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Version:

User's Manual V1.0 for 661FX7MI/661GX7MI/648FX7MI/648C7MI
series motherboard.

P/N: 91-181-661-M8-0E

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 Foxconn's website: http://www.foxconnchannel.com

Declaration of conformity

CE

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

661FX7MI/661GX7MI/648FX7MI/648C7MI series

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
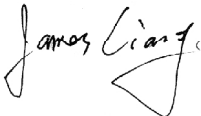
Declaration of conformity

FC

Trade Name:	Foxconn
Model Name:	**661FX7MI/661GX7MI/648FX7MI/648C7MI**
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 :   *James Liang*   Date :   2005

Table of Contents

Table of Contents

Chapter 4   **Driver CD Introduction**

Chapter 5   **Directions for Bundled Software**

Chapter 6   **Special BIOS Functions**

⚡ 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 temperatures.
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 removing 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 over-clocked. Normal operation depends on the over-clock capacity of your device.

ⓘ Attention:

Since BIOS programs are upgraded from time to time, the BIOS description 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 661FX7MI/
661GX7MI/648FX7MI/648C7MI series. Each motherboard is
carefully designed for the PC user who wants diverse
features.

-L	supports onboard 10/100Mbps LAN
-K	supports onboard Gigabit LAN
-6	supports 6-Channel Audio
-8	supports 8-Channel Audio
-E	supports 1394 function
-S	supports SATA function
-R	supports RAID function

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

For example:

ULBA4160000B PC 865M01-PE-6ELS

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

Chapter 1

Thank you for buying Foxconn's 661FX7MI/661GX7MI/ 648FX7MI/648C7MI 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 SiS 661FX/661GX/648FX/ 648C + 964/964L 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

- mATX form factor of 9.6" x 8.3"

Microprocessor

- Supports Intel® Pentium® 4 /Celeron® Dprocessor in an LGA775 package
- Supports FSB at 533MHz/800MHz

Note: 661GX/648C do not support 800MHz

Chipset

- 661FX7MI Series: SiS   661FX (North Bridge) + SiS 964/964L (South Bridge)
- 661GX7MI Series: SiS 661GX (North Bridge) + SiS 964/964L (South Bridge)
- 648FX7MI Series: SiS 648FX (North Bridge) + SiS 964/964L (South Bridge)
- 648C7MI Series: SiS 648C (North Bridge) + SiS 964/964L (South Bridge)

System Memory

- Two 184-pin DIMM slots
- Supports PC 3200/PC 2700/PC 2100 memory
- Supports 128 Mb/256 Mb/512 Mb/1 Gb technology up to 2GB

Note: 648C do not support PC 3200 memory

USB 2.0 Ports

- Supports hot plug
- Eight USB 2.0 ports (four rear panel ports, two onboard USB header providing four extra ports)
- Supports wake-up from S1 and S3 mode
- Supports USB 2.0 protocol up to 480 Mbps transmission rate

Onboard Serial ATA (optional)

- 150MBps transfer rate
- Supports two S-ATA devices, such as HDD, etc.

Onboard LAN (-L)

- Supports 10/100M Ethernet
- LAN interface built-in on board

AGP 8X

- AGP 8X (AGP 3.0) is the VGA interface specification that enabled enhanced graphics performance with high bandwidth speeds up to 2.1GB/s

Onboard Audio (-6)

- AC' 97 2.3 Specification Compliant
- Onboard Line-in jack, Microphone jack, Line-out jack
- Supports 6-channel audio (setting via software)

Expansion Slots

- Three PCI slots
- One AGP slot

BIOS

- Licensed advanced AWARD (Phoenix) BIOS, supports flash ROM, plug-and-play ready
- Supports HDD, CD-ROM or USB device boot up

Green Function

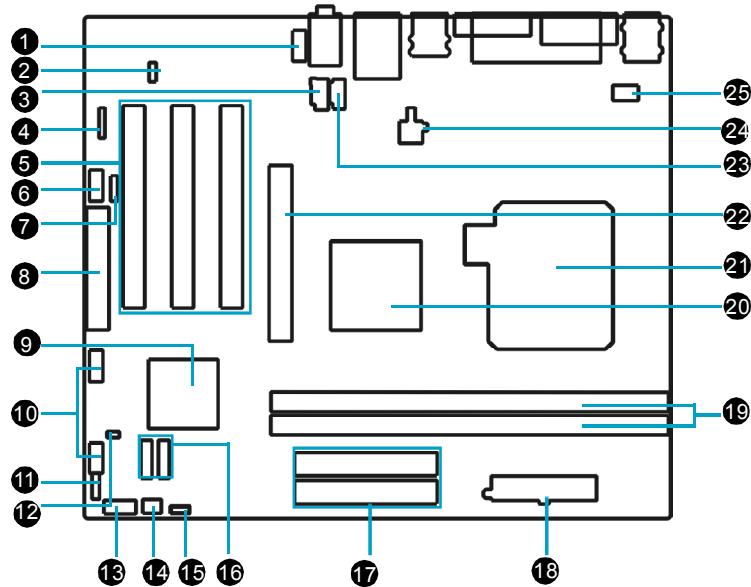- Supports ACPI (Advanced Configuration and Power Interface)
- Supports S0 (normal), S1 (power on suspend), S3 (suspend to RAM), S4 (suspend to disk – depends on OS) and S5 (soft-off)

Advanced Features

- PCI 2.3 Specification Compliant
- Supports Windows 98/2000/ME/XP soft-off
- Supports PC Health function (capable of monitoring system voltage, CPU temperature, system temperature and fan speed)
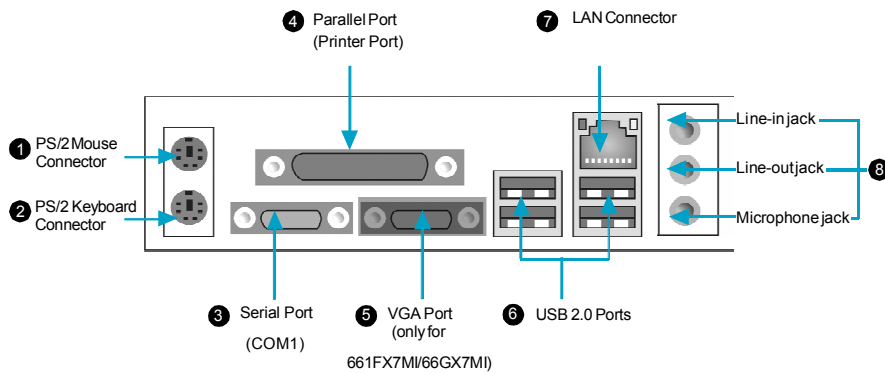
Motherboard Layout

1. Front Audio Connector
2. BIOS TBL_EN Connector
3. CD_IN Connector
4. IrDA Header
5. PCI Slots
6. COM2 Connector
7. S/PDIF OUT Connector
8. FDD Connector
9. South Bridge: SiS 964/964L
10. Front USB Headers
11. Speaker Connector(optional)
12. Chassis Intruder Connector
13. Front Panel Connector

14. System Fan Connector
15. Clear CMOS Jumper
16. SATA Connector(optional)
17. HDD Connector
18. 20-pin ATX Power Connector
19. Memory Slots
20. North Bridge: SiS 661FX/661GX/648FX/648C
21. CPU Socket
22. AGP 8X Slot
23. AUX_IN Connector(optional)
24. 4-pin ATX 12V Power Connector
25. CPU FAN Connector

Note:

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

Rear Panel Connectors

This motherboard provides the ports as below:

④ Parallel Port
(Printer Port)

⑦ LAN Connector

① PS/2 Mouse
Connector

② PS/2 Keyboard
Connector

Line-in jack

Line-out jack ⑧

Microphone jack

③ Serial Port
(COM1)

⑤ VGA Port
(only for
661FX7MI/66GX7MI)

⑥ USB 2.0 Ports

⑧ Line-in jack, Line-out jack, Microphone jack

When using a 6-Channel sound source, connect the front speaker to the green audio output; connect the surround sound speaker to the blue audio output; connect the center speaker/subwoofer to the red Microphone 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 component.

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 anti-static bag that it came in.

CPU

This motherboard supports single Pentium® 4/Celeron® D Processors in an LGA775 package .

Installation of CPU

Below is the CPU socket illustration. Follow these procedures to install a CPU.

Load lever   **Load plate**

Load stiffener   **Protective cover**
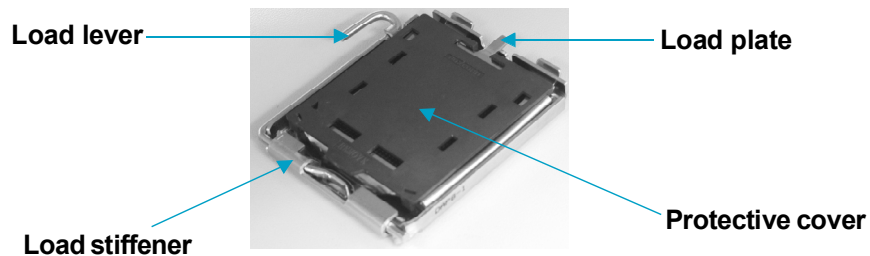
1. Use thumb and forefinger to hold the hook of the load lever and pull the lever down and away from socket to unlock it. Lift the load lever.
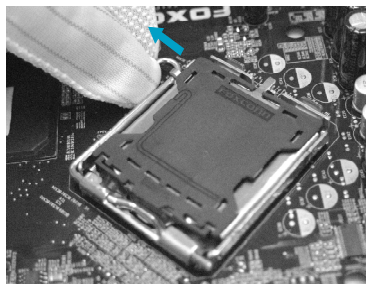
2. Push down the rear tab with your forefinger to bring the front end of the load plate up slightly. Open the load plate with thumb. Be careful not to touch the contacts.

