# Table of Contents

# Configuring SATA Hard Drive(s)  (Controller: SiS 964)

## 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.

(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) 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 with the SATA controller, 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.

## (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 check the name of the SATA connector to identify the SATA controller for the connector. For example, SATA0_SB/SATA_SB is controlled by the SATA controller on South-Bridge.) Then connect the power connector from your power supply to the hard drive.

"*"  Skip this step if you do not want to create RAID array on the SATA controller

## (2) Configuring SATA controller mode and boot sequence in BIOS Setup

You have to make sure whether the SATA controller is configured correctly in system BIOS Setup and set BIOS boot sequence for the SATA hard drive(s).

Step 1:

Turn on your computer and press Del to enter BIOS Setup during POST (Power-On Self Test). In BIOS Setup menu, go to **Integrated Peripherals** and assure **SiS Serial ATA Controller** is enabled. If you want to create RAID, set the **SiS Serial ATA Mode** item to **RAID** (RAID by default) (Figure 1). Change the **SiS Serial ATA Mode** item to **IDE** if you do not want to create RAID.
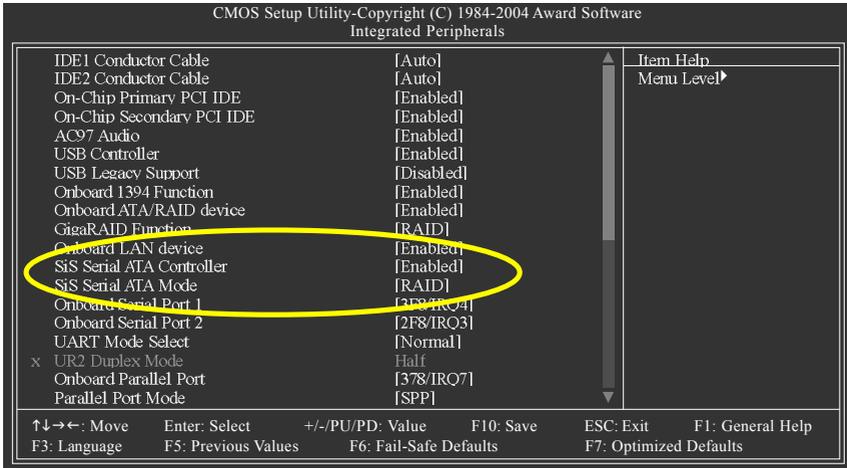
```
                  CMOS Setup Utility-Copyright (C) 1984-2004 Award Software
                               Integrated Peripherals
      IDE1 Conductor Cable            [Auto]              Item Help
      IDE2 Conductor Cable            [Auto]              Menu Level
      On-Chip Primary PCI IDE         [Enabled]
      On-Chip Secondary PCI IDE       [Enabled]
      AC97 Audio                      [Enabled]
      USB Controller                  [Enabled]
      USB Legacy Support              [Disabled]
      Onboard 1394 Function           [Enabled]
      Onboard ATA/RAID device         [Enabled]
      GigaRAID Function               [RAID]
      Onboard LAN device              [Enabled]
      SiS Serial ATA Controller       [Enabled]
      SiS Serial ATA Mode             [RAID]
      Onboard Serial Port 1           [3F8/IRQ4]
      Onboard Serial Port 2           [2F8/IRQ3]
      UART Mode Select                [Normal]
    x UR2 Duplex Mode                 Half
      Onboard Parallel Port           [378/IRQ7]
      Parallel Port Mode              [SPP]

    ↑↓→←: Move    Enter: Select    +/-/PU/PD: Value    F10: Save    ESC: Exit    F1: General Help
    F3: Language    F5: Previous Values    F6: Fail-Safe Defaults    F7: Optimized Defaults
```

Figure 1

> **NOTE** 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:

Later, select **Hard Disk Boot Priority** under the **Advanced BIOS Features** menu. In the **Hard Disk Boot Priority** submenu, select the model of the desired SATA hard drive onto which you intent to install Microsoft Windows 2000/XP (Figure 2).



