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产品若有任何修改，或有对手册内容在印刷，排版上的错误修订，恕不另行通知。

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Intel 和 Pentium 是 Intel Corporation 注册的商标。

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FCC Compliance

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.

安全简介:

1. 请详细阅读本安全手册。
2. 保留本手册以供以后参考。
3. 在安装前请把设备放在平稳的地方。
4. 机箱上的通道是用于空气流通以防止设备过热，不要盖住通道。
5. 在把设备连接到电源接口之前，确认电源的电压是 110/220V.
6. 把电源线设在别人踩不到的地方，不要用任何物体盖住电源线。
7. 请注意设备上的所有提示和警告。
8. 不要让任何液体流入设备，以免发生危险或漏电。
9. 如下列的任何情形发生，可与维修人员联系。
10. 电线或插头损坏。
11. 设备中渗入液体。
12. 设备已暴露在湿气中。
13. 设备工作不稳定或根据用户手册设备仍不能运行。
14. 设备掉落以至损坏。
15. 如果设备已有明显的损坏痕迹。
16. 不要把设备放在不适环境中，不要存放在高于 60°C (140°F) 的环境中，否则可能损坏设备。

注意:如果电池放置错误，可能会发生爆炸，请只用制造商所指定的同样或相同类型电池。

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第一章 简介

此 ATX 主板是基于 Intel® Socket 370 处理器的高性能主板， Intel® Socket 370 处理器支持 MMX™（多媒体扩展技术）。

主板采用高度集成的 Intel® 440 BX 芯片支持提供 Host/AGP 技术。 440 BX 芯片集成所有系统控制功能，如 ACPI (高级配置和电源接口)。 ACPI 提供更多的能量存储功能用于 OSPM (OS 直接电源管理)功能。 BX 芯片也提高了支持 Ultra DMA 33 IDE 以 33 MB/秒的速率提供 IDE 传输。

1.1 主板特点

CPU

- Socket370 支持 Intel® Pentium® III Coppermine, Celeron 和 Cyrix® III 处理器。
- 支持 733 MHZ 以上速度。

芯片集

- Intel® 440 BX 芯片集

总线频率

- 66/100MHZ

主内存

- 支持 3 个 168 针 non-buffered DIMM.
- 支持最大内存 768MB
- 支持 3.3V SDRAM DIMM

扩展槽

- 1×AGP(2X)/5×PCL/2×ISA

板上的 IDE（支持 Ultra DMA 33）

- 一个基于 PCI 蕊片的 IDE 控制器提供带有 PIO 的 IDE HDD/CD-ROM，总线控制和 Ultra 33 operation 模式
- 可连接上 4 个 IDE 设备

板上的外围设备连接

- 1 个 FDD 接口支持 2 个 FDD 设备
- 2 个串行端口
- 1 个并行端口支持 SPP/EPP/ECP mode
- 1 个 IrDA 接口

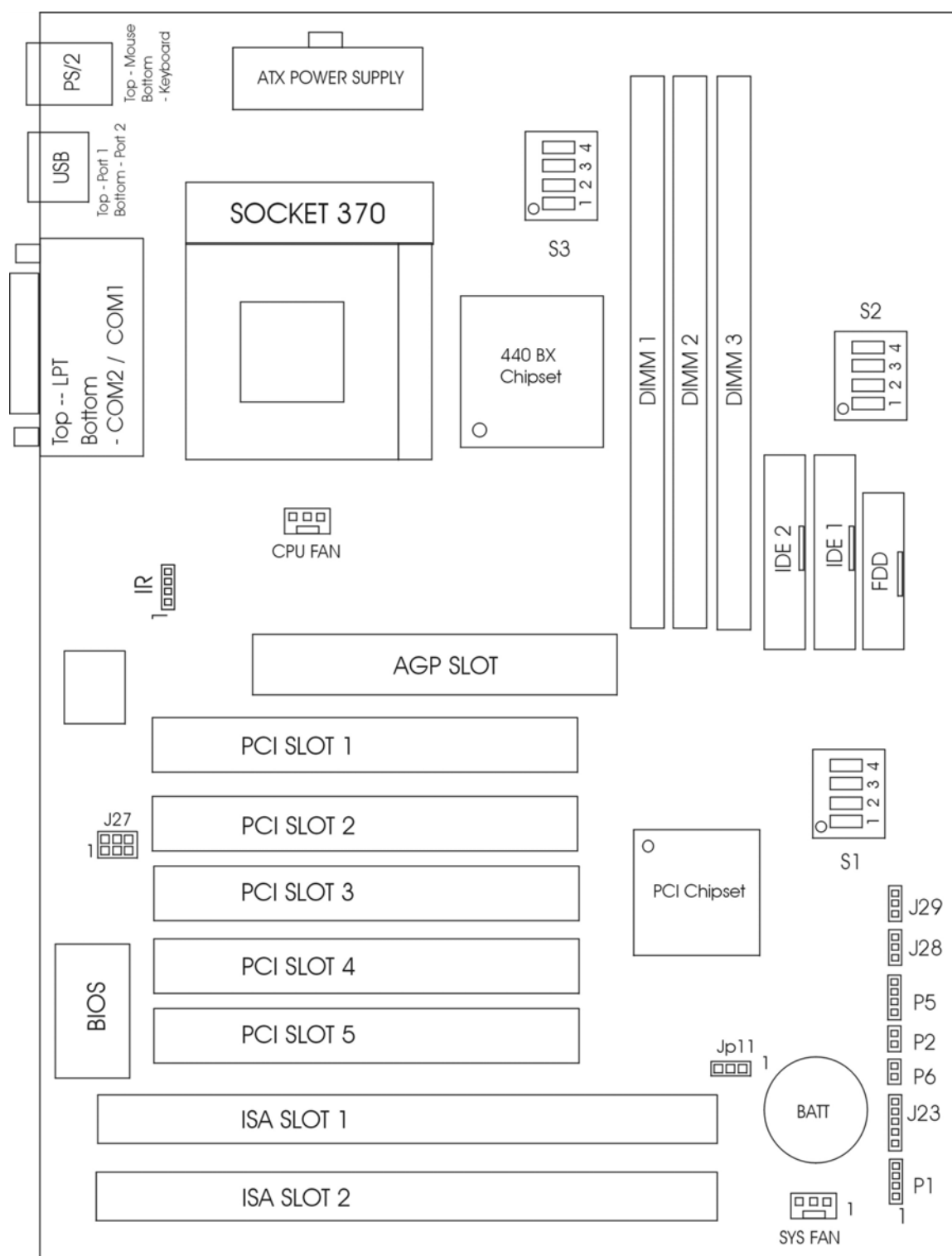
BIOS

- 即插即用，桌面管理界面（DMI）功能，高级配置和电源界面（ACPI），Anti-BIOS 功能

规格

- ATX 格式,30cm×19.2cm×4 层 PCB

1. 2 主板结构



PM-F01 板

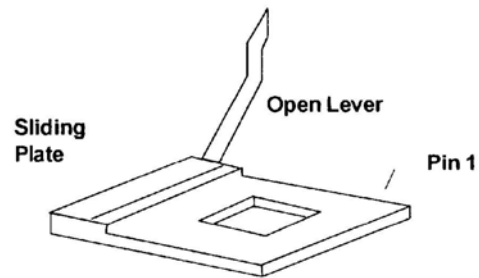
第二章 硬件安装

2.1 CPU

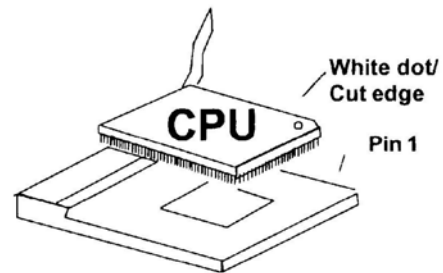
主板可选 Intel® Celeron™ 或 Pentium® III Coppermine 处理器.Socket 370 插座更易进行 CPU 安装。CPU 需配置一个热接收器和一个风扇以防止过热

2.1.1 CPU 安装步骤

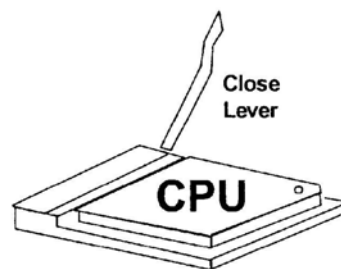
a.托动控制杆平向外侧拉离插座，再向上竖立成 90 度角



b.定位插座中 Pin 1 的位置并找到 CPU 上白色的点/剪切口，使 Pin 1 和白点 / 锯齿相对，然后很容易插入 CPU。



c.压下固定控制杆则完成安装



2.1.2 CPU 倍频设置 (S1 Dip 开关)

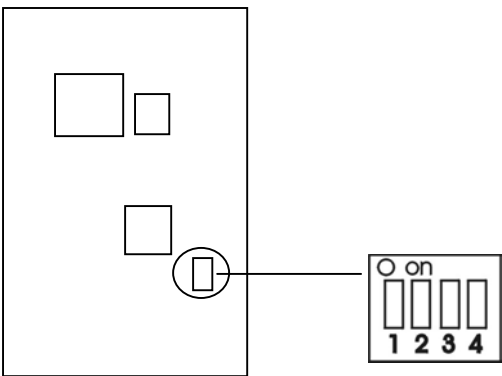
CPU 主频=CPU 外频×CPU 倍频

例：**CPU 外频** = 100MHZ

CPU 倍频 = 5.5

则 **CPU 主频** = 100MHZ×5.5
=550MHZ

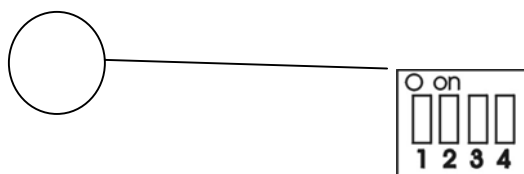
请调整 S1 dip 开关改变 CPU 倍频，“ON”是把 dip 设置成“开”。



CPU 倍频	S1 Dip 开关			
	1	2	3	4
1.5X	On	Off	Off	Off
2X	On	On	On	On
2.5X	On	On	Off	On
3X	On	Off	On	On
3.5X	On	Off	Off	On
4X	Off	On	On	On
4.5X	Off	On	Off	On
5X	Off	Off	On	On
5.5X	Off	Off	Off	On
6X	On	On	On	Off
6.5X	On	On	Off	Off
7X	On	Off	On	Off
7.5X	On	Off	Off	Off
8X	Off	On	On	Off

2.1.3 CPU 外频设置 (S2 Dip 开关)

请调整 S2 dip 开关改变 CPU 外频, “ON” 是把 dip 设置成 “开”。



S2 Dip 兼 CPU 频						
	CPU 外频	PCI 外频	1	2	3	4
推 荐	66.8 MHz	33.4 MHz	Off	Off	On	On
	75 MHz	37.5 MHz	Off	On	On	On
	83.3 MHz	41.65 MHz	On	Off	On	On
推 荐	100.3 MHz	33.3 MHz	Off	Off	Off	On
	103 MHz	34.3 MHz	On	On	Off	On
	105 MHz	35 MHz	Off	Off	On	Off
	110 MHz	36.67 MHz	On	Off	On	Off
	112 MHz	37.33 MHz	Off	On	Off	On
	115 MHz	38.33 MHz	Off	On	On	Off
	120 MHz	40 MHz	On	On	On	Off
	124 MHz	31 MHz	On	Off	Off	Off
推 荐	133 MHz	33.25 MHz	Off	Off	Off	Off
	133 MHz	44.33 MHz	On	Off	Off	On
	140 MHz	35 MHz	On	On	Off	Off
	150 MHz	37.5 MHz	Off	On	Off	Off