3. Hold CPU with thumb and forefinger. Ensure fingers align to socket cutouts. Match the CPU triangle marker to Pin 1 position as shown below. The alignment key also provides the orientation directed function. Lower the CPU straight down without tilting or sliding the CPU in the socket.
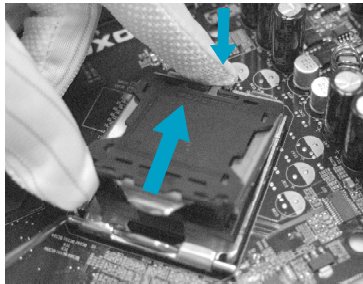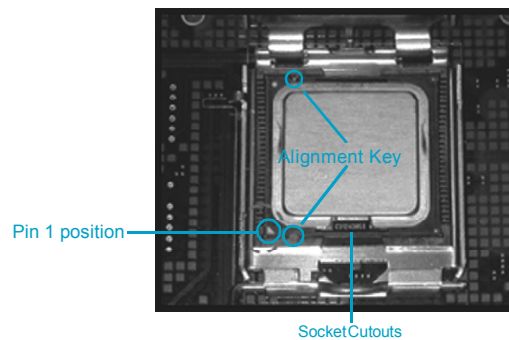

4. After installing the CPU, remove the protective cover from load plate. The protective cover is used to protect the contacts of the socket. Do not discard the protective cover. Always replace the socket cover if the CPU is removed from the socket.
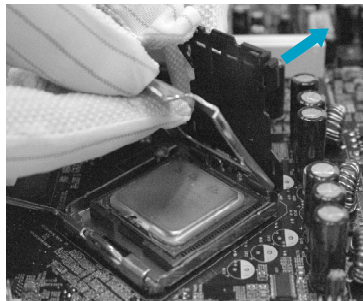
5. Close the load plate, and slightly push down the tongue side.
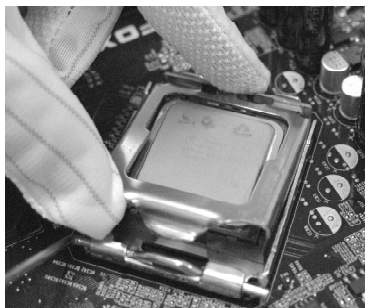
6. Lower the lever and lock it to the load plate, then the CPU is locked completely.

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 all times in order to prevent overheating and damaging to the CPU. Please refer to your CPU fan user guide to install it properly.

For more detailed information about CPU Qualified Vendor List,please visit our website:http://www.foxconnchannel.com

Memory

This motherboard includes two 184-pin slots Memory sockets. You must install at least one memory module to ensure normal operation. If you install two modules, they must be the same speed. Mixed memory modules from different manufacturers is not recommended.

Installation of DDR Memory

1. There is only one gap in the center of the DIMM socket, and the memory module can be fixed in one direction only. Unlock a DIMM socket by pressing the module clips outward.
2. Align the memory module to the DIMM socket and insert the module vertically into the DIMM socket.

104
Pins

80
Pins
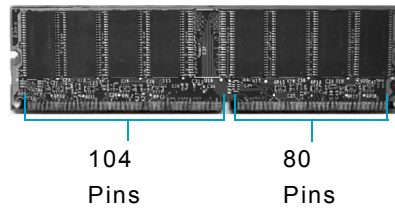
3. The plastic clips at both sides of the DIMM socket will lock automatically.
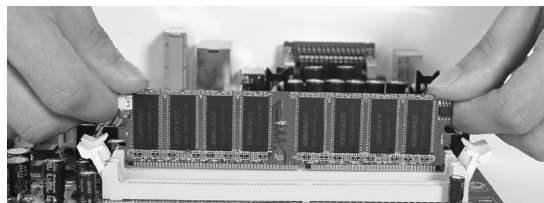
For more detailed information about Memory Qualified Vendor List,please visit our website:http://www.foxconnchannel.com

Warning :

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.

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.

20-pin 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.

20-pin ATX power connector

```
          3.3V      5V     5V    PWR-OK  12V
     3.3V      GND     GND   GND      5VSB
  1                                           10

  11                                          20
     3.3V      GND     GND    GND      5V
          -12V    PS-ON   GND    -5V    5V
```
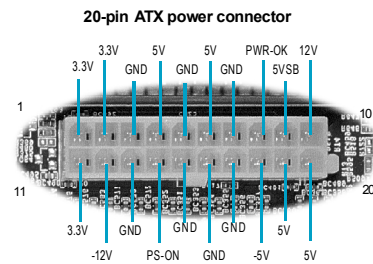
4-pin ATX_12V Power Connector: PWR2
The ATX power supply connects to PWR2 and provides power to the CPU.

4-pin ATX_12V power connector

```
        1        2
  GND              GND
  12V              12V
        3        4
```
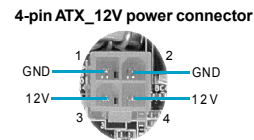
ⓘ Attention:

You have to press the power button for more than four seconds if you change the default "Instant Off" setting to "Delay 4 Sec" from the "Power Button Override" option in the BIOS Power Management Setup.

Other Connectors

This motherboard includes connectors for FDD, IDE HDD, USB, CPU fan, system fan and others.

FDD Connector

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

HDD connectors: PIDE & SIDE

These connectors supports the Ultra DMA 133/100/66 IDE hard disk ribbon cable. Connect the cable's blue connector to the primary (recommended) or secondary IDE connector, then connect the gray connector to the Ultra DMA 133/100/66 slave device (hard disk drive) and the black connector to the Ultra DMA 133/100/66 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 indicators.

Hard Disk LED Connector(HDD_LED)

The connector connects to the case's IDE indicator LED indicating the activity status of IDE hard disk.

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 system's 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 S3, 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.

PLED PWRBTN#

1

HDD_LED RESET NC

FP1
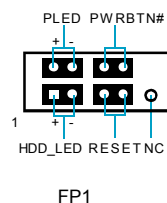
COM2 Connector: COM2

This connector accommodates a second serial port using an optional serial port bracket. Connect the bracket cable to this connector then install the bracket into a slot opening at the back of the system chassis.

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

COM2
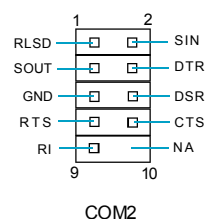
IrDA Header: IR

This connector supports wireless transmitting and receiving device. Before using this function, configure the settings of IR Address, IR Mode and IR IRQ from the "Integrated Peripherals" section of the CMOS Setup.

1 □ +5V
Empty
□ RX
□ GND
□ TX

IR
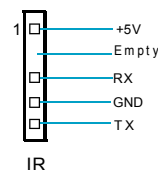
S-ATA Connectors: SATA_1, SATA_2(optional)

The Serial ATA connectors are used to connect the S-ATA devices to the motherboard. These connectors support the thin Serial ATA cables for primary internal storage devices. The current Serial ATA interface allows up to 150MB/s data transfer rate.

GND
TX+
TX-
GND
RX-
RX+
GND

1

SATA_1,SATA_2
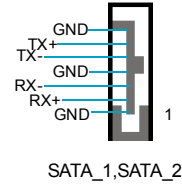
USB Headers: F_USB1, F_USB2

Besides four USB ports on the rear panel, the series of motherboards also have two 10-pin header on board which may connect to front panel USB cable (optional) to provide additional four USB ports.

VCC   VCC
D-   D-
D+   D+
GND   GND
Empty   NC

F_USB1/2
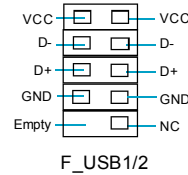
Fan Connectors: CPU_FAN, SYS_FAN

The speed of CPU_FAN and FAN1 can be detected and viewed in "PC Health Status" section of the CMOS Setup. These fans will be automatically turned off after the system enters suspend mode.

CONTROL
SENSE   CPU_FAN
POWER
1   GROUND

GND   +12V   SENSE

1   SYS_FAN
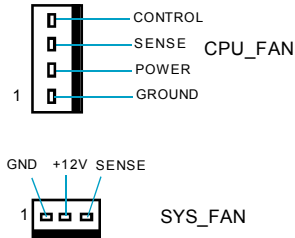
Audio Connectors: CD_IN,AUX_IN(optional)

CD_IN ,AUX_IN are Sony standard CD audio connector, it can be connected to a CD-ROM drive through a CD audio cable.

CD_R
GND   CD_IN
1   CD_L

AUX_R
GND   AUX_IN
1   AUX_L
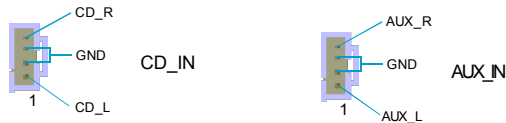
Audio Interface: F_AUDIO

The audio interface provides two kinds of audio output choices: the Front Audio, the 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, pin9 and 10 must be short, and then the signal will be sent to the rear audio port.

MIC_IN	MIC_GND
MIC_PWR	+5VA
AUD_OUT_R	AUD_RET_R
N A	Empty
AUD_OUT_L	AUD_RET_L
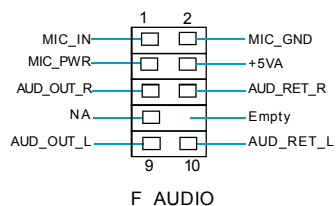
F_AUDIO

S/PDIF Out Connector: SPD_OUT

The S/PDIF out connector is capable of providing digital audio to external speakers or compressed AC3 data to an external Dolby digital decoder.

