

NASA TECH BRIEF



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Improved Frequency Divider Employs Transistor Avalanche Effect

A frequency divider circuit that has been developed can be synchronized over a much wider input control frequency range, has greater phase stability, and is less sensitive to temperature changes than conventional synchronized oscillators used to perform frequency division. The new circuit depends on the avalanche breakdown mode of operation of transistors. Typical characteristics of a divider circuit using the synchronized avalanche oscillator design for a frequency ratio of 57/221 are:

Input frequency, 21.9792 MHz

Output frequency, 5.6688 MHz

Bandwidth (controlled by crystal filter), ± 33 kHz
(-1 db)

Lock range, > 2 percent

Phase instability, approximately 0.01 deg rms

Note:

Inquiries concerning this circuit may be directed to:

Technology Utilization Officer
NASA Pasadena Office
4800 Oak Grove Drive
Pasadena, California 91103
Reference: B67-10575

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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Category 01

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The following information is being furnished to you for your information and is not to be distributed outside your organization.

Improved Propaganda Division Employee Transport System

A program of research and development has been completed by the Propaganda Division of the National Aeronautics and Space Administration (NASA) to improve the transport system for its employees. The program was initiated in 1964 and was completed in 1966. The results of the program are being reported in this Tech Brief.

The transport system for the Propaganda Division has been improved by the use of a new type of vehicle. This vehicle is designed to provide a safe and comfortable mode of transport for employees. The new vehicle is being used by the Propaganda Division and is being evaluated for use by other divisions of NASA.