警告：除了在正常的 CPU 外频（被推荐）上，其它的则可用于内部测试或最终用户超频使用，可能会导致你的系统不稳定或严重损坏。

2.1.4 Intel®处理器或 Cyrix®处理器： S3 Dip 开关

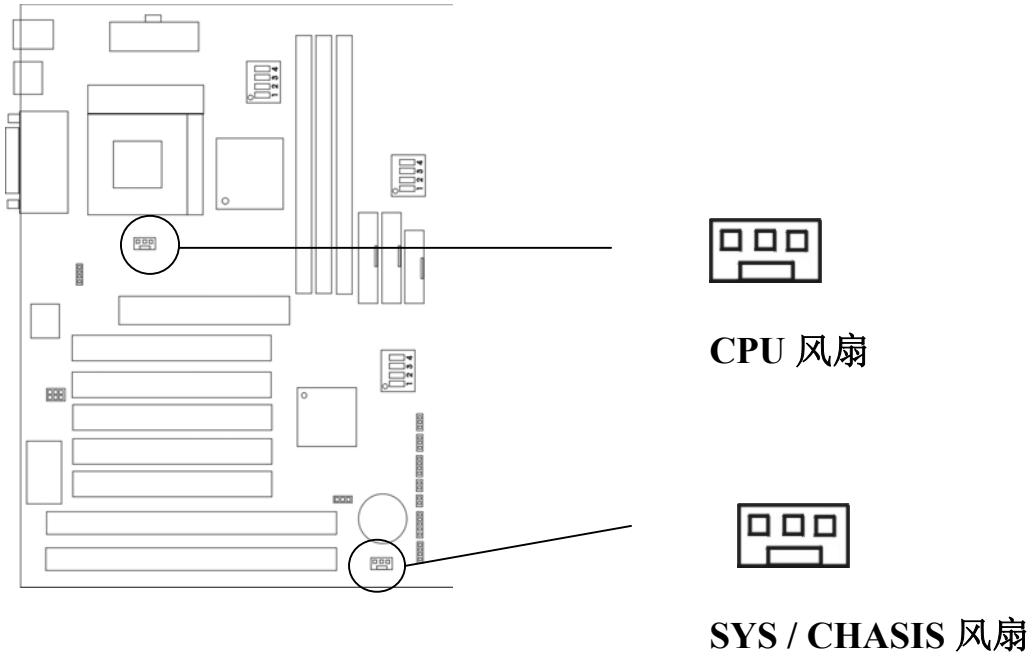
使用 Imtel 处理器或 Cyrix 处理器，应按如下表格设置 S3 dip 开关。

Intel® CPU			
CPU 外频	S3 Dip 开关		
	1	3	4
66 MHz /自动检测	On	Off	On
100 MHz	Off	Off	On
133 MHz	Off	Off	Off

Cyrix® CPU			
CPU 外频	S3 Dip 开关		
	1	3	4
66 MHz / 自动检测	On	On	Off
100 MHz	Off	On	Off
133 MHz	Off	Off	Off

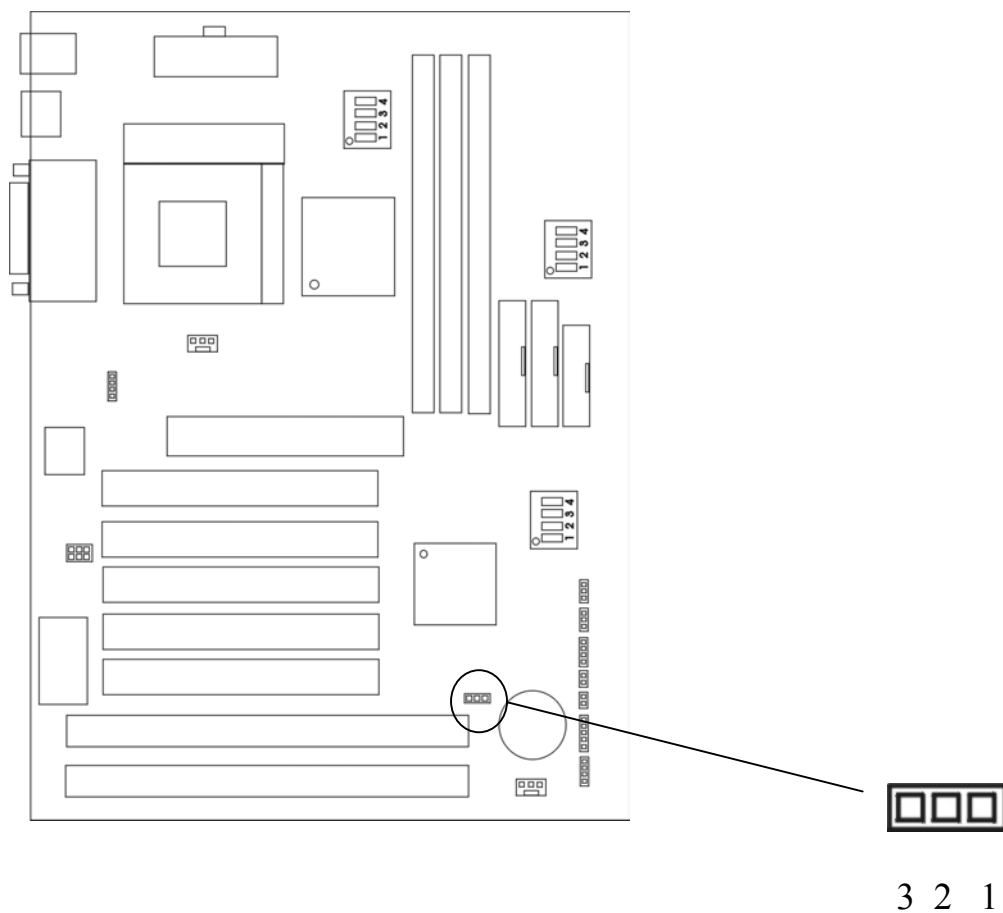
2.1.5 CPU 风扇接口

此接口支持 +12V 的系统致冷风扇，支持三针接口。



2.1.6 CMOS 跳线：JP11

电池用来保持主板的 CMOS RAM 配置，JP11 的 1-2 针用来存储 CMOS 数据



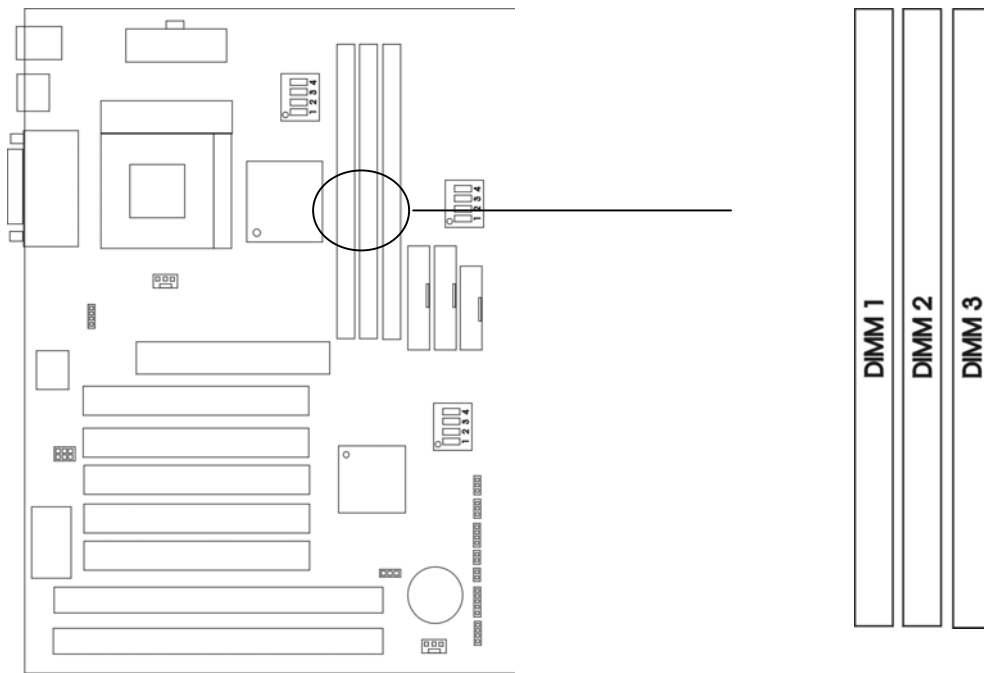
Short Pin	CMOS
1-2	Keep Data
2-3	Clear Data

注意：将系统关闭后，你能用短接 2-3pin 擦除 CMOS，重新设成 1-2pin 位置；当系统打开的时候避免擦除 CMOS 以免损坏主板。

2. 2 内存安装

2.2.1 内存组合配置

主板支持最大的内存为 768MB (256M×3) 它提供 3 个 168-pin non-buffered DIMM(Double In-Line Memory Module)插座



警告： 主板支持三种指定的 DIMM：PC133，PC100，PC66。如果你用 66MHz CPU 总线频率，可支持三种 DIMM 规格，如果你用 100MHz CPU 总线频率,可支持 PC100 和 PC133 的 DIMM，如果你用 133MHz CPU 总线频率,仅支持 PC133 的 DIMM。

内存速度正常定位于：-15，-12，-10，-7，-8，PC-100，PC-133

解释：

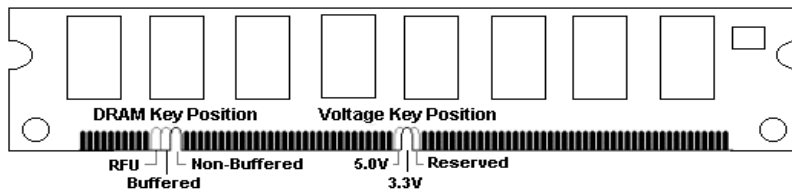
- 15=15ns,最大的时钟是 66MHz
- 12=12ns 最大的时钟是 83MHz
- 10=10ns 最大的时钟是 100MHz
- 7=7ns 最大的时钟是 125MHz
- 8=8ns 最大的时钟是 142MHz

