

Abstracts

A Network Analyzer Incorporating Two Six-Port Reflectometers

C.A. Hoer. "A Network Analyzer Incorporating Two Six-Port Reflectometers." 1977 *Transactions on Microwave Theory and Techniques* 25.12 (Dec. 1977 [T-MTT] (1977 Symposium Issue)): 1070-1074.

This paper outlines the theory and design of a microwave network analyzer capable of measuring the network parameters of any linear reciprocal or nonreciprocal, active or passive two port. An RF signal from one source is applied at the same time to two six-port reflectometers which measure the incident and reflected waves at the ports of the two port being measured. An experimental dual six-port network analyzer for the 2-18-GHZ range has been completed and is described briefly. Some advantages of the proposed design over existing network analyzer designs are 1) only one source is needed, 2) no phase detectors are required, 3) no flexible cables or arms are used between the reflectometers and the two port being measured, and 4) self-calibration techniques are readily applied.

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