



SV-HBA3124-2
SV-HBA3124-4

**PCI-X to SATA II (3Gbps)
Host Bus Adapter**

User's Guide



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1 Getting Started

This Installation Guide describes how to install the Silicon Image SV-HBA3124-4/SV-HBA3124-2 card, Serial ATA (SATA) devices, and device drivers.

Package Contents

Your SV-HBA3124-2/SV-HBA3124-4 Serial ATA Host Bus Adapter includes:

- SV-HBA3124-2 or SV-HBA3124-4 PCI-X to Serial ATA Card
- CD-ROM which includes drivers and documentation
- Quick Installation Guide

System Requirements

- An Intel Pentium, Celeron, or Xeon system (or equivalent AMD Opteron or Athlon system)
- Windows 2000, Windows XP, Windows 2003, or Mac OS X
- An available PCI-X 1.0 or PCI 2.3 compliant slot
- An available SATA device
- CD-ROM or DVD-ROM drive

SV-HBA3124 Specifications

Figure 1 SV-HBA3124-2

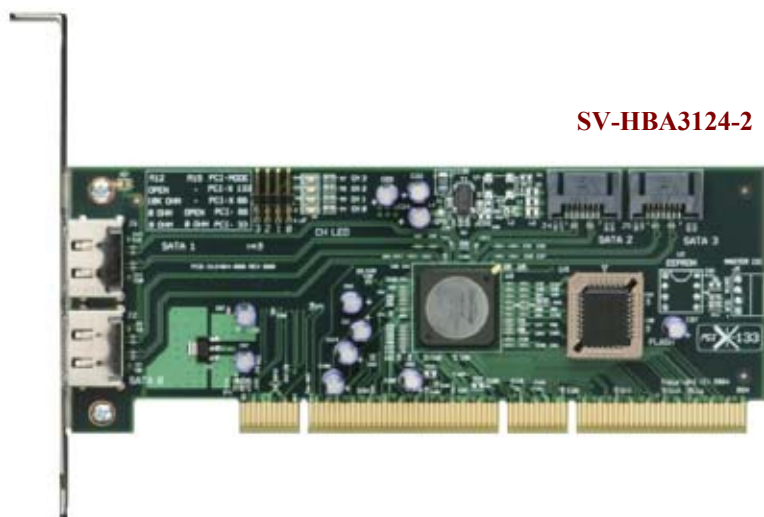
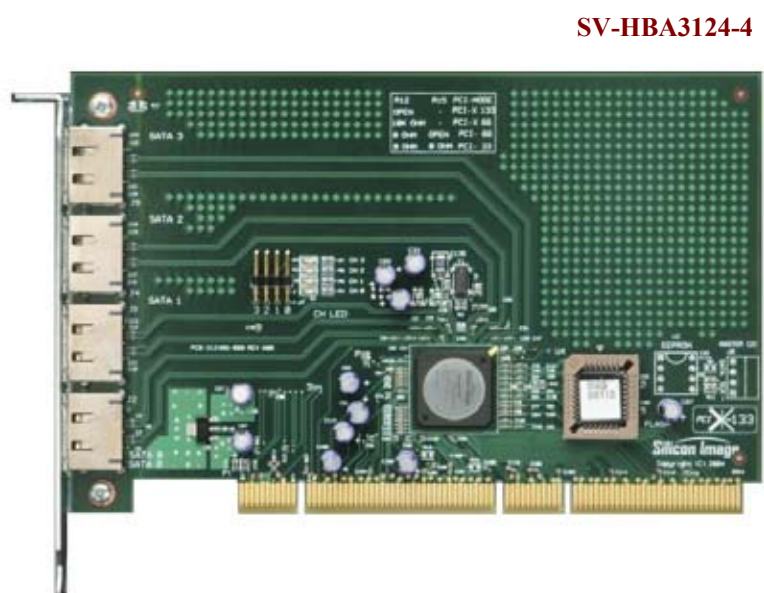


