Abstracts

Amplitude Stabilization of a Microwave Signal Source

G.F. Engen. "Amplitude Stabilization of a Microwave Signal Source." 1958 Transactions on Microwave Theory and Techniques 6.2 (Apr. 1958 [T-MTT]): 202-206.

Recent developments in the microwave field have provided new tools for use in regulating the output amplitude of a microwave signal source. An amplitude or power stabilizer has been constructed at the National Bureau of Standards Boulder Laboratories, using the recently developed self-balancing dc bolometer bridge and a commercially available, electrically controlled, ferrite attenuator which achieves power stabilities of a few parts in 10/sup 4/ per hour. Use of a high directivity directional coupler permits stabilization of the forward traveling component of the signal, thus providing the equivalent of a matched, stable generator. In practice, a broad-band source match of vswr less than 1.05 is achieved, and this figure may be further improved, at a given frequency, by suitable tuning. In addition, the device has applications as a precision broad-band attenuator, since known changes in power level may be achieved by switching certain of the associated dc components.

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