

ClockMaster

User Guide



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LISBOA

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1 Introduction

The Basys2 Figure 1, board is a circuit design and implementation platform that anyone can use to gain experience building real digital circuits. Built around a Xilinx Spartan-3E Field Programmable Gate Array and a Atmel AT90USB2 USB controller, the Basys2 board provides complete, ready-to-use hardware suitable for hosting circuits ranging from basic logic devices to complex controllers.

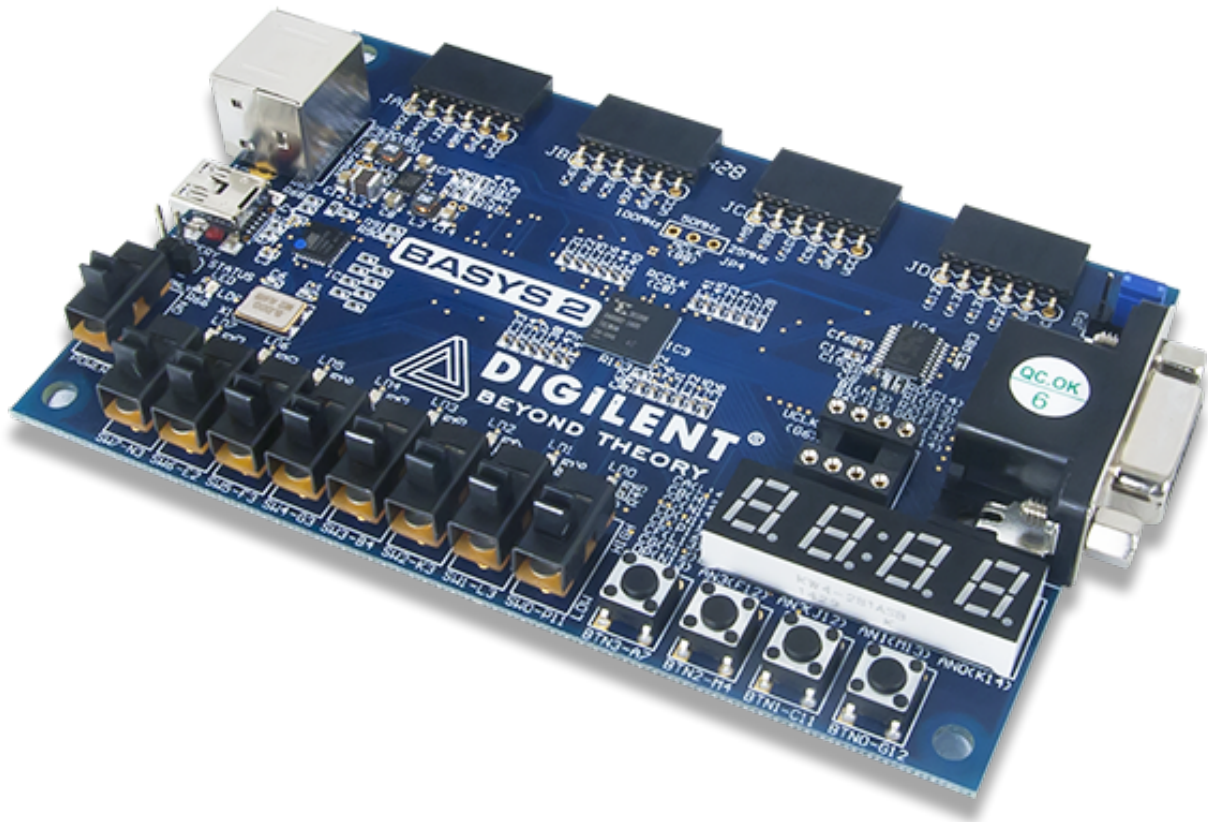


Figure 1: Basys 2 board

Our project uses the Basys2 to make a clock with some features. We propose to use 7 segment display as output and the push buttons to set the time and navigate through the menus.

