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Quick Installation Guide

Gen5 x16 NVMe Hardware RAID Adapters

ARC-1689-8N

Adapter Architecture

- Hardware RAID Level 0, 1, 10, Single (Single/Dual/Triple)
- PCIe Gen 5.0 x16 lane host interface
- Device interface PCIe Gen 5.0 x4 M.2 slot
- In-box (native) NVMe driver support

Step 1: Unpack

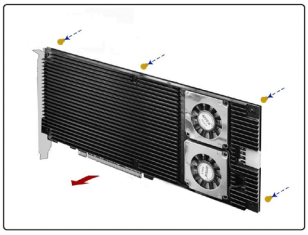
Inspect ARC-1689-8N M.2 RAID adapter from the package. If it appears damaged, or if any items of the contents listed below are missing or damaged, please contact your supply.

Checklist

- 1 x RAID adapter in an ESD-protective bag
- 1 x 0.75mm thermal pad

Step 2: Mount the M.2 NVMe SSD

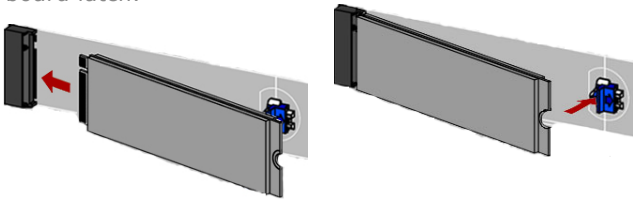
1. Remove six screws that secure unit's front heatsink and remove the blue film for M.2 NVMe from the thermal pads on the ARC-1689-8N PCB board.



2. Install the NVMe SSDs to the ARC-1689-8N.

If you use 2280 M.2 NVMe SSD...

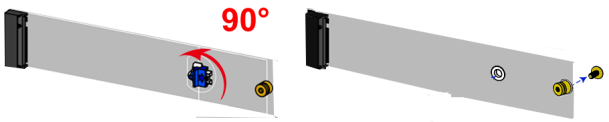
(1) Gently insert the SSD into slot and fasten SSD with the board latch.



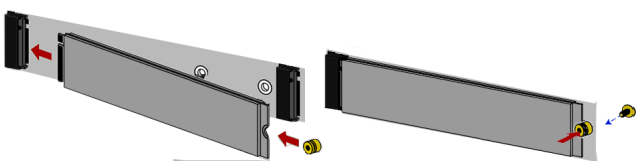
(2) Repeat steps (1) to install the remaining SSDs.

If you use 22110 M.2 NVMe SSD...

(※1) Turn the latch 90° clockwise or counterclockwise to remove board latch and also remove eight screws on the board.



(※2) Gently insert the SSD into slot, meawhile put the screw into the groove and fasten the screw to secure SSD.



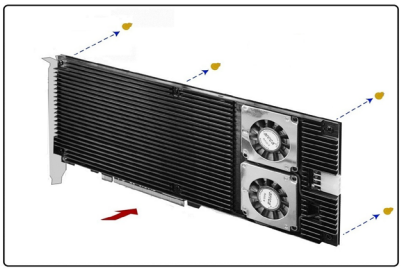
(※3) Repeat steps ※1 to ※2 to install the remaining SSD..

3. Install the heat sink to the ARC-1689-8N PCB board.

(1) Remove the blue film for M.2 NVMe and PCIe switch chip from the thermal pad on the heatsink.

(2) Align the screw hole on the heat sink to the six screw holes on the PCB board.

(3) Refasten six screws to secure unit's front heatsink.



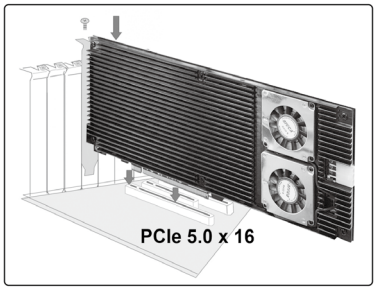
Caution:

The issue is that M.2 drive thickness varies, which affects the thermal pad contact between the heatsink and the CPU, leading to potentially higher temperatures. Poor contact or incorrect thermal pad height can cause the CPU to overheat and trigger a beeper alarm.
If you've already reassembled the heatsink and the problem continues, you should replace the existing 0.5mm CPU thermal pad on the heatsink with the 0.75mm thermal pad that came in the box.

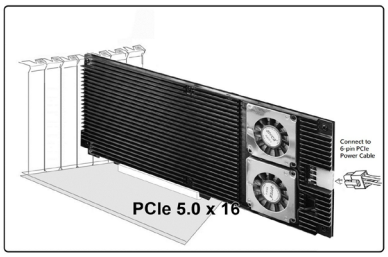
Step 3: Power PC/Server Off and Disconnect Power Cable

Step 4: Install the RAID Adapters

(1). Remove the mounting screw and existing bracket from the rear panel behind the selected PCIe 5.0 slot. Align the gold-fingered edge on the card with the selected PCIe 5.0 x16 slot. Press down gently but firmly to ensure that the card is properly seated in the slot. Then, screw the bracket into the computer chassis.



