SMS BASED WIRE LESS ELECTRONIC NOTICE BOARD USING GSM MOBILE PHONE

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Abstract

The objective of this paper notice Board is primary thing in any institution / organization or public utility places like bus stations, railway stations and parks, by using the micro controller is ATMEGA8L. This micro controller provides functional controller provides all the functionality of the display and wireless control. It also creating various display effects for given text font. We are using the Matrix type display is designed using 5mm LED on a printed circuit board. A driver circuit is designed to drive all of these light emitting diodes. A GSM Mobile can be used to enter the required text or notice. The scrolling speed of the text also can be varied according to user requirement. After entering the text the SMS is sent to the mobile number which is connected to the LED display. At any time the user can add or delete or modify the text according to his requirement. At the receiving end the GSM modem which is connected to the Max 232 and receives the message and is connected to the microcontroller ATMEGA8L. The message which is already stored in the EEPROM was displayed on the LED Display. We are uses regulated 5V, 500mA power supply. 7805 three terminal voltage regulator is used for voltage regulation. Bridge type full wave rectifier is used to rectify the ac output of secondary of 230/12V step down transformer. This notice board is controlled by the separate person is required to take care of this notices display.

Keywords: Microcontroller, LED display, GSM modem, bridge type full wave rectifier.

1. INTRODUCTION

The main aim of this will be to design a GSM based electronic notice display system which can replace the currently used programmable electronic display. It is designed for displaying notices in college on electronic notice board by sending messages in form of SMS through mobile, it is a wireless transmission system which has very less errors and maintenance. Currently programmable electronic display are not wireless and SMS based display information on notice board. There remains typed message in the programming phenomenon in the system.

2. PROPOSED SYSTEM

In this proposed system the message send from authorized user to GSM module which is located on the notice board. So this GSM module receives the message and displayed on notice board, at same time this message will be send different mobile number store in memory of Microcontroller. When new message is arrived at notice

board than the buzzer will beep. Max232 shift the level of signal which converts the signal between the microcontroller and GSM module. After the conversion of signal this message will be displayed on notice board.

3. COMPONENTS REQUIRED

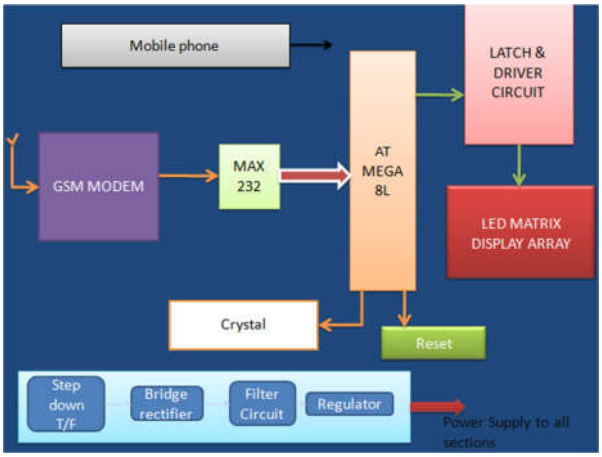
Hardware used

- GSM, LED, Microcontroller, IC MAX 232 , Step down Transformer, Bridge Rectifier, Filter, Regulator ,Mobile phone, Power supply.

Software used

- Embedded C, Keil compiler, Proteus

4. BLOCK DIAGRAM



GSM module:

GSM is a cellular network, which means that mobile phones connect to it by searching for cells in the immediate vicinity. The modulation used in GSM is Gaussian minimum-shift keying (GMSK), signal to be modulated onto the carrier is first smoothed with a Gaussian low pass filter prior to being fed to a frequency modulator which greatly reduces adjacent channel interference.

GSM Modem:

It is a wireless modem behaves like a dial-up modem. The modem is connected to PC serial-port or to any microcontroller. It support features like voice, SMS, Data/Fax, GPRS and TCP/IP stack.

MAX232:

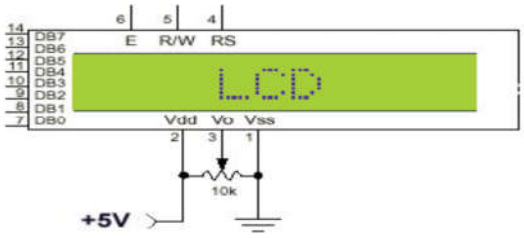
The MAX232 is a dual driver/receiver that includes a capacitive voltage generator to supply EIA-232 voltage levels from a single 5-V supply and converts EIA- 232 inputs to 5-V TTL/CMOS levels. The microcontroller is interfaced with PC via MAX232 level convertor. It is used to convert RS232 voltage to TTL voltage levels and vice versa. We use PC's serial port to interface microcontroller. In PC, at RS-232 voltage levels, logic 1 varies from -3 to -15 volts and logic 0 from +3 to +15 volts. The microcontroller which works on TTL logic levels, logic 1 is +5 volts and logic 0 is 0 volts. Therefore to interface the two we use a MAX 232 driver IC.

Micro controller:

Microcontroller is the heart of the system. It is used for interfacing the display, memory and other peripherals with GSM modem. The microcontroller used in this case is AT89c52. It is a low-power, high performance CMOS 8-bit microcomputer with 8K bytes of Flash programmable and erasable read only memory. It is compatible with the industry-standard 80C51 and 80C52 instruction set and pin out.

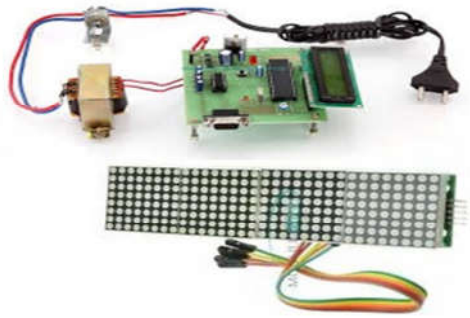
Display Unit:

One of the most common devices attached to an 8051 is an LCD display. Here we have used 16x2 Hitachi HD44780 compatible module, having 16 pins including 2 pins for backlight.



Power supply:

Power Supply is an important part of a circuit. It provides required supply to different blocks of the circuit from input 230 VAC.



Advantages:

- Multi user's are authorized to update notices on this notice board
- We can give the commands anywhere from the world by using GSM mobile
- No printing & photocopying costs.
- Notifications & information sharing is Fast.
- Consumes less power, Saves Time, no pollution and easy to operate.

Applications:

- It is Used in bus stations, railway stations, parks, etc. to display the messages wirelessly.
- It is Used in stock exchange, Advertisements and affective traffic control
- This Project is used in colleges and organizations.

5. FUTURE SCOPE

- Alphanumeric LCDs have a limitation on size as well as no of characters. These can be replaced with large LED display boards
- Robots can be controlled in a similar fashion by sending the command to the robots.

6. REFERENCES

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