

UNIVERSITI TEKNOLOGI MARA
KAMPUS BUKIT MERTAJAM
JAN-MAY 1999

FINAL REPORT OF DIPLOMA PROJECT

FACULTY OF ELECTRICAL ENGINEERING



OBJECT COUNTER

AZMI KASIM

SAZROL AZIZEE ARIFF

Abstract

Before technology were founded, human calculate the object just using their fingers or by writing. For someone who intelligent, they just reminder in their mind. Now, with a new technology and scientific, many thing become easier. For example we took about our project, where our project have potential to count how many people were go in or go out in the factory through a door. This project by using some component likes ICs, resistor and LEDs. Another else we can use our project such as at the library's door. It purposes to count how many students use the library. Therefore, our project is purpose to make easy work and comfortable.

Acknowledgement

With the name of **ALLAH S.W.T** the most gracious and merciful.

Thank to **ALLAH S.W.T** for giving opportunity to complete this project with successful.

I would like to express my deep sense of gratitude and appreciation to my project's advisor **Miss Taniza** and **Pn. Noritawati** for their consistent help and guidance as well as prevision of their valuable time encourage and patience during the period of the completing this project.

We are very grateful to both of my advisor and will never forget everything they had done for us. And we appreciate it a lot.

Finally, we would like to express deepest gratitude to our parent, family friends to unlimited encouragement. They have all been a constant source of strength and inspiration.

CONTENTS

1.0 Introduction.....	5
2.0 Concept of Counter.....	6
3.0 Resistor.....	7
3.1 Uses.....	7
3.2 Types.....	8
3.3 Resistor Colour Code.....	8
4.0 Schmitt Trigger.....	11
5.0 Photo Conductive Cell.....	13
6.0 IC 74160 (Decade Counter).....	16
7.0 IC 7447 (BCD To The Seven Segment Decoder Driver).....	19
8.0 Seven Segment LED Display Decoder.....	21
8.1 Common anode LED Display.....	21
Object Counter Circuit Design.....	23
9.0 Components In The Circuit.....	24
10.0 Function Of Instruments.....	25
10.1 IC7413	
10.2 IC74160	
10.3 IC7447	
10.4 Resistor	
10.5 LDR	
10.6 Reset Switch	
11.0 Operation Of The Object Counter.....	26
12.0 Trouble Shooting.....	27
13.0 Discussion.....	27
14.0 Conclusion.....	27
Reference.....	28
Appendix.....	29

1.0 INTRODUCTION

Object counter is the instrument to count the object through its LDR. Object counter is using a new technique where it use a light detector to start counting. It is just using a small energy (+5v) to start the operation. LDR (light dependent resource) detect a different light and it is start counting 1, 2, 3, and so on. The value is shown in the LED display. When it come to the maximum value, we should reset the switch or button to come start counting again.