UNIVERSITI TEKNOLOGI MARA

AUTOMATIC PLANT WATERER

MUHD MUZZAMMIL SABRI

MUHAMMAD AMIR MAT WAJER

FINAL YEAR PROJECT
FACULTY OF ELECTRICAL ENGINEERING
UNIVERSITI TEKNOLOGI MARA
KAMPUS BUKIT MERTAJAM
PULAU PINANG
2002

ACKNOWLEDGEMENT

Alhamdulillah, all praises are for Allah, for which He provided us with energy, strength and determination to finished our task for the final year project. In this segment, we would like to indicate our deepest gratitude to those who have assisted us in the process of making this project.

First of all, greatest appreciation to our supervisor; Miss Wan Salha Saidon for her boundless support, teaching and all her advises that make us able to accomplish our task in time and present this piece-of-work. To our parents, for giving us motivation, assurance, and prayed for our success. Last but not least, to all of our course mate and all of our friends, for giving us advises, moral support and to those who has directly or indirectly involved in our project, THANK YOU VERY MUCH.

ABSTRACT

The main problem that frequently arises in plant care taking is the aspect of time that usually people do not have much because they have many more important things to do. This is why some people hire a worker to do this job. But what about those who cannot afford a gardener? Now, there is a gadget that can solve this problem. It is called '***Automatic Plant Waterer***'. This device automatically sprays water to plants whenever they need it. The water sprays within a certain time that is determined by the users. With this, people could save money on gardener and water bills. Furthermore, people do not have to monitor their plant anymore, which will save them a lot of time.

CONTENTS

1.0 INTRODUCTION

The main objective of the ***'Automatic Plant Waterer'*** is to spray water on plant whenever they needed it. A motor is used to operate the water pump when the soil is dry within a certain limit that is determined by the user. To spray the water, it is suggested that sprinkler is used to evenly spread the water to the plant. The motor of the pump will operate within a certain time limit that is set by adjusting the variable resistor VR3.

This circuit is using CD4093 Quadruple 2-Input NAND Schmitt-Trigger. This IC is a CMOS type and acts like an inverter in our circuit, with high noise environment system and monostable multivibrators.

The probes that are used in this circuit can either be long nails, carbon rods, metal rods and others suitable conductors. The probes must be punctured a few inches into the soil where the plant is planted. The purpose of doing so is to ensure that the probes will sense the dryness of the soil and will inform the circuit whenever the plant needs water.