



HPT Utility User Guide

V1.08 - March 16, 2026

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Table of Contents

1. Overview	4
1.1. Advanced Features of the HPT Utility	5
2. HPT Utility	6
2.1. Start the HPT Utility	6
2.1.1. Start the HPT Utility on Windows	8
2.1.2. Start the HPT Utility on Linux	9
2.1.3. Start the HPT Utility via OOB (Windows)	10
2.1.4. Start the HPT Utility via OOB (Linux)	12
2.2. help Command	14
2.2.1. Show the Generic Help Command	14
2.2.2. Show the Specific Command Help	15
2.3. list Command	16
2.3.1. List All AICs	16
2.4. select Command	18
2.4.1. Select the AIC	18
2.5. info Command	19
2.5.1. View the AIC Information	19
2.6. trace Command	25
2.6.1. View the Trace Log	25
2.7. sensor Command	26
2.7.1. View the AIC Sensor Information	26
2.8. event Command	28
2.8.1. View the Event Log	28
2.9. otc Command	30
2.9.1. Save the Firmware Log	30
2.10. set Command	33
2.10.1. Set the AIC Fan Speed	33
2.10.2. Set the AIC Beeper	34
2.11. param Command	35
2.11.1. Set Hotplug Compatibility Mode	36
2.11.2. Set LED On/Off	37
2.12. dl Command	38
2.12.1. Update the AIC Firmware	38
2.12.2. Update the AIC MCU	39
2.12.3. Update the AIC Retimer	40
2.13. clear Command	41
2.13.1. Clear the Utility Screen	41
2.13.2. exit Command	42
2.13.3. Exit the Utility	42
2.14. version Command	43

2.14.1. Show the Utility Version.....	43
3. Troubleshooting.....	44
3.1. Linux Disk Recognition Anomaly Due to ASPM Power Management ...	44
4. Revision History	45
4.1. Version 1.00, October 18, 2024	45
4.2. Version 1.01, March 3, 2025.....	45
4.3. Version 1.02, March 25, 2025	45
4.4. Version 1.03, June 20, 2025	45
4.5. Version 1.04, August 21, 2025	45
4.6. Version 1.05, September 2, 2025	45
4.7. Version 1.06, November 28, 2025	46
4.8. Version 1.07, January 26, 2026	46
4.9. Version 1.08, March 16, 2026	46

1. Overview

HPT Utility is a comprehensive tool that enables users to easily view detailed AIC information, view trace log, event log, securely update firmware, and efficiently collect AIC status information, providing solid technical support for stable AIC operation and efficient management.

The following table lists the products and operating system that supported.

Table 1: Supported products and operating system

Supported products	MPT Transport Protocol	R1528D R1604A R1608A R1624A R1628A R7634D R7638D RS8531AW RS8631CW
	USB Transport Protocol	R1604L
Supported operating system		Windows 10 (Version: 22H2) and later Windows Server 2022 and later Red Hat Enterprise Linux 9 and later Debian 12.7 and later Ubuntu 24.04 and later Fedora 40 and later

1.1. Advanced Features of the HPT Utility

- Update firmware
- Collect log information
- View Device Information

2. HPT Utility

This section describes the various HPT Utility commands: help, list, select, info, trace, sensor, event, otc, set, param, dl, clear, exit, version.

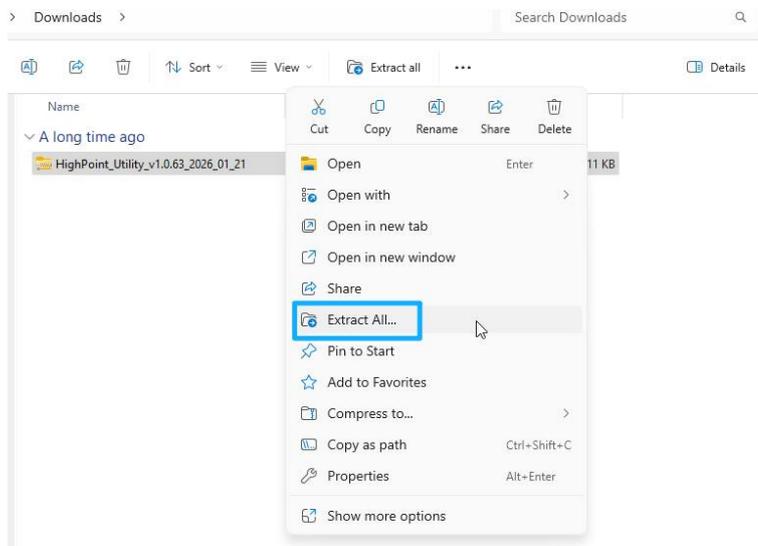
2.1. Start the HPT Utility

There are two methods to use HPT Utility. One is to use it in interactive mode; the other is to use it in batch mode.

- **Interactive Mode**-Using the HPT Utility in interactive mode allows the user to interact with the HPT Utility intuitively through a command line interface, where the user can instantly enter commands or data and get an immediate response or processing result from the software.
- **Batch Mode**-Using HPT Utility in batch mode, users can combine multiple commands into a batch file and submit it to HPT Utility for execution at once. This processing greatly improves efficiency.

HPT Utility Prerequisites

1. Use administrator privileges on the system.
2. Download the firmware file.
3. Unzip the HPT Utility zip file.
 - **For Windows User**
 - 1) Locate the HPT Utility file download.
 - 2) Right-click on the HPT Utility ZIP file.
 - 3) Select **Extract All...** to complete unzip the ZIP file.



- **For Linux User**

1) Open a terminal with root privileges and enter the path where the HPT Utility is located.

e.g. **#cd /home/test/Downloads/**

2) Unzip the HPT Utility zip file.

#unzip HighPoint_HPT_Utility_v1.x.x_20_xx_xx.zip

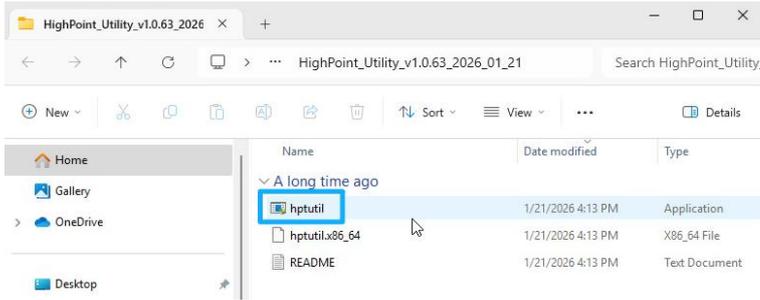
```
root@test-System-Product-Name:/home/test/Downloads# unzip HighPoint_Utility_v1.0.63_2026_01_21.zip
Archive:  HighPoint_Utility_v1.0.63_2026_01_21.zip
  inflating: hptutil.exe
  inflating: hptutil.x86_64
  inflating: README.txt
root@test-System-Product-Name:/home/test/Downloads#
```

2.1.1. Start the HPT Utility on Windows

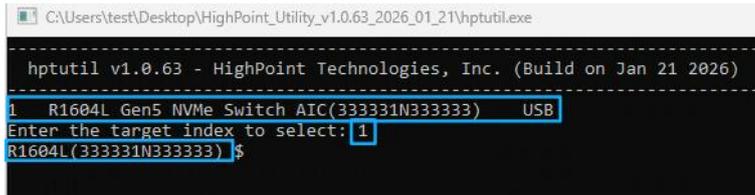
To start the HPT Utility on the Windows operating system, perform the following steps.

