Altos G5450 Installation Configuration Guide

Abstract

This document provides you a quick OS installation guide on Altos G5450, including Windows Server 2008, Windows Server 2008 x64 Edition, Windows Server 2003, Windows Server 2003 x64 Edition, Windows 2000, Red Hat Enterprise Linux 4.0 (32-bit & 64-bit) and SuSE Linux Enterprise Server 10 (32-bit & 64-bit), Windows XP and Windows Vista.

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INTRODUCTION

This article describes the Altos G5450 Installation Configuration guide:

- Hardware parts give you a briefly and quick hardware information about Altos G5450
- The operating system installation tips.

Where Can I Download the Latest Altos G5450 Installation Configuration Guide

1. The Altos G5450 Installation Configuration Guide would be updated on a monthly basis. Please download the latest release from the Acer support website

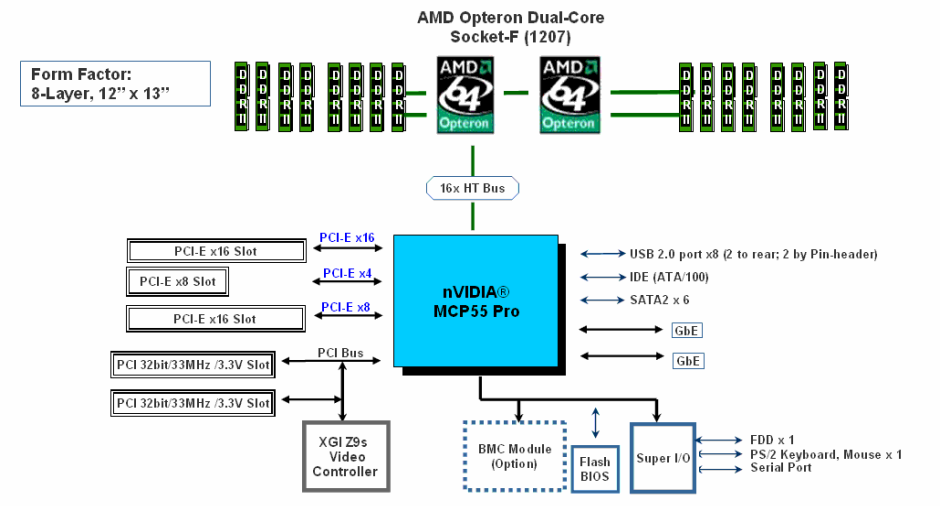
HARDWARE SPECIFICATION

Model	Altos G5450
Processor	Dual-Core AMD Opteron processors 2000 series (Santa Rosa) at 1.8 GHz or above Frequency
Cache	• Up to 2 x 1MB L2 cache for Dual-Core processor
Chipset	NVIDIA NFP3600
Memory	• Dual memory channels per processor • 16 x DIMM sockets support 512MB/1GB/2GB DDR II 667 registered with ECC • Maximum memory of 64GB (When 4 GB DIMM available) • Support memory sparing
Storage Interface	• Six SATA2-300 ports • Option LSI SAS RAID (MegaRAID 8204ELP and 8708ELP) • One ATA-100 port
Expansion Slots	Total 5 slots • One x16 PCI-Express slot (w/ x16 troughtput) • One x16 PCI-Express slot (w/ x8 throughput) • One x8 PCI-Express slot (w/ x4 throughput) • Two 32-bits 33MHz PCI slots
VGA	• Onboard XGI Z9s video controller w/ 16MB SDRAM • Optional add-on ATI FireGL V5200 graphic card support
SATA Controller	• Six SATA ports with Software RAID 0, 1, 10, 5 support
LAN Controller	• Onboard dual NVIDIA nForce Networking Controller • Supporting TCP Offload Engine (TOE)
BMC	Optional BMC module • IPMI 2.0 compliant Optional ARMC/3 module • Remote KVM support • Dedicate NIC port • Media redirection support
Availability sub-system	
System Power Supply	• 1+1 redundant 610W power supply • Hot Swap
Storage Subsystem	
Drive Bays	• Three 5.25” front accessible drive bays for optical device, TBU, and FDD (w/ conversion

	kit) • Two disk cages
Hard Disks	• Up to 8 HDDs by two 4 HDD hot-plug/non-hot-plug cage

BOARD LAYOUT

System Block Diagram



DIMM POPULATION GUIDELINE

Memory population

Single Processor

NOTE. When Altos G5450 is installed with single processor, memory can only be installed in DIMM A1/B1, A2/B2, A3/B3 and A4/B4. Memory installed in DIMM C1/D1, C2/D2, C3/D3 and C4/D4 will not be detected when there is only one processor.

	CPU1				
#	DIMM A1/B1	DIMM A2/B2	DIMM A3/B3	DIMM A4/B4	Total Memory
1	2 x 512MB				1 GB
2	2 x 512MB	2 x 512MB			2 GB
3	2 x 512MB	2 x 512MB	2 x 512MB		3 GB
4	2 x 512MB	2 x 512MB	2 x 512MB	2 x 512MB	4 GB
5	2 x 1GB				2 GB
6	2 x 1GB	2 x 1GB			4 GB
7	2 x 1GB	2 x 1GB	2 x 1GB		6 GB
8	2 x 1GB	2 x 1GB	2 x 1GB	2 x 1GB	8 GB
9	2 x 2GB				4 GB
10	2 x 2GB	2 x 2GB			8 GB
11	2 x 2GB	2 x 2GB	2 x 2GB		12 GB
12	2 x 2GB	2 x 2GB	2 x 2GB	2 x 2GB	16 GB

Dual Processor

	CPU1				CPU1				
#	DIMM A1/B1	DIMM A2/B2	DIMM A3/B3	DIMM A4/B4	DIMM C1/D1	DIMM C2/D2	DIMM C3/D3	DIMM C4/D4	Total Memory
1	2 x 512MB				2 x 512MB				2 GB
2	2 x 512MB	2 x 512MB			2 x 512MB	2 x 512MB			4 GB
3	2 x 512MB	2 x 512MB	2 x 512MB		2 x 512MB	2 x 512MB	2 x 512MB		6 GB
4	2 x 512MB	2 x 512MB	2 x 512MB	2 x 512MB	2 x 512MB	2 x 512MB	2 x 512MB	2 x 512MB	8 GB
5	2 x 1GB				2 x 1GB				4 GB
6	2 x 1GB	2 x 1GB			2 x 1GB	2 x 1GB			8 GB
7	2 x 1GB	2 x 1GB	2 x 1GB		2 x 1GB	2 x 1GB	2 x 1GB		12 GB
8	2 x 1GB	2 x 1GB	2 x 1GB	2 x 1GB	2 x 1GB	2 x 1GB	2 x 1GB	2 x 1GB	16 GB
9	2 x 2GB				2 x 2GB				8 GB
10	2 x 2GB	2 x 2GB			2 x 2GB	2 x 2GB			16 GB
11	2 x 2GB	2 x 2GB	2 x 2GB		2 x 2GB	2 x 2GB	2 x 2GB		24 GB
12	2 x 2GB	2 x 2GB	2 x 2GB	2 x 2GB	2 x 2GB	2 x 2GB	2 x 2GB	2 x 2GB	32 GB

Memory population with Sparing

Single Processor

NOTE. When Altos G5450 is installed with single processor, memory can only be

installed in DIMM A1/B1, A2/B2, A3/B3 and A4/B4. Memory installed in DIMM C1/D1, C2/D2, C3/D3 and C4/D4 will not be detected when there is only one processor.

	CPU1				Total Memory	
#	DIMM A1/B1	DIMM A2/B2	DIMM A3/B3	DIMM A4/B4	Physical Memory	Detected by OS
1	2 x 512MB Single Rank	2 x 512MB Single Rank	2 x 512MB Single Rank (Spare)		3 GB	2 GB
2	2 x 512MB Single Rank	2 x 512MB Single Rank	2 x 512MB Single Rank	2 x 512MB Single Rank (Spare)	4 GB	3 GB
3	2 x 1GB Single Rank	2 x 1GB Single Rank	2 x 1GB Single Rank (Spare)		6 GB	4 GB
4	2 x 1GB Single Rank	2 x 1GB Single Rank	2 x 1GB Single Rank	2 x 1GB Single Rank (Spare)	8 GB	6 GB
5	2 x 1GB Dual Rank	2 x 1GB Dual Rank (Spare) [1]			4 GB	3 GB
6	2 x 1GB Dual Rank	2 x 1GB Dual Rank	2 x 1GB Dual Rank (Spare) [1]		6 GB	5 GB
7	2 x 2GB Dual Rank	2 x 2GB Dual Rank (Spare) [1]			8 GB	6 GB
8	2 x 2GB Dual Rank	2 x 2GB Dual Rank	2 x 2GB Dual Rank (Spare) [1]		12 GB	10 GB

NOTE1. Only one rank of each DIMM will be used as spare.

Dual Processor

	CPU1				CPU2				Total Memory	
#	DIMM A1/B1	DIMM A2/B2	DIMM A3/B3	DIMM A4/B4	DIMM C1/D1	DIMM C2/D2	DIMM C3/D3	DIMM C4/D4	Physical Memory	Detected by OS
1	2 x 512MB Single Rank	2 x 512MB Single Rank	2 x 512MB Single Rank (Spare)		2 x 512MB Single Rank	2 x 512MB Single Rank	2 x 512MB Single Rank (Spare)		6 GB	4 GB
2	2 x 512MB Single Rank	2 x 512MB Single Rank	2 x 512MB Single Rank	2 x 512MB Single Rank (Spare)	2 x 512MB Single Rank	2 x 512MB Single Rank	2 x 512MB Single Rank	2 x 512MB Single Rank (Spare)	8 GB	6 GB
3	2 x 1GB Single Rank	2 x 1GB Single Rank	2 x 1GB Single Rank (Spare)		2 x 1GB Single Rank	2 x 1GB Single Rank	2 x 1GB Single Rank (Spare)		12 GB	8 GB
4	2 x 1GB Single Rank	2 x 1GB Single Rank	2 x 1GB Single Rank	2 x 1GB Single Rank (Spare)	2 x 1GB Single Rank	2 x 1GB Single Rank	2 x 1GB Single Rank	2 x 1GB Single Rank (Spare)	16 GB	12 GB
5	2 x 1GB Dual Rank	2 x 1GB Dual Rank (Spare) [1]			2 x 1GB Dual Rank	2 x 1GB Dual Rank (Spare) [1]			8 GB	6 GB
6	2 x 1GB Dual Rank	2 x 1GB Dual Rank	2 x 1GB Dual Rank (Spare) [1]		2 x 1GB Dual Rank	2 x 1GB Dual Rank	2 x 1GB Dual Rank (Spare) [1]		12 GB	10 GB
7	2 x 2GB Dual Rank	2 x 2GB Dual Rank (Spare) [1]			2 x 2GB Dual Rank	2 x 2GB Dual Rank (Spare) [1]			16 GB	12 GB
8	2 x 2GB Dual Rank	2 x 2GB Dual Rank	2 x 2GB Dual Rank (Spare) [1]		2 x 2GB Dual Rank	2 x 2GB Dual Rank	2 x 2GB Dual Rank (Spare) [1]		24 GB	20 GB

NOTE1. Only one rank of each DIMM will be used as spare.

OS INSTALLATION TIPS

Below is Altos G5450 OS certification matrix:

Operating System	Service Pack	Status	Note
Windows Server 2008 Enterprise x64 Edition	N/A	Certified	1, 2, 3
Windows Server 2008 Enterprise Edition	N/A	Certified	1, 2, 3
Windows Server 2003 Enterprise R2 x64 Edition	SP2	Certified	
Windows Server 2003 Enterprise R2 Edition	SP2	Certified	
Windows 2000 Advanced Server	SP4	Tested	
Windows Vista Enterprise x64 Edition	N/A	Tested	
Windows Vista Enterprise Edition	N/A	Tested	
Windows XP Professional x64	SP2	Tested	
Windows XP Professional	SP2	Tested	
Red Hat Enterprise Linux 4.0 EM64T	Update 4	Certified	
Red Hat Enterprise Linux 4.0	Update 4	Certified	
SUSE Linux Enterprise Server 10 EM64T	N/A	Certified	
SUSE Linux Enterprise Server 10	N/A	Certified	

NOTE 1. Altos G5450 BIOS P14 (or later) is required to support Windows Server 2008.

NOTE 2. This Windows Server 2008 certification also applies to Standard Edition and Web Server 2008.

NOTE 3. EasyBUILD 8.0 build 200 (or later) can support Windows Server 2008

The drivers required for the OS installation can be found on the EasyBUILD 8.0.1 build 200 (or later). We suggest that you use the drivers contained in the EasyBUILD 8.0 build 200 (or later), as these drivers are tested and qualified by Acer.

There are two ways you can get the drivers. You can either make diskettes from EasyBUILD 8.0 build 200 (or later), or put it in the optical drive and search the driver directly.

NOTE. In this section, we assume the OS is installed on the HDD connected to the onboard SATA RAID, LSI MegaRAID SAS 8708ELP or LSI MegaRAID SAS 8204ELP.

Windows Server 2008 Enterprise x64 Edition Installation (with LSI MegaRAID SAS 8708ELP)

Below information describes how to manually install Windows Server 2008 Enterprise x64 Edition on Altos G5450 with LSI MegaRAID SAS 8708ELP.

BIOS Required

Altos G5450 BIOS P14 (or later) is required to support Windows Server 2008.

Drivers Required

For Windows 2008 Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
LSI MegaRAID SAS 8208ELP	2.20.0.64	EasyBUILD 8.0 build 200 (or later)
Chipset	Package 9.26	EasyBUILD 8.0 build 200 (or later)
Onboard Gigabit Ethernet	67.80.0.0	EasyBUILD 8.0 build 200 (or later)
Onboard VGA s	6.14.10.1090	EasyBUILD 8.0 build 200 (or later)
ATI FireGL V5600	8.440.0.0	EasyBUILD 8.0 build 200 (or later)

Software Required

The management utility for LSI MegaRAID SAS 8708ELP and NIC can be found in the EasyBUILD 8.0 build 200 (or later).

Software	Version	Directory on EasyBUILD
MegaRAID Storage Manager	2.63	EasyBUILD 8.0 build 200 (or later)
ForceWare Network Access Manager	67.80	EasyBUILD 8.0 build 200 (or later)

Configuring LSI MegaRAID SAS 8708ELP

Please refer to the Appendix B. for the LSI MegaRAID SAS 8708ELP configuration.

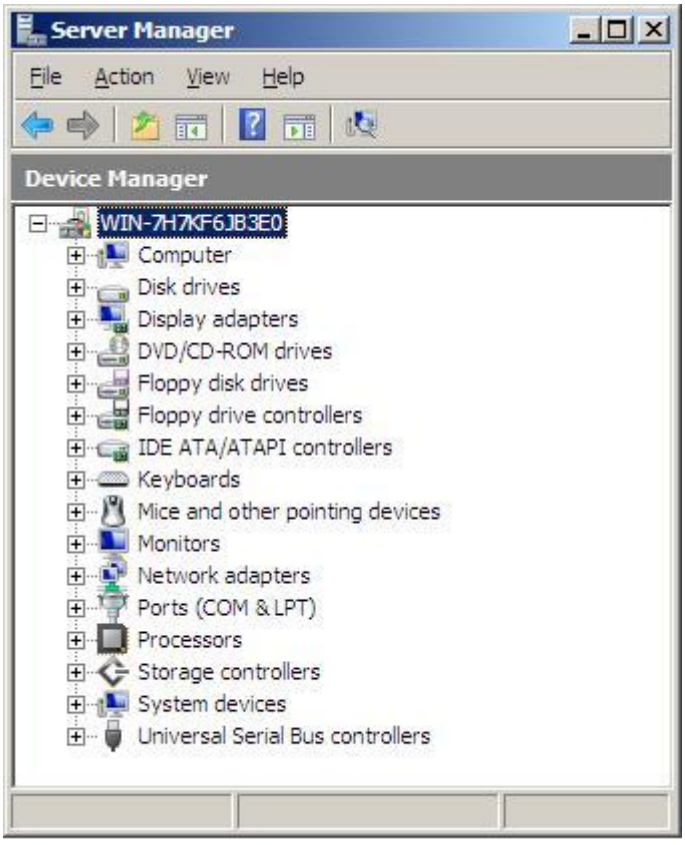
Installation Tips

1. Though Windows Server can recognize the LSI MegaRAID SAS 8708ELP, we still need to replace the driver with the one in EasyBUILD. Please make the driver diskette from the EasyBUILD 8.0 build 200 first before the installation.
2. Please boot the system form the Windows Server 2008 x64 CD/DVD. Follow the instructions to do the installation.
3. When you see the "**Where do you want to install Windows?**" on the screen, please insert the driver diskette and click on **Load Driver**.
4. Click on **OK**. You will see the supported devices listed.

5. Select "LSI Logic MegaRAID SAS 8708ELP RAID Controller (A:\oemsetup.inf)" and click on Next.
6. Please hold the **ctrl** key to select all of listed driver and click on **Next** to load the driver.
7. After the driver is loaded and returned to "**Where do you want to install Windows?**" page, click on **Next** to continue the installation.
8. Follow the instructions to finish the installation.

Chipset Driver Installation

1. Though Windows Server 2008 x64 has built-in driver for onboard chipset and can recognize the onboard gigabit Ethernet controller, we still need to replace the driver with the one in EasyBUILD.
2. After the installation completes, you would see the following devices in Device Manager without any yellow mark.



3. Please insert the EasyBUILD 8.0 build 200 into the optical drive
4. Expand **Drivers -> Altos G5450 -> Chipset**, select **Windows Server 2008 x64** and click on **Setup**.
5. Follow the instruction and use the default setting to install all of the

drivers and utilities in the driver package.

After all drivers and utilities are installed, please reboot the system.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver is included in the chipset driver package. The Gigabit Ethernet driver would be installed automatically when you installing the chipset driver package.

VGA Driver Installation (onboard VGA)

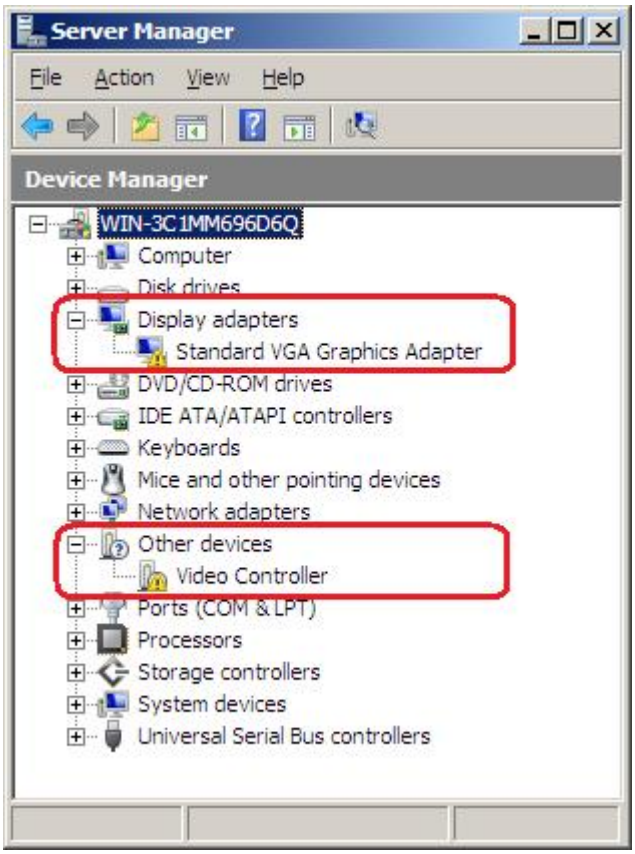
1. Windows will treat onboard VGA as Standard VGA device. You can find the XGI Z9s driver in EasyBUILD 8.0 build 200. Please insert the EasyBUILD 8.0 build 200 into the optical drive.
2. Expand **Drivers -> Altos G5450 -> Graphics adapters -> XGI Z9s**, select **Windows Server 2008 x64** and click on **Setup**.
3. Click on **Display Driver** and follow the instruction to install the VGA driver.
4. Please reboot the server after the driver is installed.

After the system rebooted, you would see **XGI Z7/Z9/Z9s/Z11 v1.09.10** listed in Display adapters in **Device Manager**.

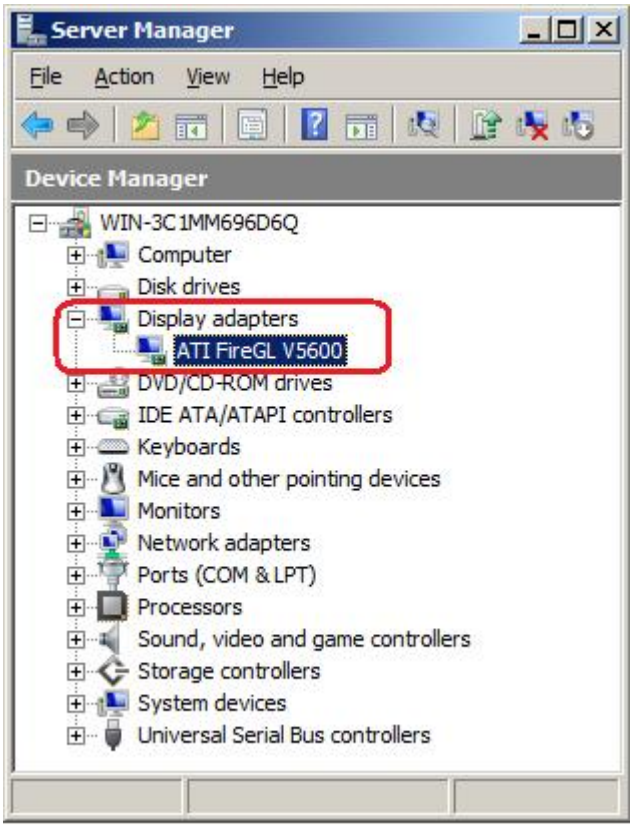
VGA Driver Installation (ATI FireGL V5600)

NOTE. With ATI FireGL V5600 installed, you need to disable onboard VGA controller first from BIOS before you install the ATI FireGL V5600 driver,

1. Press **F2** during the POST to enter the BIOS. After you entering the BIOS, select **Advanced** -> **PCI Configuration** -> **Onboard VGA Control**, press **Enter** and change the setting from Enabled to Disabled press. And then press **F10** to save configuration changes and reboot system.
2. After you reboot and entering the OS, you will see **Standard VGA Graphics Adapter** and one **Video Controller** under **Other Device** in Windows Server 2008 **Device Manager** for ATI FireGL V5600.



