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Configuring SATA Hard Drive(s) (Controller: Silicon Image Sil3132)

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) SATA hard drives (to ensure optimal performance, it is recommended that you use hard drives with identical model and capacity).
- (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 system

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.

*** 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

Assure that the SATA controller is enabled in system BIOS Setup.

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 that **Onboard H/W SATA** (Figure 1) is enabled. If you wish to create a RAID array, set **H/W SATA Function** to **RAID**. For non-RAID hard disk, please set it to **BASE**.

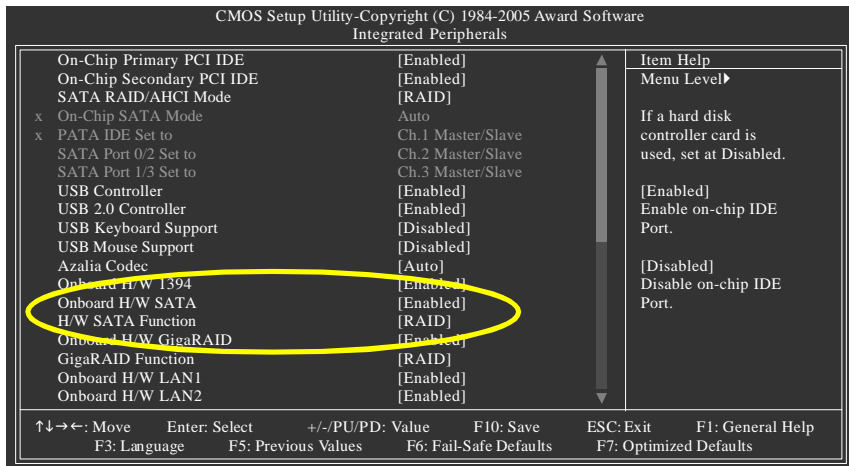


Figure 1



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:

If you do not create RAID, select **Hard Disk Boot Priority** under the **Advanced BIOS Features** menu. In the **Hard Disk Boot Priority** submenu, select the model of the SATA hard drive onto which you wish to install Microsoft Windows 2000/XP. You should see a screen similar to Figure 2 below.

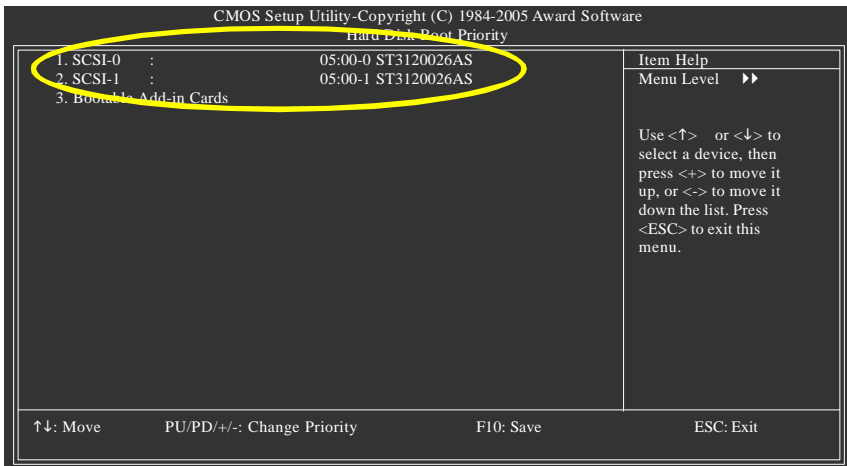


Figure 2

If you wish to create RAID, configure the RAID array in RAID BIOS (refer to page 6) first. After finished, re-enter the system BIOS Setup to set hard disk boot priority before OS installation. Select **Hard Disk Boot Priority** under the **Advanced BIOS Features** menu. In the **Hard Disk Boot Priority** submenu, select the RAID array onto which you wish to install Microsoft Windows 2000/XP. You should see a screen similar to Figure 3 below.

