

NVMe Hardware RAID Adapters

ARC-1689-32I



Adapter Architecture

- Hardware RAID level 0, 1, 10, Single Disk(Single/Dual)
- PCIe Gen5 x16 lanes host interface
- NVMe Gen 5 x4 device interface
- In-box(native) NVMe driver support

Step 1: Unpack

Inspect NVMe 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 dealer or distributor.

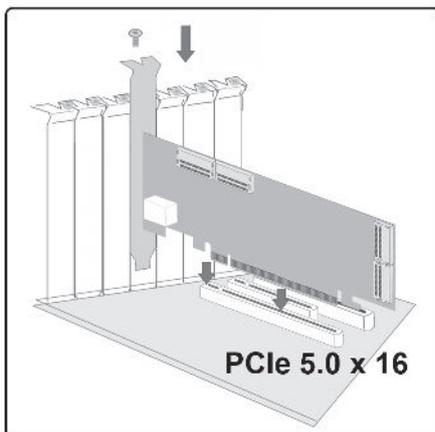
Checklist

- 1 x Low-profile bracket
- 1 x NVMe RAID adapter in an ESD-protective bag

Step 2: Power PC/Server Off

Step 3: Install the NVMe RAID Adapters

Remove the mounting screw and existing bracket from the rear panel behind the selected PCIe 5.0 x16 slot. Align the gold-fingered edge on the card with the selected PCIe 5.0 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.



Step 4: Mount the Drives

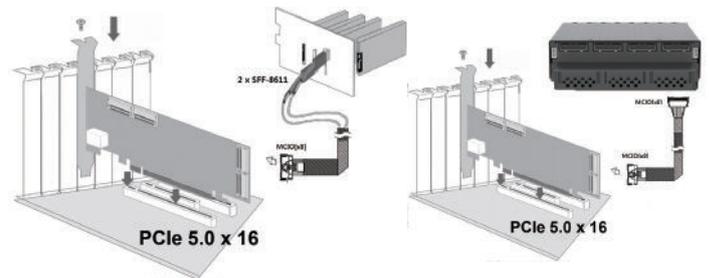
You can connect the NVMe drives to the adapter through direct cable and backplane solutions.

(1). In the direct connection:
The NVMe drives are directly connected to NVMe RAID adapter PHY port with proper storage connection cables.

(2) In the backplane solution:
The NVMe drives are directly connected to system backplane or through a PCIe switch board. The number of NVMe drives is limited to the number of slots available on the backplane.

Step 5: Install Storage Connection Cable

The adapter has four x8 MCIO connectors. Each x8 connector provides two sets of SFF-9402 standard sidebands. It supports both the industry standard SFF-TA-1005 Specification for Universal Backplane Management (UBM) and maintains Virtual Pin Port (VPP) backplane management for legacy implementations. Choose the proper cable for the given backplane type and connectors. Connect the MCIO connector of the adapter to the backplane or NVMe SSD via the proper cable. For backplane connector supporting, please refer to the enclosure/cage backplane manual and choose the proper cable from backplane vendor's manual.



Step 6: Connect Monitor Port - LAN Port (optional)

User can remote manage the RAID adapter without adding any user specific software (platform independent) via standard web browsers directly connected to the RJ45 LAN port.

Step 7: Power up the System

Step 8: Install the Adapter Driver

The ARC-1689 NVMe RAID adapter goes with any standard Windows (10 or above), Linux(Kernel 3.10 or above), FreeBSD or VMware 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 9: Install ArchHTTP Proxy Server

ArchHTTP 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 ArchHttp utility.

1. Download ArchHttp 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 ArchHTTP Proxy Server Installation section in Chapter 5 of the user manual.

Step 10: 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 ArchHttp utility and Lan Port.

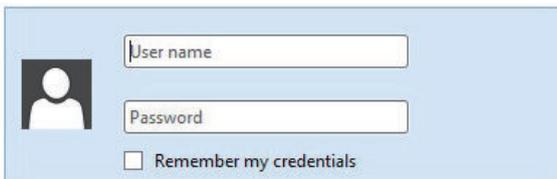
※ Method 1: McBIOS RAID Manager

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 the motherboard 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 Manager From LAN Port

User can remote manage the ARC-1689-32I without adding any user specific software (platform independent) via standard web browsers directly connected to the RJ45 LAN port. You can find controller Ethernet port default IP address in McBIOS RAID manager "System Information" option. Launch the Web Browser-based MRAID storage manager by entering `http://[IP Address]` in the web browser.



Type the User Name and Password. The RAID adapter default User Name is "admin" and the Password is "0000". After entering the user name and password, click the button to access the MRAID storage manager.

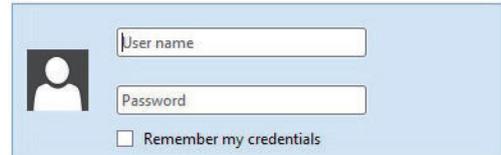
※ Method 3: MRAID Storage Manager From ArchHTTP

1. Start ArchHTTP- Browser Edition:
 - (1) On a Window, right-click on "Start" menu and choose "Programs". Clicking "MRAID" program icon starts the ArchHTTP utility (From the Start menu, choose Programs > MRAID > ArchHTTP).
 - (2) On a Mac, there is one MRAID icon showing on your desktop. This icon is for you to start up the ArchHTTP 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 "ArchHTTP64" 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 "ArchHTTP Configurations" screen.

3. Locate "ARC-1689-32I 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.



5. Click on the "Quick Create" in the main menu, your volume is automatically configured based on the number of disks in your system. You can create a RAID set associated with exactly one volume set.



See chapter 6 of ARC-1689-32I 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-1689-32I Specifications

Model Name	ARC-1689-32I
PCIe Switch	PEX89048 48 Lanes Gen5 Switch
Host Interface	PCIe 5.0 x16 Lanes
Form Factor	LP-MD2 : 64.41(H) x 167.65(L) mm
Device Connector	4 x M.2 (x8) Connector
Max NVMe Devices Support	Up to 8x4, 16x2, 32x1 NVMe SSD
RAID Level	0, 1, 10, Single Disk or JBOD.
Device Interface	Gen 5.0 x4 (NVMe)
Management Port	In-Band: PCIe/Out-of-Band Lan Port
Device Driver	In-box (Native) NVMe driver
Software Package	Same as ARC-1886 Tri-Mode RAID Adapter