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COMPUTER-CONTROLLED SYSTEMS

Theory and Design

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1 COMPUTER CONTROL

GOAL — *To Introduce the Subject and to Give Some Historical Background on the Development of Computer-Control Technology and Theory.*

1.1 Introduction

Digital computers are increasingly being used to implement control systems. It is therefore important to understand computer-controlled systems well. One can view computer-controlled systems as approximations of analog-control systems, but this is a poor approach because the full potential of computer control is not used. At best the results are only as good as those obtained with analog control. Alternatively, one can learn about computer-controlled systems, so that the full potential of computer control is used. The main goal of this book is to provide the required background.

A computer-controlled system can be schematically described as in Fig. 1.1. The

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