifically describes his work regarding the equipping and testing of aircraft for Ferret missions, and it also details his initial flight experiences as the RRL representative on the first operational flights to Europe of the Ferret test airplane.

This aircraft was used for nighttime excursions into the hostile territory of the Mediterranean theater to determine the location, coverage, characteristics, and tactics of enemy ground and airborne radar. The reports of these excursions yielded information vital to the development of successful U.S. countermeasure operations in both the European and Pacific theaters. Based on the successful missions of the Ferret, Don Sinclair was awarded the President's Certificate of Merit by President Truman in 1945.

Of lasting significance is his genuine concern for the quality of life of his fellow citizens and his willingness to accept major roles in numerous public service programs. He worked for better schools, better theaters, and better churches. In addition, he promoted better cooperation between nation and nation, state and scientist, and scientist and scientist.

Symbolic of these activities was his participation on the school committee of his hometown of Concord, Massachusetts. During his seven-year tenure, one year of which included serving as chairman, the town grew rapidly. It was
Don Sinclair who guided the study of the town's demographics and then presented the voters with a sound projection of the anticipated increase in numbers of pupils. He recognized that a much stronger program in the basics of the curriculum was required, that teachers with quite different skills needed to be recruited, that teacher compensation had to increase significantly, and that without a broad base of public support, which he helped achieve, the school committee could not accomplish these community goals.

At the university level, Don Sinclair was a member of the Corporation Visiting Committee for the Electrical Engineering Department at MIT and the Visiting Committee at Carnegie Mellon University in Pittsburgh, Pennsylvania, and he served on the Advisory Board of Northeastern University and Wentworth Institute, in Boston, Massachusetts.

Dr. Sinclair was elected to membership in the National Academy of Engineering (NAE) in 1965, and in 1968 he was named a member of the NAE Aerospace Board. He also served on the NAE International Activities Committee. He was a fellow of the Institute of Radio Engineers and became director in 1945; he was elected president of the institute in 1952. He was also a fellow of the American Institute of Electrical Engineers and one of the leaders whose joint efforts resulted in forming today's Institute of Electrical and Electronics Engineers.

In 1958 and 1959 Don Sinclair was a participant on two of the first occasions that American and Western engineers were invited to address both the Soviet and Hungarian academies of sciences on the subjects of microwave electronics, microwave circuits, antennas, and electrical circuits. These were among the first reciprocal visits by American scientists as part of a cultural exchange with scientists from behind the Iron Curtain after World War II.

Don Sinclair was overseer of the Boston Symphony Orchestra; a trustee of the Wang Center for the Performing Arts; chairman of the Fiscal Affairs Committee of King’s Chapel, Boston; and a corporation member of the Morgan
Memorial, Inc., of Boston and Emerson Hospital in Concord. He also served as
director of the National Shawmut Bank of Boston, the Shawmut Association,
Inc., and the Liberty Mutual Insurance Company of Boston.

His legacy evolved primarily from his ability to evaluate issues quickly,
compromise justly between immediate popular beliefs and long-term good
convictions, and process his own convictions and creativity through the
consensus of his fellow workers. He maintained extremely high ethical standards
—demanding no less from himself than from others. He was also a prolific
contributor and a person who quickly gained the respect and friendship of many.

As a tribute to his enduring contributions to education and his profession, the
GenRad Foundation established, in December 1985, the GenRad Visiting
Professorship at MIT. The holder of this chair is known as the Donald B. Sinclair
Visiting Professor of Electrical Engineering (or of Computer Science, as
appropriate). The status "visiting professor" testifies to Don's belief that
universities could benefit greatly by being able to bring to their faculties, even for
short periods, leaders who worked at the cutting edge of new fields.

He was a great man. For fifty-three years, he enjoyed the love and devoted
support of his charming wife Willona. She survives him along with their four
children: Douglas C. of Pittsford, New York; Robert A. of Arlington,
Massachusetts; D. Fraser of Petersham, Massachusetts; and Heather S. Moulton
of Cambridge, Massachusetts. There are also three grandchildren.