Statement:

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Trademark:

All trademarks are the property of their respective owners.

Version:

User's Manual V1.0 in English for 6627MA motherboard.

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: 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

6627MA

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

þ	EN 55022: 1998/A2: 2003	Limits and methods of measurements of radio disturbance characteristics of information technology equipment
þ	EN 61000-3-2: 2000	Electromagnetic compatibility (EMC) Part 3: Limits Section 2: Limits for harmonic current emissions (equipment input current <= 16A per phase)
þ	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
þ	EN 55024: 1998/A2:2003	Information technology equipment-Immunity characteristics limits and methods of measurement

Signature : James Liang Place / Date : TAIPEI/2006

Printed Name : James Liang Position/ Title : Assistant President

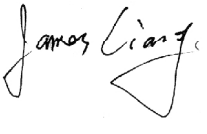
Declaration of conformity

Trade Name:	Foxconn
Model Name:	**6627MA**
Responsible Party:	PCE Industry Inc.
Address:	458 E. Lambert Rd. Fullerton, CA 92835
Telephone:	714-738-8868
Facsimile:	714-738-8838
Equipment Classification:	FCC Class B Subassembly
Type of Product:	Motherboard
Manufacturer:	**HON HAI PRECISION INDUSTRY COMPANY LTD**
Address:	66 , CHUNG SHAN RD., TU-CHENG INDUSTRIAL DISTRICT, TAIPEI HSIEN, TAIWAN, R.O.C.

Supplementary Information:

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

Tested to comply with FCC standards.

Signature :  Date : 2006

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Attention:

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.

Attention:

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 6627MA. Each motherboard is carefully designed for the PC user who wants diverse features.

-L with onboard 10/100M LAN (Default is omitted.)
-K with onboard Gigabit LAN
-6 with 6-Channel audio (Default is omitted.)
-8 with 8-Channel audio
-E with 1394 connector
-S with SATA connector
-2 with DDR2 slots
-R with RAID function
-H comply with RoHS directives

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

For example: 

The latters on the black mark of the PPID label mean that the motherboard supports 6-channel Audio (-6), onboard 10/100M LAN (-L), 1394 port (-E), SATA function (-S).

Chapter 1

Thank you for buying Foxconn 6627MA motherboard. The motherboard is one of our new products, and offers superior performance, reliability and quality, at a reasonable price. This motherboard adopts the advanced SiS 662 + SiS 966L chipset, providing users a computer platform with a high integration-compatibility-performance price ratio.

This chapter includes the following information:

- Main Features
- Layout
- Rear Panel Ports

Main Features

Size

- mATX form factor of 9.6 inch x 8.9 inch

Microprocessor

- Supports Intel® Pentium Extreme Edition, Pentium® D, Pentium® 4,Celeron® D processors in an LGA775 package
- Supports FSB at 800 MHz /533 MHz
- Supports Hyper-Threading technology

Chipset

- SiS662 (North Bridge) + SiS966L(South Bridge)

System Memory

- Two 240-pin DIMM slots
- Supports DDR2 667/533/400
- Supports up to 2GB DDR2 memory
- Supports 128-Mb, 256-Mb, 512-Mb and 1-Gb DDR2 technologies

USB 2.0 Ports

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

Onboard Serial ATA

- 150MBps data transfer rate
- Supports RAID 0, RAID 1, JBOD
- Supports two SATA devices

Onboard LAN (-L/-K) (optional)

- LAN interface built-in onboard
- Supports 10/100 Mbit/sec(-L) Ethernet
  Supports 10/100/1000 Mbit/sec(-K) Ethernet

Onboard Audio (-6) (optional)

- Supports 6-channel audio
- Supports S/PDIF output
- AC'97 2.3 Specification Compliant

Onboard Audio (-8) (optional)

- Supports 8-channel audio
- Supports S/PDIF output
- Supports Intel® High Definition Audio

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)

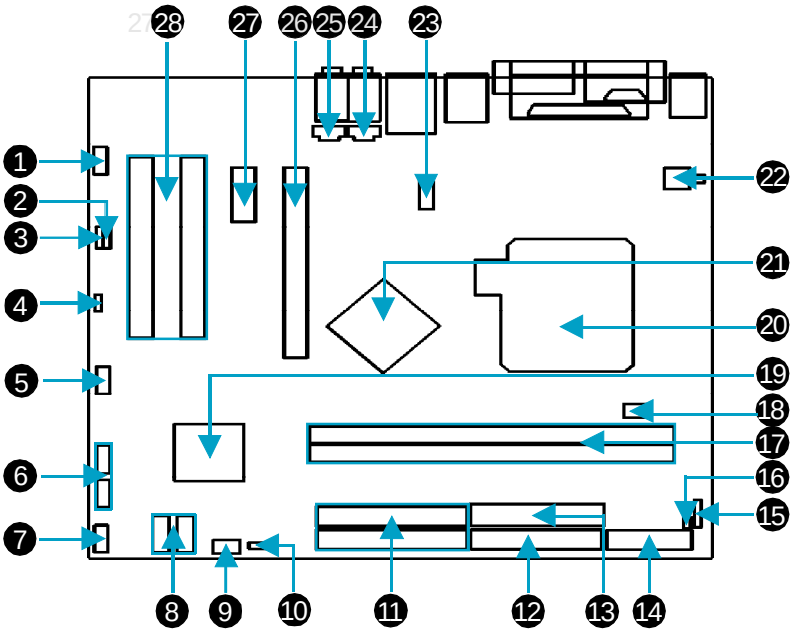
Expansion Slots

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

PCI Express x16 Support

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

Layout



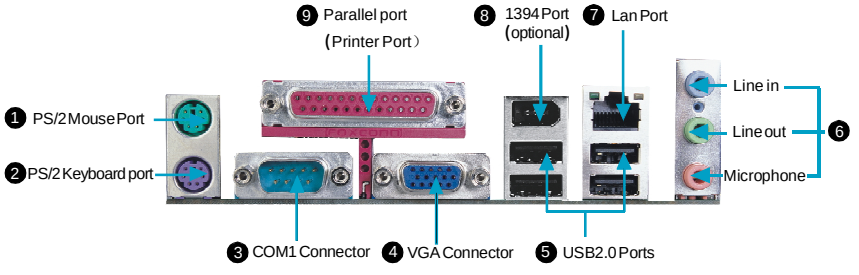
1.Front Audio Connector
2.Speaker Connector (optional)
3.S/PDIF OUT Connector
4.Clear CMOS Jumper
5.1394 Connector (optional)
6.Front USB Connector
7.Front Panel Connector
8.SATA Connector
9.SYA_FAN Connector
10.WP_EN Connector (optional)
11.IDE Connectors
12.Floppy Connector
13.24-Pin ATX Power Connector
14.TPM Connector (optional)
15.IrDA Connector(optional)
16.Chassis Intruder Connector
17.DDR2 DIMM Slots
18.CPU_FAN Connector
19.South Bridge: SiS966L Chipset
20.CPU Socket
21.Nouth: SiS 662 Chipset
22.ATX 12V Power Connector
23.COM2 Connector
24.AUX_IN Audio Connector
25.CD_IN Audio Connector
26.PCI Express x16 Slot
27.PCI Express x1 Slot
28.PCI Slots

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

Rear Panel Ports

This motherboard provides the ports as below:

For -6 Model（optional）



For -8 Model（optional）

❻ Line in, Line out, Microphone Jacks (For -6 model)

When using a 2-channel sound source, the Line-out jack is used to connect to speaker or headphone; the Line-in jack connects to an external CD player, tape player or other audio device. The Microphone jack is used to connect to the microphone.

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 pink Microphone output.

