Abstracts

A High-Speed Broadband Microwave Waveguide Switch

W.L. Teeter. "A High-Speed Broadband Microwave Waveguide Switch." 1955 Transactions on Microwave Theory and Techniques 3.5 (Oct. 1955 [T-MTT]): 11-14.

A switch which switches microwave energy to any of several separate waveguide loads is described. The switch has the bandwidth and power-carrying capability which is essentially that of the input and output waveguides. Data is given for a switch which operates over the frequency range of 8,600 to 10,000 mc with a vswr of less than 1.15 during transmission and less than 1.5 during switching. The switching speed is limited only by the practical limit for rotating the metal shorting vane. A typical example is given of a 5-output switch with a switching rate of 1,800 per second (vane rotation of 3,600 rpm) and a dead time during switching of 14 per cent of total time. Dead time is a function of switch diameter and vane rotation rate and could be reduced by increasing the vane diameter or rotation rate.

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