

V28B

English Manual

Mainboard

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FC CE **AGP**

V1.0

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Federal Communications Commission Statement

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

- This device may not cause harmful interference, and
- 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 manufacturer's instructions, may cause harmful interference to radio communication. 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:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Connect the equipment to 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 regulations Changes or modifications to this authority to operate this equipment.

Safety Instructions

1. Always read the safety instructions carefully.
2. Keep this User's Manual for future reference.
3. Lay this equipment on a stable flat surface before setting it up.
4. The openings on the enclosure are for air convection hence protects the equipment from overheating. Do not cover the openings.
5. Make sure the voltage of the power source and adjust properly 110/220V before connecting the equipment to the power inlet.
6. Place the power cord such a way that people can not step on it. Do not place anything over the power cord.
7. All cautions and warnings on the equipment should be noted.
8. Never pour any liquid into the opening that could damage or cause electrical shock.
9. If any of the following situations arises, get the equipment checked by a service personnel:
10. The power cord or plug is damaged.
11. Liquid has penetrated into the equipment.
12. The equipment has been exposed to moisture.
13. The equipment has not work well or you can not get it work according to User's Manual.
14. The equipment has dripped and damaged.
15. If the equipment has obvious sign of breakage.
16. Do not leave this equipment in an environment unconditioned, storage temperature above 60°C, it may damage the equipment.

Caution: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer.

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Chapter 2

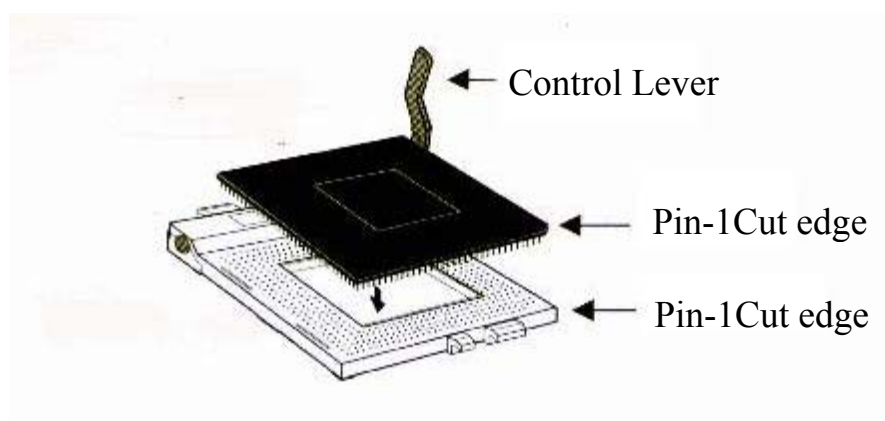
Hardware Installation

This section gives you a step-by step procedure on how to install your system. Follow each section accordingly.

2-1 CPU

2-1.1 CPU Installation Procedures

The motherboard uses a CPU socket called Socket 370 for easy installation, please follow the below figure to install the CPU.



2-1.2 CPU Clock Ratio Setting

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

The motherboard support jumperless CPU type setting, no jumper or switch is needed.

This motherboard also support CPU over-clock by adjusting the CPU Clock Frequency and CPU Clock Ratio under BIOS Setup.

The available settings are: :

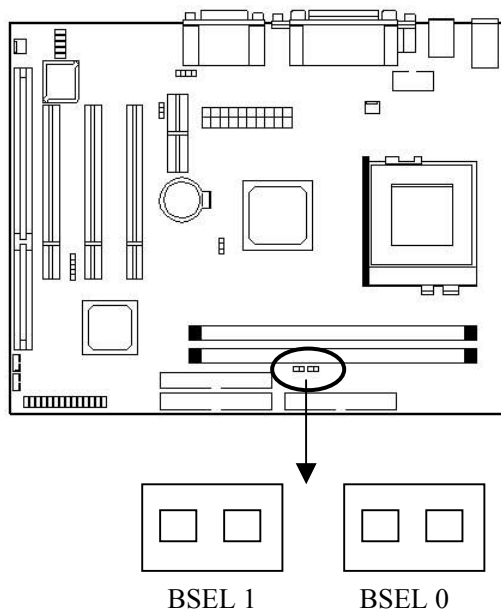
-CPU Clock Frequency

66 –166 linear (step1MHz) over clock

-CPU Clock Ratio

3x/ 3.5x / 4x / 4.5x / 5x / 5.5x / 6x / 6.5x / 7x / 7.5x / 8x

Clock Frequency:



Clock Frequency	BSEL0	BSEL1
66/Auto	Disabled	Disabled
100	Enabled	Disabled
133	Enabled	Enabled

When both BSEL 0 and BSEL 1 disabled, the motherboard will auto-detect and set CPU clock frequency to its default(66 / 100MHz);

When BSEL 0 enabled , BSEL 1disabled , CPU will be forced to run at clock frequency100MHz;

When both BSEL 0 and BSEL 1 enabled, CPU will be forced to run at clock frequency 133MHz.

★ **Warning:**

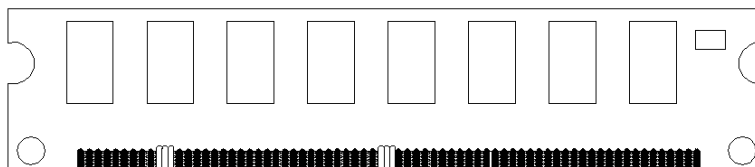
At this moment, Intel PPGA 370 Celeron CPU normally support 66/100MHz CPU Clock Frequency , P III

Coppermine CPU support 100 / 133MHz clock frequency , CPU clock frequency (recommended) , the other CPU133-166MHz are available only for internal test or end-user over-clocking testing which may cause your system unstable or error damage.

2-1.3 Memory Installation

System Memory Installation Procedures

- 1、 The DIMM slot has 2 notch keys, so the DIMM memory module can only fit in one direction.
- 2、 Insert the DIMM memory bank vertically into DIMM slot, then press it down placidly and uniformly.
- 3、 The plastic clip at the side of the DIMM will automatically close.



There are 2 pcs 168 pin DIMM sockets on the motherboard which support Synchronous DRAM and Registered SDRAM, and it allows you to install system maximum up to 1024MB.

2-1.4 Type

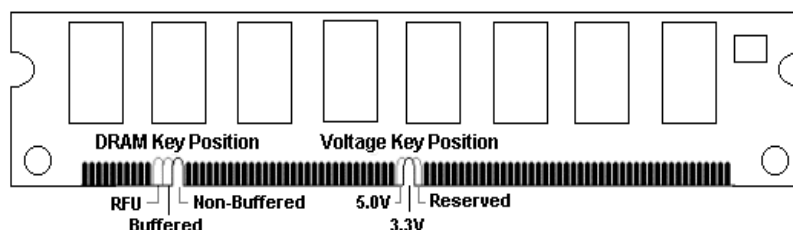
The mainbaord supports 168PIN Synchronous DRAM and Registered SRAM. However, mixing DRAM and Registered SDRAM is not allowed. Install one type only in your system for better compatibility,

2-1.5 Speed

This motherboard supports PC-66、 PC-100 or PC-133 memory only for high speed operation.

2-1.6 Buffered and non-buffered

Only the non-buffered DIMM can be used in this motherboard. The difference between buffered and non-buffered DIMM can be identified by the notch position shown above.



2-1.7 2-clock and 4-clock signal

2- clock and 4 -clock SDRAM DIMM is supported by this motherboard.

2-1.8 Parity and Non-parity

This motherboard supports standard 64 bit (Non-parity) and 72 bit (parity) DIMM modules.

2-1.9 Memory Auto-detected by BIOS

BIOS of the motherboard can automatically detect the DIMM memory size and type, so you do not need to adjust any hardware or software settings. The maximum memory size supported up to 512MB×2.

2-1.10 Recommended SDRAM combination

The motherboard support maximum up to 1024MB (512M×2) , it has two 168-pin non-buffered DIMM (Double In-Line Memory Module) socket. The motherboard support the following SDRAM combination.

DIMM Location	DIMM Size	Max. Memory Size
DIMM 1	SDRAM 8, 16, 32, 64 128, 256MB	512MB
DIMM 2	SDRAM 8, 16, 32, 64 128, 256MB	512MB
DIMM1+DIMM2	Total System Memory	1024MB

★ Important Note:

In order to enable onboard VGA function, you must make sure SDRAM module is inserted into DIMM 1.

★ Warning:

There are three kinds of DIMM specification supported by this motherboard (PC133, PC100, PC66) . If you use 66 MHz CPU Bus Frequency, these three DIMM spec. are supported. If you use 100MHz CPU, PC100 & PC133 DIMM spec. is supported. If you use 133 MHz CPU bus frequency, only DIMM spec. of PC133 is supported.

The memory speed normally marked:

-15, -12, -10, -7, -8, PC-100, PC-133

The meaning is:

-15=15ns, and the maximum clock is 66MHz

-12=12ns, and the maximum clock is 83MHz

-10=10ns, and the maximum clock is 100MHz

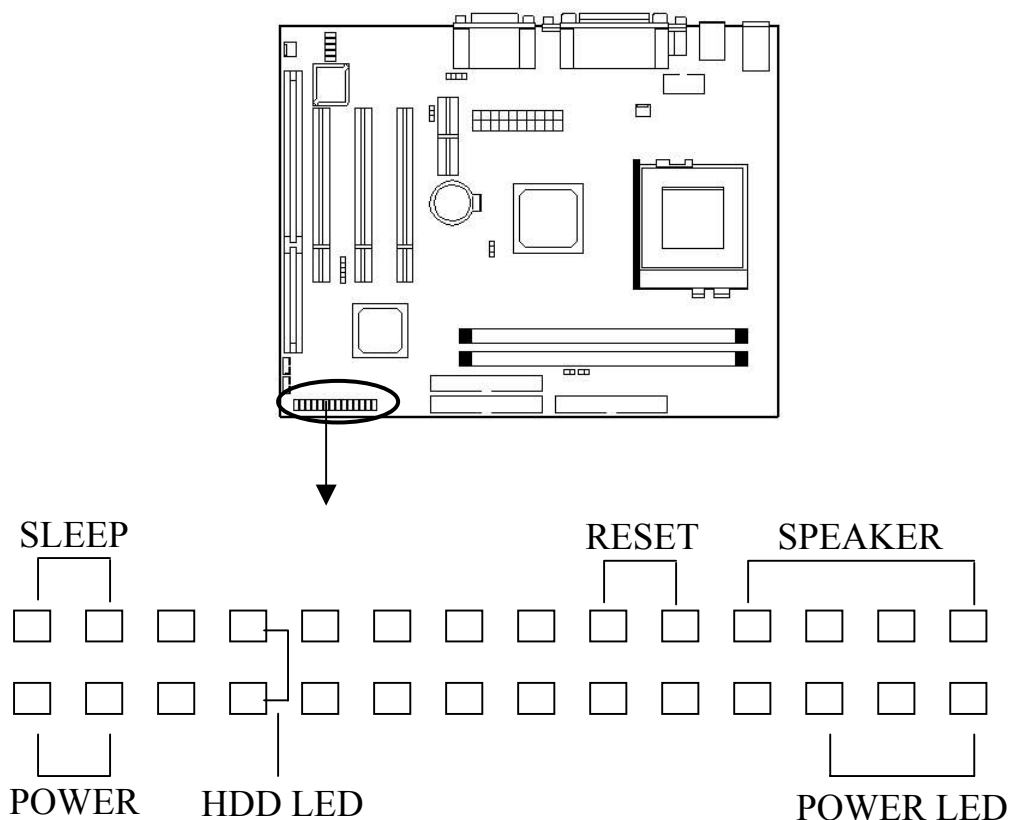
-8=7ns, and the maximum clock is 125MHz

-7=7ns, and the maximum clock is 142MHz

PC-100/PC133 = New Intel specification for high memory speed with 100/133MHz or above CPU Bus Clock.

