XCubeDAS Series CLI User's Manual

Applicable Models:
XD5324D, XD5324S, XD5316D, XD5316S
XD5312D, XD5312S, XD5326D, XD5326S

QSAN Technology, Inc.
www.QSAN.com

January 2017

This edition applies to QSAN XCubeDAS series CLI (Command-Line Interface). QSAN believes the information in this publication is accurate as of its publication date. The information is subject to change without notice.

Notices

This XCubeDAS hardware owner's manual is applicable to the following XCubeDAS models:

XCubeDAS Storage System 4U 19" Rack Mount Models

Model Name	Controller Type	Form Factor, Bay Count, and Rack Unit
XD5324D	Dual Controller	LFF 24-disk 4U Chassis
XD5324S	Single Controller	LFF 24-disk 4U Chassis

XCubeDAS Storage System 3U 19" Rack Mount Models

Model Name	Controller Type	Form Factor, Bay Count, and Rack Unit
XD5316D	Dual Controller	LFF 16-disk 3U Chassis
XD5316S	Single Controller	LFF 16-disk 3U Chassis

XCubeDAS Storage System 2U 19" Rack Mount Models

Model Name	Controller Type	Form Factor, Bay Count, and Rack Unit
XD5312D	Dual Controller	LFF 12-disk 2U Chassis
XD5312S	Single Controller	LFF 12-disk 2U Chassis
XD5326D	Dual Controller	SFF 26-disk 2U Chassis
XD5326S	Single Controller	SFF 26-disk 2U Chassis

Information contained in this manual has been reviewed for accuracy. But it could include typographical errors or technical inaccuracies. Changes are made to the document periodically. These changes will be incorporated in new editions of the publication. QSAN may make improvements or changes in the products. All features, functionality, and product specifications are subject to change without prior notice or obligation. All statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems.

Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products.

All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

Table of Contents

Figures

Tables

Preface

About This Manual

This manual provides technical guidance for designing and implementing QSAN XCubeDAS series DAS system, and it is intended for use by system administrators, DAS designers, storage consultants, or anyone who has purchased these products and is familiar with servers and computer networks, network administration, storage system installation and configuration, storage area network management, and relevant protocols.

CAUTION:
Do NOT attempt to service, change, disassemble or upgrade the equipment's components by yourself. Doing so may violate your warranty and expose you to electric shock. Refer all servicing to authorized service personnel. Please always follow the instructions in this owner's manual.

Related Documents

There are related documents which can be downloaded from the website.

- All XCubeDAS Documents
- XCubeDAS QIG (Quick Installation Guide)
- XCubeDAS Hardware Owner's Manual
- XCubeDAS CubeView User's Manual
- XCubeDAS CLI User's Manual
- Compatibility Matrix
- White Papers
- Application Notes

Technical Support

Do you have any questions or need help trouble-shooting a problem? Please contact QSAN Support, we will reply to you as soon as possible.

- Via the Web: https://qsan.com/support
- Via Telephone: +886-2-7720-2118 extension 136
  (Service hours: 09:30 - 18:00, Monday - Friday, UTC+8)
- Via Skype Chat, Skype ID: qsan.support
  (Service hours: 09:30 - 02:00, Monday - Friday, UTC+8, Summer time: 09:30 - 01:00)
- Via Email: support@qsan.com

Information, Tip, and Caution

This manual uses the following symbols to draw attention to important safety and operational information.

INFORMATION:
INFORMATION provides useful knowledge, definition, or terminology for reference.

TIP:
TIP provides helpful suggestions for performing tasks more effectively.

CAUTION:
CAUTION indicates that failure to take a specified action could result in damage to the system.

Conventions

The following table describes the typographic conventions used in this manual.

Conventions	Description
Bold	Indicates text on a window, other than the window title, including menus, menu options, buttons, fields, and labels. Example: Click the **OK** button.

<*Italic*>	Indicates a variable, which is a placeholder for actual text provided by the user or system. Example: copy <*source-file*> <*target-file*>.
[ ] square brackets	Indicates optional values. Example: [a | b] indicates that you can choose a, b, or nothing.
{ } braces	Indicates required or expected values. Example: { a | b } indicates that you must choose either a or b.
| vertical bar	Indicates that you have a choice between two or more options or arguments.
/ Slash	Indicates all options or arguments.
underline	Indicates the default value. Example: [a | b]

1. Getting Started with CLI

Thank you for purchasing QSAN Technology, Inc. products. XCubeDAS XD5300 series CLI (Command-Line Interface) are intended for system administrators, developers, or engineers to manage the system. It provides command sets to set system settings, show SAS ports and disk drives status, set zone configurations, show system information, download and upgrade firmware, monitor system log, and enclosure information including system temperature, voltage, PSU (Power Supply Unit), and fan speed.

1.1. System Requirement and Setup

The XD5300 series uses the console port as the command line interface. Please use the console cable in the accessory box, and connect it between the controller and the server/host. The CLI function can be accessed by using terminal emulator on a management host that directly connected to the serial port of the XCubeDAS series.

The following procedure will help you to setup the serial console via the console cable that is enclosed in the shipping carton. The following image is the appearance of the console cable.