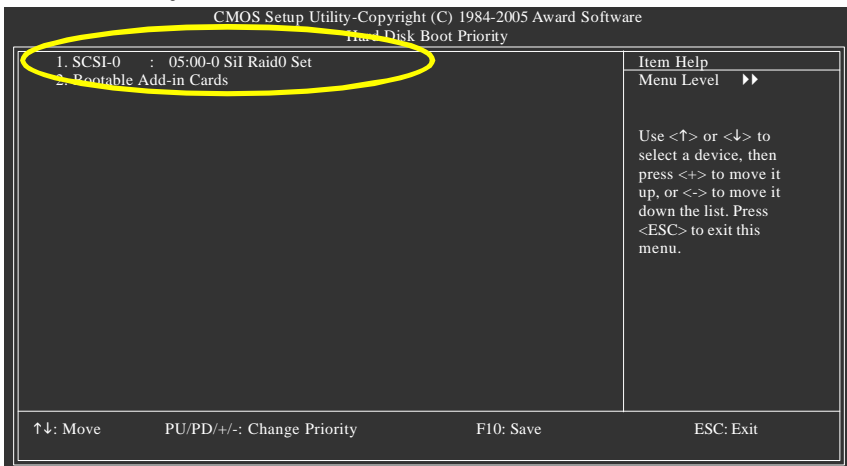


Figure 3

Step 3:
To boot from Windows installation CD-ROM, set **First Boot Device** under the **Advanced BIOS Features** menu to **CDROM** (Figure 4).

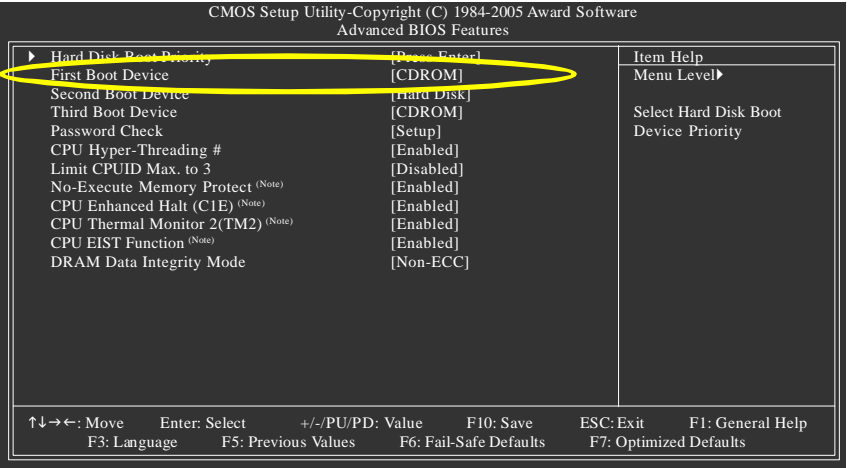


Figure 4

Step 4:
Save and exit BIOS Setup.

(3) Configuring SATA hard drives 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.

After the POST memory test begins and before the operating system boot begins, look for a message which says "Press <Ctrl+S> or <F4> to enter RAID utility"(Figure 5). Hit the CTRL+ S or F4 key to enter the RAID BIOS setup utility. If you cannot enter the RAID BIOS , assure that your SATA drives are properly installed.

```
Sil 3132 SATARaid BIOS Version 7.2.18
Copyright (C) 1997-2005 Silicon Image, Inc.

Press <Ctrl+S> or F4 to enter RAID utility_
```

Figure 5

While you are in the RAID BIOS, you should see a screen similar to that below (Figure 6). Use the UP or DOWN ARROW key to highlight through choices. Highlight the item that you want to execute and press ENTER.

| RAID Configuration Utility - Silicon Image Inc. Copyright (C) 2005 | | | |
|--|-------------|-------------------------------------|-------|
| MAIN MENU | | HELP | |
| Create RAID set Delete RAID set Rubuild Raid1 set Low Level Format Logical Drive Info | | Press "Enter" to create RAID set | |
| PHYSICAL DRIVE | | LOGICAL DRIVE | |
| 0 | ST3120026AS | | 111GB |
| 1 | ST3120026AS | | 111GB |
| | | Reserved drives | |
| ↑↓: Select Menu ESC: Previous Menu Enter: Select Ctrl-E: Exit | | | |

