4-1-4 Configuring SATA Hard Drive(s)

To configure SATA hard drive(s), follow the steps below:

1. Install SATA hard drive(s) in your system.
2. Configure SATA controller mode and boot sequence in BIOS Setup.
3. Configure RAID set in RAID BIOS. (Note)
4. Make a floppy disk containing the SATA controller driver.
5. Install the SATA controller driver during OS installation.

Before you begin

Please prepare:
(a) At least two SATA hard drives (to ensure optimal performance, it is recommended that you use two hard drives with identical model and capacity). If you do not want to create RAID, you may prepare only one hard drive.
(b) An empty formatted floppy disk.
(c) Windows XP/2000 setup disk.
(d) Driver CD for your motherboard.

(Note) Skip this step if you do not want to create RAID array on the SATA controller.
B. GIGABYTE SATA2 Controller

(1) Installing SATA hard drive(s) in your computer
Attach one end of the SATA signal cable to the rear of the SATA hard drive and the other end to available SATA port(s) on the motherboard. If there are more than one SATA controller on your motherboard, you may refer to the motherboard user’s manual to identify the SATA controller for the connector. Then connect the power connector from your power supply to the hard drive.

(2) Configuring SATA controller mode and boot sequence in BIOS Setup
Make sure to configure the SATA controller mode correctly in system BIOS Setup and set the first boot device.
Step 1:
Turn on your computer and press Del to enter BIOS Setup during POST (Power-On Self Test). In BIOS Setup, go to Integrated Peripherals, ensure that the Onboard SATA/IDE Device is enabled. Then set Onboard SATA/IDE Ctrl Mode to RAID/IDE before configuring RAID. If you do not want to create RAID, set this item to IDE or AHCI, depending on your need (Figure 1).

The BIOS Setup menus described in this section may not show the exact settings for your motherboard. The actual BIOS Setup menu options you will see shall depend on the motherboard you have and the BIOS version.
Step 2:
To boot from Windows installation CD-ROM disk, set **First Boot Device** under the **Advanced BIOS Features** menu to **CDROM** (Figure 2).

<table>
<thead>
<tr>
<th>Item Help</th>
<th>Menu Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Select Hard Disk Boot Device Priority</td>
</tr>
</tbody>
</table>

![Figure 2](image)

Step 3:
Save and exit BIOS Setup.
(3) Configuring RAID array in RAID BIOS

Enter the RAID BIOS setup utility to configure a RAID array. Skip this step if you do not want to create RAID.

Step 1:
After the POST memory test begins and before the operating system boot begins, look for a message which says "Press <Ctrl-G> to enter RAID Setup Utility" (Figure 3). Press CTRL+ G to enter the GIGABYTE SATA2 RAID BIOS setup utility.

![Figure 3](GIGABYTE Technology Corp. PCIE-to-SATAII/IDE RAID Controller BIOS v1.06.23
Copyright (C) 2005 GIGABYTE Technology. http://www.gigabyte.com
HDD0 : ST3120026AS 120 GB Non-RAID
HDD1 : ST3120026AS 120 GB Non-RAID
ODD0 : GO-D1600D
Press <Ctrl-G> to enter RAID Setup Utility ...]

In the main screen of the GIGABYTE SATA2 RAID BIOS utility (Figure 4), use the UP or DOWN ARROW key to highlight through choices. Highlight the item that you wish to execute and press ENTER.

![Figure 4](GIGABYTE Technology Corp. PCIE-to-SATAII/IDE RAID Controller BIOS V1.06.23
\[ Main Menu \]
Create RAID Disk Drive
Delete RAID Disk Drive
Revert HDD to Non-RAID
Solve Mirror Conflict
Rebuild Mirror Drive
Save And Exit Setup
Exit Without Saving

[ Hard Disk Drive List ]
Mode Name Capacity Type/Status
HDD0: ST3120026AS 120 GB Non-RAID
HDD1: ST3120026AS 120 GB Non-RAID

[ RAID Disk Drive List ]

Note: In the main screen, you can select a hard disk in the **Hard Disk Drive List** block and press ENTER. This allows you to check detailed information about the selected hard disk.
A. Create Array:

In the main screen, press ENTER on the **Create RAID Disk Drive** item. Then the RAID creation screen appears (Figure 5).

