Statement:

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Version:

User's Manual V1.0 in English for NF4SK8AA series motherboard.

P/N: 91-181-CK8-A6-0E

Symbol description:

Note: refers to important information that can help you to use motherboard better.

Attention: indicates that it may damage hardware or cause data loss, and tells you how to avoid such problems.

Warning: means that a potential risk of property damage or physical injury exists.

More information:

If you want more information about our products, please visit the following website: http://www.foxconnchannel.com

Declaration of conformity

C E

HON HAI PRECISION INDUSTRY COMPANY LTD
66 , CHUNG SHAN RD., TU-CHENG INDUSTRIAL DISTRICT,
TAIPEI HSIEN, TAIWAN, R.O.C.

declares that the product
Motherboard
NF4SK8AA

is in conformity with
(reference to the specification under which conformity is declared in
accordance with 89/336 EEC-EMC Directive)

☑ EN 55022: 1998/A2: 2003 Limits and methods of measurements of radio disturbance characteristics of information technology equipment

☑ EN 61000-3-2: 2000 Electromagnetic compatibility (EMC)
Part 3: Limits
Section 2: Limits for harmonic current emissions
(equipment input current <= 16A per phase)

☑ EN 61000-3-3/A1:2001 Electromagnetic compatibility (EMC)
Part 3: Limits
Section 2: Limits of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current <= 16A

☑ EN 55024: 1998/A2:2003 Information technology equipment-Immunity characteristics limits and methods of measurement

Signature :   Place / Date :   TAIPEI/2005

Printed Name :   James Liang   Position/ Title :   Assistant President
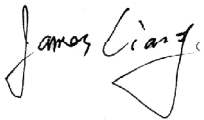
Declaration of conformity

FCC

Trade Name:	WinFast
Model Name:	NF4SLI7AA
Responsible Party:	PCE Industry Inc.
Address:	458 E. Lambert Rd.
	Fullerton, CA 92835
Telephone:	714-738-8868
Facsimile:	714-738-8838

Equipment Classification:	FCC Class B Subassembly
Type of Product:	Motherboard
Manufacturer:	**HON HAI PRECISION INDUSTRY COMPANY LTD**
Address:	66 , CHUNG SHAN RD., TU-CHENG INDUSTRIAL DISTRICT, TAIPEI HSIEN, TAIWAN, R.O.C.

Supplementary Information:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions : (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Tested to comply with FCC standards.

Signature :　　　　　　　　　　　　　Date :　　　2005

Table of Contents

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Warning:

1. Attach the CPU and heatsink using silica gel to ensure full contact.
2. It is suggested to select high-quality, certified fans in order to avoid damage to the motherboard and CPU due to high temperature.
3. Never turn on the machine if the CPU fan is not properly installed.
4. Ensure that the DC power supply is turned off before inserting or re moving expansion cards or other peripherals, especially when you insert or remove a memory module. Failure to switch off the DC power supply may result in serious damage to your system or memory module.

Warning:

We cannot guarantee that your system will operate normally while overclocked. Normal operation depends on the overclock capacity of your device.

Attention:

Since BIOS programs are upgraded from time to time, the BIOS de-scription in this manual is just for reference. We do not guarantee that the content of this manual will remain consistent with the actual BIOS version at any given time in the future.

Attention:

The pictures of objects used in this manual are just for your reference. Please refer to the physical motherboard.

This manual is suitable for motherboard of NF4SK8AA series. Each motherboard is carefully designed for the PC user who wants diverse features.

-L	with onboard 10/100M LAN
-K	with onboard Gigabit LAN
-6	with 6-channel audio
-8	with 8-channel audio
-E	with 1394
-S	with SATA
-R	with RAID

You can find PPID label on the motherboard. It indicates the functions that the motherboard has.

For example:

ULBA416000OB PC   XXXXX-PE-6ELS

On the blue mark of the PPID label, it means the motherboard supports 6-channel Audio (-6), 1394 port (-E), onboard 10/100M LAN (-L), SATA function (-S).

Chapter 1

Thank you for buying WinFast NF4SK8AA series motherboard. This series of motherboard is one of our new products, and offers superior performance, reliability and quality, at a reasonable price. This motherboard adopts the advanced NVIDIA nForce 4 SLI chipset, providing users a computer platform with a high integration-compatibility-performance price ratio.

This chapter includes the following information:
- ❖ Main Features
- ❖ Motherboard Layout
- ❖ Rear Panel Connectors

Main Features

Size:
- ATX form factor of 12" x 9.6"

Microprocessor:
- Supports Socket 939 for AMD K8 Athlon™ 64FX/Athlon™ 64 processors

HyperTransport Technology:
- 16 x 16 link running at 1GHz for extremely high throughput (8.0GB/sec)
- Differential lines with low voltage swings

Chipset:
- NVIDIA Chipset: NVIDIA nForce 4 SLI
- Supports NVIDIA® SLI™ (Scalable Link Interface) technology

System Memory   HDDR400
- Four 184-pin DDR DIMM slots
- Supports DDR 266/333/400 memory
- Supports 128/256/512/1024Mb technology up to 4GB

USB 2.0 Port   USB
- Supports hot-plug
- Ten USB 2.0 ports (four rear panel ports, three onboard USB connectors providing six extra ports)
- Supports wake-up from S1 and S3 mode
- Supports USB 2.0 protocol up to 480Mbps transmission rate

Onboard Serial ATA II
- Compliant with the Serial ATA II specification
- Supports up to six S-ATA I/II devices, such as HDD, etc
- Supports 300MB/s data transfer rate

NVIDIA RAID Technology
- Supports RAID 0, RAID 1, RAID 0+1 and JBOD

- Cross-controller RAID uniquely supports both SATA and PATA disk devices within a single array

Silicon 3132 RAID Technology
- Supports RAID 0, RAID 1

Onboard 1394 (optional) IEEE 1394
- Supports hot-plug
- With rate of transmission at 400Mbps
- Self-configured addressing
- Supports two independent 1394 units synchronously at most, such as HDD, CD-ROM

Onboard LAN (-K)
- Supports dual Gigabit LAN
- Supports 1000 (-K) Mbps Ethernet
- LAN interface built-in on board
Note: The shielded LAN cables are recommended.

Onboard Audio (-8)
- Supports 8-channel audio
- Supports SPDIF output
- Supports Universal Audio Jack (UAJ)
- Supports high quality differential CD input

BIOS
- Licensed advanced AWARD (Phoenix) BIOS, supports flash ROM, Plug-and-Play
- Supports IDE device, CD-ROM, SCSI HDD or USB device boot up

Green Function
- Supports ACPI (Advanced Configuration and Power Interface)
- Supports S0 (normal), S1 (power on suspend), S3 (suspend to RAM), S4 (suspend to disk-depends on OS), and S5 (soft-off) ACPI state

PCI Express x16 support
- Supports 4 GB/sec (8GB/sec concurrent) bandwidth
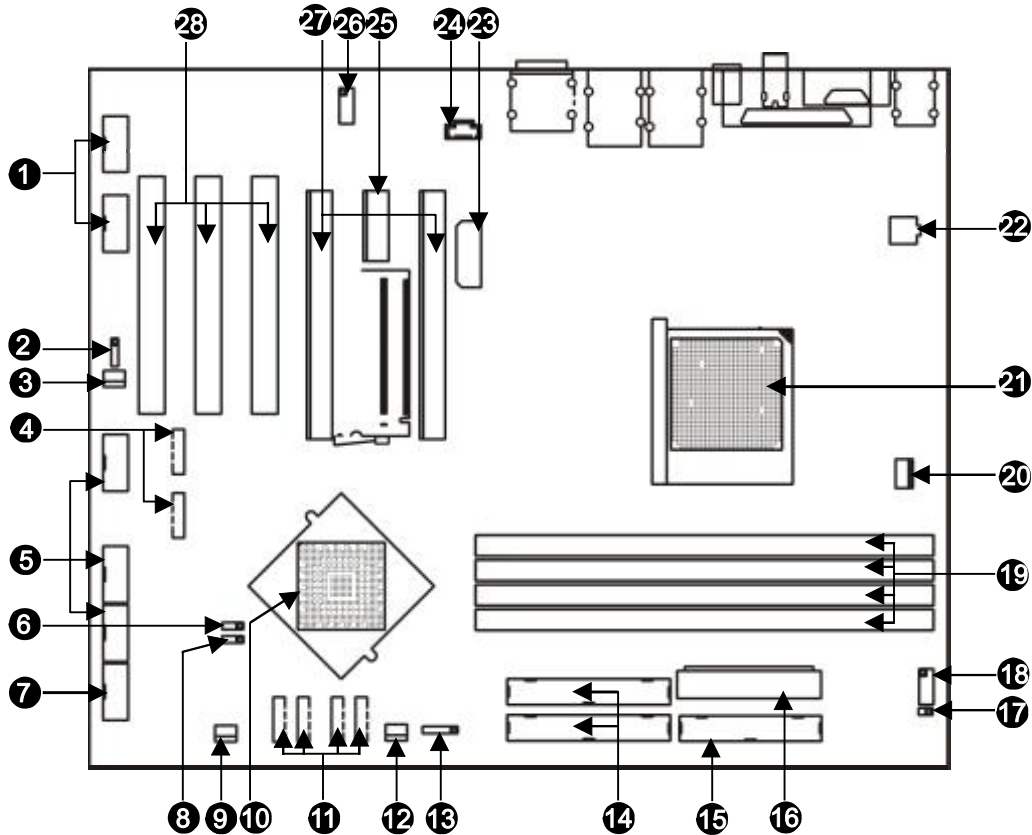- Low power consumption and power management features

Expansion Slots

- Three PCI slots
- One PCI Express x1 slot
- Two PCI Express x16 slots

Advanced Features

- PCI 2.3 Specification Compliant
- Supports PC Health function (capable of monitoring system voltage, CPU/ system temperature, and fan speed)
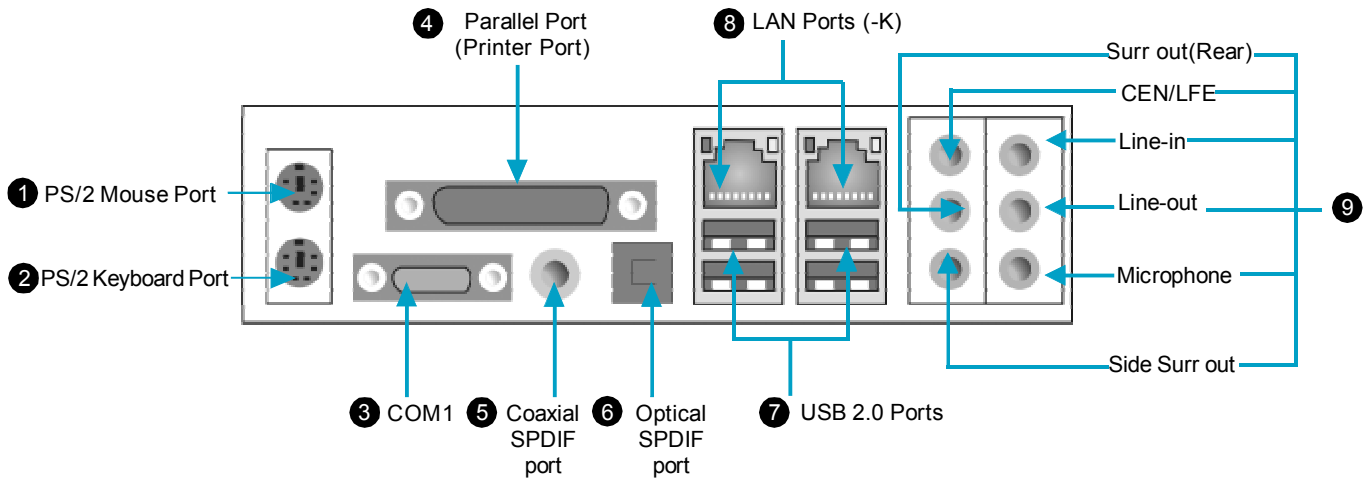
Motherboard Layout

1. Front 1394 Connectors (optional)
2. Speaker Connector
3. System FAN2 Connector
4. SATA Connectors (Controlled by silicon 3132 Chipset)
5. Front USB Connectors
6. BIOS TBL Enable Jumper
7. Front Panel Connector
8. Clear CMOS Jumper
9. Chipset FAN Connector
10. Chipset: NVIDIA nForce 4 SLI
11. SATA Connectors (Controlled by NVIDIA nForce 4 SLI)
12. System FAN1 Connector
13. IrDA Connector
14. IDE Connectors
15. Floppy Connector
16. 24-pin Power Connector
17. Intruder Connector (optional)
18. COM2 Connector (optional)
19. DDR DIMM Slots
20. CPU FAN Connector
21. CPU Socket
22. 4-pin 12V Power Connector
23. Auxiliary PEX Power Connector
24. CD_IN Connector
25. PCI Express x1 Slot
26. Front Audio Connector
27. PCI Express x16 Slots
28. PCI Slots

Note: The above motherboard layout is provided for reference only; please refer to the physical motherboard.

Rear Panel Connectors

This motherboard provides the following ports as below:

4 Parallel Port (Printer Port)

8 LAN Ports (-K)

Surr out(Rear)

CEN/LFE

Line-in

Line-out

Microphone

Side Surr out

1 PS/2 Mouse Port

2 PS/2 Keyboard Port

9

3 COM1   **5** Coaxial SPDIF port   **6** Optical SPDIF port   **7** USB 2.0 Ports

❾ Line in, Line out, Microphone,Surr out(Rear), CEN/LFE, Side Surr out(for -8 Models)

When using a 8-channel sound source, connect the front speaker to the green audio output; connect the Surr out(Rear) sound speaker to the black audio output; connect the center speaker/subwoofer(LFE/CEN) to the yellow audio output; connect the side Surr out sound speaker to the blue audio output.

Chapter 2

This chapter introduces the hardware installation process, including the installation of the CPU and memory. It also addresses the connection of your power supply, connection of hard drive and floppy drive data cables, and setting up various other feature of the motherboard. Caution should be exercised during the installation process. Please refer to the motherboard layout prior to any installation and read the contents in this chapter carefully.

This chapter includes the following information:

❖ CPU
❖ Memory
❖ Power Supply
❖ Other Connectors
❖ Expansion Slots
❖ Jumpers

Notes:

Take note of the following precautions before you install components or change settings.

1. Use a grounded wrist strap or touch a safely grounded object, such as an attached power supply, before handling components to avoid damaging them due to static electricity.
2. Unplug the power cord before opening your chassis or touching any components.
3. Hold components by their edges to avoid touching any exposed integrated circuits (ICs).
4. Whenever you uninstall a component, place it on a grounded anti-static pad or into the antistatic bag that it came in.

CPU

This motherboard supports Athlon™ 64FX/Athlon™ 64 processors running at 1GHz for extremely high throughput (8.0GB/sec) and Hyper Transport ™ Technology.

