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Configuring SATA Hard Drive(s) (Controller: Silicon Image Sil3114)

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 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 check the name of the SATA connector to identify the SATA controller for the connector. For example, SATA0_SII/SATA1_SII is controlled by the Sil3114 controller). 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 **Onboard H/W SATA** is enabled. If you want to create RAID, set the **H/W SATA Function** item to **RAID** (**RAID** by default) (Figure 1). Change the **H/W SATA Function** item to **BASE** if you do not want to create RAID.

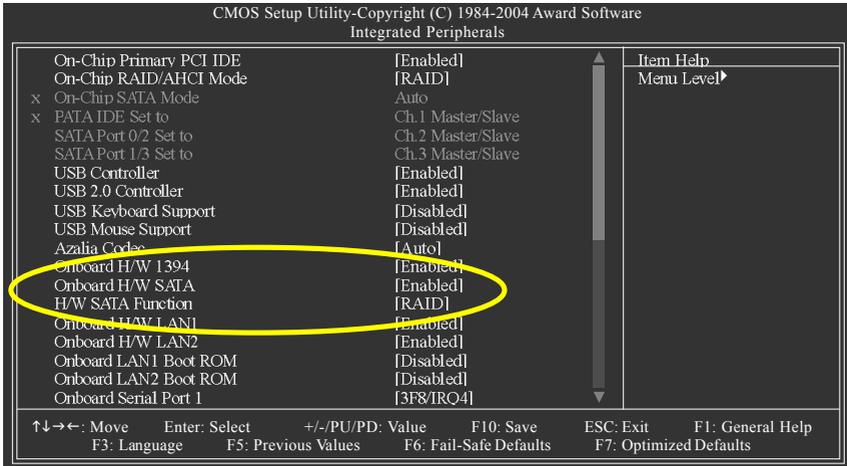


Figure 1



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:

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 want to install Microsoft Windows 2000/XP (Figure 2).

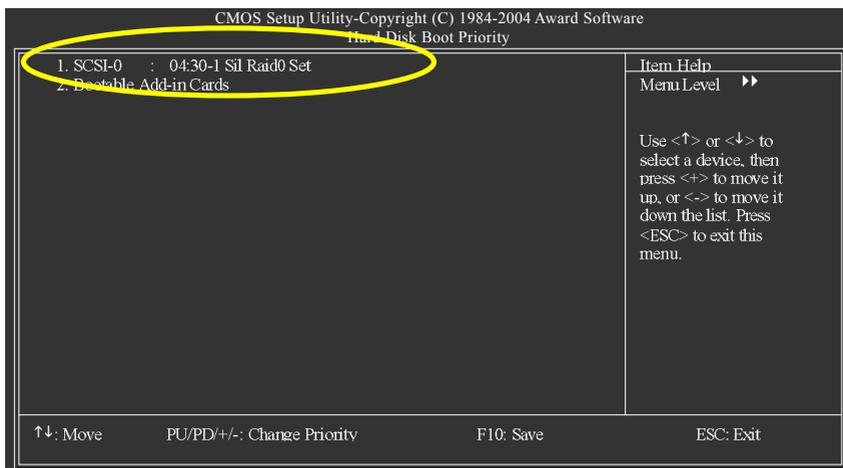


Figure 2

Step 3:

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

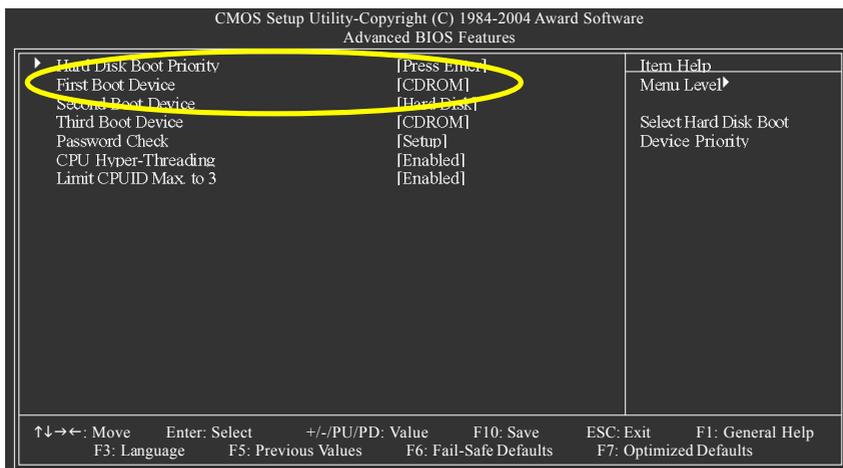


Figure 3

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> or <F4> to enter RAID utility"(Figure 4). Hit the CTRL+ S or F4 key(s) to enter the RAID BIOS setup utility. If you cannot enter the RAID BIOS correctly, assure that your SATA drives are properly installed.