Method 1: Interactive Mode

1. Locate the HPT Utility download and open the file.
2. Use the Administrator Privileges to click the **hptutil.exe**.

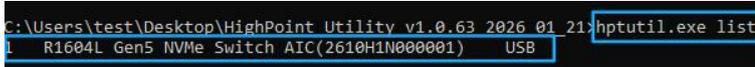


3. Enter the AIC number to select the corresponding AIC.



Method 2: Batch Mode

1. Run Command Prompt as Administrator.
2. Enter the command to enter the path where the HPT Utility is located.
3. Enter the command: **hptutil.exe list**, display all supported AICs.



4. Enter the command: **hptutil.exe {controller_index} help** to displays generic help about this utility.



Note: In batch mode, you must specify the {controller_index} parameter to select the target AIC.

2.1.2. Start the HPT Utility on Linux

To start the HPT Utility on the Linux operating system, perform the following steps.

Method 1: Interactive Mode

1. Open a terminal with root privileges and enter the following command to start the HPT Utility.

```
#!/hptutil.x86_64
```

```
root@test-System-Product-Name:/home/test/Downloads# ./hptutil.x86_64
```

2. Enter the AIC number to select the corresponding AIC.

```
root@test-System-Product-Name:/home/test/Downloads
File Edit View Search Terminal Help
-----
hptutil v1.0.63 - HighPoint Technologies, Inc. (Build on Jan 21 2026)
-----
1 R1604L Gen5 NVMe Switch AIC(333331N333333) USB
Enter the target index to select: 1
R1604L(333331N333333) $
```

Method 2: Batch Mode

1. Open a terminal with root privileges.
2. Enter the command: `./hptutil.x86_64 list`, display all supported AICs.

```
root@test-System-Product-Name:/home/test/Downloads/HighPoint_Utility_v1.0.63_2026_01_21# ./hptutil.x86_64 list
1 R1604L Gen5 NVMe Switch AIC(2610H1N000001) USB
root@test-System-Product-Name:/home/test/Downloads/HighPoint_Utility_v1.0.63_2026_01_21#
```

3. Enter the command: `./hptutil.x86_64 {controller_index} help` to displays generic help about this utility.

```
root@test-System-Product-Name:/home/test/Downloads/HighPoint_Utility_v1.0.63_2026_01_21# ./hptutil.x86_64 1 help
Usage:
    help [help|list|select|info|trace|sensor|event|otc|set|param|dl|clear|exit|version]
This command displays the detailed help.
root@test-System-Product-Name:/home/test/Downloads/HighPoint_Utility_v1.0.63_2026_01_21#
```

Note: In batch mode, you must specify the `{controller_index}` parameter to select the target AIC.

2.1.3. Start the HPT Utility via OOB (Windows)

The following content are available only for products with USB transport protocol.

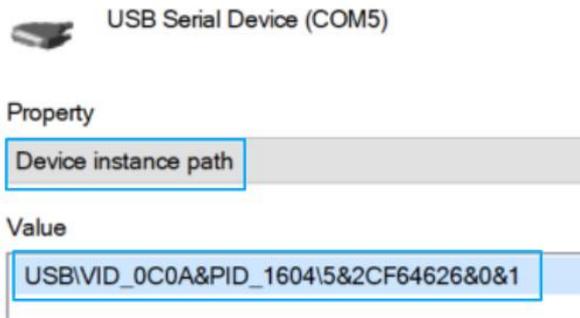
To start the HPT Utility, perform the following steps.

Method 1: Interactive Mode

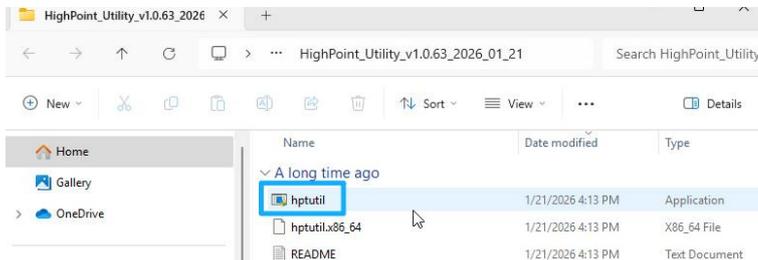
1. Connect the cable's Type-C connector to the Type-C port on the R1604L, which is installed in a slot of **Host A**.
2. Power on Host A.
3. Connect the other end of the cable to a Type-A or Type-C port on a personal laptop or another host (**Host B**).
4. Verify that the USB serial device is properly connected and recognized by the system.

Right-click the **Start** Menu and select **Device Manager-->Universal Serial Bus controllers**.

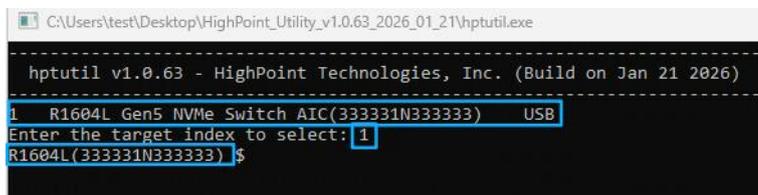
Recognized USB serial device will be listed, as shown in the figure below.



5. Locate the HPT Utility download and open the file on **Host B**.
6. Use the Administrator Privileges to click the **hptutil.exe**.



7. Enter the AIC number to select the corresponding AIC.

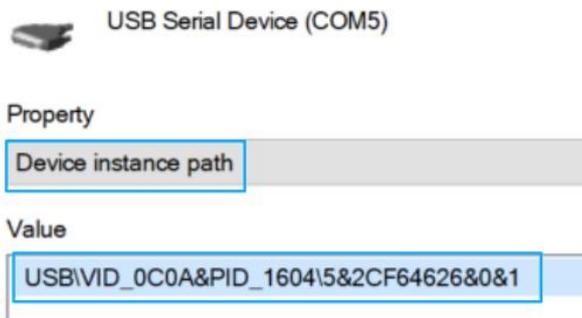


Method 2: Batch Mode

1. Connect the cable's Type-C connector to the Type-C port on the R1604L, which is installed in a slot of **Host A**.
2. Power on Host A.
3. Connect the other end of the cable to a Type-A or Type-C port on a personal laptop or another host (**Host B**).
4. Verify that the USB serial device is properly connected and recognized by the system.

Right-click the **Start** Menu and select **Device Manager-->Universal Serial Bus controllers**.

Recognized USB serial device will be listed, as shown in the figure below.



5. Locate the HPT Utility download and open the file on **Host B**.
6. Run Command Prompt as Administrator.
7. Enter **hptutil.exe help**, display generic help about this utility.

```
C:\Windows\System32>cd C:\Users\test\Desktop\HighPoint_Utility_v1.0.63_2026_01_21
C:\Users\test\Desktop\HighPoint_Utility_v1.0.63_2026_01_21>hptutil.exe help
Usage:
    help [help|list|select|info|trace|sensor|event|otc|set|param|dl|clear|exit|version]
This command displays the detailed help.
C:\Users\test\Desktop\HighPoint_Utility_v1.0.63_2026_01_21>
```

8. Follow the command prompt in the help output and enter the command you want to execute.

2.1.4. Start the HPT Utility via OOB (Linux)

The following content are available only for products with USB transport protocol.

To start the HPT Utility, perform the following steps.