This motherboard supports all the above memory speeds. If your system setting is 100Mhz or higher CPU bus clock, we suggest you use PC-100 or faster SDRAM for better system performance and reliability.

2-2 Panel Connector



HDD LED Connector: HDD-LED

HDD LED shows the activity of a hard disk drive. Avoid turning the power off while the HDD led is twinkling. You can connect HDD LED from the system case to this pin.

Pin	Description
1	Active Signal
2	Ground
3	Ground
4	Active Signal

ATX Soft-power Switch Connector: PWR

Connect to a 2-pin push power button switch from computer case, it provide instant On/Off function

RESET Switch: RST

RESET switch is used to reboot the system rather than turning the power On/Off. After rebooting with the HDD LED is lit. YOU can connect the RESET switch from the system case on this pin.

Setting	Description
Open	Normal Mode
Close	Reset system

Keylock and Power LED Connector: KEY-LOCK

Keylock allows you to disable the keyboard for security purpose. You can connect the keyboard to this pin.

Pin	Description
1	LED output
2	N.C.
3	Ground
4	Keylock
5	Ground

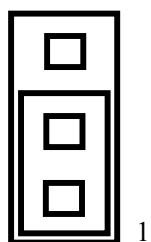
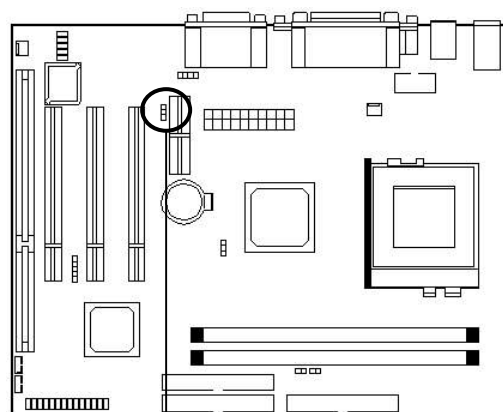
Speaker: SPEAKER

Speaker from the system case is connected to this pin.

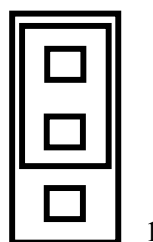
Pin	Description
1	Data out
2	N.C.
3	Ground
4	+5V

2-2.1 CMOS Clear Setting**CMOS Jumper**

Please refer the following figures for the locations of the jumper on the mainboard.



1-2 Normal (Save data)



2-3 Clear data

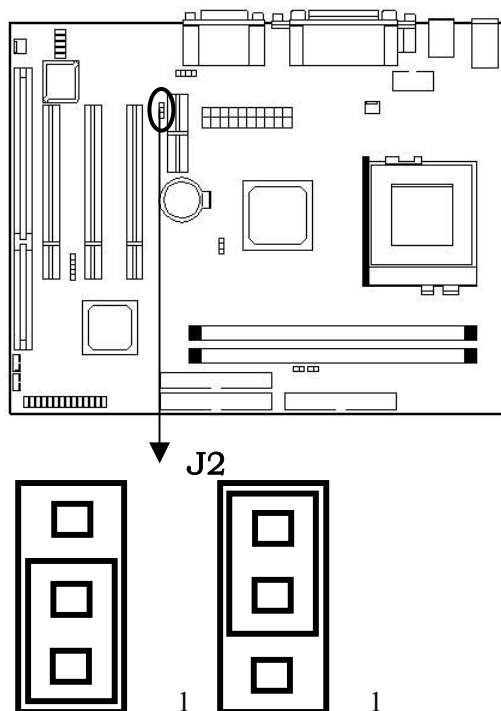
To clear CMOS, please follow the steps below:

1. Power off the system and unplug the chassis AC power cord.
2. Short JP7 at pin2-3 for 10-15 seconds. Set JP7 back to its Normal position at pin1-2.
3. Plug the AC power cord to the chassis.
4. Power on the system and load the BIOS setup defaults.

★ **Note:**

You can clear CMOS by shorting 1-2 pin for 10-15 seconds, while the system is off. Then, return to 2-3 in position, Avoid clearing the CMOS while the system is on, it will damage the mainboard.

2-2.2 On Board AC'97 Sound



1-2 AC'97 Enable (Default)

2-3 Disable AC'97 Sound

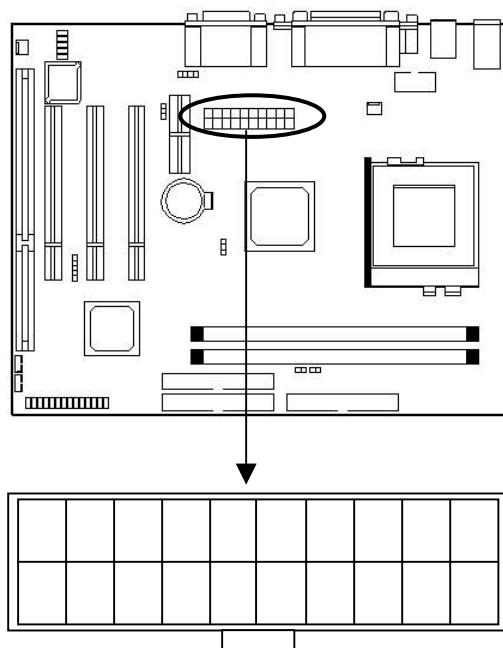
Set JP2 at pin 1-2 to use onboard AC'97 sound card(default). Set JP2 at pin2-3 will disable the onboard AC'97 sound card.

★ Note:

When you need to use AMR MODEM, if you are using onboard sound card, then you don't need to set J2 (i.e J2 is in the default SECONDARY state), but if you are stopped to use the onboard sound card, then you must set J2 at 1-2 pin.

2-3 Power Supply Connector

Connect the power supply cable to the power connector. Using the ATX power supply functions such as wake-Up Modem is supported by this mainboard.



★ **Warning:**

Since the mainboard has the instant power on function, make sure that all components are installed properly before inserting the power connector to ensure that no damage will be done.

The ATX power supply provides a single 20-pin connector.

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

★ **Note:**

Some ATX-power does not have -5V voltage output, it will effect some function of ADD-ON card devices.

2-4 IDE1、IDE2 and FDD

The mainboard has a 32-bit Enhanced IDE controller that provides PIO mode 0-4, Bus Master, and Ultra DMA 33/66 function. It has two HDD connectors IDE1 (primary) and IDE2(secondary). You can connect up to four hard disk drives, CD-ROM and other devices to IDE1 and IDE2.

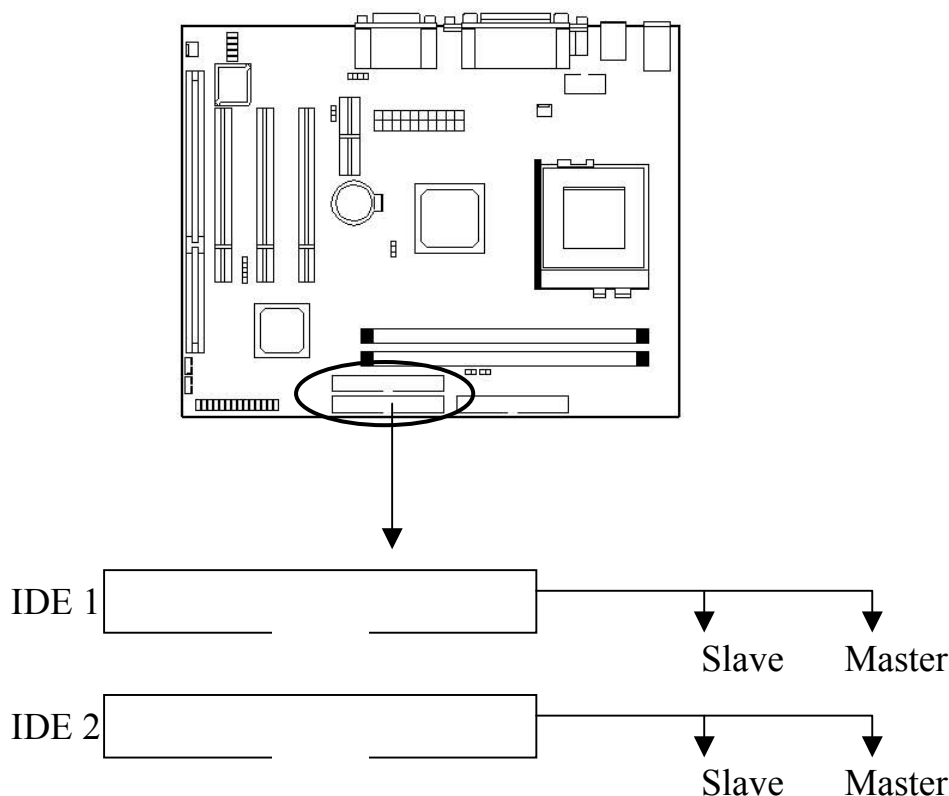
Moreover, to each group of IDE connector, IDE can connect a Master and aSlave driver.