ℹ **Attention:**

> The CPU pins must be properly aligned with the holes in the socket, otherwise the CPU may be damaged.

For the detailed CPU vendor list qualified on this motherboard, please visit the website: http://www.foxconnchannel.com

Installation of CPU

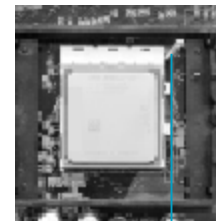Follow these steps to install the CPU.

1. Unlock the socket by pressing the lever sideways, then lift it up to a 90° angle.
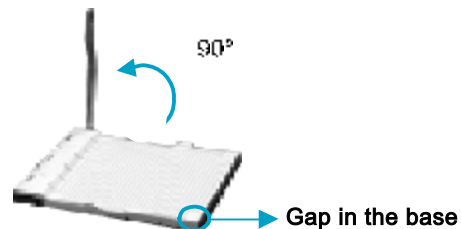
Gap in the base

2. Align the cut edge to the gap in the base of the socket. Carefully insert the CPU into the socket until it fits in place.
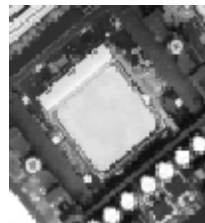

Cut edge

Push down the socket lever to secure the CPU.

3. When the CPU is in place, press it firmly on the socket while you push down the socket lever to secure the CPU. The lever clicks on the side tab to indicate that it is locked.

Installation of CPU Fan

New technology allows processors to run at higher and higher frequencies. To avoid problems arising from high-speed operation, for example, overheating, you need to install the proper fan. The following procedure is provided for reference only, please refer to your CPU fan user guide for the actual procedure.

CPU Fan

CPU Heatsink

CPU Retention Mechanism

CPU Retention Bracket
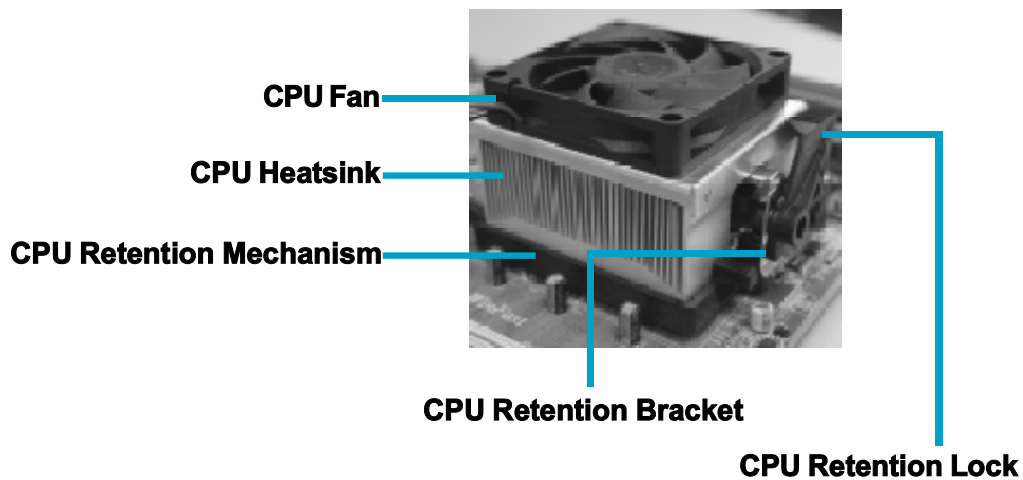
CPU Retention Lock

1. Locate the CPU retention mechanism base (surrounds the CPU socket).
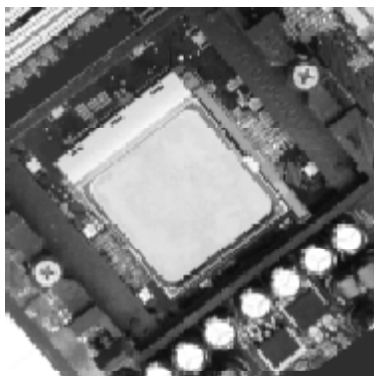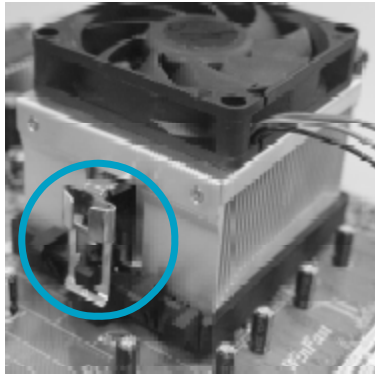
2. If required, apply a light coating of silica gel to the top of the CPU.
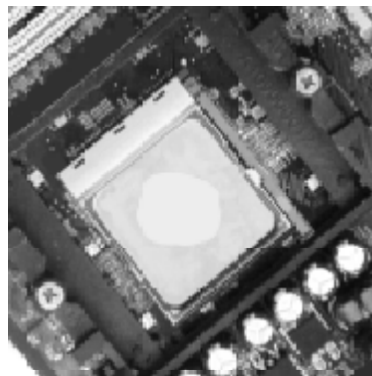
NOTE: The CPU heatsink may have a pre-applied thermal compound. In that case, the silica gel is not required.
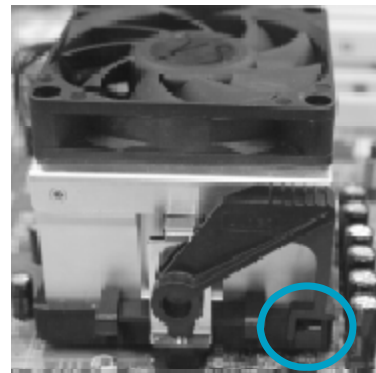
3. Place the cooling set onto the retention mechanism. Attach one end of the retention bracket to retention mechanism.

4. Align the other end of the retention bracket to fasten the cooling set on the top of the retention mechanism.
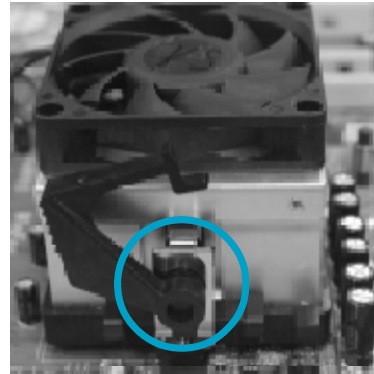
5. Push down the retention bracket lock on the retention mechanism to secure the heatsink and fan to module base.
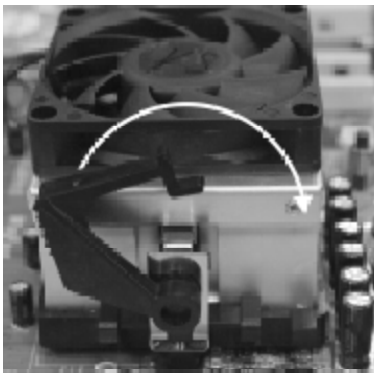
6. Connect the fan's power cable to the appropriate 3-pin terminal on the motherboard.
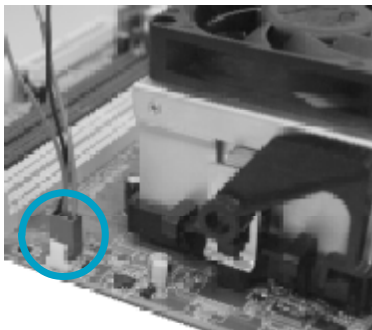
Note:

Excessive temperatures will severely damage the CPU and system. Therefore, you should install CPU cooling fan and make sure that the cooling fan works normally at times in order to prevent overheating and damaging to the CPU.

Memory

This motherboard includes four 184-pin slots with 266/333/400 MHz Dual Channel DDR DRAM interface, You must install at least one memory module to ensure normal operation. If you install four modules, they must be the same speed. Mixing memory modules from different manufactures are not recommended.

	DIMM1
	DIMM2
	DIMM3
	DIMM4

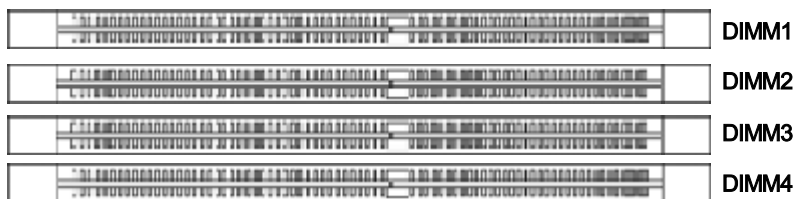For the latest memory modules support list, please visit the website:

http://www.foxconnchannel.com

Installation of DDR Memory

1. There is only one gap in the center of the DIMM slot, and the memory module can be fixed in one direction only.
2. Align the memory module to the DIMM slot, and insert the module vertically into the DIMM slot.

104 Pins   80 Pins
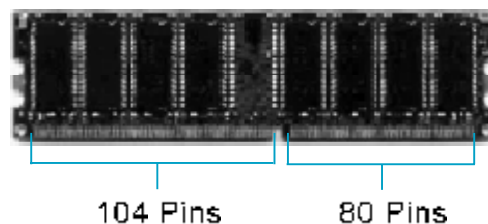
3. The plastic clips at both sides of the DIMM slot will lock automatically.

Note:

Be sure to unplug the AC power supply before adding or removing expansion cards or other system peripherals, especially the memory devices, otherwise your motherboard or the system memory might be seriously damaged.

Recommended Memory Configurations

The following table list is the recommended memory configurations. Please install the memory according to the list.

| Mode	DIMM1	DIMM2	DIMM3	DIMM4
Signal-channel	Populated	—	—	—
	—	—	Populated	—
	Populated	—	Populated	—
Dual-channel	Populated	Populated	—	—
	—	—	Populated	Populated
	Populated	Populated	Populated	Populated

Note:

Installing DDR DIMMs other than the recommended configurations may cause memory sizing error or system boot failure.

Power Supply

This motherboard uses an ATX power supply. In order to avoid damaging any devices, make sure that they have been installed properly prior to connecting the power supply.

ATX Power Connector: PWR1

PWR1 is the ATX power supply connector. Make sure that the power supply cable and pins are properly aligned with the connector on the motherboard. Firmly plug the power supply cable into the connector and make sure it is secure.

24-pin ATX power connector
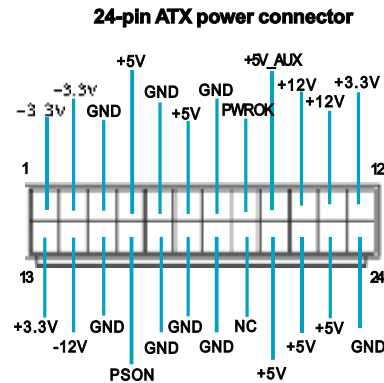
ATX 12V Power Connector: PWR2

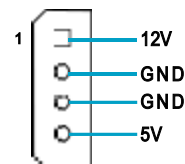The 4 pin ATX 12V power supply connects to PWR2 and provides power to the CPU.

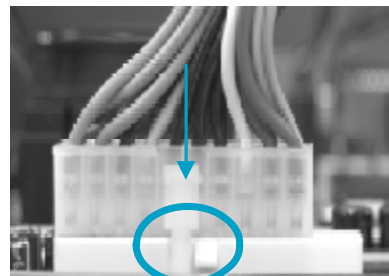**4-pin ATX_12V power connector**

AUX PEX PWR Connector: PWR3

This connector is auxiliary power which mainly supplies 12V and 5V power for the motherboard.

🛈 Attention:

We strongly recommend you use 24-pin power supply. If you want to use 20-pin power supply, you need to align the ATX power connector according to the right picture.

Other Connectors

This motherboard includes connectors for FDD devices, IDE HDD devices, SATA devices, USB devices, 1394 devices, IR module, CPU fan, system fan, and others.

FLOPPY

This motherboard includes a standard FLOPPY interface, supporting 360 K, 720 K, 1.2 M, 1.44 M, and 2.88 M FDDs.

IDE Connectors: PIDE & SIDE

These connectors support the provided UltraDMA133/100/66 IDE hard disk ribbon cable and you can configure as a disk array through NVIDIA RAID controller. Refer to RAID manual (in CD) for details on how to set up RAID configurations. Connect the cable's blue connector to the primary (recommended) or secondary IDE connector, then connect the gray connector to the slave device (hard disk drive) and the black connector to the master device. If you install two hard disks, you must configure the second drive as a slave device by setting its jumper accordingly. Refer to the hard disk documentation for the jumper settings.

ℹ **Attention:**

> Ribbon cables are directional, therefore, make sure to always connect with the cable on the same side as pin 1 of the PIDE/SIDE or FDD connector on the motherboard.

Front Panel Connector: FP1

This motherboard includes one connector for connecting the front panel switch and LED indicator.
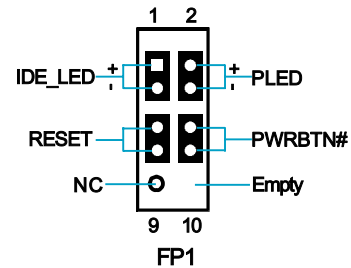
Hard Disk LED Connector (IDE_LED)
Attach the connector to the IDE_LED on the front panel of the case; the LED will flash while the HDD is in operation.
Reset Switch (RESET)
Attach the connector to the Reset switch on the front panel of the case; the system will restart when the switch is pressed.
Power LED Connector (PLED)
Attach the connector to the Power LED on the front panel of the case. The Power LED indicates the power supply status. When the system is in S0 status, the LED is on. When the system is in S1 status, the LED is blink. When the system is in S4, S5 status, the LED is off.
Power Switch Connector (PWRBTN#)
Attach the connector to the power button of the case. Pushing this switch allows the system to be turned on and off rather than using the power supply button.

USB Connectors: F_USB1, F_USB2, F_USB3

Besides four USB ports on the rear panel, the series of motherboards also have two 10-pin connectors on board which may connect to the front panel USB cable to provide additional four USB ports.
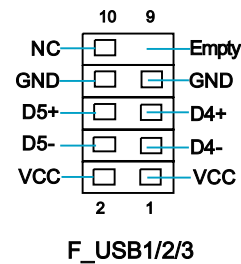
IrDA Connector: IR1

The IrDA infrared transmission allows your computer to send and receive data via an infrared ray. The relevant parameters for the BIOS Integrated Peripherals should be set prior to using this function.
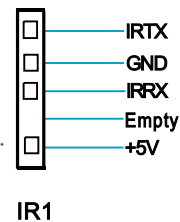
Fan Connectors: CFAN1, PFAN1, SFAN1, SFAN2

There are four fan connectors on this motherboard.

