

SAS RAID Expander-CLI

ARC-1680ix-12/16/24 (3Gb/s SAS RAID Controller)

ARC-1880ix-12/16/24 (6Gb/s SAS RAID Controller)

USER Guide

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SAS RAID Expander-CLI

1. Introduction

This Command Line Interface (CLI) is provided for you to configure the Areca SAS RAID controller expander functions. The CLI is useful in environments where a graphical user interface (GUI) is not available.

- **Locations of RS-232 Port**



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ARC-1880ix-16

- **Establishing the Connection for the RS-232 Port**

The CLI function can be done by using an ANSI/VT-100 compatible terminal emulation program. You must complete the appropriate installation procedure before proceeding with the CLI function. Whichever terminal emulation program is used must support the 1K XMODEM file transfer protocol.

The serial port on the SAS RAID controller's bracket can be used in VT100 mode. The provided interface cable converts the RS232 signal of the RJ11 connector on the SAS expander controller into a 9-pin D-Sub male connector. The firmware-based terminal SAS expander management interface can access the expander through this RS-232 port. You can attach a VT-100 compatible terminal or a PC running a VT-100 terminal emulation program to the serial port for accessing the text-based setup menu.

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1.1 Expander RS-232C Port Pin Assignment

To ensure proper communications between the SAS RAID controller expander and the VT-100 Terminal Emulation, Please configure the VT100 terminal emulation settings to the values shown below:

Terminal requirement	
Connection	Null-modem cable
Baud Rate	115,200
Data bits	8
Stop	1
Flow Control	None

The controller RJ11 connector pin assignments are defined as below.

Action			
Pin	Description	Pin	Description
1	RTS	4	GND
2	RXD	5	GND
3	TXD	6	GND

1.2 Start-up VT100 Screen

By connecting a VT100 compatible terminal, or a PC operating in an equivalent terminal emulation mode, all CLI administration functions can be exercised from the VT100 terminal.

There are a wide variety of Terminal Emulation packages, but for the most part they should be very similar. The following setup procedure is an example Setup VT100 Terminal in Windows XP system using Hyper Terminal use Version 3.0 or higher.

Step 1. Open the "Taskbar Start"/"Programs"/"Accessories"/"Communications"/"Hyper Terminal". (Hyper Terminal requires version 3.0 or higher)



Step 2. Open "HYPERTRM.EXE".



Step 3. Enter a name you prefer and then click "OK".



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Step 4. Select an appropriate connecting port and then click "OK".



Step 5. Configure the port parameter settings and then click "OK".

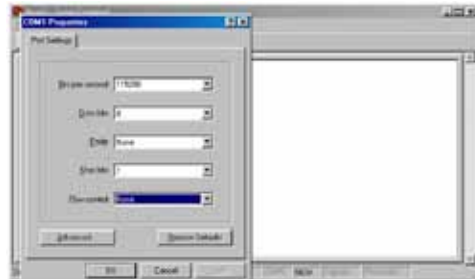
Bits per second: 115200

Data bits: 8

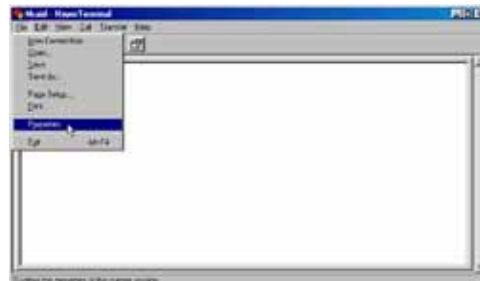
Parity: None

Stop bits: 1

Flow control: None



Step 6. Open the file menu and select "Properties".



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Step 7. Configure the "Connect To" setting.



Step 8. Configure the "Settings" items and then click "OK".

