



SATA II-150 PCI RAID

Quick Installation Guide

Introducing the *SATA II-150 PCI RAID*

The *SATA II-150 PCI RAID* is an ultra high-speed two channel Serial ATA Generation II RAID controller for use in PCI enabled systems.

Features and Benefits

- Compliant with PCI 2.3
- Compliant with Serial ATA 1.0 specifications and complement of SATA II optional features
- Supports RAID0 (stripe) for performance and RAID 1 (mirror) for data protection
- Supports two SATA channels and data transfer rate up to 1.5Gb/s (150MB/s)
- Supports Native Command Queuing (NCQ) and SATA TCQ commands
- Onboard bus master engine relieves the system processor and enhances system performance
- Features independent 256-byte FIFOs per channel for host reads and writes
- Breaks the 137GB barrier! Works with various brands of large capacity Serial ATA hard disks
- Supports SATA hard disk hot-plugging

System Requirements

- Pentium® or equivalent PC with an available PCI slot
- Windows® 2000 / XP (32-/64-bit) / Server 2003 & 2008 (32-/64-bit) / Vista (32-/64-bit)

Package Contents

- *SATA II-150 PCI RAID* board
- 2 SATA data cables and one dual-connector SATA power cable
- Spare low profile bracket
- Driver CD and Quick Installation Guide

Layout

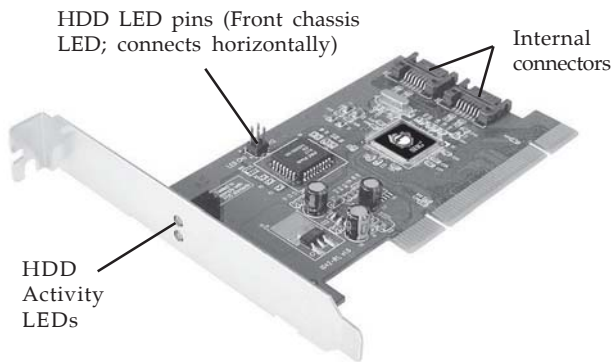


Figure 1. SATA II-150 PCI RAID

Hardware Installation

General instructions for installing the card are provided below. Since the design of computer cases and motherboards vary, refer to your computer's reference manual for further information, if needed.

Static electricity discharge may permanently damage your system. Discharge any static electricity build up in your body by touching your computer's case for a few seconds. Avoid contact with internal parts and handle cards only by their external edges.

1. Turn OFF the power to your computer and any other connected peripheral devices.
2. Unplug the power cord from the back of the computer, remove the cover.
3. Remove the slot bracket from an available PCI slot.
4. To install the card, carefully align the card's bus connector with the selected PCI slot on the motherboard. Push the board down firmly, but gently, until it is well seated.
5. Replace the slot bracket holding screw to secure the card.
6. Replace the computer cover and reconnect the power cord.

Hard Disk Drive Connection

The *SATA II-150 PCI RAID* is a two channel Serial ATA controller that supports two Serial ATA hard disk drives. It is recommended use identical hard drives for all RAID configurations. It's possible to combine hard drives of different sizes and makes, however, it is not recommended to do so.

RAID Arrays

RAID Arrays are setup in the *SATA II-150 PCI RAID* BIOS.

RAID 0 (Striping)

This RAID array to be used on **New/Blank** hard drives. Striping will destroy existing data on the hard drives.

1. As the BIOS boots press **Ctrl+R** when prompted to enter the **RAID** BIOS.
2. At the next screen select **RAID** , then press **Enter**.

3. Select **Create**, then press **Enter**.
4. Select **RAID 0**, then press **spacebar**.
5. Select chunk size from **8k, 16k, 32k, 64k, 128k** or **256k**, then press **spacebar**.
6. Create name or leave blank, press **Enter**.
7. When asked **Expand RAID 0 to maximum capacity**, select **No**, then press **Enter**.
8. Select **Exit**, then press **Enter**.
9. When asked **Are You Sure to Exit(Yes/No)?**, select **Yes**, then press **Enter** to exit and reboot.
10. Continue with the **Fdisk** and **Format** steps as if you were installing a conventional hard drive.

