



**FINAL REPORT FOR THE PROJECT II
KEU 380**

**PROJECT TITLE:
"DOOR PROTECTOR"**

**PREPARED BY:
AHMAD ASRI BIN ABD SAMAT
98135930
EE112**

**MOHD NAJIB BIN MOHD HUSSAIN
98145727
EE111**

**SUPERVISOR:
MISS TANIZA BINTI TAJUDDIN**

CONTENTS

I. ABSTRACT	I
II. ACKNOWLEDGEMENT	II
1.0 INTRODUCTION	1
2.0 CIRCUIT OPERATIONS	2
2.1 COMPLETE CIRCUIT DIAGRAM FOR THE DOOR PROTECTOR	
2.2 CIRCUIT OPERATION	
2.3 POWER NEEDS	
3.0 FUNCTION OF THE COMPONENTS	6
3.1 CAPACITORS	
3.2 PIEZOELECTRIC DEVICES	
3.3 SWITCHES/BUZZER	
3.4 BATTERY	
3.5 RESISTORS	
3.6 TRANSISTORS	
3.7 LIGHT EMITTING DIODE	
3.8 INTEGRATED CIRCUIT	
4.0 LIST OF COMPONENTS	19
4.1 COST OF COMPONENTS AND ITEMS	
5.0 PLANNING FOR COMPLETING THE PROJECT	21
5.1 FLOW CHART FOR THE IMPLEMENT THE PROJECT	
5.2 WORKING PROCESS	
5.3 GANTT CHART	
6 TROUBLESHOOTING	23
7 CONCLUSSION	24
8 REFERENCES	25
9 APPENDICES	26

i. ABSTRACT

The door protector works similarly to an alarm system terms of its detecting. It can be set either Disarm or Arm. By pressing the Disarm button, we may open and close the door as often as we like and this no effect on the siren. The Arm state will be activated only when the Disarm button is ON. This circuit consists of NAND gate, NOR gate, active and passive components, switches and buzzers and miscellaneous items. The circuit operates at 12V to suit the buzzer and powering CMOS ICs. It not only restricted to the doors, but can be applied to things that can be closed or opened.

ii. ACKNOWLEDGEMENT

Bismillahirrohmanirrohim.

Alhamdulillah, grateful to Allah because this project will be finished successfully. First at all, our highest appreciation to Miss Tania, who has very supporting supervisor. For his help and being good companion, maybe this report will not successfully completed. Also, we would like to take special opportunity to thank to our lectures who have helped to give an idea and suggestion for this project. To all our friends, thank you for your support and your best co-operation.

1.0 INTRODUCTION

This is where electronics, in the form of this project can be help. The Door Protector system described here can be set to one of two states :

- **Disarmed** : after pressing the Disarm button, you may open and close the Exit/Entry Door as often as you like and thus has no effect on the sire.

- **Armed** : You arm the system by pressing the Arm button and then have 20 seconds to leave the house via the Exit Door without making the siren sound. On re- entering the house through the same door, nothing happens for the first 20 seconds but your entry has triggered the system and the siren will start to sound after 20 seconds unless you press the Disarm button.

The timings can be altered to suit individual locations. Of course, the function buttons are hidden away so that an intruder cannot quickly find them.