



Installing the Hardware

2.1 Overview

This chapter describes how to install the RAID Subsystem and connect UDMA drives to make the RAID subsystem ready to use. The following contains step-by-step instructions to successfully install your new RAID subsystem in your computer system.

2.2 Step Action

1. Unpack the RAID subsystem and inspect for damage. Make sure all items are in the package.
2. Identify RAID subsystem Parts.
3. Turn off the computer
4. Setting UDMA devices.
5. Loading Drive to the Drive Tray.
6. Connecting RAID subsystem to HOST system.
7. Power on RAID subsystem
8. Configure the RAID subsystem.
9. Power on Host system

Step 1 Unpack

Unpack and install the hardware in a static-free environment. The RAID subsystem is packed inside an anti-static bag between two sponge sheets. Remove it and inspect it for damage. If the RAID subsystem appears damaged, or if any items of the contents listed below are missing or damaged, please contact your dealer or distributor immediately.

Checklist

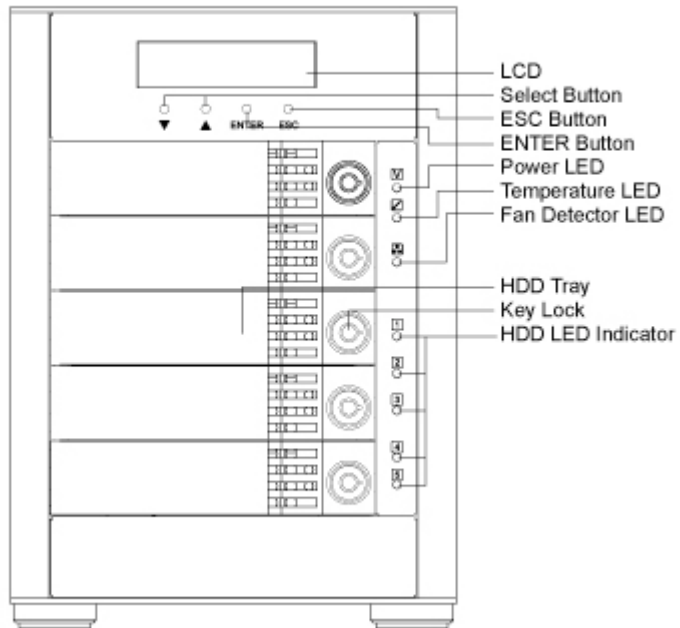
The RAID subsystem kit may have included the following items in the ship package:

- RAID subsystem
- Key and screws bag
- One Firewire 800 Mb cable and one USB2.0 cable to interconnect the RAID subsystem and Host system with Firewire 800 Mb Port. (Vanguard V-FW)
- User manual
- Downloadable Software and Manual.
- Serial communications null-modem cable
- AC power cord

Step 2 Identify RAID subsystem part

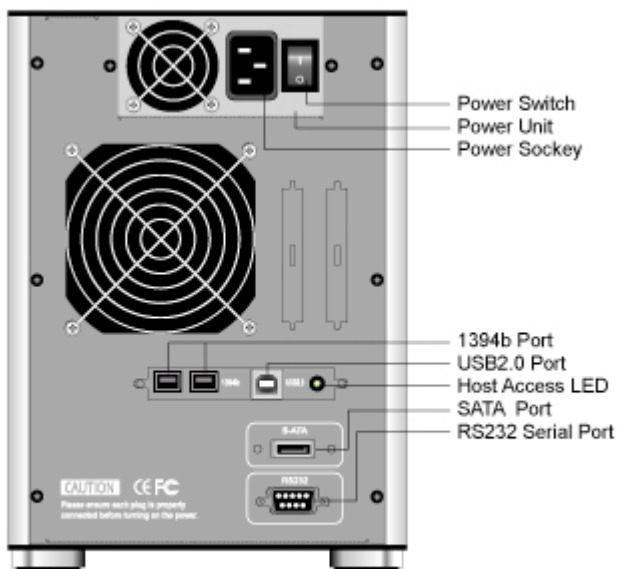
The following figures illustrate the connector locations for the RAID subsystem

