
Updated Release notes for the AAR-1220SA, AAR-1225SA SATA HostRAID dated:
December 19, 2007

This release notes contains the following:

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1. Description of the Release:

Date of release: December 19, 2007

This is the official software release containing the list of software components listed in the section 3 of the release note.

2. Supported Hardware:

The software release supports the following hardware listed below:

- a. Adaptec AAR-1220SA SATA HostRAID controller
- b. Adaptec AAR-1225SA SATA HostRAID controller

3. Supported Operating Systems:

Windows Driver 32-bit and 64-bit (AMD & EM-64T) - 1.6-0 Build 12082

- Windows Server 2003 (x64 Standard, Enterprise Editions) SP2
- Windows Server 2003 (Standard, Enterprise, & Web Editions) SP2
- Windows Server 2003 R2 (x64 Standard & Enterprise Editions)
- Windows Small Business Server 2003 SP1
- Windows XP Professional, and x64 Edition, SP2
- Windows Vista Ultimate, Home, Business

Linux Driver - 32 bit - 1.6-0 Build 12082

Linux Driver - 64 bit - 1.6-0 Build 12082

IA-32 and x64:

- Red Hat Enterprise Linux 4.0: Initial Release, QU3, QU4 and QU5
- Red Hat Enterprise Linux 5.0: Initial Release
- SUSE Linux Enterprise Server 9: Initial Release, SP2 and SP3
- SUSE Linux Enterprise Server 10: Initial Release

Netware Driver - 1.6-0 Build 12082

- Netware 6.5 SP5 (No Port Multiplier support under Netware)

3.1 Adaptec Storage Manager:

Adaptec Storage Manager and HRCONF - 5.10.0 Build 17173

Supported OS:

- Windows IA-32 and x64
- Linux IA-32 and x64
- Netware 6.5 (No Port Multiplier support under Netware)

3.2 BIOS and DOS Tools:

1. Expansion ROM BIOS (for all hardware) - 6.0-0 Build 2328
2. Adaptec Flash Utility (AFU.EXE) - 6.0-0 Build 2328

4. Major Functional changes:

1. Added Port Multiplier support for AAR-1225SA with Silicon Image Port Multiplier Model 3726

5. Prerequisites of Using the Software:

- BIOS and the driver should use above stated software version.

6. Tested Configuration:

The software was tested with the Hardware Supported list on the motherboard with the IBM PC/AT compatible PCIExpress platforms. These are the various components used during the testing:

- IBM x86 PC/AT compatible platform with Intel Xeon
- Tested with direct attached SATA-I and SATA-II drives (For 1225SA SATA-II NCQ enabled, and for 1220SA both NCQ enabled/disabled)
- Tested with Silicon Image Port Multiplier 3726

7. Known Issues/Limitations:

1. Adaptec 1225SA controller does not support bootable devices.

2. Before rebooting the system,, make sure to initiate and fully complete the clear operation in the BIOS-ACU on the RAID array which resides on the SIL 3726 Port Multiplier.

3. Boot CD will not boot successfully on certain Intel chipset models like Q965. In such cases, the user needs to create arrays from the BIOS-ACU.

4. The SR1500 and SR2500 platforms do not complete the resource assignment to the PCI configuration space of the 1220SA. Hence, the 1220SA BIOS cannot be loaded successfully during POST.

5. 1225SA is not detected in SuperMicro X7DBE/X6DA8-G2 system, when the HBA is inserted in a 'non-PCIe x4' slot.

6. Linux 64-bit

- RHEL4 QU3/64-bit - Compatibility issue with Supermicro X6DHE-G

Server Supermicro X6DHE-G Server has a problem with RHEL4 QU3/64 Bit. The system hung when "formatting /boot file system...", and installation failed. This issue happens even with IDE drives, and without Adaptec HostRAID controllers present in the server. (ADPml00943)

7. NetWare 6.5 SP5

- Driver Failed to load if OS is installed in onboard IDE/SATA drive

Reason: IDE Driver takes over the control by default

Work Around: Remove loading of multiple IDEATA.HAM by modifying Startup.ncf, and reboot. (ADPml00709)

8. Windows 32-bit and 64-bit

- Drive Letter may disappear after Medium Error on a Simple Volume

On a simple volume with Medium error, the error is reported to the Windows OS.

All the error handling is done by the operating system. The expected behavior is intermittent and some times drive letter disappear.

- OS causes invalid data in file copy from Medium Error locations in specific conditions

When read medium error occur in simple volume or RAID-0 or a good member of a degraded RAID-1/RAID-10, file copy in Windows Explorer will fail the first few times but will pass on the later attempts; however, the file gets copied has invalid data in the section where the medium error was. This happens because of the Windows OS caching invalid data.

9. Windows Vista

- An array cannot be created with one eSATA drive attached directly to the 1225SA, and one or more drives from a Port Multiplier enclosure connected to the other port of 1225SA.