IDE1 (Primary IDE Connector marked with blue)

The first hard drive should always be connected to IDE1. IDE1 can connected a Master and a slave drive. You must configure second hard drive to slave mode by setting the jumper accordingly.

IDE2 (Secondary IDE Connector)

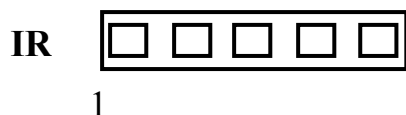
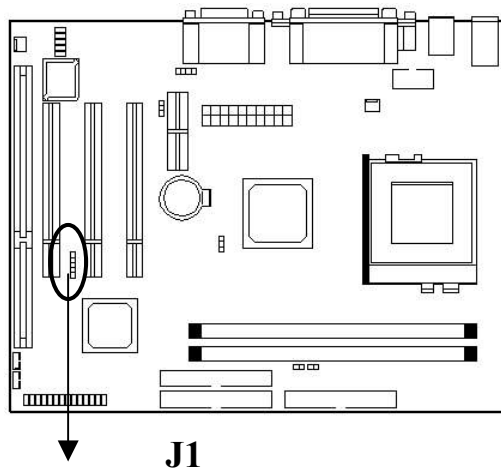
IDE2 can also connect a Master and a Slave drive.



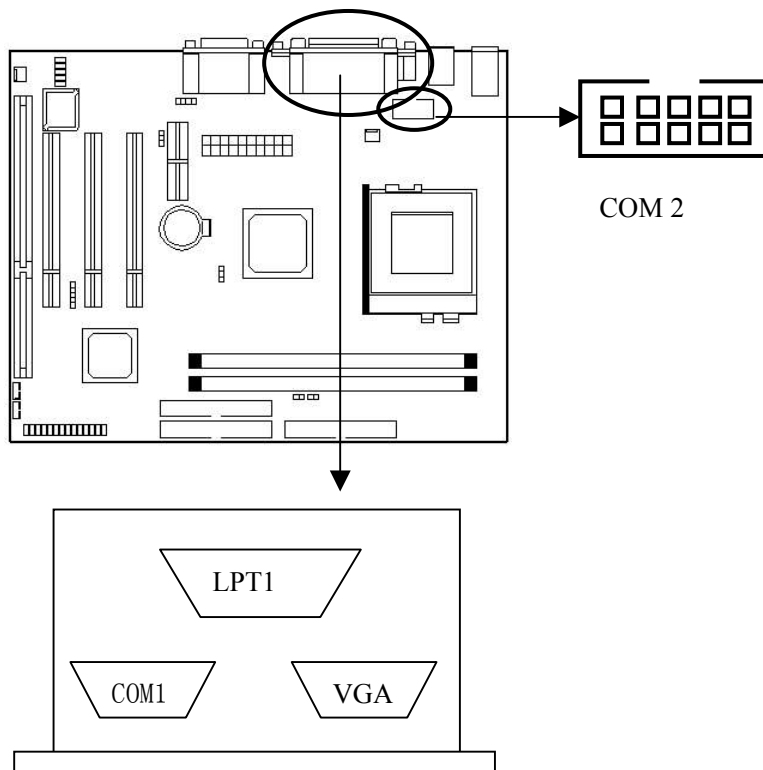
It is suggested that you connect the IDE devices to your IDE cable as the figure shown above. Each IDE channel either primary or secondary supports two IDE device which must be set differently to master mode and slave mode.(Refer to you hard disk and CD-Rom user manual for detail settings of IDE master and slave mode.)

2-5 IrDA Infrared Module Connector

The mainboard provides 4-pin infrared (IR) connector for IR modules. This connector is for optional wireless transmitting and receiving infrared module. You must configure the setting through the BIOS setup to use the IR function.



2-6 Serial devices (COM1/COM2) , Parellel devices (LPT1) and VGA connector.



There is a 15 pin monitor connector on the VGA connector mainboard, please connect the monitor or other VGA compatible device to this connector..

Serial Port Connectors: COM1 and COM2

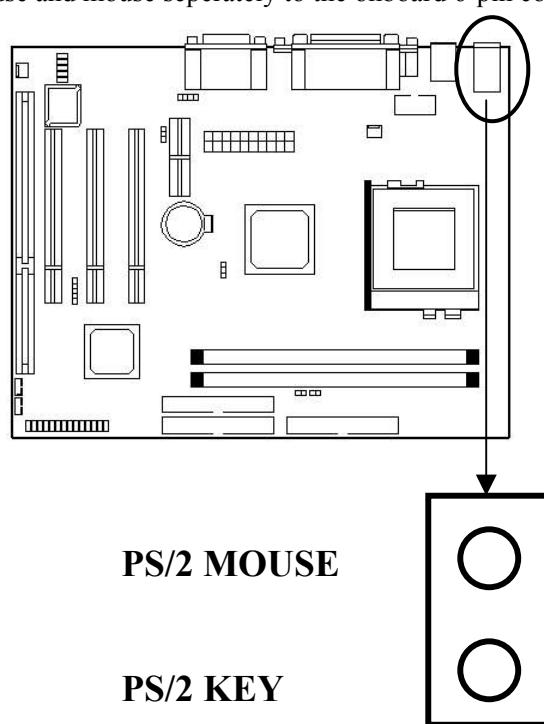
The mainboard has two 9-pin male DIN connectors for serial port COM 1 and COM 2. These ports are 16550A high speed communication port that send/receive 16 bytes FIFOs. You can attach a mouse or a modem cable directly into this connector.

Parallel Port Connector: LPT

The mainboard provides a 25-pin female centronic connector for LPT. A parrallel port is a standard printer port that also supports Enhanced Parallel Port (EPP) and Extended Capabilities Parallel Port (ECP).

2-7 PS/Keyboard, Mouse connector

Connect the PS/2 mouse and mouse separately to the onboard 6-pin connectors.



Mouse Connector

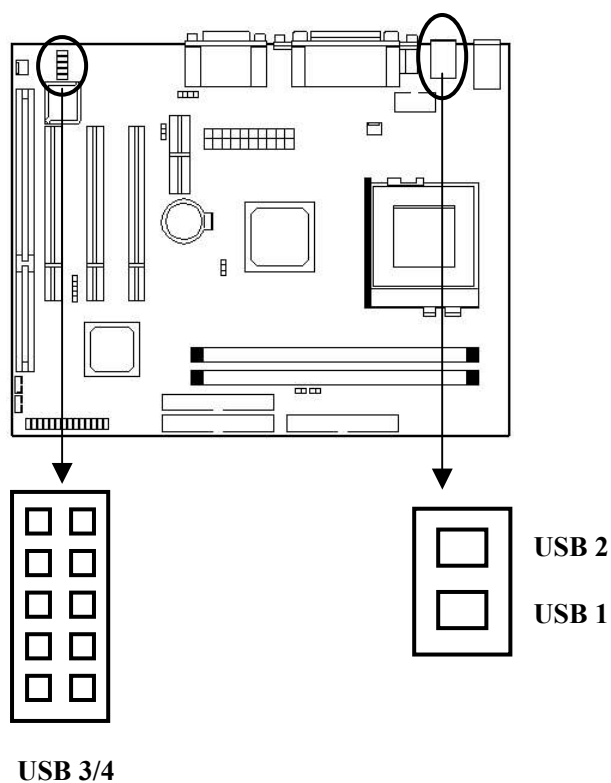
The mainboard provides a standard PS/2 mouse mini DIN connector for attaching a PS/2 mouse. You can plug a PS/2 mouse directly into this connector.

Keyboard Connector

The mainboard provides a standard PS/2 keyboard mini DIN connector for attaching a keyboard. You can plug a keyboard cable directly to this connector.

2-8 USB devices connector

Connect your USB devices to the onboard USB connector.

**USB Connectors**

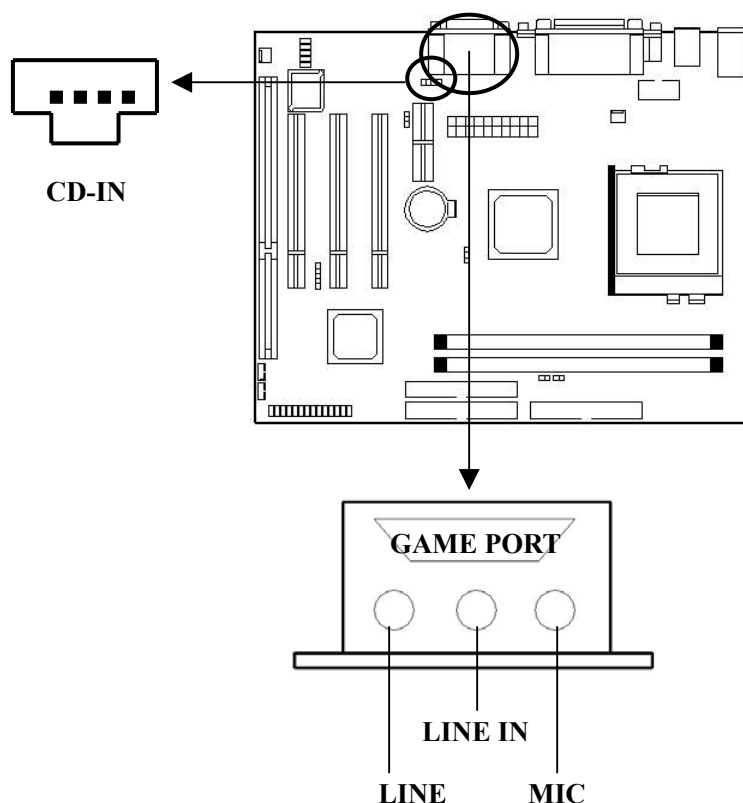
The mainboard provides a UHCI (Universal Host Controller Interface). Universal Serial Bus root for attaching USB devices like: keyboard, mouse and other USB devices. You can plug the USB device directly to this connector.

USB 1 / 2 – onboard connector.

USB 3 / 4 – connect USB port cable (w/ bracket) to this connector.

2-9 Audio/ Game Connector

Connect your audio devices to the audio connector as below.



