Abstracts

A Variable-Ratio Microwave Power Divider and Multiplexer

W.L. Teeter and K.R. Bushore. "A Variable-Ratio Microwave Power Divider and Multiplexer." 1957 Transactions on Microwave Theory and Techniques 5.4 (Oct. 1957 [T-MTT]): 227-229.

A microwave circuit is presented which provides continuous variation of microwave power between two outputs in any desired ratio. A typical device utilizing the circuit is described, and other uses of the circuit are discussed. An X-band power divider was constructed which had a vswr of less than 1.2 at all times over the frequency range of 8.6 to 9.6 kmc, divided the total input energy between the outputs in any ratio from 1/10,000 to 1, and had less than 0.4-db total insertion loss. No other losses were present. Adjustment could be made under maximum power levels of the waveguide. Another use of the circuit is to couple two high-power transmitters into one output, thus providing a dual frequency antenna coupler or diplexer. By cascading diplexers, multiplexing can be accomplished.

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