

Abstracts

Equalization of Waveguide Delay Distortion (1965 [MWSYM])

E.N. Torgow. "Equalization of Waveguide Delay Distortion (1965 [MWSYM])." 1965 G-MTT Symposium Program and Digest 65.1 (1965 [MWSYM]): 39-44.

All-pass microwave networks can be realized by terminating the conjugate pair of arms of a wideband 3-db coupler in identical reactive networks. For transmission in one direction, an ideal circulator can be used with one arm terminated in the reactive network. When the reactive network is a length of waveguide, tapered so that the cutoff wavelength decreases with distance from the input port, characteristics well suited for the equalization of the dispersive characteristics of waveguide sections result. A single linear tapered guide, in particular, is shown to be capable of reducing the time delay variation a length of waveguide to less than 2 percent over the full operating frequency band of the waveguide. A family of design curves is presented giving the slope of the taper for a prescribed degree of equalization over a specified frequency range.

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