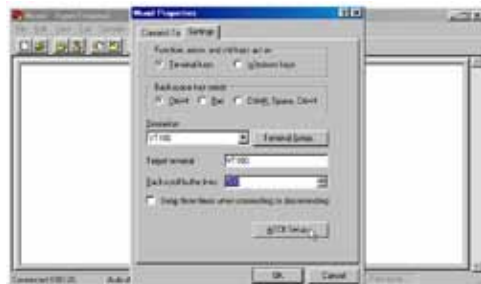
Function, arrow and ctrl keys act as: Terminal Keys

Backspace key sends: Ctrl+H

Emulation: VT100

Telnet terminal: VT100

Back scroll buffer lines: 500



Now, The VT100 is ready to be used.

After you finished the VT100 Terminal setup, you may press " X " key (in your Terminal) to link the expander CLI setup screen and Terminal together.

Press "X" key to display the expander CLI utility screen on your VT100 Terminal.

The CLI prompt is displayed in a DOS console window. Press "H" to display the sub-manual.

2. CLI Command

This section provides detail information about the SAS RAID controller expander's CLI function.

2.1 3G Expander RAID Controller CLI

● HELP Command

This command provides an on-line table of contents, providing brief descriptions of the help sub-commands. You can use the <CLI> -he or -help to get detail information about the CLI command summary.

Syntax

CLI>HE or HELP [Enter]

Example:

CLI>help

CLI Commands:

ER - Erase Block Region
FL - Update Flash Region
ST - Store System Configurations in Flash
PA - Set Password
PL - Print System Log
SY - Print System Information
SP - Operate the HDD SpinUp Attribute
LI - Operate the Device Link Rate
DR - Set the PHY Driven Strength
LO - Logout CLI shell
HE - Show All CLI commands and its usage

All numeric arguments must in HEX format, eg: 0x1028A, 0x8

● ER Command

Flash memory is a popular form of non-volatile memory. An entire block of flash can be erased with a single command. Erase the Code area before you update the firmware. There are two area

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that you can erase expander microcode on SAS RAID controller.

(1).FW file (CODE) : romXXXXX.bin

(2).Data file (DAT2) : mfgghbaYYYYY.rom

Syntax

CLI> ER {CODE | DATA2 } [Enter]

Example:

CLI>ER CODE

Erase Flash Region ...OK

● FL Command

The controller has added the expander firmware update through the CLI on the external RS-232 port. Before you process the firmware update, use the ER command to erase program block region. There are two block regions that you can update expander microcode on SAS RAID controller.

(1). FW file (CODE) : romXXXXX.bin

(2). Data file (DAT2) : mfgghbaYYYYY.rom

To update the expander controller firmware, follow the procedure below:

Syntax: all the commands please type in lower case

CLI>FL { CODE | DAT2 } [Enter]

Then use XModem/1K protocol transmit file to update ROM Region

The following procedures is used to update firmware through the RS-232:

- A. Open any UART communication tools like HypeTerminal(115200,n,8,1).
- B. Press any key on HyperTerminal window, the window will show "CLI>" prompt.
- C. Type help will show help screen.
- D. 2 commands for update firmware, erase & flash. Step as follow,
- E. First issue "erase code" under "CLI>" prompt.
CLI>er code
- F. After success, issue "flash code" under "CLI>".
CLI>fl code

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Wait to Receive File ...C <-----expander prompt for ready receive file to program.

G. Then under HyperTerminal program, use the pull down menu item transfer "Send" -> send files when dialog box prompt, choose "Xmodem 1K" and the file in the directory then press "send".

(1). If under the expander receive to file under the timeout limit (30s), the program starts.

(2). If time out, please retry the step F again.

H. You can also cancel the program step by type 3 time ctrl-X.

I. Then store Firmware in flash.

CLI> ST 0xFF [Enter]

J. If program OK, cold-start expander again. (or Power Off-On)

Example:

Update procedure, use Xmodem/1K to transfer, refer to ER and FL command for detail operation.

