

# Abstracts

## A Broadband Microstrip Crystal Mixer with Integral DC Return

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*E. Carlson. "A Broadband Microstrip Crystal Mixer with Integral DC Return." 1955 Transactions on Microwave Theory and Techniques 3.2 (Mar. 1955 [T-MTT]): 175-177.*

The recent introduction of practical oscillators, such as carcinotrons and backward wave traveling wave tubes, has resulted in a need for broadband mixers. The combination of the broadband mixer and local oscillator results in the realization of a microwave receiver, capable of covering a two to one frequency range. Tuning can be accomplished in microseconds by changing the voltage applied to one of the electrodes of the oscillator. This broadband mixer and local oscillator combination has a number of practical uses in novel airborne electronic systems, remote tuning receivers, spectrum analyzers, and automatic antenna pattern receivers.

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