CMOS Setup Utility-Copyright (C) 1984-2004 Award Software
Hard Disk Boot Priority

| 1. SCSI-0 | : | ST3120026AS | Item Help |
| 2. SCSI-1 | : | ST3120026AS | Menu Level |
| 2. Bootable Add-in Cards | | | |

Use <↑> or <↓> to select a device, then press <+> to move it up, or <-> to move it down the list. Press <ESC> to exit this menu.

↑↓: Move          PU/PD/+/-: Change Priority          F10: Save          ESC: Exit
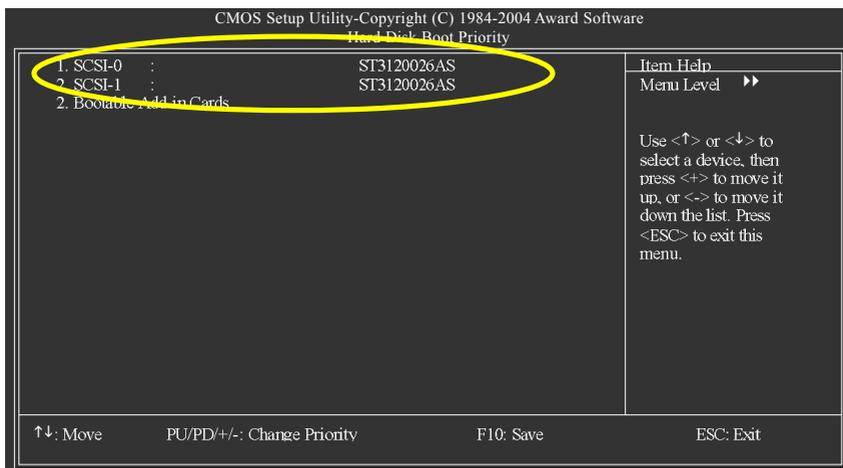
Figure 2

Step 3:

Set **First Boot Device** under the **Advanced BIOS Features** menu to **CD-ROM** to boot from CD-ROM after system restarts (Figure 3).
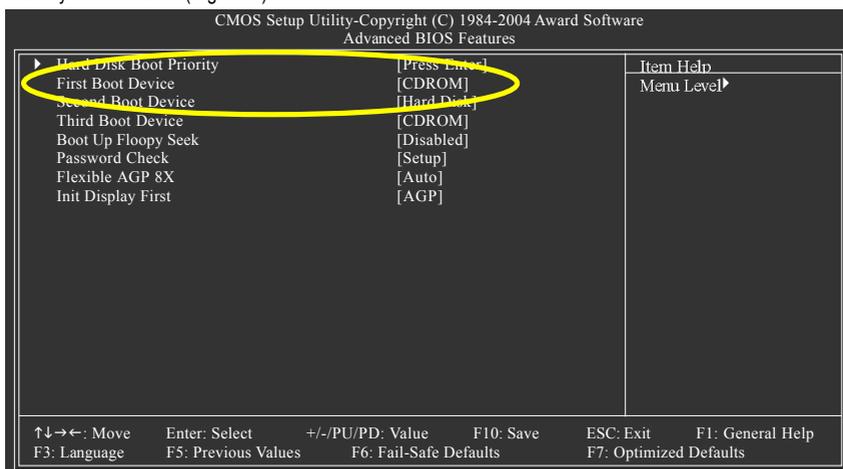


CMOS Setup Utility-Copyright (C) 1984-2004 Award Software
Advanced BIOS Features

| ▶ Hard Disk Boot Priority | [Press Enter] | Item Help |
| First Boot Device | [CDROM] | Menu Level ▶ |
| Second Boot Device | [Hard Disk] | |
| Third Boot Device | [CDROM] | |
| Boot Up Floppy Seek | [Disabled] | |
| Password Check | [Setup] | |
| Flexible AGP 8X | [Auto] | |
| Init Display First | [AGP] | |

↑↓→←: Move      Enter: Select      +/-/PU/PD: Value      F10: Save      ESC: Exit      F1: General Help
F3: Language      F5: Previous Values      F6: Fail-Safe Defaults      F7: Optimized Defaults

Figure 3

Step 4:

Save and exit BIOS Setup.

