

FS39T

MAINBOARD MANUAL

DOC No.: M01303

Rev. : A0

Date : 6, 2001

Part No. : 25-11613-20

Handling Precautions

Warning:

1. Static electricity may cause damage to the integrated circuits on the motherboard. Before handling any motherboard outside of its protective packaging, ensure that there is no static electric charge in your body.
2. There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or an equivalent type recommended by the manufacturer.
3. Discard used batteries according to the manufacturer's instructions.
4. Never run the processor without the heatsink properly and firmly attached. **PERMANENT DAMAGE WILL RESULT!**

Observe the following basic precautions when handling the motherboard or other computer components:

- Wear a static wrist strap which fits around your wrist and is connected to a natural earth ground.
- Touch a grounded or anti-static surface or a metal fixture such as a water pipe.
- Avoid contacting the components on add-on cards, motherboards, and modules with the *golden fingers* connectors plugged into the expansion slot. It is best to handle system components by their mounting brackets.

The above methods prevent static build-up and cause it to be discharged properly.

Trademark

All trademarks mentioned in this manual are registered properly of the respective owners.

Handling Precautions

This manual may not, in whole or in part, be photocopied, reproduced, transcribed, translated, or transmitted in whatever form without the written consent of the manufacturer, except for copies retained by the purchaser for personal archival purposes.

Quick Reference (German)	G-1
Quick Reference (French)	F-1
Quick Reference (Spanish)	S-1
Quick Reference (Japanese)	J-1
Quick Reference (Chinese)	C-1
Quick Reference (Simplified Chinese)	SC-1

Chapter 1 Overview

Package Checklist	1-2
The FS39T Mainboard	1-2
Main Features	1-3
ACPI Ready	1-5
FIC Unique Innovation for Users (NOVUS) - Enhanced Mainboard Features and System Support	1-5

Chapter 2 Installation Procedures

Quick Reference (from Page 2-2 to 2-4)	2-2
Mainboard Layout	2-2
1). Clear CMOS, Clear Password, FSB Speed Select	2-3
2). Front Panel Block Cable Connection	2-3
3). CPU Fan Installation	2-4
1). Set System Jumpers/Switches	2-4
Clear CMOS: SW1-1	2-4
Clear Password: SW1-2	2-5
FSB Speed Select: JP3	2-6
2). Install Memory Modules	2-6
3). Install the CPU	2-7
4). Install Expansion Cards	2-8
5). Connect Devices	2-9
Floppy Diskette Drive Connector	2-9
IDE Device Connectors	2-10
ATX Power Connector	2-10
CPU Fan Connector	2-11
System Case Fan Connector	2-11
Wake-On-LAN Connector	2-12
CD Audio-In Connector	2-12

Front Panel Block and Speaker Connector	2-13
PS/2 Keyboard and Mouse Connector	2-14
Universal Serial Bus Connectors	2-14
Serial Port Connectors	2-15
Printer Connector	2-15
Audio I/O Jacks	2-16
Game/MIDI Connector	2-16

Chapter 3 BIOS Setup

CMOS Setup Utility	3-1
Standard CMOS Setup	3-2
Advanced BIOS Features	3-4
Advanced Chipset Features	3-7
Integrated Peripherals	3-9
Power Management Setup	3-14
PnP/PCI Configurations	3-18
PC Health Status	3-19
Frequency/Voltage Control	3-20
Load Fail-Safe Defaults	3-21
Load Optimized Defaults	3-21
Supervisor/User Password	3-21
Save and Exit Setup	3-22
Exit without Saving	3-22

Appendix

Hardware Monitor Software Adjustment	A-1
--	-----

Overview

The new Micro ATX, Socket 370 1stMainboard FS39T is a board that based on Universal Mainboard that supports VRM 8.5 spec.; it supports a full range of the latest generation Intel® and Cyrix® processors. Intel's new lightening fast processors of up to 1.2GHz* and up* are supported with Front Side Bus speeds of 66/100/133 MHz. Built using the leading edge technology the Intel processors provide a significant performance scaling boost over previous Pentium®III processors. (*: not tested yet)

The Intel 815EP (B-Step) accelerated Hub architecture provides onboard Audio that with the state of the art embedded Codec. Support for the Ultra DMA/100 protocol and its high-speed interface further ensures that data transfer speeds are improved, especially for long sequential transfers required by audio/visual applications. With 2 DIMM there is up to 512 MB available SDRAM.

The 1stMainboard FS39T comes with a versatile range of I/O features such as 2 serial ports, 1 parallel port, 1 front audio, 1 PS/2 mouse and keyboard connector, 2 USB connectors, 1 front USB pin header, 1 VGA connector, 1 media connector (MIDI /game port, Line-in, Line-out and Mic-in). Ample expansion is available through 3 PCI, 1 AGP, and 1 CNR.

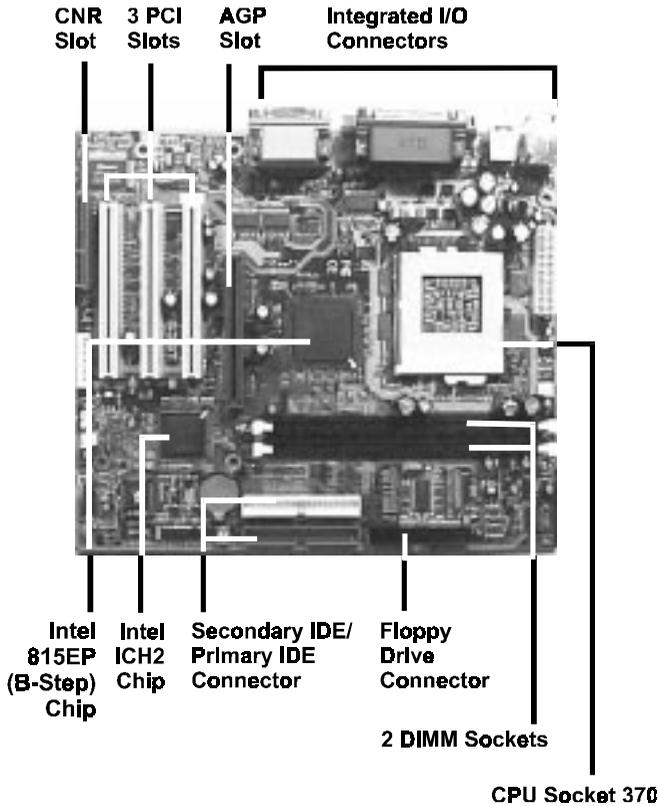
Other key features are Remote On/Off, Auto Power Failure Recovery, Keyboard /Mouse Power On, integrated temperature monitoring and system fan control. Included also is CD Pro with enhanced drivers and the new CD Plus package containing 9 bundled soft-ware solutions including Norton AntiVirus, Ghost, Virtual Drive.

Package Checklist

If you discover any item below was damaged or lost, please contact your vendor.

- The mainboard
- This user manual
- One FDD cable
- One HDD cable
- One ATA/66 cable
- Two software CDs (CD Pro, CD Plus)

The FS39T Mainboard



Main Features

■ Easy Installation

BIOS with support for Plug and Play, auto detection of IDE hard drives, LS-120 drives, IDE ZIP drives, Windows 95, Windows 98, Windows 98SE, Windows ME, Windows NT, Windows 2000, and OS/2.

■ Leading Edge Chipset

Intel 815EP (B-Step) provides integrated DRAM controllers with new Dynamic Power Management Architecture (DPMA), concurrent PCI, AGP compliant and USB.

■ Versatile Main Memory Support

Accepts up to 512MB SDRAM using two DIMMs of 32, 64, 128, 256MB with support for lightning-fast SDRAM (100/133MHz).

■ Flexible Processor Support

Onboard CPU socket supports:

Intel® Celeron™ FC-PGA 533 - 766MHz at 66MHz FSB; 800MHz and up* @100MHz FSB

Intel® Pentium™ III FC-PGA 500 - 850MHz and up* @100MHz FSB

Intel® Pentium™ III FC-PGA 533MHz - 1GHz and up* @133MHz FSB

Intel® Tualatin 1.20GHz @133MHz FSB

Cyrix® III 667MHz and up* @ 100/133MHz FSB

(*: not tested yet)

■ CNR, AGP, and PCI Expansion Slots

One CNR, one AGP Bus expansion slot, and three PCI Bus expansion slots provided the room to install a full range of add-on cards.

■ **Enhanced PCI Bus Master IDE Controller with Ultra DMA 33/66/100 Support**

Integrated Enhanced PCI Bus Master IDE controller features two dual-channel connectors that up to four Enhanced IDE devices, including CD-ROM and Tape Backup Drives, as well as Hard Disk Drives supporting the new Ultra DMA 100 protocol. Standard PIO Mode 3, PIO Mode 4, DMA Mode 2, DMA Mode 4, UltraDMA-100 Mode 5 devices are also supported.

■ **Integrated Audio Subsystem**

Embedded audio features in the ICH2 with an integrated PCI audio controller, DOS games compatible engine. The subsystem utilizes line-out, line-in, and MIC mini-jack external jacks, one joystick port with MIDI interface.

■ **Super Multi Input/Output (I/O) Support**

Integrated Plug and Play multi-I/O chipset features two high-speed UART 16550 compatible serial ports, one EPP/ECP capable parallel port, one game port, and one FDD connector.