CLI> ER { CODE | DATA2 }

CLI> FL { CODE | DATA2 }

Use HyperTerminal or TeraTerm utility with Xmodem/1K mode to transfer romXXXXX.bin.

CLI> ST 0xFF [Enter]

The following firmware and data are available in the form of DOS file.

CODE means the FW file : romXXXXX.bin

DATA2 means the data file : mfgdataYYYYY.rom

Update SAS RAID controller expander firmware:

CLI> ER CODE

CLI> FL CODE

Use HyperTerminal or TeraTerm utility with Xmodem/1K mode to transfer romXXXXX.bin.

CLI> ST 0xFF [Enter]

Update SAS RAID controller expander data file:

CLI> ER DATA2

CLI> FL DATA2

Use HyperTerminal or TeraTerm utility with Xmodem/1K mode to transfer mfgdataYYYYY.rom.

CLI> ST 0xFF [Enter]

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● ST Command

ST command stores system configurations in flash. The 0xFF means store all element data in flash. Since all the revised parameter setting is temporarily stored in the working RAM, the ST command saves those parameters permanently in flash ROM.

Syntax

```
CLI> ST 0xFF [Enter]
```

Example:

```
CLI>ST 0xFF
```

```
CLI>
```

● PA Command

The PA command allows user to set or clear the expander controller password protection feature. Once the password has been set, the user can only monitor and access the expander controller setting by providing the correct password. The password can accept max. 8 chars and min. 4 chars. The manufacture default password is "0000".

Syntax

```
CLI>PA [Enter]
```

Example:

```
CLI>PA
```

```
Old Password:****
```

```
New Password:****
```

```
Verify New Password:****
```

```
Password Changed But Not Save Permanently!
```

```
Note, use CLI command "ST 0xFF" to keep permanently.
```

● PL Command

The PL command allows you to display system event notifications that have been generated event by the SAS expander controller.

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Syntax

CLI>PL [Enter]

Example:

CLI>PL

```
0: 0: 0>POST: System Boot Up!
0: 0: 0>POST: Enter the Main Loop ...
0: 2:50>UART: Password Is Changed!
0: 0: 0>POST: System Boot Up!
0: 0: 0>POST: Enter the Main Loop ...
0: 3:10>OK : Save Config !
0: 0: 0>POST: System Boot Up!
0: 0: 0>POST: Enter the Main Loop ...
0: 0:10>UART: Password Is Changed!
```

● SY Command

SY command is used to view the SAS expander's information. Typical information includes: vendor, model name, serial/unit number, expander port number/chip revision/firmware version, CFG data file and work time.

Syntax

CLI>SY [Enter]

Example:

CLI>SY

```
Vender    : Areca Technology Co Ltd. Taiwan, R.O.C
Model     : ARC-8011
Serial No. : 00000000000000000
Unit Serial:
SAS address: 0x5001B4DFFFFFFF03F
Customer  : 0x91
Port Num.  : 28
Chip Rev.  : A01
Firmware   : 05.10.A123 03/18/08
CFG Data   : 0x05
Work Time  : 0: 2:45
```

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• SP Command

SP command defines the mode of staggering drive spin-up function connected on the expander controller. The "H" and "S" parameter gives the host and expander controller the ability to spin up the disk drives sequentially or in groups, allowing the drives to come ready at the optimum time without straining the system power supply. Staggering drive spin-up in a multiple drive environment also avoids the extra cost of a power supply designed to meet short-term startup power demand as well as:

Syntax

CLI> SP [I|H|S [Delay Num] [Drive Num]] [Enter]

I - Power up to spin up all drives simultaneously mode.

H - RAID controller notify mode.

S - Expander issues the spin up the drives by [Delay Num] [Delay Num] parameter.

