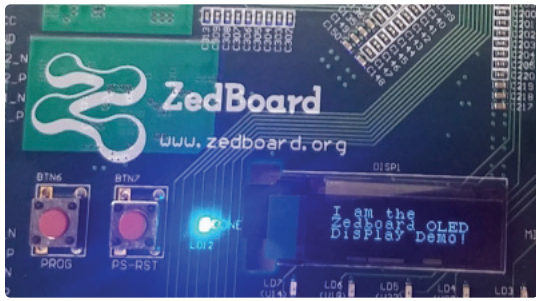


# Zedboard OLED Demo



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## Overview

## Description

The [OLED \(\) Demo](#) project demonstrates a simple usage of the Zedboard's Organic Light Emitting Diode ([OLED \(\) Display](#)).

## Features Used

	Not Used	Used
<b>8 User Switches</b>	X	
<b>9 User LEDs</b>		X
<b>7 User Push Buttons</b>		X
<b>512 MB () DDR3 RAM ()</b>	X	
<b>256 Mb QSPI Flash</b>	X	
<b>Five Digilent Pmod™ headers</b>	X	
<b>FMC Header</b>	X	
<b>USB-UART bridge</b>	X	
<b>HDMI Output</b>	X	
<b>VGA (12-bit Color)</b>	X	
<b>FMC Header</b>	X	
<b>128×32 OLED () Display</b>		X
<b>Audio Codec</b>	X	
<b>SD Card Port</b>	X	

## Prerequisites

### Hardware

- Zedboard FPGA board
- Micro-USB cable
- Zedboard Power Supply

### Software

- **Vivado Design Suite 2016.4**
  - *Newer versions can be used, but the procedure may vary slightly*

## Downloads

Zedboard [OLED \(\) Demo](#) Project Repository – [ZIP Archive \(https://github.com/Digilent/Zedboard-OLED/releases/download/v2016.4-1/Zedboard-OLED-2016.4-1.zip\)](https://github.com/Digilent/Zedboard-OLED/releases/download/v2016.4-1/Zedboard-OLED-2016.4-1.zip) [GIT Repo \(https://github.com/Digilent/Zedboard-OLED\)](https://github.com/Digilent/Zedboard-OLED)

## Download and Launch the Zedboard OLED Demo

- 1) Follow the [Using Digilent Github Demo Projects \(https://reference.digilentinc.com/learn/programmable-logic/tutorials/github-demos/start\)](https://reference.digilentinc.com/learn/programmable-logic/tutorials/github-demos/start) Tutorial. This is an HDL design project, and as such does not support Vivado SDK, select the tutorial options appropriate for a Vivado-only design. Return to this guide when prompted to check for extra hardware requirements and setup.
- 2) Ensure that your board is plugged into a 12 Volt power supply and connected to your computer via a Micro USB cable attached to the JTAG port. Then return to the Github Projects Tutorial to finish programming the demo onto your board.

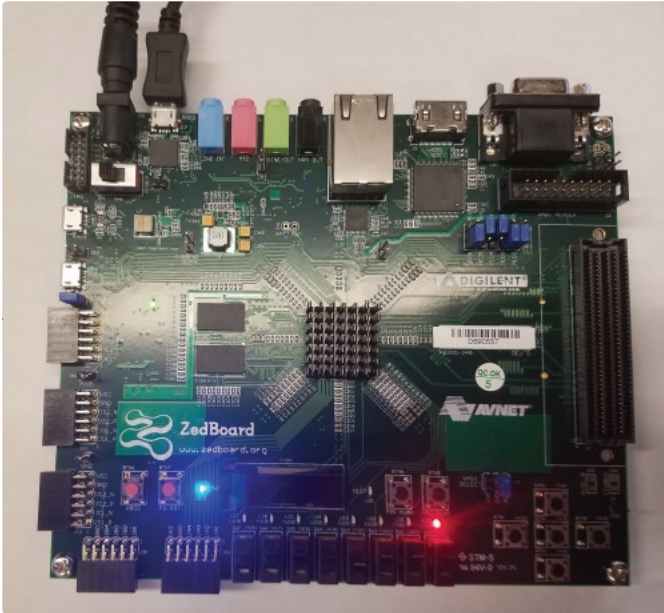
## Using the Zedboard OLED Demo

### 1. Startup and Bringdown

The OLED display can be turned on and off by pressing the right D-Pad Button (BTNR). When the board is first programmed, the display will automatically be initialized. When you are done operating the demo, and want to turn your board off, press the CPU Reset Button to turn the display off. The status of the display is indicated by LED0, if it is on, the display is on. The display can be turned on from an off state by pressing the CPU Reset Button again.

