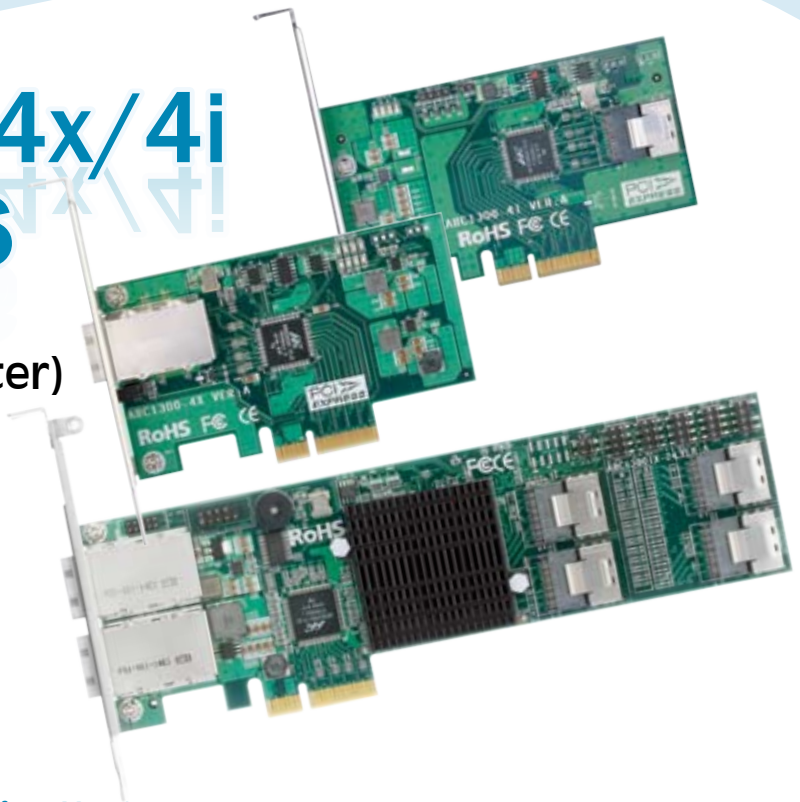# ARC-1300-4e/4x/4i
ARC-1300ix-16

(Cost-effective SAS Host Adapter)

Areca offers the most complete line of SAS host adapters. The host adapter card enables large-scale direct attach storage (DAS) arrays through external 3Gb/s ports, driving up to 128 end-point devices for Min SAS connector or driving up to 16 SATA devices for eSATA connector. The host bus adapter drives external server storage RAID and non-RAID enclosures with unprecedented throughput by connecting a four-lane 2.5 Gb/s PCI Express bus with option one external x4 SFF8088, one internal x4 SFF8087 and two external x4 SFF8088/four internal x4 SFF8087 miniSAS connectors.

Highlights

- Connects to SAS and SATA HDDs, tape drives, SSDs

- Address up to 128 total end-point devices via SAS expanders

- Support SGPIO interface for ARC-1300ix-16

- Supports four independent Serial ATA channels

- System status indicates through global HDD activity/fault header and individual activity/fault header

Cost-Optimization Host Adapter with SAS

Areca SAS host adapters are able to connect to both SATA and SAS hard disk drives, allowing for tiered storage that optimizes costs and performance. This is because SAS adapters leverage a common electrical and physical connection interface that is compatible with SATA technology. SAS drives are optimal when speed and reliability are of the utmost concern, while SATA drives are appropriate when capacity and cost are more important. Areca offers a diverse selection of SAS host adapter including a wide variety of internal and external connector configurations to support any application, from high-performance workstations to large-scale DAS arrays at low cost concerns. System integrators can use the Areca host adapter to build large-scale storage array infrastructures that support both SAS and SATA devices. The cost savings can be felt immediately when using the ARC-1300 to develop a tiered storage solution with hard disk drives (HDDs), tape drives, tape autoloaders, solid state drives (SSDs) and removable media (DAS/JBOD).

Maximum Interoperability

The Areca ARC-1300 series is a half length low profile SAS host adapter. It supports broad operating system including Windows® 2008, Windows Vista, Windows Server 2003, Windows XP, Windows 2000, Red Hat Linux (Open Source), SuSE Linux (Open Source), FreeBSD (Open Source), Mac and Solaris along with enclosure management features such as LED header, and SES2/SGPIO function. All OS drivers are backed by extensive testing and validation to ensure optimum system perfor¬mance. The latest operating system drivers are available on the Areca support website www.areca.com.tw or FTP ftp:areca.com.tw. Those products and technol-ogy are based on extensive testing and valida-tion process; leverage Areca engineer success-fully created the SCSI host adapter in the past and become the best reputation SCSI host adapter in the world. The adapters contain a BIOS set up utility that can access via hot key at system BIOS boot-up screen. This pre-boot setup utility provides flexibility for customer to optimize the host adapter parameter.

Adapter Architecture

- PCIe x4 bus
- PCI express specification, revision 1.0a
- Support SGPIO interface for ARC-1300ix-16
- BIOS PnP(plug and play) and BBS(BIOS boot specification) support
- RoHS compliant

Features

- 3Gb/s per port
- x4 external SFF-8088 mini-SAS connectors
- x4 internal SFF-8087 min-SAS connectors
- 4 x eSATA connectors for ARC-1300-4e
- Staggered spin-up, Hot Plug and Native Command Queuing (NCQ) for SATA II
- x4 Lane, 2.5 Gb/s PCIe
- Connects to SAS and SATA HDDs, tape drives, SSDs
- Address up to 128 total end-point devices via SAS expanders

Management

- Areca BIOS setup utility
- Enclosure management (SES2 and SGPIO) ready
- System status indicates through global HDD activity/fault header and individual activity/fault header

Serial Attached SCSI (SAS) 3.0Gbps

- Serial Attached SCSI (SAS-1.1) compliant
- Supports wide port (Any combination of x1, x2, and x4)
- Supports Serial SCSI Protocol
- Supports SAS Management Protocol (SMP)
- Hot-plug capability
- Staggered Spin-up control

Serial ATA 3.0Gbps

- 48 bits LBA, support HDD partition larger than 137GB
- Fully compliant with Serial ATA II (3Gbps) compliant, with speed negotiation Serial ATA 1.0a (1.5Gbps) specifications revision 1.1
- Supports external SATA voltage levels
- Hot-plug capability
- Supports Serial ATA II Port Multiplier 1.0 Specifications revision1.1
- Supports Native Command Queuing (NCQ)
- Output swing control

Operating System

- Windows Vista/2003/XP/2000: SCSIport/Storport (32-bit and x64)
- Red Hat Linux, SuSE Linux, and Fedora Core (32-bit and x64)
- BSD/FreeBSD (32-bit and x64)
- Mac OS X 10.4.X and 10.5 Leopard (no-bootable)
- Solaris 10/11(x86-64)

Physical

Model Name	ARC-1300-4e	ARC-1300-4x	ARC-1300-4i	ARC-1300ix-16
Host Bus Type	PCIe x4 Lane			
RAID Level	N/A			
Drives Support	Up to 16 SATA ll with port multiplier box	128 x SAS/SATA ll	128 x SAS/SATA ll	128 x SAS/SATA ll
External SAS Ports	4	4	N/A	8
External Connector	4 x eSATA	1 x SFF-8088	N/A	2 x SFF-8088
Internal SAS Ports	N/A	N/A	4	16
Internal Connector	N/A	N/A	1 x SFF-8087	4 x SFF-8087
Dimensions(LxH)	80 x 98mm	113 x 65mm	113 x 65mm	208 x 65mm