■ **Convenient Rear Panel USB Connection Support**

Two USB ports integrated in the rear I/O panel with two extra USB front panel connections allow convenient and high-speed Plug and Play connections to the growing number of USB compliant peripheral devices on the market.

■ **Accelerated Graphics Port (AGP) Slot**

The motherboard is installed one 32-bit AGP bus slot with a dedicated 66MHz path from the graphics card to the system memory offering much greater bandwidth than the 32-bit PCI bus does. AGP enabled 3D graphics cards can directly access main memory across this fast path instead of using local memory. To make use of the improved AGP performance, the motherboard should be installed with SDRAM type memory and the VGA card and drivers should also be fully AGP compliant. Using Microsoft's Windows 98 and Windows 2000 which implement DirectDraw will allow the system to take full use of AGP's benefits without the need to install additional drivers.

ACPI Ready

This mainboard fully implements the new ACPI (Advanced Configuration and Power Interface) 1.0b Hardware and BIOS requirement. If you install ACPI aware of operating system, such as Windows 98, you fully utilized the power saving under ACPI. (*Windows ME/2000 Professional supports ACPI functions.*)

FIC Unique Innovation for Users (NOVUS) - Enhanced Mainboard Features and System Support

■ LogoGenie

A user friendly GUI supporting Windows 95/98 (not Windows 2000/NT/ME), LogoGenie allows you to customize, create or select a Logo which will be displayed when the system is booting.



NOTE:

1. LogoGenie supports Award BIOS only.
2. If you create a Logo file (.bmp) by LogoGenie, the file size must be 640 x 464 x 256 colors.

To enable this utility, please proceed as follows:

1. Insert CD Pro. Select LogoGenie from the Menu and follow the installation instructions.
2. After LogoGenie has been installed, go to Windows Start Box. In Programs Menu, select LogoGenie 2.x, then select LogoGenie.
3. Press F1 to read Help file to understand how to use this software if it is new to you.

■ Easy Key

Instead of completing the multi-layered BIOS setup process these 3 Easy Key functions provide direct access to Sub-Menu's when completing BIOS settings adjustments.

Easy-Keys are as follows:

- Ctrl + c:** To enter clock settings menu.
- Ctrl + p:** To load Performance Default settings and restart.
- Ctrl + f:** To load Fail-Safe Default settings and restart.

■ BIOS Guardian

BIOS Guardian by default is enabled. It must be disabled in order to reflash BIOS, thus effectively acts as a fire-wall against viruses that can attack the BIOS while the system is running.



WARNING: While excute Step3 below, please do not turn off the sytsem power in order to avoid BIOS damage.

BIOS Guardian can be disabled as follows:

1. Go to BIOS Set Up Menu. (Press **Del** key while booting.)
2. Go to Advanced BIOS Features Set Up Submenu.
3. Disable BIOS Guardian.
4. Save the setting, and restart system.



NOTE: However, if it is disabled and while boot the system, the POST screen will be held and shows you the message to let you know the current status of BIOS Guardian. To press **G** key will enable the BIOS Guardian again; or simply to press the **space bar** will continue the booting process.

■ Overclock Partner

Should the system not start because clock speed settings have been increased to a speed incompatible with the system, the Overclock Partner allows you to reboot at system default settings, protecting hardware from any damages.

Complete the following steps:

1. Turn the system off.
2. Restart while holding down the **Insert** key. It is important that the **Insert** key is held down until the default clock speed is shown on the POST screen.
3. Enter BIOS settings menu, and re-set clock speed desired or default.

Installation Procedures

The mainboard has several user-adjustable jumpers on the board that allow you to configure your system to suit your requirements. This chapter contains information on the various jumper settings on your mainboard.

To set up your computer, you must complete the following steps:

- Step 1 - Set system jumpers/switches
- Step 2 - Install memory modules
- Step 3 - Install the Central Processing Unit (CPU)
- Step 4 - Install expansion cards
- Step 5 - Connect ribbon cables, cabinet wires, and power supply
- Step 6 - Set up BIOS software
- Step 7 - Install supporting software tools



WARNING: Excessive torque may damage the mainboard. When using an electric screwdriver on the mainboard, make sure that the torque is set to the allowable range of 5.0 ~ 8.0kg/cm.

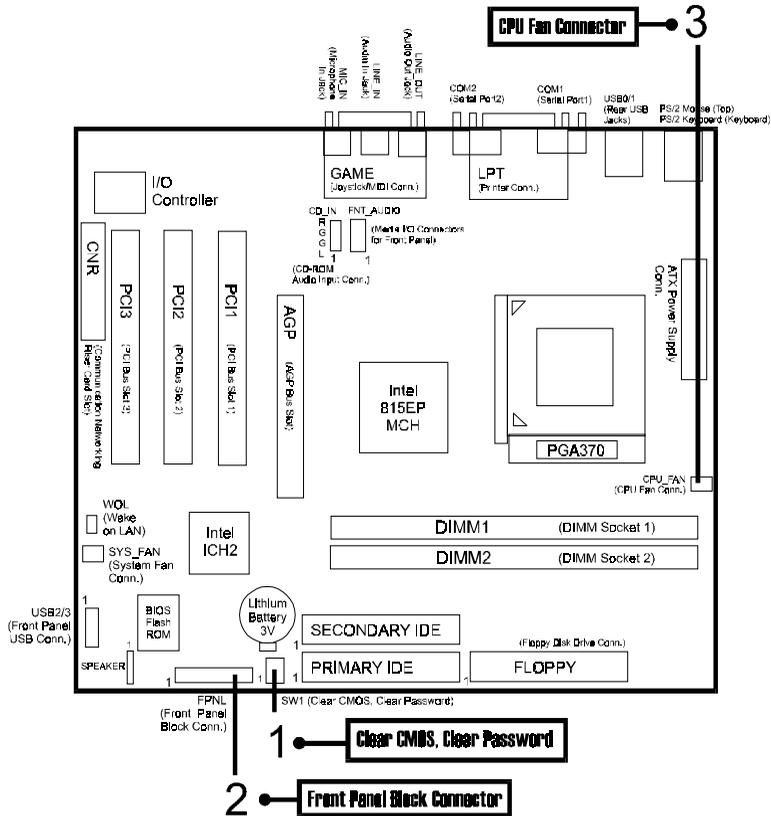
Mainboard components contain very delicate Integrated Circuit (IC) chips. To prevent static electricity from harming any of the mainboard's sensitive components, you should follow the following precautions whenever working on the computer:

1. Unplug the computer when working on the inside.
2. Hold components by the edges and try not to touch the IC chips, leads, or circuitry.
3. Wear an anti-static wrist strap which fits around the wrist.
4. Place components on a grounded anti-static pad or on the bag that came with the component whenever the components are separated from the system.

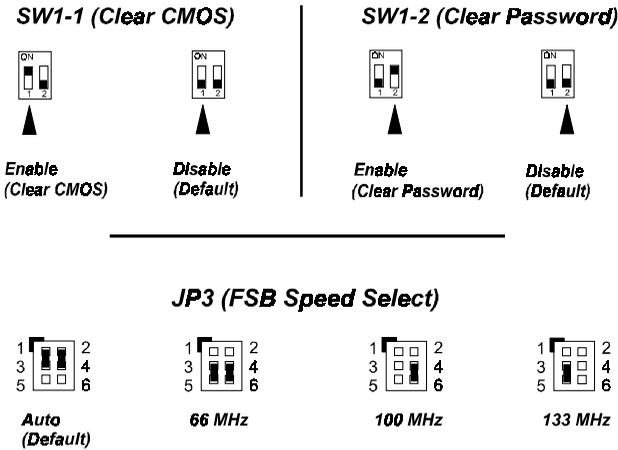
Quick Reference (from Page 2-2 to 2-4)

Mainboard Layout

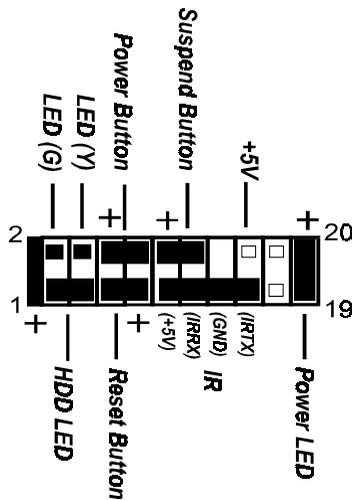
Chapter 2
Installation
Procedures



1). **Clear CMOS, Clear Password,
FSB Speed Select**



2). **Front Panel Block Cable Connection**



3). CPU Fan Installation

This connector is linked to the CPU fan. When the system is in power saving mode, the CPU fan will turn off; when it reverts back to full on mode, the fan will turn back on. Without sufficient air circulation, the CPU may overheat resulting in damage to both the CPU and the mainboard.

Damage may occur to the mainboard and/or the CPU fan if these pins are used incorrectly. These are not jumpers, do not place jumper caps over these pins.