Figure 2 SV-HBA3124-4



Specification	HBA	Description
Ports	SV-HBA3124-2	Two external SATA ports and two internal SATA ports.
	SV-HBA3124-4	Four internal SATA ports.
	All ports (internal or external) are capable of running 3Gbps to SATA hard disk drives or Port Multiplier devices.	
Sockets	SV-HBA3124-2	32-pin surface mount socket is used for the FLASH memory.
	SV-HBA3124-4	
SATA Connectors	SV-HBA3124-2	<ul style="list-style-type: none"> Two SATA external connectors (type C) that are mounted on the component side along the edge to the PCI bracket. Two SATA internal connectors that are mounted on the top side of the board. <p>The custom PCI bracket has two openings to accommodate the SATA external connectors.</p>
	SV-HBA3124-4	Four SATA external connectors (type C) that are mounted on the component side along the edge to the PCI bracket. The custom PCI bracket has four openings to accommodate these SATA external connectors.
LED Connector	SV-HBA3124-2	2x4 right-angle connector header is mounted on the top edge of the HBA for access to external LEDs.
	SV-HBA3124-4	
LEDs	SV-HBA3124-2	Four green LEDs corresponding to each SATA Port/ or Channel. Each channel can drive an LED to indicate channel activity. The LED is surface mounted to the PCB.
	SV-HBA3124-4	
Power	SV-HBA3124-2	<ul style="list-style-type: none"> 3.3V - The HBA does not use 5V; it uses the PCI 3.3V from the PCI edge connector. 1.8V - A 1.5 amp linear regulator converts the 3.3V to 1.8V.
	SV-HBA3124-4	
Form Factor	SV-HBA3124-2	PCI 64-bit Universal voltage keyed form factor. A custom PCI bracket is installed on the left side of the board.
	SV-HBA3124-4	
Dimensions	SV-HBA3124-2	16.8 cm by 6.4 cm
	SV-HBA3124-4	16.8 cm by 10.8 cm

References

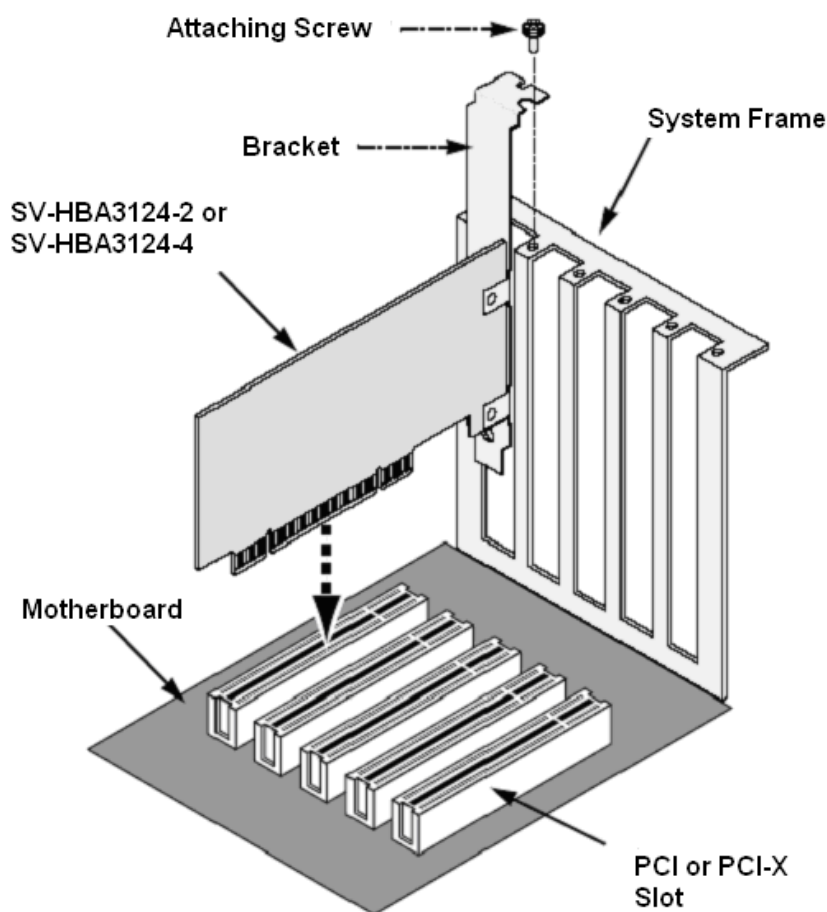
- PCI Local Bus Specification Revision 2.3
- PCI-X Addendum to the Local PCI Bus Specification Revision 1.0a
- Serial ATA / High Speed Serialized AT Attachment specification, Revision 1.0a
- Serial ATA II/ Extensions to Serial ATA 1.0, Revision 1.0
- Silicon Image SiI3124-2 Design Specification Revision 1.0

