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At the heart of storage

ARC-1203-2N (2-Port Cached NVMe Native RAID Adapters)

The Areca ARC-1203-2N NVMe Native RAID host adapter is a PCIe 2.0 x4 bus to 2 ports PCIe 2.0 X1 M.2 disk array host adapter. When properly configured, the M.2 RAID adapter can provide a high degree of performance and fault tolerance with data mirroring for maximum protection. The ARC-1203-2N NVMe RAID adapter is ideal for SSD boot applications as it naturally provides operating system and recovery data protection that is physically isolated in the system from volume user data. This isolation is critical for applications that require reliable access to the logs and OS boot programs without any chance of being corrupted by user data.
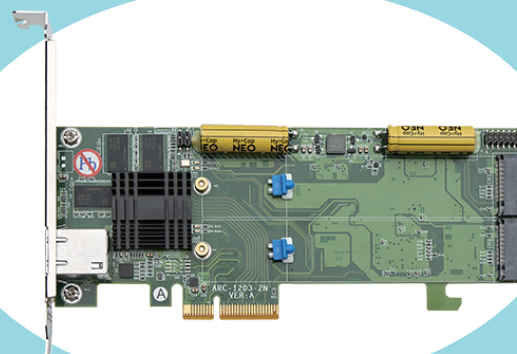
Hardware Features

The NVMe RAID adapter includes high-performance 1066MHz storage processor, a DDR3-1066 memory architecture, and two PCIe 2.0 x1 M.2 ports in a PCIe 2.0 x4 bus interconnection. The ARC-1203-2N default supports on-board 512MB DDR3-1066 SDRAM memory. The ARC-1203-2N is the industry's most compelling 2-port M.2 NVMe RAID solution which economically delivers full-featured true hardware RAID to desktop and workstations as well as entry-level servers.

Unsurpassed Data Availability

With Areca entry-level RAID controllers incorporate onboard storage processors to deliver true hardware RAID. Hardware RAID cards have their own local RAID processor onboard, plus dedicated onboard cache for full hardware offloading of RAID-processing functions. The ability of hardware RAID controllers to rebuild an array in the event of a drive failure is superior to what software RAID controllers offer.

The ARC-1203-2N RAID adapters can provide RAID levels 0, 1, Single Disk and JBOD RAID for maximum configuration flexibility. The ARC-1203-2N RAID adapter off module power loss protection (PLP) is optimized for datacenter environments. Its efficient PLP typically applies the capacitors on the NVMe SSD to provide hold-up power until the data is flushed from the NVMe internal DRAM to the NAND flash upon a sudden power off or any failure condition occurrence.

ARC-1203-2N utilizes the on-board supercapacitor to provide off module hold-up power, eliminating the need for capacitors on the NVMe SSDs which helps reduce cost.

The on-board supercapacitor also supplies the power to keep fault LED status and easily be identified as a failed drive when it is removed from the system PCIe slot.

During the adapter firmware upgrade flash process, it is possible for a problem to occur resulting in corruption of the controller firmware. With our redundant flash image feature the adapter will revert back to the last known version of firmware and continue operating. Support off module power loss protection for Non PLP NVMe drive using on-board supercapacitor

Maximum Interoperability

The ARC-1203-2N is compatible with native OS NVMe host drivers It can also support Areca SAS/SATA device driver for broad operating system including Windows, RedHat Linux, SuSE Linux, FreeBSD, Macos and more, along with key system monitor-ing features such as SMTP, and SNMP function.

Easy RAID Management

The McBIOS RAID is an utility used to simplify configurations and manage RAID adapter via a firmware level virtual bootable disk (UEFI OS). Without deploying an agent, you can also configure, deploy, update, and monitor the ARC-1203-2N via the GUI or through CLI utility. Customers can launch the firmware browser based McRAID GUI through ArcHttp proxy server. Additionally, Areca ArcSAP storage manager allows the user to scan multiple RAID units in the network and perform GUI management operations across multiple RAID units.

Highlights

- PCIe 2.0 x1 speed at each M.2 NVMe drive ports

- Support RAID level 0, 1, Single Disk and JBOD

- True hardware RAID protection for all your valuable data

- Capacity expansion, RAID level/stripe size migration

- Support native OS NVMe host drivers

- Redundant flash image for adapter availability

- Support off module power loss protection for Non PLP NVMe drive using on-board supercapacitor

- Web browser-based RAID manager via Archttp Proxy Sever.

- On-board supercapacitor to keep on M.2 fault LED status for troubleshooting

ARC-1203-2N (2-Port Cached NVMe RAID Adapters)

Adapter Architecture

- 1066MHz storage processor
- PCIe 2.0 x4 bus
- 512MB on-board DDR3-1066 SDRAM
- Write-through or write-back cache support
- Support both 2280 and 22110 form factor M.2 NVMe drives
- Support read/write cache allocation by policy
- Multi-adapter support for large storage requirements
- BIOS boot support for greater fault tolerance
- NVRAM for RAID event & transaction log
- Boot support for the uEFI host BIOS
- Redundant flash image for adapter availability
- On-board supercapacitor for Non PLP NVMe drive and LED indicator ready

RAID Features

- Support RAID level 0, 1, Single Disk and JBOD
- Configurable stripe size up to 1024KB
- Multiple RAID selection
- Array roaming
- RAID level/stripe size migration
- Capacity expansion and RAID level migration simultaneously
- Instant availability and background initialization
- SED (self-encrypting drives) function support
- Drive SMART status monitoring for reliability
- Support off module power loss protection for Non PLP NVMe drive using on-board supercapacitor

Monitors/Notification

- System status indication through M.2 fault LED and alarm buzzer
- SMTP support for email notification
- SNMP support for remote manager
- On-board supercapacitor to keep on M.2 fault LED status for troubleshooting

RAID Managment

- Field-upgradeable firmware in flash ROM

In-Band Manager
- Web browser-based McRAID storage manager via ArcHTTP Proxy Server
- Firmware built-in UEFI OS to launch McBIOS RAID manager
- Support Command Line Interface (CLI)
- API sample and functional code for customer to quickly customize its AP.
- Single Admin Portal (ArcSAP) quick manager utility

Out-of-Band Manager
- Firmware-embedded web browser-based McRAID storage manager, SMTP manager, SNMP agent and Telnet function via Ethernet port
- Out-of-Band API sample and functional code for customer to quickly customize its AP.

Operating System

- Native OS NVMe host drivers
- Windows
- RedHat Linux
- SuSE Linux
- FreeBSD
  macOS

For more information & latest supported OS listing visit www.areca.com.tw

Environmental/Physical

- Mechanical

Form Factor	64.41(H) x 167.65(L) mm
NVMe Interface	2 M.2 connector

- Environment

Operating	Temperature: +5°c to +60°c with 200 LFM airflow Humidity: 15-80%, non-condensing
Storage Temperature	Temperature: -40°c to 70°c Humidity: 5-90%, non-condensing
Regulatory Certification	CE, FCC

- Electrical

Power Requirements	PCI-Express x4
+12V (controller only)	8W

Areca PCI-Express x4 NVMe Native RAID Card	
Model Name	ARC-1203-2N
Host Bus Type	PCIe 2.0 x4
RAID Level Support	0,1, Single Disk(Single/Dual), and JBOD
Cache Memory	512MB DDR3-1066 on-board
Device Interface	Up to 2 x NVMe (runing PCIe 2.0 x1 mode)
Device Connector	M.2
On-board Supercapacitor	YES

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