

PM-F45A

English Manual

- Intel 845/ICH2 Chipset
- 133MHz Bus System
- Support P4 CPU
- Support AGP 4X
- Support UDMA 33/66/100
- AC'97 Codec on Board
- ATX Form Factor

V1.0



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Federal Communications Commission Statement

This device complies with Part 15 of FCC Rules. Operation of this device is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning! The use of shielded cables for the connection of the monitor to the graphics card is required to assure compliance with FCC regulation changes or modifications to this authority to operate this equipment.

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Introduction

1-1 Summary

Thanks for purchasing this PM-F45A motherboard based on Intel® 845 chipset. It comes with Socket 478 Pentium 4. The total memory is up to 3 GB and AGP 4X is supported. High-performance 82801 BA (ICH2) (South Bridge) supports ATA100 Fast Write. The onboard sound card complies with AC'97 and supports 6-ch, while the integrated LAN function ensures convenient use of Ethernet. Moreover, six PCI 2.2 expansion slots, four USB connectors guarantee your PC multi purposes. With its high performance, quality, stability and low power consumption, the PM-F45 is designed specifically for value-conscious users, and is preferred among competition.

1-2 Accessories

The motherboard kit includes the following items:

- ✓ One PM-F45A motherboard
- ✓ One user's manual
- ✓ One UDMA100 data cable
- ✓ One FDD cable
- ✓ One driver CD



Note If any item missed or damaged, please contact your vendor or our business representative.

1-3 Specifications

Form Factor	<ul style="list-style-type: none"> ● ATX
Board Size	<ul style="list-style-type: none"> ● 30.5 cm×22 cm
CPU	<ul style="list-style-type: none"> ● Intel Pentium 4 with Socket 478 ● 400 MHz system bus clock ● 1.3~2.0 GHz or higher host clock
Chip	<ul style="list-style-type: none"> ● Intel 845 chipset <ul style="list-style-type: none"> ➢ MCH 82845 chip ➢ ICH2 82801 BA chip ➢ FWH 82802 AB chip ● Winbond W 83627 HF chip monitors hardware and controls rotate speed of fans ● Avance ALC 200 chip <ul style="list-style-type: none"> ➢ Digital-to-analog convert and analog-to-digital convert support ➢ 16-bit full-duplex ➢ Advanced 3D audio ➢ AC'97 2.1 compliance ➢ S/N>=95 dB
System Memory	<ul style="list-style-type: none"> ● Three 168-pin DIMMs, maximum memory of 3 GB support ● 3.3V SDRAM (PC100, PC133) support
Audio	<ul style="list-style-type: none"> ● Supports Windows DirectSound / DirectSound 3D ● AC'97 compliance ● Provides LINE OUT, LINE IN, MIC IN, CD IN and AUX IN connectors
Expansion Slot	<ul style="list-style-type: none"> ● Five parallel PCI slots ● One CNR (Communication and Network Riser) slot ● One AGP slot (only supports 4X, 1.5V)
BIOS	<ul style="list-style-type: none"> ● Award BIOS ● Windows 95 / 98 PnP function

	<ul style="list-style-type: none"> ● SCSI power down ● 4 MB flash EPROM for BIOS upgrade ● DMI 2.0 (Desktop Management Interface) support
PS/2 Connector	<ul style="list-style-type: none"> ● One onboard PS/2 keyboard connector ● One onboard PS/2 mouse connector
USB Port	<ul style="list-style-type: none"> ● Two onboard USB connectors ● Two offboard USB connectors
Serial Port	<ul style="list-style-type: none"> ● Two serial ports: COM1, COM2 ● Compatible with UART NS16C550A
Parallel Port	<ul style="list-style-type: none"> ● One parallel port <ul style="list-style-type: none"> ➢ Supports SPP (Standard Parallel Port) mode ➢ Supports EPP (Enhanced Parallel Port) mode ➢ Supports ECP (Extended Capabilities Port) mode
Game / MIDI	<ul style="list-style-type: none"> ● One GAME / MIDI port
IrDA Interface	<ul style="list-style-type: none"> ● Provides IrDA connector ● Supports peripherals compliant with HPSIR / ASKIR
IDE Interface	<ul style="list-style-type: none"> ● Two PCI IDE connectors support four EIDE / IDE devices ● PIO mode 3 / 4; up to 16.6 MB/s data transmitting rate ● Supports ATA 33 / 66 / 100 device ● Bus Master reduces the load in data transmitting, and makes system more efficient ● Supports ATAPI CD-ROM, LS-120 and ZIP FDD
FDD Interface	<ul style="list-style-type: none"> ● Supports drive inches / format with <ul style="list-style-type: none"> ➢ 3.5 in-720 KB / 1.44 MB / 2.88 MB ➢ 5.25 in-360 KB / 1.2 MB
Power Connector	<ul style="list-style-type: none"> ● ATX 12V power connector <ul style="list-style-type: none"> ➢ One master power connector (20-pin) ➢ Two auxiliary power connectors

Battery	<ul style="list-style-type: none"> ● 3V Lithium battery (CR-2032)
Fan Connector	<ul style="list-style-type: none"> ● CPU fan connector ● Power fan connector ● Chassis fan connector
Wake-up Function	<ul style="list-style-type: none"> ● Wake-up on LAN
CPU Voltage Switching Regulator	<ul style="list-style-type: none"> ● Adjusts CPU core voltage from 1.3V to 2.05V ● Over-current / over-voltage protection
System Monitor	<ul style="list-style-type: none"> ● Monitors system / processor temperature and warns overheating ● Monitors 3.3V / 5V / 12V / 2.5V core voltage and warns over-voltage ● Controls fan on / off automatically ● Accurately show temperature, voltage and rotate speed of fans



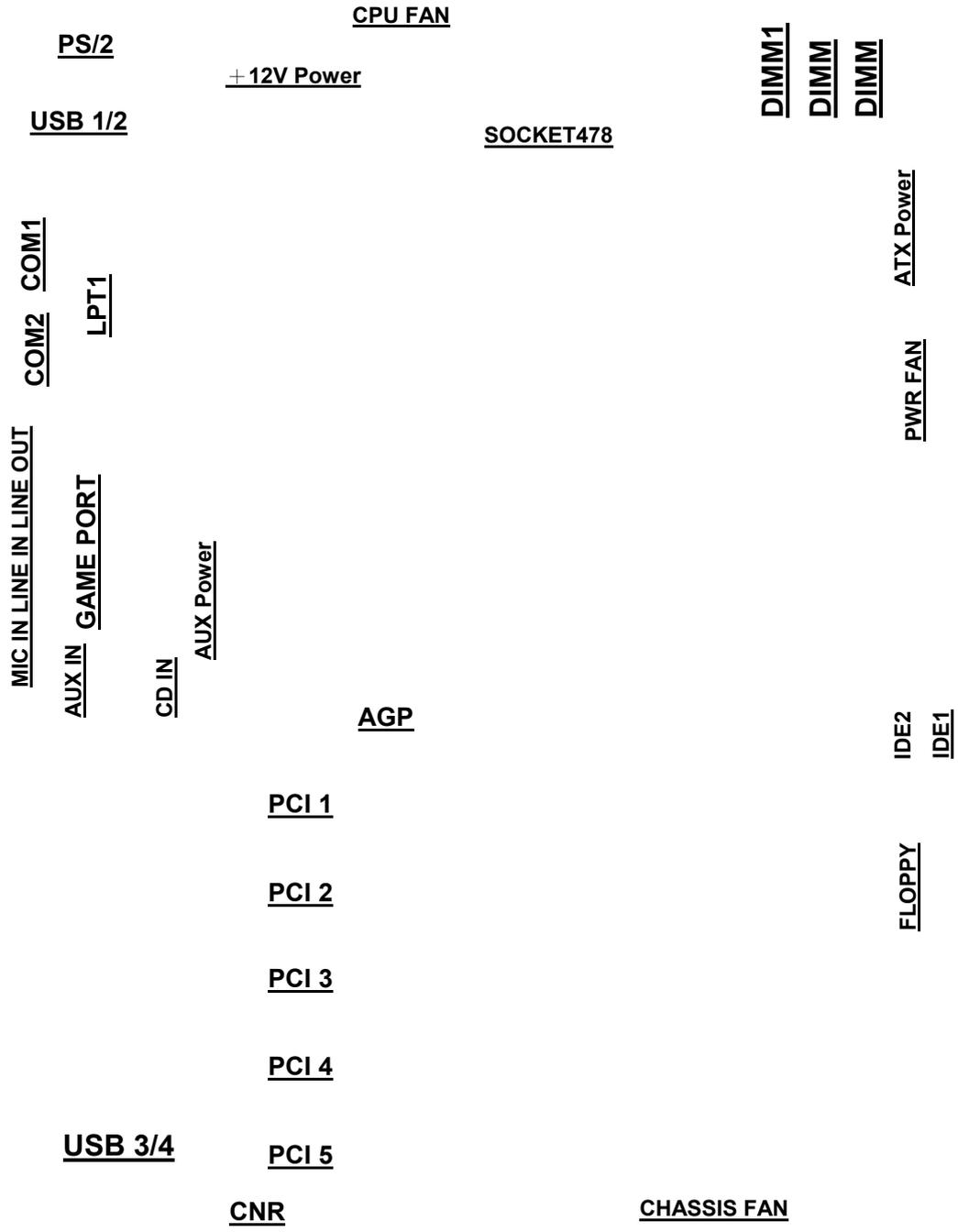
Note

Intel 845 / 850 chip only supports 1.5V 4X rather than 3.3V 2X AGP VGA card (such as those based on nVIDIA Vanta LT, 3Dfx Voodoo3, Banshee, SiS 6326, Matrox MG 400 chip.

1-4 Features

- ✧ Pentium 4 CPU
- ✧ DMI 2.0 (Desktop Management Interface)
- ✧ Dual-function PWR-BTTN
- ✧ LAN Wake-up
- ✧ ACPI / power management
- ✧ Resume mode after power down
- ✧ CNR slot

1-5 Layout



PM-F45A Layout



The processor, hard disk, expansion card and other components are subject to damages by static electricity. Users should do something anti-static electricity, such as taking on anti-static electricity ring, or keeping the motherboard touching the metal chassis of PC to eliminate static electricity.

