

SSD6200 & SSD6200A Series Management Guide

Version 1.01

Copyright © 2022 HighPoint Technologies, Inc. All rights reserved

Table of Contents

HighPoint RAID Management Software	4
Using the HighPoint RAID Management (WebGUI) Software	1
Starting the WebGUI	1
How to login WebGUI in Windows	1
How to login WebGUI in Linux	1
Verify the Controller Status	2
Physical Information	3
Controller Information	3
Physical Device Information	4
Creating an Array	4
Array Type	5
Initialization Method	5
Block Size	6
Obtaining Logical Device Information	6
Logical Device	6
Array Information & Maintenance Options: Normal Status	7
Array Information & Maintenance Options: Critical Status	8
Array Information & Maintenance Options: Disabled Status	8
Rescan	9
System Setting	9
System Setting	9
Password Setting	10
Email Setting	10
SMTP setting	11
Event Tab	16
SHI (Storage Health Inspector)	16
How to Enable SMART Monitoring	16
How to Use the Health Inspector Scheduler	18
Using the HighPoint Command Line Interface (CLI)	20
How to use the CLI in Windows	20
How to use the CLI in a Linux system	
CLI Command Reference	21
Query Commands	21
query controllers	21
query devices	22
query devices {device_id}	23
query arrays	24
<pre>query arrays {arrays_id}</pre>	25
Create Commands	25
Delete Command	27
Rescan Command	28
Lscard Command	28
events	29
events save {file_name}	29
Mail Commands	30

mail recipient	30
mail recipient add {recipient_name} {mail_address} [Inf War Err]	30
mail recipient delete {recipient_name}	30
mail recipient test {recipient_name}	
mail recipient set {recipient_name} {Inf War Err}	31
mail server	
mail server set {server_address} {port} {ssl} {status} {from_address} [username] [password]	32
mail server set {a p s m u t} {value}	32
Task Commands	34
Set Commands	35
Help Commands	36
help	36
Exit Command	37
Syntax	37
Using the OOB (out of band) RAID Management	37
How to use the OOB (Windows)	37
CLI Command Reference	39
Info Commands	39
info -o hba	40
Info -o pd	40
Info -o vd	40
Temperature commands	41
Fan commands	42
Beeper Commands	43
Create Commands	43
Delete Commands	44
Help Commands	39
Troubleshooting	44
Table 1. WebGUI Icon Guide	
HighPoint Recommended List Motherboards	47
Contacting Technical Support	47

HighPoint RAID Management Software

Your Choice - Graphical or Text-only interfaces

To make it easier for customers to use our SSD6200 series products, we have developed both graphical and text-based management interfaces for the SSD6202/6204, SSD6202A/6204A NVMe RAID Controllers. To simplify installation and upgrade procedures both interfaces are packaged into a single download, and are available for Windows/Linux operating system platform.

Both management interfaces share universal layouts across all major operating systems, and can be administered locally or remotely via an internet connection. – if you are comfortable with the Windows release, you will have no problem managing NVMe RAID configurations installed for a Linux distribution.

The Web RAID Management Interface (**WebGUI**), is a simple, and intuitive web-based management tool available for Windows and Linux operating systems. It is an ideal interface for customers unfamiliar with RAID technology. The Wizard-like Quick Configuration menu allows even the most novice user to get everything up and running with a few simple clicks. Experienced users can fine tune configurations for specific applications using the Advanced Options menu.

The **CLI** (command line interface) is a powerful, text-only management interface designed for advanced users and professional administrators. The universal command lines work with Windows/Linux platform. Comprehensive user guides are available for the CLI, and are included with the most recent product updates available from the SSD6202/6204, SSD6202A/6204A Software Updates webpage.

OOB (out of band) RAID Management – SSD6200A Series NVMe AIC drives feature an OOB port (accepts USB Type-C monitor connections) and a built-in CLI (command line utility) which allows users to manage and monitor RAID storage without an operating system.

OOB is a handy troubleshooting tool for professional applications, as it allows administrators to examine and diagnose the status of a RAID configuration or NVMe SSD while the host system is unresponsive. <u>More</u>

Using the HighPoint RAID Management (WebGUI) Software

This guide provides an overview of the Web-RAID Management graphical user interface, also known as the WebGUI. The WebGUI is an intuitive, yet comprehensive management tool designed for users of any experience level.

Starting the WebGUI

How to login WebGUI in Windows

Double click the Desktop ICON to start the software using the system's default web browser. It will automatically log-in to the WebGUI.



The password can be set after the first log-in. To change the password, select Setting \rightarrow **Password Setting** from the menu bar.

Global View	Physical Logical Setting	Event SHI
System		System Setting
Email	Enable auto rebuild. Restrict to localhost access. Set Background Rate: Port Number: Temperature Unit: Submit	Enabled V Enabled V Highest V 7402 °F V
		Password Setting
	Password: Confirm: Submit	

How to login WebGUI in Linux

Enter <u>http://127.0.0.1:7402</u> or <u>http://localhost:7402</u> into the **browser** to log into the **WebGUI**, 7402 is the WebGUI's Port Number, which can be modified.



The password can be set after the first log-in. To change the password, select Setting \rightarrow Password Setting from the menu bar.

Global View	Physical Logical Setting	Event SHI
System		System Setting
Email	Enable auto rebuild.	Enabl~
	Restrict to localhost access.	Disab 🗸
	Set Background Rate:	High 🗸
	Port Number:	7402
	Temperature Unit:	°F ~
	Submit	
		Password Setting
	Password:	
	Confirm:	
	Submit	

Verify the Controller Status

The **Global View** Tab will display the overall status of the controller. The Virtual Disk is listed under **Logical Device Information**. The individual drives are listed under **Physical Device Information**.

A Properties		Storage Pr	operties	
Host Adapter mod	el: HighPoint SSD6204	$\overline{\mathbf{a}}$	Total Capacity:	4000 GB
Controller count:	1	HPT-	Configured Capacit	
Physical Drive:	4		Free Capacity:	4000 GB
Legacy Disk:	0			
RAID Count:	0		Configured 0.0%	

For example: SSD6204:

Host Adapter model – Display board name

Controller count – Display the number of boards

Physical Drive - Shows the number of physical disks accessed

Legacy Disk – Displays the number of disks after initialization

RAID Count – Displays the number of RAIDs created

Configured 0.0% – Displays the current usage of the disk, 0.0% means no data in the disk

Physical Information

This page shows the Controller Information and Devices Information

Controller Information

Display board information

Global View	Physical Logical	Setting Event SHI
Controller 1		Controller Information
Devices	Temperature:	179°F
	Bus Device Fun:	18: 00. 00
Rescan	Firmware Version:	1.0.0.1046
	Serial Number:	<u> </u>
	Model Number:	HighPoint SSD6204
	Vendor ID:	0x1b4b
	Device ID:	0x2241
	Sub vendor ID:	0x1103
	Sub Device ID:	0x6204
	RevisonID:	BO
	Port count:	4
	Max PD of Per VD:	4
	Max VD:	4
	Max PD:	4
	Max NS of Per VD:	1
	Max NS:	4
	Supported RAID Mode:	RAID0 RAID1 JBOD
	Cache:	on
	Supported BGA Features:	Initialization Rebuild MediaPatrol
	Support Stripe Size:	128KB 256KB 512KB
	Supported Features:	Import RAID Namespace Dump
	Root Complex:	0
	Link width:	2x
	Max PCIe speed:	8 Gb/s
	Root Complex:	1
	Link width:	2x
	Max PCIe speed:	8 Gb/s
	Root Complex:	2
	Link width:	2x
	Max PCIe speed:	8 Gb/s
	Root Complex:	3
	Link width:	2x
	Max PCIe speed:	8 Gb/s
	End Point:	0
	Link width:	8x
	Max PCIe speed:	8 Gb/s

