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A Digital Audio Analyzer

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SENIOR DESIGN

TECHNICAL REPORT

for

A DIGITAL AUDIO ANALYZER

title

in partial fulfillment of the requirements

for the degree of

BACHELOR OF SCIENCE



presented to the

ELECTRICAL ENGINEERING TECHNOLOGY FACULTY

INDIANA UNIVERSITY-PURDUE UNIVERSITY AT FORT WAYNE

AUGUST 12, 1980

date

by

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GRADE:

APPROVED: /

ABSTRACT

Digital signal processing techniques are applied to audio components in order to characterize their behavior. The design and development of this digital audio analyzer (DAA) are discussed. The basis of the DAA is the Fast Fourier Transform. Impulse testing is used to obtain an audio component's impulse response, which is then processed by a dedicated microcomputer to yield the component's frequency response. Both hardware and software are discussed. Test results are given proving validity of operation of the DAA.

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