

Entering the Silicon Image BIOS RAID Configuration Utility

To enter the Silicon Image BIOS RAID configuration utility:

1. Boot up your computer.
2. During POST, press <Ctrl+S> or <F4>.



The RAID BIOS setup screens shown in this section are for reference only, and may not exactly match the items on your screen.



The Main Menu on the upper left corner allows you to select an operation to be performed. The Main Menu options include the following:

Create RAID set - creates a new legacy RAID set or allocates spare drives.

Delete RAID set - deletes a RAID set or deallocates a spare drive.

Rebuild RAID1 set - rebuilds a RAID 1 set (e.g. swapped drives).

Resolve Conflicts - automatically restores disrupted drives on a RAID set.

Low Level Format - creates a pattern of reference marks on a drive.

Formatting the disks erases all data previously stored in the drive.

Logical Drive Info - shows the current configuration of each RAID set.

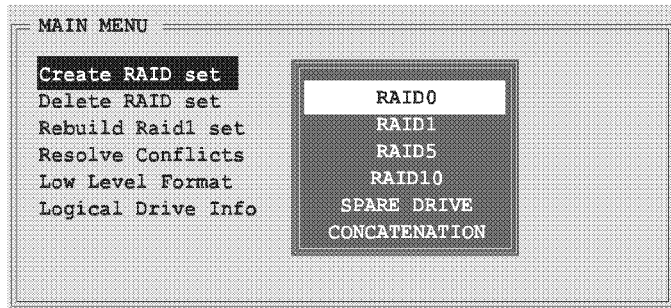
On the upper right corner of the screen is the Help message box. The message describes the function of each menu item. At the bottom of the screen is the legend box. The keys on the legend box allow you to navigate through the setup menu options. The following lists the keys found in the legend box and their corresponding functions.

- ↑, ↓ : Select/Move to the next item
- ESC : Previous Menu
- Enter : Select
- Ctrl-E : Exit

Creating a RAID 0 set (Striped)

To create a RAID set:

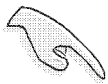
1. From the Silicon Image configuration utility main menu, select **Create RAID set** then press <Enter> to display an option menu.



2. Select **RAID 0** then press <Enter> to display the following.



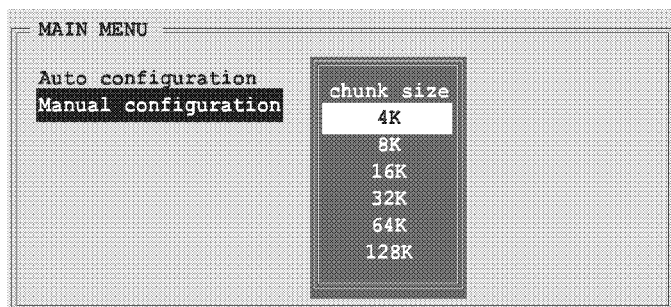
3. Select your desired method of configuration.
Auto configuration
 - a. Select Auto Configuration then press <Enter>.
 - b. The utility prompts a message to input the RAID size, use the up or down arrow keys to set the RAID size then press <Enter>.
 - c. Press <Y> to confirm or <N> to return to the Main Menu.

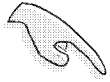


By default, Auto configuration sets the stripe size to 64K and sets the logical drives based on the physical drives installed.

Manual configuration

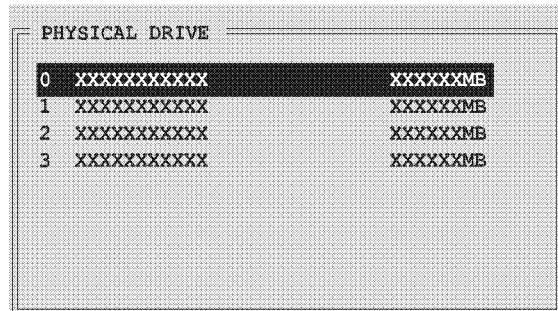
- a. Select **Manual configuration** and press <Enter>. The following pop-up menu appears.
- b. Use the up or down arrow keys to select a chunk size appropriate to your drive usage then press <Enter>.





TIP: We recommend a lower stripe size for server systems, and a higher stripe size for multimedia computer systems used mainly for audio and video editing.

- c. The selection bar moves to the Physical Drive menu. Using the up or down arrow keys, select a drive then press <Enter> to set the first drive of the RAID set.