2 Installing the SV-HBA3124

Install the SV-HBA Card

The SV-HBA3124-2 or SV-HBA3124-4 Serial ATA card fits into any available PCI or PCI-X slot on your PC or Server motherboard (see [Figure 3](#)).

Figure 3 PCI or PCI-X slot on motherboard



1. Turn off your system.
2. Remove the cover of your system.
3. Remove the inside slot cover of an available PCI or PCI-X slot on the motherboard.
4. Install the SV-HBA card into the open PCI or PCI-X slot. Secure the bracket to the system's frame.
5. Attach the Serial ATA cables to the external or internal ports on the card.
6. Fasten the controller card bracket to the system case.

Install the Disk Drives/Devices

The SV-HBA3124-2 card supports up to two external Serial ATA devices and two internal Serial ATA devices. The SV-HBA3124-4 card supports up to four external devices. For optimal performance, install Serial ATA drives of the same model and capacity. The drives' matched performance allows the logical disk to function better as a single drive.

Install Internal Devices on the SV-HBA3124-2

1. Install the internal disk drives into the drive bays of your system.
2. Attach the power cables to the disk drives.
3. Attach one Serial ATA data cable to each Serial ATA disk drive.
4. Attach the other ends of the cables to the connectors on the SV-HBA card.
5. Put the cover back on the system.
6. Boot up the system.

Install External Devices on the SV-HBA3124-2 & SV-HBA3124-4

1. Attach one Serial ATA data cable to each Serial ATA device (for example, an SV2000).
2. Then attach the other ends of the cables to the connectors on the SV-HBA card.
3. Power on the external SATA device.
4. Put the cover back on the system.
5. Boot up the system.

Install the Driver

The procedures in this section assume that the Windows or Mac operating system has already been installed on your PC or Server.

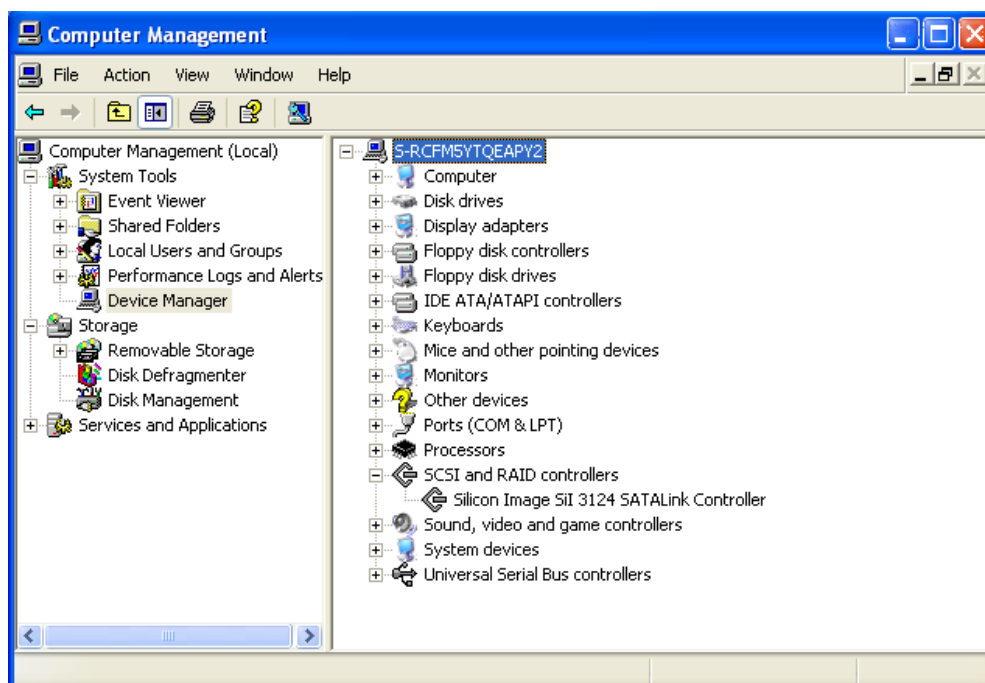
Note: Drivers for the Silicon Image SiI 3124 SATALink Controller have been fully tested and certified to work with the SV-HBA3124-2 and SV-HBA3124-4.

