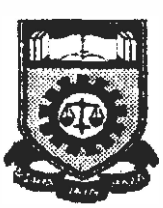
WIRELESS ORDERING SYSTEM FOR RESTAURANTS
(Hardware Design)

Thesis presented in partial fulfilment for the award of the
Advanced Diploma in Electrical Engineering of
INSTITUT TEKNOLOGI MARA



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CONTENTS

1. INTRODUCTION

The main objective of this project was to design a wireless ordering system to be used in a restaurant. With this remote system, time for travelling and misunderstanding of writing can be eliminated. In addition, with the aid of the personal computer, computerized management tasks like accounting, stock keeping, etc. can be integrated in this system.

Base on the main objective, there are several problems arose :

1. How can data be transmitted through a wireless medium?
2. What processing unit should be used for data collection?
3. What is the data format and the protocol?
4. After reception of data, how can they be processed?

The basic objectives of the project were to :

1. Research on possible methods of wireless communication and choose the most suitable one;
2. Find out the most suitable processing unit for the project and study its operation and programming technique for interfacing peripherals and perform data processing;
3. Design a protocol and data format which best suits the transmission of orders;
4. Program writing on database and order presentation to satisfy actual restaurant needs; and
5. Perform actual test on system and determine its specifications.

1.2 REPORT STRUCTURE

The report has been planned for two types of reader. Firstly for an electronic engineer with no experience in this field and, secondly, for the specialist engineer. Readers with knowledge of wireless communication should ignore chapter 2. Section 1 to 3 of chapter 3 can also be ignored if reader is familiar with MCS-51 series microcontrollers.

Chapter 2 This chapter discussed the basic of some commonly used wireless communication methods. Detailed operation and principles were not given and reader is advised to read the relevant data books for further information.

Chapter 3 Before actual design, the requirements and the initial specifications for such system were drafted as a guideline for the design. Assumptions on the restaurants were made to make the design more close to reality.

Chapter 4 The basic while important features of the microcontroller was listed in the first part of this chapter. In addition, detailed circuit design and analysis were included. Brief IC descriptions can be found, but reader is advised to consult the relevant data books for complete description. For the data sheets of the infrared components, they can be found in appendix .

.Chapter 5 Testing methods and results during testing were listed in this chapter.

Chapter 6 Conclusions have been drawn whilst developing the project. Recommendations for further work are also discussed, with suggestions for future may be carried out.