RAID Function Limitations

Feature	Default Value	
	<1GB DIMM	**>=1GB DIMM**
64-bit LBA support (>2TB)	Yes	Yes
Number of LDs	16(Max.)	32(Max.)
Number of LVs	8(Max.)	16(Max.)
Number of Partitions per LD	16(Max.)	64(Max.)
Number of LUNs per channel ID	8(32Max.)	8(32Max.)
Number of LUNs	128(Max.)	1024(Max.)
Optimization Mode	Sequential I/O (Sequential or Random)	
Caching Mode (Default)	Write-Back (Write-Thru or Write-Back)	
Stripe size (Optimization for Sequential I/Os - RAID 5)	128KB (4/8/16/32/64/128/256KB/512/1024KB)	
Auto-assign Global Spare	Disable (Enable/Disable)	
Optimization for Sequential Mode of LD capacity	64TB(Max.)	
Number of Media Scan Task Schedules	16(Max.)	
Member Drives / DIMM (RAID5) of LD	128 drive (Max.)/512MB	

Product P/N	Pre-installed Memory Size on Each Controller Module
ES A24F-G2224-M5	512MB DDR Cache Memory
ES A24F-G2224-MA	1GB DDR Cache Memory
ES A24F-G2224-MB	2GB DDR Cache Memory

For more details on the Firmware, please refer to the ***Fibre to SATA RAID Subsystem's Operation Manual*** that came with your ***Product CD***.

MA24FAXT15

Infortrend®

EonStor® A24F-G2224 Subsystem
Quick Installation Guide
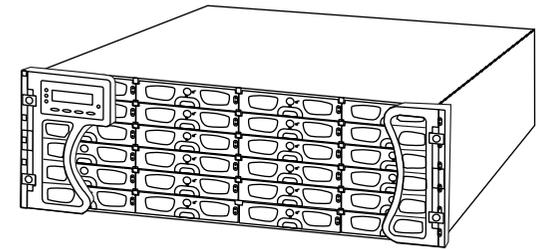
Precautions

1. The system is heavy even without drives installed. At least three (3) people will be required to install the subsystem.

2. The rack cabinet into which this subsystem will be installed must support overcurrent protection and must not be overloaded by the modules installed. Other requirements, such as ventilation airflow, rack stabilizing features, electrical earth, and electrical distribution, must comply with the technical specifications listed in the documentation that came with this product.

3. System Integrators should ensure that any integrated storage solution that includes this product has been tested and proved to meet government regulations and codes for subjects including safety, fire, and electrical.

4. The EonStor A24F-G2224 comes with pre-installed DIMM modules in its RAID controller units.

5. Make sure you have a soft, clean surface on which to place your subsystem before working on it. Placing the system on a rough surface during servicing may damage the chassis finish.

6. Do not remove any module or component item from its anti-static bag until you are ready to install it. Pick up and hold modules by their edges or canister. Avoid touching PCBs and connector pins.

7. Observe all standard ESD prevention methods, e.g., wear an anti-static wristband to prevent static electricity from damaging the electric components.

8. The EonStor A24F-G2224 can be rackmounted in the industry standard 19-inch racks. The 32" or 36" slide rail mounting kits are sold separately.

Installation Procedures

1. Unpacking the Subsystem
2. Hard Drive Installation
3. Drive Tray Installation
4. Subsystem Cable Connections
5. DIP Switch Settings
6. Power On

Pre-installed Modules

1. LCD panel
2. Front handles
3. Controller modules
4. DDR RAM DIMM module
5. Host I/O modules
6. Cooling modules
7. Power supply units (PSUs)
8. Backplane board

Modules to be Installed

1. Hard drives
2. Drive trays (MUX kit preinstalled)
3. Power cords (and cable clamps)
4. COM1 and COM2 (RS-232C and UPS) serial cables
5. Ethernet cable(s)
6. SFP transceiver and FC cables
7. Battery backup unit (BBU) (Optional)