CD-IN Connector

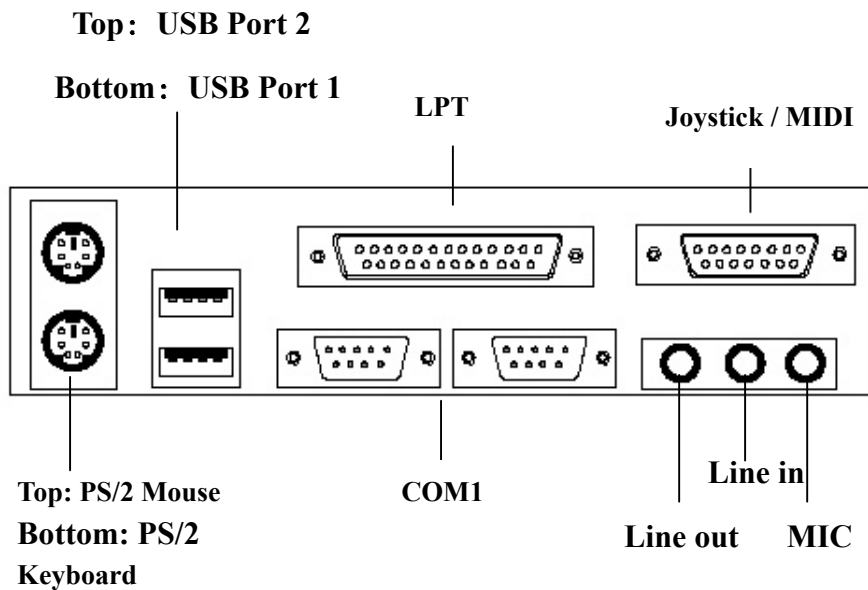
CD-IN connector will allow you to connect the Audio connector of CD-ROM to this cable with the audio cable, when you are playing CD music, the signal received by the sound card will not be analog signal any more, but the digital signal directly from the sound card. Therefore, you could listen to more digital music.

Game Joystick Port / MIDI Port

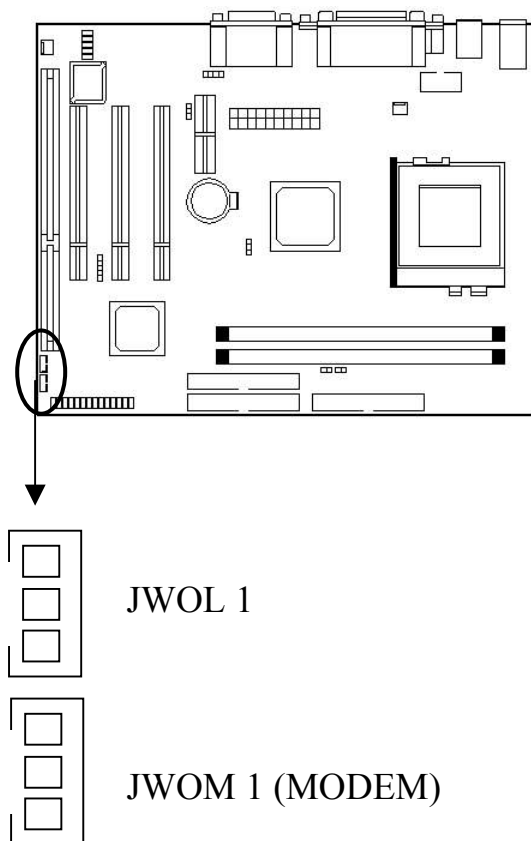
You can connect a joystick or game pad to this connector.

Mic-In/ Line-In/Line- Out

Mic-In is connector for the microphones. Line-In is used for external CD player, tape player or other audio devices. Line-Out is a connector for speaker or headphone.



2-10 LAN Wake up/Modem Wake up



The Wake-Up LAN connector is used for LAN add-on cards that supports Wake-up on LAN function. To use this function, you need to set the “Wake-Up on LAN” to enable at the BIOS Power Management Setup.

The Wake-Up Modem connector is used for the Modem add-on card which supports the Modem Wake Up function. To use this function, you need to set the “Modem Ring Resume” to enable at the BIOS Power Management Setup.

★ **Note:**

To be able to use this function, you need a power supply that provide enough power for this feature. (Power supply with 740ma 5V Stand-by)

Chapter 3

BIOS Setup

3-1 Entering BIOS Setup

The BIOS is immediately activated when you first power on the computer. The BIOS reads the system information contained in the CMOS and begin the process of checking out the system and configuring it. When it finishes, the BIOS will seek an operating system on one of the disk and then launch and turn control over to the operating system.

While the BIOS is in control, the Setup program can be in activated in one of two ways:

- 1、 By pressing immediately after switching the system on, or
- 2、 By pressing the key when the following message appears briefly at the bottom of the screen during the POST(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 or try again by turning it OFF then ON or pressing the “RESET” button to the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys. If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will again be asked to...

PRESS F1 TO CONTINUE, DEL TO ENTER SETUP.

3-2 Using Setup

In general , you use the arrow key to highlight items, press <Enter>to select , use the <Page Up> and <Page Down> keys to change entries, press <F1> for help and press <Esc> to quit. The Following table provides more detail about how to navigate in the Setup program using the keyboard.

Key	Function
Up Arrow	Move to the previous item
Down Arrow	Move to the next item
Left Arrow	Move to the item on the left (menu bar)
Right Arrow	Move to the item on the right (menu bar)
Esc	Main Menu: Quit without saving changes Submenu: Exit Current page to the next higher level menu.
Move Enter	Move to the item you desired
PgUp key	Increase the numeric values or make changes
PgDn key	Decrease the numeric values or make changes
+ key	Increase the numeric values or make changes
- key	Decrease the numeric values or make changes
Esc key	Main menu-quit and not save changes onto CMOS Status page Setup Menu and Option Page Setup Menu - Exit current page and return to Main Menu
F1 key	General help on Setup navigation keys
F5 key	Load previous values from CMOS
F6 key	Load the fail-safe defaults from BIOS default table
F7 key	Load the optimize defaults
F10 key	Save all the CMOS changes and exit

Table 1 Legend Keys

3-2.1 Navigating through the menu bar

Use the left and right arrow key to choose the menu you want to be in.

To display a sub-menu, use the arrow keys to move the cursor to the sub-menu you want.

Then press<Enter>. A “>” pointer marks all sub menu.

3-2.2 Getting Help

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

Note:

The best advise is to only alter settings which you thoroughly understand. To this end, we strongly recommend that you avoid making any changes to the chipset defaults. These defaults have been carefully chosen by both Award and your system manufacturer to provide the absolute maximum performance and reliability.

3-3 Main Menu

Once you enter the BIOS CMOS Setup Utility , the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions and two exit choices. Use the arrow keys to select among the items and press <Enter> to accept and enter the sub-menu.

COMS SETUP UTILITY – COPYRIGHT(C) 1984-2001 Award Software

Standard CMOS Feature	Frequency / Voltage Control
Advanced Bios Feature	Load Fall-Safe Defaults
Advanced Chipset Feature	Load Optimized Defaults
Integrated Peripherals	Set Supervisor Password
Power Management Setup	Set User Password
PnP / PCI Configurations	Save & Exit Setup
PC Health Status	Exit Without Saving
Esc: Quit ↑ ↓ ← → : Select Item	
F10: Save & Exit Setup	
Virus Protection, Boot Sequence	

Note:

A brief description of each highlighted selection appears at the bottom of the screen.

3-4 Setup Items

This main menu includes the following main setup categories. Recall that some system may not include all entries.

- **Standard CMOS Features**
Use this menu for basis system configuration.
- **Advanced BIOS Features**

Use this menu to set the Advanced Features available on your system.

- **Advanced Chipset Features**

Use this menu to change the values in the chipset registers and optimize your systems performance.

- **Integrated Peripherals**

Use this menu to specify your settings for integrated peripherals.

- **Power Management Setup**

Use this menu to specify your settings for power management.

- **PnP / PCI Configuration**

This entry appears if your system supports PnP / PCI.

- **PC Health Status**

Use this menu to get the information about your system including CPU temperature, Fan speed and Voltages.

- **Frequency / Voltage Control**

Use the menu to specify your settings for frequency / voltage control.

- **Load Fail-Safe Defaults**

Use this menu to load the BIOS defaults values for the minimal / stable performance for your system to operate.

- **Load Optimize Defaults**

Use this menu to load the BIOS defaults values that are factory settings for optimize performance system operations. While Award has designed the custom BIOS to maximize performance, the factory has the right to change these defaults to meet their needs.

- **Supervisor / User Password**

Use this menu to set User and Supervisor Passwords.

- **Save & Exit Setup**

Save CMOS value changes to CMOS and exit setup.

- **Exit Without Save**

Abandon all CMOS value changes and exit setup.

3-4.1 Standard CMOS Setup

The item in Standard CMOS Setup Menu are divided into 10 categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

1984-2000 Award Software
Standard CMOS Features

Date: (mm:dd:yy) Sat, Jan 13 2001 Time: (hh:mm:ss) 23:28:30 IDE Primary Master [None] IDE Primary Slave [None] IDE Secondary Master [None] IDE Secondary Slave [None] Drive A [1.44M, 3.5 in] Drive B [None] Video [EGA/VGA] Halt On [All, But Keyboard] Based Memory [640K] Extended Memory [121856K] Total Memory [122880K]	Item Help <hr/> Menu Level ➤ Change the day, month, year and century
↑↓←→Move Enter: Select +/-/PU/PD: Value F10:Save ESC: Exit F1:General Help F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults	

图 1. Main Menu

This table shows the selections that you can make on the Main Menu.

Item	Options	Description
Date	Month DD YYYY	Set the system date. Note that the "Day" automatically changes when you set the date.
Time	HH: MM: SS	Set the system time
IDE Primary Master	Options are in its sub-menu (described in Table 3)	Press <Enter> to enter the sub-menu of detailed options
IDE Primary Slave	Options are in its sub-menu (described in Table 3)	Press <Enter> to enter the sub-menu of detailed options
IDE Secondary Master	Options are in its sub-menu (described in Table 3)	Press <Enter> to enter the sub-menu of detailed options
IDE Secondary Master	Options are in its sub-menu (described in Table 3)	Press <Enter> to enter the sub-menu of detailed options
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 the default video driver
Halt On	All Errors No Errors All, but Keyboard All, but Diskette All, but Disk/Key	Select the situation in which you want the BIOS to stop the POST process and notify you
Base Memory	N/A	Displays the amount of conventional memory detected during boot up
Extended Memory	N/A	Displays the amount of extended memory detected during boot up
Total Memory	N/A	Displays the total memory available in the system

Table 2 Main Menu Selections

3-4.2 Advanced BIOS Features

This selection allows you to configure your system for basis operation. You have the opportunity to select the system’s default speed, boot-up sequence, keyboard operation, shadowing and security.