3. You can find the ATI FireGL V5600 driver in EasyBUILD 8.0 build 200. Please insert the EasyBUILD 8.0 build 200 into the optical drive.
4. Expand **Drivers -> Altos G5450 -> Graphics adapters -> ATI FireGL V5600**, select **Windows Server 2008 x64** and click on **Setup**.
5. Follow the instruction to install the VGA driver.
6. At **Select Components**, please click on **Express**.
7. Please reboot the server after the driver is installed. You would see **ATI FireGL V5600** in Display adapters in Device Manager.



RAID Utility Installation

1. For installing MegaRAID Storage Manager for LSI MegaRAID SAS 8708ELP, please insert the EasyBUILD 8.0 build 200 into the optical drive.
2. Expand Utilities -> Altos G5450 -> LSI MegaRAID SAS 8708ELP, select MegaRAID Storage Manager (Windows Server 2008 x64) and click on Setup.
3. Follow the instruction, accept the license agreement and use the default setting to the **Setup Type**.
4. At the **Setup Type**, please select **StandAlone**. Follow the instruction again to complete the installation.

Network Utility Installation

The ForceWare Network Access Manager is included in the chipset driver package. The ForceWare Network Access Manager will be installed automatically when you installing the chipset driver package.

Windows Server 2008 Enterprise x64 Edition Installation (with LSI MegaRAID SAS 8204ELP)

Below information describes how to manually install Windows Server 2008 Enterprise x64 Edition on Altos G5450 with LSI MegaRAID SAS 8204ELP.

BIOS Required

Altos G5450 BIOS P14 (or later) is required to support Windows Server 2008.

Drivers Required

For Windows 2008 x64 Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
LSI MegaRAID SAS 8204ELP	09.32.0207.2007	EasyBUILD 8.0 build 200 (or later)
Chipset	Package 9.26	EasyBUILD 8.0 build 200 (or later)
Onboard Gigabit Ethernet	67.80.0.0	EasyBUILD 8.0 build 200 (or later)
Onboard VGA s	6.14.10.1090	EasyBUILD 8.0 build 200 (or later)
ATI FireGL V5600	8.440.0.0	EasyBUILD 8.0 build 200 (or later)

Software Required

The management utility for LSI MegaRAID SAS 8204ELP and NIC can be found in the EasyBUILD 8.0 build 200 (or later).

Software	Version	Directory on EasyBUILD
MegaRAID Storage Manager	2.63	EasyBUILD 8.0 build 200 (or later)
ForceWare Network Access Manager	67.80	EasyBUILD 8.0 build 200 (or later)

Configuring LSI MegaRAID SAS 8204ELP

Please refer to the Appendix C. for the LSI MegaRAID SAS 8204ELP configuration.

Installation Tips

1. Though Windows Server can recognize the LSI MegaRAID SAS 8204ELP, we still need to replace the driver with the one in EasyBUILD. Please make the driver diskette from the EasyBUILD 8.0 build 200 first before the installation.
2. Please boot the system form the Windows Server 2008 x64 CD/DVD. Follow the instructions to do the installation.
3. When you see the "**Where do you want to install Windows?**" on the screen, please insert the driver diskette and click on **Load Driver**.
4. Click on **OK**. You will see the supported devices listed.
5. Select "LSI Logic MegaRAID SAS 8208ELP and 8204ELP (A:\MegaSR.INF)" and click on Next.
6. Please hold the **ctrl** key to select all of listed driver and click on **Next** to load the driver.

7. After the driver is loaded and returned to "**Where do you want to install Windows?**" page, click on **Next** to continue the installation.

8. Follow the instructions to finish the installation.

Chipset Driver Installation

Please refer to the Windows Server 2008 Enterprise x64 Edition (LSI MegaRAID SAS 8708ELP) Chipset Driver Installation section.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver is included in the chipset driver package. The Gigabit Ethernet driver would be installed automatically when you installing the chipset driver package.

VGA Driver Installation (onboard VGA)

Please refer to the Windows Server 2008 Enterprise x64 Edition (LSI MegaRAID SAS 8708ELP) XGI Z9s Driver Installation section.

VGA Driver Installation (ATI FireGL V5600)

Please refer to the Windows Server 2008 Enterprise x64 Edition (LSI MegaRAID SAS 8708ELP) ATI FireGL V5600 Driver Installation section.

RAID Utility Installation

Please refer to the Windows Server 2008 x64Enterprise Edition (LSI MegaRAID SAS 8708ELP) RAID Utility Installation section.

Network Utility Installation

The ForceWare Network Access Manager is included in the chipset driver package. The ForceWare Network Access Manager will be installed automatically when you installing the chipset driver package.

Windows Server 2008 Enterprise x64 Edition Installation (with onboard SATA RAID)

Below information describes how to manually install Windows Server 2008 Enterprise x64 Edition on Altos G5450 with onboard SATA RAID.

BIOS Required

Altos G5450 BIOS P14 (or later) is required to support Windows Server 2008.

Drivers Required

For Windows 2008 x64 Installation, the following device drivers are required.

Device	Version	EasyBUILD Version
Onboard SATA RAID	10.3.51.1	EasyBUILD 8.0 build 200 (or later)
Chipset	Package 9.26	EasyBUILD 8.0 build 200 (or later)

Onboard Gigabit Ethernet	67.80.0.0	EasyBUILD 8.0 build 200 (or later)
Onboard VGA	6.14.10.1090	EasyBUILD 8.0 build 200 (or later)
ATI FireGL V5600	8.440.0.0	EasyBUILD 8.0 build 200 (or later)

Software Required

The management utility for onboard SATA RAID and NIC can be found in the EasyBUILD 8.0 build 200 (or later).

Software	Version	Directory on EasyBUILD
Onboard SATA RAID Utility	10.3.51.1	EasyBUILD 8.0 build 10.3.51.1 200 (or later)
ForceWare Network Access Manager	67.80.0.0	EasyBUILD 8.0 build 200 (or later)

Configuring onboard SATA RAID

Please refer to the Appendix A. for the onboard SATA RAID configuration.

Installation Tips

1. Though Windows Server can recognize the onboard SATA RAID, we still replace the driver with the one in EasyBUILD. Please make the driver diskette from the EasyBUILD 8.0 build 200 first before the installation.
2. Please boot the system form the Windows Server 2008 x64 CD/DVD. Follow the instructions to do the installation.
3. When you see the "**Where do you want to install Windows?**" on the screen, please insert the driver diskette and click on **Load Driver**.
4. Click on OK. You will see the NVIDIA nForce RAID Controller (A:\nvrd64.inf), NVIDIA nForce RAID Device (A:\nvrd64.inf) and NVIDIA nForce Serial ATA Controller (A:\nvrd64.inf) listed.
5. Please hold the **ctrl** key to select all of listed driver and click on **Next** to load the driver.
6. After the driver is loaded and returned to "**Where do you want to install Windows?**" page, click on **Next** to continue the installation.
7. Follow the instructions to finish the installation.

Chipset Driver Installation

Please refer to the Windows Server 2008 Enterprise x64 Edition (LSI MegaRAID SAS 8708ELP) Chipset Driver Installation section.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver is included in the chipset driver package. The Gigabit Ethernet driver will be installed automatically when you installing the chipset driver package.

VGA Driver Installation (onboard VGA)

Please refer to the Windows Server 2008 Enterprise x64 Edition (LSI MegaRAID SAS 8708ELP) XGI Z9s Driver Installation section.

VGA Driver Installation (ATI FireGL V5600)

Please refer to the Windows Server 2008 Enterprise x64 Edition (LSI MegaRAID SAS 8708ELP) ATI FireGL V5600 Driver Installation section.

RAID Utility Installation

The onboard SATA RAID utility is included in the chipset driver package. The onboard SATA RAID utility will be installed automatically when you installing the chipset driver package.

Network Utility Installation

The ForceWare Network Access Manager is included in the chipset driver package. The ForceWare Network Access Manager will be installed automatically when you installing the chipset driver package.

Windows Server 2008 Enterprise Edition Installation (with LSI MegaRAID SAS 8708ELP)

Below information describes how to manually install Windows Server 2008 Enterprise Edition on Altos G5450 with LSI MegaRAID SAS 8708ELP.

BIOS Required

Altos G5450 BIOS P14 (or later) is required to support Windows Server 2008.

Drivers Required

For Windows 2008 Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
LSI MegaRAID SAS 8208ELP	2.20.0.64	EasyBUILD 8.0 build 200 (or later)
Chipset	Package 9.26	EasyBUILD 8.0 build 200 (or later)
Onboard Gigabit Ethernet	67.80.0.0	EasyBUILD 8.0 build 200 (or later)
Onboard VGA s	6.14.10.1090	EasyBUILD 8.0 build 200 (or later)
ATI FireGL V5600	8.440.0.0	EasyBUILD 8.0 build 200 (or later)

Software Required

The management utility for LSI MegaRAID SAS 8708ELP and NIC can be found in the EasyBUILD 8.0 build 200 (or later).

Software	Version	Directory on EasyBUILD
MegaRAID Storage Manager	2.63	EasyBUILD 8.0 build 200 (or later)

ForceWare Network Access Manager	67.80	EasyBUILD 8.0 build 200 (or later)

Configuring LSI MegaRAID SAS 8708ELP

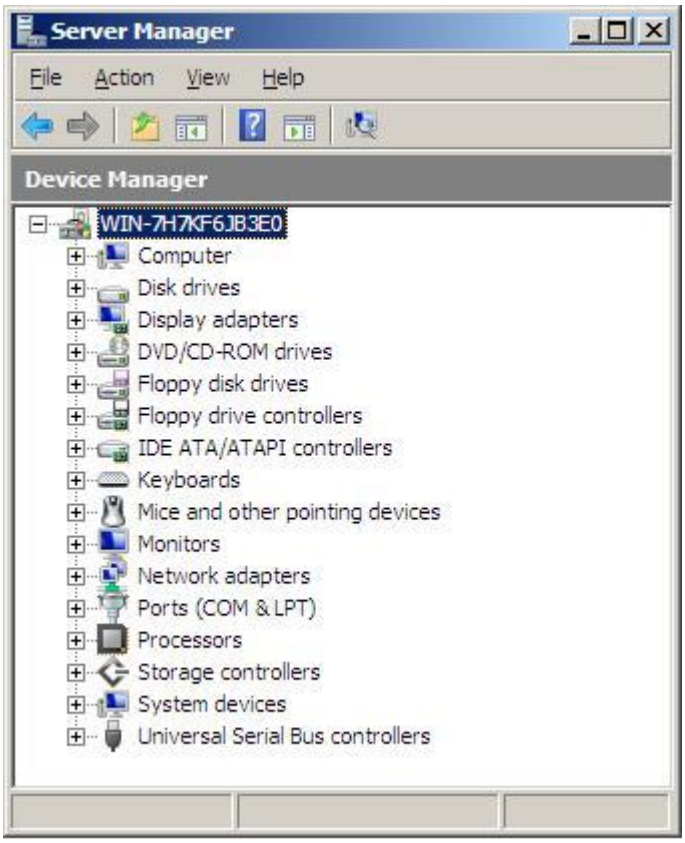
Please refer to the Appendix B. for the LSI MegaRAID SAS 8708ELP configuration.

Installation Tips

1. Though Windows Server can recognize the LSI MegaRAID SAS 8708ELP, we still need to replace the driver with the one in EasyBUILD. Please make the driver diskette from the EasyBUILD 8.0 build 200 first before the installation.
2. Please boot the system form the Windows Server 2008 CD/DVD. Follow the instructions to do the installation.
3. When you see the "**Where do you want to install Windows?**" on the screen, please insert the driver diskette and click on **Load Driver**.
4. Click on **OK**. You will see the supported devices listed.
5. Select "LSI Logic MegaRAID SAS 8708ELP RAID Controller (A:\oemsetup.inf)" and click on Next.
6. Please hold the **ctrl** key to select all of listed driver and click on **Next** to load the driver.
7. After the driver is loaded and returned to "**Where do you want to install Windows?**" page, click on **Next** to continue the installation.
8. Follow the instructions to finish the installation.

Chipset Driver Installation

1. Though Windows Server 2008 has built-in driver for onboard chipset and can recognize the onboard gigabit Ethernet controller, we still need to replace the driver with the one in EasyBUILD.
2. After the installation completes, you would see the following devices in Device Manager without any yellow mark.



3. Please insert the EasyBUILD 8.0 build 200 into the optical drive
4. Expand **Drivers -> Altos G5450 -> Chipset**, select **Windows Server 2008** and click on **Setup**.
5. Follow the instruction and use the default setting to install all of the drivers and utilities in the driver package.

After all drivers and utilities are installed, please reboot the system.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver is included in the chipset driver package. The Gigabit Ethernet driver would be installed automatically when you installing the chipset driver package.

VGA Driver Installation (onboard VGA) 與 easybuild 對照

1. Windows will treat onboard VGA as Standard VGA device. You can find the XGI Z9s driver in EasyBUILD 8.0 build 200. Please insert the EasyBUILD 8.0 build 200 into the optical drive.
2. Expand **Drivers -> Altos G5450 -> Graphics adapters -> XGI Z9s**, select **Windows Server 2008** and click on **Setup**.
3. Click on **Display Driver** and follow the instruction to install the VGA driver.

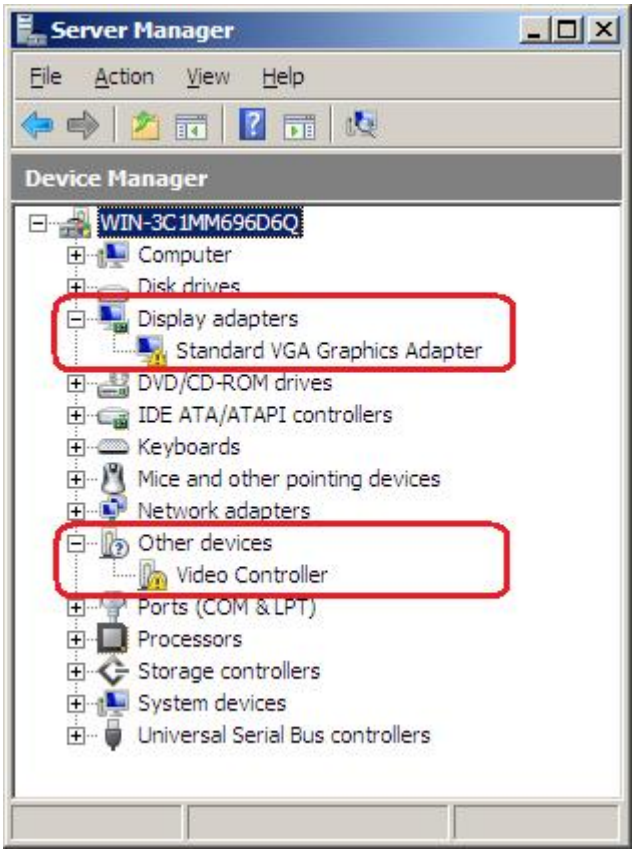
4. Please reboot the server after the driver is installed.

After the system rebooted, you would see **XGI Z7/Z9/Z9s/Z11 v1.09.10** listed in Display adapters in **Device Manager**.

VGA Driver Installation (ATI FireGL V5600)

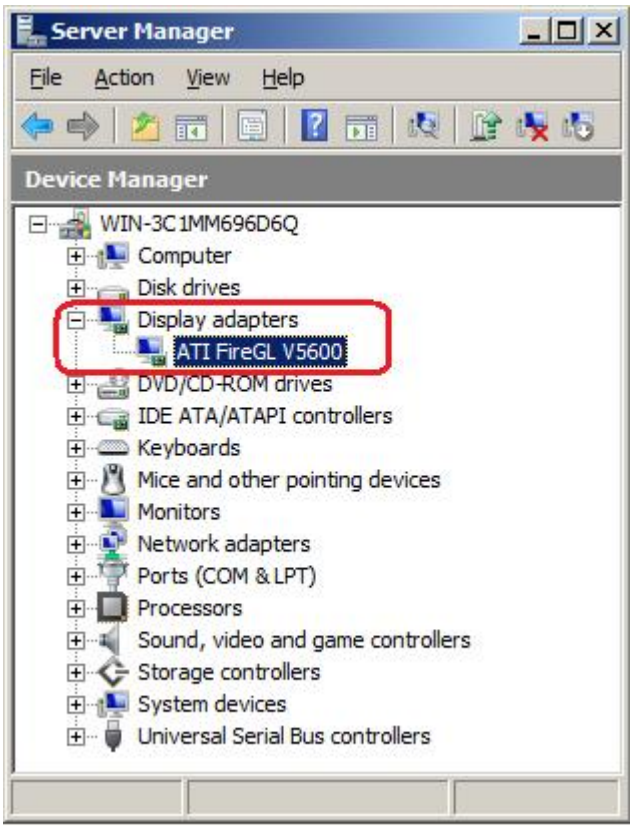
NOTE. With ATI FireGL V5600 installed, you need to disable onboard VGA controller first from BIOS before you install the ATI FireGL V5600 driver,

1. Press **F2** during the POST to enter the BIOS. After you entering the BIOS, select **Advanced** -> **PCI Configuration** -> **Onboard VGA Control**, press **Enter** and change the setting from Enabled to Disabled press. And then press **F10** to save configuration changes and reboot system.
2. After you reboot and entering the OS, you will see **Standard VGA Graphics Adapter** and one **Video Controller** under **Other Device** in Windows Server 2008 **Device Manager** for ATI FireGL V5600.



3. You can find the ATI FireGL V5600 driver in EasyBUILD 8.0 build 200. Please insert the EasyBUILD 8.0 build 200 into the optical drive.
4. Expand **Drivers -> Altos G5450 -> Graphics adapters -> ATI FireGL V5600**, select **Windows Server 2008** and click on **Setup**.

5. Follow the instruction to install the VGA driver.
6. At **Select Components**, please click on **Express**.
7. Please reboot the server after the driver is installed. You would see **ATI FireGL V5600** in Display adapters in Device Manager.



RAID Utility Installation

1. For installing MegaRAID Storage Manager for LSI MegaRAID SAS 8708ELP, please insert the EasyBUILD 8.0 build 200 into the optical drive.
2. Expand Utilities -> Altos G5450 -> LSI MegaRAID SAS 8708ELP, select MegaRAID Storage Manager (Windows Server 2008) and click on Setup.
3. Follow the instruction, accept the license agreement and use the default setting to the **Setup Type**.
4. At the **Setup Type**, please select **StandAlone**.

Follow the instruction again to complete the installation.

Network Utility Installation

The ForceWare Network Access Manager is included in the chipset driver package. The ForceWare Network Access Manager will be installed automatically when you installing the chipset driver package.

Windows Server 2008 Enterprise Edition Installation (with LSI MegaRAID SAS 8204ELP)

Below information describes how to manually install Windows Server 2008 Enterprise Edition on Altos G5450 with LSI MegaRAID SAS 8204ELP.

BIOS Required

Altos G5450 BIOS P14 (or later) is required to support Windows Server 2008.

Drivers Required

For Windows 2008 Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
LSI MegaRAID SAS 8204ELP	09.32.0207.2007	EasyBUILD 8.0 build 200 (or later)
Chipset	Package 9.26	EasyBUILD 8.0 build 200 (or later)
Onboard Gigabit Ethernet	67.80.0.0	EasyBUILD 8.0 build 200 (or later)
Onboard VGA s	6.14.10.1090	EasyBUILD 8.0 build 200 (or later)
ATI FireGL V5600	8.440.0.0	EasyBUILD 8.0 build 200 (or later)

Software Required

The management utility for LSI MegaRAID SAS 8204ELP and NIC can be found in the EasyBUILD 8.0 build 200 (or later).

Software	Version	Directory on EasyBUILD
MegaRAID Storage Manager	2.63	EasyBUILD 8.0 build 200 (or later)
ForceWare Network Access Manager	67.80	EasyBUILD 8.0 build 200 (or later)

Configuring LSI MegaRAID SAS 8204ELP

Please refer to the Appendix C. for the LSI MegaRAID SAS 8204ELP configuration.

Installation Tips

1. Though Windows Server can recognize the LSI MegaRAID SAS 8204ELP, we still need to replace the driver with the one in EasyBUILD. Please make the driver diskette from the EasyBUILD 8.0 build 200 first before the installation.
2. Please boot the system form the Windows Server 2008 CD/DVD. Follow the instructions to do the installation.
3. When you see the "**Where do you want to install Windows?**" on the screen, please insert the driver diskette and click on **Load Driver**.
4. Click on **OK**. You will see the supported devices listed.

5. Select "LSI Logic MegaRAID SAS 8208ELP and 8204ELP (A:\MegaSR.INF)" and click on Next.
6. Please hold the **ctrl** key to select all of listed driver and click on **Next** to load the driver.
7. After the driver is loaded and returned to "**Where do you want to install Windows?**" page, click on **Next** to continue the installation.
8. Follow the instructions to finish the installation.

Chipset Driver Installation

Please refer to the Windows Server 2008 Enterprise Edition (LSI MegaRAID SAS 8708ELP) Chipset Driver Installation section.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver is included in the chipset driver package. The Gigabit Ethernet driver would be installed automatically when you installing the chipset driver package.

VGA Driver Installation (onboard VGA)

Please refer to the Windows Server 2008 Enterprise Edition (LSI MegaRAID SAS 8708ELP) XGI Z9s Driver Installation section.