Figure 1-1 Appearance of a Console Cable

Procedures to Setup the Serial Console

1. Setup the serial cable between the controller and one server/host like in the below image.

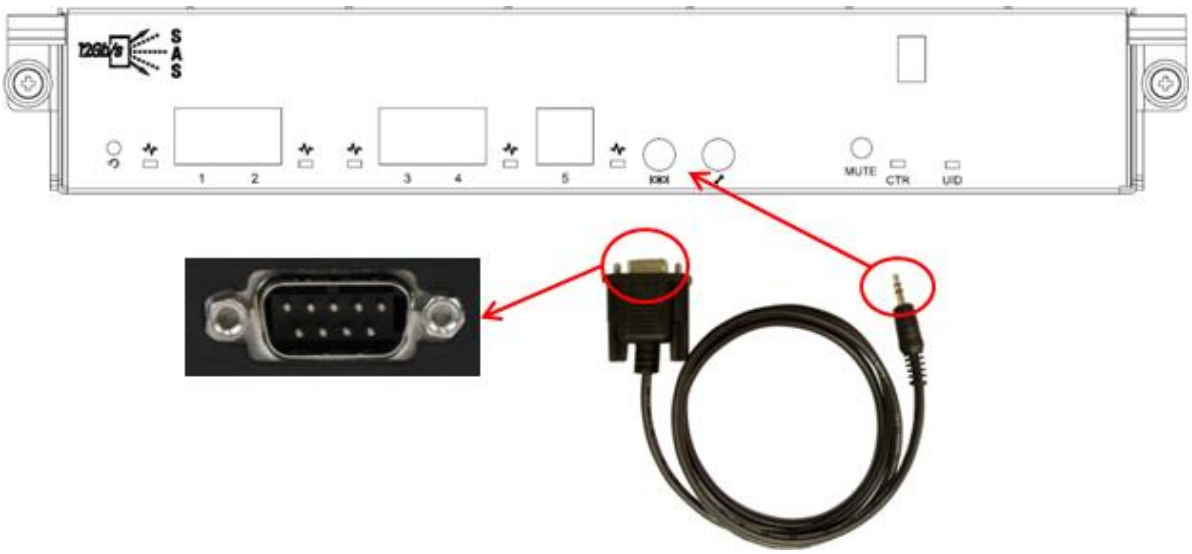


Figure 1-2 Connect the Console Cable

2. You must use terminal software such as HyperTerminal or Putty to open the console after the connection is made.

INFORMATION:
For more information about terminal software, please refer to

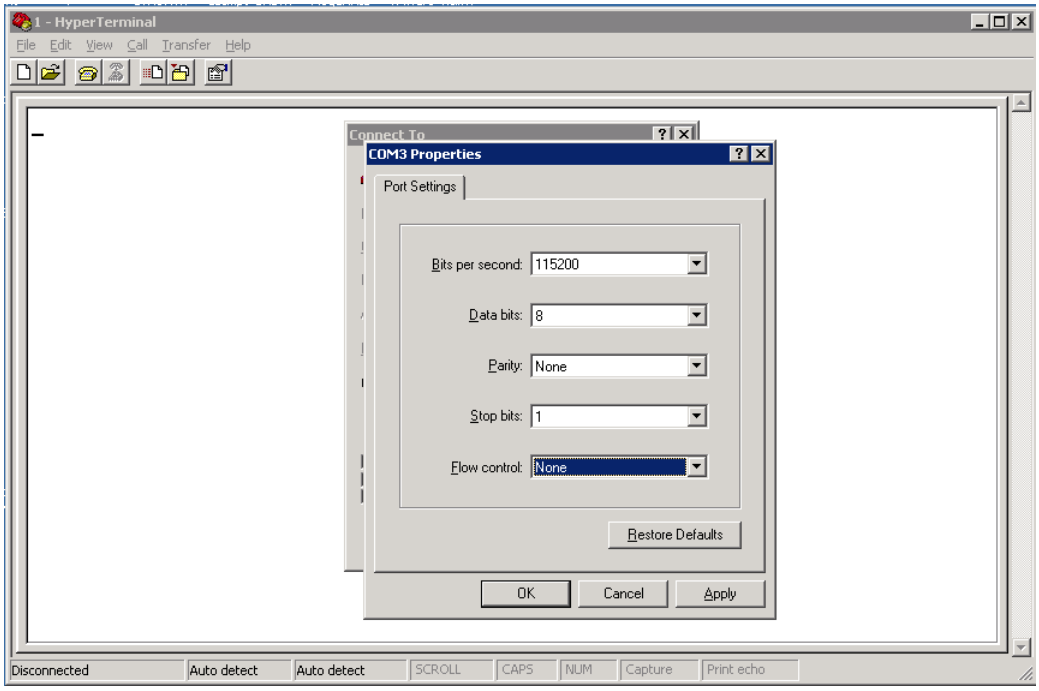
HyperTerminal: http://www.hilgraeve.com/hyperterminal/

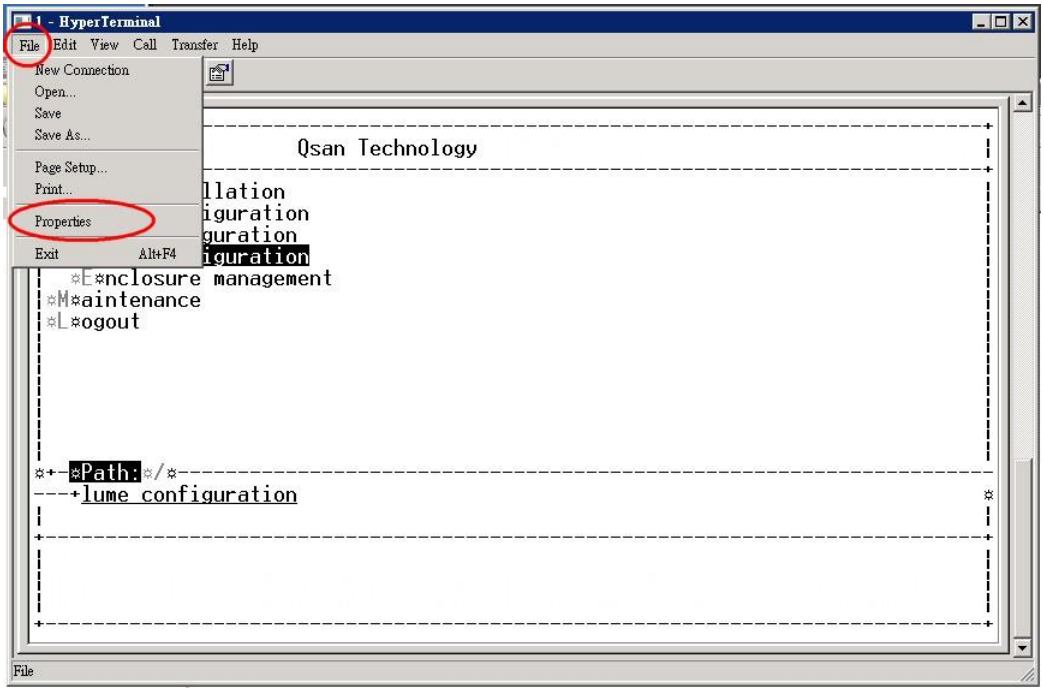
PuTTY: http://www.putty.org/

3. Here we first demonstrate HyperTerminal. The console settings are on the following.

   Baud rate: 115200, 8 data bit, no parity, 1 stop bit, and no flow control

   Terminal type: vt100


1 - HyperTerminal
File Edit View Call Transfer Help
Connect To
COM3 Properties
Port Settings
Bits per second: 115200
Data bits: 8
Parity: None
Stop bits: 1
Flow control: None
Restore Defaults
OK
Cancel
Apply
Disconnected
Auto detect
Auto detect
SCROLL
CAPS
NUM
Capture
Print echo


1 - HyperTerminal
File Edit View Call Transfer Help
New Connection
Open...
Save
Save As...
Page Setup...
Print...
Properties
Exit Alt+F4
Qsan Technology
*Enclosure management
*Maintenance
*Logout
Path:/*
lume configuration
File

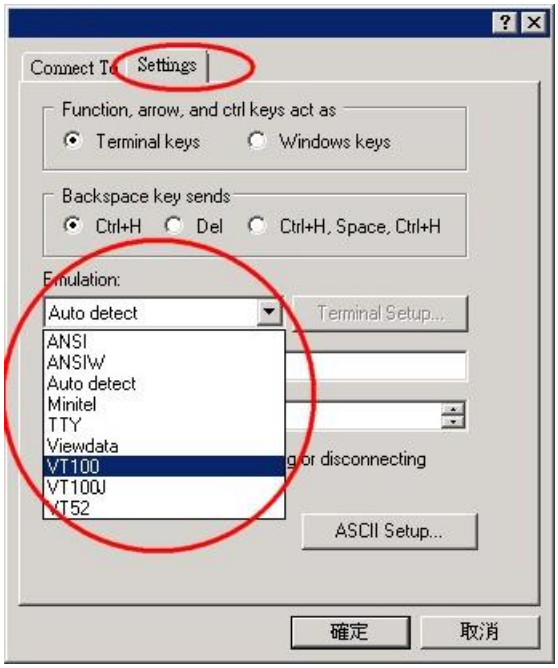
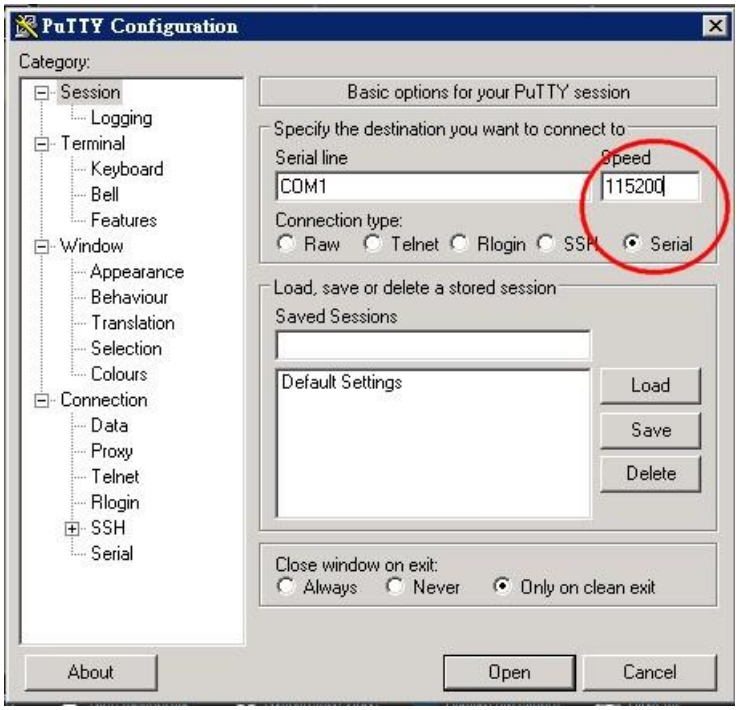