Temperature – The real-time temperature of the main chip of the board

Firmware Version -"Driver" inside the device

Serial Number – Product Serial Number

Model Number - Product name

Physical Device Information

Global View	Physical Logi	cal Sett	ing Event SHI		
Controller 1		F	Physical Devices Inform	ation	
Devices	Device 1 1	Model	Samsung SSD 970 EVO Plus 500GB	Capacity	500.10 GB
Rescan		Revision Location Max Free Status Serial Num	2B2QEXM7 1/1 0.00 GB Normal S4EVNM0R225852A		
	Device 1 2	Model	Samsung SSD 970 EVO Plus 500GB	Capacity	500.10 GB
	Device 1 3	Model	Samsung SSD 970 EVO Plus 500GB	Capacity	500.10 GB
	Device 1 4	Model	Samsung SSD 970 EVO Plus 500GB	Capacity	500.10 GB

- Model model number of the disk connected
- **Revision** revised version of disk
- Location which controller and port the disk is located in
- Max Free total capacity that is not configured
- Status Current state of drive
- Serial Num Serial number of the disk
- Capacity total capacity of the disk

Creating an Array

- 1. Open the WebGUI
- 2. Select the proper **controller** from the drop down on the top left
- 3. Click the Logical tab
- 4. Click Create Array

Example screenshot (SSD6204)

Create Array			Cre	ate Array	
Logical Device	Array Type:	JBOD(Volume	~		
Rescan	Array Name:	JBOD(Volume)			
		RAID 0			
	Initialization Method:	RAID 1	•		
	Cache Policy:		~		
	Block Size:	128K	~		
		Select All	Location	Model Capacity	Max Free
			1/1	Sabrent Rocket 1.00 TB 4.0 1TB	1.00 TB
	Available Disks:		1/2	Sabrent Rocket 1.00 TB 4.0 1TB	1.00 TB
			1/3	Sabrent Rocket 1.00 TB 4.0 1TB	1.00 TB
			1/4	Sabrent Rocket 1.00 TB 4.0 1TB	1.00 TB
	Capacity:				
	(According to the max free		(140)		
	space on the selected disks)	Maximum	(MB)		

Array Type

This drop-down menu allows you to specify the RAID level. An array is a collection of physical disks that will be one virtual drive by your Operating System (OS). The SSD6200/6200A is capable of creating the following types of arrays:

- RAID 0 Striping
- RAID 1 Mirroring
- JBOD Spanning

Each RAID level has its pros and cons based on the application you use it for (Note: Refer to RAID level Quick Reference)

Array Name: the name that will be displayed in Logical Device Information (Default: RAID_<level>_<array number>)

Initialization Method

Initialization of a disk sets all data bits to 0, essentially clearing all the data on the drive. It is important to initialize disks as previous data physically stored on the drive may interfere with new data.

• Quick Init: This option grants immediate access to the RAID array by skipping the initialization process, but it will delete all data. Note: Skipping initialization is generally not recommended as residual data on disks may interfere with new data in the future.

• **Background**: The array initialization process will have a lower priority. During this time the array will be accessible, but the initialization process will take much longer to complete.

Note: Using a Samsung 970 EVO Plus 500GB as an example: RAID 1 Initialization using the Background option would take 1 hours to complete.

Block Size

Supported block sizes: 128K/256K/512K, default: 128K

Adjusting the block size towards your disk usage can result in some performance gain.

In a typical RAID configuration, data of the virtual drive is striped (or spread across) the physical drives. Having a smaller array block size will increase the likelihood of accessing all physical drives when processing large I/O requests. Multiple physical drives working in parallel increases the throughput, meaning better performance.

For smaller I/O requests (512 bytes to 4 kilobytes), it is better to have each individual disk handle their own I/O request, improving the IOPS (I/O per second), rather than having one tiny I/O request being handled by multiple disks.

Obtaining Logical Device Information

Logical Device

The Logical device tab is the default page after clicking the Logical tab of the HRM. This page contains information about your RAID arrays and the individual disks your system detects.

Global View	Physical Lo	gical Setting	Event	SHI	
Create Array		Logic	al Device	Information	
Logical Device	Name Type	Capacity BlockSize	SectorSize	OS Name	Status
Rescan	VD_0 RAI	0 0 4.00 TB 128k	512B	HighPoint SSD6204	Normal <u>Maintenance</u>
		Physic	al Device	Information	
	Location	Model		Capacity	Max Free
	1/1	Sabrent Rocket 4.0	1TB	1.00 TB	0.00 GB
	1/2	Sabrent Rocket 4.0	1ТВ	1.00 TB	0.00 GB
	1/3	Sabrent Rocket 4.0	1TB	1.00 TB	0.00 GB
	1/4	Sabrent Rocket 4.0	1TB	1.00 TB	0.00 GB

Maintenance

Once an array has been created, the Maintenance menu provides options to maintain or edit it. To access the Maintenance menu, click the Maintenance button towards the right-hand side of the array name.

Global View	Physical L	gical s	Setting	Event	SHI	wear as	
Create Array			Logic	al Device	Informat	ion	
Logical Device	Name Type	Capacity	BlockSize	SectorSize	OS Name		Status
Rescan	VD_0 RAI	0 4.00 TB	128k	512B	HighPoint S	5D6204	Normal <u>Maintenance</u>
			Array 1	Informati	on		
		💕 VD	_0			ion	
	Location		Device_1_1			Capacity	Max Free
	1/1		Device_1_3		Delete	1.00 TB	0.00 GB
	1/2		Device_1_2			1.00 TB	0.00 GB
	1/3		Device_1_4			1.00 TB	0.00 GB
	= 1/4				Close	1.00 TB	0.00 GB

Array Information & Maintenance Options: Normal Status

Global View	Physical Lo	gical Setting Ever	it SHI	
Create Array		Logical De	evice Information	
Logical Device Rescan	Name Type		orSize OS Name 5128 HighPoint SSD6204	Status 4 Normal <u>Maintenance</u>
		Physical D	evice Information	
	Location	Model	Сара	city Max Free
	Location	- A STATE OF A ST		172 A 172
		Model	Сара	тв 1.00 тв
	1/1	Model Sabrent Rocket 4.0 1TB	Capa 1.00	TB 1.00 TB TB 1.00 TB

Arrays with the **Normal** status are healthy and functioning properly, and have the following options:

Delete – deletes the selected RAID array

Global View	Physical L	ogical s	Setting	Event	SHI		Materia and th
Create Array			Logica	al Device	Informat	ion	
Logical Device	Name Type	Capacity	BlockSize	SectorSize	OS Name		Status
Rescan	🖞 VD_0 RAI	0 1 1.00 TB		5128	HighPoint S	SD6204	Critical <u>Maintenance</u>
	1.0	- 	Array 1	Informati	on		
		💱 vd	_0		Dut	ion	
	Location		Offline Disk		Delete Add Disk	Capacity	Max Free
	1/2		Device_1_4		Add Disk	1.00 TB	1.00 TB
	1/3				Close	1.00 TB	1.00 TB
	1/4				Close	1.00 TB	0.00 GB

Array Information & Maintenance Options: Critical Status

Arrays in the **Critical** status can be accessed and utilized, but are no longer fault tolerant. A Critical array should be rebuilt as soon as possible to restore redundancy.

A critical status array has all the normal status options except the following:

• Add Disk replaces the Verify Disk option

Once the array status changes to critical, the faulty disk will be taken offline and you can either:

- Reinsert the same disk
- Insert a new disk

Reinserting the same disk should trigger the rebuilding status, since data on the disk would be recognized.

