HIGHER TECHNICAL INSTITUTE
ELECTRICAL ENGINEERING DEPARTMENT

DIPLOMA PROJECT

DEVELOPMENT OF A DC MOTOR SPEED CONTROLLER

by

CONS............COSTAS

JUNE 1....

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PREFACE
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This text has as objective to study DC motors and probable circuits which can control the motor speed .This has many applications in our life.As an example, we can mention the motor of a toy car (remote controlled),or plane minuature,or the fan of a car.

All this types of DC motors need a special behaviour on its speed in order to accelerate or deselerate them as we wish.

The following pages has the next contents :

1 . INTRODUCTION

2 . DC MOTORS

3 . DC MOTORS SPEED AND CIRCUITS FOR CONTROL IT

4 . FINAL CIRCUIT TO CONTROL THE SPEED OF A DC MOTOR

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1 . INTRODUCTION
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As an introduction,we can show the problem which we want to solve in this project.We have to design and construct an electronic circuit which can control the speed of a DC motor.

In reality the DC motor is a fan of a cooling system of a car. It works at 12 volts DC,which is the voltage given by the battery of the car.The motor must have variable speed in order to use it at limited or large scale.We can achieve this variable speed using an electronic circuit which has to provide a variable frequency voltage on the windings of the motor.

This type of control has the benefit of a constant voltage rectangular pulses but variable frequency (duty cycle).This means that deferent input power enters to the motor every time which we rearrange the frequency of the pulses. Then for any value of frequency we have the respective value of speed.