Optional Battery Backup Unit (BBU) Installation

The BBU module is an optional item that must be purchased separately. Prior to installing the BBU module, power off the subsystem or restart the subsystem after the installation. To install the BBU, please follow these instructions:

Step 1. Remove the BBU slot dummy plate by loosening the hand screw located on the rear of the plate, then pull it out of the chassis. (See *Figure 12*)

Step 2. Align the BBU module with the BBU module slot. Gently insert the BBU module until the back of the BBU module reaches the end of the slot. Secure the BBU module to the chassis by tightening the hand screw on the back of the BBU module. (See *Figure 13*)
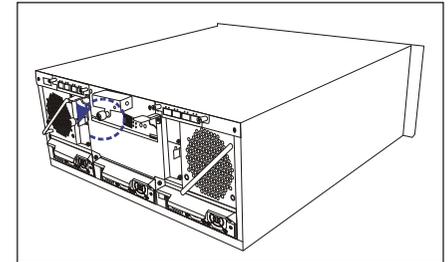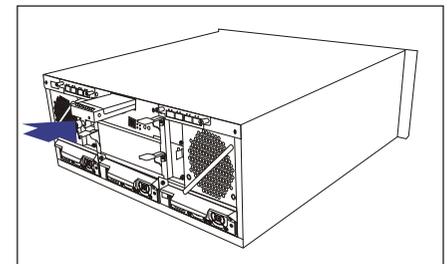

Figure 12: Removing the BBU Slot Dummy Plate

Figure 13: Installing the BBU Module

DIP Switch Settings

Prior to installing the subsystem into a storage environment, the DIP switch settings must be made. The DIP switch is located on the enclosure configuration card on the upper left of the enclosure rear panel. The DIP switch is shown in *Figure 11* and the switch definitions are explained below.

Channel Hub Enable/Disable (DIP 4)

Enable the hub allows controller access all FC ports on two I/O modules. If the hub is disabled, only two FC ports from the right of each I/O module are functional. Keep default setting of this DIP switch is recommended.

Figure 11: Enclosure DIP Switch

Host Channel Speed (DIP 5)

If the default setting is retained, the FC-AL loop will detect the available device and run at that speed. If you change the default setting, the channels will continue running at 1Gbps. Note that for the FC-AL loop to run in a new speed, the following items should also be adjusted:

• Firmware running on the subsystem
• Hyper terminal
• HBA card on the host computer

Power On

To power on the subsystem, follow these steps:

Step 1. Install all the hardware components.

Step 2. Make all the connections described above.

Step 3. Power on any external devices that are not directly connected to the host computer (e.g., hubs and switches.)

Step 4. If you have daisy chained subsystems, power on the subsystems that are not connected directly to the host computer(s).

Step 5. Power on the A24F-G2224 subsystem by turning on the power switch on the subsystem's rear panel. For the location of the power switch, please see *Figure 5*. The subsystem may take more than one minute for self test and system initialization.

Step 6. Power on the host computer(s). Please refer to the documentation that came with your host computer for the power on procedure.
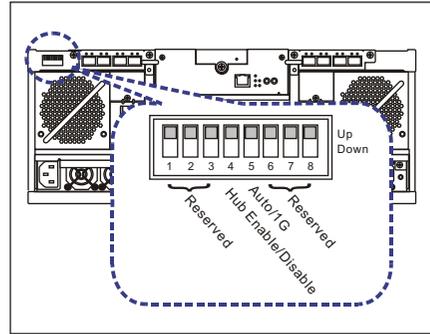
Unpacking the Subsystem

Check the included *Unpacking List* and verify the model name and shipping contents against the list.