If you insert a new disk, clicking Add Disk will give you the option to select that disk and add it to the array.

Array Information & Maintenance Options: Disabled Status

Global View	Physical	Logical	Set	ting l	Event	SHI	
Create Array		Logical Device Information					
Logical Device	Name	Туре	Capacity		SectorSize	OS Name	Status
Rescan	Vew_VD	RAID 0	16.00 TB	128k	512B	HighPoint SSD6204	Disabled Maintenance

An array with the **Disabled** status means that the RAID level does not have enough disks to function.

• Your data will be inaccessible

• Rebuilding will not trigger, since the RAID array does not have enough parity data to rebuild.

Your options in Maintenance are:

• Delete

Delete – will delete the array

Rescan

Clicking **Rescan** will ask the driver to recheck and report the array status.

When Rescan is initiated by the WebGUI; the driver will immediately check and see whether the status of any disk has changed. If there are any changes, the status of the disks and RAID array will be updated to reflect this.

- Disk Status if any disks were added or removed, or if a disk is no longer responding, the status will change.
- RAID status the RAID array's status may change depending on the status of the disks.

System Setting

The following topics are covered under system:

System Setting



Enable auto rebuild (default: Enabled)

When a physical drive fails, the controller will take the drive offline. Once you re-insert or replace the disk, the controller will not automatically rebuild the array unless this option is enabled.

Restrict to localhost access (default: Enabled)

Remote access to the controller will be restricted when enabled; other users in your network will be unable to remotely log in to the WebGUI.

Set Background Rate (default: Medium)

Port Number (default: 7402)

The default port that the HighPoint WebGUI listens on is 7402. You may change it to any open port.

Temperature Unit (default: °F)

The default temperature unit is Fahrenheit (°F); you can also change it to Celsius (°C)

Password Setting

Changing your HRM password

Under Password Setting, type your new password, confirm it, then click Submit.

Recovering your HRM password

If you forget your password, you can delete the file hptuser.dat. Then, restart the computer and open the WEBGUI to set a new password.

For Windows Users:

- 1. Open file explorer
- 2. Navigate to C:/Windows/
- 3. Delete hptuser.dat
- 4. Reboot

Email Setting

The following topics are covered under email:

SMTP Setting

Adding Recipient

You can instruct the controller to send an email out to the recipients of your choosing when certain events trigger (for more information, see Event Tab).

SMTP setting

System		SMTP Setting
Email	Enable Event Notification	
	Server Address (name or IP):	smtp.mail.yahoo.com
	Mail From (E-mail address):	hptu@yahoo.com
	Login Name:	hptu@yahoo.com
	Password:	•••••
	SMTP Port:	465
	Support SSL:	
		Change Setting

Note: After you click Change Setting, the password field will be reset.

To set up email alerts:

Using a Yahoo Mail account as an example:

- 1. Check the **Enable Event Notification** box.
- 2. Enter the ISP server address name or SMTP name

For example: smtp.mail.yahoo.com

- Type in the email address of the sender (email account that is going to send the alert)
 For example: hptu@yahoo.com
- 4. Type in the account name and password of the sender
- 5. Type in the SMTP port (default: 25)
- 6. Check the **support SSL** box if SSL is supported by your ISP (note the port value will change to **465**).

Email Precautions

If you want to receive notification mail using a Webmail account, you may need to modify the mailbox's permissions. The following example is for a Yahoo webmail account.

Yahoo Setting:

To change permission settings, please refer to the following link:

https://help.yahoo.com/kb/account/SLN27791.html?impressions=true

Procedure:

1. Log in to yahoo email; click "Sign in" to log in:

https://www.yahoo.com



2. After a successful login, click "Account Info" under the

user name:

yahoo!		Q	high 📌 🔀 Mail
Mail News Finance Sports	Politics Entertainment	Lifestyle More	high point hptu@yahoo.com
		Trump names pick for U.S. ambassador to	Manage Publishers
		Russia	+ Add account
		If confirmed by the Senate, John Sullivan would be the top U.S. diplomat in Russia at a naticularly challenging time for Trumo's	Sign Out

3. Go to the "Account Info" page, click "Account Security".

On the "Account Security" page, click the "Allow apps that use less secure sign in" button:

Personal Info	Phone numbers +1 (415) 730-0117	
Recent Activity	Add recovery email address	
E Preferences	Two-step verification Protect your account by enabling an additional security step using your personal device.	
Help	Phone Number Sign in by verifying the code sent to your phone.	
	Allow apps that use less secure sign in Some non-Yahoo apps and devices use less secure sign-in technology, which could leave your account vulnerable. You can turn off access (which we recommend) or choose to use them despite the risks.	

Outlook Setting:

1. Sign in to mail and set it up, Login email address link:

https://outlook.live.com/mail/inbox

Microsof	t	
登录		
eo1323972@o	utlook.com	
没有帐户?创建一		
使用安全密钥登录	2 (Y)	
		下一步

2. Click **Settings** in the upper right corner, select the lower left corner: **View all outlook** settings

	Outlook	𝒫 Search	🖙 Meet Now	S @ 15 0 ? 2 A
	New message	🗎 Mark all as read 🤌 Undo		Settings
Ē	> Favorites	⊘ Focused Other Filter ∨		Search Outlook settings
A ^A	✓ Folders	Microsoft Outlook F HighPoint RAID Management 16:49 Delivery has failed to these recipients or		Get started 📥 🗸
ø	S Junk Email	Microsoft Outlook ©: > HighPoint RAID Management 16:49 Delivery has failed to these recipients or		Theme
•	Dratts Dratts Sent Items Deleted Items	Microsoft Outlook ©: > HighPoint RAID Management 1649 Delivery has failed to these recipients or		
•	Archive Notes	Microsoft Outlook ©T > HighPoint RAID Management 1649 Delivery has failed to these recipients or	Select an item to read	View all Dark mode ①
	Conversation Hist	Microsoft Outlook © > HighPoint RAID Management 1648 Delivery has failed to these recipients or	Nothing is selected	Focused Inbox ①
	∽ Groups	Microsoft Outlook ©1 > HighPoint RAID Management 16:25 Delivery has failed to these recipients or	(Display density ①
	Start a free 30-day trial of premium Outlook with Microsoft 365	eo1323972@outlook.com; Microsoft O > HighPoint RAID Managem (2) 16:11 Wed, 07 Jul 2021 08:11:19 : This is a test		View all Outlook settings 53

3. Enter the redirect page, select mail, then click Sync email

₽ Search			
Settings	Layout	Sync email	
Search settings	Compose and reply	ves	
ි General	Attachments Rules	No	
Mail Calendar	Sweep	Devices and apps that use POP car	-
ik x ^R People	Junk email	 Don't allow devices and apps t Let apps and devices delete me 	
ft View quick settings	Customize actions	POP setting	
nt	Message handling	Server name: outlook.office365.com Port: 995 Encryption method: TLS	
e	Forwarding	IMAP setting	
e	Automatic replies Subscriptions	Server name: outlook.office365.com Port: 993 Encryption method: TLS	
av.		SMTP setting	
n an		Server name: smtp.office365.com	

- 4. Let devices and apps use pop select 'yes'
- 5. choose 'Let app and devices delete messages from Outlook'

Note: The screenshot below can be used as a reference. The POP setting is the mailbox server.

