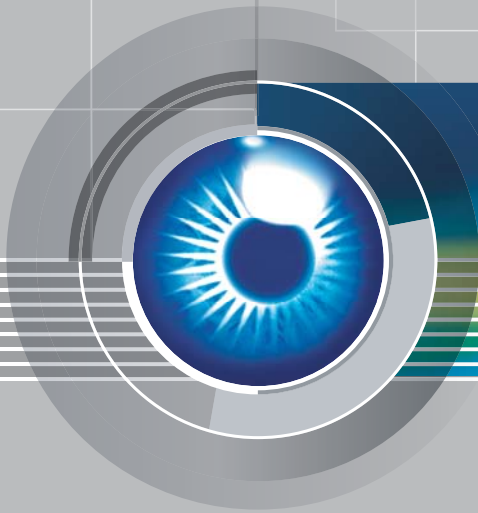


Quick Start Guide

The Vision of Security

RAID Controller



Listed Product including appearances and images are samples and for reference only.
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GeoVision, Inc.
9F, No. 246, Sec. 1, Neihu Rd.,
Neihu District, Taipei, Taiwan
Tel: +886-2-8797-8377
Fax: +886-2-8797-8335
<http://www.geovision.com.tw>

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March 2014

Preface

This guide provides importance notices to use the RAID Controller system and short instructions on building a RAID 5 virtual drive with the MegaRAID Storage Manager configuration.

There are two methods to configure RAID arrays:

- WebBIOS configuration
- MegaRAID Storage Manager configuration

For the quick build of a RAID virtual drive, it is recommended to use the MegaRAID Storage Manager configuration.

For details on the WebBIOS configuration, see Chapter 2 of *RAID Controller User's Manual*.
For details on the MegaRAID Storage Manager configuration, see Chapter 3 to 7 of *RAID Controller User's Manual*.

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1. Recommended Hard Drive and RAID Group Requirements

Recommended Hard Drive

To ensure compatibility between RAID Controller and hard disk drives, we strongly suggest you use the hard drives of enterprise level designed for RAID Controller or Multi-Bay unit, such as [WD XE Series](#), [WD Re Series](#), [Seagate ES.3 series](#), [HGST Ultrastar series](#).

The following models have been tested and approved for use with GV-Hot Swap Surveillance System V5:

Brand	Model	Capacity
WD	WD1003FBYZ	1 TB
WD	WD4000FYYZ	4 TB
HGST	HUS7404ALA640	4 TB

RAID Group Requirements

For ensuring high performance of RAID group deployment, the maximum number of recording channel that you can assign to a single RAID 5 group is suggested as below.

Video resolution	Frame rate	Max. channel per group
1.3 MP (1280 x 1024)	30 fps	50 CH (6.16 Mbps)
2 MP (1920 x 1080)	30 fps	32 CH (12.59 Mbps)
3 MP (2048 x 1536)	20 fps	40 CH (9.83 Mbps)
4 MP (2048 x 1944)	15 fps	36 CH (10.4 Mbps)
5 MP (2560 x 1920)	10 fps	46 CH (8.5 Mbps)

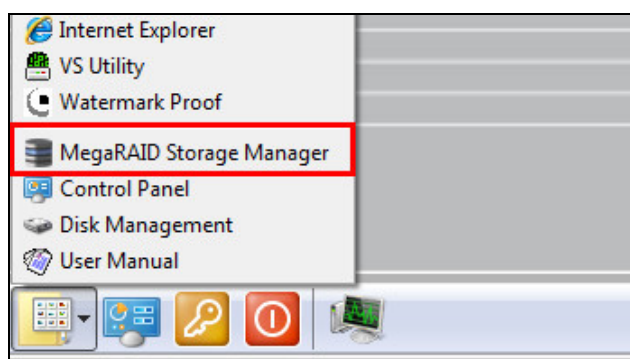
Note: The suggested maximum number of channel (using the bit rate listed above) is based on the test performance of the RAID 5 group composed of 4 hard drives.