❿ Line in, Line out, Microphone, Surr out(Rear), CEN/LFE, Side Surr out (For -8 model)

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

Chapter 2

This chapter introduces the hardware installation process, including the installation of the CPU, memory, power supply, slots, and pin headers, and the mounting of jumpers. Caution should be exercised during the installation of these modules. 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

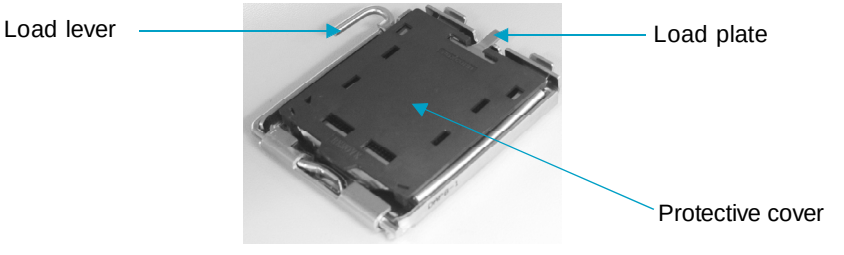
CPU

This motherboard supports single Intel® Pentium Extreme Edition, Pentium® D, Pentium® 4,Celeron® D processors in an LGA775 package with a Front Side Bus (FSB) of 800/533 MHz. It also supports Hyper-Threading technology.

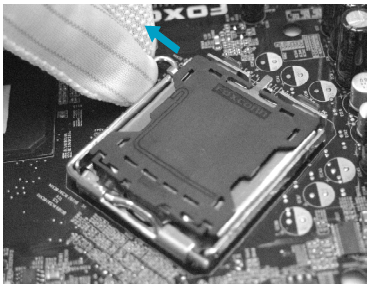
For the detailed CPU support list on this motherboard, please visit the website: http://www.foxconnchannel.com

Installation of CPU

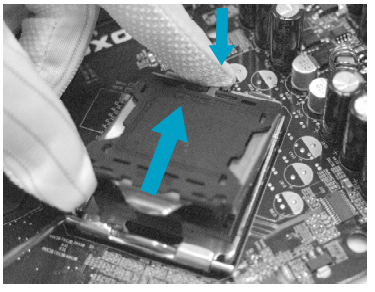
Below is the CPU socket illustration. Follow these procedures to install a CPU.



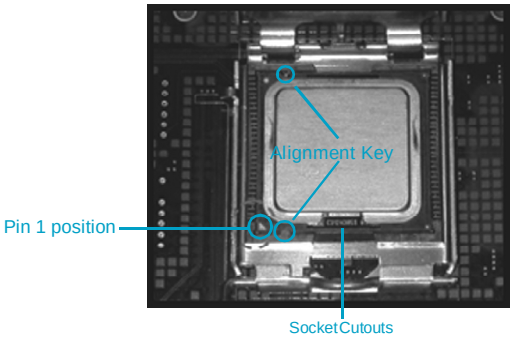
1. Use thumb and forefinger to hold the hook of the load lever and pull the lever down and away from socket to unlock it. Lift the load lever.



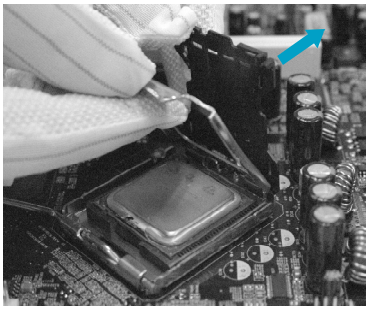
2. Push down the rear tab with your forefinger to bring the front end of the load plate up slightly. Open the load plate with thumb. Be careful not to touch the contacts.



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.

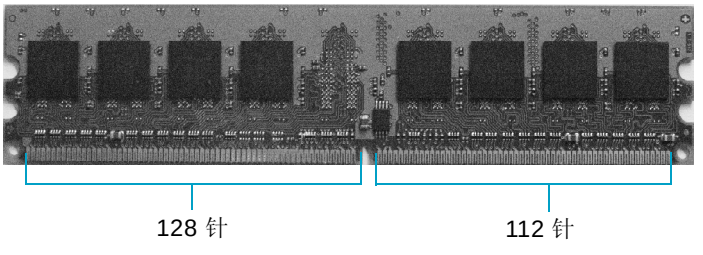
Memory

This motherboard includes two 240-pin slots with 1.8V for DDR2. You must install at least one memory bank to ensure normal operation.

For the detailed memory support list on this motherboard, please visit the website: http://www.foxconnchannel.com

Installation of DDR2 Memory

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



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

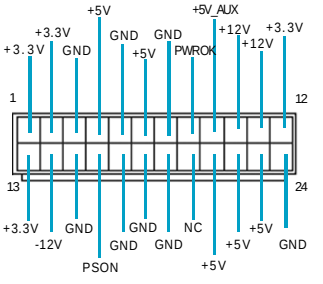
Warning :

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.

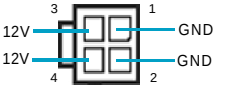
24-pin ATX power connector



24-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.

4-pin ATX_12V power connector



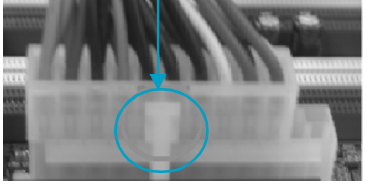
4-pin ATX_12 V Power Connector: PWR2

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

Note:

We recommend that you use 24-pin ATX power supply. If you want to use 20-pin power supply, connect the 20-pin power connector as shown.

Connect a 20-pin power plug here



Other Connectors

This motherboard includes connectors for floppy devices, IDE devices, Serial ATA devices, USB devices, IR module and others.

FDD Connector: FLOPPY

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

IDE Connectors: PIDE & SIDE

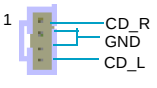
These connectors support the provided Ultra DMA 133/100/66 IDE hard disk ribbon cable. Connect the cable's blue connector to the primary (recommended) or secondary IDE connector, then connect the gray connector to the Ultra DMA 133/100/66 slave device (hard disk drive) and the black connector to the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

Attention:

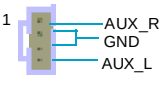
Ribbon cables are directional, therefore, make sure to always connect with the cable on the same side as pin 1 of the PIDE/SIDE or FDD connector on the motherboard.

Audio Connectors: CD_IN, AUX_IN

CD_IN and AUX_IN are Sony standard CD audio connectors, they can be connected to a CD-ROM driver through a CD audio cable.



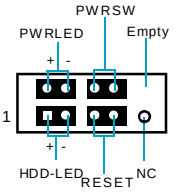
CD_IN



AUX_IN

Front Panel Connector: FP1

This motherboard includes one connector for connecting the front panel switch and LED indicators.



FP1

HDD LED Connector (HDD-LED)
The connector connects to the case's HDD indicator LED indicating the activity status of hard disks.

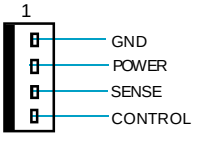
Reset Switch (RESET)
Attach the connector to the Reset switch on the front panel of the case; the system will restart when the switch is pressed.

Power LED Connector (PWRLED)
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.

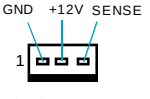
Power Switch Connector (PWRSW)
Attach the connector to the power button of the case. Pushing this switch allows the system to be turned on and off rather than using the power supply button.

Fan Connectors: CPU_FAN, SYS_FAN(optional), SYS_FAN_1(optional)

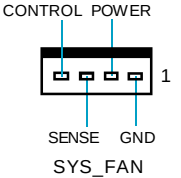
The fan speed can be detected and viewed in "PC Health Status" section of the CMOS Setup. These fans will be automatically turned off after the system enters S3, S4 and S5 mode.



CPU_FAN



SYS_FAN_1

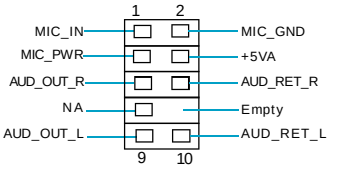


SYS_FAN

Audio Interface: F_AUDIO

For 6-Channel (optional)

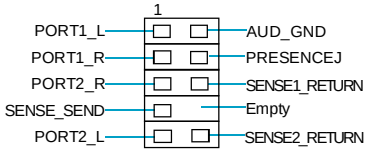
The audio interface provides two kinds of audio output choices: the Front Audio, the Rear Audio. Their priority is sequenced from high to low (Front Audio to Rear Audio). If headphones are plugged into the front panel of the chassis (using the Front Audio), then the Line-out (Rear Audio) on the rear 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.



