



SteelVine™ Storage Processor

USB 2.0 and eSATA to SATA Storage Processor

The SiI5734 is a low-cost, single chip solution for single-drive external enclosures and external backup drives. This SteelVine Storage Processor has two 3 Gbps eSATA Gen2m device ports, one 3 Gbps eSATA host port and one USB 2.0 host port. The SiI5734 features proprietary eSATA-based capacity expansion, which allows users to easily grow the capacity of an existing SteelVine enabled device by adding additional drives. The new drives will appear to the host system as additional space in the existing SteelVine volume.

The SiI5734 SteelVine Storage Processor allows manufacturers to build a range of internal and external single-drive storage solutions that support both USB and eSATA Gen2m, the fastest interface for consumer storage. Other features of the SiI5734 include drive locking, single-button backup and support for advanced RAID modes. Extensive software developer kits are available from Silicon Image to support development and simplify product differentiation.

The SiI5734 also features drive locking, which helps protect users' data by allowing them to password lock directly attached and cascaded drives. If a locked drive is detached from its assigned computer or cascade, the data on the drive will be inaccessible until it is reconnected and unlocked with the user supplied password. Single-button backup through third-party applications is also supported.

Sil5734

Applications

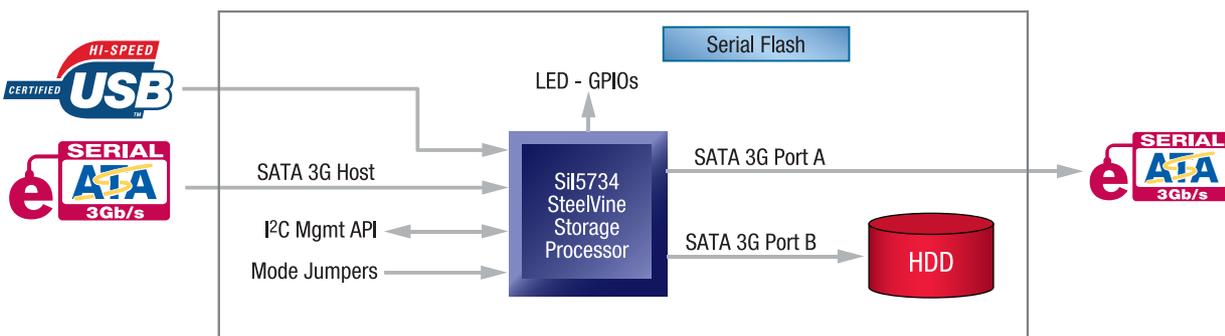
- External storage enclosures
- Backup storage devices

Key Features

- USB 2.0 and eSATA host ports
- eSATA capacity expansion
- Drive locking
- Single-button backup
- RAID Modes: BIG (Concatenation) and JBOD



SiI5734 System Diagram



Sil5734 Features

eSATA-Based Capacity Expansion

With eSATA-based Capacity Expansion, the capacity of a Sil5734 enabled external enclosure can easily be expanded by adding additional SteelVine enabled devices in a cascaded topology. When in BIG mode, these additional devices will dynamically appear to the host system as increased storage capacity in the existing SteelVine volume.

Serial ATA Host Interface Features

- Serial ATA Gen2m compliance
- eSATA and 2-meter cable support
- 3 Gbps (auto-negotiates to 1.5 Gbps)
- Compatible with PM aware and non-PM aware hosts
- Allows multiple drives to be accessed by non-PM aware drive hosts
- Supports NCQ

USB Host Interface Features

- Complies with USB 2.0 specification
- 480 Mb/s (can auto-negotiate to 12 Mb/s)
- Compatible with OHCI / UHCI / EHCI hosts
- Supports up to four LUNs
- Supports Mass Storage Class

Device Interface Features

- Serial ATA Gen2m compliance
- eSATA and 2-meter cable support
- 3 Gbps (auto-negotiates to 1.5 Gbps)
- Independent 8 KB FIFO / Port
- Power management capabilities
- Supports hot plug
- Supports ATAPI & asynchronous notification

Electrical Specifications

- GPIO pins: 9 GPI, 6 GPO
- 3.3V IO supply, 1.8V core supply
- 1.02 watts (typical)

Environmental

- Operating temperature: 0°C to 70°C
- Operating relative humidity: 5% to 80%
- Non-operating relative humidity: 5% to 95%

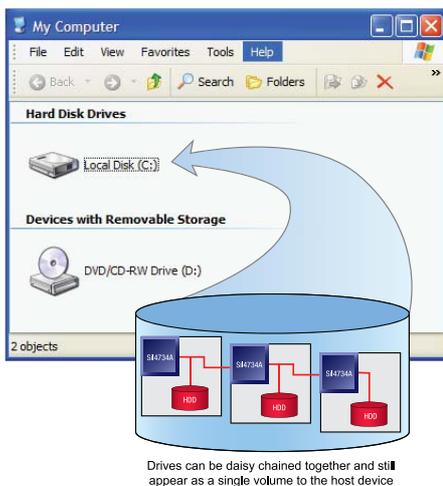
Physical Specifications

- 88-pin QFN
- 10mm x 10mm

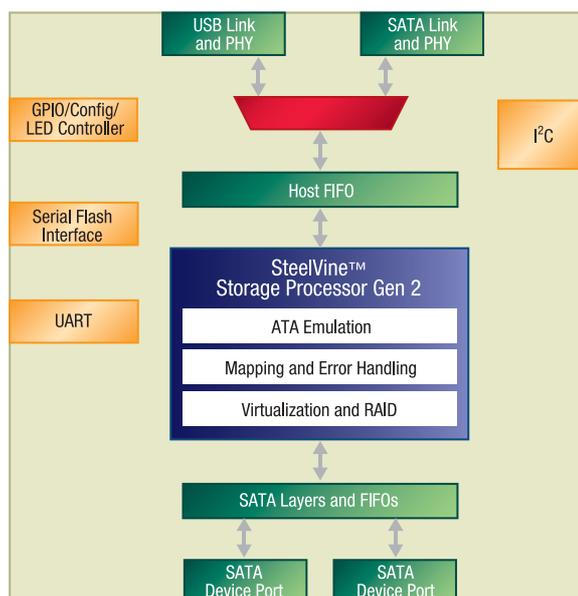
Additional SteelVine features

- No driver, BIOS or software required
- User API interface through I²C
- No drive reformatting on RAID change
- Email Notification
- Optional XML API
- Optional SteelVine Manager GUI
- Mandatory SMART commands available

Capacity Expansion Diagram



Block Diagram



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