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MULTICHANNEL DATA ACQUISITION AND CONTROL SYSTEM

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PREFACE

This report is organised into five chapters. Chapter 1 is an exclusive overview of a data acquisition system that can be used in many diverse measurement and control applications. The four chapters immediately following chapter 1, constitute the inner core of the report : a proposed project design of a multichannel data acquisition and control system, project application on AutoLAB and a proposal on the circuit expansion design of the proposed design.

Finally, there are seven appendices, that provide supplemental technical reference material on the proposed project designed.

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1.0 DATA ACQUISITION AND CONTROL SYSTEM

1.1 Introduction

Computers are tools for the processing of information. However, before processing can start, it is necessary to collect the data upon which the computer will act. This requires, in the first instance, acquisition of the required information from its source. It is then necessary to convert the information into a particular form suitable for the sort of analysis and manipulation we wish to carry out.

Data acquisition, to the data acquisition system, is a restricted kind of data collection. There are two distinguishing features. First, the information to be acquired is contained in physical variables, such as temperature, velocity and electric current. The sources of information may be humans, animals, plants, inanimate objects or industrial equipment and to acquire the required