

mAGE316U40-PCI-E

3U 16-bay PCI-Express
Rackmount JBOD Chassis

Installation Guide





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- E**xternal PCI-e (PCI-Express) x8 , up to 20Gbps Host Interface
- S**upports SAS/SATA (3Gbps) Drives
- U**p to Sixteen Removable SAS/SATA Drive Trays
- O**ptional Dual Hot-Swappable Power Supply
- L**ED Indicators for Power and Activity on each HDD Tray
- E**nvironmental Monitoring with FAN/TEMP LEDs and mutable buzzer alarm

Overview

With the innovative External PCI-e architecture, mAGE-PCI-E series is designed to use PCI-e x8 expander HBA direct connect into the computers PCI-e x8 Bus to convert internal PCI-Express slot becoming external Host interface and use an external PCI-e 8x cable to connect between host computing system and mAGE-PCI-E storage subsystem. This direct link eliminates latency introduced by the conversion of other interfaces to PCI Express bus and provides superior bandwidth of 20Gbps over USB 2.0; FireWire 800Mb; SAS/ SATA 3Gb; 8Gb Fiber Channel data transfer bandwidth.

Validated HBA for mAGE316U40-PCI Series

Adaptec RAID 51645

9650SE-16ML

Adaptec RAID 31605

MegaRAID SAS84016

ARC-1261ML

RR2340

ARC-1680ix-16

EX16350



Package Checklist

Before installing this unit, verify that package contains the following items:

- Enclosure x 1
- HDD Tray x 16 (Installed in chassis)
- PCI-e x8 cable(1.5meter) x1
- Internal miniSAS(SFF8087) to miniSAS(SFF8087), 30cm x4
- Power Cord x 1 (if Redundant PSU x2)
- Hard Drive Mounting Screw x 64
- Key for HDD tray x 2



* Notify your sales representative if any of the above items are missing or damage





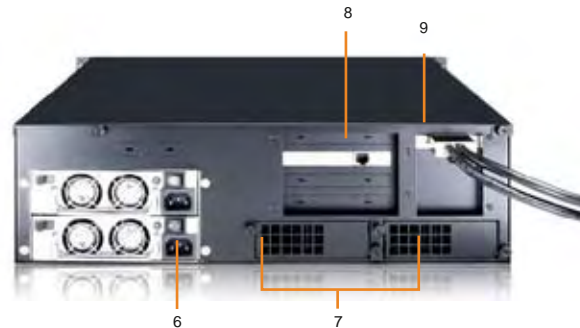
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Description of Panel Layout



1. HDD Power LED
2. HDD Status LED
3. Mute Button
Reset for Buzzer Beeping
4. Fan Status LED
Normal – Green;
Fail – Red (too slow rpm or stop)



5. Temperature LED
Normal – Green; Over 55°C – Red
6. Power Cord Receptacle
7. How-Swappable Blower Modules
8. RAID card slot
9. PCI-e HBA host bus adaptor

Build Up Procedures

1. Open the chassis by removing the cover
2. Place PCI-e x8 SAS or SATA control card (HBA) and other PCI-e cards into proper PCI-e slots of mAGE316U40-PCIe and fasten the RAID HBA via thumbscrew to chassis
3. Connect all miniSAS to miniSAS cables between the HBA backplane. Connect the first (top) of miniSAS connector on backplane to Channel 1-4 miniSAS connector on the HBA, second to Channel 5-8 miniSAS connector of HBA, the third Channel 9-12 miniSAS connector of HBA and the fourth Channel 13-16 miniSAS connector of HBA.



