

FA33

MAINBOARD MANUAL

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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

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Handling Precautions

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Overview

The new Micro ATX, Socket 370 1st Mainboard FA33 supports a full range of the latest generation Intel® processors. Intel's new Celeron™ and lightning fast Coppermine processors of up to 1GHz*, are supported with Front Side Bus of 66 / 100 / 133 MHz.

The FA33 is based around the VIA Apollo Pro 694X North-Bridge and the VIA Super South. The North Bridge supports AGP 4X bandwidth which enables the increase of the AGP bus of up to 66x4 MHz, providing vastly improved data transfer speeds for graphics as well as reducing power consumption. The VIA Super South supports Sound Blaster Pro, which provides exceptional onboard audio capabilities.

With 2 DIMM, the FA33 affords a large 1.0 GB of memory support, while support for the PC133 protocol results in a highly promoted and advanced system performance. Ultra DMA 66/100 allows for high-range bandwidth and high-speed data transfer necessary for the improvement of idle CPU sequential transfers.

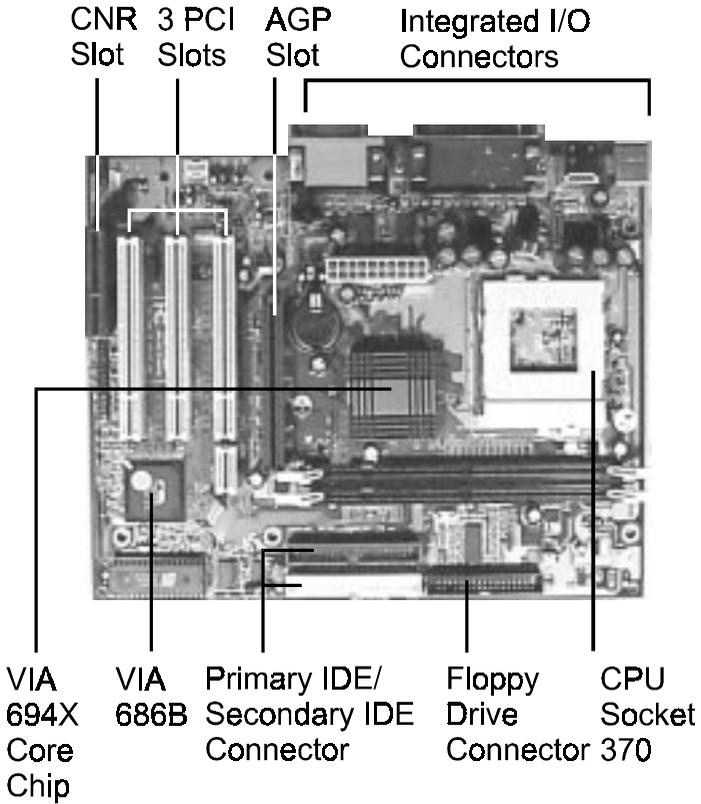
Extensive connectivity is provided by 2 serial ports, 1 parallel port, 1 PS/2 mouse and 1 keyboard connector, 4 USB connectors (2 in rear side, 2 in front side) and 1 media connector (MIDI/Game port, Line-in, Line-out, Mic-in). 1 AGP 4x, 1 CNR and 3 PCI provide additional expansion.

Package Checklist

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

- The mainboard
- One FDD cable
- One ATA/66 cable
- This user manual
- One HDD cable
- One Software CD (CD Pro)

The FA33 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 95/98SE, Windows ME, Windows 2000, Windows NT 4.0, and OS/2.

■ Leading Edge Chipset

VIA Apollo Pro 694X and 686B (with Sound Blaster Pro compatible embedded in) provide integrated DRAM controllers with new Dynamic Power Management Architecture (DPMA), concurrent PCI (2.0/2.1), AGP 1.0/2.0 compliant and USB.

■ Versatile Main Memory Support

Accepts up to 1.0 GB DRAM using two DIMMs of 16, 32, 64, 128, 256, 512MB with support for lightning-fast SDRAM (66/100/133MHz).

■ Flexible Processor Support

Onboard CPU socket supports:

Intel® Celeron™ PPGA/FC-PGA 433/500/533/566/600/633/667/700/733/766 MHz and up at 66 MHz FSB

Intel® CuMine™ FC-PGA 500/550/600/650/700/750/800/850 MHz and up at 100MHz FSB

Intel® CuMine™ FC-PGA 533/600/667/733/800/866/933 MHz/1GHz at 133MHz FSB

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

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

■ AGP, CNR, and PCI Expansion Slots

One AGP Bus expansion slot, three PCI Bus expansion slots, and one CNR Bus slot provide 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.

■ Convenient Rear Panel USB Connection Support

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

■ Remote Wake On LAN Support

Onboard Wake On LAN (WOL) connector allows remote management on your network even the system is power off. The feature provides a simpler and convenient control to LAN-based networks.

■ Onboard Accelerated Graphics Port (AGP)

The motherboard is installed one 32-bit AGP bus with a dedicated 66MHz/133MHz path from the graphics card to the system memory (in 4x mode) 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.*)

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.

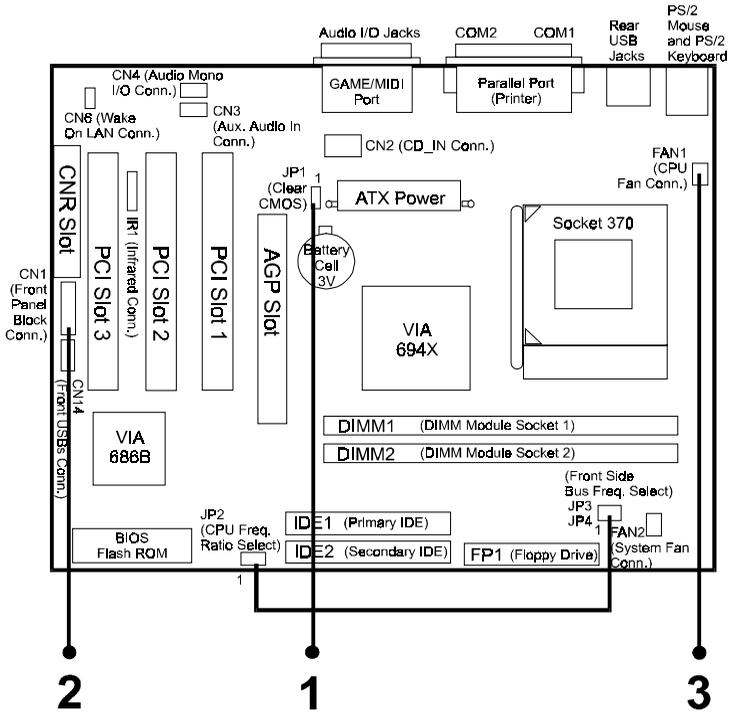
Mainboard components contain very delicate Integrated Circuit (IC) chips. To prevent static electricity from harming any of the mainboard's sensitive components, you should follow the following precautions whenever working on the computer:

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)

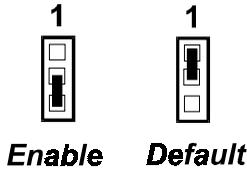
Mainboard Layout

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1). **Clear CMOS, CPU/Bus Ratio Select, FSB Speed Select**

Clear CMOS: JP1



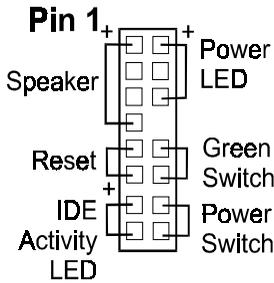
CPU/Bus Ratio Select: JP2

Ratio Pin Pair	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8
7-8	short	short	short	short	short	short	open	open	open	open	open
5-6	short	open	short								
3-4	short	short	open	open	open	open	short	short	short	short	open
1-2	open	open	short	short	open	open	short	short	open	open	short

FSB Speed Select: JP3, JP4

Jumper FSB	JP3	JP4
Auto	1-2	1-2
66 MHz	2-3	2-3
100 MHz	open	2-3
133 MHz	1-2	open

2). Front Panel Block Cable Connection



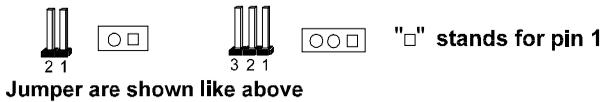
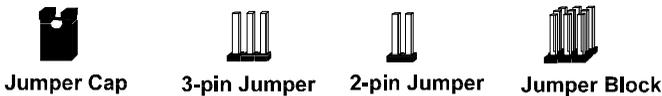
3). CPU Fan Installation

This connector is linked to the CPU fan. When the system is in suspend 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

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:



Jumpers in a Block

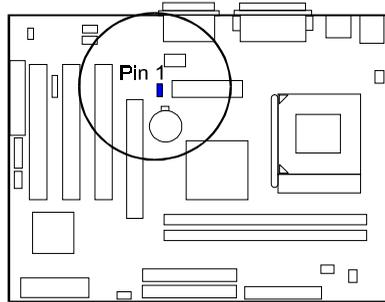


NOTE: Users are not encouraged to change the jumper settings not listed in this manual. Changing the jumper settings improperly may adversely affect system performance.

Clear CMOS Data: JP1

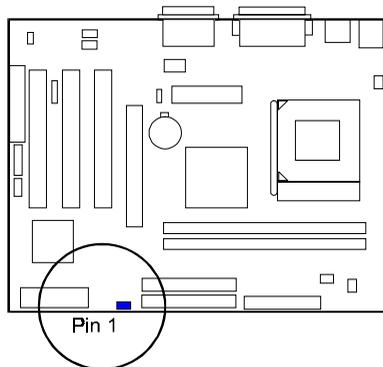
To clear the contents of the CMOS, please follows the steps below:

- (1). Turn off the power supply of the computer system.
- (2). Place the jumper cap on the pin pair 2-3 for 5 seconds, then put the cap back to the pin pair 1-2.
- (3). Turn on the power of the system.
- (4). Enter BIOS CMOS Setup Utility and Select Load Setup Defaults. Type Y and press Enter key.
- (5). Set the system configuration in the Standard CMOS Setup menu.



CPU/Bus Ratio Select: JP2

This feature allows users to select a CPU at a higher frequency clock ratio than that specification allows. It may or may not run at this ratio, depending on the quality of the processor and the extent to which the ratio has been overset; **however, this option will not work with those frequency-locked CPUs.**

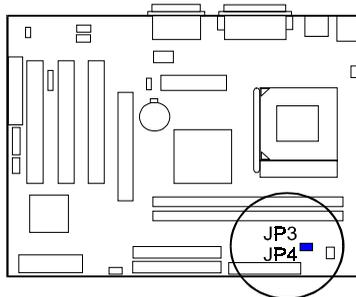


Ratio Pin Pair	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8
7-8	short	short	short	short	short	short	open	open	open	open	open
5-6	short	open	short								
3-4	short	short	open	open	open	open	short	short	short	short	open
1-2	open	open	short	short	open	open	short	short	open	open	short

FSB Speed Select: JP3, JP4

This feature allows users to select the front side bus speed. Set both jumper caps to pin pair 1-2 (Auto is the default setting) if you are not sure what front side bus frequency that your processor support.

Jumper FSB	JP3	JP4
Auto	1-2	1-2
66 MHz	2-3	2-3
100 MHz	open	2-3
133 MHz	1-2	open



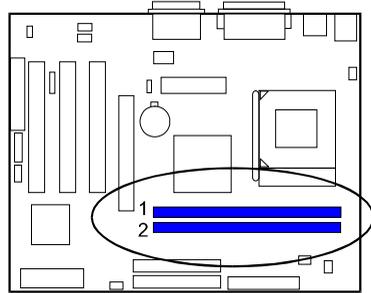
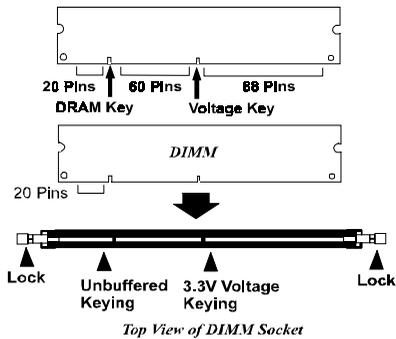
2). Install Memory Modules

This mainboard provides two onboard DIMM sockets supporting 3.3V (unbuffered) SDRAM DIMM modules. Either 32, 64, 128, 256, 512 MB DIMM can be installed on these three sockets. The maximum total memory supported is up to 1.0 GB.

Install and Remove DIMMs

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.

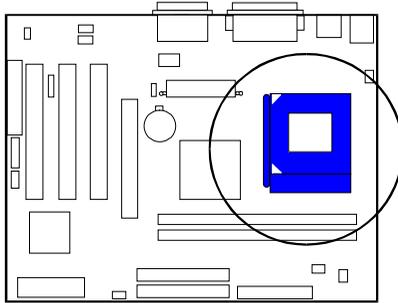
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Press the clips with both hands to remove the DIMM.

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.

