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FINAL REPORT OF DIPLOMA PROJECT

SOUND ACTIVATED SWITCH

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ABSTRACT

This project is about a switch that will function responding to the sound. The basic idea of this project is to help user in using their electrical appliances. Before this, we have to touch the switch to operate electrical appliances. But by touching the switch directly using our hands will risk us to short circuit especially when with wet hands. And now, here we are trying to introduce the other way of switching the electrical appliances, i.e. by using 'Sound Activated Switch'.

The application of this Sound Activated Switch is actually has been used in many of today technologies. We can see this in the mobile phone technology, for an example, we can automatically call the person we want to contact by mentioning his name without dialing his number. We can get the basic idea and understand this technology from this project. Although in this project we are replacing the human voice to the hand clapping sound, we still can get the basic idea of this technology. Maybe this project can be develops soon to be more practical to be applied in our future life.

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CHAPTER 1

INTRODUCTION

1.1 Background

This Sound Activated Switch is about a switch that will ON / OFF just by the sound of hand clapping. The Sound Activated Switch consists of a transistor amplifier, a transistor switch and two type of digital circuit. A waveform is created when hands are clapped together. In this project, the frequency of the hand clapping is the most important element to operate the switch. In this project, we just clap our hands together twice and The Sound Activated Switch will turn on the light emitting diode (LED). When we clap our hand twice more, the LED will turn off.

The main purpose of the project is to help the consumer to use their electrical or any appliances without touching it. As we know, the conventional switch needs us to use hand to switch on or switch off the appliances. This will risk the consumer to short circuit when there is any leakage of grounding happen. Using Sound Activated Switch, we make the switching easier by using one simple circuit as an extra switch.

The project that we have here is actually only the basic of today's technology; where the waveform of the sound has been exploited to develop the better live to us. For the example, the technology that using sound as the module operate can be applied in communication field, high-tech security system, and also can be applied in helping blind person to use their computer appliances. The easiest application of this technology to explain is the usage of 'voice tag' in our mobile phone. By using the voice tag, we don't have to dial up the phone number we like to call, just saying the name that we want to call. This is done by setting our voice sample, where the frequency of our voice is recorded and will automatically call the number anytime we want to. So do with the human voice is programmed to help blind person using their computer.

Any technology has its own limit. So do with the Sound Activated Switch that cannot hide away with this problem. To device only will operate if it can detect the hands-clapping sound around 10 to 20 feet from the device, and when there is no other sound or noises that can affect the sensor.