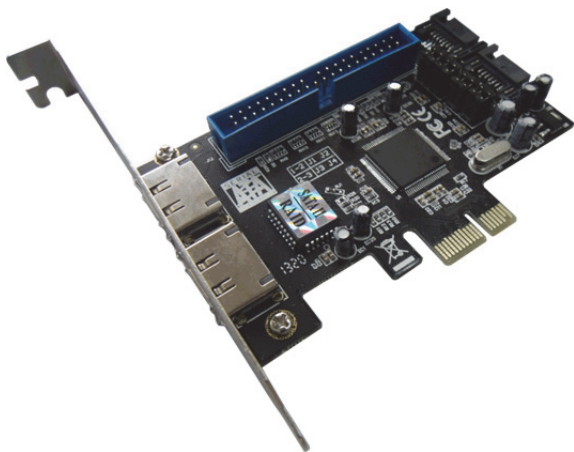# DIGITUS®

# PCIE SATA II 300 + PATA RAID CARD



**User Manual**
DS-30102-2

## Features and Benefits

- Compliant with one-lane 2.5Gb/s PCI Express specification
- Compliant with Serial ATA 1.0 specification
- Supports Serial ATA Generation 2 transfer rate of 3.0Gb/s
- Supports Native Command Queue (NCQ) on SATA ports
- Supports Hot Plugging like USB on SATA port
- Provides three independent channels to connect two SATA and one PATA hard disk drives
- Supports up to UDMA6 transfer mode of PATA
- Supports up to 4 storage device connection
- Supports RAID 0, 1, 0+1 and JBOD functions
- Supports Windows® 2000, XP/2003/Vista/Win7/Win8/ Win10, Linux MAC OS
- Supports HDD size maximum up to 1TB

## Bus Interface

PCI-Express x 1

## Connectors

2 x internal SATA connectors
1 x PATA connector

## System Requirements

PCI Express-enabled system with one available PCI Express slot
Windows® 2000, XP/2003 32/64 bit, Vista 32/64 bit
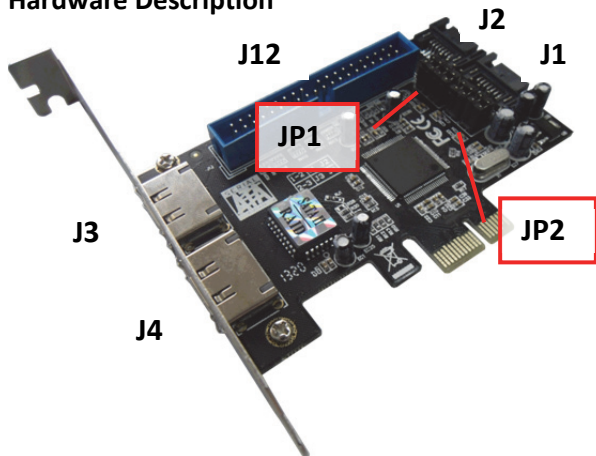
## Package Contents

1 x PCIe SATA II 300 + PATA Raid Card
1 x Driver CD
1 x User's Manual
1 x SATA Data Cable

## Hardware Description



**Jumper settings**

| JP | Description | Active Port |
|-----|-------------|-------------|
| **JP1** | **2-3 Close** | **Enable eSATA Port (J3, J4).** |
| **JP2** | **2-3 Close** | **IDE Port (J12)** |
| **JP1** | **1-2 Close** | **Enable SATA Port (J1, J2).** |
| **JP2** | **1-2 Close** | **IDE Port (J12)** |

## *Hardware Installation*

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.
3 Remove your computer's cover.
4 Remove the slot bracket from an available PCI Express slot.

5 To install the card, carefully align the card's bus connector with the selected PCI Express slot on the motherboard. Push the board down firmly, but gently, until it is well seated.

6 Replace the slot bracket's holding screw to secure the card.

## RAID Arrays

RAID Arrays are setup in the PCIe SATA II 300 + PATA Raid Card's BIOS. There are four configurations supported:

| RAID level/Type | Configurations | Number of disks needed |
|---|---|---|
| RAID 0 | Disk Striping | 2 or 3 or 4 |
| RAID 1 | Disk Mirroring | 2 |
| RAID 0+1 | Disk Striping + Mirroring | 4 |
| JBOD | Disk Concatenation | 2 or 3 or 4 |

## RAID 0 (Striping)

1 As the BIOS boots press **Ctrl+J** when prompted to enter the RAID BIOS.

2 At the next screen select Create RAID Disk Drive, press **Enter**.

3 Enter RAID name, press **Enter**.

4 Please use arrow keys ↑ and ↓ to switch the RAID level to 0-Stripe, and then press **Enter**.

5 Please use arrow keys ↑ and ↓ to switch the disk, use the "**space**" key to mark the selected disk, and then press **Enter**.

6   Please use arrow keys ↑ and ↓ to select chunk size from 4K, 8K, 16K, 32K, 64K or 128K, and then press **Enter**.
7   Input the RAID size, press Enter.
8   When asked Created RAID on the select HDD (**Y/N**)? Press **Y** to accept.
9   At the next screen select Save and Exit Setup, press Enter. When asked Save to disk &Exit (**Y/N**)? Press **Y** to exit the BIOS.

