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PROGRAM

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First Annual Fall
New England
Radio-Electronics

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Meeting . . .

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**Theme: New England Debates
Key Issues in Electronics**

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Thursday and Friday, November 15-16, 1956

Technical and Management Sessions, Exhibits, and Sociability at

HOTEL BRADFORD Boston, Massachusetts

*Sponsored
jointly by the*

Boston and
Connecticut Valley
Sections of the
Institute of Radio
Engineers, Inc.

Engineers, scientists, industrialists, educators, engineering students, and others interested in radio and electronics are cordially invited to take part in all the activities of NEREM.

and how the company standards program helps prevent losses due to engineering manpower expansion. *Sidney Topol* will discuss Standards and Equipment Design Supervision—how a standards program simplifies engineering supervision and insures successful equipment operation in the field. *James P. Loder* will discuss Standards and Company Communication — how inter-company communications are simplified by a standards program.

Richard G. Munroe, Standards Manager at the Wayland Laboratory of Raytheon Manufacturing Company, is President of the Boston Section of the Standards Engineers Society. Mr. Rosenwald is Chief Standards and Specifications Engineer for Tracerlab, Inc. Mr. Topol is Manager, Communications Section at Raytheon's Wayland Laboratory, and Mr. Loder is Staff Assistant in Raytheon's Government Equipment Division.

10:45 The Science of Value Analysis

BY LAWRENCE D. MILES
General Electric Company

Every purchasing department is charged with the responsibility of getting maximum value in the products procured. However, skillful buying is only part of the answer. The modern approach is to go behind the requisition and the blueprint—to determine basic values inherent in design, material, and fabrication methods. Value Analysis, as this concept is called, calls for team-work study by engineering, manufacturing, purchasing, and sales personnel. Mr. Miles will describe the methods of Value Analysis which are saving General Electric hundreds of thousands of dollars each year.

Lawrence D. Miles is manager of the Value Analysis Section in the Materials and Purchasing Department of the General Electric Company's Manufacturing Services. He was graduated from the University of Nebraska in 1931 with the degree of Electrical Engineer and joined General Electric that same year. In 1947 Mr. Miles was called on to organize an activity which would bring better value on a wide scale into the use of materials. This activity was called Value Analysis. With a small group of engineers in General Electric, he has developed methods and techniques which have resulted in eliminating millions of dollars of "wasted" cost from the company's products. In recognition of this achievement, the company in 1949 presented him its highest award for extra achievement, the Charles A. Coffin award in memory of the company's first president.

AFTERNOON PROGRAM

2:00-4:30 TECHNICAL SESSION, Empire Room

Subject: NAVIGATION

Moderator: Capt. A. C. Packard, U. S. Navy

2:00 The Potentialities of Long Range Radio Aids to Navigation

BY JOHN A. PIERCE
*Cruft Laboratory
Harvard University*

As we move lower in the radio spectrum in an effort to increase the range and reliability of radio aids to navigation, we are forced to use narrower bandwidths than we would like. The design problem then becomes one of trying to resist the noise and instabilities in long distance transmission to a maximum degree while using very little excess bandwidth to resolve ambiguities and give speedy response. This paper reviews a few useful systems and some of the propagational background in an effort to delineate the range and accuracy that may be obtained by various techniques.

John A. Pierce (SM'45 - F'47) was born in Spokane, Washington, on December 11, 1907. He received the B.A. degree in Physics from the University of Maine. From 1934 to 1941, he was engaged in research, primarily on the physics of the ionosphere, at Cruft Laboratory at Harvard University.

From 1941 through 1945 he was a member of the Radiation Lab. of the Massachusetts Institute of Technology, where he assisted in the development of the Loran system. He is now a Senior Research Fellow at Cruft Laboratory working in the field of radio propagation.

Mr. Pierce holds the President's Certificate of Merit, the Navigation Award, and the Morris Liebmann Prize. He is a Fellow of the American Association for the Advancement of Science and the American Academy of Arts and Sciences.

2:45 Altimeters

BY FLOYD T. WIMBERLY
*Missile Systems Division
Raytheon Manufacturing Company*

Applications of modern altimetry have played a major role in the development of accurate systems for navigation, terrain clearance indication, safe landing, and other aeronautical operations. This paper explains present methods of aircraft altitude determination, describes fundamental operating principles, and enumerates their relative merits and limitations.

Floyd T. Wimberly graduated from the Engineering School of the University of California in 1943. Three and one-half years were spent in the armed services conducting instruction in the operation and maintenance of all types of Air Force radar equipment. He joined the Missile Systems Division of the Raytheon Manufacturing Company in 1946 where the majority of his time has been spent in development activities associated with aircraft navigation. At present he is in charge of the Air Navigation Development Section of the Missile Systems Division.