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Advanced BIOS Features

Virus Warnin	[Disabled]	Item Help
CPU Internal Cache	[Enabled]	
External Cache	[Enabled]	
CPU L2 Cache ECC Checking	[Enabled]	Menu Level
Processor Number Feature	[Disabled]	
Quick Power On Self Test	[Disabled]	Allows you to choose the
First Boot Device	[Floppy]	VIRUS warning feature
Second Boot Device	[HDD-0]	for IDE Hard Disk boot
Third Boot Device	[IS120]	sector protection. If this
Boot other Device	[Enabled]	function is enabled and
Swap Floppy Drive	[Disabled]	someone attempt to write
Boot Up Floppy Seek	[Enabled]	data into this area, BIOS
Boot Up NumLock Status	[On]	will show a warning
Gate A20 Option	[Fast]	message on screen and
Typematic Rate Setting	[Disabled]	alarm beep
➤Typematic Rate (Chars/Sec)	[6]	
➤Typematic Delay (Msec)	[250]	
Security Option	[Setup]	
OS Select For DRAM > 64MB	[Non-OS2]	
Video BIOS Shadow	[Enabled]	
C8000-CBFFF Shadow	[Disabled]	
CC000-CFFFF Shadow	[Disabled]	
D0000-D3FFF Shadow	[Disabled]	
D4000-D7FFF Shadow	[Disable]	
D8000-DFFFF Shadow	[Disabled]	
DC000-DFFFF Shadow	[Disabled]	
↑↓←→Move Enter: Select +/-/PU/PD: Value F10:Save ESC: Exit F1:General Help F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults		

- **Virus Warning**

Allow you to choose the VIRUS Warning features for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area. BIOS will show a warning message in screen and alarm beep.

Enabled	Activate automatically when the system boots up causing a warning message to appear when anything attempt 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.

Note:

Enable this function may cause some software or operation system could not be installed (e.g: Windows98, etc.)

- **CPU Internal Cache/External Cache**

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

Enabled	Enable cache
Disabled	Disable cache

- **CPU L2Cache ECC Checking**

This item allows you to enable/ disable CPU L2 Cache ECC checking.

The Choice: Enabled, Disabled.

- **Processor Number Feature**

The Choice: Enabled, Disabled.

- **Quick Power on Self Test**

This category speeds up Power On Self Test(POST) after you power up the computer. If it is set to Enable, BIOS will shorten or skip some check items during POST.

Enabled	Enable quick POST
Disabled	Normal POST

- **First / Second/ Third/Other Boot Device:**

The BIOS attempts to load the operating system from the devices in the sequence selected in these items.

The Choice: Floppy, LS/ZIP, HDD, SCSI, CDROM, Disabled.

- **Swap Floppy Drive:**

If the system has two floppy drivers, you can swap the logical drive name assignments.

The choice: Enabled / Disabled.

- **Boot Up Floppy Seek**

Seeks disk drives during boot up. Disabling speeds boot up.

The choice: Enabled/ Disabled.

- **Boot Up NumLock Status**

Select power on state for NumLock.

The choice: Enabled/ Disabled.

- **Gate A20 option:**

Select if chipset or keyboard controller should control Gate A20.

Normal	A pin in the keyboard controller control GateA20
Fast	Lets chipset control (GateA20)

- **Typematic Rate Setting**

Key strokes repeat at a rate determined by the keyboard controller. When enabled, the typematic rate and typematic delay can be selected.

The choice; Enabled/ Disable.

- **Typematic Rate (Chars/ Sec)**

Sets the number of time a second to repeat a key stroke when you hold the key down.

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

- **Typematic Delay (Msec)**

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

The choice: 250, 500, 750, 1000.

- **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 access to Setup will be denied if the correct password is not entered at the prompt.
Setup	The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt.

Note:

If you need to disable password boot-up, choose Password Settings from the main menu, just press <Enter> when you are prompted to enter the password. Password will be disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

- **OS Select For DRAM> 64MB**

Select the operating system that is running with greater than 64MB of RAM on the system.

The choice: Non-OS2, OS2.

Note:

Select OS2 only when the OS/2 operation system is installed and the system memory is over 64MB, otherwise, choose Non-OS2.

- **Video BIOS Shadow**

Determines whether video BIOS will be copied to RAM for faster execution. Video Shadow will increase the video performance.

Enabled (Default)	Video shadow is enabled.
Disabled	Video shadow is disabled.

- **C8000-CBFFF / DC000-DFFFF Shadow**

Determine whether the optional ROM will be compiled to RAM for faster execution.

Enabled	Optional shadow is enabled.
Disabled (Default)	Optional shadow is disabled.

3-4.3 Advanced Chipset Features

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Advanced Chipset Features

DRAM clock	[Host Clk]	Item Help
DRAM Timing by SPD	[Enabled]	
➤SDRAM Cycle Length	[3]	Menu Level ➤
➤BANK Interleave	[Disabled]	
Memory Hole	[Enabled]	
P2C/ C2P Concurrency	[Enable]	
Fast R-W Turn Around	[Disabled]	
System BIOS Cacheable	[Disabled]	
Video RAM Cacheable	[Disabled]	
Frame Buffer Size	[8M]	
AGP Buffer Size	[8M]	
On chip USB	[Enabled]	
USB Keyboard Support	[Enabled]	
Onchip Sound	[Enabled]	
Onchip Modem	[Enabled]	
CPU to PCI write Buffer	[Enabled]	
PCI Dynamic Battery	[Disabled]	
PCI Master 0 W S write	[Enabled]	
PCI Delay Transaction	[Disabled]	
PCI # 2 Access # 1 Retry	[Enabled]	
AGP Master 1 WS Write	[Disabled]	
AGP Master 1 WS Read	[Disabled]	
Memory Parity /ECC Check	[Disabled]	
↑↓←→Move Enter: Select +/-/PU/PD: Value F10:Save ESC: Exit F1:General Help F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults		

This selection allows you to configure the system based on the specific features of the installed chipset. This chipset manages bus speeds add access to system memory resources, such as DRAM and the external cache. It also coordinates communications between the conventional ISA bus and the PCI bus. It must be stated that these items should never need to be altered. The default settings have been chosen because they provide the best operating conditions for your system. The only time you might consider making any change would be if you discovered that data was being lost while using your system.

3-5 DRAM Settings

The first chipset settings deal with CPU access to dynamic random access memory (DRAM). The default timing have been carefully chose and should only be altered if data is being lost. Such a scenario might well occur if your system had mixed speed DRAM chips installed so that greater delays may be required to preserve the integrity of the data held in the slower memory chips.

3-5.1 DRAM Clock

The default value for this item is Host Clk.

Host Clk	DRAM Clock equals to host (system clock).
HCLK-33M	DRAM Clock equals to host clock minus 33Mhz.

3-5.2 SDRAM Cycle Length

The item allows you to select the value for SDRAM Cycle delay time. The default value is 3ns.

The selections are: 2ns and 3ns.

3-5.3 Bank Interleave

The choice: Disabled, Enabled.

3-5.4 Memory Hole 15M-16M

You can reserve this area of system memory for ISA adapter ROM. When this area is reserved, it can not be cached. The user information of peripherals that need to use this areas of system memory usually discussed their memory requirement.

The choice: Enabled, Disabled.

3-5.5 P2C/C2P Concurrency

Select Enabled allows caching of the system BIOS ROM at F000h-FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

Enabled	BIOS access cached
Disabled	BIOS access not cached

3-5.6 Fast R-W Turn Around

This item controls the DRAM timing. It allows you to enable / disable the fast read / write turn around.

The choice: Enabled, Disabled.

3-5.7 System BIOS Cacheable

Selecting Enabled allows caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

The choice: Enabled, Disabled.

3-5.8 Video Ram Cacheable

Select Enabled allows caching of the video RAM, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

The choice: Enabled, Disabled

3-5.9 Frame Buffer Size

The choice: 8M, 2M, 4M

3-5.10 AGP Aperture Size:

This item allows you to adjust the VGA share main memory as video memory, For the 3D video card on the mainboard, in order to improve the display speed, you may set the size of share main memory, which is always small than the actual physical memory.

The choice: 64MB, 32MB

3-5.11 Onchip USB

This items allows you to Enable or Disable the USB function. The default value of this item is Enabled.

The choice: Enabled, Disabled.

3-5.12 USB Keyboard Support

This items allows you to Enable or Disable the USB keyboard function.

The choices are: Disabled, Enabled.

3-5.13 OnChip Sound

This item allows you to control the onboard AC97 audio.

The choice: Auto, Disabled.

3-5.14 OnChip Modem

This item allows you to control the onboard MC97 modem.

The choice: Auto, Disabled.

3-5.15 CPU to PCI Write Buffer

When this field is Enabled, writes from the CPU to the PCI bus are buffered, to compensate for the speed differences between the CPU and the PCI bus. When Disabled, the writes are not buffered and the CPU must wait until the write is complete before starting another writing cycle...

The choice: Enabled, Disabled.

3-5.16 PCI Dynamic Bursting

When Enabled, every write transaction goes to the write buffer. Burstable transactions then burst on the PCI bus and non-burstable transactions don't.

The choice: Enabled, Disabled.

3-5.17 PCI Delay Transaction

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select Enabled to support compliance with PCI specification version 2.1

The choice: Enabled, Disabled.

3-5.18 PCI#2 Access #1 Retry

When Disabled, PCI#2 will not be disconnected until access finishes (default). When enabled, PCI#2 will be disconnected if max retries are attempted without success.

The choice: Enabled, Disabled.

3-5.19 AGP Master 1 WS Write

When Enabled, writes to the AGP are executed with one wait states.

The choice: Enabled, Disabled.

3-5.20 AGP Master 1 WS Read

When Enabled, read to the AGP are executed with one wait states.

The choice: Enabled, Disabled.

3-5.21 Memory Parity / ECC Check

This item Enabled to detect the memory parity and error checking & correcting.

The choice: Enabled, Disabled.