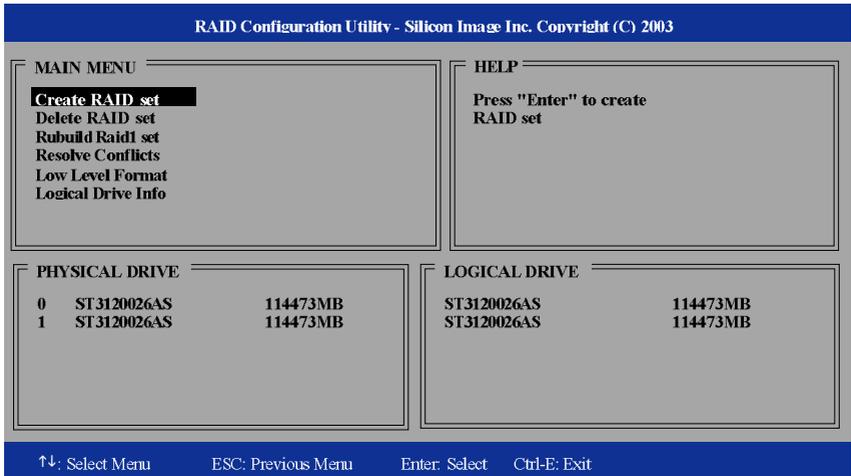


SiI 3114 SATA RAID BIOS Version 5.0.31
Copyright (C) 1997-2003 Silicon Image, Inc.
Press <Ctrl+S> or F4 to enter RAID utility

Figure 4

Step 2 :

After you enter the **RAID Configuration Utility**, a screen similar to that below will appear (Figure 5). You can use the UP or DOWN ARROW key to highlight through choices. Highlight an item that you want to execute and press ENTER.



RAID Configuration Utility - Silicon Image Inc. Copyright (C) 2003

MAIN MENU Create RAID set Delete RAID set Rebuild Raid1 set Resolve Conflicts Low Level Format Logical Drive Info	HELP Press "Enter" to create RAID set
PHYSICAL DRIVE 0 ST3120026AS 114473MB 1 ST3120026AS 114473MB	LOGICAL DRIVE ST3120026AS 114473MB ST3120026AS 114473MB

↑↓: Select Menu ESC: Previous Menu Enter: Select Ctrl-E: Exit

Figure 5

Step 3:

Create RAID set:

Select **Create RAID set** and press ENTER, and the RAID type selection menu will appear (Figure 6). Use the UP or DOWN ARROW key to select a RAID type that you want to create and press ENTER. The options include RAID 0, RAID 1, RAID10, and SPARE DRIVE.

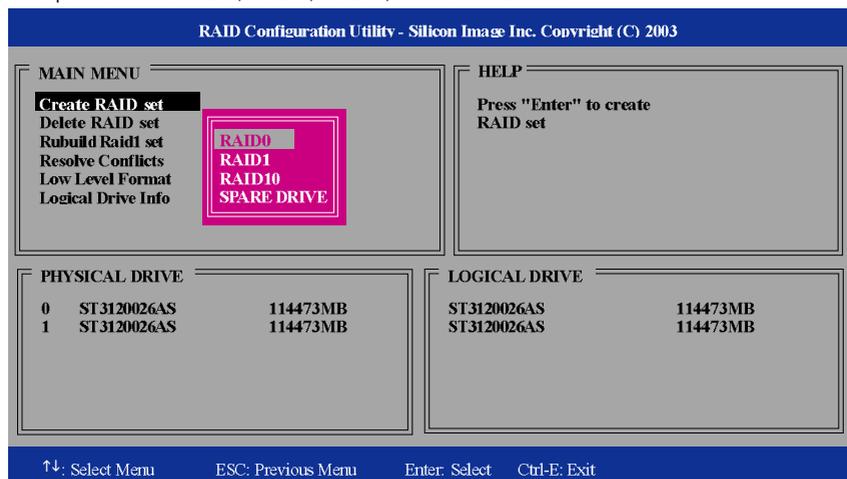


Figure 6

Step 4:

After the selection of a RAID type, select **Auto configuration** or **Manual configuration** (Figure 7). 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.

