JMB36X

PCI Express to SATA II/PATA Host Controller

RAID BIOS User Guide

Rev. 1.2

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Revision History

Version	Date	Revision Description
1.0	2005/12/16	Initial Release
1.1	2006/01/06	Update Figure18
1.2	2006/04/14	Add new function description

1. Overview

JMicron JMB360/1/3/5/6 is product family that includes SATA II and PATA Host Controller. They are one-lane PCI Express to 1/2-port SATA II and 1/2-port PATA Host Controller. The table below shows the brief feature lists of JMb36X product family.

	JMB360	JMB361	JMB363	JMB365	JMB366
Host I/F	**PCIe**	**PCIe**	**PCIe**	**PCIe**	**PCIe**
Device I/F	**One SATA II**	**One SATA II One PATA**	**Two SATA II One PATA**	**One SATA II Two PATA**	**Two SATA II Two PATA**
PKG	**LQFP - 48**	**LQFP - 100**	**LQFP - 100**	**LQFP -128**	**LQFP - 128**
Feature	**3.0G, NCQ, eSATA, Hot Plug, Port Multiplier**	**3.0G, NCQ, eSATA, Hot Plug, Port Multiplier, Cross RAID**	**3.0G, NCQ, eSATA, Hot Plug, Port Multiplier, Cross RAID**	**3.0G, NCQ, eSATA, Hot Plug, Port Multiplier, Cross RAID**	**3.0G, NCQ, eSATA, Hot Plug, Port Multiplier, Cross RAID**
H/W	**Non Co-lay**	**Co-lay**			

JMB361/3/5/6 all support Cross RAID Function between SATA II and PATA channels. In order to setup a workable RAID system, you must complete the following install steps.

(1) Install SATA/IDE HDD in your PC system
(2) Setup JMB36X Operating Mode and Boot Priority in Main BIOS Menu
(3) Enter JMB36X RAID BIOS to setup your RAID configuration
(4) Create a Floppy Disk with JMB36X Driver for Windows OS installation
(5) JMB36X Driver Installed when Windows OS Installation

Based on the following install steps, you must prepare the following equipments.

(1) More than two HDD (To get the best system performance, suggest you to prepare HDD with the same Model Name and Capacity as possible. You can connect only one SATA/IDE HDD when you don't want to setup a RAID system.)
(2) A white Floppy Disk when MB vendor does not provide it.
(3) Microsoft Window OS Install CD (Windows 2000/XP/2003)
(4) MB Driver CD

2. How to setup JMicron JMB36X RAID Configuration

2.1 Install SATA/IDE HDD in your PC system

Please tighten your SATA/IDE HDD in your PC system. Of course, you need to connect SATA/IDE Cable and Power Cable properly to MB and HDD sides. Please note that SATA/IDE cable is connected to slots that are come from JMB36X. Please you reference MB User Guide to find out the detail slots arrangement.

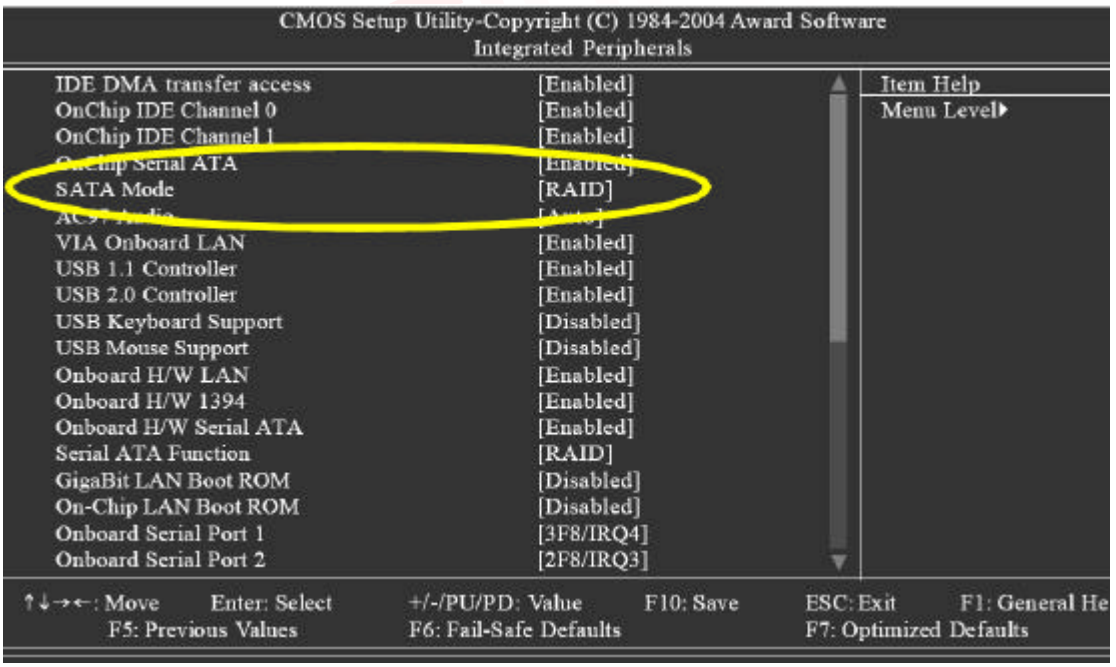
2.2 Setup JMB36X Operating Mode and Boot Priority in Main BIOS Menu

You must confirm that HDD you want to create RAID is the first device on Hard Device List in Main BIOS Menu. To achieve this action, please follow the steps below.

Step 1:

After Power on, please push <**Del**> or <**F2**> key (different on all MB and depends on its definition) to enter BIOS CMOS Setup Menu when Main BIOS is going POST (Power-On-Self-Test) actions. When you want to create RAID mode through JMB36X Controller, please choose RAID Mode in JMB36X selection. If not, please choose IDE (or BASE) Mode in JMB36X selection. The following Figure 1 shows an example.

