Abstracts

A New Computer Aid for Microwave Filter Design

G. Szentirmai and L. Besser. "A New Computer Aid for Microwave Filter Design." 1980 MTT-S International Microwave Symposium Digest 80.1 (1980 [MWSYM]): 413-416.

A recent development for the synthesis, as well as the analysis, of microwave filters, multiplexers, and impedance matching circuits is described in this paper. The new program offers interactive design of filter networks constructed by commensurate transmission line stubs and unit elements. Lowpass, highpass, bandpass, linear-phase lowpass and band-reject filters can be specified with maximally flat or equal-ripple passband, having monotonic, equal-minimum or arbitrary stopband specifications. If finite transmission zero locations are not known, the program can compute them by an optimization procedure. Circuit topology may also be specified by the user, or the program can generate it internally. At the command level, all the known network manipulations (Norton Transformations, Kuroda Identities including Levy's Extension, etc.) are readily available; additional unit elements may be inserted at the source or the load side to increase the complexity of an existing network. Filter size may be specified by its degree or by the appropriate stopband specifications.

❑ Return to main document.