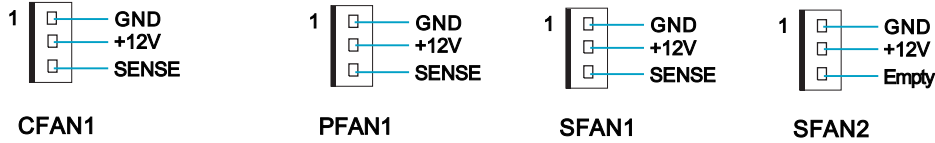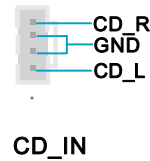|			

1   GND
  +12V
  SENSE
	1 GND
	  +12V
	  SENSE
		1 GND
		  +12V
		  SENSE
			1 GND
			  +12V
			  Empty

CFAN1	PFAN1	SFAN1	SFAN2

Audio Connector: CD_IN

CD_IN is Sony standard CD audio connectors, to re-
ceive audio input from the CD-ROM, attach the audio
connector to the CD_IN audio connectors on the
motherboard.

CD_R
GND
CD_L

CD_IN

S-ATA II Connectors: SATA_1, SATA_2, SATA_3,

SATA_4, SATA_5, SATA_6

The Serial ATA II connectors are used to connect the S-
ATA I/II devices to the motherboard. These connectors
support the thin Serial ATA II cables for primary internal
storage devices. The current Serial ATA II interface al-
lows up to 300MB/s data transfer rate. Refer to RAID
manual (in CD) on how to set up SATA RAID configura-
tions for details.

GND
TX+
TX-
GND
RX-
RX+
GND   1

SATA_1/SATA_2
SATA_3/SATA_4/
SATA_5/SATA_6
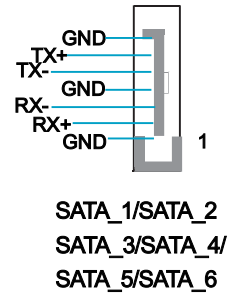
1394 Connectors (optional): F_1394_1, F_1394_2

The 1394 expansion cable can be connected to either
the front (provided that the front panel of your chassis
is equipped with the appropriate interface) or the rear
panel of the chassis.

	1	2	
TPA+	□	□	TPA-
GND	□	□	GND
TPB+	□	□	TPB-
+12V	□	□	+12V
Empty		□	GND
	9	10	

F_1394_1/2
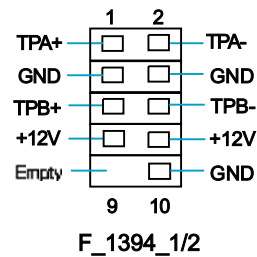
COM2 Connector (optional): COM2

This motherboard attached a serial connector for your
computer, you only need connect it with cable, then link
devices to cable port.

	1	2	
RLSD	□	□	SIN
SOUT	□	□	DTR
GND	□	□	DSR
RTS	□	□	CTS
RI	□		Empty
	9	10	

COM2
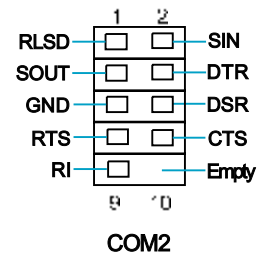
Speaker Connector: SPK1

The speaker connector is used to connect speaker of the chassis.

```
■—SPKJ
■—NC
 —SPK(Pull high)
■—SPK(Pull high)
```
1
SPK1

Chassis Intruder Connector (optional): CI1

The connector connects to the chassis security switch on the case. The system can detect the chassis intrusion through the status of this connector. If the connector has been closed once, the system will send a message. To utilize this function, set "Intruder Detection" to "Enabled" in the "Power Management Setup" section of the CMOS Setup. Save and exit, then boot the operating system once to make sure this function takes effect.
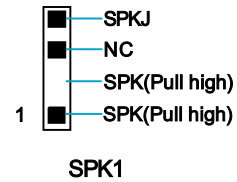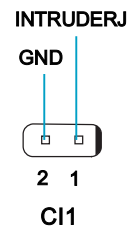
INTRUDERJ
GND

2 1
CI1

Front Audio Connector: F_AUDIO1

The audio port includes two parts – the Front Audio and Rear Audio. Their priority is sequenced from high to low (Front Audio to Rear Audio). If headphones are plugged into the front panel of the chassis (using the Front Audio), then the Line Out (Rear Audio) on the rear panel will not work. If you do not want to use the Front Audio, pin 5 and 6, pin 9 and 10 must be short, and then the signal will be sent to the rear audio port.

```
              1   2
MIC_IN     —□  □— MIC_GND
MIC_PWR    —□  □— +5VA
AUD_OUT_R  —□  □— AUD_RET_R
NC         —□     EMPTY
AUD_OUT_L  —□  □— AUD_RET_L
              9  10
```
F_AUDIO1
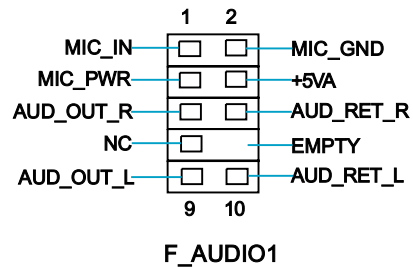
Expansion Slots

This motherboard includes three 32-bit Master PCI bus slots, one PCI Express x1 slots, and two PCI Express x16 slot.

PCI Slots

The expansion card can be installed in the PCI slot. When you install or take out such card, you must make sure that the power plug has been pulled out. Please read carefully the instructions provided for such card, and install and set the necessary hardware and software for such card, such as the jumper or BIOS setup.

PCI Express Slots

PCI Express will offer the following design advantages over the PCI and AGP interface:

-Compatible with existing PCI drivers and software and Operating Systems.
-High Bandwidth per Pin. Low overhead. Low latency.
-PCI Express supports a raw bit-rate of 2.5 Gb/s on the data pins. This results in a real bandwidth per pair of 250 MB/s.
-A point to point connection, allows each device to have a dedicated connection without sharing bandwidth.
-Ability to comprehend different data structure.
-Low power consumption and power management features.

PCI Express will take two forms, x16 and x1 PCI Express slots. Whereas the x16 slot is reserved for graphic/video cards, the x1 slots are designed to accommodate less bandwidth-intensive cards, such as a modem or LAN card.

The difference in bandwidth between the x16 and x1 slots are not able to be sure, with the x16 slot pushing 4GB/sec (8GB/sec concurrent) of bandwidth, and the x1 PCI Express slot offering 250MB/sec.

🔹 **Warning:**

> If a performance graphics card was installed into PCI Express slot x16, 2X12 pin power supply was strongly recommended.

The motherboard supports one PCI Express x16 Graphics card or two SLI-ready PCI Express x16 Graphics cards that comply with the PCI Express specifications. About install the Graphics cards, please offer the *Appendix* for details.

Note:

In normal mode, only the PCI Express x16 slot near the CPU can be used for PCI Express x16 Graphics cards.

Installing an expansion card

1. Before installing the expansion card, read the documentation that came with it and make the necessary hardware settings for the card.
2. Make sure to unplug the power cord before adding or removing expansion cards.
3. Align the card connector with the slot and press firmly until the card is completely seated on the slot.
4. Secure the card to the chassis with the screw you removed earlier.

For more details on PCI Express x 16 graphics card support list qualified on this motherboard, please visit the website: http://www.foxconnchannel.com

Jumpers

Users can change the jumper settings on this motherboard if necessary. This section explains how to use the various functions of this motherboard by changing the jumper settings. Users should read the following contents carefully prior to modifying any jumper settings.

Description of Jumpers

1. For the jumpers on this motherboard, pin 1 can be identified by the silkscreen printed "△" next to it. However, in this manual, pin 1 is simply labeled as "1".

2. The following table provides some explanations of the jumper pin settings. Users should refer to the table while adjusting jumper settings.

Jumper	Diagram	Definition	Description
1	1	1-2	Set pin 1 and pin 2 closed
	1	2-3	Set pin 2 and pin 3 closed
1	1	Closed	Set the pin closed
	1	Open	Set the pin opened

Clear CMOS Jumper: CLR_CMOS

This motherboard uses the CMOS RAM to store all the set parameters. The CMOS can be cleared by removing the CMOS jumper. Reference the following process.

1. Turn off the AC power supply and short pins 1 and 2 on the jumper.

2. Return the jumper to the normal setting (locking pins 2 and 3 together with the jumper cap).

3. Turn on the system. The BIOS is returned to the default settings.

Clear   Normal (default)

CLR_CMOS

⚡ Warning:

1. Disconnect the power cable before adjusting the jumper settings.
2. DO NOT clear the CMOS while the system is turned on.

BIOS TBL ENABLE Jumper: TBL_EN1

The system cannot boot, if the BIOS failed to be flashed in conventional flash BIOS process. You will have no such worry when using the BIOS TBL function, which is used to protect BIOS "Top Boot Block". By using this function, the system still can boot even if the flash BIOS fails and show some information to recover the BIOS. To utilize this function, you just leave this jumper as short pin 2 and 3 with the jumper cap.

BIOS TBL
Disabled

BIOS TBL
Enabled

TBL_EN1
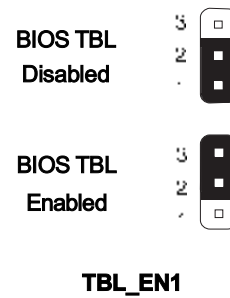
Starting up for the first time

1. After making all the connections, replace the system case cover.
2. Make sure that all switches are turned off.
3. Turn on the devices in the following order.
    a. Monitor
    b. External SCSI devices (starting with the last device on the chain)
    c. System power
4. After powering on, LED on the system front panel case lights up. For ATX power supplies, the system LED lights up when you press the ATX power switch. If your monitor complies with green standards or if it has a power standby feature, the monitor LED may light up or switch between orange and green after the system LED turns on. The system then enters the Power-On Self Test (POST) routines. While the tests are running, the BIOS beeps or additional messages appear on the screen. If you do not see anything within 30 seconds from the time you turned on the power, the system may have failed a power-on test. Check the jumper settings and connections or call your retailer for assistance.
5. After the POST routines are completed, press the <Del> key to access the BIOS Setup Utility. For detailed instructions, please refer to Chapter 3.

Powering off the computer

1. Using the OS shut down function
   If you use windows 98/ME/2000/XP, click Start and select Shut Down, then click the OK button to shut down the computer. The power supply should turn off after Windows shuts down.
2. Using the dual function power switch
   While the system is ON, pressing the power switch for less than 4 seconds puts the system in sleep mode or soft-off mode, depending on the BIOS setting. Pressing the power switch for more than 4 seconds lets the system enter the soft-off mode regardless of the BIOS setting.

Chapter 3

This chapter tells how to change system settings through the BIOS Setup menus. Detailed descriptions of the BIOS parameters are also provided.

You have to run the Setup Program when the following cases occur:

1. An error message appears on the screen during the system POST process.
2. You want to change the default CMOS settings.

This chapter includes the following information:

- ❖ Enter BIOS Setup
- ❖ Main Menu
- ❖ Standard CMOS Features
- ❖ BIOS Features
- ❖ Advanced BIOS Features
- ❖ Advanced Chipset Features
- ❖ Integrated Peripherals
- ❖ Power Management Setup
- ❖ PnP/PCI Configurations
- ❖ PC Health Status
- ❖ Load Fail-Safe Defaults
- ❖ Load Optimized Defaults
- ❖ Set Supervisor/User Password
- ❖ Save & Exit Setup
- ❖ Exit Without Saving

Enter BIOS Setup

The BIOS is the communication bridge between hardware and software, correctly setting up the BIOS parameters is critical to maintain optimal system performance. Power on the computer, when the following message briefly appears at the bottom of the screen during the POST (Power On Self Test), press the <Del> key to enter the Award BIOS CMOS Setup Utility.

Press TAB to show POST screen, DEL to enter SETUP, ESC to Enter Boot Menu.

   ☛ **Note:**

> We do not suggest that you change the default parameters in the BIOS Setup, and we shall not be responsible for any damage that results from any changes that you make.

Main Menu

The main menu allows you to select from the list of setup functions and two exit choices. Use the arrow keys to select among the items and press <Enter> to accept or go to the sub-menu.
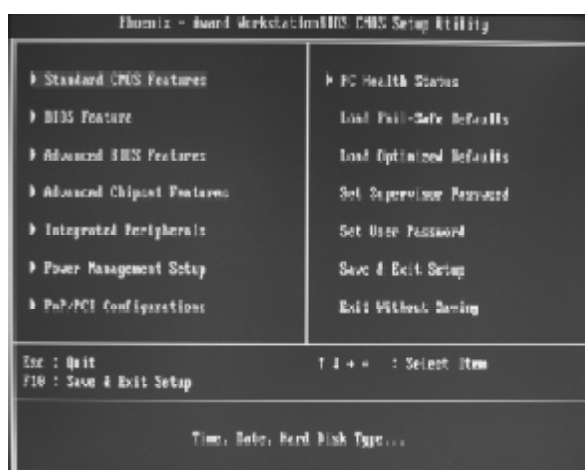
Main Menu

The items in the BIOS Setup main menu are explained below:

  Standard CMOS Features

  The basic system configuration can be set up through this menu.

SuperBIOS Features

The general system features can be set up through this menu.

Advanced BIOS Features

The advanced system features can be set up through this menu.

Advanced Chipset Features

The values for the chipset can be changed through this menu, and the system performance can be optimized.

Integrated Peripherals

All onboard peripherals can be set up through this menu.

Power Management Setup

All the items of Green function features can be set up through this menu.

PnP/PCI Configurations

The system's PnP/PCI settings and parameters can be modified through this menu.

PC Health Status

This will display the current status of your PC.

Load Fail-Safe Defaults

The basic BIOS settings can be loaded through this menu.

Load Optimized Defaults

The best performance settings can be loaded through this menu, however, the stable default values may be affected.

Set Supervisor/User Password

The supervisor/user password can be set up through this menu.

Save & Exit Setup

Save CMOS value settings to CMOS and exit setup.

Exit Without Saving

Abandon all CMOS value changes and exit setup.

Standard CMOS Features

This sub-menu is used to set up the standard CMOS features, such as the date, time, HDD model and so on. Use the arrow keys select the item to set up, and then use the <PgUp> or <PgDn> key to choose the setting values.
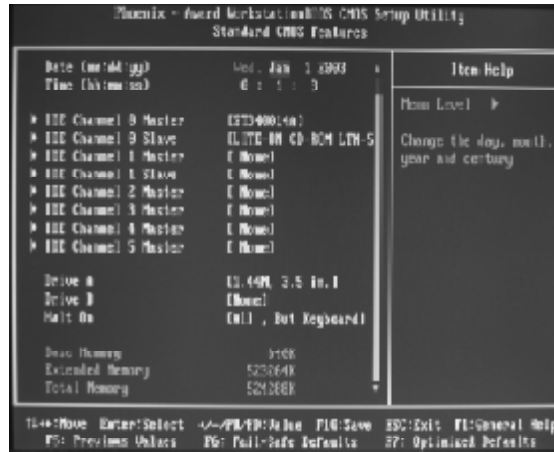
Standard CMOS Features Menu

Date

This item allows you to set the desired date (usually as the current date) with the <day><month><date><year> format.

day	weekday from Sun. to Sat., defined by BIOS (read-only).
month	month from Jan. to Dec.
date	date from 1st to 31st, can be changed by using the keyboard.
year	year, set up by users.