Figure 1. Example to select RAID/IDE Mode in Main BIOS Menu



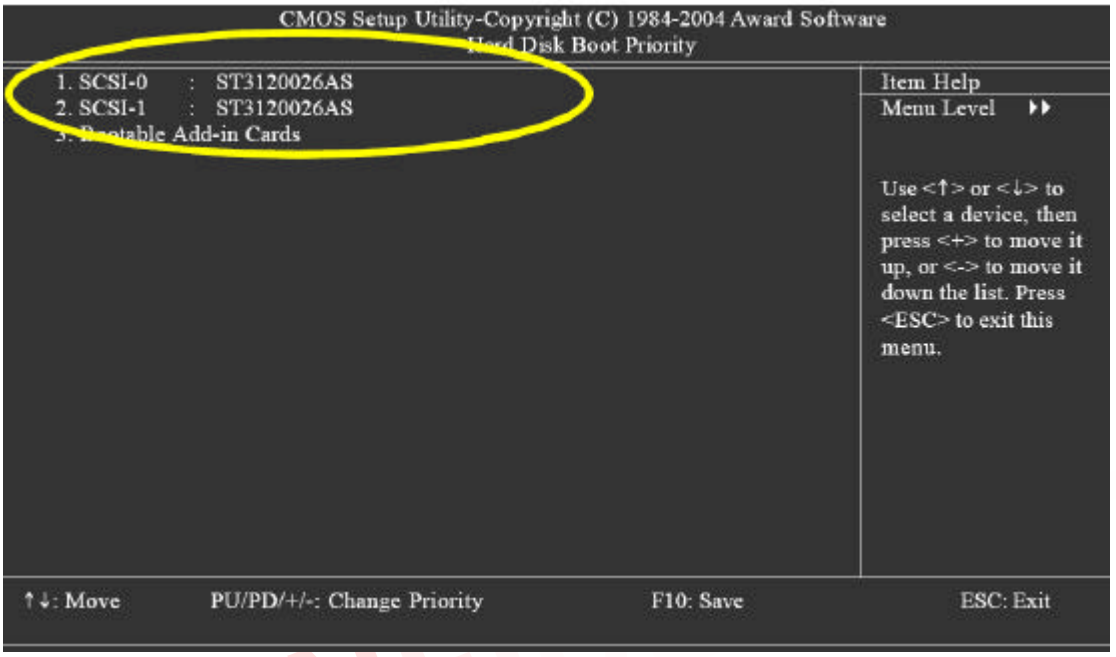
When you use a Host Adapter or Express Card, This screen will not be watched.

Of course, the description above is not exactly the same on all available MB. Please you choose the corresponding selections or actions according to your MB and Main BIOS version.

Step 2:

After finishing Step 1, please find out **"Hard Disk Boot Priority Menu"** and choose HDD list to create RAID that you want to install Windows OS in it. The following Figure 2 shows an example.

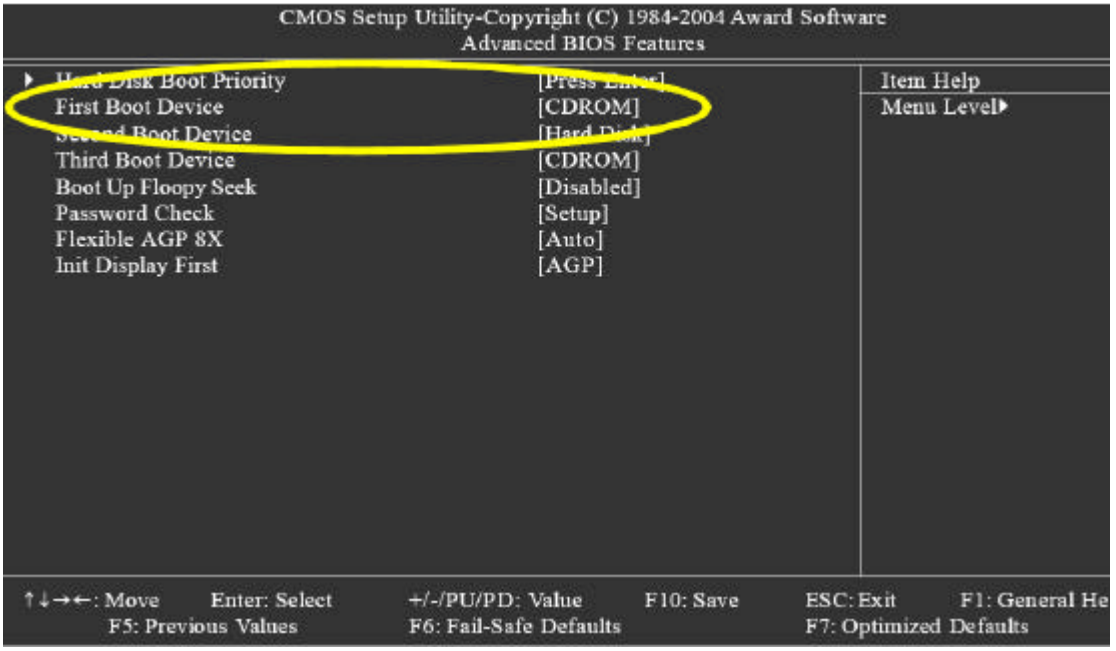
Figure 2. Example to choose HDD list to create RAID



Step 3:

After finishing Step 2, please choose the First Boot Device to CDROM. It means the system will boot from CDROM in future install actions. The following Figure 3 shows an example.

Figure 3. Example to choose CDROM as First Boot Device



Step 4:

After finishing Step 3, save the configuration in Main BIOS and restart your PC system.

2.3 Enter JMB36X RAID BIOS to setup your RAID configuration

When you want to create RAID, you must enter JMB36X RAID BIOS to make RAID configuration. When you do not want to create RAID, you can ignore this action. To achieve this action, please follow the steps below.

Step 1:

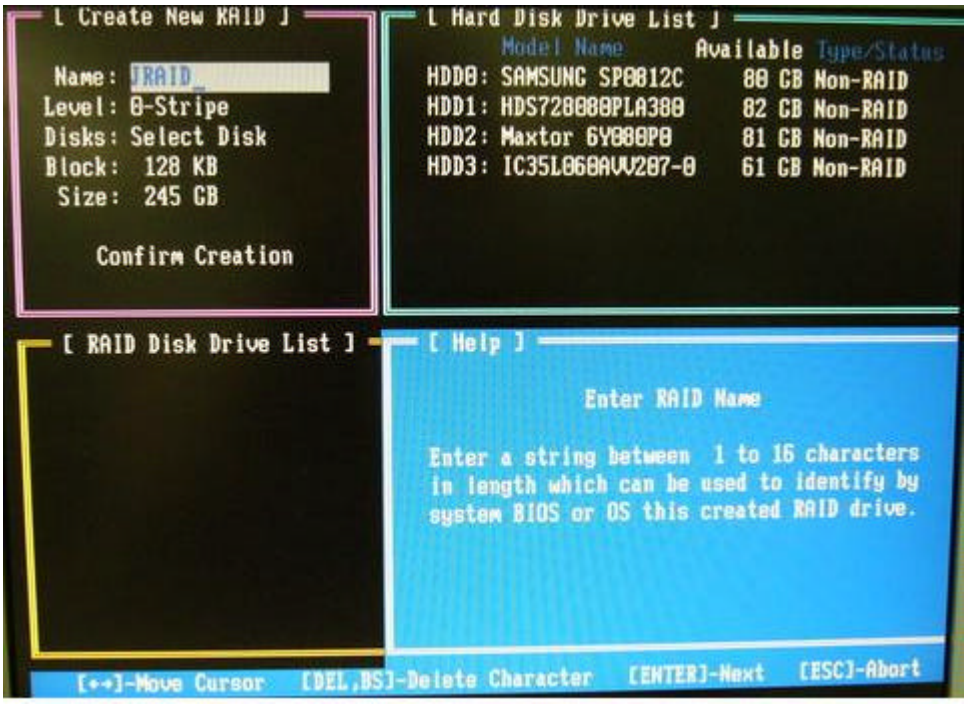
After Main BIOS finishes BIOS POST action and before Windows OS starts, please push <**Ctrl-J**> key to enter JMB36X RAID BIOS Menu. The following Figure 4 shows an example.