Example1:

CLI>SP S 0X40 0X2

CLI>SP

SpinUp Attribute: (1tc= 16ms)

Mode = SelfTimed, Delay = 0x0040tc(4x16x16ms=1s), Drive Num = 0x02(2Disks per step)

Example2:

CLI>SP I

OK:Pls. Save Config. & Reboot To Take Effect

CLI>SP

SpinUp Attribute: (1tc= 16ms)

Mode = Immediate

Example3:

CLI>SP H

SpinUp Attribute: (1tc= 16ms)

Mode = Host-Notify

• LI Command

The LI command allows you to set the operate device link rate that has been connected on expander controllers. Typical param-

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eters include: Max and Min disk speed connected the SAS expander controller.

Syntax

CLI>LINK [Index Max Min] [Enter]

Index: Slot Index

Max, Min: speed code, 0x8 means 1.5G, 0x9 means 3.0G and A means 6G

PS. Pls. Save Config. & Reboot To Take Effect

CLI>ST 0xFF

Example:

CLI>LI

Device Link Attribute: 8=1.5G, 9=3.0G

=====PHY=====SPEED=MAX=MIN=====

0x00	0x08	NA	9	8	NA	SLOT 01
0x01	0x09	NA	9	8	NA	SLOT 02
0x02	0x0A	3.0G	9	8	SATA	SLOT 03
0x03	0x0B	NA	9	8	NA	SLOT 04
0x04	0x0C	NA	9	8	NA	SLOT 05
0x05	0x0D	NA	9	8	NA	SLOT 06
0x06	0x0E	NA	9	8	NA	SLOT 07
0x07	0x0F	NA	9	8	NA	SLOT 08
0x08	0x10	NA	9	8	NA	SLOT 09
0x09	0x11	NA	9	8	NA	SLOT 10
0x0A	0x12	NA	9	8	NA	SLOT 11
0x0B	0x13	NA	9	8	NA	SLOT 12

//Set the slot 0x2 max. speed to 1.5G

CLI>LI 0x2 0x8 0x8

OK:Pls. Save Config. & Reboot To Take Effect

CLI>LI

Device Link Attribute: 8=1.5G, 9=3.0G

=====PHY=====SPEED=MAX=MIN=====

0x00	0x08	NA	9	8	NA	SLOT 01
0x01	0x09	NA	9	8	NA	SLOT 02
0x02	0x0A	1.5G	8	8	SATA	SLOT 03 <----- max 1.5G
0x03	0x0B	NA	9	8	NA	SLOT 04
0x04	0x0C	NA	9	8	NA	SLOT 05
0x05	0x0D	NA	9	8	NA	SLOT 06

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0x06	0x0E	NA	9	8	NA	SLOT 07
0x07	0x0F	NA	9	8	NA	SLOT 08
0x08	0x10	NA	9	8	NA	SLOT 09
0x09	0x11	NA	9	8	NA	SLOT 10
0x0A	0x12	NA	9	8	NA	SLOT 11
0x0B	0x13	NA	9	8	NA	SLOT 12

CLI>ST 0xFF

Reboot to take effect.

● DR Command

The DR command allows you to adjust the PHY driver strength that can meet different SAS cable length.

Syntax

CLI> DR [-[C|O] 0x{1..6}] [Enter]

C: For internal cable driver strength (device port) setting.

O: For external cable driver strength (external port) setting.

{1..6} : For cable length 1 to 6m.

Example:

CLI>DR [Enter]

SAS Cable Signal Level:

Device Port Level : 1m

External Port Level : 1m

CLI>DR -C 0x5 [Enter]

OK:Pls. Save Config. & Reboot To Take Effect

CLI>DR [Enter]

SAS Cable Signal Level:

Device Port Level : 5m

External Port Level : 1m

CLI>DR -O 0x3 [Enter]

OK:Pls. Save Config. & Reboot To Take Effect

CLI>DR

SAS Cable Signal Level:

Device Port Level : 5m

External Port Level : 3m

CLI>ST 0xFF [Enter]

Reboot to take effect.

