# Abstracts

## Acoustoelectric Convolver Technology for Spread-Spectrum Communications

*S.A. Reible. "Acoustoelectric Convolver Technology for Spread-Spectrum Communications." 1981 Transactions on Microwave Theory and Techniques 29.5 (May 1981 [T-MTT] (Joint Special Issue on Surface-Acoustic-Wave Device Applications)): 463-474.*

Acoustoelectric (AE) convolvers for spread-spectrum communication applications are described with input bandwidth capacities to 200 MHz. These devices offer a unique combination of large processing gain, high dynamic range, small size and weight, and low drive power requirements. The programmable feature of convolvers allows the encoding waveform to be changed from bit-to-bit, thereby providing resistance to repeat jamming and enabling secure communications. The basic concepts of a convolver-based spread-spectrum communications system are reviewed, current convolver capabilities are discussed, and projections are made for future device performance. Deviations from nonideal convolver performance are considered. Special techniques which must be used in the system implementation and evaluation of convolvers are described, and the performance level achieved in a state-of-art convolver subsystem is given.

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