Figure 6

Configuring RAID set

Step 1:

Select **Create RAID set** and press ENTER, and the RAID type selection menu will appear (Figure 7). Use the UP or DOWN ARROW key to select a RAID type that you wish to create and press ENTER. The options include RAID 0, RAID 1, SPARE DRIVE, and CONCATENATION. The following is an example of RAID 0 configuration.

| RAID Configuration Utility - Silicon Image Inc. Copyright (C) 2005 | | | |
|--|--|---|--|
| MAIN MENU Create RAID set Delete RAID set Rebuild Raid1 set Low Level Format Logical Drive Info | | HELP RAID0=Striped | |
| PHYSICAL DRIVE 0 ST3120026AS 111GB 1 ST3120026AS 111GB | | LOGICAL DRIVE Reserved drives | |
| ↑↓: Select Menu ESC: Previous Menu Enter: Select Ctrl-E: Exit | | | |

Figure 7

Step 2:

After the selection of RAID 0, select **Auto configuration** or **Manual configuration** (Figure 8). If **Auto configuration** is selected, BIOS will automatically assign RAID member drives and set the chunk size of Striped Sets to 64KB. If **Manual configuration** is selected, you can manually change the chunk size (from 4K to 128K) and then assign the drives to be used in the RAID array.

| RAID Configuration Utility - Silicon Image Inc. Copyright (C) 2005 | | | |
|--|--|---|--|
| MAIN MENU Auto configuration Manual configuration | | HELP Press "Enter" to automatically create raid set Striped size is 64KB First drive is drive 0 | |
| PHYSICAL DRIVE 0 ST3120026AS 111GB 1 ST3120026AS 111GB | | LOGICAL DRIVE Reserved drives | |
| ↑↓: Select Menu ESC: Previous Menu Enter: Select Ctrl-E: Exit | | | |

Figure 8

Step 3:

After assigning the hard drives, select the size for the RAID set. BIOS will set a default size for it and you can use the UP or DOWN ARROW key to change the size (Figure 9).

| RAID Configuration Utility - Silicon Image Inc. Copyright (C) 2005 | | | | | | | | | |
|---|-------------|---|-------------|-------|---|-------------|-------|---|--|
| MAIN MENU Auto configuration Manual configuration Please input the raid size: 181 GB | | HELP Press "Enter" to select the RaidSize ↑: increment 1GB raid size ↓: decrement 1GB raid size | | | | | | | |
| PHYSICAL DRIVE <table border="1"><tr><td>0</td><td>ST3120026AS</td><td>111GB</td></tr><tr><td>1</td><td>ST3120026AS</td><td>111GB</td></tr></table> | | 0 | ST3120026AS | 111GB | 1 | ST3120026AS | 111GB | LOGICAL DRIVE Reserved drives | |
| 0 | ST3120026AS | 111GB | | | | | | | |
| 1 | ST3120026AS | 111GB | | | | | | | |
| ↑↓: Select Menu ESC: Previous Menu Enter: Select Ctrl-E: Exit | | | | | | | | | |

Figure 9

Step 4:

After finishing all the settings of a RAID set and press ENTER, you should see the prompt "Are You Sure?" Press Y to confirm or N to cancel. After the configuration is completed, the RAID Set will appear in the **LOGICAL DRIVE** list (Figure 10).

| RAID Configuration Utility - Silicon Image Inc. Copyright (C) 2005 | | | | | | | | | |
|---|-------------|---|-------------|----------|---|-------------|----------|--|--|
| MAIN MENU Create RAID set Delete RAID set Rebuild Raid1 set Low Level Format Logical Drive Info | | HELP Press "Enter" to create RAID set | | | | | | | |
| PHYSICAL DRIVE <table border="1"><tr><td>0</td><td>ST3120026AS</td><td>114473MB</td></tr><tr><td>1</td><td>ST3120026AS</td><td>114473MB</td></tr></table> | | 0 | ST3120026AS | 114473MB | 1 | ST3120026AS | 114473MB | LOGICAL DRIVE Sil Raid0 Set 181GB | |
| 0 | ST3120026AS | 114473MB | | | | | | | |
| 1 | ST3120026AS | 114473MB | | | | | | | |
| ↑↓: Select Menu ESC: Previous Menu Enter: Select Ctrl-E: Exit | | | | | | | | | |

Figure 10

Deleting RAID groups, spare drives, or CONCATENATION

If you want to remove one or more RAID sets, spare drives, and CONCATENATIONS, select the **Delete RAID set** item (Figure 11) in Main Menu. Press ENTER and follow the on-screen instructions to delete the RAID set.

