# NSE316 SAS-JBOD

# **OPERATING INSTRUCTION**

15-4124-02A





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# 1. KEY FEATURES

#### **1.1 System Features:**

- Native SAS environment offers high data integrity and availability
- Support 16 hot-swap SAS/ SATA II 3Gb/s HDDs
- Auto-negotiate speeds between 1.5G and 3.0 Gbps
- Easy system maintenance with modular FRU design
- Supports SSP, SMP, and STP target and initiator
- Supports up to 16TB with SATA II HDD / 6.4TB with SAS 15K HDDs
- Supports staggered HDD spin-up
- Dual hot swappable / redundant power supply modules
- SIM (SAS I/O Module) built with latest Expander ASIC Modular FRU
- Easy in-field firmware maintenance / upgrade:
  - Standard: via Mini-SAS interface
- 3 X high-speed external Mini-SAS (SFF-8088) interface
- Choice for setting up external ports:
  - One "IN" port (from HOST) + two "OUT" daisy chain
- Scalability: Daisy Chain / Cascade to next / added JBOD
  - Seamless storage expansion for growing data demand
- Auto Alert for HDDs, Fan, Over-temperature, and Power Supply Failure
- GUI Interface (HOST side) supporting major SAS RAID controller cards (LSI MegaRAID 8888ELP)
- Reliable, cost-effective and energy-saving
- Supported RAID Controller:

RAID Controller	Model
LSI	MegaRAID 8888ELP MegaRAID 8880EM2
AMCC 3WARE	3Ware 9690SA-8E 3Ware 9690SA-414E
ADAPTEC	5 Series
ARECA	1680 Series



## **1.2 Enclosure Management Function**

- Enclosure management thru In-band SES (SFF-8088)
- HDD Power-On, Activity, Failure/ Locate/ Identify LED Indicator on each drive bay
- Remote management (Event / E-mail Notification) ready with major controller manufacturers Easy maintenance through RAID controller / HBA's GUI
- Temperature sensing / notification
- Smart Fan Features:
  - Status report by RAID Controller GUI
  - Variable fan speed for best thermal and acoustic performance
- PSU module:
  - Status report by RAID Controller GUI
  - Hot-swappable and redundant
- Audio Alert / LED indicator for failure events
  - Fan / Over-temperature / PSU / Under voltage / Over voltage.

### 2. ENCLOSURE DESCRIPTION.

## 2.1 The Front Panel View of NSE316 SAS JBOD Unit



#### Figure 1 NSE316 SAS-JBOD Front Panel

: Indicate the Enclosure Power Status: On or Off
: Indicate the temperature status on backplane board inside
enclosure
: Indicate the enclosure power supply status
: Indicate the Fan Operation status
: The lock secures the drive modules in the unit.



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## **Opening The Front Door**



Figure 2 NSE316 SAS-JBOD Front View on Open Door

#### HDD ID NUMBER SEQUENCE



Figure 3 HDD ID Number Sequence



If there is no HDD engaged inside a bay, all the LED on that bay are Off.





# 2.2 The REAR Panel View of NSE316 SAS JBOD Unit

#### Figure 4 Rear Panel View

Power On/ Off Switch	: The Switch to turn On / Off the system
Fan 1,2,3,4	: Redundant, hot swappable Fan Modules
PSU -1, -2	: Redundant, hot swappable Power Supply Modules
SIM	: SAS I/O Module
Port 1	: Input Port, connect to Host Computer or input port from other
	Daisy-Chain unit.
Port 2, Port 3(default)	: Output Ports, for Daisy Chain additional Enclosures
DB9 Connector	: For Debugging and future FW upgrade
Soft Reset Button	: Re-sync communication between HDD and Host
	Reset Enclosure Management Monitoring Status.

#### Note:

\* The Rotary Switch, Jack Connector and DB9 Connector are used for Ci Design internal / debugging purpose, customer does not need to access this interface in any case. If there is additional request, both sides will initiate OEM project based on customer's specific requirements.



### **3. EXTERNAL CONNECTION.**

#### 3.1 Single Enclosure:

- Connect the AC-cords to Power Supply 1 and Power Supply 2.
- Connect Port 1 to the RAID Controller Card on Host Computer using External MiniSAS Cable (SFF-8088).