Method 1: Interactive Mode

1. Connect the cable's Type-C connector to the Type-C port on the R1604L, which is installed in a slot of **Host A**.
2. Power on Host A.
3. Connect the other end of the cable to a Type-A or Type-C port on a personal laptop or another host (**Host B**).
4. Verify that the USB serial device is properly connected and recognized by the system.

Open a terminal with root privileges and enter the following command to list the USB serial devices.

#lsusb

```
root@test-System-Product-Name:/home/test/Desktop# lsusb
Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
Bus 001 Device 002: ID 04f3:0103 Elan Microelectronics Corp. ActiveJet K-2024 Multimedia Keyboard
Bus 001 Device 003: ID 046d:c877 Logitech, Inc. Mouse
Bus 001 Device 004: ID 0c0a:1604 Highpoint Technologies, Inc. HighPoint COM
```

5. Locate the HPT Utility download and open the file on **Host B**.
6. Open a terminal with root privileges and enter the following command to start the HPT Utility.

#!/hptutil.x86_64

```
root@test-System-Product-Name:/home/test/Downloads# ./hptutil.x86_64
```

7. Enter the AIC number to select the corresponding AIC.

```
root@test-System-Product-Name:/home/test/Downloads
File Edit View Search Terminal Help
-----
hptutil v1.0.63 - HighPoint Technologies, Inc. (Build on Jan 21 2026)
-----
1 R1604L Gen5 NVMe Switch AIC(333331N333333) USB
Enter the target index to select: 1
R1604L(333331N333333) $
```

Method 2: Batch Mode

1. Connect the cable's Type-C connector to the Type-C port on the R1604L, which is installed in a slot of **Host A**.
2. Power on Host A.
3. Connect the other end of the cable to a Type-A or Type-C port on a personal laptop or another host (**Host B**).
4. Verify that the USB serial device is properly connected and recognized by the system.

Open a terminal with root privileges and enter the following command to list the USB serial devices.

#lsusb

```
root@test-System-Product-Name:/home/test/Desktop# lsusb
Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
Bus 001 Device 002: ID 04f3:0103 Elan Microelectronics Corp. ActiveJet K-2024 Multimedia Keyboard
Bus 001 Device 003: ID 046d:c077 Logitech, Inc. Mouse
Bus 001 Device 004: ID 0c0a:1604 Highpoint Technologies, Inc. HighPoint COM
```

5. Locate the HPT Utility download and open the file on **Host B**.
6. Open a terminal with root privileges and enter the following command to display generic help about this utility.

#!/hptutil.x86_64 help

```
root@test-System-Product-Name:/home/test/Downloads# ./hptutil.x86_64 help
Usage:
  help [help|list|select|info|trace|sensor|event|otc|set|param|dl|clear|exit|version]
This command displays the detailed help.
```

7. Follow the command prompt in the help output and enter the command you want to execute.

2.2.help Command

You can use help commands to find the supported commands.

```
R1628A(111115R111111) $ help
Usage:
    help [help|list|select|info|trace|sensor|event|otc|set|param|dl|clear|exit|version]
This command displays the detailed help.
```

The following table lists and describes the properties of the help command.

Table 2: Properties for help Commands

cmd	Property Name	Description
help	N/A	This command displays generic help about this utility.
help	{command}	This command displays help about a specific command.

2.2.1.Show the Generic Help Command

This command displays generic help about this utility.

- **For Interactive Mode (Windows&Linux):** \$help
- **For Batch Mode (Windows):** >hptutil.exe {controller_index} help
- **For Batch Mode (Linux):** #./hptutil.x86_64 {controller_index} help

Input example1:

\$help

```
R1628A(111115R111111) $ help
Usage:
    help [help|list|select|info|trace|sensor|event|otc|set|param|dl|clear|exit|version]
This command displays the detailed help.
```

Input example2:

>hptutil.exe 1 help

```
C:\Users\test\Desktop\HighPoint_Utility_v1.0.63_2026_01_21>hptutil.exe 1 help
Usage:
    help [help|list|select|info|trace|sensor|event|otc|set|param|dl|clear|exit|version]
This command displays the detailed help.
```

Input example3:

#./hptutil.x86_64 1 help

```
root@test-System-Product-Name:/home/test/Downloads/HighPoint_Utility_v1.0.63_2026_01_21# ./hptutil.x86_64 1 help
Usage:
    help [help|list|select|info|trace|sensor|event|otc|set|param|dl|clear|exit|version]
This command displays the detailed help.
root@test-System-Product-Name:/home/test/Downloads/HighPoint_Utility_v1.0.63_2026_01_21#
```

2.2.2. Show the Specific Command Help

help {command}

Show help about a specific command.

- **For Interactive Mode (Windows&Linux):** \$help {command}
- **For Batch Mode (Windows):** >hptutil.exe {controller_index} help {command}
- **For Batch Mode (Linux):** #./hptutil.x86_64 {controller_index} help {command}

Input example1:

```
$help select
```

```
R1628A(111115R111111) $ help select
Usage:
    select {index}
This command selects the controller to be operated.
Parameter:
    index: The index of the controller that will be operated.
```

Input example2:

```
>hptutil.exe 1 help list
```

```
C:\Users\test\Desktop\HighPoint_Utility_v1.0.63_2026_01_21>hptutil.exe 1 help list
Usage:
    list
This command lists all supported controllers.
```

Input example3:

```
#./hptutil.x86_64 1 help otc
```

```
root@test-System-Product-Name:/home/test/Downloads/HighPoint_Utility_v1.0.63_2026_01_21# ./hptutil.x86_64 1 help otc
Usage:
    otc
This command collects information from all controllers.
```

2.3.list Command

You can use the list command to list all supported AICs.

```
R1628A(111115R111111) $ help list
Usage:
    list
This command lists all supported controllers.
```

The following table lists and describes the properties of the list command.

Table 3: Properties for list Command

cmd	Property Name	Description
list	N/A	This command lists all supported AICs.

2.3.1. List All AICs

list

This command lists all supported AICs.

- **For Interactive Mode (Windows&Linux):** \$list
- **For Batch Mode (Windows):** >hptutil.exe list
- **For Batch Mode (Linux):** #./hptutil.x86_64 list

Input example1:

>hptutil.exe list

```
C:\Users\test\Desktop\HighPoint Utility v1.0.63 2026 01 21>hptutil.exe list
1 R1604L Gen5 NVMe Switch AIC(2610H1N000001) USB
```

Input example2:

\$list

```
R1604L(222221N222222) $ list
1 R1604L Gen5 NVMe Switch AIC(222221N222222) USB
R1608A(111115S111111) $ list
1 R1608A NVMe Switch AIC(111115S111111) MPT
```

Table 4: List Description

No	Property Name	Description
①	Number	The AIC's number. Number starting from 1.
②	Name	The AIC's model name.
③	Serial Number	The AIC's serial number.
④	Transport Protocol Type	The AIC's transport protocol type (MPT or USB).

2.4.select Command

You can use the select command to select the serial number of the AIC to be operated.

Note: This command is not supported in batch mode.

```
R1628A(111115R111111) $ help select
Usage:
  select {index}
This command selects the controller to be operated.
Parameter:
  index: The index of the controller that will be operated.
```

The following table lists and describes the properties of the select command.

Table 5: Properties for select Command

cmd	Property Name	Value Range	Description
select	{index}	The AICs number hosted by the system	This command selects the number of the AIC to be operated.

2.4.1.Select the AIC

select {index}

This command selects the serial number of the AIC to be operated.