Installing Hard Drives into Drive Trays

Step 1. Place the SATA hard drive into the drive tray. Make sure that the hard drive connector lines up with the rear of the tray and the label side is facing up. (See *Figure 1*)

Step 2. Secure the hard drive using four (4) of the supplied 6/32 flat-head screws through the pre-drilled holes on the sides of the drive tray.
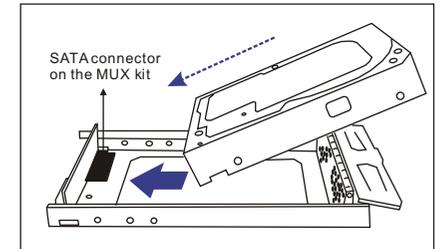

SATA connector on the MUX kit

Figure 1: Installing a SATA Hard Drive

Once the hard drives are installed into drive trays, install all twenty four (24) drive trays into the subsystem. Please refer to the drive tray installation procedures below or in the *Installation and Hardware Reference Manual* located in the *Product CD*.

Drive Tray Installation

Step 1. Use a flathead screwdriver to turn the drive tray key-lock to the unlocked position, i.e., the groove on its face is in a horizontal orientation. (See *Figure 2*)

Step 2. Open the front flap on the drive tray by pushing the release button on the front of the drive tray. The front flap will be opened in an upward direction. (See *Figure 3*)

Step 3. Line the drive tray up with the slot in which you wish to insert it. Make sure that it is resting on the rails inside the enclosure, and then gently slide it in. This should be done smoothly and gently. (See *Figure 4*)

Step 4. Close the front flap on the drive tray. Make sure the front flap is closed properly to ensure that the connector on the back of the drive tray is firmly connected to the corresponding connector on the backplane board. If the front flap is not closed properly, then the connection between the hard drive and the subsystem will not be secure.

Step 5. Lock the flap in place by turning the key-lock until the groove on its face is in a vertical orientation.
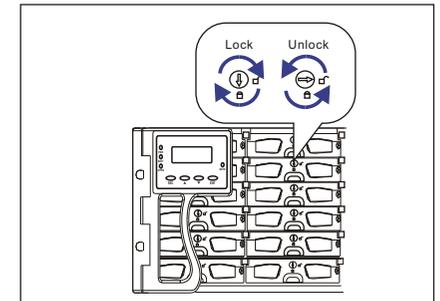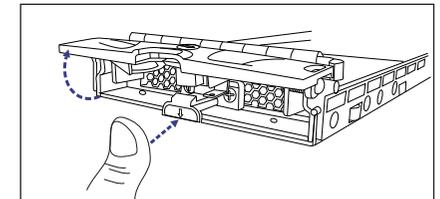

Lock   Unlock

Figure 2: Drive Tray Key-Lock Rotation
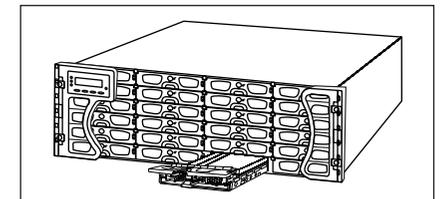

Figure 3: Opening Drive Tray Front Flap

Figure 4: Installing a Drive Tray

Subsystem Cable Connections

Power Cords

Step 1. Connect the three (3) provided power cords to the power sockets on the back of the subsystem. (See **Figure 5**)

Step 2. Make sure the power source is within the correct power range (90 to 264VAC) prior to powering on. Auto-ranging is supported by the power supply modules.

Step 3. Plug the other end of the power cords into the power source.

Cable Clamp Installation

Step 1. Connect the cable clamp to the cable strap. Insert the flat angled end of the cable strap through the small opening (the tie head) underneath the cable clamp with the smooth side of the strap facing up and the ribbed side facing down and the release tab at the end. (See **Figure 6**)

Step 2. Connect a power cord to a subsystem power socket so that you can determine the correct position of the cable clamp. **Figure 7** shows the relative positions of a power cord, the cable clamp, and cable strap. Press down the release tab to adjust the position of the cable clamp along the strap.

Step 3. Mount the cable clamp to the chassis by inserting the push-in barb anchor on one end of the cable strap into the pre-drilled hole underneath the power supply.