#### Important

Make sure to turn off the OLED display before shutting down or reprogramming your board.

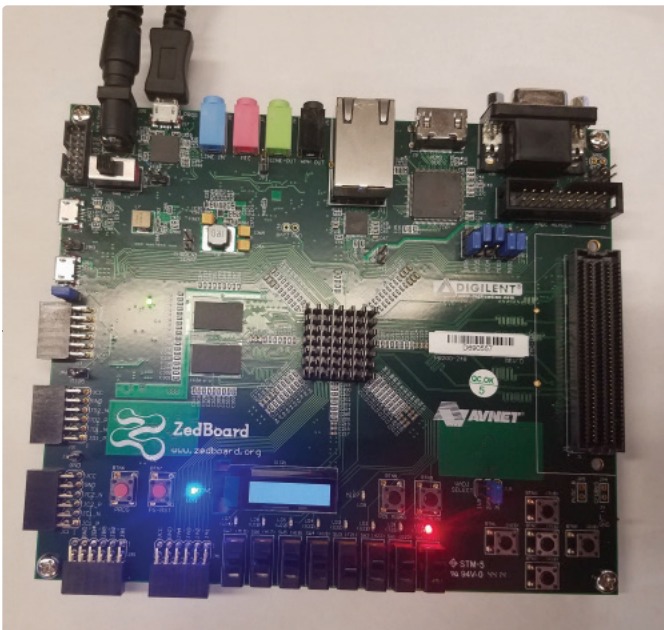


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### 2. Toggle the Display

Once the display has been turned on, each pixel on the display can be lit up at once by pressing the center D-Pad button (BTNC). To return the display to its original state, press this button again.

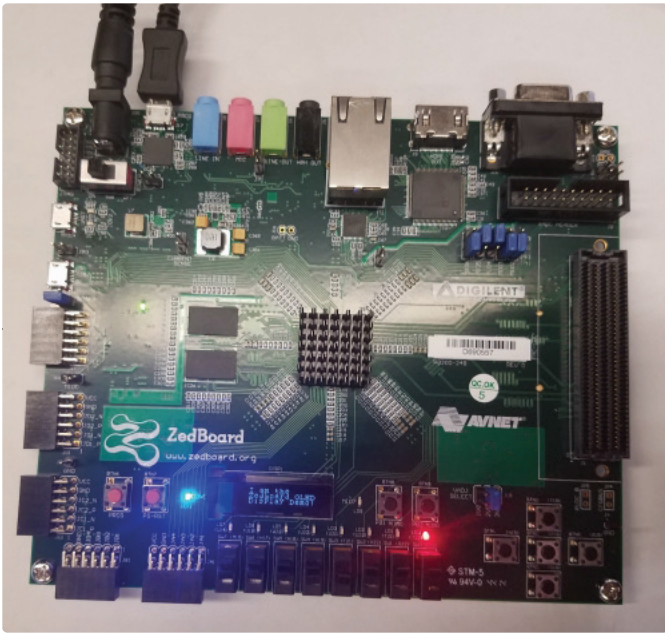


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### 3. Display Strings

With the display on, you can load pre-defined text onto the display by pressing the up D-Pad button (BTNU). To clear the display, press the down D-Pad button (BTND).



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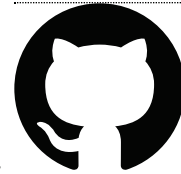
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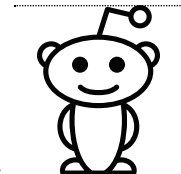
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