2. Quick Build of RAID 5 Virtual Drive

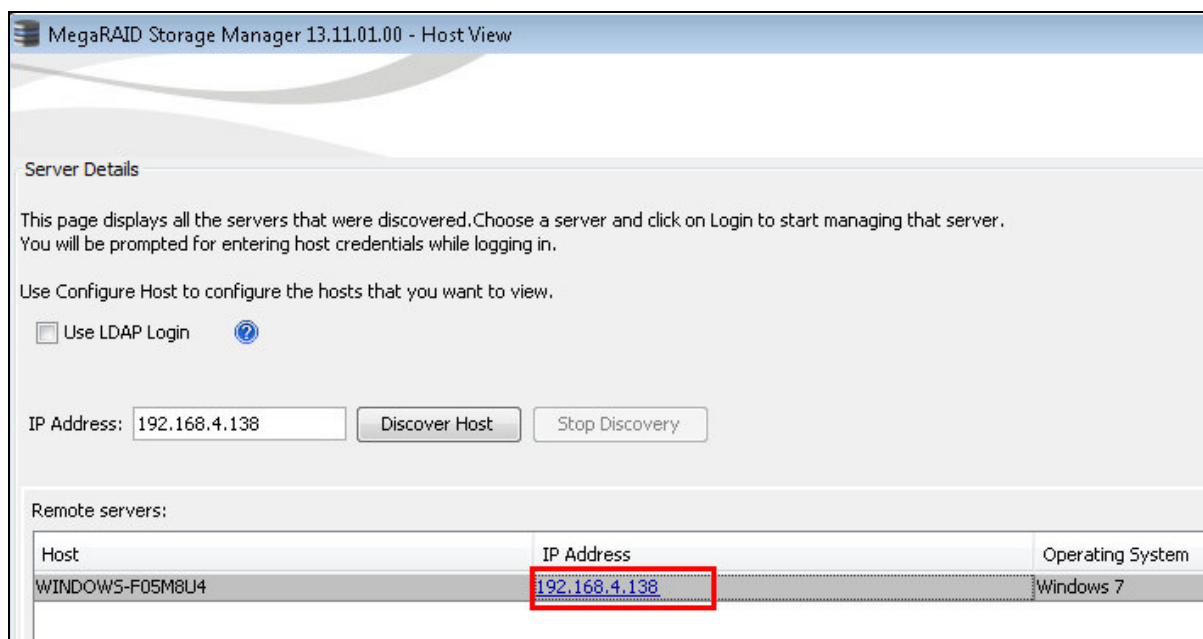
Here is an example of the quick setup of a RAID 5 virtual drive by using the MegaRAID Storage Manager configuration.