Please check if the package of the motherboard is damaged, and make sure that everything is fine before installation.

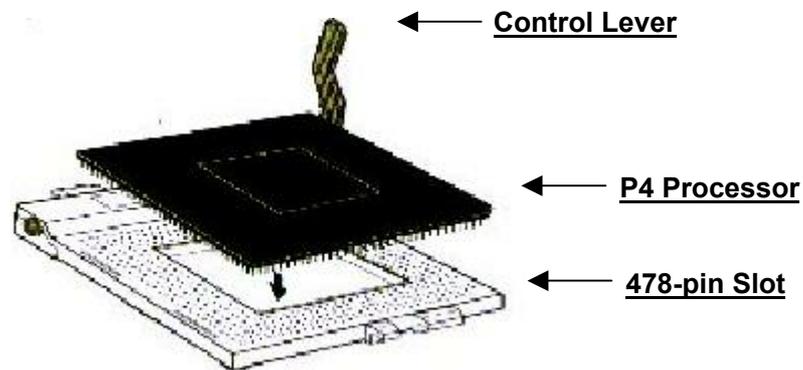
Hardware Installation

This section shows you a step-by-step procedure on how to install your system. Please read carefully and follow each step accordingly.

2-1 CPU

2-1.1 P4 CPU Installation

The motherboard adopts Socked 478 CPU. Please refer to the figure to install.



- ⇒ Uplift the control lever;
- ⇒ Align the CPU corner (with triangle sign) and the control lever, and then insert CPU into the slot;
- ⇒ Put the lever down and close.

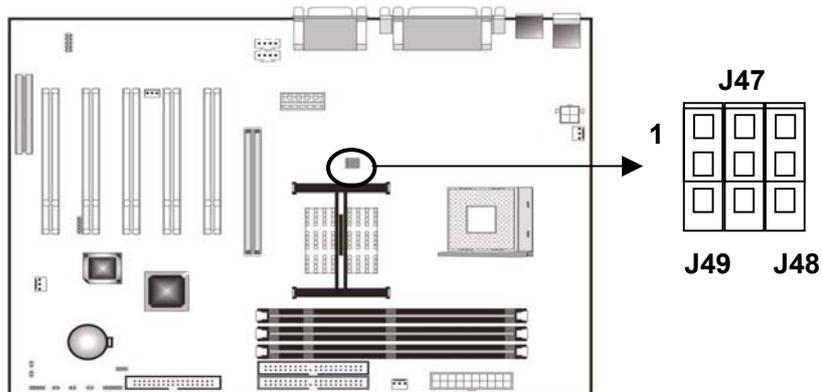
2-1.2 CPU Frequency

$$\text{System Frequency} = \text{CPU Clock Ratio} \times \text{CPU Clock Frequency}$$

Available settings are:

- ✓ CPU clock frequency: 66 / 100 / 133 / 200 MHz; the motherboard supports up to 200 MHz over-clock.
- ✓ CPU clock ratio: Auto-detected and specified by motherboard (for locked CPU);
Set in BIOS Setup (for unlocked CPU).

2-1.3 Clock Frequency Setup

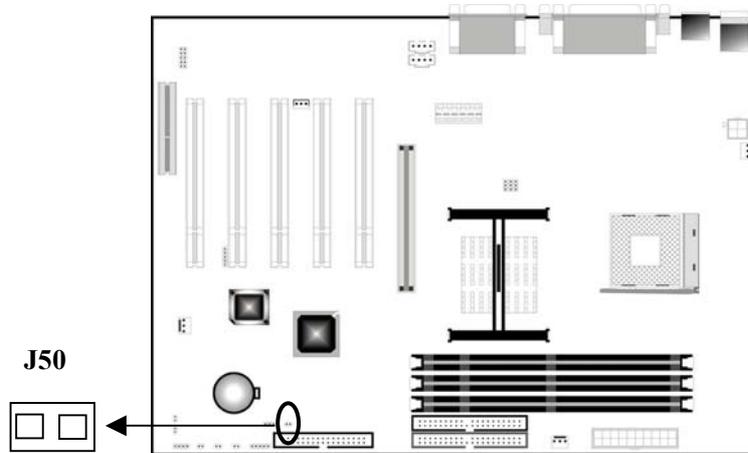


Clock Frequency	J47	J48	J49
66 MHz	Disable pin 2-3	Disable pin 2-3	Disable pin 2-3
100 MHz	Disable pin 1-2	Disable pin 2-3	Disable pin 2-3
133 MHz	Disable pin 1-2	Disable pin 1-2	Disable pin 2-3
200 MHz	Disable pin 2-3	Disable pin 1-2	Disable pin 2-3

- * Pin 1-2 of J47, J48 and J49 disabled: CPU will operate with 66 MHz clock frequency.
- * Pin 1-2 of J47, pin 2-3 of J48 and J49 disabled: CPU will operate with 100 MHz.
- * Pin 1-2 of J47 and J48, pin 2-3 of J49 disabled: CPU will operate with 133 MHz.
- * Pin 2-3 of J47 and J49, pin 1-2 of J48 disabled: CPU will operate with 200 MHz.



Except the normal CPU clock frequencies (recommended), any others are permitted only for testing or end-user over-clock using, which may cause the system instability or serious damages.

2-1.4 CPU Over-heating Protection

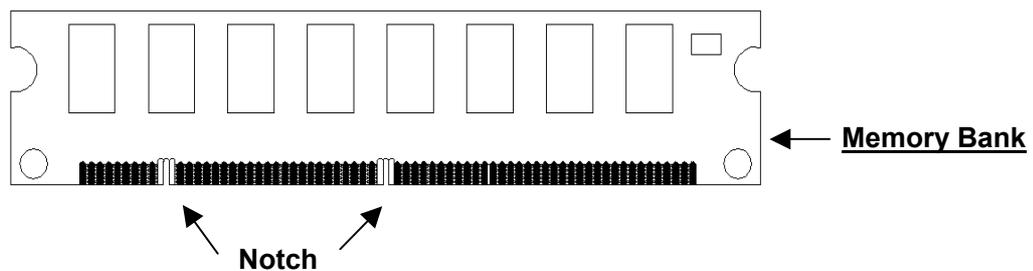
This motherboard has CPU over-heating protection function. When the temperature overruns what is permitted, the motherboard will force to shutdown to protect CPU. To enable this function, close J50; to disable this function, open J50.

2-2 Memory

This motherboard provides three 168-pin DIMMs, supporting DIMM memory bank of 64 MB, 128 MB, 256 MB and 512 MB. The total supported memory is up to 3 GB.

2-2.1 Memory Installation Procedure

- ⇒ The DIMM slot has two asymmetric notches, therefore the DIMM memory bank is only fit in one direction;
- ⇒ Insert the DIMM memory bank vertically into the DIMM slot, and then press it down steadily and evenly;
- ⇒ The plastic clip at the side of the DIMM slot will automatically close down.



2-2.2 Type

This motherboard only supports 168-pin 3.3V non-buffered SDRAM.

2-2.3 Speed

This motherboard supports PC100 or PC133 memory.

Note *The memory speed should not be less than the selected CPU clock frequency speed. In case 66 MHz or 100 MHz is chosen as CPU clock frequency, then you'd better select PC100 or PC133 DIMM; if 133 MHz is chosen, then select PC133 DIMM.*

2-2.4 Memory Auto-detection by BIOS

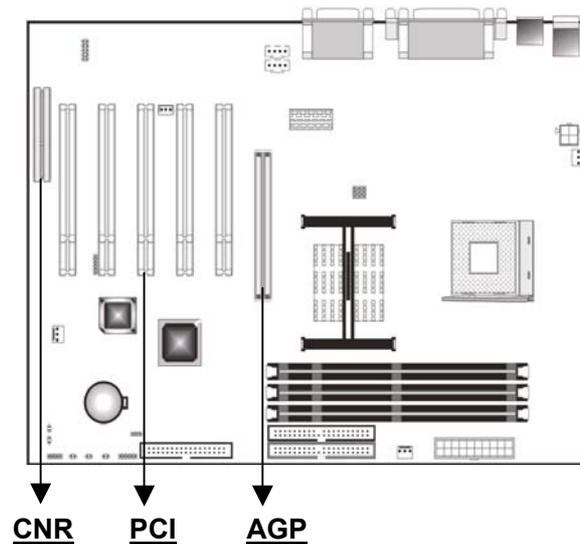
The BIOS can automatically detect the DIMM memory size and type, no need of changing any hardware or software settings.

2-2.5 Suggested SDRAM Combination

The following combinations are suggested:

DIMM Location	DIMM Size	Max. Memory Size
DIMM 1	64 MB, 128 MB, 256 MB, 512 MB, 1 GB	1 GB
DIMM 2	64 MB, 128 MB, 256 MB, 512 MB, 1 GB	1 GB
DIMM 3	64 MB, 128 MB, 256 MB, 512 MB, 1 GB	1 GB
Total System Memory Size	DIMM 1 + DIMM 2 + DIMM 3	3 GB

2-3 Expansion Slot



★ AGP Slot

This motherboard has one AGP slot for +1.5V AGP 1X, 2X, 4X. Make sure that the operating voltage of your AGP card is +1.5V.

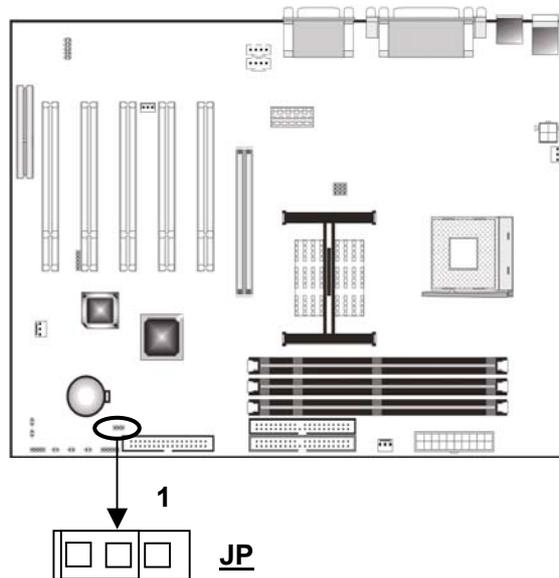
★ PCI Slot

This motherboard has five expansion slots for 32-bit PCI interface card. Any network card, SCSI card, sound card, USB card can be inserted into these slots, making certain that the card complies with PCI interface specifications.