3-6 Integrated Peripherals

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Integrated Peripherals

On-chip IDE Channel 0	[Enabled]	Item Help Menu Level ➤ If your IDE hard drive supports block mode select Enabled for automatic detection of the optimal number of block read/write per sector the drive can support
On-chip IDE Channel 1	[Enabled]	
IDE Prefetch Mole	[Disabled]	
Primary Master PIO	[Auto]	
Primary Slave PIO	[Auto]	
Secondary Master PIO	[Auto]	
Secondary Slave PIO	[Auto]	
Primary Master UDMA	[Auto]	
Primary Master UDMA	[Auto]	
Secondary Master UDMA	[Disabled]	
Secondary Slave UDMA	[Disabled]	
Init Display First	[PCI slot]	
IDE HDD Blank Mode	[Disabled]	
Onboard FDD Controller	[Enabled]	
Onboard Serial Port1	[Auto]	
Onboard Serial Port2	[Auto]	
UART Mode 2	[Standard]	
➤IR Function Duplex	[Half]	
➤TX, RX inverting enabled	[NO, YES]	
Onboard Parallel Port	[378/IRQ7]	
Onboard Parallel Mode	[Normal]	
➤ECP Mode Use DMA	[3]	
➤Parallel Port EPP Type	[EPP 1.9]	
Onboard Legacy Audio	[Enabled]	
Sound Blaster	[Disabled]	
SB I/O Base Address	[22 0H]	
SB IRQ Select	[1RQ 5]	
SB DMA Select	[DMA 1]	
MPU -401	[Disabled]	
MPU-401 I/O address	[330-333H]	
Game Port (200-207H)	[Enabled]	
↑↓←→ Move Enter: Select +/-/PU/PD: Value F10:Save ESC: Exit F1:General Help F5:Previous Values F6:Fail-safe defaults F7:Optimized Default		

3-6.1 OnChip IDE Channel0

The chipset contains a PCI IDE interface with support for two IDE channels. Select Enabled to activate the primary IDE interface. Select Disabled to deactivate this interface.

3-6.2 OnChip IDE Channel1

The chipset contains a PCI IDE interface with support for two IDE channels. Select Enabled to activate the secondary IDE interface. Select Disabled to deactivate this interface.

3-6.3 IDE Pre-fetch Mode

The onboard IDE drive interfaces supports IDE prefetching for faster drive accesses. If you install a primary and/or secondary add-in IDE interface, set this field to Disabled if the interface does not support prefetching.

3-6.4 Primary / Secondary Master/Slave PIO

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

The choice: Auto , mode 0, Mode 1, Mode 2, Mode 3, Mode4.

3-6.5 Primary/ Secondary Master/ Slave UDMA

Ultra DMA/33 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 95 OSR2 or a third-party IDE bus master driver.). IF your hard drive and your system software both support Ultra DMA /33, select Auto to enable BIOS support.

The Choice : Auto , Disabled.

3-6.6 Init Display First

This item will allows you to determine if the PCI or onboard VGA will be start using first.

PCI Slot	If both PCI VGA card and AGP card are installed, the system will display the PCI VGA card first.
AGP	If both PCI VGA and AGP card are installed, the system will show the AGP card first.

3-6.7 IDE HDD Block Mode

Block mode is also called block transfer, multiple commands, or multiples sector read/ write. If your IDE hard drive supports block mode (most new drive do). Select Enabled for automatic detection of the optional number of block read/ write per sector the drive can support.

The Choice: Enabled, Disabled.

3-6.8 Onboard FDD Controller

Select Enabled if your system has a floppy desk controller (FDD) installed in the system board and you wish to use it. If you installed and in FDC or the system has no floppy drive, select Disabled in this field.

The choice: enabled, Disabled.

3-6.9 Onboard Serial Port 1/2

Select an address and corresponding interrupt for the first and second serial ports.

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

3-6.10 Onboard Parallel Port

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

3-6.11 Onboard Parallel Mode

SPP	Standard Parallel Port
EPP	Enhanced Parallel Port
ECP	Extended Capability Port

3-6.12 UART Mode 2

The choice: Standard, HP SIR, AS KIR

3-6.13 IR Function Duplex

This item allows you to select the IR half / full duplex function.

The choice: Half, Full.

3-6.14 TX, RX inverting enabled

This item allow you to enable the TX, RX inverting which depends on different H/W requirement. This field is not recommended to change its default setting for avoiding any error in your system.

The choice: No, No/No, Yes (Default)/Yes, No/Yes, Yes.

3-6.15 ECP Mode Use DMA

The choice: 3, 1

3-6.16 Parallel Port EPP Type

The choice: EPP1.9, EPP1.7.

3-6.17 Onboard Legacy Audio

This field controls the onboard legacy audio.

- Sound Blaster
- SB I/O Base Address
- SB IRQ Select
- SB DMA Select
- MPU-401
- MPU-401 I/O Address

3-6.18 Game Port (200-207H)

The choice: Enabled, Disabled.

3-7 Power Management

The Power Management Setup allows you to configure your system to most effectively save energy while operating in a manner consistent with your own style of computer use.

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Power Management Setup

ACPI Function	[Enabled]	Item Help
Power Management	[Press Enter]	
ACPI Suspend Type	[S1(POS)]	Menu Level ➤
PM Control by APM	[Yes]	
Video Off Option	[Suspend -Off]	
Video Off Method	[V/H SYNC+Blank]	
MODEM Use IRQ	[3]	
Soft Off By PWRBTN	[Instant-off]	
Wake Up Events	[Press Enter]	
↑↓←→Move Enter: Select +/-/PU/PD: Value F10:Save ESC: Exit F1:General Help F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults		

3-7.1 ACPI Function

This item allows you to enabled/ disabled the Advanced Configuration and Power Management(ACPI).

The Choice: Enabled, Disabled.

3-7.2 Power Management

This category allows you a select the type (or degree) of power saving and is directly related to the following modes:

- 1、 HDD Power Down
- 2、 Doze Mode
- 3、 Suspend Mode

There are four selections for Power Management, three of which have fixed mode settings:

Disable (default)	No power management. Disable all four modes
Min. Power Saving	Minimum power management. Doze Mode = 1 hr, Standby Mode= 1 hr., Suspend Mode = 1 hr., and HDD Power Down= 15min.
Max. Power Saving	Maximum power management –ONLY AVAILABLE FOR SL CPU’S. Doze Mode = 1 min., Standby Mode= 1 min., Suspend Mode = 1 min, and HDD Power Down = 1 min.
User Defined	Allows you to set each mode individually. When Enabled, each of the ranges are from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min. and disable.

3-7.3 ACPI Suspend Type

The choice: S1 (POS0), S3 (STR)

3-7.4 PM Control by APM

No	System BIOS will ignore APM when power managing the system.
Yes	System BIOS will wait for APM’s prompt before it enter any PM mode.

Note:

Enable this for OS with APM like Windows® 95/98, Windows® NT etc.

3-7.5 Video Off Method

This determines the manner in which the monitor is blanked.

V/H SYNC+ Blank	This selection will cause the system to turn off the vertical and horizontal synchronization ports and writes blank to the video buffer.
Blank Screen	This option only writes blanks to the video buffer.
DPMS	Initial display power management signaling.

3-7.6 MODEM Use IRQ

This determines the IRQ in which the MODEM can use.

The choice: 3, 4, 5, 6, 7, 9, 10, 11, NA.

3-7.7 Soft-Off by PWRTN

Pressing the power button for more than 4-seconds forces the system to enter the Soft-Off state when the system has “hung”.

The choice: (Delay 4 Sec), (Instant-Off).

3-7.8 Wake Up Events:

The choice: Enabled, Disabled.

3-8 PnP/PCI Configuration Setup

This section describe configuring the PCI bus system. PCI, or Personal Computer Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed the CPU itself uses when communication with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.

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PnP/PCI Configurations

PnP OS Installed	[NO]	Item Help
Reset Configuration Data	[Disabled]	-----
➤Resources Controlled By	[Auto (ESCO)]	Menu Level ➤
➤IRQ Resources	[Press Enter]	Default is Disabled. Select
➤PCI/VGA Palette Snoop	[Disabled]	Enabled to reset Extended
Assign IRQ For VGA	[Enabled]	System Configuration
Assign IRQ For USB	[Enabled]	Data(ESCD) when you exit
		Setup if you have installed a
		new add-on and the system
		reconfiguration has caused
		such a serious conflict that the
		OS cannot boot
↑↓←→Move Enter: Select +/-/PU/PD: Value F10:Save ESC: Exit F1:General Help F5: Previous Values F6:Fail-safe defaults F7:Optimized Defaults		

3-8.1 PNP OS Installed

This item allows you to determine install PnP OS or not.

The choice: YES, NO

3-8.2 Reset Configuration Data

Normally, you have this field Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the operating system can not boot.

The choice: Enabled, Disabled

3-8.3 Resource controlled by

The Award Plug and Play BIOS has the capacity to automatically configure all of the boot 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 set this field to “manual” chose specific resources by giving into each of the sub menu that follows this field (a sub menu is preceded by a “>”).

The choice: Auto (ESCD), Manual.

3-8.4 IRQ Resources

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

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

This item allows you to determine the IRQ assigned to the ISA bus and is not available to any PCI slot. Legacy ISA for devices compliant with the original PC/AT bus specification, PCI / ISA PnP for devices compliant with the Plug and Play standard whether designed for PCI or ISA bus architecture.

The choice: Legacy ISA and PCI/ ISA PnP.

3-8.5 PCI/ VGA Palette Snoop

Leave this field at Disabled.

The choice: Enabled, Disabled.

3-8.6 Assign IRQ for USB / VGA

This item allows the user to Enable/Disable the Assign IRQ for USB / VGA.

The choice: Enabled, Disabled.

3-8.7 PC Health Status

This section helps you to get more information about your system including CPU temperature, Fan speed and voltages. It is recommended that you contact with your mainboard supplier to get proper value about your setting of the CPU temperature.

Current CPU Temp.		Item Help
Current System Temp.	22°C/71	-----
Current CPUFAN1 Speed	ORPM	Menu Level ➤
Current CPUFAN2 Speed	ORPM	
Vcore	1.50V	
2.5V	2.48V	
3.3V	3.35V	
5V	5.00V	
12V	12.06V	
↑↓←→ Move Enter: Select+/-/PU/PD: Value F10:Save ESC: Exit F1:General Help F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults		

Current System Temperature

Show you the current system temperature.

Current CPU FAN1 Speed

Show you the current CPU FAN1 Speed.

Current CPU FAN2 Speed

Show you the current CPU FAN2 Speed.