Time

This item allows you to set up the desired time (usually as the current time) with <hour><minute><second> format.

IDE Channel 0/1/ Master/Slave & 2/3/4/5 Mater

These categories identify the HDD types of 6 IDE channels installed in the computer system. There are three choices provided for the Enhanced IDE BIOS: None, Auto, and Manual. "None" means no HDD device is installed or set; "Auto" indicates the system can automatically detect and configure the hard disk when booting up; If it fails to find a device, choose "Manual" and change Access Mode to "CHS", then manually configure the drive by entering the characteristics of the drive directly from the keyboard and pressing < Enter>:

Cylinder	number of cylinders	Head	number of heads
Precomp	write pre-compensation	Landing Zone	Landing Zone
Sector	number of sectors		

Award (Phoenix) BIOS can support 4 HDD modes: CHS, LBA and Large or Auto mode.

CHS	For HDD<528MB
LBA	For HDD>528MB & supporting LBA (Logical Block Addressing)
Large	For HDD>528MB but not supporting LBA
Auto	Recommended mode

Drive A/B

This item allows you to select the kind of FDD to be installed, including [None], [360K, 5.25in], [1.2M, 5.25in], [720K, 3.5in], [1.44M, 3.5in] and [2.88 M, 3.5in].

Halt On

This category determines whether or not the computer will stop if an error is detected during powering up.

All Errors	Whenever the BIOS detects a nonfatal error, the system will stop and you will be prompted.
No Errors	The system boot will not stop for any errors that may be detected.
All, But Keyboard	The system boot will not stop for a keyboard error; but it will stop for all other errors.
All, But Diskette	The system boot will not stop for a diskette error; but it will stop for all other errors.
All, But Disk/Key	The system boot will not stop for a keyboard or a disk error, but it will stop for all other errors.

Memory

This is a Displays-Only Category, determined by POST (Power On Self Test) of the BIOS.

Base Memory	The BIOS POST will determine the amount of base (or conventional) memory installed in the system.
Extended Memory	The BIOS determines how much extended memory is present during the POST.
Total Memory	Total memory of the system.

SuperBIOS Features

BIOS Features Menu

❖**[SuperBoot] SuperBoot**

SuperBoot allows system-relevant information to be stored in CMOS upon the first normal startup of your PC, and the relevant parameters will be restored to help the system start up more quickly on each subsequent startup.

❖**[SuperBIOS-Protect] SuperBIOS-Protect**

SuperBIOS-Protect function protects your PC from being affected by viruses, e.g. CIH.

❖**[SuperRecovery] SuperRecovery Hotkey**

SuperRecovery provides the users with an excellent data protection and HDD recovery function.

❖**[SuperSpeed]**

PCIE Clock

This option is used to set PCI express clock.

❖**CPU Frequency**

The conventional overclock method uses the jumpers on the motherboard, and it is both troublesome and apt to errors. By using SuperSpeed, the CPU can be overclocked by keying in the desired value in the CPU clock range.

❖**HT Frequency**

This item specifies the maximum operating frequency of the link's transmitter clock.

❖**HT Width**

This item specifies the maximum up and down bandwidth of the link's transmitter.

❖**Err94 Enh**

This item is used to set Err94 Enh.

Warning:

Make sure your selection is right. Overclocking CPU/PCIE/Hammer Fid can adversely affect the reliability of the system and introduce errors into your system. We will not be responsible for any damage caused.

Advanced BIOS Features

Advanced BIOS Features Menu

❖**Removable Device Priority**

This item is used to select the priority for removable device. After pressing <Enter>, you can select the device using the <PageUp>/<PageDn> or Up/Down arrow keys, and change the device priority using <+> or <->. To exit this option, press <Esc>.

❖**Hard Disk/CD-ROM Boot Priority**

This item is used to select the priority for hard disk/CD-ROM startup. After pressing <Enter>, you can select the HDD using the <PageUp>/<PageDn> or Up/Down arrow keys, and change the HDD priority using <+> or <->. To exit this option, press <Esc>.

❖**Network Boot Priority**

This item is used to select the priority for network device startup. After pressing <Enter>, you can select the device using the <PageUp>/<PageDn> or Up/Down arrow keys, and change the device priority using <+> or <->. To exit this option, press <Esc>.

❖**Virus Warning**

This option is used to set up the virus warning message for the IDE HDD boot sector. When enabled, a warning message will appear on the screen if any program intends to write information to the boot sector. The available setting values are: Disabled and Enabled.

Note: Such function provides protection to the startup sector only; it does not protect the entire hard disk.

❖**CPU Internal Cache**
This option is used to enable or disable CPU Internal cache.

❖**External Cache**
This option is used to enable or disable CPU External cache.

❖**Quick Power On Self Test**
When you choose "Enabled", BIOS will shorten or skip some check items during POST to speed up POST after you power on the computer. When you choose "Disabled", it will be Normal POST.

❖**First/Second/Third Boot Device**
These items allow you to set the boot device sequence.

❖**Boot Other Device**
The item allow you disable or enable to set the other boot device.

❖**Swap Floppy Drive**
If this item is enabled, it allows you to swap the assigned drive letters so that drive A becomes drive B, and drive B becomes drive A.

❖**Boot Up Floppy Seek**
If it is set to Enabled, BIOS will activate the floppy drive during the system boot, and the drive's indicator will flash after the activation. The magnetic head will move back and forth from A to B.

❖**Boot Up NumLock Status**
This item defines if the keyboard Num Lock key is active when your system is started. When it is set to On, the NumLock will be activated during system startup. When it is set to Off, users can use the number keys instead of the arrow keys to move the cursor.

❖**Gate A20 Option**
This option is used to set up the A20 signal control necessary for access to the 1MB memory. The available setting values are: Normal and Fast.

❖**Typematic Rate Setting**
If this item is enabled, you can use the following two items to see the typematic rate and the typematic delay settings for your keyboard. The available setting values are: Disabled and Enabled.

❖**Typematic Rate (Chars/Sec)**

Use this item to define how many characters per second a held-down key generated.

❖**Typematic Delay (Msec)**

Use this item to define how many milliseconds must elapse before a held-down key begins generating repeat characters.

❖**Security Option**

When it is set to Setup, a password is required to enter the CMOS Setup screen; when it is set to System, a password is required not only to enter CMOS Setup, but also to start up your PC.

❖**APIC Mode**

This option is used to enable or disable APIC function.

❖**MPS Version Control For OS [1.4]**

This option is used to set up the version of MPS Table used in NT4.0 OS.

❖**OS Select For DRAM > 64MB**

This item is only required if you have installed more than 64MB of memory and you are running the OS/2 operating system. Otherwise, leave this item at the default.
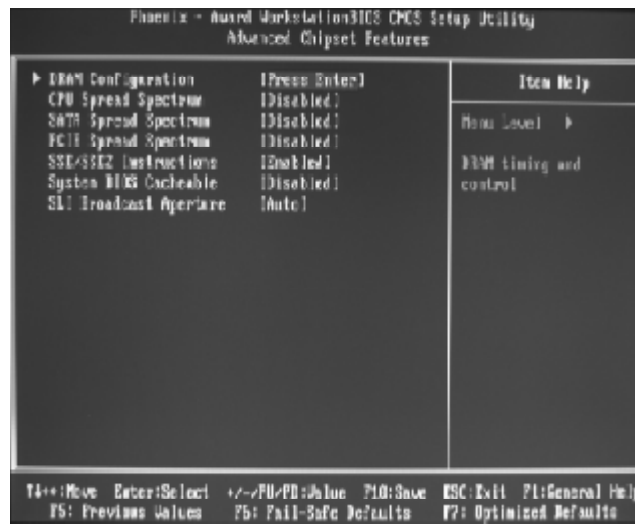
❖**Full Screen LOGO Show**

This item allows you to enable or disable the full screen logo.

❖**Small Logo (EPA) Show**

This item allows you to enable or disable the EPA logo.

Advanced Chipset Features

Advanced Chipset Features Menu

❖**DRAM Configuration**

Press <Enter> to set the items about DRAM Configuration. Please refer to page 35.

❖**CPU/SATA/PCIE Spread Spectrum**

If you enable these items, it can significantly reduce the EMI (Electro-Magnetic Interface) generated by the CPU/SATA/PCIE.

❖**SSE/SSE2 Instructions**

It is used to set enable or disable Intel SSE/SSE2 instructions.

❖**System BIOS Cacheable**

Select "Enabled" to allow catching of the system BIOS which may improve performance. If any other program writes to this memory area, a system error may result. The available setting values are: Disabled and Enabled.

❖**SLI Broadcast Aperture**

This option is used to set the SLI broadcast aperture.

DRAM Configuration Menu

❖Timing Mode

This item is used to set timing mode.

❖Memclock index value (Mhz)

This item is used to set memclock value. Memclock Index Value is the speed used as a ratio with the CPU Frequency to determine your memory speed.

❖CAS# latency (Tcl)

This item controls the CAS latency, which determines the timing delay (in clock cycles) before SDRAM starts a read command after receiving it.

❖Bottom of 32-bit [31:24] IO

This item is used to set Bottom of 32-bit [31:24] IO.

❖S/W memory hole Remapping

This item is used to enable or disable the S/W memory hole remapping.

❖MTRR mapping mode

This item is used select the MTRR mapping mode.

Integrated Peripherals
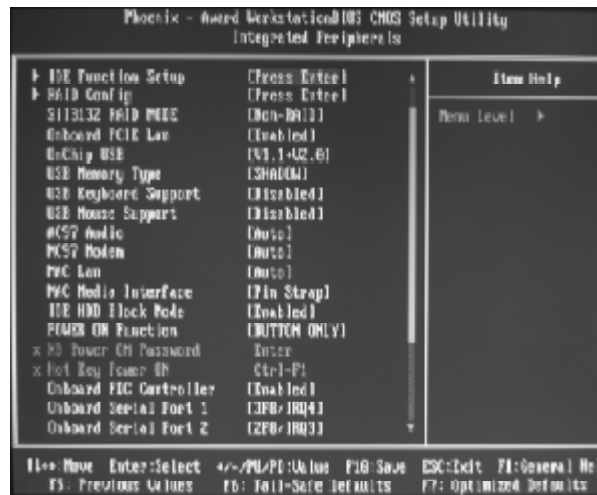
Integrated Peripherals Menu

❖**IDE Function Setup**

Press <Enter> to set the items about IDE function. Please refer to page 39.

❖**RAID Config**

Press <Enter> to set RAID Config. Please refer to page 40.

❖**Sil3132 RAID MODE**

This item is used to set Sil3132 RAID mode or Non-RAID mode.

❖**Onboard PCIE Lan**

This item is used to set onboard PCIE Lan.

❖**Onchip USB**

This item is used to enable or disable the onboard USB controller. Selecting V1.1+V2.0 enables the system to support both USB 1.1 and USB 2.0 specification.

❖**USB Memory Type**

This item is used to set USB meory type.

❖**USB Keyboard/Mouse Support**

This item is used to enable or disable the USB Keyboard/Mouse.

❖**AC97 Audio**

This item is used to set whether onboard AC97 audio is enabled. Disabled the controller if you want to use other controller cards to connect an audio device.

❖**AC97 Modem**

This item is used to set whether onboard AC97 modem is enabled.

❖**MAC Lan**

This item is used to enable or disable the MAC Lan.

❖**MAC Media Interface**

This item is used to set the MAC media interface.

❖**IDE HDD Block Mode (Default: Disabled)**

This item is used to set whether the IDE HDD Block Mode is allowed.

❖**POWER ON Function**

This item is used to set the power on method for your PC.

❖**KB Power ON Password**

When the POWER ON Function is set to Keyboard, use this item to set the password.

❖**Hot Key Power ON**

When the POWER ON Function is set to Hot KEY, use this item to set the hot key combination that turns on the system.

❖**Onboard FDC Controller**

This item is used to set whether the onboard FDC controller is enabled.

❖**Onboard Serial Port 1/2**

This item is used to assign the I/O address and interrupt request (IRQ) for the onboard serial port 1/2. This item cannot be adjusted.

❖**UART Mode Select**

Use this item to select the UART mode. Setting values include Normal, IrDA, ASKIR. The setting value is determined by the infrared module installed on the board.

❖ **RxD, TxD Active**

This option is used to allows you to set the infra-red reception (RxD) and transmission (TxD) polarity.

❖ **IR Transmission Delay**

This option is used to set IR transmission delay.

❖ **UR2 Duplex Mode**

This item is available when UART Mode Select is set to either ASKIR or IrDA. This item enables you to determine the infrared function of the onboard infrared chip.

❖ **Use IR Pins**

This option is used to select the IR pins.

❖ **Onboard Parallel Port**

This item allows you to determine onboard parallel port controller I/O address and interrupt request (IRQ).

❖ **Parallel Port Mode**

This item is used to assign data transport protocols of parallel port. The available options: SPP, EPP, ECP, ECP+EPP and Normal. Normal mode supports data output only; ECP and EPP mode support data input and output in bidirectional mode, but they just fit known ECP and EPP devices.

❖ **ECP Mode Select**

This optional is used to select the ECP mode.

❖ **EPP Mode Use DMA**

Select a DMA Channel for the parallel port when using the ECP mode. This field is configured only if Parallel Port Mode is set to ECP.

❖ **PWRON After PWR-Fail**

This option is used to set what action the PC will take with the power supply when it resumes after a sudden power failure. The available options are: Off (remain in turn off status). On (auto power on) and Former-Sts (resume with the previous status).
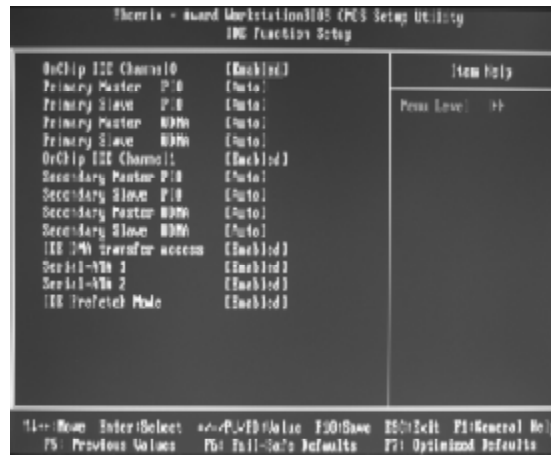
IDE Function Setup Menu

❖**OnChip IDE Channel0/1**

The integrated peripheral controller contains an IDE interface with support for two IDE channels. Choose Enabled to activate each channel separately.

❖**Primary/Secondary Master/Slave PIO**

These four items let you assign which kind of PIO (Programmer Input/Output) is used by IDE devices. Choose "Auto" to let the system auto detect which PIO mode is best.