★ CNR Slot

This motherboard has one CNR slot for CNR interface card with integrated audio, network function. This slot is shareable, and does not take up the space for PCI slot.

2-4 CMOS Clear



JP4	Description
Disable pin 1-2	Keep CMOS
Disable pin 2-3	Clear CMOS

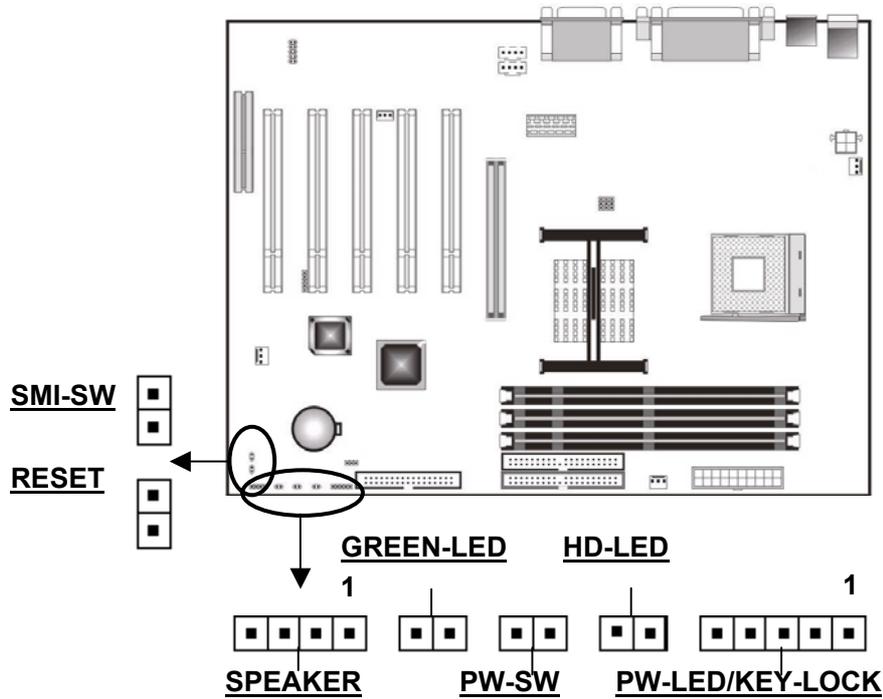
To clear CMOS, please follow the steps below:

- ⇒ Power off and unplug the power cord;
- ⇒ Set JP4 at pin 2-3 for 10-15 seconds;
- ⇒ Set JP4 back at pin 1-2;
- ⇒ Plug the AC power cord to the chassis;
- ⇒ Power on and system will load the BIOS defaults.



Do not clear CMOS while the system is powered on, otherwise it will cause damage to the motherboard.

2-5 Panel Connector



⊕ Power LED and key lock: PW-LED, KEY-LOCK

Connect PW-LED cable to pin 1-3. When system operates normally, the indicator is always on; when system is in sleep mode, the indicator is flickering. Connect KEY-LOCK cable to pin 4-5 for security use.

Pin	Description
1	+ 5V
2	Ground
3	Ground
4	Key-lock
5	Ground

⊕ HD Activity Indicator: HD-LED

HD-LED shows the activity state of hard disk. Do not power computer off while HD-LED is flickering.

Pin	Description
1	+ 5V
2	Activity Signal

⊕ ATX Power Switch: PWR-SW

By setting this switch in Power Management Setup menu of BIOS Setup, it may enable soft-off function or suspend type.

Pin	Description
1	+ 5V
2	Ground

⊕ ACPI Suspend Switch: GREEN-LED

This indicator will be always on when system is in suspend type.

Pin	Description
1	+ 5V
2	Ground

⊕ Speaker: SPEAKER

When system operates normally, it will send out beep, otherwise, it will send out a warning.

Pin	Description
1	Data Signal
2	N.C.
3	Ground
4	+ 5V

⊕ Reset Switch: RESET

It is used to restart system no need of powering down. Be sure not to reboot when HD-LED are flickering.

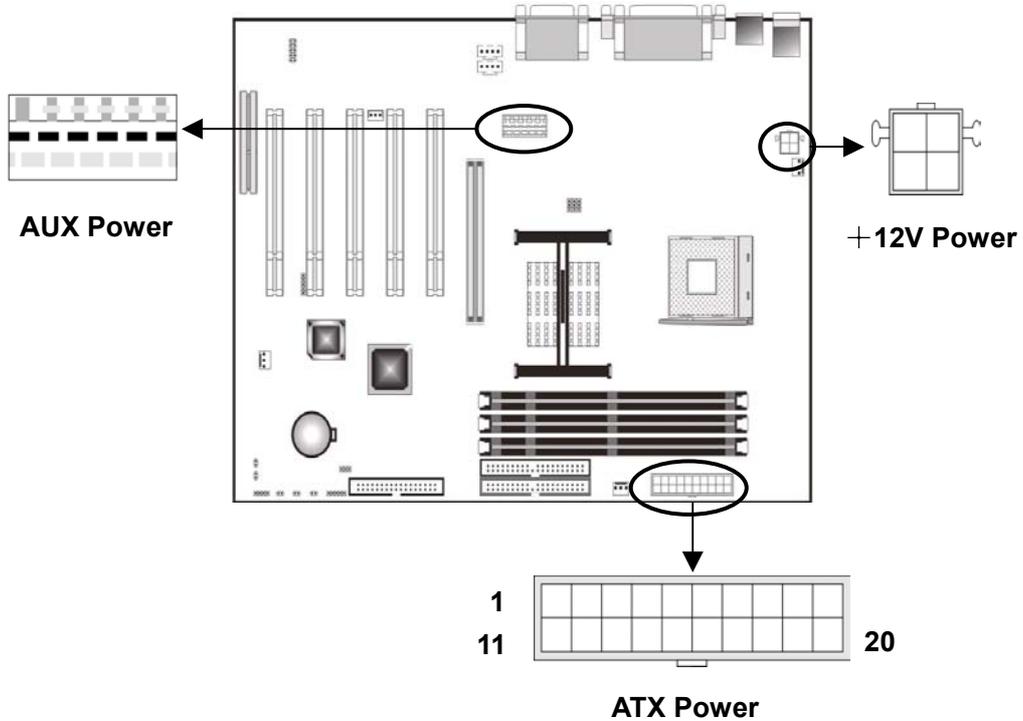
Pin	Description
1	Reset
2	Ground

⊕ Power-saving Switch: SMI-SW

Through this switch, you may force computer into power-saving mode or green mode to save power and prolong system components' service life.

Pin	Description
1	Save Power
2	Ground

2-6 Power Connector (ATX 12V)



Plugs of an ATX 12V supplier should be connected in specified direction to these power connectors. ATX 12V power has two more connectors than ATX power: AUX power connector and +12V power connector (specially for CPU).

ATX power connector supports a 20-pin plug:

Pin	Description	Pin	Description
1	3.3V	11	3.3V
2	3.3V	12	-12V
3	Ground	13	Ground
4	5V	14	PS-ON
5	Ground	15	Ground
6	5V	16	Ground
7	Ground	17	Ground
8	Power OK	18	-5V
9	5VSB	19	5V
10	12V	20	5V

+ 12V power connector supports
a 4-pin plug:

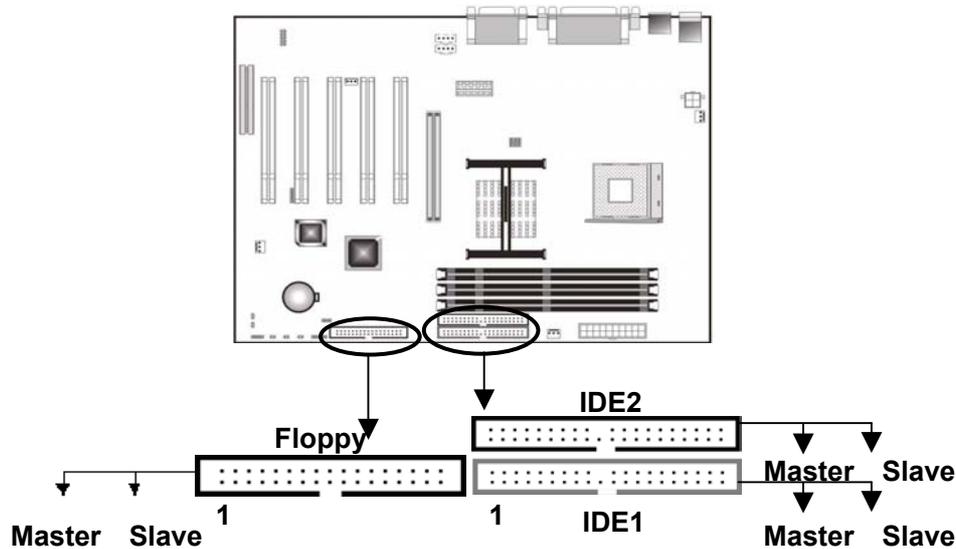
Pin	Description
1	Ground
2	Ground
3	12V
4	12V

AUX power connector supports
a 6-pin plug:

Pin	Description
1	Ground
2	Ground
3	Ground
4	3.3V
5	3.3V
6	5V



Please make sure to provide 20 amps current for + 5V pin and 1 amp at least for -5VSB pin. In addition, 230 watts (or higher) power supplier is suggested. If there are many peripherals, please use 300 watts supplier.

2-7 HD / FDD Interface: IDE1, IDE2, Floppy

This motherboard has two PCI IDE interfaces, each of which may connect one IDE cable. While one cable may connect two IDE devices (such as HD, CD-ROM, ZIP or MO). ATA-33, ATA-66 or ATA-100 hard disk drive is supported. The motherboard also has a FDD interface to connect two floppy disk drives.

FDD and PCI IDE interfaces are specially designed to prevent improper installation, and you should put the first foot of the cable correspondingly to the first foot of IDE / FDD interface (the colored one).