## (3) Configuring RAID set in RAID BIOS

Enter the RAID BIOS setup utility to configure a RAID array. Skip this step and proceed to Section 4 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>+<S> to enter Setup Menu or <ESC> to skip waiting" (Figure 4). Hit CTRL+S to enter the RAID BIOS setup utility. If you cannot enter the RAID BIOS correctly, assure that your SATA drives are properly installed.
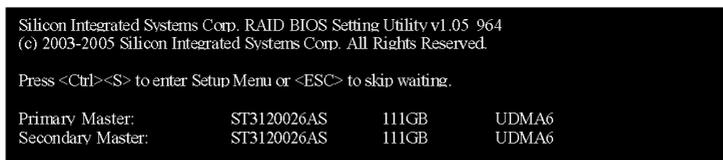


Figure 4

Step 2：
Press CTRL+S. The **SiS RAID BIOS Setting Utility** - **Disk Status** window appears (refer to Figure 5). To create RAID, press R to enter the RAID Setup utility.
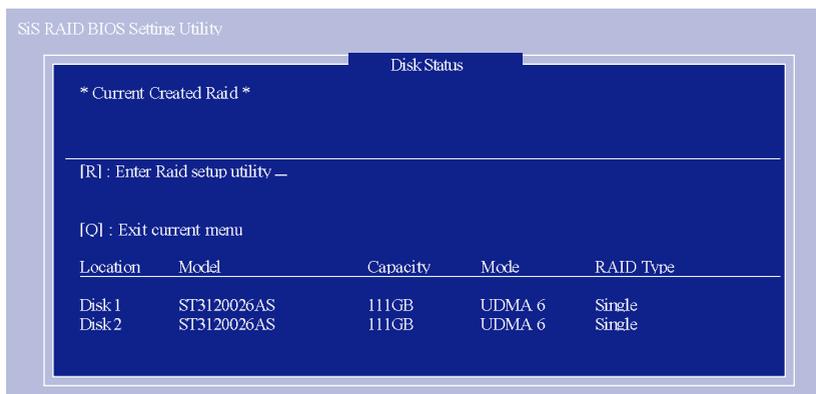


Figure 5

Step 3:
In the RAID Setup screen, press A if you want to create RAID array (Figure 6).
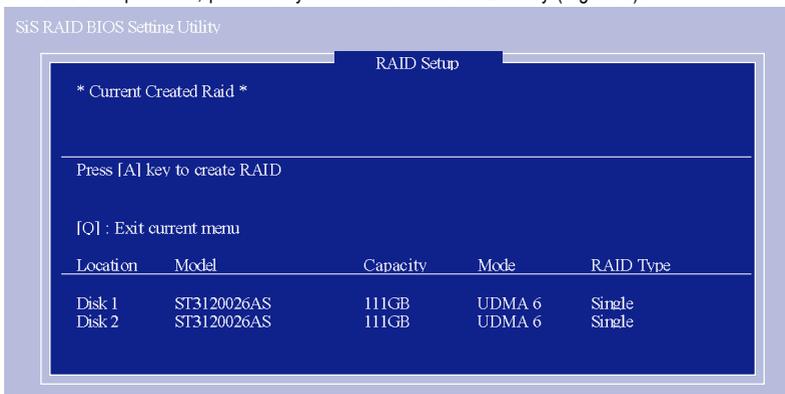


