Introductory Remarks

FOR many years the December issue of the TRANSACTIONS has been devoted to the papers presented at the International Microwave Symposium. This year, for the first time, the issue is being handled by Guest Editors who were associated with the technical program of the Symposium. In the spirit of trying to better document the Symposium presentations, these Editors were invited by AdCom to handle this special issue. The task was undertaken initially with the intent of trying to receive as many of the Symposium papers as possible for publication in the TRANSACTIONS. Later in the year many of the initial ground rules had to be changed for several reasons. First, the *Symposium Digest*, which contains a summary of each paper presented at the Symposium, is now receiving much wider circulation than ever in the past; as a result, it has become less important to exert a major effort toward having each presented paper published in the TRANSACTIONS. Secondly, there are always schedules, financial considerations, page budgets, etc., which limit the ability to publish all the papers received. Finally, it is desirable that the Special Symposium issue contain papers of technical quality and pertinence (similar formal peer review) equal to any other monthly issue of the TRANSACTIONS. Given these guidelines, a very tight schedule, and a suggested page budget, we have attempted to make this Symposium issue the best possible documentary. Our campaign to solicit papers resulted in receipt of about twice the usual number of manuscripts.

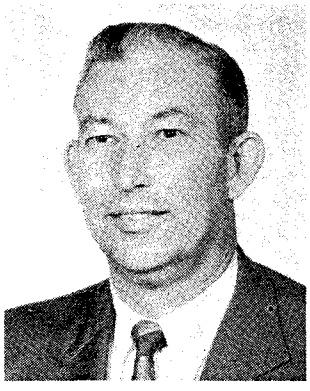
Since the publication schedule required many deadlines to be met, we have had to pass deadlines on to both authors and reviewers. We express our appreciation to all those authors who have contributed to this special issue. We also express our gratitude to reviewers who worked against tight schedules in reviewing these papers. Many provided constructive comments that resulted in improved content. Finally, we express our appreciation to Dr. Fred Rosenbaum who has given us much guidance and help in assembling this issue and to Mrs. Janie Lovern whose able assistance was indispensable.

—Charles T. Rucker
—Gordon R. Harrison
Guest Editors

Charles T. Rucker (S'56–M'69) was born in Augusta, Ga., on June 30, 1931. He received the B.E.E. degree from the Georgia Institute of Technology, Atlanta, in 1957 and has completed additional work in mathematics and microwaves through the Extension Division of the University of Florida, Gainesville.

From 1957 to 1971 he was employed by the Sperry Microwave Electronics Division of Sperry Rand where he progressed to the level of Engineering Staff Consultant. His responsibilities during this period included development of ferrite components, parametric amplifiers, semiconductor switching components, and solid-state signal sources and amplifiers. In 1971 he transferred to the Sperry Electronic Tube Division of Sperry Rand where he continued work on various active solid-state devices including Gunn, Baritt and TRAPATT, and on unique power combining techniques for such devices. In 1973 he joined the staff of the Engineering Experiment Station, Georgia Institute of Technology, Atlanta, where he is presently a Senior Research Engineer in the Solid-State Devices Group of the Applied Sciences Department. His duties presently include responsibilities for various microwave solid-state research tasks with emphasis on application of mode-suppressed power combining at the device-chip level. He has four patents granted or pending and has authored or coauthored several papers in the area of microwave solid-state circuits.

Mr. Rucker is a member of Eta Kappa Nu and has served as Program Committee Co-Vice Chairman and as Guest Editor for the December 1974 (Part II) issue of the IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES.



Gordon R. Harrison (M'62–SM'67) was born in Wister, Okla., on December 14, 1931. He received the B.S. degree in physics from the State College of Arkansas, Conway, in 1952 and the M.S. and Ph.D. degrees, both from Vanderbilt University, Nashville, Tenn., in 1954 and 1958, respectively. His graduate work was in nuclear physics specifically addressing low energy particle detectors, low energy particle accelerators, and resultant nuclear reactions.

In the summers of 1953 and 1954 he was employed by the Oak Ridge National Laboratory where he was engaged in research and studies of radiation safety, health physics, nuclear detectors, and associated instrumentation. He was employed by the Convair Division of General Dynamics in the summer of 1955 where he assisted in research studies associated with the nuclear powered aircraft program. He joined the Sperry Microwave Electronic Division, Sperry Rand Corporation, Clearwater, Fla., in September 1957 and was initially engaged in research and development on the fabrication and application of ferrimagnetic materials to microwave devices. This research led to the development of many new and improved hybrid garnet materials for microwave applications, including temperature stable compositions and compounds for use at high microwave power levels. He progressed to the level of Engineering Manager and was responsible for applied research and applications of microwave integrated circuits, semiconductor devices, and ferrimagnetic materials and components. He joined the technical staff of the Engineering Experiment Station, Georgia Institute of Technology, Atlanta, in November 1971. He is presently Assistant Director and Manager of the Applied Sciences Department where he is responsible for the management, technical supervision, and leadership of a staff performing basic and applied research in material, nuclear, environmental, physical, biological, and life sciences. He has published many technical papers in the area of microwave solid-state materials and their applications.

Dr. Harrison is a member of Sigma Pi Sigma, Sigma Xi, Alpha Chi, and the Southeastern Section of APS. He is actively involved in professional societies, particularly the IEEE, where he has served on program committees and session organizing for numerous technical symposia on both the local and national level.