Note: The empty pin of S/PDIF cable should be aligned to empty pin of S/PDIF out connector.

1 +5V
Empty
SPDIF_OUT
GND

SPD_OUT
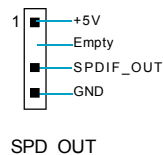
Chassis Intruder Connector: INTR

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 "Case Open Warning" to "Enabled" in the "PC Health Status" section of the CMOS Setup. Save and exit, then boot the operating system once to make sure this function takes effect.

1 INTRUDERJ
GND

INTR
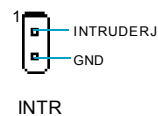
Speaker Connector: SPEAKER(optional)

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

1 SPK (Pull high)
Empty
NC
SPKJ

SPEAKER
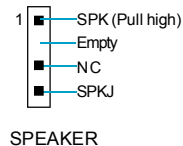
Expansion Slots

This motherboard includes three 32-bit master PCI bus slots, one AGP slot.

PCI Slots

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

AGP Slot

This motherboard has an AGP slot that supports 1.5V AGP cards. AGP is an interfacing specification designed to display 3D images. It provides a specialized 66MHz, 32-bit channel to allow the graphic controller to directly access the master memory and supports 4X and 8X speeds.

Warning:

The motherboard may be damaged if a 3.3V AGP card is used. Make sure that your AGP card is 1.5V specification. Note the notches on the card golden fingers to ensure that they fit the AGP slot on your motherboard.

Installing an expansion card

1. Before installing the expansion card, read carefully 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 any expansion cards.
3. Remove the bracket opposite the slot that you intend to use.
4. Align the card connector with the slot and press firmly until the card is completely seated in the slot.
5. Secure the card to the chassis with the screw you removed earlier.

For more detailed information about AGP Qualified Vendor List,please visit our website:http://www.foxconnchannel.com

Jumpers

The users can change the jumper settings on this motherboard if needed. 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 silk-screen printed "△" next to it. However, in this manual, pin 1 is simply labeled as "1".

2. The following table provides some explanation of the jumper pin settings. User should refer to this when adjusting jumper settings.

Jumper	Diagram	Definition	Description
1	1	1-2	Set pin1 and pin2 closed
	1	2-3	Set pin2 and pin3 closed
1	1	Closed	Set the pin closed
	1	Open	Set the pin opened

Clear CMOS Jumper: CLS_CMOS

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

How to clear CMOS?

1. Turn off the AC power supply and quickly connect pins 1 and 2 together using the jumper cap.
2. Return the jumper setting to normal (pins 2 and 3 locked together with the jumper cap).
3. Turn the AC power supply back on.

Normal Status
(Default)
1 2 3

Clear CMOS
1 2 3

Clear CMOS Jumper

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_EN

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

3
2
1

BIOS TBL
Enabled

3
2
1

TBL_EN
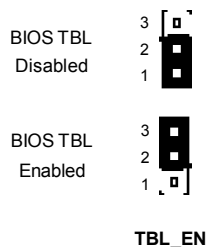
Starting up for the first time

1. After making all the connections, replace the system case cover.
2. Be sure that all switches are 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 applying power 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 runs the power-on tests. While the tests are running, the BIOS beeps or additional mes sages 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. At power on, hold down <Delete> to enter BIOS Setup. Follow the instruc-tions in Chapter 3.

Powering off the computer

1. Using the OS shut down function
    If you use windows 98/ME/2000/XP, click the Start button, click 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 sec-onds puts the system to sleep mode or to 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
- ❖ Frequency/Voltage Control
- ❖ 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 <Del> key to enter the AWARD BIOS CMOS Setup Utility.

Press TAB to show POST screen, DEL to enter SETUP.

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 result 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.


```
                Phoenix - AwardBIOS CMOS Setup Utility
 ▶ Standard CMOS Features          ▶ Frequency/Voltage Control

 ▶ BIOS Features                     Load Fail-Safe Defaults

 ▶ Advanced BIOS Features            Load Optimized Defaults

 ▶ Advanced Chipset Features         Set Supervisor Password

 ▶ Integrated Peripherals            Set User Password

 ▶ Power Management Setup            Save & Exit Setup

 ▶ PnP/PCI Configurations           Exit Without Saving

 ▶ PC Health Status

 Esc : Quit                      ↑ ↓ → ←   : Select Item
 F10 : Save & Exit Setup

                   Time, Date, Hard Disk Type...
```

Main Menu

The items in the main menu are explained as below:

Standard CMOS Features

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

BIOS Features

The special 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.

Frequency/Voltage Control

Frequency and voltage settings can be adjusted through this menu.

Load Fail-Safe Defaults

The default BIOS settings can be loaded through this menu.

Load Optimized Defaults

The optimal 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> keys to choose the setting values.
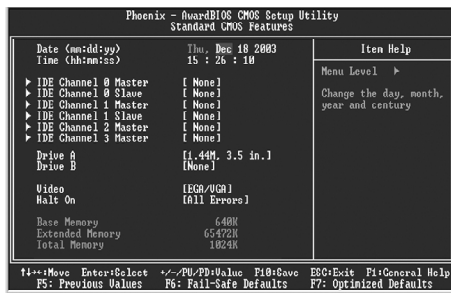
Standard CMOS Features Menu

Date

This option 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 using the keyboard.

　　Year—year, set up by users.

Time

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

IDE Channel 0/1 Master/Slave& IDE Channel 2/3 Master

These categories identify the HDD types of 2 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 is installed or set; "Auto" means the system can auto-detect the hard disk when booting up; by choosing "Manual" and changing Access Mode to "CHS", the related information should be entered manually. Enter the information directly from the keyboard and press < 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 3 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 option allows you to select the kind of FDD to be installed, including "None", [360K, 5.25 in], [1.2M, 5.25 in], [720K, 3.5 in], [1.44M, 3.5 in] and [2.88 M, 3.5 in].

Video

The following table is provided for your reference in setting the display mode for your system.

EGA/VGA	Enhanced Graphics Adapter / Video Graphic Array. For EGA, VGA, SEGA, SVGA, or PGA monitor adapters.
CGA 40	Color Graphic Adapter, powering up in 40 column mode.
CGA 80	Color Graphic Adapter, powering up in 80 column mode.
MONO	Monochrome adapter, including high resolution monochrome adapters.

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 disk error, but it will stop for all other errors.

Memory

This is a Display-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.

BIOS Features


```
                Phoenix - AwardBIOS CMOS Setup Utility
                           BIOS Features
    [SuperBoot]                                        Item Help
    SuperBoot              [Disabled]
                                                  Menu Level   ▶
    [SuperBIOS-Protect]
    SuperBIOS-Protect     [Disabled]

    [SuperRecovery]
    SuperRecovery Hotkey  [LSHIFT+F12]

    [SuperSpeed]
    CPU Clock             [200]
    CPU:DRAM Frequency Ratio [SPD]
    DRAM Frequency

↑↓←→:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
  F5: Previous Values      F6: Fail-Safe Defaults    F7: Optimized Defaults
```

BIOS Features Menu

❖ **[SuperBoot] SuperBoot**

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

❖ **[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] CPU Clock**

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

❖ **CPU: DRAM Frequency Ratio**

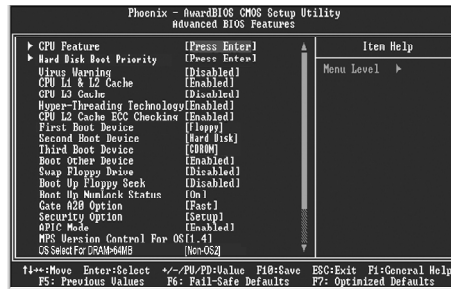This option is used to set CPU:DRAM Frequency Ratio.

❖ **DRAM Frequency**

This option is used to show DRAM frequency.

Warning:

Be sure your selection is right. CPU overclock will be dangerous! We will not be responsible for any damage caused.

Advanced BIOS Features

```
            Phoenix - AwardBIOS CMOS Setup Utility
                     Advanced BIOS Features
 ▶ CPU Feature                [Press Enter]         ┌── Item Help ──
 ▶ Hard Disk Boot Priority    [Press Enter]
   Virus Warning              [Disabled]      Menu Level   ▶
   CPU L1 & L2 Cache          [Enabled]
   CPU L3 Cache               [Disabled]
   Hyper-Threading Technology [Enabled]
   CPU L2 Cache ECC Checking  [Enabled]
   First Boot Device          [Floppy]
   Second Boot Device         [Hard Disk]
   Third Boot Device          [CDROM]
   Boot Other Device          [Enabled]
   Swap Floppy Drive          [Disabled]
   Boot Up Floppy Seek        [Disabled]
   Boot Up NumLock Status     [On]
   Gate A20 Option            [Fast]
   Security Option            [Setup]
   APIC Mode                  [Enabled]
   MPS Version Control For OS [1.4]
   OS Select For DRAM>64MB    [Non-OS2]
 ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
   F5: Previous Values    F6: Fail-Safe Defaults    F7: Optimized Defaults
```

Advanced BIOS Features Menu

❖ **CPU Feature**

Press enter to set the items of CPU feature.

❖ **Hard Disk Boot Priority**

This option is used to select the priority for HDD 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 <->; you can exit this menu by pressing <Esc>.

❖ **Virus Warning**

Allows you to choose the VIRUS warning feature for IDE hard disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and an alarm will beep.

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

❖ **CPU L1 & L2 Cache**

This option is used to enable or disable the CPU L1 and L2 cache. The available setting values are: Disabled and Enabled.

❖ **CPU L3 Cache (optional)**

This option is used to enable or disable CPU L3 cache.

