

### Contributors to this Issue

M. L. ALMQUIST, B.S. in Electrical Engineering, University of California, 1920. General Electric Company, 1920-21. American Telephone and Telegraph Company, Department of Development and Research, 1921-1934; Bell Telephone Laboratories, 1934-. Mr. Almquist has been engaged in transmission development work on carrier telephone systems.

F. H. BEST, M.E., Cornell University, 1911. American Telephone and Telegraph Company, Engineering Department, and Department of Development and Research, 1911-34. Bell Telephone Laboratories, 1934-. Mr. Best has been engaged principally in the development of methods and arrangements used in maintaining the transmission efficiency of telephone circuits.

R. W. CHESNUT, A.B., Harvard University, 1917; War Department of French Government, 1917; U. S. Army, 1917-19. Western Electric Company, Engineering Department, 1920-25; Bell Telephone Laboratories, 1925-. Mr. Chesnut has been engaged in the development of carrier telephone and long-wave radio systems.

PAUL S. DARNELL, B.S. in Electrical Engineering, University of Pennsylvania, 1922; M.A., Columbia University, 1925. Western Electric Company, Engineering Department, 1922-1925; Bell Telephone Laboratories, 1925-. Mr. Darnell's work has been primarily in connection with the development of retardation coils for operation at voice and carrier frequencies.

CLIFFORD E. FAY, B.S. in Electrical Engineering, Washington University, 1925; M.S., 1927. Bell Telephone Laboratories, 1927-. Mr. Fay has been engaged principally in the development of power vacuum tubes for radio purposes.

H. J. FISHER, E.E., Cornell University, 1920; U. S. Signal Corps, 1917-19. Western Electric Company, Engineering Department, 1920-25; Bell Telephone Laboratories, 1925-. Mr. Fisher has been engaged in the development of toll switching and transmission systems.

C. W. GREEN, B.S. in Electrical Engineering, University of Wisconsin, 1907; Instructor and Assistant Professor, Massachusetts Institute

of Technology, 1907-17; Captain 1917, Major 1918, U. S. Army. Bell Telephone Laboratories, 1919. Mr. Green's work has had to do with the development of carrier telephone systems, voice frequency repeaters, and radio terminating circuits.

E. I. GREEN, A.B., Westminster College, Fulton, Missouri, 1915; University of Chicago, 1915-16; Member of Faculty, Westminster College, 1916-17; U. S. Army, 1917-19 (Captain, Infantry); B.S. in Electrical Engineering, Harvard University, 1921. American Telephone and Telegraph Company, Department of Development and Research, 1921-34; Bell Telephone Laboratories, 1934-. Mr. Green's work has been concerned principally with multiplex transmission systems.

L. M. ILGENFRITZ, B.S. in Electrical Engineering, University of Michigan, 1920. American Telephone and Telegraph Company, Department of Development and Research, 1920-34; Bell Telephone Laboratories, 1934-. Mr. Ilgenfritz has been engaged in the development of carrier systems.

A. KENNER, B.S. in Electrical Engineering, Purdue University, 1913. Western Electric Company, Engineering Department, 1913-25; Bell Telephone Laboratories, 1925-. Mr. Kenner has been engaged in equipment development work for toll systems, particularly those items such as telephone repeaters and carrier associated with toll cables.

C. E. LANE, A.B., University of Iowa, 1920; M.S., University of Iowa, 1921. Western Electric Company, Engineering Department, 1921-25; Bell Telephone Laboratories, 1925-. Mr. Lane is engaged in the development of special filters such as mechanical filters, filters in which quartz crystals are used as elements, and high-frequency filters of all types.

R. H. MILLS, S.B. in Electrical Engineering, Massachusetts Institute of Technology, 1916. Western Union Telegraph Company, 1916-18. Western Electric Company, Transmission Development Branch, 1918-25; Bell Telephone Laboratories, Apparatus Development Department, 1925-. Mr. Mills has been engaged in the development of carrier frequency filters for use in commercial communication systems.

A. L. SAMUEL, A.B., College of Emporia (Kansas), 1923; S.B. and S.M. in Electrical Engineering, Massachusetts Institute of Technology,

1926. Instructor in Electrical Engineering, Massachusetts Institute of Technology, 1926-28. Bell Telephone Laboratories, 1928-. Mr. Samuel has been engaged in research and development work on vacuum tubes.

S. A. SCHELKUNOFF, B.A., M.A. in Mathematics, The State College of Washington, 1923; Ph.D. in Mathematics, Columbia University, 1928. Engineering Department, Western Electric Company, 1923-25; Bell Telephone Laboratories, 1925-26. Department of Mathematics, State College of Washington, 1926-29. Bell Telephone Laboratories, 1929-. Dr. Schelkunoff has been engaged in mathematical research, especially in the field of electromagnetic theory.

W. SHOCKLEY, B.Sc., California Institute of Technology, 1932; Ph.D., Massachusetts Institute of Technology, 1936. Bell Telephone Laboratories, 1936-. Dr. Shockley's work in the Laboratories has been concerned with problems in electronics.

REXFORD S. TUCKER, A.B., Harvard University, 1918; S.B. in Electrical Engineering, Harvard Engineering School, 1922. American Telephone and Telegraph Company, Department of Development and Research, 1923-1934. Bell Telephone Laboratories, 1934-. Mr. Tucker's work has been on noise and crosstalk problems.

M. A. WEAVER, E.E., Lehigh University, 1915. American Telephone and Telegraph Company, Long Lines Department and Department of Development and Research, 1915-34; Bell Telephone Laboratories, 1934-. Mr. Weaver is engaged in development work connected with crosstalk and noise problems of voice and carrier-frequency circuits.