❖**Primary/Secondary Master/Slave UDMA**

UltraDMA technology provides faster access to IDE devices. If you install a device that supports UltraDMA, change the appropriate items on this list to Auto.

❖**IDE DMA transfer access**

This item is used to enable or disable the DMA transfer function of the IDE Hard Drive.

❖**Serial-ATA 1/2**

This item is used to enable or disable onchip Serial-ATA controller 1/2.

❖**IDE Prefetch Mode**

The onboard IDE drive interfaces support IDE prefetching, for faster drive accesses. When you install a primary and/or secondary add-in IDE interface, set this option to Disabled if the interface dose not support prefetching.

RAID Config Menu

❖ **RAID Enable**

This item is available for you to enable or disable the onboard RAID function.

❖ **IDE Primary/Secondary/Mater/Slave RAID**
These features allow user to enable or disable the RAID function for each IDE hard disk drive.

❖ **SATA 1/2 Primary/Secondary RAID**
These features allow user to enable or disable the RAID function for each SATA hard disk drive.

Power Management Setup

Power Management Setup Menu

❖**ACPI function**

ACPI stands for "Advanced Configuration and Power Interface". ACPI is a standard that defines power and configuration management interfaces between an operating system and the BIOS. In other words, it is a standard that describes how computer components work together to manage system hardware. In order to use this function the ACPI specification must be supported by the OS (for example, Windows2000 or WindowsXP). The available setting values are: Enabled and Disabled.

❖**ACPI Suspend Type**

This item is used to set the energy saving mode of the ACPI function. When you select "S1 (POS)" mode, the power will not shut off and the supply status will remain as it is, in S1 mode the computer can be resumed at any time. When you select "S3 (STR)" mode, the power will be cut off after a delay period. The status of the computer before it enters STR will be saved in memory, and the computer can quickly return to the previous status when the STR function wakes. When you select "S1 & S3" mode, the system will automatically select the delay time.

❖**Power Management**

This item is used to set the power management scheme.

❖**Video Off Method**

This item is used to define the video off method. "Blank Screen" mode means that after the computer enters power saving mode, only the monitor will close, however, the vertical and horizontal scanning movement of the screen continues. When you select the "V/H SYNC + Blank" mode the vertical and horizontal scanning movement of screen stops when the computer enters power saving

mode. "DPMS Support" mode is a new screen power management system, and it needs to be supported by the monitor you're using.

❖**HDD Power Down**
If HDD is not detected for the length of time specified in this field, the hard disk drive will be powered down while all other devices remain active.

❖**HDD Down In Suspend**
This item determines whether the hard disk drive will be turned off during suspend mode.

❖**Soft-Off by PBTN**
This item is used to set the power down method. This function is only valid for systems using an ATX power supply.
When "Instant-Off" is selected, press the power switch to immediately turn off power. When "Delay 4 Sec." is selected, press and hold the power button for four seconds to turn off power.

❖**WOL (PME#) From Soft-Off**
When set to Enabled, the feature allows your system to be awakened from the power saving modes through any event on PME (Power Management Event)

❖**WOR (RI#) From Soft-Off**
If this item is enabled, it allows the system to resume from a software power down or power saving mode whenever there is an incoming call to an installed fax/modem. This function needs to be supported by the relevant hardware and software.

❖**Power-On by Alarm**
This item is used to set the timing of the start-up function. In order to use this function, the start-up password function must be cancelled and the PC power source must not be turned off.

❖**Day of Month Alarm**
When the Power-On by Alarm set as Enabled, this option will be modified. It is used to set the timing for the start-up date.

❖**Time (hh:mm:ss) Alarm**
When the Power-On by Alarm set as Enabled, this option will be modified. It is used to set the timing for the start-up time.

❖**Intruder# Detection**
This item is used to enable or disable the feature of recording the chassis intrusion status and issuing a warning message if the chassis is once opened.

PnP/PCI Configurations

PnP/PCI Configurations Menu

❖**Init Display First**

This item determines whether the hard disk drive will be turned off during suspend mode.

❖**Reset Configuration Data**

This item is used to set whether the system is permitted to automatically distribute IRQ DMA and I/O addresses each time the machine is turned on. The setting values are: Disabled and Enabled.

❖**Resources Controlled By**

This item is used to define the system resource control scheme. If all cards you use support PnP, then select Auto (ESCD) and the BIOS will automatically distribute interruption resources. If the ISA cards you installed not support-ing PnP, you will need to select "Manual" and manually adjust interruption resources in the event of hardware conflicts. However, since this motherboard has no ISA slot, this option does not apply.

❖**IRQ Resources**

Press the <Enter> key, then manually set IRQ resources.

❖**PCI/VGA Palette Snoop**

If you use a non-standard VGA card, use this option to solve graphic accelera-tion card or MPEG audio card problems (e.g., colors not accurately displayed). The setting values are: Disabled and Enabled.

❖**Maximum Payload Size**

This item is used to set maximum TLP payload size for PCI Express devices. The unit is byte.

PC Health Status

PC Health Status (O.T.S) Menu

❖**Shutdown Temperature**

This option is used to set the system temperature upper limit. When the temperature exceeds the setting value, the motherboard will automatically cut off power to the computer.

❖**CPU Warning Temperature**

This item is used to set the system temperature upper limit. When the temperature exceeds the setting value, the motherboard will automatically cut off power to the computer.

❖**Current System Temp, Current CPU1 Temperature, Chipset Fan Speed, CPU Fan Speed, System FAN Speed, Vcore, VIN0, VIN1, VIN2, VCC (V), VBAT (V), 5VSB (V), Smart Fan2 Temperature**

These items display the current status of all of the monitored hardware devices/components such as CPU voltage, temperatures and all fan's speeds.

❖**Fan2 Tolerance Value**

This item is used to set Fan2 tolerance value.

Load Fail-Safe Defaults

Press <Enter> to select this option. A dialogue box will pop up that allows you to load the default BIOS settings. Select <Y> and then press <Enter> to load the defaults. Select <N> and press <Enter> to exit without loading. The defaults set by BIOS set the basic system functions in order to ensure system stability. But if your computer cannot POST properly, you should load the fail-safe defaults to restore the original settings. Then carry out failure testing. If you only want to load the defaults for a single option, you can select the desired option and press the <F6> key.

Load Optimized Defaults

Select this item and press <Enter>, it will open a dialogue box that lets you install the best defaults for all appropriate items in the Setup Utility. Select <Y> and press <Enter> to load the best defaults. Select <N> and press <Enter> to not install. The defaults set by BIOS have set the best performance parameters of system to improve the performances of system components. But if the best performance parameters to be set cannot be supported by your hardware devices, it can cause fatal errors or instability. If you only want to load the best defaults for a specific option, you can select this option and press the <F7> key.

Set Supervisor/User Password

The preferential grade of supervisor password is higher than user password. You can use supervisor password to start into system or enter into CMOS setting program to amend setting. You can also use user password to start into system, or enter into CMOS setting menu to check, but if you have set supervisor password, you cannot amend the setting.
Highlight the item Set Supervisor / User Password on the main menu and press <Enter>. The following password dialog box appears:

<p align="center">**Enter Password:**</p>

Enter your password, not exceeding 8 characters, then press <Enter>, you will be prompted to confirm the password, type in the password again and press <Enter>.

If you are deleting a password that is already installed, just press <Enter> when the password dialog box appears, and the screen will show a message that indicates this password has been disabled. In this case, you can freely enter into system and CMOS setting program.

PASS WORD DISABLED!!!

Press any key to continue...

Under the menu "Advanced BIOS Features Setup", if you select "System" in Security Option, the screen will prompt you to enter password once the system is started or you want to enter CMOS setting program. If the password is wrong, it will refuse you to continue.
Under the menu "Advanced BIOS Features Setup", if you select "Setup" in Security Option, the screen will prompt you to enter password only when you enter CMOS setting program.

Save & Exit Setup

Select this item and press <Enter>, the following message will appear on the screen:

SAVE to CMOS and EXIT (Y/N)?

Press <Y> to save the changes that you have made in the Setup Utility and exit the Setup Utility; press <N>/<ESC> to return to the main menu.

Exit Without Saving

Select this item and press <Enter>, it will show the following message on the screen:

Quit Without Saving (Y/N)?

Press <Y> to discard any changes that you have made in the Setup Utility and exit the Setup Utility; press <N>/<ESC> to return to the main menu.

Chapter 4

The utility CD that came with the motherboard contains useful software and several utility drivers that enhance the motherboard features.

This chapter includes the following information:

❖ Utility CD content

Utility CD content

This motherboard comes with one Utility CD. To begin using the CD, simply insert the CD into your CD-ROM driver. The CD will automatically display the main menu screen.
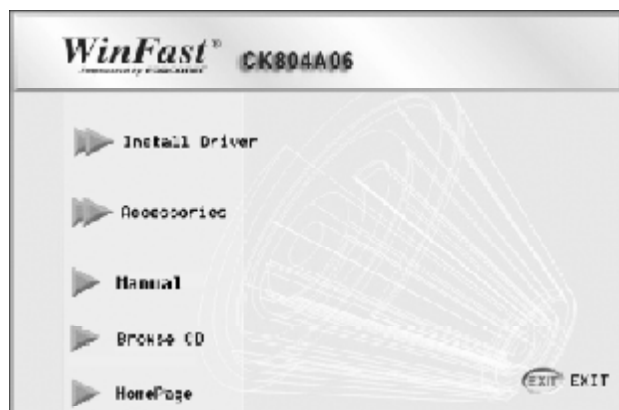
1. Install Driver

Using this option to install all the drivers for your motherboard. You should install the drivers sequentially, from first to last.

A. nVIDIA nForce Chipset System B. DirectX 9.0b

C. Silicon Image RAID Driver

2.Accessories

Use this option to install additional software programs.

A. SuperUtility

a. SuperStep

Superstep is powerful and easy-to-operate tool for overclocking. You can quickly increase your CPU's working frequency through its user-friendly interface. It will enhance your CPU's performance and meet all kinds of DIY requirements.

b. SuperLogo

SuperLogo can display user-designed graphics and pictures, such as a company logo or personal photos, thus making your PC more personalized and friendly.

c. SuperUpdate

SuperUpdate function can help to update the BIOS through Internet.

B. Adobe Reader

C. Norton Internet Security

D. Word Perfect Office 12

E. nTune (optional)

3. Manual

Click to browse this user manual or Raid manual.

4. Browse C D

Click to browse this CD.

5. Homepage

Click here to visit Foxconn motherboard homepage.

Note:

1. Install the latest patch first if your OS is Windows XP or Windows 2000.
2. Follow the CD screen order to install your motherboard drivers.

Chapter 5

This chapter will introduce how to use attached software.

This chapter includes the following information:

- ❖ SuperStep
- ❖ SuperUpdate
- ❖ SuperLogo
- ❖ nTune

SuperStep

SuperStep is a utility that allows users to change the frequency of the CPU. It also displays system health introduction including CPU temperature, CPU voltage, and PCI/PCI Express clock.

SuperStep features:

1. Supports Win2000 and WinXP.
2. Automatic alarm mechanism when system runs irregularly
3. Adjusts the CPU frequency to speed up your system and achieve better system performance.
4. Simple and easy to operate, with a user-friendly graphics interface.

Using SuperStep:

CPU Fan speed   System Fan1 speed   System Fan2 speed

Adjust System Fan1 warning criteria

Adjust CPU Fan warning criteria

Go to Fan page

Minimize Window

Exit Program

About SuperStep

SuperStep Help

Link to FOXCONN Website

Adjust System Fan2 warning criteria

Reset the warning criteria to default settings

Apply the adjustments
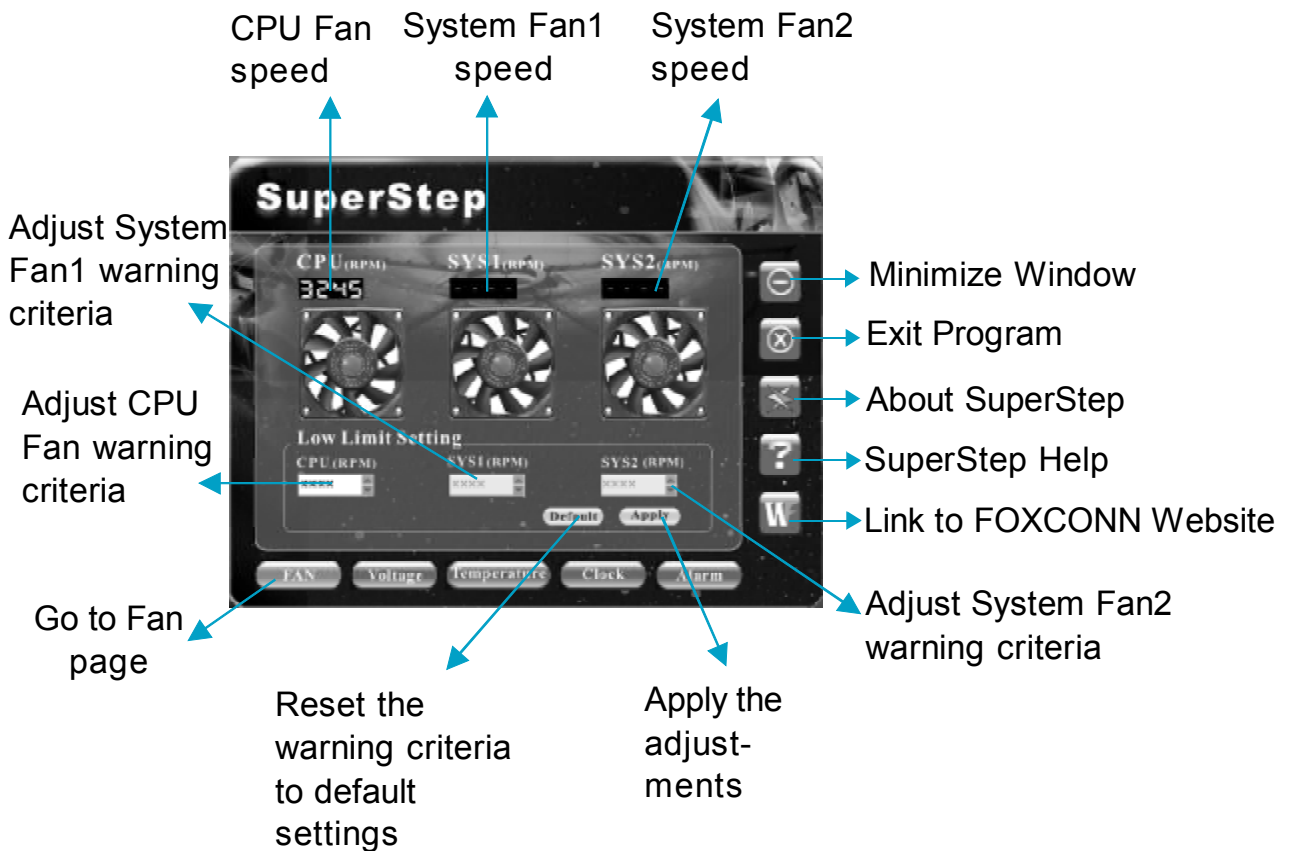
Adjust voltages warning criteria (upper limit)

Current voltage readings

Go to Voltage page

Reset the warning criteria to default settings

Apply the adjustments

Adjust voltages warning criteria (Lower limit)

Current CPU Temperature

Current system Temperature

Adjust CPU temperature warning criteria
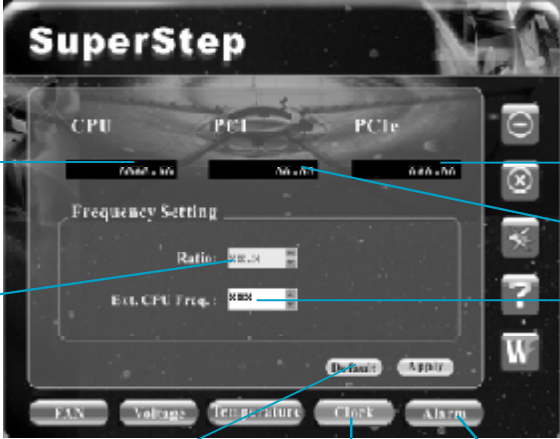
Adjust system temperature warning criteria

Reset the warning criteria to default settings

Go to Temperature page

Apply the adjustments

Current CPU Clock

Current PCI Express clock

Current PCI clock

Current CPU Ratio

Adjust the CPU External Frequency

Reset to the default settings

Go to Clock page

Apply the adjustments

Check for the system to automatically provide warning messages

Adjust the monitoring Interval

Go to Alarm page

Reset to the default settings

Apply the changes

SuperUpdate

SuperUpdate is a Windows utility that allows users to backup and upgrade the system BIOS.

