HPT Utility User Guide

V1.07 - January 26, 2026

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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.

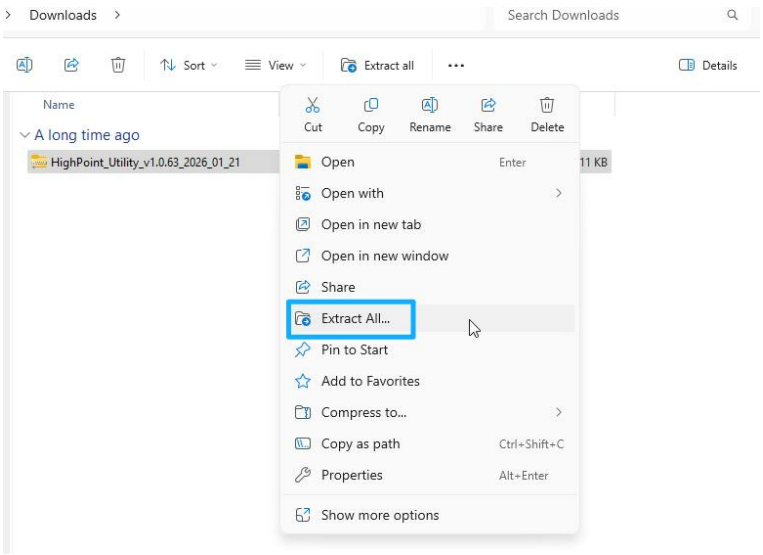
- **Interactive Mode**-Using the HPT Utility in interactive mode allows the user to interact with the HPT Utility intuitively through a command line interface, where the user can instantly enter commands or data and get an immediate response or processing result from the software.
- **Batch Mode**-Using 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.

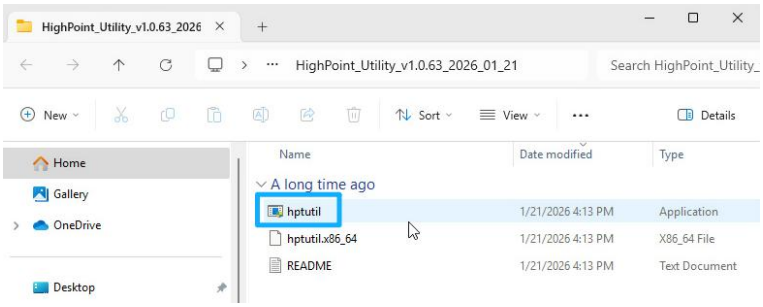
   #unzip HighPoint_HPT_Utility_v1.x.x_20_xx_xx.zip

2.1.1. Start the HPT Utility on Windows

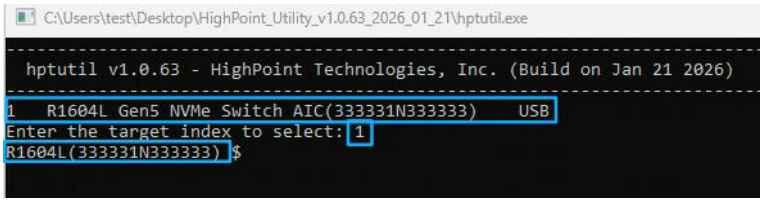
To start the HPT Utility on the Windows operating system, perform the following steps.

Method 1: Interactive Mode

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

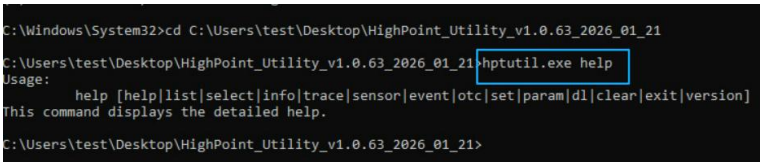


3. Enter the AIC number to select the corresponding AIC.



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 **hptutil.exe help**, display generic help about this utility.



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

2.1.2. Start the HPT Utility on Linux

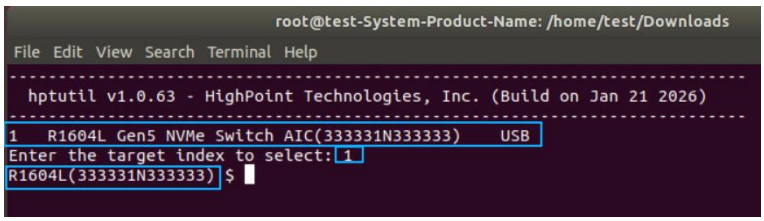
To start the HPT Utility on the Linux operating system, perform the following steps.