Microsoft Windows 2003 Server

Windows 2003 Server comes preloaded with the software drivers necessary to run the SV-HBA3124-2 and SV-HBA3124-4. You do not have to install the driver.

To confirm the driver installation

1. Right-mouse click the **My Computer** icon on your desktop and choose **Manage** from the pop-up menu.
2. Double-click **Device Manager**.
3. Double-click **SCSI and RAID controllers**.
4. Verify that the Silicon Image SiI 3124 SATALink Controller appears, as shown here.



Microsoft Windows XP

After you install the SV-HBA3124-2 or SV-HBA3124-4 and devices, and then power on your computer, the **Found New Hardware Wizard** opens.

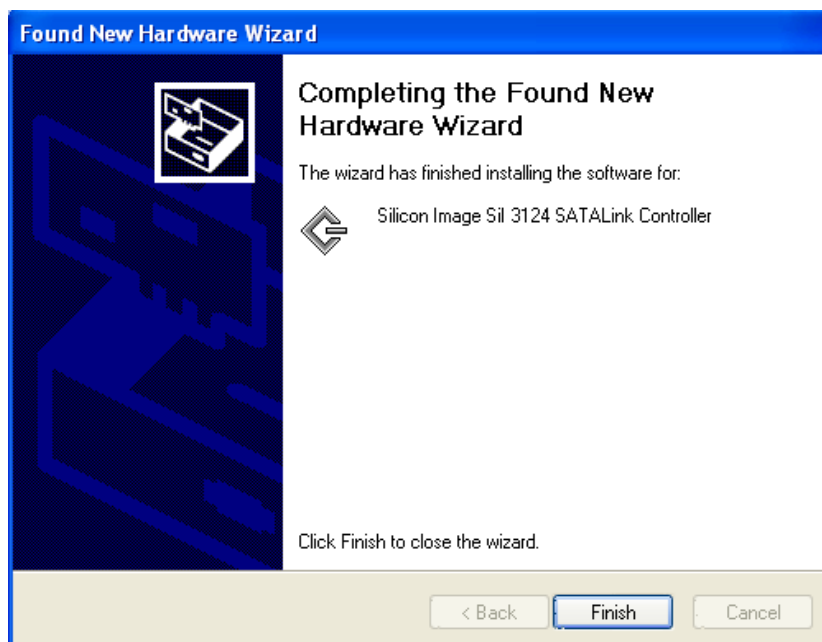


To complete the driver installation

1. Insert the SV-HBA3124 CD-ROM.
2. Select **Install the software automatically (Recommended)** and click **Next**.
3. If you get the Hardware Installation notice, click **Continue Anyway**.