Creating a RAID 5 Virtual Drive

1. On the desktop, click **Start** and select **MegaRAID Storage Manager**.



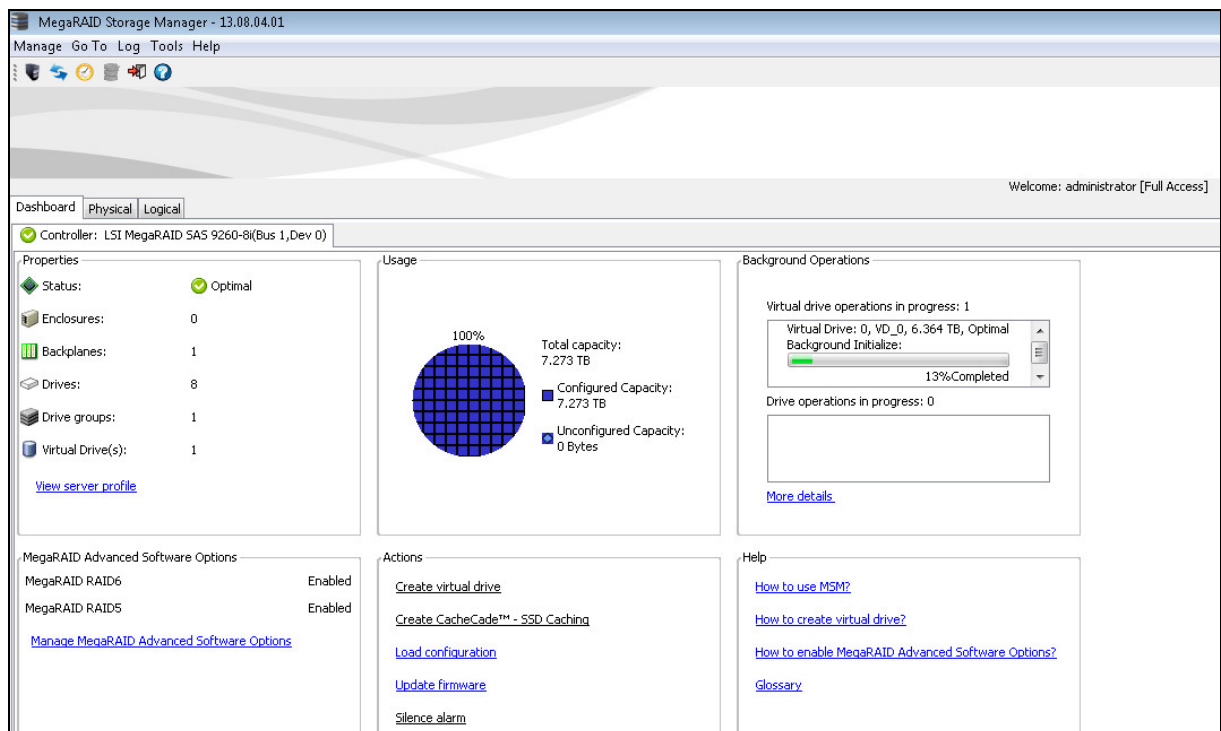
2. Type the default ID and password **0000** to log in the system. The Host View window appears, with the MegaRAID Storage Manager server being displayed in the Remote Servers column.



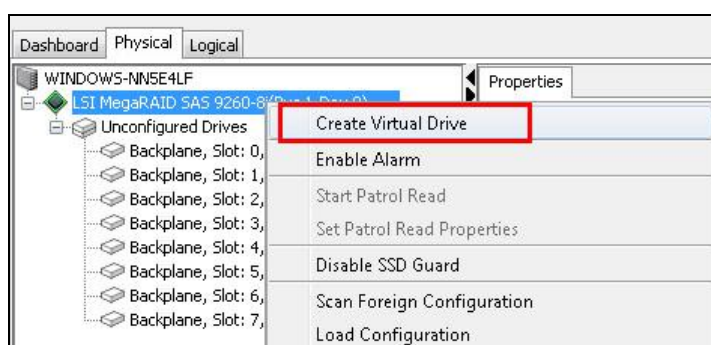
- Click the IP address, type **administrator** for the User Name and leave the password field blank.



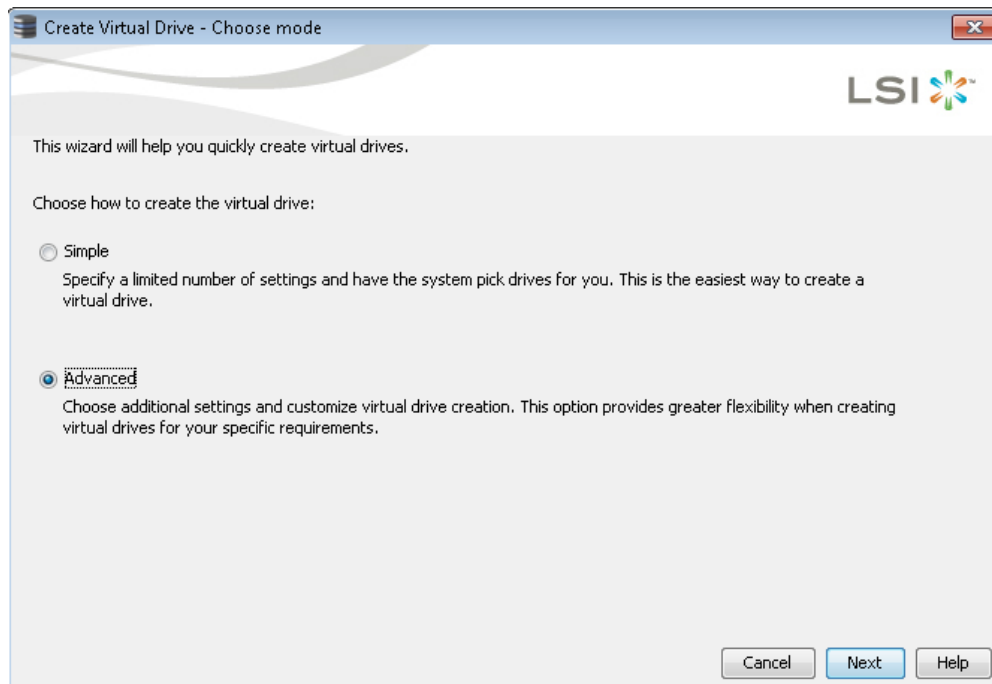
- Click **Login**. The MegaRAID Storage Manager window appears.