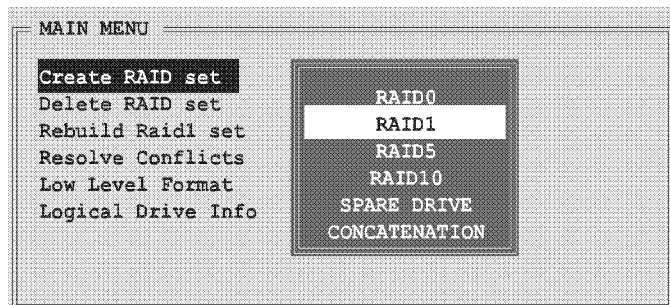


- d. Repeat step c to set the second, third, and fourth drive. The number of available drives depend on the installed and enabled physical drives in the system.
- e. The utility prompts a message to input the RAID size, use the up or down arrow keys to set the RAID size then press <Enter>.
- f. Press <Y> to confirm or <N> to return to the Main Menu.

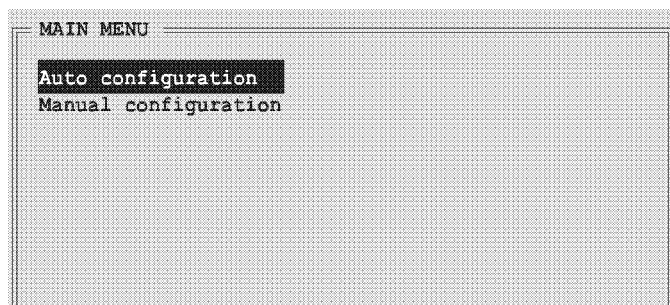
Creating a RAID 1 set (Mirrored)

To create a RAID 1 set:

1. From the Silicon Image configuration utility main menu, select **Create RAID set** then press <Enter>. The following sub-menu appears.



2. Select **RAID 1** then press <Enter> to display the following.



3. Select your desired method of configuration.

Auto configuration

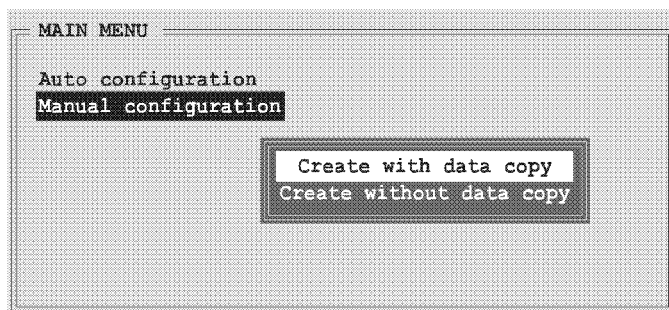
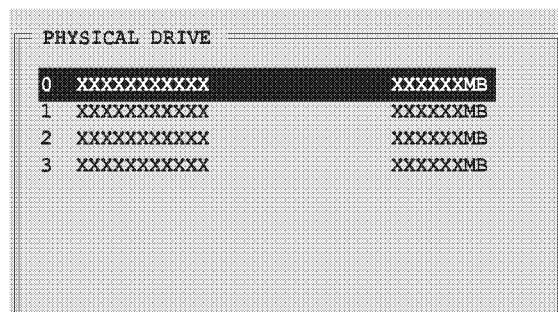
- a. Select Auto Configuration then press <Enter>.
- b. The utility prompts a message to input the RAID size, use the up or down arrow keys to set the RAID size then press <Enter>.
- c. Press <Y> to confirm or <N> to return to the Main Menu.



- Auto-configuration creates a RAID 1 set without a backup copy of the current source disk data.
- When migrating a single hard disk drive to a RAID 1 set, use of the Manual configuration is recommended.

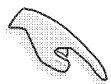
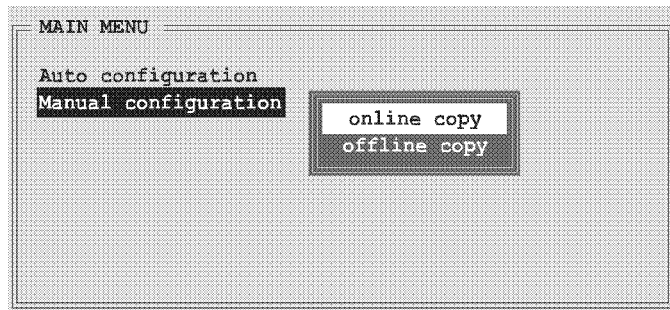
Manual configuration

- a. Select **Manual configuration** and press <Enter>. The selection bar moves to the Physical Drives menu.
- b. Using the up or down arrow keys, select the *source drive* and press <Enter>.
- c. Repeat step b to select the *target drive*.
- d. After selecting the source and target drives, the following pop-up menu appears.