PC-100/PC133 = 新的 Intel 规格的用于 100MHz 或更高 CPU 总线时钟的高速内存

此主板支持以上所有内存速度；如果你的系统设置为 100Mhz 或更高 CPU 总线时钟，为了得到更好的性能和可靠性，我们建议你使用 PC-100SDRAM。

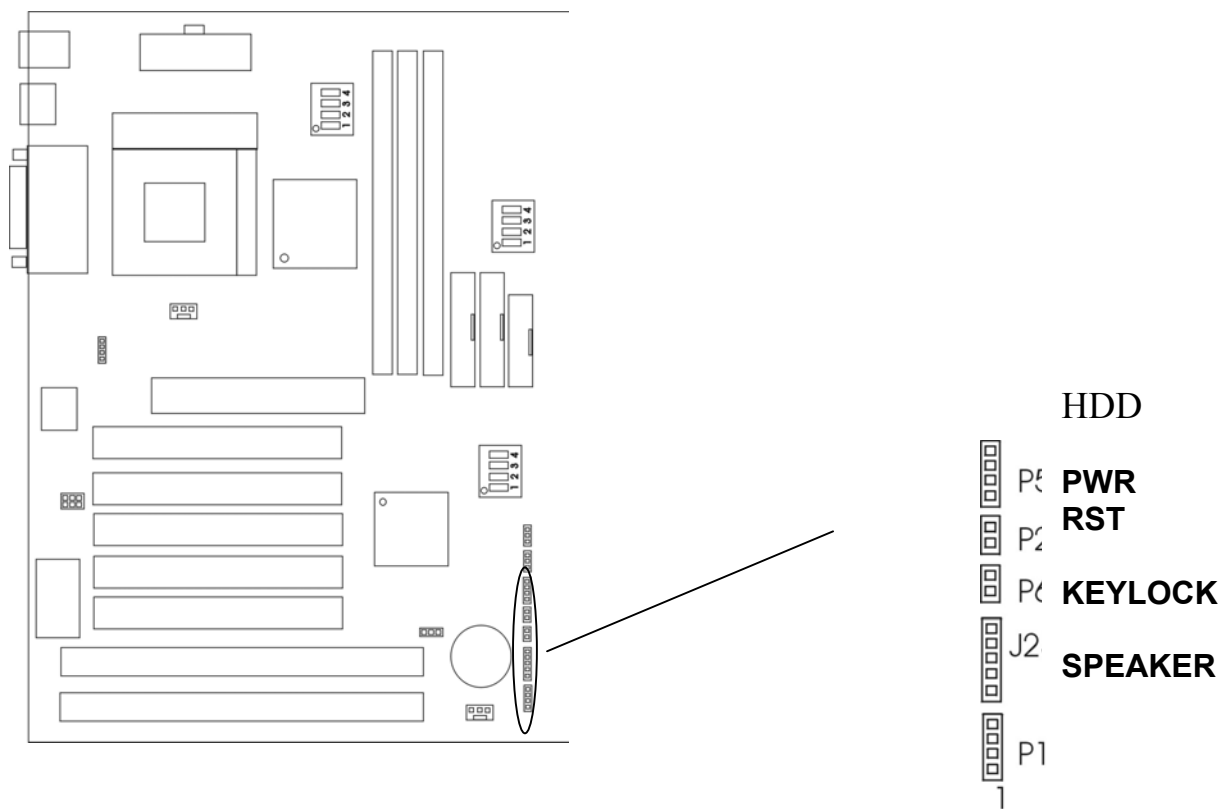
2.2.2 内存安装步骤

- DIMM 槽有 2 个凹口 'volt and DRAM', 所以 DIMM 内存只能适合一个方向。



- 把 DIMM 内存模块垂直插入 DIMM 槽,然后推到里面去。
- 在 DIMM 槽侧面的塑胶夹将自动关闭。

2.2 机箱接口



硬盘活动指示灯: P5 HDD

HDD LED 显示硬盘的活动状态,当 HDD LED 发亮的时候要避免关掉电源. 你可以把 HDD LED 从系统机箱连到 P5 针

Pin	说 明
1	Active Signal
2	Ground
3	Ground
4	Active Signal

ATX 软开关接口: P2 PWP

从机箱上的电源开关连接此针 P2，它提供即时 ON/OFF 功能。

RESET 接口: P6 RST

RESET 开关用来重新启动相当于按电源开关 ON/OFF ,当 HDD LED 闪烁时,不要重新启动,从机箱上的 RESET 开关连接此针 P6。

设置	说 明
打开	Normal mode
关闭	Reset system

键盘和电源指示灯接口: J23 KEYLOCK

键盘允许你为安全用途锁定键盘, 可以把 keylock 连接到此针 J23

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

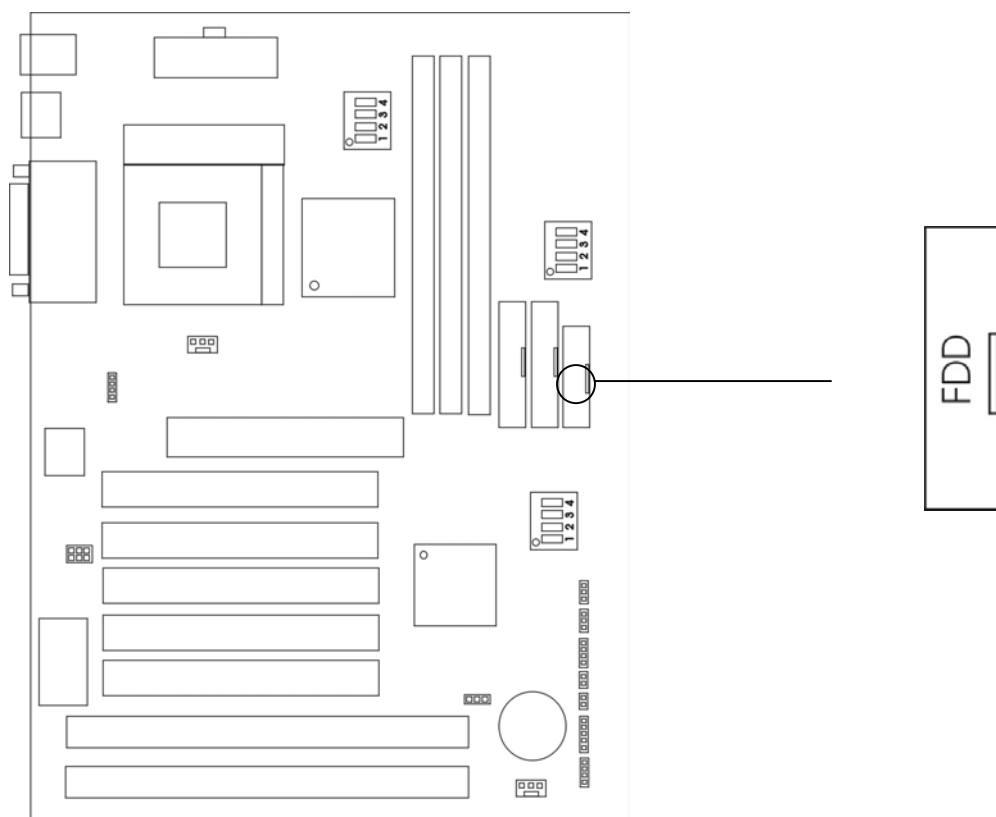
扬声器接口: P1 SPEAKER

扬声器从机箱连接到这个 P1 针

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

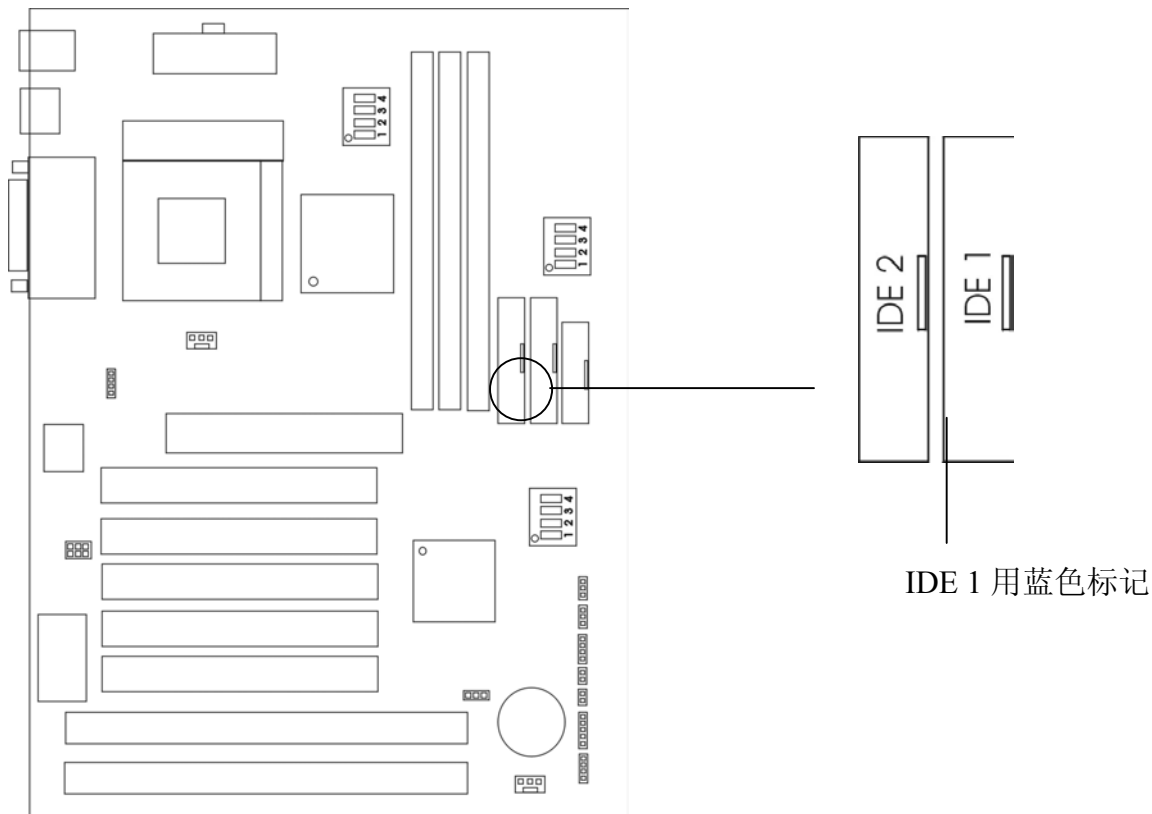
2. 3 软驱接口：FDD

主板也提供一个标准的软驱接口（FDD）,支持 360K， 720K， 1.2M， 1.44M 和 2.88M 软驱类型。



2. 4 硬盘接口：IDE1&IDE2

主板有一个 32-bit 增强 IDE 控制器提供 PIO mode 0-4，Bus Master 和 Ultra DMA 33/66。它有 2 个 HDD 接口 IDE1（第一个）和 IDE2（第二个），你能连接 4 个硬盘驱动器，CD-ROM 和其它装置到 IDE1 和 IDE2。