Step 4. Secure the power cord with the cable clamp. Flip open the cable clamp and wrap it around the power plug. If necessary, use the release tab to adjust the location of the clamp so it aligns with the base of the power cord as shown below. Press the clip lock on the side of the clamp until it snaps into position. Now the power cord connection is secured. (See **Figure 8**.)

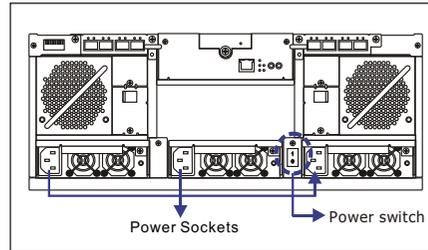**Step 5.** Repeat the process to secure every power cords to the subsystem.

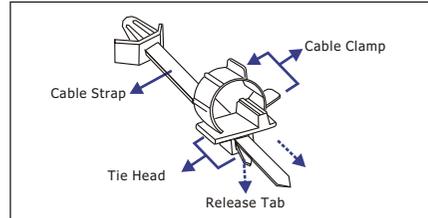**Figure 5: Locations of Power Switch and Power Sockets**

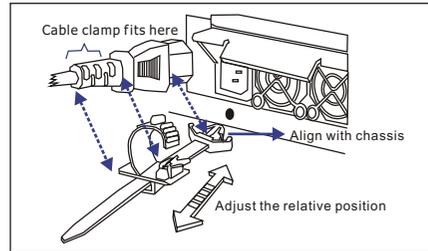**Figure 6: Inserting Cable Strap into Cable Clamp**

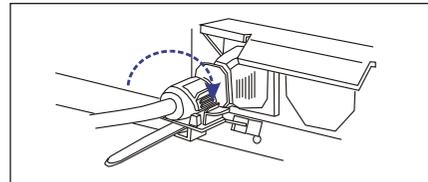**Figure 7: Power Cord, Cable Clamp, and Cable Strap Positions**

Figure 8: Power Cord Locked into Position

LAN Port

After the subsystem has been assigned a permanent IP, a shielded Ethernet cable can be used to connect the LAN port to a network hub, enabling you to manage your subsystem via standard TCP/IP. (See **Figure 9.**)

COM Ports

Each controller module comes with two (2) COM ports. (See **Figure 9.**) The port on the left (COM1) is reserved for terminal emulation management. This port can be used to assign a permanent IP to the ES subsystem. The port on the right (COM2) is used for UPS connectivity. One (1) audio-jack to DB9 cable is provided to facilitate the connection of COM1 port. Purchase an additional cable to connect the subsystem to a UPS through the COM2 port.
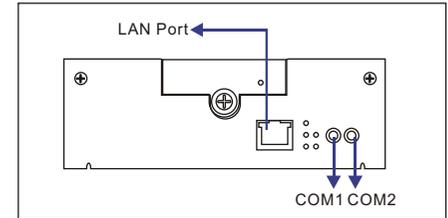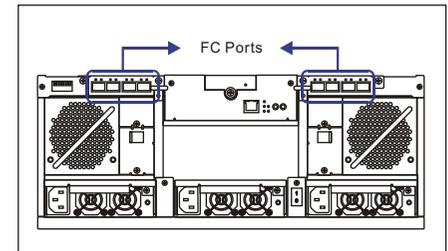

Figure 9: Locations of FC Ports

Figure 10: Locations of FC Ports

Host Channels

The A24F-G2224 comes with eight (8) FC ports on two (2) separate host I/O modules for host connectivity and daisy chaining (see **Figure 10**.) SFP transceiver modules and Fibre Channel optical cables are user-supplied items and should be purchased separately. By default, the onboard hub is enabled in both I/O modules. For more information on host connection and sample topologies, please refer to **Chapter 4** of the included **Installation and Hardware Reference Manual**.

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