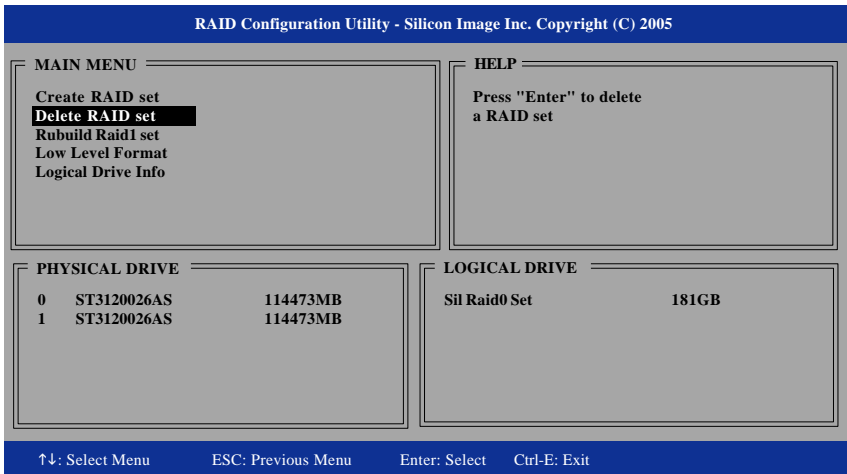


Figure 11

After completing the configuration, press CTRL+E to exit the RAID Configuration Utility. Now, you can proceed to the installation of the SATA driver and operating system.

(4) Making a SATA controller driver disk

To install Windows 2000/XP onto a SATA hard drive on the Si3132 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 12).



Figure 12

Step 3: Go to the **BootDrv** folder and look for an executable program named MENU.exe (Figure 13).

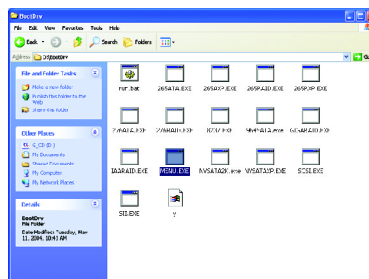


Figure 13

Double-click MENU.exe. An MS-DOS prompt screen similar to Figure 14 below will appear.



Insert an empty floppy disk. Select the 3132 RAID/non-RAID driver by pressing the corresponding letter from the menu. For example, from the menu in Figure 15, if you do not want to create RAID array, press **9** to select **9)Si3132 BASE Driver**. For RAID hard disks, please press **A** to select **A)Si3132 RAID Driver**. Then it will take about one minute to copy the SATA driver from the motherboard driver CD to the floppy disk.



Press 0 to exit when the procedure is complete (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 loading files before you see the next screen.

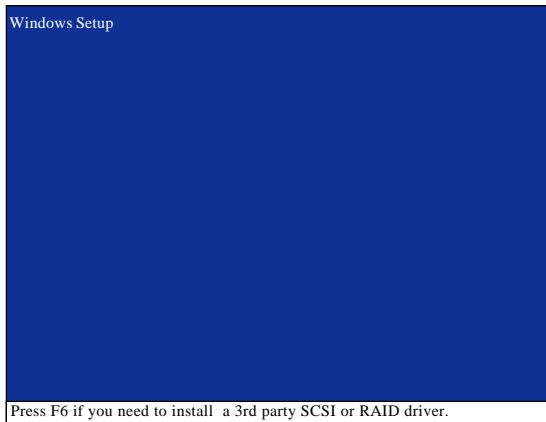


Figure 17

Step 2:

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

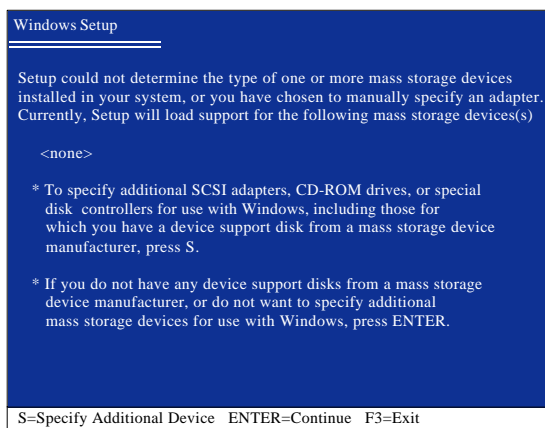


Figure 18

Step 3:

If Setup correctly recognizes the driver in the floppy disk, a controller menu similar to Figure 19 below will appear. Use the ARROW keys to select **Silicon Image Sil 3132 SoftRAID 5 Controller for Windows XP/Server 2003^(Note)** (or the other if you wish to install Windows 2000) and press ENTER. Then it will begin to load the SATA driver from the floppy disk.

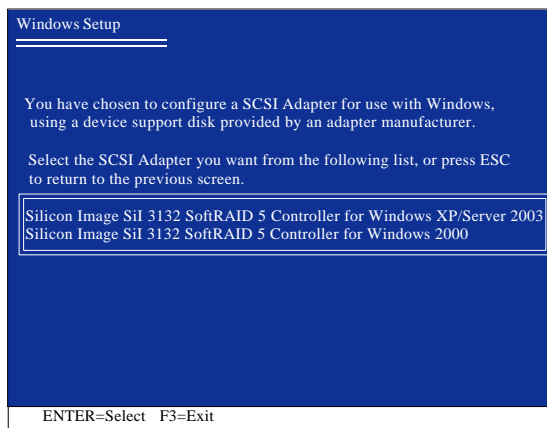


Figure 19

Step 4:

When the screen as shown below appears, press ENTER to continue the SATA driver installation from the floppy disk.

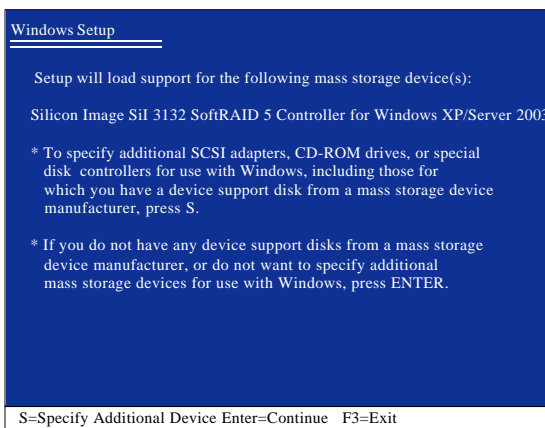


Figure 20



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.

(Note): For non-RAID driver, the items are **Silicon Image Sil 3132 SATALink Controller for Windows XP/Server 2003** and **Silicon Image Sil 3132 SATALink Controller for Windows 2000**.

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

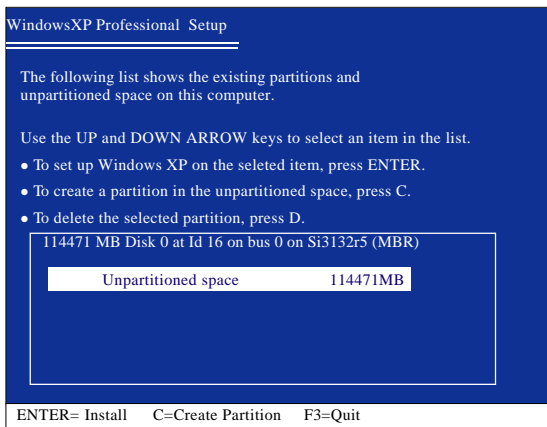


Figure 21

(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.)