

pedance circles and arcs, curves of constant rejection per section, and the cut off circles are constructed as coordinates superimposed on a Smith chart. When a plot of the input impedances of a single section is normalized to its real terminating impedance and plotted on such a chart, the characteristic impedance, the cut off frequencies, and the rejection and pass bands of a filter consisting of any number of these sections can be read directly from the chart and the attenuation properties readily determined. A complete filter may be analyzed in a similar manner.

Note that only one impedance measurement or calculation is required to analyze a filter by this method, instead of the two required for the open and short circuit method, and that when the normalized impedances have been plotted on the filter analysis chart no further calculations are required, since all the information is read directly from the chart.

Note also that, since the terminating impedance z_L can have any real value, it may conveniently be equal to the characteristic impedance of the slotted line used to make the measurements. If the analysis is to be made from calculated impedances, other choices of z_L may be convenient.

Fig. 7 shows the attenuation characteristics of a filter consisting of five of the sections shown, as calculated using the filter analysis chart and as measured on an actual filter. The normalized input impedance is shown plotted on the chart in Fig. 6.

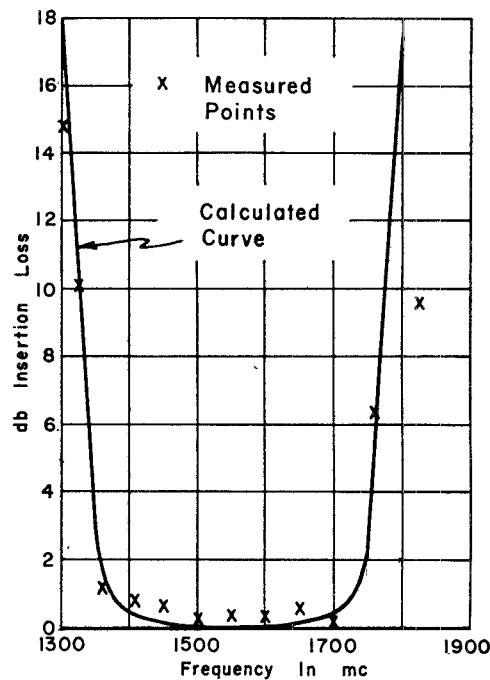
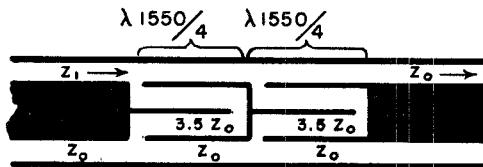


Fig. 7—Calculated and measured characteristics of a filter consisting of five of the sections shown.

Correction

P. D. Strum, author of "Crystal Checker for Balanced Mixers," which appeared on pages 10-15 of the July, 1954 issue of the Transactions, PGM, has brought the following correction to the attention of the editors:

In the last paragraph under *Matching Procedure*, ". . . 62-25 . . ." should read ". . . 65-25 . . ."

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