Figure 1-3 The Procedures of Setup Serial Console by HyperTerminal

4. If you are using PuTTY instead, please refer to below



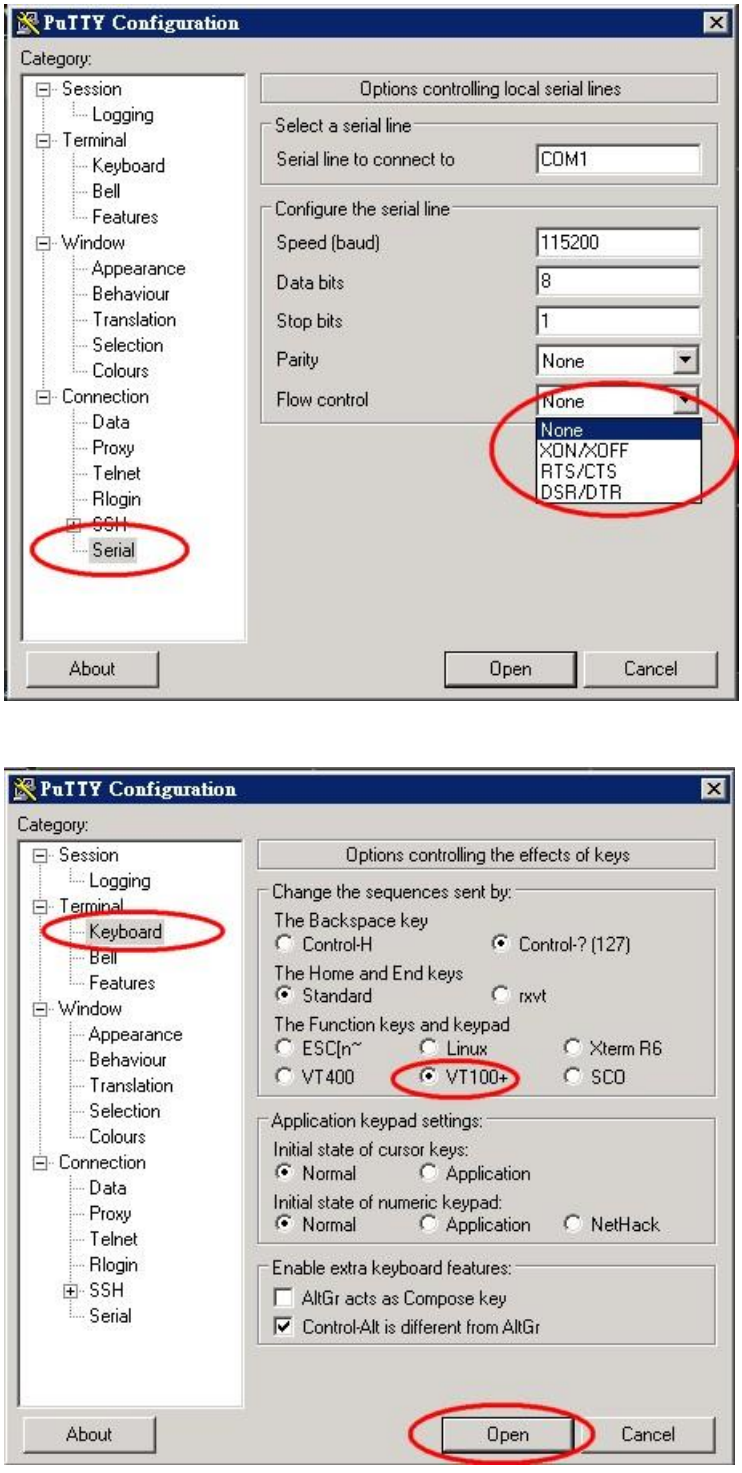


Figure 1-4 The Procedures of Setup Serial Console by PuTTY

5. Users should be able to login the controller system via console cable by following the procedures above.

1.2. How to Use CLI

Syntax of CLI

A CLI command consists of the following elements: CLI command, sub command and arguments.

The following is the syntax of a CLI command:

CLI-command [Sub-command] [Arguments]

Table 1-1 Command Line Description

Item	Description
CLI-command	The function name
Sub-command	Combine with CLI-command to clarify operation
Arguments	Maybe none, single or multiple

1.3. CLI Commands

The supported CLI commands are listed on the following table.

Table 1-2 CLI Command List

Command	Description	Details
buzzer	Turn off the buzzer	Section 2.5.3
clrlog	Clear all event logs of the system	Section 2.5.2
date	Show or set the system time	Section 2.2.2
disk	Show disk drive information	Section 2.3.2
evtlog	Show event logs of the system	Section 2.5.1
fan	Show fan information of the system	Section 2.6.4
fwdl	Download firmware for upgrade	Section 2.4.2
help	List all supported commands or list the usage of a specific command	Section 2.1
id	Assign an enclosure ID	Section 2.2.4
ident	Identify the system or the disk drive slot	Section 2.4.4
logout	Exit CLI	Section 2.4.7
port	Show the status and WWN of SAS ports	Section 2.3.1
psu	Show PSU information of the system	Section 2.6.3

reboot	Reboot the system	Section 2.4.5
rtdft	Restore all settings to factory default	Section 2.4.3
sensor	Show temperature, voltage, PSU, and fan information	Section 2.6.5
setpwd	Change the password	Section 2.2.3
shutdown	Shutdown the system	Section 2.4.6
sys	Show system information	Section 2.4.1
sysname	Show or set the system name	Section 2.2.1
temp	Show temperature information of the system	Section 2.6.1
volt	Show voltage information of the system	Section 2.6.2
zone	Show zone settings or set zone configuration	Section 2.3.3

2. CLI Command Sets

This chapter is to help you find a command by name. Each command topic includes one or more of the following sections:

Command	The command
Description	The command's purpose and note about usage
Syntax	The command's syntax
Parameters	Descriptions of command's parameters
Example	One or more examples of command's usage

The usage of each CLI command is described in the following.

2.1. Get Help (help)

Command
help

Description
Display all supported commands or specific command's usage.

Syntax
help [<*command*>]

Parameters
<*command*>

Optional. Show the usage of the specific CLI command.

Example
1. List all supported commands


```
CLI > help

------------------------------------------------------------------------------

Command             Description

------------------------------------------------------------------------------

buzzer              Turn off system buzzer
clrlog              Clear all event logs of the system
date                Set the system time or show the system time
disk                Show installed disk information (slot location, vendor, model)
evtlog              Display event logs of the system
fan                 Show cooling fan information
fwdl                Download firmware code for upgrade
help                List all supported commands or usage of specific command
id                  Assign an enclosure ID for management use
ident               Identify the system or a drive slot
logout              Logout CLI mode
port                Show the host port connection status and WWPN
psu                 Show power supply units status and information
reboot              Reboot the system
rtdft               Reset all setting to factory default
sensor              Display system's sensors information
serv                Change service port output
setpwd              Change the password
shutdown            Shutdown the system
sys                 Show the system's hardware and FW information
sysname             Set or show the system name
temp                Show the system's temperature information
volt                Show the system's voltage information
zone                Zoning display or set configuration


------------------------------------------------------------------------------
```

2. Show the usage of the specific CLI command “help”.

```
CLI >help help

Command        : help
Description    : Display all supported commands or specific command's usage
Syntax         : help [command]
Parameter Desc : Optional.  Show the usage of the specific CLI command.
```

2.2. General System Settings

This section includes the following command sets.

- **sysname**: Show or set the system name
- **date**: Show or set the system time
- **setpwd**: Change the password

- **id**: Assign an enclosure ID

2.2.1. Set the System Name (sysname)

Command
sysname

Description
Show the system name or set the system name for management.

Syntax
sysname [set <*system-name*>]

Parameters
set <*system-name*>

Optional, specify the system name for easy recognition.

The default system name is the model name plus the last 6 digits of serial number, e.g., XD5300-D40000. The maximum length of the system name is 32 characters. Valid characters are [A~Z | a~z | 0~9 | -_].

Example
Show the current system name, and then change it.

```
CLI > sysname
The system name is XD5300-D402E8


CLI > sysname set QSANDAS-001
The current system name is QSANDAS-001


CLI > sysname
The system name is QSANDAS-001
```


2.2.2. Set Date and Time (date)

Command

date

Description

Show or set the system date and time.

