

Contributors to This Issue

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JAMES R. DAVEY, B.S. in E.E., 1936, University of Michigan; Bell Telephone Laboratories, 1936—. He has been engaged in the design of telegraph and data transmission circuits for the following types of systems: dc telegraph, multichannel AM and FM carrier telegraph, telegraph test and service boards, HF radio teletypewriter and a VHF ground-to-air data link. For the past several years he has been in charge of a department responsible for the development of various data terminals for use over telephone voice channels. Member, IEEE, Sigma Xi and Tau Beta Pi.

JAMES P. GORDON, B.S., Massachusetts Institute of Technology, 1949; M.A., 1951, and Ph.D., 1955, Columbia University; Bell Telephone Laboratories, 1955—. Visiting Professor of Applied Physics, University of California, San Diego, 1962-1963. His research in quantum electronics has involved work on paramagnetic resonance, masers, and the quantum mechanical aspects of communication theory. He has written several technical articles in the field of quantum electronics. Member, AAAS, American Physical Society and Sigma Xi.

J. R. GRAY, B.S.E.E., 1954, M.S.E.E., 1955, University of Florida; Bell Telephone Laboratories, 1955—. He was first engaged in repeater design for a PCM exchange area system, and more recently has been concerned with studies of signal impairment in PCM terminals. He is presently responsible for a group concerned with systems design of a high-speed PCM terminal, working with such problems as framing, synchronization, and signal deterioration.

D. C. HOGG, B.Sc., 1949, University of Western Ontario; M.Sc., 1950, and Ph.D., 1953, McGill University; Bell Telephone Laboratories, 1953—. His work has included studies of artificial dielectrics for microwaves, diffraction of microwaves, and over-the-horizon and millimeter wave propagation. He has been concerned with evaluation of sky noise, analysis of performance characteristics of microwave antennas and, most recently, propagation of optical waves. Senior member, IEEE; member, Commission 2, U.R.S.I., and Sigma Xi.

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E. A. J. MARCATILI, Aeronautical Engineer, 1947, and E.E., 1948, University of Cordoba (Argentina); research staff, University of Cordoba, 1947–1954; Bell Telephone Laboratories, 1954—. He has been en-

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JOSEPH F. OSSANNA, JR., B.S.E.E., 1952, Wayne State University; Bell Telephone Laboratories, 1952—. He has been concerned with low-noise amplifier research, feedback amplifier theory and design, satellite position prediction in Project Echo, mobile radio fading studies, and data processing. Currently he is involved in the operation of the Murray Hill Computation Center. Member, IEEE, Sigma Xi and Tau Beta Pi.

JOHN W. PAN, B.S. in E.E., 1955, University of Cincinnati; Sc.D. in E.E., 1962, Massachusetts Institute of Technology; Bell Telephone Laboratories, 1955—. He received the Communications Development Training Fellowship for study at MIT, 1958–1962. He has been concerned with the process of pulse code modulation and is currently in charge of a group engaged in design of PCM terminals. Member, Sigma Xi and IEEE.

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.

R. A. SEMPLAK, B.S., 1961, Monmouth College; Bell Telephone Laboratories, 1955—. He has been engaged in beyond-the-horizon radio propagation and three satellite communications projects: Project Echo, Telstar I and Telstar II. He has also participated in studies of the effects of rain on sky noise temperatures at 6-gc frequency and has recently completed an experimental study of the near-field Cassegrainian antenna. He is currently engaged in measuring the scattered radiation from various surfaces at 0.6-micron wavelength.

W. C. SLAUSON, A.B. and B.S., 1927, Hamilton College; Bell Telephone Laboratories, 1927—. His first work consisted of design and development of polarized relays and signals. Later he became concerned with U and Y type relays, making the original capability studies and establishing the original requirements for U relays. During World War II

he was in charge of specifications and drawings for permanent magnets for magnetron tubes, and designed special solenoids for electrically controlled torpedoes and radar scanning devices. He also developed water-tight sealed relays for submarine detection apparatus. During the war and afterward he took part in the development of hydrogen annealing processes for stabilizing the magnetic characteristics of relays. More recently he has been responsible for the design and development of cost reduction items for relays, one of which is described in this issue. He is a Professional Engineer of the State of New York and holds three Bell System patents.

DAVID SLEPIAN, University of Michigan, 1941-43; M.A., 1947, and Ph.D., 1949, Harvard University; Bell Telephone Laboratories, 1950—. He has been engaged in mathematical research in communication theory, switching theory, and theory of noise, as well as various aspects of applied mathematics. He has been mathematical consultant on a number of Bell Laboratories projects. During the academic year 1958-59, he was Visiting Mackay Professor of Electrical Engineering at the University of California at Berkeley. Member AAAS, American Mathematical Society, Institute of Mathematical Statistics, IEEE, SIAM and U.R.S.I. Commission 6.

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ROBERT N. WATTS, B.S.E.E., 1955, University of Miami; S.M., 1957, and E.E., 1960, Massachusetts Institute of Technology; Bell Telephone Laboratories, 1960—. His initial assignment was development of methods for switching multiaddress data traffic. He also has participated in the development of automatic calling units and supervised a group engaged in the exploratory development and analysis of several error control systems. Mr. Watts presently supervises a group engaged in the development of DATA-PHONE systems.

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E. E. ZAJAC, B.M.E., 1950, Cornell University; M.S.E., 1952, Princeton University; Ph.D., 1954, Stanford University; Bell Telephone Laboratories, 1954—. A specialist in applied mathematics and mechanics, he has worked on the dynamics of submarine cable laying and recovery, elastic wave propagation in solids, theory of elastic stability, and theory of dynamical systems. More recently, he has been concerned with satellite attitude control studies and computer-made perspective movies. Member, ASME, American Mathematical Society, Sigma Xi, Phi Kappa Phi, Tau Beta Pi and Pi Tau Sigma.

