THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

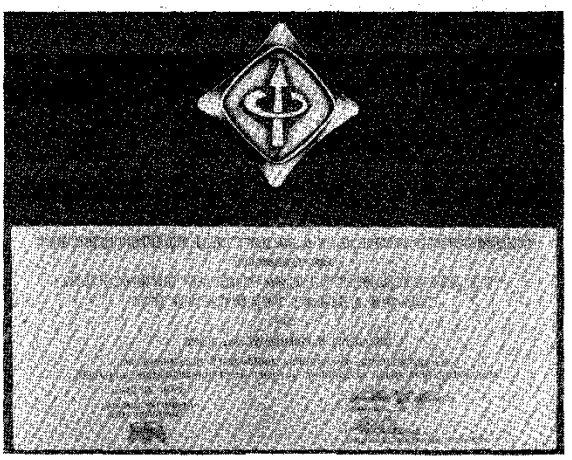
Microwave Theory and Techniques Society
1973 Microwave Career Award
to
William Walden Mumford
For a Career of Meritorious Achievement
and Outstanding Technical Contributions
in the Field of Microwave Theory and Techniques.

June 12, 1974

President, MTT

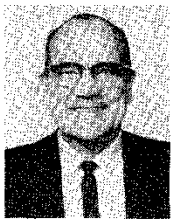
Chairman, MTT Awards Committee

MICROWAVE THEORY AND TECHNIQUES



MICROWAVE CAREER AWARD

W. W. Mumford received MTT's highest award, the Microwave Career Award, for a career of meritorious achievement and outstanding technical contributions in the field of microwave theory and techniques. Mr. Mumford received a standing ovation of several minutes. He received a certificate, a cash sum of $500, and a plaque. Mr. Mumford has had a career of over four decades in the microwave field and was one of the early members of the MTT AdCom. As can be seen from his biography, he has been one of the truly outstanding members in the microwave field.



William W. Mumford (A'30–SM'46–F'52–L'70) was born in Vancouver, Wash., on June 17, 1905. He received the A.B. degree majoring in physics and mathematics from Willamette University, Salem, Oreg., in 1930.

In 1930 he joined the technical staff of Bell Laboratories with the Radio Research Department, Holmdel, N. J., where he worked on ultrahigh-frequency propagation and microwave components for radio relay systems and radars. In 1953 he transferred to the Military Development Department, Bell Laboratories, Whippany, N. J., where he was Supervisor of a group engaged in the study of microwave radar problems and the exploratory development and exploitation of the latest techniques for improving noise figures of receivers. He transferred to the Device Development Department, Murray Hill, N. J., in 1963. In 1964 he returned to Whippany to organize a group to do forward-looking radar development. He consults on the subject of Radio Frequency Radiation Safety, not only for the Bell System, but also for the Office of Telecommunications Policy. He retired from Bell Laboratories in 1970 after 40 years of service there. His contributions in the microwave field include filters, directional couplers, wide-band coaxial-to-waveguide transducers, helix-to-waveguide transitions, and the gas-discharge noise generator. These are covered in 37 published papers and 19 patents. He is a coauthor of *Radar Systems and Components* (Princeton, N. J.: Van Nostrand, 1949); a contributor to the Reinhold Encyclopedia for Electronics, 1962; and coauthor of the book *Noise Per-*

formance Factors in Communication Systems (Horizon House Microwave, Inc., 1968). In 1955 he served as Visiting Mackay Professor of Electrical Engineering at the University of California, and in 1962 he was Visiting Ford Professor of Electrical Engineering at the University of Wisconsin.

Mr. Mumford received the IEEE Morris E. Leeds Award in 1967 and an alumni citation from Willamette University in 1968. He has served on the technical program committees of the Institute's International Conventions and Microwave Symposia. He has served continuously on the AdCom of the MTT Society since its inception and has acted as Secretary, Vice-Chairman, and Editor of the TRANSACTIONS. He has been a member of the IEEE Groups on Circuit Theory, Electron Devices, and Antennas and Propagation. He served as the first Chairman of the Quantum Electronics Council. He became a Registered Professional Engineer in the State of New Jersey in 1950, and is listed in Engineers of Distinction 1970. He was a member of the URSI National Committee representing Commission I from 1966 to 1969, and is active on the U.S. Standards Institute Committee C-95 having to do with radio frequency radiation hazards, being a coauthor of Standard C-95.1. After retiring from the Bell Telephone Laboratories in 1970, he served a term on the Board of Directors of the Weinschel Engineering Company and did some consulting work with them. In 1971 he was appointed Adjunct Associate Professor of Environmental Medicine, part time, at the New York University Medical Center where his chief contributions are in the field of Microwave Biological effects and Radio Frequency Radiation Hazards. He is still active as an independent consultant and also is a member of the Electromagnetic Radiation Management Advisory Council of the Office of Telecommunications Policy in the Executive Office of the President of the U.S. He is listed in American Men of Science, Who's Who in Engineering, and Who's Who in America.