Syntax

date [set *<YYYYMMDDHHMMSS>*]

Parameters

set *<YYYYMMDDHHMMSS>*

Optional. Specify the system date and time.

<YYYY>: the year

<MM>: the month

<DD>: the day number (1-31)

<HH>: the hour (0-23)

<MM>: the minutes (0-59)

<SS>: the seconds (0-59)

Example

Show the current system date and time, and then change it.

```
CLI > date
The current system time is 2016/06/06 14:00:00


CLI > date set 20160606140328

The current system time is 2016/06/06 14:03:28


CLI > date
The current system time is 2016/06/06 14:03:34
```

2.2.3. Set Password (setpwd)

Command
setpwd

Description
Change password and overwrite the previous one.

Syntax
setpwd *<password>*

Parameters
<password>

New password to access the system, factory default is 1234. The maximum length of the password is 16 characters. Valid characters are [A~Z | a~z | 0~9 | ~!@#$%^&*_-+=`|\(){}[]:;"'<>,.?/].

Example

```
CLI > setpwd
Current password is 1234


CLI > setpwd QSANadmin
The new password is set to QSANadmin


CLI > setpwd
Current password is QSANadmin
```

2.2.4. Assign an Enclosure ID (id)

Command
id

Description
Assign an enclosure ID number to the system for management.

Syntax

id [*<enclosureID>*]

Parameters

<enclosureID>

Optional, set enclosure id number. The enclosure ID is a number ranges from 1 to 15.

Example

Set the system's enclosure ID number to 3.

```
CLI > id
The system's enclosure ID is 1


CLI > id 5
Set the system's enclosure ID number to 5


CLI > id
The system's enclosure ID is 5
```

2.3. Storage Management

This section includes the following command sets.

- **port**: Show the status and WWN of SAS ports
- **disk**: Show disk drive information
- **zone**: Show zone settings or set zone configuration

2.3.1. Show SAS Port Information (port)

Command

port

Description

Show the information of host ports in the system.

Syntax

port

Parameters

none

Example

Show the current status of SAS ports.

```
CLI > port

Host port       LINK    WWN
-------------------------------------------------------
CTRL1 Port 1    DOWN
CTRL1 Port 2     12G    500605B00929A320
CTRL1 Port 3    DOWN
CTRL1 Port 4    DOWN
CTRL1 Port 5    DOWN
CTRL2 Port 1    DOWN
CTRL2 Port 2     12G    500605B00929A321
CTRL2 Port 3    DOWN
CTRL2 Port 4    DOWN
CTRL2 Port 5    DOWN
```

Table 2-1 Port Description

Column Name	Description
LINK	The connection link rate of the SAS port: • 12G: The connection is SAS3 12Gb/s. • 6G: The connection is SAS2 6Gb/s. • DOWN: No connection to this port.

2.3.2. Show Disk Information (disk)

Command

disk

Description

Show the information of all installed drives in the system.

Syntax

disk

Parameters
none

Example
Show the installed drives status.

```
CLI > disk

Quantity of installed drive: 8

Slot    Vendor     Model            Link   Type   WWN
------------------------------------------------------------------------------

01      TOSHIBA   AL14SEB120N        12G   SAS    500003963823B652
02      TOSHIBA   AL14SEB120N        12G   SAS    500003963823B64E
03      TOSHIBA   AL14SEB120N        12G   SAS    500003963823B52E
04      TOSHIBA   AL14SEB120N        12G   SAS    500003963823B656
05      SEAGATE   ST500NM0001         6G   SAS    5000C50041C2FCBD
06      SEAGATE   ST500NM0001         6G   SAS    5000C500420D54C1
07      SEAGATE   ST500NM0001         6G   SAS    5000C50041C292B5
08      SEAGATE   ST500NM0001         6G   SAS    5000C50041C34281
09      SEAGATE   ST500NM0001         6G   SAS    5000C50041B655F1
10      SEAGATE   ST500NM0001         6G   SAS    5000C500420D33AD
11      SEAGATE   ST500NM0001         6G   SAS    5000C50041C28561
12      SEAGATE   ST500NM0001         6G   SAS    5000C500420D61FD
```

2.3.3. Set Zone Configurations (zone)

Command
zone

Description
Show the zoning or clear/set zoning of SAS ports. Zoning is the mapping of SAS port(s) to drive slot(s). The default zoning is all ports map to all drive slots.

Syntax
zone {clear | set *<h1 | h2 | h3 | h4 | h5> <1 2 3 4 5 …N | *>*}

Parameters

Three operations are defined on the following.

1. no parameter: show current zoning settings
2. clear: clear and back to factory default zoning settings
3. set: set zone configuration

   <h1 | h2 | h3 | h4 | h5>: hX indicate SAS port X

   <1 2 3 4 5 …N>: N indicates drive slot N

   *: specify all drive slots

Example

1. Display the current zoning of the system. The default zoning setting is that all SAS ports can access all disk drives.

```
CLI > zone

------------------------------------------------------------------------------
Current Zoning
------------------------------------------------------------------------------
Port#     Accessible Drive Slot#
---------------------------------------
1         All
2         All
3         All
4         All
5         All
```

The SAS zoning diagram is on the following.

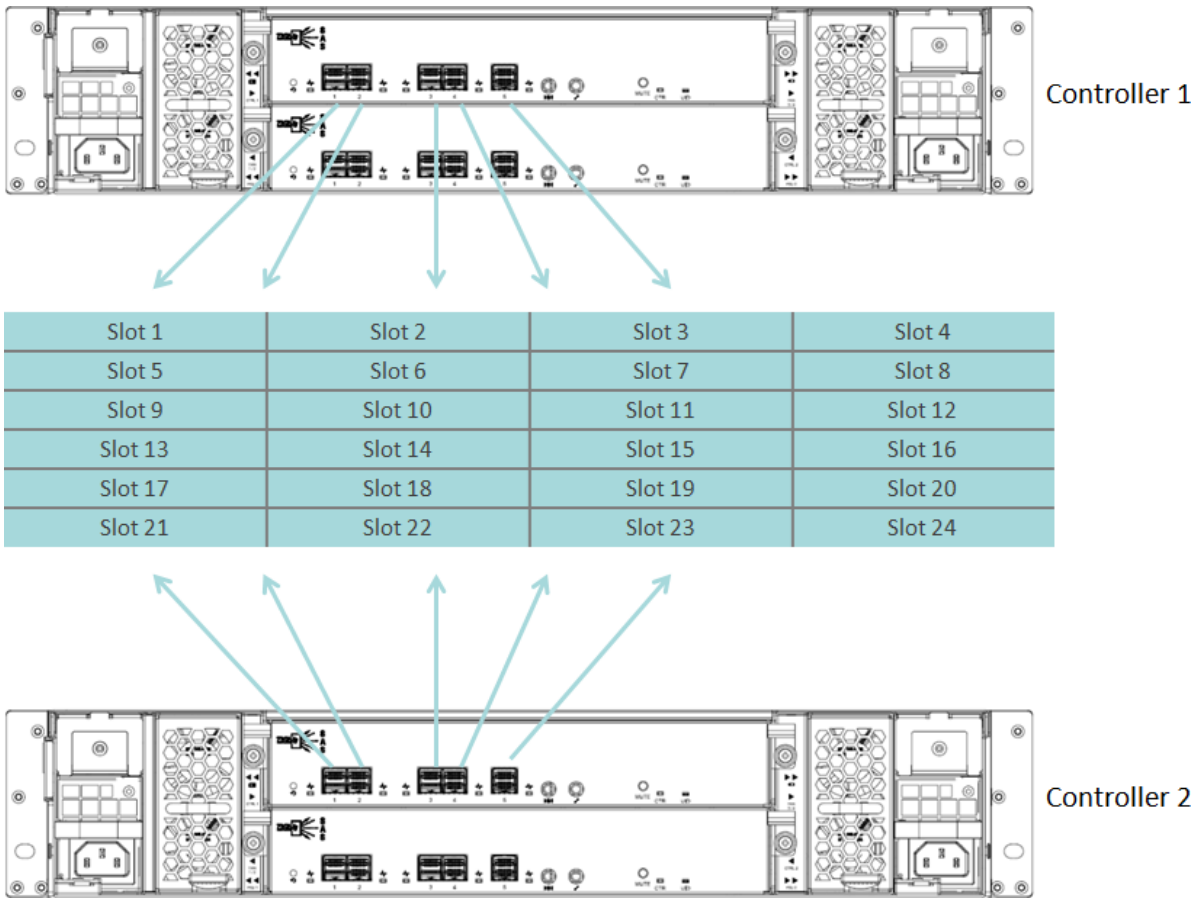


Figure 2-1 All SAS Ports Access All Disk Drives Diagram

2. Set SAS ports and disk drives which are divided into two groups. You can configure the zoning setting for each port according to requirement. Here is an example of two zones of SAS ports and disk drives. SAS port 1 and 2 can access to the disk drive slot 1 ~ 12, and SAS port 3, 4, 5 can access to the disk drive slot 13 ~ 24.