RAID 1 (Mirror)

This RAID array to be used on **New/Blank** hard drives. Mirroring will destroy existing data on the hard drives.

1. As the BIOS boots press **Ctrl+R** when prompted to enter the **RAID BIOS**.
2. At the next screen select **RAID**, then press **Enter**.
3. Select **Create**, then press **Enter**.
4. At the next screen choose **RAID1**, then press **spacebar**.
5. Create name or leave blank, then press **Enter**.
6. When asked, **Activate load balance for RAID 1 (Yes/No)?**, select **Yes**, then press **Enter**.
7. Select **Exit**, then press **Enter**.
8. When asked **Are You Sure to Exit(Yes/No)?**, select **Yes**, then press **Enter** to exit and reboot.
9. Continue with the **Fdisk** and **Format** steps as if you were installing a conventional hard drive.

JBOD

This RAID array to be used on **New/Blank** hard drives. JBOD will destroy existing data on the hard drive.

1. As the BIOS boots press **Ctrl+R** when prompted to enter the **RAID BIOS**.
2. At the next screen select **RAID**, then press **Enter**.
3. Select **Create**, then press **Enter**.
4. Select **JBOD**, then press **spacebar**.
5. Create name or leave blank, press **Enter**.
6. Select **Exit**, then press **Enter**.
7. When asked **Are You Sure to Exit(Yes/No)?**, select **Yes**, then press **Enter** to exit and reboot.
8. Continue with **Fdisk** and **Format** steps as if you were installing a conventional hard drive.

Rebuilding a Failed Mirror Set

When a failure to one member occurs, you will be notified either by the **RAID BIOS** during boot or by the **Initio SATA RAID Manager** while in Windows. The steps below will guide you in rebuilding a failed mirror set.

To Rebuild the Mirror while in the SATA RAID BIOS

This method may not be compatible in some systems, in this case, use the **Online Mirror Rebuild** method on the next page to rebuild your mirror set.

1. Replace the failed drive(s) with one of equal or greater capacity, then start the computer.
2. During boot press **Ctrl+R** to enter the **RAID BIOS**.
3. Select **Disk**, press **Enter**.
4. Select **Reserved for RAID**, then press **Enter**.
5. Select the single hard drive then press **Enter**.

6. When asked, **All data in selected drive will lost! Continue (Yes/No)?**, select **Yes**, then press **Enter**.
7. Select **RAID**, then select **Rebuild**.
8. Press **Enter**. The mirror will begin rebuilding. Do not interfere with the process.
9. When rebuilding is finished, select **Exit**, then press **Enter**
10. When asked **Are You Sure to Exit(Yes/No)?**, select **Yes**, then press **Enter** to exit and reboot.

To Rebuild the Mirror while in Windows

1. Replace the failed drive(s) with one of equal or greater capacity, then start the computer.
2. When Windows resumes, click **Start/Programs or All Programs/Initio SATA RAID/Initio RAID Manager**.
3. Double click **Initio SATA RAID Manager** icon from the system tray to bring up the application.
4. Click **Mirror Array**, then click **Tasks**.
5. Click **Rebuild Array**, then click **OK**.
6. The mirror will rebuild. Rebuild time is dependent on the size of the mirror set.

Deleting RAID Arrays

1. As the BIOS boots press **Ctrl+R** when prompted to enter the **RAID BIOS**.
2. Select **RAID**, then press **Enter**.
3. Select the **Delete**, then press **Enter**.
4. Select **Exit**, then press **Enter**.
5. When asked **Are You Sure to Exit(Yes/No)?**, select **Yes**, then press **Enter** to exit and reboot.

Low Level Format

Low Level Format is built into the RAID BIOS to make it more convenient to erase the entire contents of a hard disk drive, including data, drive and partition information. The Low Level Format utility works on single hard drives only, before the RAID set is configured.