Figure 4. Enter JMB36X RAID BIOS through <**Ctrl-J**> key

Step 2:

After you enter JMB36X RAID BIOS Menu, you will see a window that shows up all available HDD/ODD information that are connected to JMB36X Controller. The following Figure 5 shows an example. You can use <**?**> <**?**> <**?** > <**?** > to move Color Bar to select the action items

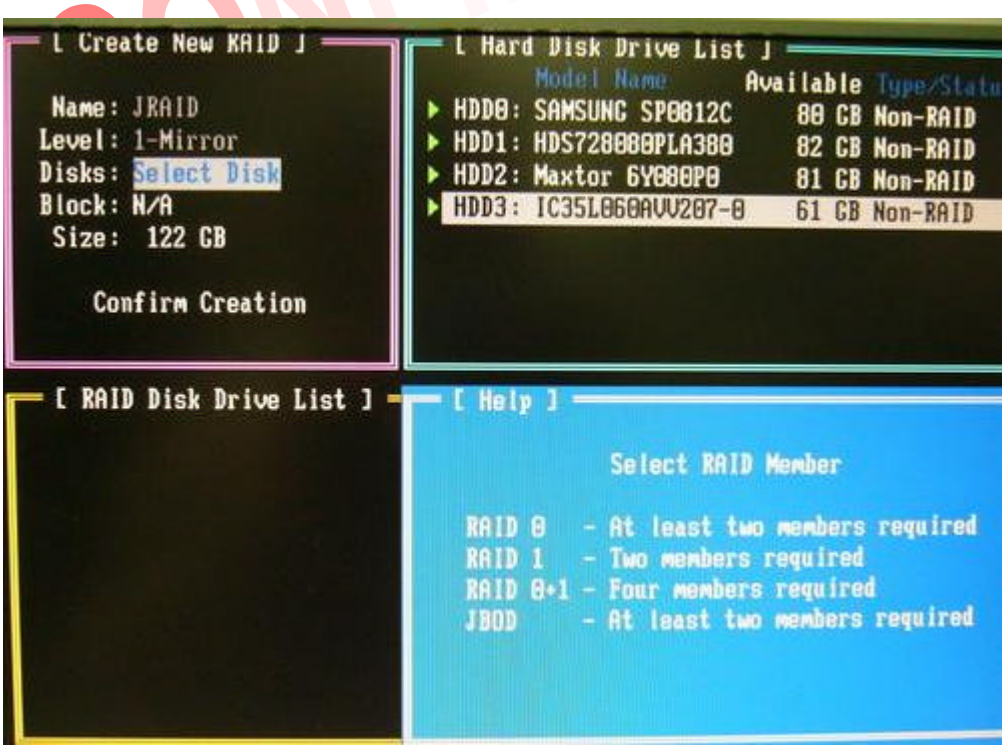
Figure 5. Enter JMB36X RAID BIOS through <**Ctrl-J**> key



JMB36X RAID BIOS Setting: Create RAID Disk Drive

Entering **"Create RAID Disk Drive"** item, you can see the following Window as Figure 6. Before you create RAID, you need to select RAID mode, as you want.

Figure 6. Main Window of JMB36X RAID BIOS



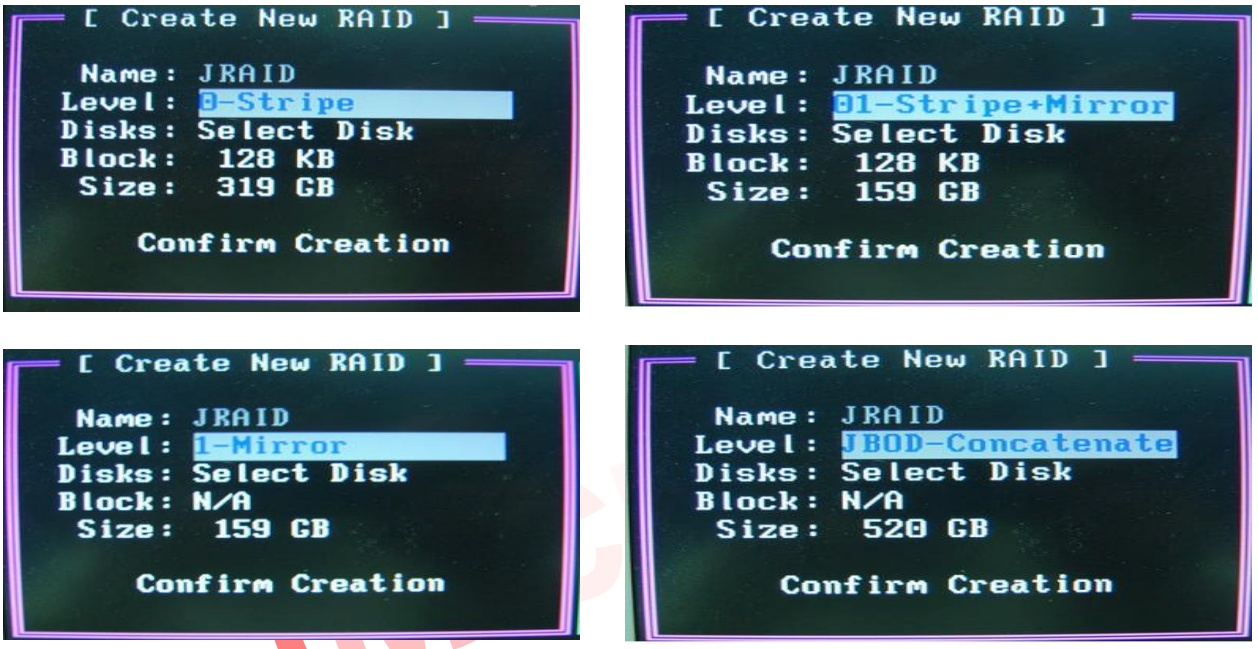
When you push **"Create RAID Disk Drive"** item to enter RAID selection menu, you can use

<?> <?> to select RAID mode. The following Figure 7 shows an example.