VGA Driver Installation (ATI FireGL V5600)

Please refer to the Windows Server 2008 Enterprise Edition (LSI MegaRAID SAS 8708ELP) ATI FireGL V5600 Driver Installation section.

RAID Utility Installation

Please refer to the Windows Server 2008 Enterprise Edition (LSI MegaRAID SAS 8708ELP) RAID Utility Installation section.

Network Utility Installation

The ForceWare Network Access Manager is included in the chipset driver package. The ForceWare Network Access Manager will be installed automatically when you installing the chipset driver package.

Windows Server 2008 Enterprise Edition Installation (with onboard SATA RAID)

Below information describes how to manually install Windows Server 2008 Enterprise Edition on Altos G5450 with onboard SATA RAID.

BIOS Required

Altos G5450 BIOS P14 (or later) is required to support Windows Server 2008.

Drivers Required

For Windows 2008 x64 Installation, the following device drivers are required.

Device	Version	EasyBUILD Version
Onboard SATA RAID	10.3.51.1	EasyBUILD 8.0 build 200 (or later)
Chipset	Package 9.26	EasyBUILD 8.0 build 200 (or later)
Onboard Gigabit Ethernet	67.80.0.0	EasyBUILD 8.0 build 200 (or later)
Onboard VGA	6.14.10.1090	EasyBUILD 8.0 build 200 (or later)
ATI FireGL V5600	8.440.0.0	EasyBUILD 8.0 build 200 (or later)

Software Required

The management utility for onboard SATA RAID and NIC can be found in the EasyBUILD 8.0 build 200 (or later).

Software	Version	Directory on EasyBUILD
Onboard SATA RAID Utility	10.3.51.1	EasyBUILD 8.0 build 10.3.51.1 200 (or later)
ForceWare Network Access Manager	67.80.0.0	EasyBUILD 8.0 build 200 (or later)

Configuring onboard SATA RAID

Please refer to the Appendix A. for the onboard SATA RAID configuration.

Installation Tips

1. Though Windows Server can recognize the onboard SATA RAID, we still replace the driver with the one in EasyBUILD. Please make the driver diskette from the EasyBUILD 8.0 build 200 first before the installation.
2. Please boot the system form the Windows Server 2008 CD/DVD. Follow the instructions to do the installation.
3. When you see the "**Where do you want to install Windows?**" on the screen, please insert the driver diskette and click on **Load Driver**.
4. Click on OK. You will see the NVIDIA nForce RAID Controller (A:\nvrd64.inf), NVIDIA nForce RAID Device (A:\nvrd64.inf) and NVIDIA nForce Serial ATA Controller (A:\nvrd64.inf) listed.
5. Please hold the **ctrl** key to select all of listed driver and click on **Next** to load the driver.
6. After the driver is loaded and returned to "**Where do you want to install Windows?**" page, click on **Next** to continue the installation.
7. Follow the instructions to finish the installation.

Chipset Driver Installation

Please refer to the Windows Server 2008 Enterprise Edition (LSI MegaRAID SAS 8708ELP) Chipset Driver Installation section.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver is included in the chipset driver package. The Gigabit Ethernet driver will be installed automatically when you installing the chipset driver package.

VGA Driver Installation (onboard VGA)

Please refer to the Windows Server 2008 Enterprise Edition (LSI MegaRAID SAS 8708ELP) XGI Z9s Driver Installation section.

VGA Driver Installation (ATI FireGL V5600)

Please refer to the Windows Server 2008 Enterprise Edition (LSI MegaRAID SAS 8708ELP) ATI FireGL V5600 Driver Installation section.

RAID Utility Installation

The onboard SATA RAID utility is included in the chipset driver package. The onboard SATA RAID utility will be installed automatically when you installing the chipset driver package.

Network Utility Installation

The ForceWare Network Access Manager is included in the chipset driver package. The ForceWare Network Access Manager will be installed automatically when you installing the chipset driver package.

Windows Server 2003 Enterprise x64 Edition SP2 Installation (with LSI MegaRAID SAS 8708ELP)

Below information describes how to manually install Windows Server 2003 Enterprise x64 Edition on Altos G5450 with LSI MegaRAID SAS 8708ELP installed.

Drivers Required

For Windows 2003 x64 Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
LSI MegaRAID SAS 8708ELP	2.7.0.64	\Disk\g5450\sas\8708elp\x64\w2k3\
Onboard NVIDIA NFP3600 Chipset	Package 9.18	\Disk\g5450\onboard\Chipset\x64\ws03\
Onboard NVIDIA nForce Networking Controller	65.2.0.0	Including in chipset driver package 9.18
Onboard XGI Z9s	6.14.10.1080	\Disk\g5450\onboard\xgiz9s\x64\ws03\
ATI FireGL V5200	8.323.1.0	\Disk\g5450\graphic\V5200\x64\ws03\

Software Required

The management utility for LSI MegaRAID SAS 8708ELP and NIC can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
MegaRAID Storage Manager	2.07-00	\app\g5450\sas\8708ELP\Windows\
ForceWare Network Access Manager	65.16	Including in chipset driver package 9.18

Configuring LSI MegaRAID SAS 8708ELP

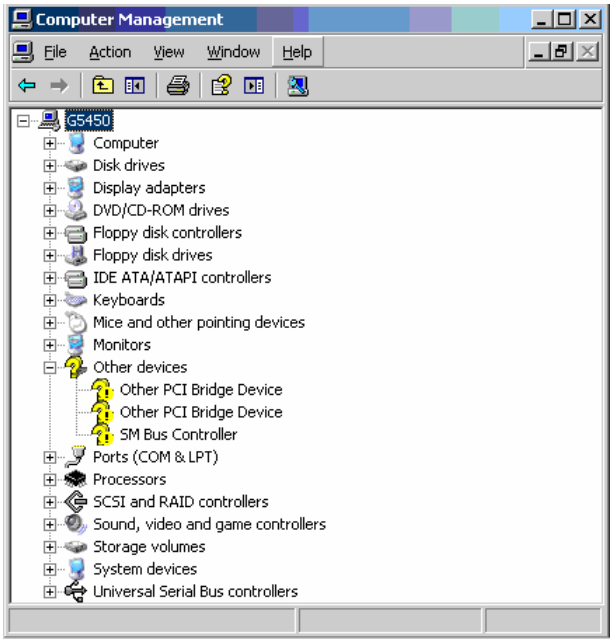
Please refer to the Appendix B. for the LSI MegaRAID SAS 8708ELP configuration.

Installation Tips

1. As Windows Server 2003 x64 can't recognize the LSI MegaRAID SAS 8708ELP, you need to make a driver diskette from the EasyBUILD 7.1 build 600 first before the installation.
2. Press F6 at the beginning of installation for providing the driver diskette for the LSI MegaRAID SAS 8708ELP.
3. Select "**LSI Logic MegaRAID SAS RAID Controller Driver (Server 2003 for x64)**" as target driver
4. After loading the RAID driver from diskette, follow the normal procedure to finish the installation.

Chipset Driver Package Installation

1. After the installation completes, you would see the following devices with yellow mark in Device Manager.



2. Please insert the EasyBUILD 7.1 build 600 into the optical drive

3. Expand **Drivers -> Altos G5450 -> Chipset**, select **Windows Server 2003 x64** and click on **Setup**.
4. Follow the instruction and use the default setting to install all of the drivers and utilities in the driver package.
5. After all drivers and utilities are installed, please reboot the system.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver is included in the chipset driver package. The Gigabit Ethernet driver would be installed automatically when you installing the chipset driver package.

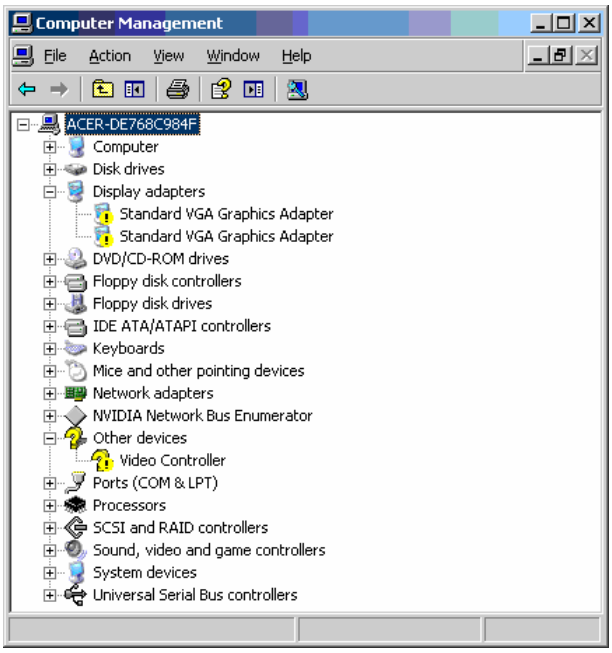
VGA Driver Installation (onboard XGI Z9s)

1. Windows will treat onboard VGA as Standard VGA device. You can find the XGI Z9s driver in EasyBUILD 7.1 build 600. Please insert the EasyBUILD 7.1 build 600 into the optical drive.
2. Expand **Drivers -> Altos G5450 -> Graphics adapters -> XGI Z9s**, select **Windows Server 2003 x64** and click on **Setup**.
3. Click on **Display Driver** and follow the instruction to install the VGA driver.
4. Please reboot the server after the driver is installed.
5. After the system rebooted, you would see **XGI Z7/Z9/Z9s v1.08.03** listed in Display adapters in Device Manager.

VGA Driver Installation (ATI FireGL V5200)

NOTE. With ATI FireGL V5200 installed, the onboard VGA still can work as secondary VGA output. After you install the ATI FireGL V5200 driver, you still need to install the XGI Z9s driver.

1. You will see two **Standard VGA Graphics Adapter** under **Display Adapter** and one **Video Controller** under **Other Device** in Windows Server 2003 **Device Manager** for both ATI FireGL V5200 and XGI Z9s.



2. You can find the ATI FireGL V5200 driver in EasyBUILD 7.1 build 600. Please insert the EasyBUILD 7.1 build 600 into the optical drive.
3. Expand **Drivers -> Altos G5450 -> Graphics adapters -> ATI FireGL V5200**, select **Windows Server 2003** and click on **Setup**.
4. Follow the instruction to install the VGA driver.
5. Please reboot the server after the driver is installed.
6. After the system rebooted, you will see the following message on the screen.

7. Please right-click on desktop and select **Properties**.
8. Select **Setting** tab, Change the setting of **Display** to **1. Plug and Play Monitor and ATI FireGL V5200** and click on **Advanced**.
9. Select **Troubleshoot** tab, change the setting of the **Hardware acceleration** to **Full** and apply the setting. You will not see the message again.
10. Checking the Device Manager, you would see **ATI FireGL V5200** and **ATI FireGL V5200 Secondary** listed in Display adapters in Device Manager.
11. After you install the driver for ATI FireGL V5200, please also install the

driver for onboard XGI Z9s.

RAID Utility Installation

1. For installing MegaRAID Storage Manager for MegaRAID SAS 8708ELP, please insert the EasyBUILD 7.1 build 600 into the optical drive.
2. Expand **Utilities** -> **Altos G5450 -> LSI MegaRAID SAS 8708ELP**, select **MegaRAID Storage Manager (Windows Server 2003 x64)** and click on **Setup.**
3. Follow the instruction, accept the license agreement and use the default setting to the **Setup Type**.
4. At the **Setup Type**, please select **StandAlone**.
5. Follow the instruction again to complete the installation.

Network Utility Installation

The ForceWare Network Access Manager is included in the chipset driver package. The ForceWare Network Access Manager will be installed automatically when you installing the chipset driver package.

Windows Server 2003 Enterprise x64 Edition SP2 Installation (with LSI MegaRAID SAS 8204ELP)

Below information describes how to manually install Windows Server 2003 Enterprise x64 Edition on Altos G5450 with LSI MegaRAID SAS 8204ELP.

Drivers Required

For Windows 2003 x64 Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
LSI MegaRAID SAS 8708ELP	07.15.0209.2007	\Disk\g5450\sas\8204elp\x64\w2k3\
Onboard NVIDIA NFP3600 Chipset	Package 9.18	\Disk\g5450\onboard\xgiz9s\x64\ws03\
Onboard NVIDIA nForce Networking Controller	65.2.0.0	Including in chipset driver package 9.18
Onboard XGI Z9s	6.14.10.1080	\Disk\g5450\onboard\xgiz9s\x64\ws03\
ATI FireGL V5200	8.323.1.0	\Disk\g5450\graphic\V5200\x64\ws03\

Software Required

The management utility for LSI MegaRAID SAS 8204ELP and NIC can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
MegaRAID Storage Manager	2.07-00	\app\g5450\sas\8708ELP\Windows\

ForceWare Network Access Manager	65.16	Including in chipset driver package 9.18

Configuring LSI MegaRAID SAS 8204ELP

Please refer to the Appendix C. for the LSI MegaRAID SAS 8204ELP configuration.

Installation Tips

1. As Windows Server 2003 x64 can't recognize the LSI MegaRAID SAS 8204ELP, you need to make a driver diskette from the EasyBUILD 7.1 build 600 first before the installation.
2. Press F6 at the beginning of installation for providing the driver diskette for the LSI MegaRAID SAS 8204ELP.
3. Select "**LSI Logic Embedded MegaRAID (Windows XP/2003 64-bit)**" as target driver
4. After loading the RAID driver from diskette, follow the normal procedure to finish the installation.

Chipset Driver Installation

The chipset driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows Server 2003 Enterprise x64 Edition (with LSI MegaRAID SAS 8708ELP) Chipset Driver Installation section.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver is included in the chipset driver package. The Gigabit Ethernet driver would be installed automatically when you installing the chipset driver package.

VGA Driver Installation (onboard XGI Z9s)

The XGI Z9s driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows Server 2003 Enterprise x64 Edition (with LSI MegaRAID SAS 8708ELP) XGI Z9x Driver Installation section.

VGA Driver Installation (ATI FireGL V5200)

The ATI FireGL V5200 driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows Server 2003 Enterprise x64 Edition (with LSI MegaRAID SAS 8708ELP) ATI FireGL V5200 Driver Installation section.

RAID Utility Installation

The MegaRAID Storage Manager installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows Server 2003 Enterprise x64 Edition (with LSI MegaRAID SAS 8708ELP) RAID Utility Installation section.

Network Utility Installation

The ForceWare Network Access Manager is included in the chipset driver package. The ForceWare Network Access Manager will be installed automatically when you installing the chipset driver package.

Windows Server 2003 Enterprise x64 Edition SP2 Installation (with onboard SATA RAID)

Below information describes how to manually install Windows Server 2003 Enterprise x64 Edition on Altos G5450 with onboard SATA RAID.

Drivers Required

For Windows 2003 x64 Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
Onboard SATA RAID	5.10.2600.678	\Disk\g5450\onboard\sataraid\x64\ws03\
Onboard NVIDIA NFP 3600 Chipset	Package 9.18	\Disk\g5450\onboard\Chipset\x64\ws03\
Onboard NVIDIA nForce Networking Controller	65.2.0.0	Including in chipset driver package 9.18
Onboard XGI Z9s	6.14.10.1080	\Disk\g5450\onboard\xgiz9s\x64\ws03\
ATI FireGL V5200	8.323.1.0	\Disk\g5450\graphic\V5200\x64\ws03\

Software Required

The management utility for onboard SATA RAID and NIC can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
Onboard SATA RAID Utility	5.10.2600.681	Including in chipset driver package 9.18
ForceWare Network Access Manager	65.16	Including in chipset driver package 9.18

Configuring onboard SATA RAID

Please refer to the Appendix A. for the onboard SATA RAID configuration.

Installation Tips

1. As Windows Server 2003 x64 can't recognize the onboard SATA RAID, you need to make a driver diskette from the EasyBUILD 7.1 build 600 first before the installation.
2. Press F6 at the beginning of installation for providing the driver diskette for the onboard SATA RAID controller.
3. You will see **NVIDA RAID CLASS Driver (required)** and **NVIDIA nForce Storage Controller (required)** listed. Please select both of them to install.

4. After loading the onboard SATA RAID driver from diskette, follow the normal procedure to finish the installation.

Chipset Driver Installation

The chipset driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows Server 2003 Enterprise x64 Edition (with LSI MegaRAID SAS 8708ELP) Chipset Driver Installation section.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver is included in the chipset driver package. The Gigabit Ethernet driver will be installed automatically when you installing the chipset driver package.

VGA Driver Installation (onboard XGI Z9s)

The XGI Z9s driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows Server 2003 Enterprise x64 Edition (with LSI MegaRAID SAS 8708ELP) XGI Z9s Driver Installation section.

VGA Driver Installation (ATI FireGL V5200)

The ATI FireGL V5200 driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows Server 2003 Enterprise x64 Edition (with LSI MegaRAID SAS 8708ELP) ATI FireGL V5200 Driver Installation section.

RAID Utility Installation

The onboard SATA RAID utility is included in the chipset driver package. The onboard SATA RAID utility will be installed automatically when you installing the chipset driver package.

Network Utility Installation

The ForceWare Network Access Manager is included in the chipset driver package. The ForceWare Network Access Manager will be installed automatically when you installing the chipset driver package.

Windows Server 2003 Enterprise Edition SP2 Installation (with LSI MegaRAID SAS 8708ELP)

Below information describes how to manually install Windows Server 2003 Enterprise Edition on Altos G5450 with MegaRAID SAS 8708ELP installed.

Drivers Required

For Windows 2003 Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
LSI MegaRAID SAS 8708ELP	2.7.032	\Disk\g5450\sas\8708elp\w2k3\
Onboard NVIDIA	Package 9.21	\Disk\g5450\onboard\Chipset\ws03\

NFP3600 Chipset		
Onboard NVIDIA nForce Networking Controller	65.3.1.0	Including in chipset driver package 9.21
Onboard XGI Z9s	6.14.10.1080	\Disk\g5450\onboard\xgiz9s\ws03\
ATI FireGL V5200	8.323.1.0	\Disk\g5450\graphic\V5200\ws03\

Software Required

The management utility for LSI MegaRAID SAS 8708ELP can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
MegaRAID Storage Manager	2.07-00	\app\g5450\sas\8708ELP\Windows\
ForceWare Network Access Manager	65.31	Including in chipset driver package 9.21

Configuring LSI MegaRAID SAS 8708ELP

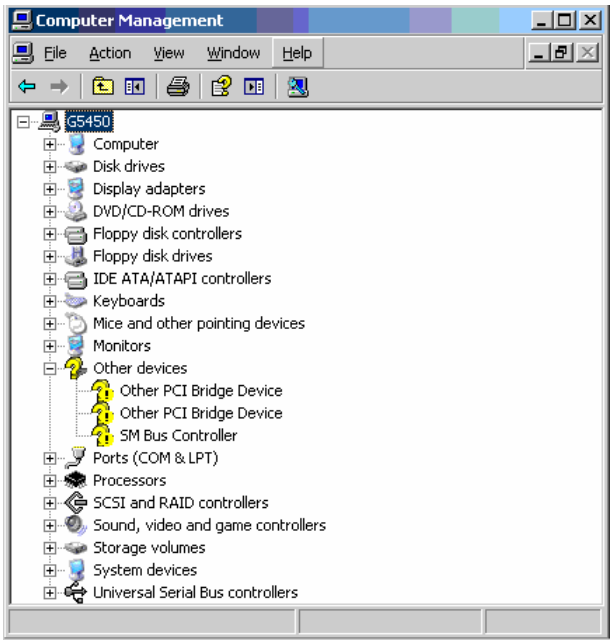
Please refer to the Appendix B. for the LSI MegaRAID SAS 8708ELP configuration.

Installation Tips

1. As Windows Server 2003 can't recognize the LSI MegaRAID SAS 8708ELP, you need to make a driver diskette from the EasyBUILD 7.1 build 600 first before the installation.
2. Press F6 at the start of installation to provide the driver disk for the LSI MegaRAID SAS 8708ELP.
3. Select "**LSI Logic MegaRAID SAS RAID Controller Driver (Server 2003 32-bit)**" as target driver
4. After loading the RAID driver from diskette, follow the normal procedure to finish the installation.

Chipset Driver Installation

1. After the installation completes, you would see the following devices with yellow mark in Device Manager.



2. Please insert the EasyBUILD 7.1 build 600 into the optical drive
3. Expand **Drivers -> Altos G5450 -> Chipset**, select **Windows Server 2003** and click on **Setup**.
4. Follow the instruction and use the default setting to install all of the drivers and utilities in the driver package.
5. After all drivers and utilities are installed, please reboot the system.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver is included in the chipset driver package. The Gigabit Ethernet driver will be installed automatically when you installing the chipset driver package.

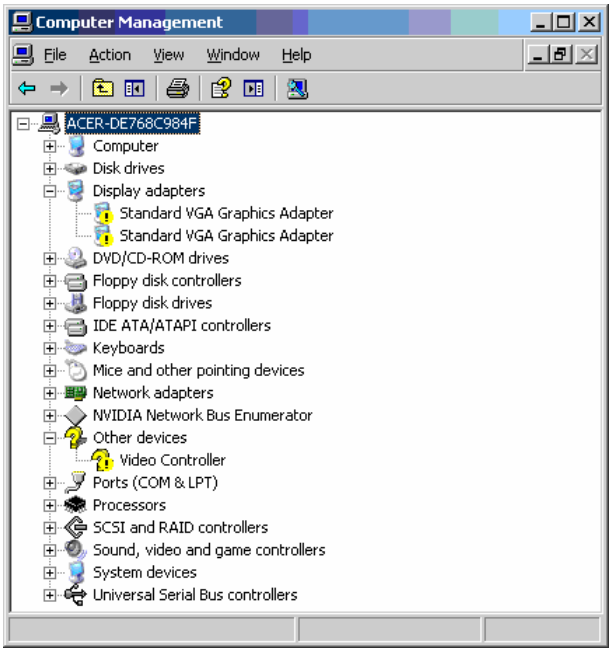
VGA Driver Installation (onboard XGI Z9s)

1. Windows 2003 will treat onboard VGA as Standard VGA device. You can find the XGI Z9s driver in EasyBUILD 7.1 build 600. Please insert the EasyBUILD 7.1 build 600 into the optical drive.
2. Expand **Drivers -> Altos G5450 -> Graphics adapters -> XGI Z9s**, select **Windows Server 2003** and click on **Setup**.
3. Follow the instruction to install the VGA driver.
4. Please reboot the server after the driver is installed.
5. After the system rebooted, you would see **XGI Z7/Z9/Z9s v1.08.03** listed in Display adapters in Device Manager.

