

## Contributors to This Issue

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HENRY Z. HARDAWAY, B.S.M.E., 1940, University of Iowa; Southern Bell Telephone and Telegraph Company, 1940-42; Bell Telephone Laboratories, 1942—. He was first engaged in military equipment design work on airborne and submarine radar and navigational equipment. He is currently directing systems engineering studies which involve basic design concepts of the outside plant exchange cable network and which have important interfaces with transmission and switching equipment. Also, he is involved in the application of operations analysis techniques to the Associated Companies' operating and engineering problems.

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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.

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