- **For Interactive Mode (Windows&Linux):** \$select

Input example:

\$select

```
-----
hptutil v1.0.63 - HighPoint Technologies, Inc. (Build on Jan 21 2026)
-----
1  R1608A NVMe Switch AIC(111115S111111)      MPT
2  R1628A NVMe Switch Adapter(111115R111111)  MPT
Enter the target index to select with: 2
R1628A(111115R111111) $
```

2.5.info Command

You can use the info command to display detailed information about the AIC, including key data such as model name, serial number, and so on.

```
R1628A(111115R111111) $ help info
Usage:
    info
This command displays information about the selected controller.
```

The following table lists and describes the properties of the info command.

Table 6: Properties for info Command

cmd	Property Name	Description
info	N/A	This command displays detailed information about the AIC.

2.5.1. View the AIC Information

info

This command displays detailed information about the AIC.

- **For Interactive Mode (Windows&Linux):** \$ info
- **For Batch Mode (Windows):** >hptutil.exe {controller_index} info
- **For Batch Mode (Linux):** #./hptutil.x86_64 {controller_index} info

Input example 1(For the Switch Adapter):

\$info

```
R1608A(111115S111111) $ info
Product: R1608A
Vendor: HighPoint Technologies, Inc.
Model: R1608A NVMe Switch AIC
SN: 111115S111111
Transport Protocol: MPT

PCB Version: 1.0
Firmware Version: 5.15.12.0

Chip temperature: 61 (C)/141 (F)
Board 3.3V Voltage: 3.272 V
Board 12V Voltage: 12.016 V
Power Consumption: 14.18 W
Fan Speed: Auto(0 RPM)

Channel(Port) Status MaxLinkSpeed LinkSpeed MaxLinkWidth LinkWidth VID:PID EnclosureModel
1( 16) ON 8.0 GT/s 8.0 GT/s x4 x4 15b7:0002 N/A
2( 20) OFF N/A N/A N/A N/A N/A N/A
3( 24) OFF N/A N/A N/A N/A N/A N/A
4( 28) OFF N/A N/A N/A N/A N/A N/A
5( 32) OFF N/A N/A N/A N/A N/A N/A
6( 36) OFF N/A N/A N/A N/A N/A N/A
7( 40) OFF N/A N/A N/A N/A N/A N/A
8( 44) OFF N/A N/A N/A N/A N/A N/A

-----
Vital Product Data
-----
Product Name: HighPoint Rocket 1608A Gen5 NVMe Switch AIC
[PN] Part number: R1608A-72C1010
[EC] Engineering changes: 0000
[MN] Manufacture ID: 1103
[SN] Serial number: 111115S111111
[V0] Vendor specific: HighPoint Technologies
[V1] Vendor specific: Broadcom PEX89048
```

- **Product** — The name of the AIC.
- **Vendor** — The manufacturer of the AIC.
- **Model** — The model name of the AIC.
- **SN** — The serial number of the AIC.
- **Transport Protocol** — The Transport Protocol of the AIC (MPT).
- **PCB Version** — The hardware version of the AIC.
- **Firmware Version** — The firmware version of the AIC.
- **Chip Temperature** — The temperature of the AIC's chip.
- **Board 3.3V Voltage** — The board 3.3V voltage of the AIC.
- **Board 12V Voltage** — The board 12V voltage of the AIC.
- **Power Consumption** — Total power consumption of the AIC, disks, and external power supply (provided by the PCIe host interface)

Notes:

For the R1000 series products using M.2 disks, the power consumption is the sum of the power consumption of the PCIe device, the disk, and the external power supply.

For the R1000 series products using U.2 disks, the power consumption is only the power consumption of the PCIe device.

- **Fan Speed** — The current fan speed and status of the AIC.
 - **Channel** — The physical disk location.
 - **Port** — The port number of the device connection.
 - **Status** — If an SSD is connected, the displayed connection status is ON; otherwise, it is OFF.
 - **Max Link Speed** — The maximum link bandwidth of the disk.
 - **Link Speed** — The current link bandwidth of the disk.
 - **Max Link Width** — The maximum PCIe width occupied by the current disk.
 - **Link Width** — The PCIe width occupied by the current disk.
- Note: If the disk is not connected, the Max Link Speed, Link Speed, Max Link Width, and Link Width will be displayed as "N/A".
- **VID:PID** — The vendor ID and device ID of the disk.
 - **Enclosure Model** — The model of connection Enclosure. The AIC does not support the chassis, it displays as N/A.
 - **[PN] Part number** — The part number of the AIC.
 - **[EC] Engineering changes** — The engineering change of the AIC.
 - **[MN] Manufacture ID** — The manufacture ID of the AIC.
 - **[SN] Serial number** — The serial number of the AIC.

- **[V0] Vendor specific** — The manufacturer of the AIC.
- **[V1] Vendor specific** — The chip model of the AIC.

Input example 2 (For the Enclosure & External Adapter):

\$info

```
R7638D(111116411111) $ info
Product: R7638D
Vendor: HighPoint Technologies, Inc.
Model: R7638D External Adapter
SN: 111116411111
Transport Protocol: MPT
PCB Verison: 1.2
Firmware Version: 5.13.90.0
Enclosure MCU Version: 1.0.52
Enclosure Retimer Version: 2.12.0

Enclosure chip temperature: 69 (C)/156 (F)
HIB chip temperature: 59 (C)/138 (F)
Enclosure 3.3V Voltage: 3.324 V
Enclosure 12V Voltage: 12.064 V
Enclosure 5V Voltage: 5.056 V
Enclosure Power Consumption: 24.48 W
Enclosure Fan Speed: Auto(1260 RPM, 1200 RPM, 4680 RPM)

Channel(Port) Status MaxLinkSpeed LinkSpeed MaxLinkWidth LinkWidth VID:PID EnclosureModel
1( 32) ON 32.0 GT/s 16.0 GT/s x4 x4 1344:51c3 N/A
2( 36) ON 32.0 GT/s 16.0 GT/s x4 x4 1344:51c3 N/A
3( 40) ON 32.0 GT/s 32.0 GT/s x4 x4 1e0f:002b N/A
4( 44) ON 32.0 GT/s 32.0 GT/s x4 x4 1e0f:002b N/A
5( 16) ON 32.0 GT/s 32.0 GT/s x16 x16 1002:1478 RS8631C

-----
Vital Product Data
-----
Product Name: HighPoint Rocket 7638D Gen5 External Adapter
[PN] Part number: R7638D-41C0000
[EC] Engineering changes: 0000
[MN] Manufacture ID: 1103
[SN] Serial number: 111116411111
[V0] Vendor specific: HighPoint Technologies
[V1] Vendor specific: Broadcom PEX89048
```

- **Product** — The name of the Enclosure/ External Adapter.
- **Vendor** — The manufacturer of the Enclosure/ External Adapter.
- **Model** — The model name of the Enclosure/ External Adapter.
- **SN** — The serial number of the Enclosure/ External Adapter.
- **Transport Protocol** — The Transport Protocol of the AIC (MPT).
- **PCB Version** — The hardware version of the Enclosure/ External Adapter.
- **Firmware Version** — The firmware version of the Enclosure/ External Adapter.
- **Enclosure MCU Version** — The MCU Version of the Enclosure.
- **Note:** If Rescue Mode appears, it does not affect functionality and can be ignored.
- **Enclosure Retimer Version** — The Retimer Version of the Enclosure.
- **Enclosure Chip Temperature** — The Retimer chip temperature of the Enclosure.
- **HIB chip temperature** — The temperature of the host card.
- **Enclosure 3.3V Voltage** — The 3.3V voltage of the Enclosure.
- **Enclosure 12V Voltage** — The 12V voltage of the Enclosure.
- **Enclosure 5V Voltage** — The 5V voltage of the Enclosure.
- **Enclosure Power Consumption** — Total power consumption of the Enclosure, disks, and external

power supply (provided by the PCIe host interface)

Note: For the RS8531AW, RS8631CW, R7634D and R7638D, the power consumption is only the power consumption of the PCIe device.