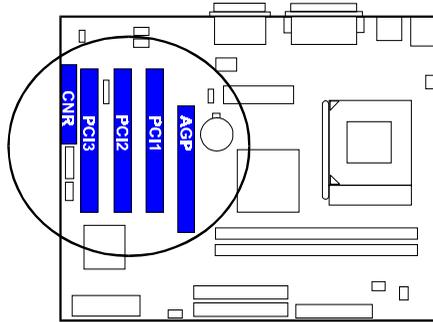


To install the CPU, do the following:

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 three PCI bus, one CNR bus and one AGP 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:

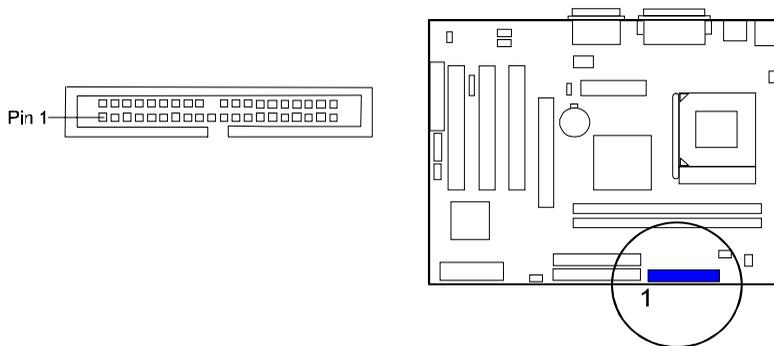
1. Remove the computer chassis cover and select an empty expansion slot.
2. Remove the corresponding slot cover from the computer chassis. Unscrew the mounting screw that secures the slot cover and pull the slot cover out from the computer chassis. Keep the slot cover mounting screw nearby.

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

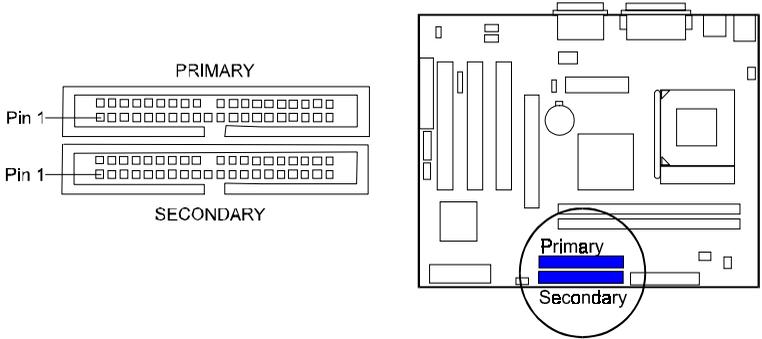
Floppy Diskette Drive Connector

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.



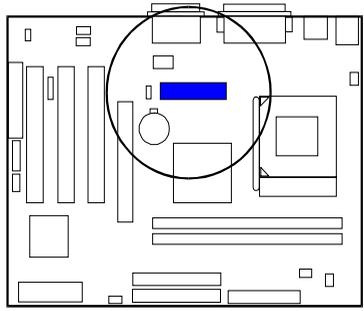
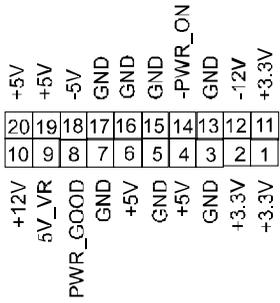
IDE Device Connectors

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.



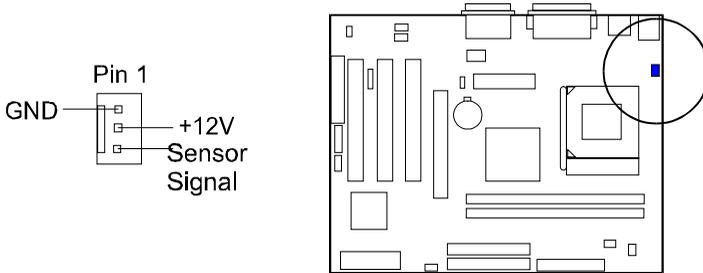
ATX Power Connector

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.



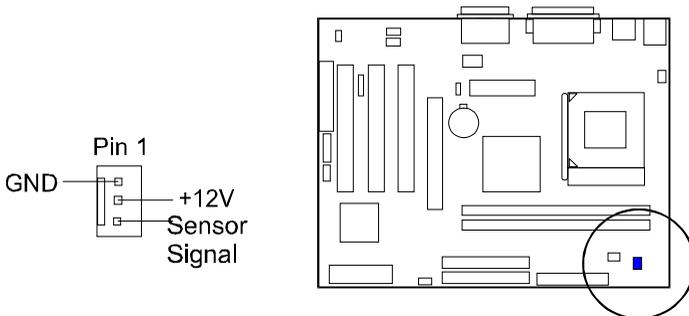
CPU Fan Connector

This connector is linked to the CPU fan. When the system is in 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.



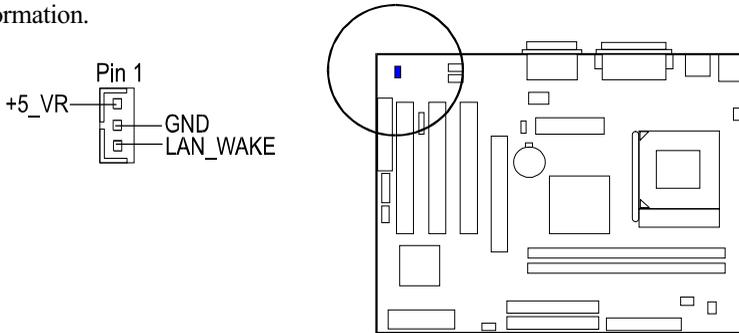
System Case Fan Connector

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

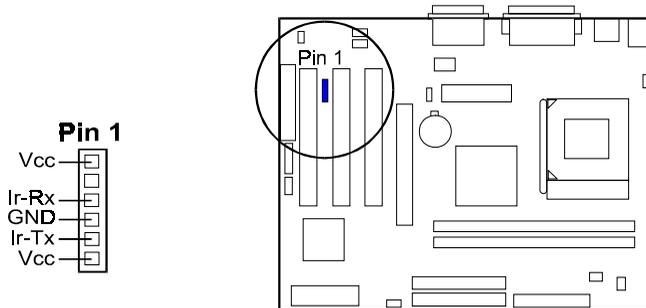
This 3-pin connector allows the remote servers to manage the system that installed this mainboard via your network adapter which also supports WOL. When you install such a LAN card, please read its installation guide for more information.



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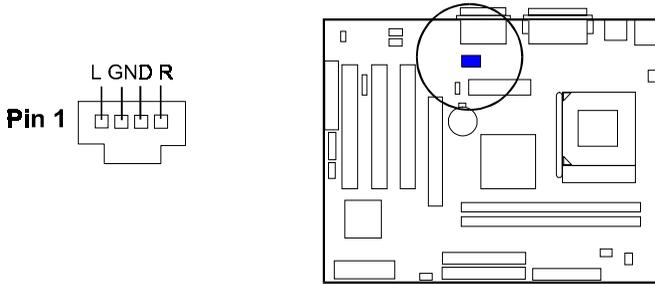
Infrared Connector

This 6-pin connector is used to link with your ID device to allow transmission of data to another system that also supports the IR feature. This module mounts to a small opening on system cases that support it.



