4+1 SATA II 300 IDE/PATA PCI-E Combo Host Card w/ RAID & Port Multiplier

User Manual
Model: UGT-IS100R

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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 Plug
- Provides three independent channels to connect two SATA and two IDE/PATA devices
- Supports up to UDMA6 transfer mode of IDE/PATA
- Supports up to 4 storage device connection
- Supports RAID 0, 1, 0+1, JBOD, Individual Mode

Bus Interface

- PCI-Express x 1

Ports

- 2 x internal SATA Ports
- 2 x external (eSATA) Ports
- 1 x IDE/PATA Port

System Requirements

- PCI Express-enabled system with one available PCI Express slot
- Windows® 2000, XP/2003/Vista/2008/7 (32/64 bit)

Package Contents

- 1 x 4+1 SATA II 300 IDE/PATA PCI-E Combo Host Card w/ RAID & Port Multiplier
- 1 x Driver CD
- 1 x User's Manual
- 2 x SATA Data Cable
- 1 x IDE/PATA Cable

Hardware Description

**Note:** There are four SATA ports in 4+1 SATA II 300 IDE/PATA PCI-E Combo Host Card w/ RAID & Port Multiplier . We name these ports CON1 to CON4. Ports CON3 & CON4 are external SATA ports and CON1 & CON2 are internal SATA ports. By changing the jumper setting on the 4+1 SATA II 300 IDE/PATA PCI-E Combo Host Card w/ RAID & Port Multiplier that allows you to select between external and internal ports to use. By

default, Port CON1 & CON2 are working.
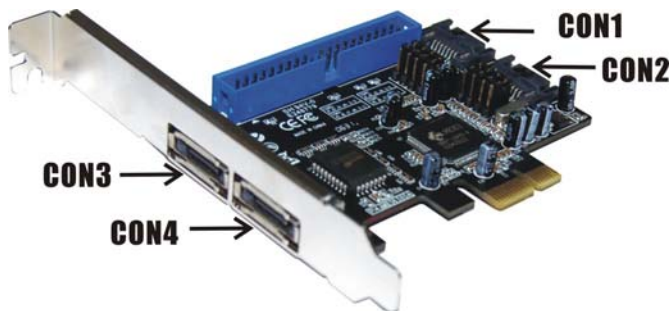
Jumper Settings(Default Mode:1-2 close)
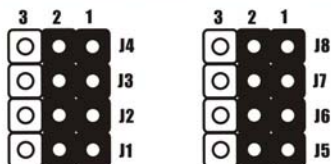
Jumper Settings

JP	Description	Active Port		
J1-J4	1-2 close	**Enable**	**SATA**	**Port**
		CON1		
	2-3 close	**Enable**	**SATA**	**Port**

		CON3
J5-J8	**1-2 close**	**Enable SATA Port CON2**
	2-3 close	**Enable SATA Port CON4**

Hardware Installation

1. Turn Off the power to your computer.
2. Unplug the power cord and remove your computer's cover.
3. Remove the slot bracket from an available PCI-E slot.
4. To install the bard, carefully align the card's bus connector with the selected PCI-E slot on the motherboard. Push the board down firmly.
5. Attach your internal or external devices to the 4+1 SATA II 300 IDE/PATA PCI-E Combo Host Card w/ RAID & Port Multiplier .
6. Replace the slot bracket's holding screw to secure the card.
7. Replace the computer cover and reconnect the power cord.

RAID Arrays

RAID Arrays are setup in the 4+1 SATA II 300 IDE/PATA PCI-E Combo Host Card w/ RAID & Port Multiplier '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**, then press **Enter**.
5. Please use arrow keys ↑ and ↓to switch the disk, use the

"space" key to mark the selected disk, then press **Enter**.

6. Please use arrow keys ↑ and ↓ to select chunk size from **4K**, **8K**, **16K**, **32K**, **64K** or **128K**, 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**, then press **Enter**.

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

5. Please use arrow keys ↑ and ↓to switch the disk, use the "space" key to mark the selected disk, 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 &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**, then press **Enter**.
5. Please use arrow keys ↑ and ↓ to select chunk size from **4K**, **8K**, **16K**, **32K**, **64K** or **128K**, 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 &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, 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, after 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**, 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** 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 &Exit (Y/N)?**, press **Y** to exit the BIOS.

BIOS Configuration

The 4+1 SATA II 300 IDE/PATA PCI-E Combo Host Card w/ RAID & Port Multiplier 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

For Windows® 2000, XP and 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 "UGT-IS100R\2000_XP_2003_Vista\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, then press **Enter**.
6. Select **(Windows 2000) RAID Driver for JMicron JMB363 Controller** or **(Windows XP/2003) RAID/AHCI Driver for JMicron JMB36X Controller**, then press **Enter**.
7. Press **Enter** to finish driver installation, then follow the

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on-screen instructions to complete the Windows installation.

For An Existing Installation

1. Setup the RAID Array prior to driver installation and boot up to Windows.
2. Please insert the CD driver bound with 4+1 SATA II 300 IDE/PATA PCI-E Combo Host Card w/ RAID & Port Multiplier into your CD-ROM Drive.
3. At the Windows desktop, click **Start**, then **Run**.
4. Type **D:**UGT-IS100R\2000_XP_2003_Vista\setup.exe, click **OK**. (Change **D:** to match your CD-ROM drive letter)
5. Follow the on-screen instructions to complete the installation.
6. Restart Windows to complete the installation.

