# DEPARTMENT OF ELECTRICAL ENGINEERING UNIVERSITI TEKNOLOGI MARA CAWANGAN PULAU PINANG

# FINAL REPORT OF DIPLOMA PROJECT

TITLE: SOUND OPERATED SWITCH

**Date: 18 FEBUARY 2005** 

# STUDENTS:

ASROLL NAZWAN BIN AHMAD 2001342992

SUPERVISOR: CIK LINDA BT MOHD KASSIM

TABLE OF CONTENTS		PAGE
Acknowledgement		i
Abst	tract	ii
CHA	APTER 1	
1	Introduction	
	1.1) Background	1
	1.2) Objective	2
	1.3) Scope of work	
	1.3.1) Gantt chart	3
	1.3.2) Methodology	4
СН	APTER 2	
2	Circuit Design and Operation	
	2.1) Circuit Design and Schematic Diagram	5
	2.2) Circuit Operation	6
	2.3) Circuit Description	8
	2.4) Component List	9
CH.	APTER 3	
3	Results	
	3.1) Results for simulation	10

#### **ACKNOWLEDGEMENT**

In the name of Allah SWT the Gracious and most Merciful. Thanks to Allah that gives us the energy and strength also the opportunity to complete this KEU 380 project successfully.

Our sincerest appreciation must be extended to the project supervisor, CIK LINDA BT MOHD KASIM for all the help, guidance and patience during the process of completing this project. Not forgetting to most of our friends that help us most of the time through in some problem. We are very grateful for all kind of help that we achieve in making this project. Information and knowledge is what we lack in our way to achieve gold in our project, and the only way to solve it is by asking someone else who know more than us. All the useful information that we achieve throughout this project, we use it as much as we can to make us for the best that we can. Thanks to everybody that had provided us with such information, and surely your information is sure enough satisfy our need and useful throughout completing this project.

To our parent, surely enough we must thank them a lot for the moral, and the most important thing, to provide us with financial support. By a bless given to us by ALLAH SWT, we could complete this project successfully and with the hope to ace through in our effort. For all the people that we forget to mention, please forgive us; we do appreciate all the things that you have done for us. Thank you.

#### **ABSTRACT**

Electronic application had automatic remote control turn on/off TV, VCD Player, and Air Condition. So we had tried to combine the idea by using Sound Operated Switch with an automatic/manual electrical device.

Sound Operated Switch is a circuit that is designed to activate the switch for applications including teaching basic voice control skills for children who are deaf, teaching cause and effect, entering data into a computer, or other device.

The main ideas of the projects to help people which have problem in physical disability or handicapped by designing the user friendly smart switch. This circuit just needs a little space on the control panel of the electrical appliances in the way to operate it.

### CHAPTER 1

## INTRODUCTION

## 1.1 Background

The main purpose of this circuit is to assort the kind of switch which had in our living. Sound Operated Switch is a momentary switch that is activated upon hearing a sound by using with dynamic microphone (MIC) insert or be used with an electrets (ECM) microphone. It is operated by gives the user the ability to adjust the following volume of the sound required to activate the switch, the length of time the sound must be present to activate the switch, and the length of time that the switch will close after it is activated. These features allow the user to prevent the switch from being triggered by normal conversation or background noise within a room.

Sound Operated Switch can be continue with relay that can be used for applications including operate tape recorders, lights, fans and a variety of other devices.

Alternatively, it can be used as a simple security device to sound an alarm or activate monitoring equipment.