- **Enclosure Fan Speed** — The current fan speed and status of the Enclosure.

Notes:

The RS8631CW has three fan speeds, in order, the Enclosure rear upper fan speed, the Enclosure rear lower fan speed, and the Enclosure internal Retimer fan speed.

The RS8531CW has two fan speeds, in order, the Enclosure rear upper fan speed and the Enclosure rear lower fan speed.

- **Channel** — The physical disk location.
- **Port** — The port number of the device connection.
- **Max Link Speed** — The maximum link bandwidth of the device.
- **Link Speed** — The current link bandwidth of the device.
- **Max Link Width** — The maximum PCIe width occupied by the current device.
- **Link Width** — The PCIe width occupied by the current device.

Note: If the device is not connected, the Max Link Speed, Link Speed, Max Link Width, and Link Width will be displayed as “N/A”.

- **VID: DID** — The vendor ID and device ID of the device connected to the Enclosure/ External Adapter.
- **Enclosure Model** — The model name of the connected Enclosure.
Note: If a disk is connected, it is displayed as N/A.
- **[PN] Part number** — The part number of the Enclosure/ External Adapter.
- **[EC] Engineering changes** — The engineering change of the Enclosure/ External Adapter.
- **[MN] Manufacture ID** — The manufacture ID of the Enclosure/ External Adapter.
- **[SN] Serial number** — The serial number of the Enclosure/ External Adapter.
- **[V0] Vendor specific** — The manufacturer of the Enclosure/ External Adapter.
- **[V1] Vendor specific** — The chip model of the Enclosure/ External Adapter.

Input example 3 (For the USB Adapter):

Sinfo

```
R1604L(222221N222222) $ info
Product:                               R1604L
Vendor:                                 HighPoint
Model:                                  R1604L Gen5 NVMe Switch AIC
SN:                                     222221N222222
Transport Protocol:                     USB

PCB Version:                            1.0
MCU Version:                             1.1.14
Retimer Version:                         2.13.0

Chip Temperature:                       54 (C)/129 (F)
Board 3.3V Voltage:                      3.28 V
Board 12V Voltage:                      11.98 V
Power Consumption:                      15.56 W
Fan Speed:                               Auto(1800 RPM)

Channel    Status    LinkSpeed    LinkWidth
  1         ON      16.0 GT/s    x4
  2         ON      16.0 GT/s    x4
  3         ON      16.0 GT/s    x4
  4         ON      16.0 GT/s    x4
-----
                        Vital Product Data
-----
Product Name:                           HighPoint Rocket 1604L Gen5 NVMe Switch AIC
[PN] Part number:                        R1604L-72C0000
[EC] Engineering changes:                0000
[MN] Manufacture ID:                    1103
[SN] Serial number:                      222221N222222
[V0] Vendor specific:                   HighPoint Technologies
[V1] Vendor specific:                   Astaralabs PT5161L
R1604L(222221N222222) $
```

- **Product** — The name of the AIC.
- **Vendor** — The manufacturer of the AIC.
- **Model** — The model name of the AIC.
- **SN** — The serial number of the AIC.
- **Transport Protocol** — The Transport Protocol of the AIC (USB).
- **PCB Version** — The hardware version of the AIC.
- **MCU Version** — The MCU Version of the AIC.
- **Note:** If Rescue Mode appears, it does not affect functionality and can be ignored.
- **Retimer Version** — The Retimer Version of the AIC.
- **Chip Temperature** — The temperature of the AIC’s chip.
- **Board 3.3V Voltage** — The board 3.3V voltage of the AIC.
- **Board 12V Voltage** — The board 12V voltage of the AIC.
- **Power Consumption** — Total power consumption of the AIC, disks, and external power supply (provided by the PCIe host interface)
- **Fan Speed** — The current fan speed and status of the AIC.
- **Channel** — The physical disk location.
- **Status** — If an SSD is connected, the displayed connection status is ON; otherwise, it is OFF.
- **Link Speed** — The current link bandwidth of the disk.
- **Link Width** — The PCIe width occupied by the current disk.

- **[PN] Part number** — The part number of the AIC.
- **[EC] Engineering changes** — The engineering change of the AIC.
- **[MN] Manufacture ID** — The manufacture ID of the AIC.
- **[SN] Serial number** — The serial number of the AIC.
- **[V0] Vendor specific** — The manufacturer of the AIC.
- **[V1] Vendor specific** — The chip model of the AIC.

2.7.sensor Command

You can use the sensor command to display the 20 most recent sensor records. It supports optional page numbering (up to 20 pages).

Note: This command is not applicable to USB transport protocol products.

```
R1628A(111115R111111) $ help sensor
Usage:
  sensor [page]
This command displays 20 sensor records for the selected controller by the specified page number.
Optional parameter:
  page: The page number of the sensor records to display, up to 20 pages. The default is 1.
```

The following table lists and describes the properties of the sensor command.

Table 9: Properties for sensor Command

cmd	Property Name	Value Range	Description
sensor	N/A	N/A	This command displays the 20 recent sensor records of the selected AIC.
	[page]	1-20	This command displays the 20 sensor records of the selected AIC by the specified page.

2.7.1.View the AIC Sensor Information

sensor [page]

This command displays the 20 sensor records of the selected AIC by the specified page.

- **For Interactive Mode (Windows&Linux):** \$sensor [page]
- **For Batch Mode (Windows):** >hptutil.exe {controller_index} sensor [page]
- **For Batch Mode (Linux):** #./hptutil.x86_64 {controller_index} sensor [page]

Input example:

\$sensor 1

```
R7638D(1111164111111) $ sensor 1
Page 1
|Temperature(Celsius) |Power Consumption(W)|Fan (RPM)|
|Enclosure chip |Board |HIB chip | | Fan |
2025/11/21 00:21:14 | 48| 36| 53| 10.10| 780|
2025/11/21 00:20:14 | 64| 36| 52| 24.74| 720|
R7638D(1111164111111) $
```

①

②

③

④

⑤

⑥

Table 10: Sensor Description

No	Property Name	Description
①	Time	Displays the exact recording time of the sensor.
②	Enclosure Chip/ Chip	The AIC/ External Adapter's chip temperature. The Enclosure's Retimer chip temperature. This data is obtained from the chip.
③	Board	The AIC/ External Adapter's board temperature. The Enclosure's LM75 chip temperature. This data is obtained from the sensor element.
④	HIB Chip	The host card's chip temperature. Only for the Enclosure and External Adapter product.
⑤	Power Consumption	Total power consumption of the AIC, disks, and external power supply (provided by the PCIe host interface) Notes: For products using M.2 disks, the power is the sum of the power of the AIC, disks, and external power supply; For products using U.2 disks, the power is the sum of the power of the AIC and the external power supply.
⑥	Fan Speed	The current fan speed of the AIC.

