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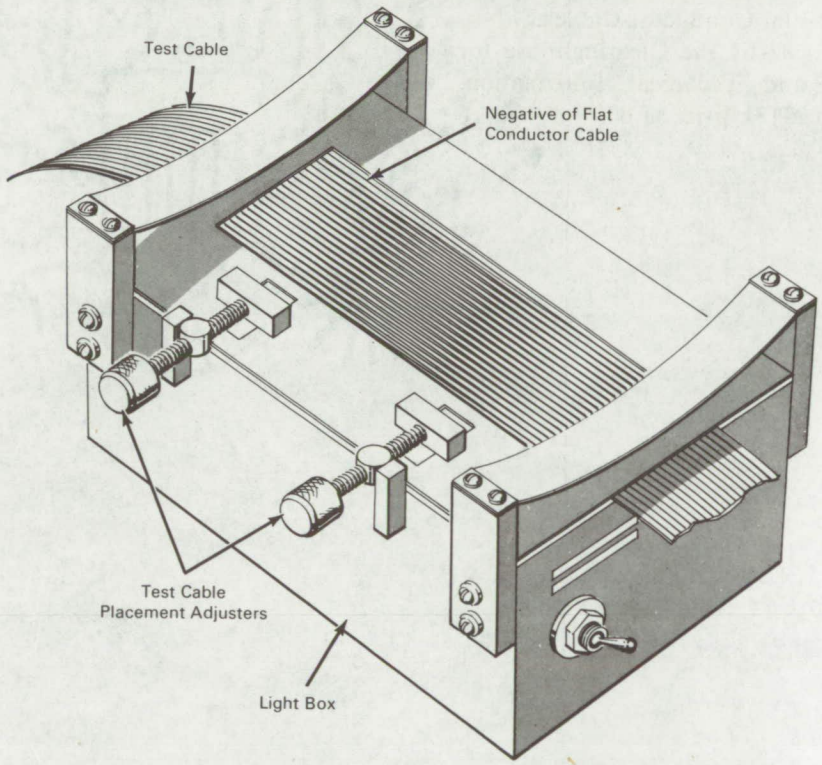
Brief 69-10456

NASA TECH BRIEF

Checking Flat Conductor Cable Spacing by Means of a Moire Pattern



Moire Tester

The problem:

Detect small variations in flat conductor cable (FCC) spacing by a quick, visual inspection.

The solution:

Use a moire tester as shown in the drawing to compare the cable to be tested with the negative of a very precise standard cable.

How it's done:

Put the negative of the standard flat conductor cable on top of a box containing a light source and a diffuser plate for uniform illumination. Place the test cable parallel over the standard cable negative so that the conductors cover the openings of the standard FCC negative; no light should be visible. Any imper-

(continued overleaf)

fection in conductor width or spacing will form small cracks between the negative and the test cable lines.

Form a moire by placing the test flat conductor cable on a slight angle to the standard cable negative. This moire, consisting of bands of light and dark zones and its irregularities, can be interpreted as errors in spacing. A cable angle of one degree will amplify the spacing error 114 times. Variations in length of the rhomboids are the magnified variations of the conductor spacings.

Notes:

1. Additional information about flat conductor cables can be found in NASA SP-5043, "Flat Conductor Cable Technology," (1968), for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402; price 40 cents, and in NASA SP-5924(01), "Tools, Fixtures, and Test Equipment for Flat Conductor Cables," (November, 1968), for sale by the Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151; price $1.00.
2. No further documentation is available. Inquiries may be directed to:

   Technology Utilization Officer
   Marshall Space Flight Center
   Huntsville, Alabama 35812
   Reference: B69-10456

Patent status:

Inquiries about obtaining rights for the commercial use of this invention may be made to NASA, Code GP, Washington, D.C. 20546.

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