1). Set System Jumpers/Switches

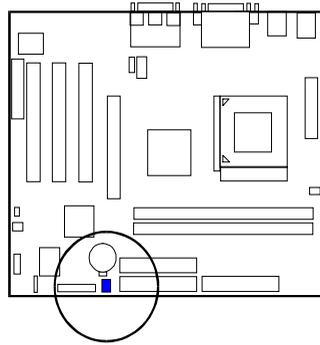
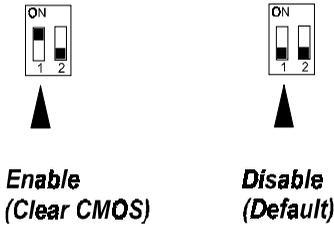
Jumpers are used to select the operation modes for your system. Some jumpers on the board have three metal pins with each pin representing a different function. A “1” is written besides pin 1 on jumpers with three pins. To **set** a jumper, a black cap containing metal contacts is placed over the jumper pin/s according to the required configuration. A jumper is said to be **shorted** when the black cap has been placed on one or two of its pins. The types of jumpers used in this manual are shown below:



NOTE: Users are not encouraged to change the jumper settings not listed in this manual. Changing the jumper settings improperly may adversely affect system performance.

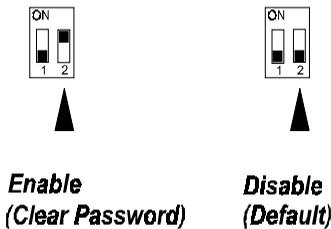
Clear CMOS: SW1-1

The CMOS RAM is powered by the onboard button cell battery. To clear the RTC data: (1) Turn off your computer. (2) Move the CMOS Clear switch SW1-1 to “On” (Enabled). (3) Turn on your computer to display “CMOS checksum error”. (4) Turn off your computer. (5) Move the CMOS Clear switch SW1-1 to “Off” (Disabled). (6) Turn on your computer. (7) Hold down the **Delete** key when boots. (8) Enter the BIOS Setup to re-enter user preferences.



Clear Password: SW1-2

This switch allows you to enable or disable the password configuration. You may need to enable this switch by moving it to the “On” (Enabled) position if you forget your password. To clear the password setting: (1) Turn off your computer. (2) Move the Clear Password switch SW1-2 to “On” (Enabled). (3) Turn on your computer. (4) Hold down the **Delete** key during bootup and enter BIOS Setup to re-enter user preferences. (5) Turn off your computer, (6) Move the Clear Password switch SW1-2 to “Off” (Disabled). (7) Turn on your computer for the new settings to take effect.



FSB Speed Select: JP3

This jumper allows you to select the FSB speed of your mainboard.



**Auto
(Default)**



66 MHz



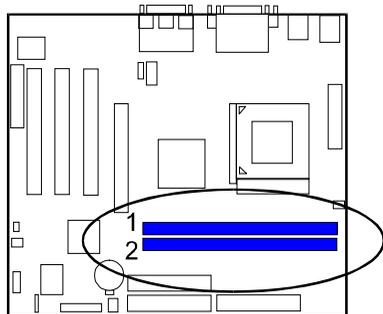
100 MHz



133 MHz

2). Install Memory Modules

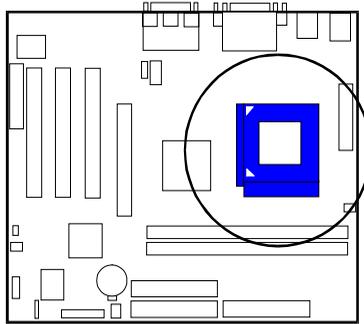
1. Locate the DIMM slots on the mainboard.
2. Install the DIMM straight down into the DIMM slot using both hands.
3. The clip on both ends of the DIMM slot will close up to hold the DIMM in place when the DIMM reaches the slot's bottom.



Press the clips with both hands to remove the DIMM.

3). Install the CPU

The mainboard has built-in Switching Voltage Regulator to support CPU Vcore autodetection. That is, It has the ability to detect and recognize the CPU voltage, clock, ratio and enables users to set up the CPU frequency from the BIOS Setup Screen. Users can adjust the frequency through “Frequency / Voltage Control” of the BIOS Setup Screen.

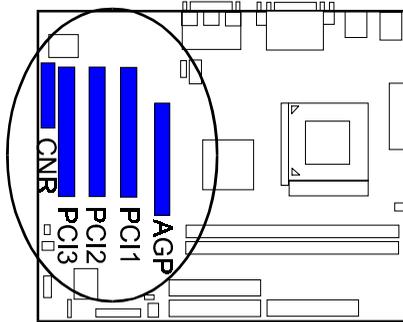


To install the CPU, do the following:

1. Lift the lever on the side of the CPU socket.
2. Handle the chip by its edges and try not to touch any of the pins.
3. Place the CPU in the socket. The chip has two notches to correctly locate the chip. Align two notches of the processor with the two triangular marks on the socket. Do not force the chip. The CPU should slide easily into the socket.
4. Swing the lever to the down position to lock the CPU in place.
5. Place the cooling fan with heatsink on top of the installed CPU.

4). Install Expansion Cards

This section describes how to connect an expansion card to one of your system's expansion slots. Expansion cards are printed circuit boards that, when connected to the mainboard, increase the capabilities of your system. For example, expansion cards can provide video and sound capabilities. The mainboard features one CNR, one AGP, and three PCI bus expansion slots.



CAUTION: Make sure to unplug the power supply when adding or removing expansion cards or other system components. Failure to do so may cause severe damage to both the mainboard and expansioncards.

Always observe static electricity precautions.
Please read "Handling Precautions" at the start of this manual.

To install an expansion card, follow the steps below:

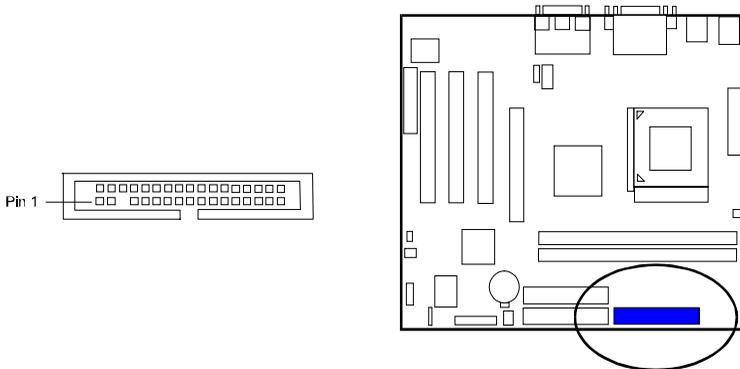
1. Remove the computer chassis cover and select an empty expansion slot.
2. Remove the corresponding slot cover from the computer chassis. Unscrew the mounting screw that secures the slot cover and pull the slot cover out from the computer chassis. Keep the slot cover mounting screw nearby.

3. Holding the edge of the peripheral card, carefully align the edge connector with the expansion slot.
4. Push the card firmly into the slot. Push down on one end of the expansion card, then the other. Use this “rocking” motion until the add-on card is firmly seated inside the expansion slot.
5. Secure the board with the mounting screw removed in Step 2. Make sure that the card has been placed evenly and completely into the expansion slot.
6. Replace the computer system’s cover.
7. Setup the BIOS if necessary.
8. Install the necessary software drivers for the expansion card.

5). Connect Devices

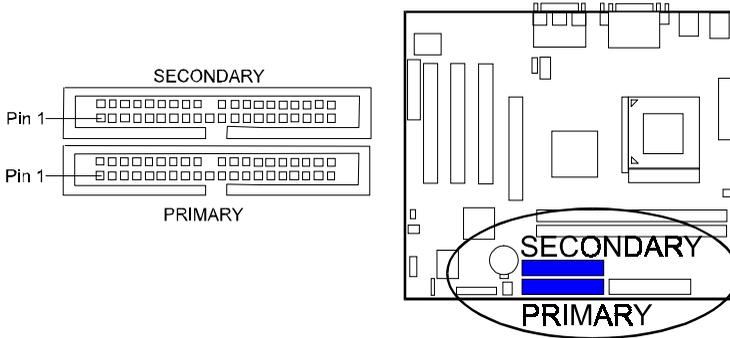
Floppy Diskette Drive Connector

This connector provides the connection with your floppy disk drive. The red stripe of the ribbon cable must be the same side with the Pin 1.



IDE Device Connectors

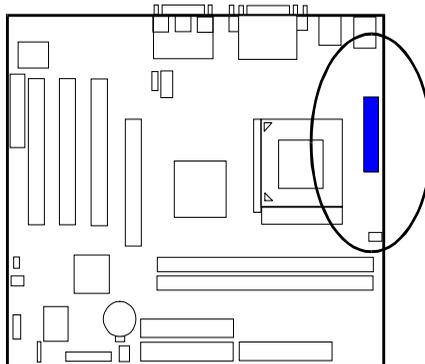
These two connectors are used for your IDE hard disk drives, CD drives, LS-120 drives, or IDE ZIP drives. The red stripe of the ribbon cable must be the same side with the Pin 1.



ATX Power Connector

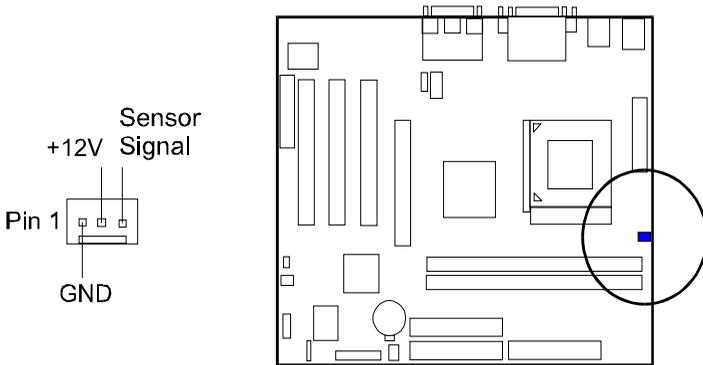
This 20-pin male block connector is connected to the ATX power supply. The plug from the power supply will only insert in one orientation because of the different hole sizes. Find the proper orientation and push down firmly making sure that the pins are aligned.