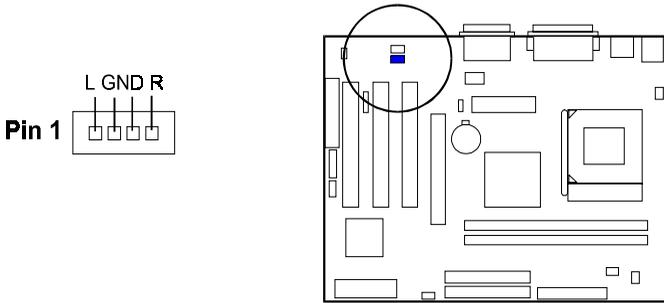
CD Audio-In Connector (CN2)

Use the audio cable enclosed with your CD drive to connect the CD drive with the mainboard. This will enable your CD drive audio function.



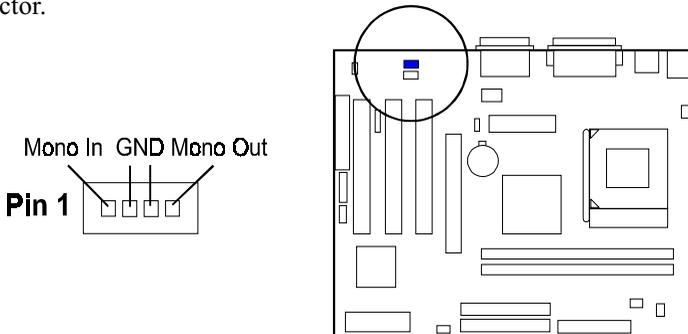
Auxiliary Audio-In Connector (CN3)

This connector is used for DVD ROM or add-on card.



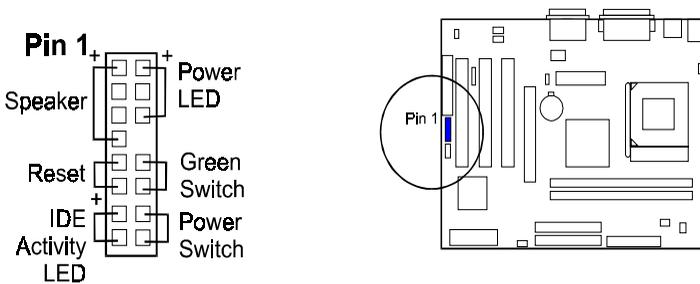
Audio Mono In/Out Connector (CN4)

This connector is used for add-on card, such as modem with mono in/out connector.



Front Panel Block Connector

This block connector includes the connectors for linking with IDE LED, power LED, power button, suspend button, reset button and speaker 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 is connected with the case speaker.

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

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

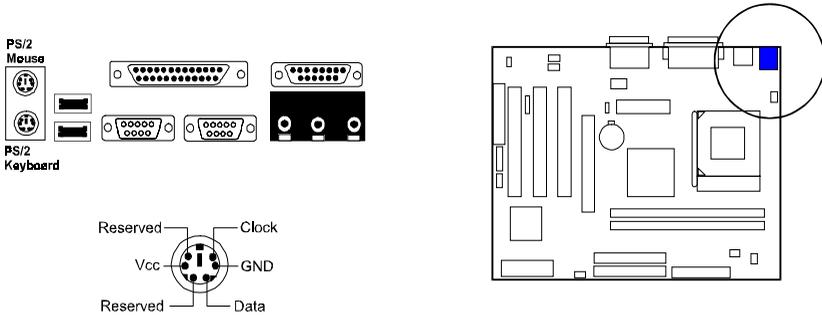
Power LED is connected with the system power indicator to indicate whether the system is on/off. It will blink when the system enters suspend mode.

Green Switch is connected with suspend mode switch.

Power Switch is connected with remote power (soft power) switch. Push this switch This switch allows the system to be turned on and off rather than using the power supply switch.

PS/2 Keyboard and Mouse Connector

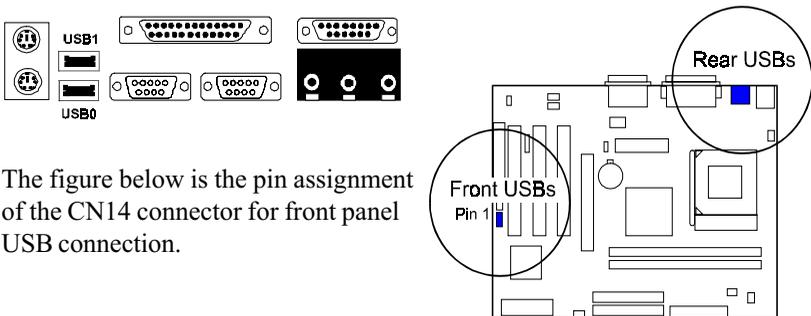
These two 6-pin female connectors are used for your PS/2 keyboard and PS/2 mouse.



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Universal Serial Bus Connectors

These two connectors integrated on the edge of the board are used for linking with USB peripheral devices. This board also provides a connector CN14 for linking with the two USB sockets on the front panel 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.

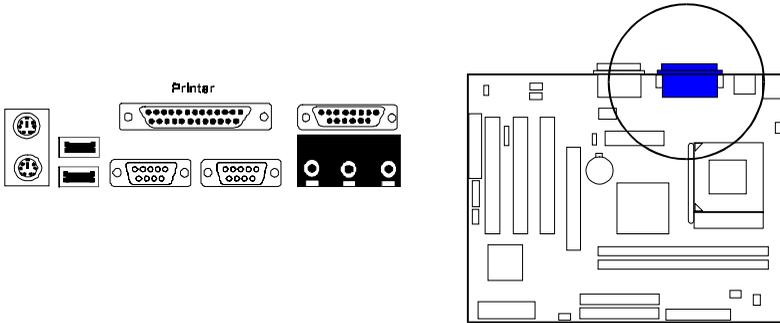


The figure below is the pin assignment of the CN14 connector for front panel USB connection.

Printer Connector

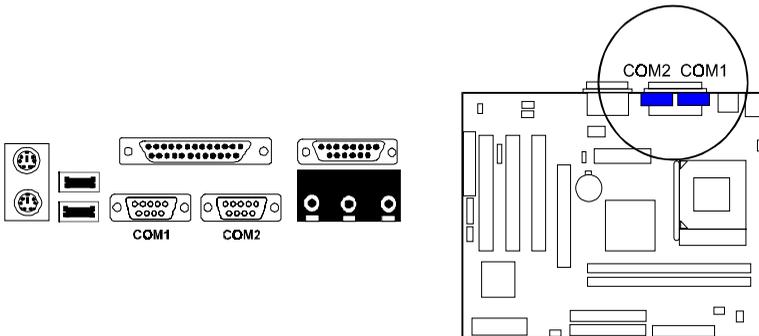
This 25-pin D-Sub female connector is attached to your printer.

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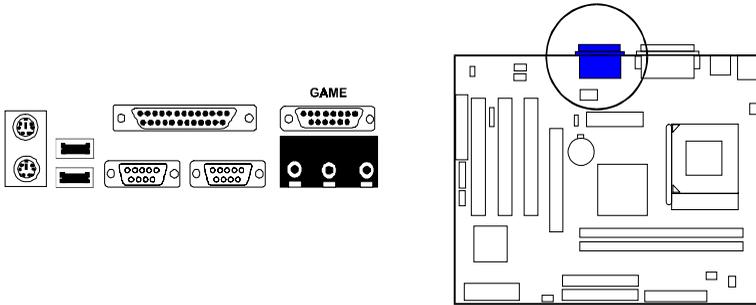
Serial Port Connectors

COM1 and COM2 allow you to connect your devices that use serial ports, such as a serial mouse or an external modem.