Figure 6

Step 4:
Then, use number keys 1~3 to select a RAID mode: (1)JBOD, (2)RAID 0, or (3)RAID 1 and then press
ENTER (Figure 7). The following is an example of RAID 0 creation.
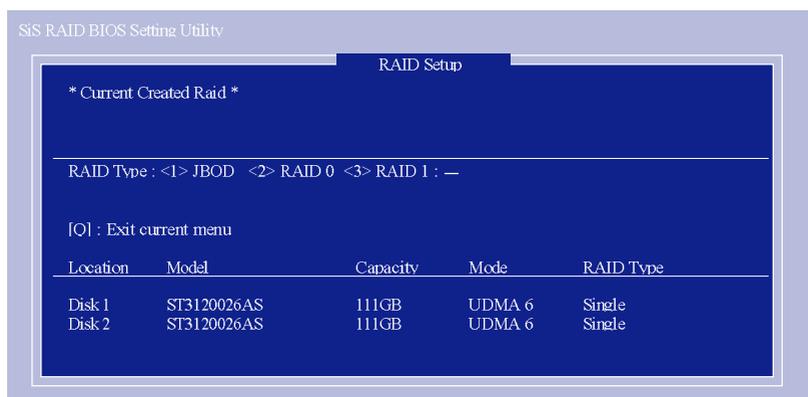


Figure 7

Step 5:

If RAID 0 is selected, you'll have to decide whether you want the RAID array to be created automatically or manually (Figure 8). Press 1 to select **<1> Auto Create** or 2 to select **<2> Manual Create**. (We recommend selecting **Auto Create** to most users.)

SiS RAID BIOS Setting Utility

RAID Setup

* Current Created Raid*

RAID 0
<1> Auto Create   <2> Manual Create : 1

[Q] : Exit current menu

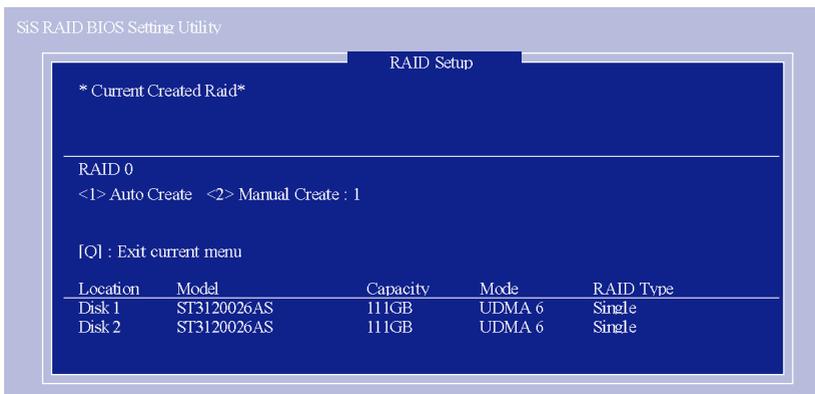| Location | Model | Capacity | Mode | RAID Type |
|----------|-------|----------|------|-----------|
| Disk 1 | ST3120026AS | 111GB | UDMA 6 | Single |
| Disk 2 | ST3120026AS | 111GB | UDMA 6 | Single |

Figure 8

Step 6:

When the next message appears, press Y if you wish to proceed to map and stripe all current data and future data to the RAID disks. Otherwise press N to perform striping on future data only. Then press ENTER (Figure 9).