+12V	10	20	+5V
5V_VR	9	19	+5V
PWR_GOOD	8	18	-5V
GND	7	17	GND
+5V	6	16	GND
GND	5	15	GND
+5V	4	14	-PWR_ON
GND	3	13	GND
+3.3V	2	12	-12V
+3.3V	1	11	+3.3V



CPU Fan Connector

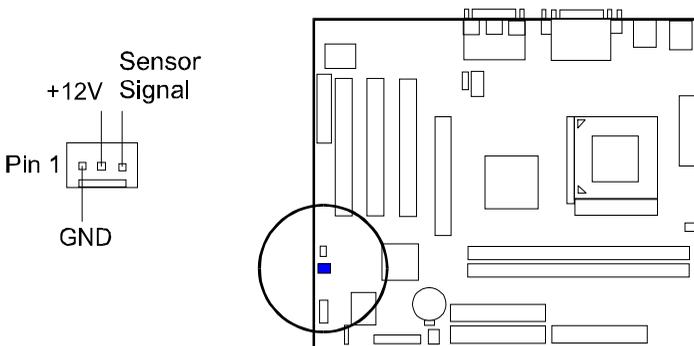
This connector is linked to the CPU fan. When the system is in S3 suspend mode, the CPU fan will turn off; when it reverts back to full-on mode, the fan will turn back on. Please refer to the CPU fan installation manual for more information.



**Chapter 2
Installation
Procedures**

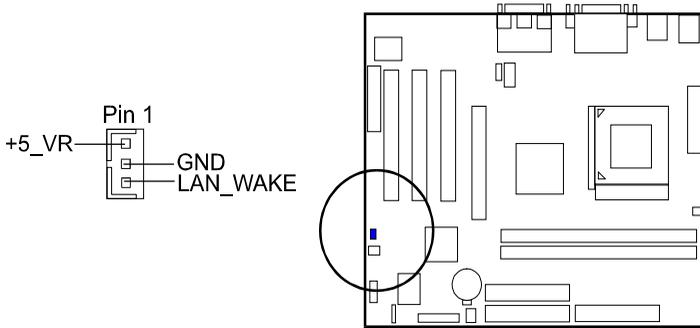
System Case Fan Connector

The 3-pin connector allows you to link with the cooling fan on the system case to lower the system temperature.



Wake-On-Lan Connector

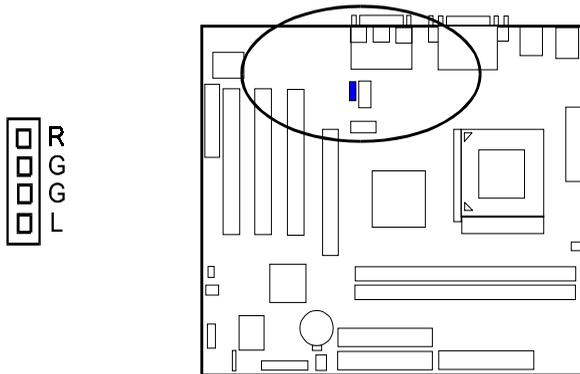
This 3-pin connector allows the remove servers to manage the system that installed this mainboard via your network adapter which also supports WOL. When you install such a LAN card, please read its installation guide for more information.



Chapter 2
Installation
Procedures

CD Audio-In Connector

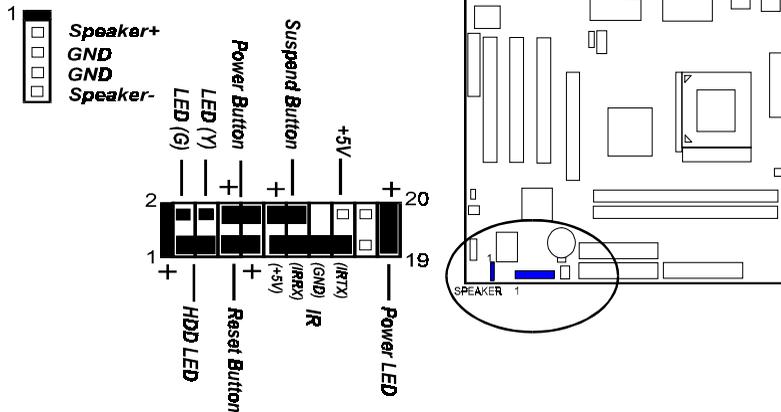
The CD_IN connector is used for CD-ROM drive audio input.



Front Panel Block and Speaker Connector

This block connector includes the connectors for linking with HDD LED, power LED, dual power LED, power button, suspend button, reset button, and IR on the front panel of the system case. Please identify polarities of plug wires for the case speaker and LEDs. Please ask vendor about this information when you buy them and install the system by yourself. The plug wires polarities of these buttons will not affect the function.

Speaker



Power LED is connected with the system power indicator to indicate whether the system is on/off. It will blink when the system enters suspend mode.

IR is used to communicate with another IR device via a 4-wire plug.

Reset Button is connected to the reset button. Push this switch to reboot the system instead of turning the power button off and on.

HDD LED is connected to the IDE device indicator. This LED will blink when the hard disk drives are activated.

LED(G) is in green light when the system in power on status.

LED(Y) is in yellow light when the system in suspend mode.

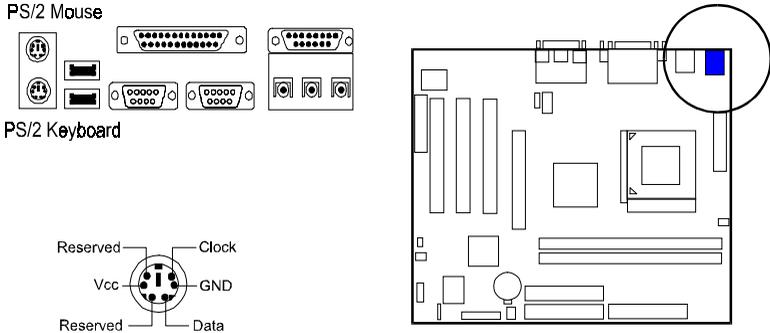
Power Button is connected with power button. Push this switch allows the system to be turned on and off rather than using the power supply button.

Suspend Button is connected with suspend button. To enter the system into power saving mode, simply press this button when the system is in full-on mode.

Speaker is connected with the case speaker.

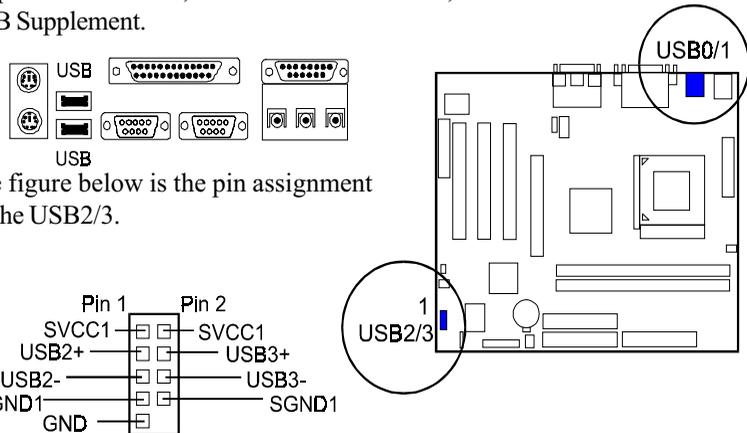
PS/2 Keyboard and Mouse Connector

These two 6-pin female (PS/2 keyboard is purple color and PS/2 mouse is green color) connectors are used for your PS/2 keyboard and PS/2 mouse.

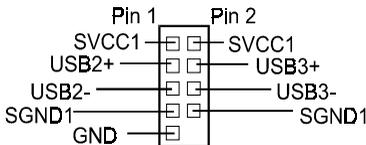


Universal Serial Bus Connectors

These two black connectors integrated on the edge of the board are used for linking with USB peripheral devices. This board also provides a connector USB2/3 for linking with the two extra USB connections. They can link with front panels of some system cases. Please note your operating system must support USB features, such as MS Windows 98, MS Windows 95 OSR2.5 with USB Supplement.

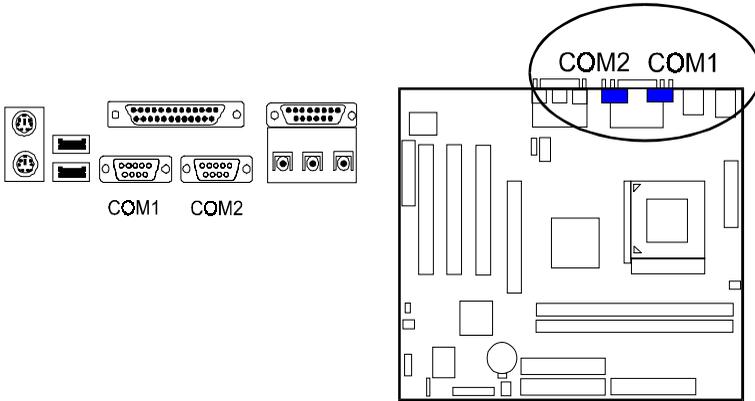


The figure below is the pin assignment of the USB2/3.