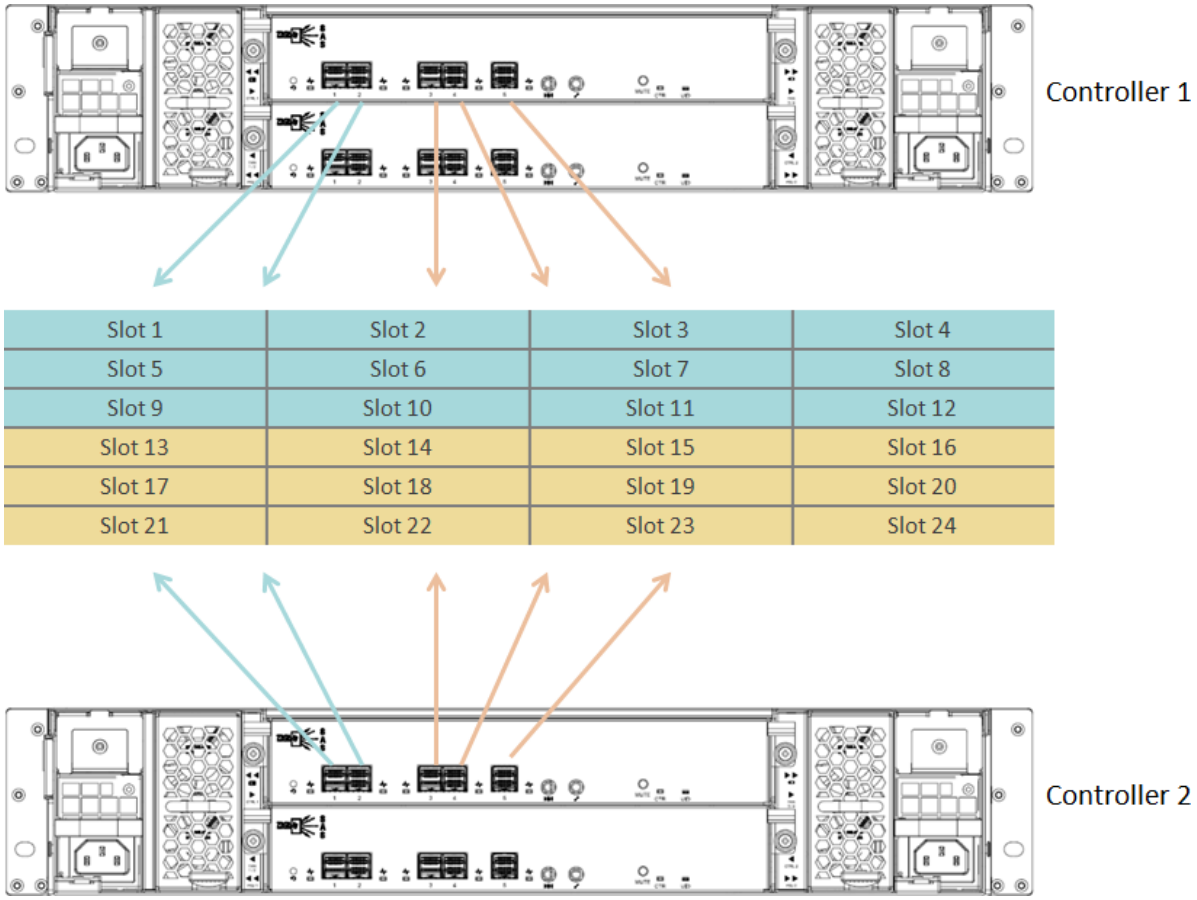


Figure 2-2 SAS Ports and Disk Drives Divided into Two Groups Diagram

The SAS zoning configuration is on the following.

```
CLI > zone set h1 h2 1 2 3 4 5 6 7 8 9 10 11 12

--------------------------------------------------------------------------------
Original Zoning
--------------------------------------------------------------------------------
Port#     Accessible Drive Slot#
---------------------------------------
1         All
2         All
3         All
4         All
5         All


--------------------------------------------------------------------------------
New Zoning
--------------------------------------------------------------------------------
Port#     Accessible Drive Slot#
---------------------------------------
1         1 2 3 4 5 6 7 8 9 10 11 12
2         1 2 3 4 5 6 7 8 9 10 11 12
```



```
3         All
4         All
5         All

Notice! You must reset system to take effect...


CLI > zone set h3 h4 h5 13 14 15 16 17 18 19 20 21 22 23 24

-------------------------------------------------------------------------------
Original Zoning
-------------------------------------------------------------------------------
Port#     Accessible Drive Slot#
---------------------------------------
1         1 2 3 4 5 6 7 8 9 10 11 12
2         1 2 3 4 5 6 7 8 9 10 11 12
3         All
4         All
5         All


-------------------------------------------------------------------------------
New Zoning
-------------------------------------------------------------------------------
Port#     Accessible Drive Slot#
---------------------------------------
1         1 2 3 4 5 6 7 8 9 10 11 12
2         1 2 3 4 5 6 7 8 9 10 11 12
3         13 14 15 16 17 18 19 20 21 22 23 24
4         13 14 15 16 17 18 19 20 21 22 23 24
5         13 14 15 16 17 18 19 20 21 22 23 24

Notice! You must reset system to take effect...
```

3. Set SAS ports and disk drives which are divided into five groups. Here is an example of five zones of SAS ports and disk drives. SAS port 1 can access to the disk drive slot 1 ~ 5, SAS port 2 can access to the disk drive slot 6 ~ 10, SAS port 3 can access to the disk drive slot 11 ~ 15, SAS port 4 can access to the disk drive slot 16 ~ 20, and SAS port 5 can access to the disk drive slot 21 ~ 24.