2 Block Diagram

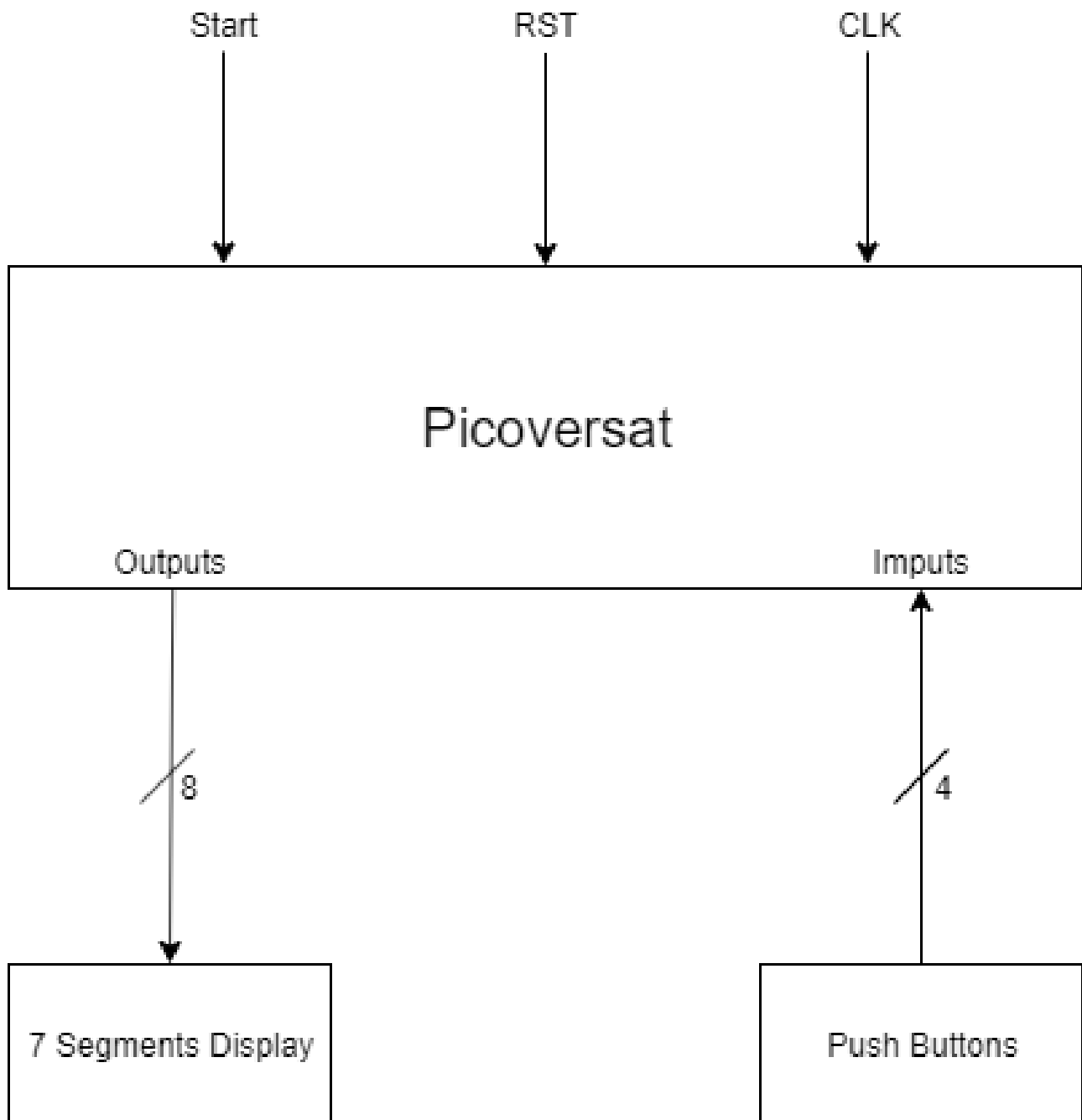


Figure 2: Block diagram

3 Peripherals

The Basys2 has many peripherals options such as: -7 segments display -on/off switch -push buttons -VGA port -PS/2 port -6-pin headers

3.1 Peripherals used

The peripherals that we will be using are the 7 segments display and the push buttons.

4 Instructions

4.1 Clock

The ClockMaster will have the function to show the time in the 7 segment display. With the help of the push buttons we will be able to set the time correctly.

4.2 Counter

The Counter is a feature that we can set a desired value and counts until reach that value.

4.3 Timer

This feature use a previously entered value and stop counting when it reaches 0.

5 Implementation Results

6 Conclusions