Method 1: Interactive Mode

1. Enter the following command to start the HPT Utility.

   #./hptutil.x86_64

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



Method 2: Batch Mode

1. Enter the following command to display generic help about this utility.

   #./hptutil.x86_64 help

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

2.1.3. Start the HPT Utility via OOB

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

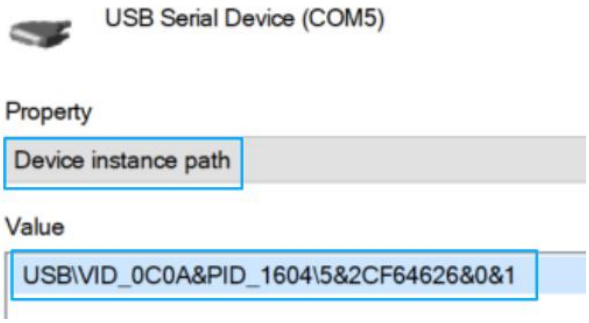
To start the HPT Utility, perform the following steps.

Method 1: Interactive Mode

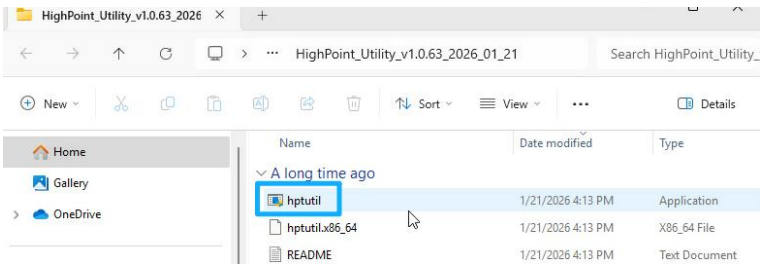
1. Connect the cable's Type-C connector to the Type-C port on the R1604L, which is installed in a slot of **Host A**.
2. Power on Host A.
3. Connect the other end of the cable to a Type-A or Type-C port on a personal laptop or another host (**Host B**).
4. Verify that the USB serial device is properly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

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

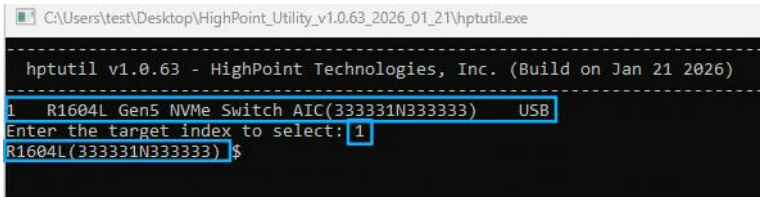
   Recognized USB serial device will be listed, as shown in the figure below.



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.

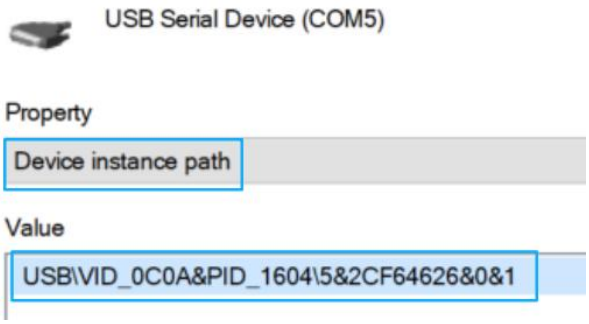


Method 2: Batch Mode

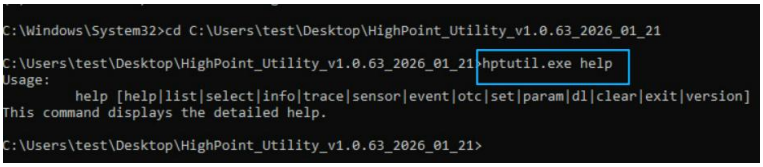
1. Connect the cable's Type-C connector to the Type-C port on the R1604L, which is installed in a slot of **Host A**.
2. Power on Host A.
3. Connect the other end of the cable to a Type-A or Type-C port on a personal laptop or another host (**Host B**).
4. Verify that the USB serial device is properly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



8. 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

AIC (SN) $ help

This command displays generic help about this utility.