❖ **CPU L2 Cache ECC Checking**

This option is used to enable or disable CPU L2 cache ECC Checking.

❖ **First/Second/Third Boot Device**

This option allows you to set the boot device's sequence. The available setting values are: Floppy, LS120, Hard Disk, CDROM, ZIP100, USB-FDD, USB-ZIP, USB-CDROM, LAN, and Disabled.

❖ **Boot Other Device**

With this function set to enable, the system will to boot from some other devices if the first/second/third boot devices failed.

❖ **Swap Floppy Drive**

If you have two floppy diskette drives in your system, this option allows you to swap the assigned drive letters.

❖ **Boot Up Floppy Seek**

If this option is 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 option defines if the keyboard Num Lock key is active when your system is started.

❖ **Gate A20 Option**

This option is used to set up the A20 signal control necessary for access to the 1MB memory.

❖ **Typematic Rate Setting**

If this option is enabled, you can use the following two items to see the typematic rate and the typematic delay settings for your keyboard.

❖ **Typematic Rate (Chars/Sec)**

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

❖ **Typematic Delay (Msec)**

Use this option 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 mode.

❖**MPS Version Control For OS**

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

❖**OS Select For DRAM > 64MB**

This option is only required if you have installed more than 64 MB of memory and you are running the OS/2 operating system. Otherwise, leave this option at the default.

❖**HDD S.M.A.R.T Capability**

This option is used to enable or disable hard disk S.M.A.R.T. support function.

❖**Report No FDD For WIN 95**

If you are using the Windows 95 and running a system with on floppy drive, select "Yes" for this option to ensure compatibility with Windows 95 logo certification.
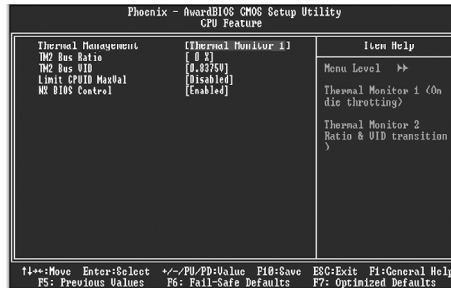
❖**Video BIOS Shadow**

This option is used to enable or disable Video BIOS Shadow. If you enable this option, the video BIOS will be copied to RAM. Video shadow will increase the video speed.

❖**Full Screen LOGO Show**

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

❖**Small Logo (EPA) Show**

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

CPU Feature Menu

❖**Thermal Management**

This option is used to manage Prescott CPU thermal.

Note: This option will not be displayed until a Prescott CPU has been installed.

❖**TM2 Bus Ratio**

Represents the frequency bus ratio of the throttled performance state that will be initiated when the on-die sensor goes from not hot to hot.

❖**TM2 Bus VID**

Represents the voltage of the throttled performance state that will be initiated when the on-die sensor goes from not hot to hot.
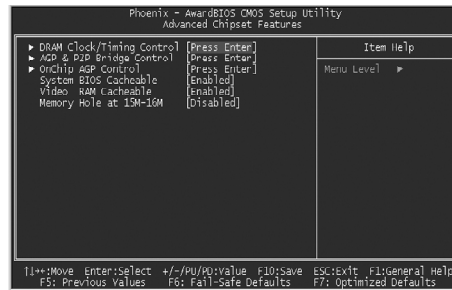
❖**Limit CPUID MaxVal**

The option is used to set limit CPUID MaxVal.

❖**NX BIOS Control**

When disabled, forces the NX feature flag to always return 0.

Advanced Chipset Features

Advanced Chipset Features Menu

❖ **DRAM Clock/Timing Control**

Press enter to set the items about DDR RAM.

❖ **AGP & P2P Bridge Control**

Press enter to set the items about AGP.

❖ **OnChip AGP Control (only for 661FX7MF)**

Press enter to set the items about onchip AGP.

❖ **System BIOS Cacheable**

Select "Enabled" to allow caching of the system BIOS which may improve performance. If any other program writes to this memory area, a system error may result.

❖ **Video RAM Cacheable**
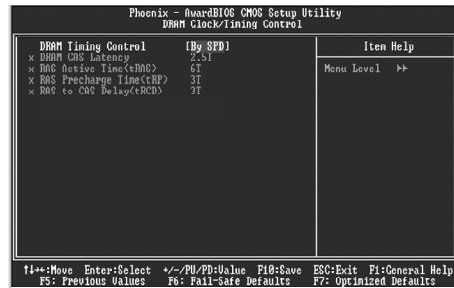
Select "Enabled" to allow caching of the Video BIOS which may improve performance. If any other program writes to this memory area, a system error may result.

❖ **Memory Hole at 15M-16M**

This option is used to determine whether the 15M-16M address field of memory is reserved for the ISA expansion card.

DRAM Clock/Timing Control Menu

❖**DRAM Timing control**

This option determines DRAM timing using SPD or manual configuration. Only set as manual, the following 4 items can be updated.

❖**DRAM CAS Latency**

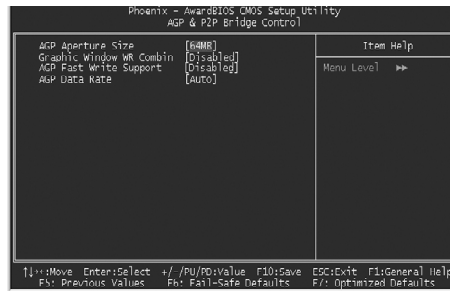This option determines CAS Latency.

❖**RAS Active Time (tRAS)**

This option determines RAS active time.

❖**RAS Precharge Time (tRP)**

This option is used to define the idle clocks after issuing a precharge command to the SDRAM.

❖**RAS to CAS Delay (tRCD)**

This option is used to define the minimum RAS to CAS delay using 1us granularity.

```
                Phoenix - AwardBIOS CMOS Setup Utility
                        AGP & P2P Bridge Control

  AGP Aperture Size        [64MB]              Item Help
  Graphic Window WR Combin [Disabled]
  AGP Fast Write Support   [Disabled]        Menu Level  ▶▶
  AGP Data Rate            [Auto]








  ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
    F5: Previous Values      F6: Fail-Safe Defaults    F7: Optimized Defaults
```

AGP & P2P Bridge Control Menu

❖**AGP Aperture Size**

This option defines the size of the aperture if you use an AGP graphics adapter. The aperture is a portion of the PCI memory address range dedicated for graphic memory address space.
Note: This function does not work when Onboard VGA is used.

❖**Graphic Window WR Combin (only for 661FX7MF/661GX7MI)**
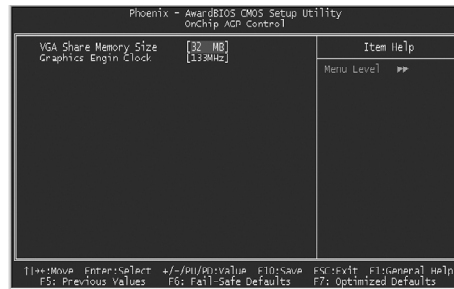This option is used to disable or enable Graphic Window Write Combin mode.

❖**AGP Fast Write Support (only for 661FX7MF/661GX7MI)**
Use this option to enable or disable AGP fast write support.

❖**AGP Data Rate (only for 661FX7MF/661GX7MI)**
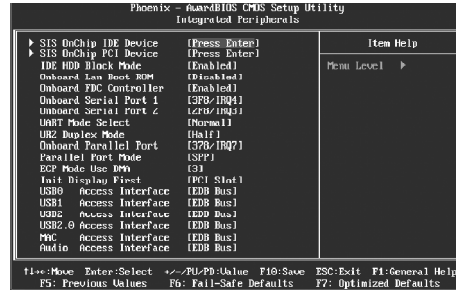Use this option to set AGP data rate.

OnChip AGP Control Menu

❖**VGA Share Memory Size (only for 661FX7MF/661GX7MI)**

This option is used to set the onboard VGA share memory size.

❖**Graphics Engin Clock (only for 661FX7MF/661GX7MI)**

This option is used to set onchip AGP graphics engin clock.

Integrated Peripherals

```
            Phoenix - AwardBIOS CMOS Setup Utility
                    Integrated Peripherals
  ▶ SIS OnChip IDE Device      [Press Enter]        Item Help
  ▶ SIS OnChip PCI Device      [Press Enter]
    IDE HDD Block Mode         [Enabled]        Menu Level  ▶
    Onboard Lan Boot ROM       [Disabled]
    Onboard FDC Controller     [Enabled]
    Onboard Serial Port 1      [3F8/IRQ4]
    Onboard Serial Port 2      [2F8/IRQ3]
    UART Mode Select           [Normal]
    UR2 Duplex Mode            [Half]
    Onboard Parallel Port      [378/IRQ7]
    Parallel Port Mode         [SPP]
    ECP Mode Use DMA           [3]
    Init Display First         [PCI Slot]
    USB0  Access Interface     [EDB Bus]
    USB1  Access Interface     [EDB Bus]
    USB2  Access Interface     [EDB Bus]
    USB2.0 Access Interface    [EDB Bus]
    MAC   Access Interface     [EDB Bus]
    Audio Access Interface     [EDB Bus]

  ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
  F5: Previous Values   F6: Fail-Safe Defaults   F7: Optimized Defaults
```

Integrated Peripherals Menu

❖**SIS Onchip IDE Device**

Press enter to set onchip IDE device.

❖**SIS Onchip PCI Device**

Press enter to set onchip PCI device.

❖**Onboard SuperIO Device**

Press enter to set onboard superIO device.

❖ **IDE HDD Block Mode**

This option is used to set whether the IDE HDD block mode is allowed.