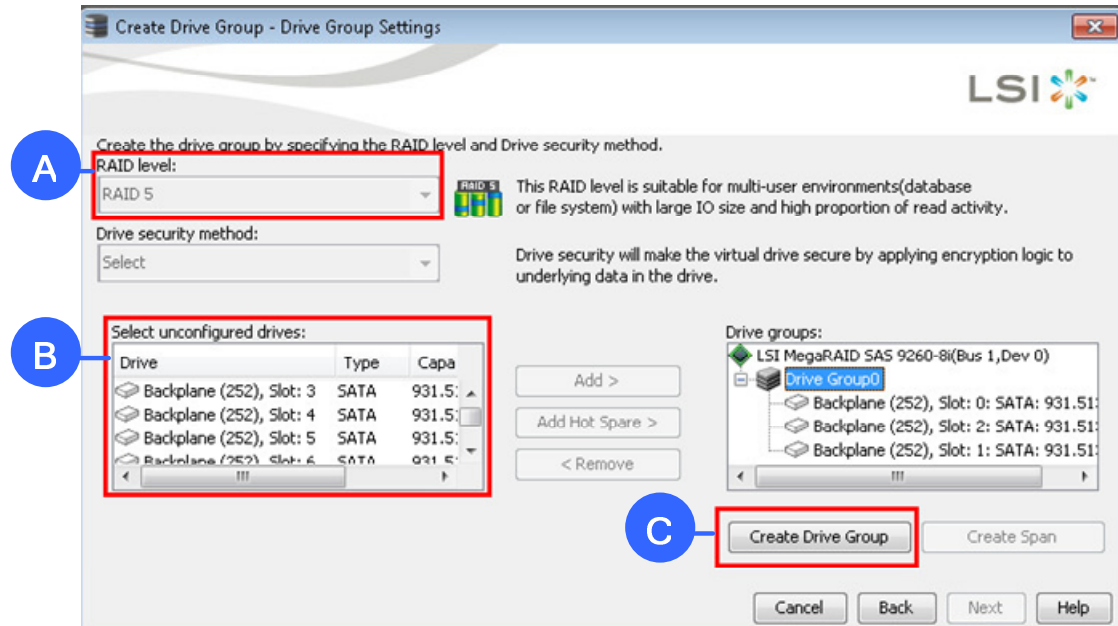
- Under the **Physical** or **Logical** tab, right-click the installed RAID Controller and select **Create Virtual Drive**.



- In the Choose Mode window, select **Advanced** for flexible setting of the virtual drive and click **Next**.

