DEVELOPMENT OF A MICROPROCESSOR IN-CIRCUIT EMULATOR

Project Report

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INTRODUCTION

Anyone who designs microprocessor-based systems needs some kind of software-development method to make the hardware do its intended task.Basic requirements are an editor to construct the source code,an assembler to convert this into the microprocessor's native machine code and a means of testing and debugging this code on the target system-an eprom,an eprom emulator or an in-circuit emulator (ICE).
In this project a small in-circuit emulator was constructed.
The emulator is connected through an 8255 PPI to the AMSTRAD CPC464 personal computer.
The idea was to construct a stand alone troubleshooting system rather than a system which required a PC and an RS232 to work.The disadvantage of the PC is that first it requires the appropriate software which might not work with every PC and second it is more convenient to carry the ICE to the faulty computer than the opposite.
Although the AMSTRAD computer is a bulky system to carry around, a small and cheap Z80 based microprocessor can be built having an LCD display and a keyboard connected to the emulator through the 8255 peripheral, can do the job perfectly.

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