VGA Driver Installation (ATI FireGL V5200)

NOTE. With ATI FireGL V5200 installed, the onboard VGA still can work as secondary VGA output. After you install the ATI FireGL V5200 driver, you still need to install the XGI Z9s driver.

1. You will see two **Standard VGA Graphics Adapter** under **Display Adapter** and one **Video Controller** under **Other Device** in Windows Server 2003 **Device Manager** for both ATI FireGL V5200 and XGI Z9s.



2. You can find the ATI FireGL V5200 driver in EasyBUILD 7.1 build 600. Please insert the EasyBUILD 7.1 build 600 into the optical drive.
3. Expand **Drivers -> Altos G5450 -> Graphics adapters -> ATI FireGL V5200**, select **Windows Server 2003** and click on **Setup**.
4. Follow the instruction to install the VGA driver.
5. Please reboot the server after the driver is installed.
6. After the system rebooted, you will see the following message on the screen.

7. Please right-click on desktop and select **Properties**.

8. Select **Setting** tab. Change the setting of **Display** to **1. Plug and Play Monitor and ATI FireGL V5200** and click on **Advanced**.
9. Select **Troubleshoot** tab, change the setting of the **Hardware acceleration** to **Full** and apply the setting. You will not see the message again.
10. Checking the Device Manager, you would see **ATI FireGL V5200** and **ATI FireGL V5200 Secondary** listed in Display adapters in Device Manager.
11. After you install the driver for ATI FireGL V5200, please also install the driver for onboard XGI Z9s.

RAID Utility Installation

1. For installing MegaRAID Storage Manager for MegaRAID SAS 8708ELP, please insert the EasyBUILD 7.1 build 600 into the optical drive.
2. Expand **Utilities** -> **Altos G5450 -> LSI MegaRAID SAS 8708ELP**, select **MegaRAID Storage Manager (Windows Server 2003)** and click on **Setup.**
3. Follow the instruction, accept the license agreement and use the default setting to the **Setup Type**.
4. At Setup Type, please select **StandAlone**.
5. Follow the instruction again to complete the installation.

Network Utility Installation

The ForceWare Network Access Manager is included in the chipset driver package. The ForceWare Network Access Manager will be installed automatically when you installing the chipset driver package.

Windows Server 2003 Enterprise Edition SP2 Installation (with LSI MegaRAID SAS 8204ELP)

Below information describes how to manually install Windows Server 2003 Enterprise Edition SP2 on Altos G5450 with LSI MegaRAID SAS 8204ELP.

Drivers Required

For Windows 2003 Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
LSI MegaRAID SAS 8204ELP	07.15.0209.2007	\Disk\g5450\sas\8204elp\w2k3\
Onboard NVIDIA NFP3600 Chipset	Package 9.21	\Disk\g5450\onboard\Chipset\ws03\
Onboard NVIDIA nForce Networking Controller	65.3.1.0	Including in chipset driver package 9.21
Onboard XGI Z9s	6.14.10.1080	\Disk\g5450\onboard\xgiz9s\ws03\
ATI FireGL V5200	8.323.1.0	\Disk\g5450\graphic\V5200\ws03\

Software Required

The management utility for LSI MegaRAID SAS 8204ELP and NIC can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
MegaRAID Storage Manager	2.07-00	\app\g5450\sas\8708ELP\Windows\
ForceWare Network Access Manager	65.31	Including in chipset driver package 9.21

Configuring LSI MegaRAID SAS 8204ELP

Please refer to the Appendix C. for the LSI MegaRAID SAS 8204ELP configuration.

Installation Tips

1. As Windows Server 2003 can't recognize the LSI MegaRAID SAS 8204ELP, you need to make a driver diskette from the EasyBUILD 7.1 build 600 first before the installation.
2. Press F6 at the beginning of installation for providing the driver diskette for the LSI MegaRAID SAS 8204ELP.
3. Select "**LSI Logic Embedded MegaRAID (Windows XP/2003)**" as target driver
4. After loading the RAID driver from diskette, follow the normal procedure to finish the installation.

Chipset Driver Installation

The chipset driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows Server 2003 Enterprise Edition (with LSI MegaRAID SAS 8708ELP) Chipset Driver Installation section.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver is included in the chipset driver package. The Gigabit Ethernet driver would be installed automatically when you installing the chipset driver package.

VGA Driver Installation (onboard XGI Z9s)

The XGI Z9s driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows Server 2003 Enterprise Edition (with LSI MegaRAID SAS 8708ELP) XGI Z9x Driver Installation section.

VGA Driver Installation (ATI FireGL V5200)

The ATI FireGL V5200 driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows Server 2003 Enterprise Edition (with LSI MegaRAID SAS 8708ELP) ATI FireGL V5200 Driver Installation section.

RAID Utility Installation

The MegaRAID Storage Manager installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows Server 2003 Enterprise Edition (with LSI MegaRAID SAS 8708ELP) MegaRAID Storage Manager Installation section.

Network Utility Installation

The ForceWare Network Access Manager is included in the chipset driver package. The ForceWare Network Access Manager will be installed automatically when you installing the chipset driver package.

Windows Server 2003 Enterprise Edition SP2 Installation (with onboard SATA RAID)

Below information describes how to manually install Windows Server 2003 Enterprise Edition SP2 on Altos G5450 with onboard SATA RAID.

Drivers Required

For Windows 2003 Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
Onboard SATA RAID	5.10.2600.687	\Disk\g5450\onboard\sataraid\ws03\
Onboard NVIDIA NFP3600 Chipset	Package 9.21	\Disk\g5450\onboard\Chipset\ws03\
Onboard NVIDIA nForce Networking Controller	65.3.1.0	Including in chipset driver package 9.21
Onboard XGI Z9s	6.14.10.1080	\Disk\g5450\onboard\xgiz9s\ws03\
ATI FireGL V5200	8.323.1.0	\Disk\g5450\graphic\V5200\ws03\

Software Required

The management utility for onboard SATA RAID and NIC can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
Onboard SATA RAID Utility	5.10.2600.687	Including in chipset driver package 9.21
ForceWare Network Access Manager	65.31	Including in chipset driver package 9.21

Configuring onboard SATA RAID

Please refer to the Appendix A. for the onboard SATA RAID configuration.

Installation Tips

1. As Windows Server 2003 can't recognize the onboard SATA RAID, you need to make a driver diskette from the EasyBUILD 7.1 build 600 first

before the installation.

2. Press F6 at the beginning of installation for providing the driver diskette for the onboard SATA RAID controller.
3. You will see **NVIDA RAID CLASS Driver (required)** and **NVIDIA nForce Storage Controller (required)** listed. Please select both of them to install.
4. After loading the onboard SATA RAID driver from diskette, follow the normal procedure to finish the installation.

Chipset Driver Installation

The chipset driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows Server 2003 Enterprise Edition SP2 (with LSI MegaRAID SAS 8708ELP) Chipset Driver Installation section.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver is included in the chipset driver package. The Gigabit Ethernet driver would be installed automatically when you installing the chipset driver package.

VGA Driver Installation (onboard XGI Z9s)

The XGI Z9s driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows Server 2003 Enterprise Edition (with LSI MegaRAID SAS 8708ELP) XGI Z9x Driver Installation section.

VGA Driver Installation (ATI FireGL V5200)

The ATI FireGL V5200 driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows Server 2003 Enterprise Edition (with LSI MegaRAID SAS 8708ELP) ATI FireGL V5200 Driver Installation section.

RAID Utility Installation

The onboard SATA RAID utility is included in the chipset driver package. The onboard SATA RAID utility will be installed automatically when you installing the chipset driver package.

Network Utility Installation

The ForceWare Network Access Manager is included in the chipset driver package. The ForceWare Network Access Manager will be installed automatically when you installing the chipset driver package.

Windows 2000 Advanced Server SP4 Installation (with LSI MegaRAID SAS 8708ELP)

Below information describes how to manually install Microsoft Windows 2000 Advanced Server SP4 on Altos G5450 with LSI MegaRAID SAS 8708ELP installed.

Drivers Required

For Windows 2000 Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
LSI MegaRAID SAS 8708ELP	2.7.0.32	\Disk\g5450\sas\8708elp\w2k\
Onboard NVIDIA NFP 3600 Chipset	Package 9.21	\Disk\g5450\onboard\Chipset\ws2k\
Onboard NVIDIA nForce Networking Controller	65.3.1.0	Including in chipset driver package 9.21
Onboard XGI Z9s	6.14.10.1070	\Disk\g5450\onboard\xgiz9s\ws2k\Setup\
ATI FireGL V5200	8.323.1.0	\Disk\g5450\graphic\V5200\ws2k\

Software Required

The management utility of LSI MegaRAID SAS 8708ELP can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
MegaRAID Storage Manager	2.07-00	\app\g5450\sas\8708ELP\Windows\
ForceWare Network Access Manager	65.31	Including in chipset driver package 9.21

Configuring LSI MegaRAID SAS 8708ELP

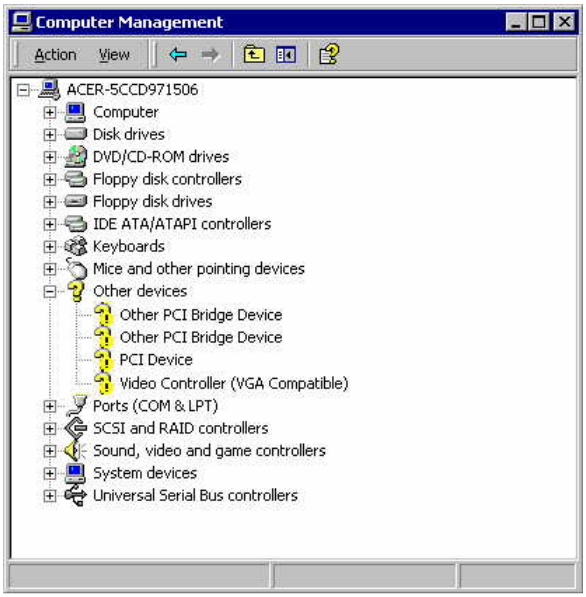
Please refer to the Appendix B. for the LSI MegaRAID SAS 8708ELP configuration.

Installation Tips

1. As Windows 2000 can't recognize the LSI MegaRAID SAS 8708ELP, you need to make a driver diskette from the EasyBUILD 7.1 build 600 first before the installation.
2. Press F6 at the start of installation to provide the driver disk for the MegaRAID SAS 8708ELP.
3. Select "**LSI MegaRAID SAS RAID Controller Driver (Windows 2000)**" as target driver
4. After loading the driver from diskette, follow the normal procedure to finish the installation.

Chipset Driver Installation

1. After the installation completes, you would see the following other devices listed in Device Manager.



2. Please insert the EasyBUILD 7.1 build 600 (or later) into the optical drive
3. Expand **Drivers -> Altos G5450 -> Chipset** and double-click on **Windows 2000**.
4. Follow the instruction and use the default setting to install all of the drivers and utilities in the driver package.
5. After all drivers and utilities are installed, please reboot the system.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver is included in the chipset driver package. The Gigabit Ethernet driver would be installed automatically when you installing the chipset driver package.

VGA Driver Installation (onboard ZGI Z9s)

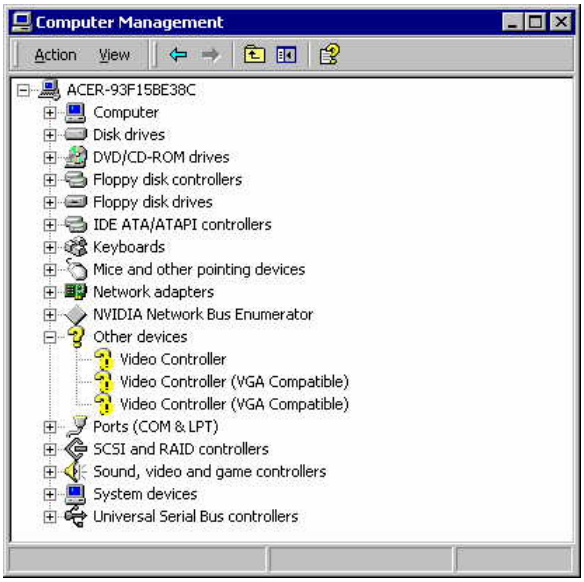
1. Windows 2000 cannot recognize the onboard VGA. You can find the XGI Z9s driver in EasyBUILD 7.1 build 600. Please insert the EasyBUILD 7.1 build 600 into the optical drive.
2. Expand **Drivers -> Altos G5450 -> Graphics adapters -> XGI Z9s**, select **Windows 2000** and click on **Setup**.
3. Follow the instruction to install the VGA driver.
4. Please reboot the server after the driver is installed.
5. After the system rebooted, you would see **XGI Z7/Z9/Z9s v1.07.08** listed in Display adapters in Device Manager.

VGA Driver Installation (ATI FireGL V5200)

NOTE. With ATI FireGL V5200 installed, the onboard VGA still can work as secondary VGA output. After you install the ATI FireGL V5200 driver, you still

need to install the XGI Z9s driver.

1. You will see three **Video Controller (VGA Compatible)** under **Other Device** in Windows 2000 **Device Manager** for both ATI FireGL V5200 and XGI Z9s.



2. You can find the ATI FireGL V5200 driver in EasyBUILD 7.1 build 600. Please insert the EasyBUILD 7.1 build 600 into the optical drive.
3. Expand **Drivers -> Altos G5450 -> Graphics adapters -> ATI FireGL V5200**, select **Windows 2000** and click on **Setup**.
4. Follow the instruction to install the VGA driver.
5. At **Select Components**, please click on **Express**.
6. Please reboot the server after the driver is installed. You would see **ATI FireGL V5200** and **ATI FireGL V5200 Secondary** listed in Display adapters in Device Manager.
7. After you install the driver for ATI FireGL V5200, please also install the driver for onboard XGI Z9s.

RAID Utility Installation

1. For installing the MegaRAID Storage Manager for the LSI MegaRAID SAS 8708ELP, please insert the EasyBUILD 7.1 build 600 (or later) into the optical drive.
2. Expand **Utilities** -> **Altos G5450 -> LSI MegaRAID SAS 8708ELP**, select **MegaRAID Storage Manger (Windows 2000)** and click on **Setup.**
3. Follow the instruction, accept the license agreement and use the default setting to the **Setup Type**.
4. At Setup Type, please select **StandAlone**.

5. Follow the instruction again to complete the installation.

Network Utility Installation

NOTE. ForceWare Network Access Manager only supports Microsoft Internet Explorer version 6.0 or later. If you want to use the ForceWare Network Access Manager with Windows 2000, you need to update the Microsoft Internet Explorer to version 6.0 or later.

The ForceWare Network Access Manager is included in the chipset driver package. The ForceWare Network Access Manager will be installed automatically when you installing the chipset driver package.

Windows 2000 Advanced Server SP4 Installation (with LSI MegaRAID SAS 8204ELP)

Below information describes how to manually install Windows 2000 Advanced Server SP4 on Altos G540 with LSI MegaRAID SAS 8204ELP.

Drivers Required

For Windows 2000 Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
LSI MegaRAID SAS 8708ELP	2.7.0.32	\Disk\g5450\sas\8708elp\w2k\
Onboard NVIDIA NFP 3600 Chipset	Package 9.21	\Disk\g5450\onboard\Chipset\ws2k\
Onboard NVIDIA nForce Networking Controller	65.3.1.0	Including in chipset driver package 9.21
Onboard XGI Z9s	6.14.10.1070	\Disk\g5450\onboard\xgiz9s\ws2k\Setup\
ATI FireGL V5200	8.323.1.0	\Disk\g5450\graphic\V5200\ws2k\

Software Required

The management utility for LSI MegaRAID SAS and NIC can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
MegaRAID Storage Manager	2.07-00	\app\g5450\sas\8708ELP\Windows\
ForceWare Network Access Manager	65.31	Including in chipset driver package 9.21

Configuring LSI MegaRAID SAS 8204ELP

Please refer to the Appendix C. for the LSI MegaRAID SAS 8204ELP configuration.

Installation Tips

1. As Windows 2000 can't recognize the LSI MegaRAID SAS 8204ELP, you need to make a driver diskette from the EasyBUILD 7.1 build 600 first before the installation.
2. Press F6 at the beginning of installation for providing the driver diskette for the LSI MegaRAID SAS 8204ELP.
3. Select "**LSI Logic Embedded MegaRAID (Windows 2000 SP4)**" as target driver
4. After loading the SAS driver from diskette, follow the normal procedure to finish the installation.

Chipset Driver Installation

The chipset driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows 2000 Advanced Server SP4 Installation (with LSI MegaRAID SAS 8204ELP) Chipset Driver Installation section.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver is included in the chipset driver package. The Gigabit Ethernet driver would be installed automatically when you installing the chipset driver package.

VGA Driver Installation (onboard ZGI Z9s)

The ZGI Z9s driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows 2000 Advanced Server SP4 Installation (with LSI MegaRAID SAS 8708ELP) XGI Z9s Driver Installation section.

VGA Driver Installation (ATI FireGL V5200)

The ATI FireGL V5200 driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows 2000 Advanced Server SP4 Installation (with LSI MegaRAID SAS 8708ELP) ATI FireGL V5200 Driver Installation section.

RAID Utility Installation

The MegaRAID Storage Manager installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows 2000 Advanced Server SP4 Installation (with LSI MegaRAID SAS 8708ELP) RAID Utility Installation section.

Network Utility Installation

NOTE. ForceWare Network Access Manager only supports Microsoft Internet Explorer version 6.0 or later. If you want to use the ForceWare Network Access Manager with Windows 2000, you need to update the Microsoft Internet Explorer to version 6.0 or later.

The ForceWare Network Access Manager is included in the chipset driver package. The ForceWare Network Access Manager will be installed

automatically when you installing the chipset driver package.

Windows 2000 Advanced Server SP4 Installation (with onboard SATA RAID)

Below information describes how to manually install Windows 2000 Advanced Server SP4 on Altos G5450 with onboard SATA RAID.

Drivers Required

For Windows 2000 Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
Onboard SATA RAID	5.10.2600.687	\Disk\g5450\onboard\sataraid\ws2k\
Onboard NVIDIA NFP 3600 Chipset	Package 9.21	\Disk\g5450\onboard\Chipset\ws2k\
Onboard NVIDIA nForce Networking Controller	65.3.1.0	Including in chipset driver package 9.21
Onboard XGI Z9s	6.14.10.1070	\Disk\g5450\onboard\xgiz9s\ws2k\Setup\
ATI FireGL V5200	8.323.1.0	\Disk\g5450\graphic\V5200\ws2k\

Software Required

The management utility for onboard SATA RAID and NIC can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
Onboard SATA RAID Utility	5.10.2600.687	Including in chipset driver package 9.21
ForceWare Network Access Manager	65.31	Including in chipset driver package 9.21

Configuring onboard SATA RAID

Please refer to the Appendix A. for the onboard SATA RAID configuration.

Installation Tips

1. As Windows 2000 can't recognize the onboard SATA RAID, you need to make a driver diskette from the EasyBUILD 7.1 build 600 first before the installation.
2. Press F6 at the beginning of installation for providing the driver diskette for the onboard SATARAID.
3. You will see **NVIDA RAID CLASS Driver (required)** and **NVIDIA nForce Storage Controller (required)** listed. Please select both of them to install.
4. After loading the onboard SATA RAID driver from diskette, follow the normal procedure to finish the installation.

Chipset Driver Installation

The chipset driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows 2000 Advanced Server SP4 Installation (with LSI MegaRAID SAS 8708ELP) Chipset Driver Installation section.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver is included in the chipset driver package. The Gigabit Ethernet driver would be installed automatically when you installing the chipset driver package.

VGA Driver Installation (onboard ZGI Z9s)

The ZGI Z9s driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows 2000 Advanced Server SP4 Installation (with LSI MegaRAID SAS 8708ELP) XGI Z9s Driver Installation section.

VGA Driver Installation (ATI FireGL V5200)

The ATI FireGL V5200 driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows 2000 Advanced Server SP4 Installation (with LSI MegaRAID SAS 8708ELP) ATI FireGL V5200 Driver Installation section.

RAID Utility Installation

The onboard SATA RAID utility is included in the chipset driver package. The onboard SATA RAID utility will be installed automatically when you installing the chipset driver package.

Network Utility Installation

NOTE. ForceWare Network Access Manager only supports Microsoft Internet Explorer version 6.0 or later. If you want to use the ForceWare Network Access Manager with Windows 2000, you need to update the Microsoft Internet Explorer to version 6.0 or later.

The ForceWare Network Access Manager is included in the chipset driver package. The ForceWare Network Access Manager will be installed automatically when you installing the chipset driver package.

Windows Vista Enterprise x64 Edition Installation (with LSI MegaRAID SAS 8708ELP)

Below information describes how to manually install Windows Vista Enterprise x64 Edition on Altos G5450 with LSI MegaRAID SAS 8708ELP installed.