Figure 7. Create RAID Disk Drive Selection Item

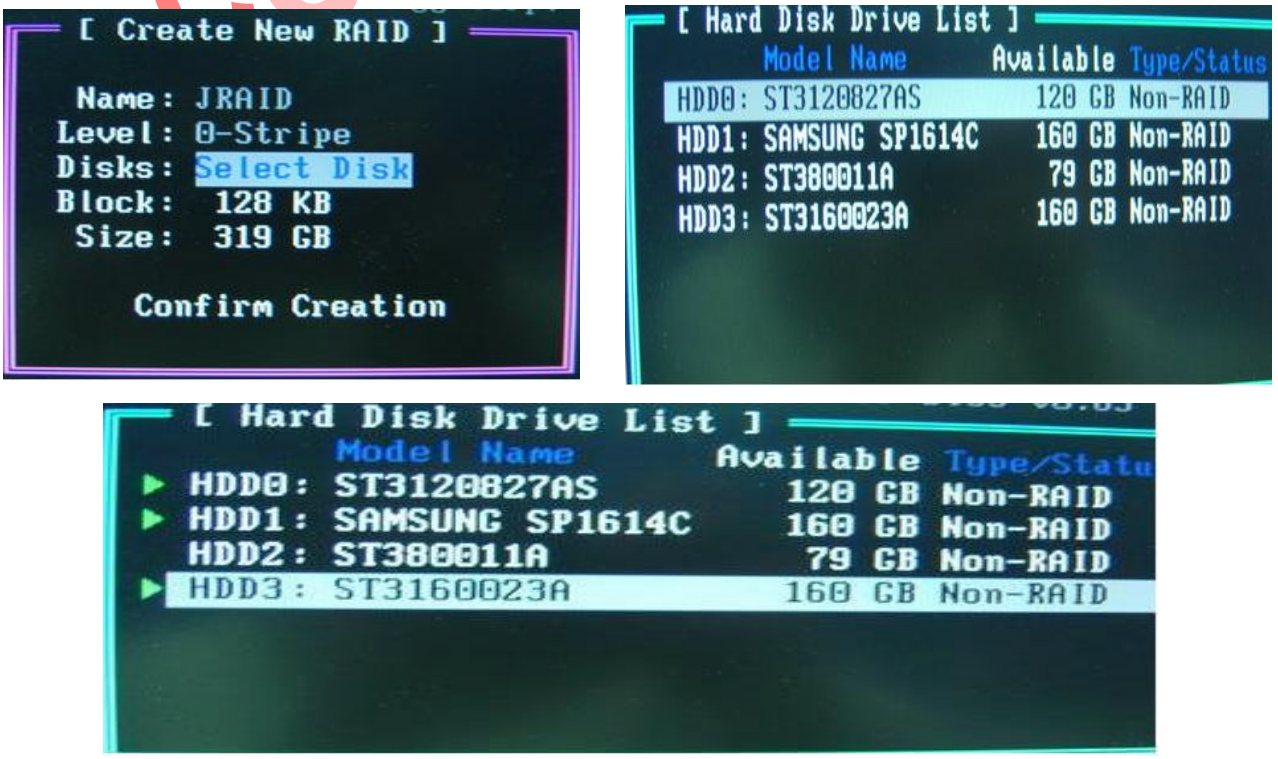
There are four RAID modes that are RAID 0, RAID 1, RAID 0+1 and JBOD. The following Figure 8 shows all selections.

Figure 8. RAID Mode Selection



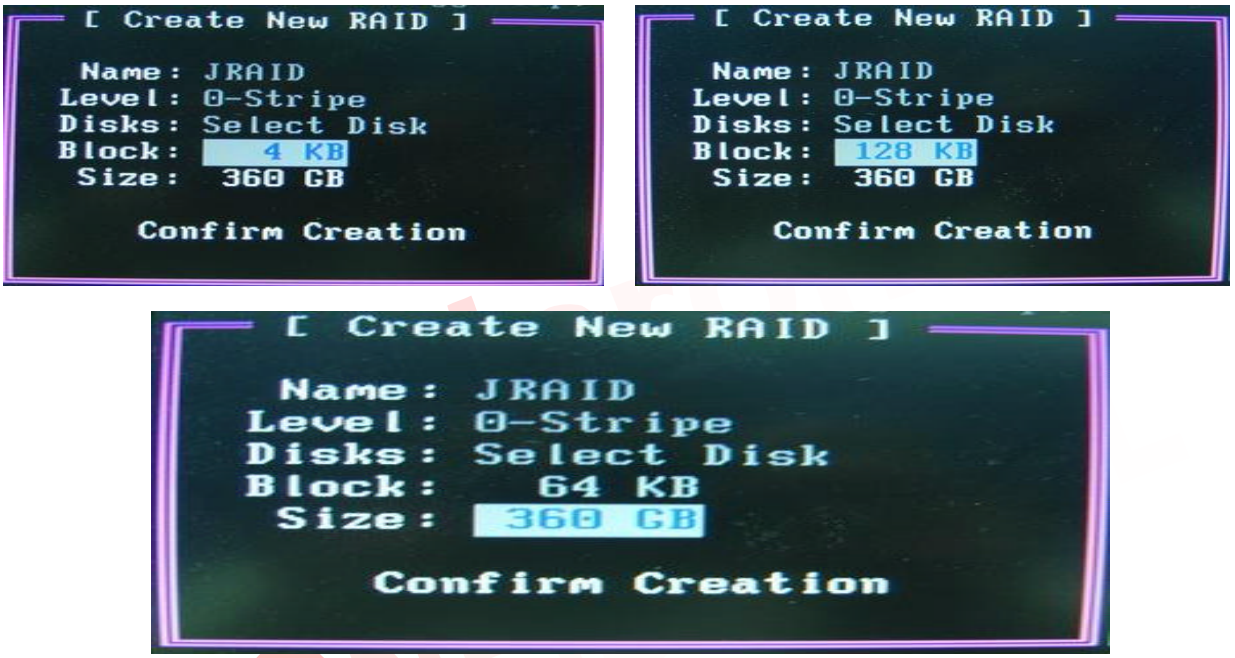
After selecting RAID mode, the following is to select HDD to create RAID. Entering "Select Disk Drives" item, you use <**Space**> to choose the HDD you want to select and use <**?**> <**?**> to select another HDD. If HDD is selected, there is a ">" sign at the front HDD description. The following Figure 9 shows an example.

Figure 9. Select HDD to create RAID



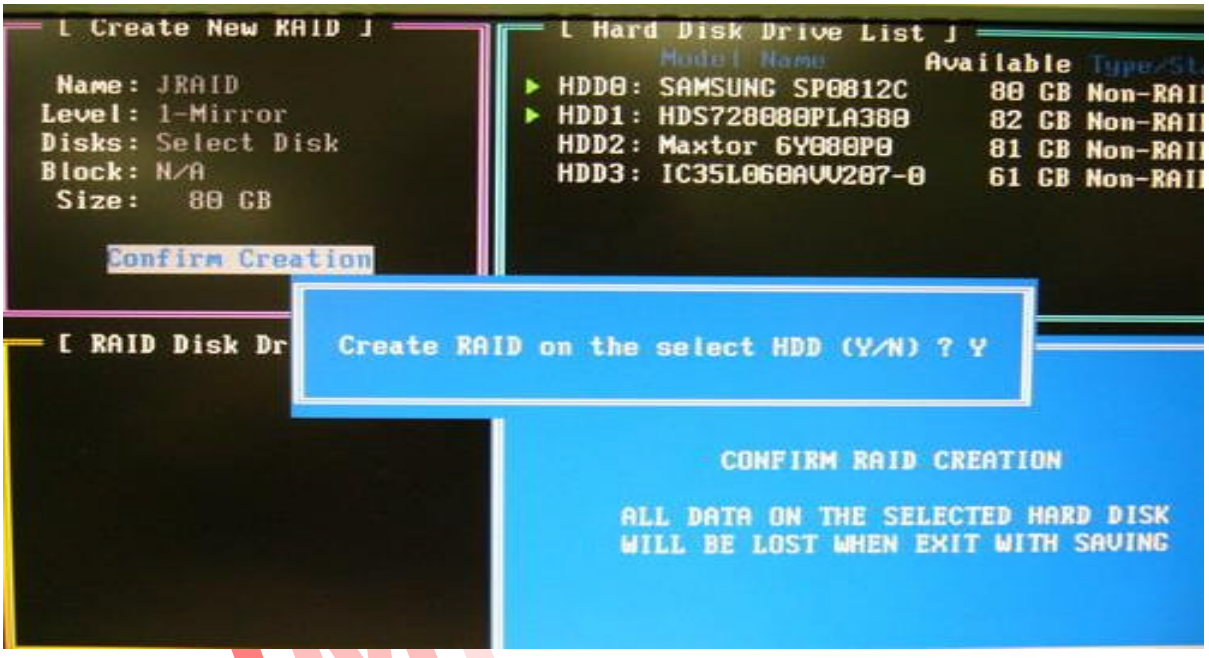
After selecting HDD to create RAID, The left part is RAID size. You can choose Block Size in RAID Mode through <**?**> <**?**> to select. The Block Size is from 4K to 128K Bytes. Of course, you need to setup the final RAID Capacity from user viewpoint. JMB36X RAID BIOS will highlight the maximum available RAID Capacity. The following Figure 10 shows an example.

Figure 10. Select HDD to create RAID



After finishing all selections, you must enter <**Enter**> to confirm RAID construction. Now, the Dialog Box will show up **"Create RAID on the select HDD (Y/N)?"** If you enter <**Y**> key, RAID will be created. If you enter <**N**> key, RAID setting will be ignored and RAID is not created. The following Figure 11 shows an example.

Figure 11. Confirm Dialog Box to create RAID



<Important>: All original data in HDD List of RAID will be damaged after you enter <Y> key to create RAID.

After RAID confirmation, the RAID information will show up the below window. The following Figure 12 shows an example.

Figure 12. RAID information

JMB36X RAID BIOS Setting: Delete RAID Disk Drive

When you want to delete existed RAID, you can select **"Delete RAID Disk Drive"** item and push <**Enter**> key, the color bar will switch to below window. You can use <**Space**> key to select the RAID you want to delete. After selection, you must push <**Del**> key to confirm your deletion of RAID. Now, a Dialog Box will show up to confirm your action. If you push <**Y**> key, RAID will be deleted. If you push <N> key, RAID will be kept originally. The following Figure 13 shows an example.

Figure 13. Delete RAID Dialog Box 1

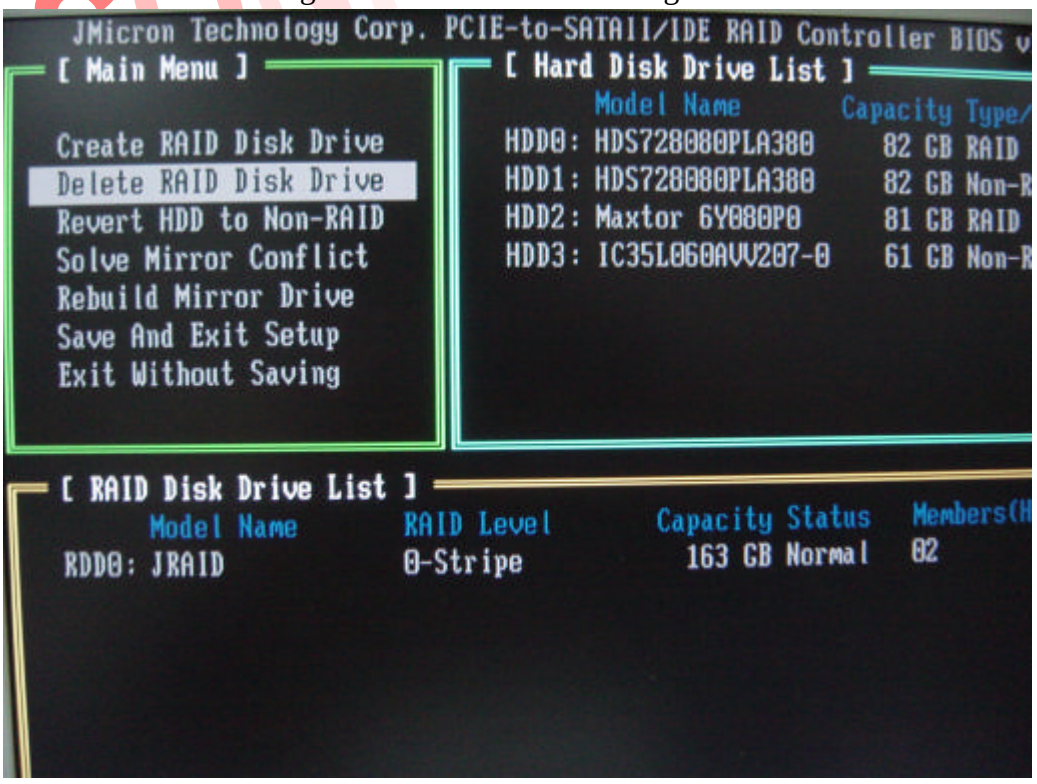
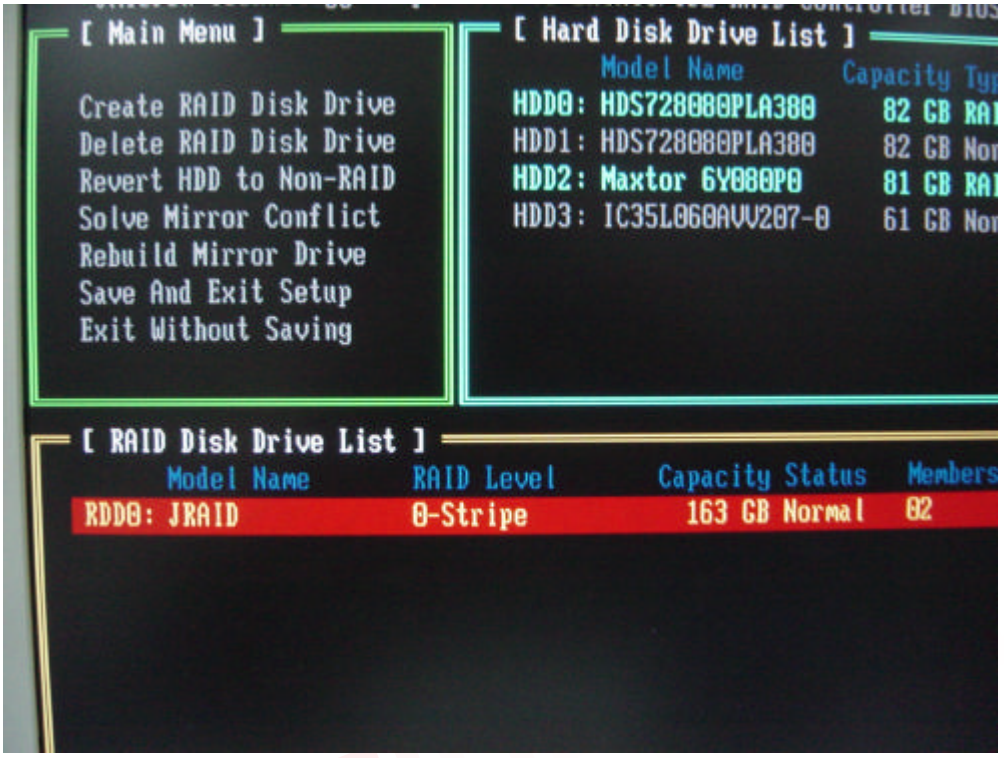


Figure 14. Delete RAID Dialog Box 2



JMB36X RAID BIOS Setting: Revert HDD to non-RAID

When you connect your HDD in PC system, there might be a Broken RAID HDD that is member of another RAID originally. Facing this kind of condition, JMB36X RAID BIOS provides you to convert Broken RAID HDD into non-RAID mode. Once you decide to do it, original data in Broken RAID HDD will be damaged. When new RAID is created through JMB36X, Broken RAID HDD is forbidden to select to avoid to damaging your system.

This function is used for deleting RAID structure of single RAID HDD.

Figure 15. Revert HDD to Non-RAID Dialog Box 1

Figure 16. Revert HDD to Non-RAID Dialog Box 2

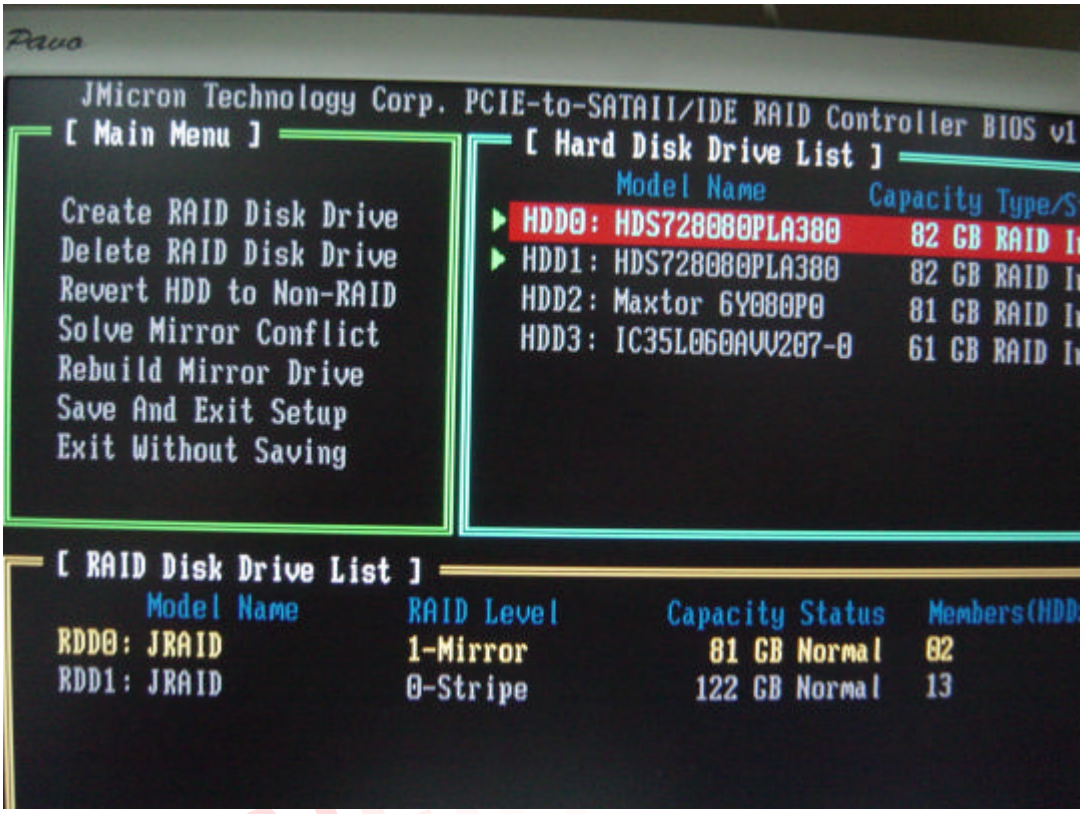
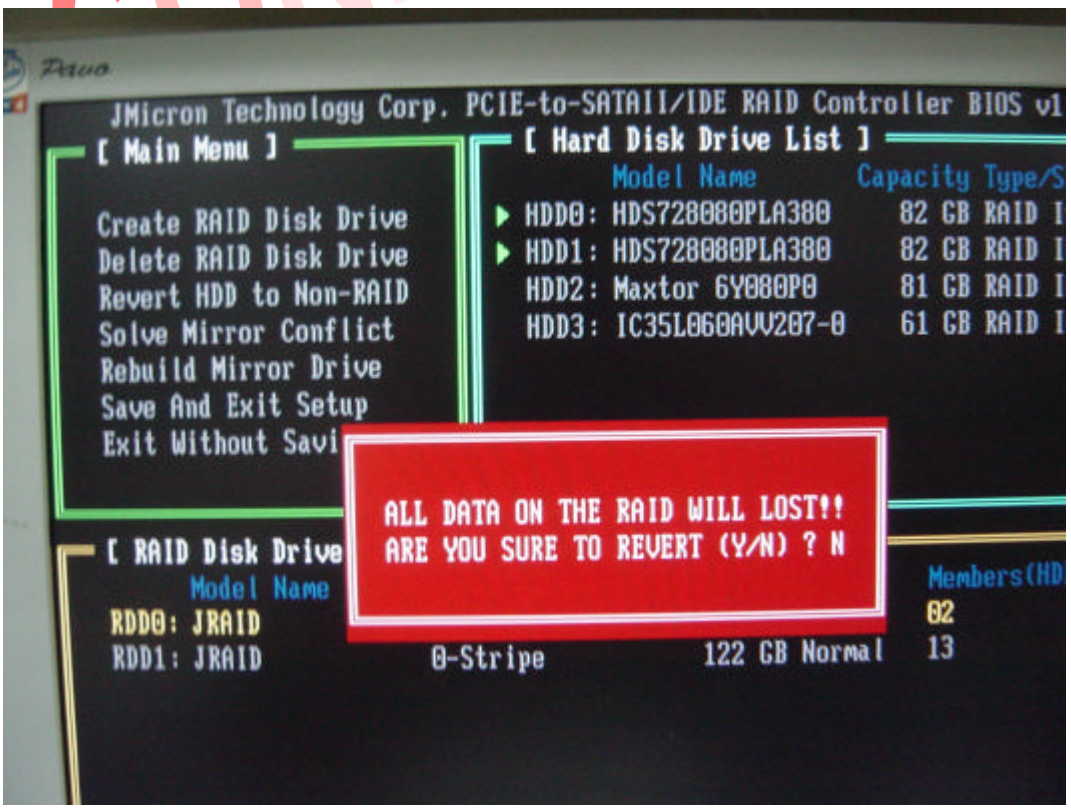


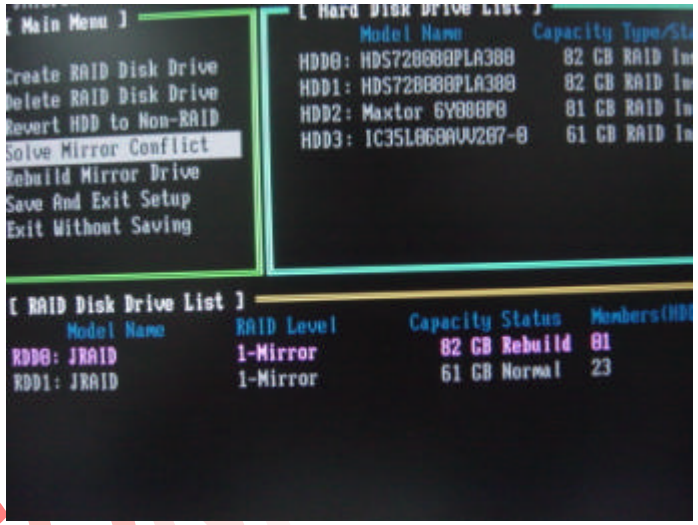
Figure 17. Revert HDD to Non-RAID Dialog Box 3



JMB36X RAID BIOS Setting: Solve Mirror Conflict

When your mirror raid drive has lost each other, it means that both of the members ever be identify by the Option ROM at different boot. The members will both think itself as source disk. So that the System can not decide which one is source disk, the user can not access this raid drive. In such example, the Option ROM gives users an method to solve this problem. It allow users to choose one of the members of Mirror drive as source disk. And then users can try to rebuild the Mirror drive according to the content of chosen one.

Figure 18. Solve Mirror Conflict Dialog Box



JMB36X RAID BIOS Setting: Rebuild Mirror Drive

This option will help users to rebuild any Rebuildable Mirror drive. The bottom of the window will show the achieved percentage of scheduled progress.

Figure 19. Rebuild Mirror Drive Dialog Box 1

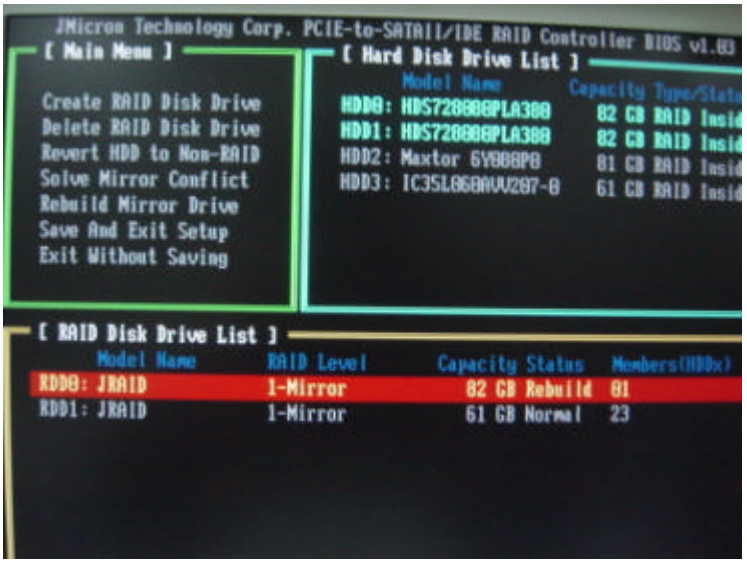


Figure 20. Rebuild Mirror Drive Dialog Box 2

JMB36X RAID BIOS Setting: Save And Exit Setup

When you finish all actions, you can select **"Save And Exit Setup**" item to save current RAID configuration and exit JMB36X RAID BIOS. After you select **"Save And Exit Setup**", a window dialog box will shoe up to confirm your action. If you push <**Y**>+<**Enter**> key, configuration will be saved and JMB36X RAID BIOS will exit. If you push <N> key, you are still in JMB36X RAID BIOS Menu.

Figure 21. Save and exit setup Dialog Box

2.4 Create a Floppy Disk with JMB36X Driver for Windows OS installation

To install Microsoft Windows 2000/XP/2003 OS into RAID through JMB36X correctly, driver of JMB36X must be installed first when Windows OS installation. If no JMB36X driver first, Windows OS cannot identify JMB36X when Windows OS installation. And then Windows OS Installation to RAID through JMB36X will fail. MB vendor will prepare a Floppy Disk for your installation. If not, you must prepare a white Floppy Disk and copy JMB36X driver into your Floppy Disk from MB Driver CD.

2.5 JMB36X Driver Installed when Windows OS Installation

Now, you have prepared floppy Disk with JMB36X driver. And you also complete Main BIOS setting and JMB36X RAID BIOS setting. You can start to install Microsoft Windows 2000/XP/2003 OS into your RAID through JMB36X. The following is an example to install Microsoft Windows XP.

Step 1:

Restart your PC and boot from ODD with Microsoft Windows XP CD. When you see **"Press F6 if you need to install a 3rd party SCSI or RAID driver"**, push <**F6**> key immediately. The Figure 14 shows the window described above.

Step 2:

Put the Floppy Disk with JMB36X driver and push <**S**> key. Figure 15 shows the window described above.

Figure 14. <**F6**> key to install 3rd party SCSI or RAID driver

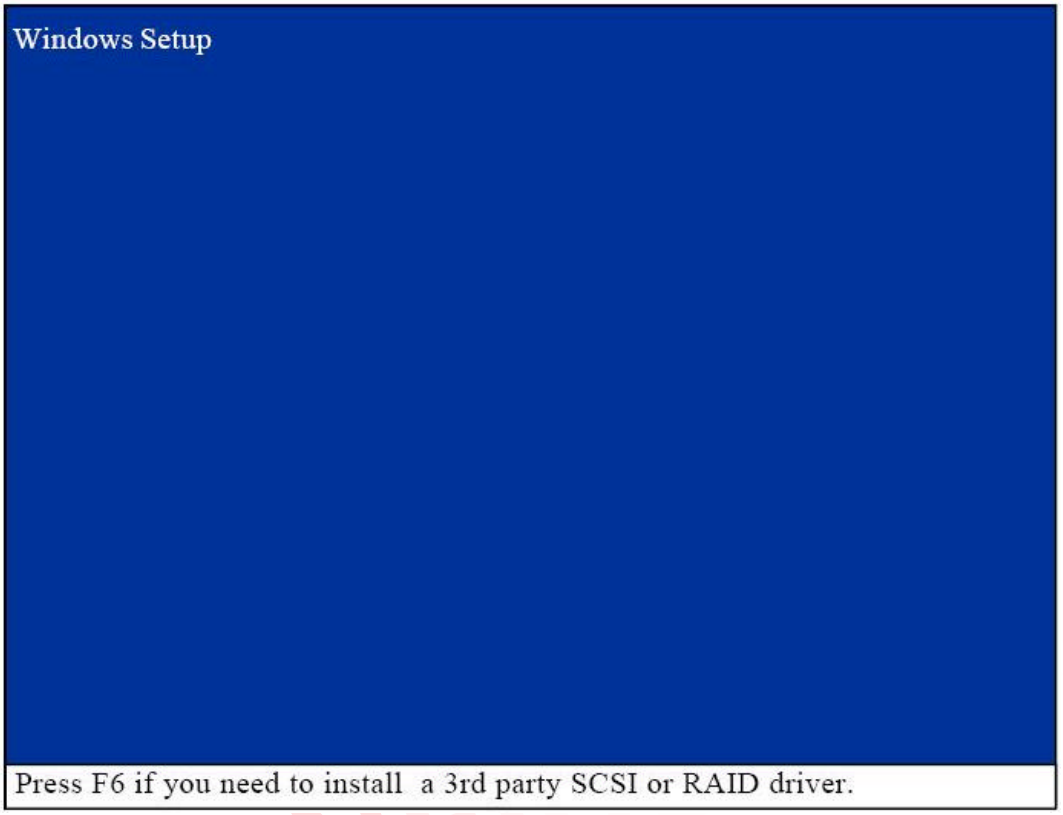
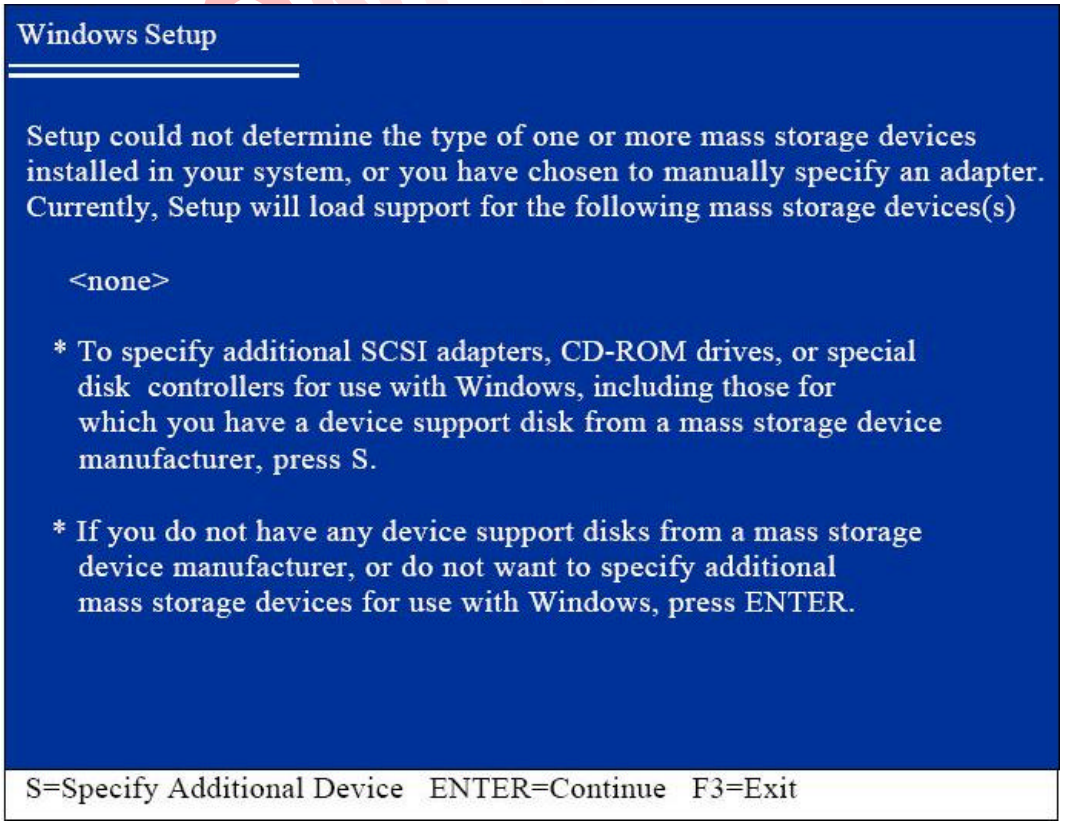


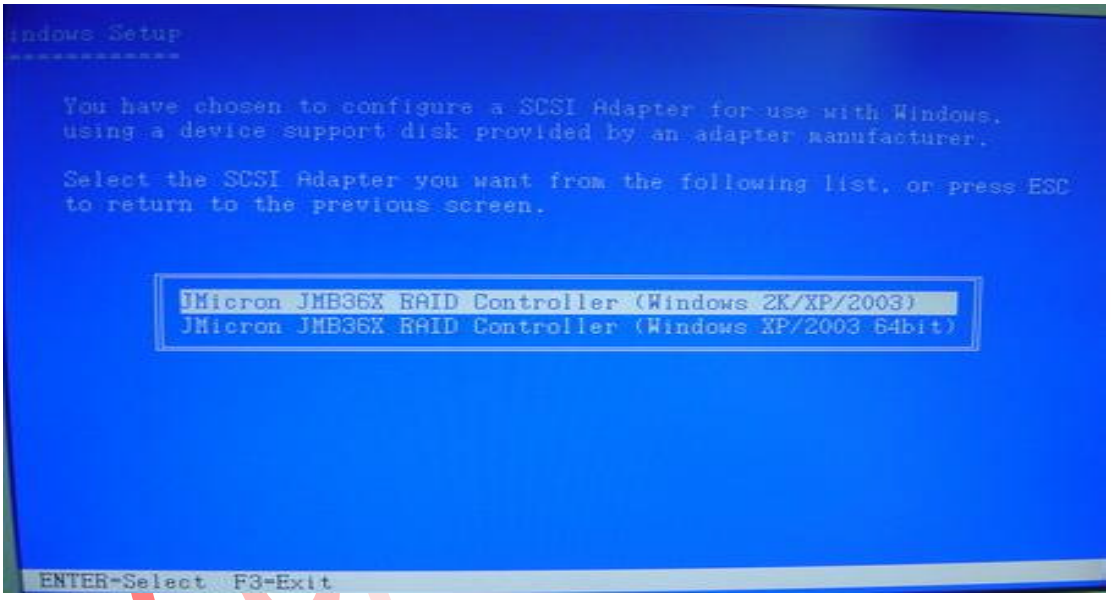
Figure 15. <**S**> key to specify 3rd party SCSI or RAID driver



Step 3:

Use <**?**> <**?**> to select **JMicron JMB36X RAID Controller (Window XP)** and push <**Enter**>. Windows XP OS will load JMb36X Driver from Floppy and continue OS installation. The Figure 16 shows the window described above. If current information show up in monitor is that File can not access, please check your Floppy Disk first to make sure whether your Floppy Disk is workable or not. If it is OK, please copy JMB36X driver again from MB Driver CD into your Floppy Disk.

Figure 16. Specify JMB36X RAID driver for Window XP



Step 4:

When Figure 17 shows up in monitor, please push <Enter> to continue installation. It takes around 1 minute during this stage.

Figure 17. Complete to specify JMB36X RAID driver for Window XP

When JMB36X Driver is installed successfully, Figure 18 will show up monitor. You can push <**Enter**> key to install OS continuously, just like general HDD installation.

Figure 18. The general installation sequence after JMb36X driver installed