

Automation of Home Appliances

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Abstract:

Embedded system is an interesting field where every engineer can showcase his creative and technical skill. Mobile phone today became as essential entity for one and all so, for any mobile based application there is great reception. In this scenario making a mobile phone operated home appliance control system is a good idea .

This decoded signal is sent to microcontroller and further microcontroller send corresponds signal to the motor driver IC 1293d and relay driver the relay. Conventionally wireless controlled appliances use RF circuit , which have the drawback of limited working range , limited frequency range limited control

Keywords:

- Resistors (100Ω; 100kΩ; 70kΩ; 390kΩ)
- Regulated power supply
- Capacitors (0.1μFx 2)
- Crystal oscillator (3.579545MHz)
- IC 7474 D flip flop
- BC547 Transister,6volt relay
- 8051 micro-controlar

Introduction:

- What had been thought impossible at one time was achieved by man.
- As technology advanced man was able to control everything from one place.
- Controlling electrical appliances with mobile is one of the examples.
- This makes the use of DTMF(Dual Tone Multi Frequency) technique.
- The DTMF Decoder circuit is made using M8870 Decoder IC.
- Just connect your cell phone headset (headphone) jack to the mobile phone and then mobile control electrical appliances and electrical equipment **via DTMF key pad** of your cell phone

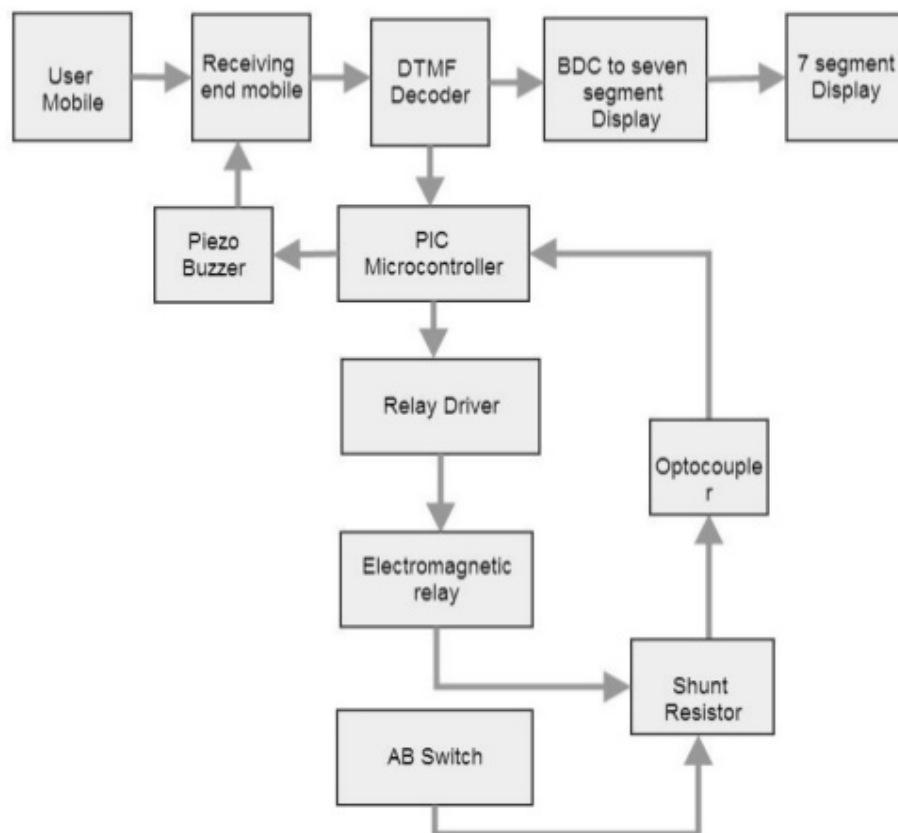
Literature Review:

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Methodology:

Design is based on mobile communication and hence a transmitter and a receiver are utilized. Two mobile phones are used as transmitter and receiver. Electromagnetic relays are used as switching device and relays are driven through a relay driver. Two-way switch is connected with the relay and relevant appliance connected with the two-way switch. Opt couplers and shunt resistors are placed to detect current state of the electrical device and send a feedback signal to the operator.



Block Diagram 6: Optimum design block diagram

Project Development:

In this project the appliances are controlled by a mobile phone that makes a call to the mobile phone attached to the control box which is connected to the appliances needed to be controlled from outside home or when we are present at we need not to go near to appliance for turning on the switch just press key from your mobile and switch on the control box receives these tones with help of phone stacked in the box. The received tone is processed by the microcontroller with the help of DTMF decoder IC HT 9170

Observations:

- What had been thought impossible at one time was achieved by man.
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Conclusion:

This project is targeted at the average consumer who desires to access mobile control over home devices which can be controlled electrically. Additional features like audio interactions as well as feedback mechanism to determine the current state could serve as add-ons for this project.

However it must be insured that the consumer must be living in area which has strong signal connectivity and one person should be authorized for the controlling of these devices to ensure maximum security.