In the RAID creation screen, the **Create New RAID** block displays all the items that need to be set for creating an array (Figure 5). The following procedure uses RAID 0 creation as an example.

Steps:
1. **Enter Array Name:** Under the **Name** item, enter an array name with 1~16 letters (letters cannot be special characters) and press ENTER.
2. **Select RAID Mode:** Under the **Level** item, use UP or DOWN ARROW key to select RAID 0 (Stripe), RAID 1 (Mirror), or JBOD (Figure 6). Then press ENTER to move onto the next step.
3. **Assign Array Disks:** After RAID mode is selected, RAID BIOS automatically assigns the two hard disks installed as the RAID disks.

4. **Set Block Size (only for RAID 0):** Under the **Block** item, use the UP or DOWN ARROW key to select the block size (Figure 7), ranging from 4K to 128K. Press ENTER when finished.

5. **Set Array Size:** Under the **Size** item, type the size of the array (Figure 8), and press ENTER.

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**Figure 7**

![GIGABYTE Technology Corp. PCIE-to-SATAII/IDE RAID Controller BIOS V1.06.23
Create New RAID ]](#)

Name: JRAID
Level: 0-Stripe
Disks: Select Disk
Block: 128 KB
Size: 240 GB

[ Confirm Creation ]

<table>
<thead>
<tr>
<th>Mode</th>
<th>Name</th>
<th>Available</th>
<th>Type/Status</th>
</tr>
</thead>
<tbody>
<tr>
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<td>HDD1</td>
<td>ST3120026AS</td>
<td>120 GB</td>
<td>Non-RAID</td>
</tr>
</tbody>
</table>


**Figure 8**

![GIGABYTE Technology Corp. PCIE-to-SATAII/IDE RAID Controller BIOS V1.06.23
Create New RAID ]](#)

Name: JRAID
Level: 0-Stripe
Disks: Select Disk
Block: 128 KB
Size: 240 GB

[ Confirm Creation ]

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<td>120 GB</td>
<td>Non-RAID</td>
</tr>
</tbody>
</table>


**Setting Stripe Block**

Select a stripe size which will be used to divide data from/to separate RAID members. The following are typical values:

RAID 0-128KB

**Setting RAID Capacity**

Enter the RAID capacity. The default value indicates the maximum capacity determined by the selected members. If less than the maximum capacity is chosen, the remaining capacity would be no used.
6. **Confirm Creation**: After all of the items are configured, the selection bar automatically jumps to the **Confirm Creation** item. When prompted to confirm your selections (Figure 9), press Y to confirm or N to abort.

When finished, the new RAID array will be displayed in the **RAID Disk Drive List** block (Figure 10).
To check more detailed information about the array, use the TAB key while in the **Main Menu** block to move the selection bar to the **RAID Disk Drive List** block. Select the array and press ENTER. A small window displaying the array information will appear in the center of the screen (Figure 11).

![Figure 11](image)

After configuring the RAID array, select the **Save And Exit Setup** item in the main screen to save your settings if you wish to exit the RAID BIOS utility, then press Y (Figure 12).

![Figure 12](image)
B. Delete Array:
To delete the array, select **Delete RAID Disk Drive** in the main menu and press ENTER. The selection bar will move to the **RAID Disk Drive List** block. Press the SPACEBAR on the array to be deleted; a small triangle will appear to mark the selected array (Figure 13). Press Del.

Press Y to confirm yes to the following message (Figure 14) or N to cancel.

