# Abstracts

## Broad-Band Stepped Transformers from Rectangular to Double-Ridged Waveguide

*E.S. Hensperger. "Broad-Band Stepped Transformers from Rectangular to Double-Ridged Waveguide." 1958 Transactions on Microwave Theory and Techniques 6.3 (Jul. 1958 [T-MTT]): 311-314.*

The design of a series of broad-band Tchebycheff-type stepped waveguide transformers from various sizes of standard rectangular waveguides to a double ridged waveguide covering the frequency range of 4750 to 11,000 mc is described. Four separate transformers employing RG-67/U (WR-90), RG-68/U (WR-112), RG-106/U (WR-137), and WR-159 to Airtron ARA-133 double-ridged waveguide have been designed using this technique and cast in aluminum. The complete frequency range is covered by several pairs depending on which sizes of mating rectangular waveguides are desired. The RG-106/U design covers a frequency range of 53 per cent with a maximum VSWR of 1.08, while the other three designs each cover a slightly smaller frequency band with a VSWR not exceeding 1.05. Along with the experimental results obtained, an outline of the design method is given which can be used to design similar transformers between any compatible rectangular and double ridged waveguides.

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