8051 MICROCONTROLLER INPUT/OUTPUT PORTS

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Introduction

Microcontrollers are widely used in many application ranging from domestic appliances, such as microwave ovens or video players, to industrial systems such as process controllers. In small systems they might be responsible for the control of the whole system. For example a typical microcontroller can control the operation of a fax machine. In more complex system they might be responsible for the operation of certain units of the system. For example a microcontroller might be responsible for the control of the temperature in the core of a nuclear reactor.

Most of the microcontroller manufacturers provide special training systems to assist engineers learning how to design and program microcontroller systems. Microcontroller training systems are also developed by other companies, specialized in education and training equipment. The purpose of this project is the familiarization with the FLT-8032/51 microcontroller training system, provided by Flight Electronics, and the preparation of the system so that it can be used by students in a microcontroller laboratory.

The main objectives of this project are the following:

- Install the Embedded Development System on a computer and make all the necessary steps needed to develop programs for the 8051 microcontroller in both assembly, and C language.
- Develop a number of small test programs that can test the operation of the FLT-32/51 board and the Multi-Application Board.
- Download, test and debug the above programs.
- Produce the necessary documentation so that the work of this project can be used by students in a microcontroller laboratory.

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