Figure 5 Single Enclosure External Connection

#### **3.2 Daisy Chain Enclosure Assembly**

- Connect the AC-cords to Power Supply 1 and Power Supply 2 of each enclosure.
- Connect Port 1 of the Enclosure 1 to the RAID Controller Card on Host Computer using External MiniSAS Cable (SFF-8088).
- Connect Port 2 of the Enclosure1 to Port 1 of the Enclosure 2 using Ext. MiniSAS Cable (SFF-8088).
- Connect Port 3 of the Enclosure1 to Port 1 of the Enclosure 3 using Ext. MiniSAS Cable (SFF-8088).
- Connect Port 2 of the Enclosure2 to Port 1 of the Enclosure 4 using Ext. MiniSAS Cable (SFF-8088).
- Connect Port 3 of the Enclosure2 to Port 1 of the Enclosure5 using Ext. MiniSAS Cable (SFF-8088).
- Connect Port 2 of the Enclosure3 to Port 1 of the Enclosure 6 using Ext. MiniSAS Cable (SFF-8088).
- Connect Port 3 of the Enclosure3 to Port 1 of the Enclosure 7 using Ext. MiniSAS Cable (SFF-8088).



Figure 6 Daisy Chain of NSE316 SAS JBOD Enclosures



# 4. CONFIGURING THE UNIT

Considering system interoperability, we strongly recommend customer to use drives officially validated by Ci Design. Please refer to the following link: http://www.cidesign.com/usa/hdd\_compatibility.html

There are two ways of configuring the unit on the system:

- Using the Controller Card BIOS Configuration Utility

- Using the Controller Card G U I Storage Manager (Web-browser GUI)

Since G U I is much more versatile and user friendly, we are going to use the Storage Manager of the Controller Card to configure and also monitor the enclosure system.

# 4.1 Configuring the unit with LSI MegaRAID Storage Manager

Controller Card	Model	Storage Manager
LSI	MegaRAID 8888ELP MegaRAID 8880EM2	MegaRAID Storage Manager (v.2.65-00)

- 1. After inserting the enclosure with HDD and connect the necessary cables properly, power-up the enclosure.
- 2. Power up the Host Computer / Server and proceed to the Desktop Screen.
- 3. Open the MegaRAID Storage Manager, then the following screen will show-up:

MegaRAID Storage Manager - v2.65-00	×
Sort By Name	LSI
Ser <u>v</u> ers	
Hott : testing/02 P Address : 192.16.0.101 O S : Windows 2003 Health : Optimal	
<u> </u>	
Connect to remote server at IP address: 192.168	0.101 Update
Connect	

Figure 7 LSI MSM First Screen



- 4. Select CONNECT and the "Enter User Name and Password" window will come up.
- 5. Select LOGIN after entering the user name and password.
- 6. After successfully login, the following screen will come up:

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Figure 8 LSI MSM Graphical View

This screen can show the enclosures, the HDD detected by the computer.

Ele Operations Group Operations Log Tools Hele

Select / Highlight an enclosure. By clicking the GRAPHICAL VIEW Tab, it shows the monitoring condition / the status of Temperature Sensors, Fans, and Power Supplies on the highlighted enclosure. Please refer to the LSI MegaRAID Storage Manager Instruction Manual for more detail configuring instruction (create arrays, RAID, etc.).

7. After configuring the enclosure, the screen on the LOGICAL Tab will come up as follow:

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							LSI
hysical	Logical						
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8	Virtual Disk 1 : 1	RAID 0 : 274656.0 MB		Disk Cache Policy	Unchanged	Read Policy	No Rea
	Physic	al Drive 97 : 70007.0 MB		Current Write Policy	Write Through	Default Write Policy	Write 1
	Physic Physic	al Drive 99 : 140014.0 MB al Drive 98 : 70007.0 MB		Write Through for failed/missing battery	No	10 Policy	Direct I
8-	Wrtual Disk 2 : F	al Drive 100 : 70007.0 MB RAID 0 : 274656.0 MB					
	- Array 2	al Drive 101 - 20002.0 MB					
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<u> </u>	Vitual Disk.3 : 1	RAID 0 : 274656.0 MB					
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	Physic	al Drive 106 : 70007.0 MB					
	Physic	al Drive 108 : 70007.0 MB	-	[ • ]			>
•							
1D	Error Level	Date / Time			Description		
533	[Information 20	38-04-04, 13:30:44	Contro	sler ID: 0 Time established since power on:	Time 2008-04-04,13:30:44 1	437Seconds	
\$32	[Warning, 1] 200	38-04-04, 13:25:38	Contro	der ID: 0 Temperature sensor above warnin	g threshold on enclosure: Exte	rnal 8 Port:1 Sensor 1	
531	[Warning, 1] 200	18-04-04, 13:25:38	Contro	ster ID: 0 Temperature sensor above warnin	g threshold on enclosure: Exte	enal8 Port:1 Sensor 0	
529	Enformation 20	38.04.04.13:19:03	Contro	Ster ID: 0 VD is now OPTIMAL VD 3			
128	Enformation 20	8-04-04, 13:19:03	Contro	sler ID: 0 State change on VD: 3 Previou	s = Offine Current = Oph	inal	
ela in	In from server						