CLI>

• LO Command

To close the currently selected expander controller and exit the CLI, use the exit LO command.

Syntax

CLI> LO [Enter]

Example:

CLI>LO

Password:

2.2 6G Expander RAID Controller CLI

All the commands please type in lower case.

• HELP Command

This command provides an on-line table of contents, providing brief descriptions of the help sub-commands. You can use the <CLI> help to get detail information about the CLI commands summary.

Syntax

CLI>help[Enter]

Example:

CLI>help

pass	- Set Password
lo	- Logout CLI Shell
link	- Link Rate Control
sys	- System Information
spin	- Drive SpinUp Control
st	- Store System Setting
lsd	- List Devices Status
showlogs	- Show the Current Logs
fld	- File Download

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● PASS Command

The pass command allows user to set or clear the controller password protection feature. Once the password has been set, the user can only monitor and access the controller setting by providing the correct password. The password can accept max. 8 chars and min. 4 chars. The manufacture default password is "0000".

Syntax

CLI>pass [Enter]

Example:

CLI>pass

Old Password:****

New Password:****

Verify New Password:****

Password Changed But Not Save Permanently!

Note, use CLI command "st" to keep permanently.

● LO Command

To exit the selected controller CLI shell, use the lo command.

Syntax

CLI> lo [Enter]

Example:

CLI>lo

Password:

● LINK Command

The link command allows you to set the operate device link rate that has been connected on controllers. Typical parameters include: Max and Min disk speed connected the SAS expander box.

Syntax

CLI>link [Index Max Min] [Enter]

Index: Slot Index

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Max, Min: speed code, 8 means 1.5G, 9 means 3.0G and 10 means 6.0G

PS. Pls. Save Config. & Reboot To Take Effect

CLI>st

Example:

CLI>link

ArrayDevice Element (0x17):

=====						
NAME	PHY	NLR	MAX	MIN	TYPE	ADDRESS
SLOT 01	0	3.0G	10	8	SAS	5000C500-0D2002D1
SLOT 02	1		10	8		
SLOT 03	2		10	8		
SLOT 04	3	1.5G	10	8	SATA	5001B469-84965C03
SLOT 05	4		10	8		
SLOT 06	5		10	8		
SLOT 07	6	6.0G	10	8	SAS	5000C500-17C8FD25
SLOT 08	7		10	8		
SLOT 09	8		10	8		
SLOT 10	9		10	8		
SLOT 11	10		10	8		
SLOT 12	11		10	8		

//Set the slot 0x6 max. speed to 1.5G

CLI >link 6 9 8

CLI >link

ArrayDevice Element (0x17):

=====						
NAME	PHY	NLR	MAX	MIN	TYPE	ADDRESS
SLOT 01	0	3.0G	10	8	SAS	5000C500-0D2002D1
SLOT 02	1		10	8		
SLOT 03	2		10	8		
SLOT 04	3	1.5G	10	8	SATA	5001B469-84965C03
SLOT 05	4		10	8		
SLOT 06	5		10	8		
SLOT 07	6	6.0G	9	8	SAS	5000C500-17C8FD25
SLOT 08	7		10	8		
SLOT 09	8		10	8		
SLOT 10	9		10	8		
SLOT 11	10		10	8		
SLOT 12	11		10	8		

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```
CLI>st
CLI>
Reboot to take effect.
```

```
CLI >link
ArrayDevice Element (0x17):
```

```
=====
NAME      PHY  NLR  MAX  MIN  TYPE  ADDRESS
SLOT 01   0    3.0G 10   8    SAS  5000C500-0D2002D1
SLOT 02   1           10   8
SLOT 03   2           10   8
SLOT 04   3    1.5G 10   8    SATA 5001B469-84965C03
SLOT 05   4           10   8
SLOT 06   5           10   8
SLOT 07   6    3.0G 9     8    SAS  5000C500-17C8FD25
SLOT 08   7           10   8
SLOT 09   8           10   8
SLOT 10   9           10   8
SLOT 11  10           10   8
SLOT 12  11           10   8
```

● SYS Command

The sys command is used to view the expander's information. Typical information includes: vendor, model name, serial/unit number, controller expander port number, product revision, chip name/chip revision, customer code, manufacture data revision and work time.

Syntax

