Abstracts

A Wide-Band Parallel-Connected Balun

H.R. Phelan. "A Wide-Band Parallel-Connected Balun." 1970 Transactions on Microwave Theory and Techniques 18.5 (May 1970 [T-MTT]): 259-263.

It is pointed out that parallel-connected baluns (4:1 impedance transformation) have approximately four times the operating bandwidth of series-connected baluns (1:1 impedance transformation). The simple theory of uncompensated resonant baluns is discussed, and design curves are presented which may be used to design any balun of this type. Experimental results are given on one type of parallel-connected balun showing it capable of a 25:1 operating bandwidth as predicted by theory. Operating over this bandwidth, the balun is only lambda/25 in length at the lower band-edge frequency. Because of its 4:1 impedance transformation, the balun should be very useful in the feeding of frequency-independent antennas with high impedance, such as the conical spiral.

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