INFRARED DATA TRANSFER AND COMMUNICATION SYSTEM USING VISUAL BASIC

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ABSTRACT

The Infrared Data Transfer and communication System consist of an infrared Transceiver hardware and software. The system enables two personal computers connected over a wireless medium via infrared link.

The Infrared Data Transfer and Communication System allow users to transmit text, data or file via infrared to a remote PC using the RS232 serial port. The system has an achievable link distance of 1 meter with speeds of up to 115200 bits per second (bps).

The hardware design involves implementation of the HSDL-7001 Encode/decode IC and HSDL-1001 infrared Transceiver. The hardware also consists of an interface circuit between the serial port and the infrared hardware using the ICL232 chip.

Visual basic language is used to control and communicate with the hardware developed. The software is capable of sending and receiving data from the infrared hardware. The software is also able to control and set the bit rate of the communication link.

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CHAPTER 1 INTRODUCTION

1.1 Data Communications

Data communications is the movement of information from one point to another across a communications network. Its function is to transfer data from location A to location B, as reliably and effectively as possible. This requires transmission links and services, hardware and software.

All data communications is achieved via some sort of media, a physical path, fundamentally in the form of energy, which is formatted into a scheme which can be interpreted on the receiving end. This communication may be in the form of electrical pulses over a copper wire, light over a Tiber optic or through the air by various means, including radio waves and light waves. The characteristics and the quality of data transmission are determined by both the type of the signal and the type of the medium. In this thesis, I would like to highlight the emergence and the advantages of infrared technology as a means of transferring data

1.2 Infrared Data Association (IrDA)

Infrared (1R) communication is based on a technology that is similar to the remote control devices such as TV and air conditioner used in most homes today. IR Offers a convenient, inexpensive and reliable way to connect computers and peripheral devices without the use of cables. Since 1993, several commercial products were available with this capability 1R signals can be used to transmit data and to communicate with a wide range of mobile appliances such as laptop, hand phones, digital cameras and PDAs (Personal Digital Assistants).

Many companies have come out with their own infrared standards in their devices. These devices could communicate with devices from the same manufacturer but competing systems tend to be incompatible On June 28, 1993, the Infrared Data