(2) Connect the 6-pin PCIe power cable to the external power connector on the right side of the ARC-1689-8N.



Step 5: Adding a CBM Backup Module (Optional)

Please refer to Appendix B of user manual.

Step 6 : Power up the System

Step 7: Install the Adapter Driver

The ARC-1689 NVMe RAID adapter goes with any standard Windows (10 or above), Linux(Kernel 3.10 or above), or FreeBSD in-box NVMe drivers. You do not need a special driver to install the OS or data on the ARC-1689. In-box driver is a native driver that is supplied with the Operating System.

Step 8: Install ArcHTTP Proxy Server

ArcHTTP has to be installed for GUI RAID console (MRAID storage manager) to run. It is used to launch the web browser MRAID storage manager. It also runs as a service or daemon in the background that allows capturing of events for mail and SNMP traps notification.

Follow the steps below to install the ArcHttp utility.

1. Download ArcHttp proxy server (or MRAID software) from Areca website: *https://www.areca.com.tw/support/downloads.html*
2. Follow the steps on the user manual to complete the installation

If you need additional information about installation and start-up of this function, see the ArcHTTP Proxy Server Installation section in Chapter 5 of the user manual.

Step 9: Configure RAID Set & Volume Set

You can create and configure a RAID adapter using any of these tools:

- McBIOS RAID Manager
  — BIOS-based menus and keyboard navigation.
- MRAID Storage Manager
  — Web browser firmware-based manager, which is accessible via the web browser installed on your operating system through ArcHttp utility.

※ Method 1: McBIOS RAID Manager

The McBIOS RAID manager is a menu-driven program, residing in the firmware, which allows you to scroll through various menus and sub-menus and select among the predetermined configuration options.

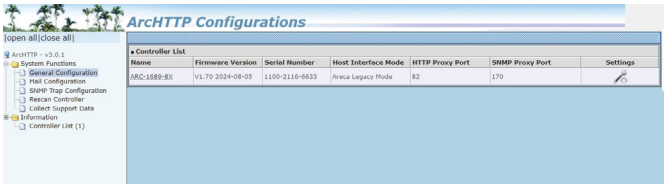
1. Enter themotherboard BIOS setup, in the boot order list,add UEFI OS to the 1st priority boot. Restart your motherboard to boot from UEFI OS.
2. When booted, the McBIOS RAID setup window appears showing the main menu of the RAID controllers that are installed in the system.
3. The McBIOS RAID manager window appears showing a selection dialog box listing the RAID adapters, select your adapter, then press ***Enter*** to show the McBIOS RAID manager message.
4. Follow the McBIOS RAID manager to complete the configuration.

※ Method 2: MRAID Storage Manager From ArcHTTP

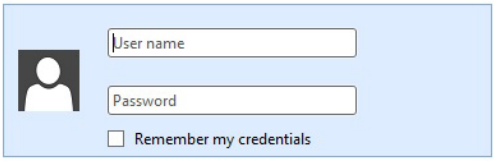
1. Start ArcHTTP– Browser Edition:
   (1) In Windows, right-click on "Start" menu and choose "Programs". Clicking "MRAID" program icon starts the ArcHTTP utility (From the Start menu, choose Programs > MRAID > ArcHTTP).
   (2) On a Mac, there is one MARID icon showing on your desktop. This icon is for you to start up the ArcHTTP utility.
   (3) On a Linux/FreeBSD, launch your McRAID storage manager by entering http://[Computer IP Address]:[Port Number] in the web browser. there is one desktop

2. When you double-click on the "ArcHTTP64" or enter http://[Computer IP Address]:[Port Number], it shows all RAID adapters available on the system and create an individual RAID adapter icon located on right column of the "ArcHTTP Configurations" screen

3. Locate "ARC-1689-8N Web Management" and launch the selected MRAID storage manager.



4. Type the User Name and Password when the login page prompt. The RAID adapter default User Name is "admin" and Password is "0000". After logging in, the MRAID storage manager process starts.



See chapter 6 of ARC-1689-8N user manual for information on customizing your RAID volumes using MRAID storage manager.

If you need more detail information, please download user manual from the website below:

- *https://www.areca.com.tw/products/nvme-1689-nod.html*
- *https://www.areca.com.tw/support/downloads.html*

ARC-1689-8N Specifications

Model Name	ARC-1689-8N
PCIe Switch	PEX89048 48 Lanes Gen5 Switch
Host Interface	PCIe 5.0 x16 Lanes
Form Factor	107.2(H) x 262(L) mm
Device Connector	8 x M.2 Connector
Max M.2 Devices Support	4 x 2280 + 4 x 22110 FF
RAID Level	0, 1, 10, Single Disk or JBOD.
Device Interface	Gen 5.0 x4 (NVMe)
Management Port	In-Band: PCIe
Power Loss Protection (PLP) Support	Yes
Hold-up Supercapacitor	ARC-1886-CBM (optional)
Device Driver	In-box (Native) NVMe driver
Software Package	Same as ARC-1886 Tri-Mode RAID Adapter

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