SiS RAID BIOS Setting Utility

RAID Setup

* Current Created Raid *

RAID 0
Split the SOURCE (Disk 1) data to RAID disks? N

[Q] : Exit current menu

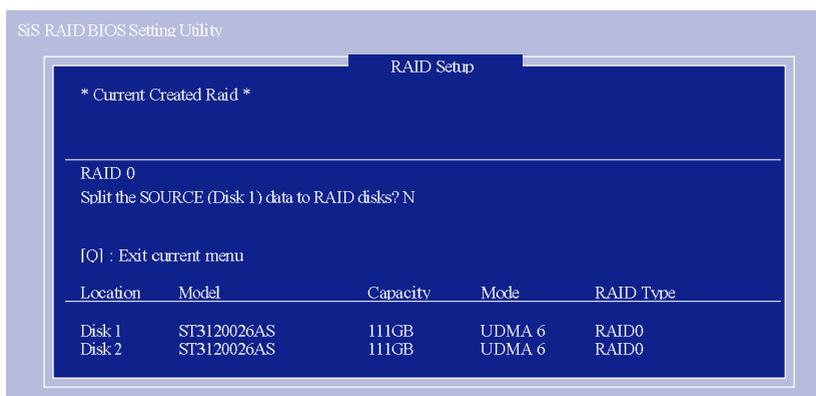| Location | Model | Capacity | Mode | RAID Type |
|----------|-------|----------|------|-----------|
| Disk 1 | ST3120026AS | 111GB | UDMA 6 | RAID0 |
| Disk 2 | ST3120026AS | 111GB | UDMA 6 | RAID0 |

Figure 9

Upon completion, you should see the RAID array in the Current Created Raid section in the RAID Setup screen (Figure 10).
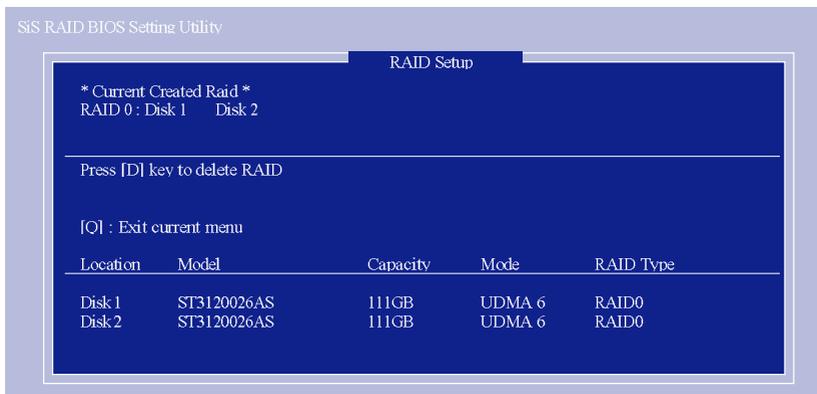


Figure 10

To exit the current menu, press Q. When the "Do You Want to Save changes?" message appears (Figure 11), press Y and then ENTER to confirm.
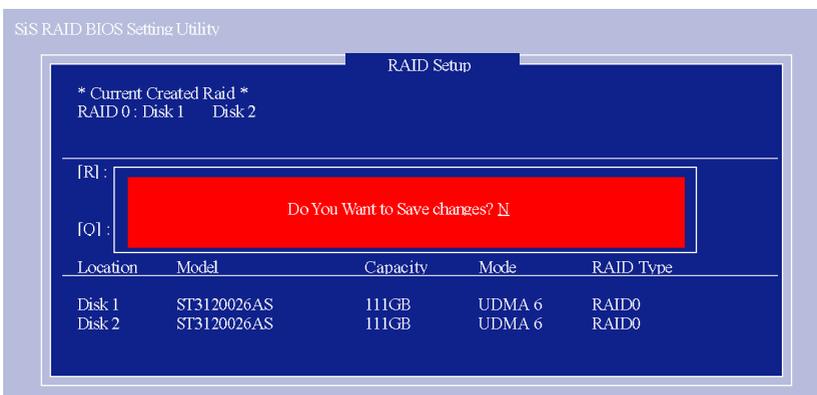


Figure 11

**Deleting RAID Volume**

If you want to delete a RAID array, simply press D while you are in the window below (Figure 12). Next, use the ARROW keys to select the RAID array you wish to delete and press ENTER. Finally, when the "Are you sure to delete this RAID?" message appears, press Y to confirm your selections.

