

# DESIGN AND IMPLEMENTATION OF ULTRASONIC POSITION SENSING FOR LOCATION IN REAL TIME FOR INDOOR APPLICATION

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## ABSTRACT

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The project is to design and implement of an indoor position sensing for location using ultrasonic wave. The hardware will be one transceiver with PIC microcontroller (16F873A), one transmitter for higher accuracy of position sensing, RS232 circuit for serial communication with the PC.

PIC will receive Clear to Send signal from PC for it to start the process of transmitting, receiving, time calculating, a distant measurement. The data of time calculation will be sent over to the PC for further processing to display the position of the receiver in VB 2008 program.

In order to get a higher position accuracy, a second transmitter will start transmit ultrasonic wave. The second transmitter will be connected to a relay to delay the transmitting process for 5 seconds. The PIC will then send over the second time calculation to the PC.

The project design has been carried out successfully to meet the objectives.

**Keywords: Indoor position sensing, PIC microcontroller, VB 2008, Relay.**