

Contributors to This Issue

P. L. CLOUSER, B.S., 1960, Drexel Institute of Technology; Ph.D. (Physics), 1964, Duke University; Bell Telephone Laboratories, 1963–1967. Mr. Clouser was engaged in the study of esaki diodes by direct microscopic observation, esaki diode oscillators as power sources, and esaki diode phase lock oscillators. Member, IEEE.

E. N. GILBERT, B.S. (physics), 1943, Queens College; Ph.D. (Mathematics), 1948, MIT; Bell Telephone Laboratories, 1948—. Mr. Gilbert has been working in probability, combinatorial analysis, and information theory. Member, Amer. Math. Soc., IEEE.

J. E. GOELL, B.E.E., 1962, M.S., 1963, and Ph.D. (electrical engineering), 1965, all from Cornell University; Bell Telephone Laboratories 1965—. While at Cornell Mr. Goell was a teaching assistant and held the Sloan Fellowship and the National Science Cooperative Fellowship. At Bell Telephone Laboratories, he has worked on solid state repeaters for millimeter wave communication systems. Member, Tau Beta Pi, Eta Kappa Nu, Sigma Xi, Phi Kappa Phi.

W. M. HUBBARD, B.S., 1957, Georgia Institute of Technology; M.S., 1958, University of Illinois; Ph.D., 1963, Georgia Institute of Technology; Bell Telephone Laboratories, 1963—. Mr. Hubbard's work has included analyses related to the design of millimeter-wave solid-state repeaters for use in a waveguide transmission system and the construction of prototype high-speed repeaters for this type of system. Member, Sigma Xi, Tau Beta Pi, Phi Kappa Phi, American Physical Society.

JAMES F. INGLE, B.E.E., 1955, Rensselaer Polytechnic Institute; M.E.E., 1961, New York University; Bell Telephone Laboratories, 1955—. Mr. Ingle was involved in designing frequency domain test equipment in the television and audio frequency ranges. More recently, he has been designing voice frequency automatic transmission measuring equipment. Member, Tau Beta Pi, Eta Kappa Nu.

JOHN J. KOKINDA, B.S.E.E., 1960, Purdue University; M.E.E., 1962, New York University; Bell Telephone Laboratories, 1960—. Mr.

Kokinda has been designing and developing manual voice frequency transmission measuring equipment and applying this equipment to maintaining telephone transmission plant. He is Supervisor of the Voice Frequency Measurements Group. Member, Eta Kappa Nu, Tau Beta Pi.

TIEN PEI LEE, B.S.E.E., 1957, National Taiwan University, Taiwan, China; M.S.E.E., 1959, Ohio State University; Ph.D., 1963, Stanford University; Bell Telephone Laboratories, 1963—. Mr. Lee participated in the research and development of solid-state microwave diodes and photodiodes. He is working on millimeter wave devices. Member, Sigma Xi, IEEE.

ROBERT W. LUCKY, B.S.E.E. 1957, M.S.E.E. 1959, and Ph.D. 1961, all from Purdue University; Bell Telephone Laboratories, 1961—. Mr. Lucky has been concerned with various analytical problems in the transmission of digital information over voice telephone facilities. He is Head of the Data Theory Department. Member, IEEE, Tau Beta Pi, Eta Kappa Nu, Sigma Xi.

GEORGE E. McLAUGHLIN, B.S.E.E., 1957, University of Rhode Island; M.E.E., 1959, New York University; Bell Telephone Laboratories, 1957—. Mr. McLaughlin has been involved in designing transmission measuring equipment in the television frequency range. He is Supervisor of the Automatic Transmission Measurements Group.

G. D. MANDEVILLE, 1933-34, Monmouth Junior College; 1935-36, Rutgers University; Western Electric Co., 1939-49; Bell Telephone Laboratories, 1949—. With Western Electric, Mr. Mandeville was concerned with radar development and shop test equipment. He headed the shop test equipment prove-in section for three years. With Bell Laboratories he has been associated with guided-wave research in the areas of waveguide and repeaters.

NORMAN A. MARLOW, B.S.E.E., 1960, M.S.E.E., 1961, both from the University of Southern California; Bell Telephone Laboratories, 1961—. Mr. Marlow has studied the effect of noise on voice-band data signals. Now he is concerned with research in systems and economic modeling, specifically to relate cost, reliability, and performance of communications equipment. Member, Inst. Math. Stat., Amer. Statistical Assn., Eta Kappa Nu.

HANS MELCHIOR, Dipl. El. Ing., 1959, Dr. Sc. Techn., 1965, both from Swiss Federal Institute of Technology, Zurich; Bell Telephone Laboratories, 1965—. From 1960 to 1965, with Department of Advanced Electrical Engineering, Swiss Federal Institute of Technology, he worked on noise problems of p-n junctions at breakdown, on high injection effects, and on second breakdown in diodes and transistors, and on tunnel diode mixers and oscillators. At Bell Telephone Laboratories he is working on avalanche photodiodes and on noise problems in metal-SiO₂-silicon devices. Member, IEEE.

INGEMAR NÅSELL, Civilingenjör, 1955, Royal Institute of Technology, Stockholm, Sweden; M.E.E., 1962, and M.S. (mathematics), 1965, both from New York University; Research Institute of National Defense, Stockholm, Sweden, 1955-1960; Bell Telephone Laboratories, 1960—. At Bell Telephone Laboratories he first worked on new noise objectives. He is supervisor of a group which conducts surveys throughout the Bell System to gather information for building a mathematical model of the Bell System toll network. Member, Svenska Teknologföreningen, and Eta Kappa Nu.