	Outlo	ook	,∕⊃ Search		ロ 現在开会 🔇 📭 😓 🥯	? 🖘 ዖ
	=	Nev	Settings	Layout	Sync email ×	加更少
Ē	>	Favo	✓ Search settings	Compose and reply	POP options	享更多
٩		Fold	General	Attachments	Let devices and apps use POP	-
A		TOR	🖾 Mail	Rules	• Yes	61 100
-1	~	Grou	Calendar	Junk email	O No Devices and apps that use POP can be set to delete messages from Outlook after download.	Dutlook.com 使用
Ľ		New	۹ People View quick settings	Customize actions		Drive 分享檔案、 甚至更多。
			view quick settings	Sync email	Let apps and devices delete messages from Outlook	
4				Message handling	POP setting	OneDrive 🕣
٥				Forwarding	服务器名称: outlook.office365.com 端口: 995	
13				Automatic replies	如要方法: TL5	
					IMAP setting I形形象と称 outlook.office365.com IIII:933 加密方法 TLS	

Note: If you are having trouble configuring notification for your Email account, please contact our <u>Technical Support Department</u>

Add Recipients

You can add multiple email addresses as receivers of a notice.

- 1. Type the email of the recipient in the E-mail text box
- 2. Type the name of the recipient in the **Name** text box
- 3. Set which type(s) of events will trigger an email using the respective **Event Level** check boxes.

Add Recipient			
E-mail:	hytu@yahoo.com		
Name:	hpt		
Event Level: Add Test	Information Warning Error		

4. (Optional) Click test to confirm the settings are correct by sending out a test email

	SMTP Setting		
Enable Event Notification			
Server Address (name or IP):	smtp.mail.yahoo.com		
Mail From (E-mail address):	hptu@yahoo.com		
Login Name:	hptu@yahoo.com		
Password:			
SMTP Port:	465		
Support SSL:	0		
	Change Setting		
	Recipients		
E- Mail has been sent success	sfully.		
Name	Close		

- 5. Click add to add the recipient to recipient list
- 6. The added recipient will display in under Recipients

	Recipients		
E-mail	Name	Event Level	
Dhytu@yahoo.com	hpt	Information, Warning, Error	
Delete			

The email will include the output recorded in the event log.

Example email message:



[hptnvme]: RAID 0 Array 'RAID 0 0' has been created successfully (Disk 1:Samsung SSD 970 EVO Plus 500GB, 1/E1/1; Disk 2:Samsung SSD 970 EVO Plus 500GB, 1/E1/2).

Figure 1. Example event log email

Event Tab

In the event tab, you can see log entries associated with the HighPoint device. The event log provides useful information when troubleshooting your set up.

Event View (1)				
🖲 🔜 All 🛛 🜉 Info	🔿 🔥 Warning 💦 🔿 Error	Download		
Date Time	Description			
2021/7/30 1:19:34	Array 'VD_0' has been created successfully.			
1:15:52 2021/7/30	Array 'VD_0' has been deleted successfully.			
1 2021/7/29 7:32:19	NVMe has been shut down.			
1 2021/7/29 7:5:47	Array 'VD_3' has been deleted successfully.			
1 2021/7/29 7:5:39	Array 'VD_2' has been deleted successfully.			
1 2021/7/29 7:5:31	Array 'VD_1' has been deleted successfully.			
1 2021/7/29 7:5:18	Array 'VD_0' has been deleted successfully.			
1 2021/7/29 7:4:59	Array 'VD_0' rebuilding aborted.			
2021/7/29 7:4:29	Array 'VD_2' importing completed.			
2021/7/26 0:59:35	NVMe has been shut down.			

HighPoint RAID Management 2.16.3 Copyright (c) 2021 HighPoint Technologies, Inc. All Rights Reserved

Download - Save the log file on your compute **Date Time** - Show the time of the event

Description -Show details of the event

SHI (Storage Health Inspector)

The following topics are covered under SHI:

- S.M.A.R.T Attributes
- SSD Temperature Threshold Setting

SHI outputs information collected using SMART (Self-Monitoring Analysis and Reporting Technology) Hard Drive Technology. The data provided on this tab helps you to anticipate any disk failures based on a variety of monitored hard disk properties.

How to Enable SMART Monitoring

To access SMART attributes of an individual disk:

- 1. Log in to the HighPoint RAID Management
- 2. Select the proper controller using the drop-down menu on the top left
- 3. Click the SHI tab

4. Click **Detail** on the desired disk

Note: The current NVMe Temperature threshold is set to 149 °F. If it does not exceed 149 °F, it will be displayed in "Green".

Warning and Critical Composite Temperature Threshold - Temperature threshold of the hard drive itself. Note that the set temperature threshold should not exceed Warning Composite Temperature Threshold.

		Storage Health	Inspecto	or(SHI)				
Controller ID	Location#	Device Serial Number	RAID	٩F	Total Bytes Written	S.M.A.R.T		
L	1	S5GYNG0R104504Y	VD_0	96	182.92 TB	Detail		
L	2	S5GXNG0NA06316F	VD_0	100	63.67 TB	Detail		
L	3	S5GXNG0N905363B	VD_0	100	93.56 TB	Detail		
L	4	S4EVNF0MA42420T	VD_0	105	202.43 TB	Detail		
Device Name		Device_1_1						
Model Number		Samsung SSD 980 P	RO 500GB					
Temperature		96°F						
Warning Compos	ite Temperature	Threshold 179°F						
Critical Composit	e Temperature T	hreshold 185°F						
		NVME S.M.A	.R.T Attrib	outes				
Name					Value			
Critical Warning	(0)				0×0			
Composite Tempo Avaliable Spare	erature (C)				36 100%			
Available Spare T	brechold	100%						
Precentage Used					31%			
Data Units Read					0x3fc98343			
Data Units Writte					0x176a143f			
Host Read Comm					0xe2374904			
Host Write Comn					0x7acd2e0a			
Controller Busy T					0xfcf			
Power Cycles					0x669			
Power On Hours					0×14e			
Unsafe Shutdowr	ns				0×577			
Media and Data I	integrity Errors				0×0			
Number of Error	Information Log	Entries			0×0			
Warning Tempera	ature Time				0×0			
Critical Composit	e Temperature T	ime			0×0			
Temperature Sen	isor 1 (C)				36			
Temperature Sen					46			
Temperature Sen					0			
Temperature Sen					0			
Temperature Sen					0			
Temperature Sen					0			
Temperature Sen					0			
Temperature Sen	isor 8 (C)				0			
		SSD Tempera	ture Thre	shold				
Sot borddick tom	perature thresho	Id : 149	⁰F Set					

Copyright (c) 2021 HighPoint Technologies, Inc. All Rights Reserved

If the temperature exceeds 149 °F, it will display "Red".

Global Viev	w Physical	Logical Setting	Event	SHI	Help	
						Schedul
		Storage Healt	h Inspecto	or(SHI)	
Controller ID	Location#	Device Serial Number	RAID	٩F	Total Bytes Written	S.M.A.R.T
1	E1_1	S463NF0K409595F	None	150	1023.91 TB	Detail
1	E1_2	S5JYNS0N602754T	None	111	75.45 TB	Detail
		HDD Temper	ature Thre	eshold		
Set harddisk tem	perature thresho	ld : 149 ºF	Set			

The **TBW** (Total Bytes Written) information can be used to monitor the lifespan of the NVMe drives.

	w Physica	l Logical Setting		SHI		
		Storage Health	Inspector	(SHI)		
Controller ID	Location#	Device Serial Number	RAID	۰F	Total Bytes Written	S.M.A.R.T
1	1	7FE00707087104034542	None	89	138.89 TB	Detail
1	2	03F10707074404014589	None	89	138.63 TB	Detail
1	3	7F600707089D04033529	None	89	147.17 TB	Detail
1	4	6D110707069503992916	None	91	140.32 TB	Detail

How to Use the Health Inspector Scheduler

The **Health Inspector Scheduler (HIS)** enables you to schedule disk/array checkups to ensure disks/array are functioning optimally.