2.8.event Command

You can use the event command to display the 20 most recent event logs. The output contains information such as connected disks, failed disks, fan speed adjustments and disk temperature alarms, etc. It supports optional page numbering (up to 20 pages).

Note: This command is not applicable to USB transport protocol products.

```
R1628A(111115R111111) $ help event
Usage:
    event [page]
This command displays 20 events for the selected controller by the specified page number.
Optional parameter:
    page: The page number of the events to display, up to 20 pages. The default is 1.
```

The following table lists and describes the properties of the event command.

Table 11: Properties for event Command

cmd	Property Name	Value Range	Description
event	N/A	N/A	This command displays the recent 20 event logs of the selected AIC.
	[page]	1-20	This command displays the 20 event logs of the selected AIC by the specified page.

2.8.1.View the Event Log

event [page]

This command displays the 20 event logs of the selected AIC by the specified page.

- **For Interactive Mode (Windows&Linux):** \$event [page]
- **For Batch Mode (Windows):** >hptutil.exe {controller_index} event [page]
- **For Batch Mode (Linux):** #./hptutil.x86_64 {controller_index} event [page]

Input example:

\$event 1

```
R1608A(2416H5S000019) $ event 1
Page 1
2024/10/09 10:53:24 | The fan control mode has been set to automatic mode.
2024/10/09 10:52:40 | The fan speed level has been set to off.
2024/10/09 10:52:39 | The fan control mode has been set to manual mode.
2024/10/09 10:52:13 | The fan speed level has been set to high.
```



Table 12: Event Description

No	Property Name	Description
①	Event Time	Displays the exact time of the event.
②	Event Content	Displays the specifics of the event that occurred.

2.9.otc Command

The otc command is a unique feature of our HighPoint HPT Utility. It provides an information collection system for troubleshooting. It will gather all necessary system information, PCI information, AIC information, port information, factory data, user data, sensor information, event log, and trace log and compile it into a single file, which can be transmitted directly to our FAE Team via our [Online Support Portal](#).

```
R1628A(111115R111111) $ help otc
Usage:
    otc
This command collects all the controller information.
```

The following table lists and describes the properties of the otc command.

Table 13: Properties for otc Command

cmd	Property Name	Description
otc	N/A	This command allows you to collect and save the necessary firmware log for troubleshooting. This file will be saved in the HPT Utility next level directory.

2.9.1. Save the Firmware Log

otc

This command allows you to collect the necessary firmware log.

- **For Interactive Mode (Windows&Linux):** \$otc
- **For Batch Mode (Windows):** >hptutil.exe {controller_index} otc
- **For Batch Mode (Linux):** #./hptutil.x86_64 {controller_index} otc

Input example1:

\$otc

```
R1604L(333331N333333) $ otc
OTC is processing.
OTC has been completed, and the file hptutil_v1.0.63_20260127111449.zip has been saved.
R1604L(333331N333333) $
```

Input example2:

>hptutil.exe 1 otc

```
C:\Users\test\Desktop\HighPoint_Utility_v1.0.63_2026_01_21>hptutil.exe 1 otc
OTC is processing.
OTC has been completed, and the file hptutil_v1.0.63_20260316030233.zip has been saved.
```

Input example3:

#./hptutil.x86_64 1 otc

```
root@test-System-Product-Name: /home/test/Downloads/HighPoint_Utility_v1.0.63_2026_01_21# ./hptutil.x86_64 1 otc
OTC is processing.
OTC has been completed, and the file hptutil_v1.0.63_20260316130726.zip has been saved.
```

● **For Windows User**

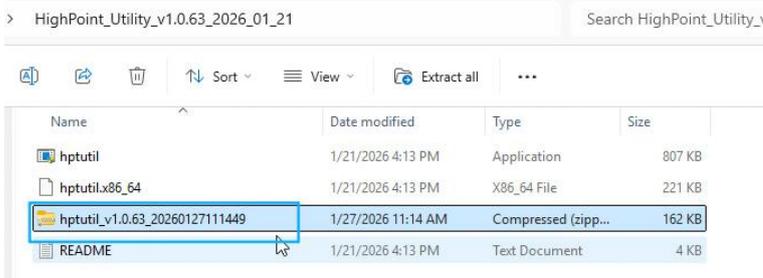


Table 14: Description of each folder in the log zip file (Windows)

Folder	Property	Description
	hpt_CPU	System CPU information.
	hpt_Disk	Information about the disks connected to the system.
	hpt_Driver	Information about the drivers installed on the system.
	hpt_Memory	System memory information.
	hpt_Pci	Information about all PCIe devices connected to the motherboard.
	hpt_Service	System service information.
	hpt_System	CPU configuration of the current system, OS and disks in the current system.
	hpt_SystemEvent	System events, including system information from the past two weeks.
	setupapi.dev	Device installation log.
1-Switch <i>Note: For products with the USB transport protocol, this folder contains only the info.txt file.</i>	event.txt	Collect sensor information every minute, including power voltage, fan speed, and temperature.
	info.txt	Collect product information, including firmware, SN, transport protocol, PCB version, firmware version, MCU version, Retimer verison, chip/board temperature, voltage/power, and fan speed.
	sensor.txt	Collect sensor information.
	trace.txt	Collect firmware runtime log.
	{xxx}.bin	Product factory data, including the initial setup parameters.

● For Linux User

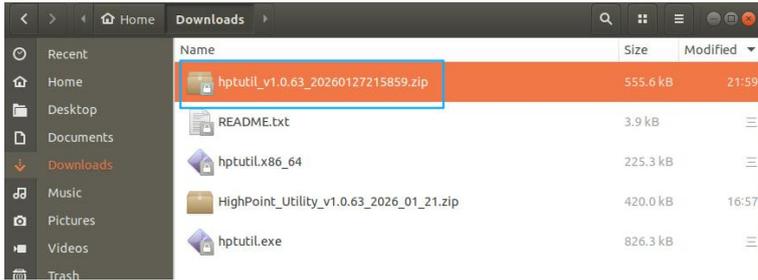


Table 15: Description of each folder in the log zip file (Linux)

Folder	Property	Description
	cpuinfo	System CPU information.
	disk_info	Information about the disks connected to the system.
	dmesg_info	Kernel print information.
	dmidecode_info	Hardware information.
	journalctl	System log information.
	kern.log	System kernel information.
	lsmod_info	Information about the drivers installed on the system.
	lspci_info	Information about all PCIe devices connected to the motherboard.
1-Switch <i>Note: For products with the USB transport protocol, this folder contains only the info.txt file.</i>	event.txt	Collect sensor information every minute, including power voltage, fan speed, and temperature.
	info.txt	Collect product information, including firmware, SN, transport protocol, PCB version, firmware version, MCU version, Retimer version, chip/board temperature, voltage/power, and fan speed.
	sensor.txt	Collect sensor information.
	trace.txt	Collect firmware runtime log.
	{xxx}.bin	AIC factory data, including the initial setup parameters.

2.10. set Command

You can change the AIC settings by set command according to your preferred behavior and requirements.

```
R1604L(333331N333333) $ help set
Usage:
  set FS [level]
  set AA [switch]
This command sets the configuration of the selected controller.
Optional parameter:
  level: The fan level to set. This value should be 'Auto|ULow|Low|Medium|High|Full'.
  switch: The beeper switch to set. This value should be 'Enable|Disable'.
```

The following table lists and describes the properties of the set command.