BIOS Configuration

SATA II-150 PCI RAID BIOS will appear everytime your system starts up. If the BIOS doesn't show, please try your controller in another PCI slot. During this (**Post**) process, the BIOS will show up and indicate the hard drives attached to it. If a failure to your RAID set should occur, your system boot up will stop at the RAID BIOS set up screen. To continue, press either Ctrl+R to enter the RAID BIOS set up or ESC key to continue booting.

Driver Installation

This section provides information on how to install the *SATA II-150 PCI RAID* drivers.

Windows 2000

For A New Installation

A new installation of Windows 2000 requires a floppy disk for the driver installation. To make this floppy disk, copy the **contents** of the **Floppy** folder, found on the driver CD, onto a blank floppy disk then follow the directions below.

1. Setup the RAID array prior to Windows installation.
2. Follow the Windows 2000 installation procedure.
3. Restart the computer if prompted by Windows installation. Otherwise, go directly to step 4.

4. At the **Windows 2000 Setup** screen, press **F6** to install the RAID driver.
5. When prompted, press **S** to specify the location of the driver.
6. Insert the floppy disk, then press **Enter**.
7. Select **Initio INIC162x S-ATA RAID Driver For Windows 2000**, then press **Enter**.
8. Press **Enter** again continue and follow the on-screen instructions to complete the Windows installation. Do not remove the floppy disk until instructed.

When Windows installation completes, go to **Initio SATA RAID Manager GUI** on page 13 and install the RAID utility.

For An Existing Installation

1. Setup the RAID array prior to driver installation and boot up to Windows.
2. At **Found New Hardware Wizard**, click **Next**.
3. Select **Search for a suitable driver for my device (recommended)**, then click **Next**.
4. Insert the driver CD, check **CD-ROM drives**, uncheck the other boxes, click **Next**, then click **Next** again.
5. If the **Digital Signature Not Found** message appears, click **Yes**. *Our driver has been thoroughly tested for stability and compatibility.*
6. Click **Next**, then **Finish**.
7. Repeat step 5.
8. Restart Windows to complete the installation.

When Windows resumes, go to **Initio SATA RAID Manager GUI** on page 13 and install the RAID utility.

Windows XP/Server 2003

For A New Installation

A new installation requires a floppy disk for the driver installation. To make this floppy disk, copy the **contents** of the **Floppy** folder, found on the driver CD, onto a blank floppy disk then follow the directions below.

1. Setup the RAID array prior to Windows installation.
2. Follow Microsoft Windows installation procedure.
3. Restart the computer if prompted by Windows' installation. Otherwise, go directly to step 4.
4. At the **Windows Setup** screen, press **F6** to install the RAID driver.
5. When prompted, press **S** to specify the location of the driver.
6. Insert the floppy disk, then press **Enter**.

For 32-bit Windows: Select **Initio INIC162x S-ATA RAID Driver For Windows XP/Server 2003**, then press **Enter**.

For 64-bit Windows: Select **Initio INIC162x S-ATA RAID Driver For Windows XP/Server 2003 AMD64**, then press **Enter**.

7. Press **Enter** to continue the installation, then follow the on-screen instructions to complete the Windows installation. Do not remove the floppy disk until instructed.

When Windows resumes, go to **Initio SATA RAID Manager GUI** on page **13** and install the RAID utility.

For An Existing Installation

1. Setup the RAID array prior to driver installation and boot up to Windows.

2. At the **Found New Hardware Wizard**:
XP (w/SP1 or earlier)/Server 2003: continue to step #3
XP (w/SP2 or later)/Server 2003 (w/ SP1 or later):
select **No, not at this time**, then click **Next**.
3. Insert the driver CD, select **Install the software automatically (Recommended)**, and click **Next**.
4. Accept the default entry, then click **Next**.
5. Click **Continue Anyway**, then click **Finish**.
6. Repeat steps 2-5.
7. Click **Yes** to restart to complete the installation.

When Windows resumes, go to **Initio SATA RAID Manager GUI** on page 13 and install the RAID utility.