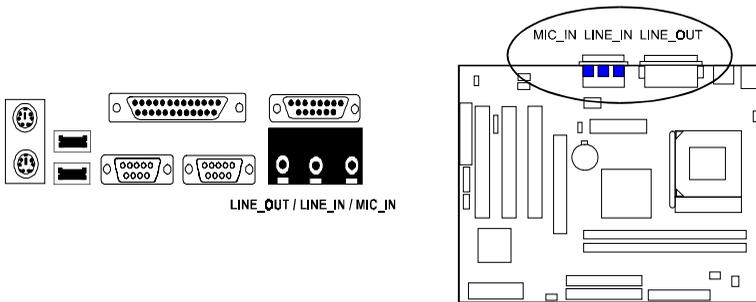
GAME/MIDI Connector

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



Audio I/O Jacks

LINE_OUT can be connected to headphones or preferably powered speakers. LINE_IN allows tape players or other audio sources to be recorded by your computer or played through the LINE_OUT. MIC_IN allows microphones to be connected for voice input.

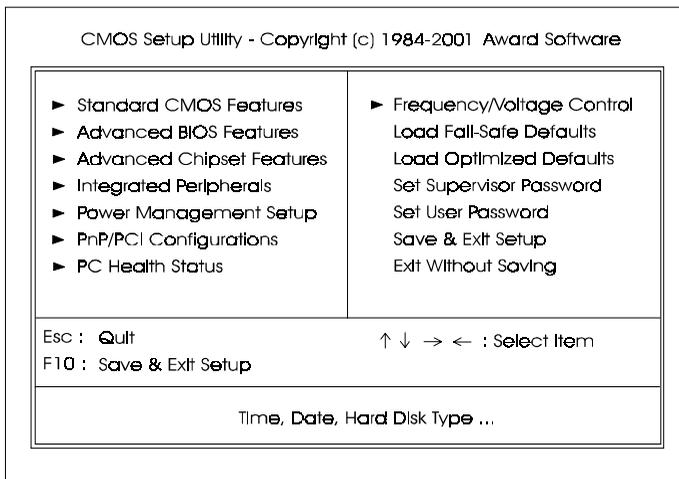


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BIOS Setup

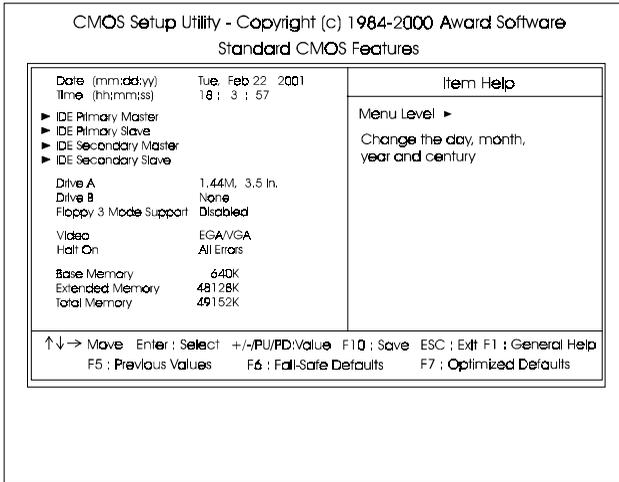
The mainboard comes with the Award BIOS chip that contains the ROM Setup information of your system. This chip serves as an interface between the processor and the rest of the mainboard's components. This section explains the information contained in the Setup program and tells you how to modify the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

CMOS Setup Utility



A Setup program, built into the system BIOS, is stored in the CMOS RAM. This Setup utility program allows changes 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 **PgUp** or **PgDn** keys to select the value you want in each item.

Hard Disk Configurations

Capacity: The hard disk size. The unit is Mega Bytes.

Cylinder: The cylinder number of the hard disk.

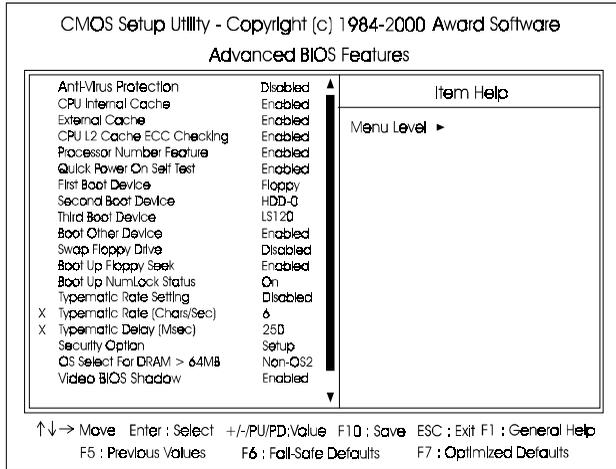
Head: The read/write head number of hard disk.

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.

Advanced BIOS Features



Anti-Virus Protection

This feature starts the virus scan tool to detect if boot virus in boot sector of the first hard disk drive when booting up.

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 an optional cache SRAM. 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

This feature enables BIOS to perform automatic CPU Level 2 cache ECC checking. The options are: Enabled, Disabled.

Processor Number Feature

If a Pentium III processor is installed on this mainboard, the system BIOS will allow other utilities to access the Intel Pentium III serial number while this feature set at Enabled. 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 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, LAN, Disabled.

Second 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, LAN, Disabled.

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, 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 during boot up. 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.

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.

Video BIOS Shadow

Allows the BIOS to copy the video ROM code of the add-on video card to the system memory for faster access.

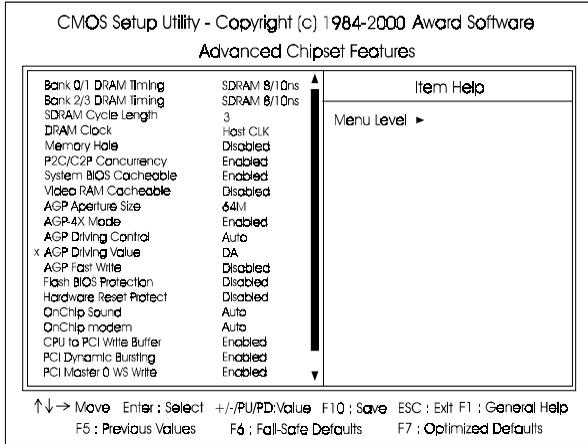
The options are: Enabled, Disabled.

C8000-CBFFF Shadow to DC000-DFFFF Shadow

Allows the BIOS to copy the BIOS ROM code of the add-on card to the system memory for faster access. To use this options, it is needed to know the memory address range used by the BIOS ROM of each card.