Front View for NitroAV Vanguard V

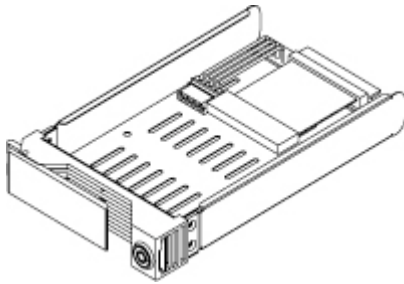


1. Voltage level, Temperature, Fan Indicator
2. HDD LED Indicator Status
3. HDD Tray 1~5

1.Back View (Vanguard V FireWire800/1394b)



3. Tray Module



Step 3 Power Down Host System

Turn off the host computer and disconnect the power code.

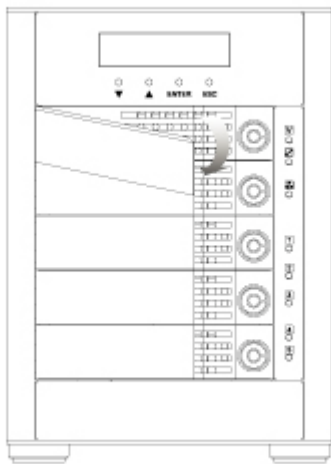
Step 4 Configuring UDMA Drives

Each UDMA drive installing in the RAID subsystem must be configured as a “master” drive for your system. If your UDMA drive is configured as to the “Slave” drive, you must change it **as a “Master” drive**. Changing jumper settings on the drive can switch from slave to master mode. Most hard drives are always shipped with the Master jumper setting enabled.

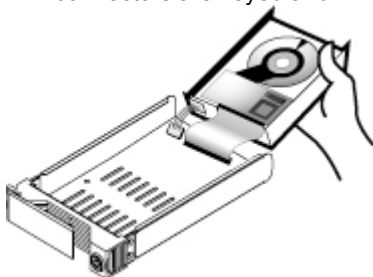
Step 5 Loading Drive to the Drive Tray

The RAID subsystem supports five Ultra ATA/133 IDE channels. Each channel can run up to 133MB/S.

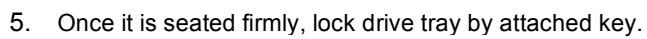
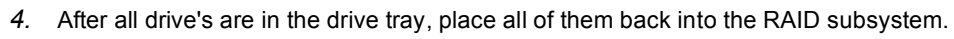
1. Gently take out the drive trays from the RAID subsystem by pulling out on the lever.



2. Attach the drive trays power cable to the disk drive first, and carefully push drive trays data cable to the disk drive. Those connectors are keyed and will only fit one way.



3. Make sure the connectors are firmly seated; secure the drive to the hot-swap tray with attached screws.



Step 7 RAID Creation Method

It is necessary to connect LCD panel with keypad or a serial device (terminal emulation) in order to create the RAID system.

Method 1: LCD Panel with Keypad

The LCD status panel informs you of the Disk Array's current operating status at a glance. For additional information on using the LCD panel and keypad to configure the RAID subsystem see "LCD Configuration" on Chapter 6.

Note:

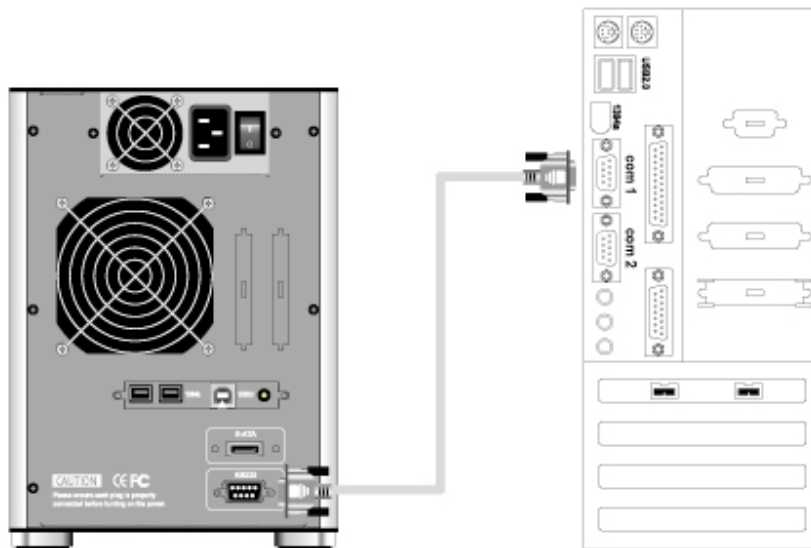
There are a variety of failure conditions that cause the RAID subsystem monitoring LED to light. Table 1-1 provides a summary of the front panel LED and RAID subsystem LED.

LED	Normal Status	Problem Indication
Power LED	Bright Green	The LED does not light up until power switch is turned ON.
Temperature LED	LED lights up bright Green	The LED will blink RED if the internal temperature rises above the Spec. setting.
Fan LED	LED lights up bright Green	The LED will blink RED if there is a fan problem.
HDD LED Indicator	LED Lights up GREEN when HDD ready.	This LED will blink RED if there is a Disk Error.
Host Access LED	Blinks GREEN during host computer accessing the RAID subsystem	LED Never flickers.

Method 2: Serial Port Connection

The RAID subsystem can be configured via a VT-100 compatible terminal or a PC or Mac running a VT-100 terminal emulation program. The provided interface cable converts the RS232 signal of the 10-pin header connector on the RAID subsystem into a 9-pin D-Sub male connector. You can attach a serial (Character-Based) terminal or server com port to the RAID subsystem for access to the text-based Setup Menu. The following setup is connecting the server com port to the RAID subsystem for access to the text-based Setup Menu

Note: Using RS-232 cable supplied with the kit to the RAID subsystem and the Host system.



Step 9 Turn on RAID subsystem

Step 10 Configure RAID Subsystems

You can configure RAID subsystem either through the LCD Configuration utility or RS232C out of band management utility. The RAID subsystem supports VT-100 terminal or CD-ROM bootable VT-100 utility and HTTP Proxy web-browser management through the RS-232C port. Please reference the Chapter 4, Chapter 5 and Chapter 6 for the configuration.

Step 11 Power on Host system

1.1 Hot-plug Drive Replacement

The RAID subsystem supports the ability of performing a *hot-swap* drive replacement without powering down the system. A disk can be disconnected, removed, or replaced with a different disk without taking the system off-line. The RAID rebuilding will be processed automatically in the background. When a disk is hot swap, the RAID subsystem may no longer be fault tolerant. Fault tolerance will be lost until the hot swap drive is subsequently replaced and the rebuild operation is completed.

1.1.1 Recognizing a Drive Failure

A drive failure can be identified in the following way:
Amber LED illuminates on the front of RAID subsystem system if failed drives are inside.

1.1.2 Replacing a Failed Drive

With our RAID subsystem drive tray, you can replace a defective physical drive while your computer is still operating. When a new drive has been installed, data reconstruction will be automatically started to rebuild the contents of the disk drive. Please refer to page19~page21 to replace the "Hot-Swap" Drive.

Step a. Gently pull-out the HDD tray

(When a HDD error occurs, the HDD LED indicator lights up "Amber")

Remove the drive tray you wish to replace from the RAID subsystem by firmly pulling on the drive carrier's handle and sliding out the drive tray.

Step b Unscrew

Remove all the four mounting screws before remove the power and data cable.

Step c. Unplug the Cables

Unplug the power and data cable and remove the defective disk drive from hot-swap frame. Please be careful to remove the data cable to prevent it from damaging.

Note: The capacity of the replacement drives must be at least as large as the capacity of the other drives in the RAID set. Drives of insufficient capacity will be failed immediately by the RAID subsystem without starting the Automatic Data Rebuild.