Drivers Required

For Windows Vista x64 Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
LSI MegaRAID SAS	2.10.0.64	\Disk\g5450\sas\8708elp\x64\vista

8708ELP		
Onboard NVIDIA NFP3600 Chipset	Package 9.31	\Disk\g5450\onboard\Chipset\x64\vista\
Onboard NVIDIA nForce Networking Controller	65.5.5.0	Including in chipset driver package 9.31
Onboard XGI Z9s	N/A	OS built-in
ATI FireGL V5200	N/A	OS built-in

Software Required

The management utility for LSI MegaRAID SAS 8708ELP can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
MegaRAID Storage Manager	2.07-00	\app\g5450\sas\8204ELP\Windows\

Configuring LSI MegaRAID SAS 8708ELP

Please refer to the Appendix B. for the LSI MegaRAID SAS 8708ELP configuration.

Installation Tips

1. Though Windows Vista x64 can recognize the LSI MegaRAID SAS 8708ELP, we still replace the driver with the one in EasyBUILD. Please make the driver diskette from the EasyBUILD 7.1 build 600 first before the installation.
2. Please boot the system form the Windows Vista x64 CD/DVD. Follow the instructions to do the installation.
3. When you see the "**Where do you want to install Windows?**" on the screen, please insert the driver diskette and click on **Load Driver**.
4. Click on **OK**. You will see the supported devices listed.
5. Select "**LSI MegaRAID SAS 8708ELP RAID (A:\oemsetup.inf)**" and click on **Next**.
6. After the driver is loaded and returned to "**Where do you want to install Windows?**" page, click on **Next** to continue the installation.
7. Follow the instructions to finish the installation.

Chipset Driver Installation

1. Please insert the EasyBUILD 7.1 build 600 (or later) into the optical drive
2. Expand **Drivers -> Altos G5450 -> Chipset** and double-click on **Windows Vista x64**.
3. Follow the instruction and use the default setting to install all of the

drivers and utilities in the driver package.

4. After all drivers and utilities are installed, please reboot the system.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver is included in the chipset driver package. The Gigabit Ethernet driver would be installed automatically when you installing the chipset driver package.

RAID Utility Installation

1. For installing the MegaRAID Storage Manager for the LSI MegaRAID SAS 8708ELP, please insert the EasyBUILD 7.1 build 600 (or later) into the optical drive.
2. Expand **Utilities** -> **Altos G5450 -> LSI MegaRAID SAS 8708ELP**, select **MegaRAID Storage Manger (Windows Vista x64)** and click on **Setup.**
3. Follow the instruction, accept the license agreement and use the default setting to the **Setup Type**.
4. At Setup Type, please select **StandAlone**.
5. Follow the instruction again to complete the installation.

Windows Vista Enterprise x64 Edition Installation (with onboard SATA RAID)

Below information describes how to manually install Windows Vista Enterprise x64 Edition on Altos G5450 with onboard SATA RAID.

Drivers Required

For Windows Vista x64 Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
Onboard SATA RAID	5.10.2600.931	\Disk\g5450\onboard\sataraid\x64\vista\
Onboard NVIDIA NFP3600 Chipset	Package 9.31	\Disk\g5450\onboard\Chipset\x64\vista\
Onboard NVIDIA nForce Networking Controller	65.5.5.0	Including in chipset driver package 9.31
Onboard XGI Z9s	N/A	OS built-in
ATI FireGL V5200	N/A	OS built-in

Software Required

The management utility for onboard SATA RAID can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
Onboard SATA	1.2.1.36	Including in chipset driver package

RAID Utility		9.31

Configuring onboard SATA RAID

Please refer to the Appendix A. for the onboard SATA RAID configuration.

Installation Tips

1. Though Windows Vista x64 can recognize the onboard SATA RAID, we still replace the driver with the one in EasyBUILD. Please make the driver diskette from the EasyBUILD 7.1 build 600 first before the installation.
2. Please boot the system form the Windows Vista x64 CD/DVD. Follow the instructions to do the installation.
3. When you see the "**Where do you want to install Windows?**" on the screen, please insert the driver diskette and click on **Load Driver**.
4. Click on **OK**. You will see the **NVIDIA nForce RAID Controller (A:\nvrd64.inf)**, **NVIDIA nForce RAID Device (A:\nvrd64.inf)** and **NVIDIA nForce Serial ATA Controller (A:\nvrd64.inf)** listed.
5. Please hold the ctrl key to select all of listed driver and click on **Next** to load the driver.
6. After the driver is loaded and returned to "**Where do you want to install Windows?**" page, click on **Next** to continue the installation.
7. Follow the instructions to finish the installation.

Chipset Driver Installation

The chipset driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows Vista Enterprise x64 Edition Installation (with LSI MegaRAID SAS 8708ELP) Chipset Driver Installation section.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver is included in the chipset driver package. The Gigabit Ethernet driver would be installed automatically when you installing the chipset driver package.

RAID Utility Installation

The onboard SATA RAID utility is included in the chipset driver package. The onboard SATA RAID utility would be installed automatically when you installing the chipset driver package.

Windows Vista Enterprise Edition Installation (with LSI MegaRAID SAS 8708ELP)

Below information describes how to manually install Windows Vista Enterprise Edition on Altos G5450 with LSI MegaRAID SAS 8708ELP installed.

Drivers Required

For Windows Vista Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
LSI MegaRAID SAS 8708ELP	2.10.0.32	\Disk\g5450\sas\8708elp\vista
Onboard NVIDIA NFP3600 Chipset	Package 9.31	\Disk\g5450\onboard\Chipset\vista\
Onboard NVIDIA nForce Networking Controller	65.5.5.0	Including in chipset driver package 9.31
Onboard XGI Z9s	N/A	OS built-in
ATI FireGL V5200	N/A	OS built-in

Software Required

The management utility for LSI MegaRAID SAS 8708ELP can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
MegaRAID Storage Manager	2.07-00	\app\g5450\sas\8204ELP\Windows\

Configuring LSI MegaRAID SAS 8708ELP

Please refer to the Appendix B. for the LSI MegaRAID SAS 8708ELP configuration.

Installation Tips

1. Though Windows Vista can recognize the LSI MegaRAID SAS 8708ELP, we still replace the driver with the one in EasyBUILD. Please make the driver diskette from the EasyBUILD 7.1 build 600 first before the installation.
2. Please boot the system form the Windows Vista CD/DVD. Follow the instructions to do the installation.
3. When you see the "**Where do you want to install Windows?**" on the screen, please insert the driver diskette and click on **Load Driver**.
4. Click on **OK**. You will see the supported devices listed.
5. Select "**LSI MegaRAID SAS 8708ELP RAID (A:\oemsetup.inf)**" and click on **Next**.
6. After the driver is loaded and returned to "**Where do you want to install Windows?**" page, click on **Next** to continue the installation.
7. Follow the instructions to finish the installation.

Chipset Driver Installation

1. Please insert the EasyBUILD 7.1 build 600 (or later) into the optical drive

2. Expand **Drivers -> Altos G5450 -> Chipset** and double-click on **Windows Vista**.
3. Follow the instruction and use the default setting to install all of the drivers and utilities in the driver package.
4. After all drivers and utilities are installed, please reboot the system.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver is included in the chipset driver package. The Gigabit Ethernet driver would be installed automatically when you installing the chipset driver package.

RAID Utility Installation

1. For installing the MegaRAID Storage Manager for the LSI MegaRAID SAS 8708ELP, please insert the EasyBUILD 7.1 build 600 (or later) into the optical drive.
2. Expand **Utilities** -> **Altos G5450 -> LSI MegaRAID SAS 8708ELP**, select **MegaRAID Storage Manger (Windows Vista x64)** and click on **Setup.**
3. Follow the instruction, accept the license agreement and use the default setting to the **Setup Type**.
4. At Setup Type, please select **StandAlone**.
5. Follow the instruction again to complete the installation.

Windows Vista Enterprise Edition Installation (with onboard SATA RAID)

Below information describes how to manually install Windows Vista Enterprise Edition on Altos G5450 with onboard SATA RAID.

Drivers Required

For Windows Vista Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
Onboard SATA RAID	5.10.2600.931	\Disk\g5450\onboard\sataraid\vista\
Onboard NVIDIA NFP3600 Chipset	Package 9.31	\Disk\g5450\onboard\Chipset\vista\
Onboard NVIDIA nForce Networking Controller	65.5.5.0	Including in chipset driver package 9.31
Onboard XGI Z9s	N/A	OS built-in
ATI FireGL V5200	N/A	OS built-in

Software Required

The management utility for onboard SATA RAID can be found in the EasyBUILD

7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
Onboard SATA RAID Utility	1.2.1.36	Including in chipset driver package 9.31

Configuring onboard SATA RAID

Please refer to the Appendix A. for the onboard SATA RAID configuration.

Installation Tips

1. Though Windows Vista can recognize the onboard SATA RAID, we still replace the driver with the one in EasyBUILD. Please make the driver diskette from the EasyBUILD 7.1 build 600 first before the installation.
2. Please boot the system form the Windows Vista CD/DVD. Follow the instructions to do the installation.
3. When you see the "**Where do you want to install Windows?**" on the screen, please insert the driver diskette and click on **Load Driver**.
4. Click on **OK**. You will see the **NVIDIA nForce RAID Controller (A:\nvrd32.inf)**, **NVIDIA nForce RAID Device (A:\nvrd32.inf)** and **NVIDIA nForce Serial ATA Controller (A:\nvrd32.inf)** listed.
5. Please hold the Ctrl key to select all of listed driver and click on **Next** to load the driver.
6. After the driver is loaded and returned to "**Where do you want to install Windows?**" page, click on **Next** to continue the installation.
7. Follow the instructions to finish the installation.

Chipset Driver Installation

The chipset driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows Vista Enterprise Edition Installation (with LSI MegaRAID SAS 8708ELP) Chipset Driver Installation section.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver is included in the chipset driver package. The Gigabit Ethernet driver would be installed automatically when you installing the chipset driver package.

RAID Utility Installation

The onboard SATA RAID utility is included in the chipset driver package. The onboard SATA RAID utility would be installed automatically when you installing the chipset driver package.

Windows XP Professional x64 Edition SP2 Installation (with LSI MegaRAID SAS 8708ELP)

Below information describes how to manually install Windows XP Professional x64 Edition on Altos G5450 with LSI MegaRAID SAS 8708ELP installed.

Drivers Required

For Windows XP x64 Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
LSI MegaRAID SAS 8708ELP	2.7.0.64	\Disk\g5450\sas\8708elp\x64\wsxp
Onboard NVIDIA NFP3600 Chipset	Package 9.18	\Disk\g5450\onboard\Chipset\x64\wsxp\
Onboard NVIDIA nForce Networking Controller	65.2.0.0	Including in chipset driver package 9.18
Onboard XGI Z9s	6.14.10.1080	\Disk\g5450\onboard\xgiz9s\x64\wsxp\
ATI FireGL V5200	8.323.1.0	\Disk\g5450\graphic\V5200\x64\wsxp\

Software Required

The management utility for LSI MegaRAID SAS 8708ELP and NIC can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
MegaRAID Storage Manager	2.07-00	\app\g5450\sas\8204ELP\Windows\
ForceWare Network Access Manager	65.16	Including in chipset driver package 9.18

Configuring LSI MegaRAID SAS 8708ELP

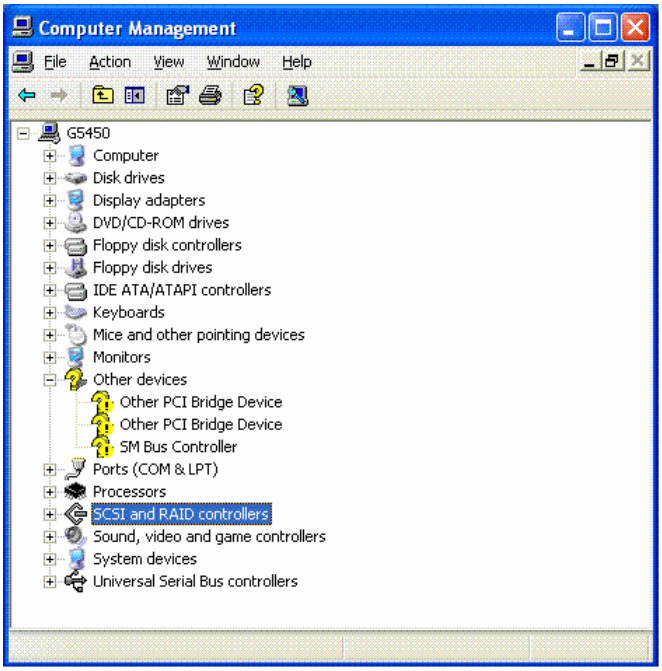
Please refer to the Appendix B. for the LSI MegaRAID SAS 8708ELP configuration.

Installation Tips

1. As Windows XP x64 can't recognize the LSI MegaRAID SAS 8708ELP, you need to make a driver diskette from the EasyBUILD 7.1 build 600 first before the installation.
2. Press F6 at the beginning of installation for providing the driver diskette for the LSI MegaRAID SAS 8708ELP.
3. Select "**LSI Logic MegaRAID SAS RAID Controller Driver (Windows XP-64)**" as target driver
4. After loading the RAID driver from diskette, follow the normal procedure to finish the installation.

Chipset Driver Package Installation

1. After the installation completes, you would see the following devices with yellow mark in Device Manager.



2. Please insert the EasyBUILD 7.1 build 600 into the optical drive
3. Expand **Drivers -> Altos G5450 -> Chipset**, select **Windows XP x64** and click on **Setup**.
4. Follow the instruction and use the default setting to install all of the drivers and utilities in the driver package.
5. After all drivers and utilities are installed, please reboot the system.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver is included in the chipset driver package. The Gigabit Ethernet driver would be installed automatically when you installing the chipset driver package.

VGA Driver Installation (onboard XGI Z9s)

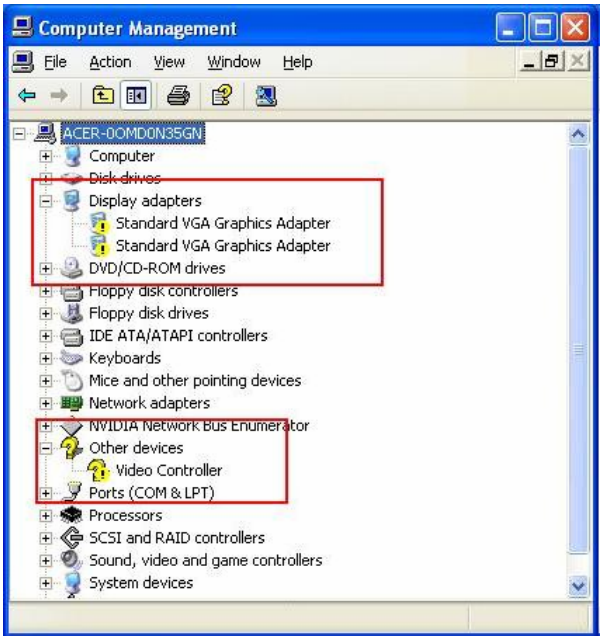
1. Windows XP x64 will treat onboard VGA as Standard VGA device. You can find the XGI Z9s driver in EasyBUILD 7.1 build 600. Please insert the EasyBUILD 7.1 build 600 into the optical drive.
2. Expand **Drivers -> Altos G5450 -> Graphics adapters -> XGI Z9s**, select **Windows XP x64** and click on **Setup**.
3. Follow the instruction to install the VGA driver.
4. Please reboot the server after the driver is installed.

5. After the system rebooted, you would see **XGI Z7/Z9/Z9s v1.08.03** listed in Display adapters in Device Manager.

VGA Driver Installation (ATI FireGL V5200)

NOTE. With ATI FireGL V5200 installed, the onboard VGA still can work as secondary VGA output. After you install the ATI FireGL V5200 driver, you still need to install the XGI Z9s driver.

1. You will see two **Standard VGA Graphics Adapter** and one **Video Controller** under **Other Device** in Windows XP **Device Manager** for both ATI FireGL V5200 and XGI Z9s.



2. You can find the ATI FireGL V5200 driver in EasyBUILD 7.1 build 600. Please insert the EasyBUILD 7.1 build 600 into the optical drive.
3. Expand **Drivers -> Altos G5450 -> Graphics adapters -> ATI FireGL V5200**, select **Windows XP x64** and click on **Setup**.
4. Follow the instruction to install the VGA driver.
5. At **Select Components**, please click on **Express**.
6. Please reboot the server after the driver is installed. You would see **ATI FireGL V5200** and **ATI FireGL V5200 Secondary** listed in Display adapters in Device Manager.
7. After you install the driver for ATI FireGL V5200, please also install the driver for onboard XGI Z9s.

RAID Utility Installation

1. For installing MegaRAID Storage Manager for MegaRAID SAS 8708ELP,

please insert the EasyBUILD 7.1 build 600 into the optical drive.

2. Expand **Utilities** -> **Altos G5450 -> LSI MegaRAID SAS 8708ELP**, select **MegaRAID Storage Manager (Windows XP x64)** and click on **Setup.**
3. Follow the instruction, accept the license agreement and use the default setting to the **Setup Type**.
4. At the **Setup Type**, please select **StandAlone**.
5. Follow the instruction again to complete the installation.

Network Utility Installation

The ForceWare Network Access Manager is included in the chipset driver package. The ForceWare Network Access Manager will be installed automatically when you installing the chipset driver package.

Windows XP Professional x64 Edition SP2 Installation (with LSI MegaRAID SAS 8204ELP)

Below information describes how to manually install Windows XP Professional x64 Edition on Altos G5450 with MegaRAID SAS 8204ELP installed.

Drivers Required

For Windows XP x64 Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
MegaRAID SAS 8204ELP	07.15.0209.2007	\Disk\g5450\sas\8204elp\x64\wsxp\
Onboard NVIDIA NFP3600 Chipset	Package 9.18	\Disk\g5450\onboard\Chipset\x64\wsxp\
Onboard NVIDIA nForce Networking Controller	65.2.0.0	Including in chipset driver package 9.18
Onboard XGI Z9s	6.14.10.1080	\Disk\g5450\onboard\xgiz9s\x64\wsxp\
ATI FireGL V5200	8.323.1.0	\Disk\g5450\graphic\V5200\x64\wsxp\

Software Required

The management utility for MegaRAID SAS 8204ELP and NIC can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
MegaRAID Storage Manager	2.07-00	\app\g5450\sas\8204ELP\Windows\
ForceWare Network Access Manager	65.16	Including in chipset driver package 9.18

Configuring LSI MegaRAID SAS 8204ELP

Please refer to the Appendix C. for the LSI MegaRAID SAS 8204ELP

configuration.

Installation Tips

1. As Windows XP x64 can't recognize the MegaRAID SAS 8204ELP, you need to make a driver diskette from the EasyBUILD 7.1 build 600 first before the installation.
2. Press F6 at the beginning of installation for providing the driver diskette for the onboard SATA RAID.
3. Select "**LSI Logic Embedded MegaRAID (Windows XP/2003 64-bit)**" as target driver
4. After loading the SATA RAID driver from the diskette, follow the normal procedure to finish the installation.

Chipset Driver Package Installation

The chipset driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows XP Professional x64 Edition SP2 Installation (with LSI MegaRAID SAS 8708ELP) Chipset Driver Installation section.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver is included in the chipset driver package. The Gigabit Ethernet driver would be installed automatically when you installing the chipset driver package.

VGA Driver Installation (onboard XGI Z9s)

The XGI Z9s driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows XP Professional x64 Edition SP2 Installation (with LSI MegaRAID SAS 8708ELP) XGI Z9s Driver Installation section.

VGA Driver Installation (ATI FireGL V5200)

The ATI FireGL V5200 driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows XP Professional x64 Edition SP2 Installation (with LSI MegaRAID SAS 8708ELP) ATI FireGL V5200 Driver Installation section.

RAID Utility Installation

The MegaRAID Storage Manager installation for MegaRAID SAS 8204ELP is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows XP Professional x64 Edition SP2 Installation (with LSI MegaRAID SAS 8708ELP) RAID Utility Installation section.

Network Utility Installation

The ForceWare Network Access Manager is included in the chipset driver package. The ForceWare Network Access Manager will be installed

automatically when you installing the chipset driver package.

Windows XP Professional x64 Edition SP2 Installation (with onboard SATA RAID)

Below information describes how to manually install Windows XP Professional x64 Edition on Altos G5450 with onboard SATA RAID enabled.

Drivers Required

For Windows XP x64 Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
Onboard SATA RAID	5.10.2600.678	\Disk\g5450\onboard\sataraid\x64\wsxp\
Onboard NVIDIA NFP3600 Chipset	Package 9.18	\Disk\g5450\onboard\Chipset\x64\wsxp\
Onboard NVIDIA nForce Networking Controller	65.2.0.0	Including in chipset driver package 9.18
Onboard XGI Z9s	6.14.10.1080	\Disk\g5450\onboard\xgiz9s\x64\wsxp\
ATI FireGL V5200	8.323.1.0	\Disk\g5450\graphic\V5200\x64\ws03\

Software Required

The management utility for onboard SATA RAID and NIC can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
Onboard SATA RAID utility	5.10.2600.678	Including in chipset driver package 9.18
ForceWare Network Access Manager	65.16	Including in chipset driver package 9.18

Configuring onboard SATA RAID

Please refer to the Appendix A. for the onboard SATA RAID configuration.

Installation Tips

1. As Windows XP x64 can't recognize the onboard SATA RAID, you need to make a driver diskette from the EasyBUILD 7.1 build 600 first before the installation.
2. Press F6 at the beginning of installation for providing the driver diskette for the onboard SATA RAID.
3. You will see **NVIDA RAID CLASS Driver (required)** and **NVIDIA nForce Storage Controller (required)** listed. Please select both of them to install.
4. After loading the onboard SATA RAID driver from the diskette, follow the normal procedure to finish the installation.

Chipset Driver Package Installation

The chipset driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows XP Professional x64 Edition SP2 Installation (with LSI MegaRAID SAS 8708ELP) Chipset Driver Installation section.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver is included in the chipset driver package. The Gigabit Ethernet driver would be installed automatically when you installing the chipset driver package.

