Wireless Data Transmission Between Pc's Using Zigbee Technology

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Abstract—**The role of communication in day to day life is very important .Communication can be of two types which are wireless or wired. Basically wireless communication is mostly preferred over wired .But sometimes we need a secured wireless communication in case of industries, companies etc. This paper helps in enabling the user for transmitting data wirelessly through ZigBee with encrypting data to provide security.**

In the paper it consists of two sections they are transmitter and receiver .The data can be sent to microcontroller through pc by using software called hyper terminal, this software is used for serial communication.

The microcontroller after receiving the data it forwards the data to the zigBee transmitter which is connected to the microcontroller. The data is encrypted and then transmitted to receiver. ZigBee transceiver does data transmission. Encryption does conversion of plain text to cipher text. Original data is Plain text whereas the modified data by using operations so that only authorized person can decode is called as Cipher text. Decryption does conversion of Cipher text to Plain text. The received data is decrypted and is displayed on pc which requires some password to open the data. So by this the data cannot be hacked and is secured.

I.INTRODUCTION

Pc to pc data transfer is used for sharing files using zigBee technology this is very useful in offices and organizations, copying files into pen drive and copying them again into our pc is a time waste process, so by using zigBee technology we can transfer the data from one system to another pc easily and securely

This paper aims in designing a Pc to Pc data transfer system which is very important for sharing files using zigBee technology this is very useful for transfer of data from one pc to another pc using PIC microcontroller .The microcontroller is placed at both transmitter section and receiver to which ZigBee's are connected and pc consists of hyper terminal software and the data to be transmitted is typed and sent through this software. ZigBee is a PAN technology based on the IEEE 802.15.4 standard. Mesh network is formed between nodes in ZigBee devices. Mesh network is a type of chain which connects one device to another.

This paper consists of an onboard computer, which consists of number of input and output ports. These onboard computers are commonly termed as microcontrollers. The input and output port of the controller are interfaced with different input and output modules depending on the requirements. In other words microcontroller acts as a communication medium for all the modules involved in the paper.

In this paper we make use of a Micro Controller which acts as Control Unit, PC, and MAX 232 IC which is used to connect PC to the Microcontroller using wireless ZigBee modules. User can send the messages from PC and transmits using ZigBee wireless technology and another module at the microcontroller receives the data and displays on screen. This process continues for every new message we send to it. The previous message will be automatically overridden by new message. The intelligent control software which has been developed using Embedded C programming language is used to display on screen from PC using ZigBee modules.
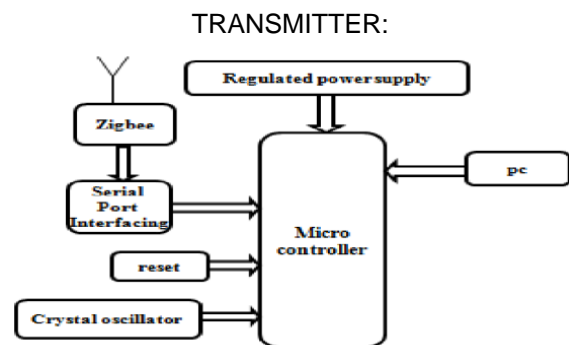
TRANSMITTER:

RECEIVER:

Pc to pc data transfer using zigbee technology
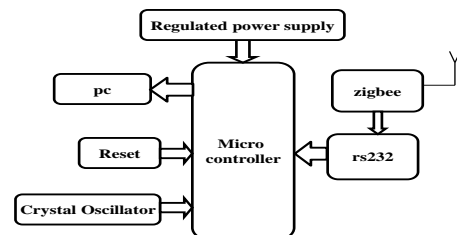
II.APPROACH

The paper consists of two sections transmitter section and receiver section. The main heart of the block diagram is the microcontroller to which all the

other blocks are connected. In the transmitter section the data is sent from pc to the microcontroller and then passed to the microcontroller and in the receiver section the data is received from the ZigBee and sent to the microcontroller and then the data is sent to the pc.

The main blocks of this paper are:

1. Microcontroller
2. Regulated power supply (RPS)
3. RS 232 cable and MAX232
4. ZigBee modules

Regulated power supply (RPS):

Embedded system needs dc voltage and that should be of 5v supply. In the house hold applications we use 230v, 50 Hz. This can be used to operate in home appliances like T.V, lights. Regulated power supply block supplies digital supply for Digital electronic devices.

Regulated Power supply

Microcontroller:

The microcontroller we used here is PIC16F877A, Flash Memory: 14.3 Kbytes .Data SRAM: 368 bytes and Data EEPROM: 256 bytes. Programmable code protection, operating speed: 20 MHz, 5 I/O ports.

RS 232 cable:

For binary serial communicationsRS-232 acts as telecommunications standard between two DTE. RS-232 are now used almost exclusively for dial-up modems that used to use serial ports

MAX 232:

This IC converts signals which are from RS-232 serial port to signals which are suitable to use in the TTL compatible digital LC. The MAX232 converts RX, TX, CTS and RTS signals.

ZigBee:

ZigBee has been developed to address the unique global needs of low power, low cost, wireless sensor networks. ZigBee is used for wireless communication that is we can send the data through air. (Without need of any physical connection between the transmitter and receiver.).

III.CONCLUSION

The paper was a designed for wireless data transfer from one pc to another pc using ZigBee, pc have hyper terminal software to transmit the data. Our paper is intended to design a wireless data transfer from pc to pc. This paper consists of an onboard computer, which consists of number of input and output ports. User can send the messages from PC and transmits using ZigBee wireless technology and another module at the microcontroller receives the data and displays on LCD. This process continues for every new message we send to it. The previous message will be automatically overridden by new message. The intelligent control software which has been developed using Embedded C programming language is used to display on LCD from PC using ZigBee modules.

The information was directly displayed on LCD from PC monitor using wireless ZigBee technology. We can implement this technology in schools, colleges, banks etc… After accessing every message it automatically resets and it displays the latest message on LCD.

The main drawback of this system is it can display the message From PC to only one notice board. These drawbacks can be eliminated by using multi point receivers based on wireless technologies like ZigBee, WI-Fi, etc.

IV.REFERENCES

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