IDE1（第一个 IDE 接口）

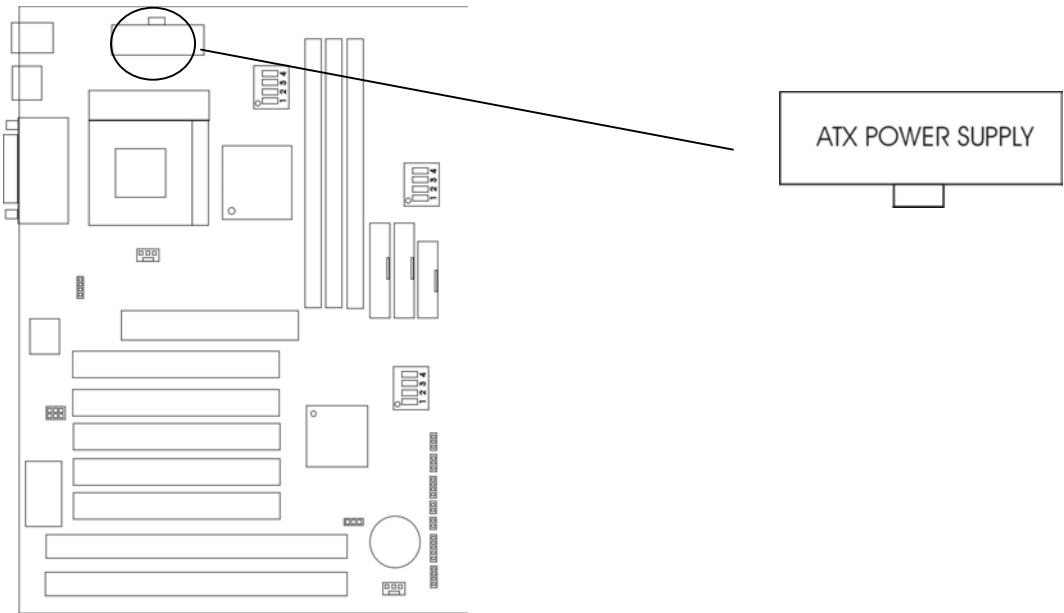
第一个硬盘驱动器应总是连接到 IDE1。IDE1 能连到一个主盘和一个从盘驱动器，你必须用设置跳线来配置第二个硬盘驱动器成为从盘模式。

IDE2（第二个 IDE 接口）

IDE2 也能连接一个主驱动器、一个从驱动器。

2. 5 供电电源

这个接口支持板上的电源按钮，用 ATX 电源，本主板提供 Modem 唤醒等功能。



警告：因为主板有即时电源打开功能，所以在插入电源接口之前要确信所有组件已正确安装以避免发生危险。

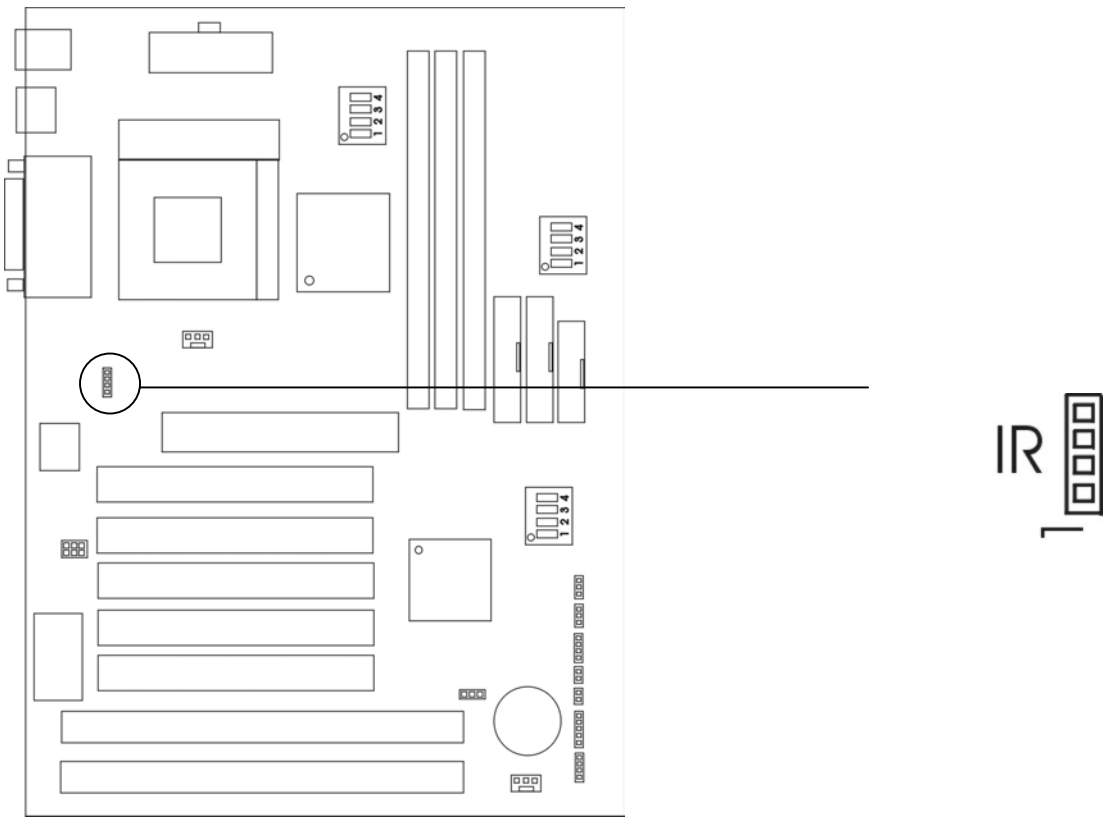
ATX 电源支持一个 20 针接口

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：一些 ATX 电源没有 -5V 电压输出，它将影响 ADD-ON 卡设备的功能。

2. 6 红外线（IrDA Infrared Module）接头连接

主板提供 4 针 IR 模式红外线接头连接，这个接头连接是可选无线传输和接收红外线模式，你必须通过 BIOS 设置使用 IR 功能。



Pin	说 明
1	VCC
2	IRRX
3	Ground
4	IRTX

2. 7 串行，并行、USB、鼠标、键盘接口。

串行端口接口：COM1 和 COM2

主板的串行端口 COM1 和 COM2 拥有 2 个 9 针凸出 DIN 接头，这些端口是 16550A 高速通讯端口，发送/接收 16bytes FIFOS 你能把一个鼠标或一根 Modem 线直接接入这个接口。

并行端口接头：LPT

主板为 LPT 提供一个 25 针凹口，一个并形端口是一个标准的打印端口也支持增强并行端口（EPP）和扩展容量并行端口（ECP）。

USB 接口

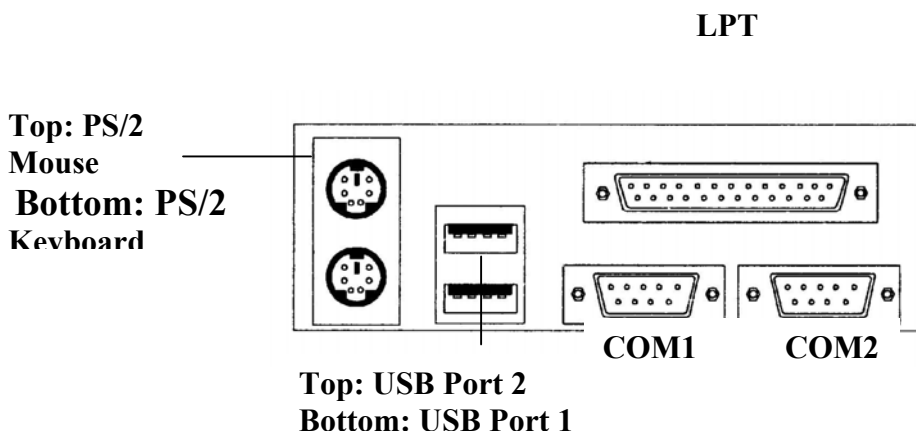
主板支持一个 UHCI（Universal Host Controller Interface），串行总线连接 USB 设备如：键盘、鼠标和其它 USB。你能直接插上 USB 设备到这个接口。

鼠标接口

主板提供一个标准的 PS/2 鼠标最小化 DIN 连接口用于连接 PS/2 鼠标，你能直接插入一个鼠标到这个接口。

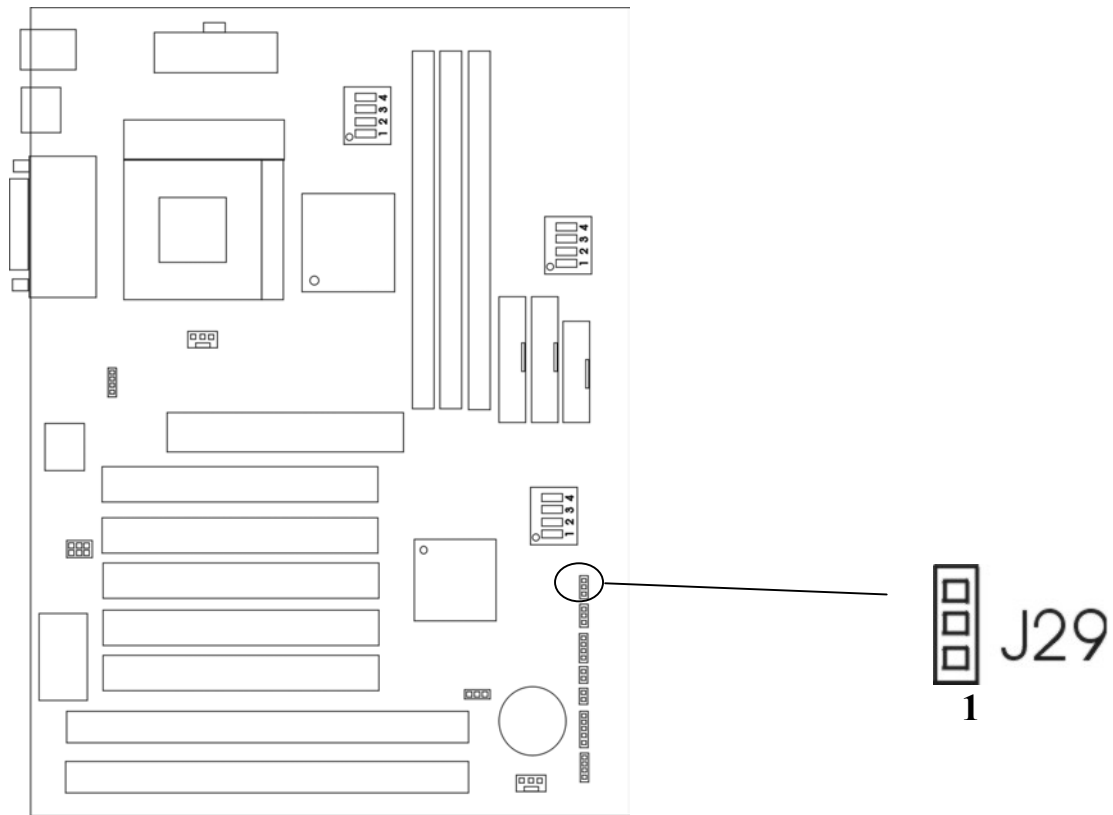
键盘接口

主板提供一个标准的 PS/2 键盘最小化 DIN 连接口用于连接 PS/2 键盘，你能直接插入一个键盘到这个接口。



2.8 LAN 唤醒：J29 WVL

J29 接口是用 LAN add-on cards 支持 LAN 唤醒功能，使用这个功能，你需要在 BIOS Power Management Setup 中把 “Wake-up on LAN” 设置为 “enable”。