VGA Driver Installation (onboard XGI Z9s)

The XGI Z9s driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows XP Professional x64 Edition SP2 Installation (with LSI MegaRAID SAS 8708ELP) XGI Z9s Driver Installation section.

VGA Driver Installation (ATI FireGL V5200)

The ATI FireGL V5200 driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows XP Professional x64 Edition SP2 Installation (with LSI MegaRAID SAS 8708ELP) ATI FireGL V5200 Driver Installation section.

RAID Utility Installation

The onboard SATA RAID utility is included in the chipset driver package. The onboard SATA RAID utility will be installed automatically when you installing the chipset driver package.

Network Utility Installation

The ForceWare Network Access Manager is included in the chipset driver package. The ForceWare Network Access Manager will be installed automatically when you installing the chipset driver package.

Windows XP Professional Edition SP2 Installation (with LSI MegaRAID SAS 8708ELP)

Below information describes how to manually install Windows XP Professional Edition on Altos G5450 with MegaRAID SAS 8708ELP installed.

Drivers Required

For Windows XP Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
LSI MegaRAID SAS 8708ELP	2.7.032	\Disk\g5450\sas\8708elp\wsxp
Onboard NVIDIA NFP3600 Chipset	Package 9.21	\Disk\g5450\onboard\Chipset\wsxp\

Onboard NVIDIA nForce Networking Controller	65.3.1.0	Including in chipset driver package 9.21
Onboard XGI Z9s	6.14.10.1080	\Disk\g5450\onboard\xgiz9s\wsxp\
ATI FireGL V5200	8.323.1.0	\Disk\g5450\graphic\V5200\wsxp\

Software Required

The management utility for LSI MegaRAID SAS 8708ELP can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
MegaRAID Storage Manager	2.07-00	app\g5450\sas\8204ELP\Windows\
ForceWare Network Access Manager	65.31	Including in chipset driver package 9.21

Configuring LSI MegaRAID SAS 8708ELP

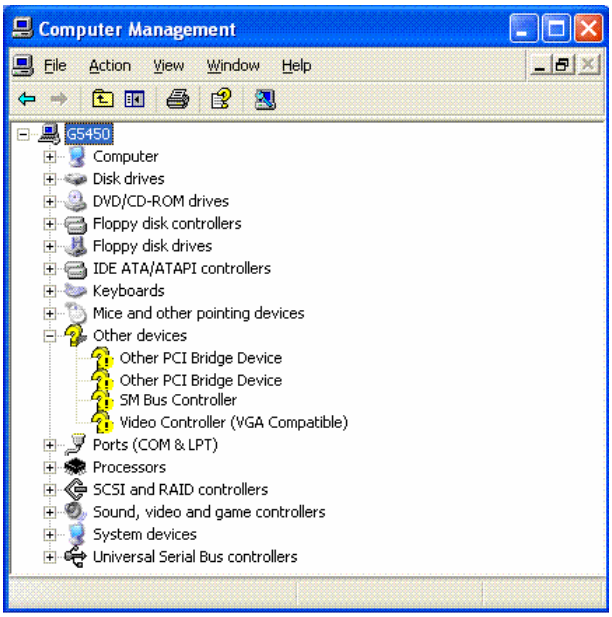
Please refer to the Appendix B. for the LSI MegaRAID SAS 8708ELP configuration.

Installation Tips

1. As Windows XP can't recognize the LSI MegaRAID SAS 8708ELP, you need to make a driver diskette from the EasyBUILD 7.1 build 600 first before the installation.
2. Press F6 at the start of installation to provide the driver disk for the LSI MegaRAID SAS 8708ELP.
3. Select "**LSI Logic MegaRAID SAS RAID Controller Driver (Windows XP)**" as target driver
4. After loading the RAID driver from diskette, follow the normal procedure to finish the installation.

Chipset Driver Installation

1. After the installation completes, you would see the following devices with yellow mark in Device Manager.



2. Please insert the EasyBUILD 7.1 build 600 into the optical drive
3. Expand **Drivers -> Altos G5450 -> Chipset**, select **Windows XP** and click on **Setup**.
4. Follow the instruction and use the default setting to install all of the drivers and utilities in the driver package.
5. After all drivers and utilities are installed, please reboot the system.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver is included in the chipset driver package. The Gigabit Ethernet driver will be installed automatically when you installing the chipset driver package.

VGA Driver Installation (onboard XGI Z9s)

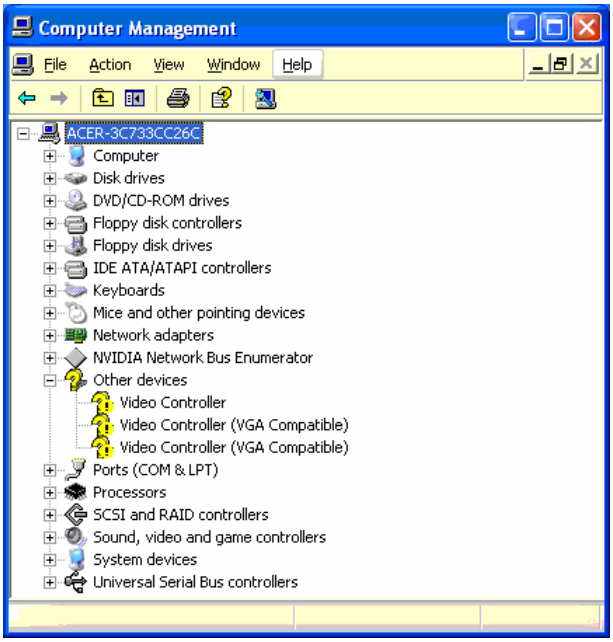
1. Windows XP cannot recognize the onboard VGA. You can find the XGI Z9s driver in EasyBUILD 7.1 build 600. Please insert the EasyBUILD 7.1 build 600 into the optical drive.
2. Expand **Drivers -> Altos G5450 -> Graphics adapters -> XGI Z9s**, select **Windows XP** and click on **Setup**.
3. Follow the instruction to install the VGA driver.
4. Please reboot the server after the driver is installed.
5. After the system rebooted, you would see **XGI Z7/Z9/Z9s v1.08.03** listed in Display adapters in Device Manager.

VGA Driver Installation (ATI FireGL V5200)

NOTE. With ATI FireGL V5200 installed, the onboard VGA still can work as

secondary VGA output. After you install the ATI FireGL V5200 driver, you still need to install the XGI Z9s driver.

1. You will see three **Video Controller** under **Other Device** in Windows XP **Device Manager** for both ATI FireGL V5200 and XGI Z9s.



2. You can find the ATI FireGL V5200 driver in EasyBUILD 7.1 build 600. Please insert the EasyBUILD 7.1 build 600 into the optical drive.
3. Expand **Drivers -> Altos G5450 -> Graphics adapters -> ATI FireGL V5200**, select **Windows XP** and click on **Setup**.
4. Follow the instruction to install the VGA driver.
5. At **Select Components**, please click on **Express**.
6. Please reboot the server after the driver is installed. You would see **ATI FireGL V5200** and **ATI FireGL V5200 Secondary** listed in Display adapters in Device Manager.
7. After you install the driver for ATI FireGL V5200, please also install the driver for onboard XGI Z9s.

RAID Utility Installation

1. For installing MegaRAID Storage Manager for MegaRAID SAS 8708ELP, please insert the EasyBUILD 7.1 build 600 into the optical drive.
2. Expand **Utilities** -> **Altos G5450 -> LSI MegaRAID SAS 8708ELP**, select **MegaRAID Storage Manager (Windows XP)** and click on **Setup.**
3. Follow the instruction, accept the license agreement and use the default setting to the **Setup Type**.

4. At Setup Type, please select **StandAlone**.

5. Follow the instruction again to complete the installation.

Network Utility Installation

The ForceWare Network Access Manager is included in the chipset driver package. The ForceWare Network Access Manager will be installed automatically when you installing the chipset driver package.

Windows XP Professional Edition SP2 Installation (with LSI MegaRAID SAS 8204ELP)

Below information describes how to manually install Windows XP Professional Edition on Altos G5450 with MegaRAID SAS 8204ELP installed.

Drivers Required

For Windows XP Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
MegaRAID SAS 8204ELP	07.15.0209.2007	E:\Disk\g5450\sas\8204elp\wsxp\
Onboard NVIDIA NFP3600 Chipset	Package 9.21	\Disk\g5450\onboard\Chipset\wsxp\
Onboard NVIDIA nForce Networking Controller	65.3.1.0	Including in chipset driver package 9.21
Onboard XGI Z9s	6.14.10.1080	\Disk\g5450\onboard\xgiz9s\wsxp\
ATI FireGL V5200	8.323.1.0	\Disk\g5450\graphic\V5200\wsxp\

Software Required

The management utility for MegaRAID SAS 8204ELP and NIC can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
MegaRAID Storage Manager	2.07-00	\app\g5450\sas\8204ELP\Windows\
ForceWare Network Access Manager	65.31	Including in chipset driver package 9.21

Configuring LSI MegaRAID SAS 8204ELP

Please refer to the Appendix C. for the LSI MegaRAID SAS 8204ELP configuration.

Installation Tips

1. As Windows XP can't recognize the MegaRAID SAS 8204ELP, you need to make a driver diskette from the EasyBUILD 7.1 build 600 first before the installation.

2. Press F6 at the beginning of installation for providing the driver diskette for the onboard SATA RAID.
3. Select "**LSI Logic Embedded MegaRAID (Windows XP/2003)**" as target driver
4. After loading the SATA RAID driver from the diskette, follow the normal procedure to finish the installation.

Chipset Driver Package Installation

The chipset driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows XP Professional Edition SP2 Installation (with LSI MegaRAID SAS 8708ELP) Chipset Driver Installation section.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver is included in the chipset driver package. The Gigabit Ethernet driver would be installed automatically when you installing the chipset driver package.

VGA Driver Installation (onboard XGI Z9s)

The XGI Z9s driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows XP Professional Edition SP2 Installation (with LSI MegaRAID SAS 8708ELP) XGI Z9s Driver Installation section.

VGA Driver Installation (ATI FireGL V5200)

The ATI FireGL V5200 driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows XP Professional Edition SP2 Installation (with LSI MegaRAID SAS 8708ELP) ATI FireGL V5200 Driver Installation section.

RAID Utility Installation

The MegaRAID Storage Manager installation for MegaRAID SAS 8204ELP is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the WindowsXP Professional Edition SP2 Installation (with LSI MegaRAID SAS 8708ELP) RAID Utility Installation section.

Network Utility Installation

The ForceWare Network Access Manager is included in the chipset driver package. The ForceWare Network Access Manager will be installed automatically when you installing the chipset driver package.

Windows XP Professional Edition SP2 Installation (with onboard SATA RAID)

Below information describes how to manually install Windows XP Professional Edition on Altos G5450 with onboard SATA RAID enabled.

Drivers Required

For Windows XP Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
Onboard SATA RAID	5.10.2600.687	\Disk\g5450\onboard\sataraid\wsxp\
Onboard NVIDIA NFP3600 Chipset	Package 9.21	\Disk\g5450\onboard\Chipset\wsxp\
Onboard NVIDIA nForce Networking Controller	65.3.1.0	Including in chipset driver package 9.21
Onboard XGI Z9s	6.14.10.1080	\Disk\g5450\onboard\xgiz9s\wsxp\
ATI FireGL V5200	8.323.1.0	\Disk\g5450\graphic\V5200\wsxp\

Software Required

The management utility for onboard SATA RAID and NIC can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
Onboard SATA RAID utility	5.10.2600.687	Including in chipset driver package 9.21
ForceWare Network Access Manager	65.31	Including in chipset driver package 9.21

Configuring onboard SATA RAID

Please refer to the Appendix A. for the onboard SATA RAID configuration.

Installation Tips

1. As Windows XP can't recognize the onboard SATA RAID, you need to make a driver diskette from the EasyBUILD 7.1 build 600 first before the installation.
2. Press F6 at the beginning of installation for providing the driver diskette for the onboard SATA RAID.
3. You will see **NVIDA RAID CLASS Driver (required)** and **NVIDIA nForce Storage Controller (required)** listed. Please select both of them to install.
4. After loading the onboard SATA RAID driver from the diskette, follow the normal procedure to finish the installation.

Chipset Driver Package Installation

The chipset driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows XP Professional Edition SP2 Installation (with LSI MegaRAID SAS 8708ELP) Chipset Driver Installation section.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver is included in the chipset driver package. The

Gigabit Ethernet driver would be installed automatically when you installing the chipset driver package.

VGA Driver Installation (onboard XGI Z9s)

The XGI Z9s driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows XP Professional Edition SP2 Installation (with LSI MegaRAID SAS 8708ELP) XGI Z9s Driver Installation section.

VGA Driver Installation (ATI FireGL V5200)

The ATI FireGL V5200 driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Windows XP Professional Edition SP2 Installation (with LSI MegaRAID SAS 8708ELP) ATI FireGL V5200 Driver Installation section.

RAID Utility Installation

The onboard SATA RAID utility is included in the chipset driver package. The onboard SATA RAID utility will be installed automatically when you installing the chipset driver package.

Network Utility Installation

The ForceWare Network Access Manager is included in the chipset driver package. The ForceWare Network Access Manager will be installed automatically when you installing the chipset driver package.

Red Hat Enterprise Linux 4.0 EM64T Update 4 Installation (with LSI MegaRAID SAS 8708ELP)

Below information describes how to manually install Red Hat Enterprise Linux 4.0 EM64T Update 4 on Altos G5450 with MegaRAID SAS 8708ELP.

Drivers Required

For Red Hat Enterprise Linux 4.0 EM64T Update 4 Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
LSI MegaRAID SAS 8708ELP	00.00.03.06	\Disk\g5450\sas\8708elp\x64\rh4u4\
Onboard NVIDIA NFP3600 Chipset	N/A	OS built-in
Onboard NVIDIA nForce Networking Controller	0.60	\Disk\g5450\nic\Nvidia\x64\rhel4ud4\
Onboard XGI Z9s	1.2.53	\Disk\g5450\onboard\xgiz9s\x64\rhel4ud4
ATI FireGL V5200	8.35.5	N/A

Software Required

The management utility for MegaRAID SAS 8708ELP can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
MegaRAID Storage Manager	2.07-00	\app\g5450\sas\8708ELP\Linux\

Configuring LSI MegaRAID SAS 8708ELP

Please refer to the Appendix B. for the LSI MegaRAID SAS 8708ELP configuration.

Installation Tips

1. Since Red Hat Enterprise Linux 4.0 EM64T Update4 cannot recognize the MegaRAID SAS 8708ELP, you need to make a driver diskette from the EasyBUILD 7.1 build 600 (or later) first before the installation.
2. Type **linux dd** when the prompt **boot:** appears at the start.
3. Please select the **fd0** as the **Driver Disk Source**.
4. Follow the instruction to load the driver for MegaRAID SAS 8708ELP from the driver diskette.
5. If you have installed the ATI FireGL V5200 in the system, you need to install additional package at the **Package Installation Defaults**. If you use the onboard XGI Z9s, please follow the instructions to finish the installation directly.
6. At the **Package Installation Defaults**, select **Customize software packages to be installed**.
7. At the **Package Group Selection** step, select **Development Tools** and under **Development**.
8. After selecting the additional package, follow the normal procedure to finish the installation.

Gigabit Ethernet Driver Installation

1. You can find the onboard NVIDIA nForce Networking Controller driver in EasyBUILD 7.1 build 600. Please refer to Directory on EasyBUILD in Driver Required section and copy the driver from the EasyBUILD 7.1 build 600 to HDD first.

```
# mount /media/cdrom

# cp /media/cdrom/Disk/g5450/nic/Nvidia/x64/rhel4ud4/nvlan-
  rhel4.4-0.60-1.21.x86_64.rpm /tmp
```

2. Install the driver

```
# cd /tmp/
```

```
# rpm –ivh nvlan-rhel4.4-0.60-1.21.x86_64.rpm
```

VGA Driver Installation (onboard XGI Z9s)

1. You can find the onboard XGI Z9s VGA driver in EasyBUILD 7.1 build 600. Please refer to Directory on EasyBUILD in Driver Required section and copy the driver from the EasyBUILD 7.1 build 600 to HDD first.

```
# mount /media/cdrom
# cp /media/cdrom/Disk/g5450/onboard/xgiz9s/x64/rhel4ud4/
  xgi_xf86_4.4.0-1.02.53-1.x86_64.rpm /tmp
```

2. Install the driver

```
# cd /tmp/
# rpm –ivh xgi_xf86_4.4.0-1.02.53-1.x86_64.rpm
```

VGA Driver Installation (onboard ATI FrireGL V5200)

1. Please copy the ATI driver installer to HDD.
2. Go to the directory that includes the ATI driver installer and run the ATI driver installer

```
# ./ati-driver-installer-8.35.5-x86.x86_64.run
```

3. Follow the instructions and use the default settings to install the driver.
4. After the driver is installed, run “aticonfig --initial” to configure the driver.

```
# aticonfig –initial
Uninitialised file found. Configuring.
Using /etc/X11/xorg.conf
```

5. Please reboot the system.
6. If you want to change the display setting, please DO NOT use the OS built-in utility. Please use the ATI Catalyst Control Center instead. You can find the ATI Catalyst Control Center from Application -> ATI Catalyst Control Center.

RAID Utility Installation

1. You can find the MegaRAID Storage Manager for MegaRAID SAS 8708ELP in EasyBUILD 7.1 build 600. Please refer to Directory on EasyBUILD in Software Required section for the utility and copy it from the EasyBUILD 7.1 build 600 to HDD first.

```
# mount /media/cdrom
# cp –R /media/cdrom/ app/g5450/sas/8708ELP/Linux/. /tmp
```

2. Install MegaRAID Storage Manager

```
# cd /tmp/
# ./install.sh
```

3. Type **y** to accept the license agreement and select **3** for StandAlone installation.
4. To start MegaRAID Storage Manager, click on **Applications** and select **System Tools** -> **MegaRAID Storage Manager StartupUI**.

Red Hat Enterprise Linux 4.0 EM64T Update 4 Installation (with LSI MegaRAID SAS 8204ELP)

Below information describes how to manually install Red Hat Enterprise Linux 4.0 EM64T Update 4 on Altos G5450 with LSI MegaRAID SAS 8204ELP.

Drivers Required

For Red Hat Enterprise Linux 4.0 EM64T Update 4 Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
LSI MegaRAID SAS 8204ELP	07.15.0209.2007	\Disk\g5450\sas\8204elp\x64\rh4u4\
Onboard NVIDIA NFP3600 Chipset	N/A	OS built-in
Onboard NVIDIA nForce Networking Controller	0.60	\Disk\g5450\nic\Nvidia\x64\rhel4ud4\
Onboard XGI Z9s	1.2.53	\Disk\g5450\onboard\xgiz9s\x64\rhel4ud4
ATI FireGL V5200	8.35.5	N/A

Software Required

The management utility for LSI MegaRAID SAS 8204ELP can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
MegaRAID Storage Manager	2.07-00	\app\g5450\sas\8204ELP\Linux\

Configuring LSI MegaRAID SAS 8204ELP

Please refer to the Appendix C. for the LSI MegaRAID SAS 8204ELP configuration.

Installation Tips

1. Since Red Hat Enterprise Linux 4.0 EM64T Update4 cannot recognize the MegaRAID SAS 8204ELP, you need to make a driver diskette from the EasyBUILD 7.1 build 600 (or later) first before the installation.
2. Type **linux dd** when the prompt **boot:** appears at the start.

3. Please select the **fd0** as the **Driver Disk Source**.
4. Follow the instruction to load the driver for MegaRAID SAS 8204ELP from the driver diskette.
5. If you have installed the ATI FireGL V5200 in the system, you need to install additional package at the **Package Installation Defaults**. If you use the onboard XGI Z9s, please follow the instructions to finish the installation directly.
6. At the **Package Installation Defaults**, select **Customize software packages to be installed**.
7. At the **Package Group Selection** step, select **Development Tools** and under **Development**.
8. After selecting the additional package, follow the normal procedure to finish the installation.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Red Hat Enterprise Linux 4.0 EM64T Update 4 Installation (with LSI MegaRAID SAS 8708ELP) Gigabit Ethernet Driver Installation section.

VGA Driver Installation (onboard XGI Z9s)

The XGI Z9s driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Red Hat Enterprise Linux 4.0 EM64T Update 4 Installation (with LSI MegaRAID SAS 8708ELP) XGI Z9s Driver Installation section.

VGA Driver Installation (ATI FireGL V5200)

The ATI FireGL V5200 driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Red Hat Enterprise Linux 4.0 EM64T Update 4 Installation (with LSI MegaRAID SAS 8708ELP) ATI FireGL V5200 Driver Installation section.

RAID Utility Installation

The MegaRAID Storage Manager for LSI MegaRAID SAS 8204ELP installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Red Hat Enterprise Linux 4.0 EM64T Update 4 Installation (with LSI MegaRAID SAS 8708ELP) RAID Utility Installation section.

Red Hat Enterprise Linux 4.0 EM64T Update 4 Installation (with onboard SATA RAID)

Below information describes how to manually install Red Hat Enterprise Linux 4.0 EM64T Update 4 on Altos G5450 with onboard SATA RAID.

Drivers Required

For Red Hat Enterprise Linux 4.0 EM64T Update 4 Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
Onboard SATA RAID	N/A	N/A
Onboard NVIDIA NFP3600 Chipset	N/A	OS built-in
Onboard NVIDIA nForce Networking Controller	0.60	\Disk\g5450\nic\Nvidia\x64\rhel4ud4\
Onboard XGI Z9s	1.2.53	\Disk\g5450\onboard\xgiz9s\x64\rhel4ud4
ATI FireGL V5200	8.35.5	N/A

Software Required

The management utility for onboard SATA RAID can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
Onboard SATA RAID utility	N/A	N/A

Configuring onboard SATA RAID

Please refer to the Appendix A. for the onboard SATA RAID configuration.

