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# An Investigation Into Frequency Stabilization As Temperature Variations Occur

Mark A. Pizzuto

*Indiana University - Purdue University Fort Wayne*

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TITLE

An Investigation into Frequency Stabilization as  
Temperature Variations Occur

Prepared For

The Electrical Engineering Technology Staff  
Professors Nold, Emery, Detraz, Gates, Gideon, Nordlin

Submitted By

Mark A. Pizzuto  
Senior - Electrical Engineering Technology  
Date: December 14, 1984

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ABSTRACT  
of  
An Investigation into Frequency Stabilization as  
Temperature Variations Occur  
By  
Mark A. Pizzuto

This report presents the documentation gathered concerning the above title. It takes an in depth look into crystal oscillator design and performance using an experimental method of design. The purpose of this investigation was to establish a means by which to rectify frequency drift as temperature variations occurred. With the introduction of an 8080 based microprocessor, correction values were stored in memory while a comparator program constantly ran. This technique proved to be applicable in establishing any type of compensation. Along with the description of this technique, a copy of the software is enclosed as well.