

**DEPARTMENT OF ELECTRICAL ENGINEERING
UNIVERSITI TEKNOLOGI MARA
CAWANGAN PULAU PINANG**

FINAL REPORT OF DIPLOMA PROJECT

INTERCOM AND DOOR BELL

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Without our supervisor's guide we won't be able to accomplish what we should in doing this project. We would also like to express our thanks to our other group members for their help too. Besides that, we gain all the information that we need by other sources. We surf the internet through many websites and also went to the library. Some of the information that we need to know, we collect it through reading certain books and magazines. Instead of collecting all the information that we need from all kind of sources, we also went to certain electrical store to asked certain question about the project that we were doing. In our effort to fulfill the requirement in this subject, we also receive co-operation from our friend and make us realize how important teamwork is in order to achieve our goal. Therefore we were very thankful to Allah and everyone that had given all the co-operations that we need.

ABSTRACT

Our project in the KEU 380 subject is to build an intercom and door bell. Both of this are used in the Smart Home. This project is continuing from KEU 280 project. Firstly is the intercom. It is a device that able us to communicate with the desire person that we want to in the house area. Intercom make our life easier everyday. For example, if we want to know whether the dinner is ready or not, we just communicate with it without going to the kitchen to find out This project is a two way intercom, which is both of the party can communicate. However, only one end will be able to speak at any one time, where it is just like the application of walkie-talkie

Meanwhile door bell is a device that is invented to aware someone in the house of the attendance of somebody outside the house. The sound that is produce when someone outside the house pressed the button will inform the person in the house. The used of door bell is also make our life more simple. The purpose of this project is to provide a reliable and useful devices.

The total expense right now is about RM200. This expense including all the component and the other things that we need for this project. It is also included the cost of printing and typing of this report.

TABLE OF CONTENT		PAGE
Acknowledgement		ii
Abstract		iii
CHAPTER		
1	INTRODUCTION	
1.1	Background	1
1.2	Objective of the project	6
2	A SIMPLE DOOR BELL AND INTERCOM	
2.1	Door bell	7
2.2	Intercom	8
3	CIRCUIT DESIGN AND OPERATIONS	
3.1	Circuit Design	
3.1.1	Schematic Diagram	9
3.1.2	Component List And Data	9
3.2	Circuit Simulation	
3.2.1	Circuit Maker Software	16
3.3	PCB Design	
3.3.1	Printed Circuit Board	21
3.3.2	The PCB Layout	22
3.3.3	Method	22
4	HARDWARE CONSTRUCTION	
4.1	Hardware Construction Procedures	
4.1.1	PCB Making	24
4.1.2	Etching	24
4.1.3	Drilling	25
4.1.4	Inserting Component	25
4.1.5	Component Soldering Method	25
4.2	Circuit Testing And Troubleshooting	29

CHAPTER 1

INTRODUCTION

1.1 Background

DOOR BELL

Door bell is known as the gadget that person in the house of the present of the person outside of the house. The invention of the door bell make life more easier. As an alternative, we had built a simple circuit of door bell that we can place at our house for our own convenient. There is a lot of door bell types, but all function is all the same. Some door bells produce many types of sounds when the other party push the button. There are songs, cuckoo sound, greeting and etc.

The one that we are making produce music sound. This musical door bell operates by just bridging the gap between the touch plates with one's fingertips. Thus, there is no need for a mechanical 'ON' or 'OFF' switch because the touch plate act as a switch. The door bell can be used using on 1.5V or 3V, using one or two pencil cells and can be used either in offices or at homes.

Two transistors are used for sensing the finger touch and switching on the melody IC. Transistor BC 548 is npn type meanwhile transistor BC 558 is pnp type. The emitter of transistor BC 548 is shorter to the ground, while of the transistor BC 558 is connected to the positive terminal. The collector of transistor BC 548 is connected to the base of BC 558. The base of BC 548 is connected to the washer. The collector of BC 558 is connected to pin 2 of musical IC UM 66, and pin 3 of IC UM 66 is shorter to the ground. The output from pin 1 is connected to a transistor amplifier comprising BEL 187 transistor for feeding the loudspeaker. One end of 2.2M ohm resistor, R1 is connected to the positive rail and the other to a screw. The complete circuit is then connected to a single cell of 1.5V.