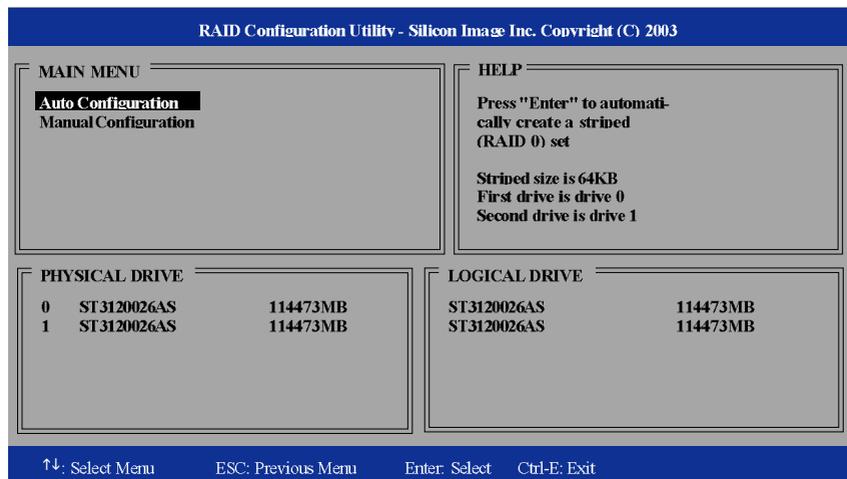


Figure 7

Step 5:

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 lower screen will display the RAID set information, including RAID type and array size (Figure 8).

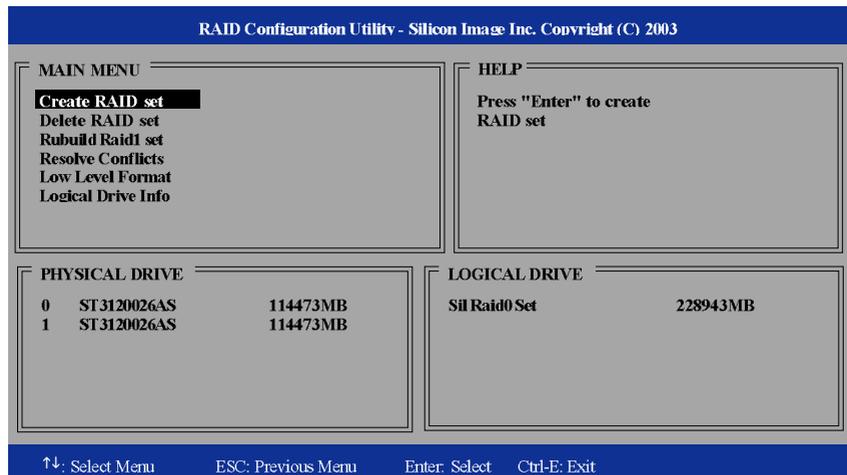


Figure 8

If you want to remove one or more RAID sets, select the **Delete RAID set** item (Figure 9) in Main Menu. Press ENTER and follow the on-screen instructions to delete the RAID set.

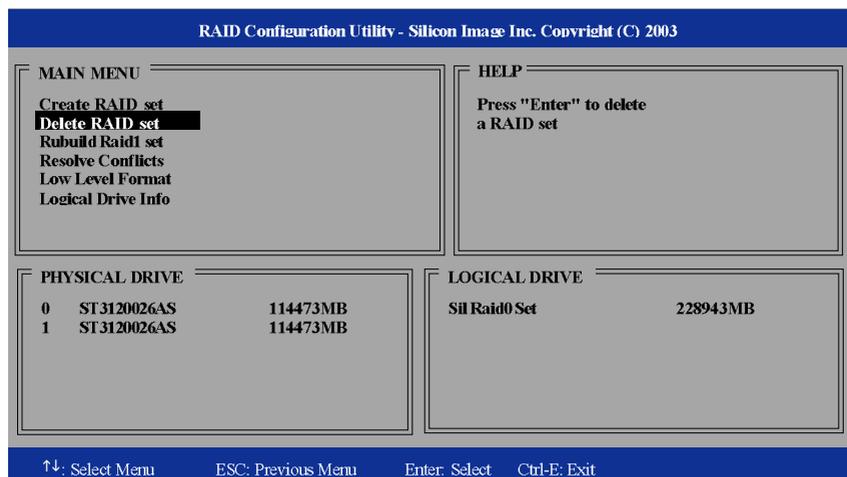


Figure 9

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.

Step 4:

Double-click MENU.exe. An MS-DOS prompt screen similar to Figure 12 below will appear.



Figure 12

Step 5:

Insert an empty floppy disk. If you want to create RAID array(s), press E to select the **E)Si3114 Raid** item. If you do not want to create RAID array, press D to select the **D)Si3114 Base** item. 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 13). You have copied the SATA driver successfully.



Figure 13

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



Figure 14

Step 2:

When a screen similar to that below appears (Figure 15), insert the floppy disk containing the SATA driver and press S.