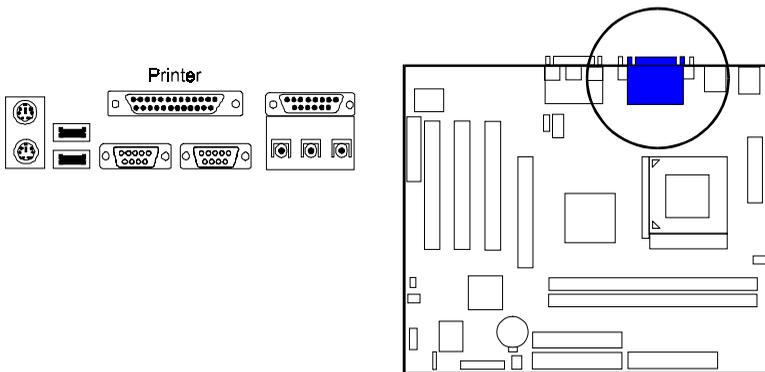
Serial Port Connectors

COM1/2 (9-pin D-sub male connector with teal color) allow you to connect with your devices that use serial ports, such as a serial mouse or an external modem.



Printer Connector

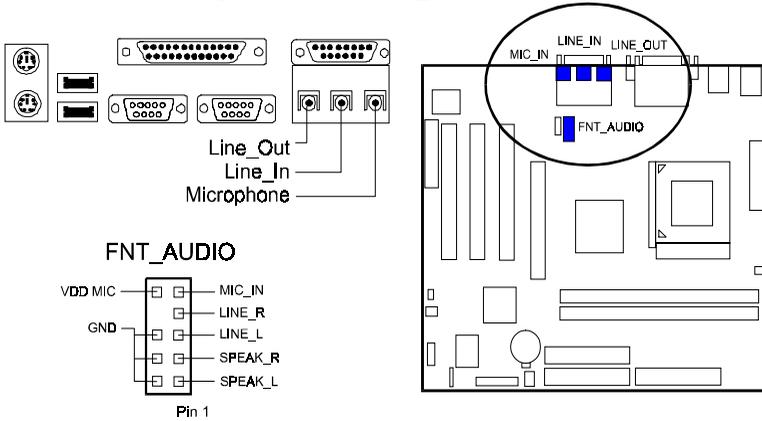
This 25-pin D-Sub female burgundy-colored connector is attached to your printer.



Audio I/O Jacks

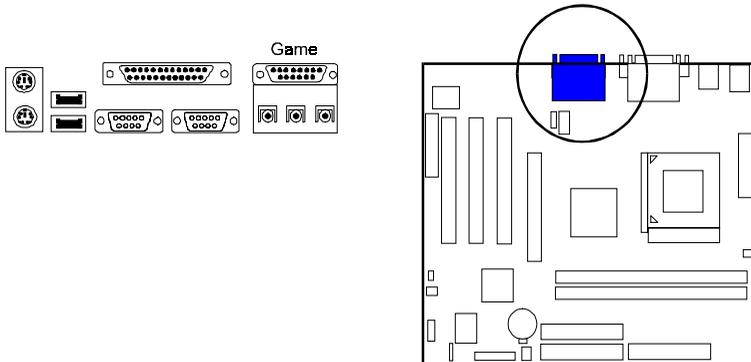
LINE_OUT (lime) can be connected to headphones or preferably powered speakers. LINE_IN (light blue) allows tape players or other audio sources to be recorded by your computer or played through the LINE_OUT. MIC_IN (pink) allows microphones to be connected for voice input. The mainboard also provides you with a front panel audio port connector, FNT_AUDIO, when needed. Its pin definitions were presented below.

*** Please use an active speaker with LINE_OUT.**



Game/MIDI Connector

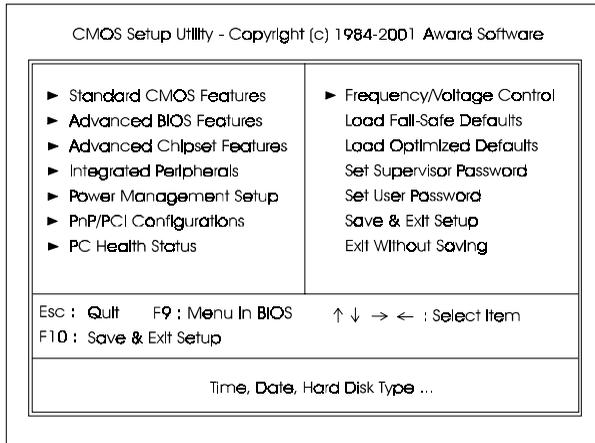
This 15-pin female gold-colored connector allows you to connect game joysticks or game pads. Connect MIDI devices for playing or editing audio.



BIOS Setup

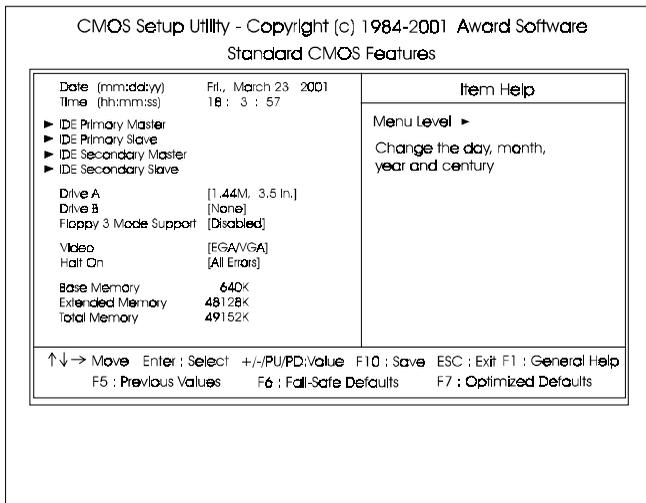
The mainboard comes with the chip that Award BIOS that contains the ROM Setup information of your system. (This chip serves as an interface between the processor and the rest of the mainboard's components.) This section explains the information contained in the Setup program and tells you how to modify the settings according to your system configuration.

CMOS Setup Utility



A Setup program, built into the system BIOS, is stored in the CMOS. This Setup utility program allows updates to the mainboard configuration settings. It is executed when the user changes system configuration; user changes system backup battery; or the system detects a configuration error and asks the user to run the Setup program. Use the arrow keys to select and press **Enter** to run the selected program.

Standard CMOS Setup



The Standard CMOS Setup screen is displayed above. Each item may have one or more option settings. The system BIOS automatically detects memory size, thus no changes are necessary. Use the arrow keys to highlight the item and then use **Page Up/Page Down** keys to select the value you want in each item.

Date

To set the date, highlight the *Date* field and then press **Page Up/Page Down** keys to set the current date. Follow the month, day and year format.

Time

To set the time, highlight the *Time* field and then press **Page Up/Page Down** keys to set the current time. Follow the hour, minute, and second format.

Hard Disks

This field records the specifications for all non-SCSI hard drives installed in the system. The onboard PCI IDE connectors provide Primary and Secondary channels for connecting up to four IDE hard disks or other IDE devices. Each channel can support up to two hard disks, the first of which is the *Master* and the second is the *Slave*.

Hard Disk Configurations

Capacity:	The hard disk size. The unit is Bytes.
Cylinder:	The cylinder number of the hard disk.
Head:	The read/write head number of hard disk.
Precomp:	The cylinder number at which the disk drive changes the write current.
Landing Zone:	The cylinder number that the disk drive heads (read/write) are seated when the disk drive is parked.
Sector:	The sector number of each track defined on the hard disk.

Drive A / Drive B

This field records the types of floppy drives installed in the system. To enter the configuration value for a particular drive, highlight its corresponding field and then select the drive type using the **left-** or **right-arrow** key.

Floppy 3 Mode Support

This is a Japanese standard floppy type drive. The standard stores 1.2MB in a 3.5 inch diskette. The options are: Disable, Drive A/B, Both.

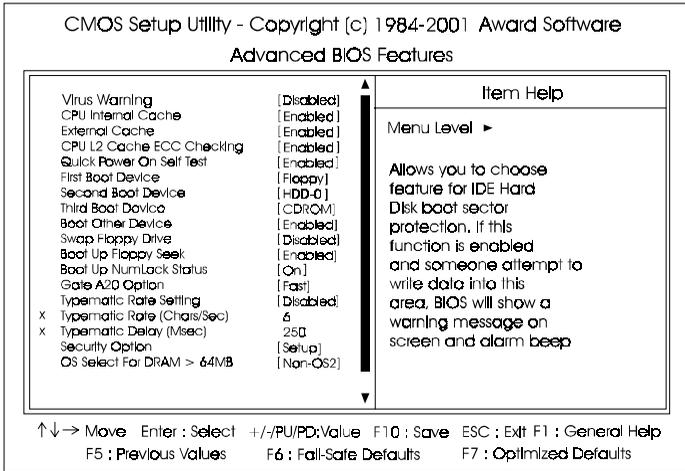
Video

Set this field to the type of video display card installed in the system.

Halt On

This field determines which types of errors will cause the system to halt.

Advanced BIOS Features



Virus Warning

This feature will prompt uses a warning message, when any write boot sector commend executed.

The options are: Enabled, Disabled.

CPU Internal Cache

When enabled, improves the system performance. Disable this item when testing or trouble-shooting. The options are: Enabled, Disabled.

