

Patient Monitoring System with RD Controller

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ABSTRACT

This project aims at monitoring the patient's health conditions continuously. The parameters like the pulse rate, pressure, blood sugar, urea content in the blood are to be monitored continuously. In other words, the doctor will be diagnosing the patient continuously. Here we consider temperature and heart beat sensors to monitor the temperature and heart beat respectively. And Here sound system set time to time for doctor guideline The project is designed in such a way that, the analog quantities which are to be recorded continuously are taken and converted into corresponding digital values using an eight channel ADC.. The processed data from ADC is sent to microcontroller. The microcontroller passes this data to the RF transmitter through the RF encoder to encode the data received by the controller. The transmitted data will be received by the RF receiver and will be passed to the microcontroller through an RF decoder which decodes the encoded signal. The microcontroller continuously monitors the signals received, and performs the predefined task of displaying the corresponding data on the LCD. The doctor can continuously check whether the temperature and heartbeat are normal or not by monitoring the LCD and take the immediate action if necessary.

Keywords: 2.9 RF Controller, 4-bit Lcd, 12 transformer, RXTS pin

I. INTRODUCTION

The patient monitoring system with RF controller project is very useful hospital, I.C.U. and under observation care room and house also. This project constantly patient health condition monitoring on heartbeat and body temperature is both condition cross abnormal stage then same time doctor on staff room loudly electronic siren without any code or wiring system. This technology patient and doctor with correspondence by wireless RF Technology.

This project is in main function as under point

- a) Heart rate monitoring system.
- b) Body temperature monitoring system.

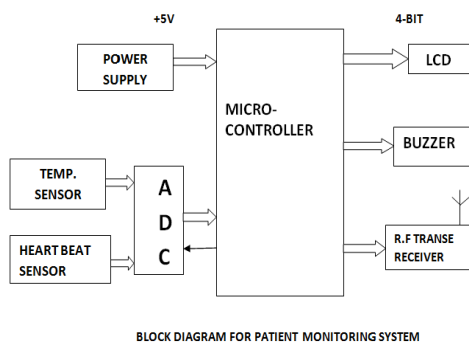
c) Normal calling bell system.

d) All condition showing in both side LCD.

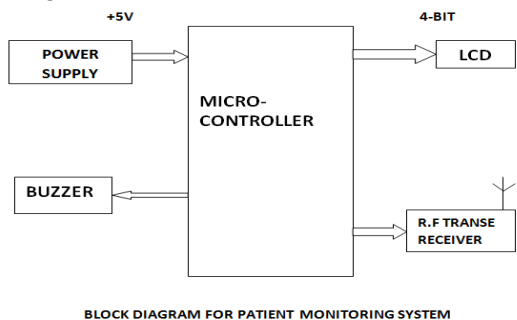
If practical this technology applied in majority hospital and I.C.U. then medical in also digital technology use.

II. BLOCK DIAGRAM

Block diagram for patient side:-



Block diagram for Doctor side:-

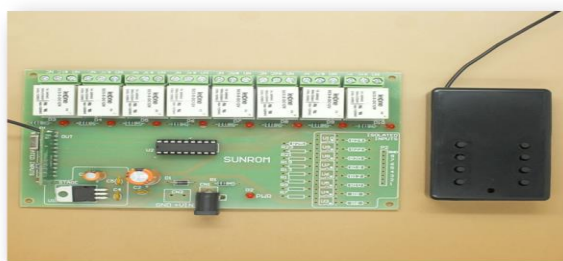


III. DESCRIPTION

It consist of two parts i.e. transmitter and receiver.

Transmitter section:

The main intension of this project is to acquire data of distribution transformers remotely by RF. For this real-time scenario we are using one temperature sensor, one heart beat sensor, one potential transformer and finally current transformer for monitoring these data of the transformer at the receiver side. All the sensors values are sent sequentially by MC as per the frequency of Control 8 relays through the RF keypad with range of around 100 meters. Board needs 12V DC for operation and the on board relays are capable to switch on DC and well as AC mains load like light and fan.



- **4-Bit LCD**

multiplexing of the ADC. They are then sent directly to RF module and transmitting the same data.

Receiver section:

The real time data which is transmitted by the different RF module is received by remote receiver which is microcontroller based unit. The reference value is stored in the micro-controller. The received signal from this module is then compared with this stored value. The received value if exceeds this stored value then microcontroller will turn on the relay. The relay will in turn, turn ON the auto-voice announcement for the specific fault along with LCD display.

IV. MATERIALS

- **Transformer:**

It covert alternating current from one value to other value of voltage with a limited loss of power. Step-up transformers has more winding towards the secondary section compared to primary section. This inturn increases the value of voltage. Step-down transformers have less winding towards the secondary section compared to that with the primary section. This inturn decreases the value of voltage.

The step down transformer are used commonly in power supplies to reduce the high risk associated with high voltage to considerably low voltage. The transformer has two coils namely primary coil and secondary coil. Between this two coils there is no electrical connection rather they are connected by the alternating magnetic field.



- **RF Controller**

The difference between 4 bit and 8 bit operation is that data is sent out as nibbles instead of as one byte. Commands and data are still 8 bit long, but transferred as mentions above as two 4-bit nibbles on data bus line D7. The most significant nibble should be transferred first, followed by least significant nibble.