If you want to check the disk status on a daily, weekly, or monthly basis, you can enable this using the **HIS** function.

For example:

- 1. Set the 'Task Name' to 't1', select the schedule as 'Daily', and set the time to 10:10
- 2. After clicking "Submit", the task you created will be shown under the "Task List".

	Tasks List
Name DailyCheckSma Dt1 Delete	Description rt Check all disks every day at 12:0:0 Check all disks every day at 10:10:0
	Health Inspector Scheduler
Task Name:	
Select a Schedule	: O Daily Weekly Bi-Weekly Monthly
Select a time: Submit	Sunday V 1 0 : 0 : 0

When the operating temperature of the disk exceeds 65°C, a "Warning" event will appear in "Events":

Globa	al View	Physical Lo	gical Setting	Event	SHI Help
			Event \	View (1)	
🖲 🜉 All	🗆 🜉 Info	🔿 🔥 Warning	🔾 🗙 Error		Download Clear
	Time 5/9 10:9:37	Description Disk 'Samsun threshold.		0GB' (Locati	on: Device_1_E1_2) temperature is higher than

Redundant RAID arrays (RAID 1) will appear under New Verify Task

- 1. Log into the WebGUI
- 2. Select the proper controller from the top left drop down
- 3. Click SHI
- 4. Click Schedule
- 5. Select the array you want to schedule the verify task
- 6. Type the name in Task Name entry box
- 7. Choose whether you want to schedule
- 8. One time verify task on specific date (YYYY-MM-DD) at (HH:MM: SS, 24-hr clock)
- 9. Or a specific schedule you can adjust based on Daily, Weekly, or Monthly options
- 10. Click Submit

Health Inspector Scheduler	
Task Name: T2	
Select a Schedule: ODaily Weekly Bi-Weekly Monthly	
Select a time: Monday 🗸 1 9 : 00 : 0	
Submit	
HighPoint RAID Management 2.16.3 Copyright (c) 2021 HighPoint Technologies, Inc. All Rights Reserved	

11. Your entry will appear under Tasks List



Note: New Verify Task box only appears if you have normal status arrays. If you have a critical array, New Rebuild Task will replace New Verify Task.

Using the HighPoint Command Line Interface (CLI)

How to use the CLI in Windows

Method1: Run 'Command Prompt' as Administrator and enter hptraidconf and press Enter



Method2: Click 'Start' to find the HighPoint RAID Management folder, and click on hptraidconf



How to use the CLI in a Linux system

Open '**Terminal**' and enter root permissions, then execute the command '**hptraidconf**' to enter the CLI

```
File Edit View Search Terminal Help

test@test-System-Product-Name:~$ sudo su

[sudo] password for test:

root@test-System-Product-Name:/home/test# hptraidconf
```

CLI Command Reference

This chapter discusses the various HighPoint CLI commands: query, delete, switch, lscard, rescan, events, mail, task, set, clear, help and exit.

Note: The following example is for a Windows system:

Query Commands

Syntax:

query controllers

query devices | query devices {devices_id} |

query arrays | query arrays {array_id}

query controllers

This command reports controller information

Single card:

SSD6202/6202A:



SSD6204/6204A:



query devices

This command will provide the status of each physical device hosted by the controller. It provides a list of device ID's, capacity, model numbers, status, and array attributes. Each device's status will be listed as one of the following: Legacy, NORMAL, DISABLED, RAID.

ID:

A device ID is a string used to represent a disk. It is in the format "controller/channel/device" for NVMe controllers. E.g. 1/1 represents the disk on controller 1 port 1;

Capacity:

The capacity of the disk in GB.

MaxFree:

The Maximum sequence free space on a disk which can be used by creating array.

Flag:

Shows whether the disk is single or has been created RAID.

Status:

This will display the disk status (1 of 4 possible states):

NORMAL: The disk's status is normal.

DISABLED: The disk cannot be used. (may be related to disk failure or removal)

RAID: The disk is a member of a RAID array.

ModelNumber:

The disk's model number.

Example:

SSD6202:

HPT CL: ID	I > query de Capacity		Flag	Status	ModelNumber
1/1 1/2		0 0	RAID RAID		Sabrent Sabrent

SSD6204:

D	Capacity	MaxFree	Flag	Status	ModelNumber
1/1	1000.20	0	RAID	NORMAL	Sabrent Rocket 4.0 1TB
/2	1000.20	0	RAID	NORMAL	Sabrent Rocket 4.0 1TB
/3	1000.20	0	RAID	NORMAL	Sabrent Rocket 4.0 1TB
/4	1000.20	0	RAID	NORMAL	Sabrent Rocket 4.0 1TB

query devices {device_id}

This command presents information for the specified device.

Attributes:

Mode Number:

The disk's model number.

Serial Number:

The disk's Serial number.

Firmware Version:

The disk's Firmware version.

Read Ahead/Write Cache/TCQ/NCQ Status:

Disk's Read Ahead/Write Cache/TCQ/NCQ status could be enabled/disabled/--(not support)

Pcie width:

The disk's Pcie width.

Temperature:

The disk's temperature and setting temperature threshold.

S.M.A.R.T Attributes:

S.M.A.R.T Attributes detailed information reported by hard disk.

Example:

HPT CLI>query device	es 1/1		
Mode Number:			
	190806459014		
	201000WD		
		T-+-15(cp)	
Capacity(GB): 500.		TotalFree(GB)	
Status: RAII	U	Flag:	NORMAL
PCIe Width: x2		PCIe Speed:	Gen 3
Temperature (F):		2 1 (-)	95
Warning Composite Te			179
Critical Composite	Temperature Three	shold (F):	186
	NVMe	e S.M.A.R.T At	tributes
Critical Warning			0×0
Composite Temperatur	re (C)		35
Avaliable Spare			100%
Avaliable Spare Thre	eshold		10%
Precentage Used			45%
Data Units Read			0x547c83cb
Data Units Written			0x38350c0d
Host Read Commands			0x1a716fee6
Host Write Commands			0x15501318b
Controller Busy Time	e		0x5f25
Power Cycles			0xd79
Power On Hours			0x769
Unsafe Shutdowns			0xa1a
Media and Data Integ	aritv Errors		0×0
Number of Error Info		ies	0x41e
Warning Temperature			0x28
Critical Composite			0×0
Temperature Sensor :			Θ
Temperature Sensor 2			0
Temperature Sensor 3			Ō
Temperature Sensor 4			0
Temperature Sensor			0
Temperature Sensor (0
Temperature Sensor			0
Temperature Sensor 8			0

query arrays

This command lists information for all configured arrays. It will list each array's ID, capacity, RAID level, and status information.

Note: An array ID is generally represented by number or set of numbers.

Type:

The array's type. (RAID0, RAID1, JBOD)

Status:

NORMAL: Array status is normal

DISABLED: Array is disabled.

REBUILDING: Array is being rebuilt

INIT(B): Initializing an array using Background mode

CRITICAL: Array is in a degraded status (no data redundancy)

Block:

Array Block size.

Sector:

Bytes per sector.

Cache:

Array Cache Policy

WT: Write Through

WB: Write Back NONE:

No Cache policy enabled

Examle:

HPT ID	CLI > query arra Capacity(GB)		Status	Block	Sector	Cache	Name
1	500.03	RAID1	NORMAL		512B	NONE	RAID_1_0

query arrays {arrays_id}

This command will present information of each disk of a specified array.

