

Basys 3 Artix-7 FPGA Trainer Board

The Basys 3 is one of the best boards on the market for getting started with FPGA. It is an entry-level development board built around a Xilinx Artix-7 FPGA.

As a complete and ready-to use digital circuit development platform, it includes enough switches, LEDs, and other I/O devices to allow a large number of designs to be completed without the need for any additional hardware. There are also enough uncommitted FPGA I/O pins to allow designs to be expanded using Digilent Pmods or other custom boards and circuits, and all of this at a student-friendly price point.

The Basys 3 is designed exclusively for Xilinx's Vivado Design Suite, and the Web PACK edition is available as a free download from Xilinx.

Features

- Features the Xilinx Artix-7 FPGA: XC7A35T-1CPG236C
- 33,280 logic cells in 5200 slices (each slice contains four 6-input LUTs and 8 flip-flops)
- 1,800 Kbits of fast block RAM
- Five clock management tiles, each with a phase-locked loop (PLL)
- 90 DSP slices
- Internal clock speeds exceeding 450 MHz
- On-chip analog-to-digital converter (XADC)
- Digilent USB-JTAG port for FPGA programming and communication
- Serial Flash
- USB-UART Bridge
- 12-bit VGA output
- USB HID Host for mice, keyboards and memory sticks
- 16 user switches
- 16 user LEDs
- 5 user pushbuttons
- 4-digit 7-segment display
- 4 Pmod ports: 3 Standard 12-pin Pmod ports, 1 dual purpose XADC signal / standard Pmod port
- Micro-B USB cable not included.