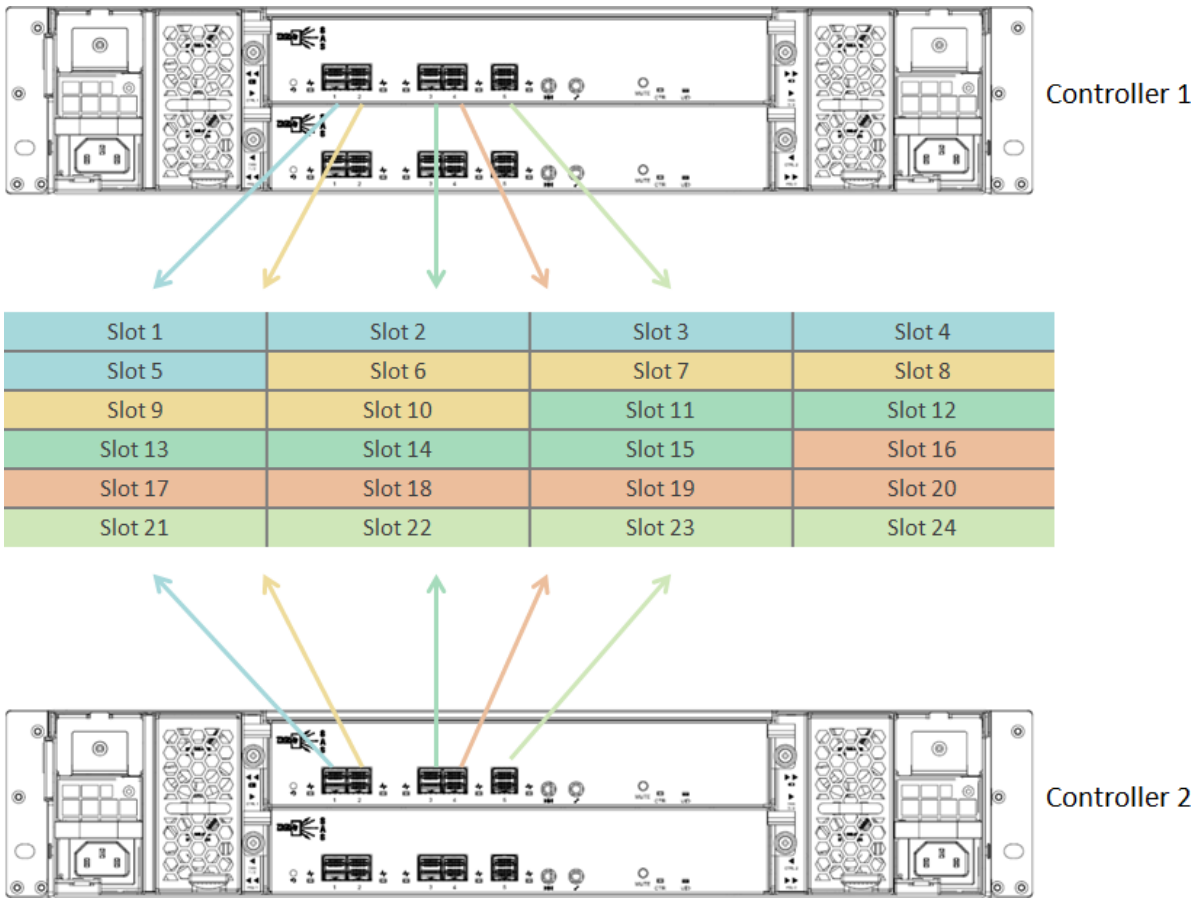


Figure 2-3 SAS Ports and Disk Drives Divided into Five Groups Diagram

The SAS zoning configuration is on the following.

```
CLI > zone set h1 1 2 3 4 5

...

CLI > zone set h2 6 7 8 9 10

...

CLI > zone set h3 11 12 13 14 15

...

CLI > zone set h4 16 17 18 19 20

...

CLI > zone set h5 21 22 23 24
```



```
...


------------------------------------------------------------------------------
New Zoning
------------------------------------------------------------------------------
Port#     Accessible Drive Slot#
---------------------------------------
1         1 2 3 4 5
2         6 7 8 9 10
3         11 12 13 14 15
4         16 17 18 19 20
5         21 22 23 24

Notice! You must reset system to take effect...
```

4. Clear current zoning and set to default zoning.

```
CLI > zone clear

Clear current zoning and set to default zoning.
You must reset system to take effect...
```

2.4. Maintenance

This section includes the following command sets.

- **sys**: Show system information
- **fwdl**: Download firmware for upgrade
- **rtdft**: Restore all settings to factory default
- **ident**: Identify the system or the disk drive slot
- **reboot**: Reboot the system
- **shutdown**: Shutdown the system
- **logout**: Exit CLI

2.4.1. Show System Information (sys)

Command

sys

Description

Show system hardware and firmware information.

Syntax

sys

Parameter

none

Example

Want to check the firmware version of system.

```
CLI > sys
------------------------------------------------------------------------------
System Information
------------------------------------------------------------------------------
System Name                     : XD5324-124690
Vendor ID                       : QSAN
MfgConfigInfo Product ID        : XD5324
EMSInfo Product ID              : XD5300
Backplane ID                    : QW424
Enclosure Logical Identifier    : 5001378000124690
Enclosure Product Serial No     : QW42401378124690

------------------------------------------------------------------------------
Firmware Information
------------------------------------------------------------------------------
Revision                        : 1.0.0
Creation Time                   : 2017/01/19 03:28:22

------------------------------------------------------------------------------
Manufacturing Image Information:
------------------------------------------------------------------------------
Revision                        : 1.0.0
Creation Time                   : 2017/01/19 03:31:00
```

2.4.2. Firmware Download (fwdl)

Command

fwdl

Description

Download firmware code for upgrade. Use XModem protocol to transmit the file to the firmware region. Please prepare new controller firmware file named “xxxx.bin” in local hard

drive. You may use UART communication tool like HyperTerminal to select the firmware file. After firmware downloading, it needs to reboot system to take effect.

Syntax
fwdl

Parameters
None

Example
Firmware upgrade procedures are on the following.

1. Download new firmware code.

```
CLI > fwdl

Please Use XModem Protocol for File Transmission.
Use Q Or q to quit Download before starting XModem.
```

2. Use HyperTerminal to select the firmware file named “xxxx.bin” in local hard drive, and then click the **Send** button to process. it will take around 4~5 minutes to complete. During the file transferring, you can use Q or q to quit the progress.

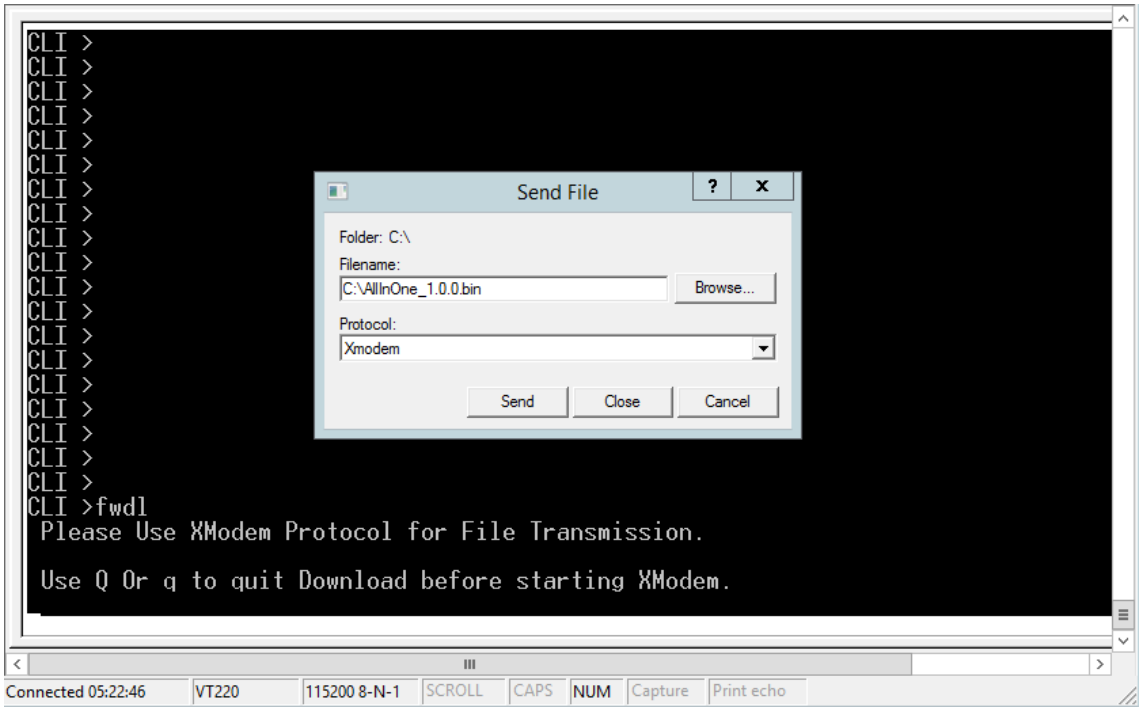


Figure 2-4 Send File

3. After the transmission completes, reboot the system to tack effect.

```
CLI > reboot

System will reboot later
```

INFORMATION:
To download the product firmware, please visit QSAN website:

https://qsan.com/download

2.4.3. Reset to Factory Defaults (rtdft)

Command
rtdft

Description

Restore the system name, password, event log and zone setting to factory default settings. All event logs will also be cleared.

