

was shown. The relationship between physical dimensions and the capacitances per unit length of the line was used to obtain the required line spacings and widths for any arbitrary coupling ratio. It was shown that, for coupling ratios around 3 dB, the dimensions for a perfectly matched coupler are not always easily realizable, but by allowing a small mismatch the dimensions become more reasonable.

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## Letters

### Correction to "Coaxial Transmission Lines, Related Two-Conductor Transmission Lines, Connectors, and Components: A U.S. Historical Perspective"

JOHN H. BRYANT, FELLOW, IEEE

While revising and editing the above paper, Fig. 5 was inadvertently duplicated. The result of this oversight can be seen on p. 980, where the illustrations for Figs. 4 and 5 are the same. The intended Fig. 4, with its caption, is shown below.

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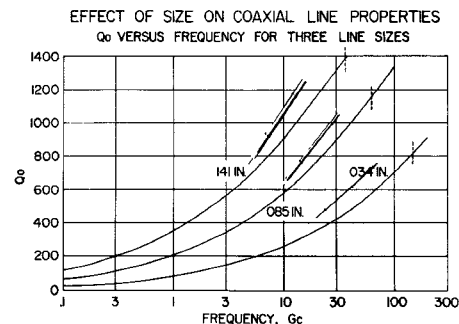


Fig. 4. Unloaded  $Q$  of coaxial line versus frequency, for three line sizes. The vertical dashed lines indicate the frequency at which the particular size of transmission line can support a higher order mode.

## Patent Abstracts

These Patent Abstracts of recently issued patents are intended to provide the minimum information necessary for readers to determine if they are interested in examining the patent in more detail. Complete copies of patents are available for a small fee by writing: U.S. Patent and Trademark Office, Box 9, Washington, DC 20231.

4,416,505

Nov. 22, 1983

### Method for Making Holographic Optical Elements with High Diffraction Efficiencies

Inventor: LeRoy D. Dickson.  
Assignee: International Business Machines Corporation.  
Filed: Oct. 26, 1981.

**Abstract**—Production quantities of a multi-element holographic scanner disc are made by optically replicating a silver halide master disc one element at a time in a dichromated gelatin film. The dichromated gelatin film swells during processing. The swell is monitored during production by determining the shift in the angle of the Bragg surfaces within the gel. The angle of the replicating beam for each element is changed from that of the original reference beam to

establish a Bragg angle at exposure which will be tilted to the proper angle after swelling in order to maximize the diffraction efficiency of the element at the original reference beam angle

4 Claims, 6 Drawing Figures

