Experiment No. 4 & 5

DESIGN AND TESTING OF SEVEN SEGMENT DISPLAY

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**Abstract:**

The experiments to be discussed will be over the conceptualization, parts, design, and implementation of a seven segment decoder, similar to the number display of a digital clock. This experiment is to be approached cautiously, as it can cause some confusion. Before even starting the laboratory, you will need to create simplified logic expressions for each segment of the display module. With these designs in hand, prepare to draw a schematic on a circuit design program (In this report, we shall be using Altera Quartus II). After debugging is complete, we will model the circuit in Altera ModelSim to observe how the design will react given a real world implementation and inputs. We will do this by observing the waveform and comparing inputs to expected outputs. The next laboratory experiment deals with taking the aforementioned design and implementing it onto a breadboard. Results can be verified by correct operation of the circuit.

**Introduction:**