Example:

HPT CLI	∶∙query arra	ys 1			
ID:	1		Nam		VD_0
Type:	RA	ID1	Sta	tus:	NORMAL
Capacit	:y(GB): 50	0.04	Blo	ckSize:	
SectorS	Size: 51	2B	Cac	hePolicy:	NONE
Progres	is:				
ID	Capacity	MaxFree	Flag	Status	ModelNumber
1/1	500.11	0	NORMAL	RAID	
1/2	500.11	Θ	NORMAL	RAID	

Create Commands

This command allows you to create a new RAID array, add a spare disk, or expand/migrate an existing array.

Note: A drive must be initialized first before being used to create arrays.

Syntax:

```
create {RAID0|RAID1|JBOD} [create-options]
```

Parameters

You can specify one or more create options for this command, separated by a space. The options can be typed in any order.

disks= specifies member disks which will compose a new array, e.g. disks=1/1,1/2, disks=*. The character * means all available drives.

NOTE: When you enter a complete command with parameters disks=* at the shell prompt, the correct writing is disks="*".

For example:

hptraidconf -u RAID -p hpt create RAID0 disks="*".

init= specifies the initialization option (background, quickinit). The default option is create-only. The create-only option is applicable for all the RAID types, which is to create an array without any initialization process. Initialization is needed for redundant arrays to provide data redundancy.

background: Initialize an array using background mode. The array is accessible during array initialization.

quickinit: Setup array information blocks and zero out MBR data on the array.

name= specifies the name for the array being created.

If the option is omitted, the utility will assign a default name for the array.

bs= specifies the block size(128k,256k,512k), in KB, for the target array. This option is only

valid for stripped RAID levels. Default is 128KB.

Examples:

HPT CL	I > query	arrays 1				
ID:			Nam	le:	VD_0	
Type: RAID0		Sta	tus:	NORMAL		
Capaci	ity(GB):	2000.16	Blo	ckSize:	128k	
Sector	Size:	512B	Cac	hePolicy:	NONE	
Progre	ess:					
ID	Capacity	MaxFree	Flag	Status	ModelNumber	
1/1	500.11	0	NORMAL	RAID	Samsung	
1/3	1000.20	0	NORMAL	RAID	Samsung	
1/2	1000.20	0	NORMAL	RAID	Samsung	
1/4	500.11	0	NORMAL	RAID	Samsung	

This command instructs the system to create a RAID0 array using

the disks attached to controller 1 channels 1,2,3,4 and name it VD_0.

HPT CLI	> creat	e RAID0 disks=	* capacity	=* init=qu	ickinit b	s=256k
HPT CLI	> query	arrays 1				
ID:		1	Nam	e:	VD_0	
Type:		RAIDØ	Sta	tus:	NORMAL	
Capacit	y(GB):	2000.16	Blo	ckSize:	256k	
SectorS	ize:	512B	Cac	hePolicy:	NONE	
Progres	s:					
ID	Capacit	y MaxFree	Flag	Status	ModelNum	ber
 1/1	F00 44		NORMAL			
	500.11	0	NORMAL	RAID	Samsung	
1/3	1000.20	0	NORMAL	RAID	Samsung	
1/2	1000.20	0	NORMAL	RAID	Samsung	
1/4	500.11	0	NORMAL	RAID	Samsung	

This command instructs the system to create a RAID0 array using

the disks attached to controller 1 channels 1/2/3/4, and controller 2 channels 1/2/3/4; capacity is maximum, Block Size is 256KB.

Delete Command

This command allows you to delete an existing RAID array or remove a spare disk. After deletion, the original array and all data on it will be lost. All the member disks will be listed as available single disks.

Note: If you want to use a single disk after deleting the RAID, please restart the system after deleting the RAID. When the single disk status shows the Legacy status in WEBGUI or CLI, it can be used normally.

Syntax

delete {array ID}

Examples

HPT CLI ID	<pre>> query dev Capacity</pre>		Flag	Status	ModelNumber
1/1 1/2 1/3 1/4	500.11 1000.20 1000.20 500.11	0 0 0 0	RAID RAID RAID RAID RAID	NORIAL NORIAL NORIAL NORIAL	Samsung Samsung Samsung Samsung
	: > delete 1 : > query dev Capacity	/ices Max⊦ree	Flag	Status	ModelNumber
1/1 1/2 1/3 1/4 HPT CLI	500.11 1000.20 1000.20 500.11	500.11 1000.20 1000.20 500.11	SINGL SINGL SINGL SINGL	Norm4 L Norm4 L Norm4 L Norm4 L	Samsung Samsung Samsung Samsung

This command instructs the system to delete the array whose id is "1". You can query the array ID before the deletion.

Rescan Command

This command will rescan all of the physical devices attached to the RAID controller.

Syntax

rescan

Example

HPT CLI> rescan

HPT	CLI ≻ rescan						
HPT ID	CLI > query arra Capacity(GB)	ays Type	Status	Block	Sector	Cache	Name
1	2000.16	RAIDØ	NORMAL	256k	512B	NONE	VD_0

Lscard Command

The lscard command is used to list multiple RAID controllers.

Syntax

lscard

Example

HPT CLI> lscard

HPT CLI > lscar	rd	
CARD_ID	NAME	ACTIVED
 0	Controller(1): HighPoint SSD6204	Active

Events Commands

The CLI system will automatically record three types of events: Information (shortened to "Inf"), Warning (shortened to "War"), and Error (shortened to "Err") on the screen output. These commands allow you to query, save, or clear the logged events.

Syntax

events events save {file_name}

events

This command will display a list of all the logged events.

Example

HPT CLI> events

HF 1		> events [07/30/2021	05:16:03]	Array	'VD_0'	has	been	created	successfully.
2	War	[07/30/2021	03:39:24]	Array	'VD_0'	has	been	deleted	successfully.
3	Inf	[07/30/2021	03:38:35]	Array	'VD_0'	has	been	created	successfully.
4	War	[07/30/2021	03:38:04]	Array	'VD_0'	has	been	deleted	successfully.
5	Inf	[07/30/2021	03:36:48]	Array	'VD_0'	has	been	created	successfully.

events save {file_name}

This command will save all the logged events as a plain text file.

Example

HPT CLI> events save C:/raidlog.txt

14 War [07/30/2021 03:23:00]	Array	Local Disk	(C:) View			-	
15 Inf [07/30/2021 03:22:04]	Array		s PC → Local Disk (C:)	~ Č		(C:)	
16 War [07/30/2021 03:15:40]	Array	📌 Quick access	Name ^		Date modified 7/27/2021 4:42 AM	Type File folder	Size
17 Inf [07/30/2021 01:19:34]	Array	Desktop #	Intel		7/30/2021 12:41 AM 7/27/2021 4:44 AM	File folder File folder	
18 War [07/30/2021 01:15:52]	Array	Documents	PerfLogs Program Files Program Files (x86)		12/7/2019 5:14 PM 7/27/2021 4:47 AM 7/29/2021 7:01 AM	File folder File folder File folder	
20 War [07/29/2021 07:32:19]	NVMe	Music	python Users		7/27/2021 4:46 AM 7/27/2021 12:53 AM	File folder File folder	
(More)type: events page=1 HPT CLI > events save c://raidlog.txt	1	 OneDrive 	Windows iraidlog		7/30/2021 2:05 AM 7/30/2021 5:20 AM	File folder Text Document	
The event log c://raidlog.txt has been	saved.	This PC					
HPT CLI > _		File Edit Format View 13 Inf [07/30/2021		Array 'VD_0'	has been created	successfully.	
		14 War [07/30/2021	03:23:00]	Array 'VD_0'	has been deleted	successfully.	
		15 Inf [07/30/2021	03:22:04]	Array 'VD_0'	has been created	successfully.	
		16 War [07/30/2021	03:15:40]	Array 'VD_0'	has been deleted	successfully.	

