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RF REMOTE CONTROLLER

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*In the name of God, Most Beneficent, Most merciful*

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## Abstract

The RF Remote Controller is ideally suited for general-purpose remote control applications such as garage door, gate opener, keyless entry systems, lighting controls, security and call systems, robotics and many other remote control needs. This thesis is designed to show how the processing and operation of the remote controller with radio frequency

The hardware is consisting of two part; transmitter and receiver. It used high frequency of FM that transmitted to the receiver by the antenna. The electric wave sending-out is controlled with the code by PIC transmission and the code is deciphered by PIC for receiving. The circuit is supplied by the cell of 9V. There are 2 switches at the transmitter. The circuit will operates only if the control switch is pushed and if it isn't pushed it make all circuits stop to suppress the consumption of the battery. The electric wave which was made with oscillator is controlled by PIC16F84A. The receiver consists of high frequency amplification circuit which is connected with 2 stages FET amplifier for high frequency amplification. The signal which is received will be amplified. The successful of operation is proved when the LED's of relay drive circuit emit light.

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# CHAPTER 1

## INTRODUCTION

### 1.1 BACKGROUND

RF Remote Controller constructed to control the system from a certain distance. It is a kind of wireless controller gives many benefit to us. It makes easy to people in daily routine where people can concentrate on their work without disturbed by side activity such as to switch ON/OFF the light or fan and to close and open the gate. With remote control user can control these activities from a certain distance. This project is consisting of two part, transmitter and receiver. Transmitter as a device that sent input signal to the receiver and receiver receives the input from transmitter to produces the output of the light. This project of remote control is use frequency modulation, FM and high frequency. This project is designed in a general purpose of remote control. It is can be applied to many applications that are need remote control such as robotic. To make it is suit to the receiver (robot) the designer have to modify the circuit and the software to make the movement of the robot.