Wireless Led Display Board

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Abstract

Everything around use is becoming smart such as smart phone ,smart television , smart refrigerator ,so why not smart display board advertisement and notice .Display board are primary thing in any institute , organization ,public utility place like a bus stops , railway station ,park shopping malls to display information regarding platform , various advertisement about the product , are important notice people are now adapted to the idea of the world at a fingertips . The old wired a display board are control by Microcontroller. To change the message , we need to change the micro controller program code again and again . By adding GSM wireless communication interface we can overcome this limitation . It is a start to era of smart and real time displaying of massage on display board. This paper explain the development of GSM based smart LED display board using short message service (SMS).

Keywords : design on paper , GSM Hardware profile , IC max 232 , LED , SIM, software .

I.   Introduction

The LED display system is aimed at the college and university for displaying day to day information continuously or at regular interval during the working hours . Being GSM - based system , it offer flexibility to display the flash new or announcement faster than programmable system , GSM based display system can also be used at other public place like a school, hospital , railway station , garden etc. It present and SMS based display board incorporating the widely used facility the communication of displaying massage on display board via. User's mobile phone any part of the world.
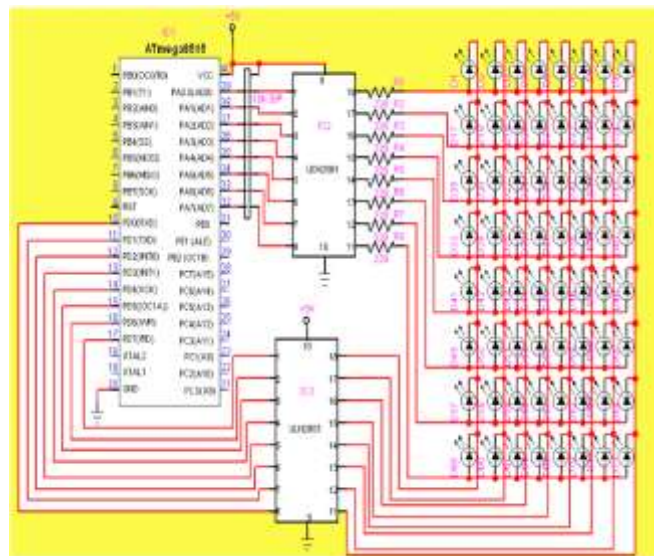

Fig1:- Constructional Diagram Of Wireless Led Display

II. Construction

When we want to construct LED dot matrix, latest known about how to drive LED and which resistance is added to protect LED. LED are of two type

1) high power LED

2) Miniature LED

High power LED are costly so generally we used miniature LED in practical experiment. Generally a red color LED can be on by using 2 or 3 volt. If we want to make LED to glow more 20MA current to flow.

III. Working

Let have a discussion about LED scrolling display with circuit. scrolling LED display can be implemented in various method. two method widely used , first one is decade counter and another one using shift registers. The shift resister easy to implement for beginners. Let discuss about LED shift resister. scrolling LED display panel is implemented by using micro controller like a 80521 ,BAR and P IC micro controller. Here we discuss about implementing using 8051 micro controller for simple electronic project.
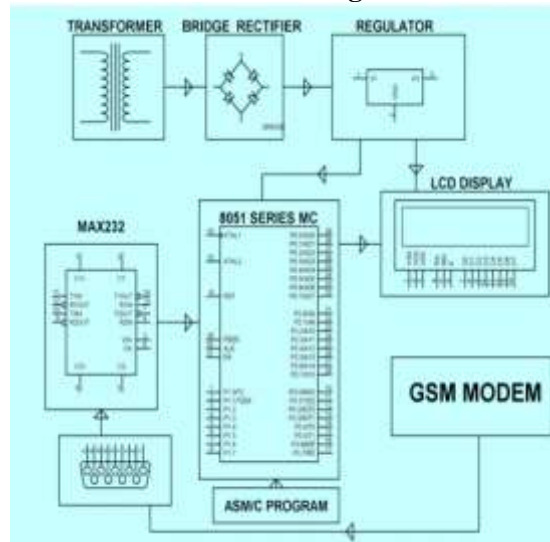
IV. Circuit Diagram

Fig2:- Circuit Diagram

V. Main Component Of Circuit

- Push buttons
- 8051 series microcontroller
- transformer
- Voltage regulation
- LED
- LCD
- Resistors
- Capacitor
- Diode
- MAX 232
- DB9 connect
- EEPROM
- 8051 SERISE MICROCONTROLLER

It is designed by Intel in 1981. It is an 8 -bit microcontroller. It is built with 40 pins DIP (Dual in line package) .4kb of room storage and 128 bytes of ram storage, 216 bit timers. It consist of are four parallel 8 bit ports, which are programmable as well as addressable as per the requirement.

- **PUSH BUTTON**

A push to make switch allow electricity to flow between it's to contact when help in .when the button is released, the circuit is broken. These type of switch is also known as normally open (NO) switch

- **TRANSFORMER**

It static device electrical machine which transfer AC electrical power from one circuit to another circuit.

- **VOLTAGE REGULATION**

It is a measure of change in the voltage magnitude between sending into receiving end of a component, such transmission or distribution line.

- **LED**

LED (light emitting diode) a device that produce a light on electrical and electronic equipment.

- **LCD**

it is defined as liquid crystal display is the most common display type among mobile phone because of it low power consumption and good image quality. They are generally easy to read, even under direct sunlight. The

smallest element of an image display on the LED in the pixel.

- **RESISTOR**

A conductor has a low resistance, while an insulator has much higher resistance device is called as resistor.

- **CAPACITOR**

It is an electronic component that store electric charges. A capacitor is made of to close conductor that are separated by dielectric material ... one plate accumulate positive charge and the other plate accumulate negative charge

- **DIODE**

It is a specialized electronic component with two electrode is called as anode and cathode. Most diode are made up with semiconductor material such as silicon, germanium are selenium the fundamental property of the diode is it tendency to conduct electric current in only one diode one direction.

- **MAX232**

The max 232 is a dual transmitter /dual receiver that typically is to convert the RX, TX, CTS, RTS signal. The driver provide TIA232-232 voltage level outputs (about 7.5 volts) from a single 5 volts supply by on chip charge pumps an external capacitor.

- **DB9 CONNECT**

The terms "DB9"refers to a common connector types one of the D-sub miniature or D- sub type of connector.DB9 as the smallest. " Foot print " of the sub miniature connector, and houses 9 pine (for the male connector) or 9 holes (for the female connector)

- **EEPROM**

EE stand for electrically erasable programmable read -only memory .It is a non-volatile ROM chip which used for storing a small amount of data in a computers or Same other electronic device. EEPROM used as replacement for a program.

VI. Advantages

- low cost
- flexibility
- low power consumption
- data can entered from remote place
- wireless system
- data will not be lost in power failure condition
- it is automatically delete the SMS on the arrival of new SMS

VII. Application

- It can be used at public transport place   like a bus stop, railway station, airports.   For display various important massage.
- In hospital, school, college.

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