Figure 9 LSI MSM Logical View



## 4.2 Configuring the unit with 3WARE 3DM Storage Manager

Controller Card	Model	Storage Manager
AMCC 3Ware	3Ware 9690SA-8E 3Ware 9690SA-414E	3DM (version 2.08.00.07)

- 1. After inserting the enclosure with HDD and connect the necessary cables properly, power-up the enclosure.
- 2. Power up the Host Computer / Server and proceed to the Desktop Screen.
- 3. Open the 3Ware 3DM2 Storage Manager, then the following screen will show-up:

😻 3ware 3DM2 - Logii	n - Mozilla Firefox						_ 8 ×
<u>File E</u> dit <u>V</u> iew His	ory <u>B</u> ookmarks <u>T</u> ools	Help					
<>- C	🗙 🏠 🚺 https://	localhost:888/			☆	- Google	P
应 Most Visited p Get	ting Started   🔬 Latest Hea	dlines 📄 Customize Links	📄 Free Hotmail 📄 V	Windows Marketplace 📄 Win	idows Media 📄 Windows		
📄 3ware 3DM2 - Login		🗋 3ware 3DM2 - Login		] 3ware 3DM2 - Login			•
<i>Sware</i> ₀ 3D	M <sup>®</sup> 2 testing02 (Window	vs Server 2003 R2 Standar	d Edition Service Pac	No or	e logged in Logout		
Summary	Information	Management	Monitor	3DM 2 Settings	Help		
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Password							
	Login						
Last updated Tue, De 3DM 2 version 2.08.0 API version 2.05.00.0 Copyright (c) 2008 AMCC	ic 09, 2008 04:23:08PM 0.007 007						

#### Figure 10 3DM Login Screen

- 4. Enter the User Name (Administrator) and the Password.
- 5. Click LOGIN, then the Opening Screen showing Controller Summary will come up.

😻 3ware 3D	DM2 - Summar	y - Mozilla Firefox						_ 8 ×
<u>E</u> ile <u>E</u> dit	View History	<u>B</u> ookmarks <u>T</u> ools	Help					11
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🧖 Most Visit	ted 🍄 Getting	Started <u> </u> Latest Head	dlines 📋 Customize Links	s 📄 Free Hotmail 📔	Windows Marketplace 📋 V	Vindows Media 📋 Window	vs	
📄 3ware 3	3DM2 - Login	⊠ [	3ware 3DM2 - Login	×	📄 3ware 3DM2 - Summa	iry 🛛		•
🖉 Do you v	want Firefox to re	emember this password?				Rememb	er Never for This Site	Not Now
<i>🔊 3wa</i>	re。3DM <sup>®</sup>	2 testing02 (Window	s Server 2003 R2 Stand	ard Edition Service Pa	cl Administra	ator logged in Logout		
Sum	imary	Information	Management	Monitor	3DM 2 Settings	Help		
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Contro	ller Sum	mary						
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Figure 11 3DM2 Opening Screen



6. To view the condition of the enclosures, Click MONITOR, ENCLOSURE SUMMARY.

😢 3ware 3	3DM2 - Enclos	ure Support - N	lozilla Firefox								_ 8 ×
Elle Edit	⊻iew Histo	y <u>B</u> ookmarks	<u>⊺</u> ools <u>H</u> elp								
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🔎 Most Vi	sited p Gettir	ig Started   🔝 L	atest Headlines	Customize Links	📄 Free Hotmail	📄 Windows M	arketplace	📄 Windows M	edia 📄 Window	V5	
3ware	3DM2 - Login		🖂 📄 3w	are 3DM2 - Login		3ware	3DM2 - Enc	losure Suppo	rt 🗵		-
<i>©</i> 3w	are。3DN	<b>1°2</b> testing02	(Windows Sei	ver 2003 R2 Standa	rd Edition Service	Paci	Admir	nistrator logge	d in Logout		
Su	nmary	Informat	ion l	Aanagement	Monitor	3DN	12 Settin	gs	Help		
Re	efresh	Enclosure	Support		Select Contro	ller Contr	oller ID 0 (	9690SA-414E	) 💌		
										•	
Enclo	sure Su	nmarv									
ID	Status		Vendor	Product I	D Slots	Drives	Fans	Temp Sensor	Power Supply		
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Figure 12 3DM2 Enclosure Summary Screen