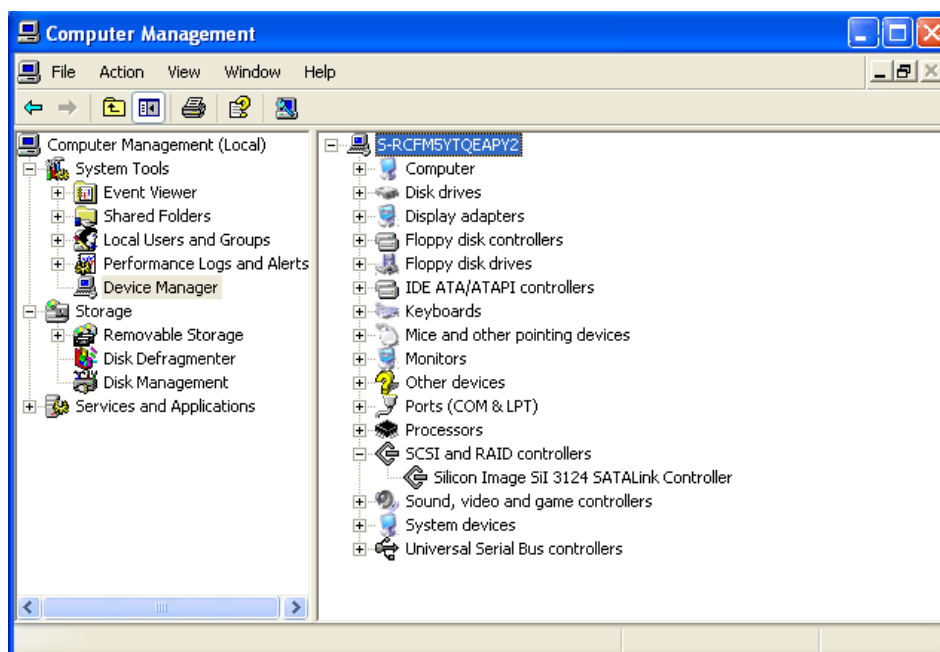


4. When installation is complete, click **Finish**.



To confirm the driver installation

1. Right-mouse click the **My Computer** icon on your desktop and choose **Manage** from the pop-up menu.
2. Double-click **Device Manager**.
3. Double-click **SCSI and RAID controllers**.
4. Verify that the Silicon Image Sil 3124 SATALink Controller appears, as shown here.



Microsoft Windows 2000

After you install the SV-HBA3124-2 or SV-HBA3124-4 and devices, and then power on your computer, the **Found New Hardware Wizard** opens.

To complete the driver installation

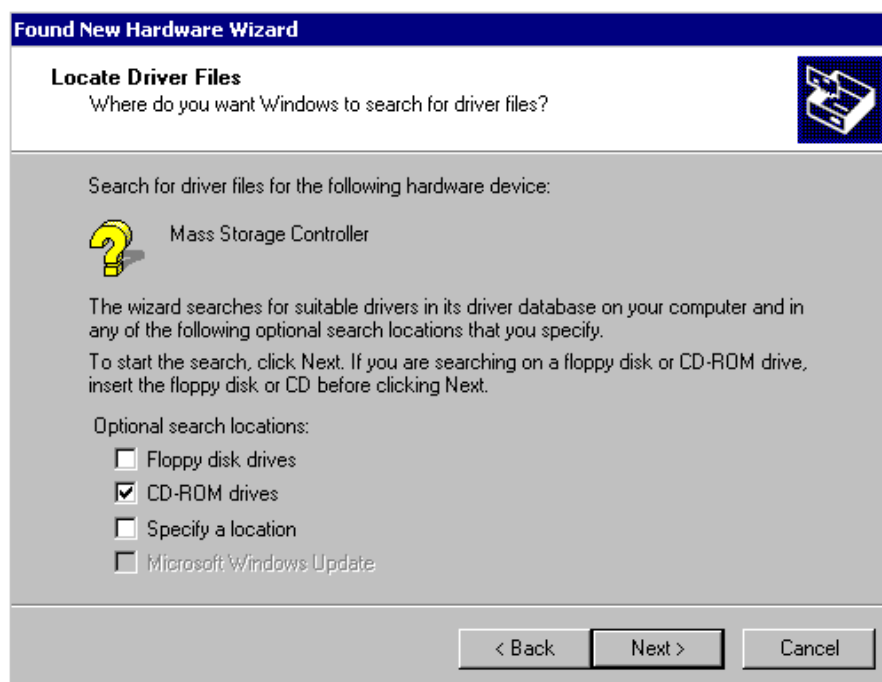
1. Insert the SV-HBA3124 CD-ROM and click **Next**.