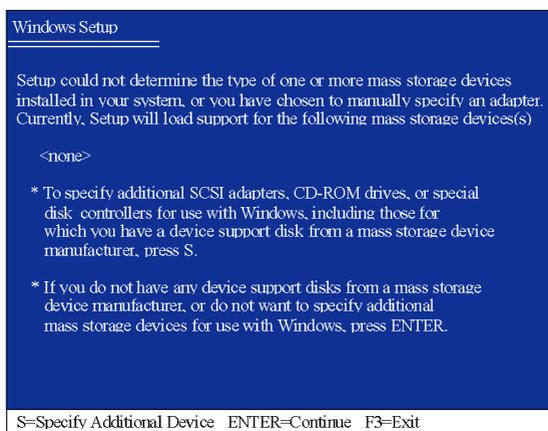


Figure 15

Step 3:

If Setup correctly recognizes the driver in the floppy disk, a controller menu similar to Figure 16 below will appear. If you want to create RAID array(s), use the ARROW keys to select **Silicon Image Sil 3114 SATA RAID Controller for Windows XP/Server 2003*** (Figure 16) and press ENTER. Then it will begin to load the SATA driver from the floppy disk.

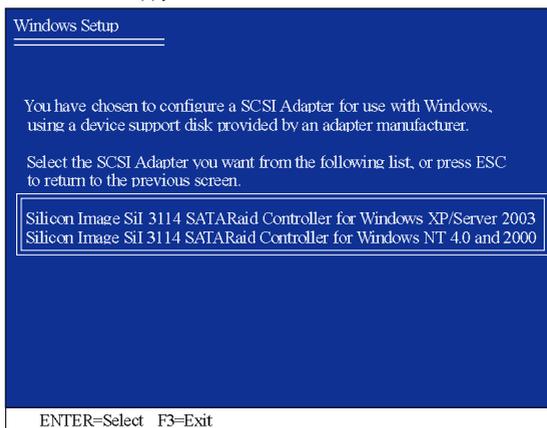


Figure 16

If you do not want to create RAID, use the ARROW keys to select **Silicon Image Sil 3114 SATA Link Controller for Windows XP/Server 2003*** (Figure 17) and press ENTER. Then it will begin to load the SATA driver from the floppy disk.

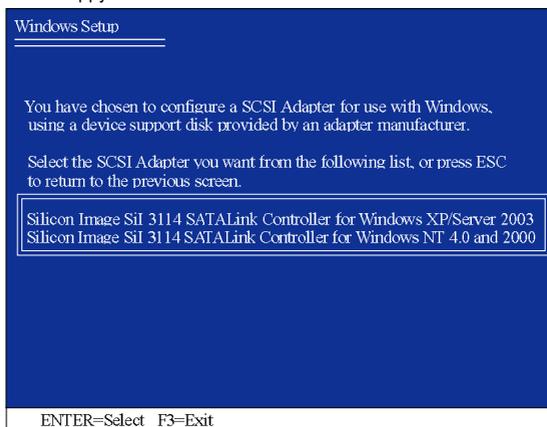


Figure 17



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.

*** If you want to create a RAID array, select the item depends on the operating system that you want to install. (Windows 2003, Windows XP, Windows 2000, or Windows NT4)

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.

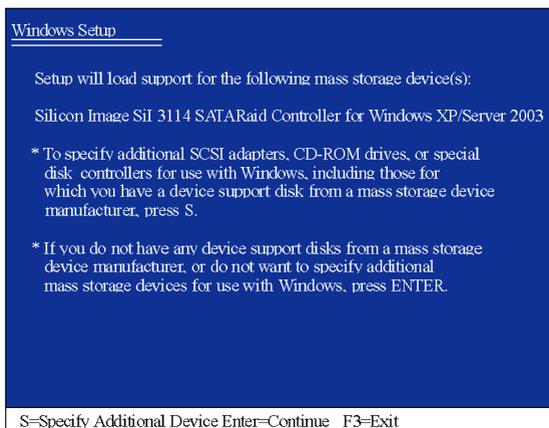


Figure 18

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.

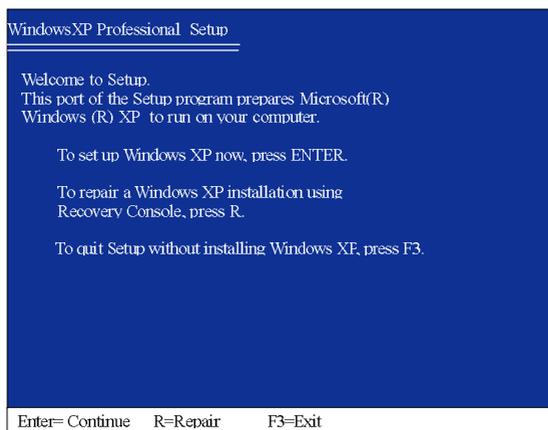


Figure 19

(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.)