

Marvell 88i9422 Soleil SATA HDD Controller

6Gb/s SATA, Dual ARM On-Chip Processors, Encryption

PRODUCT OVERVIEW

The Marvell® 88i9422 is a high performance, low power HDD controller that is highly flexible, enabling optimization for a wide variety of storage environments. Advanced read/write channel technology with low density parity check (LDPC) makes Soleil the best choice for high density drives.

Two integrated ARM Cortex-R4 processors allow independent management of host and servo functions, enhancing overall HDD performance. A third dedicated secure processor supports AES encryption, protecting user data from unauthorized access.

The 6Gb/s SATA host interface supports Native Command Queuing, T10 CRC checking, and the ATA-8 command set, ensuring high performance, data integrity, and full compatibility with SATA hosts.

BLOCK DIAGRAM

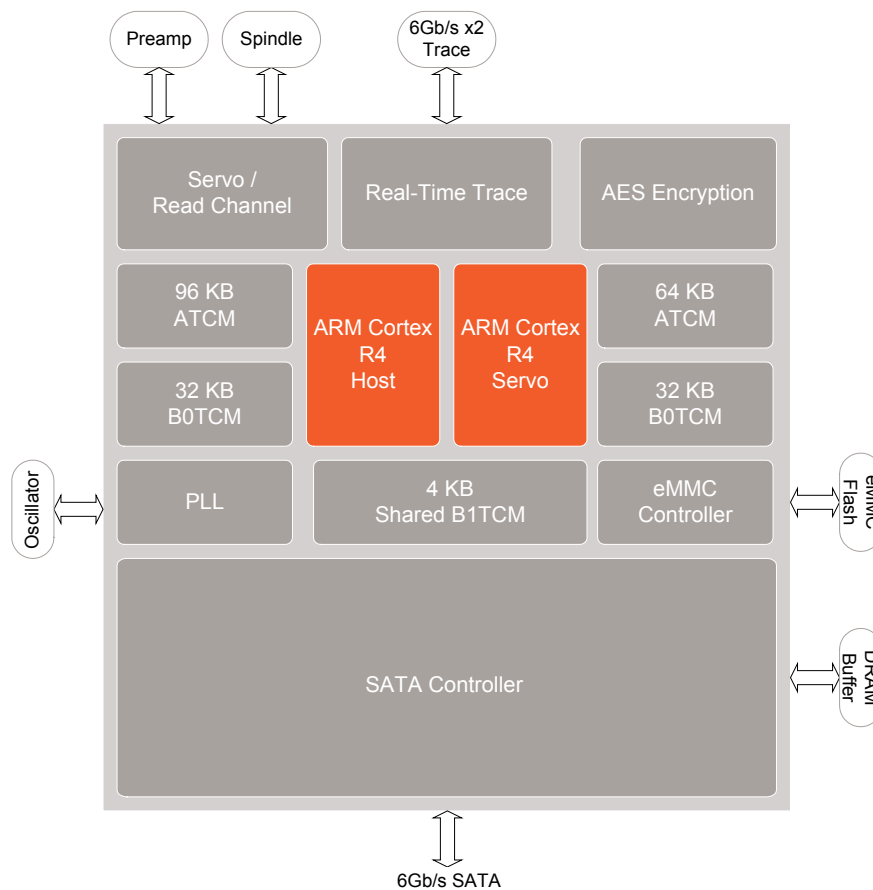


Fig 1. Marvell 88i9422 HDD Controller

BENEFITS AND FEATURES

KEY BENEFITS	KEY FEATURES
<ul style="list-style-type: none"> CPU 	<ul style="list-style-type: none"> Dual ARM Cortex R4 at 600MHZ Separate DTCM and ITCM caches
<ul style="list-style-type: none"> Host Interface 	<ul style="list-style-type: none"> 6Gb/s SATA interface Native Command Queuing enhances performance ATA-8 command support ensures compatibility T10 CRC check provides data integrity
<ul style="list-style-type: none"> Read/Write Channel 	<ul style="list-style-type: none"> Low-density parity check (LDPC) for high-density HDDs RS-ECC-less iterative decoder with programmable noise predictive non-linear Viterbi detector for wide range of densities
<ul style="list-style-type: none"> Data Protection 	<ul style="list-style-type: none"> 256 bit AES encryption of user data Trusted Computing Group (TCG) compliant
<ul style="list-style-type: none"> Package 	<ul style="list-style-type: none"> 231-ball 8x10mm BGA

TARGET APPLICATIONS

- Hard disk drives

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