❖**Onboard Lan Boot ROM**

This option is used to decide whether to invoke the boot ROM of the onboard LAN chip.

❖**Onboard FDC Controller**

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

❖**Onboard Serial Port 1/2**

This items are used to assign the I/O address and interrupt request(IRQ) for the onboard serial port 1/2.These items 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.

❖**UR 2 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 infra red chip.

❖**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 avail able option: SPP, EPP, ECP, ECP+EPP and Normal. Normal mode supports data output only; ECP and EPP mode support data input and output in bidirec tional mode,but they just fit known ECP and EPP devices.

❖**ECP 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.

❖ **Init Display First**

This option is used to set which display device will be used first when your PC starts up.

❖ **USB0/1/2/2.0 Access Interface**

This option is used to set USB0/1/2/2.0 Access Interface.

❖ **MAC Access Interface**

This option is used to set MAC access interface.

❖ **Audio Access Interface**

This option is used to set audio Access Interface.

```
           Phoenix - AwardBIOS CMOS Setup Utility
                    SIS OnChip IDE Device
 Internal PCI/IDE          [Both]            Item Help
 IDE Primary Master PIO    [Auto]
 IDE Primary Slave  PIO    [Auto]         Menu Level  ▶▶
 IDE Secondary Master PIO  [Auto]
 IDE Secondary Slave  PIO  [Auto]
 Primary Master  UltraDMA  [Auto]
 Primary Slave   UltraDMA  [Auto]
 Secondary MasterUltraDMA  [Auto]
 Secondary Slave UltraDMA  [Auto]
 IDE DMA transfer access   [Enabled]
 IDE Burst Mode            [Enabled]



 ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
 F5: Previous Values   F6: Fail-Safe Defaults   F7: Optimized Defaults
```

SIS OnChip IDE Device Menu

❖**Internal PCI/IDE**

This option is used to set the ports of onboard IDE.

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

These four items let you assign which kind of PIO (Programmed Input/Output) is used by IDE devices. Choose Auto to let the system auto detect which PIO mode is the best or select a PIO mode from 0-4.

❖**Primary/Secondary Master/Slave UltraDMAto)**

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

❖**IDE DMA transfer access**

This option is used to enable or disable IDE DMA transfer access.

❖**IDE Burst Mode**

This option is used to enable or disable IDE burst mode.
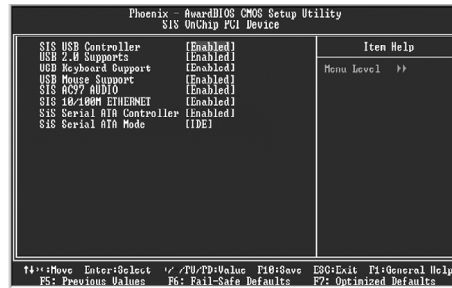
SIS OnChip PCI Device Menu

❖**SIS USB Controller**

This option is used to enable or disable SIS USB controller.

❖**USB 2.0 Supports**

This option is used to enable or disable USB 2.0.

❖**USB Keyboard Support**

This option is used to enable or disable USB keyboard under legacy OS.

❖**USB Mouse Support**

This option is used to enable or disable USB mouse under legacy OS.

❖**SIS AC97 AUDIO**
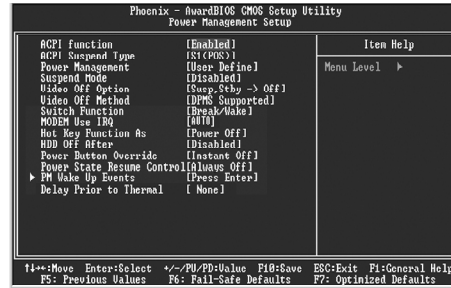
This option is used to enable or disable SIS AC97 AUDIO.

❖**SIS 10/100M ETHERNET**

This option is used to enable or disable SIS 10/100M ethernet.

❖**SiS Serial ATA Controller (optional)**

This option is used to enable or disable SiS serial ATA controller.

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, Windows 2000 or Windows XP).

❖ **ACPI Suspend Type**

This option 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 previous status when the STR function wakes. When you select "S1 & S3" mode, the system will automatically select the delay time.

❖**Power Management**

This option is used to set the power management scheme.

❖**Suspend Mode**

This option is used to set the idle time before the system enters into sleep status.

❖**Video Off Option**

This option is used to set video off option.

❖**Video Off Method**

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

❖**Switch Function**

This option is used to enable or disable switch function to wake up.

❖**MODEM Use IRQ**

This option is used to set the IRQ in which the modem can use. The system will automatically wake up when the modem receives an incoming call.

❖**Hot Key Function As**

The option is used to define the hot key function.

❖**HDD Off After**

This option is used to define the continuous HDD idle time before the HDD enters power saving mode.

❖**Power Button Override**

This option 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.
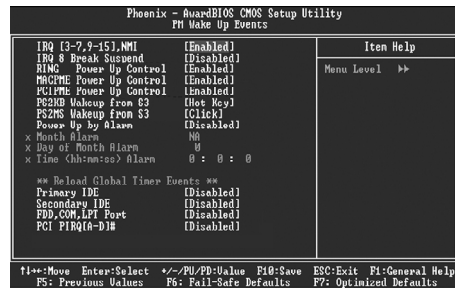
❖**Power State Resume Control**

This option is used to control power resume state.

❖**PM Wake Up Events**

Press enter to set the items of PM wake up Events.

❖ **Delay Prior to Thermal**

This option is used to set the delay time before the CPU enters auto thermal mode.

PM Wake Up Events Menu

❖ **IRQ [3-7,9-15], NMI**

This option is used to enable or disable IRQ[3-7,9-15], NMI.

❖ **IRQ 8 Break Suspend**

This option is used to enable or disable IRQ8 break suspend.

❖ **RING Power Up Control**

If this option is enable, 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.

❖ **MACPME Power Up Control**

This option is used to enable or disable the system to be waken up by onboard LAN.

❖ **PCIPME Power Up Control**

This option is used to enable or disable the system to be waken up by PCI card.

❖ **PS2KB Wakeup from S3**

This option is used to set which action will wake up PS/2 keyboard from S3 status. The setting values are Any Key, Hot Key, Password.

❖ **PS2MS Wakeup from S3**

This option is used to set which action will wake up PS/2 mouse from S3 status.

❖ **Power Up by Alarm**

This option is used to set the timing of the start-up function. In order to use this function, the start-up password function must be canceled. Also, the PC power source must not be turned off. The setting values are Disabled and Enabled.

❖**Month Alarm**

This option is used to set the timing for the start-up month. The setting values contain 0 - 12 and NA.

❖**Day of Month Alarm**

This option is used to set the timing for the start-up day of the month. The setting values contain 0 - 31.

❖**Time (hh:mm:ss) Alarm**

This option is used to set the timing for the start-up time. The setting values contain hh:0 – 23; mm:0 – 59; ss:0 – 59.

❖**Primary/Secondary IDE**

When these items are enabled, the system will restart the power saving timeout counters when any activity is detected on any of the drives or devices on the primary or secondary IDE channels.

❖**FDD, COM,LPT Port**

When this option is enabled, the system will restart the power saving timeout counters when any activity is detected on the floppy disk drive, serial ports, or the parallel port.

❖**PCI PIRQ [A-D]# (Default: Disabled)**

When this option is disabled, any PCI device set as the master will not power on the system.

PnP/PCI Configurations

```
                Phoenix - AwardBIOS CMOS Setup Utility
                        PnP/PCI Configurations
┌────────────────────────────────────────┬───────────────────────┐
│ Reset Configuration Data   [Disabled]   │      Item Help        │
│                                         │                       │
│ Resources Controlled By   [Auto<ESCD>]  │ Menu Level  ▶         │
│ ▶ IRQ Resources           [Press Enter] │                       │
│                                         │ Default is Disabled.  │
│ PCI/VGA Palette Snoop      [Disabled]   │ Select Enabled to     │
│                                         │ reset Extended System │
│                                         │ Configuration Data    │
│                                         │ (ESCD) when you exit  │
│                                         │ Setup if you have     │
│                                         │ installed a new add-on│
│                                         │ and the system        │
│                                         │ reconfiguration has   │
│                                         │ caused such a serious │
│                                         │ conflict that the OS  │
│                                         │ cannot boot           │
│                                         │                       │
├────────────────────────────────────────┴───────────────────────┤
│ ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
│ F5: Previous Values      F6: Fail-Safe Defaults    F7: Optimized Defaults     │
└─────────────────────────────────────────────────────────────────┘
```

PnP/PCI Configurations Menu

❖ **Reset Configuration Data**

This option is used to set whether the system is permitted to automatically distribute IRQ DMA and I/O addresses when each time that the machine is turned on.

❖ **Resources Controlled By**

This option is used to define the system resource control scheme. If all cards you use support PnP, then select Auto (ESCD) and the BIOS automatically distributes interruption resources. If you install ISA cards not supporting 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 acceleration card or MPEG audio card problems (e.g., colors not accurately displayed).

PC Health Status


```
                Phoenix - AwardBIOS CMOS Setup Utility
                          PC Health Status
 CPU Fan Control          [Disabled]              Item Help
 CPU Vcore
 + 3.3v                                       Menu Level    ▶
 + 5v
 + 12v
 CPU Temp
 System Temp
 CPU FAN Speed
 System FAN Speed
 Case Opened Warning      [Disabled]



 ↑↓←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
    F5: Previous Values   F6: Fail-Safe Defaults   F7: Optimized Defaults
```
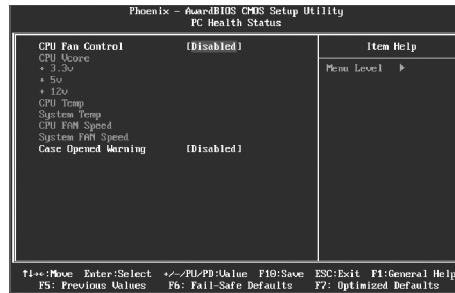
PC Health Status Menu

❖**CPU Fan Control**

This option is used to disable or enable CPU fan control function.