7. Click the enclosure ID Number to view the detail information of an enclosure.

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Figure 13 3DM2 Enclosure Detail Screen



- 8. To create array:
  - click MANAGEMENT, MAINTENANCE.
  - put a check-mark on the box next to the HDD you want to include in the array. Note: Do not mix the SAS HDD and SATA HDD on the same array.
  - click CREATE UNIT.

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Figure 14 3DM2 Creating Array Screen

- 9. Set-up the RAID parameter.
- 10. After successfully creating the RAID configuration, the screen will show as follow:

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@3ware, 3DM°2	leating02 (Windows Server 2003	82 Sta	whered Fulfilian Service	P Administr	stor logged in Logout		
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	0						
Unit Maintenance	Controller ID 0)	_			_		
Unit 0 🔲 S drives	ICOULD D		167.59 GB	ж			
VPort 8	SEAGATE ST373455SS	SAS	68.37 GB	ж			
VPort 9	SEAGATE ST3146855SS	SAS	136.73 GB	ж			
VPort 10	SEAGATE ST373455SS	SAS	68.37 GB	ж			
VPort 11	FUUTSU MAU3147RC	SAS	136.98 GB	ж			
VPort 14	FUJITSU MAU3036RC	SAS	34.25 GB	ж			
Unit 1 🔳 1 drive	SINGLE DISK		931.31 GB	ж			
VPort 12	ST31000340AS	SATA	931.51 OB	ж			
Unit 2 🔳 🖬 drives	RAID B		894.04 GD	NOPERABLE			
VPort 13	ST31000340NS	SATA	\$31.51.0B	ж			
			1	OT PRESENT			
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Available Drives (O	Controller ID 0)						
VPort Model	Ca	pacity	Type Phy St	ot	Status		
15 \$T31000340N5	s 931	.51 GB	SATA ED	closure 1 Slot 3	DIK		
Create Unit Remove I	Drive						-
Done		_				loca	ahost:888

Figure 15 3DM2 Setting RAID Screen



# **4.3** Configuring the unit with Adaptec Storage Manager

Controller Card	Model	Storage Manager
ADAPTEC	5 Series	Adaptec Storage Manager (ver 6.00.00(17922))

- 1. After inserting the enclosure with HDD and connect the necessary cables properly, power-up the enclosure.
- 2. Power up the Host Computer / Server and proceed to the Desktop Screen.
- 3. Open the Adaptec Storage Manager, then the following screen will show-up:



Figure 16 Adaptec Storage Manager Opening Screen

4. Double-click the Device listed on Direct Attach Storage Column (:"testing02"):



Figure 17 Adaptec Storage Manager Login



5. Enter the User Name, Password and then click CONNECT.



Figure 18 Adaptec Storage Manager Controller List

 Double click the "Controller 1RAID Controller " icon of the Controller Card connected to the SASJBOD. The screen will show the enclosures connected to the card with their Physical HDD inside them.

Adaptec Storage Manager				×
Image: Provide the second se	jeip 🛅 Properties 🗖 Events 🔌 C	onfigure  Help		adaptec
Enterprise view ←   ① Direct Attached Storage	Physical devices         Physical devices         Particular devices         Partindevices         Partindevi	15) ⊗ 1 ¥ 128 A.0) ∴ ∴ ∴ ∴ 228 A.0) ∴ ∴ ∴ ∴ 228 A.0) ∴ ∴ ∴ ∴ ∴ ∴ ∴ ∴ ∴ ∴ ∴ ∴ ∴ ∴ ∴	Logical devices T = = j Logical devic No logical devi	Configured.
	Connection status: Connect	ted		
Date	Time	Sourc	e	Description
(1) 03/16/2009 0	2:38:00 PM PDT	testing02 testing02		Oser Administrator logged into testingU2 with administrative privileges. Adaptec Storage Manager started on TCP/IP port number 34,571.