External Cache

When enabled, supports CPU L2 cache. This feature allows you to disable the cache function when the system performance is unstable to run some software. The options are: Enabled, Disabled.

CPU L2 Cache ECC Checking

When enabled, it activates the CPU L2 cache check and error correction. The options are: Enabled, Disabled.

Quick Power On Self Test

When enabled, allows the BIOS to bypass the extensive memory test. The options are: Enabled, Disabled.

First/Second/Third Boot Device

This feature allows user to select the boot device priority. The options are: Floppy, LS120, HDD-0, SCSI, CDROM, HDD-1, HDD-2, HDD-3, ZIP100, USB-FDD, USB-ZIP, USB-CDROM, USB-HDD, LAN, Disabled.

Boot Other Device

This feature allows user to select the boot device priority. The options are: Enabled, Disabled.

Swap Floppy Drive

Allows you to switch the order in which the operating system accesses the floppy drives. The options are: Enabled, Disabled.

Boot Up Floppy Seek

When enabled, assigns the BIOS to perform floppy diskette drive tests by issuing the time-consuming seek commands. The options are: Enabled, Disabled.

Boot Up Numlock Status

When set to On, allows the BIOS to automatically enable the Num Lock Function when the system boots up. The options are: On, Off.

Gate A20 Option

When set at Fast, allows a faster access response of address Line No. 20. The options are: Fast, Normal.

Typematic Rate Setting

The term typematic means that when a keyboard key is held down, the character is repeatedly entered until the key is released. The options are: Disabled, Enabled.

Typematic Rate (Chars/Sec)

This feature is available only if the above item, Typematic Rate Setting, is set at Enabled. Sets the rate of a character repeat when the key is held down. The options are: 6, 8, 10, 12, 15, 20, 24, 30.

Typematic Delay (Msec)

This feature is available only if the item, Typematic Rate Setting, is set at Enabled. Sets the delay time before a character is repeated.

The options are: 250, 500, 750, 1000 millisecond.

Security Option

Allows you to set the security level of the system.

The options are: Setup, System.

OS Select For DRAM > 64MB

If your operating system (OS) is OS/2, select the option OS2. Otherwise, stay with the default setting Non-OS2.

The options are: Non-OS2, OS2.

HDD S.M.A.R.T. Capability

S.M.A.R.T. stands for Self-Monitoring and Analysis Reporting Technology which allows your hard disk drive to report any read/write errors and issues a warning with LDCM installed.

The options are: Disabled, Enabled.

Report No FDD For WIN 95

When the field under the Standard CMOS Setup Menu for Drive A and/or Drive B is set at None, users must set this field is set at Yes for it to function properly. Otherwise, set at No, even if field for Drive A and/or Drive B is set at None, system will still detect and recognize of a floppy drive(s).

The options are: Yes, No.

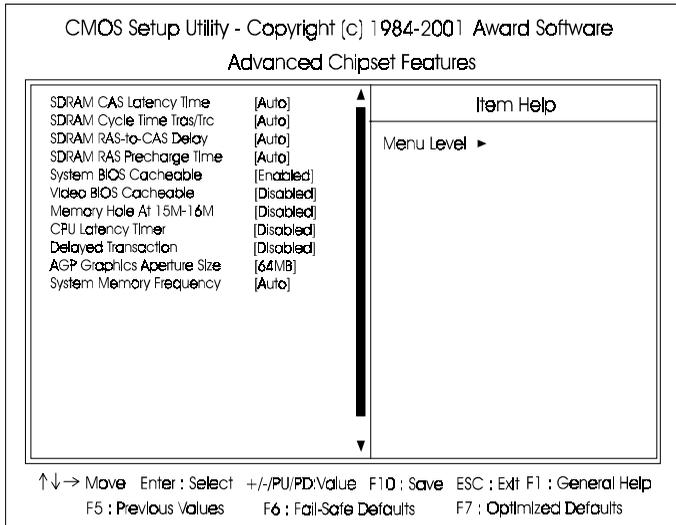
BIOS Guardian

It allows the system to prevent computer viruses. Users will need to disable it to update BIOS. The options are: Enabled, Disabled.



NOTE: Please disable this BIOS feature about BIOS Guardian before you start to reflash BIOS.

Advanced Chipset Features



SDRAM CAS Latency Time

This feature allows user to select the CAS latency time, when any SDRAM DIMM installed. The options are: 2, 3, Auto.

SDRAM Cycle Time Tras/Trc

The feature allows user to set the SCLKs number for an access cycle. The options are: 7/9, 5/7, Auto.

SDRAM RAS-to-CAS Delay

The feature allows user to set the delay time that from the SDRAM RAS# active to CAS#. The options are: 3, 2, Auto.

SDRAM RAS Precharge Time

The feature allows user to set the SDRAM RAS# Precharge Time. The options are: 3, 2, Auto.

System BIOS Cacheable

Setting at Enabled will allow the caching of the BIOS ROM F0000H-FFFFFH, resulting in better system performance. It may cause system error when some program try to access the memory area.

The options are: Disabled, Enabled.

Video BIOS Cacheable

Setting at Enabled will allow the caching of the video BIOS ROM at C0000H-C7FFFH, resulting in better video performance. It may cause system error when some program try to access the memory area.

The options are: Disabled, Enabled.

Memory Hole At 15M-16M

When set at Enabled, the memory hole at 15MB address will be relocated to the 15M-16MB address range of the ISA or PCI cycle when the CPU accesses the 15M-16MB address area. When set at Disabled, the memory hole at 15MB address will be treated as a DRAM cycle when the CPU accesses the 15M-16MB address area. The options are: Disabled, Enabled.

CPU Latency Timer

This feature sets the CPU latency item for fixing Japanese Win95 problem. The options are: Disabled, Enabled.

Delayed Transaction

Setting at Enabled will abort the current PCI master cycle and to accept the new PCI master request, it reaccepts the original PCI master and returns the PCI data phase to the original PCI master. It will enhance the system performance. The options are: Disabled, Enabled.

AGP Graphics Aperture Size

It allows user to select the main memory frame size of AGP use.

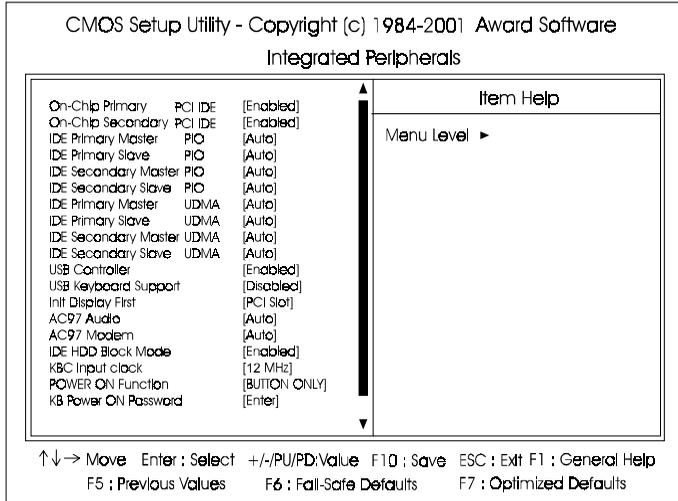
The options are: 32MB, 64MB.

System Memory Frequency

It allows user to select the system memory frequency.

The options are: Auto, 100 MHz, 133 MHz.

Integrated Peripherals



On-Chip Primary PCI IDE

When enabled, it allows you to use the onboard primary PCI IDE. The options are: Enabled, Disabled.

On-Chip Secondary PCI IDE

When enabled, it allows you to use the onboard secondary PCI IDE. The options are: Enabled, Disabled.

IDE Primary Master PIO

Allows an automatic or a manual configuration of the PCI primary IDE hard drive (master) mode. The options are: Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

IDE Primary Slave PIO

Allows an automatic or a manual configuration of the PCI primary IDE hard drive (slave) mode. The options are: Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

IDE Secondary Master PIO

Allows an automatic or a manual configuration of the PCI secondary IDE hard drive (master) mode. The options are: Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

IDE Secondary Slave PIO

Allows an automatic or a manual configuration of the PCI secondary IDE hard drive (slave) mode. The options are: Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

IDE Primary Master UDMA

Allows an automatic configuration of the PCI primary IDE hard drive (master) mode if Ultra DMA is supported both on the motherboard and the hard disk. The options are: Auto, Disabled.

IDE Primary Slave UDMA

Allows an automatic configuration of the PCI primary IDE hard drive (slave) mode if Ultra DMA is supported both on the motherboard and the hard disk. The options are: Auto, Disabled.

IDE Secondary Master UDMA

Allows an automatic configuration of the PCI secondary IDE hard drive (master) mode if Ultra DMA is supported both on the motherboard and the hard disk. The options are: Auto, Disabled.

IDE Secondary Slave UDMA

Allows an automatic configuration of the PCI secondary IDE hard drive (slave) mode if Ultra DMA is supported both on the motherboard and the hard disk. The options are: Auto, Disabled.

USB Controller

Disable this option if you are not using the onboard USB feature.
The options are: Disabled, Enabled.

USB Keyboard Support

When a USB keyboard is installed, please set at Enabled.
The options are: Enabled, Disabled.

Init Display First

When you install an AGP VGA card and a PCI VGA card on the board, this feature allows you to select the first initiation of the monitor display from which card. The options are: PCI Slot, AGP.

AC97 Audio

This feature allows users to enable or disable the AC97 audio function. The options are: Auto, Disabled.

