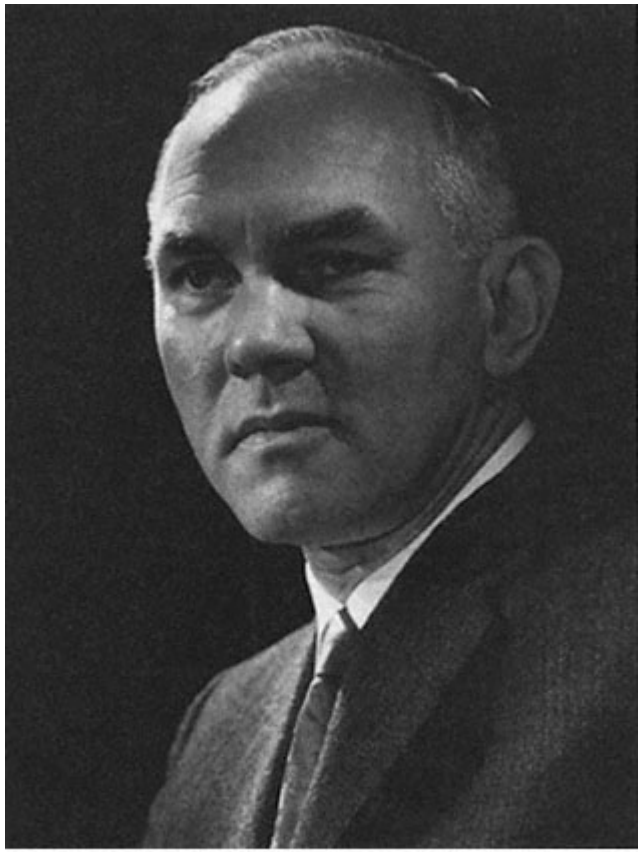

Howard Vollum

Charles Howard Vollum

1913–1986

By William R. Hewlett

Charles Howard Vollum was an Oregonian to the core. He was born on May 31, 1913, in Portland, Oregon, where he not only spent his entire childhood but also obtained his education. He received his B.A. in physics from Portland's Reed College in 1936.

Howard Vollum made some of his most notable contributions to science and engineering during World War II as an officer of the U.S. Signal Corps. In early 1941 he was assigned by the Signal Corps to work on problems involving accurate fire control radar at the Air Research and Development Establishment in England. In recognition of his work while with the Signal Corps, he was awarded the Legion of Merit in 1945 by the U.S. government. Later, for the quality of his subsequent work on a precision mortar locator while stationed at the Evans Signal Corps Laboratories in Belmar, New Jersey, he was awarded the Oak Leaf Cluster of the Legion of Merit.

One of the abiding interests of Howard Vollum's civilian life was in the cathode-ray oscilloscope. In fact, he designed and built one on his own in the 1930s, shortly after cathoderay tubes became commercially available. It was this personal project that helped him obtain admission to Reed College. While he was still a student at Reed, he built a second, although still primitive, oscilloscope that proved useful in testing audiofrequency amplifiers.

In 1946 he returned to Portland in retirement from active military service. In January 1946, along with M. J. Murdock, he founded Tektronix, Inc., in Portland. Vollum became the company's first president and chief engineer. Following Howard's early interests, Tektronix focused on the field of oscillography. During the company's first forty years, its sales volume grew from a meager few thousand dollars during the first year to an annual volume of roughly $1.4 billion.

Interestingly, when Vollum founded Tektronix, he hoped for little more than to offer employment to thirty or forty Oregonians. During the forty years between the company's founding and Vollum's death, however, Tektronix expanded and grew fantastically so that it now has more than twenty thousand employees worldwide.

Howard Vollum's early contributions to Tektronix included the development of the Type 511 oscilloscope, which, in effect, revolutionized oscilloscope design; the Type 512, which was the first direct-coupled high-gain oscilloscope; the Type 104 generator, which was the first to use square waves for transient testing of scopes; the oscilloscope plug-in unit, a device that, by permitting a scope to accept interchangeable units, gave the user the effect of several instruments in one; and finally, the design of the Tektronix cathode-ray tube.

Until his death on February 5, 1986, Howard Vollum continued to participate actively in running the company. At the time of his death, he was vice-chairman of the board. Under his direction, Tektronix won the distinction of becoming the dominant company in the field of oscilloscope development. Indeed, in part because of his contributions, Howard Vollum saw the oscilloscope become the universal instrument in the electronics industry, where it is used for a variety of research, development, and maintenance functions.

Howard Vollum was constantly concerned about the technical aspects of the company's products. He insisted upon a combination of innovation and quality. Many concepts integral to modern-day oscilloscopes are traceable directly to his work.

In his own quiet way, he contributed much to the Portland area and to the state of Oregon that he loved so much. For example, he set up a foundation to channel the corporate donations of Tektronix into innovative programs. He selected projects that perhaps did not have great public appeal but that were all the same characterized by considerable leverage and great benefits to society. He served as a trustee or board member for Reed College, the University of Portland, the Oregon Graduate Center for Study and Research, the St. Vincent's Medical Foundation, and the Oregon Health Sciences University.

In addition to the Legion of Merit award from his own country, Howard Vollum received the Award of the First Officer of the First Order of the White Rose, presented by the Government of Finland. He also received the Medal of Achievement Award from the Western Electronics Manufacturers Association, the Distinguished Service Award of the University of Oregon, the Howard N. Potts Medal of the Trandlin Institute, and the Morris E. Leeds Award of the Institute of Electrical and Electronics Engineers, of which he was also a fellow. He was elected to the National Academy of Engineering in 1977.

Howard Vollum received a number of honorary degrees from institutes of higher education. These included the doctor of science degree from the University of Portland and from the Oregon Graduate Center, the doctor of laws degree from Lewis and Clark College and from Reed College, and the doctor of humane letters from Pacific University.

His later innumerable institutional honors, however, should not obscure Howard Vollum's greatest contribution, which was in the field of engineering: the perfection of the precision oscilloscope.