F_AUDIO

For 8-Channel (optional)

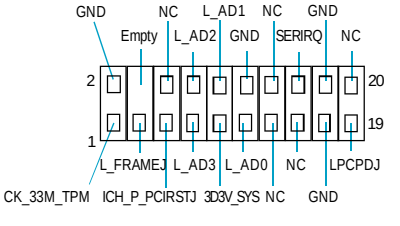
The audio interface provides two kinds of audio output choices; the Front Audio, the Rear Audio. Their priority is the same .Front Audio supports re-tasking function.



F_AUDIO

TPM Connector: TPM (optional)

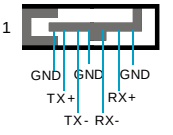
The TPM(Trusted Platform Module) provides the ability to the PC to run applications more secure and to make transactions and communication more trustworthy. To utilize this function, you should purchase additional devices and install the driver.



TPM

Serial ATA Connectors: SATA_1, SATA_2,

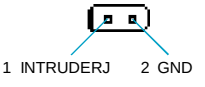
The Serial ATA connectors are used to connect the Serial ATA device to the motherboard. These connectors support the thin Serial ATA cables for primary storage devices. The current Serial ATA interface allows up to 150MB/s data transfer rate.



SATA_1/2

Chassis Intruder Connector: INTR

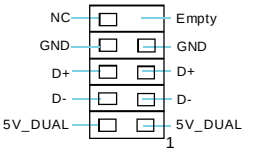
The connector connects to the chassis security switch on the case. The system can detect the chassis intrusion through the status of this connector. If the connector has been closed once, the system will send a message. To utilize this function, set "Case Open Warning" to "Enabled" in the "PC Health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



INTR

USB Headers: F_USB1, F_USB2

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

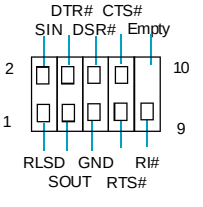


F_USB 1/2

Additional COM Connector: COM2 (optional)

This motherboard provides an additional serial COM header for your machine.

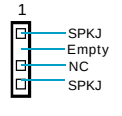
Connect one side of a switching cable to the header, then attach the serial COM device to the other side of the cable.



COM2

Speaker Connector: SPEAKER (optional)

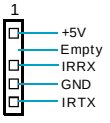
The speaker connector is used to connect speaker of the chassis.



SPEAKER

IrDA Connector: IR (optional)

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

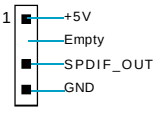


IR

S/PDIF Out Connector: SPDIF_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.

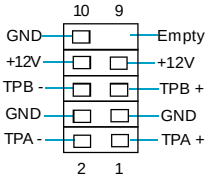
Note: The empty pin of S/PDIF cable should be aligned to empty pin of S/PDIF out connector.



SPDIF_OUT

1394 Connector: F_1394 (optional)

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



F_1394

Expansion Slots

This motherboard includes two 32-bit master PCI bus slots and one PCI Express x 16 Grahpics slot and one PCI Express x 1 slot .

For the detailed graphics support list one this motherboard, please visit the website: http://www.foxconnchannel.com

PCI Express Slots

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

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

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

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

Warning:

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

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 content carefully prior to modifying any jumper settings.

Description of Jumpers

1. For the jumpers on this motherboard, pin 1 can be identified by the bold silk-screen. 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.

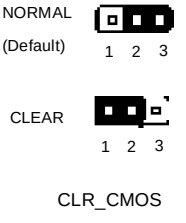
Jumper	Diagram	Definition	Description
		1-2	Set pin1 and pin2 closed
		2-3	Set pin2 and pin3 closed
		Closed	Set the pin closed
		Open	Set the pin opened

Clear CMOS Jumper: CLR_CMOS

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



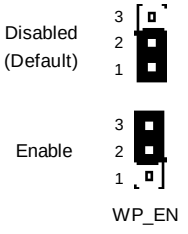
CLR_CMOS

Warning:

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

BIOS protection Jumper: WP_EN (optional)

If the jumper WP_EN is set as Enable, the system BIOS is protected from being attacked by a serious virus, such as the CIH virus. You will be unable to flash the BIOS to the motherboard, when the system BIOS is protected.



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
- Central Control Unit
- Advanced BIOS Features
- Advanced Chipset Features
- Integrated Peripherals
- Secutity Chip Configuration
- Power Management Setup
- PnP/PCI Configurations
- PC Health Status
- 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, ESC to enter Boot Menu.

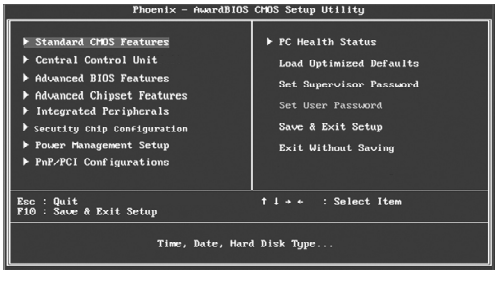
If you want to enter the BIOS, you must press the <Del> button within 3-5 seconds of the appearance of the above message.

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.



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.

Central Control Unit

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.

Secutity Chip Configuration
The Secutity Chip Configuration can be set up through this menu.

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

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

PC Health Status
This will display the current status of your PC.

Load Optimized Defaults
The optimal performance settings can be loaded through this menu, however, the stable default values may be affected.

Set Supervisor Password
The Supervisor password can be set up through this menu.

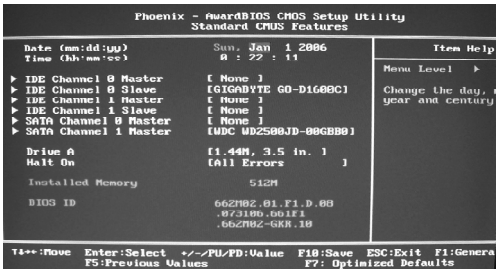
Set User Password
The User password can be set up through this menu.

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 day) 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 the current day) with <hour><minute><second> format.

IDE Channel 0/1 Master/Slave & SATA Channel 0/1 Master

These categories identify the HDD types of 2 IDE and 2 SATA 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

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].

Halt On

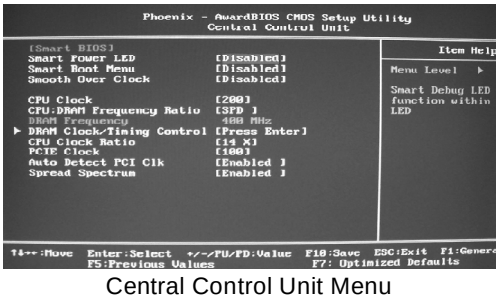
This category determines whether or not the computer will stop if an error is detected during powering up.

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 floppy disk 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.

Installed Memory

The option identifies the capacity of memory installed in the system.

Central Control Unit



Central Control Unit Menu

- **[Smart BIOS]**

  Smart Power LED

  Smart debug LED function within power LED. Enable this function, the power LED status can show the system status of POST process.

System Status	Power LED Status
Normal	on
No Display	blinking once (blinking 2 sec., off 2 sec.)
No Memory	blinking twice
Post Error Message	blinking thrice

  Smart Boot Menu

  Smart boot menu with a timer to let user to control boot device easily.

  Smooth Over Clock

  To open smooth over clock function can let over clocking to be more stable.

- **CPU Clock**

  This option is used to set the CPU clock.

- **CPU:DRAM Frequency Ratio**

  This option is used to set the DRAM frequency ratio.

- **DRAM Frequency**

  This option is used to show the DRAM frequency.

- **DRAM Clock/Timing Control**

  Press <Enter> to set the items of DRAM Clock/Timing Control.

- **CPU Clock Ratio**

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

- **PCIE Clock**

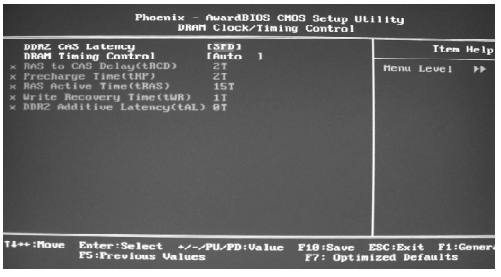
  This option is used to set the PCI Express clock.