The options are: Enabled, Disabled.

Advanced Chipset Features



Bank 0/1 DRAM Timing; Bank 2/3 DRAM Timing

This feature allows you to select the DRAM read/write speed.
The options are: SDRAM 8/10ns, Normal, Medium, Fast, Turbo.

SDRAM Cycle Length

This item will function only when SDRAM DIMM/s are installed on the mainboard (BIOS auto detection). If the CAS latency of your SDRAM DIMM is 2, set it at 2 to enhance your system performance. If the CAS latency of your SDRAM DIMM is 3, stay with the default setting, 3.
The options are: 3, 2.

DRAM Clock

The feature allows users to select the DRAM clock.
The options are: HCLK-33M, HCLK+33M, Host CLK.

Memory Hole

When you install a Legacy ISA card, this feature allows you to select the memory hole's address range of the ISA cycle when the processor accesses the selected address area. Please read your card manual for detail information. When disabled, the memory hole at the 14MB (or 15MB) address will be treated as a DRAM cycle when the processor accesses the 14~16MB (or 15~16MB) address area.

The options are: 15M - 16M, Disabled.

P2C/C2P Concurrency

This feature allows users to set PCI/AGP Master-to-CPU/ CPU-to-PCI/ AGP Slave concurrent. The options are: Enabled, Disabled.

System BIOS Cacheable

When enabled, allows the ROM area F000H-FFFFH to be cacheable when cache controller is activated. The options are: Enabled, Disabled.

Video RAM Cacheable

When enabled, allows the system to use the video RAM from cache RAM, instead of the slower DRAMs or ROMs.

The options are: Enabled, Disabled.

AGP Aperture Size

It allows you to select the main memory frame size for AGP use.

The options are 4M, 8M, 16M, 32M, 64M, 128M.

AGP-4X Mode

This feature allows user to select the AGP mode be to 2x or 4x when an AGP add-in card installed. However, when set at Enabled and the AGP card only support 1x mode, the system will fall back 1x mode automatically.

The options are: Enabled, Disabled.

AGP Driving Control / AGP Driving Value

These two features allow user to improve the performance of AGP card manually by pressing Page Down/Page UP key if necessary.

The options of AGP Driving Control are: Auto, Manual.

AGP Fast Write

When enabled, this feature allows you to set AGP fast write made. The options are: Enabled, Disabled.

Flash BIOS Protection

When enabled, this feature will keep the BIOS data unchanged. When set at Disabled, the BIOS data can be changed. The options are: Enabled, Disabled.

OnChip Sound

Use this feature to disable the onboard audio chip function if you install your sound card. The options are: Enabled, Disabled.

OnChip Modem

Set at Enabled when use the modem riser card on the CNR slot. Set at Disabled to stop this feature. The options are: Enabled, Disabled.

CPU to PCI Write Buffer

When enabled, allows data and address access to the internal buffer of the system controller; so the processor can be released from the waiting state. The options are: Enabled, Disabled.

PCI Dynamic Bursting

When enabled, the PCI controller allows Bursting PCI transfer if the consecutive PCI cycles come with the address falling in same 1KB space. This improves the PCI bus throughput. The options are: Enabled, Disabled.

PCI Master 0 WS Write

When enabled, allows a zero-wait-state-cycle delay when the PCI master drive writes data to DRAM. The options are: Enabled, Disabled.

PCI Delay Transaction

Enable this feature to abort the current CPI 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. The options are: Disabled, Enabled.

PCI#2 Access #1 Retry

When enabled, the AGP (PCI#2) access to PCI (PCI#1) will be retried until the maximum count. The options are: Disabled, Enabled.

AGP Master 1 WS Write

When enabled, the AGP bus master write access to DRAMs will add one wait-state cycle. The options are: Disabled, Enabled.

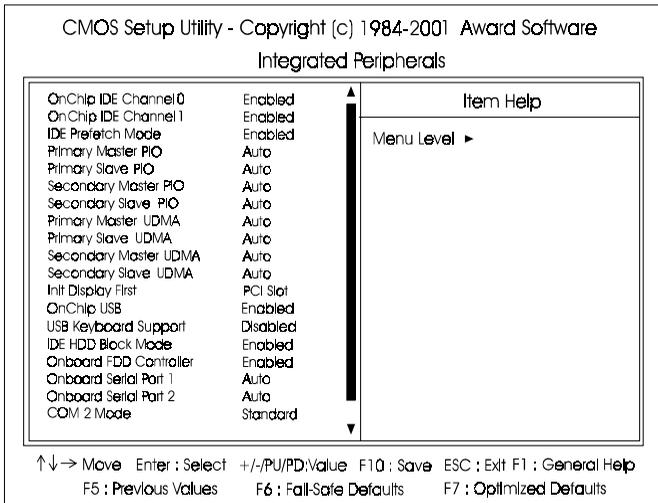
AGP Master 1 WS Read

When enabled, the AGP bus master read access to the DRAMs will add one wait-state cycle. The options are: Disabled, Enabled.

Memory Parity/ECC Check

This field enables BIOS to perform automatic memory checking upon detection of ECC or parity DRAM. The options are: Disabled, Enabled.

Integrated Peripherals



OnChip IDE Channel0

When enabled, allows you to use the onboard primary PCI IDE. If a hard disk controller card is used, set at Disabled.

The options are: Enabled, Disabled.

OnChip IDE Channel1

When enabled, allows you to use the onboard secondary PCI IDE. If a hard disk controller card is used, set at Disabled.

The options are: Enabled, Disabled.

IDE Prefetch Mode

When set at Enabled, it allows data to be posted to and prefetched from the primary IDE data ports. Data prefetching is initiated when a data port read occurs. The read prefetch eliminates latency to the IDE data ports and allows them to be performed back to back for the highest possible PIO data transfer rates. The first data port read of a sector is called the demand read. Subsequent data port reads from the sector are called prefetch reads. The demand read and all prefetch reads must be of the same size (16 or 32 bits).

The options are: Enabled, Disabled.

Primary Master PIO

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

Primary Slave PIO

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

Secondary Master PIO

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

Secondary Slave PIO

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

Primary Master UDMA

Allows you to select the first PCI IDE channel of the first master hard disk mode or to detect it by the BIOS if the hard disk supports UDMA (Ultra DMA, faster than DMA). The options are: Auto, Disable.

Primary Slave UDMA

Allows you to select the first PCI IDE channel of the first slave hard disk mode or to detect it by the BIOS if the hard disk supports UDMA (Ultra DMA, faster than DMA). The options are: Auto, Disable.

Secondary Master UDMA

Allows you to select the second PCI IDE channel of the secondary master hard disk mode or to detect it by the BIOS if the hard disk supports UDMA (Ultra DMA, faster than DMA). The options are: Auto, Disable.

Secondary Slave UDMA

Allows you to select the second PCI IDE channel of the secondary slave hard disk mode or to detect it by the BIOS if the hard disk supports UDMA (Ultra DMA, faster than DMA). The options are: Auto, Disable.