Input example:

AIC (SN) $ help

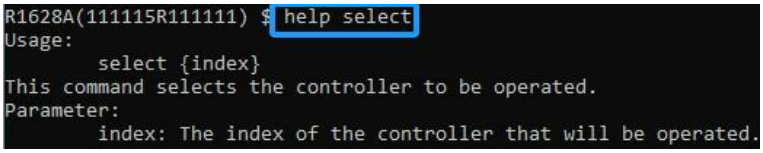
2.2.2. Show the Specific Command Help

AIC (SN) $ help {command}

Show help about a specific command.

Input example:

AIC (SN) $ help select



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

AIC (SN) $ list

This command lists all supported AICs.

Input example:

AIC (SN) $ list

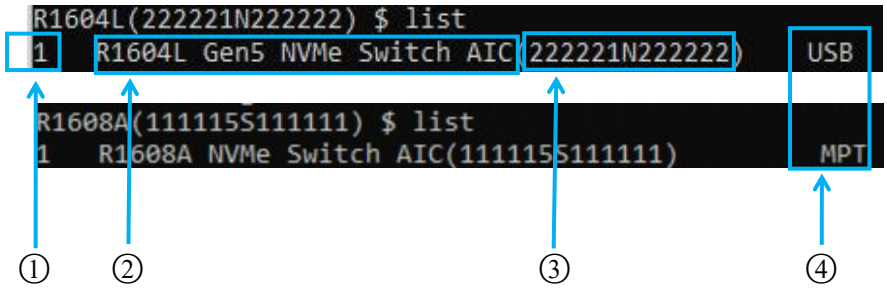


Table 4: List Description

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

AIC (SN) $ select {index}

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

Input example:

AIC (SN) $ 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

AIC (SN) $ info

This command displays detailed information about the AIC.

Input example 1(For the Switch Adapter):

AIC (SN) $ info

```
R1608A(1111155111111) $ info
Product:                                R1608A
Vendor:                                 HighPoint Technologies, Inc.
Model:                                  R1608A NVMe Switch AIC
SN:                                     1111155111111
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:DID 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
R1608A(1111155111111) $
```

- **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.

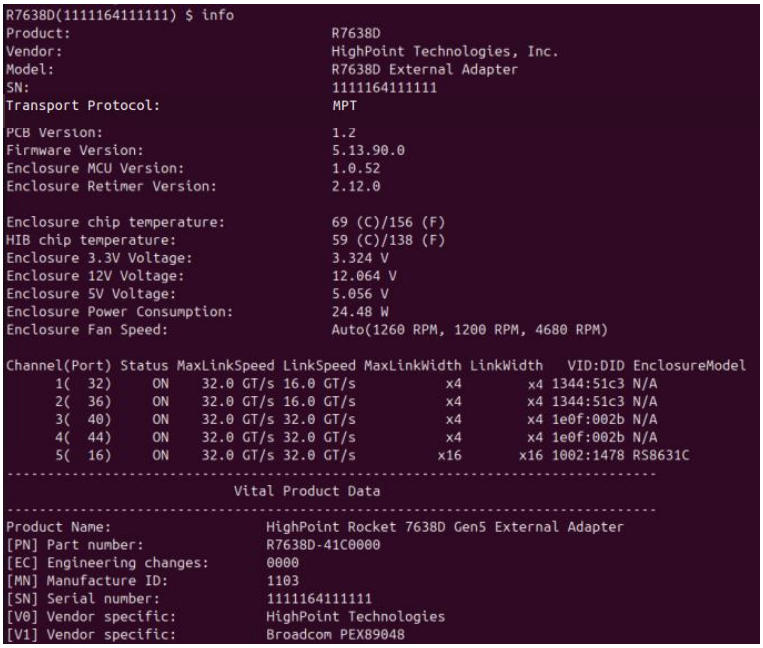
  For the R1000 series products using U.2 disks, the power consumption is only the power consumption of the PCIe device.
- **Fan Speed** — The current fan speed and status of the AIC.
- **Channel** — The physical disk location.
- **Port** — The port number of the device connection.
- **Status** — If an 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:DID —** 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):

AIC (SN) $ info



- **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”.