- **Auto Detect PCI Clk**

  This option is used to set whether the clock of an unused PCI 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. The setting values are Disabled and Enabled.



DRAM Clock/Timing Control Menu

- **DDR2 CAS Latency**

  When DDR2 synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing.

- **DRAM Timing control**

  Selects whether DRAM timing is controlled by the SPD (Serial Presence Detect) EEPROM on the DRAM module. Setting to “Auto” enables DRAM timings to be determined by BIOS based on the configurations on the SPD. Selecting “Manual” allows users to configure the DRAM timings manually. The setting values are: Auto, Manual.

  Note: The following options can be activated and configured only when this option is set as “Manual”.

- **RAS to CAS Delay (tRCD)**

  It is used to set the delay time between RAS (Row Address Strobe) and CAS (Column Address Strobe) signals.

- **Precharge Time (tRP)**

  It is used to set the precharge time of RAS.

- **RAS to Active Time (tRCD)**

  It is used to set the RAS to active time.

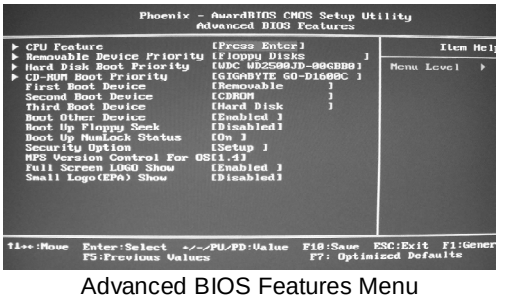
- **Write Recovery Time (tWR)**

  It is used to set the write recovery time.

- **DDR2 Additive Latency (tAL)**

  It is used to set the DDR2 Additive Latency time.

Advanced BIOS Features



Advanced BIOS Features Menu

v CPU Feature

Press enter to set the items of CPU feature.

v Removable Device Priority

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

v 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>.

v CD-ROM Boot Priority

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

v First/Second/Third Boot Device

This option allows you to set the boot device's sequence.

v 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. The available setting values are: Disabled and Enabled.

- **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.

- **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.

- **MPS Version Control For OS**

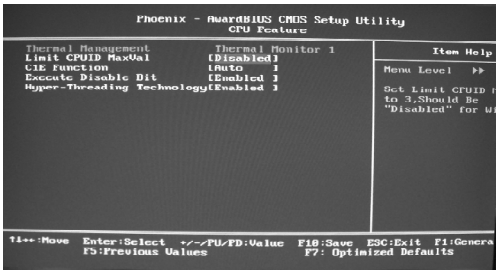
  This option is used to set up the version of MPS Table used in NT4.0 OS.

- **Full Screen LOGO Show**

  This option allows you to enable or disable the full screen logo. The available setting values are: Disabled and Enabled.

- **Small Logo (EPA) Show**

  This option allows you to enable or disable the EPA logo. The available setting values are: Disabled and Enabled.



CPU Feature Menu

- **Thermal Management**

  This option is used to manage Prescott CPU thermal.

- **Limit CPUID MaxVal**

  The option is used to set limit CPUID MaxVal. The available setting values are: Disabled and Enabled. Set Limit CPUID MaxVal to 3, should be "Disabled" for WinXP.

- **C1E Function (optional)**

  The option is used to enable or disable C1E(Enhanced Halt State) function.

- **Execute Disable Bit (optional)**

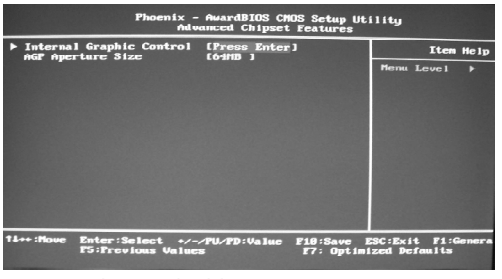
  The option is used to enable or disable execute disable bit.

- **Hyper-Threading Technology**

  This option is used to turn on or off the Hyper-threading function of the CPU. The available setting values are: Disabled and Enabled.

  Note: This function will not be displayed until a CPU that supports Hyper-Threading has been installed.

Advanced Chipset Features



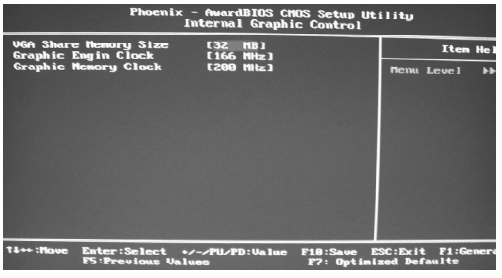
Advanced Chipset Features Menu

v Internal Graphic Control

Press enter to set the items of Internal Graphic Control.

v AGP Aperture Size

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



Internal Graphic Control Menu

- **VGA Share Memory Size**

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

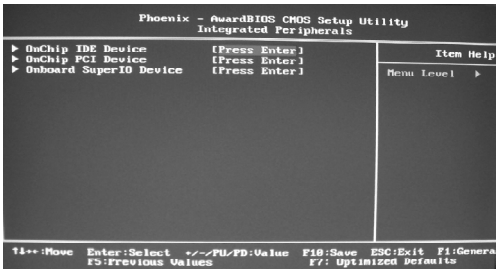
- **Graphic Engin Clock**

  This option is used to set Clock frequency of Graphic Engin.

- **Graphic Memory Clock**

  This option is used to set Clock frequency of Graphic Memory.

Integrated Peripherals



Integrated Peripherals Menu

- **OnChip IDE Device**

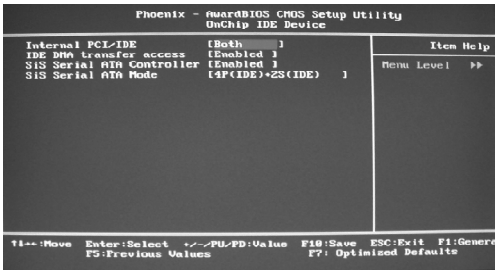
  Press enter to set onchip IDE device.

- **OnChip PCI Device**

  Press enter to set onchip PCI device.

- **Onboard SuperIO Device**

  Press enter to set Onboard SuperIO device.



OnChip IDE Device Menu

- **Internal PCI/IDE**

  This option is used to set the ports of onboard IDE. The available setting values are: Disabled, Primary, Secondary and Both.

- **IDE DMA transfer access**

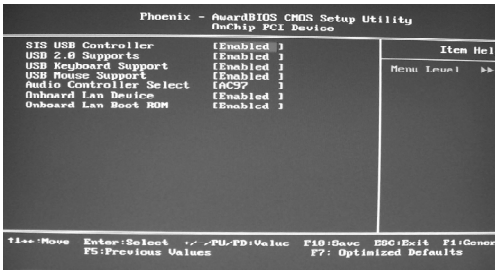
  This option is used to enable or disable IDE DMA transfer access.

- **SiS Serial ATA Controller**

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

- **SiS Serial ATA Mode**

  This option is used to set the SiS Serial ATA Mode. Default value is IDE. When you use RAID Function, you need to set the item for RAID, and set “On-Chip Serial ATA” for “Enhanced Mode”



OnChip PCI Device Menu

v SIS USB Controller

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

v USB 2.0 Supports

This option is used to enable or disable USB 2.0.

v USB Keyboard Support

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

v USB Mouse Support

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

v Audio Controller Select

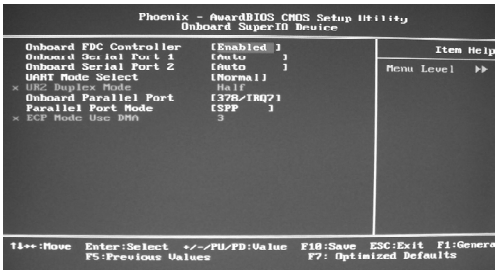
This option is used to set whether onboard AC97 / Azalia Audio is enabled.

v Onboard Lan Device

This option is used to set whether the onboard LAN device is enabled.

v Onboard Lan Boot ROM

This option is used to decide whether to invoke the Boot ROM of the onboard Lan chip.