## RAID 1 (Mirroring)

1   As the BIOS boots press **Ctrl+J** when prompted to enter the RAID BIOS.
2   At the next screen select Create RAID Disk Drive, press **Enter**.
3   Enter RAID name, press **Enter**.
4   Please use arrow keys ↑ and ↓ to switch the RAID level to 1-Mirror, and then press Enter.
5   Please use arrow keys ↑ and ↓ to switch the disk, use the "space" key to mark the selected disk, and then press **Enter**.
6   Input the RAID size, press Enter.
7   When asked Created RAID on the select HDD (**Y/N**)? Press Y to accept.
8   At the next screen select Save and Exit Setup, press Enter. When asked Save to disk and Exit (**Y/N**)? Press **Y** to exit the BIOS.

## CONCATENATION (JBOD)

1. As the BIOS boots press **Ctrl+J** when prompted to enter the RAID BIOS.
2. At the next screen select Create RAID Disk Drive, press **Enter**.
3. Enter RAID name, press **Enter**.
4. Please use arrow keys ↑ and ↓ to switch the RAID level to JBOD-Concatenate, and then press Enter.
5. Please use arrow keys ↑ and ↓ to switch the disk, use the "**space**" key to mark the selected disk, and then press Enter.
6. Input the RAID size, press Enter.
7. When asked Created RAID on the select HDD (**Y/N**)? Press **Y** to accept.
8. At the next screen select Save and Exit Setup, press Enter. When asked Save to disk and Exit (**Y/N**)? Press **Y** to exit the BIOS.

## RAID 0+1 (Striping + Mirroring)

1. As the BIOS boots press **Ctrl+J** when prompted to enter the RAID BIOS.
2. At the next screen select Create RAID Disk Drive, press Enter.
3. Enter RAID name, press Enter.
4. Please use arrow keys ↑ and ↓ to switch the RAID level to 01-Stripe+Mirror, and then press Enter.
5. Please use arrow keys ↑ and ↓ to select chunk size from 4K, 8K, 16K, 32K, 64K or 128K, and then press Enter.
6. Input the RAID size, press Enter.
7. When asked Created RAID on the select HDD (**Y/N**)? Press **Y** to accept.

8　At the next screen select Save and Exit Setup, press Enter. When asked Save to disk and Exit (**Y/N**)? Press **Y** to exit the BIOS.

## Delete RAID Disk Drive

1　As the BIOS boots press **Ctrl+J** when prompted to enter the RAID BIOS.
2　At the next screen select Delete RAID Disk Drive, press Enter.
3　Please use arrow keys ↑ and ↓to select the array you want to delete, use the "space" key to mark the selected array, and then press DEL.
4　When asked ALL DATA ON THE RAID WILL LOST! ARE YOU SURE TO DELETE (**Y/N**), press **Y** to accept.

## Solve Mirror Conflict

When a RAID set is created, then metadata written to the disk includes drive connection information. If a disk failure, the replacement disk was previously part of a RAID set (or used in another system), it may have conflicting metadata. If so, this will prohibit the RAID set from being either created or rebuilt, in order for the RAID set to function properly; this old metadata must be first overwritten with the new metadata. To resolve this, from the main BIOS window select Solve Mirror Conflict, and then press Enter, the correct metadata, including the correct drive connection information, will be written to the replacement disk.

## Rebuild Mirror Drive

When a failure to one member occurs, you will be notified by the RAID BIOS during boot. The steps below will guide you in rebuilding a failed mirror set.

1. Replace the failed drive(s) with one of equal or greater capacity, start the computer.
2. During boot press **Ctrl+J** to enter the RAID BIOS.
3. Select Rebuild Mirror Drive and press Enter.
4. Please use arrow keys ↑ and ↓ to select the array you want to rebuild, press Enter.
5. Please use arrow keys ↑ and ↓ to select the destination disk, press Enter.
6. When rebuilding is finished, select **Save** and **Exit Setup**, press **Enter**. When asked Save to disk and Exit (**Y/N**)? Press **Y** to exit the BIOS.

## BIOS Configuration

This Raid Card BIOS will appear every time your system starts up. During this (POST) process, the BIOS will show up and indicate the devices attached to it.

## Driver Installation

A new installation requires a floppy disk for the driver installation. To make this floppy disk, copy the contents of the "PCIe\JMB36X\Floppy32" 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's Windows installation procedure.
3. At the Windows Setup screen, press **F6** to install the RAID driver.
4. When prompted, press **S** to specify the location of the driver.
5. Insert the floppy disk, and then press **Enter**.
6. Select **(Windows 2000) RAID Driver for JMicron JMB363 Controller** or **(Windows XP/2003) RAID/AHCI Driver for JMicron JMB36X Controller,** and then press **Enter**.
7. Press **Enter** to finish driver installation, then follow the on-screen instructions to complete the Windows installation.

## To Verify Driver Installation

1    Right click **My Computer** and click **Manage**.
2    Select **Device Manager**.
3    Look for the following:
     **Windows® 2000/XP/2003**
     Double click **SCSI and RAID Controller: - JMicron JMB36X Controller** should be displayed

     **Windows® Vista**
     Double click **Storage controllers: - JMicron JMB36X Controller** should be displayed.

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