☞ IDE1 (Primary IDE Interface)

The first hard disk drive is always connected to IDE1, which could connect a master drive and a slave drive. If another device exists, you would have to set the jumper of the device to slave mode (please refer to drive manual).

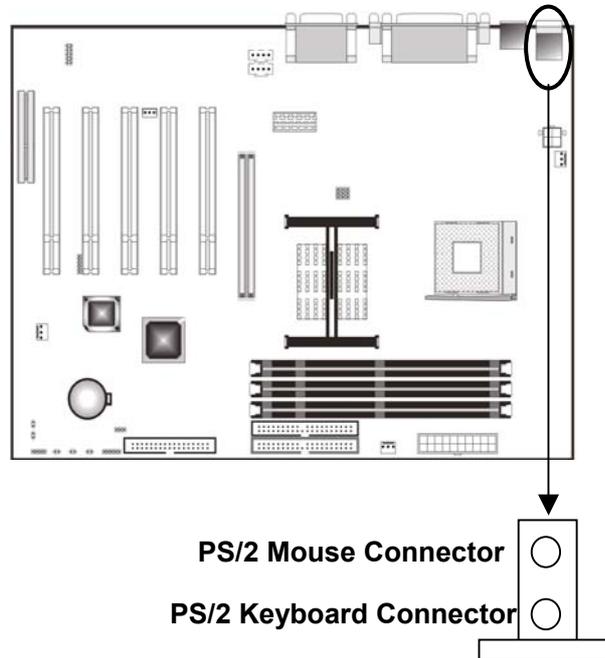
☞ IDE2 (Secondary IDE Interface)

IDE2 could also connect a master drive and a slave drive.



It is suggested to use the same brand when you use two or more hard disks, otherwise the hard disk will not operate normally owing to bad compatibility.

2-8 PS / 2 Mouse, Keyboard Interface

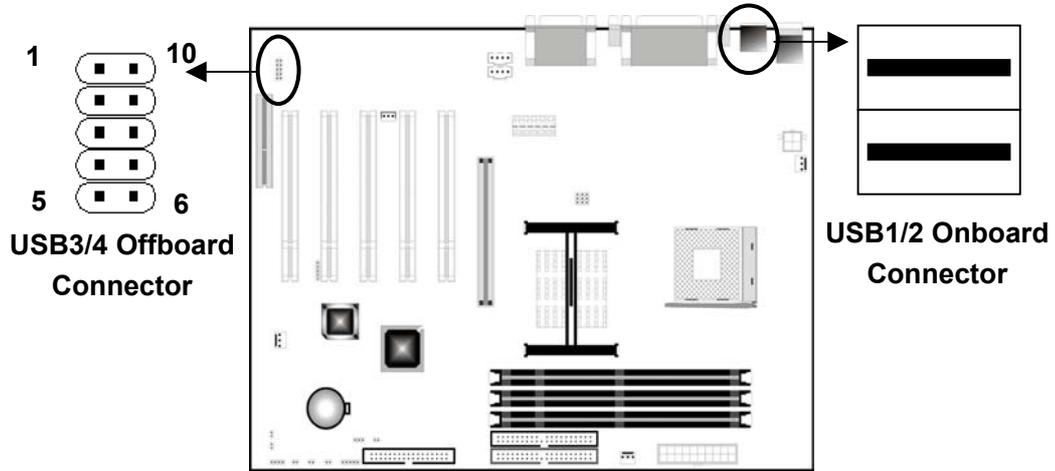


There are one PS/2 keyboard interface and one PS/2 mouse interface on the motherboard. Please connect PS/2 mouse to the onboard green 6-pin interface, and connect PS/2 keyboard to the onboard purple 6-pin interface. If AT keyboard is used, a converter is necessary.

Note

In order to avoid damage to motherboard, please power the system off while connecting or removing mouse or keyboard.

2-9 USB Port

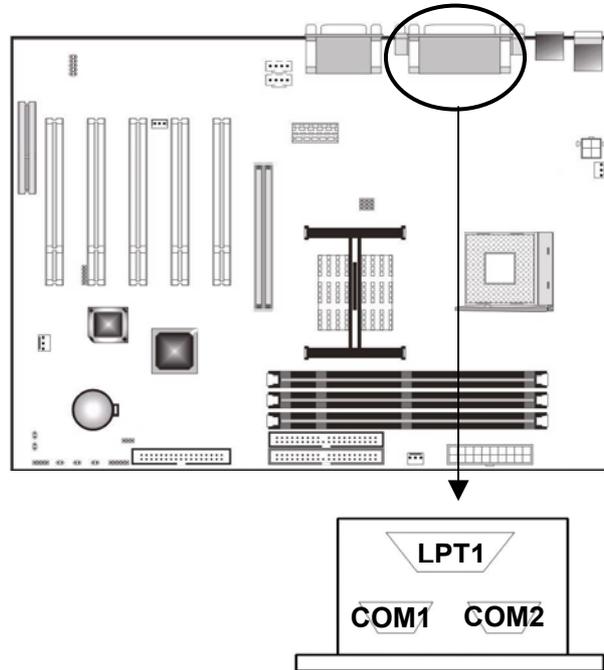


Through USB port, system could exchange data with many PnP peripheral devices. Every computer may connect 127 USB devices at most, such as keyboard, mouse or others.

For USB1/2 onboard connector, you may connect USB device directly to this pin, while for USB 3/4 offboard connector, you need to connect one end of the USB cable to this pin, then connect the other end (with two USB connectors) to USB device.

Pin	Description	Pin	Description
1	Power	6	Power
2	USBP3-	7	USBP4-
3	USBP3+	8	USBP4+
4	Ground	9	Ground
5	N.C	10	N.C

2-10 Serial Device, Parallel Device Connector



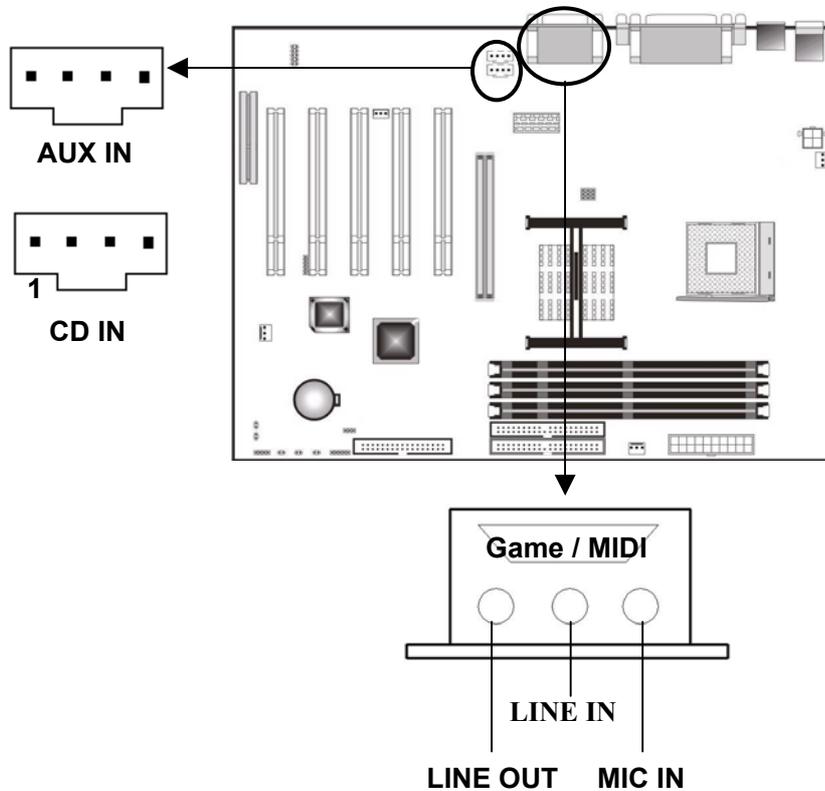
✧ Serial Port Interface: COM1, COM2

The COM1 and COM2 are 16550A high-speed communication ports, which can send / receive 16-bit data. They are two male 9-pin DIN interfaces and you may connect them to mouse or external modem.

✧ Parallel Port Interface: LPT1

It is a female 25-pin parallel port, which is a standard print connector and supports Enhanced Parallel Port (EPP) and Extended Capabilities Parallel Port (ECP). You may set its mode in Integrated Peripherals menu of BIOS Setup.

2-11 Audio / Game Interface



➤ Games Joystick / MIDI Port

You may connect a joystick or MIDI device to this pin.

➤ MIC IN / Line In / Line Out Port

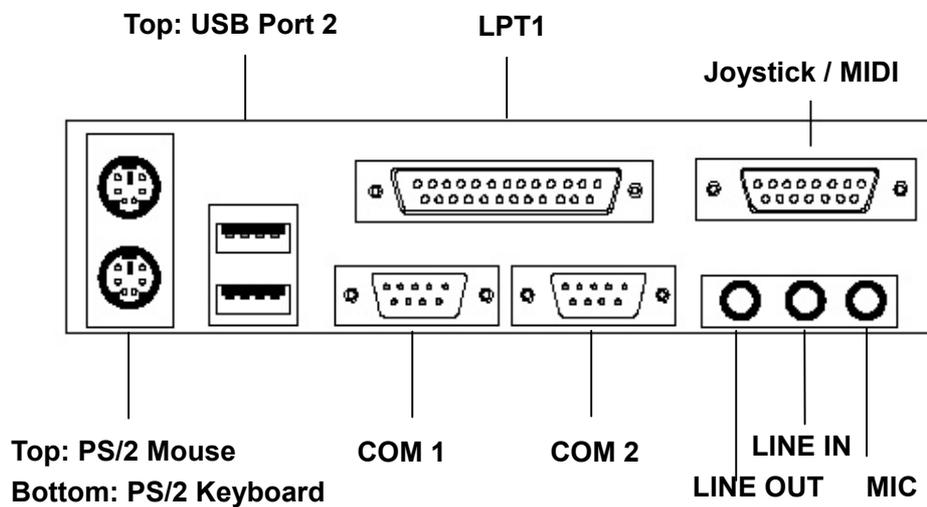
MIC IN is a microphone connector. Line In is the connector for inputting audio signals from external CD player, cassette player or other audio devices to PC. Line Out is the connector to connect speaker or earphone.