Syntax
rtdft

Parameter
none

Example
Restore password and serial number to factory default.

```
CLI > rtdft
The system name, password, event log, zone setting are restored to default settings
You must reset system to take effect...
```

2.4.4. Identify the System or the Disk Drive Slot (ident)

Command
idnet

Description
Identify system or disk drive slot for maintenance or management. The UID (Unique Identifier) LED is to indicate the system, and the disk drive LED is to indicate the disk drive slot.

Syntax
ident {system | slot <*slot#*>} {on | off}

Parameter
Two operations are defined on the following.

1. system: turn on/off the system's UID LED
    - on: turn on the UID LED
    - off: turn off the UID LED

2. slot <*slot#*>: turn on/off the disk drive LED of the specific disk drive slot
    - <*slot#*>: specify the drive slot number, 1 for slot 1, N for slot N
    - on: turn on the disk drive LED
    - off: turn off the disk drive LED

Example

1. Turn on the system's UID LED. Turn off the UID LED later.

```
CLI > ident system on

The system's UID LED is on


CLI > ident system off

The system's UID LED is off
```

2. Identify the drive slot 3 for maintenance use. Blinking amber LED on drive slot 3.

```
CLI >ident slot 3 on
Blinking amber LED on drive slot 3


CLI >ident slot 3 off
Stop blinking amber LED on drive slot 3
```

INFORMATION:
For the front and rear view about the UID LEDs, please refer to chapter 2, System Components Overview in the XCubeDAS Hardware Owner's Manual.

2.4.5. Reboot the System (reboot)

Command

reboot

Description

Reboot the system to make the setting effective.

Syntax
reboot

Parameters
none

Example
Reboot the system.

```
CLI > reboot

System will reboot later
```

TIP:
In dual controller model, reboot the system will reboot the controller 1 first, and then controller 2 after 30 seconds.

2.4.6. Shutdown the System (shutdown)

Command
shutdown

Description
Shutdown the system for maintenance or power sequence demand.

Syntax
shutdown

Parameters
none

Example

Shutdown the system.

```
CLI > shutdown

System will shut down later.
```

2.4.7. Logout (logout)

Command

logout

Description

Exit CLI

Syntax

logout

Parameters

None

Example

Logout to exit CLI.

```
CLI > logout
```

2.5. Log Center

This section includes the following command sets.

- **evtlog**: Show event logs of the system
- **clrlog**: Clear all event logs of the system
- **buzzer**: Turn off the buzzer

2.5.1. Show Event Logs (evtlog)

Command
evtlog

Description
Show the system event logs for analysis or maintenance.

Syntax
evtlog

Parameter
none

Example
Show system event logs.

```
CLI > evtlog
<Jan 18 2017 03:57:56.237>:PLATFORM:Firmware initialization started

<Jan 18 2017 03:57:56.259>:CTRL 1:Peer ctrl present

<Jan 18 2017 03:57:57.135>:CTRL 1:IPC became ready
```

2.5.2. Clear Event Logs (clrlog)

Command
clrlog

Description
Clear all event logs of the system.

Syntax
clrlog

Parameter

none

Example

Clear all event logs.

```
CLI > clrlog
The system's event logs are cleared
```

2.5.3. Mute the Buzzer (buzzer)

Command

buzzer

Description

Turn off the buzzer.

Syntax

buzzer [off]

Parameter

off

Set off to turn off buzzer

Example

Mute the buzzer.

```
CLI > buzzer off
The system's buzzer is off
```

2.6. Monitoring the Enclosure

This section includes the following command sets.

- **temp**: Show temperature information of the system
- **volt**: Show voltage information of the system
- **psu**: Show PSU (Power Supply Unit) information of the system
- **fan**: Show fan information of the system
- **sensor**: Show temperature, voltage, PSU, and fan information

INFORMATION:
For more information about system components, please refer to chapter 2, System Components Overview in the XCubeDAS Hardware Owner's Manual.

2.6.1. Show Temperature Information (temp)

Command
temp

Description
Show the temperature sensors information of the system.

Syntax
temp

Parameters
none

Example
Show the 11 temperature sensors in system.

```
CLI > temp

Quantity of temperature sensors: 11

Temperature Sensor              Value   Status HighCrit HighWarn LowWarn LowCrit
-------------------------------------------------------------------------------
Ctrl 1 Backend Connector        30C     OK     75       65       5       0
Ctrl 1 Location Bottom Right    42C     OK     75       65       5       0
Ctrl 1 SAS Wide Port 1          29C     OK     75       65       5       0
Ctrl 1 SAS Expander             65C     OK     95       90       5       0
Ctrl 2 Backend Connector        30C     OK     75       65       5       0
Ctrl 2 Location Bottom Right    41C     OK     75       65       5       0
Ctrl 2 SAS Wide Port 1          29C     OK     75       65       5       0
Ctrl 2 SAS Expander             65C     OK     95       90       5       0
Backplane Location Left         30C     OK     70       65       5       0
Backplane Location Middle       34C     OK     70       65       5       0
Backplane Location Right        29C     OK     70       65       5       0
```

Table 2-2 Temperature Sensor Description

Column Name	Description
Status	The status of the temperature sensors: • OK: The thermal sensor is present and no error. • CRIT: The thermal sensor detected a critical error condition. • WARN: The thermal sensor detected a warning error condition. • FAIL: The thermal sensor is not accessible.

2.6.2. Show Voltage Information (volt)

Command
volt

Description
Show the voltage sensors information of the system.

Syntax
volt

Parameters
none

Example

Check the 16 voltage sensors in system.

```
CLI > volt

Quantity of voltage sensors: 16

Voltage Sensor                  Value    Status
-----------------------------------------------
Ctrl 1 Volt +3.3V                3.32V     OK
Ctrl 1 Volt +12V                12.24V     OK
Ctrl 1 Volt +5V standby          5.10V     OK
Ctrl 1 Volt +3.3V standby        3.32V     OK
Ctrl 1 Volt +1.8V                1.81V     OK
Ctrl 1 Volt +0.9V                0.92V     OK
Ctrl 2 Volt +3.3V                3.32V     OK
Ctrl 2 Volt +12V                12.24V     OK
Ctrl 2 Volt +5V standby          5.10V     OK
Ctrl 2 Volt +3.3V standby        3.32V     OK
Ctrl 2 Volt +1.8V                1.81V     OK
Ctrl 2 Volt +0.9V                0.92V     OK
Backplane +12V                  12.00V     OK
Backplane +5V                    5.05V     OK
Backplane +3.3V                  3.30V     OK
Backplane +3.3V standby          3.31V     OK
```

Table 2-3 Voltage Description

Column Name	Description
Status	The status of the voltage: • OK: The voltage sensor is present and no error. • CRIT: The voltage sensor detected a critical error condition. • WARN: The voltage sensor detected a warning error condition. • FAIL: The voltage sensor is not accessible.

2.6.3. Show PSU Information (psu)

Command

psu

Description

Show the information of power supply units in the system.

Syntax

psu

Parameters
none

Example
Show the power supply units status.

```
CLI > psu

Quantity of power supply unit: 2

Power Supply      Status
--------------------------
PSU 1             OK
PSU 2             OK
```

Table 2-4 Fan Description

Column Name	Description
Status	The status of the PSU: • OK: The PSU is present and work correctly. • FAIL: The PSU is not accessible or abnormal.

2.6.4. Show Fan Information (fan)

Command
fan

Description
Show the information of cooling devices.

Syntax
fan

Parameters
none

Example
Show the fan speed.


```
CLI > fan

Quantity of cooling fan: 4

Cooling Fan     RPM      Status
----------------------------------------
FAN 1           5465       OK
FAN 2           5443       OK
FAN 3           5443       OK
FAN 4           5465       OK
```

Table 2-5 Fan Description

Column Name	Description
Status	The status of the fan: • OK: The fan module is present and work correctly. • FAIL: The fan module is not accessible or abnormal behavior.

2.6.5. Show Sensors Information (sensor)

Command
sensor

Description
Show all sensors information, includes cooling fan, temperature, voltage and power supply unit.

