

Get to Market Fast: Use Altera MegaCore IP



MegaCore®

Altera's popular, easy-to-use MegaCore® intellectual property (IP) functions are pre-verified, parameterizeable, synthesizable, and available off-the-shelf. MegaCore IP functions are optimized to provide the highest possible performance at the lowest implemented cost and help get your products to market fast.

All of Altera's MegaCore IP functions are now available on two convenient CDs: the MegaCore IP Library CD and the Nios® II Embedded Processor Evaluation Edition CD. These CDs contain more than 40 Altera® MegaCore IP functions and are shipped with Quartus® II software subscriptions.



Powerful Features of All MegaCore IP Functions

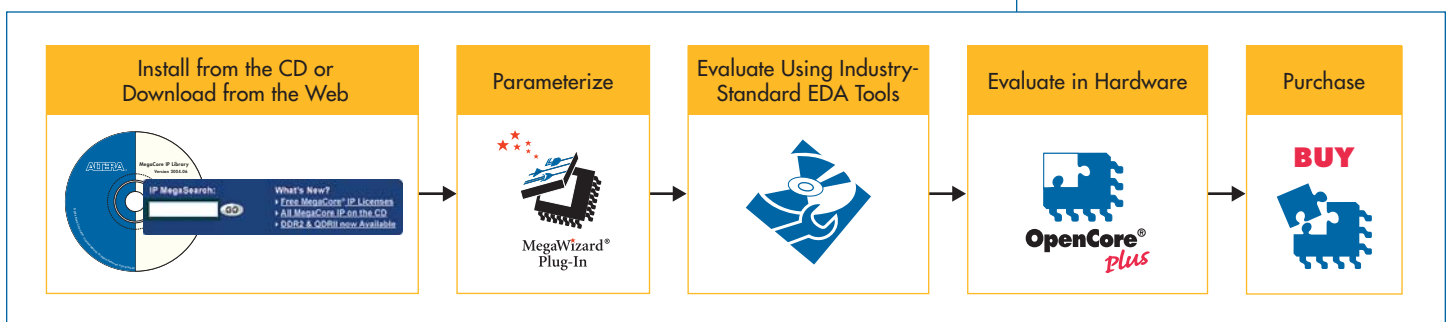
- Industry's first free hardware evaluation using the OpenCore® Plus feature
- Most powerful MegaWizard® GUI for easy and optimized parameterization on your desktop
- Optimized for the latest Altera devices such as the Cyclone™ II and Stratix® II families
- Broadest support for industry-standard VHDL and Verilog HDL simulators
- Seamless integration with Quartus II software

Flexible IP Integration Features

- **SOPC Builder Ready:** Easy capture, configuration, and generation of systems using processors, processor peripherals, and IP cores with the Avalon® interface
- **Atlantic™ Interface Compliant:** Scalable, high-speed, on-chip interface for packet and cell transfer for today's high-speed, low-latency bridging solutions
- **DSP Builder Ready:** Seamless link between The MathWorks MATLAB/Simulink tools and Quartus II software

How to Use MegaCore IP

1. Install the latest version of Quartus II software along with the MegaCore IP Library CD and Nios II Embedded Processor Evaluation Edition CD
2. Access MegaCore IP functions using MegaWizard® Plug-In Manager in the Quartus II software
3. Evaluate using industry-standard EDA tools
4. Evaluate MegaCore IP functions using the free OpenCore Plus evaluation feature
5. Purchase license for individual MegaCore IP functions when you're ready for production



MegaCore Function	OpenCore Plus Support ¹	SOPC Builder Ready ²	DSP Builder Ready ³
Interfaces			
Parallel & Serial RapidIO™	✓		
PCI Compiler: 32-bit Master/Target	✓	✓	
PCI Compiler: 32-bit Target Only	✓	✓	
PCI Compiler: 64-bit Master/Target	✓	✓	
PCI Compiler: 64-bit Target Only	✓	✓	
PCI Express x1 Endpoint	✓		
PCI Express x4 Endpoint	✓		
PCI Express x8 Endpoint	✓		
8-bit HyperTransport™ Bus Interface	✓		
DDR SDRAM Controller	✓	✓	
DDR2 SDRAM Controller	✓	✓	
QDR II SRAM Controller	✓	✓	
RLDRAM II Controller	✓	✓	
SerialLite	✓		
SerialLite II	✓		
DSP			
Color Space Converter	✓		✓
Fast Fourier Transform (FFT)/Inverse FFT (IFFT)	✓		✓
Finite Impulse Response Compiler	✓		✓
Numerically Controlled Oscillator Compiler	✓		✓
Reed-Solomon Compiler, Decoder	✓		✓
Reed-Solomon Compiler, Encoder	✓		✓
Viterbi Compiler, Parallel Decoder	✓		✓
Viterbi Compiler, Serial Decoder	✓		✓
Communications			
8B10B Encoder/Decoder	✓		
Packet Over SONET (POS)-PHY Level 2 Link	✓		
POS-PHY Level 2 PHY	✓		
POS-PHY Level 3 Link	✓		
POS-PHY Level 3 PHY	✓		
POS-PHY Level 4	✓		
SONET/Synchronous Digital Hierarchy (SDH) Framer Compiler	✓		
UTOPIA Level 2 Master	✓		
UTOPIA Level 2 Slave	✓		

MegaCore Function	OpenCore Plus Support ¹	SOPC Builder Ready ²	DSP Builder Ready ³
Embedded Processors			
Active Serial Memory Interface (ASMI)	✓	✓	
Avalon to Advanced High-Performance Bus (AHB) Bridge	✓	✓	
Avalon Tri-State Bridge	✓	✓	
Character LCD	✓	✓	
Common Flash Interface (CFI) Controller	✓	✓	
Direct Memory Access (DMA) Controller	✓	✓	
EPCS Flash Controller	✓	✓	
Ethernet Media Access Control (MAC) Interface (CS8900 or LAN91c111)	✓	✓	
General Purpose I/O (GPIO)	✓	✓	
Integrated Drive Electronics (IDE) Compact Flash	✓	✓	
Interface-to-User Logic	✓	✓	
Joint Test Action Group (JTAG) UART	✓	✓	
Mutex4	✓	✓	
Mailbox	✓	✓	
Nios IIF: The Fast Core	✓	✓	
Nios II: The Economy Core	✓	✓	
Nios IIs: The Standard Core	✓	✓	
On-Chip RAM/ROM	✓	✓	
On-Chip Debug Core	✓	✓	
Performance Counter Unit	✓	✓	
Phase-Locked Loop (PLL)	✓	✓	
SDR SDRAM Controller	✓	✓	
Serial Peripheral Interface (SPI)	✓	✓	
SSRAM Interface	✓	✓	
System Identification (ID)	✓	✓	
Timer	✓	✓	
UART (RS-232)	✓	✓	

Notes:

¹ OpenCore Plus/Free Evaluation Support: Generates simulation models and time-limited FPGA programming files without purchasing a license.

² SOPC Builder Ready: Certifies that IP has plug-and-play integration with the SOPC Builder system development tool.

³ DSP Builder Ready: Certifies that IP has plug-and-play integration with the DSP Builder system development tool.

To learn more about MegaCore IP functions and to see the latest device support information, visit www.altera.com/IPmegastore or contact an Altera representative.