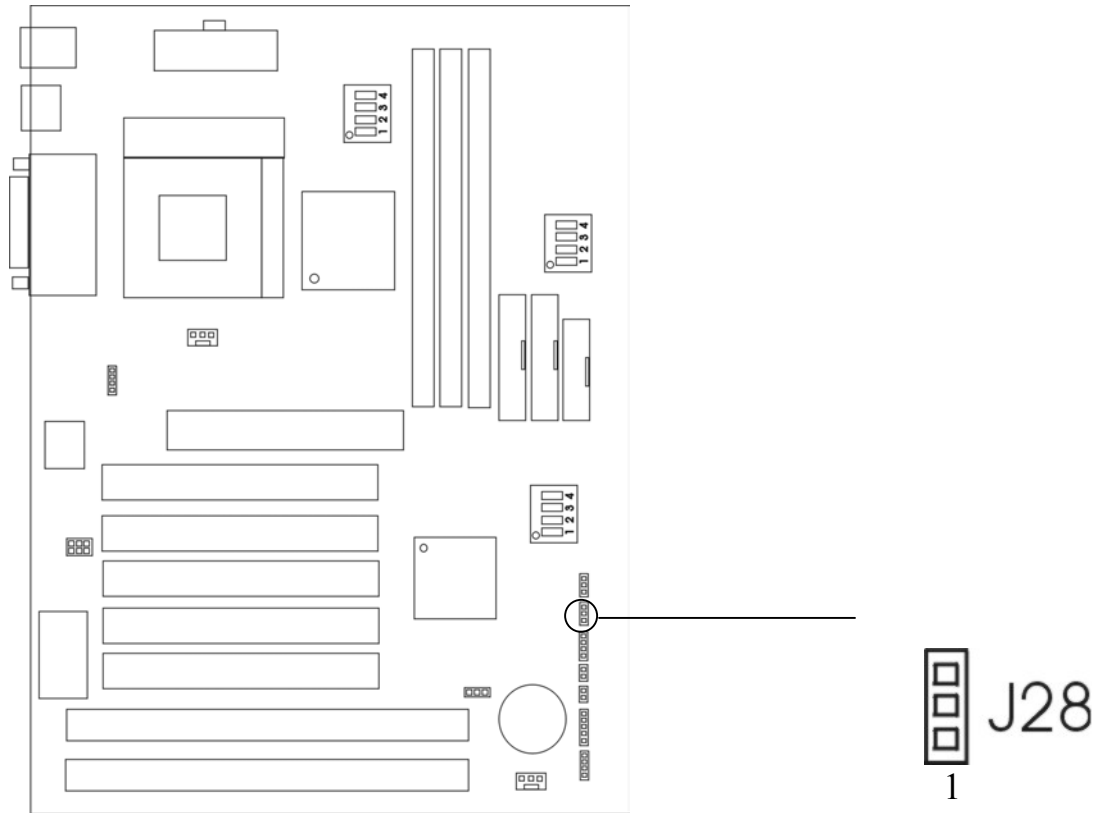


PIN	SIGNAL
1	5VSB
2	GND
3	WAKE-UP SIGNAL

注意：用此功能，你需要足够的电源供应（电源支持 740ma 5V Stand-by）

2.9 Modem 唤醒

J28 接口是用于支持 Modem 唤醒功能 Modem add-on Card，要使用此功能，你需要在 BIOS Power Management Setup 中把 “Modem Ring Resume” 设置为 “enable”。

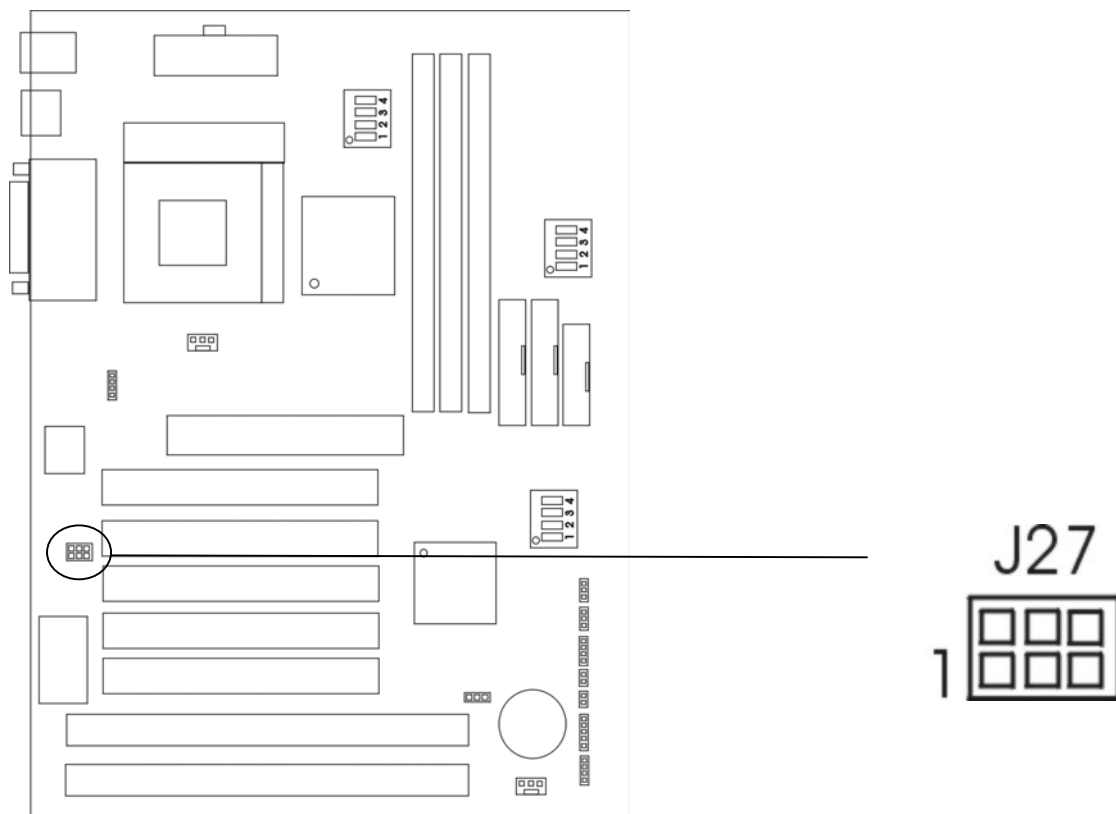


PIN	SIGNAL
1	5VSB
2	WAKE-UP SIGNAL
3	GND

注意：用此功能，需要有供应足够的电源（电源支持 740ma 5V Stand-by）

2. 10SB-link 接口：J27 SBLINK

SBLINK 是一个特殊使用的用于 Creative PCI 声卡的接口，SB-link 通过一根连线从 ISA 总线连接到 PCI 声卡，这是因为一些基于 DOS 的游戏定位于 ISA 总线。



Chapter 3 BIOS SETUP

BIOS ROM 有一个内建设置程序，它允许用户修改基本系统配置。此类型信息被储存在 battery-backed RAM (CMOS RAM), 因此当电源关闭后，能保留设置信息。

3.1 进入 BIOS 设置

打开计算机后立即按 键可进入设置程序。另一个方法是打开计算机电源，在自测时，“ TO ENTER SETUP BEFORE BOOT PRESS <CTRL-ALT-ESC> OR KEY ” 出现在屏幕的底部，此时按键或同时按下<Ctrl><Alt>和<Esc>。

如果信息在你反应之前未出现而你仍然想进入设置程序，请重新关闭再打开计算机或按机箱上的“RESET”键，你也可以同时按<Ctrl><Alt> and <Delete>键重新启动计算机，如果你不能适时按下<del.>键并且系统不能被引导，将显示出下列一个错误信息：

PRESS <F1> TO CONTINUE, <CTRL-ALT-ESC> OR TO ENTER SETUP

3.2 主菜单

Main Menu

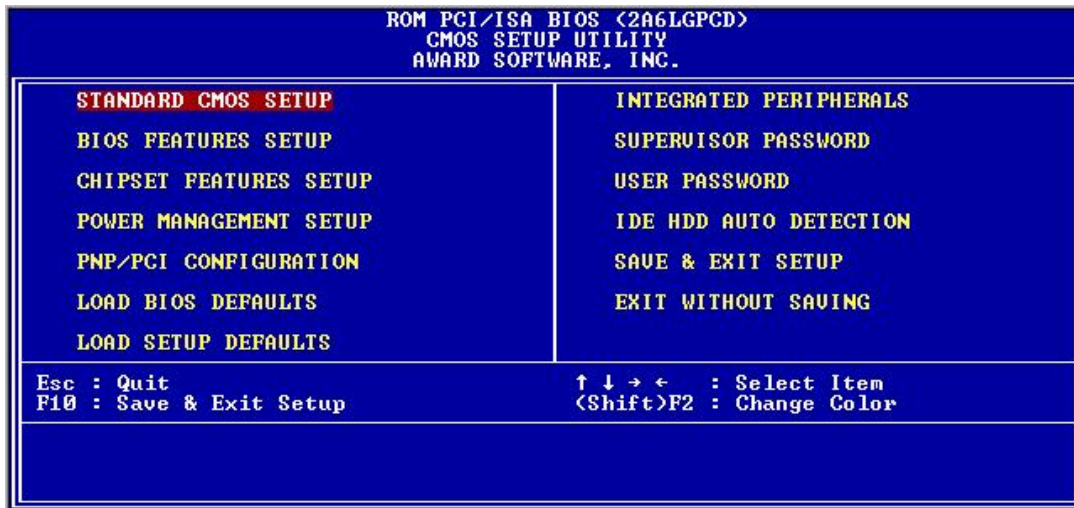
The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Status Page Setup Menu / Option Page Setup Menu

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

3.3 The Main Menu

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



Standard CMOS Setup

This setup page includes all the items in a standard compatible BIOS.

BIOS Features Setup

This setup page includes all the items of enhanced features.

Chipset Features Setup

This setup page includes all the items of chipset special features.

Power Management Setup

This category determines the power consumption for system after setting the specified items. Default value is Disable.

PNP/PCI Configuration

This category specifies the IRQ level for PCI and ISA devices.

Load BIOS Defaults

Chipset defaults indicates the values required by the system for stable performance.

Load Setup Defaults

Chipset defaults indicates the values required by the system for the maximum performance.

Integrated Peripherals

Change, set or disable onboard I/O, IRQ and DMA assignment.

Supervisor Password

Change, set or disable password. This function allows the user access to the system and setup or just setup.

IDE HDD Auto Detection

Automatically configure hard disk parameters.

