## **HIGHER TECHNICAL INSTITUTE**

#### ELECTRICAL ENGINEERING DEPARTMENT

**DIPLOMA PROJECT** 

### **DESIGN OF A LIGHTNING DETECTOR**

E1386

BY

**BANJO BABATUNDE GABRIEL** 

**JUNE 2006** 

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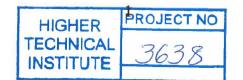
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#### **BANJO BABATUNDE GABRIEL**

#### 2006



# **CONTENTS**

ACKNOWLEDGEMENTS 3	
INTRODUCTI	ON 6
PART I T	THEORETICAL PART
CHAPTER 1	Power Supply 8
CHAPTER 2	The Receiver 18
CHAPTER 3	Flasher Circuit 45
<b>CHAPTER 4</b>	Buzzer Alarm 46
PART II PRACTICAL PART	
CHAPTER 5	Design of Circuit 47
CHAPTER 6	Testing Of Circuit 51
CHAPTER 7	Conclusion 54
APPENDICES 55	
BILIOGRAPHY 56	

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Special thanks to my family for the love, understanding and financial assistance offered during my course of study and my project work.

## **DEDICATION**

This project is dedicated to the loving memory of my beloved father Mr: Samuel A. Banjo. May his gentle soul rest in perfect peace, we love you Dad but God loves you most.

## **INTRODUCTION**

This project entitled Lightning Detector is an instrument / device which detects the approach of lightning before a storm, and it could be used everywhere and anywhere at anytime.

A general overview of Lightning will help show the importance and usefulness of the Lightning Detector in our everyday life.

Lightning is one of the most beautiful displays in nature, it is also one of the most deadly natural phenomena known to man.

The effects of Lightning are numerous as it produces mechanical, electrical and thermal consequences and it is extremely dangerous to human, life and properties when it strikes.

This project is divided into circuits the Power supply, Receiver, Metering / Indicating or monitoring and the Alert / Alarming circuits.

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The power circuit is a simple 5V supply to the circuit which allows the use of commonly modeled power supplies AC and DC( batteries).

The receiver circuit is designed to receive and be of high sensitivity to detect the signals in the VLF range which is an important part of the Lightning Detector.

The metering circuit of high sensitivity shows the intensity of the received signal a probable extent of the approaching lightning.

The Alarming circuit which could be a blinking lamp a buzzer or an alarm as desired is to produce visible or audible awareness to the user this is triggered when a preset level is reached.