Onboard SuperIO Device Menu

v Onboard FDC Controller

This option is used to set whether the Onboard FDC Controller is enabled. The available setting values are: Disabled and Enabled.

v Onboard Serial Port 1/2

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

v UART Mode Select

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

v UR2 Duplex Mode

This option is available when UART 2 mode is set to either ASKIR or IrDA. This option enables you to determine the infrared function of the onboard infrared chip.

v Onboard Parallel Port

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

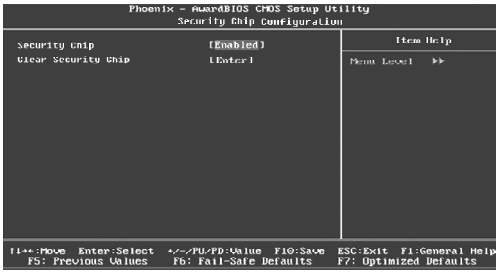
v Parallel Port Mode

Select an address and corresponding interrupt for the onboard parallel port.

v ECP Mode Use DMA

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

Security Chip Configuration



Security Chip Configuration Menu

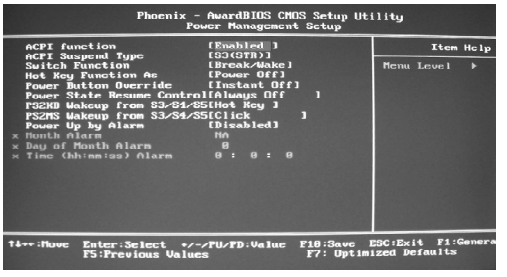
- **Security Chip**

  This option is used to set whether the TPM chipset is enabled.

- **Clear Security Chip**

  This option is used to clear the information that TPM chipset has saved.

Power Management Setup



Power Management Setup Menu

v ACPI function

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

v ACPI Suspend Type

This option is used to set the energy saving mode of the ACPI function. When you select “S1 (P0S)” 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.

v Switch Function

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

v Hot Key Function As

This option is used to define the hot key function.

v 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.

- **PS2KB Wakeup from S3/S4/S5**

  This option is used to set which action will wake up PS/2 keyboard from S3/S4/S5 status. The hotkey is Ctrl+Alt+Backspace. The setting values are Any Key, Hot Key and Password.

- **PS2MS Wakeup from S3/S4/S5**

  This option used to set which action will wake up PS/2 mouse from S3/S4/S5 status. The setting values are: Disabled, Click, Move & Click.

- **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 1 - 12 and NA.

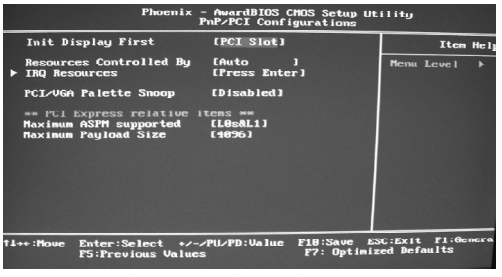
- **Day of Month Alarm**

  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.

PnP/PCI Configurations



PnP/PCI Configurations Menu

v Init Display First

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

v 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.

v IRQ Resources

If you set “Resources Controlled By” for “Manual”, you can modify the item. Press the <Enter> key, then manually set IRQ resources.

v 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).

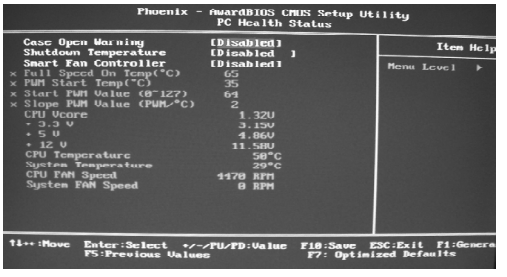
v Maximum ASPM Supported

Control maximum level of ASPM supported on the given PCI Express links on the system.

v Maximum Payload Size

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

PC Health Status



PC Health Status Menu

- **Case Open Warning**

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

- **Smart Fan Controller**

  This option is used to enable or disable smart fan function. The setting values are Disabled and Enabled.

- **Full Speed On Temp (^{0}C)**

  This option is used to set upmost temperature.

- **PWM Start Temp (^{0}C)**

  This option is used to set beginning temperature. when temperature gets to this value, Smart Fan starts to take effect.

- **Start PWM Value (0-127)**

  This option is used to set the beginning rotated speed for Smart Fan.

- **Slope PWM Value**

  This option is used to set the rotated speed level which Smart Fan varies with variational temperature. When temperature increase one degree, rotated speed raises the set level.

- **CPU VCore / 3.3V / 5V / 12V**

  The current voltages will be automatically detected by the system.

- **CPU Temperature / System Temperature**

  The CPU/System temperature will be automatically detected by the system.

- **CPU/System FAN Speed**

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

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 entered 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 the following message will appear on the screen. 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 typed, 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 changes; press <N> or <ESC> to return to the main menu screen.

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
- Installing Drivers and Utilities

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 displays the main menu screen.

1. Driver

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

A. SiS Chipset Driver
B. Realtek HDA Audio Driver
C. Realtek LAN Driver
D. SiS VGA Driver
E. SiS RAID Driver

2. Utility

Use this option to install additional software programs.

A. FOX ONE
B. Fox LiveUpdate
C. Microsoft DirectX 9.0
D. Adobe Acrobat Reader
E. Norton Security
F. Create RAID Driver Floppy

3. Link to Website

Click static FOXCONN logo to visit our homepage.

Installing Divers

There are two ways to install drivers, manual or auto. Click the drivers that you want to install and begin the setup steps by manual. Or you just click “One Click Setup” button to install the drivers by auto after install Intel Chipset Driver.

Install by manual

Install by auto

Installing Utilities

You can select the utilities that you want to install and begin the setup steps.

Click here

Chapter 5

This chapter will introduce how to use attached software.

This chapter provides the following information:

- FOX ONE
- Fox LiveUpdate

FOX ONE

FOX ONE is a powerful utility for easily modifying system settings. It also allows users to monitor various temperature values, voltage values, frequency and fan speed at any time.

With FOX ONE, you can

-Modify system performance settings, such as bus speeds, CPU voltages, fan speed, and other system performance options that are supported by the BIOS

-Monitor hardware temperature, voltage, frequency and fan speed

Supported Operating Systems:

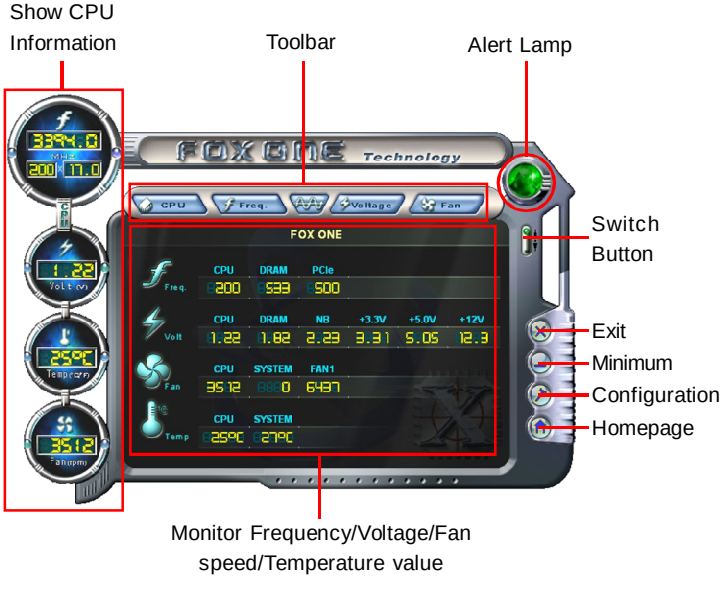
-Windows 2000

-Windows XP (32-bit and 64-bit)

-Windows 2003 (32-bit and 64-bit)

Using FOX ONE:

1. Main Page



Toolbar

Use the toolbar to navigate to other pages.

Alert Lamp

When the system is in healthy status, the alert lamp color is green. When the system is in abnormal status, the alert lamp color is red.

Switch Button

Click this button, it will shorten to below figure. It helps you to minitor your system healthy status at any time.

Click here to return to previous status

Exit

Click this button to exit the program.