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.

OnChip USB

Set at Enabled if you use some devices, such as a USB keyboard. If set at Disabled, the system allows you to use your USB keyboard to boot up and to enter the BIOS setting menu to enable this feature; but once missed the booting stage with this feature disabled, your USB devices will not work. The options are: Enabled, Disabled.

USB Keyboard Support

Set at Enabled when you use a USB keyboard; if not, set at Disabled.
The options are: Enabled, Disabled.

IDE HDD Block Mode

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

Onboard FDD 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: 3F8/IRQ4, 3E8/IRQ4, 2F8/IRQ3, 2E8/IRQ3, Disabled.

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: 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, 3F8/IRQ4, Disabled.

IR Function Duplex

This feature is available only if the above item, UART2 Mode, is set at ASKIR or HPSIR. It allows you to select the infrared data transaction way.
The options are: Half, Full.

TX, RX Inverting Enable

This feature is available only if the above item, UART2 Mode, is set at ASKIR or HPSIR. It allows you to select the active signals of the reception end and the transmission end.
The options are: No, Yes; Yes, Yes; No, No; Yes, No.

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: 378/IRQ7, 278/IRQ5, 3BC/IRQ7, Disabled.

Onboard Parallel Port Mode

Allows you to connect with an advanced printer.

The options are: Normal, EPP, ECP, ECP/ ECP.

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.

Parallel Port EPP Type

This feature allows you to select the EPP type for the parallel port.

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

Onboard Legacy Audio

Allow use the audio function under DOS mode.

The options are: Enabled, Disabled.

Sound Blaster

This feature allows you to select the Sound Blaster, if the onboard Legacy audio chosen. The options are: Enabled, Disabled.

SB I/O Base Address

This feature allows you to select the SB I/O base address, if the onboard Legacy audio chosen. The options are: 220H, 240H, 260H, 280H.

SB IRQ Select

This feature allows you to select the SB IRQ, if the onboard Legacy audio chosen. The options are: IRQ 5, IRQ 7, IRQ 9, IRQ 10.

SB DMA Select

This feature allows you to select the SB DMA channel, if the onboard Legacy audio chosen.

The options are: DMA 1, DMA 2, DMA 3, DMA0.

MPU-401

This feature allows you to select MPU-401, if the onboard Legacy audio chosen. The options are: Disabled, Enabled.

MPU-401 I/O Address

This feature allows you to select the MPU-401 I/O address, if the onboard Legacy audio chosen.

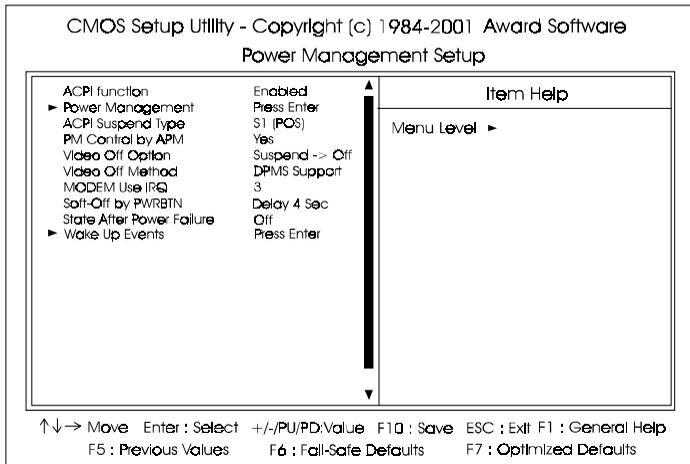
The options are: 300-303H, 310-313H, 320-323H, 330-333H.

Game Port (200-207H)

This feature allows you to select the game port (200-207H), if the onboard Legacy audio chosen.

The options are: Enabled, Disabled.

Power Management Setup



ACPI function

This item allows you to disable the ACPI function.

The options are: Enabled, Disabled.

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.

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: Disable, 1 Min..15 Min.

Doze Mode

When disabled, the system will not enter Doze mode. The specified time option defines the idle time the system takes before it enters Doze mode. The options are: Disable, 10, 20, 30, 40 Sec, 1, 2, 4, 6, 8, 10, 20, 30, 40 Min, 1 Hour.

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: Disable, 10, 20, 30, 40 Sec, 1, 2, 4, 6, 8, 10, 20, 30, 40 Min, 1 Hour.

ACPI Suspend Type

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

PM Control by APM

The option No allows the APM (Advanced Power Management) specification be ignored. Selecting Yes will allow the BIOS wait for APM's prompt before it enters Doze mode, Standby mode, or Suspend mode. If the APM is installed, it will prompt the BIOS to set the system into power saving mode when all tasks are done. The options are: No, Yes.

Video Off Option

This feature provides the selections of the video display power saving mode. The option Suspend - Off allows the video display to go blank if the system enters Suspend mode. The option All Modes - Off allows the video display to go blank if the system enters Doze mode or Suspend mode. The option Always On allows the video display to stay in Standby mode even when the system enters Doze or Suspend mode.

The options are: Suspend - Off, All Modes -> Off, Always On.

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 Support* 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: V/H SYNC+Blank, DPMS Support, Blank Screen.

MODEM Use IRQ

This feature allows you to select the IRQ# to meet your modem's IRQ#.

The options are: 3, 4, 5, 7, 9, 10, 11.

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: Delay 4 Sec, Instant-Off.

State After Power Failure

The item allows you to select the state that your personal computer returns to after a power failure. If set at Off, the system will not boot after a power failure. If set On, the system will restart after power failure.

The settings are: Auto, On, Off.

VGA

ON enables the power management timers when a no activity events is detected in the VGA. *OFF* disables the PM timer even if a no activity event is detected. The options are: OFF, ON.

LPT & COM

LPT/COM enables the power management timers when a no activity event is detected in the LPT and COM ports. *LPT (COM)* enables the power management timers when a no activity event is detected in the LPT (COM) ports. *NONE* to disable the PM timer even if a no activity event is detected. The options are: LPT/COM, LPT, COM, NONE.

HDD & FDD

ON will enable the power management timers when no activity event is detected in the hard drive and floppy drive. *OFF* disables the PM timer even if no activity event is detected. The options are: OFF, ON.

PCI Master

To set this feature at ON activates that Power Management feature (PM) wake-up event for the PCI bus master card. The options are: OFF, ON.

PowerOn by PCI Card

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

Power On By Modem/Lan

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

Power On By Alarm

Enabled allows you to set the time the system will be turned on from the system power-off status. The options are: Enabled, Disabled.

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.

Resume 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.

Primary INTR

When the Primary interrupt (the Primary option in the feature of IRQ# Activity) generates will make the Power Management feature (PM) wake-up event on. If set at OFF, all the primary interrupt will not wake-up the system. The options are: OFF, ON.