Figure 19 Adaptec Storage Manager Enclosure List



Adaptec Storage Mana	ger Hele		
jie view Gemote Ac	Silence 🛗 Properties 🥅 Events	🔍 Configure  Help	content
Enterprise view	Physical devices Prage Physical devices Prage Physical devices Physical de	SASS/20 A.0)         SASS/20 A.0)         SASS/20 A.0)           SASS/20 A.0)         SASS/20 A.0)         SASS/20 A.0)           SASS/20 A.0)         SASS/20 A.0)         SASS/20 A.0)	Idevices
Date	Connection status: C	Source	Description
Date	Time	Source	Description
03/16/2009	02:47:03 PM PDT	testing02	User Administrator logged into testing02 with administrative privileges.

7. To know the status of an enclosure, double-click the "Enclosure Management Device" icon of the corresponding enclosure:

Figure 20 Adaptec Storage Manager Enclosure Management Device

8. Click the "Status" Tab and the properties window will show the status condition of each fan, powersupply module and temperature sensor of the enclosure.

a Adaptec Storage Manager					
Add Create ASilence	Help	onfigure <i> e</i> lp			adaptec
Enterprise view	Physical devices		Logical devices		
🗢 🖺 Direct Attached Storage	Controller 1 (Adaptec 544	15) 🚳 🎚 🖞	TEE	+ 👌 🖨	
	Enclosure 0 (CIDESIGN SAS)	(28 A.0)	👸 Logical devic	es (0)	
			No logical dev	rices configured.	
	S Properties			×	
	Enclosure manageme	ent device			
	Enclosure status		Optimal		
	🐼 Fan 1 status		Optimal (4,190	RPM)	
	🔞 Fan 2 status		Optimal (4,190	RPM)	
	🚳 Fan 3 status		Optimal (4,270	RPM)	
	🐼 Fan 4 status		Optimal (4,240	RPM)	
	V Power supply 1 status		Optimal		
	Power supply 2 status	atatua	Uptimal Normal (220 (	915)	
	Temperature sensor 2	status	Normal (33C /	91F)	
Date	Time	Source	9	Descriptio	n
(1) 03/16/2009	02:47:03 PM PDT	testing02		User Administrator logged into testing02 v	with administrative privileges.
1 03/16/2009	02:38:00 PM PDT	testing02		Adaptec Storage Manager started on TCP.	IP port number 34,571.

Figure 21 Adaptec Storage Manager Enclosure Management Device Status

9. To create RAID Array, click "CREATE", CUSTOM CONFIGURATION FOR CONTROLLER 1, click NEXT".

Please follow the Adaptec Storage Manager Manual for more detail in configuring information.



# 4.4 Configuring the unit with Areca Storage Manager

Controller Card	Model	Storage Manager
ARECA	1680 Series	Areca HTTP proxy server GUI (Ver.1.00.000)

- 1. After inserting the enclosure with HDD and connect the necessary cables properly, power-up the enclosure.
- 2. Power up the Host Computer / Server and proceed to the Desktop Screen.
- 3. Open the Areca HTTP Proxy Server GUI, then the following screen will show-up:

ARCHTTP: 127.0.0.1 Tools Service	_		
Device	HTTP Port#	State	
Controller#01(PCI): Efg Assistant	81 82	Running Running	Launch Browser
			Close
DateTime	Log		
2009-04-30 09:45:42 2009-04-30 09:45:43	Application Started. 1 controllers found.		

Figure 22 Areca HTTP Proxy Server GUI

- 4. On the Device List, double-click the controller where the SASJBOD Enclosure connected to (Controller #01).
- 5. Enter the User Name, Password then click OK.

Authenticatio	on Required	×
?	A username and password are being requested by http://127.0.0.1:81. The site says: "Raid Console"	
User Name:	admin	
Password:	••••	
	OK Cancel	



