

HIGHER TECHNICAL INSTITUTE

ELECTRICAL ENGINEERING DEPARTMENT

DIPLOMA PROJECT

PIC DEVELOPMENT

E.1119

PAPANIKOLAS G. MICHALIS

JUNE 1998

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This project is submitted in partial fulfillment
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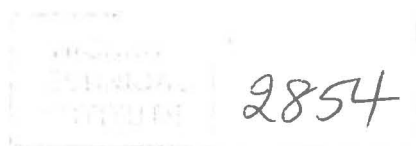


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Appendix B: PIC16C84 Instruction set

Appendix C: Program Listings

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Introduction

This project purpose is to explore the new chapter, which is opening in electronic construction with the use of the PIC microprocessor.

PIC's in general are high performance Microprocessors that are used in today's electronics and electrical applications. Their small size and there cheap price is a combination that can't be ignored by anyone. They are mostly used in computer peripherals, office automation, automotive control systems, security and telecommunication applications

In the project the PIC that will be examined is the **PIC16C84** that is offered in 18-pins and it has high level of peripheral integration. It has a 14-bit wide instruction set, interrupt handling capability and a deep 8-level hardware stack. The **PIC16C84** provides the performance and versatility to meet the requirements of more demanding yet cost sensitive mid-range 8-bit applications. It was selected because of it is currently being used in today's industry of electronics as a micro-controller and as a signal controller (in Satellite broadcast decoders, in pay-TV decoders etc).

A programmer is designed and constructed that is capable to program the **PIC16C84** with the use of any ordinary IBM PC with a parallel port. The programmer's software is provided in a separate disk attached to this project and the listing of the program is provided in **Appendix C**.

The instruction set that is used in the PIC is found in **Appendix B** with a brief explanation of their purpose.

For the testing of the programmer, an application is built. It is called Mechanically scanned LED clock and it shows the capability of the PIC to handle peripherals, such as Light emitting diodes. More information on the application is found in Chapter 5 and the listing of the source program is in the disk attached. The listing of the program is also in **Appendix C** in Microchip's ASM format.