

Orbit BoosterPack™ Basic Demo User Guide

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Overview

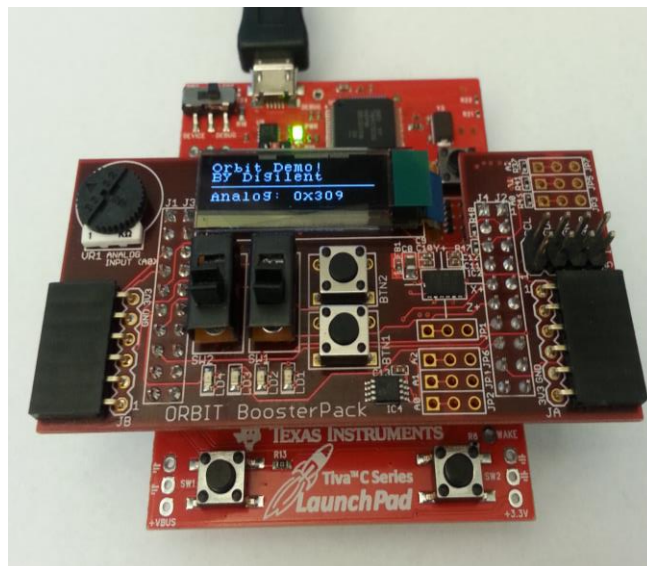
The Orbit BoosterPack Basic Demo is a simple program that shows the functionality of some features on the board.

Tools Needed to Run the Demo:

- LM Flash Programmer
- Stellaris ICDI drivers
- Tiva C Series LaunchPad
- Orbit Booster Pack

Tools Needed to Alter the Demo:

- Code Composer Studio™ IDE v6
- Arm Compiler tools V5.1.6



Functional Description

The demo project continuously reads the state of the switches, buttons, and potentiometer (labeled "VR1") on the Orbit board. The switches and buttons control the four on-board user LEDs. The on-board OLED displays both a Digilent banner, and the contents of the conversion register from the analog-to-digital converter (ADC) that is connected to the potentiometer.

Turning on a switch, or pressing down a button will turn on the corresponding LED on the Orbit board.

The value of the ADC is continuously updated on the OLED display. Rotating the black wheel of the potentiometer counter clockwise, or clockwise, will change the value displayed. The value is represented in hexadecimal form.

Programming the Tiva C Series® LaunchPad

Please download the Stellaris® ICDI drivers and the LM Flash Programmer available at www.ti.com. For assistance installing the drivers, please see the "Driver Installation Guide" available at www.ti.com.

Follow these steps to program the Tiva C Series LaunchPad with the Orbit Booster Pack Demo for Tiva.

1. Set the "PWR SELECT" switch on the Tiva LaunchPad to "DEBUG"
2. Connect the Tiva LaunchPad to the host computer with a USB Type A to Micro B cable. Connect the Micro B plug to the Micro-B receptacle labeled "DEBUG" on the Tiva LaunchPad
3. Open LM Flash Programmer
4. In the "Configuration" Tab, select "TM4C123G LaunchPad" from the Quick Set drop down box

5. In the "Program" Tab, select the demo project binary file by clicking the "Browse" button and navigating to the "Binary" folder in the demo project download directory. Select the file named "OrbitBasicDemo.bin".
6. Click the "Program" button.

Running the Demo

In order to run the demo, press the reset button after the LM Flash Programmer indicates 'Program Complete.'

Note: For more information on the Orbit BoosterPack, see the Orbit BoosterPack Reference Manual at: www.digilentinc.com. For a detailed description of the Stellaris® LaunchPad, or for more information on the Stellaris® Peripheral Library, please refer to the user manual available at www.ti.com. The demo project uses a ported version of the Digilent PmodOLED™ software library. For more information on the PmodOLED software library, see the User Guide available with the library download at: www.digilentinc.com.