Abstracts

New Alarm Circuit Used for Injection Locking Oscillator of Microwave Communication Equipment

K. Sakamoto. "New Alarm Circuit Used for Injection Locking Oscillator of Microwave Communication Equipment." 1971 G-MTT International Microwave Symposium Digest of Technical Papers 71.1 (1971 [MWSYM]): 158-159.

Cavity-controlled microwave local oscillators are widely used since they are tunable over a wide frequency range with excellent output characteristics and generate little noise. However, the maximum frequency stability is limitted to ± x 10/sup -5/. To increase the frequency stability, a crystal-controlled oscillator is used to perform injection locking in the cavity-controlled oscillator. This paper describes a new injection locking method, explains the theory of injection locking alarm circuit and compares the experimental results with mathematical calculations. The injection locking method and alarm circuit based on this technique are very simple and easy to incorporate into high frequency-stability microwave local oscillator.

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