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FINAL REPORT OF DIPLOMA PROJECT

FACULTY OF ELECTRICAL ENGINEERING



"WIRELESS INTERCOM AND  
DOORBELL FOR A SMART HOME"

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<b>TABLE OF CONTENTS</b>	<b>PAGE</b>
Acknowledgement	ii
Abstract	iii
<b>CHAPTER</b>	
<b>1 INTRODUCTION</b>	
1.1 Wireless Intercoms	1
1.2 Doorbell	1
1.3 Scope of Work (Intercom and Doorbell)	2
1.4 Objective of the Project	5
<b>2 DIFFERENT TECHNIQUES</b>	
2.1 Door Phone Video Intercom System	6
2.2 Door Bell Fon Door Answering System	6
2.3 Wireless Doorbell	7
<b>3 CIRCUIT DESIGN AND OPERATION</b>	
3.1 Wireless Intercom	8
3.2 Doorbell	9
3.3 Components Lists and Data	10
3.3.1 Wireless Intercom	10
3.3.2 Doorbell	12
3.4 Circuit Simulation	13
3.4.1 TINA Software	13
3.4.2 Simulation Procedures	14
3.5 PCB design	15
<b>4 HARDWARE CONSTRUCTION</b>	
4.1 Hardware Construction Procedures	16
4.1.1 PCB Drawing	18
4.1.2 Etching	20
4.1.3 Component Soldering	21
4.2 Circuit Testing and Trouble Shooting	24

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## ABSTRACT

Smart Home is the terms commonly use to define a residence that uses a Home Controller to integrate the residences various home automation systems. Some of the devices commonly found in Smart Home technology is the “Wireless Intercom” and “Doorbell” design.

The Wireless Intercom and Doorbell are functioning to support the home security system. It is easy for the person outside the house to communicate with the person inside the house. In this project, one of the Wireless Intercom and Doorbell has being selected.

The wireless intercom has a transmitter and receiver circuit, which is, used modulator and demodulator concept. The doorbell is a wired doorbell that has five melodies that control by the IC M3485, which is the melody IC. The melodies can be changed by pressing the switch at the circuit.

The Wireless Intercom and Doorbell are connected in order to build a safety system at front gate to the front door at the Smart Home.

# CHAPTER 1

## INTRODUCTION

### 1.1 Wireless Intercom

Wireless Intercoms are smart solutions if there are tired of jumbled wires and wish to seek more clarity and convenience. This wireless intercom has a transmitter and receiver circuit, which is, used modulator and demodulator concept.

The first circuit, which is transmitter circuit, is used to convert the information signal (voice) to the electrical signal. The modulator inside this circuit is used to varying the carrier signal according to the electrical signal and transmits the signal to the receivers.

The second circuit, which is receiver circuit, is used to pick up the modulated signal by the antenna. The demodulator inside the circuit is used to separate the modulated signal. The electrical signal is converted to the original information by the audio amplifier (LM 386) and sends the information to the destination through the speaker.

### 1.2 Doorbell / Door Chime

Main feature of the Doorbell will allow the door to be answered from any location. Therefore, the understanding of modem communication technology is very important. General features of Doorbell:

- The Doorbell is easy to install!
- Place Doorbell Button wherever you want.
- Mounts Quickly and Easily.

Today most property owners are unable to recognize their visitors once they are away from their houses. The Doorbell system provides owners to take control of their houses in order to prevent any unexpected thing happened in surrounding.