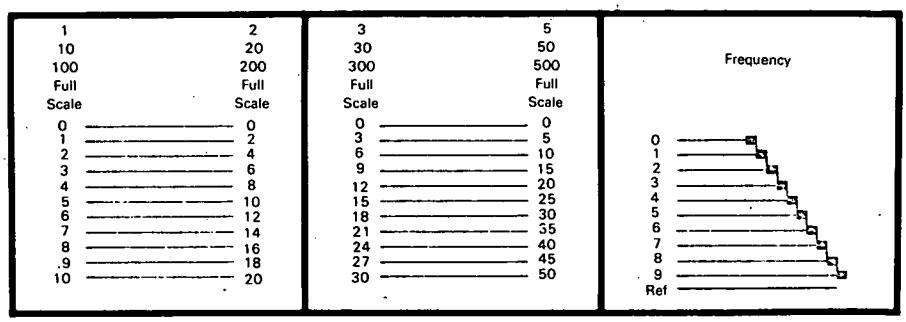
NASA TECH BRIEF

Amplitude and Frequency Readout Overlay



AMPLITUDE AND FREQUENCY READOUT OVERLAY
(1" = Full Scale Calibration)

The problem:

A simple method was required for measuring amplitudes and frequencies on oscillograph records. Oscillograph traces are generally calibrated for a full scale deflection of one inch and the reference frequency is recorded using a digital marker. Present methods for measuring amplitudes use (1) an engineering scale to measure trace deflections, and (2) the digital frequency code calibration at the beginning of the record to measure the frequencies of interest.

The solution:

An amplitude and frequency readout overlay was designed to simplify the interpretation of oscillograph traces for full scale deflections of one inch.

How it's done:

Amplitude. Select the scale on the overlay which corresponds with the one inch full scale calibration on the oscillograph record. Place the "0" line of the selected scale along one edge of the data envelope: read the level in peak "g's" directly off the scale where the opposite side of the envelope terminates.

Frequency. The digital coded frequency trace, which provides steps from 0 to 9 in a four decimal readout, must be calibrated to deflect 0.1 inch per step on the oscillograph record. The overlay is then placed over the coded trace and the frequency is read directly.

Notes:

1. This overlay will increase accuracy in data interpretation and save time in analyzing oscillograph records.
2. Inquiries concerning this innovation may be directed to:

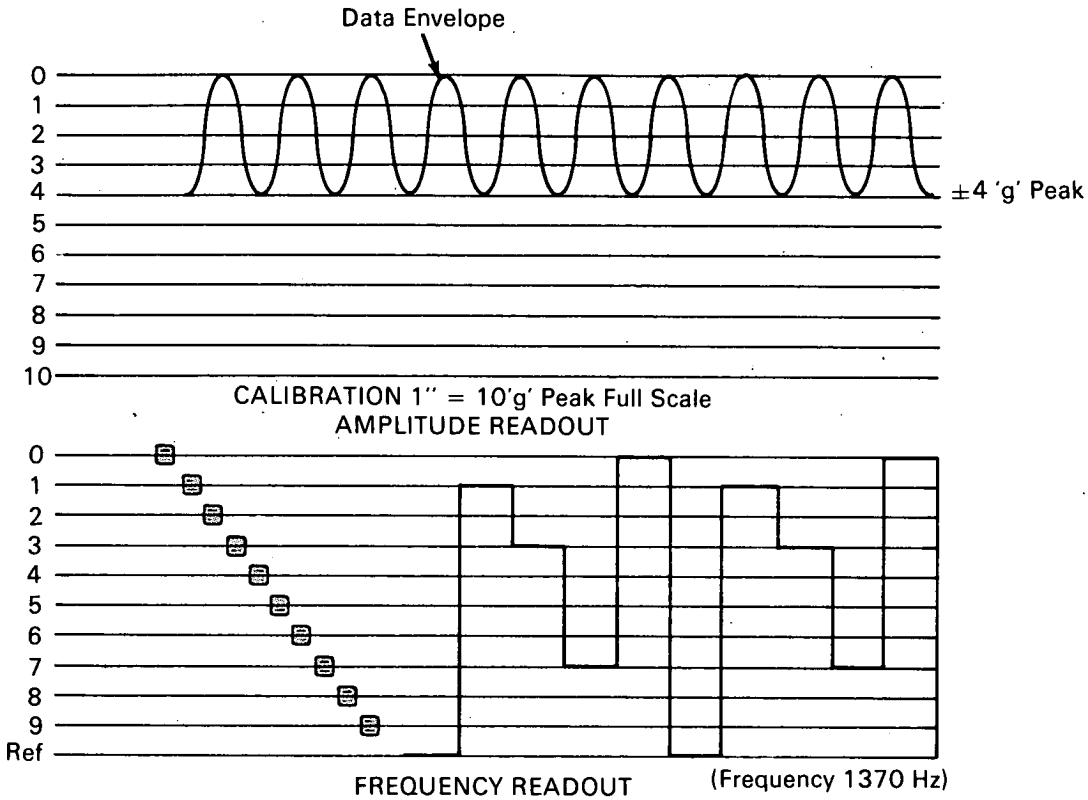
   Technology Utilization Officer
   Goddard Space Flight Center
   Greenbelt, Maryland 20771
   Reference: B68-10054

Patent status:

No patent action is contemplated by NASA.

Source: A. E. Fitch
(GSC-10183)

(continued overleaf)


Data Envelope
0
1
2
3
4
5
6
7
8
9
10
±4 'g' Peak
CALIBRATION 1" = 10'g' Peak Full Scale
AMPLITUDE READOUT
0
1
2
3
4
5
6
7
8
9
Ref
FREQUENCY READOUT
(Frequency 1370 Hz)