

Features

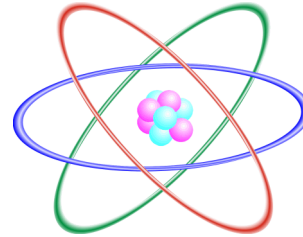
- User definable block length, interleave factor.
- Parallel or serial input, parallel or serial output.
- Data rate up to 200 Mbit/s.
- Implementation is synchronous with a single clock domain.
- Portable to external technologies.

Benefits

- High performance, lower cost of use:
- Exceeds microprocessor performance by orders of magnitude at much lower cost.
- Low power/computation compared to programmable microprocessor.
- No instruction set processor overhead.
- Complementary to microprocessors.
- Better power, performance characteristics than microprocessors.
- Coupled with a microprocessor, enables more computation with less power than microprocessor-only solution.

Applications

- Forward error correction (FEC).



Athena Block Interleaver/ Deinterleaver Atomic DSP Family

Description

The Athena block interleaver/deinterleaver template produces a high-performance block interleaver/deinterleaver. The block length and interleave factor are user definable. The interleaver/deinterleaver accepts both parallel and serial input and produces either parallel or serial output.

The Athena block interleaver/deinterleaver easily integrates with signal processing data paths. The typical application of the block interleaver/deinterleaver is in forward error correction (FEC).

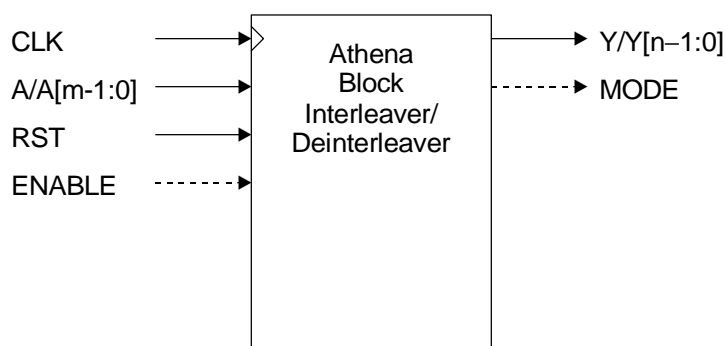


Figure 1: Athena Interleaver/Deinterleaver Block Diagram

Operation

Figure 1 shows a diagram of the Athena Block Interleaver/Deinterleaver.

Atomic DSP Family

Incredibly small and power efficient, the entire family of Athena digital signal processing (DSP) accelerator cores is designed specifically for computationally intensive system-on-a-chip applications. Additional products are in development for the wireless and broadband communications markets. These new processors will join Athena's complete DSP semiconductor IP library designed for power-sensitive applications requiring extraordinary performance.

Delivery

Each Atomic DSP core package is delivered as a firm core optimized to any customer-specified library. The package includes the core, verification suites, timing and simulation models, and documentation.

Athena's IP cores are designed for efficient implementation and rapid delivery. The company's proprietary, wholly automated implementation and verification methodology produces synchronous, testable IP cores of the highest quality. All Athena IP cores achieve a score of 95% or better on the OpenMore scale of IP reusability.

About The Athena Group, Inc.

The Athena Group, Inc. of Gainesville, Florida licenses high-performance DSP technology that delivers breakthrough performance, reduced area, and lower power consumption in a broad range of SoC products. Athena's proprietary technology powers leading edge applications such as secure e-commerce, wireless communications, and video compression. In addition to their high-value application level solutions, Athena also produces a full line of fundamental DSP functions suitable for SoC integration.

Athena was founded in 1986 and is privately held.



The Athena Group, Inc.
5522 NW 43rd Street, Suite B
Gainesville, FL 32653

Phone: (352) 371-2567
Toll-free: (800) 741-7440
Fax: (352) 373-5182
www.athena-group.com

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