- The **Create with data copy** option allows you to copy the current data from the source drive to the mirror drive.
- Select **Create with data copy** if you have important data in your source drive.
- The **Create without data copy** option disables the disk copy function of the Mirrored set.
- If you selected **Create without data copy**, the RAID 1 set must be repartitioned and reformatted to guarantee the consistency of its contents.

- e. If you selected **Create with data copy**, the following pop-up menu appears.



The **online copy** option automatically copies the data to the target drives on the background while writing to the source drives. The **offline copy** option allows you to copy the contents of the source drive to the target drives now.

- f. Use the up or down arrow keys to select desired copy method, then press <Enter>.
- g. The utility prompts a message to input the RAID size, use the up or down arrow keys to set the RAID size then press <Enter>.
- h. Press <Y> to confirm or <N> to return to the Main Menu.

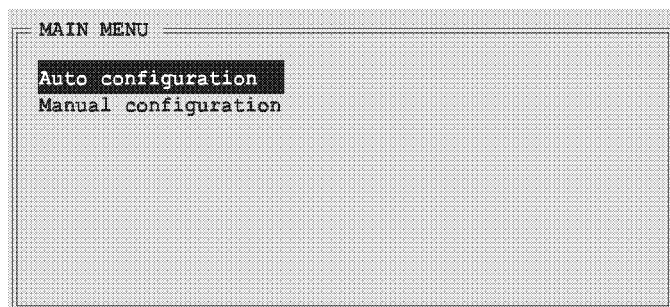
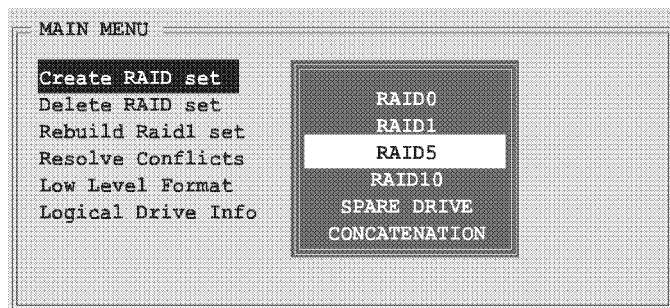


A copy progress appears if you previously selected offline copy.

Creating a RAID 5 set (Parity)

To create a RAID 5 set:

1. From the Silicon Image configuration utility main menu, select **Create RAID set** then press <Enter>. The following sub-menu appears.
2. Select **RAID 5** then press <Enter> to display the following.



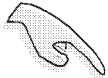
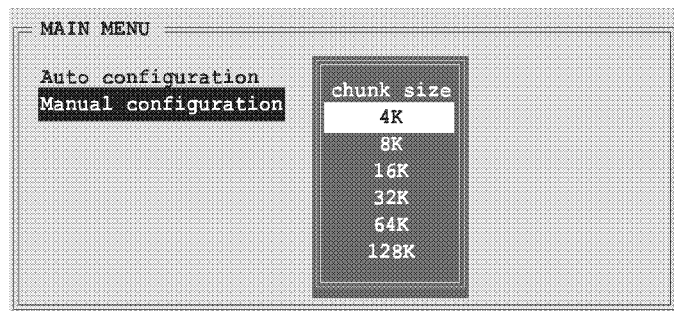
3. Select your desired method of configuration.

Auto configuration

- a. Select Auto Configuration then press <Enter>.
- b. The utility prompts a message to input the RAID size, use the up or down arrow keys to set the RAID size then press <Enter>.
- c. Press <Y> to confirm or <N> to return to the Main Menu.

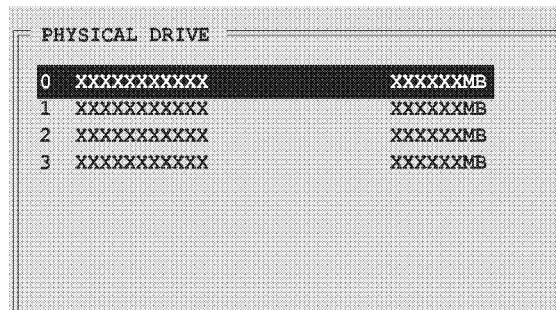
Manual configuration

- a. Select **Manual configuration** and press <Enter>. The following pop-up menu appears.
- b. Use the up or down arrow keys to select a chunk size appropriate to your drive usage then press <Enter>.



TIP: We recommend a lower stripe size for server systems, and a higher stripe size for multimedia computer systems used mainly for audio and video editing.

- c. The selection bar moves to the Physical Drive menu. Using the up or down arrow keys, select a drive then press <Enter> to set the first drive of the RAID set.