➤ **CD IN / AUX IN Port**

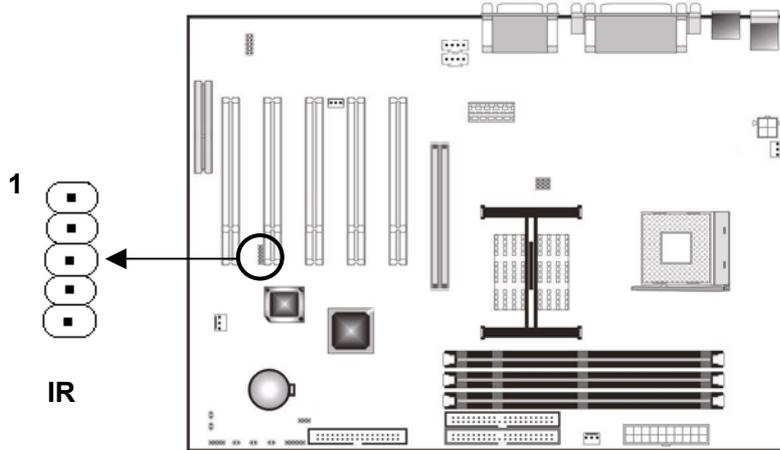
You may connect an audio cable from audio connector of CD-ROM to CD IN. When playing CD, the signals received by sound card are not analog signals any more, but the digital signals directly from CD-ROM. Therefore, you could listen to more fair-sounding digital music.

AUX IN accepts the signals from CD-ROM, TV tuner, or MPEG card.

Pin	Description
1	Right Channel
2	Ground
3	Ground
4	Left Channel



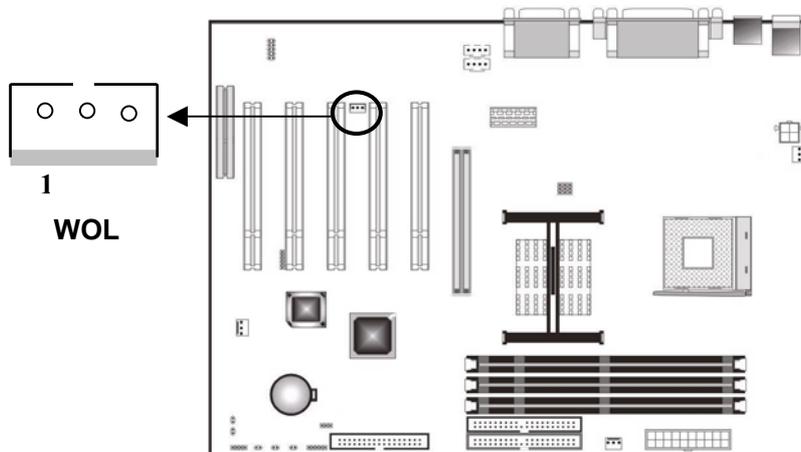
2-12 IR Interface



The motherboard provides 5-pin IR mode interface to connect wireless transferring and IR receiving devices. The IrDA allows transfer speed of 115 K/s in a meter. To use this device, you should enable IR function in BIOS Setup.

Pin	Description
1	5VDC
2	N.C
3	IR Receiver
4	Ground
5	IR Transmitter

2-13 Wake-up on LAN (WOL)



Wake-up on LAN function may be enabled in system soft-off mode. In system suspend mode, the function may also be enabled by IRQ or DMA halt on. The network card should have remote wake-up function cooperating with WOL interface to enable Wake-up on LAN function. For this end, connect the WOL interface of network card to this pin, and set “Power ON by Ring/LAN” to “Enable” in BIOS Power Management Setup.

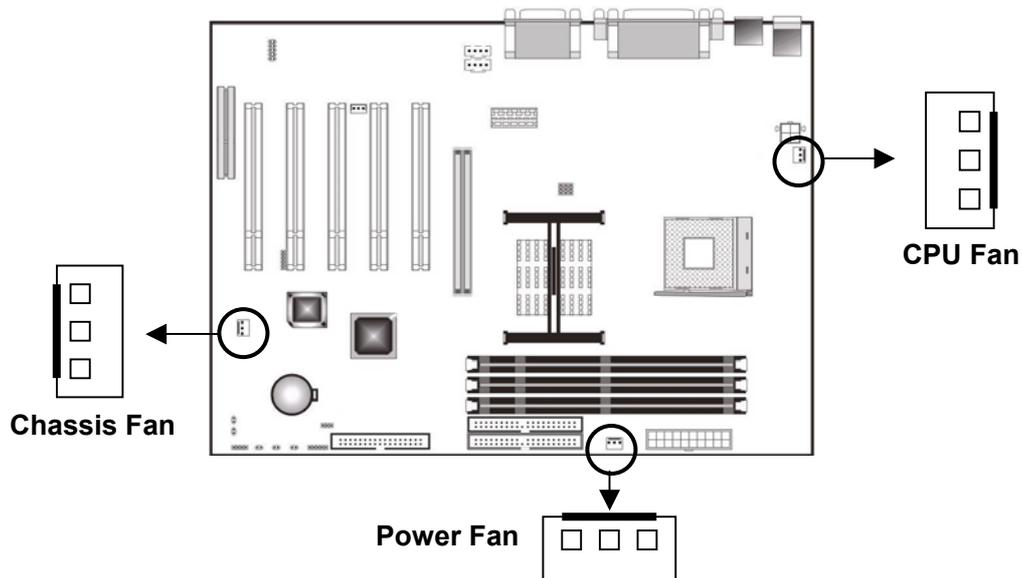
Pin	Description
1	+ 5VSB
2	Ground
3	WOL



Be sure enough power for this function: provide 720 amps current at least for 5VSB pin.

2-14 Fan Connector

The motherboard has three 3-pin fan connectors (for CPU fan, power fan, chassis fan).



Pin	Description
1	Ground
2	+ 12V
3	Speed Induction Signal

The fans and heatsink may keep air convection in chassis to prevent over-heating. The system monitors and controls the rotate speed of fans, and turns off fans when entering suspend mode.



The power plug of the fans should not be inserted in wrong direction or place; the air current must blow to the main heat sources such as CPU and heatsink, otherwise the system will be frozen due to the overheating of CPU or motherboard.

BIOS Setup

3-1 Entering BIOS Setup

3-1.1 Starting Setup

- The BIOS is immediately activated when you first power on the computer. The BIOS reads the system information contained in CMOS and begins the process of checking and configuring the system. When it finishes, the BIOS will seek operating system on one disk and control it.
- To set BIOS, please press key when the following message appears on the bottom of the screen during Power on Self Test:

PRESS DEL TO ENTER SETUP.

- If the message disappears before you respond, and you still wish to enter Setup, restart the system by pressing POWER key or RESET key or + <Ctrl> + <Alt>. If you do not press the keys in proper time or set BIOS abnormally, an error message will appear and ask you to:

PRESS F1 TO CONTINUE, DEL TO ENTER SETUP.

3-1.2 Using Setup

In general, you may use arrow key to highlight options, press <Enter> to select, use the <PageUp> and <PageDown> keys to change parameter setting, press <F1> for help and press <Esc> to quit. The Following table provides more details about how to use keyboard in Setup.

Key	Function
↑	Move to the previous item
↓	Move to the next item
←	Move to the left item (menu bar)
→	Move to the right item (menu bar)
Esc	Main Menu: Exit without saving Submenu: Exit current menu and return to the higher-level menu.
Enter	Move to the item you desired
PgUp	Increase the numeric values or make changes
PgDn	Decrease the numeric values or make changes
+	Increase the numeric values or make changes
-	Decrease the numeric values or make changes
F1	General help of setup browse key
F5	Load previous values from CMOS
F7	Load optimized defaults
F10	Save & exit

3-1.3 Browsing Menu Bar

- Use the left and right arrow keys to choose the menu you want to be in.
- To bring up a sub-menu, use arrow keys to move the cursor to the sub-menu and then press<Enter>.

3-1.4 Getting Help

Press F1 to pop up a small help window that describes the appropriate key to use and possible selections for the highlighted item. To exit the help window, press <Esc> or F1.

**Note**

If necessary, only alter the setting that you thoroughly command. While we recommend not to make any changes to the chipset defaults for they have been carefully chosen by both Award and the system manufacturer, which provide absolutely the highest performance and reliability.

3-2 Main Menu

Once you enter the BIOS CMOS setup application, the main menu will appear on the screen, which allows you to select from several setup and two exit choices. Use arrow key to select and press <Enter>.



Items included in main menu:

- Standard CMOS Features
Use this submenu for basis system configuration.
- Advanced BIOS Features
Use this submenu for advanced system features.
- Advanced Chipset Features
Use this submenu to change the values of the chipset register and optimize system performance.
- Integrated Peripherals
Use this submenu to specify integrated peripherals.
- Power Management Setup
Use this submenu to specify the settings of power management.

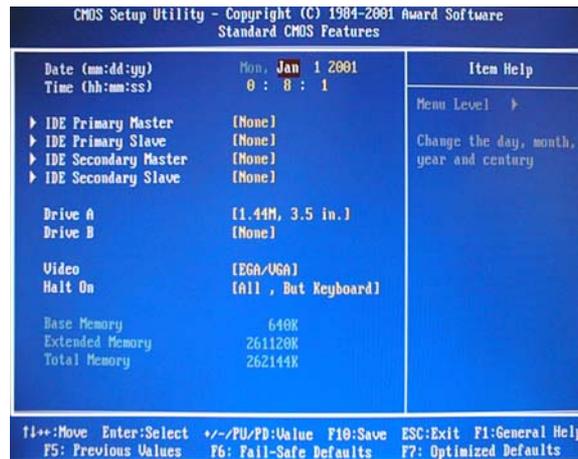
- PnP / PCI Configurations
This item appears if your system supports PnP / PCI.
- PC Health Status
Use this submenu to get hardware environment information, such as temperature and voltage of CPU.
- Frequency / Voltage Control
Use this submenu to specify the settings for frequency / voltage control.
- Load Fail-Safe Defaults
Use this submenu to load BIOS defaults for minimal / stable performance for your system to operate with.
- Load Optimized Defaults
Use this submenu to load factory BIOS defaults for OS optimized performance. Though Award has set BIOS for maximize performance, manufacturers own right to change these defaults to meet their needs.
- Set Supervisor Password
Use this submenu to set supervisor password.
- Set User Password
Use this submenu to set user password.
- Save & Exit Setup
Save CMOS changes and exit setup.
- Exit Without Saving
Abandon all CMOS changes and exit setup.