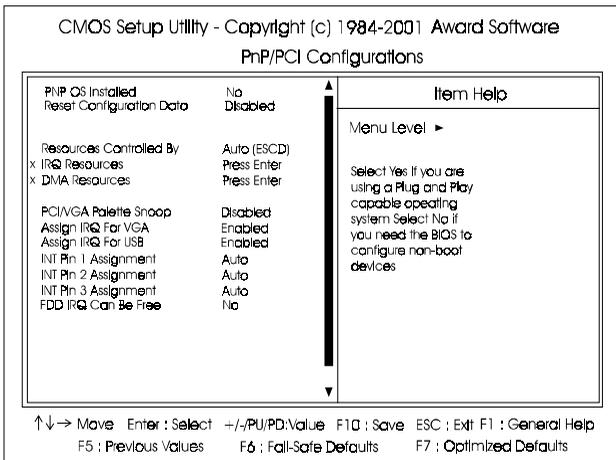
IRQs Activity Monitoring

After the time period which you set, the system advances from doze mode to suspend mode in which the CPU clock stops and the screen display is off. At this moment, if the IRQ activity occurs, the system goes back to full-on mode directly.

If the IRQ activity which is defined as Non Primary takes place, the system remains off until the corresponding IRQ handler finishes.

The options of IRQ 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 are: Enabled, Disabled.

PnP/PCI Configurations



PNP OS Installed

If your operating system is a Plug-and-Play one, such as Windows NT, Windows 95, select Yes. The options are: No, Yes.

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.

The manual options of **IRQ- / DMA-** assigned to are: PCI/ISA PnP, Legacy ISA.

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.

Assign IRQ For VGA

If your PCI VGA card does not need an IRQ, select Disabled; therefore, an IRQ can be released for the system use.

The options are: Enabled, Disabled.

Assign IRQ For USB

If your USB devices do not need an IRQ, select Disabled; therefore, an IRQ can be released for the system use.

The options are: Enabled, Disabled.

SLOT 1/2/3 Use IRQ No.

This feature allows you to assign the PCI IRQ numbers for PCI slots. Selecting the default, Auto, allows the PCI controller to automatically allocate the IRQ numbers.

The options are: Auto, 3, 4, 5, 7, 9, 10, 11, 12, 14, 15.

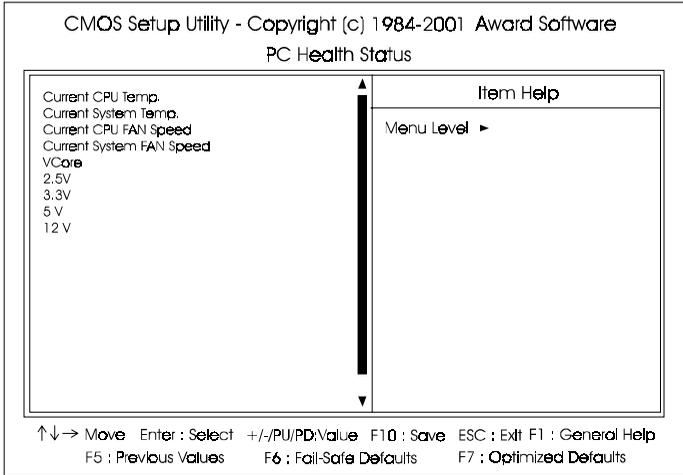
FDD IRQ Can Be Free

This feature allows you to choose if the FDD IRQ is able to be freed up.

If set at Yes, it does not allow the IRQ to be free.

The options are: No, Yes.

PC Health Status

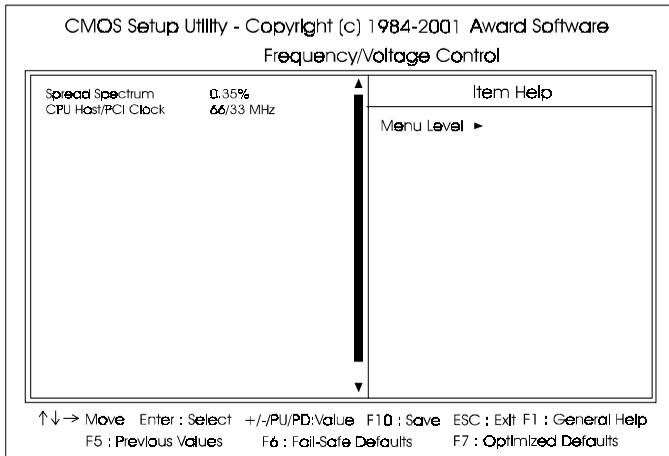


It allows you and technicians to monitor data provided by the BIOS on this mainboard. Some of them are not user-configurable.

Current CPU Temp./ Current System Temp. / Current CPU FAN Speed / Current System FAN Speed / Vcore

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

Frequency/Voltage Control



Spread Spectrum

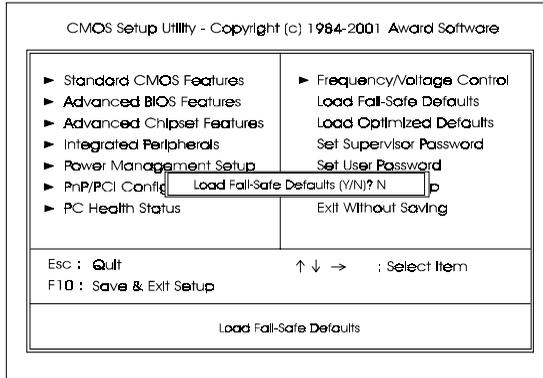
This feature is used to set the spread Spectrum to be center spread type or down spread type.

The options are: disable, 0.35%, 0.40%, 0.45%, 0.49%, 0.54%, 0.59%, 0.63%, 0.68%, 0.735%, 0.77%.

CPU Host/PCI Clock

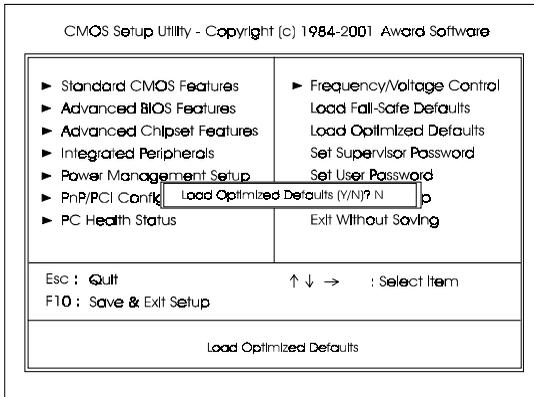
This feature allows you to set the CPU/PCI clock frequency. The default setting, Default, will detect your CPU/PCI clock frequency automatically. The recommended CPU clock frequencies are 66 and 100MHz. The other options may effect the system performance. If you set a unappropriate option which leads to a booting problem, keep pressing the Insert key until the display appears will solve it. The options are: Default, 66/33 MHz, 75/37 MHz, 83/41 MHz, 100/33 MHz, 103/34 MHz, 112/33 MHz, 124/41MHz, 133/33 MHz, 140/35 MHz, 150/37 MHz.

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 settings which provide the best system performance.

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)?**