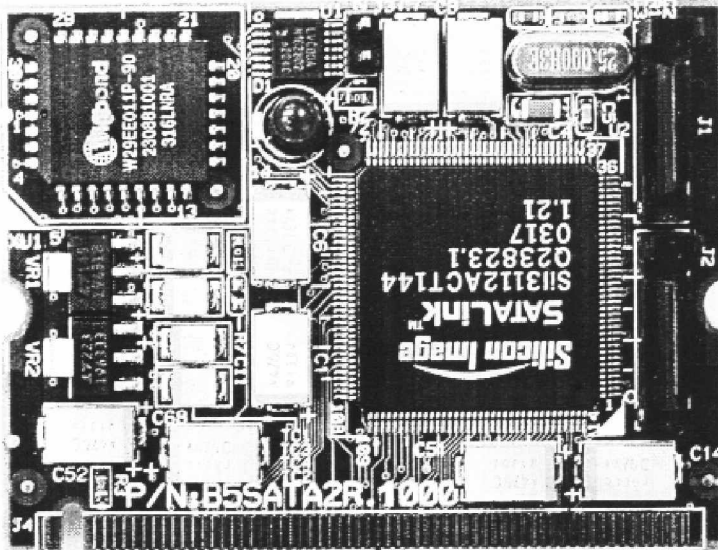


1801100

MiniPCI Card

Version 1.0



Chapter 1 Introduction

1.1 Checklist

Please check that your package is complete and contains the items below. If you discover damaged or missing items, please contact your dealer.

- ◆ A **1801100** MiniPCI Card
- ◆ A User's guide
- ◆ 1 x IPC Driver CD
- ◆ 1 x Ribbon cable for **1801100** only
(2 cables optional)

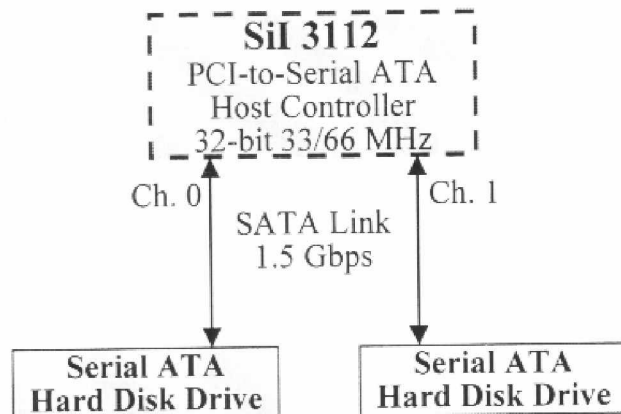
1.2 Introduction

The Sil3112 is the industry's first standalone host controller supporting Serial ATA, the new storage interface standard. Sil3112 supports new Serial ATA devices for the highest data transfer rates (1.5 Gbps burst), simpler disk drive cabling and easier PC assembly — all at a lower cost.

Featuring a 32-bit 33/66 MHz PCI interface, the Sil3112 supports two independent Serial ATA devices and can be incorporated in a MiniPCI add-in card.

By simply incorporating the Sil3112 through a MiniPCI add-in card and loading the accompanying driver, any system with a PCI bus interface may upgrade to the Serial ATA interface.

Full support of legacy ATA features and commands is incorporated into the Serial ATA software and drivers. It can quickly bring Serial ATA interface capability to computer systems, motherboards, add-in cards and embedded solutions.



1.3 Specifications

◆ General

1. Serial ATA - 1.5 Gbps (150 MB/s)
2. Compliant with Serial ATA 1.0 specification
3. Integrated Serial ATA Transport, Link logic and PHY
4. 48-bit sector addressing
5. Dual independent DMA channels with 256B FIFO per channel
6. Virtual DMA
7. Command buffering
8. Supports up to 4 MB external Flash
9. Supports external BIOS
10. Supports spread spectrum clocking to reduce EMI
11. Register compatible with parallel ATA
12. Single, digital PLL architecture, with 1 PLL for both channels

