

Introduction / Objectives

This design is a time keeping digital alarm clock that displays time in hours and minutes. The goal of this design is to implement all of the basic features that one would normally expect to find on a standard digital alarm clock. Features such as standard twelve-hour time, clock/alarm setting functionality, an alarm snooze feature, and an alarm alert indicator.

List of features to be implemented:

1. A.M. P.M. time (12 hour roll over)
2. Clock setting functionality
3. Alarm time setting functionality
4. Alarm indicating LED/Sound output
5. figure out how to save design to on board prom
6. special alarm clock feature making use of a random number generator

The design has been implemented on a Nexys A7 FPGA development board. The following diagram shows the physical alarm clock interface.