For Windows® XP-x64/Server 2003-x64
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 "*UGT-IS100R\XP_2003_Vista\Floppy64*" 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 driver.

4. When prompted, press **S** to specify the location of the driver.

5. Insert the floppy disk, then press **Enter**.

6. Select **(Windows XP/2003 x64) RAID/AHCI Driver for JMicron JMB36X Controller**, then press **Enter**.

7. Press **Enter** to finish driver installation, then follow the on-screen instructions to complete the Windows installation.

For An Existing Installation

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

2. Please insert the CD driver bound with 4+1 SATA II 300 IDE/PATA PCI-E Combo Host Card w/ RAID & Port Multiplier into your CD-ROM Drive.

3. At the Windows desktop, click **Start**, then **Run**.

4. Type **D:**UGT-IS100R\XP_2003_Vista**setup.exe**, click **OK**. (Change **D:** to match your CD-ROM drive letter)

5. Follow the on-screen instructions to complete the

installation.

6. Restart Windows to complete the installation.

For Windows® Vista

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 "*UGT-IS100R\2000_XP_2003_Vista\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 **Load Driver** to install the driver.
4. Insert the floppy disk, please select **JMicron JMB36X Controller (A:\jRAID_f.inf)**, then press **Next**. (Change **A:** to match your floppy drive letter)
5. Follow the on-screen instructions to complete the Windows installation.

For An Existing Installation

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

2. Please insert the CD driver bound with 4+1 SATA II 300 IDE/PATA PCI-E Combo Host Card w/ RAID & Port Multiplier into your CD-ROM Drive.

3. At the Windows desktop, click **Start**, then **Run**.

4. Type **D:**UGT-IS100R\2000_XP_2003_Vista\setup.exe, click **OK**. (Change **D:** to match your CD-ROM drive letter)

5. Follow the on-screen instructions to complete the installation.

6. Restart Windows to complete the installation.

For Windows® Vista-x64

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 "*UGT-IS100R\XP_2003_Vista\Floppy64*" 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 **Load Driver** to install the RAID driver.

4. Insert the floppy disk, please select **JMicron JMB36X Controller (A:\jRAID_f.inf)**, then press **Next**. (Change **A:** to match your floppy drive letter)

5. Follow the on-screen instructions to complete the Windows installation.

For An Existing Installation

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

2. Please insert the CD driver bound with 4+1 SATA II 300 IDE/PATA PCI-E Combo Host Card w/ RAID & Port Multiplier into your CD-ROM Drive.

3. At the Windows desktop, click **Start**, then **Run**.

4. Type **D:**UGT-IS100R\XP_2003_Vista\setup.exe, click **OK**. (Change **D:** to match your CD-ROM drive letter)

5. Follow the on-screen instructions to complete the installation.

6. Restart Windows to complete the installation.

For Windows® Server 2008/7 (32-bit)

For New Installation

1. Setup the RAID Array prior to Windows installation.
2. Follow Microsoft's Windows installation procedure.
3. At the Windows Setup screen, press **Load Driver** to install the RAID driver.
4. Please insert the CD driver bound with 4+1 SATA II 300 IDE/PATA PCI-E Combo Host Card w/ RAID & Port Multiplier into your CD-ROM Drive, click **Browse**.
5. Click on the Plus (+) sign next to the CD-ROM Drive, double click the "UGT-IS100R\2000_XP_2003_Vista\Floppy32" folder, then click OK.
6. Select **JMicron JMB36X Controller**, then press **Next**.
7. Follow the on-screen instructions to complete the installation.

For An Existing Installation

1. Setup the RAID Array prior to driver installation and boot up to Windows.
2. Please insert the CD driver bound with 4+1 SATA II 300 IDE/PATA PCI-E Combo Host Card w/ RAID & Port Multiplier

into your CD-ROM Drive.

3. At the Windows desktop, click **Start**, then **Run**.

4. Type **D:**UGT-IS100R\2000_XP_2003_Vista\setup.exe, click **OK**. (Change **D:** to match your CD-ROM drive letter)

5. Follow the on-screen instructions to complete the installation.

6. Restart Windows to complete the installation.

For Windows® Server 2008/7 (64-bit)

For New Installation

1. Setup the RAID Array prior to Windows installation.

2. Follow Microsoft's Windows installation procedure.

3. At the Windows Setup screen, press **Load Driver** to install the RAID driver.

4. Please insert the CD driver bound with 4+1 SATA II 300 IDE/PATA PCI-E Combo Host Card w/ RAID & Port Multiplier into your CD-ROM Drive, click **Browse**.

5. Click on the Plus (+) sign next to the CD-ROM Drive, double click the "UGT-IS100R\XP_2003_Vista\Floppy64" folder, then click OK.

6. Select **JMicron JMB36X Controller**, then press **Next**.

7. Follow the on-screen instructions to complete the installation.

For An Existing Installation

1. Setup the RAID Array prior to driver installation and boot up to Windows.
2. Please insert the CD driver bound with 4+1 SATA II 300 IDE/PATA PCI-E Combo Host Card w/ RAID & Port Multiplier into your CD-ROM Drive.
3. At the Windows desktop, click **Start**, then **Run**.
4. Type **D:**UGT-IS100R\XP_2003_Vista\setup.exe, click **OK**. (Change **D:** to match your CD-ROM drive letter)
5. Follow the on-screen instructions to complete the installation.
6. Restart Windows to complete the 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