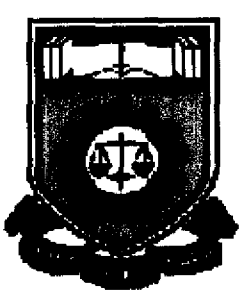
INTERFACING PC

(ISA- BUS)

Thesis presented in partial fulfillment for the award of the
Bachelor in Electrical Engineering of
UNIVERSITI TEKNOLOGI MARA



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OCTOBER 1999

ACKNOWLEDGEMENT

In the Name of Allah
Most Gracious Most Merciful

Firstly, I wish to express my gratitude towards my supervisor Puan Wan Norainin Wan Abdullah, for allowing me to work under her. Her guidance, motivation and support are greatly appreciated. Without her, this work might not be successfully completed.

Special thanks goes to all my colleagues, friends, lecturers and technicians for the support and advice.

Last but not least, I would also like to express my deepest appreciation to my family for their understanding, support and encouragement in completing this course and thesis.

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October 1999

ABSTRACT

This project is developed for controlling On/Off two external 1-bit devices (ac powered fan and ac powered light bulb) using a personal computer. To achieve this, an input/output card was designed based on Intel 8255A, which is also known as I/O expander and controlled via a simple program which is being developed using Visual Basic (version 6). Out of the three ports available on 8255A, only port A bit 1 and bit 3 are being used. The input/output card is accessed via a software link library, Window 95IO.dll, which acts as a hardware (I/O card) and software (Visual Basic 6) interface.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Microcomputer or better known as personal computer (PC) has played such a vital role in human life since a decade ago. Many years ago, microcomputers were too expensive for individual purpose. Today, almost everyone can afford to own a PC. Microcomputer is not just for typing letter, desktop publishing or keeping records. The addition of appropriate interfacing hardware and software make it possible for a microcomputer to control various kind of system. A computer system consists of a collection of electronic or mechanical devices [1]. A system also consists of people interacting with a computer through a combination of hardware and software. In order to use a microcomputer based control, the hardware and software have to be designed and programmed to serve the purpose. The application of microcomputer in a two-step control (On/Off) of an ac powered fan and ac powered light bulb by using interfacing card is one of the examples.

Parallel communication plays an important role in the designing of the interfacing card module installed in the PC [1]. In parallel data transfer, each bit of the message has its own path. The total message is transmitted at the same time. This means that an n-bit message is transmitted in parallel through separate conductor's paths. Parallel transmission is faster but requires many wires. It is used for short distance and where speed is important.

This project is concerned on the development of an interfacing card for use with a two-step control (On/Off) of 1-bit device, which is ac powered fan and an ac powered light bulb using PC. Basically this project shows an implementation of how a PC can be integrated with Visual basic programming and a special I/O expander device, which is 8255A via port A.