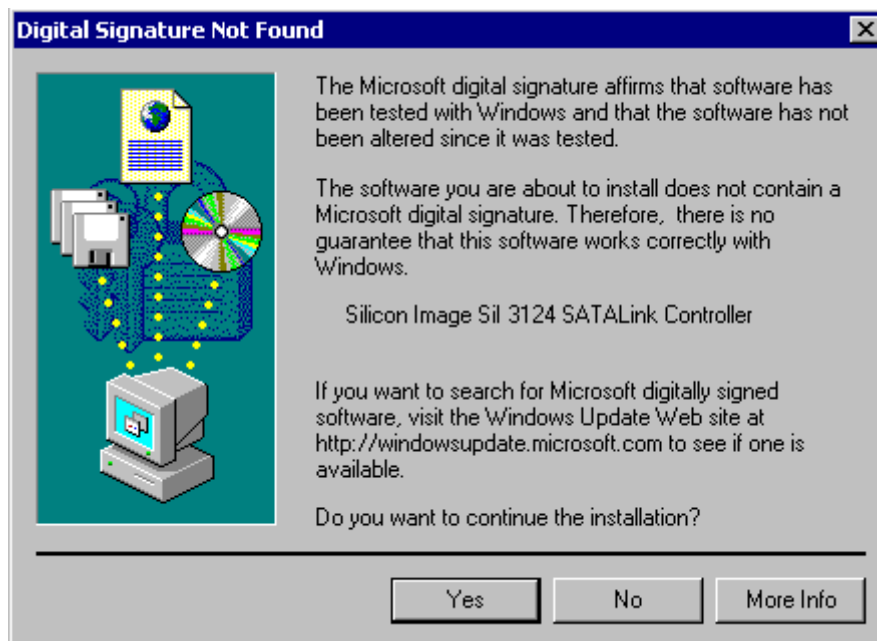
2. Select **Search for a suitable driver for my device (recommended)** and click **Next**.



3. Select **CD-ROM drives** and click **Next**.



4. Click **Next** once if the driver is found.
5. If you get the **Digital Signature Not Found** message, click **Yes** to continue installation.