E. H. NICOLLIAN, M.E., 1951, Stevens Institute of Technology; M.A. (Physics) 1956, Columbia University; Bell Telephone Laboratories, 1957—. Mr. Nicollian's work has been in semiconductor device physics. He is currently engaged in research on the electrical properties of semiconductor-insulator interfaces. Member, American Physical Society, Electrochemical Society, RESA, AAAS.

VASANT K. PRABHU, B.Sc., 1958, Karnatak College, India; B.E.E., 1962, Indian Institute of Science; S.M., 1963, and Sc.D., 1966, both from Massachusetts Institute of Technology; Bell Telephone Laboratories, 1966—. Mr. Prabhu has been concerned with network theory, solid-state microwave power devices, optical communication, and noise theory. Member, Tau Beta Pi, Eta Kappa Nu, Sigma Xi, IEEE, AAAS.

E. N. PROTONOTARIOS, Electrical Engineer, 1963, National Technical University of Athens, Greece; Eng. Sc.D., 1966, Columbia University; Bell Telephone Laboratories, 1966—. At Bell Laboratories Mr. Protonotarios has been engaged in analytical studies of digital communi-

cation systems such as pulse code modulation and differential PCM. Member, Sigma Xi, IEEE, AAAS.

HARRY RUDIN, JR., B.E. 1958, M.Eng. 1960, D.Eng. 1964, all from Yale University; Bell Telephone Laboratories, 1964—. Mr. Rudin was an instructor in electrical engineering at Yale University from 1961 until 1964. At Bell Telephone Laboratories he has worked in data communication. Recently he has concentrated on automatic equalization and generalized equalization techniques. He is a former executive of the IEEE Connecticut section and is a member of the Yale Engineering Association executive board.

IRWIN W. SANDBERG, B.E.E., 1955, M.E.E., 1956, and D.E.E., 1958, Polytechnic Institute of Brooklyn; Bell Telephone Laboratories, 1958—. Mr. Sandberg has been concerned with analysis of military systems, synthesis and analysis of active and time-varying networks, studies of properties of nonlinear systems, and with a few problems in communication theory. His current interests are in the area of numerical analysis. Member, IEEE, SIAM, Eta Kappa Nu, Sigma Xi, Tau Beta Pi.

R. C. SHAW, B.S.E.E., 1926, Michigan University; graduate studies, Columbia University and Stevens Institute of Technology; Bell Telephone Laboratories 1927-1945, 1947-1967; Chairman, Antenna Coordinating Committee, Office of the U. S. Secretary of Research and Development, 1945. Mr. Shaw has worked on developing high power radio transmitters for overseas telephone service, developing radar transmitters, methods of measuring radio field strength, and studies of antennas and propagation. Before his retirement this year he was helping develop A-1 mobile radio systems. Member, IEEE.

DAVID A. SHNIDMAN, B.S. and M.S. (electrical engineering), 1959, from Massachusetts Institute of Technology; PH.D. (applied mathematics), 1965, Harvard University; Data Sciences Lab at Air Force Cambridge Research Laboratory, 1959-1965; Bell Telephone Laboratories 1965—. At Cambridge he worked on communication theory and contract monitoring. At Bell Telephone Laboratories he is concerned with the efficient use of high quality transmission systems. Member, Tau Beta Pi, Eta Kappa Nu, Sigma Xi, IEEE, AAAS.

R. D. STANDLEY, B.S., 1957, University of Illinois; M.S., 1960, Rutgers University; Ph.D., 1966, Illinois Institute of Technology; U.S. Army Research and Development Laboratory, Fort Monmouth, N. J., 1957-1960; IIT Research Institute, Chicago, 1960-1966; Bell Telephone Laboratories, 1966—. At Fort Monmouth, Mr. Standley was project engineer on various microwave component development programs. His work at IITRI included microwave and antenna research, and management of an electromagnetic compatibility group. At Bell Telephone Laboratories he has been concerned with millimeter-wave up-converters, local oscillator injection filters, and channel dropping filters. He is investigating millimeter-wave impact ionization avalanche transit time diode devices, integrated circuits, and time delay equalizers. Member, IEEE, Sigma Tau, Sigma Xi.

WILLIAM D. WARTERS, A.B., 1949, Harvard College; M.S., 1950 and Ph.D., 1953, both from California Institute of Technology; Bell Telephone Laboratories, 1953—. Mr. Warters has done research in millimeter waveguide transmission and worked on repeaters for millimeter waveguide systems. He is Director of the Transmission Systems Research Center. Senior member, IEEE; member, American Physical Society, Sigma Xi, Phi Beta Kappa.

AARON D. WYNER, B.S., 1960, Queens College; B.S.E.E., 1960, M.S., 1961, and Ph.D., 1963, all from Columbia University; Bell Telephone Laboratories, 1963—. Mr. Wyner has been engaged in research in various aspects of information theory. He is also adjunct associate professor of electrical engineering at Columbia University and Chairman of the Metropolitan New York Chapter of the IEEE Information Theory Group. Member, IEEE, SIAM, Tau Beta Pi, Eta Kappa Nu, Sigma Xi.

