DUAL POWER ANTI-THIEF ALARM SYSTEM

Prepared by: Mohmed Adeil Ghanim Mohamed

ABSTRACT

This project presents to you a dual power anti thief alarm system. It has got two power sources rechargeable battery using solar panel that is the primary source and normal AC source as a backup. The system is capable of detecting any disturbance at any door or if any window is opened. When the alarm is ON the system will switch ON an LED lamp and a siren for 15min, not only that but it will also call a preloaded number using mobile phone.

The system has got four main circuits power sources circuits, intrusion detecting circuit, controlling circuit and output circuit. A special charging circuit is used to charge a chargeable battery that uses solar panel as source. This is the main source that runs the whole system. When the PIC16F877A receives active HIGH input from the IR sensors that are placed by the doors sides or from any pushbutton switches that represent windows it will trigger the relays that will switch ON LED lamps and also a siren or buzzer for 15min. Furthermore, it will send signal to the mobile phone using AT commands that carry a preloaded number that is probably the owner number, with the aid of MAX232 IC throughout RS232 serial and cut of the cell after 60sec.

PIC16F877A is considered as the brain of this system that helps the system to select the most available power source, to understand the intrusion circuits input and provide the suitable output. Embedded C language was used to program this PIC with the aid of MiKroC Pro software.

This project has been carried out successfully in order to meet the objectives. In addition, various tests, interfacing and troubleshooting have been carried out to verify the validity the results of this project. Moreover, recommendations and enhancements have been included in order to assure quality efficiency. This system can be implemented and used in houses and offices with the aid of additional security features.

Keywords: Solar Panel, IR sensor, PIC16F877A, MAX232, RS232, pushbutton switches