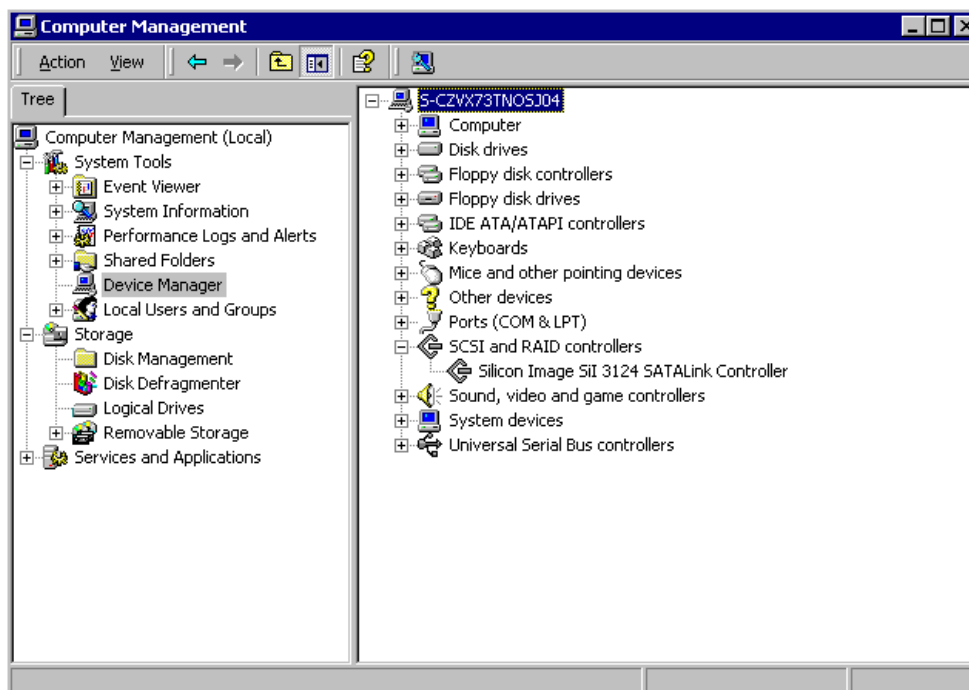


6. When the installation is complete, click **Finish** and reboot the system.



To confirm the driver installation

1. Right-mouse click the **My Computer** icon on your desktop and choose **Manage** from the pop-up menu.
2. Double-click **Device Manager**.
3. Double-click **SCSI and RAID controllers**.
4. Verify that the Silicon Image SiI 3124 SATALink Controller appears, as shown here.



Mac OS X Installation

After you install the SV-HBA3124-2 or SV-HBA3124-4 devices, power on your computer.

To complete the driver installation

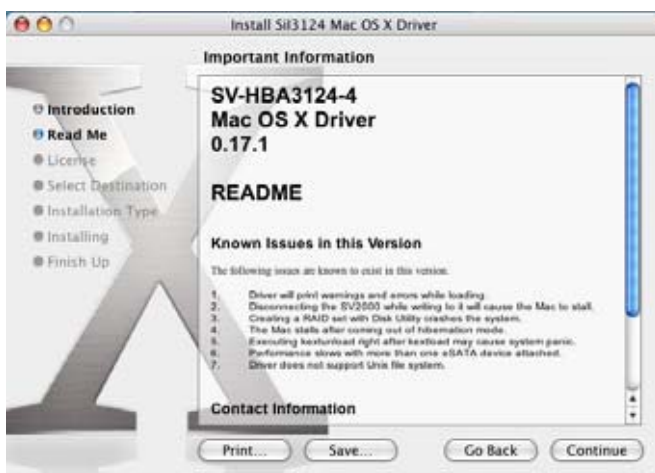
1. Insert the SV-HBA3124 CD-ROM.
2. Open the Mac folder and click the **SiI3124.pkg** installer.



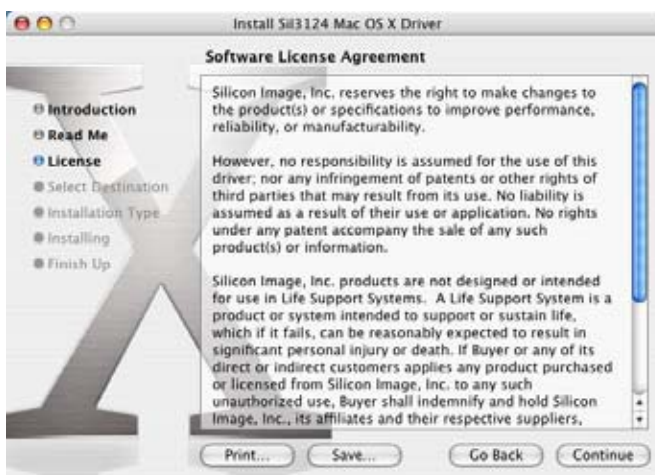
3. Click **Continue**.