Remark A brief description for each highlighted item will appear at the bottom of the screen.

3-3 Standard CMOS Features

The items in this submenu are divided into 10 categories, each of which includes none, one, more than one setting item. Use arrow keys to highlight item, and then use <PgUp> or <PgDn> to select the values you want.



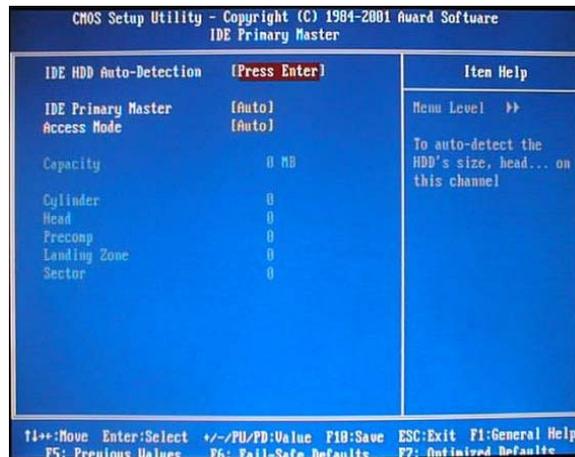
3-3.1 CMOS Main Menu Items

Item	Options	Description
Date	MM DD YY	Set system date. Note that "week" will automatically change when you set date.
Time	HH MM SS	Set system time.
IDE Primary Master	See its submenu	Press <Enter> to enter submenu.
IDE Primary Slave	See its submenu	Press <Enter> to enter submenu.
IDE Secondary Master	See its submenu	Press <Enter> to enter sub-menu.
IDE Secondary Slave	See its submenu	Press <Enter> to enter sub-menu.
Drive A Drive B	None 360K, 5.25 in 1.2M, 5.25 in 720K, 3.5 in 1.44M, 3.5 in 2.88M, 3.5 in	Select the type of floppy disk drive installed in your system.
Video	EGA/VGA CGA 40 CGA 80 MONO	Select video device default.
Halt On	All Errors No Errors All, but Keyboard All, but Diskette All, but Disk/Key	Select the mode in which you want BIOS to stop POST process and inform you.
Base Memory	N/A	Display the size of base memory detected during boot up.
Extended Memory	N/A	Displays the size of extended memory detected during boot up
Total Memory	N/A	Displays the total memory available in the system.

3-3.2 IDE Adapter

IDE adapter controls the hard disk drives and configures each in a separated submenu.

The figure below is the IDE primary master submenu:



Use logo keys to browse main menu. Refer to the following table to configure hard disk:

Item	Option	Description
IDE HDD Auto-detection	Press <Enter>	Press <Enter> to detect HDD.
IDE Primary Master	None Auto Manual	Select "Manual" to set the left items on screen and the type of installed disk. You will be asked to select Cylinder and Head in "User Type". Note: "PRECOMP=65535" means none.
Access Mode	Normal LBA Large Auto	Select access mode for this HD.
Capacity	Display the disk drive size automatically	Hard disk drive capacity (approximation). Note that its size is commonly a bit bigger than that of formatted hard disk provided by HD detection system.

When “IDE Primary Master” is set to “Manual”, the following options are available.

Cylinder	Min=0 Max=65535	Set cylinder for hard disk.
Head	Min=0 Max=255	Set R/W head.
Precomp	Min=0 Max=65535	Warning: the default 65535 means no HD.
Landing Zone	Min=0 Max=65535	
Sector	Min=0 Max=255	The number of sectors in each track.

3-4 Advanced BIOS Features

This submenu is for basis system configuration. In this menu, you may select system default speed, boot-up sequence, keyboard operation, and security.



3-4.1 Virus Warning

This item enables VIRUS warning function for IDE hard disk boot sector protection. When something attempts to rewrite this fragmentation, BIOS will show a warning message in screen and alarm with beep.

Enabled	Activate this function automatically if the system boots up causing a warning message to appear when anything attempts to access the boot sector or hard disk partition table.
Disabled	No warning message will appear when anything attempts to access the boot sector or hard disk partition table (default).



To enable this function may cause tough installation of some software or operating system (e.g. Windows 98, etc.).

3-4.2 CPU L1 / L2 Cache

These two categories speed up memory access. However, it depends on CPU chipset design.

Enabled	Enable cache
Disabled	Disable cache

3-4.3 Quick Power on Self Test

This item speeds up Power On Self Test (POST) after you power on the computer. If it is enabled, BIOS will shorten or skip some checking items during POST.

Enabled	Enable quick POST
Disabled	Normal POST (default)

3-4.4 First / Second / Third Boot Device

BIOS will load operating system from the devices according to the selected sequence.

The option: Floppy, LS120, HDD-0~3, SCSI, CDROM.

3-4.5 Boot Other Device

The option: Enabled, Disabled.

3-4.6 Swap Floppy Drive

If there are two floppy disk drives in the computer, you can swap the logical drive's name assignment.

The option: Enable, Disabled.

3-4.7 Boot Up Floppy Seek

The system will seek floppy during boot-up. Disabling this item speeds boot-up.

The option: Enabled, Disabled.

3-4.8 Boot Up NumLock Status

Through this item, you may select initial state of sub-keyboard number keys after power on. ON is for digit and OFF is for direction.

The option: ON, OFF.

3-4.9 Gate A20 Option

A signal cable is used to specify the memory over 1 MB, and to select whether the chipset or the keyboard controller should control Gate A20.

Normal	A pin in the keyboard controller controls GateA20.
Fast	Chipset controls GateA20.

3-4.10 Typematic Rate Setting

When enabled, the typematic rate and typematic delay can be selected.

The option: Enabled, Disabled.

3-4-10.1 Typematic Rate (Chars/Sec)

Set the times to repeat a key stroke within a second when you hold the key down.

The option: 6, 8, 10, 12, 15, 20, 24, 30.

3-4-10.2 Typematic Delay (Msec)

Set the delay time from after the key is held down to before it begins to repeat the keystroke.

The option: 250, 500, 750, 1000.

3-4.11 Security Option

Select whether the password is required every time the system boots or only when you enter system.

System	The system will not boot and deny the access to Setup if the correct password is not entered promptly.
Setup	The system will boot, but deny the access to Setup if the correct password is not entered promptly.

Note

If you need to disable boot-up by password function, choose Password Settings from main menu, and when asked to enter password, just press <Enter>. Once it done, the system will boot and you can enter Setup freely.

3-4.12 APCI Mode

The option: Enabled, Disabled

3-4.13 MPS Version Control for OS

Select the OS multi processors version.

The option: 1.1, 1.4.

3-4.14 OS Select for DRAM > 64MB

If OS2 is being used and DRAM capacity is bigger than 64 MB, then select OS2.

Otherwise select Non-OS2.

The option: Non-OS2, OS2.

3-4.15 Report No FDD Win95

Determine whether to detect FDD or not after entering Windows OS.

The option: Yes, No.

3-4.16 Small Logo (EPA) Show

Determine whether to show EPA logo.

The option: Enabled, Disabled.

3-5 Advanced Chipset Features



This submenu allows you to configure the system based on the specific features of the installed chipset. This chipset manages the bus speed and the access to system memory resources, such as DRAM and external cache. It also coordinates the communications between conventional buses.

It must be stated that the defaults should never be altered because they provide the best operating conditions for your system. The only time you might consider making any change would be when you discovered that data was being lost while using your system.

3-5.1 *DRAM Timing Select Table*

3-5-1.1 CAS Latency Time

If synchronous DRAM has been installed, the CAS Latency Time is determined by DRAM timing.

The option: 2, 3.

3-5-1.2 Active to Precharge Delay

It controls the number of DRAM clock cycle for DRAM parameter.

The option: 6, 7, 5.

3-5-1.3 DRAM RAS # to CAS # Delay

The option: 2, 3.

3-5-1.4 DRAM RAS # Precharge

The option: 2, 3.

3-4-1.5 DRAM Data Integrity Mode

Determine whether to support ECC checking according to the installed DRAM type.

The option: ECC, Non-ECC.

3-5.2 *Memory Frequency For*

Select DRAM frequency.

The option: PC100, PC133.

3-5.3 *Dram Read Thermal Mgmt*

The option: Enabled, Disabled.

3-5.4 System BIOS Cacheable

Enabling allows that the system BIOS ROM cacheable is F000h-FFFFh and makes the highest performance for system. If the storage section is rewritten with any program, the system error will occur.

Enabling the video BIOS Cacheable will bring better system performance. But if the storage section is rewritten with any program, the system error will occur.

The option: Enabled, Disabled.

3-5.5 Video BIOS Cacheable

The option: Enabled, Disabled.

3-5.6 Memory Hole at 15M-16M

You may keep the system memory of this district for ISA adapter ROM. When it done, it will not be buffered. The user information for using this district system memory peripheral equipment will discuss their memory request.

The option: Enabled, Disabled.

3-5.7 CPU Waiting Timer

The option: Enabled, Disabled.

3-5.8 Delay Transaction

The chipset has an embedded 32-digit write buffer to support delay transaction cycle.

The option: Enabled, Disabled.

3-5.9 AGP Aperture Size

The option: 64 MB, 32 MB.

3-5.10 Delay Prior to Thermal

The option: 4Min, 8Min, 16Min, 32Min.

3-6 Integrated Peripherals



3-6.1 On-chip Primary / Secondary PCI IDE

The chipset contains a PCI IDE interface with two IDE channels.

The option: Enabled, Disabled.

3-6.2 IDE Primary / Secondary Master / Slave PIO

The four IDE PIO (programmed Input/ Output) fields let you set a PIO mode for each of the four IDE devices that the onboard IDE interface supports. Modes 0-4 provide enhanced performance. In Auto mode, the system automatically determines the best mode for each device.

