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Nios II Development Kit, Stratix II Edition

from *Altera Corporation*

Altera's Nios® II Development Kit, Stratix® II Edition provides a complete development environment, including everything hardware and software designers need for system-level designs. Based on the Nios II family of embedded processors and the Stratix II EP2S60 device, you'll find the kit is ideal for designing and prototyping a wide range of embedded applications.

- Ordering Information
- Development Kit Contents
- Software Development Tools
- Hardware Development Tools

Figure 1. Nios II Development Board, Stratix II Edition

Ordering Information

Table 1. Nios II Development Kit, Stratix II Edition Ordering Code and Pricing Information

Ordering Code	Price	Ordering Information
DK-NIOS-2S60N	$995	In the United States and Canada, call 1-888-800-0631. Outside the United States and Canada, contact your local distributor. Buy online through Altera's website.

Development Kit Contents

The Nios II Development Kit, Stratix II Edition includes:

- Nios II Embedded Design Suite, including
  - Nios II integrated development environment (IDE) and debugger
  - GNU tools
  - Nios II instruction set simulator (ISS)
  - MicroC/OS-II real-time operating system evaluation
- NicheStack TCP/IP Network Stack, Nios II Edition evaluation
- Nios II C-to-Hardware Acceleration Compiler evaluation
- Nios II processor intellectual property (IP) cores
- Quartus® II design software, including:
  - SOPC Builder system development tool
  - Library of standard microprocessor peripherals
  - One-year license, Windows platform only
- RoHS-compliant development board (shown in Figure 1), featuring:
  - Stratix II EP2S60F672C3 device
  - MAX® EPM7128AE CPLD configuration control logic
  - 2-Mbyte synchronous SRAM
  - 16-Mbyte DDR SDRAM
  - 16-Mbyte flash memory
  - EPCS64 serial configuration device (64 Mbits)
  - CompactFlash connector header for TypeICompactFlash cards (40 available user I/O pins)
  - 10/100 Ethernet physical layer/media access control (PHY/MAC)
  - Ethernet connector (RJ-45)
  - One serial connector (RS-232 DB9 port)
  - Two expansion/prototype headers (2 x 41 available user I/O pins)
  - JTAG connectors for FPGA and CPLD
  - Mictor trace/debug connector
  - One set PMC headers (32-bit)
  - Four user-defined push-button switches
  - Eight user-defined LEDs
  - Dual seven-segment LED display
  - Power-on reset circuitry
- 10/100/1000 PHY daughter board with Marvell 88E1111 Ethernet PHY device from MorethanIP
- OpenCore Plus evaluation of the Altera Triple-speed Ethernet IP Core and supporting design example
- Cables and accessories
  - USB-Blaster™ download cable
  - Serial cable (RS-232)
  - 9-V power supply
  - International power cords
  - LCD module
  - Ethernet (RJ-45) cable (7 feet)
  - Ethernet crossover adapter
- Many hardware and software reference designs
- One-year subscription to Nios II Embedded Design Suite upgrades
  - This subscription does not include Quartus II software updates. The Altera® Software Subscription includes the Quartus II design software
- There are no license or royalty fees required to develop with Nios II processors in Altera FPGAs and HardCopy® devices
- Coupon for a 20 percent discount on any one instructor-led Altera Technical Training course scheduled in North America

Software Development Tools

Software engineers do not need any prior FPGA design experience to use the Nios II Development Kit, Stratix II Edition. Altera's Nios II IDE provides everything needed to design for the Nios II family of embedded processors, with facilities for:

- C/C++ code entry and editing
- Project management and compilation
- Software debugging
- Flash programming

Exceptional development tools and complete documentation, as well as multiple reference designs and a step-by-step software development tutorial (available in the online help browser) help you to get your design up and running immediately. You can write, compile, and run software on the Nios II development board within minutes of opening the box.

The Nios II ISS allows you to begin developing programs before the target hardware platform is ready. The Nios II IDE lets you run programs on the ISS as easily as running them on a real hardware target.

Altera provides ports of the MicroC/OS-II real-time operating system (RTOS) and the NicheStack TCP/IP Network Stack, Nios II Edition. The MicroC/OS-II RTOS is built on the thread-safe Hardware Abstraction Layer (HAL) system library, and implements a simple, well-documented RTOS scheduler. The TCP/IP stack is built on MicroC/OS-II, and implements the standard UNIX Sockets API.

Altera provides documented software example designs to demonstrate all prominent features of the Nios II processors and the development environment.

You can get additional software development tools from Altera's embedded software partners.

Hardware Development Tools

The Nios II Development Kit, Stratix II Edition is a complete design environment for hardware engineers. You can create your own custom embedded system within hours using the exceptional FPGA design tools, example projects, complete documentation, and step-by-step tutorial (PDF) included in the kit.

The Quartus II design software allows you to process multi-million gate designs, streamline development flows, and decrease your time-to-market. The Nios II Development Kit, Stratix II Edition includes the Quartus II design software with a one-year non-perpetual license. Altera recommends purchasing a full Altera design software subscription.

SOPC Builder is an automated system development tool that dramatically simplifies the task of creating high-performance SOPC designs and is integrated within the Quartus II design software.

Table 2. Nios II Development Kit, Stratix II Edition Documentation

Document	Comment
Nios II Development Kit Getting Started User Guide	PDF in English
Nios Development Board Stratix II Edition Reference Manual	PDF in English
Nios Development Board Stratix II Edition Schematic	Zip File
Nios Development Board Stratix II EditionPCBLayout Files	Zip File
Nios Development Board Stratix II Edition Bill of Materials	Excel File
10/100/1000 Ethernet Phy Daugther Board Reference Guide from MorethanIP	PDF in English

Related Links

- Nios II Development Boards and Kits
- Reference Designs
- Design Examples
- Training Resources
- Literature
- Embedded User Community
- Stratix II Device Family

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