Accusys
The RAID Architects

4-Drive SATA-SATA RAID Controller
ACS-77100

OVERVIEW

The ACS-77100 RAID controller is a cost-effective solution for system integrators and storage solution providers to build disk arrays of high reliability and superior performance. It is well-suited for building a stand-alone 4-bay RAID subsystem that can be directly attached to host computers with eSATA, or being included as an RAID adapter inside a system, like workstation, IPC, POS machine, or digital video recorder.

Pervasive Host Connectivity

Unlike RAID cards, which tend to have interoperability issues with the motherboards or the operating systems, the ACS-77100 directly connects to host computers by the widely-adopted and low-cost SATA interfaces without add-on cards and drivers. As a result, the ACS-77100 controller can be used in almost all kinds of computing environments, covering applications from industrial embedded computing to entry-level servers in business offices.

Superior Performance

Powered by the Accusys proprietary SOC, the ACS-77100 controller offers enterprise-class RAID data protection while delivers satisfying performance for most applications with the low-latency XOR logic, and efficient IO optimization processing intelligence. It also features a 2MB high-speed SRAM for streamlining data transfer and buffering. The ACS-77100 controller brings high productivity to business users and happy hours to home users.

Trustworthy Reliability

With the specialized SATA signal monitoring circuits, the ACS-77100 controller can automatically detect disk failure and notify users immediately. Users can on-line replace the faulty disk without any impact being aware by the applications. The controller can also be configured to have a spare disk, which can replace a faulty disk immediately, so that a system administrator can comfortably leave the system and enjoy his life. Accelerated by the RAID SOC, its disk rebuilding time can be effectively reduced, and the system can be back to the protected state very quickly.

Over 2TB Capacity

The ACS-77100 controller provides over 2TB capacity, which means longer video recording hours or higher-resolution video in a digital video recorder, or more accounts in a mail server. As the capacity of single SATA disk keeps growing each year and the cost per GB is declining, the 4-drive RAID can accommodate the capacity demand for more applications and users at a lower cost.

Easy System Integration

By connecting the SATA cables between the ACS-77100 and the disks, a RAID solution can be easily built. The ACS-77100 also offers great flexibility by supporting multiple RAID levels to construct a disk array optimized for performance or reliability.
Selecting the RAID level can be done simply by a DIP switch or jumpers. Users need not to study any painful manual or to understand any bothering technical terms.

Comprehensive Management

The ACS-77100 controller is equipped with a monitoring program, by which users can easily monitor the RAID status from web browsers at a remote site. The monitoring program is also capable of sending out notification mail to users so that users can always be informed of the updated status of the device. In addition, the history of events is kept in the monitoring program for easy tracking.

Customization Service

Accusys provides customization services for this product by offering special build of the firmware and the monitoring software. The API of the controller is also available for system integrators to develop proprietary GUI or to integrate the RAID monitoring with other management frameworks.

PRODUCT HIGHLIGHTS

- Support SATA host interface
- Support SATA disk interface
- Support RAID 0, 10, 5, 5S
- Over 2TB capacity
- Hot swappable disks
- High-speed disk rebuilding
- Online bad sector reallocation
- Event logging and notification
- Remote RAID monitoring by web-based GUI
- RoHS-compliant

Technical Specifications

Host Interface
• SATA1, 1.5Gbps (150MBps) host interface

Disk Interface
• SATA1, 1.5Gbps (150MBps) disk interfaces x 4

RAID Functions
• Hardware-accelerated RAID with data buffering
• RAID levels: 0,10 , 5, and 5S (5+spare)
• Automatically online fast data rebuilding
• Online bad sector recovery and reallocation
• Bad sector alert
• Hot swappable hard disks
• Over 2TB capacity

Management
• Driverless: need no driver on host side
• Disk status signals for LED indicators
• LCD panel for operation status display
• Password protection for access control (optional)
• Support fan and temperature monitoring
• On-board NVRAM and RTC
• RAID level selection by switch or LCD
• Java-based GUI for system status monitoring
• Event logging and notification by on-board audible alarm and e-mail
• RS232 interface for firmware update and GUI
• Open API for proprietary GUI and integration

Physical and Environment Specifications

Dimensions:
• RAID Box (5.25" drive bay)
  217.9 (L) x149.0 (W) x42.5 (H) mm
• Controller Board
  95 (W) x 130 (L) mm

Power Requirement
• Power connector
  Small 4-pin connector
• Power consumption
  +12.0Vdc, for fan only
  + 5.0Vdc/1.5A, tolerance : ±5%

Temperature
Operation mode   : 0˚C to 40˚C
Non-operation mode : -25˚C to 60˚C

Humidity
Operation mode   : 5% to 85% non-condensing
Non-operation mode : 5% to 95% non-condensing

Order Information
• ACS-77100 SATA-4 BW1: Canister with white LCD panel
• ACS-77100 SATA-4 BB1: Canister with black LCD panel
• ACS-77100: controller board

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