Save & Exit Setup

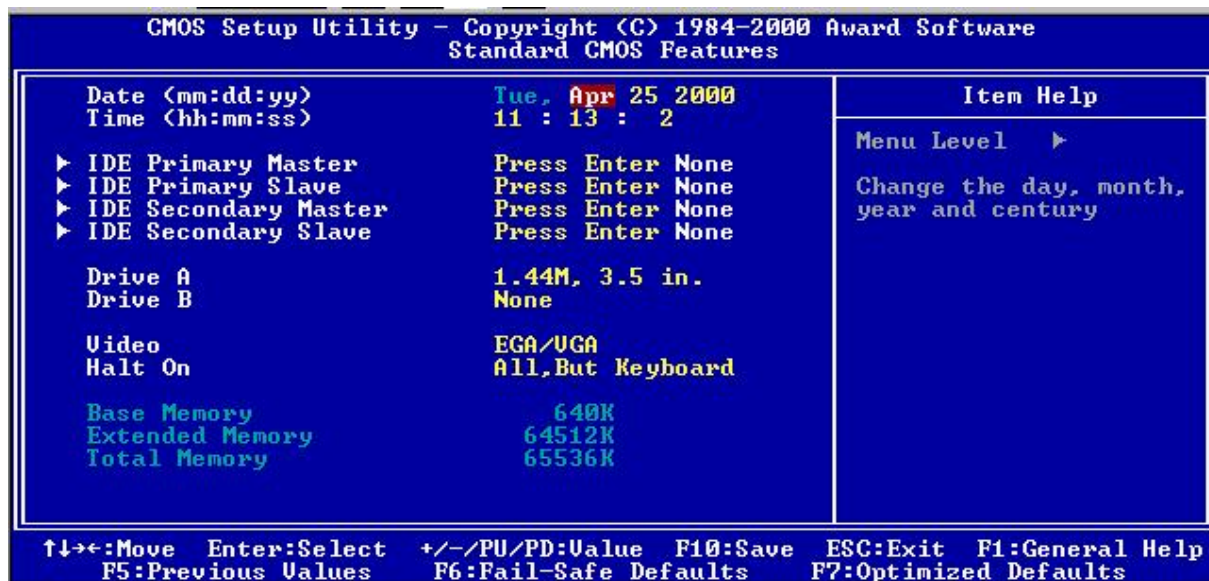
Save CMOS value changes to CMOS and exit setup.

Exit Without Saving

Abandon all CMOS value changes and exit setup.

3.4 Standard CMOS Setup

The items 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.



Date

The date format is <day><month><date><year>.

Time

The time format is <hour><minute><second>.

Primary Master / Primary Slave

Secondary Master / Secondary Slave

These categories identify the types of 2 channels that have been installed in the computer. There are 45 pre-defined types and 4 user definable types for Enhanced IDE BIOS. Type 1 to 45 are pre-defined. Type User is user-definable.

Press PgUp or PgDn to select a numbered hard disk type or type the number and press <Enter>. Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for

this category. If your hard disk drive type is not matched or listed, you can use Type User to define your own drive type manually.

If you select Type User, related information is asked to be entered to the following items. Enter the information directly from the keyboard and press <Enter>. This information should be provided in the documentation from your hard disk vendor or the system manufacturer.

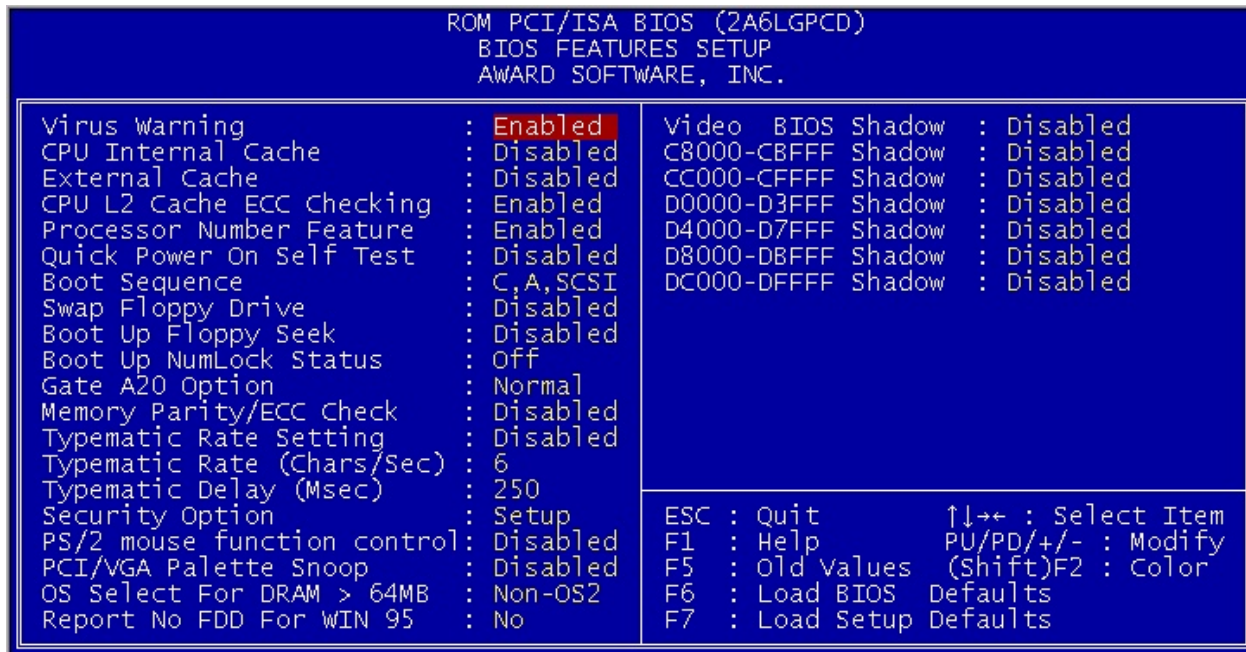
If the controller of HDD interface is ESDI, the selection shall be “TYPE 1”.

If the controller of HDD interface is SCSI, the selection shall be “NONE”.

If the controller of HDD interface is CD-ROM, the selection shall be “AUTO”.

CYLS	number of cylinders
HEADS	number of heads
PRECOMP	write protection
LANDZONE	landing zone
SECTORS	number of sectors
MODE HDD	access mode

3.5 BIOS Features Setup



Virus Warning

During and after the system boots up, any attempt to write to the boot sector or partition table of the hard disk drive will halt the system and the following error message will appear. For the meantime, you can run an anti-virus program to locate the problem.

Disabled	No warning message to appear when anything attempts to
(Default)	access the boot sector or hard disk partition table.
Enabled	Activates automatically when the system boots up causing a
	warning message to appear when anything attempts to access
	the boot sector of hard disk partition table.

CPU Internal Cache

The default value is Enabled.

Enabled (Default) Enable cache

Disabled Disable cache

Note: The internal cache is built in the processor

External Cache

Choose Enabled or Disabled. This option enables the level 2 cache memory.

CPU L2 Cache ECC Checking

Choose Enabled or Disabled. This option enables the level 2 cache memory ECC (error check correction). Using 66Mhz CPU Bus Pentium® II processor, set to Enables or Disabled. For Celeron™ processor w/o cache, always set to Disabled.

Quick Power On Self Test

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

Enabled	Enable quick POST
Disabled (default)	Normal POST

Boot Sequence

This category determines which drive the computer searches first for the disk operation system. Default value is A, C, SCSI.

Swap Floppy Drive

Switches the floppy disk drives between being designated as A and B. Default is Disabled.

Boot Up Floppy Seek

During POST, BIOS will determine if the floppy disk drive installed is 40 or 80 tracks. 360K type is 40 tracks while 760K, 1.2M and 1.44M are all 80 tracks.

Boot Up Numlock Status

The default value is On.

On (Default)	Keypad is numeric keys.
Off	Keypad is arrow keys.

Gate A20 Option

Normal	The A20 signal is controlled by keyboard controller or chipset hardware.
Fast (Default)	The A20 signal is controlled by port 92 or chipset specific method.

Security Option

This category allows you to limit access to the system and Setup, or just to Setup.

System	The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt.
Setup (Default)	The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt.

PCI VGA Palette Snooping

Choose Disabled or Enabled. Some graphic controllers which are not VGA compatible, take the output from a VGA controller and map it to their display as a way to provide the boot information and the VGA compatibility.

However, the color information coming from the VGA controllers is drawn from the palette table inside the VGA controller to generate the proper colors, and the graphic controller needs to know what is in the palette of the VGA controller. To do this, the non-VGA graphic controller watches for the Write access to the VGA palette and registers the snoop data. In PCI based systems, where the VGA controller is on the PCI bus and a non-VGA graphic controller is on an ISA bus, the Write Access to the palette will not show up on the ISA bus if the PCI VGA controller responds to the Writes.

In this case, the PCI VGA controller should not respond to the Write. It should only snoop the data and permit the access to be forwarded to the ISA bus. The non-VGA ISA graphic controller can then snoop the data on the ISA bus. Unless you have the above situation, you should disable the option.

Disabled	Disable the function
(Default)	
Enabled	Enable the function

OS Select for DRAM > 64MB

Allows OS2® to be used with > 64MB of DRAM. Setting are non-OS/2 (default) and OS2. Set to OS/2 if using more than 64MB and running OS/2®.

Report No FDD For Win95

This function is only used when you are testing SCT for Window® 95 Logo.

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.

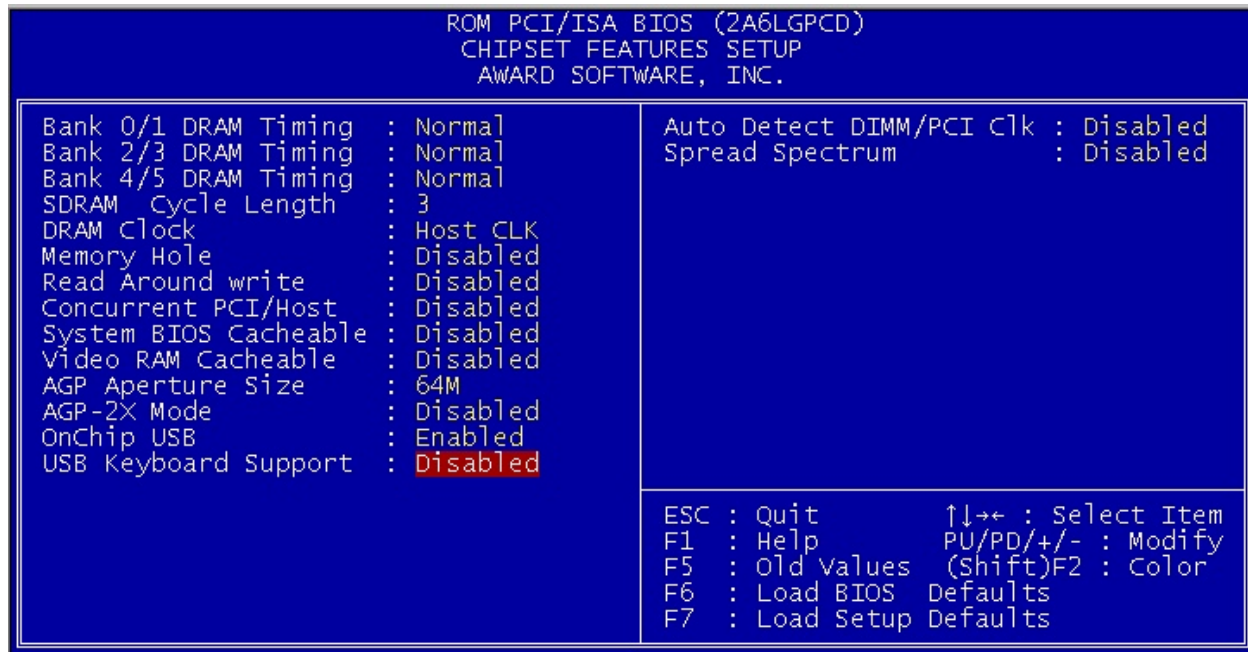
C8000-CBFFF / DC000-DFFFF Shadow

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

3.6 Chipset Features Setup

The Chipset Features Setup option is used to change the values of the chipset registers. These registers control most of the system options in the computer.

Choose the “CHIPSET FEATURES SETUP” from the Main Menu and the following screen will appear.



Note: Change these settings only if you are familiar with the chipset.

