
POWER SAVER FOR ADVERTISEMENT HOARDINGS USING RTC

DESCRIPTION:

This project is used to save the power for advertisement hoardings using real time clock DS1307.

In this competitive world human cannot spare his time to perform his daily activities manually without any fail. The most important thing he forgets is to switch OFF the room lights wherever they are not required. With this, even the power will be wasted up to some extent. This can be seen more effectively in the case of commercial sign boards. This project gives the best solution for electrical power wastage. Also the manual operation is completely eliminated. This project provides different ON and OFF timings to operate the lights around sign boards. The user can once program these timings according to his requirements and these timings will be stored in internal memory of RTC IC and cannot be erased unless the user wishes to change it again.

This project is very useful for commercial sign boards, advertising boards. This system switches on the lights only at preprogrammed timings. As the DS1307 Real Time Clock chip with battery back-up is used, there will be no disturbances for the programmed ON/OFF timings even in power failures.

Three switches are provided for entering the required timings. These switches made this project user friendly. 16X2 LCD display is provided to display the alarm times and current time. DS1307 is interfaced to the microcontroller for real timing performance. A 3V battery can be connected to DS1307 to avoid time disturbances caused by power failures. The user can even change the preprogrammed timings and set the timings according to his requirements.

This project uses regulated 5V, 500mA power supply. 7805 three terminal voltage regulator is used for voltage regulation. Full wave bridge rectifier is used to rectify the ac output of secondary of 230/12V step down transformer.

TECHNICAL SPECIFICATIONS:

HARDWARE:

Micro controller : AT89x series

Crystal : 11.0592 MHz

LCD : HD44780

RTC IC : DS1307

Light

Relay

Backup battery

Power supply

Transformer : 12V step down

Filter : 1000uf/25V

Voltage Regulator : 7805, 7812



EBREAKERS
Robotics Research & Technologies

SOFTWARE:

Keil IDE

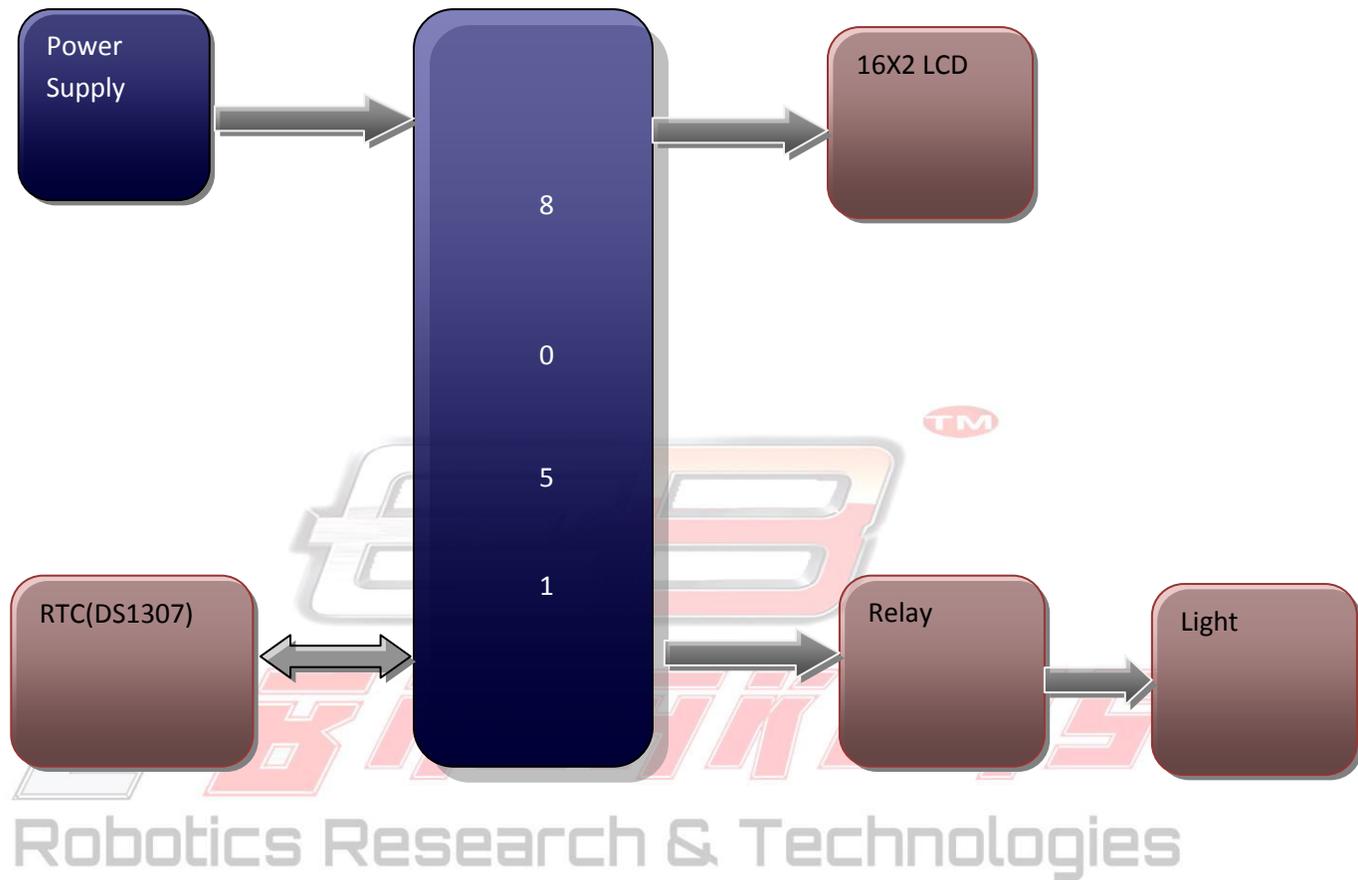
UC flash

Proteus

APPLICATIONS:

- Industrial applications
- Power saving appliances

BLOCK DIAGRAM:



POWER SUPPLY BLOCKDIAGRAM:

