

Contents

Chapter 0 Overview	3
What is RAID?	3
What is IDE RAID?	4
What is ATA66?	4
 Chapter 1 Features	 6
1.1 Specifications	6
1.2 Layout Diagram	9
 Chapter 2 Introduction of Ultra ATA66	 10
2.1 Introduction	10
2.2 Requirement	11
 Chapter 3 Hardware Installation	 13
3.1 Installing SIDE RAID66™ controller card	13
3.2 Connecting the Hard Drive	14
 Chapter 4 Software Installation	 16

4.1 Windows 2000	16
4.2 Windows 98	19
4.3 Windows NT 4.0.....	22

Chapter 5 Up-dating the BIOS 28

Chapter 6How to Utilized RAID..... 29

STRIPING (RAID 0)	29
MIRRORING (RAID 1).....	29
STRIPING/MIRROR (RAID 0+1)	30
SELECTING THE RAID FUNCTION	30
SELECT DEVICE MODE.....	31
SELECT BOOT SEQUENCE.....	33
SELECT RAID FUNCTIONS	35
STRIPING/MIRROR (RAID 0+1)	41

Appendix

Iwill SuperIDE series ATA66 controller card

Chapter 0

Overview

What is RAID?

RAID stands for Redundant Array Independent Disk, it was developed by a group of scientists at University of California at Berkeley in 1987. The scientists investigated using small disk drivers clustered into an array and compared the performance and cost of this type of storage configuration to the use of a Single Large Expensive Disk (SLED), commonly found in mainframe application. The conclusion was that arrays of smaller and less expensive disks out performed the performance of the SLED.

However, disk performance is not the only requirement in today's Information Technology market. As more network storage capacity expands, the more critical it becomes to safely backup the data in the disks. While tape or MO backup meets the recovery requirements, it does not ensure the continuous availability and data integrity necessary to keep your system up and running. To solve this, the scientists proposed five types of redundant array architectures, known as RAID level 1 through 5. Each RAID level defines how redundancy is achieved and data is distributed across the drives in the array.

What is IDE RAID?

RAID was associated with SCSI interface only in the past. The capital outlay generally puts people out of the door. This situation is about to change with the introduction of IWILL SIDE RAID66™. A high performance IDE RAID host adapter, with Ultra ATA66 interface. The SIDE RAID66™ offers **RAID 0** (Striping), **RAID 1** (Mirroring) and **RAID 0+1** (Striping + Mirroring) functions, and supports the Ultra ATA 33/66 hard disks commonly found in the market today.

What is ATA66?

Ultra ATA66 is the next step in Ultra ATA transfer speeds. Ultra ATA66 doubles the burst transfer rates now achieved by existing Ultra ATA33. This increase in burst speeds along with increased disk surface density helps alleviate bottlenecks commonly found in slower systems. The transfer of large files, often written sequentially, is particularly affected by the transfer rate. During sequential reads, the hard drive, because of its fast internal data rate, may fill its buffer faster than the host can empty it when using the Ultra ATA33 or the older multi-word DMA interfaces.

Performance bottlenecks usually result in this connection between the host and the hard drive. Improving the interface to keep up with the improved internal data rate is exactly what Ultra ATA66 can achieve. Ultra ATA66 allows system designers to provide greater system throughput, particularly for larger sequential transfers required by audio/visual applications.

Chapter 0 Overview

In order to achieve the Ultra ATA66 transfer speed you must have a system, an Ultra ATA66 cable and BIOS that will support Ultra ATA66. The correct drivers must be loaded and an Ultra ATA66 specific data cable must be used. The Ultra ATA66 specific data cable is an 80 wires 40-pin cable. The additional 40 wires are ground lines that reduce the crosstalk caused by the electro-magnetic fields that build up during high-speed data transfers. The Ultra ATA cables use a Cable Select method rather than a Master / Slave scheme. The drive must be jumped to enable Cable Select. The Boot drive (C:) is attached to the connector on the end of the cable and the second drive is attached to the middle connector. If an Ultra ATA66 specific cable is not used, the drive will default to Ultra ATA33 mode.

Chapter 1

Features

IWILL® designed the SIDE RAID66™ host adapter to offer a performance, cost effective and reliability solution to the system up-grader. The SIDE RAID66™ controller provides two IDE channels that support Ultra ATA66 RAID. Each IDE connector supports a master/slave combination of any IDE device, including IDE, EIDE and Ultra-ATA standards.

1.1 Specifications

1.1.1 Features

HighPoint HPT368 ATA66 RAID controller chip

Two independent IDE channels

Ultra DMA/66, DMA/33 and all PIO mode

32bit/33MHz Bus Master PCI interface

Supports up to 44MHz PCI bus clock

Concurrent PIO and bus master access (ATA mode accessible during DMA transfer)

One IDE LED header (2-pin)

RAID 0, RAID 1 and RAID 0/1 functions.

1.1.2 BIOS

Supports 1Mbit flash ROM

Auto Identifies and configures drive type

Auto detects and supports Ultra Mode (ATA/EIDE) transfers

Recognizes drives up to 128GB

1.1.3 Advanced Data Features:

Support new CRC enhanced data protection for Ultra ATA drivers

Support dual data channels allow separate device timings for Ultra ATA and EIDE devices

1.1.4 Software Support

Microsoft Windows 2000

Microsoft Windows 98

Microsoft Windows NT4.0

Table 1-1: SIDE RAID66 specifications

RAID	RAID 0, 1, 0/1
Bus	PCI 2.1
Drive Transfer Rate	66MB/sec burst w/Ultra ATA/66 devices
Number of Supporting Drives	4
Drive Modes	Ultra DMA mode 4/3/2/1 DMA mode 2/1/0 PIO mode 4/3/2/1/0
Deices	ATAPI
Operating Systems	DOS/ Windows3.x, Windows, 98, 2000
	Windows NT 4.0
BIOS	1 Mbit Flash ROM
	Auto ID/Configure
	Max. Storage: 128GB
	Supports ACPI function
<F10>	Save the current value and exit setup program

1.1.5 Accessory:

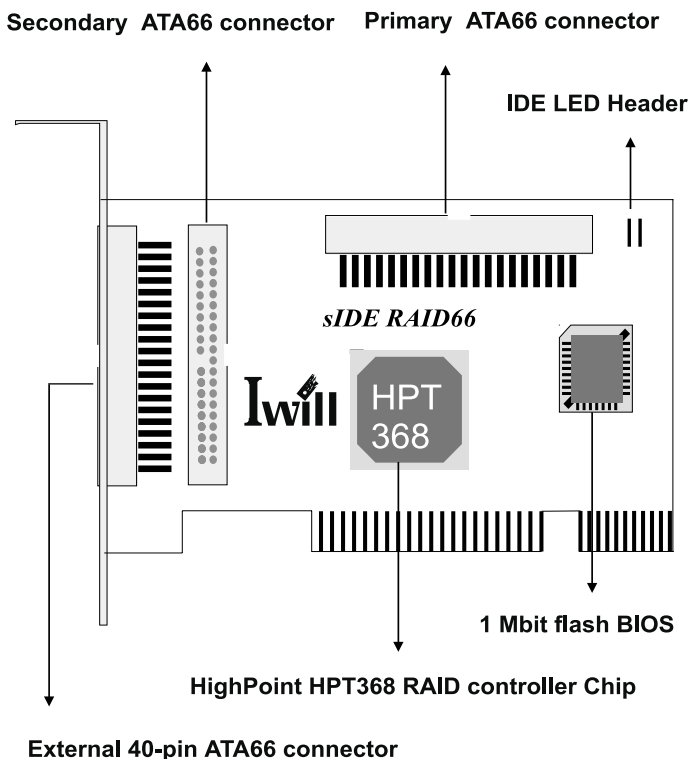
1 x User Manual

2 x High -speed quality ATA66 IDE cables

2 x Device Driver Diskette (Win98/WinNT/Win2000)

1 x RAID Utility Diskette (optional)

1.2 Layout Diagram



Chapter 2

Introduction of Ultra ATA66

2.1 Introduction

Ultra ATA66 enhances existing Ultra ATA33 technology by increasing both performance and data integrity. This new high-speed interface doubles the Ultra ATA33 burst data transfer rate to 66.6 Mb/sec. The result is increased disc performance using the current PCI bus environment.

Ultra ATA66 allows system designers to provide greater system throughput, particularly for larger sequential transfers required by audio/visual applications.

In order to achieve the Ultra ATA66 transfer speed you must have a system which supports

Ultra ATA66 and equipped with, an Ultra ATA

HDD, and Ultra ATA66 cable. The correct drivers

must be loaded and an Ultra ATA66 specific data

cable must be used. The Ultra ATA66 specific

data cable is an 80 wires 40-pin cable. The

additional 40 wires are ground lines that reduce

the crosstalk caused by the electro-magnetic fields that build up during high-speed data

transfers. The Ultra ATA cables use a Cable Select method rather than a Master / Slave scheme.



The drive must be jumped to enable Cable Select. The Boot drive (C:) is attached to the connector on the end of the cable and the second drive is attached to the middle connector. If an Ultra ATA66 specific cable is not used, the drive will default to Ultra ATA33 mode.

An Ultra ATA66-capable cable is a 40-pin, 80-wires cable with a black connector on one end, a blue connector on the other end and a gray connector in the middle. In addition, line 34 on the cable should be notched or cut (this may be difficult to see in the photo).

Ultra ATA66 hard drives are backward compatible with both Ultra ATA33 and DMA and with existing ATA (IDE) hard drives, CD-ROM drives, and host systems. But its transfer mode will be limited to the Ultra ATA33 (Ultra DMA Mode 2 - 33 Mbytes/sec) or PIO Mode 4 (16.6 Mbytes/sec) mode. The Ultra ATA66 protocol and commands are designed to be compatible with existing ATA (IDE) devices and systems. Although a new 40-pin, 80 wires cable is required for Ultra ATA66, the connector remains the same as 40-pin (same size and same shape as the ATA/33 cable, but with 80 wires).

2.2 Requirement

There are four requirements for achieving the performance of the Ultra ATA66 RAID.

- The drive must support Ultra ATA66.
- The motherboard and system BIOS (or an add-in controller) must support Ultra ATA/66.
- The operating system must support Direct Memory Access (DMA); (Microsoft Windows 98 support DMA).
- The cable must be ATA66 cable, the length should not exceed 18 inches (44.1cm) from the controller to the IDE devices.

Important

The performance of the Ultra ATA66 RAID can only achieved, when the above requirements are met, or it can only achieves the max performance offered by the used HDDs.

Chapter 3

Hardware Installation

Every IWILL® products are designed with “Ease of Use” in mind. The **SIDE RAID66™** also follows this tradition. It uses the Plug and Play design concept, and it is as easy to install as any other computer peripheral.

3.1 Installing SIDE RAID66™ controller card

Installing the **SIDE RAID66™** controller card into your computer is a simple process. Just follow the following steps to install the SIDE RAID66™ in to system.

1. Switch off the system.
2. Disconnect the system form the power source.
3. Open your computer case.
4. Touch the back panel of the power supply to disperse the static charge.
5. Remove the inside slot cover of an available PCI slot on the motherboard.
6. Insert the **SIDE RAID66™** controller card into the empty slot.
7. Attach the threaded IDE HDD LED connector of the computer case to HDD-LED connector on the **SIDE RAID66™** controller card.

8. Fasten the controller card bracket to the case.
9. Connect the Ultra ATA66 HDD to the **SIDE RAID66™** IDE connectors
10. (0/1 channel) using the included Ultra ATA66 cables.

3.2 Connecting the Hard Drive

The **SIDE RAID66™** provides two internal IDE channels that support Ultra ATA66 RAID (Also known as Ultra DMA66) specification.

3.2.1 How to install the Ultra ATA66 Cable:

Each connector on the Ultra ATA66 cable assembly has a small polarized tab centrally located on the body of the plastic (a fool-prove design). This fits into the matching slot on the mating plugs on the **SIDE RAID66™** and the drives, thus assuring positive mating (pin#1 to pin#1)

The red line on the cable should be aligned with pin#1. On the drives this will result in the red line facing the power connector. Attach the **BLUE** connector to the appropriate 40-pin IDE plug on the **SIDE RAID66™**.

Attach the **BLACK** connector to the matching plug on the **Master** hard drive. Attach the **GREY** connector to matching plug on the **Slave** drive (secondary hard drive, CD-ROM, or tape drive).

Important

The **BLUE** connector must be plugged into the SIDE RAID66™ or your system will not boot.

Chapter 4

Software Installation

4.1 Windows 2000

4.1.1 Installing SIDE RAID66™ drivers during Windows 2000 installation:

Step 1: After installing the **SIDE RAID66™** controller card and configuring your hard disk (refer to hardware installation), power on your system.

Step 2: Install Windows 2000 normally.

Step 3: After you have finished Win2000 installation and entered Windows 2000, please enter "Control Panel" → "System", and then select "Device Manager" → "Other Devices".

Step 4: Select "Properties" → "Driver" → "Update Drivers" click "OK."

Step 5: Insert the **SIDE RAID66™** Windows 2000 driver disk into floppy A.

Click "Browse" to select A:\.

Click "Next".

Step 6: Click "Next", when HPT368.INF is located.

Step 7: Click “Finish” to finish up the installation.

Step 8: Click “Yes” to restart your computer.

Step 9: Repeat Step 3 to install another “PCI Mass Storage Controller”

4.1.2 Installing SIDE RAID66™ drivers with existing Windows 2000:

Step 1: After installing the **SIDE RAID66™** controller card and configuring your hard disk
(refer to hard ware installation) power on your system.

Step 2: The “Update Device Driver Wizard” will appear, informing you that it has found a “PCI Mass Storage Controller” Click “Next”.

Step 3: Click “Other Locations” to install the **SIDE RAID66™** driver.

Step 4: Click “Browse...” and then insert the **SIDE RAID66™** Driver diskette into drive A.

Step 5: Select “Floppy (A)” and, then click “Next.”

Step 6: Click “Finish” to finish up the installation.

Step 7: Click “No”, when the system promotes you to restart the computer.

(SIDE RAID66™ provides two ATA66 channels, therefore you need to install two drivers, one for each channel).

Step 8: After you have finished the first ATA66 channel driver installation, please enter “Control Panel System”, and then select “Device Manager Other Devices”.

Step 9: Select “Properties “→” Driver“→”Update Drivers“→”click “OK.”

Step 10: Select “Drive A” and, then click “Next.”

After installing another controller, the system will ask you to restart computer again, click “Yes” to restart your computer.

Step 11: After your system has restarted, you can enter “Control Panel “→” System”, and then select “Device Manger “→” SCSI Controllers”. To check if **SIDE RAID66™** driver is installed correctly, you will see the figure on the left.

4.2 Windows 98

4.2.1 Installing drivers during Windows 98 installation:

Step 1: After installing the **SIDE RAID66™** controller card and configuring your hard disk (refer to hardware installation), power on your system.

Step 2: Install Windows 98 normally.

Step 3: After you have finished Win98 installation and entered Windows 98, please enter "Control Panel" → "System", and then select "Device Manager" → "Other Devices".

Step 4: Select "Properties" → "Driver" → "Update Drivers" → click "OK."

Step 5: Insert the **SIDE RAID66™** driver disk into floppy A.

Click "Browse" to select Win98.

Click "Next".

Step 6: Click "Next", when HPT368.INF is located.

Step 7: Click “Finish” to finish up the installation.

Step8: Click “Yes” to restart your computer.

Step9: Repeat Step 3 to install another “PCI Mass Storage Controller”

4.2.2 Installing drivers with existing Windows 98:

Step 1: After installing the **SIDE RAID66™** controller card and configuring your hard disk (refer to hard ware installation) power on your system.

Step 2: The “Update Device Driver Wizard” will appear, informing you that it has found a “PCI Mass Storage Controller” Click “Next”.

Step 3: Click “Other Locations” to install the **SIDE RAID66™** driver

Step 4: Click “Browse...” and then insert the **SIDE RAID66™** Driver diskette into drive A.

Step 5: Select “Floppy (A)” and folder “Win98”, then click “Next.”

Step 6: Click “Finish” to finish up the installation.

Step 7: Click “No”, when the system promotes you to restart the computer.

(**SIDE RAID66™** provides two ATA66 channels, therefore you need to install two drivers, one for each channel).

Step 8: After you have finished the first ATA66 channel driver installation, please enter “Control Pane“→” System”, and then select “Device Manager “→” Other Devices”.

Step 9: Select ”Properties “→” Driver“→” Update Drivers“→” click “OK.”

Step 10: Select “Drive A” and folder “Win 98” then click “Next.”

After installing another controller, the system will ask you to restart computer again, click “Yes” to restart your computer.

Step 11: After your system has restarted, you can enter ”Control Panel “→” System”, and then select “Device Manger“→”SCSI Controllers”. To check if **SIDE RAID66™** driver is installed correctly, you will see the figure on the left.

4.3 Windows NT 4.0

This section provides the information needed to install and use the SIDE RAID66™ device driver for Microsoft Windows NT.

4.3.1 Installing drivers with new Windows NT installation:

This installation will guide you through the installation of the SIDE RAID66™ Ultra DMA host adapter driver while installing Windows NT 4.0. Windows NT will be installed from either floppy diskettes or CD-ROM. It is important that the hardware has been installed successfully before proceeding further.

1. Install Windows NT from CD-ROM without specifying any option
2. Windows NT will create three floppies for second phase installation
3. Install Windows NT from the floppy
4. When Windows NT ask for additional host adapter, please select SCSI
type host adapter
5. Then Windows NT will ask you to install device driver for that SCSI
type host adapter (HPT368) SIDE RAID66™
6. After installation HPT368 (SIDE RAID66™) files from floppy, users can see

“HPT368 (SIDE RAID66™) Ultra DMA host adapter”

7. Following the step to continue installation of Windows NT

4.3.1.1 When Windows NT 4.0 is up, then install SIDE RAID66™ device driver as following

Installing Device Driver

1. Open My Computer
2. Open Control Panel
3. Double click icon SCSI Adapters
4. Click Drivers
5. Click Add...
6. Click Have Disk...
7. Insert the floppy diskette containing SIDE RAID66™ Windows NT 4.0 device driver into drive A, and type in “A:\NT [Enter]”, then click OK
8. Select HPT368 Ultra DMA Controller, you will be asked to enter the full path to the HPT368 Ultra DMA Controller files, type in A:\NT and then click Continue
9. When asked to restart your computer, click Yes

Important

The hard disk drive attached to the HPT368 (SIDE RAID66™) host adapter must be partitioned and formatted before you can access it. (Please see section 4.3.2.3 “Partitioning Your Hard Disk” to know how to partition and format a hard disk drive.)

4.3.1.2 Checking the Installation

If you want to check if the SIDE RAID66™ host adapter and its device driver are correctly installed, you can:

1. Open My Computer
2. Open Control Panel
3. Double click icon SCSI Adapters
4. You should see the item HPT368 Ultra DMA Controller (started) listed.

4.3.1.3 Partitioning Your Hard Disk

If the hard disk drive attached to the SIDE RAID66™ host adapter has not been partitioned and formatted yet, you need to partition it first. To partition the hard disk drive attached to the SIDE RAID66™ host adapter, follow the following steps:

1. Click the Startup button
2. Go to Administrative Tools (Common)
3. Run Disk Administrator
4. Select disk number you would like to partition
5. Select the menu Partition
6. Decide the partition size create partition of the size
7. Exit Disk Administrator
8. Select the new created partition (logical disk drive) and format it

4.3.1.4 Troubleshooting

The boot manager for Windows NT contains recovery logic to allow you to return to the last known good configuration. If you have changed your host adapter configuration and Windows NT no longer boots, follow these steps to recover:

1. Undo any hardware changes you have made to the computer since it was last operational.
2. Reboot the computer. Watch the display carefully during booting up.
If the following message appears, press the Spacebar and follow the instructions on the display screen to continue booting with the last known good configuration:

Press spacebar NOW to invoke the Last Known Good menu

3. Once your computer is operational again, check all of the hardware and software configuration changes you want to make. Look specially for conflicts with parts of the existing system configuration that are not being changed.

If Windows NT can boot but the driver has not been started (see Checking the Installation), please check the followings:

1. Make sure the host adapter is properly installed, and the device is correctly connected to the adapter. Double check that the cable between the adapter and the devices is correctly attached. And also check the jumper setting on the drive is correct.

2. Make sure that a power cable is properly attached to each drive attached to the SIDE RAID66™ host adapter.

If the driver has been started and you still cannot access the hard disk drive attached to the SIDE RAID66™ host adapter, the hard disk drive might have not been partitioned and formatted yet. You may need to partition and format it.

If you cannot determine the source of the error, contact IWILL Technical Support for assistance (see IWILL Technical Support and Service in this README file).

4.3.1.5 Removing SIDE RAID66™ Host Adapter

Removing SIDE RAID66™ host adapter can be as simple as physically removing it from the slot when your computer is shut down. Windows NT boots and functions properly in this configuration, but a warning message is generated every time you boot Windows NT. To eliminate the warning message, you must update the Windows NT software configuration, as described in the following steps:

1. Open My Computer
2. Open Control Panel
3. Double click SCSI Adapters
4. Click Drivers
5. Select SIDE RAID66™ Ultra DMA Controller, then click Remove

4.3.3 Installing drivers with existing Windows NT:

This installation will guide you through the installation of the SIDE RAID66™ Ultra DMA host adapter driver on existing Windows NT platform. It is important that the hardware has been installed successfully before proceeding further.

Step 1: Open “Control Panel”, and then enter “SCSI Adapters”.

Step 2: Select “Drivers”, and then click “Add...”.

Step 3: Click “Have Disk...”.

Step 4: Insert the SIDE RAID66™ driver disk into drive A, and then click “OK.”

Step 5: Click “OK”

Step 6: Enter “A:\” in blank space, and then click “Continue”

Step 7: Click “Yes” to restart your computer.

Chapter 5

Up-dating the BIOS

The IWILL SIDE RAID66™ is equipped with 1 Mbit flash BIOS on board for the future BIOS up-grade. The new BIOS will be released whenever it is available. For the latest BIOS up-date please check www.iwill.net.

In this section we will describe how to up-grade the SIDE RAID66™ BIOS.

When you download the latest SIDE RAID66™ BIOS from our web site ([Http://www.iwill.net](http://www.iwill.net)) or technical support, save it under the name “BIOS” then follow the procedure below to upgrade to the SIDE RAID66™ BIOS:

Step 1: Copy the files “load.exe (included in the SIDE RAID66™ Driver Disk)” and “BIOS” to a new floppy.

Step 2: Reboot your system and go into the pure DOS environment.

Step 3: Insert the floppy that contains the files “load.exe” and “BIOS” into drive A.

Step 4: At the “A:\>” prompt, type “load BIOS” and then press “enter”.

Step 5: Remove the floppy A, and then restart your system.

Chapter 6

How to Utilized RAID

This section will help guide you in your use of the SIDE RAID66 adapter RAID BIOS functions.

The supported RAID functions for this adapter are:

STRIPING (RAID 0)

Reads and writes sectors of data interleaved between multiple drives. When any disk member fails, it affects the entire array. Performance is better than a single drive since the workload is balanced between the array members. This array type is for high performance systems. Identical drives are recommended for performance as well as data storage efficiency. The disk array data capacity is equal to the number of drive members times the smallest member capacity.

Important

Striping two hard disk attached together on the same cable is not allowed.

MIRRORING (RAID 1)

Writes duplicate data on to a pair of drives while reads are performed in parallel. The SIDE RAID66 perform reads using advanced data handling techniques that distribute the workload in a more efficient manner than using a single drive. When a read request is made the SIDE RAID66 selects the drive positioned closest to the requested data, then looks to the idle drive to perform the next read access.

STRIPING/MIRROR (RAID 0+1)

A combination of both above array types. It can increase performance by reading and writing data in parallel while protecting data with duplication. A minimum of four drives needs to be installed. With four-drive disk array, two pairs of drives are striped. Each pair mirrors the data on the other pair of striped drives. The data capacity is similar to a standard Mirroring array with half of total capacity dedicated for redundancy.

SELECTING THE RAID FUNCTION

GETTING STARTED

- Install the adapter into an empty PCI slot
- Attach your hard disk to the SIDE RAID66 adapter
- Boot up your system
- Press CTRL-H to enter SIDE RAID66 BIOS

SELECT DEVICE MODE

Step 1. Use “↓” and “↑” to select SET DEVICE MODE and press ENTER.

Iwill Corporation

SIDE RAID66 BIOS ver. 1.03

SIDE RAID66 BIOS Setting Menu

SET DEVICE MODE

SET DEVICE MODE:

SELECT BOOT SEQUENCE

If you enter this section you will have the option of setting the transfer mode for any hard disk(s) attached to the SIDE RAID66.

SELECT RAID FUNCTION

F1: Previous Menu

Enter: Set Device Modeuence

“↓” and “↑” : Select

Step 2. Use up and down to select SET DEVICE MODE and press ENTER.

Iwill Corporation

SIDE RAID66 BIOS ver. 1.03

SIDE RAID66 BIOS Setting Menu

Set Device Mode

Channel	Hard Disk	Status	Size (MB)	Mode
Primary Mater	C: QUANTUM FRIEBALL	Single Disk	6545	UDMA4
Primary Slave	C: QUANTUM FRIEBALL	Single Disk	6545	UDMA4
F1: Previous Menu		Enter:	Save Change Mode	
“↓” and “↑” : Select		PU/PD:	Change the mode	

SELECT BOOT SEQUENCE

Step 1. Use up and down to select SETECT BOOT SEQUENCE and press ENTER.

Iwill Corporation

SIDE RAID66 BIOS ver. 1.03

SIDE RAID66 BIOS Setting Menu

SET DEVICE MODE

SELECT BOOT SEQUENCE :

SELECT BOOT SEQUENCE

If you enter this section you will have the option of selecting the boot sequence for the hard disk(s) attached to the SIDE RAID66.

SELECT RAID FUNCTION

No options will be shown up if there is a bootable disk on default IDE channels.

F1: Previous Menu

Enter: Select Boot Sequence

“↓” and “↑” : Select

Step 2. Use “↓” and “↑” to select **SELECT BOOT SEQUENCE** and press **ENTER**.

Iwill Corporation

SIDE RAID66 BIOS ver. 1.03

SIDE RAID66 BIOS Setting Menu

Select Boot Sequence

Channel	Hard Disk	Status	Boot Sequence
Primary Mater	C: QUANTUM FRIEBALL	Single Disk	Boot Drive
Primary Slave	C: QUANTUM FRIEBALL	Single Disk	
F1: Previous Menu		Enter: Save Change Made	
“↓” and“↑” : Select			

SELECT RAID FUNCTIONS

Create Disk Mirror - Select this item to Create a Mirrored Disk.

Iwill Corporation

SIDE RAID66 BIOS ver. 1.03

SIDE RAID66 BIOS Setting Menu

Create Disk Mirror

Channel	Drive Model	Size (MB)	Select
Primary Master	C: Quantum Fireball CX	6545	Original
Primary Slave	D: Quantum Fireball CX	6545	Mirror
Secondary Master			
Secondary Slave			
F10 Previous Menu		Enter: Begin Mirror	
		PU/PD:	

Original - This is your source hard disk. All information from this disk is mirrored to another hard disk in the RAID array. **This option is chosen by using the Page Up / Page Down keys.**

Mirror - This will mirror the Original hard disk all information in this disk will be lost. **This option is chosen by using the Page Up / Page Down keys.**

You can create the Mirror on your hard disk by entering Yes to continue.

When the Mirroring is finished you will be asked to restart the system.

You are about to create a Mirrored disk on the following drive.

C: Quantum Fireball CX

Are you sure you want to continue? (Y/N/ECS to exit menu) **Yes**

Please Wait ... (ECS to abort Mirror Process)

Remove Disk Mirror - Select this item to remove the Mirror from the disk.

Iwill Corporation

SIDE RAID66 BIOS ver. 1.03

SIDE RAID66 BIOS Setting Menu

Create Disk Mirror

Channel	Drive Model	Size (MB)	Select
Primary Master	C: Quantum Fireball CX	6545	Remove
Primary Slave	D: Quantum Fireball CX	6545	
Secondary Master			
Secondary Slave			
F10 Previous Menu		Enter: Remove Mirror	
		PU/PD:	

Remove - Will remove the Mirror from the disk.



Create Striped Disk - Select this item to Create a Striped Disk

Iwill Corporation

SIDE RAID66 BIOS ver. 1.03

SIDE RAID66 BIOS Setting Menu

Create Striped Disk

Channel		Drive Model	Size (MB)	Select
Primary Master	C:	Quantum Fireball	CX 6545	New Striped Group
Primary Slave	D:	Quantum Fireball	CX 6545	New Striped Group
Secondary Master				
Secondary Slave				

F10 Previous Menu Enter:

Begin Stripe

PU/PD:

Chaptr 6 How to Utilized RAID

New Stripe Group - This is for choosing the Striped Group, both hard disk
will be combined.

You are about to create a Striped Disk on the following drive.

C: Quantum Fireball CX

D: Quantum Fireball CX

Are you sure you want to continue? (Y/N/ECS to exit menu) **Yes**

Please Wait ... (ECS to abort Striped Disk)

Yes - This Stripe your hard disk.

Remove Striped Group - This menu will remove a stripped group.

Iwill Corporation

SIDE RAID66 BIOS ver. 1.03

SIDE RAID66 BIOS Setting Menu

Remove Striped Disk

Channel		Drive Model	Size (MB)	Select
Primary Master	C:	Quantum Fireball CX	6545	Remove Stripe
Primary Slave	D:	Quantum Fireball CX	6545	Remove Stripe
Secondary Master				
Secondary Slave				
F10 Previous Menu			Enter: Remove Stripe	
			PU/PD:	

Remove Stripe - This will remove the Stripe from the hard disk.

STRIPING/MIRROR (RAID 0+1)

Important

To create a Striped/Mirror (RAID 0+1) set you will need at least three hard disks.

Create Striped Disk - Select this item to Create a Striped Disk

Iwill Corporation

SIDE RAID66 BIOS ver. 1.03

SIDE RAID66 BIOS Setting Menu

Create Striped Disk

Channel	Drive Model	Size (MB)	Select
Primary Master	C: Quantum Fireball CX6545		New Striped Group
Primary Slave	D: Quantum Fireball CX6545		New Striped Group
Secondary Master	E: Quantum Fireball CX6545		New Striped Group
Secondary Slave	F: Quantum Fireball CX6545		New Striped Group
F10 Previous Menu			Enter: Begin Stripe
			PU/PD:



STRIPEDGROUPCREATED

Iwill Corporation

SIDE RAID66 BIOS ver. 1.03

SIDE RAID66 BIOS Setting Menu

Create Striped Disk

Channel	Drive Model	Status Size (MB)	Select
Primary Master	C:Quantum Fireball CX	Striped	13090
Primary Slave	C:Quantum Fireball CX	Stirped	13090
Secondary Master	D:Quantum Fireball CX	Stirped	13090
Secondary Slave	D:Quantum Fireball CX	Striped	13090
F10 Previous Menu		Enter:	
		PU/PD:	

CREATEMIRROR

Iwill Corporation

SIDE RAID66 BIOS ver. 1.03

SIDE RAID66 BIOS Setting Menu

Create Disk Mirror

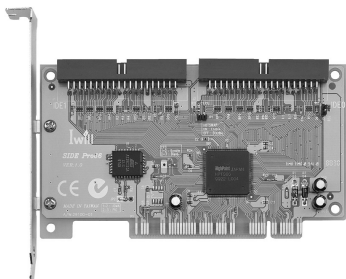
Channel	Drive Model	Status	Size (MB)
Primary Master	C:Quantum Fireball CX	Striped/Mirror	13090
Primary Slave	C:Quantum Fireball CX	Striped/Mirror	13090
Secondary Master	C:Quantum Fireball CX	Striped/Mirror	13090
Secondary Slave	C:Quantum Fireball CX	Striped/Mirror	13090
F10 Previous Menu		Enter:	
		PU/PD:	

Appendix

Iwill SuperIDE series ATA66 controller card

If you want to improve I/O performance of your motherboard, choose the latest Iwill SuperIDE controllers. Below is the Iwill SuperIDE controller you may purchase, and use with your motherboard:

SIDE Pro66: an economical ATA66 IDE controller card, and connects up to 4 IDE device



- Supports ATPI,DMA protocol
66 MB/sec. Data transfer rate
- The best choice for up-grading your
system from ATA33 to ATA66.
- Connects maximum 4 narrow IDE
devices.
- PC Compatible.