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Brief 67-10249

NASA TECH BRIEF

Computer Program Samples Digital Data for CRT Display

The problem:

To provide a high volume, multichannel data reduction program which permits selection of the rates at which data is sampled and prepared for display. The program must also permit accessibility to the original mass of data, e.g., commercial performance, failure analysis, experimental sources, or acceptance testing.

The solution:

A computer program written in the Fortran IV source language provides a data reduction method in which binary data, prerecorded on magnetic tape, may be selectively sampled and displayed on a CRT plot.

How it's done:

The program produces a complete graph by generating a series of frames which are displayed sequentially on a CRT. Each frame presents a segment of the horizontal axis as an extension in time of the previous frame, and will remain displayed on the CRT for a time interval as specified by the user. The input for the data reduction program is selectively sampled from magnetic tapes. These tapes contain the original data for other uses requiring accessibility to the entire block of data.

The programmer has under his control the selection of the data sampling rate, the point plot frequency and the number of channels to be graphed. Combinations of these variable rates are used to produce an output which contains only the desired amount of data. Through graphical representation of this data, the programmer may "map" together a graph which plots up to 5 channels simultaneously. Values for the first channel are plotted as dots; the second, plus signs; the third, asterisks; the fourth, crosses; and the fifth, zeroes.

Notes:

1. The program is restricted to (1) the use of not more than 5 curves per graph, and (2) not more than 2000 points plotted per channel per graph, i.e., 10,000 points per graph.
2. Inquiries concerning this invention may be directed to:

   COSMIC
   Computer Center
   The University of Georgia
   Athens, Georgia 30601
   Reference: B67-10249

Patent status:

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

Source: D. J. Day and W. H. Wickes
of North American Aviation, Inc.
under contract to
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(MSC-999)

Category 01