The option: Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

3-6.3 IDE Primary / Secondary Master / Slave UDMA

Ultra DMA/33 implementation is possible only when your IDE hard drive supports it and the operating environment includes DMA drive (W95 OSR2 or a third-party IDE bus master drive). If hard disk drive and system software support UDMA / 33, you may select auto to enable BIOS support.

The option: Auto, Disabled.

3-6.4 USB Controller

Select Enabled if there is a USB controller and some USB peripherals in your computer.

The option: Enabled, Disabled.

3-6.5 USB Keyboard Support

Select Enabled if there is a USB controller and a USB keyboard in your computer.

The option: Enabled, Disabled.

3-6.6 AC'97 Audio

Determine whether to enable 815EP chipset or not to support AC'97 audio.

The option: Enabled, Disabled.

3-6.7 AC'97 Modem

Determine whether to enable onboard AC'97 modem or not.

The option: Auto, Disabled.

3-6.8 Init Display First

Determine whether the PCI VGA card or AGP VGA card will be detected or initialized first.

PCI Slot	If both PCI and AGP VGA card are installed, the system will use PCI VGA card.
AGP	If both PCI and AGP VGA card are installed, the system will use AGP VGA card.

The option: PCI, AGP.

3-6.9 IDE HDD Block Mode

Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard disk driver supports block mode (most new drives do), select Enabled to automatically detect optimal number of block read/write supported by each sector drive.

The option: Enabled, Disabled.

3-6.10 Power on Function

The available power-on modes are:

- ✓ Button Only (default): Turn on by POWER button on chassis.
- ✓ Keyboard 98: Turn on by Power On button on keyboard.
- ✓ Password: Turn on by less than five characters or numbers (password).
- ✓ Hot Key: Turn on by both F-key and Ctrl key.
- ✓ Mouse Left / Right: Turn on by right dual-clicking or left dual-clicking PS/2 mouse.
- ✓ Any Key: Turn on by any key.

3-6.11 Onboard FDC Controller

Select Enabled if there is an onboard floppy disk drive controller (FDC) and you wish to use it. Otherwise, select disabled.

The option: Enabled, Disabled.

3-6.12 Onboard Serial Port 1 / 2

Assign the I/O address and corresponding interrupt request for onboard serial port1/2.

The option: 3F8/IRQ4, 2E8/IRQ3, 3E8/IRQ4, 2F8/IRQ3, Disabled, Auto.

3-6.13 UART Mode Select

3-6-13.1 RXD, TXD Active

The option: Hi, Hi; Hi, Lo; Lo, Hi; Lo, Lo.

3-6-13.2 IR Transmission Delay

The option: Disabled, Enabled.

3-6-13.3 UR2 Duplex Mode

The option: Full, Half.

3-6-13.4 Use IR Pins

The option: RXD2, TXD2, IR-RX2TX2.

3-6.14 Onboard Parallel Port

Assign the I/O address and interrupt request for the onboard parallel port.

The option: 3BC/IRQ7, 378/IRQ7 (default), 278/IRQ5, Disabled.

3-6.15 Onboard Parallel Mode

SPP	Standard Parallel Port mode
EPP	Enhanced Parallel Port mode
ECP	Extended Capability Port mode
ECP+EPP	EPP and ECP modes
Normal	

3-6-15.1 ECP Mode Select

The option: EPP1.9, EPP1.7.

3-6-15.2 ECP Mode Use DMA

Set DMA channel used by ECP mode print.

The option: 1, 3.

3-6.16 Game Port Address

The option: 201, 209, Disabled.

3-7 Power Management Setup

This item allows you to configure your system to the most effectively power-saving condition according to the practical situation.



3-7.1 ACPI Function

Allows you to enable/ disable the Advanced Configuration and Power Management.

The option: Enabled, Disabled.

3-7.2 ACPI Suspend Type

The option: S1 (POS), S3 (STR).

3-7.3 Power Management

Allows you to select a power-saving mode (or degree) which is directly related to the following mode:

1. HDD Power Down
2. Doze Mode
3. Suspend Mode

There are four options for Power Management, three of which have fixed mode settings.

Disable	No power management.
Min. Saving	Minimum power management. Doze Mode=1hr, Standby Mode=1hr, Suspend Mode=1hr, and HDD Power Down=15min.
Max. Saving	Maximum power management –only available for SL CPU. Doze Mode=1min, Standby Mode=1min, Suspend Mode =1min, and HDD Power Down=1min.
User Define	Allow you to set each mode individually. When enabled, each of the ranges is from 1min. to 1hr. except for HDD power down, which ranges from 1min. to 15min. and disables.

3-7.4 Video Off Mode

Determine if the video is powered down when the system is put into suspend mode.

V/HSYNC+ Bland	Turn off the vertical and horizontal synchronization ports and rewrite video buffer.
Blank Screen	Only rewrite video buffer.

3-7.5 Video Off In Suspend

The option: Yes, No.

3-7.6 Suspend Type

3-7.7 Modem Use IRQ

Determine IRQ available for modem.

The option: 3, 4, 5, 7, 9, 10, 11, NA.

3-7.8 Suspend Mode

The option: Enabled, Disabled.

3-7.9 HDD Power Down

The option: Enabled, Disabled.

3-7.10 Soft-Off by PWRTN

Hold the power button for more than 4 seconds and force the system to enter the soft-off state when the system is in suspend mode.

The option: Delay 4 Sec, Instant-Off.

3-7.11 CPU THRM-Throttling

The option: 25.0%, 37.5%, 50.0%, 62.5%, 75.0%, 87.5%.

3-7.12 Power On by Ring

The option: Enabled, Disabled.

3-7-12.1 USB KB Wake-up from S3

The option: Enabled, Disabled.

3-7.13 RTC Alarm Resume

The option: Enabled, Disabled.

3-7.14 Reload Global Timer Events

The option: Primary IDE 0
Primary IDE 1
Secondary IDE 0
Secondary IDE 1
FDD, COM, LPT Port
PCI PIRQ[A-D]#

3-8 PnP/PCI Configuration

This section describes configuring the PCI bus system. PCI is a system which allows I/O devices to operate at speed nearing that of CPU when communicating with its own special components. This section covers some technical items and it is strongly recommended that only experienced users should make any changes to the default settings.



3-8.1 *Reset Configuration Data*

Normally, you should disable this function. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit setup if you have installed a new add-on and the system reconfiguration has caused a serious conflict resulting that the operating system will not boot.

The option: Enabled, Disabled.

3-8.2 *Resource Controlled by*

The Award Plug and Play BIOS has the capacity to automatically configure all of the boot-up program and Plug and Play compatible devices. However, this capability means absolutely nothing unless you are using a Plug and Play operating system such as Windows 95. If you select Manual, you may choose specific resources in the submenu.

The option: ESCD, Manual.

3-8.3 *IRQ Resources*

When resources are controlled manually, assigning each system interruption a type depending on the type of the device using interruption.

IRQ3/4/5/7/9/10/11/12/14/15 assigned.

This item allows you to determine the IRQ assigned to the ISA bus and is not available to any PCI slot. Devices legacy ISA complies with the original PC AT bus specifications; Devices PC/ISA PnP complies with the Plug and Play standard whether designed for PCI or ISA bus architecture.

The option: Legacy ISA, PCI/ISA PnP.

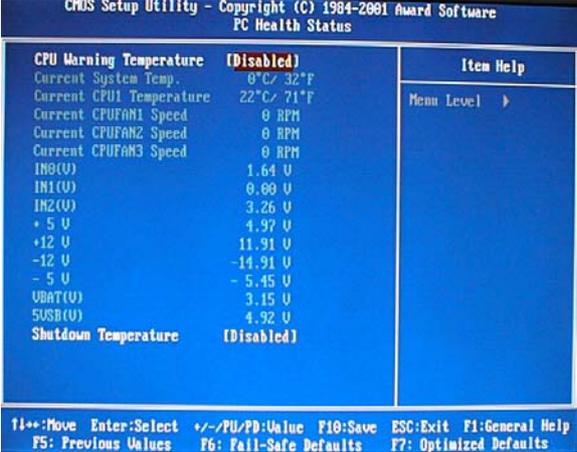
3-8.4 *PCI/ VGA Palette Snoop*

Leave this field Disabled.

The option: Enabled, Disabled.

3-9 PC Health Status

This section helps you to get more information about your system including CPU temperature, fan speed and voltage. It is recommended that you contact with your motherboard manufacturer to get proper values about CPU temperature.



CMOS Setup Utility - Copyright (C) 1984-2001 Award Software	
PC Health Status	
CPU Warning Temperature	[Disabled]
Current System Temp.	0°C / 32°F
Current CPU1 Temperature	22°C / 71°F
Current CPUFAN1 Speed	0 RPM
Current CPUFAN2 Speed	0 RPM
Current CPUFAN3 Speed	0 RPM
IN8(V)	1.64 V
IN1(V)	0.00 V
IN2(V)	3.26 V
+5 V	4.97 V
+12 V	11.91 V
-12 V	-14.91 V
-5 V	-5.45 V
VBAT(V)	3.15 V
5USB(V)	4.92 V
Shutdown Temperature	[Disabled]

Item Help
Menu Level →

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

- ★ CPU Warning Temperature: The system will send out warnings when CPU is at the warning temperature.
- ★ Current System Temperature: Show you the current system temperature.
- ★ Current CPU1 Temperature: Show you the current CPU1 temperature.
- ★ Current CPU FAN1/FAN2/FAN3 Speed: Show you the current FAN1, FAN2, FAN3 speed.
- ★ Shutdown Temperature: In ACPI mode, the computer will power down when CPU is at the shutdown temperature.

3-10 Frequency/Voltage Control



3-10.1 CPU Clock Ratio

Allows you to select CPU clock ratio.

3-10.2 Auto Detect PCI Clk

Allows you to auto detect PCI Clk.

The option: Enabled, Disabled.

3-10.3 Spread Spectrum

Allows you to enable/ disabled the spread spectrum modulate.

The option: Enabled, Disabled.