SiS RAID BIOS Setting Utility

RAID Setup

\* Current Created Raid \*
RAID 0 : Disk 1      Disk 2

Press [D] key to delete RAID

[Q] : Exit current menu

| Location | Model | Capacity | Mode | RAID Type |
|----------|-------|----------|------|-----------|
| Disk 1 | ST3120026AS | 111GB | UDMA 6 | RAID0 |
| Disk 2 | ST3120026AS | 111GB | UDMA 6 | RAID0 |

Figure 12

Now, you can proceed to the installation of the SATA driver and operating system.

## (4)  Making a SATA Driver Disk

To install Windows 2000/XP onto a SATA hard drive on the SiS 964 controller successfully, you need to install required driver for the SATA controller during OS installation. Without the driver, the hard drive may not be recognized during the Windows setup process.

First of all, you need to copy the driver for the SATA controller from the motherboard driver CD to a floppy disk. The instructions below explain how to copy the driver.

Step 1: Find an available system and insert the motherboard driver CD into the CD-ROM drive. The installation utility will appear automatically. Quit the installation utility first.

Step 2: Go to **My Computer** and right-click the CD-ROM drive icon and select **Open** (Figure 13).



Figure 13

Step 3: Go to the **BootDrv** folder and look for an executable program named MENU.*exe* (Figure 14).



Figure 14

Step 4:

Double-click MENU.*exe*. An MS-DOS prompt screen similar to Figure 15 below will appear.



Figure 15

Step 5:

Insert an empty floppy disk and press D to select **D) SiS 964 SATA.** Then it will take about one minute to copy the SATA driver from the motherboard driver CD to the floppy disk.

Step 6:

Press 0 to exit when the procedure is complete (Figure 16).  You have copied the SATA driver successfully.



Figure 16

## (5) Installing SATA controller driver during OS installation

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 17). After pressing F6, there will be a few moments of some files being loaded before you see the next screen.
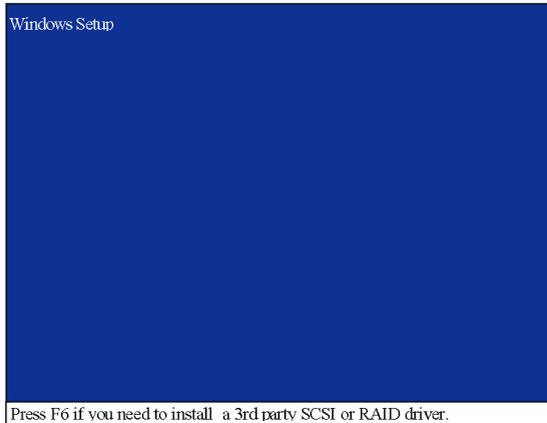
Windows Setup

Press F6 if you need to install a 3rd party SCSI or RAID driver.

Figure 17

Step 2:
When a screen similar to that below appears, insert the floppy disk containing the SATA driver and press S (Figure 18).

Windows Setup

Setup could not determine the type of one or more mass storage devices
installed in your system, or you have chosen to manually specify an adapter.
Currently, Setup will load support for the following mass storage devices(s)

    <none>

  * 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.

S=Specify Additional Device   ENTER=Continue   F3=Exit
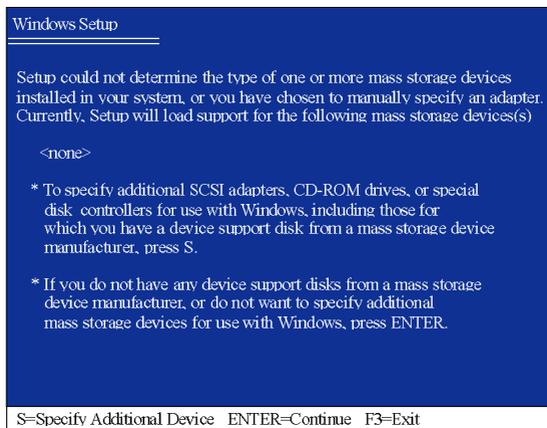
Figure 18

Step 3:

If Setup correctly recognizes the driver in the floppy disk, a controller menu similar to Figure 19 below will appear. If you want to install Windows XP, use the ARROW keys to select **WinXP SiS Raid/IDE Controller** and press ENTER**.** (Select **Win2000 SiS Raid/IDE Controller** if you want to install Windows 2000**.)** Then it will begin to load the SATA driver from the floppy disk.
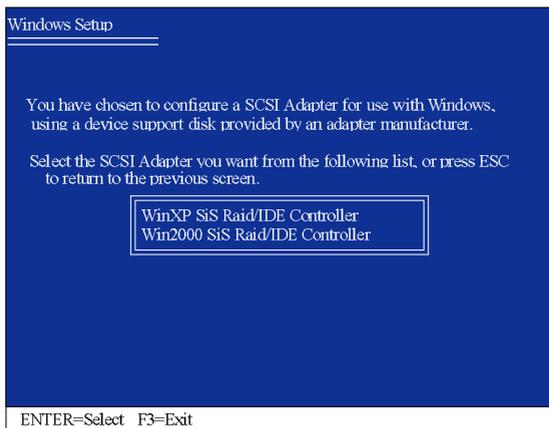
```
Windows Setup


   You have chosen to configure a SCSI Adapter for use with Windows,
   using a device support disk provided by an adapter manufacturer.

   Select the SCSI Adapter you want from the following list, or press ESC
     to return to the previous screen.

        WinXP SiS Raid/IDE Controller
        Win2000 SiS Raid/IDE Controller




 ENTER=Select   F3=Exit
```

Figure 19

⚠ **CAUTION** 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 screen as shown below appears, press ENTER to continue the SATA driver installation from the floppy disk. The driver installation will be finished in about one minute.

```
Windows Setup

   Setup will load support for the following mass storage device(s):

    WinXP SiS Raid/IDE Controller

   * 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.




 S=Specify Additional Device Enter=Continue   F3=Exit
```
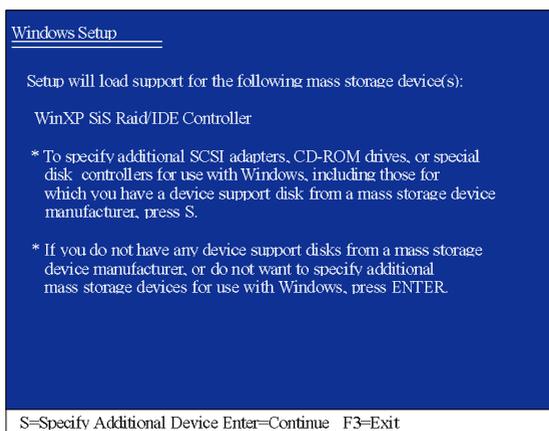
Figure 20

After the SATA controller driver installation is completed, you should see a screen as below.  It indicates that you have installed the SATA controller driver successfully. You can proceed with the Windows 2000/XP installation.



WindowsXP Professional  Setup

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.

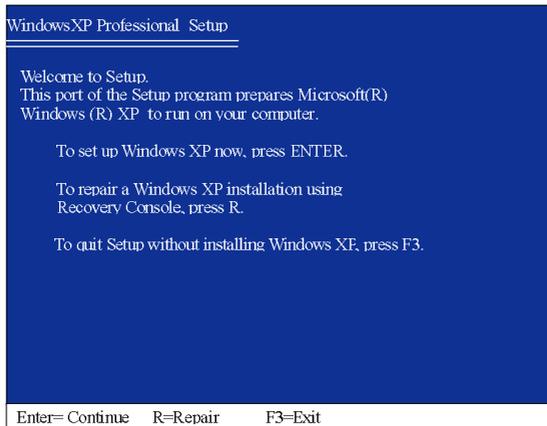Enter= Continue    R=Repair    F3=Exit

Figure 21

(Note: Each time you add a new hard drive to a RAID array, the RAID driver will have to be installed under Windows once for that hard drive. After that, the driver will not have to be installed.)