Abstracts

An Application of SAW Convolves to High Bandwidth Spread Spectrum Communications

J.H. Goll and D.C. Malocha. "An Application of SAW Convolves to High Bandwidth 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)): 473-483.

A spread spectrum communications subsystem that is based on the separated medium acoustoelectric convolver is described. The subsystem generates minimum-shift-keyed (MSK) waveforms with the aid of SAW filters and performs differential-phase-shift-keyed (DPSK) data demodulation with acoustoelectric convolvers. The convolver provides a BT product of 2200 with a 3-dB bandwidth of 100 MHz. The signals processed by the subsystem have a BT product of 1100. In this paper, the subsystem, the generation of MSK waveforms, and the use of acoustoelectric convolvers are described. Important subsystem performance characteristics, including dynamic range (/spl cong/50 dB), contribution to implementation loss (/spl cong/1 dB), DPSK demodulation, and distortion levels are illustrated and discussed.

❑ Return to main document.