Abstracts

A Dynamic Calibration Method for Biphase Phase-Shift-Keyed Modulators

F.P. Ziolkowski. "A Dynamic Calibration Method for Biphase Phase-Shift-Keyed Modulators." 1975 Transactions on Microwave Theory and Techniques 23.4 (Apr. 1975 [T-MTT] (Special Issue on Microwave Communications)): 390-395.

A method is proposed whereby a (microwave) phase bridge can be constricted to simultaneously measure both the phase and amplitude balance of a biphase phase-shift-keyed (PSK) modulator. Given an initial narrow-band phase shifter that is capable of either continuous uncalibrated phase shifting or slow switching between calibrated fixed-90° phase shifts, the phase and amplitude balance of a second wide-band phase shifter (biphase modulator) can be determined. Furthermore, these measurements may be dynamically and simultaneously displayed in real time on a dual-trace oscilloscope. A significant feature of the method is the unique identification of either or both the phase and amplitude unbalance by means of the symmetric or asymmetric features that these unbalances induce in the display Pattern. Quantitative criteria for the sensitivity of the technique are presented.

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