❖**CPU Vcore/+3.3v/+5v/+12v**

The current voltages will be automatically detected by the system.

❖**CPU Temp**

The current CPU temperature will be automatically detected by the system.

❖**System Temp**

The system temperature will be automatically detected by the system.

❖**CPU FAN Speed**

The CPU fan speed will be automatically detected by the system.

❖**System FAN Speed**

The system fan speed will be automatically detected by the system.

❖**Case Opened Warning**

This option is used to enable or disable case opened warning function.

Frequency/Voltage Control
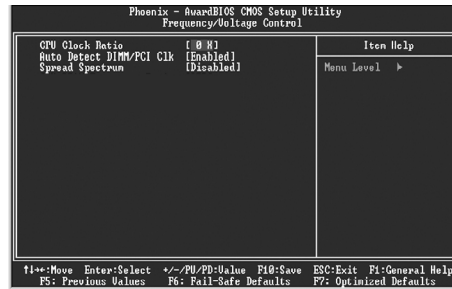
Frequency/Voltage Control Menu

❖ **CPU Clock Ratio**

This option is used to set the ratio of an unlocked CPU. Using different CPU, the setting values are different.

Note: this option is invisible for locking frequency CPU.

❖ **Auto Detect DIMM/PCI Clk**

This option is used to set whether the clock of an unused PCI/DIMM slot will be disabled to reduce electromagnetic interference. The setting values are: Disabled and Enabled.

❖ **Spread Spectrum**

If you enable spread spectrum, it can significantly reduce the EMI (Electro-Magnetic Interference) generated by the system.

⚡ **Warning:**

Be sure your selection is right. CPU overclock will be dangerous! We will not be responsible for any damages caused.

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 the <F6> key.

Load Optimized Defaults

Select this option and press <Enter>, and a dialogue box will pop up to let you load the optimized BIOS default settings. Select <Y> and then press <Enter> to load the optimized defaults. Select <N> and press <Enter> to exit without loading. The defaults set by BIOS are the optimized performance parameters for the system, to improve the performance of your system components. However, if the optimized performance parameters are not supported by your hardware devices, it will likely cause system reliability and stability issues. If you only want to load the optimized default for a single option, select the desired option and press the <F7> key.

Set Supervisor/User Password

The access rights and permissions associated with the Supervisor password are higher than those of a regular User password. The Supervisor password can be used to start the system or modify the CMOS settings. The User password can also start the system. While the User password can be used to view the current CMOS settings, these settings cannot be modified using the User password. When you select the Set Supervisor/User Password option, the following message will appear in the center of the screen, which will help you to set the password:

Enter Password:

Enter your password, not exceeding 8 characters, then press <Enter>. The password you enter will replace any previous password. When prompted, key in the new password and press <Enter>.

If you do not want to set a password, just press <Enter> when prompted to enter a password, and in the screen the following message will appear. If no password is keyed in, any user can enter the system and view/modify the CMOS settings.

Password Disabled!!!

Press any key to continue …

Under the menu "Advanced BIOS Features Setup", if you select "System" from the Security Option, you will be prompted to enter a password once the system is started or whenever you want to enter the CMOS setting program. If the incorrect password is entered, you will not be permitted to continue.

Under the menu "Advanced BIOS Features Setup", if you select "Setup" from the Security Option, you will be prompted to enter a password only when you enter the CMOS setting program.

Save & Exit Setup

When you select this option and press <Enter>, the following message will appear in the center of the screen:

SAVE to CMOS and EXIT (Y/N)?Y

Press <Y> to save your changes in CMOS and exit the program; press <N> or <ESC> to return to the main menu.

Exit Without Saving

If you select this option and press <Enter>, the following message will appear in the center of the screen:

Quit Without Saving (Y/N)?N

Press <Y> to exit CMOS without saving your modifications; press <N> or <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
- ❖ Start to install drivers

Utility CD content

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

1. Install Driver

Using this choice, you can install all the drivers for your motherboard. You should install the drivers in order and restart your computer after the drivers installed.

A. IDE Driver	B. AGP Driver
C. VGA Driver(optional)	D. DirectX 9.0
E. USB 2.0 Driver	F. Audio Driver
G. LAN Driver	

2. Accessories

Use this option to install additional software programs.

A. SuperUtility

a. 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.

b. SuperStep

Superstep is a 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.

c. SuperUpdate

SuperUpdate function can help to update the BIOS through internet directly.

B. Adobe Reader

C. Norton Internet Security

D. Word Perfect

3. Manual

Click here to browse manual.

3. Homepage

Click here to visit Foxconn motherboard homepage.

4. Browse CD

Click here to browse CD content.

📋 **Note:**

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

Start to Install divers

Select <Install Driver>, and click to enter the install driver screen. You can select the driver that you want to install and begin the setup steps.

📋 **Note:**

> The following setup steps are based on Windows XP environment. There may be some differences with other operating systems.
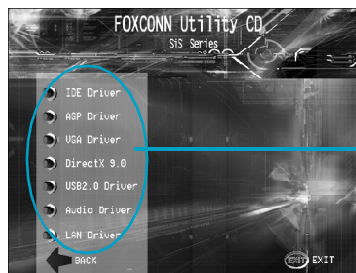
Follow screen order to install the motherboard drivers.

Chapter 5

This chapter will introduce how to use attached software.

This chapter includes the following information:
- ❖ SuperStep
- ❖ SuperUpdate
- ❖ SuperLogo

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

Reset the warning criteria to default settings

Apply the adjust- ments

Minimize Window

Exit Program

About SuperStep

SuperStep Help

Link to FOXCONN Website

Adjust System Fan2 warning criteria

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

Adjust CPU tem-
perature warning
criteria

Current system
Temperature

Adjust system
temperature
warning criteria

Reset the warn-
ing criteria to
default settings

Go to
Temperature
page

Apply the adjust-
ments

Current CPU Clock

Current CPU Ratio

Current PCI Express clock

Current PCI clock

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

Reset to the default settings

Apply the changes

Go to Alarm page
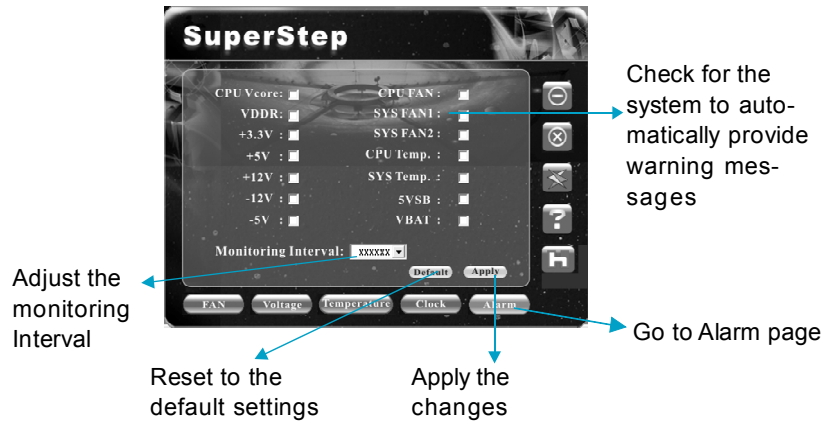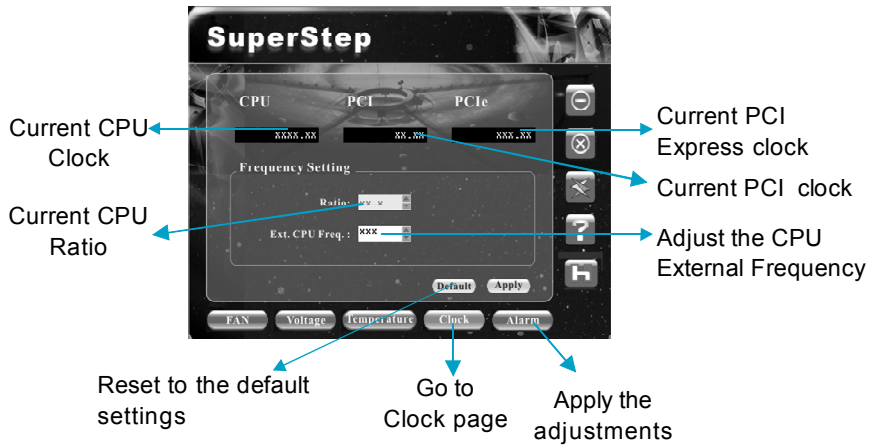
SuperUpdate