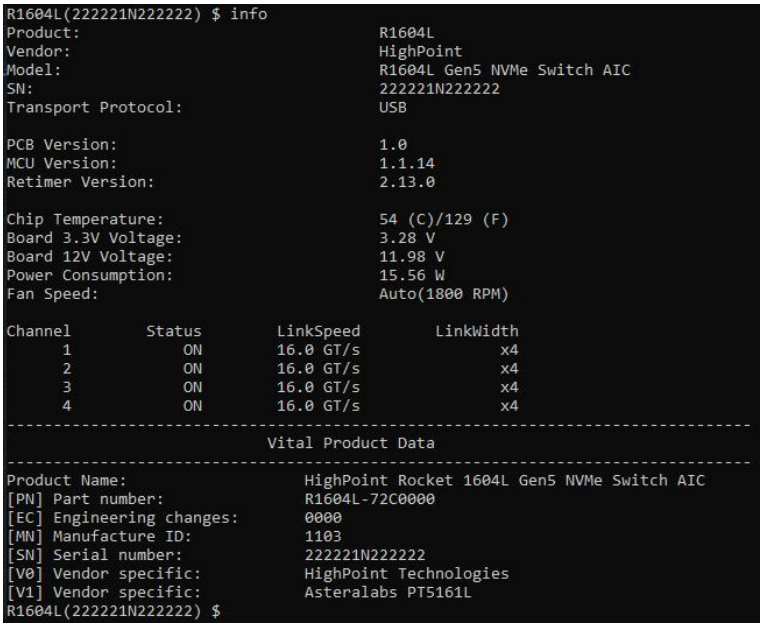
- **VID:DID —** The vendor ID and device ID of the device connected to the Enclosure/ External Adapter.
- **Enclosure Model —** The model name of the connected Enclosure.

  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):

AIC (SN) $ info



- **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.

2.6. trace Command

You can use the trace command to display the printout of the initialization and running process of this boot of firmware. It can be used to check the loading and running of firmware.

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

```
R1628A(111115R111111) $ help trace
Usage:
       trace
This command displays firmware trace information for the selected controller.
R1628A(111115R111111) $
```

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

Table 7: Properties for trace Command

cmd	Property Name	Description
trace	N/A	This command displays the firmware trace of the selected AIC.

2.6.1. View the Trace Log

AIC (SN) $ trace

This command displays the firmware trace of the selected AIC.

Input example:

AIC (SN) $ trace

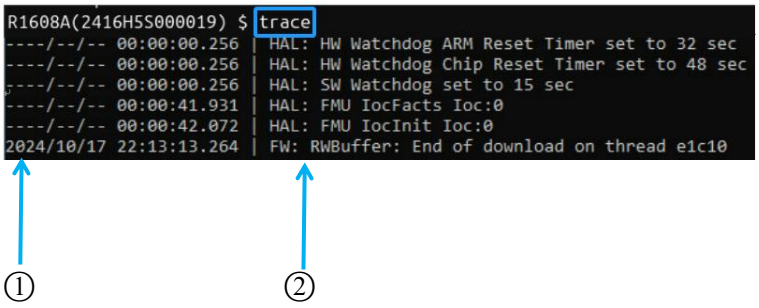


Table 8: Trace Description

No	Property Name	Description
①	Trace Time	Displays the exact time of the trace.
②	Trace Content	Displays the specifics of the firmware trace.

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

AIC (SN) $ sensor [page]

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

Input example:

AIC (SN) $ sensor 1

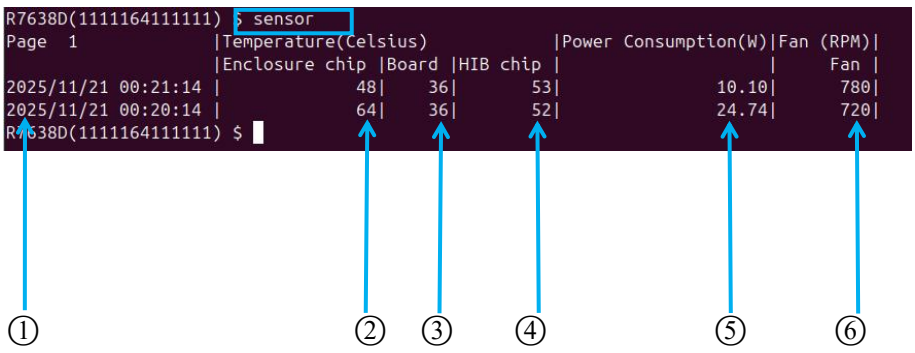


Table 10: Sensor Description

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

AIC (SN) $ event [page]

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

Input example:

AIC (SN) $ event 1

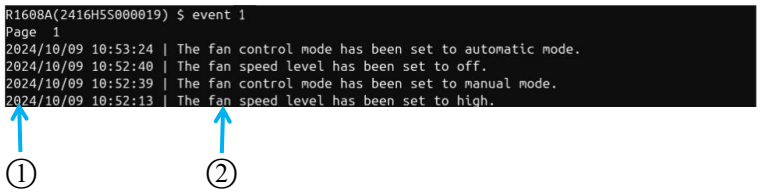


Table 12: Event Description

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

AIC (SN) $ otc

This command allows you to collect the necessary firmware log.

