

## Contributors to This Issue

DELAMAR T. BELL, B.S. in Eng., 1926, Georgia Institute of Technology; M.S.E.E., 1928, University of Cincinnati; Bell Telephone Laboratories, 1928—. He was first engaged in the development of audio-frequency amplifiers, oscillators, and other apparatus for use in motion picture and recording systems. He later worked on the development of transmission system networks and, during World War II and for a time thereafter, worked on networks for military fire-control and ballistic missile simulation applications. He has since worked on carrier transmission systems equipment engineering, and he is presently supervisor of a voice-frequency applications group in the exchange transmission equipment design area. Member, IEEE.

R. C. BOYD, B.S.E.E., 1947, M.S.E.E., 1948, University of Michigan; Bell Telephone Laboratories, 1948—. He was first concerned with systems engineering studies of Bell System and military transmission systems and with initial installations of N1 carrier. He later worked on systems engineering of exchange and short-haul carrier systems, and is presently Head, Carrier Engineering Department. Member, IEEE, Tau Beta Pi and Phi Kappa Phi.

FRED J. HERR, B.S.E.E., 1942, Cooper Union Institute of Technology; M.S., 1952, Stevens Institute of Technology; Bell Telephone Laboratories, 1936—. He was first engaged in the development of measuring equipment for coaxial transmission systems and during World War II worked on the development and testing of proximity fuses. Later he was concerned with broad-band coaxial systems and long- and short-haul carrier, participated in the laying of submarine cables, and did system design analysis and terminal maintenance planning for the SD submarine cable system. Mr. Herr has also been concerned with analysis of video transmission equipment, and he presently supervises a coaxial systems analysis group. Member, IEEE and Tau Beta Pi.

TINGYE, LI, B.Sc., 1953, University of Witwatersrand (South Africa); M.S., 1955, and Ph.D., 1958, Northwestern University; Bell Telephone Laboratories, 1957—. He has been engaged in studies of microwave

antennas and propagation, and in optical maser research. Member, IEEE, Eta Kappa Nu and Sigma Xi.

W. RALPH LUNDREY, B.S.E.E., 1928, Iowa State University; M.A. (Physics), 1934, Columbia University; Bell Telephone Laboratories, 1928—. He has worked on the design and development of transmission networks, filters, and equalizers for carrier telephone and television systems. He presently supervises a group responsible for carrier circuits development for exchange transmission. Member, IEEE.

GEORGE S. MOSCHYTZ, Dipl. El.-Ing., 1958, Dr. Sc. Techn., 1960, Institute of Telecommunications, Swiss Federal Institute of Technology, Zurich; Laboratories RCA, Ltd., Zurich, 1960-1962; Bell Telephone Laboratories, 1963—. Since joining Bell Laboratories, he has worked on the synthesis of circuits suitable for miniaturized thin-film components for data transmission equipment. Member, IEEE and Swiss Electrical Society.

W. W. RIGROD, B.S. in E.E., 1934, Cooper Union Institute of Technology; M.S. in Eng., 1941, Cornell University; D.E.E., 1950, Polytechnic Institute of Brooklyn; State Electrotechnical Institute (USSR), 1935-1939; Westinghouse Electric Corporation, 1941-1951; Bell Telephone Laboratories, 1951—. He has worked on physical problems connected with gaseous-discharge and vacuum-electronic devices at microwave frequencies. Since 1961 he has been engaged in research studies of lasers and coherent optics. Member, IEEE, American Physical Society and Sigma Xi.

IRWIN W. SANDBERG, B.E.E., 1955, M.E.E., 1956, and D.E.E., 1958, Polytechnic Institute of Brooklyn; Bell Telephone Laboratories, 1958—. He has been concerned with analysis of military systems, particularly radar systems, and with synthesis and analysis of active and time-varying networks. He is currently involved in a study of the signal-theoretic properties of nonlinear systems. Member, IEEE, SIAM, Eta Kappa Nu, Sigma Xi and Tau Beta Pi.

WILLIAM H. STEIER, B.S.E.E., 1955, Evansville College; M.S.E.E., 1957 and Ph.D. (E.E.), 1960, University of Illinois; Bell Telephone Laboratories, 1962—. He has been engaged in high-frequency measurements of waveguide systems and more recently has worked on the

design and measurement of optical waveguide systems. Member, American Physical Society and IEEE.

LEON H. STEIFF, B.S.M.E., 1946, Northeastern University; Bell Telephone Laboratories, 1956—. His first assignment was equipment design for P1 carrier, the first Bell System fully transistorized carrier system. He has since worked on wideband data transmission system development and the 150-mc pocket radio receiver. He currently supervises a group engaged in mechanical design of short-haul carrier systems; the group is also responsible for introducing new materials and techniques for Bell System use. Member, A.S.M.E.; Registered Professional Engineer, Massachusetts.

E. R. TAYLOR, B.S. in E.E., 1921, Johns Hopkins University; American Telephone and Telegraph Co., 1921–1934; Bell Telephone Laboratories, 1934–1963. Throughout his Bell System career, he specialized in transmission systems engineering and development. He has been granted 30 U.S. patents in the field of transmission and related systems. At the time of his retirement he was supervisor of the carrier applications group at the Merrimack Valley Bell Laboratories. Member, IEEE.

L. F. WILLEY, B.S. in E.E., 1937, Pennsylvania State University; Bell Telephone Laboratories, 1937—. He first worked on apparatus development of quartz crystal filters for use in the K and L1 broadband carrier systems. He later worked on waveguide networks for military projects and broadband carrier systems, and has more recently worked on transistor circuit development for short-haul carrier systems. Member, Tau Beta Pi and Eta Kappa Nu.