Syntax
sensor

Parameters
none

Example
Show the information of cooling fan, temperature and power supply unit.

```
CLI > sensor

Quantity of temperature sensors: 11

Temperature Sensor             Value   Status HighCrit HighWarn LowWarn LowCrit
-------------------------------------------------------------------------------
Ctrl 1 Backend Connector       30C     OK     75       65       5       0
Ctrl 1 Location Bottom Right   42C     OK     75       65       5       0
Ctrl 1 SAS Wide Port 1         29C     OK     75       65       5       0
Ctrl 1 SAS Expander            65C     OK     95       90       5       0
Ctrl 2 Backend Connector       30C     OK     75       65       5       0
Ctrl 2 Location Bottom Right   41C     OK     75       65       5       0
Ctrl 2 SAS Wide Port 1         29C     OK     75       65       5       0
Ctrl 2 SAS Expander            65C     OK     95       90       5       0
Backplane Location Left        30C     OK     70       65       5       0
Backplane Location Middle      34C     OK     70       65       5       0
Backplane Location Right       29C     OK     70       65       5       0


Quantity of voltage sensors: 16

Voltage Sensor                 Value    Status
-----------------------------------------------
Ctrl 1 Volt +3.3V               3.32V     OK
Ctrl 1 Volt +12V               12.24V     OK
Ctrl 1 Volt +5V standby         5.10V     OK
Ctrl 1 Volt +3.3V standby       3.32V     OK
Ctrl 1 Volt +1.8V               1.81V     OK
Ctrl 1 Volt +0.9V               0.92V     OK
Ctrl 2 Volt +3.3V               3.32V     OK
Ctrl 2 Volt +12V               12.24V     OK
Ctrl 2 Volt +5V standby         5.10V     OK
Ctrl 2 Volt +3.3V standby       3.32V     OK
Ctrl 2 Volt +1.8V               1.81V     OK
Ctrl 2 Volt +0.9V               0.92V     OK
Backplane +12V                 12.00V     OK
Backplane +5V                   5.05V     OK
Backplane +3.3V                 3.30V     OK
Backplane +3.3V standby         3.31V     OK


Quantity of power supply unit: 2

Power Supply      Status
--------------------------
PSU 1             OK
PSU 2             OK


Quantity of cooling fan: 4

Cooling Fan    RPM     Status
-----------------------------------------
FAN 1          5465       OK
FAN 2          5443       OK
FAN 3          5443       OK
FAN 4          5465       OK
```


3. Support and Other Resources

3.1. Getting Technical Support

After installing your device, locate the serial number on the sticker located on the side of the chassis and use it to register your product at https://partner.qsan.com/ (End-User Registration). We recommend registering your product in QSAN partner website for firmware updates, document download, and latest news in eDM. To contact QSAN Support, please use the following information.

- Via the Web: https://qsan.com/support
- Via Telephone: +886-2-7720-2118 extension 136
  (Service hours: 09:30 - 18:00, Monday - Friday, UTC+8)
- Via Skype Chat, Skype ID: qsan.support
  (Service hours: 09:30 - 02:00, Monday - Friday, UTC+8, Summer time: 09:30 - 01:00)
- Via Email: support@qsan.com

Information to Collect

- Product name, model or version, and serial number
- Operating system name and version
- Firmware version
- Error messages or capture screenshots
- Product-specific reports and logs
- Add-on products or components installed
- Third-party products or components installed

Information for Technical Support

The following system information is necessary for technical support, please refer to following for what and where to get the information of your XCubeDAS series model.

3.2. Accessing Product Updates

To download product updates, please visit QSAN website:

https://qsan.com/download

3.3. Documentation Feedback

QSAN is committed to providing documentation that meets and exceeds your expectations. To help us improve the documentation, email any errors, suggestions, or comments to docsfeedback@qsan.com.

When submitting your feedback, include the document title, part number, revision, and publication date located on the front cover of the document.

Appendix

End-User License Agreement (EULA)

Please read this document carefully before you use our product or open the package containing our product.

YOU AGREE TO ACCEPT TERMS OF THIS EULA BY USING OUR PRODUCT, OPENING THE PACKAGE CONTAINING OUR PRODUCT OR INSTALLING THE SOFTWARE INTO OUR PRODUCT. IF YOU DO NOT AGREE TO TERMS OF THIS EULA, YOU MAY RETURN THE PRODUCT TO THE RESELLER WHERE YOU PURCHASED IT FOR A REFUND IN ACCORDANCE WITH THE RESELLER'S APPLICABLE RETURN POLICY.

General

QSAN Technology, Inc. ("QSAN") is willing to grant you (“User”) a license of software, firmware and/or other product sold, manufactured or offered by QSAN (“the Product”) pursuant to this EULA.

License Grant

QSAN grants to User a personal, non-exclusive, non-transferable, non-distributable, non-assignable, non-sub-licensable license to install and use the Product pursuant to the terms of this EULA. Any right beyond this EULA will not be granted.

Intellectual Property Right

Intellectual property rights relative to the Product are the property of QSAN or its licensor(s). User will not acquire any intellectual property by this EULA.

License Limitations

User may not, and may not authorize or permit any third party to: (a) use the Product for any purpose other than in connection with the Product or in a manner inconsistent with the design or documentations of the Product; (b) license, distribute, lease, rent, lend, transfer, assign or otherwise dispose of the Product or use the Product in any commercial hosted or service bureau environment; (c) reverse engineer, decompile, disassemble or attempt to discover the source code for or any trade secrets related to the Product, except and only to

the extent that such activity is expressly permitted by applicable law notwithstanding this limitation; (d) adapt, modify, alter, translate or create any derivative works of the Licensed Software; (e) remove, alter or obscure any copyright notice or other proprietary rights notice on the Product; or (f) circumvent or attempt to circumvent any methods employed by QSAN to control access to the components, features or functions of the Product.

Disclaimer

QSAN DISCLAIMS ALL WARRANTIES OF PRODUCT, INCLUDING BUT NOT LIMITED TO ANY MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, WORKMANLIKE EFFORT, TITLE, AND NON-INFRINGEMENT. ALL PRODUCTS ARE PROVIDE “AS IS” WITHOUT WARRANTY OF ANY KIND. QSAN MAKES NO WARRANTY THAT THE PRODUCT WILL BE FREE OF BUGS, ERRORS, VIRUSES OR OTHER DEFECTS.

IN NO EVENT WILL QSAN BE LIABLE FOR THE COST OF COVER OR FOR ANY DIRECT, INDIRECT, SPECIAL, PUNITIVE, INCIDENTAL, CONSEQUENTIAL OR SIMILAR DAMAGES OR LIABILITIES WHATSOEVER (INCLUDING, BUT NOT LIMITED TO LOSS OF DATA, INFORMATION, REVENUE, PROFIT OR BUSINESS) ARISING OUT OF OR RELATING TO THE USE OR INABILITY TO USE THE PRODUCT OR OTHERWISE UNDER OR IN CONNECTION WITH THIS EULA OR THE PRODUCT, WHETHER BASED ON CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY OR OTHER THEORY EVEN IF QSAN HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Limitation of Liability

IN ANY CASE, QSAN’S LIABILITY ARISING OUT OF OR IN CONNECTION WITH THIS EULA OR THE PRODUCT WILL BE LIMITED TO THE TOTAL AMOUNT ACTUALLY AND ORIGINALLY PAID BY CUSTOMER FOR THE PRODUCT. The foregoing Disclaimer and Limitation of Liability will apply to the maximum extent permitted by applicable law. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the exclusions and limitations set forth above may not apply.

Termination

If User breaches any of its obligations under this EULA, QSAN may terminate this EULA and take remedies available to QSAN immediately.

Miscellaneous

- QSAN reserves the right to modify this EULA.
- QSAN reserves the right to renew the software or firmware anytime.

- QSAN may assign its rights and obligations under this EULA to any third party without condition.
- This EULA will be binding upon and will inure to User's successors and permitted assigns.
- This EULA shall be governed by and constructed according to the laws of R.O.C. Any disputes arising from or in connection with this EULA, User agree to submit to the jurisdiction of Taiwan Shilin district court as first instance trial.