Minimum

Click this button to minimize the window.

Configuration

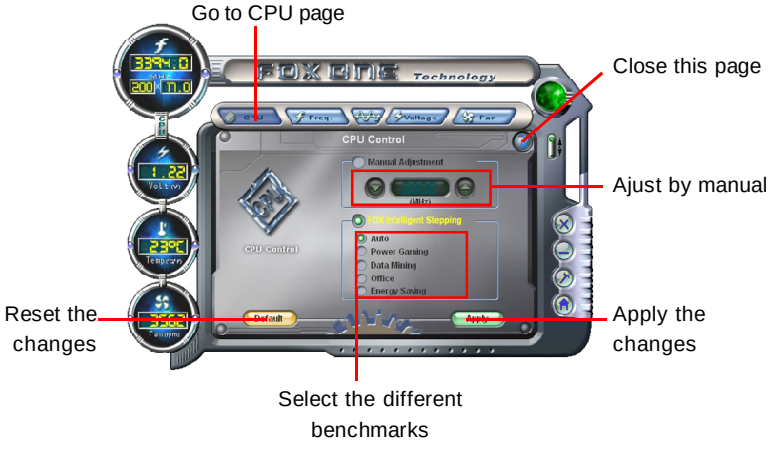
Click this button to configurate the parameters for the program. It determines which items will be shown in shorten mode.

Homepage

Click this button to visit Foxconn motherboard website.

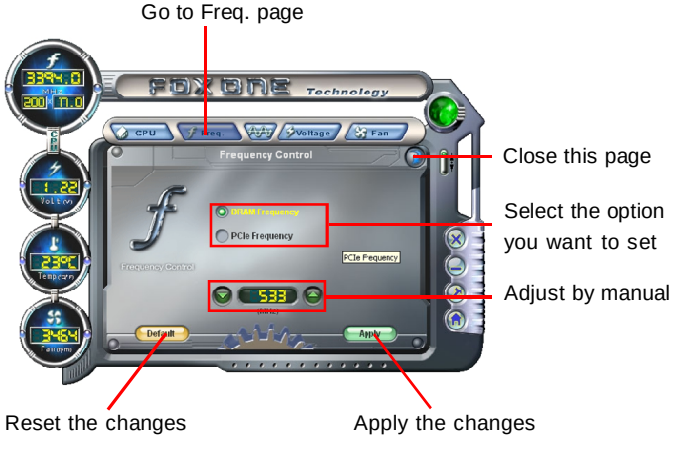
2. CPU Page - CPU Control

This page lets you select and run the FOX ONE developed benchmarks to determine the current performance level of the system. You can also adjust by manual. Only this page is set to Manual Adjustment, the Freq., Vlotage, and Fan pages can be adjusted by manual.



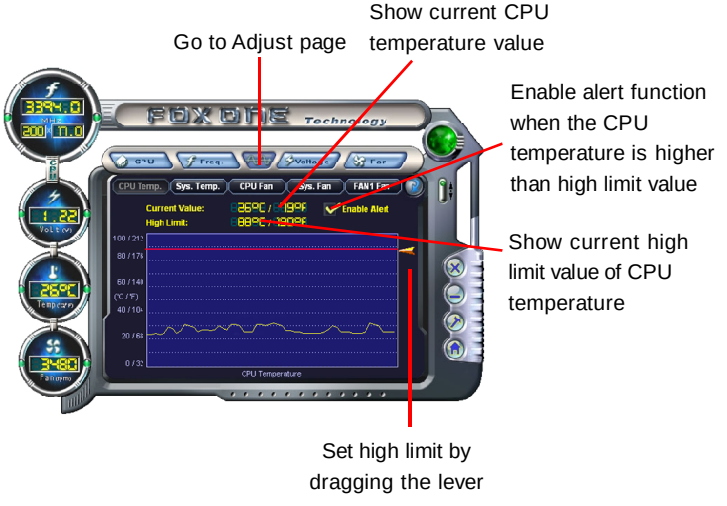
3. Freq. Page - Frequency Control

This page lets you set memory and PCI Express frequency by manual.



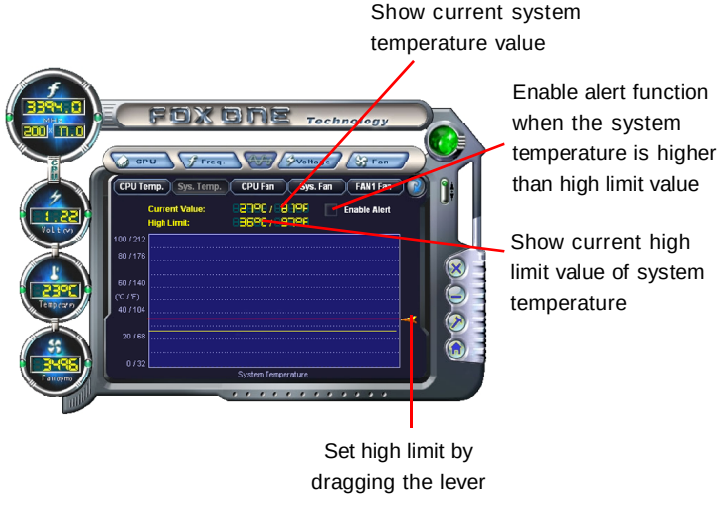
4.1 Limit Setting - CPU Temp.

This page lets you to set CPU high limit temperature and enable the alert function.



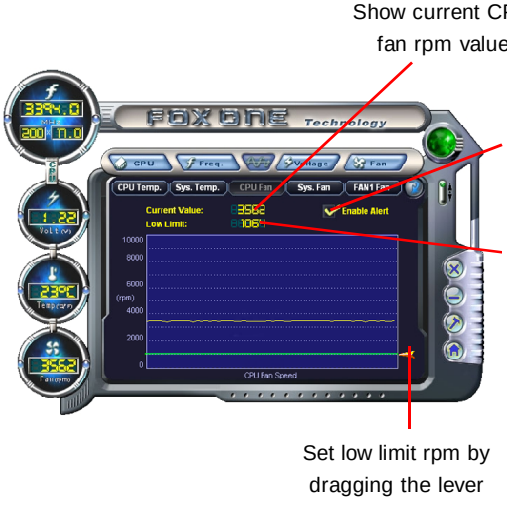
4.2 Limit Setting - Sys Temp.

This page lets you to set system high limit temperature and enable the alert function.



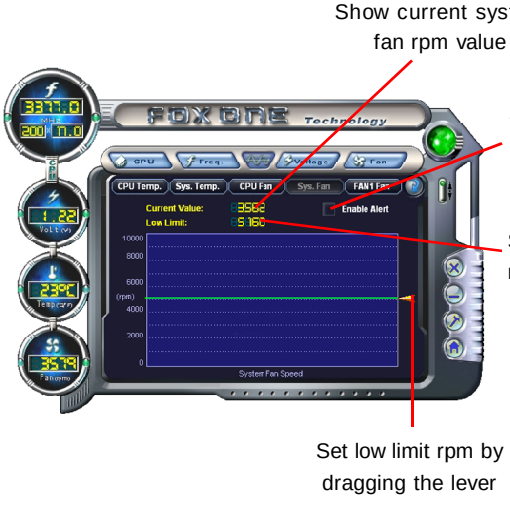
4.3 Limit Setting - CPU Fan

This page lets you to set CPU fan low limit rpm and enable the alert function.



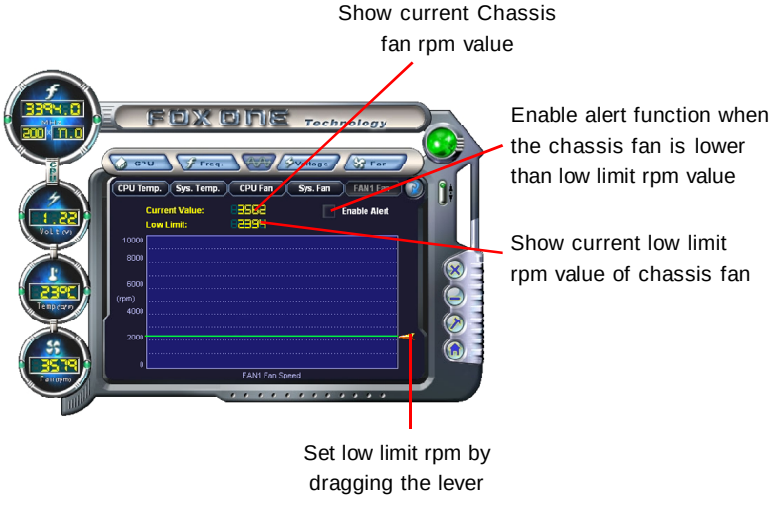
4.4 Limit Setting - Sys Fan

This page lets you to set system low limit rpm and enable the alert function.