Installation Tips

1. Since Red Hat Enterprise Linux 4.0 EM64T Update4 cannot recognize the onboard SATA RAID, you need to make a driver diskette before the installation. The driver disk is not available in EasyBUILD 7.1 build 600 yet. The driver will be available in GCSD website and next release of EasyBUILD.
2. Type **linux dd** when the prompt **boot:** appears at the start.
3. Please select the **fd0** as the **Driver Disk Source**.
4. Follow the instruction to load the driver for onboard SATA RAID from the driver diskette.
5. At the **Package Installation Defaults**, select **Customize software packages to be installed**.
6. At the **Package Group Selection** step, select **Graphic Internet** under **Applications**.
7. If you have installed the ATI FireGL V5200 in the system, please also select **Development Tools** and under **Development**. If you don't have ATI FireGL V5200, please go to next step directly

8. After adding the additional packages, follow the normal procedure to finish the installation.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Red Hat Enterprise Linux 4.0 EM64T Update 4 Installation (with LSI MegaRAID SAS 8708ELP) Gigabit Ethernet Driver Installation section.

VGA Driver Installation (onboard XGI Z9s)

The XGI Z9s driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Red Hat Enterprise Linux 4.0 EM64T Update 4 Installation (with LSI MegaRAID SAS 8708ELP) XGI Z9s Driver Installation section.

VGA Driver Installation (ATI FireGL V5200)

The ATI FireGL V5200 driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Red Hat Enterprise Linux 4.0 EM64T Update 4 Installation (with LSI MegaRAID SAS 8708ELP) ATI FireGL V5200 Driver Installation section.

RAID Utility Installation

NOTE. You need the firefox to use the onboard SATA RAID utility. You need to select the Graphic Internet to install during the OS installation or you need to install the Firefox manually.

1. You can find the onboard SATA RIAD utility in EasyBUILD 7.1 build 600. Please refer to Directory on EasyBUILD in Software Required section for the utility and copy it from the EasyBUILD 7.1 build 600 to HDD first.

```
# mount /media/cdrom

# cp –R /media/cdrom/app/g5450/onboard/sataraid/Linux/x64/NvRaid-
  UI-9-22.x86_64.rpm /tmp
```

2. Install onboard SATA RAID utility

```
# cd /tmp/

# rpm –ivh NvRaid-UI-9-22.x86_64.rpm
```

3. To start onboard SATA RAID utility, please double-click on **nvRaid** icon on the desktop.

Red Hat Enterprise Linux 4.0 Update 4 Installation (with LSI MegaRAID SAS 8708ELP)

Below information describes how to manually install Red Hat Enterprise Linux 4.0 Update 4 on Altos G5450 with MegaRAID SAS 8708ELP.

Drivers Required

For Red Hat Enterprise Linux 4.0 Update 4 Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
LSI MegaRAID SAS 8708ELP	00.00.03.06	\Disk\g5450\sas\8708elp\rh4u4\
Onboard NVIDIA NFP3600 Chipset	N/A	OS built-in
Onboard NVIDIA nForce Networking Controller	0.60	\Disk\g5450\nic\Nvidia\rhel4ud4\
Onboard XGI Z9s	1.2.53	\Disk\g5450\onboard\xgiz9s\rhel4ud4\
ATI FireGL V5200	8.35.5	N/A

Software Required

The management utility for MegaRAID SAS 8708ELP can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
MegaRAID Storage Manager	2.07-00	\app\g5450\sas\8708ELP\Linux\

Configuring LSI MegaRAID SAS 8708ELP

Please refer to the Appendix B. for the LSI MegaRAID SAS 8708ELP configuration.

Installation Tips

1. Since Red Hat Enterprise Linux 4.0 Update4 cannot recognize the MegaRAID SAS 8708ELP, you need to make a driver diskette from the EasyBUILD 7.1 build 600 (or later) first before the installation.
2. Type **linux dd** when the prompt **boot:** appears at the start.
3. Please select the **fd0** as the **Driver Disk Source**.
4. Follow the instruction to load the driver for MegaRAID SAS 8708ELP from the driver diskette.
5. If you have installed the ATI FireGL V5200 in the system, you need to install additional package at the **Package Installation Defaults**. If you use the onboard XGI Z9s, please follow the instructions to finish the installation directly.
6. At the **Package Installation Defaults**, select **Customize software packages to be installed**.
7. At the **Package Group Selection** step, select **Development Tools** and under **Development**.

8. After selecting the additional package, follow the normal procedure to finish the installation.

Gigabit Ethernet Driver Installation

1. You can find the onboard NVIDIA nForce Networking Controller driver in EasyBUILD 7.1 build 600. Please refer to Directory on EasyBUILD in Driver Required section and copy the driver from the EasyBUILD 7.1 build 600 to HDD first.

```
# mount /media/cdrom
# cp /media/cdrom/Disk/g5450/nic/Nvidia/rhel4ud4/nvlan-
  rhel4.4-0.60-1.21.i686.rpm /tmp
```

2. Install the driver

```
# cd /tmp/
# rpm –ivh nvlan-rhel4.4-0.60-1.21.i686.rpm
```

VGA Driver Installation (onboard XGI Z9s)

1. You can find the onboard XGI Z9s VGA driver in EasyBUILD 7.1 build 600. Please refer to Directory on EasyBUILD in Driver Required section and copy the driver from the EasyBUILD 7.1 build 600 to HDD first.

```
# mount /media/cdrom
# cp /media/cdrom/Disk/g5450/onboard/xgiz9s/rhel4ud4/
  xgi_xf86_4.4.0-1.02.53-1.i386.rpm /tmp
```

2. Install the driver

```
# cd /tmp/
# rpm –ivh xgi_xf86_4.4.0-1.02.53-1.i386.rpm
```

VGA Driver Installation (ATI FireGL V5200)

1. Please copy the ATI driver installer to HDD.
2. Go to the directory that includes the ATI driver installer and run the ATI driver installer.

```
# ./ati-driver-installer-8.35.5-x86.x86_64.run
```

3. Follow the instructions and use the default settings to install the driver.
4. After the driver is installed, run “aticonfig --initial” to configure the driver.

```
# aticonfig –initial
Uninitialised file found. Configuring.
Using /etc/X11/xorg.conf
```

5. Please reboot the system.

6. If you want to change the display setting, please DO NOT use the OS built-in utility. Please use the ATI Catalyst Control Center instead. You can find the ATI Catalyst Control Center from Application -> ATI Catalyst Control Center.

RAID Utility Installation

1. You can find the MegaRAID Storage Manager for MegaRAID SAS 8708ELP in EasyBUILD 7.1 build 600. Please refer to Directory on EasyBUILD in Software Required section for the utility and copy it from the EasyBUILD 7.1 build 600 to HDD first.

```
# mount /media/cdrom

# cp –R /media/cdrom/app/g5450/sas/8708ELP/Linux/. /tmp
```

2. Install MegaRAID Storage Manager

```
# cd /tmp/

# ./install.sh
```

3. Type **y** to accept the license agreement and select **3** for StandAlone installation.

4. To start MegaRAID Storage Manager, click on **Applications** and select **System Tools** -> **MegaRAID Storage Manager StartupUI**.

Red Hat Enterprise Linux 4.0 Update 4 Installation (with LSI MegaRAID SAS 8204ELP)

Below information describes how to manually install Red Hat Enterprise Linux 4.0 Update 4 on Altos G5450 with LSI MegaRAID SAS 8204ELP.

Drivers Required

For Red Hat Enterprise Linux 4.0 Update 4 Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
LSI MegaRAID SAS 8708ELP	07.15.0209.2007	\Disk\g5450\sas\8204elp\rh4u4\
Onboard NVIDIA NFP3600 Chipset	N/A	OS built-in
Onboard NVIDIA nForce Networking Controller	0.60	\Disk\g5450\nic\Nvidia\rhel4ud4\
Onboard XGI Z9s	1.2.53	\Disk\g5450\onboard\xgiz9s\rhel4ud4
ATI FireGL V5200	8.35.5	N/A

Software Required

The management utility for LSI MegaRAID SAS 8204ELP can be found in the

EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
MegaRAID Storage Manager	2.07-00	\app\g5450\sas\8204ELP\Linux\

Configuring LSI MegaRAID SAS 8204ELP

Please refer to the Appendix C. for the LSI MegaRAID SAS 8204ELP configuration.

Installation Tips

1. Since Red Hat Enterprise Linux 4.0 Update4 cannot recognize the MegaRAID SAS 8204ELP, you need to make a driver diskette from the EasyBUILD 7.1 build 600 (or later) first before the installation.
2. Type **linux dd** when the prompt **boot:** appears at the start.
3. Please select the **fd0** as the **Driver Disk Source**.
4. Follow the instruction to load the driver for MegaRAID SAS 8204ELP from the driver diskette.
5. If you have installed the ATI FireGL V5200 in the system, you need to install additional package at the **Package Installation Defaults**. If you use the onboard XGI Z9s, please follow the instructions to finish the installation directly.
6. At the **Package Installation Defaults**, select **Customize software packages to be installed**.
7. At the **Package Group Selection** step, select **Development Tools** and under **Development**.
8. After selecting the additional package, follow the normal procedure to finish the installation.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Red Hat Enterprise Linux 4.0 Update 4 Installation (with LSI MegaRAID SAS 8708ELP) Gigabit Ethernet Driver Installation section.

VGA Driver Installation (onboard XGI Z9s)

The XGI Z9s driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Red Hat Enterprise Linux 4.0 Update 4 Installation (with LSI MegaRAID SAS 8708ELP) XGI Z9s Driver Installation section.

VGA Driver Installation (ATI FireGL V5200)

The ATI FireGL V5200 driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Red Hat Enterprise Linux 4.0 Update 4

Installation (with LSI MegaRAID SAS 8708ELP) ATI FireGL V5200 Driver Installation section.

RAID Utility Installation

The MegaRAID Storage Manager for LSI MegaRAID SAS 8204ELP installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Red Hat Enterprise Linux 4.0 Update 4 Installation (with LSI MegaRAID SAS 8708ELP) RAID Utility Installation section.

Red Hat Enterprise Linux 4.0 Update 4 Installation (with onboard SATA RAID)

Below information describes how to manually install Red Hat Enterprise Linux 4.0 Update 4 on Altos G5450 with onboard SATA RAID.

Drivers Required

For Red Hat Enterprise Linux 4.0 Update 4 Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
Onboard SATA RAID	N/A	N/A
Onboard NVIDIA NFP3600 Chipset	N/A	OS built-in
Onboard NVIDIA nForce Networking Controller	0.60	\Disk\G5450\NIC\Nvidia\rhel4ud4
Onboard XGI Z9s	1.2.53	\Disk\G5450\onboard\xgiz9s\rhel4ud4
ATI FireGL V5200	8.35.5	N/A

Software Required

The management utility for onboard SATA RAID can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
Onboard SATA RAID utility	N/A	N/A

Configuring onboard SATA RAID

Please refer to the Appendix A. for the onboard SATA RAID configuration.

Installation Tips

1. Since Red Hat Enterprise Linux 4.0 Update4 cannot recognize the onboard SATA RAID, you need to make a driver diskette from the EasyBUILD 7.1 build 600 (or later) first before the installation.
2. Type **linux dd** when the prompt **boot:** appears at the start.

3. Please select the **fd0** as the **Driver Disk Source**.
4. Follow the instruction to load the onboard SATA RAID driver from the driver diskette.
5. At the **Package Installation Defaults**, select **Customize software packages to be installed**.
6. At the **Package Group Selection** step, select **Graphic Internet** under **Applications**.
7. If you have installed the ATI FireGL V5200 in the system, please also select **Development Tools** and under **Development**. If you don't have ATI FireGL V5200, please go to next step directly
8. After adding the additional packages, follow the normal procedure to finish the installation.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Red Hat Enterprise Linux 4.0 Update 4 Installation (with LSI MegaRAID SAS 8708ELP) Gigabit Ethernet Driver Installation section.

VGA Driver Installation (onboard XGI Z9s)

The XGI Z9s driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Red Hat Enterprise Linux 4.0 EM64T Update 4 Installation (with LSI MegaRAID SAS 8708ELP) XGI Z9s Driver Installation section.

VGA Driver Installation (ATI FireGL V5200)

The ATI FireGL V5200 driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the Red Hat Enterprise Linux 4.0 Update 4 Installation (with LSI MegaRAID SAS 8708ELP) ATI FireGL V5200 Driver Installation section.

RAID Utility Installation

NOTE. You need the firefox to use the onboard SATA RAID utility. You need to select the Graphic Internet to install during the OS installation or you need to install the Firefox manually.

1. You can find the onboard SATA RIAD utility in EasyBUILD 7.1 build 600. Please refer to Directory on EasyBUILD in Software Required section for the utility and copy it from the EasyBUILD 7.1 build 600 to HDD first.

```
# mount /media/cdrom

# cp –R /media/cdrom/app/g5450/onboard/sataraid/Linux/RHEL4U4
  /NvRaid-UI-9-22.i686.rpm /tmp
```

2. Install onboard SATA RAID utility

```
# cd /tmp/

# rpm –ivh NvRaid-UI-9-22.i686.rpm
```

3. To start onboard SATA RAID utility, please double-click on **nvRaid** icon on the desktop.

SUSE Linux Enterprise Server 10 EM64T Installation (with LSI MegaRAID SAS 8708ELP)

Below information describes how to manually install SUSE Linux Enterprise Server 10 EM64T on Altos G5450 with LSI MegaRAID SAS 8708ELP

Drivers Required

For SUSE Linux Enterprise Server 10 EM64T Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
LSI MegaRAID SAS 8708ELP	00.00.03.06	\Disk\g5450\sas\8708elp\sles10\
Onboard NVIDIA NFP3600 Chipset	N/A	OS built-in
Onboard NVIDIA nForce Networking Controller	0.60	\Disk\g5450\nic\Nvidia\x64\sles10\
Onboard XGI Z9s	N/A	OS built-in
ATI FireGL V5200	8.35.5	N/A

Software Required

The management utility of LSI MegaRAID SAS 8708ELP can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
MegaRAID Storage Manager	2.07-00	\app\g5450\sas\8708ELP\Linux\

Configuring LSI MegaRAID SAS 8708ELP

Please refer to the Appendix B. for the LSI MegaRAID SAS 8708ELP configuration.

Installation Tips

1. Since SUSE Linux Enterprise Server 10 EM64T cannot recognize the LSI MegaRAID SAS 8708ELP, you need to make a driver diskette from the EasyBUILD 7.1 build 600 first before the installation.
2. Boot the system form SUSE Linux Enterprise Server 10 EM64T Disk1 bootable CD.
3. When you see the boot menu on the screen, press F5 and select **Yes**.

4. Press Enter to continue the installation.
5. Insert the driver disk to the floppy, select **fd0: Floppy** and **OK** to load the LSI MegaRAID SAS 8708ELP driver from the driver diskette.
6. After loading the driver, select **OK** and **Back** to return to the installation.
7. If you have installed the ATI FireGL V5200 in the system, you need to install addition packages during the OS installation. If you are using onboard XGI Z9s, please go to step 13 directly.
8. At **Installation Setting**, select the **Software**.
9. Check **C/C++ Compiler and Tools** under **Development** to add C/C++ compiler tools.
10. Click on **Details**, change the **Filter** from **Patterns** to **Package Groups**.
11. Select the **Source** under **Development** in left window and check **kernel-source** in the right window to add the kernel source.
12. Click on Accept and continue the installation.
13. Follow the instruction to complete the installation.
14. If you have installed the ATI FireGL V5200 in the system, the system CANNOT boot into X-window after OS installation completed. You need reboot the system into text and install the driver for ATI FireGL V5200 first. Please refer to VGA driver installation (ATI FireGL V5200) section for how to install the driver.

VGA Driver Installation (ATI FireGL V5200)

NOTE. With ATI FireGL V5200 installed, the system CANNOT boot into X-window after the SLES 10 installation completed. You need to reboot the system into text mode and install the driver for ATI FireGL V5200 first.

NOTE. For installing the ATI FireGL V5200 driver, additional packages are required. Please refer to the Installation Tips section for which packages should be installed.

1. When the system stopped after OS installation completed, please power off the system than power on it again.
2. Please select **SUSE Linux Enterprise Server 10 (Failsafe)** at boot select menu.
3. After you the system boot into text mode, copy the ATI driver installer to HDD.
4. Go to the directory that includes the ATI driver installer and run the ATI driver installer.

```
# ./ati-driver-installer-8.35.5-x86.x86_64.run
```

5. Follow the instructions and use the default settings to install the driver.

6. After the driver is installed, run “aticonfig --initial” to configure the driver.

```
# aticonfig –initial

Uninitialised file found, Configuring.

Using /etc/X11/xorg.conf

Save back-up to /etc/X11/xorg.conf.original-0
```

7. Please reboot the system.
8. If you want to change the display setting, please DO NOT use the OS built-in utility. Please use the ATI Catalyst Control Center instead by “amdcccle” command.

```
# amdcccle
```

Gigabit Ethernet Driver Installation

1. You can find the onboard NVIDIA nForce Networking Controller driver in EasyBUILD 7.1 build 600. Please refer to Directory on EasyBUILD in Driver Required section.
2. After you insert the EasyBUILD 7.1 build 600 into the optical drive, it will be mounted automatically. Please copy the driver from the EasyBUILD 7.1 build 600 to HDD first.

```
# cp /media/EBV71B600/Disk/g5450/nic/Nvidia/x64/sles10/nvlan-
  sles10-0.60-1.21.x86_64.rpm /tmp
```

3. Install the driver

```
# cd /tmp

# rpm –ivh nvlan-sles10-0.60-1.21.x86_64.rpm
```

RAID Utility Installation

1. You can find the MegaRAID Storage Manager for MegaRAID SAS 8708ELP in EasyBUILD 7.1 build 600. Please refer to Directory on EasyBUILD in Software Required section.
2. After you insert the EasyBUILD 7.1 build 600 into the optical drive, it will be mounted automatically. Please copy the MegaRAID Storage Manager from the EasyBUILD 7.1 build 600 to HDD first.

```
# cp –R /media/EBV71B600/app/g5450/SAS/8708ELP/Linux/. /tmp
```

3. Install MegaRAID Storage Manager

```
# cd /tmp/

# ./install.sh
```

4. Type **y** to accept the license agreement and select **3** for StandAlone

installation.

5. To start MegaRAID Storage Manager, click on **Computer** -> **More Applications** -> **MegaRAID Storage Manager StartupUI**.

SUSE Linux Enterprise Server 10 EM64T Installation (with LSI MegaRAID SAS 8204ELP)

Below information describes how to manually install SUSE Linux Enterprise Server 10 EM64T on Altos G5450 with LSI MegaRAID SAS 8204ELP.

Drivers Required

For SUSE Linux Enterprise Server 10 EM64T Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
LSI MegaRAID SAS 8204ELP	07.15.0209.2007	\Disk\g5450\sas\8204elp\x64\sles10\
Onboard NVIDIA NFP3600 Chipset	N/A	OS built-in
Onboard NVIDIA nForce Networking Controller	0.60	\Disk\g5450\nic\Nvidia\x64\sles10\
Onboard XGI Z9s	N/A	OS built-in
ATI FireGL V5200	8.35.5	N/A

Software Required

The management utility of LSI MegaRAID SAS 8204ELP can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
MegaRAID Storage Manager	2.07-00	\app\g5450\sas\8708ELP\Linux\

Configuring LSI MegaRAID SAS 8204ELP

Please refer to the Appendix C. for the LSI MegaRAID SAS 8204ELP configuration.

Installation Tips

1. Since SUSE Linux Enterprise Server 10 EM64T cannot recognize the LSI MegaRAID SAS 8204ELP, you need to make a driver diskette from the EasyBUILD 7.1 build 600 first before the installation.
2. Boot the system form SUSE Linux Enterprise Server 10 EM64T Disk1 bootable CD.
3. When you see the boot menu on the screen, press F5 and select **Yes**.
4. Press Enter to continue the installation.

5. Insert the driver disk to the floppy, select **fd0: Floppy** and **OK** to load the LSI MegaRAID SAS 8204ELP driver from the driver diskette.
6. After loading the driver, select **OK** and **Back** to return to the installation.
7. If you have installed the ATI FireGL V5200 in the system, you need to install addition packages during the OS installation. If you are using onboard XGI Z9s, please go to step 13 directly.
8. At **Installation Setting**, select the **Software**.
9. Check **C/C++ Compiler and Tools** under **Development** to add C/C++ compiler tools.
10. Click on **Details**, change the **Filter** from **Patterns** to **Package Groups**.
11. Select the **Source** under **Development** in left window and check **kernel-source** in the right window to add the kernel source.
12. Click on Accept and continue the installation.
13. Follow the instruction to complete the installation.
14. If you have installed the ATI FireGL V5200 in the system, the system CANNOT boot into X-window after OS installation completed. You need reboot the system into text and install the driver for ATI FireGL V5200 first. Please refer to VGA driver installation (ATI FireGL V5200) section for how to install the driver.

VGA Driver Installation (ATI FireGL V5200)

The ATI FireGL V5200 driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the SUSE Linux Enterprise Server 10 EM64T Installation (with LSI MegaRAID SAS 8708ELP) VGA Driver Installation (ATI FireGL V5200) section.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the SUSE Linux Enterprise Server 10 EM64T Installation (with LSI MegaRAID SAS 8708ELP) Gigabit Ethernet Driver Installation section.

RAID Utility Installation

The MegaRAID Storage Manager installation for LSI MegaRAID SAS 8204ELP is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the SUSE Linux Enterprise Server 10 EM64T Installation (with LSI MegaRAID SAS 8708ELP) Gigabit Ethernet Driver Installation section.