Windows Vista™

For A New Installation

1. Setup the RAID array prior to Windows installation.
2. Follow Microsoft Windows installation procedure.
3. At the **Where do you want to install Windows** screen, insert the driver CD, click **Load Driver**, then click **Browse**.
4. Double click your CD/DVD drive, select the **Vista** folder, then click **OK**.
5. Select **Initio INIC1622 S-ATA RAID Controller...**, then click **Next**.
6. Continue with Windows Vista operating system installation.

When Windows resumes, go to **Initio SATA RAID Manager GUI** on page 13 and install the RAID utility.

For An Existing Installation

1. Setup the RAID array prior to driver installation and boot up to Windows.
2. At the **Found New Hardware** window, click **Locate and install the driver software (recommended)**.
3. Click **Continue**. Insert the driver CD when prompted.
4. At **The software for this device has been successfully installed**, click **Close**.
5. Restart Windows Vista to complete the installation.

When Windows resumes, go to **Initio SATA RAID Manager GUI** on page 13 and install the RAID utility.

Windows Server 2008

For A New Installation

1. Setup the RAID array prior to Windows installation.
2. Follow Microsoft Windows installation procedure.
3. At the **Where do you want to install Windows** screen, insert the driver CD, click **Load Driver**, then click **Browse**.
4. Double click your CD/DVD drive, select the **Vista** folder, then click **OK**.
5. Select **Initio INIC1622 S-ATA RAID Controller...**, then click **Next**.
6. Continue with Windows Server 2008 operating system installation.

For An Existing Installation

1. Setup the RAID array prior to driver installation and boot up to Windows.
2. At the **Found New Hardware** window, click **Locate and install the driver software (recommended)**.
3. Click **Don't search online**. Insert driver CD.

4. Click **Install this driver software anyway**, then click **Close**.
5. Restart Windows to complete the installation.
When Windows resumes, go to **Initio SATA RAID Manager GUI** on page 13 and install the RAID utility.

To Verify Windows Installation

For Windows 2000/XP/Server 2003

1. Right click **My Computer** and click **Manage**.
2. Select **Device Manager**.
3. Double click **SCSI and RAID controllers**, and **Initio INIC1622 S-ATA Raid Controller** and **Initio RAID Interface** should be displayed.

For Windows Vista

1. Right click **Computer**, click **Manage**, click **Continue**. Select **Device Manager**.
2. Double click **Storage controllers**, **Initio INIC1622 S-ATA Raid Controller** and **Initio RAID Interface** should be displayed.

For Windows Server 2008

1. Right click **Computer**, click **Manage**, double click **Diagnostics**. Select **Device Manager**.
2. Double click **Storage controllers**, **Initio INIC1622 S-ATA Raid Controller** and **Initio RAID Interface** should be displayed.

Initio SATA RAID Manager GUI

The Initio SATA RAID Manager GUI provides the user an easy way to monitor your RAID set.

Windows 2000/XP/Server 2003 Installation

1. Place the driver CD into the CD-ROM drive.
2. At the Windows desktop click **Start**, then **Run**.
3. Type **D:\Gui\Setup.exe**, then click **OK**. (Change **D:** to match your CD-ROM drive letter)
4. Click **Next, Next, Next**.
5. Follow the on-screen instructions to complete the installation.

Windows Vista/Server 2008 Installation

1. Place the driver CD into the CD-ROM drive.
2. At the Windows desktop click **Start**. In the **Start Search** box, type **D:\Gui\Button Manager.exe**, press **Enter**. (Change **D:** to match your CD-ROM drive letter)
3. Windows Vista: Click **Allow**.
Windows Sever 2008: Continue on step #4.
4. Follow the on screen instructions.
5. Click **Finish**. Select **Yes, I want to restart my computer now**, then click **OK**.
6. When Windows resumes, click **Start**. In the **Start Search** box, type **D:\Gui\Setup.exe**, press **Enter**. (Change **D:** to match your CD-ROM drive letter)
7. Click **Next, Next, Next**.
8. Click **Close** to complete the installation.

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