Input example:

AIC (SN) $ 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) $
```

- **For Windows User**

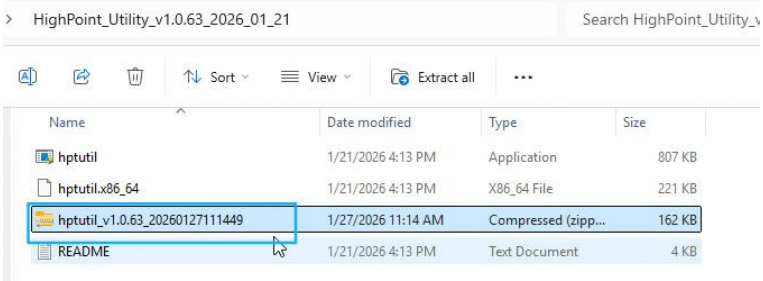


Table 14: Description of each folder in the log zip file (Windows)

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 Note: For products with the USB transport protocol, this folder contains only the **info.txt** file.	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**

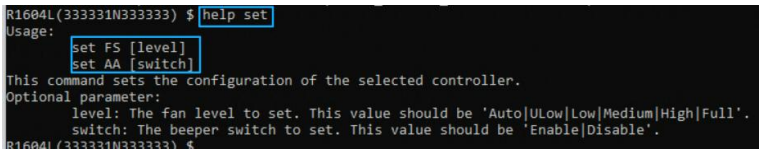
Table 15: Description of each folder in the log zip file (Linux)

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.
	syslog	

1-Switch Note: For products with the USB transport protocol, this folder contains only the **info.txt** file.	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	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.



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} Note: The command takes effect immediately upon success.
	AA	Set the AIC Beeper. This enables or disables the AIC beeper. Note: This setting is permanent and requires a reboot to take effect.

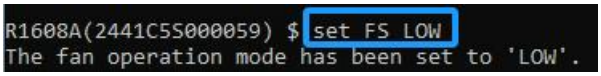
2.10.1.Set the AIC Fan Speed

AIC (SN) $ set FS [Auto|ULow|Low|Medium| High|Full]

Change the AIC Fan Speed.

Input example:

AIC (SN) $ set FS Low



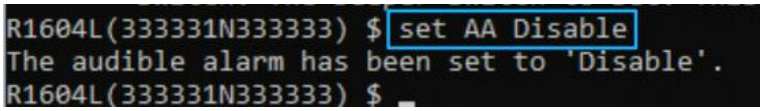
2.10.2.Set the AIC Beeper

AIC (SN) $ set AA [Enable/Disable]

Enables or disables the AIC beeper.

Input example:

AIC (SN) $ set AA 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(111115R111111) $ 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.	

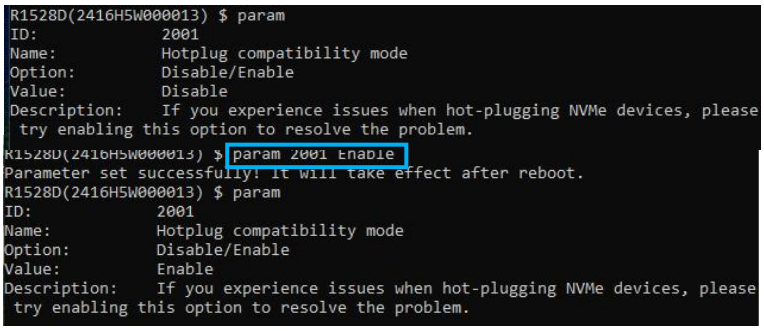
2.11.1. Set Hotplug Compatibility Mode

AIC (SN) $ param [ID] [Option]

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

Input example:

AIC (SN) $ param 2001 Enable



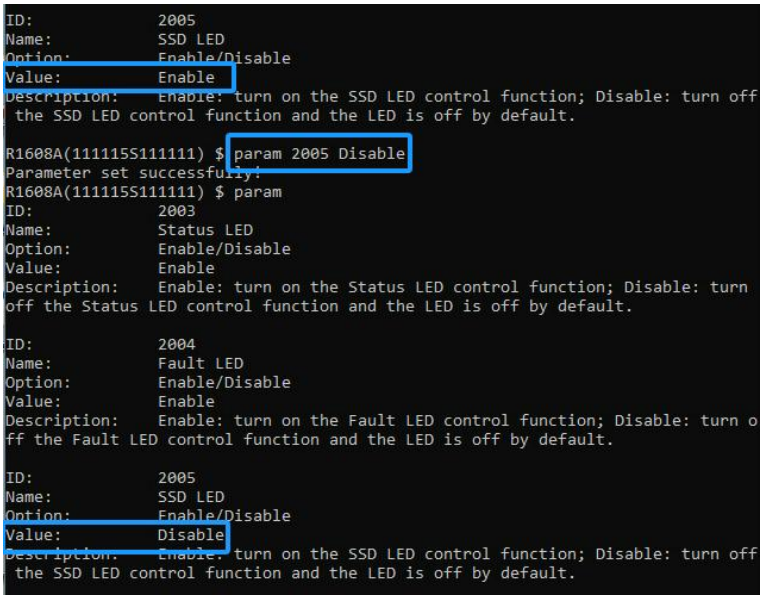
2.11.2. Set LED On/Off

AIC (SN) $ param [ID] [Option]

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

Input example:

AIC (SN) $ param 2005 Disable



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. Note: Parameter 'force' should be provided to update firmware in batch mode.
	[force]	N/A	

2.12.1.Update the AIC Firmware

AIC (SN) $ 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.

Input example (Windows):

AIC (SN) $ 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.
```

