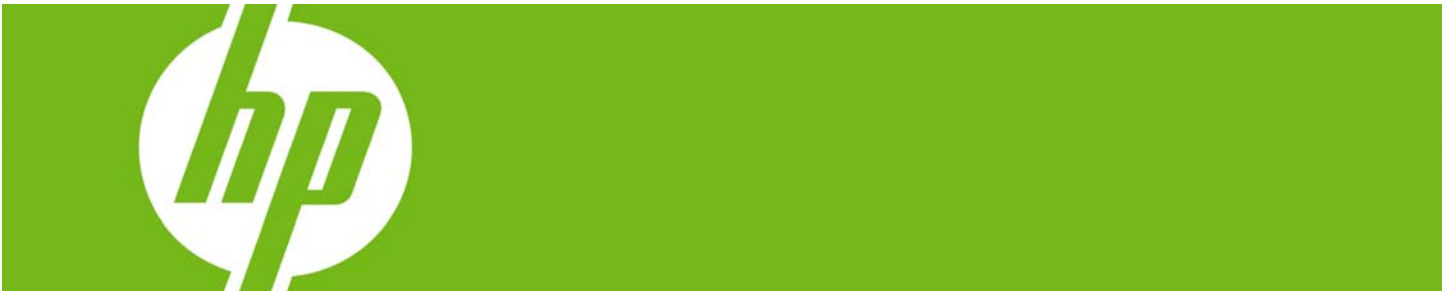


Setting up SATA RAID on the HP xw4300 Workstation

Mini-White Paper



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Introduction

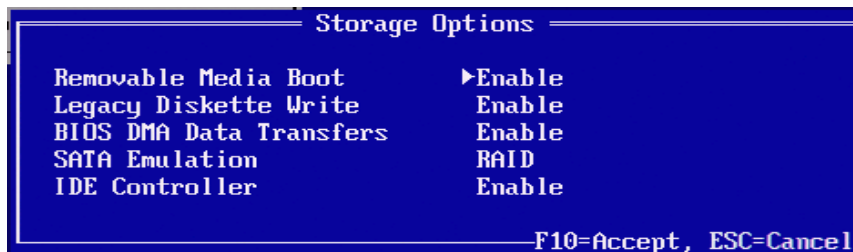
This document details the steps needed to setup RAID 0, RAID 1, RAID 5 and RAID 10 disk configurations on an HP xw4300 Workstation. Additional information on these RAID modes can be found in the *Workstation RAID Primer* mini-white paper which can be found by visiting www.hp.com/support/xw4300_manuals and selecting the **White papers** quick jump link.

Steps

These steps are common to all RAID configurations. RAID-configuration-specific values are given as needed.

1. **Install Drives.** With the power off, physically install the correct number of SATA drives using any combination of the 4 available SATA ports. Table 1 below indicates the number of drives to install.
2. **Enable RAID.**
 - a. Boot the system and enter **BIOS Setup (F10)**.
 - b. Using the **Arrow** keys and the **Enter** key, go to **Storage** and then **Storage Options**. SATA Emulation must be set to "RAID."

Figure 1. Storage Options



- c. Next, enter **Advanced**, then **Device Options**. SATA RAID OPTION ROM Download must be set to "Enable." Leave the other settings as you found them. Press **F10** twice and **Enter** to save these settings. The system will reboot.

Figure 2. Device Options



3. **Configure the RAID Volume.** When the system comes up it will prompt to enter the Intel Matrix Storage Manager Configuration Utility.
 - a. Press **CTRL-I** to enter the Utility
 - b. Select "Create RAID Volume."
 - c. Volume Name – enter a name for the RAID Volume (default is "Volume0")
 - d. RAID Level – Select the desired RAID level with the up/down arrow keys (default is RAID 0)
 - e. Disk Select – Press Enter, use the up/down arrow keys to move over the drives in list, use the space bar to select the drive for the volume. Make sure that the correct number of drives is selected, per Table 1 below.

