

## Modified transmission and reflection coefficients of nonuniform transmission lines and their applications

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By employing the ABCD transmission matrix of a transmission line, we formulate the reflection and transmission coefficients of a nonuniform line as polynomial ratios in Z-transforms. Such formulations reveal explicit relationships between transmission and reflection coefficients of a nonuniform line. These formulations, in conjunction with a reconstruction method, lead to the realization of nonuniform lines from either the reflection or transmission coefficients. Several examples are presented to illustrate the applications of modified transmission and reflection coefficients in practical circuits.

 [Return to main document.](#)