**** If you not going to install all of 16 HDD first time at PCI-E storage subsystem, please following the number order for the best data transfer performance.**



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Installation Instructions



1. Remove thumb screws to install RAID Card



2. Remove the IO bracket



3. Insert your RAID Card



4. Connect HDD Cable x4



5. HDD backplane cables connected



6. Connect PCI- e external Cable



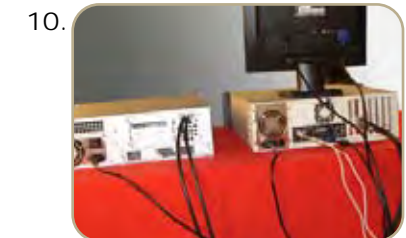
7. Insert PCI-e HBA into your computer system



8. Connect PCI-e External Cable



9. Put in your hard disk along with the tray



10. Plug in power cord and turn the power on



11. Your screen will show the RAID control card/ configure RAID disk and now the system is completely installed



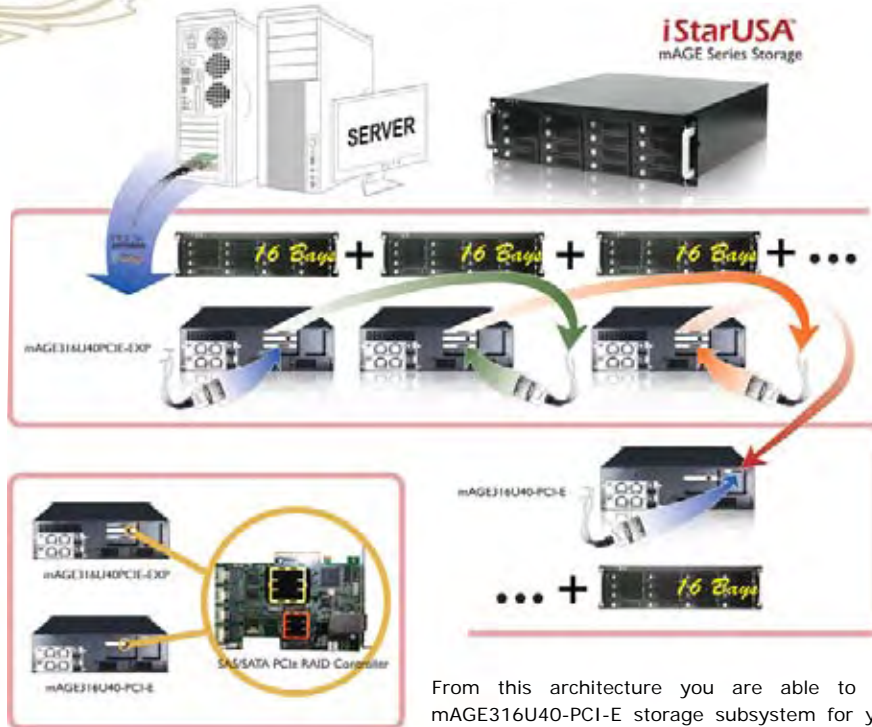


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mAGE316U40-PCI-e Role Chart

Expander technology for SAS/SATA storage subsystem with RAID HBA



From this architecture you are able to use mAGE316U40-PCI-E storage subsystem for your first PCIe external storage chassis, when you need to expand your storage capacity you add the mAGE316U40-PCI-E-EXP storage subsystem between your computing system and mAGE316U40-PCI-E. iStarUSA mAGE PCI-e Series storage subsystem provides scalability, high performance, expanability, and cost effectency.

Q&A (Questions and Answers)

1. If I move a PCI-e card from Workstation (Host) to mAge316U40-PCIE, will it work well and how do I install the driver?
Yes, don't worry. It will work in mAge316U40-PCIE as well as it was in the HOST. And the installation procedure of the driver is the same.
2. According to iStarUSA's catalogue, the chassis supports SGPIO, what's that for?
When any hard drive fail occurs, the red LED indicator on that tray will light. SGPIO function will be effective while SAS/SATA Raid HBA supports SGPIO function as well. (For instance, Areca's Raid Card)
3. Why does my monitor go blue and the HOST doesn't work after I build up the system?
It's probably because the HOST can only offer 4-lane PCI-e channel, even the slot appearance is 16-Lane. Please check "Notice " for solution.

Notice

s/w 1/off - Default(PCI-e x8)
s/w 1/on (PCI-e x4)



There must be at least one PCI-e (PCI Express) x8 or x16 "slot" in the host (workstation or computer). The slot could be PCI-e x4 even it is PCI-e x8 or PCI-e x16 in appearance. Please check the user's manual of the motherboard or server to make sure the specification.

If only PCI-e x4 is able to be offered, please switch both host adaptor card and target adaptor card to PCI-e x4 as the following figure.