CHAPTER 1

INTRODUCTION

1.1 Overview

Antennas have practical uses for the transmission and reception of radio frequency signals (radio, TV, etc.). In air, those signals travel very quickly and with a very low transmission loss. The signals are absorbed when moving through more conducting materials, such as concrete walls, rock, etc. When encountering an interface, the waves are partially reflected and partially transmitted through. A common antenna is a vertical rod a quarter of a wavelength long. Such antennas are simple in construction, usually inexpensive, and both radiate in and receive from all horizontal directions (omnidirectional). One limitation of this antenna is that it does not radiate or receive in the direction in which the rod points. This region is called the antenna blind cone or null.

The usage of antenna is widely developed almost everyday and it has become one of human's need. In today's world, the receiving parabolic antenna is almost commonly use in the world including this region. The purpose of this project is to design an Antenna Movement Controller by using stepper motor with PIC as the controller algorithm. The objective is to control maneuver the parabolic antenna with various and elevation angle.

1.2 Objectives of the project

The general objectives of the system is to control maneuver the antenna parabolic dish with the precise azimuth angle and elevation angle.:

(i) To control maneuver the parabolic antenna dish with precise desire azimuth angle and elevation angle

1.3 Scopes of the project

This project required several components that need to connect together to produce an antenna movement controller. This project applies the from the data entry part by keypad, execution of program by the software part and the stepper motor move precisely to the desire azimuth angle and elevation angle. The scope of this project:

(i) To develop the circuit board for PIC 16F84A.this part is hardware development and the complete circuit will be test in FKEE UMP laboratory.

(ii) The stepper motor able to maneuver from both azimuthal angle and elevation angle refer to the desire output given.

1.4 Thesis Outline

This thesis contains 5 chapter which is every chapter have its own purpose. After viewing the entire chapter in this thesis hopefully viewer can understand the whole system design for this project.

Chapter 1 contains of the introduction or the overview of this project, the problem statement of this project, the objectives of the project, the scopes of the project and the outline of this thesis for every chapter.

Chapter 2 contains all the article review. This chapter will explain the information about the article that related to the project design. Besides that, this chapter will be important references to me when do the project. This chapter also includes the journal and the important information when do the research about the project. The information got from several sources such as websites, journals, books, magazines, handout and others.

Chapter 3 is chapter for the methodology of this project. This chapter will explain about the detail of the project. Its also includes the project progress that have block diagram, flow chart and also the explanation in detail about the project. The project explanation will be explained through block by block that refer to the block diagram.

Chapter 4 is about the result and the analysis for this project. This chapter will explain about the result and analysis of the project. This chapter also explains the theory that adapted into the project.

Chapter 5 is for conclusion chapter. This chapter will explain the conclusion of the project that is simple explanation of the project. Its also includes the application of the project in the real world. Besides that, this chapter also view the further improvement can be done for the project. For the cost and commercialization of this project also will be including in this chapter.