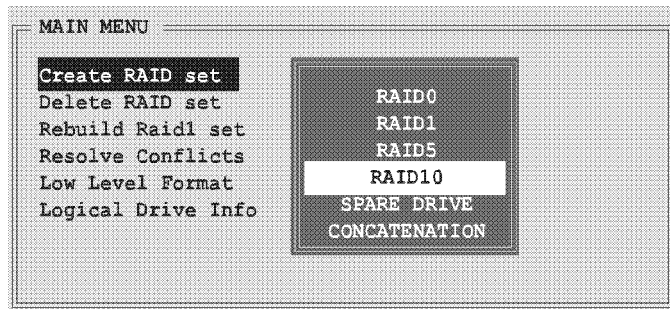


- d. Repeat step c to set the second, third and fourth drive. The number of available drives depend on the installed and enabled physical drives in the system.
- e. The utility prompts a message to input the RAID size, use the up or down arrow keys to set the RAID size then press <Enter>.
- f. Press <Y> to confirm or <N> to return to the Main Menu.

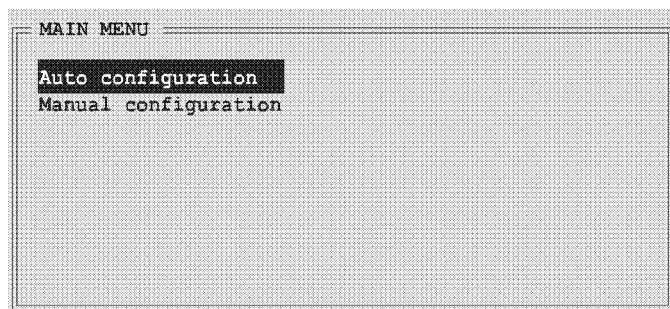
Creating a RAID 10 set (Mirrored+Striped)

To create a RAID 10 set:

1. From the Silicon Image configuration utility main menu, select **Create RAID set** then press <Enter>. The following sub-menu appears.



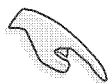
2. Select **RAID 10** then press <Enter> to display the following.



3. Select your desired method of configuration.

Auto configuration

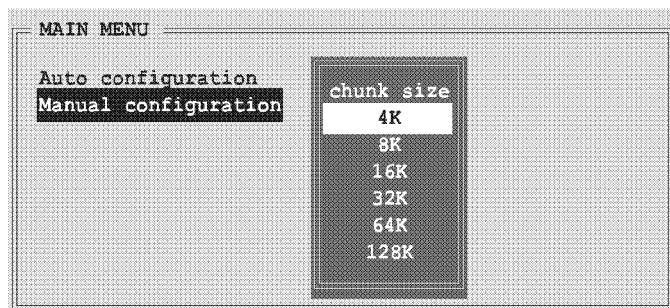
- a. Select Auto Configuration then press <Enter>.
- b. The utility prompts a message to input the RAID size, use the up or down arrow keys to set the RAID size then press <Enter>.
- c. Press <Y> to confirm or <N> to return to the Main Menu.



Auto-configuration creates a RAID 10 set without a backup copy of the current source disk data.

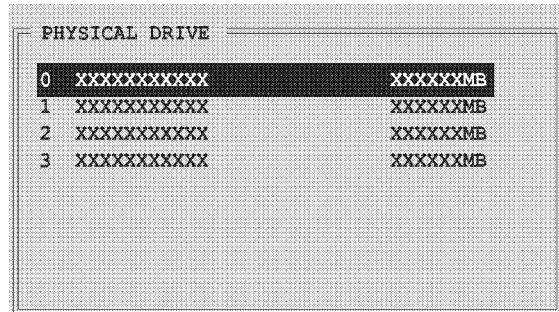
Manual configuration

- a. Select **Manual configuration** and press <Enter>. The following pop-up menu appears.
- b. Use the up or down arrow keys to select a chunk size appropriate to your drive usage then press <Enter>.



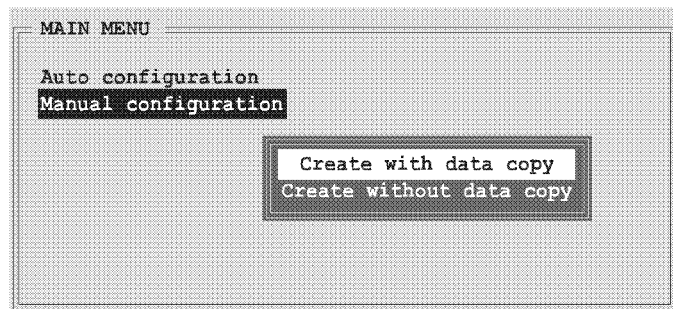
TIP: We recommend a lower stripe size for server systems, and a higher stripe size for multimedia computer systems used mainly for audio and video editing.

