
BLUETOOTH BASED HOME AUTOMATION

DESCRIPTION:

Bluetooth is a wireless module which transfers data from dongle to blue tooth modem and modem to Bluetooth dongle. This module enables you to transmit & receive wireless data in serial format. It is an advanced technology which can be widely used now-a-days in mobile data sharing and within network communications like modem to printer, etc.. Allowing transparent two way data communication. In our project we can simply use it for transmitting wireless serial data to establish connection between MCU or embedded project and PC.

Our project is designed to control home appliances remotely through Bluetooth wireless data transfer. Many home appliances (Fan, A.C, T.vetc.,) work on A.C power supply. Microcontroller cannot directly drive A.C loads, so we are using a relay drive for A.C control. Here we control relays through micro controller which in turn gets input from PC hyper terminal or .net c# application. Bluetooth modem is connected to microcontroller serially with 9600 baud rate. The range of Bluetooth modem is 10 meters with frequency 2.4 GHz. Blue tooth Transmit power is 4dBm and sensitivity is 84 dBm. Here in our project Bluetooth modem acts as receiver and Bluetooth dongle acts as transmitter which is connected to USB port of the PC. In this way we can control home appliances from PC using Bluetooth interface. However we can also communicate with the Bluetooth modem through a mobile phone, the mobile phones needs a special application designed for it, and which may or may not be compatible with the modems available. Instead we go for Bluetooth modems and dongle in our project

Here we use an 8051 microcontroller with 5V DC Power supply. Serial (UART) protocol is primary concern here. The heart of this project is Bluetooth modem which works on serial (UART) protocol. Micro controller is interfaced with relays which are triggered through transistor switching.

TECHNICAL SPECIFICATIONS:

HARDWARE SPECIFICATIONS

- Micro controller : AT89S52
- Crystal : 11.0592 MHz
- LED : 5mm Red LED
- Blue Tooth Modem
- Basic GPIOs

POWER SUPPLY

- Transformer : 12V step down
- Filter : 1000uf/25V
- Voltage Regulator : 7805 / 7812

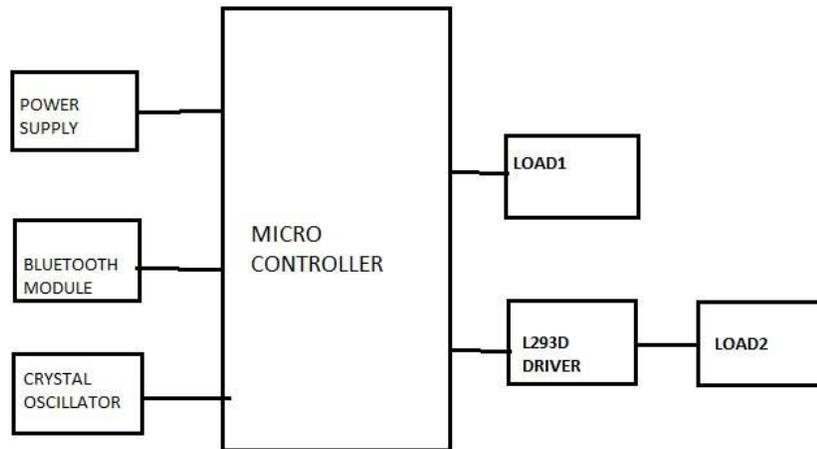
SOFTWARE SPECIFICATIONS

- Keil IDE
- Proteus VSM
- UC flash

APPLICATIONS

- Home appliances
- Industrials

BLOCKDIAGRAM:



POWER SUPPLY BLOCK DIAGRAM:

