areca® At the Heart of Storage

ARC-4036

(8-Bays 6Gb/s SAS Tower JBOD Enclosure)

Overview

The ARC-4036 SAS-to-SAS JBOD enclosures provides a compact external storage chassis capable of accommodating up to 8 6Gb/s, Serial-Attached SCSI (SAS) drives or 6Gb/s Serial ATA (SATA) drives. The Areca SAS expander module is based on the LSI 28-port LSISAS2x28 expander IC, SAS-2 chip which features 28 x 6Gb/s ports and 6G/3G multiplexing, SAS 2.0 zoning, self-configuration, table-to-table routing, and an integrated PPC processor for SES-2 and enclosure management support. Each ARC-4036 compact tower JBOD connects to the host system through two 4-lanes SAS connectors (Host In) and two 4-lanes SAS connectors (Exp. Out) to the next SAS-to-SAS JBOD enclosure. It is used to enhance the ARC-8040 RAID subsystem by allowing support for more than 8 internal hard disk drives. Configuration and environmental information is accessible either via in-band (SES-2 over SMP) or out-of-band serial port.

SAS for Maximum Scalability

SAS 2.0 is designed for backward compatibility with SAS 1.0, twice speed data transfer 6Gb/s Per physical link than previous available. The SAS 2.0 interface supports both 6Gb/s SAS 2.0 disk drives for data-intensive applications, and 6Gb/s SATA drives for low-cost bulk storage of reference data. Applications can be optimized for cost/performance through the use of both SAS and SATA drive types. The ARC-4036 JBOD includes 8 internal plus 16 external 6Gb/s SAS ports connection for host and easy expansion. High performance architecture sets new boundaries of industry performance expectations: 6Gb/s SAS (600MB/s bandwidth per physical link) 3.0Gb/s SATA (300MB/s bandwidth per physical link).

Easy Management

The expander box contains an embedded expander manager that can access via in-band SES-2 over SMP protocol and out-of band RS-232 port. An out-of-band serial port is available for managing the configuration and monitoring the expander. The Areca expander firmware and EPLD has implemented the SES-2 protocol and disk activity map to the individual fault/activity status indicator on the backplanes. It has implemented autonomous chassis management of power supply status connectors, two fan monitor/speed control connectors through the SES-2 protocol. In data center environments, identifying issues with drives and environments are crucial. The hardware monitor can monitor system voltage and temperature. The warning message will be shown in alarm buzzer and respect LED.

Maximum Interoperability

Areca presents its ultra-high performance and high reliability 6Gb/s SAS expander module for a cost-effective and enterprise-class JBOD storage enclosure. A 6Gb/s SAS expander module literally expands the number of end devices that you can connect together. Expander devices, typically embedded into an expander module to connect system backplane, support large configurations of SAS end devices, including SAS host/RAID adapters and SAS and SATA disk drives. The SAS protocol defines a mechanism that has been implemented in the SAS expanders to guarantee fair access between drives in a domain. The ARC-4060 is ideal for 6Gb/s SAS storage systems with external interfaces and get the benefits of more storage capacity. The type and total amount of drives you use are based on the host interface in the server that the JBOD is connected. Host-based RAID configuration is supported via an external SAS/Fibre/iSCSI/PCIe 2.0 to 6Gb/s SAS RAID controller, external series 6Gb/s SAS RAID and SAS host adapters.

Features

Drives

SAS hard drives

• Up to 8 2.5-inch or 3.5-inch SAS hot-plug hard drives (6.0 Gb/s) at speeds of 7.2K, 10K or 15K rpm

SATA hard drives

• Up to 8 2.5-inch or 3.5-inch SATA hot-plug hard drives (6.0 Gb/s) at speeds of 7.2K or 10K rpm

JBOD Controller Modules

• Expander board: 1 module
• Sensors: 1 sensor on the expander board

Backplane Board

Connectors

• 8 x SAS hard-drive connectors
• 1 x Power supply connector
• 2 x Cooling fan module connectors
• 1 x Sets of expander board connector

Controller Back-Panel Connectors

SAS connectors (per expander board)

• 2 x SAS "Host In" connector for connection to the host
• 2 x SAS "Expansion Out" connector for expansion to an additional JBOD enclosure

Serial connector

• 1 x 6-pin UART RJ-11 connector

LED Indicators

Hard-drive carrier

• 1 x Blue single-color activity LED
• 1 x Two-color LED status indicator per drive

Expander board

• 2 x One-color LED status indicators for each SAS host port, one for SAS host port link and one for the activity status
• 2 x One-color LED status indicators for each SAS expansion port, one for SAS expansion port link and one for the activity state

Power Supply

• Wattage	220 W maximum continuous;
• Voltage	90–256 V rated
• Frequency	50–60 Hz
• Amperage	+12V/16A, +5V/16A, +3.3V/14A

Cooling Fan

• Speed	2 x 2700rpm/brushless fan
• Amperage	2 x 0.135A

Physical

Dimension

• Height	302 mm
• Width	146 mm
• Depth	290 mm
• Weight	14.9lbs/6.8 kg (without disk)

Environmental

Temperature

• Operating	0° to 40°C
• Storage	–40° to 60°C

Relative humidity

• Operating	10% to 80% (non-condensing)
• Storage	5% to 95% (non-condensing)

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