

**FAKULTI KEJURUTERAAN ELEKTRIK  
UNIVERSITI TEKNOLOGI MARA**



**LAPORAN AKHIR PROJEK DIPLOMA**

**APRIL 2000**

**HAND CLAP  
ELECTRONIC CONTROL**

**SAZALI BIN ZAINAL ABIDIN**

**( 97035035 )**

**ZUL AZRI BIN JAID**

**( 97035600 )**

**SUPERVISOR**

**CIK WAN SALHA BINTI SAIDON**

## ABSTRACT

In today's world, the term digital has become part of our everyday vocabulary because of dramatic way that digital circuits and digital techniques have become so widely used in almost all area of life. This project known as HANDCLAP ELECTRONIC CONTROL. We can on or off our switch at home or others. It is suitable for everyone and it easy to use. It will be more compatible if have the modified. For example. We use this hand clap electronic control at the lamp switch. We do not have to walk and on the switch, but we can clap a hand. Automatically the lamp will on. Before that, hand must be clap sharp. If not, the switch cannot on. To build this project, do not have to expending a lot of budget.

## ACKNOWLEDGEMENTS

In the name of Allah (S.W.T) the most gracious and merciful. Thank to Allah (S.W.T) for giving us opportunity to complete this KEU 380 Project 1 Paper. Our sincerest appreciation must be extend to our Supervisor Miss Wan Salha Bt Saidon who have give much supporting in this project. We also want to thank UiTM for preparing this subject for this course where the entire student can be exposed about application of electronic circuit, function of the entire component and how to make it. Not forgetting to En Ahmad Ismail for teaching us about Circuit Marker, Puan Noritawati and Miss Taniza who have share her suggestions about this project and helping us to get a reference.

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

THANK, WASSALAM

# CONTENTS

TOPIC	PAGES
1 INTRODUCTION	1
2. SIMPLE OPERATION	2
3 LIST OF THE COMPONENTS	3
4. THEORITICAL BACKGROUND	
4.1) OPERATION AMPLIFIERS	4
4.2) CLOCKED D FLIP FLOP	6
4.3) 555 TIMER IC CIRCUIT	8
4.4) RESISTOR	10
4.5) CAPACITOR	12
4.6) RELAY	14
5. CIRCUIT	16
6. WAVEFORM	
6.1) TIMER WAVEFORM	17
6.2) OP-AMPLIFIERS WAVEFORM	18
6.3) TRANSISTOR WAVEFORM	19
6.4) RELAY WAVEFORM	20
7. TROUBLESHOOTING	21
8. CONCLUSION	22
9. BUDGET OF PROJECT	23
REFERENCE	24
APPENDICES	25

## 1. INTRODUCTION

Hand Clap Electronic is the simple circuit. We take this circuit for our project because it's easy to built and not expensive. It can used at home, offices or other place. When we clap the hand, the switch automatically can on. But if the clap not sharp, the switch cannot on.

If you used this circuit at your fans or lamps at home, you do not have to walk and on the switch, you only have clap the hand nicely and the lamps or fans automatically will on. It's very necessary for the all people except children because they cannot clap sharply.

These circuit have three IC. That IC is 555 Timer, Operation Amplifier and the last one is Dual d Flip-Flop.

We hope this project can make our life more flexible and easy.