This command will save all the events to C:/raidlog.txt.

Mail Commands

Syntax

mail recipient

mail recipient add {recipient_name} {mail_address} [Inf|War|Err]

mail recipient delete {recipient_name}

mail recipient test {recipient_name}

mail server

```
mail server set {server_address} {port} { status } {from_address} [username] [password]
```

mail server set $\{a|p|s|m|u|t\}$ {value}

mail recipient

--- List all of the mail recipients

Example

HPT CLI> mail recipient

HPT ID	CLI > mail Name	recipient Mail Address	Notify Types
1	hpt	hytu@yahoo.com	Information Warning Error
HPT	CLI >		

mail recipient add {recipient_name} {mail_address} [Inf|War|Err]

--- Add a new recipient

Example

HPT CLI> mail recipient add admin admin@somecompany.com Inf War Err

НРТ	CLI > mail	recipient add lcn lcn@highpoint-tech.com	n Inf War Err
	CLI ≻ mail Name		Notify Types
1	lcn	lcn@highpoint-tech.com	Information Warning Error

This command will setup the RAID system to send mail to admin@somecompany.com for any logged events.

mail recipient delete {recipient_name}

--- Delete an existing recipient.

Example

HPT CLI> mail recipient delete 'lcn'.



mail recipient test {recipient_name}

--- Send a test email to a specified recipient.

Example

HPT CLI> mail recipient test hpt



You will receive a test email.

Mon, 11 May 2020 07:52:30 : This is a test mail.

mail recipient set {recipient_name} {Inf|War|Err}

--- Set the notification type for a recipient.

Example

HPT CLI> mail recipient set admin War Err

mail server

--- display the SMTP server information

Example

HPT CLI> mail server

HPT CLI > mail server ServerAddress Port	ssl	Status	Mail From	User Name
secure.emailsrvr.com465	1	Enabled	yzhang@highpoint-te	ch.comyzhang@highpoint-tech.com

mail server set {server_address} {port} {ssl} {status} {from_address} [username] [password]

--- Use this command to configure mail server settings.

{server_address} – SMTP server address

{port} – port, generally 25

{ssl} – used ssl, 'l' for enable and port need 465, '0' for disable

{status} - status, 'e' for enable or 'd' for disable

{from_address} - mail from address

{username} -mail username

{password} – the user's password

Examples:

HPT CLI> mail server set secure.emailsrvr.com 465 1 e <u>name@somecompany.com</u> name@somecompany.com password



HPT CLI> mail server set mail.somecompany.com 25 0 e admin@somecompany.com password



mail server set {a|p|s|m|u|t} {value}

--- Use this to separate set your mail server value
Parameters

- a SMTP server address
- p-port, generally 25
- s status, 'e' for enable or 'd' for disable
- m mail from address
- u username
- t-user's password

Examples:

HPT CLI> mail server set a smtp.somecompany.com

--- Change the server address

HPT CLI> mail server set p 465

--- Change the port

HPT CLI > mail se	rver set	p 465			
HPT CLI > mail se ServerAddress		ssl	Status	Mail From	User Name
smtp.163.com	465	0	Enabled	yzhang@highpo	int-tech.comyzhang@highpoint-tech.com

HPT CLI> mail server set s d

--- Disable mail notification

HPT CLI > mail	server set	s d					
HPT CLI > mail ServerAddress		ssl	Status	Mail	From	User Nam	e
smtp.163.com	465	0	Disabled	yzhan	g@highpoint	-tech.comyzh	ang@highpoint-tech.com

HPT CLI> mail server set s e

--- Enable mail notification

HPT CLI > mail se	rver set	s e			
HPT CLI > mail se ServerAddress		ssl	Status	Mail From	User Name
 smtp.163.com	465	0	Enabled	yzhang@highpoint	 -tech.comyzhang@highpoint-tech.com

Task Commands

When an array requires regular verification or rebuilding, you can use the task commands to automate this process in the background. If you have the appropriate privileges, you can add new tasks, and modify or delete existing tasks.

Syntax

task



task {smart} {name=} {daily|mothly|weekly}={day}{interval}={interval} start=mm/dd/yyyy end=mm/dd/yyyy time= hh:mm:ss

Example

HPT CLI> task smart name=test1 daily=2 start=7/30/2021 time=11:00:00

HPT	CLI > task	smart name=test	t1 daily=2 stari	t=7/30/2021	time=11:00:00
HPT ID	CLI ≻ task Name	Start-Date	End-Date	S-F	Description
1 2		07/30/2021 07/30/2021	N/A N/A	E-D E-D	Check all disks (created by) Check all disks (created by)

This command adds a task schedule named test1 to verify the disk at 11:00:00 every 2 days from 7/30/2021.

Task delete {task_id}

Example

HPT	CLI>	task	del	ete	2
T T T	$\mathbf{U}\mathbf{L}\mathbf{I}^{r}$	ubn	uvi		_

HPT ID	CLI > task Name	Start-Date	End-Date	S-F	Description
1 2	DailyChec test1	07/30/2021 07/30/2021	N/A N/A	E-D E-D	Check all disks (created by) Check all disks (created by)
НРТ	CLI > task	delete 2			
HPT ID	CLI > task Name	Start-Date	End-Date	S-F	Description
1	DailyChec	07/30/2021	N/A	E-D	Check all disks (created by)
HPT	CLT >				

Set Commands

Syntax

set | set [name]={value}

Show the system settable parameters.

HPT CLI> set -help



set TT={Value}

The current NVMe default Temperature threshold is set to 149 °F.

Example

HPT CLI> set TT=140

set TU={F|C}

The default temperature unit is Fahrenheit(°F); you can also change it to Celsius(°C)

Example

HPT CLI> set TU=C

HPT CLI > set TU=C

set PS

Set or change your password and confirm it.

Example

HPT CLI> set PS



set AR= $\{y|n\}$

Set enable or disable to the [Auto Rebuild] parameter.

Example

HPT CLI> set AR=y

HPT CLI > set AR=y

set BR={1-100}

Set background rate to 1-100.

Example

HPT CLI> set BR=66

HPT CLI > set BR=66

Help Commands

Show help about a specific command.

Syntax

help | help {command}

help

Show generic help about this utility.

Example

HPT CLI> help

HPT CLI > help help [query|create|delete|switch|lscard rescan|events|mail|task|set|clear|help|exit]

Exit Command

Syntax

Exit from the interactive mode and close the window.

Using the OOB (out of band) RAID Management

SSD6200A NVMe RAID controllers feature an OOB port (accepts USB Type-C monitor connections) and a built-in CLI (command line utility) which allows users to manage and monitor RAID storage without an operating system.

How to use the OOB (Windows)

Insert the SSD6200A into the motherboard and **only use USB-C to USB-A** cable to connect the board card to another host. Install and open the Xshell software on the connected host, and use it according to the following operations:

Xshell download:

XSHELL - NetSarang Website

After opening the software, click the File in the upper left corner to create a new session window.



Set Protocol to SERIAL in the new setting.



Then click **SERNAL** in the left menu bar to change the Port to the recognized serial port number. This completes the setup.

Properties of New Session	I			?	×
Category:					
Connection	Connection > SE	RIAL			
Authentication Login Prompts	General				
-Login Scripts	Port:	COM1	~		
- Security - Tunneling	Baud Rate:	COM5 113200	~		
SFTP	Data Bits:	8	~		
TELNET RLOGIN	Stop Bits:	1	~		
SERIAL Proxy	Parity:	None	~		
Keep Alive	Flow Control:	None	~		
Keyboard - VF Modes - Advanced - Window - Highlight - Advanced - Window - Highlight - Advanced - Trace - Bell - Logging - File Transfer - XYMODEM - ZMODEM					
		Connect	ОК	Cance	:

After creation, right-click and select open to connect to the CLI interface of SSD6200A, and click enter to start use.