Table 16: Properties for set Command

cmd	Property Name	Description
set	FS	Change the AIC Fan Speed. This supports setting different levels of fan speed {Auto ULow Low Medium High Full} <i>Note: The command takes effect immediately upon success.</i>
	AA	Set the AIC Beeper. This enables or disables the AIC beeper. <i>Note: This setting is permanent and requires a reboot to take effect.</i>

2.10.1. Set the AIC Fan Speed

set FS [Auto|ULow|Low|Medium| High|Full]

Change the AIC Fan Speed.

- **For Interactive Mode (Windows&Linux):** \$set FS [Auto|ULow|Low|Medium| High|Full]
- **For Batch Mode (Windows):** >hptutil.exe {controller_index} set FS [Auto|ULow|Low|Medium| High|Full]
- **For Batch Mode (Linux):** #./hptutil.x86_64 {controller_index} set FS [Auto|ULow|Low|Medium| High|Full]

Input example1:

\$set FS Low

```
R1608A(2441C55000059) $ set FS LOW
The fan operation mode has been set to 'LOW'.
```

Input example2:

>hptutil.exe 1 set FS Full

```
C:\Users\test\Desktop\HighPoint Utility v1.0.63_2026_01_21>hptutil.exe 1 set FS Full
The fan operation mode has been set to 'Full'.
```

2.10.2. Set the AIC Beeper

set AA [Enable/Disable]

Enables or disables the AIC beeper.

- **For Interactive Mode (Windows&Linux):** \$set AA [Enable/Disable]
- **For Batch Mode (Windows):** >hptutil.exe {controller_index} set AA [Enable/Disable]
- **For Batch Mode (Linux):** #./hptutil.x86_64 {controller_index} set AA [Enable/Disable]

Input example1:

```
$set AA Disable
```

```
R1604L(333331N333333) $ set AA Disable
The audible alarm has been set to 'Disable'.
R1604L(333331N333333) $ _
```

Input example2:

```
#./hptutil.x86_64 set AA Disable
```

```
root@test-System-Product-Name:/home/test/Downloads/HighPoint_Utility_v1.0.63_2026_01_21# ./hptutil.x86_64 1 set AA Disable
The audible alarm has been set to 'Disable'.
```

2.11. param Command

You can use the param command to change the parameter of the selected AIC. This parameter setting supports setting the Hotplug compatibility mode. Enabled Hotplug compatibility mode causes performance degradation on all disks hosted by the AIC.

This setting needs to be adjusted to **Enabled** when the following situations occur.

- Connect disks with Payload=256k
- Inserting an older model disk into the system, but the system does not recognize the disk.

```
R1628A(111115R11111) $ help param
Usage:
    param [ID] [Value]
This command changes the parameter of the selected controller.
Optional parameter:
    ID: The parameter id.
    Value: the parameter value to set.
```

Note: This command is not applicable to USB transport protocol products.

The following table lists and describes the properties of the param command.

Table 17: Properties for param Command

cmd	Property Name	Value Range	Description	
param	N/A	N/A	Display or set the AIC parameter settings.	
	[ID]	Parameter ID number	2001	Hotplug compatibility mode
			2003	Status LED
			2004	Fault LED
			2005	SSD LED
[Option]	Enabled/ Disabled	Set the AIC parameter settings. This Parameter Setting supports setting the Hotplug compatibility mode and LED (Status/ Fault/ SSD) on/off . Notes: Enabled Hotplug compatibility mode causes performance degradation on all disks hosted by the AIC. This Hotplug compatibility mode setting applies only to U.2 series products.		

2.11.1. Set Hotplug Compatibility Mode

param 2001 [Option]

This Parameter Setting supports setting the **Hotplug compatibility mode**.

- **For Interactive Mode (Windows&Linux):** \$param 2001 [Option]
- **For Batch Mode (Windows):** >hptutil.exe {controller_index} param 2001 [Option]
- **For Batch Mode (Linux):** #./hptutil.x86_64 {controller_index} param 2001 [Option]

Input example:

\$param 2001 Enable

```
R1528D(2416H5W000013) $ param
ID:                2001
Name:              Hotplug compatibility mode
Option:            Disable/Enable
Value:             Disable
Description:       If you experience issues when hot-plugging NVMe devices, please
                  try enabling this option to resolve the problem.
R1528D(2416H5W000013) $ param 2001 Enable
Parameter set successfully! It will take effect after reboot.
R1528D(2416H5W000013) $ param
ID:                2001
Name:              Hotplug compatibility mode
Option:            Disable/Enable
Value:             Enable
Description:       If you experience issues when hot-plugging NVMe devices, please
                  try enabling this option to resolve the problem.
```

2.11.2. Set LED On/Off

param [ID:2003/ 2004/ 2005] [Option]

This Parameter Setting supports setting the LED (Status/ Fault/ SSD) on/off .

- **For Interactive Mode (Windows&Linux):** \$param [ID:2003/ 2004/ 2005] [Option]
- **For Batch Mode (Windows):** >hptutil.exe {controller_index} param [ID:2003/ 2004/ 2005] [Option]
- **For Batch Mode (Linux):** #./hptutil.x86_64 {controller_index} param [ID:2003/ 2004/ 2005] [Option]

Input example:

\$param 2005 Disable

```
ID:                2005
Name:              SSD LED
Option:            Enable/Disable
Value:             Enable
Description:       Enable: turn on the SSD LED control function; Disable: turn off
the SSD LED control function and the LED is off by default.

R1608A(111115S11111) $ param 2005 Disable
Parameter set successfully.
R1608A(111115S11111) $ param
ID:                2003
Name:              Status LED
Option:            Enable/Disable
Value:             Enable
Description:       Enable: turn on the Status LED control function; Disable: turn
off the Status LED control function and the LED is off by default.

ID:                2004
Name:              Fault LED
Option:            Enable/Disable
Value:             Enable
Description:       Enable: turn on the Fault LED control function; Disable: turn o
ff the Fault LED control function and the LED is off by default.

ID:                2005
Name:              SSD LED
Option:            Enable/Disable
Value:             Disable
Description:       Enable: turn on the SSD LED control function; Disable: turn off
```

2.12. dl Command

You can upgrade to a newer version of firmware here. This help update the firmware version.

```
R1628A(111115R111111) $ help dl
Usage:
    dl {file.blf} [force]
This command downloads the firmware to the controller.
Parameter:
    file.blf: The firmware file 'file.blf' to be downloaded.
Optional parameter:
    force: Download firmware file without prompting.
```

The following table lists and describes the properties of the dl command.

Table 18: Properties for dl Command

cmd	Property Name	Value Range	Description
dl	{file.blf}	{file_path}	This command allows you to update the AIC firmware version.
	[force]	N/A	Note: Parameter 'force' should be provided to update firmware in batch mode.

2.12.1. Update the AIC Firmware

dl {file path}

This command allows you to update the AIC firmware version. Reboot the system when prompted to make the new firmware take effect.

