PLANT PHYSIOLOGY

(DETECTION AND MEASUREMENT OF PHYSIOLOGICAL

SIGNALS OF PLANTS AND TREES)

Project Report Submitted by ANTONIS ORPHANOU

In Part satisfaction of the award of Diploma of Technician Engineer in Electrical Engineering

of

the Higher Technical Institute, Cyprus

Project Supervisors: Mr. A. Kaplanis

Lecturer in Electrical Engineering Department

H.T.I.

Type of Project : Individual

Group

JUNE 1989



ABSTRACT

The aim of this project is to carry out investigation into claims that measuarable and observable physiological signals can be obtained from plants and trees using sensitive electronic circuitry. (1-40 Hz).

Such claims appeared in both Greek and English publications and articles.

For this reason two different electronic amplifying systems were designed , constructed and used for the detection of such signals.

some signals were observed using the circuits mentioned but it is not certain that the signals so observed on the oscilloscope were really the reaction signals mentioned in some periodicals.

The author, therefore, recommends further work and investigation on the matter in subsequent projects.

CONTENTS

	Page
CHAPTER 1	
Introduction	1
CHAPTER 2	
Plant Physiology: Extracts From	
Various Articles	2
CHAPTER 3	
Circuit Diagram of the Designed	
Circuit and Explanation	Ą
CHAPTER 4	
Test made and Results Obtained	9
CHAPTER 5	
Conclusions and Recommendations	
for Future Work	14
APPENDIX 1	
Design Criteria and	
Mathematical Analysis	16
	*
APPENDIX 2	
Rs Data Library	44