IMPROVEMENT OF AVIATION BATTERY MEASUREMENT AND DOCUMENTATION SYSTEM (HARDWARE DEVELOPMENT DESIGN)

This thesis presented in partial fulfillment for the award of the
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ABSTRACT

This project will involve the maintenance of an aviation battery. The project deals with the design of an automated monitoring of charging and discharging condition of an aviation battery. The new development will overcome the weaknesses and difficulties that have been faced in the present system and will be more user friendly.

TABLE OF CONTENTS

CHAPTER 1

INTRODUCTION

1.1 Introduction

Aircraft Nickel Cadmium (NICAD) battery is a vital source of power of an aircraft and it must be serviced to a level that must meet the aviation authority requirement. This project proposes one method of an automatic voltage recording of a 20-cell battery to overcome the requirement of manual monitoring. The objective is to make an improvement and development on present system and will be more user friendly. At present, MAS is using imported equipment which very expensive. This project is to replace that equipment finally with a local product, which is cheaper and other additional facilities.

This project is about to design and construct a hardware interface between the PC and the battery on test. This block received digital data from computer (software) as an instruction and then this data is sent to decoder and switching circuit to read the individual cell voltage. The voltage reading of the cell (analog data) is sent to the ADC to convert into digital format. This digital data then is sending back to the computer. This hardware also capable to take each cell reading in randomly among 20 cell regarding to the receive input from software.