Abstracts

An Electrically-Tuned Parametric Amplifier

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A parametric amplifier is a device which normally can be tuned only over relatively restricted frequency ranges. One of the basic reasons for this tuning difficulty is the fact that more than one frequenty range is of Importance: In addition to the signal frequency, a pump frequency and one or more sum or difference frequencies must be considered. For example, one could construct a tunable parametric amplifier by using a fixed-tuned broadband signal circuit, a tunable pump source, and a fixed-tuned difference or sum frequency circuit. Or, one could use a fixed-tuned broadband signal circuit, a fixed-tuned pump source, and a tunable difference or sum frequency circuit. A third approach would be to use tunable signal and sum or difference frequency circuits, together with a fixed frequency pump source.

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