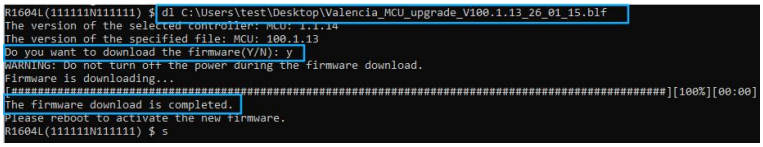
2.12.2. Update the AIC MCU

AIC (SN) $ 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.

Input example:

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



2.12.3. Update the AIC Retimer

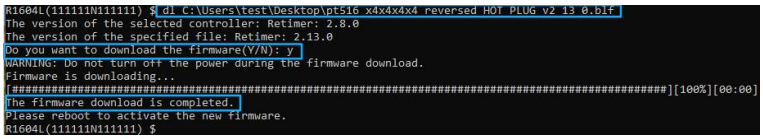
AIC (SN) $ dl {file path}

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.

Input example:

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



2.13. clear Command

This command is used to clear the screen.

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

2.13.1.Clear the Utility Screen

AIC (SN) $ clear

This command allows you to clear the screen.

Input example:

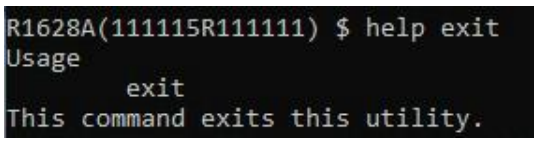
AIC (SN) $ clear

```
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.



2.13.3.Exit the Utility

AIC (SN) $ exit

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

Input example:

AIC (SN) $ 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.
```

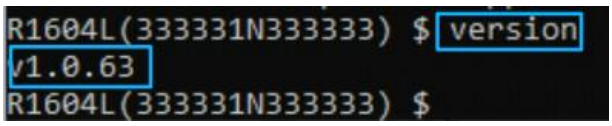
2.14.1.Show the Utility Version

AIC (SN) $ version

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

Input example:

AIC (SN) $ version



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

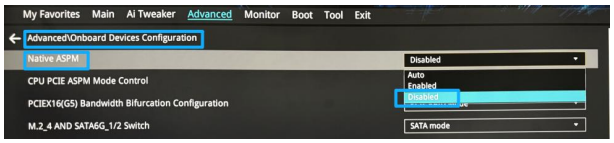
The root cause is the ASPM (Active State Power Management) mechanism. When ASPM is enabled in the BIOS, it can interfere with the stable signaling of the PCIe link, preventing the Linux kernel from properly initializing and recognizing the disk device on that link.

3. Solution

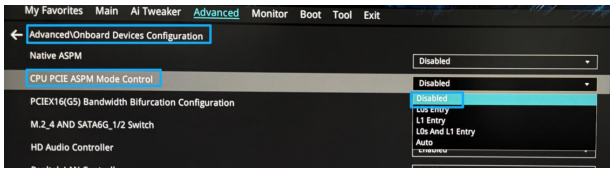
Disable the relevant ASPM settings in BIOS:

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