SUSE Linux Enterprise Server 10 EM64T Installation (with onboard SATA RAID)

Below information describes how to manually install SUSE Linux Enterprise

Server 10 EM64T on Altos G5450 with onboard SATA RAID

Drivers Required

For SUSE Linux Enterprise Server 10 EM64T Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
Onboard SATA RAID	N/A	N/A
Onboard NVIDIA NFP3600 Chipset	N/A	OS built-in
Onboard NVIDIA nForce Networking Controller	0.60	\Disk\g5450\nic\Nvidia\x64\sles10\
Onboard XGI Z9s	N/A	OS built-in
ATI FireGL V5200	8.35.5	N/A

Software Required

The management utility of onboard SATA RAID can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
Onboard SATA RAID Utility	N/A	N/A

Configuring onboard SATA RAID Utility

Please refer to the Appendix A. for the onboard SATA RAID configuration.

Installation Tips

1. Since SUSE Linux Enterprise Server 10 EM64T cannot recognize the onboard SATA RAID, you need to make a driver diskette from the EasyBUILD 7.1 build 600 first before the installation.
2. Boot the system form SUSE Linux Enterprise Server 10 EM64T Disk1 bootable CD.
3. When you see the boot menu on the screen, press F5 and select **Yes**.
4. Press Enter to continue the installation.
5. Insert the driver disk to the floppy, select **fd0: Floppy** and **OK** to load the onboard SATA RAID driver from the driver diskette.
6. After loading the driver, select **OK** and **Back** to return to the installation.
7. If you have installed the ATI FireGL V5200 in the system, you need to install addition packages during the OS installation. If you are using onboard XGI Z9s, please go to step 13 directly.
8. At **Installation Setting**, select the **Software**.

9. Check **C/C++ Compiler and Tools** under **Development** to add C/C++ compiler tools.
10. Click on **Details**, change the **Filter** from **Patterns** to **Package Groups**.
11. Select the **Source** under **Development** in left window and check **kernel-source** in the right window to add the kernel source.
12. Click on Accept and continue the installation.
13. Follow the instruction to complete the installation.
14. If you have installed the ATI FireGL V5200 in the system, the system CANNOT boot into X-window after OS installation completed. You need reboot the system into text and install the driver for ATI FireGL V5200 first. Please refer to VGA driver installation (ATI FireGL V5200) section for how to install the driver.

VGA Driver Installation (ATI FireGL V5200)

The ATI FireGL V5200 driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the SUSE Linux Enterprise Server 10 EM64T Installation (with LSI MegaRAID SAS 8708ELP) VGA Driver Installation (ATI FireGL V5200) section.

Gigabit Ethernet Driver Installation

The Gigabit Ethernet driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the SUSE Linux Enterprise Server 10 EM64T Installation (with LSI MegaRAID SAS 8708ELP) Gigabit Ethernet Driver Installation section.

RAID Utility Installation

1. You can find the onboard SATA RAID utility in EasyBUILD 7.1 build 600. Please refer to Directory on EasyBUILD in Software Required section.
2. After you insert the EasyBUILD 7.1 build 600 into the optical drive, it will be mounted automatically. Please copy the onboard SATA RAID utility from the EasyBUILD 7.1 build 600 to HDD first.

```
# cp /media/EB71B600/app/g5450/onboard/sataraid/Linux/x64/NvRaid-
  UI-9-22.x86_64.rpm /tmp
```

3. Install onboard SATA RAID utility

```
# cd /tmp/

# rpm –ivh NvRaid-UI-9-22.x86_64.rpm
```

4. To start onboard SATA RAID utility, please double-click on **nvRaid** icon on the desktop.

SUSE Linux Enterprise Server 10 Installation (with LSI MegaRAID SAS 8708ELP)

Below information describes how to manually install SUSE Linux Enterprise Server 10 on Altos G5450 with LSI MegaRAID SAS 8708ELP installed.

Drivers Required

For SUSE Linux Enterprise Server 10 Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
LSI MegaRAID SAS 8708ELP	00.00.03.06	\Disk\g5450\sas\8708elp\sles10\
Onboard NVIDIA NFP3600 Chipset	N/A	OS built-in
Onboard NVIDIA nForce Networking Controller	0.60	\Disk\g5450\nic\Nvidia\sles10\
Onboard XGI Z9s	N/A	OS built-in
ATI FireGL V5200	8.35.5	N/A

Software Required

The management utility for MegaRAID SAS 8708ELP can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
MegaRAID Storage Manager	2.07-00	\app\g5450\sas\8708ELP\Linux\

Configuring LSI MegaRAID SAS 8708ELP

Please refer to the Appendix B. for the LSI MegaRAID SAS 8708ELP configuration.

Installation Tips

1. Since SUSE Linux Enterprise Server 10 cannot recognize the LSI MegaRAID SAS 8708ELP, you need to make a driver diskette from the EasyBUILD 7.1 build 600 first before the installation.
2. Boot the system form SUSE Linux Enterprise Server 10 disk1 bootable CD.
3. When you see the boot menu on the screen, press F5 and select **Yes**.
4. Press Enter to continue the installation.
5. Insert the driver disk to the floppy, select **fd0: Floppy** and **OK** to load the LSI MegaRAID SAS 8708ELP driver from the driver diskette.
6. After loading the driver, select **OK** and **Back** to return to the installation.
7. If you have installed the ATI FireGL V5200 in the system, you need to install addition packages during the OS installation. If you are using

onboard XGI Z9s, please go to step 13 directly.

8. At **Installation Setting**, select the **Software**.
9. Check **C/C++ Compiler and Tools** under **Development** to add C/C++ compiler tools.
10. Click on **Details**, change the **Filter** from **Patterns** to **Package Groups**.
11. Select the **Source** under **Development** in left window and check **kernel-source** in the right window to add the kernel source.
12. Click on Accept and continue the installation.
13. Follow the instruction to complete the installation.
14. If you have installed the ATI FireGL V5200 in the system, the system CANNOT boot into X-window after OS installation completed. You need reboot the system into text and install the driver for ATI FireGL V5200 first. Please refer to VGA driver installation (ATI FireGL V5200) section for how to install the driver.

VGA Driver Installation (ATI FireGL V5200)

NOTE. With ATI FireGL V5200 installed, the system CANNOT boot into X-window after the SLES 10 installation completed. You need to reboot the system into text mode and install the driver for ATI FireGL V5200 first.

NOTE. For installing the ATI FireGL V5200 driver, additional packages are required. Please refer to the Installation Tips section for which packages should be installed.

1. When the system stopped after OS installation completed, please power off the system than power on it again.
2. Please select **SUSE Linux Enterprise Server 10 (Failsafe)** at boot select menu.
3. After you the system boot into text mode, copy the ATI driver installer to HDD.
4. Go to the directory that includes the ATI driver installer and run the ATI driver installer

```
# ./ati-driver-installer-8.35.5-x86.x86_64.run
```

5. Follow the instructions and use the default settings to install the driver.
6. After the driver is installed, run “aticonfig --initial” to configure the driver.

```
# aticonfig –initial

Uninitialised file found, Configuring.

Using /etc/X11/xorg.conf
```

```
Save back-up to /etc/X11/xorg.conf.original-0
```

7. Please reboot the system.
8. If you want to change the display setting, please DO NOT use the OS built-in utility. Please launch the ATI Catalyst Control Center by using "amdcccle".

```
# amdcccle
```

Gigabit Ethernet Driver Installation

1. You can find the onboard NVIDIA nForce Networking Controller driver in EasyBUILD 7.1 build 600. Please refer to Directory on EasyBUILD in Driver Required section.
2. After you insert the EasyBUILD 7.1 build 600 into the optical drive, it will be mounted automatically. Please copy the driver from the EasyBUILD 7.1 build 600 to HDD first.

```
# cp –R /media/EBV71B600/Disk/g5450/nic/Ncidia/sles10/. /tmp
```

3. Install the driver

```
# cd /tmp
# rpm –ivh nvlan-sles10-0.60-1.21.i686.rpm
```

RAID Utility Installation

1. You can find the MegaRAID Storage Manager in EasyBUILD 7.1 build 600. Please refer to Directory on EasyBUILD in Software Required section.
2. After you insert the EasyBUILD 7.1 build 600 into the optical drive, it will be mounted automatically. Please copy the MegaRAID Storage Manager from the EasyBUILD 7.1 build 600 to HDD first.

```
# cp –R /media/EBV71B600/app/G5450/SAS/8708ELP/Linux/. /tmp
```

3. Install MegaRAID Storage Manager

```
# cd /tmp/
# ./install.sh
```

4. Type **y** to accept the license agreement and select **3** for StandAlone installation.
5. To start MegaRAID Storage Manager, click on **Computer** -> **More Applications** -> **MegaRAID Storage Manager StartupUI**.

SUSE Linux Enterprise Server 10 Installation (with LSI MegaRAID SAS 8204ELP)

Below information describes how to manually install SUSE Linux Enterprise Server 10 on Altos G5450 with LSI MegaRAID SAS 8204ELP.

Drivers Required

For SUSE Linux Enterprise Server 10 Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
LSI MegaRAID SAS 8204ELP	07.15.0209.2007	\Disk\g5450\sas\8204elp\sles10\
Onboard NVIDIA NFP3600 Chipset	N/A	OS built-in
Onboard NVIDIA nForce Networking Controller	0.60	\Disk\g5450\nic\Nvidia\sles10\
Onboard XGI Z9s	N/A	OS built-in
ATI FireGL V5200	8.35.5	N/A

Software Required

The management utility of LSI MegaRAID SAS 8204ELP can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
MegaRAID Storage Manager	2.07-00	\app\g5450\sas\8708ELP\Linux\

Configuring LSI MegaRAID SAS 8204ELP

Please refer to the Appendix C. for the LSI MegaRAID SAS 8204ELP configuration.

Installation Tips

1. Since SUSE Linux Enterprise Server 10 cannot recognize the LSI MegaRAID SAS 8204ELP, you need to make a driver diskette from the EasyBUILD 7.1 build 600 first before the installation.
2. Boot the system form SUSE Linux Enterprise Server 10 disk1 bootable CD.
3. When you see the boot menu on the screen, press F5 and select **Yes**.
4. Press Enter to continue the installation.
5. Insert the driver disk to the floppy, select **fd0: Floppy** and **OK** to load the LSI MegaRAID SAS 8204ELP driver from the driver diskette.
6. After loading the driver, select **OK** and **Back** to return to the installation.
7. If you have installed the ATI FireGL V5200 in the system, you need to install addition packages during the OS installation. If you are using onboard XGI Z9s, please go to step 13 directly.
8. At **Installation Setting**, select the **Software**.
9. Check **C/C++ Compiler and Tools** under **Development** to add C/C++ compiler tools.

10. Click on **Details**, change the **Filter** from **Patterns** to **Package Groups**.
11. Select the **Source** under **Development** in left window and check **kernel-source** in the right window to add the kernel source.
12. Click on Accept and continue the installation.
13. Follow the instruction to complete the installation.
14. If you have installed the ATI FireGL V5200 in the system, the system CANNOT boot into X-window after OS installation completed. You need reboot the system into text and install the driver for ATI FireGL V5200 first. Please refer to VGA driver installation (ATI FireGL V5200) section for how to install the driver.

VGA Driver Installation (ATI FireGL V5200)

The ATI FireGL V5200 driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the SUSE Linux Enterprise Server 10 Installation (with LSI MegaRAID SAS 8708ELP) VGA Driver Installation (ATI FireGL V5200) section.

Gigabit Ethernet Driver Installation

The NIC driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the SuSE Linux Enterprise Linux 10 Installation (with LSI MegaRAID SAS 8708ELP) Gigabit Ethernet Driver Installation section.

MeagRAID Storage Manager Installation

The MegaRAID Storage Manager installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the SuSE Linux Enterprise Linux 10 Installation (with LSI MegaRAID SAS 8708ELP) MegaRAID Storage Manager Installation section.

SUSE Linux Enterprise Server 10 Installation (with onboard SATA RAID)

Below information describes how to manually install SUSE Linux Enterprise Server 10 on Altos G5450 with onboard SATA RAID.

Drivers Required

For SUSE Linux Enterprise Server 10 Installation, the following device drivers are required.

Device	Version	Directory on EasyBUILD
Onboard SATA RAID	N/A	N/A
Onboard NVIDIA NFP 3600 Chipset	N/A	OS built-in
Onboard NVIDIA nForce Networking	0.60	\Disk\g5450\nic\Nvidia\sles10\

Controller		
Onboard XGI Z9s	N/A	OS built-in
ATI FireGL V5200	8.35.5	N/A

Software Required

The management utility for onboard SATA RAID can be found in the EasyBUILD 7.1 build 600 (or later).

Software	Version	Directory on EasyBUILD
Onboard SATA RAID Utility	N/A	N/A

Installation Tips

1. Since SUSE Linux Enterprise Server 10 cannot recognize the onboard SATA RAID, you need to make a driver diskette from the EasyBUILD 7.1 build 600 first before the installation.
2. Boot the system form SUSE Linux Enterprise Server 10 disk1 bootable CD.
3. When you see the boot menu on the screen, press F5 and select **Yes**.
4. Press Enter to continue the installation.
5. Insert the driver disk to the floppy, select **fd0: Floppy** and **OK** to load the onboard SATA RAID driver from the driver diskette.
6. After loading the driver, select **OK** and **Back** to return to the installation.
7. If you have installed the ATI FireGL V5200 in the system, you need to install addition packages during the OS installation. If you are using onboard XGI Z9s, please go to step 13 directly.
8. At **Installation Setting**, select the **Software**.
9. Check **C/C++ Compiler and Tools** under **Development** to add C/C++ compiler tools.
10. Click on **Details**, change the **Filter** from **Patterns** to **Package Groups**.
11. Select the **Source** under **Development** in left window and check **kernel-source** in the right window to add the kernel source.
12. Click on Accept and continue the installation.
13. Follow the instruction to complete the installation.
14. If you have installed the ATI FireGL V5200 in the system, the system CANNOT boot into X-window after OS installation completed. You need reboot the system into text and install the driver for ATI FireGL V5200 first. Please refer to VGA driver installation (ATI FireGL V5200) section for how to install the driver.

VGA Driver Installation (ATI FireGL V5200)

The ATI FireGL V5200 driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the SUSE Linux Enterprise Server 10 Installation (with LSI MegaRAID SAS 8708ELP) VGA Driver Installation (ATI FireGL V5200) section.

Gigabit Ethernet Driver Installation

The NIC driver installation is the same as LSI MegaRAID SAS 8708ELP installed. Please refer to the SuSE Linux Enterprise Linux 10 Installation (with LSI MegaRAID SAS 8708ELP) Gigabit Ethernet Driver Installation section.

RAID Utility Installation

1. You can find the onboard SATA RAID utility in EasyBUILD 7.1 build 600. Please refer to Directory on EasyBUILD in Software Required section.
2. After you insert the EasyBUILD 7.1 build 600 into the optical drive, it will be mounted automatically. Please copy the onboard SATA RAID utility from the EasyBUILD 7.1 build 600 to HDD first.

```
# cp /media/EB71B600/app/g5450/onboard/sataraid/Linux/x64/NvRaid-
  UI-9-22.i686.rpm /tmp
```

3. Install onboard SATA RAID utility

```
# cd /tmp/

# rpm –ivh NvRaid-UI-9-22.i686.rpm
```

4. To start onboard SATA RAID utility, please double-click on **nvRaid** icon on the desktop.

APPENDIX A: ONBOARD SATA RAID CREATION

Configuring Onboard SATA RAID

This section briefly shows how to create RAID1 with onboard SATA RAID function.

Enabling onboard SATA RAID

To configure onboard SATA RAID, you have to enable the onboard SATA RAID in BIOS first.

5. Press **F2** during the POST to enter the BIOS
6. After you entering the BIOS, select **Advanced** -> **I/O Device Configuration** -> **NV RAID Configuration**
7. Change the setting of **NV RAID Configuration** from **Disabled** to **Enabled**.
8. After you changing the setting of **NV RAID Configuration**, you will see all the SATA port listed separately.
9. Change the setting of each port which you want to use for RAID form **Disabled** to **Enabled**.
10. Press **F10** and select **Yes** to save the setting and exit the BIOS.

Entering Onboard SATA RAID Configuration Utility

To enter the onboard SATA RAID configuration utility, press **F10** when you see **MediaShield ROM BIOS 6.77** during POST.

Note. You have to install at least one SATA HDD to the onboard SATA controller in the system or you cannot see the MediaShield ROM BIOS 6.77 during POST.

Creating a RAID1 Volume

1. After you entering the configuration utility, Use the arrow key ↑ ↓ to change the **RAID Mode** to **Mirroring**.
2. Use the arrow key ← → to move the HDD from **Free Disks** to **Array Disks**.
3. Press **F7** to finish the RAID creation.
4. Press **Y** to clear the data on disks.
5. Now you will see the RAID volume listed on screen. You can press **Ctrl-X** to exit and start to install OS

Assigning a Hot Spare Disk

You don't need to configure the Hot Spare Disk for the onboard SATA RAID. If you have a HDD is not configured and marked as free, the HDD will be used as Hot Spare Disk. When there is a HDD failed, the HDD marked as free will be used to rebuild the RAID automatically.

APPENDIX B: LSI MEGARAID SAS 8708ELP RAID CREATION

Configuring LSI MegaRAID SAS 8708ELP

This section briefly shows how to create RAID with LSI MegaRAID SAS 8708ELP.

Starting LSI MegaRAID SAS RAID Configuration Utility

To start LSI MegaRAID SAS RAID Configuration Utility for MegaRAID SAS 8708ELP, press **CTRL-H** when you see the RAID BIOS during POST. After POST finished, the Adapter Selection page will show on the screen. Please click on **Start** to launch the configuration menu.

Loading Factory Default Setting

6. In the Configuration menu, select **Adapter Properties**. The current adapter settings appear. Please click on **Next** to change the setting.
7. Change the setting of **Set Factory Defaults** from **No** to **Yes** then click on submit.
8. Press **Ctrl+Alt+Del** to reboot the server.

Creating and Initialing a RAID Volume

9. Launch the configuration menu.
10. Select **Configuration Wizard**
11. Select **Add Configuration** (default) and click on **Next**.
12. Select **Custom Configuration** (default) and click on **Next**.
13. Hold the **Ctrl** key and select the drives that you want to add into the array. After you selecting the drives, click on **AddtoArray.**
14. Click on **Accept DG** then **Next**.
15. Select the array you just created, click on **Add to SPAN** and **Next**.
16. Select the **RAID Level** you want to use, create the logical volume by specify the size at **Select Size** and click on **Accept** to create the logical volume.
17. Click on **Next** after you creating the logical volume.
18. Click on **Accept** and **Yes** to save the configuration.
19. Click on **Yes** to initialize the new logical drives. You will see all the logical drives listed.
20. Click on **Home** to go back to the configuration menu.
21. Now you can reboot the system and install the Operating System. Select **Exit**, click on **Yes** and press **Ctrl+Alt+Del** to reboot the system.

Assigning a Hot Spare Disk

22. Launch the configuration menu.
23. Select a free disk marked as **UNCONF GOOD** and listed under **Physical**

Drives.

24. Select **Make Global Dedicated HSP** or **Make Dedicated HSP** and click on **Go**.
25. Click on **Home** to go back to the configuration menu. You will see the disk marked as **Hotsapare** in pink and listed under Physical Drives.

APPENDIX C: LSI MEGARAID SAS 8204ELP RAID CREATION

Configuring LSI MegaRAID SAS 8204ELP

This section briefly shows how to create RAID with LSI MegaRAID SAS 8204ELP.

Starting LSI MegaRAID SAS RAID Configuration Utility

To start LSI MegaRAID SAS RAID Configuration Utility for MegaRAID SAS 8204ELP, press **CTRL-M** when you see the RAID BIOS during POST. After POST finished, the Adapter Selection page will show on the screen. Please click on **Start** to launch the configuration menu.

Loading Factory default setting

1. Select **Objects** from Management menu.
2. Select **Adapter** from Objects. The selectable adapter will be listed.
3. Press Enter on the adapter and the adapter setting will be shown on the screen. You can change the setting from this menu.
4. Select **Factory Default** and **Yes** to load the default settings.
5. Exit the configuration utility and press <Ctrl> + <Alt> + <Del> to reboot the server.

Creating a RAID volume

1. Select **Configuration** from **Management Menu**.
2. Select **New Configuration** from the **Configuration menu**. An array selection window displays the devices connected to the current controller.
3. Press the arrow keys to choose specific physical drives and press spacebar to associate the selected drive with the current array. The indicator for selected drive change from **READY** to **ONLINE**.
4. After you adding the drives to current array, press **Enter** to finish creating current array.
6. Press **Enter** again to select array to configure.
7. Press **spacebar** to select the array and press **F10** to configure the logical drive
8. Select **Accept** and press **Enter** to use the default setting for the RAID volume.
9. Press **Enter** to end the array configuration.
10. Select **YES** to Save Configuration and press any key to return to the **Configuration menu**.
11. Press **ESC** to return to the **Management Menu**

Initial RAID Volume

1. Select **Initialize** from **Management menu**. All logical drives should be

listed under **Logical Drives**.

2. Press **Spacebar** to select drives for initialization. The selected drive will be shown in yellow.
3. After selecting the drives, press **F10** and select **YES** to start the initialization process.
4. When initialization is complete, press **ESC** to continue.
5. Press **ESC** to return to the **Management Menu**.

Assigning a Hot Spare Disk

1. Select **Objects** from **Management menu**.
2. Select **Physical Drive** from **Objects**. All of the HDDs will be listed.
3. Select a drive marked as **READY** and press **Enter**.
4. Select **Make Hot Spare** and press **Enter**.
5. Select **Yes** then you will see the HDD is changed from **READY** to **HOTSP**.
6. Press **ESC** to return to the **Management Menu**.

Save and Exit Embedded RAID Configuration Utility

1. When RAID configuration, initialization and assigning hot spare is completed, press **ESC** in the **Management Menu** and select **YES** to exit the RAID Configuration Utility.
2. Press **Ctrl** + **Alt** + **Del** to reboot the server.
3. Now you can start to install OS.