

Contributors to This Issue

M. R. AARON, B.S.E.E., 1949, and M.S.E.E., 1951, University of Pennsylvania; Bell Telephone Laboratories, 1951—. He first worked on analysis, design and synthesis of transmission networks for L3 and submarine cable systems. From 1954 to 1956 he supervised a group concerned with design of networks for the L3 system. Since 1956 he has been in charge of a group engaged in systems analysis of PCM. Member I.R.E., Eta Kappa Nu, Tau Beta Pi, Sigma Tau.

M. M. ATALLA, B.S., 1945, Cairo University (Egypt); M.S., 1947, and Ph.D., 1949, Purdue University; Bell Telephone Laboratories, 1950—. For five years Mr. Atalla headed a group engaged in basic studies in contact physics. He is now in charge of a group carrying out fundamental studies in surface physics of semiconductors and applications to devices. Member American Physical Society, Sigma Xi, Sigma Pi Sigma, Pi Tau Sigma.

OLIVER H. COOLIDGE, A.B., 1922, Harvard College; New York Telephone Company, 1921-27; American Telephone and Telegraph Company, 1927-34; Bell Telephone Laboratories, 1934—. After six years in plant maintenance methods work with the New York Telephone Company, he joined A.T.&T.'s Development and Research Department, which was later transferred to Bell Laboratories. At that time he was engaged in experimental and theoretical work in the field of transmission engineering, especially in problems of crosstalk and noise interference. During World War II he served as a radar maintenance instructor in Bell Laboratories' School for War Training. Since 1949 he has been concerned with problems of quality and standards of local transmission, and more recently with general transmission objectives.

T. H. GEBALLE, B.S., 1940, and Ph.D., 1950, University of California; Bell Telephone Laboratories, 1952—. Mr. Geballe has specialized in solid state research, with special interest in the study of mechanisms involving the transport of heat and electricity by crystalline semiconductors. At present he is in charge of a group in the Physical Research Department which is studying a variety of fundamental properties. Member American Physical Society, American Chemical Society, Phi Beta Kappa, Sigma Xi.

W. J. GRUBBS, B.S.E.E., 1951, University of Kentucky; Bell Telephone Laboratories, 1951—. After completing rotational assignments in the C.D.T. Program, Mr. Grubbs was engaged in design and development of ferrite core inductors, especially for a rural carrier telephone system. Recently he has been engaged in fundamental development of solid state devices and applications of the Hall effect. Member Eta Kappa Nu, Tau Beta Pi.

CONYERS HERRING, A.B., 1933, University of Kansas; Ph.D., 1937, Princeton University; National Research Council Fellow, Massachusetts Institute of Technology, 1937–39; research associate, Princeton, 1939–40; instructor in physics, University of Missouri, 1940–41; Division of War Research, Columbia University, 1941–45; professor of applied mathematics, University of Texas, 1946; Bell Telephone Laboratories, 1945—. Mr. Herring has specialized in theoretical physics of the solid state. He was a member of the Institute for Advanced Study at Princeton in 1952–53, and was awarded the 1959 Oliver E. Buckley Solid State Physics Prize for “his interpretation of the transport properties of semiconductors”. Fellow American Physical Society; member American Association for the Advancement of Science.

J. E. KUNZLER, B.S., 1945, University of Utah; Ph.D., 1950, University of California; research associate, University of California, 1950–52; Bell Telephone Laboratories, 1952—. Mr. Kunzler has been engaged in low-temperature solid state research. He was concerned with the design and establishment of a thermodynamics and cryogenics laboratory and has been engaged in the investigation of electrical, thermal and magnetic properties of solids. Member American Physical Society, American Chemical Society, Sigma Xi, Tau Beta Pi, Alpha Chi Sigma.

J. A. NARUD, B.S. and M.S., 1951, California Institute of Technology; Ph.D., 1955, Stanford University. Mr. Narud is an assistant professor at Harvard University and, since 1957, has been a consultant to Bell Telephone Laboratories, where he has been working on various problems in connection with PCM. He is also engaged in studies of properties of nonlinear feedback networks and applications to control systems and pulse circuitry. Member I.R.E., Sigma Xi.

G. C. REIER, A.B., 1913, Washington College; B.S. in Engineering, 1916, Johns Hopkins University; American Telephone and Telegraph Company, 1916–34; Bell Telephone Laboratories, 1934–58. As an engineer with the A.T.&T. Co., Mr. Reier took part in fundamental studies of electrical wave filters and studies of speech and transmission quality. He was also concerned with transmission problems relating to

central office equipment, loading systems and telephone sets. After transferring to Bell Laboratories he was concerned with general transmission problems and later with air raid warning systems and other civil defense projects. From 1952 until his retirement in 1958, he was project engineer on a systems study for the U.S. Navy.

E. J. SCHEIBNER, B.S., 1950, Georgia Institute of Technology; M.S., 1952, and Ph.D., 1955, Illinois Institute of Technology; Bell Telephone Laboratories, 1955-59; research associate professor of physics, Georgia Institute of Technology, 1959—. At Bell Laboratories Mr. Scheibner was engaged in physical measurements of semiconductor surface properties and studies of single-crystal surfaces by electron diffraction. Member American Physical Society, Sigma Xi, Tau Beta Pi.

CLAUDE E. SHANNON, B.S.E.E., 1936, University of Michigan; Ph.D., 1940, Massachusetts Institute of Technology; Bell Telephone Laboratories, 1941—; professor of communications sciences and mathematics, M.I.T., 1956—. At Bell Laboratories Mr. Shannon has specialized in mathematical research on communication theory and computing machines and automata. He has made outstanding contributions to the communications field, especially in the mathematical theory of communication. In 1956 he was granted a leave of absence from Bell Laboratories to return to M.I.T. as visiting professor in electrical communications. He became a permanent member of the M.I.T. faculty in 1957, while continuing his association with the Laboratories as mathematical consultant. In 1957-58 he was a fellow at the Center for Advanced Study in the Behavioral Sciences. In October 1958 he was appointed to the newly established Donner Chair of Science at M.I.T. Mr. Shannon has been awarded the Alfred Noble Prize of the American Institute of Electrical Engineers, the Morris Liebmann Award of the Institute of Radio Engineers, the Stuart Ballantine Medal of the Franklin Institute and the Research Corporation Award. Member National Academy of Sciences, American Academy of Arts and Sciences, American Mathematical Society, Institute of Radio Engineers, Sigma Xi, Phi Kappa Phi, Eta Kappa Nu, Tau Beta Pi.

EILEEN TANNENBAUM, B.A., 1950, and M.A., 1952, Mount Holyoke College; Ph.D., 1955, University of California; Bell Telephone Laboratories, 1956—. Miss Tannenbaum has been engaged in work on solid state devices and basic research in surface studies of semiconductors, especially with regard to transistors. She has been awarded several fellowships for graduate and postgraduate work. Member American Physical Society.