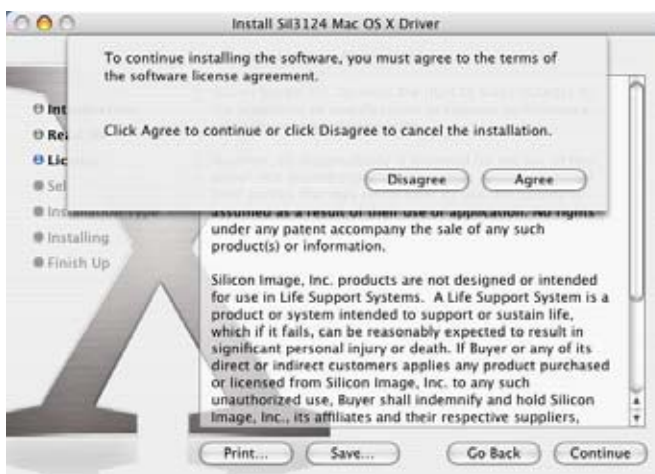
4. Review the provided Read Me. Click **Continue**.



5. Review the License agreement. Click **Continue**.



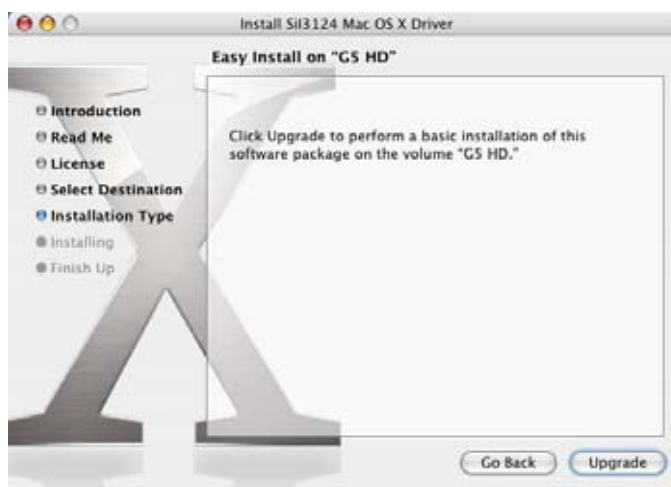
6. Click **Agree** to accept the terms of the License agreement and proceed with the installation.



7. Select the system hard disk drive.



8. Click **Upgrade** to install the driver.



9. Enter the username and password for the root account. Click **OK**.



10. Click **Continue Installation** to acknowledge the restart warning.



11. Click **Restart** to reboot the computer and complete the installation.



To confirm the driver installation

In case of a driver installation failure, an error message will appear after you reboot the computer. Follow the recommendations in the error message.

Regulatory Compliance Statements

Federal Communications Commission Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You may also find helpful the following booklet, prepared by the FCC: "How to Identify and Resolve Radio-TV Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington D.C. 20402.

Changes and Modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commissions rules.

In order to maintain compliance with FCC regulations shielded cables must be used with this equipment. Operation with non-approved equipment or unshielded cables is likely to result in interference to radio & television reception.



European Union Compliance Statement

This Information Technology Equipment has been tested and found to comply with EMC Directive 90/336/EEC, as amended by 92/31/EEC and 93/68/EEC, in accordance with:

- EN55022 (1998) Emissions
- EN55024 (1998) Immunity
 - EN61000-4-2 (1998) Electrostatic discharge: $\pm 4\text{kV}$ contact, $\pm 8\text{kV}$ air
 - EN61000-4-3 (1998) Radiated immunity
 - EN61000-4-4 (1995) Electrical fast transients/burst: $\pm 1\text{ kV AV}$, $\pm 0.5\text{kV I/O}$
 - EN61000-4-5 (1995) Surges $\pm 1\text{ kV}$ differential mode, $\pm 2\text{ kV}$ common mode
 - EN61000-4-6 (1996) Conducted immunity: 3V
 - EN61000-4-11 (1994) Supply dips and variation: 30% and 100%

In addition, all equipment requiring U.L. listing has been found to comply with EMC Directive 73/23/EEC as amended by 93/68/EEC in accordance with EN60950 with amendments A1, A2, A3, A4, A11.