Bank 0/1 DRAM Timing / Bank 2/3 DRAM Timing / Bank 4/5 DRAM Timing
Set the DRAM latency time to SDRAM 10ns, 8ns, Normal, Medium, Fast and Turbo.

SDRAM Cycle Length

The item allows you to select the value for SDRAM Cycle delay time. The settings are 2ns or 3ns. The default value is 3ns.

DRAM Clock

The default value for this item is Host Clk.

Host Clk
HCLK-33M

DRAM Clock equals to host (system clock).
DRAM Clock equals to host clock minus 33Mhz.

Memory Hole At 15M-16M

In order to improve the system's performance, certain space in memory can be reserved for ISA cards. This memory must be mapped into memory space below 16MB.

Enabled	Memory hole supported
Disabled	Memory hole not supported

Concurrent PCI / Host

Select Enabled allows caching of the system BIOS ROM at F000h-FFFFh, 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

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.

AGP Aperture Size

Select the size of the Accelerated Graphics Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation.

Onchip USB

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

USB Keyboard Support

This item allows you to Enable or Disable the USB keyboard function. The default setting is Disabled.

Auto Detect DIMM / PCI Clk

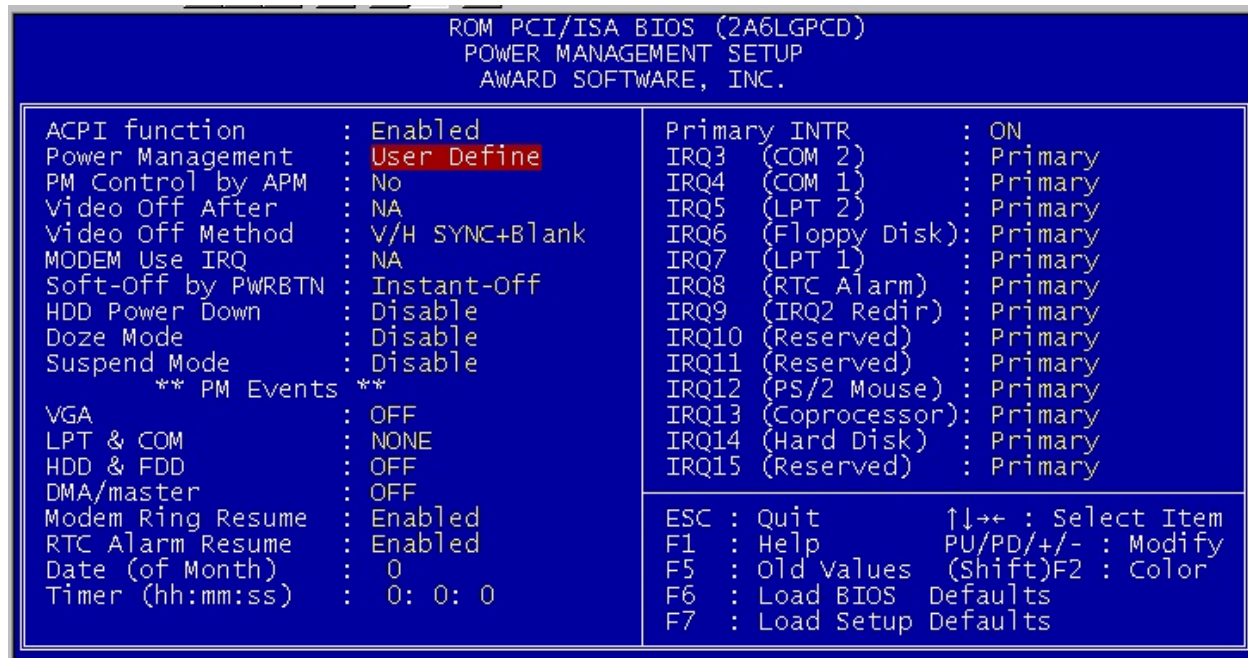
This item allows you to select the DIMM/ PCI clock. The other sockets will not generate when DIMM / PCI cards are not installed. The setting should be set to enabled which works better for EMI.

Spread Spectrum

This item allows you to select the clock generator Spread Spectrum function and system bus frequency (CPU Clock). The default is CPU default frequency. If you over-clock the processor, the system will hang-up. (Press F10 to resume to the original value)

3.7 Power Management Setup

The Power Management Setup will appear on your screen like this:



Power Management

This category determines the power consumption for system after selecting below items. Default value is user define. The following pages tell you the options of each item & describe the meanings of each options.

ACPI Function

This item allow you to enable or disable the ACPI function.

Enabled (Default)	Enable the ACPI function
Disabled	Disable the ACPI function

Power Management

Disable	Global power management will be disabled.
User Define	Users can configure their own power management.
Min Saving	Pre-defined timer values are used such that all timers are in their MAX value.
Max Saving	Pre-defined timer values are used such that all timers are in their MIN value.

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 enters any PM mode.

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

Video off Method

- Blank Screen The system BIOS will only blank off the screen when disabling video.
- V/H SYN In addition to (1), BIOS will also turn off the V-SYNC & H-SYNC signals from VGA card to monitor.
- C+Blank This function is enabled only for VGA card supporting DPMS.
- DPMS This function is enabled only for VGA card supporting DPMS.

Note: Green monitors detect the V/H SYNC signals to turn off its electron gun.

Modem Use IRQ

Name the interrupt request (IRQ) line assigned to the modem (if any) on your system. Activity of the selected IRQ always awakens the system. The settings are NA, 3, 4, 5, 7, 9, 10 or 11.

Soft-Off by PWRBTN

The settings are Delay 4 sec or Instant-Off. During Delay 4 sec, if you push the switch once, the system goes into suspend mode. If you push it more than 4 seconds, the system will be turned off. During Instant-off, the system will turn off once you push the switch.

HDD Power Down

- Disable HDD's motor will not shut off.
- Predefined Mins. Defines the continuous HDD idle time before the HDD enters the power saving mode (motor off). BIOS will turn off the HDD's motor when time is out.

Doze Mode

- Disable System will never enter DOZE mode.
- Predefined Mins. Defines the continuous System idle time before the system enters DOZE mode.

Suspend Mode

- Disable System will never enter Suspend mode.
- Predefines Mins. Defines the continuous idle time before the system enters Suspend mode. If any item defined in the options of "Power Down & Resume Events" is enabled & active, Suspend timer will be reloaded. When the system has entered Suspend mode, any of the items enabled in the "Power Down & Resume Events" will trigger the system to wake up.

Wake Up On LAN

To use this function, you need a LAN add-on card which support power on functions.

Enabled	Wake up on LAN supported.
Disabled	Wake up on LAN not supported.

Modem Ring Resume

To use this function, you need a Modem card which support power on functions.

Enabled	Wake up on Internal modem supported
Disabled	Wake up on Internal modem not supported

RTC Alarm Resume

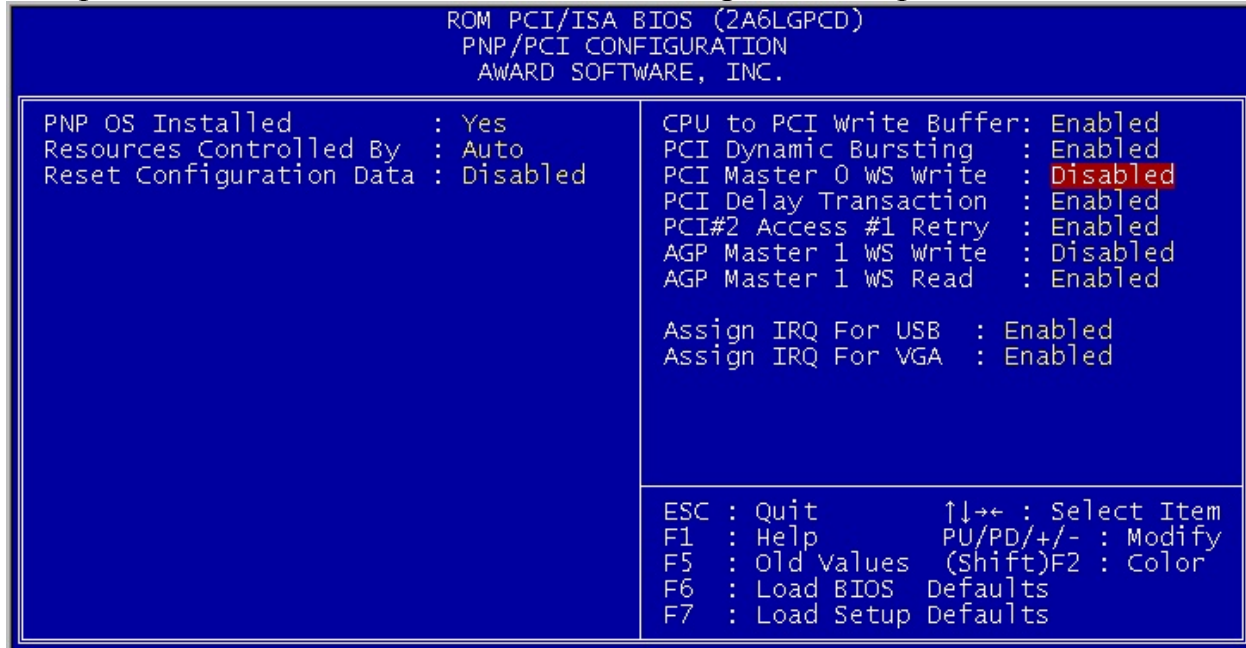
This function is for setting date and time for your computer to boot up. During disabled, you cannot use this function. During Enabled, choose the Date and Time Alarm:

Date (of month) Alarm	You can choose which date the system will boot up, Set to 0, to boot everyday.
Time Alarm	You can choose what hour, minute and second the system will boot up.

Note: If you have change the setting, you must let the system boot up until it goes to the operating system, before this function will work.

3.8 PNP/PCI Configuration Setup

You can manually configure the PCI Device's IRQ. The following pages tell you the options of each item and describe the meanings of each options.



PnP OS Installed

When set to YES, BIOS will only initialize the PnP cards used for booting (VGA, IDE, SCSI). The rest of the cards will be initialized by the PnP operating system like windows® 95/98. When set to NO, BIOS will initialize all the PnP cards. So, for non-PnP operating system (DOS, Netware®), this option must set to NO.

Resources Controlled By

By choosing “AUTO”, the system BIOS will detect the system resources and automatically assign the relative IRQ and DMA channel for each peripheral.

By choosing “MANUAL” (default), the user will need to assign IRQ and DMA for add-on cards. Be sure that there is no conflict for IRQ/DMA and I/O ports.

Note: When choosing “AUTO”, you must be sure that all of the system add-on cards are PnP type.

Reset Configuration Data

The system BIOS supports the PnP feature so that the system needs to record which resource is assigned and protect resources from conflict. Every peripheral device has a node which is called ESCD. This node records which resources are assigned to it. The system needs to record and update ESCD to the memory locations.

These locations (4K) are reserved at the system BIOS.

If Disabled (default) is chosen, the system's ESCD will update only when the new configuration varies from the last one.

If Enabled is chosen, the system will be forced to update the system's ESCD. Then, this option will be auto-set to Disable.