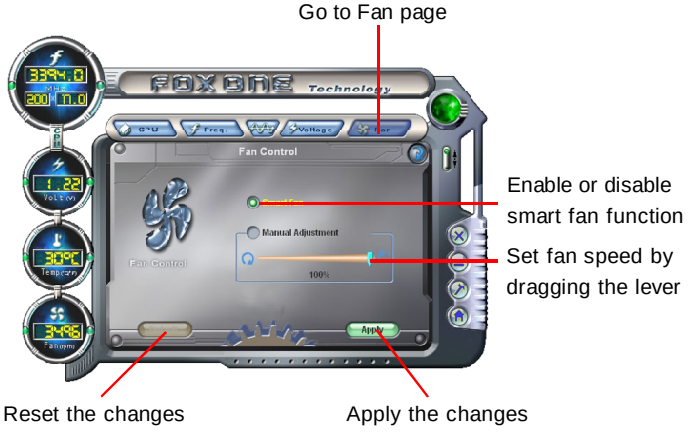
4.5 Limit Setting - Chassis Fan

This page lets you to set chassis fan low limit rpm and enable the alert function.



5. Fan Page - Fan Control

This page lets you enable smart Fan function or set fan speed by manual.



Fox LiveUpdate

Fox LiveUpdate is a useful utility for backuping and updating the system BIOS, drivers and utilities by local or online.

Supported Operating Systems:

-Windows 2000

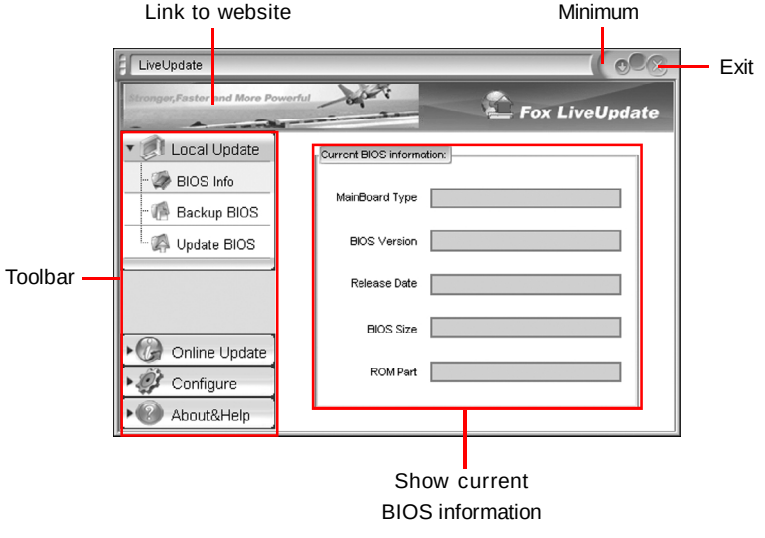
-Windows XP (32-bit and 64-bit)

-Windows 2003 (32-bit and 64-bit)

Using Fox LiveUpdate:

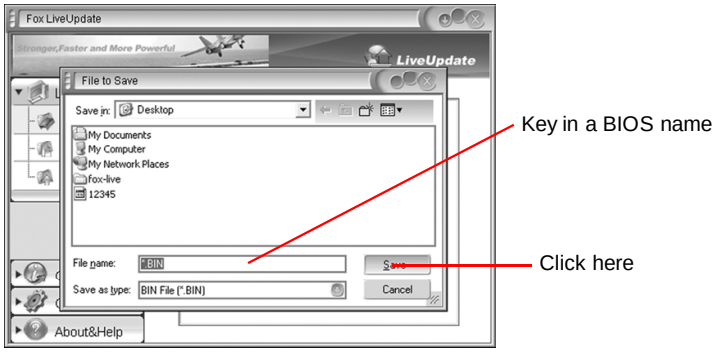
1.1 Local Update - BIOS Info.

This page lets you know your system BIOS information.



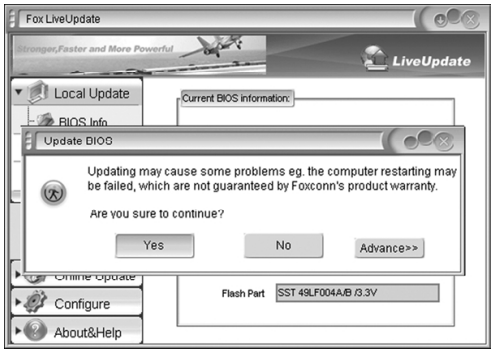
1.2 Local Update - Backup

This page lets you backup your system BIOS. Click “Backup”, then give a name. Click “Save” to finish the backup operation.



1.3 Local Update - Update

This page lets you update your system BIOS from Internet. After click “Update”, there will show warning message, please read it carefully. If you still want to continue, click “Yes”. Then load a local BIOS file and follow the wizard to finish the operation.

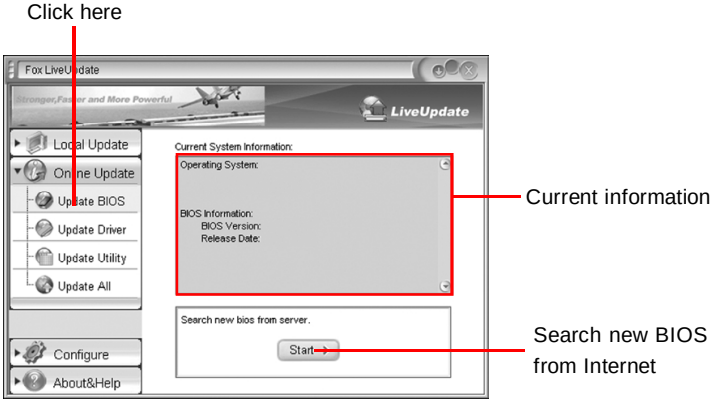


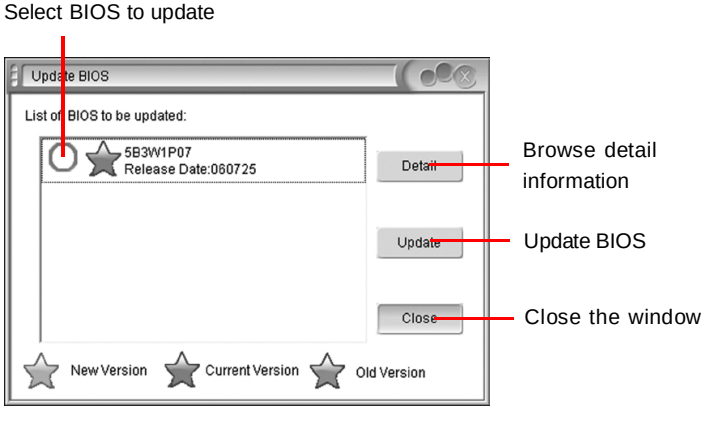
Note:

Fox LiveUpdate will auto backup BIOS before update because we have enabled this function in Configure option.