Vcore

Show you the current system voltage.

3-9 Frequency/ Voltage Control

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Frequency/Voltage Control

Auto Detect DIMM/PCI CLK	[Enabled]	Item Help
Spread Spectrum	[Disabled]	-----
CPU Host Clock(CPU/PCI)	[Default]	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		

3-9.1 Auto Detect

This item allows you to enabled/ disabled auto detect DIMM/PCI.

The choice: Enabled, Disabled.

3-9.2 Spread Spectrum Modulated

This item allows you to enable/ disabled the spread spectrum modulate.

The choice: Enabled, Disabled.

3-9.3 CPU Host Clock (CPU/PCI)

This item allows you to select the CPU host clock.

3-10 Defaults Menu

Selecting “Defaults” from the main menu shows you two options which are described below.

3-10.1 Load Fail-safe Defaults

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

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

Pressing “Y” loads the BIOS default values for the most stable , minimal performance system operations.

3-10.2 Load Optimized Defaults

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

Load Optimized Defaults (Y/N) ? N

Pressing “Y” Loads the defaults values tat are factory settings for optimal performance system operations.

3-11 Supervisor / User Password Setting

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

3-11.1 Supervisor password:

can enter and change the options of the setup menus.

3-11.2 User password:

Just can only enter but do not have the right to change the options of the setup menus. When you select the function, the following message will appear at the center of the screen to assist you in creating a password:

ENTER PASSWORD:

Type the password, up to eight characters in length, and press <Enter>.the password typed now will clear any previously entered 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 abort the selection and not enter a password.

To disable a password, just press <Enter> when you are prompted to enter the password. A message will confirm the password will be disabled. 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 enter it every time you try to 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 determine when the password is required within the BIOS Features Setup menu and its Security options (see Section3). If the Security option is set to “System”, the password will be required both at boot and at entry to Setup. Of set to “Setup”, prompting only occurs when trying to enter Setup.

3-12 Exiting Selecting

3-12.1 Save & Exit Setup

Pressing<Enter> on this item ask for confirmation:

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

Press “Y” store the selections made in the menu in CMOS- a special section of memory that stays on after you turn your system off. The next time you boot your computer , the BIOS configure your system according to the Setup selection stored in CMOS. After saving the values the system is restarted again.

3-12.2 Exiting Without Saving

Pressing <Enter> on this item ask for confirmation:

Quit without saving (Y / N) ? Y

This allows you to exit Setup without in CMOS any change. The previous selection remain in effect. This exit the Setup utility and restarts your computer.

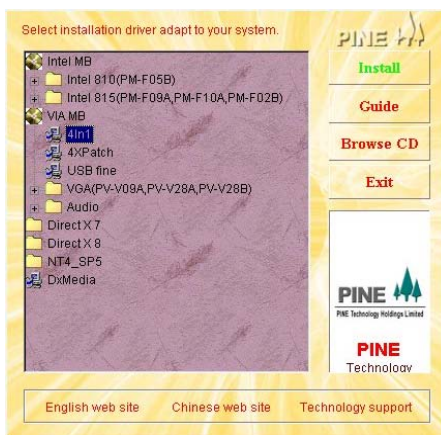
Chapter 4

Driver Installation

4-1 Driver Installation for Windows 95 / 98

4-1.1 Installation of VIA 4in1 driver :

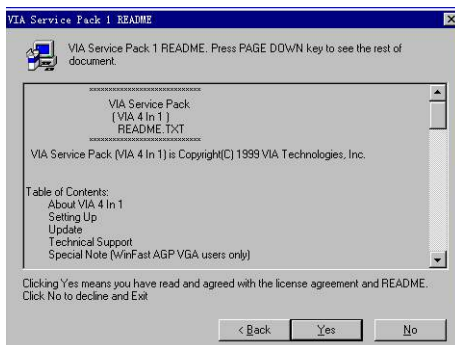
- 1、 Put the driver CD into CD-ROM, the program will run automatically, select “4 in 1” driver in VIA MB, then click “ Install” on the upper right corner and start to install.



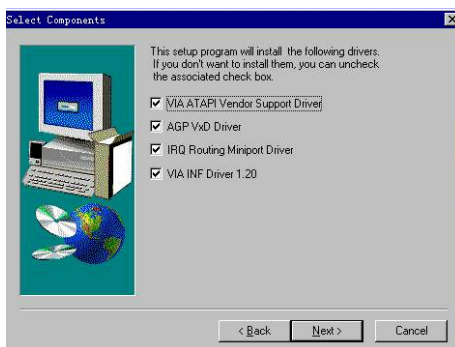
2. Welcome interface, click “Next” to go on.



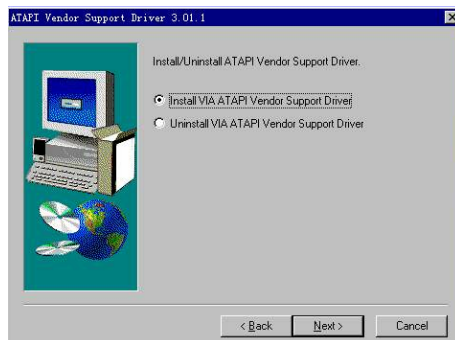
- 3、 Readme file appears, click “Yes” to go on.



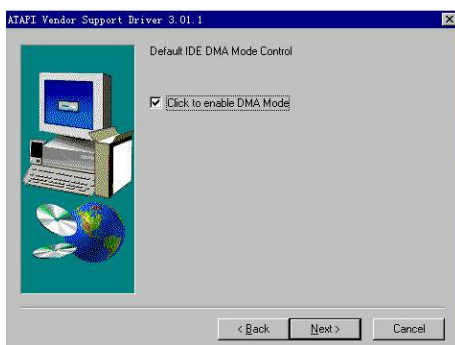
- 4、 Select components, select all then click “Next” to go on.



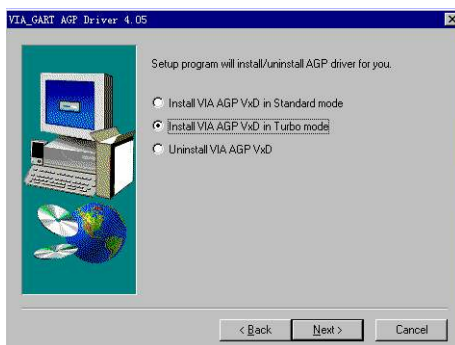
- 5、 “ATAPI” driver installation, click “Next” to go on.



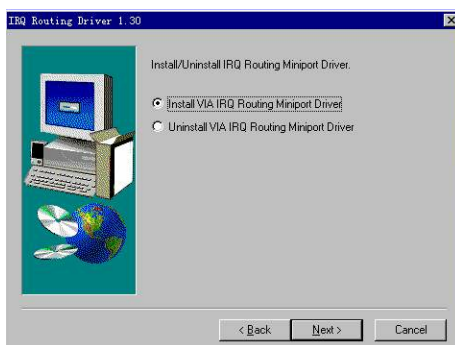
6、 DMA mode selection, click “Next” to go on.



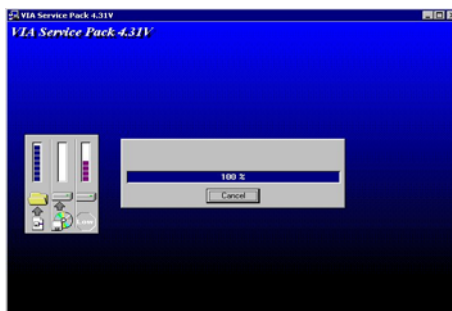
7、 Select AGP driver installation mode , click “Next” to go on.



8、 Select “Install IRQ driver”, click “Next” to go on.



9、 Begin to copy the file.

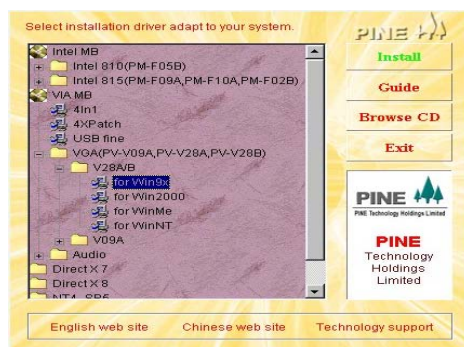


10、 Click "Finish" to end the 4 in 1 driver installation.



4-1.2 Installation of the VGA card driver.

1、 Put the driver CD into CD-ROM, program will run automatically, select "for win9x" driver in VIAMB\VGA\V28A/B, then click "Install" on the upper right corner, start to install.



2. Welcome interface, click “Next” to go on.

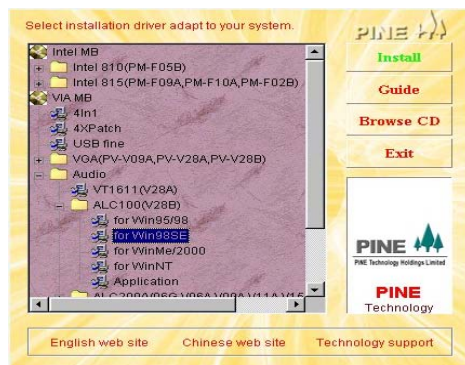


3. Select “Yes”, then click “Finish”, the installation finished.

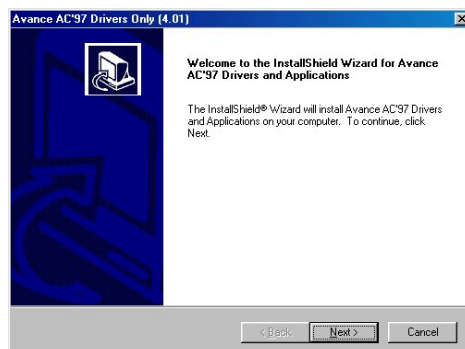


4-1.3 Sound Driver Installation:

1. Put the driver CD into CD-ROM, the program will run automatically, select “for Win98SE” driver in VIAMB\ Audio \ Alc100, then click “Install” on the upper right corner, start to install.



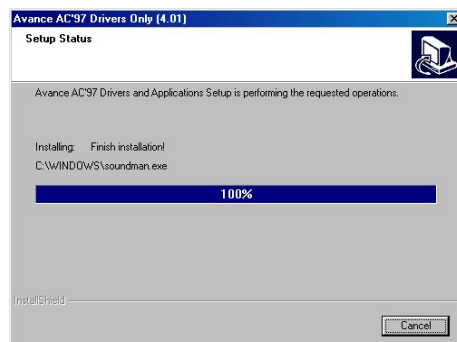
- 2、 Welcome interface, click “Next” to go on.