```
CLI>sys [Enter]
```

Example:

```
CLI>sys
```

```
=====
=====
Hardware Revision Information:-
=====
=====
```

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Vendor ID : Areca Technology Co Ltd. Taiwan, R.O.C
Model ID : ARC-8018
Serial No. : 0000000000000000
Unit Serial No. :
Expander SAS Address : 0x5001B46984965C3F
Product Revision : 0
Expander Chip ID : 0x0221 (Ports : 28)
Expander Chip Revision : B3
Customer Code : 0x36
Manufacturer Data Revision : 0xB2
Working Time : Day00000-01:48:14

=====

Firmware Revision Information:-

=====

Active Firmware: Active Image

Boot Image:

Revision: 6.01.00.68 06/30/10

Firmware Family: 1 Fast Boot: No Image Address: 0x14000000

Active Image:

Revision: 6.01.00.68 06/30/10

Firmware Family: 1 Fast Boot: No Image Address: 0x14080000

Backup Image:

Revision: 6.01.00.68 06/30/10

Firmware Family: 1 Fast Boot: No Image Address: 0x14100000

● SPIN Command

The spin command defines the mode of staggering SATA drive spin-up function connected on the controller. This command gives controller the ability to spin up the disk drives sequentially or in groups, allowing the drives to come ready at the optimum time without straining the system power supply. Staggering drive spin-up in a multiple drive environment also avoids the extra cost of a power supply designed to meet short-term startup power demand as well as:

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Syntax

CLI> spin [Delay(D)[ms] Num(D)]
Expander issues the spin up the drives by [Num] drives with [Delay] ms.

Example1:

CLI>spin
Current SpinUp Attribute:

Drive Number: 1
Delay: 1024 ms

CLI>spin 512 3

New SpinUp Attribute:
Drive Number: 3
Delay: 512 ms

Current SpinUp Attribute:
Drive Number: 1
Delay: 1024 ms

● **ST Command**

The st command stores system configurations in flash. Since all the revised parameter setting is temporarily stored in the working RAM, the ST command saves those parameters permanently in flash ROM.

Syntax

CLI> st

Example:

CLI> st
CLI>

● **LSD Command**

The lsd command is use for show the element devices status in the expander controller. With parameter, this command only show the select device status.

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Syntax

CLI> lsd [hdd | temp | volt | pwr | con | ..]

Show SES elements information:

ArrayDevice Element (0x17):

=====						
NAME	PHY	NLR	MAX	MIN	TYPE	ADDRESS
SLOT 01	0	3.0G	10	8	SAS	5000C500-0D2002D1
SLOT 02	1		10	8		
SLOT 03	2		10	8		
SLOT 04	3	1.5G	10	8	SATA	5001B469-84965C03
SLOT 05	4		10	8		
SLOT 06	5		10	8		
SLOT 07	6	6.0G	10	8	SAS	5000C500-17C8FD25
SLOT 08	7		10	8		
SLOT 09	8		10	8		
SLOT 10	9		10	8		
SLOT 11	10		10	8		
SLOT 12	11		10	8		

Connector Element (0x19):

=====				
NAME	PHY	NLR	TYPE	STATUS
Connector01	16		02	
Connector01	17		02	
Connector01	18		02	
Connector01	19		02	
Connector02	20	6.0G	02	Connected
Connector02	21	6.0G	02	Connected
Connector02	22	6.0G	02	Connected
Connector02	23	6.0G	02	Connected
Connector03	24		02	
Connector03	25		02	
Connector03	26		02	
Connector03	27		02	

Cooling Element (0x03):

=====			
SPEED			
NAME	CODE	RPM	STATUS
Fan 01	5	2100	OK
Fan 02	5	2200	OK

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Fan 03 Not-Installed
Fan 04 Not-Installed
Temperature Element (0x04):