15-4124-02A

### Figure 23 Areca HTTP Proxy Server GUI Login

6. The Monitor will show the Opening Screen as follow:

	http://127.0.0.1:81/			ິດ • <mark>G</mark> • ແ	ogle
Most Visited p Getting Started 流 L	atest Headlines.				
	Areca	Technolo	ogy Corpora	tion	
pen allIclose allI					
	RaidSet Hi	erarchy			
Raid System Console	RAID Set	Devices	Volume Set(Ch/Id/Lu	n) Volume State	Capacity
RAID Set Functions	Raid Set # 0	01 E#3SLOT 000	ST373455SS (0/0/1)	Normal	73.4GB
🔄 Volume Set Functions	Raid Set # 0	02 E#3SLOT 001	ST3146855SS (0/0/2)	Normal	146.8GB
🛅 Physical Drives	Raid Set # 0	03 E#3SLOT 002	ST3146855SS (0/0/3)	Normal	146.8GB
C System Controls	Raid Set # 0	04 E#3SLOT 003	ST373455SS (0/0/4)	Normal	73.4GB
Information	Raid Set # 0	05 E#3SLOT 004	ST33006555S (0/0/5)	Normal	300.0GB
	Raid Set # 0	06 E#3SLOT 005	ST3300655SS (0/0/6)	Normal	300.0GB
	Raid Set # 0	07 E#3SLOT 006	ST3146855SS (0/0/7)	Normal	146.8GB
	Raid Set # 0	08 E#3SLOT 007	ST3300655SS (0/1/0)	Normal	300.0GB
	Raid Set # 0	09 E#3SLOT 008	ST3300655SS (0/1/1)	Normal	300.0GB
	Raid Set # 0	10 E#3SLOT 009	ST373455SS (0/1/2)	Normal	73.4GB
	Raid Set # 0	11 E#3SLOT 010	ST33006555SS (0/1/3)	Normal	300.0GB
	Raid Set # 0	12 E#3SLOT 011	ST373455SS (0/1/4)	Normal	73.4GB
	Raid Set # 0	13 E#3SLOT 012	ST373455SS (0/1/5)	Normal	73.4GB
	Raid Set # 0	14 E#3SLOT 013	ST3146356SS (0/1/6)	Normal	146.8GB
	Raid Set # 0	15 E#3SLOT 014	ST373455SS (0/1/7)	Normal	73.4GB
	Raid Set # 0	16 E#3SLOT 015	ST373455SS (0/2/0)	Normal	73.4GB

Figure 24 Areca GUI Opening Screen

7. To view the status or condition of the enclosure, click INFORMATION, HARDWARE MONITOR:

🚱 🕞 🕻 🗙 🏠 🗋	http://127.0.0.1:81/	습·	G• Google
🙆 Most Visited p Getting Started 脑 La	test Headlines		
	Areca Techno	logy Corporation	
open all close all	Ston Auto Refresh		
Paid System Console	Controller H/W Monitor		
Ouick Function	CPU Temperature	42.90	
🗄 🦲 RAID Set Functions	Controller Temp.	24 °C	
🗉 🗀 Volume Set Functions	CPU Fan	2428 RPM	
🖻 🧰 Physical Drives	12V	12.342 V	
System Controls	5V	5.107 V	
- RAID Set Hierarchy	3.3V	3.392 V	
System Information	DDR-II +1.8V	1.856 V	
- 🗋 Hardware Monitor	PCI-E +1.8V	1.856 V	
	CPU +1.8V	1.872 V	
	CPU +1.2V	1.216 V	
	DDR-II +0.9V	0.928 V	
	Battery Status	Not Installed	
	Enclosure#1 : ARECA SAS F	AID AdapterV1.0	
	∎ Enclosure#2 : Areca x36-0	5.5B.1.29 000 (0:0)	
	■ Enclosure#3 : CIDESIGNSA	SX28 A.1 130(0:11)	
	Fan 00	4290 RPM	
	Fan 01	4210 RPM	
	Fan 02	4270 RPM	
	Fan 03	4270 RPM	
	Power 00	OK	
	Power 01	OK	
	Enclosure 01 Temp	31 °C	
•	Enclosure 02 Temp	31 °C	



Figure 25 Areca GUI Enclosure Status Information

8. After setting the system configuration as RAID on System Control, the system can be further processed:

a. Create Array : RAID SET FUNCTIONS, CREATE RAID SET

b. Create RAID Volume Set VOLUME SET FUNCTIONS, CREATE VOLUME SET

etc.

Please refer to the Areca HTTP Proxy Server GUI manual for more detail information.

## 5. NOTES

- 1. Before powering-up the unit, insert and engage at least 8 HDD on the bays of the unit.
- 2. During System boot-up:

The Fail LED (Red Light) on all drive bays will be ON for short period of time then they will be OFF again.

3. The Monitoring System will generate an Update Notification if there a change from the Normal Operating Condition.

In order to know the most update Monitoring Status of the enclosure (Fan, Temperature, Power Supply), it is recommended that the user Rescan / Refresh the condition of the unit. It may take a couple seconds for GUI to update the status. This delay response time depends on Bus Traffic Load with the Host Server.

4. On LSI MSM, the Status Report of Temperature Sensing:

"Sensor 0" of Pop-up Window Notification corresponds to "Sensor 1" on Graphical View. "Sensor 1" of Pop-up Window Notification corresponds to "Sensor 2" on Graphical View.