- With 1225SA and Port Multiplier configuration it is recommended to rebuild degraded arrays in the ACU BIOS.

8. Windows REGISTRY PARAMETERS:

8.1 Driver Specific Registry Parameters

WARNING: Altering or adding these driver parameters incorrectly can render your system inoperable. Use them with caution.

Follow the instructions below to enter registry values that affect the configuration information for the ADP3132 driver. Note that all HostRAID adapters supported by the installed driver are affected by the values you enter here.

The key used for this HostRAID release is "ADP3132". To enter driver-specific parameters, follow these steps:

1) Select Run from the Start button.

2) Type "regedt32" and press Enter.

3) Open the registry list to the following location:

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ADP3132

If the \Parameters\Device\ keys already exist, skip to step 6 to begin entering parameters. If the keys do not yet exist, follow steps 4 and 5 to create them.

4) Click on the ADP3132 key. Select "New -> Key" from the Edit menu, type "Parameters" in the "New Key #1" edit box, and press Enter.

5) Click on the Parameters key. Select the "New -> Key" from the Edit menu, type "Device" in the "New Key #1" edit box, and press Enter. To specify a specific host adapter, append Device with the number of the host adapter. For example, type "Device0" for the first host adapter, "Device1" for the second, etc. If you omit the host adapter number, the configuration information will apply to all supported host adapters.

6) Go to the Parameters\Device key. Select "New -> String Value" from the Edit menu, type "DriverParameters" in the "New Value #1" box, and press Enter twice. The Edit String text box appears. Enter valid parameters in the text box. Use a semicolon to separate multiple parameters. For example:

```
<Parameter1>=<Value1>;<Parameter2>=<Value2>;  
MaximumSGList=17;PK=1;
```

NOTE: Changes made with the Registry Editor do not take effect until you reboot your computer.

Option: Performance/Compatibility Settings

Definition: This registry option tunes the setting for performance purpose. This registry option modifies the maximum number of I/Os and maximum number of scatter gather elements or number of physical breaks. The setting can be set as high or normal. When set to high it modifies the maximum I/Os to 255 and maximum scatter gather list to 33. In this mode, system hibernation may not work. Use the following parameter and value to modify the driver behavior.

To run driver in high performance: Use the registry file HIGHPERF.REG.

To run driver in normal mode: Use the registry file WHQL.REG.

Follow these steps to change the settings:

- 1) Select Run from the Start button.
- 2) Browse to the folder containing above mentioned version of the HostRAID driver, select file "HIGHPERF.REG" or "WHQL.REG" and click OK.

NOTE: The default value for this parameter is normal mode and it supports system hibernation.

Possible Values: Normal Mode - High Performance Mode
Default Value: Normal Mode

Option: ExposeEnclosure

Definition: This registry option changes the appearance of enclosure management devices to the operating system. One can directly edit the registry and apply the required changes to this option as explained in section 8.1.

There is another way to reflect expose enclosure change using the "ENCLOSURE.REG" file. Follow these steps to change the settings:

- 1) Select Run from the Start button.
- 2) Browse to the folder containing above mentioned version of the HostRAID driver, select file "ENCLOSURE.REG" and click OK.

Note: If you use the second option to expose enclosure, then use the "Performance/Compatibility Settings" option to bring driver to Normal Mode using "WHQL.REG" file.

Possible Values: 0-1 (0=do not expose enclosure, 1=expose enclosure)
Default Value: 0

8.2 Windows Specific Registry Parameters

NOTE: This setting applies to Windows Server 2003, Windows 2000, and Windows XP.

The only Windows-specific parameter that you can currently change is the TimeoutValue. This registry option increases the timeout for all disk class devices (in contrast to the driver-specific registry parameters that affect only your HostRAID adapter).

The default TimeoutValue is 10 seconds. Follow these steps to increase this value to 60 seconds:

- 1) Select Run from the Start button.
- 2) Browse to the folder containing above mentioned version of the HostRAID driver, select the file "TIMEOUT.REG" and click OK.

Note: Changes made with the Registry Editor do not take effect until you reboot your computer.

9. Linux Specific COMMAND LINE OPTIONS:

User options: Queue Depth setting per lun

Command line parameter passes in via insmod:

```
#insmod <ModuleName>.o hr_user_cmd_per_lun=<QueueDepthValue>
```

```
Example: #insmod adp3132.o hr_user_cmd_per_lun=48
```

Command line parameter setup permanently:

For 2.4 kernels

a) Edit /etc/modules.conf to add in "options <DriverName>

```
'hr_user_cmd_per_lun=<QueueDepthValue' "
```

```
Example: options adp3132 'hr_user_cmd_per_lun=48'
```

b) Rebuild initrd then reboot.

For 2.6 kernels

a) Edit /etc/modprobe.conf to add in "options <DriverName>

```
'hr_user_cmd_per_lun=<QueueDepthValue' "
```

```
Example: options adp3132 'hr_user_cmd_per_lun=48'
```

b) Rebuild initrd then reboot.

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