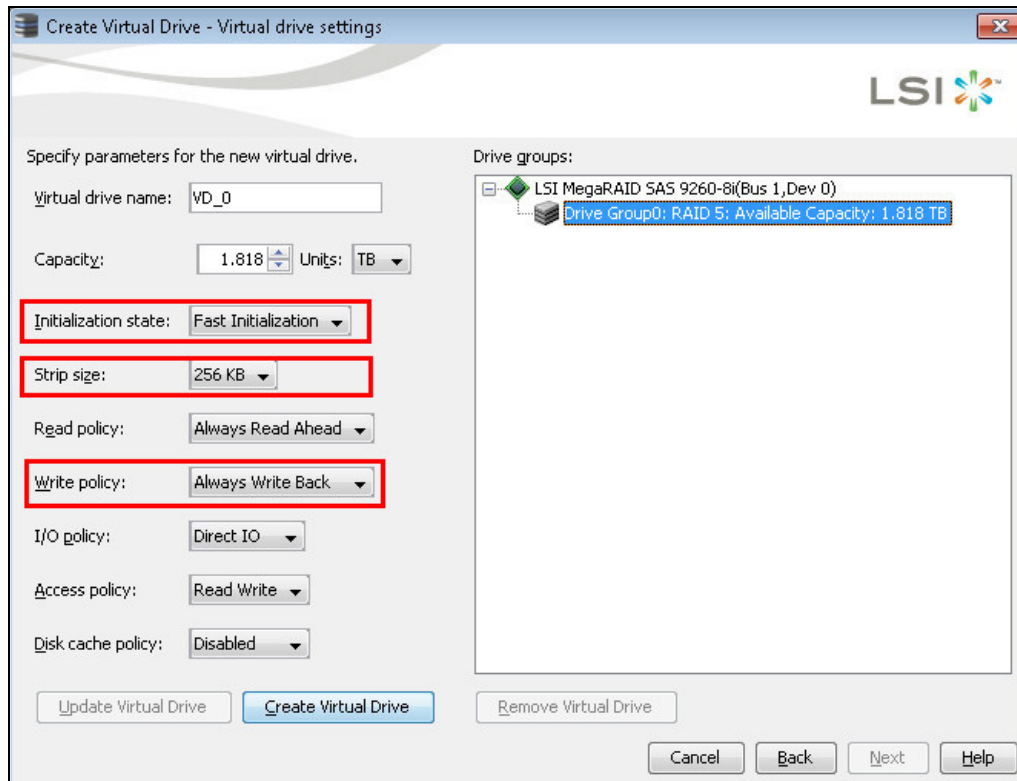


- In the Drive Group Settings window, follow the steps below to create a drive group.



- For the RAID level, select **RAID 5**.
- Select the desired unconfigured drives and click **Add** to add the selected drives to the drive group. To build a RAID 5 virtual drive, you must choose at least 3 physical disks in the GV-Hot Swap Surveillance System V5.
- Under the Drive Group column, click **Create Drive Group**.

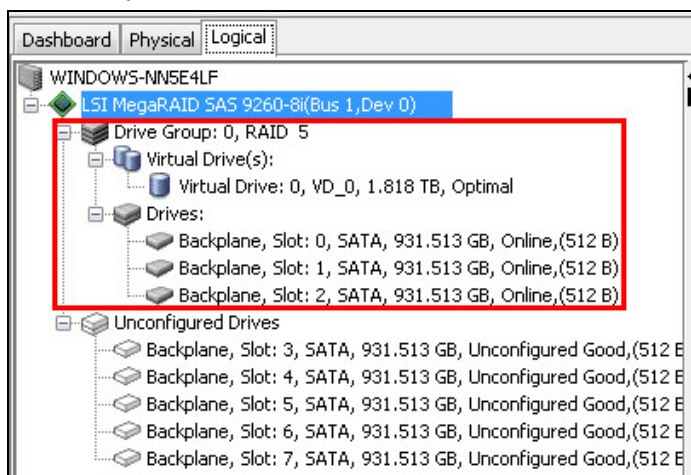
8. Click **Next**. The Virtual Drive Settings window appears.



9. Select **Fast Initialization** for the Initialization State, **256 KB** for the Strip Size and **Always Write Back** for the Write Policy. Keep other default settings or change them if necessary.
10. Click **Create Virtual Drive** and **Next**.

Note: Click **Yes** when a warning message for the Always Write Back mode appears.