3-11 Default Menu

Select Default from the main menu including two options described below:

3-11.1 Load Fail-Safe Defaults

When you press <Enter> in this item, you will get a confirmation dialog box with a message similar to:

Load Fail-Safe Defaults (Y/N) ? N

Pressing “Y” loads the BIOS defaults for the most stable, minimal performance system operation.

3-11.2 Load Optimized Defaults

When you press <Enter> in this item, you will get a confirmation dialog box with a message similar to:

Load Optimized Defaults (Y/N) ? N

Pressing “Y” loads the factory defaults for highest-performance system operation.

3-12 Set Supervisor / User Password

You can set either supervisor or user password or both of them. The differences are:

3-12.1 Supervisor Password

You can enter and change the options in the setup menus.

3-12.2 User Password

You just can enter but have not the right to change the options of the setup menus. When you enable it, the following message will appear at the center of the screen to assist you to create a password:

ENTER PASSWORD:

Type the password of eight characters in length at most, and press <Enter>. The password typed now will clear any previously password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to cancel the selection and not type password.

To disable a password, when you are prompted to enter the password, just press <Enter> and no confirming message will appear. Once the password is disabled, the system will boot and you can enter setup freely.

PASSWORD DISABLED

When a password has been enabled, you will be prompted to type it every time you enter setup. This prevents an unauthorized person from changing any part of your system configuration.

Additionally, when a password is enabled, you can also require the BIOS to request a password every time your system is rebooted. This would prevent unauthorized use of your computer.

You can set to be prompted to enter password when entering the BIOS Features Setup menu and its Security options. If the Security option is set to System, the password will be required both at the time of booting and entering Setup. If it is set to Setup, the password is required only when you enter Setup.

3-13 Exiting Setup

3-13.1 Save & Exit Setup

Press <Enter> on this item when asked to confirm:

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

Press “Y” to store the changes made in the CMOS menu—a special section of memory that stays on after you turn your system off. The next time you boot your computer, the BIOS will configure your system according to the Setup options stored in CMOS. After saving the values, the system will reboot.

3-13.2 Exiting Without Saving

Press <Enter> on this item when asked to confirm:

Quit without saving (Y / N) ? Y

This allows you to exit Setup without saving any changes in CMOS. The previous selections remain valid. After quitting, the system will reboot.

Driver Installation

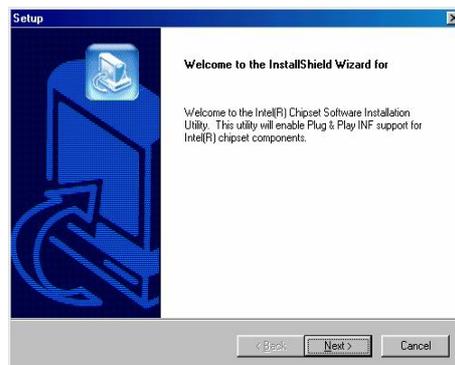
This section applies to Windows95 OS2 / 98 / ME / 2000 / XP.

4-1 INF Installation

1. Put the add-on CD into CD-ROM. Dual-click *INF*, and the system begins to install;



2. Welcome interface appears and click *Next*;



4-2 IDE Installation

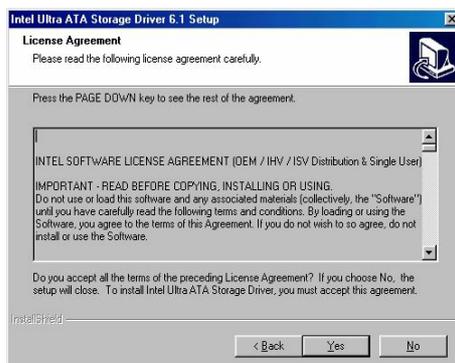
1. Put the add-on CD into CD-ROM. Dual-click IDE and the system begins to install;



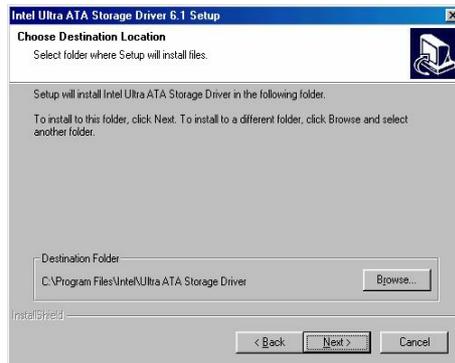
2. Welcome interface appears and click *Next*;



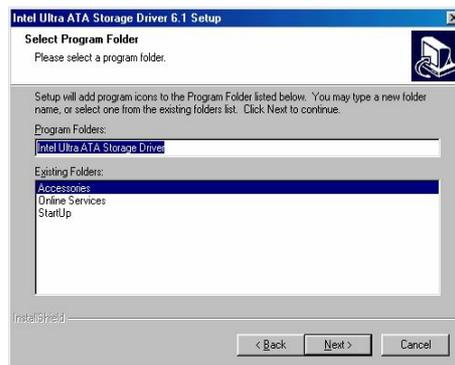
3. License Agreement interface appears and click *Yes*;



4. Select a driver path and click *Next*;



5. Select program folder and click *Next*;



6. Click *Finish* to end the IDE installation.



4-3 Accelerator Installation

1. Put the add-on CD into CD-ROM. Dual-click *Accelerator* and the system begins to install;



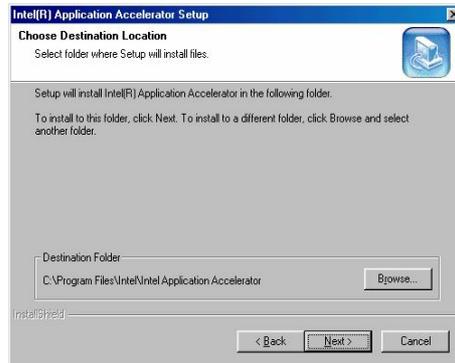
2. Welcome interface appears and click *Next*;



3. License Agreement interface appears and click *Yes*;



4. Select driver path and click *Next*;



5. Select program folder and click *Next*;

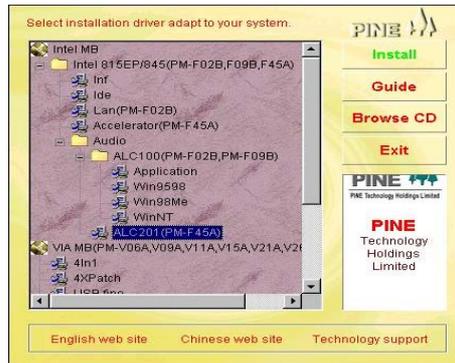


6. Click *Finish* to end the Accelerator installation.



4-4 Sound Card Driver Installation

1. Put the add-on CD into CD-ROM. Dual-click *ALC201 (PM-F45A)* in the Audio folder and the system begins to install;



2. Welcome interface appears and click *Next*;

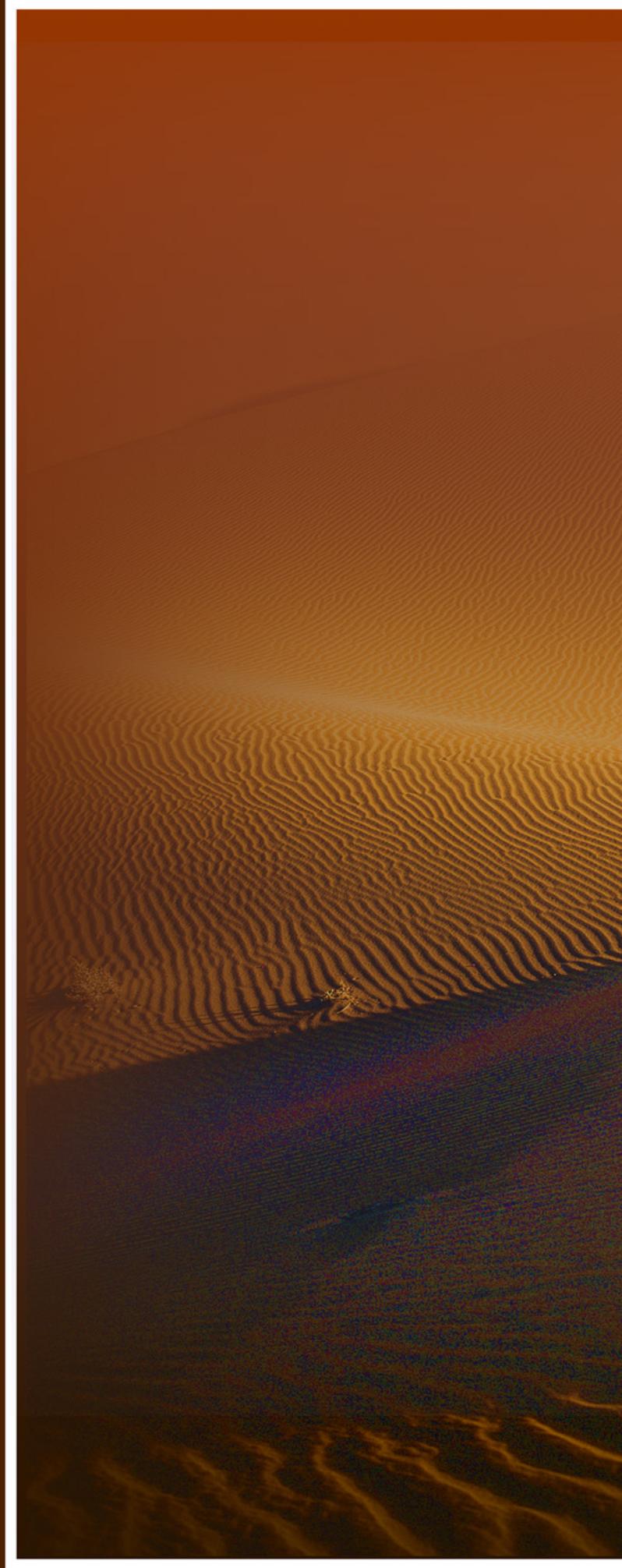


3. Click *Finish* to end the sound card driver installation.



**Note**

Please install these drivers in turn: INF→IDE→Accelerator→Sound Card. Improper turn will cause rough installation. Do not install IDE driver in Windows XP.



P/N: 73-F45A1010-000