## Contributors to this Issue

ALBERT M. CLOGSTON, B.S., 1938; Ph.D., 1941, Massachusetts Institute of Technology. He joined Bell Telephone Laboratories in 1946 and has worked on various electron tube devices, a new type of magnetron, storage tubes and other information handling devices. A member of the Research in Physical Sciences Department at Murray Hill for the last two years, Dr. Clogston is concerned with the physics of solids. Fellow of American Physical Society, member of the Institute of Radio Engineers and Sigma Xi.

J. S. Cook, B.E.E., M.S., Ohio State University, 1952. He joined Bell Telephone laboratories the same year and has been engaged principally in research on the traveling wave tube. He is now engaged in electronics research at Murray Hill as a member of the Research in High Frequency and Electronics Department. A member of the Institute of Radio Engineers, he belongs to the Professional Group on Electron Devices.

Stephen Doba, Jr., College of the City of New York and Cooper Union. He joined Bell Telephone Laboratories in 1926 and was concerned at first with voice operated devices in Circuit Research. In 1938 he joined the Transmission Development Department and was engaged in work on television transmission systems. From 1940 to 1945 he aided in the development of airborne radar equipment. More recently he was named Transmission Systems Development Engineer in charge of groups engaged in development of television systems, submarine cable systems, and Bell System field test equipment. Mr. Doba holds some 30 patents. He is a Senior Member of the Institute of Radio Engineers.

J. James Ebers, B.S., Antioch College, 1946; M.S., Ph.D., Ohio State University, 1947, 1950. Bell Telephone Laboratories, 1951—Prior to joining the Laboratories, Dr. Ebers served as an Instructor in Electrical Engineering at Ohio State University from 1947 to 1950, and as Assistant Professor from 1950 to 1951. He worked as a Research Foundation Assistant and Associate at Ohio State University from 1946 to 1951. His early work at the Laboratories was concerned with the development of

transistors for switching applications, and for the past  $2\frac{1}{2}$  years he has been concerned with the development of the alloyed junction transistor. Member of the American Physical Society, Eta Kappa Nu, and Sigma Xi. Member of the I.R.E. and past chairman of its task force to standardize methods of tests for transistors in switching applications.

A. Gardner Fox, S.B., Massachusetts Institute of Technology, 1934; S.M., Massachusetts Institute of Technology, 1935. Bell Telephone Laboratories, 1936—. Since 1944, Mr. Fox has been concerned with the design of radio-frequency amplifiers and with research on millimeter waves at the Holmdel Radio Laboratory. From 1942—1944 he designed radio transmission filters and antennas for a fire-control radar system. Prior to this he did research on waveguides, development work on radar, and the design of mobile and airborne radio transmitters. Senior member of the I.R.E., and past chairman of its Committee on Antennas and Waveguides.

A. Robert Kolding, B.S.E.E., Brooklyn Polytechnic Institute, 1940: Bell Telephone Laboratories, 1930—. In his early years as a member of the Transmission Development Department, he was concerned with the development of television terminal equipment for long-distance coaxial cable transmission. During World War II, he was engaged in the development of radar bombsights for the Armed Forces. Following the war he worked on television terminals of the L-3 coaxial cable system, and is presently concerned with the development of local wire television systems. Member of the Institute of Radio Engineers and Eta Kappa Nu.

Grace L. Lakin, B.Sc., New Jersey College for Women, 1942; M.A., Columbia University, 1949; Bell Telephone Laboratories, 1942–. From 1942 to 1948, Miss Lakin worked principally on the development of adjustable A and B equalizers for the L-1 coaxial system. She was later concerned with the design and development of filters and equalizers for the telephotograph level compensator, and with regulators and equalizers for a 12-channel military communication system. For the past three years, Miss Lakin has been engaged in work on the equalization of the A2A video transmission system.

WILLIAM H. LOUISELL, University of Florida; Kenyon College; B.S. in Physics, University of Michigan, 1948; M.S. in Physics, University of Michigan, 1949; Ph.D. in Physics, University of Michigan, 1953;

Engineering Research Institute of University of Michigan, 1948–1953; Bell Telephone Laboratories, 1953 — . He has been concerned with the study of a new microwave coupling principle and the application of ferrites to traveling wave tubes. Dr. Louisell is a member of the American Physical Society, Phi Eta Sigma, Phi Kappa Phi, Sigma Xi and Gamma Alpha.

- C. A. Lovell, B.A., Mississippi College, 1922; M.A., 1928, Ph.D., 1932. University of Pennsylvania; Bell Telephone Laboratories, 1929-. Prior to joining the technical staff of the Laboratories, he taught Mathematics at Mississippi College and Drexel Institute in addition to doing graduate study. His early work at the Laboratories concerned loudspeaker design in the Acoustics Research Department. During a short absence from this department he worked on television terminal equipment for the New York-Philadelphia coaxial cable. He returned to his former department to take charge of the design of mechanical means for making experimental studies of telephone traffic. He is presently Director of Switching Systems Development III. Early in World War II he directed the development of the first electrical gun director and carried out similar work throughout the War. Fellow of the Acoustical Society of America; Member, American Institute of Physics and Franklin Institute of Philadelphia. Awarded Medal for Merit by President Truman in 1946, and Howard N. Potts Medal, Franklin Institute, 1948.
- J. H. McGuigan, S.B. and S.M. Massachusetts Institute of Technology, 1941. Bell Telephone Laboratories, 1941—. His early work concerned radar development, and later, development of television transmission facilities. In 1946 he joined the Switching Research Department, where he engaged in the development of signaling systems and magnetic drum recording. He is presently concerned with the development of magnetic core switching circuits. Associate Member of the I.R.E., and member of Sigma Xi, Eta Kappa Nu and Tau Beta Pi.
- S. L. Miller, B.S., Webb Institute of Naval Architecture, 1944; M.A. in Physics, Columbia University, 1949; Ph.D. in Physics, Columbia University, 1952; taught at City College of New York, 1948–1950; Bell Telephone Laboratories, 1952 . Since he has been at the Laboratories Dr. Miller has been engaged in exploratory development work on transistors. He is a member of the American Physical Society and Sigma Xi.

O. J. Murphy, B. S. in Electrical Engineering, University of Texas, 1927; Columbia University, 1928–31. Bell Telephone Laboratories, 1927–. Mr. Murphy's early Laboratories projects included studies of voice-operated switching devices, effects of transmission delay on two-way telephone conversation, and voice-frequency signaling systems. During World War II he was concerned with the design and development of the M-9 electrical gun director and related projects. After the war he resumed his research work on signaling systems and more recently has concentrated on the design of magnetic drum digital data storage apparatus and circuits. He is a member of the A.I.E.E. and a senior member of the I.R.E.

Philip W. Rounds, A.B., Harvard University, 1929; Bell Telephone Laboratories, 1929 — . Prior to World War II, Mr. Rounds was concerned with the development of transmission networks for toll telephone, telephoto and program systems. During World War II, he developed computing networks for anti-aircraft gun directors and bombsights. During this time he also developed transmission networks for sonar systems. Since the war period, he has been working with the development of transmission networks for television systems. He is a member of the American Institute of Electrical Engineers.