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FINAL REPORT OF DIPLOMA PROJECT

A DAY INDICATOR WITH ALPHABETICAL DISPLAY

DATE: FEBRUARY 9, 2004

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ACKNOWLEDGEMENT

Alhamdulillah. All the praises and thanks are to Him, the Lord of the universe and peace is upon His messenger Muhammad, the last of the prophets and the righteous followers. I very gratitude to the Almighty God for all strengths, wisdom, patience, motivation and ability bestowed upon I to complete the folio entitled "PROJECT 1 (KEU 380): A Day Indicator With Alphabetical Display".

For this folio as "PROJECT 1 (KEU 380): A Day indicator With Alphabetical Display", I try to do one electrical project with practical then describe or explain the operation circuit and functions of components to the folio. Besides that, I can understand how to connect the circuit from the practical. In addition, I can know about the components function from data sheet. For example, this project I can know and understand the functions of 4-bit binary counter, 1-of-10 decoder, quad 2-input NAND gate, quad 2-input AND gate, resistors, manual pulser type switch, 7-segment common anode display and on-off switch.

Special thanks to all my friends at University of Technology MARA (UiTM), Penang and my supervisor Puan Irni Hamiza Binti Hamzah for their continuous supports and suggestions to guide me to start and finish this project. I also like to thanks to our parents for supported us either in mentally or financially. We would not forget you all of the time.

ABSTRACT

The title of this project is a day indicator with the alphabetical display. It's used in conjunction with the circuit for the digital clock will automatically display the day in words. The input is a one per day pulse train is counted in a divide-by-seven counter. The counter output is '0' initially. On receiving the first pulse, it will become '1'. These counts will be in binary code. Thus, if '0' had represented Sunday, '1' will represent Monday. Similarly, at the sixth pulse, the counter output will read '6', representing Saturday. On the seventh pulse, the counter output will momentarily read '7'. This is immediately decoded and the counter is reset to '0'. Thus, after Saturday, the output will automatically be set to read Sunday. The decoder senses the binary output from the counter and uses it to activate one of its seven outputs at a time. The IC used actually has ten outputs, but only seven are used. Thus, when the counter output is '0', the first output is activated. When the counter output is '1', the second output is activated while the first output is de-activated. This continues in sequence and after the seventh, again the first output is activated. The activated output becomes low to indicate the day of the week. The seven output lines are simultaneously sensed by the encoding circuit which converts the decoder output into an alphabetical display format for the 7-segment display drive.

This project can help to easier our lifestyle to perform a day in alphabetical. We can used this project at home or office that can help to know a day as we forgot. Therefore it was very important to our life and has a good opportunity for commercial.

CHAPTER 1

INTRODUCTION

1.1 Background

A day indicator with the alphabetical display is digital clock where it can automatically display the day in words. We must spend a lot of money to buy a good product for commonly the thing that we needs as usual. As an alternative, I make this project to help the users know a day as advantages to them know a day at their offices or homes. The table I will represent the days in order, on the 7 segment displays. I use three 7-Segment displays with all of them are common anode display (FND507). The project used 10 IC's where IC1 is 7490 (decade counter), IC2 is 7442 (1 of 10 decoder), IC3 to IC6 are 7408 (quad 2-input AND gate) and lastly IC7 to IC10 are 7400 (quad 2-input NAND gate).