AC97 Modem

This feature allows users to enable or disable the AC97 modem function. The options are: Auto, Disabled.

IDE HDD Block Mode

When enabled, the system executes read/write requests to hard disk in block mode. The options are: Enabled, Disabled.

KBC input clock

This feature allows users to select keyboard controller input clock. The options are: 6 MHz, 8 MHz, 12 MHz, 16 MHz.

POWER ON Function

Allows you to set the method for powering-on the system. The default option of *BUTTON ONLY* allows system power-on using the standard system case mounted ON/OFF switch. The option *Password* allows you to set up to 5 alphanumeric characters to power-on the system. The option *Hot KEY* allows you to set which of the 12 keyboard function keys (**F1** to **F12**) in combination with the **Ctrl** key to power-on the system. The option *Mouse Click* allows you to use the PS/2 mouse to power-on the system by double-clicking on the mouse button. The options are: Password, Hot KEY, Mouse Left, Mouse Right, BUTTON ONLY, Any Key, Keyboard 98.



NOTE: When using Password, Hot KEY, or Mouse Click options for the item POWER ON Function will render the power button on the system case ineffective. In case user forgets password or hot key setting, use the clear password switch or jumper to clear RTC data. Another method is to unplug system power from the AC power outlet and then re-insert the power cord. Previous password and hot key settings will be disabled allowing user to set a new one.

KB Power ON Password

Allows you set the power on system password.

Hot Key power ON

Allows you to set which of the 12 keyboard function keys (F1 to F12) in combination with the Ctrl key will be used to power-on the system. The options are: Ctrl-F1 up to Ctrl-F12.

Onboard FDC Controller

When enabled, the floppy diskette drive (FDD) controller is activated. The options are: Enabled, Disabled.

Onboard Serial Port 1

If the serial port 1 uses the onboard I/O controller, you can modify your serial port parameters. If an I/O card needs to be installed, COM3 and COM4 may be needed. The options are: Disabled, 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3.

Onboard Serial Port 2

If the serial port 2 uses the onboard I/O controller, you can modify your serial port parameters. If an I/O card needs to be installed, COM3 and COM4 may be needed. The options are: Disabled, 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3.

UART Mode Select

Allows you to select the IR modes if the serial port 2 is used as an IR port. Set at Standard, if you use COM2 as the serial port as the serial port, instead as an IR port. The options are: IrDA, ASKIR, Normal.

RxD , TxD Active

This feature is available only if the item, UART 2 Mode, is set at ASKIR or HPSIR. The feature allows you to select the active signals of the reception end and the transmission end. This is for technician use only.

The options are: Hi, Hi; Hi, Lo; Lo, Hi; Lo, Lo.

IR Transmission Delay

When Enabled, the transmission delays 4 characters-time (40 bit-time) if SIR is changed from RX mode to TX mode. When Disabled, no transmission delay if SIR is changed from RX mode to TX mode.

The options are: Enabled, Disabled.

UR2 Duplex Mode

Allows you to select the IR modes.

The options are: Half, Full.

Use IR Pins

Allows you to select IR pin mode.

The options are: RxD2, TxD2, IR-Rx2Tx2.

Onboard Parallel Port

Allows you to select from a given set of parameters if the parallel port uses the onboard I/O controller.

The options are: Disabled, 378/IRQ7, 278/IRQ5, 3BC/IRQ7.

Parallel Port Mode

Allows you to connect with an advanced printer via the port mode it supports. The options are: SPP, EPP, ECP, ECP+EPP.

EPP Mode Select

This feature allows you to select the EPP type version.

The options are: EPP1.9, EPP1.7.

ECP Mode Use DMA

This feature allows you to select Direct Memory Access (DMA) channel if the ECP mode selected. The options are: 3, 1.

PWRON After PWR-Fail

When the system is shut down owing to the power failure, the system will not be back to power on by itself. This feature allows you to set the system back to which power status of the system when the system power is resumed. The options are Off, On, Former-Sts.

Game Port Address

This feature allows you to select the game port address or disable it. The options are: Disabled, 201, 209.

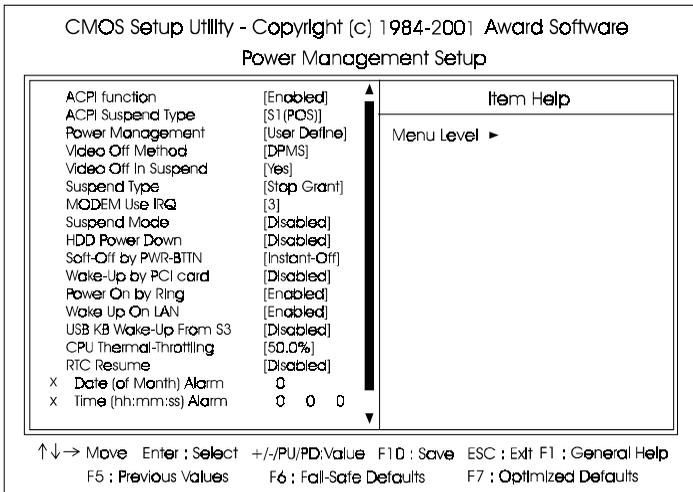
Midi Port Address

This feature allows you to select the Midi port address or disable it. The options are: Disabled, 330, 300, 290.

Midi Port IRQ

It allows you to select Midi IRQ if Midi is enabled. The options are: 5, 10.

Power Management Setup



ACPI function

This item allows you to disable the ACPI function. The options are: Enabled, Disabled.

ACPI Suspend Type

This item allows you to select suspend mode when the system in ACPI mode. The options are: S1 (POS), S3 (PTR).

Power Management

This item allows you to adjust the power management features.

Select User Define for configuring your own power management features. Min Saving initiates all predefined timers in their minimum values. Max Saving, on the other hand, initiates maximum values. The options are: User Define, Min Saving, Max Saving.

Video Off Method

The option *V/H SYNC+Blank* allows the BIOS to blank off screen display by turning off the V-Sync and H-Sync signals sent from add-on VGA card. *DPMS* allows the BIOS to blank off screen display by your add-on VGA card which supports DPMS (Display Power Management Signaling function). *Blank Screen* allows the BIOS to blank off screen display by turning off the red-green-blue signals.

The options are: Blank Screen, V/H SYNC+Blank, DPMS.

Video Off In Suspend

The option allows you to select VGA status when the system goes to suspend mode. The options are: No, Yes.

Suspend Type

The option allows you to select VGA status when the system goes to suspend mode. The options are: Stop Grant, PwrOn Suspend.

MODEM Use IRQ

This feature allows you to select the IRQ# to meet your modem's IRQ#. The options are: NA, 3, 4, 5, 7, 9, 10, 11.

Suspend Mode

When disabled, the system will not enter Suspend mode. The specified time option defines the idle time the system takes before it enters Suspend mode. The options are: Disabled, 1, 2, 4, 8, 12, 20, 30, 40 Min, 1 Hour.

HDD Power Down

The option lets the BIOS turn the HDD motor off when system is in Suspend mode. Selecting 1 Min..15 Min allows you define the HDD idle time before the HDD enters the Power Saving Mode.

The options 1 Min..15 Min will not work concurrently. When HDD is in the Power Saving Mode, any access to the HDD will wake the HDD up.

The options are: Disabled, 1 Min..15 Min.

Soft-Off by PWR-BTTN

The selection Delay 4 Sec. will allow the system shut down after 4 seconds after the power button is pressed. The selection Instant-Off will allow the system shut down immediately once the power button is pressed.

The settings are: Instant-Off, Delay 4 Sec.

Wake-Up by PCI card

When set at Enabled, any PCI-PM event awakes the system from a PCI-PM controlled state. The options are Disabled, Enabled.

Power On by Ring

An incoming call via modem awakes the system from its soft-off mode.

The options are Disabled, Enabled.

Wake Up On LAN

When set at Enabled, an input signal comes from the other client/server on the LAN awakes the system from a soft off state if connected over LAN.

The options are Disabled, Enabled.

USB KB Wake-Up From S3

When set at Enabled, it allows USB keyboard to activate the system from ACPI S3 power saving mode. The options are Disabled, Enabled.

CPU Thermal-Throttling

When thermal override condition occur, this item allows users to determine the duty cycle of the throttling.

The options are: 12.5%, 25.0%, 37.5%, 50.0%, 62.5%, 75.0%, 87.5%.

Resume by Alarm

This feature allows you to set the when the system being turned on from the system power-off status.

The options are: Disabled, Enabled.

Date (of Month)

This feature allows you to set the day of the alarm starts when the RTC Alarm Resume From Soft Off is set to be Enabled. The options are: 0, 1..31.

Timer (hh:mm:ss)

If an ATX power supply is installed and when RTC Alarm Resume is Enabled, this feature allows you to set the time of the alarm starts when the RTC Alarm Resume From Soft Off is set to be Enabled.

The options are: 7: 0: 0 (Default). hh (*hour*) - 0, 1, 2,..., 23; mm (*minute*) - 0, 1, 2,...,59; ss (*second*) - 0, 1, 2,...,59.

** Reload Global Timer Events **

Primary IDE 0

When the primary master HDD is working, the system timer will be reloaded and the system will not be into the suspend mode.

The options are: Disabled, Enabled.

Primary IDE 1

When the primary slave HDD is working, the system timer will be reloaded and the system will not be into the suspend mode.

The options are: Disabled, Enabled.