SuperUpdate features:

1. Supports Win2000 and WinXP.
2. Supports 4Mb size flash parts; flash write method is independent of flash type.
3. Simple and easy to operate, with a user-friendly graphics interface.

Using SuperUpdate:

Browse BIOS bin file from local storage device

Perform the BIOS update from local image

Current BIOS Information

Minimize Window

Exit Program

BIOS Update Setting

About SuperUpdate

SuperUpdate Help

Link to Foxconn Website

Connect to server and popup a list of available BIOSs for users to download or install

Backup system BIOS to an image file
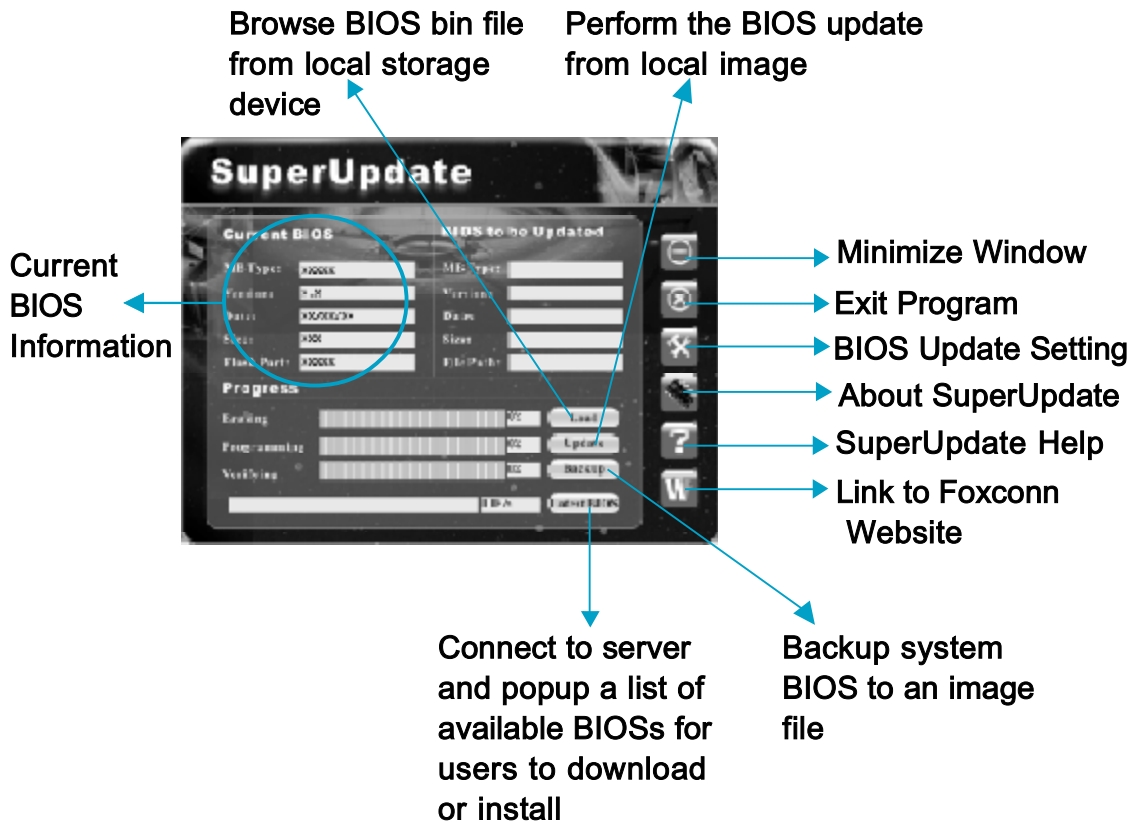
Backup BIOS to local image:

1. Click <Backup> and name your BIOS binary file to backup current BIOS.

2. Click <OK> to finish the backup process.

Update BIOS from local image:

1. Click <Load> to load the BIOS file.

2. Click <Update>, the following message will appear.
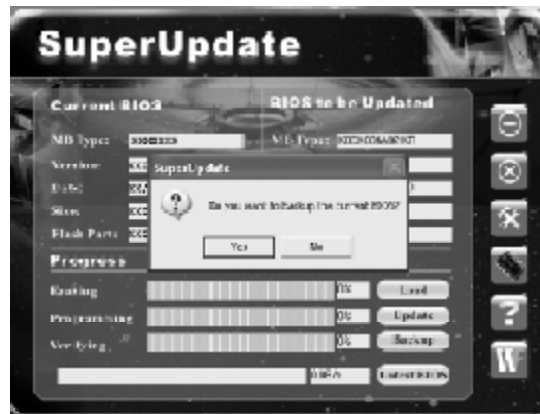
3. Click <Yes> to backup the current BIOS, then the following picture will appear.

4. Click <OK >, then click <Update>.

5. Now is updating.

6. Click <Restart>.

Update BIOS:

1. Click <Latest BIOS> to automatically update the BIOS from the server.

2. The following procedure is the same as Update BIOS from local image.

SuperLogo

SuperLogo is a Windows utility that allows users to change the BIOS sign on logo. The utility is able to replace and backup the BIOS logo, and update and backup the BIOS image within the Windows environment.

SuperLogo features:

1. Supports Win2000 and WinXP.
2. Supports 4Mb size flash parts, flash write method is independent with flash type.
3. Simple and easy to operate, with a user-friendly graphics interface.
4. Supports BMP and JPEG graphic format files. The best color is 16 or 256 colors. The best resolution is 136 x 84 for top-right logo and 640 x 480 or 800 x 600 for full screen logo.

Using SuperLogo:

Display the Flash Information

Minimize Window

Exit Program

About SuperLogo

SuperLogo Help

Link to Foxconn website

BIOS Write Protect Status

BIOS Flash Rom Free Space

Go to ROM Info. page
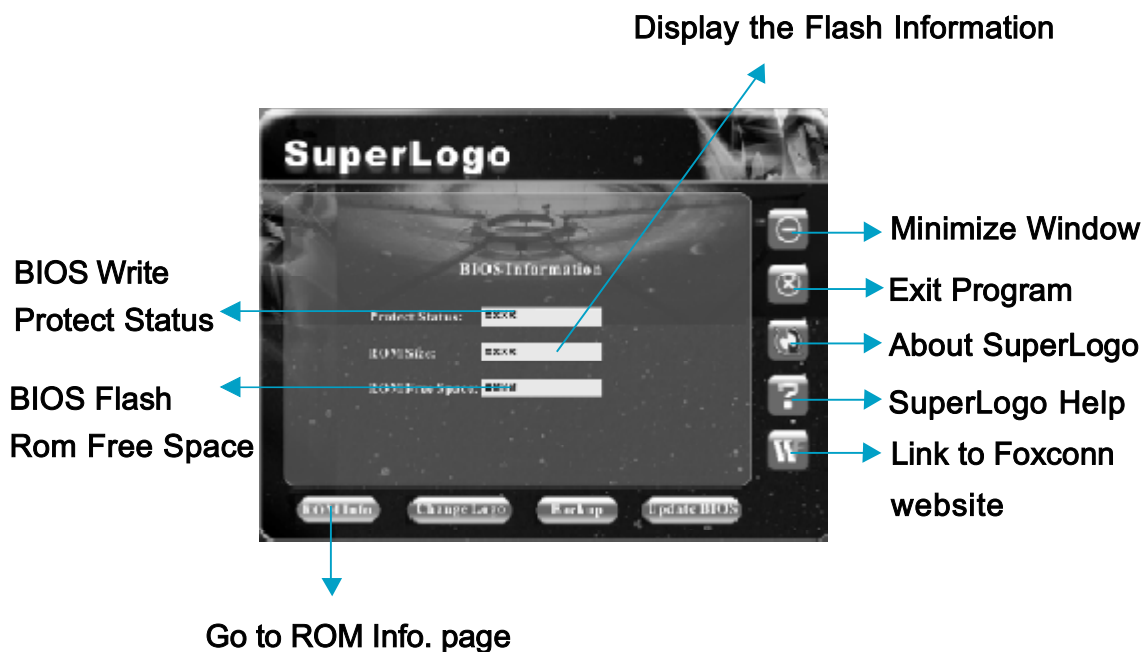
Full screen mode

Top-Right mode

Boot without logo

Follow the Wizard to complete the logo update

Go to Change Logo page

Backup whole BIOS image

Backup Logo

Follow the Wizard to complete the backup function

Go to Backup page

BIOS image file location

Browse a BIN file for updating BIOS

Follow the Wizard to complete the BIOS function

Go to Update BIOS page

nTune

NVIDIA nTune™ is a full-featured application for easily modifying system settings and testing them without the need for rebooting your system.

nTune features:

1. Modify system performance settings, such as bus speeds, CPU voltages, fan speed, and other system performance options that are supported by the BIOS.
2. Save the modifications to a profile so that you can quickly apply settings to suit specific application environments.
3. Monitor hardware temperature, voltage, timing, and fan speed.
4. View other information about your system, such as hardware and software revisions and other capabilities.

Using nTune:

Opens the Access BIOS page

Opens the Voltage/Fan Control page

Opens the Clock Control page

Opens the Manage page

Apply all changes made and exit the application

Apply all changes made.

Opens the Information page

Cancel all changes made and return to nTune

Save current settings in a profile

Load values from a saved profile
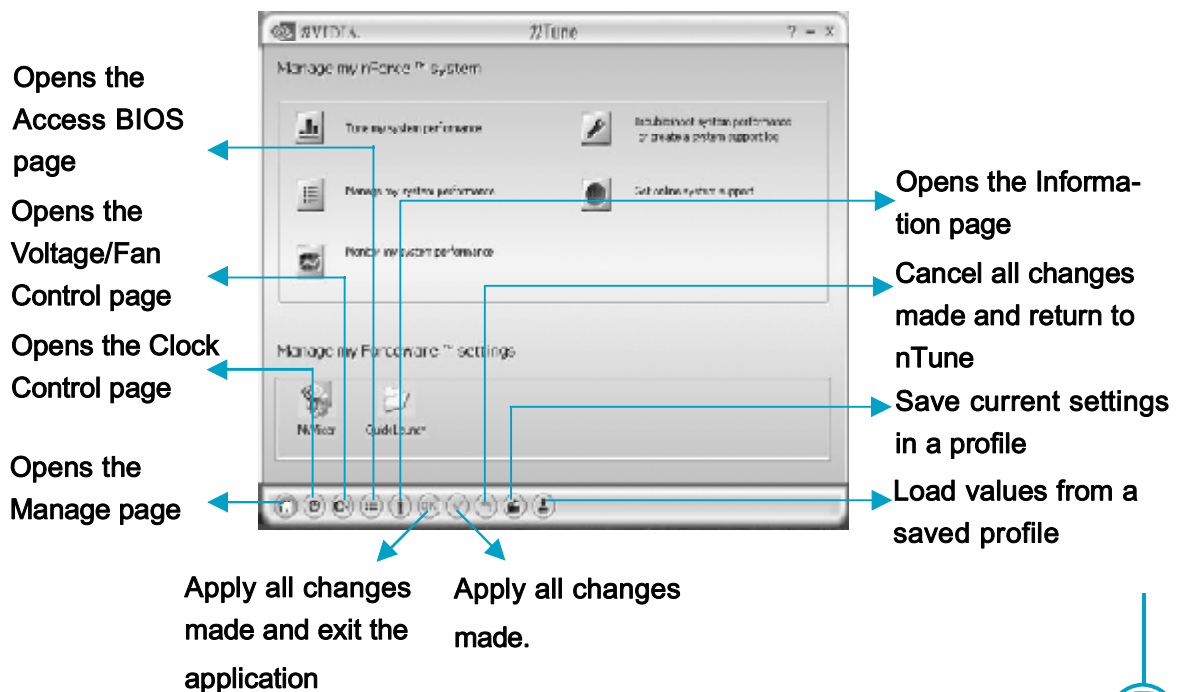
NVPerformance Examiner

This feature is available only with BIOS support from the motherboard manufacturer, otherwise the icon is not visible.

Click the text "Benchmark and automatically tune my system" to launch the NVPerformance Examiner application that lets you tune the system based on the current performance level.
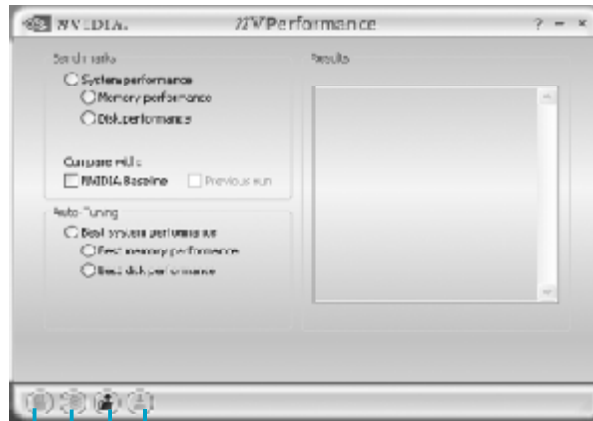
Save benchmark results or tuned settings.
Load a profile created by auto-tune.
Run the benchmark or auto-tune process.
Stop running the benchmark or auto-tune process.

