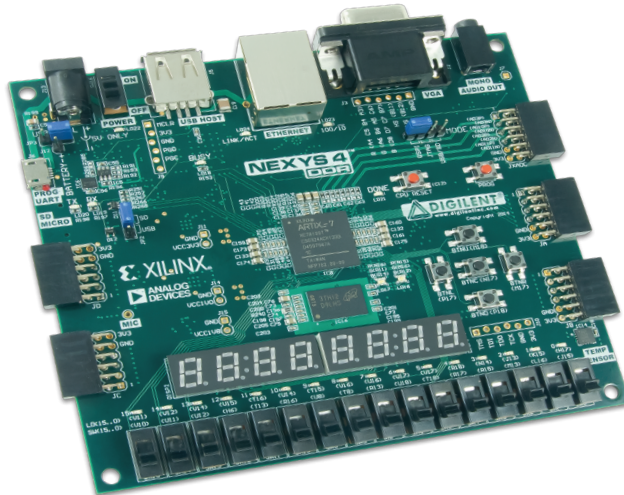


NEXYS 4 DDR

Artix-7™ Power, DDR2 Memory, Priced for Students.



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The Nexys4-DDR is a drop-in replacement for our cellular RAM-based Nexys boards. Featuring the same Artix-7™ field programmable gate array (FPGA) from Xilinx, the Nexys4-DDR is a ready-to-use digital circuit development platform designed to bring additional industry applications into the classroom environment. With its large, high-capacity FPGA (Xilinx part number XC7A100T-1CSG324C) and collection of USB, Ethernet, and other ports, the Nexys4-DDR can host designs ranging from introductory combinational circuits to powerful embedded processors. Several built-in peripherals, including an accelerometer, a temperature sensor, MEMs digital microphone, speaker amplifier and plenty of I/O devices allow the Nexys4-DDR to be used for a wide range of designs without needing any other components. The most notable improvement is the replacement of the 16 MiB CellularRAM with a 128 MiB DDR2 SDRAM memory. Digilent will provide a VHDL reference module that wraps the complexity of a DDR2 controller and is backwards compatible with the asynchronous SRAM interface of the CellularRAM, with certain limitations.

The Artix-7 FPGA is optimized for high performance logic, and offers more capacity, higher performance, and more resources than earlier designs.

The Nexys4-DDR is compatible with Xilinx's new high-performance Vivado® Design Suite as well as the ISE® toolset, which includes ChipScope™ and EDK. Xilinx offers free WebPACK™ versions of these toolsets, so designs can be implemented at no additional cost.

Artix-7 100T Features Include:

- 15,850 logic slices, each with four 6-input LUTs and 8 flip-flops
- 4,860 Kbits of fast block RAM
- Six clock management tiles, each with phase-locked loop (PLL)
- 240 DSP slices
- Internal clock speeds exceeding 450MHz
- On-chip analog-to-digital converter (XADC)

Nexys4-DDR Ports & Peripherals:

- USB-UART Bridge
- 12-bit VGA output
- 3-axis accelerometer
- 128MiB DDR2
- Pmod for XADC signals
- 16 user switches
- 16 user LEDs
- Two tri-color LEDs
- PWM audio output
- Temperature sensor
- Serial Flash
- Digilent USB-JTAG port for FPGA programming and communication
- Two 4-digit 7-segment displays
- Micro SD card connector
- PDM microphone
- 10/100 Ethernet PHY
- Four Pmod ports
- USB HID Host for mice, keyboards and memory sticks



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