◆ Transfer Rates

1. Supports PIO and DMA modes
2. Supports bus master DMA at 1.5 Gbps burst rate

- ◆ **PCI Bus**
 1. 32-bit, 33/66 MHz
 2. PCI 2.2 compliant
- ◆ **Power**
 1. Core: 1.8V, I/O: 3.3V operating voltage with 5V tolerance
 2. ACPI: PCI Bus Power Management Spec 1.1 compliant
- ◆ **Package**
 1. 144-pin, 20x20 mm TQFP (Thin Quad Flat Pack)
- ◆ **Software**
 1. SATA Operating System Drivers: Windows 98, ME, 2000 and XP
 2. RAID Operating System Drivers: Windows 98, ME, 2000 and XP
 3. Supports RAID 0 (Striping) and RAID 1 (Mirroring) with Silicon Image Medley software RAID 'Silicon Image Sil3112 SATA Raid Driver Installation Disk'.

Chapter 2 Sil3112 Driver Installation Guide

2.1 Installing Sil3112 Driver for existing Windows 98SE/ ME

- Step 1:** Insert a diskette and copy 'D (CD-ROM Driver):\Storage\SATA\Drivers*. * A:\'
- Step 2:** Power off the system. Insert the Sil3112 SATALink controller into an available PCI slot. Connect serial ATA cable(s) between the Sil3112 controller and the serial ATA device(s). Power up the system.
- Step 3:** During the system boot up, the Hardware Wizard will display that it found a 'PCI Mass Storage Controller', click 'Next'. Select 'Search for the best driver for your device [Recommended]' and click 'Next'.
- Step 4:** Insert the diskette then press 'Enter'.
- Step 5:** Make sure the 'Floppy disk drives' checkbox is checked and insert the diskette into the floppy drive. Click 'Next'.
- Step 6:** System will go through the enumeration process and install the driver. At the end of the process, Click ' Finish' to complete the installation. Reboot the system if your Windows 98SE/ME drive is connected on the Sil3112 Controller.

2.2 Installing Sil3112 Driver for Fresh Windows 98SE/ ME

- Step 1:** Insert a diskette and copy 'D (CD-ROM Driver):\Storage\SATA\Drivers*. * A:\'
- Step 2:** Power off the system. Insert the Sil3112 SATALink controller into an available PCI slot. Connect serial ATA cable(s) between the Sil3112 controller and the serial ATA device(s). Power up the system.
- Step 3:** Put your Windows 98SE/ME CD into the CD-ROM/DVD drive, and the Windows 98SE/ME boot diskette in the floppy drive if your system cannot boot from the CD.
- Step 4:** Follow the normal Windows 98SE/ME setup instructions to select your choice for partition and file system.
- Step 5:** Wait until Windows 98SE/ME finishes installing devices, regional settings, networking settings, components, and final set of tasks, reboot the system.
- Step 6:** After the system reboots, right click on 'My Computer' and select 'Properties'. From 'System Properties', select 'Device Manager', right click on the '?PCI Mass Storage controller' and select 'Properties' from the context menu.
- Step 7:** Click 'Driver', 'Update Driver' and select 'Automatic search for a better driver [Recommended]'. Insert the diskette into floppy drive. Click 'Next' and complete the driver installation.
- Step 8:** System will go through the enumeration process and install the driver. At the end of the process, click 'Yes' to reboot your system.
- ◆ Reference the 'readme.txt' in the Driver CD path D:\Storage\SATA\Drivers.

2.3 Installing Sil3112 Driver for existing Windows 2000/ XP/ Server 2003

- Step 1:** Insert a diskette and copy 'D (CD-ROM Driver):\Storage\SATA\Drivers*. * A:\'
- Step 2:** Power off the system. Insert the Sil3112 SATALink controller into an available PCI slot. Connect serial ATA cable(s) between the Sil3112 controller and the serial ATA device(s). Power up the system.
- Step 3:** During OS boot up, Windows will display the 'Found New Hardware Wizard'. Click 'Next'.