Secondary IDE 0

When the secondary master HDD is working, the system timer will be reloaded and the system will not be into the suspend mode.

The options are: Disabled, Enabled.

Secondary IDE 1

When the secondar slave HDD is working, the system timer will be reloaded and the system will not be into the suspend mode.

The options are: Disabled, Enabled.

FDD, COM, LPT Port

When FDD, COM, or LPT is working, the system timer will be reloaded and the system will not be into the suspend mode.

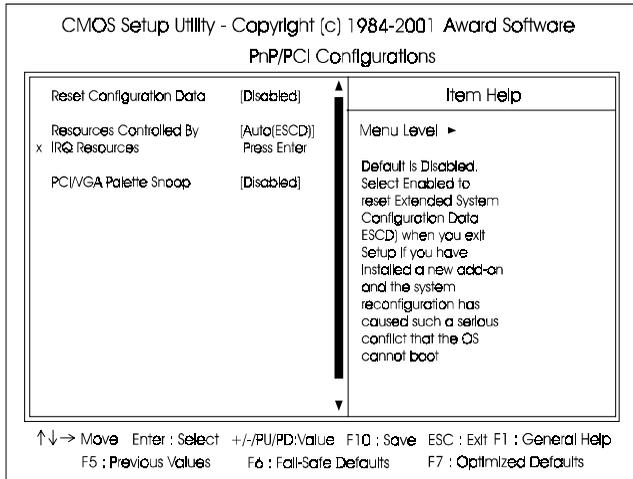
The options are: Disabled, Enabled.

PCI PIRQ[A-D]#

When the PCI PIRQ[A-D]# has been alerted, the system timer will be re-loaded and the system will not be into the suspend mode.

The options are: Disabled, Enabled.

PnP/PCI Configurations



Reset Configuration Data

Enabling it to reset the system Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on card and the system reconfiguration has caused such a serious conflict that the operating system can not boot. The options are: Disabled, Enabled.

Resources Controlled By

If set at Auto, the BIOS arranges all system resources. If there exists conflict, select Manual. The options are: Auto (ESCD), Manual.

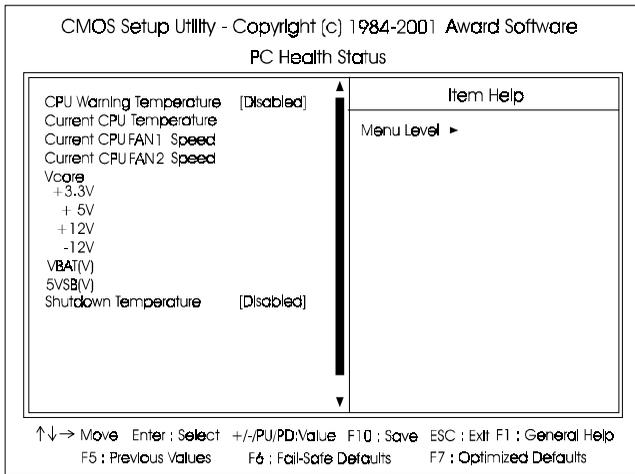
If the manual options, after the feature IRQ Resources being pressed, of **IRQ- Assigned To** are: PCI Device, Reserved. When resources were controlled manually, assign each system interrupt a type, depending on each device type to use the interrupt.

PCI/VGA Palette Snoop

Set this feature to be enabled if any ISA adapter card installed in the system requires the VGA palette snoop function.

The options are: Disabled, Enabled.

PC Health Status



CPU Warning Temperature

This feature allows you to set the temperature to slow down the CPU clock frequency. The option list presents Disabled and all the temperatures that supported by the board.

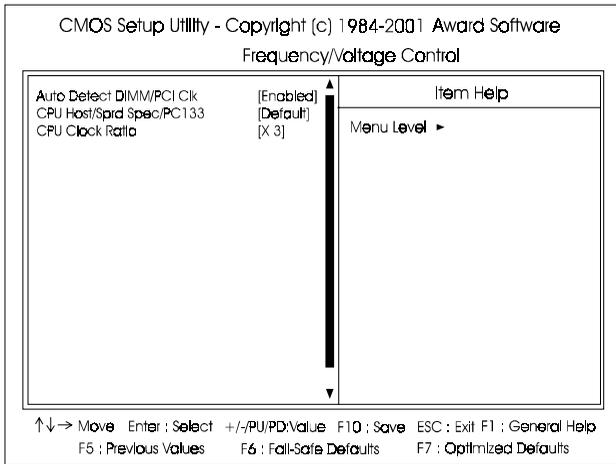
Current CPU Temperature / Current CPUFAN1 Speed / Current CPUFAN2 Speed / VCORE / -3.3V / +5V / +12V / -12V / VBAT(V) / 5VSB(V)

These items allow end users and technicians to monitor data provided by the BIOS on this mainboard. It is not user-configurable.

Shutdown Temperature

This feature helps to shutdown the system when the system temperature is as high as the selected temperature to prevent from the overheat problem. The option list presents Disabled and all the temperatures that supported by the board.

Frequency/Voltage Control



Auto Detect DIMM/PCI Clk

When enabled, BIOS will detect the PCI slot and DIMM slot. If no any device in, BIOS will auto disable its clock.

The options are: Enabled, Disabled.

CPU Host/Spread Spec/PC133

This feature allows you to select the combinations of CPU/PCI clock frequency and the Spread Spectrum. The default setting, Default, will detect your CPU/PCI clock frequency/Spread Spectrum automatically. The recommended CPU clock frequencies are 100 and 133MHz. The other options may effect the system performance. If you set a unappropriate option which leads to a booting problem, keep pressing the Insert key until the display appears will solve it. The options lists all combinations that provided by the system BIOS.

CPU Clock Ratio

This feature allows you to select the frequency multiplier for CPU host clock. The option list offers the ratios from X 3 to X 8.

Load Fail-Safe Defaults

This submenu is selected to diagnose the problem after the computer boots, if the computer will not boot. These settings do not give optimal performance.

Load Optimized Defaults

This submenu is selected for default settings which provide the best system performance.

Supervisor/User Password

To enable the Supervisor/User passwords, select the item from the Standard CMOS Setup. You will be prompted to create your own password. Type your password up to eight characters and press Enter. You will be asked to confirm the password. Type the password again and press Enter. To disable password, press Enter twice when you are prompted to enter a password. A message appears, confirming the password is disabled.

Under the BIOS Feature Setup, if *Setup* is selected under the Security Option field and the Supervisor/User Password is enabled, you will be prompted password every time you try to enter the CMOS Setup Utility. If *System* is selected and the Supervisor/User Password is enabled, you will be requested to enter the Password every time when you reboot the system or enter the CMOS Setup utility.

Save and Exit Setup

After you have made changes under Setup, press Esc to return to the main menu. Move cursor to Save and Exit Setup or press F10 and then press Y to change the CMOS Setup. If you did not change anything, press Esc again or move cursor to Exit Without Saving and press Y to retain the Setup settings. The following message will appear at the center of the screen to allow you to save data to CMOS and exit the setup utility: **SAVE to CMOS and EXIT (Y/N)?**

Exit without Saving

If you select this feature, the following message will appear at the center of the screen to allow you to exit the setup utility without saving CMOS modifications: **Quit Without Saving (Y/N)?**

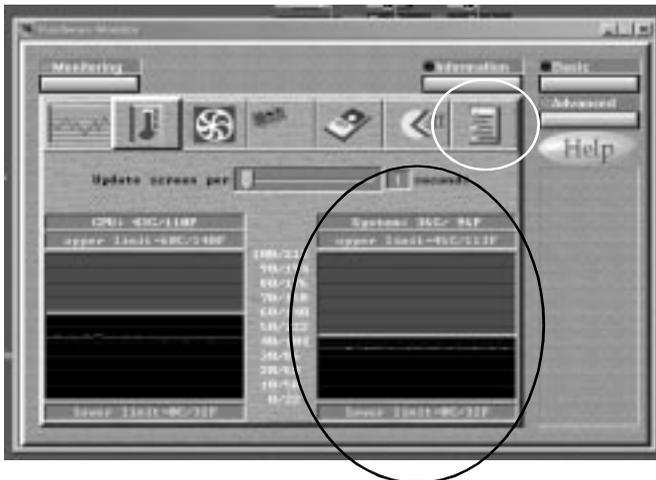
Hardware Monitor Software Adjustment

The software tool *Hardware Monitor* that in the CD Pro disk provides users with the warning messages to prevent the computer system from overheating damage. The monitor utility for FS39 mainboard does not support the system temperature monitoring. The data that appears in the display of System Temperature item is false.

Secondly, if a chassis fan is not onboard or it does not own the capability to report the rotation speed, the software will also give some random data.

To avoid these misleading messages, some settings for the software attributes are necessary.

First of all, (assume it was installed) start *Hardware Monitor*. The display below will pop up on the screen. Notice that the message in the black circle is given randomly.



Select the icon in the white circle. The lower level menu will appear on the screen. (See the figure on the next page.)

Disable the item *SYS temperature*.



NOTE: *Chassis Fan*

If the chassis fan is not installed or does not own the property that reports its rotation speed to the system, the message about chassis fan shown in *Hardware Monitor* software will also be given falsely. Please also turn off the item Chassis Fan in the circle.

Click the button **Apply** to confirm the settings.



After the procedures described above, the false message about system temperature (and about chassis fan, if no chassis fan or an unqualified chassis fan onboard) will not be given.