NVProfile Manager

Click the text "Manage my profiles" to launch the NVProfile Manager application that lets you create rules for how to use the profiles created by nTune or NVPerformance Examiner.

Stop running enabled rules.
Run all enabled rules.
Cancel.

Hide NVProfile Manager

`NVMonitor`

This feature is available only with BIOS support from the motherboard manufacturer.

Click the text "`Monitor my system`" to launch the NVMonitor application that lets you monitor various system temperature, clock speed, and voltage values.
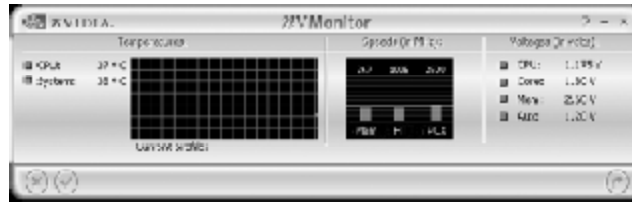
Click the toggle icon to switch back and forth between the Monitor page and the Options page.

Options Page

The options page allows the user to customize the NVMonitor page functions.

`Troubleshooting`

Click the text "`Troubleshoot performance`" or "`create a support log`", to launch the following applets:

`Troubleshoot System Performance`

This function performs the following series of quick checks to identify probable **causes** of performance problems:

•Check Synchronous vs. Asynchronous modes (NVIDIA recommends Synchronous.

•Check memory balance (partition)

•Check AGP capabilities that are not used

•Check memory speed relative to FSB speed

• Check processor speed relative to memory speed capability.

• Check for lower than optimal CPU multiplier

nTune then creates a list of the results, and provides recommendations for improvements.

`Create a Support Log`

This function saves the following system information details in a log file, which you can provide to tech support:

• Chipset information (marketing names and versions)

• Extensive CPU information

• Extensive memory information, including bank setup

• GPU information

• PCI Device list

• Resource map (device list)

• Audio chip information

• OS and DirectX version information

• nForce and GeForce driver versions

Choose a filename and location for saving the information, or choose the defaults.

`Online Support`

Click the text "`Get online support`" to open the NVIDIA technical support Web site in your browser.
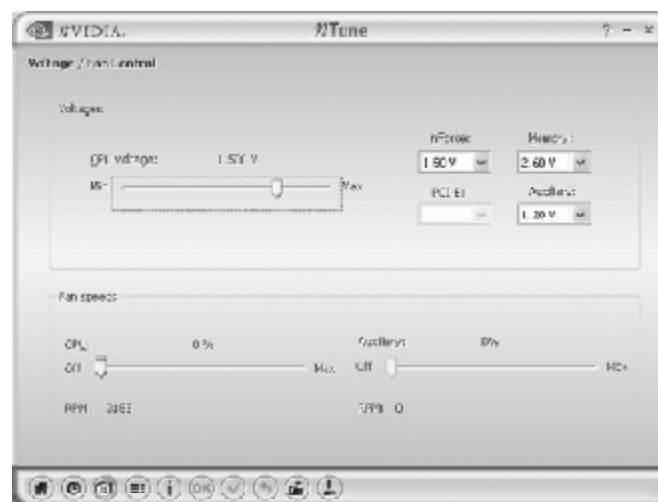
Clock Control Page

To open the Clock Control page, click the Clock Control page icon from the toolbar.
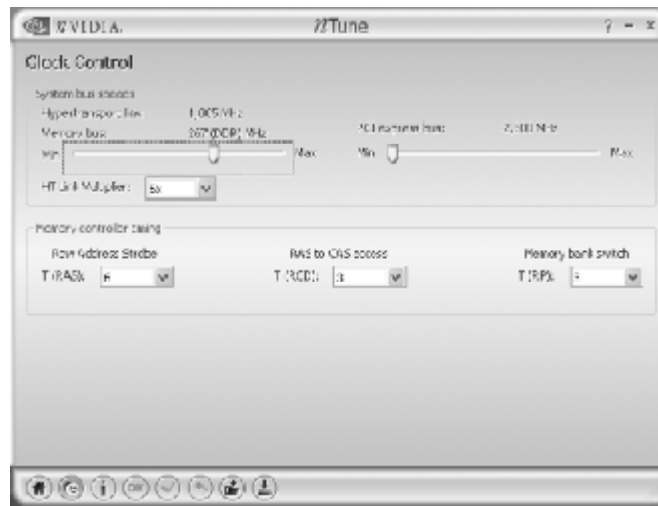
Voltage/Fan Control Page

Access to this page requires BIOS support from the motherboard manufacturer.
To open the Voltage/Fan Control from any other page, click the Voltage/Fan
Control icon from the toolbar.

All changes made on `Clock Control Page/Voltage/Fan Control Page` take effect
immediately after selecting Apply or OK; however, these setting will remain active
only for the current Windows session. Because the changes are not made directly
to the BIOS, you can safely return to Windows in the event of a crash, without any
possibility of boot issues.

`Access BIOS Page`

Access to this page requires BIOS support from the motherboard manufacturer.
To open the Access BIOS page from any other page, click the Access BIOS page
icon from the toolbar.

`Viewing the Information Page`

To view other system information using NVIDIA nTune, click the Information Page
icon from the toolbar.

Chapter 6

This chapter will introduce new functions of BIOS and how to use them in detail. It can further exert the max potential of motherboard to bring you super-value enjoyment.

This chapter introduces the following new functions of BIOS:

❖ SuperBoot
❖ SuperBIOS-Protect
❖ SuperSpeed
❖ SuperRecovery

SuperBoot

SuperBoot technology greatly reduces the long boot process time of computers. A BIOS without SuperBoot has to perform many routines every time when the system starts, such as checking the system core and initializing system peripherals. Now with SuperBoot, a PC can boot up without any unnecessary. SuperBoot is quite easy to use: choose the right option in CMOS setup (refer to SuperBIOS Features), SuperBoot saves the information when the PC boots up at the first time and restores the parameters for the system, thus letting the PC boot freely and rapidly.
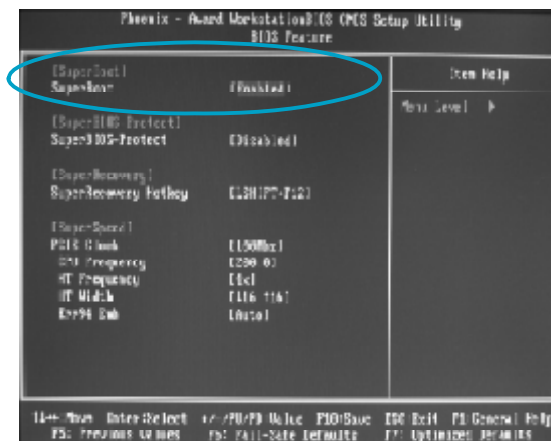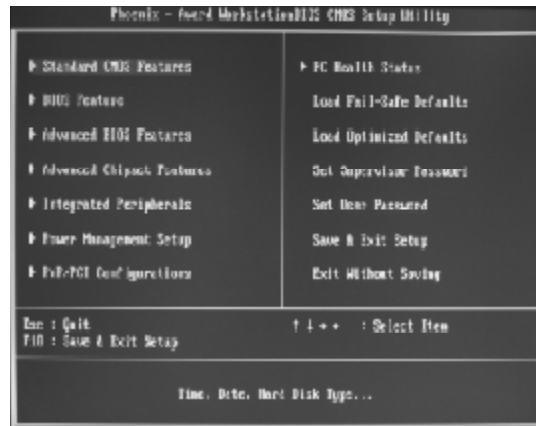

Notes:

1. If the previous boot was not completed, then the BIOS will perform a normal POST, even if SuperBoot is enabled.

2. No matter SuperBoot is enabled or not, the BIOS will perform normal POST if CMOS fails.

SuperBIOS-Protect

The BIOS of the motherboard is contained inside the Flash ROM. Severe viruses such as CIH virus are so dangerous that it may overwrite the BIOS of the motherboard. If the BIOS has been damaged, the system will be unable to boot. We provide the following solution which protects the system BIOS from being attacked by such viruses.
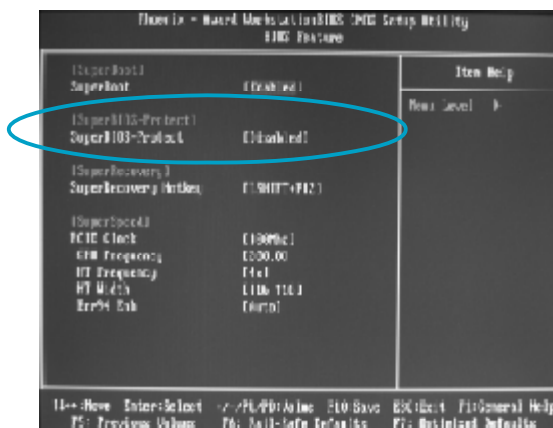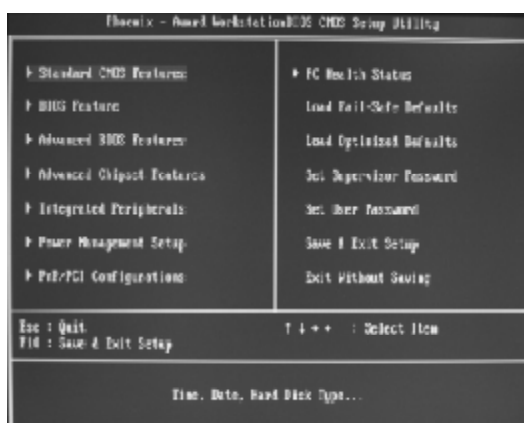

The way to implement this function, set "SuperBIOS-Protect" as "Enabled", the BIOS will be protected.

WinFast®

SuperSpeed

SuperSpeed is a powerful and efficient Easy Technology for PC DIY fans. It offers a friendly interface. The users can also realize in the BIOS setup the CPU core voltage adjustability.

Procedures:

1. Correctly install your CPU.
2. Plug in other configurations and restore the system.
3. Switch on power to the system and press the <Del> key to enter BIOS Setup.
4. Enter the <SuperBIOS Features>\<CPU Frequency> menu to set the CPU frequency.
5. Save and exit BIOS Setup; your system will now boot successfully.
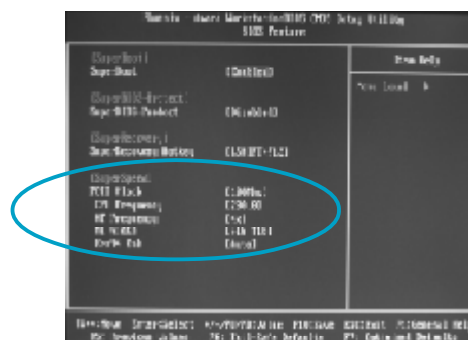
BIOS provides you a set of basic values for your processor selection instead of the jumper settings. The processor speed can be manually set from the <SuperBIOS Features> menu screen.

> ⚡ **Warning:**
>
> Be sure your selection is right. CPU overclock can be dangerous! We will not be responsible for any damage caused.

SuperRecovery

SuperRecovery is an easy-to-operate tool for backing up or recovering your hard disk data. It offers simplified user interfaces with hotkey access and allows you to experience unprecedented high security and reliability with extra functions, such as hotkey launch, and powerful anti-virus protection.

Features:

1. **Password Protection**：
   You can set a password for each HDD.
2. **Data Protection:**
   Hidden partitions can only be accessed during data back up or recovery. Even reformatting the disk using FDISK or PQMAGIC will not allow access to the disk. This means that data backed up in a hidden partition is very secure.
3. **Intelligent Menu**：
   Unavailable items will be displayed in gray. For example, if you haven't divided a hidden partition, items like "Release Hidden Partition", "Back up" and "Recovery" will be displayed in gray and can't be selected. And, when you select an item, the related information will appear on the bottom of the screen.

Disclaimer:

Please study this software program's specification carefully before using it. The vendor should not be liable for any damage arising out of or in connection with the use of this program, including liability for lost profit or data, or any other damage whatsoever.

System Requirements:

1. ATA5 or above compliant IDE HDD.
2. FAT16, FAT32, NTFS files system.
3. PS/2 keyboard or USB keyboard.

Hotkey Selection:

You should enter the CMOS setup interface first by pressing <DEL> during (POST Power On Self Test). Then select the "SuperRecovery Hotkey" option to adjust the hotkey settings in the "BIOS Features" menu.
There are 12 options: LSHIFT (Left Shift) + F1~F12. LSHIFT+F12 is the default setting.
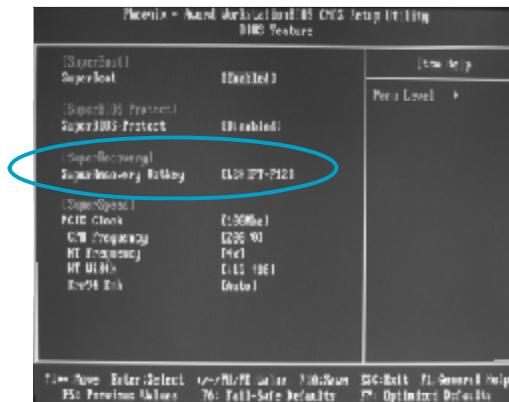
Hard Disk Selection:

The hard disk selection menu will be displayed after you press the hotkey, listing all the IDE HDDs installed in your system. You can switch the highlight bar to make a selection and press "Enter" to confirm it.

Attention:

1) Make sure that you have selected a HDD before entering the main menu.
2) Make sure that the HDD you selected is ATA5 or higher. For the HDDs lower than ATA5, there will be a message of "No Support" in the HDD list menu listing beside the name of it.
3) Only one HDD can be operated at a time.

Note: If you have assigned a password to the selected HDD, you will be prompted to provide it before proceeding.

Main Menu:

Select a HDD to enter main menu. There are five function items, "DIVIDE HID-DEN PARTITION", "RELEASE HIDDEN PARTITION", "BACKUP", "RECOVERY" and "CHANGE PASSWORD". You can switch the highlight bar to make a selection on the operation which should be performed on the HDD and confirm your selection by pressing <Enter>. The following operation will be performed on the disk you selected.

On-line help message

Divide Hidden Partition:

1. What's a Hidden Partition:

SuperRecovery can be used to divide a hidden partition, which is to be reserved for backing up HDD data. The operation of Division will erase all the old data saved in the HDD, to make sure that the following operations can be continued. Once the division is done, any future variation to the HDD will never affect the area of hidden partition, such as virus, windows system breaking down and data loss. SuperRecovery can recover all the data backed up in hidden partition. The user can therefore easily get the computer on track again.