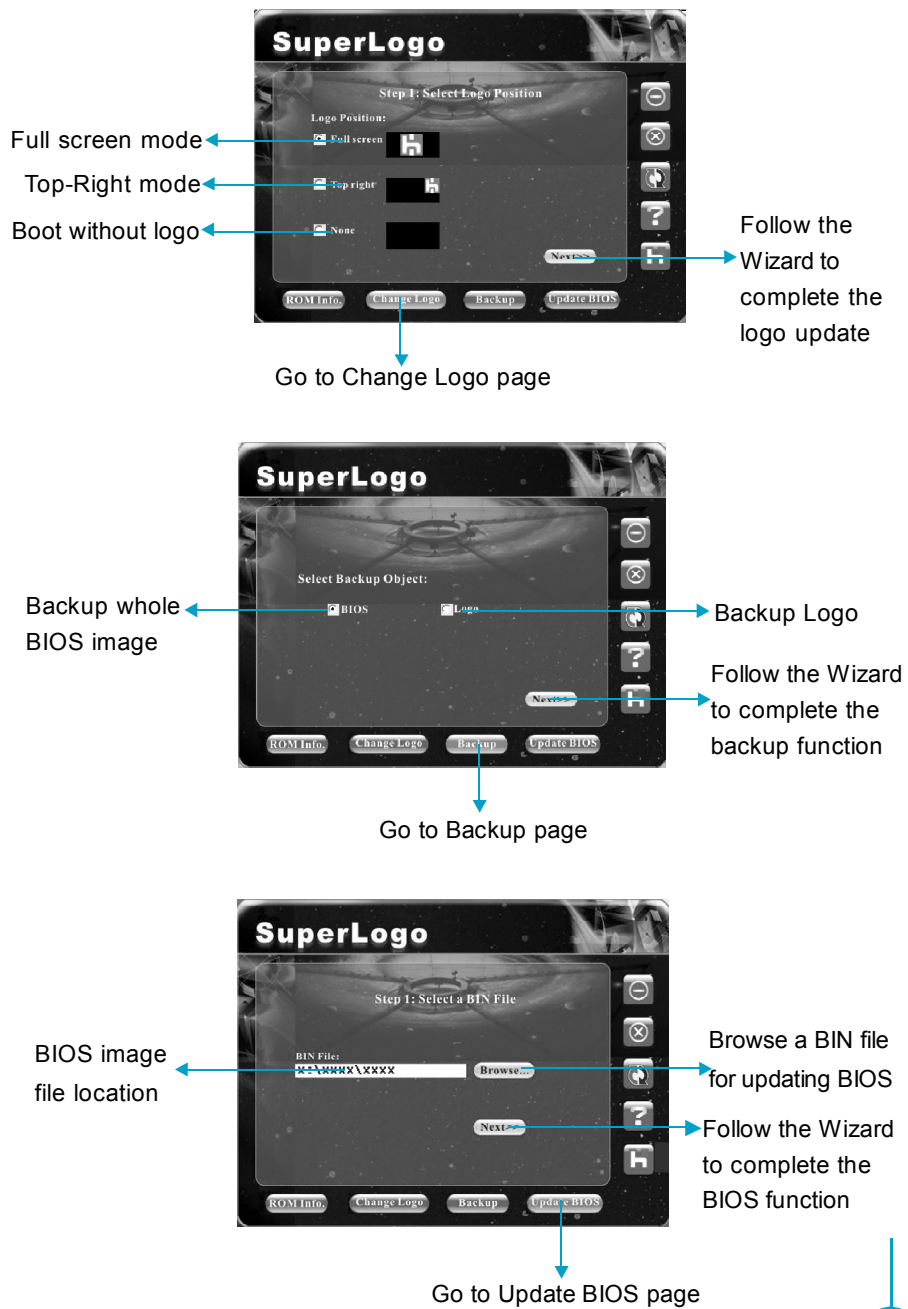SuperUpdate is a Windows utility that allows users to backup and upgrade the system BIOS.

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
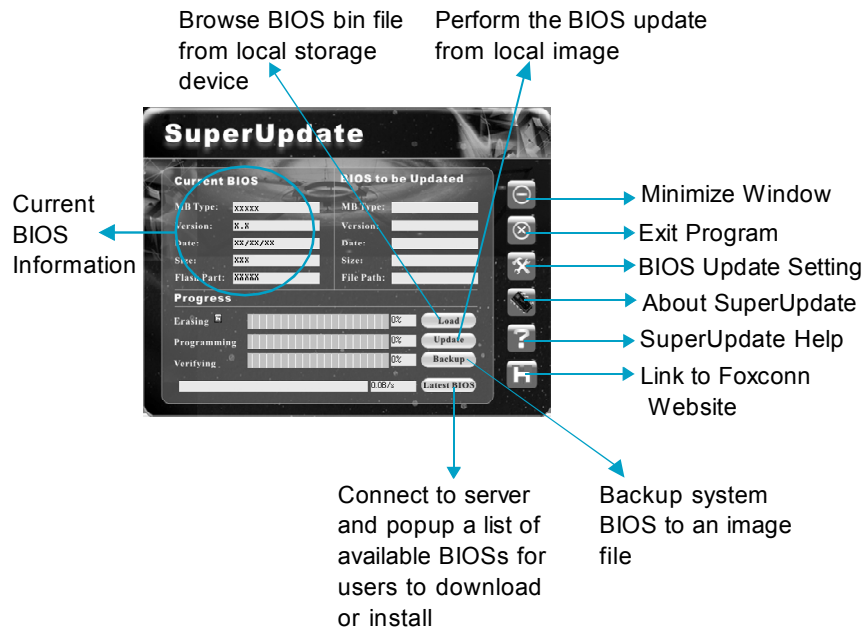
Backup BIOS to local image:

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

2. Click <OK> to finish the backup process.
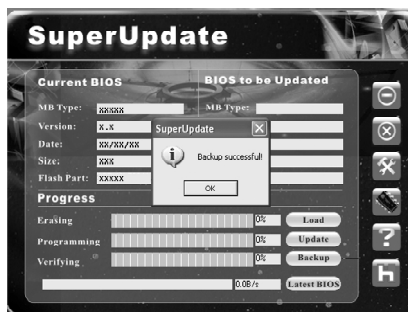
Update BIOS from local image:

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

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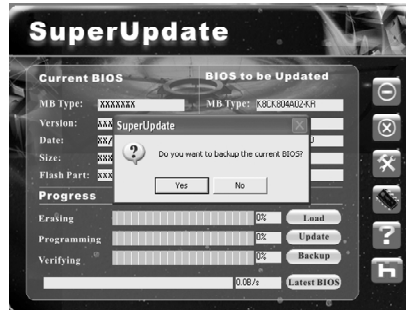
3. Click <Yes> to backup the current BIOS, then the following picture will appear.
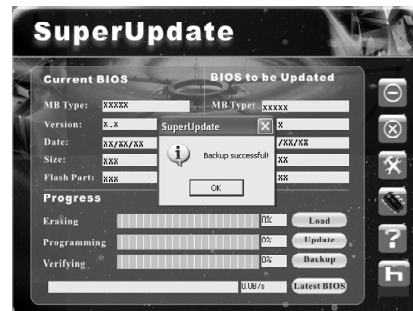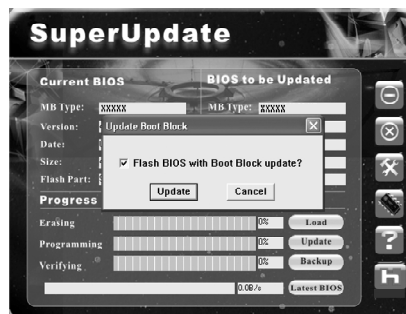
4. Click <OK >, then click <Update>.

5. Now is updating.
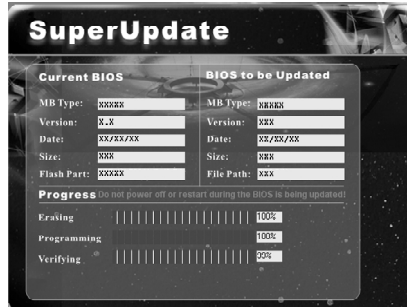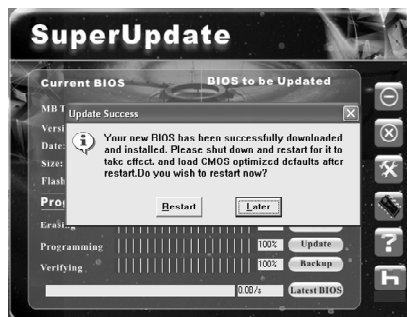
6. Click <Restart>.

Update BIOS:

1. Click <Latest BIOS> to automatically update the BIOS from the server.
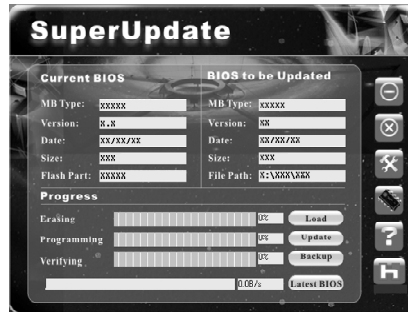
2. The following procedure is the same as **Update BIOS from local image**.