- c. The selection bar moves to the Physical Drive menu. Using the up or down arrow keys, select a drive then press <Enter> to set the first drive of the RAID set.



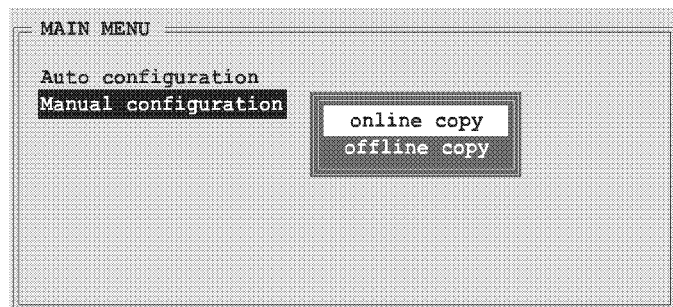
PHYSICAL DRIVE		
0	XXXXXXXXXXXX	XXXXXXMB
1	XXXXXXXXXXXX	XXXXXXMB
2	XXXXXXXXXXXX	XXXXXXMB
3	XXXXXXXXXXXX	XXXXXXMB

- d. Repeat step c to set the second, third, and fourth drive. The number of available drives depend on the installed and enabled physical drives in the system.
- e. After setting the RAID drives, the following pop-up menu appears.



- The **Create with data copy** option allows you to copy the current data from the source drive to the mirror drive. The **Create without data copy** option disables the disk copy function of the Mirrored set.
- If you selected **Create without data copy**, the RAID 1 set must be repartitioned and reformatted to guarantee the consistency of its contents.
- Select **Create with data copy** if you have important data in your source drive.

- f. If you selected **Create with data copy**, the following pop-up menu appears.



The **online copy** option automatically copies the data to the target drives on the background while writing to the source drives. The **offline copy** option allows you to copy the contents of the source drive to the target drives now.

- g. Use the up or down arrow keys to select desired copy method, then press <Enter>.
- h. The utility prompts a message to input the RAID size, use the up or down arrow keys to set the RAID size then press <Enter>.
- i. Press <Y> to confirm or <N> to return to the Main Menu. A copy progress appears if you previously selected offline copy.

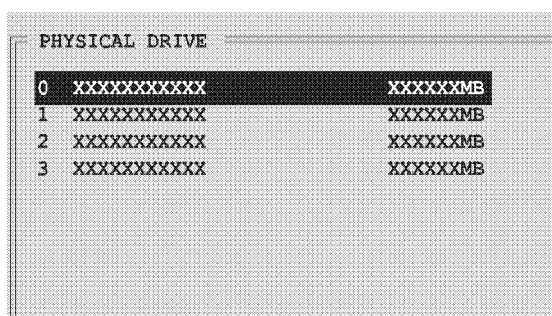
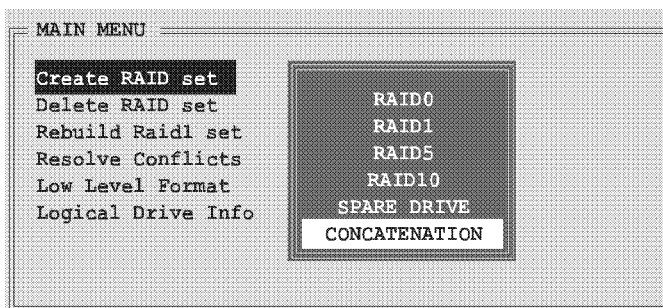


- You can also create a RAID set using the SATARAID5 GUI utility under a Windows® environment.
- For details on the Silicon Image SATAraid™ RAID 5 configuration, refer to the “Sil3132 User’s Manual” found in your motherboard support CD.

Creating a CONCATENATION set

To create a CONCATENATION set:

1. From the Silicon Image configuration utility main menu, select **Create RAID set** then press <Enter>.
2. From the sub-menu Select **CONCATENATION** then press <Enter>.
3. The selection bar moves to the Physical Drive menu. Using the up or down arrow keys, select a drive then press <Enter> to set a drive for the RAID set.
4. The utility prompts a message to input the RAID size, use the up or down arrow keys to set the RAID size then press <Enter>.
5. Press <Y> to confirm or <N> to return to the Main Menu.



Configure a CONCATENATION set when using a single Serial ATA drive; otherwise, the system will not recognize the drive.