2. Divide Hidden Partition:
    1) Enter a percentage of the HDD total capacity or an actual size in MB as the size of the hidden partition, such as "30%" or "3000". Press <Enter> to confirm your input. As the average rate of compression is 50% or so, you are suggested to divide 30% of the total as the capacity of the hidden partition;
    2) The system will then prompt you to enter "Y" or "N" for confirmation. Press <Y> to restart the computer, and the division for hidden partition will be taken into effect after the system is restarted.

Attention :
   1) All the data will be cleared after division is in process. So you'd better do the division against an empty HDD.
   2) At the same time, the HDD capacity will decrease to make space for the hidden partition, which is unavailable for your normal use.


Release Hidden Partition:

This is used to release the hidden partition. If you choose this item and press "Y" to confirm, the system will be restarted to release the hidden partition. But the released partition is still unavailable for you after the system is restarted. It's necessary for you to enable it by using FDISK, PQMAGIC, or some other tools.

Backup:

Select BACKUP to enter the Backup interface, where you can find the following three sub-function items: "BACKUP CMOS SETUP", "BACKUP PARTITION TABLE" and "BACKUP HARDDISK DATA". Switch the highlight bar by pressing the arrow keys to make a selection and then press "Enter" to confirm your choice.
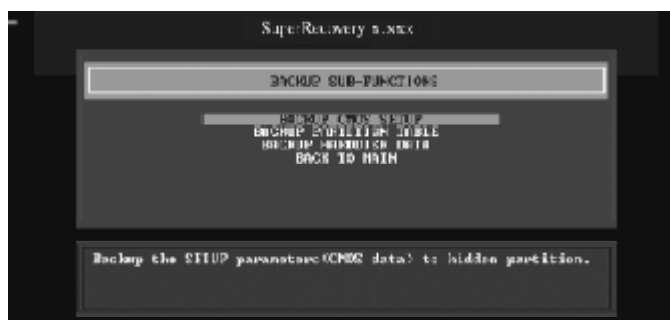
1. Backup CMOS Setup:
   1) Supports backing up of the CMOS data.
   2) The backing up or recovery of CMOS data should be operated on a motherboard of the same model.

2. Backup Partition Table:
   This function can help to backup all partition tables including extended partitions.

3.   Backup Harddisk Data:

1) If there are active partitions (system partition), you can choose an active partition or the whole disk for backing up. But only one can be taken between the two choices. Old data will be replaced by the newly backed up.
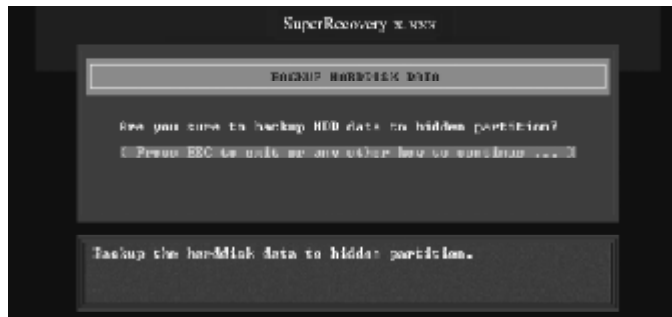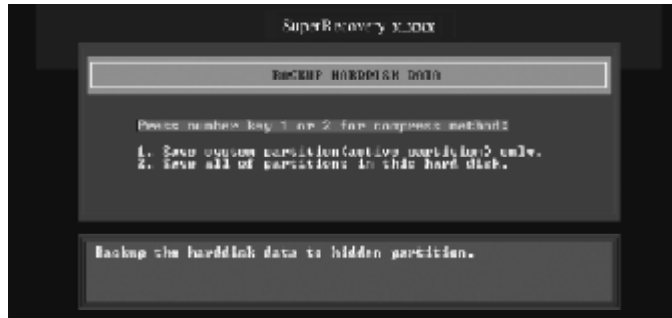
2) Backing up with the progress bar showing.
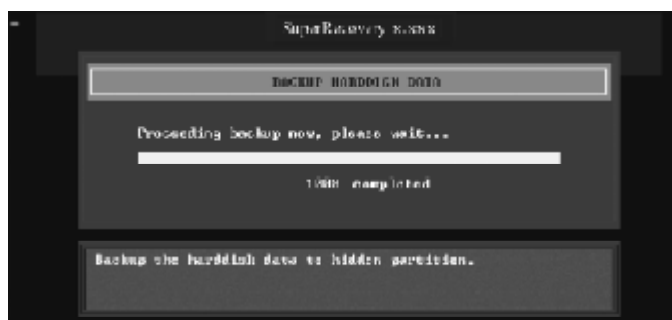
3) A report with all the critical data on this operation will be listed after backing up is completed.

Original Size: The data size loaded in selected partition.

Valid Size: The size of valid data.

Elapsed Time: How long the process took to complete.

Compressed Size: The size of data after compression.

Compressed Rate: Compressed Size/Valid Size.

4. Back to Main:

This item is used to quit the Backup interface.

Recovery:

Select RECOVERY to enter the Recovery interface. The following sub-function are available : as RECOVER CMOS SETUP, RECOVER PARTITION TABLE and RECOVER HARDDISK DATA. You can switch the highlight bar by pressing the arrow keys to make a selection and press "Enter" to confirm your selection.

1.   Recover CMOS Setup:

This function can help to restore the latest backup of CMOS settings you made.
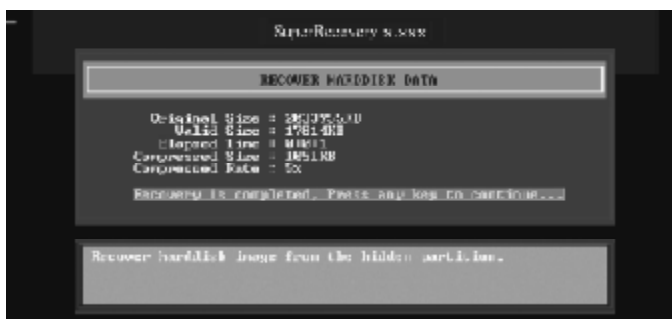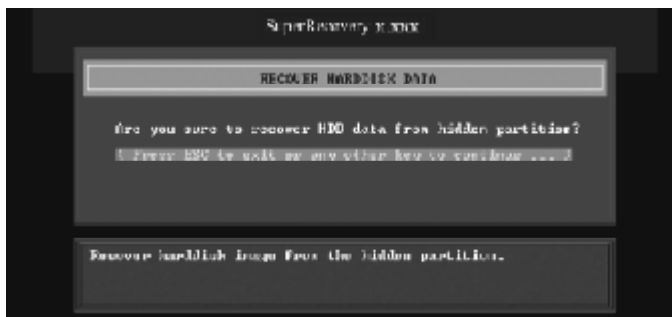

2.   Recover Partition Table:

This function can help to recover all partition tables including extended partitions.

3.   Recover Hard disk Data:

This option is used to restore the backed up data from the hidden partition.

4.   Back to Main:

This option is used to quit the Recovery interface.

CHANGE PASSWORD Introduction:

Select CHANGE PASSWORD to enter the Change Password interface.
   1) Enter the old password first. Press "ENTER" if password is null.
   2) Enter the new password. Then enter the same again to confirm it.
   3) Press "Enter" for null password.
   4) The password will be saved in the hidden partition.

# Using 8-channel Audio (optional)

1. Introduction

8-channel audio is the highest surround sound standard available adding two speakers over existing 6-channel (5.1) audio set-ups. 8-channel surround sound is already a standard feature for premium consumer audio devices, so it only makes sense that as users increasingly use their PCs to listen to the latest multimedia content that 8-channel support makes the migration as a standard PC feature.

In the 8-channel surround sound configuration there are the standard front, center, LFE (bass) speakers but also two surround speakers are placed at the sides of a listener, and two speakers directly behind the listener. Some formats also support a 6.1 audio configuration wherein there is only one speaker behind the listener. However, since audio connections always come in stereo pairs most PC hardware will automatically support the 7.1 configuration. It is also fully supported in the Windows XP operating system.

2. Using 8-channel Audio

STEP 1. Connect the front channels to green jack, the rear channels to black jack, the Center/Subwoofer channels to orange jack and Side channels to grey jack. Please refer to below figure.
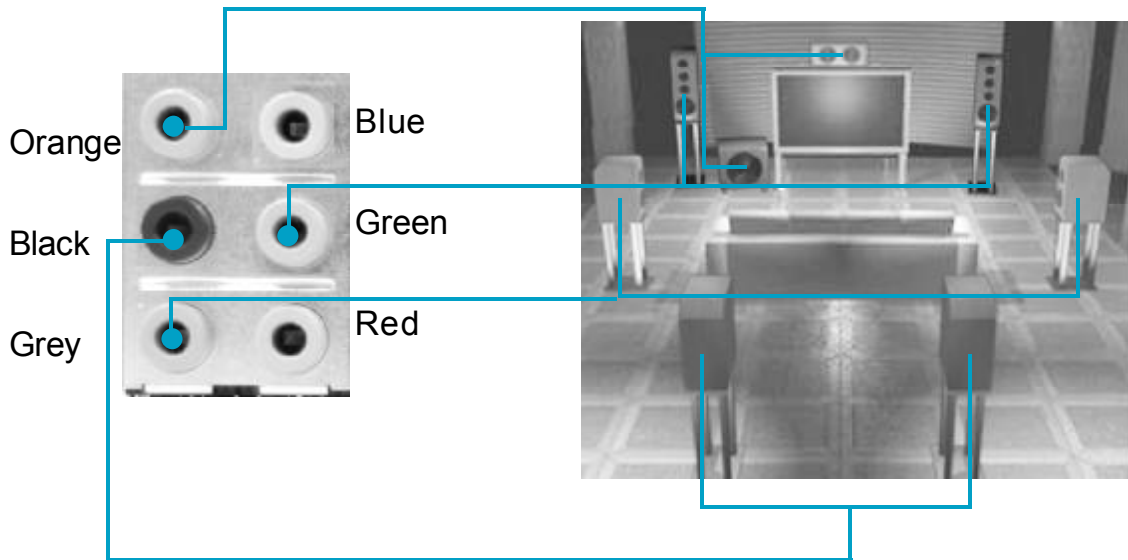
STEP 2. You need to install the driver for the audio chip before you can use the 8-channel audio function.

STEP 3. After installation of the audio driver, you'll find an [icon] icon on the taskbar's status area. Double click the icon, you will see the following picture.

STEP 4. Click "Speaker configuration". The following picture will appear.

STEP 5. Make sure you select "8CH Speaker" from the above picture. Now you can enjoy the 8-channel audio function.

# About the NVIDIA® SLI™ technology (optional)

1. Introduction

NVIDIA® SLI™ (Scalable Link Interface) technology takes advantage of the increased bandwidth of the PCI Express™ bus architecture, and features intelligent hardware and software solutions to deliver earth-shattering PC performance in a multi NVIDIA GPU solution. NVIDIA SLI solutions include the PCI Express versions of GeForce 6800 Ultra, GeForce 6800 GT, GeForce 6600 GT. GeForce 6800, and the NVIDIA nForce4 SLI MCPs.

NVIDIA® nForce™4 SLI MCPs (media and communications processors) offer blistering graphics performance and overall PC performance for both AMD and Intel platforms. With the power of SLI™ technology you get the ability to connect two NVIDIA SLI-Ready PCI Express™ graphics cards for mind-blowing gameplay with brilliant and intensive 3D graphics.

2. Install the SLI-Ready Graphics cards

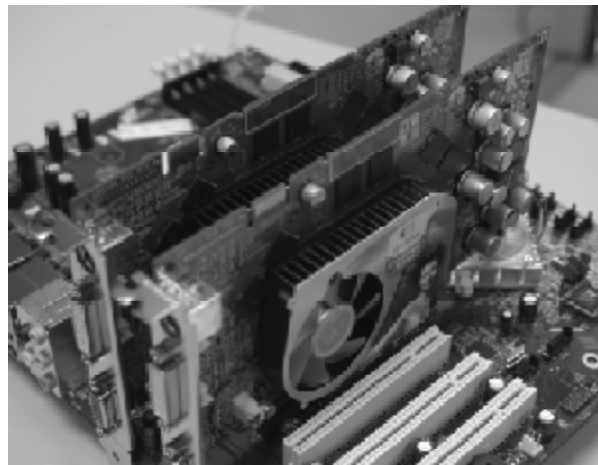Step1. Locate the SLI-CARD on the motherboard.
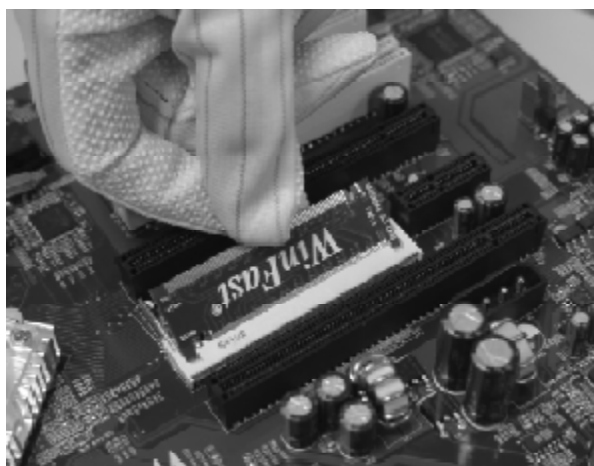
Note: The SLI-CARD can set two mode: Normal mode and SLI mode. Normal mode is set for a single graphics card. To use two graphics cards, you must set the SLI-CARD to SLI mode.
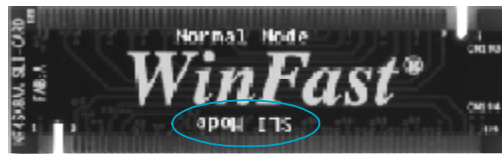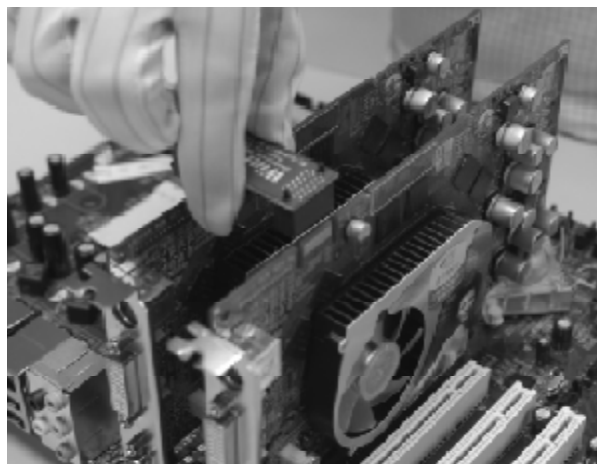

SLI Mode

Step2. Install two SLI-Ready Graphic cards on the two PCI Express x16 slots.

Step3. Install the SLI Bridge Board to the goldfingers on each graphics card. Make sure that the connector is firmly in place.

Step4. Connect the 4-pin ATX power cable to the Auxiliary power connector to secure the system is stable.

Step5. Install the SLI bracket to firm the two graphics cards.