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- Step 4:** Select 'Search for a suitable driver for my device (Recommended)' and Click 'Next'.
 - Step 5:** Under 'Optional search locations' insure that 'Floppy disk drives' is checked.
 - Step 6:** Insert the diskette into A: and click 'Next'.
 - Step 7:** When the wizard indicates that it found a driver for the device click 'Next'.
 - Step 8:** If the 'Digital Signature Not Found' dialog appears, click 'Yes' to continue installing the driver.
 - Step 9:** The wizard will now copy the required files to the system and start the driver. After starting the driver the wizard will display a completion dialog, click 'Finish' to exit the wizard.

2.4 Installing Sil3112 Driver for existing Windows NT4.0

- Step 1:** Insert a diskette and copy 'D (CD-ROM Driver):\Storage\SATA\Drivers*. * A:\'
- Step 2:** Power off the system. Insert the Sil3112 SATALink controller into an available PCI slot. Connect serial ATA cable(s) between the Sil3112 controller and the serial ATA device(s). Power up the system.
- Step 3:** After OS boots up, Click 'Start'.
- Step 4:** Under 'Settings', click 'Control Panel'.
- Step 5:** Select 'SCSI Adapters' from the Control Panel.
- Step 6:** Select the 'Drivers' tab and click 'Add'.
- Step 7:** Click 'Have Disk'.
- Step 8:** Insert the diskette into A: and press 'Enter'.
- Step 9:** Choose 'Silicon Image Sil3112 SATALink Controller' and click 'OK'.

2.5 Installing Sil3112 Driver for Fresh Windows 2000/ XP/ Server 2003/ NT4.0

- Step 1:** Insert a diskette and copy 'D (CD-ROM Driver):\Storage\SATA\Drivers*. * A:\'
- Step 2:** Power off the system. Insert the Sil3112 SATALink controller into an available PCI slot. Connect serial ATA cable(s) between the Sil3112 controller and the serial ATA device(s). Power up the system.
- Step 3:** Put your Windows NT/2000/XP or Windows Server 2003 CD into the CD-ROM/DVD drive, or the NT/2000 boot diskette #1 in the floppy drive if your system cannot boot from the CD.

- Step 4:** Press F6 for third party SCSI or driver installation at the beginning of text mode installation. Press 's' when setup asks if you want to specify an additional device.
- Step 5:** Insert the diskette then press 'Enter'. From the menu presented next, select the controller installation process that corresponds to the version of Windows being installed and press 'Enter'.
- Step 6:** Press 'Enter' again when prompted to continue on with text mode setup.
- Step 7:** Follow the setup instructions to select your choice for partition and file system.
- Step 8:** After setup examines your disks, it will copy files from the CD to the hard drive selected above and restart the system. After restart the setup process will resume to finish the installation.

2.6 Installing Sil3112 Driver for Linux 7.2, 7.3, 8.0

- Step 1:** Extract the contents of the sii6512.tgz file on to a formatted floppy disk. (e.g. use tar xzf sii6512.tgz)
- Step 2:** Boot from the RedHatLinux CD 1 or a boot diskette that you have created.
- Step 3:** At the "Welcome to Red Hat Linux....." installation screen, a prompt labeled "boot:" will appear at the bottom of the screen.
- Step 4:**
 1. For installation in graphical mode ---
At the prompt type "linux dd" or "expert" and press the enter key.
 2. For installation in text mode ---
At the prompt type "linux text dd" or "expert text" and press the enter key.
- Step 5:** Select "Yes" at the "Do you have a driver disk?".
- Step 6:** When the screens prompts for "Insert your driver disk and press OK to continue" insert the driver diskette in the floppy drive and select "Ok".
- Step 7:** The installation program will automatically load the Sil driver into kernel. Continue installing your system.
- ◆ Note: All ATA/ATAPI devices connected to Sil controller will be presented as SCSI devices.
- Step 8:** Get a window just before last installation step.
- ◆ Reference the 'readme.txt' in the Driver CD path D:\Storage\SATA\Drivers.
- ◆ Sil3112 Driver for Linux 9.0 will auto detect by OS.