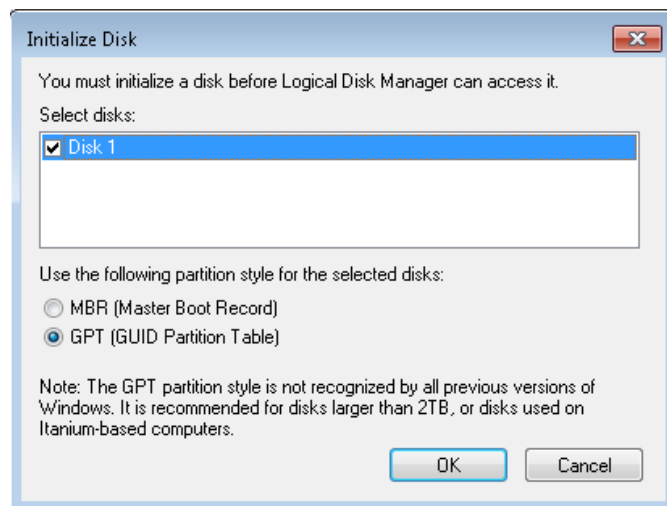
Under the **Logical** tab of the MegaRAID Storage Manager window, the details of the created drives are displayed.



Initializing the Disk

The created disk drive of RAID 5 must be initialized for the Local Disk Manager to access. For the configuration, follow the steps below.

1. On the desktop, click **Start** and select **Disk Management**. The Initialize Disk dialog box appears on the main page of Disk Management.



2. Click the created disk and select a partition style.

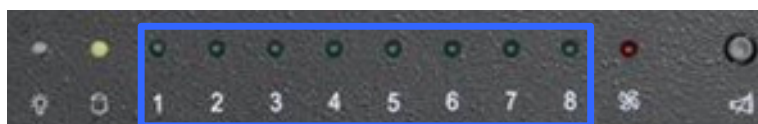
Note: For the disk drive with the capacity of over 2 TB, select **GPT (GUID Partition Table)** as the partition style.

3. Click **OK**. The created disk is successfully initialized.

For details on formatting the created disk, see *3.4 Formatting the Hard Drive* in *GV-Hot Swap Surveillance System V5 (Rev. B) User's Manual*.

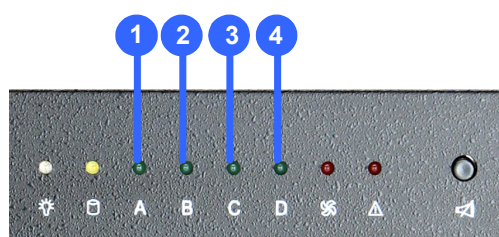
3. RAID LED Status

3U (8-Bay) Model



LED	Description
RAID Status LED	The RAID Status LED labelled 1 will be a constant light when the hard drive on Slot 1 fails, and so forth. For details, see <i>Hard Drive Failure</i> later in this Quick Start Guide.

3U (16-Bay) and 4U (20-Bay) models



No.	LED	Description
1	RAID Status LED	This LED will be a constant light when any hard drive of the RAID group fails. For details on which hard drive fails, see <i>Hard Drive Failure</i> later in this Quick Start Guide.
2	Writing LED	This LED will be on to indicate the data writing to the RAID groups.
3	LED C	Not functional.
4	LED D	Not functional.

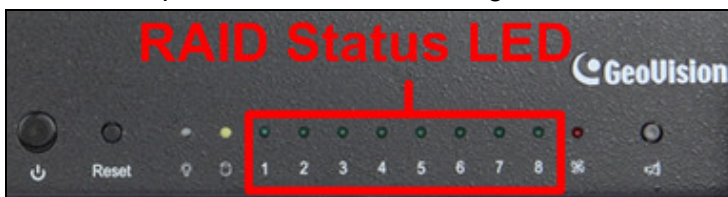
Note: The LED status indicated above is only available for the RAID controller system. If your GV-Hot Swap Surveillance System V5 does not include a RAID controller, the LED status will be different. For details, see 2.2 LED Panel View in the *GV-Hot Swap Surveillance System V5 (Rev. B) User's Manual*.

4. Hard Drive Failure

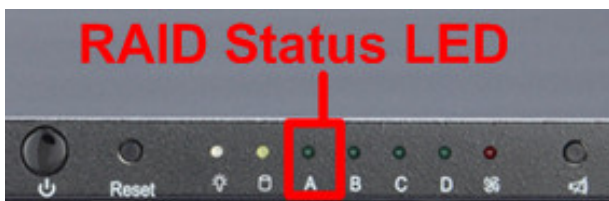
For the hard drive failure on the GV-Hot Swap Surveillance System V5, there are two ways of indication.