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

BIOS Write
Protect Status

About SuperLogo

SuperLogo Help

BIOS Flash
Rom Free Space

Link to Foxconn
website

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

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.

```
                Phoenix - AwardBIOS CMOS Setup Utility
 ▶ Standard CMOS Features        ▶ Frequency/Voltage Control

 ▶ BIOS Features                 Load Fail-Safe Defaults

 ▶ Advanced BIOS Features        Load Optimized Defaults

 ▶ Advanced Chipset Features     Set Supervisor Password

 ▶ Integrated Peripherals        Set User Password

 ▶ Power Management Setup         Save & Exit Setup

 ▶ PnP/PCI Configurations        Exit Without Saving

 ▶ PC Health Status

 Esc : Quit                      ↑ ↓ → ←  : Select Item
 F10 : Save & Exit Setup

                  Time, Date, Hard Disk Type...
```

```
                Phoenix - AwardBIOS CMOS Setup Utility
                          BIOS Features
   [SuperBoot]                              Item Help
   SuperBoot           [Disabled]
                                         Menu Level  ▶
   [SuperBIOS-Protect]
   SuperBIOS-Protect   [Disabled]

   [SuperRecovery]
   SuperRecovery Hotkey [LSHIFT+F12]

   [SuperSpeed]
   CPU Clock           [200]
   CPU:DRAM Frequency Ratio [SPD]
   DRAM Frequency

 ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
    F5: Previous Values    F6: Fail-Safe Defaults    F7: Optimized Defaults
```

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.
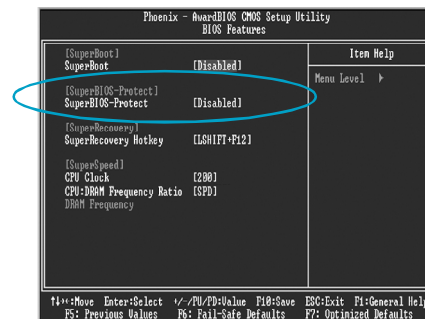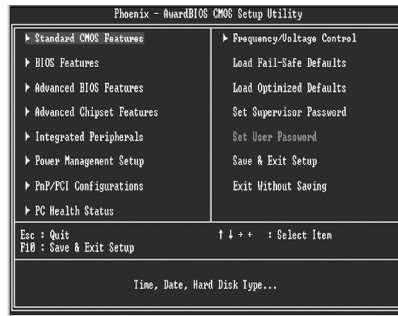

The way to implement this function, set "SuperBIOS-Protect" as "Enabled", the BIOS will be protected.

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.
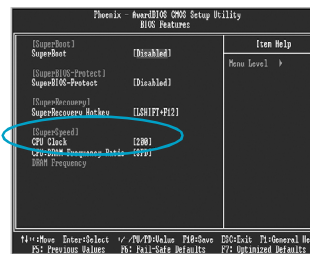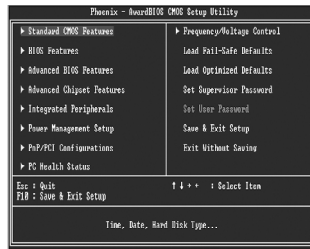
BIOS provides you a set of basic values for your processor selection instead of the jumper settings. The processor speed can be manually set from the <SuperBIOS Features> menu screen.

⊘ 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.
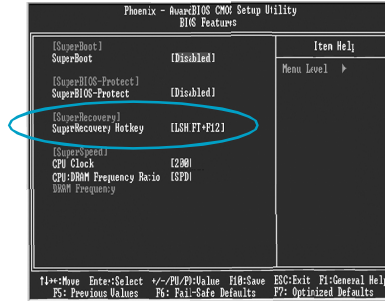
Hard Disk Selection:

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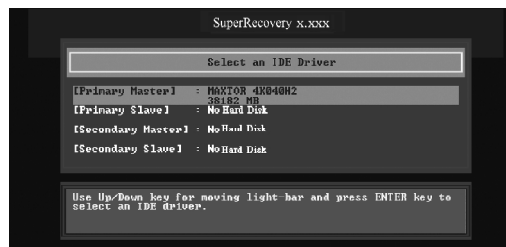
Note: If you have assigned a password to the selected HDD, you will be prompted to provide it before proceeding.
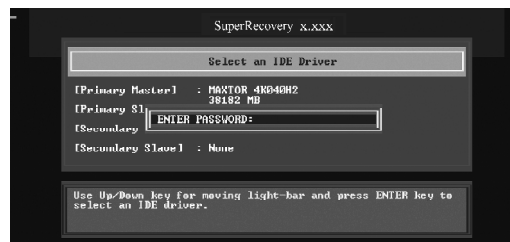
Main Menu:

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.
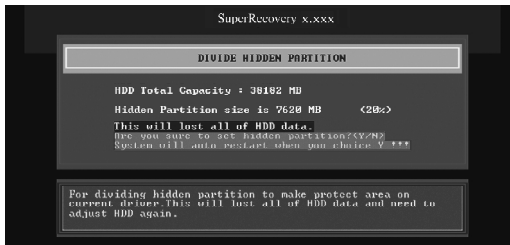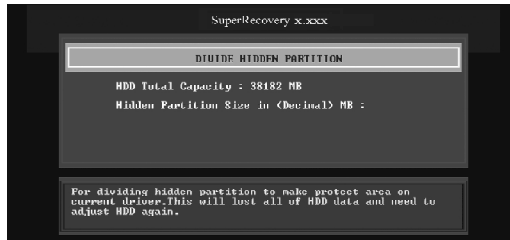

Release Hidden Partition:

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.
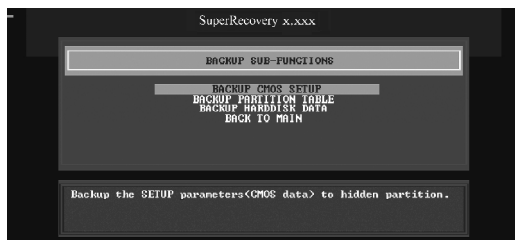
1. **Backup CMOS Setup:**
   1) Supports backing up of the CMOS data.
   2) The backing up or recovery of CMOS data should be operated on a motherboard of the same model.
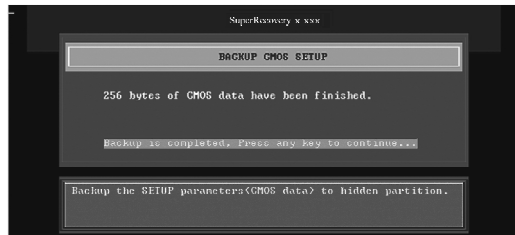
2. **Backup Partition Table:**
   This function can help to backup all partition tables including extended partitions.
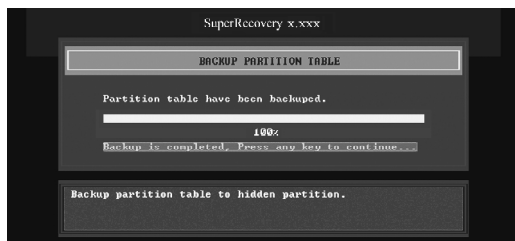
3. Backup Harddisk Data:

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.
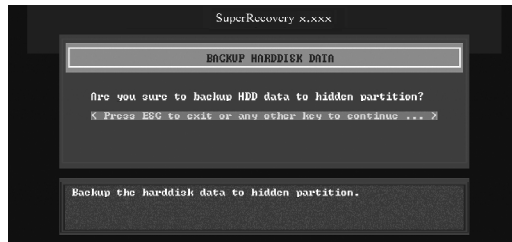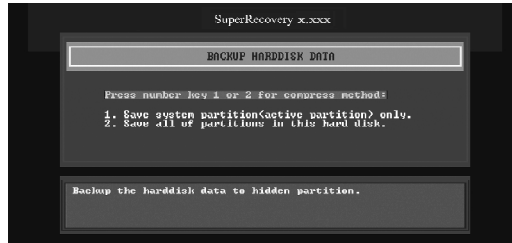
2) Backing up with the progress bar showing.
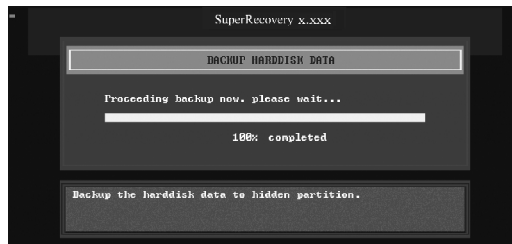
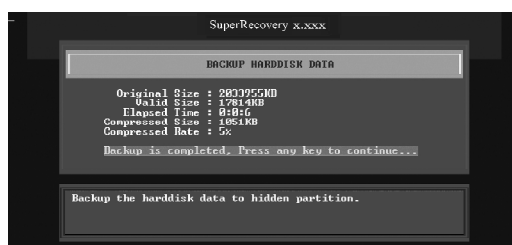3) A report with all the critical data on this operation will be listed after backing up is completed.
Original Size: The data size loaded in selected partition.
Valid Size: The size of valid data.
Elapsed Time: How long the process took to complete.
Compressed Size: The size of data after compression.
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.
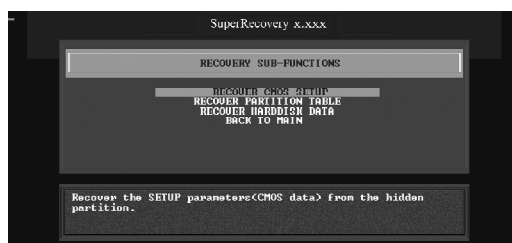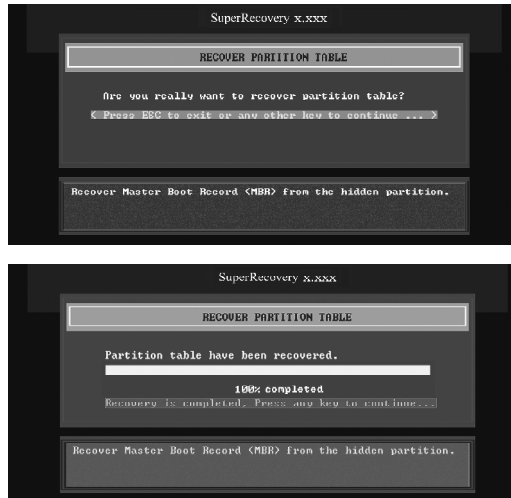
1. Recover CMOS Setup:

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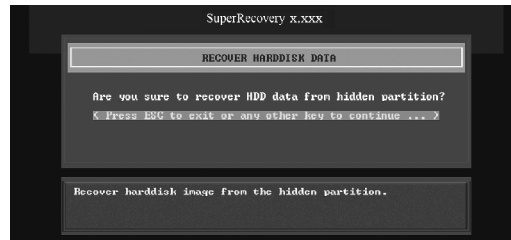

2. Recover Partition Table:

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.