IRQ-3	assigned to Legacy ISA
IRQ-4	assigned to Legacy ISA
IRQ-5	assigned to PCI/ISA PnP
IRQ-7	assigned to Legacy ISA
IRQ-9	assigned to PCI/ISA PnP
IRQ-10	assigned to PCI/ISA PnP
IRQ-11	assigned to PCI/ISA PnP
IRQ-12	assigned to PCI/ISA PnP
IRQ-14	assigned to PCI/ISA PnP
IRQ-15	assigned to PCI/ISA PnP
DMA-0	assigned to PCI/ISA PnP
DMA-1	assigned to PCI/ISA PnP
DMA-3	assigned to PCI/ISA PnP
DMA-5	assigned to PCI/ISA PnP
DMA-6	assigned to PCI/ISA PnP
DMA-7	assigned to PCI/ISA PnP

The above settings will be shown on the screen only if "Manual" is chosen for the Resources Controlled by function.

Legacy is the the term which signifies that a resource is assigned to the ISA Bus and provides for non PnP ISA add-on card. PCI/ISA PnP signifies that a resource is assigned to the PCI us or provides for ISA PnP add-on cards and peripherals.

PCI Delay Transaction

This items allows you to Enable /Disable the PCI delay transaction.

Enabled	Delay transaction timing
Disabled	Transaction in normal mode

Assign IRQ for USB

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

Enabled	Choose which IRQ to assign for USB
Disabled	Will not assign IRQ for USB

Assign IRQ for VGA

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

Enabled	Choose which IRQ to assign for VGA
Disabled	Will not assign IRQ for VGA

3.9 Load BIOS / Setup Defaults

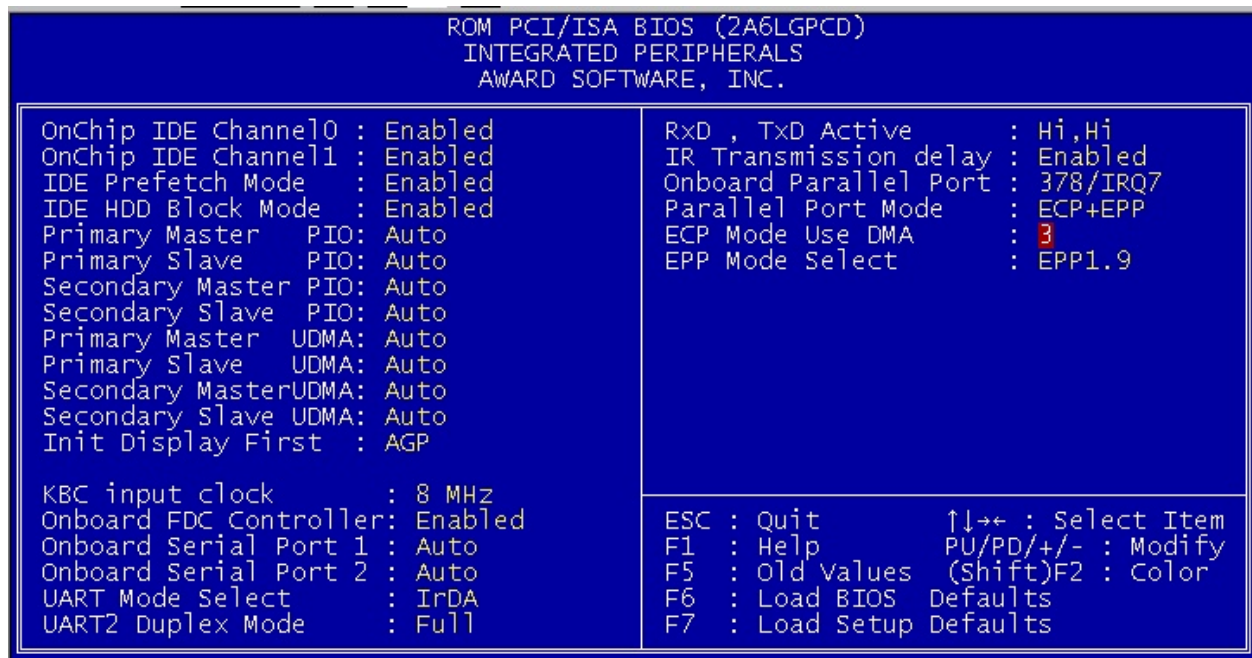
This Main Menu item loads the default system values. If the CMOS is corrupted, the defaults are loaded automatically. Choose this item and the following message appears:

“Load Setup Defaults (Y/N) ? N”

To use the Setup defaults, change the prompt to “Y” and press <Enter>.

Note: The setup defaults can be customized to increase performance. However, the BIOS defaults can always be used as a back up if there is some problem with the mainboard operation.

3.10 Integrated Peripherals



IDE HDD Block Mode

Enabled/Disabled Enabled allows the Block mode access for the IDE HDD.

IDE Primary Master PIO

IDE Primary Slave PIO

IDE Secondary Master PIO

IDE Secondary Slave PIO

Auto / Mode 0 / Mode 1-4

For these 4 IDE options, choose “Auto” to have the system BIOS auto detect the IDE HDD operation mode for POI access.

Note: Some IDE HDD cannot operate at the responding HDD’s mode. When the user has selected “Auto” and the system BIOS has accepted the HDD response mode, the user may degrade the HDD’s operation mode. e.g. If the HDD reported that it can operate in mode 4 but it is not operating properly, the user will have to manually change the operation mode to mode 3.

Choosing Mode 1-4 will have the system ignore the HDD’s reported operation mode and use the selected mode instead.

Note: According to ATA specs. Mode 4 transfer rate is > Mode 3 > Mode 2 > Mode 1 > Mode 0. If the user’s HDD can operate at Mode 3 the user can also select a slower Mode (i.e. Mode 0-2) but not a faster Mode (i.e. Mode 4)

On-Chip Primary PCI IDE / On-Chip Secondary PCI IDE

Enabled / Disabled

The system provides for an ON-Board ON-Chipset PCI IDE controller that supports Dual Channel IDE (Primary and Secondary). A maximum of 4 IDE devices can be supported. If the user install the Off-Board PCI IDE controller (i.e. add-on cards), the user must choose which channels will be disabled. This will depend on which channel will be used for the Off-Board PCI IDE add-on card.

Init Display 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.

Onboard FDC Controller

Enabled / Disabled	The system has an on-board Super I/O chip with a FDD controller that supports 2 FDDs for 360K/720K/1.2M/1.44M/2.8M. Choose “Enabled” to use the onboard FDD controller for accessing the FDD. Otherwise choose “Disabled” to use the off-board FDD controller.
--------------------	--

Onboard Serial Port 1 / Onboard Serial Port 2

Auto / Disabled / (3F8/IRQ4) / (2F8/IRQ3) / (3E8/IRQ4) / (2E8/IRQ3)

The system has an ON-board Super I/O chipset with 2 serial ports. The On-board serial ports can be selected as:

Auto

Disabled

3F8/IRQ4	COM 1 uses IRQ4
2F8/IRQ3	COM 2 uses IRQ3
3E8/IRQ4	COM 3 uses IRQ4
2E8/IRQ3	COM 4 uses IRQ3

Note: Because the ISA interrupt accepts low to high edge trigger, the interrupt request line cannot be shared by multiple sources. If an off-board ISA add-on card with a serial port is installed the user may have to disable the on-board serial port because it will conflict with IRQ request line for the off-board serial port.

UART Mode Select

This item is selectable only when the onboard serial port 2 is enabled. The available mode selections for the serial port 2 are Standard, IrDA and ASKIR.

Standard Configures serial port as normal mode.

(Default)

IrDA Set to this setting if there is an infrared device connected on the onboard IrDA connector. The max. baud rate of this setting is 115K baud.

ASKIR Set to this setting if there is an infrared device connected on the onboard IrDA connector. The max. baud rate of this setting is 19.2K baud

Onboard Parallel Port

There is a built-in parallel port on the on-board Super I/O chipset that provides Standard, ECP, and EPP features. It has the following options.

Disable

3BCH/IRQ7 Line Printer port 0

278H/IRQ5 Line Printer port 2

378H/IRQ5 Line Printer port 1

Onboard Parallel Mode

SPP Standard Parallel Port

EPP Enhanced Parallel Port

ECP Extended Capability Port

To operate the onboard parallel port as standard parallel port only, choose "SPP".

To operate the onboard parallel port in the ECP and SPP modes simultaneously, choose "ECP/SPP". By choosing "ECP", the onboard parallel port will operate in ECP mode only. Choosing "ECP/EPP" will allow the onboard parallel port to support both the ECP and EPP modes simultaneously. The ECP mode has to use the DMA channel, so choose the onboard parallel port with the ECP feature. After selecting it, the following message will appear: "ECP Mode Use DMA". At this time, the user can choose between DMA channels 3 or 1. The onboard parallel port is EPP Spec. compliant, so after the user chooses the onboard parallel port with the EPP function, the following message will be displayed on the screen: "EPP Mode Select". At this time either EPP1.7 spec. Or EPP 1.9 spec. can be chosen.

3.11 Supervisor / User Password Setting

This main menu item lets you configure the system so that a password is required each time the system boots or an attempt is made to enter the Setup program.

Supervisor Password allows you to change all CMOS settings but the User Password setting doesn't have this function. The way to set up the passwords for both Supervisor and User are as follow:

1. Choose "Change Password" in the Main Menu and press <Enter>. The following message appears:
"Enter Password"
2. The first time you run this option, enter your password up to 8 characters only and press <Enter>. The screen will not display the entered characters. For no password, just enter <Enter>.
3. After you enter the password, the following message appears prompting you to confirm the password:
"Confirm Password"
4. Enter exactly the same password you just typed in to confirm the password and press <Enter>.
5. Move the cursor to Save & Exit Setup to save the password.
6. If you need to delete the password you entered before, choose the Supervisor Password and press <Enter>. It will delete the password that you had before.
7. Move the cursor to Save & Exit Setup to save the option you did. Otherwise, the old password will still be there when you turn on your machine next time.

3.12 IDE HDD Auto Detection

You can use this utility to automatically detect the characteristics of most hard drives.

When you enter this utility, the screen asks you to select a specific hard disk for Primary Master. If you accept a hard disk detected by the BIOS, you can enter "Y" to confirm and then press <Enter> to check next hard disk. This function allows you to check four hard disks and you may press the <ESC> after the <Enter> to skip this function and go back to the Main Menu.

Chapter 4 Driver Installation

4.1 Mainboard Driver Installation for Windows® 95 / 98 / NT

The driver will automatically detect and install the latest:

- IDE Bus Master Driver
 - INF Driver
1. Insert the Mainboard Driver CD into CD-ROM driver.
 2. Click “Start” and “Run”.
 3. Input the driver folder name
Bus Master Driver for Windows 95/98 “D:\INTELMB\IDE\95\SETUP.EXE”.
Bus Master Driver for Windows NT “D:\INTELMB\IDE\NT\SETUP.EXE”.
INF Driver “D:\INTELMB\INF\SETUP.EXE”.
 4. Follow system instruction.

4.2 BIOS Update

Please check for the updated BIOS in www.pinegroup.com.cn

4.3 Technical Support

If you need any technical support of the mainboard, please also check the E-mail:
pinesupport@pinegroup.com.cn