```
=====
NAME          ID CT(°C) HTW  LTW  OTWarn
ENC. Temp    01  32   60   5    No
Chip Temp    02  42   85   5    No
```

Voltage Element (0x12):

```
=====
NAME      VOLT(V) OVLMT UVLMT STATUS
1V        0.99   1.07   0.94   None
5V        4.96   5.32   4.63   None
```

PowerSupply Element (0x02):

```
=====
NAME          STATUS
PowerSupply01 OK
PowerSupply02 OK
```

AudibleAlarm Element (0x06):

```
=====
NAME          STATUS  ALMSTATE
Audible-Alarm Normal  0
CLI>
```

● SHOWLOGS Command

The showlogs command allows you to display system event notifications that have been generated event by the SAS controller.

Syntax

CLI>showlogs [DisplayMode(hex, detail, default)]

Example:

CLI>showlogs

00000000-00000000:PLATFORM:Firmware initialization started

Day00000-00:00:00 ENCLOSURE-Fan 01 Failed

● FDL Command

The box has added the expander firmware update through the CLI on the external RS-232 port. Before you process the firmware update, There are two block regions that you can update expander microcode on SAS RAID controller.

(1)CODE region - for FW file : sas2xfwXXXX.fw

(2)MFGB region - for Data file : mfgdat6gYYYY.rom

To update the expander controller firmware, follow the procedure below:

Syntax: all the commands please type in lower case
CLI>fdl { code | mfgb } offset[Enter]

Then use XModem/(Checksum) protocol transmit file to update ROM Region

The following procedures is used to update firmware through the RS-232:

- A. Open any UART communication tools like HypeTerminal(115200,n,8,1).
- B. Press any key on HyperTerminal window, the window will show "CLI>" prompt.
- C. Type help will show help screen.
- D. One command to update firmware. Step as follow,
- E. Issue download & update command under "CLI>".
CLI>fdl code 0
Please Use XModem Protocol for File Transmission.
Use Q Or q to quit Download before starting XModem.
<-----expander prompt for ready to receive file to update.
- F. Then under HyperTerminal program, use the pull down menu item transfer "Send" -> send files when dialog box prompt, choose "Xmodem" and the file in the directory then press "send".
 - (1). If the expander receive the file under the timeout limit (60s), the process starts.
 - (2). If time out, please retry the step E again.
- G. You can also cancel the program step by type 'q'.
- H. If transfer OK, the transfered data is updated. Cold-start expander (Power cycle again) to take effect.

SAS RAID Expander-CLI

Example:

Update procedure, use Xmodem to transfer, refer to "fdl" command for detail operation.

```
CLI> fdl { code | mfgb } offset[Enter]
```

Use HyperTerminal or TeraTerm utility with Xmodem mode to transfer and update files.

If transfer OK, the transfered data is updated. Cold-start expander (Power cycle again) to take effect.

The following firmware and data are available in the following filename format.

(1)FW file (CODE) : sas2xfwXXXX.fw

(2)Data file (MFGB) : mfgdat6gYYYYY.rom

Update SAS RAID controller expander firmware:

```
CLI> fdl code 0
```

Use HyperTerminal or TeraTerm utility with Xmodem mode to transfer sas2xfwXXXX.fw.

If transfer OK, the transfered data is updated. Cold-start expander (Power cycle again) to take effect.

Update SAS RAID controller expander data file:

```
CLI>fdl mfgb 0
```

Use HyperTerminal or TeraTerm utility with Xmodem mode to transfer mfgdat6gYYYYY.rom.

If transfer OK, the transfered data is updated. Cold-start expander (Power cycle again) to take effect.