- **For Interactive Mode (Windows&Linux):** \$dl {file path}
- **For Batch Mode (Windows):** >hptutil.exe {controller_index} dl {file path} force
- **For Batch Mode (Linux):** #./hptutil.x86_64 {controller_index} dl {file path} force

Input example (Windows):

\$dl C:\Users\test\Desktop\R1628ASSW_Signed_v***_20**_**_**.blf

```
R1628A(111115R111111) $ dl C:\Users\test\Desktop\R1628ASSW_Signed_v5.12.4.0_2024_04_01.blf
The Version of the selected controller: Firmware: 5.12.4.0
The Version of the specified file: Firmware: 5.12.4.0
Do you want to download the firmware(Y/N): y
Firmware is downloading...
The firmware download is completed.
Please reboot to activate the new firmware.
```

Input example (Linux):

```
AIC (SN) $ dl C:\Users\test\Desktop\R1628ASSW_Signed_v***_20**_**_**.blf

R1528D(111115W111111) $ dl /home/test/Downloads/R1528D_v100.8.3.0_2025_03_21.blf
The version of the selected controller: Firmware: 0.8.53.0
The version of the specified file: Firmware: 100.8.3.0
WARNING: The specified firmware file version is earlier than the running firmware.
Do you want to download the firmware(Y/N): y
Firmware is downloading...
The firmware download is completed.
Please reboot to activate the new firmware.
```

2.12.2.Update the AIC MCU

dl {file path}

This command allows you to update the AIC MCU version. Reboot the system when prompted to make the new MCU version take effect.

- **For Interactive Mode (Windows&Linux):** \$dl {file path}
- **For Batch Mode (Windows):** >hptutil.exe {controller_index} dl {file path} force
- **For Batch Mode (Linux):** #./hptutil.x86_64 {controller_index} dl {file path} force

Input example:

```
$dl C:\Users\test\Desktop\***_v***_20**_**_**.blf
```

```
R1604L(111111M111111) $ dl C:\Users\test\Desktop\Valencia_MCU_upgrade_V100.1.13_26_01_15.blf
The version of the selected controller: MCU: 1.1.14
The version of the specified file: MCU: 100.1.13
Do you want to download the firmware(Y/N): y
WARNING: Do not turn off the power during the firmware download.
Firmware is downloading...
#####[100%][00:00]
The firmware download is completed.
Please reboot to activate the new firmware.
R1604L(111111M111111) $ =
```

2.12.3. Update the AIC Retimer

dl {file path}

This command allows you to update the AIC Retimer. After updating the Retimer, you must disconnect the motherboard power supply, wait briefly, reconnect it, and then boot into the OS for the update to take effect.

Note: After updating the Retimer for the Enclosure, you must disconnect its power cable, wait briefly, reconnect it, and then boot the unit for the update to take effect.

- **For Interactive Mode (Windows&Linux):** \$dl {file path}
- **For Batch Mode (Windows):** >hptutil.exe {controller_index} dl {file path} force
- **For Batch Mode (Linux):** #./hptutil.x86_64 {controller_index} dl {file path} force

Input example:

```
$dl C:\Users\test\Desktop\****_v***_20**_**_**.blf
```

```
R1604L(111111N11111) $ dl C:\Users\test\Desktop\pt516_x4x4x4_reversed_H01_PLUG_v2.13.0.blf
The version of the selected controller: Retimer: 2.8.0
The version of the specified file: Retimer: 2.13.0
Do you want to download the firmware(Y/N): y
WARNING: do not turn off the power during the firmware download.
Firmware is downloading...
#####[100%][00:00]
The firmware download is completed.
Please reboot to activate the new firmware.
R1604L(111111N11111) $
```

2.13. clear Command

This command is used to clear the screen.

Note: This command is not supported in batch mode

```
R1628A(111115R111111) $ help clear
Usage
  clear
This command clears the screen.
```

2.13.1. Clear the Utility Screen

clear

This command allows you to clear the screen.

- **For Interactive Mode (Windows&Linux):** \$clear

Input example:

\$clear

```
R1628A(111115R111111) $ clear_
```

2.13.2.exit Command

Exit from the interactive mode and close the window.

Note: This command is not supported in batch mode.

```
R1628A(111115R111111) $ help exit
Usage
    exit
This command exits this utility.
```

2.13.3.Exit the Utility

exit

This command lets you exit the interactive mode and close the window.

For Interactive Mode (Windows&Linux): exit

Input example:

\$exit

```
R1628A(111115R111111) $ exit_
```

2.14. version Command

Displays the version of HPT Utility currently in use.

```
R1628A(111115R111111) $ help version
Usage:
    version
This command displays the version of the utility.
```

2.14.1. Show the Utility Version

version

This command displays you the version of RAID Management currently in use.

- **For Interactive Mode (Windows&Linux):** \$version
- **For Batch Mode (Windows):** >hptutil.exe version
- **For Batch Mode (Linux):** #./hptutil.x86_64 version

Input example1:

\$version

```
R1604L(333331N333333) $ version
v1.0.63
R1604L(333331N333333) $
```

Input example2:

>hptutil.exe version

```
root@test-System-Product-Name:/home/test/Downloads/HighPoint_Utility_v1.0.63_2026_01_21# ./hptutil.x86_64 version
v1.0.63
```

3. Trouble shooting

3.1. Linux Disk Recognition Anomaly Due to ASPM Power Management

1. Description of the Problem

On the ASUS PRIME X870-P WiFi motherboard, the same NVMe SSD is reported as “ON” in Windows, but shows as “OFF” in Linux.

2. Cause of the Problem

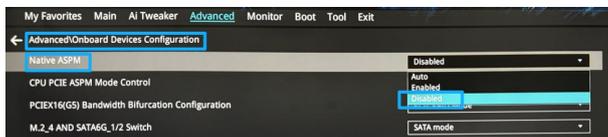
The root cause is the ASPM (Active State Power Management) mechanism. When ASPM is enabled in the BIOS, it can interfere with the stable signaling of the PCIe link, preventing the Linux kernel from properly initializing and recognizing the disk device on that link.

3. Solution

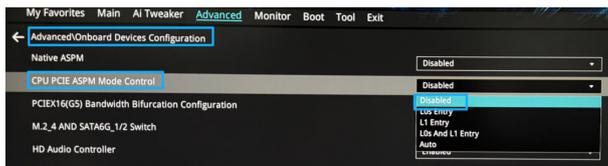
Disable the relevant ASPM settings in BIOS:

Navigate to **Advanced** → **Onboard Devices Configuration**, and set the following two items to Disabled:

- **Native ASPM**



- **CPU PCIe ASPM Mode Control**



4. Revision History

4.1. Version 1.00, October 18, 2024

Initial version.

4.2. Version 1.01, March 3, 2025

1. Add [Set LED On/Off](#).
2. Add Explanation of [parameter ID number](#).
3. Add RS8531AW support.

4.3. Version 1.02, March 25, 2025

1. Add R1604A support.
2. Add [Vital Product Data](#) Information.

4.4. Version 1.03, June 20, 2025

1. Add RS8631CW support.
2. Add Linux otc&dl screenshots.

4.5. Version 1.04, August 21, 2025

1. Add support for R7638D.
2. Update the screenshot in the MPT Utility file.
3. Update the output of the [info](#) command.
4. Update the output of the [sensor](#) command.
5. Update the output of the [otc](#) command.

4.6. Version 1.05, September 2, 2025

1. Add support for R1624A

4.7. Version 1.06, November 28, 2025

Add support for R7634D.

4.8. Version 1.07, January 26, 2026

1. Add support for R1604L.
2. The software has been renamed from MPT Utility to HPT Utility.
3. Add [Set the AIC beeper.](#)
4. Add [Update the AIC MCU](#)
5. Add [Update the AIC Retimer](#)

4.9. Version 1.08, March 16, 2026

1. Add [Start the HPT Utility via OOB \(Linux\).](#)
2. Add usage of commands in Batch Mode.