LED Status Change

For **3U (8-Bay) Model**, when the hard drive on Slot 1 fails, the RAID Status LED labelled 1 on the front panel will be a constant light, and so forth.

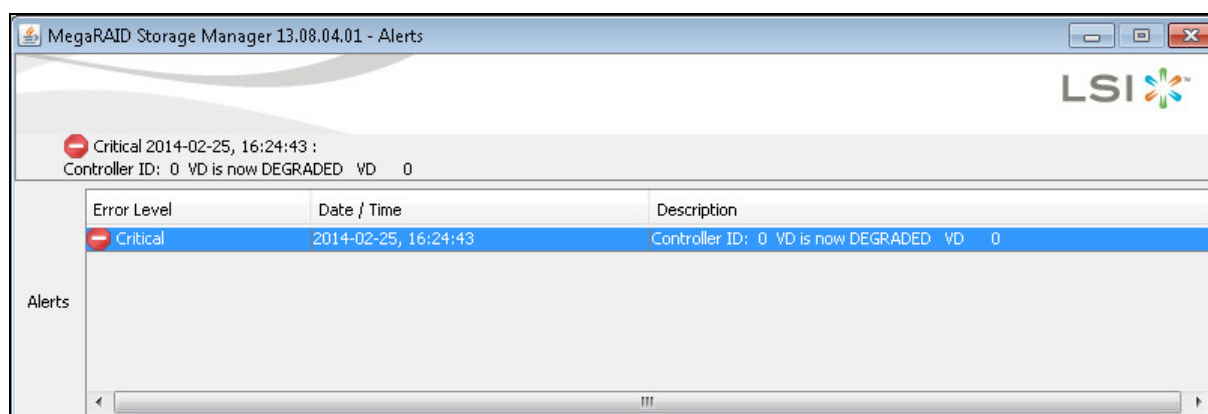


For **3U (16-Bay) and 4U (20-Bay) models**, the RAID Status LED will be a constant light when any hard drive of the RAID group fails.




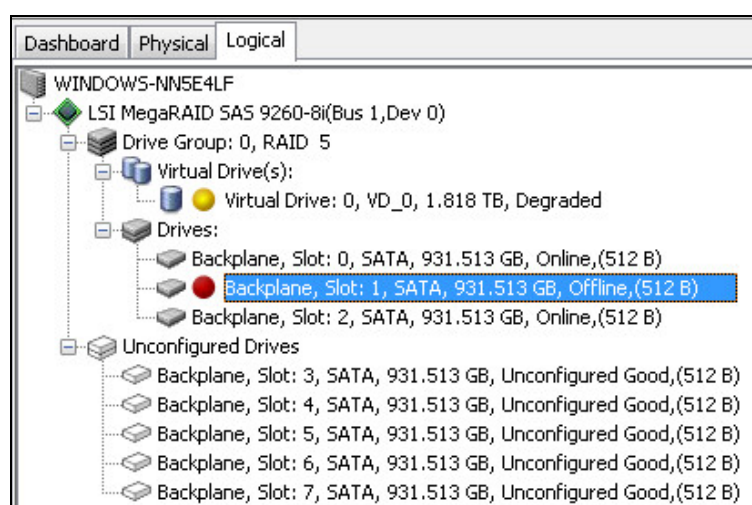
Warning Message on MegaRAID Storage Manager

When a hard drive fails, a warning message pops up on the desktop as below.



To check which hard drive fails, follow the steps below:

1. Run the **MegaRAID Storage Manager** software and click the **Logical** tab.
2. In the Drive List, find the hard drive marked with a red spot  next to its icon.



3. Remove the failed hard drive from the corresponding slot.

IMPORTANT: The **Slot 0** displayed under the Drive List in the Logical View corresponds to **Slot 1** on the GV-Hot Swap Surveillance System V5, and so forth.

Warning: If you remove the hard drive from the wrong slot, you could suffer data loss.

For the order of hard drive slots on the GV-Hot Swap Surveillance System V5, refer to the figures below:

3U (8-Bay) Model



3U (16-Bay) Model



4U (20-Bay) Model