Figure 3. RAID Volumes

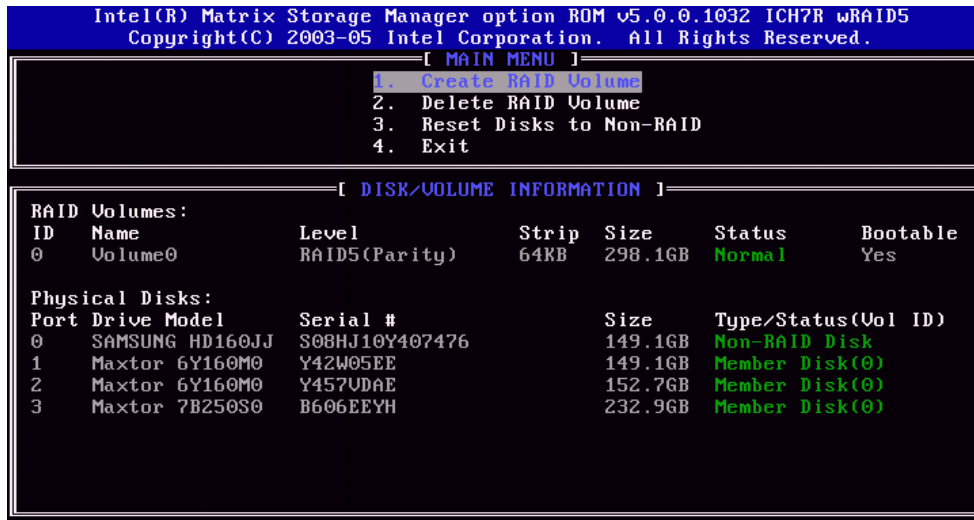
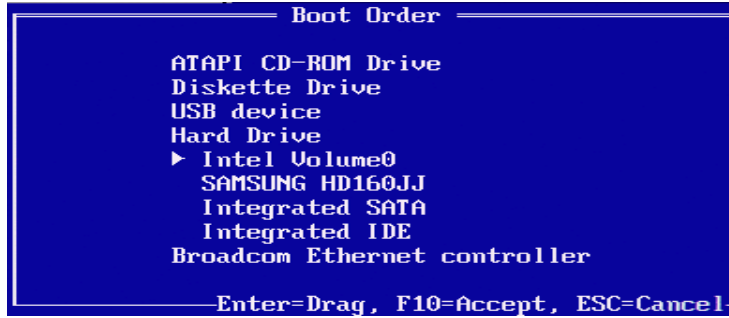


Table 1	RAID 0	RAID 1	RAID 5	RAID 10
# of Disks	2, 3, or 4	2	3 or 4	4

- f. Strip Size - Use up/down arrow keys to select strip block size (default is 128KB – this is a reasonable value).
 - g. Capacity is based on the drives and the RAID level selected. Select the default value.
 - h. Create Volume – Press enter to create the RAID volume. Note the RAID Volume status of "Normal" and which drives are "Members" of the volume.
 - i. Exit the Intel Matrix Storage Manager Configuration Utility.
4. **Set the Boot Order.**
 - a. Reboot the system and enter Setup (F10) again.
 - b. Enter **Storage** and then **Boot Order**.
 - c. Use the arrow keys to move to "Intel Volume0" or "Intel <name>" if you named the volume above. Press **Enter**. This will allow that entry to be moved up and down using the arrow keys.
 - d. Use the arrow keys to move the new volume to the top of the boot order, as shown in the following screen shot.

Figure 4. Boot Order



- e. At this point, place an xw4300 Recovery CD in the optical drive for the upcoming rebuild of the OS
- f. Press **F10** twice and **Enter** to accept and save. The system will reboot.
5. **Rebuild the OS on the new RAID Volume.** When the recovery CD boots, follow the instructions to install the OS (Windows XP SP2) onto the newly-created RAID volume.
6. **Install the Intel Matrix Storage Manager.** Go to **Start -> Programs -> Intel Matrix Storage Manager**. This enables a console for future management and monitoring of the newly-created RAID volume.