Now, you can proceed to install the SATA controller driver and operating system.
(4) Making a SATA Driver Disk (Required for AHCI and RAID Mode)

To install operating system onto a serial ATA hard disk successfully, you need to install the SATA controller driver during OS installation. Without the driver, the hard disk may not be recognized during the Windows setup process. First of all, copy the driver for the SATA controller from the motherboard driver CD-ROM to a floppy disk. See the instructions below about how to copy the driver in MS-DOS mode.(Note). Prepare a startup disk that has CD-ROM support and a blank formatted floppy disk.

Step 1: Insert the prepared startup disk and motherboard driver CD-ROM in your system. Boot from the startup disk. Once at the A:\> prompt, change to the CD-ROM drive (example: D:\>). At the D:\> prompt, type the following two commands. Press ENTER after each command (Figure 15):

```
cd bootdrv
menu
```

Step 2: When the controller menu (Figure 16) appears, remove the startup disk and insert the blank formatted disk. Select the controller driver by pressing the corresponding letter from the menu. For example, from the menu in Figure 16, press E to select E) GIGABYTE SATA-RAID Driver. Your system will then automatically zip and transfer this driver file to the floppy disk. Press 0 to exit when finished.

(Note) For users without a startup disk:

Use an alternative system and insert the GIGABYTE motherboard driver CD-ROM. From the CD-ROM drive folder, double click the MENU.exe file in the BootDrv folder (Figure 17). A command prompt window will open similar to that in Figure 16.
(5) Installing SATA controller driver during OS installation
(Required for AHCI and RAID Mode)

Now that you have prepared the SATA driver disk and configured BIOS settings, you are ready to install Windows 2000/XP onto your SATA hard drive with the SATA driver. The following is an example of Windows XP installation.

Step 1: Restart your system to boot from the Windows 2000/XP Setup disk and press F6 as soon as you see the "Press F6 if you need to install a 3rd party SCSI or RAID driver" message (Figure 18). After pressing F6, there will be a few moments of some files being loaded before you see the next screen.

![Figure 18: Press F6 if you need to install a third party SCSI or RAID driver.]

Step 2:
When a screen similar to that below appears, insert the floppy disk containing the SATA driver and press S (Figure 19).

![Figure 19: Windows Setup message to specify additional devices.]

- To specify additional SCSI adapters, CD-ROM drives, or special disk controllers for use with Windows, including those for which you have a device support disk from a mass storage device manufacturer, press S.

- If you do not have any device support disks from a mass storage device manufacturer, or do not want to specify additional mass storage devices for use with Windows, press ENTER.
Step 3:
When Setup correctly recognizes the driver in the floppy disk, a controller menu similar to Figure 20 below will appear. Use the ARROW keys to select one of the items displayed depending on the operating system to be installed. For example, select **GIGABYTE GBB36X Controller (Windows 2K/XP/2003)** if you wish to install Windows XP (32-Bit). Then press ENTER.

![Figure 20](image1)

If a message appears saying one or some file(s) cannot be found, please check the floppy disk or copy the correct SATA driver again from the motherboard driver CD.

Step 4:
When the next screen (Figure 21) appears, press ENTER to continue the SATA driver installation from the floppy disk.

![Figure 21](image2)

* To specify additional SCSI adapters, CD-ROM drives, or special disk controllers for use with Windows, including those for which you have a device support disk from a mass storage device manufacturer, press S.

* If you do not have any device support disks from a mass storage device manufacturer, or do not want to specify additional mass storage devices for use with Windows, press ENTER.
Step 5:
After the SATA controller driver installation is completed, you can proceed with the Windows XP installation.

![Windows XP Professional Setup](image)

*Welcome to Setup.  
This port of the Setup program prepares Microsoft(R) Windows (R) XP to run on your computer.*

To set up Windows XP now, press ENTER.

To repair a Windows XP installation using Recovery Console, press R.

To quit Setup without installing Windows XP, press F3.

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Figure 22