- 3、 Information interface, click “OK” to go on.



- 4、 Start to copy the files, go on.

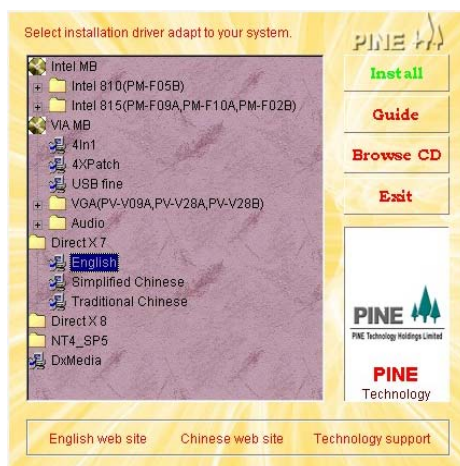


- 5、 Installation finished interface, click “Finish” to end the audio chipset driver installation.



4-1.4 DirectX7 Installation

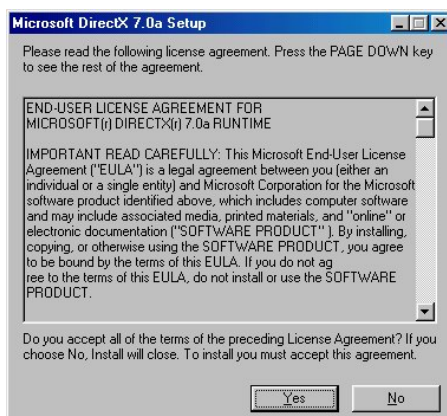
- Put the driver CD into CD-ROM, the program will run automatically, select “English” driver in DirctX7, then click “Install start the installation



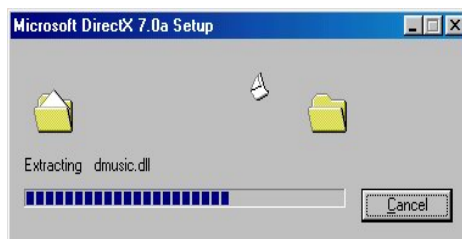
- Click “Yes” to go on.



3. Click “Next” to go on.



4. Decompressing files interface.



5. Updating DirectX interface.



6. The installation finished, Windows will ask you for reboot the computer, click “OK” to end the installation of DirectX.



4-2 Driver Installation for Windows 2000

4-2.1 4in 1 driver Installation

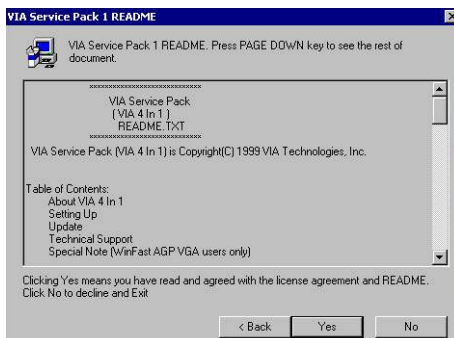
- Put the driver CD into CD-ROM, the program will run automatically, select “4 IN 1” driver in VIA MB, then click “Install” on the upper right corner and start the installation.



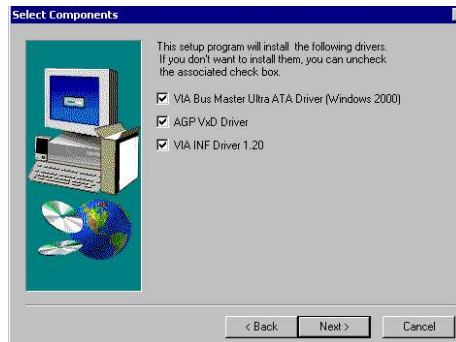
- Welcome interface, click “Next” to go on.



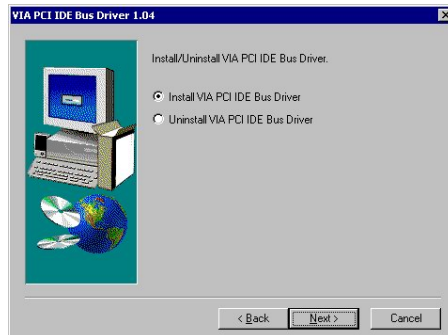
- README file appears, click “Next”.



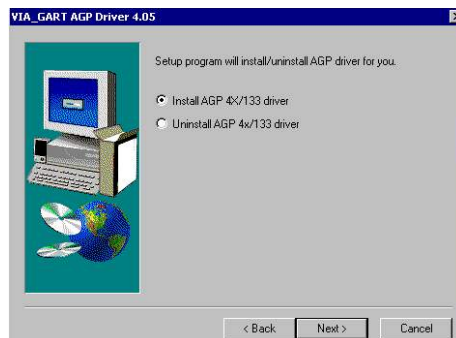
4、 Select components of the installation, choose all then click “Next” to go on.



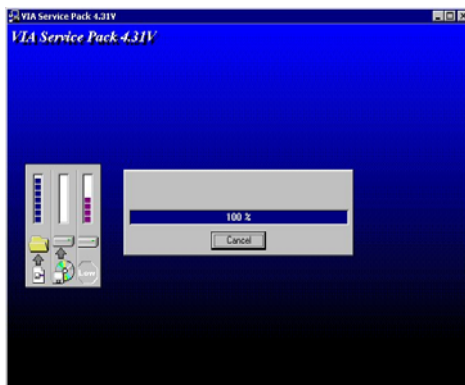
5、 “IDE” driver installation interface, select “Install VIA PCI IDE Bus Driver” , click “Next” to go on.



6、 Select “Install AGP 4X/133 driver”, then click “Next”.



7、 Start to copy files.

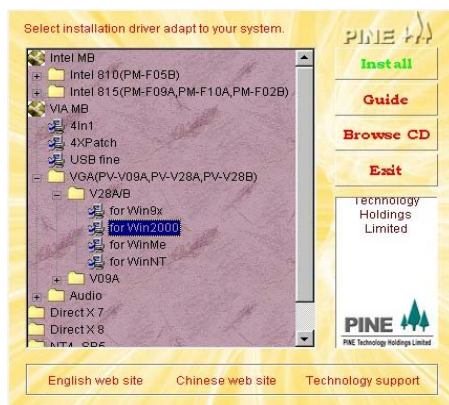


8、 Click “Finish”, the installation finished.

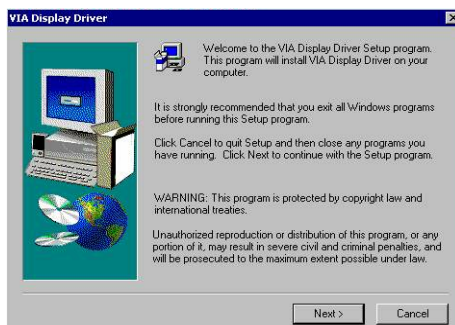


4-2.2 Installation of Graphics Display Driver

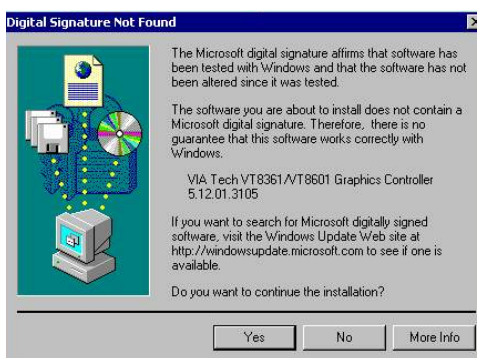
1、 Put the driver CD into CD-ROM, the program will run automatically, select “for Win2000” driver in VIAMB\VGA\V28A, then click “Install” on the upper right corner start the installation.



- 1、 Welcome interface, click “Next” to go on..



- 2、 Click “Yes” to go on.



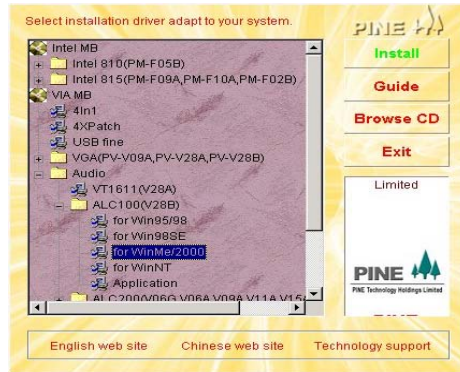
- 3、 Click “Finish”, the installation finished.



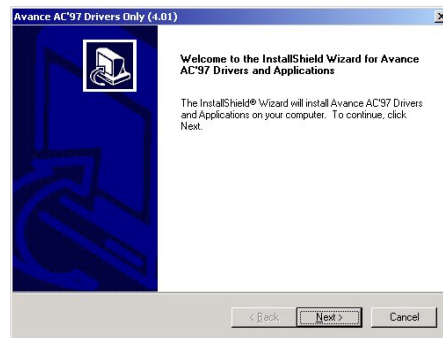
4-2.3 Sound Driver Installation:

- 1、 Put the driver CD into CD-ROM, the program will run automatically, select

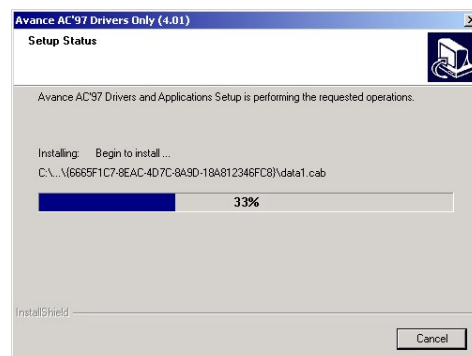
“for win2000” driver in VIAMB\Audio\Alc100, then click “Install” on the upper right corner and start the installation,



2、 Welcome interface, click “Next” to go on.



3、 Begin to copy files, go on.



- 4、 Click “Next” to go on.



- 5、 Click “Finish” to end the installation of sound driver.



Strongly recommend: After the installation of motherboard driver, please install DirectX7 or higher version and DX media.

★ *Note:*

1. **Direct X is an Application Programming Interface(API) released by Microsoft, it can greatly optimize the system resources, therefore, you must install it, esp.**

when you are playing games or playing multi-media files.

2. **Dx Media is particularly used to enhance the multi-media features by DirectX, also you must install it.**

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