CLI Command Reference

This chapter discusses the various CLI commands: info, temperature, fan, beeper, create, delete, help.

Help Commands

Show generic help about this utility.

Example:

HPT CLI> help



Info Commands

Syntax:

info -o [hba/pd/vd]

- hba: display adapter info
- pd: display physical disk info
- vd: display virtual disk info

info -o hba

This command is used to display adapter information

Example:

HPT CLI>info -o hba		
Adpater Information:		
NVME UEFI NVME Firmware HighPoint MCU Firmware Hardware Sub Device ID : Sub Ve Serial	Version: Version: Version:	0.0.0.3 1.0.0.1053 1.0.5 3.0.10 5202:1103 123453d678910*
PCIe Port: 0 Type: Link Speed: PCIe Width: PCIe Port: 1 Type: Link Speed:	RootComplex 8GT/s x4 RootComplex 8GT/s	
PCIe Width:	x4	
PCIe Port: 2 Type: Link Speed: PCIe Width:	EndPoint 8GT/s x8	
RAID Mode Support: BGA Feature Support: Stripe Size Support:	0 1 init rebuild 128K 256K	JBOD Media patrol 512K

Info -o pd

This command will provide the status of each physical device hosted by the controller. It provides a list of slot ID's, model numbers, device firmware, sector size, capacity, temperature, status, and array attributes. Each device's status will be listed as one of the following: IDLE, ASSIGNED.

Example:

SSD6202A:

Slot	Model	Serial Number	Firmware	Sector Size	Capcity	Temperature	Statu
	WDS100T3X0C-00SJG0	184890621671	102000WD	512	1000 GB	40.8 C	IDLE
	KXG5AZNV256G NVMe SED TOSHIBA 256GB	67RF202GF4RS	AADA5102	512	256 GB	39.8 C	IDLE

Info -o vd

This command is used to display virtual disk information. It provides a list of ID, VD's name, Disk Count, PDs, RAID Mode, status, Stripe Size, Capacity and Importable.

Example:

SSD6202A:

HPT C	LI>info -o	vd						
ID	Name	Disk Count	PDs	RAID Mode	Status	Stripe Size	Capacity	Importable
0	VD_0	2	0 1	RAID 0	Normal	256 K	511 GB	No

Temperature commands

Use this command to adjust the temperature unit and set the temperature threshold to control the fan speed. You can also directly view the current temperature information by directly entering temperature

Syntax:

temperature <-u> [c/f] <-l> [(0-200)] <-h> [0-200] <-s> [0/1]

- -u: Temperature Unit, c: Celsius Degree; f: Fahrenheit Degree
- c: Celsius Degree
- f: Fahrenheit Degree
- -l: temperature Low threshold (used in Smart Fan Mode)
- [0:200]: in uint of 'Temperature Unit', if higher than the temperature, fan will speed up
 - -h: temperature High threshold (used in Smart Fan Mode)
- [0:200]: in uint of 'Temperature Unit', if higher than the temperature, fan will be full speed
 - -s: select temperature sensors for reference when have multiple sensors (used in Smart Fan Mode)
 - [0:1]: Temperature ID

Example:

HPT CLI>temperature -u c -I 50 -h 70 -s 1

HPT CLI>temperature -u	c -l 50 -h 70 -s 1
Sensor Count:	1
SensorID:	0
Board Temperature:	39 Celsius Degree
Threshold(Low):	50 Celsius Degree
Threshold(High):	70 Celsius Degree



Fan commands

Use this command to switch the fan mode between intelligent and manual, and set the threshold of fan speed and the speed ratio in full speed state. You can also enter fan directly to view the current fan settings.

Syntax:

fan <-m > [smart/manual] <-l > [(0-100)] <-h > [0-100] <-d > [0-100]

-m: Fan Mode

smart: Smart Fan Mode;

manual: Fan Controlled Manually

- -1: Fan Low threshold (used in Smart Fan Mode)
- [0:100]: Lowest Fan Speed in Smart Fan Mode, in unit of %
 - -h: Fan High threshold (used in Smart Fan Mode)

[0:100]: Highest Fan Speed in Smart Fan Mode, in unit of %

-d: Control Fan Speed

[0:100]: Ratio of Full Speed, in unit of %

Example:

HPT CLI>fan -m smart -l 10 -h 100 -d 90



HPT CLI>fan	
Fan Count:	1
Mode:	Manual
Rate:	10 %
Speed:	0 RPM
Set Rate:	100 %

Beeper Commands

The beeper command is used to control the switch of the buzzer.

Syntax	
beeper off	
beeper on	
Example	
HPT CLI> beeper off	
HPT CLI> beeper on	
HPT CLI>beeper off Beeper Status:	Disable
HPT CLI>beeper on	

Create Commands

Beeper Status:

This command allows you to create a new RAID array.

Enable

Syntax

create -r [0/1/JBOD] -d [0/1/2/3] <-i> [quick/full]

Parameters

- -r: RAID mode, MANDATORY parameter
 - 0: RAID0 Mode
 - 1: RAID1 Mode
 - jbod: JBOD Mode
- -d: Disks Selected, MANDATORY parameter

[0:3]: use Slot ID to select, use ',' between Slot ID

for example: 0: disk 0; 0,1: disk 0 and disk 1

-i: Init mode. OPTIONAL parameter
quick: quick initiation (default)
full: full background initiation

Example:

HPT CLI> create -r 0 -d 0,1 -i quick



Delete Commands

This command allows you to delete an existing RAID array. After deletion, the original array and all data on it will be lost. All the member disks will be listed as available single disks.

Syntax

delete -i [0/1/2/3]

Parameters

[0:3]: RAID ID, only one ID could be used at one time

Example:

```
HPT CLI> delete -i 0
```



Troubleshooting

Debugging an Abnormal RAID status

Please submit a support ticket using our online service at

https://www.highpoint-tech.com/websupport/

Table 1. WebGUI Icon Guide

9	Critical – missing disk
	A disk is missing from the array bringing it to 'critical' status. The array is still accessible but another disk failure could result in data loss.
	Rebuilding
8	The array is currently rebuilding meaning you replaced a failed disk or added a new disk to a 'critical' state array.
	Critical – rebuild required
0	The array has all disks, but one disk requires rebuilding.
	Disabled
0	The icon represents a disabled array, meaning more than one disk failed and the array is no longer accessible
	Initializing
å	The array is initializing. The type of initialization is Background. (See Initialization)
	Legacy
L	An existing file system has been detected on the disk. These disks are classified as legacy drives.

	Normal
W	The array status is normal
	Initializing
1	The array is initializing, background initialization
	Critical – Inconsistency
	Data in the array is inconsistent and needs to be rebuilt.
	Critical – missing disk
	A disk has been removed or experienced failure, and user needs to reinsert disk or add a new disk.
	Rebuilding
	The array is currently rebuilding.
	Disabled
1	The array does not have enough disks to maintain the RAID level. A disabled array is not accessible.

The array does not have enough disks to maintain the RAID level. A disabled array is not accessible.

HighPoint Recommended List Motherboards

HighPoint provides a list of motherboards suitable for use with the SSD6200/6200A. This document is routinely updated, and is available from the SSD6200/6200A Resources webpage:

https://www.highpoint-tech.com/ssd6200-series-overview

Contacting Technical Support

FAQ's, technical articles, and trouble-shooting tips are available from our Support web page

https://www.highpoint-tech.com/support-and-services

If you require technical Support, please submit a support ticket using our online service at

https://www.highpoint-tech.com/websupport/