2.1 Online Update - Update BIOS

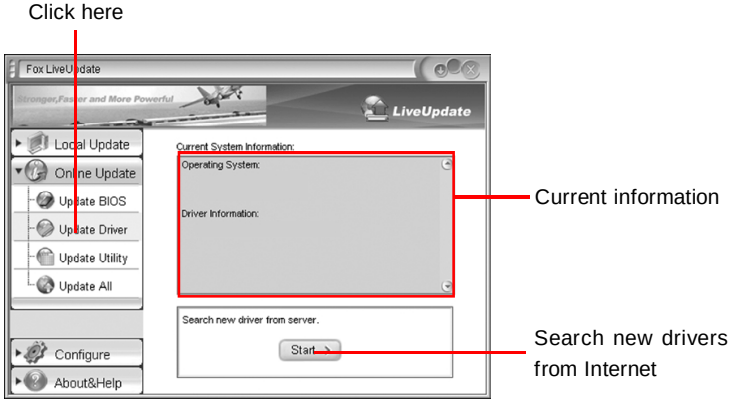
This page lets you update your system BIOS from Internet. Click “start”, it will search the new BIOS from Internet. Then follow the wizard to finish the update operation.

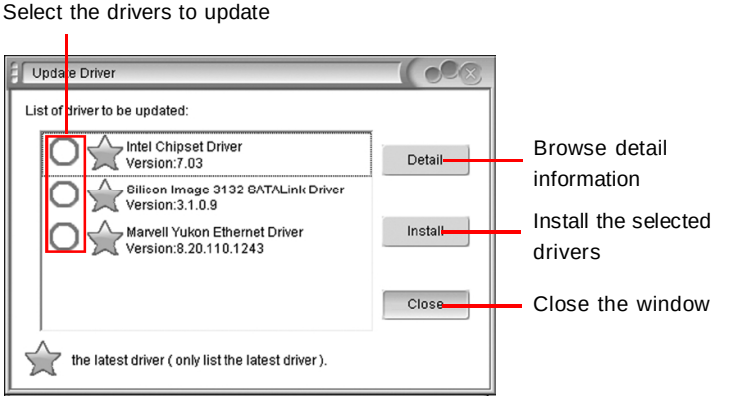




2.2 Online Update - Update Driver

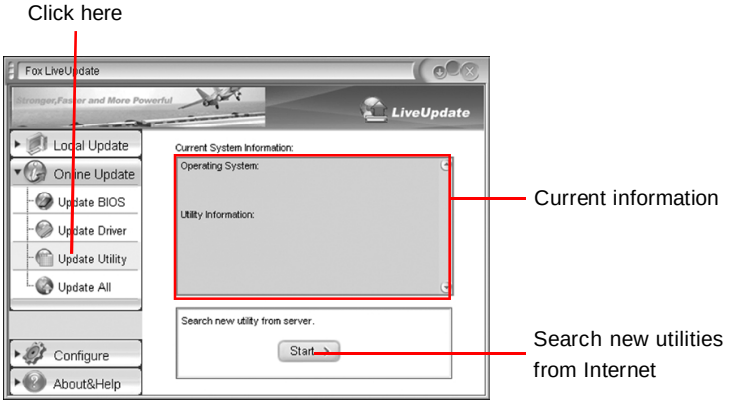
This page lets you update your system drivers from Internet. Click “start”, it will search the new drivers from Internet. Then follow the wizard to finish the update operation.





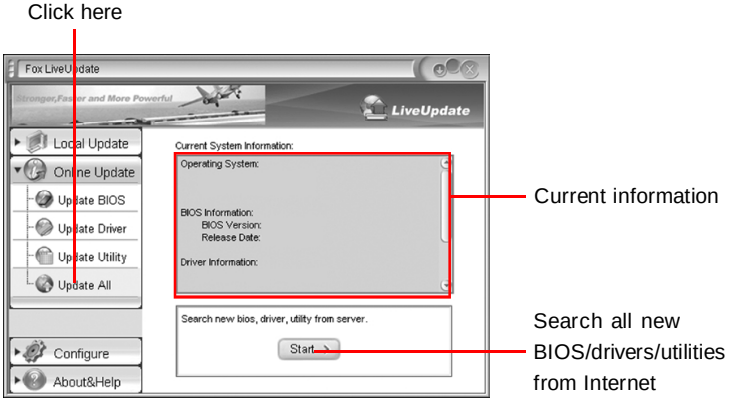
2.3 Online Update - Update Utility

This page lets you update utilities from Internet. Click “start”, it will search the new utilities from Internet. Then follow the wizard to finish the update operation.



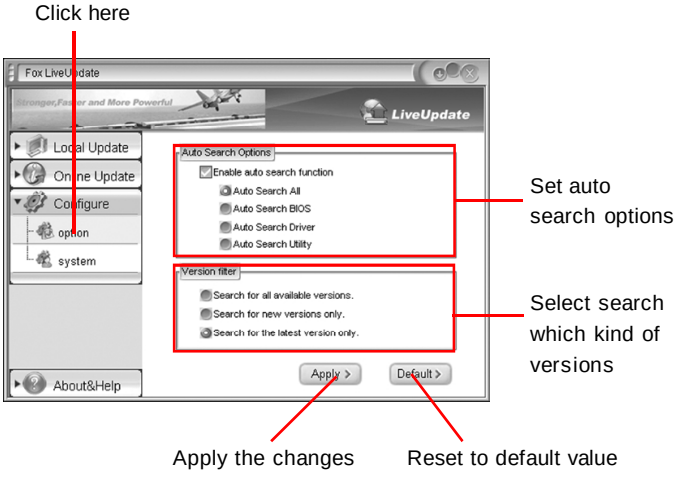
2.4 Online Update - Update All

This page lets you update your system drivers from Internet. Click “start”, it will search all new BIOS/drivers/utilities from Internet. Then follow the wizard to finish the update operation.



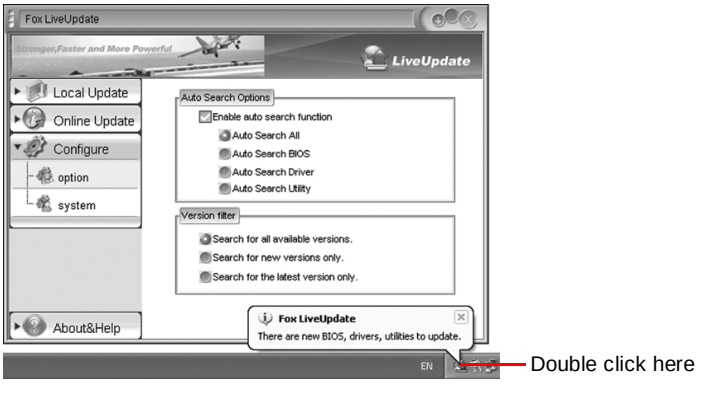
3.1 Configure - option

This page lets you set auto search options. After your setting, the utility will start searching and related information will show on the task bar.



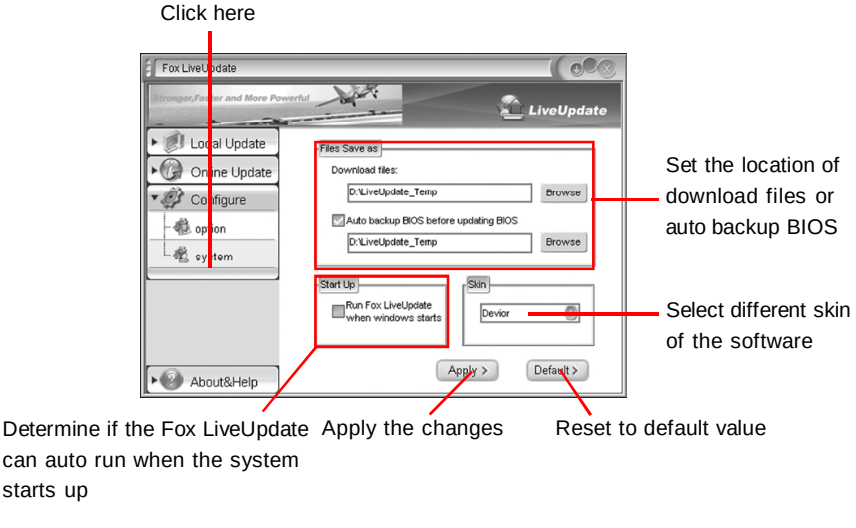
Note:

When enable auto search function, Fox LiveUpdate will appear searching result on task-bar. Double click the icon, you can see the detail information.



3.2 Configure - System

This page lets you set the backup BIOS location and change different skin of the utility.



4. About & Help

This page shows some information about Fox LiveUpdate.